Beal Early Childhood Center

1 Maple Avenue, Shrewsbury, MA 01545

MSBA Feasibility Study

Preliminary Design Program (PDP)

February 14, 2018

MSBA
Massachusetts School Building Authority
40 Broad Street, Suite 500, Boston, MA 02111

OWNER
Town of Shrewsbury, MA
100 Maple Avenue, Shrewsbury, MA 01545

OPM
PMA Consultants
35 Braintree Hill Office Park, Suite 300, Braintree, MA 02184

DESIGNER
Lamoureux Pagano & Associates, Inc.
108 Grove Street, Suite 300, Worcester, MA 01605

Prepared by:

LAMOUREUX · PAGANO
ARCHITECTS PROJECT MANAGERS

VOLUME II OF II

FEASIBILITY STUDY

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Sean Brennan
Lamoureux Pagano Associates
108 Grove Street, Suite 300
Worcester, MA 01605

January 19, 2018

Re: <u>Glavin Center Site Wetland Evaluation</u>
<u>214 Lake Street, Shrewsbury, MA</u>

INTRODUCTION

A late fall/early winter 2017 site reconnaissance was conducted to provide site characterization information on wetland resources for a 120 acre property referred to as the Glavin Center Site, Lake Street, Shrewsbury MA. Review of the site was conducted December 16, 2017 by Kenneth Thomson, Senior Wetland Scientist.

The property sits atop Prospect Hill south of Route 9 and is bisected north to south by Lake Street (Figure 1). The western portion of the site is developed and the land to the east of Lake Street consists of cultivated farmland, upland forest and a large wetland complex at the base of the hill along the eastern property line (Photograph 1).

The eastern portion of the property drops 35 feet in elevation from Lake Street to the wetlands. Steep slopes are the predominant feature for the majority of the eastern parcel. The large wetland complex includes areas of emergent marsh and fringing red maple swamp. An intermittent stream drains the wetland complex east and then south offsite, and ultimately discharges to Big Bummet Brook, a perennial stream, farther to the southeast.

The existing Glavin Center buildings on the eastern parcel abut Lake Street to the east, a very steep wooded upland slope and Route 9 to the north, residential development to the west, and athletic fields to the south. This developed portion of the property is relatively flat, and landscaped. No wetland resources were identified on the eastern parcel except what appears to be a stormwater pond, a depression vegetated with *Phragmites* and cattails (*Typha* sp.), with woody side slopes (Photograph 2). This wetland depression abuts Lake Street to the east, the soccer fields to the west and a paved parking lot to the south. The stormwater pond drains east under Lake Street then overland through an agriculture field towards the large wetland complex to the east.

The USDA Natural Resource Conservation Service (NRCS) has mapped the majority of the soils on the eastern parcel as Paxton series which consist of well drained fine sandy loam soils formed in lodgment till. These soils are very deep to bedrock and moderately deep to a densic contact, and slopes range from 3 to 15%. The eastern parcel uplands are within a Paxton/Woodbridge/Canton soil series complex. Paxton fine sandy loam soils along Lake Street have up to 25% slopes. Woodbridge fine sandy loam soils with 0-8% slopes are found on the northern portion of the eastern parcel, and Canton fine sandy loam soils with 3-8% slopes are found to the south.

Hydric soils of Freetown muck and Scarboro muck are found within the large emergent marsh on the eastern parcel.

PERTINENT WETLAND REGULATIONS

Review of current MassGIS data layers reveal that the site is *not* within an area mapped as a FEMA Flood Hazard zone, NHESP Priority or Estimated Habitat for Rare or Endangered Species, Groundwater or Surface Water regulated zone, Outstanding Resource Water or Area of Critical Environmental Concern.

The Town of Shrewsbury has no wetlands by-laws. Under the MA Wetlands Protection Act Regulations (310 CMR10.00) the intermittent streams that drain the eastern wetland complex are regulated as *Bank.* The areas of emergent marsh and red maple swamp bordering on the intermittent streams are regulated as *Bordering Vegetated Wetlands* (*BVW*), and a 100-foot *Buffer Zone* extends from the limit of the *BVW* or top of *Bank* of the intermittent streams, whichever is more inclusive.

The wetland adjacent to the soccer fields has been tentatively identified as a stormwater pond, and may be regulated depending on the date of its construction. If the wetland depression was a legally constructed stormwater system built after November 18, 1996,[1] 310 CMR 10.02 and 10.04 now provide that the operation of a stormwater management system constructed after this effective date does not create additional wetland resource area or Buffer Zone. If it was constructed prior to the revision date, the wetland depression might best be regulated as *Isolated Land Subject to Flooding.* Engineering calculations would have to be conducted to document whether the depression could hold ¼ acre foot of water at least once annually to an average depth of 6 inches (310 CMR 10.57(2)(a)3.a.)

[1] 310 CMR 10.02(3) now provides that a Notice of Intent is not required to maintain any stormwater management system constructed in accordance with the Stormwater Management Standards after November 18,1996, the effective date of the Stormwater Policy. This exemption from filing a Notice of Intent extends to above ground systems such as vegetated swales, bioretention areas and rain gardens that are located outside of an Area Subject to Protection under the Act or Buffer Zone and that are not the subject of an Order of Conditions and to stormwater management systems such as underground infiltration structures or leaching catch basins that are located within wetlands jurisdiction but lack any wetlands characteristics.

The U.S. Army Corps of Engineers also regulates the onsite vegetated wetlands and waters under Section 404 of the Clean Water Act and the MA Programmatic General Permit Regulations 33 CFR 320-332. For the USACE to take jurisdiction there must be impact to the wetlands or intermittent streams.

Sincerely,
CR Environmental, Inc.

Kenneth Thomson, Senior Wetlands Scientist Charlotte Cogswell, Senior Wetlands Ecologist

Photograph 1. View of the eastern parcel looking north at the agricultural fields and forested uplands.

Photograph 2. Stormwater pond adjacent to Lake Street on the western parcel. Glavin Center buildings are in the background.

February 1, 2018

Sean Brennan
Lamoureux Pagano Associates
108 Grove Street, Suite 300
Worcester, MA 01605

Re: Wetlands and Potential Vernal Pool Evaluation,
Allen Farm Property, 384-386 South Street, Shrewsbury, MA

INTRODUCTION

The purpose of this letter is to provide site characterization information gathered late fall/early winter 2017 regarding the onsite wetlands and presence of two potential vernal pools identified on MassGIS. Review of the site was conducted by Kenneth Thomson, Senior Wetland Scientist on December 16, 2017 and January 2, 2018. Figure 1 shows site wetland resources and areas potentially under state and federal regulation.

SITE CHARACTERIZATION

The property is located southwest of South Street on a 66 acre parcel, the former Allen Farm property. The western half of the parcel is wooded while the eastern half has a series of old barns and is primarily old field habitat. In the center of the property is an intermittent stream that bisects the site flowing northeast through a valley of red maple swamp and wet meadow (Photographs 1and 2). The intermittent stream consists of a series of braided channels as it flows east through the red maple swamp. Upon reaching a stone wall that separates the wooded portion of the property from the old field habitat, the stream drops into a manmade ditch (Photographs 3 and 4). It continues flowing northeast and then east where it enters a farm pond prior to continuing to flow east offsite under Route 20 (Photographs 5 and 6).

The land rises up to the north and south from this central wetland (Photograph 7). Along the northwestern property line the land drops off to the north and there is a second area of red maple swamp and wet meadow that is part of a larger off-site wetland system. Within the off-site wetland is an area of open water and intermittent drainage that flows west-northwest through the property. South of the central valley is a large hill of predominantly upland old field habitat (Photograph 8).

East of the hill and towards Route 20, a second shallow valley of shrub swamp is contiguous with and drains north to the central wet meadow and intermittent stream.

Throughout the property bedrock outcrops can be observed suggesting shallow soils. NRCS mapped soils on the property are Paxton and Woodbridge very stony fine sandy loam with 3-8% slopes in the uplands, and Ridgebury extremely stony fine sandy loam 0 to 3% slopes in the forested and shrub swamp wetland areas, and Whitman loam 0 to 3% slopes in the areas of wet meadow. The somewhat poorly and poorly drained Ridgebury and very poorly drained Whitman soils are very deep soils formed in lodgment till derived mainly from granite, gneiss and/or schist. They are commonly shallow to a densic contact.

The areas of forested swamp are dominated by red maple in the tree layer with a sparse understory. Where present the understory included winterberry holly, highbush blueberry and cinnamon fern. Much of the old field habitat in the eastern portion of the property is an extensive wet meadow. Dominant wetland vegetation included tussock sedge, purple loosestrife, sweet wood-reed grass and broadleaf cattail. The shrub swamp within the shallow valley between Route 20 and the southern upland hill of old field habitat was comprised of arrow-wood, winterberry, red maple saplings and grey dogwood, and its extent was estimated based on the predominance of these species. *A spring review of this area to determine if hydric soils are present may allow refinement of this boundary as the ground was frozen during the site inspection.*

Within areas of red maple swamp near the western property line are two MassGIS identified *Potential Vernal Pools* (*PVP*). The larger more southerly pool is a shrub swamp with sapling red maples fringed by red maple swamp and overflows to the east and the central wetland valley (Photograph 9). White pines, Norway spruce, oak and American beech are found within the surrounding uplands. The second *PVP* in the northwestern corner of the property is within red maple swamp that drains to the northwest. During the site reconnaissance two additional areas of open water were identified that could potentially function as vernal pools: a farm pond on the eastern side of the property within the old field/wet meadow habitat and a second area of open water located off site to the north of the property. *A review of these PVP's should be conducted during the spring breeding season to determine if they contain breeding vernal pool specific species of amphibians.* White pines and Norway spruce, oak and American beech are found within the surrounding upland.

PERTINENT REGULATIONS

No priority or estimated habitats for rare or endangered species, Area of Critical Environmental Concern, FEMA flood hazard zone or groundwater protection zones were identified during a MassGIS review.

The Town of Shrewsbury has no wetland by-laws, but state and federal wetland regulations are present that could be triggered by proposed development.

MA Wetlands Protection Act 310 CMR 10.00, and Surface Water Quality Standards 314 CMR 4.00

Potential Vernal Pools

Vernal pools are regulated as Class B Outstanding Resource Waters under the Massachusetts Surface Water Standards (314 CMR 4.00) used to implement the federal Clean Water Act. No point source discharge and no new or increased discharge of dredged or fill material to the vernal pool is allowed. Nothing should affect the water quality (e.g. raise the water temperature, increase nutrients, or introduce pollutants), the hydrologic regime, soil structure, or plant composition and structure.

To also be regulated under the MA Wetlands Protection Act Regulations (WPA) (310 CMR 10.00) a vernal pool must lie within a regulated wetland resource area such as an *Isolated Land Subject to Flooding* (*ILSF*) or *Bordering Vegetated Wetlands*. Vernal pool habitat defined as the pool and an area up to 100-feet from the vernal pool boundary must occur within a regulated resource area before it receives protection under the WPA. Vernal pool habitat does not extend into non-jurisdictional upland.

The larger west-central potential vernal pool and fringing red maple swamp is an isolated wetland and appears large enough to be regulated as *Isolated Land Subject to Flooding* (i.e. it must hold ¼ acre foot of water at least once a year). Engineering calculations in accordance with the general requirements set forth in 310 CMR 10.57(2) (a) 3.a. through c. must be conducted to definitively show that the depression would be regulated as *ILSF*. There is *no* 100-ft *Buffer Zone* surrounding *ILSF* under the WPA.

Streams and Bordering Wetlands

Using Massachusetts stream stats it was determined that the central stream that drains the property is intermittent. The stream in the northwest corner of the property is also intermittent. Therefore, there is *no Riverfront Area* on the site. The intermittent streams would be regulated as *Bank,* and bordering wetland vegetation including the red maple swamp, shrub swamp and wet meadow are regulated as *Bordering Vegetated Wetlands*. A 100-foot buffer zone extends from the limit of the *BVW* or top of *Bank* of the intermittent streams whichever is more inclusive.

Federal Clean Water Act and US Army Corp of Engineers Massachusetts Programmatic General Permit and 401 Water Quality Certificate

The New England U.S. Army Corps of Engineers (USACE) regulates the onsite vegetated wetlands and waters under Section 404 of the Clean Water Act and the MA Programmatic General Permit Regulations 33 CFR 320-332. For the USACE to take jurisdiction there must be impact to the wetlands or intermittent streams.

An activity is authorized under the General Permits (GPs) if that activity satisfies all the GP's terms and conditions. Activities that do not qualify for authorization under a GP still may be authorized by an Individual Permit.

Under the GP Conditions the USACE takes jurisdiction over vernal pools and work in the land surrounding a vernal pool depression that includes a no disturbance 100 foot envelop surrounding the pool, and critical terrestrial habitat 100 feet to 750 feet from the pool.

To meet GP Conditions for self-verification (SV) there would need to be no loss of streambed and <5,000 square feet of impact to wetlands or waters, and no stream channelization. The central intermittent stream already appears channelized by the former farmer. Stream crossings should ideally follow the USACE's stream crossing Best Management Practices. Any wetland filling must be mitigated through creation of wetland from areas of upland. Impacts to forested wetlands may require up to 4:1 mitigation. The work for the proposed school construction is likely within 500 feet of an on or off-site vernal pool, and therefore would have to file a pre-construction notification (PCN) and receive written verification from the USACE before starting work in Corps jurisdiction.

If the proposed school construction wished to gain access to the southern upland hill a wetland crossing would be required either from the north from South Street, or from the south and Route 20. Any wetland or water impact will trigger the need for an Army Corps of Engineers Programmatic General Permit PCN filing and review of vernal pools and their regulated surrounding upland habitat.

Sincerely,

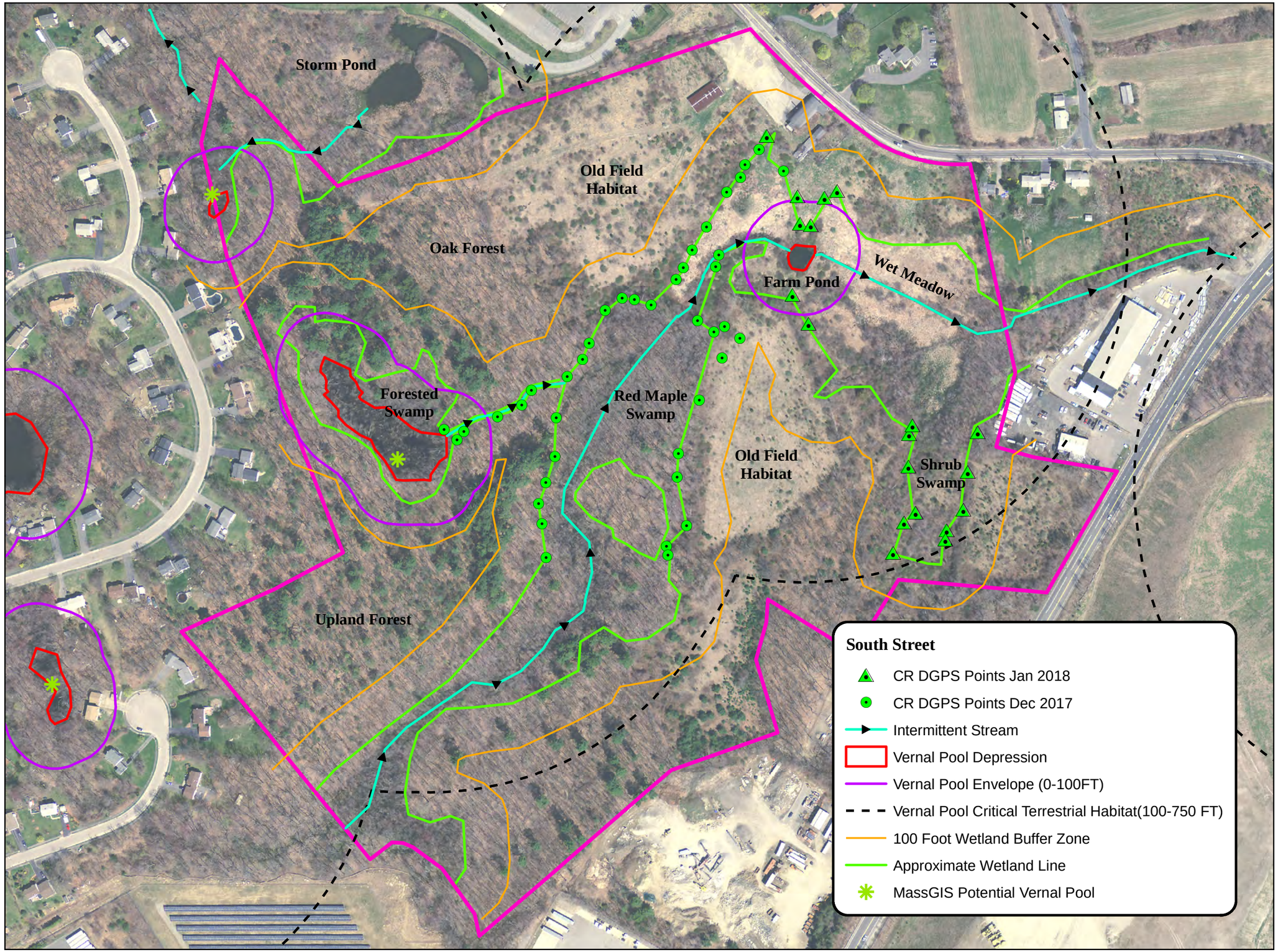
CR Environmental, Inc.

Kenneth Thomson,

Senior Wetlands Scientist

Charlotte Cogswell

Senior Wetlands Ecologist



N
W E
S

Beal Street School Alternative Site
South Street
Shrrewsbury, Massachusetts

Revision		
Date	Description	File
2/1/18	Rev 2	

NOTES:
1)Mass State Plane NAD83 Meters

Feet
0 120 240

www.crenvironmental.com

Figure 1

Photograph 1. *Central Valley red maple swamp and intermittent stream*

Photograph 2. *Wet meadow habitat located in the eastern portion of the property.*

Photograph 3. *Central valley stream where it drains through a stone wall to the wet meadow wetland in the eastern portion of the property*

Photograph 4. *The central intermittent stream as it enters the wet meadow (to the left of this picture). The stream course has been ditched by the farmer.*

Photograph 5. *Farm Pond within the wet meadow which is currently a potential vernal pool*

Photograph 6. *Central Stream as it flows out of the farm pond looking east through the wet meadow.*

Photograph 9. *Large potential vernal pool along the central western property line which overflows to the central valley wetland.*

Photograph 8. *View of the southern hill old field upland habitat with multiflora rose and bittersweet vine.*

Photograph 7. *View of the terraced northern upland hill.*

Lord Associates, Inc.
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PHASE I
ENVIRONMENTAL SITE ASSESSMENT

214 Lake Street
Shrewsbury, Massachusetts

Prepared for:

Mr. Ammar Dieb
Universal Environmental Consultants
12 Brewster Road
Framingham, Massachusetts
01702

Prepared by:

Lord Associates, Inc.
1506 Providence Highway, Suite 30
Norwood, Massachusetts 02062

Project # 2629

February 6, 2018

1506 Providence Highway - Suite 30
Norwood, MA 02062-4647

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February 6, 2018

Mr. Ammar Dieb
Universal Environmental Consultants
12 Brewster Road
Framingham, Massachusetts
01702

RE: Phase I Environmental Site Assessment
214 Lake Street
Shrewsbury, Massachusetts

Dear Mr. Dieb:

Lord Associates, Inc. (LAI) has completed a Phase I Environmental Site Assessment of the above-referenced property (the "Site"). Environmental investigations were completed in compliance with standard industry practice, the ASTM E-1527 site assessment standard entitled "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment (ESA) Process". The purpose of the Phase I ESA was to identify "Recognized Environmental Conditions" (RECs) as defined in ASTM E-1527-13, and to determine if additional investigation is warranted.

In summary of our assessment, one REC and one Potential Environmental Concern were identified. Fire Department records reference a 5,000-gallon gasoline underground storage tank (UST) being installed on the Site in 1992. No other records of the 5,000-gallon gasoline UST were made available during the course of this assessment. A potential abandoned 5,000-gallon gasoline UST on the Site is a Recognized Environmental Concern requiring additional assessment.

The Site has been owned by the Commonwealth of Massachusetts since 1890. LAI attempted to contact the Massachusetts Department of Capital Asset Management and Maintenance (MassDCAMM) to obtain information regarding the Site. However, to date, no one from the MassDCAMM has returned our calls. Not interviewing the current owners is a deviation from the ASTM standard resulting in a data gap that raises reasonable concern due to the indications of historic use of petroleum in underground storage tanks at the Site. An additional data gap includes the inaccessibility to enter three of the buildings located on the property.

The potential use of a portion of the Site for an orchard represents a Potential Environmental Concern due to the common historic use of persistent lead arsenate pesticides.

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Please refer to the attached report for specific details and findings of our assessment. We appreciate the opportunity to have provided our professional environmental consulting and analytical services.

Sincerely,

LORD ASSOCIATES, INC.

Ralph Tella, CHMM, LSP
President

Jonathon D. Puliafico, CPG
Project Manager

Enc.: Phase I ESA

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1.0 INTRODUCTION

1.1 Purpose

Lord Associates, Inc. (LAI) has completed an ASTM Phase I Environmental Site Assessment (ESA) of specified portions of the property addressed 214 Lake Street, Shrewsbury, Massachusetts (the "Site"). The purpose of the Phase I ESA was to identify "Recognized Environmental Conditions" as defined in ASTM standard E1527-13 (the "Standard"), and to determine if additional investigation is warranted.

Recognized Environmental Conditions are defined as the presence or likely presence of any hazardous substances or petroleum products on the property under conditions that indicate an existing release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term Recognized Environmental Conditions is not intended to include *de minimis* conditions which generally do not present a material risk of harm to public health or the environment, and that generally would not be the subject of a notification and/or enforcement action if brought to the attention of appropriate governmental agencies.

This Phase I ESA consisted of a Site reconnaissance and an assessment of the Site and surrounding properties for visual and/or olfactory evidence of the use, storage, and/or release of oil and/or hazardous material. The Phase I ESA also included a review of federal, state, and local agency files regarding the history of the Site and surrounding area relative to the use, storage and/or release of oil and/or hazardous material.

Please note that an investigation for the presence of mold, asbestos and PCBs in building materials, lead-based paint, indoor air quality, or regulatory compliance is beyond the scope of work described by ASTM E1527-13, therefore LAI did not explore those conditions.

1.2 Significant Assumptions

Factual information regarding operations, conditions, and other data provided by the Client, site contacts, third parties, and governmental agencies are assumed to be correct and complete.

1.3 Special Terms and Conditions

The Phase I ESA was conducted by LAI on behalf of the Client consistent with the agreed upon Scope of Work and LAI Standard Terms and Conditions. No other special terms and conditions were established in connection with these services.

2.0 SCOPE OF SERVICES

This assessment was performed following standard industry practice and with consideration to the ASTM E1527-13 site assessment standard entitled "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. The investigation included completion of the following tasks:

1. A field investigation was performed including a visual surficial inspection of the Site and abutting properties; and

2. The following agencies or services were contacted to inquire of past ownership, complaints, or violations concerning environmental issues at the Site and vicinity:

   - The Massachusetts Department of Environmental Protection (MADEP)
   - The Massachusetts Department of Capital Asset Management and Maintenance
   - Shrewsbury Tax Assessor's Office
   - The Shrewsbury Town Clerk's Office
   - The Shrewsbury Health Department
   - The Shrewsbury Building Department
   - The Shrewsbury Water and Sewer Department
   - The Shrewsbury Engineering Department
   - The Shrewsbury Conservation Commission
   - The Shrewsbury Fire Prevention Office
   - Worcester County Registry of Deeds
   - Environmental Data Resources
   - Sanborn Fire Insurance Maps
   - HistoricalAerials.com

3. The following agencies were contacted to determine the physical characteristics of the Site and vicinity:

   - Massachusetts Geographic Information Systems Maps
   - USGS Topographical Maps
   - MADEP Priority Resource Maps
   - US Fish & Wildlife Service Wetlands Inventory
   - FEMA Flood Zone Maps
   - USDA Soil Survey Maps
   - Google Earth Pro

3.0 SITE DESCRIPTION

3.1 Site Location and Parcel Legal Description

Information provided indicates that the Site consists of three parcels of land comprising a total of approximately 120.83 acres. For ease of reference in this report, the parcels have been designated Parcel 1, Parcel 2 and Parcel 3. Parcel 1 is located on the west side of Lake Street and Parcels 2 and 3 are located on the east side of Lake Street in Shrewsbury, Massachusetts. A Site Location Map is included as **Figure 1**. The Site is designated as Parcel 82 on the Shrewsbury Tax Assessor's Map 33. The Tax Assessor's Map is included as **Figure 2** and a Site Plan depicting pertinent Site features is included as **Figure 3**.

Information provided indicates the Site longitude and latitude are approximately -71.720650° west and 42.273490° north, respectively. Universal Transverse Mercatur (UTM) coordinates are approximately 4,683,510 meters north by 275,635 meters east.

3.2 Site and Vicinity General Characteristics

Zoning for the northern portion of Parcel 1 and Parcel 2 is Limited Commercial-Business. Zoning for the southern portion of Parcel 1 and Parcel 3 is Rural AA. Properties abutting the Site are zoned Residential, Rural and Limited Commercial-Business. A portion of the Shrewsbury Zoning Map depicting the Site is attached as **Figure 4**.

3.3 Current Property Use

A total of eight vacant buildings are located on the Site. Four buildings on Parcel 1 were most recently used as a school and office space for the temporary Town Hall. A cemetery is located near the southern portion of Parcel 1.

Four buildings on Parcel 2 were most recently used by the State as storage and maintenance buildings. Three of the buildings on Parcel 2 were not accessible during the Site visit.

Cleared portions of Parcel 3 are used for agricultural purposes. A cemetery is located on the southern portion of Parcel 3.

3.4 Description of Improvements

Parcel 1 is developed with four brick and concrete buildings and supporting driveways and parking lots on the northern portion of the parcel. Southern portions of Parcel 1 include athletic fields and a cemetery.

Parcel 2 is developed with four buildings constructed of wood framing and wood siding. Other development of this parcel includes asphalt driveways. Parcel 3 is developed with cleared land for agricultural purposes and one cemetery.

A detailed Site description is presented in **Section 4.0**, photographs are provided in **Appendix A**.

3.4.1 Wastewater and Water Supply

The Site is connected to both the municipal water and sewer systems. No records regarding the connections was available at municipal offices. Due to snow cover, inspection of the exterior portions of the Site was limited. No on-site water supply system or septic system was observed.

Lord Associates contacted Shrewsbury municipal offices to obtain information regarding the connection of the Site to the municipal sewer system and water supply. Attached in **Appendix C** are sketches provided by Jonathan Rahmati, PLS, Assistant Civil Engineer for the Town Shrewsbury depicting locations of storm water structures such as catch basins and electrical development such as high-tension wire poles.

3.4.2 Wells

No potable, irrigation, injection, dry, monitoring or abandoned wells were observed or identified from the interviews or records reviewed.

3.4.3 Heating/Cooling System

Mr. Robert Cox, Shrewsbury Superintendent of Public Buildings, stated that the buildings on Parcel 1 are heated with natural gas burning furnaces. Cooling of the Parcel 1 buildings was provided by rooftop cooling systems.

Only one of the four buildings on Parcel 2 was accessible during the Site visit. According to Mr. Cox, heat to two of the buildings on Parcel 2 was most recently provided by furnaces that burn fuel oil stored in a total of five 275-gallon aboveground storage tanks (AST) in those two buildings. For ease of reference, the two buildings with known ASTs are designated Maintenance Bldg 1 and Maintenance Bldg 2 in this report and on **Figure 3A** titled Site Buildings attached in **Appendix A**.

Two 275-gallon fuel oil ASTs were observed on the first floor of Maintenance Bldg 1. Those two ASTs are used for the heating system on the second floor of the building. The fill and vent pipes for a third tank was observed extending from the exterior wall of the eastern end of Maintenance Bldg 1. The portion of Maintenance Bldg 1 that had the third tank was inaccessible during the Site visit. Although the eastern portion of Maintenance Bldg 1 was inaccessible during the Site visit, Mr. Cox provided Lord Associates with photographs of the 275-gallon diesel AST located in that portion of the building. According to Mr. Cox, and a review of the photographs, the third AST is located in a secondary containment vessel and no indications of a release of fuel oil to the floor was observed. Photographs of the Site are attached in **Appendix A**. According to Mr. Steve Wright, a former maintenance employee who worked at the Site from 2004 to 2012, the third AST was a diesel tank.

No information regarding the two fuel oil ASTs in Maintenance Bldg 2 has been made available during the course of this assessment.

3.4.4 Solid Waste Disposal

No solid waste disposal was observed on the Site. There were no areas of solid waste disposal, mounds or depressions, or areas apparently filled or graded by non-natural causes suggesting solid waste disposal observed.

3.4.5 Storage Tanks

Aboveground storage tank use observed during the Site inspection is summarized in **Section 3.4.4** above. No other evidence of current or historical aboveground storage tanks was identified during the course of this assessment.

A Permit to Maintain Underground Storage was observed to be mounted on the wall of a room located in the northwest corner of the northern building on Parcel 2. As specified on the permit, attached as a photograph in **Appendix A**, the facility at the Site was permitted on September 12, 1986 to store 2,000 gallons of gasoline in a 15-year old steel UST. However, no indications of an UST, such as vent or fill pipes, were observed during the Site assessment.

3.4.6 Transformers, Hydraulic Equipment and Other Potential Evidence of the Potential Use of Polychlorinated Biphenyls

Polychlorinated Biphenyls (PCBs) can be found in hydraulic-oil filled electrical equipment (such as motors and pumps), capacitors or transformers, and fluorescent light ballasts manufactured prior to July 2, 1979.

LAI observed fluorescent light fixtures on the Site in all four buildings on Parcel 1 and in the Maintenance Bldg 1 on Parcel 2. Three buildings on Parcel 2 were not accessible during the Site inspection. The age of the observed fixtures could not be determined. However, it is not likely that the light ballasts were manufactured prior to 1979, as the average life span for the fluorescent fixtures is less than 15 years. Additionally, any light ballast manufactured after 1979 must be labeled “No PCB”. Note that electric light ballasts that contained PCBs had less than 1.5 ounces of PCB. The reportable quantity requiring notification to the Massachusetts Department of Environmental Protection of a release is one pound. Therefore, the risk presented by PCB-containing ballasts is relatively low.

Transformers were observed in two utility rooms in buildings on the west side of Lake Street. No staining of the transformers or the flooring was observed during the Site visit.

No additional evidence of the potential use of polychlorinated biphenyls (PCBs) was observed on the Site during the inspections. The testing of building materials for PCBs is beyond the scope of ASTM E1527.

3.5 Current Uses of Adjoining Properties

The Site is located in a mixed-use area of Shrewsbury, MA with residential, commercial and industrial development. One commercial/industrial business, Donahue Industries, Inc., abuts the northwest corner of the Site. According to their website, Donahue Industries, Inc. "is a full service international metal components manufacturer specializing in parts for the grinding wheel and wire rope industries." Remaining abutters are residential.

4.0 USER PROVIDED INFORMATION

A summary of user provided information is provided below. A copy of the completed Questionnaire is attached in **Appendix B**.

4.1 User Questionnaire

A summary of user provided information is provided below. A User Questionnaire was provided to the User (Client) to assist the User and LAI in gathering information from the User that may be material to identifying RECs. The following answers were provided by the User's Representative.	**Response Inquiry**
Name and title	Kristen Las, Asst. Town Manager
Tenure with Site	Since 2012
Are you aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state or local law?	NO
Are you aware of any Activity and Use Limitations, such as engineering controls, land use restrictions or institutional controls that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law?	NO
As the user of this ESA do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?	NO
Does the purchase price being paid for this property reasonably reflect the fair market value of the property? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property?	Purchase Price TBD
Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example, as user:	
Do you know the past uses of the property?	Former Glavin Center for Regional Health
Do you know of specific chemicals that are present or once were present at the property?	NO
Do you know of spills or other chemical releases that have taken place at the property?	NO
Do you know of any environmental cleanups that have taken place at the property?	NO
As the user of this ESA, based on your knowledge and experience related to the property are there any obvious indicators that point to the presence or likely presence of contamination at the property?	NO

4.2 Title Records

LAI did not review the property title.

4.3 Environmental Liens, Activity and Use Limitations

The owner has no knowledge of environmental liens, and the agency check revealed no listing for an Activity and Use Limitation in connection with the Site.

4.4 Specialized Knowledge

No specialized knowledge of Recognized Environmental Conditions was provided to LAI by the owner or client.

4.5 Commonly Known or Reasonably Ascertainable Information

No commonly known or reasonably ascertainable information regarding Recognized Environmental Conditions was provided to LAI by the owner or client.

4.6 Valuation Reduction for Environmental Issues

No information regarding the value of the Site in comparison to the expected value of the property was provided to LAI by the owner or client.

4.7 Owner, Property Manager, and Occupant Information

According to the Shrewsbury Assessor's Office, the current owner of the property is:

Commonwealth of Massachusetts Worcester Regional Facility for Children with Special Needs
214 Lake Street
Shrewsbury, MA 01545

LAI conducted an interview with Mr. Robert Cox, Shrewsbury Superintendent of Public Buildings as a representative of the User, and Mr. Steve Wright, former employee who worked at the Site. Both Mr. Cox and Mr. Wright provided information regarding the history of the Site and operations at the Site.

Mr. Steve Wright, a former maintenance employee who worked at the Site from 2004 to 2012 stated that the Massachusetts Department of Capital Asset Management and Maintenance (MassDCAMM) managed the Site and maintained all the records for the Site. Lord Associates has called the MassDCAMM and left messages to inquire on historic and current uses of oil or other hazardous materials at the Site. To date, no one from the MassDCAMM has returned our calls.

4.8 Reason for Performing Phase I Study

A Phase I ESA is being conducted in connection with the purchase of the property.

5.0 RECORDS REVIEWS

A review of federal, state and local regulatory agency files was conducted in accordance with ASTM E1527-13 standards to identify the use, generation, storage, treatment, disposal and/or release of oil and/or hazardous materials that may potentially impact the Site.

5.1 Municipal Offices

5.1.1 Assessor's Office

Lord Associates, Inc. visited the municipal Assessor's Office on January 11, 2018 and reviewed the current property card on-line on January 9, 2018 (attached in **Appendix C**) to collect historical information regarding use and ownership of the Site. These data were reviewed for the purposes of land use determination and should not be relied upon as a complete chain-of-title. The following table offers a summary of ownership information obtained at the assessor's office.

Table 1
Chain of Title

Grantee	Date of Acquisition	Book/Page
Commonwealth of Massachusetts Worcester Regional Facility for Children with Special Needs	04/30/1890	1324/244

5.1.2 Board of Health

LAI made inquiries at the municipal Board of Health to review documentation regarding the Site on January 11, 2018. No documentation regarding the Site was on file with the Health Department.

5.1.3 Building Department

A review of files was requested at the municipal Building Department to obtain information on historical building alterations on January 11, 2018. No records regarding the Site were on file.

5.1.4 Public Works Department

No records regarding the Site were made available at the Shrewsbury Public Works Department.

5.1.5 Engineering Department

Lord Associates contacted Shrewsbury municipal offices to obtain information regarding the connection of the Site to the municipal sewer system and water supply. Attached in **Appendix C** are sketches provided by Jonathan Rahmati, PLS, Assistant Civil Engineer for the Town Shrewsbury depicting locations of storm water structures such as catch basins and electrical development such as high-tension wire poles.

5.1.6 Conservation Commission

A review of files was requested at the municipal Conservation Commission regarding environmental violations on January 11, 2018. No records were available pertaining to the Site.

5.1.7 Clerk's Office

A review of files was requested at the municipal Town Clerk's Office regarding registered USTs and environmental violations on January 11, 2018. No records pertaining to the Site were on file. A representative of the Clerk's Office stated that they maintain records of currently registered storage tanks but no records regarding tanks at the Site were on-file with the Clerk's Office.

5.1.8 Fire Department

LAI requested information from the Shrewsbury Fire Department regarding the use, storage or releases of oil or other hazardous materials. On January 11, 2018, A Lord Associates representative visited the Fire Department to review available records for the Site. A summary of documents provided by the Fire Department is provided below as **Table 2**. Copies of the documents are attached in **Appendix C**.

Table 2
Shrewsbury File Department Documentation

Document	Entity	Date	Address	Size (Gallons)	Contents	Material	Notes
Permit to Maintain Underground Storage Facility	Irving A Glavin Center	9/12/1986	214 Lake St	2,000	Gas	Steel	# of Tanks: 1 Tank installed: 1981
Tank Tightness Test Results	Briggs Associates	2/3/1988	214 Lake St. Bldg. across St	2,000	Leaded Gas		Passed test
Permit to Test UST	Technatest	5/15/1992	214 Lake St	5,000		Steel	
Product Line Tightness Test Results	Technatest	5/15/1992	214 Lake St	5,000	Gas		Passed test
Permit to Test UST	Technatest	5/9/1994	214 Lake St	2,000		Steel	
Product Line Tightness Test Results	Technatest	5/9/1994	214 Lake St	2,000	Gas		Passed test

Permit to Test UST	Technatest	5/11/1995	214 Lake St	2,000		Steel	
Tank and Piping Test Results	Technatest	7/18/1996	214 Lake St	2,000	Gas		Passed test
Permit for Tank Removal and Transport	Glavin Regional Center	9/11/1997	214 Lake St	2,000	Gas		
Tank Disposal Receipt	John Tomborello and Sons	9/12/1997	214 Lake St	2,000	Gas	Steel	
UST Closure Report	Irving A Glavin Center	1/11/2000	177 Lake St	1,000	Fuel Oil	Fiberglass	No indications of a release. No further action required

Based on a review of the documentation provided by the Shrewsbury Fire Department, a 2,000-gallon gasoline UST was installed on the Site in 1981. Tightness testing of the 2,000-gallon gas UST was completed in 1988, 1994, 1995 and 1996. The 2,000-gallon gasoline UST was removed in 1997.

Two documents were on file with the Fire Department specifying the Permit to Test and the subsequent testing of a 5,000-gallon gasoline UST in 1992. No other information regarding a 5,000-gallon UST at the Site was made available during the course of this assessment. Mr. Wright stated that he is not aware of any 5,000-gallon UST at the Site during his years working at the Site.

5.2 Sanborn/Historical Map Review

Sanborn Fire Insurance Maps were requested for the Site and vicinity. Sanborn Maps usually show property use, flammables storage and underground fuel storage for the purposes of insurance risk evaluations. However, it was determined that there was no coverage for Sanborn maps in the area of the Site.

5.3 Historical Aerial Photograph Review

Aerial photographs from 1938, 1966, 1971, 1995, 1997, 2001, 2003, 2004, 2005, 2008, 2009, 2010 and 2012 were reviewed through the Historic Aerials website (www.historicaerials.com) and a current 2017 aerial photograph was reviewed from Google Earth. Select aerial photographs are included in **Appendix A**.

All the historic aerials from 1995 to the present show the Site and surrounding area to be similar to current conditions. Aerial photos from 1938, 1966 and 1971 depict the buildings on Parcel 2 and a majority of Parcels 1 and 3 to be used as agricultural. Both cemeteries are depicted in the aerial photos from 1966 to the present.

The aerial photographs from 1966 (attached in **Appendix A**) and 1971, depict an area in the northern portion of Parcel 3 as a possible orchard.

5.4 Radius Search for Properties of Environmental Concern

A radius search was conducted of federal and state-listed sites of potential environmental concern as outlined in ASTM E1527 guidelines. The search was performed using software developed by Environmental Data Resources (EDR).

The Site is listed on the MADEP database. Sites identified within the designated ASTM search radii are summarized in the following table. The EDR report is included in **Appendix D.**

With the exception of the files for the specific Site, files were not reviewed at the Massachusetts Department of Environmental Protection (MADEP) since sites identified as having reported releases of oil or other hazardous materials in the regulatory database report have been closed-out by the MADEP or the identified releases are located topographically and/or hydraulically downgradient from the Site. Therefore, the identified releases of oil or other hazardous materials do not appear to have the potential to migrate to the property resulting in a material threat to public health or the environment. Migration refers to the movement of hazardous substances or petroleum products in any form, including solid and liquid at the surface or subsurface and vapor in the subsurface.

Table 3
Properties of Potential Environmental Concern

NPL (1 mi.)	CERCLIS (0.5 mi.)	Landfill (0.5 mi.)	STATE SITES (0.25 mi.) (Reduced due to development and releases)	LUST/LAST (0.25 mile)	RCRIS (Site/ Abutter	UST (Site/ Abutter
NI	Phalo Corp 530 Boston Turnpike Shrewsbury 675' E 2-00122/DEPNFA 2-10098/RAO		**Irving Glavin Rec Center** **214 Lake St** **Shrewsbury** **Subject Site** **2-11877/RAO** Residential Property 31 Beverly Hill Dr Shrewsbury 500' W Elev Diff = -65' 2-18109/RAO Industrial Polymers 508 Boston Turnpike Shrewsbury 675' NE Elev Digg = -35' 2-16094/RAO Jiffy Lube 512 Boston Turnpike Shrewsbury 675' NE Elev Digg = -35' 2-12976/RAO Phalo Corp 530 Boston Turnpike Shrewsbury	WFX Graphics 420 Boston Turnpike Shrewsbury 385' NW Elev Diff = -65' 12976/RAO Residential Property 31 Beverly Hill Dr Shrewsbury 500' W Elev Diff = -65' 2-18109/RAO Phalo Corp 530 Boston Turnpike Shrewsbury 675' E 2-00122/DEPNFA 2-10098/RAO		**Irving Glavin Rec Center** **214 Lake Street** **Shrewsbury** **Subject Site** **2000-G Gas UST** **Installed August 1973** **Closed**

NPL (1 mi.)	CERCLIS (0.5 mi.)	Landfill (0.5 mi.)	STATE SITES (0.25 mi.) (Reduced due to development and releases)	LUST/LAST (0.25 mile)	RCRIS (Site/ Abutter	UST (Site/ Abutter
			675' E 2-00122/DEPNFA 2-10098/RAO			

Notes:

All addresses are located in Brookline, MA
N=north, S=south, W=west, E=east
NPL = National Priorities List
RCRIS = Resource Conservation and Recovery Information System
RCRA-CESQG = RCRA Conditionally Exempt Small Quantity Generator
TSDF = Treatment Storage & Disposal Facilities
ERNS = Environmental Response Notification System
NI = None Identified
NFA – LSP Opinion of No Further Action
RAO = Response Action Outcome, Closed in accordance with MADEP Regulations
TierII = Listed with MADEP due to oil or hazardous material in soil/groundwater (not closed)
DPS = Downgradient Property Status (contamination is from an upgradient source)
UST = Underground Storage Tank
F = Final
AUL = Activity and Use Limitation
DEPNFA= DEP No Further Action
PENNFA=Pending No Further Action
PSNC=Permanent Solution with No Conditions

5.5 Massachusetts Department of Environmental Protection Review

Pertinent site-specific files were reviewed at the Massachusetts Department of Environmental Protection (MADEP) website. Copies of pertinent files are included in **Appendix D**. Those properties shown in bold in the preceding table were reviewed and are summarized as follows:

214 Lake Street (The Subject Site)
Shrewsbury, MA
RTN 4-11877

Closure of a 2,000-gallon gasoline UST at the Site was started on September 12, 1997. A copy of the Response Action Outcome Statement, dated September 12, 1998, is attached in **Appendix E**.

During closure activities, gasoline vapors were detected in soil samples. Field screening of soil samples detected total organic vapors at concentrations triggering a 72-hour notification requirement. The MADEP was notified and a Release Tracking Number of 2-11877 was issued. Remedial actions approved by the MADEP included the excavation of soil and the installation of soil borings and monitoring wells under an Immediate Response Action (IRA).

A total of 16 cubic yards of gasoline contaminated soil were removed from the Site and transported off-site for disposal. Analysis of confirmatory soil samples collected after excavation of contaminated soil did not detect any petroleum compounds above the applicable MADEP Method 1 Risk Characterization standards.

Soil samples and groundwater samples were collected from the five borings and five monitoring wells. No petroleum was detected in the soil samples or groundwater samples at concentrations above the applicable MADEP Method 1 Risk Characterization standards.

Based on remedial actions and subsequent assessment activities, it was concluded that a condition of no significant risk had been achieved and no further action was necessary with regard to the release of gasoline from the UST system.

5.6 Previous Reports

With the exception of the RAO report for the gasoline release summarized above in **Section 5.5**, no information regarding other environmental assessments of the Site was made available during the course of this assessment.

5.7 Physical Setting Sources

LAI reviewed information provided by the United States Geological Survey (USGS) in connection with physiographic conditions, soil and bedrock types. LAI also reviewed the MADEP Priority Resource Map for the area and located natural resources during the Site Reconnaissance.

According to the USGS Shrewsbury, Massachusetts Quadrangle Topographical Map, the elevation of the Site ranges from approximately 565 feet above mean sea level (amsl) in the northern portion of the Site to approximately 470 feet amsl in the eastern portion of the Site. Based on the size of the Site and varying topography, determining groundwater flow in any portion of the Site would require subsurface investigations.

No pits, ponds or lagoons were observed on site during the Site visit. As depicted on **Figures 2** and **5** mapped wetlands are located along the eastern property boundary of Parcel 2. No potential drinking water source areas are shown on the MADEP Natural Resources Map. Also depicted on **Figure 5**, with the exception of the former school development area in the northern portion of Parcel 1, the Site is designated as Protected Open Space.

Review of the Flood Insurance Rate Maps 25027C0638E and 25027C0639F, dated July 16, 2014, published by the Federal Emergency Management Agency (FEMA) indicated the Site is outside any flood designation area. Portions of the FEMA Flood Maps are attached as **Figure 6**.

Review of the Bedrock Geologic Map of Massachusetts, Richard Goldsmith, et al, 1980, indicates that the bedrock at the Site consists of sillimanite schist and gneiss.

The Soil Survey of Worcester County indicates significant variability is oil types on the Site. Based on the size of the Site and varying topography, determining soil types in specific areas will require subsurface investigations.

5.8 Historical Use Information

Research regarding historical land usage of the Site and surrounding properties was conducted using data obtained from historical maps, parties familiar with the Site, previous assessments and municipal officials. Based on information gathered through the course of this assessment, the following summary history of the Site has been prepared:

- The property was purchased by the Commonwealth of Massachusetts Worcester Regional Facility for Children with Special Needs in 1890
- Initially, the facility for children for special needs was located on the eastern portion of the Site on Parcel 2
- In 1965, the facility on Parcel 1 was constructed.
- With the exception of the temporary Town Hall being located in one of the buildings on Parcel 1 in 2016 and maintenance personnel using portions of the Site for storage, the facility has been unoccupied for several years.

6.0 SITE RECONNAISSANCE

6.1 Methodology and Limiting Conditions

On January 11, 2018, LAI personnel conducted an on-Site inspection, which consisted of a visual examination of the Site and portions of adjacent properties and interviews with Site personnel. Areas were examined for surficial indications of releases of oil and/or hazardous materials (OHM). It should be noted that, due to snow cover, and the inaccessibility of three buildings, inspection of the interior and exterior portions of the Site was limited.

Mr. Robert Cox, Shrewsbury Superintendent of Public Buildings, accompanied our personnel during the inspection. A Site Plan depicting significant features observed is included as **Figure 3** and photographs are included in **Appendix A** of this report.

6.2 Interior Inspection

6.2.1 West Side of Lake Street

Subdivisions within the four buildings on Parcel 1 include a boiler room, electric service rooms, offices, maintenance shop, rest rooms and class rooms. Inspection of the boiler room indicates that the heat for the buildings is provided by a natural gas burning furnace.

A water treatment system was observed in the boiler room. Chemicals for the water treatment system, labeled “Formula 7017”, were observed. No significant staining of the floors in any of the rooms of the buildings was observed during the Site visit.

Several floor drains were observed in the boiler room and restrooms. No information regarding discharge location of the floor drains was made available during the course of this assessment.

Two electric service rooms, both with transformers, were observed in the building. No staining of the floors in the area of the transformers was observed during the Site visit.

Three hydraulic elevators were observed in the buildings. One of the hydraulic elevator equipment rooms was available for inspection. No hydraulic staining or odors were observed in that hydraulic equipment room. The other two hydraulic equipment rooms were not available for inspection.

An emergency power generator with a 275-gallon diesel fuel aboveground storage tank is located in one of the buildings.

6.2.2 East Side of Lake Street, North

Only one of the four buildings on Parcel 2 was accessible during the Site visit. The accessible building is labeled "Maintenance Bldg 1" on the attached Site Buildings Plan (**Figure 3A**).

Subdivisions within the maintenance building included two machine rooms, an office, restrooms and two storage rooms. One of the two storage rooms was inaccessible during the Site visit. Several maintenance machines such as saws, presses, grinders, lathes, etc. were observed in the machine rooms. Oils and cleaners in containers of less than one gallon were observed in the building. No significant staining or odors were observed in the building.

Steam radiators and an overheat hot air heater were observed in the building. Two 275-gallon fuel oil ASTs were observed in one of the rooms on the first floor of the two-story building. The age of the ASTs and the oil burning furnace is unknown.

6.2.3 East Side of Lake Street, South

No buildings are located on Parcel 3.

6.3 Exterior Inspection

Exterior portions of the site are developed with asphalt driveways and parking lots for the buildings, landscaped areas, cleared athletic fields, two cemeteries on the southern portions of the Site, storm water catch basins.

LAI did not observe any odors, pools of liquid, ponds, lagoons, stressed vegetation, suspicious containers or tanks or evidence of septic systems during the reconnaissance.

7.0 INTERVIEWS

LAI conducted interviews with Mr. Robert Cox, Shrewsbury Superintendent of Public Buildings as a representative of the User, and Mr. Steve Wright, former employee who worked at the Site. Both Mr. Cox and Mr. Wright provided information regarding the history of the Site and operations at the Site.

8.0 SUMMARY OF FINDINGS AND CONCLUSION

8.1 Findings

Lord Associates, Inc. has completed a Phase I Environmental Site Assessment of the Site. This assessment was performed with consideration to standard industry practice and the ASTM E-1527-13 site assessment standard entitled "Standard Practice for Environmental

Site Assessments: Phase I Environmental Site Assessment Process". Our findings are presented below:

1. Information provided indicates that the Site consists of three parcels of land comprising a total of approximately 120.83 acres. All three parcels of land are located within the land designated Lot 83 on Assessors Map 33.

2. Zoning for the northern portion of Parcel 1 and Parcel 2 is Limited Commercial-Business. Zoning for the southern portion of Parcel 1 and Parcel 3 is Rural AA. Properties abutting the Site are zoned Residential, Rural and Limited Commercial

3. A total of eight vacant buildings are located on the Site. Four buildings on Parcel 1 were most recently used as a school and office space for the temporary Town Hall. Four buildings on Parcel 2 were most recently used by the State as storage and maintenance buildings. Three of the buildings on Parcel 2 were not accessible during the Site visit. Cleared portions of Parcel 3 are used for agricultural purposes.

4. Only one of the four buildings on Parcel 2 was accessible during the Site visit. According to Mr. Cox, heat to two of the buildings on Parcel 2 was most recently provided by furnaces that burn fuel oil stored in a total of five 275-gallon aboveground storage tanks (AST) in two of the four buildings.

5. Two 275-gallon fuel oil ASTs were observed on the first floor of Maintenance Bldg 1. Those two ASTs are used for the heating system on the second floor of the building. The fill and vent pipes for a third tank were observed extending from the exterior wall of the eastern end of Maintenance Bldg 1. The portion of Maintenance Bldg 1 that had the third tank was inaccessible during the Site visit. Although the eastern portion of Maintenance Bldg 1 was inaccessible during the Site visit, Mr. Cox provided Lord Associates with photographs of the 275-gallon diesel AST located in that portion of the building. According to Mr. Cox, and a review of the photographs, the third AST is located in a secondary containment vessel and no indications of a release of fuel oil to the floor was observed.

6. A summary of documents provided by the Fire Department is provided below.

Shrewsbury File Department Documentation

Document	Entity	Date	Address	Size (Gallons)	Contents	Material	Notes
Permit to Maintain Underground Storage Facility	Irving A Glavin Center	9/12/1986	214 Lake St	2,000	Gas	Steel	# of Tanks: 1 Tank installed: 1981
Tank Tightness Test Results	Briggs Associates	2/3/1988	214 Lake St. Bldg. across St	2,000	Leaded Gas		Passed test
Permit to Test UST	Technatest	5/15/1992	214 Lake St	5,000		Steel	
Product Line Tightness Test Results	Technatest	5/15/1992	214 Lake St	5,000	Gas		Passed test
Permit to Test UST	Technatest	5/9/1994	214 Lake St	2,000		Steel	

Product Line Tightness Test Results	Technatest	5/9/1994	214 Lake St	2,000	Gas		Passed test
Permit to Test UST	Technatest	5/11/1995	214 Lake St	2,000		Steel	
Tank and Piping Test Results	Technatest	7/18/1996	214 Lake St	2,000	Gas		Passed test
Permit for Tank Removal and Transport	Glavin Regional Center	9/11/1997	214 Lake St	2,000	Gas		
Tank Disposal Receipt	John Tomborello and Sons	9/12/1997	214 Lake St	2,000	Gas	Steel	
UST Closure Report	Irving A Glavin Center	1/11/2000	177 Lake St	1,000	Fuel Oil	Fiberglass	No indications of a release. No further action required

7. Based on a review of the documentation provided by the Shrewsbury Fire Department, a 2,000-gallon gasoline UST was installed on the Site in 1981. Tightness testing of the 2,000-gallon gas UST was completed in 1988, 1994, 1995 and 1996. The 2,000-gallon gasoline UST was removed in 1997.

8. Two documents were on-file with the Fire Department specifying the Permit to Test and the subsequent testing of a 5,000-gallon gasoline UST in 1992. No other information regarding a 5,000-gallon UST at the Site was made available during the course of this assessment. Mr. Wright stated that he is not aware of any 5,000-gallon USTs at the Site during his years working at the Site.

9. A radius search was conducted of federal and state-listed sites of potential environmental concern as outlined in ASTM E1527 guidelines.

10. The Site is listed on the State regulatory database as having a release of oil or other hazardous materials. Specifically, the closure of the 2,000-gallon gasoline UST at the Site was started on September 12, 1997. During closure activities, gasoline vapors were detected in soil samples. Field screening of soil samples detected total organic vapors at concentrations triggering a 72-hour notification requirement. The MADEP was notified and a Release Tracking Number of 2-11877 was issued. Remedial actions approved by the MADEP included the excavation of soil and the installation of soil borings and monitoring wells under an Immediate Response Action (IRA). A total of 16 cubic yards of gasoline contaminated soil was removed from the Site and transported off-site for disposal. Confirmatory soil samples collected after excavation of contaminated soil did not detect any petroleum compounds above the applicable MADEP Method 1 Risk Characterization standards. Soil samples and groundwater samples were collected from the five borings and five monitoring wells. No petroleum was detected in the soil samples or groundwater samples at concentrations above the applicable MADEP Method 1 Risk Characterization standards. Based on remedial actions and subsequent assessment activities, it was concluded that a condition of no significant risk has been achieved and no further action was necessary with regard to the release of gasoline from the UST system.

11. Since sites identified as having reported releases of oil or other hazardous materials in the regulatory database report have been closed-out by the MADEP or the identified

releases are located topographically and/or hydraulically downgradient from the Site, the identified releases of oil or other hazardous materials do not appear to have the potential to migrate to the property resulting in a material threat to public health or the environment. Migration refers to the movement of hazardous substances or petroleum products in any form, including solid and liquid at the surface or subsurface and vapor in the subsurface.

12. All the historic aerial photographs from 1995 to the present show the Site and surrounding area to be similar to current conditions. Aerial photos from 1938, 1966 and 1971 depict the buildings on Parcel 2 and a majority of Parcels 1 and 3 to be used as agricultural. The aerial photographs from 1966 and 1971, depict an area in the northern portion of Parcel 3 as a possible orchard. Both cemeteries are depicted in the aerial photos from 1966 to the present.

8.2 Conclusions

Fire Department records reference a 5,000-gallon gasoline UST on the Site in 1992. No other records of the 5,000-gallon gasoline UST were made available during the course of this assessment. A potential abandoned 5,000-gallon gasoline UST on the Site is a Recognized Environmental Concern requiring additional assessment.

The Site has been owned by the Commonwealth of Massachusetts since 1890. Lord Associates has called the Massachusetts Department of Capital Asset Management and Maintenance (MassDCAMM) to obtain information regarding the Site. However, to date, no one from the MassDCAMM has returned our calls. Not interviewing the current owners is a deviation from the Phase I ESA Standard resulting in a data gap that raises reasonable concern due to the indications of historic use of petroleum in underground storage tanks at the Site. An additional data gap includes the inaccessibility of three of the building on the Site.

The potential use of a portion of the Site for an orchard represents a Potential Environmental Concern due to the possible historic use of persistent lead arsenate pesticides.

Any exceptions to, or deletions from, ASTM Practice E1527 are described in **Section 9** of this report. Please note that an investigation for the presence of mold, asbestos and PCBs in building materials, lead-based paint, indoor air quality, or regulatory compliance is beyond the scope of work described by ASTM E 1527-13, therefore LAI did not explore those conditions.

9.0 RESTRICTIVE CONDITIONS

9.1 Limitations & Deviations

LAI recognizes the following limitations and/or deviations from the Standard with respect to this Phase I Environmental Site Assessment:

- LAI could not inspect all ground surface conditions due to snow cover
- LAI did not interview past owners of the Site;
- LAI did not interview owners of neighboring properties;
- LAI did not review Title Records for the Site; and
- LAI did not conduct an evaluation of the purchase price of the Site compared to the fair market value.

9.2 Significance of Data Gaps

As described above, the deviations from the Standard constitute data gaps. As specified in **Section 8.2**, these data gaps, in our opinion raise reasonable concerns that would affect the ability to identify conditions indicative of a release or threatened release or Recognized Environmental Conditions (RECs) based upon other information collected during the course of the Phase I Environmental Site Assessment.

10.0 LIMITATIONS

No warranty, whether expressed or implied, is given with respect to this report or any opinions expressed herein. It is expressly understood that this report and the opinions expressed herein are based upon Site conditions, as they existed only at the time of assessment. Nothing in this report constitutes a legal opinion or legal service, and should not be relied upon as such.

The data reported and the findings, observations, and opinions expressed in the report are limited by the Scope of Work. The Scope of Work was performed based on budgetary, time, and other constraints imposed by the Client, and the agencies and persons reviewed.

In preparing this report, Lord Associates, Inc. has relied upon and presumed accurate certain information about the Site and adjacent properties provided by governmental agencies, the client and others identified in the report. Except as otherwise stated in the report, Lord Associates, Inc. has not attempted to verify the accuracy or completeness of any such information.

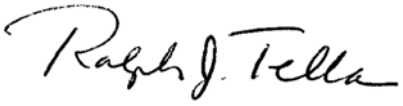
This report has been prepared on behalf of and for the exclusive use of the client, and those immediate entities involved with the proximate financing of this project, solely for use in the environmental evaluation of the Site. Any reuse or reliance on this report by any other third party shall be done only with the written consent of LAI.

11.0 SIGNATURES AND ENVIRONMENTAL PROFESSIONAL STATEMENT

LAI declares that, to the best of our professional knowledge and belief, we meet the definition of *Environmental Professional* as defined in §312.10 of 40 CFR 312. LAI has the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. LAI has developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

This report is dated this February 6, 2018 and is signed by individuals who are duly authorized to do so.

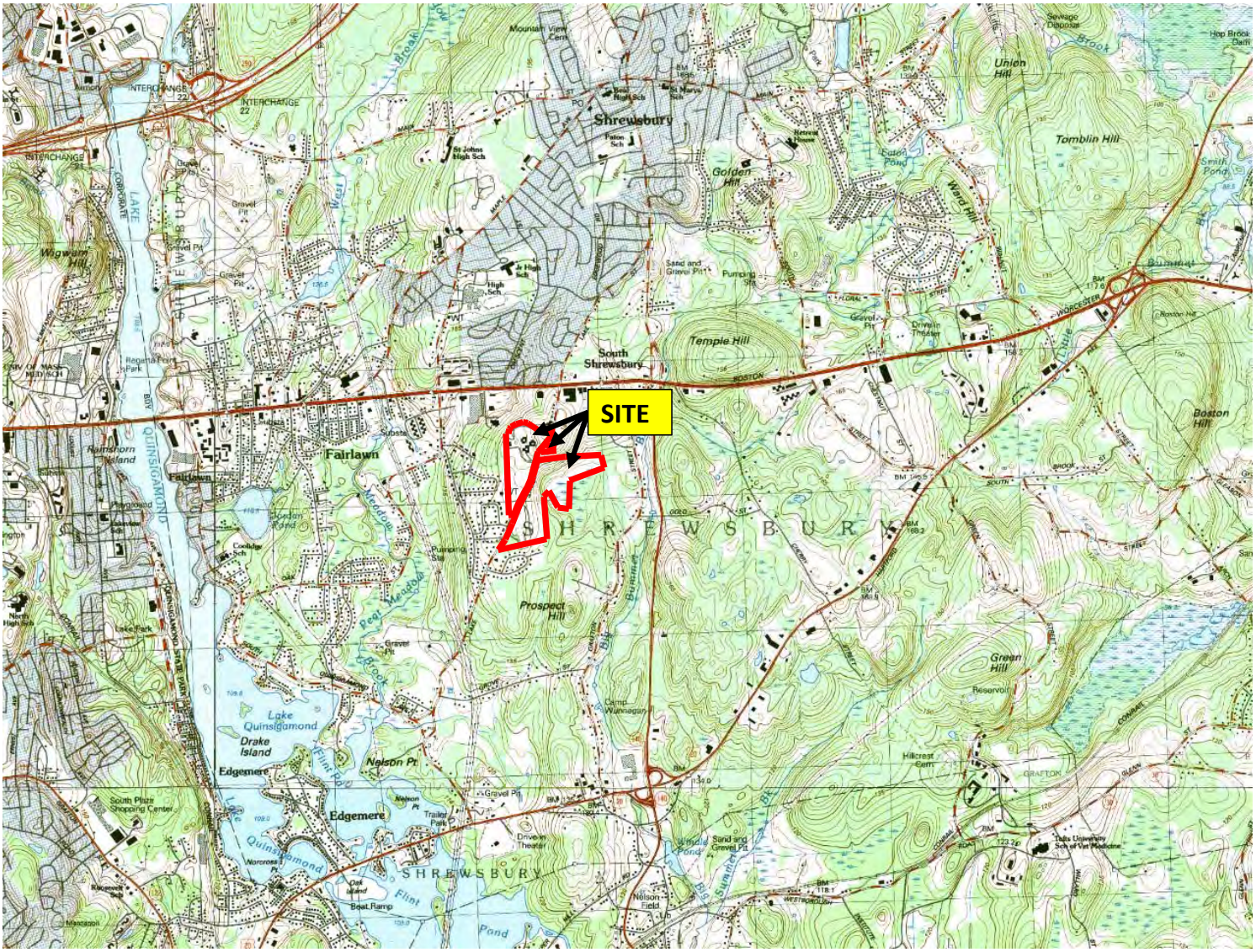
LORD ASSOCIATES, INC.



Ralph Tella, CHMM, LSP
President

Jonathon D. Puliafico, CPG
Project Manager

APPENDIX A



LORD ASSOCIATES, INC.

1506 Providence Highway, Suite 30
Norwood, MA 02062-4647
(781) 255-5554

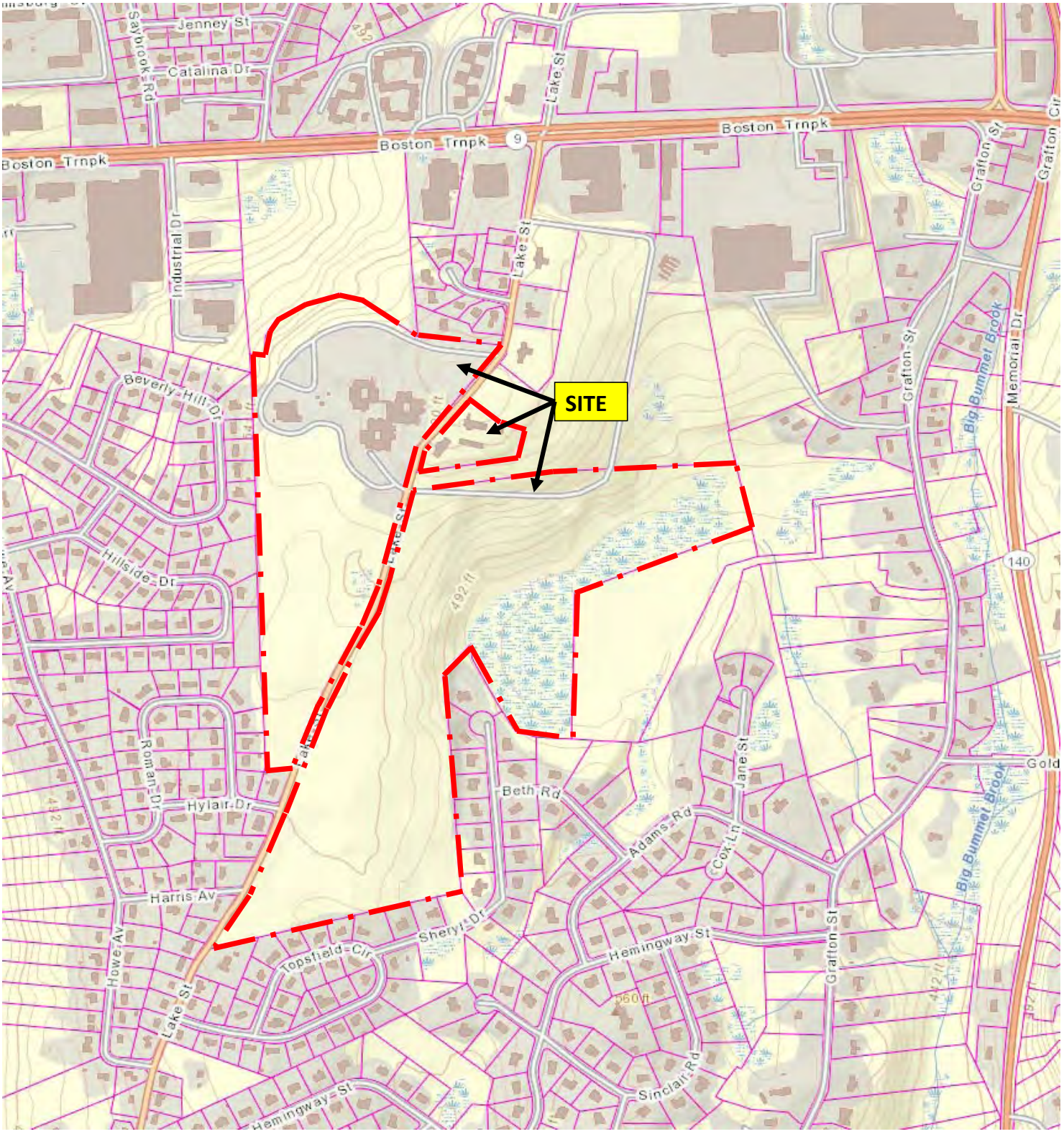
REFERENCE:

Shrewsbury
USGS Topographic
Quadrangle Map

NORTH

FIGURE 1: SITE LOCATION MAP

214 LAKE STREET
SHREWSBURY, MASSACHUSETTS



SITE BOUNDRY

LORD ASSOCIATES, INC.

1506 Providence Highway, Suite 30
Norwood, MA 02062-4647
(781) 255-5554

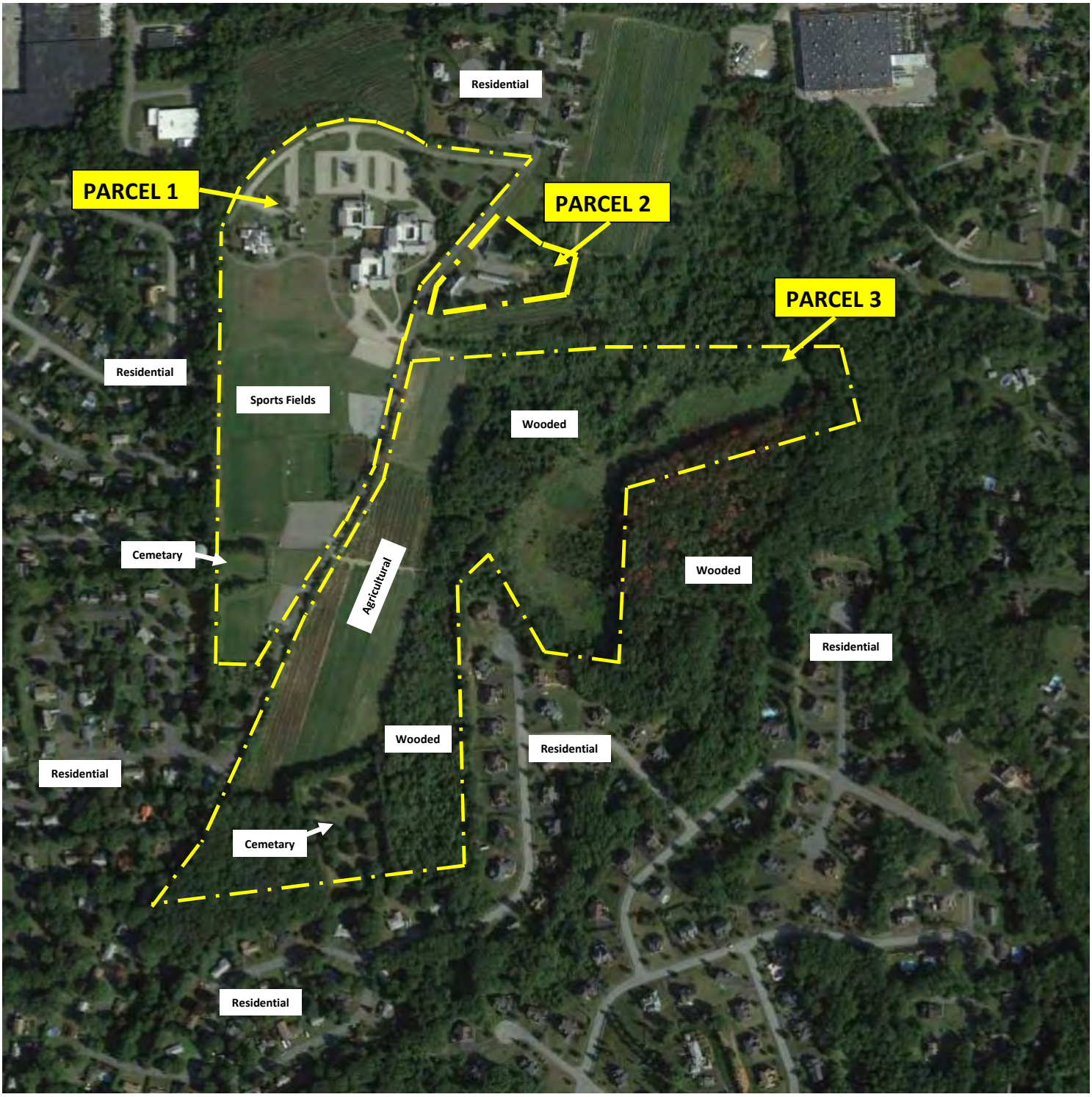
REFERENCE:

Massachusetts
Geographic
Information Systems

NORTH

FIGURE 2: ASSESSOR MAP

214 LAKE STREET
SHREWSBURY, MASSACHUSETTS



LORD ASSOCIATES, INC.

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Norwood, MA 02062-4647
(781) 255-5554

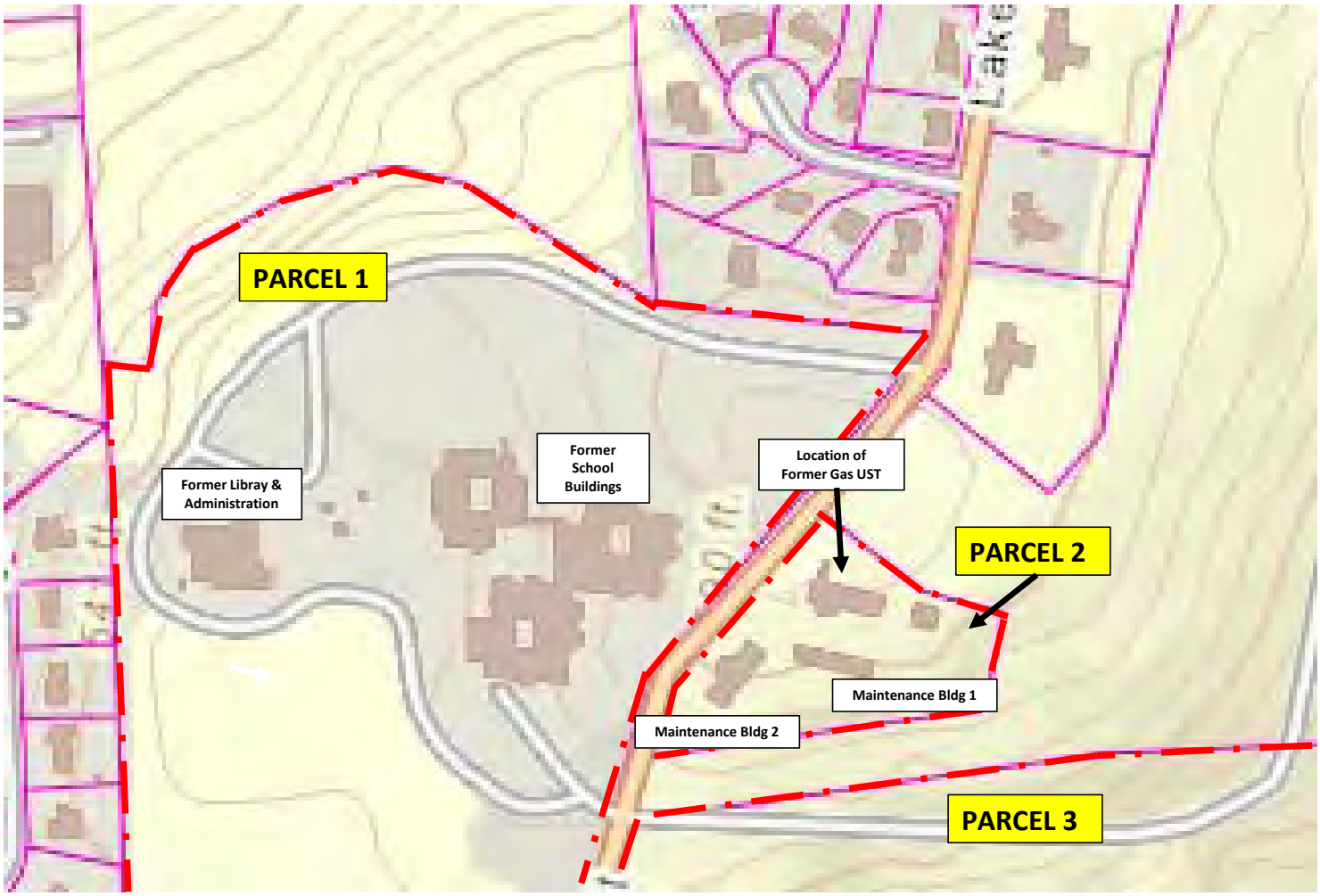
REFERENCE:

GOOGLE EARTH
AERIAL PHOTO: 2017

NORTH

FIGURE 3: SITE PLAN

214 LAKE STREET
SHREWSBURY, MASSACHUSETTS



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Norwood, MA 02062-4647
(781) 255-5554

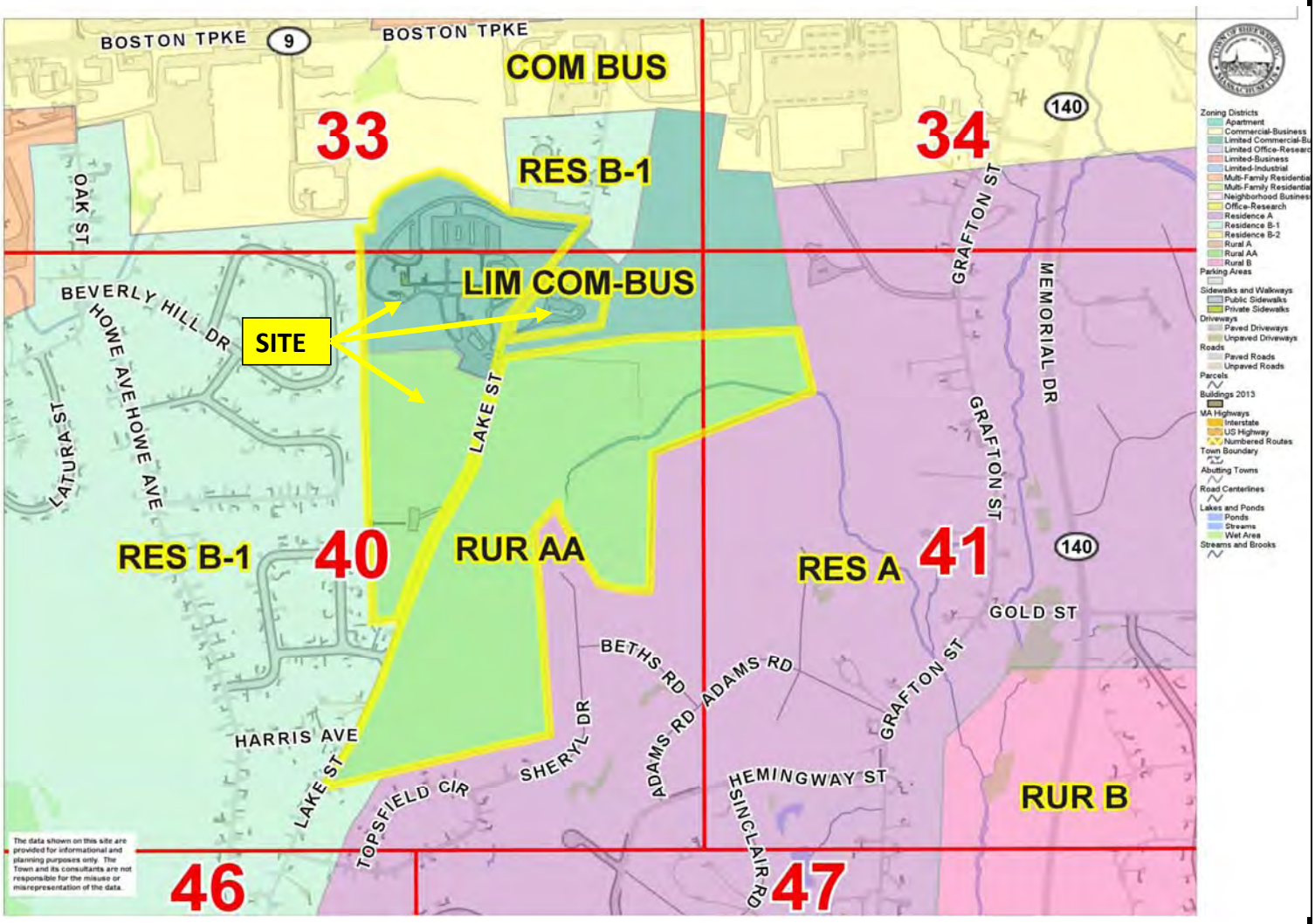
REFERENCE:

GOOGLE EARTH
AERIAL PHOTO: 2017

NORTH

FIGURE 3: SITE PLAN

214 LAKE STREET
SHREWSBURY, MASSACHUSETTS



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Norwood, MA 02062-4647
(781) 255-5554

REFERENCE:

Shrewsbury
Geographic Information Systems

FIGURE 4: ZONING MAP

214 LAKE STREET
SHREWSBURY, MASSACHUSETTS

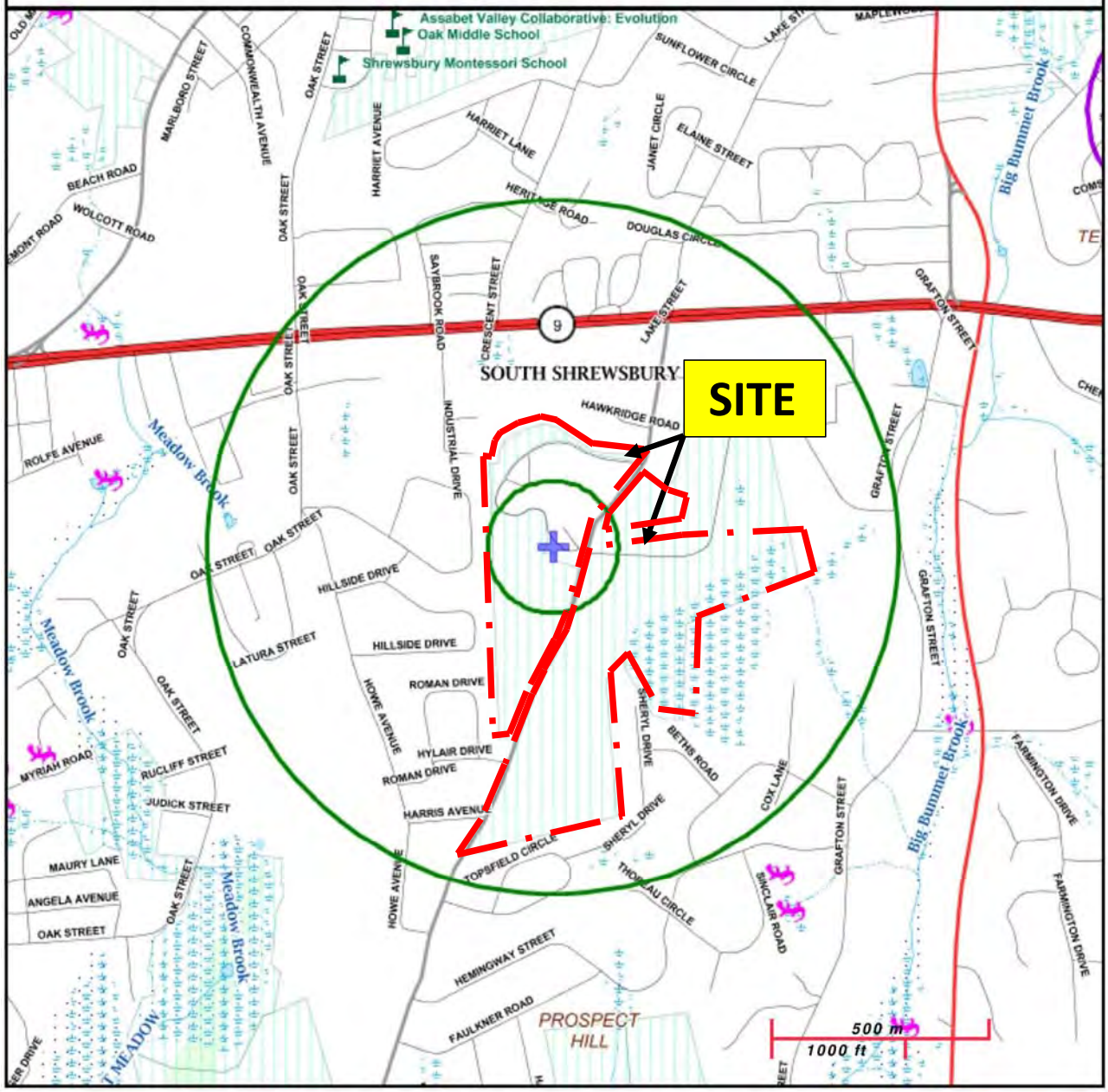
MassDEP - Bureau of Waste Site Cleanup

Site Information: 214 LAKE STREET SHREWSBURY, MA
NAD83 UTM Meters:
4683544mN , 275470mE (Zone: 19)
February 2, 2018

Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

The information shown is the best available at the date of printing. However, it may be incomplete. The responsible party and LSP are ultimately responsible for ascertaining the true conditions surrounding the site. Metadata for data layers shown on this map can be found at: http://www.mass.gov/mgis/.

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail
Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct
Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam
Aquifers: Medium Yield, High Yield, EPA Sole Source
Non Potential Drinking Water Source Area: Medium, High (Yield)
PWS Protection Areas: Zone II, IWPA, Zone A
Hydrography: Open Water, PWS Reservoir, Tidal Flat
Wetlands: Freshwater, Saltwater, Cranberry Bog
FEMA 100yr Floodplain; Protected Open Space; ACEC
Est. Rare Wetland Wildlife Hab; Vernal Pool: Cert., Potential
Solid Waste Landfill; PWS: Com.GW,SW, Emerg., Non-Com.

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(781) 255-5554

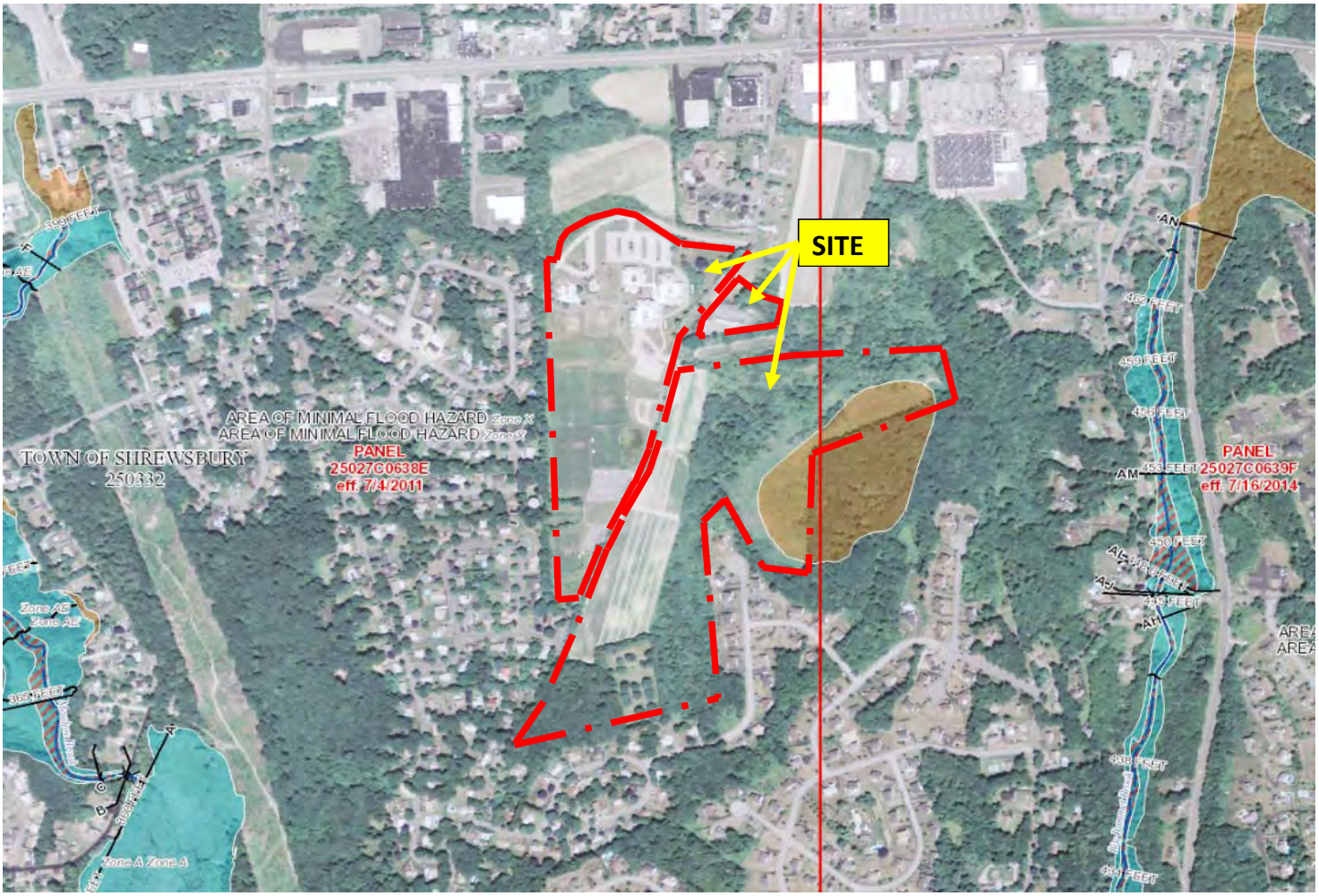
REFERENCE:

MADEP 21E Map

NORTH

FIGURE 5: NATURAL RESOURCES MAP

214 LAKE STREET
SHREWSBURY, MASSACHUSETTS



Legend

General Structures
- Flood Structure
- Bridge
- Dam, Weir, Jetty
- Other Structure

Primary Frontal Dunes

Flood Hazard Boundaries
- Limit Lines
- SFHA / Flood Zone Boundary
- Other Boundaries

Flood Hazard Zones
- 1% Annual Chance Flood Hazard
- Regulatory Floodway
- Special Floodway
- Area of Undetermined Flood Hazard
- 0.2% Annual Chance Flood Hazard
- Future Conditions 1% Annual Chance Flood Hazard
- Area with Reduced Risk Due to Levee

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(781) 255-5554

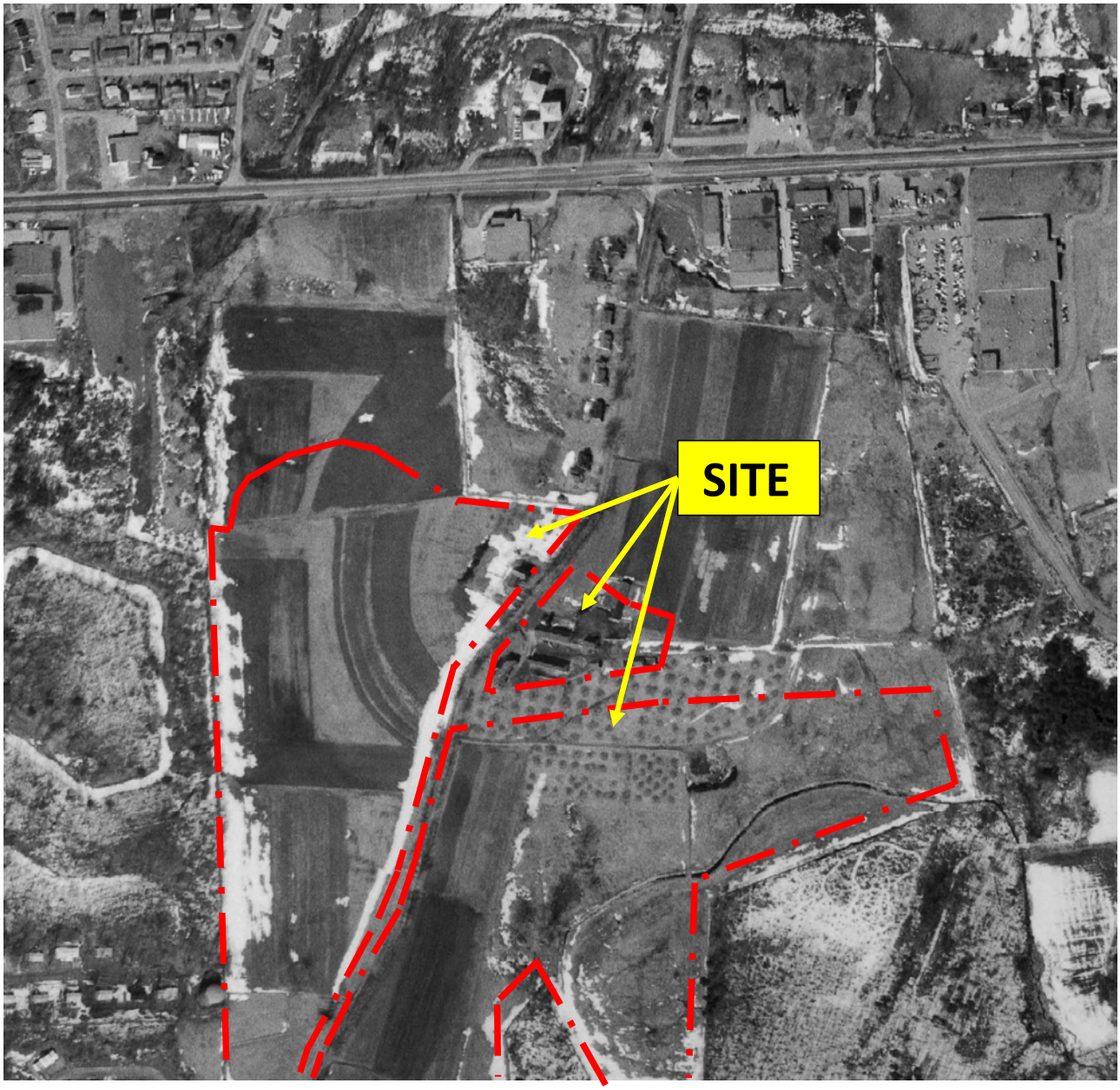
REFERENCE:

FEMA Website:
fema.maps.arcgis.com

NORTH

FIGURE 6: FEMA FLOOD MAP

214 LAKE STREET
SHREWSBURY, MASSACHUSETTS



LORD ASSOCIATES, INC.

1506 Providence Highway, Suite 30
Norwood, MA 02062-4647
(781) 255-5554

REFERENCE:

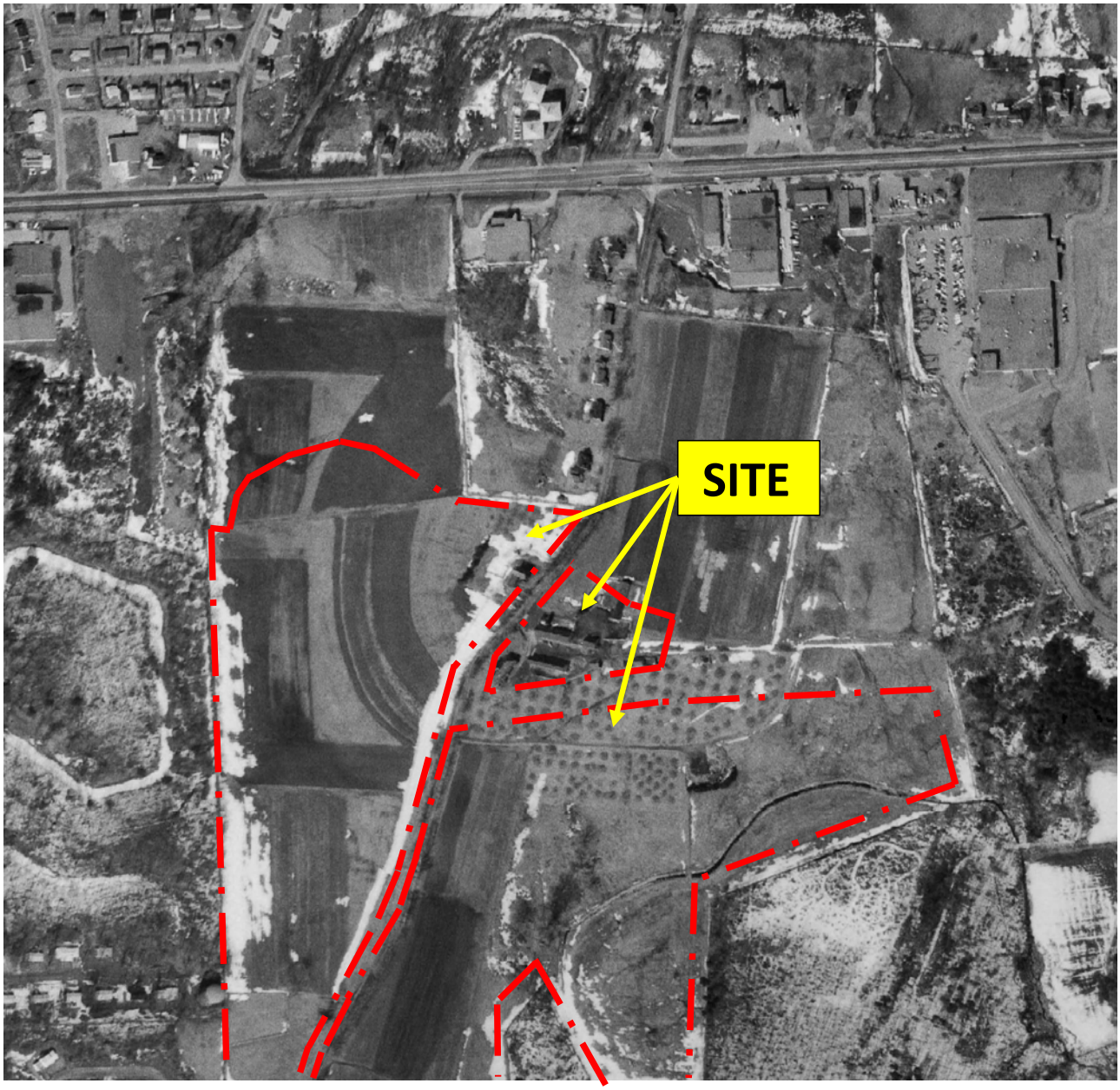
historicaerials.com

SITE BOUNDARIES ARE

NORTH

HISTORIC AERIAL PHOTO: 1966

214 LAKE STREET
SHREWSBURY, MASSACHUSETTS



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(781) 255-5554

REFERENCE:

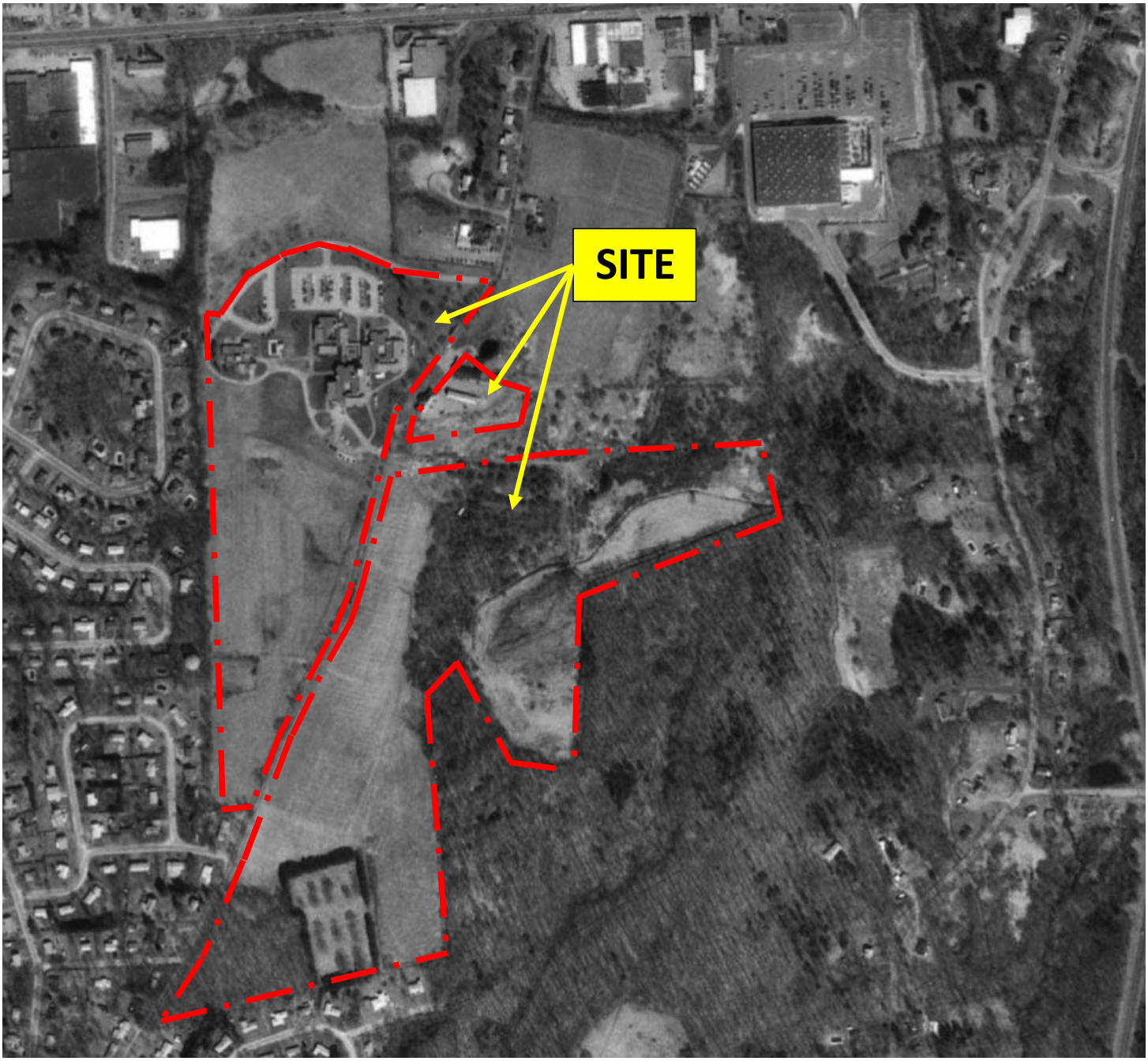
historicaerials.com

SITE BOUNDARIES ARE

NORTH

HISTORIC AERIAL PHOTO: 1966

214 LAKE STREET
SHREWSBURY, MASSACHUSETTS



LORD ASSOCIATES, INC.

1506 Providence Highway, Suite 30
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(781) 255-5554

REFERENCE:

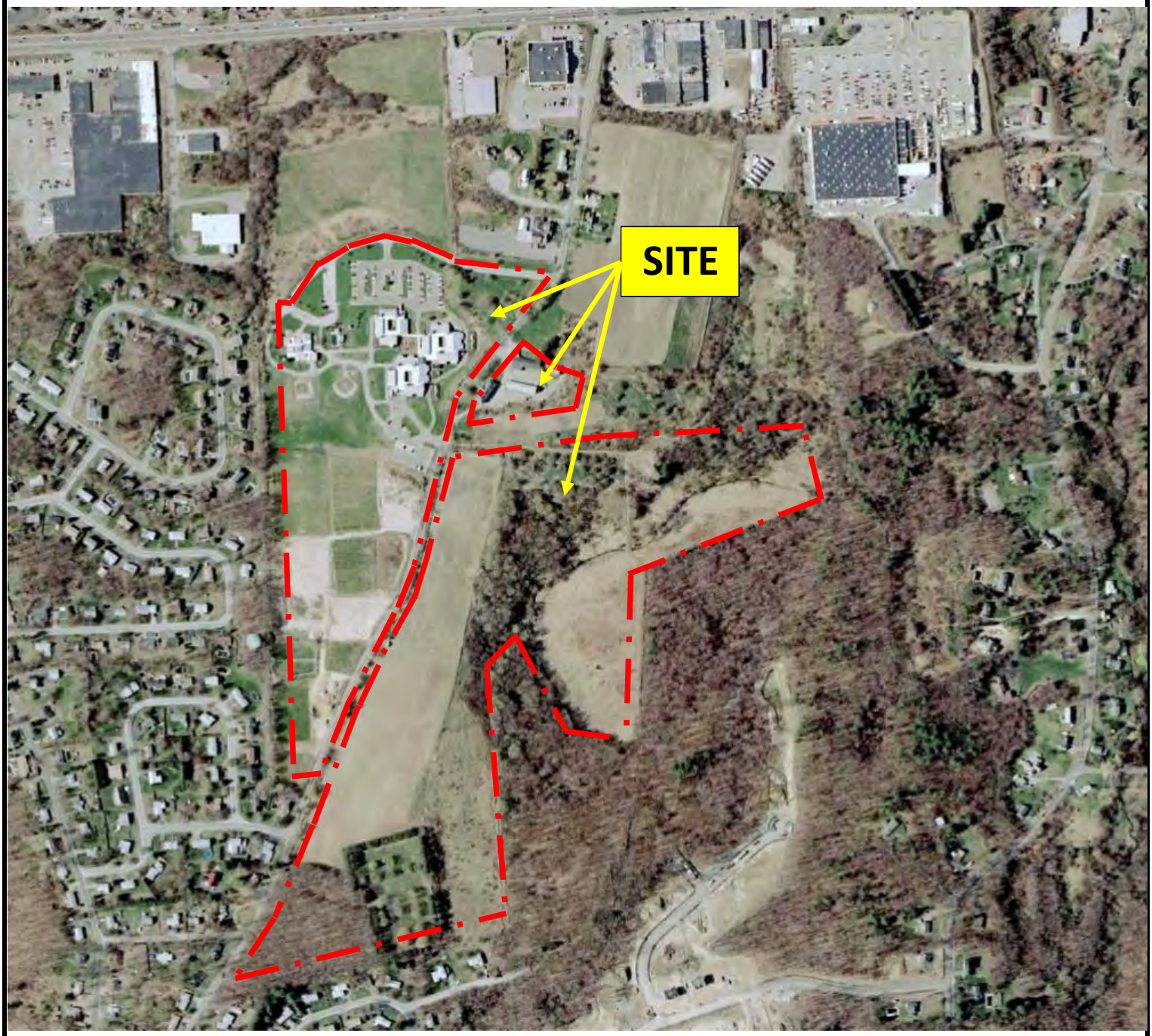
GOOGLE EARTH

SITE BOUNDARIES ARE APPROXIMATE

NORTH

HISTORIC AERIAL PHOTO: 1995

214 LAKE STREET
SHREWSBURY, MASSACHUSETTS



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Norwood, MA 02062-4647
(781) 255-5554

REFERENCE:

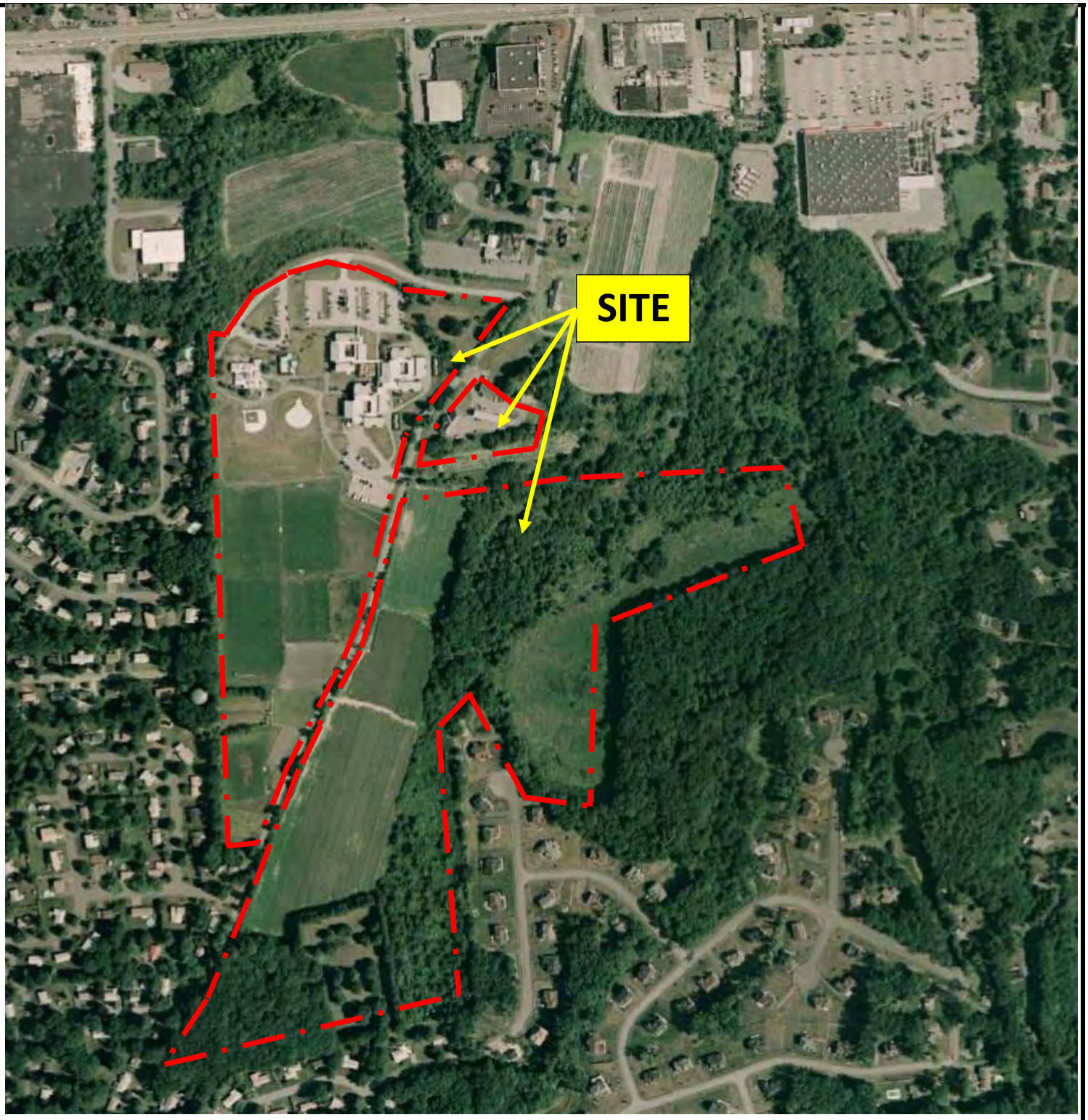
GOOGLE EARTH

SITE BOUNDARIES ARE APPROXIMATE

NORTH

HISTORIC AERIAL PHOTO: 2001

214 LAKE STREET
SHREWSBURY, MASSACHUSETTS



LORD ASSOCIATES, INC.

1506 Providence Highway, Suite 30
Norwood, MA 02062-4647
(781) 255-5554

REFERENCE:

GOOGLE EARTH

SITE BOUNDARIES ARE APPROXIMATE

NORTH

HISTORIC AERIAL PHOTO: 2007

214 LAKE STREET
SHREWSBURY, MASSACHUSETTS

LORD ASSOCIATES, INC.

1506 Providence Highway, Suite 30
Norwood, MA 02062-4647
(781) 255-5554

REFERENCE:

GOOGLE EARTH

SITE BOUNDARIES ARE APPROXIMATE

NORTH

HISTORIC AERIAL PHOTO: 2015

214 LAKE STREET
SHREWSBURY, MASSACHUSETTS

Photo #1:	Northern portion of the parcel west of Lake Street

Photo #2:	Southern portion of the parcel west of Lake Street

Photo #3:	Two of the buildings on the northern parcel, east of Lake Street

Photo #4:	The third building on the northern parcel, east of Lake Street

Photo #5:	Boiler room in a former school building on the west side of Lake Street

Photo #6:	275-gallon AST for the generator in one of the former school buildings

Photo #7:	Two 275-gallon ASTs in Maintenance Bldg 1 on the east side of Lake Street

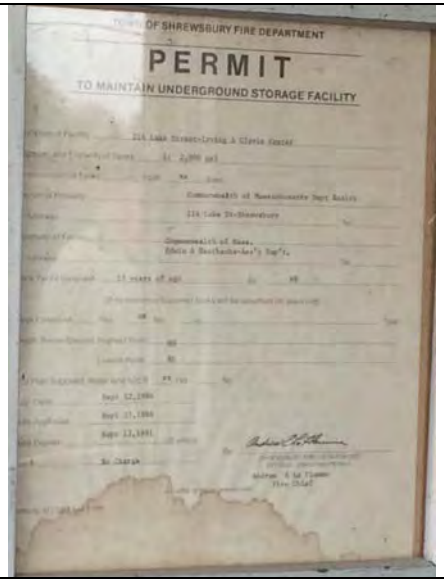


Photo #8:	Permit to Maintain Underground Storage mounted on wall in the northern building east of Lake Street. UST removed in1997.

APPENDIX B

X3. USER QUESTIONNAIRE

INTRODUCTION

In order to qualify for one of the *Landowner Liability Protections* (LLPs) offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001, the *User* must provide the following information (if available) to the *Environmental Professional*. Failure to provide this information could result in a determination that "*all appropriate inquiry*" is not complete.

1. **Environmental cleanup liens that are filed or recorded against the site (40 CFR 312.25).**
   Are you aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state or local law?

   No - MADEP 2-0011877

2. **Activity and Use Limitations that are in place on the site or that have been filed or recorded in a registry (40 CFR 312.26).**
   Are you aware of any AULs, such as *engineering controls*, land use restrictions or *institutional controls* that are in place at the site and/or have been filed or recorded in a registry under federal, state, tribal or local law?

   No - MADEP 2-0011877

3. **Specialized knowledge or experience of the person seeking to qualify for the LLP (40 CFR 312.28).**
   As the *User* of this ESA, do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

   No

4. **Relationship of the purchase price to the fair market value of the property if it were not contaminated (40 CFR 312.29).**
   Does the purchase price being paid for this property reasonably reflect the fair market value of the property? If you conclude that there is a difference, have you considered whether the lower price is because contamination is known or believed to be present at the property?

   Purchase price TBD

5. **Commonly known or reasonably ascertainable information about the property (40 CFR 312.30).** Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example, as *User*,

a.) Do you know the past uses of the property? Former Glavin Center for Regional Health

b.) Do you know of specific chemicals that are present or once present at the property?
No

c.) Do you know of spills or other chemical releases that have taken place at the property?
None other than what is listed above

d.) Do you know of any environmental cleanups that have taken place at the property?
None other than what is listed above

6. **The degree of obviousness of the presence of contamination at the property and the ability to detect the contamination by appropriate investigation (40 CFR 312.31).** As the *User* of this ESA, based on your knowledge and experience related to the property, are there any obvious indicators that point to the presence of contamination at the property?
No

Site Address: 214 Lake Street
Shrewsbury, MA 01545

Person Completing Questionnaire: Kristen Las, Assistant Town Manager

Relationship to Site: Potential Purchaser of Property

Years associated with site: Town has leased a portion of the property since 2012

Date: January 30, 2018

Signature: Kristen D. Las

APPENDIX C

TOWN OF SHREWSBURY FIRE DEPARTMENT

PERMIT

TO MAINTAIN UNDERGROUND STORAGE FACILITY

Location of Facility 214 Lake Street-Irving A Glavin Center

Number and Capacity of Tanks 1: 2,000 gal

Construction of Tanks _____ FGR xx Steel

Owner of Property Commonwealth of Massachusetts Dept Health

Address 214 Lake St-Shrewsbury Tel. _____

Operator of Facility Commonwealth of Mass.
Edwin A Hastbacka-Ass't Sup't.

Address _____ Tel. _____

Date Tanks Installed 15 years of age By NS

(If no evidence supplied, tanks will be assumed 20 years old)

Leak Detection _____ Yes xx No _____ Type

Depth Below Ground: Highest Point NS

Lowest Point NS

Plot Plan Supplied: Water w/in 500 ft. xx Yes _____ No

App. Date Sept 12,1986

Date Approved Sept 13,1986

Date Expires Sept 13,1991 (5 years)

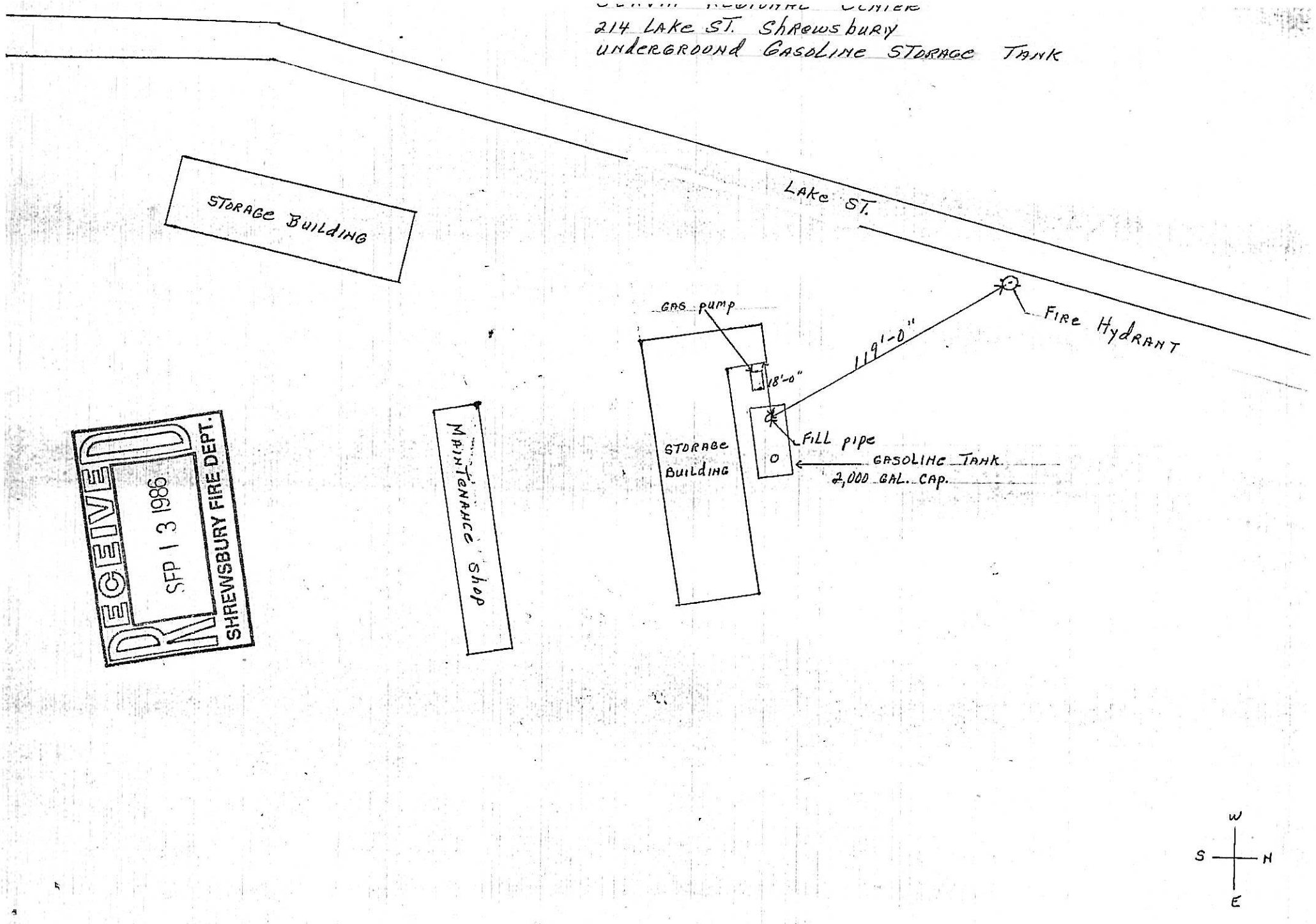
Fee $ No Charge

By _____
SHREWSBURY FIRE DEPARTMENT
OFFICIAL GRANTING PERMIT
Andrew E La Flamme
Fire Chief

List other tanks on reverse side.

Authority: 527 CMR 9.24.3 DPS

[illegible] REGIONAL CENTER
214 LAKE ST. SHREWSBURY
UNDERGROUND GASOLINE STORAGE TANK



RECEIVED
SEP 13 1986
SHREWSBURY FIRE DEPT.

4

The Commonwealth of Massachusetts

DEPARTMENT OF PUBLIC SAFETY—DIVISION OF FIRE PREVENTION

APPLICATION FOR PERMIT TO MAINTAIN AN EXISTING/NEW UNDERGROUND STORAGE FACILITY

To: Head of Fire Department

Shrewsbury (City or Town) September 5, 19 86 (Date)

Application is hereby made for a permit to maintain an existing/new underground storage facility as required by 527CMR9.00: Permits.

Location of property: 214 Lake Street (Street address)

Owner of property: Commonwealth of Massachusetts - Glavin Regional Center (Full name of person, firm or corporation)

Signature of owner or authorized representative: Edward A. Hastbacka

Fee:$ 5.00 (M.G.L.A. Chapt. 148 Sec. 10A)

(Fire Department's Copy to be Filed with F.P.290 part 2)

Form F.P. 290
Part 4

4

The Commonwealth of Massachusetts

DEPARTMENT OF PUBLIC SAFETY—DIVISION OF FIRE PREVENTION

PERMIT

_____ 19 (Date)

TO MAINTAIN AN EXISTING/NEW UNDERGROUND STORAGE FACILITY

In accordance with the provisions of 527CMR9.24 this permit to maintain an existing/new underground storage facility is granted to:

Location of property: _____ (Street address)

Owner of property: _____ (Full name of person, firm or corporation)

Restrictions: _____

Fee Paid:$ _____ (M.G.L.A. Chapt. 148 Sec. 10A)

This permit will expire _____ 19 (Date)

_____ (Signature of Head of Fire Dept. or appointed designee)

Form F.P. 290
Part 4

(Owner's Copy to be posted at the storage facility with F.P.290 Part 3)

Notification for Underground Storage Tanks

2

Submit to:
LOCAL FIRE DEPARTMENT

FIRE DEPT. I.D. Number: 27271

STATE USE ONLY

FIRE DEPT. CERTIFICATION: A. A. Hamme Chief

Date Received: 9/12/86

GENERAL INFORMATION

Notification is required by Federal law for all underground tanks that have been used to store regulated substances since January 1, 1974, that are in the ground as of May 8, 1986, or that are brought into use after May 8, 1986. The information requested is required by Section 9002 of the Resource Conservation and Recovery Act, (RCRA), as amended.

The primary purpose of this notification program is to locate and evaluate underground tanks that store or have stored petroleum or hazardous substances. It is expected that the information you provide will be based on reasonably available records, or, in the absence of such records, your knowledge, belief, or recollection.

Who Must Notify? Section 9002 of RCRA, as amended, requires that, unless exempted, owners of underground tanks that store regulated substances must notify designated State or local agencies of the existence of their tanks. Owner means—

(a) in the case of an underground storage tank in use on November 8, 1984, or brought into use after that date, any person who owns an underground storage tank used for the storage, use, or dispensing of regulated substances, and

(b) in the case of any underground storage tank in use before November 8, 1984, but no longer in use on that date, any person who owned such tank immediately before the discontinuation of its use.

What Tanks Are Included? Underground storage tank is defined as any one or combination of tanks that (1) is used to contain an accumulation of "regulated substances," and (2) whose volume (including connected underground piping) is 10% or more beneath the ground. Some examples are underground tanks storing: **1.** gasoline, used oil, or diesel fuel, and **2.** industrial solvents, pesticides, herbicides or fumigants.

What Tanks Are Excluded? Tanks removed from the ground are not subject to notification. Other tanks excluded from notification are:
1. farm or residential tanks of 1,100 gallons or less capacity used for storing motor fuel for noncommercial purposes;
2. tanks used for storing heating oil for consumptive use on the premises where stored;
3. septic tanks;
4. pipeline facilities (including gathering lines) regulated under the Natural Gas Pipeline Safety Act of 1968, or the Hazardous Liquid Pipeline Safety Act of 1979, or which is an intrastate pipeline facility regulated under State laws;
5. surface impoundments, pits, ponds, or lagoons;
6. storm water or waste water collection systems;
7. flow-through process tanks;
8. liquid traps or associated gathering lines directly related to oil or gas production and gathering operations;
9. storage tanks situated in an underground area (such as a basement, cellar, mineworking, drift, shaft, or tunnel) if the storage tank is situated upon or above the surface of the floor.

RECEIVED SEP 12 1986 SHREWSBURY FIRE DEPT.

What Substances Are Covered? The notification requirements apply to underground storage tanks that contain regulated substances. This includes any substance defined as hazardous in section 101 (14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), with the exception of those substances regulated as hazardous waste under Subtitle C of RCRA. It also includes petroleum, e.g., crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute).

Where To Notify? Completed notification forms should be sent to the address given at the top of this page.

When To Notify? 1. Owners of underground storage tanks in use or that have been taken out of operation after January 1, 1974, but still in the ground, must notify by May 8, 1986. **2.** Owners who bring underground storage tanks into use after May 8, 1986, must notify within 30 days of bringing the tanks into use.

Penalties: Any owner who knowingly fails to notify or submits false information shall be subject to a civil penalty not to exceed $10,000 for each tank for which notification is not given or for which false information is submitted.

INSTRUCTIONS

Please type or print in ink all items except "signature" in Section V. **This form must by completed for each location containing underground storage tanks.** If more than 5 tanks are owned at this location, photocopy the reverse side, and staple continuation sheets to this form.

Indicate number of continuation sheets attached: ☐

I. OWNERSHIP OF TANK(S)

Owner Name (Corporation, Individual, Public Agency, or Other Entity)
COMMONWEALTH OF MASS

Street Address

County

City | State | ZIP Code

Area Code | Phone Number

Type of Owner *(Mark all that apply ☒)*

☒ Current ☐ Former
☒ State or Local Gov't
☐ Federal Gov't (GSA facility I.D. no. _____)
☐ Private or Corporate
☐ Ownership uncertain

II. LOCATION OF TANK(S)

(If same as Section 1, mark box here ☒)

Facility Name or Company Site Identifier, as applicable

Street Address or State Road, as applicable

County

City (nearest) | State | ZIP Code

Indicate number of tanks at this location: 1

Mark box here if tank(s) are located on land within an Indian reservation or on other Indian trust lands: ☐

III. CONTACT PERSON AT TANK LOCATION

Name (If same as Section I, mark box here ☒) | Job Title | Area Code | Phone Number

IV. TYPE OF NOTIFICATION

☐ Mark box here only if this is an amended or subsequent notification for this location.

V. CERTIFICATION (Read and sign after completing Section VI.)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Name and official title of owner or owner's authorized representative	Signature	Date Signed
Edwin A. Hastbacka Asst. Supt.	Edwin A. Hastbacka	8/26/86

CONTINUE ON REVERSE SIDE

Shrewsbury Fire Department

P. O. Box 275 Shrewsbury, Massachusetts 01545 842-6610

PERMIT TO TEST UNDERGROUND STORAGE TANKS

Name of firm where tanks are being tested Glavin Center, 214 Lake St.

Address 214 Lake St. Tel. No.

Name of testing firm Technatest Inc.

Address 3 Singletary Ave. Tel. No. (508) 865-3666

Name of person supervising test Mike Cook

Starting date of test 5/15/92

Completion date of test 5/15/92

How many tanks to be tested 1 Capacity 5000 Gallon

Steel Yes Fiberglass No

Name of storage permit holder Glavin Center

Description of test method Volumetric

All results of underground tests must be forwarded to the Head of the Fire Department and the owner of tanks immediately following completion.

Send to: Shrewsbury Fire Department, P.O.Box 275, Shrewsbury 01545

Signature of person issuing permit John L. Salomaty
Fire Captain

Town of Shrewsbury By-Law voted in by Town Meeting on May 8, 1989:
Fee $15.00

BRIGGS ASSOCIATES, INC.
400 Hingham Street
P.O. Box 369
ROCKLAND, MASSACHUSETTS 02370-0369
(617) 871-6040

LETTER OF TRANSMITTAL

DATE	JOB NO.
2/12/88	80200

ATTENTION: Jane Perry

RE: Underground tank testing results

TO: Alan Corp.
390 W. Boylston Street
Worcester, MA. 01606

RECEIVED
FEB 17 1988
SHREWSBURY FIRE DEPT.

WE ARE SENDING YOU ☑ Attached ☐ Under separate cover via _____ the following items:

☐ Shop drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications
☐ Copy of letter ☐ Change order ☐ _____

COPIES	DATE	NO.	DESCRIPTION
1	2/3		2000 gallon leaded gasoline bldg. across street rear

THESE ARE TRANSMITTED as checked below:

☐ For approval ☐ Approv[illegible]ubmitted ☐ Resubmit_____copies for approval
☑ For your use ☐ [illegible]d ☐ Submit_____copies for distribution
☐ As requested [illegible]tions ☐ Return_____corrected prints
☐ For review and co[illegible] _____
☐ FOR BIDS [illegible] ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS

Fill Form in Storage tank folder

COPY TO Shrewsbury Fire Dept.

SIGNED: Deborah J. Kutch

If enclosures are not as noted, kindly notify us at once.

PRODUCT 240-2 NEBS Inc., Groton, Mass. 01471

PETROTITE TANK SYSTEM TIGHTNESS TEST

Glavin Regional Center	214 Lake Street	Shrewsbury	MA	2/3/88
Name of Owner or Dealer	Address No. and Street	City	State	Date of Test

TANK TO TEST
Bldg. across street rear
Identify by position
Leaded Gasoline
Brand or Grade

CAPACITY
Nominal Capacity 2000 Gallons Actual Capacity 2006 Gallons
Is there doubt as to the True Capacity ? ☐ From _____

FILL-UP FOR TEST
Stick Water Bottom before Fill-up 3/4" to 1/8" 5 Gallons

TANK DIAMETER 64

INVENTORY

Stick Reading	Gallons
	2006
Water	5
top-off	5
	2006

Product in full tank (upto fill pipe)

TANK MEASUREMENT FOR TSTT ASSEMBLY

Bottom of tank to grade	107 "
Add 30" for 4" L	"
Add 24" for 3" L	"
Total tube assembly Approx.	132 "

EXTENSION HOSE SETTING

Tank top to grade *	45 "
Extend hose on suction tube 6" or more below tank top	"

* If Fill pipe Extends above grade, use top of fill.

TEMPERATURE / VOLUME FACTOR (a) TO TEST THIS TANK

Is today Warmer? ☐ Colder? ☐ 24 F Product in Tank 32 F Fill-up Product on Truck ____ F

Thermal Sensor reading after circulation 04159 Digits 33-34 Nearest deg. F

Digits per deg. F in range of expected change 291 Digits

2006 (Total quantity in full tank) X .00064271 (Coefficient of expansion for involved product) = 1.2892562 Gallons (Volume change in this tank per deg. F)

1.2892562 (Volume change per deg.F) / 291 (Digits per deg.F in test Range) = .0044304 (Volume change per digit. Compute to 4 decimal places.) This is test factor (a)

TEST RESULTS Tests were made on the above tank system in accordance with test procedures prescribed for "PETROTITE" as detailed on attached test charts with results as follows.

Tank identification	Tight	Leakage rate Indicated	Date Tested
Leaded Gasoline	Yes	-.0442	2/3/88

CERTIFICATION This is to certify that the tank system was tested on the date shown. Those indicated as "TIGHT" meet the criteria established by the National Fire Protection Association Pamphlet 329.

729
Serial no. of thermal sensor.

Cindy Jackson/110411626
Technician/Certification No.

Briggs Associates Inc.
TESTING COMPANY

Cindy Jackson
SIGNATURE

Technatest INC.
3 Singletary Avenue ■ Sutton, MA 01590
(508) 865-3666

Test No. : 920515
Test Date : May 15, 1992
Location : Glavin Center
214 Lake Street
Shrewsbury, MA

TEST RESULTS

PRODUCT	VOLUME (GAL)	WATER IN TANK (INCHES)	HIGH LEVEL LEAK RATE (GPH)	LOW LEVEL LEAK RATE (GPH)	FULL SYSTEM	TANK ONLY
GASOLINE	5,000	0.	-0.003	N/A	PASS	PASS

PRODUCT LINE TEST RESULTS

PRODUCT	POUNDS HELD	DURATION	CONCLUSION
N/A			

SUCTION PRODUCT LINE TEST RESULTS

GASOLINE PRODUCT LINES TIGHT TO A LEVEL OF 38" ABOVE TANK TOP.

Leak Computer® — Quick Look Report

Test Number: A:92051563.A38

FOR: 5000 gallon GASOLINE Tank
LOCATION: GLAVIN CENTER 214 LAKE ST.SHREWSBURY,MA.
DATE OF TEST: 05/15/92
LEAK COMPUTER S/N: 88041501

Test Level 38 Inches ABOVE Tank Top
Data from Channel A
Manifolding: None
COE: 0.000692 Spec. Gr.: 0.73 Tank Temp: 49.7
Leak Rate Average of 20 Cycles
Total Test Time: 1:17 hours

TEST RESULTS

Final Average Leak Rate: less than 0.05 gal/hr.
Rate of Temperature change: -0.0249 deg F/hr.
Rate of Volume change: -0.0571 gal/hr.
0.99 Error Band: +/- 0.03 gal/hr.
Tank and System: TIGHT @ 38 inches ABOVE Tank Top.

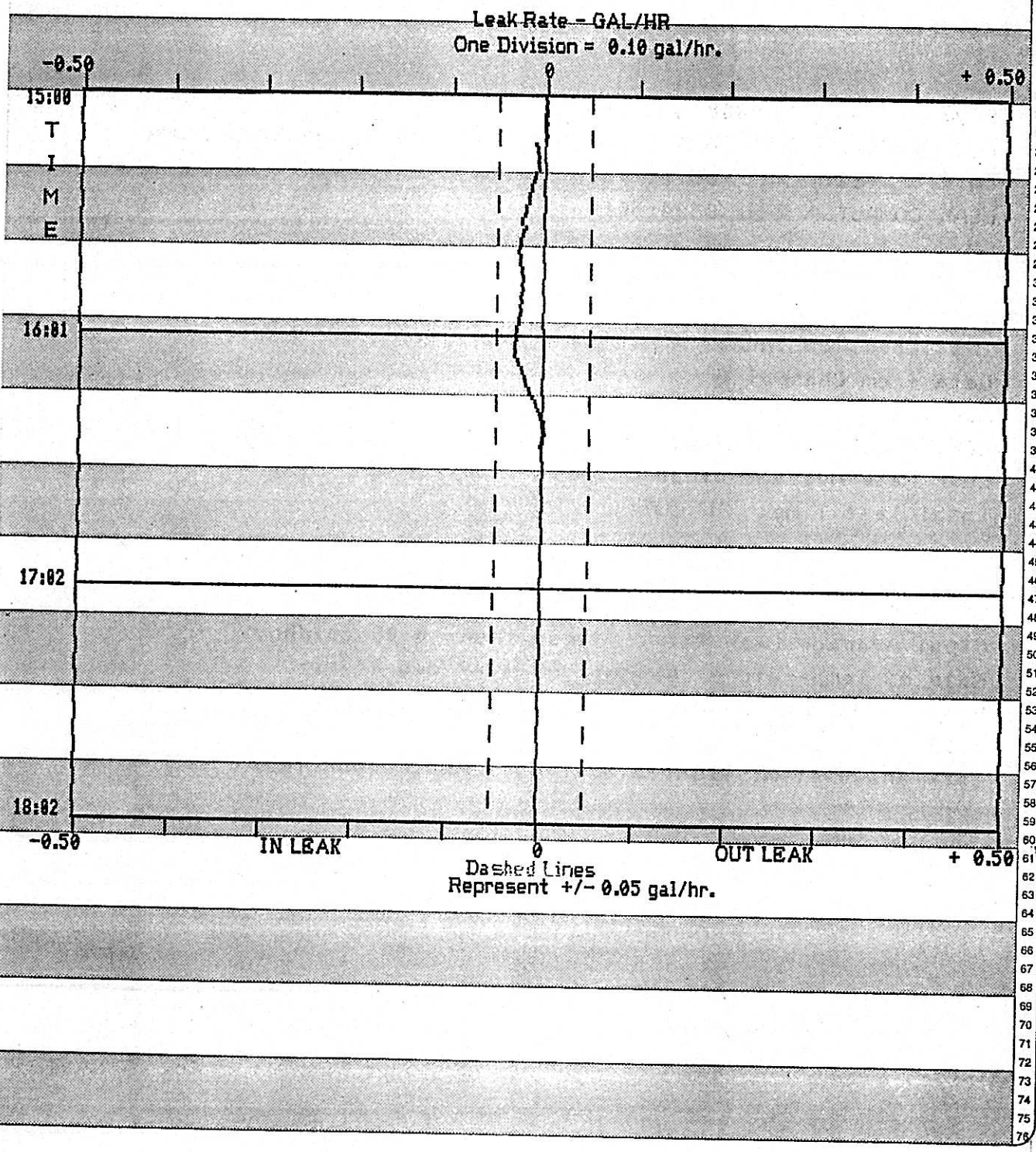
Test Technician: MW Cook #HT-012

MICHAEL W. COOK

PRINTED IN U.S.A.

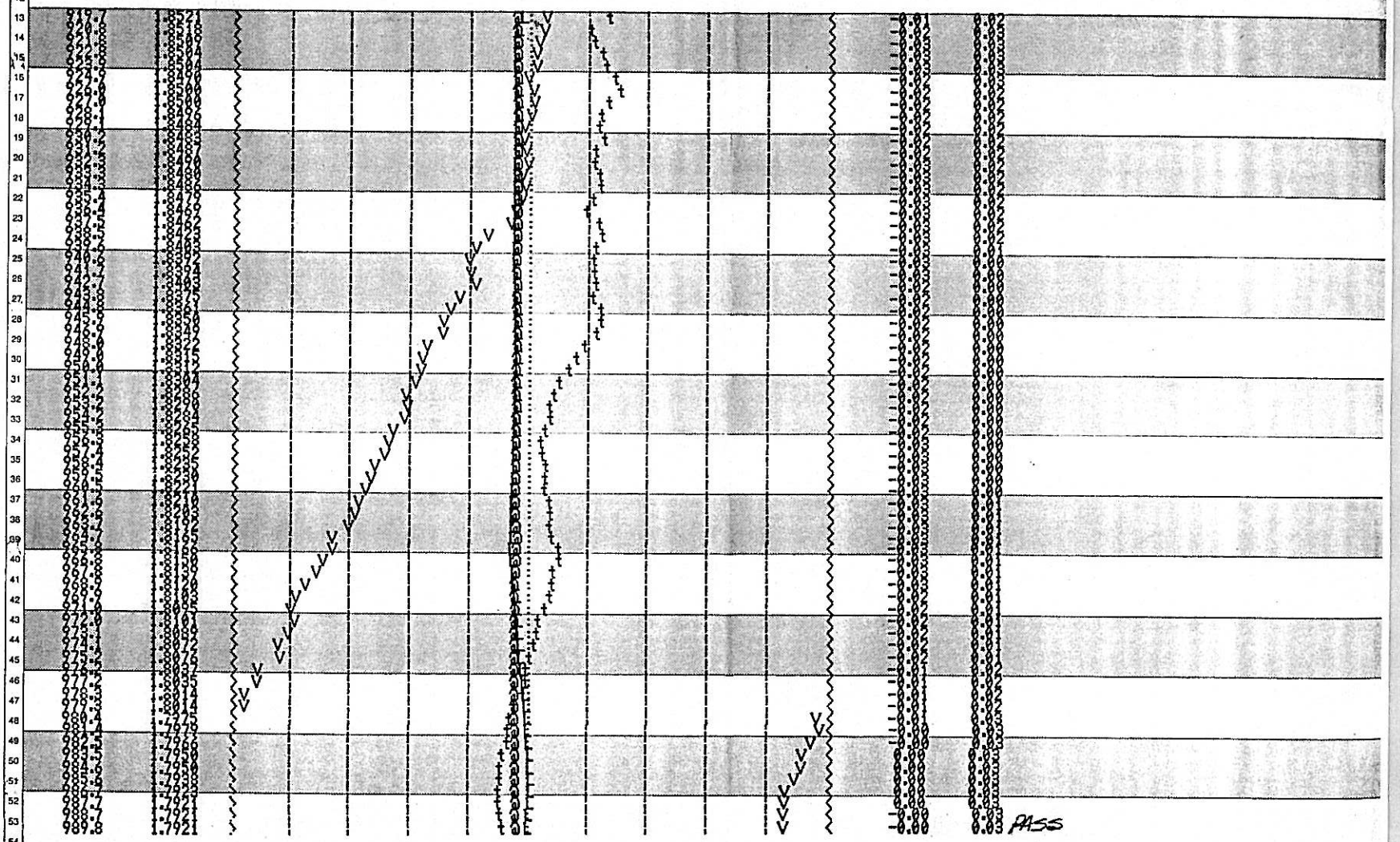
Leak Computer® — Quick Look Report
(PAGE 2)

Test Number: A:92051563.A38



Test Address: GLAVIN CENTER 214 LAKE ST.SHREWSBURY,MA.
Test Operator: MICHAEL W. COOK

LEAK RATE AVG OF 20 CYCLES TANK TEMP @ START: 49.7 F
COE: 0.000692 DEN: 0.727 LFD: 6.0 Manifolding: None



END OF STRIP CHART
DATA COLLECTED ON LEAK COMPUTER SN 88041501

MW Cook #HT-012

PRINTED IN U.S.A.

Technatest INC.
UNDERGROUND TANK TESTING FOR THE PETROLEUM/CHEMICAL INDUSTRY

Michael Cook
Technician

P.O. Box 1513
Dudley, MA 01571
(508) 943-1882

sbury Fire Department
wsbury, Massachusetts 01545

842-6640

PERMIT TO TEST UNDERGROUND STORAGE TANKS

NAME OF FIRM WHERE TANKS ARE BEING TESTED Glavin Center

ADDRESS 209 Lake St TEL. NO. _____

NAME OF TESTING FIRM Technatest

ADDRESS P.O. box 1513 Dudley MA TEL. NO. (508) 943-1882

NAME OF PERSON SUPERVISING TEST Michael Cook

STARTING DATE OF TEST 5-5-94

COMPLETION OF TEST 5-9-94

HOW MANY TANKS TO BE TESTED 1 CAPACITY 2000 gallon

STEEL V FIBERGLASS _____

NAME OF STORAGE PERMIT HOLDER Comm of MA

DESCRIPTION OF TEST METHOD Leak Computer

$15.00 FEE PER TANK _____

ALL RESULTS OF UNDERGROUND TESTS MUST BE FORWARDED TO THE HEAD OF THE FIRE DEPARTMENT AND THE OWNER OF TANKS IMMEDIATELY FOLLOWING COMPLETION.

SEND TO: SHREWSBURY FIRE DEPT., P.O. BOX 275, SHREWSBURY, MA 01545

SIGNATURE OF PERSON ISSUING PERMIT George A Durkee Chief

Technatest
P.O. Box 1513 ■ Dudley, MA 01571-1513
(508) 943-1882

COPY

May 9, 1994

S.S.M.
Attn: Kevin Doyle
24 Rockdale Street
Worcester, MA 01606

Dear Kevin:

Enclosed are test results for the Glavin Center located at 214 Lake Street, Shrewsbury, MA for your records.

As you can see, the test results show that the tanks and pipping systems are tight in accordance with 527 CMR 9.13 Regulations.

Sincerely,

Michael Cook
Technician

MC/ch
Encs.

cc: Fire Department ✓

RECEIVED
MAY 10 1994
SHREWSBURY FIRE DEPT.

Technatest
P.O. Box 1513 ■ Dudley, MA 01571-1513
(508) 943-1882

COPY

Test No. : 940505
Test Date : May 5, 1994
Location : Glavin Center
Shrewsbury, MA

TEST RESULTS

PRODUCT	VOLUME (GAL)	WATER IN TANK (INCHES)	HIGH LEVEL LEAK RATE (GPH)	LOW LEVEL LEAK RATE (GPH)	FULL SYSTEM	TANK ONLY
GASOLINE	2,000	3.0"	-0.031	N/A	PASS	PASS

PRODUCT LINE TEST RESULTS

PRODUCT	POUNDS HELD	DURATION	CONCLUSION

N/A

SUCTION PRODUCT LINE TEST RESULTS

LINES ARE TIGHT TO THE FOLLOWING LEVELS ABOVE TANK TOP

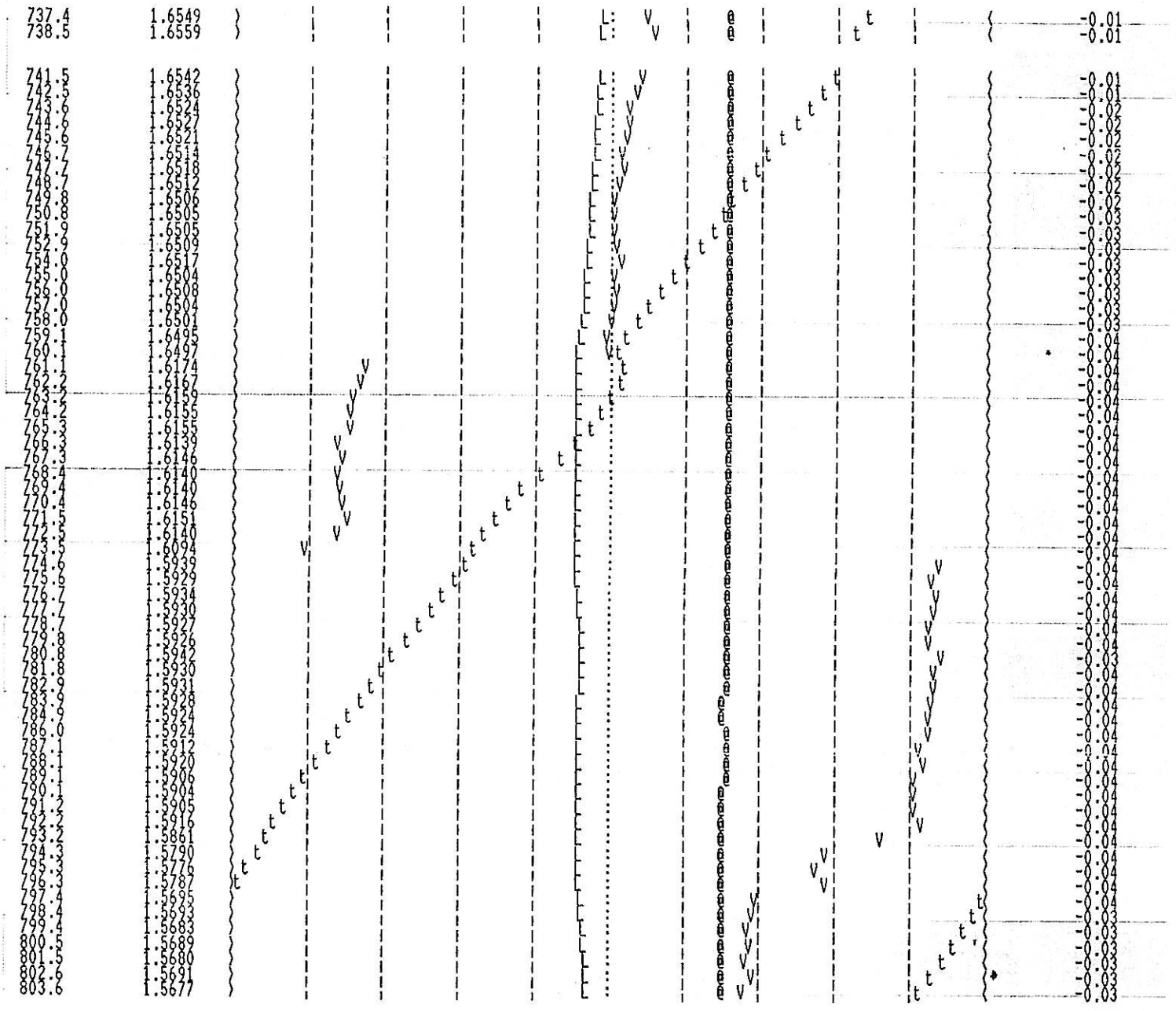
GASOLINE- 2,000 (19")

STRIP CHART FOR DATA RECORD: 94050573.A19 OF 2000 GALLON GASOLINE TANK

Test Address: GLAVIN CENTER/ SHREWSBURY, MA.
Test Operator: MICHAEL W. COOK HT-012

COPY

LEAK RATE AVG OF 20 CYCLES TANK TEMP @ START: 51.6 F
COE: 0.000691 DEN: 0.764 LFD: 6.0 Manifolding: None



END OF STRIP CHART
DATA COLLECTED ON LEAK COMPUTER SN 88041501

PASS

Michael W. Cook

Shrewsbury Fire Department

P. O. Box 275 Shrewsbury, Massachusetts 01545 842-6640

PERMIT TO TEST UNDERGROUND STORAGE TANKS

NAME OF FIRM WHERE TANKS ARE BEING TESTED GLAVIN CENTER

ADDRESS 214 LAKE ST TEL. NO.

NAME OF TESTING FIRM TECHNATEST

ADDRESS 1 FRANCIS DR DUDLEY TEL. NO. 800 858 9128

NAME OF PERSON SUPERVISING TEST MICHAEL DEGAETANO

STARTING DATE OF TEST 5-11-95

COMPLETION OF TEST 5-11-98

HOW MANY TANKS TO BE TESTED 1 CAPACITY 2000

STEEL yes FIBERGLASS

NAME OF STORAGE PERMIT HOLDER Comm of MASS.

DESCRIPTION OF TEST METHOD ALERT 8200

$15.00 FEE PER TANK 15.00

ALL RESULTS OF UNDERGROUND TESTS MUST BE FORWARDED TO THE HEAD OF THE FIRE DEPARTMENT AND THE OWNER OF TANKS IMMEDIATELY FOLLOWING COMPLETION.

SEND TO: SHREWSBURY FIRE DEPT., P.O. BOX 275, SHREWSBURY, MA 01545

SIGNATURE OF PERSON ISSUING PERMIT

Technatest

P.O. Box 1513, Dudley, MA 01571-1513
(508) 943-1882 / Fax (508) 943-1882

Date: July 22, 1996

Glavin Ctr.
Attn: David Rafuse
214 Lake St.
Shrewsbury, MA 01545

Test Site: Glavin Ctr.
214 Lake St.
Shrewsbury, MA

Dear David,

Attached for your records are the results for the above listed location.
As you can see, the test results show that the tanks and piping system is tight in accordance with MA 527 CMR 9.13 regulations
Please let me know if you have any questions, or need further information.

Sincerely

Michael Cook
Technician

CC: Fire Dept.

RECEIVED
JUL 30 1996
Shrewsbury Fire Dept.

Technatest
P.O. Box 1513 ■ Dudley, MA 01571-1513
(508) 943-1882

TEST NO : 960700
TEST DATE: 7/18/96
LOCATION: Glavin Ctr.
Attn: David Rafuse
214 Lake St.
Shrewsbury, MA 01545

TEST- RESULTS

PRODUCT	VOLUME	WATER (INCHES)	LEAK RATE	TANK ULLAGE	SYSTEM
Gas	2000	0.10	-0.038	**PASS**	**PASS**

LINE TEST RESULTS

PROUDUCT	POUNDS HELD	DURATION	CONCLUSION
Gas	10 psi	30 min.	**PASS**

COMMENTS:

System Passed Precision Test.

Make application to local Fire Department.
Fire Department retains original application and issues duplicate as Permit.

Commonwealth of Massachusetts

Department of Fire Services – Board of Fire Prevention

APPLICATION and PERMIT

Fee: $50.00

for storage tank removal and transportation to approved tank disposal yard in accordance with the provisions of M.G.L. Chapter 148, Section 38A, 527 CMR 9.00, application is hereby made by:

Tank Owner

Tank Owner Name (please print) Glavin Regional Center X _____ (Signature (if applying for permit))

Address 214 Lake St. (Street) Shrewsbury (City) MA (State) 01545 (Zip)

Removal Contractor

Company Name Etna Construction (Print)

Address 5 LaPierre St. Haverhill MA (Print)

Signature (if applying for permit)

☒ IFCI Certified Other _____

Contamination Assessment

Co. or Individual Vertex Environmental (Print)

Address _____ (Print)

Signature (if applying for permit)

☐ IFCI Certified ☐ LSP # _____ Other _____

Tank Information

Tank Location 214 Lake St. (Steet Address) _____ (City)

Tank Capacity (gallons) 2000 Substance Last Stored Gasoline

Tank Dimensions (diameter x length) _____

Remarks: _____

Disposal Information

Firm transporting waste Cynn Environmental State Lic. # _____

Hazardous waste manifest# _____ E.P.A. # _____

Approved tank disposal yard Tambourello Tank yard # 009

Type of inert gas Dry Ice Tank yard address Lawrence MA

Approvals

City or Town Shrewsbury FDID# 27271 Permit# _____

Date of issue 9/11/97 Date of expiration 10/11/97

Dig safe approval number: 973701233 Dig Safe Toll Free Tel. Number - 800-322-4844

Signature / Title of Officer granting permit Capt. John L. Salvatore

After removal(s) send Form FP-290R signed by Local Fire Dept. to UST Regulatory Compliance Unit, One Ashburton Place, Room 1310, Boston, MA 02108-1618.

UST Closure Report

Irving A. Glavin Center Regional Group Home

177 Lake Street

Shrewsbury, Massachusetts

SUBMITTED TO:

Mr. Paul Beaton, P.E.
Department of Mental Retardation
Engineering Office, Room 267
160 North Washington Street
Boston, MA 02114

January 11, 2000
Project No. 4314

CONECO
Engineers & Scientists

CIVIL DESIGN & LAND PLANNING
GEOTECHNICAL ENGINEERING
ENVIRONMENTAL CONSULTING
REGULATORY COMPLIANCE & PERMITTING

January 11, 2000
Project No. 4314

Mr. Paul Beaton, P.E.
Department of Mental Retardation
Engineering Office, Room 267
160 North Washington Street
Boston, MA 02114

RE: Underground Storage Tank Closure Report
Irving A. Glavin Center Regional Group Home
177 Lake Street
Shrewsbury, Massachusetts

Dear Mr. Beaton:

In accordance with our proposal dated October 7, 1999, Coneco Engineers & Scientists (Coneco) has conducted oversight of the removal of a 1,000-gallon No. 2 fuel oil underground storage tank (UST) at the Glavin Center Regional Group Home located at 177 Lake Street in Shrewsbury, Massachusetts, hereinafter the "Site." The purpose of this UST closure assessment and oversight was to describe conditions of the soil below and around the UST after removal and determine whether remaining concentrations of oil and hazardous materials, if any, represent a significant risk to human or environmental receptors. Such a release could represent a liability to the property owner or operator under the Massachusetts Oil and Hazardous Materials Release Prevention and Response Act, Chapter 21E of the Massachusetts General Laws.

Coneco's investigations are detailed in the attached report. If there are any questions, please contact the undersigned.

Respectfully Submitted,
Coneco Engineers & Scientists

Thomas M Brunette

Thomas M. Brunette
Environmental Scientist

Brian F. Klingler, P.G., L.S.P.
Principal Geologist

TABLE OF CONTENTS

1.0 Introduction / Site Overview 1
2.0 UST Closure Activities 2
2.1 Tank Removal 2
2.2 Field Screening 2
3.0 Confirmatory Soil Sampling 2
4.0 Reporting Categories 3
4.1 Soil Categories 3
4.2 Discussion 3
5.0 Conclusions 4
6.0 Limitations 4

FIGURES

Figure 1 Site Locus Map
Figure 2 Site Plan

APPENDICES

Appendix 1 Site Photographs
Appendix 2 Permit, Tank Disposal Receipt, and Hazardous Waste Manifest
Appendix 3 Standard Operating Procedures
Appendix 4 Original Laboratory Data, Laboratory QA/QC, Methods, and Chain of Custody

1.0 INTRODUCTION / SITE OVERVIEW

In accordance with our proposal, CONECO has performed a UST Closure Assessment of a 1,000-gallon No. 2 fuel oil UST at the Glavin Center Regional Group Home located at 177 Lake Street in Shrewsbury, Massachusetts.

A Site Locus Plan and Site Plan are provided for reference as Figure 1 and Figure 2, respectively. Site photographs are included as Appendix 1.

The following is a summary of available information regarding tank and Site conditions:

Location:	A 1,000-gallon No. 2 fuel oil UST was located on the north side of the Site building.
Storage & Construction:	The 1,000-gallon No. 2 fuel oil UST was constructed of two layers, consisting of an outer fiberglass coat and an inner steel lining, and was situated approximately four feet below existing surface grade at the Site. According to available information, the UST was installed in the mid-1980s.
Utilities:	Underground electrical lines were located approximately 20 feet to the east of the excavation, extending from the Site building to Lake Street, approximately 30 feet east.
Geology:	A sandy gravel fill material was observed in the immediate vicinity of the former UST. Overburden stratigraphy in the vicinity of the UST excavation consisted of a sandy gravelly fill surrounding the UST, with a silty sand glacial till present along the sidewalls, to a depth of 8-9 feet below grade, the maximum depth of the excavation. Groundwater was encountered at approximately 8 feet below grade. No evidence of impact to groundwater was observed. Bedrock was not encountered during the UST closure activities.
Adjacent Properties:	The Site is located approximately 1,000 feet north of Route 9, which is dense in commercial properties. The Site is part of the Irving A. Glavin Regional Center located at 214 Lake Street, across from the Site. The Site building is a one and one-half story house used as a group residence. The Site is surrounded by undeveloped property, and Lake Street to the east.

2.0 UST Closure Activities

Personnel of Dowling Corporation (Dowling) of Wrentham, Massachusetts, conducted the UST closure on December 7, 1999 with the oversight of CONECO. A summary of the UST closure is provided in the following sections.

2.1 Tank Removal

CONECO personnel arrived on-Site at approximately 8:30 a.m. Weather conditions on this day were overcast with ambient temperatures in the mid 50s, Fahrenheit.

On December 7, 1999, the UST was exposed by personnel of Dowling using a backhoe. A vacuum truck, operated by United Industrial Services of Meriden, Connecticut, was utilized to remove 675 gallons of remaining product from the tank. Subsequent to transfer of product, the UST was entered and cleaned by Dowling personnel. Dimensions of the tank were 10.5 feet by 4 feet (length, diameter). The UST and associated piping were then removed from the excavation. The UST was transported to James G. Grant Company, Inc., located in Readville, Massachusetts. Copies of the permit, tank disposal receipt, and hazardous waste manifest are provided for reference as Appendix 2.

The final dimensions of the excavation were approximately 25 feet by 15 feet by 8 feet (length, width, and depth). Overburden stratigraphy within the former UST excavation was as noted in Section 1.0.

At the completion of the excavation, confirmatory soil samples were collected for field screening (See Section 2.2) and laboratory analysis (See Section 3.0). The excavation was backfilled with excavated soil.

2.2 Field Screening

To demonstrate that a release from the UST had not impacted *in situ* soil, soil samples from a depth corresponding to the widest point of the UST were screened in the field with an HNu Model HW-101 photoionization detector (PID). PID screening results from soil samples taken from the north, east, west and south sidewalls and excavation bottom were below the instrument detection limit of 0.2 parts per million (ppm). A discussion of this procedure and standard operating protocol is included in Appendix 3. Headspace procedures were performed in accordance with applicable DEP and EPA protocols.

3.0 Confirmatory Soil Sampling

A duplicate soil sample representing the base and sidewalls of the excavation was placed in a clean 4-ounce glass jar and submitted for laboratory analysis for total petroleum hydrocarbons (TPH) as diesel-range organics (DRO) using the EPA Method 8100. Soil

samples were delivered by courier on December 8, 1999 to Groundwater Analytical, Inc., located in Buzzards Bay, Massachusetts. Sampling locations are shown on Figure 2. Original laboratory data, laboratory QA/QC, methods, and the chain-of-custody form are included as Appendix 4. Analytical data is summarized in Table 1.

Table 1 - Analytical Results

Sample Location	TPH as DRO (mg/kg)
Excavation Composite	None Detected

4.0 Reporting Categories

Under the Massachusetts Contingency Plan (MCP, 310 CMR 40.0000), soil at a specific property is classified into reporting categories based upon its location relative to sensitive receptors. These reporting categories have specific Reporting Concentrations (RCs) for soil and are used in evaluating concentrations of oil or hazardous material. The reporting categories for the Site are presented below.

4.1 Soil Categories

In accordance with 310 CMR 40.0361, soil at the Site is classified as either RCS-1 or RCS-2 based on the following conditions:

Reporting Category RCS-1: Applies to soil at or within 500 feet of a residential dwelling, residentially-zoned property, school, playground, recreational area or park, or within the geographical boundaries of a groundwater resource area; and

Reporting Category RCS-2: Applies to soil not characterized as RCS-1.

Since the Glavin Center Regional Group Home is a residential complex, the soil at the Site meets the criteria for Reporting Category RCS-1.

4.2 Discussion

The MCP provides RCs for each soil reporting category. RCs are defined as concentrations of oil or hazardous material in soil or groundwater which requires notification to the DEP under Massachusetts General Law, Chapter 21E, Section 7, and/or 310 CMR 40.0360 through 40.0362.

One composite soil sample from the excavation was submitted for analysis for TPH as DRO. Laboratory analysis indicated no concentrations of TPH as DRO above laboratory

quantification limits. Under the MCP, the reportable concentration for RCS-1 soils is 200 mg/kg. The soil results indicate that notification of the DEP is not necessary.

5.0 CONCLUSIONS

Results from the closure of the 1,000-gallon No. 2 fuel oil UST conducted in the vicinity of Shrewsbury, Massachusetts were evaluated in a manner consistent with guidelines for a UST Closure Assessment as specified by the DEP. This assessment was intended to document conditions of the UST upon removal, and environmental conditions of *in situ* soil in the former UST locations.

Based on the information and observations described herein, the following is a summary of findings:

- A single 1,000-gallon No. 2 fuel oil UST was removed from the Site on December 7, 1999 and transported to James G. Grant Company, Inc. of Readville, Massachusetts.

- Overburden stratigraphy within the UST excavation consisted of topsoil underlain by a sandy gravelly fill surrounding the UST, with a silty sand to a depth of 8-9 feet below grade. Groundwater was encountered at approximately 8 feet below grade. No evidence of groundwater impact was observed during the excavation activities. Bedrock was not encountered during excavation activities.

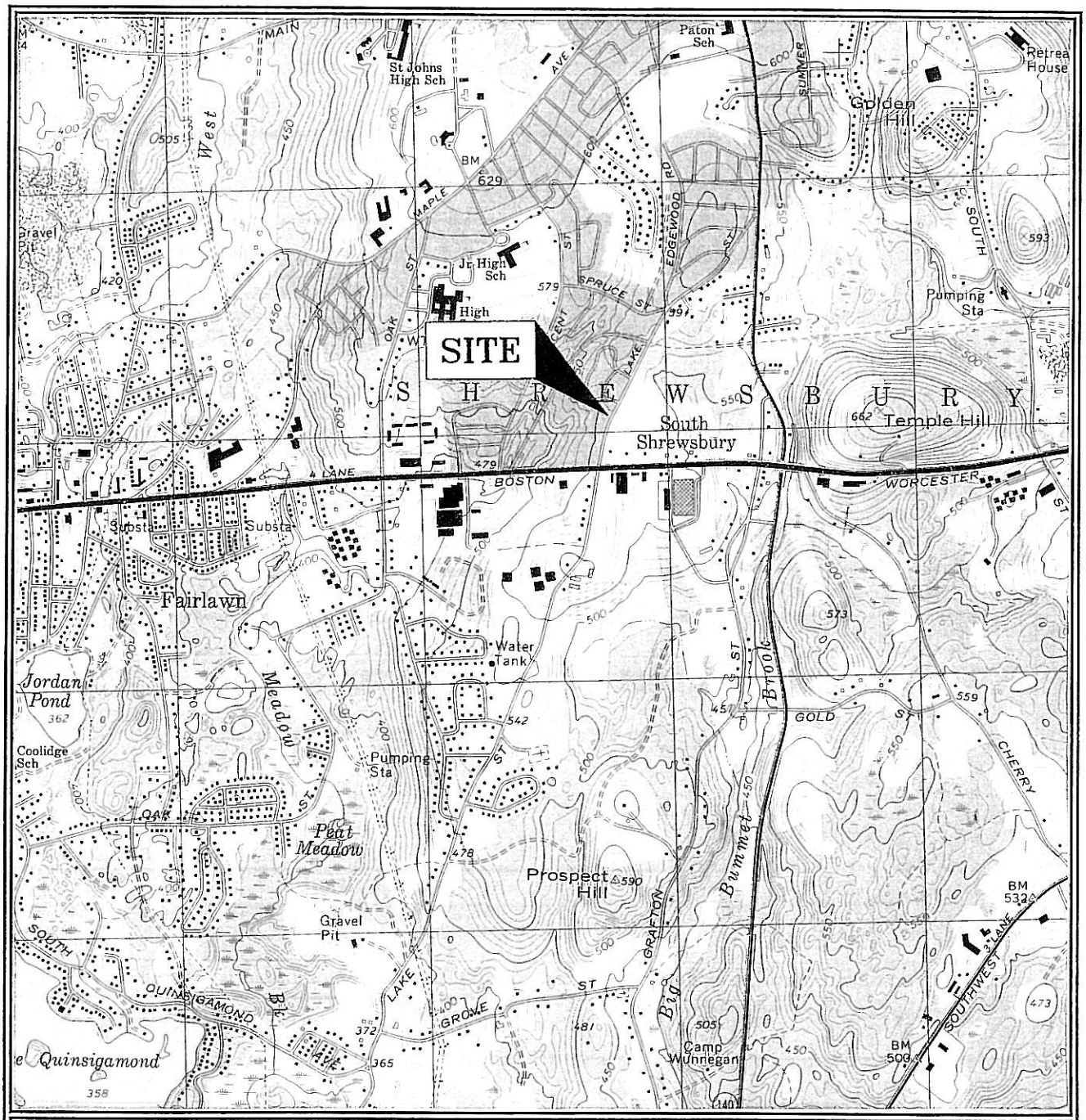
- *In situ* soil samples were obtained from the excavations and submitted for confirmatory analysis at a Massachusetts-certified laboratory. Confirmatory analysis indicated no detectable concentrations of TPH as DRO in the composite soil sample submitted for analysis. Under the MCP, the reportable concentration for RCS-1 soil is 200 mg/kg.

- Based on the information presented herein, and subject to the limitations of the proposed Scope of Services, it is the opinion of CONECO that no further action is required at this time in relation to the above-referenced UST formerly located at the Site.

6.0 LIMITATIONS

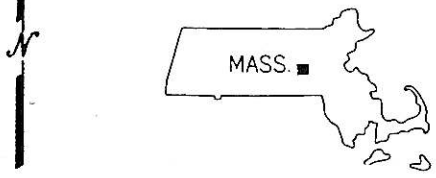
The conclusions expressed by CONECO in this report are based solely on the references cited. Observations were made under the conditions stated. Information provided by federal, state, and local agencies contacted was relied upon as complete. This report represents CONECO's opinion relative to such evidence. Unless otherwise specified in the scope of work, CONECO accepts no responsibility for client performance of recommendations as may be offered in this report. No attempt was made to investigate Site owner or operator compliance with federal, state, or local laws and regulations in connection with Site usage.

With specific regard to subsurface explorations, data obtained from the excavation may not be wholly representative of the nature of subsurface conditions at locations other than the actual test location. Variable conditions may only become evident upon further exploration or prior to anticipated future construction activities. Should additional information become available concerning this Site or neighboring properties in the future, that information should be made available to CONECO for review so that the conclusions presented in this report may be modified as necessary.



U.S.G.S. 1979 Shrewsbury Quadrangle

10 Foot Contours, Scale 1:25,000



Coordinates: 42° 16' 50"N 71° 43' 10"W

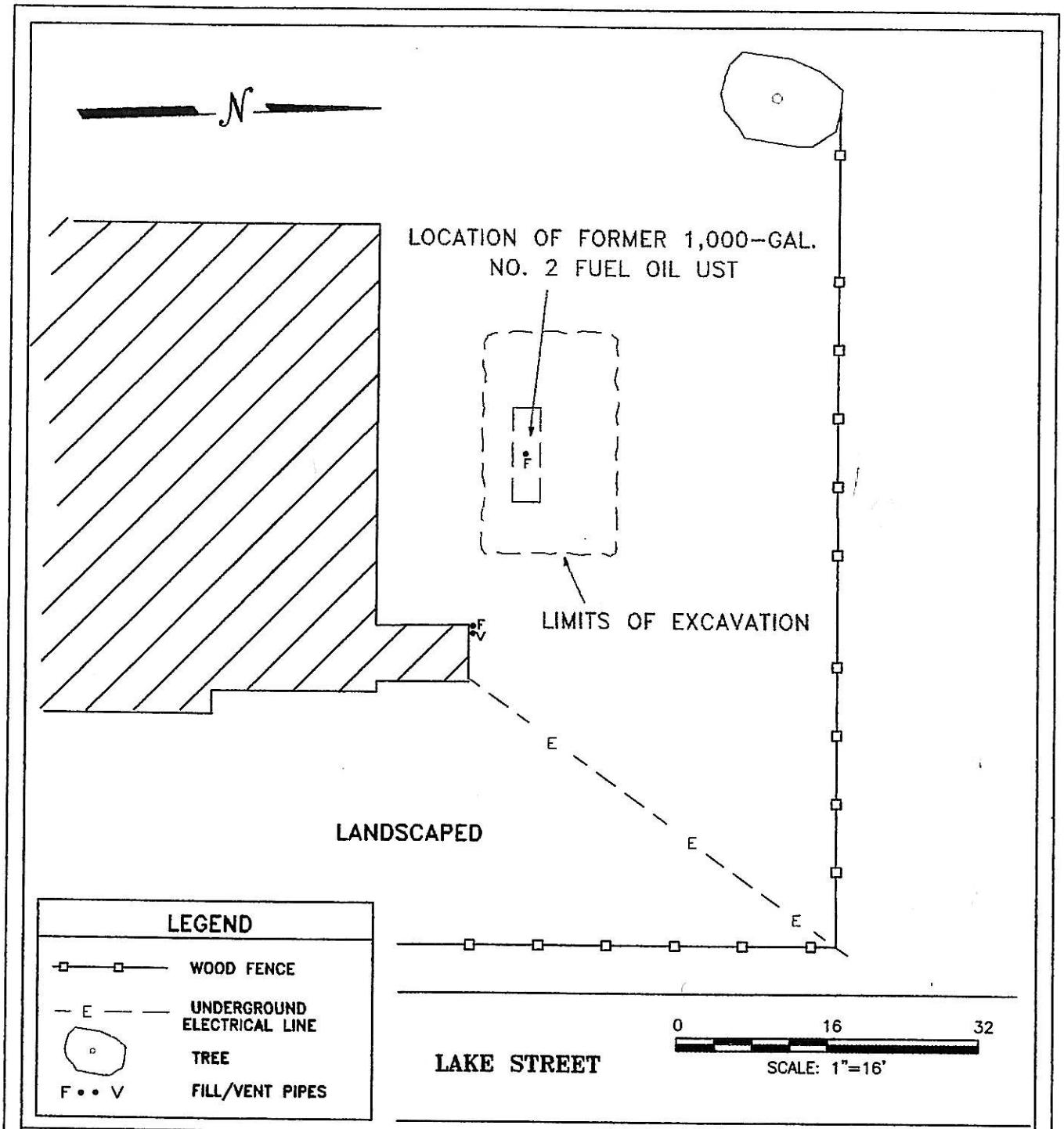
UTM: 4,684,150 N 275,800 E Zone 19

Coneco Engineers & Scientists

Site Locus Map

Irving A. Glavin Regional Center-DMR
177 Lake Street
Shrewsbury, Massachusetts

FIGURE 1



CONECO
Engineers & Scientists

4 FIRST STREET, BRIDGEWATER, MASSACHUSETTS (508) 697-3191

SITE PLAN

DMR-GLAVIN CENTER
177 LAKE STREET
SHREWSBURY, MASSACHUSETTS

	DRAWN	CHECKED	CAD FILE NO.	SCALE	PROJECT NO.	DRAWING NUMBER
BY	TMB		D:\DRAFTING\4314.DWG	AS NOTED	4314	FIGURE 2
DATE	1/11/00					

Tank Data

Gallons 2000

Previous Contents Gas

Diameter 64" **Length** 12'4"

Date Received 09-12-97

Serial # (if available) ___

Tank I.D. # (Form FP-290) ___

Tank Removed From:

214 Lake St.
(No. and Street)

Shrewsbury
(City or Town)

Fire Dept. Permit # N/A

RECEIVED
JAN 21 1998
Shrewsbury Fire Dept.

Owner/Operator to mail revised copy of Notification Form(FP-290, or Fp-290R) to: UST Compliance, Office of the State Fire Marshal, 1010 Commonwealth Avenue, Boston, Ma. 02215.

RECEIPT OF DISPOSAL OF UNDERGROUND STEEL STORAGE TANK

NAME AND ADDRESS OF APPROVED TANK YARD: JOHN C. TOMBARELLO & SONS, 207 MARSTON ST. LAWRENCE, MASS. 01841

APPROVED TANK YARD NO. 009

Tank Yard Ledger 502 CMR 3.03(4) Number: 9701087

I certify under penalty of law I have personally examined the underground steel storage tank delivered to this "approved tank yard" by firm, corporation or partnership Etna Const and accepted same in conformance with Massachusetts Fire Prevention Regulation 502 CMR 3.00 Provisions for Approving Underground Steel Storage Tank dismantling yards.

A valid permit was issued by LOCAL Head of Fire Department FDID# 27271 to transport this tank to this yard.

Name and official title of approved tank yard owner or owners authorized representative:

SIGNATURE	TITLE	DATE SIGNED
J. Tombarello	CTW	09-12-97

This signed receipt of disposal must be returned to the local head of the fire department FDID# 27271 pursuant to 502 CMR 3:00. (EACH TANK MUST HAVE A RECEIPT OF DISPOSAL)

FORM F.P. 291 (rev. 11/95) (OVER) MASSACHUSETTS STATE FIRE MARSHAL'S OFFICE

Tank Data

Gallons 2000

Previous Contents Gas

Diameter 64" Length 12'4"

Date Received 09-12-97

Serial # (if available) ___

Tank I.D. # (Form FP-290) ___

Tank Removed From:

214 Lake St.
(No. and Street)

Shrewsbury
(City or Town)

RECEIVED
JAN 21 1998
Shrewsbury Fire Dept.

Fire Dept. Permit # N/A

Owner/Operator to mail revised copy of Notification Form(FP-290, or Fp-290R) to: UST Compliance, Office of the State Fire Marshal, 1010 Commonwealth Avenue, Boston, Ma. 02215.

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NAME AND ADDRESS OF APPROVED TANK YARD: JOHN C. TOMBARELLO & SONS, 207 MARSTON ST., LAWRENCE, MASS. 01841

APPROVED TANK YARD NO. 009

Tank Yard Ledger 502 CMR 3.03(4) Number: 9701087

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Name and official title of approved tank yard owner or owners authorized representative:

SIGNATURE	TITLE	DATE SIGNED
J. Marsanto	CTW	09-12-97

This signed receipt of disposal must be returned to the local head of the fire department FDID# 27271 pursuant to 502 CMR 3:00. (EACH TANK MUST HAVE A RECEIPT OF DISPOSAL)

FORM F.P. 291 (rev. 11/95) (OVER) MASSACHUSETTS STATE FIRE MARSHAL'S OFFICE

Tank installation or removal form

Location	state property on Lake St
Company name	Etna Construction
Date	9-12-97
Contact person in charge	Sean Healy, Vertex Eng
Tank removal installation Co	Etna Const 5 Lapierre St
Address	Haverhill
Fire Dept Inspectors	LaFlamme
DEP notified	
DEP inspector	
Comments	slight contamination

Vertex Eng, Sean Healy Weymouth handling site as engineer
781-335-6361

Property Location: 214 LAKE ST | MAP ID: 33/ 082000/ / / | Bldg Name: | State Use: 9140

Vision ID: 7532 | Account #7532 | Bldg #: 1 of 2 | Sec #: 1 of 1 | Card 1 of 2 | Print Date: 01/11/2018 12:43

CURRENT OWNER	TOPO.	UTILITIES	STRT./ROAD	LOCATION
COMMONWEALTH OF MASS WORC	0 Typical	3 Public Sewer	0 Typical	
FOR CHILDREN WITH SPECIAL NEI		2 Public Water		
214 LAKE ST				
SHREWSBURY, MA 01545-3960				
Additional Owners:				

SUPPLEMENTAL DATA

Other ID:	3320320	Nbhd	020
Leg SK Area		Color	
Vis SK Area		Own Occ	N
Legal Other1	40 214000	SFLA	60000
Legal Other2		Lot Size	98.97
Zone	RUR AA 62%		
GIS ID: F_595805_2924139		ASSOC PID#	

CURRENT ASSESSMENT

Description	Code	Appraised Value	Assessed Value
EXEMPT	9140	9,116,100	9,116,100
EXM LAND	9140	9,065,800	9,065,800
EXEMPT	9140	10,300	10,300
	Total	18,192,200	18,192,200

343
Shrewsbury, MA

VISION

RECORD OF OWNERSHIP

	BK-VOL/PAGE	SALE DATE	q/u	v/i	SALE PRICE	V.C.
COMMONWEALTH OF MASS WORCESTER REGI(	1324/ 244	04/30/1890	U	I	0	01

PREVIOUS ASSESSMENTS (HISTORY)

Yr.	Code	Assessed Value	Yr.	Code	Assessed Value	Yr.	Code	Assessed Value
2017	9140	9,116,100	2016	9140	9,323,600	2015	9140	9,013,200
2017	9140	9,065,800	2016	9140	7,786,000	2015	9140	7,945,100
2017	9140	10,300	2016	9140	7,800	2015	9140	7,800
		Total: 18,192,200			Total: 17,117,400			Total: 16,966,100

EXEMPTIONS

Year	Type	Description	Amount
		Total:	

OTHER ASSESSMENTS

Code	Description	Number	Amount	Comm. Int.

This signature acknowledges a visit by a Data Collector or Assessor

ASSESSING NEIGHBORHOOD

NBHD/ SUB	NBHD Name	Street Index Name	Tracing	Batch
0001/A				

NOTES

F`06 - CHANGED LAND AREA PER PLAN 2925.
F`07 - LAND AREA CHANGED PER PLAN 2944
- SPLIT OFF 2 LOTS. F`09 - SPLIT OFF
ONE LOT PER PLAN 2944 AND DEED
43008-348.

SHREWSBURY GLAVIN REGIONAL CENTER
DOR 271/014.E-2304-0101.0

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	9,116,100
Appraised XF (B) Value (Bldg)	0
Appraised OB (L) Value (Bldg)	1,300
Appraised Land Value (Bldg)	7,484,700
Special Land Value	0
Total Appraised Parcel Value	18,192,200
Valuation Method:	C
Exemptions	0
Adjustment:	0
Net Total Appraised Parcel Value	18,192,200

BUILDING PERMIT RECORD

Permit ID	Issue Date	Type	Description	Amount	Insp. Date	% Comp.	Date Comp.	Comments
C-14-00077	09/04/2014	CM	Commercial	1,550	10/23/2015	100		SIGNAGE-CHILD CAR

VISIT/ CHANGE HISTORY

Date	Type	IS	ID	Cd.	Purpose/Result
11/16/2016			KS	16	Permit Inspection
10/23/2015			CRR	16	Permit Inspection

LAND LINE VALUATION SECTION

B #	Use Code	Use Description	Zone	D	Front	Depth	Units	Unit Price	I. Factor	S.A.	C. Factor	ST. Idx	Adj.	Notes- Adj	Special Pricing	S Adj Fact	Adj. Unit Price	Land Value
1	9140	Comm Mass Dmh					16.64 AC	524,138.00	0.7620	0	1.00	040	1.00	P (58) .29 AC SITES		1.00	399,393.16	6,645,900
1	9140	Comm Mass Dmh					62.13 AC	13,500.00	1.0000	0	1.00		0.00	R		1.00	13,500.00	838,800

Total Card Land Units: 78.77 AC | Parcel Total Land Area: 98.97 AC | Total Land Value: 7,484,700

Property Location:214 LAKE ST | MAP ID: 33/ 082000/ / / | Bldg Name: | State Use: 9140

Vision ID: 7532 | Account #7532 | Bldg #: 1 of 2 | Sec #: 1 of 1 | Card 1 of 2 | Print Date: 01/11/2018 12:43

CONSTRUCTION DETAIL

Element	Cd.	Ch.	Description
Style	802		Elementary School
Model	94		Commercial
Grade	B		
Stories	2.00		
Occupancy	1		
Exterior Wall 1	BV		Brick Veneer
Exterior Wall 2			
Roof Structure	GA		Gable
Roof Cover	AS		Asphalt Shing
Interior Wall 1	WP		Wood Panel
Interior Wall 2	DW		Drywall
Interior Flr 1	LN		Linoleum
Interior Flr 2	VT		Vinyl Tile
Heating Fuel	NG		Nat Gas
Heat Type	FD		FHA Duct
AC Pct	100		
Heat Pct	100		
Bldg Use	9140		Comm Mass Dmh
Total Rooms	0		
Bedrooms	0		
Full Baths	5		
Half Baths	15		
Xtra Fixtures	0		
Elevators	0		
Frame	MS		Masonry
Plumbing	02		Average
Foundation	08		Poured Conc
Partitions	02		Average
Wall Height	10		
% Sprinkler	100		

CONSTRUCTION DETAIL (CONTINUED)

Element	Cd.	Ch.	Description

MIXED USE

Code	Description	Percentage
9140	Comm Mass Dmh	100

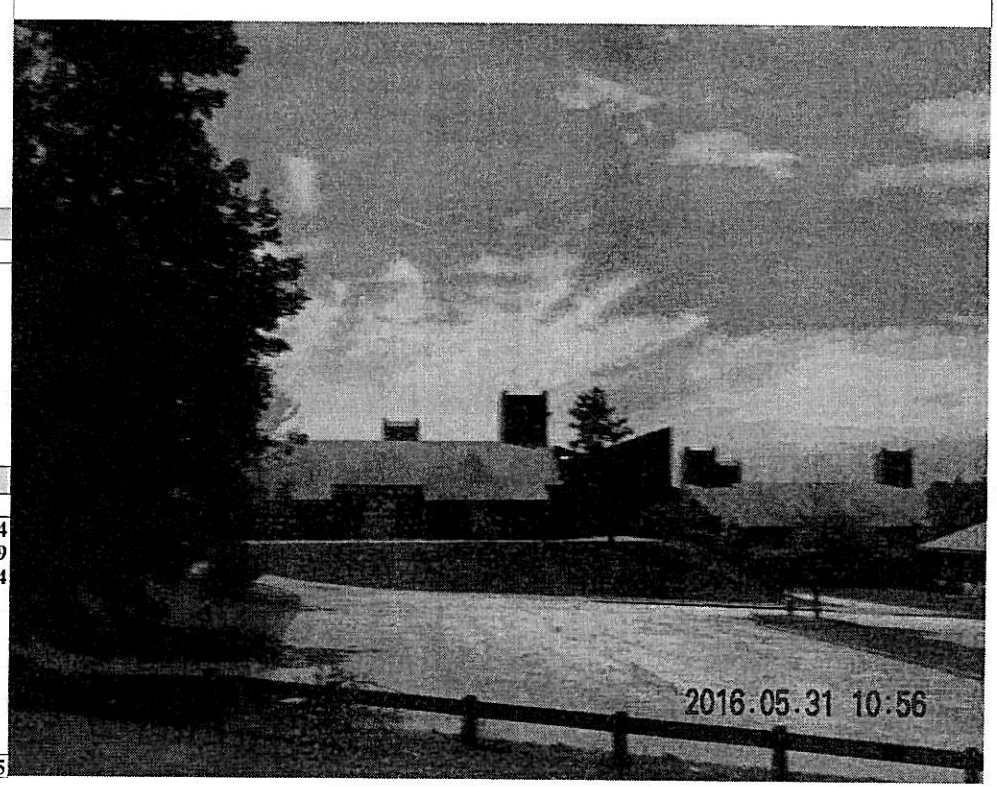
COST/MARKET VALUATION

Adj. Base Rate:	194.54
Replace Cost	12,839,625
AYB	1965
EYB	1988
Dep Code	E
Remodel Rating	
Year Remodeled	
Dep %	29
Functional Obslnc	
External Obslnc	
Cost Trend Factor	
Status	
% Complete	
Overall % Cond	71
Apprais Val	9,116,100
Dep % Ovr	0
Dep Ovr Comment	
Misc Imp Ovr	0
Misc Imp Ovr Comment	
Cost to Cure Ovr	0
Cost to Cure Ovr Comment	

BSM[30000]

BAS[30000]

FUS[30000]



OB-OUTBUILDING & YARD ITEMS(L) / XF-BUILDING EXTRA FEATURES(B)

Code	Description	Sub	Sub Descript	L/B	Units	Unit Price	Yr	Gde	Dp Rt	Cnd	%Cnd	Apr Value
SGN1	Sign 1 Sided			L	45	55.00	2014	C		A	50	1,200
SGN1	Sign 1 Sided			L	4	55.00	2014	C		A	50	100
KIT	Kitchen			B	1	0.00	1988	A	1	1	71	0
BGR	Basement Gara			B	3	0.00	1988	A	1	1	71	0

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Gross Area	Eff. Area	Unit Cost	Undeprec. Value
BAS	First Floor	30,000	30,000	30,000		5,836,194
BSM	Basement	0	30,000	6,000		1,167,239
FUS	Finished Upper Story	30,000	30,000	30,000		5,836,194
	Ttl. Gross Liv/Lease Area:	60,000	90,000	66,000		12,839,625

Property Location: 214 LAKE ST | MAP ID: 33/ 082000/ / / | Bldg Name: | State Use: 9140
Vision ID: 7532 | Account #7532 | Bldg #: 2 of 2 | Sec #: 1 of 1 | Card 2 of 2 | Print Date: 01/11/2018 12:43

CURRENT OWNER	TOPO.	UTILITIES	STRT./ROAD	LOCATION
COMMONWEALTH OF MASS WORC	0 Typical	3 Public Sewer	0 Typical	
FOR CHILDREN WITH SPECIAL NEI		2 Public Water		
214 LAKE ST				
SHREWSBURY, MA 01545-3960				
Additional Owners:				

SUPPLEMENTAL DATA

Other ID:	3320320	Nbhd	020
Leg SK Area		Color	
Vis SK Area		Own Occ	N
Legal Other1	40 214000	SFLA	60000
Legal Other2		Lot Size	98.97
Zone	RUR AA 62%		
GIS ID: F_595805_2924139		*ASSOC PID#*	

CURRENT ASSESSMENT

Description	Code	Appraised Value	Assessed Value
EXEMPT	9140	9,116,100	9,116,100
EXM LAND	9140	9,065,800	9,065,800
EXEMPT	9140	10,300	10,300
	Total	18,192,200	18,192,200

343 Shrewsbury, MA

VISION

RECORD OF OWNERSHIP

	BK-VOL/PAGE	SALE DATE	q/u	v/i	SALE PRICE	V.C.
COMMONWEALTH OF MASS WORCESTER REGI	1324/ 244	04/30/1890	U	I	0	01

PREVIOUS ASSESSMENTS (HISTORY)

Yr.	Code	Assessed Value	Yr.	Code	Assessed Value	Yr.	Code	Assessed Value
2017	9140	9,116,100	2016	9140	9,323,600	2015	9140	9,013,200
2017	9140	9,065,800	2016	9140	7,786,000	2015	9140	7,945,100
2017	9140	10,300	2016	9140	7,800	2015	9140	7,800
	Total:	18,192,200		*Total:*	17,117,400		*Total:*	16,966,100

EXEMPTIONS

Year	Type	Description	Amount
		Total:	

OTHER ASSESSMENTS

Code	Description	Number	Amount	Comm. Int.

This signature acknowledges a visit by a Data Collector or Assessor

ASSESSING NEIGHBORHOOD

NBHD/ SUB	NBHD Name	Street Index Name	Tracing	Batch
0001/A				

NOTES

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	0
Appraised XF (B) Value (Bldg)	0
Appraised OB (L) Value (Bldg)	9,000
Appraised Land Value (Bldg)	1,581,100
Special Land Value	0
Total Appraised Parcel Value	18,192,200
Valuation Method:	C
Exemptions	0
Adjustment:	0
Net Total Appraised Parcel Value	**18,192,200**

BUILDING PERMIT RECORD

Permit ID	Issue Date	Type	Description	Amount	Insp. Date	% Comp.	Date Comp.	Comments

VISIT/ CHANGE HISTORY

Date	Type	IS	ID	Cd.	Purpose/Result
11/16/2016			KS	16	Permit Inspection
10/23/2015			CRR	16	Permit Inspection

LAND LINE VALUATION SECTION

B #	Use Code	Use Description	Zone	D	Front	Depth	Units		Unit Price	I. Factor	S.A.		C. Factor	ST. Idx	Adj.	Notes- Adj	Special Pricing		S Adj Fact	Adj. Unit Price	Land Value
2	914V	Comm Mass Dmh Vac					5.52	AC	216,957.00	0.7620	0		1.00	C5	1.25	P (6) 40,000 SF SITES			1.00	206,651.54	1,140,700
2	914V	Comm Mass Dmh Vac					14.68	AC	30,000.00	1.0000	0		1.00		0.00	R			1.00	30,000.00	440,400

Total Card Land Units: 20.20 AC | Parcel Total Land Area: 98.97 AC | Total Land Value: 1,581,100

Property Location: 214 LAKE ST | MAP ID: 33/ 082000/ / / | Bldg Name: | State Use: 9140

Vision ID: 7532 | Account #7532 | Bldg #: 2 of 2 | Sec #: 1 of 1 | Card 2 of 2 | Print Date: 01/11/2018 12:43

CONSTRUCTION DETAIL

Element	Cd.	Ch.	Description
Model	00		Vacant

CONSTRUCTION DETAIL (CONTINUED)

Element	Cd.	Ch.	Description

MIXED USE

Code	Description	Percentage
914V	Comm Mass Dmh Vac	100

COST/MARKET VALUATION

Adj. Base Rate:	0.00
Replace Cost	0
AYB	
EYB	0
Dep Code	
Remodel Rating	
Year Remodeled	
Dep %	
Functional Obslnc	
External Obslnc	
Cost Trend Factor	
Status	
% Complete	
Overall % Cond	
Apprais Val	
Dep % Ovr	0
Dep Ovr Comment	
Misc Imp Ovr	0
Misc Imp Ovr Comment	
Cost to Cure Ovr	0
Cost to Cure Ovr Comment	

OB-OUTBUILDING & YARD ITEMS(L) / XF-BUILDING EXTRA FEATURES(B)

Code	Description	Sub	Sub Descript	L/B	Units	Unit Price	Yr	Gde	Dp Rt	Cnd	%Cnd	Apr Value
BRN1	Barn - 1 Story			L	1,200	15.00	1980	C		A	50	9,000

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Gross Area	Eff. Area	Unit Cost	Undeprec. Value
	Ttl. Gross Liv/Lease Area:	0	0	0		

No Photo On Record

33 Plate | 082000 Plot | Condo | 1 of 2 CARD | COMM/IND | TOTAL ASSESSED: 22,033,800

Town of Shrewsbury

!7532!

Patriot Properties Inc.

PROPERTY LOCATION

No	Alt No	Direction/Street/City
214		LAKE ST, SHREWSBURY

OWNERSHIP

Owner 1:	COMMONWEALTH OF MASS WORCESTER REGI
Owner 2:	FOR CHILDREN WITH SPECIAL NEEDS
Owner 3:	
Street 1:	214 LAKE ST
Street 2:	
Twn/City:	SHREWSBURY
St/Prov:	MA
Cntry:	
Own Occ:	N
Postal:	01545-3960
Type:	

PREVIOUS OWNER

Owner 1:	
Owner 2:	
Street 1:	
Twn/City:	
St/Prov:	
Cntry:	
Postal:	

NARRATIVE DESCRIPTION

This Parcel contains 120.83 ACRES of land mainly classified as STATE DMH with a(n) School Building Built about 1965, Having Primarily BRICK Exterior and ASPHALT Roof Cover, with 0 Units, 5 Baths, 15 HalfBaths, 0 3/4 Baths, 0 Rooms, and 0 Bdrms.

OTHER ASSESSMENTS

Code	Descrip/No	Amount	Com. Int

PROPERTY FACTORS

Item	Code	Descip	%	Item	Code	Descrip
Z				U	2	SEWER
o				t	3	WATER
n				l		
Census:				Exmpt		
Flood Haz:						
D				Topo		
s				Street		
t				Traffic		

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Value	Yard Items	Land Size	Land Value	Total Value
914	7,497,700		100.630	11,110,300	18,608,000
Total Card	7,497,700		100.630	11,110,300	18,608,000
Total Parcel	7,497,700	8,600	120.830	14,527,500	22,033,800

Source: Market Adj Cost | Total Value per SQ unit /Card: 310.13 | /Parcel: 367.23

PREVIOUS ASSESSMENT

Tax Yr	Use	Cat	Bldg Value	Yrd Items	Land Size	Land Value	Total Value	Asses'd Value	Notes	Date
2012	914	FV	7,497,700	8600	120.83	14,527,500	22,033,800	22,033,800	Year End	2/8/2012
2011	914	FV	7,497,700	8600	120.83	14,527,500	22,033,800	22,033,800		10/15/2010
2010	914	FV	7,747,600	8600	120.83	11,623,300	19,379,500	19,379,500	Year End Roll	4/8/2010
2009	914	FV	8,043,700	8800	120.906	14,308,900	22,361,400	22,361,400		12/31/2008
2008	914	FV	8,267,700	8800	124.099	16,466,000	24,742,500	24,742,500		1/4/2008

BUILDING PERMITS

Date	Number	Descrip	Amount	C/O	Last Visit	Fed Code	F. Descrip	Comment

SALES INFORMATION

TAX DISTRICT

Grantor	Legal Ref	Type	Date	Sale Code	Sale Price	V	Tst	Verif	Assoc PCL Value	Notes
COMMONWEALTH OF	1324-244		4/30/1890		0	No	No			

INCOME INFORMATION

Type	Description	Flr	Qlty	Leased Area	Ten	Rent $	Ovr Rent	Econ Inc

Gross Income:		X	Totals:		0		
Vacancy/DL:		X	Net Income:		Deficiency:		
Other Income:			Rate Adj:		Final Val Card:		
Expenses:		X	Vac Adj:		Val Per Unit Card		
Reserves:		X	Exp Adj:		Final Val/Parcel:		
Lease Type:	0	X	Indicated Value:		Val Per Unit/Par:		
Overall Rate:			Surplus:		Cost/Inc Ratio:		

ACTIVITY INFORMATION

Date	Result	By	Name

Sign: __/__/__

LAND SECTION

Use Code	Description	LUC Fact	No of Units	Depth / PriceUnits	Unit Type	Land Type	LT Factor	Base Value	Unit Price	Adj	Neigh	Neigh Influ	Neigh Mod	Infl 1	%	Infl 2	%	Infl 3	%	Appraised Value	Alt Class	%	Spec Land	J Code	Fact	Use Value	Notes
914	STATE DMH		724838		SQ FT	SITE		0	13.59	1.000	4									9,850,549						9,850,500	58 LOTS @ $169875
914	STATE DMH		83.99		ACRES	RESIDUAL		0	15,000.	1.000	4									1,259,850						1,259,800	

Total AC/HA: 100.62999 | Total SF/SM: 4383442.50 | Parcel LUC: 914 | STATE DMH | Prime NB Desc Comm 3

Total: 11,110,400 | Spl Credit | Total: 11,110,300

Legal Description

Lot Size

Total Land:

Land Unit Type:

User Acct	3320320
GIS Ref	
GIS Ref	
Insp Date	

USER DEFINED

Prior Id # 1:	33 092000
Prior Id # 2:	
Prior Id # 3:	
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	
ASR Map:	
Fact Dist:	
Reval Dist:	
Year:	
LandReason:	
BldReason:	

Parcel ID: 33 082000

PRINT: Date 05/14/12 Time 10:17:00

LAST REV: Date 03/10/10 Time 10:35:34 apro

PAT ACCT. 7532

Disclaimer: This Information is believed to be correct but is subject to change and is not warranteed.

EXTERIOR INFORMATION

Type:	675 - School		
Sty Ht:	2 - 2 Story		
(Liv) Units:		Total:	0
Foundation:	1 - CONCRETE		
Frame:	3 - CONCRETE		
Prime Wall:	7 - BRICK		
Sec Wall:			%
Roof Struct:	1 - GABLE		
Roof Cover:	1 - ASPHALT		
Color:			
View / Desir:	V - VERY GOOD		

GENERAL INFORMATION

Grade:	A+ - EXCELLENT		
Year Blt:	1965	Eff Yr Blt:	
Alt LUC:		Alt %:	
Jurisdict:		Fact:	.
Const Mod:			
Lump Sum Adj:			

INTERIOR INFORMATION

Avg Ht/FL:	10		
Prim Int Wal	7 - ABOVE AVG		
Sec Int Wall:	1 - DRYWALL	25	%
Partition:	T - TYPICAL		
Prim Floors:	14 - ASPHL TILE		
Sec Floors:	5 - LINO/VINYL	50	%
Bsmnt Flr:	12 - CONCRETE		
Bsmnt Gar:	3		
Electric:	400 - 400 Amps		
Insulation:	T - TYPICAL		
Int vs Ext:	S		
Heat Fuel:	2 - GAS		
Heat Type:	1 - FORCED H/A		
# Heat Sys:			
% Heated:	100	% AC:	100
Solar HW:	NO	Central Vac:	NO
% Com Wal		% Sprinkled	100

BATH FEATURES

Full Bath	5	Rating:	Excellent
A Bath:		Rating:	
3/4 Bath:		Rating:	
A 3QBth		Rating:	
1/2 Bath:	15	Rating:	Excellent
A HBth:		Rating:	
OthrFix:		Rating:	

OTHER FEATURES

Kits:	1	Rating:	Excellent
A Kits:		Rating:	
Frpl:		Rating:	
WSFlue:		Rating:	

CONDO INFORMATION

Location:	
Total Units:	
Floor:	
% Own:	
Name:	

DEPRECIATION

Phys Cond:	EX - Excellent	17.	%
Functional:			%
Economic:			%
Special:			%
Override:			%
	Total:	17.5	%

CALC SUMMARY

Basic $ / SQ:	85.00
Size Adj.:	0.81666666
Const Adj.:	1.29069567
Adj $ / SQ:	89.596
Other Features:	145400
Grade Factor:	1.50
Neighborhood Inf:	1.00000000
LUC Factor:	
Adj Total:	9088083
Depreciation:	1590415
Depreciated Total:	7497668

COMMENTS

F`06 - Changed land area per Plan 2925. F`07 - Land area changed per Plan 2944 - split off 2 lots. F`09 - Split off one lot per Plan 2944 and deed 43008-348..

RESIDENTIAL GRID

1st Res Grid	Desc:								# Units		
Level	FY	LR	DR	D	K	FR	RR	BR	FB	HB	L	O
Other												
Upper												
Lvl 2												
Lvl 1												
Lower												
Totals	RMs:			BRs:			Baths:	5		HB	15	

REMODELING

Exterior:	
Interior:	
Additions:	
Kitchen:	
Baths:	
Plumbing:	
Electric:	
Heating:	
General:	

RES BREAKDOWN

No Unit	RMS	BRS	FL
Totals			

COMPARABLE SALES

Rate	Parcel ID	Typ	Date	Sale Price

WtAvS/SQ:		AvRate:	Ind.Val
Juris. Factor:		Val/Su Fin:	124.96
Special Features:	0	Val/Su Net:	83.31
Final Total:	7497700	Val/Su SzAd	124.96

SKETCH

Undisplayed Areas:
FFL: 30000
SFL: 30000
BMT: 30000

8

SUB AREA

Code	Description	Area - SQ	Rate - AV	Undepr Value
BMT	BASEMENT	30,000	17.920	537,575
FFL	FIRST FLOOR	30,000	89.600	2,687,874
SFL	SECOND FLOOR	30,000	89.600	2,687,874
	Net Sketched Area:	90,000	Total:	5,913,322
Size Ad	60000	Gross Area	90000	FinArea 60000

SUB AREA DETAIL

Sub Area	% Usbl	Descrip	% Type	Qu	# Ten

IMAGE

AssessPro Patriot Properties, Inc

SPEC FEATURES/YARD ITEMS

PARCEL ID 33 082000

Code	Description	A	Y/S	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep	LUC	Fact	NB Fa	Appr Value	JCod	JFact	Juris. Value

More: N

Total Yard Items:

Total Special Featues:

Total:

33 Plate | 082000 Plot | Condo | 2 of 2 CARD

Town of Shrewsbury

TOTAL ASSESSED: 22,033,800

!7532!

Patriot Properties Inc.

PROPERTY LOCATION

No	Alt No	Direction/Street/City
214		LAKE ST, SHREWSBURY

OWNERSHIP

Owner 1:	COMMONWEALTH OF MASS WORCESTER REGI				
Owner 2:	FOR CHILDREN WITH SPECIAL NEEDS				
Owner 3:					
Street 1:	214 LAKE ST				
Street 2:					
Twn/City:	SHREWSBURY				
St/Prov:	MA	Cntry		Own Occ:	N
Postal:	01545-3960			Type:	

PREVIOUS OWNER

Owner 1:			
Owner 2:			
Street 1:			
Twn/City:			
St/Prov:		Cntry	
Postal:			

NARRATIVE DESCRIPTION

This Parcel contains 120.83 ACRES of land mainly classified as STATE DMH with a(n) N/A Building Built about , Having Primarily N/A Exterior and N/A Roof Cover, with 0 Units, 0 Baths, 0 HalfBaths, 0 3/4 Baths, 0 Rooms, and 0 Bdrms.

OTHER ASSESSMENTS

Code	Descrip/No	Amount	Com. Int

PROPERTY FACTORS

Item	Code	Descip	%	Item	Code	Descrip
Z				U	2	SEWER
o				t	3	WATER
n				l		
Census:				Exmpt		
Flood Haz:						
D				Topo		
s				Street		
t				Traffic		

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Value	Yard Items	Land Size	Land Value	Total Value
914		8,600	20.200	3,417,200	3,425,800
Total Card		8,600	20.200	3,417,200	3,425,800
Total Parcel	7,497,700	8,600	120.830	14,527,500	22,033,800

Source: Market Adj Cost | Total Value per SQ unit /Card: N/A | /Parcel: 367.23

PREVIOUS ASSESSMENT

Tax Yr	Use	Cat	Bldg Value	Yrd Items	Land Size	Land Value	Total Value	Asses'd Value	Notes	Date

BUILDING PERMITS

Date	Number	Descrip	Amount	C/O	Last Visit	Fed Code	F. Descrip	Comment

SALES INFORMATION

TAX DISTRICT

Grantor	Legal Ref	Type	Date	Sale Code	Sale Price	V	Tst	Verif	Assoc PCL Value	Notes

INCOME INFORMATION

Type	Description	Flr	Qlty	Leased Area	Ten	Rent $	Ovr Rent	Econ Inc

Gross Income:		X	Totals:		0		
Vacancy/DL:		X		Net Income:			Deficiency:
Other Income:				Rate Adj:			Final Val Card:
Expenses:		X		Vac Adj:			Val Per Unit Card
Reserves:		X		Exp Adj:			Final Val/Parcel:
Lease Type:	0	X		Indicated Value:			Val Per Unit/Par:
Overall Rate:				Surplus:			Cost/Inc Ratio:

ACTIVITY INFORMATION

Date	Result	By	Name

Sign: _____ __/__/__

LAND SECTION

Use Code	Description	LUC Fact	No of Units	Depth / PriceUnits	Unit Type	Land Type	LT Factor	Base Value	Unit Price	Adj	Neigh	Neigh Influ	Neigh Mod	Infl 1	%	Infl 2	%	Infl 3	%	Appraised Value	Alt Class	%	Spec Land	J Code	Fact	Use Value	Notes
914	STATE DMH		261360		SQ FT	SITE		0	9.	1.000	C3									2,352,240						2,352,200	6 SITES
914	STATE DMH		14.2		ACRES	RESIDUAL		0	150,000.	.500	C3									1,065,000						1,065,000	

Total AC/HA: 20.20000 | Total SF/SM: 879912.06 | Parcel LUC: 914 | STATE DMH | Prime NB Desc | Comm 3

Total: 3,417,240 | Spl Credit | Total: 3,417,200

Disclaimer: This Information is believed to be correct but is subject to change and is not warranteed.

Legal Description

Lot Size

Total Land:

Land Unit Type:

User Acct
3320320
GIS Ref
GIS Ref
Insp Date

Parcel ID: 33 082000

PRINT: Date 05/14/12 | Time 10:17:08

LAST REV: Date 10/06/09 | Time 14:12:13 | apro

PAT ACCT. 7532

USER DEFINED

Prior Id # 1:	33 092000
Prior Id # 2:	
Prior Id # 3:	
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	
ASR Map:	
Fact Dist:	
Reval Dist:	
Year:	
LandReason:	
BldReason:	

EXTERIOR INFORMATION

Type:			
Sty Ht:			
(Liv) Units:		Total:	0
Foundation:			
Frame:			
Prime Wall:			
Sec Wall:		%	
Roof Struct:			
Roof Cover:			
Color:			
View / Desir:			

GENERAL INFORMATION

Grade:			
Year Blt:		Eff Yr Blt:	
Alt LUC:		Alt %:	
Jurisdict:		Fact:	
Const Mod:			
Lump Sum Adj:			

INTERIOR INFORMATION

Avg Ht/FL:			
Prim Int Wal			
Sec Int Wall:		%	
Partition:			
Prim Floors:			
Sec Floors:		%	
Bsmnt Flr:			
Bsmnt Gar:			
Electric:			
Insulation:			
Int vs Ext:			
Heat Fuel:			
Heat Type:			
# Heat Sys:			
% Heated:		% AC:	
Solar HW:	NO	Central Vac:	NO
% Com Wal		% Sprinkled	

BATH FEATURES

Full Bath		Rating:	
A Bath:		Rating:	
3/4 Bath:		Rating:	
A 3QBth		Rating:	
1/2 Bath:		Rating:	
A HBth:		Rating:	
OthrFix:		Rating:	

OTHER FEATURES

Kits:		Rating:	
A Kits:		Rating:	
Frpl:		Rating:	
WSFlue:		Rating:	

CONDO INFORMATION

Location:	
Total Units:	
Floor:	
% Own:	
Name:	

DEPRECIATION

Phys Cond:	0.0	%
Functional:		%
Economic:		%
Special:		%
Override:		%
Total:	0	%

CALC SUMMARY

Basic $ / SQ:	
Size Adj.:	1.00000000
Const Adj.:	1.00000000
Adj $ / SQ:	
Other Features:	0
Grade Factor:	
Neighborhood Inf:	1.00000000
LUC Factor:	
Adj Total:	0
Depreciation:	0
Depreciated Total:	0

COMMENTS

RESIDENTIAL GRID

1st Res Grid	Desc:								# Units		
Level	FY	LR	DR	D	K	FR	RR	BR	FB	HB	L	O
Other												
Upper												
Lvl 2												
Lvl 1												
Lower												
Totals	RMs:		BRs:			Baths:			HB			

REMODELING

Exterior:	
Interior:	
Additions:	
Kitchen:	
Baths:	
Plumbing:	
Electric:	
Heating:	
General:	

RES BREAKDOWN

No Unit	RMS	BRS	FL
Totals			

COMPARABLE SALES

Rate	Parcel ID	Typ	Date	Sale Price

WtAv$/SQ:		AvRate:		Ind.Val	
Juris. Factor:			Val/Su Fin:		
Special Features:	0		Val/Su Net:		
Final Total:	0		Val/Su SzAd		

SKETCH

SUB AREA

Code	Description	Area - SQ	Rate - AV	Undepr Value
	Net Sketched Area:		Total:	
Size Ad		Gross Area		FinArea

SUB AREA DETAIL

Sub Area	% Usbl	Descrip	% Type	Qu	# Ten

IMAGE

AssessPro Patriot Properties, Inc

SPEC FEATURES/YARD ITEMS

PARCEL ID 33 082000

Code	Description	A	Y/S	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep	LUC	Fact	NB Fa	Appr Value	JCod	JFact	Juris. Value
201	Barn	D	Y	1	1200	A	AV	1980	11.00	T	35	914			8,600			8,600

More:	N	Total Yard Items:	8,600	Total Special Featues:	

Total: 8,600

214 LAKE ST

Location	214 LAKE ST	**Mblu**	33/ 082000/ / /
Acct#	7532	**Owner**	COMMONWEALTH OF MASS WORCESTER REGIONAL
Assessment	$18,192,200	**Appraisal**	$18,192,200
PID	7532	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$9,126,400	$9,065,800	$18,192,200
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$9,126,400	$9,065,800	$18,192,200

Owner of Record

Owner	COMMONWEALTH OF MASS WORCESTER REGIONAL	**Sale Price**	$0
Co-Owner	FOR CHILDREN WITH SPECIAL NEEDS	**Certificate**	
Address	214 LAKE ST SHREWSBURY, MA 01545-3960	**Book & Page**	1324/ 244
		Sale Date	04/30/1890
		Instrument	01

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
COMMONWEALTH OF MASS WORCESTER REGIONAL	$0		1324/ 244	01	04/30/1890

Building Information

Building 1 : Section 1

Year Built:	1965
Living Area:	60,000
Replacement Cost:	$12,839,625

Building Photo

Building Percent Good: 71

Replacement Cost Less Depreciation: $9,116,100

Building Attributes	
Field	**Description**
STYLE	Elementary School
MODEL	Commercial
Grade	B
Stories	2.00
Occupancy	1
Exterior Wall 1	Brick Veneer
Exterior Wall 2	
Roof Structure	Gable
Roof Cover	Asphalt Shing
Interior Wall 1	Wood Panel
Interior Wall 2	Drywall
Interior Flr 1	Linoleum
Interior Flr 2	Vinyl Tile
Heating Fuel	Nat Gas
Heat Type	FHA Duct
AC Pct	100
Heat Pct	100
Bldg Use	Comm Mass Dmh
Total Rooms	0
Bedrooms	0
Full Baths	5
Half Baths	15
Xtra Fixtures	0
1st Floor Use	
Elevators	0
Frame	Masonry
Plumbing	Average
Foundation	Poured Conc
Partitions	Average
Wall Height	10
% Sprinkler	100

Building 1 : Section 1

Building Photo

(http://images.vgsi.com/photos/ShrewsburyMAPhotos//\00\02\74/28.jpg)

Building Layout

BSM[30000]

BAS[30000]

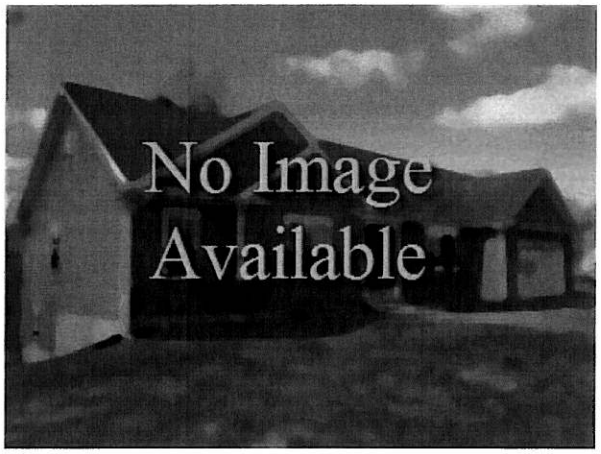
FUS[30000]

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	30,000	30,000
FUS	Finished Upper Story	30,000	30,000
BSM	Basement	30,000	0
		90,000	60,000

Year Built: 1965
Living Area: 0
Replacement Cost: $12,839,625
Building Percent Good: 71
Replacement Cost Less Depreciation: $9,116,100

Building Attributes	
Field	**Description**
Style	Outbuildings
Model	
Grade	
Stories	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type	
AC Pct	
Bedrooms	
Full Baths	
Half Baths	
Extra Fixtures	
Total Rooms	
Bath Style:	
Kitchen Style	
Kitchens	
Extra Kitchens	
Frame	
Bsmt Floor	
Bsmt Garage	
Foundation	
WS Flues	
Fireplaces	

Building Photo



(http://images.vgsi.com/photos/ShrewsburyMAPhotos//default

Building Layout

Building Layout

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Xtra Openings	
Fini BSMT SF	
Solar HW	
Int vs. Ext	

Extra Features

Extra Features				Legend
Code	**Description**	**Size**	**Value**	**Bldg #**
KIT	Kitchen	1 UNITS	$0	1
BGR	Basement Garage	3 UNITS	$0	1

Land

Land Use

Use Code 9140
Description Comm Mass Dmh
Zone
Neighborhood 040
Alt Land Appr No
Category

Land Line Valuation

Size (Acres) 98.97
Frontage
Depth
Assessed Value $9,065,800
Appraised Value $9,065,800

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
BRN1	Barn - 1 Story			1200 UNITS	$9,000	1
SGN1	Sign 1 Sided			45 UNITS	$1,200	1
SGN1	Sign 1 Sided			4 UNITS	$100	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$9,331,400	$7,786,000	$17,117,400
2015	$9,021,000	$7,945,100	$16,966,100
2014	$9,021,000	$7,786,000	$16,807,000

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$9,331,400	$7,786,000	$17,117,400
2015	$9,021,000	$7,945,100	$16,966,100

2014	$9,021,000	$7,786,000	$16,807,000

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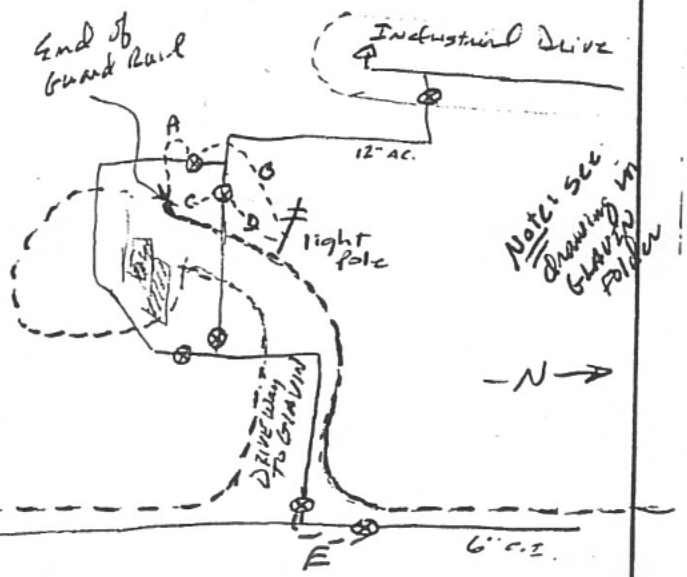
T

West

EASMENT Between Lake St & Industrial Drive

T

A-49' C-54' E-47'0"
B-58' D-48'9"



T

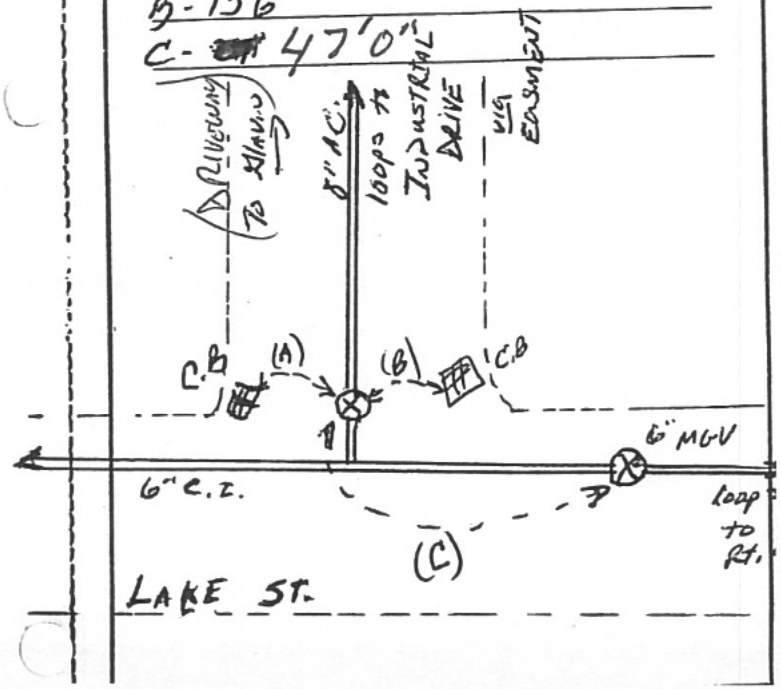
West

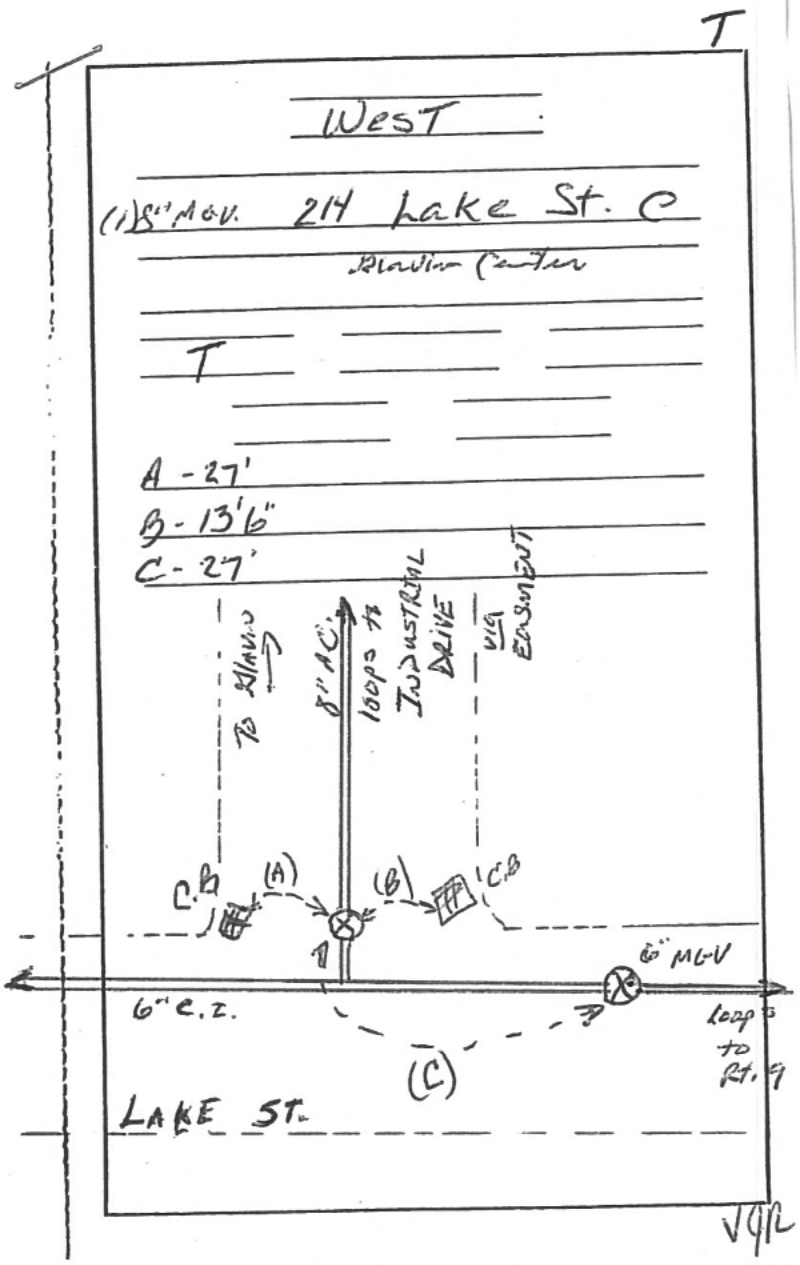
(1) 8" MGV. 214 Lake St. C

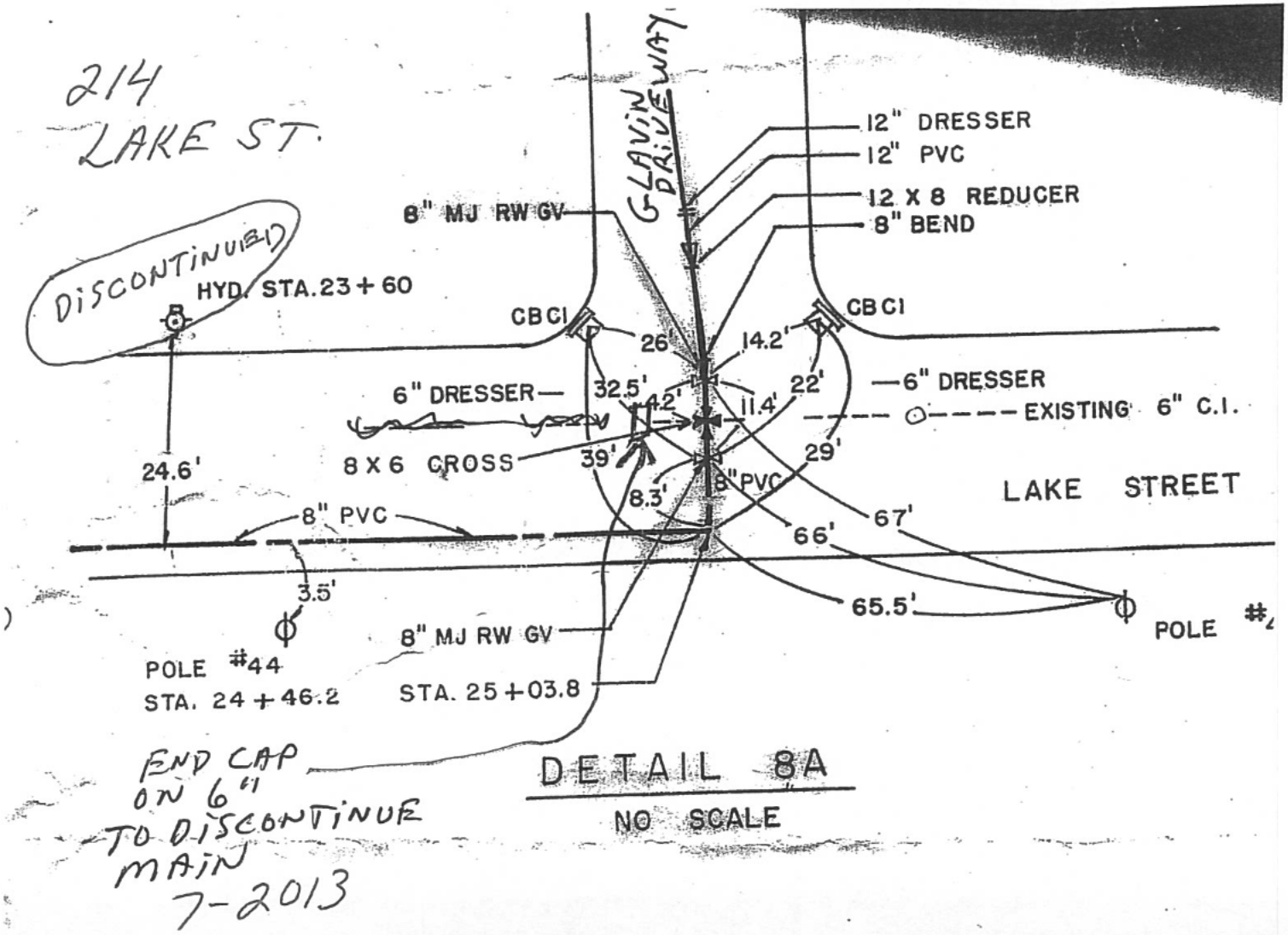
GLAVIN CTR

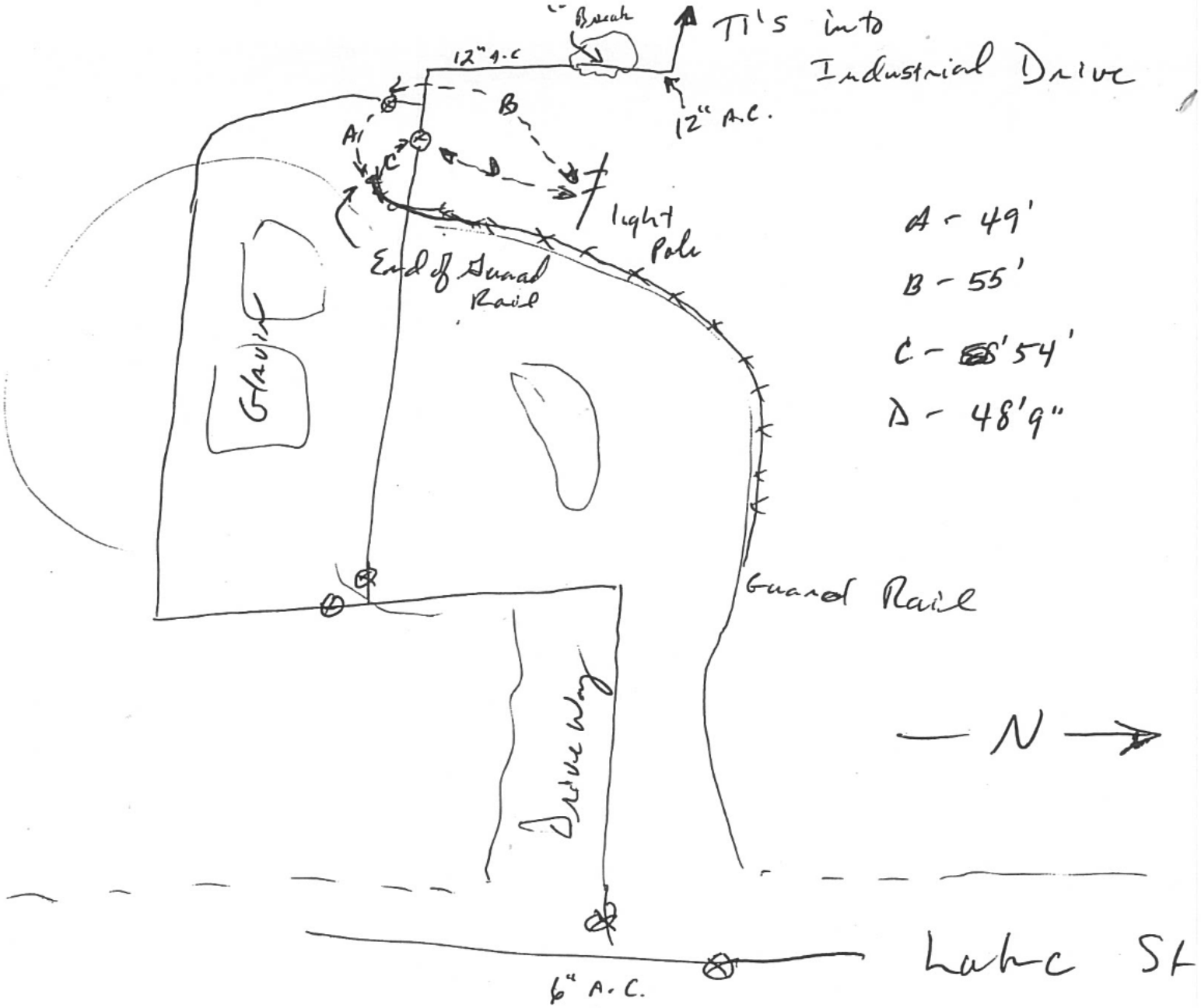
T

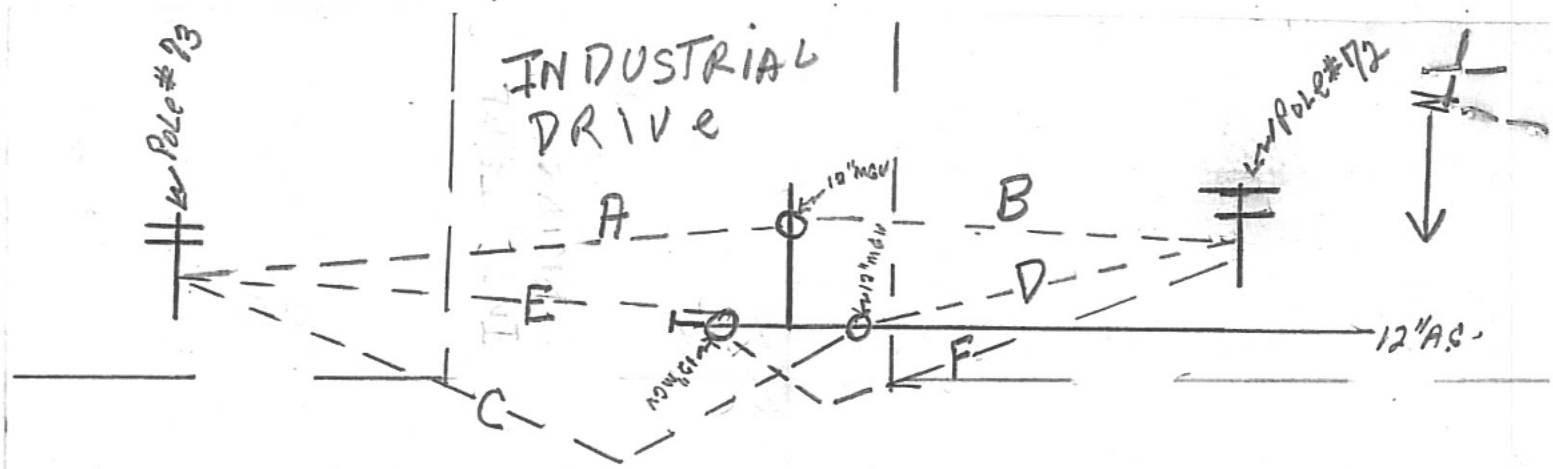
A - 27'
B - 13'6"
C - 47'0"




T
WEST
(1) 8" M.G.V. 214 Lake St. C
Blanding Center
T
A - 27'
B - 13'6"
C - 27'
To Blanding
8" A.C.
Loops to Industrial Drive
VIA EASEMENT
C.B
(A)
(B)
C.B
6" M.G.V
6" C.I.
Loop to Rt. 9
(C)
LAKE ST.


214
LAKE ST.
DISCONTINUED
HYD. STA. 23+60
8" MJ RW GV
GLAVIN DRIVEWAY
12" DRESSER
12" PVC
12 X 8 REDUCER
8" BEND
CBCI
CBCI
26'
14.2'
6" DRESSER
32.5'
42'
11.4'
22'
6" DRESSER
EXISTING 6" C.I.
8 X 6 CROSS
39'
29'
24.6'
8.3'
8" PVC
LAKE STREET
8" PVC
66'
67'
3.5'
65.5'
POLE #44
STA. 24+46.2
8" MJ RW GV
STA. 25+03.8
POLE #
END CAP ON 6" TO DISCONTINUE MAIN
7-2013
DETAIL 8A
NO SCALE


Breach
T1's into
Industrial Drive
12" A.C.
12" A.C.
A
B
C
D
A1
Light Pole
End of Guard Rail
Gravel
A - 49'
B - 55'
C - 54'
D - 48'9"
Guard Rail
Driveway
N
Lake St
6" A.C.



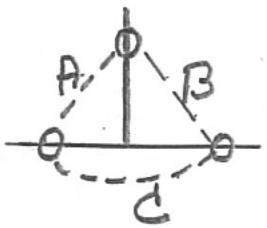
MERIDAN

BOSTON TURN PIKE

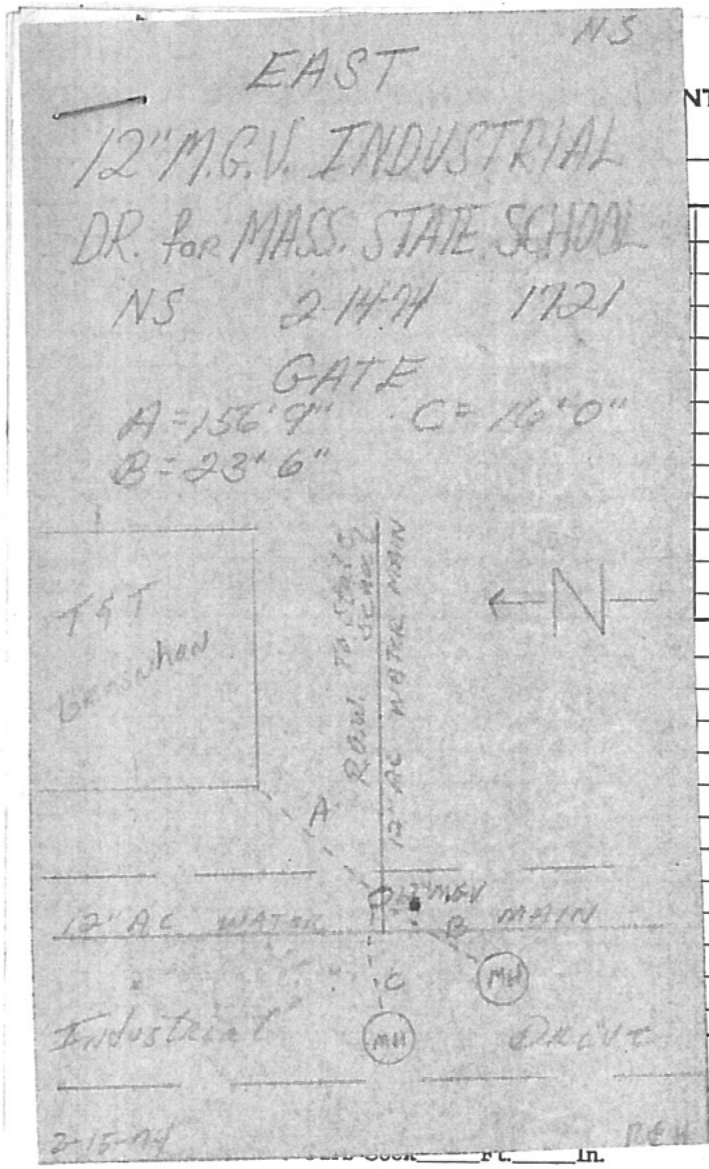
A - 105'2"
B - 47'2"
C - 111'4"
D - 38'5"
E - 96'10"
F - 52'8"

Drawn
2/24/69

3-12" M.G.V.



A - 11'5"
B - 10'9"
C - 15'0"


EAST
NS
12" M.G.V. INDUSTRIAL
DR. for MASS. STATE SCHOOL
NS 2-14-74 1721
GATE
A = 156'9"
B = 23'6"
C = 16'0"
T&T
EXTENSION
RAIL ROAD CROSSING
12" AC WATER MAIN
A
B
C
MH
MH
Industrial
DRIVE
2-15-74
DEH

NT

Total

NS

EAST

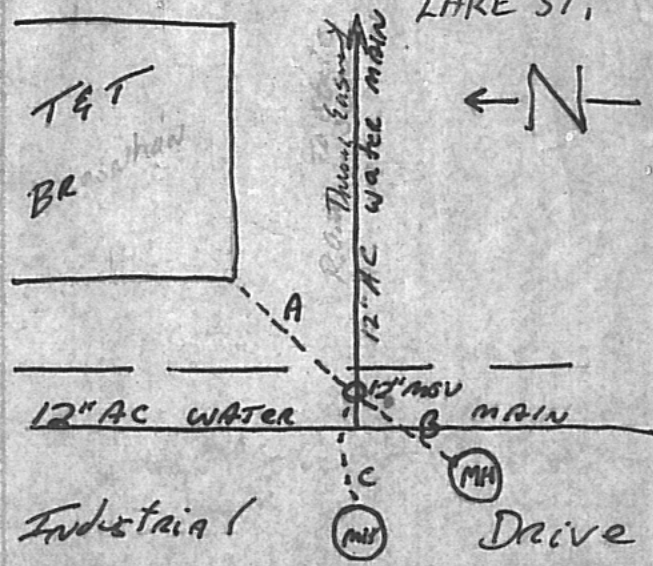
12" MGV INDUSTRIAL DR. for MASS. STATE SCHOOL

NS 2-14-74 1721

GATE

A = 156'9" C = 16'0"

B = 23'6" LOOPED TO LAKE ST.



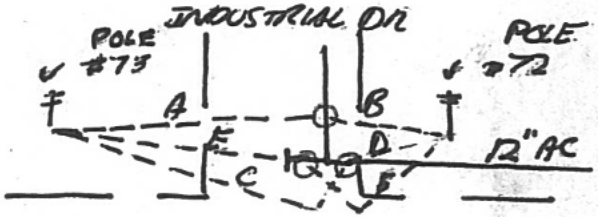
NS

SOUTH

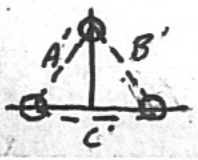
3-12" M.G.V.

INDUSTRIAL DR. @ BOSTON TURNPIKE

MAIN	GATE
A - 105'2"	D = 33'5"
B - 47'2"	E = 96'10"
C = 41'4"	F = 52'8"



BOSTON TURNPIKE



A' - 11'8"
B' - 10'7"
C' - 15'9"

NS

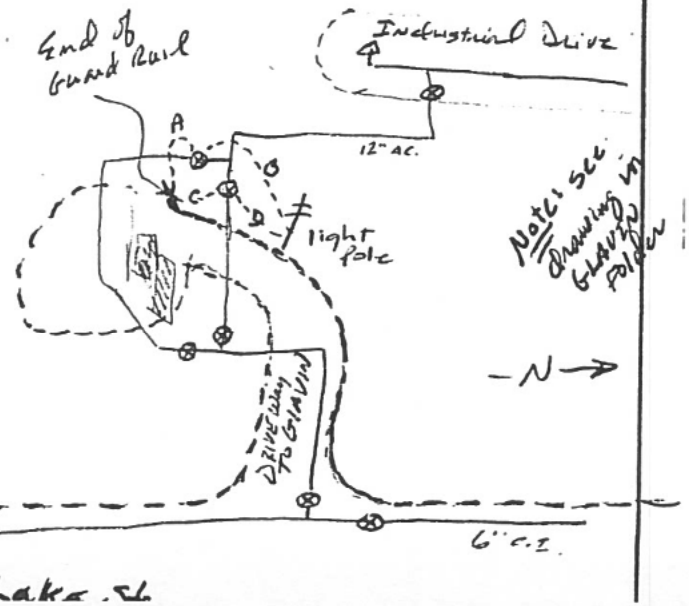
West

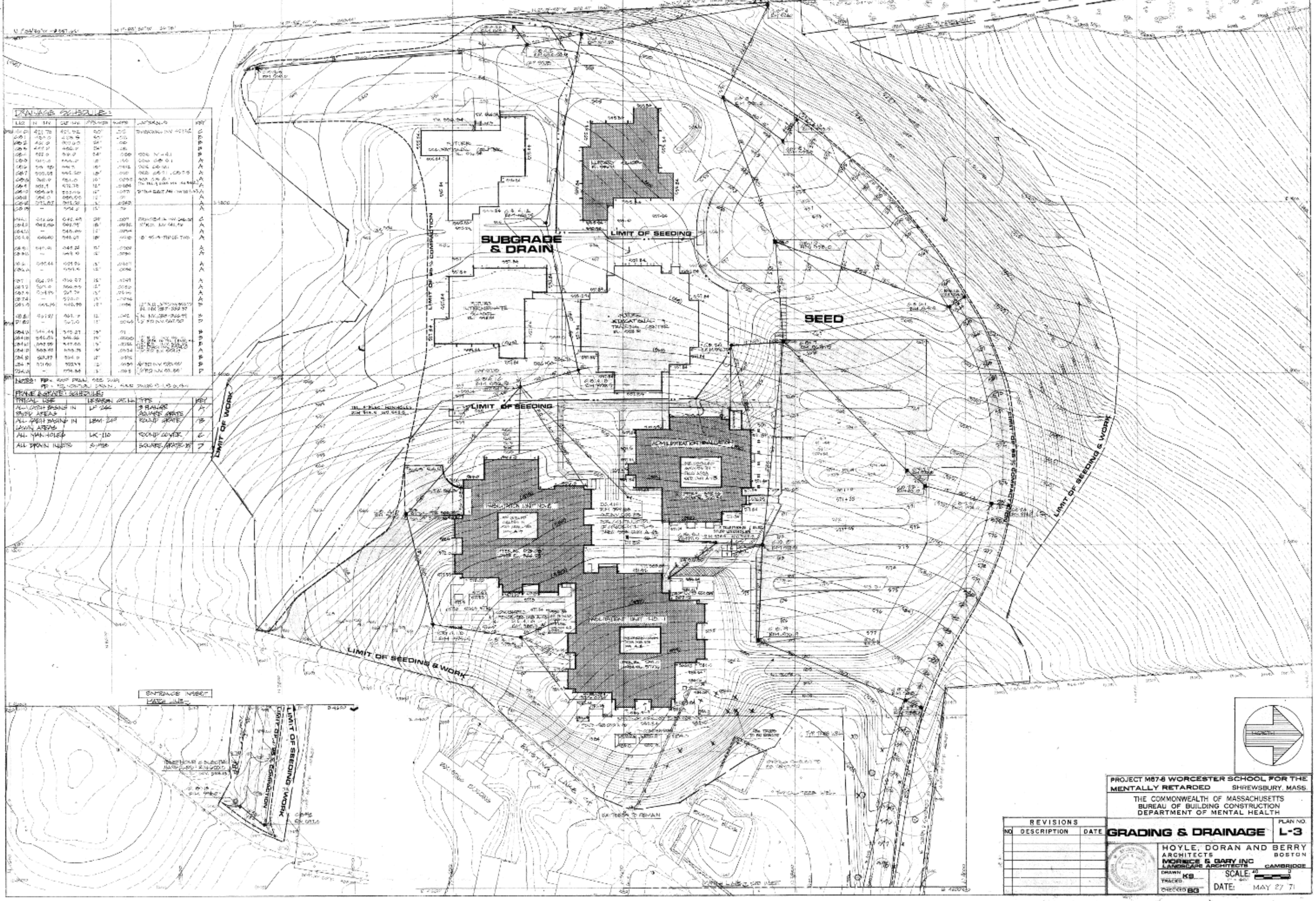
Easement Between Lake St & Industrial Drive

NS

A - 49' C - 54'

B - 58' D - 48'9"




SUBGRADE & DRAIN
LIMIT OF SEEDING
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LIMIT OF 95% COMPACTION
ENTRANCE INSERT
LIMIT OF SEEDING & WORK
LIMIT OF 95% COMPACTION
DRAINAGE SCHEDULE
FRAME & GRATE SCHEDULE
REVISIONS
NO. DESCRIPTION DATE
PROJECT M67-8 WORCESTER SCHOOL FOR THE MENTALLY RETARDED SHREWSBURY, MASS.
THE COMMONWEALTH OF MASSACHUSETTS
BUREAU OF BUILDING CONSTRUCTION
DEPARTMENT OF MENTAL HEALTH
GRADING & DRAINAGE
PLAN NO. L-3
HOYLE, DORAN AND BERRY
ARCHITECTS BOSTON
MORRICE & GARY INC
LANDSCAPE ARCHITECTS CAMBRIDGE
DRAWN KS
TRACED
CHECKED BG
SCALE:
DATE: MAY 27 71

APPENDIX D

214 Lake Street
214 Lake Street
Shrewsbury, MA 01545

Inquiry Number: 5149866.3s
January 03, 2018

EDR FIRST REPORT

A Search of ASTM E1527-13 §8.2.1 Databases

Table of Contents

This report includes a search of reasonably available environmental records to assist the professional in compliance with Section 8.2.1 Standard Federal, State, and Tribal Environmental Record Source of ASTM Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (E1527-13). Additional environmental records sources may be available for your property.

Target Site: 214 LAKE STREET
SHREWSBURY, MA 01545

Site Location

	Degrees (Decimal)	Degrees (Min/Sec)	UTMs	
Longitude:	71.720650	71.7206500 - 71° 43' 14.34''	Easting:	275635.2
Latitude:	42.273493	42.2734930 - 42° 16' 24.57''	Northing:	4683513.5
Elevation:	606 ft. above sea level		Zone:	Zone 19

SECTION	PAGE
Search Summary	ES-1
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Sites Sorted by Database	ES-5
1 Mile Map	2
0.25 Mile Map	3
Mapped Sites Summary	4
Orphan Summary	OR-1
Records Searched/Data Currency Tracking	GR-1
USGS 7.5 Minute Topographic Map	TM-1

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Search Summary

TARGET SITE: **214 LAKE STREET**
SHREWSBURY, MA 01545

Category	Database	Update	Radius	Site	1/8	1/4	1/2	> 1/2	Orphan	TOTALS
Federal NPL site list										
	NPL	10/10/2017	1.000	0	0	0	0	0	0	0
	Proposed NPL	10/10/2017	1.000	0	0	0	0	0	0	0
	NPL LIENS	10/15/1991	TP	0	-	-	-	-	0	0
Federal Delisted NPL site list										
	Delisted NPL	10/10/2017	1.000	0	0	0	0	0	0	0
Federal CERCLIS list										
	FEDERAL FACILITY	11/07/2016	0.500	0	0	0	0	-	0	0
	SEMS	07/11/2017	0.500	0	0	1	0	-	0	1
Federal CERCLIS NFRAP site list										
	SEMS-ARCHIVE	07/11/2017	0.500	0	0	0	0	-	0	0
Federal RCRA CORRACTS facilities list										
	CORRACTS	09/13/2017	1.000	0	0	0	0	0	0	0
Federal RCRA non-CORRACTS TSD facilities list										
	RCRA-TSDF	09/13/2017	0.500	0	0	0	0	-	0	0
Federal RCRA generators list										
	RCRA-LQG	09/13/2017	0.250	0	0	0	-	-	0	0
	RCRA-SQG	09/13/2017	0.250	0	0	2	-	-	0	2
	RCRA-CESQG	09/13/2017	0.250	0	0	0	-	-	0	0
Federal institutional controls / engineering controls registries										
	LUCIS	05/22/2017	0.500	0	0	0	0	-	0	0
	US ENG CONTROLS	08/10/2017	0.500	0	0	0	0	-	0	0
	US INST CONTROL	08/10/2017	0.500	0	0	0	0	-	0	0
Federal ERNS list										
	ERNS	09/18/2017	TP	0	-	-	-	-	0	0
State- and tribal - equivalent CERCLIS										
	SHWS	09/01/2017	1.000	0	0	4	10	15	2	31
State and tribal landfill and/or solid waste disposal site lists										
	SWF/LF	01/10/2017	0.500	0	0	0	0	-	0	0

Search Summary

TARGET SITE: **214 LAKE STREET**
SHREWSBURY, MA 01545

Category	Database	Update	Radius	Site	1/8	1/4	1/2	> 1/2	Orphan	TOTALS
State and tribal leaking storage tank lists										
	LUST	09/01/2017	0.500	1	0	2	4	-	0	7
	LAST	09/01/2017	0.500	0	0	1	3	-	0	4
	INDIAN LUST	04/14/2017	0.500	0	0	0	0	-	0	0
State and tribal registered storage tank lists										
	FEMA UST	05/15/2017	0.250	0	0	0	-	-	0	0
	UST	10/24/2017	0.250	1	1	1	-	-	0	3
	AST	10/22/2009	0.250	0	0	0	-	-	0	0
	INDIAN UST	04/14/2017	0.250	0	0	0	-	-	0	0
State and tribal institutional control / engineering control registries										
	INST CONTROL	09/01/2017	0.500	0	0	0	0	-	0	0
State and tribal voluntary cleanup sites										
	INDIAN VCP	07/27/2015	0.500	0	0	0	0	-	0	0
State and tribal Brownfields sites										
	BROWNFIELDS	04/05/2017	0.500	0	0	0	0	-	0	0
	- Totals --			2	1	11	17	15	2	48

Sites Sorted by Distance

TARGET PROPERTY ADDRESS:

214 LAKE STREET
SHREWSBURY, MA 01545

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft, mi.) DIRECTION
1	IRVING GLAVIN REG CE	214 LAKE ST	LUST, UST		TP
2	NEW ENGLAND TELEPHON	3 INDUSTRIAL DR	UST	Lower	538, 0.102, NW
3	RESIDENTIAL PROPERTY	31 BEVERLY HILL DRIV	SHWS, LAST	Lower	690, 0.131, West
A4	INDUSTRIAL POLYMERS	508 BOSTON TURNPIKE	RCRA-SQG	Lower	950, 0.180, NE
A5	INDUSTRIAL POLYMERS	508 BOSTON TPKE	SHWS	Lower	950, 0.180, NE
A6	JOSEPH M ARMENTI	516 BOSTON TURNPIKE	UST	Lower	950, 0.180, NE
7	WFX GRAPHICS	420 BOSTON TPKE	LUST	Lower	1152, 0.218, NW
B8	JIFFY LUBE #3171	512 BOSTON TURNPIKE	SHWS	Lower	1164, 0.220, NE
C9	PHALO CORP	530 BOSTON TURNPIKE	SEMS	Lower	1263, 0.239, North
C10	PHALO CORP	530 BOSTON TPKE	SHWS, LUST	Lower	1263, 0.239, North
C11	HOME DEPOT 2672	530 TURNPIKE RD	RCRA-SQG	Lower	1263, 0.239, North
B12	MUNICIPAL LIGHT PEAK	518 BOSTON TURNPIKE	SHWS	Lower	1343, 0.254, NE
D13	MEINEKE CAR CARE	507 BOSTON TURNPIKE	SHWS	Lower	1397, 0.265, NNE
D14	VALVOLINE	507 BOSTON TURNPIKE	LAST	Lower	1397, 0.265, NNE
D15	JIFFY LUBE	509 BOSTON TPKE	SHWS	Lower	1417, 0.268, NNE
16	CARON RESIDENCE	426 GRAFTON ST	SHWS, LAST	Lower	1427, 0.270, SE
E17	GAS STATION	522 BOSTON TPKE	LUST	Lower	1438, 0.272, NE
E18	SUNOCO STATION	524 BOSTON TPKE RTE	SHWS	Lower	1488, 0.282, NE
19	HOME QUARTERS PARKIN	BOSTON WORCESTER TPK	SHWS	Lower	1729, 0.327, NE
20	504 GRAFTON ST PROPE	504 GRAFTON ST	SHWS	Lower	1838, 0.348, ESE
21	RESIDENT	17 JANET CIR	LUST	Lower	1925, 0.365, NNE
22	29 JANET CIRCLE	29 JANET CIRCLE	LAST	Lower	1948, 0.369, NNE
23	RESIDENCE	338 OAK ST	SHWS	Lower	2072, 0.392, West
24	RESIDENCE	15 DAWSON CIR	SHWS	Lower	2194, 0.416, North
25	RESIDENTIAL PROPERTY	41 JANET CIR	LUST	Lower	2264, 0.429, NNE
26	RESIDENCE	5 ELAINE ST	LUST	Lower	2314, 0.438, North
27	MODF RELEASE	271 GRAFTON ST	SHWS	Lower	2621, 0.496, NNE
28	SHEPERD RESIDENTIAL	59-61 JANET CIR	SHWS	Lower	2738, 0.519, NNE
29	393 OAK STREET REALT	393 OAK STREET	SHWS	Lower	3088, 0.585, WSW
30	SUBSTATION	74 ROLFE AVE	SHWS	Lower	3156, 0.598, West
31	RESIDENCE	5 SHADY LANE AVENUE	SHWS	Lower	3449, 0.653, North
32	FAIRLAWN PLAZA	380 MAPLE AVE	SHWS	Lower	3530, 0.669, WNW
33	MICHAEL RESIDENCE	56 LAKE ST	SHWS	Lower	3660, 0.693, NNE
34	RESIDENCE	14 ORCHARD RD	SHWS	Higher	4201, 0.796, North
35	SHELL STATION	271 BOSTON TPKE	SHWS	Lower	4323, 0.819, West
F36	RESIDENTIAL PROPERTY	18 FISKE STREET	SHWS	Higher	4472, 0.847, North
37	CRESCENT ST	54 SHADY LN	SHWS	Lower	4521, 0.856, North
38	TUDOR MOTEL FMR	23 ELM ST RM3	SHWS	Lower	4566, 0.865, WNW
F39	RESIDENCE	15 FISKE ST	SHWS	Higher	4600, 0.871, North

Sites Sorted by Distance

TARGET PROPERTY ADDRESS:

214 LAKE STREET
SHREWSBURY, MA 01545

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft, mi.) DIRECTION
40	LAKE QUINSIG	NORTH QUINSIGAMOND A	SHWS	Lower	4739, 0.898, SSW
41	TRANSFORMER SPILL	WORTHINGTON ST @ RTE	SHWS	Lower	5017, 0.950, West
42	APOLLO MOTOR EXPRESS	221 CHERRY ST	SHWS	Lower	5230, 0.991, ESE

Sites Sorted by Database

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 1 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
IRVING GLAVIN REG CE 214 LAKE ST SHREWSBURY, MA 01545	LUST Release Tracking Number / Current Status: 2-0011877 / RAO UST Tank Status: Tank Removed Facility Id: 17383	N/A

SURROUNDING SITES: SEARCH RESULTS

Federal CERCLIS list

SEMS: Superfund Enterprise Management System

Site	Address	Direction / Distance	Map ID	Page
PHALO CORP	530 BOSTON TURNPIKE	N (0.239 mi. / 1263 ft.)	C9	7

Federal RCRA generators list

RCRA-SQG: RCRA - Small Quantity Generators

Site	Address	Direction / Distance	Map ID	Page
INDUSTRIAL POLYMERS	508 BOSTON TURNPIKE	NE (0.180 mi. / 950 ft.)	A4	5
HOME DEPOT 2672	530 TURNPIKE RD	N (0.239 mi. / 1263 ft.)	C11	9

State- and tribal - equivalent CERCLIS

SHWS: Reportable Releases Database

Site	Address	Direction / Distance	Map ID	Page
RESIDENTIAL PROPERTY Release Tracking Number / Current Status: 2-0018109 / RAO	***31 BEVERLY HILL DRIV***	***W (0.131 mi. / 690 ft.)***	***3***	***5***
INDUSTRIAL POLYMERS Release Tracking Number / Current Status: 2-0016094 / RAO	508 BOSTON TPKE	NE (0.180 mi. / 950 ft.)	A5	5
JIFFY LUBE #3171 Release Tracking Number / Current Status: 2-0020083 / PSNC	512 BOSTON TURNPIKE	NE (0.220 mi. / 1164 ft.)	B8	7

Sites Sorted by Database

Site	Address	Direction / Distance	Map ID	Page
PHALO CORP	***530 BOSTON TPKE***	***N (0.239 mi. / 1263 ft.)***	***C10***	***8***
Release Tracking Number / Current Status: 2-0000122 / DEPNFA				
Release Tracking Number / Current Status: 2-0010098 / RAO				
MUNICIPAL LIGHT PEAK	518 BOSTON TURNPIKE	NE (0.254 mi. / 1343 ft.)	B12	9
Release Tracking Number / Current Status: 2-0020102 / PSNC				
MEINEKE CAR CARE	507 BOSTON TURNPIKE	NNE (0.265 mi. / 1397 ft.)	D13	9
Release Tracking Number / Current Status: 2-0014707 / RAO				
JIFFY LUBE	509 BOSTON TPKE	NNE (0.268 mi. / 1417 ft.)	D15	10
Release Tracking Number / Current Status: 2-0014388 / RAO				
CARON RESIDENCE	***426 GRAFTON ST***	***SE (0.270 mi. / 1427 ft.)***	***16***	***11***
Release Tracking Number / Current Status: 2-0015236 / RAO				
SUNOCO STATION	524 BOSTON TPKE RTE	NE (0.282 mi. / 1488 ft.)	E18	12
Release Tracking Number / Current Status: 2-0016262 / RAO				
HOME QUARTERS PARKIN	BOSTON WORCESTER TPK	NE (0.327 mi. / 1729 ft.)	19	12
Release Tracking Number / Current Status: 2-0010052 / RAO				
504 GRAFTON ST PROPE	504 GRAFTON ST	ESE (0.348 mi. / 1838 ft.)	20	13
Release Tracking Number / Current Status: 2-0000335 / RAO				
RESIDENCE	338 OAK ST	W (0.392 mi. / 2072 ft.)	23	14
Release Tracking Number / Current Status: 2-0011457 / RAO				
RESIDENCE	15 DAWSON CIR	N (0.416 mi. / 2194 ft.)	24	15
Release Tracking Number / Current Status: 2-0010970 / RAO				
MODF RELEASE	271 GRAFTON ST	NNE (0.496 mi. / 2621 ft.)	27	16
Release Tracking Number / Current Status: 2-0017831 / RAO				
SHEPERD RESIDENTIAL	59-61 JANET CIR	NNE (0.519 mi. / 2738 ft.)	28	17
Release Tracking Number / Current Status: 2-0016118 / RAO				
393 OAK STREET REALT	393 OAK STREET	WSW (0.585 mi. / 3088 ft.)	29	17
Release Tracking Number / Current Status: 2-0020025 / UNCLSS				
SUBSTATION	74 ROLFE AVE	W (0.598 mi. / 3156 ft.)	30	18
Release Tracking Number / Current Status: 2-0018875 / RAO				
RESIDENCE	5 SHADY LANE AVENUE	N (0.653 mi. / 3449 ft.)	31	18
Release Tracking Number / Current Status: 2-0019740 / PSC				
FAIRLAWN PLAZA	380 MAPLE AVE	WNW (0.669 mi. / 3530 ft.)	32	19
Release Tracking Number / Current Status: 2-0016080 / REMOPS				
Release Tracking Number / Current Status: 2-0017257 / RAONR				
MICHAEL RESIDENCE	56 LAKE ST	NNE (0.693 mi. / 3660 ft.)	33	20
Release Tracking Number / Current Status: 2-0016272 / RAO				
RESIDENCE	14 ORCHARD RD	N (0.796 mi. / 4201 ft.)	34	20
Release Tracking Number / Current Status: 2-0017579 / RAO				
SHELL STATION	271 BOSTON TPKE	W (0.819 mi. / 4323 ft.)	35	20
Release Tracking Number / Current Status: 2-0019014 / PSNC				
Release Tracking Number / Current Status: 2-0019058 / PSNC				
Release Tracking Number / Current Status: 2-0019541 / PSNC				
Release Tracking Number / Current Status: 2-0015038 / RAO				
RESIDENTIAL PROPERTY	18 FISKE STREET	N (0.847 mi. / 4472 ft.)	F36	21
Release Tracking Number / Current Status: 2-0018878 / RAO				
CRESCENT ST	54 SHADY LN	N (0.856 mi. / 4521 ft.)	37	22
Release Tracking Number / Current Status: 2-0010038 / RAO				

Sites Sorted by Database

Site	Address	Direction / Distance	Map ID	Page
TUDOR MOTEL FMR	23 ELM ST RM3	WNW (0.865 mi. / 4566 ft.)	38	22
Release Tracking Number / Current Status: 2-0012975 / RAO				
RESIDENCE	15 FISKE ST	N (0.871 mi. / 4600 ft.)	F39	22
Release Tracking Number / Current Status: 2-0012690 / RAO				
LAKE QUINSIG	NORTH QUINSIGAMOND A	SSW (0.898 mi. / 4739 ft.)	40	23
Release Tracking Number / Current Status: 2-0010389 / TIER1D				
TRANSFORMER SPILL	WORTHINGTON ST @ RTE	W (0.950 mi. / 5017 ft.)	41	23
Release Tracking Number / Current Status: 2-0019270 / PSNC				
APOLLO MOTOR EXPRESS	221 CHERRY ST	ESE (0.991 mi. / 5230 ft.)	42	24
Release Tracking Number / Current Status: 2-0014372 / RAO				

State and tribal leaking storage tank lists

LUST: Leaking Underground Storage Tank Listing

Site	Address	Direction / Distance	Map ID	Page
WFX GRAPHICS	420 BOSTON TPKE	NW (0.218 mi. / 1152 ft.)	7	6
Release Tracking Number / Current Status: 2-0012976 / RAO				
PHALO CORP	***530 BOSTON TPKE***	***N (0.239 mi. / 1263 ft.)***	***C10***	***8***
Release Tracking Number / Current Status: 2-0000122 / DEPNFA				
GAS STATION	522 BOSTON TPKE	NE (0.272 mi. / 1438 ft.)	E17	11
Release Tracking Number / Current Status: 2-0000876 / RAO				
RESIDENT	17 JANET CIR	NNE (0.365 mi. / 1925 ft.)	21	13
Release Tracking Number / Current Status: 2-0010295 / RAO				
RESIDENTIAL PROPERTY	41 JANET CIR	NNE (0.429 mi. / 2264 ft.)	25	15
Release Tracking Number / Current Status: 2-0017566 / RAO				
RESIDENCE	5 ELAINE ST	N (0.438 mi. / 2314 ft.)	26	16
Release Tracking Number / Current Status: 2-0010802 / RAO				

LAST: Leaking Aboveground Storage Tank Sites

Site	Address	Direction / Distance	Map ID	Page
RESIDENTIAL PROPERTY	***31 BEVERLY HILL DRIV***	***W (0.131 mi. / 690 ft.)***	***3***	***5***
Release Tracking Number / Current Status: 2-0018109 / RAO				
VALVOLINE	507 BOSTON TURNPIKE	NNE (0.265 mi. / 1397 ft.)	D14	10
Release Tracking Number / Current Status: 2-0020230 / PSNC				
CARON RESIDENCE	***426 GRAFTON ST***	***SE (0.270 mi. / 1427 ft.)***	***16***	***11***
Release Tracking Number / Current Status: 2-0015236 / RAO				
29 JANET CIRCLE	29 JANET CIRCLE	NNE (0.369 mi. / 1948 ft.)	22	14
Release Tracking Number / Current Status: 2-0018159 / RAO				
Release Tracking Number / Current Status: 2-0018370 / RAONR				

Sites Sorted by Database

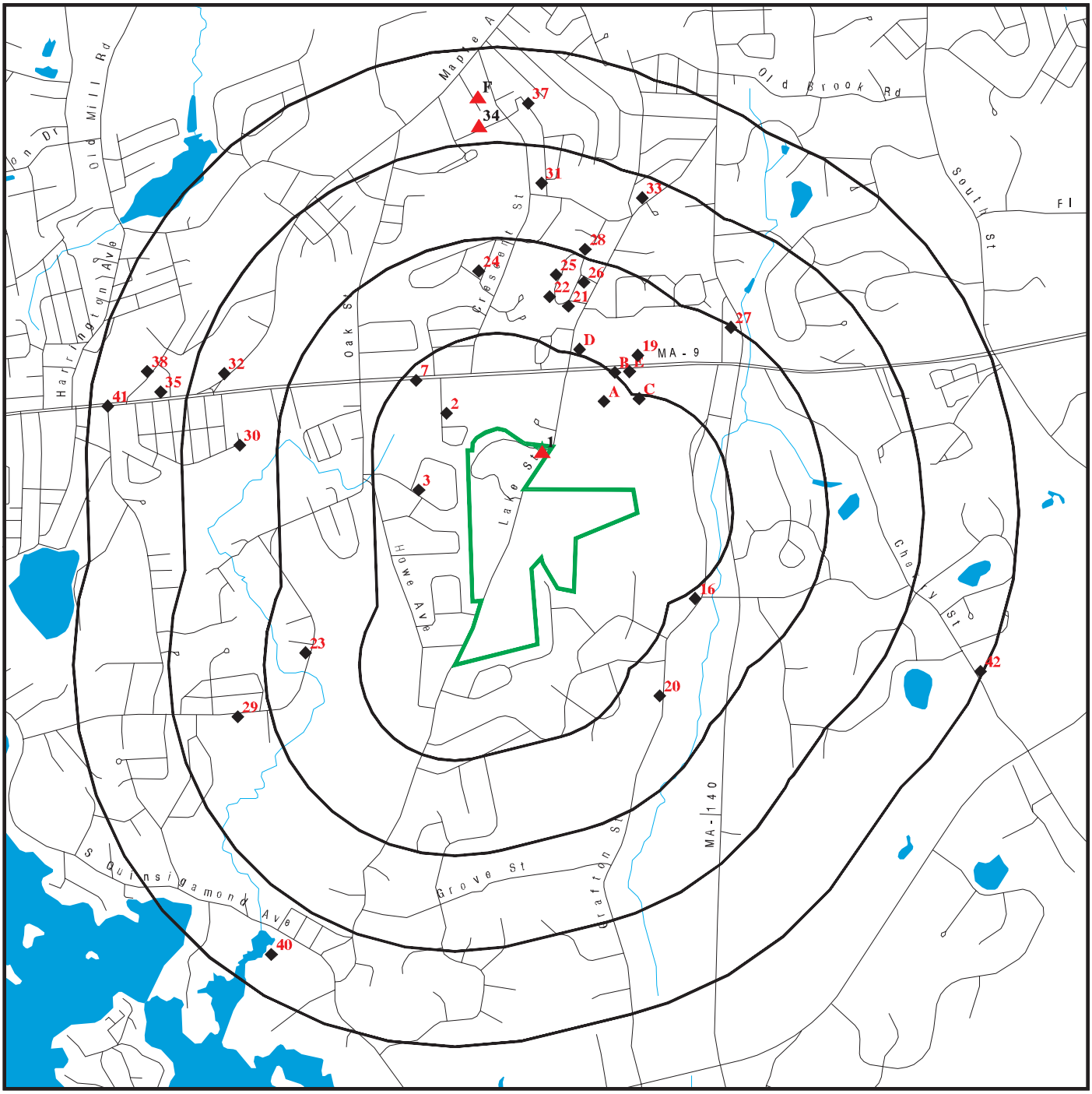
State and tribal registered storage tank lists

UST: Summary Listing of all the Tanks Registered in the State of Massachusetts

Site	Address	Direction / Distance	Map ID	Page
NEW ENGLAND TELEPHON Tank Status: Tank Removed Facility Id: 17429	3 INDUSTRIAL DR	NW (0.102 mi. / 538 ft.)	2	4
JOSEPH M ARMENTI Tank Status: Tank Removed Facility Id: 17416	516 BOSTON TURNPIKE	NE (0.180 mi. / 950 ft.)	A6	6

1.00 Mile Map

214 LAKE STREET SHREWSBURY, MA 01545



Black Rings Represent Qtr. Mile Radius

- ★ **Target Property (Latitude: 42.273493 Longitude: 71.72065)**
- ▲ **High or Equal Elevation Sites**
- ◆ **Low Elevation Sites**
- **National Priority List Sites**

EDR First Report

EDR Reference Code (EDR internal use only): 5149866.3s
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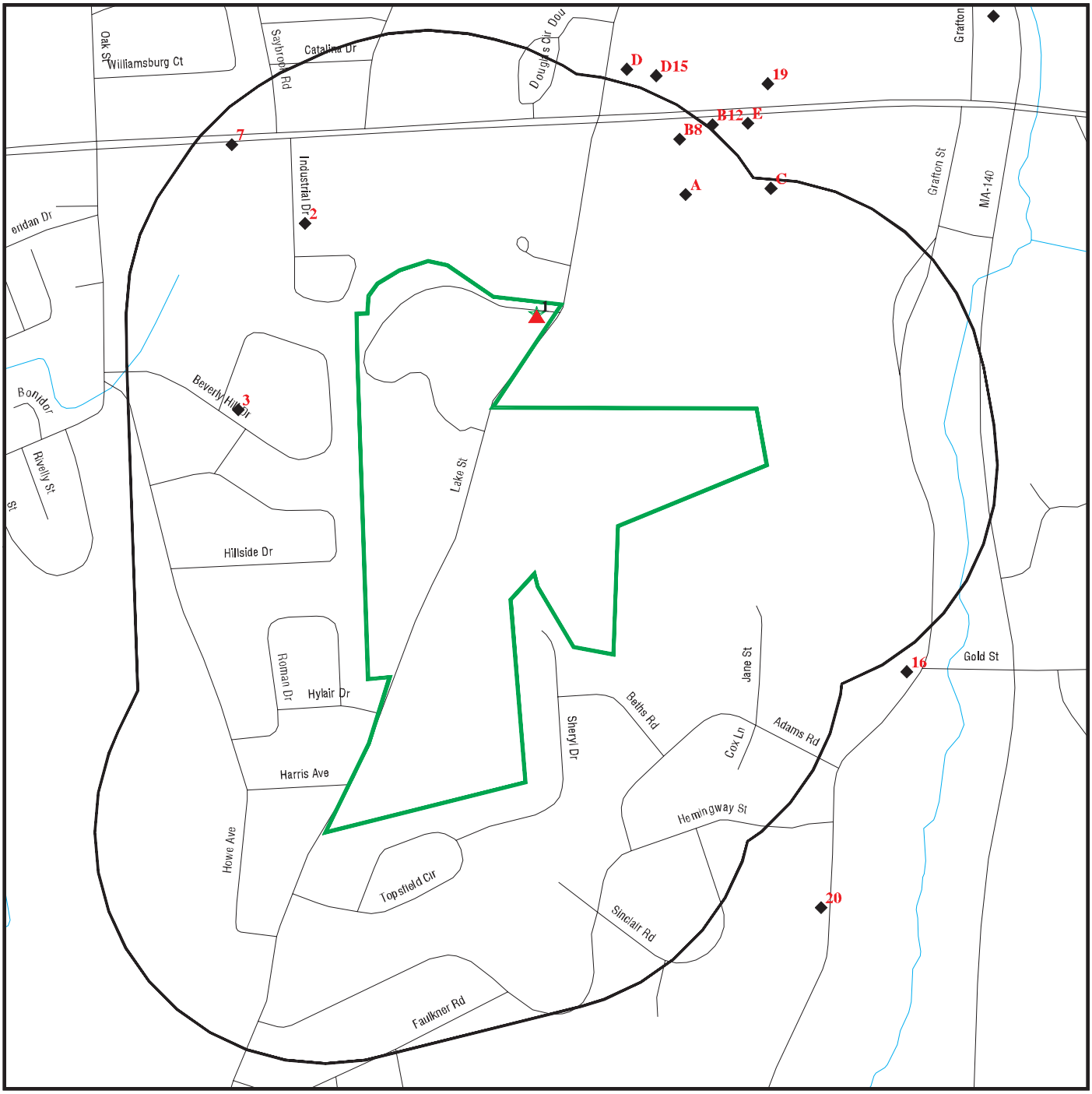
18-01-03.15:42:40.Wed

0.250 Mile Map

214 LAKE STREET SHREWSBURY, MA 01545



Black Rings Represent Qtr. Mile Radius

- ★ **Target Property (Latitude: 42.273493 Longitude: 71.72065)**
- ▲ **High or Equal Elevation Sites**
- ◆ **Low Elevation Sites**
- **National Priority List Sites**

EDR First Report

EDR Reference Code (EDR internal use only): 5149866.3s
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18-01-03.15:42:49.Wed

Mapped Sites Summary

Target Property: 214 LAKE STREET
SHREWSBURY, MA 01545

LUST, UST

EDR ID: U002009973 **DIST/DIR:** 0.000 **ELEVATION:** 606 **MAP ID:** 1

NAME: IRVING GLAVIN REG CE
ADDRESS: 214 LAKE ST
SHREWSBURY, MA 01545

Click here for full text details

LUST
Release Tracking Number / Current Status: 2-0011877 / RAO

Click here to access the MA DEP site for this facility

UST
Facility Id: 17383
Tank Status: Tank Removed

UST

EDR ID: U002010080 **DIST/DIR:** 0.102 NW **ELEVATION:** 463 **MAP ID:** 2

NAME: NEW ENGLAND TELEPHON
ADDRESS: 3 INDUSTRIAL DR
SHREWSBURY, MA 01545

Click here for full text details

UST
Facility Id: 17429
Tank Status: Tank Removed

Mapped Sites Summary

Target Property: 214 LAKE STREET
SHREWSBURY, MA 01545

SHWS, LAST

EDR ID: S110822147 **DIST/DIR:** 0.131 West **ELEVATION:** 494 **MAP ID:** 3

NAME: RESIDENTIAL PROPERTY
ADDRESS: 31 BEVERLY HILL DRIV
SHREWSBURY, MA 01545

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0018109 / RAO

Click here to access the MA DEP site for this facility

LAST
Release Tracking Number / Current Status: 2-0018109 / RAO

RCRA-SQG

EDR ID: 1000427995 **DIST/DIR:** 0.180 NE **ELEVATION:** 563 **MAP ID:** A4

NAME: INDUSTRIAL POLYMERS
ADDRESS: 508 BOSTON TURNPIKE
SHREWSBURY, TOWN OF, MA 01545
WORCESTER

Click here for full text details

RCRA-SQG
EPA Id: MAD001129261

SHWS

EDR ID: S107846889 **DIST/DIR:** 0.180 NE **ELEVATION:** 563 **MAP ID:** A5

NAME: INDUSTRIAL POLYMERS
ADDRESS: 508 BOSTON TPKE
SHREWSBURY, MA 01545

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 214 LAKE STREET
SHREWSBURY, MA 01545

SHWS

EDR ID: S107846889 **DIST/DIR:** 0.180 NE **ELEVATION:** 563 **MAP ID:** A5

NAME: INDUSTRIAL POLYMERS
ADDRESS: 508 BOSTON TPKE
SHREWSBURY, MA 01545

SHWS
Release Tracking Number / Current Status: 2-0016094 / RAO

Click here to access the MA DEP site for this facility

UST

EDR ID: U000225593 **DIST/DIR:** 0.180 NE **ELEVATION:** 563 **MAP ID:** A6

NAME: JOSEPH M ARMENTI
ADDRESS: 516 BOSTON TURNPIKE
SHREWSBURY, MA 01545

Click here for full text details

UST
Facility Id: 17416
Tank Status: Tank Removed

LUST

EDR ID: S104482145 **DIST/DIR:** 0.218 NW **ELEVATION:** 444 **MAP ID:** 7

NAME: WFX GRAPHICS
ADDRESS: 420 BOSTON TPKE
SHREWSBURY, MA 01545

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 214 LAKE STREET
SHREWSBURY, MA 01545

LUST

EDR ID: S104482145 **DIST/DIR:** 0.218 NW **ELEVATION:** 444 **MAP ID:** 7

NAME: WFX GRAPHICS
ADDRESS: 420 BOSTON TPKE
SHREWSBURY, MA 01545

LUST
Release Tracking Number / Current Status: 2-0012976 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S112293065 **DIST/DIR:** 0.220 NE **ELEVATION:** 558 **MAP ID:** B8

NAME: JIFFY LUBE #3171
ADDRESS: 512 BOSTON TURNPIKE
SHREWSBURY, MA 01545
WORCESTER

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0020083 / PSNC

Click here to access the MA DEP site for this facility

SEMS

EDR ID: 1015731198 **DIST/DIR:** 0.239 North **ELEVATION:** 554 **MAP ID:** C9

NAME: PHALO CORP
ADDRESS: 530 BOSTON TURNPIKE
SHREWSBURY, MA
WORCESTER

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 214 LAKE STREET
SHREWSBURY, MA 01545

SEMS

EDR ID: 1015731198 **DIST/DIR:** 0.239 North **ELEVATION:** 554 **MAP ID:** C9

NAME: PHALO CORP
ADDRESS: 530 BOSTON TURNPIKE
SHREWSBURY, MA
WORCESTER

SEMS
Site ID: 0100426
EPA Id: MAD001130095

SHWS, LUST

EDR ID: 1006384896 **DIST/DIR:** 0.239 North **ELEVATION:** 554 **MAP ID:** C10

NAME: PHALO CORP
ADDRESS: 530 BOSTON TPKE
SHREWSBURY, MA 01545

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0000122 / DEPNFA
Release Tracking Number / Current Status: 2-0010098 / RAO

Click here to access the MA DEP site for this facility

LUST
Release Tracking Number / Current Status: 2-0000122 / DEPNFA

Click here to access the MA DEP site for this facility

Mapped Sites Summary

Target Property: 214 LAKE STREET
SHREWSBURY, MA 01545

RCRA-SQG

EDR ID: 1007448789 **DIST/DIR:** 0.239 North **ELEVATION:** 554 **MAP ID:** C11

NAME: HOME DEPOT 2672
ADDRESS: 530 TURNPIKE RD
SHREWSBURY, MA 01545
WORCESTER

Click here for full text details

RCRA-SQG
EPA Id: MAR000512194

SHWS

EDR ID: U002010013 **DIST/DIR:** 0.254 NE **ELEVATION:** 557 **MAP ID:** B12

NAME: MUNICIPAL LIGHT PEAK
ADDRESS: 518 BOSTON TURNPIKE
SHREWSBURY, MA 01545

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0020102 / PSNC

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S105810535 **DIST/DIR:** 0.265 NNE **ELEVATION:** 562 **MAP ID:** D13

NAME: MEINEKE CAR CARE
ADDRESS: 507 BOSTON TURNPIKE
SHREWSBURY, MA 01545
WORCESTER

Click here for full text details

SHWS

- Continued on next page -

Mapped Sites Summary

Target Property: 214 LAKE STREET
SHREWSBURY, MA 01545

SHWS

EDR ID: S105810535 **DIST/DIR:** 0.265 NNE **ELEVATION:** 562 **MAP ID:** D13

NAME: MEINEKE CAR CARE
ADDRESS: 507 BOSTON TURNPIKE
SHREWSBURY, MA 01545
WORCESTER

Release Tracking Number / Current Status: 2-0014707 / RAO

Click here to access the MA DEP site for this facility

LAST

EDR ID: S121146100 **DIST/DIR:** 0.265 NNE **ELEVATION:** 562 **MAP ID:** D14

NAME: VALVOLINE
ADDRESS: 507 BOSTON TURNPIKE
SHREWSBURY, MA

Click here for full text details

LAST
Release Tracking Number / Current Status: 2-0020230 / PSNC

SHWS

EDR ID: S105596277 **DIST/DIR:** 0.268 NNE **ELEVATION:** 557 **MAP ID:** D15

NAME: JIFFY LUBE
ADDRESS: 509 BOSTON TPKE
SHREWSBURY, MA

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0014388 / RAO

- Continued on next page -

Mapped Sites Summary

Target Property: 214 LAKE STREET
SHREWSBURY, MA 01545

SHWS

EDR ID: S105596277 **DIST/DIR:** 0.268 NNE **ELEVATION:** 557 **MAP ID:** D15

NAME: JIFFY LUBE
ADDRESS: 509 BOSTON TPKE
SHREWSBURY, MA

Click here to access the MA DEP site for this facility

SHWS, LAST

EDR ID: S106510323 **DIST/DIR:** 0.270 SE **ELEVATION:** 449 **MAP ID:** 16

NAME: CARON RESIDENCE
ADDRESS: 426 GRAFTON ST
SHREWSBURY, MA

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0015236 / RAO

Click here to access the MA DEP site for this facility

LAST
Release Tracking Number / Current Status: 2-0015236 / RAO

LUST

EDR ID: S100537434 **DIST/DIR:** 0.272 NE **ELEVATION:** 556 **MAP ID:** E17

NAME: GAS STATION
ADDRESS: 522 BOSTON TPKE
SHREWSBURY, MA 01545

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 214 LAKE STREET
SHREWSBURY, MA 01545

LUST

EDR ID: S100537434 **DIST/DIR:** 0.272 NE **ELEVATION:** 556 **MAP ID:** E17

NAME: GAS STATION
ADDRESS: 522 BOSTON TPKE
SHREWSBURY, MA 01545

LUST
Release Tracking Number / Current Status: 2-0000876 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S108034623 **DIST/DIR:** 0.282 NE **ELEVATION:** 555 **MAP ID:** E18

NAME: SUNOCO STATION
ADDRESS: 524 BOSTON TPKE RTE
SHREWSBURY, MA

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0016262 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S102083963 **DIST/DIR:** 0.327 NE **ELEVATION:** 555 **MAP ID:** 19

NAME: HOME QUARTERS PARKIN
ADDRESS: BOSTON WORCESTER TPK
SHREWSBURY, MA 01545

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 214 LAKE STREET
SHREWSBURY, MA 01545

SHWS

EDR ID: S102083963 **DIST/DIR:** 0.327 NE **ELEVATION:** 555 **MAP ID:** 19

NAME: HOME QUARTERS PARKIN
ADDRESS: BOSTON WORCESTER TPK
SHREWSBURY, MA 01545

SHWS
Release Tracking Number / Current Status: 2-0010052 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S101696205 **DIST/DIR:** 0.348 ESE **ELEVATION:** 501 **MAP ID:** 20

NAME: 504 GRAFTON ST PROPE
ADDRESS: 504 GRAFTON ST
SHREWSBURY, MA 01545

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0000335 / RAO

Click here to access the MA DEP site for this facility

LUST

EDR ID: S102084131 **DIST/DIR:** 0.365 NNE **ELEVATION:** 562 **MAP ID:** 21

NAME: RESIDENT
ADDRESS: 17 JANET CIR
SHREWSBURY, MA

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 214 LAKE STREET
SHREWSBURY, MA 01545

LUST

EDR ID: S102084131 **DIST/DIR:** 0.365 NNE **ELEVATION:** 562 **MAP ID:** 21

NAME: RESIDENT
ADDRESS: 17 JANET CIR
SHREWSBURY, MA

LUST
Release Tracking Number / Current Status: 2-0010295 / RAO

Click here to access the MA DEP site for this facility

LAST

EDR ID: S111022472 **DIST/DIR:** 0.369 NNE **ELEVATION:** 560 **MAP ID:** 22

NAME: 29 JANET CIRCLE
ADDRESS: 29 JANET CIRCLE
SHREWSBURY, MA 01545

Click here for full text details

LAST
Release Tracking Number / Current Status: 2-0018159 / RAO
Release Tracking Number / Current Status: 2-0018370 / RAONR

SHWS

EDR ID: S102507351 **DIST/DIR:** 0.392 West **ELEVATION:** 367 **MAP ID:** 23

NAME: RESIDENCE
ADDRESS: 338 OAK ST
SHREWSBURY, MA 01545

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 214 LAKE STREET
SHREWSBURY, MA 01545

SHWS

EDR ID: S102507351 **DIST/DIR:** 0.392 West **ELEVATION:** 367 **MAP ID:** 23

NAME: RESIDENCE
ADDRESS: 338 OAK ST
SHREWSBURY, MA 01545

SHWS
Release Tracking Number / Current Status: 2-0011457 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S102084595 **DIST/DIR:** 0.416 North **ELEVATION:** 538 **MAP ID:** 24

NAME: RESIDENCE
ADDRESS: 15 DAWSON CIR
SHREWSBURY, MA 01545

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0010970 / RAO

Click here to access the MA DEP site for this facility

LUST

EDR ID: S109613037 **DIST/DIR:** 0.429 NNE **ELEVATION:** 574 **MAP ID:** 25

NAME: RESIDENTIAL PROPERTY
ADDRESS: 41 JANET CIR
SHREWSBURY, MA 01545

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 214 LAKE STREET
SHREWSBURY, MA 01545

LUST

EDR ID: S109613037 **DIST/DIR:** 0.429 NNE **ELEVATION:** 574 **MAP ID:** 25

NAME: RESIDENTIAL PROPERTY
ADDRESS: 41 JANET CIR
SHREWSBURY, MA 01545

LUST
Release Tracking Number / Current Status: 2-0017566 / RAO

Click here to access the MA DEP site for this facility

LUST

EDR ID: S102084464 **DIST/DIR:** 0.438 North **ELEVATION:** 569 **MAP ID:** 26

NAME: RESIDENCE
ADDRESS: 5 ELAINE ST
SHREWSBURY, MA

Click here for full text details

LUST
Release Tracking Number / Current Status: 2-0010802 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S110303510 **DIST/DIR:** 0.496 NNE **ELEVATION:** 522 **MAP ID:** 27

NAME: MODF RELEASE
ADDRESS: 271 GRAFTON ST
SHREWSBURY, MA 01545

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 214 LAKE STREET
SHREWSBURY, MA 01545

SHWS

EDR ID: S110303510 **DIST/DIR:** 0.496 NNE **ELEVATION:** 522 **MAP ID:** 27

NAME: MODF RELEASE
ADDRESS: 271 GRAFTON ST
SHREWSBURY, MA 01545

SHWS
Release Tracking Number / Current Status: 2-0017831 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S108476843 **DIST/DIR:** 0.519 NNE **ELEVATION:** 584 **MAP ID:** 28

NAME: SHEPERD RESIDENTIAL
ADDRESS: 59-61 JANET CIR
SHREWSBURY, MA 01545

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0016118 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S120630072 **DIST/DIR:** 0.585 WSW **ELEVATION:** 369 **MAP ID:** 29

NAME: 393 OAK STREET REALT
ADDRESS: 393 OAK STREET
SHREWSBURY, MA 01545

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 214 LAKE STREET
SHREWSBURY, MA 01545

SHWS

EDR ID: S120630072 **DIST/DIR:** 0.585 WSW **ELEVATION:** 369 **MAP ID:** 29

NAME: 393 OAK STREET REALT
ADDRESS: 393 OAK STREET
SHREWSBURY, MA 01545

SHWS
Release Tracking Number / Current Status: 2-0020025 / UNCLSS

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S113805007 **DIST/DIR:** 0.598 West **ELEVATION:** 406 **MAP ID:** 30

NAME: SUBSTATION
ADDRESS: 74 ROLFE AVE
SHREWSBURY, MA

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0018875 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S118421825 **DIST/DIR:** 0.653 North **ELEVATION:** 583 **MAP ID:** 31

NAME: RESIDENCE
ADDRESS: 5 SHADY LANE AVENUE
SHREWSBURY, MA

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 214 LAKE STREET
SHREWSBURY, MA 01545

SHWS

EDR ID: S118421825 **DIST/DIR:** 0.653 North **ELEVATION:** 583 **MAP ID:** 31

NAME: RESIDENCE
ADDRESS: 5 SHADY LANE AVENUE
SHREWSBURY, MA

SHWS
Release Tracking Number / Current Status: 2-0019740 / PSC

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S107678059 **DIST/DIR:** 0.669 WNW **ELEVATION:** 411 **MAP ID:** 32

NAME: FAIRLAWN PLAZA
ADDRESS: 380 MAPLE AVE
SHREWSBURY, MA 01545

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0016080 / REMOPS
Release Tracking Number / Current Status: 2-0017257 / RAONR

Click here to access the MA DEP site for this facility

Mapped Sites Summary

Target Property: 214 LAKE STREET
SHREWSBURY, MA 01545

SHWS

EDR ID: S108034414 **DIST/DIR:** 0.693 NNE **ELEVATION:** 601 **MAP ID:** 33

NAME: MICHAEL RESIDENCE
ADDRESS: 56 LAKE ST
SHREWSBURY, MA

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0016272 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S109682899 **DIST/DIR:** 0.796 North **ELEVATION:** 608 **MAP ID:** 34

NAME: RESIDENCE
ADDRESS: 14 ORCHARD RD
SHREWSBURY, MA 01545

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0017579 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S106132226 **DIST/DIR:** 0.819 West **ELEVATION:** 421 **MAP ID:** 35

NAME: SHELL STATION
ADDRESS: 271 BOSTON TPKE
SHREWSBURY, MA 01545

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 214 LAKE STREET
SHREWSBURY, MA 01545

SHWS

EDR ID: S106132226 **DIST/DIR:** 0.819 West **ELEVATION:** 421 **MAP ID:** 35

NAME: SHELL STATION
ADDRESS: 271 BOSTON TPKE
SHREWSBURY, MA 01545

SHWS
Release Tracking Number / Current Status: 2-0019014 / PSNC
Release Tracking Number / Current Status: 2-0019058 / PSNC
Release Tracking Number / Current Status: 2-0019541 / PSNC
Release Tracking Number / Current Status: 2-0015038 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S113805010 **DIST/DIR:** 0.847 North **ELEVATION:** 618 **MAP ID:** F36

NAME: RESIDENTIAL PROPERTY
ADDRESS: 18 FISKE STREET
SHREWSBURY, MA 01545

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0018878 / RAO

Click here to access the MA DEP site for this facility

Mapped Sites Summary

Target Property: 214 LAKE STREET
SHREWSBURY, MA 01545

SHWS

EDR ID: S101047925 **DIST/DIR:** 0.856 North **ELEVATION:** 600 **MAP ID:** 37

NAME: CRESCENT ST
ADDRESS: 54 SHADY LN
SHREWSBURY, MA 01545

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0010038 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S106863199 **DIST/DIR:** 0.865 WNW **ELEVATION:** 442 **MAP ID:** 38

NAME: TUDOR MOTEL FMR
ADDRESS: 23 ELM ST RM3
SHREWSBURY, MA 01545

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0012975 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S103811342 **DIST/DIR:** 0.871 North **ELEVATION:** 618 **MAP ID:** F39

NAME: RESIDENCE
ADDRESS: 15 FISKE ST
SHREWSBURY, MA

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 214 LAKE STREET
SHREWSBURY, MA 01545

SHWS

EDR ID: S103811342 **DIST/DIR:** 0.871 North **ELEVATION:** 618 **MAP ID:** F39

NAME: RESIDENCE
ADDRESS: 15 FISKE ST
SHREWSBURY, MA

SHWS
Release Tracking Number / Current Status: 2-0012690 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S101024617 **DIST/DIR:** 0.898 SSW **ELEVATION:** 360 **MAP ID:** 40

NAME: LAKE QUINSIG
ADDRESS: NORTH QUINSIGAMOND A
SHREWSBURY, MA

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0010389 / TIER1D

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S116756042 **DIST/DIR:** 0.950 West **ELEVATION:** 419 **MAP ID:** 41

NAME: TRANSFORMER SPILL
ADDRESS: WORTHINGTON ST @ RTE
SHREWSBURY, MA

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 214 LAKE STREET
SHREWSBURY, MA 01545

SHWS

EDR ID: S116756042 **DIST/DIR:** 0.950 West **ELEVATION:** 419 **MAP ID:** 41

NAME: TRANSFORMER SPILL
ADDRESS: WORTHINGTON ST @ RTE
SHREWSBURY, MA

SHWS
Release Tracking Number / Current Status: 2-0019270 / PSNC

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S105596269 **DIST/DIR:** 0.991 ESE **ELEVATION:** 564 **MAP ID:** 42

NAME: APOLLO MOTOR EXPRESS
ADDRESS: 221 CHERRY ST
SHREWSBURY, MA

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0014372 / RAO

Click here to access the MA DEP site for this facility

Count: 2 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
SHREWSBURY	S109146421	IN STREET NEAR 275 BOSTON TURNPIKE	BOSTON TPKE		SHWS
SHREWSBURY	S106344179	SHREWSBURY SUBSTATION	WORTHINGTON AVE	01545	SHWS

RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Gov Date	Arvl. Date	Active Date	Last EDR Contact
MA	AST	Aboveground Storage Tank Database	10/22/2009	10/28/2009	11/06/2009	10/16/2017
MA	BROWNFIELDS	Completed Brownfields Covenants Listing	04/05/2017	08/03/2017	10/10/2017	11/03/2017
MA	BROWNFIELDS 2	Potential Brownfields Listing	05/22/2017	08/03/2017	09/22/2017	11/03/2017
MA	INST CONTROL	Sites With Activity and Use Limitation	09/01/2017	10/11/2017	11/20/2017	10/11/2017
MA	LAST	Leaking Aboveground Storage Tank Sites	09/01/2017	10/11/2017	11/20/2017	10/11/2017
MA	LF PROFILES	Landfill Profiles Listing	07/01/2015	10/27/2015	12/14/2015	10/06/2017
MA	LUST	Leaking Underground Storage Tank Listing	09/01/2017	10/11/2017	11/20/2017	10/11/2017
MA	SHWS	Site Transition List	09/01/2017	10/11/2017	11/20/2017	10/11/2017
MA	SWF/LF	Solid Waste Facility Database/Transfer Stations	01/10/2017	04/05/2017	04/18/2017	10/06/2017
MA	UST	Summary Listing of all the Tanks Registered in the State of	10/24/2017	11/17/2017	12/29/2017	10/16/2017
US	BRS	Biennial Reporting System	12/31/2015	02/22/2017	09/28/2017	11/20/2017
US	CORRACTS	Corrective Action Report	09/13/2017	09/26/2017	10/06/2017	12/26/2017
US	Delisted NPL	National Priority List Deletions	10/10/2017	11/03/2017	12/15/2017	12/22/2017
US	ERNS	Emergency Response Notification System	09/18/2017	09/21/2017	10/13/2017	12/28/2017
US	FEDERAL FACILITY	Federal Facility Site Information listing	11/07/2016	01/05/2017	04/07/2017	10/06/2017
US	FEDLAND	Federal and Indian Lands	12/31/2005	02/06/2006	01/11/2007	10/11/2017
US	FEMA UST	Underground Storage Tank Listing	05/15/2017	05/30/2017	10/13/2017	10/13/2017
US	INDIAN LUST R1	Leaking Underground Storage Tanks on Indian Land	04/14/2017	07/27/2017	10/06/2017	10/27/2017
US	INDIAN LUST R10	Leaking Underground Storage Tanks on Indian Land	04/25/2017	11/07/2017	12/08/2017	11/07/2017
US	INDIAN LUST R4	Leaking Underground Storage Tanks on Indian Land	10/14/2016	01/27/2017	05/05/2017	10/27/2017
US	INDIAN LUST R5	Leaking Underground Storage Tanks on Indian Land	04/26/2017	07/27/2017	10/13/2017	10/27/2017
US	INDIAN LUST R6	Leaking Underground Storage Tanks on Indian Land	04/24/2017	07/27/2017	10/06/2017	10/27/2017
US	INDIAN LUST R7	Leaking Underground Storage Tanks on Indian Land	04/14/2017	07/27/2017	10/06/2017	10/27/2017
US	INDIAN LUST R8	Leaking Underground Storage Tanks on Indian Land	05/01/2017	07/27/2017	10/13/2017	10/27/2017
US	INDIAN LUST R9	Leaking Underground Storage Tanks on Indian Land	04/13/2017	07/27/2017	10/13/2017	10/27/2017
US	INDIAN UST R1	Underground Storage Tanks on Indian Land	04/14/2017	07/27/2017	10/06/2017	10/27/2017
US	INDIAN UST R10	Underground Storage Tanks on Indian Land	04/25/2017	07/27/2017	10/13/2017	10/27/2017
US	INDIAN UST R4	Underground Storage Tanks on Indian Land	10/14/2016	01/27/2017	05/05/2017	10/27/2017
US	INDIAN UST R5	Underground Storage Tanks on Indian Land	04/26/2017	07/27/2017	10/06/2017	10/27/2017
US	INDIAN UST R6	Underground Storage Tanks on Indian Land	04/24/2017	07/27/2017	12/08/2017	10/27/2017
US	INDIAN UST R7	Underground Storage Tanks on Indian Land	05/02/2017	07/27/2017	10/06/2017	10/27/2017
US	INDIAN UST R8	Underground Storage Tanks on Indian Land	05/01/2017	07/27/2017	10/13/2017	10/27/2017
US	INDIAN UST R9	Underground Storage Tanks on Indian Land	04/13/2017	07/27/2017	10/13/2017	10/27/2017
US	INDIAN VCP R1	Voluntary Cleanup Priority Listing	07/27/2015	09/29/2015	02/18/2016	12/20/2017
US	INDIAN VCP R7	Voluntary Cleanup Priority Lisitng	03/20/2008	04/22/2008	05/19/2008	04/20/2009
US	LUCIS	Land Use Control Information System	05/22/2017	06/13/2017	09/15/2017	11/08/2017
US	NPL	National Priority List	10/10/2017	11/03/2017	12/15/2017	12/22/2017
US	NPL LIENS	Federal Superfund Liens	10/15/1991	02/02/1994	03/30/1994	08/15/2011
US	PRP	Potentially Responsible Parties	10/25/2013	10/17/2014	10/20/2014	12/22/2017
US	Proposed NPL	Proposed National Priority List Sites	10/10/2017	11/03/2017	12/15/2017	12/22/2017
US	RCRA-CESQG	RCRA - Conditionally Exempt Small Quantity Generators	09/13/2017	09/26/2017	10/06/2017	12/26/2017
US	RCRA-LQG	RCRA - Large Quantity Generators	09/13/2017	09/26/2017	10/06/2017	12/26/2017
US	RCRA-SQG	RCRA - Small Quantity Generators	09/13/2017	09/26/2017	10/06/2017	12/26/2017
US	RCRA-TSDF	RCRA - Treatment, Storage and Disposal	09/13/2017	09/26/2017	10/06/2017	12/26/2017
US	SEMS	Superfund Enterprise Management System	07/11/2017	07/21/2017	10/06/2017	12/22/2017
US	SEMS-ARCHIVE	Superfund Enterprise Management System Archive	07/11/2017	07/28/2017	10/06/2017	12/22/2017
US	US AIRS (AFS)	Aerometric Information Retrieval System Facility Subsystem (	10/12/2016	10/26/2016	02/03/2017	09/26/2017

RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Gov Date	Arvl. Date	Active Date	Last EDR Contact
US	US AIRS MINOR	Air Facility System Data	10/12/2016	10/26/2016	02/03/2017	09/26/2017
US	US ENG CONTROLS	Engineering Controls Sites List	08/10/2017	08/30/2017	10/13/2017	11/27/2017
US	US INST CONTROL	Sites with Institutional Controls	08/10/2017	08/30/2017	10/13/2017	11/27/2017

STREET AND ADDRESS INFORMATION

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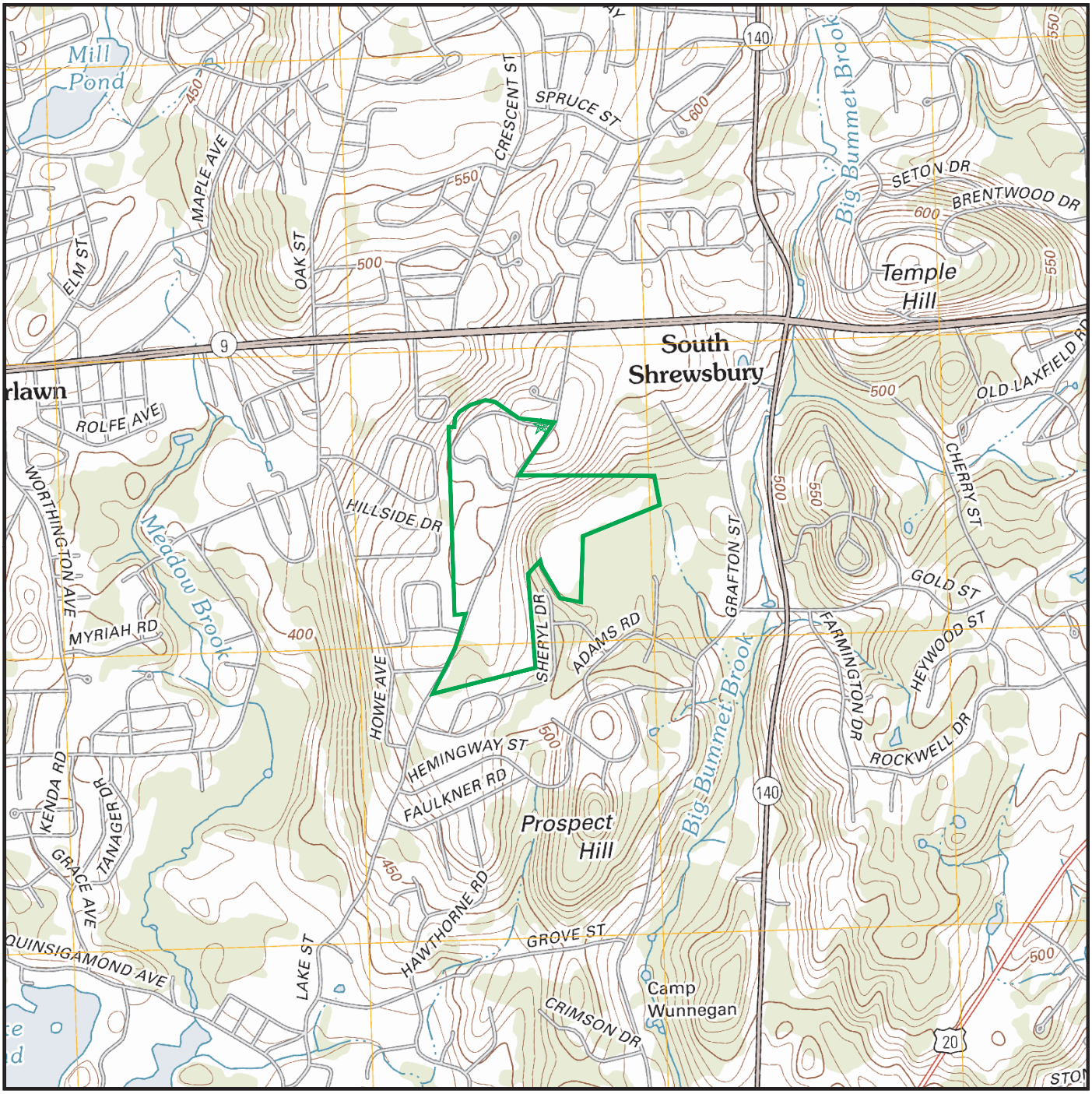
USGS 7.5 Minute Topographic Map

214 LAKE STREET SHREWSBURY, MA 01545



Map Image Position: TP
Map Reference Code & Name: 5644834 Shrewsbury
Map State(s): MA
Version Date: 2012

EDR First Report

214 Lake Street

214 Lake Street

Shrewsbury, MA 01545

Inquiry Number: 5149866.1

January 03, 2018

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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01/03/18

Site Name:

214 Lake Street
214 Lake Street
Shrewsbury, MA 01545
EDR Inquiry # 5149866.1

Client Name:

Lord Associates, Inc.
1506 Providence Highway
Norwood, MA 02062
Contact: Jon Puliafico

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APPENDIX E

SCANNED

Response Action Outcome Statement
Massachusetts Department of Mental Retardation
Glavin Regional Center
Barn/Storage Building
Shrewsbury, Massachusetts
RTN# 2-11877
VERTEX Project No 0982

VERTEX

Prepared by:

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Prepared for:

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September 12, 1998

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Central Regional Office
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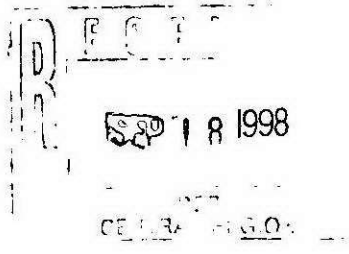
Worcester, MA 01605



RE: **Response Action Outcome (RAO) Statement**
Glavin Regional Center
214 Lake Street
Shrewsbury, Massachusetts
RTN# 2-11877
VERTEX Project No. 0982

To whom it may concern:

VERTEX Engineering Services, Inc. (VERTEX) has been retained by the Massachusetts Department of Mental Retardation to conduct Licensed Site Professional services at the above referenced site. This document serves as a Response Action Outcome (RAO) Statement and is submitted to the Department pursuant to 310 CMR 40.1000 as supporting documentation for a Class A-2 RAO. In addition, please find the (RAO) Statement (BWSC-104) Transmittal Form and IRA Completion Statement Transmittal Form (BWSC-105).

Please do not hesitate to contact the undersigned should you have any questions or comments. Thank you.

Sincerely,

VERTEX Engineering Services, Inc.

Sean Healey
Assistant Project Manager

for James B. O'Brien, L.S.P.
President

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Figure 1: Site Locus

Figure 2: Site Schematic

RESPONSE ACTION OUTCOME (RAO) STATEMENT

Massachusetts Department of Mental Retardation
Glavin Regional Center
Barn/Storage Building
214 Lake Street
Shrewsbury, Massachusetts
RTN# 2-11877
VERTEX Project No. 0982

1.0 INTRODUCTION

This Class A-2 Response Action Outcome (RAO) Statement has been prepared by Vertex Engineering Services, Inc. (VERTEX) to document a condition of "No Significant Risk" at a property referenced as the Glavin Regional Center, Shrewsbury, Massachusetts (MADEP RTN#2-11877). Specifically, the area subject to this RAO is a section of the Glavin campus behind and on the northwestern side of the Barn/Storage Building, herein referred to as the "site". The area of this RAO is shown on Figure 2-Site Schematic.

VERTEX observed the removal of a 2,000-gallon steel, gasoline underground storage tank (UST) located at the Barn/Storage building on September 12, 1997. After the UST was removed from the ground, discrete soil samples were collected from the sidewalls and the bottom of the tank excavation and screened with a PID for total organic vapors (TOV's). Field screening of those soil samples indicated that a 72-hour reporting requirement had been triggered pursuant to 310 CMR 40.0000. Specifically, levels of TOV's of 100 ppm within 10 feet of the exterior wall of a UST were identified.

Subject to 310 CMR 40.0313(2) a 72-hour notification to the Massachusetts Department of Environmental Protection (MADEP) was made by VERTEX on September 12, 1997. The release was assigned the Release Tracking Number (RTN) #2-11877 and verbal approval

for an Immediate Response Action (IRA) consisting of removal of contaminated soil and assessment was received from the MADEP.

Initial IRA excavation activities which were performed on September 12, 1997 involved expanding the excavation. Approximately 16 yards of contaminated soil was removed from the site under a Bill of Lading and properly disposed of at a licensed disposal facility. The excavation was backfilled after verification soil samples were collected from within the excavation for laboratory analysis.

Additional assessment IRA activities were performed at the site between September 1997 and July 1998. These activities included the installation of five soil borings completed as groundwater monitoring wells in order to define the extent of the impacted soil and groundwater, laboratory analysis of soil and groundwater samples, and the determination of groundwater flow direction at the site.

In accordance with the Massachusetts Contingency Plan (MCP), a risk characterization has been performed which documents that a condition of "No Significant Risk" has been achieved at the site. This RAO documents site activities, investigations, analytical results and a Method One Risk Characterization as required by 310 CMR 40.1056.

2.0 RESPONSE ACTION OUTCOME (RAO) CATEGORY

The category of this RAO was determined in accordance with 310 CMR 40.1036. Class A-2 is appropriate to this site for the following reasons:

1) A Permanent Solution has been achieved;

2) Response actions have been employed to achieve a condition of No Significant Risk (310 CMR 40.900);

3) Levels of oil/and or hazardous materials (OHM) at the site have not been reduced to background levels;

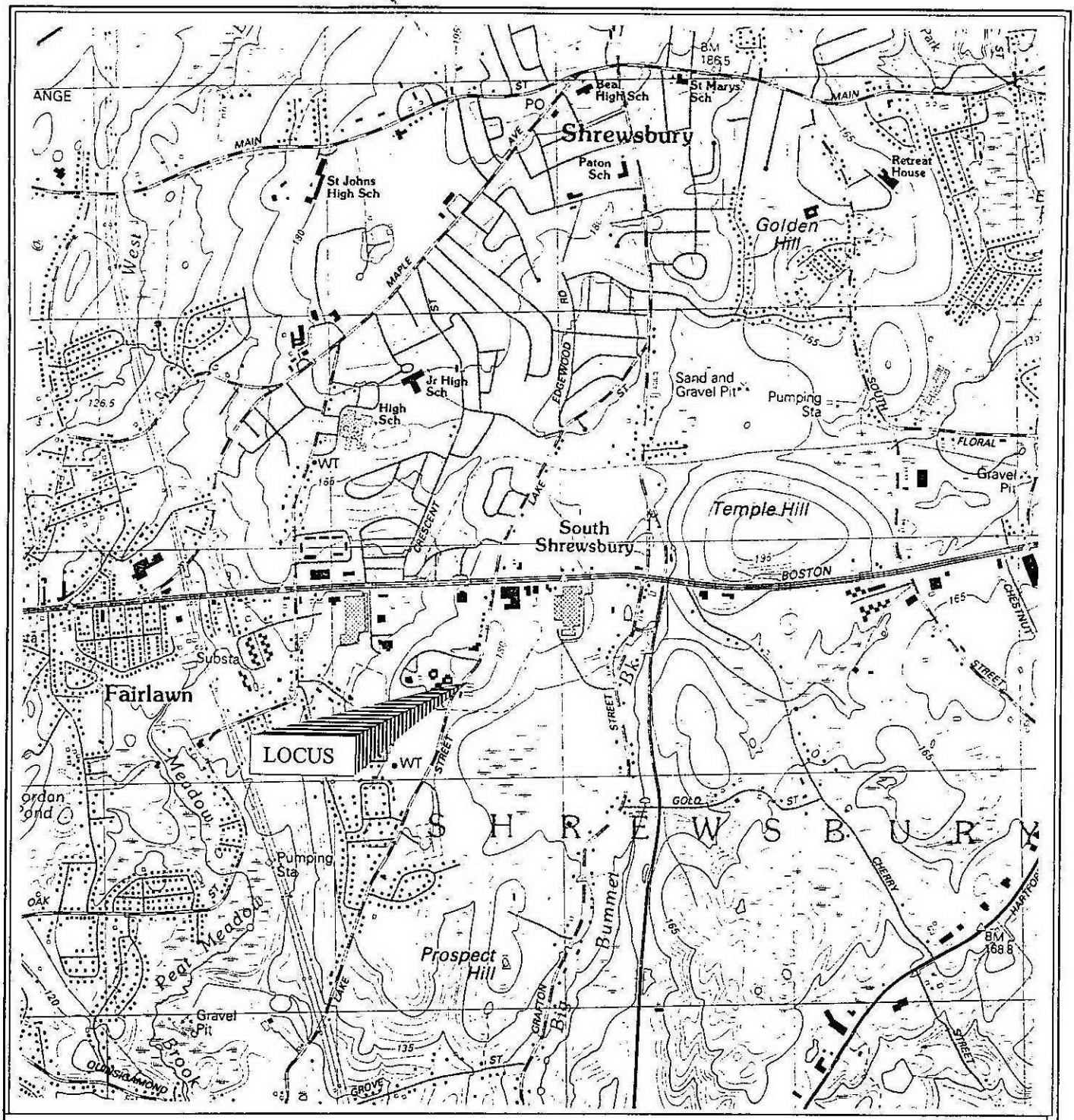
4) One or more Activity and Use Limitations are not required to maintain a level of "No Significant Risk"..

3.0 GENERAL DISPOSAL SITE INFORMATION

The site is located on the campus of the Glavin Regional Center in Shrewsbury, Massachusetts. Specifically, this site occurs in an area of the campus behind and on the northwestern side of the Barn/Storage Building. This building is utilized for storage of campus items.

This RAO addresses RTN #2-11877, which applies to the release area behind and on the northwestern side of the Barn/Storage Building. The location of the site is shown on the Malborough, Massachusetts USGS Topographic Quadrangle, dated 1983. Please refer to Figure 1 - Site Locus Map. The site location and area subject to this RAO is shown on Figure 2-Site Schematic.

The site lies 100 feet south of the crest of a large hill and slopes moderately to the south-southeast and southwest. The site and surrounding properties are serviced by municipal water and no public wells or private wells have been identified within ½ mile of the site. According to a June 30, 1998, MADEP-BWSC, Massachusetts Geographic Information System Map (MassGIS), the site is not located in a Current or Potential Drinking Water Source Area, a Potentially Productive Aquifer Area or an Interim Wellhead Protection Area. Additionally, the site is not located in an Area of Critical Environmental Concern. A copy of the MASSGIS Map is included as Appendix A.

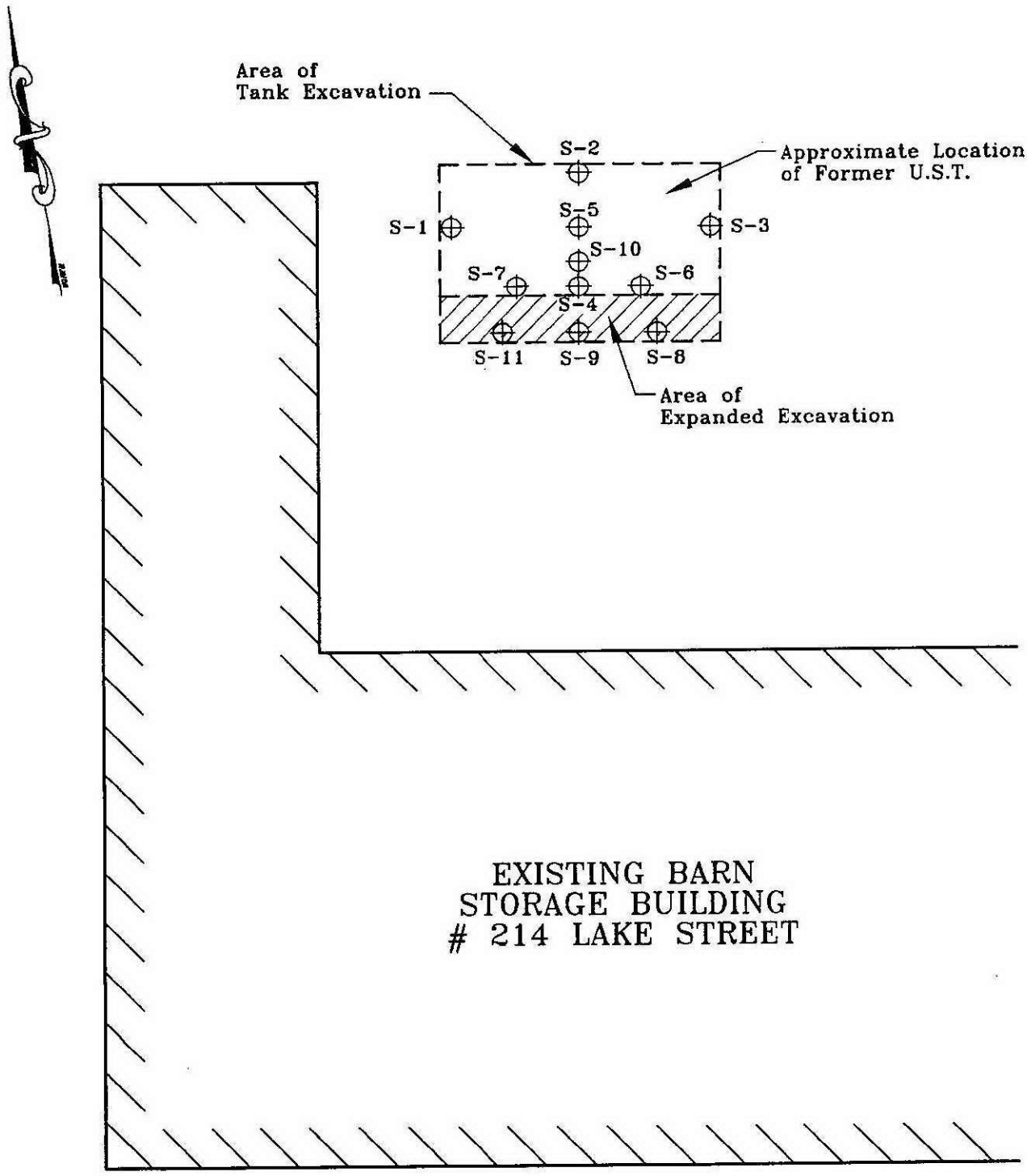


USGS Topographic Map, 1987 rev 1998
Malborough , Massachusetts Quadrangle 1984
Contour Interval: 3 meters

1000 **Graphic Scale** 2000

N

SITE LOCUS MAP 214 Lake Street Shrewsbury, Massachusetts	SCALE: AS SHOWN Setember 17, 1998 VERTEX PROJ. 0982	VERTEX **Engineering Services, Inc.** **FIGURE NO. 1**



LEGEND

S-1 ⊕ SOIL SAMPLE LOCATION

SITE SCHEMATIC 214 Lake Street Shrewsbury, Massachusetts	SCALE : 1" = 10' DATE: Aug. 21, 1998 VERTEX PROJ. 0982	VERTEX Engineering Services, Inc. FIGURE NO. 2

0982SS.dwg

4.0 ENVIRONMENTAL REMEDIATION ACTIVITIES

As authorized by Massachusetts Department of Mental Retardation (MDMR), VERTEX Engineering Services, Inc. (VERTEX) observed the removal of a 2,000-gallon steel, gasoline underground storage tank (UST) located behind and on the northwestern side of the Barn/Storage Building at the Glavin Regional Center, 214 Lake Street in Shrewsbury, Massachusetts. The UST was historically used to store gasoline used to fuel vehicles operating at the Glavin Regional Center.

4.1 UST Removal

The above noted UST was removed by Aetna Construction of Haverhill, Massachusetts (Aetna) on September 12, 1997. Prior to the removal of the UST, Aetna obtained a permit for the removal of the tank from the Town of Shrewsbury Fire Department. The UST was uncovered by Aetna on the afternoon of September 12, 1997. The UST was then pumped of residual usable product (estimated at 20-gallons). Clean Harbors transported the usable product off-site for disposal to United Oil Recovery, 136 Gracey Ave, Meriden, Connecticut. The UST was subsequently cut open and monitored for explosive vapors and oxygen content. It was determined that the atmosphere within the tank was safe to enter with Level C (as defined by OSHA) personal protective equipment. The tank was then entered and cleaned of residual (non-pumpable) tank bottoms, which were placed in a 55 gallon D.O.T. approved drum. The drum was transported off site and retained by Aetna for future disposal.

VERTEX was on-site at 12:01 p.m. on Setember 12, 1997 to assess site conditions prior to commencing removal actions of the 2,000-gallon UST. The tank location was situated behind and on the northwestern side of the Barn/Storage Building. The UST was located

beneath approximately 4 feet of top soil. The soil was stockpiled during initial excavation. The stockpile was field screened using a photoionization detector (PID) and showed concentrations of 11 parts per million (ppm) Total Organic Vapors (TOV's). The fill and vent lines running towards gasoline pumps, located on the western side of the UST had been previously excavated and removed prior to VERTEX's arrival. One line was observed to be in poor condition with rust and gasoline staining in the area of an elbow in the line. The elbow to the line was observed to be adjacent to the southern side of the UST. Oil absorbent pads were utilized to prevent leakage from the disconnected pipes/lines. The feed/return lines were pumped of product and removed from the ground.

The Shrewsbury Fire Department was contacted prior to removing the UST in accordance with 527 CMR 9.00. Shrewsbury Fire Prevention Officer Gerald Leflamme witnessed the removal of the UST at approximately 12:45 p.m. Visual inspection of the steel UST revealed that it was in suspect condition with some rust but no apparent areas of significant corrosion or holes. Portions of the bottom of the tank were observed to be wet with no odor. The UST was subsequently photographed and transported off-site for disposal at Tom Borrellos in Methuen, Massachusetts, a licensed tank yard.

The tank excavation measured approximately 18 feet wide by 8 feet long by 10.5 feet deep. Soil lithology within the excavation consisted of dark brown medium sand with fines and pebbles and some cobbles. Dark soil with a gasoline odor was observed near the southern side of the UST excavation below the area were the suspect feed line was located. Groundwater was observed within the excavation at approximately 10.5 feet below grade surface (bgs).

Discrete soil samples were collected from the side-walls, the bottom of the tank excavation and just below the feed and return lines. Each sample was screened with a PID for total

organic vapors (TOV's). Field screening of soil samples revealed detectable concentrations of TOV's. Please refer to Table 4.1-Initial Field Screening.

Table 4.1 – Initial Field Screening Results (10/12/97)		
Sample I.D.	**Depth (bgs) /Sample Location**	**TOV's (ppm)**
S1	8' bgs/western wall of excavation	2
S2	8' bgs/northern wall of excavation	9
S3	8' bgs/eastern wall of excavation	75
S4	8' bgs/southern wall of excavation	740
S5	10' bgs/bottom of excavation	671
S6	5' bgs/southern wall of excavation	904
S7	5.5'bgs/southern wall of excavation	0

Subject to 310 CMR 40.0313(2), 72-hour notification to the MADEP was made by VERTEX on September 12, 1997. The release was identified as Release Tracking Number 2-11877 by the MADEP and verbal approval for an Immediate Response Action (IRA) involving assessment and excavation and removal of contaminated soil was received.

4.2 Soil Removal

On September 12, 1997, the UST excavation was expanded on its southern side and on the bottom. The final UST excavation measured 14 x 18 feet x 10.5 feet deep. A total of approximately 16 yards contaminated soil excavated during the tank removal and was stockpiled on and covered with polypropylene plastic until future disposal. The stockpile was fully characterized and was disposed of at a licensed disposal facility on October 20, 1998. The Bill of Lading is attached in Appendix B.

Verification soil samples were taken at the southern and the bottom of the excavation prior to backfilling. All samples were field screened using a PID. One composite soil sample was compiled in the laboratory from initial excavation and expanded excavation sidewalls. The discrete samples were placed on ice in a cooler, and delivered to Groundwater Analytical, Inc. of Buzzards Bay Massachusetts (a Massachusetts Certified Laboratory). The composite sample was analyzed for Total Petroleum Hydrocarbons (TPH) according to EPA Method 8100 Modified, Volatile Aromatic Compounds (VOC's) via EPA method 8020, and Total Lead. Table 4.2- Screening and Analytical Results-Expanded Excavation, shows results of the expanded excavation analysis. Sample locations are shown on Figure 2-Site Schematic. Laboratory Reports are attached in Appendix C.

Table 4.2-Screening and Analytical Results-Expanded Excavation
September 12, 1998

Sample I.D.	Depth (bgs) /Sample Location	TOV's (ppm)	TPH (mg/kg)	VOC's	Total Lead
S8	5.5' bgs/southern wall of excavation	31	NA	NA	NA
S9	8.5' bgs/southern wall of excavation	24	NA	NA	NA
S10	10.5' bgs/bottom of excavation	47	NA	NA	NA
S11	8.5' bgs/southern wall of excavation	14	NA	NA	NA
Composite	Excavation side walls (S1, S2, S3, and S9)	NA	BRL (63)	BRL (250-MTBE) (50)	BRL (0.3)

NA=Not Applicable BRL=Below Reporting Limit

5.0 NATURE AND EXTENT OF CONTAMINATION

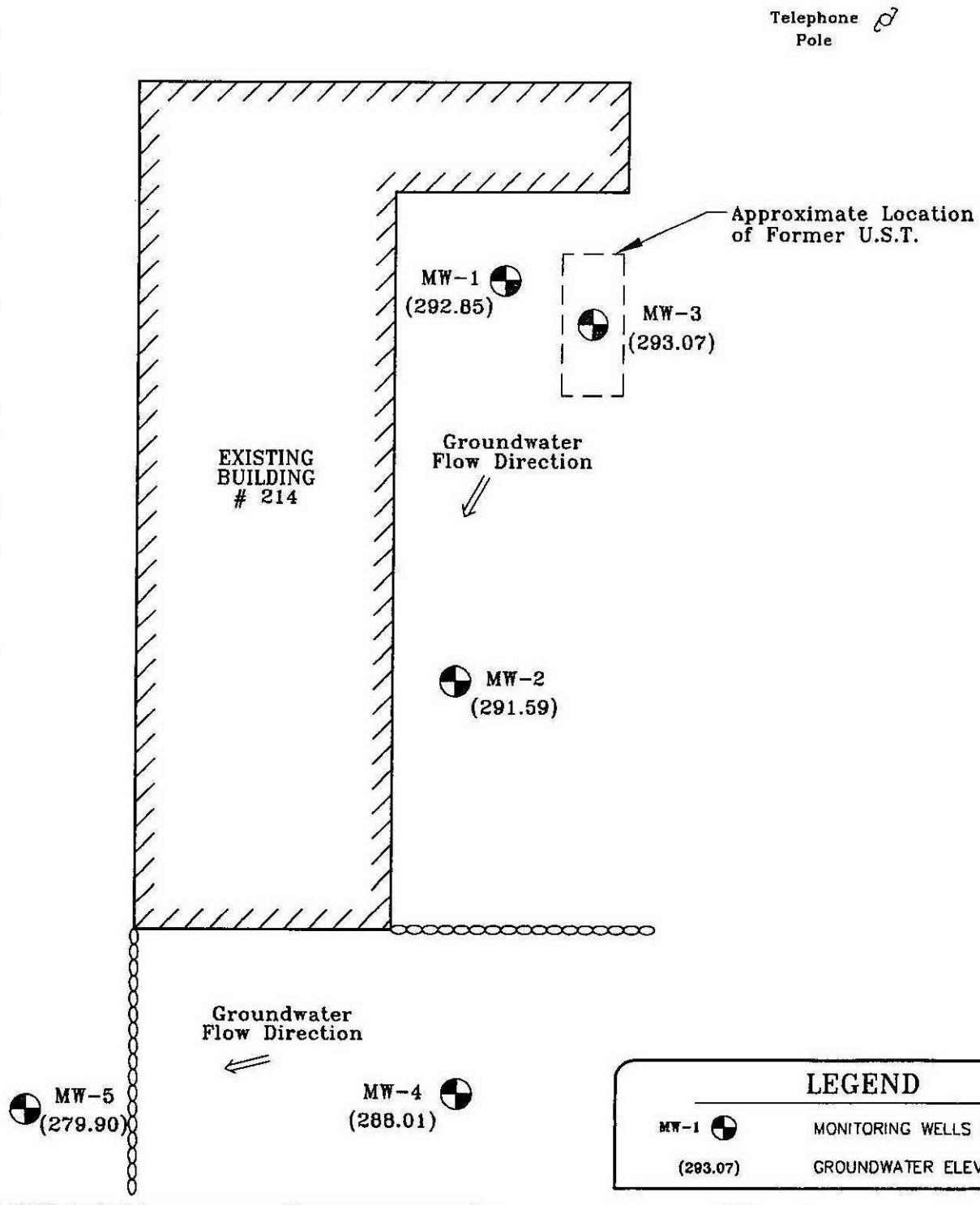
5.1 Borings/Monitoring Wells

In order to evaluate on-site impact to groundwater from the identified release and to determine the extent of vertical contamination within the tank grave, five soil borings were advanced at the subject site on October 20, 1997 and July 1, 1998 utilizing hollow stem auger (HAS) techniques. MW-1 was advanced southeast of the tank grave and MW-2 was advanced south of the tank grave. MW-3 was advanced in the center of the former UST grave. MW-4 and MW-5 were advanced on the southeastern and northeastern side of the site building to delineate the extent of the impacted groundwater. Boring locations are shown in Figure 3-Site Plan. Groundwater monitoring wells were installed in each of the soil borings (MW-1 through MW-5). Soil Boring/Monitoring Well Logs may be referenced in Appendix D.

Split spoon samplers were utilized to collect subsurface soil samples and determine soil types at 5-foot intervals or less starting at grade, at changes in strata, and at the groundwater table. The soil borings were completed as wells and were advanced to approximately 5 feet below the groundwater table in the monitoring wells. All soil samples collected were screened utilizing a photoionization detector calibrated "as benzene" to an isobutylene standard. Standard headspace screening methodologies were employed. No Total Organic Volatiles (TOV's) were detected above 0 parts per million (ppm) in any of the samples.

Monitoring wells were typically constructed of a length of bottom plugged 2-inch diameter PVC well screen (0.010 inch slot) followed by a length of 2 inch diameter PVC riser to grade level. The screened section was installed to intercept the groundwater table. Groundwater was encountered in each soil boring at approximately 12 feet below grade

LAKE STREET



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MW-1	MONITORING WELLS LOCATION
(293.07)	GROUNDWATER ELEVATION

SITE PLAN-AREA OF RAO
214 Lake Street
Shrewsbury, Massachusetts

SCALE : 1" = 20'

DATE: Aug. 21, 1998

VERTEX PROJ. 0982

VERTEX
Engineering Services, Inc.
FIGURE NO. 3

surface (bgs). Number 2 washed sand was packed to approximately 1-2 feet above the screen followed by a 1 foot thick bentonite grout packing. The remainder of the boring was backfilled with native soil and then sealed to grade with concrete. Each monitoring well was fitted with a locking cap and a watertight 8-inch diameter flush mount metal roadbox.

5.2 General Geologic Description

Based on visual classification of split spoon soil samples, the site is underlain by light brown and gray silty sand with clay particles and pebbles. Bedrock was not encountered during this investigation.

5.3 Groundwater Flow Direction

On July 8, 1998, VERTEX conducted an instrument survey to locate groundwater-monitoring wells at the site. As part of this survey, the depths to groundwater in the five monitoring wells were measured with an electronic water level meter. Information obtained from the instrument survey and monitoring well gauging was utilized to evaluate the lateral groundwater flow direction at the site. The measured monitoring well riser and groundwater elevations are summarized in Table 5.2.

Table 5.1 – Groundwater Elevation Data (datum from 7/8/98)

Monitoring Well	Riser Elevation	Depth to Water	Groundwater Elevation
MW-1	296.09	3.24	292.85
MW-2	296.33	3.26	293.07
MW-3	295.36	3.77	291.59
MW-4	294.43	6.42	288.01
MW-5	286.04	6.14	279.90

Based upon VERTEX's instrument survey, groundwater flow was determined to be in a southeastern direction across the subject site and is shown of Figure 3- Site Plan.

5.4 Results of Soil Sampling and Analyses

One soil sample was submitted for laboratory analyses from the each soil boring. The soil samples were generally collected from above the soil/groundwater interface between 9-14 feet bgs. A soil sample was selected from soil boring MW-1 at a depth of 21-22 feet below grade surface. All soil samples were placed directly into pre-labeled laboratory supplied containers and immediately placed on ice. These samples were subsequently delivered to Groundwater Analytical, Inc. in Buzzards Bay, Massachusetts for analysis. Chain-of-custody forms were completed and included in the shipment.

Soil samples from MW-1, MW-2 and MW-3 were analyzed for Total Petroleum Hydrocarbons (TPH) via EPA Method 8100 modified, Volatile Organic Compounds (VOC's) via EPA method 8260 and Total Lead. Soil samples from MW-4 and MW-5 were analyzed for Extractable Petroleum Hydrocarbons via EPA Method 8100, MADEP modified. Results of laboratory analysis did not reveal the presence of the targeted analytes above the analytical reporting limit. Complete analytical results are included as Appendix C - Analytical Reports.

5.5 Groundwater Sampling/Analyses - 1997

Groundwater monitoring wells MW-1, MW-2 and MW-3 were sampled on October 20, 1997 and November 4, 1997 utilizing dedicated polyethylene bailers lowered on polypropylene rope. The wells were purged of three to five standing volumes of water, allowed to recharge, then sampled and immediately placed on ice. These samples were subsequently delivered to Groundwater Analytical, Inc. Chain-of-custody forms were completed and included in the shipment.

The groundwater samples were submitted for laboratory analysis of TPH via EPA Method 8100 modified, Volatile Organic Compounds (VOC's) via EPA method 8260, Volatile Petroleum Hydrocarbons (VPH) via EPA Method 8015 and Total Lead. The results of groundwater sample analyses are summarized in Table 5.2. Complete analytical results are included as Appendix C - Analytical Reports.

Table 5.2- Groundwater Analytical Results (ug/l)
Results from October/November 1997

Analysis	MW-1	MW-2	MW-3	Method 1 GW-2 Standard
TPH	6800	4900	3900	1000
Lead	16	33	BRL(3)	na
VOC's				
MTBE	94	110	110	50000
Benzene	BRL(1)	BRL(10)	0.8j	2000
Toluene	BRL(1)	BRL(10)	1	6000
Chlorobenzene	BRL(1)	NA	BRL(1)	500
Ethylbenzene	BRL(1)	BRL(10)	BRL(1)	4000
M+P Xylene	BRL(1)	BRL(10)	BRL(1)	6000
Ortho Xylene	BRL(1)	BRL(10)	BRL(1)	6000
1,3 Dichlorobenzene	BRL(1)	NA	0.7J	8000
1,4 Dichlorobenzene	BRL(1)	NA	BRL(1)	8000
1,2 Dichlorobenzene	BRL(1)	NA	BRL(1)	8000
Napthalene	NA	BRL(10)	NA	6000
VPH (ug/l)				
n-C 5 to n-C 8 Aliphatics	NA	BRL	NA	1000
n-C 9 to n-C 12 Aliphatics	NA	BRL	NA	1000
n-C 9 to n-C 10 Aliphatics	NA	BRL	NA	5000

BRL=Below Reporting Limit
NA=Not Applicable
J=Analyte detected below reporting limit

Laboratory results of groundwater sample analyses from MW-1, MW-2 and MW-3 indicated the presence of TPH and lead above applicable Method One GW-2 groundwater standards.

5.6 Groundwater Sampling/Analyses – 1998

All monitoring wells on the site were developed and sampled on July 8, 1998 and September 14, 1998 utilizing dedicated polyethylene bailers lowered on polypropylene rope. Prior to sampling, the wells were purged of three to five standing volumes of water, allowed to recharge, then sampled immediately placed on ice. These samples were subsequently delivered to Groundwater Analytical, Inc. Chain-of-custody forms were completed and included in the shipment.

The groundwater samples were submitted for laboratory analysis of EPH via EPA Method 8100, MADEP modified, and Volatile Petroleum Hydrocarbons (VPH) via EPA method 8015 MADEP modified.

The results of groundwater sample analyses from July 8, 1998 revealed non-detectable concentration of targeted analytes in all samples except for MW-4. The groundwater sample from monitoring well MW-4 indicated the presence of 24 ug/l in the VPH range of n-C9 to n-C12 aliphatic hydrocarbons.

The results of groundwater sample analyses from September 14, 1998 revealed non-detectable concentration of targeted analytes in all samples excluding MW-4 and MW-5. The groundwater sample taken from monitoring well MW-4 revealed 26 ug/l in the VPH range of n-C9 to n-C12 aliphatic hydrocarbons and the groundwater sample taken from monitoring well MW-5 revealed 26 ug/l in the VPH range of n-C9 to n-C12 aliphatic hydrocarbons. These concentrations are well below the Method One GW-2 standard of 1000 ug/l.

6.0 RISK CHARACTERIZATION

6.1 Exposure Assessment

This section discusses the receptors, site activities and uses, exposure points and exposure point concentrations to assess the exposure that a receptor might receive during contact with impacted media at the site.

1 8 1998

Identification of Receptors

The site is currently used as a warehouse/barn for storage for the Glavin Regional Development Center operated by the Massachusetts Department of Mental Retardation (MDMR). It is possible, however unlikely, that the foreseeable future use of the property could be residential. Therefore, potential human receptors are considered to be adults and children.

Trespassers and workers during any excavation activities are also considered receptors, but exposure of possible future on-site residents is considered to be the most significant exposure, and will encompass the exposure assessment of other receptors.

Results of the groundwater sampling were discussed previously, and indicated that groundwater concentrations on the site do not exceed the applicable Method One GW-2 standard. Therefore, discharge of groundwater to environmental receptors is not considered a concern.

Identification of Site Activities and Uses

Most conservative site activities and uses are considered to include, but not be limited to the following: 1) use of the site for a residence; 2) the excavation of soil during construction/renovation activities; 3) recreational/leisure activities.

Potable water is supplied to the site by the municipality. Use of site water for drinking, watering lawns and washing is not considered applicable to this assessment.

Identification of Exposure Points

Exposure points are the points at which identified receptors would contact identified hazards during site activities/use. At this site, no impacted soil remains on site. No TOVs remain in site soils at significant concentrations. Additionally, exposure to groundwater is not considered an exposure point, as concentrations of hydrocarbons have not been detected in groundwater above the applicable Method One Standards.

Identification of Exposure Pathways

Exposure pathways are the routes by which exposure to the receptors at exposure points could occur. For the purposes of this assessment, there is no realistic exposure pathway to impacted soil on site. Exposure to groundwater is not considered an exposure pathway, as concentrations of hydrocarbons have not been detected in groundwater above the applicable Method One Standards. No on-site well produces water for potable use. Volatile in indoor air is also not considered a realistic exposure pathway because no TOVs remain is site soils.

Identification of Exposure Point Concentrations

Exposure point concentrations are the concentrations of chemicals in each medium that receptors could be exposed to during site activities. For this site, individual values remaining in both soil and groundwater are considered the exposure point concentrations.

6.2 Selection of Risk Characterization Method

A Method One Risk Characterization, as described in 310 CMR 40.0970, has been selected to characterize the risk of harm to health, safety, public welfare and the environment at this site, based on the evaluation presented previously. The Method One characterization is considered applicable to this disposal site for the following reasons:

1) Oil and/or hazardous materials (OHM) have only been identified in soil and groundwater only and are not likely to migrate to other environmental media.

2) All OHM detected at the site are listed in 310 CMR 40.0974 and 40.0975.

3) OHM present on-site are not known to bioaccumulate.

6.3 Determination of Applicable Soil and Groundwater Categories

The site, receptor and exposure information previously discussed has been evaluated to determine the applicable soil category for the site. The highest potential for exposure to soil has been selected as applicable to the site, for conservatism, and to demonstrate that an Activity Use Limitation (AUL) is not necessary for the site. As such, the S-1 category as defined in 310 CMR 40.0933 (5) has been selected.

The groundwater category for this site was determined pursuant to 310 CMR 40.0932, local research. The site is not located in a current or potential drinking water source area. There are no known private or public drinking water wells within 1/2 mile of the site. The site is not within an area containing a medium to high yield aquifer and it is not within an area classified as a Zone II or an Interim Wellhead Protection Area. Depth to groundwater at the site is less than 15 feet bgs; therefore the site groundwater is considered GW-2/GW3.

6.4 Characterization of Groundwater Contamination

Subsurface groundwater sampling and analysis at the site included the collection and analysis of groundwater samples from monitoring wells MW-1 through MW-5. Results of the most recent groundwater analysis indicated concentrations of VPH and EPH below reporting limits (BRL) in groundwater samples taken from MW-1 through MW-3. Most recent groundwater analysis of samples taken from monitoring well MW-4 and MW-5 revealed 26 ug/l in the VPH fractional range of n-C9 to n-C12 aliphatic hydrocarbons, far the below site applicable GW2/GW3 groundwater standard of 1000 ug/l. The source of this fractional range is likely related to the release from the former UST, however, the concentrations identified do not exceed the GW-2 standard and are therefore not a concern.

6.5 Characterization of Soil Contamination

Subsurface soil sampling and analysis at the site included the collection and analysis of soil samples from the UST grave and IRA excavation as well as soil samples from soil borings MW-1 through MW-5, which were advanced on the site. All soil samples selected revealed nondetectable concentration of targeted analytes. Additionally, PID screening of each soil samples taken from each did not reveal concentrations of TOVs. Therefore, vapors associated with impacted soil are not considered to be a threat to indoor air. As

such, there is "No Significant Risk" posed by soils at the site, and site soil contamination is not discussed further in this Risk Characterization.

6.6 Characterization of Risk of Harm to Safety

The risk of harm to safety, as described in 310 CMR 40.0960, was evaluated for the disposal site. The site does not contain the following items related to a release of OHM:

1) There are no rusted or corroded drums or containers, open pits or lagoons;

2) There is no threat of fire or explosion, or the presence of explosive vapors from the release of OHM; and

3) There are no uncontainerized materials exhibiting the characteristics of corrosivity, reactivity, or flammability.

Based on the above information, it was determined that the site does not pose a risk to public safety.

6.7 Characterization of Risk of Harm to the Environment

Based on the GIS Map, there are no municipal drinking water supply wells or surface drinking water supplies within one-half mile of the site. There are ACEC Estimated Habitats of Rare Wetlands Wildlife and Priority Habitats areas located within 1/2 mile of the site, but considered cross-gradient from the site.

Contaminated soil encountered at the site has been removed and is not expected to be a significant risk to the environment. Current groundwater contaminant concentrations are below Method 1 Risk Assessment Standards for the applicable GW-2/GW-3 category. Groundwater is not used for potable purposes and exposure to groundwater is not considered an exposure point for this assessment. Therefore, human and/or environmental receptors are not expected.

7.0 FEASIBILITY OF RESTORATION TO BACKGROUND

According to the MCP 310 CNR 40.1020, background is defined as these levels of oil and hazardous material that would exits in absence of the disposal site of concern.

Analytical results of subsurface soil sampling indicate background concentrations for site soil has been restored.

Analytical results of groundwater sampling indicate groundwater contamination is well below Method 1 Risk Assessment Standards for the site applicable GW2/GW3 category.

The incremental costs of installation and maintenance of a groundwater remedial system to reduce concentrations of contaminants to background levels of non-detect is substantial and disproportionate to the incremental benefit of risk reduction. Therefore, installation and maintenance of a groundwater remedial system to reduce concentrations of contaminants to achieve background levels of non-detect is not considered economically feasible.

All impacted soils and the former UST have been removed from the site. Therefore, further degradation of the groundwater is not anticipated. No exposure point concentration greater than the applicable MCP Method 1 Soil or Groundwater Standard exists at the site. Therefore a condition of no significant risk of harm to health, public welfare and the environment exists.

8.0 CONCLUSIONS

The following conclusions were made based upon the Method 1 Risk Characterization of site conditions at the subject site.

1) Current exposure point concentrations at the site are below site applicable GW2/GW3 groundwater standards.

2) Response actions performed at the site resulted in the removal of the source.

3) The site does not pose a risk of harm to health, public welfare and the environment.

4) A condition of No Significant Risk as defined by 310 CMR 40.0973(7) exists at the site.

5) No Activity and Use Limitations are necessary for this site.

9.0 QUALIFICATIONS

Our professional services have been performed, our findings obtained, and our recommendations prepared in accordance with customary principles and practices in the fields of environmental science and engineering. This warranty is in lieu of all other warranties either expressed or implied. VERTEX is not responsible for the independent conclusions, opinions or recommendations made by others based on the records review, site inspection, field exploration, and laboratory test data presented in this report.

It must be recognized that environmental investigations are inherently limited in the sense that conclusions are drawn and recommendations developed from information obtained from limited research and site investigation. All site subsurface conditions were not field investigated as part of this study and may differ from the conditions implied by the limited investigation. Additionally, the passage of time may result in a change in the environmental characteristics at this site and surrounding properties. This report does not warrant against future operations or conditions, nor does this warrant operations or conditions present of a type or at a location not investigated.

The conclusions presented in this report are professional opinions based solely upon visual observations and supplemental testing of soil and/or groundwater at the site. Our interpretation of the available historical information and documents reviewed, as described in this report, were also considered in the conclusions. VERTEX relied upon but did not attempt to independently verify the validity or accuracy of the findings and conclusions noted in the documentation reviewed.

This report is intended for the sole use of the MDMR. The scope of services performed in execution of this investigation may not be appropriate to satisfy the needs of other users,

and any use or re-use of this document or the findings, conclusions, or recommendations is at the risk of said user.

It should be noted that twenty percent (20%) of Response Action Outcome Statements and supporting documentation are audited by the Massachusetts Department of Environmental Protection ("the Department"). The Department may conduct Random Audits or Targeted Audits for up to five (5) years following the submission of an RAO Statement. Under certain circumstances, as provided in 310 CMR 40.1110(3), there are no time constraints for Targeted Audits.

Due to the inherent flexibility in interpreting the applicable regulations, the Audits are often subjective and dependent on the opinion of the auditor. As a result, the auditor could require additional assessment of the site and/or remedial action. Based on these considerations, VERTEX is not and will not be responsible for costs or other possible ramifications of additional work required by the Department. Any other parties with financial or other interests in the subject property are urged to consider these facts.

APPENDICES

APPENDIX A
MASSGIS MAP

MA DEP - Bureau of Waste Site Cleanup

Site Scoring Map: 500 feet & 0.5 Mile Radii

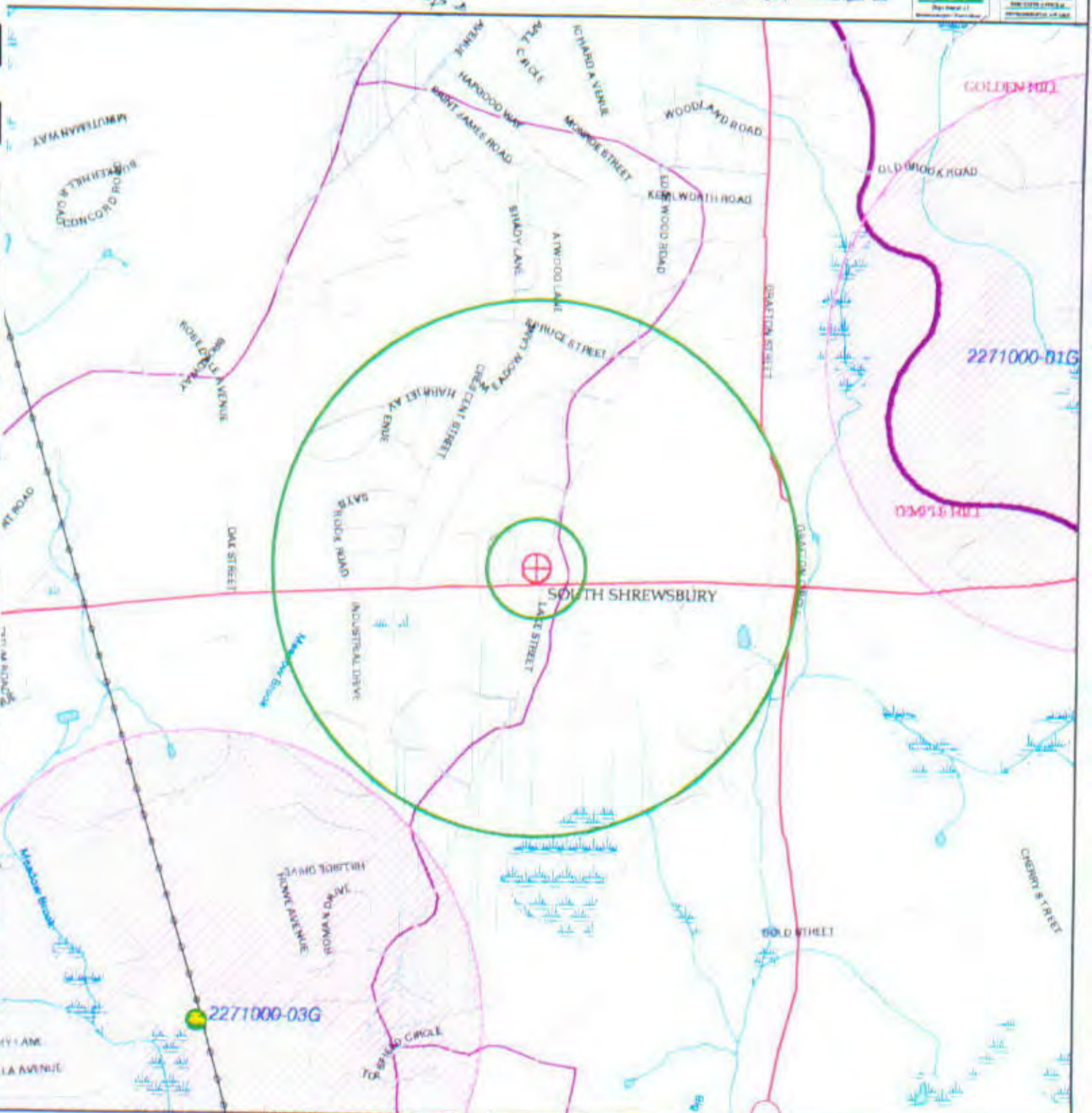
SITE NAME:
Glavine Regional Center
150 Lake Street
Shrewsbury, MA
421637n 714312ew

Site Location

The information shown on this map is the best available at the date of printing. Please refer to the data source descriptions document.

MASS GIS
Massachusetts Geographic Information System
Commonwealth of Massachusetts Executive Office of Environmental Affairs 1998

DEP



Roads: Interstate,US,State,Street,Trail
Boundaries: Municipal,County,DEP Region
Train; Powerline; Pipeline
Drainage Basins: Major,Sub
Streams: Perennial,Intermittent,Aqueduct
Potentially Productive Aquifers: Medium Yield,High Yield
Non-Potential Drinking Water Source Area: Medium,High Yield

EPA Designated Sole Source Aquifer
Public Water Supplies: Ground,Surface,Non Community
Approved Zone2; MMA; Surface Water Supply Zone A
Hydrography: Water Features,Public Surface Water Supply
Wetlands: Fresh,Salt,NHESP Wetlands Habitat
Protected Open Space; ACEC
DEP Permitted Solid Waste Facilities; Certified Vernal Pools

N
W
E
S

SCALE 1:15000

0 0 1/2 1/2 MILES
KILOMETERS

June 30, 1998

NRS SCORING MAP DATA SOURCES

AQUIFERS: USGS-WRD/MassGIS, 1:48,000. Automated by MassGIS from the USGS Water Resources Div. Hydrologic Atlas series manuscripts. The definitions of high and medium yield vary among basins. Source dates 1977 to 1988.

SOLE SOURCE AQUIFERS: US EPA/MA DEP/MassGIS, various scales. They are defined by EPA as aquifers that are the 'sole or principal source' of drinking water for a given aquifer service area. Last updated July 1993.

NON POTENTIAL DRINKING WATER SOURCE AREAS: DEP-BWSC (Bureau of Waste Site Cleanup). Those portions of high and medium yield aquifers which may not be considered as areas of groundwater conducive to the locations of public water supplies. Please refer to the MCP guidelines for the definitions of these areas.

DEP APPROVED ZONE IIS: MA DEP, 1:25,000. As stated in 310 CMR 22.02 'that area of an aquifer which contributes water to a well under the most severe pumping and recharge conditions that can be realistically anticipated.' Digitized from data provided to DEP in approved hydrologic engineering reports. Data is updated continuously.

INTERIM WELLHEAD PROTECTION AREAS: DEP-DWS (Division of Water Supply), 1:25,000. These polygons represent an interim Zone II for a groundwater source until an actual one is approved by the DEP Division of Water Supply. The radius of an IWPA varies according to the approved pumping rate. Updated in parallel with the Public Water Supplies data.

PUBLIC WATER SUPPLIES: DEP-DWS, 1:25,000. Community and non-community surface and withdrawal points were field collected using Global Positioning System receivers. The attributes were added from the DEP Division of Water Supply database. Continuously updated.

HYDROGRAPHY: USGS/MassGIS. 1:25000 USGS Digital Line Graph (DLG) data, modified by MassGIS. Approximately 40% of the data was provided by USGS and the remainder was created by MassGIS to USGS specifications. Source dates 1977-1997.

DRAINAGE BASINS: USGS-WRD/MassGIS, 1:24,000. Automated by MassGIS from USGS Water Resources Division manuscripts with approximately 2400 sub-basins as interpreted from 1:24,000 USGS quadrangle contour lines. 1987-1993.

WETLANDS: UMass Amherst RMP/MassGIS, 1:25,000. Includes nonforested wetlands extracted from the 1971-1991 Land Use datalayer which was photointerpreted from Summer CIR photography. Interpretation was not done in stereo. Also includes, in most areas, forested wetlands from USGS Digital Line Graph (DLG) data.

PROTECTED OPEN SPACE: EOEA (Executive Office of Environmental Affairs) MassGIS, 1:25,000. Includes federal, state, county, municipal, non profit, and protected private conservation and outdoor recreation lands. Ongoing updates.

ACECs: DEM, 1:25,000. Areas of Critical Environmental Concern are areas designated by the Secretary of EOEA as having a number of valuable environmental features coexisting. Projects in ACECs are subject to the highest standards of review and performance. Last updated October 1996.

ROADS: USGS/MassGIS, 1:100,000. MassGIS extracted roads from the USGS Transportation DLG files. They generalized, modified, and updated this coverage. Major roads are part of the state, US or Interstate highway systems. Circa 1985.

POLITICAL BOUNDARIES: MassGIS/USGS, 1:25,000. This datalayer was digitized by MassGIS from mylar USGS quads. Source date is approximately 1985.

DEP PERMITTED SOLID WASTE FACILITIES: DEP-DSW (Division of Solid Waste), 1:25,000. Includes only facilities regulated since 1971. Data includes sanitary landfills, transfer stations and recycling or composting facilities. Facility boundaries were compiled or approximate facility point locations drafted onto USGS quadrangles and automated by the DEP Division of Solid Waste. Last updated 1997.

NHESP ESTIMATED HABITATS OF RARE WETLANDS WILDLIFE: Polygons show estimated habitats for all processed occurrences of rare wetlands wildlife. Data collected by Natural Heritage & Endangered Species Program and compiled at 1:24000 or 1:25000 scale. For use with Wetlands Protection Act Only. Effective Jan. 1, 1997 through Dec. 31, 1998.

NHESP CERTIFIED VERNAL POOLS: Points show all vernal pools certified by NHESP/MADFW (Fisheries and Wildlife) as of September 25, 1996. Data compiled at 1:24000 or 1:25000 scale. Effective January 1, 1997 through December 31, 1998.

Last Revised : 1997

APPENDIX B
BILL OF LADING

Massachusetts Department of Environmental Protection **BWSC-012A**
Bureau of Waste Site Cleanup

Release Tracking Number*: 2 - 11877

BILL OF LADING (pursuant to 310 CMR 40.0030)

A. LOCATION OF SITE OR DISPOSAL SITE WHERE REMEDIATION WASTE WAS GENERATED:

Release Name (optional): Glavin Regional Center
Street: 214 Lake Street Location Aid:
City/Town: Shrewsbury Zip Code: 01545 -
Date/Period of Generation: 9/12/97 to 9/12/97
Additional Release Tracking Numbers Associated with this Bill of Lading:

Note: If this Bill of Lading is the result of a Limited Removal Action (LRA) taken prior to Notification, a Release Tracking Number is not needed.

B. PERSON CONDUCTING RESPONSE ACTION ASSOCIATED WITH BILL OF LADING:

Name of Organization: Massachusetts Department of Mental Retardation
Name of Contact: David Rafuse Title: Head cf Maintenance
Street: 214 Lake Street
City/Town: Shrewsbury State: MA Zip Code: 01545 -
Telephone: 508 - 845 - 9111 Ext.

C. RELATIONSHIP TO RELEASE OR THREAT OF RELEASE OF PERSON CONDUCTING RESPONSE ACTION ASSOCIATED WITH BILL OF LADING:

(check one/specify)

- [x] RP Specify (circle one): Owner (Operator) Generator Transporter Other RP:
- [ ] PRP Specify (circle one): Owner Operator Generator Transporter Other PRP:
- [ ] Fiduciary/Secured Lender
- [ ] Agency/Public Utility on a Right of Way
- [ ] Other Person:

If an owner and/or operator is not conducting the response action associated with the Bill of Lading, provide on an attachment the name, contact person, address and telephone number, including any area code and extension, for each, if known.

D. TRANSPORTER/COMMON CARRIER INFORMATION:

Transporter/Common Carrier Name: Environmental Soil Management
Contact Person: Laura Bevacqua Title: Manager
Street: 67 International Ave.
City/Town: Loudon State: NH Zip Code: 03301 -
Telephone: 603 - 783 - 0228 Ext.

E. RECEIVING FACILITY/TEMPORARY STORAGE LOCATION:

Operator/Facility Name: Environmental Soil Management
Contact Person: Laura Bevacqua Title: Manager
Street: 67 International Drive
City/Town: Loudon State: NH Zip Code: 03301 -
Telephone: 603 - 783 - 0228 Ext.

Type of Facility: (check one)
- [ ] Asphalt Batch/Cold Mix
- [ ] Asphalt Batch/Hot Mix
- [x] Thermal Processing
- [ ] Landfill/Disposal
- [ ] Landfill/Daily Cover
- [ ] Landfill/Structural Fill
- [ ] Incinerator
- [ ] Temporary Storage
- [ ] Other:

Division of Hazardous Waste/Class A Permit #:
Division of Solid Waste Management Permit #: DES-SW-SP-96-0002 EPA Identification #: NH 5986485852

Actual/Anticipated Period of Temporary Storage (specify dates if applicable): __/__/__ to __/__/__

Reason for Temporary Storage (if applicable):

Massachusetts Department of Environmental Protection **BWSC-012A**
Bureau of Waste Site Cleanup

Release Tracking Number: 2 - 11877

BILL OF LADING (pursuant to 310 CMR 40.0030)

E. RECEIVING FACILITY/TEMPORARY STORAGE LOCATION (continued):

Temporary Storage Address:

Street: _____

City/Town: _____ State: _____ Zip Code: _____ - _____

F. DESCRIPTION OF REMEDIATION WASTE:

(check all that apply)

☒ Contaminated Media (circle all that apply): (Soil) Groundwater Surface Water Other: _____

☐ Contaminated Debris (circle all that apply): Demolition/Construction Waste Vegetation/Organic Materials
Inorganic Absorbant Materials Other: _____

☐ Non-hazardous Uncontainerized Waste (circle all that apply): Non-aqueous Phase Liquid Other: _____

☐ Non-hazardous Containerized Waste (circle all that apply): Tank Bottoms/Sludges Containers Drums
Engineered Impoundments Other: _____

Type of Contamination (circle all that apply): (Gasoline) Diesel Fuel #2 Oil #4 Oil #6 Oil Waste Oil
Kerosene Jet Fuel Other: _____

Estimated Volume of Materials: Cubic Yards: 25 Tons: _____ Other: _____

Contaminant Source (check one/specify): ☐ Transportation Accident ☒ Underground Storage Tank ☐ Other: _____

Response Action Associated with Bill of Lading (circle one): (Immediate Response Action) Release Abatement Measure
Utility-Related Abatement Measure Limited Removal Action (LRA) Comprehensive Response Action
Other (specify): _____

Remediation Waste Characterization Support Documentation attached:

☒ Site History Information ☐ Sampling and Analytical Methods and Procedures ☒ Laboratory Data ☐ Field Screening Data

If supporting documentation is not appended, provide an attachment stating the date and in connection with what document such information was previously submitted to DEP.

G. LICENSED SITE PROFESSIONAL (LSP) OPINION:

Name of Organization: Vertex Engineering Services Inc.

LSP Name: James B. O'Brien Title: President

Telephone: 617 - 335 - 6361 Ext. _____

I have personally examined and am familiar with the information contained on and submitted with this form. Based on this information, it is my Opinion that the testing and assessment actions undertaken were adequate to characterize the Remediation Waste, in accordance with 310 CMR 40.0030, and that the facility or location can accept remediation wastes with the characteristics described in this submittal. I am aware that significant penalties including, but not limited to, possible fines and imprisonment may result if I willfully submit information which I know to be false, inaccurate or materially incomplete.

Signature: _____ Seal:

Date: 10/14/97

License Number: 9092

COMMONWEALTH OF MASSACHUSETTS
JAMES B. O'BRIEN
No. 9092
REGISTERED
LICENSED SITE PROFESSIONAL

H. CERTIFICATION OF PERSON CONDUCTING RESPONSE ACTION ASSOCIATED WITH THIS BILL OF LADING:

I certify under penalties of law that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this certification, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained herein is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

Signature: David Rafuse Sr Date: 10/16/97

Name of Person (print): DAVID RAFUSE SR

Massachusetts Department of Environmental Protection **BWSC-012B**

Bureau of Waste Site Cleanup

BILL OF LADING (pursuant to 310 CMR 40.0030)
LOG SHEET 1 **OF** 1

Release Tracking Number: 2 - 11877

I. LOAD INFORMATION:

LOAD 1: Signature of Transporter Representative: [signature]
Date of Shipment: 10/20/97 Time of Shipment: 9 : 30 (circle one) am/pm
Truck/Tractor Registration: 350SAP Trailer Registration (if any): 4648TT
Receiving Facility/Temporary Storage Representative: [signature]
Date of Receipt: 10/20/97 Time of Receipt: : (circle one) am/pm
Load Size (cu. yds./tons): 24.13

LOAD 2: Signature of Transporter Representative:
Date of Shipment: __/__/__ Time of Shipment: : (circle one) am/pm
Truck/Tractor Registration: Trailer Registration (if any):
Receiving Facility/Temporary Storage Representative:
Date of Receipt: __/__/__ Time of Receipt: : (circle one) am/pm
Load Size (cu. yds./tons):

LOAD 3: Signature of Transporter Representative:
Date of Shipment: __/__/__ Time of Shipment: : (circle one) am/pm
Truck/Tractor Registration: Trailer Registration (if any):
Receiving Facility/Temporary Storage Representative:
Date of Receipt: __/__/__ Time of Receipt: : (circle one) am/pm
Load Size (cu. yds./tons):

LOAD 4: Signature of Transporter Representative:
Date of Shipment: __/__/__ Time of Shipment: : (circle one) am/pm
Truck/Tractor Registration: Trailer Registration (if any):
Receiving Facility/Temporary Storage Representative:
Date of Receipt: __/__/__ Time of Receipt: : (circle one) am/pm
Load Size (cu. yds./tons):

LOAD 5: Signature of Transporter Representative:
Date of Shipment: __/__/__ Time of Shipment: : (circle one) am/pm
Truck/Tractor Registration: Trailer Registration (if any):
Receiving Facility/Temporary Storage Representative:
Date of Receipt: __/__/__ Time of Receipt: : (circle one) am/pm
Load Size (cu. yds./tons):

LOAD 6: Signature of Transporter Representative:
Date of Shipment: __/__/__ Time of Shipment: : (circle one) am/pm
Truck/Tractor Registration: Trailer Registration (if any):
Receiving Facility/Temporary Storage Representative:
Date of Receipt: __/__/__ Time of Receipt: : (circle one) am/pm
Load Size (cu. yds./tons):

LOAD 7: Signature of Transporter Representative:
Date of Shipment: __/__/__ Time of Shipment: : (circle one) am/pm
Truck/Tractor Registration: Trailer Registration (if any):
Receiving Facility/Temporary Storage Representative:
Date of Receipt: __/__/__ Time of Receipt: : (circle one) am/pm
Load Size (cu. yds./tons):

J. LOG SHEET VOLUME INFORMATION:

Total Volume This Page (cu.yds./tons): 24.13
Total Carried Forward (cu.yds./tons): —
Total Carried Forward and This Page(cu.yds./tons): 24.13

Massachusetts Department of Environmental Protection **BWSC-012C**
Bureau of Waste Site Cleanup

Release Tracking Number 2 - 11877

BILL OF LADING (pursuant to 310 CMR 40.0030)
SUMMARY SHEET 1 **OF** 1

K. SUMMARY OF SHIPMENTS:

DATE OF SHIPMENT:	DATE OF RECEIPT:	NUMBER OF LOADS SHIPPED:	DAILY VOLUME SHIPPED (CU. YDS. / TONS) (TONS circled)
10-20-97	10-20-97	1	24.13
SUMMARY SHEET TOTAL SHIPPED:		1	24.13
BILL OF LADING TOTAL SHIPPED (only if different):		1	24.13

Massachusetts Department of Environmental Protection **BWSC-012C**
Bureau of Waste Site Cleanup

BILL OF LADING (pursuant to 310 CMR 40.0030)
SUMMARY SHEET

Release Tracking Number: 2 - 11877

L. ACKNOWLEDGEMENT OF RECEIPT OF REMEDIATION WASTE AT RECEIVING FACILITY OR TEMPORARY STORAGE LOCATION:

Receiving Facility/Temporary Location Representative (print): Laura J Bernardo Title: office mgr

Signature: Laura J Bernardo Date: 10/20/97

M. ACKNOWLEDGEMENT OF SHIPMENT AND RECEIPT OF REMEDIATION WASTE BY PERSON CONDUCTING RESPONSE ACTION ASSOCIATED WITH THIS BILL OF LADING:

I certify under penalties of law that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this certification, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained herein is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

Signature: David J Rafuse SR Date: 10/20/97

Name of Person (print): DAVID RAFUSE SR

APPENDIX C
LABORATORY ANALYTICAL REPORTS

GROUNDWATER ANALYTICAL

Groundwater Analytical, Inc.
228 Main Street
Buzzards Bay, MA 02532

Telephone (508) 759-4441
FAX (508) 759-4475

September 30, 1997

Ms. Amy McElroy
Vertex Engineering
400 Libbey Parkway
Weymouth, MA 02189

Dear Amy:

Enclosed are the Volatile Organic, Lead and Total Petroleum Hydrocarbons Analyses performed for the MDMR Shrewsbury project, number 0558, sampled on 09-12-97. This project was processed for Standard Two Week turnaround.

A brief description of the Quality Assurance/Quality Control procedures employed by Groundwater Analytical, and a statement of our state certifications are contained within the report. This letter authorizes the release of the analytical results and should be considered a part of this report.

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,

Jonathan R. Sanford
Vice President

JRS/awc
Enclosures

GROUNDWATER ANALYTICAL

EPA METHOD 8020
Volatile Aromatics (GC/PID)

Field ID:	S1/2/3/9 Composite	Lab ID:	18026-01
Project:	MDMR Shrewsbury/0558	Batch ID:	VG2-0758-E
Client:	Vertex Engineering	Sampled:	09-12-97
Cont/Prsv:	125mL Glass/Cool	Received:	09-16-97
Matrix:	Soil Percent Moisture: 8 %	Analyzed:	09-18-97

PARAMETER	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Methyl *tert*-Butyl Ether *	BRL	250
Benzene	BRL	50
Toluene	BRL	50
Chlorobenzene	BRL	50
Ethylbenzene	BRL	50
meta-and *para*-Xylene	BRL	50
ortho-Xylene	BRL	50
1,3-Dichlorobenzene	BRL	50
1,4-Dichlorobenzene	BRL	50
1,2-Dichlorobenzene	BRL	50

QC SURROGATE COMPOUND	SPIKED	MEASURED	RECOVERY	QC LIMITS
a,a,a-Trifluorotoluene	1,500	1,500	97 %	77 - 119 %

BRL = Below Reporting Limit. * Non-target compound. Calculations based on dry sample weight. Method References: Method 8020 - Aromatic Volatile Organics, and Method 5030 - Methanol Extraction Procedure, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986).

GROUNDWATER ANALYTICAL

TRACE METALS (ICP/AA)

Field ID: S1/2/3/9 Composite
Project: MDMR Shrewsbury/0558
Client: Vertex Engineering
Cont/Prsv: 250ml Glass/Cool
Matrix: Soil Percent Solids: 93 %

Lab ID: 18026-02
Sampled: 09-12-97
Received: 09-16-97

PARAMETER	CONCENTRATION (mg/Kg)	REPORTING LIMIT (mg/Kg)	DATE ANALYZED	BATCH	EPA METHOD
Lead, Total	BRL	0.3	09-19-97	MM-0544-S	6010

BRL = Below Reporting Limit. Calculations based on dry sample weight. Method References: Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986). Graphite Furnace analyses performed with Zeeman background correction and Lvov platform technique.

GROUNDWATER ANALYTICAL

EPA Method 8100 (Modified)
Total Petroleum Hydrocarbons (GC/FID)

Field ID:	S1/2/3/9 Composite	Lab ID:	18026-02
Project:	MDMR Shrewsbury/0558	Batch ID:	HF-0940-M
Client:	Vertex Engineering	Sampled:	09-12-97
Cont/Prsv:	250mL Glass/Cool	Received:	09-16-97
Matrix:	Soil Percent Moisture: 8 %	Extracted:	09-19-97
		Analyzed:	09-25-97

PARAMETER	CONCENTRATION (mg/Kg)	REPORTING LIMIT (mg/Kg)
Total Petroleum Hydrocarbons	BRL	63

QC SURROGATE COMPOUND	SPIKED	MEASURED	RECOVERY	QC LIMITS
o-Terphenyl	2.8	2.3	80 %	60 - 140 %

BRL = Below Reporting Limit. Calculations based on dry sample weight. Method References: Method 8100 (Modified) - Polynuclear Aromatic Hydrocarbons, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986).

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
Project Narrative

Project: MDMR Shrewsbury/0558
Client: Vertex Engineering

Lab ID: 18026
Received: 09-16-97

A. Physical Condition of Sample(s)

This project was received by the laboratory in satisfactory condition. The sample(s) were received undamaged in appropriate containers with the correct preservation.

B. Project Documentation

This project was accompanied by Chain of Custody documentation, with the following amendments or corrections:

1. Samples identified as "S1", "S2", "S3" and "S9" were composited for analysis by EPA Method 8020. The sample was assigned laboratory number 18026-01 and reported as "S1/2/3/9" Composite".

2. 50 grams each of samples identified as "S1", "S2", "S3" and "S9" were composited into one 250ml glass container. The sample was assigned laboratory number 18026-02 and reported as "S1/2/3/9 Composite".

C. Analysis of Sample(s)

No analytical anomalies or non-conformances were noted by the laboratory during the processing of these samples. All data contained within this report are released without qualification.

GROUNDWATER ANALYTICAL

228 Main Street
Buzzards Bay, MA 02532
Telephone (508) 759-4441
FAX (508) 759-4475

CHAIN-OF-CUSTODY RECORD AND WORK ORDER

№ 30871

Project Name: MDMR Shrewsbury
Project Number: 0558
Sampler Name: Sean Healey
Project Manager: Amy McElroy
Firm: Verlex Engineering
Address: 400 Libbey Pkwy
City / State / Zip: Weymouth Mass
Telephone: 617 335 6361

INSTRUCTIONS: Use separate line for each container (except replicates).

TURNAROUND

- [X] STANDARD (10 Business Days)
- [ ] PRIORITY (5 Business Days)
- [ ] RUSH (RAN- _____)
  (Rush requires Rush Authorization Number)

Please FAX [X] YES [ ] NO
FAX Number: 617 335 3543

BILLING

Purchase Order No.: 217
GWA Reference No.:

ANALYSIS REQUEST

OPTIONS: [ ] Low Level [ ] MTBE [ ] TIC Search

Volatiles
- SDWA: [ ] 524.2 [ ] 502.2 [ ] MTBE
- NPDES: [ ] 624/NPDES [ ] 624/ Extended [ ] 601/602 [ ] 502 [X] MTBE
- RCRA/21E: [ ] 8265/TCL [ ] 8260/ Method List [ ] 8010/8020 [X] 8020 [ ] 8010

Semivolatiles
- OPTIONS: [ ] Low Level [ ] Acid Only [ ] B/N Only [ ] TIC Search
- SDWA: [ ] 525.2
- NPDES: [ ] 625
- RCRA/21E: [ ] 8270/PAHs Only [ ] 8270/TCL

Pest/Herb/PCBs Extractable
- OPTIONS: [ ] Low Level
- SDWA: [ ] Low Level
- NPDES: [ ] 608 [ ] 608/PCB Only
- RCRA/21E: [ ] 8080 [ ] 8080/PCB Only

Vol.
- OPTIONS: [ ] Low Level
- SDWA: [ ] 515.1 [ ] 504
- NPDES: [ ] 615
- RCRA/21E: [ ] 8011

Metals
- SDWA: [ ] 12 SDWA
- NPDES: [ ] 13 Priority Pollutant
- RCRA/21E: [ ] 8 RCRA [ ] 17 App. IX [ ] 23 TAL
- Specify For Water Samples: [ ] Total [ ] Dissolved
- [ ] Specify:

Petroleum Hydrocarbon
- Ext.: [ ] 418.1 (TPH-IR)
- TPH: [ ] Diesel Range Organics (DRO) [ ] MA DEP EPH w/ PAHs [ ] MA DEP EPH only [ ] Hydrocarbon Fingerprint (GC/FID by ASTM D3328-90-Mod.)
- Vol. TPH: [ ] Gasoline Range Organics (GRO) [ ] MA DEP VPH w/ BTEX [ ] MA DEP VPH only

Haz. Waste
- [ ] TCLP [ ] Metals [ ] VOA [ ] Semi VOA [ ] Pesticides [ ] Herbicides
- [ ] Corrosivity (as pH) [ ] Reactivity [ ] Ignitability (as Flashpoint) [ ] Paint Filter

General Chemistry
- [ ] Metals [ ] Chloride [ ] Sulfate [ ] TDS [ ] Nitrate
- [ ] Alkalinity
- [ ] Ammonia [ ] TKN [ ] Total Phosphorus
- [ ] Oil & Grease (413.1)
- [ ] COD [ ] TOC
- [ ] BOD
- [ ] Cyanide, Total
- [ ] pH [ ] Dissolved Oxygen [ ] Turbidity
- [ ] Total Coliform

Other
- X: Total Lead
- X: Total Phos. (Ortho)
- X

Sampling DATE	Sampling TIME	SAMPLE IDENTIFICATION	Matrix: WATER	Matrix: SOIL	Matrix:	Type: COMPOSITE	Type: GRAB	Container(s): NUMBER	40mL VOA VIAL	125mL VOA JAR	1L GLASS	250mL GLASS	1L PLASTIC	500mL PLASTIC	250mL PLASTIC	120mL STERILE	Preservation: HCl	HNO3	H2SO4	NaOH	ICE	Filtered: YES	NO	LABORATORY NUMBER (Lab Use Only)
9/1/97	330	S1, S2, S3, S4		X		X		2		X											X			18026-01
	↓							3				X												↓ 02
	↓																							

REMARKS / SPECIAL INSTRUCTIONS

Please make a composite of the above samples

DATA QUALITY OBJECTIVES

Regulatory Program

- [ ] Safe Drinking Water Act
- [ ] NPDES/Clean Water Act
- [ ] RCRA/Haz. Waste Char.
- [ ] MA MCP (310 CMR 40)
  Reportable Concentrations
  - [ ] RCGW - 1 [ ] RCS - 1
  - [ ] RCGW - 2 [ ] RCS - 2
- [ ] Other: _____

Project Specific QC

Many regulatory programs and EPA methods require project specific QC. Project specific QC includes Sample Duplicates, Matrix Spikes, and/or Matrix Spike Duplicates. Laboratory QC is not project specific unless prearranged. Project specific QC samples are charged on a per sample basis. For water samples, each MS, MSD and Sample Duplicate requires an additional sample aliquot.

Project Specific QC Required
- [ ] Sample Duplicate
- [ ] Matrix Spike
- [ ] Matrix Spike Duplicate

Selection of QC Sample
- [ ] Selected by laboratory
- [ ] Please use sample: _____

CHAIN-OF-CUSTODY RECORD

NOTE: All samples submitted subject to Standard Terms and Conditions on reverse hereof.

	Date	Time		
Relinquished by Sampler: Sean Healy	9/1/97	4:30	Received by:	Shipping/Airbill Number:
Relinquished by:	Date	Time	Received by:	Custody Seal Number:
Relinquished by:	Date	Time	Received by Laboratory:	Cooler Serial Number:
	9/2/97	12:45		

Method of Shipment: [ ] GWA Courier [ ] Express Mail [X] Federal Express [ ] UPS [ ] Hand [ ] _____

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
QA/QC Program Statement

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*, US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste*, US EPA SW-846, Third Edition (Revised 1992).

Quality Control protocols include Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Equipment and facility maintenance conform to Good Laboratory Practices (GLPs). Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one calibration standard, one method blank, one laboratory control sample, and one matrix spike and one sample duplicate for each sample batch. All samples, standards, blanks, laboratory control samples and matrix spikes are spiked with internal standards and surrogate compounds. GC/MS systems are tuned to BFB ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one calibration standard, one method blank, one laboratory control sample, one matrix spike and one sample duplicate for each sample batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

Batches are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples which are analyzed together with the same method sequence and the same lots of reagents and with the same manipulations common to each sample within the same continuum of time within a 24 hour period.

Method Blanks are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

Laboratory Control Samples are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target compounds representative of the method analytes. Accuracy is defined as the degree of agreement of a measured value with the true or expected value. Percent Recoveries for the Laboratory Control Sample are calculated to assess accuracy.

Surrogate Compounds are used to assess the effectiveness of the method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to organic analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
Laboratory Control Sample Recovery

Category: EPA Method 8100 (Modified)
Batch ID: HF-0940-ML
Matrix: Soil
Units: mg/Kg

Laboratory Control Sample

ANALYTE	SPIKE ADDED	SPIKED RESULT	PERCENT RECOVERY	QC LIMITS
Fuel Oil No. 2	130	132	101 %	60-140

All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
Method Blank

Category: EPA Method 8100 (Modified)
Batch ID: HF-0940-MB1
Matrix: Soil

PARAMETER	CONCENTRATION (mg/Kg)	REPORTING LIMIT (mg/Kg)
Total Petroleum Hydrocarbons	BRL	60

QC SURROGATE COMPOUND	SPIKED	MEASURED	RECOVERY	QC LIMITS
o-Terphenyl	2.7	2.2	82 %	60 - 140 %

BRL = Below Reporting Limit. Calculations based on dry sample weight. Method References: Method 8100 (Modified) - Polynuclear Aromatic Hydrocarbons, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition.

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
Laboratory Control Sample Recovery

Category: Trace Metals
Matrix: Soil
Units: mg/Kg

Laboratory Control Sample

ANALYTE	BATCH ID	SPIKE ADDED	SPIKED RESULT	PERCENT RECOVERY	QC LIMITS
Lead	MM-0544-SLF	100	93	93 %	83-108

Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
Method Blank

Category: Trace Metals
Matrix: Soil

PARAMETER	CONCENTRATION (mg/Kg)	REPORTING LIMIT (mg/Kg)	BATCH ID	METHOD
Lead	BRL	10	MM-0544-SB	6010

BRL = Below Reporting Limit. Method References: Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986). Graphite Furnace analyses performed with Zeeman background correction and Lvov platform technique.

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
Laboratory Control Sample Recovery

Category: EPA Method 8020/Methanol Extraction
Batch ID: VG2-0758-EL
Matrix: Soil
Units: ug/Kg

Laboratory Control Sample

ANALYTE	SPIKE ADDED	SPIKED RESULT	PERCENT RECOVERY	QC LIMITS
Benzene	2,500	2,800	110 %	66-142
Toluene	2,500	2,800	113 %	59-139
Chlorobenzene	2,500	3,200	127 %	60-133

All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
Method Blank

Category: EPA Method 8020/Methanol Extraction
Batch ID: VG2-0758-EB1
Matrix: Soil

PARAMETER	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Methyl *tert*-Butyl Ether *	BRL	250
Benzene	BRL	20
Toluene	BRL	50
Chlorobenzene	BRL	50
Ethylbenzene	BRL	50
meta-and *para*-Xylene	BRL	50
ortho-Xylene	BRL	50
1,3-Dichlorobenzene	BRL	50
1,4-Dichlorobenzene	BRL	50
1,2-Dichlorobenzene	BRL	50

QC SURROGATE COMPOUND	SPIKED	MEASURED	RECOVERY	QC LIMITS
a,a,a-Trifluorotoluene	1,500	1,500	102 %	77 - 119 %

BRL = Below Reporting Limit. * Non-target compound. Calculations based on dry sample weight. Method References: Method 8020 - Aromatic Volatile Organics, and Method 5030 - Methanol Extraction Procedure, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986).

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
State Certification

CONNECTICUT
Department of Health Services

Certificate Number
PH-0586

Potable Water, Wastewater/Trade Waste, Sewage/Effluent, and Soil: Purgeable Halocarbons, Purgeable Aromatics, Pesticides, Phenols, Oil and Grease, Aluminum, Antimony, Arsenic, Beryllium, Cadmium, Chromium-T, Chromium-VI, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Cyanide, TDS, Ammonia, TKN, Nitrate, Ortho-Phosphate, Alkalinity, Hardness, Chloride, Fluoride, pH, Conductivity

MAINE
Department of Human Services

Certificate Number
N/A

Reciprocal certification in accordance with Massachusetts certification for drinking water parameters.

MASSACHUSETTS
Department of Environmental Protection

Certificate Number
MA103

Potable Water: Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver, Sodium, Thallium, Nitrate-N, Fluoride, Cyanide, Calcium, Total Alkalinity, Total Dissolved Solids, pH, Langelier Index, Trihalomethanes, Volatile Organic Compounds, 1,2-Dibromoethane, 1,2-Dibromo-3-chloropropane. Non-Potable Water: Aluminum, Antimony, Arsenic, Beryllium, Cadmium, Chromium, Cobalt, Copper, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium, Silver, Strontium, Thallium, Titanium, Vanadium, Zinc, pH, Specific Conductivity, Total Dissolved Solids, Total Hardness, Calcium, Magnesium, Sodium, Potassium, Total Alkalinity, Chloride, Fluoride, Ammonia-N, Nitrate-N, Kjeldahl-N, Orthophosphate, Total Cyanide, Oil and Grease, Total Phenolics, Volatile Halocarbons, Volatile Aromatics, Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, Polychlorinated Biphenyls (Water), Polychlorinated Biphenyls (Oil).

MICHIGAN
Department of Public Health

Certificate Number
N/A

Drinking Water: Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Cyanide, Fluoride, Lead, Mercury, Nickel, Nitrate, Nitrite, Selenium, Silver, Sodium, Sulfate, Thallium, Total Trihalomethanes, Regulated and Unregulated Volatile Organic Chemicals.

NEW HAMPSHIRE
Department of Environmental Services

Certificate Number
202791-A/B

Drinking Water: Lead, Selenium, Silver, Thallium, Trihalomethanes, Volatile Organics, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Mercury, Nickel, Fluoride, Total Filterable Residue, Calcium, Alkalinity, pH, Corrosivity, Total Cyanide, Vinyl Chloride, DBCP and EDB. Wastewater: Arsenic, Beryllium, Cadmium, Cobalt, Copper, Iron, Mercury, Manganese, Nickel, Lead, Selenium, Zinc, Antimony, Silver, Thallium, Molybdenum, Strontium, pH, Total Hardness, Calcium, Sodium, Potassium, Total Alkalinity, Chloride, Fluoride, Nitrate-N, TKN, Orthophospates, Total Phenolics, Oil & Grease, PCBs in Oil, Pesticides, Volatile Organics, Titanium, Total Cyanide, PCBs in Water.

RHODE ISLAND
Department of Health

Certificate Number
A54

Potable Water: Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver, Thallium, Nitrate, Nitrite, Fluoride, Turbidity, Chlorine, Total Filterable Solids, Calcium, pH, Alkalinity, Sodium, Corrosivity, Sulfate, Cyanide, Trihalomethanes, Chlorinated Hydrocarbon Pesticides, PCBs, Herbicides, Volatile Organic Compounds (EPA 524.2 and 504) and PAHs. Non-potable and Waste Waters: Aluminum, Arsenic, Beryllium, Cadmium, Cobalt, Chromium, Copper, Iron, Mercury, Manganese, Nickel, Lead, Selenium, Vanadium, Zinc, Antimony, Silver, Thallium, Molybdenum, Strontium, Titanium, pH, Conductance, TDS, Hardness, Calcium, Magnesium, Sodium, Potassium, Alkalinity, Chloride, Fluoride, Sulfate, Ammonia, Nitrate, Orthophosphate, TKN, Total Phosphorous, Cyanide, Non-filterable solids, Oil and Grease, Total Phenolics, Chlorine, PCBs in Water, PCBs in Oil, Chlorinated Hydrocarbon Pesticides, Volatile Halocarbons, Volatile Aromatics, Acid Extractables and Base/Neutral Extractables.

GROUNDWATER ANALYTICAL

Groundwater Analytical, Inc.
228 Main Street
Buzzards Bay, MA 02532

Telephone (508) 759-4441
FAX (508) 759-4475

October 28, 1997

Mr. Russell Fitzpatrick
Vertex Engineering
400 Libbey Parkway
Weymouth, MA 02189

Dear Russell:

Enclosed are the Volatile Organic, Lead and Total Petroleum Hydrocarbons Analyses performed for the MDMR Shrewsbury project, number 0558, sampled on 10-20-97. This project was processed for Priority One Week turnaround.

A brief description of the Quality Assurance/Quality Control procedures employed by Groundwater Analytical, and a statement of our state certifications are contained within the report. This letter authorizes the release of the analytical results and should be considered a part of this report.

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,

Jonathan R. Sanford
Vice President

JRS/smt
Enclosures

GROUNDWATER ANALYTICAL

EPA METHOD 8020
Volatile Aromatics (GC/PID)

Field ID:	MW1	Lab ID:	18479-01
Project:	MDMR Shrewsbury/0558	Batch ID:	VG2-1162-W
Client:	Vertex Engineering	Sampled:	10-20-97
Cont/Prsv:	40mL VOA Vial/HCl Cool	Received:	10-21-97
Matrix:	Aqueous	Analyzed:	10-22-97

PARAMETER	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Methyl *tert*-butyl Ether *	94	5
Benzene	BRL	1
Toluene	BRL	1
Chlorobenzene	BRL	1
Ethylbenzene	BRL	1
meta-and *para*-Xylene	BRL	1
ortho-Xylene	BRL	1
1,3-Dichlorobenzene	BRL	1
1,4-Dichlorobenzene	BRL	1
1,2-Dichlorobenzene	BRL	1

QC SURROGATE COMPOUND	SPIKED	MEASURED	RECOVERY	QC LIMITS
a,a,a-Trifluorotoluene	30	31	102 %	87 - 113 %

BRL = Below Reporting Limit. * Non-target compound. Method References: Method 8020 - Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986).

GROUNDWATER ANALYTICAL

EPA METHOD 8020
Volatile Aromatics (GC/PID)

Field ID:	MW3	Lab ID:	18479-02
Project:	MDMR Shrewsbury/0558	Batch ID:	VG2-1162-W
Client:	Vertex Engineering	Sampled:	10-20-97
Cont/Prsv:	40mL VOA Vial/HCl Cool	Received:	10-21-97
Matrix:	Aqueous	Analyzed:	10-22-97

PARAMETER	CONCENTRATION (ug/L)		REPORTING LIMIT (ug/L)
Methyl *tert*-butyl Ether *	110		5
Benzene	0.8	j	1
Toluene	1		1
Chlorobenzene	BRL		1
Ethylbenzene	BRL		1
meta-and *para*-Xylene	0.7	j	1
ortho-Xylene	BRL		1
1,3-Dichlorobenzene	BRL		1
1,4-Dichlorobenzene	BRL		1
1,2-Dichlorobenzene	BRL		1

QC SURROGATE COMPOUND	SPIKED	MEASURED	RECOVERY	QC LIMITS
a,a,a-Trifluorotoluene	30	30	101 %	87 - 113 %

j = Analyte detected below the reporting limit. Analyte result is an estimate. BRL = Below Reporting Limit. * Non-target compound. Method References: Method 8020 - Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986).

GROUNDWATER ANALYTICAL

EPA Method 8100 (Modified)
Total Petroleum Hydrocarbons (GC/FID)

Field ID:	MW1	Lab ID:	18479-03
Project:	MDMR Shrewsbury/0558	Batch ID:	HF-0728-F
Client:	Vertex Engineering	Sampled:	10-20-97
Cont/Prsv:	1L Glass/H2SO4 Cool	Preserved:	10-20-97
Matrix:	Aqueous	Received:	10-21-97
		Extracted:	10-23-97
		Analyzed:	10-24-97

PARAMETER	CONCENTRATION (mg/L)	REPORTING LIMIT (mg/L)
Total Petroleum Hydrocarbons	6.8	0.5

QC SURROGATE COMPOUND	SPIKED	MEASURED	RECOVERY	QC LIMITS
o-Terphenyl	0.038	0.035	91 %	60 - 140 %

BRL = Below Reporting Limit. Method Reference: Method 8100 (Modified) - Polynuclear Aromatic Hydrocarbons, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986).

GROUNDWATER ANALYTICAL

EPA Method 8100 (Modified)
Total Petroleum Hydrocarbons (GC/FID)

Field ID:	MW2	Lab ID:	18479-05
Project:	MDMR Shrewsbury/0558	Batch ID:	HF-0728-F
Client:	Vertex Engineering	Sampled:	10-20-97
Cont/Prsv:	1L Glass/H2SO4 Cool	Preserved:	10-20-97
Matrix:	Aqueous	Received:	10-21-97
		Extracted:	10-23-97
		Analyzed:	10-24-97

PARAMETER	CONCENTRATION (mg/L)	REPORTING LIMIT (mg/L)
Total Petroleum Hydrocarbons	4.9	0.6

QC SURROGATE COMPOUND	SPIKED	MEASURED	RECOVERY	QC LIMITS
o-Terphenyl	0.047	0.040	86 %	60 - 140 %

BRL = Below Reporting Limit. Method Reference: Method 8100 (Modified) - Polynuclear Aromatic Hydrocarbons, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986).

GROUNDWATER ANALYTICAL

EPA Method 8100 (Modified)
Total Petroleum Hydrocarbons (GC/FID)

Field ID: MW3
Project: MDMR Shrewsbury/0558
Client: Vertex Engineering
Cont/Prsv: 1L Glass/H2S04 Cool
Matrix: Aqueous

Lab ID: 18479-04
Batch ID: HF-0728-F
Sampled: 10-20-97
Preserved: 10-20-97
Received: 10-21-97
Extracted: 10-23-97
Analyzed: 10-24-97

PARAMETER	CONCENTRATION (mg/L)	REPORTING LIMIT (mg/L)
Total Petroleum Hydrocarbons	3.9	0.5

QC SURROGATE COMPOUND	SPIKED	MEASURED	RECOVERY	QC LIMITS
o-Terphenyl	0.038	0.033	85 %	60 - 140 %

BRL = Below Reporting Limit. Method Reference: Method 8100 (Modified) - Polynuclear Aromatic Hydrocarbons, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986).

GROUNDWATER ANALYTICAL

TRACE METALS (ICP/AA)

Field ID:	MW3	Lab ID:	18479-06
Project:	MDMR Shrewsbury/0558	Sampled:	10-17-97
Client:	Vertex Engineering	Filtered:	10-21-97
Cont/Prsv:	1L Glass/HNO3 Cool	Preserved:	10-21-97
Matrix:	Aqueous	Received:	10-21-97

PARAMETER	CONCENTRATION (mg/L)	REPORTING LIMIT (mg/L)	DATE ANALYZED	BATCH ID	EPA METHOD
Lead, Dissolved	BRL	0.003	10-23-97	MM-0724-W	7421/200.9

BRL = Below Reporting Limit. Method References: Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986) and Methods for Chemical Analysis of Water and Wastes, US EPA EPA-600/4-79-020, Revised (1983). Graphite Furnace analyses performed with Zeeman background correction and Lvov platform technique.

ANALYTICAL

228 Main Street
Buzzards Bay, MA 02532
Telephone (508) 759-4441
FAX (508) 759-4475

CHAIN-OF-CUSTODY RECORD AND WORK ORDER

№ 24050

Project Name: MDMR - Shrewsbury	Firm: Vertex
Project Number: 0558	Address: 400 Libbey Pkwy
Sampler Name: Sean Healey	City / State / Zip: Weymouth Ma 02189
Project Manager: Russell Fitzpatrick	Telephone: 617 335 6361

INSTRUCTIONS: Use separate line for each container (except replicates).

TURNAROUND

- ☐ STANDARD (10 Business Days)
- ☒ PRIORITY (5 Business Days)
- ☐ RUSH (RAN-_____)
  (Rush requires Rush Authorization Number)

Please FAX ☒ YES ☐ NO
FAX Number: 617 335 3543

BILLING

Purchase Order No.:
GWA Reference No.:

ANALYSIS REQUEST

OPTIONS
- Volatiles: ☐ Low Level ☐ MTBE ☐ TIC Search
- Semivolatiles: ☐ Low Level ☐ Acid Only ☐ B/N Only ☐ TIC Search
- Pest/Herb/PCBs Extractable: ☐ Low Level
- Pest/Herb/PCBs Vol.: ☐ Low Level
- Metals: Specify For Water Samples: ☐ Total ☐ Dissolved
- Petroleum Hydrocarbon Ext.: ☐ Diesel Range Organics (DRO)
- Petroleum Hydrocarbon TPH: ☐ MA DEP EPH w/ PAHs ☐ MA DEP EPH only
- Petroleum Hydrocarbon Vol. TPH: ☐ Hydrocarbon Fingerprint (GC/FID by ASTM D3328-90-Mod.) ☐ Gasoline Range Organics (GRO)
- Haz. Waste: ☐ MA DEP VPH w/ BTEX ☐ MA DEP VPH only
- General Chemistry: ☐ TCLP ☐ Metals ☐ VOA ☐ Semi VOA ☐ Pesticides ☐ Herbicides ☐ Corrosivity (as pH) ☐ Reactivity ☐ Ignitability (as Flashpoint) ☐ Part. Filter
- Other: ☐ Nitrate ☐ Chloride ☐ Sulfate ☐ TDS ☐ Nitrite ☐ Alkalinity ☐ Ammonia ☐ TKN ☐ Total Phosphorus ☐ Oil & Grease (413.1) ☐ COD ☐ TOC ☐ BOD ☐ Cyanide, Total ☐ pH ☐ Dissolved Oxygen ☐ Turbidity ☐ Total Coliform

SDWA: ☐ 524.2 | ☐ 502.2 | ☐ 525.2 | ☐ D12 SDWA
NPDES: ☐ 624/NPDES | ☐ 624/ Extended | ☐ 8021/502 | ☐ 602 | ☐ 601 | ☐ 625 | ☐ 608 | ☐ 608/PCB Only | ☐ 515.1 | ☐ 504 | ☐ 13 Priority Pollutant
RCRA/21E: ☐ 8260/TCL | ☐ 8250/ Method List | ☐ 8010/8020 | ☐ 8020 | ☐ 8010 | ☐ 8270/TCL | ☐ 8270/PAHs Only | ☐ 8080 | ☐ 8080/PCB Only | ☐ 8150 | ☐ 8011 | ☐ 8 RCRA ☐ 17 App. IX ☐ 23 TAL | ☒ Specify: LEAD | ☐ 418.1 (TPH-IR)

Sampling DATE	Sampling TIME	SAMPLE IDENTIFICATION	Matrix: WATER	Matrix: SOIL	Type: COMPOSITE	Type: GRAB	Container(s): NUMBER	40mL VOA VIAL	125mL VOA JAR	1L GLASS/PLUS	250mL GLASS	1L PLASTIC	500mL PLASTIC	250mL PLASTIC	120mL STERILE	Preservation: HCl	HNO3	H2SO4	NaOH	ICE	Filtered: YES	Filtered: NO	LABORATORY NUMBER (Lab Use Only)
11/4		MW1	X			X	1			X										X			15087-01
11/4		MW2	X			X	3	X								X				X			03
11/4		"	X			X	1			X										X			02

REMARKS / SPECIAL INSTRUCTIONS

DATA QUALITY OBJECTIVES

Regulatory Program

- ☐ Safe Drinking Water Act
- ☐ NPDES/Clean Water Act
- ☐ RCRA/Haz. Waste Char.
- ☐ MA MCP (310 CMR 40)
  Reportable Concentrations
  - ☐ RCGW - 1 ☐ RCS - 1
  - ☐ RCGW - 2 ☐ RCS - 2
- ☐ Other: _____

Project Specific QC

Many regulatory programs and EPA methods require project specific QC. Project specific QC includes Sample Duplicates, Matrix Spikes, and/or Matrix Spike Duplicates. Laboratory QC is not project specific unless prearranged. Project specific QC samples are charged on a per sample basis. For water samples, each MS, MSD and Sample Duplicate requires an additional sample aliquot.

Project Specific QC Required
- ☐ Sample Duplicate
- ☐ Matrix Spike
- ☐ Matrix Spike Duplicate

Selection of QC Sample
- ☐ Selected by laboratory
- ☐ Please use sample: _____

CHAIN-OF-CUSTODY RECORD

NOTE: All samples submitted subject to Standard Terms and Conditions on reverse hereof.

	Date	Time		
Relinquished by Sampler: Sean Healy	11/5/97	5:05PM	Received by: Alan Maddigan	11/5/97 5:08PM
Relinquished by:	Date	Time	Received by:	
Relinquished by: Alan Maddigan	11/5/97	6:25PM	Received by Laboratory: Paul Kony	

Method of Shipment: ☒ GWA Courier ☐ Express Mail ☐ Federal Express ☐ UPS ☐ Hand ☐ _____

Shipping/Airbill Number:
Custody Seal Number:
Cooler Serial Number:

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
QA/QC Program Statement

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*, US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste*, US EPA SW-846, Third Edition (Revised 1992).

Quality Control protocols include Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Equipment and facility maintenance conform to Good Laboratory Practices (GLPs). Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one calibration standard, one method blank, one laboratory control sample, and one matrix spike and one sample duplicate for each sample batch. All samples, standards, blanks, laboratory control samples and matrix spikes are spiked with internal standards and surrogate compounds. GC/MS systems are tuned to BFB ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one calibration standard, one method blank, one laboratory control sample, one matrix spike and one sample duplicate for each sample batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

Batches are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples which are analyzed together with the same method sequence and the same lots of reagents and with the same manipulations common to each sample within the same continuum of time within a 24 hour period.

Method Blanks are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

Laboratory Control Samples are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target compounds representative of the method analytes. Accuracy is defined as the degree of agreement of a measured value with the true or expected value. Percent Recoveries for the Laboratory Control Sample are calculated to assess accuracy.

Surrogate Compounds are used to assess the effectiveness of the method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to organic analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
Laboratory Control Sample Recovery

Category: Trace Metals
Matrix: Aqueous
Units: mg/L

Laboratory Control Sample

ANALYTE	BATCH ID	SPIKE ADDED	SPIKED RESULT	PERCENT RECOVERY	QC LIMITS
Lead	MM-0728-WLF	0.050	0.052	105 %	85-115

All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
Method Blank

Category: Trace Metals
Matrix: Aqueous

PARAMETER	CONCENTRATION (mg/L)	REPORTING LIMIT (mg/L)	BATCH ID	EPA METHOD
Lead	BRL	0.003	MM-0728-WB	7421/200.9

BRL = Below Reporting Limit. Method References: Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986), and Methods for Chemical Analysis of Water and Wastes, US EPA EPA-600/4-79-020, Revised (1983). Graphite Furnace analyses performed with Zeeman background correction and Lvov platform technique.

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
Laboratory Control Sample Recovery

Category: EPA Method 8015 (MA DEP Modified)
Batch ID: VG1-0298-WL
Matrix: Aqueous
Units: ug/L

Laboratory Control Sample

ANALYTE	SPIKE ADDED	SPIKED RESULT	PERCENT RECOVERY	QC LIMITS
Methyl tert-Butyl Ether	50	52	103 %	80-120
Benzene	50	50	101 %	80-120
Toluene	50	53	105 %	80-120
Ethylbenzene	50	51	101 %	80-120
meta- and *para*-Xylene	100	110	107 %	80-120
ortho-Xylene	50	52	104 %	80-120
Naphthalene	50	46	92 %	80-120

All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
Method Blank

Category: EPA Method 8015 (MA DEP Modified)
Batch ID: VG1-0298-W
Matrix: Aqueous

Volatile Petroleum Hydrocarbons

PARAMETER	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
n-C 5 to n-C 8 Aliphatics *	BRL	5
n-C 9 to n-C 12 Aliphatics	BRL	5
n-C 9 to n-C 10 Aromatics	BRL	5

Targeted Volatile Organic Analytes

PARAMETER	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Methyl *tert*-butyl Ether	BRL	25
Benzene	BRL	5
Toluene	BRL	5
Ethylbenzene	BRL	5
meta- and *para*-Xylene	BRL	5
ortho-Xylene	BRL	5
Naphthalene	BRL	10

QC SURROGATE COMPOUND	SPIKED	MEASURED	RECOVERY	QC LIMITS
2,5-Dibromotoluene	50	42	85 %	60 - 140 %

BRL = Below Reporting Limit. * = Reported concentration excludes targeted Volatile Organic analytes. Method Reference: Method 8015 (Modified) - Nonhalogenated Volatile Organics by Gas Chromatography, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986). Modified in accordance with the Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP, Public Comment Draft 1.0 (1995) and Issues Paper: Implementation of VPH/EPH Approach, MA DEP (1996).

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
State Certification

CONNECTICUT
Department of Health Services

Certificate Number
PH-0586

Potable Water, Wastewater/Trade Waste, Sewage/Effluent, and Soil: Purgeable Halocarbons, Purgeable Aromatics, Pesticides, Phenols, Oil and Grease, Aluminum, Antimony, Arsenic, Beryllium, Cadmium, Chromium-T, Chromium-VI, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Cyanide, TDS, Ammonia, TKN, Nitrate, Ortho-Phosphate, Alkalinity, Hardness, Chloride, Fluoride, pH, Conductivity

MAINE
Department of Human Services

Certificate Number
N/A

Reciprocal certification in accordance with Massachusetts certification for drinking water parameters.

MASSACHUSETTS
Department of Environmental Protection

Certificate Number
MA103

Potable Water: Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver, Sodium, Thallium, Nitrate-N, Fluoride, Cyanide, Calcium, Total Alkalinity, Total Dissolved Solids, pH, Langelier Index, Trihalomethanes, Volatile Organic Compounds, 1,2-Dibromoethane, 1,2-Dibromo-3-chloropropane. Non-Potable Water: Aluminum, Antimony, Arsenic, Beryllium, Cadmium, Chromium, Cobalt, Copper, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium, Silver, Strontium, Thallium, Titanium, Vanadium, Zinc, pH, Specific Conductivity, Total Dissolved Solids, Total Hardness, Calcium, Magnesium, Sodium, Potassium, Total Alkalinity, Chloride, Fluoride, Ammonia-N, Nitrate-N, Kjeldahl-N, Orthophosphate, Total Cyanide, Oil and Grease, Total Phenolics, Volatile Halocarbons, Volatile Aromatics, Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, Polychlorinated Biphenyls (Water), Polychlorinated Biphenyls (Oil).

MICHIGAN
Department of Public Health

Certificate Number
N/A

Drinking Water: Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Cyanide, Fluoride, Lead, Mercury, Nickel, Nitrate, Nitrite, Selenium, Silver, Sodium, Sulfate, Thallium, Total Trihalomethanes, Regulated and Unregulated Volatile Organic Chemicals.

NEW HAMPSHIRE
Department of Environmental Services

Certificate Number
202791-A/B

Drinking Water: Lead, Selenium, Silver, Thallium, Trihalomethanes, Volatile Organics, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Mercury, Nickel, Fluoride, Total Filterable Residue, Calcium, Alkalinity, pH, Corrosivity, Total Cyanide, Vinyl Chloride, DBCP and EDB. Wastewater: Arsenic, Beryllium, Cadmium, Cobalt, Copper, Iron, Mercury, Manganese, Nickel, Lead, Selenium, Zinc, Antimony, Silver, Thallium, Molybdenum, Strontium, pH, Total Hardness, Calcium, Sodium, Potassium, Total Alkalinity, Chloride, Fluoride, Nitrate-N, TKN, Orthophospates, Total Phenolics, Oil & Grease, PCBs in Oil, Pesticides, Volatile Organics, Titanium, Total Cyanide, PCBs in Water.

RHODE ISLAND
Department of Health

Certificate Number
A54

Potable Water: Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver, Thallium, Nitrate, Nitrite, Fluoride, Turbidity, Chlorine, Total Filterable Solids, Calcium, pH, Alkalinity, Sodium, Corrosivity, Sulfate, Cyanide, Trihalomethanes, Chlorinated Hydrocarbon Pesticides, PCBs, Herbicides, Volatile Organic Compounds (EPA 524.2 and 504) and PAHs. Non-potable and Waste Waters: Aluminum, Arsenic, Beryllium, Cadmium, Cobalt, Chromium, Copper, Iron, Mercury, Manganese, Nickel, Lead, Selenium, Vanadium, Zinc, Antimony, Silver, Thallium, Molybdenum, Strontium, Titanium, pH, Conductance, TDS, Hardness, Calcium, Magnesium, Sodium, Potassium, Alkalinity, Chloride, Fluoride, Sulfate, Ammonia, Nitrate, Orthophosphate, TKN, Total Phosphorous, Cyanide, Non-filterable solids, Oil and Grease, Total Phenolics, Chlorine, PCBs in Water, PCBs in Oil, Chlorinated Hydrocarbon Pesticides, Volatile Halocarbons, Volatile Aromatics, Acid Extractables and Base/Neutral Extractables.

GROUNDWATER ANALYTICAL

Groundwater Analytical, Inc
228 Main Street
Buzzards Bay, MA 02532

Telephone (508) 759-4441
FAX (508) 759-4475

November 12, 1997

Mr. Russell Fitzpatrick
Vertex Engineering
400 Libbey Parkway
Weymouth, MA 02189

Dear Russell:

Enclosed are the Volatile Petroleum Hydrocarbons and Lead Analyses performed for the MDMR-Shrewsbury project, number 0558, sampled on 11-04-97. This project was processed for Priority One Week turnaround.

A brief description of the Quality Assurance/Quality Control procedures employed by Groundwater Analytical, and a statement of our state certifications are contained within the report. This letter authorizes the release of the analytical results and should be considered a part of this report.

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,

Jonathan R. Sanford
Vice President

JRS/awc
Enclosures

GROUNDWATER ANALYTICAL

TRACE METALS
(ICP/AA)

Field ID:	MW1	Lab ID:	18687-01
Project:	MDMR-Shrewsbury/0558	Sampled:	11-04-97
Client:	Vertex Engineering	Preserved:	11-05-97
Cont/Prsv:	500mL Plastic/HNO3 Cool	Received:	11-05-97
Matrix:	Aqueous		

PARAMETER	CONCENTRATION (mg/L)	REPORTING LIMIT (mg/L)	DATE ANALYZED	BATCH ID	EPA METHOD
Lead, Total	0.016	0.003	11-10-97	MM-0728-W	7421/200.9

BRL = Below Reporting Limit. Method References: Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986) and Methods for Chemical Analysis of Water and Wastes, US EPA EPA-600/4-79-020, Revised (1983). Graphite Furnace analyses performed with Zeeman background correction and Lvov platform technique.

GROUNDWATER ANALYTICAL

TRACE METALS
(ICP/AA)

Field ID:	MW2	Lab ID:	18687-02
Project:	MDMR-Shrewsbury/0558	Sampled:	11-04-97
Client:	Vertex Engineering	Preserved:	11-05-97
Cont/Prsv:	500mL Plastic/HNO3 Cool	Received:	11-05-97
Matrix:	Aqueous		

PARAMETER	CONCENTRATION (mg/L)	REPORTING LIMIT (mg/L)	DATE ANALYZED	BATCH ID	EPA METHOD
Lead, Total	0.033	0.003	11-10-97	MM-0728-W	7421/200.9

BRL = Below Reporting Limit. Method References: Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986) and Methods for Chemical Analysis of Water and Wastes, US EPA EPA-600/4-79-020, Revised (1983). Graphite Furnace analyses performed with Zeeman background correction and Lvov platform technique.

GROUNDWATER ANALYTICAL

EPA METHOD 8015 (MA DEP Modified)
Volatile Petroleum Hydrocarbons (GC/PID/FID)

Field ID:	MW2	Lab ID:	18687-03
Project:	MDMR-Shrewsbury/0558	Batch ID:	VG1-0298-W
Client:	Vertex Engineering	Sampled:	11-04-97
Cont/Prsv:	40mL VOA Vial/HCl Cool	Received:	11-05-97
Matrix:	Aqueous	Analyzed:	11-08-97

Volatile Petroleum Hydrocarbons

PARAMETER	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
n-C 5 to n-C 8 Aliphatics *	BRL	10
n-C 9 to n-C 12 Aliphatics	BRL	10
n-C 9 to n-C 10 Aromatics	BRL	10

Targeted Volatile Organic Analytes

PARAMETER	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Methyl *tert*-butyl Ether	110	50
Benzene	BRL	10
Toluene	BRL	10
Ethylbenzene	BRL	10
meta- and *para*-Xylene	BRL	10
ortho-Xylene	BRL	10
Naphthalene	BRL	20

QC SURROGATE COMPOUND	SPIKED	MEASURED	RECOVERY	QC LIMITS
2,5-Dibromotoluene	50	38	76 %	60 - 140 %

BRL = Below Reporting Limit. * = Reported concentration excludes targeted Volatile Organic analytes. Method Reference: Method 8015 (Modified) - Nonhalogenated Volatile Organics by Gas Chromatography, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986). Modified in accordance with the Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP, Public Comment Draft 1.0 (1995) and Issues Paper: Implementation of VPH/EPH Approach, MA DEP (1996).

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
Project Narrative

Project: MDMR-Shrewsbury/0558
Client: Vertex Engineering

Lab ID: 18687
Received: 11-05-97

A. Physical Condition of Sample(s)

This project was received by the laboratory in satisfactory condition, with the following non-conformance(s):

1. Samples 18687-01 and -02 for Total Lead Analysis were received without preservation. The samples were preserved with HNO3 by the laboratory upon receipt.

B. Project Documentation

This project was accompanied by Chain of Custody documentation, with the following amendment(s) or correction(s):

1. Samples 18687-01 and -02 were analyzed for Total Lead, per Sean Healey, 11-06-97.

C. Analysis of Sample(s)

No analytical anomalies or non-conformances were noted by the laboratory during the processing of these samples. All data contained within this report are released without qualification.

GROUNDWATER ANALYTICAL

TRACE METALS (ICP/AA)

Field ID: MW1-20-22
Project: MDMR Shrewsbury/0558
Client: Vertex Engineering
Cont/Prsv: 500ml Glass/Cool
Matrix: Soil Percent Solids: 92 %

Lab ID: 18479-07
Sampled: 10-20-97
Received: 10-21-97

PARAMETER	CONCENTRATION (mg/Kg)	REPORTING LIMIT (mg/Kg)	DATE ANALYZED	BATCH	EPA METHOD
Lead, Total	BRL	11	10-24-97	MM-0554-S	6010

BRL = Below Reporting Limit. Calculations based on dry sample weight. Method References: Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986). Graphite Furnace analyses performed with Zeeman background correction and Lvov platform technique.

GROUNDWATER ANALYTICAL

TRACE METALS (ICP/AA)

Field ID:	MW2-10-12	Lab ID:	18479-08
Project:	MDMR Shrewsbury/0558	Sampled:	10-20-97
Client:	Vertex Engineering	Received:	10-21-97
Cont/Prsv:	500ml Glass/Cool		
Matrix:	Soil Percent Solids: 92 %		

PARAMETER	CONCENTRATION (mg/Kg)	REPORTING LIMIT (mg/Kg)	DATE ANALYZED	BATCH	EPA METHOD
Lead, Total	BRL	11	10-24-97	MM-0554-S	6010

BRL = Below Reporting Limit. Calculations based on dry sample weight. Method References: Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986). Graphite Furnace analyses performed with Zeeman background correction and Lvov platform technique.

GROUNDWATER ANALYTICAL

TRACE METALS (ICP/AA)

Field ID: MW3-11-13
Project: MDMR Shrewsbury/0558
Client: Vertex Engineering
Cont/Prsv: 500ml Glass/Cool
Matrix: Soil Percent Solids: 91 %

Lab ID: 18479-09
Sampled: 10-20-97
Received: 10-21-97

PARAMETER	CONCENTRATION (mg/Kg)	REPORTING LIMIT (mg/Kg)	DATE ANALYZED	BATCH	EPA METHOD
Lead, Total	BRL	11	10-24-97	MM-0554-S	6010

BRL = Below Reporting Limit. Calculations based on dry sample weight. Method References: Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986). Graphite Furnace analyses performed with Zeeman background correction and Lvov platform technique.

GROUNDWATER ANALYTICAL

EPA METHOD 8020
Volatile Aromatics (GC/PID)

Field ID:	MW1-20-22	Lab ID:	18479-07
Project:	MDMR Shrewsbury/0558	Batch ID:	VG2-0765-E
Client:	Vertex Engineering	Sampled:	10-20-97
Cont/Prsv:	500mL Glass/Cool	Received:	10-21-97
Matrix:	Soil Percent Moisture: 8 %	Analyzed:	10-23-97

PARAMETER	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Methyl *tert*-Butyl Ether *	BRL	250
Benzene	BRL	50
Toluene	BRL	50
Chlorobenzene	BRL	50
Ethylbenzene	BRL	50
meta-and *para*-Xylene	BRL	50
ortho-Xylene	BRL	50
1,3-Dichlorobenzene	BRL	50
1,4-Dichlorobenzene	BRL	50
1,2-Dichlorobenzene	BRL	50

QC SURROGATE COMPOUND	SPIKED	MEASURED	RECOVERY	QC LIMITS
a,a,a-Trifluorotoluene	1,500	1,500	97 %	77 - 119 %

BRL = Below Reporting Limit. * Non-target compound. Calculations based on dry sample weight. Method References: Method 8020 - Aromatic Volatile Organics, and Method 5030 - Methanol Extraction Procedure, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986).

GROUNDWATER ANALYTICAL

EPA METHOD 8020
Volatile Aromatics (GC/PID)

Field ID:	MW2-10-12	Lab ID:	18479-08
Project:	MDMR Shrewsbury/0558	Batch ID:	VG2-0765-E
Client:	Vertex Engineering	Sampled:	10-20-97
Cont/Prsv:	500mL Glass/Cool	Received:	10-21-97
Matrix:	Soil Percent Moisture: 8 %	Analyzed:	10-23-97

PARAMETER	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Methyl *tert*-Butyl Ether *	BRL	250
Benzene	BRL	50
Toluene	BRL	50
Chlorobenzene	BRL	50
Ethylbenzene	BRL	50
meta-and *para*-Xylene	BRL	50
ortho-Xylene	BRL	50
1,3-Dichlorobenzene	BRL	50
1,4-Dichlorobenzene	BRL	50
1,2-Dichlorobenzene	BRL	50

QC SURROGATE COMPOUND	SPIKED	MEASURED	RECOVERY	QC LIMITS
a,a,a-Trifluorotoluene	1,500	1,400	93 %	77 - 119 %

BRL = Below Reporting Limit. * Non-target compound. Calculations based on dry sample weight. Method References: Method 8020 - Aromatic Volatile Organics, and Method 5030 - Methanol Extraction Procedure, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986).

GROUNDWATER ANALYTICAL

EPA METHOD 8020
Volatile Aromatics (GC/PID)

Field ID:	MW3-11-13	Lab ID:	18479-09
Project:	MDMR Shrewsbury/0558	Batch ID:	VG2-0765-E
Client:	Vertex Engineering	Sampled:	10-20-97
Cont/Prsv:	500mL Glass/Cool	Received:	10-21-97
Matrix:	Soil Percent Moisture: 9 %	Analyzed:	10-22-97

PARAMETER	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Methyl *tert*-Butyl Ether *	BRL	250
Benzene	BRL	50
Toluene	BRL	50
Chlorobenzene	BRL	50
Ethylbenzene	BRL	50
meta-and *para*-Xylene	BRL	50
ortho-Xylene	BRL	50
1,3-Dichlorobenzene	BRL	50
1,4-Dichlorobenzene	BRL	50
1,2-Dichlorobenzene	BRL	50

QC SURROGATE COMPOUND	SPIKED	MEASURED	RECOVERY	QC LIMITS
a,a,a-Trifluorotoluene	1,500	1,400	95 %	77 - 119 %

BRL = Below Reporting Limit. * Non-target compound. Calculations based on dry sample weight. Method References: Method 8020 - Aromatic Volatile Organics, and Method 5030 - Methanol Extraction Procedure, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986).

GROUNDWATER ANALYTICAL

EPA Method 8100 (Modified)
Total Petroleum Hydrocarbons (GC/FID)

Field ID:	MW1-20-22	Lab ID:	18479-07
Project:	MDMR Shrewsbury/0558	Batch ID:	HF-0956-M
Client:	Vertex Engineering	Sampled:	10-20-97
Cont/Prsv:	500ml Glass/Cool	Received:	10-21-97
Matrix:	Soil Percent Moisture: 8 %	Extracted:	10-23-97
		Analyzed:	10-24-97

PARAMETER	CONCENTRATION (mg/Kg)	REPORTING LIMIT (mg/Kg)
Total Petroleum Hydrocarbons	BRL	62

QC SURROGATE COMPOUND	SPIKED	MEASURED	RECOVERY	QC LIMITS
o-Terphenyl	2.8	2.3	84 %	60 - 140 %

BRL = Below Reporting Limit. Calculations based on dry sample weight. Method References: Method 8100 (Modified) - Polynuclear Aromatic Hydrocarbons, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986).

GROUNDWATER ANALYTICAL

EPA Method 8100 (Modified)
Total Petroleum Hydrocarbons (GC/FID)

Field ID:	MW2-10-12	Lab ID:	18479-08
Project:	MDMR Shrewsbury/0558	Batch ID:	HF-0956-M
Client:	Vertex Engineering	Sampled:	10-20-97
Cont/Prsv:	500ml Glass/Cool	Received:	10-21-97
Matrix:	Soil Percent Moisture: 8 %	Extracted:	10-23-97
		Analyzed:	10-24-97

PARAMETER	CONCENTRATION (mg/Kg)	REPORTING LIMIT (mg/Kg)
Total Petroleum Hydrocarbons	BRL	64

QC SURROGATE COMPOUND	SPIKED	MEASURED	RECOVERY	QC LIMITS
o-Terphenyl	2.9	2.3	79 %	60 - 140 %

BRL = Below Reporting Limit. Calculations based on dry sample weight. Method References: Method 8100 (Modified) - Polynuclear Aromatic Hydrocarbons, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986).

GROUNDWATER ANALYTICAL

EPA Method 8100 (Modified)
Total Petroleum Hydrocarbons (GC/FID)

Field ID:	MW3-11-13	Lab ID:	18479-09
Project:	MDMR Shrewsbury/0558	Batch ID:	HF-0956-M
Client:	Vertex Engineering	Sampled:	10-20-97
Cont/Prsv:	500ml Glass/Cool	Received:	10-21-97
Matrix:	Soil Percent Moisture: 9 %	Extracted:	10-23-97
		Analyzed:	10-25-97

PARAMETER	CONCENTRATION (mg/Kg)	REPORTING LIMIT (mg/Kg)
Total Petroleum Hydrocarbons	BRL	65

QC SURROGATE COMPOUND	SPIKED	MEASURED	RECOVERY	QC LIMITS
o-Terphenyl	2.9	2.4	81 %	60 - 140 %

BRL = Below Reporting Limit. Calculations based on dry sample weight. Method References: Method 8100 (Modified) - Polynuclear Aromatic Hydrocarbons, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986).

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
Project Narrative

Project: MDMR Shrewsbury/0558
Client: Vertex Engineering

Lab ID: 18479
Received: 10-21-97

A. Physical Condition of Sample(s)

This project was received by the laboratory in satisfactory condition, with the following non-conformance(s):

1. Sample 18479-06 for Dissolved Metal Analysis was not received filtered. The sample was filtered by the laboratory upon receipt.

2. Sample 18479-06 for Dissolved Lead Analysis was received without preservation. The sample was preserved with HNO3 by the laboratory upon receipt.

3. Sample identified as "MW-1" was not analyzed for Dissolved Lead due to insufficient sample material.

B. Project Documentation

This project was accompanied by a satisfactory Chain of Custody documentation. The sample container label(s) agreed with the Chain of Custody.

C. Analysis of Sample(s)

No analytical anomalies or non-conformances were noted by the laboratory during the processing of these samples. All data contained within this report are released without qualification.

GROUNDWATER ANALYTICAL

228 Main Street
Buzzards Bay, MA 02532
Telephone (508) 759-4441
FAX (508) 759-4475

CHAIN-OF-CUSTODY RECORD AND WORK ORDER

№ 27864

Project Name: Mohr Shrewsbury
Project Number: 0558
Sampler Name: Sean Healey
Project Manager: Russell Fitzpatrick
Firm: Vortex Engineering
Address: 400 Libbey Parkway
City / State / Zip: Weymouth Mass 02189
Telephone: 617 335 6361

INSTRUCTIONS: Use separate line for each container (except replicates).

TURNAROUND

- ☐ STANDARD (10 Business Days)
- ☒ PRIORITY (5 Business Days)
- ☐ RUSH (RAN- _____)
  (Rush requires Rush Authorization Number)

Please FAX ☐ YES ☐ NO
FAX Number: _____

BILLING

Purchase Order No.:
GWA Reference No.:

ANALYSIS REQUEST

OPTIONS
- Volatiles: ☐ Low Level ☐ MTBE ☐ TIC Search
- Semivolatiles: ☐ Low Level ☐ Acid Only ☐ B/N Only ☐ TIC Search
- Pest/Herb/PCBs: Extractable ☐ Low Level ☐ Low Level; Vol.
- Metals: Specify For Water Samples: ☐ Total ☐ Dissolved
- Petroleum Hydrocarbon: Ext. ☐ Diesel Range Organics (DRO) ☐ MA DEP EPH w/ PAHs ☐ MA DEP EPH only; TPH ☐ Hydrocarbon Fingerprint (GC-FID by ASTM D3328-90 Mod.); Vol. TPH ☐ Gasoline Range Organics (GRO) ☐ MA DEP VPH w/ BTEX ☐ MA DEP VPH only
- Haz. Waste: ☐ TCLP ☐ Metals ☐ VOA ☐ Semi VOA ☐ Pesticides ☐ Herbicides ☐ Corrosivity (as pH) ☐ Reactivity ☐ Ignitability (as Flashpoint) ☐ Paint Filter
- General Chemistry: ☐ Nitrate ☐ Chloride ☐ Sulfate ☐ TDS ☐ Nitrite ☐ Alkalinity ☐ Ammonia ☐ TKN ☐ Total Phosphorus ☐ Oil & Grease (413.1) ☐ COD ☐ TOC ☐ BOD ☐ Cyanide Total ☐ pH ☐ Dissolved Oxygen ☐ Turbidity
- Other: ☐ Total Coliform

SDWA: ☐ 524.2; ☐ 502.2 ☐ MTBE ☒ MTBE; ☐ 525.2; ☐ 504; ☐ 552 SDWA
NPDES: ☐ 624/NPDES; ☐ 624/Extended; ☐ 601/602; ☐ 602; ☐ 601; ☐ 625; ☐ 608; ☐ 608/PCB Only; ☐ 615; ☐ 515.3; ☐ 13 Priority Pollutant
RCRA21E: ☐ 8260/TCL; ☐ 8260/Method List; ☐ 8010/8020; ☐ 8020 ☒; ☐ 8010; ☐ 8270/TCL; ☐ 8270/PAHs Only; ☐ 8080; ☐ 8080/PCB Only; ☐ 8140; ☐ 8150; ☐ 8011; ☐ 8 RCRA ☐ 17 App. IX ☐ 23 TAL ☐ Specify:

Sampling DATE	Sampling TIME	SAMPLE IDENTIFICATION	Matrix: WATER	Matrix: SOIL	Type: COMPOSITE	Type: GRAB	Container(s): NUMBER	40mL VOA VIAL	125mL VOA JAR	1L GLASS	250mL GLASS	1L PLASTIC	500mL PLASTIC	250mL PLASTIC	120mL STERILE	Preservation: HCl	HNO3	H2SO4	NaOH	ICE	Filtered: YES	Filtered: NO	LABORATORY NUMBER (Lab Use Only)
10/31		MW1	X			X	1			X								X		X			18979-03
		" "	X			X	3	X								X				X			01
		MW2																					
		MW3	X			X	3	X															
							a			X						X		X		X			03
							1			X										X			04
																							06
		MW2	X			X	1			X								X					05

REMARKS / SPECIAL INSTRUCTIONS

Sampling Priority ☆
1) Betex w/ MTBE
2) TPH
3) Lead
☆ if not enough water

DATA QUALITY OBJECTIVES

Regulatory Program

- ☐ Safe Drinking Water Act
- ☐ NPDES/Clean Water Act
- ☐ RCRA/Haz. Waste Char.
- ☐ MA MCP (310 CMR 40)
  Reportable Concentrations
  - ☐ RCGW - 1 ☐ RCS - 1
  - ☐ RCGW - 2 ☐ RCS - 2
- ☐ Other: _____

Project Specific QC

Many regulatory programs and EPA methods require project specific QC. Project specific QC includes Sample Duplicates, Matrix Spikes, and/or Matrix Spike Duplicates. Laboratory QC is not project specific unless prearranged. Project specific QC samples are charged on a per sample basis. For water samples, each MS, MSD and Sample Duplicate requires an additional sample aliquot.

Project Specific QC Required
- ☐ Sample Duplicate
- ☐ Matrix Spike
- ☐ Matrix Spike Duplicate

Selection of QC Sample
- ☐ Selected by laboratory
- ☐ Please use sample: _____

CHAIN-OF-CUSTODY RECORD

NOTE: All samples submitted subject to Standard Terms and Conditions on reverse hereof.

	Date	Time		
Relinquished by Sampler: Sean Healey	10/31/19	2:30	Received by:	Shipping/Airbill Number:
Relinquished by:	Date	Time	Received by:	Custody Seal Number:
Relinquished by:	10/31/19	4:20	Received by Laboratory: Paul Kym	Cooler Serial Number:

Method of Shipment: ☐ GWA Courier ☐ Express Mail ☐ Federal Express ☐ UPS ☐ Hand ☐ _____

GROUNDWATER ANALYTICAL

228 Main Street
Buzzards Bay, MA 02532
Telephone (508) 759-4441
FAX (508) 759-4475

CHAIN-OF-CUSTODY RECORD AND WORK ORDER

№ 27863

Project Name: MMR - Shrewsbury
Project Number: 0558
Sampler Name: Sean Healey
Project Manager: Russell Fitzpatrick

Firm: Vertex Engineering
Address: 400 Libbey Pkwy
City / State / Zip: Weymouth Mass 02189
Telephone: 617 335 6361

INSTRUCTIONS: Use separate line for each container (except replicates).

TURNAROUND

- [x] STANDARD (10 Business Days)
- [x] PRIORITY (5 Business Days)
- [ ] RUSH (RAN- _____)
  (Rush requires Rush Authorization Number)

Please FAX [x] YES [ ] NO
FAX Number: 617 335 3543

BILLING

Purchase Order No.:
GWA Reference No.:

ANALYSIS REQUEST

OPTIONS / SDWA / NPDES / RCRA/21E

Volatiles
- SDWA: □ 524.2
- NPDES: □ 624/NPDES; □ 624/ Extended Method List
- RCRA/21E: □ 8260/TCL; □ 8260/ Method List
- OLow Level; DMTBE; OTIC Search
- DMTBE; MTBE
- □ 502.2; □ 601/602; □ 602; □ 601; □ 601/602/8020; □ 8020 BTEX; □ 8010; □ 8270/TCL; □ 8270/PAH Only

Semivolatiles
- SDWA: □ 525.2
- NPDES: □ 625
- RCRA/21E: □ 8270/TCL
- OLow Level; DAcid Only; DB/N Only; OTIC Search
- OLow Level
- □ 8270/PAH Only

Pest/Herb/PCBs
- Extractable: OLow Level; OLow Level
- Vol.: □ 608; □ 608/PCB Only; □ 8080/PCB Only; □ 8080; □ 8140; □ 8150; □ 8011
- SDWA: □ 515.1; □ 504
- NPDES: □ 615
- RCRA/21E: □ 8 RCRA; □ 17 App. IX; □ 23 TAL; □ Specify:

Metals
- SDWA: □ 12 SDWA
- NPDES: □ 13 Priority Pollutant
- Specify For Water Samples: □ Total; □ Dissolved

Petroleum Hydrocarbon
- Ext.: □ 418.1 (TPH-IR); □ Diesel Range Organics (DRO)
- TPH: □ MA DEP EPH w/ PAHs; □ MA DEP EPH only; □ Hydrocarbon Fingerprint (GC-FID by ASTM D3328-90 Mod.)
- Vol. TPH: □ Gasoline Range Organics (GRO); □ MA DEP VPH w/ BTEX; □ MA DEP VPH only

Haz. Waste
- □ TCLP; □ Metals; □ VOA; □ Semi VOA; □ Pesticides; □ Herbicides
- □ Corrosivity (as pH); □ Reactivity; □ Ignitability (as Flashpoint); □ Paint Filter

General Chemistry
- □ Nitrate; □ Chloride; □ Sulfate; □ TDS; □ Nitrite
- □ Alkalinity
- □ Ammonia; □ TKN; □ Total Phosphorus
- □ Oil & Grease (413.1)
- □ COD; □ TOC
- □ BOD
- □ Cyanide, Total
- □ pH; □ Dissolved Oxygen; □ Turbidity
- □ Total Coliform

Other
- TPH with MMR Target List

Sampling DATE	Sampling TIME	SAMPLE IDENTIFICATION	Matrix: WATER	Matrix: SOIL	Type: COMPOSITE	Type: GRAB	Container(s): NUMBER	40mL VOA VIAL	125mL VOA JAR	1L GLASS	250mL GLASS	1L PLASTIC	500mL PLASTIC	250mL PLASTIC	120mL STERILE	Preservation: HCl	HNO3	H2SO4	NaOH	ICE	Filtered: YES	Filtered: NO	LABORATORY NUMBER (Lab Use Only)
10/17		MW1-20-22		X		X	1						X										18479-07
		MW2 10-12		X		X	1						X										08
		MW3-11-13'		X		X	1						X										09

REMARKS / SPECIAL INSTRUCTIONS

Please do analysis under this priority
1) BTEX w/MTBE
2) TPH
3) Total Lead
* This is due to lack of soil

DATA QUALITY OBJECTIVES

Regulatory Program

- [ ] Safe Drinking Water Act
- [ ] NPDES/Clean Water Act
- [ ] RCRA/Haz. Waste Char.
- [ ] MA MCP (310 CMR 40)
  Reportable Concentrations
  - [ ] RCGW - 1 [ ] RCS - 1
  - [ ] RCGW - 2 [ ] RCS - 2
- [ ] Other: _____

Project Specific QC

Many regulatory programs and EPA methods require project specific QC. Project specific QC includes Sample Duplicates, Matrix Spikes, and/or Matrix Spike Duplicates. Laboratory QC is not project specific unless prearranged. Project specific QC samples are charged on a per sample basis. For water samples, each MS, MSD and Sample Duplicate requires an additional sample aliquot.

Project Specific QC Required
- [ ] Sample Duplicate
- [ ] Matrix Spike
- [ ] Matrix Spike Duplicate

Selection of QC Sample
- [ ] Selected by laboratory
- [ ] Please use sample: _____

CHAIN-OF-CUSTODY RECORD

NOTE: All samples submitted subject to Standard Terms and Conditions on reverse hereof.

	Date	Time		
Relinquished by Sampler: Sean Healey	10/21/23	3:30	Received by:	Shipping/Airbill Number
Relinquished by:	Date	Time	Received by:	Custody Seal Number
Relinquished by:	10/21/23	4:30	Received by Laboratory: Paul Kopp	Cooler Serial Number

Method of Shipment: [ ] GWA Courier [ ] Express Mail [ ] Federal Express [ ] UPS [ ] Hand [ ] _____

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
QA/QC Program Statement

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*, US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste*, US EPA SW-846, Third Edition (Revised 1992).

Quality Control protocols include Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Equipment and facility maintenance conform to Good Laboratory Practices (GLPs). Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one calibration standard, one method blank, one laboratory control sample, and one matrix spike and one sample duplicate for each sample batch. All samples, standards, blanks, laboratory control samples and matrix spikes are spiked with internal standards and surrogate compounds. GC/MS systems are tuned to BFB ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one calibration standard, one method blank, one laboratory control sample, one matrix spike and one sample duplicate for each sample batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

Batches are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples which are analyzed together with the same method sequence and the same lots of reagents and with the same manipulations common to each sample within the same continuum of time within a 24 hour period.

Method Blanks are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

Laboratory Control Samples are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target compounds representative of the method analytes. Accuracy is defined as the degree of agreement of a measured value with the true or expected value. Percent Recoveries for the Laboratory Control Sample are calculated to assess accuracy.

Surrogate Compounds are used to assess the effectiveness of the method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to organic analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
Laboratory Control Sample Recovery

Category: EPA Method 8100 (Modified)
Batch ID: HF-0728-FL
Matrix: Aqueous
Units: mg/L

Laboratory Control Sample

ANALYTE	SPIKE ADDED	SPIKED RESULT	PERCENT RECOVERY	QC LIMITS
Fuel Oil No. 2	2.0	1.4	68 %	60-140

All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
Method Blank

Category: EPA Method 8100 (Modified)
Batch ID: HF-0728-FB1
Matrix: Aqueous

PARAMETER	CONCENTRATION (mg/L)	REPORTING LIMIT (mg/L)
Total Petroleum Hydrocarbons	BRL	0.5

QC SURROGATE COMPOUND	SPIKED	MEASURED	RECOVERY	QC LIMITS
o-Terphenyl	0.040	0.038	96 %	60 - 140 %

BRL = Below Reporting Limit. Method References: Method 8100 (Modified) - Polynuclear Aromatic Hydrocarbons, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition.

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
Laboratory Control Sample Recovery

Category: EPA Method 8020/Methanol Extraction
Batch ID: VG2-0765-EL
Matrix: Soil
Units: ug/Kg

Laboratory Control Sample

ANALYTE	SPIKE ADDED	SPIKED RESULT	PERCENT RECOVERY	QC LIMITS
Benzene	2,500	2,800	110 %	66-142
Toluene	2,500	2,800	113 %	59-139
Chlorobenzene	2,500	2,800	113 %	60-133

All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
Method Blank

Category: EPA Method 8020/Methanol Extraction
Batch ID: VG2-0765-EB1
Matrix: Soil

PARAMETER	CONCENTRATION (ug/Kg)	REPORTING LIMIT (ug/Kg)
Methyl *tert*-Butyl Ether *	BRL	250
Benzene	BRL	50
Toluene	BRL	50
Chlorobenzene	BRL	50
Ethylbenzene	BRL	50
meta-and *para*-Xylene	BRL	50
ortho-Xylene	BRL	50
1,3-Dichlorobenzene	BRL	50
1,4-Dichlorobenzene	BRL	50
1,2-Dichlorobenzene	BRL	50

QC SURROGATE COMPOUND	SPIKED	MEASURED	RECOVERY	QC LIMITS
a,a,a-Trifluorotoluene	1,500	1,500	99 %	77 - 119 %

BRL = Below Reporting Limit. * Non-target compound. Calculations based on dry sample weight. Method References: Method 8020 - Aromatic Volatile Organics, and Method 5030 - Methanol Extraction Procedure, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986).

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
Laboratory Control Sample Recovery

Category: EPA Method 8020
Batch ID: VG2-1162-WL
Matrix: Aqueous
Units: ug/L

Laboratory Control Sample

ANALYTE	SPIKE ADDED	SPIKED RESULT	PERCENT RECOVERY	QC LIMITS
Benzene	50	52	104 %	76-127
Toluene	50	51	102 %	76-125
Chlorobenzene	50	50	100 %	75-130

All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
Method Blank

Category: **EPA Method 8020**
Batch ID: **VG2-1162-WB1**
Matrix: **Aqueous**

PARAMETER	CONCENTRATION (ug/L)	REPORTING LIMIT (ug/L)
Methyl *tert*-Butyl Ether *	BRL	5
Benzene	BRL	1
Toluene	BRL	1
Chlorobenzene	BRL	1
Ethylbenzene	BRL	1
meta-and *para*-Xylene	BRL	1
ortho-Xylene	BRL	1
1,3-Dichlorobenzene	BRL	1
1,4-Dichlorobenzene	BRL	1
1,2-Dichlorobenzene	BRL	1

QC SURROGATE COMPOUND	SPIKED	MEASURED	RECOVERY	QC LIMITS
a,a,a-Trifluorotoluene	30	31	102 %	87 - 113 %

BRL = Below Reporting Limit. * Non-target compound. Method References: Method 8020 - Aromatic Volatile Organics, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986).

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
Laboratory Control Sample Recovery

Category: EPA Method 8100 (Modified)
Batch ID: HF-0956-ML
Matrix: Soil
Units: mg/Kg

Laboratory Control Sample

ANALYTE	SPIKE ADDED	SPIKED RESULT	PERCENT RECOVERY	QC LIMITS
Fuel Oil No. 2	130	100	78 %	60-140

All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
Method Blank

Category: EPA Method 8100 (Modified)
Batch ID: HF-0956-MB1
Matrix: Soil

PARAMETER	CONCENTRATION (mg/Kg)	REPORTING LIMIT (mg/Kg)
Total Petroleum Hydrocarbons	BRL	60

QC SURROGATE COMPOUND	SPIKED	MEASURED	RECOVERY	QC LIMITS
o-Terphenyl	2.7	2.7	101 %	60 - 140 %

BRL = Below Reporting Limit. Calculations based on dry sample weight. Method References: Method 8100 (Modified) - Polynuclear Aromatic Hydrocarbons, Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition.

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
Laboratory Control Sample Recovery

Category: Trace Metals
Matrix: Aqueous
Units: mg/L

Laboratory Control Sample

ANALYTE	BATCH ID	SPIKE ADDED	SPIKED RESULT	PERCENT RECOVERY	QC LIMITS
Lead	MM-0724-WLF	0.050	0.054	109 %	85-115

All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
Method Blank

Category: Trace Metals
Matrix: Aqueous

PARAMETER	CONCENTRATION (mg/L)	REPORTING LIMIT (mg/L)	BATCH ID	EPA METHOD
Lead	BRL	0.003	MM-0724-WB	7421/200.9

BRL = Below Reporting Limit. Method References: Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986), and Methods for Chemical Analysis of Water and Wastes, US EPA EPA-600/4-79-020, Revised (1983). Graphite Furnace analyses performed with Zeeman background correction and Lvov platform technique.

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
Laboratory Control Sample Recovery

Category: Trace Metals
Matrix: Soil
Units: mg/Kg

Laboratory Control Sample

ANALYTE	BATCH ID	SPIKE ADDED	SPIKED RESULT	PERCENT RECOVERY	QC LIMITS
Lead	MM-0554-SLI	100	103	103 %	83-108

Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
Method Blank

Category: Trace Metals
Matrix: Soil

PARAMETER	CONCENTRATION (mg/Kg)	REPORTING LIMIT (mg/Kg)	BATCH ID	EPA METHOD
Lead	BRL	10	MM-0554-SB	6010

BRL = Below Reporting Limit. Method References: Test Methods for Evaluating Solid Waste, US EPA SW-846, Third Edition (1986). Graphite Furnace analyses performed with Zeeman background correction and Lvov platform technique.

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
State Certification

CONNECTICUT
Department of Health Services

Certificate Number
PH-0586

Potable Water, Wastewater/Trade Waste, Sewage/Effluent, and Soil: Purgeable Halocarbons, Purgeable Aromatics, Pesticides, Phenols, Oil and Grease, Aluminum, Antimony, Arsenic, Beryllium, Cadmium, Chromium-T, Chromium-VI, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Cyanide, TDS, Ammonia, TKN, Nitrate, Ortho-Phosphate, Alkalinity, Hardness, Chloride, Fluoride, pH, Conductivity

MAINE
Department of Human Services

Certificate Number
N/A

Reciprocal certification in accordance with Massachusetts certification for drinking water parameters.

MASSACHUSETTS
Department of Environmental Protection

Certificate Number
MA103

Potable Water: Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver, Sodium, Thallium, Nitrate-N, Fluoride, Cyanide, Calcium, Total Alkalinity, Total Dissolved Solids, pH, Langelier Index, Trihalomethanes, Volatile Organic Compounds, 1,2-Dibromoethane, 1,2-Dibromo-3-chloropropane. Non-Potable Water: Aluminum, Antimony, Arsenic, Beryllium, Cadmium, Chromium, Cobalt, Copper, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium, Silver, Strontium, Thallium, Titanium, Vanadium, Zinc, pH, Specific Conductivity, Total Dissolved Solids, Total Hardness, Calcium, Magnesium, Sodium, Potassium, Total Alkalinity, Chloride, Fluoride, Ammonia-N, Nitrate-N, Kjeldahl-N, Orthophosphate, Total Cyanide, Oil and Grease, Total Phenolics, Volatile Halocarbons, Volatile Aromatics, Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, Polychlorinated Biphenyls (Water), Polychlorinated Biphenyls (Oil).

MICHIGAN
Department of Public Health

Certificate Number
N/A

Drinking Water: Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Cyanide, Fluoride, Lead, Mercury, Nickel, Nitrate, Nitrite, Selenium, Silver, Sodium, Sulfate, Thallium, Total Trihalomethanes, Regulated and Unregulated Volatile Organic Chemicals.

NEW HAMPSHIRE
Department of Environmental Services

Certificate Number
202791-A/B

Drinking Water: Lead, Selenium, Silver, Thallium, Trihalomethanes, Volatile Organics, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Mercury, Nickel, Fluoride, Total Filterable Residue, Calcium, Alkalinity, pH, Corrosivity, Total Cyanide, Vinyl Chloride, DBCP and EDB. Wastewater: Arsenic, Beryllium, Cadmium, Cobalt, Copper, Iron, Mercury, Manganese, Nickel, Lead, Selenium, Zinc, Antimony, Silver, Thallium, Molybdenum, Strontium, pH, Total Hardness, Calcium, Sodium, Potassium, Total Alkalinity, Chloride, Fluoride, Nitrate-N, TKN, Orthophospates, Total Phenolics, Oil & Grease, PCBs in Oil, Pesticides, Volatile Organics, Titanium, Total Cyanide, PCBs in Water.

RHODE ISLAND
Department of Health

Certificate Number
A54

Potable Water: Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver, Thallium, Nitrate, Nitrite, Fluoride, Turbidity, Chlorine, Total Filterable Solids, Calcium, pH, Alkalinity, Sodium, Corrosivity, Sulfate, Cyanide, Trihalomethanes, Chlorinated Hydrocarbon Pesticides, PCBs, Herbicides, Volatile Organic Compounds (EPA 524.2 and 504) and PAHs. Non-potable and Waste Waters: Aluminum, Arsenic, Beryllium, Cadmium, Cobalt, Chromium, Copper, Iron, Mercury, Manganese, Nickel, Lead, Selenium, Vanadium, Zinc, Antimony, Silver, Thallium, Molybdenum, Strontium, Titanium, pH, Conductance, TDS, Hardness, Calcium, Magnesium, Sodium, Potassium, Alkalinity, Chloride, Fluoride, Sulfate, Ammonia, Nitrate, Orthophosphate, TKN, Total Phosphorous, Cyanide, Non-filterable solids, Oil and Grease, Total Phenolics, Chlorine, PCBs in Water, PCBs in Oil, Chlorinated Hydrocarbon Pesticides, Volatile Halocarbons, Volatile Aromatics, Acid Extractables and Base/Neutral Extractables.

GROUNDWATER ANALYTICAL

Groundwater Analytical, Inc.
P.O. Box 1200
228 Main Street
Buzzards Bay, MA 02532

Telephone (508) 759-4441
FAX (508) 759-4475

July 10, 1998

Ms. Amy McElroy
Vertex Engineering
400 Libbey Parkway
Weymouth, MA 02189

Dear Amy:

Enclosed are the Extractable Petroleum Hydrocarbons Analyses performed for the Lake St. Shrewsbury project, number 0982, sampled on 07-01-98. This project was processed for Priority One Week turnaround.

A brief description of the Quality Assurance/Quality Control procedures employed by Groundwater Analytical, and a statement of our state certifications are contained within the report. This letter authorizes the release of the analytical results and should be considered a part of this report.

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,

Jonathan R. Sanford
Vice President

JRS/awc
Enclosures

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	MW-4 (10-12')	Laboratory ID:	21873-01
Project:	Lake St. Shrewsbury/0982	QC Batch ID:	EP-0425-M
Client:	Vertex Engineering	Sampled:	07-01-98
Container:	120mL Glass	Received:	07-02-98
Preservation:	Cool	Extracted:	07-07-98
Matrix:	Soil	Analyzed:	07-08-98
% Moisture:	9	Dilution Factor:	Aliphatic: 1 Aromatic: 1

EPH Ranges	Concentration	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL	mg/Kg	33
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL	mg/Kg	33
n-C11 to n-C22 Aromatic Hydrocarbons †◊	BRL	mg/Kg	33
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	BRL	mg/Kg	33

CAS Number	Target Analytes	Concentration	Units	Reporting Limit
91-20-3	Naphthalene	BRL	mg/Kg	0.55
91-57-6	2-Methylnaphthalene	BRL	mg/Kg	0.55
85-01-8	Phenanthrene	BRL	mg/Kg	0.55
83-32-9	Acenaphthene	BRL	mg/Kg	0.55
208-96-8	Acenaphthylene	BRL	mg/Kg	0.55
86-73-7	Fluorene	BRL	mg/Kg	0.55
120-12-7	Anthracene	BRL	mg/Kg	0.55
206-44-0	Fluoranthene	BRL	mg/Kg	0.55
129-00-0	Pyrene	BRL	mg/Kg	0.55
56-55-3	Benzo[a]anthracene	BRL	mg/Kg	0.55
218-01-9	Chrysene	BRL	mg/Kg	0.55
205-99-2	Benzo[b]fluoranthene	BRL	mg/Kg	0.55
207-08-9	Benzo[k]fluoranthene	BRL	mg/Kg	0.55
50-32-8	Benzo[a]pyrene	BRL	mg/Kg	0.55
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL	mg/Kg	0.55
53-70-3	Dibenzo[a,h]anthracene	BRL	mg/Kg	0.55
191-24-2	Benzo[g,h,i]perylene	BRL	mg/Kg	0.55

QC Surrogate Compounds		Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	103 %	40 - 140 %
	2-Bromonaphthalene	84 %	40 - 140 %
Extraction:	Chloro-octadecane	99 %	40 - 140 %
	ortho-Terphenyl	98 %	40 - 140 %

QA/QC Certification

All QA/QC procedures required by the method were followed. All performance or acceptance standards for the required QA/QC procedures were achieved, except as may be noted on this data report or in the accompanying project narrative and project quality control report. Microwave accelerated solvent extraction was used as an alternative extraction procedure.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (1998). Results are calculated on a dry weight basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution, percent moisture and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	MW-5 (9-11')	Laboratory ID:	21873-02
Project:	Lake St. Shrewsbury/0982	QC Batch ID:	EP-0425-M
Client:	Vertex Engineering	Sampled:	07-01-98
Container:	250mL Glass	Received:	07-02-98
Preservation:	Cool	Extracted:	07-07-98
Matrix:	Soil	Analyzed:	07-08-98
% Moisture:	10	Dilution Factor:	Aliphatic: 1 Aromatic: 1

EPH Ranges	Concentration	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL	mg/Kg	32
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL	mg/Kg	32
n-C11 to n-C22 Aromatic Hydrocarbons †◊	BRL	mg/Kg	32
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	BRL	mg/Kg	32

CAS Number	Target Analytes	Concentration	Units	Reporting Limit
91-20-3	Naphthalene	BRL	mg/Kg	0.54
91-57-6	2-Methylnaphthalene	BRL	mg/Kg	0.54
85-01-8	Phenanthrene	BRL	mg/Kg	0.54
83-32-9	Acenaphthene	BRL	mg/Kg	0.54
208-96-8	Acenaphthylene	BRL	mg/Kg	0.54
86-73-7	Fluorene	BRL	mg/Kg	0.54
120-12-7	Anthracene	BRL	mg/Kg	0.54
206-44-0	Fluoranthene	BRL	mg/Kg	0.54
129-00-0	Pyrene	BRL	mg/Kg	0.54
56-55-3	Benzo[a]anthracene	BRL	mg/Kg	0.54
218-01-9	Chrysene	BRL	mg/Kg	0.54
205-99-2	Benzo[b]fluoranthene	BRL	mg/Kg	0.54
207-08-9	Benzo[k]fluoranthene	BRL	mg/Kg	0.54
50-32-8	Benzo[a]pyrene	BRL	mg/Kg	0.54
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL	mg/Kg	0.54
53-70-3	Dibenzo[a,h]anthracene	BRL	mg/Kg	0.54
191-24-2	Benzo[g,h,i]perylene	BRL	mg/Kg	0.54

QC Surrogate Compounds		Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	90 %	40 - 140 %
	2-Bromonaphthalene	86 %	40 - 140 %
Extraction:	Chloro-octadecane	93 %	40 - 140 %
	ortho-Terphenyl	87 %	40 - 140 %

QA/QC Certification

All QA/QC procedures required by the method were followed. All performance or acceptance standards for the required QA/QC procedures were achieved, except as may be noted on this data report or in the accompanying project narrative and project quality control report. Microwave accelerated solvent extraction was used as an alternative extraction procedure.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (1998). Results are calculated on a dry weight basis.

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution, percent moisture and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
Project Narrative

Project: Lake St. Shrewsbury/0982
Client: Vertex Engineering

Lab ID: 21873
Received: 07-02-98

A. Physical Condition of Sample(s)

This project was received by the laboratory in satisfactory condition. The sample(s) were received undamaged in appropriate containers with the correct preservation.

B. Project Documentation

This project was accompanied by satisfactory Chain of Custody documentation. The sample container label(s) agreed with the Chain of Custody.

C. Analysis of Sample(s)

No analytical anomalies or non-conformances were noted by the laboratory during the processing of these samples. All data contained within this report are released without qualification.

GROUNDWATER ANALYTICAL

228 Main Street -
Buzzards Bay, MA 02532
Telephone (508) 759-4441
FAX (508) 759-4475

CHAIN-OF-CUSTODY RECORD AND WORK ORDER

№ 28439

Project Name: Lake St. Shrewsbury MA	Firm: Vertex
Project Number: 0982	Address: 400 Libby Parkway
Sampler Name: PK	City / State / Zip: Weymouth, MA 02189
Project Manager: Amy McElroy	Telephone: 952-6000

INSTRUCTIONS: Use separate line for each container (except replicates).

TURNAROUND

- ☐ STANDARD (10 Business Days)
- ☒ PRIORITY (5 Business Days)
- ☐ RUSH (RAN- _____)
  (Rush requires Rush Authorization Number)

Please FAX ☒ YES ☐ NO
FAX Number: 781 335-3543

BILLING

Purchase Order No.:
GWA Reference No.:

ANALYSIS REQUEST

OPTIONS
- Volatiles: ☐ Low Level ☐ MTBE ☐ TIC Search
- Semivolatiles: ☐ Low Level ☐ Acid Only ☐ B/N Only ☐ TIC Search
- Pest/Herb/PCBs Extractable: ☐ Low Level
- Pest/Herb/PCBs Vol.: ☐ Low Level
- Metals: Specify For Water Samples: ☐ Total ☐ Dissolved
- Petroleum Hydrocarbon Est.: ☐ Diesel Range Organics (DRO)
- Petroleum Hydrocarbon TPH: ☐ MA DEP EPH w/ PAHs ☐ MA DEP EPH only
- Petroleum Hydrocarbon Vol. TPH: ☐ Hydrocarbon Fingerprint (GC/FID by ASTM D3328-90-Mod.) ☐ Gasoline Range Organics (GRO)
- Haz. Waste: ☐ TCLP ☐ Metals ☐ VOA ☐ Sem. VOA ☐ Pesticides ☐ Herbicides ☐ Corrosivity (as pH) ☐ Reactivity ☐ Ignitability (as Flashpoint) ☐ Paint Filter
- General Chemistry: ☐ Nitrate ☐ Chloride ☐ Sulfate ☐ TDS ☐ Nitrite ☐ Alkalinity ☐ Ammonia ☐ TKN ☐ Total Phosphorus ☐ Oil & Grease (413.1) ☐ COD ☐ TOC ☐ BOD ☐ Cyanide, Total ☐ pH ☐ Dissolved Oxygen ☐ Turbidity ☐ Total Coliform
- Other

SDWA: ☐ 524.2 | ☐ 502.2 | ☐ MTBE | ☐ MTBE | ☐ 525.2 | ☐ 515.1 | ☐ 504 | ☐ 12 SDWA

NPDES: ☐ 624/NPDES | ☐ 624/ Extended | ☐ 601/602 | ☐ 602 | ☐ 601 | ☐ 625 | ☐ 608 | ☐ 608/PCB Only | ☐ 515 | ☐ 13 Priority Pollutant

RCRA/21E: ☐ 8260/TCL | ☐ 8260/ Method List | ☐ 8010/8020 | ☐ 8020 | ☐ 8010 | ☐ 8270/TCL | ☐ 8270/PAHs Only | ☐ 8080 | ☐ 8080/PCB Only | ☐ 8140 | ☐ 8150 | ☐ 8011 | ☐ 8 RCRA ☐ 17 App IX ☐ 23 TAL | ☐ Specify:

Sampling DATE	Sampling TIME	SAMPLE IDENTIFICATION	Matrix: WATER	Matrix: SOIL	Type: COMPOSITE	Type: GRAB	Container(s): NUMBER	40mL VOA VIAL	125mL VOA JAR	1L GLASS	250mL GLASS	1L PLASTIC	500mL PLASTIC	250mL PLASTIC	120mL STERILE	Preservation: HCl	HNO3	H2SO4	NaOH	ICE	Filtered: YES	Filtered: NO	LABORATORY NUMBER (Lab Use Only)	Petroleum Hydrocarbon Est.	Petroleum Hydrocarbon TPH
7/1		MW-4 (10-12')		X			1								X					X			21873-01		4
7/1		MW-5 (9-11')		X			1				X									X			↓ 02		4

REMARKS / SPECIAL INSTRUCTIONS

DATA QUALITY OBJECTIVES

Regulatory Program

- ☐ Safe Drinking Water Act
- ☐ NPDES/Clean Water Act
- ☐ RCRA/Haz. Waste Char.
- ☐ MA MCP (310 CMR 40)
  Reportable Concentrations
  - ☐ RCGW - 1 ☐ RCS - 1
  - ☐ RCGW - 2 ☐ RCS - 2
- ☐ Other: _____

Project Specific QC

Many regulatory programs and EPA methods require project specific QC. Project specific QC includes Sample Duplicates, Matrix Spikes, and/or Matrix Spike Duplicates. Laboratory QC is not project specific unless prearranged. Project specific QC samples are charged on a per sample basis. For water samples, each MS, MSD and Sample Duplicate requires an additional sample aliquot.

Project Specific QC Required
- ☐ Sample Duplicate
- ☐ Matrix Spike
- ☐ Matrix Spike Duplicate

Selection of QC Sample
- ☐ Selected by laboratory
- ☐ Please use sample: _____

CHAIN-OF-CUSTODY RECORD

NOTE: All samples submitted subject to Standard Terms and Conditions on reverse hereof.

	Date	Time		
Relinquished by Sampler: Patrick Kilcoyne, II	7/2	5:58PM	Received by: Jean Maddigan	Shipping/Airbill Number:
Relinquished by:	Date	Time	Received by:	Custody Seal Number:
Relinquished by: Jean Maddigan	7/2/98	10:00PM	Received by Laboratory: Alaine Couture	Cooler Serial Number:

Method of Shipment: ☒ GWA Courier ☐ Express Mail ☐ Federal Express ☐ UPS ☐ Hand ☐ _____

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
QA/QC Program Statement

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*, US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste*, US EPA SW-846, Third Edition (Revised 1992).

Quality Control protocols include Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Equipment and facility maintenance conform to Good Laboratory Practices (GLPs). Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one calibration standard, one method blank, one laboratory control sample, and one matrix spike and one sample duplicate for each sample batch. All samples, standards, blanks, laboratory control samples and matrix spikes are spiked with internal standards and surrogate compounds. GC/MS systems are tuned to BFB ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one calibration standard, one method blank, one laboratory control sample, one matrix spike and one sample duplicate for each sample batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

Batches are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples which are analyzed together with the same method sequence and the same lots of reagents and with the same manipulations common to each sample within the same continuum of time within a 24 hour period.

Method Blanks are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

Laboratory Control Samples are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target compounds representative of the method analytes. Accuracy is defined as the degree of agreement of a measured value with the true or expected value. Percent Recoveries for the Laboratory Control Sample are calculated to assess accuracy.

Surrogate Compounds are used to assess the effectiveness of the method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to organic analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Sample

Category: **MA DEP EPH Method**
QC Batch ID: **EP-0425-M**
Matrix: **Soil**
Units: **mg/Kg**

CAS Number	Analyte	Spiked	Measured	Recovery	QC Limits
111-84-2	*n*-Nonane (C_9)	5.0	2.9	**57 %**	40 - 140 %
629-59-4	*n*-Tetradecane (C_{14})	5.0	4.2	**83 %**	40 - 140 %
629-92-5	*n*-Nonadecane (C_{19})	5.0	4.7	**94 %**	40 - 140 %
112-95-8	*n*-Eicosane (C_{20})	5.0	5.0	**100 %**	40 - 140 %
630-02-4	*n*-Octacosane (C_{28})	5.0	4.8	**95 %**	40 - 140 %
91-20-3	Naphthalene	5.0	3.4	**68 %**	40 - 140 %
83-32-9	Acenaphthene	5.0	3.9	**79 %**	40 - 140 %
120-12-7	Anthracene	5.0	4.9	**99 %**	40 - 140 %
129-00-0	Pyrene	5.0	4.9	**98 %**	40 - 140 %
218-01-9	Chrysene	5.0	5.3	**106 %**	40 - 140 %

QC Surrogate Compounds		Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	**92 %**	40 - 140 %
	2-Bromonaphthalene	**93 %**	40 - 140 %
Extraction:	Chloro-octadecane	**95 %**	40 - 140 %
	ortho-Terphenyl	**90 %**	40 - 140 %

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (1998).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category: MA DEP EPH Method
QC Batch ID: EP-0425-M
Matrix: Soil

EPH Ranges	Concentration	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL	mg/Kg	30
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL	mg/Kg	30
n-C11 to n-C22 Aromatic Hydrocarbons †◊	BRL	mg/Kg	30
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	BRL	mg/Kg	30

CAS Number	Target Analytes	Concentration	Units	Reporting Limit
91-20-3	Naphthalene	BRL	mg/Kg	0.50
91-57-6	2-Methylnaphthalene	BRL	mg/Kg	0.50
85-01-8	Phenanthrene	BRL	mg/Kg	0.50
83-32-9	Acenaphthene	BRL	mg/Kg	0.50
208-96-8	Acenaphthylene	BRL	mg/Kg	0.50
86-73-7	Fluorene	BRL	mg/Kg	0.50
120-12-7	Anthracene	BRL	mg/Kg	0.50
206-44-0	Fluoranthene	BRL	mg/Kg	0.50
129-00-0	Pyrene	BRL	mg/Kg	0.50
56-55-3	Benzo[a]anthracene	BRL	mg/Kg	0.50
218-01-9	Chrysene	BRL	mg/Kg	0.50
205-99-2	Benzo[b]fluoranthene	BRL	mg/Kg	0.50
207-08-9	Benzo[k]fluoranthene	BRL	mg/Kg	0.50
50-32-8	Benzo[a]pyrene	BRL	mg/Kg	0.50
193-39-5	Indeno[1,2,3-c,d]pyrene	BRL	mg/Kg	0.50
53-70-3	Dibenzo[a,h]anthracene	BRL	mg/Kg	0.50
191-24-2	Benzo[g,h,i]perylene	BRL	mg/Kg	0.50

QC Surrogate Compounds		Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	93 %	40 - 140 %
	2-Bromonaphthalene	93 %	40 - 140 %
Extraction:	Chloro-octadecane	93 %	40 - 140 %
	ortho-Terphenyl	80 %	40 - 140 %

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (1998).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution, percent moisture and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
State Certification

CONNECTICUT
Department of Health Services

Certificate Number
PH-0586

Potable Water, Wastewater/Trade Waste, Sewage/Effluent, and Soil: Purgeable Halocarbons, Purgeable Aromatics, Pesticides, Phenols, Oil and Grease, Aluminum, Antimony, Arsenic, Beryllium, Cadmium, Chromium-T, Chromium-VI, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Vanadium, Zinc, Cyanide, TDS, Ammonia, TKN, Nitrate, Ortho-Phosphate, Alkalinity, Hardness, Chloride, Fluoride, pH, Conductivity

MAINE
Department of Human Services

Certificate Number
N/A

Reciprocal certification in accordance with Massachusetts certification for drinking water parameters.

MASSACHUSETTS
Department of Environmental Protection

Certificate Number
MA103

Potable Water: Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver, Sodium, Thallium, Nitrate-N, Fluoride, Cyanide, Calcium, Total Alkalinity, Total Dissolved Solids, pH, Langelier Index, Trihalomethanes, Volatile Organic Compounds, 1,2-Dibromoethane, 1,2-Dibromo-3-chloropropane. Non-Potable Water: Aluminum, Antimony, Arsenic, Beryllium, Cadmium, Chromium, Cobalt, Copper, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium, Silver, Strontium, Thallium, Titanium, Vanadium, Zinc, pH, Specific Conductivity, Total Dissolved Solids, Total Hardness, Calcium, Magnesium, Sodium, Potassium, Total Alkalinity, Chloride, Fluoride, Ammonia-N, Nitrate-N, Kjeldahl-N, Orthophosphate, Total Cyanide, Oil and Grease, Total Phenolics, Volatile Halocarbons, Volatile Aromatics, Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, Polychlorinated Biphenyls (Water), Polychlorinated Biphenyls (Oil).

MICHIGAN
Department of Public Health

Certificate Number
N/A

Drinking Water: Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Cyanide, Fluoride, Lead, Mercury, Nickel, Nitrate, Nitrite, Selenium, Silver, Sodium, Sulfate, Thallium, Total Trihalomethanes, Regulated and Unregulated Volatile Organic Chemicals.

NEW HAMPSHIRE
Department of Environmental Services

Certificate Number
202791-A/B

Drinking Water: Lead, Selenium, Silver, Thallium, Trihalomethanes, Volatile Organics, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Mercury, Nickel, Fluoride, Total Filterable Residue, Calcium, Alkalinity, pH, Corrosivity, Total Cyanide, Vinyl Chloride, DBCP and EDB. Wastewater: Arsenic, Beryllium, Cadmium, Cobalt, Copper, Iron, Mercury, Manganese, Nickel, Lead, Selenium, Zinc, Antimony, Silver, Thallium, Molybdenum, Strontium, pH, Total Hardness, Calcium, Sodium, Potassium, Total Alkalinity, Chloride, Fluoride, Nitrate-N, TKN, Orthophospates, Total Phenolics, Oil & Grease, PCBs in Oil, Pesticides, Volatile Organics, Titanium, Total Cyanide, PCBs in Water.

RHODE ISLAND
Department of Health

Certificate Number
A54

Potable Water: Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver, Thallium, Nitrate, Nitrite, Fluoride, Turbidity, Chlorine, Total Filterable Solids, Calcium, pH, Alkalinity, Sodium, Corrosivity, Sulfate, Cyanide, Trihalomethanes, Chlorinated Hydrocarbon Pesticides, PCBs, Herbicides, Volatile Organic Compounds (EPA 524.2 and 504) and PAHs. Non-potable and Waste Waters: Aluminum, Arsenic, Beryllium, Cadmium, Cobalt, Chromium, Copper, Iron, Mercury, Manganese, Nickel, Lead, Selenium, Vanadium, Zinc, Antimony, Silver, Thallium, Molybdenum, Strontium, Titanium, pH, Conductance, TDS, Hardness, Calcium, Magnesium, Sodium, Potassium, Alkalinity, Chloride, Fluoride, Sulfate, Ammonia, Nitrate, Orthophosphate, TKN, Total Phosphorous, Cyanide, Non-filterable solids, Oil and Grease, Total Phenolics, Chlorine, PCBs in Water, PCBs in Oil, Chlorinated Hydrocarbon Pesticides, Volatile Halocarbons, Volatile Aromatics, Acid Extractables and Base/Neutral Extractables.

GROUNDWATER ANALYTICAL

Groundwater Analytical, Inc.
P.O. Box 1200
228 Main Street
Buzzards Bay, MA 02532

Telephone (508) 759-4441
FAX (508) 759-4475

July 16, 1998

Ms. Amy McElroy
Vertex Engineering
400 Libbey Parkway
Weymouth, MA 02189

Dear Amy:

Enclosed are the Extractable Petroleum Hydrocarbons and Volatile Petroleum Hydrocarbons Analyses performed for the MDMR 150 Lake Street project, number P0982, sampled on 07-08-98. This project was processed for Priority One Week turnaround.

A brief description of the Quality Assurance/Quality Control procedures employed by Groundwater Analytical, and a statement of our state certifications are contained within the report. This letter authorizes the release of the analytical results and should be considered a part of this report.

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,

Jonathan R. Sanford
Vice President

JRS/myr
Enclosures

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	MW-1	Laboratory ID:	21977-01
Project:	MDMR 150 Lake Street/P0982	QC Batch ID:	EP-0306-F
Client:	Vertex Engineering	Sampled:	07-08-98
Container:	1L Amber Glass	Received:	07-09-98
Preservation:	H_2SO_4 / Cool	Extracted:	07-13-98
Matrix:	Aqueous	Analyzed:	07-16-98
		Dilution Factor:	Aliphatic: 1 Aromatic: 1

EPH Ranges	Concentration	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL	ug/L	500
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL	ug/L	500
n-C11 to n-C22 Aromatic Hydrocarbons †◊	BRL	ug/L	200
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	BRL	ug/L	200

QC Surrogate Compounds		Recovery		QC Limits
Fractionation:	2-Fluorobiphenyl	77 %		40 - 140 %
	2-Bromonaphthalene	29 %	q	40 - 140 %
Extraction:	Chloro-octadecane	73 %		40 - 140 %
	ortho-Terphenyl	71 %		40 - 140 %

QA/QC Certification

All QA/QC procedures required by the method were followed. All performance or acceptance standards for the required QA/QC procedures were achieved, except as may be noted on this data report or in the accompanying project narrative and project quality control report. No significant modifications were made to the method.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (1998).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

q Surrogate recovery outside recommended limits.

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	MW-2	Laboratory ID:	21977-02
Project:	MDMR 150 Lake Street/P0982	QC Batch ID:	EP-0306-F
Client:	Vertex Engineering	Sampled:	07-08-98
Container:	1L Amber Glass	Received:	07-09-98
Preservation:	H_2SO_4 / Cool	Extracted:	07-13-98
Matrix:	Aqueous	Analyzed:	07-16-98
		Dilution Factor:	Aliphatic: 1 Aromatic: 1

EPH Ranges	Concentration	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL	ug/L	500
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL	ug/L	500
n-C11 to n-C22 Aromatic Hydrocarbons †◊	BRL	ug/L	200
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	BRL	ug/L	200

QC Surrogate Compounds		Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	71 %	40 - 140 %
	2-Bromonaphthalene	41 %	40 - 140 %
Extraction:	Chloro-octadecane	75 %	40 - 140 %
	ortho-Terphenyl	68 %	40 - 140 %

QA/QC Certification

All QA/QC procedures required by the method were followed. All performance or acceptance standards for the required QA/QC procedures were achieved, except as may be noted on this data report or in the accompanying project narrative and project quality control report. No significant modifications were made to the method.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (1998).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	MW-4	Laboratory ID:	21977-03
Project:	MDMR 150 Lake Street/P0982	QC Batch ID:	EP-0306-F
Client:	Vertex Engineering	Sampled:	07-08-98
Container:	1L Amber Glass	Received:	07-09-98
Preservation:	H_2SO_4 / Cool	Extracted:	07-13-98
Matrix:	Aqueous	Analyzed:	07-16-98
		Dilution Factor:	Aliphatic: 1 Aromatic: 1

EPH Ranges	Concentration	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL	ug/L	500
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL	ug/L	500
n-C11 to n-C22 Aromatic Hydrocarbons †◊	BRL	ug/L	200
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	BRL	ug/L	200

QC Surrogate Compounds		Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	89 %	40 - 140 %
	2-Bromonaphthalene	50 %	40 - 140 %
Extraction:	Chloro-octadecane	77 %	40 - 140 %
	ortho-Terphenyl	85 %	40 - 140 %

QA/QC Certification

All QA/QC procedures required by the method were followed. All performance or acceptance standards for the required QA/QC procedures were achieved, except as may be noted on this data report or in the accompanying project narrative and project quality control report. No significant modifications were made to the method.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (1998).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	MW-5	Laboratory ID:	21977-04
Project:	MDMR 150 Lake Street/P0982	QC Batch ID:	EP-0306-F
Client:	Vertex Engineering	Sampled:	07-08-98
Container:	1L Amber Glass	Received:	07-09-98
Preservation:	H_2SO_4 / Cool	Extracted:	07-13-98
Matrix:	Aqueous	Analyzed:	07-16-98
		Dilution Factor:	Aliphatic: 1 Aromatic: 1

EPH Ranges	Concentration	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL	ug/L	500
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL	ug/L	500
n-C11 to n-C22 Aromatic Hydrocarbons †◊	BRL	ug/L	200
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	BRL	ug/L	200

QC Surrogate Compounds		Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	81 %	40 - 140 %
	2-Bromonaphthalene	83 %	40 - 140 %
Extraction:	Chloro-octadecane	67 %	40 - 140 %
	ortho-Terphenyl	59 %	40 - 140 %

QA/QC Certification

All QA/QC procedures required by the method were followed. All performance or acceptance standards for the required QA/QC procedures were achieved, except as may be noted on this data report or in the accompanying project narrative and project quality control report. No significant modifications were made to the method.

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (1998).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	MW-1	Laboratory ID:	21977-05
Project:	MDMR 150 Lake Street/P0982	QC Batch ID:	VG1-0563-W
Client:	Vertex Engineering	Sampled:	07-08-98
Container:	40 mL Glass Vial	Received:	07-09-98
Preservation:	HCl / Cool	Analyzed:	07-16-98
Matrix:	Aqueous	Dilution Factor:	1

VPH Ranges	Concentration	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons †◊	BRL	ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons †⊗	BRL	ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons †	BRL	ug/L	20
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	80	ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	BRL	ug/L	20

QC Surrogate Compounds	Recovery	QC Limits
2,5-Dibromotoluene (PID)	106 %	70 - 130 %
2,5-Dibromotoluene (FID)	126 %	70 - 130 %

QA/QC Certification

All QA/QC procedures required by the method were followed. All performance or acceptance standards for the required QA/QC procedures were achieved, except as may be noted on this data report or in the accompanying project narrative and project quality control report. No significant modifications were made to the method.

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (1998).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	MW-2	Laboratory ID:	21977-06
Project:	MDMR 150 Lake Street/P0982	QC Batch ID:	VG1-0563-W
Client:	Vertex Engineering	Sampled:	07-08-98
Container:	40 mL Glass Vial	Received:	07-09-98
Preservation:	HCl / Cool	Analyzed:	07-16-98
Matrix:	Aqueous	Dilution Factor:	1

VPH Ranges	Concentration	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons †◊	BRL	ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons †⊗	BRL	ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons †	BRL	ug/L	20
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	21	ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	BRL	ug/L	20

QC Surrogate Compounds	Recovery	QC Limits
2,5-Dibromotoluene (PID)	103 %	70 - 130 %
2,5-Dibromotoluene (FID)	125 %	70 - 130 %

QA/QC Certification

All QA/QC procedures required by the method were followed. All performance or acceptance standards for the required QA/QC procedures were achieved, except as may be noted on this data report or in the accompanying project narrative and project quality control report. No significant modifications were made to the method.

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (1998).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	MW-4	Laboratory ID:	21977-07
Project:	MDMR 150 Lake Street/P0982	QC Batch ID:	VG1-0563-W
Client:	Vertex Engineering	Sampled:	07-08-98
Container:	40 mL Glass Vial	Received:	07-09-98
Preservation:	HCl / Cool	Analyzed:	07-16-98
Matrix:	Aqueous	Dilution Factor:	1

VPH Ranges	Concentration	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons †◊	BRL	ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons †⊗	24	ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons †	BRL	ug/L	20
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	BRL	ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	31	ug/L	20

QC Surrogate Compounds	Recovery	QC Limits
2,5-Dibromotoluene (PID)	103 %	70 - 130 %
2,5-Dibromotoluene (FID)	123 %	70 - 130 %

QA/QC Certification

All QA/QC procedures required by the method were followed. All performance or acceptance standards for the required QA/QC procedures were achieved, except as may be noted on this data report or in the accompanying project narrative and project quality control report. No significant modifications were made to the method.

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (1998).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	MW-5	Laboratory ID:	21977-08
Project:	MDMR 150 Lake Street/P0982	QC Batch ID:	VG1-0563-W
Client:	Vertex Engineering	Sampled:	07-08-98
Container:	40 mL Glass Vial	Received:	07-09-98
Preservation:	HCl / Cool	Analyzed:	07-16-98
Matrix:	Aqueous	Dilution Factor:	1

VPH Ranges	Concentration	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons †◊	BRL	ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons †⊗	BRL	ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons †	BRL	ug/L	20
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	97	ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	BRL	ug/L	20

QC Surrogate Compounds	Recovery	QC Limits
2,5-Dibromotoluene (PID)	103 %	70 - 130 %
2,5-Dibromotoluene (FID)	116 %	70 - 130 %

QA/QC Certification

All QA/QC procedures required by the method were followed. All performance or acceptance standards for the required QA/QC procedures were achieved, except as may be noted on this data report or in the accompanying project narrative and project quality control report. No significant modifications were made to the method.

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (1998).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
Project Narrative

Project: MDMR 150 Lake Street/P0982
Client: Vertex Engineering

Lab ID: 21977
Received: 07-09-98

A. Physical Condition of Sample(s)

This project was received by the laboratory in satisfactory condition. The sample(s) were received in appropriate containers with the correct preservation.

B. Project Documentation

This project was accompanied by Chain of Custody documentation, with the following amendment(s) or correction(s):

1. Project 21977 was changed from Standard (10 business day) to Priority (5 business day) turnaround. The project was given a due date of 07-16-98, per Amy McElroy, 07-13-98.

C. Analysis of Sample(s)

The following analytical anomalies or non-conformances were noted by the laboratory during the processing of these samples:

1. Sample 21977-01 for analysis by MA DEP Method for the Determination of Extractable Petroleum Hydrocarbons had a surrogate recovery outside recommended limits.

[redacted] Nº [redacted]

Project Number: P0482	Address: 400 Libbey Parkway
Sampler Name: P. Kavanaugh	City / State / Zip: Weymouth, MA
Project Manager: A. McElroy	Telephone: (781) 952-6000

TURNAROUND

- [X] STANDARD (10 Business Days)
- [ ] PRIORITY (5 Business Days)
- [ ] RUSH (RAN- _____) (Rush requires Rush Authorization Number)

Please FAX [X] YES [ ] NO

FAX Number: _____

BILLING

Purchase Order No.:

GWA Reference No.:

INSTRUCTIONS: Use separate line for each container (except duplicates).

ANALYSIS REQUEST

OPTIONS

Volatiles: ☐Low Level ☐MTBE ☐TIC Search

SDWA: ☐524.2

NPDES: ☐624/NPDES

RCRA/21E: ☐8260/TCL ☐8260/ Method List

Volatiles: ☐MTBE ☐MTBE

SDWA: ☐502.2

NPDES: ☐601 602

RCRA/21E: ☐8010/8020

Volatiles: ☐MTBE

NPDES: ☐602

RCRA/21E: ☐8020

Volatiles: ☐MTBE

NPDES: ☐601

RCRA/21E: ☐8010

Semivolatiles: ☐Low Level ☐Acid Only ☐B/N Only ☐PAHs Only ☐TIC Search

SDWA: ☐525.2

NPDES: ☐625

RCRA/21E: ☐8270/TCL

Pest/Herb/PCBs Extractable Vol.: ☐Low Level

SDWA: ☐508

NPDES: ☐608/PCB Only

RCRA/21E: ☐8080 ☐8080/PCB Only

Pest/Herb/PCBs Extractable Vol.: ☐Low Level

SDWA: ☐515.1

NPDES: ☐615

RCRA/21E: ☐8150 ☐8151

Pest/Herb/PCBs Extractable Vol.: ☐504

SDWA: ☐504

NPDES: ☐601

RCRA/21E: ☐8011

Metals: Specify For Water Samples: ☐Total ☐Dissolved

SDWA: ☐12 SDWA

NPDES: ☐13 Priority Pollutant

RCRA/21E: ☐8 RCRA ☐17 App IX ☐23 TAL ☐Specify:

Petroleum Hydrocarbon Ext. TPH Vol. TPH: ☐418.1 (TPH-IR) ☐Diesel Range Organics (DRO) ☐MA DEP Extractable TPH ☐Hydrocarbon Fingerprint (GC/FID by ASTM D3328-78-Mod.) ☐Gasoline Range Organics (GRO) ☐MA DEP Volatile TPH

Haz. Waste: ☐TCLP ☐Metals ☐VOA ☐Semi VOA ☐Pesticides ☐Herbicides ☐Corrosivity (ph) ☐Reactivity ☐Ignitability (as Flashpoint) ☐Paint Filter

General Chemistry: ☐Nitrate ☐Chloride ☐Sulfate ☐TDS ☐TSS ☐Alkalinity ☐Ammonia ☐TKN ☐Oil & Grease (413.1) ☐COD ☐TOC ☐BOD ☐Cyanide, Total ☐pH ☐Dissolved Oxygen

Sampling DATE	Sampling TIME	SAMPLE IDENTIFICATION	Matrix: WATER	Matrix: SOIL	Type: COMPOSITE	Type: GRAB	Container(s): NUMBER	Container(s): 40mL VOA VIAL	Container(s): 125mL VOA JAR	Container(s): 1L GLASS	Container(s): 500mL GLASS	Container(s): 1L PLASTIC	Container(s): 500mL PLASTIC	Container(s): 120mL STERILE	Preservation: HCl	Preservation: HNO3	Preservation: H2SO4	Preservation: ICE	Filtered: YES	Filtered: NO	LABORATORY NUMBER (Lab Use Only)
7/2/98		MW-1	X			X	3	X							X			X		X	21977-05
		MW-1	X			X	2			X						X	X	X		X	01,09
		MW-2	X			X	3	X							X			X		X	06
		MW-2	X			X	2			X						X	X	X		X	02,10
		MW-4	X			X	3	X							X			X		X	07
		MW-4	X			X	2			X						X	X	X		X	03,11
		MW-5	X			X	3	X							X			X		X	08
		MW-5	X			X	2			X						X	X	X		X	04,12

REMARKS / SPECIAL INSTRUCTIONS

This may be an outdated C-O-C. BTEX + PAHs on Highest VPH / EPH hits please call w/ questions.

DATA QUALITY OBJECTIVES

Regulatory Program

- [ ] Safe Drinking Water Act
- [ ] NPDES/Clean Water Act
- [ ] RCRA/Haz. Waste Char.
- [X] MA MCP (310 CMR 40)

Reportable Concentrations

- [ ] RCGW - 1 [ ] RCS - 1
- [ ] RCGW - 2 [ ] RCS - 2

- [ ] Other: _____

Project Specific QC

Many regulatory programs and EPA methods require project specific QC. Project specific QC includes Sample Duplicates, Matrix Spikes, and/or Matrix Spike Duplicates. Laboratory QC is not project specific unless prearranged. Project specific QC samples are charged on a per sample basis. For water samples, each MS, MSD and Sample Duplicate requires an additional sample aliquot.

Project Specific QC Required

- [ ] Sample Duplicate
- [ ] Matrix Spike
- [ ] Matrix Spike Duplicate

Selection of QC Sample

- [ ] Selected by laboratory
- [ ] Please use sample: _____

CHAIN-OF-CUSTODY RECORD

NOTE: All samples submitted subject to Standard Terms and Conditions on reverse hereof.

	Date	Time		
Relinquished by Sampler:			Received by:	Shipping/Airbill Number
Relinquished by:	7/9	9:14	Received by:	Custody Seal Number
Relinquished by:	7/9	15:45	Received by Laboratory:	Cooler Seal Number

Method of Shipment: [ ] GWA Courier [ ] Express Mail [ ] Federal Express [ ] UPS [ ] Hand [ ] _____

GROUNDWATER ANALYTICAL

QUALITY ASSURANCE
QA/QC Program Statement

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*, US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste*, US EPA SW-846, Third Edition (Revised 1992).

Quality Control protocols include Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Equipment and facility maintenance conform to Good Laboratory Practices (GLPs). Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one calibration standard, one method blank, one laboratory control sample, and one matrix spike and one sample duplicate for each sample batch. All samples, standards, blanks, laboratory control samples and matrix spikes are spiked with internal standards and surrogate compounds. GC/MS systems are tuned to BFB ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one calibration standard, one method blank, one laboratory control sample, one matrix spike and one sample duplicate for each sample batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

Batches are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples which are analyzed together with the same method sequence and the same lots of reagents and with the same manipulations common to each sample within the same continuum of time within a 24 hour period.

Method Blanks are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

Laboratory Control Samples are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target compounds representative of the method analytes. Accuracy is defined as the degree of agreement of a measured value with the true or expected value. Percent Recoveries for the Laboratory Control Sample are calculated to assess accuracy.

Surrogate Compounds are used to assess the effectiveness of the method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to organic analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Sample

Category: MA DEP VPH Method
QC Batch ID: VG1-0563-W
Matrix: Aqueous
Units: ug/L

CAS Number	Analyte	Spiked	Measured	Recovery	QC Limits
1634-04-4	Methyl *tert*-butyl Ether	50	48	96%	70 - 130 %
71-43-2	Benzene	50	49	99%	70 - 130 %
108-88-3	Toluene	50	53	107%	70 - 130 %
100-41-4	Ethylbenzene	50	53	106%	70 - 130 %
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene	100	110	111%	70 - 130 %
95-47-6	*ortho*- Xylene	50	52	104%	70 - 130 %
91-20-3	Naphthalene	50	43	87%	70 - 130 %

QC Surrogate Compounds	Recovery	QC Limits
2,5-Dibromotoluene (PID)	113 %	70 - 130 %
2,5-Dibromotoluene (FID)	102 %	70 - 130 %

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (1998).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category: MA DEP VPH Method
QC Batch ID: VG1-0563-W
Matrix: Aqueous

VPH Ranges	Concentration	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons †◊	BRL	ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons †⊗	BRL	ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons †	BRL	ug/L	20
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	BRL	ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	BRL	ug/L	20

CAS Number	Target Analytes	Concentration	Units	Reporting Limit
1634-04-4	Methyl *tert*-butyl Ether	BRL	ug/L	5
71-43-2	Benzene	BRL	ug/L	1
108-88-3	Toluene	BRL	ug/L	5
100-41-4	Ethylbenzene	BRL	ug/L	5
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene	BRL	ug/L	5
95-47-6	*ortho*- Xylene	BRL	ug/L	5
91-20-3	Naphthalene	BRL	ug/L	5

QC Surrogate Compounds	Recovery	QC Limits
2,5-Dibromotoluene (PID)	107 %	70 - 130 %
2,5-Dibromotoluene (FID)	117 %	70 - 130 %

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (1998).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Sample

Category: MA DEP EPH Method
QC Batch ID: EP-0306-F
Matrix: Aqueous
Units: ug/L

CAS Number	Analyte	Spiked	Measured	Recovery	QC Limits
111-84-2	*n*-Nonane (C_9)	50	33	67 %	40 - 140 %
629-59-4	*n*-Tetradecane (C_{14})	50	24	47 %	40 - 140 %
629-92-5	*n*-Nonadecane (C_{19})	50	28	56 %	40 - 140 %
112-95-8	*n*-Eicosane (C_{20})	50	31	62 %	40 - 140 %
630-02-4	*n*-Octacosane (C_{28})	50	29	58 %	40 - 140 %

QC Surrogate Compounds		Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	80 %	40 - 140 %
	2-Bromonaphthalene	82 %	40 - 140 %
Extraction:	Chloro-octadecane	101 %	40 - 140 %
	ortho-Terphenyl	87 %	40 - 140 %

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (1998).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

Groundwater Analytical, Inc.
P.O. Box 1200
228 Main Street
Buzzards Bay, MA 02532

Telephone (508) 759-4441
FAX (508) 759-4475

September 16, 1998

Ms. Amy McElroy
Vertex Engineering, Inc.
400 Libbey Parkway
Weymouth, MA 02189

Project: **Lake St./0982**
Lab ID: **22922**
Sampled: **09-14-98**

Dear Amy:

Enclosed are the Extractable Petroleum Hydrocarbons and Volatile Petroleum Hydrocarbons Analyses performed for the above referenced project. This project was processed for Rush turnaround.

This letter authorizes the release of the analytical results, and should be considered a part of this report. This report contains a project narrative indicating project changes and non-conformances, a brief description of the Quality Assurance/Quality Control procedures employed by our laboratory, and a statement of our state certifications.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Should you have any questions concerning this report, please do not hesitate to contact me.

Sincerely,

Jonathan R. Sanford
President

JRS/myr
Enclosures

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	MW-1	Laboratory ID:	22922-01
Project:	Lake St./0982	QC Batch ID:	EP-0339-F
Client:	Vertex Engineering	Sampled:	09-14-98
Container:	1L Amber Glass	Received:	09-14-98
Preservation:	H_2SO_4 / Cool	Extracted:	09-14-98
Matrix:	Aqueous	Analyzed:	09-16-98
		Dilution Factor:	Aliphatic: 1 Aromatic: 1

EPH Ranges	Concentration	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL	ug/L	500
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL	ug/L	500
n-C11 to n-C22 Aromatic Hydrocarbons †◊	BRL	ug/L	200
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	BRL	ug/L	200

QC Surrogate Compounds		Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	88 %	40 - 140 %
	2-Bromonaphthalene	84 %	40 - 140 %
Extraction:	Chloro-octadecane	76 %	40 - 140 %
	ortho-Terphenyl	84 %	40 - 140 %

QA/QC Certification

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Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (1998).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	MW-2	Laboratory ID:	22922-02
Project:	Lake St./0982	QC Batch ID:	EP-0339-F
Client:	Vertex Engineering	Sampled:	09-14-98
Container:	1L Amber Glass	Received:	09-14-98
Preservation:	H_2SO_4 / Cool	Extracted:	09-14-98
Matrix:	Aqueous	Analyzed:	09-16-98
		Dilution Factor:	Aliphatic: 1 Aromatic: 1

EPH Ranges	Concentration	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL	ug/L	500
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL	ug/L	500
n-C11 to n-C22 Aromatic Hydrocarbons †◊	BRL	ug/L	200
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	BRL	ug/L	200

QC Surrogate Compounds		Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	95 %	40 - 140 %
	2-Bromonaphthalene	87 %	40 - 140 %
Extraction:	Chloro-octadecane	85 %	40 - 140 %
	ortho-Terphenyl	87 %	40 - 140 %

QA/QC Certification

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Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (1998).

Report Notations:

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◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	MW-3	Laboratory ID:	22922-03
Project:	Lake St./0982	QC Batch ID:	EP-0339-F
Client:	Vertex Engineering	Sampled:	09-14-98
Container:	1L Amber Glass	Received:	09-14-98
Preservation:	H_2SO_4 / Cool	Extracted:	09-14-98
Matrix:	Aqueous	Analyzed:	09-16-98
		Dilution Factor:	Aliphatic: 1 Aromatic: 1

EPH Ranges	Concentration	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL	ug/L	500
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL	ug/L	500
n-C11 to n-C22 Aromatic Hydrocarbons †◊	BRL	ug/L	200
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	BRL	ug/L	200

QC Surrogate Compounds		Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	85 %	40 - 140 %
	2-Bromonaphthalene	49 %	40 - 140 %
Extraction:	Chloro-octadecane	77 %	40 - 140 %
	ortho-Terphenyl	68 %	40 - 140 %

QA/QC Certification

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Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (1998).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	MW-4	Laboratory ID:	22922-04
Project:	Lake St./0982	QC Batch ID:	EP-0339-F
Client:	Vertex Engineering	Sampled:	09-14-98
Container:	1L Amber Glass	Received:	09-14-98
Preservation:	H_2SO_4 / Cool	Extracted:	09-14-98
Matrix:	Aqueous	Analyzed:	09-16-98
		Dilution Factor:	Aliphatic: 1 Aromatic: 1

EPH Ranges	Concentration	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL	ug/L	500
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL	ug/L	500
n-C11 to n-C22 Aromatic Hydrocarbons †◊	BRL	ug/L	200
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	BRL	ug/L	200

QC Surrogate Compounds		Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	89 %	40 - 140 %
	2-Bromonaphthalene	64 %	40 - 140 %
Extraction:	Chloro-octadecane	81 %	40 - 140 %
	ortho-Terphenyl	86 %	40 - 140 %

QA/QC Certification

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Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (1998).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

Massachusetts DEP EPH Method
Extractable Petroleum Hydrocarbons by GC/FID

Field ID:	MW-5	Laboratory ID:	22922-05
Project:	Lake St./0982	QC Batch ID:	EP-0339-F
Client:	Vertex Engineering	Sampled:	09-14-98
Container:	1L Amber Glass	Received:	09-14-98
Preservation:	H_2SO_4 / Cool	Extracted:	09-14-98
Matrix:	Aqueous	Analyzed:	09-16-98
		Dilution Factor:	Aliphatic: 1 Aromatic: 1

EPH Ranges	Concentration	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL	ug/L	500
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL	ug/L	500
n-C11 to n-C22 Aromatic Hydrocarbons †◊	BRL	ug/L	200
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	BRL	ug/L	200

QC Surrogate Compounds		Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	100 %	40 - 140 %
	2-Bromonaphthalene	103 %	40 - 140 %
Extraction:	Chloro-octadecane	77 %	40 - 140 %
	ortho-Terphenyl	92 %	40 - 140 %

QA/QC Certification

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Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (1998).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

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Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	MW-1	Laboratory ID:	22922-06
Project:	Lake St./0982	QC Batch ID:	VG3-0852-W
Client:	Vertex Engineering	Sampled:	09-14-98
Container:	40 mL Glass Vial	Received:	09-14-98
Preservation:	HCl / Cool	Analyzed:	09-15-98
Matrix:	Aqueous	Dilution Factor:	1

VPH Ranges	Concentration	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons †◊	BRL	ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons †⊗	BRL	ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons †	BRL	ug/L	20
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	110	ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	BRL	ug/L	20

QC Surrogate Compounds	Recovery	QC Limits
2,5-Dibromotoluene (PID)	90 %	70 - 130 %
2,5-Dibromotoluene (FID)	89 %	70 - 130 %

QA/QC Certification

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Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (1998).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	MW-2	Laboratory ID:	22922-07
Project:	Lake St./0982	QC Batch ID:	VG3-0852-W
Client:	Vertex Engineering	Sampled:	09-14-98
Container:	40 mL Glass Vial	Received:	09-14-98
Preservation:	HCl / Cool	Analyzed:	09-15-98
Matrix:	Aqueous	Dilution Factor:	1

VPH Ranges	Concentration	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons †◊	BRL	ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons †⊗	BRL	ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons †	BRL	ug/L	20
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	72	ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	BRL	ug/L	20

QC Surrogate Compounds	Recovery	QC Limits
2,5-Dibromotoluene (PID)	93 %	70 - 130 %
2,5-Dibromotoluene (FID)	92 %	70 - 130 %

QA/QC Certification

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Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (1998).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	MW-3	Laboratory ID:	22922-08
Project:	Lake St./0982	QC Batch ID:	VG3-0852-W
Client:	Vertex Engineering	Sampled:	09-14-98
Container:	40 mL Glass Vial	Received:	09-14-98
Preservation:	HCl / Cool	Analyzed:	09-15-98
Matrix:	Aqueous	Dilution Factor:	1

VPH Ranges	Concentration	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons ‡◊	BRL	ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons ‡⊗	BRL	ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons †	BRL	ug/L	20
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	BRL	ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	BRL	ug/L	20

QC Surrogate Compounds	Recovery	QC Limits
2,5-Dibromotoluene (PID)	90 %	70 - 130 %
2,5-Dibromotoluene (FID)	86 %	70 - 130 %

QA/QC Certification

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Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (1998).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	MW-4	Laboratory ID:	22922-09
Project:	Lake St./0982	QC Batch ID:	VG3-0852-W
Client:	Vertex Engineering	Sampled:	09-14-98
Container:	40 mL Glass Vial	Received:	09-14-98
Preservation:	HCl / Cool	Analyzed:	09-15-98
Matrix:	Aqueous	Dilution Factor:	1

VPH Ranges	Concentration	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons †◊	BRL	ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons †⊗	26	ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons †	BRL	ug/L	20
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	BRL	ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	25	ug/L	20

QC Surrogate Compounds	Recovery	QC Limits
2,5-Dibromotoluene (PID)	90 %	70 - 130 %
2,5-Dibromotoluene (FID)	87 %	70 - 130 %

QA/QC Certification

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Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (1998).

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† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Massachusetts DEP VPH Method
Volatile Petroleum Hydrocarbons by GC/PID/FID

Field ID:	MW-5	Laboratory ID:	22922-10
Project:	Lake St./0982	QC Batch ID:	VG3-0852-W
Client:	Vertex Engineering	Sampled:	09-14-98
Container:	40 mL Glass Vial	Received:	09-14-98
Preservation:	HCl / Cool	Analyzed:	09-15-98
Matrix:	Aqueous	Dilution Factor:	1

VPH Ranges	Concentration	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons †◊	BRL	ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons †⊗	26	ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons †	BRL	ug/L	20
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	360	ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	24	ug/L	20

QC Surrogate Compounds	Recovery	QC Limits
2,5-Dibromotoluene (PID)	89 %	70 - 130 %
2,5-Dibromotoluene (FID)	86 %	70 - 130 %

QA/QC Certification

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Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (1998).

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◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Project Narrative

Project: **Lake St./0982**
Client: **Vertex Engineering**

Lab ID: **22922**
Received: **09-14-98**

A. Physical Condition of Sample(s)

This project was received by the laboratory in satisfactory condition. The sample(s) were received undamaged in appropriate containers with the correct preservation.

B. Project Documentation

This project was accompanied by satisfactory Chain of Custody documentation. The sample container label(s) agreed with the Chain of Custody.

C. Analysis of Sample(s)

No analytical anomalies or non-conformances were noted by the laboratory during the processing of these sample(s). All data contained within this report are released without qualification.

GROUNDWATER ANALYTICAL

228 Main Street
Buzzards Bay, MA 02532
Telephone (508) 759-4441
FAX (508) 759-4475

CHAIN-OF-CUSTODY RECORD AND WORK ORDER

№ 28790

Project Name: Lake St Shrewsbury MA	Firm: Vertex
Project Number: 0982	Address: 400 Libbey Parkway
Sampler Name: P L	City / State / Zip: Weymouth, MA 02189
Project Manager: Amy McE...	Telephone: 781 - 952 - 6000

TURNAROUND

☐ STANDARD (10 Business Days)
☐ PRIORITY (5 Business Days)
☒ RUSH (RAN- 550)
(Rush requires Rush Authorization Number)
Please FAX ☒ YES ☐ NO
FAX Number: 781-335-3543

BILLING

Purchase Order No.:
GWA Reference No.:

INSTRUCTIONS: Use separate line for each container (except replicates).

ANALYSIS REQUEST

Analysis request options (column headings): Volatiles: ☐8260/TCL, ☐8260/Method List, ☐8010/8020, ☐8020, ☐8010; ☐624/NPDES, ☐624/Extended, ☐601/602, ☐602, ☐601; ☐524.2, ☐502.2; ☐Low Level, ☐MTBE, ☐TIC Search, ☐MTBE, ☐MTBE. Semivolatiles: ☐8270/TCL, ☐625, ☐525.2, ☐Low Level, ☐Acid Only, ☐B/N Only, ☐TIC Search, ☐8270/PAHs Only, ☐Low Level. Pest/Herb/PCBs: ☐8080, ☐8080/PCB Only, ☐8140, ☐8150, ☐8011; ☐608, ☐608/PCB Only, ☐615, ☐515.1, ☐504; ☐Low Level. Metals: ☐8 RCRA, ☐17 App. IX, ☐23 TAL, ☐Specify:; ☐13 Priority Pollutant; ☐12 SDWA; Specify For Water Samples: ☐Total ☐Dissolved. Petroleum Hydrocarbon: ☐418.1 (TPH-IR), ☐Diesel Range Organics (DRO), ☐MA DEP EPH w/ PAHs ☒MA DEP EPH only, ☐Hydrocarbon Fingerprint (GC/FID by ASTM D3328-90-Mod.), ☐Gasoline Range Organics (GRO), ☐MA DEP VPH w/ BTEX ☒MA DEP VPH only. Haz. Waste: TCLP ☐Metals ☐VOA ☐Semi VOA ☐Pesticides ☐Herbicides; ☐Corrosivity (as pH) ☐Reactivity ☐Ignitability (as Flashpoint) ☐Paint Filter. General Chemistry: ☐Nitrate ☐Chloride ☐Sulfate ☐TDS ☐Nitrite; ☐Alkalinity; ☐Ammonia ☐TKN ☐Total Phosphorus; ☐Oil & Grease (413.1); ☐COD ☐TOC; ☐BOD; ☐Cyanide, Total; ☐pH ☐Dissolved Oxygen ☐Turbidity; ☐Total Coliform. Other.

Date	Time	Sample Identification	Water	Soil	Composite	Grab	Number	40mL VOA Vial	125mL VOA Jar	1L Glass	250mL Glass	1L Plastic	500mL Plastic	250mL Plastic	120mL Sterile	HCl	HNO₃	H₂SO₄	NaOH	Ice	Filtered Yes	Filtered No	Laboratory Number (Lab Use Only)	MA DEP EPH only	MA DEP VPH only
9/14		MW-1	X				5	3		2						3		2		X			22922-01, 06	X	X
"		MW-2	X				5	3		2						3		2		X			02, 07	X	X
"		MW-3	X				5	3		2						3		2		X			03, 08	X	X
"		MW-4	X				5	3		2						3		2		X			04, 09	X	X
"		MW-5	X				5	3		2						3		2		X			05, 10	X	X

REMARKS / SPECIAL INSTRUCTIONS

Run All Samples for
VPH only
EPH only

DATA QUALITY OBJECTIVES

Regulatory Program

☐ Safe Drinking Water Act
☐ NPDES/Clean Water Act
☐ RCRA/Haz. Waste Char.
☐ MA MCP (310 CMR 40)
Reportable Concentrations
☐ RCGW - 1 ☐ RCS - 1
☐ RCGW - 2 ☐ RCS - 2
☐ Other: ______

Project Specific QC

Many regulatory programs and EPA methods require project specific QC. Project specific QC includes Sample Duplicates, Matrix Spikes, and/or Matrix Spike Duplicates. Laboratory QC is not project specific unless prearranged. Project specific QC samples are charged on a per sample basis. For water samples, each MS, MSD and Sample Duplicate requires an additional sample aliquot.

Project Specific QC Required
☐ Sample Duplicate
☐ Matrix Spike
☐ Matrix Spike Duplicate

Selection of QC Sample
☐ Selected by laboratory
☐ Please use sample: ______

CHAIN-OF-CUSTODY RECORD

NOTE: All samples submitted subject to Standard Terms and Conditions on reverse hereof.

Relinquished by	Date	Time	Received by
Relinquished by Sampler: P. [signature]	9/14	12:30PM	Received by: Alan Maddigan
Relinquished by:			Received by:
Relinquished by: Alan Maddigan	9/14/98	7:20PM	Received by Laboratory: [signature]

Method of Shipment: ☒ GWA Courier ☐ Express Mail ☐ Federal Express ☐ UPS ☐ Hand ☐ ______

Shipping/Airbill Number:
Custody Seal Number:
Cooler Serial Number:

GROUNDWATER ANALYTICAL

Quality Assurance/Quality Control

A. Program Overview

Groundwater Analytical conducts an active Quality Assurance program to ensure the production of high quality, valid data. This program closely follows the guidance provided by *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans*, US EPA QAMS-005/80 (1980), and *Test Methods for Evaluating Solid Waste*, US EPA, SW-846, Update III (1996).

Quality Control protocols include written Standard Operating Procedures (SOPs) developed for each analytical method. SOPs are derived from US EPA methodologies and other established references. Standards are prepared from commercially obtained reference materials of certified purity, and documented for traceability.

Quality Assessment protocols for most organic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. All samples, standards, blanks, laboratory control samples, matrix spikes and sample duplicates are spiked with internal standards and surrogate compounds. All instrument sequences begin with an initial calibration verification standard and a blank; and excepting GC/MS sequences, all sequences close with a continuing calibration standard. GC/MS systems are tuned to appropriate ion abundance criteria daily, or for each 12 hour operating period, whichever is more frequent.

Quality Assessment protocols for most inorganic analyses include a minimum of one laboratory control sample, one method blank, one matrix spike sample, and one sample duplicate for each sample preparation batch. Standard curves are derived from one reagent blank and four concentration levels. Curve validity is verified by standard recoveries within plus or minus ten percent of the curve.

B. Definitions

Batches are used as the basic unit for Quality Assessment. A Batch is defined as twenty or fewer samples of the same matrix which are prepared together for the same analysis, using the same lots of reagents and the same techniques or manipulations, all within the same continuum of time, up to but not exceeding 24 hours.

Laboratory Control Samples are used to assess the accuracy of the analytical method. A Laboratory Control Sample consists of reagent water or sodium sulfate spiked with a group of target analytes representative of the method analytes. Accuracy is defined as the degree of agreement of the measured value with the true or expected value. Percent Recoveries for the Laboratory Control Samples are calculated to assess accuracy.

Method Blanks are used to assess the level of contamination present in the analytical system. Method Blanks consist of reagent water or an aliquot of sodium sulfate. Method Blanks are taken through all the appropriate steps of an analytical method. Sample data reported is not corrected for blank contamination.

Surrogate Compounds are used to assess the effectiveness of an analytical method in dealing with each sample matrix. Surrogate Compounds are organic compounds which are similar to the target analytes of interest in chemical behavior, but which are not normally found in environmental samples. Percent Recoveries are calculated for each Surrogate Compound.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Sample

Category: MA DEP EPH Method
QC Batch ID: EP-0339-F
Matrix: Aqueous
Units: ug/L

CAS Number	Analyte	Spiked	Measured	Recovery		QC Limits
111-84-2	*n*-Nonane (C_9)	50	25	49 %		40 - 140 %
629-59-4	*n*-Tetradecane (C_{14})	50	28	56 %		40 - 140 %
629-92-5	*n*-Nonadecane (C_{19})	50	32	65 %		40 - 140 %
112-95-8	*n*-Eicosane (C_{20})	50	36	73 %		40 - 140 %
630-02-4	*n*-Octacosane (C_{28})	50	33	66 %		40 - 140 %
91-20-3	Naphthalene	50	36	71 %		40 - 140 %

QC Surrogate Compounds		Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	90 %	40 - 140 %
	2-Bromonaphthalene	90 %	40 - 140 %
Extraction:	Chloro-octadecane	79 %	40 - 140 %
	ortho-Terphenyl	86 %	40 - 140 %

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (1998).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category: MA DEP EPH Method
QC Batch ID: EP-0339-F
Matrix: Aqueous

EPH Ranges	Concentration	Units	Reporting Limit
n-C9 to n-C18 Aliphatic Hydrocarbons †	BRL	ug/L	500
n-C19 to n-C36 Aliphatic Hydrocarbons †	BRL	ug/L	500
n-C11 to n-C22 Aromatic Hydrocarbons †◊	BRL	ug/L	200
Unadjusted n-C11 to n-C22 Aromatic Hydrocarbons †	BRL	ug/L	200

QC Surrogate Compounds		Recovery	QC Limits
Fractionation:	2-Fluorobiphenyl	89 %	40 - 140 %
	2-Bromonaphthalene	74 %	40 - 140 %
Extraction:	Chloro-octadecane	74 %	40 - 140 %
	ortho-Terphenyl	83 %	40 - 140 %

Method Reference: Method for the Determination of Extractable Petroleum Hydrocarbons, MA DEP (1998).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C11 to n-C22 Aromatic Hydrocarbons range data excludes the method target analyte concentrations.

GROUNDWATER ANALYTICAL

Quality Control Report
Laboratory Control Sample

Category: MA DEP VPH Method
QC Batch ID: VG3-0852-W
Matrix: Aqueous
Units: ug/L

CAS Number	Analyte	Spiked	Measured	Recovery	QC Limits
1634-04-4	Methyl *tert*-butyl Ether	50	52	105%	70 - 130 %
71-43-2	Benzene	50	55	109%	70 - 130 %
108-88-3	Toluene	50	57	113%	70 - 130 %
100-41-4	Ethylbenzene	50	55	109%	70 - 130 %
108-38-3 and 106-42-3	*meta*- Xylene and *para*-Xylene	100	110	114%	70 - 130 %
95-47-6	*ortho*- Xylene	50	52	104%	70 - 130 %
91-20-3	Naphthalene	50	49	98%	70 - 130 %

QC Surrogate Compounds	Recovery	QC Limits
2,5-Dibromotoluene (PID)	86 %	70 - 130 %
2,5-Dibromotoluene (FID)	86 %	70 - 130 %

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (1998).

Report Notations: All calculations performed prior to rounding. Quality Control Limits are defined by the methodology, or alternatively based upon the historical average recovery plus or minus three standard deviation units.

GROUNDWATER ANALYTICAL

Quality Control Report
Method Blank

Category: MA DEP VPH Method
QC Batch ID: VG3-0852-W
Matrix: Aqueous

VPH Ranges	Concentration	Units	Reporting Limit
n-C5 to n-C8 Aliphatic Hydrocarbons †◊	BRL	ug/L	20
n-C9 to n-C12 Aliphatic Hydrocarbons †⊗	BRL	ug/L	20
n-C9 to n-C10 Aromatic Hydrocarbons †	BRL	ug/L	20
Unadjusted n-C5 to n-C8 Aliphatic Hydrocarbons †	BRL	ug/L	20
Unadjusted n-C9 to n-C12 Aliphatic Hydrocarbons †	BRL	ug/L	20

QC Surrogate Compounds	Recovery	QC Limits
2,5-Dibromotoluene (PID)	107 %	70 - 130 %
2,5-Dibromotoluene (FID)	106 %	70 - 130 %

Method Reference: Method for the Determination of Volatile Petroleum Hydrocarbons, MA DEP (1998).

Report Notations:

BRL Indicates concentration, if any, is below reporting limit for analyte. Reporting limit is the lowest concentration that can be reliably quantified under routine laboratory operating conditions. Reporting limits are adjusted for sample dilution and sample size.

† Hydrocarbon range data excludes concentrations of any surrogate(s) and/or internal standards eluting in that range.

◊ n-C5 to n-C8 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations.

⊗ n-C9 to n-C12 Aliphatic Hydrocarbons range data excludes the method target analyte concentrations and the concentration for the n-C9 to n-C10 Aromatic Hydrocarbons range.

¤ Analyte elutes in the n-C5 to n-C8 Aliphatic Hydrocarbons range.

‡ Analyte elutes in the n-C9 to n-C12 Aliphatic Hydrocarbons range.

GROUNDWATER ANALYTICAL

Certifications and Approvals

CONNECTICUT, Department of Health Services, PH-0586

Potable Water, Wastewater/Trade Waste, Sewage/Effluent, and Soil

pH, Conductivity, Acidity, Alkalinity, Hardness, Chloride, Fluoride, Ammonia, Kjeldahl Nitrogen, Nitrate, Nitrite, Orthophosphate, Total Dissolved Solids, Cyanide, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Total Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Tin, Titanium, Vanadium, Zinc, Purgeable Halocarbons, Purgeable Aromatics, Pesticides, PCBs, PCBs in Oil, Ethylene Dibromide, Phenols, Oil and Grease.

MAINE, Department of Human Services, MA103

Drinking Water

Reciprocal certification in accordance with Massachusetts certification for drinking water analytes.

Waste Water

Reciprocal certification in accordance with Massachusetts certification for waste water analytes.

MASSACHUSETTS, Department of Environmental Protection, M-MA-103

Potable Water

Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Thallium, Nitrate-N, Nitrite-N, Fluoride, Sodium, Sulfate, Cyanide, Turbidity, Residual Free Chlorine, Calcium, Total Alkalinity, Total Dissolved Solids, pH, Trihalomethanes, Volatile Organic Compounds, 1,2-Dibromoethane, 1,2-Dibromo-3-chloropropane, Total Coliform, Fecal Coliform, Heterotrophic Plate Count, E-Coli

Non-Potable Water

Aluminum, Antimony, Arsenic, Beryllium, Cadmium, Chromium, Cobalt, Copper, Iron, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium, Silver, Strontium, Thallium, Titanium, Vanadium, Zinc, pH, Specific Conductance, Total Dissolved Solids, Total Hardness, Calcium, Magnesium, Sodium, Potassium, Total Alkalinity, Chloride, Fluoride, Sulfate, Ammonia-N, Nitrate-N, Kjeldahl-N, Orthophosphate, Total Phosphorus, Chemical Oxygen Demand, Biochemical Oxygen Demand, Total Cyanide, Non-Filterable Residue, Total Residual Chlorine, Oil and Grease, Total Phenolics, Volatile Halocarbons, Volatile Aromatics, Chlordane, Aldrin, Dieldrin, DDD, DDE, DDT, Heptachlor, Heptachlor Epoxide, Polychlorinated Biphenyls (water), Polychlorinated Biphenyls (oil).

MICHIGAN, Department of Environmental Quality

Drinking Water

Trihalomethanes, Regulated and Unregulated Volatile Organic Compounds by EPA Method 524.2; 1,2-Dibromoethane, 1,2-Dibromo-3-chloropropane by EPA Method 504.1

NEW HAMPSHIRE, Department of Environmental Services, 202798

Drinking Water

Metals by Graphite Furnace, Metals by ICP, Mercury, Nitrite-N, Orthophosphate, Residual Free Chlorine, Turbidity, Total Filterable Residue, Calcium Hardness, pH, Alkalinity, Sodium, Sulfate, Total Cyanide, Insecticides, Herbicides, Base/Neutrals, Trihalomethanes, Volatile Organics, Vinyl Chloride, DBCP, EDB, Nitrate-N.

Wastewater

Metals by Graphite Furnace, Metals by ICP, Mercury, pH, Specific Conductivity, TDS, Total Hardness, Calcium, Magnesium, Sodium, Potassium, Total Alkalinity, Chloride, Fluoride, Sulfate, Ammonia-N, Nitrate-N, Orthophosphate, TKN, Total Phosphorus, COD, BOD, Non-Filterable Residue, Oil & Grease, Total Phenolics, Total Residual Chlorine, PCBs in Water, PCBs in Oil, Pesticides, Volatile Organics, Total Cyanide.

RHODE ISLAND, Department of Health, 54

Surface Water, Air, Wastewater, Potable Water, Sewage

Chemistry: Organic and Inorganic

APPENDIX D
SOIL BORING/MONITORING WELL LOGS

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

BORING NO.: NA
Mon Well MW-1

VERTEX
Engineering Services, Inc.

PROJECT: 214 Lake Street
LOCATION: Shrewsbury, MA
DATE: 10/20/97

PROJ. NO.: 0982
Driller: American Drilling
Inspector: S. Healey

	SAMPLER	CASING	CORE
TYPE	Split spoon	HAS	--
SIZE (ID)	2"	--	--
HAMMER (LB.)	140lb	--	N/A
FALL (IN.)	30"	--	N/A

GROUNDWATER DEPTH MEASURMENTS

RIM ELEV.=	296.09		
DATE:	7/8/98		
TIME:			
DEPTH:	3.24		

SAMPLE					SOIL CLASSIFICATION	PID
DEPTH	NO.	DEPTH	PEN/REC	BLOWS/6"		(ppm)
0	MW-1	0-5'	Auger	NA	Not sampled	
5'	MW-1	6-7'	6/24"	8-10-12-17	Brown fine sand with very fine gray sand	ND
10'	MW-1	11-12'	6/24"	11-14-17-21	Gray very fine sand with clay particles	ND
15'	MW-1	16-17"	6/24"	11-14-17-21	Gray very fine silty sand with clay particles	ND
20'	MW-1	20-22'	20/24"	24-39-40-38	Gray very fine silty sand with clay particles	ND
25'	MW-1	25-27'	20/24"		Gray very fine silty sand with clay particles	ND

MONITORING WELL CONSTRUCTION LOG

DEPTH (FT.):	23'	SCREEN INTERVAL:	8-23'	BACKFILL OVER SEAL:	Native
DIA. (IN.):	2"	LENGTH OF RISER:	8'	SURFACE SEAL:	Concrete
MATERIAL:	PVC	DEPTH/TYPE PACK:	6-23'	ROADBOX DESC.:	6" diam. Cl. Roadbox
SLOT SIZE:	0.1	DEPTH/TYPE SEAL:	Bent 5-6'	SHEET 1 OF	1

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

BORING NO.: NA
Mon Well MW-2

VERTEX
Engineering Services, Inc.

PROJECT: 214 Lake Street
LOCATION: Shrewsbury, MA
DATE: 10/20/97

PROJ. NO.: 0982
Driller: American Drilling
Inspector: S. Healey

	SAMPLER	CASING	CORE	GROUNDWATER DEPTH MEASURMENTS				
TYPE	Split spoon	HAS	--	RIM ELEV.=	296.33			
SIZE (ID)	2"	--	--	DATE:	7/8/98			
HAMMER (LB.)	140lb	--	N/A	TIME:				
FALL (IN.)	30"	--	N/A	DEPTH:	3.26			

SAMPLE					SOIL CLASSIFICATION	PID
DEPTH	NO.	DEPTH	PEN/REC	BLOWS/6"		(ppm)
0	MW-2	0-10'	Auger	NA	Not sampled	
5'						
10'	MW-2	10-12	20/24"	7-12-20-28	Gray moist silty sand with clay particles	ND
15'	MW-2	15-17	24/24"	28-39-40-42	SAA	ND
20'	MW-2	15-17	24/24"		SAA	ND

MONITORING WELL CONSTRUCTION LOG

DEPTH (FT.):	23'	SCREEN INTERVAL:	13-23'	BACKFILL OVER SEAL:	Native
DIA. (IN.):	2"	LENGTH OF RISER:	13'	SURFACE SEAL:	Concrete
MATERIAL:	PVC	DEPTH/TYPE PACK:	Sand 10-23	ROADBOX DESC.:	6" diam. Cl. Roadbox
SLOT SIZE:	0.1	DEPTH/TYPE SEAL:	Bent. 8-10'	SHEET 1	OF 1

SOIL BORING/MONITORING WELL CONSTRUCTION LOG

BORING NO.: NA
Mon Well MW-3

VERTEX
Engineering Services, Inc.

PROJECT: 214 Lake Street
LOCATION: Shrewsbury, MA
DATE: 10/20/97

PROJ. NO.: 0982
Driller: American Drilling
Inspector: S. Healey

	SAMPLER	CASING	CORE
TYPE	Split spoon	HAS	--
SIZE (ID)	2"	--	--
HAMMER (LB.)	140lb	--	N/A
FALL (IN.)	30"	--	N/A

GROUNDWATER DEPTH MEASURMENTS

RIM ELEV.=	295.36		
DATE:	7/8/98		
TIME:			
DEPTH:	3.24		

SAMPLE DEPTH	SAMPLE NO.	SAMPLE DEPTH	PEN/REC	BLOWS/6"	SOIL CLASSIFICATION	PID (ppm)
0	MW-3	0-5'	Auger	NA	Not sampled	
5'	MW-3	5-7'	2/24"	1-2-1-1	Light brown med sand with pebbles	ND
7'	MW-3	7-9'	0"/24"	5-17-20-28	Light brown med sand with pebbles	ND
10'	MW-3	10-11'	8/24"	17-19-24-26	Light brown med sand with pebbles	ND
	MW-3	11-13'	12/24"	16-27-35-40	Silty sand with clay particles	ND
15'						
20'						
23'					Well set @ 23'	

MONITORING WELL CONSTRUCTION LOG

DEPTH (FT.):	23'	SCREEN INTERVAL:	8-23'	BACKFILL OVER SEAL:	Native
DIA. (IN.):	2"	LENGTH OF RISER:	8'	SURFACE SEAL:	Concrete
MATERIAL:	PVC	DEPTH/TYPE PACK:	6-23'	ROADBOX DESC.:	6" diam. Cl. Roadbox
SLOT SIZE:	0.1	DEPTH/TYPE SEAL:	Bent. 4-6"	SHEET 1 OF	1

SOIL BORING/MONITORING WELL CONSTRUCTION LOG		BORING NO.: NA Mon Well MW-4
VERTEX **Engineering Services, Inc.**	PROJECT: 214 Lake Street LOCATION: Shrewsbury, MA DATE: 7/1/98	PROJ. NO.: 0982 Driller: American Drilling Inspector: P. Kavanagh

	SAMPLER	CASING	CORE	GROUNDWATER DEPTH MEASURMENTS			
TYPE	Split spoon	HAS	--	RIM ELEV.=	294.43		
SIZE (ID)	2"	--	--	DATE:	7/8/98		
HAMMER (LB.)	140lb	--	N/A	TIME:			
FALL (IN.)	30"	--	N/A	DEPTH:	6.42		

SAMPLE					SOIL CLASSIFICATION	PID
DEPTH	NO.	DEPTH	PEN/REC	BLOWS/6"		(ppm)
0	MW-4	0-5'	Auger	NA	Not sampled	
5'	MW-4	5-7'	20/24"	9-9-13-15	Light brown fine to med sand with pebbles	ND
10'	MW-4	10-12'	24/24"	17-19-24-26	Tight till material with clay and pebbles	ND
15'					Well set at 15' Bottom of boring at 15'	

MONITORING WELL CONSTRUCTION LOG					
DEPTH (FT.):	15'	SCREEN INTERVAL:	15-5'	BACKFILL OVER SEAL:	Native
DIA. (IN.):	2"	LENGTH OF RISER:	5'	SURFACE SEAL:	Concrete
MATERIAL:	PVC	DEPTH/TYPE PACK:	Sand 15-3'	ROADBOX DESC.:	6" diam. Cl. Roadbox
SLOT SIZE:	0.1	DEPTH/TYPE SEAL:	Bent. 3-2'	SHEET 1 OF 1	

SOIL BORING/MONITORING WELL CONSTRUCTION LOG		BORING NO.: NA Mon Well MW-5
VERTEX **Engineering Services, Inc.**	PROJECT: 214 Lake Street LOCATION: Shrewsbury, MA DATE: 7/1/98	PROJ. NO.: 0982 Driller: American Drilling Inspector: P. Kavanagh

	SAMPLER	CASING	CORE	GROUNDWATER DEPTH MEASURMENTS				
TYPE	Split spoon	HAS	--	RIM ELEV.=	286.04			
SIZE (ID)	2"	--	--	DATE:	7/8/98			
HAMMER (LB.)	140lb	--	N/A	TIME:				
FALL (IN.)	30"	--	N/A	DEPTH:	6.19			

SAMPLE					SOIL CLASSIFICATION	PID
DEPTH	NO.	DEPTH	PEN/REC	BLOWS/6"		(ppm)
0	MW-5	0-5'	Auger	NA	Not sampled	
5'	MW-5	5-7'	NA	NA	Not sampled	ND
9'	MW-5	9-11'	24/24"	33-23-23-25	Tight till material with fine sand silt and clay.	ND
10'	MW-5	10.5-12.5'	20/24"	53-49-35-44	SAA	ND
15'					Well set at 15' Bottom of boring at 15'	

MONITORING WELL CONSTRUCTION LOG					
DEPTH (FT.):	15'	SCREEN INTERVAL:	15-5'	BACKFILL OVER SEAL:	Native
DIA. (IN.):	2"	LENGTH OF RISER:	5'	SURFACE SEAL:	Concrete
MATERIAL:	PVC	DEPTH/TYPE PACK:	Sand 15-3'	ROADBOX DESC.:	6" diam. Cl. Roadbox
SLOT SIZE:	0.1	DEPTH/TYPE SEAL:	Bent. 3-2'	SHEET 1 OF 1	

Lord Associates, Inc.
Environmental Consulting & Licensed Site Professional Services

1506 Providence Highway - Suite 30
Norwood, MA 02062-4647

Voice: 781.255.5554
Fax: 781.255.5535
www.lordenv.com

PHASE I
ENVIRONMENTAL SITE ASSESSMENT

384-386 South Street
Shrewsbury, Massachusetts

Prepared for:

Mr. Amar Dieb
Universal Environmental Consultants
12 Brewster Road
Framingham, Massachusetts
01702

Prepared by:

Lord Associates, Inc.
1506 Providence Highway, Suite 30
Norwood, Massachusetts 02062

Project # 2630

February 5, 2018

1506 Providence Highway - Suite 30
Norwood, MA 02062-4647

Lord Associates, Inc.
Environmental Consulting & Licensed Site Professional Services

Voice: 781.255.5554
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February 5, 2018

Mr. Amar Dieb
Universal Environmental Consultants
12 Brewster Road
Framingham, Massachusetts
01702

RE: Phase I Environmental Site Assessment
384-386 South Street
Shrewsbury, Massachusetts

Dear Mr. Dieb:

Lord Associates, Inc. has completed a Phase I Environmental Site Assessment of the above-referenced property (the "Site"). Environmental investigations were completed in compliance with standard industry practice, the ASTM E-1527 site assessment standard entitled "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment (ESA) Process". The purpose of the Phase I ESA was to identify "Recognized Environmental Conditions" as defined in ASTM E-1527-13, and to determine if additional investigation is warranted.

This assessment has not identified any Recognized Environmental Concerns on the subject Site. However, the possible historic use of a portion of the Site as an orchard represents a Potential Environmental Concern due to the possible historic use of lead arsenate pesticides.

Please refer to the attached report for specific details and findings of our assessment. We appreciate the opportunity to have provided our professional environmental consulting and analytical services.

Sincerely,
LORD ASSOCIATES, INC.

Ralph Tella, CHMM, LSP
President

Jonathon D. Puliafico, CPG
Project Manager

Enc.: Phase I ESA

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1.0 INTRODUCTION

1.1 Purpose

Lord Associates, Inc. (LAI) has completed an ASTM Phase I Environmental Site Assessment (ESA) of 384-386 South Street, Shrewsbury, Massachusetts (the "Site"). The purpose of the Phase I ESA was to identify "Recognized Environmental Conditions" as defined in ASTM standard E-1527-13 (the "Standard"), and to determine if additional investigation is warranted.

Recognized Environmental Conditions are defined as the presence or likely presence of any hazardous substances or petroleum products on the property under conditions that indicate an existing release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term Recognized Environmental Conditions is not intended to include *de minimis* conditions which generally do not present a material risk of harm to public health or the environment, and that generally would not be the subject of a notification and/or enforcement action if brought to the attention of appropriate governmental agencies.

This Phase I ESA consisted of a Site reconnaissance and an assessment of the Site and surrounding properties for visual and/or olfactory evidence of the use, storage, and/or release of oil and/or hazardous material. The Phase I ESA also included a review of federal, state, and local agency files regarding the history of the Site and surrounding area relative to the use, storage and/or release of oil and/or hazardous material.

Please note that an investigation for the presence of mold, asbestos and PCBs in building materials, lead-based paint, indoor air quality, or regulatory compliance is beyond the scope of work described by ASTM E1527-13, therefore LAI did not explore those conditions.

1.2 Significant Assumptions

Factual information regarding operations, conditions, and other data provided by the Client, site contacts, third parties, and governmental agencies are assumed to be correct and complete.

1.3 Special Terms and Conditions

The Phase I ESA was conducted by LAI on behalf of the Client consistent with the agreed upon Scope of Work and LAI Standard Terms and Conditions. No other special terms and conditions were established in connection with these services.

2.0 SCOPE OF SERVICES

This assessment was performed following standard industry practice and with consideration to the ASTM E1527-13 site assessment standard entitled "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. The investigation included completion of the following tasks:

1. A field investigation was performed including a visual surficial inspection of the Site and abutting properties; and

2. The following agencies or services were contacted to inquire of past ownership, complaints, or violations concerning environmental issues at the Site and vicinity:

   - The Massachusetts Department of Environmental Protection (MADEP)
   - The Shrewsbury Tax Assessor's Office
   - The Shrewsbury Town Clerk's Office
   - The Shrewsbury Health Department
   - The Shrewsbury Building Department
   - The Shrewsbury Water and Sewer Department
   - The Shrewsbury Engineering Department
   - The Shrewsbury Conservation Commission
   - The Shrewsbury Fire Prevention Office
   - Worcester County Registry of Deeds
   - Environmental Data Resources
   - Sanborn Fire Insurance Maps
   - HistoricalAerials.com

3. The following agencies were contacted to determine the physical characteristics of the Site and vicinity:

   - Massachusetts Geographic Information Systems Maps
   - USGS Topographical Maps
   - MADEP Priority Resource Maps
   - US Fish & Wildlife Service Wetlands Inventory
   - FEMA Flood Zone Maps
   - USDA Soil Survey Maps
   - Google Earth Pro

3.0 SITE DESCRIPTION

3.1 Site Location and Parcel Legal Description

Information provided indicates that the Site consists of an approximately 60.89-acre lot located on the south side of South Street in Shrewsbury, Massachusetts. A Site Location Map is included as **Figure 1**. The Site is designated as Parcel 011 on the Shrewsbury Tax Assessor's Map 42. The Tax Assessor's Map is included as **Figure 2** and a Site Plan depicting pertinent Site features is included as **Figure 3**.

Information provided indicates the Site longitude and latitude are approximately -71.690720° west and 42.271350° north, respectively. Universal Transverse Mercatur (UTM) coordinates are approximately 4,683,200 meters north by 278,100 meters east.

3.2 Site and Vicinity General Characteristics

Zoning for the Site and north abutting properties is designated "Office-Research". Properties to the east and south of the Site are zoned "Limited Industrial". Abutting properties to the west are zoned "Rural B". A portion of the Shrewsbury Zoning Map depicting the Site is attached as **Figure 4**.

As shown on **Figure 4A**, attached, additional zoning designations for the Site include the northern portion of the Site as being within the "Flexible Development Overlay - Subdistrict A and the southern portion of the Site as being within "Flexible Development Overlay Subdistrict B.

3.3 Current Property Use

Three buildings are located on the northeastern portion of the Site along South Street. Only one building, the northern of the three buildings, was accessible during the Site visit. Observed within the "Barn" were items stored by the Town of Shrewsbury including street signs, animal cages, traffic cones, windows, office supplies and stoves. Mr. Robert Cox, Shrewsbury Superintendent of Public Buildings, stated that some of the Shrewsbury municipal departments use the building for storage.

The other two buildings, including a barn and a shed, were not accessible during the Site visit. Mr. Cox stated that the inaccessible buildings were not being used.

3.4 Description of Improvements

All three buildings were constructed of wood framing and wood siding after 1954 when the former buildings on the Site were destroyed by a tornado. A detailed Site description is presented in **Section 4.0**, photographs are provided in **Appendix A**.

3.4.1 Wastewater and Water Supply

The Site is not connected to the municipal sewer system. No records for the construction of cesspools or septic systems on the Site were made available at the Shrewsbury municipal offices.

3.4.2 Water Supply

Due to snow cover, inspection of the exterior portions of the Site was limited. No on-site water supply system or septic system was observed. Lord Associates contacted Shrewsbury municipal offices to obtain information regarding the connection of the Site to the municipal sewer system and water supply. Attached in **Appendix C** is an email and Sewer Plan for South Street from Jonathan Rahmati, PLS, Assistant Civil Engineer for the Town Shrewsbury. According to Mr. Rahmati, there are no records of the Site being connected to the municipal sewer or water systems.

3.4.3 Wells

No potable, irrigation, injection, dry, monitoring or abandoned wells were observed or identified from the interviews or records reviewed.

3.4.4 Heating/Cooling System

According to Mr. Cox, the eastern "Barn", which was inaccessible, is the only building with heat. Although the eastern barn was inaccessible during the Site visit, Mr. Cox provided Lord Associates with photographs of the 275-gallon fuel oil aboveground storage tank (AST) located in the building. According to Mr. Cox and a review of the photographs, there does not appear to be indications of a release of fuel oil from the tank or the heating system. Photographs of the site are attached in **Appendix A**.

3.4.5 Solid Waste Disposal

No solid waste disposal was observed on the Site. There were no areas of solid waste disposal, mounds or depressions, or areas apparently filled or graded by non-natural causes suggesting solid waste disposal observed.

3.4.6 Storage Tanks

With the exception of the 275-gallon fuel oil AST specified in Section 3.4.5 above, no evidence of current or historical underground or aboveground storage tanks were identified during the course of this assessment.

3.4.7 Transformers, Hydraulic Equipment and Other Potential Evidence of the Potential Use of Polychlorinated Biphenyls

Polychlorinated Biphenyls (PCBs) can be found in hydraulic-oil filled electrical equipment (such as motors and pumps), capacitors or transformers, and fluorescent light ballasts manufactured prior to July 2, 1979.

LAI observed fluorescent light fixtures on the Site in Building 1. Buildings 2 and 3 were not accessible during the Site visit. The age of the fixtures in Building 1 could not be determined. However, it is not likely that the light ballasts were manufactured prior to 1979, as the average life span for the fluorescent fixtures is less than 15 years. Additionally, any light ballast manufactured after 1979 must be labeled "No PCB". Note that electric light ballasts that contained PCBs had less than 1.5 ounces of PCB. The reportable quantity requiring notification to the Massachusetts Department of Environmental Protection of a release is one pound. Therefore, the risk presented by PCB-containing ballasts is relatively low.

No additional evidence of the potential use of polychlorinated biphenyls (PCBs) was observed on the Site during the inspections.

3.5 Current Uses of Adjoining Properties

The Site is located in a mixed-use area of Shrewsbury, MA with residential, commercial and industrial development. North and northeast abutting properties consist of offices, restaurants and residences. Properties abutting the east side of the Site include commercial and industrial properties on the west side of Route 20 and the Shrewsbury Landfill on the east side of Route 20. Residential properties are located to the west of the Site.

4.0 USER PROVIDED INFORMATION

A summary of user provided information is provided below. A copy of the completed Questionnaire is attached in **Appendix B**.

4.1 User Questionnaire

A summary of user provided information is provided below.

A User Questionnaire was provided to the User (Client) to assist the User and LAI in gathering information from the User that may be material to identifying RECs. The following answers were provided by the User's Representative.	**Response Inquiry**
Name and title	Kristen Las, Asst. Town Manager
Tenure with Site	7.5 years
Are you aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state or local law?	NO
Are you aware of any Activity and Use Limitations, such as engineering controls, land use restrictions or institutional controls that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state or local law?	NO
As the user of this ESA do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?	NO
Does the purchase price being paid for this property reasonably reflect the fair market value of the property? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property?	Town already owns the property – purchased in January 2002
Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example, as user:	
Do you know the past uses of the property?	Farming
Do you know of specific chemicals that are present or once were present at the property?	NO
Do you know of spills or other chemical releases that have taken place at the property?	NO
Do you know of any environmental cleanups that have taken place at the property?	NO
As the user of this ESA, based on your knowledge and experience related to the property are there any obvious indicators that point to the presence or likely presence of contamination at the property?	NO

4.2 Title Records

LAI did not review the property title.

4.3 Environmental Liens, Activity and Use Limitations

The owner has no knowledge of environmental liens, and the agency check revealed no listing for an Activity and Use Limitation in connection with the Site.

4.4 Specialized Knowledge

No specialized knowledge of Recognized Environmental Conditions was provided to LAI by the owner or client.

4.5 Commonly Known or Reasonably Ascertainable Information

No commonly known or reasonably ascertainable information regarding Recognized Environmental Conditions was provided to LAI by the owner or client.

4.6 Valuation Reduction for Environmental Issues

No information regarding the value of the Site in comparison to the expected value of the property was provided to LAI by the owner or client.

4.7 Owner, Property Manager, and Occupant Information

According to the Shrewsbury Assessor's Office, the current owner of the property is:

Town of Shrewsbury
217 W Central Street, Suite 3
Natick, MA 01760

LAI conducted an interview with Mr. Robert Cox, Shrewsbury Superintendent of Public Buildings, Mr. Cox, representative of the User, provided information regarding the history of the Site and operations at the Site. According to Mr. Cox, the former owner of the property is not available for interview due to age and health.

The property was purchased by Stuart Richardson in 1725. Representatives of the Richardson family owned the property until it was sold to the Town of Shrewsbury in 2003. The most recent Richardson family member to own the property was Audrey Richardson. Ms. Richardson was not available for interview during the course of this assessment. However, she was interviewed as part of a Phase I Environmental Site Assessment of the Site completed in April 2008. Relevant information provided by Ms. Richardson through the previous environmental assessment is included in this report.

4.8 Reason for Performing Phase I Study

A Phase I ESA is being conducted in connection with the refinancing of the property.

5.0 RECORDS REVIEWS

A review of federal, state and local regulatory agency files was conducted in accordance with ASTM E-1527-13 standards to identify the use, generation, storage, treatment, disposal and/or release of oil and/or hazardous materials that may potentially impact the Site.

5.1 Municipal Offices

5.1.1 Assessor's Office

Lord Associates, Inc. visited the municipal Assessor's Office on January 11, 2018 and reviewed the current property card on-line on January 9, 2018 (attached in **Appendix C**) to collect historical information regarding use and ownership of the Site. These data were reviewed for the purposes of land use determination and should not be relied upon as a complete chain-of-title. The following table offers a summary of ownership information obtained at the assessor's office.

Table 1
Chain of Title

Grantee	Date of Acquisition	Book/Page
Town of Shrewsbury	01/10/2003	28672/173
Richard Audrey C/O Richard H Allen	09/01/1998	20371/181
Stuart H and Dorothy Allen	04/24/1995	16996/77

5.1.2 Board of Health

LAI made inquiries at the municipal Board of Health to review documentation regarding the Site on January 11, 2018. No documentation regarding the Site was on file with the Health Department.

5.1.3 Building Department

A review of files was requested at the municipal Building Department to obtain information on historical building alterations on January 11, 2018. No records regarding the Site were on file.

5.1.4 Public Works Department

No records regarding the Site were made available at the Shrewsbury Public Works Department.

5.1.5 Engineering Department

Lord Associates contacted Shrewsbury municipal offices to obtain information regarding the connection of the Site to the municipal sewer system and water supply. Attached in **Appendix C** is an email and Sewer Plan for South Street from Jonathan Rahmati, PLS, Assistant Civil Engineer for the Town Shrewsbury. According to Mr. Rahmati, there are no records of the Site being connected to the municipal sewer or water systems.

5.1.6 Conservation Commission

A review of files was requested at the municipal Conservation Commission regarding environmental violations on January 11, 2018. No records were available pertaining to the Site.

5.1.7 Clerk's Office

A review of files was requested at the municipal Town Clerk's Office regarding registered USTs and environmental violations on January 11, 2018. No records pertaining to the Site were on file. A representative of the Clerk's Office stated that they maintain records of currently registered storage tanks but no records regarding tanks at the Site were on file with the Clerk's Office.

5.1.8 Fire Department

LAI requested information from the Shrewsbury Fire Department regarding the use, storage or releases of oil or other hazardous materials. On January 11, 2018, A Lord Associates representative visited the Fire Department to review available records for the Site. No records of the storage, or releases of oil or other hazardous materials were on file with the Department.

5.2 Sanborn/Historical Map Review

Sanborn Fire Insurance Maps were requested for the Site and vicinity. Sanborn Maps usually show property use and underground commercial fuel storage for the purposes of insurance risk evaluations. The Site is located in a No Sanborn Coverage area.

5.3 Historical Aerial Photograph Review

Aerial photographs from 1938, 1966, 1971, 1995, 1997, 2001, 2003, 2005, 2008, 2010 and 2012 were reviewed through the Historic Aerials website (www.historicaerials.com) and a current 2017 aerial photograph was reviewed from Google Earth. Select aerial photographs are included in **Appendix A**. All the historic aerials from 1938 to 2005 show three structures on the site with cleared areas, possibly for agriculture, on the eastern portion of the Site and undeveloped woods on the western portion of the Site. The 1938 aerial photograph, also attached in **Appendix A**, depicts an area in the northern portion of the Site as a possible orchard.

The 2010 and 2017 aerial photographs show an increasing concentration of vegetation on the eastern portion of the Site.

In 1938, 1966 and 1971, all the abutters consisted of either undeveloped land or cleared areas for agriculture. The aerial photographs from 1995 to the present depict abutting properties to include residences, commercial/industrial development and agricultural uses. Commercial development along Route 20 began in the late 1960's or early 1970'.

5.4 Radius Search for Properties of Environmental Concern

A radius search was conducted of federal and state-listed sites of potential environmental concern as outlined in ASTM E1527 guidelines. The search was performed using software developed by Environmental Data Resources (EDR).

The Site is not listed on the MADEP database. Sites identified within the designated ASTM search radii are summarized in the following table. The EDR report is included in **Appendix D.**

Table 2
Properties of Potential Environmental Concern

NPL (1 mi.)	CERCLIS (0.5 mi.)	Landfill (0.5 mi.)	STATE SITES (0.25 mi.) (Reduced due to development and releases)	LUST (0.25 mile)	RCRIS (Site/ Abutter	UST (Site/ Abutter
NI	NI	Shrewsbury Landfill 620 Hartford Pk East abutter beyond Route 20 Shrewsbury Ash Landfill 640 Hartford Pk East abutter beyond Route 20	Technical Sales & Service 697 Hartford Pk Elev Diff= +5' 2-17439/RAO 625 Hartford Pk St Johnsbury Trucking South abutter Elev Diff=+30' 2-10128 RAO w/ AUL 2-10659 RAO 2-16869 RAO 2-17803 RAO 2-17985 RAO Charles River Laboratory 334 South St North abutter Elev Diff=+20' 2-16917 RAO Friars Service Station 759 Hartford Pk 200' E Elev Diff=NA 2-12105/RAO 2-12417/RAO 414 South St 300' E Elev Diff=-13' 2-18589 URAM FedEx Freight Inc 615 Hartford Pk Elev Diff=NA 300' S 2-12981 RAO Advanced Micro Center 330 South St Elev Diff=NA 500' N 2-18120 RAO Quantum Corp Inc 330 South St Elev Diff=NA 500' N 2-14162 RAO	625 Hartford Pk St Johnsbury Trucking South abutter Elev Diff=NA 2-10128 RAO w/AUL Friars Service Station 759 Hartford Pk 200' E Elev Diff=NA 2-12105/RAO 2-12417/RAO	XPO Logistics Freight 625 Hartford Pk South abutter RCRA-CESQG	West Valley Corp 727 Hartford Pk Shrewsbury East Abutter 2 tanks removed Traffic Control and Signal Co 683 Hartford Pk 2 tanks removed Technical Sales & Service 697 Hartford Pk 2 tanks removed XPO Logistics Freight 625 Hartford Pk South abutter 1 tank in use 3 tanks removed

Notes:
All addresses are located in Brookline, MA
N=north, S=south, W=west, E=east
NPL = National Priorities List
RCRIS = Resource Conservation and Recovery Information System
RCRA-CESQG = RCRA Conditionally Exempt Small Quantity Generator
TSDF = Treatment Storage & Disposal Facilities
ERNS = Environmental Response Notification System

NI = None Identified
NFA – LSP Opinion of No Further Action
RAO = Response Action Outcome, Closed in accordance with MADEP Regulations
TierII = Listed with MADEP due to oil or hazardous material in soil/groundwater (not closed)
DPS = Downgradient Property Status (contamination is from an upgradient source)
UST = Underground Storage Tank
F = Final
AUL = Activity and Use Limitation
DEPNFA= DEP No Further Action
PENNFA=Pending No Further Action
PSNC=Permanent Solution with No Conditions

5.5 Massachusetts Department of Environmental Protection Review

Site-specific files were not reviewed at the Massachusetts Department of Environmental Protection (MADEP) since sites identified as having reported releases of oil or other hazardous materials in the regulatory database report have been closed-out by the MADEP or the identified releases are located topographically and/or hydraulically downgradient from the Site. Therefore, the identified releases of oil or other hazardous materials do not appear to have the potential to migrate to the property resulting in a material threat to public health or the environment. Migration refers to the movement of hazardous substances or petroleum products in any form, including solid and liquid at the surface or subsurface and vapor in the subsurface.

5.6 Shrewsbury Landfill – Wheelabrator Technologies

A represented of the Shrewsbury Health Department stated that the Shrewsbury landfill, located to the east of the Site is managed by Wheelabrator. Lord Associates contacted Christopher Strugis of Wheelabrator Technologies requesting information regarding the extent of impact to groundwater from the landfill. Mr. Sturgis provided Lord Associates a copy of the most recent semi-annual Environmental Monitoring Report for the landfill completed in December 2017. A copy of pertinent sections of the December 2017 Environmental Monitoring Report is attached as **Appendix F**.

Review of the landfill monitoring report indicates that groundwater monitoring wells are located on all sides of the landfill. Groundwater flow in both the overburden and bedrock groundwater, has been determined to be southeasterly away from the Site and Hartford Turnpike toward the landfill.

A Site Plan of the landfill and associated groundwater monitoring wells indicates that the monitoring well closest to the Site is OW-18DR. It is specified by Wheelabrator that OW-18DR was installed to evaluate background groundwater quality.

Based on findings by Wheelabrator, groundwater impact from the landfill does not appear to have significant potential to migrate to the Site resulting in a material threat to public health or the environment.

5.7 Previous Reports

Mr. Cox provided Lord Associates with a copy of a Phase I Environmental Site Assessment of the Site completed by Beta Group, Inc (Beta) in April 2008. Based on their findings, Beta concluded that their assessment "has revealed no evidence of any recognized environmental conditions in connection with the Site." Pertinent sections of the Beta report are attached in **Appendix E**.

According to Beta in their April 2008 Phase I ESA report, an earlier Phase I ESA of the Site was completed by GZA GeoEnvironmental, Inc (GZA). A copy of the GZA report was not made available during the course of this assessment. Beta wrote in their report that GZA concluded that "available historical and surficial evidence does not indicate the presence of reportable concentrations of hazardous materials in the environment at this Site."

5.8 Physical Setting Sources

LAI reviewed information provided by the United States Geological Survey (USGS) in connection with physiographic conditions, soil and bedrock types. LAI also reviewed the MADEP Priority Resource Map for the area, and located natural resources during the Site Reconnaissance. According to the USGS Shrewsbury, Massachusetts Quadrangle Topographical Map, the elevation of the Site ranges from approximately 525 feet above mean sea level (amsl) in the northern portion of the Site to approximately 505 feet amsl in the central portion of the Site. Based on the size of the Site and varying topography, determining groundwater flow in any portion of the Site would require subsurface investigations.

No pits, ponds or lagoons were observed on site during the Site visit. Wetlands associated with an unnamed brook, two ponds and a potential vernal pool are depicted on the Site in the MADEP Natural Resources Map (**Figure 5**). No potential drinking water source areas are shown on the MADEP Natural Resources Map.

Review of the Flood Insurance Rate Map 25027C0639F, dated July 16, 2014, published by the Federal Emergency Management Agency (FEMA) indicated the Site is outside any flood designation area. A portion of the FEMA Flood Map is attached as **Figure 6**.

Review of the Bedrock Geologic Map of Massachusetts, Richard Goldsmith, et al, 1980, indicates that the bedrock at the Site consists of sillimanite schist and gneiss.

The Soil Survey of Worcester County indicates significant variability is oil types on the Site. Based on the size of the Site and varying topography, determining soil types in specific areas will require subsurface investigations.

5.9 Historical Use Information

Research regarding historical land usage of the Site and surrounding properties was conducted using data obtained from historical maps, parties familiar with the Site, previous assessments and municipal officials. Based on information gathered through the course of this assessment, the following summary history of the Site has been prepared:

- The property was purchased by Stuart Richardson in 1725. Representatives of the Richardson family owned the property until it was sold to the Town of Shrewsbury in 2003.
- The most recent Richardson family member to own the property was Audrey Richardson. As reported in a previous Phase I ESA, Ms. Richardson stated that the historic use of the Site was agricultural.
- Subsequent to being sold to the Town of Shrewsbury, the Site has been used by several small businesses such as an auctioneer, square dancing hall and a store. The north building on the Site is being used for storage by the town

6.0 SITE RECONNAISSANCE

6.1 Methodology and Limiting Conditions

On January 11, 2018, LAI personnel conducted an on-Site inspection, which consisted of a visual examination of the Site and portions of adjacent properties and interviews with Site personnel. Areas were examined for surficial indications of releases of oil and/or hazardous materials (OHM). It should be noted that, due to snow cover, inspection of the exterior portions of the Site was limited.

Mr. Robert Cox, Shrewsbury Superintendent of Public Buildings, accompanied our personnel during the inspection. A Site Plan depicting significant features observed is included as **Figure 3** and photographs are included in **Appendix A** of this report.

6.2 Interior Inspection

Three buildings are located on the northeastern portion of the Site along South Street. Only one building, the west Barn, was accessible during the Site visit. Mr. Robert Cox stated that some of the Shrewsbury municipal departments use the building for storage. Observed within the building were items stored by the Town of Shrewsbury including street signs, animal cages, traffic cones, windows, office supplies and stoves. No evidence of significant staining or surface release of OHM was observed through the course of our inspection. No visible evidence of significant mold was observed.

The other two buildings were not accessible during the Site visit. Mr. Cox stated that the inaccessible buildings were not being used. Mr. Cox stated that the eastern barn has a 275-gallon fuel oil aboveground storage tank used by a heating system that hasn't been used in approximately 1 year. A picture of the AST was taken by Mr. Cox on January 11,

2018 and provided to LAI (attached in the photographs in **Appendix A**). No indications of a release of oil from the tank was evident in the photographs provided by Mr. Cox.

6.3 Exterior Inspection

Exterior portions of the Site included asphalt in the area of the eastern barn and an unpaved driveway to the western barn. Remaining portions of the Site are open areas previously cleared or naturally vegetated.

LAI did not observe any odors, pools of liquid, ponds, lagoons, stressed vegetation, suspicious containers or tanks or evidence of septic systems during the reconnaissance.

7.0 INTERVIEWS

Mr. Robert Cox, Superinendent of Public Buildings for the Town of Shrewsbury, accompanied our personnel during the inspection. He was interviewed and questioned of any knowledge regarding environmental conditions or releases at the Site.

8.0 SUMMARY OF FINDINGS AND CONCLUSION

8.1 Findings

Lord Associates, Inc. has completed a Phase I Environmental Site Assessment of the Site. This assessment was performed with consideration to standard industry practice and the ASTM E-1527-13 site assessment standard entitled "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process". Our findings are presented below:

1. Information provided indicates that the Site consists of an approximately 60.89-acre lot located on the south side of South Street in Shrewsbury, Massachusetts. The Site is designated as Parcel 011 on the Shrewsbury Tax Assessor's Map 42.

2. Zoning for the Site and north abutting properties is designated "Office-Research". Properties to the east and south of the Site are zoned "Limited Industrial". Abutting properties to the west are zoned "Rural B". Additional zoning designations for the Site include the northern portion of the Site as being within the "Flexible Development Overlay - Subdistrict A and the southern portion of the Site as being within "Flexible Development Overlay Subdistrict B.

3. Three buildings are located on the northeastern portion of the Site along South Street. Only one building, the west barn, was accessible during the Site visit. Observed within the building were items stored by the Town of Shrewsbury including street signs, animal cages, traffic cones, windows, office supplies and stoves. Mr. Cox stated that some of the Shrewsbury municipal departments use the building for storage. The other two buildings were not accessible during the Site visit. Mr. Cox stated that the

inaccessible buildings were not being used.

4. The property was purchased by Stuart Richardson in 1725. Representatives of the Richardson family owned the property until it was sold to the Town of Shrewsbury in 2003. The most recent Richardson family member to own the property was Audrey Richardson. Ms. Richardson stated that the historic use of the Site was agricultural. Subsequent to being sold to the Town of Shrewsbury, the Site has been used by several small businesses such as an auctioneer, square dancing hall and a store. The north building on the Site is being used for storage by the town.

5. Mr. Cox stated that the eastern barn has a 275-gallon fuel oil aboveground storage tank used by a heating system that hasn't been used in approximately 1 year. A picture of the AST was taken by Mr. Cox on January 11, 2018 and provided to LAI. No indications of a release of oil from the tank was evident in the photographs provided by Mr. Cox.

6. Municipal file reviews were performed. No records of environmental concerns at the Site were on file with the Shrewsbury municipal offices including the Shrewsbury Fire Prevention Office or the Shrewsbury Health Department.

7. The Site is not listed on any of the regulatory databases searched. Several state-listed properties, including several abutting the south side of the Site, were identified in the radius search of waste sites in the vicinity. Sites identified as having reported releases of oil or other hazardous materials in the regulatory database report have been closed-out by the MADEP or the identified releases are located topographically and/or hydraulically downgradient from the Site. Therefore, the identified releases of oil or other hazardous materials do not appear to have the potential to migrate to the property resulting in a material threat to public health or the environment. Migration refers to the movement of hazardous substances or petroleum products in any form, including solid and liquid at the surface or subsurface and vapor in the subsurface.

8. Historic aerial photographs from 1938 to 2005 show three structures on the site with cleared areas, possibly for agriculture, on the eastern portion of the Site and undeveloped woods on the western portion of the Site. The 1938 aerial photograph depicts an area in the northern portion of the Site as a possible orchard.

9. Mr. Cox provided Lord Associates with a copy of a Phase I Environmental Site Assessment of the Site completed by Beta Group, Inc (Beta) in April 2008. Based on their findings, Beta concluded that their assessment "has revealed no evidence of any recognized environmental conditions in connection with the Site."

8.2 Conclusions

This assessment has not identified any Recognized Environmental Concerns (REC) in connection with the property at 384-386 South Street, Shrewsbury, Massachusetts on the subject Site. However, the possible historic use of a portion of the Site as an orchard represents a Potential Environmental Concern due to the possible historic use of lead arsenate pesticides.

Any exceptions to, or deletions from, ASTM Practice E1527 are described in **Section 9** of this report. Please note that an investigation for the presence of mold, asbestos and PCBs in building materials, lead-based paint, indoor air quality, or regulatory compliance is beyond the scope of work described by ASTM E 1527-13, therefore LAI did not explore those conditions.

9.0 RESTRICTIVE CONDITIONS

9.1 Limitations & Deviations

LAI recognizes the following limitations and/or deviations from the Standard with respect to this Phase I Environmental Site Assessment:

- LAI could not inspect ground surface conditions due to snow cover
- LAI did not interview past owners of the Site;
- LAI did not interview owners of neighboring properties;
- LAI did not review Title Records for the Site; and
- LAI did not conduct an evaluation of the purchase price of the Site compared to the fair market value.

9.2 Significance of Data Gaps

As described above, the deviations from the Standard constitute data gaps. However, it is our opinion that these data gaps do not raise reasonable concerns that would affect the ability to identify conditions indicative of a release or threatened release or Recognized Environmental Conditions (RECs) based upon other information collected during the course of the Phase I Environmental Site Assessment.

- Although the past owner and owners of neighboring property were not interviewed, site and surrounding area history does not indicate prior use involving oil and/or hazardous materials.
- In Massachusetts, all environmental liens and Activity and Use Limitations are identified on the MADEP sites database, which has been searched.

10.0 LIMITATIONS

No warranty, whether expressed or implied, is given with respect to this report or any opinions expressed herein. It is expressly understood that this report and the opinions expressed herein are based upon Site conditions, as they existed only at the time of assessment. Nothing in this report constitutes a legal opinion or legal service, and should not be relied upon as such.

The data reported and the findings, observations, and opinions expressed in the report are limited by the Scope of Work. The Scope of Work was performed based on budgetary, time, and other constraints imposed by the Client, and the agencies and persons reviewed.

In preparing this report, Lord Associates, Inc. has relied upon and presumed accurate certain information about the Site and adjacent properties provided by governmental agencies, the client and others identified in the report. Except as otherwise stated in the report, Lord Associates, Inc. has not attempted to verify the accuracy or completeness of any such information.

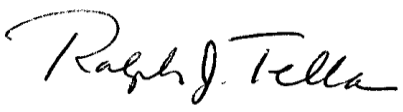
This report has been prepared on behalf of and for the exclusive use of the client, and those immediate entities involved with the proximate financing of this project, solely for use in the environmental evaluation of the Site. Any reuse or reliance on this report by any other third party shall be done only with the written consent of LAI.

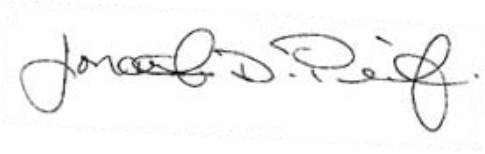
11.0 SIGNATURES AND ENVIRONMENTAL PROFESSIONAL STATEMENT

LAI declares that, to the best of our professional knowledge and belief, we meet the definition of *Environmental Professional* as defined in §312.10 of 40 CFR 312. LAI has the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. LAI has developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

This report is dated this February 5, 2018 and is signed by individuals who are duly authorized to do so.

LORD ASSOCIATES, INC.

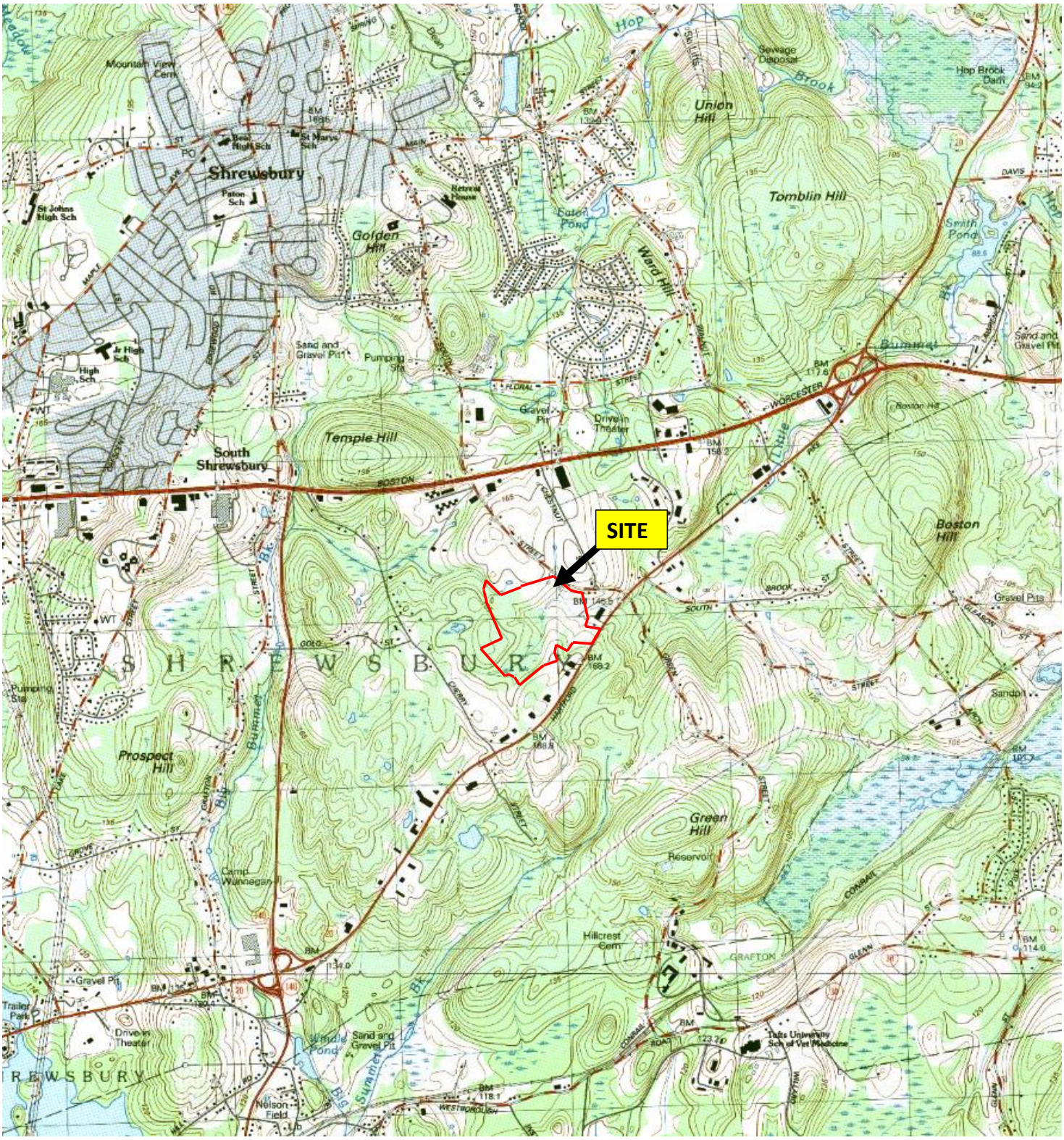




Ralph Tella, CHMM, LSP
President

Jonathon D. Puliafico, CPG
Project Manager

APPENDIX A



LORD ASSOCIATES, INC.

1506 Providence Highway, Suite 30
Norwood, MA 02062-4647
(781) 255-5554

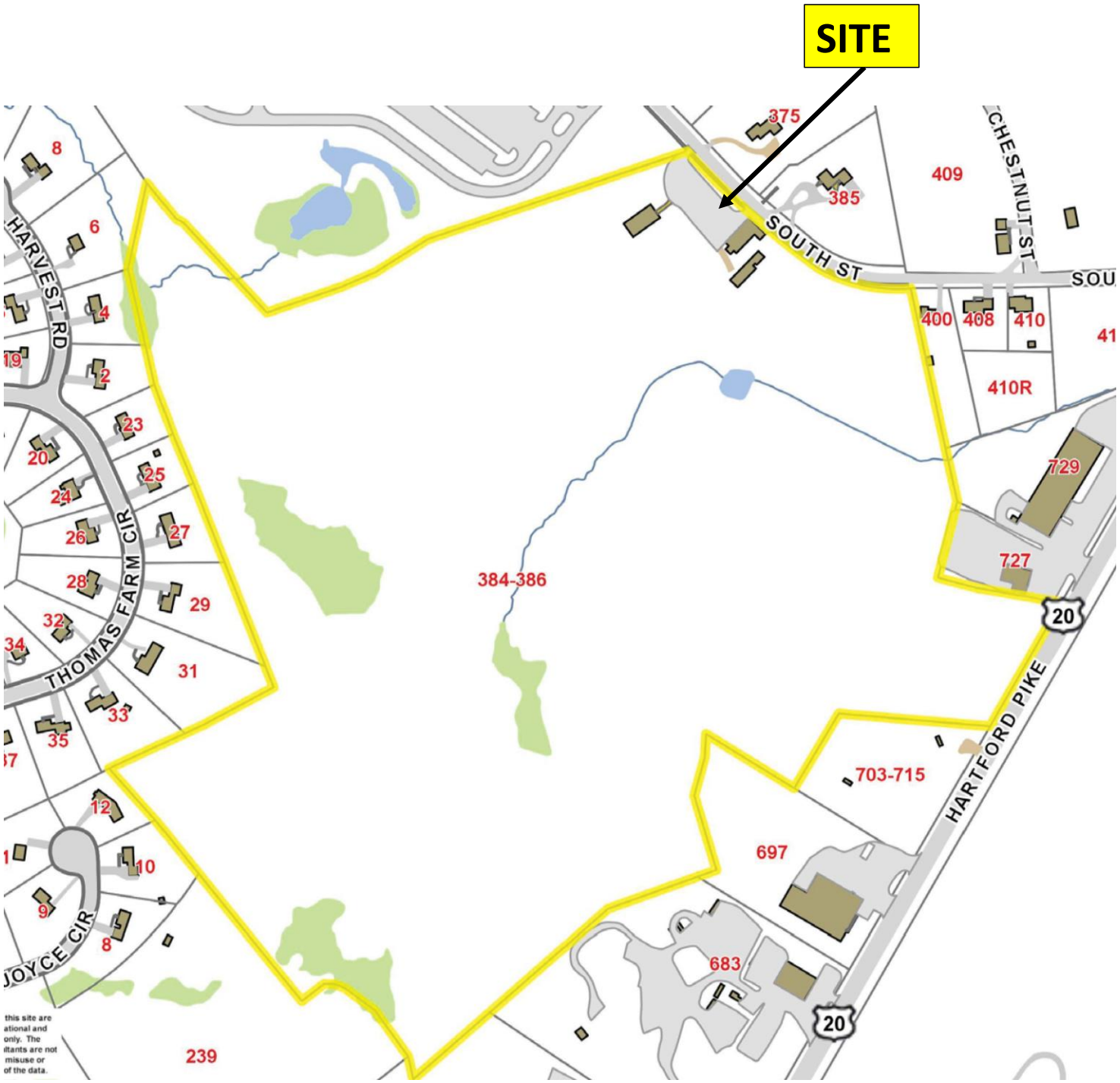
REFERENCE:

Shrewsbury
USGS Topographic
Quadrangle Map

NORTH

FIGURE 1: SITE LOCATION MAP

384-386 SOUTH STREET
SHREWSBURY, MASSACHUSETTS



LORD ASSOCIATES, INC.

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Norwood, MA 02062-4647
(781) 255-5554

REFERENCE:

Shrewsbury
Geographic
Information Systems

NORTH

FIGURE 2: ASSESSOR MAP

384-386 SOUTH STREET
SHREWSBURY, MASSACHUSETTS

LORD ASSOCIATES, INC.

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Norwood, MA 02062-4647
(781) 255-5554

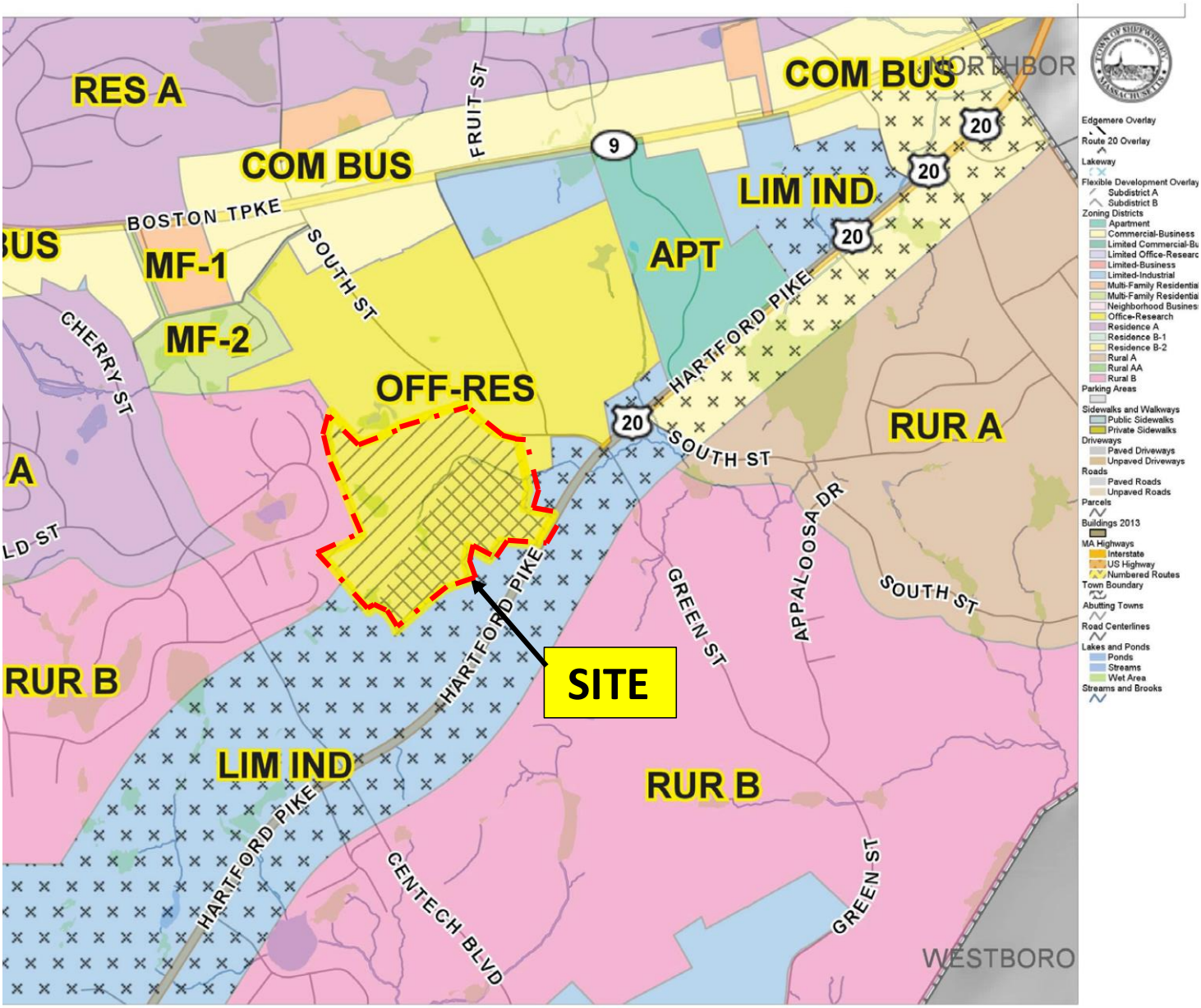
REFERENCE:

GOOGLE EARTH
AERIAL PHOTO: 2017

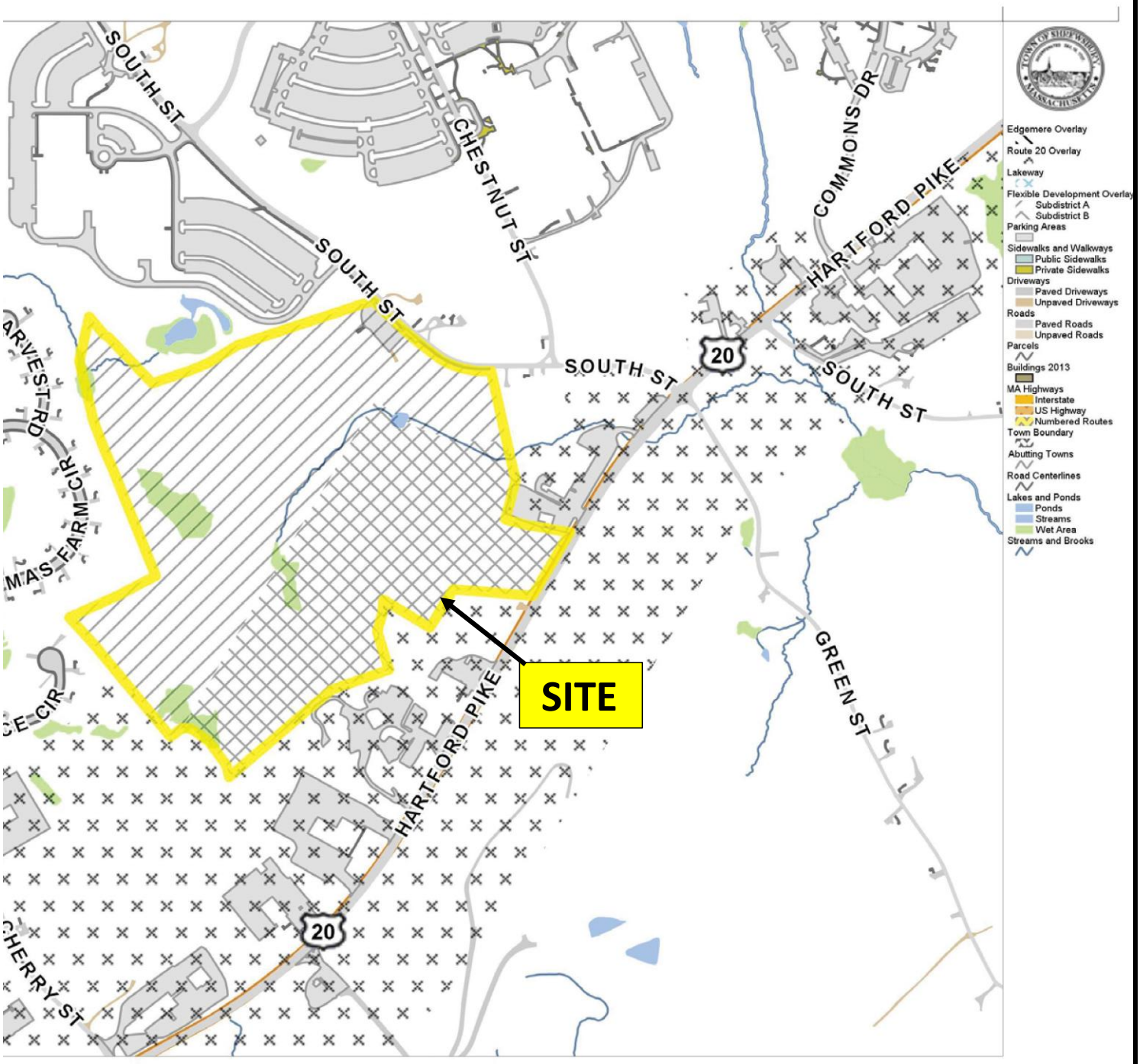
NORTH

FIGURE 3: SITE PLAN

384-386 SOUTH STREET
SHREWSBURY, MASSACHUSETTS



LORD ASSOCIATES, INC. 1506 Providence Highway, Suite 30 Norwood, MA 02062-4647 (781) 255-5554	**REFERENCE:** Shrewsbury Geographic Information Systems	**FIGURE 4: ZONING MAP** **384-386 SOUTH STREET** **SHREWSBURY, MASSACHUSETTS**



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(781) 255-5554

REFERENCE:

Shrewsbury
Geographic Information Systems

FIGURE 4A: ZONING OVERLAY AND SUBDISTRICT MAP

384-386 SOUTH STREET
SHREWSBURY, MASSACHUSETTS

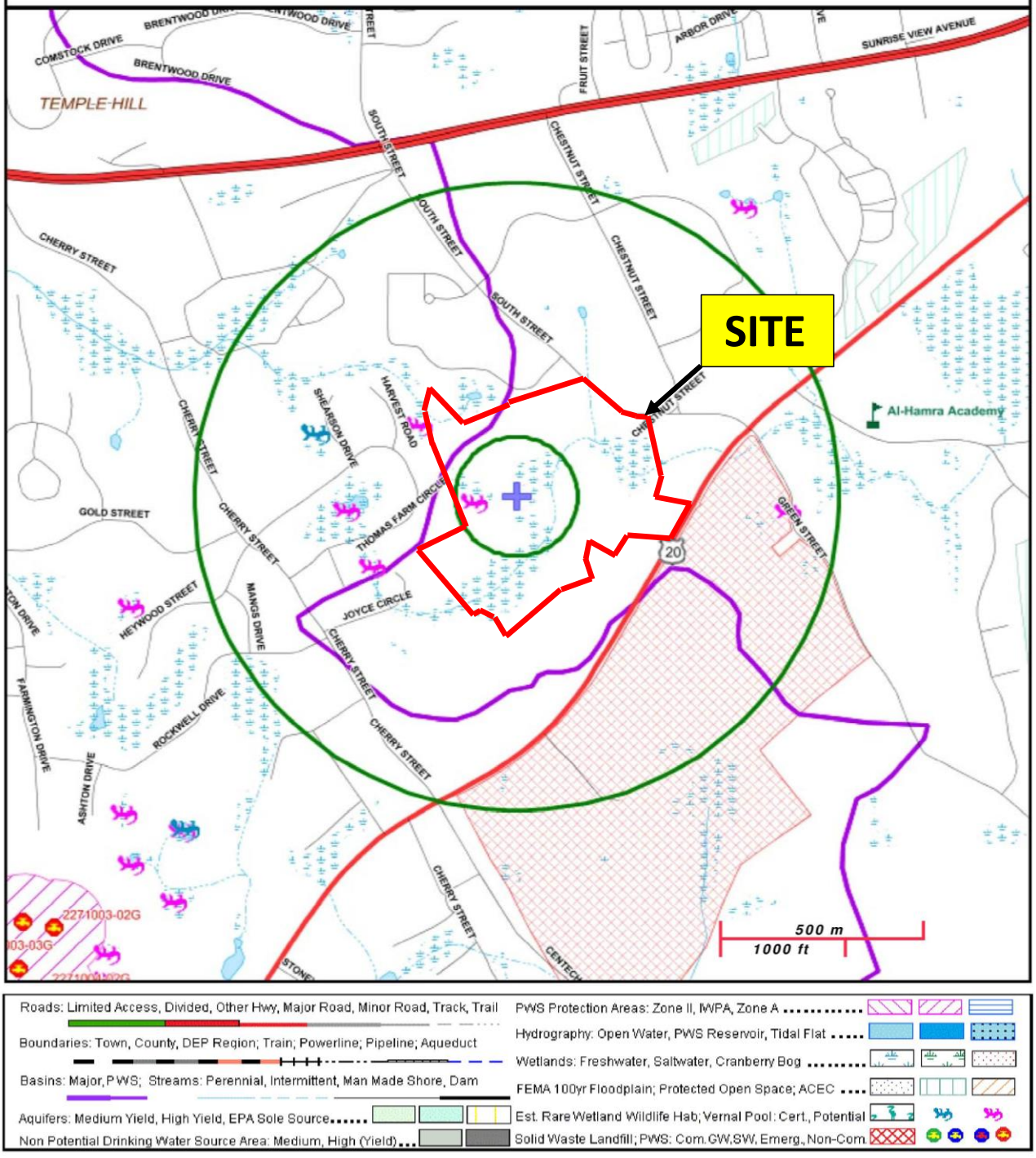
MassDEP - Bureau of Waste Site Cleanup

Site Information: 384 SOUTH STREET SHREWSBURY, MA
NAD83 UTM Meters:
4683182mN , 277873mE (Zone: 19)
January 5, 2018

Phase 1 Site Assessment Map: 500 feet & 0.5 Mile Radii

The information shown is the best available at the date of printing. However, it may be incomplete. The responsible party and LSP are ultimately responsible for ascertaining the true conditions surrounding the site. Metadata for data layers shown on this map can be found at: http://www.mass.gov/mgis/.

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection



Roads: Limited Access, Divided, Other Hwy, Major Road, Minor Road, Track, Trail
Boundaries: Town, County, DEP Region; Train; Powerline; Pipeline; Aqueduct
Basins: Major, PWS; Streams: Perennial, Intermittent, Man Made Shore, Dam
Aquifers: Medium Yield, High Yield, EPA Sole Source
Non Potential Drinking Water Source Area: Medium, High (Yield)
PWS Protection Areas: Zone II, IWPA, Zone A
Hydrography: Open Water, PWS Reservoir, Tidal Flat
Wetlands: Freshwater, Saltwater, Cranberry Bog
FEMA 100yr Floodplain; Protected Open Space; ACEC
Est. Rare Wetland Wildlife Hab; Vernal Pool: Cert., Potential
Solid Waste Landfill; PWS: Com.GW,SW, Emerg., Non-Com.

LORD ASSOCIATES, INC.

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Norwood, MA 02062-4647
(781) 255-5554

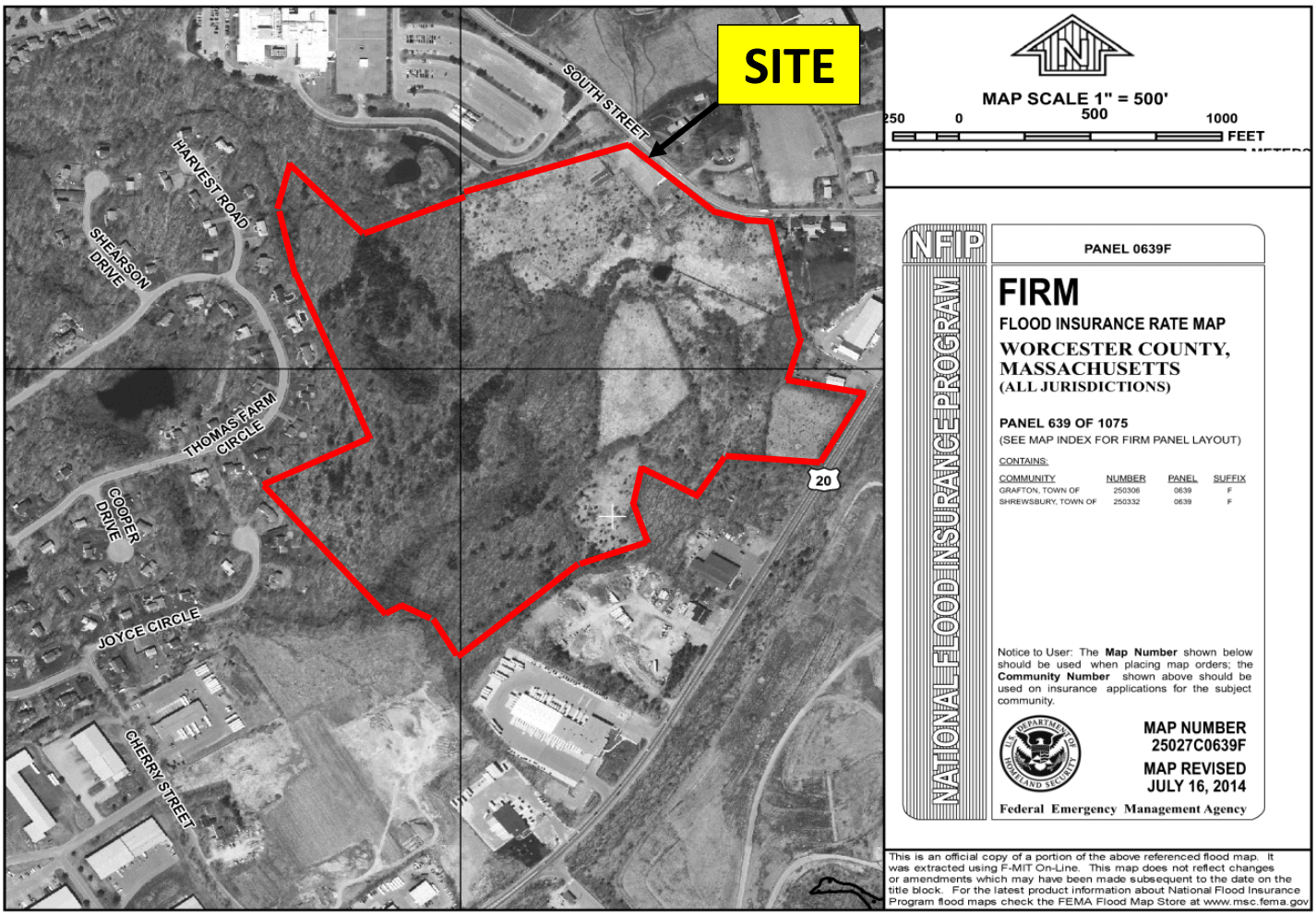
REFERENCE:

MADEP 21E Map

NORTH

FIGURE 5: NATURAL RESOURCES MAP

384-386 SOUTH STREET
SHREWSBURY, MASSACHUSETTS



LORD ASSOCIATES, INC.

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Norwood, MA 02062-4647
(781) 255-5554

REFERENCE:

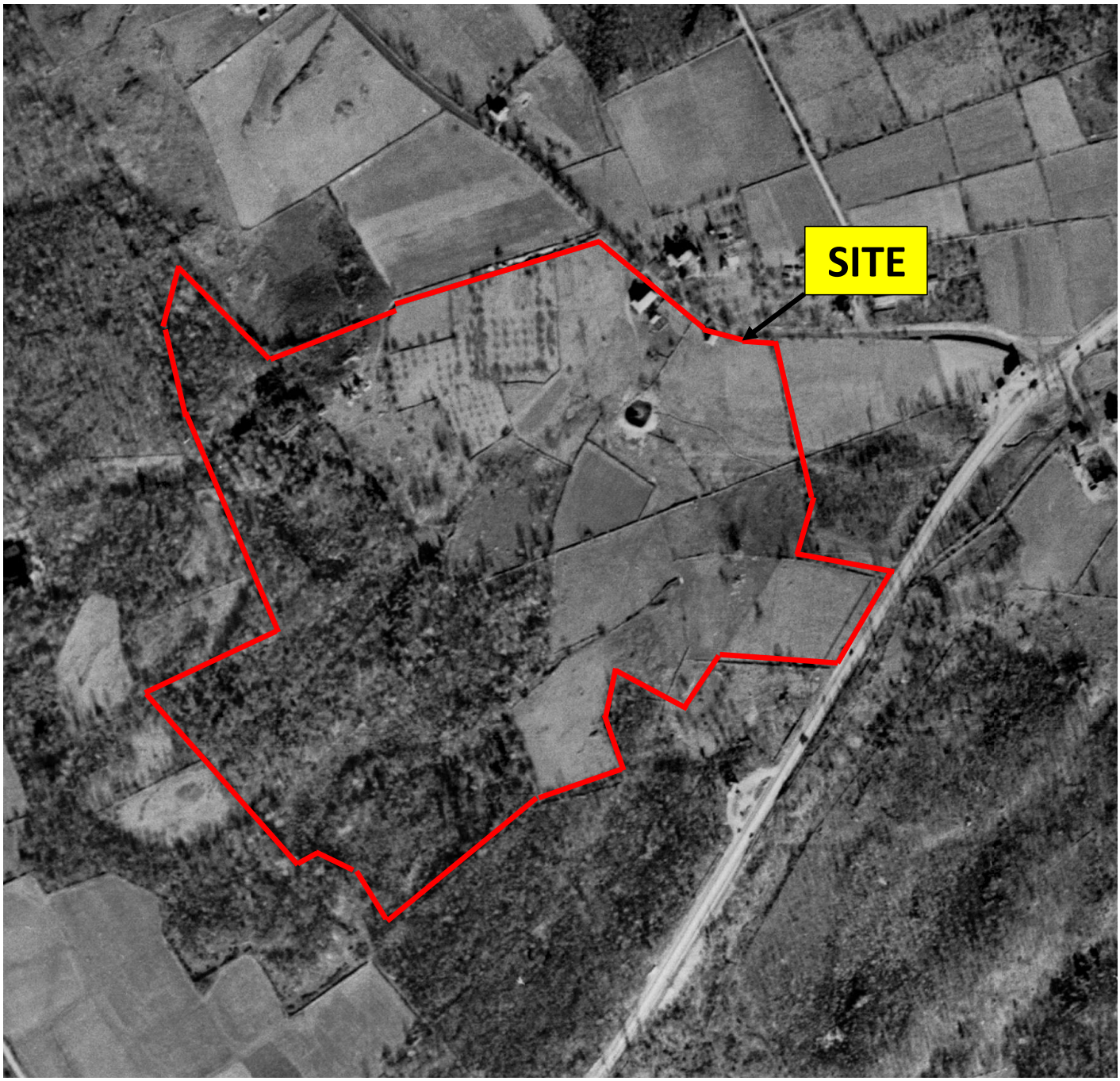
fema.maps.arcgis.com

FEMA Map:
25027C0639F
7/16/2014

NORTH

FIGURE 6: FEMA FLOOD MAP

384-386 SOUTH STREET
SHREWSBURY, MASSACHUSETTS



LORD ASSOCIATES, INC.

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(781) 255-5554

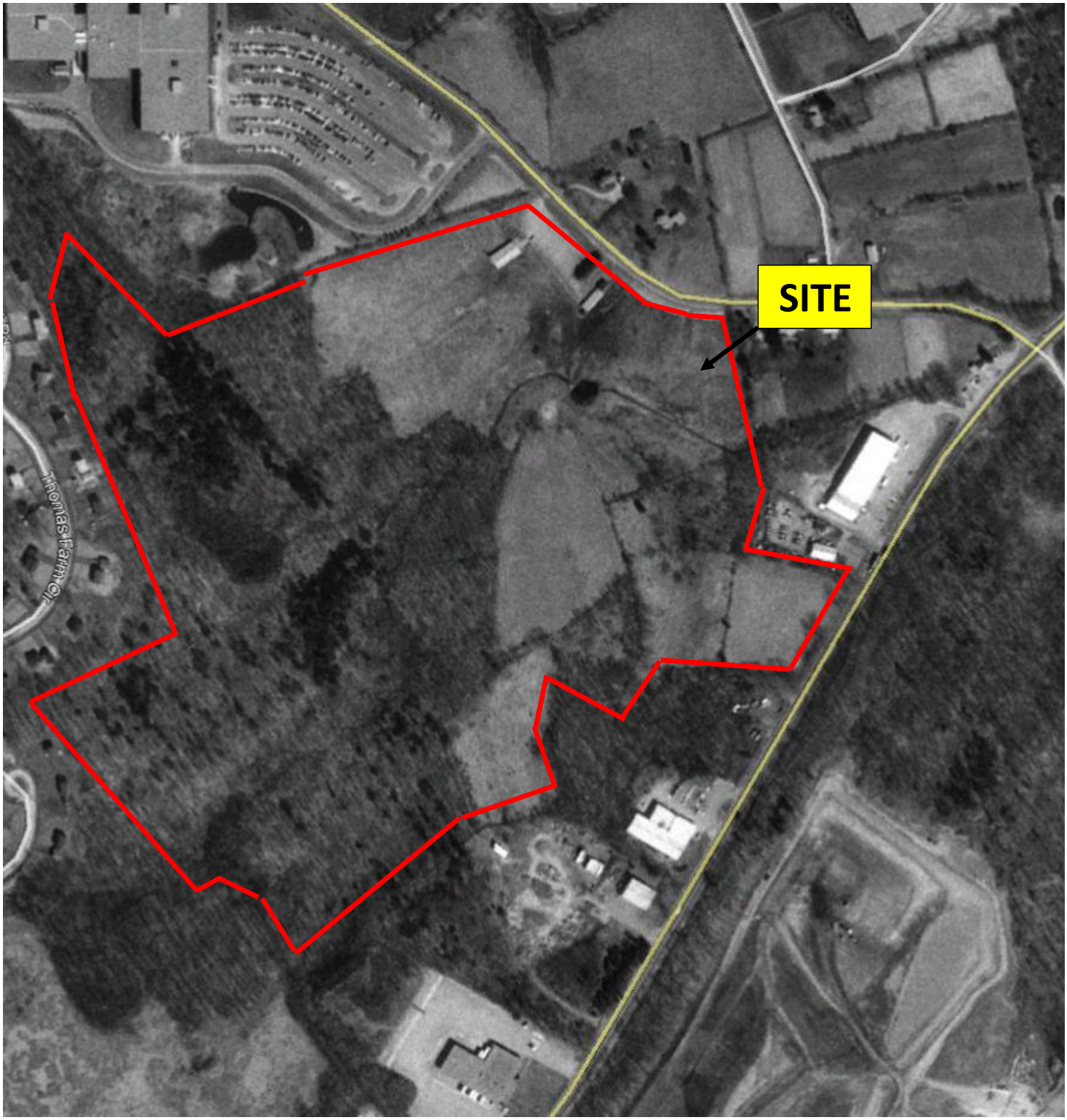
REFERENCE:

historicaerials.com

NORTH

HISTORIC AERIAL PHOTO: 1938

384-386 SOUTH STREET
SHREWSBURY, MASSACHUSETTS



LORD ASSOCIATES, INC.

1506 Providence Highway, Suite 30
Norwood, MA 02062-4647
(781) 255-5554

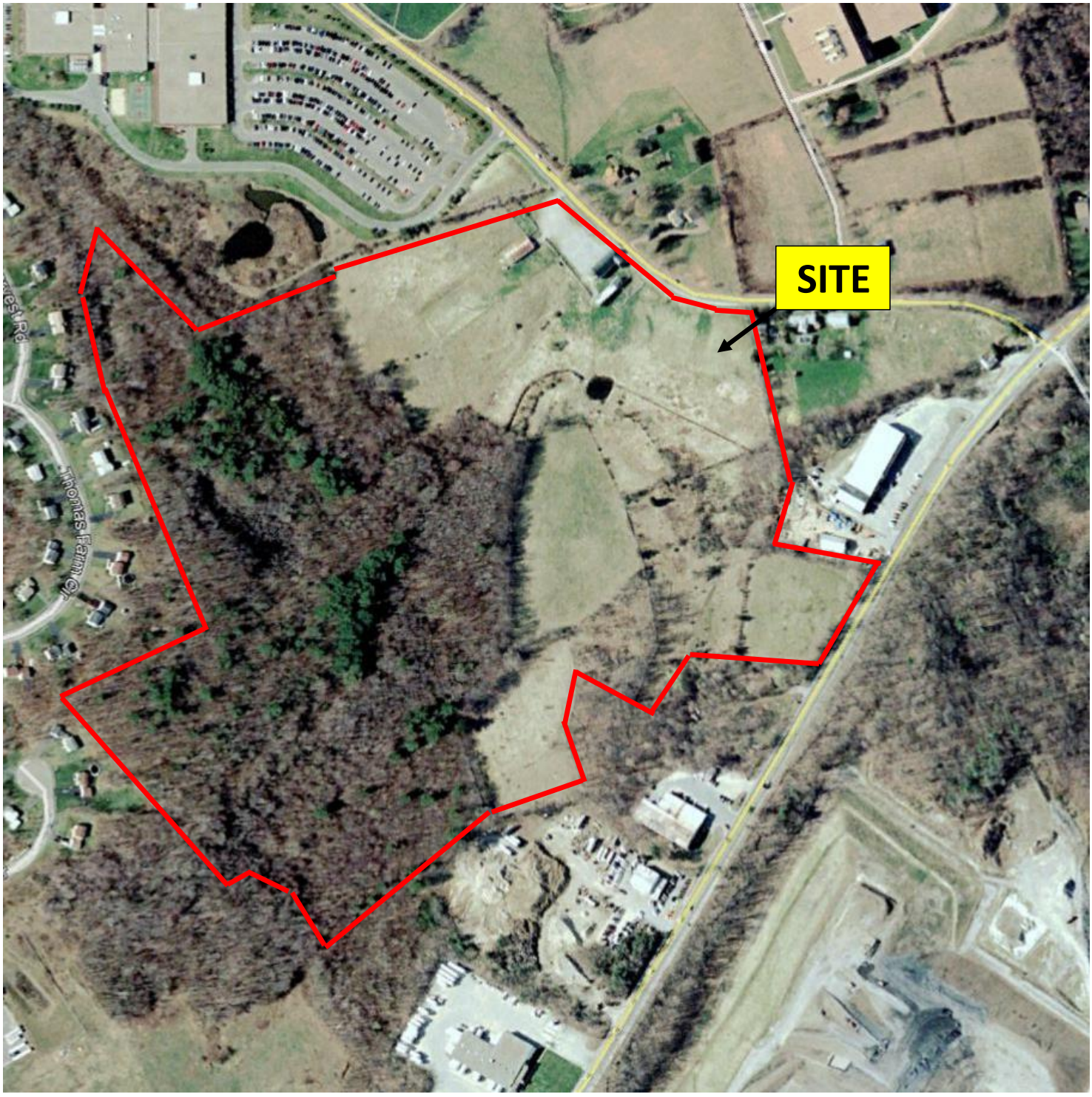
REFERENCE:

GOOGLE EARTH

NORTH

HISTORIC AERIAL PHOTO: 1995

384-386 SOUTH STREET
SHREWSBURY, MASSACHUSETTS



LORD ASSOCIATES, INC.

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(781) 255-5554

REFERENCE:

GOOGLE EARTH

NORTH

HISTORIC AERIAL PHOTO: 2001

384-386 SOUTH STREET
SHREWSBURY, MASSACHUSETTS

LORD ASSOCIATES, INC.

1506 Providence Highway, Suite 30
Norwood, MA 02062-4647
(781) 255-5554

REFERENCE:

GOOGLE EARTH

NORTH

HISTORIC AERIAL PHOTO: 2005

384-386 SOUTH STREET
SHREWSBURY, MASSACHUSETTS

LORD ASSOCIATES, INC.

1506 Providence Highway, Suite 30
Norwood, MA 02062-4647
(781) 255-5554

REFERENCE:

GOOGLE EARTH

NORTH

HISTORIC AERIAL PHOTO: 2010

384-386 SOUTH STREET
SHREWSBURY, MASSACHUSETTS

Photo #1:	West barn, currently being used by the Town of Shrewsbury for storage

Photo #2:	East barn. Inaccessible during Site visit

Photo #3:	West side of the east barn showing the fuel oil AST fill and vent pipes between the windows

Photo #4:	Shed and lean-to east of the barns. Inaccessible during Site visit

Photo #5:	Storage of stoves and equipment in the west barn

Photo #6:	Storage of windows and equipment in the west barn

Photo #7:	Storage of office supplies in the west barn

Photo #8:	Fuel oil AST located in the east barn. Picture provided by Robert Cox of the Town of Shrewsbury

APPENDIX B

X3. USER QUESTIONNAIRE

INTRODUCTION

In order to qualify for one of the *Landowner Liability Protections* (LLPs) offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001, the *User* must provide the following information (if available) to the *Environmental Professional*. Failure to provide this information could result in a determination that "*all appropriate inquiry*" is not complete.

1. **Environmental cleanup liens that are filed or recorded against the site (40 CFR 312.25).**
   Are you aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state or local law?

   No

2. **Activity and Use Limitations that are in place on the site or that have been filed or recorded in a registry (40 CFR 312.26).**
   Are you aware of any AULs, such as *engineering controls*, land use restrictions or *institutional controls* that are in place at the site and/or have been filed or recorded in a registry under federal, state, tribal or local law?

   No

3. **Specialized knowledge or experience of the person seeking to qualify for the LLP (40 CFR 312.28).**
   As the *User* of this ESA, do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

   No

4. **Relationship of the purchase price to the fair market value of the property if it were not contaminated (40 CFR 312.29).**
   Does the purchase price being paid for this property reasonably reflect the fair market value of the property? If you conclude that there is a difference, have you considered whether the lower price is because contamination is known or believed to be present at the property?

   Town already owns the property - purchased in January 2002.

5. **Commonly known or reasonably ascertainable information about the property (40 CFR 312.30).** Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example, as *User*,

a.) Do you know the past uses of the property? Farming

b.) Do you know of specific chemicals that are present or once present at the property?
No

c.) Do you know of spills or other chemical releases that have taken place at the property?
No

d.) Do you know of any environmental cleanups that have taken place at the property?
No

6. **The degree of obviousness of the presence of contamination at the property and the ability to detect the contamination by appropriate investigation (40 CFR 312.31).** As the *User* of this ESA, based on your knowledge and experience related to the property, are there any obvious indicators that point to the presence of contamination at the property?

No

Site Address: 384-386 South Street

Shrewsbury, MA 01545

Person Completing Questionnaire: Kristen Las, Assistant Town Manager

Relationship to Site: Employee of Town owned site

Years associated with site: Kristen Las - 7.5 years

Date: January 30, 2018

Signature: Kristen D. Las

APPENDIX C

384-386 SOUTH ST

Location 384-386 SOUTH ST

Mblu 42/ 011000/ / /

Acct# 9571

Owner SHREWSBURY TOWN OF

Assessment $6,517,200

Appraisal $6,517,200

PID 9571

Building Count 1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$45,600	$6,471,600	$6,517,200
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$45,600	$6,471,600	$6,517,200

Owner of Record

Owner SHREWSBURY TOWN OF
Co-Owner
Address 100 MAPLE AVE
SHREWSBURY, MA 01545

Sale Price $6,000,000
Certificate
Book & Page 28672/ 173
Sale Date 01/10/2003
Instrument 1E

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
SHREWSBURY TOWN OF	$6,000,000		28672/ 173	1E	01/10/2003
RICHARDSON AUDREY C/O RICHARD H ALLEN	$100		20371/ 181	1A	09/01/1998
ALLEN STUART H ALLEN DOROTHY	$0		16996/ 77	1N	04/24/1995

Building Information

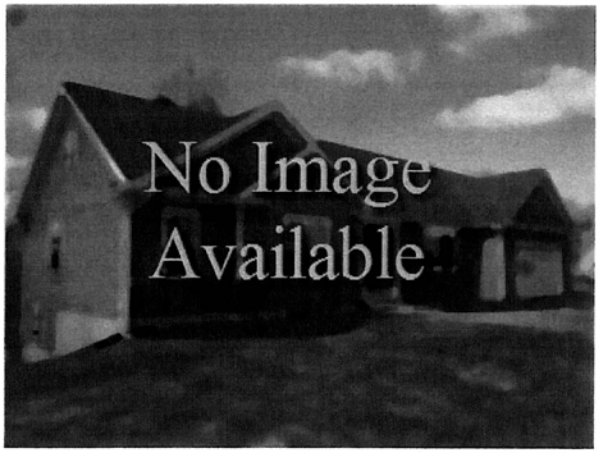
Building 1 : Section 1

Year Built:
Living Area: 0

Building Photo

Replacement Cost: $0
Building Percent Good:
Replacement Cost Less Depreciation: $0

Building Attributes	
Field	**Description**
Style	Outbuildings
Model	
Grade	
Stories	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type	
AC Pct	
Bedrooms	
Full Baths	
Half Baths	
Extra Fixtures	
Total Rooms	
Bath Style:	
Kitchen Style	
Kitchens	
Extra Kitchens	
Frame	
Bsmt Floor	
Bsmt Garage	
Foundation	
WS Flues	
Fireplaces	
Xtra Openings	
Fini BSMT SF	



(http://images.vgsi.com/photos/ShrewsburyMAPhotos//default

Building Layout

Building Layout

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Solar HW	
Int vs. Ext	

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	9300
Description	Town Vacant
Zone	J
Neighborhood	C7
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	60.89
Frontage	
Depth	
Assessed Value	$6,471,600
Appraised Value	$6,471,600

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
MSC	Misc Structure			3800 UNITS	$45,600	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$45,600	$5,589,500	$5,635,100
2015	$45,600	$5,592,900	$5,638,500
2014	$45,600	$5,597,300	$5,642,900

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$45,600	$5,589,500	$5,635,100
2015	$45,600	$5,592,900	$5,638,500
2014	$45,600	$5,597,300	$5,642,900

(c) 2016 Vision Government Solutions, Inc. All rights reserved.

Property Location: 384-386 SOUTH ST | MAP ID: 42/ 011000/ / / | Bldg Name: | State Use: 9300

Vision ID: 9571 | Account #9571 | Bldg #: 1 of 1 | Sec #: 1 of 1 | Card 1 of 1 | Print Date: 01/11/2018 12:44

CURRENT OWNER	TOPO.	UTILITIES	STRT./ROAD	LOCATION
SHREWSBURY TOWN OF	0 Typical	6 Septic	0 Typical	
100 MAPLE AVE		2 Public Water		
SHREWSBURY, MA 01545				
Additional Owners:				

SUPPLEMENTAL DATA

Other ID:	4200010	Nbhd	RD1
Leg SK Area		Color	
Vis SK Area		Own Occ	N
Legal Other1	42 011001_42 018000_4	SFLA	0
Legal Other2	42 020000_42 021000_4	Lot Size	60.89
Zone	OFF-RES		
GIS ID: F_603902_2923161		ASSOC PID#	

CURRENT ASSESSMENT

Description	Code	Appraised Value	Assessed Value
EXM LAND	9300	6,471,600	6,471,600
EXEMPT	9300	45,600	45,600
		Total	6,517,200	6,517,200

343
Shrewsbury, MA

VISION

RECORD OF OWNERSHIP

	BK-VOL/PAGE	SALE DATE	q/u	v/i	SALE PRICE	V.C.
SHREWSBURY TOWN OF	28672/ 173	01/10/2003	U	I	6,000,000	1E
RICHARDSON AUDREY C/O RICHARD H ALLEN	20371/ 181	09/01/1998	U	I	100	1A
ALLEN STUART H ALLEN DOROTHY	16996/ 77	04/24/1995	U	I	0	1N

PREVIOUS ASSESSMENTS (HISTORY)

Yr.	Code	Assessed Value	Yr.	Code	Assessed Value	Yr.	Code	Assessed Value
2017	9300	6,471,600	2016	9300	5,589,500	2015	9300	5,592,900
2017	9300	45,600	2016	9300	45,600	2015	9300	45,600
	Total:	6,517,200		Total:	5,635,100		Total:	5,638,500

EXEMPTIONS

Year	Type	Description	Amount
		Total:	

OTHER ASSESSMENTS

Code	Description	Number	Amount	Comm. Int.

This signature acknowledges a visit by a Data Collector or Assessor

ASSESSING NEIGHBORHOOD

NBHD/ SUB	NBHD Name	Street Index Name	Tracing	Batch
0001/A				

NOTES

F`02 - AREA CHANGED PER PLAN 2606 AND BY CALCULATION OF ENGINEERING. F`01 - ADDED .836 ACRES BACK. F`04 - REMOVED 42/10 - NOT PART OF SALE TO TOWN. F`04 - ADDED 0 SOUTH ST & 719 HARTFORD PIKE.

APPRAISED VALUE SUMMARY

Appraised Bldg. Value (Card)	0
Appraised XF (B) Value (Bldg)	0
Appraised OB (L) Value (Bldg)	45,600
Appraised Land Value (Bldg)	6,471,600
Special Land Value	0
Total Appraised Parcel Value	6,517,200
Valuation Method:	C
Exemptions	0
Adjustment:	0
Net Total Appraised Parcel Value	6,517,200

BUILDING PERMIT RECORD

Permit ID	Issue Date	Type	Description	Amount	Insp. Date	% Comp.	Date Comp.	Comments

VISIT/ CHANGE HISTORY

Date	Type	IS	ID	Cd.	Purpose/Result

LAND LINE VALUATION SECTION

B #	Use Code	Use Description	Zone	D	Front	Depth	Units	Unit Price	I. Factor	S.A.	C. Factor	ST. Idx	Adj.	Notes- Adj	Special Pricing		S Adj Fact	Adj. Unit Price	Land Value
															Spec Use	Spec Calc			
1	9300	Town Vacant	J				43,560 SF	4.72	1.0000	A	1.00	C7	1.00	SITE SIZE = 50% COVERA(			1.00	4.72	205,600
1	9300	Town Vacant	J				29.45 AC	205,400.00	1.0000	0	0.90	C7	1.00	TOPO			1.00	184,860.00	5,444,100
1	9300	Town Vacant	J				30.44 AC	30,000.00	1.0000	0	0.90		0.00	TOPO			1.00	27,000.00	821,900

Total Card Land Units: 60.89 AC | Parcel Total Land Area: 60.89 AC | Total Land Value: 6,471,600

Property Location: 384-386 SOUTH ST **MAP ID:** 42/ 011000/ / / **Bldg Name:** **State Use:** 9300

Vision ID: 9571 **Account #** 9571 **Bldg #:** 1 of 1 **Sec #:** 1 of 1 **Card** 1 of 1 **Print Date:** 01/11/2018 12:44

CONSTRUCTION DETAIL

Element	Cd.	Ch.	Description
Model	00		Vacant

CONSTRUCTION DETAIL (CONTINUED)

Element	Cd.	Ch.	Description

MIXED USE

Code	Description	Percentage
9300	Town Vacant	100

COST/MARKET VALUATION

Adj. Base Rate:	0.00
Replace Cost	0
AYB	
EYB	0
Dep Code	
Remodel Rating	
Year Remodeled	
Dep %	
Functional Obsinc	
External Obsinc	
Cost Trend Factor	
Status	
% Complete	
Overall % Cond	
Apprais Val	
Dep % Ovr	0
Dep Ovr Comment	
Misc Imp Ovr	0
Misc Imp Ovr Comment	
Cost to Cure Ovr	0
Cost to Cure Ovr Comment	

OB-OUTBUILDING & YARD ITEMS(L) / XF-BUILDING EXTRA FEATURES(B)

Code	Description	Sub	Sub Descript	L/B	Units	Unit Price	Yr	Gde	Dp Rt	Cnd	%Cnd	Apr Value
MSC	Misc Structure			L	3,800	24.00	1954	C		A	50	45,600

BUILDING SUB-AREA SUMMARY SECTION

Code	Description	Living Area	Gross Area	Eff. Area	Unit Cost	Undeprec. Value
	Ttl. Gross Liv/Lease Area:	0	0	0		

No Photo On Record

42 Plate | 011000 Plot | Condo | 1 of 1 CARD

Town of Shrewsbury

!9571!

TOTAL ASSESSED: 8,132,200

Patriot Properties Inc.

PROPERTY LOCATION

No	Alt No	Direction/Street/City
384	-386	SOUTH ST, SHREWSBURY

OWNERSHIP

Owner 1:	SHREWSBURY TOWN OF
Owner 2:	
Owner 3:	
Street 1:	100 MAPLE AVE
Street 2:	
Twn/City:	SHREWSBURY
St/Prov:	MA
Cntry	
Own Occ:	N
Postal:	01545
Type:	

PREVIOUS OWNER

Owner 1:	RICHARDSON AUDREY - C/O RICHARD H ALLEN
Owner 2:	PUKAITE CONSTANCE - ALLEN ELAINE
Street 1:	PO BOX 309
Twn/City:	WATSONVILLE
St/Prov:	CA
Cntry	
Postal:	95077

NARRATIVE DESCRIPTION

This Parcel contains 60.89 ACRES of land mainly classified as Municipal or

OTHER ASSESSMENTS

Code	Descrip/No	Amount	Com. Int

PROPERTY FACTORS

Item	Code	Descip	%	Item	Code	Descrip
Z	J	Lmtd Ind	100	U	0	NO SEWR
o				t	3	WATER
n				I		
Census:				Exmpt		
Flood Haz:						
D				Topo		
s				Street		
t				Traffic		

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Value	Yard Items	Land Size	Land Value	Total Value
930		38,200	60.890	8,094,000	8,132,200
Total Card		38,200	60.890	8,094,000	8,132,200
Total Parcel		38,200	60.890	8,094,000	8,132,200

Source: Market Adj Cost | Total Value per SQ unit /Card: N/A | /Parcel: N/A

PREVIOUS ASSESSMENT

Tax Yr	Use	Cat	Bldg Value	Yrd Items	Land Size	Land Value	Total Value	Asses'd Value	Notes	Date
2012	930	FV		38200	60.89	8,094,000	8,132,200	8,132,200	Year End	2/8/2012
2011	930	FV		38200	60.89	8,094,000	8,132,200	8,132,200		10/15/2010
2010	930	FV		38200	60.89	8,094,000	8,132,200	8,132,200	Year End Roll	4/8/2010
2009	903	FV		38200	60.89	7,689,200	7,727,400	7,727,400		12/31/2008
2008	903	FV		38200	60.89	7,689,200	7,727,400	7,727,400		1/4/2008

BUILDING PERMITS

Date	Number	Descrip	Amount	C/O	Last Visit	Fed Code	F. Descrip	Comment

SALES INFORMATION

TAX DISTRICT

Grantor	Legal Ref	Type	Date	Sale Code	Sale Price	V	Tst	Verif	Assoc PCL Value	Notes
RICHARDSON AUDR	28672-173		1/10/2003	INVOLVED GOV	6000000	No	No			3 Parcels
ALLEN STUART H,	20371-181		9/1/1998	FAMILY	100	No	No			TENANTS IN COMMON
	16996-77		4/24/1995	OTHER	0	No	No			

INCOME INFORMATION

Type	Description	Flr	Qlty	Leased Area	Ten	Rent $	Ovr Rent	Econ Inc

Gross Income:		X	Totals:		0		
Vacancy/DL:		X	Net Income:			Deficiency:	
Other Income:			Rate Adj:			Final Val Card:	
Expenses:		X	Vac Adj:			Val Per Unit Card	
Reserves:		X	Exp Adj:			Final Val/Parcel:	
Lease Type:	0	X	Indicated Value:			Val Per Unit/Par:	
Overall Rate:			Surplus:			Cost/Inc Ratio:	

ACTIVITY INFORMATION

Date	Result	By	Name

Sign: _____ __/__/__

LAND SECTION

Use Code	Description	LUC Fact	No of Units	Depth / PriceUnits	Unit Type	Land Type	LT Factor	Base Value	Unit Price	Adj	Neigh	Neigh Influ	Neigh Mod	Infl 1	%	Infl 2	%	Infl 3	%	Appraised Value	Alt Class	%	Spec Land	J Code	Fact	Use Value	Notes
930	Municipal or		43560		SQ FT	SITE		0	6.	1.000	R&D1			NO SEWR	0					261,360						261,400	Allen Farm
930	Municipal or		59.89		ACRES	EXCESS		0	223,560.	.585	R&D1			WET	-10					7,832,570						7,832,600	
930	Municipal or		722.65997		FRNT FT	EXPAN		0	0.	.000	R&D1																
930	Municipal or		597.65997		XS FF	EXCESS		0	0.	.000	R&D1																
930	Municipal or		4		FRNT LOT	EXPAN		0	0.	.000	R&D1																

Total AC/HA: 60.89000 | Total SF/SM: 2652368.25 | Parcel LUC: 930 | Municipal or | Prime NB Desc | Rsrch&Dvlpmn | Total: 8,093,930 | Spl Credit | Total: 8,094,000

Disclaimer: This Information is believed to be correct but is subject to change and is not warranteed.

Legal Description

Lot Size

Total Land:

Land Unit Type:

User Acct	4200010
GIS Ref	
GIS Ref	
Insp Date	

Parcel ID: 42 011000

PRINT: Date 05/14/12 | Time 15:31:19

LAST REV: Date 11/03/09 | Time 09:14:03 | apro

PAT ACCT. 9571

USER DEFINED

Prior Id # 1:	42 011001
Prior Id # 2:	42 018000
Prior Id # 3:	42 019000
Prior Id # 1:	42 020000
Prior Id # 2:	42 021000
Prior Id # 3:	42 009000
Prior Id # 1:	
Prior Id # 2:	1996-651
Prior Id # 3:	
ASR Map:	
Fact Dist:	
Reval Dist:	
Year:	
LandReason:	
BldReason:	

EXTERIOR INFORMATION

Type:	
Sty Ht:	
(Liv) Units:	Total:
Foundation:	
Frame:	
Prime Wall:	
Sec Wall:	%
Roof Struct:	
Roof Cover:	
Color:	
View / Desir:	

BATH FEATURES

Full Bath	Rating:
A Bath:	Rating:
3/4 Bath:	Rating:
A 3QBth	Rating:
1/2 Bath:	Rating:
A HBth:	Rating:
OthrFix:	Rating:

OTHER FEATURES

Kits:	Rating:
A Kits:	Rating:
Frpl:	Rating:
WSFlue:	Rating:

COMMENTS

F`02 - Area changed per plan 2606 and by calculation of engineering. F`01 - added .836 acres back. F`04 - Removed 42/10 - not part of sale to Town. F`04 - Added 0 South St & 719 Hartford Pike. .

SKETCH

GENERAL INFORMATION

Grade:	
Year Blt:	Eff Yr Blt:
Alt LUC:	Alt %:
Jurisdict:	Fact:
Const Mod:	
Lump Sum Adj:	

CONDO INFORMATION

Location:	
Total Units:	
Floor:	
% Own:	
Name:	

RESIDENTIAL GRID

1st Res Grid	Desc:								# Units		
Level	FY	LR	DR	D	K	FR	RR	BR	FB	HB	L	O
Other												
Upper												
Lvl 2												
Lvl 1												
Lower												
Totals	RMs:		BRs:			Baths:			HB			

INTERIOR INFORMATION

Avg Ht/FL:	
Prim Int Wal	
Sec Int Wall:	%
Partition:	
Prim Floors:	
Sec Floors:	%
Bsmnt Flr:	
Bsmnt Gar:	
Electric:	
Insulation:	
Int vs Ext:	
Heat Fuel:	
Heat Type:	
# Heat Sys:	
% Heated:	% AC:
Solar HW:	Central Vac:
% Com Wal	% Sprinkled

DEPRECIATION

Phys Cond:	0.0	%
Functional:		%
Economic:		%
Special:	0.0	%
Override:		%
Total:	0	%

REMODELING

Exterior:	
Interior:	
Additions:	
Kitchen:	
Baths:	
Plumbing:	
Electric:	
Heating:	
General:	

RES BREAKDOWN

No Unit	RMS	BRS	FL
Totals			

CALC SUMMARY

Basic $ / SQ:	
Size Adj.:	1.00000000
Const Adj.:	8.00000000
Adj $ / SQ:	
Other Features:	0
Grade Factor:	
Neighborhood Inf:	1.00000000
LUC Factor:	
Adj Total:	0
Depreciation:	0
Depreciated Total:	0

COMPARABLE SALES

Rate	Parcel ID	Typ	Date	Sale Price

WtAvS/SQ:		AvRate:	Ind.Val
Juris. Factor:		Val/Su Fin:	
Special Features:	0	Val/Su Net:	
Final Total:	0	Val/Su SzAd	

SUB AREA

Code	Description	Area - SQ	Rate - AV	Undepr Value
	Net Sketched Area:		Total:	
Size Ad		Gross Area		FinArea

SUB AREA DETAIL

Sub Area	% Usbl	Descrip	% Type	Qu	# Ten

IMAGE

AssessPro Patriot Properties, Inc

SPEC FEATURES/YARD ITEMS

PARCEL ID 42 011000

Code	Description	A	Y/S	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep	LUC	Fact	NB Fa	Appr Value	JCod	JFact	Juris. Value
539	RecBld	D	Y	1	3800	A	AV	1954	18.63	T	46	930			38,200			38,200

More:	N	Total Yard Items:	38,200	Total Special Featues:	Total: 38,200

Jonathon Puliafico

From: Jonathan Rahmati <jrahmati@shrewsburyma.gov>
Sent: Friday, January 05, 2018 11:50 AM
To: Jonathon Puliafico
Subject: Re: Water, Sewer, Drainage, etc into for the following two properties
Attachments: Route 20 Sewer Record Drawing_Page_5.tiff

Jonathon,
enclosed is the plan showing utilities for 384-386 South Street, they have sewer and water access from the roadway but we don't have any records showing that they are connected to the town sewer or water.
I'll send you what we have on Lake Street this afternoon.

Jonathan Rahmati, PLS
Town of Shrewsbury
100 Maple Avenue
Shrewsbury, MA 01545
T 508-841-8502
F 508-841-8497

On Fri, Jan 5, 2018 at 11:21 AM, Jonathon Puliafico <JPuliafico@lordenv.com> wrote:

> Jonathan,
>
> Thank you for all your help with these projects.
>
> The addresses I'm assessing are the following:
>
> **214 Lake Street**
>
> And
>
> **384-386 South Street**
>
> Any information you have on these properties would be greatly appreciated.
>
> Thank you
>
> Jon

Jonathon D. Puliafico, CPG

Lord Associates, Inc.

Corporate Headquarters

1506 Providence Hwy-Suite 30

Norwood, MA 02062

c 401.487.7630

v 781.255.5554 Ext 1005

f 781.255.5535

Southcoast Office

97 Belmont Street 3A

Fall River, MA 02720

v 508.679.2002

f 508.679.2205

Celebrating 25 years of Environmental Consulting & Licensed Site Professional Services

www.lordenv.com

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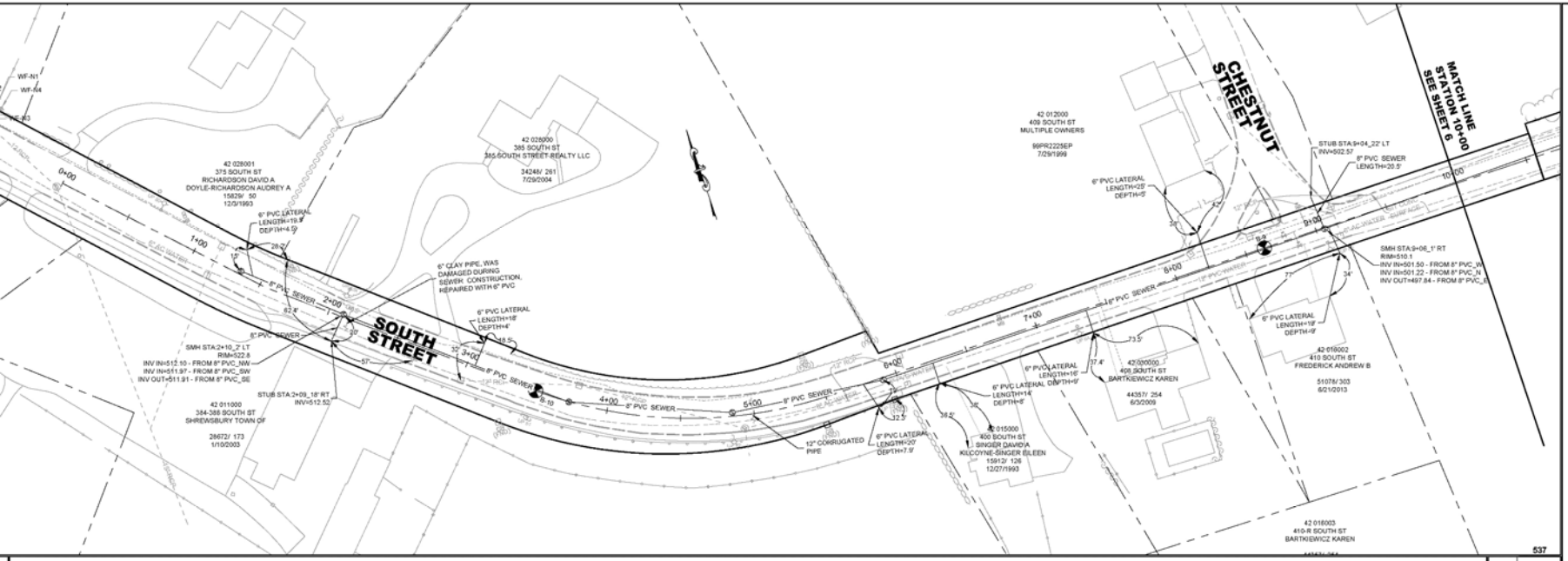

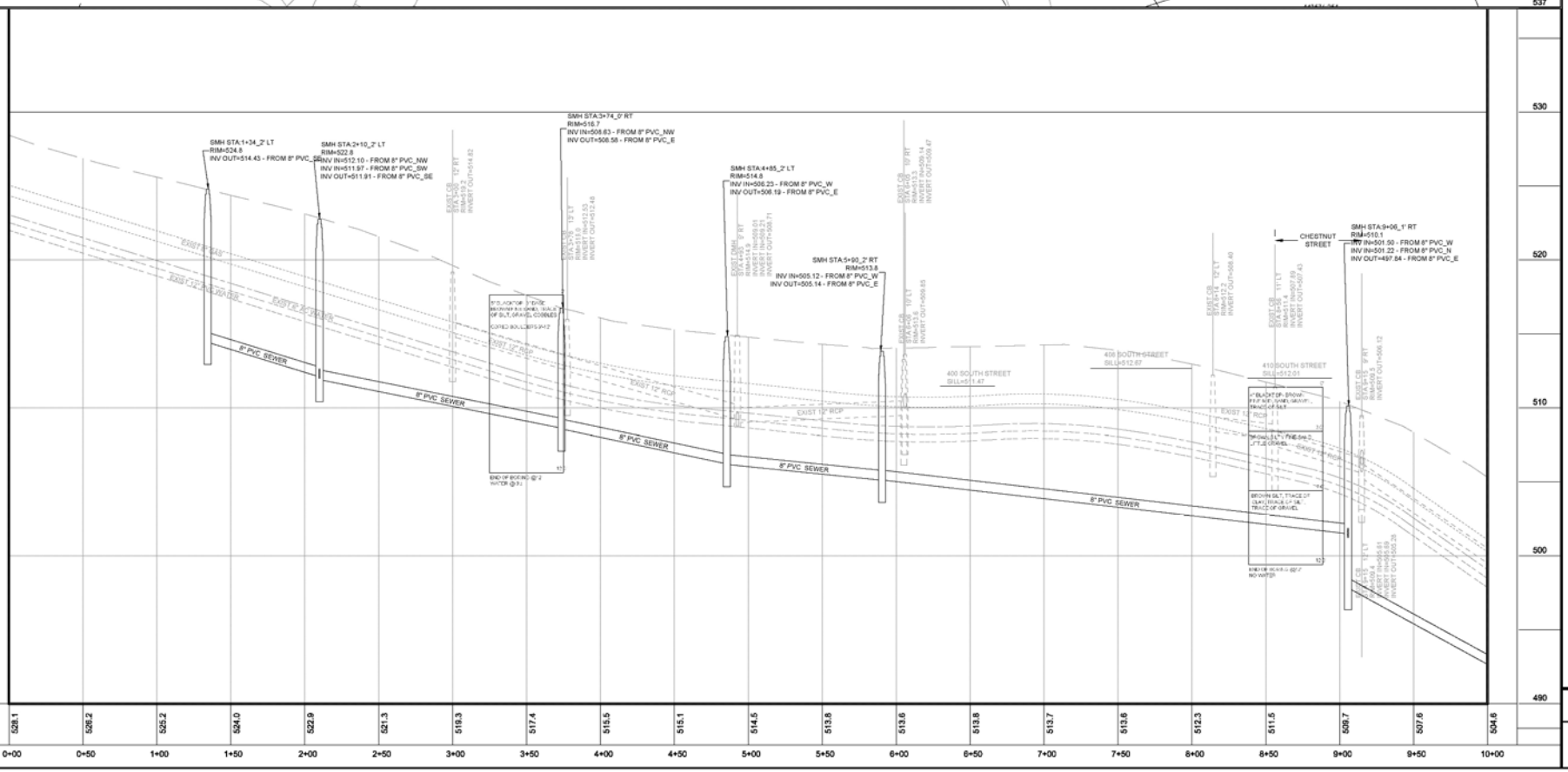

TOWN OF SHREWSBURY MASSACHUSETTS

U.S. DEPARTMENT OF COMMERCE, ECONOMIC DEVELOPMENT ADMINISTRATION.
PROJECT NO. 01-01-08580

GENERAL NOTES

THE RECORD SEWER INVERT ELEVATIONS WERE OBTAINED F
BORGES CONSTRUCTION INC. IN 2012.

COORDINATE SYSTEM: STATE PLANE COORDINATE SYSTEM (
VERTICAL DATUM: NAVD88

RECORD PLAN OF SOUTH STREET SEWER

SHREWSBURY, MASSACHUSETTS

TOWN OF SHREWSBURY ENGINEERING DEPARTMENT

DATE: JANUARY 2015

SCALE: VERTICAL SCALE: 1"=4'
HORIZONTAL SCALE: 1"=40'

SHEET 5 OF

APPENDIX D

384 SOUTH STREET
384 SOUTH STREET
SHREWSBURY, MA 01545

Inquiry Number: 5149834.3s
January 03, 2018

EDR FIRST REPORT

A Search of ASTM E1527-13 §8.2.1 Databases

Table of Contents

This report includes a search of reasonably available environmental records to assist the professional in compliance with Section 8.2.1 Standard Federal, State, and Tribal Environmental Record Source of ASTM Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (E1527-13). Additional environmental records sources may be available for your property.

Target Site: 384 SOUTH STREET
SHREWSBURY, MA 01545

Site Location

	Degrees (Decimal)	Degrees (Min/Sec)	UTMs
Longitude:	71.690720	71.6907200 - 71° 41' 26.59''	Easting: 278096.2
Latitude:	42.271350	42.2713500 - 42° 16' 16.86''	Northing: 4683197.0
Elevation:	519 ft. above sea level		Zone: Zone 19

SECTION	PAGE
Search Summary	ES-1
Sites Sorted by Distance	ES-3
Sites Sorted by Database	ES-5
1 Mile Map	2
0.25 Mile Map	3
Mapped Sites Summary	4
Orphan Summary	OR-1
Records Searched/Data Currency Tracking	GR-1
USGS 7.5 Minute Topographic Map	TM-1

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Search Summary

TARGET SITE: **384 SOUTH STREET**
SHREWSBURY, MA 01545

Category	Database	Update	Radius	Site	1/8	1/4	1/2	> 1/2	Orphan	TOTALS
Federal NPL site list										
	NPL	10/10/2017	1.000	0	0	0	0	0	0	0
	Proposed NPL	10/10/2017	1.000	0	0	0	0	0	0	0
	NPL LIENS	10/15/1991	TP	0	-	-	-	-	0	0
Federal Delisted NPL site list										
	Delisted NPL	10/10/2017	1.000	0	0	0	0	0	0	0
Federal CERCLIS list										
	FEDERAL FACILITY	11/07/2016	0.500	0	0	0	0	-	0	0
	SEMS	07/11/2017	0.500	0	0	0	0	-	0	0
Federal CERCLIS NFRAP site list										
	SEMS-ARCHIVE	07/11/2017	0.500	0	0	0	0	-	0	0
Federal RCRA CORRACTS facilities list										
	CORRACTS	09/13/2017	1.000	0	0	0	0	0	0	0
Federal RCRA non-CORRACTS TSD facilities list										
	RCRA-TSDF	09/13/2017	0.500	0	0	0	0	-	0	0
Federal RCRA generators list										
	RCRA-LQG	09/13/2017	0.250	0	0	0	-	-	0	0
	RCRA-SQG	09/13/2017	0.250	0	0	1	-	-	0	1
	RCRA-CESQG	09/13/2017	0.250	0	0	3	-	-	0	3
Federal institutional controls / engineering controls registries										
	LUCIS	05/22/2017	0.500	0	0	0	0	-	0	0
	US ENG CONTROLS	08/10/2017	0.500	0	0	0	0	-	0	0
	US INST CONTROL	08/10/2017	0.500	0	0	0	0	-	0	0
Federal ERNS list										
	ERNS	09/18/2017	TP	0	-	-	-	-	0	0
State- and tribal - equivalent CERCLIS										
	SHWS	09/01/2017	1.000	0	2	8	4	19	2	35
State and tribal landfill and/or solid waste disposal site lists										
	SWF/LF	01/10/2017	0.500	0	1	1	0	-	0	2

Search Summary

TARGET SITE: **384 SOUTH STREET**
SHREWSBURY, MA 01545

Category	Database	Update	Radius	Site	1/8	1/4	1/2	> 1/2	Orphan	TOTALS
State and tribal leaking storage tank lists										
	LUST	09/01/2017	0.500	0	1	1	2	-	0	4
	LAST	09/01/2017	0.500	0	0	0	0	-	0	0
	INDIAN LUST	04/14/2017	0.500	0	0	0	0	-	0	0
State and tribal registered storage tank lists										
	FEMA UST	05/15/2017	0.250	0	0	0	-	-	0	0
	UST	10/24/2017	0.250	0	4	4	-	-	0	8
	AST	10/22/2009	0.250	0	0	1	-	-	0	1
	INDIAN UST	04/14/2017	0.250	0	0	0	-	-	0	0
State and tribal institutional control / engineering control registries										
	INST CONTROL	09/01/2017	0.500	0	0	1	0	-	0	1
State and tribal voluntary cleanup sites										
	INDIAN VCP	07/27/2015	0.500	0	0	0	0	-	0	0
State and tribal Brownfields sites										
	BROWNFIELDS	04/05/2017	0.500	0	0	0	1	-	0	1
	- Totals --			0	8	20	7	19	2	56

Sites Sorted by Distance

TARGET PROPERTY ADDRESS:
384 SOUTH STREET
SHREWSBURY, MA 01545

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft, mi.) DIRECTION
1	WEST VALLEY CORP	727 HARTFORD TURNPIK	UST	Lower	155, 0.029, NNE
A2	TRAFFIC CONTRON & SI	683 HARTFORD TURNPIK	UST	Higher	377, 0.071, ESE
A3	TECHNICAL SALES & SE	697 HARTFORD TPKE	SHWS	Higher	449, 0.085, SSE
A4	SAXTON CORP	697 HARTFORD PIKE	UST	Higher	449, 0.085, SSE
A5	SHREWSBURY ASH LANDF	640 HARTFORD TPKE	SWF/LF	Higher	451, 0.085, SE
B6	FRIARS SERVICE STATI	759 HARTFORD TPKE	SHWS, LUST	Lower	644, 0.122, NE
B7	HARVEY FRIAR GULF ST	759 HARTFORD TURNPIK	UST	Lower	644, 0.122, NE
C8	XPO LOGISTICS FREIGH	625 HARTFORD TURNPIK	UST	Higher	701, 0.133, SE
C9	ST JOHNSBURY TRUCKIN	625 HARTFORD TPKE	SHWS, LUST, INST CONTROL	Higher	701, 0.133, SE
C10	XPO LOGISTICS FREIGH	625 HARTFORD TPKE	RCRA-CESQG	Higher	701, 0.133, SE
B11	HARTFORD TURNPIKE AT	414 SOUTH STREET	SHWS	Lower	708, 0.134, NE
C12	SHREWSBURY LANDFILL	620 HARTFORD TPKE	SHWS, SWF/LF	Higher	751, 0.142, SE
D13	FEDEX FREIGHT INC	615 HARTFORD TPKE	SHWS	Higher	792, 0.150, SSE
D14	JAMES F LOMMA	615 HARTFORD TURNPIK	UST	Higher	792, 0.150, SSE
15	APOLLO MOTOR EXPRESS	221 CHERRY ST	SHWS	Higher	984, 0.186, SW
E16	ADVANCED MICRO CENTE	333 SOUTH ST.	SHWS	Higher	1022, 0.194, NNE
E17	WORCESTER CITY CAMPU	333 SOUTH ST	RCRA-CESQG	Higher	1022, 0.194, NNE
E18	QUANTUM CORP	333 SOUTH ST	UST, AST	Higher	1022, 0.194, NNE
E19	QUANTUM CORP INC	333 SOUTH ST	SHWS	Higher	1022, 0.194, NNE
E20	CHARLES RIVER LABORA	334 SOUTH ST	RCRA-SQG	Higher	1057, 0.200, NNE
E21	CHARLES RIVER LABORA	334 SOUTH ST	SHWS	Higher	1057, 0.200, NNE
F22	UNITED TRUCK LEASING	605 HARTFORD TPKE	RCRA-CESQG	Higher	1195, 0.226, SSW
F23	AA TRANSPORTATION	605 HARTFORD TURNPIK	UST	Higher	1195, 0.226, SSW
24	LOGAN EQUIPMENT CORP	800 HARTFORD TURNPIK	SHWS, LUST	Lower	1835, 0.348, ENE
25	DRAKE PETROLEUM (WHI	567 HARTFORD TURNPIK	SHWS, LUST, BROWNFIELDS	Higher	2144, 0.406, SW
G26	SHREWSBURY DRIVE IN	805 BOSTON TPKE	SHWS	Higher	2359, 0.447, North
G27	TROTTO RESIDENCE	38 FRUIT ST	SHWS	Higher	2498, 0.473, North
H28	TNT RED STAR EXPRESS	539 HARTFORD TPKE	SHWS	Lower	2661, 0.504, SW
H29	WESTERMARK GARAGE	537B HARTFORD TPKE	SHWS	Lower	2698, 0.511, SSW
30	AUTOMOTIVE SERVICE E	864 HARTFORD TPKE	SHWS	Lower	3037, 0.575, ENE
31	THE COMMONS AT HAYNE	14 ARBOR DR	SHWS	Lower	3356, 0.636, North
I32	MARANE BULK OIL FACI	870 880 HARTFORD TPK	SHWS	Lower	3551, 0.673, ENE
J33	TRANSFORMER SPILL	1200 AVALON WAY	SHWS	Lower	3558, 0.674, NE
34	FIREMATIC SPRINKLER	900 BOSTON TPKE	SHWS	Lower	3634, 0.688, NE
I35	COMMERCIAL PROPERTY	905 HARTFORD TURNPIK	SHWS	Lower	3683, 0.698, ENE
J36	AVALON BAY APTS	2100 AVALON WAY	SHWS	Lower	3700, 0.701, NE
37	AVALON WAY BUILDING	1 AVALON WAY	SHWS	Lower	3828, 0.725, ENE
38	GREEN THUMB NURSERY	17 FLORAL ST	SHWS	Lower	4053, 0.768, North
39	INDEPENDENT TRUCK SE	481 HARTFORD TPKE	SHWS	Lower	4113, 0.779, SSW

Sites Sorted by Distance

TARGET PROPERTY ADDRESS:

384 SOUTH STREET
SHREWSBURY, MA 01545

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft, mi.) DIRECTION
40	FORMER LOMMA TRUCKIN	476 HARTFORD TPKE	SHWS	Lower	4250, 0.805, SSW
41	CARON RESIDENCE	426 GRAFTON ST	SHWS	Lower	4393, 0.832, West
42	MODF RELEASE	271 GRAFTON ST	SHWS	Higher	4639, 0.879, WNW
43	GMS AUTOMOTIVE	455 HARTFORD TPKE	SHWS	Lower	4808, 0.911, SSW
44	504 GRAFTON ST PROPE	504 GRAFTON ST	SHWS	Lower	5062, 0.959, WSW
45	TRUCKLEASE ACCIDENT	HARTFORD TPKE AT RTE	SHWS	Lower	5163, 0.978, SSW
46	NORTHBOROUGH CROSSIN	NEAR 962 HARTFORD TU	SHWS	Lower	5179, 0.981, ENE

Sites Sorted by Database

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

SURROUNDING SITES: SEARCH RESULTS

Federal RCRA generators list

RCRA-SQG: RCRA - Small Quantity Generators

Site	Address	Direction / Distance	Map ID	Page
CHARLES RIVER LABORA	334 SOUTH ST	NNE (0.200 mi. / 1057 ft.)	E20	13

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generator

Site	Address	Direction / Distance	Map ID	Page
XPO LOGISTICS FREIGH	625 HARTFORD TPKE	SE (0.133 mi. / 701 ft.)	C10	8
WORCESTER CITY CAMPU	333 SOUTH ST	NNE (0.194 mi. / 1022 ft.)	E17	11
UNITED TRUCK LEASING	605 HARTFORD TPKE	SSW (0.226 mi. / 1195 ft.)	F22	14

State- and tribal - equivalent CERCLIS

SHWS: Reportable Releases Database

Site	Address	Direction / Distance	Map ID	Page
TECHNICAL SALES & SE	697 HARTFORD TPKE	SSE (0.085 mi. / 449 ft.)	A3	4
Release Tracking Number / Current Status: 2-0017439 / RAO				
FRIARS SERVICE STATI	***759 HARTFORD TPKE***	***NE (0.122 mi. / 644 ft.)***	***B6***	***6***
Release Tracking Number / Current Status: 2-0012105 / RAO				
ST JOHNSBURY TRUCKIN	***625 HARTFORD TPKE***	***SE (0.133 mi. / 701 ft.)***	***C9***	***7***
Release Tracking Number / Current Status: 2-0017985 / RAO				
Release Tracking Number / Current Status: 2-0017803 / RAO				
Release Tracking Number / Current Status: 2-0010659 / RAONR				
Release Tracking Number / Current Status: 2-0016869 / RAO				
HARTFORD TURNPIKE AT	414 SOUTH STREET	NE (0.134 mi. / 708 ft.)	B11	9
Release Tracking Number / Current Status: 2-0018589 / URAM				
SHREWSBURY LANDFILL	***620 HARTFORD TPKE***	***SE (0.142 mi. / 751 ft.)***	***C12***	***9***
Release Tracking Number / Current Status: 2-0017007 / RAO				
Release Tracking Number / Current Status: 2-0017810 / ADQREG				
Release Tracking Number / Current Status: 2-0014540 / RAO				

Sites Sorted by Database

Site	Address	Direction / Distance	Map ID	Page
FEDEX FREIGHT INC	615 HARTFORD TPKE	SSE (0.150 mi. / 792 ft.)	D13	10
Release Tracking Number / Current Status: 2-0012981 / RAO				
APOLLO MOTOR EXPRESS	221 CHERRY ST	SW (0.186 mi. / 984 ft.)	15	10
Release Tracking Number / Current Status: 2-0014372 / RAO				
ADVANCED MICRO CENTE	333 SOUTH ST.	NNE (0.194 mi. / 1022 ft.)	E16	11
Release Tracking Number / Current Status: 2-0018120 / RAO				
QUANTUM CORP INC	333 SOUTH ST	NNE (0.194 mi. / 1022 ft.)	E19	12
Release Tracking Number / Current Status: 2-0014162 / RAO				
CHARLES RIVER LABORA	334 SOUTH ST	NNE (0.200 mi. / 1057 ft.)	E21	13
Release Tracking Number / Current Status: 2-0016917 / RAO				
LOGAN EQUIPMENT CORP	***800 HARTFORD TURNPIK***	***ENE (0.348 mi. / 1835 ft.)***	***24***	***15***
Release Tracking Number / Current Status: 2-0011848 / RAO				
Release Tracking Number / Current Status: 2-0013200 / RAONR				
Release Tracking Number / Current Status: 2-0013625 / RAONR				
Release Tracking Number / Current Status: 2-0011847 / RAO				
Release Tracking Number / Current Status: 2-0012774 / RAO				
**Additional key fields are available in the Map Findings section*				
DRAKE PETROLEUM (WHI	***567 HARTFORD TURNPIK***	***SW (0.406 mi. / 2144 ft.)***	***25***	***16***
Release Tracking Number / Current Status: 2-0011332 / RAONR				
SHREWSBURY DRIVE IN	805 BOSTON TPKE	N (0.447 mi. / 2359 ft.)	G26	16
Release Tracking Number / Current Status: 2-0000471 / WCSPRM				
TROTTO RESIDENCE	38 FRUIT ST	N (0.473 mi. / 2498 ft.)	G27	17
Release Tracking Number / Current Status: 2-0014669 / RAO				
TNT RED STAR EXPRESS	539 HARTFORD TPKE	SW (0.504 mi. / 2661 ft.)	H28	17
Release Tracking Number / Current Status: 2-0013274 / RAO				
Release Tracking Number / Current Status: 2-0001054 / STMRET				
WESTERMARK GARAGE	537B HARTFORD TPKE	SSW (0.511 mi. / 2698 ft.)	H29	18
Release Tracking Number / Current Status: 2-0017586 / RAONR				
AUTOMOTIVE SERVICE E	864 HARTFORD TPKE	ENE (0.575 mi. / 3037 ft.)	30	18
Release Tracking Number / Current Status: 2-0014609 / RAO				
Release Tracking Number / Current Status: 2-0015660 / PSNC				
THE COMMONS AT HAYNE	14 ARBOR DR	N (0.636 mi. / 3356 ft.)	31	19
Release Tracking Number / Current Status: 2-0018680 / RAO				
MARANE BULK OIL FACI	870 880 HARTFORD TPK	ENE (0.673 mi. / 3551 ft.)	I32	19
Release Tracking Number / Current Status: 2-0011405 / RAONR				
TRANSFORMER SPILL	1200 AVALON WAY	NE (0.674 mi. / 3558 ft.)	J33	19
Release Tracking Number / Current Status: 2-0018807 / RAO				
FIREMATIC SPRINKLER	900 BOSTON TPKE	NE (0.688 mi. / 3634 ft.)	34	20
Release Tracking Number / Current Status: 2-0010957 / RAO				
COMMERCIAL PROPERTY	905 HARTFORD TURNPIK	ENE (0.698 mi. / 3683 ft.)	I35	20
Release Tracking Number / Current Status: 2-0019659 / TIERII				
AVALON BAY APTS	2100 AVALON WAY	NE (0.701 mi. / 3700 ft.)	J36	21
Release Tracking Number / Current Status: 2-0019142 / PSNC				
AVALON WAY BUILDING	1 AVALON WAY	ENE (0.725 mi. / 3828 ft.)	37	21
Release Tracking Number / Current Status: 2-0019918 / PSNC				
GREEN THUMB NURSERY	17 FLORAL ST	N (0.768 mi. / 4053 ft.)	38	22
Release Tracking Number / Current Status: 2-0011116 / RAO				
INDEPENDENT TRUCK SE	481 HARTFORD TPKE	SSW (0.779 mi. / 4113 ft.)	39	22
Release Tracking Number / Current Status: 2-0014011 / RAO				

Sites Sorted by Database

Site	Address	Direction / Distance	Map ID	Page
FORMER LOMMA TRUCKIN Release Tracking Number / Current Status: 2-0015357 / RAO	476 HARTFORD TPKE	SSW (0.805 mi. / 4250 ft.)	40	23
CARON RESIDENCE Release Tracking Number / Current Status: 2-0015236 / RAO	426 GRAFTON ST	W (0.832 mi. / 4393 ft.)	41	23
MODF RELEASE Release Tracking Number / Current Status: 2-0017831 / RAO	271 GRAFTON ST	WNW (0.879 mi. / 4639 ft.)	42	24
GMS AUTOMOTIVE Release Tracking Number / Current Status: 2-0012954 / RAO	455 HARTFORD TPKE	SSW (0.911 mi. / 4808 ft.)	43	24
504 GRAFTON ST PROPE Release Tracking Number / Current Status: 2-0000335 / RAO	504 GRAFTON ST	WSW (0.959 mi. / 5062 ft.)	44	25
TRUCKLEASE ACCIDENT Release Tracking Number / Current Status: 2-0010319 / RAO	HARTFORD TPKE AT RTE	SSW (0.978 mi. / 5163 ft.)	45	25
NORTHBOROUGH CROSSIN Release Tracking Number / Current Status: 2-0018686 / RAO	NEAR 962 HARTFORD TU	ENE (0.981 mi. / 5179 ft.)	46	26

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: Solid Waste Facility Database/Transfer Stations

Site	Address	Direction / Distance	Map ID	Page
SHREWSBURY ASH LANDF Status: Active	640 HARTFORD TPKE	SE (0.085 mi. / 451 ft.)	A5	5
SHREWSBURY LANDFILL Current Operational Status: Active	***620 HARTFORD TPKE***	***SE (0.142 mi. / 751 ft.)***	***C12***	***9***

State and tribal leaking storage tank lists

LUST: Leaking Underground Storage Tank Listing

Site	Address	Direction / Distance	Map ID	Page
FRIARS SERVICE STATI Release Tracking Number / Current Status: 2-0012417 / RAONR	***759 HARTFORD TPKE***	***NE (0.122 mi. / 644 ft.)***	***B6***	***6***
ST JOHNSBURY TRUCKIN Release Tracking Number / Current Status: 2-0010128 / RAO	***625 HARTFORD TPKE***	***SE (0.133 mi. / 701 ft.)***	***C9***	***7***
LOGAN EQUIPMENT CORP Release Tracking Number / Current Status: 2-0011682 / PSNC	***800 HARTFORD TURNPIK***	***ENE (0.348 mi. / 1835 ft.)***	***24***	***15***
DRAKE PETROLEUM (WHI Release Tracking Number / Current Status: 2-0000361 / RAO Release Tracking Number / Current Status: 2-0011332 / RAONR	***567 HARTFORD TURNPIK***	***SW (0.406 mi. / 2144 ft.)***	***25***	***16***

Sites Sorted by Database

State and tribal registered storage tank lists

UST: Summary Listing of all the Tanks Registered in the State of Massachusetts

Site	Address	Direction / Distance	Map ID	Page
WEST VALLEY CORP Tank Status: Tank Removed Facility Id: 17433	727 HARTFORD TURNPIK	NNE (0.029 mi. / 155 ft.)	1	4
TRAFFIC CONTRON & SI Tank Status: Tank Removed Facility Id: 17419	683 HARTFORD TURNPIK	ESE (0.071 mi. / 377 ft.)	A2	4
SAXTON CORP Tank Status: Tank Removed Facility Id: 17401	697 HARTFORD PIKE	SSE (0.085 mi. / 449 ft.)	A4	5
HARVEY FRIAR GULF ST Tank Status: Tank Removed Facility Id: 17403	759 HARTFORD TURNPIK	NE (0.122 mi. / 644 ft.)	B7	7
XPO LOGISTICS FREIGH Tank Status: Tank Removed Tank Status: In Use Facility Id: 17389	625 HARTFORD TURNPIK	SE (0.133 mi. / 701 ft.)	C8	7
JAMES F LOMMA Tank Status: Tank Removed Facility Id: 17384	615 HARTFORD TURNPIK	SSE (0.150 mi. / 792 ft.)	D14	10
QUANTUM CORP Tank Status: Tank Removed Facility Id: 17409	***333 SOUTH ST***	***NNE (0.194 mi. / 1022 ft.)***	***E18***	***12***
AA TRANSPORTATION Tank Status: Tank Removed Tank Status: In Use Facility Id: 3709	605 HARTFORD TURNPIK	SSW (0.226 mi. / 1195 ft.)	F23	14

AST: Aboveground Storage Tank Database

Site	Address	Direction / Distance	Map ID	Page
QUANTUM CORP Release Tracking Number: 17409	***333 SOUTH ST***	***NNE (0.194 mi. / 1022 ft.)***	***E18***	***12***

State and tribal institutional control / engineering control registries

INST CONTROL: Sites With Activity and Use Limitation

Sites Sorted by Database

Site	Address	Direction / Distance	Map ID	Page
ST JOHNSBURY TRUCKIN	***625 HARTFORD TPKE***	***SE (0.133 mi. / 701 ft.)***	***C9***	***7***
Release Tracking Number: 2-0010659				
Release Tracking Number: 2-0010128				

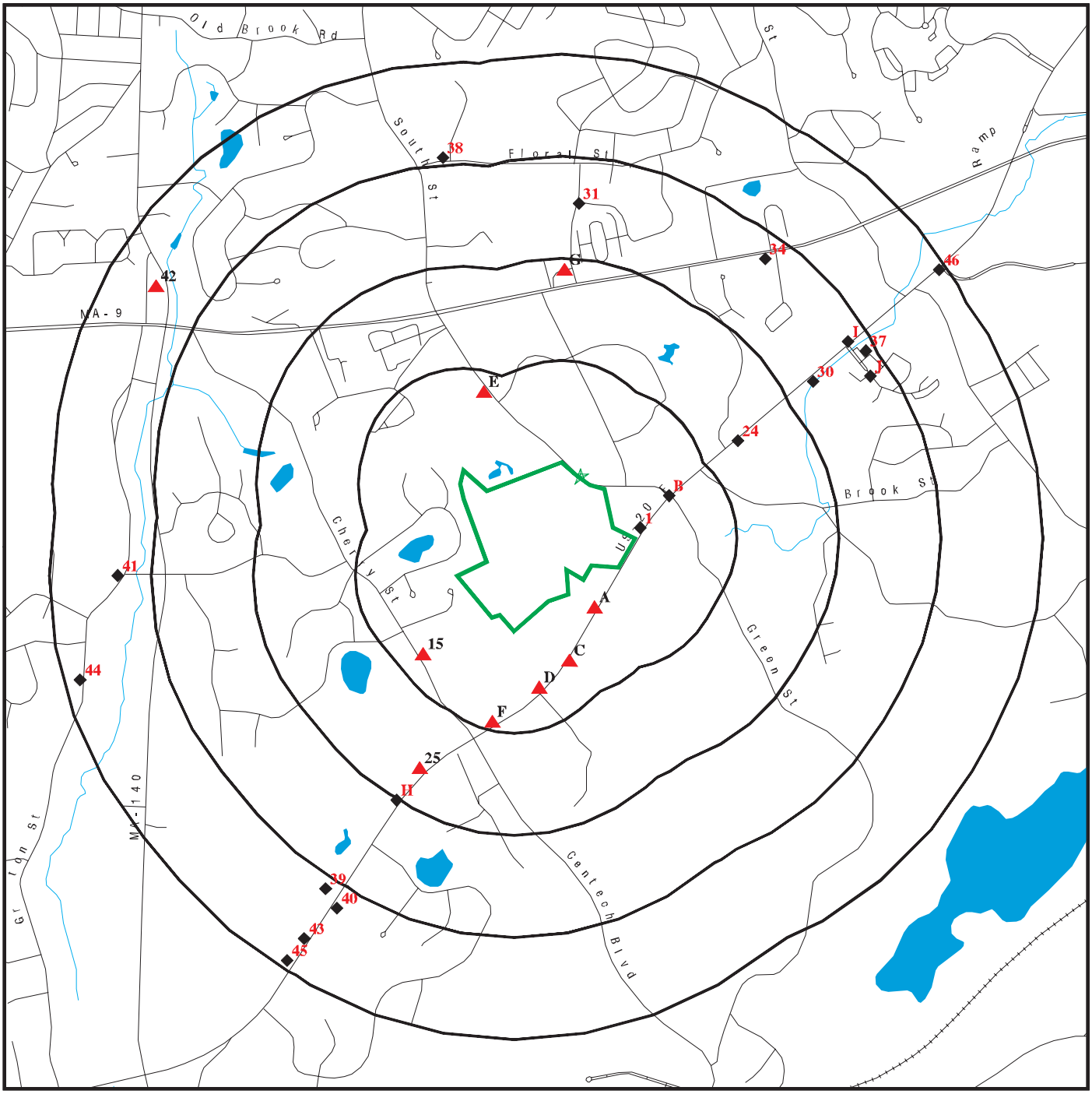
State and tribal Brownfields sites

BROWNFIELDS: Completed Brownfields Covenants Listing

Site	Address	Direction / Distance	Map ID	Page
DRAKE PETROLEUM (WHI	***567 HARTFORD TURNPIK***	***SW (0.406 mi. / 2144 ft.)***	***25***	***16***
MCP Status: RAO				
RTN: 2-0000361				

1.00 Mile Map

384 SOUTH STREET SHREWSBURY, MA 01545



Black Rings Represent Qtr. Mile Radius

- ★ **Target Property (Latitude: 42.27135 Longitude: 71.69072)**
- ▲ **High or Equal Elevation Sites**
- ◆ **Low Elevation Sites**
- **National Priority List Sites**

EDR First Report

EDR Reference Code (EDR internal use only): 5149834.3s
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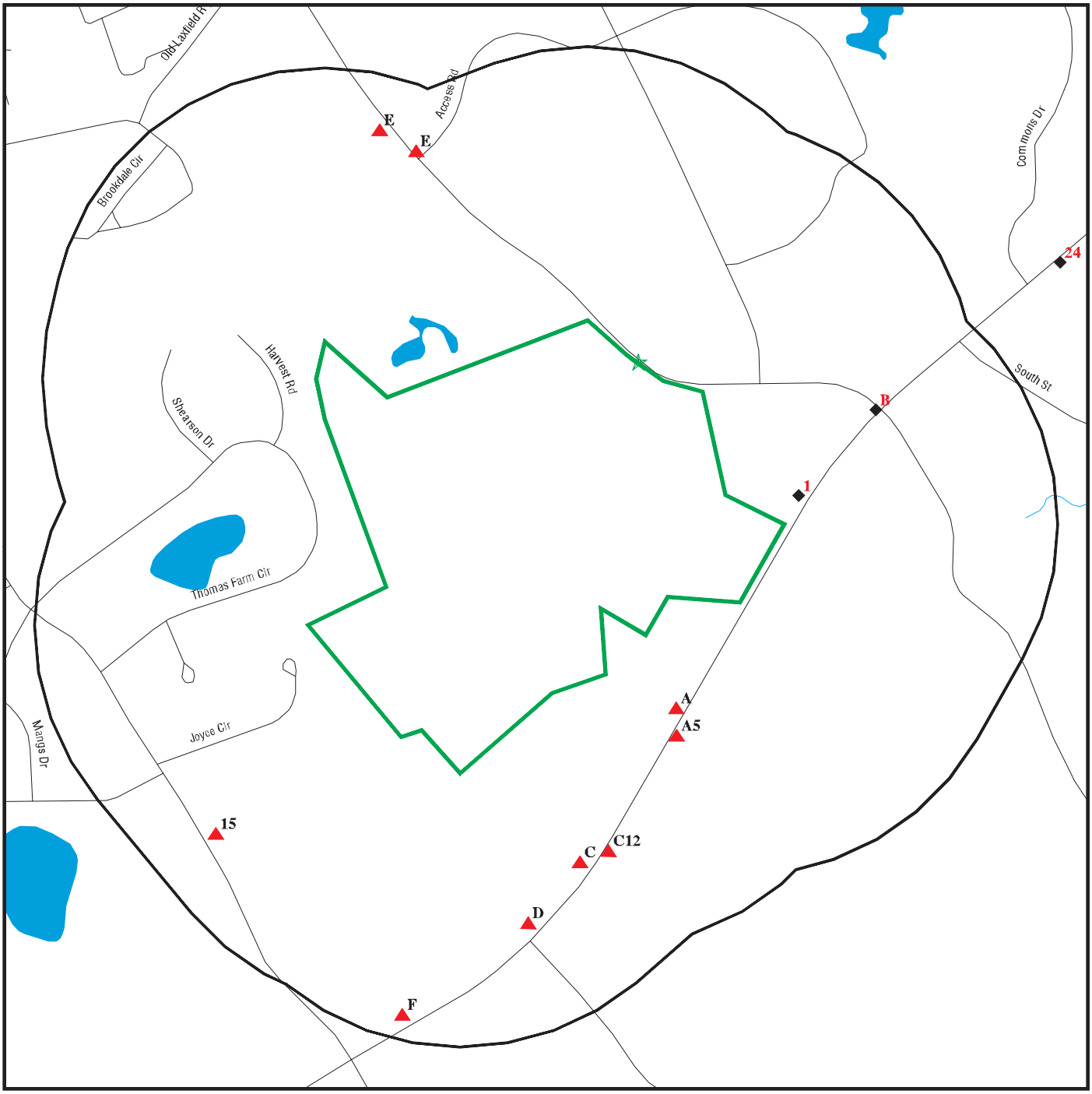
18-01-03.15:42:28.Wed

0.250 Mile Map

384 SOUTH STREET SHREWSBURY, MA 01545



Black Rings Represent Qtr. Mile Radius

- ★ **Target Property (Latitude: 42.27135 Longitude: 71.69072)**
- ▲ **High or Equal Elevation Sites**
- ◆ **Low Elevation Sites**
- **National Priority List Sites**

EDR First Report

EDR Reference Code (EDR internal use only): 5149834.3s
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18-01-03.15:42:42.Wed

Mapped Sites Summary

Target Property: 384 SOUTH STREET
SHREWSBURY, MA 01545

UST

EDR ID: U002010088 **DIST/DIR:** 0.029 NNE **ELEVATION:** 484 **MAP ID:** 1

NAME: WEST VALLEY CORP
ADDRESS: 727 HARTFORD TURNPIK
SHREWSBURY, MA 01545

Click here for full text details

UST
Facility Id: 17433
Tank Status: Tank Removed

UST

EDR ID: U002010061 **DIST/DIR:** 0.071 ESE **ELEVATION:** 547 **MAP ID:** A2

NAME: TRAFFIC CONTRON & SI
ADDRESS: 683 HARTFORD TURNPIK
SHREWSBURY, MA 01545

Click here for full text details

UST
Facility Id: 17419
Tank Status: Tank Removed

SHWS

EDR ID: S109546098 **DIST/DIR:** 0.085 SSE **ELEVATION:** 540 **MAP ID:** A3

NAME: TECHNICAL SALES & SE
ADDRESS: 697 HARTFORD TPKE
SHREWSBURY, MA 01545

Click here for full text details

SHWS

- Continued on next page -

Mapped Sites Summary

Target Property: 384 SOUTH STREET
SHREWSBURY, MA 01545

SHWS

EDR ID: S109546098 **DIST/DIR:** 0.085 SSE **ELEVATION:** 540 **MAP ID:** A3

NAME: TECHNICAL SALES & SE
ADDRESS: 697 HARTFORD TPKE
SHREWSBURY, MA 01545

Release Tracking Number / Current Status: 2-0017439 / RAO

Click here to access the MA DEP site for this facility

UST

EDR ID: 1000416060 **DIST/DIR:** 0.085 SSE **ELEVATION:** 540 **MAP ID:** A4

NAME: SAXTON CORP
ADDRESS: 697 HARTFORD PIKE
SHREWSBURY, MA 01545
WORCESTER

Click here for full text details

UST
Facility Id: 17401
Tank Status: Tank Removed

SWF/LF

EDR ID: S101395273 **DIST/DIR:** 0.085 SE **ELEVATION:** 543 **MAP ID:** A5

NAME: SHREWSBURY ASH LANDF
ADDRESS: 640 HARTFORD TPKE
SHREWSBURY, MA 01546
WORCESTER

Click here for full text details

SWF/LF

- Continued on next page -

Mapped Sites Summary

Target Property: 384 SOUTH STREET
SHREWSBURY, MA 01545

SWF/LF

EDR ID: S101395273 **DIST/DIR:** 0.085 SE **ELEVATION:** 543 **MAP ID:** A5

NAME: SHREWSBURY ASH LANDF
ADDRESS: 640 HARTFORD TPKE
SHREWSBURY, MA 01546
WORCESTER

Status: Active

SHWS, LUST

EDR ID: S102967305 **DIST/DIR:** 0.122 NE **ELEVATION:** 470 **MAP ID:** B6

NAME: FRIARS SERVICE STATI
ADDRESS: 759 HARTFORD TPKE
SHREWSBURY, MA 01545

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0012105 / RAO

Click here to access the MA DEP site for this facility

LUST
Release Tracking Number / Current Status: 2-0012417 / RAONR

Click here to access the MA DEP site for this facility

Mapped Sites Summary

Target Property: 384 SOUTH STREET
SHREWSBURY, MA 01545

UST

EDR ID: U001007960 **DIST/DIR:** 0.122 NE **ELEVATION:** 470 **MAP ID:** B7

NAME: HARVEY FRIAR GULF ST
ADDRESS: 759 HARTFORD TURNPIK
SHREWSBURY, MA 01545

Click here for full text details

UST
Facility Id: 17403
Tank Status: Tank Removed

UST

EDR ID: U002009989 **DIST/DIR:** 0.133 SE **ELEVATION:** 556 **MAP ID:** C8

NAME: XPO LOGISTICS FREIGH
ADDRESS: 625 HARTFORD TURNPIK
SHREWSBURY, MA 01545

Click here for full text details

UST
Facility Id: 17389
Tank Status: Tank Removed
Tank Status: In Use

SHWS, LUST, INST CONTROL

EDR ID: 1000265540 **DIST/DIR:** 0.133 SE **ELEVATION:** 556 **MAP ID:** C9

NAME: ST JOHNSBURY TRUCKIN
ADDRESS: 625 HARTFORD TPKE
SHREWSBURY, MA 01545

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 384 SOUTH STREET
SHREWSBURY, MA 01545

SHWS, LUST, INST CONTROL

EDR ID: 1000265540 **DIST/DIR:** 0.133 SE **ELEVATION:** 556 **MAP ID:** C9

NAME: ST JOHNSBURY TRUCKIN
ADDRESS: 625 HARTFORD TPKE
SHREWSBURY, MA 01545

SHWS
Release Tracking Number / Current Status: 2-0017985 / RAO
Release Tracking Number / Current Status: 2-0017803 / RAO
Release Tracking Number / Current Status: 2-0010659 / RAONR
Release Tracking Number / Current Status: 2-0016869 / RAO

Click here to access the MA DEP site for this facility

LUST
Release Tracking Number / Current Status: 2-0010128 / RAO

Click here to access the MA DEP site for this facility

INST CONTROL
Release Tracking Number: 2-0010659
Release Tracking Number: 2-0010128

RCRA-CESQG

EDR ID: 1004715724 **DIST/DIR:** 0.133 SE **ELEVATION:** 556 **MAP ID:** C10

NAME: XPO LOGISTICS FREIGH
ADDRESS: 625 HARTFORD TPKE
SHREWSBURY, MA 01545
WORCESTER

Click here for full text details

RCRA-CESQG
EPA Id: MAD047223862

Mapped Sites Summary

Target Property: 384 SOUTH STREET
SHREWSBURY, MA 01545

SHWS

EDR ID: S111989423 **DIST/DIR:** 0.134 NE **ELEVATION:** 465 **MAP ID:** B11

NAME: HARTFORD TURNPIKE AT
ADDRESS: 414 SOUTH STREET
SHREWSBURY, MA 01545

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0018589 / URAM

Click here to access the MA DEP site for this facility

SHWS, SWF/LF

EDR ID: S105735527 **DIST/DIR:** 0.142 SE **ELEVATION:** 550 **MAP ID:** C12

NAME: SHREWSBURY LANDFILL
ADDRESS: 620 HARTFORD TPKE
SHREWSBURY, MA 01545
WORCESTER

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0017007 / RAO
Release Tracking Number / Current Status: 2-0017810 / ADQREG
Release Tracking Number / Current Status: 2-0014540 / RAO

Click here to access the MA DEP site for this facility

SWF/LF
Current Operational Status: Active

Mapped Sites Summary

Target Property: 384 SOUTH STREET
SHREWSBURY, MA 01545

SHWS

EDR ID: S104482147 **DIST/DIR:** 0.150 SSE **ELEVATION:** 557 **MAP ID:** D13

NAME: FEDEX FREIGHT INC
ADDRESS: 615 HARTFORD TPKE
SHREWSBURY, MA 01545

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0012981 / RAO

Click here to access the MA DEP site for this facility

UST

EDR ID: U000225599 **DIST/DIR:** 0.150 SSE **ELEVATION:** 557 **MAP ID:** D14

NAME: JAMES F LOMMA
ADDRESS: 615 HARTFORD TURNPIK
SHREWSBURY, MA 01545

Click here for full text details

UST
Facility Id: 17384
Tank Status: Tank Removed

SHWS

EDR ID: S105596269 **DIST/DIR:** 0.186 SW **ELEVATION:** 564 **MAP ID:** 15

NAME: APOLLO MOTOR EXPRESS
ADDRESS: 221 CHERRY ST
SHREWSBURY, MA

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 384 SOUTH STREET
SHREWSBURY, MA 01545

SHWS

EDR ID: S105596269 **DIST/DIR:** 0.186 SW **ELEVATION:** 564 **MAP ID:** 15

NAME: APOLLO MOTOR EXPRESS
ADDRESS: 221 CHERRY ST
SHREWSBURY, MA

SHWS
Release Tracking Number / Current Status: 2-0014372 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S110822156 **DIST/DIR:** 0.194 NNE **ELEVATION:** 559 **MAP ID:** E16

NAME: ADVANCED MICRO CENTE
ADDRESS: 333 SOUTH ST.
SHREWSBURY, MA

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0018120 / RAO

Click here to access the MA DEP site for this facility

RCRA-CESQG

EDR ID: 1018275496 **DIST/DIR:** 0.194 NNE **ELEVATION:** 559 **MAP ID:** E17

NAME: WORCESTER CITY CAMPU
ADDRESS: 333 SOUTH ST
SHREWSBURY, MA 01545
WORCESTER

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 384 SOUTH STREET
SHREWSBURY, MA 01545

RCRA-CESQG

EDR ID: 1018275496 **DIST/DIR:** 0.194 NNE **ELEVATION:** 559 **MAP ID:** E17

NAME: WORCESTER CITY CAMPU
ADDRESS: 333 SOUTH ST
SHREWSBURY, MA 01545
WORCESTER

RCRA-CESQG
EPA Id: MAC300101540

UST, AST

EDR ID: U003001663 **DIST/DIR:** 0.194 NNE **ELEVATION:** 559 **MAP ID:** E18

NAME: QUANTUM CORP
ADDRESS: 333 SOUTH ST
SHREWSBURY, MA 01545

Click here for full text details

UST
Facility Id: 17409
Tank Status: Tank Removed
AST
Release Tracking Number: 17409

SHWS

EDR ID: S101026948 **DIST/DIR:** 0.194 NNE **ELEVATION:** 559 **MAP ID:** E19

NAME: QUANTUM CORP INC
ADDRESS: 333 SOUTH ST
SHREWSBURY, MA 01545

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 384 SOUTH STREET
SHREWSBURY, MA 01545

SHWS

EDR ID: S101026948 **DIST/DIR:** 0.194 NNE **ELEVATION:** 559 **MAP ID:** E19

NAME: QUANTUM CORP INC
ADDRESS: 333 SOUTH ST
SHREWSBURY, MA 01545

SHWS
Release Tracking Number / Current Status: 2-0014162 / RAO

Click here to access the MA DEP site for this facility

RCRA-SQG

EDR ID: 1010318981 **DIST/DIR:** 0.200 NNE **ELEVATION:** 560 **MAP ID:** E20

NAME: CHARLES RIVER LABORA
ADDRESS: 334 SOUTH ST
SHREWSBURY, MA 01545
WORCESTER

Click here for full text details

RCRA-SQG
EPA Id: MAC300007317

SHWS

EDR ID: S108962724 **DIST/DIR:** 0.200 NNE **ELEVATION:** 560 **MAP ID:** E21

NAME: CHARLES RIVER LABORA
ADDRESS: 334 SOUTH ST
SHREWSBURY, MA 01545

Click here for full text details

SHWS

- Continued on next page -

Mapped Sites Summary

Target Property: 384 SOUTH STREET
SHREWSBURY, MA 01545

SHWS

EDR ID: S108962724 **DIST/DIR:** 0.200 NNE **ELEVATION:** 560 **MAP ID:** E21

NAME: CHARLES RIVER LABORA
ADDRESS: 334 SOUTH ST
SHREWSBURY, MA 01545

Release Tracking Number / Current Status: 2-0016917 / RAO

Click here to access the MA DEP site for this facility

RCRA-CESQG

EDR ID: 1000398255 **DIST/DIR:** 0.226 SSW **ELEVATION:** 553 **MAP ID:** F22

NAME: UNITED TRUCK LEASING
ADDRESS: 605 HARTFORD TPKE
SHREWSBURY, MA 01545
WORCESTER

Click here for full text details

RCRA-CESQG
EPA Id: MAD981893324

UST

EDR ID: U000231067 **DIST/DIR:** 0.226 SSW **ELEVATION:** 553 **MAP ID:** F23

NAME: AA TRANSPORTATION
ADDRESS: 605 HARTFORD TURNPIK
SHREWSBURY, MA 01545

Click here for full text details

UST
Facility Id: 3709

- Continued on next page -

Mapped Sites Summary

Target Property: 384 SOUTH STREET
SHREWSBURY, MA 01545

UST

EDR ID: U000231067 **DIST/DIR:** 0.226 SSW **ELEVATION:** 553 **MAP ID:** F23

NAME: AA TRANSPORTATION
ADDRESS: 605 HARTFORD TURNPIK
SHREWSBURY, MA 01545

Tank Status: Tank Removed
Tank Status: In Use

SHWS, LUST

EDR ID: 1000150360 **DIST/DIR:** 0.348 ENE **ELEVATION:** 435 **MAP ID:** 24

NAME: LOGAN EQUIPMENT CORP
ADDRESS: 800 HARTFORD TURNPIK
SHREWSBURY, MA 01545

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0011848 / RAO
Release Tracking Number / Current Status: 2-0013200 / RAONR
Release Tracking Number / Current Status: 2-0013625 / RAONR
Release Tracking Number / Current Status: 2-0011847 / RAO
Release Tracking Number / Current Status: 2-0012774 / RAO
Release Tracking Number / Current Status: 2-0012913 / RAONR

Click here to access the MA DEP site for this facility

LUST
Release Tracking Number / Current Status: 2-0011682 / PSNC

Click here to access the MA DEP site for this facility

Mapped Sites Summary

Target Property: 384 SOUTH STREET
SHREWSBURY, MA 01545

SHWS, LUST, BROWNFIELDS

EDR ID: U002009996 **DIST/DIR:** 0.406 SW **ELEVATION:** 532 **MAP ID:** 25

NAME: DRAKE PETROLEUM (WHI
ADDRESS: 567 HARTFORD TURNPIK
SHREWSBURY, MA 01545

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0011332 / RAONR

Click here to access the MA DEP site for this facility

LUST
Release Tracking Number / Current Status: 2-0000361 / RAO
Release Tracking Number / Current Status: 2-0011332 / RAONR

Click here to access the MA DEP site for this facility

BROWNFIELDS
MCP Status: RAO
RTN: 2-0000361

SHWS

EDR ID: S100829669 **DIST/DIR:** 0.447 North **ELEVATION:** 524 **MAP ID:** G26

NAME: SHREWSBURY DRIVE IN
ADDRESS: 805 BOSTON TPKE
SHREWSBURY, MA 01545

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0000471 / WCSPRM

Click here to access the MA DEP site for this facility

Mapped Sites Summary

Target Property: 384 SOUTH STREET
SHREWSBURY, MA 01545

SHWS

EDR ID: S105810933 **DIST/DIR:** 0.473 North **ELEVATION:** 524 **MAP ID:** G27

NAME: TROTTO RESIDENCE
ADDRESS: 38 FRUIT ST
SHREWSBURY, MA 01545

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0014669 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S101041745 **DIST/DIR:** 0.504 SW **ELEVATION:** 516 **MAP ID:** H28

NAME: TNT RED STAR EXPRESS
ADDRESS: 539 HARTFORD TPKE
SHREWSBURY, MA 01545

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0013274 / RAO
Release Tracking Number / Current Status: 2-0001054 / STMRET

Click here to access the MA DEP site for this facility

Mapped Sites Summary

Target Property: 384 SOUTH STREET
SHREWSBURY, MA 01545

SHWS

EDR ID: S109682907 **DIST/DIR:** 0.511 SSW **ELEVATION:** 515 **MAP ID:** H29

NAME: WESTERMARK GARAGE
ADDRESS: 537B HARTFORD TPKE
SHREWSBURY, MA 01545

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0017586 / RAONR

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S105735565 **DIST/DIR:** 0.575 ENE **ELEVATION:** 400 **MAP ID:** 30

NAME: AUTOMOTIVE SERVICE E
ADDRESS: 864 HARTFORD TPKE
SHREWSBURY, MA 01545

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0014609 / RAO
Release Tracking Number / Current Status: 2-0015660 / PSNC

Click here to access the MA DEP site for this facility

Mapped Sites Summary

Target Property: 384 SOUTH STREET
SHREWSBURY, MA 01545

SHWS

EDR ID: S112195242 **DIST/DIR:** 0.636 North **ELEVATION:** 494 **MAP ID:** 31

NAME: THE COMMONS AT HAYNE
ADDRESS: 14 ARBOR DR
SHREWSBURY, MA

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0018680 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S101046562 **DIST/DIR:** 0.673 ENE **ELEVATION:** 396 **MAP ID:** I32

NAME: MARANE BULK OIL FACI
ADDRESS: 870 880 HARTFORD TPK
SHREWSBURY, MA 01545

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0011405 / RAONR

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S113411630 **DIST/DIR:** 0.674 NE **ELEVATION:** 400 **MAP ID:** J33

NAME: TRANSFORMER SPILL
ADDRESS: 1200 AVALON WAY
SHREWSBURY, MA

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 384 SOUTH STREET
SHREWSBURY, MA 01545

SHWS

EDR ID: S113411630 **DIST/DIR:** 0.674 NE **ELEVATION:** 400 **MAP ID:** J33

NAME: TRANSFORMER SPILL
ADDRESS: 1200 AVALON WAY
SHREWSBURY, MA

SHWS
Release Tracking Number / Current Status: 2-0018807 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S102084587 **DIST/DIR:** 0.688 NE **ELEVATION:** 517 **MAP ID:** 34

NAME: FIREMATIC SPRINKLER
ADDRESS: 900 BOSTON TPKE
SHREWSBURY, MA 01545

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0010957 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S118337262 **DIST/DIR:** 0.698 ENE **ELEVATION:** 398 **MAP ID:** I35

NAME: COMMERCIAL PROPERTY
ADDRESS: 905 HARTFORD TURNPIK
SHREWSBURY, MA 01545

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 384 SOUTH STREET
SHREWSBURY, MA 01545

SHWS

EDR ID: S118337262 **DIST/DIR:** 0.698 ENE **ELEVATION:** 398 **MAP ID:** I35

NAME: COMMERCIAL PROPERTY
ADDRESS: 905 HARTFORD TURNPIK
SHREWSBURY, MA 01545

SHWS
Release Tracking Number / Current Status: 2-0019659 / TIERII

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S116357990 **DIST/DIR:** 0.701 NE **ELEVATION:** 399 **MAP ID:** J36

NAME: AVALON BAY APTS
ADDRESS: 2100 AVALON WAY
SHREWSBURY, MA

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0019142 / PSNC

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S118947350 **DIST/DIR:** 0.725 ENE **ELEVATION:** 393 **MAP ID:** 37

NAME: AVALON WAY BUILDING
ADDRESS: 1 AVALON WAY
SHREWSBURY, MA 01545

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 384 SOUTH STREET
SHREWSBURY, MA 01545

SHWS

EDR ID: S118947350 **DIST/DIR:** 0.725 ENE **ELEVATION:** 393 **MAP ID:** 37

NAME: AVALON WAY BUILDING
ADDRESS: 1 AVALON WAY
SHREWSBURY, MA 01545

SHWS
Release Tracking Number / Current Status: 2-0019918 / PSNC

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S102084700 **DIST/DIR:** 0.768 North **ELEVATION:** 468 **MAP ID:** 38

NAME: GREEN THUMB NURSERY
ADDRESS: 17 FLORAL ST
SHREWSBURY, MA 01545

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0011116 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: 1004715940 **DIST/DIR:** 0.779 SSW **ELEVATION:** 506 **MAP ID:** 39

NAME: INDEPENDENT TRUCK SE
ADDRESS: 481 HARTFORD TPKE
SHREWSBURY, MA 01545
WORCESTER

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 384 SOUTH STREET
SHREWSBURY, MA 01545

SHWS

EDR ID: 1004715940 **DIST/DIR:** 0.779 SSW **ELEVATION:** 506 **MAP ID:** 39

NAME: INDEPENDENT TRUCK SE
ADDRESS: 481 HARTFORD TPKE
SHREWSBURY, MA 01545
WORCESTER

SHWS
Release Tracking Number / Current Status: 2-0014011 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S106617362 **DIST/DIR:** 0.805 SSW **ELEVATION:** 497 **MAP ID:** 40

NAME: FORMER LOMMA TRUCKIN
ADDRESS: 476 HARTFORD TPKE
SHREWSBURY, MA 01545

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0015357 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S106510323 **DIST/DIR:** 0.832 West **ELEVATION:** 449 **MAP ID:** 41

NAME: CARON RESIDENCE
ADDRESS: 426 GRAFTON ST
SHREWSBURY, MA

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 384 SOUTH STREET
SHREWSBURY, MA 01545

SHWS

EDR ID: S106510323 **DIST/DIR:** 0.832 West **ELEVATION:** 449 **MAP ID:** 41

NAME: CARON RESIDENCE
ADDRESS: 426 GRAFTON ST
SHREWSBURY, MA

SHWS
Release Tracking Number / Current Status: 2-0015236 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S110303510 **DIST/DIR:** 0.879 WNW **ELEVATION:** 522 **MAP ID:** 42

NAME: MODF RELEASE
ADDRESS: 271 GRAFTON ST
SHREWSBURY, MA 01545

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0017831 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S104482135 **DIST/DIR:** 0.911 SSW **ELEVATION:** 500 **MAP ID:** 43

NAME: GMS AUTOMOTIVE
ADDRESS: 455 HARTFORD TPKE
SHREWSBURY, MA 01545

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 384 SOUTH STREET
SHREWSBURY, MA 01545

SHWS

EDR ID: S104482135 **DIST/DIR:** 0.911 SSW **ELEVATION:** 500 **MAP ID:** 43

NAME: GMS AUTOMOTIVE
ADDRESS: 455 HARTFORD TPKE
SHREWSBURY, MA 01545

SHWS
Release Tracking Number / Current Status: 2-0012954 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S101696205 **DIST/DIR:** 0.959 WSW **ELEVATION:** 501 **MAP ID:** 44

NAME: 504 GRAFTON ST PROPE
ADDRESS: 504 GRAFTON ST
SHREWSBURY, MA 01545

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0000335 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S102084144 **DIST/DIR:** 0.978 SSW **ELEVATION:** 480 **MAP ID:** 45

NAME: TRUCKLEASE ACCIDENT
ADDRESS: HARTFORD TPKE AT RTE
SHREWSBURY, MA

Click here for full text details

- Continued on next page -

Mapped Sites Summary

Target Property: 384 SOUTH STREET
SHREWSBURY, MA 01545

SHWS

EDR ID: S102084144 **DIST/DIR:** 0.978 SSW **ELEVATION:** 480 **MAP ID:** 45

NAME: TRUCKLEASE ACCIDENT
ADDRESS: HARTFORD TPKE AT RTE
SHREWSBURY, MA

SHWS
Release Tracking Number / Current Status: 2-0010319 / RAO

Click here to access the MA DEP site for this facility

SHWS

EDR ID: S112195244 **DIST/DIR:** 0.981 ENE **ELEVATION:** 405 **MAP ID:** 46

NAME: NORTHBOROUGH CROSSIN
ADDRESS: NEAR 962 HARTFORD TU
SHREWSBURY, MA

Click here for full text details

SHWS
Release Tracking Number / Current Status: 2-0018686 / RAO

Click here to access the MA DEP site for this facility

Count: 2 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
SHREWSBURY	S109146421	IN STREET NEAR 275 BOSTON TURNPIKE	BOSTON TPKE		SHWS
SHREWSBURY	S102084189	RYDER TRANSPORTATION RESOURCES	HARTFORD TPKE		SHWS

RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Gov Date	Arvl. Date	Active Date	Last EDR Contact
MA	AST	Aboveground Storage Tank Database	10/22/2009	10/28/2009	11/06/2009	10/16/2017
MA	BROWNFIELDS	Completed Brownfields Covenants Listing	04/05/2017	08/03/2017	10/10/2017	11/03/2017
MA	BROWNFIELDS 2	Potential Brownfields Listing	05/22/2017	08/03/2017	09/22/2017	11/03/2017
MA	INST CONTROL	Sites With Activity and Use Limitation	09/01/2017	10/11/2017	11/20/2017	10/11/2017
MA	LAST	Leaking Aboveground Storage Tank Sites	09/01/2017	10/11/2017	11/20/2017	10/11/2017
MA	LF PROFILES	Landfill Profiles Listing	07/01/2015	10/27/2015	12/14/2015	10/06/2017
MA	LUST	Leaking Underground Storage Tank Listing	09/01/2017	10/11/2017	11/20/2017	10/11/2017
MA	SHWS	Site Transition List	09/01/2017	10/11/2017	11/20/2017	10/11/2017
MA	SWF/LF	Solid Waste Facility Database/Transfer Stations	01/10/2017	04/05/2017	04/18/2017	10/06/2017
MA	UST	Summary Listing of all the Tanks Registered in the State of	10/24/2017	11/17/2017	12/29/2017	10/16/2017
US	BRS	Biennial Reporting System	12/31/2015	02/22/2017	09/28/2017	11/20/2017
US	CORRACTS	Corrective Action Report	09/13/2017	09/26/2017	10/06/2017	12/26/2017
US	Delisted NPL	National Priority List Deletions	10/10/2017	11/03/2017	12/15/2017	12/22/2017
US	ERNS	Emergency Response Notification System	09/18/2017	09/21/2017	10/13/2017	12/28/2017
US	FEDERAL FACILITY	Federal Facility Site Information listing	11/07/2016	01/05/2017	04/07/2017	10/06/2017
US	FEDLAND	Federal and Indian Lands	12/31/2005	02/06/2006	01/11/2007	10/11/2017
US	FEMA UST	Underground Storage Tank Listing	05/15/2017	05/30/2017	10/13/2017	10/13/2017
US	INDIAN LUST R1	Leaking Underground Storage Tanks on Indian Land	04/14/2017	07/27/2017	10/06/2017	10/27/2017
US	INDIAN LUST R10	Leaking Underground Storage Tanks on Indian Land	04/25/2017	11/07/2017	12/08/2017	11/07/2017
US	INDIAN LUST R4	Leaking Underground Storage Tanks on Indian Land	10/14/2016	01/27/2017	05/05/2017	10/27/2017
US	INDIAN LUST R5	Leaking Underground Storage Tanks on Indian Land	04/26/2017	07/27/2017	10/13/2017	10/27/2017
US	INDIAN LUST R6	Leaking Underground Storage Tanks on Indian Land	04/24/2017	07/27/2017	10/06/2017	10/27/2017
US	INDIAN LUST R7	Leaking Underground Storage Tanks on Indian Land	04/14/2017	07/27/2017	10/06/2017	10/27/2017
US	INDIAN LUST R8	Leaking Underground Storage Tanks on Indian Land	05/01/2017	07/27/2017	10/13/2017	10/27/2017
US	INDIAN LUST R9	Leaking Underground Storage Tanks on Indian Land	04/13/2017	07/27/2017	10/13/2017	10/27/2017
US	INDIAN UST R1	Underground Storage Tanks on Indian Land	04/14/2017	07/27/2017	10/06/2017	10/27/2017
US	INDIAN UST R10	Underground Storage Tanks on Indian Land	04/25/2017	07/27/2017	10/13/2017	10/27/2017
US	INDIAN UST R4	Underground Storage Tanks on Indian Land	10/14/2016	01/27/2017	05/05/2017	10/27/2017
US	INDIAN UST R5	Underground Storage Tanks on Indian Land	04/26/2017	07/27/2017	10/06/2017	10/27/2017
US	INDIAN UST R6	Underground Storage Tanks on Indian Land	04/24/2017	07/27/2017	12/08/2017	10/27/2017
US	INDIAN UST R7	Underground Storage Tanks on Indian Land	05/02/2017	07/27/2017	10/06/2017	10/27/2017
US	INDIAN UST R8	Underground Storage Tanks on Indian Land	05/01/2017	07/27/2017	10/13/2017	10/27/2017
US	INDIAN UST R9	Underground Storage Tanks on Indian Land	04/13/2017	07/27/2017	10/13/2017	10/27/2017
US	INDIAN VCP R1	Voluntary Cleanup Priority Listing	07/27/2015	09/29/2015	02/18/2016	12/20/2017
US	INDIAN VCP R7	Voluntary Cleanup Priority Lisitng	03/20/2008	04/22/2008	05/19/2008	04/20/2009
US	LUCIS	Land Use Control Information System	05/22/2017	06/13/2017	09/15/2017	11/08/2017
US	NPL	National Priority List	10/10/2017	11/03/2017	12/15/2017	12/22/2017
US	NPL LIENS	Federal Superfund Liens	10/15/1991	02/02/1994	03/30/1994	08/15/2011
US	PRP	Potentially Responsible Parties	10/25/2013	10/17/2014	10/20/2014	12/22/2017
US	Proposed NPL	Proposed National Priority List Sites	10/10/2017	11/03/2017	12/15/2017	12/22/2017
US	RCRA-CESQG	RCRA - Conditionally Exempt Small Quantity Generators	09/13/2017	09/26/2017	10/06/2017	12/26/2017
US	RCRA-LQG	RCRA - Large Quantity Generators	09/13/2017	09/26/2017	10/06/2017	12/26/2017
US	RCRA-SQG	RCRA - Small Quantity Generators	09/13/2017	09/26/2017	10/06/2017	12/26/2017
US	RCRA-TSDF	RCRA - Treatment, Storage and Disposal	09/13/2017	09/26/2017	10/06/2017	12/26/2017
US	SEMS	Superfund Enterprise Management System	07/11/2017	07/21/2017	10/06/2017	12/22/2017
US	SEMS-ARCHIVE	Superfund Enterprise Management System Archive	07/11/2017	07/28/2017	10/06/2017	12/22/2017
US	US AIRS (AFS)	Aerometric Information Retrieval System Facility Subsystem (	10/12/2016	10/26/2016	02/03/2017	09/26/2017

RECORDS SEARCHED / DATA CURRENCY TRACKING

St	Acronym	Full Name	Gov Date	Arvl. Date	Active Date	Last EDR Contact
US	US AIRS MINOR	Air Facility System Data	10/12/2016	10/26/2016	02/03/2017	09/26/2017
US	US ENG CONTROLS	Engineering Controls Sites List	08/10/2017	08/30/2017	10/13/2017	11/27/2017
US	US INST CONTROL	Sites with Institutional Controls	08/10/2017	08/30/2017	10/13/2017	11/27/2017

STREET AND ADDRESS INFORMATION

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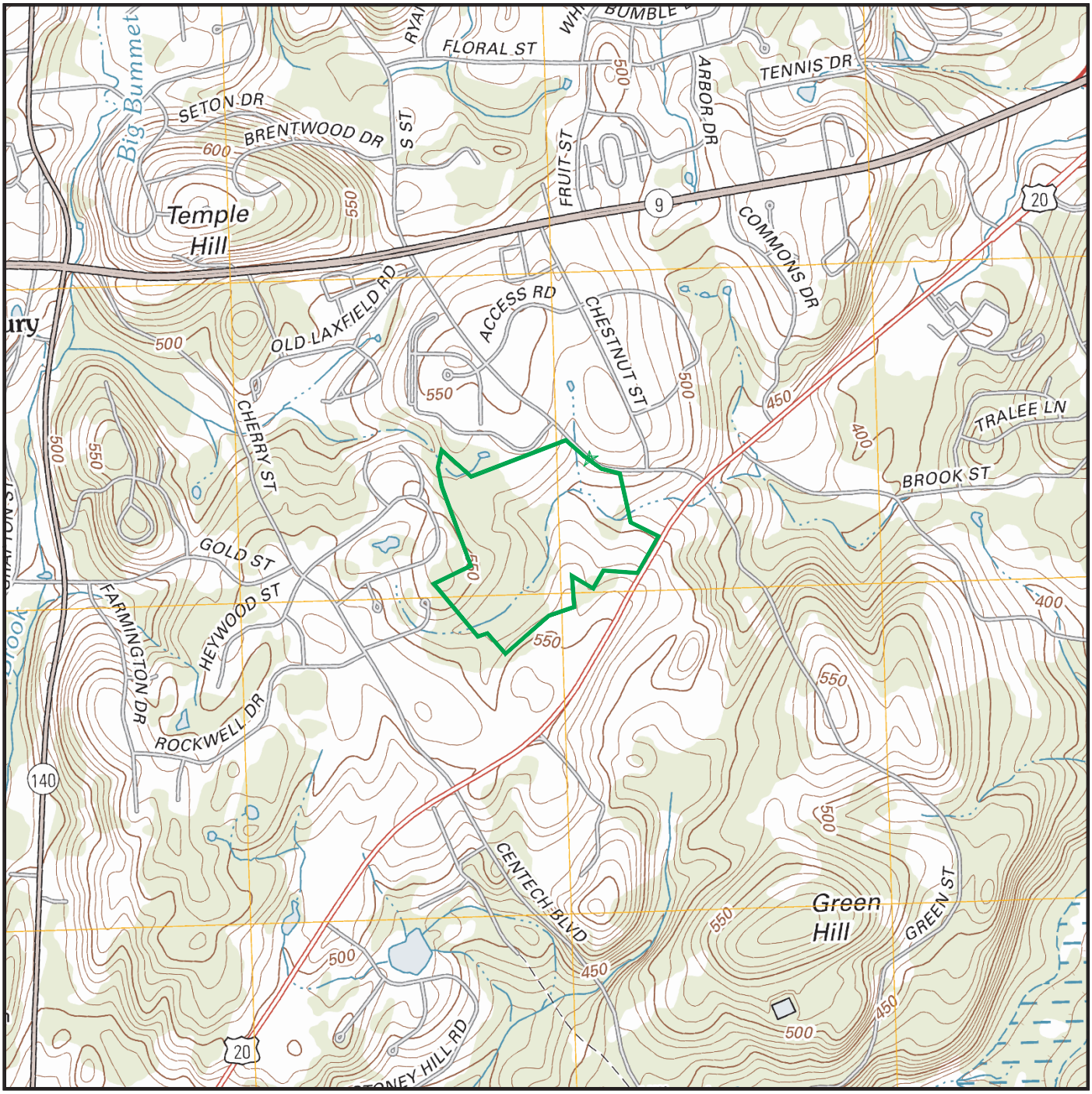
USGS 7.5 Minute Topographic Map

384 SOUTH STREET SHREWSBURY, MA 01545



Map Image Position: TP
Map Reference Code & Name: 5644834 Shrewsbury
Map State(s): MA
Version Date: 2012

EDR First Report

APPENDIX E

ASTM Phase I
Environmental Site Assessment

384-386 South Street
Shrewsbury, Massachusetts

April 16, 2008

Prepared for:

Mr. Mike Hale
Assistant Town Manager
Town of Shrewsbury
100 Maple Avenue
Shrewsbury, Massachusetts

Prepared by:

BETA Group, Inc.
Engineers • Scientists • Planners
315 Norwood Park South, Norwood, MA 02062 781.255.1982 fax: 781.255.1974
6 Blackstone Valley Place, Lincoln, RI 02865 401.333.2382 fax: 401.333.9225
email: BETA@BETA-eng.com

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1. Executive Summary

This report documents findings from the Phase I Environmental Site Assessment (ESA) of sixty acres of undeveloped land in Shrewsbury, Massachusetts (the Site, see Figure 1). The land is currently owned by the Town of Shrewsbury. The Site is improved by three on-Site structures (two barns and a shed) located along South Street. One barn that was originally used for dairy farming is currently being used for storage for an auctioneering company. The barn further to the north is currently vacant and was used as a stable and later as a dried flower shop since its construction sometime after 1953. A shed, formerly used for cattle and later used for the storage of farm equipment, resides just south of the auctioneering barn. Refer to Appendix A for a copy of the Assessor's Map and Figure 2 for the locations of site buildings.

The purpose of this Phase I Environmental Site Assessment was to assess current Site conditions and render an opinion as to the presence of Recognized Environmental Conditions* (RECs) in connection with the property, within the scope and limitations of the American Society for Testing and Materials (ASTM) Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process E1527-05 and BETA's Agreement with the Town of Shrewsbury. Any exceptions or deletions from the ASTM practice or Scope of Work are described in Section 2.0 of this Report. Refer to Section 10.0 for a list of acronyms and their definitions.

Site History

Historically, a portion of the property has been used as a farm for cattle and horses. The rest of the property is undeveloped forest and wetlands. Three structures are present at the site and were all built after 1953. Several previous structures were destroyed in 1953 by a tornado.

Site Reconnaissance

BETA conducted a Site visit on Wednesday April 2nd and Monday April 7th, 2008. Refer to Appendix B for photographic documentation of the Site. BETA did not observe the storage of oil and/or hazardous materials (OHM), the generation of hazardous waste, or any evidence of underground storage tanks at the Site. One aboveground storage tank is located in the basement of the barn currently used by an auctioneering company. Additionally, BETA did not observe any evidence of a release of OHM at the Site.

Adjacent and Surrounding Properties

The property is located to the north of a municipal ash landfill, to the south of an office park, to the east of a residential area, and to the west of residential and undeveloped areas.

* Recognized Environmental Conditions are defined in the American Society for Testing and Materials (ASTM) Standard E1527-05 as, "...the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimus conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies."

Previous Site Investigations

GZA GeoEnvironmental, Inc. of Worcester, Massachusetts completed a Phase I Environmental Site Assessment in December 2002. The assessment concluded that "… available historical and surficial evidence does not indicate the presence of reportable concentrations of hazardous materials in the environment at this Site."

Database Search

The search of environmental databases did not identify the Site as a release or spill site, as having underground storage tanks, or as a generator of hazardous waste.

The database search identified releases of OHM in the Site vicinity; however, based on the information reviewed, none of these releases likely poses a threat of release of OHM to the Site.

Data Gaps

BETA did not identify any significant data gaps in the research for this Phase I ESA.

Phase I ESA Findings and Conclusions

BETA has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Practice E1527-05 the property located at 384 South Street, Shrewsbury, Massachusetts. Any exceptions to, or deletions from, this practice are described in Section 2 of this report.

This assessment has revealed no evidence of any recognized environmental conditions in connection with the Site.

APPENDIX F

Environmental Monitoring Report
October 2017 Shrewsbury Landfill

Prepared for
Wheelabrator Shrewsbury
December 2017

Wheelabrator
SHREWSBURY

December 18, 2017

Mr. James McQuade
Section Chief – Solid Waste Management
Massachusetts Department of Environmental Protection
Central Regional Office
8 New Bond Street
Worcester, MA 01606

Re: Shrewsbury Landfill
Environmental Monitoring Report – October 2017

Dear Mr. McQuade,

Attached please find the Environmental Monitoring Report for the Shrewsbury Landfill for sampling performed in October 2017. This report was prepared by Brown & Caldwell in accordance with Condition IV.N of the Authorization to Operate issued by the Department on April 13, 2016.

If you have any questions or comments, please do not hesitate to call.

Sincerely,

Donald W. Musial, P.E.
General Manager

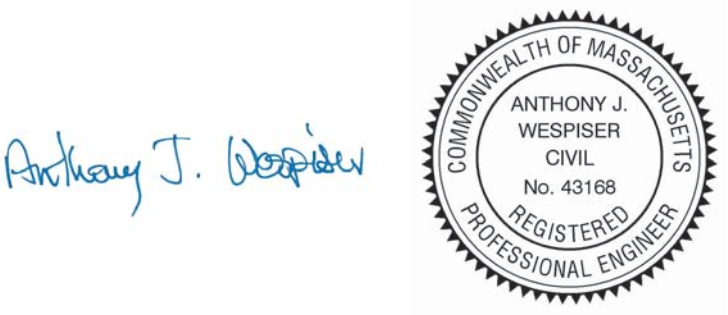
Attachment: Environmental Monitoring Report – October 2017

cc: J. Howland, Town of Shrewsbury
L. Roberts, Brown & Caldwell
C. Sturgis, Wheelabrator

"I have personally examined and am familiar with the information submitted in this document and all attachments and certify that based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate, and completed to the best of my knowledge and belief, and I understand that any false statement made in this document or its attachments may be punishable as a criminal offense."

Environmental Monitoring Report
October 2017
Shrewsbury Landfill

Prepared for
Wheelabrator Shrewsbury
December 2017



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Brown AND Caldwell

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Section 1

Introduction

This Environmental Monitoring Report has been prepared for the Shrewsbury Landfill (the Landfill) as required by Condition IV.N of the Authorization to Operate issued to Wheelabrator Millbury Inc. (Wheelabrator) by the Massachusetts Department of Environmental Protection (MassDEP) on April 13, 2016. This monitoring has been conducted in accordance with the Environmental Monitoring Plan (EMP) dated March 2013 and fulfills the requirements of 310 CMR 19.132.

The construction of a metals recovery operation was approved by MassDEP on March 17, 2015. In accordance with the approval, an eighth surface water sampling location (S-3) was added to the environmental monitoring system in connection with the operation. Sampling at S-3 commenced in April 2016.

The Landfill property is owned by the Town of Shrewsbury and is developed and operated by Wheelabrator. The Landfill is located at 620 Hartford Turnpike (Route 20), in Shrewsbury, Massachusetts; a Site Location Map is provided as Figure 1.

This report summarizes and evaluates environmental monitoring performed during this period and provides an assessment of field and laboratory quality assurance/quality control (QA/QC) measures to ensure the reliability of the data. In addition, an evaluation of the current results relative to historical analytical data and groundwater flow conditions is presented.

Section 2

Environmental Monitoring System

The environmental monitoring system at the Landfill includes monitoring networks for groundwater, surface water, stormwater, leachate, and landfill gas. All monitoring locations are shown on Figure 2.

All monitoring locations were observed to be in good condition, unless otherwise noted in the following sections.

2.1 Groundwater

The table below summarizes the groundwater monitoring wells located at the Landfill.

The current monitoring network is described in the table below:

Landfill Area	Current EMP (March 2013) wells	Wells Sampled in October 2017	Comments
Phases III & IV (Ash Residue)	OW-4SR, OW-4DR, OW-10DR, OW-15S, OW-15D, OW-16S, OW-16DR, OW-17SR, OW-17DR2, OW-18DR, OW-24S	OW-4DR, OW-10DR, OW-15S, OW-15D, OW-16S, OW-16DR, OW-17SR, OW-17DR2, OW-18DR, OW-24S	OW-4SR not sampled; location dry
Phases I & II (Closed Municipal Landfill)	OW-1D, OW-13SR OW-13DR	OW-1D	OW-13SR and OW-13DR not sampled; locations dry
Phase V	MW-V-5S, MW-V-5B MW-V-6S, MW-V-6B MW-V-7S, MW-V-7B OW-11S, OW-11D	MW-V-5S, MW-V-5B MW-V-6S, MW-V-6B MW-V-7S, MW-V-7B OW-11S, OW-11D	No differences

Wells with an "S" suffix are typically screened in the overburden; wells with a "B" or "D" suffix are typically screened in the bedrock. Wells with an "R" suffix are replacement wells.

Monitoring well OW-1D is located upgradient of the closed municipal landfill and is generally representative of background groundwater quality. Monitoring wells OW-18D and OW-21S were located upgradient of the Section I – IV disposal cells and were decommissioned in May 2010 as part of Phase V construction activities. Replacement well OW-18DR was installed in a similar location as OW-18D in December 2012 and is used to evaluate background groundwater quality for these sections of the landfill.

2.2 Surface Water

Surface water samples are collected at eight locations around the Landfill. These locations are shown on Figure 2 and are designated as follows:

- S-1 (wetlands near the OW-4 cluster at the headwaters of Summet Brook)
- S-2 (downstream of S-1 and upstream of the replicated wetland in the headwaters of Summet Brook)
- S-3 (downstream of the discharge from stormwater basin #3 discharge)
- S-4 (intersection of the property line and Summet Brook near the OW-11 cluster)
- S-8 (wetlands along the eastern property line)
- S-9 (downstream of the discharge from stormwater basin #2)
- SG-V-2 (Summet Brook tributary)
- SG-V-3 (Summet Brook at Centech Boulevard)

S-3 and S-4 were the only surface water locations sampled during the October 2017 monitoring event due to dry conditions at the other sample locations.

The discharge from the Phase V groundwater underdrain system was also sampled from the discharge of the wetlands treatment system in Stormwater Basin 2.

2.3 Landfill Gas

Landfill gas (LFG) is monitored at a number of locations around the closed municipal landfill for assessment purposes, as indicated on Figure 2.

Monitoring for any potential LFG migration is conducted at groundwater monitoring wells OW-1D, OW-13SR and OW-13DR, which are located around the perimeter of the closed municipal landfill, and gas vent GV-5, which is located on the western slope of the landfill, as shown on Figure 2. Wells OW-13SR and OW-13DR are also referenced as OW-13S-B and OW-13D-B in the attached Landfill Gas Report (Appendix B).

In addition, LFG measurements are taken in each of the buildings and structures at the Landfill. These monitoring locations include the administrative offices, landfill contractor office, vehicle scale house, main pump station and the wheel wash station (also shown on Figure 2).

2.4 Interceptor Trench

A groundwater interceptor trench is located along the southern limit of the closed municipal landfill. The interceptor trench discharges to the main pump station. Water from the interceptor trench is collected from a sampling port in the main pump station semiannually.

2.5 Stormwater

Stormwater discharges from the Landfill are monitored in accordance with the Multi-Sector General Permit (MSGP) issued to Wheelabrator by the USEPA. During qualifying storm events, benchmark monitoring samples are collected from the outlet pipes from Section III Stormwater Basin, Stormwater Basin 2 and Stormwater Basin 3 (see Figure 2). Quarterly visual monitoring samples are collected from Stormwater Basin 3; Stormwater Basin 2; and from Section III Stormwater Basin, Stormwater Basin 4, and Stormwater Basin 5 on a rotating basis. The MSGP also requires weekly inspections of all stormwater management measures.

2.6 Wastewater

The wastewater discharge from the Landfill is monitored in accordance with the Industrial Wastewater Discharge Permit issued to the Town of Shrewsbury by the Westborough Wastewater Treatment Facility (WWTF).

Wheelabrator collects composite wastewater samples from the main pump station manhole during the first and third quarters. The Westborough WWTF collects composite samples from the same manhole during the second and fourth quarters. These wastewater samples are currently comprised of flow from the Phase III, IV, and V leachate collection systems, the wheel wash station, and the groundwater interceptor trench, as well as some minor sanitary flow from the administrative office and vehicle scale building.

2.7 Other Monitoring

2.7.1 Construction Waters

Regular stormwater discharge monitoring is being performed under the USEPA's NPDES Construction General Permit (CGP) issued for the Stage V-1 Final Cover construction activities. Wheelabrator filed a Notice of Intent for coverage under the 2017 CGP on August 14, 2017.

This monitoring includes regular site inspections and turbidity monitoring for any discharges from the sedimentation basins associated with the Section V-1 partial capping project.

Section 3
Monitoring Methods

3.1 Groundwater and Surface Water Sampling

Samples for this monitoring event were collected on October 18, 19 and 20, 2017 by EST Associates, Inc. (EST) of Needham, Massachusetts.

Groundwater and surface water samples were analyzed by Test America, Inc. of Amherst, New York (TestAmerica Buffalo) for the indicator parameters and inorganic compounds listed in the table below. The parameter list includes those parameters specified at 310 CMR 19.132(1)(h) and in the March 2013 EMP:

Indicator Parameters	Trace Metals†
Alkalinity	Arsenic
Calcium	Barium
Chemical Oxygen Demand (COD)	Chromium (Total)
Iron	Copper
Manganese	Cyanide (Total)
Sodium	Lead
Sulfate	Mercury
Total Dissolved Solids (TDS)	Selenium
	Silver
	Zinc

Notes:

† Trace metals were analyzed as dissolved metals in groundwater samples and as total metals in surface water samples.

In accordance with the EMP, monitoring for volatile organic compounds (VOCs) is only required in the closed municipal landfill wells (Phases I and II) since the material disposed in Phases III, IV, and V is not expected to generate VOCs. Therefore, VOCs were analyzed only in samples collected from monitoring wells OW-1D, OW-13SR and OW-13DR. VOCs were also analyzed in the groundwater interceptor trench as required by the EMP. VOCs were analyzed by EPA Method 8260C and 1,4-dioxane was analyzed by EPA 522 MOD to achieve the required detection limit (0.3 ug/L).

Static groundwater levels and total well depths were measured at the site using an electronic water-level indicator. Groundwater levels were converted to elevations (above mean sea level) and are summarized in Table 1.

Groundwater sampling was conducted using the USEPA low-flow sampling procedure (USEPA, 2010). Dedicated QED Well Wizard® pumps and polypropylene tubing were used to purge each well at a low pumping rate (typically below 1,000 ml/min). Temperature, turbidity, conductivity, dissolved oxygen (DO), oxidation reduction potential (ORP), and pH were measured in the field via meters attached to a flow-

through cell. Purging continued until the field parameters stabilized (see Appendix A for field information logs and purging data); the stabilized values from each well are included in Table 2. Monitoring well samples analyzed for dissolved metals were field filtered using Nalgene disposable 0.45-micron filters.

Surface water samples were collected via direct grab (dipper) at monitoring locations S-3 (downstream of the discharge from stormwater basin #3) and S-4 (Summet Brook near the OW-11 cluster) during the October 2017 event. During sampling, any non-dedicated equipment was decontaminated prior to reuse. Field measurements of temperature, conductivity, DO, ORP, turbidity and pH were also measured for surface water. These measurements were recorded on Field Information Forms (Appendix A) and are included in Table 3.

Upon review of the field data sheet and analytical data for location S-3, it was apparent that sampling was not conducted properly at this surface water location. Re-sampling was conducted at this location on December 1, 2017 and analyzed for all required surface water monitoring parameters. Additional information is provided in Section 5.

All samples were packed in coolers with ice and transported under chain of custody to TestAmerica Buffalo for analysis.

3.2 Landfill Gas

Landfill gas monitoring was conducted by Brown and Caldwell (BC) on October 25, 2017. A Landtec GEM 5000 landfill gas meter was used to measure oxygen, methane, and hydrogen sulfide percentages. A RAE Systems MiniRAE 3000 photoionization detector (PID) was used to measure VOC concentrations.

Three groundwater monitoring wells (OW-1D, MW-13SR and MW-13DR) and one gas vent (GV-5) were measured for landfill gas during the current event (see Figure 2 and Appendix B). In addition, the following structures and facilities were monitored for landfill gas: the vehicle scale building, main leachate pump station, administration buildings, landfill contractor trailer, main administrative office, wheel wash station and the metals facility trailer.

A copy of the LFG monitoring report is included in Appendix B for reference.

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Section 4

Field and Laboratory QA/QC

General quality assurance and quality control (QA/QC) measures were taken to ensure the reliability of the data generated during the sampling event. Equipment blanks were not required since either dedicated or disposable sampling equipment was used.

Brown and Caldwell conducted a data quality review of all laboratory analytical data generated during the sampling event using the following criteria: data completeness, holding time, temperature, blanks, laboratory control samples, and surrogate recoveries. This review provides an overall assessment of data quality and relies on data quality guidelines specified in MassDEP Policy WSC #07-350, "MCP Representativeness Evaluations and Data Usability Assessments", MassDEP Policy WSC #10-320 "Compendium of Quality Control Requirements and Performance Standards for Selected Analytical Protocols", and the general data quality guidelines published by the USEPA (USEPA, 2008 and 2010).

Based on the results of the data quality review (discussed below), BC concluded that the data is usable for its intended purposes.

4.1 Laboratory Quality Control

Overall, there was no significant impact on data quality or usability as a result of laboratory quality control issues. The quality control review is summarized below.

The groundwater and surface water samples from the October 2017 event were maintained in proper custody and received by the laboratory within allowable temperature ranges and holding times. Some elevated detection limits were reported due to dilutions required to bring the target analytes within the calibration range or due to the nature of the sample matrix. Reporting limits for analytes did not exceed applicable regulatory standards.

- The continuing calibration verification (CCV) associated with samples OW-4D, OW-1D, OW-10D, OW-24S, OW-15D, OW-15S, OW-18D and MW-V-5S recovered above the upper control limit for total calcium. The associated samples were either non-detect or contained the analyte at a concentration greater than ten times the value found in the CCV; therefore, no qualification is required. The CCV associated with OW-4D, OW-1D, OW-10D, OW-24S, OW-15D, OW-15S, OW-18D and Interceptor Trench recovered above the upper control limit for total manganese. The associated samples were either non-detect or contained the analyte at a concentration greater than ten times the value found in the CCV; therefore, no qualification is required. The CCV associated with OW-4D, OW-1D, OW-10D, OW-24S, OW-15D, OW-15S and OW-18D recovered above the upper control limit for total sodium. The associated samples were either non-detect or contained the analyte at a concentration greater than ten times the value found in the CCV; therefore, no qualification is required. The CCV associated with S-3 recovered outside of the control limits for total iron, manganese and sodium. The samples were either below the laboratory's standard reporting limit per analyte or contained the analyte at a concentration greater than ten times the value found in the CCV; therefore, no qualification is required.
- The laboratory control sample (LCS) associated with OW-1D was above the upper control limit for carbon tetrachloride. The sample was non-detect and the high bias is considered conservative, therefore, no qualification is required.

4.2 Field Quality Control

No field duplicate samples were collected for either groundwater or surface water, as these are not required per the EMP. One surface water trip blank and one groundwater trip blank were submitted along with the samples. Methylene chloride was detected (0.46 µg/L) in the surface water trip blank. However, since the constituent is a common laboratory material, and no positive detection of the constituent occurred in the samples, the contamination most likely originated from the lab instead of field exposure. No qualification is required.

4.3 Conclusion

Based on a review of laboratory QC data for the Fall 2017 semi-annual monitoring event and consistency of the analytical data with historical results, the analytical results reported by the laboratory are acceptable for assessing the groundwater and surface water quality at the Landfill.

Section 5
Evaluation of Monitoring Results

5.1 Groundwater

5.1.1 Elevation Data

Static water level measurements collected during the monitoring event were used to calculate groundwater elevations relative to mean sea level. This data is summarized in Table 1. Groundwater contours for the overburden and bedrock aquifers were then prepared to identify any significant changes in groundwater elevations or flow direction. These contours are presented on Figures 3 and 4.

In general, the water levels in most wells were consistent with water levels during the October 2016 monitoring event and historical elevation measurements, with the exception of MW-16S and MW-15D. Figures 3 and 4 shows both overburden and bedrock groundwater flowing generally in a southerly direction, similar to previous groundwater contour maps. The overburden and bedrock contour maps have been updated to reflect the expected groundwater flow pattern associated with the Phase V area. Prior to excavation activities in Phase V, flow directions in the Phase V area generally followed topographic contours, with a groundwater divide located beneath the ridge to the south of the capped municipal landfill. This groundwater divide no longer exists as a result of the Phase V construction. Groundwater flow is now influenced by an interceptor trench downgradient of the capped municipal landfill and an underdrain system installed underneath the Phase V lined landfill, as indicated on Figure 3.

5.1.2 Field Parameters and Analytical Data

The groundwater field parameters and analytical results from this monitoring event are summarized in Table 2. Analytical data sheets are included in Appendix C.

5.1.3 Comparison to Drinking Water Quality Standards

Per EMP Section 3.6 and 310 CMR 19.132(1)(j), the groundwater monitoring results were compared to the applicable Federal and State drinking water standards, Maximum Contaminant Levels (MCLs), Secondary MCLs (SMCLs), and Office of Research and Standards Guidelines (ORSGs). Note that SMCLs assess the aesthetic qualities of drinking water and are not necessarily health-based.

The EMP provides tables of the published standards as they existed at the time the EMP was prepared; however, the results are compared to the current published standards.

Overall, the groundwater quality is generally consistent with background conditions and historic observations, as noted below.

The following items are noted:

- Arsenic was marginally above its MMCL (0.01 mg/L) in downgradient wells OW-4DR (0.04 mg/L) and OW-10DR (0.031 mg/L). These wells are replacement wells which were installed in December 2012. The arsenic results in OW-4DR and OW-10DR are consistent with historical results. Arsenic was also marginally above its MMCL (0.01 mg/L) in well MW-V-5S (0.012 mg/L). This well was re-sampled on December 1, 2017 and the result (0.00095 mg/L) was well below the MMCL.

- Consistent with the natural groundwater quality of the region and historical results, iron and/or manganese were above the applicable SMCLs in the majority of wells.
- Chloride, sodium, and TDS are generally elevated site wide, including the upgradient wells.
  - Chloride was above its SMCL (250 mg/L) in downgradient wells OW-10DR (831 mg/L), OW-17SR (397 mg/L) and OW-17DR2 (276 mg/L) and in upgradient wells OW-1D (421 mg/L) and OW-18DR (293 mg/L). Results are consistent with historical results.
  - TDS was above its SMCL (500 mg/L) in downgradient wells OW-4DR (865 mg/L), OW-10DR (2,520 mg/L), OW-17SR (1,110 mg/L) and OW-17DR2 (978 mg/L), and in upgradient wells OW-1D (704 mg/L) and OW-18DR (3,740 mg/L). Results are consistent with historical results. TDS was also very slightly above its SMCL in well MW-V-7S (503 mg/L).
  - Sodium was above its ORSG (20 mg/L) in wells MW-V-5B (42.1 mg/L), MW-V-7S (25.4 mg/L), OW-1D (217 mg/L), OW-4DR (91 mg/L), OW-10DR (391 mg/L), OW-15S (38.3 mg/L), OW-16S (21.7 mg/L), OW-17SR (35.2 mg/L), OW-17DR2 (49.3 mg/L), and OW-18DR (199 mg/L). These results are consistent with historical site results.

5.1.3.1 Intra-well Comparisons

Environmental monitoring has been conducted regularly at the Landfill since the late 1980s. This volume of historical data allows for intra-well comparison where the chemistry of a sample collected from each monitoring well is evaluated in relation to its own historical data. This method was used to identify any issues of concern.

The following observations were made:

- With respect to the arsenic detection in OW-10DR, arsenic has historically been detected above the MMCL in decommissioned well OW-10D and is attributed to the municipal landfill.
- The arsenic concentration in OW-4DR is consistent with data collected at this locations since the well installation in 2012 and arsenic concentrations detected at a nearby monitoring well that are attributed to the municipal landfill.
- Iron and manganese are naturally occurring in groundwater as they have historically been observed at elevated concentrations both in the upgradient wells (OW-1D and OW-18D) and in locations away from the closed municipal landfill where there is upward flow (i.e., MW-V-5S and MW-V-6S). Iron and manganese were detected in all of the sampled wells in October 2017, with manganese above the SMCL in OW-1D, MW-V-5B, MW-V-6B, MW-V-7S, OW-4DR, OW-10DR, OW-11S, OW-11D, OW-15S, OW-15D, OW-16S, OW-16D, OW-17SR, OW-17DR OW-18DR and OW-24S, and iron above the SMCL in OW-1D, MW-V-5B, MW-V-6B, MW-V-7S, OW-4DR, OW-10DR, OW-11S, OW-11D, OW-15S, OW-15D, OW-16S, OW-16D, OW-17SR, OW-17DR, OW-18DR and OW-24S.

5.2 Surface Water

5.2.1 Field Parameters and Analytical Data

The surface water field parameters and analytical results from this monitoring event are summarized in Table 3. Analytical data sheets are included in Appendix C.

5.2.2 Comparison to Surface Water Quality Standards

Per EMP Section 3.6 and 310 CMR 19.132(1)(j), the surface water monitoring results were compared to the applicable Federal and State surface water quality standards.

Traditional data evaluation methodologies are limited in their effectiveness for evaluating the surface water chemistry due to the high variability that is typical of surface water chemistry. For these reasons,

surface water data are evaluated using historical trend analyses, outlier determination, and comparisons to relevant Massachusetts Surface Water Quality Standards (MSWQS) (314 CMR 4.00, class B High Quality water body) and/or current National Recommended Water Quality Criteria (NRWQC) for those parameters which have published criteria. It should be noted that the analytical parameter list is identical to that for groundwater even though not all the listed parameters have Massachusetts Surface Water Quality Standards or NRWQC.

The EMP provides tables of the published standards as they existed at the time the EMP was prepared; however, the current results are compared to the current published standards.

Surface water samples were collected at S-3, S-4 and Underdrain locations only, as the other surface water sampling locations were dry during the October 2017 monitoring event. Overall, the surface water monitoring results from this event are generally consistent with background conditions, historical results from these locations, and historical results from other surface water locations previously sampled around the Landfill, with a few exceptions noted below.

The main observations from the evaluation of the recent and historical data are as follows:

- Alkalinity was above the NRWQC Criterion Continuous Concentration (CCC, 20 mg/L) at locations S-3, S-4 and the Underdrain. The observed concentrations are generally consistent with historic alkalinity levels in groundwater at the Landfill.
- Chloride was above the NRWQC CCC (230 mg/L) at S-3 (341 mg/L), S-4 (372) and Underdrain (280 mg/L), but below the CMC (860 mg/l). The concentrations at S-4 and Underdrain are consistent with historical sampling results. The concentration at S-3 was a first-time exceedance at this location and was re-sampled on December 1, 2017. The December 1, 2017 result for chloride at S-3 was reported as 150 mg/l, which is below the NRWQC standards. Additional discussion about results for S-3 is included below.
- As previously noted in Section 3.1 of this report, it is apparent that there was a sampling error at surface water location S-3 during the October monitoring event and a representative sample was not collected. S-3 was re-sampled on December 1, 2017 for all required monitoring parameters due to the variation in October sampling results for several parameters as compared to historical data at this location, and as compared to historical data at the surface water location S-4 (which is downgradient of S-3). Results from the December re-sampling event were consistent with historical data for location S-3, and furthermore results which were first-time exceedances during the October sampling event were below the NRWQC standards for the December sampling event. All surface water data are provided in Table 3.
- Dissolved oxygen was less than the MSWQS (5.0 mg/L) at the Underdrain location (1.8 mg/L).

5.3 Landfill Gas

A copy of the LFG monitoring report prepared by BC is included in Appendix B.

5.4 Interceptor Trench

Water from the municipal landfill interceptor trench was sampled during the October 2017 monitoring event.

Several parameters were detected above drinking water standards, and all detections were consistent with previous sampling and those observed at groundwater wells associated with the municipal landfill monitored as part of the 2008 hydrogeological study for Phase V, with the exception of barium and lead which were detected at concentrations above their respective MMCLs for the first time.

Water collected in the interceptor trench is combined with leachate and other wastewater, which discharges to the Town of Shrewsbury municipal sewer system in accordance with an industrial wastewater discharge permit.

5.5 Stormwater

Quarterly storm water sampling for benchmark monitoring and visual assessments are continuing per the 2015 MSGP. Benchmark monitoring requirements (for iron and TSS) have been met for the Section III Stormwater Basin; visual assessments will continue at this location as qualifying stormwater discharges occur. Benchmark sampling and visual assessments will continue at Stormwater Basins 2 and 3 as qualifying stormwater discharges occur.

5.6 Wastewater

Appendix D contains a copy of the first Quarter 2017 wastewater discharge monitoring report that was submitted to the Westborough WWTF during this reporting period. This is the most recent wastewater discharge monitoring report that is available. The results of the first Quarter 2017 sampling are generally consistent with historic observations.

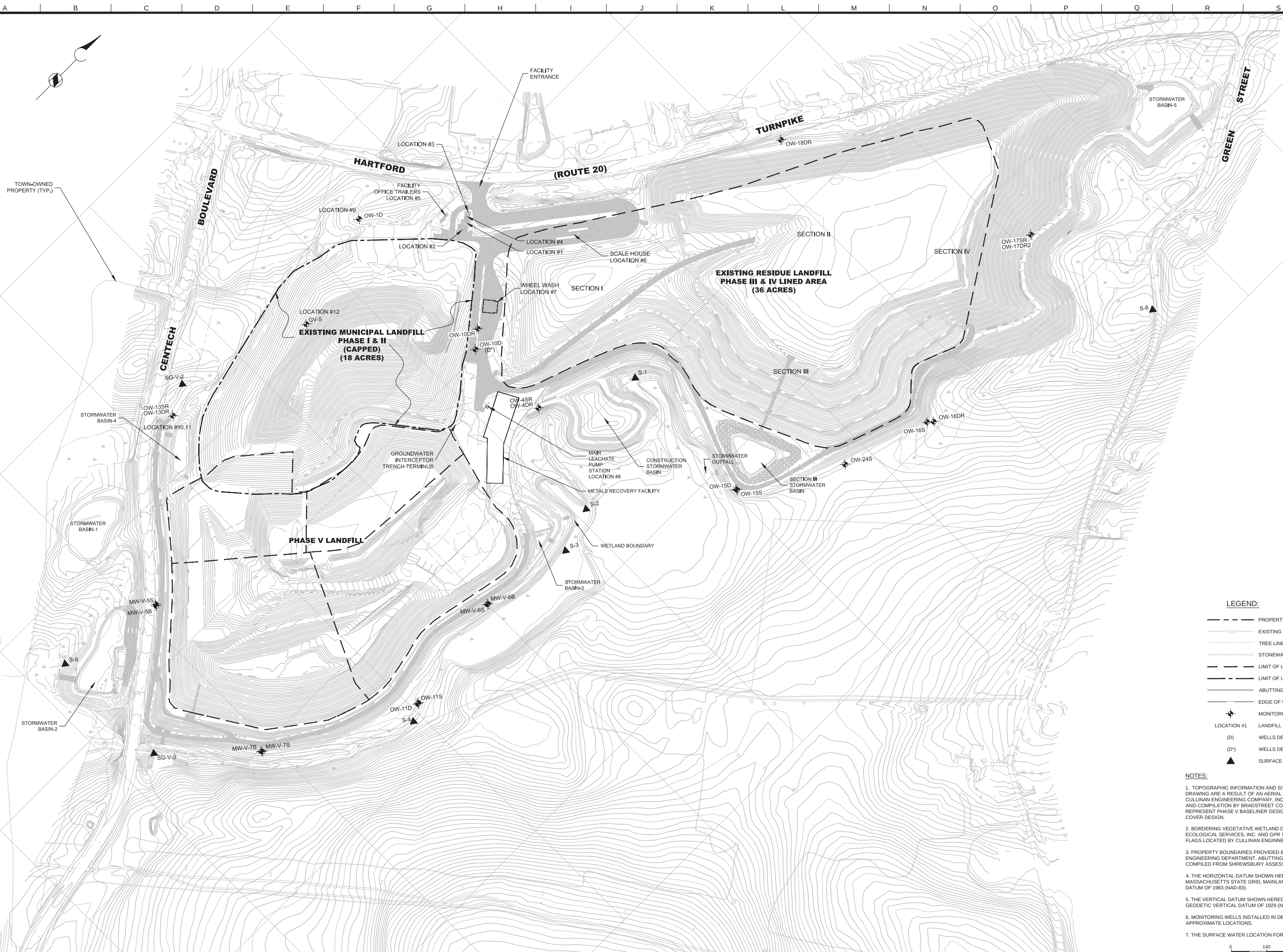
Section 6

Summary

The results from this sampling event are generally consistent with historical results and observed trends.

No significant shifts or changes in groundwater or surface water chemistry were observed during this event. Any results above applicable water quality criteria are discussed in Section 5 of this report.

Brown AND Caldwell 1 Corporate Drive Andover, Massachusetts 01810 Tel. (978) 794-0336 Fax. (978) 794-0534	**FIGURE 1** **SITE LOCATION MAP** Shrewbury Landfill Shrewsbury, Massachusetts Prepared for: Wheelabrator Millbury, Inc.	N W E S 0 0.125 0.25 0.5 Miles	Date: December 2013 Project: 134877 1 inch = 2,236 feet



LEGEND:

	PROPERTY BOUNDARY
500	EXISTING CONTOUR
	TREE LINE
	STONEWALL
	LIMIT OF LINER
	LIMIT OF UNLINED LANDFILL PHASES I & II
	ABUTTING PROPERTY LINE
	EDGE OF WETLAND
	MONITORING WELL LOCATION
LOCATION #1	LANDFILL GAS SAMPLING LOCATION
(D)	WELLS DECOMMISSIONED IN MAY 2010
(D*)	WELLS DECOMMISSIONED IN 2012
▲	SURFACE WATER SAMPLING LOCATION

NOTES:

1. TOPOGRAPHIC INFORMATION AND SITE FEATURES SHOWN ON THIS DRAWING ARE A RESULT OF AN AERIAL PHOTOMETRIC SURVEY, BY CULLINAN ENGINEERING COMPANY, INC., DATED NOVEMBER 29, 2004, AND COMPILATION BY BRADSTREET CONSULTANTS. PROPOSED GRADES REPRESENT PHASE V BASELINER DESIGN AND PHASE III & IV FINAL COVER DESIGN.

2. BORDERING VEGETATIVE WETLAND DELINEATED BY SANFORD ECOLOGICAL SERVICES, INC. AND GPR SOUTHEAST LLC. WETLAND FLAGS LOCATED BY CULLINAN ENGINNERING COMPANY INC.

3. PROPERTY BOUNDARIES PROVIDED BY THE TOWN OF SHREWSBURY ENGINEERING DEPARTMENT. ABUTTING PROPERTY BOUNDARIES COMPILED FROM SHREWSBURY ASSESSORS MAPS.

4. THE HORIZONTAL DATUM SHOWN HEREON IS BASED UPON THE MASSACHUSETTS STATE GRID, MAINLAND ZONE, NORTH AMERICAN DATUM OF 1983 (NAD-83).

5. THE VERTICAL DATUM SHOWN HEREON IS BASED UPON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (N.G.V.D. 29).

6. MONITORING WELLS INSTALLED IN DECEMBER 2012 ARE SHOWN AT APPROXIMATE LOCATIONS.

7. THE SURFACE WATER LOCATION FOR S-3 IS APPROXIMATE.

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Brown AND Caldwell
TAUNTON, MASSACHUSETTS

SUBMITTED: ______ DATE: ______
PROJECT MANAGER

APPROVED: ______ DATE: ______
BROWN AND CALDWELL

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2" - SCALE ACCORDINGLY)

DATE:	APRIL 2016
SCALE:	1"= 140'
DRAWN:	LAR
DESIGN:	LAR
CHECKED:	ARK
APPROVED:	ARK

EXTERNAL REFERENCES	IMAGE REFERENCES
X-LINEWORK-JAN2016.dwg	
X-TOPO-JAN2017.dwg	
X-LINEWORK-JAN2016.dwg	

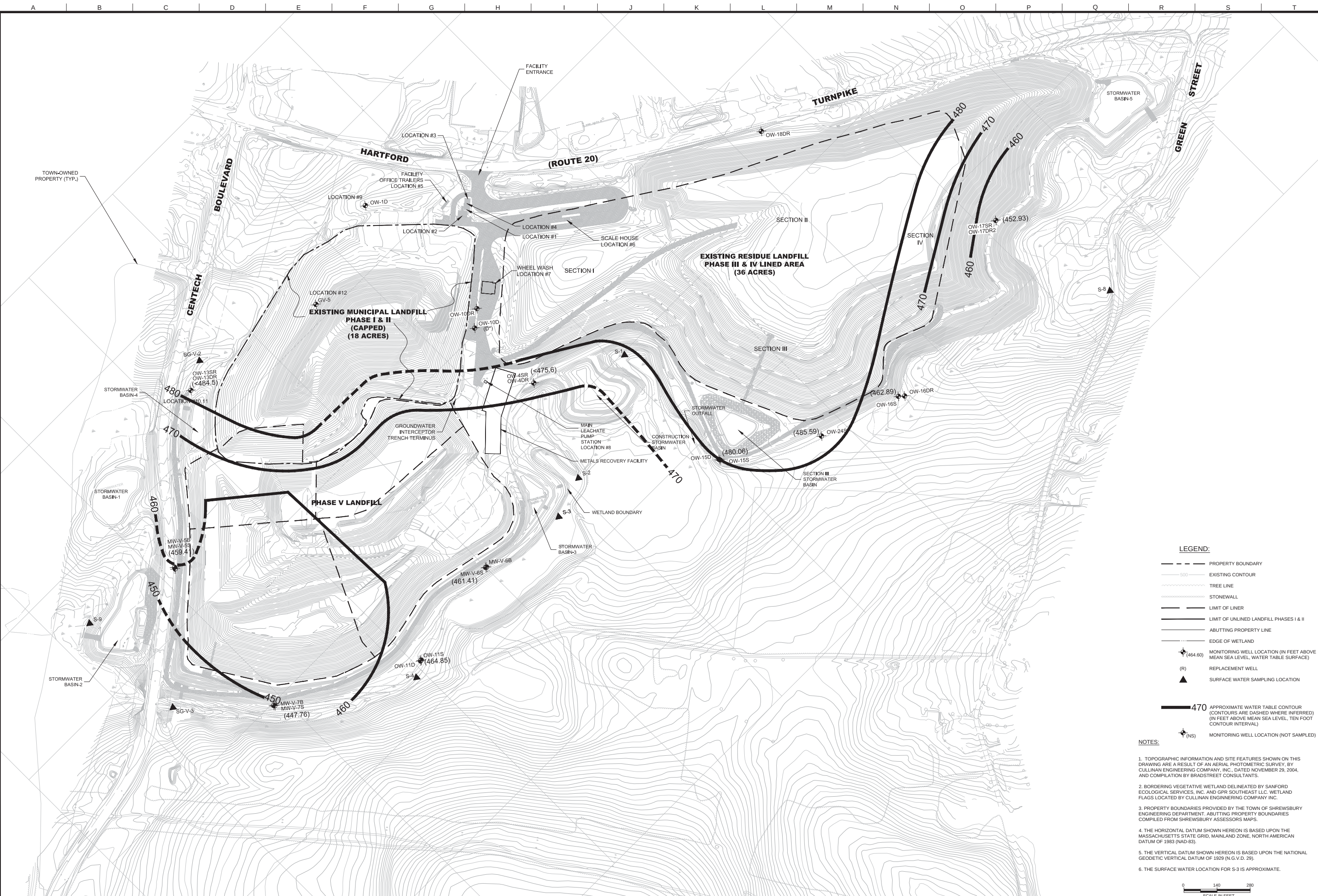
REVISIONS

ZONE	REV.	DESCRIPTION	BY	DATE	APP.

ENVIRONMENTAL MONITORING LOCATIONS

PHASE V
SHREWSBURY LANDFILL
SHREWSBURY, MASSACHUSETTS
PREPARED FOR:
WHEELABRATOR MILLBURY INC.

FILENAME	Figure 2_Monitoring Plan.dwg
BC PROJECT NUMBER	149296
CLIENT PROJECT NUMBER	
DRAWING NUMBER	FIGURE 2
SHEET NUMBER	1 OF 1



LEGEND:

- PROPERTY BOUNDARY
- 500 EXISTING CONTOUR
- TREE LINE
- STONEWALL
- LIMIT OF LINER
- LIMIT OF UNLINED LANDFILL PHASES I & II
- ABUTTING PROPERTY LINE
- EDGE OF WETLAND
- (464.60) MONITORING WELL LOCATION (IN FEET ABOVE MEAN SEA LEVEL, WATER TABLE SURFACE)
- (R) REPLACEMENT WELL
- SURFACE WATER SAMPLING LOCATION
- 470 APPROXIMATE WATER TABLE CONTOUR (CONTOURS ARE DASHED WHERE INFERRED) (IN FEET ABOVE MEAN SEA LEVEL, TEN FOOT CONTOUR INTERVAL)
- (NS) MONITORING WELL LOCATION (NOT SAMPLED)

NOTES:

1. TOPOGRAPHIC INFORMATION AND SITE FEATURES SHOWN ON THIS DRAWING ARE A RESULT OF AN AERIAL PHOTOMETRIC SURVEY, BY CULLINAN ENGINEERING COMPANY, INC., DATED NOVEMBER 29, 2004, AND COMPILATION BY BRADSTREET CONSULTANTS.

2. BORDERING VEGETATIVE WETLAND DELINEATED BY SANFORD ECOLOGICAL SERVICES, INC. AND GPR SOUTHEAST LLC. WETLAND FLAGS LOCATED BY CULLINAN ENGINNERING COMPANY INC.

3. PROPERTY BOUNDARIES PROVIDED BY THE TOWN OF SHREWSBURY ENGINEERING DEPARTMENT. ABUTTING PROPERTY BOUNDARIES COMPILED FROM SHREWSBURY ASSESSORS MAPS.

4. THE HORIZONTAL DATUM SHOWN HEREON IS BASED UPON THE MASSACHUSETTS STATE GRID, MAINLAND ZONE, NORTH AMERICAN DATUM OF 1983 (NAD-83).

5. THE VERTICAL DATUM SHOWN HEREON IS BASED UPON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (N.G.V.D. 29).

6. THE SURFACE WATER LOCATION FOR S-3 IS APPROXIMATE.

0 140 280
SCALE IN FEET

TWespiser
Dec 18, 2017 - 11:46am
P:\Wheelabrator Environmental Systems\150594_Wheelabrator Shrewsbury Env Mo

Brown AND Caldwell
TAUNTON, MASSACHUSETTS

SUBMITTED: ______ PROJECT MANAGER DATE: ______
APPROVED: ______ BROWN AND CALDWELL DATE: ______

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2" - SCALE ACCORDINGLY)
DATE:
SCALE: 1"= 140'
DRAWN:
DESIGN:
CHECKED:
APPROVED:

EXTERNAL REFERENCES	IMAGE REFERENCES
X-LINEWORK-JAN2016.dwg	
X-TOPO-JAN2017.dwg	
X-LINEWORK-JAN2016.dwg	

REVISIONS

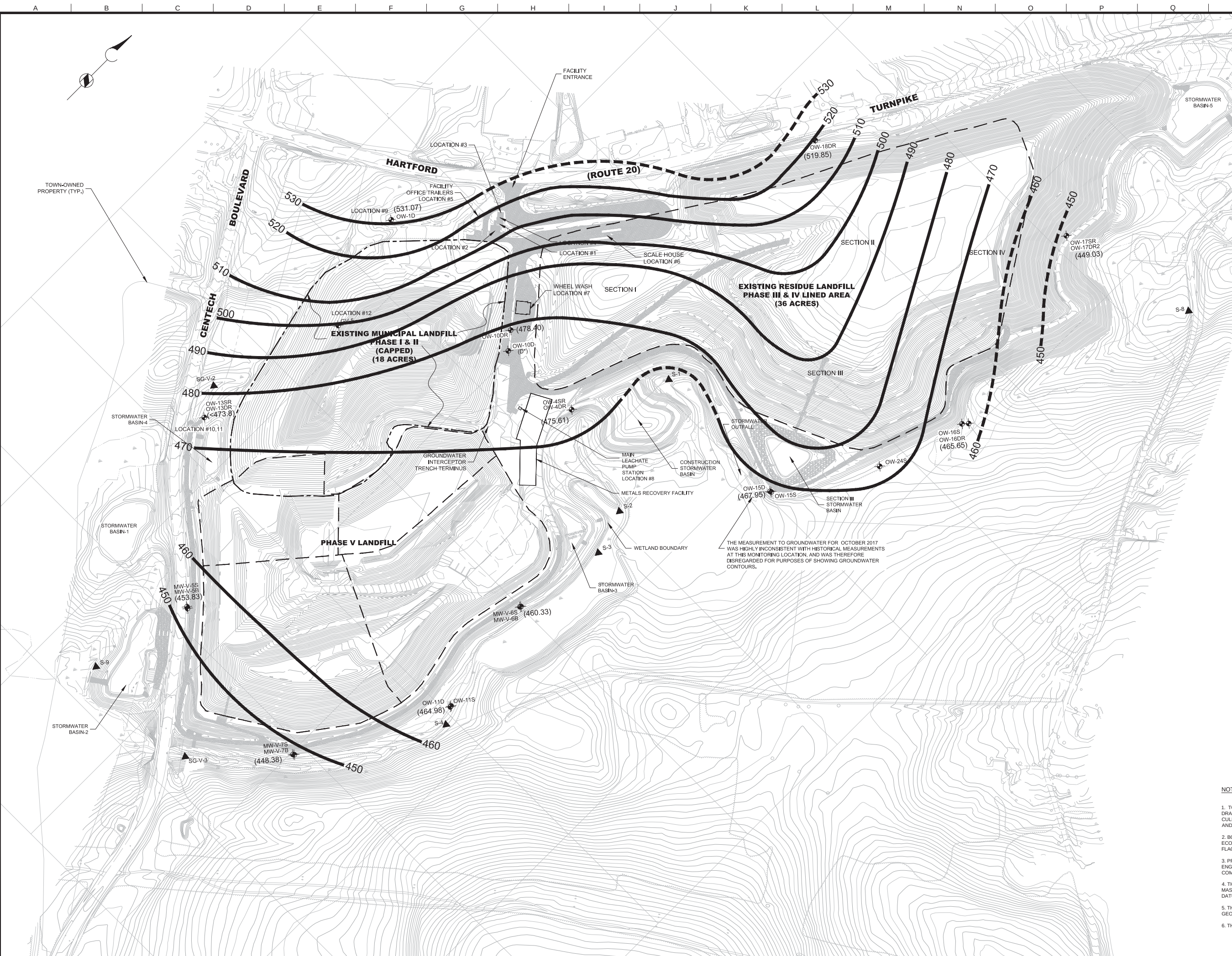
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

OVERBURDEN GROUNDWATER CONTOUR MAP
OCTOBER 2017

SHREWSBURY LANDFILL
SHREWSBURY, MASSACHUSETTS
PREPARED FOR:

WHEELABRATOR MILLBURY INC.

FILENAME 150594_Overburden_10-2017.dwg
BC PROJECT NUMBER 150594
CLIENT PROJECT NUMBER
DRAWING NUMBER FIGURE 3
SHEET NUMBER 1 OF 1



LEGEND:

———	PROPERTY BOUNDARY
—500—	EXISTING CONTOUR
~~	TREE LINE
oooo	STONEWALL
— — —	LIMIT OF LINER
— - —	LIMIT OF UNLINED LANDFILL PHASES I & II
———	ABUTTING PROPERTY LINE
———	EDGE OF WETLAND
(470.21)	MONITORING WELL LOCATION (IN FEET ABOVE MEAN SEA LEVEL, WATER TABLE SURFACE)
(R)	REPLACEMENT WELL
▲	SURFACE WATER SAMPLING LOCATION
▬ 470	APPROXIMATE WATER TABLE CONTOUR (CONTOURS ARE DASHED WHERE INFERRED) (IN FEET ABOVE MEAN SEA LEVEL, TEN FOOT CONTOUR INTERVAL)

NOTES:

1. TOPOGRAPHIC INFORMATION AND SITE FEATURES SHOWN ON THIS DRAWING ARE A RESULT OF AN AERIAL PHOTOMETRIC SURVEY, BY CULLINAN ENGINEERING COMPANY, INC., DATED NOVEMBER 29, 2004, AND COMPILATION BY BRADSTREET CONSULTANTS.

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0 140 280
SCALE IN FEET

Brown AND Caldwell
TAUNTON, MASSACHUSETTS

SUBMITTED: ____________ DATE: ______
PROJECT MANAGER
APPROVED: ____________ DATE: ______
BROWN AND CALDWELL

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2" - SCALE ACCORDINGLY)
DATE:
SCALE: 1"= 140'
DRAWN:
DESIGN:
CHECKED:
APPROVED:

EXTERNAL REFERENCES	IMAGE REFERENCES
X-LINEWORK-JAN2016.dwg	
X-TOPO-JAN2017.dwg	
X-LINEWORK-JAN2016.dwg	

REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.

BEDROCK GROUNDWATER CONTOUR MAP
OCTOBER 2017

SHREWSBURY LANDFILL
SHREWSBURY, MASSACHUSETTS
PREPARED FOR:
WHEELABRATOR MILLBURY INC.

FILENAME	150594_Bedrock_10-2017.dwg
BC PROJECT NUMBER	150594
CLIENT PROJECT NUMBER	
DRAWING NUMBER	FIGURE 4
SHEET NUMBER	1 OF 1

Dec 14, 2017 - 5:12pm TWespiser
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Table 1
Summary of October 2017 Groundwater Elevation Data
Shrewsbury Landfill, Shrewsbury, MA

Well Identifier	Date	Reference Elevation (feet)	Depth to Water (feet)	Groundwater Elevation (feet)
MW-V-5S	10/20/2017	480.03	20.62	459.41
MW-V-5B	10/19/2017	481.78	27.95	453.83
MW-V-6S	10/19/2017	480.03	18.62	461.41
MW-V-6B	10/19/2017	481.78	21.45	460.33
MW-V-7S	10/19/2017	466.51	18.75	447.76
MW-V-7B	10/19/2017	466.33	17.95	448.38
OW-1D	10/18/2017	550.91	19.84	531.07
OW-4SR	10/18/2017	503.09	NS	-
OW-4DR	10/18/2017	501.84	26.23	475.61
OW-10DR	10/18/2017	503.01	24.61	478.40
OW-11S	10/19/2017	471.53	6.68	464.85
OW-11D	10/19/2017	471.78	6.80	464.98
OW-13SR	10/19/2017	504.25	NS	-
OW-13DR	10/19/2017	504.44	NS	-
OW-15S	10/18/2017	492.3	12.24	480.06
OW-15D	10/18/2017	492.5	11.26	481.24
OW-16S	10/18/2017	487.3	24.41	462.89
OW-16DR	10/18/2017	486.8	21.15	465.65
OW-17SR	10/19/2017	501.71	48.78	452.93
OW-17DR2	10/19/2017	502.03	53.00	449.03
OW-18DR	10/20/2017	555.31	35.46	519.85
OW-24S	10/18/2017	492.4	6.81	485.59

Notes:
Depth to Water measurements taken from top of PVC riser pipe.

Table 2
Groundwater Results
Shrewsbury Landfill
October 2017

Parameter	Drinking Water Standard	MW-V-5S	MW-V-5S	MW-V-5B	MW-V-6S	MW-V-6B	MW-V-7S	MW-V-7B	OW-1D	OW-4SR	OW-4D	OW-10D	OW-11D	OW-11S	OW-13SR
Date		**10/20/2017**	**12/1/2017**	**10/19/2017**	**10/19/2017**	**10/19/2017**	**10/19/2017**	**10/19/2017**	**10/18/2017**	**10/18/2017**	**10/18/2017**	**10/18/2017**	**10/19/2017**	**10/19/2017**	**10/19/2017**
Field Parameters															
Temperature (°C)		15.4	NS	15	14.1	14.1	11.4	11.5	11.7		13.7	15.0	12.1	13.1	
Dissolved Oxygen (mg/L)		2	NS	3.1	4	3.7	1.1	3.1	2.7		3.7	1.8	0.9	2.9	
Conductivity (uS/cm)		306.1	NS	260.1	218.6	180.6	661	244.8	1275.8		1358.1	4258.8	140.2	151.2	
pH (S.U.)	6.5-8.5 (SMCL)	7.51	NS	7.88	6.89	7.51	7.90	7.13	7.11		7.29	7.03	7.82	7.85	
Turbidity (NTU)		18.2	NS	5	2.7	1.4	3.4	3.4	4		5	5	4.6	2.1	
Inorganics (mg/L)*															
Arsenic	0.01 (MMCL)	**0.012**	0.00095	0.0014 J	0.00073 J	0.0015 J	0.0020 J	0.00048 J	0.0013 J		**0.04**	**0.031**	0.00086 J	< 0.010	
Banum	2 (MMCL)	0.066	NS	0.012	0.026	0.022	0.067	0.067	0.19		0.019	0.41	0.012	0.025	
Cadmium	0.005 (MMCL)	< 0.0010	NS	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	0.00073 J		< 0.0010	< 0.0010	< 0.0010	< 0.0010	
Chromium (as Total Chromium)	0.1 (MMCL)	0.014	NS	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040		0.0013 J	0.0059	< 0.0040	< 0.0040	
Copper	1.3 (MMCL)	0.016	NS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010		< 0.010	< 0.010	< 0.010	< 0.010	
Lead	0.015 (MMCL)	0.01	NS	< 0.0050	0.0039 J	< 0.0050	0.0033 J	< 0.0050	< 0.0050		< 0.0050	0.0052	< 0.0050	< 0.0050	
Mercury	0.002 (MMCL)	< 0.00020	NS	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020		< 0.00020	< 0.00020	< 0.00020	< 0.00020	
Selenium	0.05 (MMCL)	< 0.015	NS	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015		< 0.015	< 0.015	< 0.015	< 0.015	
Silver	0.10 (SMCL)	< 0.0030	NS	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030		< 0.0030	< 0.0030	< 0.0030	< 0.0030	
Zinc	5 (SMCL)	0.02	NS	0.0016 J	0.0057 J	0.0031 J	< 0.010	< 0.010	0.025		0.0049 J	0.0089 J	< 0.010	< 0.010	
Cyanide	0.2 (MMCL)	< 0.010	NS	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010		< 0.010	< 0.010	< 0.010	< 0.010	
Indicator Parameters (mg/L)										Dry - Not Sampled					Dry - Not Sampled
Alkalinity, Total		46.7	NS	130	74	62.1	67.6	76.7	62.7		350	1030	56.4	64	
Calcium		28.2	NS	14.2	23.8	15.3	62.2	21.1	52.3		151	215	11.8	11.5	
Chemical Oxygen Demand		< 10.0	NS	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0		< 10.0	279	< 10.0	< 10.0	
Chloride	250 (SMCL)	52.4	NS	12.4	19.9	7.2	170	29.5	421		192	**831**	7.9	3.9	
Iron	0.3 (SMCL)	0.21	NS	**2.4**	0.021 J	**1.30**	**0.35**	0.024 J	**7.6**		**9.4**	**126**	**2**	**0.35**	
Manganese	0.05 (SMCL)	0.034	NS	**0.13**	0.031	0.11	**4.4**	0.0086	**1.9**		**13.4**	**10.1**	**0.17**	**0.11**	
Nitrate (as N)	10 (MMCL)	1.2	NS	< 0.050	1.4	0.021 J	0.025 J	0.14	0.037 J		< 0.050	0.075	< 0.050	0.092	
Sodium	20 (ORSG)	12.6	NS	**42.1**	11.3	19.4	**25.4**	12.2	**217**		**91**	**391**	7.6	8.3	
Sulfate	250 (SMCL)	22.8	NS	7.0	9.9	21.0	4.2	6.9	15.5		110	< 20.0	3.9	3.7	
Solids, Total Dissolved	500 (SMCL)	235	NS	167	157	114	**503**	180	**704 B**		**865 B**	**2520 B**	97	78	
Volatile Organic Compounds (ug/L)															
1,4-Dioxane	0.3 (ORSG)	NS	NS	NS	NS	NS	NS	NS	< 0.30		NS	NS	NS	NS	
1,4-Dichlorobenzene	5 (MMCL)	NS	NS	NS	NS	NS	NS	NS	< 1.0		NS	NS	NS	NS	
2-Butanone (MEK)		NS	NS	NS	NS	NS	NS	NS	< 5.0		NS	NS	NS	NS	
Acetone	6300 (ORSG)	NS	NS	NS	NS	NS	NS	NS	5.3		NS	NS	NS	NS	
Chlorobenzene	100 (MMCL)	NS	NS	NS	NS	NS	NS	NS	< 1.0		NS	NS	NS	NS	
Chloroform	70 (ORSG)	NS	NS	NS	NS	NS	NS	NS	< 1.0		NS	NS	NS	NS	
Methyl tert-butyl ether (MTBE)	70 (ORSG)	NS	NS	NS	NS	NS	NS	NS	< 1.0		NS	NS	NS	NS	
All other VOCs	varies	NS	NS	NS	NS	NS	NS	NS	35		NS	NS	NS	NS	

NOTES:
MMCL - Massachusetts Maximum Contaminant Levels (Spring 2012)
SMCL - Secondary Maximum Contaminant Levels (Spring 2012)
ORSG - Office of Research and Standards Guideline (Spring 2012)
< = Less than detection limit. Reported concentration is the detection limit.
Concentrations in **bold** exceed a water quality standard.
NS - Not Sampled
ND - None Detected
B - Analyte detected in method blank.
J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

°C - degrees Celsius
* Dissolved inorganics
S.U. - Standard Unit
NTU - Nephelometric Turbidity Units
uS/cm - microSiemens/centimeter
ug/L - micrograms per Liter
mg/L - milligrams per Liter

Table 2
Groundwater Results
Shrewsbury Landfill
October 2017

Parameter	Drinking Water Standard	OW-13DR	OW-15S	OW-15D	OW-16S	OW-16D	OW-17S	OW-17D	OW-18D	OW-24S	INTERCEPTOR TRENCH
Date		**10/19/2017**	**10/18/2017**	**10/18/2017**	**10/18/2017**	**10/18/2017**	**10/19/2017**	**10/19/2017**	**10/20/2017**	**10/18/2017**	**10/20/2017**
Field Parameters											
Temperature (°C)			12.8	13.8	13.8	12.4	11.5	11.2	13.2	13.4	12.1
Dissolved Oxygen (mg/L)			1.3	2.3	2	1.9	2	1.1	1.7	1.7	
Conductivity (uS/cm)			556.4	209.7	533.7	181.1	1573.8	1411.1	462.2	416.4	4789
pH (S.U.)	6.5-8.5 (SMCL)		7.21	7.51	7.46	7.22	6.74	7.15	7.85	7.79	8.26
Turbidity (NTU)			3.6	4	6.1	1.9	3	5	1.1	12	
Inorganics (mg/L)*											
Arsenic	0.01 (MMCL)		0.0017 J	0.0079 J	0.0013 J	0.0017 J	0.0036 J	0.0010 J	0.0015 J	0.0010 J	**0.21**
Barium	2 (MMCL)		0.043	0.019	0.035	0.006	0.056	0.0170	0.0650	0.025	**11.2**
Cadmium	0.005 (MMCL)		< 0.0010	< 0.0010	< 0.0010	< 0.0010	0.00072 J	< 0.0010	< 0.0010	< 0.0010	0.0018
Chromium (as Total Chromium)	0.1 (MMCL)		< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040	< 0.0040	0.0032 J
Copper	1.3 (MMCL)		< 0.010	< 0.010	< 0.010	< 0.010	0.0026 J	< 0.010	< 0.010	< 0.010	< 0.10
Lead	0.015 (MMCL)		< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	**0.035**
Mercury	0.002 (MMCL)		< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020	< 0.00020
Selenium	0.05 (MMCL)		< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	0.010 J
Silver	0.10 (SMCL)		< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030	< 0.0030
Zinc	5 (SMCL)		0.0015 J	0.0018 J	0.0039 J	< 0.010	0.018	0.013	< 0.010	0.025	0.062
Cyanide	0.2 (MMCL)		< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Indicator Parameters (mg/L)											
Alkalinity, Total		Dry - Not Sampled	65.7	66.9	15.5	72.9	101	154	67.2	73.6	222
Calcium			44.1	20.3	43.3	16.5	161	158	146	41.2	5140
Chemical Oxygen Demand			< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	454
Chloride	250 (SMCL)		90.5	57.5	149	25.4	**397**	**276**	**293**	76.3	**21800**
Iron	0.3 (SMCL)		**1.8**	**1.4**	**0.39**	**0.4**	**0.56**	**0.9**	**22.8**	**5.1**	**7.6**
Manganese	0.05 (SMCL)		**0.43**	**0.25**	**0.092**	**2.1**	**0.081**	**0.14**	**3.0**	**0.26**	**2.8**
Nitrate (as N)	10 (MMCL)		0.039 J	< 0.050	0.6	0.048 J	0.11	0.073	< 0.050	0.1	0.22
Sodium	20 (ORSG)		**38.3**	18	**21.7**	17.6	**35.2**	**49.3**	**199**	19.7	**5990**
Sulfate	250 (SMCL)		**66.8**	**32**	**27.5**	2.1	72.6	**89.6**	**116.0**	**39.2**	153 J
Solids, Total Dissolved	500 (SMCL)		332 B	228 B	399 B	134 B	**1110**	**978**	**3740**	288 B	**91400**
Volatile Organic Compounds (ug/L)											
1,4-Dioxane	0.3 (ORSG)		NS	NS	NS	NS	NS	NS	NS	NS	**3**
1,4-Dichlorobenzene	5 (MMCL)		NS	NS	NS	NS	NS	NS	NS	NS	< 10
2-Butanone (MEK)			NS	NS	NS	NS	NS	NS	NS	NS	61
Acetone	6300 (ORSG)		NS	NS	NS	NS	NS	NS	NS	NS	200
Chlorobenzene	100 (MMCL)		NS	NS	NS	NS	NS	NS	NS	NS	< 10
Chloroform	70 (ORSG)		NS	NS	NS	NS	NS	NS	NS	NS	< 10
tert-Butyl methyl ether (MTBE)	70 (ORSG)		NS	NS	NS	NS	NS	NS	NS	NS	< 10
All other VOCs	varies		NS	NS	NS	NS	NS	NS	NS	NS	ND

NOTES:
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ORSG - Office of Research and Standards Guideline (Spring 2012)
< = Less than detection limit. Reported concentration is the detection limit.
Concentrations in **bold** exceed a water quality standard.
NS - Not Sampled
ND - None Detected
B - Analyte detected in method blank.
J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

°C - degrees Celsius
* Dissolved inorganics
S.U. - Standard Unit
NTU - Nephelometric Turbidity Units
uS/cm - microSiemens/centimeter
ug/L - micrograms per Liter
mg/L - milligrams per Liter

Table 3
Surface Water Results
Shrewsbury Landfill
October 2017

Parameter	Surface Water Standards (NRWQC or MSWQS)	S-3	S-3	S-4	UNDERDRAIN
Date		**10/20/2017**	**12/1/2017**	**10/20/2017**	**10/20/2017**
Field Parameters					
Temperature (°C)	<28.3 MSWQS	10.8	NS	11.6	13.1
Dissolved Oxygen (mg/L)	>5.0 MSWQS	7.4	NS	7.8	**1.8**
Conductivity (uS/cm)		426.1	NS	321.1	328.9
pH (S.U.)	6.5-9 CCC	7.21	NS	7.44	7.18
Turbidity (NTU)		225.6	NS	24.1	3.1
Inorganics (mg/L)*					
Arsenic	0.340 CMC, 0.150 CCC	**0.39**	0.0016	0.0011 J	0.0021 J
Barium		2.3	0.061	0.044	0.098
Cadmium	0.002 CMC, 0.00072 CCC	**0.054**	0.00015	< 0.00025	< 0.00025
Chromium (as Total Chromium)	0.570 CMC, 0.074 CCC	**0.19**	0.0029	< 0.0040	< 0.0040
Copper		0.58	<0.0016	0.0028 J	0.0018 J
Lead	0.065 CMC, 0.0025 CCC	**1.1**	0.00043	0.0014	0.00017 J
Nickel	0.470 CMC, 0.052 CCC	**0.3**	0.0027	0.0023 J	0.0095 J
Mercury	0.0014 CMC, 0.00077 CCC	< 0.00020	<0.00012	< 0.00020	< 0.00020
Selenium	0.005 CCC	**0.014**	0.0011	< 0.0010	< 0.0010
Silver	0.0032 CMC	< 0.015	<0.0017	< 0.0030	< 0.0030
Zinc	0.120 CMC/CCC	**2.9**	0.014	0.0099 J	0.0030 J
Total Cyanide	0.022 CMC, 0.0052 CCC	**0.0066**	<0.005	< 0.0052	< 0.0052
Indicator Parameters (mg/L)					
Alkalinity, Total	20 CCC	**136**	**105**	**168.0**	**540**
Calcium		135	84.6	121.0	182
Chemical Oxygen Demand		5270	6.1	29	38.6
Chloride	860 CMC, 230 CCC	**341**	150	**372**	**280**
Iron	1.0 CCC	**490**	0.42	0.43	0.5
Manganese		109	1.6	16.2 B	2.6 B
Nitrate (as N)		11.2	0.24	< 0.050	< 0.050
Sodium		68.5 B	42.1	110	51.3
Sulfate		109	63.7	< 10.0	26.3
Solids, Total Dissolved		NS	507	904	1150
Volatile Organic Compounds (ug/L)					
1,4-Dioxane		3.5	6.2	< 1.6	63
Acetone		12	<3	4.0 J	< 10
Chlorobenzene		< 1.0	<0.75	< 1.0	1.8 J
Methyl tert-butyl ether		< 1.0	<0.16	< 1.0	< 2.0
1,4-Dicholorbenzene		< 1.0	<0.84	< 1.0	< 2.0
All other VOCs		1.4	ND	ND	3.1

NOTES:
NRWQC - EPA National Recommended Water Quality Criteria (2009)
MSWQS - Massachusetts Surface Water Quality Standards (2007)
CMC - NRWQC Criteria Maximum Concentration
CCC - NRWQC Criterion Continuous Concentration
ND - Not Detected
Concentrations in **bold** exceed surface water quality criteria.
< - Less than detection limit. Reported concentration is the detection limit.
NM - Not measured
NS - Not sampled
* Total inorganics
B - Analyte detected in method blank.
J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
NA - Not Analyzed
S.U. - Standard Unit
NTU - Nephelometric Turbidity Units
uS/cm - microSiemens/centimeter
ug/L - micrograms per Liter
mg/L - millgrams per Liter
°C - degrees Celcius

LGCI
Lahlaf Geotechnical Consulting, Inc.

February 14, 2018

Mr. Mike Pagano
Lamoureux Pagano & Associates, Inc.
108 Grove Street, Suite 300
Worcester, MA 01605
Tel: (508) 752-2831
Fax: (508) 757-7769
E-mail: MPagano@lamoureuxpagano.com

Re: Preliminary Geotechnical Review Services
Proposed Beal Early Childhood Center School
Glavin Center Property
Shrewsbury, Massachusetts
LGCI Project No. 1806

Dear Mr. Pagano:

Lahlaf Geotechnical Consulting, Inc. (LGCI) has performed a site visit and completed a preliminary review of the geotechnical data available for the Regional Glavin Center Property (Glavin Center Site) in relation to the proposed Beal Early Childhood Center School in Shrewsbury, Massachusetts. Our services were performed in accordance with our proposal No. 17157-Rev. 1 dated November 30, 2017. You authorized our services by signing our proposal on December 22, 2017.

This letter includes a summary of our field observations, a summary of the subsurface data we reviewed, our opinion about possible foundation issues during construction, and our recommendations for subsurface explorations.

1. Reviewed Documents

LGCI reviewed the following documents:

- "Web Soil Survey, Soil Map - Worcester County, Massachusetts, Northeastern Part," (Soil Survey Report) National Cooperative Soil Survey/National Resources Conservation Services, USDA (Map and soil description printed January 30, 2018 from https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx).

- "Surficial Geologic Map of the Clinton-Concord-Grafton-Medfield 12- Quadrangle Area in East Central Massachusetts," prepared by Stone, B.D. and Stone, J.R. for U.S. Geological Survey, Open File Report 2006-1260A.

- Sketch titled: "Beal Early Childhood Center, Preliminary Evaluation of Alternatives, Glavin Center Property," (Site Plan) prepared by Lamoureux Pagano & Associates, Inc. (LPA) and provided to us by LPA via e-mail on November 20, 2017.

- Plan titled: "Worcester School for the Mentally Retarded, Shrewsbury, MA, Boring Logs Sheet No. 1, Plan No. S-00," dated May 27, 1971 and provided to LGCI by LPA via e-mail on February 6, 2018.

2. Site Location Description

We understand that one of the sites being considered for the proposed Beal Early Childhood Center School in Shrewsbury, Massachusetts is the parcel of land referred to as Glavin Center Site. The site is located at 214 Lake Street in Shrewsbury, Massachusetts as shown in Figure 1. Based on the Site Plan, the site is about 98.87 acres in size and has developable area of about 16.5 acres.

The site consists of two parcels of land on the western and eastern side of Lake Street. The western parcel is currently occupied by the Glavin Center, the Shrewsbury Library, and athletic fields. The site is surrounded by private properties. The eastern parcel consists mostly of farm land on the northern side and wooded land on the southern side.

The site has frontage on Lake Street.

3. Project Description

We understand that the proposed school will accommodate 780 students in grades K-4. Shrewsbury is considering two (2) sites for the proposed school. This letter report focuses on the Glavin Center Site.

We understand that the plans for the proposed school are not finalized at this time. Details about the size, layout, and location of the proposed school are not available at the time of this letter.

Field Observations

An LGCI representative visited the site on February 14, 2018. The purpose of our visit was to observe site features such as wet areas, rock outcrops, and other features that may impact construction. Photographs taken during our site visit are included in Appendix A.

The Glavin Center Site consists of two large parcels located on either side of Lake Street. The western parcel is primarily occupied by the Glavin Center that is comprised of several one- to two-story buildings, associated parking lots and driveways, and the Shrewsbury Library, a one-story building. Generally, the ground surface is level with very small variations around the existing buildings. The parcel on the eastern side of Lake Street has an irregular shape and consists of agricultural land on the northern side and wooded land on the southern side. The

trees in the wooded land are old, established trees. The ground surface is generally level in the wooded area, and slopes downward from Lake Street over the agricultural land.

No rock outcrops or wet areas were visible at the ground surface.

4. Summary of Existing Subsurface Data

Soil Survey Report – Based on the Soil Survey Report listed in Section 1, the soils at the site are classified primarily as Scarboro Mucky fine sandy loam, Freetown Muck, Ridgebury fine sandy loam, Paxton fine sandy loam, Woodbridge fine sandy loam, and Canton fine sandy loam. The Soil Survey Report indicates that the horizons A and B (i.e., topsoil and subsoil layers) range in thickness between 19 and 32 inches. The Soil Survey Report also indicated that on the eastern side of the eastern parcel (east of Lake Street) muck and peat extend to depths of 11 to 79 inches. These deposits may be deeper near wetlands. A copy of the Soil Survey Report and Map are included in Attachment B.

Surficial Geologic Map – The Surficial Geologic Map (listed in Section 1) indicates that the natural soils in the general vicinity of the site consist of thin till comprised of non-sorted, non-stratified matrix of sand, some silt, and little clay and contains scattered clasts of gravel and a few large boulders. The map does not show rock outcrops at the site, but it shows rock outcrops not far from the site west of Cherry Street.

The Surficial Geologic Map of the site is shown in Figure 2.

Previous Explorations

As part of the construction for the Worcester School of the Mentally Retarded in Shrewsbury, Massachusetts, (current Glavin Center) Six (6) test pits and thirty-six (36) borings were performed at the site between November 25 and 27, 1970.

The test pits extended to a depth of 10 feet beneath the ground surface. Topsoil was encountered at the ground surface and extended to depths ranging between 1 and 2 feet beneath the ground surface. Natural sand was encountered beneath the topsoil and extended to the bottom of the test pits. The natural sand consisted of fine sand with up to approximately 10 percent fines and up to approximately 35 percent gravel. A few of the test pits contained 20 to 35 percent cobbles or boulders.

The borings extended to depths ranging between 5 and 20 feet below ground surface. Topsoil was encountered at the ground surface and extended to depths ranging between 1 and 3 feet beneath the ground surface. Natural sand was encountered beneath the topsoil and extended to the borings termination depth. The natural sand consisted of fine sand with trace up to

approximately 35 percent fines. The percentage of gravel ranged between 20 to 50 percent. The natural sand in a few borings contained approximately 10 percent up to approximately 50 percent silty clay. The SPT N-values in the sand layer ranged between 7 to 281 blows per foot, with many of the SPT N-values between 13 to 100 blows per foot, indicating medium dense to very dense material.

The locations and logs of the previous borings and test pits are included in Attachment C.

5. Preliminary Recommendations

Please note that the review of available information summarized in this letter is not a substitute for a subsurface exploration program. The information gathered as part of this review may be incomplete and the recommendations derived therefrom are at best preliminary in nature and must be confirmed with actual subsurface explorations, laboratory testing, and geotechnical analyses.

Based on the available subsurface data, we believe that the subsurface conditions at the site are suitable to support shallow foundations after the surficial topsoil, subsoil, root balls, existing fill, if any, buried topsoil/subsoil, muck, and peat, if any, and existing foundations are removed. Excavations for foundations and utilities in the glacial till are anticipated to generate a large quantity of boulders.

We recommend performing soil explorations at the site including soil borings. LGCI is under contract to perform soil borings as part of the next phase of this project.

Limitations

Our letter is based on project information provided to us at the time of this letter. If changes to the type, size, and location of the proposed structures or to the site grading are made, the recommendations contained in this letter shall not be considered valid unless the changes are reviewed, and the conclusions and recommendations modified in writing by LGCI. LGCI cannot accept responsibility for designs based solely on these preliminary recommendations.

It is not part of our scope to perform a more detailed site history; therefore, we have not explored for or researched the locations of buried utilities or other structures in the area of the proposed construction. Our scope did not include environmental services or services related to moisture, mold, or other biological contaminates in or around the site.

The recommendations in this letter are based in part on the data obtained from the review of existing subsurface data. The recommendations contained in this letter are at best preliminary in

nature and must be confirmed with actual subsurface explorations, laboratory testing, and geotechnical analyses.

Our letter has been prepared in accordance with generally accepted engineering practices and in accordance with the terms and conditions set forth in our agreement. No other warranty, expressed or implied, is made. This report has been prepared for the exclusive use of Lamoureux Pagano & Associates, Inc. for the specific application to the proposed Beal Early Childhood Center School at the Glavin Center Site in Shrewsbury, Massachusetts as conceived at this time.

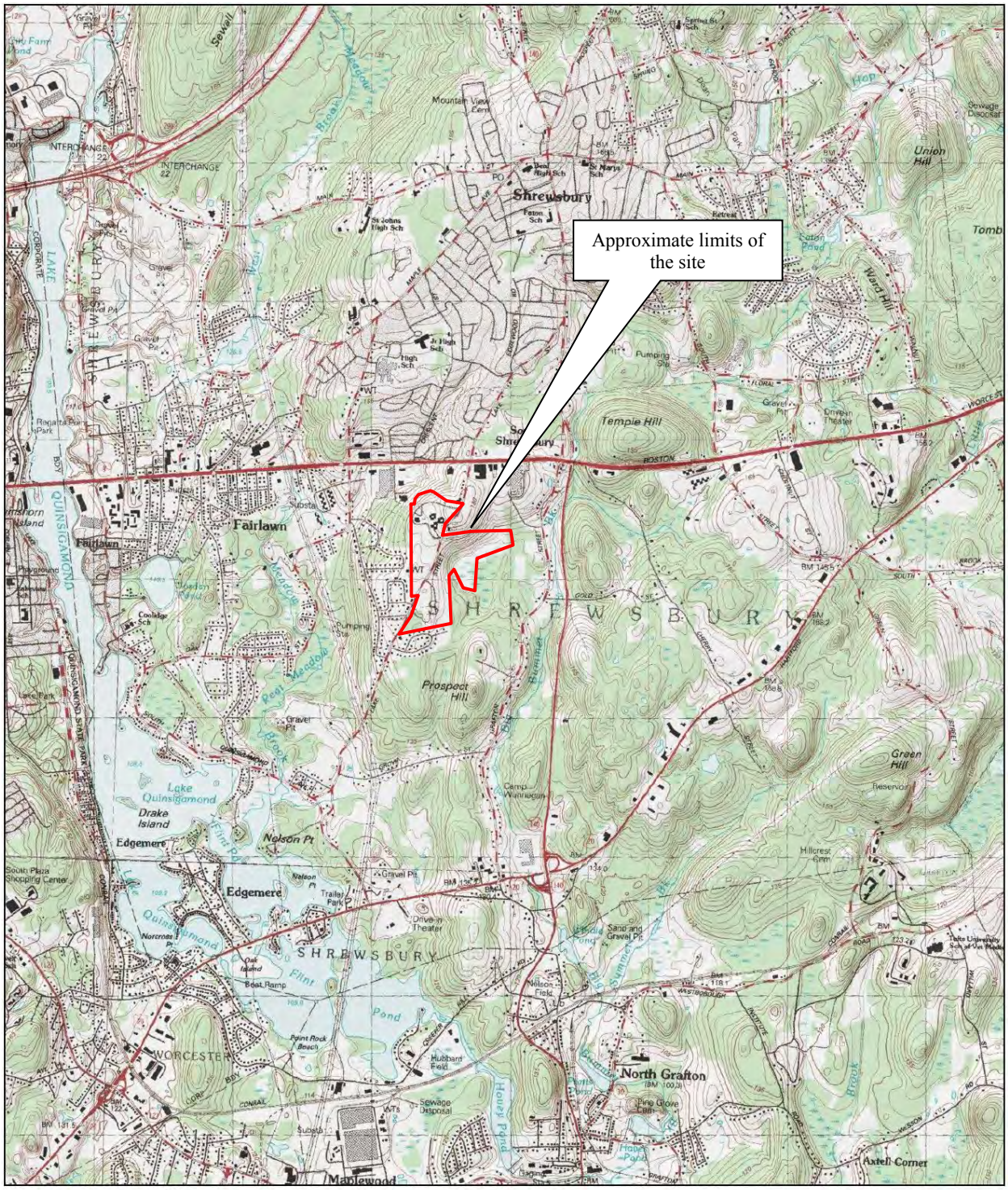
If you have any questions or need further assistance, please contact us at (978) 330-5912.

Very truly yours,

Lahlaf Geotechnical Consulting, Inc.

Abdelmadjid M. Lahlaf, Ph.D., P.E.
Principal Engineer

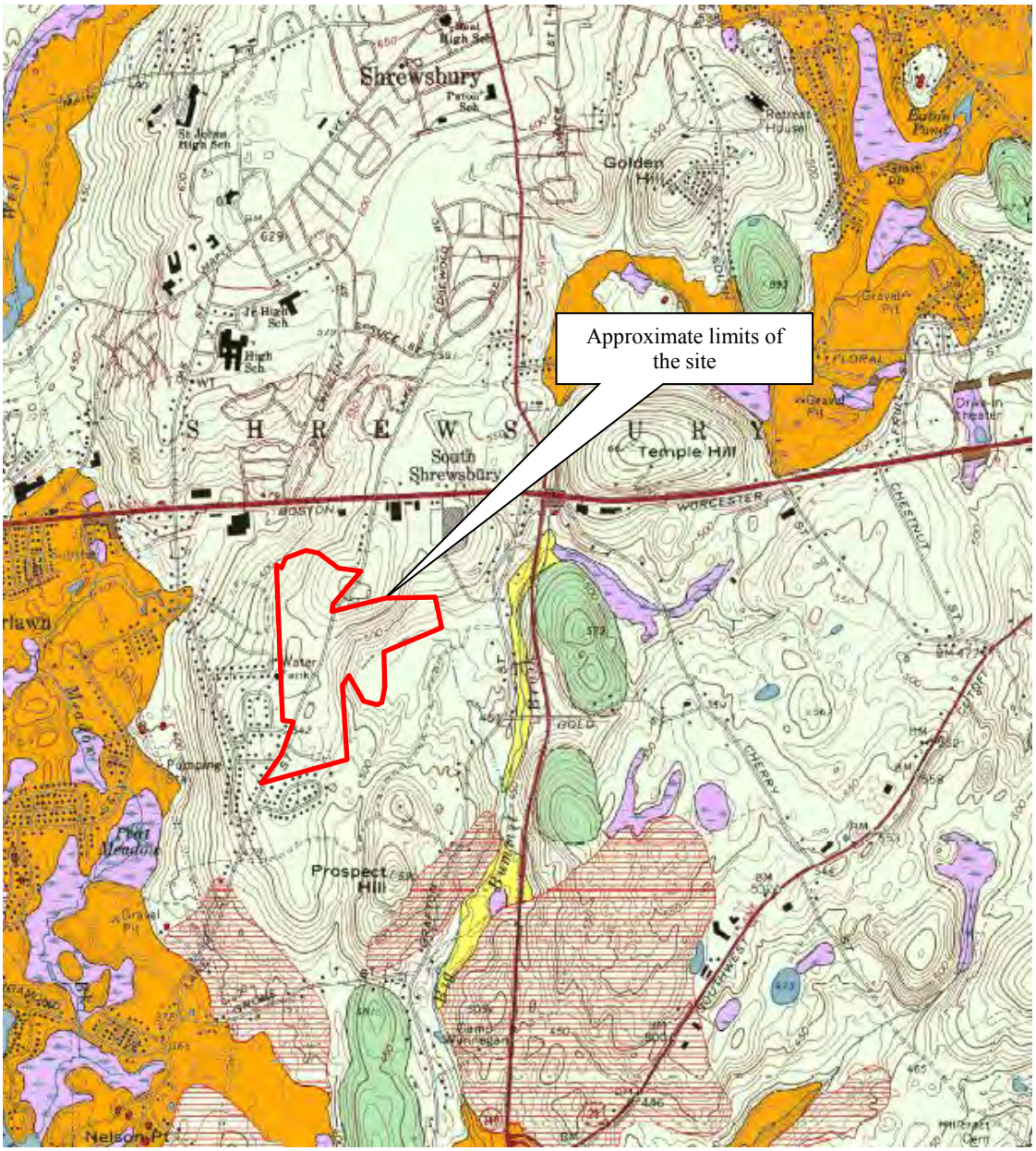
Attachments: Figure 1 – Site Location Map
Figure 2 – Surficial Geologic Map
Attachment A – Photographs
Attachment B – Excerpts of Soil Survey Report
Attachment C – Locations and Logs of Previous Borings and Test Pits



Contour Intervals: 3 meters

Figure based on USGS topographic map of Shrewsbury, MA obtained from www.mytopo.com/maps

Client:	Project:	Figure 1 – Site Location Map – Glavin Center Site	
Lamoureux Pagano & Associates, Inc.	Proposed Beal Early Childhood Center		
LGCI Lahlaf Geotechnical Consulting, Inc.	Project Location: Shrewsbury, MA	LGCI Project No.: 1806	Date: Feb. 2018



Thin till—Nonsorted, nonstratified matrix of sand, some silt, and little clay containing scattered gravel clasts and few large boulders; in areas where till is generally less than 10-15 ft thick and including areas of bedrock outcrop where till is absent. Predominantly upper till of the last glaciation; loose to moderately compact, generally sandy, commonly stony. Two facies are present in some places; a looser, coarser-grained ablation facies, melted out from supraglacial position; and an underlying more compact, finer-grained lodgement facies deposited subglacially. In general, both ablation and lodgement facies of upper till derived from fine-grained bedrock are finer grained, more compact, less stony and have fewer surface boulders than upper till derived from coarser grained crystalline rocks. Fine-grained bedrock sources include the red Mesozoic sedimentary rocks of the Connecticut River lowland, marble in the western river valleys, and fine-grained schists in upland areas.

Figure based on map titled: "Surficial Geologic Map of the Clinton-Concord-Grafton-Medfield 12- Quadrangle Area in East Central Massachusetts," prepared by Stone, B.D. and Stone, J.R. for U.S. Geological Survey, Open File Report 2006-1260A.

Client:	Project:	Figure 2– Surficial Geologic Map - Glavin Center Site	
Lamoureux Pagano & Associates, Inc.	Proposed Beal Early Childhood Center		
LGCI Lahlaf Geotechnical Consulting, Inc.	Project Location: Shrewsbury, MA	LGCI Project No.: 1806	Date: Feb. 2018

Attachment A – Photographs

Photo 1 - View of Athletic Fiellds south of Glavin Center

Photo No. 2 View of Glavin Center

Photo No. 2 - View of Parcel East of Lake Street

Photo No. 4: Stone Walls Lining Western Edge of Parcel East of Lake Street

Photo No. 5: Wooded Land East of Lake Street

Attachment B – Excerpts of Soil Survey Report

Map Scale: 1:6,060 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 250 500 1000 1500

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Worcester County, Massachusetts, Northeastern Part
Survey Area Data: Version 12, Oct 6, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 12, 2014—Sep 28, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
6A	Scarboro mucky fine sandy loam, 0 to 3 percent slopes	0.3	0.3%
52A	Freetown muck, 0 to 1 percent slopes	7.1	7.8%
71B	Ridgebury fine sandy loam, 3 to 8 percent slopes, extremely stony	0.1	0.1%
305B	Paxton fine sandy loam, 3 to 8 percent slopes	26.9	29.4%
305C	Paxton fine sandy loam, 8 to 15 percent slopes	20.0	21.9%
305D	Paxton fine sandy loam, 15 to 25 percent slopes	10.6	11.7%
306C	Paxton fine sandy loam, 8 to 15 percent slopes, very stony	1.3	1.5%
307D	Paxton fine sandy loam, 15 to 25 percent slopes, extremely stony	2.7	3.0%
310B	Woodbridge fine sandy loam, 3 to 8 percent slopes	0.1	0.1%
310C	Woodbridge fine sandy loam, 8 to 15 percent slopes	5.0	5.4%
312B	Woodbridge fine sandy loam, 0 to 8 percent slopes, extremely stony	4.8	5.2%
420B	Canton fine sandy loam, 3 to 8 percent slopes	12.4	13.6%
Totals for Area of Interest		**91.4**	**100.0%**

Worcester County, Massachusetts, Northeastern Part

305B—Paxton fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2t2qp
Elevation: 0 to 1,570 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Paxton and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton

Setting

Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Backslope, summit, shoulder
Landform position (three-dimensional): Side slope, crest, nose slope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 8 inches: fine sandy loam
Bw1 - 8 to 15 inches: fine sandy loam
Bw2 - 15 to 26 inches: fine sandy loam
Cd - 26 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 18 to 39 inches to densic material
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s

Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Woodbridge
Percent of map unit: 9 percent
Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Backslope, footslope, summit
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Ridgebury
Percent of map unit: 6 percent
Landform: Drainageways, hills, ground moraines, depressions
Landform position (two-dimensional): Backslope, footslope, toeslope
Landform position (three-dimensional): Head slope, base slope, dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Charlton
Percent of map unit: 5 percent
Landform: Hills
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Data Source Information

Soil Survey Area: Worcester County, Massachusetts, Northeastern Part
Survey Area Data: Version 12, Oct 6, 2017

Worcester County, Massachusetts, Northeastern Part

305C—Paxton fine sandy loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2w66y
Elevation: 0 to 1,320 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Paxton and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton

Setting

Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 8 inches: fine sandy loam
Bw1 - 8 to 15 inches: fine sandy loam
Bw2 - 15 to 26 inches: fine sandy loam
Cd - 26 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 20 to 39 inches to densic material
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Low (about 4.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C

Hydric soil rating: No

Minor Components

Charlton

Percent of map unit: 7 percent
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Woodbridge

Percent of map unit: 6 percent
Landform: Drumlins, ground moraines, hills
Landform position (two-dimensional): Backslope, footslope, summit
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Ridgebury

Percent of map unit: 2 percent
Landform: Drainageways, drumlins, hills, ground moraines, depressions
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Worcester County, Massachusetts, Northeastern Part
Survey Area Data: Version 12, Oct 6, 2017

Worcester County, Massachusetts, Northeastern Part

305D—Paxton fine sandy loam, 15 to 25 percent slopes

Map Unit Setting

National map unit symbol: 2w67j
Elevation: 0 to 1,450 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Paxton and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton

Setting

Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 8 inches: fine sandy loam
Bw1 - 8 to 15 inches: fine sandy loam
Bw2 - 15 to 26 inches: fine sandy loam
Cd - 26 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 15 to 25 percent
Depth to restrictive feature: 20 to 39 inches to densic material
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Low (about 4.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C

Hydric soil rating: No

Minor Components

Charlton

Percent of map unit: 8 percent
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Woodbridge

Percent of map unit: 6 percent
Landform: Drumlins, ground moraines, hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Ridgebury

Percent of map unit: 1 percent
Landform: Drainageways, drumlins, hills, ground moraines, depressions
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Worcester County, Massachusetts, Northeastern Part
Survey Area Data: Version 12, Oct 6, 2017

Worcester County, Massachusetts, Northeastern Part

306C—Paxton fine sandy loam, 8 to 15 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2w677
Elevation: 0 to 1,330 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Paxton, very stony, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton, Very Stony

Setting

Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex, linear
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material
A - 2 to 10 inches: fine sandy loam
Bw1 - 10 to 17 inches: fine sandy loam
Bw2 - 17 to 28 inches: fine sandy loam
Cd - 28 to 67 inches: gravelly fine sandy loam

Properties and qualities

Slope: 8 to 15 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: 20 to 43 inches to densic material
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Woodbridge, very stony

Percent of map unit: 8 percent
Landform: Drumlins, ground moraines, hills
Landform position (two-dimensional): Backslope, footslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Charlton, very stony

Percent of map unit: 5 percent
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Ridgebury, very stony

Percent of map unit: 2 percent
Landform: Drainageways, drumlins, hills, ground moraines, depressions
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Worcester County, Massachusetts, Northeastern Part
Survey Area Data: Version 12, Oct 6, 2017

Worcester County, Massachusetts, Northeastern Part

307D—Paxton fine sandy loam, 15 to 25 percent slopes, extremely stony

Map Unit Setting

National map unit symbol: 2w67l
Elevation: 0 to 1,570 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Paxton, extremely stony, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton, Extremely Stony

Setting

Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex, linear
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material
A - 2 to 10 inches: fine sandy loam
Bw1 - 10 to 17 inches: fine sandy loam
Bw2 - 17 to 28 inches: fine sandy loam
Cd - 28 to 67 inches: gravelly fine sandy loam

Properties and qualities

Slope: 15 to 25 percent
Percent of area covered with surface fragments: 9.0 percent
Depth to restrictive feature: 20 to 43 inches to densic material
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Charlton, extremely stony

Percent of map unit: 9 percent
Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Woodbridge, extremely stony

Percent of map unit: 5 percent
Landform: Drumlins, ground moraines, hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Ridgebury, extremely stony

Percent of map unit: 1 percent
Landform: Drainageways, drumlins, hills, ground moraines, depressions
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Worcester County, Massachusetts, Northeastern Part
Survey Area Data: Version 12, Oct 6, 2017

Worcester County, Massachusetts, Northeastern Part

310B—Woodbridge fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2t2ql
Elevation: 0 to 1,470 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Woodbridge, fine sandy loam, and similar soils: 82 percent
Minor components: 18 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodbridge, Fine Sandy Loam

Setting

Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Backslope, footslope, summit
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 7 inches: fine sandy loam
Bw1 - 7 to 18 inches: fine sandy loam
Bw2 - 18 to 30 inches: fine sandy loam
Cd - 30 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 20 to 39 inches to densic material
Natural drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D

Hydric soil rating: No

Minor Components

Paxton

Percent of map unit: 10 percent
Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Backslope, summit, shoulder
Landform position (three-dimensional): Side slope, crest, nose slope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Hydric soil rating: No

Ridgebury

Percent of map unit: 8 percent
Landform: Drainageways, hills, ground moraines, depressions
Landform position (two-dimensional): Backslope, footslope, toeslope
Landform position (three-dimensional): Head slope, base slope, dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Worcester County, Massachusetts, Northeastern Part
Survey Area Data: Version 12, Oct 6, 2017

Worcester County, Massachusetts, Northeastern Part

310C—Woodbridge fine sandy loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2w689
Elevation: 0 to 1,370 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Woodbridge and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodbridge

Setting

Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Footslope, backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 7 inches: fine sandy loam
Bw1 - 7 to 18 inches: fine sandy loam
Bw2 - 18 to 30 inches: fine sandy loam
Cd - 30 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: 20 to 39 inches to densic material
Natural drainage class: Moderately well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: C/D

Hydric soil rating: No

Minor Components

Paxton

Percent of map unit: 10 percent
Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Hydric soil rating: No

Ridgebury

Percent of map unit: 4 percent
Landform: Drainageways, drumlins, hills, ground moraines, depressions
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Sutton

Percent of map unit: 1 percent
Landform: Hills, ground moraines
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Data Source Information

Soil Survey Area: Worcester County, Massachusetts, Northeastern Part
Survey Area Data: Version 12, Oct 6, 2017

Worcester County, Massachusetts, Northeastern Part

312B—Woodbridge fine sandy loam, 0 to 8 percent slopes, extremely stony

Map Unit Setting

National map unit symbol: 2t2qs
Elevation: 0 to 1,580 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Woodbridge, extremely stony, and similar soils: 82 percent
Minor components: 18 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodbridge, Extremely Stony

Setting

Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Backslope, footslope, summit
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material
A - 2 to 9 inches: fine sandy loam
Bw1 - 9 to 20 inches: fine sandy loam
Bw2 - 20 to 32 inches: fine sandy loam
Cd - 32 to 67 inches: gravelly fine sandy loam

Properties and qualities

Slope: 0 to 8 percent
Percent of area covered with surface fragments: 9.0 percent
Depth to restrictive feature: 20 to 43 inches to densic material
Natural drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 19 to 27 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: C/D
Hydric soil rating: No

Minor Components

Paxton, extremely stony

Percent of map unit: 10 percent
Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Shoulder, backslope, summit
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex, linear
Hydric soil rating: No

Ridgebury, extremely stony

Percent of map unit: 8 percent
Landform: Drainageways, drumlins, ground moraines, depressions, hills
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Worcester County, Massachusetts, Northeastern Part
Survey Area Data: Version 12, Oct 6, 2017

Worcester County, Massachusetts, Northeastern Part

420B—Canton fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2w81b
Elevation: 0 to 1,180 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Canton and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Canton

Setting

Landform: Moraines, ridges, hills
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Side slope, crest, nose slope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Parent material: Coarse-loamy over sandy melt-out till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 7 inches: fine sandy loam
Bw1 - 7 to 15 inches: fine sandy loam
Bw2 - 15 to 26 inches: gravelly fine sandy loam
2C - 26 to 65 inches: gravelly loamy sand

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 19 to 39 inches to strongly contrasting textural stratification
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 2.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s

Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Scituate
Percent of map unit: 10 percent
Landform: Drumlins, ground moraines, hills
Landform position (two-dimensional): Footslope, backslope, summit
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Hydric soil rating: No

Montauk
Percent of map unit: 5 percent
Landform: Drumlins, moraines, hills, ground moraines
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Linear, convex
Across-slope shape: Convex
Hydric soil rating: No

Charlton
Percent of map unit: 4 percent
Landform: Hills, ground moraines, ridges
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Hydric soil rating: No

Swansea
Percent of map unit: 1 percent
Landform: Kettles, swamps, bogs, marshes, depressions
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Worcester County, Massachusetts, Northeastern Part
Survey Area Data: Version 12, Oct 6, 2017

Worcester County, Massachusetts, Northeastern Part

52A—Freetown muck, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2t2q9
Elevation: 0 to 1,110 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of unique importance

Map Unit Composition

Freetown and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Freetown

Setting

Landform: Kettles, swamps, bogs, marshes, depressions, depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Highly decomposed organic material

Typical profile

Oe - 0 to 2 inches: mucky peat
Oa - 2 to 79 inches: muck

Properties and qualities

Slope: 0 to 1 percent
Percent of area covered with surface fragments: 0.0 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.14 to 14.17 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: Rare
Frequency of ponding: Frequent
Available water storage in profile: Very high (about 19.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: B/D
Hydric soil rating: Yes

Minor Components

Swansea

Percent of map unit: 5 percent
Landform: Kettles, swamps, bogs, marshes, depressions, depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Whitman

Percent of map unit: 5 percent
Landform: Drainageways, depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Scarboro

Percent of map unit: 5 percent
Landform: Drainageways, depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope, tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Worcester County, Massachusetts, Northeastern Part
Survey Area Data: Version 12, Oct 6, 2017

Worcester County, Massachusetts, Northeastern Part

6A—Scarboro mucky fine sandy loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 2svky
Elevation: 0 to 1,320 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 250 days
Farmland classification: Not prime farmland

Map Unit Composition

Scarboro and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Scarboro

Setting

Landform: Drainageways, outwash deltas, outwash terraces, depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope, tread, dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Sandy glaciofluvial deposits derived from schist and/or sandy glaciofluvial deposits derived from gneiss and/or sandy glaciofluvial deposits derived from granite

Typical profile

Oe - 0 to 3 inches: mucky peat
A - 3 to 11 inches: mucky fine sandy loam
Cg1 - 11 to 21 inches: sand
Cg2 - 21 to 65 inches: gravelly coarse sand

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (1.42 to 14.17 in/hr)
Depth to water table: About 0 to 2 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: A/D
Hydric soil rating: Yes

Minor Components

Swansea
Percent of map unit: 10 percent
Landform: Swamps, bogs
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Walpole
Percent of map unit: 5 percent
Landform: Outwash plains, outwash terraces, deltas, depressions, depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread, dip, talf
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Wareham
Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Worcester County, Massachusetts, Northeastern Part
Survey Area Data: Version 12, Oct 6, 2017

Worcester County, Massachusetts, Northeastern Part

71B—Ridgebury fine sandy loam, 3 to 8 percent slopes, extremely stony

Map Unit Setting

National map unit symbol: 2w69c
Elevation: 0 to 1,290 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Ridgebury, extremely stony, and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ridgebury, Extremely Stony

Setting

Landform: Drainageways, drumlins, hills, ground moraines, depressions
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 6 inches: fine sandy loam
Bw - 6 to 10 inches: sandy loam
Bg - 10 to 19 inches: gravelly sandy loam
Cd - 19 to 66 inches: gravelly sandy loam

Properties and qualities

Slope: 3 to 8 percent
Percent of area covered with surface fragments: 9.0 percent
Depth to restrictive feature: 15 to 35 inches to densic material
Natural drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Hydric soil rating: Yes

Minor Components

Woodbridge, extremely stony

Percent of map unit: 10 percent
Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Footslope, summit, backslope
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Whitman, extremely stony

Percent of map unit: 8 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Paxton, extremely stony

Percent of map unit: 2 percent
Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Shoulder, summit, backslope
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex, linear
Hydric soil rating: No

Data Source Information

Soil Survey Area: Worcester County, Massachusetts, Northeastern Part
Survey Area Data: Version 12, Oct 6, 2017

Attachment C – Locations and Logs of Previous Borings and Test Pits

PARKING AREA FOR 55 CARS

OCCUPATIONAL CENTER
EL 556'-0"

NURSERY SCHOOL
EL. 556'-0"

INTERMEDIATE SCHOOL
EL 556'-0"

EDUCATIONAL & TRAINING CENTER

ADMINISTRATION / EVALUATION

HABILITATION UNIT No. 2
UPPER EL. 578'-2"
LOWER EL. 566'-0"

HABILITATION UNIT No. 1
UPPER EL. 584'-8"
LOWER EL. 572'-4"

CONDENSER

EMPLOYEE PARKING 40 CARS

PUBLIC PARKING 48 CARS

SERVICE DRIVE

LAKE STREET

CONDENSATE UNITS FOR

BASE LINE "B N/S

BASE LINE EAST WEST

BASELINE "1 N/S

BASELINE "2 N/S

STONE WALL

30'-0" PERMANENT
20'-0" TEMPORARY EASEMENTS

N 3755.335
E 5568.616

N 4259.498
E 3546.595

CONC. BD. (POINT C)
N. 3954.755
E. 5620.269

CONC. BD.
BM. EL. 588.63
N. 3977.481
E. 4358.265
POINT "B"

N

LEGEND
NEW CONTOUR
EXISTING CONTOUR
BORING LOCATION
BORING NUMBER
TEST PITS LOCATION
TEST PIT NUMBER I-VI.

NOTE: THIS DRAWING FOR BORING LOCATIONS ONLY.
FOR BORING LOGS SEE SPECS.

PROJECT M67-8 WORCESTER SCHOOL FOR THE MENTALLY RETARDED SHREWSBURY, MASS.

THE COMMONWEALTH OF MASSACHUSETTS
BUREAU OF BUILDING CONSTRUCTION
DEPARTMENT OF MENTAL HEALTH

BORINGS LOCATION PLAN

PLAN NO. S00

COMMONWEALTH OF MASSACHUSETTS — NISSO T. ALADJEM No. 5054 — REGISTERED PROFESSIONAL ENGINEER

HOYLE, DORAN AND BERRY
ARCHITECTS
BOSTON

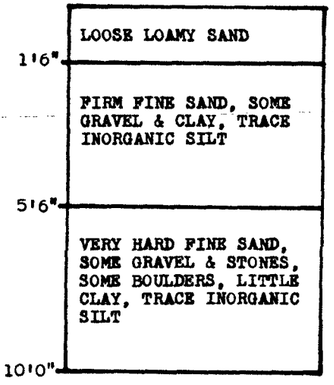
DRAWN
TRACED
CHECKED

SCALE: 1" = 60'-0"

DATE: MAY 27, 1971

TEST PIT I

GROUND SURFACE ELEV. 568.5

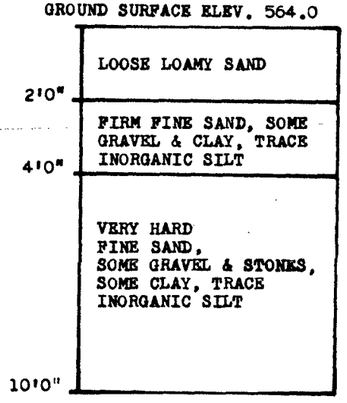


NO WATER ENCOUNTERED

DATE STARTED 11-27-70
DATE COMPLETED 11-27-70

TEST PIT II

GROUND SURFACE ELEV. 564.0

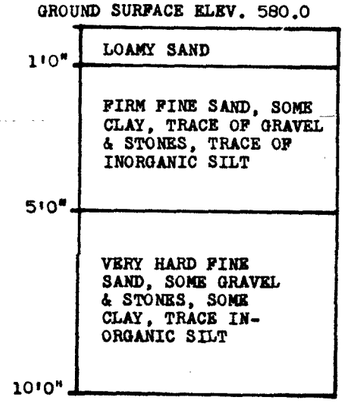


NO WATER ENCOUNTERED

DATE STARTED 11-27-70
DATE COMPLETED 11-27-70

TEST PIT III

GROUND SURFACE ELEV. 580.0

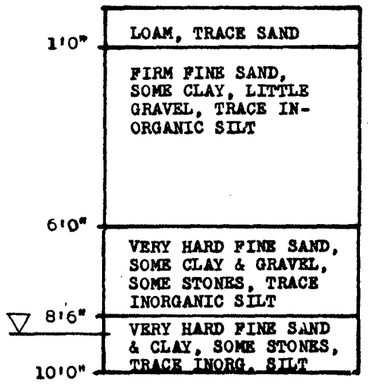


NO WATER ENCOUNTERED

DATE STARTED 11-27-70
DATE COMPLETED 11-27-70

TEST PIT IV

GROUND SURFACE ELEV. 588.0

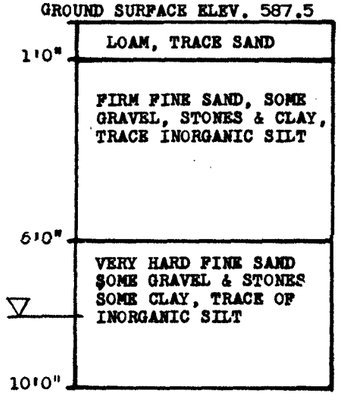


AT COMPLETION OF TEST PIT NO WATER ENCOUNTERED. OBSERVED WATER LEVEL 4-1/2-HOURS AFTER COMPLETION, WATER TABLE SEEKED ITS LEVEL. WATER LEVEL 9'0" below ground surface

DATE STARTED 11-27-70
DATE COMPLETED 11-27-70

TEST PIT V

GROUND SURFACE ELEV. 587.5

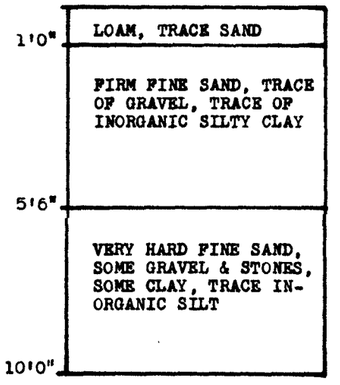


WATER LEVEL 8'0" below ground surface

DATE STARTED 11-27-70
DATE COMPLETED 11-27-70

TEST PIT VI

GROUND SURFACE ELEV. 601.5

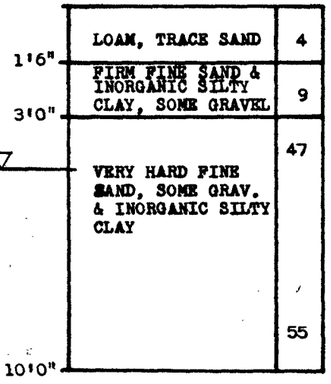


NO WATER ENCOUNTERED

DATE STARTED 11-27-70
DATE COMPLETED 11-27-70

BORING #46

GROUND SURFACE ELEV. 550.0

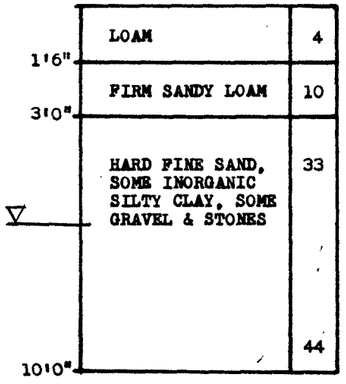


WATER LEVEL 4'6" below ground surface

DATE STARTED 11-27-70
DATE COMPLETED 11-27-70

BORING #47

GROUND SURFACE ELEV. 554.0

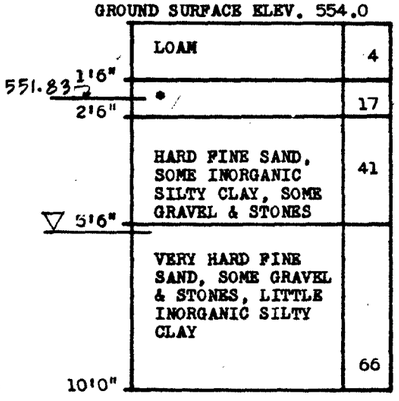


WATER LEVEL 6'0" below ground surface

DATE STARTED 11-27-70
DATE COMPLETED 11-27-70

BORING #48

GROUND SURFACE ELEV. 554.0



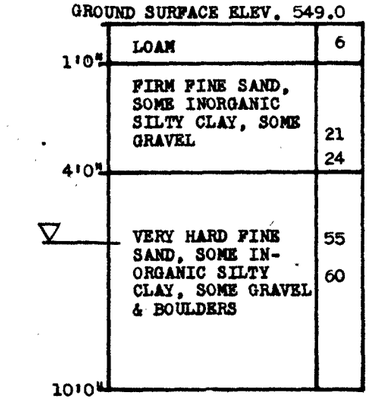
WATER LEVEL 5'6" below ground surface

DATE STARTED 11-27-70
DATE COMPLETED 11-27-70

*FIRM FINE SAND & INORGANIC SILTY CLAY, SOME GRAVEL & STONES

BORING #49

GROUND SURFACE ELEV. 549.0

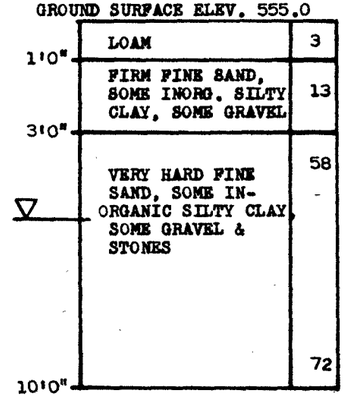


WATER LEVEL 6'0" below ground surface

DATE STARTED 11-27-70
DATE COMPLETED 11-27-70

BORING #50

GROUND SURFACE ELEV. 555.0

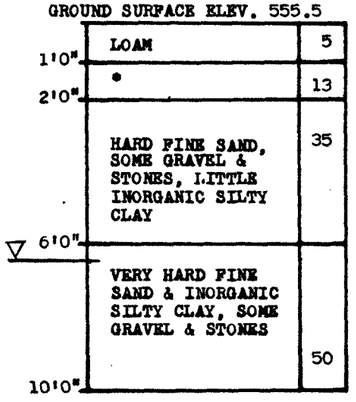


WATER LEVEL 5'6" below ground surface

DATE STARTED 11-25-70
DATE COMPLETED 11-25-70

BORING #51

GROUND SURFACE ELEV. 555.5



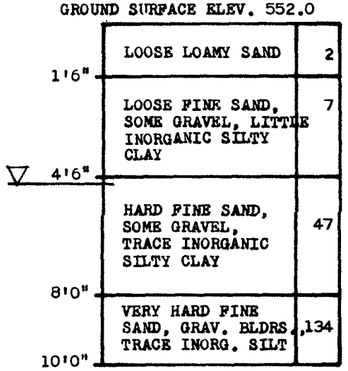
WATER LEVEL 6'6" below ground surface

DATE STARTED 11-27-70
DATE COMPLETED 11-27-70

*FIRM FINE SAND & INORGANIC SILTY CLAY, SOME GRAVEL

BORING #40

GROUND SURFACE ELEV. 552.0

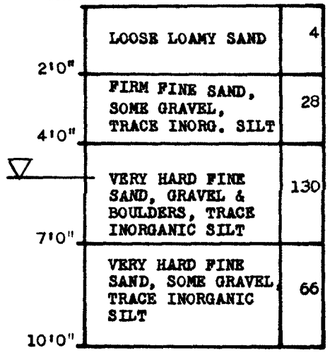


WATER LEVELL 4'6"
below ground surface

DATE STARTED 11-25-70
DATE COMPLETED 11-25-70

BORING #41

GROUND SURFACE ELEV. 551.0

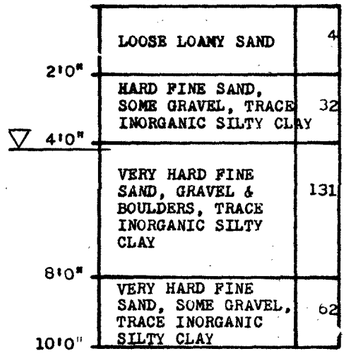


WATER LEVEL 5'0"
below ground surface

DATE STARTED 11-25-70
DATE COMPLETED 11-25-70

BORING #42

GROUND SURFACE ELEV. 549.5

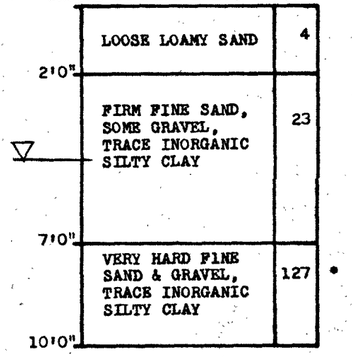


WATER LEVEL 4'0"
below ground surface

DATE STARTED 11-25-70
DATE COMPLETED 11-25-70

BORING #43

GROUND SURFACE ELEV. 545.0



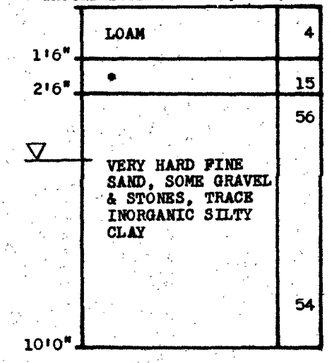
WATER LEVEL 4'6"
below ground surface

DATE STARTED 11-25-70
DATE COMPLETED 11-25-70

• USED "A" ROD WITH
140 LB. WEIGHT.

BORING #44

GROUND SURFACE ELEV. 553.5



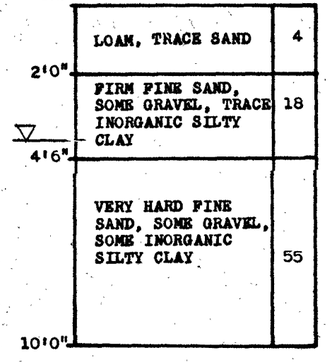
WATER LEVEL 4'6"
below ground surface

DATE STARTED 11-27-70
DATE COMPLETED 11-27-70

*FIRM LOAMY FINE SAND,
LITTLE GRAVEL, TRACE
INORGANIC SILTY CLAY

BORING #45

GROUND SURFACE ELEV. 554.0

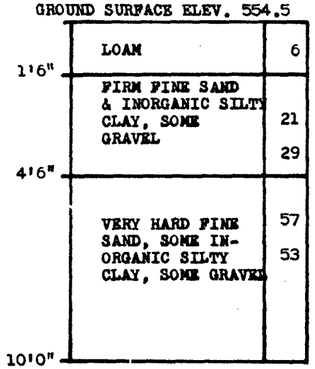


WATER LEVEL 4'0"
below ground surface

DATE STARTED 11-27-70
DATE COMPLETED 11-27-70

BORING #52

GROUND SURFACE ELEV. 554.5

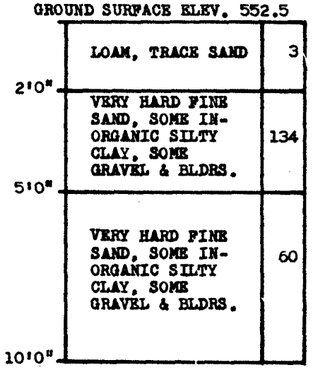


NO WATER ENCOUNTERED

DATE STARTED 11-27-70
DATE COMPLETED 11-27-70

BORING #53

GROUND SURFACE ELEV. 552.5

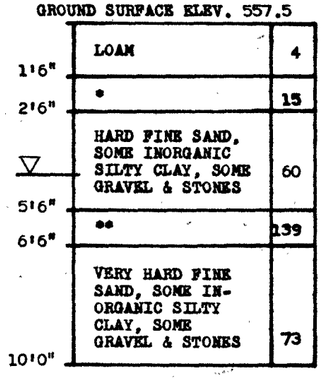


NO WATER ENCOUNTERED

DATE STARTED 11-27-70
DATE COMPLETED 11-27-70

BORING #54

GROUND SURFACE ELEV. 557.5



WATER LEVEL 4'6"
below ground surface

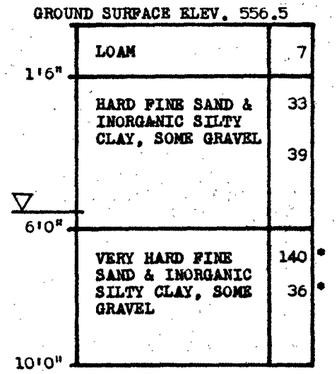
DATE STARTED 11-25-70
DATE COMPLETED 11-25-70

*FIRM LOAMY FINE SAND,
INORGANIC SILTY CLAY,
SOME GRAVEL

**VERY HARD FINE SAND,
GRAVEL & STONES,
SOME INORGANIC SILTY
CLAY

BORING #55

GROUND SURFACE ELEV. 556.5



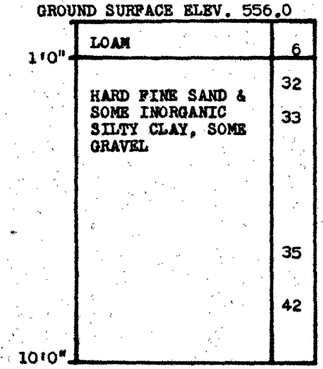
WATER LEVEL 5'6"
below ground surface

DATE STARTED 11-27-70
DATE COMPLETED 11-27-70

• USED "A" ROD WITH
140 LB. WEIGHT.

BORING #56

GROUND SURFACE ELEV. 556.0

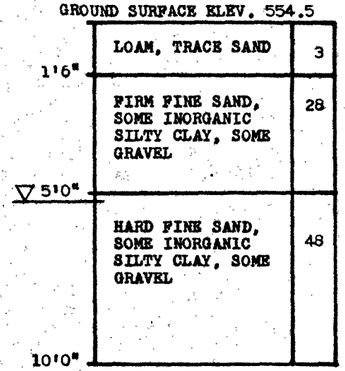


NO WATER ENCOUNTERED

DATE STARTED 11-25-70
DATE COMPLETED 11-25-70

BORING #57

GROUND SURFACE ELEV. 554.5



WATER LEVEL 5'0"
below ground surface

DATE STARTED 11-27-70
DATE COMPLETED 11-27-70

BORING #58

GROUND SURFACE ELEV. 553.5

0	LOAM, TRACE SAND	3
2'0"	FIRM FINE SAND & INORG. SILTY CLAY, SOME GRAVEL	26
3'6"	VERY HARD FINE SAND & INORG. SILTY CLAY, SOME GRAVEL & BLDRS.	* 136
▽ 5'6"	VERY HARD FINE SAND & GRAVEL, SOME INORGANIC SILTY CLAY	61
10'0"		

WATER LEVEL 5'6"
below ground surface

DATE STARTED 11-27-70
DATE COMPLETED 11-27-70

BORING #59

GROUND SURFACE ELEV. 558.5

0	LOAM	5
1'0"	FIRM FINE SAND & INORG. SILTY CLAY, SOME GRAVEL	27
2'6"	HARD FINE SAND & INORGANIC SILTY CLAY SOME GRAVEL & STONES	58
6'0"	*	281
7'0"	VERY HARD FINE SAND, SOME GRAV. & STONES, TRACE INORGANIC SILT	91
10'0"		

NO WATER ENCOUNTERED

DATE STARTED 11-25-70
DATE COMPLETED 11-25-70

*VERY HARD FINE SAND & INORGANIC SILTY CLAY, SOME GRAVEL & STONES

BORING #60

GROUND SURFACE ELEV. 560.0

0	LOAM	6
1'6"	FIRM FINE SAND, LITTLE GRAVEL, TRACE INORGANIC SILTY CLAY	24 29
4'6"	VERY HARD FINE SAND, SOME GRAVEL, TRACE INORGANIC SILTY CLAY	52 54
10'0"		

NO WATER ENCOUNTERED

DATE STARTED 11-27-70
DATE COMPLETED 11-27-70

BORING #61

GROUND SURFACE ELEV. 559.5

0	LOAM	7
1'6"	FIRM FINE SAND, SOME GRAVEL, LITTLE INORGANIC SILTY CLAY	23 26
4'0"	HARD FINE SAND, SOME GRAVEL, TRACE INORGANIC SILT	51 54
10'0"		

NO WATER ENCOUNTERED

DATE STARTED 11-27-70
DATE COMPLETED 11-27-70

BORING #62

GROUND SURFACE ELEV. 560.0

0	LOAM	7
2'0"	HARD FINE SAND, SOME GRAVEL, SOME INORGANIC SILTY CLAY	37 41
6'6"	VERY HARD FINE SAND, SOME GRAVEL, SOME INORGANIC SILTY CLAY	53 58
10'0"		

NO WATER ENCOUNTERED

DATE STARTED 11-25-70
DATE COMPLETED 11-25-70

BORING #63

GROUND SURFACE ELEV. 559.0

0	LOAM, TRACE SAND	3
1'6"	FIRM FINE SAND, SOME GRAVEL, LITTLE INORGANIC SILTY CLAY	24
4'6"	VERY HARD FINE SAND, SOME GRAVEL, LITTLE INORGANIC SILTY CLAY	62
10'0"		

NO WATER ENCOUNTERED

DATE STARTED 11-27-70
DATE COMPLETED 11-27-70

BORING #70

GROUND SURFACE ELEV. 567.0

0	LOOSE LOAMY SAND	7
1'0"	FIRM FINE LOAMY SAND	19
3'0"	VERY HARD FINE SAND, SOME GRAVEL SOME INORGANIC SILTY CLAY	129 * 127 * 131
558.92½		
15'0"		

NO WATER ENCOUNTERED

DATE STARTED 11-24-70
DATE COMPLETED 11-24-70

* USED "A" ROD WITH 140 LB. WEIGHT.

BORING #71

GROUND SURFACE ELEV. 569.0

0	LOAM	6
1'0"	**	25
2'0"	VERY HARD FINE SAND, SOME GRAVEL, SOME INORGANIC SILTY CLAY	66
▽ 561.67½		
8'6"	VERY HARD FINE SAND, GRAVEL & SOME STONES, LITTLE INORGANIC SILTY CLAY	57 135 196 *
15'0"		

WATER LEVEL 7'6"
below ground surface

DATE STARTED 11-25-70
DATE COMPLETED 11-25-70

* USED "A" ROD WITH 140 LB. WEIGHT

**FIRM FINE LOAMY SAND, LITTLE INORGANIC SILTY CLAY

BORING #72

GROUND SURFACE ELEV. 571.0

0	LOAM, LITTLE SAND, INORG. SILTY CLAY	7
1'0"	FIRM FINE LOAMY SAND, SOME INORG. SILTY CLAY	26
2'6"	VERY HARD FINE SAND, SOME GRAVEL & STONES, LITTLE INORGANIC SILT	51
6'0"	VERY HARD FINE SAND, SOME GRAVEL & STONES, LITTLE INORGANIC SILT	133 177 *
561.67½		
15'0"		

NO WATER ENCOUNTERED

DATE STARTED 11-24-70
DATE COMPLETED 11-24-70

* USED "A" ROD WITH 140 LB. WEIGHT.

BORING #73

GROUND SURFACE ELEV. 576.0

0	LOOSE LOAMY SAND	8
1'6"	HARD FINE SAND, SOME GRAVEL, SOME INORGANIC SILTY CLAY	42 92 198 170
3'6"	VERY HARD FINE SAND, SOME GRAV. & BOULDERS, LITTLE INORGANIC SILTY CLAY	132 234
561.67½		
▽		150 * 54 *
20'0"		

WATER LEVEL 15'6"
below ground surface

DATE STARTED 11-20-70
DATE COMPLETED 11-24-70

* USED "A" ROD WITH 140 LB. WEIGHT

BORING #74

GROUND SURFACE ELEV. 576.0

0	LOAM, TRACE SAND	8
2'0"	HARD FINE SAND, SOME CLAY, SOME INORG. SILTY CLAY	41
4'0"	VERY HARD FINE SAND, SOME GRAV. & STONES, LITTLE INORGANIC SILTY CLAY	125 160 170
15'0"	DRILLED BOULDER	
▽ 16'0"	VERY HARD FINE SAND, SOME GRAV. & STONES, LITTLE INORGANIC SILTY CLAY	100 * 156 *
20'0"		
555.83½		

WATER LEVEL 16'0" (TRAPPED)
below ground surface

DATE STARTED 11-18-70
DATE COMPLETED 11-19-70

* USED "A" ROD WITH 140 LB. WEIGHT.

BORING #75

GROUND SURFACE ELEV. 576.0

0	LOAM, TRACE SAND	8
1'6"	FIRM FINE LOAMY SAND, SOME GRAV.	18
3'0"	HARD FINE SAND, SOME INORGANIC SILTY CLAY, SOME GRAVEL	47
5'0"		

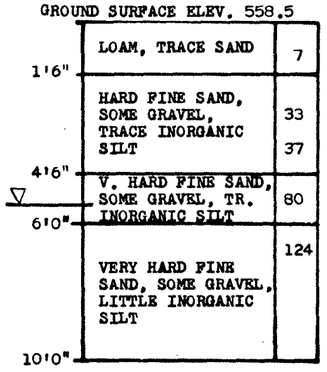
- REFUSAL -
(120 blows, no penetration)

NO WATER ENCOUNTERED

DATE STARTED 11-24-70
DATE COMPLETED 11-24-70

BORING #64

GROUND SURFACE ELEV. 558.5

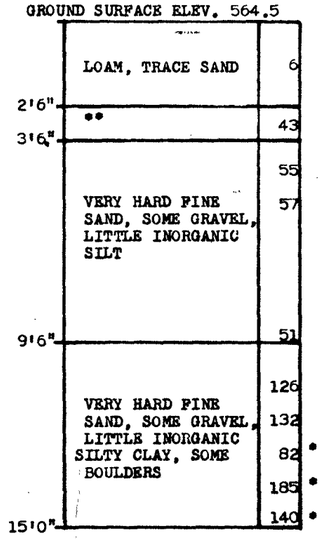


WATER LEVEL 5'6" below ground surface

DATE STARTED 11-27-70
DATE COMPLETED 11-27-70

BORING #65

GROUND SURFACE ELEV. 564.5



NO WATER ENCOUNTERED

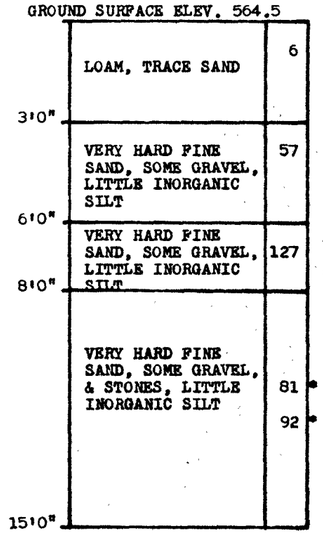
DATE STARTED 11-25-70
DATE COMPLETED 11-25-70

• USED "A" ROD WITH 140 LB. WEIGHT.

** HARD FINE SAND & INORGANIC SILT, SOME GRAVEL.

BORING #66

GROUND SURFACE ELEV. 564.5



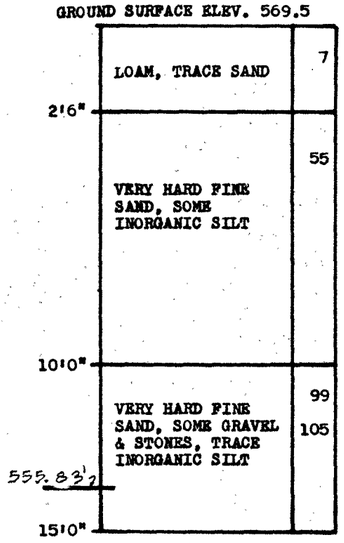
NO WATER ENCOUNTERED

DATE STARTED 11-25-70
DATE COMPLETED 11-25-70

• USED "A" ROD WITH 140 LB. WEIGHT

BORING #67

GROUND SURFACE ELEV. 569.5



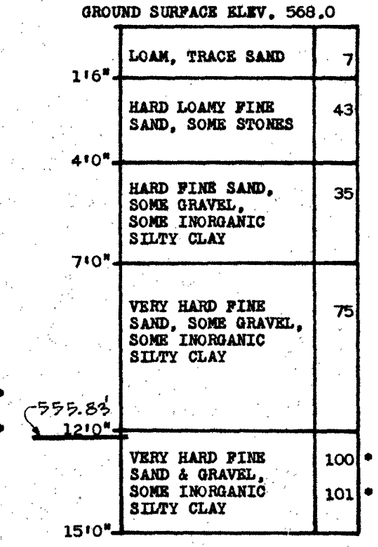
NO WATER ENCOUNTERED

DATE STARTED 11-25-70
DATE COMPLETED 11-25-70

• USED "A" ROD WITH 140 LB. WEIGHT.

BORING #68

GROUND SURFACE ELEV. 568.0



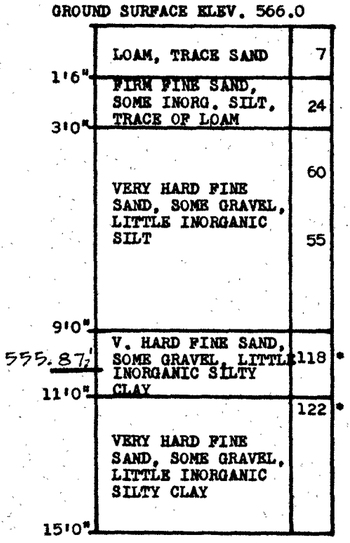
NO WATER ENCOUNTERED

DATE STARTED 11-25-70
DATE COMPLETED 11-25-70

• USED "A" ROD WITH 140 LB. WEIGHT

BORING #69

GROUND SURFACE ELEV. 566.0



NO WATER ENCOUNTERED

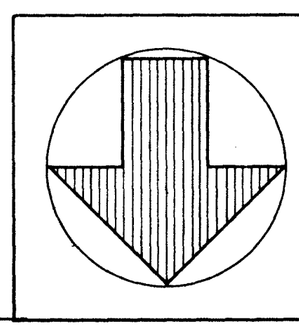
DATE STARTED 11-25-70
DATE COMPLETED 11-25-70

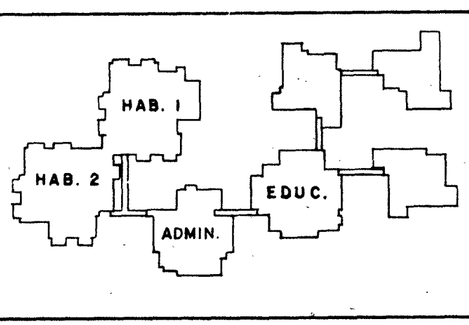
• USED "A" ROD WITH 140 LB. WEIGHT

LEGEND

▽ WATER LEVEL (TRAPPED OR NATURAL)

0.0½ BOTTOM OF FOOTING





REVISIONS		
NO.	DESCRIPTION	DATE

PROJECT M67-8 WORCESTER SCHOOL FOR TH
MENTALLY RETARDED SHREWSBURY, MAS

THE COMMONWEALTH OF MASSACHUSETTS
BUREAU OF BUILDING CONSTRUCTION
DEPARTMENT OF MENTAL HEALTH

BORING LOGS SHEET №1 | PLAN N S-O

COMMONWEALTH OF MASSACHUSETTS NISSO T. ALADJEM No. 5554 REGISTERED PROFESSIONAL ENGINEER

HOYLE, DORAN AND BERR
ARCHITECTS BOSTO

DRAWN
TRACED
CHECKED

SCALE: NO SCALE
DATE: MAY 27, 1971

LGCI
Lahlaf Geotechnical Consulting, Inc.

February 14, 2018

Mr. Mike Pagano
Lamoureux Pagano & Associates, Inc.
108 Grove Street, Suite 300
Worcester, MA 01605
Tel: (508) 752-2831
Fax: (508) 757-7769
E-mail: MPagano@lamoureuxpagano.com

Re: Preliminary Geotechnical Review Services
Proposed Beal Early Childhood Center School
Allen Farm Site
Shrewsbury, Massachusetts
LGCI Project No. 1806

Dear Mr. Pagano:

Lahlaf Geotechnical Consulting, Inc. (LGCI) has performed a site visit and completed a preliminary review of the geotechnical data available for the Allen Farm Site in relation to the proposed Beal Early Childhood Center School in Shrewsbury, Massachusetts. Our services were performed in accordance with our proposal No. 17157-Rev. 1 dated November 30, 2017. You authorized our services by signing our proposal on December 22, 2017.

This letter includes a summary of our field observations, a summary of the subsurface data we reviewed, our opinion about possible foundation issues during construction, and our recommendations for subsurface explorations.

1. Reviewed Documents

LGCI reviewed the following documents:

- "Web Soil Survey, Soil Map - Worcester County, Massachusetts, Northeastern Part," (Soil Survey Report) National Cooperative Soil Survey/National Resources Conservation Services, USDA (Map and soil description printed January 30, 2018 from https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx).

- "Surficial Geologic Map of the Clinton-Concord-Grafton-Medfield 12- Quadrangle Area in East Central Massachusetts," prepared by Stone, B.D. and Stone, J.R. for U.S. Geological Survey, Open File Report 2006-1260A.

- Sketch titled: "Beal Early Childhood Center, Preliminary Evaluation of Alternatives, Allen Farm Property," (Site Plan) prepared by Lamoureux Pagano & Associates, Inc. (LPA) and provided to us by LPA via e-mail on November 20, 2017.

2. Site Location Description

We understand that the site being considered for the proposed Beal Early Childhood Center School in Shrewsbury, Massachusetts is the parcel of land referred to as Allen Farm (Allen Farm Site). The site is located at 384-386 South Street in Shrewsbury, Massachusetts as shown in Figure 1. Based on the Site Plan, the site is about 60.89 acres in size and has developable area of about 20.5 acres.

The site is bordered by South Street on the eastern side, by Hartford Turnpike (Route 20) on the southern side, and by private properties on the northern and western sides. The site is currently vacant and heavily wooded.

The site has frontage on South Street and Route 20.

3. Project Description

We understand that the proposed school will accommodate 780 students in grades K-4. Shrewsbury is considering two (2) sites for the proposed school. This letter report focuses on the Allen Farm Site.

We understand that the plans for the proposed school are not finalized at this time. Details about the size, layout, and location of the proposed school are not available at the time of this project.

Field Observations

An LGCI representative visited the site on February 14, 2018. The purpose of our visit was to observe site features such as wet areas, rock outcrops, and other features that may impact construction. Photographs taken during our site visit are included in Appendix A.

The Allen Farm Site is currently vacant and partially to heavily wooded with the small to mature trees on the Route 20 side. Wide open areas are visible on the South Street side of the site.

The topography is characterized by gently sloping terrain. The grade appears to drop in a northerly direction. The site is surrounded by a wire fence and knee-high stacked stone walls. Based on our field observations, we believe that the soils near South Street and Route 20 may have been reworked. A few boulders are visible at the ground surface. Few locations at the site were soft to walk on possibly indicating the presence of wetlands.

No rock outcrops or wet areas were visible at the ground surface.

4. Summary of Existing Subsurface Data

Soil Survey Report – Based on the Soil Survey Report listed in Section 1, the soils at the site are classified primarily as Ridgebury fine sandy loam, Whitman loam, Paxton fine sandy loam, and Woodbridge fine sandy loam. The Soil Survey Report indicates that the horizons A and B (i.e., topsoil and subsoil layers) range in thickness between 18 and 32 inches. The topsoil and subsoil may be thicker near the wetlands. A copy of the Soil Survey Report and Map are included in Attachment B.

Surficial Geologic Map – The Surficial Geologic Map (listed in Section 1) indicates that the natural soils in the general vicinity of the site consist of thin till comprised of non-sorted, non-stratified matrix of sand, some silt, and little clay and contains scattered clasts of gravel and a few large boulders. The map does not show rock outcrops at the site, but it shows rock outcrops not far from the site west of Cherry Street.

The Surficial Geologic Map of the site is shown in Figure 2.

5. Preliminary Recommendations

Please note that the review of available information summarized in this letter is not a substitute for a subsurface exploration program. The information gathered as part of this review may be incomplete and the recommendations derived therefrom are at best preliminary in nature and must be confirmed with actual subsurface explorations, laboratory testing, and geotechnical analyses.

Based on the available subsurface data, we believe that the subsurface conditions at the site are suitable to support shallow foundations after the surficial topsoil, subsoil, root balls, existing fill, if any, and buried topsoil/subsoil, if any, are removed. Excavations for foundations and utilities in the glacial till are anticipated to generate a large quantity of boulders.

We recommend performing soil explorations at the site including soil borings. LGCI is under contract to perform soil borings as part of the next phase of this project.

Limitations

Our letter is based on project information provided to us at the time of this letter. If changes to the type, size, and location of the proposed structure(s) or to the site grading are made, the recommendations contained in this letter shall not be considered valid unless the changes are reviewed and the conclusions and recommendations modified in writing by LGCI. LGCI cannot accept responsibility for designs based solely on these preliminary recommendations.

It is not part of our scope to perform a more detailed site history; therefore, we have not explored for or researched the locations of buried utilities or other structures in the area of the proposed construction. Our scope did not include environmental services or services related to moisture, mold, or other biological contaminants in or around the site.

The recommendations in this letter are based in part on the data obtained from the review of existing subsurface data. The recommendations contained in this letter are at best preliminary in nature and must be confirmed with actual subsurface explorations, laboratory testing, and geotechnical analyses.

Our letter has been prepared in accordance with generally accepted engineering practices and in accordance with the terms and conditions set forth in our agreement. No other warranty, expressed or implied, is made. This report has been prepared for the exclusive use of Lamoureux Pagano & Associates, Inc. for the specific application to the proposed Beal Early Childhood Center School at the Allen Farm Site in Shrewsbury, Massachusetts as conceived at this time.

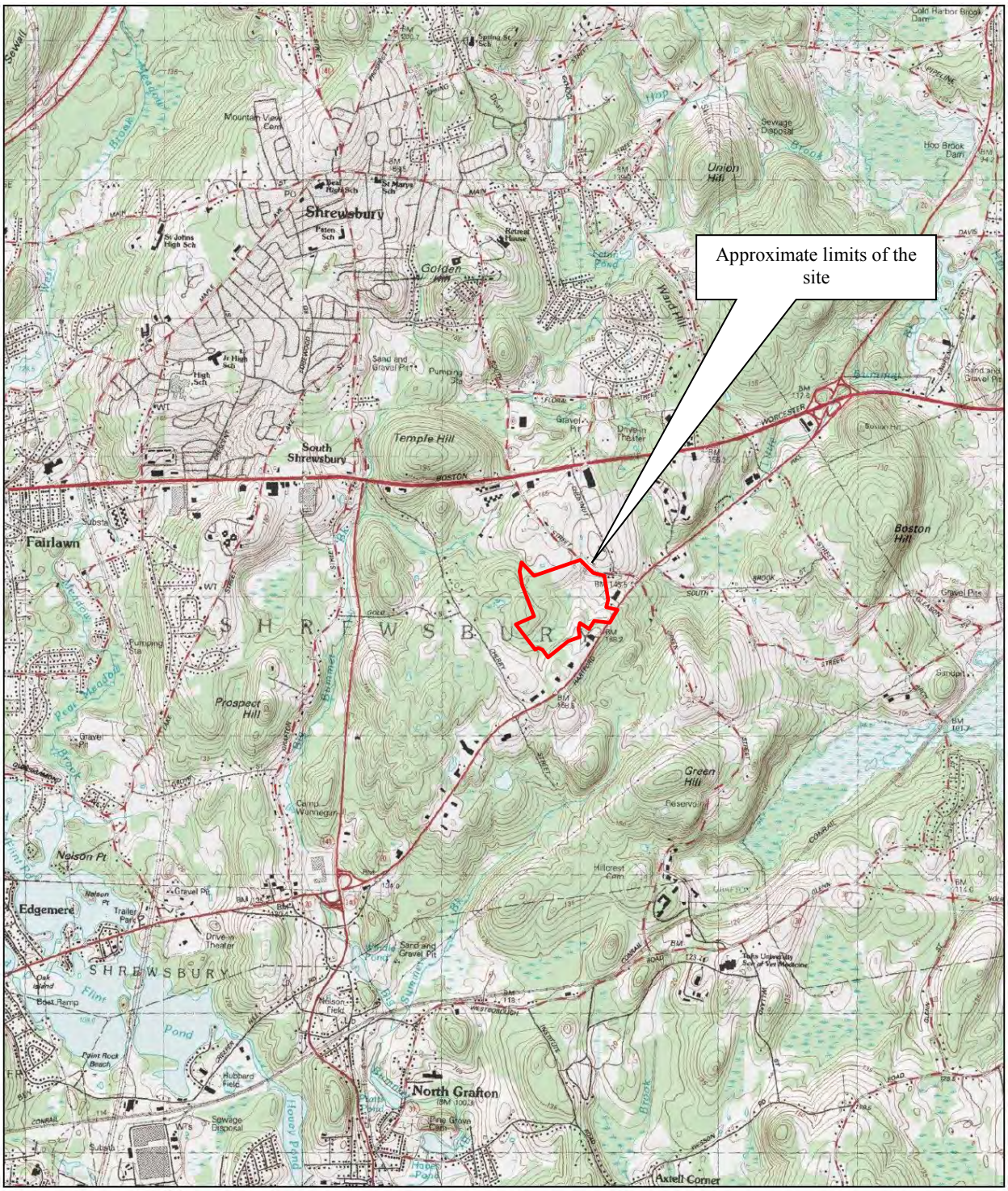
If you have any questions or need further assistance, please contact us at (978) 330-5912.

Very truly yours,

Lahlaf Geotechnical Consulting, Inc.

Abdelmadjid M. Lahlaf, Ph.D., P.E.
Principal Engineer

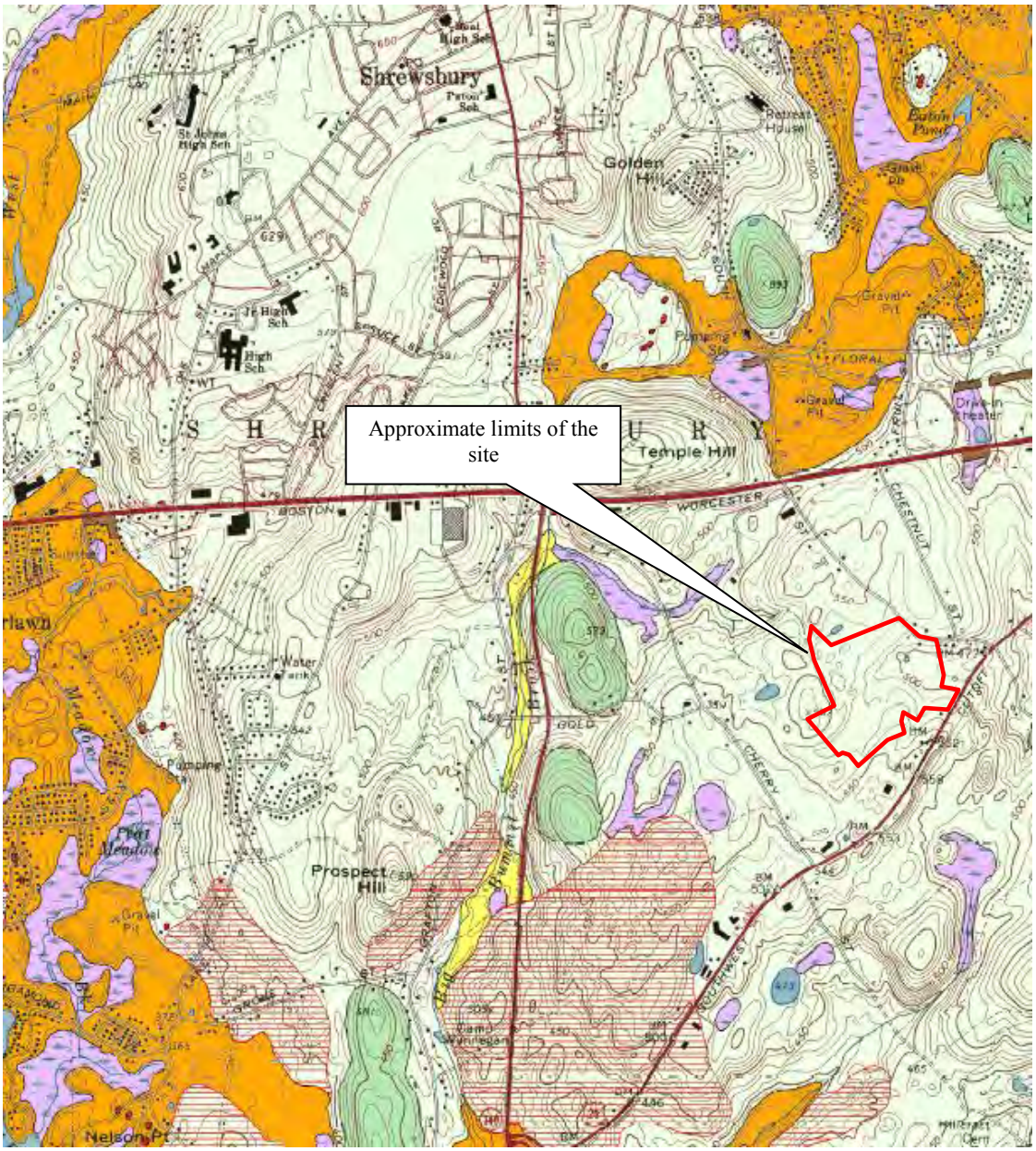
Attachments: Figure 1 – Site Location Map
Figure 2 – Surficial Geologic Map
Attachment A – Photographs
Attachment B – Excerpts of Soil Survey Report



Contour Intervals: 3 meters

Figure based on USGS topographic map of Shrewsbury, MA obtained from www.mytopo.com/maps

Client:	Project:	Figure 1 – Site Location Map – Allen Farm Site	
Lamoureux Pagano & Associates, Inc.	Proposed Beal Early Childhood Center		
LGCI Lahlaf Geotechnical Consulting, Inc.	Project Location: Shrewsbury, MA	LGCI Project No.: 1806	Date: Feb. 2018



N

Thin till—Nonsorted, nonstratified matrix of sand, some silt, and little clay containing scattered gravel clasts and few large boulders; in areas where till is generally less than 10-15 ft thick and including areas of bedrock outcrop where till is absent. Predominantly upper till of the last glaciation; loose to moderately compact, generally sandy, commonly stony. Two facies are present in some places; a looser, coarser-grained ablation facies, melted out from supraglacial position; and an underlying more compact, finer-grained lodgement facies deposited subglacially. In general, both ablation and lodgement facies of upper till derived from fine-grained bedrock are finer grained, more compact, less stony and have fewer surface boulders than upper till derived from coarser grained crystalline rocks. Fine-grained bedrock sources include the red Mesozoic sedimentary rocks of the Connecticut River lowland, marble in the western river valleys, and fine-grained schists in upland areas.

Figure based on map titled: "Surficial Geologic Map of the Clinton-Concord-Grafton-Medfield 12- Quadrangle Area in East Central Massachusetts," prepared by Stone, B.D. and Stone, J.R. for U.S. Geological Survey, Open File Report 2006-1260A.

Client:	Project:	Figure 2 – Surficial Geologic Map – Allen Farm Site	
Lamoureux Pagano & Associates, Inc.	Proposed Beal Early Childhood Center		
LGCI Lahlaf Geotechnical Consulting, Inc.	Project Location: Shrewsbury, MA	LGCI Project No.: 1806	Date: Feb. 2018

Attachment A – Photographs

Photo 1 - View of Site from Route 20

Photo No. 2 - View of Site from South Street

Photo No. 3: Stone Wall on southern side of site

Photo No. 4: Stone Wall on northern side of site

Attachment B – Excerpts of Soil Survey Report

Map Scale: 1:5,380 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 250 500 1000 1500

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 19N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Worcester County, Massachusetts, Northeastern Part
Survey Area Data: Version 12, Oct 6, 2017

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 12, 2014—Sep 28, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
71A	Ridgebury fine sandy loam, 0 to 3 percent slopes, extremely stony	12.3	17.8%
71B	Ridgebury fine sandy loam, 3 to 8 percent slopes, extremely stony	1.4	2.0%
72A	Whitman loam, 0 to 3 percent slopes	8.4	12.2%
305B	Paxton fine sandy loam, 3 to 8 percent slopes	21.1	30.5%
306B	Paxton fine sandy loam, 0 to 8 percent slopes, very stony	21.4	31.0%
306C	Paxton fine sandy loam, 8 to 15 percent slopes, very stony	0.2	0.3%
310B	Woodbridge fine sandy loam, 3 to 8 percent slopes	1.4	2.1%
311B	Woodbridge fine sandy loam, 0 to 8 percent slopes, very stony	2.9	4.1%
Totals for Area of Interest		**69.0**	**100.0%**

Worcester County, Massachusetts, Northeastern Part

305B—Paxton fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2t2qp
Elevation: 0 to 1,570 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Paxton and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton

Setting

Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Backslope, summit, shoulder
Landform position (three-dimensional): Side slope, crest, nose slope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 8 inches: fine sandy loam
Bw1 - 8 to 15 inches: fine sandy loam
Bw2 - 15 to 26 inches: fine sandy loam
Cd - 26 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 18 to 39 inches to densic material
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Low (about 3.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2s

Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Woodbridge
Percent of map unit: 9 percent
Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Backslope, footslope, summit
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Ridgebury
Percent of map unit: 6 percent
Landform: Drainageways, hills, ground moraines, depressions
Landform position (two-dimensional): Backslope, footslope, toeslope
Landform position (three-dimensional): Head slope, base slope, dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Charlton
Percent of map unit: 5 percent
Landform: Hills
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: No

Data Source Information

Soil Survey Area: Worcester County, Massachusetts, Northeastern Part
Survey Area Data: Version 12, Oct 6, 2017

Worcester County, Massachusetts, Northeastern Part

306B—Paxton fine sandy loam, 0 to 8 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2w673
Elevation: 0 to 1,340 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Paxton, very stony, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Paxton, Very Stony

Setting

Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex, linear
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material
A - 2 to 10 inches: fine sandy loam
Bw1 - 10 to 17 inches: fine sandy loam
Bw2 - 17 to 28 inches: fine sandy loam
Cd - 28 to 67 inches: gravelly fine sandy loam

Properties and qualities

Slope: 0 to 8 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: 20 to 43 inches to densic material
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 37 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Low (about 4.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Woodbridge, very stony

Percent of map unit: 8 percent
Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Backslope, footslope, summit
Landform position (three-dimensional): Side slope, crest
Down-slope shape: Concave
Across-slope shape: Linear
Hydric soil rating: No

Ridgebury, very stony

Percent of map unit: 4 percent
Landform: Drainageways, drumlins, ground moraines, hills, depressions
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Charlton, very stony

Percent of map unit: 3 percent
Landform: Hills
Landform position (two-dimensional): Shoulder, summit, backslope
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Data Source Information

Soil Survey Area: Worcester County, Massachusetts, Northeastern Part
Survey Area Data: Version 12, Oct 6, 2017

Worcester County, Massachusetts, Northeastern Part

310B—Woodbridge fine sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 2t2ql
Elevation: 0 to 1,470 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Woodbridge, fine sandy loam, and similar soils: 82 percent
Minor components: 18 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodbridge, Fine Sandy Loam

Setting

Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Backslope, footslope, summit
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Ap - 0 to 7 inches: fine sandy loam
Bw1 - 7 to 18 inches: fine sandy loam
Bw2 - 18 to 30 inches: fine sandy loam
Cd - 30 to 65 inches: gravelly fine sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 20 to 39 inches to densic material
Natural drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 18 to 30 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D

Hydric soil rating: No

Minor Components

Paxton

Percent of map unit: 10 percent
Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Backslope, summit, shoulder
Landform position (three-dimensional): Side slope, crest, nose slope
Down-slope shape: Linear, convex
Across-slope shape: Convex
Hydric soil rating: No

Ridgebury

Percent of map unit: 8 percent
Landform: Drainageways, hills, ground moraines, depressions
Landform position (two-dimensional): Backslope, footslope, toeslope
Landform position (three-dimensional): Head slope, base slope, dip
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Worcester County, Massachusetts, Northeastern Part
Survey Area Data: Version 12, Oct 6, 2017

Worcester County, Massachusetts, Northeastern Part

311B—Woodbridge fine sandy loam, 0 to 8 percent slopes, very stony

Map Unit Setting

National map unit symbol: 2t2qr
Elevation: 0 to 1,440 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Woodbridge, very stony, and similar soils: 82 percent
Minor components: 18 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodbridge, Very Stony

Setting

Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Backslope, footslope, summit
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 2 inches: moderately decomposed plant material
A - 2 to 9 inches: fine sandy loam
Bw1 - 9 to 20 inches: fine sandy loam
Bw2 - 20 to 32 inches: fine sandy loam
Cd - 32 to 67 inches: gravelly fine sandy loam

Properties and qualities

Slope: 0 to 8 percent
Percent of area covered with surface fragments: 1.6 percent
Depth to restrictive feature: 20 to 43 inches to densic material
Natural drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 19 to 27 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C/D
Hydric soil rating: No

Minor Components

Paxton, very stony

Percent of map unit: 10 percent
Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Shoulder, backslope, summit
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex, linear
Hydric soil rating: No

Ridgebury, very stony

Percent of map unit: 8 percent
Landform: Drainageways, drumlins, ground moraines, depressions, hills
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Worcester County, Massachusetts, Northeastern Part
Survey Area Data: Version 12, Oct 6, 2017

Worcester County, Massachusetts, Northeastern Part

71A—Ridgebury fine sandy loam, 0 to 3 percent slopes, extremely stony

Map Unit Setting

National map unit symbol: 2w69b
Elevation: 0 to 1,480 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Ridgebury, extremely stony, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ridgebury, Extremely Stony

Setting

Landform: Drainageways, drumlins, hills, ground moraines, depressions
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 6 inches: fine sandy loam
Bw - 6 to 10 inches: sandy loam
Bg - 10 to 19 inches: gravelly sandy loam
Cd - 19 to 66 inches: gravelly sandy loam

Properties and qualities

Slope: 0 to 3 percent
Percent of area covered with surface fragments: 9.0 percent
Depth to restrictive feature: 15 to 35 inches to densic material
Natural drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Hydric soil rating: Yes

Minor Components

Whitman, extremely stony

Percent of map unit: 7 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Woodbridge, extremely stony

Percent of map unit: 7 percent
Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Footslope, summit
Landform position (three-dimensional): Crest, base slope
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Paxton, extremely stony

Percent of map unit: 1 percent
Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Shoulder, summit
Landform position (three-dimensional): Crest
Down-slope shape: Linear, convex
Across-slope shape: Convex, linear
Hydric soil rating: No

Data Source Information

Soil Survey Area: Worcester County, Massachusetts, Northeastern Part
Survey Area Data: Version 12, Oct 6, 2017

Worcester County, Massachusetts, Northeastern Part

71B—Ridgebury fine sandy loam, 3 to 8 percent slopes, extremely stony

Map Unit Setting

National map unit symbol: 2w69c
Elevation: 0 to 1,290 feet
Mean annual precipitation: 36 to 71 inches
Mean annual air temperature: 39 to 55 degrees F
Frost-free period: 140 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Ridgebury, extremely stony, and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ridgebury, Extremely Stony

Setting

Landform: Drainageways, drumlins, hills, ground moraines, depressions
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope, head slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Coarse-loamy lodgment till derived from gneiss, granite, and/or schist

Typical profile

Oe - 0 to 1 inches: moderately decomposed plant material
A - 1 to 6 inches: fine sandy loam
Bw - 6 to 10 inches: sandy loam
Bg - 10 to 19 inches: gravelly sandy loam
Cd - 19 to 66 inches: gravelly sandy loam

Properties and qualities

Slope: 3 to 8 percent
Percent of area covered with surface fragments: 9.0 percent
Depth to restrictive feature: 15 to 35 inches to densic material
Natural drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.14 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: None
Salinity, maximum in profile: Nonsaline (0.0 to 1.9 mmhos/cm)
Available water storage in profile: Low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Hydric soil rating: Yes

Minor Components

Woodbridge, extremely stony

Percent of map unit: 10 percent
Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Footslope, summit, backslope
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Convex
Across-slope shape: Linear
Hydric soil rating: No

Whitman, extremely stony

Percent of map unit: 8 percent
Landform: Depressions
Down-slope shape: Concave
Across-slope shape: Concave
Hydric soil rating: Yes

Paxton, extremely stony

Percent of map unit: 2 percent
Landform: Drumlins, hills, ground moraines
Landform position (two-dimensional): Shoulder, summit, backslope
Landform position (three-dimensional): Crest, side slope
Down-slope shape: Linear, convex
Across-slope shape: Convex, linear
Hydric soil rating: No

Data Source Information

Soil Survey Area: Worcester County, Massachusetts, Northeastern Part
Survey Area Data: Version 12, Oct 6, 2017

Worcester County, Massachusetts, Northeastern Part

72A—Whitman loam, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: w3r6
Elevation: 0 to 2,100 feet
Mean annual precipitation: 32 to 50 inches
Mean annual air temperature: 45 to 50 degrees F
Frost-free period: 145 to 240 days
Farmland classification: Not prime farmland

Map Unit Composition

Whitman and similar soils: 70 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Whitman

Setting

Landform: Depressions
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Friable coarse-loamy eolian deposits over dense coarse-loamy lodgment till derived from granite and gneiss

Typical profile

H1 - 0 to 10 inches: fine sandy loam
H2 - 10 to 18 inches: fine sandy loam
H3 - 18 to 60 inches: fine sandy loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: About 18 inches to densic material
Natural drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately high (0.00 to 0.20 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Available water storage in profile: Very low (about 2.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: D
Hydric soil rating: Yes

Minor Components

Ridgebury

Percent of map unit: 15 percent
Landform: Depressions
Hydric soil rating: Yes

Swansea

Percent of map unit: 15 percent
Landform: Bogs
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Worcester County, Massachusetts, Northeastern Part
Survey Area Data: Version 12, Oct 6, 2017

Memorandum

TO: Kristen Las, Assistant Town Planner/Economic Development Coordinator
Town of Shrewsbury

FROM: Stephen F. Madaus, Town Counsel

DATE: October 26, 2017

RE: Eight Parcels of Land for Consideration by the
Beal Early Childhood Center Building Committee

I am writing in response to your request for a review of the title to eight properties identified by the Beal Early Childhood Center/School Building Committee as "Candidate Sites" for construction of a new elementary school. This memorandum is a preliminary report based on the deeds I found for seven of the eight parcels.

Please be aware that I have not yet researched or obtained copies of the relevant votes of Town Meeting which authorized the Town's acquisition of some of these properties; the votes may contain conditions or restrictions on the use of the land acquired (which may not have been included in the deed). Also, before proceeding with the final site selection for the project, a title report(s) should be obtained from a reputable title company to confirm the Town's good title in the preferred parcel(s) and to reveal any encumbrances that may exist in the subject property.

Here is the preliminary information I have gathered to date:

1. Property address: **65 Prospect Street**. The Town acquired this property by purchase from the Masonic Education and Charity Trust in July, 1976. The purchase price was $400,000 and the deed, dated July 7, 1976, was recorded at the Worcester District Registry of Deeds (the "Registry") in Book 5977, Page 242. The subject property contains approximately 73.086 acres. The deed provides that the property is subject to an easement for waterline purposes held by the Town (the easement having dissolved upon the Town's acquisition of the property), which indicates that a water main is probably located on the property. The property and the former easement area (and the likely location of the water main) are shown on a plan recorded at the Registry in Plan Book 426, Plan 85. The deed does not indicate that the property was acquired by the Town for any particular purpose.

2. Property address: **192 Main Street**. This property is owned by the United States Post Office, acquired by purchase from Worcester Sand & Gravel Company in 1989 for $2,888,750. The property was conveyed by deed dated June 15, 1989, and recorded at the Registry in Book 12160, Page 136. The property consists of 23.11 acres and is shown on a plan

recorded at the Registry in Plan Book 621, Plan 44. Note that the property is subject to rights of New England Power Company (and others) to maintain an electric transmission line as shown on the plan. The U.S. Post Office acquired another parcel of land in this area, containing approximately 1.21 acres. The property was acquired by deed dated March 5, and 1989, recorded at the Registry in Book 11978, Page 289. The property is shown on a plan recorded at the Registry in Plan Book 615, Plan 23 (also shown as the triangle shaped parcel on Plan Book 621, Plan 44).

I am not familiar with the requirements to authorize the sale of real property by the federal government (the United States Postal Service) and would have to research that issue.

3. Property address: **248 N. Quinsigamond Avenue**. This property was acquired by the Town in 1930 pursuant to a tax taking by the Town's Collector of Taxes. A "Tax Collector's Deed" was recorded at the Registry on August 14, 1930 in Book 2526, Page 205, which established a tax lien on the property of James W. Grady, located on the east side of North Quinsigamond Avenue. Mr. Grady owned the subject property by deed recorded at the Registry in Book 1965, Page 303. As described in the Tax Collector's Deed, the property is "supposed to contain about 4 acres, 9,361 sq. ft." The Town recorded a notice of the Town filing for foreclosure of the tax lien on August 25, 1934, recorded at the Registry in Book 2618, Page 324. The Massachusetts Land Court approved the foreclosure of the tax lien on January 2, 1935. Notice of the foreclosure was recorded at the Registry on January 10, 1935 in Book 2631, Page 275. The foreclosure of the tax lien vested title to the property with the Town.

On September 25, 1950, the Town sold a portion of this property (approximately 1.78 acres) to Robert C. Lambert by a Treasurer's Deed recorded at the Registry in Book 3287, Page 360. The portion sold by the Town is shown as Parcel H on a plan recorded at the Registry in Plan Book 164, Plan 129. The remaining land of the Town is shown as Parcel C on the plan and is listed as containing 4.8 acres. Parcel C is noted on the plan as being comprised of Lots 2 to 15, as shown on a plan of lots owned by J. W. Grady dated December 1916. The 1916 plan was recorded at the Registry in Plan Book 30, Plan 39.

Additional research is required determine if Town Meeting ever voted, subsequent to the Town's foreclosure of the tax title in 1935, to transfer this property from the care, custody and control of the Town's Tax Title Custodian to any other municipal purpose or department. If the property was never transferred, a vote of Town Meeting is required to transfer this property from the Tax Collector/Tax Title Custodian to some other municipal purpose (such as school purposes).

4. Property address: **150 Maple Avenue**. This property was acquired by the Town by purchase from the Worcester Foundation for Experimental Biology for $720,000. The deed to the Town is dated September 8, 1992 and was recorded at the Registry in Book 14506, Page 311. The property consists of approximately 19.7 acres and is shown on a plan recorded at the Registry in Plan Book 662, Plan 100. Note that the Grantor reserved, for the benefit of the Grantor's remaining property, rights to maintain access over the property to access the Grantor's campus (Worcester Foundation for Experimental Biology) to Maple Avenue and to maintain utilities to serve the buildings on its campus. The Town may relocate the utility easements at the Town's expense. Most importantly, the deed contains a restriction stating that a portion of the

premises "are conveyed subject to the restriction that no building or structure shall be constructed or erected on the portion thereof labeled 'Open Space' on the plan." Recorded with the deed was a copy of the vote from the Special Town Meeting on December 9, 1991 to authorize the purchase of this property. The vote "authorized the Board of Selectmen to purchase a parcel of land on the north side Maple Avenue *for playground purposes* from the Foundation for Experimental Biology." Land acquired by a municipality for a particular purpose may not be used for any other purpose unless the department having care, custody and control of the property first declares that it is no longer necessary for the purpose for which it was acquired. Therefore, the Town department having care, custody and control of this property (the Parks and Recreation Department?) must first determine that this property is no longer required for playground purposes and then Town Meeting may vote (by a two-thirds vote) to transfer it to make it available for other municipal purposes, such as school purposes. See MGL c. 40, §15A. Furthermore, I will have to research the issue of whether land acquired for playground purposes is subject to Article 97 of the Massachusetts Constitution. If land acquired for such purpose is subject to Article 97, then a two-thirds vote of the state legislature is required to authorize the transfer of such property to an alternative purpose. Furthermore, the Massachusetts Executive Office of Environmental Affairs has a policy of requiring replication of any property to be removed from Article 97 protection. Pursuant to the policy, the Town would be required to identify a parcel of land of similar size to be acquired or held for playground or protected purposes and, therefore, subject to Article 97.

5. Property address: **200 Maple Avenue**. This property is owned by WCS-222 Maple Ave Inc., a Massachusetts nonprofit corporation having a principal office located at 333 South Street, Suite 290, Shrewsbury, MA. The property was conveyed to WCS-222 Maple Ave Inc. by the Worcester City Campus Corporation by deed dated July 1, 2011, recorded at the Registry in Book 47925, Page 89. Nominal consideration was paid for the conveyance ("less than One Hundred Dollars"). According to the deed, the property consists of five parcels, but the total land area is not listed. The Town's Assessing records indicate that property consists of 42.15 acres and is shown on Assessor's Map 27 as Parcel 2000. The assessed value of this property is $747,200. The Town would have to acquire this property for its use by gift, purchase, or taking by eminent domain.

6. Property address: **214 Lake Street**. This property is currently owned by the Commonwealth of Massachusetts and the Town will be proposing special legislation to enable the commonwealth's Commissioner of the Department Capital Asset Management and Maintenance (DCAMM) to convey the property to the Town. The proposed special legislation will allow for approximately 20.37 acres of the property to be made available to the Town for general municipal purposes. Until the terms and scope of the proposed legislation is known, it is difficult analyze the availability of this property for a school site.

7. Property address: **645 Grafton Street**. The Town, *through its Conservation Commission*, acquired this property in 1979 by purchase from the Montachusett Girl Scout Council, Inc. The property consists of two parcels - Parcel 1 contains approximately 29.7 acres and Parcel 2 contains approximately 3.8 acres, all as shown on a plan recorded at the Registry in Plan Book 460, Plan 26. The deed to the Town states that the property was conveyed "for administration, control and maintenance under the provisions of G.L Chapter 40, section 8C" (relative to the powers of local conservation commissions); therefore, this land was acquired for

conservation/open space purposes and is subject to the protections of Article 97, as described above. A vote of the Town's Conservation Commission declaring that the property is no longer needed for open space would be required to make this property available for an alternative purpose. A favorable, two-thirds vote of Town Meeting would then be required to authorize the transfer of this property to school purposes and a vote of Town Meeting would also be necessary to authorize the Board of Selectmen to petition the state legislature for the required Article 97 legislation. The request for Article 97 legislation would trigger the EOEA's replication policy, requiring the Town to acquire or place a parcel of similar size to be held for open space or conservation purposes.

8. Property Address: **384-386 South Street**. The Town acquired this property by purchase from various parties in 2003, for $6,000,000 and the deed of this property was recorded at the Registry in Book 28672, Page 173. The property consists of three parcels along Route 20, consisting of approximately 49 acres (Parcel I), approximately 1.856 acres (Parcel II), and approximately 11 acres (Parcel III). Parcel II is shown as Parcel A on a plan recorded at the Registry in Plan Book 392, Plan 22. Some other portion of the land (I'm not sure if it's Parcel I or Parcel III) is shown on a plan recorded at the Registry in Plan Book 790, Plan 23. The deed does not recite a specific purpose for the Town's acquisition of this property.

Copies of recorded documents referenced in this memo are attached.

Please contact me if you have any questions concerning this memorandum.

65 Prospect Street

The MASONIC EDUCATION AND CHARITY TRUST

a corporation duly established under the laws of The Commonwealth of Massachusetts

and having its usual place of business at 186 Tremont Street, Boston

Suffolk County, Massachusetts, for consideration paid.

in the amount of FOUR HUNDRED THOUSAND (400,000.00) DOLLARS

grant to THE INHABITANTS OF THE TOWN OF SHREWSBURY, a Municipal Corporation located in the County of Worcester

mailing address: 100 Maple Avenue Shrewsbury Mass.

XX with quitclaim covenants

the land in said Shrewsbury consisting of two certain parcels of land situated on the west side of Prospect Street and on the east and west sides of Boylston Street in said Shrewsbury bounded and described as follows:

PARCEL 1 (being located on the westerly side of Boylston St & the easterly side of Boylston Circle)

BEGINNING at a Worcester County Highway Bound (W.C.H.) in the westerly sideline of Boylston Street, State Route 140, opposite highway station 21+57.00 of the 1933 County Highway Layout of said Boylston Street;

THENCE S 59°30'20" W, 48.14 feet, to a concrete bound set in the northeasterly sideline of Boylston Circle;

THENCE By the northeasterly sideline of Boylston Circle, along the following two (2) courses:

N 38°57'15" W, 72.92 feet, to a point;

N 44°29'42" W, 238.11 feet, to a point at land of George R. & Lorraine J. Harris;

THENCE N 48°33'28" W, 12.01 feet, by land of said Harris, to a point;

THENCE N 41°16'47" E, 280.75 feet, by land of said Harris and land of Everett H. & Cosette I. Dame and land of Carl O. & Catherine E. Ryberg, to a concrete bound set in the westerly sideline of Boylston Street;

THENCE S10°29'40" E, 428.22 feet, along the westerly sideline of said Boylston Street, to the point of beginning.

The above described parcel 1 contains about 1.23 acres, more or less.

PARCEL 2 (being located on the easterly side of Boylston St & the westerly side of Prospect Street)

BEGINNING at a drill hole in the end of a stone wall on the easterly sideline of Boylston Street, Route 140, opposite highway station 33+34.32 of the 1933 County Layout of said Boylston Street and at the southwesterly corner of land of Lester C. & Shirley D. Hunter;

THENCE N 66°20'20" E, 100.00 feet, along a stone wall, by land of said Hunter, to a point at land of Robert E. Dean;

THENCE N 66°43'10" E, 253.19 feet, along a stone wall by land of said Dean, to a concrete bound;

THENCE N 18°47'42" W, 577.88 feet, along a stone wall, by land of said Dean, land of Elson E. Jr. & Ruth C. Wheeler and land of Antonio J. & Mary A. Ditullio, to a concrete bound at land of William J. & Leola Reese;

THENCE N 66°17'18" E, 567.62 feet, along a stone wall, by land of said Reese and land of Francis P. Bianchi, to a concrete bound at land of the Town of Shrewsbury;

THENCE by land owned by the Town of Shrewsbury, along the following eleven (11) courses:

S 22°05'47" E, 108.71 feet, to a concrete bound;

N 86°32'26" E, 250.34 feet, to an angle point;

N 68°25'02" E, 65.00 feet, to a concrete bound;

N 21°56'00" W, 136.00 feet, to a concrete bound;

N 75°44'13" E, 111.77 feet, to a concrete bound;

S 21°57'26" E, 268.29 feet, to a point;

S 25°32'25" E, 89.13 feet, to a point;

S 20°20'27" E, 145.59 feet, to a point;

S 11°30'23" E, 64.72 feet, to a concrete bound;

N 89°15'44" E, 655.81 feet, to a concrete bound;

S 16°14'16" E, 82.40 feet, to a concrete bound at the northwesterly corner of land owned by Catherine Culquhoun;

THENCE S 32°06'09" W, 533.82 feet, by land of said Culquhoun, and land of Jeremy W. & Corinne M. Smith, Wayne H. Folger and Theodore W. & Janet E. Hibson, to a concrete bound;

THENCE S 57°53'51" E, 150.00 feet, by land of said Hibson, to a concrete bound in the northwesterly sideline of Prospect Street;

THENCE By the northwesterly sideline of Prospect Street, along the following four (4) courses:

S 32°06'09" W, 932.90 feet, along a stone wall, to a drill hole in said wall;

S 13°39'08" W, 125.73 feet, along a stone wall, to a point at the end of said wall;

S 13°01'13" W, 568.68 feet, partly along a stone wall, to a point;

S 13°57'43" W, 99.62 feet, to a concrete bound set at the northeasterly corner of land of Herbert S. Jr. & Marion S. French;

THENCE N 74°39'32" W, 340.32 feet, by land of said French and land of Kenneth D. & Judith C. MacRae, to a point at land owned by Antonetta M. DiPierro;

THENCE N 83°17'02" W, 47.40 feet, by land of said DiPierro, to a point;

THENCE N 75°45'28" W, 173.01 feet, by land of said DiPierro and land of David P. & Patricia C. McKay, to a drill hole in an intersection of walls;

THENCE S 60°10'39" W, 243.03 feet, by land of said McKay, to a concrete bound in the easterly sideline of Boylston Street;

THENCE Northerly, by the easterly sideline of Boylston Street, along the following three (3) courses:

N 24°25'25" W, 33.77 feet, to a point of curvature;

Northwesterly, 437.60 feet, along a curve to the right having a radius of 1800.00 feet, to a concrete bound at a point of tangency;

N 10°29'40" W, 1238.15 feet, to the point of beginning.

The above described Parcel 2 contains about 73.086 acres, more or less.

Parcel 2 is encumbered by a 30-foot wide water easement held by the Town of Shrewsbury, bounded and described as follows:

BEGINNING at a drill hole in the end of a stone wall on the easterly sideline of Boylston Street, opposite highway station 33+34.32 of the 1933 County Layout at the southwesterly corner of land of Hunter;

THENCE N 66°20'20" E, 100.00 feet by land of Hunter to a point at land of Dean;

THENCE N 66°43'10" E, 253.19 feet by land of Dean to a concrete bound;

THENCE By the following courses through land of the Grand Lodge of Masons:

N 37°47'10" E, 758.50 feet to a point;

N 64°26'05" E, 54.22 feet to a point;

S 20°52'50" W, 9.93 feet to a point;

S 37°47'10" W, 806.27 feet to a point;

S 66°35'20" W, 367.99 feet to a point on the easterly sideline of Boylston Street;

THENCE N 1°29'40" W, 30.80 feet to the point of beginning.

Meaning and intending to convey hereby conveyed the two parcels of land shown on Plan of Land in Shrewsbury, Mass. surveyed for The Grand Lodge of Masons in Massachusetts dated November 19, 1969, Thompson-Liston Associates, Inc. Civil Engineers Land Surveyors, to be recorded herewith, in Pl Bk 476 Plan 80 ✓

Being part of the same premises ~~conveyed~~ conveyed by ~~deed~~ deed of the Master, Wardens and Members of the Grand Lodge of Masons in Massachusetts to the Grantor dated May 1, 1968 to be recorded herewith. as inst # 24401 .

Said premises are conveyed subject to a highway location for Route 140 recorded in said Deeds in Book 2600, Page 45. see plan book 78, Plan 2, parcels 6 & 7.

This transfer does not constitute all or substantially all of said grantor corporation's property in the Commonwealth of Massachusetts.

In witness whereof, the said Masonic Education and Charity Trust has caused its corporate seal to be hereto affixed and these presents to be signed, acknowledged and delivered in its name and behalf by Stanley F. Maxwell, its President and A. Neill Osgood, its Treasurer ~~xxx~~ hereto duly authorized, this seventh day of July in the year one thousand nine hundred and seventy-six.

~~Signed, sealed and delivered in presence of~~

Executed as a sealed instrument.

MASONIC EDUCATION AND CHARITY TRUST

by Stanley F. Maxwell, President

A. Neill Osgood, Treasurer

The Commonwealth of Massachusetts

Suffolk ss. July 7, 19 76

Then personally appeared the above named Stanley F. Maxwell and A. Neill Osgood

President & Treasurer

and acknowledged the foregoing instrument to be the free act and deed of the Masonic Education and Charity Trust

before me

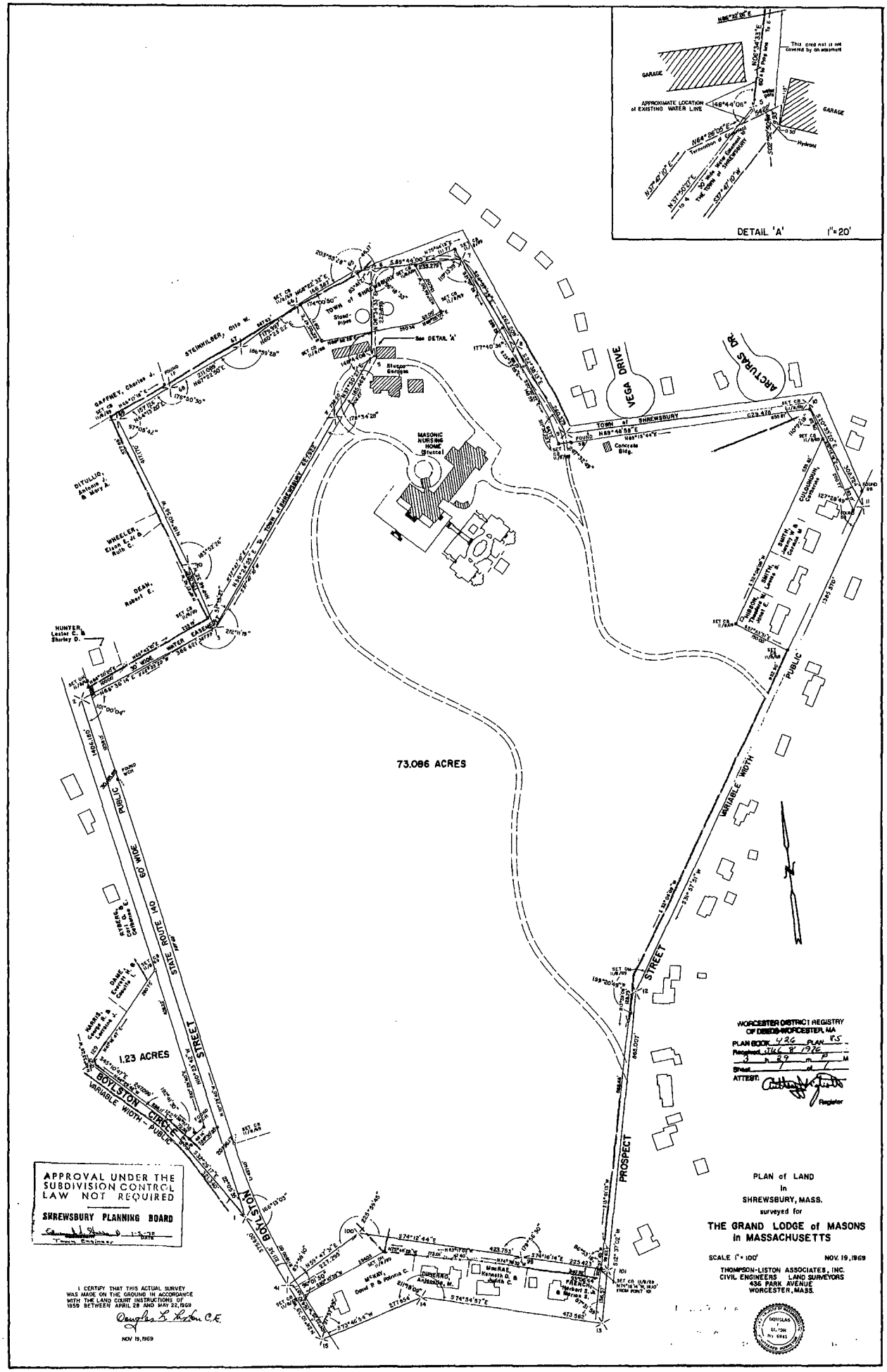
Whitfield W. Johnson Notary Public

My commission expires November 22, 19 79

WORCESTER 063292

COMMONWEALTH OF MASSACHUSETTS
DEEDS EXCISE
JUL -8'76
912.00
P.B. 11039
7/8/76

Recorded JUL 8 1976 at 3 h. 30 m. P.M.


DETAIL 'A' 1"=20'
73.086 ACRES
1.23 ACRES
VEGA DRIVE
ARCTURAS DR.
PUBLIC
VARIABLE WIDTH
STREET
PROSPECT
STATE ROUTE 140
BOLTON
APPROVAL UNDER THE SUBDIVISION CONTROL LAW NOT REQUIRED
SHREWSBURY PLANNING BOARD
WORCESTER DISTRICT REGISTRY OF DEEDS-WORCESTER, MA
PLAN BOOK 426 PLAN 85
Register
PLAN of LAND
in
SHREWSBURY, MASS.
surveyed for
THE GRAND LODGE of MASONS
in MASSACHUSETTS
SCALE 1" = 100' NOV. 19, 1969
THOMPSON-LISTON ASSOCIATES, INC.
CIVIL ENGINEERS LAND SURVEYORS
436 PARK AVENUE
WORCESTER, MASS.
I CERTIFY THAT THIS ACTUAL SURVEY WAS MADE ON THE GROUND IN ACCORDANCE WITH THE LAND COURT INSTRUCTIONS OF 1959 BETWEEN APRIL 28 AND MAY 22, 1969
Douglas F. Liston C.E.
NOV 19, 1969

65 PROSPECT ST

Location	65 PROSPECT ST	**Mblu**	16/ 072000/ / /
Acct#	2193	**Owner**	SHREWSBURY TOWN OF
Assessment	$1,196,300	**Appraisal**	$1,196,300
PID	2193	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$44,400	$1,151,900	$1,196,300
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$44,400	$1,151,900	$1,196,300

Owner of Record

Owner SHREWSBURY TOWN OF
Co-Owner
Address 100 MAPLE AVE
SHREWSBURY, MA 01545-5338

Sale Price $0
Certificate
Book & Page 5977/ 242
Sale Date 07/08/1976
Instrument 1E

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
SHREWSBURY TOWN OF	$0		5977/ 242	1E	07/08/1976

Building Information

Building 1 : Section 1

Year Built:
Living Area: 0
Replacement Cost: $0
Building Percent Good:
Replacement Cost Less Depreciation: $0

Building Photo

Building Attributes	
Field	**Description**
Style	Outbuildings
Model	

Grade	
Stories	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type	
AC Pct	
Bedrooms	
Full Baths	
Half Baths	
Extra Fixtures	
Total Rooms	
Bath Style:	
Kitchen Style	
Kitchens	
Extra Kitchens	
Frame	
Bsmt Floor	
Bsmt Garage	
Foundation	
WS Flues	
Fireplaces	
Xtra Openings	
Fini BSMT SF	
Solar HW	
Int vs. Ext	

(http://images.vgsi.com/photos/ShrewsburyMAPhotos//default.jp

Building Layout

Building Layout

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use		Land Line Valuation	
Use Code	9300	**Size (Acres)**	70.71

Description	Town Vacant	**Frontage**	
Zone	C	**Depth**	
Neighborhood	030	**Assessed Value**	$1,151,900
Alt Land Appr	No	**Appraised Value**	$1,151,900
Category			

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
PMP	Pump House			2466 UNITS	$44,400	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$44,400	$1,132,800	$1,177,200
2015	$44,400	$1,120,500	$1,164,900
2014	$44,400	$1,108,800	$1,153,200

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$44,400	$1,132,800	$1,177,200
2015	$44,400	$1,120,500	$1,164,900
2014	$44,400	$1,108,800	$1,153,200

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192 Main Street

BOOK 12160 PAGE 136 NO TRANSFER TAX - EXEMPT M.G.L. 64D, Sec. 1

Affidavit
B. 12171
P. 295

(2)

WORCESTER SAND AND GRAVEL COMPANY, INCORPORATED

a corporation duly established under the laws of the Commonwealth of Massachusetts

and having its usual place of business at 182 Holden Street, Shrewsbury

Worcester County, Massachusetts, for consideration paid

Two Million Eight Hundred Eighty-Eight Thousand Seven Hundred Fifty Dollars ($2,888,750.00)

grant to

UNITED STATES POST OFFICE, an independent establishment of the executive branch of the government of the UNITED STATES OF AMERICA having an office c/o Facilities Service Center, 6 Griffin Road North, Windsor, CT 06006-0330

with warranty covenants

~~the land~~

The land in Worcester, Worcester County, Massachusetts, bounded and described as follows:

BEGINNING at a point on the easterly sideline of North Quinsigamond Avenue;
THENCE along the easterly sideline of North Quinsigamond Avenue N. 10°50'47" E. 336.00 feet to a concrete bound;

THENCE along the easterly sideline of North Quinsigamond Avenue N. 12°35'30" West 48.33 feet to a concrete bound from which a radial line bears N. 87°81'41" W.;

THENCE along the easterly sideline of North Quinsigamond Avenue by a curve to the left, having a radius of 2012.00 feet 57.83 feet to a concrete bound;

THENCE S. 84°06'32" E. 612.69 feet to a concrete bound;

THENCE N. 44°58'46" E. 167.30 feet to a concrete bound;

THENCE S. 62°49'38" E. along land now or formerly of Gladys Sundstrom 593.54 feet to a concrete bound;

THENCE S. 62°49'38" E. 14.99 feet to a point;

THENCE S. 09°04'36" W. 544.66 to a point;

THENCE N. 73°54'29" W. 141.47 feet to a point;

THENCE S. 18°16'10" W. 163.27 feet to a concrete bound;

THENCE S. 18°16'10" W. 354.97 feet to a concrete bound:

THENCE N. 69°15'09" W. 660.90 to a concrete bound:

THENCE N. 06°27'46" E. 122.90 feet to a point;

THENCE N. 06°27'46" E. 305.41 feet to a concrete bound;

THENCE N. 00°55'34" W. 192.77 feet to a concrete bound;

THENCE S. 78°32' 44" W. 373.79 feet to a concrete bound at the point of beginning.

Said parcel is shown as Parcel "A" consisting 23.11 acres +/- entitled "Subdivision Plan of Land, West Main Street, North Quinsigamond Avenue, Shrewsbury, Massachusetts, prepared for Sun Valley Realty" by BSC Group-Surveying and Mapping, Inc., by plan dated May 15, 1989 and recorded in the Worcester District Registry of Deeds Plan Book 621, Plan 44 V.

Said premises do not constitute all or substantially all of the assets of the Grantor.

No. Quinsigamond Ave. Shrewsbury, Mass.

Jun 16 | 21 PM '89

Subject to right of way as set forth in the Worcester District Registry of Deeds Book 2999, Page 489, rights of Connecticut River Transmission Company and rights of way in Book 2765, Page 576; rights of New England Power Company and Connecticut River Transmission Company in Book 2868, Page 508, all as recited or referred to in deed recorded in Worcester District Registry of Deeds in Book 3861, Page 340 and flowage rights, if any, and rights of New England Power and Connecticut River Transmission Company as set forth in Worcester District Registry of Deeds Book 1964, Page 411, Book 2006, Page 10 and in Book 2394, Page 55, insofar as they affect the premises.

In witness whereof, the said WORCESTER SAND AND GRAVEL COMPANY, INCORPORATED has caused its corporate seal to be hereto affixed and these presents to be signed, acknowledged and delivered in its name and behalf by Matteo F. Trotto its President and Marion D. Sokolowski its Treasurer this 15th day of June in the year one thousand nine hundred and eighty-nine

Signed and sealed in presence of

WORCESTER SAND AND GRAVEL COMPANY, INCORPORATED

by Matteo F. Trotto Pres.
Marion D. Sokolowski, Treas.

The Commonwealth of Massachusetts

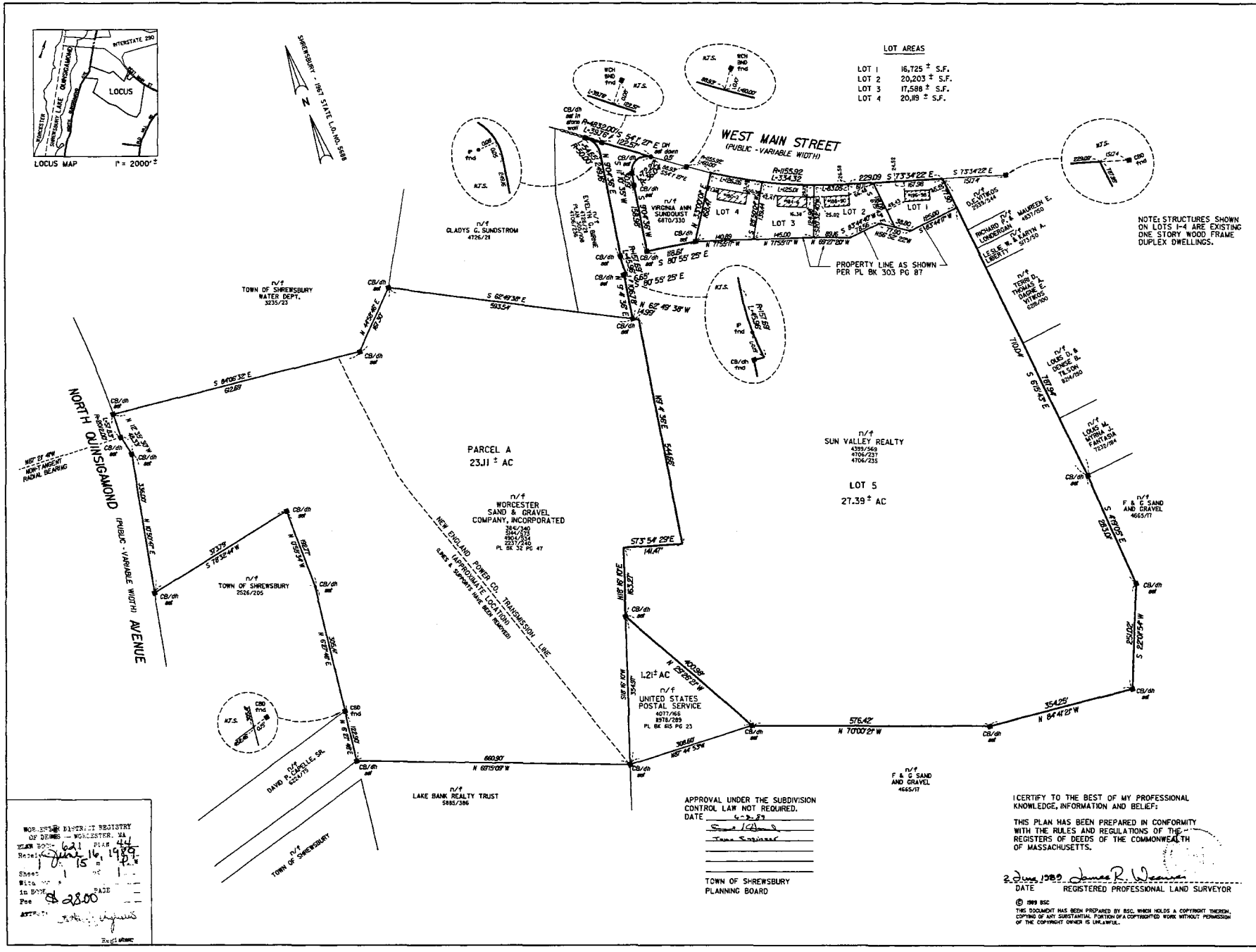
Worcester, ss. June 15, 1989

Then personally appeared the above named Matteo F. Trotto and Marion D. Sokolowski, and acknowledged the foregoing instrument to be the free act and deed of the Worcester Sand and Gravel Company, Incorporated, before me

Stephen D. Burwick, Notary Public

My commission expires October 12, 1995

ATTEST: WORC., Anthony J. Vigliotti, Register



REVISIONS:

NO.	DATE	
1	6/1/89	1.21 AC. USPS LOT

REFERENCES:
BSC DWG. NO. 2879-1

PROJECT TITLE:

SUBDIVISION PLAN OF LAND

WEST MAIN STREET
NORTH QUINSIGAMOND AVE
IN
SHREWSBURY, MASS.
(WORCESTER COUNTY)

PREPARED FOR:
SUN VALLEY REALTY et al
Owners

BSC
The BSC Group

The BSC Group -
SURVEYING AND MAPPING, INC.
425 SUMMER STREET
BOSTON, MASS. 02210
(617) 330-5300

SCALE: 1" = 100'

DATE: MAY 15, 1989	
PROJ. MAN.: J. WEAVER	
FIELD: G. ALLEN	
COMP./DESIGN: J. RAYMOND	
DRAWN: L. FIALOVA	
CHECK: J. PETERSON	
FILE NO.: FF-9.120128SP.2D	
DWG. NO.: 2879-4	SHEET 1 OF 1
JOB. NO.: 1-2017.2	

192 MAIN ST

Location	192 MAIN ST	**Mblu**	19/ 092000/ / /
Acct#	2644	**Owner**	UNITED STATES POST OFFICE CENTER
Assessment	$30,656,500	**Appraisal**	$30,656,500
PID	2644	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$23,551,200	$7,105,300	$30,656,500
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$23,551,200	$7,105,300	$30,656,500

Owner of Record

Owner	UNITED STATES POST OFFICE CENTER	**Sale Price**	$2,888,750
Co-Owner		**Certificate**	
Address	ATTN POSTMASTER 192 MAIN ST SHREWSBURY, MA 01545-9998	**Book & Page**	12160/ 136
		Sale Date	06/16/1989
		Instrument	1N

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
UNITED STATES POST OFFICE CENTER	$2,888,750		12160/ 136	1N	06/16/1989

Building Information

Building 1 : Section 1

Year Built:	1992
Living Area:	217,500
Replacement Cost:	$31,401,563
Building Percent Good:	75
Replacement Cost Less Depreciation:	$23,551,200

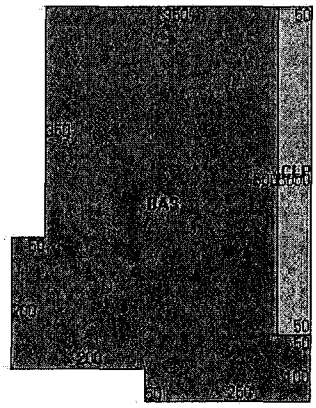
Building Photo

Building Attributes	
Field	**Description**
STYLE	Main Post Office

MODEL	Commercial
Grade	B
Stories	1.00
Occupancy	1
Exterior Wall 1	Precast Concr
Exterior Wall 2	
Roof Structure	Flat
Roof Cover	Ballast Stone
Interior Wall 1	Drywall
Interior Wall 2	
Interior Flr 1	Concrete
Interior Flr 2	
Heating Fuel	Nat Gas
Heat Type	FHA Duct
AC Pct	100
Heat Pct	100
Bldg Use	Us Govt Comm
Total Rooms	0
Bedrooms	0
Full Baths	0
Half Baths	40
Xtra Fixtures	0
1st Floor Use	
Elevators	0
Frame	Steel
Plumbing	Average
Foundation	Poured Conc
Partitions	Average
Wall Height	12
% Sprinkler	100

(http://images.vgsi.com/photos/ShrewsburyMAPhotos//default.jp

Building Layout



Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	217,500	217,500
CLP	Loading Platform	25,000	0
		242,500	217,500

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	9000
Description	Us Govt Comm
Zone	B
Neighborhood	C4
Alt Land Appr	No

Land Line Valuation

Size (Acres)	51.71
Frontage	
Depth	
Assessed Value	$7,105,300
Appraised Value	$7,105,300

Category

Outbuildings

Outbuildings	Legend
No Data for Outbuildings	

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$23,256,000	$6,131,700	$29,387,700
2015	$23,256,000	$6,137,000	$29,393,000
2014	$23,256,000	$6,143,500	$29,399,500

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$23,256,000	$6,131,700	$29,387,700
2015	$23,256,000	$6,137,000	$29,393,000
2014	$23,256,000	$6,143,500	$29,399,500

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BOOK 11978 PAGE 289

0968B

QUITCLAIM DEED

JEFFREY S. FERMON and DAVID BOVARNICK as TRUSTEES of FIRST SHREWSBURY ASSOCIATES REALTY TRUST under Declaration of Trust dated October 24, 1988 and recorded with the Worcester County (Worcester District) Registry of Deeds at Book 11820, Page 334, having an address c/o First Equity Associates, Inc., 56 Kearney Road, Needham, Norfolk County, Massachusetts, for consideration paid and in full consideration of TWO HUNDRED THOUSAND and 00/100 DOLLARS ($200,000.00), grant to the UNITED STATES POSTAL SERVICE, an independent establishment of the Executive Branch of the Government of the United States, having an office c/o Facilities Service Center, 6 Griffin Road North, Windsor, Connecticut 06006-0330, with Quitclaim Covenants, that certain parcel of land situate in Shrewsbury, Worcester County, Massachusetts, more particularly described in Exhibit A attached hereto and made a part hereof.

Meaning and intending to convey a portion of the premises conveyed to Jeffrey S. Fermon and David Bovarnick as Trustees of First Shrewsbury Associates Realty Trust, as aforesaid, by deed of F & G Sand and Gravel Co., Inc. dated December 16, 1988 and recorded with the Worcester County (Worcester District) Registry of Deeds at Book 11820, Page 340.

No documentary tax stamps are affixed hereto as none are required by law.

WITNESS our hands and seals this 9th day of March, 1989.

Trustee

JEFFREY S. FERMON, TRUSTEE of FIRST SHREWSBURY ASSOCIATES REALTY TRUST, as aforesaid, and not individually

DAVID BOVARNICK, TRUSTEE of FIRST SHREWSBURY ASSOCIATES REALTY TRUST, as aforesaid, and not individually

MAR 15 1 00 PM '89

North Quinsigamond Ave
Shrewsbury, MA

COMMONWEALTH OF MASSACHUSETTS

Norfolk, ss. March 9, 1989

Then personally appeared Jeffrey S. Fermon, Trustee of First Shrewsbury Associates Realty Trust, and acknowledged the foregoing instrument to be his free act and deed, as Trustee, as aforesaid, before me.

Notary Public DORNA J. DEVANEY

My Commission Expires: 3/6/92

COMMONWEALTH OF MASSACHUSETTS

Norfolk, ss. March 9, 1989

Then personally appeared David Bovarnick, Trustee of First Shrewsbury Associates Realty Trust, and acknowledged the foregoing instrument to be his free act and deed, as Trustee, as aforesaid, before me.

Notary Public DORNA J DEVANEY

My Commission Expires: 3/6/92

EXHIBIT A

A certain parcel of land situated off North Quinsigamond Avenue in the Town of Shrewsbury, Worcester County, Commonwealth of Massachusetts, bounded and described as follows:

Commencing at a drill hole in a concrete bound set on the easterly line of North Quinsigamond Avenue at the northeasterly corner of land now or formerly of the Town of Shrewsbury, as described in Deed Book 2526, Page 205 at the Registry of Deeds for Worcester County, Massachusetts; thence

N 78° 32' 44" E	a distance of three hundred seventy-three and seventy-nine hundredths feet (373.79) to a drill hole in a concrete bound set; thence
S 00° 55' 34" E	a distance of one hundred ninety-two and seventy-seven hundredths feet (192.77) to a drill hole in a concrete bound set; thence
S 06° 27' 46" W	a distance of three hundred five and forty-one hundredths feet (305.41) to a point; the previous three (3) courses bounding on land now or formerly of the Town of Shrewsbury; thence
S 06° 27' 46" W	a distance of one hundred twenty-two and ninety hundredths feet (122.90) to a drill hole in a concrete bound set, bounding on land now or formerly of David P. Capelle, Sr.; thence
S 69° 15' 09" E	a distance of six hundred sixty and ninety hundredths feet (660.90) to a drill hole in a concrete bound set, bounding on land now or formerly of Lake Bank Realty Trust, being the POINT OF BEGINNING of the lands hereinafter described and conveyed by this deed; thence
N 18° 16' 10" E	a distance of three hundred fifty-four and ninety-seven hundredths feet (354.97) to a drill hole in a concrete bound set, bounding on land now or formerly of Worcester Sand & Gravel Co.; thence

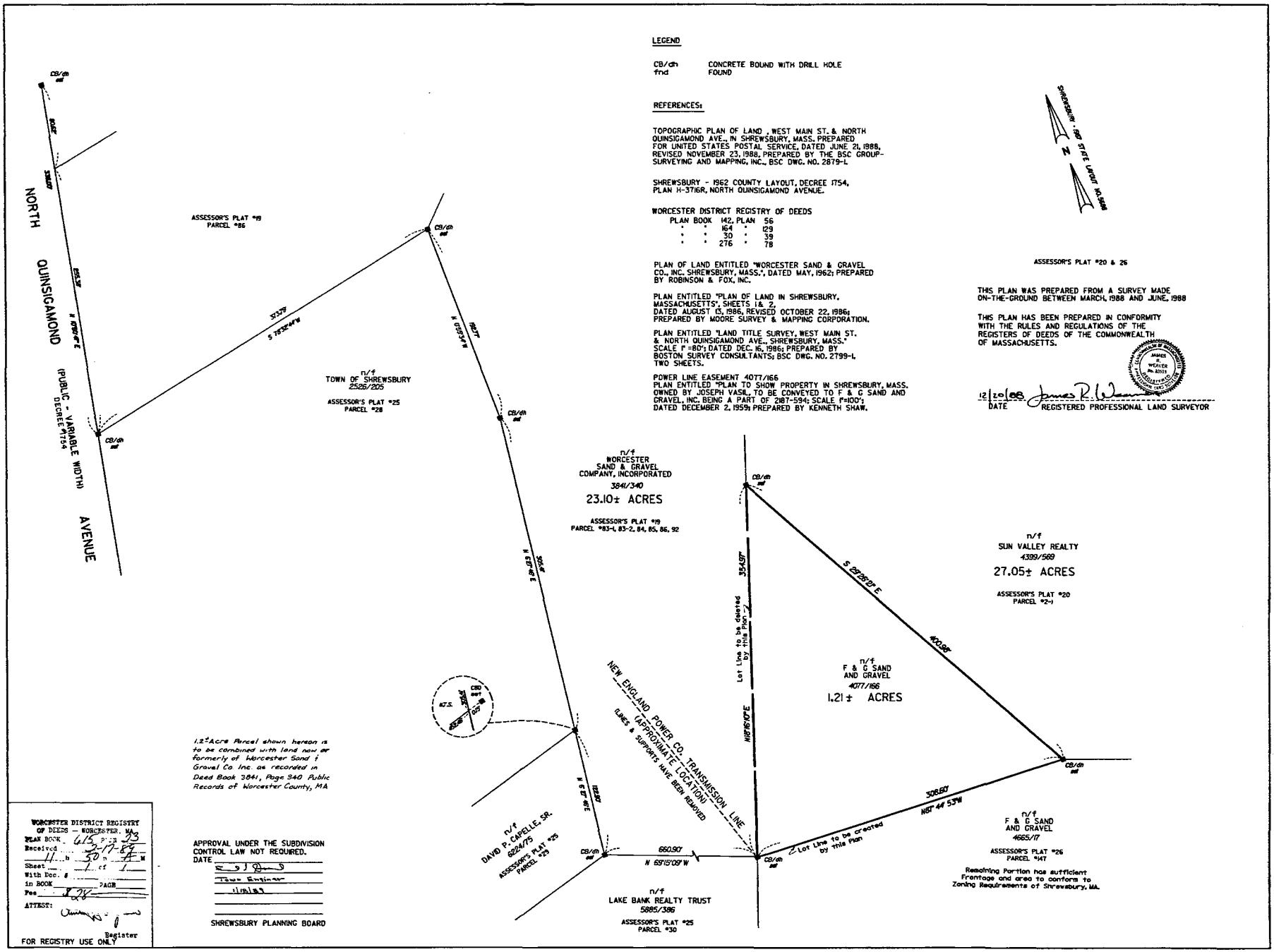
S 29° 26' 21" E	a distance of four hundred and ninety-eight hundredths feet (400.98) to a drill hole in a concrete bound set; thence
N 87° 44' 53" W	a distance of three hundred eight and sixty hundredths feet (308.60) across land now or formerly of F&G Sand and Gravel Co., Inc. to the POINT OF BEGINNING.

The above described parcel contains an area of 1.21 acres, more or less, and is shown on a plan entitled "Plan of Proposed Conveyance of Land, North Quinsigamond Avenue, Shrewsbury, MA" dated December 19, 1988, prepared by The BSC Group - Surveying & Mapping, Inc. (Dwg. No. 2879-2). Said plan is recorded herewith at the Worcester County Registry of Deeds, Plan Book 615, Plan No. 23.

The above described parcel is conveyed subject to possible rights of way and reservations as set forth in a deed from Agnes C. Kneeland dated February 25, 1921 and recorded with the Worcester County (Worcester District) Registry of Deeds at Book 2237, Page 239, insofar as the same may be in force and applicable.

Subject also to a Notice of Variance granted by the Town of Shrewsbury dated November 15, 1963 and recorded with said Deeds at Book 4424, Page 360.

ATTEST: WORC., Anthony J. Vigliotti, Register



LEGEND

CB/dh fnd — CONCRETE BOUND WITH DRILL HOLE FOUND

REFERENCES:

TOPOGRAPHIC PLAN OF LAND , WEST MAIN ST. & NORTH QUINSIGAMOND AVE., IN SHREWSBURY, MASS. PREPARED FOR UNITED STATES POSTAL SERVICE, DATED JUNE 21, 1988, REVISED NOVEMBER 23, 1988, PREPARED BY THE BSC GROUP-SURVEYING AND MAPPING, INC., BSC DWG. NO. 2879-1.

SHREWSBURY - 1962 COUNTY LAYOUT, DECREE 1754, PLAN H-3716R, NORTH QUINSIGAMOND AVENUE.

WORCESTER DISTRICT REGISTRY OF DEEDS
PLAN BOOK 142, PLAN 56
" " 164 " 129
" " 30 " 39
" " 276 " 78

PLAN OF LAND ENTITLED "WORCESTER SAND & GRAVEL CO., INC. SHREWSBURY, MASS.", DATED MAY, 1962; PREPARED BY ROBINSON & FOX, INC.

PLAN ENTITLED "PLAN OF LAND IN SHREWSBURY, MASSACHUSETTS", SHEETS 1& 2, DATED AUGUST 13, 1986, REVISED OCTOBER 22, 1986; PREPARED BY MOORE SURVEY & MAPPING CORPORATION.

PLAN ENTITLED "LAND TITLE SURVEY, WEST MAIN ST. & NORTH QUINSIGAMOND AVE., SHREWSBURY, MASS." SCALE 1" =80'; DATED DEC. 16, 1986; PREPARED BY BOSTON SURVEY CONSULTANTS; BSC DWG. NO. 2799-1, TWO SHEETS.

POWER LINE EASEMENT 4077/166
PLAN ENTITLED "PLAN TO SHOW PROPERTY IN SHREWSBURY, MASS. OWNED BY JOSEPH VASIL, TO BE CONVEYED TO F & G SAND AND GRAVEL, INC. BEING A PART OF 2187-594; SCALE 1"=100'; DATED DECEMBER 2, 1959; PREPARED BY KENNETH SHAW.

THIS PLAN WAS PREPARED FROM A SURVEY MADE ON-THE-GROUND BETWEEN MARCH, 1988 AND JUNE, 1988

THIS PLAN HAS BEEN PREPARED IN CONFORMITY WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS.

JAMES R. WEAVER No. 43518 REGISTERED PROFESSIONAL LAND SURVEYOR

12/20/88 James R. Weaver
DATE REGISTERED PROFESSIONAL LAND SURVEYOR

1.2±Acre Parcel shown hereon is to be combined with land now or formerly of Worcester Sand & Gravel Co. Inc. as recorded in Deed Book 3841, Page 340 Public Records of Worcester County, MA

APPROVAL UNDER THE SUBDIVISION CONTROL LAW NOT REQUIRED.
DATE _____
_____ Town Engineer
_____
_____
_____
SHREWSBURY PLANNING BOARD

WORCESTER DISTRICT REGISTRY OF DEEDS — WORCESTER, MA
PLAN BOOK 615 PLAN 73
Received 3-17-89
_____ h 50 m _____ M
Sheet 1 of 1
With Deed, #
In BOOK _____ PAGE
Fee 10.00
ATTEST: _____
Register
FOR REGISTRY USE ONLY

REVISIONS:
NO. DATE

REFERENCES:

PROJECT TITLE:
PLAN OF PROPOSED CONVEYANCE OF LAND

NORTH QUINSIGAMOND AVE
IN
SHREWSBURY MASS.
(WORCESTER COUNTY)

Owner:
First Shrewsbury Associates Realty Trust

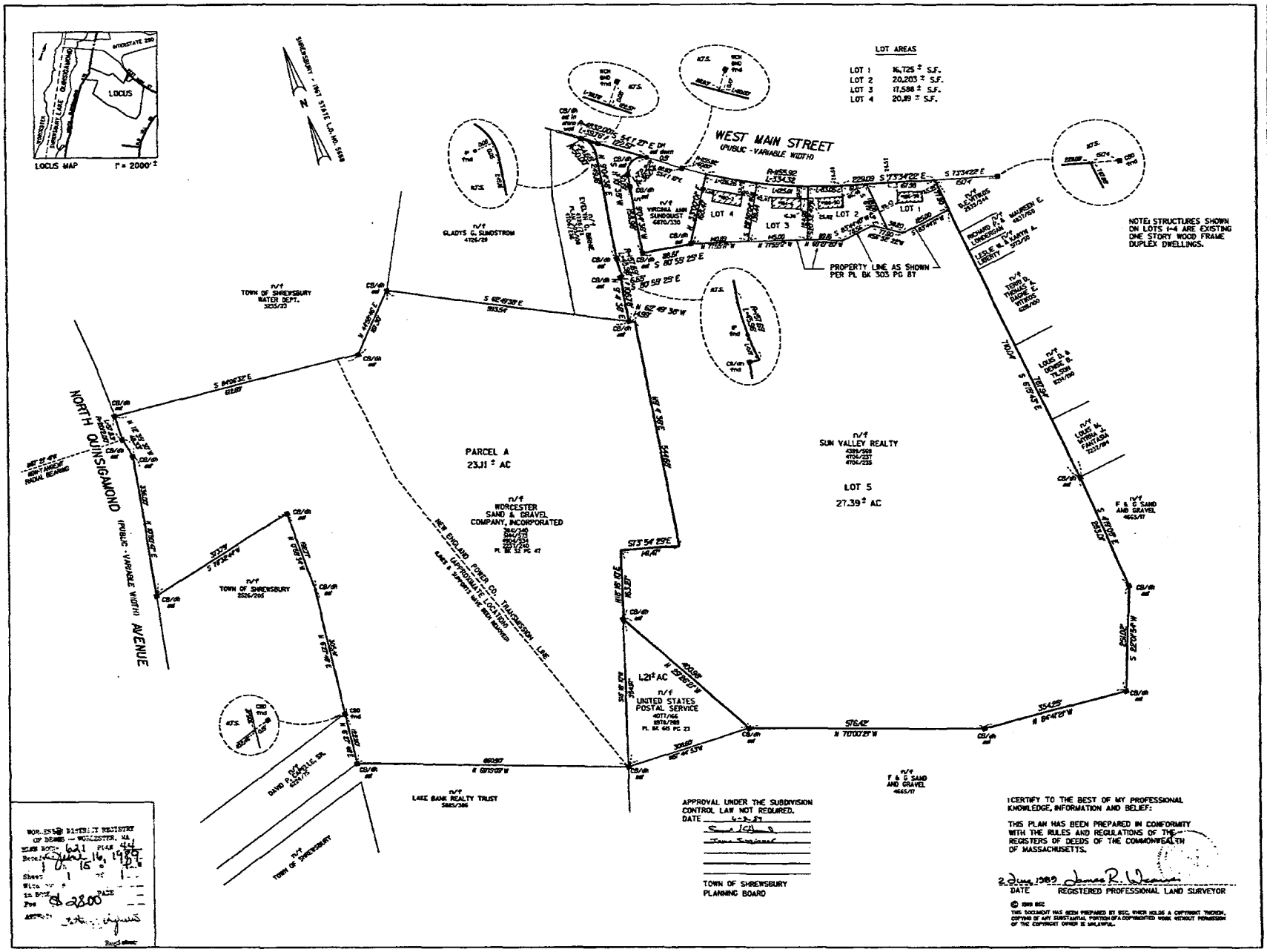
PREPARED FOR:
UNITED STATES POSTAL SERVICE

BSC
The BSC Group

THE BSC GROUP - SURVEYING & MAPPING, INC.
425 SUMMER STREET
BOSTON, MASS. 02210
(617) 330-5300

SCALE: 1" = 40'

DATE: DECEMBER 19, 1988
PROJ. MAN.: J. WEAVER
CALC.: J. PETERSON
CHECK: J. WEAVER
DRAWN: K. GOLDSTONE
FIELD: C. ALLEN, B. BRAGG
FILE NO: 12017OSP.212
DWG. NO: 2879-2 | SHEET 1 OF 1
JOB. NO: 1-2017.10



REVISIONS:
NO. DATE
1 6/1/89 L21 AC. USPS LOT

REFERENCES:
BSC DWG. NO. 2879-1

PROJECT TITLE:

SUBDIVISION PLAN OF LAND

WEST MAIN STREET
NORTH QUINSIGAMOND AVE
IN
SHREWSBURY, MASS.
(WORCESTER COUNTY)

PREPARED FOR:
SUN VALLEY REALTY c/o AF

BSC
The BSC Group

The BSC Group -
SURVEYING AND MAPPING, INC.
435 SUMMER STREET
BOSTON, MASS. 02210
(617) 330-5300

SCALE: 1" = 100'

DATE: MAY 15, 1989	
PROJ. MGR.: J. WEAVER	
FIELD: G. ALLEN	
COMP./DESIGN: J. RAYMOND	
DRAWN: L. FIALOVA	
CHECK: J. PETERSON	
FILE NO.: FF-3, 1207.2SP.2D	
DWG. NO.: 2879-4	SHEET 1 OF 1
JOB. NO.: 1-2017.2)	

248 N. Quinsigamond Avenue

Know all men by these presents

Temple to Grady

that I, Henry D. Temple, of the City and County of Worcester and Commonwealth of Massachusetts,

in consideration of One Dollar and other valuable considerations paid by James W. Grady of the said City and County of Worcester and Commonwealth aforesaid,

the receipt whereof is hereby acknowledged, do hereby remise, release, and forever quitclaim unto the said

James W. Grady the following described tract of land situated in the Town of SHREWSBURY in said County of Worcester, viz:- A certain tract of land in the westerly part of said Shrewsbury, containing about twenty-three (23) acres, and bounded and described as follows, to wit:- Beginning at the northerly corner thereof on the westerly shore of Lake Quinsigamond, bounded northerly by land formerly of Mrs. Sally Wheelock, and now or late of George R. Sumner, and land now or late of Edward P Sumner; easterly by land now or late of A. C. Putnam and now or late of Thomas D. Gummer; southerly by land now or formerly of Walter C. Knowlton; westerly by Lake Quinsigamond (Quinsigamond Avenue North running through the premises), and now or formerly owned by Frederick E. Gorham, Henry D. Temple, Henry J. Temple and George T. Woodward. Being the same premises described in deed of Frederick E. Gorham to said grantor by deed dated July 1st, 1910, and to be recorded herewith.

To have and to hold the granted premises, with all the privileges and appurtenances thereto belonging, to the said James W. Grady and his heirs and assigns, to their own use and behoof forever.

And I do hereby for myself and my heirs, executors, and administrators, covenant with the said grantee and his heirs and assigns that the granted premises are free from all incumbrances made or suffered by me

and that I will, and my heirs, executors, and administrators shall, warrant and defend the same to the said grantee and his heirs and assigns forever against the lawful claims and demands of all persons claiming by, through, or under me but against none other.

And for the consideration aforesaid I, Florence F. Temple, wife of the said Henry D. Temple do hereby release unto the said grantee and his heirs and assigns all right of or to both D O W E R and H O M E S T E A D in the granted premises, and all other rights and interests therein.

In witness whereof we the said Henry D. Temple and Florence F. Temple

hereunto set our hands and seals this 8th day of June in the year one thousand nine hundred and eleven.

Signed and sealed in presence of

C. C. Milton to

Henry D. Temple (seal)

Florence F. Temple (seal)

Commonwealth of Massachusetts.

Worcester, ss. June 8th 1911.

Then personally appeared the above-named Henry D. Temple and acknowledged the foregoing instrument to be his free act and deed, before me—

Charles C Milton Justice of the Peace.

Received June 26, 1911 at 9 h. 30 m. A. M. Entered and examined.

law, and in consideration of the premises, hereby G I V E, G R A N T, B A R G A I N, S E L L and C O N V E Y unto the said Town of Shrewsbury the following described real estate, the same being the land taxed as aforesaid, to wit:

In the name of Lucy Turgeon:

Land on LeBlane Road, Beach Road and Edgemont Road, being lots No. 43, 44, 50 on plan of land by Herbert A. Pratt, C. E., dated May 21, 1920, and recorded with Worcester District Registry of Deeds, Plan Book 36, Plan 29. Amount assessed in 1929 $17.45

T O H A V E and T O H O L D the same, to the said Town of Shrewsbury and its assigns, to its and their use and behoof forever; subject to the right of redemption by any person legally entitled to redeem the same and to all easements and restrictions lawfully existing in, upon or over said land or appurtenant thereto when so taken. And I, the said Collector do covenant with the said Town of Shrewsbury and its assigns, that the sale aforesaid has, in all particulars, been conducted according to law.

I N W I T N E S S W H E R E O F I, the said Frederick W. White, Collector as aforesaid, have hereunto set my hand and seal, this 31st day of July in the year of our Lord one thousand nine hundred and 30.

Signed, sealed and delivered
in presence of
P. C. Whittemore

Frederick W. White (seal)
Collector of Taxes for the
Town of Shrewsbury

Commonwealth of Massachusetts

Worcester, ss. July 31, 1930 Then personally appeared the above named Frederick W. White, Collector of Taxes for the Town of Shrewsbury and acknowledged the foregoing instrument to be his free act and deed, before me,

Preston C. Whittemore Notary Public (seal)
My commission expires June 13, 1935

Rec'd Aug. 14, 1930 at 10h. 15m. A. M. Ent'd & Ex'd.

* * * * * *

Grady

to

Town of Shrewsbury

See Book 3618 Page 324

See Book 3287 Page 760

Commonwealth of Massachusetts

T O A L L P E R S O N S T O W H O M T H E S E P R E S E N T S M A Y C O M E I, Frederick W. White, Collector of Taxes for the Town of Shrewsbury in the County of Worcester and Commonwealth of Massachusetts. SEND GREETING:

W H E R E A S, the Assessors of Taxes of said Town of Shrewsbury in the lists of assessments for taxes, which they committed to me to collect for the year one thousand nine hundred and 29 duly assessed James W. Grady as owner or occupant of the land in said SHREWSBURY, which is hereinafter described, the sum of seventeen dollars and forty-five cents, for State, County and Town Taxes thereon; and whereas there were added to and made a part of said taxes so assessed on said land certain apportioned and unapportioned betterment assessments and certain special assessments, with interest thereon, constituting a lien on said land, in the sum of five dollars and eighty-five cents, so that the whole amount of taxes on said land committed to me, including assessments and interest, was the sum of twenty-three dollars and thirty cents; and whereas, on the 14th day of June A. D. 1930 I duly demanded of said James W. Grady the payment of said taxes, so as aforesaid assessed on said land, and the same were not paid; and whereas, after the expiration of fourteen days from the time of demanding payment of said taxes as aforesaid, the same still remaining unpaid, I duly advertised that the smallest undivided part of said land sufficient to satisfy said taxes with interest and all legal costs and charges, or the whole of said land if no person offers to take an undivided part thereof, would be sold by public auction for the payment of said taxes with interest, and all legal costs and charges, on the 4th day of August A. D. 1930 at 5 o'clock in the forenoon, at the Town Hall in said Shrewsbury by publishing an advertisement thereof, containing also a substantially accurate description, and the names of all owners of said land, and the amount of the taxes so as aforesaid assessed thereon, in the Clinton Daily Item a newspaper published in Clinton in the County where said land lies, three weeks successively the last publication whereof was at least one week before the time appointed for the sale, and by posting the said advertisement, in two public and convenient places in said Shrewsbury to wit: the Bulletin Boards at the Town Hall and on the Turnpike three weeks before the time appointed for said sale; and whereas, said taxes so as aforesaid assessed on said land were not paid, I proceeded at the time and place appointed as aforesaid for the sale, to sell said land by public auction for the discharge and payment of said taxes thereon with interest and said legal costs and charges, and no person appeared and bid for the estate thus offered for sale an amount equal to the said taxes, interest, costs and charges, and I thereupon, at said time and place appointed for sale, adjourned said sale until the 5th day of August A. D. 1930 at 8:30 o'clock

in the forenoon, at the same place, and then and there made public proclamation of said adjournment; and in like manner in all respects and for the same cause I adjourned said sale, to August 6th, 1930 at 8:30 in the forenoon and then and there made public proclamation of said adjournments; and at the time and place so fixed and proclaimed for making said sale on each of the several days, I proceeded to offer for sale said real estate by public auction for the payment of said taxes, interest, costs and charges, and no person appeared, at either times so fixed by adjournment for said sale and bid a sum equal to said taxes, interest costs and charges, and at the time and place so fixed for said sale by the last of the said adjournments namely on the 6th day of August A. D. 1930, at 8:30 o'clock in the forenoon, I made a public declaration of all the facts hereinbefore recited; and no person then appeared and bid a sum equal to said taxes, interest, costs and charges; and I thereupon then and there immediately gave public notice that I should, and that I then and there did purchase on behalf of the said Town of Shrewsbury, said real estate for the sum of Twenty-three Dollars, and Thirty Cents, being the amount of said taxes, interest, costs and charges.

T H E R E F O R E, K N O W Y E, that I, the said Frederick W. White Collector of Taxes as aforesaid, by virtue of the power vested in me by law, and in consideration of the premises, hereby G I V E, G R A N T, B A R G A I N, S E L L and C O N V E Y unto the said Town of Shrewsbury the following described real estate, the same being the land taxed as aforesaid, to wit:

In the name of James W. Grady

Land with buildings thereon on east side of North Quinsigamond Avenue, being part of the same premises described in a deed from Henry D. Temple to James W. Grady, dated June 8, 1911 and recorded with Worcester District Registry of Deeds, Book 1965, Page 303, and supposed to contain about 4 acres, 9361 square feet. Amount assessed in 1929 $17.45.

T O H A V E and T O H O L D the same, to the said Town of Shrewsbury and its assigns, to its and their use and behoof forever; subject to the right of redemption by any person legally entitled to redeem the same and to all easements and restrictions lawfully existing in, upon or over said land or appurtenant thereto when so taken. And I, the said Collector do covenant with the said Town of Shrewsbury and its assigns, that the sale aforesaid has in all particulars, been conducted according to law.

I N W I T N E S S W H E R E O F I, the said Frederick W. White Collector as aforesaid, have hereunto set my hand and seal, this 6th day of August in the year of our Lord one thousand nine hundred and 30.

Signed, sealed and delivered
in presence of
P. C. Whittemore

Frederick W. White (seal)
Collector of Taxes for the
Town of Shrewsbury

Commonwealth of Massachusetts

Worcester, ss. August 6th, 1930 Then personally appeared the above named Frederick W. White Collector of Taxes for the Town of Shrewsbury and acknowledged the foregoing instrument to be his free act and deed, before me

Preston C. Whittemore Notary Public (seal)
My commission expires June 13, 1935

Rec'd Aug. 14, 1930 at 10h. 15m. A. M. Ent'd & Ex'd.

* * * * * * *

Home Investment Company

to

Town of Shrewsbury

See Book 2599 Page 169

Commonwealth of Massachusetts

T O A L L P E R S O N S T O W H O M T H E S E P R E S E N T S M A Y C O M E I, Frederick W. White, Collector of Taxes for the Town of Shrewsbury in the County of Worcester and Commonwealth of Massachusetts, SEND GREETING:

W H E R E A S, the Assessors of Taxes of said Town of Shrewsbury in the lists of assessments for taxes, which they committed to me to collect for the year one thousand nine hundred and 29 duly assessed Home Investment Co. as owner or occupant of the land in said SHREWSBURY which is hereinafter described, the sum of fifty-two dollars and thirty-five cents, for State, County and Town Taxes thereon; and whereas there were added to and made a part of said taxes so assessed on said land certain apportioned and unapportioned betterment assessments and certain special assessments, with interest thereon, constituting a lien on said land, in the sum of seven dollars and forty cents, so that the whole amount of taxes on said land committed to me, including assessments and interest, was the sum of fifty-nine dollars and seventy-five cents; and whereas, on the 14th day of June A. D. 1930 I duly demanded of said Home Investment Co. the payment of said taxes, so as aforesaid assessed on said land, and the same were not paid; and whereas, after the expiration of fourteen days from the time of demanding payment of said taxes as aforesaid, the same still remaining unpaid, I duly advertised that the smallest undivided part of said land sufficient to satisfy said taxes with interest and all legal costs and charges, or the whole of said land if no person offers to take an undivided

1903 and recorded with Worcester District Registry of Deeds, Plan Book 18, Plan 50, and supposed to contain about 19,600 square feet.

Town of Shrewsbury
Preston C. Whittemore
Temporary Treasurer.

Rec'd Aug. 25, 1934 at 9h. 10m. A. M. Ent'd & Ex'd.

* * * * * * * *

Town of Shrewsbury

Notice

See Book 2632 Page 257

Commonwealth of Massachusetts.
Land Court.

T O A L L W H O M I T M A Y C O N C E R N: The Town of Shrewsbury, a municipal corporation duly established in the County of Worcester and Commonwealth of Massachusetts, hereby gives notice that, on the 24th day of August 1934, filed in said Court a petition against Louis Garganigo to foreclose two tax liens acquired under two certain tax deeds from the Collector of Taxes for the Town of Shrewsbury, in the County of Worcester and said Commonwealth, to it, both dated August 10, 1932, and recorded with Worcester District Deeds, in Book 2571, Page 70 & 72. Said deeds covers two certain parcels of land situated in SHREWSBURY in the County of Worcester and said Commonwealth, which is described as follows: Land with buildings thereon, on west side of Worthington Ave., being lots Nos. 398-399 on plan of Lake Junction Park, dated and recorded with Worcester District Registry of Deeds, Plan Book 30, Plan 50 and supposed to contain about 6348 square feet.

Land on the west side of Plainfield Avenue, being lots Nos. 3-4 on plan of Edgewater Park, dated June 1913 and recorded with the Worcester District Registry of Deeds, Plan Book 24, Plan 65, and supposed to contain about 12,295 square feet.

Town of Shrewsbury
Preston C. Whittemore
Temporary Treasurer.

Rec'd Aug. 25, 1934 at 9h. 10m. A. M. Ent'd & Ex'd.

* * * * * * * *

Town of Shrewsbury

Notice

See Book 2631 Page 275

Commonwealth of Massachusetts.
Land Court

T O A L L W H O M I T M A Y C O N C E R N: The Town of Shrewsbury, a municipal corporation duly established in the County of Worcester and Commonwealth of Massachusetts hereby gives notice that, on the 24th day of August 1934 filed in said Court a petition against James W. Grady to foreclose a tax lien acquired under a certain tax deed from the Collector of Taxes for the Town of Shrewsbury, in the County of Worcester and said Commonwealth, to it dated August 6, 1930, and recorded with Worcester District Deeds, in Book 2526, Page 205,

Said deed covers a certain parcel of land situated in SHREWSBURY in the County of Worcester and said Commonwealth, which is described as follows: Land with buildings thereon, on the east side of North Quinsigamond Avenue and being part of the premises described in a deed from Henry D. Temple to James W. Grady, dated June 8, 1911 and recorded with Worcester District Registry of Deeds, Book 1965, Page 303 and supposed to contain about four acres, 9361 square feet.

Town of Shrewsbury,
Preston C. Whittemore,
Temporary Treasurer.

Rec'd Aug. 25, 1934 at 9h. 10m. A. M. Ent'd & Ex'd.

* * * * * * * *

Town of Shrewsbury

Notice

See Book 2639 Page 332

Commonwealth of Massachusetts.
Land Court

T O A L L W H O M I T M A Y C O N C E R N: The Town of Shrewsbury, a municipal corporation duly established in the County of Worcester and Commonwealth of Massachusetts hereby gives notice that, on the 24th day of August 1934, filed in said Court a petition against Home Co-operative Bank to foreclose a tax lien acquired under a certain tax deed from the Collector of Taxes for the Town of Shrewsbury, in the County of Worcester and said Commonwealth, to it dated August 10, 1932, and recorded with Worcester District Deeds, in Book 2571, Page 68.

Said deed covers a certain parcel of land situated in SHREWSBURY, in the County of Worcester and said Commonwealth, which is described as follows: Land with buildings thereon, on south side of Jackson Street, being lots Nos. 296 to 313 inclusive, on plan of land of Lake Junction Park,

3287

360

Then personally appeared the above named Vytaut Sabulis and Lena Z. Sabulis and acknowledged the foregoing instrument to be their free act and deed, before me

Robert H. Ellis
Justice of the Peace Notary Public

My commission expires May 8, 1953

Recorded Sept. 26, 1950 at 11h. 21m. A. M.

■ END OF INSTRUMENT ■

Know All Men By These Presents

that whereas the Inhabitants of the Town of Shrewsbury, in Worcester County, Massachusetts, at a Special Town Meeting, duly called, warned for the purpose and held on the thirty-first day of August A. D. 1924 did vote as follows, to wit;

> "That the Treasurer, with the advice and consent of the selectmen, be and is hereby authorized to sell and assign any tax lien now or hereafter held by the Town and/or bargain, sell and convey any property to which the Town has or may hereafter acquire title through the foreclosure of tax lien. And the Treasurer is hereby authorized to sign, execute and deliver in the name of the Town any and all legal instruments under seal, necessary to convey to the assignee or purchaser, all right, title and interest of the Town in such property."

Now therefore, I the Town of Shrewsbury by Preston C. Whittemore Town Treasurer of said Shrewsbury, with the advice and consent of the selectmen, do by virtue and in execution of the power conferred upon me by the foregoing vote and of every other power and authority me hereto enabling, for and in consideration of Two thousand and 00/100 ------- Dollars, paid, grant to Herbert C. Lambert of Shrewsbury

County of Worcester Massachusetts, any and all right, title and interest of said Town of Shrewsbury in and unto the land in said Shrewsbury, bounded and described as follows:

Beginning at a point in the Southeasterly side of North Quinsigamond Avenue at the Southwesterly corner of land of Herbert C. Lambert which point of beginning is 220.11 feet as measured on said line of North Quinsigamond Avenue from a concrete monument set in said line of North Quinsigamond Avenue at the Northwesterly corner of land of Herbert C. Lambert and at the Southwesterly corner of land taken by the Town of Shrewsbury;

Thence N. 83° 12' 20" E. by land of the grantee 336.16 feet to other land of the grantee;

Thence S. 9° 21' 0" W. by other land of the grantee 245.02 feet;

Thence S. 88° 51' 40" W. by other land of the grantor 375.05 feet to the Southeasterly line of North Quinsigamond Avenue;

Thence N. 21° 8' 20" E. by said line of North Quinsigamond Avenue 224.56 feet to the point of beginning.

Containing approximately 1.78 acres of land and being Parcel B as shown on a plan of Town of Shrewsbury, Mass., Water Department, Plan of Land on North Quinsigamond Avenue, dated December 15, 1949, W.T. Moore, Engr.

Being a portion of the premises described in a Collector's Deed by the Town of Shrewsbury dated August 6, 1930 and recorded in Worcester District Deeds, Book 2528 Page 205 under which all rights of redemption were foreclosed by Decree of the Land Court entered January 2, 1935 in Land Court Case No. 4975, Notice of Disposal in said case being recorded in said Deeds, Book 2651 Page 275.

Reserving to the grantor, however, rights and easements in the streets and ways abutting said granted premises for all purposes for which streets or ways are ordinarily used.

IN WITNESS WHEREOF, said Inhabitants of the Town of Shrewsbury has caused its corporate seal to be affixed and these presents to be signed in its name and behalf by Preston C. Whittemore, its Treasurer, this 25th day of September A. D. 1950.

Inhabitants of the Town of Shrewsbury,
By Preston C. Whittemore
Treasurer.

Commonwealth of Massachusetts

Worcester, ss. Sept 25 1950

Then personally appeared the above-named Preston C. Whittemore and acknowledged the foregoing instrument to be the free act and deed of the Inhabitants of the Town of Shrewsbury, before me.

Leonard A. Salcend
Notary Public — Justice of the Peace
LEONARD A. SALCEND

My Commission expires [illegible], 19

I, Ernest A. Tosi, certify that I am the Town Clerk of said Town of Shrewsbury, and as such have charge of the records of said Town; that the above-named Preston C. Whittemore is the Treasurer of said Town; that the vote as hereinbefore set forth is a true copy of the vote of said Town, as recorded in the records of the Town Clerk of said Shrewsbury; and that this instrument is executed with the advice and consent of the selectmen of said Shrewsbury.

In witness whereof, I have hereto set my hand and affixed my official seal, this 25th day of September A. D. 19 50.

Ernest A. Tosi
Town Clerk of said Shrewsbury.
Ernest A. Tosi

Recorded Sept. 26, 1950 at 12h. 6m. P. M.

■ END OF INSTRUMENT ■

Know All Men by These Presents

That the Southbridge Savings Bank, the mortgagee named in a certain mortgage given by Frederick L. Welch and Grace E. Welch to said Bank dated September 2, 1949 A. D. 1949 and recorded with Worcester District Registry of Deeds, Book 3209 Page 164 acknowledges satisfaction of same.

In witness whereof the said Southbridge Savings Bank has caused its corporate seal to be hereto affixed and these presents to be signed, acknowledged, and delivered in its name and behalf by William V. Forsley its Treasurer, this 22nd day of September 19 50.

Signed and Sealed
in presence of

SOUTHBRIDGE SAVINGS BANK

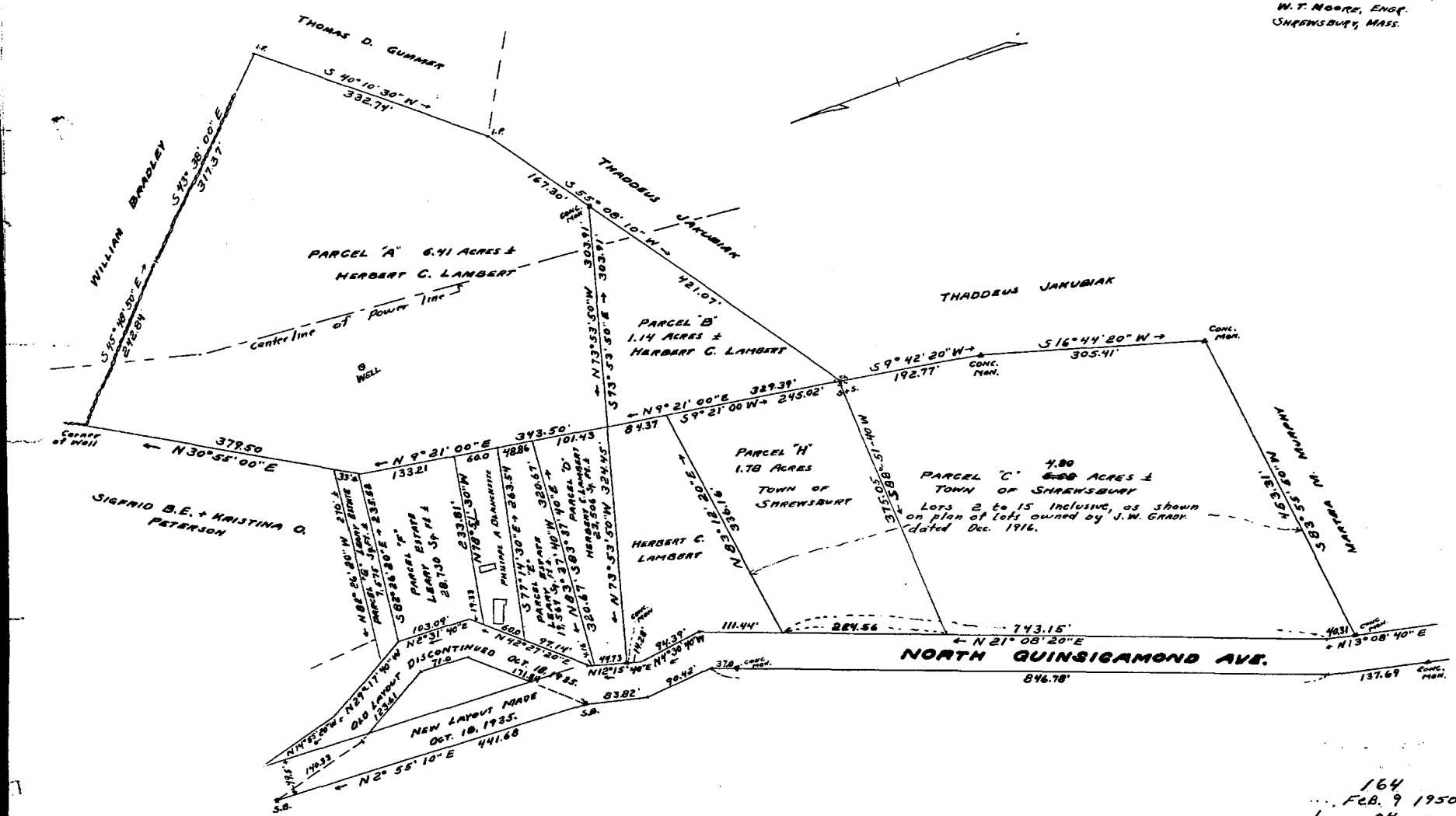
by William V. Forsley Treasurer

Commonwealth of Massachusetts

TOWN OF SHREWSBURY, MASS.
WATER DEPARTMENT
PLAN OF LAND ON
NORTH QUINSIGAMOND AVE.

SCALE 1" = 100' DEC. 15, 1949.

W. T. MOORE, ENGR.
SHREWSBURY, MASS.



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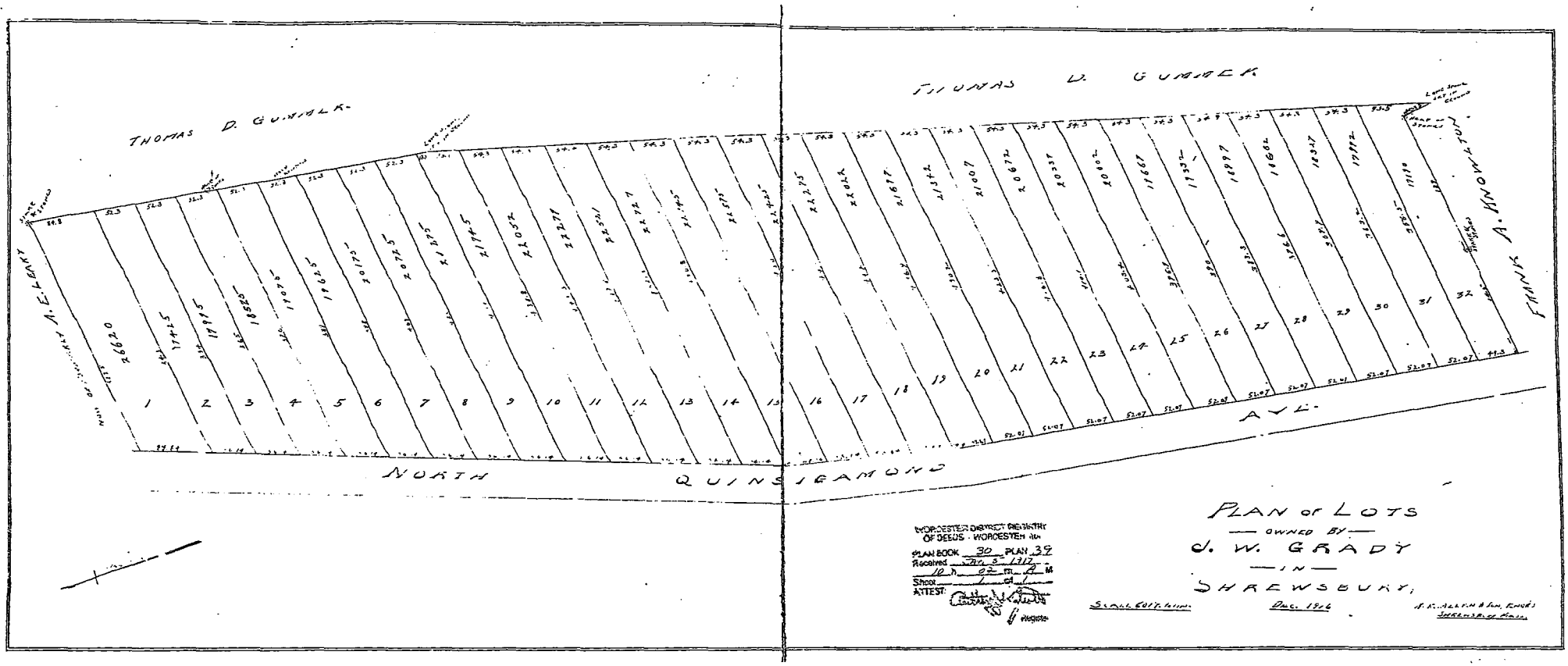

WORCESTER DISTRICT REGISTRY OF DEEDS - WORCESTER ss.
PLAN BOOK 30 PLAN 39
Received Dec 3 1917
10 h 02 m A M
Sheet 1 of 1
ATTEST:
Register

PLAN of LOTS
— OWNED BY —
J. W. GRADY
— IN —
SHREWSBURY,

SCALE 60 FT. to 1 in.

DEC. 1916

H. K. ALLEN & SON, ENGRS
SHREWSBURY, MASS.

248 N QUINSIGAMOND AVE

Location 248 N QUINSIGAMOND AVE **Mblu** 25/ 028000/ / /

Acct# 4327 **Owner** SHREWSBURY TOWN OF

Assessment $233,900 **Appraisal** $233,900

PID 4327 **Building Count** 1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$0	$233,900	$233,900
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$0	$233,900	$233,900

Owner of Record

Owner SHREWSBURY TOWN OF
Co-Owner
Address 100 MAPLE AVE
SHREWSBURY, MA 01545

Sale Price $0
Certificate
Book & Page 2526/ 205
Sale Date 08/24/1934
Instrument 1N

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
SHREWSBURY TOWN OF	$0		2526/ 205	1N	08/24/1934

Building Information

Building 1 : Section 1

Year Built:
Living Area: 0
Replacement Cost: $0
Building Percent Good:
Replacement Cost Less Depreciation: $0

Building Photo

Building Attributes	
Field	**Description**
Style	Vacant Land
Model	

Grade	
Stories	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type	
AC Pct	
Bedrooms	
Full Baths	
Half Baths	
Extra Fixtures	
Total Rooms	
Bath Style:	
Kitchen Style	
Kitchens	
Extra Kitchens	
Frame	
Bsmt Floor	
Bsmt Garage	
Foundation	
WS Flues	
Fireplaces	
Xtra Openings	
Fini BSMT SF	
Solar HW	
Int vs. Ext	

(http://images.vgsi.com/photos/ShrewsburyMAPhotos//default.jp

Building Layout

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code 9300

Land Line Valuation

Size (Acres) 4.84

Description	Town Vacant	**Frontage**	
Zone	B	**Depth**	
Neighborhood	080	**Assessed Value**	$233,900
Alt Land Appr	No	**Appraised Value**	$233,900
Category			

Outbuildings

Outbuildings	Legend
No Data for Outbuildings	

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$0	$260,900	$260,900
2015	$0	$243,000	$243,000
2014	$0	$242,400	$242,400

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$0	$260,900	$260,900
2015	$0	$243,000	$243,000
2014	$0	$242,400	$242,400

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150 Maple Avenue

QUITCLAIM DEED

WORCESTER FOUNDATION FOR EXPERIMENTAL BIOLOGY of 222 Maple Avenue, Shrewsbury, Worcester County, Massachusetts

for consideration paid, and in full consideration of SEVEN HUNDRED TWENTY THOUSAND ($720,000.00) DOLLARS

grants to the TOWN OF SHREWSBURY, a municipal corporation located at 100 Maple Avenue, Shrewsbury, Worcester County, Massachusetts

with quitclaim covenants

a certain parcel of land situated in the Town of Shrewsbury located on the northerly side of Maple Avenue containing 19.7 acres, more or less, and shown on a plan entitled "Land along the Northerly Side of Maple Avenue to be Deeded to the Town of Shrewsbury by the Worcester Foundation for Experimental Biology" dated December 1991 drawn by the Town of Shrewsbury Engineering Department and recorded with the Worcester District Registry of Deeds in Plan Book 662, Plan 100 (the "Plan"), bounded and described as follows:

Location: Maple Avenue, Shrewsbury, Massachusetts

SEP 8 2 57 PM '92

BEGINNING at a point on the northwesterly sideline of the 1933 State Highway Layout of Maple Avenue, said point being a corner at land presently owned by the Town of Shrewsbury and land presently owned by the Worcester Foundation for Experimental Biology and being approximately 907 feet from the intersection of the westerly sideline of Gage Lane with the northwesterly sideline of Maple Avenue;

THENCE South 38° 55′ 35" West, Six Hundred Ninety-Seven and 67/100 (697.67) feet along said sideline of Maple Avenue to a point;

THENCE South 39° 22′ 23" West, Four Hundred Ninety-Four and 22/100 (494.22) feet along said sideline to a point;

THENCE South 41° 49′ 34" West, One Hundred Ninety-Six and 25/100 (196.25) feet along said sideline to a point;

THENCE South 46° 23′ 57" West, Three Hundred Nineteen and 11/100 (319.11) feet along said sideline to a point;

THENCE South 49° 26′ 02" West, Two Hundred Sixty-Three and 70/100 (263.70) feet along said sideline to a point;

THENCE South 51° 54′ 59" West, One Hundred Seventy-Four and 04/100 (174.04) feet along said sideline to a point of curvature;

THENCE Northwesterly, Seventy-One and 93/100 (71.93) feet along a curve to the right having a radius of 35.00 feet to a point of tangency;

THENCE North 10° 20′ 01" West, One and 74/100 (1.74) feet to a point of curvature;

THENCE Northerly, One Hundred Sixty and 35/100 (160.35) feet along a curve to the right having a radius of 175.00 feet to a point of tangency;

THENCE North 42° 09′ 59" East, One Hundred Fifty and 07/100 (150.07) feet to a point of curvature;

THENCE Northerly, One Hundred Fifty and 53/100 (150.53) along a curve to the left having a radius of 250.00 feet to a point of tangency;

THENCE North 07° 39′ 59" East, One Hundred Forty-Two and 94/100 (142.94) feet to a point of curvature;

THENCE Northerly, Two Hundred Sixty-Five and 58/100 (265.58) feet along a curve to the right having a radius of 550.00 feet to a point of tangency;

THENCE North 35° 19′ 59" East, Seventy-Nine and 56/100 (79.56) feet to a point of curvature;

THENCE Northerly, Two Hundred Twenty-One and 22/100 (221.22) feet along a curve to the left having a radius of 350.00 feet to a point of tangency;

THENCE North 00° 52′ 50" West, Ninety-Four and 64/100 (94.64) feet to a point of curvature;

THENCE Northerly, One Hundred Nineteen and 21/100 (119.21) feet along a curve to the left having a radius of 750.00 feet to a point on said curve;

THENCE North 78° 25′ 35" East, Three Hundred Forty-Seven and 28/100 (347.28) feet to a point;

THENCE North 38° 55′ 35" East, Six Hundred Thirty-Four and 00/100 (634.00) feet to a point at land presently owned by the Town of Shrewsbury; and

THENCE South 51° 04′ 25" East, Four Hundred Fifty and 00/100 (450.00) feet by land of said Town to the point of beginning.

Reserving to the Grantor, its successors and assigns for the benefit of all of Grantor's remaining land presently comprising its campus (the "Campus") [a] an easement for all purposes for which streets are used in the Town of Shrewsbury over the portion of the existing roadway located on the premises herein conveyed for access to and egress from the Campus to Maple Avenue, until

such time as the West Main Street-Maple Avenue Connector Road shown as "Proposed Right of Way" on the Plan is open to vehicular traffic; [b] an easement for the repair, maintenance and replacement of all existing utilities located in or on the premises hereby conveyed for as long as is required to service buildings on the Campus, which utilities may be relocated by the Town of Shrewsbury, at its expense; [c] an easement fifty (50) feet in width adjacent to the easterly sideline of the Proposed Right of Way shown on the Plan for the purpose of final alignment and construction of said Right of Way, which easement shall terminate upon acceptance of said Right of Way by the Town of Shrewsbury.

The said premises are conveyed subject to the restriction that no building or structure shall be constructed or erected on the portion thereof labeled "Open Space" on the Plan. The term "structure" as used herein shall not include roadways or underground utilities.

Being a portion of the same premises conveyed to the Worcester Foundation for Experimental Biology by deed recorded in said Registry of Deeds in Book 4322, Page 1.

EXECUTED as an instrument under seal this 8th day of September, 1992.

WORCESTER FOUNDATION FOR EXPERIMENTAL BIOLOGY

By _____
Thoru Pederson, President

By _____
A. Bradford Bull, Assistant Treasurer

THE COMMONWEALTH OF MASSACHUSETTS

Worcester, ss September 8, 1992

Then personally appeared the above-named Thoru Pederson, President and A. Bradford Bull, Assistant Treasurer of the Worcester Foundation for Experimental Biology, and acknowledged the foregoing instrument to be their free acts and deeds and the free act and deed of said Foundation, before me

_____
- Notary Public

My commission expires:

MY COMMISSION EXPIRES JUNE 19, 1998

pa.res/W1765.100/rcs321/deed

TOWN OF SHREWSBURY

100 MAPLE AVENUE
SHREWSBURY, MA 01545-5398
508-845-4781
FAX 508-842-9419

DONALD R. GRAY, CMC
TOWN CLERK

ANN M. DAGLE
ASST TOWN CLERK

CERTIFICATE

I, Donald R. Gray, hereby certify that I am the Town Clerk of the town of Shrewsbury, Massachusetts and the following is a true copy of the vote of the town at the Special Town Meeting held on December 9, 1991.

Article 8: Purchase of Land - Maple Avenue
Worcester Foundation

VOTED UNANIMOUSLY BY STANDING VOTE that the Town authorize the Board of Selectmen to purchase a parcel of land on the north side of Maple Avenue for playground purposes from the Worcester Foundation for Experimental Biology, said land is bounded and described as follows:

Beginning at a point on the northwesterly sideline of the 1933 State Highway Layout of Maple Avenue, said point being a corner at land presently owned by the Town of Shrewsbury and land presently owned by the Worcester Foundation for Experimental Biology and being approximately 907 feet from the intersection of the westerly sideline Gage Lane with the northwesterly sideline of Maple Avenue;

THENCE: S 38°55'35" W, 697.67 feet, along said sideline of Maple Avenue to a point;

THENCE: S 39°22'23" W, 494.22 feet, along said sideline to a point;

THENCE: S 41°49'34" W, 196.25 feet, along said sideline to a point;

THENCE: S 46°23'57" W, 319.11 feet, along said sideline to a point;

THENCE: S 49°26'02" W, 263.70 feet, along said sideline to a point;

THENCE: S 51°54'59" W, 174.04 feet, along said sideline to a point of curvature;

THENCE: Northwesterly, 71.93 feet along a curve to the right having a radius of 35.00 feet to a point of tangency;

THENCE: N 10°20'01" W, 1.74 feet to a point of curvature;

THENCE: Northerly, 160.35 feet along a curve to the right having a radius of 175.00 feet to a point of tangency;

THENCE: N 42°09'59" E, 150.07 feet to a point of curvature;

THENCE: Northerly, 150.53 feet, along a curve to the left having a radius of 250.00 feet to a point of tangency;

THENCE: N 07°39'59" E, 142.94 feet, to a point of curvature;

THENCE: Northerly, 265.58 feet along a curve to the right having a radius of 550.00 feet to a point of tangency;

THENCE: N 35°19'59" E, 79.56 feet to a point of curvature;

THENCE: Northerly, 221.22 feet along a curve to the left having a radius of 350.00 feet to a point of tangency;

THENCE: N 00°52'50" W, 94.64 feet to a point of curvature;

THENCE: Northerly, 119.21 feet along a curve to the left having a radius of 750.00 feet to a point on said curve;

THENCE: N 78°25'35" E, 347.28 feet to a point;

THENCE: N 38°55'35" E, 634.00 feet to a point at land presently owned by the Town of Shrewsbury;

THENCE: S 51°04'25" E, 450.00 feet by land of said Town to the point of beginning

The above described parcel contains approximately 19.7 acres, more or less, and is shown on a plan entitled, "Town of Shrewsbury - Land Along the Northerly Side of Maple Avenue to be Deeded to the Town of Shrewsbury by the Worcester Foundation for Experimental Biology - Scale: as Noted - December 1991 - Town of Shrewsbury Engineering Department."

To meet the cost of said purchase, the sum of $720,000 shall be appropriated in the following manner:

$270,000 be transferred from the funds received from the sale of land under Article 5
450,000 by accepting a donation from C.J. & S. Inc.

In witness whereof I hereunto set my hand and the seal of the Town this 18th day of August, 1992

Donald R. Gray

Donald R. Gray, CMC
Town Clerk

VOTED: To purchase from the Worcester Foundation for Experimental Biology, of 222 Maple Avenue, Shrewsbury, Massachusetts, for the purchase price of $720,000, with quitclaim covenants a certain parcel of land situated in the Town of Shrewsbury located on the northerly side of Maple Avenue containing 19.7 acres, more or less, and shown on a plan entitled "Land along the Northerly Side of Maple Avenue to be Deeded to the Town of Shrewsbury by the Worcester Foundation for Experimental Biology" dated December 1991 drawn by the Town of Shrewsbury Engineering Department; bounded and described as follows:

BEGINNING at a point on the northwesterly sideline of the 1933 State Highway Layout of Maple Avenue, said point being a corner at land presently owned by the Town of Shrewsbury and land presently owned by the Worcester Foundation for Experimental Biology and being approximately 907 feet from the intersection of the westerly sideline of Gage Lane with the northwesterly sideline of Maple Avenue;

THENCE South 38° 55' 35" West, Six Hundred Ninety-Seven and 67/100 (697.67) feet along said sideline of Maple Avenue to a point;

THENCE South 39° 22' 23" West, Four Hundred Ninety-Four and 22/100 (494.22) feet along said sideline to a point;

THENCE South 41° 49' 34" West, One Hundred Ninety-Six and 25/100 (196.25) feet along said sideline to a point;

THENCE South 46° 23' 57" West, Three Hundred Nineteen and 11/100 (319.11) feet along said sideline to a point;

THENCE South 49° 26' 02" West, Two Hundred Sixty-Three and 70/100 (263.70) feet along said sideline to a point;

THENCE South 51° 54' 59" West, One Hundred Seventy-Four and 04/100 (174.04) feet along said sideline to a point of curvature;

THENCE Northwesterly, Seventy-One and 93/100 (71.93) feet along a curve to the right having a radius of 35.00 feet to a point of tangency;

THENCE North 10° 20' 01" West, One and 74/100 (1.74) feet to a point of curvature;

THENCE Northerly, One Hundred Sixty and 35/100 (160.35) feet along a curve to the right having a radius of 175.00 feet to a point of tangency;

THENCE North 42° 09' 59" East, One Hundred Fifty and 07/100 (150.07) feet to a point of curvature;

THENCE Northerly, One Hundred Fifty and 53/100 (150.53) along a curve to the left having a radius of 250.00 feet to a point of tangency;

THENCE North 07° 39' 59" East, One Hundred Forty-Two and 94/100 (142.94) feet to a point of curvature;

THENCE Northerly, Two Hundred Sixty-Five and 58/100 (265.58) feet along a curve to the right having a radius of 550.00 feet to a point of tangency;

THENCE North 35° 19' 59" East, Seventy-Nine and 56/100 (79.56) feet to a point of curvature;

THENCE Northerly, Two Hundred Twenty-One and 22/100 (221.22) feet along a curve to the left having a radius of 350.00 feet to a point of tangency;

THENCE North 00° 52' 50" West, Ninety-Four and 64/100 (94.64) feet to a point of curvature;

THENCE Northerly, One Hundred Nineteen and 21/100 (119.21) feet along a curve to the left having a radius of 750.00 feet to a point on said curve:

THENCE North 78° 25' 35" East, Three Hundred Forty-Seven and 28/100 (347.28) feet to a point;

THENCE North 38° 55' 35" East, Six Hundred Thirty-Four and 00/100 (634.00) feet to a point at land presently owned by the Town of Shrewsbury; and

THENCE South 51° 04' 25" East, Four Hundred Fifty and 00/100 (450.00) feet by land of said Town to the point of beginning.

Reserving to the Grantor, its successors and assigns for the benefit of all of Grantor's remaining land presently comprising its campus (the "Campus") [a] an easement for all purposes for which streets are used in the Town of Shrewsbury over the portion of the existing roadway located on the premises herein conveyed for access to and egress from the Campus to Maple Avenue, until such time as the West Main Street-Maple Avenue Connector Road shown as "Proposed Right of Way" on the Plan is open to vehicular traffic; [b] an easement for the repair, maintenance and replacement of all existing utilities located in or on the premises hereby conveyed for as long as is required to service buildings on the Campus, which utilities may be relocated by the Town of Shrewsbury, at its expense; [c] an easement fifty (50) feet in width adjacent to the easterly sideline of the Proposed Right of Way shown on the Plan for the purpose of final alignment and construction of said Right of Way, which easement shall terminate upon acceptance of said Right of Way by the Town of Shrewsbury.

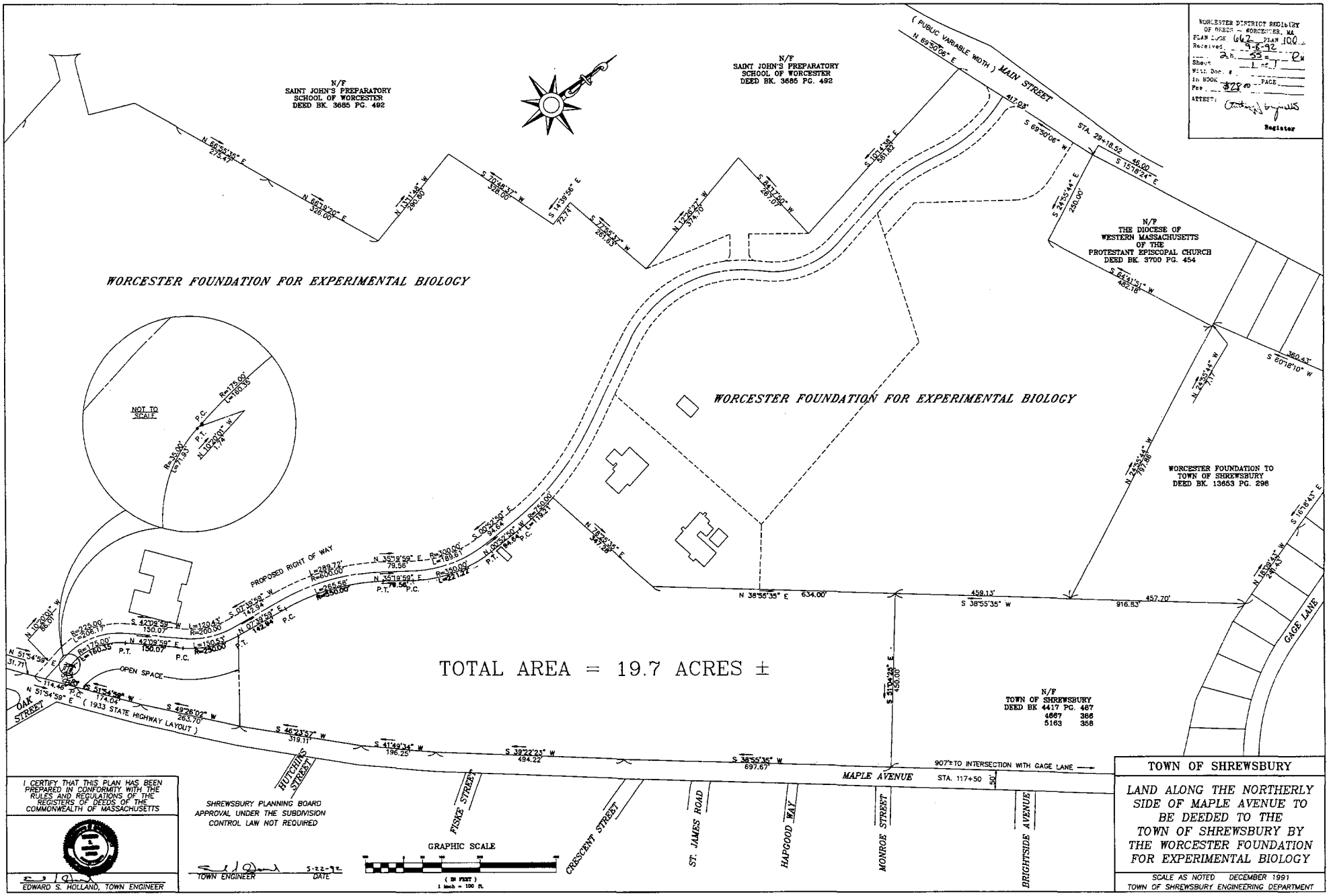
The foregoing is in accordance with Article 34 of the vote of the Annual Town Meeting of May 28, 1991 and pursuant to the Declaration of Restrictive Covenants and Agreements dated May 28, 1991 and recorded in Worcester District Registry of Deeds Book 13547, Page 237 and in accordance with Article 8 of the vote of a Special Town meeting of December 9, 1991.

I certify that the foregoing is a true copy of a vote taken by the Board of Selectmen at their meeting on August 24, 1992.

A TRUE COPY ATTEST:
Donald R. Gagg
TOWN CLERK

Peter F. Whitney
Peter F. Whitney
Clerk, Board of Selectmen

ATTEST: WORC., Anthony J. Vigliotti, Register


N/F
SAINT JOHN'S PREPARATORY
SCHOOL OF WORCESTER
DEED BK. 3685 PG. 492
N/F
SAINT JOHN'S PREPARATORY
SCHOOL OF WORCESTER
DEED BK. 3685 PG. 492
(PUBLIC VARIABLE WIDTH) MAIN STREET
N 69°50'06" E
S 69°50'06" W
417.03'
STA. 28+16.52
46.00
S 15°18'24" E
WORCESTER DISTRICT REGISTRY
OF DEEDS - WORCESTER, MA
PLAN BOOK 662 PLAN 100
Received 5-8-92
2h. 55m. P.M.
Sheet 1 of 1
With Doc. #
In BOOK PAGE
Fee $25.00
ATTEST:
Register
WORCESTER FOUNDATION FOR EXPERIMENTAL BIOLOGY
N/F
THE DIOCESE OF
WESTERN MASSACHUSETTS
OF THE
PROTESTANT EPISCOPAL CHURCH
DEED BK. 3700 PG. 454
S 24°55'44" E
250.00'
S 24°55'44" E
S 64°41'51" W
482.18'
S 60°18'10" W
380.43'
N 24°55'44" W
N 24°55'44" W
457.68'
WORCESTER FOUNDATION TO
TOWN OF SHREWSBURY
DEED BK. 13653 PG. 298
S 16°18'43" E
N 16°18'43" W
248.43'
GAGE LANE
NOT TO SCALE
R=175.00'
L=180.35'
P.C.
P.T.
N 10°00'00" W
7.74'
R=35.00'
L=79.93'
N 10°00'01" W
85.00'
PROPOSED RIGHT OF WAY
L=289.72'
R=600.00'
N 35°18'59" E
79.58'
R=300.00'
L=169.61'
S 00°52'50" E
94.64'
N 00°52'50" W
R=750.00'
L=176.21'
P.C.
P.T.
N 35°18'59" E
79.58'
P.T.
P.C.
L=265.58'
R=350.00'
R=300.00'
L=221.12'
N 00°52'50" W
94.64'
P.T.
N 78°42'35" E
347.28'
N 38°55'35" E 634.00'
459.13'
S 38°55'35" W
916.83'
457.70'
R=225.00'
L=206.17'
S 42°26'58" W
150.07'
S 07°39'59" W
142.94'
R=200.00'
L=120.43'
N 07°39'59" E
142.94'
P.C.
R=175.00'
L=160.35'
N 42°09'59" E
150.07'
P.T.
P.C.
L=150.53'
R=250.00'
P.T.
N 51°54'59" E
31.71'
OPEN SPACE
N 51°54'59" E
114.46'
P.C.
S 51°54'59" W
174.04'
OAK STREET
N 51°54'59" E (1933 STATE HIGHWAY LAYOUT)
S 49°26'02" W
263.70'
S 46°23'57" W
319.11'
S 41°49'34" W
196.25'
S 39°22'23" W
494.22'
S 38°55'35" W
697.67'
S 31°04'25" E
450.00'
907'± TO INTERSECTION WITH GAGE LANE
MAPLE AVENUE
STA. 117+50
50'
TOTAL AREA = 19.7 ACRES ±
N/F
TOWN OF SHREWSBURY
DEED BK 4417 PG. 487
4667 386
5163 358
HUTCHINS STREET
FISKE STREET
CRESCENT STREET
ST. JAMES ROAD
HAPGOOD WAY
MONROE STREET
BRIGHTSIDE AVENUE
I CERTIFY THAT THIS PLAN HAS BEEN
PREPARED IN CONFORMITY WITH THE
RULES AND REGULATIONS OF THE
REGISTERS OF DEEDS OF THE
COMMONWEALTH OF MASSACHUSETTS
EDWARD S. HOLLAND, TOWN ENGINEER
SHREWSBURY PLANNING BOARD
APPROVAL UNDER THE SUBDIVISION
CONTROL LAW NOT REQUIRED
TOWN ENGINEER
5-22-92
DATE
GRAPHIC SCALE
(IN FEET)
1 inch = 100 ft.
TOWN OF SHREWSBURY
LAND ALONG THE NORTHERLY
SIDE OF MAPLE AVENUE TO
BE DEEDED TO THE
TOWN OF SHREWSBURY BY
THE WORCESTER FOUNDATION
FOR EXPERIMENTAL BIOLOGY
SCALE AS NOTED DECEMBER 1991
TOWN OF SHREWSBURY ENGINEERING DEPARTMENT

150 MAPLE AVE

Location	150 MAPLE AVE	**Mblu**	27/ 391000/ / /
Acct#	5093	**Owner**	SHREWSBURY TOWN OF
Assessment	$444,200	**Appraisal**	$444,200
PID	5093	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$0	$444,200	$444,200
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$0	$444,200	$444,200

Owner of Record

Owner SHREWSBURY TOWN OF
Co-Owner
Address 100 MAPLE AVE
SHREWSBURY, MA 01545

Sale Price $720,000
Certificate
Book & Page 14506/ 311
Sale Date 09/08/1992
Instrument 1N

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
SHREWSBURY TOWN OF	$720,000		14506/ 311	1N	09/08/1992

Building Information

Building 1 : Section 1

Year Built:
Living Area: 0
Replacement Cost: $0
Building Percent Good:
Replacement Cost Less Depreciation: $0

Building Photo

Building Attributes	
Field	**Description**
Style	Vacant Land
Model	

Grade	
Stories	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type	
AC Pct	
Bedrooms	
Full Baths	
Half Baths	
Extra Fixtures	
Total Rooms	
Bath Style:	
Kitchen Style	
Kitchens	
Extra Kitchens	
Frame	
Bsmt Floor	
Bsmt Garage	
Foundation	
WS Flues	
Fireplaces	
Xtra Openings	
Fini BSMT SF	
Solar HW	
Int vs. Ext	

(http://images.vgsi.com/photos/ShrewsburyMAPhotos//default.jp

Building Layout

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code 9300

Land Line Valuation

Size (Acres) 19.7

Description	Town Vacant	**Frontage**	
Zone	D	**Depth**	
Neighborhood	040	**Assessed Value**	$444,200
Alt Land Appr	No	**Appraised Value**	$444,200
Category			

Outbuildings

Outbuildings	Legend
No Data for Outbuildings	

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$0	$426,700	$426,700
2015	$0	$425,200	$425,200
2014	$0	$405,000	$405,000

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$0	$426,700	$426,700
2015	$0	$425,200	$425,200
2014	$0	$405,000	$405,000

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200 Maple Avenue

2011 00089082
Bk: 47925 Pg: 89
Page: 1 of 9 10/05/2011 12:49 PM WD

Record and Return to:
Peter J. Dawson, Esq.
Mirick O'Connell
100 Front Street
Worcester, MA 01608

This space reserved for Recorder's use only

DEED

WORCESTER CITY CAMPUS CORPORATION, a Massachusetts corporation with a mailing address of 333 South Street, Suite 290, Shrewsbury, Massachusetts 01545, for consideration paid and in full consideration of less than One Hundred Dollars ($100.00), grants to **WCS – 222 MAPLE AVENUE, INC.**, a Massachusetts corporation with a mailing address of 333 South Street, Suite 290, Shrewsbury, Massachusetts 01545, **WITH QUITCLAIM COVENANTS**

The following parcels of land with the buildings and improvements thereon located in the Town of Shrewsbury, Worcester County, Massachusetts.

222 Maple Avenue, Shrewsbury, Massachusetts

PARCEL I

BEGINNING at the southwest corner thereof at land now or formerly of Helen H. Lindsay, and at a point in the northeasterly line of Mill Street;

THENCE South 64° 51' 00" East by said line of Mill Street, two hundred forty-two and nine tenths (242.9') feet to an angle;

THENCE by said line of Mill Street, South 81° 20' 00" E. one hundred fifty-seven and one tenth (157.1') feet to an angle;

THENCE by the northerly line of Mill Street, North 78° 03' 00" East one hundred sixty (160') feet to the northerly line of the State Highway or Maple Avenue;

THENCE by the northerly line of said State Highway, North 64° 40' 00" East six hundred eighteen (618') feet to a point fifty (50) feet easterly of the end of a brick wall as now existing;

THENCE North 23° 00' 00" West three hundred forty (340') feet to a point;

THENCE South 72° 10' 00" West one hundred thirty-six (136') feet to a point;

THENCE North 21° 10' 00" West two hundred forty-seven (247') feet to a point;

THENCE North 40° 15' 00" West fifty-one (51') feet to a point;

9

THENCE South 67° 00' 00" West five hundred twenty (520') feet to a point;

THENCE South 27° 00' 00" West five hundred thirty-one (531') feet to the point of beginning.

The last six lines in said description abut on premises now or formerly of said Helen H. Lindsay.

Said tract contains 12 1/3 acres, more or less.

PARCEL II

The land in said Shrewsbury situated northerly of Maple Avenue, bounded and described as follows:

The southeasterly corner is at the intersection of stone walls, one of which extends from the northerly line of Maple Avenue at a point fifty and 6/10 (50.6') feet South 64° 40' 00" West from a stone bound in the northerly line of Maple Avenue and from said point runs in a northerly direction about one hundred thirty 130 feet to an angle in said wall; thence northeasterly about one hundred fifty (150') feet to an angle in said wall; and thence northerly about one hundred seven (107') feet to the aforesaid corner of the intersection with the other stone wall, said corner and intersection being also marked by a stake;

From the said point of beginning the course runs North 21° 10' 00" West three hundred twenty-one and eight hundredths (321.08') feet to a stake;

THENCE South 65° 25' 55" West two hundred seventy-one and seventy-five hundredths (271.75') feet to a stone bound; (these two courses being by land now or formerly of Howard D. Brewer);

THENCE South 39° 35' 10" East fifty and ninety-five hundredths (50.95') feet to a stake;

THENCE South 20° 20' 10" East two hundred forty-six and fifty-one hundredths (246.51') feet to a stake;

THENCE North 72° 10' 00" East two hundred fifty-seven and thirty-one hundredths (257.31') feet to the stake at the point of beginning. (These three lines being by land of the grantor)

Containing about 1.81 acres and being shown on Plan of Land in Shrewsbury made by W.T. Moore & Son, Engineers, dated November 19, 1956 and recorded said Registry of Deeds in Plan Book 221, Plan 114.

PARCEL III

Land in said Shrewsbury situated northerly of Maple Avenue, otherwise called the State Highway, bounded and described as follows:

BEGINNING at a stone bound in a stone wall at the northeasterly corner of other land of the grantor;

THENCE running North 72° 10' 00" East by the middle of the stone wall and by land now or formerly of Howard D. Brewer, one hundred twenty-one and forty-six hundredths (121.46') feet to a corner in said stone wall;

THENCE southerly by the middle of the stone wall one hundred seven (107°) feet more or less to an angle in said stone wall;

THENCE southerly or southwesterly by the middle of said stone wall one hundred fifty (150') feet more or less to a point which is North 23° 00' 00" West approximately one hundred twenty (120') feet from a stone bound in the northerly line of Maple Avenue;

THENCE North 23° 00' 00" West by other land of the grantor two hundred twenty (220') feet more or less to the point of beginning.

PARCEL IV

The land with the buildings thereon situated in said Shrewsbury on the northerly side of the State Highway known as Maple Avenue, the southerly side of Main Street, otherwise known as West Main Street, and the northeasterly side of Mill Street, otherwise known as Old Mill Road, bounded and described as follows:

BEGINNING at a point in the northerly line of Maple Avenue at land now or formerly of Carl H. Stolnacke;

THENCE by said Stolnacke land and land of various owners, the following courses and distances:

North 29° 10' 00" West one hundred ninety eight and 2/10 (198.2') feet;

North 16° 00' 00" West two hundred fifty and 2/10 (250.2') feet;

North 06° 10' 00" West five hundred forty six and 2/10 (546.2') feet;

North 0° 30' 00" East one hundred twenty four and 6/10 (124.6') feet to a corner;

South 78° 00' 00" West one hundred forty nine (149') feet;

South 72° 05' 00" West three hundred sixty and 5/10 (360.5') feet to land now or formerly of the Diocese of Western Massachusetts of the Protestant Episcopal Church;

Southeast by said Church land six and 7/10 (6.7') feet to a corner;

Southwest by said Church land four hundred eighty two and 18/10 (482.18') feet to a corner;

Northwesterly by said Church land two hundred fifty (250') feet to the southerly line of West Main St.

Westerly by the southerly line of West Main Street (as relocated) four hundred eighteen (418') feet, more or less, to land now or formerly of St. John's Preparatory School of Worcester, Inc.

THENCE by said land of St. John's Preparatory School of Worcester, Inc., the following courses and distances:

South 3° 30' 00" West six hundred fifteen (615') feet, more or less;

North 82° 35' 00" West two hundred sixty nine (269') feet;

South 0° 30' 00" West three hundred seventy four and 5/10 (374.5') feet;

North 89° 15' 00" West two hundred sixty six (266') feet;

South 1° 10' 00" East sixty nine (69') feet;

South 82° 30' 00" West three hundred twenty eight (328') feet;

South 0° 25' 00" East two hundred ninety and 8/10 (290.8') feet;

South 77° 41' 00" West nine hundred eighteen and 8/10 (918.8') feet;

South 0° 12' 00" West one hundred eighty three and 3/10 (183.3') feet;

South 80° 05' 00" West eight hundred thirty six (836') feet;

THENCE by land now or formerly of Jennie W. Smith South 09° West nine hundred eight (980') feet to the northerly line of Mill Street, otherwise known as Old Mill Road;

THENCE southeasterly by Mill Street six hundred twenty seven and 3/10 (627.3') feet to land of the grantor;

THENCE by other land of the grantor by the following courses and distances:

North 27° 00' 00" East five hundred thirty one (531') feet;

Northeasterly seven hundred ninety one and 75/100 (791.75') feet to a stake;

South 21° 10' 00" East three hundred twenty one and 08/100 (321.08') feet;

Southerly one hundred seven (107') feet, more or less;

Southwesterly one hundred fifty (150') feet, more or less;

Southerly one hundred thirty (130') feet, more or less to the northerly line of Maple Avenue;

THENCE Easterly three thousand three hundred eighty five and 1/10 (3385.1') feet by the northerly line of Maple Avenue to the point of beginning.

Containing 128.9 acres, more or less.

PARCEL V

The land in Shrewsbury, Worcester County, Massachusetts on the Southeasterly side of Minuteman Way being shown as Lot A on a Plan entitled "Olde Mill Estates", Section 2, Shrewsbury, Massachusetts owned by Westwood Development, Corp. dated February 8, 1982 and revised June 29, 1982, by Reney Bros., Inc., Registered Engineers and Surveyors, recorded in said Registry of Deeds in Plan Book 502, Plan 12 and further bounded and described as follows:

BEGINNING at the Northwesterly corner thereof at a point in the southeasterly line of Minuteman Way, which point is fifty six and 87/100 (56.87') feet easterly of the beginning of a curve connecting said line of Minuteman Way with the easterly line of Lexington Road;

THENCE Easterly by a curve with a radius of twenty (20') feet and by Lot 89 as shown on said plan, a distance of twenty three and 65/100 (23.65') feet to an angle;

THENCE South 52° 09' 15" East by Lot 89, fifty three and 31/100 (53.31') feet to a point in the stone wall at land of Worcester Foundation for Experimental Biology, Inc.

THENCE North 01° 53' 55" East by a stone wall and by land of Worcester Foundation for Experimental Biology, Inc. forty five (45') feet to a drill hole in an angle in the wall;

THENCE North 81° 28' 00" East by the stone wall and by land of Worcester Foundation for Experimental Biology, Inc., eighteen and 74/100 (18.74') feet to a point at Lot 90 as shown on said Plan;

THENCE North 52° 09' 15" West by Lot 90, twenty one and 59/100 (21.59') feet to the beginning of a curve with a radius of twenty (20') feet;

THENCE Northerly by said curve and by Lot 90, thirty one and 64/100 (31.64') feet to a point;

THENCE continuing two and 56/100 (2.56') feet to a bound in the southerly line of Minuteman Way;

THENCE Southwesterly by a curve with a radius of two hundred twenty five (225') feet and by the southeasterly line of Minuteman Way eighty four and 83/100 (84.83') feet to the point of beginning.

Containing 2,410.8 square feet of land.

EXCEPTING from the above mentioned five parcels are the following:

Deed to the Town of Shrewsbury dated March 18, 1963 and recorded in Book 4417, Page 487, 5.15 acres more or less.

Deed to the Town of Shrewsbury dated March 4, 1966 and recorded in Book 4667, Page 386, 2.66 acres more or less, Plan Book 300, Plan 21.

Deed to James F. Kender et ux dated August 13, 1970 and recorded in Book 5052, page 116, 2.505 acres more or less, and 32,784 square feet, Plan Book 338, Plan 28.

Deed to Joseph J. Farrell et al, trustees dated December 9, 1970 and recorded in Book 5082, Page 65, 19 acres and 9,675 square feet, more or less, Plan Book 343, Plan 25.

Deed to the Town of Shrewsbury dated August 31, 1971 and recorded in Book 5163, Page 358, .64 acres, more or less, Plan Book 355, Plan 10.

Deed to the Town of Shrewsbury for Highway purposes dated February 12, 1979 and recorded in Book 6708, Page 318, Parcel 1, 8, 782 square feet, more or less, Plan Book 462, Plan 67.

Deed to Westwood Development Corp. dated June 28, 1982 and recorded in Book 7699, Page 241, Lot B, 7,445 square feet, more or less, Plan Book 502, Plan 12.

Deed to the Town of Shrewsbury dated September 16, 1991 and recorded in Book 13653, Page 298, 7.41 acres, more or less, Plan Book 652, Plan 18.

Deed to the Town of Shrewsbury dated September 8, 1992 and recorded in Book 14506, Page 311, 19.7 acres, more or less, Plan Book 662, Plan 100.

Taking by the Town of Shrewsbury for relocation of West Main Street by instrument recorded in said Deeds, Book 3015, Page 368, and shown on plan recorded in said Deeds, Plan Book 140, Plan 117.

Also granted herewith are all rights reserved to grantor in and to the easements recited in a deed from the grantor herein to the Town of Shrewsbury dated September 8, 1992 and recorded in the Worcester District Registry of Deeds in Book 14506, Page 311.

Being the same premises conveyed to the Grantor by deed dated June 30, 1998 and recorded with the Worcester District Registry of Deeds in Book 20144, Page 215.

EXECUTED as an instrument under seal effective as of the 1st day of July, 2011.

WORCESTER CITY CAMPUS CORPORATION

By: _____
Robert E. Jenal, President

By: _____
David Gray, Treasurer

COMMONWEALTH OF MASSACHUSETTS

Worcester, ss.

On October 5, 2011, Robert E. Jenal, President of Worcester City Campus Corporation, (the "Principal") personally appeared before me and acknowledged to me that the Principal signed the preceding or attached document voluntarily for its stated purpose. The Principal proved to me through satisfactory evidence of identification that the Principal is the person whose name is signed on the preceding or attached document. The satisfactory evidence of identification provided to me was:

☐ A current document issued by a federal or state government agency bearing the photographic image of the Principal's face and signature; or

☐ On the oath or affirmation of a credible witness unaffected by the document or transaction who is personally known to the notary public and who personally knows the Principal; or

☒ Identification of the Principal based on the notary public's personal knowledge of the identity of the Principal; or

☐ The following evidence of identification: _____

_____

_____
Notary Public

Printed Name: Peter J. Dawson

My Commission Expires: March 4, 2016

[Seal]

COMMONWEALTH OF MASSACHUSETTS

Worcester, ss.

On October 5, 2011, David Gray, Treasurer of Worcester City Campus Corporation, (the "Principal") personally appeared before me and acknowledged to me that the Principal signed the preceding or attached document voluntarily for its stated purpose. The Principal proved to me through satisfactory evidence of identification that the Principal is the person whose name is signed on the preceding or attached document. The satisfactory evidence of identification provided to me was:

☐ A current document issued by a federal or state government agency bearing the photographic image of the Principal's face and signature; or

☐ On the oath or affirmation of a credible witness unaffected by the document or transaction who is personally known to the notary public and who personally knows the Principal; or

☒ Identification of the Principal based on the notary public's personal knowledge of the identity of the Principal; or

☐ The following evidence of identification: _____

_____

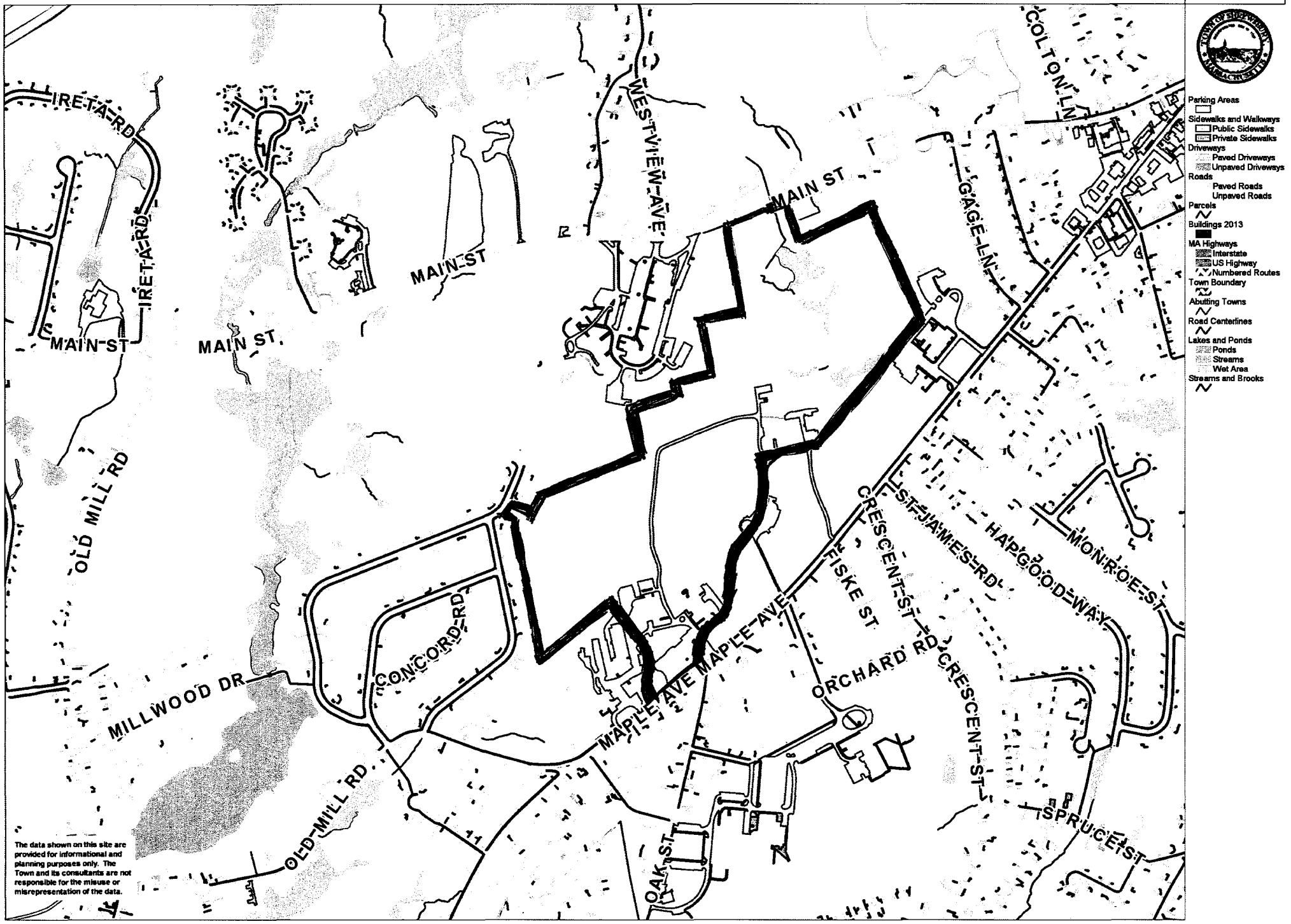
_____
Notary Public

Printed Name: Peter J Dawson

My Commission Expires: March 11, 2012

[Seal]

ATTEST: WORC. Anthony J. Vigliotti, Register


IRETA RD
IRETA RD
MAIN ST
MAIN ST
MAIN ST
WESTVIEW AVE
MAIN ST
GAGE LN
COLTON LN
OLD MILL RD
CONCORD RD
MILLWOOD DR
OLD MILL RD
MAPLE AVE
MAPLE AVE
FISKE ST
ORCHARD RD
CRESCENT ST
CRESCENT ST
ST JAMES RD
HARGOOD WAY
MONROE ST
OAK ST
SPRUCE ST
The data shown on this site are provided for informational and planning purposes only. The Town and its consultants are not responsible for the misuse or misrepresentation of the data.
Parking Areas
Sidewalks and Walkways
Public Sidewalks
Private Sidewalks
Driveways
Paved Driveways
Unpaved Driveways
Roads
Paved Roads
Unpaved Roads
Parcels
Buildings 2013
MA Highways
Interstate
US Highway
Numbered Routes
Town Boundary
Abutting Towns
Road Centerlines
Lakes and Ponds
Ponds
Streams
Wet Area
Streams and Brooks
0
1100
2200 ft
Printed on 10/25/2017 at 04:50 PM
MapsOnline

200 MAPLE AVE

Location 200 MAPLE AVE
Mblu 27/ 002000/ / /
Acct# 5033
Owner WCS-222 MAPLE AVE INC
Assessment $747,200
Appraisal $747,200
PID 5033
Building Count 1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$0	$747,200	$747,200
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$0	$747,200	$747,200

Owner of Record

Owner WCS-222 MAPLE AVE INC
Co-Owner
Address 333 SOUTH ST, STE 290
SHREWSBURY, MA 01545

Sale Price $100
Certificate
Book & Page 47925/ 89
Sale Date 10/05/2011
Instrument 1B

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
WCS-222 MAPLE AVE INC	$100		47925/ 89	1B	10/05/2011
WORCESTER CITY CAMPUS CORPORATION	$100		20144/ 215	1K	07/02/1998
WORCESTER FOUNDATION FOR EXPERIMENTAL BI	$0		4322/ 1	1N	10/10/1962

Building Information

Building 1 : Section 1

Year Built:
Living Area: 0
Replacement Cost: $0
Building Percent Good:
Replacement Cost Less Depreciation: $0

Building Photo

Building Attributes	
Field	**Description**

Style	Vacant Land
Model	
Grade	
Stories	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type	
AC Pct	
Bedrooms	
Full Baths	
Half Baths	
Extra Fixtures	
Total Rooms	
Bath Style:	
Kitchen Style	
Kitchens	
Extra Kitchens	
Frame	
Bsmt Floor	
Bsmt Garage	
Foundation	
WS Flues	
Fireplaces	
Xtra Openings	
Fini BSMT SF	
Solar HW	
Int vs. Ext	

(http://images.vgsi.com/photos/ShrewsburyMAPhotos//default.jp

Building Layout

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	1300
Description	Vacant - Devel
Zone	D
Neighborhood	040
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	42.15
Frontage	
Depth	
Assessed Value	$747,200
Appraised Value	$747,200

Outbuildings

Outbuildings	Legend
No Data for Outbuildings	

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$0	$729,700	$729,700
2015	$0	$728,200	$728,200
2014	$0	$708,000	$708,000

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$0	$729,700	$729,700
2015	$0	$728,200	$728,200
2014	$0	$708,000	$708,000

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645 Grafton Street

Montachusett Girl Scout Council, Inc., a corporation duly established under the laws of the Commonwealth of Massachusetts, and having its usual place of business at Worcester, Worcester County, Massachusetts, for consideration paid and in full consideration of $32,000, grant to the Town of Shrewsbury, a Municipal Corporation of 100 Maple Avenue, Shrewsbury, Massachusetts, through its Conservation Commission for administration, control and maintenance under the provisions of G. L. Chapter 40, Sec. 8c, as amended, with quitclaim covenants, the land in Shrewsbury, Massachusetts, bounded and described as follows:

Parcel 1

BEGINNING at a point on the westerly sideline of the 1966 County Layout of Route 140, Memorial Drive, said point is opposite highway baseline station 143+87.58;

THENCE S 86°24'40" W, 259.40 feet by land owned by Asa N. and Mamie Lou Allen, to an iron pipe;

THENCE N 04°43'30" W, 182.45 feet, by land of said Allen, to an iron pipe;

THENCE S 83°36'30" W, 192.62 feet, by land of said Allen and land owned by the Town of Shrewsbury, to a point at an end of stone wall;

THENCE S 85°14'25" W, 510.28 feet, along a stone wall by land of said Town of Shrewsbury, to a corner of walls at land owned by Albert and Sophie Mastrogiovanni;

THENCE S 19°23'20" W, 620.6 feet, partly along a stone wall by land of said Mastrogiovanni and land owned by Vincent P. and Filomena M. Flynn, to a point at other land of Albert and Sophie Mastrogiovanni;

THENCE S 17°05'45" E, 809.7 feet, by land of said Albert and Sophie Mastrogiovanni, Joseph A. and Darlene D. Mastrogiovanni, Leo P. and Mildred E. Pouliot, Thomas and Jo-Anne F. Fiore and Ellie M. Bienema to a point;

THENCE S 72°54'15" W, 275.64 feet, by land of said Bienema, to a point on the easterly side of the 1944 County Layout of Grafton Street;

THENCE Southeasterly, 40.23 feet, by a curve to the right having a radius of 1030.0 feet, along the easterly sideline of the 1944 layout of Grafton Street, to a point at land owned by Marguerite T. Mulcahy;

THENCE N 72°54'15" E, 280.72 feet, along a stone wall by land of said Mulcahy, to an iron pipe;

THENCE N 67°13'26" E, 970.98 feet, by land of Mulcahy and land owned by the Grantor Council of Southern Worcester County, Inc., to a point on the westerly sideline of the 1966 County Layout of Route 140, Memorial Drive, opposite highway baseline station 153+08.01;

THENCE N 02°10'14" E, 920.43 feet, along the westerly sideline of said Route 140, to the point of beginning.

The above described parcel contains about 29.7 acres, more or less, and is a portion of a 58-acre tract conveyed to the Shrewsbury Girl Scout Council, Inc., by deed of Conrad Hobbs, Trustee, recorded in the Worcester District Registry of Deeds in Book 3006, Page 126.

Parcel 2

BEGINNING at a point on the westerly sideline of the 1966 County Layout of Route 140 (Memorial Drive) opposite highway station 153+08.01;

THENCE S 02°10'14" W, 275.95 feet, along the westerly sideline of Route 140, to a point at land owned by Mascester Company, Inc.;

THENCE Southwesterly, 39.31 feet, along a curve to the right having a radius of 1000.17 feet, by land of said Mascester Company, to a point;

THENCE S 76°56'35" W, 787.85 feet, by land of said Mascester Company, Inc., to a point at land owned by Marguerite T. Mulcahy;

THENCE N 12°11'05" W, 113.26 feet, by land of said Mulcahy, to a point abutting the southeasterly line of the hereinbefore described parcel 1;

THENCE N 67°13'26" E, 910.98 feet, by said parcel 1, to the point of beginning.

The above described parcel contains about 3.7 acres, more or less, and is a portion of a 14.5 acre tract conveyed to the Shrewsbury Girl Scout Council, Inc. by deed of Conrad Hobbs, Trustee, recorded in the Worcester District Registry of Deeds in Book 3047, Page 580.

The herein described parcels 1 and 2 are shown on a plan entitled "Town of Shrewsbury, Plan of Land Owned By The Girl Scout Council of Southern Worcester County, Inc., To Be Conveyed To The Town of Shrewsbury Conservation Commission, Scale 1"=100', April, 1978, Town of Shrewsbury Engineering Department.", said plan to be filed herewith. PB 460 PL 24

IN WITNESS WHEREOF, the said Montachusett Girl Scout Council, Inc., has caused its corporate seal to be hereto affixed and these presents to be signed, acknowledged and delivered in its name and behalf by Anne H. Eustis, its President and William T. Blair its Treasurer this eighth day of January in the year one thousand nine hundred and seventy-~~eight~~ nine.

Signed and sealed in presence of

)MONTACHUSETT GIRL SCOUT COUNCIL, INC.
)
)by Anne H. Eustis, President
)
)by William T. Blair Treasurer

THE COMMONWEALTH OF MASSACHUSETTS

Worcester, ss. January 8, 1979

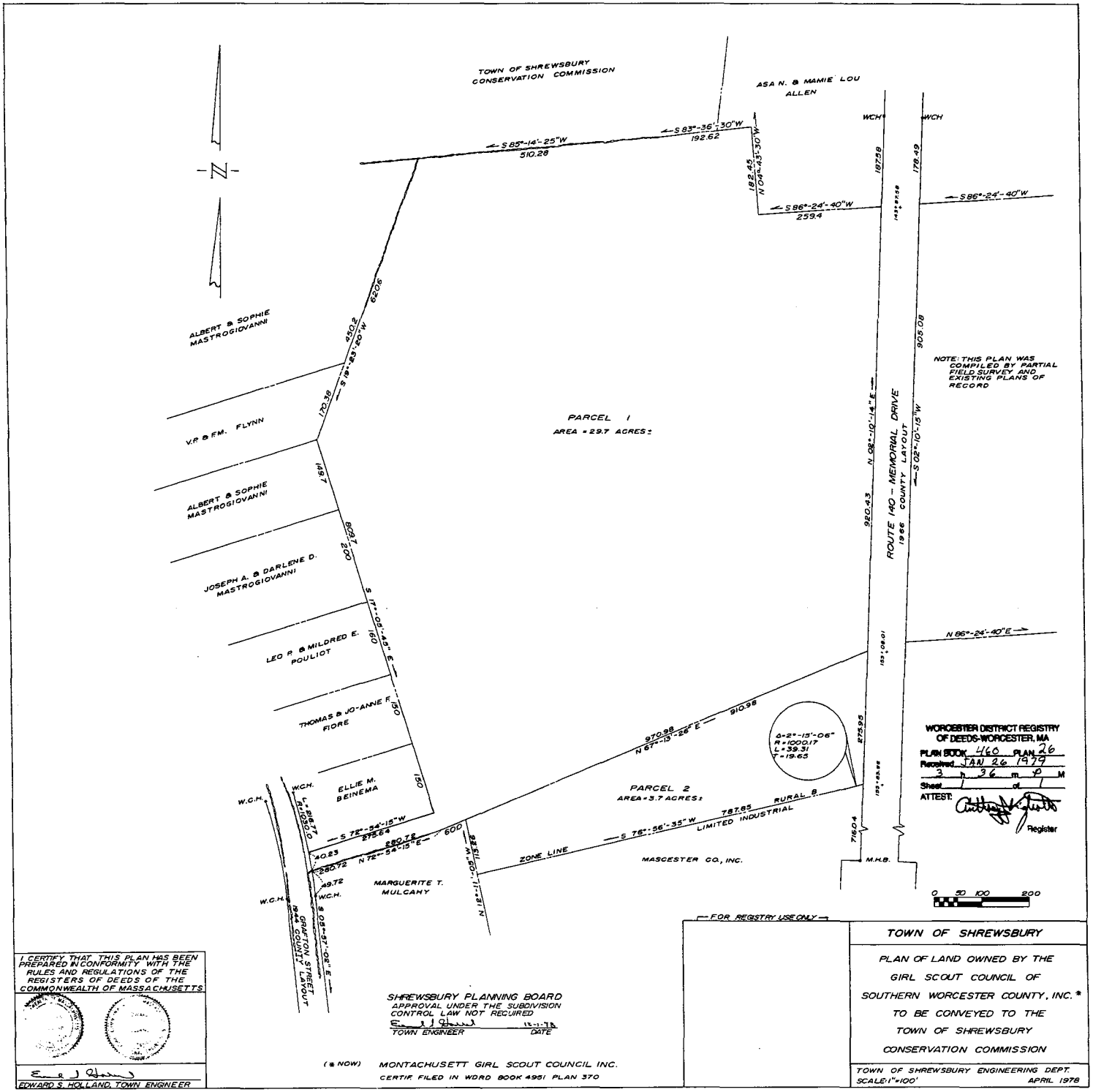
Then personally appeared the above named Anne H. Eustis and William T. Blair and acknowledged the foregoing instrument to be the free act and deed of the Montachusett Girl Scout Council, Inc., before me

George W. Brown
Notary Public
My Commission Expires:
January 22, 1982

1-26-79

COMMONWEALTH OF MASSACHUSETTS
DEEDS EXCISE PAID
$72.90

Recorded JAN 26 1979 at 3h 4m. PM



WORCESTER DISTRICT REGISTRY
OF DEEDS-WORCESTER, MA
PLAN BOOK 460 PLAN 26
Received JAN 26 1979
3 h 36 m PM
Sheet 1 of 1
ATTEST:
Register

I CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN CONFORMITY WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS

EDWARD S. HOLLAND, TOWN ENGINEER

SHREWSBURY PLANNING BOARD
APPROVAL UNDER THE SUBDIVISION
CONTROL LAW NOT REQUIRED
TOWN ENGINEER — DATE 12-1-78

(* NOW) MONTACHUSETT GIRL SCOUT COUNCIL INC.
CERTIF. FILED IN WDRD BOOK 4951 PLAN 370

FOR REGISTRY USE ONLY

TOWN OF SHREWSBURY

PLAN OF LAND OWNED BY THE
GIRL SCOUT COUNCIL OF
SOUTHERN WORCESTER COUNTY, INC.*
TO BE CONVEYED TO THE
TOWN OF SHREWSBURY
CONSERVATION COMMISSION

TOWN OF SHREWSBURY ENGINEERING DEPT.
SCALE: 1"=100' APRIL 1978

645R GRAFTON ST

Location	645R GRAFTON ST	**Mblu**	53/ 083000/ / /
Acct#	11080	**Owner**	SHREWSBURY TOWN OF CONSERVATION COMMISSI
Assessment	$247,300	**Appraisal**	$247,300
PID	11080	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$0	$247,300	$247,300
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$0	$247,300	$247,300

Owner of Record

Owner	SHREWSBURY TOWN OF CONSERVATION COMMISSI	**Sale Price**	$0
Co-Owner		**Certificate**	
Address	100 MAPLE AVE SHREWSBURY, MA 01545-5338	**Book & Page**	6665/ 105
		Sale Date	01/01/1979
		Instrument	1N

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
SHREWSBURY TOWN OF CONSERVATION COMMISSI	$0		6665/ 105	1N	01/01/1979

Building Information

Building 1 : Section 1

Year Built:
Living Area: 0
Replacement Cost: $0
Building Percent Good:
Replacement Cost Less Depreciation: $0

Building Photo

Building Attributes	
Field	**Description**
Style	Vacant Land

Model	
Grade	
Stories	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type	
AC Pct	
Bedrooms	
Full Baths	
Half Baths	
Extra Fixtures	
Total Rooms	
Bath Style:	
Kitchen Style	
Kitchens	
Extra Kitchens	
Frame	
Bsmt Floor	
Bsmt Garage	
Foundation	
WS Flues	
Fireplaces	
Xtra Openings	
Fini BSMT SF	
Solar HW	
Int vs. Ext	

(http://images.vgsi.com/photos/ShrewsburyMAPhotos//default.jp

Building Layout

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use **Land Line Valuation**

Use Code	932V	**Size (Acres)**	3.7
Description	Comm Mass Msc	**Frontage**	
Zone	B	**Depth**	
Neighborhood	030	**Assessed Value**	$247,300
Alt Land Appr	No	**Appraised Value**	$247,300
Category			

Outbuildings

Outbuildings	Legend
No Data for Outbuildings	

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$0	$228,200	$228,200
2015	$0	$215,900	$215,900
2014	$0	$204,200	$204,200

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$0	$228,200	$228,200
2015	$0	$215,900	$215,900
2014	$0	$204,200	$204,200

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645 GRAFTON ST

Location	645 GRAFTON ST	**Mblu**	47/ 013000/ / /
Acct#	10462	**Owner**	SHREWSBURY TOWN OF CONSERVATION COMMISSI
Assessment	$598,300	**Appraisal**	$598,300
PID	10462	**Building Count**	1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$0	$598,300	$598,300
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$0	$598,300	$598,300

Owner of Record

Owner	SHREWSBURY TOWN OF CONSERVATION COMMISSI	**Sale Price**	$0
Co-Owner		**Certificate**	
Address	100 MAPLE AVE SHREWSBURY, MA 01545-5338	**Book & Page**	6665/ 105
		Sale Date	01/01/1979
		Instrument	1N

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
SHREWSBURY TOWN OF CONSERVATION COMMISSI	$0		6665/ 105	1N	01/01/1979

Building Information

Building 1 : Section 1

Year Built:
Living Area: 0
Replacement Cost: $0
Building Percent Good:
Replacement Cost Less Depreciation: $0

Building Photo

Building Attributes	
Field	**Description**
Style	Vacant Land

Model	
Grade	
Stories	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type	
AC Pct	
Bedrooms	
Full Baths	
Half Baths	
Extra Fixtures	
Total Rooms	
Bath Style:	
Kitchen Style	
Kitchens	
Extra Kitchens	
Frame	
Bsmt Floor	
Bsmt Garage	
Foundation	
WS Flues	
Fireplaces	
Xtra Openings	
Fini BSMT SF	
Solar HW	
Int vs. Ext	

(http://images.vgsi.com/photos/ShrewsburyMAPhotos//default.jp

Building Layout

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use **Land Line Valuation**

Use Code	932V	**Size (Acres)**	29.7
Description	Comm Mass Msc	**Frontage**	
Zone	B	**Depth**	
Neighborhood	030	**Assessed Value**	$598,300
Alt Land Appr	No	**Appraised Value**	$598,300
Category			

Outbuildings

Outbuildings	Legend
No Data for Outbuildings	

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$0	$579,200	$579,200
2015	$0	$566,900	$566,900
2014	$0	$555,200	$555,200

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$0	$579,200	$579,200
2015	$0	$566,900	$566,900
2014	$0	$555,200	$555,200

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384-386 South Street

6606

49/2.5

QUITCLAIM DEED

We, Audrey A. Doyle-Richardson a/k/a Audrey Doyle of Shrewsbury, Massachusetts, Constance Pukaite of Mequon, Wisconsin, Elaine Allen a/k/a Elaine Kingsriter of St. Paul, Minnesota, and Richard E. Allen of Watsonville, California ("Grantor"), for consideration paid and in consideration of Six Million and 00/100 Dollars ($6,000,000.00), grant to The Inhabitants of the Town of Shrewsbury, a Massachusetts municipal corporation ("Grantee"), with an address c/o Town Clerk, Town of Shrewsbury, 100 Maple Avenue, Shrewsbury, MA 01545, with QUITCLAIM COVENANTS, three certain parcels of land with the buildings thereon situate in Shrewsbury, Worcester County, Massachusetts, to the north of the Hartford Turnpike also known as Route 20 and on the westerly side of South Street, as follows:

03 JAN 10 AM 10:52

Locus: 384-386 South Street, Shrewsbury, MA 01545
0 South Street, Shrewsbury, MA 01545
719 Hartford Turnpike, Shrewsbury, MA 01545

PARCEL I:

The land and buildings thereon situate in Shrewsbury, Worcester County, Massachusetts to the north of the Hartford Turnpike also known as Route 20, and on the westerly side of South Street, containing approximately 49 acres and also identified in Town of Shrewsbury Assessors records as the portion of Parcel 42-011000 west of South Street.

For Grantor's title see deed of Richard E. Allen, Trustee under the Stuart H. Allen Trust, and Trustee under the Dorothy M. Allen Trust, dated August 24, 1998 and recorded with the Worcester County Registry of Deeds in Book 20371, Page 181.

PARCEL II:

The land and buildings thereon situate in Shrewsbury, Worcester County, Massachusetts to the north of the Hartford Turnpike also known as Route 20, and on the westerly side of South Street, containing approximately 1.856 acres, shown as Parcel A on a Plan entitled "Plan of land in Shrewsbury, Mass. owned by Stuart H. Allen" dated October 1973, and recorded with said Deeds in Plan Book 392, Plan 22, and also identified in Town of Shrewsbury Assessors records as Parcel 42-011001.

For Grantor's title see deeds of Stuart H. Allen and Dorothy M. Allen dated 12/29/92 and 12/28/93 recorded with said Deeds in Book 14843, Page 21, Book 14843, Page 22, Book 14924, Page 303 and Book 14924, Page 302, respectively.

MAIL:
ATT. PHILIP LEADER, ESQ
31 MECHANIC STREET
WORCESTER, 01608

NELSON & O'CONNELL
8552

9008597_1

PARCEL III:

The land situate in Shrewsbury, Worcester County, Massachusetts on the northerly side of the Hartford Turnpike also known as Route 20, and on the westerly side of South Street, containing approximately 11 acres and also identified in Town of Shrewsbury Assessors records as Parcel 42-021000.

For Grantor's title see deeds of Stuart H. Allen and Dorothy M. Allen dated 12/27/88, 12/27/89, 12/30/86, and 12/26/90 and recorded with said Deeds in Book 11838, Page 3, Book 11838, Page 4, Book 12544, Page 54, Book 12544, Page 55, Book 13171, Page 378, Book 13171, Page 380, Book 13171, Page 383, and Book 13171, Page 383, respectively.

Meaning and intending to convey all the Grantor's right, title and interest in and to all property of the Grantor situate in Shrewsbury, Worcester County, Massachusetts on the northerly side of the Hartford Turnpike also known as Route 20, and on the westerly side of South Street, but specifically excluding the property of the Grantor on the easterly side of South Street.

The above premises are conveyed subject to and together with the benefit of all rights, restrictions, covenants and easement of record, if any, insofar as the same are now in force and applicable.

No Massachusetts Deed Excise Taxes Stamps are affixed hereto, none being required by law.

SEE PLAN 790-93

Executed under seal as of the 10th day of January, 2003.

Audrey A. Doyle-Richardson
Audrey A. Doyle-Richardson

Constance Pukaite

Elaine Allen

Richard E. Allen

COMMONWEALTH OF MASSACHUSETTS

Worcester, ss. Dec 30, 2002

Then personally appeared the above-named Audrey A. Doyle-Richardson and acknowledged the foregoing instrument to be her free act and deed, before me,

Ann M. Dagle
NOTARY PUBLIC:
My Commission expires:

ANN M. DAGLE
My Commission Expires March 19, 2004

STATE OF WISCONSIN

_____ COUNTY _____, 200__

Then personally appeared the above-named Constance Pukaite and acknowledged the foregoing instrument to be her free act and deed, before me,

NOTARY PUBLIC:
My Commission expires:

Executed under seal as of the 10th day of January, 2003.

Audrey A. Doyle-Richardson

Constance Pukaite
Constance Pukaite

Elaine Allen

Richard E. Allen

COMMONWEALTH OF MASSACHUSETTS

Worcester, ss. _____, 200__

Then personally appeared the above-named Audrey A. Doyle-Richardson and acknowledged the foregoing instrument to be her free act and deed, before me,

NOTARY PUBLIC:
My Commission expires:

STATE OF WISCONSIN

Ozaukee COUNTY 12-31, 2002

Then personally appeared the above-named Constance Pukaite and acknowledged the foregoing instrument to be her free act and deed, before me,

Deborah L. Dufresne
NOTARY PUBLIC:
My Commission expires:
10-9-05

9008597_1

Executed under seal as of the 10th day of January, 2003.

Audrey A. Doyle-Richardson

Constance Pukaite

Elaine Allen

Richard E. Allen

COMMONWEALTH OF MASSACHUSETTS

Worcester, ss. _____, 200__

Then personally appeared the above-named Audrey A. Doyle-Richardson and acknowledged the foregoing instrument to be her free act and deed, before me,

NOTARY PUBLIC:
My Commission expires:

STATE OF WISCONSIN

_____ COUNTY _____, 200__

Then personally appeared the above-named Constance Pukaite and acknowledged the foregoing instrument to be her free act and deed, before me,

NOTARY PUBLIC:
My Commission expires:

Executed under seal as of the 10th day of January, 2003.

Audrey A. Doyle-Richardson

Constance Pukaite

Elaine Allen

Richard E. Allen

COMMONWEALTH OF MASSACHUSETTS

Worcester, ss. _____, 200__

Then personally appeared the above-named Audrey A. Doyle-Richardson and acknowledged the foregoing instrument to be her free act and deed, before me,

NOTARY PUBLIC:
My Commission expires:

STATE OF WISCONSIN

_____ COUNTY _____, 200__

Then personally appeared the above-named Constance Pukaite and acknowledged the foregoing instrument to be her free act and deed, before me,

NOTARY PUBLIC:
My Commission expires:

STATE OF MINNESOTA

Ramsey COUNTY 12/30, 2002

Then personally appeared the above-named Elaine Allen and acknowledged the foregoing instrument to be her free act and deed, before me,

NOTARY PUBLIC:
My Commission expires:

THERESA J. DRAPINSKI
NOTARY PUBLIC - MINNESOTA
My Commission Expires 1/31/2005

STATE OF CALIFORNIA

_____ COUNTY _____, 200__

Then personally appeared the above-named Richard E. Allen and acknowledged the foregoing instrument to be his free act and deed, before me,

NOTARY PUBLIC:
My Commission expires:

STATE OF MINNESOTA

_____ COUNTY _____, 200__

Then personally appeared the above-named Elaine Allen and acknowledged the foregoing instrument to be her free act and deed, before me,

_____
NOTARY PUBLIC:
My Commission expires:

STATE OF CALIFORNIA

Santa Cruz COUNTY December 31, 2002

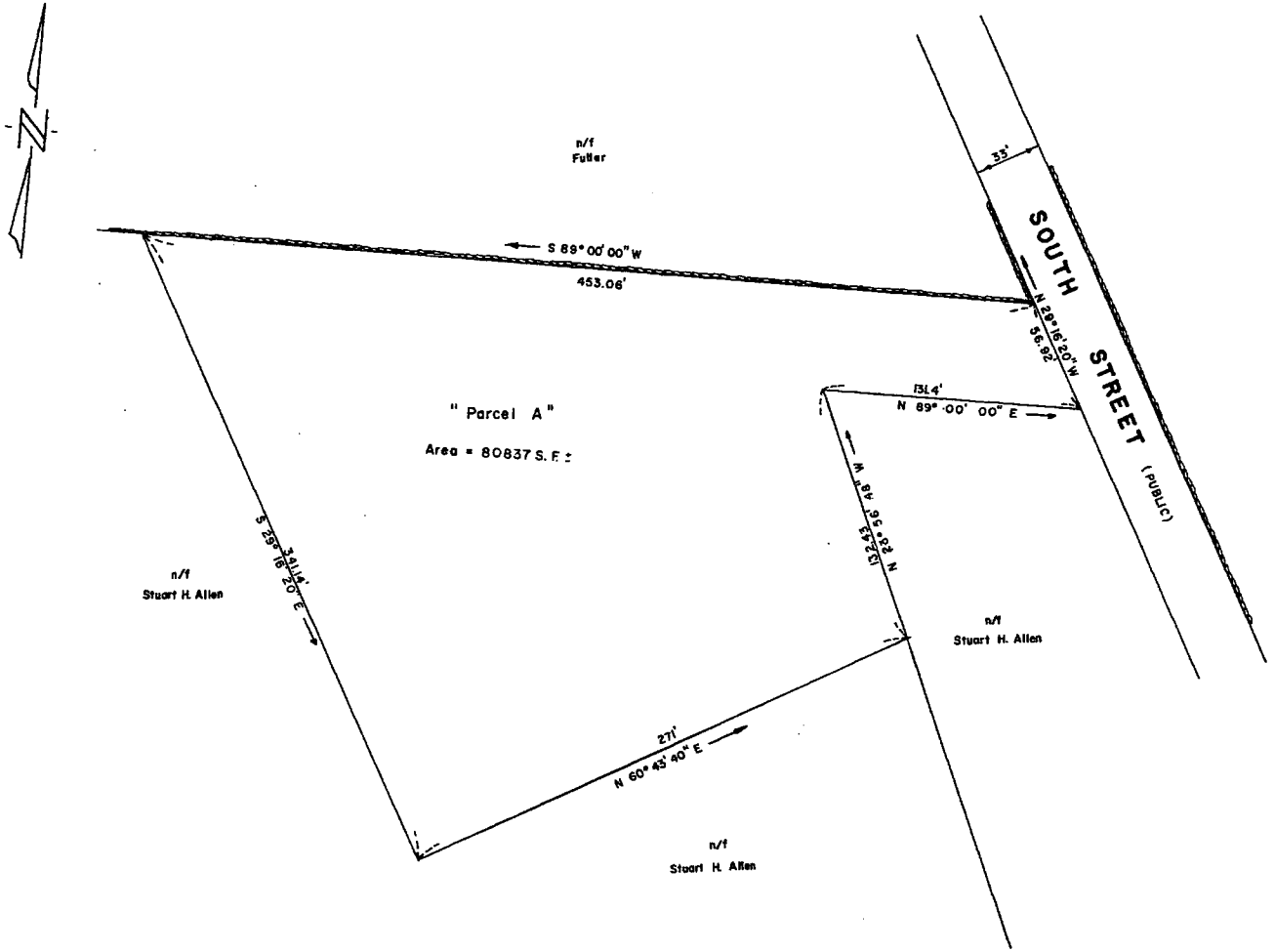
Then personally appeared the above-named Richard E. Allen and acknowledged the foregoing instrument to be his free act and deed, before me,

NOTARY PUBLIC:
My Commission expires: March 1, 2006

ESMERALDA C. MEDINA
Commission # 1344895
Notary Public - California
Santa Cruz County
My Comm. Expires Mar 1, 2006

9008597_1

ATTEST: WORC. Anthony J. Vigliotti, Register



Approval under the Subdivision Control Law not required.

Town Engineer Date 10-23-73

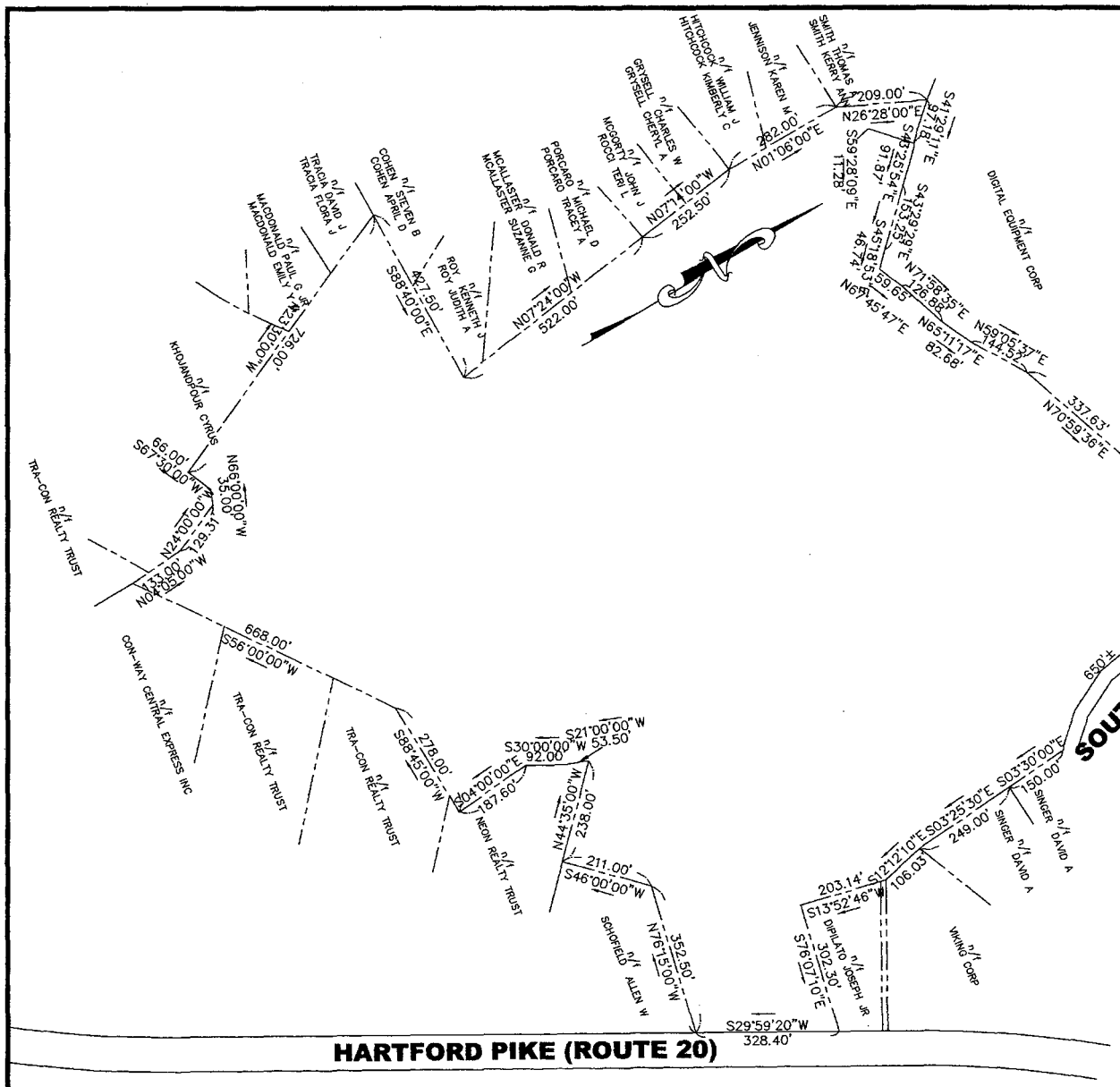
Olde English Associates, Inc.
Civil Engineers
Worcester, Massachusetts 01604

Plan of Land in
Shrewsbury, Massachusetts
owned by
STUART H. ALLEN

Scale 1"= 40' October, 1973

NOTE: This Plan is not a field survey but was compiled from deeds.

WORCESTER DISTRICT REGISTRY OF DEEDS-WORCESTER, MA
PLAN BOOK 392 PLAN 22
Received DEC 21, 1973
9 h 55 m A.M.
Sheet 1 of 1
ATTEST:
Register



PLAN AND DEED REFERENCES: W.D.R.D.
PLAN BOOK 479 PLAN 6
DEED REF. BOOK 7615 PAGE 152
DEED REF. BOOK 7053 PAGE 364

This plan was compiled from deeds and plans recorded at Worcester District Registry of Deeds and does not constitute a field survey.

GRAPHIC SCALE

200 0 100 200 400 800

(IN FEET)
1 inch = 200 ft.

WORCESTER DISTRICT REGISTRY
OF DEEDS — WORCESTER, MA
PLAN BOOK 790 PLAN 23
Received 1-10-2003
10 h 10 m AM
Sheet 1 of 1
With Doc. #
in BOOK PAGE
Fee $351.00
ATTEST:
Register

THIS PLAN HAS BEEN PREPARED IN CONFORMITY WITH THE RULES AND REGULATIONS OF THE REGISTERS OF DEEDS OF THE COMMONWEALTH OF MASSACHUSETTS AND IS NOT A CERTIFICATION TO THE TITLE OR OWNERSHIP OF THE PROPERTY SHOWN. OWNERS OF ADJOINING PROPERTIES ARE SHOWN ACCORDING TO CURRENT TOWN OF SHREWSBURY ASSESSORS RECORDS. THE PROPERTY LINES SHOWN ON THIS PLAN ARE THE LINES DIVIDING EXISTING OWNERSHIP AND THE LINES OF THE STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED, AND NO NEW LINES FOR DIVISION OF EXISTING OWNERSHIP OR FOR NEW WAYS ARE SHOWN.

COMMONWEALTH OF MASSACHUSETTS
JONATHAN S. RAHMATI No. 45071 PROFESSIONAL LAND SURVEYOR

JONATHAN S. RAHMATI, P.L.S.

OWNERS: AUDREY RICHARDSON (FORMERLY AUDREY DOYLE), RICHARD E. ALLEN, CONSTANCE PUKAITE AND ELAINE ALLEN (FROMERLY ELAINE KINGSRITTER)

PLAN SHOWING ACQUISITION OF PARCEL OF LAND ON WESTERLY SIDE OF SOUTH STREET AND NORTHERLY SIDE OF HARTFORD PIKE (ROUTE 20)

SCALE AS NOTED JANUARY 2003
TOWN OF SHREWSBURY ENGINEERING DEPARTMENT

384-386 SOUTH ST

Location 384-386 SOUTH ST **Mblu** 42/ 011000/ / /

Acct# 9571 **Owner** SHREWSBURY TOWN OF

Assessment $6,517,200 **Appraisal** $6,517,200

PID 9571 **Building Count** 1

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$45,600	$6,471,600	$6,517,200
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2017	$45,600	$6,471,600	$6,517,200

Owner of Record

Owner SHREWSBURY TOWN OF
Co-Owner
Address 100 MAPLE AVE
SHREWSBURY, MA 01545

Sale Price $6,000,000
Certificate
Book & Page 28672/ 173
Sale Date 01/10/2003
Instrument 1E

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
SHREWSBURY TOWN OF	$6,000,000		28672/ 173	1E	01/10/2003
RICHARDSON AUDREY C/O RICHARD H ALLEN	$100		20371/ 181	1A	09/01/1998
ALLEN STUART H ALLEN DOROTHY	$0		16996/ 77	1N	04/24/1995

Building Information

Building 1 : Section 1

Year Built:
Living Area: 0
Replacement Cost: $0
Building Percent Good:
Replacement Cost Less Depreciation: $0

Building Photo

Building Attributes	
Field	**Description**

Style	Outbuildings
Model	
Grade	
Stories	
Occupancy	
Exterior Wall 1	
Exterior Wall 2	
Roof Structure	
Roof Cover	
Interior Wall 1	
Interior Wall 2	
Interior Flr 1	
Interior Flr 2	
Heat Fuel	
Heat Type	
AC Pct	
Bedrooms	
Full Baths	
Half Baths	
Extra Fixtures	
Total Rooms	
Bath Style:	
Kitchen Style	
Kitchens	
Extra Kitchens	
Frame	
Bsmt Floor	
Bsmt Garage	
Foundation	
WS Flues	
Fireplaces	
Xtra Openings	
Fini BSMT SF	
Solar HW	
Int vs. Ext	

(http://images.vgsi.com/photos/ShrewsburyMAPhotos//default.jp

Building Layout

Building Layout

Building Sub-Areas (sq ft)	Legend
No Data for Building Sub-Areas	

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	9300
Description	Town Vacant
Zone	J
Neighborhood	C7
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	60.89
Frontage	
Depth	
Assessed Value	$6,471,600
Appraised Value	$6,471,600

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
MSC	Misc Structure			3800 UNITS	$45,600	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$45,600	$5,589,500	$5,635,100
2015	$45,600	$5,592,900	$5,638,500
2014	$45,600	$5,597,300	$5,642,900

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$45,600	$5,589,500	$5,635,100
2015	$45,600	$5,592,900	$5,638,500
2014	$45,600	$5,597,300	$5,642,900

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3.1.7 LOCAL ACTIONS AND APPROVALS

A. Narrative
B. Local Actions & Approvals Certification
C. SBC Meeting Minutes
D. Public Meetings and Presentations

3.1.7 LOCAL ACTIONS AND APPROVAL

A. Narrative

The Building Committee has actively engaged the local community in the Feasibility Study process through the following techniques:

- **School Building Committee Meetings:** All SBC meetings have been conducted in accordance with the state's open meeting law. The meetings are also videotaped, televised on their local access channel, and uploaded to the internet for the public to view at their own convenience. Shrewsbury Media Connection Online Library hosts all of the aforementioned videos and can be found at: http://home.townisp.com/~spacmac1/SMC_Video_Player/Video_Player.html
- **Project updates, meeting minutes, public documents, and presentations** are available for download via the Town's "Beal Early Childhood Center Building Committee" webpage which is hosted on the town's website. The webpage address is as follows: https://shrewsburyma.gov/716/Beal-Early-Childhood-Center-Building-Com.
- **Faculty, Staff, & Parent Engagement:** As part of the programming process, presentations were made to the faculty, staff, and parents to help inform the decision on which grade configuration would be serve the district. The process was formalized through the use of a questionnaire and the results of those efforts were reported to the School Committee in a formal report and ultimate recommendation. See section 3.1.2.C for all the documents presented pertaining to the questionnaire/presentation process as well as the program meeting minutes. Future programming sessions are anticipated during the Preferred Schematic Report Phase.
- **School Committee Meetings:** Periodic project updates were made to the Shrewsbury School Committee. Those meetings were televised live on their local access channel. All updates, presentations, documents, and meeting minutes from those meetings are uploaded to the School Committee's Webpage, which can be found at: http://schools.shrewsburyma.gov/sc/. Video recordings of the meetings are also made available through the same webpage for community members to view at their own convenience.

The Local Actions and Certifications form, signed by the Town Manager, Superintendent of Schools, and Building Committee Chairperson is included in this section.

B. Local Actions & Approvals Certification

TELEPHONE: (508) 841-8508
FAX: (508) 842-0587

TOWN OF SHREWSBURY

Richard D. Carney Municipal Office Building
100 Maple Avenue
Shrewsbury, Massachusetts 01545-5338

February 14, 2018

Ms. Diane Sullivan
Senior Capital Program Manager
40 Broad Street
Boston, MA 02109

Dear Ms. Sullivan:

The Shrewsbury School Building Committee ("SBC") has completed its review of the Feasibility Study, Preferred Design Program, for the Beal Early Childhood Center (ECC) school project (the "Project"), and on Tuesday, January 23, 2018 the SBC voted to approve and authorize the Owner's Project Manager to submit the Feasibility Study related materials to the MSBA for its consideration. A certified copy of the SBC meeting minutes, which includes the specific language of the vote and the number of votes in favor, opposed, and abstained, are attached.

Since the MSBA's Board of Directors invited the District to conduct a Feasibility Study on February 15, 2017, the SBC has held twelve (12) meetings regarding the proposed project, in compliance with the state Open Meeting Law. These meetings include:

Beal Early Childhood Center – Building Committee Meetings:

GENERAL NOTE: All School Building Committee public notices/agendas and meeting minutes are available via the following link:

https://shrewsburyma.gov/AgendaCenter/Beal-Early-Childhood-Center-Building-Com-38

Click on the "Year" at the right of the screen (toward the top),
Click the **green check** ✓ to view meeting minutes for the identified meeting date,
Click the "Download" link to view meeting agendas.

April 04, 2017: 6:00PM : Municipal Office Building at 100 Maple Avenue, Shrewsbury, MA 01545

- Meeting notice dated March 30, 2017 posted on the bulletin board outside of the Town Manager's office in the Municipal office building at 100 Maple Avenue, on a bulletin board at the Shrewsbury Police Station, 106 Maple Avenue and on line at the link above
- The committee voted to select PMA Consultants, LLC (PMA) as the project OPM.
- Patrick Collins, Assistant Superintendent for Finance & Operations (ASF&O) presented MSBA materials related to the designer selection process, including a draft designer procurement schedule.
- A status report on the project will be presented at the Annual Town Meeting on May 15, 2017.
- Next meeting will be May 9, 2017 at 6PM.

May 09, 2017 : 6:00PM : Municipal Office Building at 100 Maple Avenue, Shrewsbury, MA 01545

- Meeting notice dated May 4, 2017 posted on the bulletin board outside of the Town Manager's office in the Municipal office building at 100 Maple Avenue, on a bulletin board at the Shrewsbury Police Station, 106 Maple Avenue and on line at the link above.
- PMA Consultants, LLC personnel presented some MSBA documentation on the designer selection process, a preliminary schedule for the designer selection and a draft RFS for designer services.
- The committee voted to send the draft Designer RFS to the MSBA on 5.12.2017 incorporating any comments that committee members may have.
- ASF&O shared with the SBC a draft version of a report on the Beal ECC project prepared for the Annual Town Meeting (ATM). The committee voted to approve the report and have it presented at the ATM.
- Daniel Morgado, Town Manager (TM) advised that the MSBA approved the committee's selection of PMA as the project's OPM. **The committee voted unanimously to authorize the TM to sign an OPM contract with PMA for a cost not to exceed $242,556.**
- Next meeting will be June 13, 2017 at 6PM.

June 13, 2017 : 6:00PM : Municipal Office Building at 100 Maple Avenue, Shrewsbury, MA 01545

- Meeting notice dated June 8, 2017 posted on the bulletin board outside of the Town Manager's office in the Municipal office building at 100 Maple Avenue, on a bulletin board at the Shrewsbury Police Station, 106 Maple Avenue and on line at the link above.
- PMA provided an overview of the designer selection process, centering around the District's Designer Selection Subcommittee and their interaction with the MSBA.
- **The committee voted unanimously to designate the following SBC members to the Designer Selection Subcommittee: Ms. Fryc, Mr. Collins and Mr. Cox.**
- Next meeting will be July 11, 2017 at 6PM.

July 11, 2017 : 6:00PM : Municipal Office Building at 100 Maple Avenue, Shrewsbury, MA 01545

- Meeting notice dated July 5, 2017 posted on the bulletin board outside of the Town Manager's office in the Municipal office building at 100 Maple Avenue, on a bulletin board at the Shrewsbury Police Station, 106 Maple Avenue and on line at the link above.
- PMA reported on the work conducted by the Designer Selection Sub-committee in conjunction with the MSBA Designer Selection Panel (DSP). A letter dated July 11, 2017 from the MSBA to Shrewsbury stated that the DSP voted unanimously to rank the architectural firm of Lamoureux Pagano & Associates, Inc. (LPA) as #1 for the Beal ECC project and instructed Shrewsbury to move forward with the steps required to award the contract for designer services to LPA .

- **The committee voted unanimously to award the contract for designer services to LPA and authorized the TM to negotiate the fee for services and execute a contract with LPA.**
- Next meeting tentatively scheduled for July 25, 2017 at 6PM – Meeting was canceled. Next regularly scheduled meeting will be August 8, 2017 at 6PM. (Meeting actually held August 1, 2017).

August 01, 2017 : 6:00PM : Municipal Office Building at 100 Maple Avenue, Shrewsbury, MA 01545

- Meeting notice dated July 28, 2017 posted on the bulletin board outside of the Town Manager's office in the Municipal office building at 100 Maple Avenue, on a bulletin board at the Shrewsbury Police Station, 106 Maple Avenue and on line at the link above.
- Mr. Mizikar reviewed the budget for the MSBA Feasibility Study phase of the project recapping the selection process for the OPM and Designer to this point. Mr. Mizikar presented the fee proposal of Lamoureux Pagano & Associates (LPA). The base fee of for work defined by MSBA Modules 3 & 4 is $750,000. Due diligence under modules 3 & 4 will require additional services that lie outside of the agreement with the Designer.
- PMA discussed an analysis of the LPA proposal in comparison to 10 similar projects and recommended approval. The additional services conservatively should be estimated at $100,000 but likely will come in much less. PMA's comparative model was shared with the entire Committee. A discussion of the scope of work under modules 3 & 4 and the agreement with the designer ensued.
- On a motion by Mr. Cox second by Ms. Fryc, the Committee voted to authorize the execution of the agreement for Designer Services with LPA in the amount of $750,000.
- PMA discussed the Kickoff Meeting with MSBA which will be scheduled in the next two weeks and invited committee members that are interested to attend. The Committee will be informed of the date once scheduled. PMA lead a conversation on communications with the Committee. All documents related to the project will be posted on the project's page on the Town Website.
- LPA reviewed the milestones of the Feasibility Phase of this project and distributed the MSBA Core Program Process Overview.
- The Committee asked how the process works related to selecting and securing the preferred site. PMA and LPA explained the iterative process through schematic design which includes site selection. MSBA requires proof the Town has ownership or agreement on the site on which the building will be developed.
- Next meeting tentatively scheduled for September 12, 2017 at 6PM.

September 12, 2017 : 6:00PM : Municipal Office Building at 100 Maple Avenue, Shrewsbury, MA 01545

- Meeting notice dated September 8, 2017 posted on the bulletin board outside of the Town Manager's office in the Municipal office building at 100 Maple Avenue, on a bulletin board at the Shrewsbury Police Station, 106 Maple Avenue and on line at the link above.
- AFS&O provided a handout and reported on how the School Department will lead community in a discussion on future grade configurations. The School Committee will make a final decision based on community and staff input by October 25th. Dr. Sawyer, Superintendent of Schools reiterated that this is an important decision that will be made through an open discussion with the community.
- PMA reported that a copy of the Architect's contract was provided to the MSBA. A working level kickoff meeting with the OPM, Architect, school and town staff members will be scheduled. A handout was distributed that included a preliminary detailed project schedule

and project budget summary. The project schedule will be an item for discussion at the next meeting.

- PMA lead an overview discussion of the MSBA PDP and PSR submittal requirements.
- LPA stated they are developing a report with a thorough review the current building. Design team is also reviewing a very preliminary list of sites to consider because it is believed that a new school of the required size will not fit on the current site. LPA detailed discussions which are underway about the programming needs for both a K-1 to K-4 school. The educational programming statement is the most important deliverable of the Town to determine what is required in a new space. LPA explained that the architect will start with a review of the 31 possible sites identified by the Town. These sites were identified primarily based on size. The project likely will require at least 10 buildable acres. A thorough review will follow to narrow the list. Committee Chairman asked that the Architect be prepared to discuss the criteria they will review to narrow the list at the Committee's next meeting.
- LPA presentation included Space Summary template, Educational Program description, and map of potential sites.
- Next meeting tentatively scheduled for October 10, 2017 at 6PM.

October 10, 2017 : 6:00PM : Municipal Office Building at 100 Maple Avenue, Shrewsbury, MA 01545

- Meeting notice dated October 5, 2017 posted on the bulletin board outside of the Town Manager's office in the Municipal office building at 100 Maple Avenue, on a bulletin board at the Shrewsbury Police Station, 106 Maple Avenue and on line at the link above.
- School Superintendent provided an update on the grade-configuration decision. An initial presentation was made to the School Committee regarding the two options identified by the MSBA: K-1 of 750 students and K-4 of 790 students. Subsequent to the initial presentation two electronic surveys were distributed, one for the community and one for staff and teachers. Feedback from the majority favors a K-4 model. A second (of 3) presentation is scheduled for an upcoming School Committee meeting where a final report on the grade configuration will be provided. This will be a second opportunity for the community to speak on the subject. The District remains on track to make a final decision on the grade configuration by October 25, 2017.
- PMA reported on the project's Budget Summary.
- LPA made a presentation regarding the current site selection process.
- PMA provided a handout with an overview of the Construction Manager at Risk (CMR) Project Delivery Method. The Building Committee Chairman noted that the committee should review the information provided by PMA and PMA can make a presentation regarding the process at a future SBC meeting. PMA also handed out an updated Preliminary Project Schedule inclusive of the CMR procurement process and noted that a decision regarding CMR versus Design/Bid/Build (DBB) should be made by ~May 2018.
- The Committee Chairman suggested that a Re-use Committee be formed to review possible alternative uses for the current Beal property. Mr. Kane will bring up this matter with the Board of Selectmen.

Public comments:

- The committee should not lose site of the fact that the Prospect Street property (identified As site 03 in the presentation and index) was initially purchased for expansion of the cemetery.
- The Holden Street (identified as site 01 in the presentation and index) high school property's additional land could be utilized for possible required expansion of the high school to allow the high school to have one campus.

List of Materials Presented:

- October 10, 2017 Beal ECC Preliminary Design Schedule thru PS&BA with CMR Procurement
- September 2017 LPA Index of Potential Sites
- October 10, 2017 LPA Beal ECC Site Location Presentation
- Un-dated PMA CMR Project Delivery Method Overview
- October 2017 LPA Index of Candidate Sites
- Next meeting tentatively scheduled for November 2, 2017 at 6PM.

November 02, 2017 : 6:00PM : Municipal Office Building at 100 Maple Avenue, Shrewsbury, MA 01545

- Meeting notice dated October 30, 2017 posted on the bulletin board outside of the Town Manager's office in the Municipal office building at 100 Maple Avenue, on a bulletin board at the Shrewsbury Police Station, 106 Maple Avenue and on line at the link above.
- Superintendent of Schools provided an update on the grade-configuration decision and provided a handout "Recommendation for future elementary grade configuration". The School Committee understood the importance of making this decision early in the feasibility phases of this project. The Committee and administration led the process that included a survey of 900 residents, 275 staff members. The responses show strong support for K-4 model. Based on the survey and other analysis the Superintendent of Schools recommended the K-4 model to the School Committee. After deliberation and two public hearings the Committee School Committee voted 5-0 to move forward with the K-4 model.
- PMA reported that the project remains on schedule and on budget.
- LPA made a presentation regarding the current site selection process. LPA informed the Committee that the process has identified six of the 31 initially reviewed sites have merit for further review.
- The Building Committee Chairman asked that the existing conditions report of the existing Beal School building be available for the Committee meeting on 11/7/2017. The final public hearing on the site selection will occur at the Beal School Auditorium on November 7, 2017.

List of Materials Presented:

- October 20, 2017 Superintendent of Schools Memo to the School Committee Re: Beal Building Project – Recommendation for further Elementary Grade Configuration.
- Next meeting scheduled for November 7, 2017 at 7PM at Beal School Auditorium.

November 07, 2017 : 7:00PM : Beal ECC Auditorium at 1 Maple Avenue, Shrewsbury, MA 01545

- Meeting notice dated November 3, 2017 posted on the bulletin board outside of the Town Manager's office in the Municipal office building at 100 Maple Avenue, on a bulletin board at the Shrewsbury Police Station, 106 Maple Avenue and on line at the link above.
- The Building Committee Chairman introduced the Committee members and professional project team to the assembled group and provided an overview of the work of the committee to date.
- PMA reported on the MSBA process and summarized the phase of the project through which the Committee is currently working. PMA stated that MSBA would like to see site ownership control or a similar legal arrangement by the time they make their vote in October 2018.
- PMA reported on the financial status of the project and provided a budget summary dated November 2, 2017. PMA distributed two documents on the MSBA reimbursement program including cost caps and eligible costs.
- LPA provided an overview of the LPA review process of the existing conditions of the Beal Early Childhood Center (ECC) as required by the MSBA. Given the School Department's

decision to go with a K-4 school, the educational programming will require a school roughly the size of the Sherwood Middle School, 130,000 square feet. The review of the existing Beal School included a review of the options from simply making repairs to the current building to constructing a new facility on the same property. The current building is +/- 34,000 SF and was constructed in 1922. LPA has complied its findings in an Existing Conditions Report.

- The Building Committee Chairman stated that a Public Hearing will be held on the Site Selection for this project.
- LPA summarized the thorough review of 31 potential sites that were considered and reported the Committee has narrowed this list to six sites for discussion at this meeting. LPA provided a summary of the criteria used to narrow the list of sites from 31 down to 14 and ultimately down to six. The site evaluation process included 11 criteria and utilized a numerical scale from zero to five with five being the most advantageous.
- Next meeting scheduled for December 12, 2017 at 6PM at the Shrewsbury Municipal Office Building at 100 Maple Avenue, Shrewsbury, MA 01545.

List of Materials Presented:

- November 2, 2017 Budget Summary
- Beal Early Childhood Center – Existing Conditions Report
- Written Comments provided by Mr. John Lukach

December 12, 2017 : 6:00PM : Municipal Office Building at 100 Maple Avenue, Shrewsbury, MA 01545

- Meeting notice dated December 8, 2017 posted on the bulletin board outside of the Town Manager's office in the Municipal office building at 100 Maple Avenue, on a bulletin board at the Shrewsbury Police Station, 106 Maple Avenue and on line at the link above.
- The Building Committee Chairman stated that the Committee has reduced the list of proposed parcels down to three sites, Chairman announced that Camp Winnegan would be removed from the parcels of interest due to a notice from Town Counsel; Glavin Center and Centech North remain.
- The Building Committee's School Committee Member reviewed a letter dated December 5, 2017 from Dale Magee of the School Committee. The letter states that the School Committee supports the three sites *(*SIC *reduced to two as the Building Committee Chairman noted)* that are being considered. The School Committee requested that the chosen site be located south of Route 9.
- **The Building Committee voted unanimously to approve the School Committee's request.**
- The Building Committee Chairman reviewed the matter regarding the Glavin Center and the Home Rule Petition at Town Meeting. The land on east side would come to the Town for Open Space relative to article 97, and the land on the west side would go to the Shrewsbury Youth Soccer Association, which they are currently leasing. If they cease to exist, that land would then go to the Town for recreation. The parcel with brick building on west side and small grey buildings on the east side would go to the Town for purposes of use of a school. The objection would be to have the municipal restricted land appraised at a significantly reduced value. The Chairman clarified the reason why Shrewsbury Youth Soccer would receive the land, the reason being is that Shrewsbury Youth Soccer initially made the investments to improve the land for use. This matter will be an article on January 17, 2018, if Town Meeting supports it, it will move to legislature. If Town Meeting does not support it, only one location will remain, Allen Farm.
- PMA Consultants passed out a budget report. The project is on track to be completed **on** budget.

- LPA reviewed the program summary narrative. Based on District requirements and established standards the project will progress with a greater focus on the K-4 enrollment structure for 790 students. LPA explained that of major importance to complying with the established District's School Committee's educational standards is creating spaces that can accommodate District identified class sizes and maintain neighborhood classroom clusters that integrate special education programs. The program will also call for an air conditioned building that will be available year round and be welcoming to parents, families and committee groups.
- The Building Committee Chairman Mr. Kane reviewed a proposal dated December 6, 2017 from LPA outlining an A&E fee for extra services for a 2nd environmental site assessment (ESA). Fee totaled $8,900 with LPA waiving its contract allowed 10% markup.
  PMA stated that they reviewed the proposal and find it to be fair and reasonable for the level of effort involved for the 2nd ESA.
- **On a motion by the Superintendent of Schools and a second by Ms. Boucher, the Committee unanimously voted to approve the proposal as presented.**
- The Committee Chairman reviewed a letter from the Board of Selectmen requesting the Building Committee to appoint a delegate to the Beal Reuse Committee.
- **On a motion by Ms. Fryc, seconded by Ms. Boucher, the Committee unanimously voted to appoint Mr. Masiello to the Beal Reuse Committee.**
- The two next meeting are scheduled for January 9, 2018 and January 23, 2018 at 6PM at the Shrewsbury Municipal Office Building at 100 Maple Avenue, Shrewsbury, MA 01545.

List of Materials Presented:

- Letter Requesting Delegate to Beal Reuse Committee
- Letter from Dale Magee, December 5, 2017
- Draft Proposed Space Summary from LPA
- Student Capacity Chart
- PMA Budget Summary
- December 6, 2017 LPA Additional Services Proposal

January 09, 2018 : 6:00PM : Municipal Office Building at 100 Maple Avenue, Shrewsbury, MA 01545

- Meeting notice dated January 5, 2018 posted on the bulletin board outside of the Town Manager's office in the Municipal office building at 100 Maple Avenue, on a bulletin board at the Shrewsbury Police Station, 106 Maple Avenue and on line at the link above.
- PMA informed the committee that the project remains on schedule.
- The Building Committee Chairman requested that the committee be prepared to discuss at the first meeting in February 2018, requirements of the current building code relative to possible enhancements for energy efficiencies and "green building" elements. The Chairman asked that the Superintendent of Public Buildings be prepared to discuss some enhancements/green technologies that have been utilized to help with building efficiencies here in the Northeast.
- LPA reported that the project is on track to submit the PDP to the MSBA February 14, 2018.
- LPA gave an update on the following: potential sites – Northern portion of the Allen Farm property (aka Centech) and Glavin Center.
- LPA reviewed the revised Space Summary noting that the project has been working to get closer to the MSBA guidelines while still supporting the District's Educational Program.
- LPA reviewed the development of the PDP including going through the submission's TOC. The Building Committee Chairman asked that a full draft copy of the PDP submission be made available to the committee by EOB Thursday, January 18, 2018, ahead of the January 23, 2018

meeting where the committee will be asked to approve the architect/OPM submission of the PDP to the MSBA. LPA stated this draft version will be transmitted to the full committee via a Dropbox link on 1.18.2018.
- Next meeting scheduled for January 23, 2018 at 6PM at the Shrewsbury Municipal Office Building at 100 Maple Avenue, Shrewsbury, MA 01545.

List of Materials Presented:
- Updated Space Summary
- Program Adjacency Diagram
- PDP Draft TOC
- K-4 Grade Configuration Chart
- PMA Budget Summary

January 23, 2018 : 6:00PM : Municipal Office Building at 100 Maple Avenue, Shrewsbury, MA 01545
- Meeting notice dated January 19, 2018 posted on the bulletin board outside of the Town Manager's office in the Municipal office building at 100 Maple Avenue, on a bulletin board at the Shrewsbury Police Station, 106 Maple Avenue and on line at the link above.
- PMA reported that the project remains on schedule and on budget.
- LPA and PMA reviewed a PowerPoint slide presentation that outlined how the District came to include the content of the PDP including potential sites, classroom spaces, current price trending in the construction market and the preliminary cost comparisons of the different options that required review in the PDP phase of the Feasibility Study.
- ASF&O presented a K-4 Grade Configuration Summary matrix for all the District's elementary schools that illustrated how the District gets to the requirement for 40 classrooms for the Beal project.
- This meeting as is every school building committee (SBC) meeting is a public hearing. No one in the audience wished to make a public comment regarding the discussions had at this SBC meeting.
- **On a motion by Ms. Fryc, seconded by Mr. Gerardi, the committee voted unanimously 9 to 0 to authorize the OPM/Architect to submit the Preliminary Design Program to the Massachusetts School Building Authority.**
- Next meetings scheduled for February 13, 2018 and February 26, 2018 both at 6PM at the Shrewsbury Municipal Office Building at 100 Maple Avenue, Shrewsbury, MA 01545.

List of Materials Presented:
- LPA PowerPoint Presentation with walk-through by LPA & PMA
- Proposed Space Summary
- PDP
- K-4 Grade Configuration Chart (Beal & All Elementary School Future Space Plan)
- PMA Budget Summary

In addition to the SBC meetings listed above, the District held nine public meetings, which were posted in compliance with the state Open Meeting Law, at which the Project was discussed. These meetings include:

GENERAL NOTE: All School Committee public notices/agendas and meeting minutes are available via the following link:

http://schools.shrewsburyma.gov/sc/index.cfm

Click on "2017-2018 School Committee Meeting Documents" link on the left of the screen,
Click "Meeting Agendas and Minutes" on the left of the screen,
Click the meeting agenda and/or minutes that correspond to the meeting date in the listings below.

August 23, 2017 : 3:00PM : Shrewsbury High School at 64 Holden Street, Shrewsbury, MA 01545 – School Committee Workshop

- Meeting notice dated August 15, 2017 posted on the bulletin board outside of the Town Manager's office in the Municipal office building at 100 Maple Avenue, on a bulletin board at the Shrewsbury Police Station, 106 Maple Avenue and on line at the link above.
- ASF&O provided a detailed update on the Beal Early Childhood Center (ECC) Building Project including the MSBA process and the scope of work the District will be doing in the coming months. Two major task for the School Department include developing future grade configuration, either K-1 or K-4 or consideration of a reconfiguring of all elementary schools to a K-4 configuration and the development and approval of the District's Educational Program. Educational Program will need to be completed by February 2018. The School Committee reviewed a Preliminary List of Tasks that will need to be completed in order for the School Committee to vote on a grade configuration in the fall.

List of Materials Presented related to Beal ECC Project:

- August 16, 2017 Beal Building Project Report
- Undated Preliminary List of Tasks

September 13, 2017 : 7:00PM : Municipal Office Building at 100 Maple Avenue, Shrewsbury, MA 01545 – School Committee Meeting

- Meeting notice dated September 8, 2017 posted on the bulletin board outside of the Town Manager's office in the Municipal office building at 100 Maple Avenue, on a bulletin board at the Shrewsbury Police Station, 106 Maple Avenue and on line at the link above.
- ASF&O began his report on the Beal Building Project by providing an overview of the project, and noted that SPS is currently in the Feasibility Study phase. He advised that this phase requires study and consideration of changing current grade configuration, and requires that two potential options be explored for the Beal project: either a K-1 or K-4 school. He noted that both options under consideration include redistricting that would occur sometime prior to a projected August 2022 opening of a new or renovated/expanded Beal. Noting the demanding timeline for the feasibility phase, ASF&O recommended that the School Committee make a determination on future grade configuration at the October 25, 2017 meeting. The Committee asked clarifying questions about the academic impact of grade configuration, the volume of work associated with the Feasibility Phase, and the mechanics of the subsequent redistricting that will eventually occur. The Superintendent advised that the Assistant Superintendent for Curriculum & Instruction (ASC&I) would be tasked with overseeing the impact to the academic program. ASF&O noted that advanced technology tools and parent/community feedback would be utilized to assess potential redistricting configurations.

List of Materials Presented related to Beal ECC Project:

- September 13, 2017 Beal Project Slides

September 26, 2017 : 4:00PM : Shrewsbury Media Connection, 15 Parker Road, Shrewsbury, MA – Beal SBC Round Table Taping

- No minutes were generated from this Shrewsbury Media Connection round-table taping. Taping available for viewing at the following link:

https://shrewsburyma.gov/474/Public-Access-Channel

Once on line via the link:

- Click “Online Video Library”, middle left on screen
- Click “Beal School (108 Videos), on right of screen
- Scroll to “…September 2017 Update” video option

September 27, 2017 : 7:00PM : Municipal Office Building at 100 Maple Avenue, Shrewsbury, MA 01545 – School Committee Meeting & Public Hearing

- Meeting notice dated September 22, 2017 posted on the bulletin board outside of the Town Manager’s office in the Municipal office building at 100 Maple Avenue, on a bulletin board at the Shrewsbury Police Station, 106 Maple Avenue and on line at the link above, under General Note:.
- This is the first of two public hearings held during the SCM to allow community members an opportunity to ask questions and provide feedback in advance of the SC’s vote on the K-1 or K-4 grade configuration option currently scheduled for October 25, 2017.
- LPA presented a slide show outlining the project’s process, progress and current status.
- PMA further outlined the MSBA Feasibility Study process via review of MSBA building project detailed deliverable checklists for the various phases of MSBA projects, specifically Modules 3 and 4.
- LPA review the MSBA Space Summary Template and spoke to the two grade configurations currently under review by the District (K-1 and K-4).
- The Superintendent of Schools and the ASF&O provided information on enrollment growth in the District over the past two decades, noting any redistricting was a complex process and would be studied and implemented through a thoughtful, multi-year process.

List of Materials Presented related to Beal ECC Project:

- Beal Slide Presentation

October 11, 2017 : 7:00PM : Municipal Office Building at 100 Maple Avenue, Shrewsbury, MA 01545 – School Committee Meeting & Public Hearing

- Meeting notice dated October 6, 2017 posted on the bulletin board outside of the Town Manager’s office in the Municipal office building at 100 Maple Avenue, on a bulletin board at the Shrewsbury Police Station, 106 Maple Avenue and on line at the link above, under General Note:.
- This is the second of two public hearings held during the SCM to allow community members an opportunity to ask questions and provide feedback in advance of the SC’s vote on the K-1 or K-4 grade configuration option currently scheduled for October 25, 2017.
- Superintendent of Schools informed everyone that the public, staff and administrative personnel participation with the grade configuration surveying (K-1 or K-4) was outstanding – 922 respondents from Parents/Community, 245 respondents from staff and administration.
- Superintendent of Schools shared several comments from the surveys and noted that additional information and his recommendation would be shared with the committee ahead of their vote on grade configuration scheduled for the October 25, 2017 meeting.
- Superintendent of Schools advised the group that either grade configuration option would expand the availability of Full Day Kindergarten (FDK) and based on enrollment projections a new school would provide this option for all Shrewsbury students.
- The committee thanked everyone who participated in the survey and acknowledged the thoroughness of the process being utilized to explore and compare both of the configuration options.

List of Materials Presented related to Beal ECC Project:

- Beal Grade Configuration Slide Presentation

- Beal Grade Configuration Parent Survey Data
- Beal Grade Configuration Staff Survey Data

October 25, 2017 : 7:00PM : Municipal Office Building at 100 Maple Avenue, Shrewsbury, MA 01545 – School Committee Meeting

- Meeting notice dated October 18, 2017 posted on the bulletin board outside of the Town Manager's office in the Municipal office building at 100 Maple Avenue, on a bulletin board at the Shrewsbury Police Station, 106 Maple Avenue and on line at the link above, under General Note:.
- The Superintendent of Schools gave a brief summary on the status of the Beal Early Childhood Center (ECC) Project noting that it must incorporate either a K-1 (750 student) or K-4 (790 student) grade configuration. The Superintendent advising that the Beal ECC has to address the District's long term needs and a SC vote on a recommended grade configuration is required to move the project forward, made his recommendation: That the School Committee vote to establish a K-4 grade configuration for all Shrewsbury elementary schools based on a) feedback from the community and school staff, b) results of District surveys, c) discussions/comments at two public forums, d) research related to educational considerations not showing that any one grade configuration is superior to another, e) research indicating that more transitions required between schools can compromise student achievement and e) historical data that strongly suggests that the K-4 model will be significantly more cost effective and lead to shorter ride times for students and more efficient use of bus assets.
- All committee members voiced their support of the Superintendent's recommendation citing the thoroughness of the process, feedback from the community, supportive educational research and logistical and transportation considerations.
- **On a motion by Mr. Palitsch, seconded by Mr. Wensky, the committee voted unanimously to establish a Kindergarten through Grade 4 grade configuration for all elementary schools in the Shrewsbury Public Schools, to take effect if and when sufficient space is made available through construction of additional classrooms through the Beal building project.**

List of Materials Presented related to Beal ECC Project:

- Beal Grade Configuration Transportation Report
- Beal Grade Configuration Educational Report
- Superintendent's Beal Grade Configuration Recommendation Memo
- Superintendents' Beal Grade Configuration Recommendation Slides

November 15, 2017 : 7:00PM : Municipal Office Building at 100 Maple Avenue, Shrewsbury, MA 01545 – School Committee Meeting

- Meeting notice dated November 8, 2017 posted on the bulletin board outside of the Town Manager's office in the Municipal office building at 100 Maple Avenue, on a bulletin board at the Shrewsbury Police Station, 106 Maple Avenue and on line at the link above, under General Note:.
- LPA provided a site selection update noting that the existing site must also be evaluated. LPA noted that the potential alternate sites list has been narrowed from the original 31, to six and now to three: Allen Farm (aka Centech North), Camp Winnegan and Glavin Center.

List of Materials Presented related to Beal ECC Project:

- Beal Site Selection Report Slides

November 29, 2017 : 7:00PM : Municipal Office Building at 100 Maple Avenue, Shrewsbury, MA 01545 – School Committee Meeting

- Meeting notice dated November 21, 2017 posted on the bulletin board outside of the Town Manager's office in the Municipal office building at 100 Maple Avenue, on a bulletin board at the Shrewsbury Police Station, 106 Maple Avenue and on line at the link above, under General Note:.
- The Superintendent of Schools provided a brief update on the Beal ECC project, noting that one of the three remaining potential alternate sites has some complications around conservation zoning – the Camp Winnegan site. The project will increase its focus on the potential sites at Allen Farm and Glavin Center.

January 10, 2018 : 7:00PM : Municipal Office Building at 100 Maple Avenue, Shrewsbury, MA 01545 – School Committee Meeting

- Meeting notice dated January 5, 2018 posted on the bulletin board outside of the Town Manager's office in the Municipal office building at 100 Maple Avenue, on a bulletin board at the Shrewsbury Police Station, 106 Maple Avenue and on line at the link above, under General Note:.
- LPA and the District's ASF&O provided a report on the status of the Beal ECC project. ASF&O offered space and enrollment plans that identify 40 classrooms required for the Beal project. ASF&O shared cost data on SPS projects dating back to 1997 whose capacities have already been exceeded by Shrewsbury's student population.
- LPA provided a draft Space Summary which outlines the proposed spaces and the square footage of each space. LPA provided space summaries on different school configurations from 12.1.2017 and 12.12.2017. They also presented a bubble "Program Adjacency Diagram" to illustrate a general representation of which spaces would be adjacent to which spaces.
- In response to committee questions, LPA noted that the MSBA space summary guidelines are a starting point for school building allocation and that the size of space can vary depending on the particular educational programming needs of an individual community.
- LPA concluded their presentation with a very detailed summary of the steps of the Feasibility Study Phase (MSBA Module 3) that the project must follow/complete.

List of Materials Presented related to Beal ECC Project:

- Beal Project Space Planning Template
- Beal Project K-4 Space/Enrollment Projection
- Beal Project Slides

Please see the links provided above (with web navigation instructions) for the on-line availability of the presentation materials for each meeting, meeting minutes, and summary materials related to the Project.

To the best of my knowledge and belief, each of the meetings listed above complied with the requirements of the Open Meeting Law, M.G.L. c. 30A, §§ 18-25 and 940 CMR 29 *et seq*.

If you have any questions or require any additional information, please contact the Owner's Project Manager, PMA Consultants, LLC, Deborah Shaer, Associate: dshaer@pmaconsultants.com or 781-519-1067.

By signing this Local Action and Approval Certification, I hereby certify that, to the best of my knowledge and belief, the information supplied by the District in this Certification is true, complete, and accurate.

By: Kevin J. Mizikar

Title: Town Manager

Date: 2/9/18

By signing this Local Action and Approval Certification, I hereby certify that, to the best of my knowledge and belief, the information supplied by the District in this Certification is true, complete, and accurate.

By: Dr. Joseph Sawyer

Title: Superintendent of Schools

Date: 2/9/18

By signing this Local Action and Approval Certification, I hereby certify that, to the best of my knowledge and belief, the information supplied by the District in this Certification is true, complete, and accurate.

By: Dr. Dale Magee

Title: Chair of the School Committee

Date: 2-9-18

BEAL EARLY CHILDHOOD
CENTER BUILDING COMMITTEE

TELEPHONE: (508) 841-8508
FAX: (508) 842-0587

TOWN OF SHREWSBURY

Richard D. Carney Municipal Office Building
100 Maple Avenue
Shrewsbury, Massachusetts 01545-5338

CERTIFIED VOTE

At its meeting, duly posted and noticed, on Tuesday January 23, 2018, the Beal Building Committee took the following action concerning the submission of the Preliminary Design Plan to the Massachusetts School Building Authority:

Public Hearing: Review and vote on authorizing the submission of the Preliminary Design Plan to the Massachusetts School Building Authority

No one in the audience wished to make a public comment. On a motion by Ms. Fryc, seconded by Mr. Gerardi, the committee unanimously voted 9 to 0 to authorize the OPM/Architect to submit the Preliminary Design Plan to the Massachusetts School Building Authority.

James F. Kane, Chairman
Beal Building Committee

In witness whereof I hereunto set
my hand and the seal of the Town
This 14th of February, 2018

Sandra E. Wright
Town Clerk

Certification of the Beal Early Childhood Center Building Committee Direction/Authorization for Submittal of Preliminary Design Program (PDP) to the Massachusetts School Building Authority (MSBA) for the Beal Early Childhood Center Project

I hereby certify the Building Committee's direction and authorization for the Architect, Lamoureux Pagano & Associates, Inc. to submit the Preliminary Design Program to the Massachusetts School Building Authority (MSBA) for the Beal Early Childhood Center Project.

The Owner's Project Manager and the Beal Early Childhood Center Building Committee have conducted a review of the PDP and find it to be complete in its substance/submission and reflective of the position of the Town of Shrewsbury regarding the outlined alternatives. The two (2) new construction options for a K through 4 grade configuration on the two alternate sites will be the primary focus moving forward, as they best support the Town of Shrewsbury's Education Program. The current schedule reflects that the Preferred Schematic Report will be submitted to the MSBA in May of 2018.

James F. Kane
Chairman
Beal Early Childhood Center Building Committee

1/23/18
Date

C. SBC Meeting Minutes

1. Minutes: Beal Early Childhood Center Building Committee 6/22/16
2. Agenda: Beal Early Childhood Center Building Committee 9/13/16
3. Minutes: Beal Early Childhood Center Building Committee 9/13/16
4. Agenda: Beal Early Childhood Center Building Committee 10/25/16
5. Minutes: Beal Early Childhood Center Building Committee 10/25/16
6. Agenda: Beal Early Childhood Center Building Committee 11/9/16
7. Minutes: Beal Early Childhood Center Building Committee 11/9/16
8. Agenda: Beal Early Childhood Center Building Committee 11/15/16
9. Agenda: Beal Early Childhood Center Building Committee 12/1/16
10. Minutes: Beal Early Childhood Center Building Committee 12/1/16
11. Agenda: Beal Early Childhood Center Building Committee 1/10/17
12. Minutes: Beal Early Childhood Center Building Committee 1/10/17
13. Agenda: Beal Early Childhood Center Building Committee 1/24/17
14. Minutes: Beal Early Childhood Center Building Committee 1/24/17
15. Agenda: Beal Early Childhood Center Building Committee 2/14/17
16. Agenda: Beal Early Childhood Center Building Committee 3/14/17
17. Cancellation: Beal Early Childhood Center Building Committee 3/14/17
18. Agenda: Beal Early Childhood Center Building Committee 4/4/17
19. Minutes: Beal Early Childhood Center Building Committee 4/4/17
20. Agenda: Beal Early Childhood Center Building Committee 5/9/17
21. Minutes: Beal Early Childhood Center Building Committee 5/9/17
22. Agenda: Beal Early Childhood Center Building Committee 6/13/17
23. Minutes: Beal Early Childhood Center Building Committee 6/13/17
24. Agenda: Beal Early Childhood Center Building Committee 7/11/17
25. Minutes: Beal Early Childhood Center Building Committee 7/11/17
26. Agenda: Beal Early Childhood Center Building Committee 8/1/17
27. Minutes: Beal Early Childhood Center Building Committee 8/1/17
28. Presentation: Beal Early Childhood Center Building Committee 8/1/17
29. Agenda: Beal Early Childhood Center Building Committee 9/12/17
30. Minutes: Beal Early Childhood Center Building Committee 9/12/17
31. Presentation: Beal Early Childhood Center Building Committee 9/12/17
32. Agenda: Beal Early Childhood Center Building Committee 9/26/17
33. Agenda: Beal Early Childhood Center Building Committee 10/10/17
34. Minutes: Beal Early Childhood Center Building Committee 10/10/17
35. Presentation: Beal Early Childhood Center Building Committee 10/10/17
36. Agenda: Beal Early Childhood Center Building Committee 11/2/17
37. Minutes: Beal Early Childhood Center Building Committee 11/2/17
38. Presentation: Beal Early Childhood Center Building Committee 11/2/17
39. Agenda: Beal Early Childhood Center Building Committee 11/7/17
40. Minutes: Beal Early Childhood Center Building Committee 11/7/17
41. Presentation: Beal Early Childhood Center Building Committee 11/7/17
42. Agenda: Beal Early Childhood Center Building Committee 12/12/17
43. Minutes: Beal Early Childhood Center Building Committee 12/12/17
44. Agenda: Beal Early Childhood Center Building Committee 1/9/18
45. Agenda: Beal Early Childhood Center Building Committee 1/18/18
46. Minutes: Beal Early Childhood Center Building Committee 1/18/18
47. Agenda: Beal Early Childhood Center Building Committee 1/23/18
48. Minutes: Beal Early Childhood Center Building Committee 1/23/18

MINUTES
Beal Early Childhood Center Building Committee
June 22, 2016

Present: Mr. Kane. Dr. Sawyer, Mr. Collins, Mr. Cox, Mr. Masiello, Ms. McNamara, Mr. Gerardi, Mr. Morgado

Meeting called to order by Chair Pro-Temp Daniel Morgado via reference to a meeting notice and agenda with attachments dated June 15, 2016.

Introductions were made since this is the first meeting for the Committee. Ms. Fryc was unable to attend this meeting.

Nominations were taken for Chair of the Committee. Mr. Kane was nominated by Mr. Masiello and there were no other nominees. Mr. Kane was elected chair by unanimous vote.

Ms. McNamara nominated Mr. Masiello as vice-chair and there were no other nominees. Mr. Masiello was elected Vice-Chair by unanimous vote.

Mr. Kane assumed the chair.

Mr. Collins presented to each member of the Committee a folder containing a cover memo with attachments dated June 22, 2016. He then reviewed each of the attachment answering questions as necessary. The timeline for the project was reviewed (attachment to meeting notice). The next deadline for submission will be July 12th.

There was a general discussion on the matter of enrollments and aspects for the K and Pre-K program. Mr. Morgado provided some background on the range of cost for a feasibility study. More work will be done over the coming months to ascertain the cost.

Dr. Sawyer provided insight into the K and Pre-K programs.

Any materials submitted to the MSBA will be shared with the Committee.

It was agreed that the next meeting of the Committee will be September 13, 2016, at 6 PM at the Beal Early Childhood Center.

The meeting adjourned at 7:43 PM.

Respectfully submitted,

Daniel J. Morgado
Town Manager

Referenced Materials
Meeting notice with attachments dated June 15, 2016
Memo dated June 22, 2016 with attachments prepared by Mr. Collins

OFFICE OF THE
TOWN MANAGER

Richard D. Carney
Municipal Office Building
100 Maple Avenue
Voice: 508-841-8508
Fax: 508-842-0587
dmorgado@shrewsburyma.gov

Town of Shrewsbury
Massachusetts 01545-5398

June 15, 2016

To: Beal Early Childhood Center Building Committee

From: Daniel J. Morgado

Re: Meeting Notice & Agenda

The Beal Early Childhood Center Building Committee will meet on Wednesday, June 22, 2016 at 7:00 PM in the Selectmen's Meeting Room – 100 Maple Avenue to consider the following agenda:

AGENDA

1. Call to Order
2. Introductions
3. Organization of the Committee by electing Chair and Vice-Chair
4. Review of the Massachusetts School Building Authority (MSBA) eligibility period schedule of deliverables – Patrick Collins (See MSBA letter attached)
5. Discussion of the work plan of the Committee
6. Review of meeting schedule
7. Adjourn

Referenced Materials

Letter from MSBA with attachment dated March 30, 2016

Massachusetts School Building Authority

Deborah B. Goldberg
Chairman, State Treasurer

Maureen G. Valente
Chief Executive Officer

John K. McCarthy
Executive Director / Deputy CEO

March 30, 2016

Mr. Daniel J. Morgado, Town Manager
Town of Shrewsbury
Town Managers Office
100 Maple Avenue
Shrewsbury, MA 01545

Re: Town of Shrewsbury, Beal Early Childhood Center

Dear Mr. Morgado:

I am pleased to report that the Massachusetts School Building Authority (the "MSBA") Board of Directors voted to invite the Statement of Interest (the "SOI") for the Beal Early Childhood Center School in the Town of Shrewsbury (the "Town") into the MSBA's Eligibility Period. The 270-day Eligibility Period formalizes and streamlines the beginning of the MSBA's grant approval process and benefits the Town by providing a definitive schedule for the completion of preliminary requirements, assisting with the determination of financial and community readiness, and identifying needs for planning and budgeting. Successful completion of all activities in the Eligibility Period will allow the Town to be eligible for an MSBA invitation to Feasibility Study.

Invitation into the Eligibility Period is ***not*** an invitation to Feasibility Study. Moving forward in the MSBA's process requires collaboration with the MSBA, and an invitation to Feasibility Study will require a further vote of the MSBA Board of Directors. Communities that "get ahead" of the MSBA without MSBA approval will not be eligible for grant funding. To qualify for any funding from the MSBA, local communities must follow the MSBA's statute and regulations, which require MSBA partnership and approval at each step of the process.

The Town's Eligibility Period will commence on April 13, 2016 and conclude on or before January 9, 2017. During this time, the Town must complete the preliminary requirements in accordance with the schedule on page three of this letter. The first item that requires completion by the Town is the Initial Compliance Certification, which is attached to this letter.

The ability of the Town to complete the preliminary requirements within the 270 days does not guarantee an invitation into the MSBA Capital Pipeline. Further, if the Town cannot complete the preliminary requirements within the 270-day Eligibility Period, the

MSBA will require the Town to withdraw its SOI, and the Town will have to re-file an SOI during the next open SOI filing period and/or when the Town has the required financial and community support.

If the Town has concerns about meeting any of the deadlines set forth on page three of this letter, please notify the MSBA in writing by April 13, 2016. If you have questions or would like additional information regarding the Eligibility Period, please refer to our website (http://www.massschoolbuildings.org/building/prerequisites) and/or contact Katie DeCristofaro at the MSBA (Kathryn.DeCristofaro@MassSchoolBuildings.org).

I look forward to continuing to work with you throughout the MSBA's grant program process. As always, feel free to contact me or my staff at (617) 720-4466 should you have any questions.

Sincerely,

John K. McCarthy
Executive Director

Cc: Legislative Delegation
Moira E. Miller, Chair, Shrewsbury Board of Selectmen
John Samia, Chair, Shrewsbury School Committee
Dr. Joseph Sawyer, Superintendent, Shrewsbury Public Schools
File: 10.2 Letters (Region 2)

Eligibility Period
Schedule of Deliverables

Town of Shrewsbury
Beal Early Childhood Center

MSBA Board of Director Meeting – March 30, 2016

Eligibility Period Commences – April 13, 2016		
MODULE ONE - Eligibility Period		
Deliverable	**Days**	**Due Date and Status**
Initial Compliance Certification	30	May 13, 2016 Required
School Building Committee	60	June 13, 2016 Required
Educational Profile Questionnaire	90	July 12, 2016 Required
Online Enrollment Projection	90	July 12, 2016 Required
Enrollment/Certification Executed	180	October 11, 2016 Required
Maintenance and Capital Planning Information	180	October 11, 2016 Required
Local Vote Authorization	270	January 9, 2017 Required
Feasibility Study Agreement	270	January 9, 2017 Required
Eligibility Period Concludes – January 9, 2017		

Note: If the District has concerns about meeting any of the following deadlines, please let the MSBA know by April 13, 2016. The MSBA will require Districts that are unable to complete the preliminary requirements within the timeframes noted for each to withdraw its SOI and reapply when the District has the financial and community support required.

Shrewsbury Public Schools

Patrick C. Collins, Assistant Superintendent for Finance & Operations

22 June 2016

To: SCHOOL BUILDING COMMITTEE: BEAL EARLY CHILDHOOD CENTER

Subj: RESOURCE MATERIALS ABOUT MSBA PROCESS & SCHOOL ENROLLMENTS

Enclosed you will a variety of information provided to give committee members some basic background information regarding the Massachusetts School Building Authority [MSBA] Building Process. The school building process is operated in adherence to Massachusetts General Laws, Commonwealth Regulations, and MSBA regulations.

Communities or regional school districts that seek grant funding from the MSBA must adhere to the aforementioned laws and regulations as funding from this program is never guaranteed. It is a grant-funded non-entitlement program.

Shrewsbury's "base reimbursement rate" for this project is 50.16% and could change in calendar year 2017 depending upon re-calculation of the economic/wealth assessment for each community. MSBA regulations do provide opportunity for communities to add reimbursement points via several different types of "incentives programs" to enhance energy efficiency or leverage best practices in construction management. Those types of issues will be addressed later in the process.

Enclosures:

1. MSBA Building Process Overview: The Eight Modules
2. Shrewsbury Public Schools October 1, 2015 Enrollment and Class Size Report
3. Shrewsbury Public Schools Enrollment Projection Report [20 November 2015]
4. Strategies for Children: Massachusetts Full Day Kindergarten Map

Massachusetts School Building Authority

Funding Affordable, Sustainable, and Efficient Schools in Partnership with Local Communities

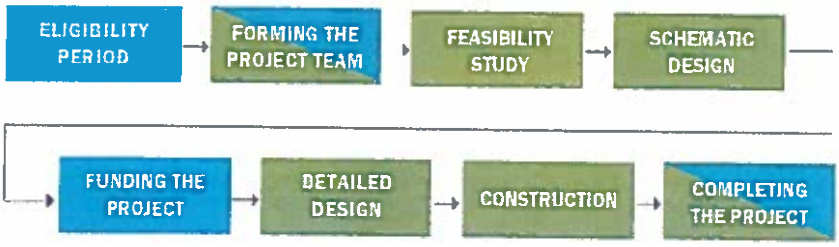
Building With Us

The MSBA's grant program for school building construction and renovation projects is a non-entitlement competitive program. The MSBA's Board of Directors approves grants based on need and urgency as expressed by the City, Town, Regional School District or independent agricultural and technical school and validated by the MSBA. Once the MSBA Board of Directors invites a District to participate in the MSBA's grant program, the District and the MSBA work together, in a collaborative process, as outlined below.

MSBA Building Process

Steps primarily for:

Districts | **Construction Professionals**



The MSBA has prepared detailed modules which outline the process and policies for each of the steps mentioned above. For an overview of these modules, click here (/building/modules_overview) .

Educational Facilities Planning

The MSBA recognizes the importance of Educational Planning (/building/Ed_Facility_Planning) on the planning, design, and construction of adaptable designs that are responsive to the needs of teaching and learning now while providing future flexibility to accommodate changes in learning environments and delivery methods during the useful life of the school. To support districts and educators in the exploration, of concepts and options for proposed projects, the MSBA offers resources which may prove helpful in initiating local discussions regarding current educational programming and potential improvements that could be realized as part of a proposed project.

Capital Planning Data & Information

The MSBA has prepared the following information to gauge and track the progress of SOIs that have been invited into the MSBA's Capital Pipeline, and to provide general cost data on projects in the design and construction phases:

Project Information

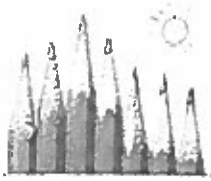
- **Capital Planning Project Overview Report** (/building/CP_Information_Project_Info#CP_Overview_Report)
- **Capital Pipeline Status Chart** (/building/CP_Information_Project_Info#CP_Status_Chart)
- **Estimated Bid Schedule** (/building/CP_Information_Project_Info#Est_Bid_Schedule)
- **Consultant/Contractor Status** (/building/CP_Information_Project_Info#Consultant_Contractor_Status)

Cost Data

- **Designer and OPM Fees** (/building/CP_Information_Cost_Data#Des_OPM_Fees)
- **Estimated Construction & Total Project Cost Data** (/building/CP_Information_Cost_Data#Est_Construction_TPC_Data)
- **Bid Results for Awarded Construction Contracts** (/building/CP_Information_Cost_Data#Bid_Results_Const_Contracts_PFA)

Project Advisories

In addition, the MSBA anticipates issuing project advisories from time to time as informational updates for Districts, Owner's Project Managers (OPMs) and Designers in an effort to facilitate the efficient and effective administration of proposed projects currently pending review by the MSBA and/or projects with an agreed upon Project Scope and Budget Agreement or Project Funding Agreement. These advisories will be posted in the Project Advisories (/building/advisories) section of this website.



Massachusetts School Building Authority

Funding Affordable, Sustainable, and Efficient Schools in Partnership with Local Communities

Modules Overview

MODULE 1 – ELIGIBILITY PERIOD: (/BUILDING/PREREQUISITES)

Once the MSBA Board of Directors votes to invite a District into the Eligibility Period, a 270-day period is initiated for the District to complete certain preliminary requirements that include: 1) a certification of the District's understanding of the grant program rules by executing an Initial Compliance Certification; 2) forming a School Building Committee and submitting the membership to the MSBA for acceptance; 3) a summary of the District's existing maintenance practices; 4) certification of a design enrollment for the proposed project agreed upon with the MSBA (may not be applicable for Repair Assessments depending on the proposed scope of work); 5) confirmation of community authorization and funding to proceed (see MSBA Vote Requirements); and, 6) execution of the MSBA's standard Feasibility Study Agreement, which establishes a process for the District to be reimbursed for eligible expenses.

MODULE 2 – PROJECT TEAM: (/BUILDING/TEAM)

Once all of the Pre-Requisites have been completed to the satisfaction of the MSBA, the District procures the team of professionals utilizing MSBA specific procurement processes and standard Request for Services ("RFS") templates and Contracts to work with the District as the proposed project advances through the MSBA's grant process.

MODULE 3 – FEASIBILITY STUDY: (/BUILDING/FEASIBILITY)

Upon successful conclusion of procurement of Owner's Project Management and Designer services in accordance with the procedures outlined under Module 2 - Forming the Project Team, the District and its team collaborate with the MSBA to document their educational program, generate an initial space summary, document existing conditions, establish design parameters, develop and evaluate alternatives, and recommend the most cost effective and educationally appropriate preferred solution to the MSBA Board of Directors for their consideration. During this phase, the Owner's Project Manager will submit, on behalf of the District and its Designer, a Preliminary Design Program and a Preferred Schematic Report. Approval by the MSBA Board of Directors is required for all projects to proceed into schematic design. Please refer to Module 4 - Schematic Design for additional information.

MODULE 4 – SCHEMATIC DESIGN: (/BUILDING/SCHEMATIC)

The District and its team develop a final design program and robust schematic design of sufficient detail to establish the scope, budget and schedule for the Proposed Project.

MODULE 5 – PROJECT SCOPE AND BUDGET AND PROJECT FUNDING AGREEMENTS: (/BUILDING/FUNDING)

Based upon the completed Feasibility Study, the District and MSBA staff establish and document the project scope, budget, schedule, and MSBA financial participation to forward to the MSBA Board of Directors for their approval. Approval by the MSBA Board of Directors establishes the MSBA's participation in the proposed project. Once the District secures community authorization and financial support, the MSBA and the District enter into a Project Funding Agreement, which defines the scope, budget and schedule for the Proposed Project.

MODULE 6 – DESIGN DEVELOPMENT, CONSTRUCTION DOCUMENTATION & BIDDING: (/BUILDING/DESIGN)

The District and its team advance the design, generate construction documentation, procure bids and award a construction contract in accordance with the agreed upon project scope, budget and schedule as documented in the Project Funding Agreement, and the requirements contained in the MSBA's standard contracts for Owner's Project Management and Designer Services. The MSBA continues to monitor the project to ensure it remains on track and meets the expectation of both the District and the MSBA as defined in the Project Funding Agreement

MODULE 7 – CONSTRUCTION ADMINISTRATION: (/BUILDING/CONSTRUCTION)

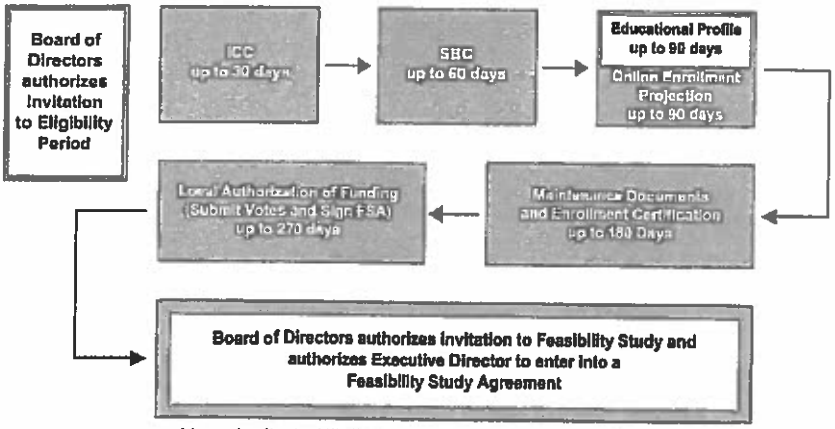
The MSBA continues to monitor progress of the project to confirm that it remains on track and meets the expectation of both the District and the MSBA as defined in the Project Funding Agreement.

MODULE 8 – PROJECT CLOSEOUT: (/BUILDING/COMPLETING)

The MSBA performs final audit to determine final total grant amounts and make final payment.

Module 1 – Eligibility Period

Eligibility Period Up to 270 Days



Upon Invite to Eligibility Period, Districts complete defined requirements within the timeframes listed above

To further maximize resources, the MSBA has formalized and streamlined the beginning of its grant process with the establishment of an **Eligibility Period**, which has and will continue to result in several benefits to the District and the MSBA. The **Eligibility Period** assists the MSBA with managing its financial resources by identifying early in the process whether a District is ready to manage and fund a capital project. It will help to determine a District's financial and community readiness to enter the capital pipeline. It will also assist Districts locally by providing a definitive schedule and identifying needs for planning and budgeting.

A vote of the MSBA Board of Directors to invite a District into the **Eligibility Period** is based on a review of the District's Statement of Interest ("SOI") and staff due diligence and recommendation. The vote initiates a 270-day period for the District to complete certain preliminary requirements that include: 1) a certification of the District's understanding of the grant program rules by executing an Initial Compliance Certification (/sites/default/files/edit-contentfiles/Documents/Forms/EP/Initial_Compliance_Certification.pdf); 2) forming a School Building Committee (/sites/default/files/edit-contentfiles/Documents/Forms/EP/School_Building_Committee_2016.pdf) and submitting the membership to the MSBA for acceptance; 3) completing an Educational Profile Questionnaire to further inform the MSBA's understanding of the District's current and proposed educational facilities, teaching methodology, grade configurations and program offerings; 4) a summary of the District's existing maintenance practices (/building/prerequisites/maintenance_cap_planning); 5) certification of a design enrollment for the proposed project agreed upon with the MSBA (may not be applicable for Repair Assessments depending on the proposed scope of work); 6) confirmation of community authorization and funding to proceed (see MSBA Vote Requirements (http://www.massschoolbuildings.org/guidelines/votes)); and, 7) execution of the MSBA's standard Feasibility Study Agreement (/sites/default/files/edit-contentfile/Guidelines_Forms/Guidelines_Policies/FSA%20Standard%20Template%20v_04_04_11WEB_update12_28_11.pdf), which establishes a process for the District to be reimbursed for eligible expenses.

Districts that successfully complete the preliminary requirements to the satisfaction of the MSBA within the 270-day **Eligibility Period** are eligible to receive an invitation from the MSBA Board of Directors to the Feasibility Study phase. This phase involves the District utilizing MSBA-specific procurement processes and standard Request for Services ("RFS") templates and contracts to procure a team of professionals to work with the District as a proposed project advances through the MSBA grant process as defined in Module 2 (/building/team).

Districts that are able to successfully complete the preliminary requirements in less than 270 days may receive an invitation earlier than 270 days, as determined by the MSBA. An invitation to the **Eligibility Period** is not an invitation to Feasibility Study and it does not guarantee an invitation to the MSBA's capital pipeline. Districts that do not successfully complete the preliminary requirements within the 270-day period will have to re-file an SOI during the next open SOI filing period.

The MSBA's program for school building construction and renovation grants is a non-entitlement competitive grant program. Grants are distributed by the MSBA's Board of Directors based on need and urgency, as expressed by the District and validated by the MSBA. Submitting an SOI is the critical first step in the MSBA's program for school building construction and renovation grants.

2016 Statements of Interest Process

The 2016 SOI filing period (http://www.massschoolbuildings.org/building/2016_SOIs) filing period opened on January 8, 2016. The deadline to file SOIs for consideration in the Accelerated Repair Program ("ARP") closed on Friday,

February 12, 2016.

The SOI filing period for districts submitting for consideration in the Core Program, which is primarily for projects beyond the scope of Accelerated Repair, including extensive repairs, renovations, addition/renovations, and new school construction, was Friday, April 8, 2016.

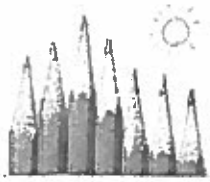
- **The MSBA has completed the review of the 2015 Statement of Interest submissions and recommended 26 Districts for further consideration. Eight of the 26 Districts were recommended for an invitation into Eligibility Period at the January 27, 2016 Board Meeting. An additional eight Districts were recommended for an invitation at the March 30, 2016 Board meeting. Six Districts were recommended for an invitation at the May 25, 2016 Board Meeting. The remaining four Districts are anticipated to be recommended at the upcoming July Board meeting.**

17 Districts are participating in the Eligibility Period after the March 30, 2016 Board Meeting.

- ***Belmont, Blue Hills Regional, Braintree, Danvers, Dennis-Yarmouth, Foxborough, Harvard*, Lexington*, Ludlow, Manchester Essex Regional, Marlborough, Marblehead, Northbridge, Shrewsbury, Tisbury^, Triton Regional, Wareham***
- **Six Districts have secured funding.**

At the May 25, 2016 Board meeting:

- ***Three Districts were invited to conduct Feasibility Studies *(Harvard, Lexington, Tisbury)***
- **Six Districts were recommended for an invitation. *(Arlington, Framingham, Natick, Pentucket Regional, Tewksbury, Weymouth)***



Massachusetts School Building Authority

Funding Affordable, Sustainable, and Efficient Schools in Partnership with Local Communities

Module 2 – Forming the Project Team

Once all of the Pre-Requisites have been completed to the satisfaction of the MSBA, the District procures the team of professionals utilizing MSBA specific procurement processes and standard Request for Services ("RFS") templates and Contracts to work with the District as the proposed project advances through the MSBA's grant process.

- Owner's Project Manager (OPM) Process (/building/team/opm)
- Designer's Selection Panel (DSP) Process (/building/team/dsp)
- MCPPO Certification/Recertification Requirements (http://www.massschoolbuildings.org/node/41494)

Core Program:
Core Program:

Since the March 30, 2016 Board Meeting:

- **Five Districts have completed their OPM selection (*Attleborough, Middleborough, Lowell, Taunton, Worcester*)**
- **Four Districts have completed their Designer Selection (*Boston, Lynn, Waltham, Westport*)**

As of the May 25, 2016 Board Meeting:

12 Districts are currently procuring professional services:

- **Five Districts are in the process of procuring an Owner's Project Manager (*Bristol County Agricultural, Everett, Fall River, Clarksburg, Holyoke*)**
- **Seven Districts are in the process of procuring a designer (*Attleboro, Cape Cod Regional, Easthampton, Lowell, Middleborough, Taunton, Worcester*)**

Massachusetts School Building Authority

Funding Affordable, Sustainable, and Efficient Schools in Partnership with Local Communities

Module 3 – Feasibility Study

Module 3 - Feasibility Study Guidelines (/sites/default/files/edit-contentfiles/Building_With_Us/Feasibility_Study/Mod3_Feasibility_Study_Guidelines.pdf)

Upon successful conclusion of procurement of Owner's Project Management and Designer services in accordance with the procedures outlined under Module 2 - Forming the Project Team (/building/team) , the District and its team collaborate with the MSBA to document their educational program, generate an initial space summary, document existing conditions, establish design parameters, develop and evaluate alternatives, and recommend the most cost effective and educationally appropriate preferred solution to the MSBA Board of Directors for their consideration. During this phase, the Owner's Project Manager will submit on behalf of the District and its Designer a Preliminary Design Program and a Preferred Schematic Report. Approval by the MSBA Board of Directors is required for all projects to proceed into schematic design. Please refer to Module 4 - Schematic Design (/building/schematic) for additional information.

The following documents are available to assist the District:

- MSBA Space Summary Templates (/sites/default/files/edit-contentfiles/Building_With_Us/Feasibility_Study/MSBA_Space_Summary_Templates.xls)
- Module 3 - Local Actions and Approvals Certification Template (/sites/default/files/edit-contentfiles/Building_With_Us/Feasibility_Study/Mod3_Local_Actions_Approvals_Certification_Template.doc)
- Budget Statement for Preferred Schematic (/sites/default/files/edit-contentfiles/Building_With_Us/Feasibility_Study/Budget_Statement_Preferred_Schematic.xls)
- Module 3 - Feasibility Study Completion Checklist (/sites/default/files/edit-contentfiles/Building_With_Us/Feasibility_Study/Mod3_Feasibility_Study_Completion_Checklist.doc)
- Submittal Dates for Board Meetings (/about/board_leadership/facilities_assessment#Submittal_schedule)
- Project Advisory (#30): Update to the MSBA's Sustainable Building Design Policy (/building/advisories/30)

Approval by the MSBA Board of Directors is required for all projects in order to advance the preferred schematic into schematic design.

At the May 25, 2016 Board Meeting:

- Three Districts were invited to conduct Feasibility Studies *(Harvard, Lexington, Tisbury)*
- Two Districts were recommended to the Board for a preferred schematic design *(Amherst, Boston)*
- Based on the most recent data and schedules provided to the MSBA by districts, the MSBA anticipates that four districts will present their preferred schematic designs to the Board at the upcoming July and September Board meetings. (*Bourne, Millis, Somerville, Waltham*)

Massachusetts School Building Authority

Funding Affordable, Sustainable, and Efficient Schools in Partnership with Local Communities

Module 4 – Schematic Design

Module 4 – Schematic Design

Schematic Design Guidelines (/sites/default/files/edit-contentfiles/Building With Us/Schematic Design/Mod4 Schematic Design Guidelines.pdf)

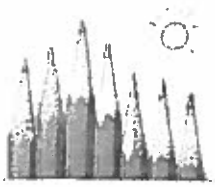
Based upon the completed Feasibility Study and the steps outlined in Module 3 Feasibility Study (http://www.massschoolbuildings.org/building/feasibility), the District and its team, in collaboration with the MSBA, develop a robust schematic design of sufficient detail to establish the scope, budget and schedule for the Proposed Project. The MSBA generates a Project Scope and Budget Agreement that documents the project scope, budget, schedule and MSBA financial participation to forward to the MSBA Board of Directors for their consideration. Approval by the MSBA Board of Directors is required for all projects in order for the MSBA to enter into a Project Scope and Budget Agreement and a Project Funding Agreement with the District. Refer to Module – 5 Funding the Project (http://www.massschoolbuildings.org/building/funding) for additional information.

The following documents are available to assist the District:

- DESE Template Cover Letter (/sites/default/files/edit-contentfiles/Building With Us/Schematic Design/DESE-Template Cover Letter SD.docx)
- Special Education Adjacency Table Template (/sites/default/files/edit-contentfiles/Building With Us/Schematic Design/Special Education Adjacency Table Template.xls)
- Total Project Budget Template (/sites/default/files/edit-contentfiles/Documents/Guidelines Policies/Total Project Budget Template.xlsx)
- Schematic Design Submittal Notification Template (/sites/default/files/edit-contentfiles/Building With Us/Schematic Design/Schematic Design Submittal Notification Template.doc)
- Local Actions and Approval Certification Template (/sites/default/files/edit-contentfiles/Building With Us/Schematic Design/Mod4 Local Action Approval Certification.doc)
- Module 4 Completion Checklist (/sites/default/files/edit-contentfiles/Building With Us/Schematic Design/Mod4 Completion Checklist.doc)
- Submittal Dates for Board Meetings (/about/board leadership/facilities assessment/Submittal schedule)
- Project Advisory (#30): Update to the MSBA's Sustainable Building Design Policy (/building/advisories/30)

At the May 25, 2016 Board Meeting:

- One District submitted its schematic design to the Board and was invited to enter into Project Scope and Budget Authorization with the MSBA *(Stoughton)*.
- According to the most recent data and schedules provided to the MSBA by districts, MSBA staff anticipates that five districts will appear before the Board for Project Scope and Budget Agreement authorizations at the upcoming July and September Board meetings. (*Amherst, Hanover, Needham, Newton, Quincy*)



Module 5 – Funding the Project

Based upon the completed Feasibility Study and the steps outlined in Module 4 – Schematic Design (http://www.massschoolbuildings.org/building/schematic), the District and MSBA staff establish and document the project scope, budget, schedule, and MSBA financial participation to forward to the MSBA Board of Directors for their approval. Approval by the MSBA Board of Directors establishes the MSBA participation in the proposed project. Module 5 – Funding the Project (/sites/default/files/edit-contentfiles/Building_With_Us/Funding_Project/Mod-5_Funding_the_Project.pdf) provides guidance on MSBA vote language (/guidelines/votes) and outlines the steps necessary to be completed by the District to enter into a Project Scope and Budget Agreement and a Project Funding Agreement with the MSBA. The District should utilize the Module 5 – Funding the Project Completion Checklist (/sites/default/files/edit-contentfiles/Building_With_Us/Funding_Project/Mod-5_Funding_Project_Completion_Checklist.doc) to ensure that it has completed all steps.

Upon Board approval of a proposed project, the District and the MSBA may enter into a Project Scope and Budget Agreement (/building/funding/scope) that defines the project scope, budget, schedule, and potential MSBA participation in the project. Once the District secures community authorization and financial support, the MSBA and the District enter into a Project Funding Agreement, which also defines the scope, budget and schedule for the project. Once a Project Funding Agreement (/building/funding/agreements) is executed, the District can begin submitting requests for reimbursement (http://www.massschoolbuildings.org/building/funding/reimbursements) to the MSBA for project costs beyond the feasibility study.

At the May 25, 2016 Board Meeting:

- **25 Districts, representing 43 projects were authorized to execute Project Funding Agreements with the MSBA for the Accelerated Repair Program.**

Module 6 – Detailed Design

Design Development, Construction Documentation, and Bidding: The District and its team continue to advance the project and the MSBA continues to monitor the project to ensure it remains on track and meets the expectation of both the District and the MSBA as defined in the Project Funding Agreement. In general terms, the MSBA ensures that the project team works within the requirements contained in the MSBA's Base Contracts and Base Contract Amendments for OPM and Designer Services (/guidelines/contracts). Additionally, the MSBA assigns a Commissioning Agent (/building/design/commissioning) to the project who facilitates an intensive quality assurance process and ensures that the new or renovated building operates efficiently and as the owner intended. Specifically, the District and its team generate construction documents which are reviewed by the MSBA in accordance with the requirements prescribed in the above-mentioned contracts.

In addition, as set forth in the Project Funding Agreement, the District is responsible for meeting all of the applicable procurement requirements in connection with its project, which may include M.G.L. c. 30 §§ 39F, 39J, 39K, 39N, 39O, 39P and 39R; c. 70B; c. 149; chapter 193 of the Acts of 2004; and all other applicable provisions of federal, state, and local law. The Department of Labor Standards ("DLS") is responsible for determining if and when payment of prevailing wages is required. For contracts requiring payment of prevailing wages, the awarding authority (the school district) must request a prevailing wage schedule from DLS at www.mass.gov/dols (http://www.mass.gov/dols). In addition, bidders and proposers must agree to comply with the Prevailing Wage Law, as administered by the DLS.

Please be advised that payment of prevailing wages may be required for certain statewide and department contracts available on the Commonwealth Procurement and Solicitation System (Comm-PASS). Districts also should consult with their counsel to ensure that they are using a statewide or department contract properly. If a particular commodity or service is not clearly covered by a statewide or department contract, then the District likely will have to competitively procure that commodity or service separately. Statewide contracts with construction components worth over $10,000 must be competitively bid under M.G.L. c. 149.

Questions regarding the use of statewide or department contracts generally may be answered by calling the Operational Services Division at 617-720-3300 or by accessing OSD's website www.mass.gov/osd (http://www.mass.gov/osd). Questions regarding the Prevailing Wage Law may be answered by accessing the DLS website www.mass.gov/dols (http://www.mass.gov/dols) or by calling the DLS Prevailing Wage Program at 617-626-6953.

The MSBA monitors the projects against the total project budget throughout the Design Development, Construction Documentation, and Bidding Phases using the MSBA's Cost Estimate Comparison Form (http://www.massschoolbuildings.org/sites/default/files/edit-contentfile/Build%20With%20Us/Project%20Advisories/Cost%20Estimate%20Comparison%20Spreadsheet%207_15_10.xls), which must be updated by the OPM and included in each design submission. Following the award of the construction contract, the MSBA works with the district and its consultants to develop a revised project budget (/sites/default/files/edit-contentfile/Build%20With%20Us/Module%206/Total%20Project%20Budget%20-%20PFA%20Bid%20Worksheet.xls) that reflects actual bid costs. The Project Funding Agreement will then be amended to reflect the revised budget. If at any point during the project, the District chooses to make changes to key personnel on the project team, these changes must be approved in writing by the MSBA.

In accordance with the OPM contract, the OPM is required to provide a certification that (1) the OPM has reviewed and coordinated the materials, (2) the submittal is complete, and (3) the District has approved the materials for submission to the MSBA. The MSBA will review each core program project submittal during design development in accordance with the following Design Submission Review Comment Templates:

- Design Development (/sites/default/files/edit-contentfiles/Documents/Forms/Des_Submission/Design_Development_Review_Template.pdf)
- 60% Construction Document (/sites/default/files/edit-contentfiles/Documents/Forms/Des_Submission/60-percent_Construction_Doc_Review_Template.pdf)
- 90% Construction Document (/sites/default/files/edit-contentfiles/Documents/Forms/Des_Submission/90-percent_Construction_Doc_Review_Template.pdf)

These same templates can also be found on our Policies, Forms & Guidelines (/guidelines) page under "Design Submission Review Comment Templates." Please refer to these templates for each project and submittal to ensure that all required information is included in each submission.

As of the May 25, 2016 Board Meeting:

Commissioning:

- $26.2 million in commissioning contracts executed to date:
  - 366 contracts for 459 schools
- To date, 207 contracts have been completed

Fiscal Year	No. Work Orders Issued	Value of Work Orders Issued	Total Invoiced	Percent Complete

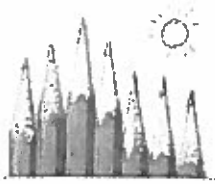
FY10	31	$4,231,376	$4,273,277	100%
FY11	95	$6,132,890	$6,046,179	99%
FY12	52	$4,450,761	$4,335,961	97%
FY13	55	$3,364,697	$3,106,982	92%
FY14	47	$2,604,062	$1,846,337	71%
FY15	44	$2,277,711	$973,170	43%
FY16	37	$3,161,098	$178,554	6%

Design Development:

Currently there are 27 projects in the Design Development phase: 17 Accelerated Repair Program Projects and 10 Core Program Projects.

Core Program Projects:

Elementary School Districts	Middle School Districts	High School Districts	Other Grade Configurations
Carver (PK-5) Hopkinton (PK-1) Narragansett (PK-5) New Bedford (PK-5) Woburn (K-5)	Beverly (5-8) Westborough (7-8)	Billerica (9-12) Mount Greylock RSD (9-12)	Brookline (K-8)



Massachusetts School Building Authority

Funding Affordable, Sustainable, and Efficient Schools in Partnership with Local Communities

Module 7 – Construction

Construction Administration: The MSBA continues to monitor the progress of the project to confirm that it remains on schedule and within budget and meets the expectation of both the District and the MSBA as defined in the Project Funding Agreement. For the MSBA to process Reimbursement Requests submitted by the District, the project team is required to enter project budgets associated with the Amendment to the Project Funding Agreement into the ProPay System (/programs/pro-pay). In order to easily align line items in reimbursement requests with ProPay codes and the Project Funding Agreement and, therefore, expedite processing requests, the MSBA is providing a sample standardized Schedule of Values (/sites/default/files/edit-contentfiles/Building_With_Us/Construction/Schedule_of_Values.xls) to be used by the project team.

As the project progresses in the Construction Administration Phase, the District is required through its consultants to submit its Change Orders (/sites/default/files/edit-contentfiles/Building_With_Us/Construction/Change_Order_Log_Template.xls), executed and pending, in the format approved by the MSBA, as set forth in the January 2015 Manual for the Eligibility Review of Change Orders (/sites/default/files/edit-contentfiles/Building_With_Us/Construction/Change_Order_Manual.pdf). The MSBA will determine which costs may be eligible for reimbursement. The District is also required to process related Budget Revision Requests (/guidelines) in a timely manner. It is important to note that all revisions to the Project Budgets that have been established in either the Feasibility Study Agreement or the Project Funding Agreement must be submitted to the MSBA for review and acceptance. The commissioning agent continues to play an integral role in this phase, testing all systems to ensure that the new or renovated building as a whole operates efficiently and as the owner intended. Project teams are reminded that the DCAM Standard Contractor Evaluation Form (http://www.mass.gov/anf/property-mgmt-and-construction/design-and-construction-of-public-bldgs/contractor-certification/contractor-evaluation-forms.html) must be completed at fifty percent project completion and at final completion of the project.

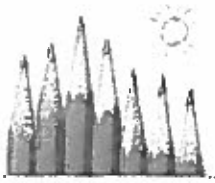
Please note that the awarding authority (school district) is responsible for monitoring the Contractor's compliance with Massachusetts prevailing wage requirements pursuant to M.G.L. c. 149 §§ 26 to 27H inclusive, and, pursuant to the terms of its contract, the Owner's Project Manager is responsible for assisting the awarding authority with such monitoring, including cataloging and filing payroll affidavits.

As presented at the May 25, 2016 *Board Meeting*, 43 projects are in Construction. *(This does not include the 49 projects that have reached substantial completion and are currently in the Building Completion phase).*

- 22 Accelerated Repair Program Projects
- 1 Waitlist Project
- 20 Core Program Projects:

Elementary School Districts	Middle and Middle/High School Districts	High School Districts	Other Grade Configurations
Athol-Royalston RSD (PK-4) Gloucester (K-5) Milford (3-5) Northborough (K-5) Westfield* (K-5)	**Middle School Districts** Chelsea (5-8) Peabody (6-8) Scituate (6-8) **Middle/High School Districts** Boston - *Dearborn MS* (6-12) Lunenburg (6-12) Winthrop (6-12)	North Middlesex RSD (9-12) Pittsfield (9-12) Plymouth (9-12) Provincetown (9-12) Winchester (9-12)	Abington (PK; 5-12) Haverhill (K-8) Holbrook (PK-12) Worcester (PK-6)

**Note: Westfield, Abner Gibbs Elementary School, stopped construction in December of 2012 due to a preliminary injunction based upon project site status as Article 97 "Protected Land".*



Massachusetts School Building Authority

Funding Affordable, Sustainable, and Efficient Schools in Partnership with Local Communities

Module 8 – Completing the Project

Steps to Project Closeout and Final Payment

As the project nears completion, and the contractor is finishing the punchlist and demobilizing the site, the District should begin the process that will result in the MSBA making the final payment to the District. Once a project reaches completion, the MSBA will send the District an email describing the closeout process and a Closeout Questionnaire for the District to complete to help us better understand the status of the project; the email will also include an Index of Final Closeout Material required for the closeout of the specific project. The required closeout forms (see below) differ slightly based on the type of project (new construction, Accelerated Repair Program, Science Lab Initiative, etc.) but the closeout process shares most of the same steps.

The following issues are an integral part of the process of project closeout:

- Confirm that all executed Project Funding Agreement (PFA) amendments have been entered in Pro-Pay system
- Confirm that the Project Budget in the Pro-Pay system matches the approved budget in the MSBA Agreement (Attachment A)
- Submit final change orders, Budget Revision Requests (BRRs) and reconcile the use of Guaranteed Maximum Price (GMP) contingency (if applicable to the project) with the MSBA
- Confirm that the submittals to achieve CHPS/LEED certification are in process (if applicable to the project)
- Confirm that the 10 month Commissioning site visit (if applicable to the project) is on schedule

Once all of the project costs have been paid by the District, the District should submit its Final Request for Payment Reimbursement via the Pro-Pay system. After the District has submitted its Final Request for Payment Reimbursement, the MSBA can initiate the Draft Audit Report and send it to the District for its consideration. The MSBA performs the final audit to determine final total grant amounts and make the final payment. The Index of Final Closeout Material may be sent again with the Draft Audit Report to indicate which closeout forms remain outstanding. The MSBA will make the final 5% grant payment after the District has accepted the Draft Audit Report; the District has completed and submitted the required closeout documents; and the MSBA Board has approved the final Total Facilities Grant for the project.

Closeout Audit Forms*

Part of the closeout audit process includes the submission of certain forms. An **Index of Final Closeout Audit Material** listing the forms required for a specific project will be sent to the District. If you would like to request an **Index of Final Closeout Audit Material** please call or email Jennifer Gonzalez (mailto:Jennifer.Gonzalez@MassSchoolBuildings.org), Chief Financial Officer, at (617) 720-4466. The MSBA forms may be accessed via the links below. These forms are designed to be filled in electronically, printed, signed and submitted to the MSBA as email attachments or via the US Mail.

- MSBA Pre-Closeout Questionnaire (/sites/default/files/edit-contentfiles/Documents/Forms/Close-out_Audit/Closeout_Questionnaire_New_Con_edd-reno_10_2015.doc) *(New or Add/Reno projects)*
- MSBA Closeout Questionnaire (/sites/default/files/edit-contentfiles/Documents/Forms/Close-out_Audit/Close-out_Questionnaire_Repair_Projects_8_31_12.doc) *(All Repair Projects)*
- MSBA Final Request and Certificate for Reimbursement (/sites/default/files/edit-contentfiles/Documents/Forms/Close-out_Audit/Final_Request_and_Certificate_for_Reimbursement_REV_7_28_14.doc) *(All Projects)*
- MSBA Commissioning Certificate of Completion - Non-Repairs (/sites/default/files/edit-contentfiles/Documents/Forms/Close-out_Audit/Commissioning_Certificate_of_Completion_Non_Repairs_Rev-1_2014.doc) *(for Projects having a 10 mo. Cx re-inspection)*
- MSBA Commissioning Certificate of Completion - Accelerated/Green Repairs (/sites/default/files/edit-contentfiles/Documents/Forms/Close-out_Audit/Commissioning_Certificate_of_Completion_Repairs_Rev_1_2014.doc) *(for Projects NOT having a 10 mo. Cx re-inspection)*
- MSBA Certificate of Sustainable School Achievement (/sites/default/files/edit-contentfiles/Documents/Forms/Close-out_Audit/Certificate_Sustainable_School_Achievement_Rev-2_2012.doc) *(For Projects pursuing MA CHPS or LEED designation)*
- MSBA Milestone Schedule (/sites/default/files/edit-contentfiles/Documents/Forms/Close-out_Audit/Milestone_Schedule_12_2011.doc) *(New or Add/Reno projects)*
- MSBA Sources and Uses Form (/sites/default/files/edit-contentfiles/Documents/Forms/Close-out_Audit/Sources_Uses_Form_Rev-4_2013.doc) *(Will be sent out under separate cover with the Final Audit)*

**Additional forms may be sent to the District for completion of the Closeout Audit Process.*

Process for Accepting the Draft Audit Report

Upon receipt of a Draft Audit Report, a District has 10 business days from the date the MSBA sends the MSBA Draft Audit Report by email to accept or not accept the Draft Audit Report by completing the Acceptance/Non-Acceptance Form.

If a District accepts the Draft Audit Report, the district must submit the Acceptance Form within 10 business

days from the date the MSBA sent the Draft Audit Report. The Draft Audit Report will then be submitted to the MSBA Board of Directors for its consideration and approval. Upon approval by the Board, the audit results will be considered final, and the MSBA will make the final grant payment, if any, to the District. Failure to submit an Acceptance Form within the 10 business day deadline will likely result in payment delays.

If the District chooses NOT to accept the Draft Audit Report, the District must submit a signed Non-Acceptance Form within 10 business days from the date the MSBA sent the Draft Audit Report. In addition, a District must submit in writing, to Jennifer Gonzalez (mailto:Jennifer.Gonzalez@MassSchoolBuildings.org), Chief Financial Officer, new documentation and a summary of the disputed issues/costs within 20 business days from the date the MSBA sent the Draft Audit Report. The MSBA will review this additional information only if these deadlines are met. Each District that submits a timely Non-Acceptance Form and supporting documentation may have the opportunity to meet with certain staff members of the MSBA before the audit results are submitted to the MSBA Board for its consideration. Once the Board has voted on the audit results, the results will be considered final, and the MSBA will make the final grant payment, if any, to the District.

If the MSBA does not receive the required Non-Acceptance Form and related materials within the above-specified time frame, the Draft Audit Report will be submitted to the MSBA Board for its consideration and approval. Once the Board has voted on the audit results, the results will be considered final, and the MSBA will make the final grant payment, if any, to the District.

As of the May 25, 2016 Board Meeting, the MSBA has completed final audits and has received Board approval for:

- 791* Former Program projects
- 330 New Program projects

*The MSBA has audited the entire backlog of 788 projects inherited from the former program, including three grant conversion projects, totaling over $15.7 billion in costs.

Shrewsbury Public Schools

Preschool – Grade 12 Enrollment Report

Preschool – Grade 8 Class Size Report

2015-2016

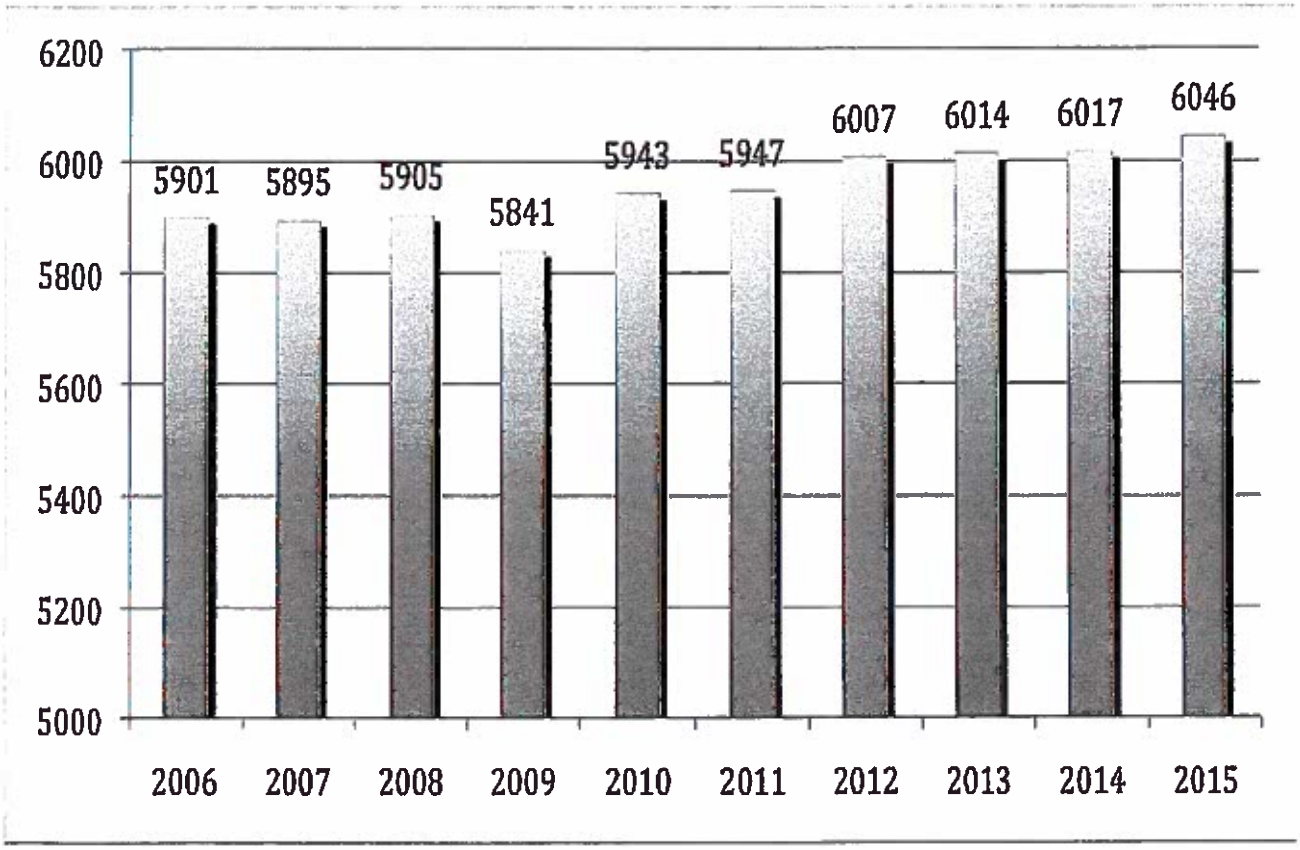
Data based on enrollment numbers as of October 1, 2015

SHREWSBURY PUBLIC SCHOOLS
ENROLLMENT HISTORY

In-District PreK-12 Actual Enrollment: 2006-2015

The chart below illustrates the district's enrollment for the past 10 school years, which reflects growth from 5,901 to 6046, an increase of 145 students over the past decade. The one-year increase from 2014 to 2015 was from 6017-6046, a 29 student increase.

PreK-12 Actual Enrollment 2006-2015 (as of October 1 of each year)

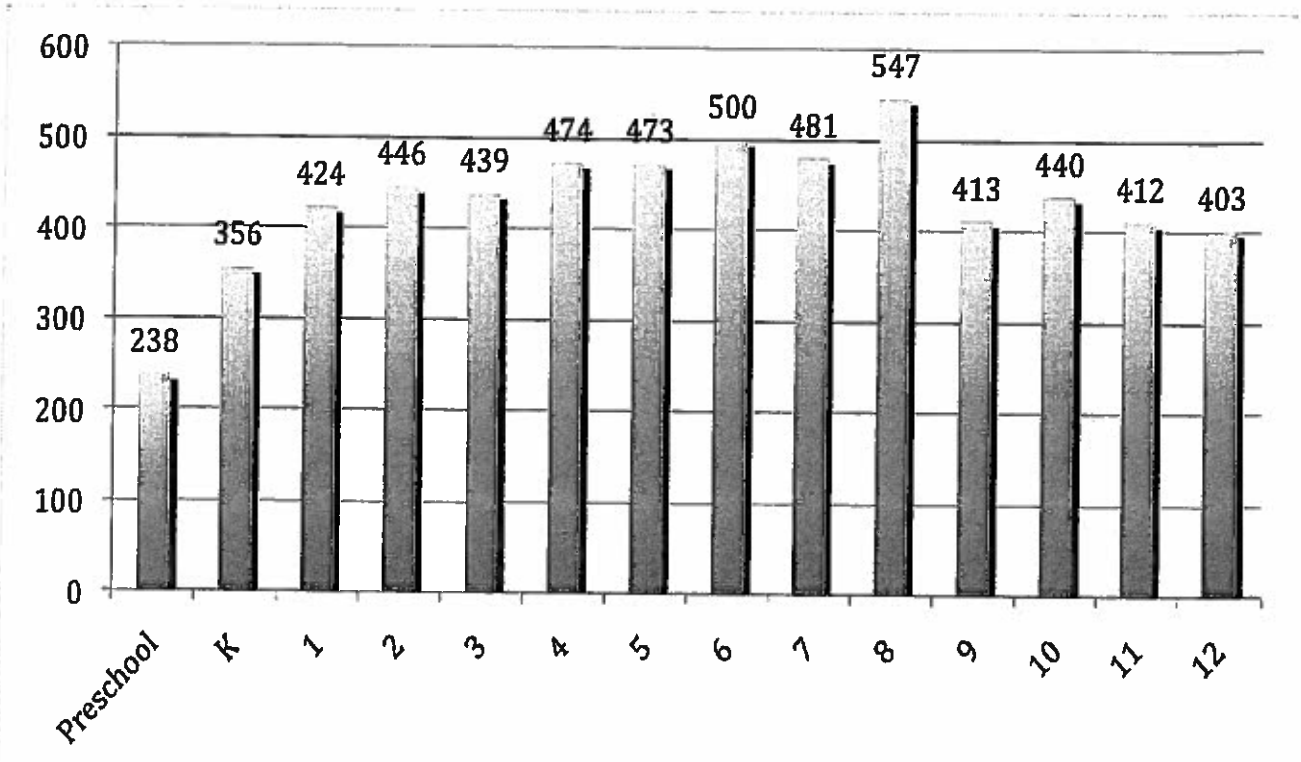


SHREWSBURY PUBLIC SCHOOLS
2015 ENROLLMENT BY GRADE

Enrollment by Grade October 1, 2015

The Department of Elementary and Secondary Education uses enrollment figures as of October 1 of each school year for its official statistics. The in-district populations for each grade in Shrewsbury as of October 1, 2015 are displayed in the chart below:

2015 PreK-12 Enrollment (October 1)



Enrollment History by Grade Level
2006-2015

Grade	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
PreK	173	181	196	211	241	243	262	250	234	238
K	378	376	342	348	372	341	364	392	346	356
1	440	439	476	426	429	429	416	399	430	424
2	468	454	456	493	448	457	447	450	430	446
3	452	482	459	465	515	464	474	452	462	439
4	507	454	478	459	472	516	458	480	467	474
5	462	496	456	473	469	485	524	462	487	473
6	488	450	461	436	465	476	465	518	469	500
7	449	485	453	466	435	462	473	490	529	481
8	501	449	489	439	479	443	466	471	478	547
9	408	419	393	421	401	414	408	420	432	413
10	436	404	429	398	417	414	421	406	423	440
11	388	423	390	415	390	413	417	421	410	412
12	351	383	427	391	410	390	412	403	420	403
Total P-12	**5901**	**5895**	**5905**	**5841**	**5943**	**5947**	**6007**	**6014**	**6017**	**6046**
% Annual Change	**0.43%**	**-0.10%**	**0.17%**	**-1.08%**	**1.75%**	**0.07%**	**1.01%**	**0.12%**	**0.05%**	**0.48%**

Special Education
Out of District Placements

Grade	Pre	K	1	2	3	4	5	6	7	8	9	10	11	12	13*	Total
2011	1	0	0	0	1	3	7	6	6	2	11	4	9	4	15	69
2012	1	0	0	0	1	1	3	8	6	9	5	10	4	8	22	78
2013	0	1	1	0	1	3	1	2	8	8	7	4	8	5	26	75
2014	0	0	1	1	0	1	4	2	4	7	6	10	5	8	26	75
2015	0	0	1	1	1	0	1	5	3	5	8	10	10	5	22	72

***Grade 13 represents students requiring services until age 22.**
Note: Some out of district placements are temporary, so totals fluctuate over the course of the year.

Vocational Technical School Enrollment

Grade	9	10	11	12	Total
2011	40	29	38	25	132
2012	28	36	31	32	127
2013	37	29	37	28	131
2014	35	37	25	37	134
2015	37	25	35	24	121

CLASS SIZE AVERAGES: HISTORY

Kindergarten Average Class Size
(School Committee Guidelines 17-19)

	Beal	Coolidge	Paton	Spring
2006	19	N/A	N/A	18
2007	18	21	N/A	16
2008	19	21	N/A	18
2009	19	20	N/A	20
2010	21	21	N/A	19
2011	19	19	N/A	18
2012	20	19	N/A	21
2013	19	20	N/A	20
2014	19	20	20	20
2015	20	20	21	20
Avg.	19	20	21	19

Elementary (1-4) Average Class Size School-Wide
(School Committee Guidelines Gr. 1-2 = 20-22; Gr. 3-4 = 22-24)

	Beal	Coolidge	Floral	Paton	Spring
2006	21	21	23	22	20
2007	22	20	23	21	21
2008	22	21	23	21	22
2009	19	22	23	22	21
2010	21	21	23	23	22
2011	22	21	23	23	22
2012	N/A	23	25	23	24
2013	N/A	23	25	23	23
2014	21	21	22	22	21
2015	19	21	22	22	21
Avg.	21	21	23	22	22

Middle School Average Class Sizes
(School Committee Guidelines Gr. 5-8 = 22-24)

	Grade 5	Grade 6	Grade 7	Grade 8
2006	26	24	25	28
2007	25	23	24	25
2008	25	23	25	24
2009	24	24	26	22
2010	26	26	24	27
2011	27	26	26	25
2012	29	29	30	29
2013	29	29	31	29
2014	24	23	26	24
2015	24	25	23	27
Avg.	26	25	26	26

Elementary Class Size History (Grade 1-4)

B=Beal; C=Coolidge; F=Floral; P=Paton; S=Spring

	Grade 1 (SC 20-22)					Grade 2 (SC 20-22)				Grade 3 (SC 22-24)				Grade 4 (SC 22-24)			
	B	C	F	P	S	C	F	P	S	C	F	P	S	C	F	P	S
2006	21	21	22	20	20	20	23	25	20	21	23	20	20	20	24	24	22
2007	22	19	24	22	18	22	23	20	21	20	23	22	22	21	23	21	21
2008	22	23	24	22	23	22	23	22	19	22	22	21	22	20	23	21	23
2009	19	21	22	21	18	23	24	25	22	20	23	24	21	22	22	21	22
2010	21	20	23	22	21	21	22	21	20	24	24	26	24	21	23	23	22
2011	22	17	22	21	20	22	24	23	22	21	23	22	21	25	24	26	25
2012	N/A	20	23	20	25	25	22	21	21	22	25	23	23	29	29	28	29
2013	N/A	19	20	19	22	26	30	21	28	27	25	29	21	24	25	24	24
2014	21	22	22	21	22	22	21	20	19	19	24	22	20	22	22	24	22
2015	19	23	21	20	19	21	22	23	22	22	21	20	21	19	24	23	22
AVG.	**21**	**21**	**21**	**21**	**21**	**22**	**23**	**22**	**21**	**22**	**23**	**23**	**22**	**22**	**24**	**24**	**23**

Year-to-Year Progression
Grade 1 to Grade 12

	1	2	3	4	5	6	7	8	9	10	11	12	Gr. 1-12 % Change
Class of 2016	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	
Enrollment	**449**	**466**	**452**	**454**	**456**	**436**	**435**	**443**	**408**	**406**	**410**	**403**	**-10.8%**
Class of 2015	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
Enrollment	484	489	502	507	496	461	466	479	414	421	421	420	-13.2%
Class of 2014	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	
Enrollment	442	464	464	466	462	450	453	439	401	414	417	403	-8.8%
Class of 2013	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	
Enrollment	475	483	480	504	502	488	485	489	421	417	413	412	-13.3%
Class of 2012	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	
Enrollment	420	444	442	464	463	461	449	449	393	398	390	390	-7.1%
Class of 2011	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Enrollment	466	471	469	488	494	492	486	501	419	429	415	413	-11.4%
Class of 2010	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	
Enrollment	381	395	402	424	428	436	444	443	408	404	390	390	2.4%
Class of 2009	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	
Enrollment	365	365	391	399	419	423	438	441	425	436	423	427	17.0%
Class of 2008	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	
Enrollment	381	400	408	424	433	427	426	437	413	402	388	383	0.5%
Class of 2007	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	
Enrollment	366	375	389	395	394	389	400	395	356	360	345	351	-4.1%
Class of 2006	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	
Enrollment	316	329	340	348	354	352	361	364	343	343	334	344	8.9%
Class of 2005	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	
Enrollment	311	329	327	341	359	356	356	367	324	330	324	320	2.9%
Class of 2004	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	
Enrollment	294	308	327	324	323	330	328	328	290	296	287	289	-1.7%
Class of 2003	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	
Enrollment	303	306	311	308	318	321	331	338	266	280	283	274	-9.6%

Kindergarten Enrollment Numbers: Full Day/Half Day

Total Kindergarten		Full Day			Half Day		
Year	Enrollment	Sections	Students	Percentage	Sections	Students	Percentage
2002	407	2	38	9%	20	369	91%
2003	398	2	37	9%	18	361	91%
2004	384	2	33	9%	18	351	91%
2005	394	3	51	13%	18	343	87%
2006	378	3	57	15%	17	321	85%
2007	376	4	80	21%	17	296	79%
2008	342	4	77	23%	14	265	77%
2009	348	5	96	28%	13	252	72%
2010	372	8	166	45%	10	206	55%
2011	341	8	158	46%	10	183	54%
2012	364	15	307	84%	3	57	16%
2013	392	15	318	81%	4	74	19%
2014	346	12	242	70%	6	104	30%
2015	**356**	**12**	**240**	**67%**	**6**	**116**	**33%**

Kindergarten Enrollment: Actual versus Town Manager Projections

Kindergarten			
Year	Actual Enrollment	TM Projection	% Difference
2003	398	435	-8.5%
2004	384	419	-8.4%
2005	394	414	-4.8%
2006	378	397	-4.8%
2007	376	410	-8.3%
2008	342	362	-5.5%
2009	348	376 (357 modified)	-7.5%
2010	372	336	10.7%
2011	341	312	9.3%
2012	364	299	21.7%*
2013	392	353	11.0%*
2014	346	384	-9.9%*
2015	356	320	11.3%

*Full day sections decreased from 8 to 15 in 2012 allowing for families who desired full day to enroll. This continued in 2013.
There are 12 sections of full day for 2015, which is the same as last year.
Tuition for full day kindergarten is $3,700 annually.

Note: New England School Development Council projection for 2015 was 328 students.

Students Transferring to Private for Grade 9

	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15
Bancroft					1			1	10	
Boston Latin		1		1	2					
Catholic Memorial					1					
Gann Academy						1				
Groton School										1
Holy Name	1	1		2				1	4	
Hudson Catholic										
Lancaster Academy		1								
Notre Dame	3	5	3	8	5	3	3	6	12	3
Phillips Academy		1								
St John's	16	18	22	38	42	34	35	33	47	46
St Mark's						2		2		2
St Mary's Worc	1									
St Peter Marian		1				2	1		2	2
The Rivers						1				
Whitinsville Christian Academy						1	1			
Worcester Academy		1			2			1	1	1
Totals	**21**	**29**	**25**	**49**	**53**	**44**	**40**	**44**	**76**	**55**

FY16 Projected Enrollment & Sections Initial Budget Book

Grade Level	Actual 2014-15	Beal			Coolidge			Floral Street			Paton			Spring Street		
		Students	Classes/Sect.	Avg.	Students	Sections	Avg.	Students	Sections	Avg.	Students	Sections	Avg.	Students	Sections	Avg.
HDK*	120	120	3/6	20												
FDK*	240	120	6	20	60	3	20				20	1	20	40	2	20
Grade 1	415	80	4	20	85	4	21	95	5	19	77	4	19	78	4	20
Grade 2	459				92	4	23	202	9	22	90	4	22	69	3	23
Grade 3	443				89	4	22	208	9	23	82	4	20	78	4	19
Grade 4	467				77	4	19	219	9	24	89	4	22	82	4	20
Total K	360															
Total 1-4	1784	School Avg./class		20	School Avg./class		21	School Avg./class		22	School Avg./class		20	School Avg./class		20
Totals	2144	320	16		402	19		725	32		357	17		346	17	

* Town Manager Projection for K = 320; NESDEC Projection for K = 328; Incoming K parent survey = 360, difference of 40 & 32. TM Projection for Gr. 1 = 402; NESDEC Gr. 1 = 394; incoming Gr. 1 survey = 415, difference of 14 & 21. *All projections PK-12 were based on analysis of information provided by Town Manager's office, New England School Development Council, and updated actual enrollment & incoming family survey data as of 01/13/15, using the higher figure for grade level projection when projections differed.*

School Committee class size guidelines
Kindergarten guideline 17-19
Grades 1-2 guideline 20-22
Grades 3-8 guideline 22-24

Grade Level	Actual 2014-15	Sherwood Middle			Oak Middle			High School			Preschool Program			
		Students	Sections	Avg.	Students	Sections	Avg.	Students	Sections	Avg.	Program	Students	Classes	Avg.
Grade 5	475	475	20	24										
Grade 6	483	483	20	24							Parker Rd	170	6/14	12
Grade 7	480				480	20	24				Little Col.	30	1/2	15
Grade 8	532				532	20	27				Wesleyan Terrace	70	2/6	12
Grade 9	436							436	N/A	N/A				
Grade 10	436							436	N/A	N/A				
Grade 11	425							425	N/A	N/A				
Grade 12	406							406	N/A	N/A				
		School Avg./class		24	School Avg./class		25	School Avg./class		N/A	School Avg./class			17
Totals	3673	958	40		1012	40		1703	N/A		270	22		

In-District Total K-12:	5,823
In-District Total PreK-12:	6,093

- Town Manager's Projection for K-12 = 5,749
- NESDEC Projection for K-12 = 5,749; NESDEC Projection for PreK-12 = 5,984

2015-2016
ACTUAL ENROLLMENT AND GRADE CONFIGURATION
OCTOBER 1, 2015

Grade Level	Actual 2014-15	Beal			Coolidge			Floral Street			Paton			Spring Street		
		Students	Clsrms/Sect.	Avg.	Students	Sections	Avg.	Students	Sections	Avg.	Students	Sections	Avg.	Students	Sections	Avg.
HDK*	116	116	3/6	19												
FDK*	240	120	6	20	59	3	20				21	1	21	40	2	20
Grade 1	424	74	4	19	92	4	23	104	5	21	78	4	20	76	4	19
Grade 2	446				88	4	21	202	9	22	90	4	23	66	3	22
Grade 3	439				88	4	22	187	9	21	81	4	20	83	4	21
Grade 4	474				77	4	19	219	9	24	90	4	23	88	4	22
Total K	356															
Total 1-4	1783	School Avg./class		19	School Avg./class		21	School Avg./class		22	School Avg./class		21	School Avg./class		21
Totals	2139	310	16		404	19		712	32		360	17		353	17	

* Town Manager Projection for K = 320; NESDEC Projection for K = 328; incoming K parent survey = 360, difference of 40 & 32. TM Projection for Gr. 1 = 401, NESDEC Gr. 1 = 394; incoming Gr. 1 survey = 415, difference of 14 & 21. *All projections PK-12 were based on analysis of information provided by Town Manager's office, New England School Development Council, and updated actual enrollment & incoming family survey data as of 01/13/15, using the higher figure for grade level projection when projections differed.*

School Committee class size guidelines:
Kindergarten guideline: 17-19
Grades 1-2 guideline: 20-22
Grades 3-8 guideline: 22-24

Grade Level	Actual 2014-15	Sherwood Middle			Oak Middle			High School			Preschool Program			
		Students	Sections	Avg.	Students	Sections	Avg.	Students	Sections	Avg.	Program	Students	CR/Sect.	Avg.
Grade 5	473	473	20	24										
Grade 6	500	500	20	25							Parker Rd.	154	6/14	11
Grade 7	481				481	20	23				Little Col.	28	1/2	14
Grade 8	547				547	20	27				Wesleyan Terrace	56	2/6	9
Grade 9	413							413	N/A	N/A				
Grade 10	440							440	N/A	N/A				
Grade 11	412							412	N/A	N/A				
Grade 12	403							403	N/A	N/A				
		School Avg./class		24	School Avg./class		26	School Avg./class		N/A	School Avg./class			11
Totals	3669	973	40		1028	40		1668	N/A			238	22	

In-District Total K-12:	5,808
In-District Total PreK-12:	6,046

- Town Manager's Projection for K-12 = 5,749
- NESDEC Projection for K-12 = 5,749; NESDEC Projection for PreK-12 = 5,984

Totals by Schools	10/1/15
Preschool	238
Beal	510
Coolidge	404
Floral	712
Paton	360
Spring	353
Sherwood Middle	973
Oak Middle	1028
High School	1668
TOTAL ENROLLMENT	6046
TOTALS BY GRADES	
Preschool	238
Kindergarten	356
Grade 1	424
Grade 2	446
Grade 3	439
Grade 4	474
Elementary Sub total	2377
Grade 5	473
Grade 6	500
Grade 7	481
Grade 8	547
Middle School Sub total	2001
Grade 9	413
Grade 10	440
Grade 11	412
Grade 12	403
High School Sub total	1668
TOTAL ENROLLMENT	6046
Out of District Special Education	72
Vocational High School	121
Walk-ins - Special Education	28
TOTAL	221
GRAND TOTAL	6267

Preschool	
PARKER ROAD	10/1/15
Typical	111
General Special Education	38
Intensive Special Education	5
TOTAL	154
LITTLE COLONIALS	
Typical	28
General Special Education	0
Intensive Special Education	0
TOTAL	28
PARKER at WESLEYAN	
Typical	42
General Special Education	14
Intensive Special Education	0
TOTAL	56
Total Typical	181
Total General Special Education	52
Total Intensive Special Education	5
TOTAL PRESCHOOL	238

Beal Early Childhood Center	
KINDERGARTEN AM	10/1/15
Auleubach	19
Downs/Sevinsk	19
Thayer	20
TOTAL AM	58
KINDERGARTEN PM	
Barrett	20
Downs/Sevinsk	21
Thayer	17
TOTAL PM	58
FULL DAY	
Biadasz	20
Cipro	19
Costello	20
Knoll	20
MacLaughlin	21
Middlesworth	20
TOTAL FULL DAY	120
GRADE 1	
Chaves	18
McKiernan	19
Pinto	19
Zaker	18
TOTAL GRADE 1	74
TOTAL SCHOOL	310

Calvin Coolidge School	
Kindergarten	10/1/15
Broszeit	20
McInerney	20
Ruben	19
TOTAL KINDERGARTEN	59
GRADE 1	
Carlin	23
McQuade	23
Mongeon	23
Shepard	23
TOTAL GRADE 1	92
GRADE 2	
Cloyes	21
Flemming	22
Hurley	21
Osborne	21
SPED Intensive Program	3
TOTAL GRADE 2	88
GRADE 3	
Burnap	22
Kendrick	21
Lane	21
Richardson	22
SPED Intensive Program	2
TOTAL GRADE 3	88
GRADE 4	
Finneran	19
Innacenati	19
Rice	19
Weagle	19
SPED Intensive Program	1
TOTAL GRADE 4	77
SCHOOL TOTAL	404

Floral Street School	
GRADE 1	10/1/15
Frankian	21
Grossman	21
Harrington	21
McGrail	21
Plourde	20
TOTAL GRADE 1	104
GRADE 2	
Avery	23
Bradl	22
Caforio	22
Hogan	22
Martel	24
Poppalardo	22
Richard	23
Ward	22
Young	22
TOTAL GRADE 2	202
GRADE 3	
Beall	20
Bisceglia	21
McNamara	21
Morrissey	21
Nolfi	21
Peterson	21
Stanwick	21
Suto	20
Ushinski	21
TOTAL GRADE 3	187
GRADE 4	
Edgett	24
Goulding	24
Liefer	25
Manning	24
Morgan	25
Powell	24
Rulys	24
Ross	24
Spangenberg	25
TOTAL GRADE 4	219
SCHOOL TOTAL	712

Walter J. Paton School	
KINDERGARTEN	10/1/15
Cosenza	21
TOTAL K	21
GRADE 1	
Catalanotti	19
Halacy	20
Kilgore	20
Vistorni	19
TOTAL GR. 1	78
GRADE 2	
Connolly	22
Early	22
Gustafson	23
Symonds	23
TOTAL GR. 2	90
GRADE 3	
Campbell	20
Carlson	20
Darling	20
Kalagher	21
TOTAL GR. 3	81
GRADE 4	
Canevaro	23
Cormier	23
Leifer	22
Moran	22
TOTAL GR. 4	90
SCHOOL TOTAL	360

Spring Street School	
Kindergarten	10/1/15
Canevato	20
Silver	20
TOTAL K	40
GRADE 1	
Baumann	18
Brand	19
Kinback	20
Lewis	19
TOTAL GRADE 1	76
GRADE 2	
Fraher	22
Porter	22
Reilly	22
TOTAL GRADE 2	66
GRADE 3	
Garabedian	21
McRae	21
Tolczko	20
Tougher	21
TOTAL GRADE 3	83
GRADE 4	
Doherty	22
Liporto	22
Luby	22
Travers	22
TOTAL GR. 4	88
SCHOOL TOTAL	353

Sherwood Middle School	
GRADE 5	10/1/15
Blash	25
Chalmers	24
D'Ascanio	24
Donahue	23
Crowley	26
Graham	24
Lavery	25
Marcigliano	25
Martin	23
Matthews	23
McCabe	22
McCarthy	23
Nolle	21
O'Neil	24
Rekemeyer	22
Rosen	23
Ryan	24
Tinsley	23
Vitzi	24
Walsh	23
TOTAL GRADE 5	473
GRADE 6	
Broderick	25
Buffer	26
Carney	24
Corey	25
Crisby	25
DiGiacomo	25
Duggan	25
Egan	26
Goudreau	23
Hendrix	25
Kershaw	25
Lawson	25
Macchi	25
Middlesworth	25
Peacock	25
Polechronis	25
Shaw	25
Siegman	26
Sinclair	25
Stoychoff	25
TOTAL GRADE 6	500
SCHOOL TOTAL	973

Oak Middle School	
GRADE 7	10/1/15
Amadio	25
Andrews	24
Binder	23
Biscegha	23
Boyajian	24
Davis	23
DePalo	25
Dolen	25
Dowd	23
Johnson	24
LeMor	24
McGrath	25
Meaney	25
OBrien	24
Orlafea	23
Pruett	24
Scibelli	24
Sun	24
Thomas	24
Ventura	24
Tutoring	1
TOTAL GRADE 7	481
GRADE 8	
Ahlin	28
Amaral	29
Beaupre	28
Carlin	26
DeNolf	29
Dufault	29
Egan	28
Heal	26
Kewriga	27
LeValley	28
Lewis	26
Madan	27
Militello	27
Mularella	28
Mulcahy	27
Pizzuto	27
Ponticella	28
Read	26
Tornullo	26
Young	27
TOTAL GRADE 8	547
SCHOOL TOTAL	1028

Shrewsbury Public Schools

Patrick C. Collins, Assistant Superintendent for Finance & Operations

20 November 2015

To: School Committee

Subj: ENROLLMENT PROJECTION REPORT

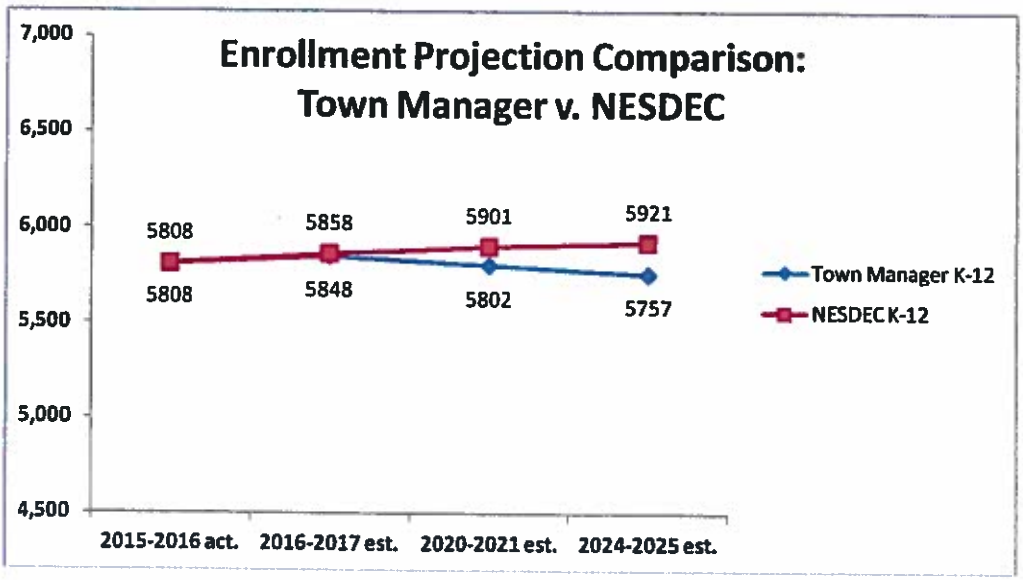
Background

Enrollment projections are an essential element in short and long-term school planning. We use enrollment projections for capital planning purposes and near-term class size and staff planning. In Shrewsbury, we receive each year an enrollment projection from the Town Manager's Office. That projection is a standard *cohort survival method* using a five-year average for each cohort survival ratio. In addition, as a member of the New England School Development Council [NESDEC] we receive an annual enrollment projection from them. They have used a *modified cohort survival method*. They used a three-year cohort survival ratio for grades 1-12 but a 1.02% survival ratio for birth to kindergarten due to recent "net move-ins" we have experienced.

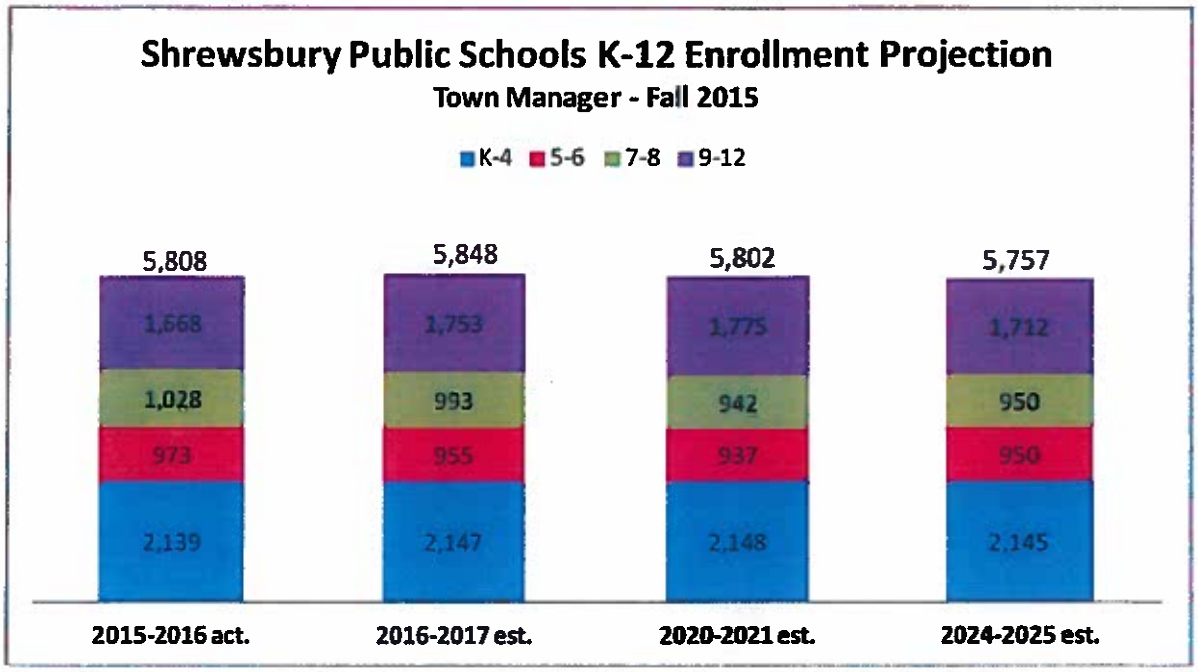
Highlights

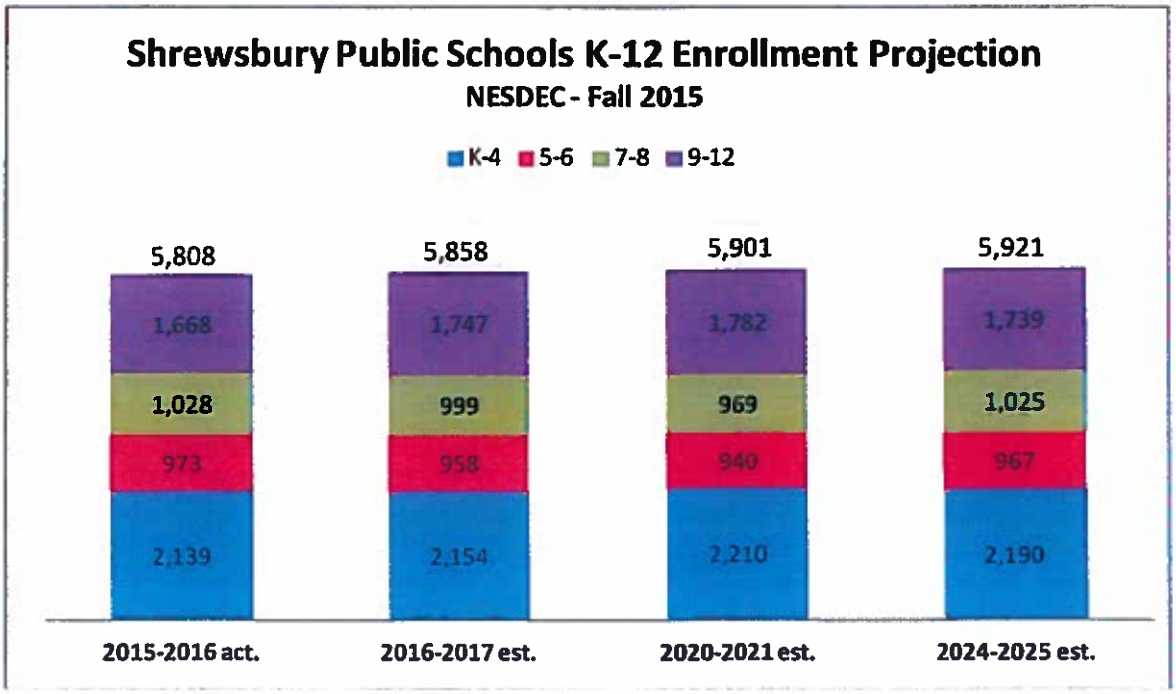
Since the Town Manager's Projection does not include Preschool enrollment we will use K-12 enrollments for comparative purposes.

The chart below depicts both K-12 projections at one-year, five-year, and nine-year intervals. The NESEDEC projection projects modest continued growth at each interval while the Town manager projection indicates flat/very small decrease at the five and nine year intervals.



Both projections indicate continued enrollment growth at the K-4 population at all time intervals as indicated in the charts below.





Staff:District:Central:Shared:JSawyer-KCantin:School Committee:2015-16 SC Meeting Docs:7. December 2, 2015:Enrollment.Projection.Report.doc

The detailed enrollment projections are included as attachments to this report and I will review the details at our upcoming meeting.

Further, we have derived a school-based enrollment projection in order to prepare our staff planning budget for the 2016-2017 [fiscal year 2017] school year and that is included as an attachment to this report as well. The school-based projection for elementary schools will be refined as we progress in the budget process and become informed with new information relative to ongoing enrollments for kindergarten and first grade students entering our system for the first time along with the level of interest expressed for full-day kindergarten.

Summary

The enclosed enrollment projections allow us to have a high degree of certainty on staff planning for the 2016-2017 school year. Moreover, they give us a consistent message that our K-4 population will remain steady with small growth estimated at the five and nine-year intervals under our current structure of not having universal full-day kindergarten. As we approach the possibility of being invited into the project pipeline with the Massachusetts School Building Authority [MSBA] to replace Beal School we will use these projections along with various planning scenarios for universal kindergarten into that Feasibility Study planning process. The MSBA and community will want to be sure that any capital investment accurately plans for the future educational needs and enrollment trends so as to maximize available resources.

2016-2017
PROJECTED ENROLLMENT and GRADE CONFIGURATION
Projection #1:
November 2015

Grade Level	Projected 2016-17	Beal			Coolidge			Floral Street			Paton			Spring Street		
		Students	Clsrms/Sect.	Avg.	Students	Sections	Avg.	Students	Sections	Avg.	Students	Sections	Avg.	Students	Sections	Avg.
HDK*	157	157	4/8	20												
FDK*	226	100	5	20	63	3	21				21	1	21	42	2	21
Grade 1	412	68	4	17	91	4	23	103	5	21	76	4	19	74	4	19
Grade 2	450				94	4	24	200	9	22	79	4	20	77	4	19
Grade 3	458				90	4	23	208	9	23	92	4	23	68	3	23
Grade 4	444				89	4	22	189	9	21	82	4	21	84	4	21
Total K	383															
Total 1-4	1764	School Avg./class		19	School Avg./class		22	School Avg./class		22	School Avg./class		21	School Avg./class		20
Totals	2147	325	17		427	19		700	32		350	17		345	17	

* All DRAFT projections PreK-12 were based on information provided by Town Manager's office. This may be adjusted after receiving the enrollment projection of NESDEC which is expected in Decmeber 2015.

School Committee class size guidelines:
Kindergarten guideline: 17-19
Grades 1-2 guideline: 20-22
Grades 3-8 guideline: 22-24

Grade Level	Projected 2016-17	Sherwood Middle			Oak Middle			High School			Preschool Program			
		Students	Sections	Avg.	Students	Sections	Avg.	Students	Sections	Avg.	Program	Students	CR/Sect.	Avg.
Grade 5	482	482	20	24										
Grade 6	473	473	20	24							Parker Rd.	165	6/14	12
Grade 7	509				509	20	25				Little Col. (SHS)	28	1/2	14
Grade 8	484				484	20	24				Wesleyan Terrace	56	2/6	9
Grade 9	489							489	N/A	N/A				
Grade 10	419							419	N/A	N/A				
Grade 11	438							438	N/A	N/A				
Grade 12	407							407	N/A	N/A				
		School Avg./class		24	School Avg./class		25	School Avg./class		N/A	School Avg./class		11	
Totals	3701	955	40		993	40		1753	N/A			249	22	

In-District Total K-12:	5,848
In-District Total PreK-12:	6,097

• Town Manager's Projection for K-12 = 5,848

11/24/15

NESDEC

Shrewsbury, MA Historical Enrollment

School District: Shrewsbury, MA

11/19/2015

Historical Enrollment By Grade

Birth Year	Births	School Year	PK	K	1	2	3	4	5	6	7	8	9	10	11	12	UNGR	K-12	PK-12
2000	462	2005-06	188	394	452	486	502	486	502	481	486	443	425	402	345	344	0	5688	5876
2001	470	2006-07	173	378	440	468	452	507	462	488	449	501	408	436	388	351	0	5728	5901
2002	485	2007-08	181	376	439	454	482	454	496	450	485	449	419	404	423	383	0	5714	5895
2003	439	2008-09	196	342	476	456	459	478	456	461	453	489	393	429	390	426	0	5708	5904
2004	469	2009-10	211	348	426	493	465	459	473	436	466	439	421	398	415	390	1	5630	5841
2005	429	2010-11	241	372	429	448	516	472	469	465	435	479	401	417	390	410	0	5702	5943
2006	396	2011-12	243	341	429	457	464	516	485	476	462	443	414	414	413	390	0	5704	5947
2007	364	2012-13	262	364	416	447	474	458	524	485	473	486	408	421	417	412	1	5746	6008
2008	379	2013-14	250	392	399	450	452	480	462	518	490	471	420	408	421	403	1	5765	6015
2009	371	2014-15	234	346	430	430	462	467	487	469	529	478	432	423	410	419	0	5782	6016
2010	332	2015-16	238	356	424	446	439	474	473	500	481	547	413	440	412	403	0	5808	6046

Historical Enrollment In Grade Combinations

Year	K-4	1-4	PK-4	K-8	5-6	6-8	7-8	7-12	9-12
2005-06	2280	1886	2468	4172	963	1390	929	2445	1516
2006-07	2245	1867	2418	4145	950	1438	950	2533	1583
2007-08	2205	1829	2386	4085	946	1384	934	2563	1629
2008-09	2211	1869	2407	4070	917	1403	942	2580	1638
2009-10	2191	1843	2402	4005	909	1341	905	2529	1624
2010-11	2236	1884	2477	4084	934	1379	914	2532	1618
2011-12	2207	1866	2450	4073	961	1381	905	2536	1631
2012-13	2159	1795	2421	4087	969	1404	939	2597	1658
2013-14	2173	1781	2423	4114	980	1479	961	2611	1650
2014-15	2135	1789	2369	4098	956	1476	1007	2691	1684
2015-16	2139	1763	2377	4140	973	1528	1028	2696	1668

Historical Percentage Changes

Year	K-12	Diff.	%
2005-06	5688	0	0.0%
2006-07	5728	40	0.7%
2007-08	5714	-14	-0.2%
2008-09	5708	-6	-0.1%
2009-10	5630	-78	-1.4%
2010-11	5702	72	1.3%
2011-12	5704	2	0.0%
2012-13	5746	42	0.7%
2013-14	5765	19	0.3%
2014-15	5782	17	0.3%
2015-16	5808	26	0.4%
Change		120	2.1%

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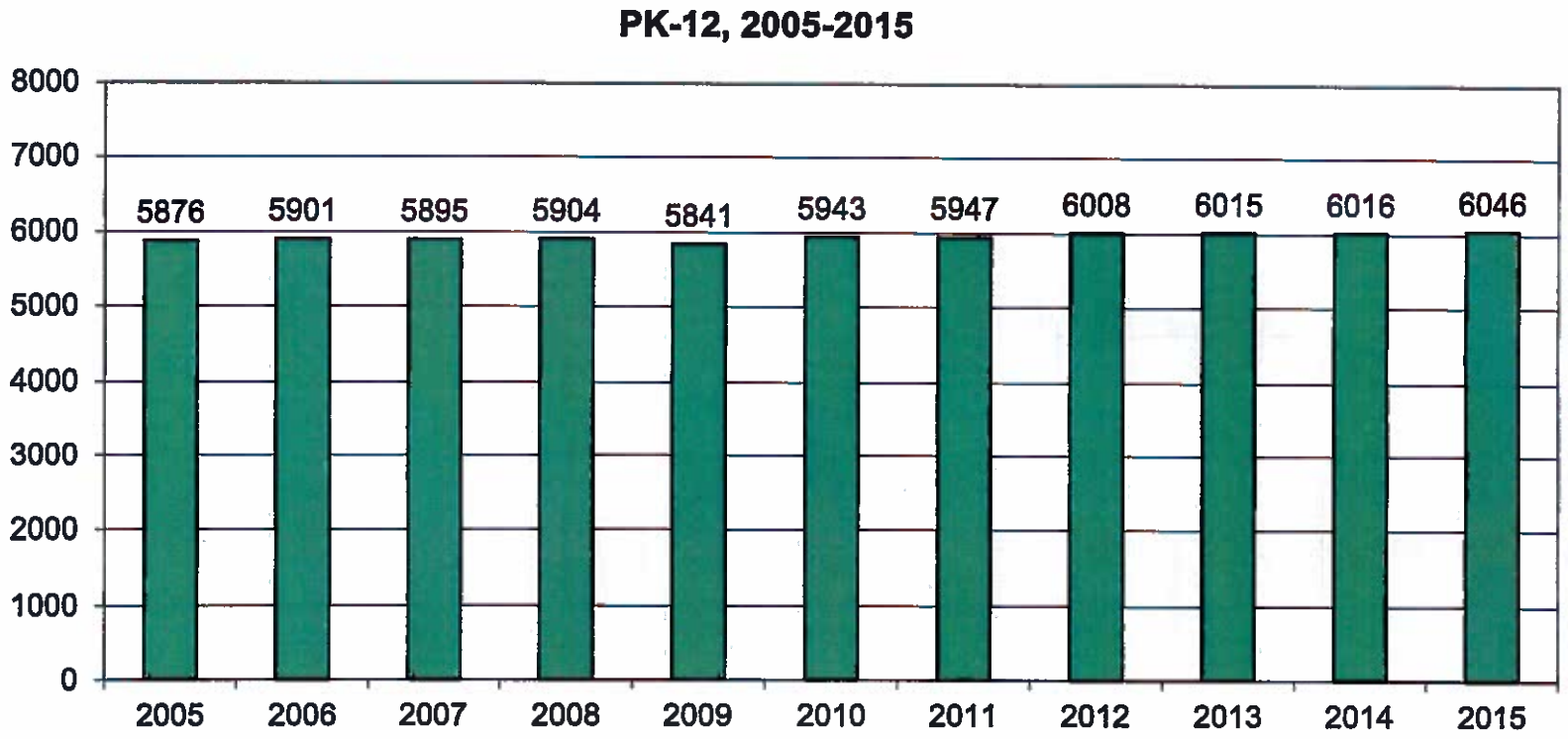
Shrewsbury, MA Historical Enrollment



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NESDEC

Shrewsbury, MA Projected Enrollment

School District: Shrewsbury, MA

11/19/2015

Projection assumes that new families will continue moving into Kindergarten and the elementary grades; also assumes that about 90% of Grade 8 will move to Grade 9 in SHS.

Enrollment Projections By Grade*

Birth Year	Births		School Year	PK	K	1	2	3	4	5	6	7	8	9	10	11	12	UNGR	K-12	PK-12
2010	332		2015-16	238	356	424	446	439	474	473	500	481	547	413	440	412	403	0	5808	6046
2011	383		2016-17	240	391	408	452	455	450	480	478	517	482	489	416	438	404	0	5858	6098
2012	366		2017-18	242	373	446	433	461	466	456	485	494	518	431	492	414	430	0	5898	6140
2013	370		2018-19	244	377	426	476	441	472	472	460	501	495	463	434	489	406	0	5910	6154
2014	364	(est.)	2019-20	246	372	430	453	484	462	478	477	475	502	443	466	432	480	0	5944	6190
2015	363	(est.)	2020-21	248	370	424	458	462	496	457	483	493	476	449	446	463	424	0	5901	6149
2016	369	(est.)	2021-22	250	377	422	452	467	473	502	482	499	494	426	452	444	454	0	5924	6174
2017	367	(est.)	2022-23	252	374	430	460	461	478	479	507	477	500	442	429	450	436	0	5913	6165
2018	367	(est.)	2023-24	254	374	426	459	459	472	484	484	524	478	447	445	427	442	0	5920	6174
2019	366	(est.)	2024-25	256	373	426	454	467	470	478	489	500	525	427	450	443	419	0	5921	6177
2020	366	(est.)	2025-26	258	374	425	454	463	478	478	483	505	501	469	430	448	435	0	5941	6199

*Projections should be updated on an annual basis.

Based on an estimate of births | Based on children already born | Based on students already enrolled

Projected Enrollment in Grade Combinations*

Year	K-4	1-4	PK-4	K-8	5-6	6-8	7-8	7-12	9-12
2015-16	2139	1783	2377	4140	973	1528	1028	2896	1668
2016-17	2154	1763	2394	4111	958	1477	999	2746	1747
2017-18	2179	1806	2421	4131	940	1497	1012	2779	1767
2018-19	2190	1813	2434	4118	932	1456	996	2788	1792
2019-20	2191	1819	2437	4123	955	1454	977	2798	1821
2020-21	2210	1840	2458	4119	940	1452	969	2751	1782
2021-22	2191	1814	2441	4148	964	1455	993	2789	1776
2022-23	2193	1819	2445	4156	986	1484	977	2734	1757
2023-24	2189	1815	2443	4159	968	1486	1002	2763	1761
2024-25	2190	1817	2446	4182	967	1514	1025	2764	1739
2025-26	2194	1820	2452	4159	959	1489	1006	2788	1782

See "Reliability of Enrollment Projections" section of accompanying letter.
Projections are more reliable for Years #1-5 in the future than for Years #6 and beyond.

Projected Percentage Changes

Year	K-12	Diff.	%
2015-16	5808	0	0.0%
2016-17	5858	50	0.9%
2017-18	5898	40	0.7%
2018-19	5910	12	0.2%
2019-20	5944	34	0.6%
2020-21	5901	-43	-0.7%
2021-22	5924	23	0.4%
2022-23	5913	-11	-0.2%
2023-24	5920	7	0.1%
2024-25	5921	1	0.0%
2025-26	5941	20	0.3%
Change		133	2.3%

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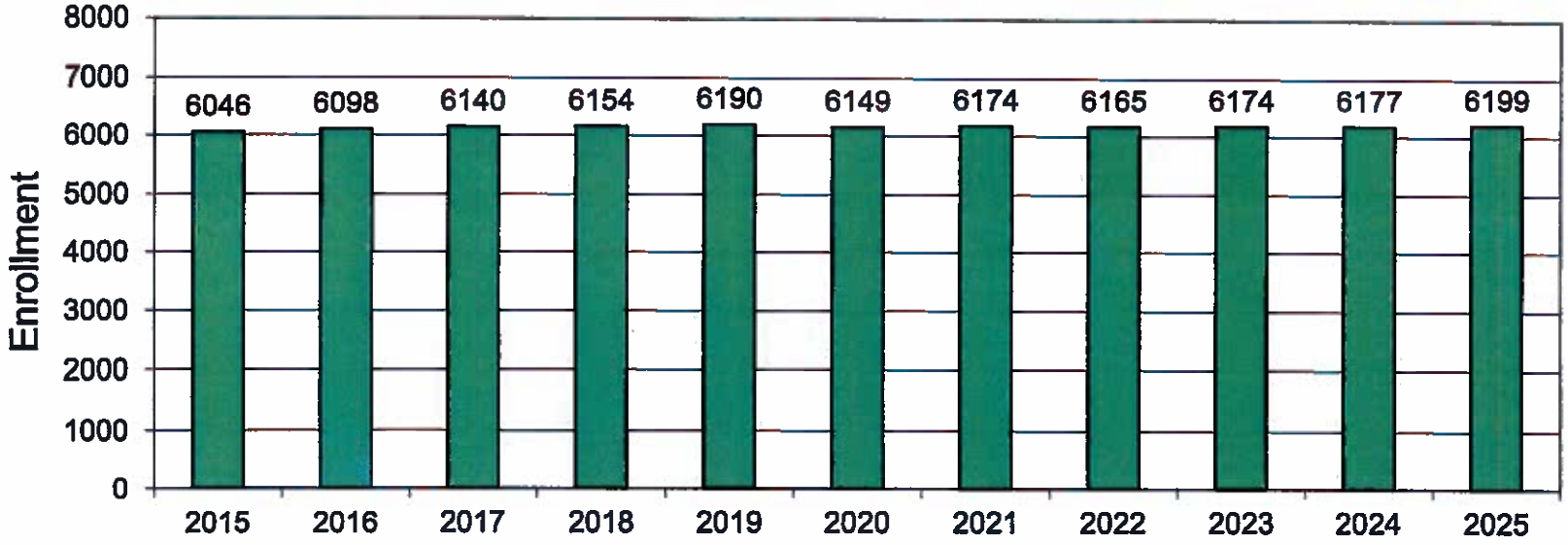
NESDEC

Shrewsbury, MA Projected Enrollment

PK-12 TO 2025 Based On Data Through School Year 2015-16



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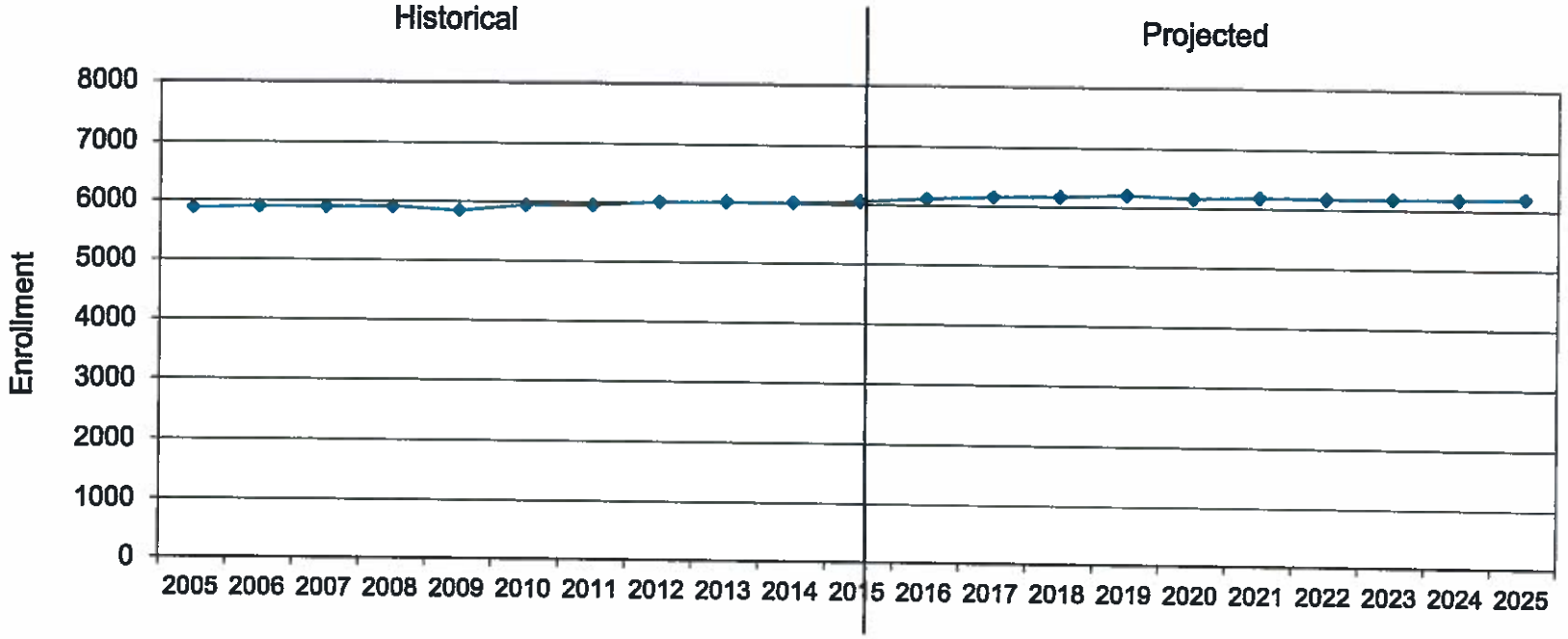
Shrewsbury, MA Historical & Projected Enrollment

PK-12, 2005-2025



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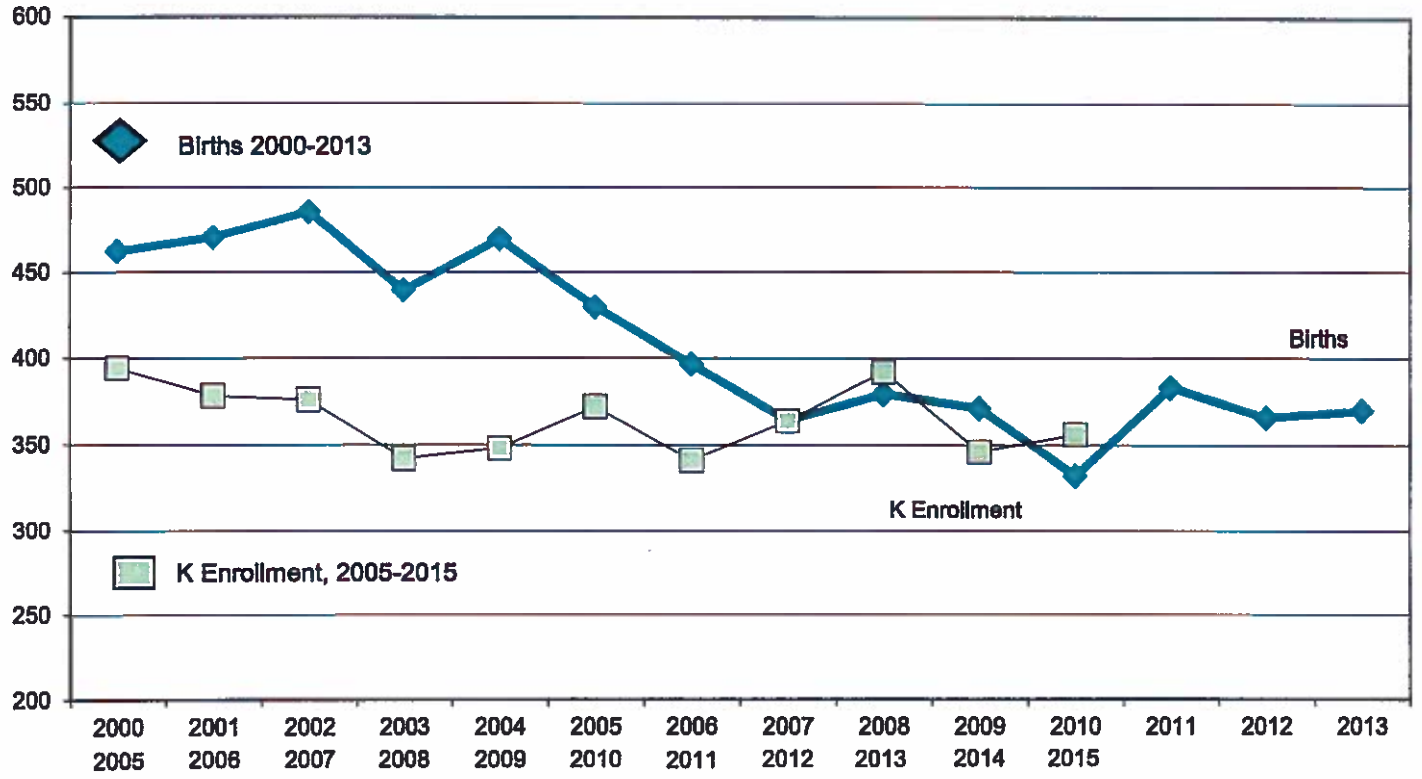
Shrewsbury, MA Birth-to-Kindergarten Relationship



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Shrewsbury, MA Additional Data

Building Permits Issued		
Year	Single-Family	Multi-Units
2005	59	94
2011	51	0
2012	66	4
2013	93	4
2014	57	0
2015	n/a	n/a

Source: HUD and Building Department

Enrollment History		
Year	Voc-Tech 9-12 Total	Non-Public K-12 Total
2005-06	83	893
2011-12	133	n/a
2012-13	127	865
2013-14	131	n/a
2014-15	131	768
2015-16	120	n/a

Residents in Non-Public Independent and Parochial Schools (General Education)														
Enrollments as of 10/1/14	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12 TOTAL
	93	44	34	42	48	48	53	45	40	74	79	70	98	768

K-12 Home-Schooled Students	
2015	27

K-12 Residents "Choiced-out" or in Charter or Magnet Schools	
2015	109

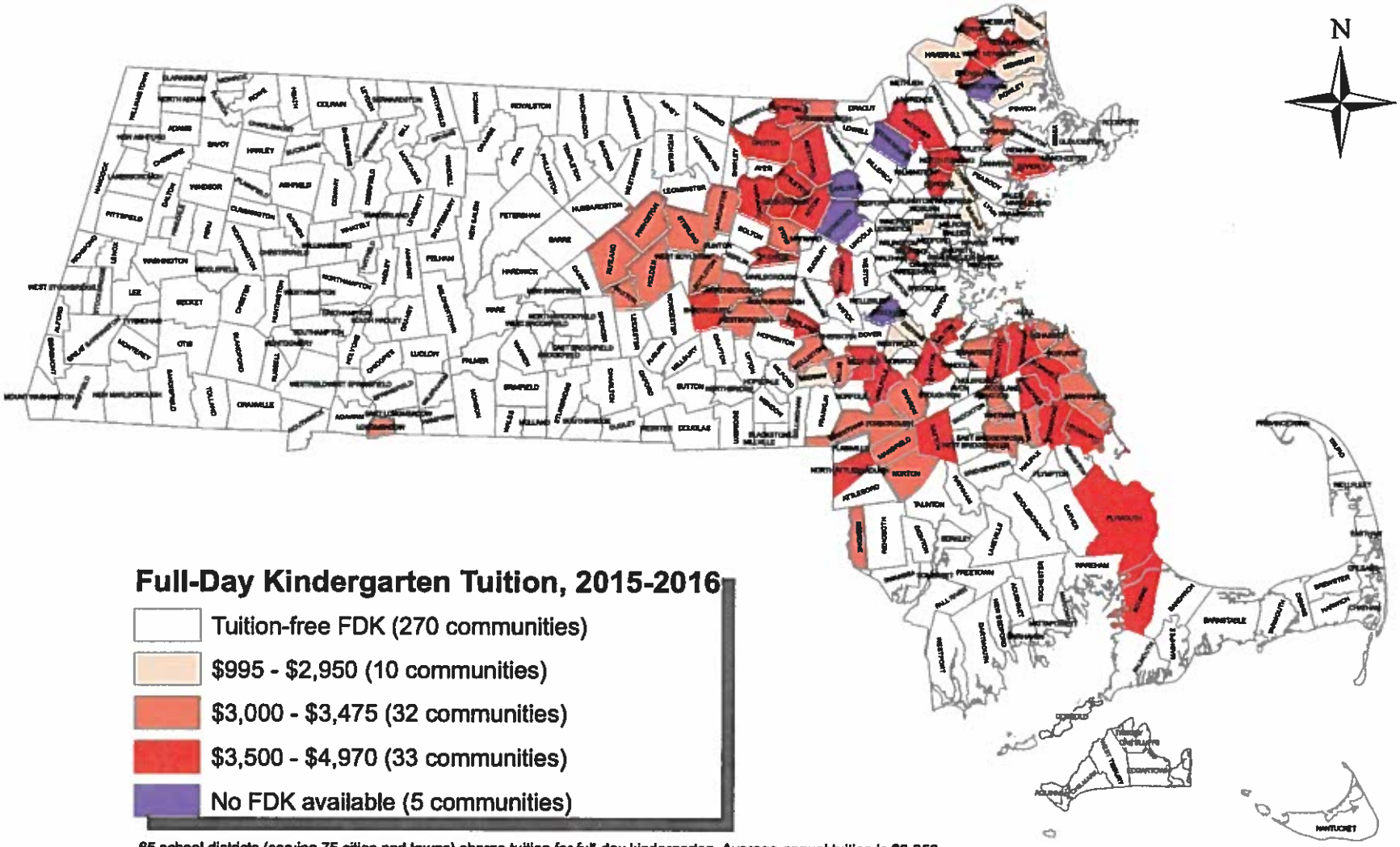
K-12 Special Education Outplaced Students	
2015	72

K-12 Choiced-In, Tuitioned-In, & Other Non-Residents	
2015	1

The above data were used to assist in the preparation of the enrollment projections. If additional demographic work is needed, please contact our office.

Strategies for Children

Tuition Rates for Full-Day Kindergarten by City/Town, 2015-2016 School Year



65 school districts (serving 75 cities and towns) charge tuition for full-day kindergarten. Average annual tuition is $3,358. Statewide, 92.9% of public school kindergarten students are enrolled in full-day kindergarten.

Source: Massachusetts Department of Elementary and Secondary Education

400 Atlantic Avenue
Boston, Massachusetts 02110

www.strategiesforchildren.org
www.earlyeducationforall.org

phone: 617.330.7380
fax: 617.330.7381

OFFICE OF THE TOWN MANAGER

Richard D. Carney Municipal Office Building
100 Maple Avenue
Voice: 508-841-8508
Fax: 508-842-0587
dmorgado@shrewsburyma.gov

Town of Shrewsbury
Massachusetts 01545-5398

September 6, 2016

To: Beal Early Childhood Center Building Committee

From: Daniel J. Morgado

Re: Meeting Notice & Agenda

The Beal Early Childhood Center Building Committee will meet on Tuesday, September 13, 2016 at 6:00 PM at the Beal Early Childhood Center – 1 Maple Avenue to consider the following agenda:

AGENDA

1. Call to Order
2. Accept minutes from the meeting of June 22, 2016 (attached)
3. Update on and review of the filings made with Massachusetts School Building Authority (MSBA) and other process matters since the last meeting of the Committee - Patrick Collins (attached)
    a. June 29, 2016, letter with attachments regarding the School District Educational Questionnaire
    b. September 1, 2016, letter with attachments regarding the Enrollment Certification Process
    c. June 29, 2016, Preliminary Enrollment Questionnaire
4. Review other valuations of feasibility studies – Daniel Morgado (attached)
5. Discussion on the manner of the presentation and the meeting and public hearing schedule leading towards the December 5, 2016, Special Town Meeting
6. Review of meeting schedule
7. Tour of the Beal Early Childhood Center Building – Chris Girardi & Robert Cox
8. Adjourn

Referenced Materials

Minutes of June 22, 2016
June 29, 2016, letter with attachments regarding the School District Educational Questionnaire
September 1, 2016, letter with attachments regarding the Enrollment Certification Process
June 29, 2016, Preliminary Enrollment Questionnaire
Email from MSBA dated April 13, 2016

MINUTES
Beal Early Childhood Center Building Committee
June 22, 2016

Present: Mr. Kane. Dr. Sawyer, Mr. Collins, Mr. Cox, Mr. Masiello, Ms. McNamara, Mr. Gerardi, Mr. Morgado

Meeting called to order by Chair Pro-Temp Daniel Morgado via reference to a meeting notice and agenda with attachments dated June 15, 2016.

Introductions were made since this is the first meeting for the Committee. Ms. Fryc was unable to attend this meeting.

Nominations were taken for Chair of the Committee. Mr. Kane was nominated by Mr. Masiello and there were no other nominees. Mr. Kane was elected chair by unanimous vote.

Ms. McNamara nominated Mr. Masiello as vice-chair and there were no other nominees. Mr. Masiello was elected Vice-Chair by unanimous vote.

Mr. Kane assumed the chair.

Mr. Collins presented to each member of the Committee a folder containing a cover memo with attachments dated June 22, 2016. He then reviewed each of the attachment answering questions as necessary. The timeline for the project was reviewed (attachment to meeting notice). The next deadline for submission will be July 12th.

There was a general discussion on the matter of enrollments and aspects for the K and Pre-K program. Mr. Morgado provided some background on the range of cost for a feasibility study. More work will be done over the coming months to ascertain the cost.

Dr. Sawyer provided insight into the K and Pre-K programs.

Any materials submitted to the MSBA will be shared with the Committee.

It was agreed that the next meeting of the Committee will be September 13, 2016, at 6 PM at the Beal Early Childhood Center.

The meeting adjourned at 7:43 PM.

Respectfully submitted,

Daniel J. Morgado
Town Manager

Referenced Materials
Meeting notice with attachments dated June 15, 2016
Memo dated June 22, 2016 with attachments prepared by Mr. Collins

SHREWSBURY PUBLIC SCHOOLS

100 Maple Avenue, Shrewsbury, MA 01545
Tel.: 508-841-8400 Fax: 508-841-8490
schools.shrewsbury-ma.gov

Joseph M. Sawyer, Ed.D.
Superintendent of Schools

Mary Beth Banios
Assistant Superintendent

Patrick C. Collins
Assistant Superintendent for Finance & Operations

Barbara A. Malone
Director of Human Resources

June 29, 2016

Ms. Katie DeCristofaro
Capital Program Manager
Massachusetts School Building Committee
40 Broad Street, Suite 500
Boston, MA 02109

Dear Ms. DeCristofaro,

Enclosed you will find our completed School District Educational Profile Questionnaire for the Beal Early Childhood Project. We are also including other documents related to our current enrollment, grade configuration, and enrollment projections.

Please contact Patrick Collins at 508-841-8405 or pccollins@shrewsbury.k12.ma.us if you have any questions.

Sincerely,

Joseph M. Sawyer, Ed.D
Superintendent

Maurice M. DePalo
Chairman, Board of Selectmen

SHREWSBURY PUBLIC SCHOOLS

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Massachusetts School Building Authority
School District Educational Profile Questionnaire

Date : **June 30, 2016**

Name of School District: **Shrewsbury Public Schools**

District Contact (Name, Title): **Patrick Collins, Asst. Superintendent for Finance and Operations**

As part of the District's invitation into the Eligibility Period, the MSBA is seeking the following information to further inform our understanding of the School District's facilities, teaching methodology, grade configurations and program offerings. If the below information is available in documents previously provided to the MSBA, please indicate in which document and on which page this information may be found.

SECTION ONE: Facilities

A. Please confirm the following MSBA 2010 Needs Survey information for all public schools in the District using a "Y" for accurate and "N" for not accurate:

District	School Name	Type	Year Founded	Last Reno.	GSF	Y/N
Shrewsbury	Beal School	Elementary School	1922	1987	32,100	Y
Shrewsbury	Calvin Coolidge Elementary	Elementary School	1927	1986	48,600	Y
Shrewsbury	Floral Street Elementary	Elementary School	1997		94,000	Y
Shrewsbury	Oak MS	Middle School	1957	2004	169,400	Y
Shrewsbury	Parker Road Preschool	Pre-Kindergarten/Kindergarten	1954		15,533	N
Shrewsbury	Sherwood MS	Middle School	1964		*	N
Shrewsbury	Shrewsbury HS	High School	2002		296,000	Y
Shrewsbury	Spring Street	Elementary School	1967	2000	37,200	Y
Shrewsbury	Walter J. Paton School	Elementary School	1950	1990	37,300	N

Using the space below, provide additional information for any inaccurate or incomplete Needs Survey data.

▶Parker Road Preschool: Last renovation/addition was 2003.
▶Sherwood Middle School: 1964 building was razed and new 130,000 s.f. facility opened in 2012.

▶Paton School: Last renovation was in 2000.

▶The district has been renting space nearby Beal Early Childhood Center that provides two classrooms for pre-kindergarten students. When building a new facility we would plan to end this lease and incorporate this space need into the new facility.

B. Using the chart below, list Charter Schools (Commonwealth, Innovative, or Horace Mann) and private schools located in the District.

Name of School	Type of School	Year Established	Grades Served	Current Enrollment
St. John's High School	Private	1894	9-12	1,004
St. Mary School	Private	1961	preK-8	259
Montessori School	Private	1988	preK-6	197
Al-Hamra Academy	Private	1994	preK-8	148
Lilliput School	Private	1985	preK-1	220

▶Above listed schools are MA DESE approved schools and enrollment data is for the 2014-2015 school year.

A. **For elementary and middle schools only** In the chart below, provide information about the current grade configuration for each public school facility adding or editing cells and rows as appropriate. Check the boxes provided to indicate program offerings at each facility. Next to the check, please indicate the number of hours and days the program is offered.

Name of School, Grades Served	Science Classes	Art (Performing and Visual Art)	Music	Physical Education (Adaptive PE)	Library Classes	Extended Day Care	Lunch Seatings
Beal Early Childhood Center, K-1	Average of 2 to 3 lessons/week; 30-45 minutes typical duration; projects may be integrated with other subjects	1 or 2 visual art class(es) weekly, depending on grade; 40-45 minutes duration	1 general music class weekly, 40-45 minutes duration; 1 "sing-along" period weekly, 40-45 minutes duration	1 phys ed class weekly, 40-45 minutes duration; adaptive PE through inclusion wherever possible, occasionally through pull-out model, depending on student need	1 to 2 classes per week depending on grade, 40-45 minutes in duration	District program available before school beginning at 7:00am and running after school until 6:00pm, M-F; wait list for access	3
Calvin Coolidge Elementary, K-4	Average of 2 to 3 lessons/week; 30-45 minutes typical duration; projects may be integrated with other subjects	1 or 2 visual art class(es) weekly, depending on grade; 40-45 minutes duration	1 general music class weekly, 40-45 minutes duration; Gr. 4 chorus class meets 40-45 minutes weekly in addition	1 or 2 phys ed classes wkly, depending on grade,40-45 minutes duration; adaptive PE through inclusion wherever possible, occasionally through pull-out model, depending on student need	1 to 2 classes per week depending on grade, 40-45 minutes in duration	District program available before school beginning at 7:00am and running after school until 6:00pm, M-F; wait list for access	4
Floral Street Elementary, 1-4	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	8 "phases" of class rotations between 11:05 - 12:55
Oak MS, 7-8	Daily class; 45-60 minutes duration	30 consecutive days of 40 minute period as part of annual allied arts cycle; Grade 7 also includes also includes 30 consecutive days of 40 minute drama class	30 consecutive days of 40 minute period of electronic music in Grade 8 as part of annual allied arts cycle; interested students participate in music performance group (band, chorus, or orchestra) class for one 40-45 minute period three out of every six days for entire school year	60 days of 40 minute periods of PE (in two 30 consecutive day cycles) over the course of the year; adaptive PE through inclusion wherever possible, occasionally through pull-out model, depending on student need	Library/media center is accessed by teachers on a class-by-class basis for research projects, etc. co-taught by media specialist	N/A	5
Parker Road Preschool, PreK	Note 2	Note 2	Note 2	Note 2	N/A	N/A	N/A

Sherwood MS, 5-6	Daily class; 45-60 minutes duration	30 consecutive days of 40 minute visual art period as part of annual allied arts cycle; grade 6 also includes 30 consecutive days of 40 minute drama class	30 consecutive days of 40 minute period of general music in Grade 5 as part of annual allied arts cycle; interested students participate in music performance group (band, chorus, or orchestra) class for one 40-45 minute period three out of every six days for entire school year	60 days of 40 minute periods of PE (in two 30 consecutive day cycles) over the course of the year; adaptive PE through inclusion wherever possible, occasionally through pull-out model, depending on student need	Classes of 40 minutes 4 out of every 6 days for a 30 day period in both grades 5 & 6.	District program available after school until 6:00pm, M-F	4
Spring Street, K-4	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	4
Walter J. Paton School, K-4	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	4

Note 1: All elementary schools have same/similar schedule.

Note 2: Curriculum incorporates science, art, music, and physical education. Parker Road offers two, three, and four day sessions of both half and full day programming. Curriculum varies depending on program.

For high schools only Attach to this questionnaire current program/scheduling information (core, non-core, enrichment and vocational).

B. Does the District belong to a Collaborative? Yes x No ☐

Does the District host a Collaborative? Yes x No ☐
If yes, please provide the name of the Collaborative Assabet Valley Collaborative [Evolution Program at Shrewsbury High School]

Does the District provide Pre-Kindergarten? Yes x No ☐

Is Kindergarten fee based? Yes X No ☐
If yes, please provide the fee structure Attached

Does the District provide transportation? Yes x No ☐
If yes, please provide the name of the provider(s) (District or vendor): AA Transportation Inc.

C. Using the space below, provide information about the Priority Statement of Interest School's teaching methodology (i.e. self-contained classroom, team teaching, departmental, or cluster). Include class-size policy and if applicable, scheduling particulars.

The Shrewsbury Public Schools goal is to provide an engaging and challenging academic program, with enhanced learning through technology, and emphasis on social and emotional

development to prepare students for all aspects of becoming valuable members of their community. The teaching methodology to address these goals uses inclusion models where appropriate, with special education, ELL, and intervention supports determined by individualized plans and needs. The district develops balanced classrooms to allow every student, regardless of social and academic ability, the opportunity to participate in rich learning environments.

Students attend their neighborhood schools with Pre-K and Kindergarten using a lottery system to determine session placement. Classroom teachers are supported by paraprofessional assistants in accordance with district guidelines for each level, as well as support from specialists in the areas of special education, ELL, school psychologists, literacy and Title I tutors, and building support staff as needed. The Shrewsbury School Committee's class size policy is as follows:

Kindergarten: 17-19 students per class
Grades 1-2: 20-22 students per class
Grades 3-4: 22-24 students per class

Due to the lack of space within the elementary schools, Shrewsbury struggles to consistently meet these class size guidelines, and is not able to provide Full Day Kindergarten to all families or preference of session in Pre-K. This presents an obstacle in identifying and providing necessary services for early intervention needs in both the special education and ELL areas, as well as offering rich academic and social/emotional opportunities for all children, which leads to greater stress on programming in subsequent years.

Elementary schedules are based on a five-day weekly schedule with some shared staff between buildings in specialized areas. Students receive five "specials" classes per week in the areas of Media, Art, Physical Education/Heath, and Music. Students also have access to the Media Center and portable technology resources as needed to complete assignments, projects, etc. Shrewsbury does offer a number of [fee-based] after-school enrichment programs that run at each of the elementary schools throughout the year.

D. In the chart below, use "Y" or "N" to indicate if the listed technology offerings are available adding cells and rows as appropriate:

School	Desktop Computers	Laptop Computers	Tablets	Smart Board/ Smart Projectors	Printers	WiFi WAN/LAN
Beal ECC	Y	Y	Y	Y	Y	Y
Calvin Coolidge Elementary	Y	Y	Y	Y	Y	Y
Floral Street Elementary	Y	Y	Y	Y	Y	Y
Oak MS	Y	Y	Y	Y	Y	Y
Parker Road Preschool	Y	Y	Y	Y	Y	Y
Sherwood MS	Y	Y	Y	Y	Y	Y
Shrewsbury HS	Y	Y	Y	Y	Y	Y
Spring Street	Y	Y	Y	Y	Y	Y

Walter J. Paton School	Y	Y	Y	Y	Y	Y

Using the space below, provide additional information for any of the aforementioned offerings marked with a "Y".

The district has wireless network access in all schools. All teaching staff have been assigned a laptop computer and/or an iPad. The district has a 1:1 iPad Program for students in grades 5-12. Students receive a new iPad in grade 5 and keep it through grade 8. Grade 9 students each receive a new iPad and turn it in upon graduation. Printers and copiers are available in all schools for printing documents.

At the elementary level in Shrewsbury Public Schools, technology is used to enhance teaching and learning. We use the SAMR model (Substitution- Augmentation- Modification-Redefinition) as a framework for meaningful technology integration. In addition, all core content classroom teachers at the elementary level have interactive whiteboards and projectors in their classrooms. There are also carts of iPads for teachers to sign out to use with their students as well as dedicated iPads in classrooms for student and teacher use. In the 2016-17 school year, all fourth grade classrooms across the district will be at a 1:2 iPad to student ratio. There are also two Kindergarten classrooms that are piloting a 1:2 iPad environment.

SECTION THREE: Proposed Program, Grade Configuration, Teaching Methodology for the Priority Statement of Interest School

A. Using the chart below indicate proposed changes to the information as provided in Section Two adding or editing cells and rows as appropriate.

Name of School, Grades Served	Science Classes	Art (Performing and Visual Art)	Music	Physical Education (Adaptive PE)	Library Classes	Extended Day Care	Lunch Seatings
Beal Early Childhood Center, K-1							

B. Is the District considering joining a Collaborative? Yes ☐ No x
If yes, please provide the name of the Collaborative _____

Is the District considering hosting a Collaborative? Yes ☐ No x

Is the District considering offering Pre-Kindergarten? Yes x No ☐
Is the District considering a Kindergarten fee? Yes x No ☐
If yes, please provide the proposed fee structure : Attached

Is the District considering providing transportation? Yes x No ☐
If yes, please provide the name of the proposed provider: AA Transportation

C. In the space below expand upon proposed changes to current grade configurations, districting, teaching methodology, programs, transportation, fees and technology. Indicate if any school facilities would be vacated, down-sized or re-organized. Indicate if changes to current staffing would result (increase/decrease).

The district is eager to work with MSBA and industry professionals through the Feasibility Study Phase to develop the best long-term space solution for our preK-4 student population. We need to plan for some enrollment growth, vacating leased space, and offering universal full-day kindergarten with this space solution. Given the larger size school requisite to accommodate up to 850 students, we expect the current Beal Early Childhood Center to be vacated as the site is too small to handle this size of a school and in a geographically disadvantageous location [center of downtown].

We expect to evaluate options to include replicating an Early Childhood Program of larger size and reconfiguring [and redistricting] all elementary schools to house K-4 populations. Other creative, educationally sound, and cost-effective solutions will be considered as well.

Consideration must be afforded to the varied lifespan inherent in the district's thirteen "permanent" modular classrooms attached across three elementary schools.

Finally, there is a growing demand for special education and English Language Learner [ELL] spaces to accommodate in-district programming.

D. Using the space below, indicate any proposed changes to current technology offerings (e.g. "One to One" technology, WiFi hotspots, laptop carts, etc.).

The district places a high value on the integration of technology in the curriculum to leverage and enhance student learning. In the design of any new school building, we will want to provide maximum access and capacity to use technology tools that exist now or in the future, allowing for the need of expanded "bandwidth" for student and staff use.

SECTION FOUR: Space - District's Priority Statement of Interest

ELEMENTARY SCHOOL

A. Complete current information in the table provided below adding or editing cells and rows as appropriate:

ROOM TYPE	No. of Rooms	Comments
CORE ACADEMIC SPACES		
Pre-Kindergarten	0	
Kindergarten (indicate full or half day)	10	Three classrooms are used for HDK (a.m and p.m. sessions). Seven classrooms used for FDK.
Grade 1	3	These students are in the Floral St. School district but re-assigned to Beal due to space limitations at Floral St.
SPECIAL EDUCATION	7	
ART & MUSIC	1	This room is shared by both art and music.
HEALTH & PHYSICAL EDUCATION		
Gymnasium	1	Used for physical education and all-school group Sing Along Program.
MEDIA CENTER	1	
DINING & FOOD SERVICE	1	Original school design did not include a cafeteria or kitchen. We converted basement space that is used for food service preparation/cafeteria and shared with extended school care, small group instruction and alternative class use.
MEDICAL SUITE		
Nurses' Office	1	This space is not adequate for the amount of daily nurse visits and specialized medical services required for current students.
ADMINISTRATION & GUIDANCE	3	1. Principal's office 2. Psychologist's office 3. School office

B. If not offered within the District's Priority Statement of Interest school, indicate in the space provided below where the District's collaborative, special education, art, music, health/physical education, media center, dining/food service and technology spaces are offered.

Collaborative programs for preK-4 students are offered by Assabet Valley Collaborative and housed in other member school facilities.

SECTION FIVE: Safety and Security Statement

Has the District formulated a school specific Multi-Hazard Evacuation Plan (Section 363 of the FY 02 State Budget) for each school under the superintendent's supervision?

Yes x No ☐

What was the date of the last review with local public safety and law enforcement officials?
Date: August 26, 2015

SECTION SIX: Attachments

Please attach to this completed questionnaire any Executive Reports or Conclusions of reports or studies that relate to accreditation, an assessment of facility conditions and/or findings as issued by the Department of Elementary and Secondary Education (DESE). Below, please list the documents attached (as applicable).

Documents attached:

- Shrewsbury Public Schools October 1, 2015 Enrollment and Class Size Report
- Shrewsbury Public Schools Enrollment Projection Report: November 20, 2015
- School Children in Housing Developments: November 2015

Should you have any questions about this questionnaire, please contact Katie DeCristofaro, Capital Program Manager:

Massachusetts School Building Authority
617-720-4466
www.massschoolbuildings.org

SHREWSBURY PUBLIC SCHOOLS

100 Maple Avenue, Shrewsbury, MA 01545
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Joseph M. Sawyer, Ed.D.
Superintendent of Schools

Mary Beth Banios
Assistant Superintendent

Patrick C. Collins
Assistant Superintendent for Finance & Operations

Barbara A. Malone
Director of Human Resources

September 1, 2016

Ms. Kathryn DeCristofaro
Capital Program Manager
Massachusetts School Building Authority
40 Broad Street, Suite 500
Boston, MA 02109

Dear Ms. DeCristofaro,

Enclosed are the additional materials and information requested as part of the Enrollment Certification Process for the Beal Early Childhood Project.

Enclosure 1 is a PreK-grade 4 summary of current educational space utilization along with our initial projected needs. It's important to note that our initial projected needs factor projected enrollment growth, the expectation that we move to universal full-day kindergarten in opening a new school, and a growing demand for space to deliver special education and English Language Learner (ELL) services. The recently completed Coordinated Program Review by the Department of Elementary and Secondary Education cited Coolidge School for inappropriate space allocated to their ELL Program and we have had to "consume" other school spaces to make this remedy.

Additionally, we have been intentional about planning for adequate and equitable space allocations across all PreK-4 schools for delivery of Art, Music, Health, and Physical Education Programs. Current space allocations for these programs vary across schools and have been re-allocated primarily to special education and ELL services as these in-district populations have increased.

Enclosure 2 is a report made by the town's Assistant Town Manager/Economic Development Coordinator that analyzes several population projections and derives an "average" projection. Continued overall population growth is expected. We should be cognizant of the fact actual student enrollment for our last three new school building projects [Floral Street Elementary School, Shrewsbury High School, and Sherwood Middle School] have exceeded their design capacities.

Enclosure 3 is a summary of our current K-12 enrollment as of 9/1/2016 in comparison to the two projections we use; Town Manager Projection and New England School and Development Council Projection. Currently, our enrollment is surpassing both projections by 65-75 students.

We all understand that the 10/1 date is the traditional and best benchmark due to the start of year "shakeout" that typically occurs in all districts. Interestingly, last year our district experienced a net increase of 20 students between 9/1 and 10/1/2015. Using this factor, one can expect that our 10/1/2016 enrollment will be approximately 75-100 students beyond projections.

The remaining enclosures are related to the MSBA request for floor plans for PreK-4 schools. We have color-coded them in a fashion we hope clearly depicts the use of space in each building. We have also added some descriptions of negative program impacts as a result of space deficiencies.

We look forward to resuming our discussion on Enrollment Certification with your receipt of this additional information.

In the meantime, please feel free to call us for clarifications and use Patrick Collins as your primary contact person.

Sincerely,

Joseph M. Sawyer

Cc: Beal Early Childhood Building Committee
Shrewsbury School Committee

SHREWSBURY PUBLIC SCHOOLS
PreK-4 Educational Space Planning Document
September 2016

Current Space Allocations

School	Regular Education Classrooms	Media Center	Gymnasium	Music Rm	Art Rm	Special Educ. Spaces	ELL Spaces	Totals
Parker Road Preschool	6	0	0	0	0	3	0	9
Parker West Preschool	2	0	0	0	0	0	0	2
Beal	13	1	1	0.5	0.5	5	1	22
Coolidge	18	1	1	0	1	6	3	30
Paton	17	1	0.5	0.5	0.5	7	0	26.5
Floral	32	1	1	1	1	7	1	44
Spring	17	1	1	0	1	3	0	23
	105	5	4.5	2	4	31	5	156.5

Projected Future Needs

School	Regular Education Classrooms	Media Center	Gymnasium	Music Rm	Art Rm	Special Educ. Spaces	ELL Spaces	Totals	
Parker Road Preschool	6	0	0	0	0	3	0	9	
Parker West Preschool	0	0	0	0	0	0	0	0	End lease of this space
Beal [New]	40	1	1	1	2	7	2	54	Assumes universal full-day K
Coolidge	16	1	1	1	1	6	4	30	
Paton	15	1	0.5	1	1	7	1	26.5	
Floral	30	1	1	1	2	7	2	44	
Spring	15	1	1	1	1	3	1	23	
	122	5	4.5	5	7	33	10	186.5	

	Classrms	Avg Class Size	Capacity	Classrm. Inc.
PreK	12	15	288	4
K	22	19	425	5
Gr. 1-4	87	22	1920	8
	122		2633	

1. Assumes growth in enrollment and demand at PreK
   [12 x 6=72 Full-day SPED + 12 x 9 *2 Sessions Reg Educ= 216]
2. Assumes universal full-day kindergarten
3. Assumes growth slightly beyond NESDEC projection due to housing projects in the approval pipeline.

Difference: Current v. Future

School	Regular Education Classrooms	Media Center	Gymnasium	Music Rm	Art Rm	Special Educ. Spaces	ELL Spaces	Totals
Parker Road Preschool	0	0	0	0	0	0	0	0
Parker West Preschool	-2	0	0	0	0	0	0	-2
Beal [New]	27	0	0	0.5	1.5	2	1	32
Coolidge	-2	0	0	1	0	0	1	0
Paton	-2	0	0	0.5	0.5	0	1	0
Floral	-2	0	0	0	1	0	1	0
Spring	-2	0	0	1	0	0	1	0
	17	0	0	3	3	2	5	30

Notes: Special Education and ELL spaces vary widely in size. Please refer to floor plans.
This document is not intended to factor office, maintenance, or storage space needs.

Office of
PLANNING AND ECONOMIC
DEVELOPMENT

TELEPHONE: (508) 841-8502
FAX: (508)842-8497
klas@shrewsburyma.gov

TOWN OF SHREWSBURY

100 MAPLE AVENUE
SHREWSBURY, MASSACHUSETTS 01545-5398

MEMORANDUM

TO: Board of Selectmen
Finance Committee
FROM: Kristen D. Las, AICP- Director of Planning and Economic Development
SUBJECT: Population Projections
DATE: August 21, 2014

In December of 2013, the Board of Selectmen, Finance Committee and several Town Departments were made aware of a population projection study that was prepared by the UMass Donahue Institute. The report was titled, *Long-term Population Projections for Massachusetts Regions and Municipalities*, dated November 2013. The study projected the town of Shrewsbury's population to increase over the next fifteen years substantially more than the projections that were provided by MassDOT and the Central Massachusetts Regional Planning Commission (CMRPC) in April 2011. In addition, in October 2008, Community Opportunities Group (COG) prepared an independent population projection report for the Town of Shrewsbury as a response to the Department of Conservation and Recreation projections of August 2008.

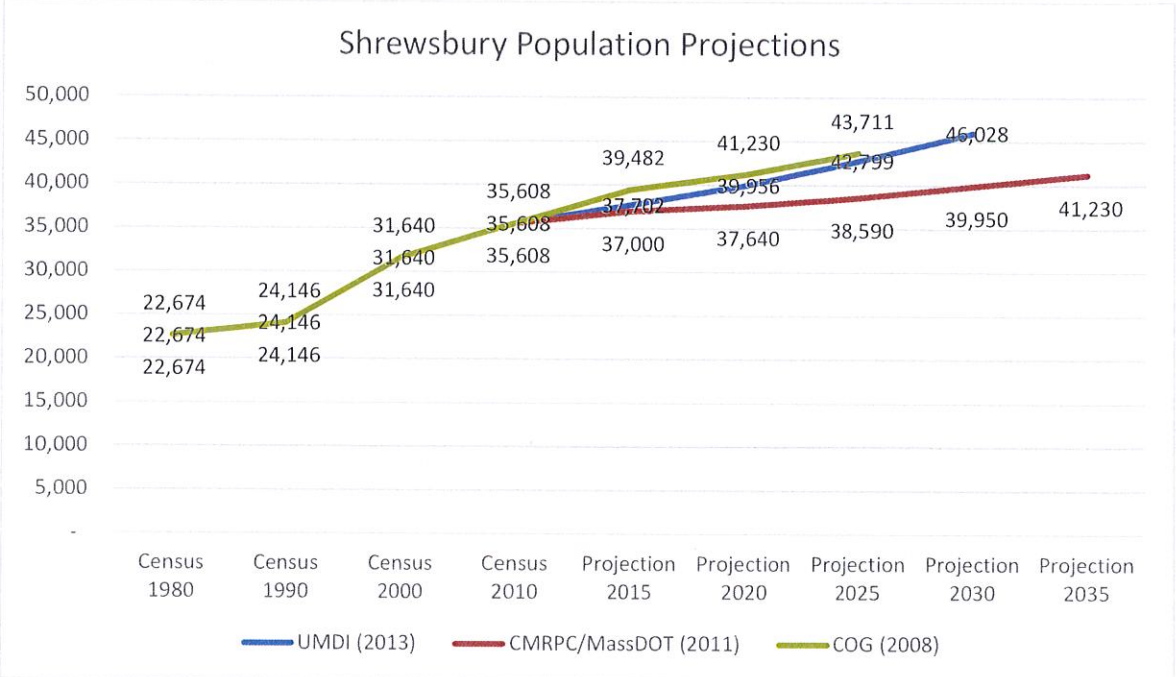


Figure 1: Comparison between UMass Donahue Institute (UMDI), CMRPC/MassDOT and COG population projections

Enclosure 2

As shown on the chart, UMDI projected a 22% population increase from the 2010 Census and the 2030 projection. CMRPC/MassDOT projected a 10% population increase over the same timeframe.

Over the past few months, I have spoken to the author of the UMDI report and experts at CMRPC regarding the discrepancies in the population projections. According to the contact at UMDI, Susan Strate, the projections were prepared by reviewing fertility and migration rates by age groups and death by age. They did not look at existing land use or bylaws and did not take inventories of new development. In addition, UMDI only used the 2000-2009 American Community Survey (AMS) in their projections. In looking at Age Cohorts, UMDI divided the state into 8 regions. The regions that the cities and towns were divided into, do not match Regional Planning Agency regions. Also, the UMDI study accepted that a municipality may lose population.

On the contrary, CMRPC/MassDOT used 1970 to present ACS data. CMRPC/MassDOT does not assume that any municipality will lose population. As of June 2014, MassDOT, MAPC and UMDI are working on statewide population projections starting in 2015 to distribute to RPA's to drill down to municipal populations through 2045. In preparing these statewide projections by county and RPA, there is a status quo versus strong growth valuation. Based upon the June 2014 update, it appears that the State numbers will be kept at a strong growth projection. The April 2011 CMRPC/MassDOT projections were prepared under a strong growth projection, therefore, it is not anticipated that there will be much change in the next projection from CMRPC. New town level data will come out in 3-4 months where it will be reviewed by the towns through the RPA's.

The third projection, prepared by COG used the cohort survival method. This planning technique accounts for the age and sex distribution of the population in each age and sex cohort, along with mortality, fertility, birth and migration rates. An important difference between the CMRPC report and the COG report is that COG used local data where CMRPC used regional data and then assigned shares of the regional population projections to each community based on the trends noted above.

Based upon the information we currently have, it is my professional opinion that the Town of Shrewsbury should follow projections of about the average between the CMRPC/MassDOT, COG and UMDI projections. CMRPC/MassDOT will be issuing updated population projections in 2015, and we will have a chance to revisit the data and assumptions to plan for the future.

	Census 2010	Projection 2015	Projection 2020	Projection 2025	Projection 2030	Projection 2035
UMDI (2013)	35,608	37,702	39,956	42,799	46,028	--
CMRPC/MassDOT (2011)	35,608	37,000	37,640	38,590	39,950	41,230
COG (2008)	35,608	39,482	41,230	43,711	--	--
Average	**35,608**	**38,061**	**39,609**	**41,700**	**42,989**	--

I will be at the August 26, 2014 Board of Selectmen meeting or available by phone or for a meeting if there are any further questions regarding this matter.

SHREWSBURY PUBLIC SCHOOLS
PRELIMINARY K-12 ENROLLMENT
as of 9/1/2016

Grade	1-Sep	Town Mgr. Projection	Qty. Difference	% Difference
K	380	383	-3	-0.8%
1	409	412	-3	-0.7%
2	453	450	3	0.7%
3	456	458	-2	-0.4%
4	458	444	14	3.1%
5	487	482	5	1.0%
6	488	473	15	3.1%
7	511	509	2	0.4%
8	491	484	7	1.4%
9	516	489	27	5.2%
10	423	419	4	0.9%
11	442	438	4	0.9%
12	409	407	2	0.5%
Total K-12	**5923**	**5848**	**75**	**1.3%**

Grade	1-Sep	NESDEC Projection	Qty. Difference	% Difference
K	380	391	-11	-2.9%
1	409	406	3	0.7%
2	453	452	1	0.2%
3	456	455	1	0.2%
4	458	450	8	1.7%
5	487	480	7	1.4%
6	488	478	10	2.0%
7	511	517	-6	-1.2%
8	491	482	9	1.8%
9	516	489	27	5.2%
10	423	416	7	1.7%
11	442	438	4	0.9%
12	409	404	5	1.2%
Total K-12	**5923**	**5858**	**65**	**1.1%**

9/1/2016 enrollment figures are preliminary. More students have enrollment registration meetings this week and we have reports from some parents that they have opted for other schools and not coming to SPS.

The net change last year from 9/1/2015 to 10/1/2015 was an INCREASE of 20 students. Using this factor we could end up on 10/1/2016 with 75-100 more students than projections indicated.

Shrewsbury Public Schools
PreK-4 School Buildings- Usage Document
September 1, 2016

Enclosed are floor plans for each of the Shrewsbury Public Schools PreK-4 school facilities with a color-coded index of how each room is used to meet the various needs of our student population. Below you will find pertinent information that details the district's need to address space issues with these grade levels.

Space Use Legend:

Classroom- **Blue**
Special Education- **Pink**
English Language Learning- **Orange**
Office/ Staff room- **Green**
Allied Arts- **Yellow**

Abbreviations Key:

ELC- Early Learning Center- serves students on the autism spectrum and provides access to students requiring Applied Behavior Analysis (ABA) learning strategies

ILC- Intensive Learning Center- serves students with severe cognitive and/or physical disabilities

Pre-K- classrooms that serve our preschool and Pre-Kindergarten students

FDK- Full Day Kindergarten classroom

HDK- Half Day Kindergarten classroom

SPED- Special Education classroom

ELL- English Language Learning classroom

OT/PT- Occupational Therapy/ Physical Therapy room

Programmatic Impact of Deficient PreK-4 School Space

Parker Road Preschool-There is more demand for preschool slots than space allows. The district must run a lottery for a limited number of preschool slots each year. The district is required to offer this program to students with special needs and they must have typically developing peers in their classroom. Regular education students pay tuition for their program. The school occupies a portion of a facility that also houses the local Public Access Media Cable TV station and the control center for the municipally owned and operated cable television operation [SELCO].

Parker Preschool-West- This is two-room, leased facility that we plan to relinquish when permanent space is constructed to support the entire PreK-4 population.

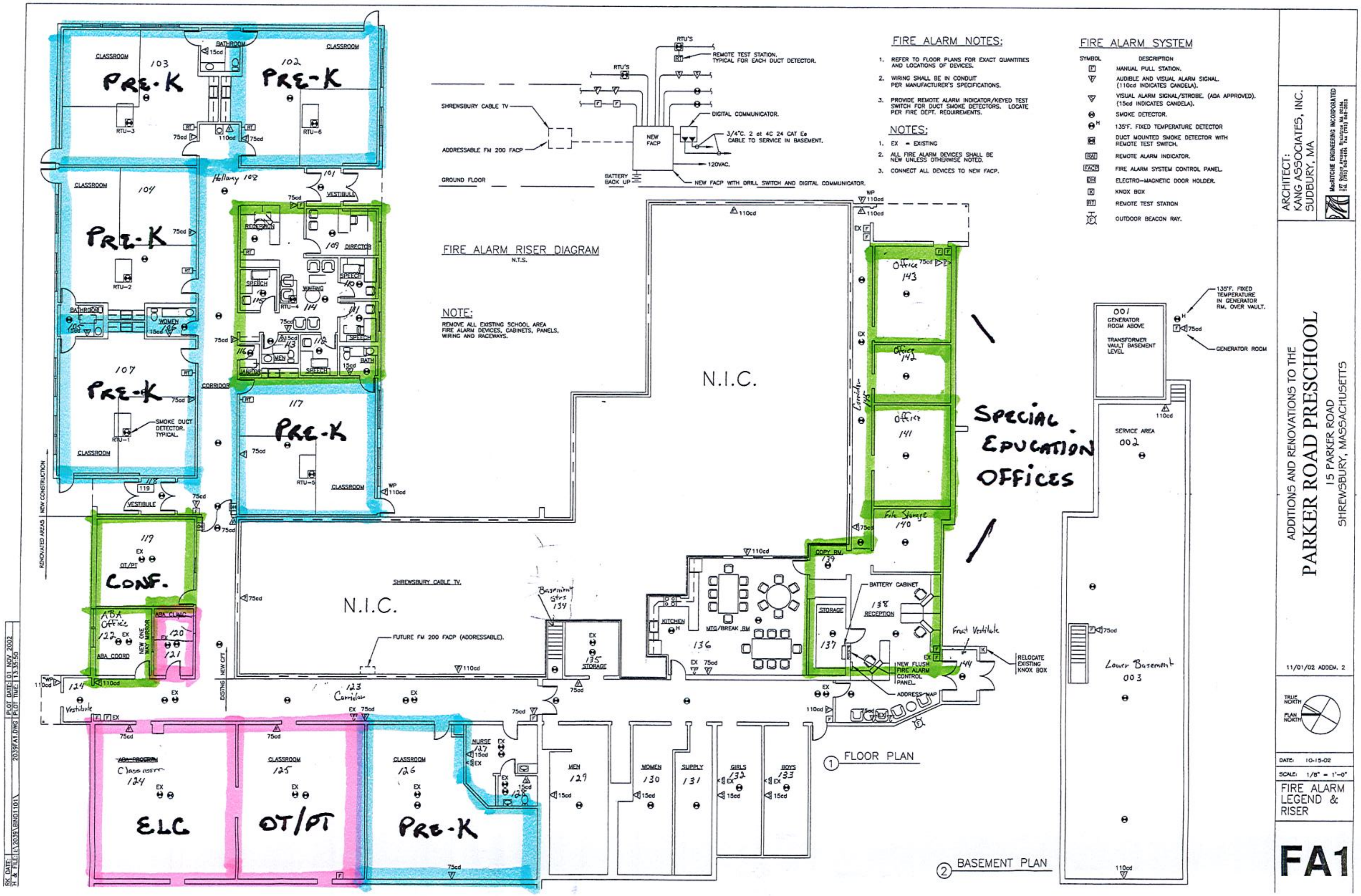
Beal Early Childhood Center- There is more demand for FDK than space available. The district must run a lottery for a limited number of full-day kindergarten slots each year. ELL space is too small to run groups larger than 4-5, which strains the ELL schedule. Music and Art share a space which restricts scheduling. Music travels for two classes per week because the room is used as overflow for the cafeteria during lunch.

Spring Street School- Health Education does not have a dedicated space and travels for every class. Music does not have a dedicated space and uses the stage in the cafeteria rather than using classrooms. Literacy tutor space is too small to have groups larger than three. This constrains their scheduling and adds staffing cost.

Floral Street School- Health Education and some Art teachers travel to deliver their programs. Former teacher/parent meeting spaces and a computer lab were converted to regular education classrooms. Some grade 1 students in the Floral Street School district are assigned to Beal Early Childhood Center due to space limitations at Floral.

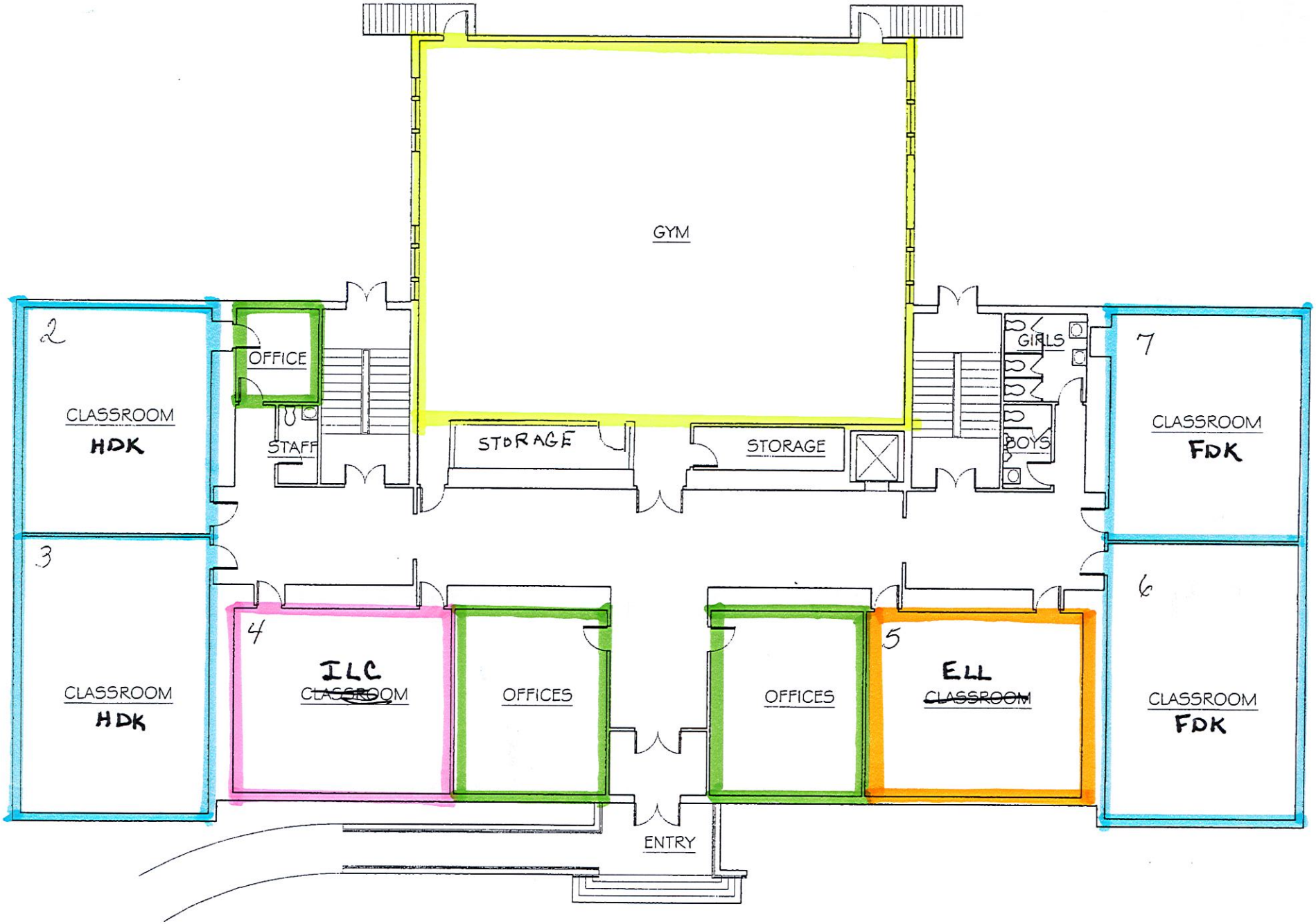
Paton School- Health, Music and Art teachers travel for all classes. They share an office space with literacy tutors. ELL travels to use various spaces as well. Because the gym and cafeteria space are one in the same [fondly referred to as the gym-a-cafetorium], the schedule does not allow for this space to be used for Physical Education classes during lunch blocks. This significantly restricts scheduling and program offerings.

Coolidge School- Neither Music nor Health Education have dedicated spaces and travel as a result. Four modular classrooms were installed in 1996 and having reached 20 years old may need further investment or replacement in the future.


ADDITIONS AND RENOVATIONS TO THE
PARKER ROAD PRESCHOOL
15 PARKER ROAD
SHREWSBURY, MASSACHUSETTS
ARCHITECT:
KANG ASSOCIATES, INC.
SUDBURY, MA
MacRITCHIE ENGINEERING INCORPORATED
11/01/02 ADDEM. 2
TRUE NORTH
PLAN NORTH
DATE: 10-15-02
SCALE: 1/8" = 1'-0"
FIRE ALARM LEGEND & RISER
FA1
FIRE ALARM NOTES:
1. REFER TO FLOOR PLANS FOR EXACT QUANTITIES AND LOCATIONS OF DEVICES.
2. WIRING SHALL BE IN CONDUIT PER MANUFACTURER'S SPECIFICATIONS.
3. PROVIDE REMOTE ALARM INDICATOR/KEYED TEST SWITCH FOR DUCT SMOKE DETECTORS. LOCATE PER FIRE DEPT. REQUIREMENTS.
NOTES:
1. EX = EXISTING
2. ALL FIRE ALARM DEVICES SHALL BE NEW UNLESS OTHERWISE NOTED.
3. CONNECT ALL DEVICES TO NEW FACP.
FIRE ALARM SYSTEM
SYMBOL
DESCRIPTION
MANUAL PULL STATION.
AUDIBLE AND VISUAL ALARM SIGNAL. (110cd INDICATES CANDELA).
VISUAL ALARM SIGNAL/STROBE. (ADA APPROVED). (15cd INDICATES CANDELA).
SMOKE DETECTOR.
135°F. FIXED TEMPERATURE DETECTOR
DUCT MOUNTED SMOKE DETECTOR WITH REMOTE TEST SWITCH.
REMOTE ALARM INDICATOR.
FIRE ALARM SYSTEM CONTROL PANEL.
ELECTRO-MAGNETIC DOOR HOLDER.
KNOX BOX
REMOTE TEST STATION
OUTDOOR BEACON RAY.
FIRE ALARM RISER DIAGRAM
N.T.S.
RTU'S
REMOTE TEST STATION. TYPICAL FOR EACH DUCT DETECTOR.
SHREWSBURY CABLE TV
DIGITAL COMMUNICATOR.
NEW FACP
3/4"C. 2 at 4C 24 CAT 5e CABLE TO SERVICE IN BASEMENT.
ADDRESSABLE FM 200 FACP
120VAC.
GROUND FLOOR
BATTERY BACK UP
NEW FACP WITH DRILL SWITCH AND DIGITAL COMMUNICATOR.
NOTE:
REMOVE ALL EXISTING SCHOOL AREA FIRE ALARM DEVICES, CABINETS, PANELS, WIRING AND RACEWAYS.
N.I.C.
SHREWSBURY CABLE TV.
FUTURE FM 200 FACP (ADDRESSABLE).
SPECIAL EDUCATION OFFICES
PRE-K
PRE-K
PRE-K
PRE-K
PRE-K
PRE-K
CONF.
ELC
OT/PT
Office 143
Office 142
Office 141
File Storage 140
COPY RM. 139
138 RECEPTION
137 STORAGE
136 MTG/BREAK RM
KITCHEN
BATTERY CABINET
NEW FLUSH FIRE ALARM CONTROL PANEL
ADDRESS MAP
Front Vestibule 144
RELOCATE EXISTING KNOX BOX
Basement Strs 134
135 STORAGE
123 Corridor
MEN 129
WOMEN 130
SUPPLY 131
GIRLS 132
BOYS 133
NURSE 127
CLASSROOM 126
CLASSROOM 125
Classroom 124
ABA Office 122
ABA COORD
ABA CLINIC 120
121
NEW ONE WAY MIRROR
117 OT/PT
VESTIBULE 119
Vestibule 124
SMOKE DUCT DETECTOR, TYPICAL.
CLASSROOM 102
CLASSROOM 103
CLASSROOM 104
CLASSROOM 107
CLASSROOM 117
BATHROOM 105
WOMEN 106
BATHROOM
Hallway 108
VESTIBULE 101
109 DIRECTOR
RECEPTION
SPEECH
WAITING 114
CORRIDOR
RENOVATED AREAS
NEW CONSTRUCTION
EXISTING
NEW CPT
1 FLOOR PLAN
001 GENERATOR ROOM ABOVE
TRANSFORMER VAULT BASEMENT LEVEL
135°F. FIXED TEMPERATURE IN GENERATOR RM. OVER VAULT.
GENERATOR ROOM
SERVICE AREA 002
Lower Basement 003
2 BASEMENT PLAN
PLOT DATE: 01 NOV 2002
PLOT TIME: 13:35:50
2039FA1.DWG

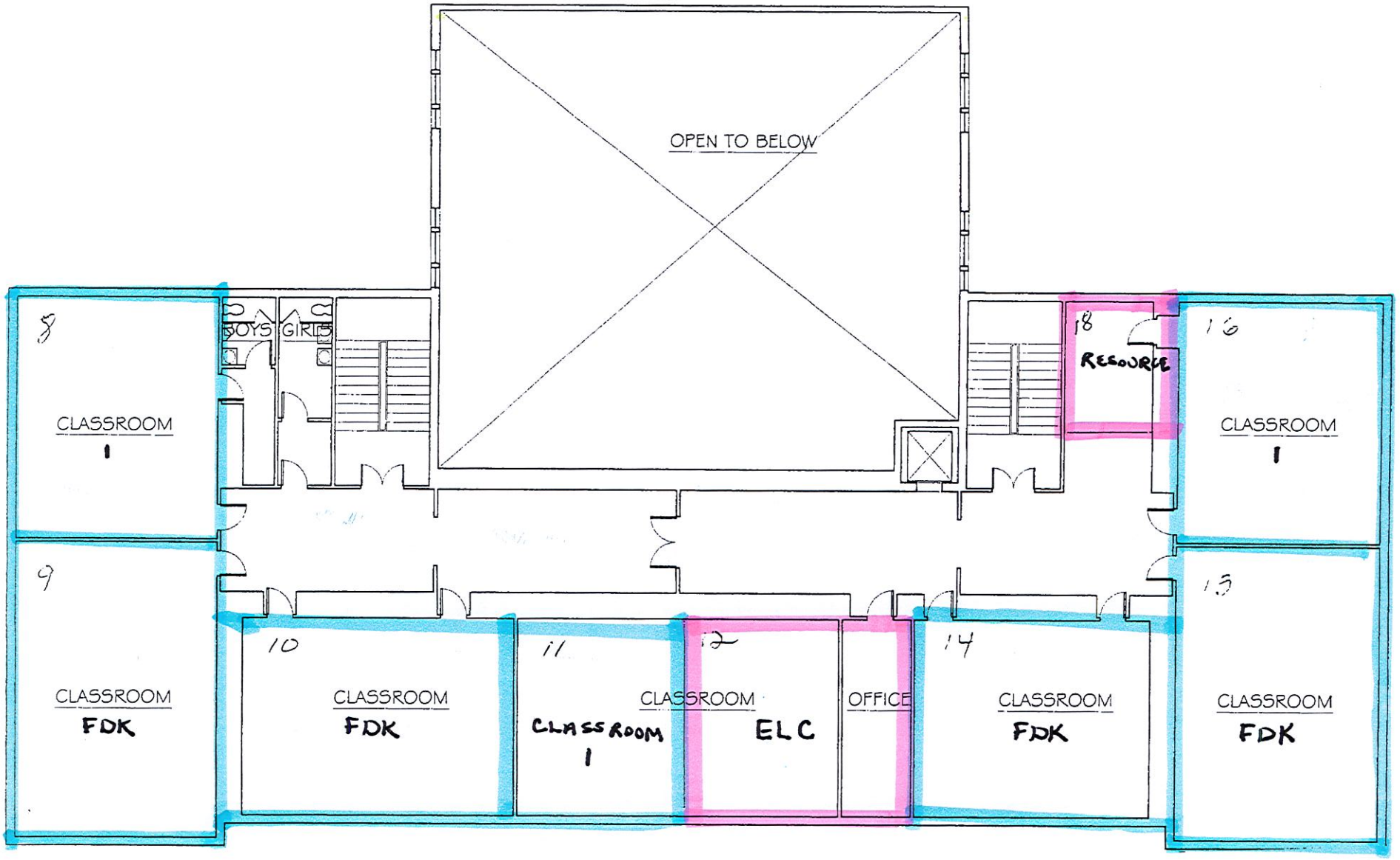
Wesleyan Terrace

2 Wesleyan Terrace
School Suite
Overall Dimension
(50 feet x 50 feet)
2,500 Square Feet



FIRST FLOOR PLAN

BEAL



SECOND FLOOR PLAN

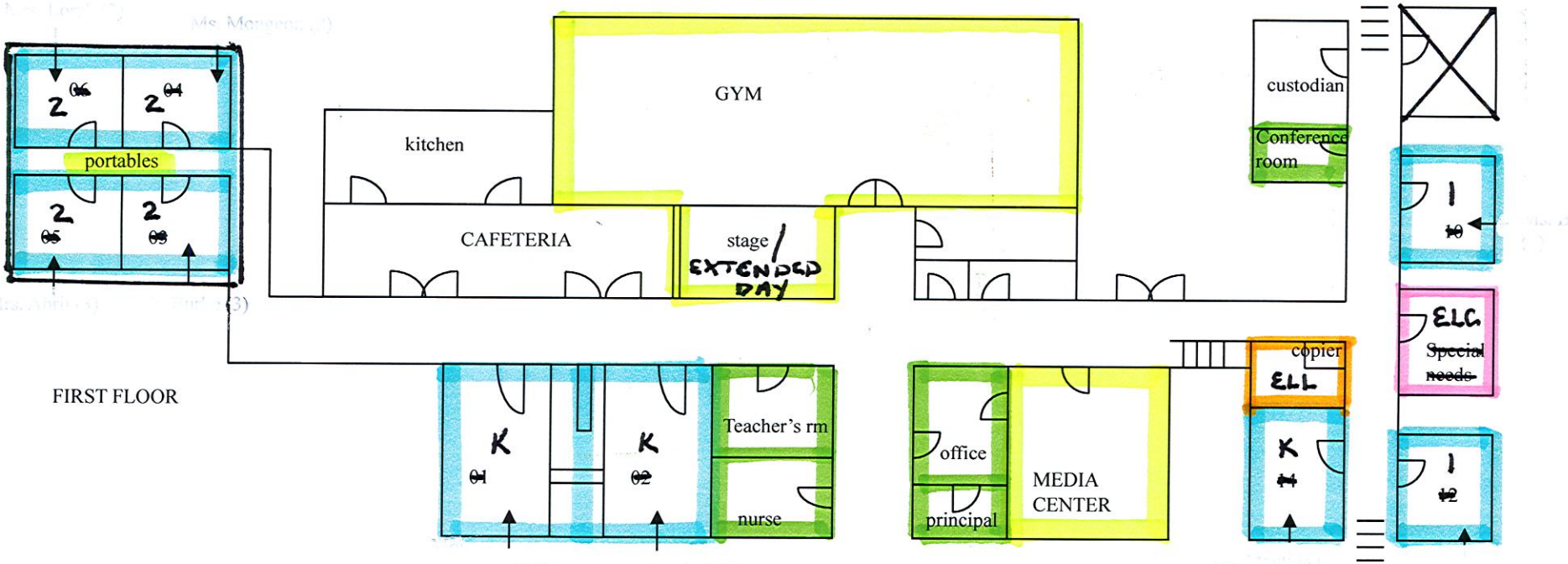
BEAL

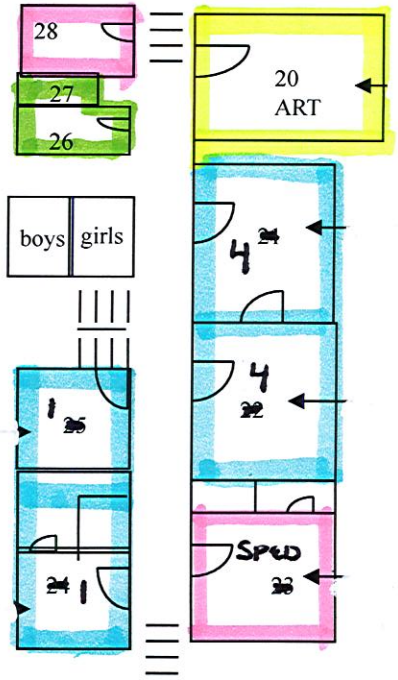
Beal

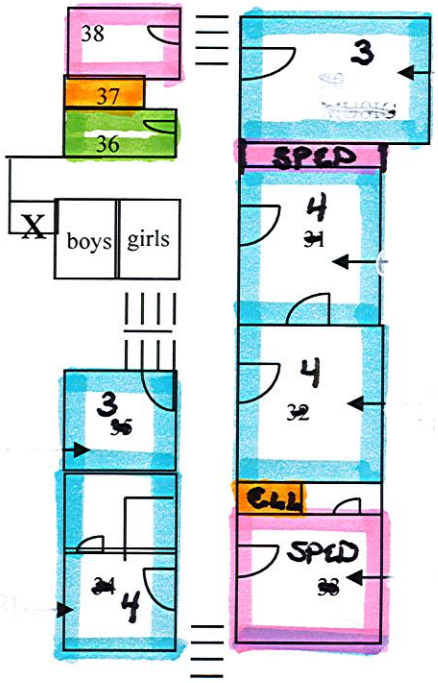
BASEMENT FLOOR PLAN

BEAL

Toff







COOLIDGE FLOOR PLAN

Paton School

GENERAL NOTES

1. THIS DRAWING WAS DEVELOPED FROM EXISTING DRAWINGS AND LIMITED FIELD INVESTIGATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING DIMENSIONS AND FIELD CONDITIONS.
2. CONTRACTOR SHALL COORDINATE LOCATION OF CEILING MOUNTED DEVICES WITH EXISTING LIGHT FIXTURES.
3. EXPOSED WIRING IN FINISHED SPACES SHALL BE INSTALLED IN SURFACE METAL RACEWAY. WHERE SUBJECT TO DAMAGE AND IN UNFINISHED SPACES, EXPOSED WIRING SHALL BE INSTALLED IN EMT.
4. ALL NEW DEVICES AND EQUIPMENT SHALL BE COMPATIBLE WITH THE EXISTING GAMEWELL MODEL IF-610 CONTROL PANEL.
5. MUNICIPAL NOTIFICATION AND ELEVATOR RECALL ARE EXISTING AND NOT INCLUDED IN THIS PROJECT. HOWEVER, SYSTEM SHALL BE REPROGRAMMED SO THAT AN ALARM FROM ANY DETECTOR OR PULL STATION WILL INITIATE ELEVATOR RECALL.
6. HEAT DETECTOR LAYOUT IS BASED ON LISTED MAXIMUM SPACING OF 50'.

WORK NOTES ⊙

(1) FOR FAN SHUTDOWN. LOCATE WITHIN 3' OF MOTOR STARTER.

FIRST FLOOR FIRE ALARM PLAN
SCALE: 1/8"=1'-0"

Sterling
engineering co., inc
Cedar Court 54 Main Street
Sturbridge, MA 01566
Tel: 508.347.9101
Fax: 508.347.7059
Email: secima@aol.com

ARCHITECT

STRUCTURAL ENGINEER

OTHER

NO.	DATE	ISSUE OR REVISION DESCRIPTION
A	05/29/01	75% FOR REVIEW
0	06/12/01	ISSUED FOR BID
1	06/21/02	REISSUED FOR BID

CLIENT: TOWN OF SHREWSBURY
SHREWSBURY, MASSACHUSETTS

PROJECT: PATON SCHOOL
FIRE ALARM UPGRADE

NORTH ARROW

STAMP

DATE	06/12/01	APPROVED	JTH
SCALE	1/8"=1'-0"	CHECKED	JTH
FILE	01022\PFA102	DRAWN	JH/LD
STERLING PROJECT	01022	CLIENT PROJECT	

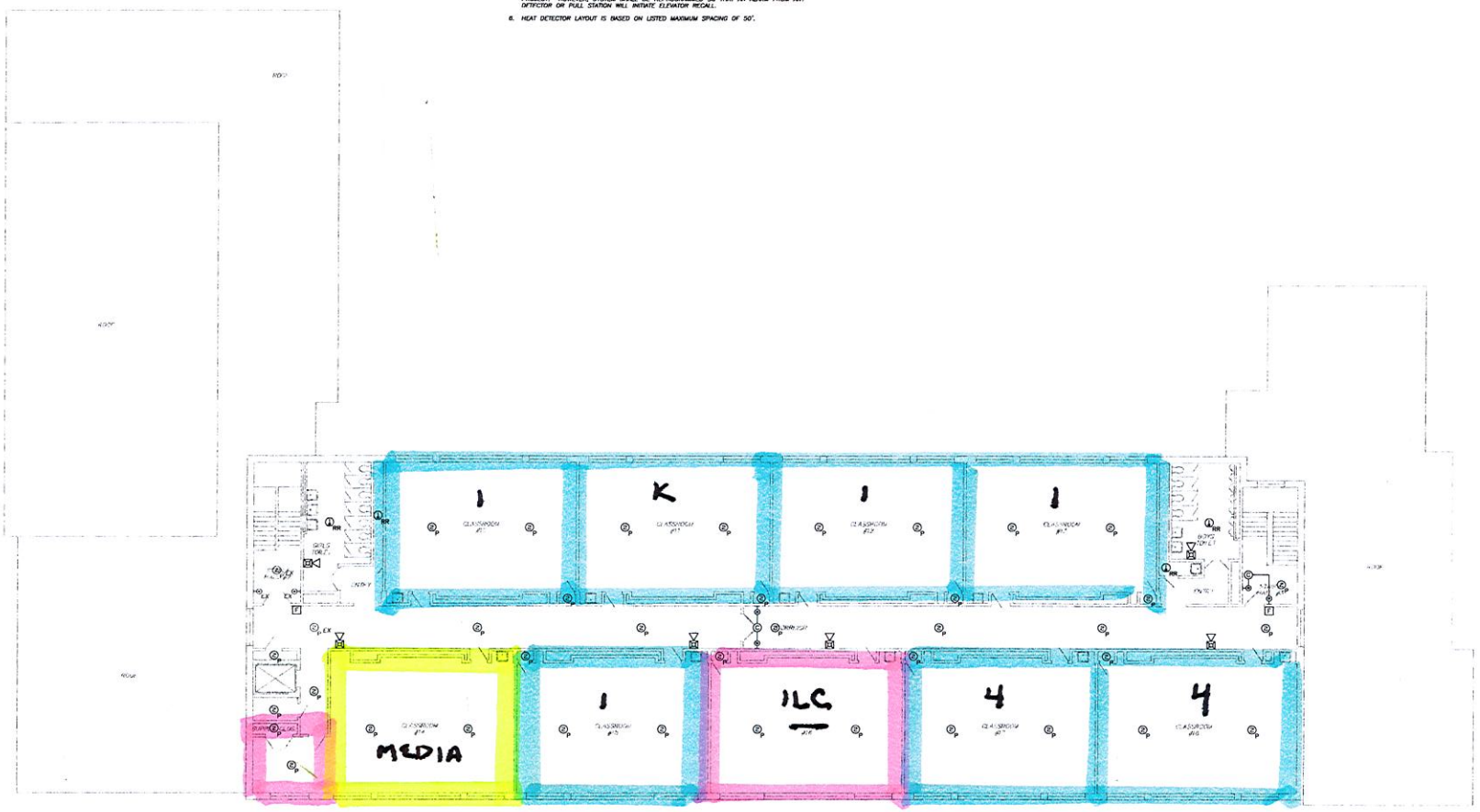
DRAWING TITLE
FIRST FLOOR
FIRE ALARM PLAN

DRAWING NUMBER
FA102

Paton School

GENERAL NOTES

1. THIS DRAWING WAS DEVELOPED FROM EXISTING DRAWINGS AND LIMITED FIELD INVESTIGATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING DIMENSIONS AND FIELD CONDITIONS.
2. CONTRACTOR SHALL COORDINATE LOCATION OF CEILING MOUNTED DEVICES WITH EXISTING LIGHT FIXTURES.
3. EXPOSED WIRING IN FINISHED SPACES SHALL BE INSTALLED IN SURFACE METAL RACEWAY, WHERE SUBJECT TO DAMAGE AND IN UNFINISHED SPACES, EXPOSED WIRING SHALL BE INSTALLED IN EMT.
4. ALL NEW DEVICES AND EQUIPMENT SHALL BE COMPATIBLE WITH THE EXISTING GAMEWELL MODEL IF-610 CONTROL PANEL.
5. MUNICIPAL NOTIFICATION AND ELEVATOR RECALL ARE EXISTING AND NOT INCLUDED IN THIS PROJECT. HOWEVER, SYSTEM SHALL BE REPROGRAMMED SO THAT AN ALARM FROM ANY DETECTOR OR PULL STATION WILL INITIATE ELEVATOR RECALL.
6. HEAT DETECTOR LAYOUT IS BASED ON LISTED MAXIMUM SPACING OF 50'.



SECOND FLOOR FIRE ALARM PLAN
SCALE: 1/8"=1'-0"

Sterling
engineering co., inc.
Cedar Court 54 Main Street
Sturbridge, MA 01566
Tel: 508.347.9101
Fax: 508.347.7659
Email: secma@aol.com

ARCHITECT

STRUCTURAL ENGINEER

OTHER

NO.	DATE	ISSUE OR REVISION DESCRIPTION
A	05/29/01	75% FOR REVIEW
0	06/12/01	ISSUED FOR BID
1	05/21/02	REISSUED FOR BID

CLIENT: TOWN OF SHREWSBURY
SHREWSBURY, MASSACHUSETTS

PROJECT: PATON SCHOOL
FIRE ALARM UPGRADE

NORTH ARROW

STAMP

DATE 05/21/02	APPROVED JTH
SCALE 1/8"-1'-0"	CHECKED JTH
FILE 0122\FFA103	DRAWN JH/LD
STERLING PROJECT 0122	CLIENT PROJECT

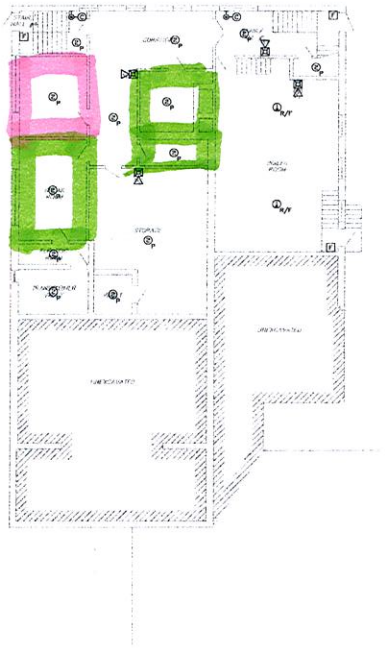
DRAWING TITLE
SECOND FLOOR
FIRE ALARM PLAN

DRAWING NUMBER
FA103

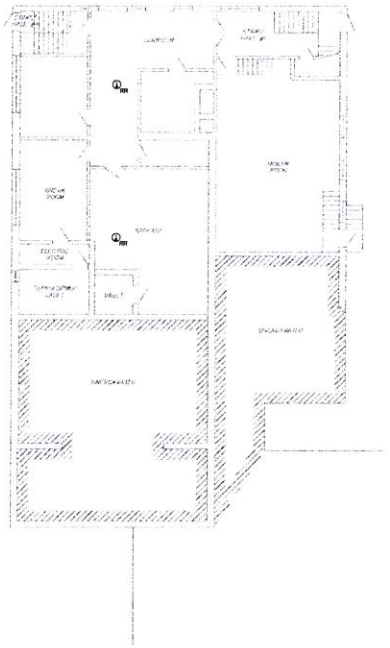
Paton School

GENERAL NOTES

1. THIS DRAWING WAS DEVELOPED FROM EXISTING DRAWINGS AND LIMITED FIELD INVESTIGATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING DIMENSIONS AND FIELD CONDITIONS.
2. CONTRACTOR SHALL COORDINATE LOCATION OF CEILING MOUNTED DEVICES WITH EXISTING LIGHT FIXTURES.
3. EXPOSED WIRING IN FINISHED SPACES SHALL BE INSTALLED IN SURFACE METAL RACEWAY. WHERE SUBJECT TO DAMAGE AND IN UNFINISHED SPACES, EXPOSED WIRING SHALL BE INSTALLED IN EMT.
4. ALL NEW DEVICES AND EQUIPMENT SHALL BE COMPATIBLE WITH THE EXISTING GAMEWELL MODEL IF-810 CONTROL PANEL.
5. MUNICIPAL NOTIFICATION AND ELEVATOR RECALL ARE EXISTING AND NOT INCLUDED IN THIS PROJECT. HOWEVER, SYSTEM SHALL BE REPROGRAMMED SO THAT AN ALARM FROM ANY DETECTOR OR PULL STATION WILL INITIATE ELEVATOR RECALL.
6. HEAT DETECTOR LAYOUT IS BASED ON LISTED MAXIMUM SPACING OF 50'.



BASEMENT FIRE ALARM PLAN
SCALE: 1/8"=1'-0"



BASEMENT ABOVE CEILING FIRE ALARM PLAN
SCALE: 1/8"=1'-0"

Sterling
engineering co., inc.
Cedar Court 54 Main Street
Northridge, MA. 01566
Tel: 508.347.9101
Fax: 508.347.7050
Email: secmail@aol.com

ARCHITECT

STRUCTURAL ENGINEER

OTHER

NO.	DATE	ISSUE OR REVISION DESCRIPTION
A	05/29/01	75% FOR REVIEW
0	06/12/01	ISSUED FOR BID
1	06/21/02	REISSUED FOR BID

CLIENT: TOWN OF SHREWSBURY
SHREWSBURY, MASSACHUSETTS

PROJECT: PATON SCHOOL
FIRE ALARM UPGRADE

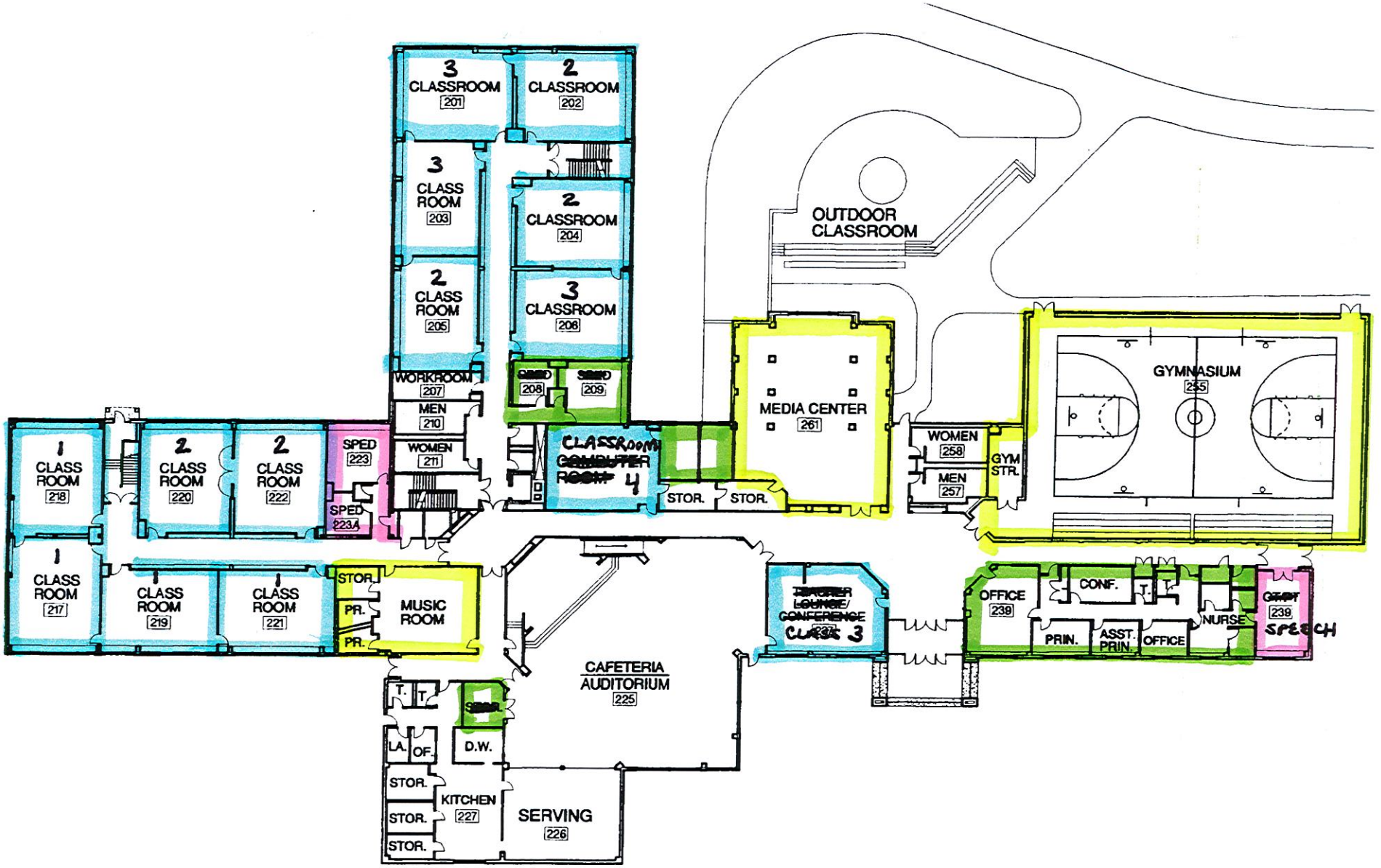
NORTH ARROW

STAMP

DATE	06/12/01	APPROVED	JTH
SCALE	1/8"=1'-0"	CHECKED	JTH
FILE	01022\FFA101	DRAWN	JH/LD
STERLING PROJECT	01022	CLIENT PROJECT	

DRAWING TITLE
BASEMENT
FIRE ALARM PLAN

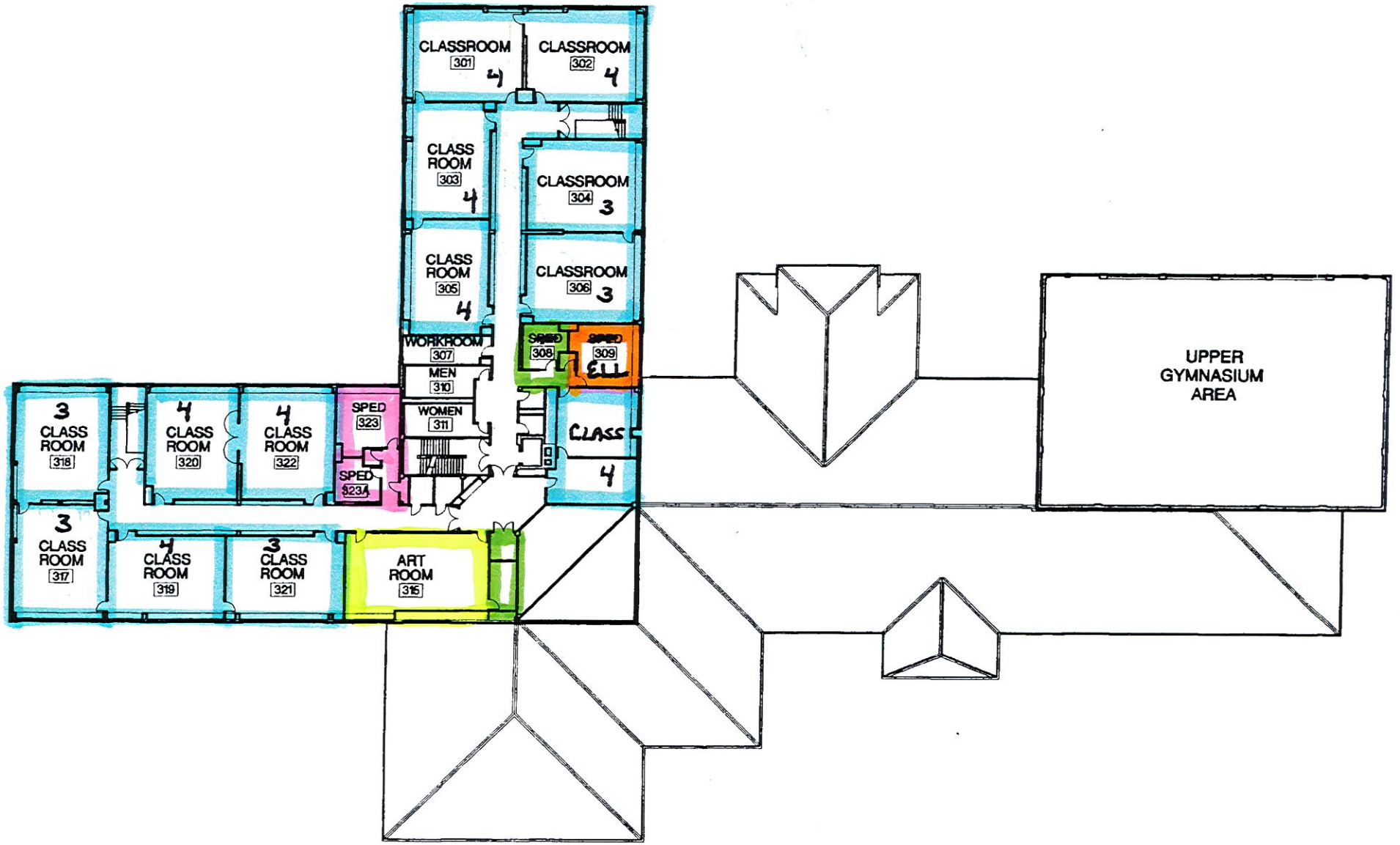
DRAWING NUMBER
FA101



MAIN FLOOR LEVEL

FLORAL STREET ELEMENTARY SCHOOL

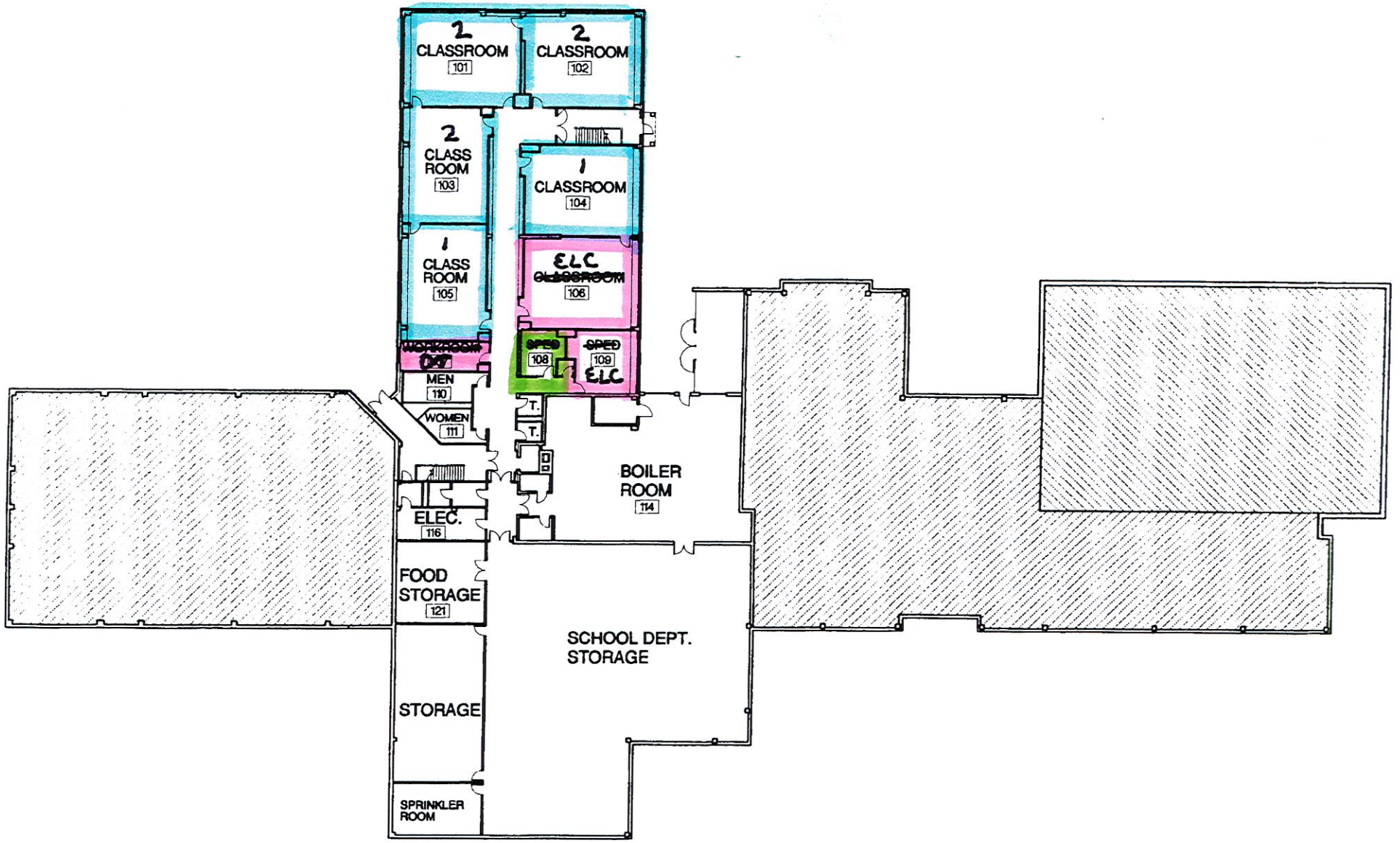
TOWN OF SHREWSBURY, MASSACHUSETTS 01545



UPPER FLOOR LEVEL

FLORAL STREET ELEMENTARY SCHOOL

TOWN OF SHREWSBURY, MASSACHUSETTS 01545

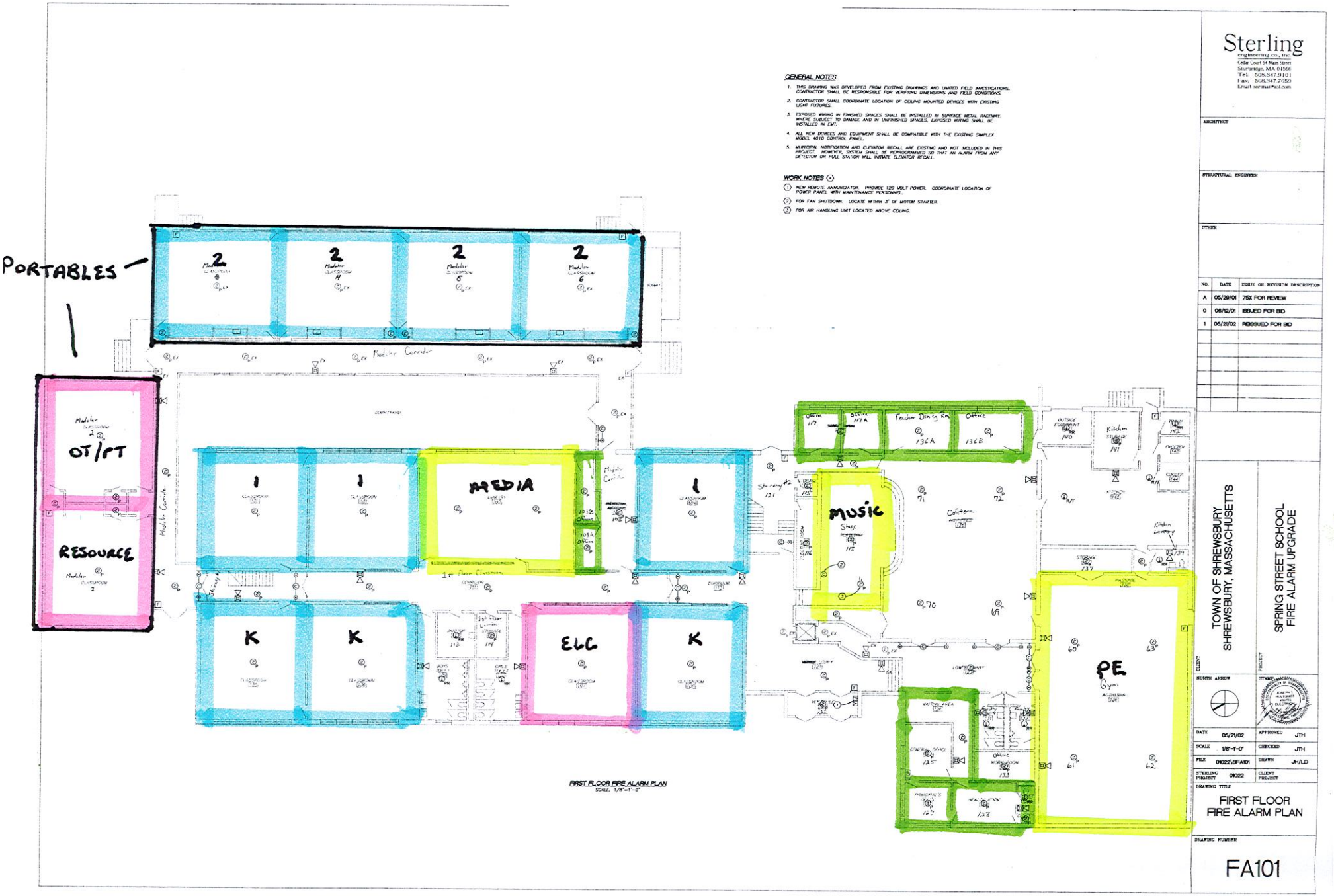


LOWER FLOOR LEVEL

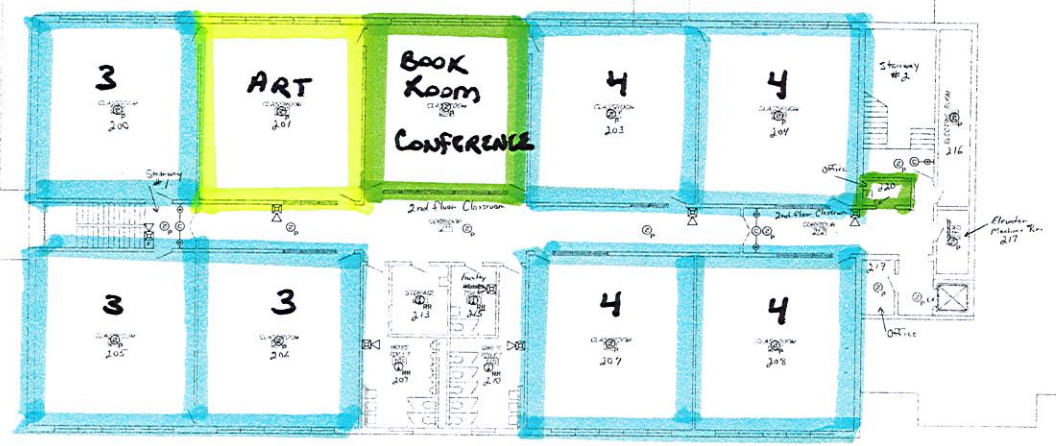
FLORAL STREET ELEMENTARY SCHOOL

TOWN OF SHREWSBURY, MASSACHUSETTS 01545

Spring Street School



Spring Street School



SECOND FLOOR FIRE ALARM PLAN
SCALE: 1/8"=1'-0"

GENERAL NOTES

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4. ALL NEW DEVICES AND EQUIPMENT SHALL BE COMPATIBLE WITH THE EXISTING SIMPLEX MODEL 4010 CONTROL PANEL.
5. MUNICIPAL NOTIFICATION AND ELEVATOR RECALL ARE EXISTING AND NOT INCLUDED IN THIS PROJECT. HOWEVER, SYSTEM SHALL BE REPROGRAMMED SO THAT AN ALARM FROM ANY DETECTOR OR PULL STATION WILL INITIATE ELEVATOR RECALL.

WORK NOTES (+)

(1) FOR FAN SHUTDOWN. LOCATE WITHIN 3' OF MOTOR STARTER.
(2) FOR AIR HANDLING UNIT LOCATED ABOVE.

Sterling
engineering co., inc.
Cole Court 54 Main Street
Sturbridge, MA 01566
Tel. 508.347.9101
Fax. 508.347.7659
Email: secinc@aol.com

ARCHITECT

STRUCTURAL ENGINEER

OTHER

NO.	DATE	ISSUE OR REVISION DESCRIPTION
A	05/29/01	75% FOR REVIEW
0	06/12/01	ISSUED FOR BID
1	05/21/02	REISSUED FOR BID

CLIENT: TOWN OF SHREWSBURY
SHREWSBURY, MASSACHUSETTS

PROJECT: SPRING STREET SCHOOL
FIRE ALARM UPGRADE

NORTH ARROW

STAMP

DATE 05/21/02	APPROVED JTH
SCALE 1/8"=1'-0"	CHECKED JTH
FILE 01022\SFA102	DRAWN JH/LD
STERLING PROJECT 01022	CLIENT PROJECT

DRAWING TITLE
SECOND FLOOR
FIRE ALARM PLAN

DRAWING NUMBER
FA102

Massachusetts School Building Authority

Preliminary Enrollment Questionnaire and Baseline Projection

This report was generated by the Massachusetts School Building Authority's Enrollment Projection application. It contains data reported by the District, as well as data provided by the Massachusetts Department of Elementary and Secondary Education and the Massachusetts Department of Public Health.

The Baseline Projection is created by taking your actual current enrollment and calculating the grade-to-grade survival ratios for each grade. The ratios are applied to each grade to create the projection. The incoming kindergarten classes are extrapolated from the actual birth data compiled by the Department of Public Health. The final component of the baseline projection is based on the housing permits issued in the district. For more information about the baseline projection or the enrollment process, please see www.massschoolbuildings.org.

This print-out is for reviewing or record-keeping purposes only. If the District has already submitted their Preliminary Enrollment form to the MSBA online, there are no next steps to take.

District:	Shrewsbury
Submission Date:	6/29/2016
Submitted By:	Patrick Collins
As part of Statement of Interest?	No

Table of Contents:

- Enrollment
- Births
- Building Permits
- Housing Sales
- Baseline Projections
- Submission

claimer: A Preliminary Enrollment Report is NOT an application for funding. Submission of the Preliminary Enrollment information in no way commits the BA to accept an application, approve an application, provide a grant, or any other type of funding, or places any other obligation or requirement on the MSBA.

Enrollment

The table below was provided by the Department of Elementary and Secondary Education. It contains enrollment information reported to them by the District of each year.

Year	Kinder	1	2	3	4	5	6	7	8	9	10	11	12	Total
2006-07	378	440	467	452	506	462	488	449	501	408	436	389	345	5721
2007-08	376	439	454	482	454	496	450	485	449	419	404	423	383	5714
2008-09	342	475	456	458	479	456	461	453	488	393	429	390	427	5707
2009-10	348	425	494	465	459	473	435	467	439	421	398	415	390	5629
2010-11	372	427	448	514	472	469	465	436	479	401	416	390	410	5699
2011-12	341	429	457	464	516	485	476	462	443	414	414	413	390	5704
2012-13	364	416	447	474	458	524	465	474	466	408	421	417	412	5746
2013-14														-9

These lines, if any, represent years that were not available from the DESE and were instead entered by the District in this form.

Year	Kinder	1	2	3	4	5	6	7	8	9	10	11	12	Total
2014-15	346	430	430	462	467	487	469	529	478	432	423	409	420	5782
2015-16	355	425	446	439	474	472	500	480	547	413	441	411	403	5806

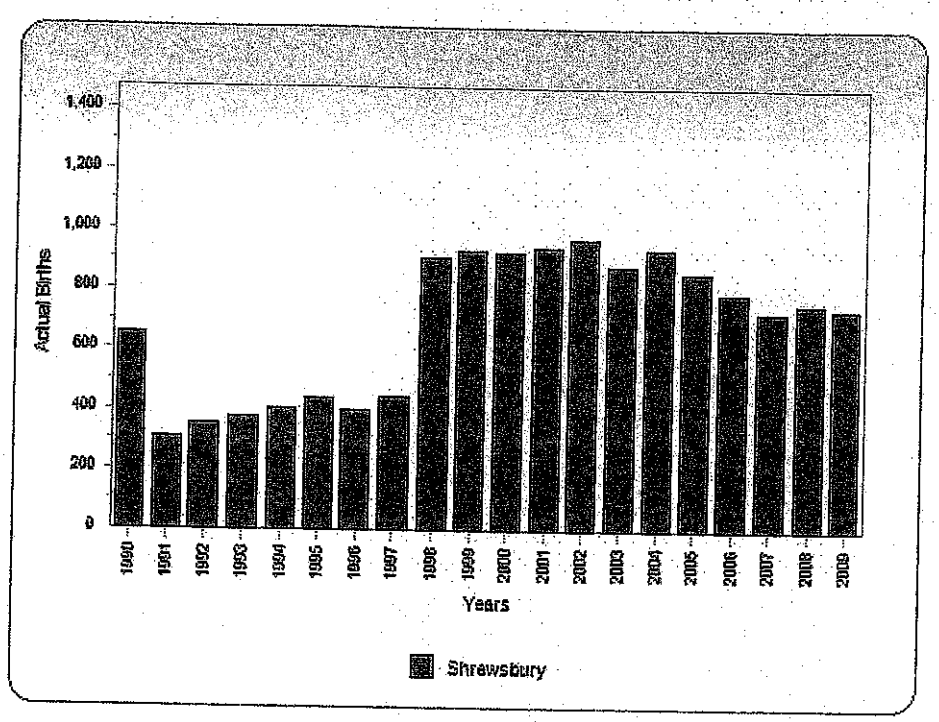
Comments:

Significant [positive] cohort survival ratio from kindergarten to Grade 1 is partially due to the fact that the district does not have sufficient space to offer universal full-day kindergarten. 2013-2014 row did not allow us to enter data above: preK=250 K=392 1=399 2=450 3=452 4=480 5=462 6=518 7=490 8=471 9=420 10=406 11=419 12=401 SP=1 Total=6,011

Births

The graph and table below represent data gathered by the Massachusetts DPH.

Actual births, Actual Female Population, Trends in Female Population



Birth Year	Shrewsbury
1990	652
1991	309
1992	354
1993	375
1994	402
1995	436
1996	399
1997	445
1998	910
1999	928
2000	924
2001	940
2002	970
2003	878
2004	938

2005	857
2006	787
2007	724
2008	755
2009	740

These lines, if any, represent years that were not available from the DPH and were instead entered by the District in this form.

Birth Year	Shrewsbury
2010	322
2011	378
2012	362
2013	373
2014	341
2015	324
2016	88

Comments:

2016 data is year to date as of May 6, 2016. The Town Clerk reports different data than shown above for following years: 2007=363 2008=373 2009=372

Building Permits

The following information was entered into the MSBA's Enrollment Projection application by the District.

Actual Permits Issued

Municipality/Permit Type	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Shrewsbury(Single)	39	34	24	50	59	49	47	80	43	51
Shrewsbury(Multi)	203	20	6	32	71	74	26	25	8	8

Total Projected Permits

Municipality/Permit Type	2016	2017
Shrewsbury(Single)	40	40
Shrewsbury(Multi)	263	248

Projected Permits for Persons over 55

Municipality/Permit Type	2016	2017
Shrewsbury(Single)	0	0
Shrewsbury(Multi)	0	0

Comments:

The district will send separately a report "School Children in Housing Developments" dated November 2015 and drafted by the Asst. Town Manager/Economic Development Coordinator. This report depicts school-age children yield based on types of housing and new growth. Also, the town is experiencing a new trend in growth of duplex housing on lots where single-family homes once stood This is because of the excellent reputation of the school district and relatively low tax burden.

Housing Project Description

The following description of active or planned residential developments were entered by the district.

Development Name	Description (Includes a breakdown of the type of units in the development, i.e., 50% single bedroom units, 50% 2+ bedrooms.)	Estimated Completion Year
Lakeway Commons	250 apartments [for rent] with 10% affordable housing eligible 1BR/studio= 145 units 2BR=114 3BR=4	2018
Lakeway Commons	13 townhouses [for sale] with 2 units affordable housing eligible. All 13 units have 2BR	2018
Stoney Hill [40B designated]	248 apartments with 25% affordable housing eligible to be built in two phases Phase I at 440 Hartford Turnpike includes 156 units: 1BR= 12 units 2BR=128 units 3BR=16 units Phase II at 526 Hartford Turnpike includes 94 units: 1BR= 9 units 2BR=79 units 3BR=6 units	2020
Summit Ridge Estates	30 single family lots remain available for building	2018
Nelson Point	18 single family lots remain available for building	2017

Housing Sales

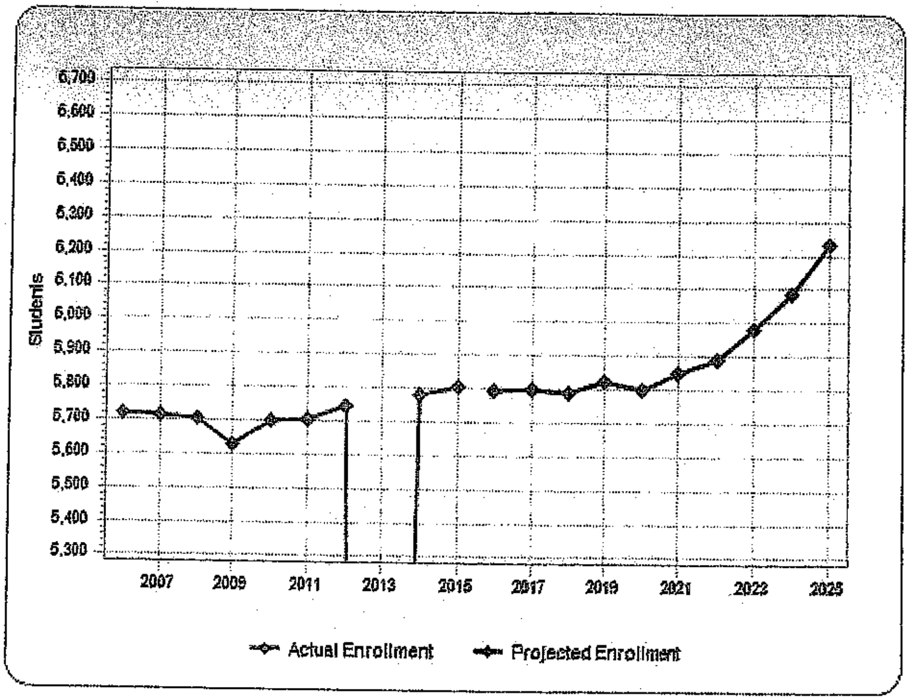
The following information has been provided by the Warren Group for each municipality in the school district.

Municipality	Year	Single Family sales	Condo Sales	Total Sales
Shrewsbury	2007	373	110	531
Shrewsbury	2008	282	92	424
Shrewsbury	2009	274	80	398
Shrewsbury	2010	299	87	471
Shrewsbury	2011	263	70	424
Shrewsbury	2012	309	106	513

Comments :

2013= 240 Single Family and 119 Condo sales. Total sales = 449 2014= 282 Single Family and 120 Condo sales. Total sales = 419 2015= 304 Single Family and 121 Condo sales. Total sales = 450

Baseline Projection



Actual Enrollment

Year	Kinder	1	2	3	4	5	6	7	8	9	10	11	12	Total
2006-07	378	440	467	452	506	462	488	449	501	408	436	389	345	5721
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2013-14														-9
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2015-16	355	425	446	439	474	472	500	480	547	413	441	411	403	5806

Projection

This baseline projection was created using the information provided by the district, both to the DESE and in this questionnaire. It only takes into account the most recent enrollment and birth data for your district. This is only intended to help your district see general trends in district enrollment. A more robust projection taking more factors into account is created any time a district is invited into the project pipeline.

Year	Kinder	1	2	3	4	5	6	7	8	9	10	11	12	Total
2016-17	349	422	449	459	441	480	462	506	481	488	417	436	407	5797
2017-18	360	414	446	462	461	446	470	468	507	430	493	412	431	5800
2018-19	373	426	438	459	464	466	437	476	469	453	433	487	408	5791
2019-20	385	443	453	451	461	470	457	442	477	419	457	428	482	5825
2020-21	397	457	469	466	453	466	461	462	444	426	422	452	424	5799
2021-22	409	472	483	482	468	458	457	466	464	396	429	418	447	5849
2022-23	422	486	499	497	484	473	449	462	467	414	399	425	413	5890
2023-24	434	501	514	514	499	490	464	454	464	417	417	395	420	5983
2024-25	446	516	530	529	516	505	480	469	455	414	421	413	391	6085
2025-26	459	530	545	545	531	522	495	486	471	406	417	416	408	6231

This projection was created using a modified cohort survival methodology. Details can be found at www.massschoolbuildings.org

Comments :

RE: The Baseline MSBA Projection shown above: As of 6.23.2016 the district has 373 kindergarten students enrolled for the 2016-17 school year and is expecting more new enrollments over the summer.

Massachusetts School Building Authority

Signatures – Enrollment Questionnaire

This report was generated by the Massachusetts School Building Authority's Enrollment Projection application. Please sign it and return it to the Massachusetts School Building Authority (MSBA):

Enrollment Projection Team
Massachusetts School Building Authority
40 Broad Street, Suite 500
Boston, MA 02109

You only have to return this page to the MSBA.
You do not need to print out and mail a copy of the entire form.

District:	**Shrewsbury**
Submission Date:	**6/29/2016**
As part of Statement of Interest?	**Yes**
Form ID:	**172**

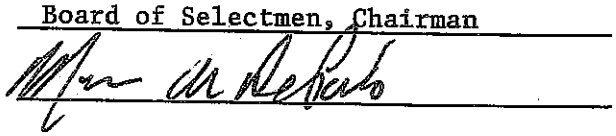
The undersigned hereby certifies that, to the best of his/her knowledge, information and belief, the statements and information contained in the form referenced above are true and accurate and that the Electronic Submitter was duly authorized to submit the information to the Massachusetts School Building Authority.

The undersigned also hereby acknowledges and agrees to provide the Massachusetts School Building Authority, upon request by the MSBA, any additional information relating to this enrollment information that may be required by the MSBA.

This form may be signed by the Local Chief Executive Officer (E.g., Mayor, Town Manager) or by the School District Superintendent.

Print Name : Maurice M. DePalo

Title : Board of Selectmen, Chairman

Signature: 

Date: June 29, 2016

Disclaimer: A form submitted to the Enrollment Application is NOT an application for funding. Submission of any enrollment information to the MSBA in no way commits the MSBA to accept an application, approve an application, provide a grant or any other type of funding, or places any other obligation or requirement on the MSBA.

Gmail by Google

Daniel Morgado <dmorgado@shrewsburyma.gov>

RE: MSBA/Shrewsbury - Beal Early Childhood Center Eligibility Period Call Follow-Up

1 message

Kathryn DeCristofaro <Kathryn.Decristofaro@massschoolbuildings.org> Wed, Apr 13, 2016 at 11:47 AM
To: "dmorgado@th.ci.shrewsbury.ma.us" <dmorgado@th.ci.shrewsbury.ma.us>
Cc: "mmiller@shrewsburyma.gov" <mmiller@shrewsburyma.gov>, "jsamia@shrewsbury.k12.ma.us" <jsamia@shrewsbury.k12.ma.us>, "jsawyer@shrewsbury.k12.ma.us" <jsawyer@shrewsbury.k12.ma.us>, Elena Seiti <Elena.Seiti@massschoolbuildings.org>, "pccollins@shrewsbury.k12.ma.us" <pccollins@shrewsbury.k12.ma.us>, "rcox@shrewsburyma.gov" <rcox@shrewsburyma.gov>

Dear Mr. Morgado:

Thank you and other local officials for taking the time to speak with me this morning regarding the pre-requisites of the Eligibility Period for the Early Childhood Center project in the Town of Shrewsbury. As a reminder, I will be your point of contact for the project at the MSBA and any questions or concerns can be directed toward me.

As a follow-up to our discussion, I have re-attached the three documents as outlined in my email dated Thursday April 7, 2016, which is below this correspondence, for reference.

Additionally, as discussed this morning, I have included information in the table below that relates to recent District appropriation amounts for Feasibility Study and Schematic Design. We believe conversations with certain Superintendents will help inform the District about a target appropriation for this project. Currently, Beal Early Childhood Center serves 311 students in grades PK-K, according to the Department of Education's 2015-2016 enrollment information. Also within the table below, you will note that there are some Districts that have their grade configuration highlighted in bold text. This denotes that the District has executed a study enrollment certification with the MSBA, which provides the District with the opportunity to study different grade configurations than those currently housed at the specific school. Those Superintendents will be able to explain the nuances of the configurations and how that may have impacted their appropriation amount for Feasibility Study and Schematic Design funds.

District	School	Grades	Enrollment (in students)	FSA Appropriation	Superintendent
Amherst	Wildwood Elementary School	**K-6**	422	$1,000,000	Maria Geryk 413-362-1810
Bourne	James F. Peebles Elementary School	**K-4**	330	$750,000	Steven Lamarche 508-759-0660
Dedham	Early Childhood Center	**PK-K**	200 (K population only)	$600,000	Michael J. Welch 781-310-1011
Easthampton	Maple Elementary School	**PK-4**	246	$1,000,000	Nancy Follansbee 413-529-1567
Granby	West Street School	Originally PK-3 Current PK-6	213 430	$800,000	Dr. Judith Houle (Interim) 413-467-7193
Hanover	Sylvester Elementary School	**3-4**	243	$500,000	Matthew Ferron 781-878-0786
Hopkinton	Center Elementary School	K-1	446	$600,000	Dr. Cathy MacLeod 508-417-9360

Ipswich	Winthrop Elementary School	**PK-5**	407	$945,000	Dr. William Hart 978-356-2935
Millis	Clyde F. Brown Elementary School	**PK-4**	528	$1,000,000	Nancy Gustafson 508-376-7000
Needham	Hillside Elementary School	**K-5**	465	$650,000	Daniel Gutekanst 781-455-0400 ext. 203
Newton	Cabot Elementary School	K-5	403	$1,000,000	Dr. David Fleishmen 617-559-6100
Taunton	James L. Mulcahey Elementary School	**K-4**	471	$1,700,000	Dr. Julie Hackett 508-821-1201

I look forward to receiving the Initial Compliance Certification over the next few business days and moving this project forward through Eligibility Period.

If you have any questions or comments, please do not hesitate to contact me.

Sincerely,

Katie DeCristofaro

From: Kathryn DeCristofaro
Sent: Thursday, April 07, 2016 2:51 PM
To: dmorgado@th.ci.shrewsbury.ma.us
Cc: 'mmiller@shrewsburyma.gov'; 'jsamia@shrewsbury.k12.ma.us'; 'jsawyer@shrewsbury.k12.ma.us'; Elena Seiti
Subject: MSBA/Shrewsbury - Beal Early Childhood Center

Good afternoon, Mr. Morgado:

On March 30, 2016, the Board of the Massachusetts School Building Authority (the "MSBA") voted to authorize the MSBA's grant approval process and benefits the District by providing a definitive schedule for the completion of preliminary requirements, assisting with the determination of financial and community readiness, and identifying needs for planning and budgeting. Successful completion of all activities in the Eligibility Period will allow the District to be eligible for an MSBA invitation to Feasibility Study.

I will be the Project Coordinator for this project, and any questions or comments can be directed to me. Attached to this email please find:

- The **School Building Committee Form**, which must be filled out by the District and reviewed/approved by the MSBA (please mail an original on District letterhead). The SBC is due to the MSBA no later than **June 13, 2016**;

- The **Eligibility Period System Access Form**. The Eligibility Period Access Form gains users access to both the Enrollment and Maintenance and Capital Planning (the "MCP") online forms. For each user for whom you request access, please indicate whether the designated user will need to have access to edit (i.e. input data) or read only. Please sign the form and return it to Katie DeCristofaro (Kathryn.DeCristofaro@MassSchoolBuildings.org) in order to be authorized to use the MSBA Enrollment Questionnaire/On-Line Projection and Maintenance and Capital Planning online form.

Upon completion of the **online Enrollment information** by **July 12, 2016**, the MSBA will review the data in conjunction with the enrollment projection, recommend a design enrollment and invite the District to meet in our Boston office or participate in a conference call to discuss unique local conditions, listen to any concerns the District may have, as well as determine if additional information needs to be considered as part of the enrollment forecast. Enrollment must be finalized, including a **signed enrollment certification**, no later than **October 11, 2016.**

The District will need to submit the current routine and capital maintenance plan for your facilities. The MSBA is requesting that every District invited into the MSBA's Eligibility Period submit this information using the MSBA's online **Maintenance and Capital Planning Form** to facilitate the MSBA's evaluation of District maintenance and capital planning practices. More information regarding the MSBA's focus on and evaluation of maintenance and capital planning can be found on the MSBA website at http://www.massschoolbuildings.org/building/prerequisites/maintenance_cap_planning. Please contact Sarah Young at 617-720-4466 or Sarah.Young@MassSchoolBuildings.org if you have any questions about using the MCP system. The MCP information must be submitted no later than **October 11, 2016;**

· The **Feasibility Study Vote Bulletin** for Cities and Towns in Word format for the District to use as a model when crafting their vote language. **Upon completion, the District will send me a draft version of their language in Word format for the MSBA to review and approve**. After the vote has been taken, the District will submit a certified copy of the vote(s) taken for MSBA records. The appropriation for Feasibility Study funds must be completed by **January 9, 2017.**

All documents, unless otherwise noted, will be submitted to me by the indicated deadline above.

As a reminder, the **Educational Program Questionnaire** and **Initial Compliance Certification**, two of the Eligibility Period requirements, were sent to the District previously. If you would like me to resend either or both of these documents, please let me know and I'll be happy to resend.

I would like the opportunity to discuss this information in greater detail with at least you and/or a member of your staff, an individual on the school side, and at least one other District official who is knowledgeable in the financial capabilities of the District, as well as answer any questions you may have as it relates to the Eligibility Period requirements described above. Please provide me with three days and times for either next week (April 11, 2016) or the week of April 25, 2016, in which you can be available to have this phone call and I will schedule accordingly.

I look forward to hearing from you and moving the Beal Early Childhood Center through the Eligibility Period.

Best,

Katie DeCristofaro

Kathryn DeCristofaro

Capital Program Manager

Mass School Building Authority

617-720-4466

Kathryn.DeCristofaro@MassSchoolBuildings.org

3 attachments

Shrewsbury, Beal ECC SBC.DOCX
18K

Enrollment, MCP Access Form.doc
35K

City, Town- FS Vote Language.doc
31K

MINUTES
Beal Early Childhood Center Building Committee
September 13, 2016

Present: Mr. Kane. Ms. Fryc, Dr. Sawyer, Mr. Collins, Mr. Cox, Mr. Masiello, Mr. Gerardi, Mr. Morgado

Mr. Kane called the meeting to order at 6:00 PM using a meeting notice and agenda with attachments dated September 6, 2016.

On a motion by Dr. Sawyer, second by Mr. Masiello, the minutes of June 22, 20916 were accepted.

Mr. Collins made a presentation to the Committee as outlined in a PowerPoint presentation dated September 14, 2016. He went into some detail on the matter of materials and information that have been and will be submitted to the MSBA, some of which were attached with the meeting notice and agenda. Each page was reviewed and discussed by the Committee.

Mr. Cox spoke on the matter of the maintenance and capital planning information request by the MSBA that he will be undertaking.

The Committee will seek from the Board of Selectmen a December 5, 2016, Special Town meeting. A schedule of presentations before the various bodies will be established ahead of the Special Town meeting.

The Committee reviewed the matter of the budget for a feasibility study. Mr. Morgado received from the MSBA some budget numbers from other projects that are under review.

It was agreed that the next meeting of the Committee will be October 11, 2016, at 6 PM at the Municipal Office Building.

At 6:30 PM, the Committee toured the building and the meeting adjourned at 6:50 PM.

Respectfully submitted,

Daniel J. Morgado
Town Manager

Referenced Materials
Meeting notice with attachments dated September 6, 2016
PowerPoint slides prepared by Mr. Collins dated September 14, 2016.

OFFICE OF THE TOWN MANAGER

Richard D. Carney Municipal Office Building
100 Maple Avenue
Voice: 508-841-8508
Fax: 508-842-0587
dmorgado@shrewsburyma.gov

Town of Shrewsbury
Massachusetts 01545-5398

September 6, 2016

To: Beal Early Childhood Center Building Committee

From: Daniel J. Morgado

Re: Meeting Notice & Agenda

The Beal Early Childhood Center Building Committee will meet on Tuesday, September 13, 2016 at 6:00 PM at the Beal Early Childhood Center – 1 Maple Avenue to consider the following agenda:

AGENDA

1. Call to Order
2. Accept minutes from the meeting of June 22, 2016 (attached)
3. Update on and review of the filings made with Massachusetts School Building Authority (MSBA) and other process matters since the last meeting of the Committee - Patrick Collins (attached)
    a. June 29, 2016, letter with attachments regarding the School District Educational Questionnaire
    b. September 1, 2016, letter with attachments regarding the Enrollment Certification Process
    c. June 29, 2016, Preliminary Enrollment Questionnaire
4. Review other valuations of feasibility studies – Daniel Morgado (attached)
5. Discussion on the manner of the presentation and the meeting and public hearing schedule leading towards the December 5, 2016, Special Town Meeting
6. Review of meeting schedule
7. Tour of the Beal Early Childhood Center Building – Chris Girardi & Robert Cox
8. Adjourn

Referenced Materials

Minutes of June 22, 2016
June 29, 2016, letter with attachments regarding the School District Educational Questionnaire
September 1, 2016, letter with attachments regarding the Enrollment Certification Process
June 29, 2016, Preliminary Enrollment Questionnaire
Email from MSBA dated April 13, 2016

MINUTES
Beal Early Childhood Center Building Committee
June 22, 2016

Present: Mr. Kane. Dr. Sawyer, Mr. Collins, Mr. Cox, Mr. Masiello, Ms. McNamara, Mr. Gerardi, Mr. Morgado

Meeting called to order by Chair Pro-Temp Daniel Morgado via reference to a meeting notice and agenda with attachments dated June 15, 2016.

Introductions were made since this is the first meeting for the Committee. Ms. Fryc was unable to attend this meeting.

Nominations were taken for Chair of the Committee. Mr. Kane was nominated by Mr. Masiello and there were no other nominees. Mr. Kane was elected chair by unanimous vote.

Ms. McNamara nominated Mr. Masiello as vice-chair and there were no other nominees. Mr. Masiello was elected Vice-Chair by unanimous vote.

Mr. Kane assumed the chair.

Mr. Collins presented to each member of the Committee a folder containing a cover memo with attachments dated June 22, 2016. He then reviewed each of the attachment answering questions as necessary. The timeline for the project was reviewed (attachment to meeting notice). The next deadline for submission will be July 12th.

There was a general discussion on the matter of enrollments and aspects for the K and Pre-K program. Mr. Morgado provided some background on the range of cost for a feasibility study. More work will be done over the coming months to ascertain the cost.

Dr. Sawyer provided insight into the K and Pre-K programs.

Any materials submitted to the MSBA will be shared with the Committee.

It was agreed that the next meeting of the Committee will be September 13, 2016, at 6 PM at the Beal Early Childhood Center.

The meeting adjourned at 7:43 PM.

Respectfully submitted,

Daniel J. Morgado
Town Manager

Referenced Materials
Meeting notice with attachments dated June 15, 2016
Memo dated June 22, 2016 with attachments prepared by Mr. Collins

SHREWSBURY PUBLIC SCHOOLS

100 Maple Avenue, Shrewsbury, MA 01545
Tel.: 508-841-8400 Fax: 508-841-8490
schools.shrewsbury-ma.gov

Joseph M. Sawyer, Ed.D.
Superintendent of Schools

Mary Beth Banios
Assistant Superintendent

Patrick C. Collins
Assistant Superintendent for Finance & Operations

Barbara A. Malone
Director of Human Resources

June 29, 2016

Ms. Katie DeCristofaro
Capital Program Manager
Massachusetts School Building Committee
40 Broad Street, Suite 500
Boston, MA 02109

Dear Ms. DeCristofaro,

Enclosed you will find our completed School District Educational Profile Questionnaire for the Beal Early Childhood Project. We are also including other documents related to our current enrollment, grade configuration, and enrollment projections.

Please contact Patrick Collins at 508-841-8405 or pccollins@shrewsbury.k12.ma.us if you have any questions.

Sincerely,

Joseph M. Sawyer, Ed.D
Superintendent

Maurice M. DePalo
Chairman, Board of Selectmen

SHREWSBURY PUBLIC SCHOOLS

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Patrick C. Collins
Assistant Superintendent
for Finance and Operations

Barbara A. Malone
Director of Human Resources

Massachusetts School Building Authority
School District Educational Profile Questionnaire

Date : **June 30, 2016**

Name of School District: **Shrewsbury Public Schools**

District Contact (Name, Title): **Patrick Collins, Asst. Superintendent for Finance and Operations**

As part of the District's invitation into the Eligibility Period, the MSBA is seeking the following information to further inform our understanding of the School District's facilities, teaching methodology, grade configurations and program offerings. If the below information is available in documents previously provided to the MSBA, please indicate in which document and on which page this information may be found.

SECTION ONE: Facilities

A. Please confirm the following MSBA 2010 Needs Survey information for all public schools in the District using a "Y" for accurate and "N" for not accurate:

District	School Name	Type	Year Founded	Last Reno.	GSF	Y/N
Shrewsbury	Beal School	Elementary School	1922	1987	32,100	Y
Shrewsbury	Calvin Coolidge Elementary	Elementary School	1927	1986	48,600	Y
Shrewsbury	Floral Street Elementary	Elementary School	1997		94,000	Y
Shrewsbury	Oak MS	Middle School	1957	2004	169,400	Y
Shrewsbury	Parker Road Preschool	Pre-Kindergarten/Kindergarten	1954		15,533	N
Shrewsbury	Sherwood MS	Middle School	1964		*	N
Shrewsbury	Shrewsbury HS	High School	2002		296,000	Y
Shrewsbury	Spring Street	Elementary School	1967	2000	37,200	Y
Shrewsbury	Walter J. Paton School	Elementary School	1950	1990	37,300	N

Using the space below, provide additional information for any inaccurate or incomplete Needs Survey data.

►Parker Road Preschool: Last renovation/addition was 2003.
►Sherwood Middle School: 1964 building was razed and new 130,000 s.f. facility opened in 2012.

►Paton School: Last renovation was in 2000.

►The district has been renting space nearby Beal Early Childhood Center that provides two classrooms for pre-kindergarten students. When building a new facility we would plan to end this lease and incorporate this space need into the new facility.

B. Using the chart below, list Charter Schools (Commonwealth, Innovative, or Horace Mann) and private schools located in the District.

Name of School	Type of School	Year Established	Grades Served	Current Enrollment
St. John's High School	Private	1894	9-12	1,004
St. Mary School	Private	1961	preK-8	259
Montessori School	Private	1988	preK-6	197
Al-Hamra Academy	Private	1994	preK-8	148
Lilliput School	Private	1985	preK-1	220

►Above listed schools are MA DESE approved schools and enrollment data is for the 2014-2015 school year.

A. **For elementary and middle schools only** In the chart below, provide information about the current grade configuration for each public school facility adding or editing cells and rows as appropriate. Check the boxes provided to indicate program offerings at each facility. Next to the check, please indicate the number of hours and days the program is offered.

Name of School, Grades Served	Science Classes	Art (Performing and Visual Art)	Music	Physical Education (Adaptive PE)	Library Classes	Extended Day Care	Lunch Seatings
Beal Early Childhood Center, K-1	Average of 2 to 3 lessons/week; 30-45 minutes typical duration; projects may be integrated with other subjects	1 or 2 visual art class(es) weekly, depending on grade; 40-45 minutes duration	1 general music class weekly, 40-45 minutes duration; 1 "sing-along" period weekly, 40-45 minutes duration	1 phys ed class weekly, 40-45 minutes duration; adaptive PE through inclusion wherever possible, occasionally through pull-out model, depending on student need	1 to 2 classes per week depending on grade, 40-45 minutes in duration	District program available before school beginning at 7:00am and running after school until 6:00pm, M-F; wait list for access	3
Calvin Coolidge Elementary, K-4	Average of 2 to 3 lessons/week; 30-45 minutes typical duration; projects may be integrated with other subjects	1 or 2 visual art class(es) weekly, depending on grade; 40-45 minutes duration	1 general music class weekly, 40-45 minutes duration; Gr. 4 chorus class meets 40-45 minutes weekly in addition	1 or 2 phys ed classes wkly, depending on grade,40-45 minutes duration; adaptive PE through inclusion wherever possible, occasionally through pull-out model, depending on student need	1 to 2 classes per week depending on grade, 40-45 minutes in duration	District program available before school beginning at 7:00am and running after school until 6:00pm, M-F; wait list for access	4
Floral Street Elementary, 1-4	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	8 "phases" of class rotations between 11:05 - 12:55
Oak MS, 7-8	Daily class; 45-60 minutes duration	30 consecutive days of 40 minute period as part of annual allied arts cycle; Grade 7 also includes also includes 30 consecutive days of 40 minute drama class	30 consecutive days of 40 minute period of electronic music in Grade 8 as part of annual allied arts cycle; interested students participate in music performance group (band, chorus, or orchestra) class for one 40-45 minute period three out of every six days for entire school year	60 days of 40 minute periods of PE (in two 30 consecutive day cycles) over the course of the year; adaptive PE through inclusion wherever possible, occasionally through pull-out model, depending on student need	Library/media center is accessed by teachers on a class-by-class basis for research projects, etc. co-taught by media specialist	N/A	5
Parker Road Preschool, PreK	Note 2	Note 2	Note 2	Note 2	N/A	N/A	N/A

Sherwood MS, 5-6	Daily class; 45-60 minutes duration	30 consecutive days of 40 minute visual art period as part of annual allied arts cycle; grade 6 also includes 30 consecutive days of 40 minute drama class	30 consecutive days of 40 minute period of general music in Grade 5 as part of annual allied arts cycle; interested students participate in music performance group (band, chorus, or orchestra) class for one 40-45 minute period three out of every six days for entire school year	60 days of 40 minute periods of PE (in two 30 consecutive day cycles) over the course of the year; adaptive PE through inclusion wherever possible, occasionally through pull-out model, depending on student need	Classes of 40 minutes 4 out of every 6 days for a 30 day period in both grades 5 & 6.	District program available after school until 6:00pm, M-F	4
Spring Street, K-4	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	4
Walter J. Paton School, K-4	Note 1	Note 1	Note 1	Note 1	Note 1	Note 1	4

Note 1: All elementary schools have same/similar schedule.

Note 2: Curriculum incorporates science, art, music, and physical education. Parker Road offers two, three, and four day sessions of both half and full day programming. Curriculum varies depending on program.

For high schools only Attach to this questionnaire current program/scheduling information (core, non-core, enrichment and vocational).

B. Does the District belong to a Collaborative? Yes x No ☐

Does the District host a Collaborative? Yes x No ☐
If yes, please provide the name of the Collaborative Assabet Valley Collaborative [Evolution Program at Shrewsbury High School]

Does the District provide Pre-Kindergarten? Yes x No ☐

Is Kindergarten fee based? Yes X No ☐
If yes, please provide the fee structure Attached

Does the District provide transportation? Yes x No ☐
If yes, please provide the name of the provider(s) (District or vendor): AA Transportation Inc.

C. Using the space below, provide information about the Priority Statement of Interest School's teaching methodology (i.e. self-contained classroom, team teaching, departmental, or cluster). Include class-size policy and if applicable, scheduling particulars.

The Shrewsbury Public Schools goal is to provide an engaging and challenging academic program, with enhanced learning through technology, and emphasis on social and emotional

development to prepare students for all aspects of becoming valuable members of their community. The teaching methodology to address these goals uses inclusion models where appropriate, with special education, ELL, and intervention supports determined by individualized plans and needs. The district develops balanced classrooms to allow every student, regardless of social and academic ability, the opportunity to participate in rich learning environments.

Students attend their neighborhood schools with Pre-K and Kindergarten using a lottery system to determine session placement. Classroom teachers are supported by paraprofessional assistants in accordance with district guidelines for each level, as well as support from specialists in the areas of special education, ELL, school psychologists, literacy and Title I tutors, and building support staff as needed. The Shrewsbury School Committee's class size policy is as follows:

Kindergarten: 17-19 students per class
Grades 1-2: 20-22 students per class
Grades 3-4: 22-24 students per class

Due to the lack of space within the elementary schools, Shrewsbury struggles to consistently meet these class size guidelines, and is not able to provide Full Day Kindergarten to all families or preference of session in Pre-K. This presents an obstacle in identifying and providing necessary services for early intervention needs in both the special education and ELL areas, as well as offering rich academic and social/emotional opportunities for all children, which leads to greater stress on programming in subsequent years.

Elementary schedules are based on a five-day weekly schedule with some shared staff between buildings in specialized areas. Students receive five "specials" classes per week in the areas of Media, Art, Physical Education/Heath, and Music. Students also have access to the Media Center and portable technology resources as needed to complete assignments, projects, etc. Shrewsbury does offer a number of [fee-based] after-school enrichment programs that run at each of the elementary schools throughout the year.

D. In the chart below, use "Y" or "N" to indicate if the listed technology offerings are available adding cells and rows as appropriate:

School	Desktop Computers	Laptop Computers	Tablets	Smart Board/ Smart Projectors	Printers	WiFi WAN/LAN
Beal ECC	Y	Y	Y	Y	Y	Y
Calvin Coolidge Elementary	Y	Y	Y	Y	Y	Y
Floral Street Elementary	Y	Y	Y	Y	Y	Y
Oak MS	Y	Y	Y	Y	Y	Y
Parker Road Preschool	Y	Y	Y	Y	Y	Y
Sherwood MS	Y	Y	Y	Y	Y	Y
Shrewsbury HS	Y	Y	Y	Y	Y	Y
Spring Street	Y	Y	Y	Y	Y	Y

Walter J. Paton School	Y	Y	Y	Y	Y	Y

Using the space below, provide additional information for any of the aforementioned offerings marked with a "Y".

The district has wireless network access in all schools. All teaching staff have been assigned a laptop computer and/or an iPad. The district has a 1:1 iPad Program for students in grades 5-12. Students receive a new iPad in grade 5 and keep it through grade 8. Grade 9 students each receive a new iPad and turn it in upon graduation. Printers and copiers are available in all schools for printing documents.

At the elementary level in Shrewsbury Public Schools, technology is used to enhance teaching and learning. We use the SAMR model (Substitution- Augmentation- Modification- Redefinition) as a framework for meaningful technology integration. In addition, all core content classroom teachers at the elementary level have interactive whiteboards and projectors in their classrooms. There are also carts of iPads for teachers to sign out to use with their students as well as dedicated iPads in classrooms for student and teacher use. In the 2016-17 school year, all fourth grade classrooms across the district will be at a 1:2 iPad to student ratio. There are also two Kindergarten classrooms that are piloting a 1:2 iPad environment.

SECTION THREE: Proposed Program, Grade Configuration, Teaching Methodology for the Priority Statement of Interest School

A. Using the chart below indicate proposed changes to the information as provided in Section Two adding or editing cells and rows as appropriate.

Name of School, Grades Served	Science Classes	Art (Performing and Visual Art)	Music	Physical Education (Adaptive PE)	Library Classes	Extended Day Care	Lunch Seatings
Beal Early Childhood Center, K-1							

B. Is the District considering joining a Collaborative? Yes ☐ No x
If yes, please provide the name of the Collaborative _____

Is the District considering hosting a Collaborative? Yes ☐ No x

Is the District considering offering Pre-Kindergarten? Yes x No ☐
Is the District considering a Kindergarten fee? Yes x No ☐
If yes, please provide the proposed fee structure : Attached

Is the District considering providing transportation? Yes x No ☐
If yes, please provide the name of the proposed provider: AA Transportation

C. In the space below expand upon proposed changes to current grade configurations, districting, teaching methodology, programs, transportation, fees and technology. Indicate if any school facilities would be vacated, down-sized or re-organized. Indicate if changes to current staffing would result (increase/decrease).

The district is eager to work with MSBA and industry professionals through the Feasibility Study Phase to develop the best long-term space solution for our preK-4 student population. We need to plan for some enrollment growth, vacating leased space, and offering universal full-day kindergarten with this space solution. Given the larger size school requisite to accommodate up to 850 students, we expect the current Beal Early Childhood Center to be vacated as the site is too small to handle this size of a school and in a geographically disadvantageous location [center of downtown].

We expect to evaluate options to include replicating an Early Childhood Program of larger size and reconfiguring [and redistricting] all elementary schools to house K-4 populations. Other creative, educationally sound, and cost-effective solutions will be considered as well.

Consideration must be afforded to the varied lifespan inherent in the district's thirteen "permanent" modular classrooms attached across three elementary schools.

Finally, there is a growing demand for special education and English Language Learner [ELL] spaces to accommodate in-district programming.

D. Using the space below, indicate any proposed changes to current technology offerings (e.g. "One to One" technology, WiFi hotspots, laptop carts, etc.).

The district places a high value on the integration of technology in the curriculum to leverage and enhance student learning. In the design of any new school building, we will want to provide maximum access and capacity to use technology tools that exist now or in the future, allowing for the need of expanded "bandwidth" for student and staff use.

SECTION FOUR: Space - District's Priority Statement of Interest

ELEMENTARY SCHOOL

A. Complete current information in the table provided below adding or editing cells and rows as appropriate:

ROOM TYPE	No. of Rooms	Comments
CORE ACADEMIC SPACES		
Pre-Kindergarten	0	
Kindergarten (indicate full or half day)	10	Three classrooms are used for HDK (a.m and p.m. sessions). Seven classrooms used for FDK.
Grade 1	3	These students are in the Floral St. School district but re-assigned to Beal due to space limitations at Floral St.
SPECIAL EDUCATION	7	
ART & MUSIC	1	This room is shared by both art and music.
HEALTH & PHYSICAL EDUCATION		
Gymnasium	1	Used for physical education and all-school group Sing Along Program.
MEDIA CENTER	1	
DINING & FOOD SERVICE	1	Original school design did not include a cafeteria or kitchen. We converted basement space that is used for food service preparation/cafeteria and shared with extended school care, small group instruction and alternative class use.
MEDICAL SUITE		
Nurses' Office	1	This space is not adequate for the amount of daily nurse visits and specialized medical services required for current students.
ADMINISTRATION & GUIDANCE	3	1. Principal's office 2. Psychologist's office 3. School office

B. If not offered within the District's Priority Statement of Interest school, indicate in the space provided below where the District's collaborative, special education, art, music, health/physical education, media center, dining/food service and technology spaces are offered.

Collaborative programs for preK-4 students are offered by Assabet Valley Collaborative and housed in other member school facilities.

SECTION FIVE: Safety and Security Statement

Has the District formulated a school specific Multi-Hazard Evacuation Plan (Section 363 of the FY 02 State Budget) for each school under the superintendent's supervision?

Yes x No ☐

What was the date of the last review with local public safety and law enforcement officials?
Date: August 26, 2015

SECTION SIX: Attachments

Please attach to this completed questionnaire any Executive Reports or Conclusions of reports or studies that relate to accreditation, an assessment of facility conditions and/or findings as issued by the Department of Elementary and Secondary Education (DESE). Below, please list the documents attached (as applicable).

Documents attached:

- ▶Shrewsbury Public Schools October 1, 2015 Enrollment and Class Size Report
- ▶Shrewsbury Public Schools Enrollment Projection Report: November 20, 2015
- ▶School Children in Housing Developments: November 2015

Should you have any questions about this questionnaire, please contact Katie DeCristofaro, Capital Program Manager:

Massachusetts School Building Authority
617-720-4466
www.massschoolbuildings.org

SHREWSBURY PUBLIC SCHOOLS

100 Maple Avenue, Shrewsbury, MA 01545
Tel.: 508-841-8400 Fax: 508-841-8490
schools.shrewsbury-ma.gov

Joseph M. Sawyer, Ed.D.
Superintendent of Schools

Mary Beth Banios
Assistant Superintendent

Patrick C. Collins
Assistant Superintendent for Finance & Operations

Barbara A. Malone
Director of Human Resources

September 1, 2016

Ms. Kathryn DeCristofaro
Capital Program Manager
Massachusetts School Building Authority
40 Broad Street, Suite 500
Boston, MA 02109

Dear Ms. DeCristofaro,

Enclosed are the additional materials and information requested as part of the Enrollment Certification Process for the Beal Early Childhood Project.

Enclosure 1 is a PreK-grade 4 summary of current educational space utilization along with our initial projected needs. It's important to note that our initial projected needs factor projected enrollment growth, the expectation that we move to universal full-day kindergarten in opening a new school, and a growing demand for space to deliver special education and English Language Learner (ELL) services. The recently completed Coordinated Program Review by the Department of Elementary and Secondary Education cited Coolidge School for inappropriate space allocated to their ELL Program and we have had to "consume" other school spaces to make this remedy.

Additionally, we have been intentional about planning for adequate and equitable space allocations across all PreK-4 schools for delivery of Art, Music, Health, and Physical Education Programs. Current space allocations for these programs vary across schools and have been re-allocated primarily to special education and ELL services as these in-district populations have increased.

Enclosure 2 is a report made by the town's Assistant Town Manager/Economic Development Coordinator that analyzes several population projections and derives an "average" projection. Continued overall population growth is expected. We should be cognizant of the fact actual student enrollment for our last three new school building projects [Floral Street Elementary School, Shrewsbury High School, and Sherwood Middle School] have exceeded their design capacities.

Enclosure 3 is a summary of our current K-12 enrollment as of 9/1/2016 in comparison to the two projections we use; Town Manager Projection and New England School and Development Council Projection. Currently, our enrollment is surpassing both projections by 65-75 students.

We all understand that the 10/1 date is the traditional and best benchmark due to the start of year "shakeout" that typically occurs in all districts. Interestingly, last year our district experienced a net increase of 20 students between 9/1 and 10/1/2015. Using this factor, one can expect that our 10/1/2016 enrollment will be approximately 75-100 students beyond projections.

The remaining enclosures are related to the MSBA request for floor plans for PreK-4 schools. We have color-coded them in a fashion we hope clearly depicts the use of space in each building. We have also added some descriptions of negative program impacts as a result of space deficiencies.

We look forward to resuming our discussion on Enrollment Certification with your receipt of this additional information.

In the meantime, please feel free to call us for clarifications and use Patrick Collins as your primary contact person.

Sincerely,

Joseph M. Sawyer

Cc: Beal Early Childhood Building Committee
Shrewsbury School Committee

SHREWSBURY PUBLIC SCHOOLS
PreK-4 Educational Space Planning Document
September 2016

Current Space Allocations

School	Regular Education Classrooms	Media Center	Gymnasium	Music Rm	Art Rm	Special Educ. Spaces	ELL Spaces	Totals
Parker Road Preschool	6	0	0	0	0	3	0	9
Parker West Preschool	2	0	0	0	0	0	0	2
Beal	13	1	1	0.5	0.5	5	1	22
Coolidge	18	1	1	0	1	6	3	30
Paton	17	1	0.5	0.5	0.5	7	0	26.5
Floral	32	1	1	1	1	7	1	44
Spring	17	1	1	0	1	3	0	23
	105	5	4.5	2	4	31	5	156.5

Projected Future Needs

School	Regular Education Classrooms	Media Center	Gymnasium	Music Rm	Art Rm	Special Educ. Spaces	ELL Spaces	Totals	
Parker Road Preschool	6	0	0	0	0	3	0	9	
Parker West Preschool	0	0	0	0	0	0	0	0	End lease of this space
Beal [New]	40	1	1	1	2	7	2	54	Assumes universal full-day K
Coolidge	16	1	1	1	1	6	4	30	
Paton	15	1	0.5	1	1	7	1	26.5	
Floral	30	1	1	1	2	7	2	44	
Spring	15	1	1	1	1	3	1	23	
	122	5	4.5	5	7	33	10	186.5	

	Classrms	Avg Class Size	Capacity	Classrm. Inc.
PreK	12	15	288	4
K	22	19	425	5
Gr. 1-4	87	22	1920	8
	122		2633	

1. Assumes growth in enrollment and demand at PreK
   [12 x 6=72 Full-day SPED + 12 x 9 *2 Sessions Reg Educ= 216]
2. Assumes universal full-day kindergarten
3. Assumes growth slightly beyond NESDEC projection due to housing projects in the approval pipeline.

Difference: Current v. Future

School	Regular Education Classrooms	Media Center	Gymnasium	Music Rm	Art Rm	Special Educ. Spaces	ELL Spaces	Totals
Parker Road Preschool	0	0	0	0	0	0	0	0
Parker West Preschool	-2	0	0	0	0	0	0	-2
Beal [New]	27	0	0	0.5	1.5	2	1	32
Coolidge	-2	0	0	1	0	0	1	0
Paton	-2	0	0	0.5	0.5	0	1	0
Floral	-2	0	0	0	1	0	1	0
Spring	-2	0	0	1	0	0	1	0
	17	0	0	3	3	2	5	30

Notes: Special Education and ELL spaces vary widely in size. Please refer to floor plans.
This document is not intended to factor office, maintenance, or storage space needs.

Office of
PLANNING AND ECONOMIC
DEVELOPMENT

TELEPHONE: (508) 841-8502
FAX: (508)842-8497
klas@shrewsburyma.gov

TOWN OF SHREWSBURY

100 MAPLE AVENUE
SHREWSBURY, MASSACHUSETTS 01545-5398

MEMORANDUM

TO: Board of Selectmen
Finance Committee
FROM: Kristen D. Las, AICP- Director of Planning and Economic Development
SUBJECT: Population Projections
DATE: August 21, 2014

In December of 2013, the Board of Selectmen, Finance Committee and several Town Departments were made aware of a population projection study that was prepared by the UMass Donahue Institute. The report was titled, *Long-term Population Projections for Massachusetts Regions and Municipalities*, dated November 2013. The study projected the town of Shrewsbury's population to increase over the next fifteen years substantially more than the projections that were provided by MassDOT and the Central Massachusetts Regional Planning Commission (CMRPC) in April 2011. In addition, in October 2008, Community Opportunities Group (COG) prepared an independent population projection report for the Town of Shrewsbury as a response to the Department of Conservation and Recreation projections of August 2008.

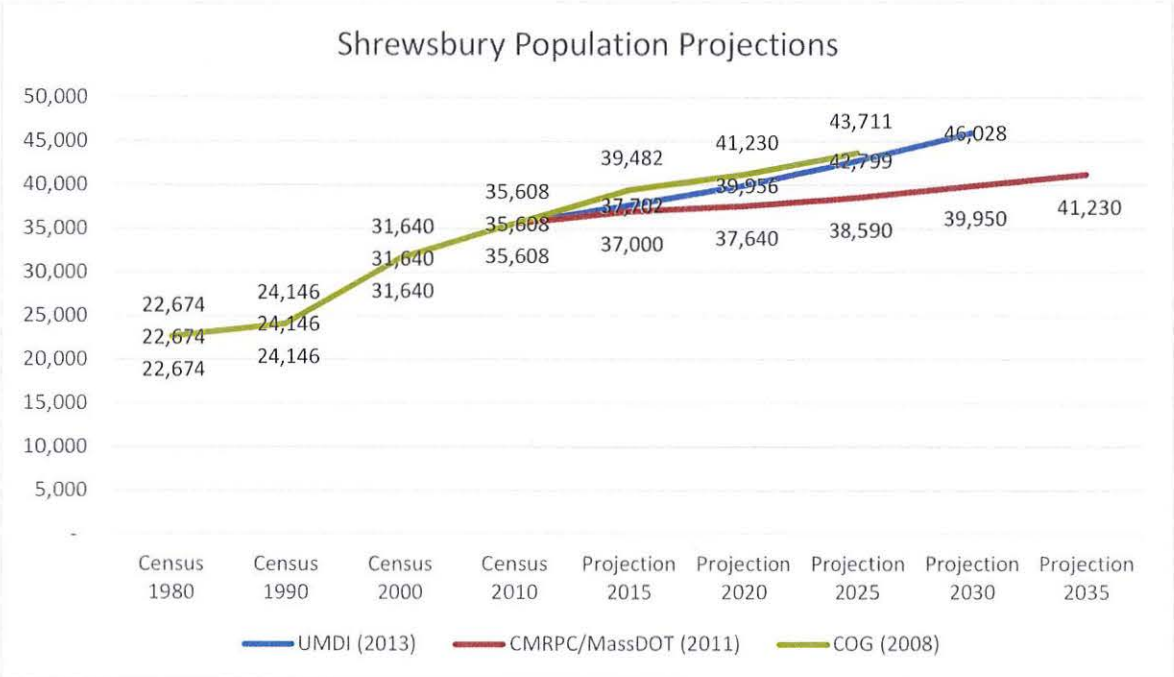


Figure 1: Comparison between UMass Donahue Institute (UMDI), CMRPC/MassDOT and COG population projections

Enclosure 2

As shown on the chart, UMDI projected a 22% population increase from the 2010 Census and the 2030 projection. CMRPC/MassDOT projected a 10% population increase over the same timeframe.

Over the past few months, I have spoken to the author of the UMDI report and experts at CMRPC regarding the discrepancies in the population projections. According to the contact at UMDI, Susan Strate, the projections were prepared by reviewing fertility and migration rates by age groups and death by age. They did not look at existing land use or bylaws and did not take inventories of new development. In addition, UMDI only used the 2000-2009 American Community Survey (AMS) in their projections. In looking at Age Cohorts, UMDI divided the state into 8 regions. The regions that the cities and towns were divided into, do not match Regional Planning Agency regions. Also, the UMDI study accepted that a municipality may lose population.

On the contrary, CMRPC/MassDOT used 1970 to present ACS data. CMRPC/MassDOT does not assume that any municipality will lose population. As of June 2014, MassDOT, MAPC and UMDI are working on statewide population projections starting in 2015 to distribute to RPA's to drill down to municipal populations through 2045. In preparing these statewide projections by county and RPA, there is a status quo versus strong growth valuation. Based upon the June 2014 update, it appears that the State numbers will be kept at a strong growth projection. The April 2011 CMRPC/MassDOT projections were prepared under a strong growth projection, therefore, it is not anticipated that there will be much change in the next projection from CMRPC. New town level data will come out in 3-4 months where it will be reviewed by the towns through the RPA's.

The third projection, prepared by COG used the cohort survival method. This planning technique accounts for the age and sex distribution of the population in each age and sex cohort, along with mortality, fertility, birth and migration rates. An important difference between the CMRPC report and the COG report is that COG used local data where CMRPC used regional data and then assigned shares of the regional population projections to each community based on the trends noted above.

Based upon the information we currently have, it is my professional opinion that the Town of Shrewsbury should follow projections of about the average between the CMRPC/MassDOT, COG and UMDI projections. CMRPC/MassDOT will be issuing updated population projections in 2015, and we will have a chance to revisit the data and assumptions to plan for the future.

	Census 2010	Projection 2015	Projection 2020	Projection 2025	Projection 2030	Projection 2035
UMDI (2013)	35,608	37,702	39,956	42,799	46,028	--
CMRPC/MassDOT (2011)	35,608	37,000	37,640	38,590	39,950	41,230
COG (2008)	35,608	39,482	41,230	43,711	--	--
Average	**35,608**	**38,061**	**39,609**	**41,700**	**42,989**	--

I will be at the August 26, 2014 Board of Selectmen meeting or available by phone or for a meeting if there are any further questions regarding this matter.

SHREWSBURY PUBLIC SCHOOLS
PRELIMINARY K-12 ENROLLMENT
as of 9/1/2016

Grade	1-Sep	Town Mgr. Projection	Qty. Difference	% Difference
K	380	383	-3	-0.8%
1	409	412	-3	-0.7%
2	453	450	3	0.7%
3	456	458	-2	-0.4%
4	458	444	14	3.1%
5	487	482	5	1.0%
6	488	473	15	3.1%
7	511	509	2	0.4%
8	491	484	7	1.4%
9	516	489	27	5.2%
10	423	419	4	0.9%
11	442	438	4	0.9%
12	409	407	2	0.5%
Total K-12	**5923**	**5848**	**75**	**1.3%**

Grade	1-Sep	NESDEC Projection	Qty. Difference	% Difference
K	380	391	-11	-2.9%
1	409	406	3	0.7%
2	453	452	1	0.2%
3	456	455	1	0.2%
4	458	450	8	1.7%
5	487	480	7	1.4%
6	488	478	10	2.0%
7	511	517	-6	-1.2%
8	491	482	9	1.8%
9	516	489	27	5.2%
10	423	416	7	1.7%
11	442	438	4	0.9%
12	409	404	5	1.2%
Total K-12	**5923**	**5858**	**65**	**1.1%**

9/1/2016 enrollment figures are preliminary. More students have enrollment registration meetings this week and we have reports from some parents that they have opted for other schools and not coming to SPS.

The net change last year from 9/1/2015 to 10/1/2015 was an INCREASE of 20 students. Using this factor we could end up on 10/1/2016 with 75-100 more students than projections indicated.

Shrewsbury Public Schools
PreK-4 School Buildings- Usage Document
September 1, 2016

Enclosed are floor plans for each of the Shrewsbury Public Schools PreK-4 school facilities with a color-coded index of how each room is used to meet the various needs of our student population. Below you will find pertinent information that details the district's need to address space issues with these grade levels.

Space Use Legend:

Classroom- **Blue**
Special Education- **Pink**
English Language Learning- **Orange**
Office/ Staff room- **Green**
Allied Arts- **Yellow**

Abbreviations Key:

ELC- Early Learning Center- serves students on the autism spectrum and provides access to students requiring Applied Behavior Analysis (ABA) learning strategies

ILC- Intensive Learning Center- serves students with severe cognitive and/or physical disabilities

Pre-K- classrooms that serve our preschool and Pre-Kindergarten students

FDK- Full Day Kindergarten classroom

HDK- Half Day Kindergarten classroom

SPED- Special Education classroom

ELL- English Language Learning classroom

OT/PT- Occupational Therapy/ Physical Therapy room

Programmatic Impact of Deficient PreK-4 School Space

Parker Road Preschool-There is more demand for preschool slots than space allows. The district must run a lottery for a limited number of preschool slots each year. The district is required to offer this program to students with special needs and they must have typically developing peers in their classroom. Regular education students pay tuition for their program. The school occupies a portion of a facility that also houses the local Public Access Media Cable TV station and the control center for the municipally owned and operated cable television operation [SELCO].

Parker Preschool-West- This is two-room, leased facility that we plan to relinquish when permanent space is constructed to support the entire PreK-4 population.

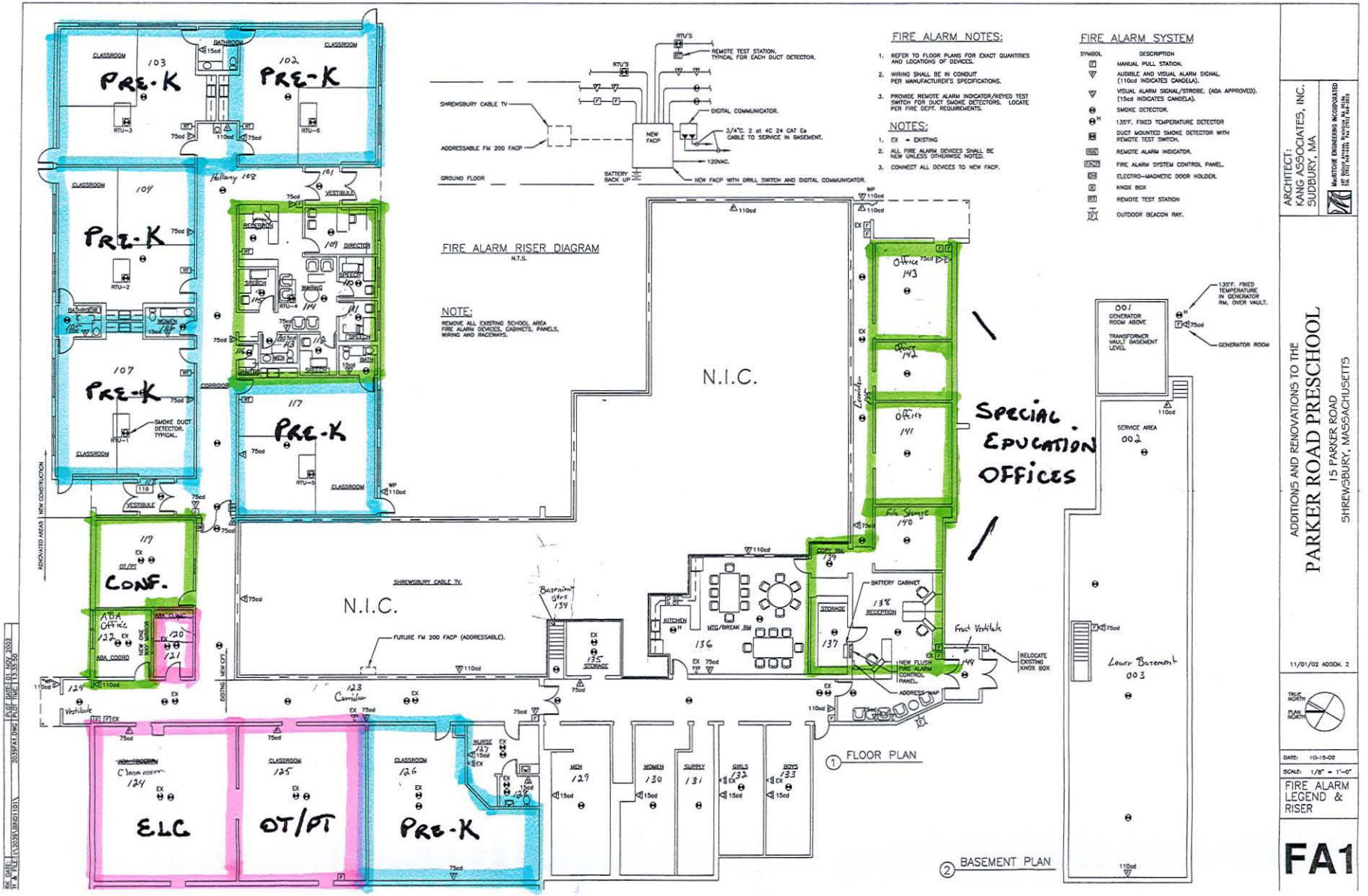
Beal Early Childhood Center- There is more demand for FDK than space available. The district must run a lottery for a limited number of full-day kindergarten slots each year. ELL space is too small to run groups larger than 4-5, which strains the ELL schedule. Music and Art share a space which restricts scheduling. Music travels for two classes per week because the room is used as overflow for the cafeteria during lunch.

Spring Street School- Health Education does not have a dedicated space and travels for every class. Music does not have a dedicated space and uses the stage in the cafeteria rather than using classrooms. Literacy tutor space is too small to have groups larger than three. This constrains their scheduling and adds staffing cost.

Floral Street School- Health Education and some Art teachers travel to deliver their programs. Former teacher/parent meeting spaces and a computer lab were converted to regular education classrooms. Some grade 1 students in the Floral Street School district are assigned to Beal Early Childhood Center due to space limitations at Floral.

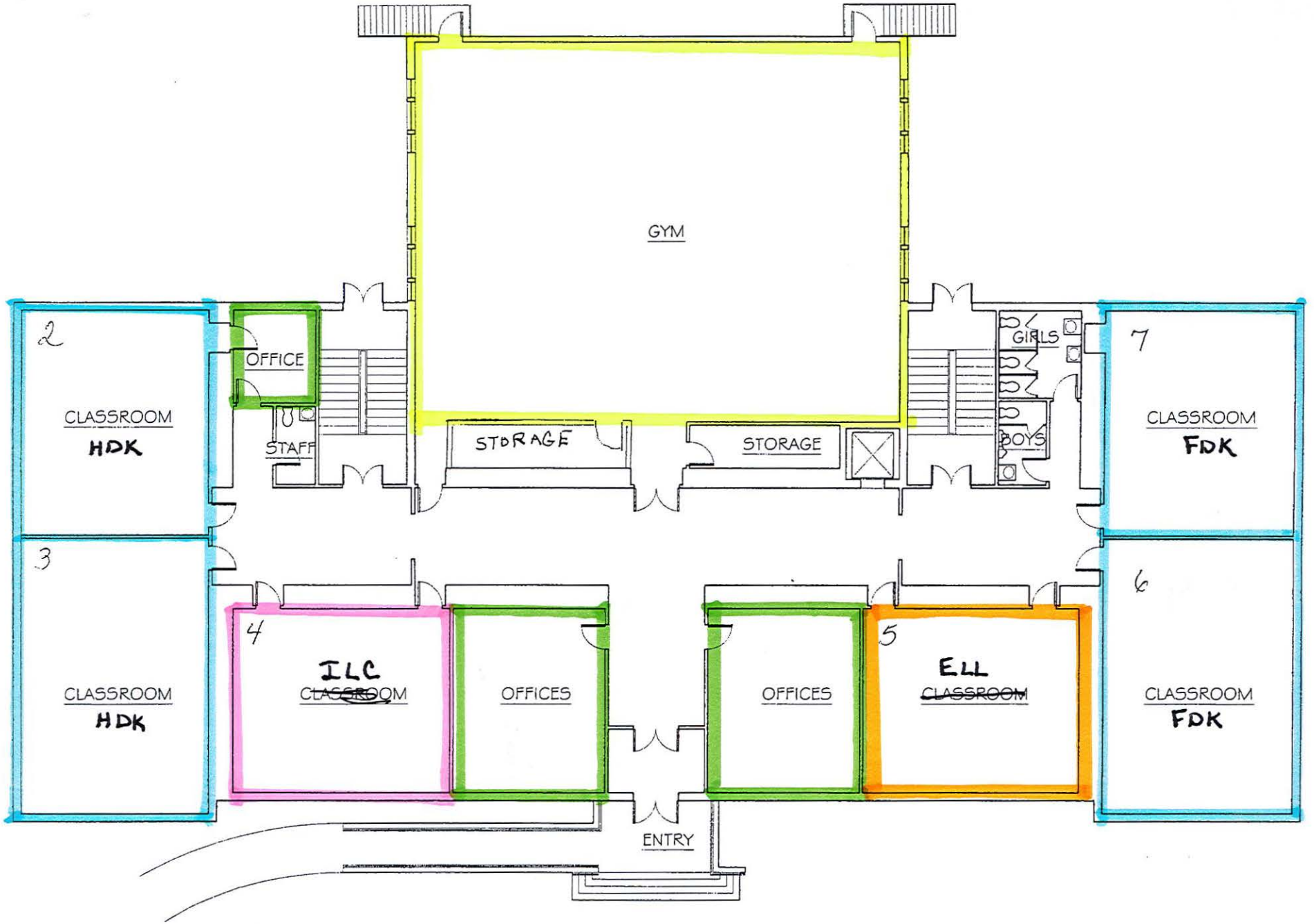
Paton School- Health, Music and Art teachers travel for all classes. They share an office space with literacy tutors. ELL travels to use various spaces as well. Because the gym and cafeteria space are one in the same [fondly referred to as the gym-a-cafetorium], the schedule does not allow for this space to be used for Physical Education classes during lunch blocks. This significantly restricts scheduling and program offerings.

Coolidge School- Neither Music nor Health Education have dedicated spaces and travel as a result. Four modular classrooms were installed in 1996 and having reached 20 years old may need further investment or replacement in the future.


PRE-K
CLASSROOM
BATHROOM
CORRIDOR
VESTIBULE
CONF.
ELC
OT/PT
PRE-K
N.I.C.
SPECIAL EDUCATION OFFICES
FIRE ALARM RISER DIAGRAM
N.T.S.
NOTE:
REMOVE ALL EXISTING SCHOOL AREA FIRE ALARM DEVICES, CABINETS, PANELS, WIRING AND RACEWAYS.
FIRE ALARM NOTES:
1. REFER TO FLOOR PLANS FOR EXACT QUANTITIES AND LOCATIONS OF DEVICES.
2. WIRING SHALL BE IN CONDUIT PER MANUFACTURER'S SPECIFICATIONS.
3. PROVIDE REMOTE ALARM INDICATOR/KEYED TEST SWITCH FOR DUCT SMOKE DETECTORS. LOCATE PER FIRE DEPT. REQUIREMENTS.
NOTES:
1. EX = EXISTING
2. ALL FIRE ALARM DEVICES SHALL BE NEW UNLESS OTHERWISE NOTED.
3. CONNECT ALL DEVICES TO NEW FACP.
FIRE ALARM SYSTEM
SYMBOL DESCRIPTION
MANUAL PULL STATION.
AUDIBLE AND VISUAL ALARM SIGNAL. (110cd INDICATES CANDELA).
VISUAL ALARM SIGNAL/STROBE. (ADA APPROVED). (15cd INDICATES CANDELA).
SMOKE DETECTOR.
135°F. FIXED TEMPERATURE DETECTOR
DUCT MOUNTED SMOKE DETECTOR WITH REMOTE TEST SWITCH.
REMOTE ALARM INDICATOR.
FIRE ALARM SYSTEM CONTROL PANEL.
ELECTRO-MAGNETIC DOOR HOLDER.
KNOX BOX
REMOTE TEST STATION
OUTDOOR BEACON RAY.
SHREWSBURY CABLE TV
ADDRESSABLE FM 200 FACP
GROUND FLOOR
NEW FACP
BATTERY BACK UP
DIGITAL COMMUNICATOR.
3/4"C. 2 or 4C 24 CAT 6a CABLE TO SERVICE IN BASEMENT.
120VAC.
NEW FACP WITH DRILL SWITCH AND DIGITAL COMMUNICATOR.
FUTURE FM 200 FACP (ADDRESSABLE).
1 FLOOR PLAN
2 BASEMENT PLAN
ARCHITECT:
KANG ASSOCIATES, INC.
SUDBURY, MA
ADDITIONS AND RENOVATIONS TO THE
PARKER ROAD PRESCHOOL
15 PARKER ROAD
SHREWSBURY, MASSACHUSETTS
11/01/02 ADDEM. 2
DATE: 10-15-02
SCALE: 1/8" = 1'-0"
FIRE ALARM LEGEND & RISER
FA1

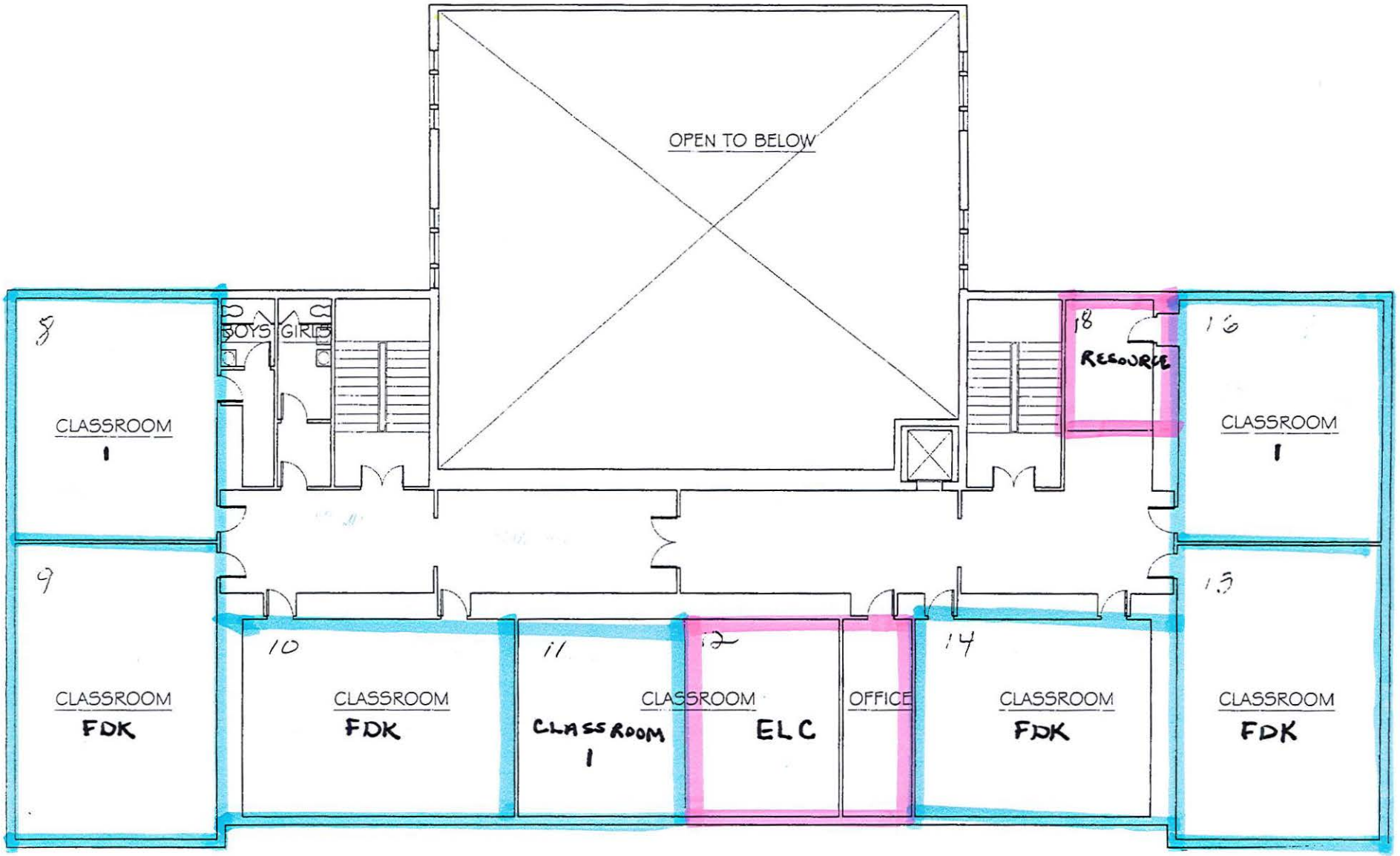
Wesleyan Terrace

2 Wesleyan Terrace
School Suite
Overall Dimension
(50 feet x 50 feet)
2,500 Square Feet



FIRST FLOOR PLAN

BEAL



SECOND FLOOR PLAN

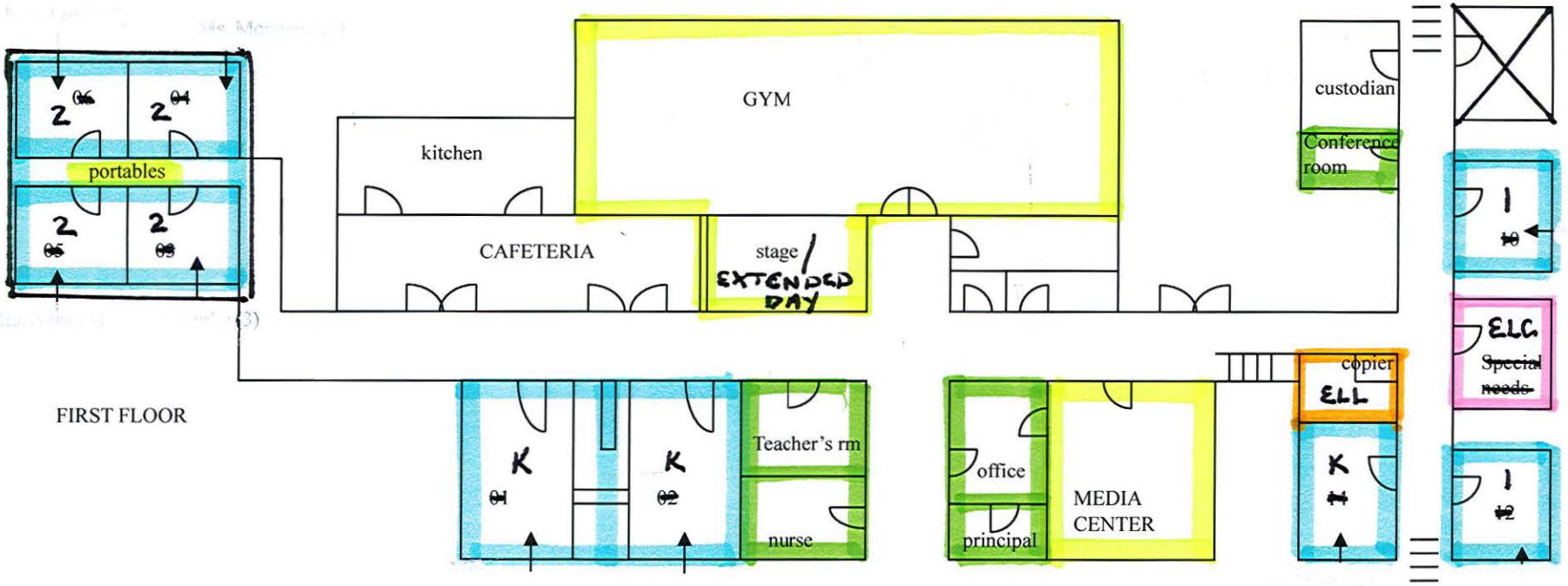
BEAL

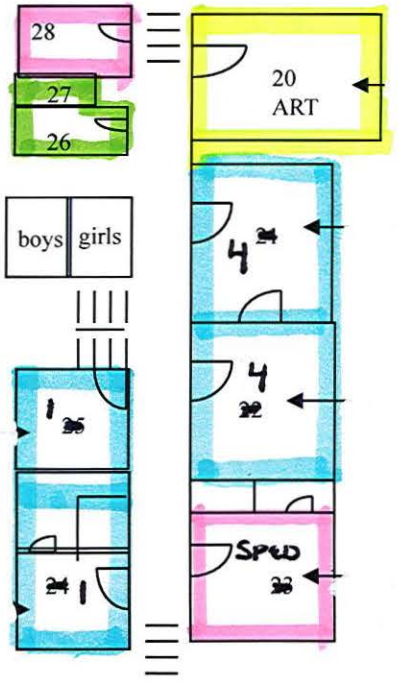
Beal

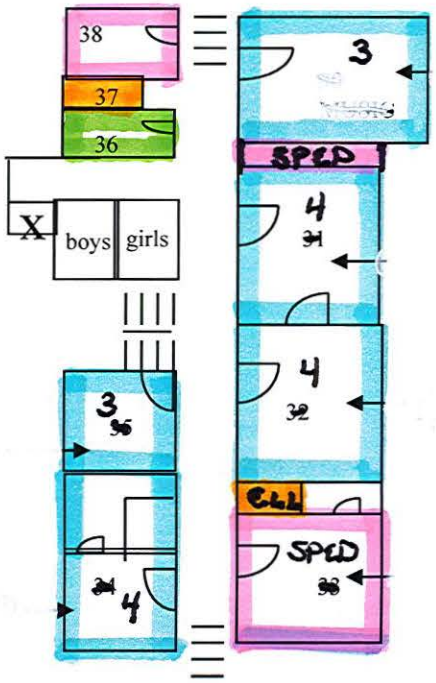
BASEMENT FLOOR PLAN

BEAL

Toff







COOLIDGE FLOOR PLAN

Paton School

GENERAL NOTES

1. THIS DRAWING WAS DEVELOPED FROM EXISTING DRAWINGS AND LIMITED FIELD INVESTIGATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING DIMENSIONS AND FIELD CONDITIONS.
2. CONTRACTOR SHALL COORDINATE LOCATION OF CEILING MOUNTED DEVICES WITH EXISTING LIGHT FIXTURES.
3. EXPOSED WIRING IN FINISHED SPACES SHALL BE INSTALLED IN SURFACE METAL RACEWAY. WHERE SUBJECT TO DAMAGE AND IN UNFINISHED SPACES, EXPOSED WIRING SHALL BE INSTALLED IN EMT.
4. ALL NEW DEVICES AND EQUIPMENT SHALL BE COMPATIBLE WITH THE EXISTING GAMEWELL MODEL IF-610 CONTROL PANEL.
5. MUNICIPAL NOTIFICATION AND ELEVATOR RECALL ARE EXISTING AND NOT INCLUDED IN THIS PROJECT. HOWEVER, SYSTEM SHALL BE REPROGRAMMED SO THAT AN ALARM FROM ANY DETECTOR OR PULL STATION WILL INITIATE ELEVATOR RECALL.
6. HEAT DETECTOR LAYOUT IS BASED ON LISTED MAXIMUM SPACING OF 50'.

WORK NOTES ⊙

① FOR FAN SHUTDOWN. LOCATE WITHIN 3' OF MOTOR STARTER.

* PE SHARED WITH CAFETERIA

PORTABLES

ART/ MUSIC OFFICE

2 3 2 ELC 4

2 2 3 3 3 4

FIRST FLOOR FIRE ALARM PLAN
SCALE: 1/8"=1'-0"

Sterling engineering co., inc.
Cedar Court 54 Main Street
Sturbridge, MA 01566
Tel: 508.347.9101
Fax: 508.347.7059
Email: sectmail@aol.com

ARCHITECT

STRUCTURAL ENGINEER

OTHER

NO.	DATE	ISSUE OR REVISION DESCRIPTION
A	05/29/01	75% FOR REVIEW
0	06/12/01	ISSUED FOR BID
1	06/21/02	REISSUED FOR BID

CLIENT: TOWN OF SHREWSBURY
SHREWSBURY, MASSACHUSETTS

PROJECT: PATON SCHOOL
FIRE ALARM UPGRADE

NORTH ARROW

STAMP

DATE 06/12/01	APPROVED JTH
SCALE 1/8"=1'-0"	CHECKED JTH
FILE 01022\FFA102	DRAWN JH/LD
STERLING PROJECT 01022	CLIENT PROJECT

DRAWING TITLE
FIRST FLOOR
FIRE ALARM PLAN

DRAWING NUMBER
FA102

Paton School

GENERAL NOTES

1. THIS DRAWING WAS DEVELOPED FROM EXISTING DRAWINGS AND LIMITED FIELD INVESTIGATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING DIMENSIONS AND FIELD CONDITIONS.
2. CONTRACTOR SHALL COORDINATE LOCATION OF CEILING MOUNTED DEVICES WITH EXISTING LIGHT FIXTURES.
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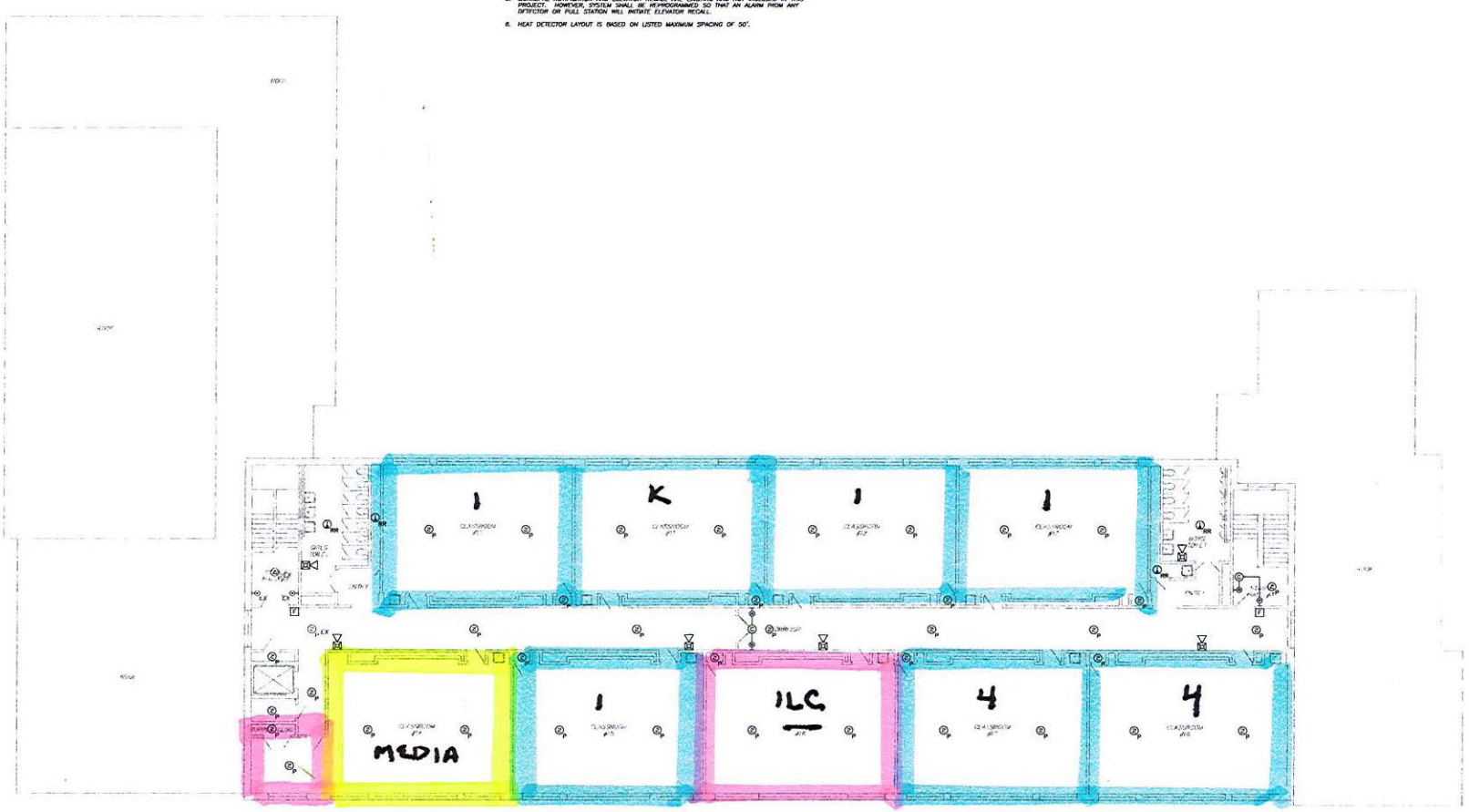

SECOND FLOOR FIRE ALARM PLAN
SCALE: 1/8"=1'-0"

Sterling
engineering co., inc.
Cedar Court 54 Main Street
Sturbridge, MA 01566
Tel: 508.347.9101
Fax: 508.347.7699
Email: secma@aol.com

ARCHITECT

STRUCTURAL ENGINEER

OTHER

NO.	DATE	ISSUE OR REVISION DESCRIPTION
A	05/29/01	75% FOR REVIEW
0	06/12/01	ISSUED FOR BID
1	05/21/02	REISSUED FOR BID

CLIENT: TOWN OF SHREWSBURY
SHREWSBURY, MASSACHUSETTS

PROJECT: PATON SCHOOL
FIRE ALARM UPGRADE

NORTH ARROW

STAMP

DATE 05/21/02	APPROVED JTH
SCALE 1/8"-1'-0"	CHECKED JTH
FILE 01022\FFA103	DRAWN JH/LD
STERLING PROJECT 01022	CLIENT PROJECT

DRAWING TITLE
SECOND FLOOR
FIRE ALARM PLAN

DRAWING NUMBER
FA103

Paton School

GENERAL NOTES

1. THIS DRAWING WAS DEVELOPED FROM EXISTING DRAWINGS AND LIMITED FIELD INVESTIGATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING DIMENSIONS AND FIELD CONDITIONS.
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4. ALL NEW DEVICES AND EQUIPMENT SHALL BE COMPATIBLE WITH THE EXISTING GAMEWELL MODEL IF-810 CONTROL PANEL.
5. MUNICIPAL NOTIFICATION AND ELEVATOR RECALL ARE EXISTING AND NOT INCLUDED IN THIS PROJECT. HOWEVER, SYSTEM SHALL BE REPROGRAMMED SO THAT AN ALARM FROM ANY DETECTOR OR PULL STATION WILL INITIATE ELEVATOR RECALL.
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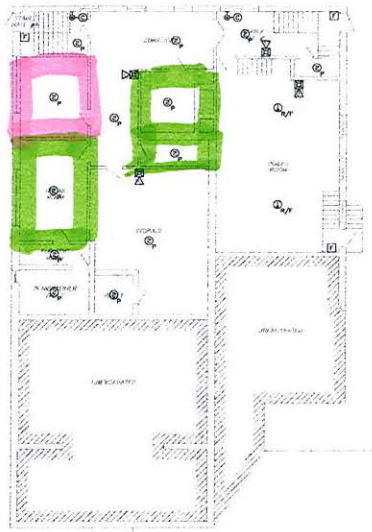
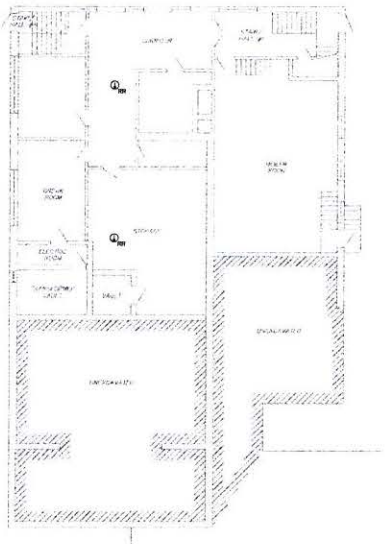


BASEMENT FIRE ALARM PLAN
SCALE: 1/8"=1'-0"



BASEMENT ABOVE CEILING FIRE ALARM PLAN
SCALE: 1/8"=1'-0"

Sterling
engineering co., inc.
Gale Court 54 Main Street
Northridge, MA 01566
Tel. 508.347.0101
Fax. 508.347.7550
Email: sterling@aol.com

ARCHITECT

STRUCTURAL ENGINEER

OTHER

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1	06/21/02	REISSUED FOR BID

CLIENT: TOWN OF SHREWSBURY
SHREWSBURY, MASSACHUSETTS

PROJECT: PATON SCHOOL
FIRE ALARM UPGRADE

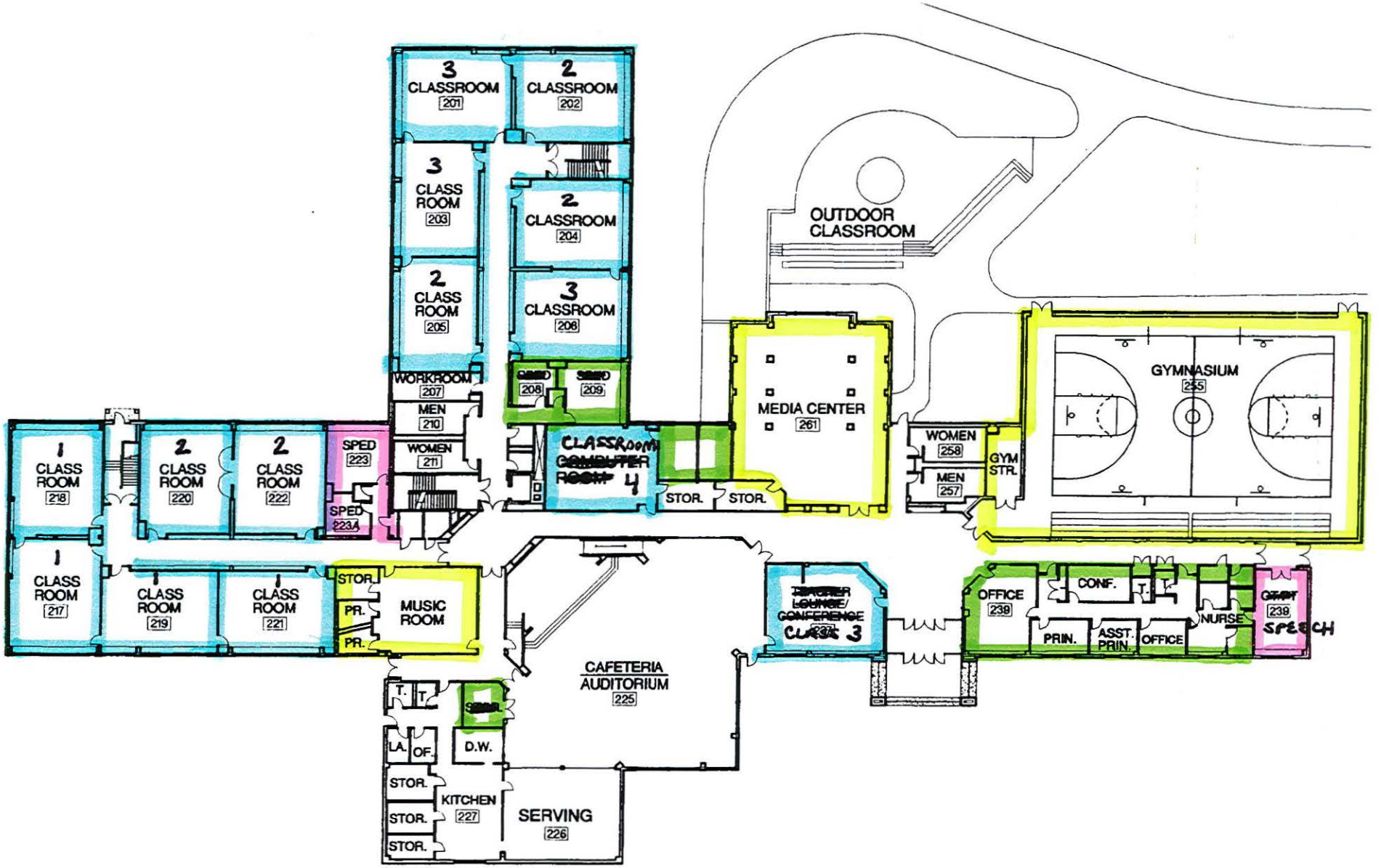
NORTH ARROW

STAMP

DATE	06/12/01	APPROVED	JTH
SCALE	1/8"=1'-0"	CHECKED	JTH
FILE	01022\FFA101	DRAWN	JH/LD
STERLING PROJECT	01022	CLIENT PROJECT	

DRAWING TITLE
BASEMENT
FIRE ALARM PLAN

DRAWING NUMBER
FA101

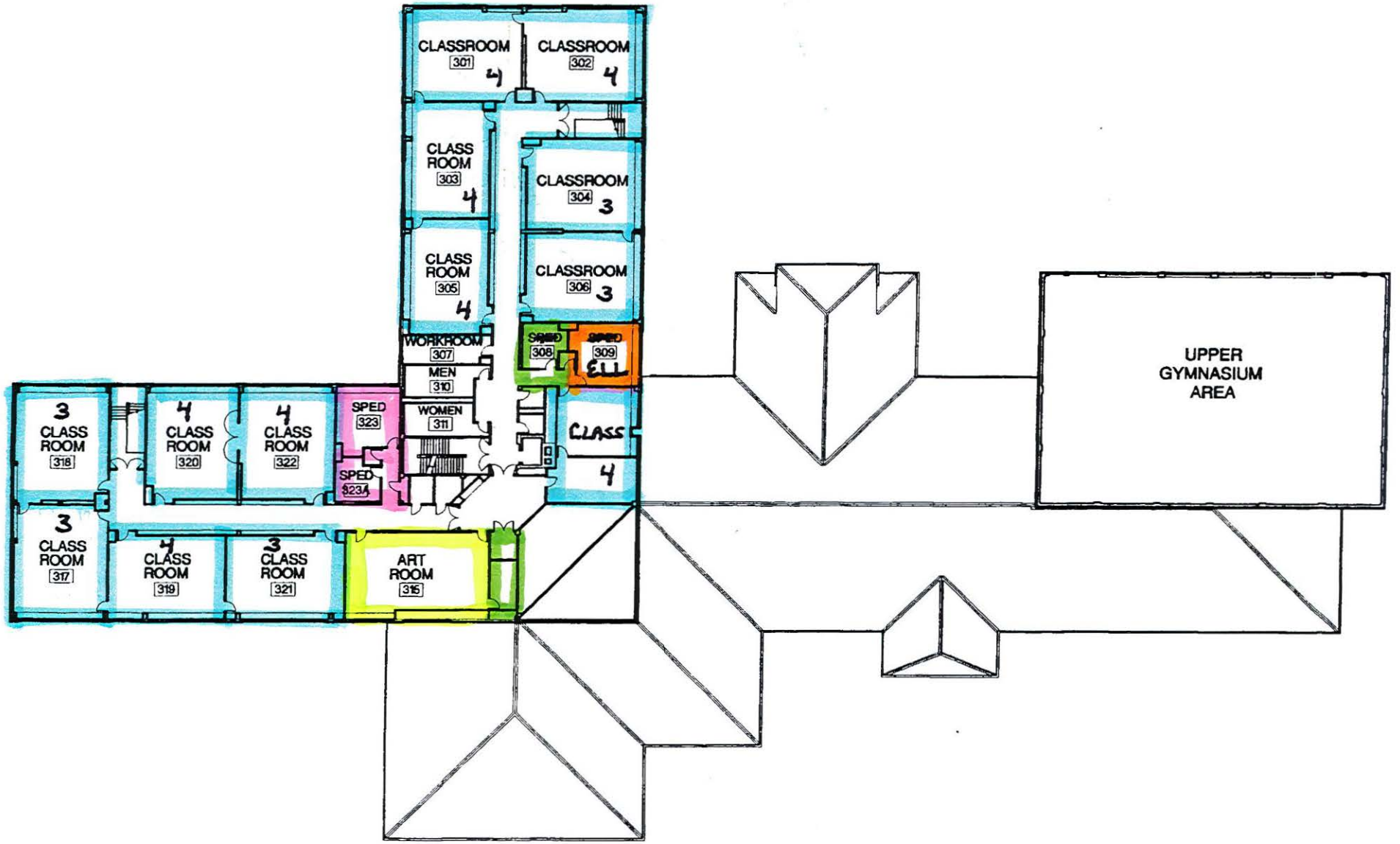


0 10' 30' 60'

MAIN FLOOR LEVEL

FLORAL STREET ELEMENTARY SCHOOL

TOWN OF SHREWSBURY, MASSACHUSETTS 01545

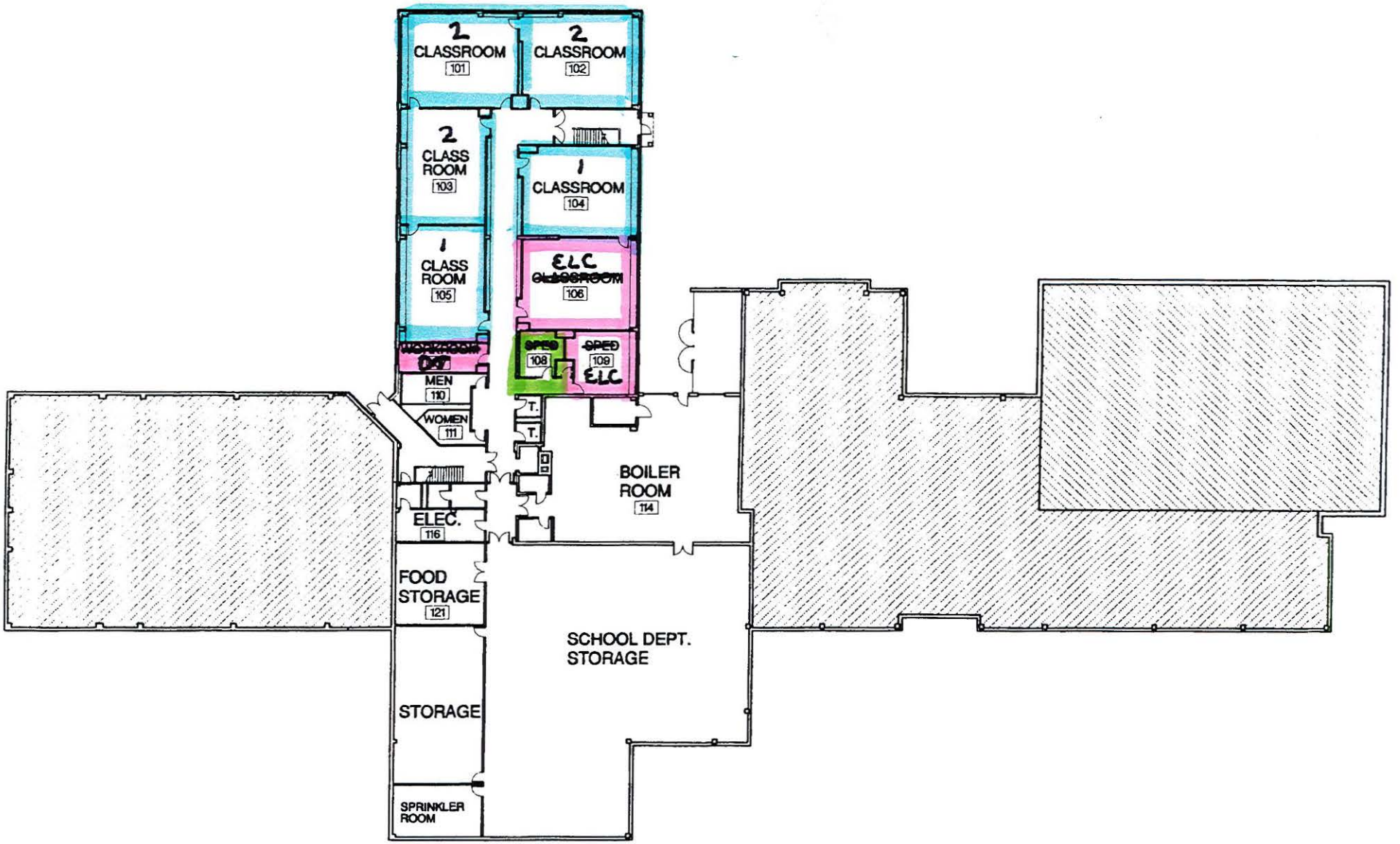


0 10' 30' 60'

UPPER FLOOR LEVEL

FLORAL STREET ELEMENTARY SCHOOL

TOWN OF SHREWSBURY, MASSACHUSETTS 01545



LOWER FLOOR LEVEL

FLORAL STREET ELEMENTARY SCHOOL

TOWN OF SHREWSBURY, MASSACHUSETTS 01545

Spring Street School

FIRST FLOOR FIRE ALARM PLAN
SCALE: 1/8"=1'-0"

GENERAL NOTES

1. THIS DRAWING WAS DEVELOPED FROM EXISTING DRAWINGS AND LIMITED FIELD INVESTIGATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING DIMENSIONS AND FIELD CONDITIONS.
2. CONTRACTOR SHALL COORDINATE LOCATION OF CEILING MOUNTED DEVICES WITH EXISTING LIGHT FIXTURES.
3. EXPOSED WIRING IN FINISHED SPACES SHALL BE INSTALLED IN SURFACE METAL RACEWAY WHERE SUBJECT TO DAMAGE AND IN UNFINISHED SPACES, EXPOSED WIRING SHALL BE INSTALLED IN EMT.
4. ALL NEW DEVICES AND EQUIPMENT SHALL BE COMPATIBLE WITH THE EXISTING SIMPLEX MODEL 4010 CONTROL PANEL.
5. MUNICIPAL NOTIFICATION AND ELEVATOR RECALL ARE EXISTING AND NOT INCLUDED IN THIS PROJECT. HOWEVER, SYSTEM SHALL BE REPROGRAMED SO THAT AN ALARM FROM ANY DETECTOR OR PULL STATION WILL INITIATE ELEVATOR RECALL.

WORK NOTES

1. NEW REMOTE ANNUNCIATOR. PROVIDE 120 VOLT POWER. COORDINATE LOCATION OF POWER PANEL WITH MAINTENANCE PERSONNEL.
2. FOR FAN SHUTDOWN. LOCATE WITHIN 3' OF MOTOR STARTER.
3. FOR AIR HANDLING UNIT LOCATED ABOVE CEILING.

Sterling
engineering co., inc.
Cedar Court 54 Main Street
Sturbridge, MA 01566
Tel: 508.347.9101
Fax: 508.347.2509
Email: sterlingeng@aol.com

ARCHITECT

STRUCTURAL ENGINEER

OTHER

NO.	DATE	ISSUE OR REVISION DESCRIPTION
A	05/29/01	75% FOR REVIEW
0	06/12/01	ISSUED FOR BID
1	05/21/02	REISSUED FOR BID

CLIENT: TOWN OF SHREWSBURY
SHREWSBURY, MASSACHUSETTS

PROJECT: SPRING STREET SCHOOL
FIRE ALARM UPGRADE

NORTH ARROW

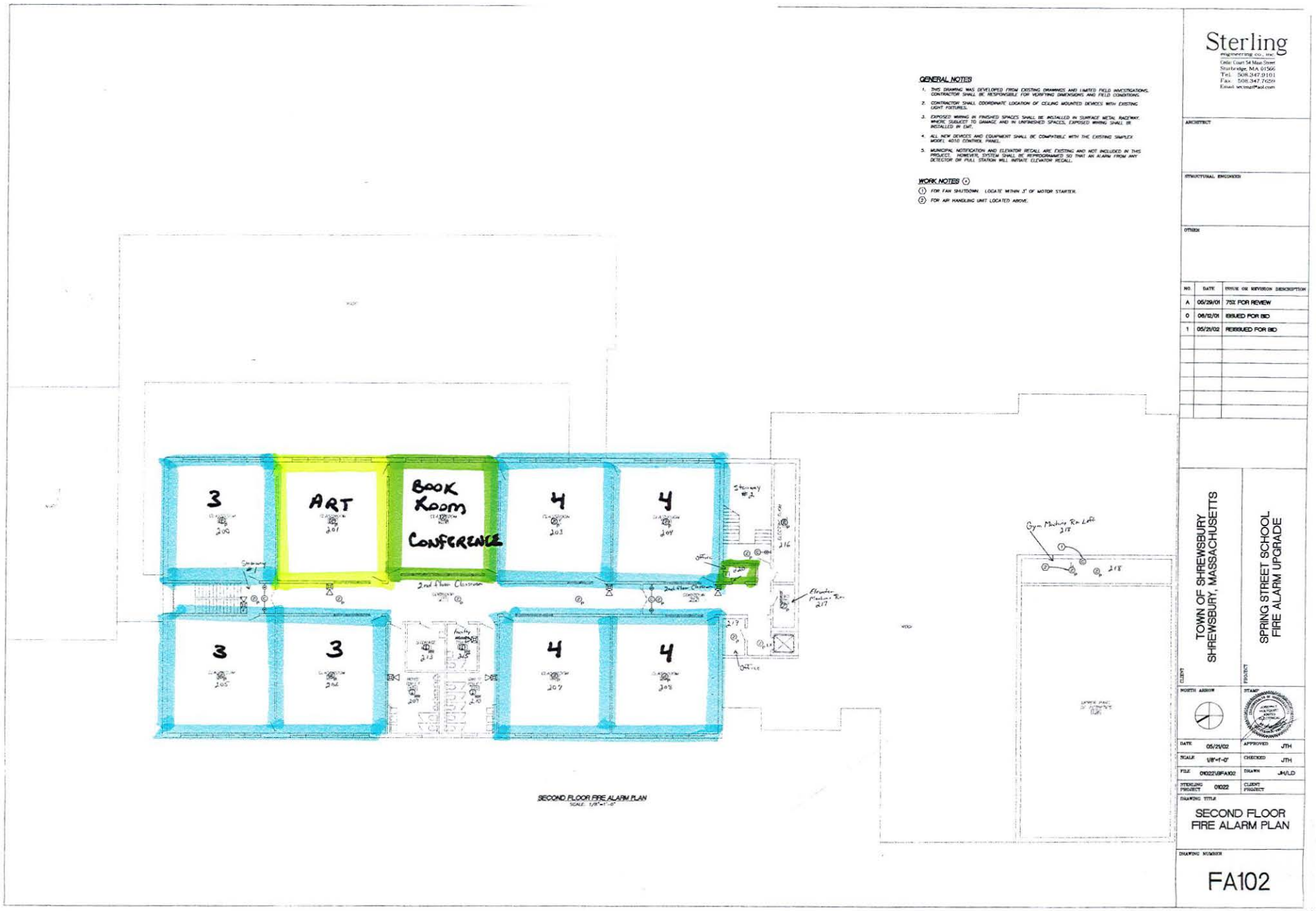
STAMP

DATE 05/21/02	APPROVED JTH
SCALE 1/8"-1'-0"	CHECKED JTH
FILE 01022\SFA101	DRAWN JH/LD
STERLING PROJECT 01022	CLIENT PROJECT

DRAWING TITLE
FIRST FLOOR
FIRE ALARM PLAN

DRAWING NUMBER
FA101

Spring Street School



Massachusetts School Building Authority

Preliminary Enrollment Questionnaire and Baseline Projection

This report was generated by the Massachusetts School Building Authority's Enrollment Projection application. It contains data reported by the District, as well as data provided by the Massachusetts Department of Elementary and Secondary Education and the Massachusetts Department of Public Health.

The Baseline Projection is created by taking your actual current enrollment and calculating the grade-to-grade survival ratios for each grade. The ratios are applied to each grade to create the projection. The incoming kindergarten classes are extrapolated from the actual birth data compiled by the Department of Public Health. The final component of the baseline projection is based on the housing permits issued in the district. For more information about the baseline projection or the enrollment process, please see www.massschoolbuildings.org.

This print-out is for reviewing or record-keeping purposes only. If the District has already submitted their Preliminary Enrollment form to the MSBA online, there are no next steps to take.

District:	**Shrewsbury**
Submission Date	**6/29/2016**
Submitted By	**Patrick Collins**
As part of Statement of Interest?	**No**

Table of Contents:

- Enrollment
- Births
- Building Permits
- Housing Sales
- Baseline Projections
- Submission

claimer: A Preliminary Enrollment Report is NOT an application for funding. Submission of the Preliminary Enrollment information in no way commits the BA to accept an application, approve an application, provide a grant, or any other type of funding, or places any other obligation or requirement on the MSBA

Enrollment

The table below was provided by the Department of Elementary and Secondary Education. It contains enrollment information reported to them by the District of each year.

Year	Kinder	1	2	3	4	5	6	7	8	9	10	11	12	Total
2006-07	378	440	467	452	506	462	488	449	501	408	436	389	345	5721
2007-08	376	439	454	482	454	496	450	485	449	419	404	423	383	5714
2008-09	342	475	456	458	479	456	461	453	488	393	429	390	427	5707
2009-10	348	425	494	465	459	473	435	467	439	421	398	415	390	5629
2010-11	372	427	448	514	472	469	465	436	479	401	416	390	410	5699
2011-12	341	429	457	464	516	485	476	462	443	414	414	413	390	5704
2012-13	364	416	447	474	458	524	465	474	466	408	421	417	412	5746
2013-14														-9

These lines, if any, represent years that were not available from the DESE and were instead entered by the District in this form.

Year	Kinder	1	2	3	4	5	6	7	8	9	10	11	12	Total
2014-15	346	430	430	462	467	487	469	529	478	432	423	409	420	5782
2015-16	355	425	446	439	474	472	500	480	547	413	441	411	403	5806

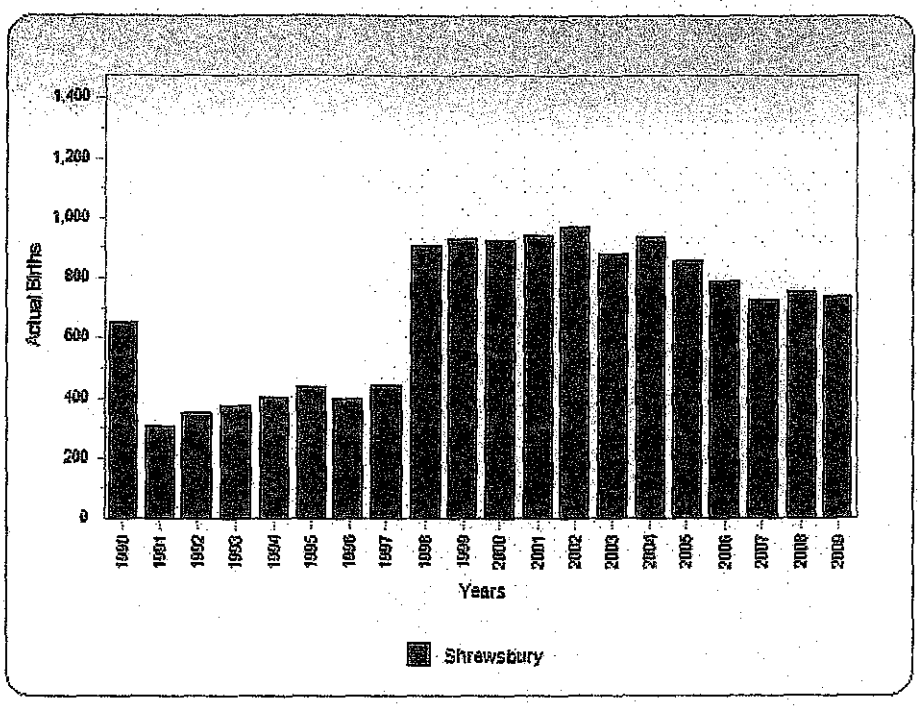
Comments:

Significant [positive] cohort survival ratio from kindergarten to Grade 1 is partially due to the fact that the district does not have sufficient space to offer universal full-day kindergarten. 2013-2014 row did not allow us to enter data above: preK=250 K=392 1=399 2=450 3=452 4=480 5=462 6=518 7=490 8=471 9=420 10=406 11=419 12=401 SP=1 Total=6,011

Births

The graph and table below represent data gathered by the Massachusetts DPH.

Actual births, Actual Female Population, Trends in Female Population



Birth Year	Shrewsbury
1990	652
1991	309
1992	354
1993	375
1994	402
1995	436
1996	399
1997	445
1998	910
1999	928
2000	924
2001	940
2002	970
2003	878
2004	938

2005	857
2006	787
2007	724
2008	755
2009	740

These lines, if any, represent years that were not available from the DPH and were instead entered by the District in this form.

Birth Year	Shrewsbury
2010	322
2011	378
2012	362
2013	373
2014	341
2015	324
2016	88

Comments:

2016 data is year to date as of May 6, 2016. The Town Clerk reports different data than shown above for following years: 2007=363 2008=373 2009=372

Building Permits

The following information was entered into the MSBA's Enrollment Projection application by the District.

Actual Permits Issued

Municipality/Permit Type	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Shrewsbury(Single)	39	34	24	50	59	49	47	80	43	51
Shrewsbury(Multi)	203	20	6	32	71	74	26	25	8	8

Total Projected Permits

Municipality/Permit Type	2016	2017
Shrewsbury(Single)	40	40
Shrewsbury(Multi)	263	248

Projected Permits for Persons over 55

Municipality/Permit Type	2016	2017
Shrewsbury(Single)	0	0
Shrewsbury(Multi)	0	0

Comments:

The district will send separately a report "School Children in Housing Developments" dated November 2015 and drafted by the Asst. Town Manager/Economic Development Coordinator. This report depicts school-age children yield based on types of housing and new growth. Also, the town is experiencing a new trend in growth of duplex housing on lots where single-family homes once stood This is because of the excellent reputation of the school district and relatively low tax burden.

Housing Project Description

The following description of active or planned residential developments were entered by the district.

Development Name	**Description** (Includes a breakdown of the type of units in the development, i.e., 50% single bedroom units, 50% 2+ bedrooms.)	**Estimated Completion Year**
Lakeway Commons	250 apartments [for rent] with 10% affordable housing eligible 1BR/studio= 145 units 2BR=114 3BR=4	2018
Lakeway Commons	13 townhouses [for sale] with 2 units affordable housing eligible. All 13 units have 2BR	2018
Stoney Hill [40B designated]	248 apartments with 25% affordable housing eligible to be built in two phases Phase I at 440 Hartford Turnpike includes 156 units: 1BR= 12 units 2BR=128 units 3BR=16 units Phase II at 526 Hartford Turnpike includes 94 units: 1BR= 9 units 2BR=79 units 3BR=6 units	2020
Summit Ridge Estates	30 single family lots remain available for building	2018
Nelson Point	18 single family lots remain available for building	2017

Housing Sales

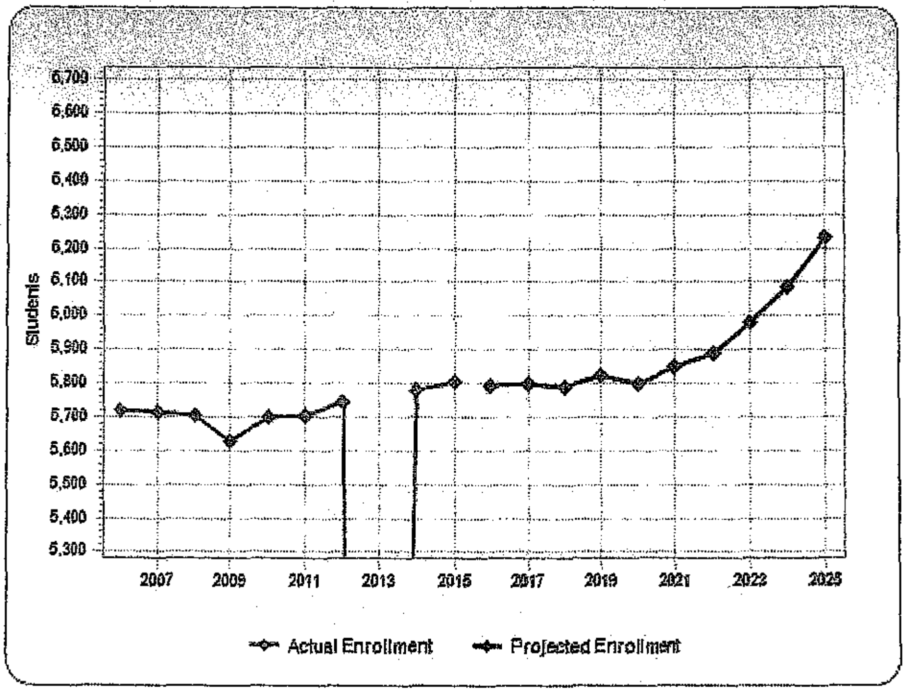
The following information has been provided by the Warren Group for each municipality in the school district.

Municipality	Year	Single Family sales	Condo Sales	Total Sales
Shrewsbury	2007	373	110	531
Shrewsbury	2008	282	92	424
Shrewsbury	2009	274	80	398
Shrewsbury	2010	299	87	471
Shrewsbury	2011	263	70	424
Shrewsbury	2012	309	106	513

Comments :

2013= 240 Single Family and 119 Condo sales. Total sales = 449 2014= 282 Single Family and 120 Condo sales. Total sales = 419 2015= 304 Single Family and 121 Condo sales. Total sales = 450

Baseline Projection



Actual Enrollment

Year	Kinder	1	2	3	4	5	6	7	8	9	10	11	12	Total
2006-07	378	440	467	452	506	462	488	449	501	408	436	389	345	5721
2007-08	376	439	454	482	454	496	450	485	449	419	404	423	383	5714
2008-09	342	475	456	458	479	456	461	453	488	393	429	390	427	5707
2009-10	348	425	494	465	459	473	435	467	439	421	398	415	390	5629
2010-11	372	427	448	514	472	469	465	436	479	401	416	390	410	5699
2011-12	341	429	457	464	516	485	476	462	443	414	414	413	390	5704
2012-13	364	416	447	474	458	524	465	474	466	408	421	417	412	5746
2013-14														-9
2014-15	346	430	430	462	467	487	469	529	478	432	423	409	420	5782
2015-16	355	425	446	439	474	472	500	480	547	413	441	411	403	5806

Projection

This baseline projection was created using the information provided by the district, both to the DESE and in this questionnaire. It only takes into account the most recent enrollment and birth data for your district. This is only intended to help your district see general trends in district enrollment. A more robust projection taking more factors into account is created any time a district is invited into the project pipeline.

Year	Kinder	1	2	3	4	5	6	7	8	9	10	11	12	Total
2016-17	349	422	449	459	441	480	462	506	481	468	417	436	407	5797
2017-18	360	414	446	462	461	446	470	468	507	430	493	412	431	5800
2018-19	373	428	438	459	464	466	437	476	469	453	433	487	408	5791
2019-20	385	443	453	451	461	470	457	442	477	419	457	428	482	5825
2020-21	397	457	469	466	453	466	461	462	444	426	422	452	424	5799
2021-22	409	472	483	482	468	458	457	466	464	396	429	418	447	5849
2022-23	422	486	499	497	484	473	449	462	467	414	399	425	413	5890
2023-24	434	501	514	514	499	490	464	454	464	417	417	395	420	5983
2024-25	446	516	530	529	516	505	480	469	455	414	421	413	391	6085
2025-26	459	530	545	545	531	522	495	486	471	406	417	416	408	6231

This projection was created using a modified cohort survival methodology. Details can be found at www.massschoolbuildings.org

Comments :

RE: The Baseline MSBA Projection shown above: As of 6.23.2016 the district has 373 kindergarten students enrolled for the 2016-17 school year and is expecting more new enrollments over the summer.

Massachusetts School Building Authority

Signatures – Enrollment Questionnaire

This report was generated by the Massachusetts School Building Authority's Enrollment Projection application. Please sign it and return it to the Massachusetts School Building Authority (MSBA):

Enrollment Projection Team
Massachusetts School Building Authority
40 Broad Street, Suite 500
Boston, MA 02109

You only have to return this page to the MSBA.
You do not need to print out and mail a copy of the entire form.

District:	**Shrewsbury**
Submission Date:	**6/29/2016**
As part of Statement of Interest?	**Yes**
Form ID:	**172**

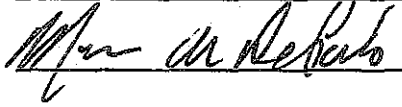
The undersigned hereby certifies that, to the best of his/her knowledge, information and belief, the statements and information contained in the form referenced above are true and accurate and that the Electronic Submitter was duly authorized to submit the information to the Massachusetts School Building Authority.

The undersigned also hereby acknowledges and agrees to provide the Massachusetts School Building Authority, upon request by the MSBA, any additional information relating to this enrollment information that may be required by the MSBA.

This form may be signed by the Local Chief Executive Officer (E.g., Mayor, Town Manager) or by the School District Superintendent.

Print Name : Maurice M. DePalo

Title : Board of Selectmen, Chairman

Signature: 

Date: June 29, 2016

Disclaimer: A form submitted to the Enrollment Application is NOT an application for funding. Submission of any enrollment information to the MSBA in no way commits the MSBA to accept an application, approve an application, provide a grant, or any other type of funding, or places any other obligation or requirement on the MSBA.

Gmail by Google

Daniel Morgado <dmorgado@shrewsburyma.gov>

RE: MSBA/Shrewsbury - Beal Early Childhood Center Eligibility Period Call Follow-Up

1 message

Kathryn DeCristofaro <Kathryn.Decristofaro@massschoolbuildings.org> Wed, Apr 13, 2016 at 11:47 AM
To: "dmorgado@th.ci.shrewsbury.ma.us" <dmorgado@th.ci.shrewsbury.ma.us>
Cc: "mmiller@shrewsburyma.gov" <mmiller@shrewsburyma.gov>, "jsamia@shrewsbury.k12.ma.us" <jsamia@shrewsbury.k12.ma.us>, "jsawyer@shrewsbury.k12.ma.us" <jsawyer@shrewsbury.k12.ma.us>, Elena Seiti <Elena.Seiti@massschoolbuildings.org>, "pccollins@shrewsbury.k12.ma.us" <pccollins@shrewsbury.k12.ma.us>, "rcox@shrewsburyma.gov" <rcox@shrewsburyma.gov>

Dear Mr. Morgado:

Thank you and other local officials for taking the time to speak with me this morning regarding the pre-requisites of the Eligibility Period for the Early Childhood Center project in the Town of Shrewsbury. As a reminder, I will be your point of contact for the project at the MSBA and any questions or concerns can be directed toward me.

As a follow-up to our discussion, I have re-attached the three documents as outlined in my email dated Thursday April 7, 2016, which is below this correspondence, for reference.

Additionally, as discussed this morning, I have included information in the table below that relates to recent District appropriation amounts for Feasibility Study and Schematic Design. We believe conversations with certain Superintendents will help inform the District about a target appropriation for this project. Currently, Beal Early Childhood Center serves 311 students in grades PK-K, according to the Department of Education's 2015-2016 enrollment information. Also within the table below, you will note that there are some Districts that have their grade configuration highlighted in bold text. This denotes that the District has executed a study enrollment certification with the MSBA, which provides the District with the opportunity to study different grade configurations than those currently housed at the specific school. Those Superintendents will be able to explain the nuances of the configurations and how that may have impacted their appropriation amount for Feasibility Study and Schematic Design funds.

District	School	Grades	Enrollment (in students)	FSA Appropriation	Superintendent
Amherst	Wildwood Elementary School	**K-6**	422	$1,000,000	Maria Geryk 413-362-1810
Bourne	James F. Peebles Elementary School	**K-4**	330	$750,000	Steven Lamarche 508-759-0660
Dedham	Early Childhood Center	**PK-K**	200 (K population only)	$600,000	Michael J. Welch 781-310-1011
Easthampton	Maple Elementary School	**PK-4**	246	$1,000,000	Nancy Follansbee 413-529-1567
Granby	West Street School	Originally PK-3 Current PK-6	213 430	$800,000	Dr. Judith Houle (Interim) 413-467-7193
Hanover	Sylvester Elementary School	**3-4**	243	$500,000	Matthew Ferron 781-878-0786
Hopkinton	Center Elementary School	K-1	446	$600,000	Dr. Cathy MacLeod 508-417-9360

Ipswich	Winthrop Elementary School	**PK-5**	407	$945,000	Dr. William Hart 978-356-2935
Millis	Clyde F. Brown Elementary School	**PK-4**	528	$1,000,000	Nancy Gustafson 508-376-7000
Needham	Hillside Elementary School	**K-5**	465	$650,000	Daniel Gutekanst 781-455-0400 ext. 203
Newton	Cabot Elementary School	K-5	403	$1,000,000	Dr. David Fleishmen 617-559-6100
Taunton	James L. Mulcahey Elementary School	**K-4**	471	$1,700,000	Dr. Julie Hackett 508-821-1201

I look forward to receiving the Initial Compliance Certification over the next few business days and moving this project forward through Eligibility Period.

If you have any questions or comments, please do not hesitate to contact me.

Sincerely,

Katie DeCristofaro

From: Kathryn DeCristofaro
Sent: Thursday, April 07, 2016 2:51 PM
To: dmorgado@th.ci.shrewsbury.ma.us
Cc: 'mmiller@shrewsburyma.gov'; 'jsamia@shrewsbury.k12.ma.us'; 'jsawyer@shrewsbury.k12.ma.us'; Elena Seiti
Subject: MSBA/Shrewsbury - Beal Early Childhood Center

Good afternoon, Mr. Morgado:

On March 30, 2016, the Board of the Massachusetts School Building Authority (the "MSBA") voted to authorize the MSBA's grant approval process and benefits the District by providing a definitive schedule for the completion of preliminary requirements, assisting with the determination of financial and community readiness, and identifying needs for planning and budgeting. Successful completion of all activities in the Eligibility Period will allow the District to be eligible for an MSBA invitation to Feasibility Study.

I will be the Project Coordinator for this project, and any questions or comments can be directed to me. Attached to this email please find:

- The **School Building Committee Form**, which must be filled out by the District and reviewed/approved by the MSBA (please mail an original on District letterhead). The SBC is due to the MSBA no later than **June 13, 2016**;

- The **Eligibility Period System Access Form**. The Eligibility Period Access Form gains users access to both the Enrollment and Maintenance and Capital Planning (the "MCP") online forms. For each user for whom you request access, please indicate whether the designated user will need to have access to edit (i.e. input data) or read only. Please sign the form and return it to Katie DeCristofaro (Kathryn.DeCristofaro@MassSchoolBuildings.org) in order to be authorized to use the MSBA Enrollment Questionnaire/On-Line Projection and Maintenance and Capital Planning online form.

Upon completion of the **online Enrollment information** by **July 12, 2016**, the MSBA will review the data in conjunction with the enrollment projection, recommend a design enrollment and invite the District to meet in our Boston office or participate in a conference call to discuss unique local conditions, listen to any concerns the District may have, as well as determine if additional information needs to be considered as part of the enrollment forecast. Enrollment must be finalized, including a **signed enrollment certification**, no later than **October 11, 2016.**

The District will need to submit the current routine and capital maintenance plan for your facilities. The MSBA is requesting that every District invited into the MSBA's Eligibility Period submit this information using the MSBA's online **Maintenance and Capital Planning Form** to facilitate the MSBA's evaluation of District maintenance and capital planning practices. More information regarding the MSBA's focus on and evaluation of maintenance and capital planning can be found on the MSBA website at http://www.massschoolbuildings.org/building/prerequisites/maintenance_cap_planning. Please contact Sarah Young at 617-720-4466 or Sarah.Young@MassSchoolBuildings.org if you have any questions about using the MCP system. The MCP information must be submitted no later than **October 11, 2016;**

· The **Feasibility Study Vote Bulletin** for Cities and Towns in Word format for the District to use as a model when crafting their vote language. **Upon completion, the District will send me a draft version of their language in Word format for the MSBA to review and approve**. After the vote has been taken, the District will submit a certified copy of the vote(s) taken for MSBA records. The appropriation for Feasibility Study funds must be completed by **January 9, 2017.**

All documents, unless otherwise noted, will be submitted to me by the indicated deadline above.

As a reminder, the **Educational Program Questionnaire** and **Initial Compliance Certification**, two of the Eligibility Period requirements, were sent to the District previously. If you would like me to resend either or both of these documents, please let me know and I'll be happy to resend.

I would like the opportunity to discuss this information in greater detail with at least you and/or a member of your staff, an individual on the school side, and at least one other District official who is knowledgeable in the financial capabilities of the District, as well as answer any questions you may have as it relates to the Eligibility Period requirements described above. Please provide me with three days and times for either next week (April 11, 2016) or the week of April 25, 2016, in which you can be available to have this phone call and I will schedule accordingly.

I look forward to hearing from you and moving the Beal Early Childhood Center through the Eligibility Period.

Best,

Katie DeCristofaro

Kathryn DeCristofaro

Capital Program Manager

Mass School Building Authority

617-720-4466

Kathryn.DeCristofaro@MassSchoolBuildings.org

3 attachments

Shrewsbury, Beal ECC SBC.DOCX
18K

Enrollment, MCP Access Form.doc
35K

City, Town- FS Vote Language.doc
31K

Beal School
Building Project Update

September 14, 2016

Topics

- MSBA Module 1: Eligibility Period
  - Commenced April 13, 2016
  - Concludes January 9, 2017
- Milestones Progress
- Next Steps
- Module 2 Overview: Forming the Project Team

Milestones Progress

Deliverable	Deadline	Status
Initial Compliance Certification	May 13, 2016	✓
School Building Committee	June 13, 2016	✓
Educational Profile Questionnaire	July 12, 2016	✓
Online Enrollment Projection	July 12, 2016	✓
Enrollment/Certification Executed	October 11, 2016	In process
Maintenance and Capital Planning Information	October 11, 2016	In process
Local Vote Authorization	January 9, 2017	Dec. 5, 2016 Special Town Meeting
Feasibility Study Agreement [with MSBA]	January 9, 2017	Contingent upon completing all above

Enrollment Certification

- This process will result in a consensus long-term enrollment projection agreed upon between the Building Committee and the MSBA.
- The purpose is to solve long-term space issues.
- Factors include:
  - District enrollment history trends and projections
  - Housing projects in the pipeline
  - Independent population growth projections
  - Educational program goals [i.e. offering universal full-day kindergarten]
  - Multiple student enrollment projection methods

Maintenance and Capital Planning Information

- MSBA requires communities to demonstrate good stewardship in maintaining school facilities to preserve the investment.
- Data includes information on:
  - Preventive and corrective maintenance systems and annual budgets
  - Capital budget plans and budgets
  - Staffing levels

Local Vote Authorization

- MSBA requires that a community appropriate sufficient funding for a Feasibility Study [FS] prior to their board of directors entering into a Feasibility Study Agreement.
- Building Committee will make recommendation of amount based upon comparative data provided by MSBA for similar type/size projects.
- **FS expenses are reimbursable by MSBA** at same overall rate for project—now at 50.16%
- A Special Town meeting is planned for December 5, 2016 in order to meet MSBA timeline restrictions in the Eligibility Phase.

Module 2 Overview:
Forming the Project Team

1. Procure the Owner's Project Manager [OPM]

2. Procure the Designer/Architect

3. Obtain/Re-certify Massachusetts Certified Public Purchasing Official [MCPPO] for OPM, Designer, Building Committee

**Procurements are in adherence with Mass. General Law and using MSBA template documents. Selection/Contracts with OPM and Designer require approval of MSBA.

Questions?

OFFICE OF THE
TOWN MANAGER

Richard D. Carney
Municipal Office Building
100 Maple Avenue
Voice: 508-841-8508
Fax: 508-842-0587
dmorgado@shrewsburyma.gov

Town of Shrewsbury
Massachusetts 01545-5398

October 20, 2016

To: Beal Early Childhood Center Building Committee

From: Daniel J. Morgado

Re: Meeting Notice & Agenda

The Beal Early Childhood Center Building Committee will meet on Tuesday, October 25, 2016 at 6:00 PM in Conference Room A of the Municipal Office Building – 100 Maple Avenue to consider the following agenda:

AGENDA

1. Taping of Television Show (limited number of Committee members) – 6:00 PM
2. Business Meeting - Call to Order 6:30 PM
3. Accept minutes from the meeting of October 11, 2016 (attached)
4. Project Status Report (Patrick Collins & Dan Morgado)
    a. Update on and review of the filings made with Massachusetts School Building Authority (MSBA)
    b. Project Milestones and Project Work Plan
    c. Review of Study Enrollment Certification and accompanying letter dated October 13, 2016 as prepared by the MSBA
    d. Review of Feasibility Study Budget
    e. Other process or project matters since the last meeting of the Committee
5. Preparation for meeting with the Board of Selectmen
6. Review of meeting schedule
7. Meet with Board of Selectmen – Selectmen's Meeting Room - 7:05 PM
8. Adjourn

Referenced Materials

Minutes of October 11, 2016
PowerPoint slides prepared by Mr. Collins dated October 25, 2016
Letter dated October 13, 2016, with attachment from the MSBA

MINUTES
Beal Early Childhood Center Building Committee
October 11, 2016

Present: Mr. Kane. Ms. McNamara Ms. Fryc, Mr. Collins, Mr. Cox, Mr. Gerardi, Mr. Morgado

Mr. Kane called the meeting to order at 6:00 PM using a meeting notice and agenda with attachments dated October 6, 2016.

On a motion by Ms. Fryc, second by Mr. Cox, the minutes of September 13, 2016 were accepted.

Mr. Collins made a presentation to the Committee as outlined in a PowerPoint presentation dated October 11, 2016. He went into some detail on the matter of materials and information that have been and will be submitted to the MSBA. Each page was reviewed and discussed by the Committee.

The enrollment certification from the MSBA is forthcoming. Indication is k-4 750; k-1 790 but letter is forthcoming.

Mr. Cox reported on the maintenance and capital planning materials that are being submitted to the MSBA. Discussion also centered on the value of the Module 3 & 4 budget.

It was agreed that the next meeting of the Committee will be October 25, 2016, at 6:30 PM at the Municipal Office Building.

The following schedule was reviewed:

Next Meeting – 10/25 at 6:30 PM
Meet with the Board of Selectmen – 10/25 at 7:05 PM (Finance Committee to be invited)
Meet with School Committee – 11/9 time TBD
Board of Selectmen signs STM warrant – 11/15
Mailing to Town Meeting Members – 11/18
Finance Committee public hearing on the STM Warrant – 12/1 at 7:00 PM
Special Town Meeting – 12/5 at 7:00 PM

The meeting adjourned at 6:50 PM.

Respectfully submitted,

Daniel J. Morgado
Town Manager

<u>Referenced Materials</u>
Meeting notice with attachments dated October 6, 2016
PowerPoint slides prepared by Mr. Collins dated October 11, 2016.

MINUTES
Beal Early Childhood Center Building Committee
October 25, 2016

Present at 6:00 PM: Mr. Kane. Ms. Fryc, Mr. Collins, Dr. Sawyer, Mr. Morgado

Present at 6:30 PM: Mr. Kane. Ms. Boucher, Ms. Fryc, Mr. Collins, Dr. Sawyer, Mr. Cox, Mr. Gerardi, Mr. Masiello, Mr. Morgado

At 6:00 PM, Mr. Kane. Ms. Fryc, Mr. Collins, Dr. Sawyer, Mr. Morgado participated in the taping of a local access TV program in the Selectmen's meeting room. At 6:25 PM the taping concluded.

At 6:30 PM in Conference Room A, the full committee met.

On a motion by Ms. Fryc, second by Mr. Cox, the minutes of October 11, 2016 were accepted.

Mr. Collins made a presentation to the Committee as outlined in a PowerPoint presentation dated October 25, 2016. He went into some detail on the matter of materials and information that have been and will be submitted to the MSBA. Each page was reviewed and discussed by the Committee.

The enrollment certification from the MSBA was reviewed. It will be presented to the Board of Selectmen at their meeting starting at 7:00 PM.

Mr. Morgado advised that he proposes a feasibility study budget of $1,200,000 with $1,000,000 for modules #3 and #4 with $200,000 held for expenses associated with a k-4 updated of the k-12 study of 1997. On a motion by Ms. Fryc, second by Mr. Masiello, the Committee voted to seek $1,200,000 at a December 5, 2016, Special Town meeting.

It was agreed that the next meeting of the Committee will be November 9, 2016, at 6:30 PM. The Committee will meet later that evening with the School Committee.

The following schedule was reviewed:

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The Committee adjourned once the meeting ended with the Board of Selectmen.

Respectfully submitted,

Daniel J. Morgado
Town Manager

Referenced Materials
Meeting notice with attachments dated October 20, 2016
PowerPoint slides prepared by Mr. Collins dated October 25, 2016.
Enrollment certification notification from the MSBA dated October 13, 2016.

OFFICE OF THE
TOWN MANAGER

Richard D. Carney
Municipal Office Building
100 Maple Avenue
Voice: 508-841-8508
Fax: 508-842-0587
dmorgado@shrewsburyma.gov

Town of Shrewsbury
Massachusetts 01545-5398

October 20, 2016

To: Beal Early Childhood Center Building Committee

From: Daniel J. Morgado

Re: Meeting Notice & Agenda

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Beal Early Childhood Center Building Committee
October 11, 2016

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Respectfully submitted,

Daniel J. Morgado
Town Manager

<u>Referenced Materials</u>
Meeting notice with attachments dated October 6, 2016
PowerPoint slides prepared by Mr. Collins dated October 11, 2016.

Massachusetts School Building Authority

Deborah B. Goldberg
Chairman, State Treasurer

Maureen G. Valente
Chief Executive Officer

John K. McCarthy
Executive Director / Deputy CEO

RECEIVED
2016 OCT 17 AM 9:57
TOWN MANAGERS OFFICE

October 13, 2016

Mr. Daniel J. Morgado, Shrewsbury Town Manager
Town Managers Office
100 Maple Avenue
Shrewsbury, MA 01545

Re: Town of Shrewsbury, Beal Early Childhood Center

Dear Mr. Morgado:

I would like to thank you and other local officials for participating in a conference call with Massachusetts School Building Authority (the "MSBA") staff on July 21, 2016 during which enrollment projections and methodologies were reviewed for the Beal Early Childhood Center (the "proposed project") in the Town of Shrewsbury (the "District"), resulting in the additional information provided on September 1, 2016 and a follow-up conference call on September 16, 2016. As discussed, the next critical step is for the MSBA and the District to agree on a study enrollment for the Beal Early Childhood Center.

The Beal Early Childhood Center presently serves a portion of the District's grades K-1 enrollment, however, the MSBA understands that the District would like the feasibility study for this project to examine a K-4 grade configuration at the Beal Early Childhood Center to be more consistent with the grade configuration of the District's four other elementary schools. The MSBA also understands that one of the District's goals for this proposed project is to relieve current and future overcrowding at the District's other four elementary schools.

The table on page 2 illustrates the District's K-12 enrollment during the most recent ten year period, including enrollment for the previous school year (2015-2016) as reported by the Department of Elementary and Secondary Education ("DESE"). The total grades K-4 enrollment in the Town of Shrewsbury as reported by the District for the 2015-2016 school year is 2,139 students, which reflects a decrease of 104 students (-4.6%) from the grades K-4 enrollment reported in 2006-2007, which was the maximum grade K-4 enrollment reported in the preceding ten years. Additionally, the current year's grade K-4 enrollment reflects a decrease of approximately 51 students (-2.3%) from the average grades K-4 enrollment reported during the preceding ten year period.

YEAR	K-4	5-6	7-8	9-12
2006	2,243	950	950	1,578
2007	2,205	946	934	1,629
2008	2,210	917	941	1,639
2009	2,191	908	906	1,624
2010	2,233	934	915	1,617
2011	2,207	961	905	1,631
2012	2,159	989	940	1,658
2013	2,173	980	961	1,646
2014	2,135	956	1,007	1,683
2015	2,139	972	1,027	1,668

The MSBA understands that the District is proposing a design enrollment to accommodate approximately 850 students in grades K-4 at the Beal Early Childhood Center. The enrollment in grades K-1 reported to DESE for the 2015-2016 school year at the Beal Early Childhood Center was 311 students.

With respect to future enrollments, the MSBA's base enrollment forecast indicates the District's grade K-4 enrollment will be stable over the next 4-5 years and then experience an increasing trend through 2025-2026. The average grade K-4 enrollment forecast for the projected period through the 2025-2026 school year is 2,225 students.

As a result of a sensitivity analysis performed by the MSBA on this base enrollment projection and further discussion with the District, the following adjustments have been made to the base enrollment projection:

- Out-of-District Enrollment
  - In order to adjust for fluctuations to the out-of-district enrollment patterns of the District's residents over time, the MBSA has made an additional adjustment to the base enrollment projection;
  - In order to make this adjustment, the MSBA adjusted the grade to grade survival ratios for grades K-4 by a total of 3.3% throughout a four year period in the projection; and
  - This adjustment added approximately 60 students to the average grades K-4 enrollment as compared to the projection without this adjustment.

- Development
  - Based on discussions between the District and the MSBA, and the anticipated development information provided by the District, the MSBA enrollment model has been adjusted to use the five-year 75th percentile cohort survival rate for 2016 and 2017 rather than the five-year average cohort survival rate, which is utilized throughout the base enrollment forecast; and
  - This adjustment added approximately 35 students to the average total grades K-4 enrollment as compared to the projection without this adjustment.

As a result of analysis on the base enrollment projection, the adjustment to the base projection described above, and based on the historical enrollment trends of the District, the average adjusted K-4 enrollment forecast for the projected period through the 2025-2026 school year is 2,320 students.

In order to recommend a design enrollment for an appropriately sized project for the Beal Early Childhood Center, the MSBA performed capacity analyses of the District's current elementary schools. The capacity analyses was based upon the MSBA's 2010 Needs Survey data, capacity information provided by the District, as well as the District's class size policies indicated in the Educational Profile Questionnaire, as follows:

- Kindergarten: 17-19 students per class
- Grades 1-2: 20-22 students per class
- Grades 3-4: 22-24 students per class

The District's four elementary schools, not including the Beal Early Childhood Center, currently contain (7) kindergarten classrooms, (33) grade 1-2 classrooms and (36) grade 3-4 classrooms, which accommodate 1,571 students based on the District's minimum student/classroom policies. Accordingly, if the Beal Early Childhood Center remains in a grade K-1 configuration, the MSBA recommends a design enrollment of 750 students for the Beal Early Childhood Center.

As previously stated, the District is considering a K-4 grade configuration at the Beal Early Childhood Center to be more consistent with the grade configuration of the District's four other elementary schools, as well as to relieve current and future overcrowding across the District. With reconfiguration, the District's four elementary schools, not including the Beal Early Childhood Center, would contain (16) kindergarten classrooms, (30) grade 1-2 classrooms and (30) grade 3-4 classrooms, which accommodate 1,532 students based on the District's minimum student/classroom policies. Accordingly, if the Beal Early Childhood Center reconfigures to become a grade K-4 configuration, the MSBA recommends a design enrollment of 790 students.

Please note School Committee approval of a detailed draft plan to redistrict students in accordance with a K-4 grade configuration for the District's five elementary schools is required prior to the approval of a Project Scope and Budget Agreement associated with this proposed project.

The MSBA believes that this study enrollment recommendation will position the District to efficiently meet space capacity needs throughout future enrollment variations. Please sign and return the attached certification within 21 calendar days to confirm agreement on this study enrollment. If the District feels that this study enrollment does not meet the needs of the District, please respond to this letter via e-mail to Katie DeCristofaro and propose three meeting/conference call times for which the District can be available to discuss enrollment.

If you have any questions regarding this matter, please do not hesitate to contact me or Katie DeCristofaro (Kathryn.DeCristofaro@MassSchoolBuildings.org) at 617-720-4466.

Sincerely,

Mary Pichetti
Director of Capital Planning

Cc: Legislative Delegation
Maurice M. DePalo, Chair, Shrewsbury Board of Selectmen
Sandra Fryc, Chair, Shrewsbury School Committee
Dr. Joseph Sawyer, Superintendent, Shrewsbury Public Schools
Patrick C. Collins, Assistant Superintendent, Shrewsbury Public Schools
File: 10.2 Letters (Region 2)

MASSACHUSETTS SCHOOL BUILDING AUTHORITY
TOWN OF SHREWSBURY
BEAL EARLY CHILDHOOD CENTER
STUDY ENROLLMENT CERTIFICATION

As a result of a collaborative analysis with the Massachusetts School Building Authority (the "MSBA") of enrollment projections and space capacity needs for the Beal Early Childhood Center (the "Proposed Project"), the Town of Shrewsbury hereby acknowledges and agrees that the design of alternatives, which may be evaluated as a part of the feasibility study for the Beal Early Childhood Center, shall be based in accordance with the following:

Enrollment for Grades K-1 (Current Configuration)	Enrollment for Grades K-4
750 students	790 students

The Town of Shrewsbury further acknowledges and agrees that, pursuant to 963 CMR 2.00 *et seq.*, the MSBA shall determine the square feet per student space allowance and total square footage according to the enrollments noted above. The Town of Shrewsbury acknowledges and agrees that it has no right or entitlement to any particular design enrollment, square feet per student space allowance, or total square footage and that it has no right or entitlement to a design enrollment any greater than any of the enrollments noted above, and further acknowledges and agrees that it shall not bring any claim or action, legal or equitable, against the MSBA, or any of its officers or employees, for the purpose of obtaining an increase in the design enrollment for the Proposed Project that it has acknowledged and agreed to herein. The Town of Shrewsbury further acknowledges and agrees that, among other things, the design enrollment, square feet per student space allowance, and total square footage of the Proposed Project shall be subject to the approval of the MSBA's Board and that the final approval of a Proposed Project shall be within the sole discretion of the MSBA's Board.

The undersigned, for themselves and the Town of Shrewsbury, hereby certify that they have read and understand the contents of this study enrollment certification and that each of the above statements is true, complete and accurate. The undersigned hereby certify that they have been duly authorized by the appropriate governmental body to execute this Certification on behalf of Town of Shrewsbury and to bind the Town of Shrewsbury to its terms.

_____
Chief Executive Officer

_____
Date

_____
Duly Authorized Representative of School Committee

_____
Date

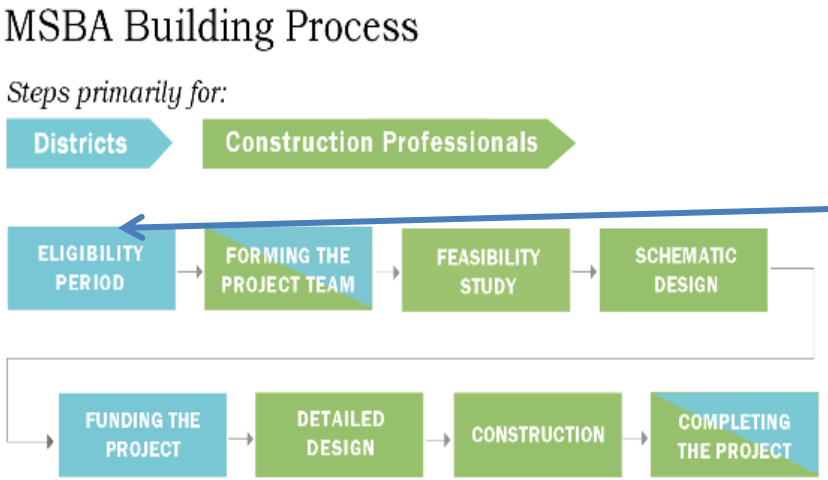
_____
Superintendent of Schools

_____
Date

Beal School
Building Project Update

October 25, 2016

Building with the MSBA



- Eight Modules in the process
- The Beal Project is in the Eligibility Period- Module 1 and on the cusp of moving into Module 2: Forming the Project Team

Topics

- MSBA Module 1: Eligibility Period
  - Commenced April 13, 2016
  - Concludes January 9, 2017
  - 270 day limit to complete all required items
  - Funding required for a Feasibility Study to progress to Modules 2 and 3
- Milestones Progress
- Enrollment Certification
- Financing the Feasibility Study
- Frequently Asked Questions [FAQ]

Milestones Progress

Deliverable	Deadline	Status
Initial Compliance Certification	May 13, 2016	✓
School Building Committee	June 13, 2016	✓
Educational Profile Questionnaire	July 12, 2016	✓
Online Enrollment Projection	July 12, 2016	✓
Enrollment/Certification Executed	October 11, 2016	✓
Maintenance and Capital Planning Information	October 11, 2016	✓
Local Vote Authorization	No Later than January 9, 2017	Dec. 5, 2016 Special Town Meeting
Feasibility Study Agreement [with MSBA]	January 9, 2017	MSBA Board meeting is 2/15/2017

Enrollment Certification

- The MSBA has made their own independent 10-year enrollment projection of our K-4 enrollment
  - 2025-2026 projected student population of 2,320 for K-4
  - 10/1/2016 actual K-4 enrollment was 2,189
- MSBA projection was based upon:
  - Historical/actual enrollment
  - Expected student growth with housing projects in planning pipeline
  - “Sensitivity analysis” that indicates fewer children migrate out of district when a community builds a new school

Local Vote Authorization

- MSBA requires that a community appropriate sufficient funding for a Feasibility Study [FS] prior to their board of directors entering into a Feasibility Study Agreement with a local community.
- Building Committee will make recommendation of amount of funding for the FS based upon comparative data provided by MSBA for similar type/size projects.
- **FS expenses are reimbursable by MSBA** at same overall rate for project—now at 50.16%
- A Special Town Meeting is planned for December 5, 2016 in order to meet MSBA timeline restrictions in the Eligibility Phase.

Feasibility Study Financing

- Bond Anticipation Note [BAN]
  - Temporary, short-term, note typically used in these types of capital projects
  - As an example, a $1.2M note for one year would having an interest rate of 1% would have a Net Interest Charge [NIC] of $12,000

Feasibility Study Financing

- Projected permanent financing of a $1.2M note
  - Assuming full use of the $1.2M appropriation and 50% reimbursement by MSBA leaves borrowing of $600,000 with projected impact below for a 10-year note
  - Borrowed within the Levy Limit

	Permanent Financing Model [*Projected*]				
Year	Principal	Interest	Total	Tax Rate Impact*	Impact on Average Residential Taxpayer**
1	$ 60,000	$ 24,000	$ 84,000	$0.02	$6.44
2	$ 60,000	$ 21,600	$ 81,600	$0.02	$6.26
3	$ 60,000	$ 19,200	$ 79,200	$0.02	$6.07
4	$ 60,000	$ 16,800	$ 76,800	$0.01	$5.89
5	$ 60,000	$ 14,400	$ 74,400	$0.01	$5.70
6	$ 60,000	$ 12,000	$ 72,000	$0.01	$5.52
7	$ 60,000	$ 9,600	$ 69,600	$0.01	$5.34
8	$ 60,000	$ 7,200	$ 67,200	$0.01	$5.15
9	$ 60,000	$ 4,800	$ 64,800	$0.01	$4.97
10	$ 60,000	$ 2,400	$ 62,400	$0.01	$4.78

FAQ

- How was $1.2M determined as the amount needed?

- *The MSBA provided a listing of recent projects and the Feasibility Study appropriations. Industry professionals were also consulted.*
  - *Amherst, K-6 school, $1M*
  - *Bourne, K-4 school, $750K*
  - *Easthampton, PK-4, $1M*
  - *Hopkinton, K-1, $600K*
  - *Newton, K-5, $1M*
  - *Taunton, K-4, $1.7M*

FAQ

- **What will the money be specifically used for?**

- *Funds will be used to hire an Owner's Project Management [OPM] Company, which is required by MSBA, and an architectural firm. These industry professionals along with other consultants, the Building Committee, and school/municipal staff will complete the Feasibility Study.*

FAQ

- **What will be the outcomes of the Feasibility Study? [FS]**
  - *Explore feasibility of re-use/expansion/renovation of Beal on existing site [MSBA may not reimburse for these study expenses.]*
  - *Explore feasibility of expanding existing elementary schools to manage projected growth [MSBA may not reimburse for these study expenses.]*
  - *Study the option of building a K-1 school of 750 students on existing or new site [required by MSBA]*
  - *Study the option a K-4 school of 790 students on existing or new site [required by MSBA]*

FAQ

- **How long will the Feasibility Study take and when will we be reimbursed the 50.16% by MSBA?**

- *Because the contracts for an OPM and architect go through a thorough selection process, including approval by MSBA, it's expected that the FS would begin in Spring 2017 and last between 6-12 months.*
- *MSBA will begin reimbursement of actual expenses on a monthly basis after the OPM is hired.*

FAQ

- **How are the Owner's Project Manager [OPM] and Architect selected?**

- *Both state procurement law and MSBA regulations dictate these competitive procurement processes. A standard Request for Services process is administered by the Beal Building Committee.*

FAQ

- **How much would a new school cost and where will it be built?**

- *It is premature to even try to answer these questions. It is the intent and purpose of the Feasibility Study process and subsequent Schematic Design Modules to address these questions. This is why detailed planning with industry professionals is conducted.*

Questions?

OFFICE OF THE TOWN MANAGER

Richard D. Carney Municipal Office Building
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Voice: 508-841-8508
Fax: 508-842-0587
dmorgado@shrewsburyma.gov

Town of Shrewsbury
Massachusetts 01545-5398

November 3, 2016

To: Beal Early Childhood Center Building Committee

From: Daniel J. Morgado

Re: Meeting Notice & Agenda

The Beal Early Childhood Center Building Committee will meet on Wednesday, November 9, 2016 at 6:30 PM in Conference Room A of the Municipal Office Building – 100 Maple Avenue to consider the following agenda:

AGENDA

1. Call to Order
2. Accept minutes from the meeting of October 25, 2016 (attached)
3. Project Status Report (Patrick Collins & Dan Morgado)
    a. Update on and review of the filings made with Massachusetts School Building Authority (MSBA)
    b. Project Milestones and Project Work Plan
    c. Other process or project matters since the last meeting of the Committee
4. Preparation for meeting with the School Committee
5. Review of meeting schedule
6. Meet with School Committee – Selectmen's Meeting Room - 7:10 PM
7. Adjourn

Referenced Materials

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PowerPoint slides prepared by Mr. Collins (to be provided)

MINUTES
Beal Early Childhood Center Building Committee
October 25, 2016

Present at 6:00 PM: Mr. Kane. Ms. Fryc, Mr. Collins, Dr. Sawyer, Mr. Morgado

Present at 6:30 PM: Mr. Kane. Ms. Boucher, Ms. Fryc, Mr. Collins, Dr. Sawyer, Mr. Cox, Mr. Gerardi, Mr. Masiello, Mr. Morgado

At 6:00 PM, Mr. Kane. Ms. Fryc, Mr. Collins, Dr. Sawyer, Mr. Morgado participated in the taping of a local access TV program in the Selectmen's meeting room. At 6:25 PM the taping concluded.

At 6:30 PM in Conference Room A, the full committee met.

On a motion by Ms. Fryc, second by Mr. Cox, the minutes of October 11, 2016 were accepted.

Mr. Collins made a presentation to the Committee as outlined in a PowerPoint presentation dated October 25, 2016. He went into some detail on the matter of materials and information that have been and will be submitted to the MSBA. Each page was reviewed and discussed by the Committee.

The enrollment certification from the MSBA was reviewed. It will be presented to the Board of Selectmen at their meeting starting at 7:00 PM.

Mr. Morgado advised that he proposes a feasibility study budget of $1,200,000 with $1,000,000 for modules #3 and #4 with $200,000 held for expenses associated with a k-4 updated of the k-12 study of 1997. On a motion by Ms. Fryc, second by Mr. Masiello, the Committee voted to seek $1,200,000 at a December 5, 2016, Special Town meeting.

It was agreed that the next meeting of the Committee will be November 9, 2016, at 6:30 PM. The Committee will meet later that evening with the School Committee.

The following schedule was reviewed:

Meet with School Committee – 11/9 time TBD
Board of Selectmen signs STM warrant – 11/15
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The meeting recessed at 6:55 PM and reconvened at 7:00 PM when the Committee meet with the Board of Selectmen.

The Committee adjourned once the meeting ended with the Board of Selectmen.

Respectfully submitted,

Daniel J. Morgado
Town Manager

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Meeting notice with attachments dated October 20, 2016
PowerPoint slides prepared by Mr. Collins dated October 25, 2016.
Enrollment certification notification from the MSBA dated October 13, 2016.

MINUTES

Beal Early Childhood Center Building Committee

November 9, 2016

Present at 6:30 PM: Ms. Boucher, Ms. Fryc, Mr. Collins, Dr. Sawyer, Mr. Cox, Mr. Gerardi, Mr. Masiello

Absent: Mr. Morgado, Mr. Kane

The meeting was called to order at 6:33 PM in Conference Room A by Vice-Chair Masiello.

On a motion by Ms. Fryc, second by Mr. Cox, the minutes of October 25, 2016 were accepted.

Mr. Collins previewed a presentation titled "*Beal School Building Project Update: November 9, 2016*" to be made to the School Committee as an update on the project status. All members were invited to participate in the presentation. It was agreed Mr. Masiello would open the presentation and then turn it over to Dr. Sawyer and Mr. Collins.

It was agreed that the next meeting of the Committee will be December 1, 2016, at 6:30 PM for a presentation to the Finance Committee.

The meeting recessed at 6:55 PM and reconvened at 7:00 PM when the Committee met with the

School Committee.

The Committee adjourned once the meeting ended with the School Committee.

Respectfully submitted

Patrick Collins

OFFICE OF THE TOWN MANAGER

Richard D. Carney Municipal Office Building
100 Maple Avenue
Voice: 508-841-8508
Fax: 508-842-0587
dmorgado@shrewsburyma.gov

Town of Shrewsbury
Massachusetts 01545-5398

RECEIVED
TOWN CLERK'S OFFICE
2016 NOV 10 PM 4:01
SHREWSBURY, MASS

November 10, 2016

To: Beal Early Childhood Center Building Committee

From: Daniel J. Morgado

Re: Meeting Notice & Agenda

The Beal Early Childhood Center Building Committee will meet on Tuesday, November 15, 2016 and Tuesday, November 29, 2016 at 7:15 PM at the Beal Early Childhood Center – 1 Maple Avenue

AGENDA

1. Call to Order

2. Disperse to guide tours for community members

3. Adjourn

OFFICE OF THE TOWN MANAGER

Richard D. Carney Municipal Office Building
100 Maple Avenue
Voice: 508-841-8508
Fax: 508-842-0587
dmorgado@shrewsburyma.gov

Town of Shrewsbury
Massachusetts 01545-5398

RECEIVED
TOWN CLERK'S OFFICE
2016 NOV 28 AM 8:07
SHREWSBURY, MASS

November 28, 2016

To: Beal Early Childhood Center Building Committee

From: Daniel J. Morgado

Re: Meeting Notice & Agenda

The Beal Early Childhood Center Building Committee will meet on Thursday, December 1, 2016 at 6:30 PM in Conference Room A of the Municipal Office Building – 100 Maple Avenue to consider the following agenda:

AGENDA

1. Call to Order
2. Project Status Report (Patrick Collins & Dan Morgado)
3. Preparation for the Finance Committee public hearing on the December 5, 2016, Special Town Meeting warrant
4. Attend and participate as necessary at the Finance Committee Public Hearing – Selectmen's Meeting Room - 7:00 PM
5. Adjourn

Referenced Materials

None at time of posting

MINUTES
Beal Early Childhood Center Building Committee
December 1, 2016

Call to order at 6:32 PM in Conference Room A, of the Municipal Office Building, 100 Maple Avenue using an agenda dated November 28, 2016.

Present: Ms. Boucher, Ms. Fryc, Mr. Collins, Dr. Sawyer, Mr. Cox, Mr. Gerardi, Mr. Masiello, Mr. Morgado

There were no minutes from the November 15, 2016 and November 29, 2016 meeting/tours of the Beal facility as there was no quorum present. Members of the Committee were presented and conducted individual and group tours for interested residents.

Members reviewed a PowerPoint presentation that would be presented to the Finance Committee at the 7 PM hearing and at the Town Meeting.

The meeting recessed at 6:45 PM and reconvened at 7:00 PM when the Committee participated in the Finance Committee public hearing.

The Committee adjourned once the public hearing ended at 8:13 PM

Respectfully submitted,

Daniel J. Morgado
Town Manager

Referenced Materials
Meeting notice dated November 28, 2016
PowerPoint slides prepared by Mr. Collins dated December 5, 2016

OFFICE OF THE
TOWN MANAGER

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Town of Shrewsbury
Massachusetts 01545-5398

RECEIVED
TOWN CLERK'S OFFICE
2016 NOV 28 AM 8:07
SHREWSBURY, MASS

November 28, 2016

To: Beal Early Childhood Center Building Committee

From: Daniel J. Morgado

Re: Meeting Notice & Agenda

The Beal Early Childhood Center Building Committee will meet on Thursday, December 1, 2016 at 6:30 PM in Conference Room A of the Municipal Office Building – 100 Maple Avenue to consider the following agenda:

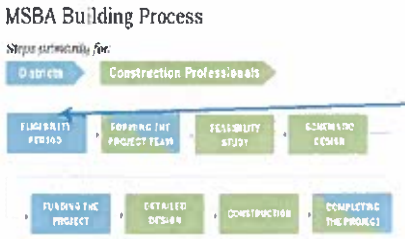
AGENDA

1. Call to Order
2. Project Status Report (Patrick Collins & Dan Morgado)
3. Preparation for the Finance Committee public hearing on the December 5, 2016, Special Town Meeting warrant
4. Attend and participate as necessary at the Finance Committee Public Hearing – Selectmen's Meeting Room - 7:00 PM
5. Adjourn

Referenced Materials

None at time of posting

Building with the MSBA



- Eight Modules in the process
- The Beal Project is in the Eligibility Period- Module 1 and on the cusp of moving into Module 2: Forming the Project Team

Beal Early Childhood Center
Article 5

Appropriation for Required Feasibility Study

December 5, 2016

Milestones Progress

Deliverable	Deadline	Status
Initial Compliance Certification	May 13, 2016	✓
School Building Committee	June 13, 2016	✓
Educational Profile Questionnaire	July 12, 2016	✓
Online Enrollment Projection	July 12, 2016	✓
Enrollment/Certification Executed	October 11, 2016	✓
Maintenance and Capital Planning Information	October 11, 2016	✓
Local Vote Authorization	No Later than January 9, 2017	Dec. 5, 2016 Special Town Meeting
Feasibility Study Agreement [with MSBA]	January 9, 2017	MSBA Board meeting is 2/15/2017

Topics

- Overview: Building with MSBA
- MSBA Module 1: Eligibility Period
  - Commenced April 13, 2016
  - Concludes January 9, 2017
  - 270 day limit to complete all required items
  - Funding required for a Feasibility Study to progress to Modules 2 and 3
- Milestones Progress
- Enrollment Certification
- Financing the Feasibility Study
- Frequently Asked Questions [FAQ]

Feasibility Study Financing

- Bond Anticipation Note [BAN]
  - Temporary, short-term, note typically used in these types of capital projects
  - As an example, the $1.2M note for one year would having an interest rate of 1% would have a Net Interest Charge [NIC] of $12,000

Enrollment Certification

- The MSBA has made their own independent 10-year enrollment projection of our K-4 enrollment
  - 2025-2026 projected student population of 2,320 for K-4
  - 10/1/2016 actual K-4 enrollment was 2,188
- MSBA projection was based upon:
  - Historical/actual enrollment
  - Expected student growth with housing projects in planning pipeline
  - "Sensitivity analysis" that indicates fewer children migrate out of district when a community builds a new school

Feasibility Study Financing

- Projected permanent financing of a $1.2M note
  - Assuming full use of the $1.2M appropriation and 50% reimbursement by MSBA leaves borrowing of $600,000 with projected impact below for a 10-year note
  - Borrowed within the Levy Limit

Permanent Financing Model (*Projected*)

Year	Principal	Interest	Total	Tax Rate Impact*	Impact on Average Residential Taxpayer**
1	$ 60,000	$ 24,000	$ 84,000	$0.02	$6.44
2	$ 60,000	$ 21,600	$ 81,600	$0.02	$6.26
3	$ 60,000	$ 19,200	$ 79,200	$0.02	$6.07
4	$ 60,000	$ 16,800	$ 76,800	$0.01	$5.89
5	$ 60,000	$ 14,400	$ 74,400	$0.01	$5.70
6	$ 60,000	$ 12,000	$ 72,000	$0.01	$5.52
7	$ 60,000	$ 9,600	$ 69,600	$0.01	$5.34
8	$ 60,000	$ 7,200	$ 67,200	$0.01	$5.15
9	$ 60,000	$ 4,800	$ 64,800	$0.01	$4.97
10	$ 60,000	$ 2,400	$ 62,400	$0.01	$4.78

Local Vote Authorization

- MSBA requires that a community appropriate sufficient funding for a Feasibility Study [FS] prior to their board of directors entering into a Feasibility Study Agreement with a local community.
- Building Committee recommends $1.2M for the FS based upon comparative data provided by MSBA for similar type/size projects.
- **FS expenses are reimbursable by MSBA** at same overall rate for project—now at 50.16%

FAQ

- **What will be the outcomes of the Feasibility Study? [FS]**
  - *Explore feasibility of re-use/expansion/renovation of Beal on existing site*
  - *Explore feasibility of expanding existing elementary schools to manage projected growth [MSBA may not reimburse for these study expenses.]*
  - *Study the option of building a K-1 school of 750 students on existing or new site [required by MSBA]*
  - *Study the option a K-4 school of 790 students on existing or new site [required by MSBA]*

FAQ

- How was $1.2M determined as the amount needed?
- *The MSBA provided a listing of recent projects and the Feasibility Study appropriations. Industry professionals were also consulted. $1M is intended specifically for the Beal project and an additional $200K for an assessment of impact on other elementary schools under a reconfiguration model of having all K-4 elementary schools.*
- *Other recent FS appropriations:*
  - *Amherst, K-6 school, $1M*
  - *Bourne, K-4 school, $750K*
  - *Easthampton, PK-4, $1M*
  - *Hopkinton, K-1, $600K*
  - *Newton, K-5, $1M*
  - *Taunton, K-4, $1.7M*

FAQ

- **How long will the Feasibility Study take and when will we be reimbursed the 50.16% by MSBA?**
- *Because the contracts for an OPM and architect go through a thorough selection process, including approval by MSBA, it's expected that the FS would begin in Spring 2017 and last between 12-18 months.*
- *MSBA will begin reimbursement of actual expenses on a monthly basis after the OPM is hired.*

FAQ

- **What will the money be specifically used for?**
- *Funds will be used to hire an Owner's Project Management [OPM] Company, which is required by MSBA, and an architectural firm. These industry professionals along with other consultants, the Building Committee, and school/municipal staff will complete the Feasibility Study.*

Questions?

FAQ

- **How are the Owner's Project Manager [OPM] and Architect selected?**
- *Both state procurement law and MSBA regulations dictate these be competitive procurement processes. A standard Request for Services process is administered by the Beal Building Committee.*

FAQ

- **How much would a new school cost and where will it be built?**
- *It is premature to even try to answer these questions. It is the intent and purpose of the Feasibility Study process and subsequent Schematic Design Modules to address these questions. This is why detailed planning with industry professionals is conducted.*

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Town of Shrewsbury
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RECEIVED
TOWN CLERK'S OFFICE
2017 JAN -3 AM 8:44
SHREWSBURY, MASS

January 3, 2017

To: Beal Early Childhood Center Building Committee

From: Daniel J. Morgado

Re: Meeting Notice & Agenda

The Beal Early Childhood Center Building Committee will meet on Tuesday, January 10, 2017, at 6:30 PM in the Old Selectmen's Meeting Room of the Municipal Office Building – 100 Maple Avenue to consider the following agenda:

This agenda revises an agenda posted on January 3, 2016 [sic] at 8:16AM. The correct posting date is January 3, 2017.

AGENDA

1. Call to Order
2. Review and act to accept the minutes of the December 1, 2016, meeting
3. Review and act on the following matters:
    a. Status Update – Feasibility Study execution process and expected action at MSBA Board meeting on 2/15/2017.
    b. Owners Project Manager (OPM) Selection Process Overview and Vote to appoint Sub-Committee members
    c. Establish a public hearing process and schedule to gain public input
4. Set date for next meeting
5. Adjourn

Referenced Materials

Minutes of December 1, 2016

MINUTES
Beal Early Childhood Center Building Committee
January 10, 2017

Call to order at 6:30 PM by Mr. Kane in the Old Selectmen's Meeting Room – Conference Room B, of the Municipal Office Building, 100 Maple Avenue using an agenda dated January 3, 2017.

Present: Mr. Kane, Ms. Boucher, Ms. Fryc, Mr. Collins, Dr. Sawyer, Mr. Cox, Mr. Gerardi, Mr. Masiello, Mr. Morgado

On a motion by Mr. Masiello, second by Ms. Fryc, the Committee voted to accept the minutes of December 1, 2016.

Mr. Collins made a report on the status of the project. He advised that a Feasibility Study Agreement has ben received from the MSBA that is now under review. The timing is pointing to action by the MSBA Board on February 15, 2017.

He then provided and outlined for the Committee materials he assembled covering the following:

1. The MSBA Owner's Project Manager (OPM) Selection Process
2. OPM FAQ's taken from the MSBA website
3. The meeting dates of the MSBA OPM review panel
4. A suggested timeline for the OPM selection process
5. Additional detail taken from the MSBA website on the OPM selection process.

After reviewing these materials, the Committee on a motion by Dr. Sawyer, second by Ms. Fryc voted to appoint Mr. Gerardi, Mr. Masiello, Mr. Cox and Ms. Boucher to the OPM Selection Committee.

The Committee will hold a public hearing at their next regular meeting on February 14, 2017 at 6:00 PM.

The meeting adjourned at 6:50 PM.

Respectfully submitted,

Daniel J. Morgado
Town Manager

Referenced Materials
Meeting notice dated January 3, 2017
Materials as outlined within the minutes prepared by Mr. Collins

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Town of Shrewsbury
Massachusetts 01545-5398

RECEIVED
TOWN CLERK'S OFFICE
2017 JAN 17 AM 11:43
SHREWSBURY, MASS

January 17, 2017

To: Beal Early Childhood Center Building Committee

From: Daniel J. Morgado

Re: Meeting Notice & Agenda

The Beal Early Childhood Center Building Committee will meet on Tuesday, January 24, 2017 at 6:45 PM in Conference Room A of the Municipal Office Building – 100 Maple Avenue to consider the following agenda:

AGENDA

1. Call to Order
2. Review and act to approve the agreement entitled "Massachusetts School Building Authority Feasibility Study Agreement" for the Beal Early Childhood Center (MSBA Project ID Number 201502710005) as presented and to authorize the Town Manager and the Chair, as an alternate, to execute said agreement on behalf of the Building Committee and to execute any amendments thereto or certifications required therefore.
3. Review and act to sign any necessary documents associated with the Feasibility Study Agreement.
4. Review of meeting schedule
5. Adjourn

Referenced Materials

Feasibility Study Agreement
Draft certified vote prepared by Town Counsel

MINUTES
Beal Early Childhood Center Building Committee
January 24, 2017

Present: Ms. Boucher, Ms. Fryc, Mr. Collins, Dr. Sawyer, Mr. Cox, Mr. Gerardi, Mr. Masiello, Mr. Morgado

Call to order by Mr. Masiello at 6:45 PM in Conference Room A, of the Municipal Office Building, 100 Maple Avenue using an agenda and meeting notice dated January 17, 2017.

Mr. Collins reported that the MSBA is preparing to act on the Beal matter at a Board meeting on February 15, 2017. The Feasibility Study Agreement now before the Building Committee has been reviewed by Town Counsel who has prepared the necessary certification and prepared a proposed motion to be adopted.

On a motion by Mr. Cox, Second by Dr. Sawyer, the Building Committee voted unanimously to approve the agreement entitled "Massachusetts School Building Authority Feasibility Study Agreement" for the Beal Early Childhood Center (MSBA Project ID Number 201502710005) as presented and to authorize the Town Manager and the Chair, as an alternate, to execute said agreement on behalf of the Building Committee and to execute any amendments thereto or certifications required therefore.

The members present then signed a certification of the vote just taken.

The next meeting of the Building Committee will be February 14, 2017 at 6:00 PM.

The meeting adjourned at 6:51 PM.

Respectfully submitted,

Daniel J. Morgado
Town Manager

Referenced Materials
Meeting notice dated January 17, 2017

BEAL EARLY CHILDHOOD CENTER BUILDING COMMITTEE

Richard D. Carney Municipal Office Building 100 Maple Avenue Voice: 508-841-8508 Fax: 508-842-0587

Town of Shrewsbury

Massachusetts 01545-5398

RECEIVED TOWN CLERK'S OFFICE 2017 FEB 10 AM 8:07 SHREWSBURY, MASS

February 10, 2017

To: Beal Early Childhood Center Building Committee

From: Daniel J. Morgado

Re: Meeting Notice & Agenda

The Beal Early Childhood Center Building Committee will meet on Tuesday, February 14, 2017, at 6:00 PM in the Old Selectmen's Meeting Room – Conference Room B of the Municipal Office Building – 100 Maple Avenue to consider the following agenda:

AGENDA

1. Call to Order
2. 6:00 PM – Public Hearing – The Committee will hold a public hearing at this time to gather written and oral comments from interested citizens on the work of the Committee as it prepares to begin the feasibility study phase (Module 3 – Feasibility Study) of the MSBA process.
3. Review and act to accept the minutes of the January 10, 2017 and January 24, 2017 Meetings of the Committee.
4. Review and act on the following matters:
    a. Status Update – Feasibility Study execution process and expected action at MSBA Board meeting on 2/15/2017.
    b. Owners Project Manager (OPM) Selection Process Overview
5. Set date for next meeting
6. Adjourn

Referenced Materials

Minutes of the January 10, 2017 and January 24, 2017 Meetings

BEAL EARLY CHILHOOD CENTER BUILDING COMMITTEE

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RECEIVED
TOWN CLERK'S OFFICE
2017 FEB 10 AM 8:07
SHREWSBURY, MASS

Town of Shrewsbury
Massachusetts 01545-5398

Notice of Public Hearing

The Beal Early Childhood Center Building Committee will hold a public hearing on Tuesday, February 14, 2017 at 6:00 PM in Old Selectmen's Meeting Room - Conference Room B in the Municipal Office Building – 100 Maple Avenue to learn from interested citizens their thoughts on the matters before the Committee as it begins its work on the Feasibility Study phase (Module 3 – Feasibility Study) of the MSBA process.

Interested persons are invited to attend this public hearing to offer any oral or written comments.

James F. Kane, Chair

BEAL EARLY CHILDHOOD CENTER BUILDING COMMITTEE

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Town of Shrewsbury
Massachusetts 01545-5398

RECEIVED
TOWN CLERK'S OFFICE
2017 MAR 10 AM 8:03
SHREWSBURY, MASS

March 10, 2017

To: Beal Early Childhood Center Building Committee

From: Daniel J. Morgado

Re: Meeting Notice & Agenda

The Beal Early Childhood Center Building Committee will meet on Tuesday, March 14, 2017, at 6:30 PM in the Old Selectmen's Meeting Room – Conference Room B of the Municipal Office Building – 100 Maple Avenue to consider the following agenda:

AGENDA

1. Call to Order
2. Review and act to accept the minutes of the February 14, 2017, meeting of the Committee.
3. Review and act on the following matters:
    a. Report on the status of the Owners Project Manager (OPM) selection process – Mr. Masiello
    b. Report on the general status of the project – Mr. Collins
4. Set date for next meeting – April 4, 2017
5. Adjourn

Referenced Materials

Minutes as noted above

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dmorgado@shrewsburyma.gov

TOWN OF SHREWSBURY
Richard D. Carney Municipal Office Building
100 Maple Avenue
Shrewsbury, Massachusetts 01545-5398

2017 FEB 13 PM 2:55

The Following Meetings Scheduled to be Held on Tuesday, March 14, 2017 Have Been Cancelled

6:30 PM Beal Building Committee

7:00PM Commission on Disabilities

7:00PM Sewer Commission

BEAL EARLY CHILDHOOD CENTER BUILDING COMMITTEE

Richard D. Carney Municipal Office Building
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RECEIVED
TOWN CLERK'S OFFICE
SHREWSBURY, MASS
2017 MAR 30 AM 9:15

Town of Shrewsbury
Massachusetts 01545-5398

March 30, 2017

To: Beal Early Childhood Center Building Committee

From: Daniel J. Morgado

Re: Meeting Notice & Agenda

The Beal Early Childhood Center Building Committee will meet on Tuesday, April 4, 2017, at 7:00 PM in the Old Selectmen's Meeting Room – Conference Room B of the Municipal Office Building – 100 Maple Avenue to consider the following agenda:

AGENDA

1. Call to Order
2. Review and act to accept the minutes of the February 14, 2017, meeting of the Committee.
3. Review and act on a bill schedule in the amount of $874.00 for legal services with the firm of Mirick O'Connell for legal services associated with the Feasibility Study Agreement.
4. Hear reports, review and act on the following matters:
    a. Report from the OPM Selection Subcommittee concerning the Owners Project Manager (OPM) selection process – Mr. Masiello
    b. Review and act on the matter of the selection of an Owners Project Manager (OPM)
    c. Report on the matter of the designer selection process – Mr. Collins
    d. Review and act on the matter of designating a Designer Selection Subcommittee
    e. Report on the general status of the project – Mr. Collins
5. Set date for next meeting
6. Adjourn

Referenced Materials

Minutes as noted above

MINUTES
Beal Early Childhood Center Building Committee
April 4, 2017

Present: Mr. Kane, Ms. Boucher, Ms. Fryc, Mr. Collins, Dr. Sawyer, Mr. Gerardi, Mr. Masiello, Mr. Cox, Mr. Morgado

Call to order by Mr. Kane at 7:00 PM in Conference Room B – Old Selectmen's Meeting Room, of the Municipal Office Building, 100 Maple Avenue using an agenda and meeting notice dated March 30, 2017.

On a motion by Mr. Masiello, second by Ms. Boucher, the Committee voted to accept the minutes of February 14, 2017.

On a motion by Mr. Masiello, second by Mr. Cox, the Committee voted to pay two bill schedules; 1) Mirick O'Connell for legal expenses in the amount of $847.00 and 2) $96.00 to the Telegram and Gazette for a legal ad.

Mr. Masiello reported to the Committee the activities of the OPM Selection Sub-Committee that met on March 23, 2017 and March 30, 2017. There were nine responses to the solicitation and the sub-committee interviewed three of the firms. The firms interviewed were PMA Consultants, LLC, Skanska USA Building, Inc. and STV/DPM

After review the sub-committee ranked the firms:

1. PMA Consultants, LLC
2. Skanska Building Inc.
3. STV/DPM

There was a short period of discussion on the OPM selection process.

On a motion by Mr. Masiello, second by Dr. Sawyer, the firm of PMA Consultants, LLC was selected as the project's OPM subject to approval by the MSBA. Mr. Morgado will work out a contract with PMA.

Mr. Collins reported on the process to select a designer and provided to the Committee materials downloaded from the MSBA website. He also provided a draft schedule for the selection process. Representing the Town when the MSBA takes up this matter will be the Town Manager (or designee), Superintendent (or designee) and member of the School Committee (or designee).

There will be a report to the Annual Town meeting on the status of this project on May 15, 2017.

The next meeting of the Committee will be May 9, 2017 at 6 PM.

The meeting adjourned at 7:20 PM.

Respectfully submitted,

Daniel J. Morgado
Town Manager

Referenced Materials
Meeting notice dated March 30, 2017
Minutes as noted
Materials provided by Mr. Collins on the matter of designer selection dated 3/23/2017

BEAL EARLY CHILDHOOD CENTER BUILDING COMMITTEE

Richard D. Carney Municipal Office Building
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Town of Shrewsbury
Massachusetts 01545-5398

RECEIVED
TOWN CLERK'S OFFICE
2017 MAY -4 PM 4:13
SHREWSBURY, MASS

May 4, 2017

To: Beal Early Childhood Center Building Committee

From: Daniel J. Morgado

Re: Meeting Notice & Agenda

The Beal Early Childhood Center Building Committee will meet on Tuesday, May 9, 2017, at 6:00 PM in Conference Room A of the Municipal Office Building – 100 Maple Avenue to consider the following agenda:

AGENDA

1. Call to Order
2. Review and act to accept the minutes of the April 4, 2017, meeting of the Committee.
3. Hear reports, review and act on the following matters:
    a. Report from the Owner's Project Manager – Paul Queeney PMA Consultants, LLC
        i. Designer Selection Process
        ii. MSBA Compliance
        iii. Project Schedule
        iv. Other Matters as Necessary
    b. Report from Patrick Collins on project status
        i. Project update to be made to the Annual Town Meeting
4. Set date for next meeting
5. Adjourn

Referenced Materials

Minutes as noted above
Letter dated May 3, 2017 from the MSBA approving the OPM selection

MINUTES
Beal Early Childhood Center Building Committee
May 9, 2017

Present: Mr. Kane, Ms. Boucher, Ms. Fryc, Mr. Collins, Dr. Sawyer, Mr. Gerardi, Mr. Cox, Mr. Morgado

Also: Mr. Paul Queeney and Ms. Deborah Shaer of PMA Consultants, LLC

Call to order by Mr. Kane at 6:00 PM in Conference Room A - Municipal Office Building, 100 Maple Avenue using an agenda and meeting notice dated May 4, 2017.

On a motion by Mr. Cox, second by Dr. Sawyer, the Committee voted to accept the minutes of April 4, 2017.

Introductions were made with Mr. Queeney and Ms. Shaer. Mr. Queeney provided an overview of his firm and his past work with the Town of Shrewsbury.

Mr. Queeney presented and reviewed a schedule for the designer selection process.

He then presented and reviewed a draft RFS that would be issued seeking responses from design firms. This RFS requires MSBA approval before it can be issued. The Committee reviewed the draft page by page making comments and inquiries. Much of the material was taken from the OPM solicitation materials.

On a motion by Mr. Cox, second by Dr. Sawyer, the Committee voted to send the draft onto the MSBA on Friday (5/12) incorporating any comments that any member of the Committee may have. Mr. Morgado will send a copy of the RFS draft to Mr. Masiello.

Mr. Queeney reviewed the designer selection process making available some materials he downloaded from the MSBA website.

Mr. Collins advised a draft report to the ATM had been prepared and shared with the Committee. On a motion by Dr. Sawyer, second by Mr. Collins, the Committee approved the report that will be given by Ms. Fryc.

Mr. Morgado advised that the MSBA has approved PMA as the OPM via letter dated May 3, 2017. On a motion by Ms. Fryc, second by Dr. Sawyer, Mr. Morgado was authorized to sign the OPM contract with PMA Consultants, LLC. with a cost not to exceed $242,556.

The next meeting of the Committee will be June 13, 2017 at 6 PM.

The meeting adjourned at 6:47 PM.

Respectfully submitted,

Daniel J. Morgado
Town Manager

Referenced Materials
Meeting notice dated May 4, 2017
Minutes as noted
Materials provided by PMA (Schedule, Draft RFS, MSBA designer selection materials)
May 3, 2017, letter from the MSBA
Contract with PMA Consultants, LLC
Draft report to the ATM

BEAL EARLY CHILDHOOD CENTER BUILDING COMMITTEE

Richard D. Carney Municipal Office Building
100 Maple Avenue
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Town of Shrewsbury
Massachusetts 01545-5398

RECEIVED
TOWN CLERK'S OFFICE
2017 JUN -8 PM 4:21
SHREWSBURY, MASS

June 8, 2017

To: Beal Early Childhood Center Building Committee

From: Daniel J. Morgado

Re: Meeting Notice & Agenda

The Beal Early Childhood Center Building Committee will meet on Tuesday, June 13, 2017, at 6:00 PM in the Old Selectmen's Meeting Room – Conference Room B of the Municipal Office Building – 100 Maple Avenue to consider the following agenda:

AGENDA

1. Call to Order
2. Review and act to accept the minutes of the May 11, 2017, meeting of the Committee.
3. Review and act on the following bill schedules:

Vendor/Expense/Item	Amount
Fed Ex/MSBA Package	$32.10

4. Hear reports, review and act on the following matters:
    a. Report from the Owner's Project Manager
        i. Designer Selection Process
        ii. Project Schedule
        iii. Other Matters as Necessary
5. Review and act on letters designating Sandra Fryc, Patrick Collins and Robert Cox to participate as the Town's designees relative to the MSBA designer selection process.
6. Set date for next meeting
7. Adjourn

Referenced Materials

Minutes and Bill Schedules as noted above

MINUTES
Beal Early Childhood Center Building Committee
June 13 2017

Present: Mr. Kane, Ms. Boucher, Ms. Fryc, Mr. Collins, Dr. Sawyer, Mr. Gerardi, Mr. Cox, Mr. Masiello, Mr. Morgado

Also: Mr. Paul Queeney and Ms. Deborah Shaer of PMA Consultants, LLC

Call to order by Mr. Kane at 6:00 PM in Conference Room A - Municipal Office Building, 100 Maple Avenue using an agenda and meeting notice dated June 8, 2017.

On a motion by Mr. Masiello second by Ms. Fryc, the Committee voted to accept the minutes of May 11, 2017.

On a motion by Mr. Masiello, second by Dr. Sawyer a bill of $32.10 for Federal Express was approved.

Mr. Queeney and Ms. Shaer made a report on the progress of the OPM to date.

Mr. Queeney provided an overview of the designer selection process. He also subsequently provided and explained a written overview. His discussion centered on the work of the Designer Selection Sub-Committee and the interaction that will take place between the Town and the MSBA.

Proposals are due on June 16th. The sub-committee will then meet soon thereafter.

There was a general discussion on the matter of designer selection and the process that PMA will use to keep the Shrewsbury members of the selection panel informed so that they will be able to engage in the selection process when meeting with the larger Designer Selection Panel in Boston.

Ms. Shaer will see that a project directory will be prepared.

On a motion by Mr. Masiello, second by Ms. Boucher, the Committee's designated members of the sub-committee will be Ms. Fryc, Mr. Collins and Mr. Cox.

The next meeting of the Committee will be July 11th, 2017 at 6 PM.

The meeting adjourned at 6:27 PM.

Respectfully submitted,

Daniel J. Morgado

Town Manager

Referenced Materials
Meeting notice dated June 8, 2017
Minutes as noted
Materials provided by PMA

BEAL EARLY CHILDHOOD CENTER BUILDING COMMITTEE

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2017 JUL -5 PM 12: 54
SHREWSBURY, MASS

July 5, 2017

To: Beal Early Childhood Center Building Committee

From: Daniel J. Morgado

Re: Meeting Notice & Agenda

The Beal Early Childhood Center Building Committee will meet on Tuesday, July 11, 2017, at 6:00 PM in Conference Room A of the Municipal Office Building – 100 Maple Avenue to consider the following agenda:

AGENDA

1. Call to Order
2. Introductions
3. Review and act to accept the minutes of the June 13, 2017, meeting of the Committee.
4. Review and act on the following bill schedules:

Vendor/Expense/Item	Amount
None at time of posting	

5. Hear reports, review and act on the following matters:
    a. Report from the Owner's Project Manager
        i. Designer Selection Process
        ii. Project Schedule
        iii. Other Matters as Necessary
6. Set date for next meeting
7. Adjourn

Referenced Materials

Minutes and Bill Schedules as noted above

MINUTES
Beal Early Childhood Center Building Committee
July 11 2017

Present: Mr. Kane, Ms. Boucher, Mr. Collins, Dr. Sawyer, Mr. Gerardi, Mr. Cox, Mr. Masiello, Mr. Mizikar

Also: Mr. Paul Queeney and Ms. Deborah Shaer of PMA Consultants, LLC. Mr. Michael Pagano, Ms. Katie Crockett, Mr. Leo Parker and Mr. Sean Brennan of Lamoureux Pagano & Associates.

Call to order by Mr. Kane at 6:00 PM in Conference Room A - Municipal Office Building, 100 Maple Avenue using an agenda and meeting notice dated July 5, 2017.

On a motion by Mr. Masiello second by Ms. Boucher, the Committee voted to accept the minutes of June 13, 2017.

There were no bills for consideration.

Mr. Queeney made a report on the Designer Selection process and the work of the Designer Selection Sub-Committee providing notes from the Sub-Committee meeting of June 28, 2017. He explained that MSBA voted earlier in the day to support the recommendation of the Sub-Committee an enable the Town to move forward with the fee negotiation with Lamoureux Pagano & Associates to be the designer.

Mr. Kane presented a letter dated July 11, 2017 from the MSBA, MSBA ID: 201502710005, that documents the MSBA's vote enabling the Town to move forward with the fee negotiation with Lamoureux Pagano & Associates.

On a motion by Mr. Cox second by Mr. Sawyer the Committee unanimously voted to award the contract for Designer Services for the Beal Early Childhood Center Building and authorize the Town Manager to negotiate the fee for services and execute the contract with Lamoureux Pagano & Associates.

Mr. Pagano and Ms. Crockett expressed their gratitude for the support that they received in the selection process as well as their eagerness to work on the project with the Town.

The next meeting of the Committee was tentatively set for July 25th at 6:00 PM and the following regularly scheduled meeting will be August 8th, 2017 at 6:00 PM.

The meeting adjourned at 6:22 PM.

Respectfully submitted,

Kevin J. Mizikar
Town Manager

Referenced Materials
Meeting notice dated July 5, 2017
Minutes as noted
Materials provided by PMA
Letter from MSBA dated July 11, 2017

BEAL EARLY CHILDHOOD CENTER BUILDING COMMITTEE

Richard D. Carney Municipal Office Building
100 Maple Avenue
Voice: 508-841-8508
Fax: 508-842-0587

Town of Shrewsbury
Massachusetts 01545-5398

RECEIVED
TOWN CLERK'S OFFICE
2017 JUL 28 PM 2:00
SHREWSBURY, MASS

July 28, 2017

To: Beal Early Childhood Center Building Committee

From: Kevin J. Mizikar

Re: Meeting Notice & Agenda

The Beal Early Childhood Center Building Committee will meet on Tuesday, August 1, 2017, at 6:00 PM in Conference Room A of the Municipal Office Building – 100 Maple Avenue to consider the following agenda:

AGENDA

1. Call to Order
2. Introductions
3. Review and act to accept the minutes of the July 11, 2017, meeting of the Committee.
4. Review and act on the following bill schedules:

Vendor/Expense/Item	Amount
PMA Consultants/Prof Svcs 4/17 - 6/17	$23,599.00

5. Consider recommendation to enter into an agreement with Lamoureux Pagano & Associates for Designer Services for the Beal Early Childhood Center project
6. Hear reports, review and act on the following matters:
    a. Report from the Owner's Project Manager
        i. Designer Selection Process
        ii. Project Schedule
            1. Kickoff with MSBA
        iii. Other Matters as Necessary
7. Set date for next meeting
8. Adjourn

Referenced Materials

Minutes and Bill Schedules as noted above

MINUTES
Beal Early Childhood Center Building Committee
August 1 2017

Present: Mr. Kane, Ms. Boucher, Mr. Collins, Dr. Sawyer, Mr. Girardi, Mr. Cox, Mr. Masiello, Ms. Fryc, Mr. Mizikar

Also: Mr. Paul Queeney and Ms. Deborah Shaer of PMA Consultants, LLC. Mr. Michael Pagano, Ms. Katie Crockett, Mr. Leo Parker and Mr. Sean Brennan of Lamoureux Pagano & Associates.

Call to order by Mr. Kane at 6:00 PM in Conference Room A - Municipal Office Building, 100 Maple Avenue using an agenda and meeting notice dated July 28, 2017.

On a motion by Mr. Masiello second by Mr. Sawyer, the Committee voted to accept the minutes of July 11, 2017.

There was one bill for consideration in the amount of $23,599 from PMA Consultants for professional OPM Services April – June 2017. Mr. Collins reviewed the warrant process and the invoice. Mr. Kane requested a quarterly financial update be made to the Committee. On a motion by Mr. Collins second by Ms. Fryc, the Committee voted unanimously to approve payment as presented.

Mr. Mizikar reviewed the budget for the MSBA Feasibility Study phase of the project recapping the selection process for the OPM and Designer to this point. Mr. Mizikar presented the fee proposal of Lamoureux Pagano & Associates (LPA). The base fee of $750,000 for work defined by MSBA modules 3 & 4 has been proposed along with a fee of $150,000 for a PK-12 Capital Inventory & Assessment Study. Due diligence under modules 3 & 4 will require additional services that lie outside of the agreement with the Designer. LPA recommends a budget of $40,000 for these additional services. PMA advises a higher budget of $60,000. Mr. Mizikar asked the Committee to consider the authorization of the agreement for Designer Services with LPA in the amount of $750,000 and reserve through a future contract amendment with LPA the work for the additional PK-12 Capital Inventory & Assessment Study.

Mr. Pagano thanked committee and briefly reviewed the Designer Fee proposal.

Mr. Queeney discussed an analysis of the LPA proposal in comparison to 10 similar projects and recommended approval. The additional services conservatively should be estimated at $100,000 but likely will come in much less.

Mr. Kane asked that PMA's comparative model be shared with the entire Committee. A discussion of the scope of work under modules 3 & 4 and the agreement with the designer ensued.

On a motion by Mr. Cox second by Ms. Fryc, the Committee voted to authorize the execution of the agreement for Designer Services with LPA in the amount of $750,000 and reserve through a future contract amendment with LPA the work for the additional PK-12 Capital Inventory & Assessment Study.

Mr. Queeney discussed the Kickoff Meeting with MSBA which will be scheduled in the next two weeks and invited committee members that are interested to attend. The Committee will be informed of the date once scheduled.

Mr. Queeney lead a conversation on communications with the Committee. All documents related to the project will be posted on the project's page on the Town Website.

Mr. Pagano & Ms. Crockett reviewed the milestones of the Feasibility Phase of this project and distributed the MSBA Core Program Process Overview.

Mr. Masiello asked how the process works related to selecting and securing the preferred site. Mr. Queeney and Mr. Pagano explained the iterative process through schematic design which includes site selection. MSBA requires proof the Town has ownership or agreement on the site on which the building will be developed.

The next meeting of the Committee was tentatively set for September 12th at 6:00 PM.

On a motion of Mr. Masiello seconded by Ms. Fryc the meeting adjourned at 6:37 PM.

Respectfully submitted,

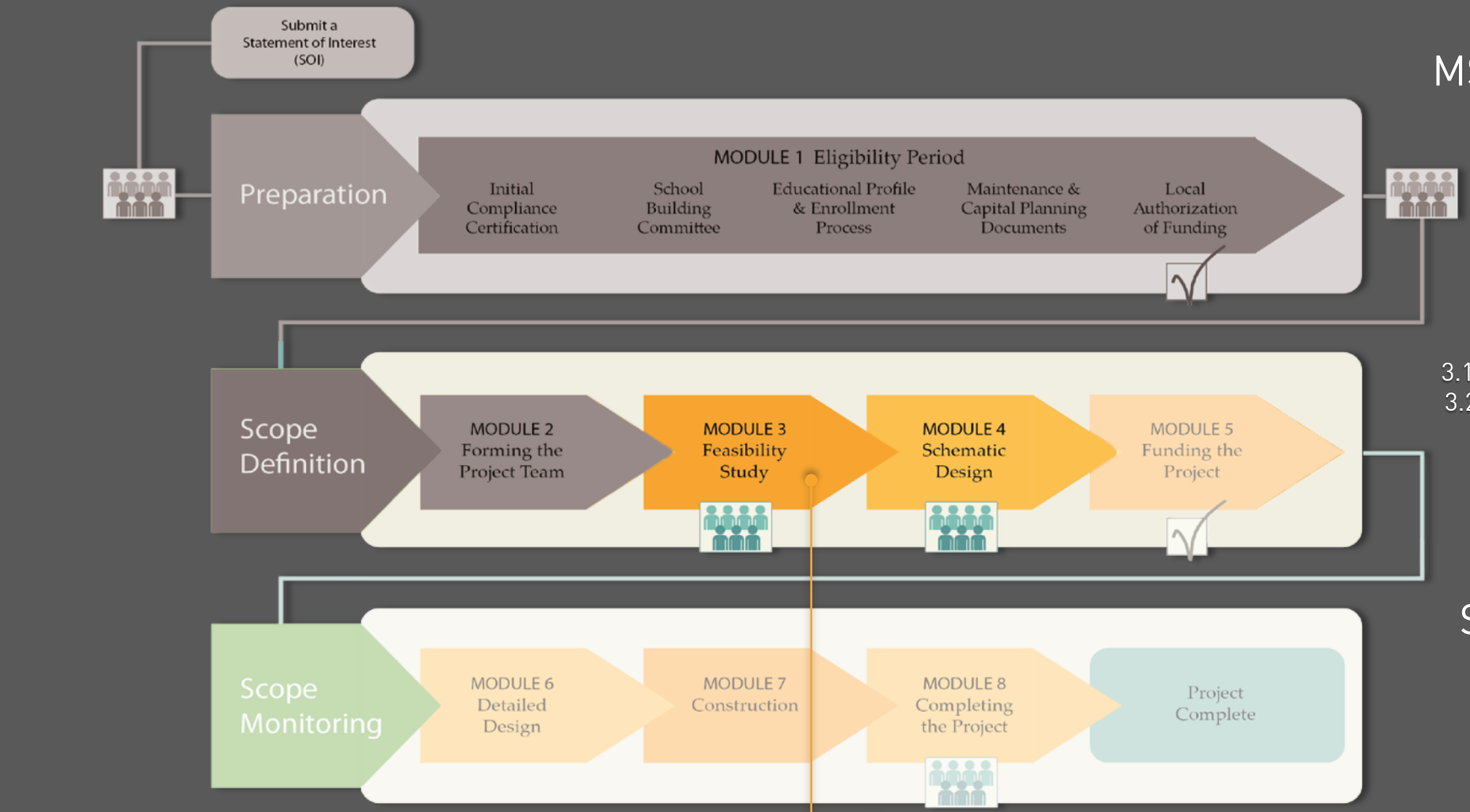
Kevin J. Mizikar
Town Manager

Referenced Materials
Meeting notice dated July 28, 2017
Minutes as noted
Beal Early Childhood Center School – FS/SD Designer A/E Service Fee Proposal – LPA July 17, 2017
Beal Early Childhood Center School – FS/SD Designer A/E Service Fee Proposal – LPA July 19, 2017

BEAL EARLY CHILDHOOD CENTER

MSBA CORE PROGRAM PROCESS

MSBA Core Program Process Overview



MSBA CORE PROGRAM PROCESS

MODULE 3: FEASIBILITY STUDY

3.1 PDP: Preliminary Design Program
3.2 PSR: Preferred Schematic Report

MODULE 4:

SCHEMATIC DESIGN

MODULE 3 – MSBA CHECKLIST

Module 3 Checklist | Preliminary Design Program

- ❑ Copy of executed OPM Contract forwarded to MSBA
- ❑ Copy of executed Designer Contract forwarded to MSBA
- ❑ Work Plan approved by School Building Committee
- ❑ Kick-Off Meeting with MSBA
- ❑ Processed Budget Revision Request to align ProPay Budget Line Items to executed OPM and Designer Contracts submitted to MSBA
- ❑ Reviewed Project Advisories
- ❑ SBC Vote to approve Preliminary Design Program ("PDP") Submittal and Local Actions and Approval Certification.
- ❑ PDP submitted to the MSBA
- ❑ District Response to PDP review comments submitted to MSBA
- ❑ School Committee Vote to approve Grade Reconfiguration and/or Districting and Grade Reconfiguration and Districting Approval Certification signed (if applicable)

Module 3 Checklist | Preferred Schematic Report

- ❑ SBC Vote to approve Preferred Schematic Report ("PSR") Submittal and Local Actions and Approval Certification.
- ❑ PSR submitted to the MSBA
- ❑ District Response to PSR review comments submitted to MSBA
- ❑ Facilities Assessment Subcommittee ("FAS") Meeting
- ❑ District Response to FAS comments submitted to MSBA
- ❑ Updates to SBC submitted to MSBA (if applicable)
- ❑ Updates to OPM and Designer Org Charts submitted to MSBA (if applicable)
- ❑ Copies of executed OPM and Designer Contract amendments (if applicable) submitted to the MSBA
- ❑ ProPay Budget Revision Request(s) submitted to MSBA (if applicable)
- ❑ Work plan updated and approved by SBC (if applicable)
- ❑ Preferred Schematic Conference Call
- ❑ MSBA Board Approval to Proceed into Schematic Design
- ❑ MSBA Board Action Letter denoting approval of authorization to proceed to schematic design

MODULE 4 – MSBA CHECKLIST

Module 4 Checklist | Schematic Design

- ❑ Updated Work Plan approved by School Building Committee
- ❑ Reviewed Project Advisories
- ❑ Evaluation of Construction Delivery Method complete and District selected to proceed through Traditional Design-Bid-Build or CM at Risk construction delivery method
- ❑ District Response to PSR review comments submitted to MSBA
- ❑ Confirmed all DESE Submittal components align
- ❑ Schematic Design Submittal Notification email sent to MSBA assigned project coordinator
- ❑ SBC Reviewed and voted to approve submittal of the Total Project Budget to the MSBA
- ❑ SBC Vote to approve Schematic Design ("SD") Submittal and Local Actions and Approval Certification signed.
- ❑ Schematic Design Submittal submitted to the MSBA
- ❑ District Response to Schematic Design review comments submitted to MSBA
- ❑ Vote Language submitted to MSBA for review
- ❑ Updates to SBC submitted to MSBA (if applicable)
- ❑ Updates to OPM and Designer Organization Charts submitted to MSBA (if applicable)
- ❑ Copies of executed OPM and Designer Contract amendments (if applicable) submitted to the MSBA
- ❑ ProPay Budget Revision Request(s) submitted to MSBA (if applicable)
- ❑ Work plan updated and approved by SBC
- ❑ Project Scope and Budget Conference Complete
- ❑ District understands and agrees with Total Project Budget Template
- ❑ MSBA Board Approval
- ❑ MSBA Board Action Letter denoting approval of proposed project

MSBA SPACE SUMMARY TEMPLATE

K-1 | 750 STUDENTS K-5 | 790 STUDENTS

BEAL EARLY CHILDHOOD CENTER	Existing Conditions			PROPOSED									MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)				MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
				Existing to Remain/Renovated			New			Total										
ROOM TYPE	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	Comments	ROOM NFA[1]	# OF RMS	area totals	Comments
CORE ACADEMIC SPACES			0			0			0			0		33	32,850			34	33,800	
(List classrooms of different sizes separately)																				
Pre-Kindergarten w/ toilet													1,200		-	1,100 SF min - 1,300 SF max	1,200		-	1,100 SF min - 1,300 SF max
Kindergarten w/ toilet													1,200	6	7,200	1,100 SF min - 1,300 SF max	1,200	6	7,200	1,100 SF min - 1,300 SF max
General Classrooms - Grade 1-6													950	27	25,650	900 SF min - 1,000 SF max	950	28	26,600	900 SF min - 1,000 SF max
SPECIAL EDUCATION			0			0			0			0			8,050				9,060	
(List rooms of different sizes separately)																				
Self-Contained SPED													950	5	4,750	8% of pop. in self-contained SPED	950	6	5,700	8% of pop. in self-contained SPED
Self-Contained SPED - toile													60	5	300		60	6	360	
Resource Room													500	4	2,000	1/2 size Genl. Clrm.	500	4	2,000	1/2 size Genl. Clrm.
Small Group Room / Reading													500	2	1,000	1/2 size Genl. Clrm.	500	2	1,000	1/2 size Genl. Clrm.
ART & MUSIC			0			0			0			0			5,075				5,075	
Art Classroom - 25 seats													1,000	2	2,000	assumed schedule 2 times / week / student	1,000	2	2,000	assumed schedule 2 times / week / student
Art Workroom w/ Storage & kiln													150	2	300		150	2	300	
Music Classroom / Large Group - 25-50 seats													1,200	2	2,400	assumed schedule 2 times / week / student	1,200	2	2,400	assumed schedule 2 times / week / student
Music Practice / Ensemble													75	5	375		75	5	375	
HEALTH & PHYSICAL EDUCATION			0			0			0			0			6,300				6,300	
Gymnasium													6,000	1	6,000	6000 SF Min. Size	6,000	1	6,000	6000 SF Min. Size
Gym Storeroom													150	1	150		150	1	150	
Health Instructor's Office w/ Shower & Toilet													150	1	150		150	1	150	
MEDIA CENTER			0			0			0			0			4,045				4,225	
Media Center / Reading Room													4,045	1	4,045		4,225	1	4,225	
DINING & FOOD SERVICE			0			0			0			0			9,412				9,776	
Cafeteria / Dining													5,625	1	5,625	2 seatings - 15SF per seat	5,925	1	5,925	2 seatings - 15SF per seat
Stage													1,000	1	1,000		1,000	1	1,000	
Chair / Table / Equipment Storage													450	1	450		463	1	463	
Kitchen													2,050	1	2,050	1600 SF for first 300 + 1 SF/student Add'l	2,090	1	2,090	1600 SF for first 300 + 1 SF/student Add'l
Staff Lunch Room													288	1	288	20 SF/Occupant	298	1	298	20 SF/Occupant
MEDICAL			0			0			0			0			610				710	
Medical Suite Toilet													60	1	60		60	1	60	
Nurses' Office / Waiting Room													250	1	250		250	1	250	
Examination Room / Resting													100	3	300		100	4	400	
ADMINISTRATION & GUIDANCE			0			0			0			0			2,885				2,925	
General Office / Waiting Room / Toilet													525	1	525		545	1	545	
Teachers' Mail and Time Room													100	1	100		100	1	100	
Duplicating Room													150	1	150		150	1	150	
Records Room													110	1	110		110	1	110	
Principal's Office w/ Conference Area													375	1	375		375	1	375	
Principal's Secretary / Waiting													125	1	125		125	1	125	
Assistant Principal's Office													120	1	120		120	1	120	
Supervisory / Spare Office													120	1	120		120	1	120	
Conference Room													250	1	250		250	1	250	
Guidance Office													150	3	450		150	3	450	
Guidance Storeroom													35	1	35		35	1	35	
Teachers' Work Room													525	1	525		545	1	545	
CUSTODIAL & MAINTENANCE			0			0			0			0			2,350				2,390	
Custodian's Office													150	1	150		150	1	150	
Custodian's Workshop													375	1	375		375	1	375	
Custodian's Storage													375	1	375		375	1	375	
Recycling Room / Trash													400	1	400		400	1	400	
Receiving and General Supply													350	1	350		363	1	363	
Storeroom													500	1	500		527	1	527	
Network / Telecom Room													200	1	200		200	1	200	
OTHER			0			0			0			0			0				0	
Other *(specify)*																				
Total Building Net Floor Area (NFA)			0			0			0			0			71,577				74,261	
Proposed Student Capacity / Enrollment															750				790	
Total Building Gross Floor Area (GFA)[2]															108,750				114,550	
Grossing factor (GFA/NFA)			#DIV/0!									#DIV/0!			1.52				1.54	

108,750 sq. ft. 114,550 sq. ft.

Sherwood Middle School
Educational Program Description
Prepared for Feasibility Study Submission to the Massachusetts School Building Authority
September 2009

The Sherwood Middle School serves all of the approximately 950 students in grades five and six attending the Shrewsbury Public Schools. As part of the feasibility study phase for a renovation/addition or new facility for 900 students, this document will describe the educational program that Sherwood provides in order to meet the requirements of the Department of Elementary and Secondary Education (DESE). It should be noted that there is no proposal to expand the current educational program, but consideration is made for program offerings that have recently been put on hiatus due to personnel cuts related to budget constraints (e.g., visual arts, foreign language, etc.)

Program Limitations Due to Space Constraints:

The Statement of Interest submitted to the Massachusetts School Building Authority (MSBA) in 2006 documented that the current building is inadequate for delivery of the educational program due to the following factors related to educational programming:

- space limitations forcing special education services to be delivered in hallways, cafeteria, lobby, and other inappropriate locations;
- space limitations forcing specialized classes such as music to be held in spaces that are not properly equipped, too small for the large number of students in performance groups, and in spaces where the noise is disruptive to other classes (stage was converted to office spaces);
- space limitations compromising the ability for educators to meet with parents, plan lessons, collaborate, etc. while also preventing teachers from planning or setting up lessons in their own classrooms due to the necessity to share core classroom spaces for specialized subjects during "off" periods.
- space limitations that, during multiple weeks of MCAS testing each year, require substantial disruption of the educational program in order to provide storage for secure materials and testing spaces for students who require accommodations.

Sherwood Middle School was constructed prior to the passage of laws and regulations that required the education of students with special needs in the least restrictive setting, prior to the surge in population of students with severe special needs on the autism spectrum, and prior to the influx of students with English language learning needs in a community where diversity is increasing; all of these factors require additional instructional spaces, often with specialized equipment. Further, the building was constructed as a traditional junior high school, and as such it does not support the middle school team teaching approach nor does it provide adequate space for the dynamic instructional approaches that teachers are expected to use within classrooms (multiple teaching stations for small group instruction, space for computer use within the classroom, etc.).

In addition to the limitations listed above, other educational programming issues related to lack of appropriate facilities include:

- lack of sufficient technology infrastructure to provide reliable access to the Internet for online learning in the classroom, educator communication, etc.;

- lack of access to water and lack of storage compromises the ability to provide appropriate science instruction;
- lack of sufficient space to provide for the growing number of students with severe special needs, typically on the autism spectrum, who are entering our preschool program;
- lack of sufficient space to provide alternative programming for students with special education needs such as language-based disabilities, behavioral disabilities, etc. resulting in more expensive out-of-district placements in specialized schools;
- lack of sufficient media center space to provide a media collection commensurate with the size of the student population, appropriate access research opportunities for classes, etc.;
- lack of sufficient gymnasium space to accommodate three sections of physical education instruction at one time, compromising the academic schedule; further, the condition of the gym floor has been damaged in recent years by leaks that buckled the floor boards, preventing appropriate use of the space during the time waiting for repairs;
- lack of appropriate assembly space to allow for biweekly "community meetings" where each grade level meets for special announcements, community guest speakers, recognition of academic performance and citizenship, etc.; and
- lack of sufficient space for teachers of special subjects to have their own teaching rooms, requiring itinerant instruction in core subject classrooms, which in turn compromises the ability to set up instructional spaces that are dedicated to the special subject with appropriate visual aids, teaching stations, materials and technology set up, etc.

Educational Program

The educational program at Sherwood Middle School follows the Massachusetts Curriculum Frameworks and includes instruction in:

- the four core subjects of English language arts, mathematics, science, and social studies;
- foreign language (French, Mandarin Chinese, and Spanish; on hiatus in fifth grade due to personnel cuts)
- physical education;
- health;
- educational technology;
- visual arts (on hiatus from fifth grade due to personnel cuts);
- music and drama (general music instruction, chorus, orchestra, and band; drama is on hiatus due to personnel cuts);
- supplemental reading support (for at-risk students performing below standard);
- supplemental mathematics support
- curriculum enrichment (currently in place to supplant reductions in special subjects instruction lost due to personnel cuts)

The sections below are excerpted from the 2009-2010 Sherwood Middle School Handbook and provide a detailed overview of the curriculum and educational programming.

Sherwood Middle School Course of Studies

Curriculum Philosophy

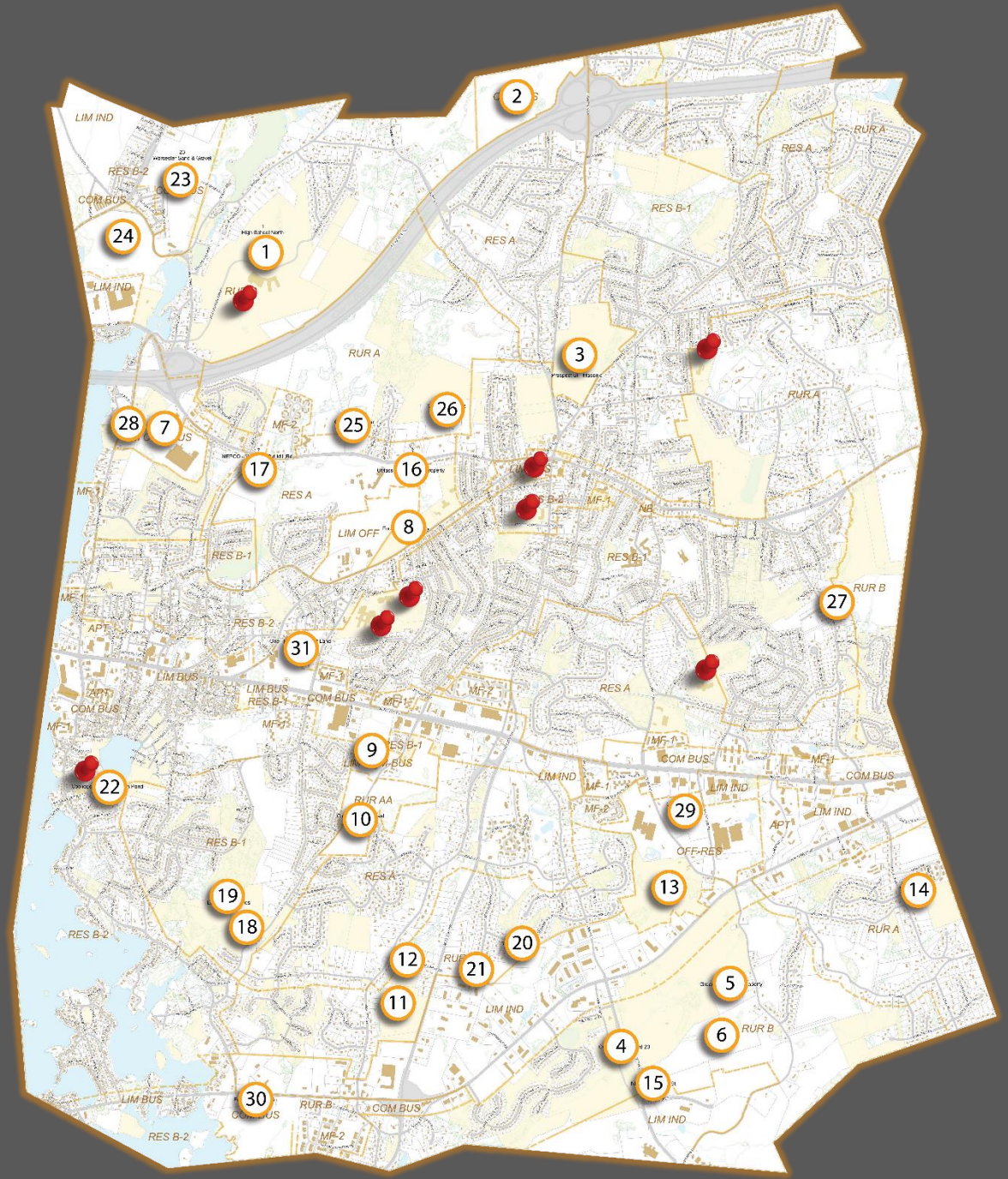
Recognizing the developmental needs of the young adolescent, Sherwood Middle School must ensure that students are prepared to be successful, productive, and contributing members of an ever-changing global society. In this context, students will demonstrate communication skills, facility in social

PDP – EDUCATIONAL PROGRAM

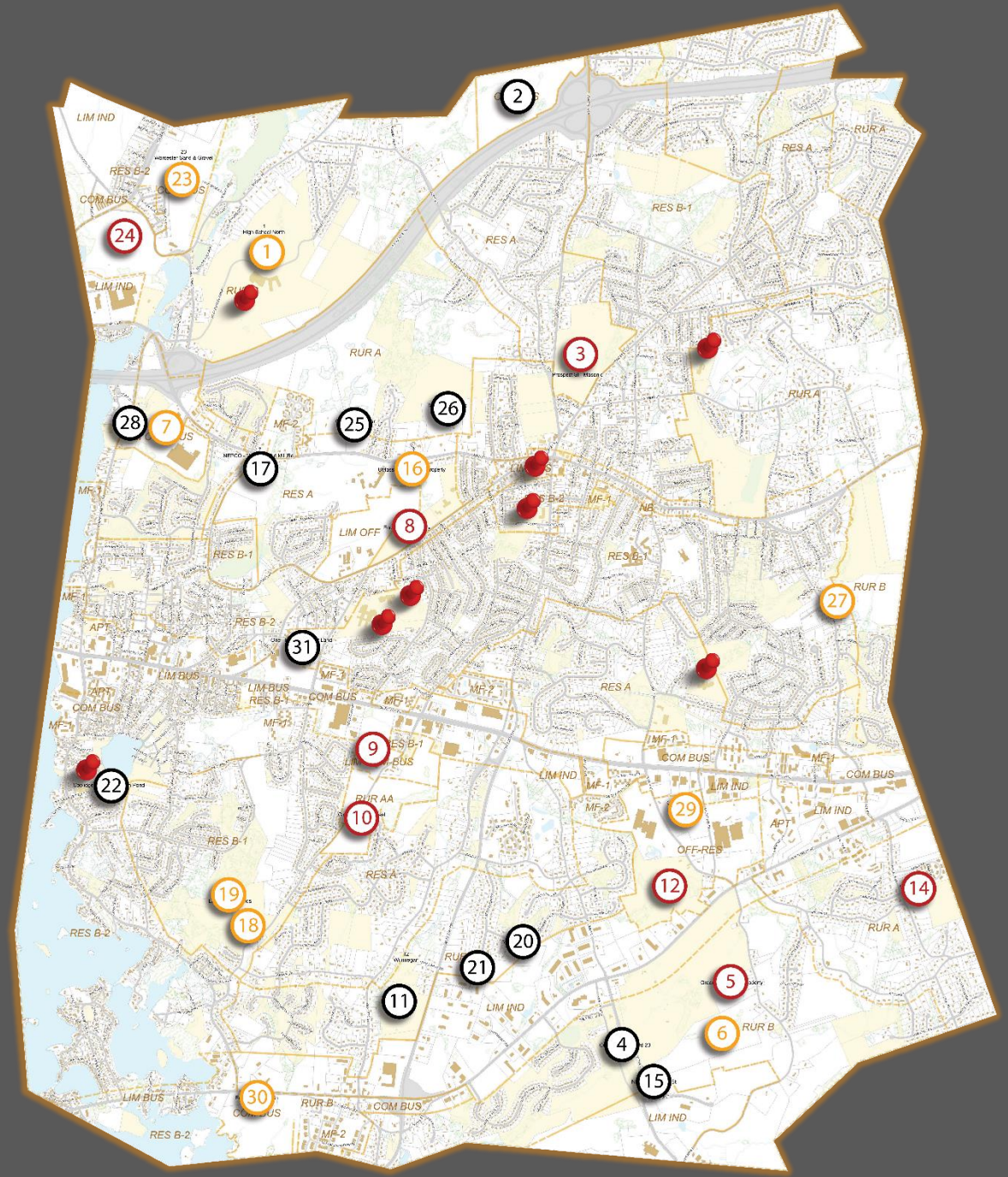
KEY ITEMS COVERED IN EDUCATIONAL PROGRAMMING

- **Grade** and **school configuration** policies
- **Class size** policies
- School **scheduling** method
- **Teaching methodology and structure** (e.g., academies, departments, houses, teams, etc.)
- Teacher planning and room assignment policies
- **Kindergarten** (full day, half day, locations, if applicable)
- **Lunch** programs (number of servings, district kitchen, full service kitchens, warming kitchens, etc.)
- **Technology** instruction policies and program requirements (labs, in-classroom, media center, infrastructure, etc.)
- **Art** programs (in-classroom, specialized area);
- **Music/Performing Arts** programs (in-classroom, specialized area)
- **Physical Education** programs
- **Special Education** programs (in-house, collaborative, facility restrictions)
- **Transportation** policies
- **Functional and spatial relationships**
- Key programmatic **adjacencies**
- **Security** and visual access requirements

AVAILABLE SITES FOR STUDY



AVAILABLE SITES FOR STUDY



BEAL EARLY CHILDHOOD
CENTER BUILDING COMMITTEE

TELEPHONE: (508) 841-8508
FAX: (508) 842-0587

TOWN OF SHREWSBURY

Richard D. Carney Municipal Office Building
100 Maple Avenue
Shrewsbury, Massachusetts 01545-5338

RECEIVED
TOWN CLERK'S OFFICE
2017 SEP -8 PM 2:48
SHREWSBURY, MASS

September 8, 2017

To: Beal Early Childhood Center Building Committee

From: Kevin J. Mizikar

Re: Meeting Notice & Agenda

The Beal Early Childhood Center Building Committee will meet on Tuesday, September 12, 2017, at 6:00 PM in Conference Room A of the Municipal Office Building – 100 Maple Avenue to consider the following agenda:

AGENDA

1. Call to Order
2. Introductions
3. Review and act to accept the minutes of the August 1, 2017, meeting of the Committee.
4. Review and act on the following bill schedules:

Vendor/Expense/Item	Amount
PMA Consultants/Prof Svcs July 2017	$10,102.25

5. Hear reports, review and act on the following matters:
    a. Report from School Administration
        i. Grade Configurations
    b. Report from the Owner's Project Manager
        i. Activities & Accomplishments 8/1 – 9/8/17
        ii. Project Schedule
        iii. Overview of MSBA Modules 3 & 4
        iv. Other Matters as Necessary
    c. Report from the Architect
6. Set date for next meeting
7. Adjourn

Referenced Materials

Minutes and Bill Schedules as noted above

MINUTES
Beal Early Childhood Center Building Committee
September 12 2017

Present: Mr. Kane, Ms. Boucher, Mr. Collins, Dr. Sawyer, Mr. Girardi, Mr. Cox, Mr. Masiello, Ms. Fryc, Mr. Mizikar

Also: Mr. Paul Queeney and Ms. Deborah Shaer of PMA Consultants, LLC. Mr. Michael Pagano and Mr. Sean Brennan of Lamoureux Pagano & Associates.

Call to order by Mr. Kane at 6:00 PM in Conference Room A - Municipal Office Building, 100 Maple Avenue using an agenda and meeting notice dated September 8, 2017.

On a motion by Mr. Sawyer second by Ms. Fryc the Committee voted to accept the minutes of July 11, 2017.

There was one bill for consideration in the amount of $10,102.25 from PMA Consultants for professional OPM Services July 2017. Mr. Collins reviewed the invoice. On a motion by Ms. Fryc second by Mr. Girardi., the Committee voted unanimously to approve payment as presented.

Mr. Collins provided a handout and reported on how the School Department will lead community in a discussion on future grade configurations. The School Committee will make a final decision based on community and staff input by October 25th. Dr. Sawyer reiterated that this is an important decision that will be made through an open discussion with the community.

Mr. Queeney reported that a copy of the Architect was provided to the MSBA. A working level kickoff meeting with the OPM, Architect, school and town staff members. A handout was distributed that included a detailed project schedule and project budget summary. The project schedule will be an item for discussion at the next meeting.

Mr. Masiello asked if the Town has paid any invoices from the architect. None have been submitted to date.

Mr. Queeney provided an overview of MSBA Modules 3 & 4.

Module 3 – *Preliminary Design Program* includes a thorough review of a number of design options – Review of code requirements at current building, review addition and renovation to current building and a review of a building at an alternative site.

Preferred Schematic Report will provide significant details on the preferred design option

Module 4 – Includes the full schematic design

Mr. Pagano is working on the development of a report on the thorough review the current building. Further, the architectural team is reviewing a very preliminary list of sites to consider because it is evident that a new school of the required size will not fit on the current site. Mr. Brennan detailed

discussions which are underway about the programming needs for both a K-1 to K-4 school. The educational programming statement is the most important deliverable of the Town to determine what is required in a new space.

Mr. Pagano explained that the architect will start with a review of 31 sites in Town. These sites were identified primarily based on size. The project likely will require at least 10 buildable acres. A thorough review will follow to narrow the list. Mr. Kane asked that the Architect be prepared to discuss the criteria they will review to narrow the list at the Committee's next meeting.

Each sub-step within the modules are reviewed and approved by the MSBA.

The next meeting of the Committee was tentatively set for October 10th at 6:00 PM.

On a motion of M. Masiello seconded by M. Fryc the meeting adjourned at PM.

Respectfully submitted,

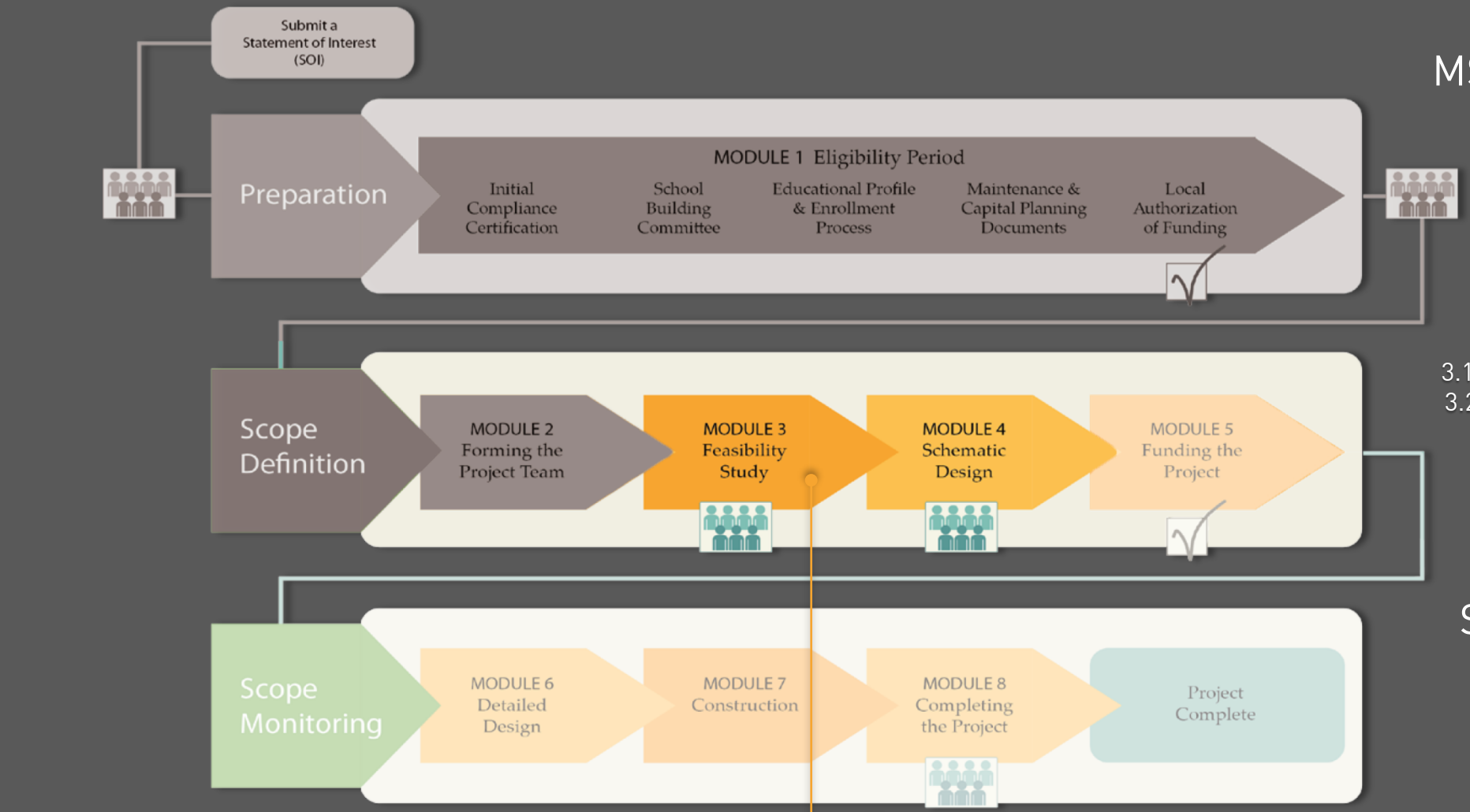
Kevin J. Mizikar
Town Manager

Referenced Materials
Meeting notice dated September 8, 2017
Minutes as noted
Preliminary List of Tasks Leading to a Grade Configuration Decision

BEAL EARLY CHILDHOOD CENTER

MSBA CORE PROGRAM PROCESS

MSBA Core Program Process Overview



MSBA CORE PROGRAM PROCESS

MODULE 3: FEASIBILITY STUDY

3.1 PDP: Preliminary Design Program
3.2 PSR: Preferred Schematic Report

MODULE 4:

SCHEMATIC DESIGN

MODULE 3 – MSBA CHECKLIST

Module 3 Checklist | Preliminary Design Program

- ❑ Copy of executed OPM Contract forwarded to MSBA
- ❑ Copy of executed Designer Contract forwarded to MSBA
- ❑ Work Plan approved by School Building Committee
- ❑ Kick-Off Meeting with MSBA
- ❑ Processed Budget Revision Request to align ProPay Budget Line Items to executed OPM and Designer Contracts submitted to MSBA
- ❑ Reviewed Project Advisories
- ❑ SBC Vote to approve Preliminary Design Program ("PDP") Submittal and Local Actions and Approval Certification.
- ❑ PDP submitted to the MSBA
- ❑ District Response to PDP review comments submitted to MSBA
- ❑ School Committee Vote to approve Grade Reconfiguration and/or Districting and Grade Reconfiguration and Districting Approval Certification signed (if applicable)

Module 3 Checklist | Preferred Schematic Report

- ❑ SBC Vote to approve Preferred Schematic Report ("PSR") Submittal and Local Actions and Approval Certification.
- ❑ PSR submitted to the MSBA
- ❑ District Response to PSR review comments submitted to MSBA
- ❑ Facilities Assessment Subcommittee ("FAS") Meeting
- ❑ District Response to FAS comments submitted to MSBA
- ❑ Updates to SBC submitted to MSBA (if applicable)
- ❑ Updates to OPM and Designer Org Charts submitted to MSBA (if applicable)
- ❑ Copies of executed OPM and Designer Contract amendments (if applicable) submitted to the MSBA
- ❑ ProPay Budget Revision Request(s) submitted to MSBA (if applicable)
- ❑ Work plan updated and approved by SBC (if applicable)
- ❑ Preferred Schematic Conference Call
- ❑ MSBA Board Approval to Proceed into Schematic Design
- ❑ MSBA Board Action Letter denoting approval of authorization to proceed to schematic design

MODULE 4 – MSBA CHECKLIST

Module 4 Checklist | Schematic Design

- ❑ Updated Work Plan approved by School Building Committee
- ❑ Reviewed Project Advisories
- ❑ Evaluation of Construction Delivery Method complete and District selected to proceed through Traditional Design-Bid-Build or CM at Risk construction delivery method
- ❑ District Response to PSR review comments submitted to MSBA
- ❑ Confirmed all DESE Submittal components align
- ❑ Schematic Design Submittal Notification email sent to MSBA assigned project coordinator
- ❑ SBC Reviewed and voted to approve submittal of the Total Project Budget to the MSBA
- ❑ SBC Vote to approve Schematic Design ("SD") Submittal and Local Actions and Approval Certification signed.
- ❑ Schematic Design Submittal submitted to the MSBA
- ❑ District Response to Schematic Design review comments submitted to MSBA
- ❑ Vote Language submitted to MSBA for review
- ❑ Updates to SBC submitted to MSBA (if applicable)
- ❑ Updates to OPM and Designer Organization Charts submitted to MSBA (if applicable)
- ❑ Copies of executed OPM and Designer Contract amendments (if applicable) submitted to the MSBA
- ❑ ProPay Budget Revision Request(s) submitted to MSBA (if applicable)
- ❑ Work plan updated and approved by SBC
- ❑ Project Scope and Budget Conference Complete
- ❑ District understands and agrees with Total Project Budget Template
- ❑ MSBA Board Approval
- ❑ MSBA Board Action Letter denoting approval of proposed project

MSBA SPACE SUMMARY TEMPLATE

K-1 | 750 STUDENTS K-5 | 790 STUDENTS

BEAL EARLY CHILDHOOD CENTER	Existing Conditions			PROPOSED									MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)				MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
				Existing to Remain/Renovated			New			Total										
ROOM TYPE	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	Comments	ROOM NFA[1]	# OF RMS	area totals	Comments
CORE ACADEMIC SPACES			0			0			0			0		33	32,850			34	33,800	
(List classrooms of different sizes separately)																				
Pre-Kindergarten w/ toilet													1,200		-	1,100 SF min - 1,300 SF max	1,200		-	1,100 SF min - 1,300 SF max
Kindergarten w/ toilet													1,200	6	7,200	1,100 SF min - 1,300 SF max	1,200	6	7,200	1,100 SF min - 1,300 SF max
General Classrooms - Grade 1-6													950	27	25,650	900 SF min - 1,000 SF max	950	28	26,600	900 SF min - 1,000 SF max
SPECIAL EDUCATION			0			0			0			0			8,050				9,060	
(List rooms of different sizes separately)																				
Self-Contained SPED													950	5	4,750	8% of pop. in self-contained SPED	950	6	5,700	8% of pop. in self-contained SPED
Self-Contained SPED - toile													60	5	300		60	6	360	
Resource Room													500	4	2,000	1/2 size Genl. Clrm.	500	4	2,000	1/2 size Genl. Clrm.
Small Group Room / Reading													500	2	1,000	1/2 size Genl. Clrm.	500	2	1,000	1/2 size Genl. Clrm.
ART & MUSIC			0			0			0			0			5,075				5,075	
Art Classroom - 25 seats													1,000	2	2,000	assumed schedule 2 times / week / student	1,000	2	2,000	assumed schedule 2 times / week / student
Art Workroom w/ Storage & kiln													150	2	300		150	2	300	
Music Classroom / Large Group - 25-50 seats													1,200	2	2,400	assumed schedule 2 times / week / student	1,200	2	2,400	assumed schedule 2 times / week / student
Music Practice / Ensemble													75	5	375		75	5	375	
HEALTH & PHYSICAL EDUCATION			0			0			0			0			6,300				6,300	
Gymnasium													6,000	1	6,000	6000 SF Min. Size	6,000	1	6,000	6000 SF Min. Size
Gym Storeroom													150	1	150		150	1	150	
Health Instructor's Office w/ Shower & Toilet													150	1	150		150	1	150	
MEDIA CENTER			0			0			0			0			4,045				4,225	
Media Center / Reading Room													4,045	1	4,045		4,225	1	4,225	
DINING & FOOD SERVICE			0			0			0			0			9,412				9,776	
Cafeteria / Dining													5,625	1	5,625	2 seatings - 15SF per seat	5,925	1	5,925	2 seatings - 15SF per seat
Stage													1,000	1	1,000		1,000	1	1,000	
Chair / Table / Equipment Storage													450	1	450		463	1	463	
Kitchen													2,050	1	2,050	1600 SF for first 300 + 1 SF/student Add'l	2,090	1	2,090	1600 SF for first 300 + 1 SF/student Add'l
Staff Lunch Room													288	1	288	20 SF/Occupant	298	1	298	20 SF/Occupant
MEDICAL			0			0			0			0			610				710	
Medical Suite Toilet													60	1	60		60	1	60	
Nurses' Office / Waiting Room													250	1	250		250	1	250	
Examination Room / Resting													100	3	300		100	4	400	
ADMINISTRATION & GUIDANCE			0			0			0			0			2,885				2,925	
General Office / Waiting Room / Toilet													525	1	525		545	1	545	
Teachers' Mail and Time Room													100	1	100		100	1	100	
Duplicating Room													150	1	150		150	1	150	
Records Room													110	1	110		110	1	110	
Principal's Office w/ Conference Area													375	1	375		375	1	375	
Principal's Secretary / Waiting													125	1	125		125	1	125	
Assistant Principal's Office													120	1	120		120	1	120	
Supervisory / Spare Office													120	1	120		120	1	120	
Conference Room													250	1	250		250	1	250	
Guidance Office													150	3	450		150	3	450	
Guidance Storeroom													35	1	35		35	1	35	
Teachers' Work Room													525	1	525		545	1	545	
CUSTODIAL & MAINTENANCE			0			0			0			0			2,350				2,390	
Custodian's Office													150	1	150		150	1	150	
Custodian's Workshop													375	1	375		375	1	375	
Custodian's Storage													375	1	375		375	1	375	
Recycling Room / Trash													400	1	400		400	1	400	
Receiving and General Supply													350	1	350		363	1	363	
Storeroom													500	1	500		527	1	527	
Network / Telecom Room													200	1	200		200	1	200	
OTHER			0			0			0			0			0				0	
Other *(specify)*																				
Total Building Net Floor Area (NFA)			0			0			0			0			71,577				74,261	
Proposed Student Capacity / Enrollment															750				790	
Total Building Gross Floor Area (GFA)[2]															108,750				114,550	
Grossing factor (GFA/NFA)			#DIV/0!									#DIV/0!			1.52				1.54	

±115,000 sq. ft. ±115,000 sq. ft.

Sherwood Middle School
Educational Program Description
Prepared for Feasibility Study Submission to the Massachusetts School Building Authority
September 2009

The Sherwood Middle School serves all of the approximately 950 students in grades five and six attending the Shrewsbury Public Schools. As part of the feasibility study phase for a renovation/addition or new facility for 900 students, this document will describe the educational program that Sherwood provides in order to meet the requirements of the Department of Elementary and Secondary Education (DESE). It should be noted that there is no proposal to expand the current educational program, but consideration is made for program offerings that have recently been put on hiatus due to personnel cuts related to budget constraints (e.g., visual arts, foreign language, etc.)

Program Limitations Due to Space Constraints:

The Statement of Interest submitted to the Massachusetts School Building Authority (MSBA) in 2006 documented that the current building is inadequate for delivery of the educational program due to the following factors related to educational programming:

- space limitations forcing special education services to be delivered in hallways, cafeteria, lobby, and other inappropriate locations;
- space limitations forcing specialized classes such as music to be held in spaces that are not properly equipped, too small for the large number of students in performance groups, and in spaces where the noise is disruptive to other classes (stage was converted to office spaces);
- space limitations compromising the ability for educators to meet with parents, plan lessons, collaborate, etc. while also preventing teachers from planning or setting up lessons in their own classrooms due to the necessity to share core classroom spaces for specialized subjects during "off" periods.
- space limitations that, during multiple weeks of MCAS testing each year, require substantial disruption of the educational program in order to provide storage for secure materials and testing spaces for students who require accommodations.

Sherwood Middle School was constructed prior to the passage of laws and regulations that required the education of students with special needs in the least restrictive setting, prior to the surge in population of students with severe special needs on the autism spectrum, and prior to the influx of students with English language learning needs in a community where diversity is increasing; all of these factors require additional instructional spaces, often with specialized equipment. Further, the building was constructed as a traditional junior high school, and as such it does not support the middle school team teaching approach nor does it provide adequate space for the dynamic instructional approaches that teachers are expected to use within classrooms (multiple teaching stations for small group instruction, space for computer use within the classroom, etc.).

In addition to the limitations listed above, other educational programming issues related to lack of appropriate facilities include:

- lack of sufficient technology infrastructure to provide reliable access to the Internet for online learning in the classroom, educator communication, etc.;

- lack of access to water and lack of storage compromises the ability to provide appropriate science instruction;
- lack of sufficient space to provide for the growing number of students with severe special needs, typically on the autism spectrum, who are entering our preschool program;
- lack of sufficient space to provide alternative programming for students with special education needs such as language-based disabilities, behavioral disabilities, etc. resulting in more expensive out-of-district placements in specialized schools;
- lack of sufficient media center space to provide a media collection commensurate with the size of the student population, appropriate access research opportunities for classes, etc.;
- lack of sufficient gymnasium space to accommodate three sections of physical education instruction at one time, compromising the academic schedule; further, the condition of the gym floor has been damaged in recent years by leaks that buckled the floor boards, preventing appropriate use of the space during the time waiting for repairs;
- lack of appropriate assembly space to allow for biweekly "community meetings" where each grade level meets for special announcements, community guest speakers, recognition of academic performance and citizenship, etc.; and
- lack of sufficient space for teachers of special subjects to have their own teaching rooms, requiring itinerant instruction in core subject classrooms, which in turn compromises the ability to set up instructional spaces that are dedicated to the special subject with appropriate visual aids, teaching stations, materials and technology set up, etc.

Educational Program

The educational program at Sherwood Middle School follows the Massachusetts Curriculum Frameworks and includes instruction in:

- the four core subjects of English language arts, mathematics, science, and social studies;
- foreign language (French, Mandarin Chinese, and Spanish; on hiatus in fifth grade due to personnel cuts)
- physical education;
- health;
- educational technology;
- visual arts (on hiatus from fifth grade due to personnel cuts);
- music and drama (general music instruction, chorus, orchestra, and band; drama is on hiatus due to personnel cuts);
- supplemental reading support (for at-risk students performing below standard);
- supplemental mathematics support
- curriculum enrichment (currently in place to supplant reductions in special subjects instruction lost due to personnel cuts)

The sections below are excerpted from the 2009-2010 Sherwood Middle School Handbook and provide a detailed overview of the curriculum and educational programming.

Sherwood Middle School Course of Studies

Curriculum Philosophy

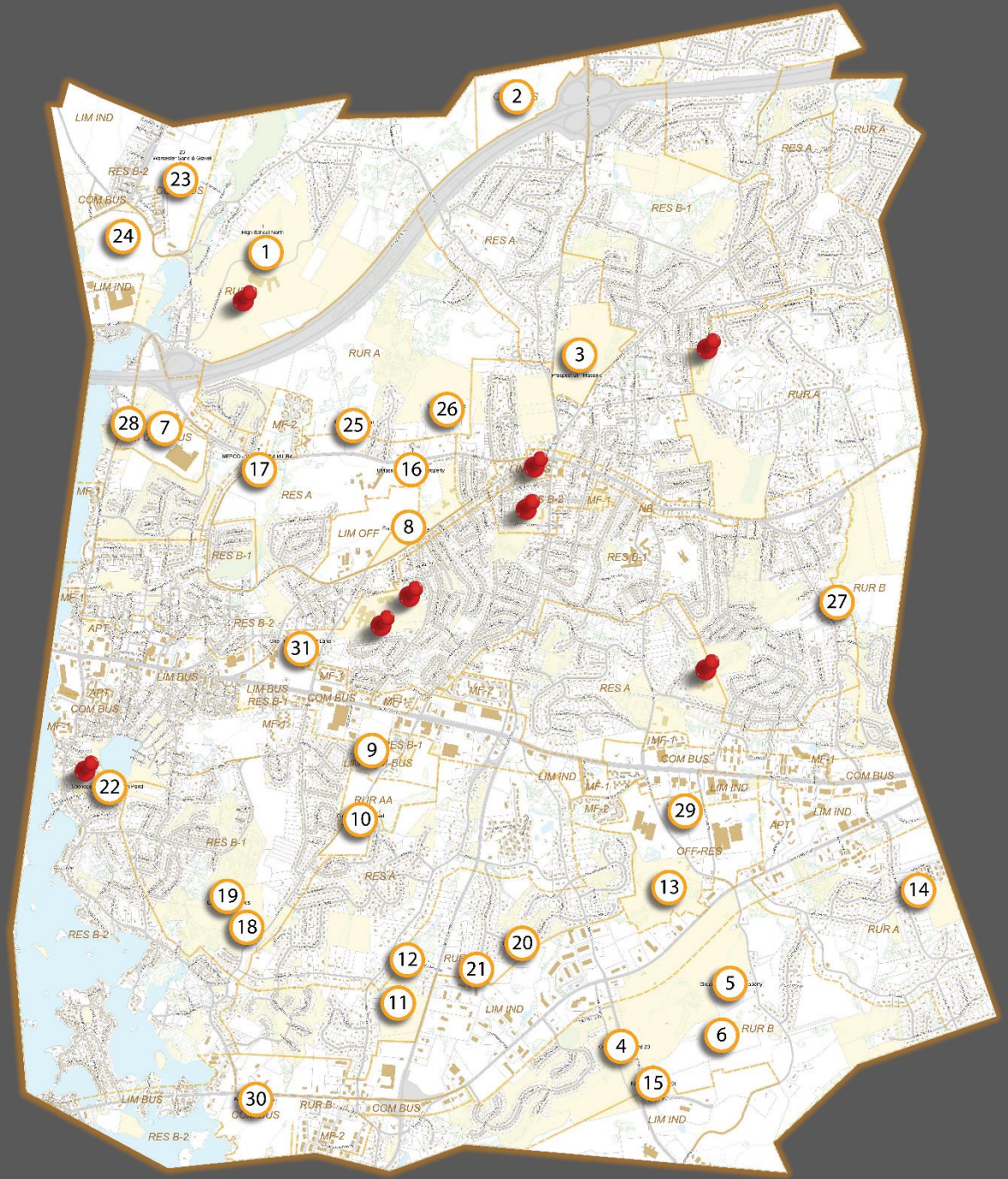
Recognizing the developmental needs of the young adolescent, Sherwood Middle School must ensure that students are prepared to be successful, productive, and contributing members of an ever-changing global society. In this context, students will demonstrate communication skills, facility in social

PDP – EDUCATIONAL PROGRAM

KEY ITEMS COVERED IN EDUCATIONAL PROGRAMMING

- **Grade** and **school configuration** policies
- **Class size** policies
- School **scheduling** method
- **Teaching methodology and structure** (e.g., academies, departments, houses, teams, etc.)
- Teacher planning and room assignment policies
- **Kindergarten** (full day, half day, locations, if applicable)
- **Lunch** programs (number of servings, district kitchen, full service kitchens, warming kitchens, etc.)
- **Technology** instruction policies and program requirements (labs, in-classroom, media center, infrastructure, etc.)
- **Art** programs (in-classroom, specialized area);
- **Music/Performing Arts** programs (in-classroom, specialized area)
- **Physical Education** programs
- **Special Education** programs (in-house, collaborative, facility restrictions)
- **Transportation** policies
- **Functional and spatial relationships**
- Key programmatic **adjacencies**
- **Security** and visual access requirements

POTENTIAL SITES FOR STUDY



BEAL EARLY CHILDHOOD
CENTER BUILDING COMMITTEE

TELEPHONE: (508) 841-8508
FAX: (508) 842-0587

TOWN OF SHREWSBURY

Board of Selectmen Meeting
Board of Selectmen's Meeting Room
Richard D. Carney Municipal Office Building
100 Maple Avenue
Shrewsbury, Massachusetts 01545-5398

Tuesday, September 26, 2017 - 4:00 PM
AGENDA

RECEIVED
TOWN CLERK'S OFFICE
2017 SEP 22 PM 1:05
SHREWSBURY, MASS

September 22, 2017

To: Beal Early Childhood Center Building Committee

From: Kevin J. Mizikar

Re: Meeting Notice & Agenda

The Beal Early Childhood Center Building Committee will be participating in a taping on Tuesday, September 26, 2017, at 4:00 PM at Shrewsbury Media Connection, 15 Parker Road, Shrewsbury, MA to consider the following agenda:

AGENDA

1. Call to Order - **4:00 PM**
2. Participate in discussions relative to the affairs and/or interests of the Beal Building Committee and/or the Town of Shrewsbury.
3. Adjourn

BEAL EARLY CHILDHOOD
CENTER BUILDING COMMITTEE

TELEPHONE: (508) 841-8508
FAX: (508) 842-0587

TOWN OF SHREWSBURY

Richard D. Carney Municipal Office Building
100 Maple Avenue
Shrewsbury, Massachusetts 01545-5338

RECEIVED
TOWN CLERK'S OFFICE
17 OCT -5 AM 11:36
SHREWSBURY, MASS

October 5, 2017

To: Beal Early Childhood Center Building Committee

From: Kevin J. Mizikar

Re: Meeting Notice & Agenda

The Beal Early Childhood Center Building Committee will meet on Tuesday, October 10, 2017, at 6:00 PM in Old Selectmen's Meeting Room of the Municipal Office Building – 100 Maple Avenue to consider the following agenda:

AGENDA

1. Call to Order
2. Introductions
3. Review and act to accept the minutes of the September 12, 2017, meeting of the Committee.
4. Review and act on the following bill schedules:

Vendor/Expense/Item	Amount
PMA Consultants/Prof Svcs August 2017	$7,831.30
Lamoureux Pagano/Prof Svcs	$38,900.00

5. Hear reports, review and act on the following matters:
    a. Report from School Administration
        i. Grade Configuration Update
    b. Report from the Owner's Project Manager
        i. Activities & Accomplishments 9/13 – 10/6/17
        ii. Financial Review
        iii. Project Schedule
    c. Report from the Architect
        i. Site Selection Process
6. Construction Delivery Method – Chapter 149 ("Design, Bid, Build") and Chapter 149A Construction Management at Risk

7. Set date for next meeting
8. Adjourn

Referenced Materials

Minutes and Bill Schedules as noted above

Please be advised of the Committee's anticipated upcoming meeting schedule:

Date	Time	Room Location	Discussion Topics
October 10, 2017	6:00 PM	Old Selectmen's Meeting Room	Site Selection Overview – "universe of sites" Understanding the process for selection
November 2, 2017	6:00 PM	Old Selectmen's Meeting Room	Site Selection Refinement
November 7, 2017	7:00 PM	**Beal Early Childhood Center Auditorium**	Site Selection Recommendations and Public Hearing intended to allow for questions between the Committee, public and professional team. Building Committee may further refine the list at this meeting.
November 16, 2017	7:00 PM	Old Selectmen's Meeting Room	Building Committee will finalize a site or small number of sites to be include in the Preliminary Design Plan (PDP) and Preferred Schematic Report (PSR) process in accordance with the Committee's thoughts.

MINUTES
Beal Early Childhood Center Building Committee
October 10, 2017

Present: Mr. Kane, Ms. Boucher, Mr. Collins, Dr. Sawyer, Mr. Gerardi, Mr. Cox

Also: Mr. Paul Queeney and Ms. Deborah Shaer of PMA Consultants, LLC. Mr. Michael Pagano, and Mr. Sean Brennan of Lamoureux Pagano & Associates.

Call to order by Mr. Kane at 6:01 PM in Conference Room B - Municipal Office Building, 100 Maple Avenue using an agenda and meeting notice dated October 5, 2017.

On a motion by Mr. Collins second by Mr. Gerardi, the Committee voted to accept the minutes of September 12, 2017.

There were two bills for consideration: one in the amount of $7,831.30 from PMA Consultants, LLC for professional OPM Services for August 2017 and one in the amount of $38,900 from Lamoureux Pagano & Associates, Inc. for professional Design Services for August 2017. On a motion by Mr. Cox second by Ms. Boucher the Committee voted unanimously to approve these payments as presented.

Dr. Sawyer provided an update on the grade-configuration decision. An initial presentation was made to the School Committee regarding the two options identified by the MSBA: K-1 of 750 students and K-4 of 790 students. Subsequent to the initial presentation two electronic surveys were distributed, one for the community and one for staff and teachers. Feedback from the majority favors a K-4 model. A second (of 3) presentation is scheduled for an upcoming School Committee meeting where a final report on the grade configuration will be provided. This will be a second opportunity for the community to speak on the subject. The District remains on track to make a final decision on the grade configuration by October 25, 2017.

PMA reported on the attached Budget Summary, noting that currently no MSBA ProPay Reimbursements are pending as we are waiting to submit our 3rd ProPay reimbursement.

Lamoureux Pagano & Associates (LPA) made a presentation regarding the current site selection process. They categorized twenty-nine sites that the Town of Shrewsbury asked they investigate as a possible location for the new K-1 or K-4 early childhood center/elementary school:

- Strong Candidates for Further Study – 4 locations identified
- Potential Candidates for Further Study – 14 locations identified
- Poor Candidates for Further Study – 11 locations identified

LPA identified some of the parameters for categorizing a site as a "strong candidate" at this current state of the design (~25% through programming): central location in town, easier topography for site preparation (including site improvements & utilities) and size; site should be 12-14 acres to house the new school suitable for the District's programming requirements which is trending toward a 2-story structure with parking, small playing field and adequate

access/egress for 12 to 14 buses (bus quantity currently TBD). LPA reminded the committee that the MSBA does not reimburse for land purchase or site cost over 8% of the project's total construction costs.

LPA stated that upon initial review, the current site of the Beal Early Childhood Center is not suitable for the new school as, at 3+/- acres, it is simply too small to house all the elements required to support the District's educational programming.

LPA comments on each site can be found on the attached *September 2017 Index of Potential Sites*. Mr. Kane asked that LPA look at the town owned Maple Avenue site (identified as site 08 in the presentation and index) in conjunction with the other Maple Avenue site (identified as site 16 in the presentation and index). LPA noted that these two sites together may be a strong candidate as there is little topography to hamper site development.

Mr. Kane also suggested that LPA review the USPS sorting facility site on Main Street (identified as site 07 in the presentation and index) in conjunction with the town owned N. Quinsigamond Avenue site (identified as site 28 in the presentation and index).

LPA stated that between now and the next site selection meeting, November 2, 2017 LPA will take a closer look at the strong candidate sites, including the combination of the 08 & 16 identified sites and the combination of the 07 & 28 identified sites and look at the specifics that will affect the development of each site. LPA will come to the meeting with a numerical ranking of each potential site.

Post Meeting Note 10-17-2017: LPA revised the *September 2017 Index of Potential Sites* based on the discussion at this 10-10-2017 Building Committee Meeting and reissued it as the *October 2017 Index of Candidate Sites*. That index is included as an attachment to these minutes.

PMA offered a handout providing an overview of the Construction Manager at Risk (CMR) Project Delivery Method. The Building Committee Chairman noted that the committee should review the information provided by PMA and PMA can make a presentation regarding the process at the next School Building Committee Meeting (BCM), November 6, 2017. PMA also handed out an updated Preliminary Design Schedule inclusive of the CMR procurement process schedule and noted that a decision regarding CMR versus Design/Bid/Build (DBB) should be made by May 2018. It was discussed that reaching a decision on the project delivery method could be as earlier as after the PMA presentation at the next BCM.

Mr. Kane suggested that a Re-use Committee be formed to review possible alternative uses for the current Beal property. Mr. Kane will bring up this matter with the Board of Selectmen.

Public comments:

- The committee should not lose site of the fact that the Prospect Street property (identified as site 03 in the presentation and index) was initially purchased for expansion of the cemetery.

- The Holden Street (identified as site 01 in the presentation and index) high school property's additional land could be utilized for possible required expansion of the high school to allow the high school to have one campus.

The next meeting of the Committee is tentatively set for November 2, 2017 at 6:00 PM in the Old Selectmen's Meeting Room.

On a motion by Mr. Collins second by Ms. Boucher, the Committee voted to adjourn the meeting at 6:54PM.

Respectfully submitted,

Deborah Shaer, PMA Consultants, LLC
for the Town of Shrewsbury, Kevin J. Mizikar, Town Manager

Referenced Materials Attached:

- October 5, 2017 dated, 10/10/2017 Agenda
- October 10, 2017 Budget Summary
- October 10, 2017 Beal ECC Preliminary Design Schedule thru PS&BA with CMR Procurement
- September 2017 LPA Index of Potential Sites
- October 10, 2017 LPA Beal ECC Site Location Presentation – *distributed via Dropbox Link:*
- Un-dated PMA CMR Project Delivery Method Overview
- October 2017 Index of Candidate Sites

BEAL EARLY CHILDHOOD
CENTER BUILDING COMMITTEE

TELEPHONE: (508) 841-8508
FAX: (508) 842-0587

RECEIVED
TOWN CLERK'S OFFICE
17 OCT -5 AM 11:36
SHREWSBURY, MASS

TOWN OF SHREWSBURY

Richard D. Carney Municipal Office Building
100 Maple Avenue
Shrewsbury, Massachusetts 01545-5338

October 5, 2017

To: Beal Early Childhood Center Building Committee

From: Kevin J. Mizikar

Re: Meeting Notice & Agenda

The Beal Early Childhood Center Building Committee will meet on Tuesday, October 10, 2017, at 6:00 PM in Old Selectmen's Meeting Room of the Municipal Office Building – 100 Maple Avenue to consider the following agenda:

AGENDA

1. Call to Order
2. Introductions
3. Review and act to accept the minutes of the September 12, 2017, meeting of the Committee.
4. Review and act on the following bill schedules:

Vendor/Expense/Item	Amount
PMA Consultants/Prof Svcs August 2017	$7,831.30
Lamoureux Pagano/Prof Svcs	$38,900.00

5. Hear reports, review and act on the following matters:
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    b. Report from the Owner's Project Manager
        i. Activities & Accomplishments 9/13 – 10/6/17
        ii. Financial Review
        iii. Project Schedule
    c. Report from the Architect
        i. Site Selection Process
6. Construction Delivery Method – Chapter 149 ("Design, Bid, Build") and Chapter 149A Construction Management at Risk

7. Set date for next meeting
8. Adjourn

Referenced Materials

Minutes and Bill Schedules as noted above

Please be advised of the Committee's anticipated upcoming meeting schedule:

Date	Time	Room Location	Discussion Topics
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November 16, 2017	7:00 PM	Old Selectmen's Meeting Room	Building Committee will finalize a site or small number of sites to be include in the Preliminary Design Plan (PDP) and Preferred Schematic Report (PSR) process in accordance with the Committee's thoughts.

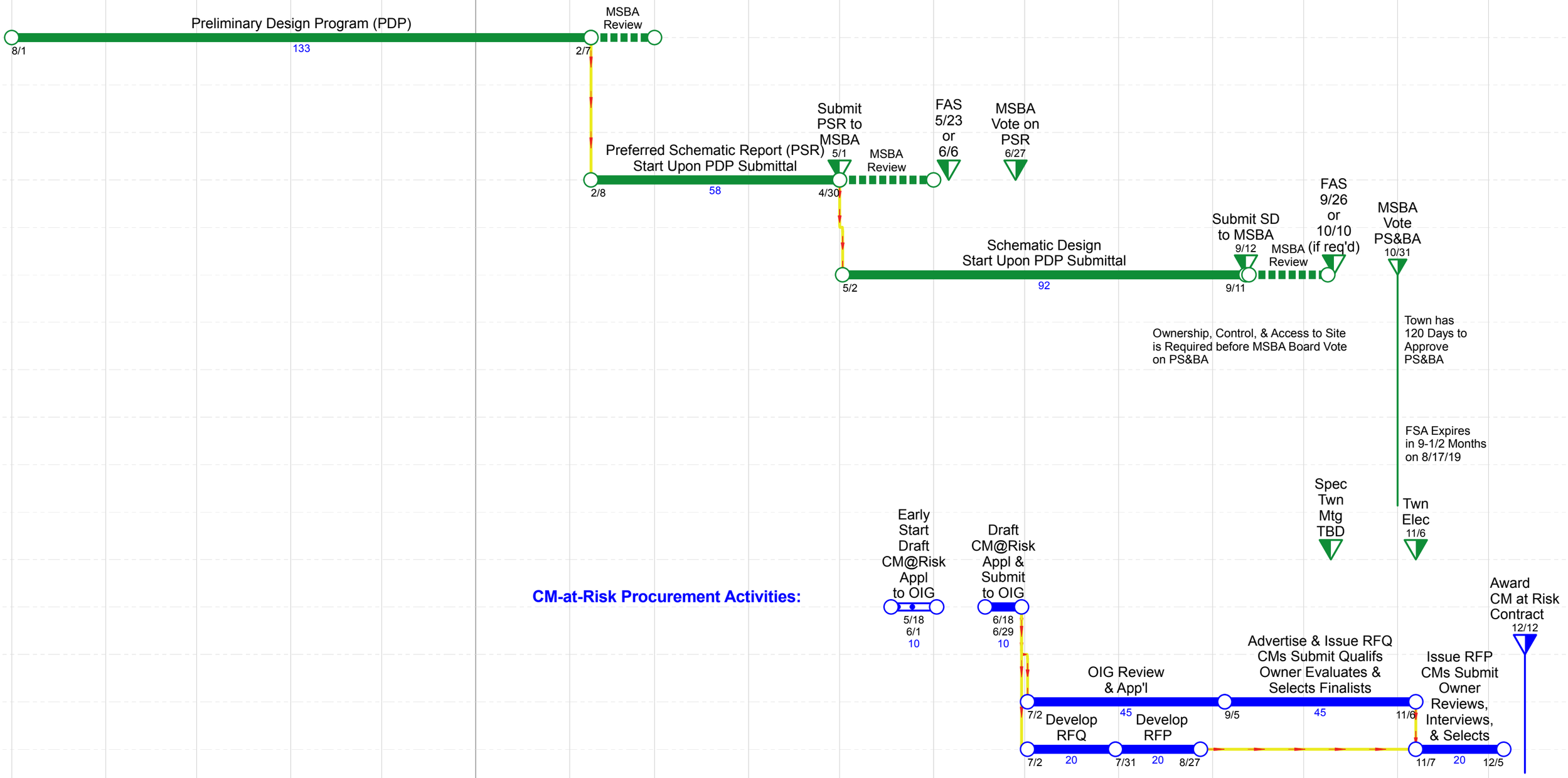
PMA Consultants
35 Braintree Hill Office Park, Suite 300 ▪ Braintree, MA 02184
Tel: 781.794.1404 ▪ Fax: 781.794.1405

SHREWSBURY PUBLIC SCHOOLS

Beal Early Childhood Center Project
October 10, 2017

BUDGET SUMMARY	
Feasibility Study Agreement Budget	**$1,200,000**
Architect Feasibility Study	350,000
Architect Schematic Design	400,000
Sub Total A/E	**$750,000**
OPM FS/SD	242,556
Total Contract Values to Date	**$992,556**
Invoices/Cost To Date	**$134,297**
Balance to Finish	**$858,259**
ProPay Reimbursement Payments to Date	**$16,904**
ProPay Reimbursements Payments Pending *(As of 10.10.2017 no pending payments for submitted ProPay reimbursements)*	**$0.00**

Beal Early Childhood Center
Preliminary Design Schedule thru Project Scope & Budget
with CM-at-Risk Procurement
10/10/17



NetPoint® 5.2. Release 5.2.0.111. Build 7894. (Feb 20 2017 08:29:00) Schedule Unit: Days Criticality Factor: Total Float (%: 0.0/5.0)

BEAL EARLY CHILDHOOD CENTER

INDEX OF POTENTIAL SITES SEPTEMBER 2017

Prepared by:

LAMOUREUX · PAGANO
ARCHITECTS PROJECT MANAGERS

A. INTRODUCTION & PROCESS

B. INDEX OF POTENTIAL SITES & COMMENTARY

C. SUMMARY OF COMMENTARY RECOMMENDATIONS

D. TOWN WIDE MAP OF POTENTIAL SITES

E. POTENTIAL SITES GIS MAPPING & PROPERTY CARDS

Introduction & Process

The Town of Shrewsbury provided Lamoureux Pagano Associates [LPA] with thirty-one sites to consider for construction of a new elementary school. LPA conducted a preliminary review of the each site in respect to the location, size, topography, access/frontage, and presence of wetlands/water features, utilities, and their ability to support a new elementary school of the scale being considered. LPA has provided commentary on each site in respect to the aforementioned site features. As one will see this initial review resulted in the elimination of several sites from further consideration, with the remaining sites being characterized as either marginal or suitable for further study.

This initial index and commentary will serve as a spring board for the MSBA guided "Evaluation of Alternatives", particularly the evaluation of "New Construction on Alternate Site Options". It is under these guidelines that LPA will further evaluate the index of sites and their suitability to support the construction of a new elementary school. The criteria by which the sites will be assessed will include but will not be limited to location, property configuration, size, buildable area, topography, environmental resources and hydrology, soils & geologic factors, utility availability, access/frontage, potential pedestrian & vehicular traffic, existing site development, easements & other property limitations, and acquisition costs. Each site will receive a ranking of 0-5 on each of the aforementioned criteria, resulting in a ranking for each site that will allow the School Building Committee to make an informed decision as to what site will best meet the needs of the town and the new elementary school.

Strong Candidates For Further Study

03| Prospect Street | Town Owned | 70.71 Acres

- Site is a large sloping hill that is home to the town water towers and walking trails
- Great access off of Prospect Street not far from the current school site. Site access off Route 140 is limited due to extreme topography
- Smaller wetland features are present on the site
- Site has been looked at for future expansion of the cemetery however no restrictions have been placed on the town's use of the site.
- Farmland of statewide importance & Prime farmland are present on the site
- Adequate Water & Sewer
- **Site should be considered for further study**

09-10| Lake Street | 98.97 Acres

- East Parcel is low sloping
- West parcel has significant topography but enough low sloping area for development of a new school
- Several existing buildings on the site and playing fields for the town
- Farmland of statewide importance & Prime farmland are present on the site
- Adequate Water & Sewer
- **Site should be considered for further study; possible adaptive reuse of facility**

11| Grafton Street |Town Owned | 29.7 Acres

- Site has extreme topography
- Frontage on both Grafton Street and 140, access from 140 is difficult due to topography
- Small portion of Prime farmland is present on the site
- Adequate Water; Limited Sewer would require improvements/replacement of the local pump station
- **Site should be considered for further study**

12-13| South Street | Town Owned | 60.89 Acres

- Site is low sloping and a good majority of the site appears as if it were cleared at one time.
- There is a stream that runs through the middle of the site and other wetland/water features are present
- Given the wetland features and the topography there still appears to be enough room to support a new school of this scale on either side of the stream
- Great access to major public ways
- Town has identified this site as a strong candidate for future commercial tax base, which could eliminate it from consideration
- Farmland of statewide importance & Prime farmland are present on the site
- Adequate Water & Sewer
- **Site should be considered for further study and possible subdivision to retain potential tax base**

Potential Candidates For Further Study

01| Holden Street | Town Owned | 194.17 Acres

- Site was originally identified as a potential site for a future elementary school
- Given the scale of this project the areas available for development are limited due to existing site features, steep topography and the presence of a stream & wetlands and would require loss of some existing feature, i.e. ball field, and/or significant topography modifications.
- Adequate Water & Sewer; would require improvements/replacement of the local pump station
- **Site could be considered for further study if other more suitable sites are not available**

05| Green Street | 13.76 Acres

- Sloping site with only one access point to a public way sited between two residential plots
- Located adjacent to town owned land which could give it two access points to public ways
- No wetlands present according to GIS mapping
- Farmland of statewide importance & Prime farmland are present on the site
- Adequate Water; No Sewer, located outside Needs Area, would require septic system
- **Site could be considered for further study if other more suitable sites are not available**

06| Green Street | 71.76 Acres

- Severe topography and wetland/water features are present
- Public way access at both Green Street & Centech Boulevard
- Farmland of statewide importance & Prime farmland are present on the site
- Adequate Water; No Sewer, located outside Needs Area, would require septic system
- **Site should only be considered for further study in conjunction with the adjacent privately owned parcel at the 110 Green Street Parcel**

07| Main Street | 51.71 Acres

- Site is home to a USPS sorting facility
- Majority of the site has been developed
- There is a water feature located on the site which appears to be a water detention/retention pond
- Great access to public ways [Main Street & N. Quinsigamond Avenue]
- Farmland of Statewide importance is present on the site
- Adequate Water & Sewer; would require improvements/replacement of the local pump station
- **Site could be considered for further study if other more suitable sites are not available; possible adaptive reuse of facility**

08| Maple Street | Town Owned | 19.7 Acres

- Very flat site with significant public way frontage
- Currently used as fields for the town
- Close to existing school site
- Town may want to retain the site for recreational use eliminating it from consideration.
- Farmland of statewide importance & Prime farmland are present on the site
- Adequate Water & Sewer
- **Site should be considered for further study, particularly in conjunction with acquiring some of the 200 Maple Street Parcel**

Potential Candidates For Further Study [continued]

14| Walnut Street | Town Owned | 24.7 Acres
- Site topography is fairly steep towards the rear of the site
- Appears to be enough space to support a school of this scale
- Located off of a residential scale public way
- Prime farmland is present on the site
- Adequate Water; No Sewer, located outside Needs Area, would require septic system
- **Site could be considered for further study if other more suitable sites are not available**

16| Maple Avenue | 42.15 Acres
- Site is fairly flat with the exception of the western side of the site that rises up towards Lexington road
- Close to existing Beal School and town sports fields
- There are several wetland/water features present at the main street side of the site
- Frontage on both Main Street and Maple Street, Frontage on Maple Street is limited
- Farmland of statewide importance & Prime farmland are present on the site
- Adequate Water & Sewer
- **Site should only be considered for further study in conjunction with the adjacent town owned parcel at 150 Maple Street.**

18| Lake Street | 9.3 Acres
- The site is fairly flat but not large enough for a building of this scale along with all the necessary site features and parking
- Farmland of statewide importance is present on the site
- Adequate Water; No Sewer, located outside Needs Area, would require septic system
- **Site should only be considered for further study in conjunction with the adjacent town owned parcel at 430 Lake Street**

19| Lake Street | Town Owned | 27.8 Acres
- Site is relatively flat
- Limited frontage access dues to steep topography
- Additional traffic on Lake Street could be problematic
- Wetland/water features run through the western portion of the site
- Farmland of statewide importance is present on the site
- Adequate Water; No Sewer, located outside Needs Area, would require septic system
- **Site could be considered for further study if other more suitable sites are not available**

23| Holden Street | 113.1 Acres
- Site is very flat and has ample frontage on Holden Street and Route 70; active commercial business
- There are significant wetland/water features present on the site
- Farmland of unique importance is present on the site
- Adequate Water, Sewer could be extended with improvements/replacement of the local pump station
- City of Worcester has public well with a Zone 1 on the property and plans for additional emergency well locations
- **Site could be considered for further study if other more suitable sites are not available**

Potential Candidates For Further Study [continued]

24| Holden Street | 88.65 Acres
- Site is very flat and has ample frontage on both Holden Street and Route 70
- There are wetland/water features present along the western and southern border of the parcel
- Farmland of state wide importance are present on the site
- Adequate Water, Sewer could be extended with improvements/replacement of the local pump station
- Shrewsbury has a public well on the property with a Zone 1.
- **Site could be considered for further study if other more suitable sites are not available**

27| Walnut Street | 45.15 Acres
- Site is very flat on the western side and very steep on the eastern side
- Wetlands/water features divide the parcel in half
- Two points of access to Walnut Street
- Majority of the flat portion has been cleared
- Farmland of statewide importance & Prime farmland are present on the site
- Adequate Water & Sewer
- **Site could be considered for further study if other more suitable sites are not available**

29| South Street | 42.44 Acres
- Parcel is divided by South Street and both parcels have been fully developed
- Western parcel has a large building and parking. Eastern parcel is developed as additional parking and sports fields
- Site is relatively flat with the exception of a small portion of the western parcel
- The commercial tax base contributions from this property are significant and the town may want to retain this revenue source, which could eliminate it from consideration
- Farmland of statewide importance & Prime farmland are present on the site
- Adequate Water & Sewer
- **Site could be considered for further study if other more suitable sites are not available**

30| Hartford Turnpike | 56.57 Acres
- Good portion of the site is relatively flat; wetland/water features are present
- Town recently reviewed a proposal to develop this site for mixed use development
- Two points of access to Route 20
- Commercial tax base contributions from this property could be significant and the town may want to retain this potential revenue source, which could eliminate it from consideration
- Farmland of statewide importance & Farmland of unique importance are present on the site
- Adequate Water, Sewer could be extended with addition of new municipal pump station
- **Site could be considered for further study if other more suitable sites are not available**

Poor Candidates For Further Study

02| Boylston Street | 129.77 Acres
- Located on the edge of town adjacent to Interstate 290 and Route 140. Could be problematic traffic wise give current configurations of on/off ramps for this interchange.
- Several wetland/water features.
- Limited frontage
- Small portion of Farmland of statewide importance is present on the site
- **Would not recommend this site for further study**

04| Centech Boulevard | Town Owned | 70.87 Acres
- The parcel currently houses Station #3 of the Shrewsbury Fire Department, electrical transmission wires and an electrical substation.
- Relatively flat however has several significant streams and wetlands running through it limiting the amount of developable land
- Farmland of statewide importance & Prime farmland are present on the site
- **Would not recommend this site for further study**

15| Cherry Street | 22.0 Acres
- Site is a narrow rectangular shaped parcel that is steep sloping
- Site has electrical transmission wires running through a portion of the site
- Small portion of Prime farmland is present on the site
- **Would not recommend this site for further study**

17| Main Street | 17.11 Acres
- The site has extreme topography and a large wetland/water feature
- Electrical transmission lines run through the middle of the site
- Farmland of Statewide importance is present on the site
- **Would not recommend this site for further study**

20| Rockwell Drive | 7.97 Acres
- Site is flat but not large enough for a building of this scale along with all the necessary site features and parking
- Has very limited frontage on a residential scale public way
- A small wetland feature is present at the southern side of the site
- **Would not recommend this site for further study**

21| Farmington Drive | Town Owned | 5.89 Acres
- Site has extreme topography and is not large enough for a building of this scale along with all the necessary site features and parking
- Has limited frontage on a residential cul-de-sac
- **Would not recommend this site for further study**

Poor Candidates For Further Study [continued]

22| Florence Street | Town Owned | 14.27 Acres
- Site is a water front parcel on Jordan pond and is fairly flat
- Electrical transmission wires run through the middle of the site
- Located adjacent to Calvin Coolidge School
- Farmland of statewide importance is present on the site
- **Would not recommend this site for further study**

25| Main Street | 74.92 Acres
- Limited area for development due to water and wetland features
- Good frontage on Main Street however traffic impact will be significant with the adjacent high school
- Entrance to site would be off of a very steep portion of Main Street
- Site currently houses a pistol/rifle range
- Farmland of Statewide importance is present on the site
- **Would not recommend this site for further study**

26| Main Street | 20.55 Acres
- Significant but not extreme change in topography from front to back of site
- Parcel is fairly narrow for development as a site for a school of this scale
- Ample frontage on Main Street however traffic impact will be significant with adjacent high school
- Farmland of Statewide importance is present on the site
- **Would not recommend this site for further study**

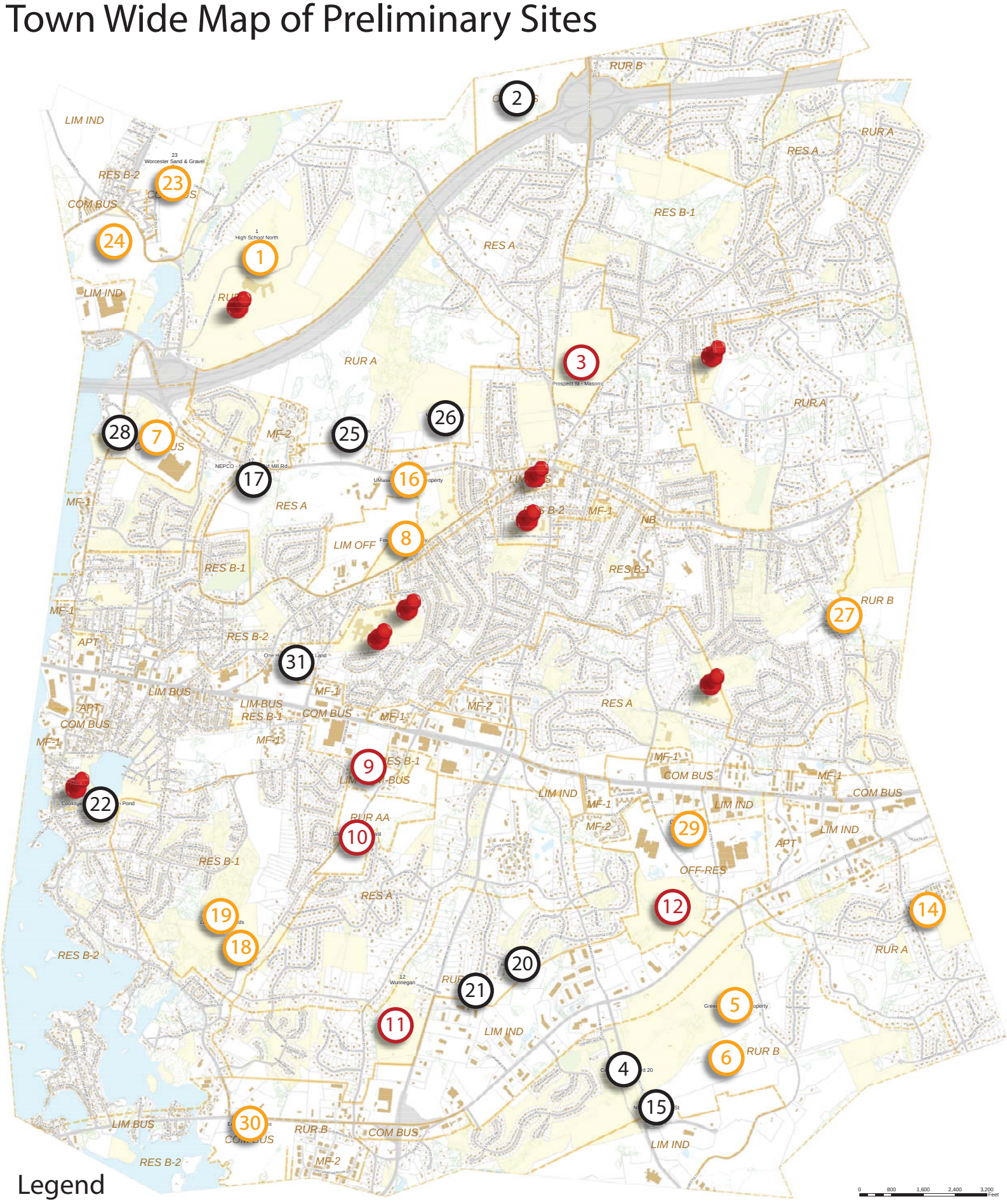
28| N. Quinsigamond Avenue | Town Owned | 4.84 Acres
- Site has extreme topography and is also not large enough for a building of this scale along with all the necessary site features and parking
- Farmland of Statewide importance is present on the site
- **Would not recommend this site for further study**

31| Oak Street | 9.7 Acres
- Sloping site with two points of access to Oak Street
- Not large enough for a building of this scale along with all the necessary site features and parking
- Prime farmland are present on the site
- **Would not recommend this site for further study**

Summary of Candidate Sites

- **4 Strong Candidates for further study**
- **14 Potential Candidates for further study if:**
  - Adjacent land is also acquired and/or
  - Other more suitable sites are not available
- **11 Poor Candidates for further study**

Town Wide Map of Preliminary Sites



Legend

Existing School Sites

Strong Candidates for further study

Poor Candidates for further study

Potential Candidates for further study if:
-Adjacent land is also acquired and/or
-Other more suitable sites are not available

Overview of the CM-at-Risk Project Delivery Method – for Beal ECC Building Committee

General Advantages of CM-at-Risk over Design-Bid-Build.

1. The CM-at-Risk Contractor's **professional approach to project delivery**, from design through occupancy, particularly with regard to estimating, scheduling, and managing the work, can result in less potential for budget overruns, late completion, and poor quality.
2. With the CM-at-Risk approach, **the contractor is selected based on qualifications and fee**; as compared to the Design-Bid-Build approach where **the low-bid General Contractor (GC) is accepted**. As part of the selection process, the Owner checks references, learns the firm's cost/schedule/quality performance on past similar projects, and checks the financial stability of firm.
3. At the time that the filed sub-bidders (trade contractors) prepare their bids they know who the GC is, thus there may be fewer allowances for uncertainty included in their bid prices.
4. General Conditions are negotiated rather than bid; this can result in **more experienced and a larger number of on-site staff**. (*Proponents of CM-at-Risk assert that this can result in better control of the work while advocates of traditional Design-Bid-Build assert that this extra experience and personnel contributes to the higher cost of building with CM-at-Risk cited in disadvantage # 1 on page 2.*)
5. Cost estimates by the CM-at-Risk firm may be more accurate since the estimate is made by a contractor who has been responsible for constructing similar work.
6. Cost transparency (open books during construction); Owner has the ability to audit costs to ensure that the Owner pays no more than the guaranteed maximum price (GMP). **Savings** resulting from unutilized allowances and contingencies that are explicitly built into GMP **are returned to Owner**.
7. CM-at-Risk firm is responsible for costs in excess of the GMP.

Particular Advantages Resulting from the CM-at-Risk Firm's Involvement During the Design Phase.

1. CM-at-Risk involvement in the design-phase may result in bid packages that are more complete; thereby resulting in fewer omissions, gaps, and confusion over staging. With better contract documents, there is less potential for claims and disputes in the construction phase. The CM-at-Risk firm has a vested interest in making sure that the bid packages are as complete as possible because the CM firm is going to be responsible for building the work
2. Constructability reviews during design can eliminate complex and/or costly details. Any inconsistencies within the contract documents can be eliminated as they are developed – fixing problems on paper is much less costly than fixing problems while construction is underway on-site.
3. CM-at-Risk may bring **higher quality non-filed sub-bidders** to submit proposals to perform work; and the CM-at-Risk may have successfully employed many of these subs on previous projects. (*This may be offset by less competition & higher pricing cited in disadvantage # 6 on page 2.*)
4. Estimates by the builder throughout the design enable in-process adjustments to be made to the design scope/finishes/complexity in order to keep the estimated cost under the established budget. **Value Engineering is done by the builder during design.**
5. The CM-at-Risk, who will be responsible for constructing the work, reviews the scheduling and complexities of the construction together with the architect while the design is in process; thereby giving the CM-at-Risk firm a more in-depth knowledge of work than the Design-Bid-Build contractor who receives the plans 5 to 6 weeks prior to bid.

Other Advantages of CM-at-Risk over Design-Bid-Build.

1. Potential for fewer change orders during construction.
2. Approach is well-suited to complex and schedule-critical projects. **Some elements of the work can be "fast-tracked."** For example, excavation and foundation work can be released for bid while the design of superstructure and interior building elements are being finalized. Also, long-lead items can be ordered before the trade contracts are bid.
3. The firms that provide CM-at-Risk services **conduct business differently** from many of the firms that provide low bids in the Design-Bid-Build method. The CM-at-Risk firm may be more likely to have **collaborative, rather than adversarial, relationships** with the owner, architect, and OPM. The CM-at-Risk firm can function as an owner's advocate during the design and as a collaborative contractor after the establishment of the GMP.
4. The Commonwealth of Massachusetts Division of Capital Asset Management and Maintenance (DCAMM), a state agency responsible for public building construction, constructs a lot of its work with the CM-at-Risk project delivery method. Realistic schedules, construction input provided during design, motivation to establish and maintain good relationships, and the desire to seek success on its current work are all benefits cited by DCAMM. (CM firms are interested in being recommended and selected for future work.)
5. Advocates of CM-at-Risk assert that the use of the use of the CM-at-Risk project delivery method in public construction has attracted higher quality firms to the public construction market, prior to the construction reform legislation of 2004 many CM firms did not bid on public construction work and focused their efforts on the non-public construction market.

Disadvantages to CM-at-Risk as Compared to Design-Bid-Build

1. **Higher construction cost.** Estimators and analysts report that **CM-at-Risk projects cost 5% to 10% more than work constructed under Design-Bid-Build.** (*CM-at-Risk firms assert that higher initial costs are offset by the benefits of projects that are designed to budget with fewer post-bid change orders. **Note:** Sherwood Middle School and Shrewsbury Public Library projects, delivered with the CM-at-Risk method, had fewer change orders than industry average and expended less than the budgeted amount for CM contingency and Owner's contingency.*)
2. **Advantages** of CM-at-Risk **may diminish with less complex projects**, less schedule-critical projects, and projects with a well-developed design.
3. **If early work packages are released, more effort is required from the architect** to develop both the early and the later work packages; thereby increasing the cost of the architectural contract.
4. CM-at-Risk involvement and suggestions during the design could be perceived as interference (*however, this can be mitigated through the selection of a CM firm who has a track record of teamwork and professionalism*).
5. CM-at-Risk may be a less familiar process than Design-Bid-Build, particularly with public projects (*however, CM-at-Risk has been used in public projects in Massachusetts since 2005, and has been used in private construction for decades*).
6. With CM-at-Risk, **the CM firms may limit their solicitations to preferred non-filed-sub-bid subcontractors** that they have had satisfactory experiences with on past projects **thereby resulting in less competition and higher pricing.** (*Advocates of CM-at-Risk may assert that restricting the list of bidders enhances the quality of work.)*

BEAL EARLY CHILDHOOD CENTER

INDEX OF CANDIDATE SITES OCTOBER 2017

Prepared by:

LAMOUREUX · PAGANO
ARCHITECTS PROJECT MANAGERS

A. INTRODUCTION & PROCESS

B. INDEX OF CANDIDATE SITES & COMMENTARY

C. TOWN WIDE MAP OF CANDIDATE SITES

E. CANDIDATE SITES GIS MAPPING

Introduction & Process

The Town of Shrewsbury provided Lamoureux Pagano Associates [LPA] with thirty-one sites to consider for construction of a new elementary school. The school will contain approximately 750-800 children and will require ±12-14 acres of contiguous buildable land area LPA conducted a preliminary review of the each site in respect to the location, size, topography, access/frontage, and presence of wetlands/water features, utilities, and their ability to support a new elementary school of the scale being considered. LPA has provided commentary on each site in respect to the aforementioned site features. The initial review resulted in sites being characterized as either a strong, potential, or poor candidate for further study.

The initial index and commentary served as a spring board for the MSBA guided "Evaluation of Alternatives", particularly the evaluation of "New Construction on Alternate Site Options". On October 10th, 2017, LPA presented their initial findings to the Beal Early Childhood Center Building Committee. At that meeting the Committee requested that two of the "potential" candidates along with their respective adjacent town owned parcels be included for further study. The combination of the aforementioned parcels and the four "strong" candidates initially identified results in a total of six properties for further study. This document has been updated to reflect the request.

The criteria by which the candidate sites will be assessed will include but will not be limited to location, property configuration, size, buildable area, topography, environmental resources and hydrology, soils & geologic factors, utility availability, access/frontage, potential pedestrian & vehicular traffic, existing site development, easements & other property limitations, and acquisition costs. Each site will receive a ranking of 0-5 on each of the aforementioned criteria, resulting in a ranking for each site that will allow the School Building Committee to make an informed decision as to what site will best meet the needs of the town and the new elementary school.

Candidates For Further Study

03| 65 Prospect Street | Town Owned | 70.71 Acres

- Site is a large sloping hill that is home to the town water towers and walking trails
- Great access off of Prospect Street not far from the current school site. Site access off Route 140 is limited due to extreme topography
- Smaller wetland features are present on the site
- Site has been looked at for future expansion of the cemetery however no restrictions have been placed on the town's use of the site.
- Farmland of statewide importance & Prime farmland are present on the site
- Adequate Water & Sewer
- **Site is being considered for further study**

07 & 28| 192 Main Street & 248 N. Quinsigamond Avenue [Town Owned] | 56.55 Acres

- Site is home to a USPS sorting facility
- Majority of the site has been developed
- There is a water feature located on the site which appears to be a water detention/retention pond
- Site has some extreme topography on the N. Quinsigamond parcel
- Great access to public ways [Main Street & N. Quinsigamond Avenue]
- Farmland of Statewide importance is present on the site
- N. Quinsigamond parcel is town owned and was the former town dump
- Adequate Water & Sewer; would require improvements/replacement of the local pump station
- **Open space on each site is being considered for further study in conjunction with each other**

08 & 16| 150 Maple Avenue [Town Owned] & 200 Maple Avenue | 61.85 Acres

- Site is fairly flat with the exception of the western side of the site that falls off towards Lexington Road
- 150 Maple Avenue is currently used as fields for the town and is town owned
- Close to existing school site
- Town may want to retain the site for recreational use eliminating it from consideration.
- Ample frontage on both Main Street and Maple Avenue
- Farmland of statewide importance & Prime farmland are present on the site
- There are several wetland/water features present at the main street side of the site
- Adequate Water & Sewer
- **Sites are being considered for further study in conjunction with each other**

09 & 10| 214 Lake Street | 98.97 Acres

- East Parcel is low sloping
- West parcel has significant topography but enough low sloping area for development of a new school to the North
- Several existing buildings on the site and playing fields for Shrewsbury youth soccer
- Eastern parcel is leased for farming
- Three state cemeteries are present on the site
- Farmland of statewide importance & Prime farmland are present on the site
- Adequate Water & Sewer
- **Site is being considered for further study; possible adaptive reuse of facility**

Candidates For Further Study [continued]

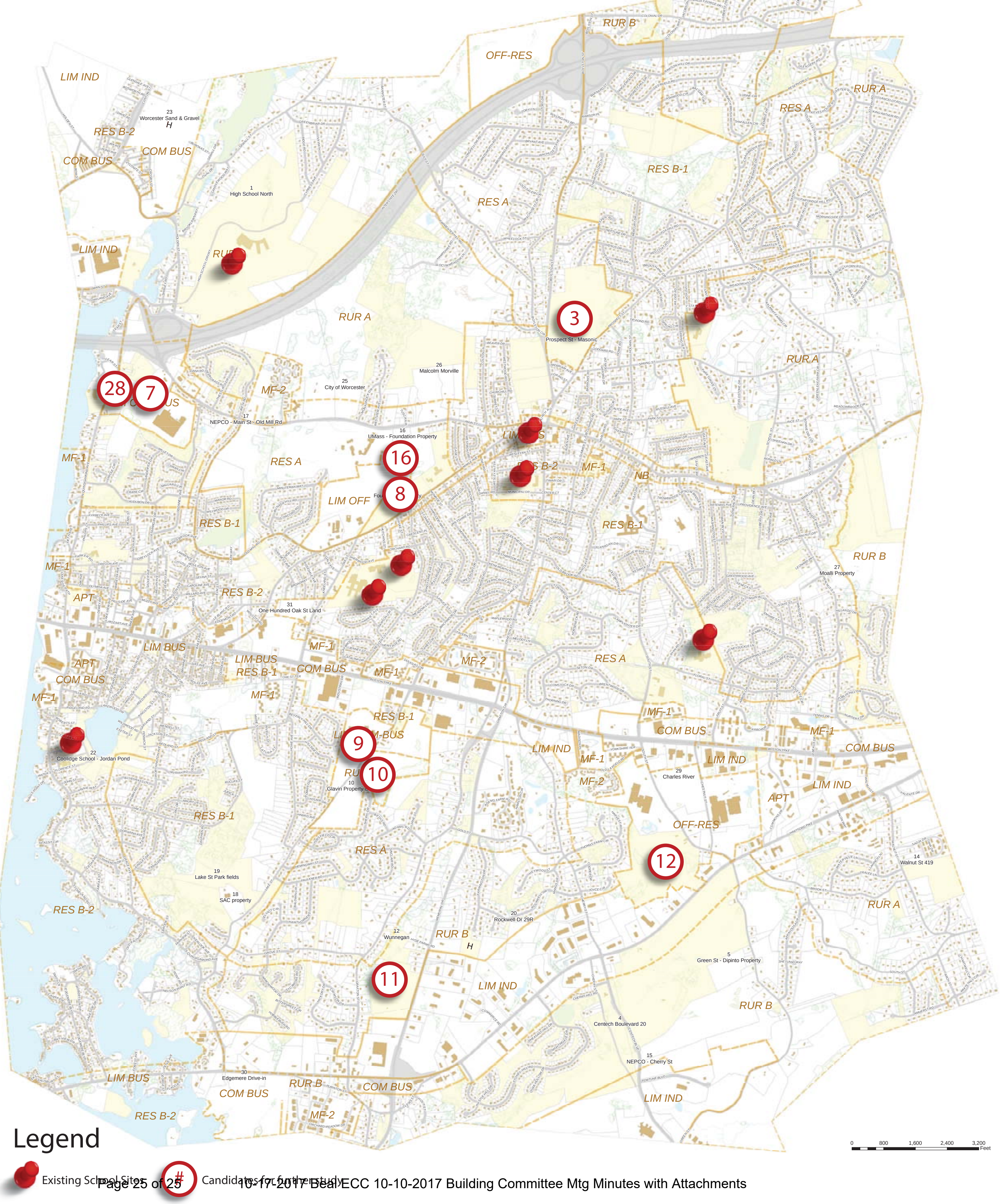
11| 645 Grafton Street |Town Owned | 29.7 Acres

- Site has extreme topography along a portion of Route 140
- Frontage on both Grafton Street and Route 140, access from Route 140 is difficult due to topography
- Small portion of Prime farmland is present on the site
- Adequate Water; Limited Sewer would require improvements/replacement of the local pump station
- **Site is being considered for further study**

12 & 13| 384-386 South Street | Town Owned | 60.89 Acres

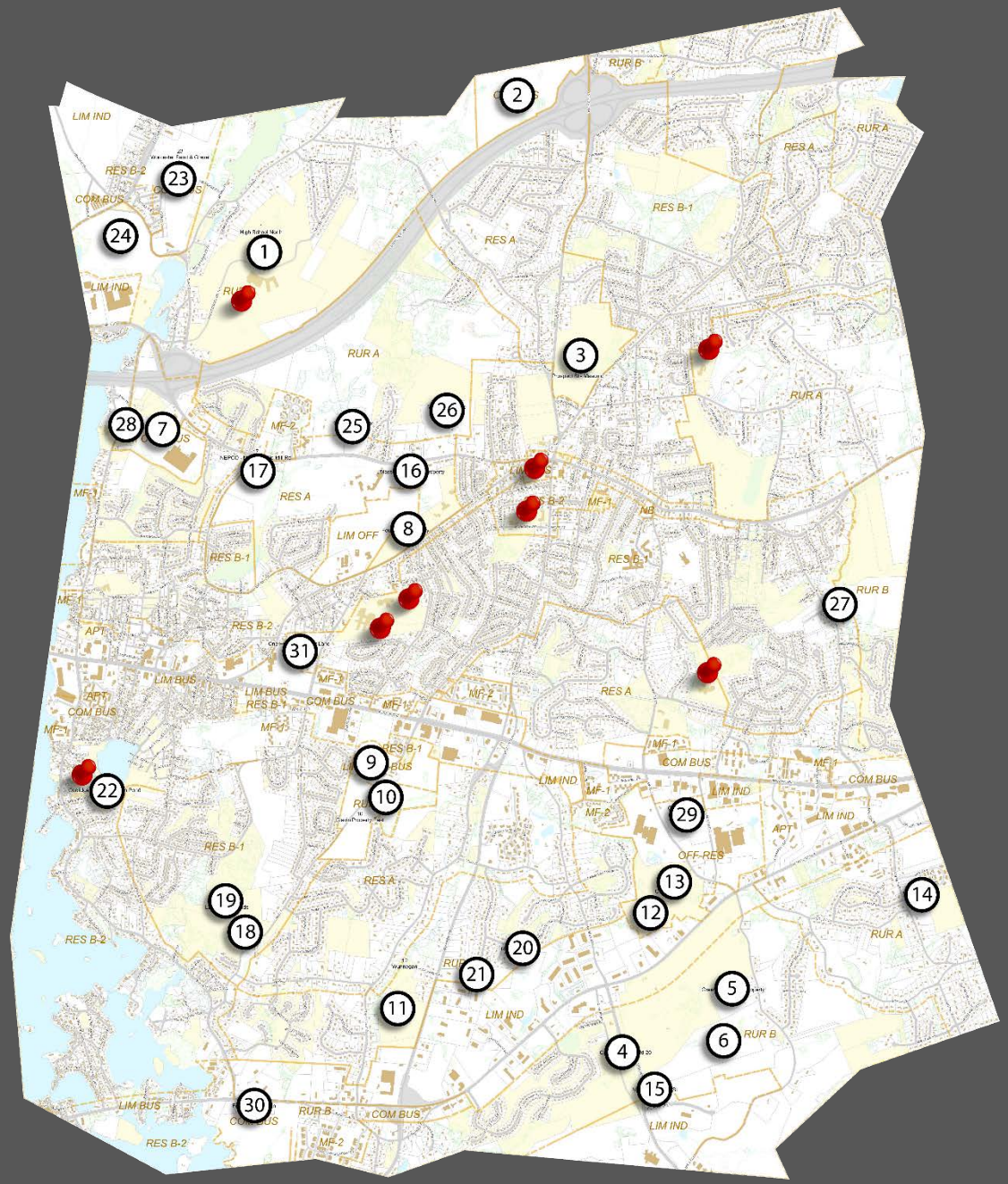
- Site is low sloping and a good majority of the site was once used as a farm.
- There is a stream that runs through the middle of the site and other wetland/water features are present
- Given the wetland features and the topography there still appears to be enough room to support a new school of this scale on either side of the stream
- Great access to major public ways including Route 20
- Town has identified this site as a strong candidate for future commercial tax base, which could eliminate it from consideration
- Farmland of statewide importance & Prime farmland are present on the site
- Adequate Water & Sewer
- **Site is being considered for further study and possible subdivision to retain potential tax base**

Town Wide Map of Preliminary Sites



BEAL EARLY CHILDHOOD CENTER

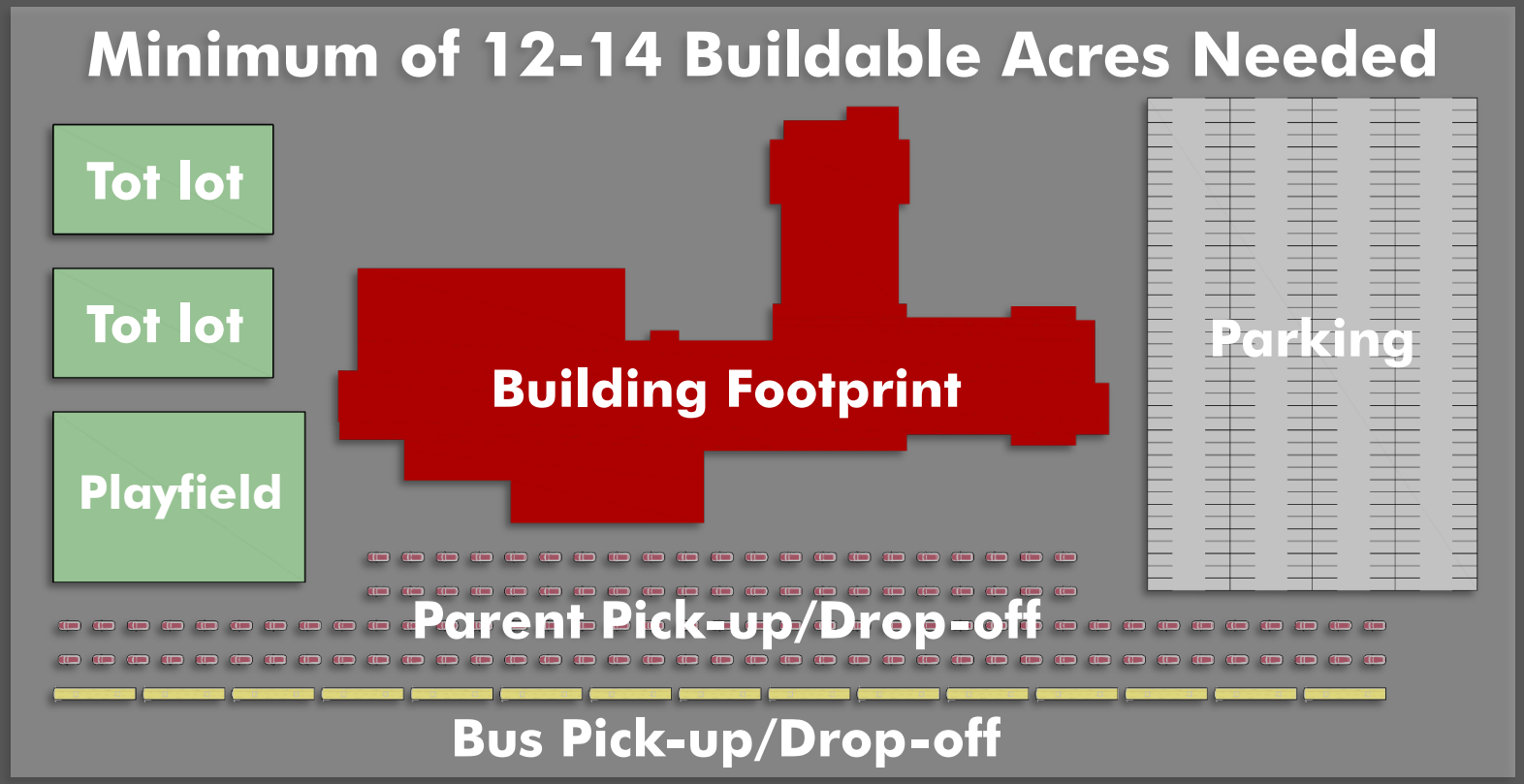
INDEX OF SITES EVALUATED



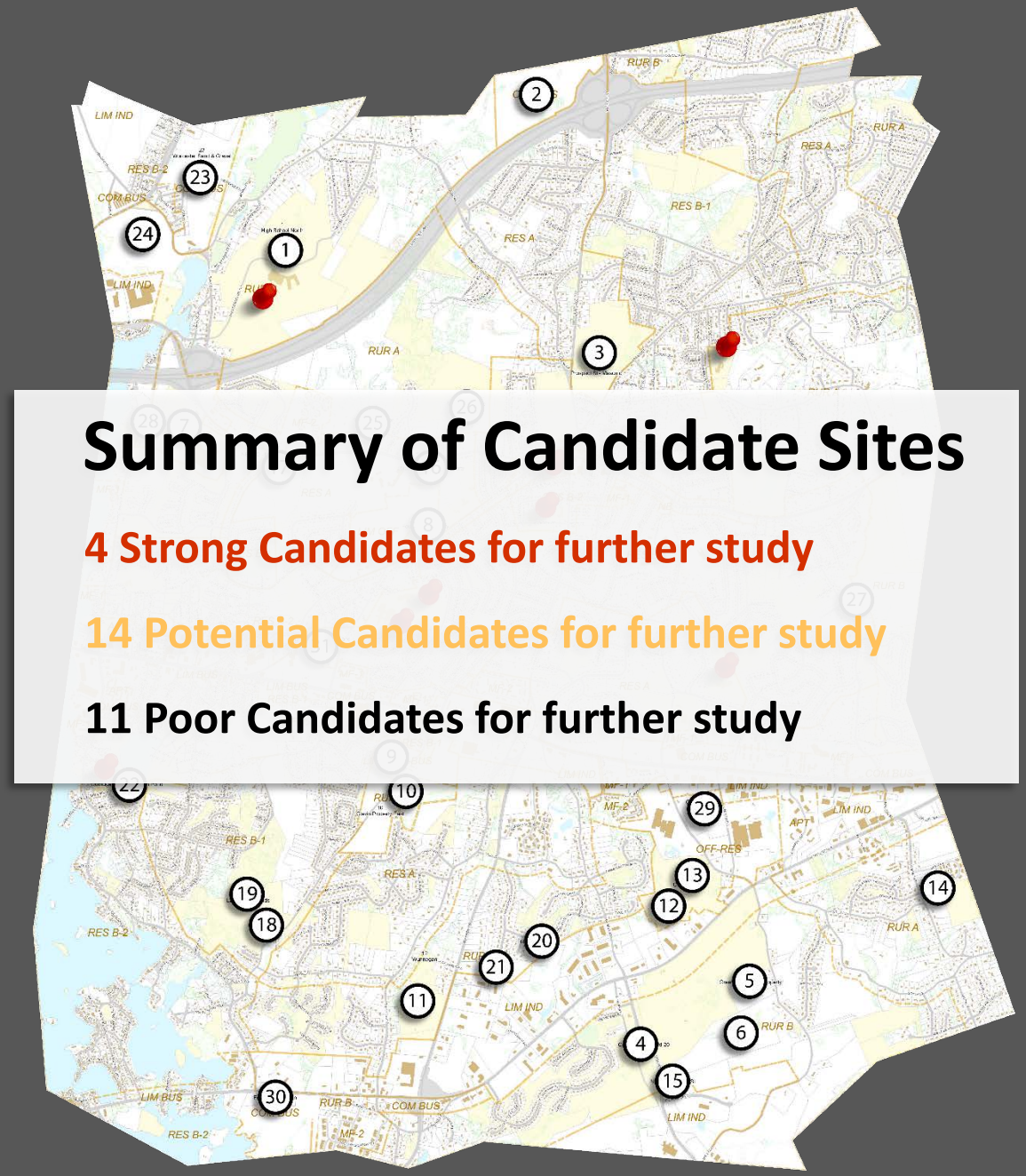
01| Holden Street | Town Owned | 194.17 Acres
02| Boylston Street | 129.77 Acres
03| Prospect Street | Town Owned | 70.71 Acres
04| Centech Boulevard | Town Owned | 70.87 Acres
05| Green Street | 13.76 Acres
06| Green Street | 71.76 Acres
07| Main Street | 51.71 Acres
08| Maple Street | Town Owned | 19.7 Acres
09-10| Lake Street | 98.97 Acres
11| Grafton Street |Town Owned | 29.7 Acres
12-13| South Street | Town Owned | 60.89 Acres
14| Walnut Street | Town Owned | 24.7 Acres
15| Cherry Street | 22.0 Acres
16| Maple Avenue | 42.15 Acres
17| Main Street | 17.11 Acres
18| Lake Street | 9.3 Acres
19| Lake Street | Town Owned | 27.8 Acres
20| Rockwell Drive | 7.97 Acres
21| Farmington Drive | Town Owned | 5.89 Acres
22| Florence Street | Town Owned | 14.27 Acres
23| Holden Street | 113.1 Acres
24| Holden Street | 88.65 Acres
25| Main Street | 74.92 Acres
26| Main Street | 20.55 Acres
27| Walnut Street | 45.15 Acres
28| N. Quinsigamond Avenue | Town Owned | 4.84 Acres
29| South Street | 42.44 Acres
30| Hartford Turnpike | 56.57 Acres
31| Oak Street | 9.7 Acres

SITE EVALUATION CRITERIA

- Location
- Size
- Topography
- Access/Frontage
- Wetlands/Water features
- Utilities
- Program



CATEGORIZED INDEX OF SITES



Summary of Candidate Sites

4 Strong Candidates for further study

14 Potential Candidates for further study

11 Poor Candidates for further study

01| Holden Street | Town Owned | 194.17 Acres
02| Boylston Street | 129.77 Acres
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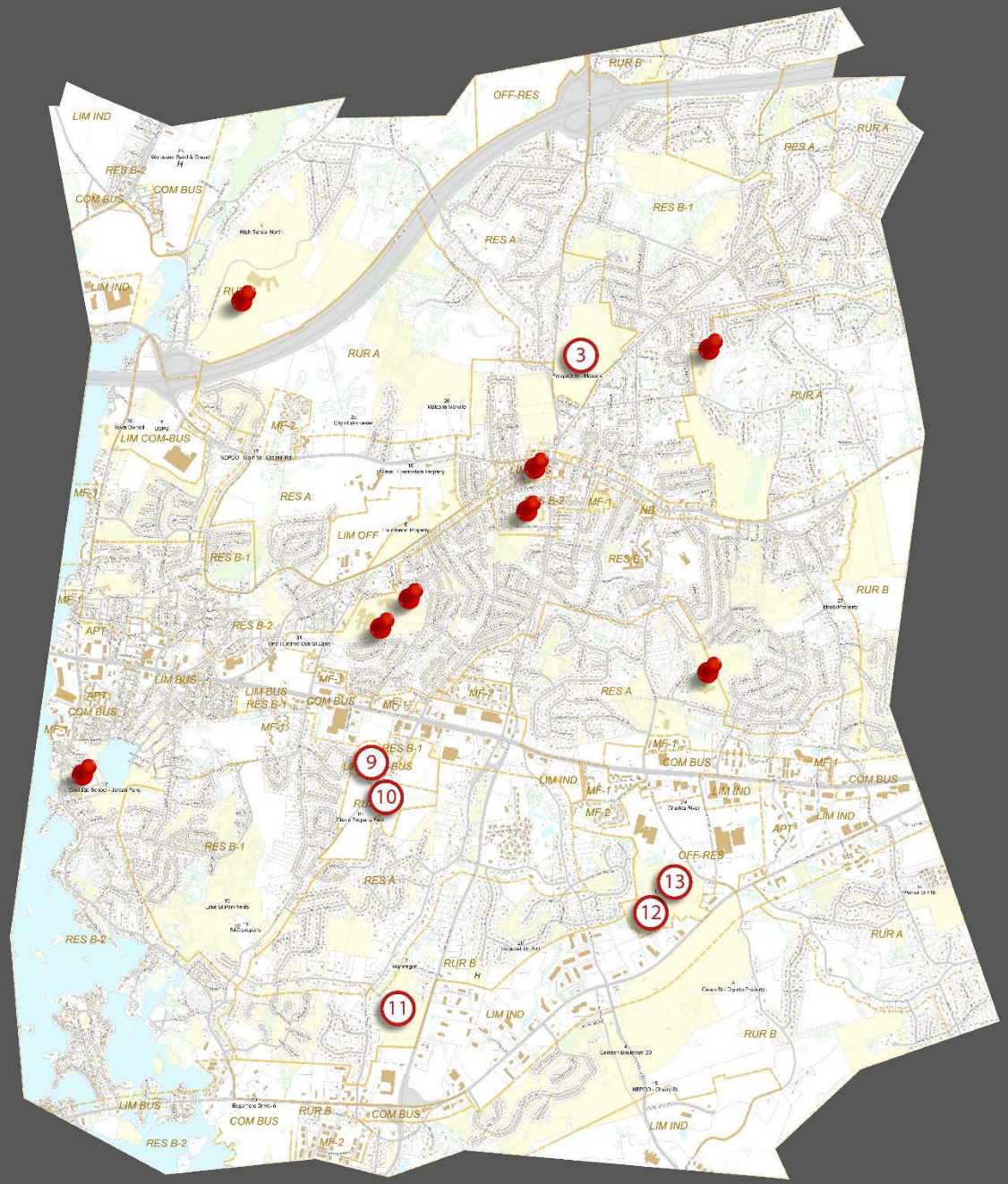
INDEX OF STRONG CANDIDATES



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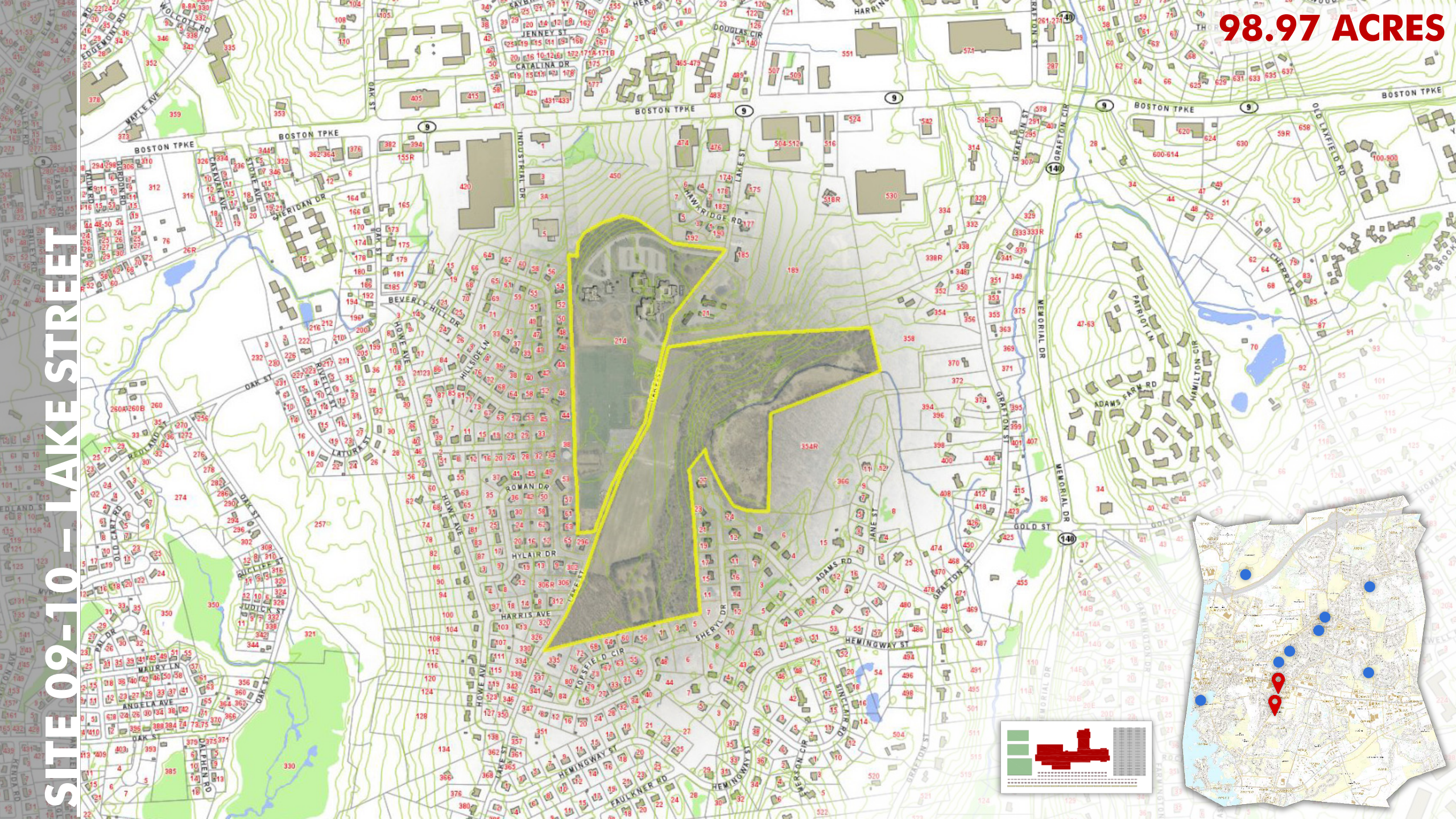
SITE 03 – PROSPECT STREET

70.71 ACRES
TOWN OWNED

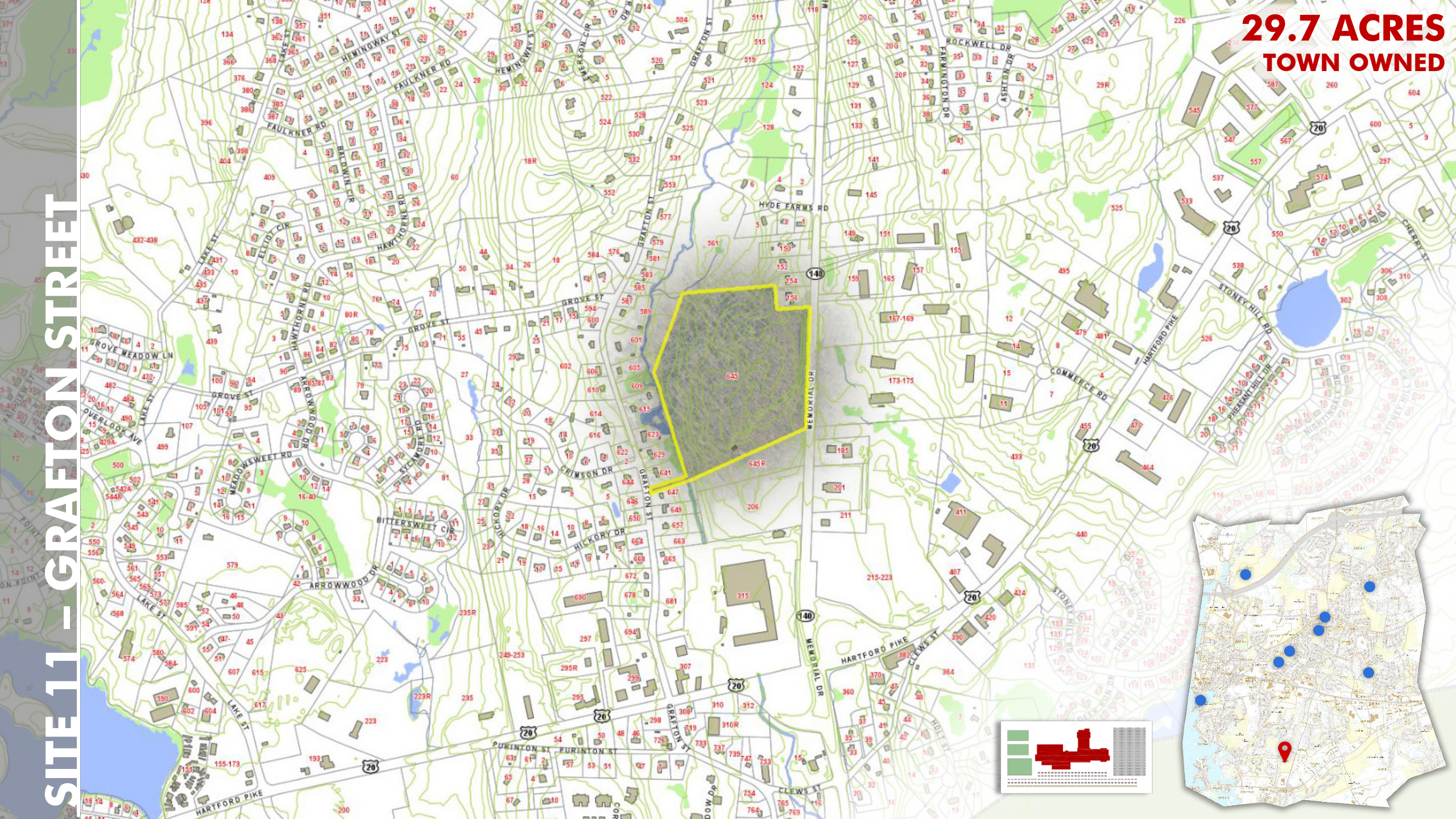
SITE 09-10 – LAKE STREET

98.97 ACRES



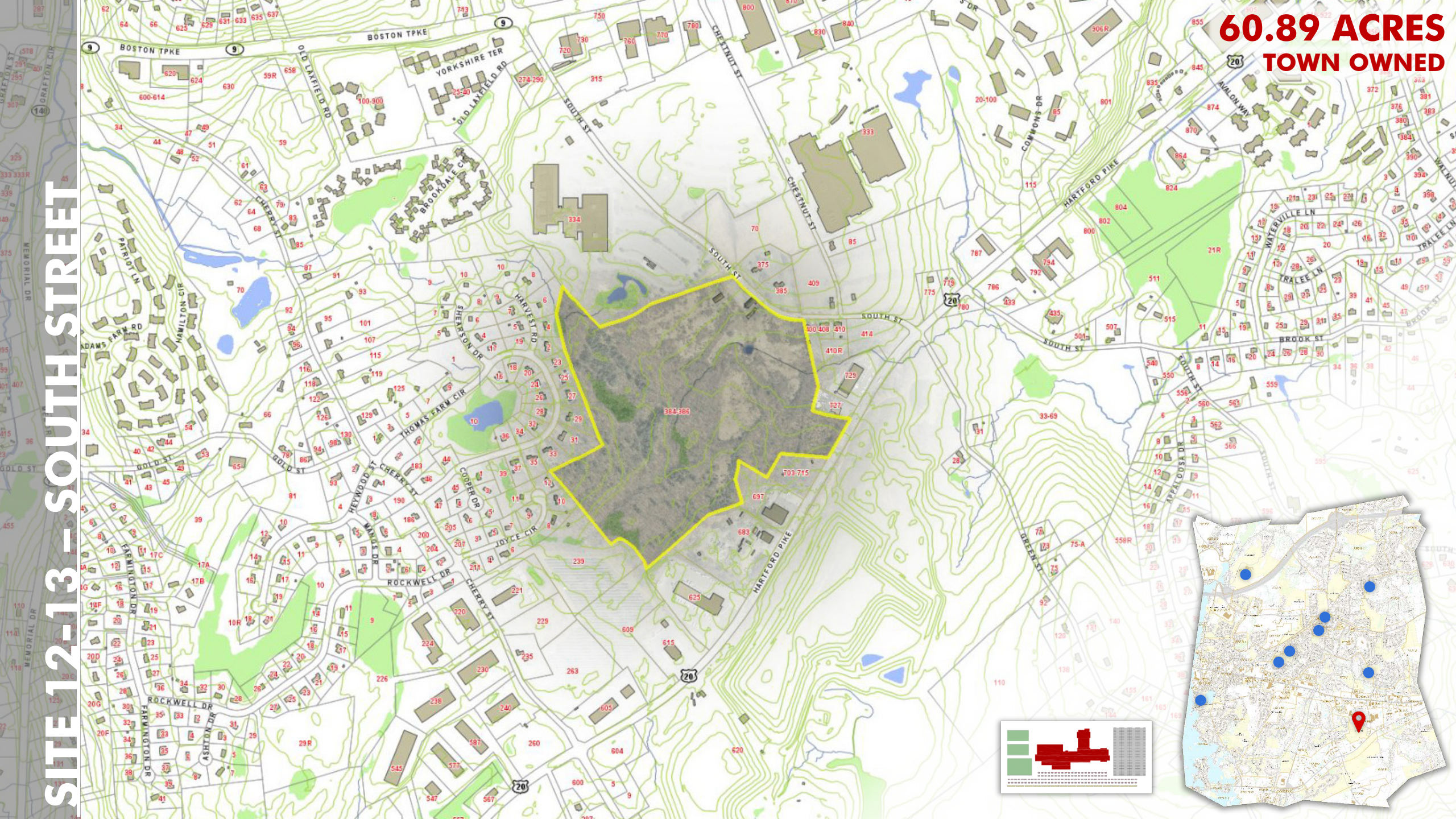
SITE 11 – GRAFTON STREET

29.7 ACRES
TOWN OWNED

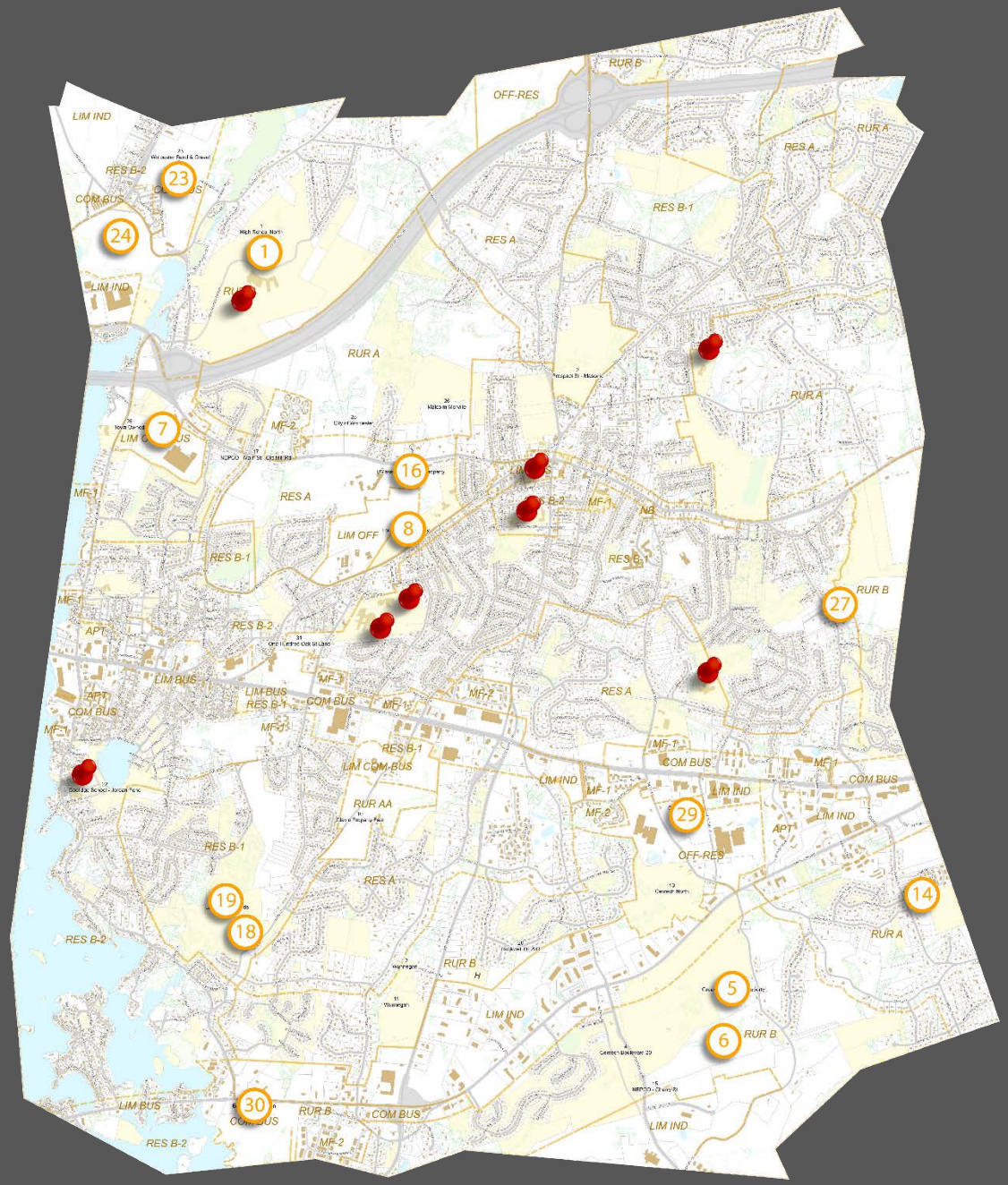


SITE 12-13 – SOUTH STREET

60.89 ACRES
TOWN OWNED



INDEX OF POTENTIAL CANDIDATES



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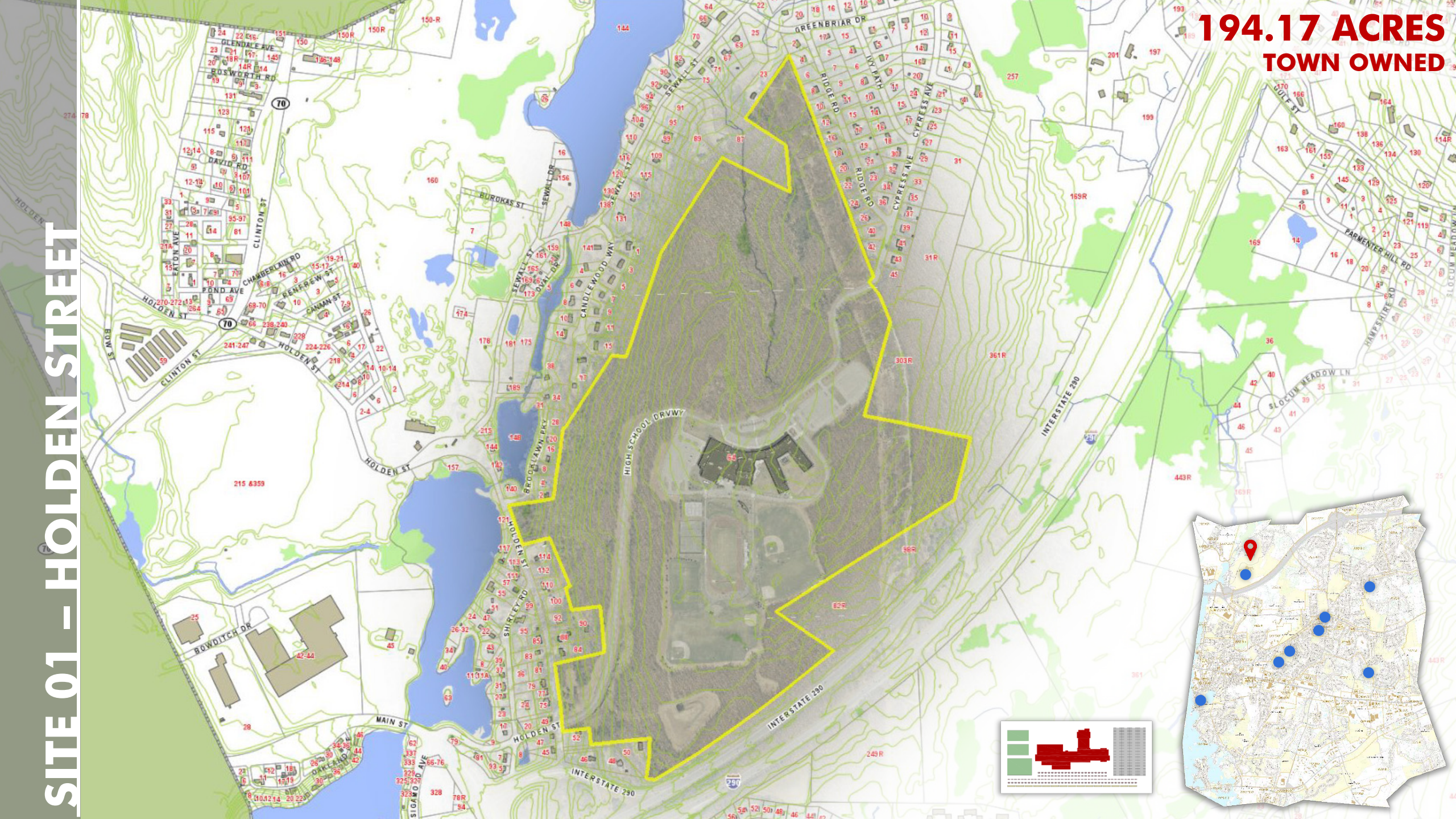
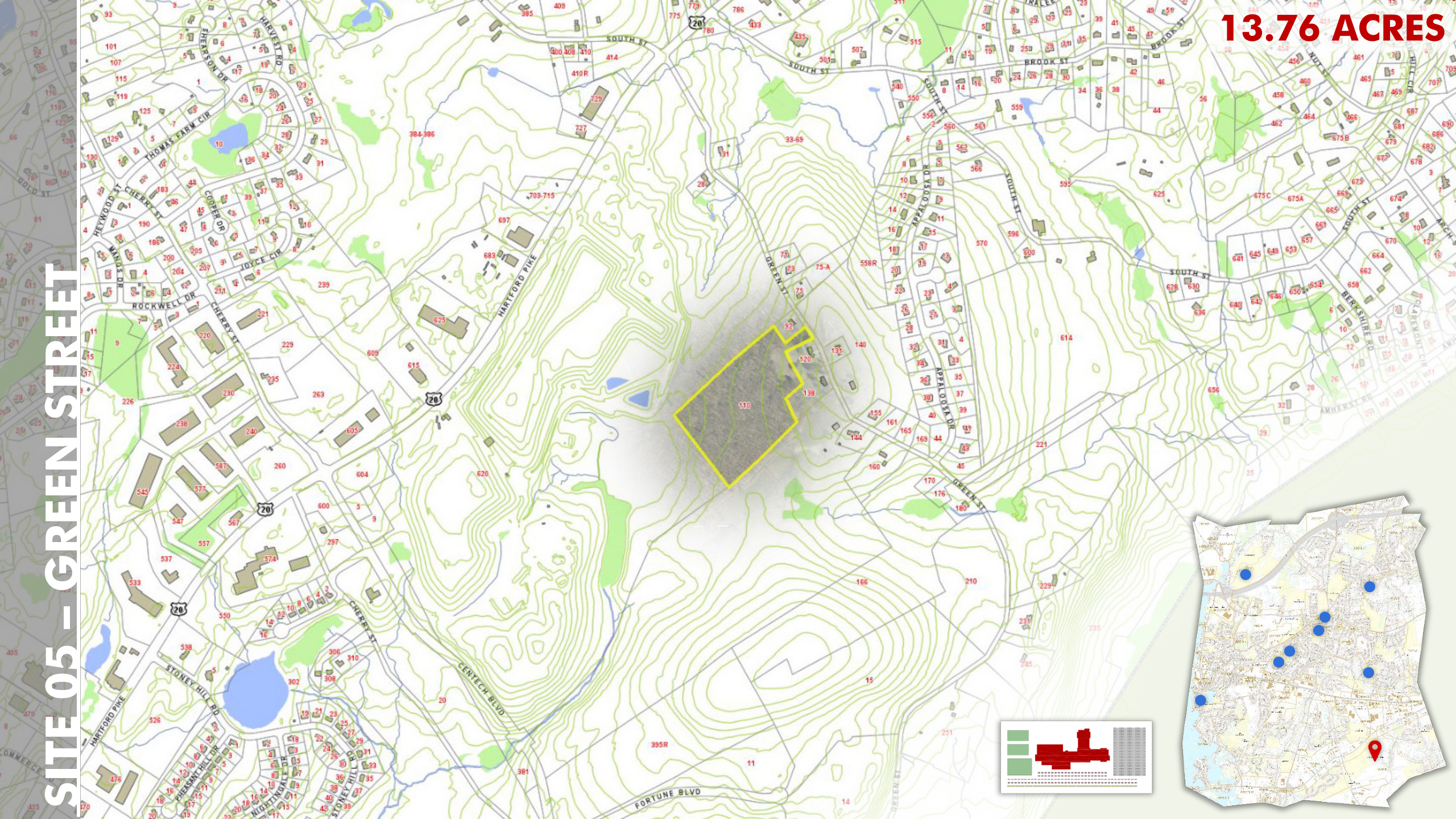
SITE 01 – HOLDEN STREET

194.17 ACRES
TOWN OWNED



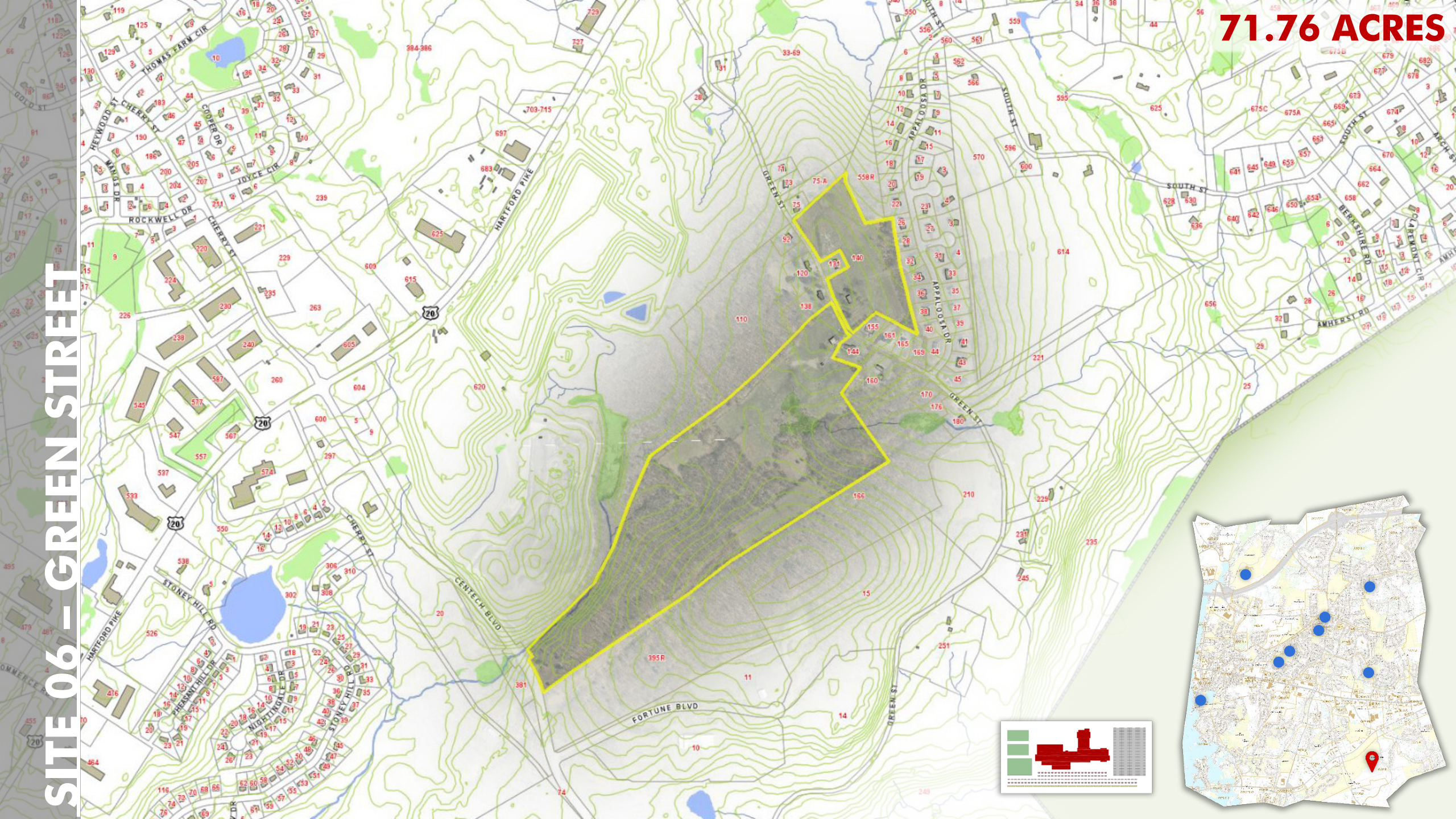
SITE 05 – GREEN STREET

13.76 ACRES



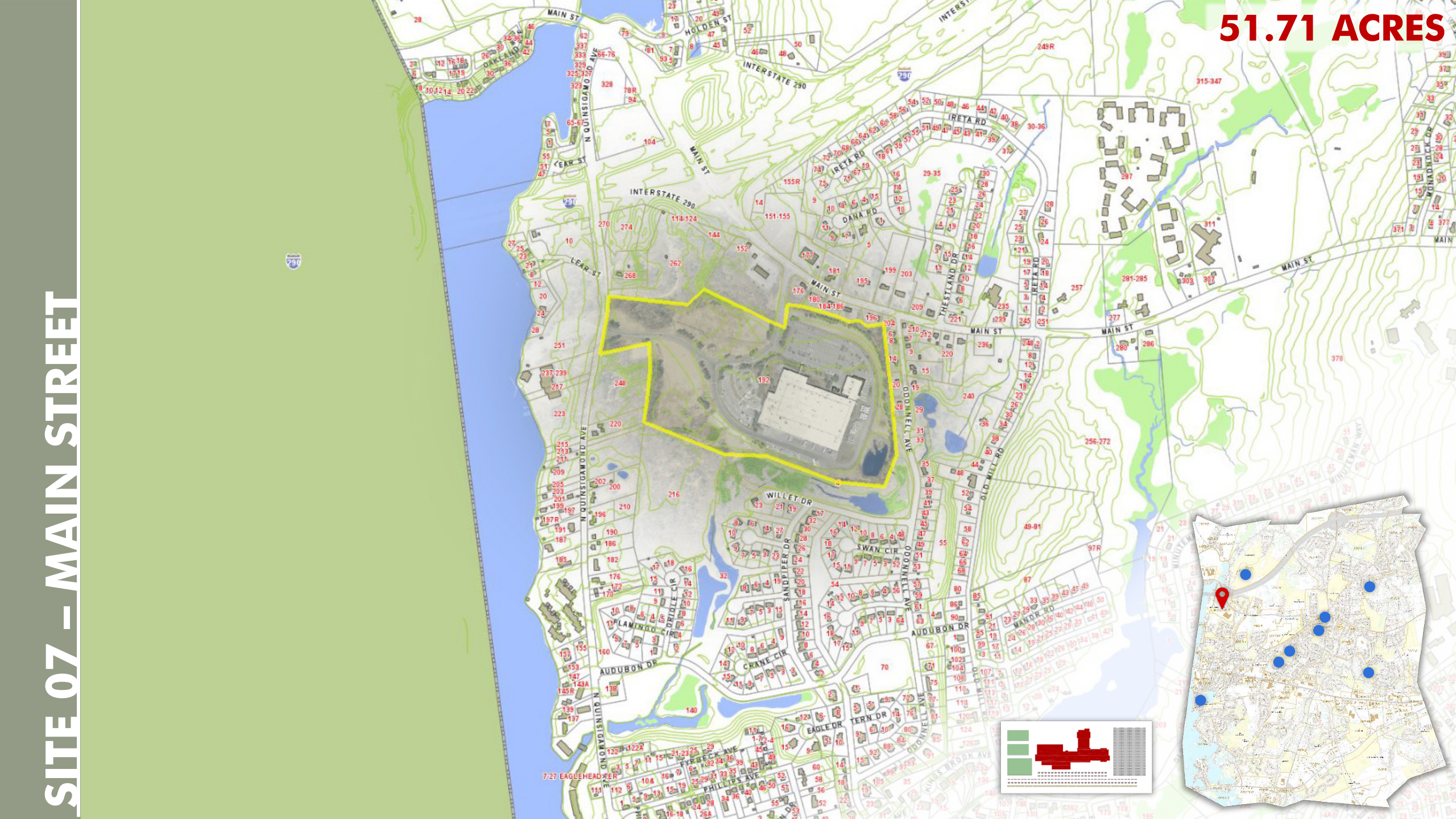
SITE 06 – GREEN STREET

71.76 ACRES



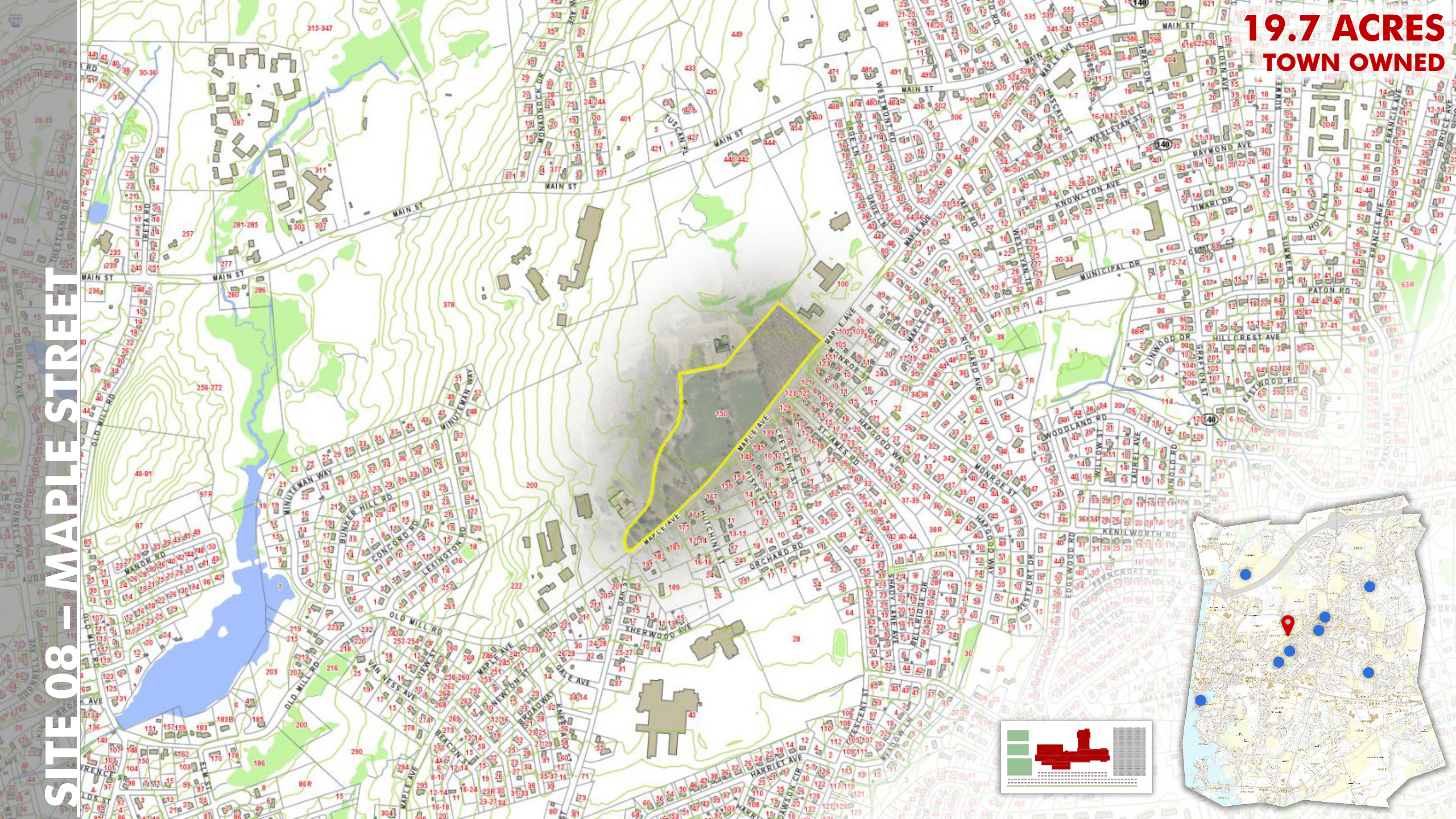
SITE 07 – MAIN STREET

51.71 ACRES



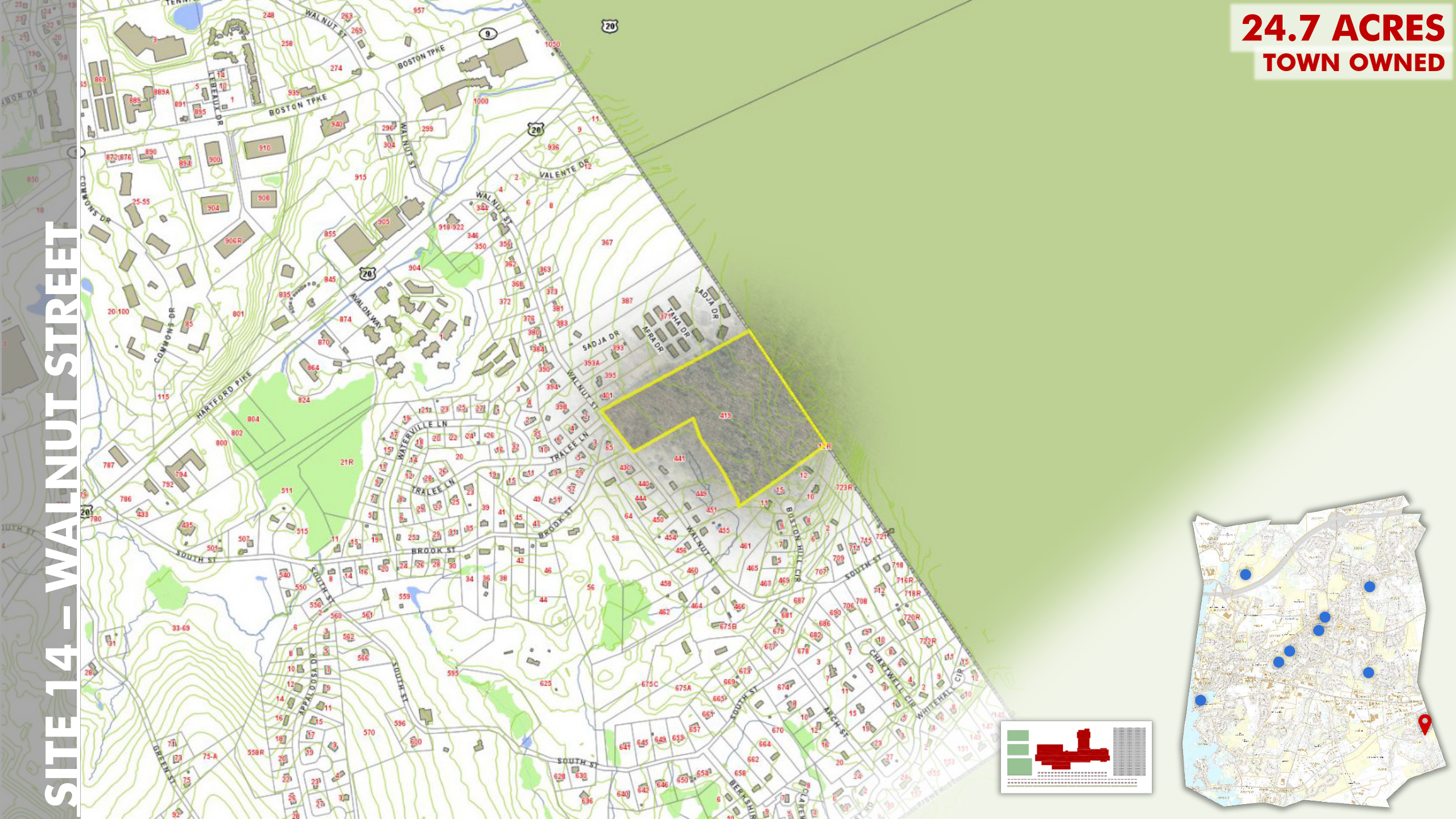
SITE 08 – MAPLE STREET

19.7 ACRES
TOWN OWNED



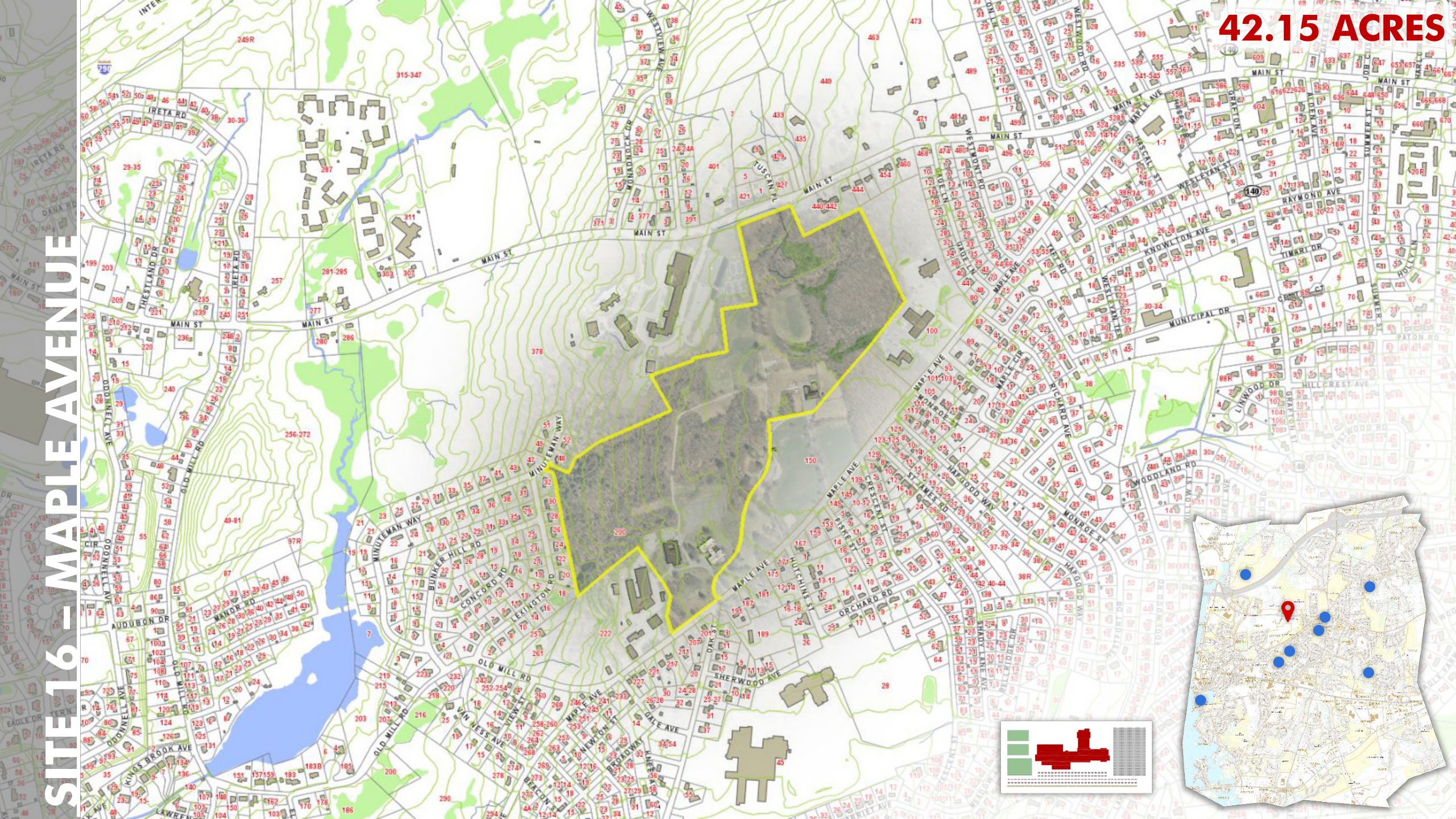
SITE 14 – WALNUT STREET

24.7 ACRES
TOWN OWNED



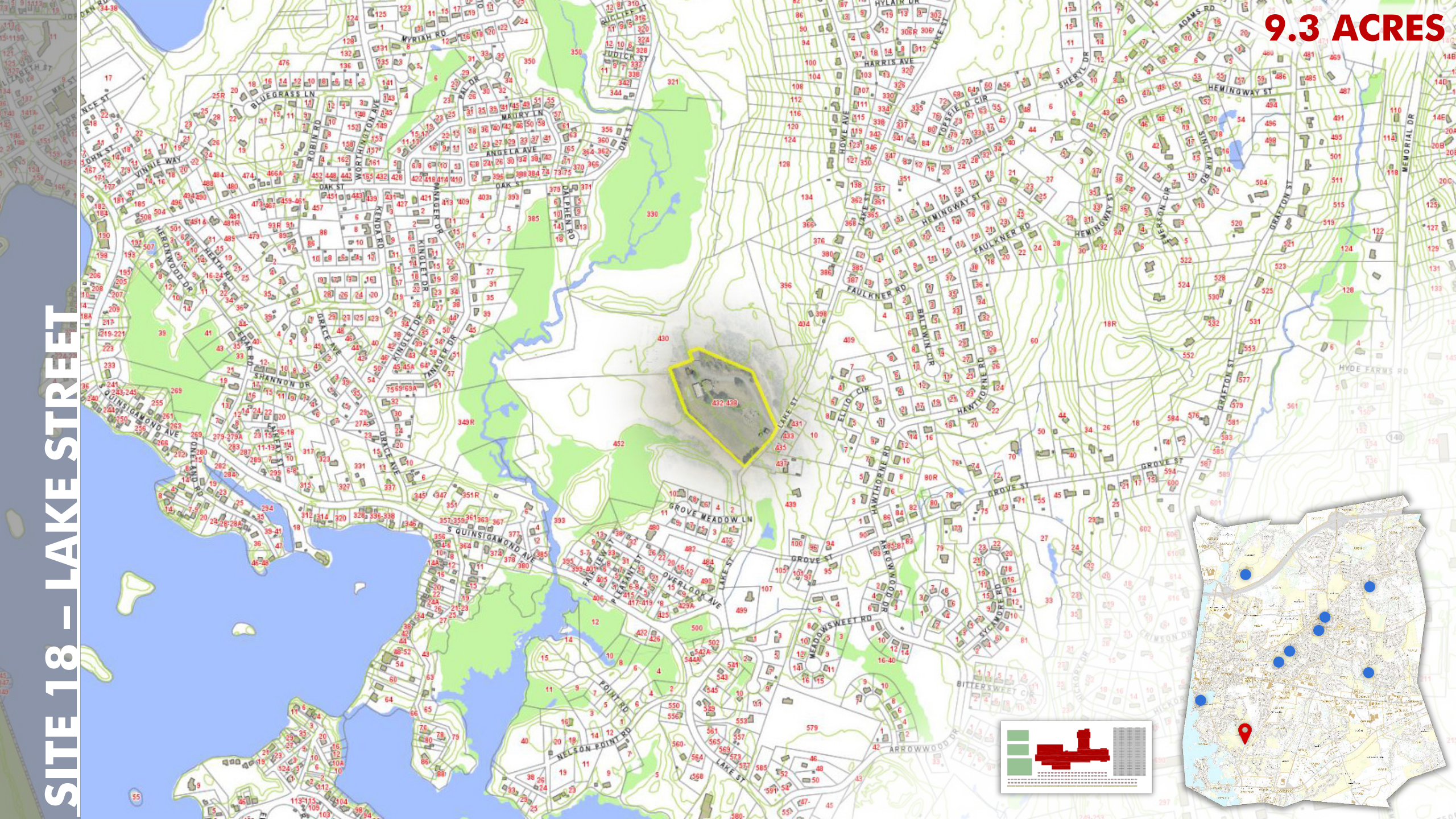
SITE 16 – MAPLE AVENUE

42.15 ACRES



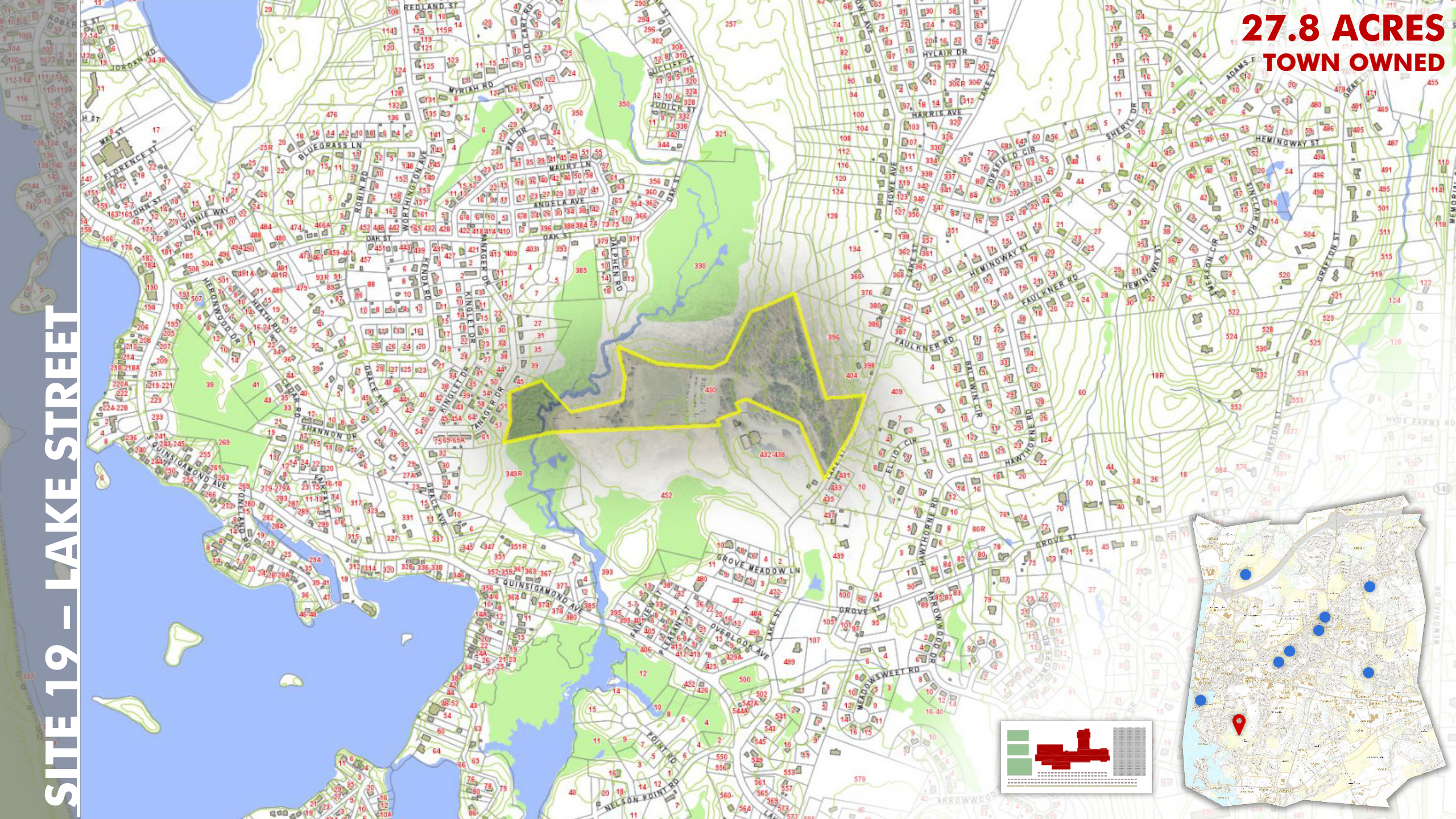
9.3 ACRES

SITE 18 – LAKE STREET



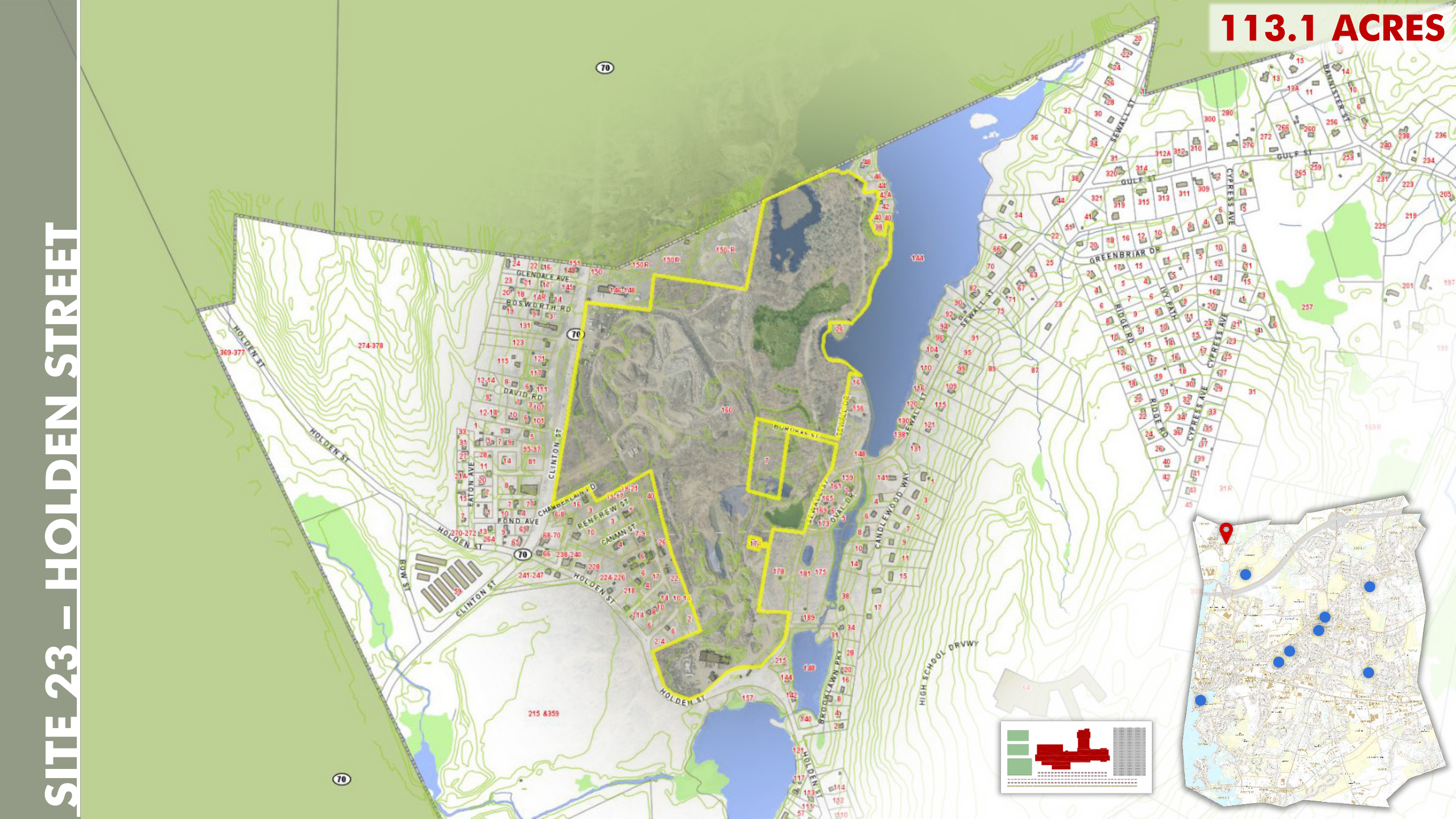
SITE 19 – LAKE STREET

27.8 ACRES
TOWN OWNED



SITE 23 – HOLDEN STREET

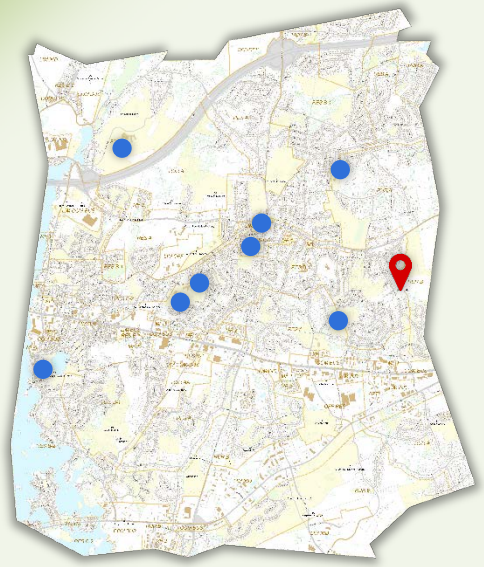
113.1 ACRES



SITE 24 – HOLDEN STREET

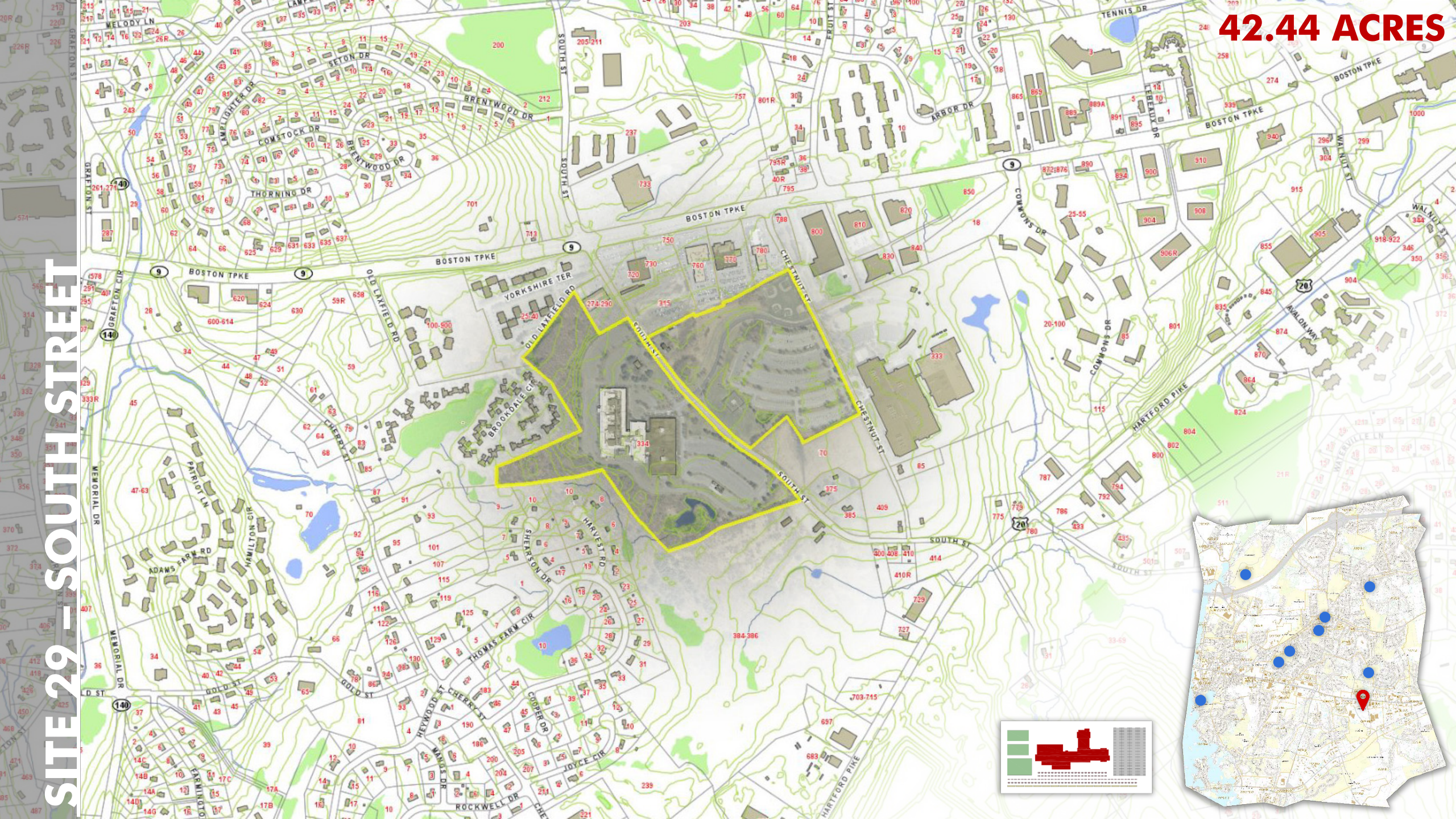
SITE 27 – WALNUT STREET

45.15 ACRES



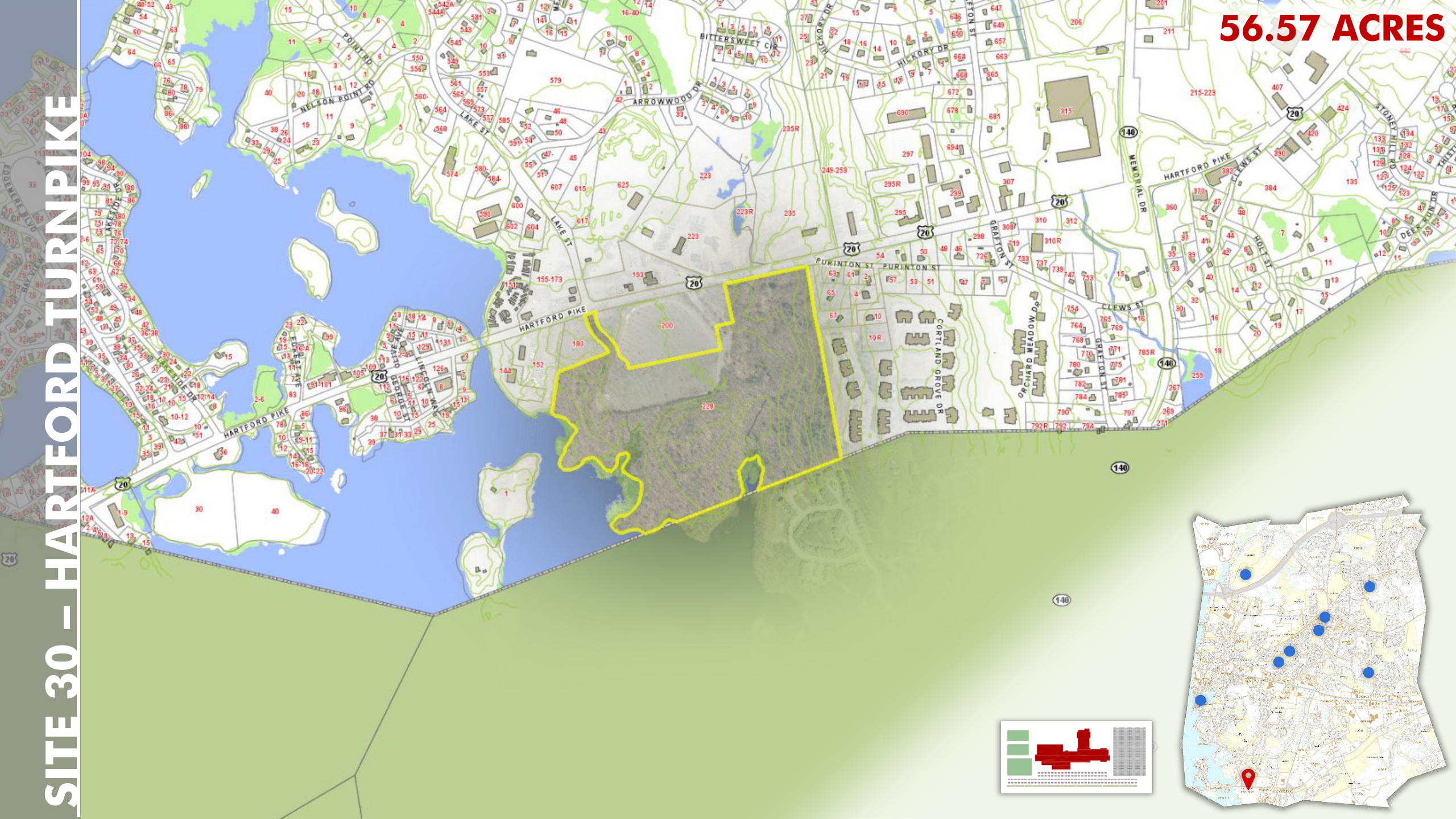
SITE 29 – SOUTH STREET

42.44 ACRES

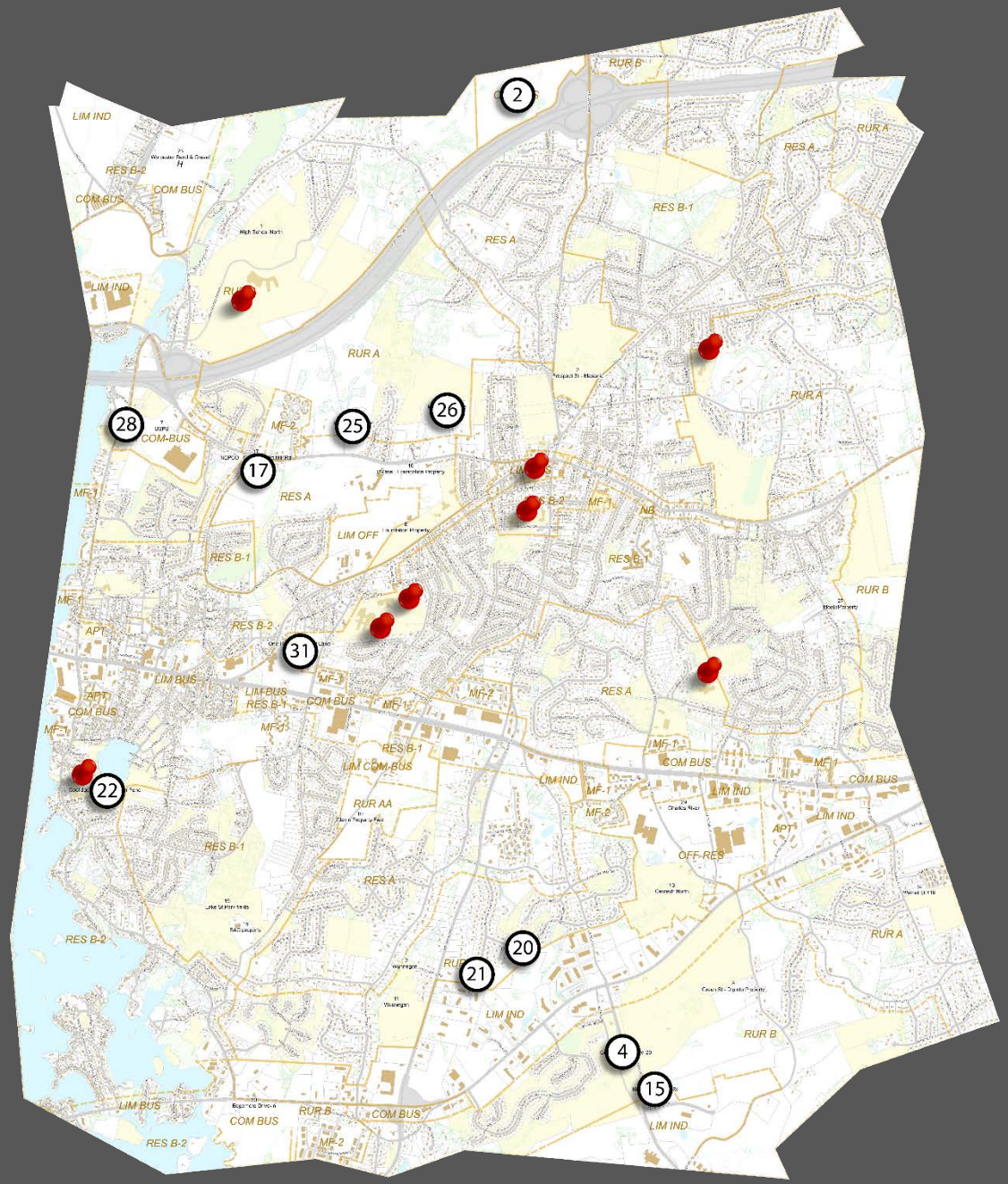


SITE 30 – HARTFORD TURNPIKE

56.57 ACRES



INDEX OF POOR CANDIDATES



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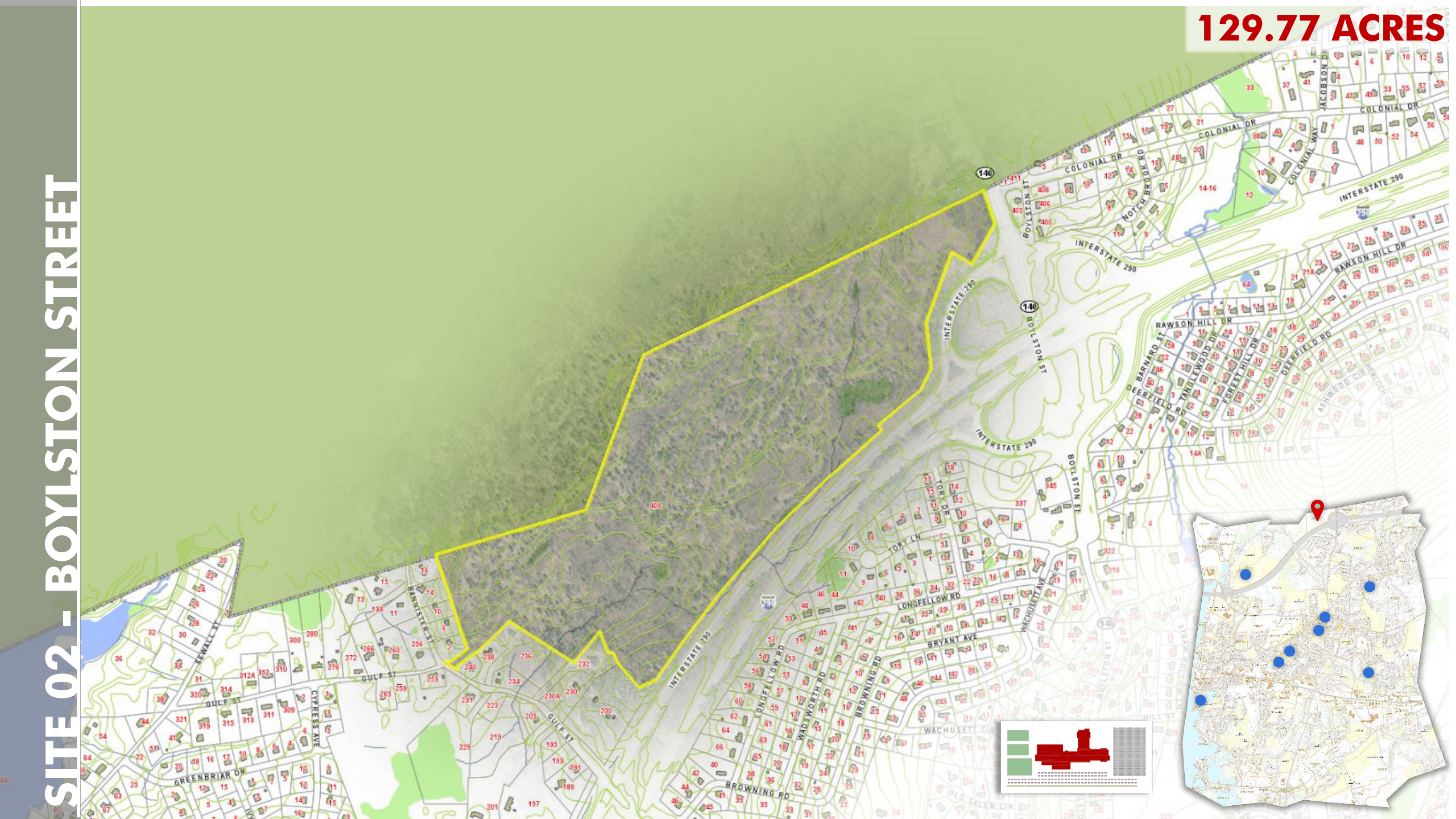
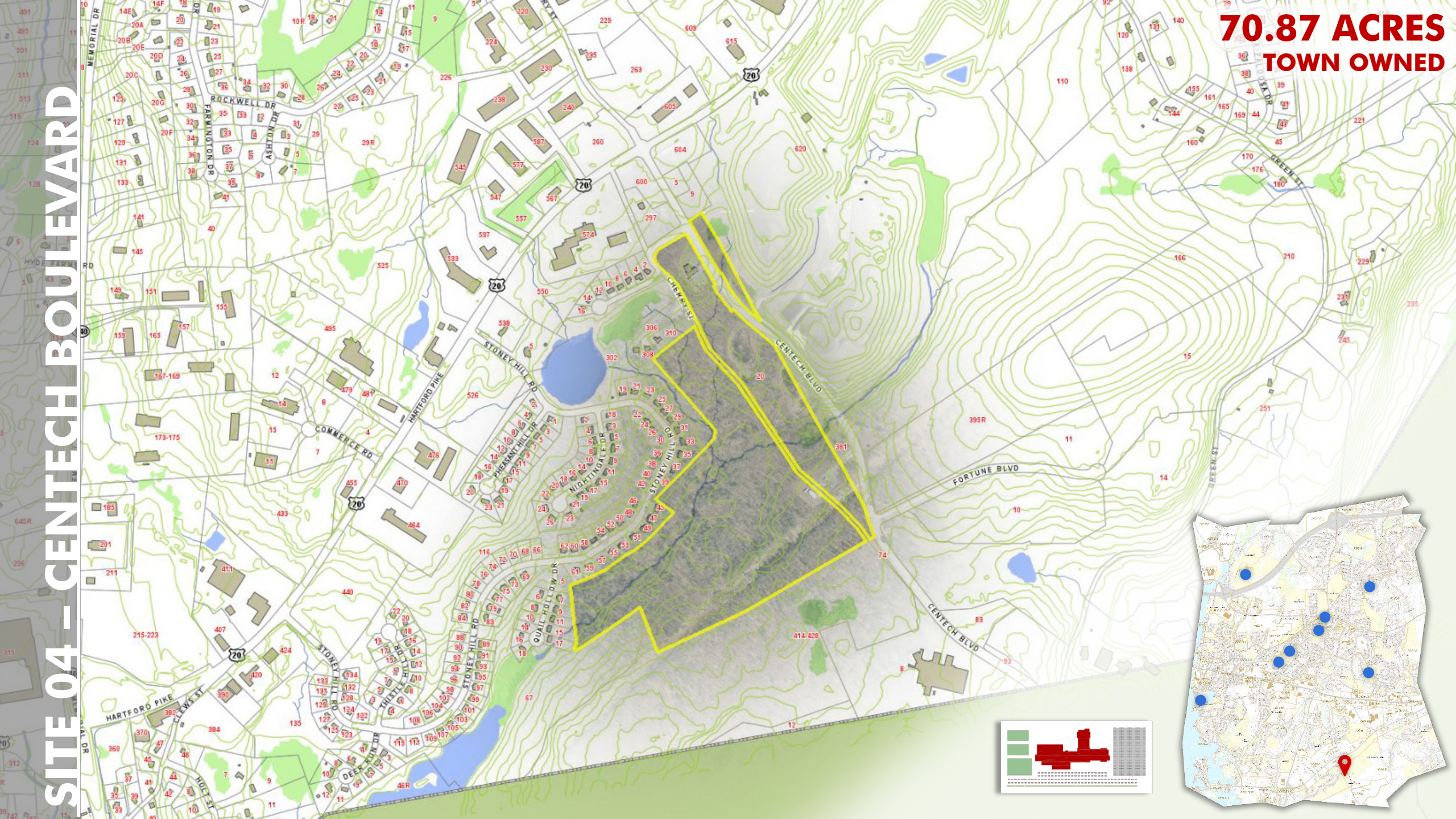
SITE 02 - BOYLSTON STREET

129.77 ACRES



SITE 04 – CENTECH BOULEVARD

70.87 ACRES
TOWN OWNED

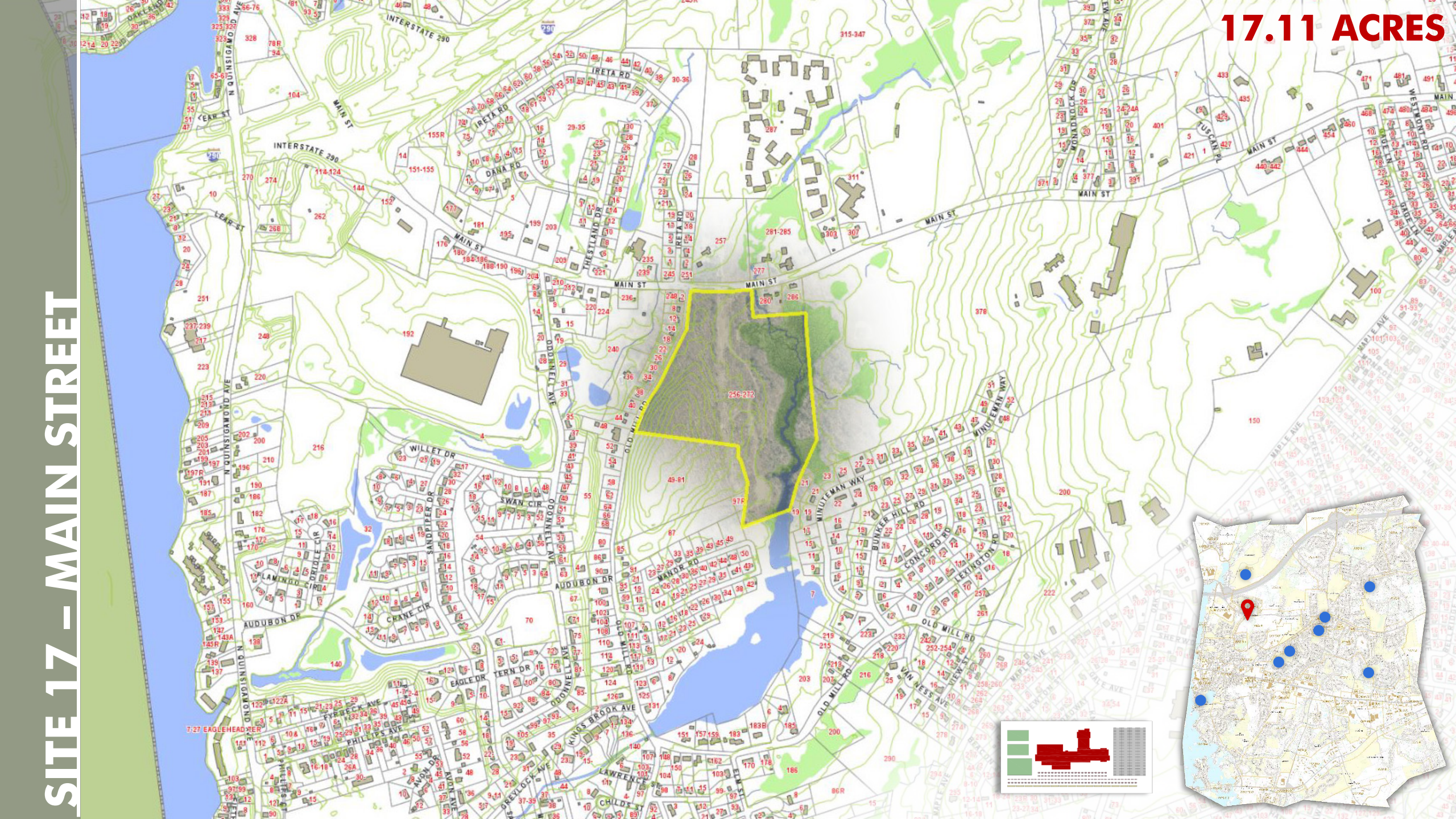


SITE 15 – CHERRY STREET

22 ACRES

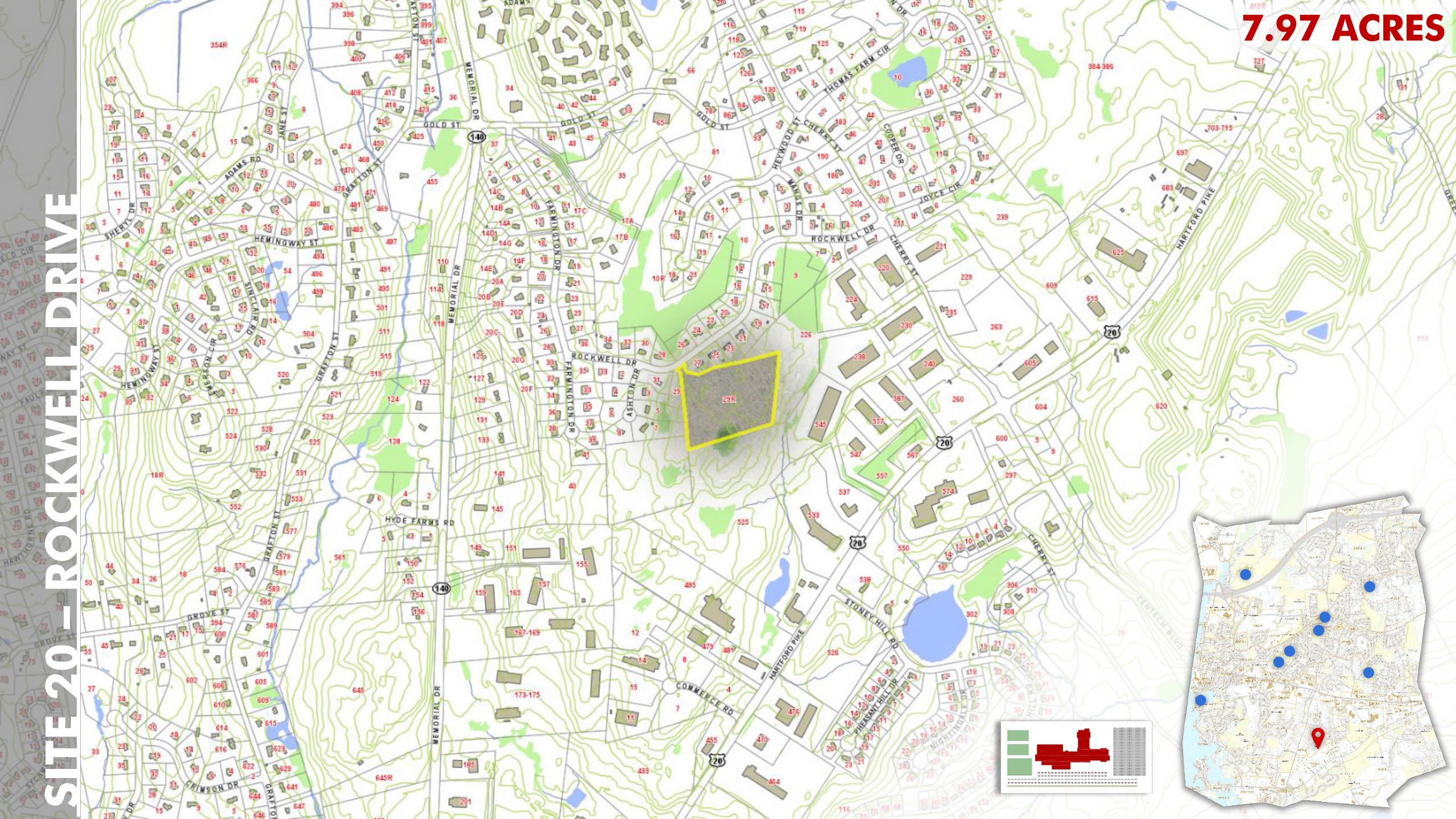
SITE 17 – MAIN STREET

17.11 ACRES



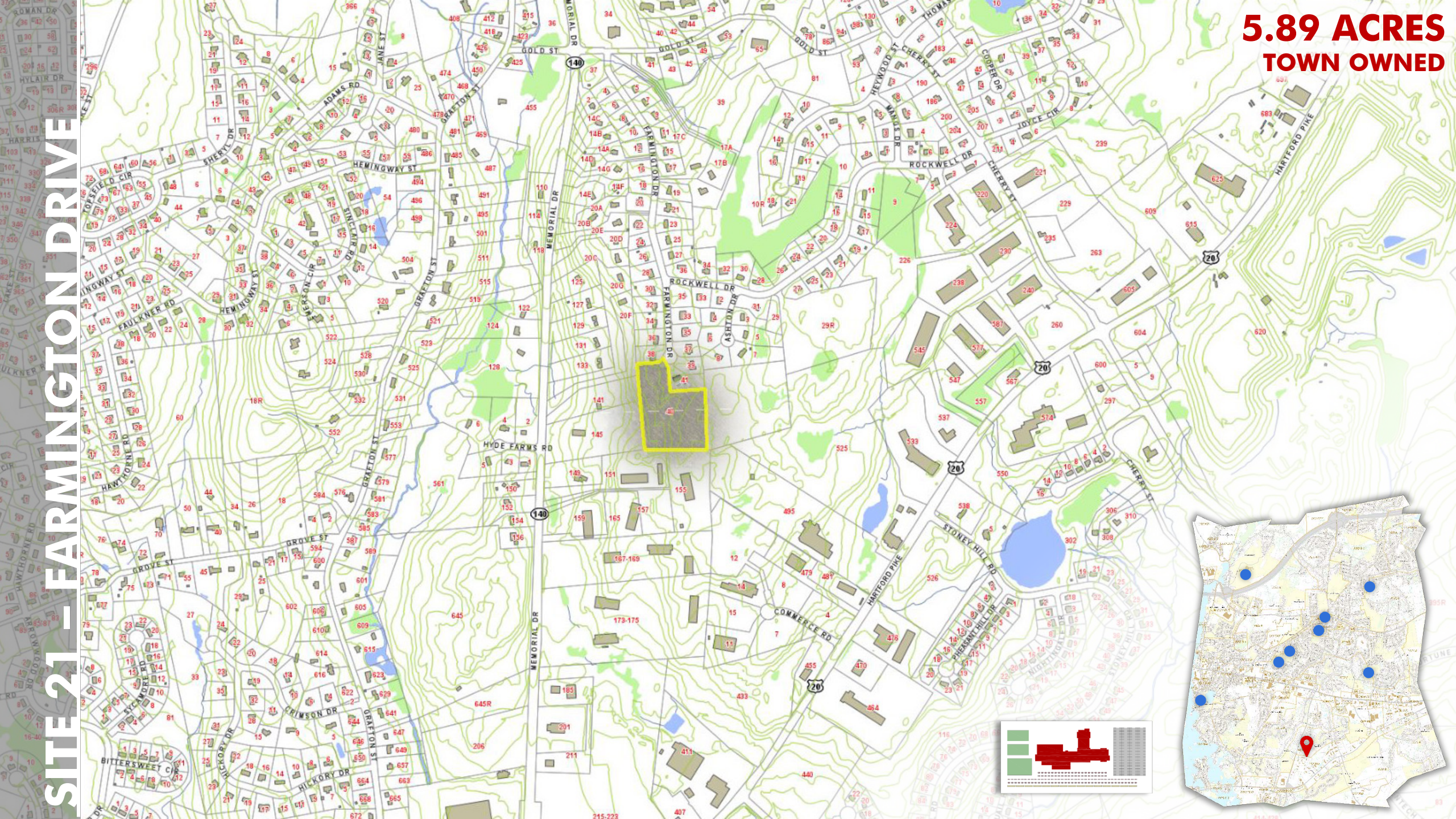
SITE 20 – ROCKWELL DRIVE

7.97 ACRES



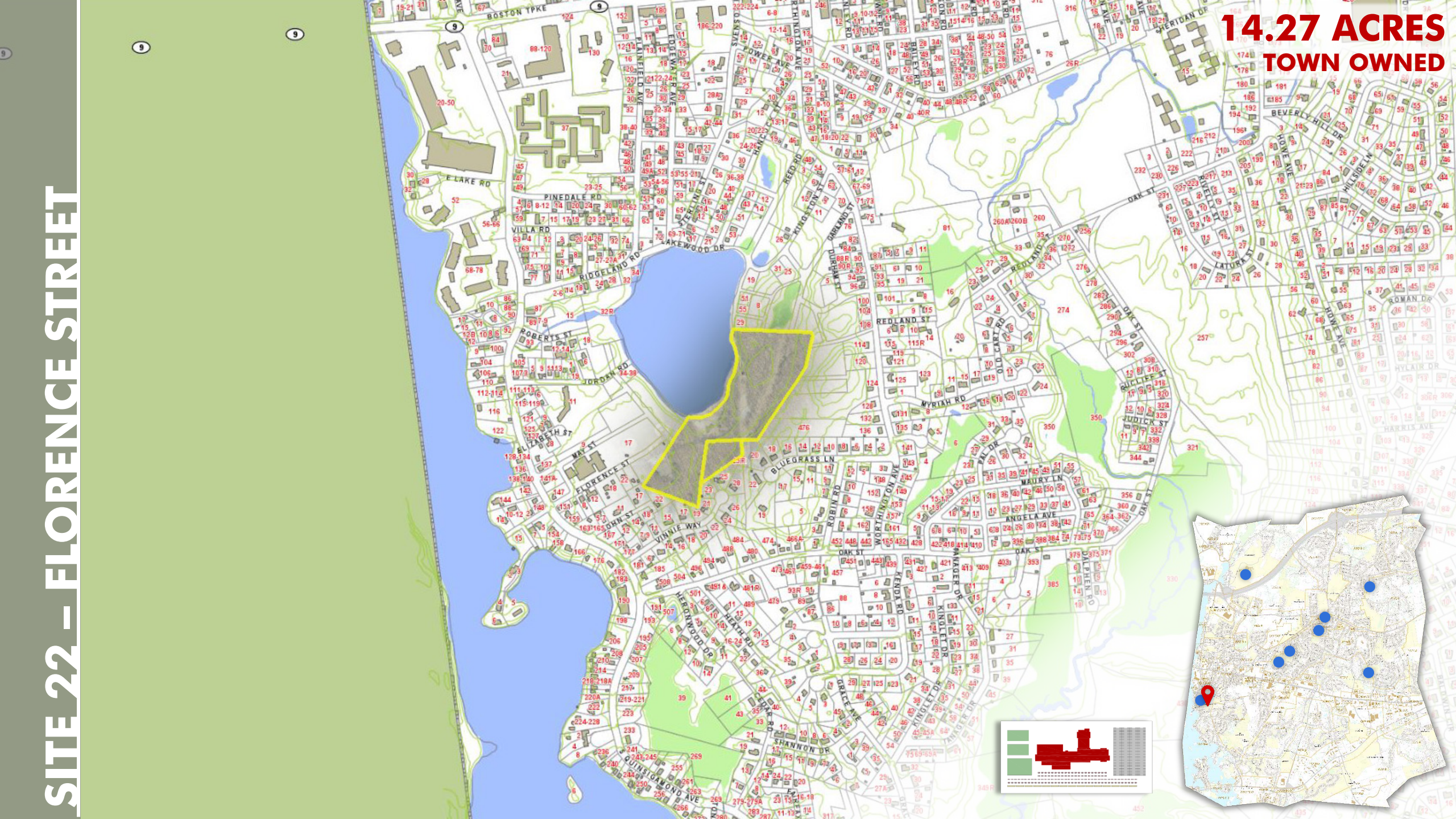
SITE 21 – FARMINGTON DRIVE

5.89 ACRES
TOWN OWNED



SITE 22 – FLORENCE STREET

14.27 ACRES
TOWN OWNED

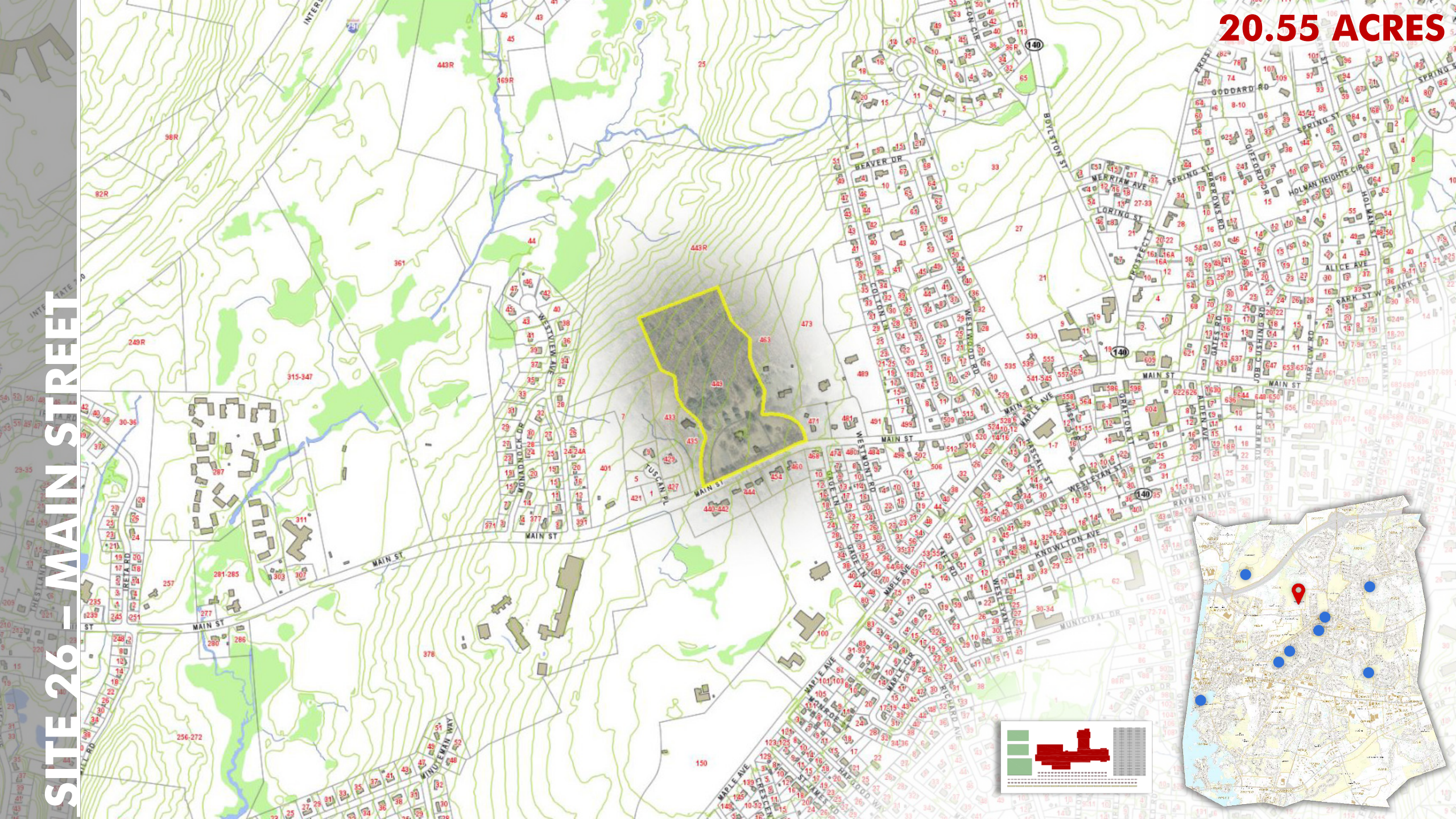


SITE 25 – MAIN STREET

74.92 ACRES

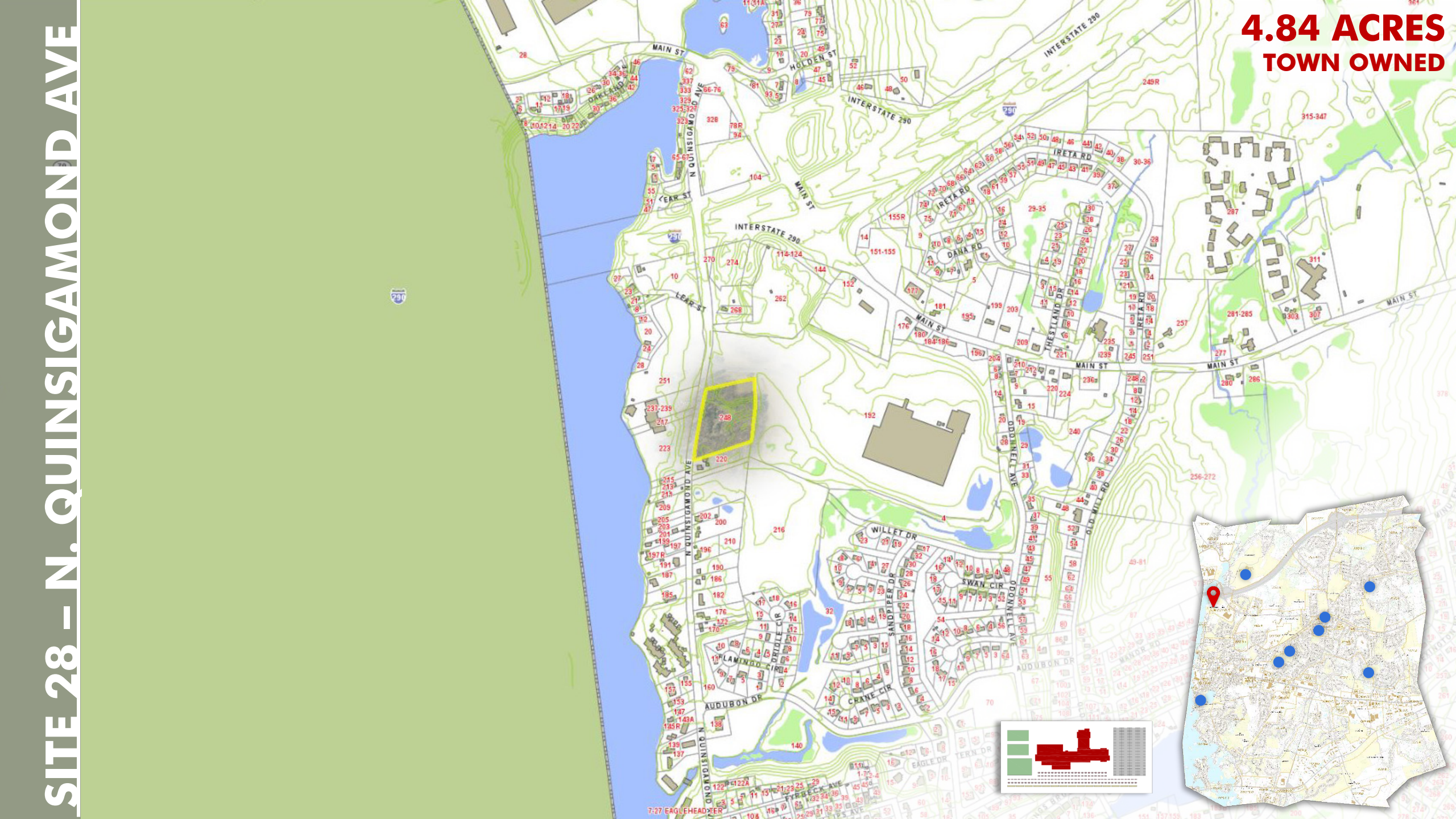
SITE 26 – MAIN STREET

20.55 ACRES



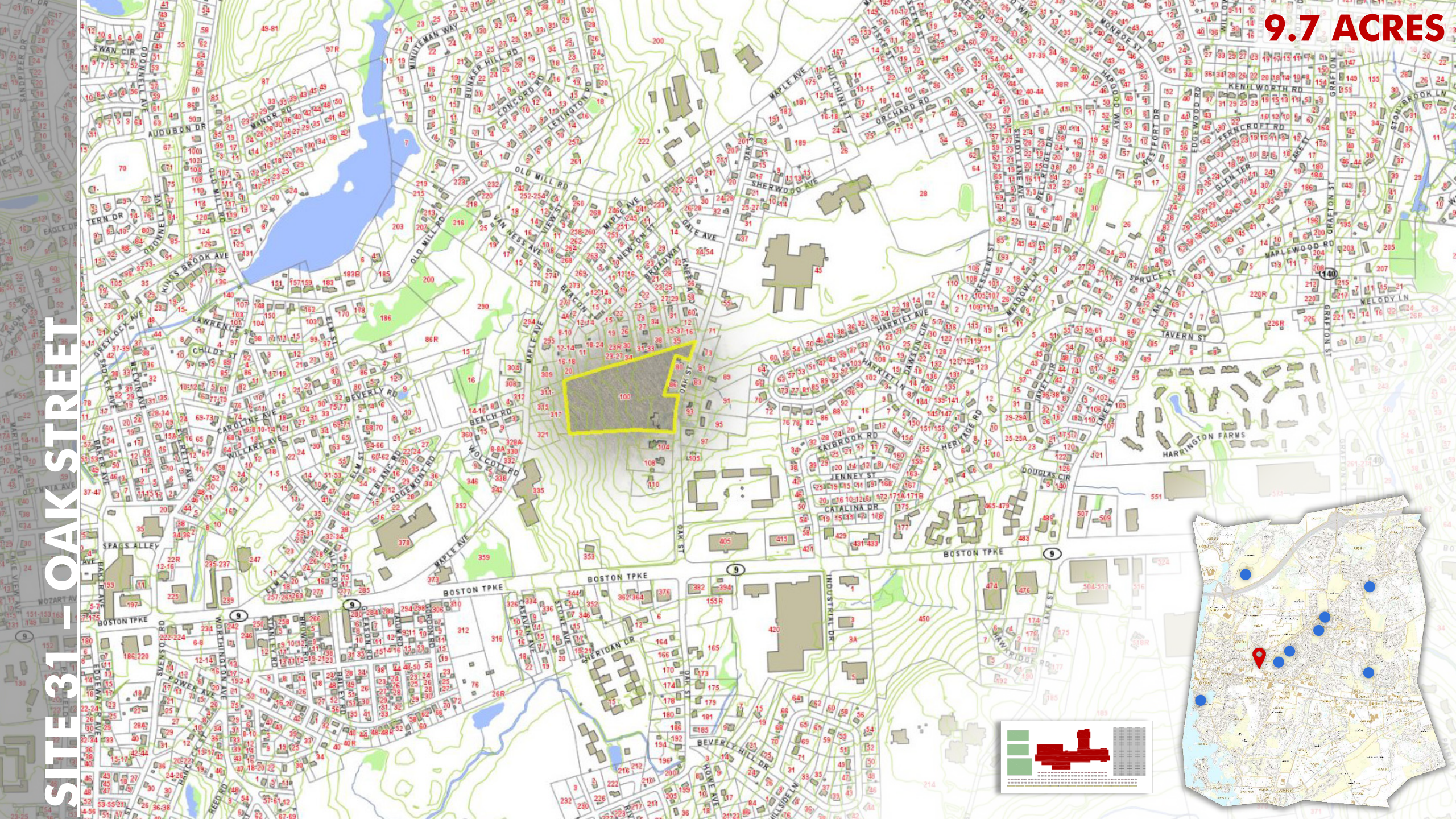
SITE 28 – N. QUINSIGAMOND AVE

4.84 ACRES
TOWN OWNED



SITE 31 – OAK STREET

9.7 ACRES



BEAL EARLY CHILDHOOD CENTER

BEAL EARLY CHILDHOOD
CENTER BUILDING COMMITTEE

TELEPHONE: (508) 841-8508
FAX: (508) 842-0587

TOWN OF SHREWSBURY

Richard D. Carney Municipal Office Building
100 Maple Avenue
Shrewsbury, Massachusetts 01545-5338

RECEIVED
TOWN CLERK'S OFFICE
2017 OCT 30 AM 10:44
SHREWSBURY, MASS

October 30, 2017

To: Beal Early Childhood Center Building Committee

From: Kevin J. Mizikar

Re: Public Hearing Meeting Notice & Agenda

The Beal Early Childhood Center Building Committee will meet and hear comments from interested parties on Thursday, November 2, 2017, at 6:00 PM in Old Selectmen's Meeting Room of the Municipal Office Building – 100 Maple Avenue to consider the following agenda:

AGENDA

1. Call to Order
2. Introductions
3. Review and act to accept the minutes of the October 10, 2017, meeting of the Committee.
4. Review and act on the following bill schedules:

Vendor/Expense/Item	Amount
PMA Consultants/Prof Svcs	$9,419.45
Lamoureux Pagano/Prof Svcs	$44,445.00

5. Update on Grade Configuration Plans
6. Hear reports, review and act on the following matters:
   a. Report from the Owner's Project Manager
      i. Activities & Accomplishments 10/11 – 11/1/17
      ii. Financial Review
      iii. Project Schedule
      iv. Construction Delivery Methods - Chapter 149 ("Design, Bid, Build") and Chapter 149A Construction Management at Risk Discussion will be scheduled for the Dec 12th mtg.
   b. Report from the Architect
      i. Site Selection Refinement
7. Set date for next meeting
8. Adjourn

Referenced Materials

Minutes and Bill Schedules as noted above

Please be advised of the Committee's anticipated upcoming meeting schedule:

Date	Time	Room Location	Discussion Topics
November 7, 2017	7:00 PM	**Beal Early Childhood Center Auditorium**	Site Selection Recommendations and Public Hearing intended to allow for questions between the Committee, public and professional team. Building Committee may further refine the list at this meeting.
November 16, 2017	7:00 PM	Old Selectmen's Meeting Room	Building Committee will finalize a site or small number of sites to be include in the Preliminary Design Plan (PDP) and Preferred Schematic Report (PSR) process in accordance with the Committee's thoughts.

MINUTES
Beal Early Childhood Center Building Committee
Public Hearing
November 2, 2017

Present: Mr. Kane, Ms. Boucher, Mr. Collins, Dr. Sawyer, Mr. Gerardi, Mr. Cox, Mr. Mizikar, Ms. Fryc

Also: Mr. Paul Queeney and Ms. Deborah Shaer of PMA Consultants, LLC. Mr. Michael Pagano, and Mr. Sean Brennan of Lamoureux Pagano & Associates.

Call to order by Mr. Kane at 6:00 PM in the Old Selectmen's Meeting Room - Municipal Office Building, 100 Maple Avenue using an agenda and meeting notice dated October 30, 2017.

On a motion by Ms. Fryc second by Dr. Sawyer, the Committee voted to accept the minutes of October 10, 2017.

There were two bills for consideration: one in the amount of $9,419.45 from PMA Consultants, LLC for professional OPM Services for September 2017 and one in the amount of $44,445.00 from Lamoureux Pagano & Associates, Inc. for professional Design Services for September 2017. On a motion by Mr. Collins second by Ms. Fryc the Committee voted unanimously to approve these payments as presented.

Dr. Sawyer provided an update on the grade-configuration decision and provided a handout "Recommendation for future elementary grade configuration". The School Committee understood the importance of making this decision early in the feasibility phases of this project. The Committee and administration led the process that included a survey of 900 residents, 275 staff members. The responses show strong support for K-4 model. Based on the survey and other analysis Dr. Sawyer recommended the K-4 model to the School Committee. After deliberation and two public hearings the Committee School Committee voted 5-0 to move forward with the K-4 model.

PMA reported that the project remains on schedule and budget remains on target. The team remains in close communication with the MSBA and all deliverables to the MSBA remain on schedule. The budget summary will be presented at the November 7th meeting.

PMA will lead a discussion on Construction Delivery Methods at the December 12th, 2017 meeting.

Lamoureux Pagano & Associates (LPA) made a presentation regarding the current site selection process. They reviewed the site selection process that has informed the Committee from 31 initial sites to the six sites identified on October 10th that merited further review. The numerical ranking assigned by the Designer based on the various categories/criteria includes the following properties:

Prospect Park/Juniper Hall Property

Mr. Brennan provided an overview of the location and characteristics of the site addressing the eleven criteria.

Mr. Kane opened the discussion to Committee Members and the Public.

Gene Buddenhagen, Precinct 1, stated promised at time of sale to the Town keep land conservation and recreation and if needed for cemetery purposes.

Sarah Lividini, Precinct 3, 76 South Quinsigamond Apt 2. Stated a concern with having the schools all in the center of Town.

Donna O'Connor felt that a traffic light would be required. This comment was echoed by Mr. Buddenhagen.

Christopher Kirk 40 Westford Road - Property has water drainage issues. Snowmelt runs off to adjacent properties causing water to enter buildings. Indented to be used for passive recreation with the southern part being dedicated for a cemetery. He questioned where cemetery expansion could occur if not at this location. He felt that there are traffic and sidewalk concerns and chronic congestion in the Town Center. Most schools are located north of Route 9. Most development has occurred South of Route 9

USPS Sorting Facility along with Town-owned land which is adjacent.

Mr. Brennan provided an overview of the location and characteristics of the site addressing the eleven criteria.

Mr. Kane opened the discussion to Committee Members and the Public.

Mr. Collins expressed concern over the procurement process for this site and dealing with a Federal agencies. He stressed that time is of the essence with this project.

Gene Buddenhagen, Precinct 1 – He is concerned with the site being the former Town dump.

UMass Property and Maple Avenue Fields owned by the Town of Shrewsbury

Mr. Brennan provided an overview of the location and characteristics of the site addressing the eleven criteria.

Mr. Kane asked Assistant Town Manager, Kristen Las, to comment on this site. Ms. Las stated that the Town and UMass have entered into (with Town Meeting Approval) a development agreement for this parcel and must be reviewed. She spoke favorably of the construction of the public way through the site.

Mr. Kane opened the discussion to Committee Members and the Public.

Mr. Collins asked if the public way easement would have to remain as depicted or if there are opportunities to alter it. Mr. Kane, given his experience with this site, felt there would be opportunities to move this but also challenges with the movement. Ms. Las stated its current layout was set because of site topography.

Dr. Sawyer noted that there are 2,000 middle school students and 1,000 High School students at St. Johns attending schools near this site. He commented on discussions statewide of high school start times and possibilities of high school, middle schools and elementary school all begin at the same time. He sees this as a traffic challenge for this site.

Gene Buddenhagen, Precinct 1 - commented that certain aspects of this site were gifted by the Spags family and requested this remain for recreational uses.

Glavin Center Site

Mr. Kane explained the Town has a lease with the Commonwealth on two aspects of this site. East of Lake Street for agriculture, West of Lake Street is utilized by Shrewsbury Youth Soccer. Glavin Proper is working on a home rule petition for the acquisition of this entire site. This would require Special Town Meeting action. There would be site acquisition costs for Glavin Proper, although it could potentially be reduced by restricting it for general municipal purposes.

Mr. Brennan provided an overview of the location and characteristics of the site addressing the eleven criteria.

Sarah Lividini, Precinct 3 - What are the possibilities for reuse of the buildings on the site? Mr. Pagano stated the conclusion of a previous study was that the buildings do not lend themselves to be conformed for school use.

Ms. Lividini asked if we do go ahead with this how that would impact the timeline.

Mr. Kane explained the process and stated we have been having ongoing discussions with DCAMM and our elected officials. The transfer of land from the Commonwealth to municipalities is not rare. Therefore, it should not be a prohibitive process.

Camp Winnegan Site

Mr. Brennan provided an overview of the location and characteristics of the site addressing the eleven criteria.

Mr. Collins asked about the acquisition of a land swap requirement since there is a conservation restriction on this property. Further, he requested more information on the easement that extends to Old Grafton Street.

Further review is required of the easement to Old Grafton Street.

Ms. Las explained the Town is reviewing land currently owned by the Town for opportunities for a land swap should this site move forward.

Mr. Kane expressed concern over the process to transfer the conservation restriction.

Allen Farm – South Street Site

Mr. Brennan provided an overview of the location and characteristics of the site addressing the eleven criteria.

Mr. Kane asked that given how tight the traffic conditions at South Street and Route 20, how would this impact arrivals and dismissals from the site. Mr. Pagano stated the impacts at dismissal would be challenging for about 10 to 15 minutes, but is manageable.

Ms. Fryc asked Ms. Las to update the committee on the status of the Town's work to attract commercial development at this site. Ms. Las provided an overview of the work of the Shrewsbury Development Corporation. This includes the Committee's recent work on revising the master plan for the site based on current market conditions. Several potential users have expressed interest but nothing has come to fruition. The Town has recently applied for a Site Readiness Grant through MassDevelopment for this site.

Mr. Kane requested that the Shrewsbury Development Corp. be invited to the Committee meeting on 11/7/17 to provide input.

Gene Buddenhagen stated that the Town bought this property for $6.1 million and promised the Town Meeting that we would develop this area for commercial research and development. He is also concerned with traffic in this area given the adjacent uses.

Mr. Kane requested available information on traffic counts in this vicinity for the meeting on 11/7/17. He sees this site as a play on what the opportunity cost is. There are benefits since the Town owns the site.

Joe Lividini Precinct 3 questioned the challenges related to topography on this site. Ms. Las said according to investigations that have been completed by the Shrewsbury Development Corp the site is developable.

Mr. Kane wrapped the discussion up and requested the existing conditions report of the Beal School for the Committee meeting on 11/7/2017. The final public hearing on the site selection will occur at the Beal School Auditorium on November 7, 2017.

Upon a motion of Ms. Fryc second by Mr. Collins, a motion to adjourn was unanimously approved at 7:43.

Respectfully submitted,

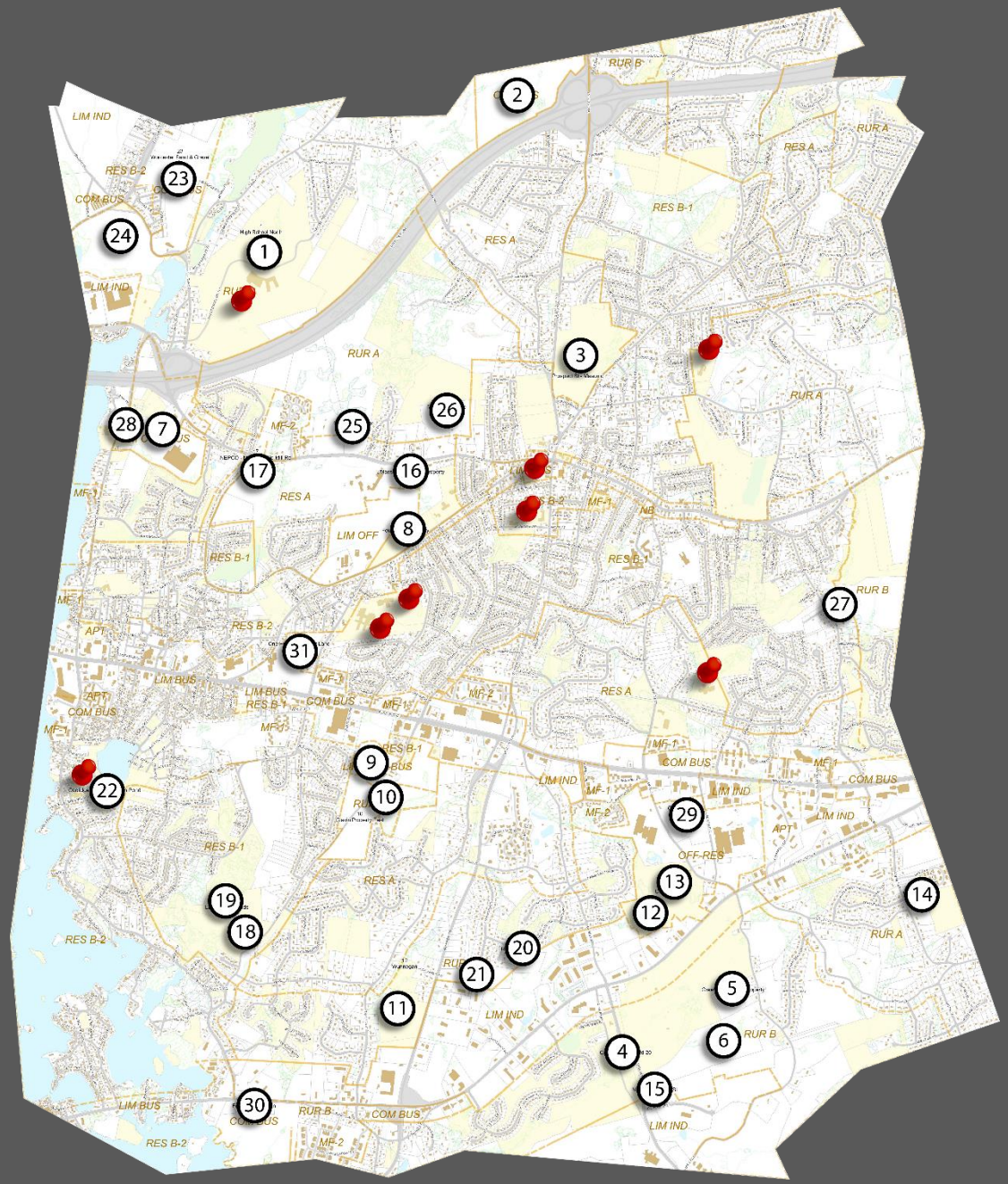
Kevin J. Mizikar
Town Manager

Referenced Materials Attached:

- October 30, 2017 dated, 11/2/2017 Agenda
- October 10, 2017 Meeting Minutes
- J. Sawyer Memo to School Committee of October 20, 2017 - Re: Beal Building Project: Recommendation for future elementary grade configuration

BEAL EARLY CHILDHOOD CENTER

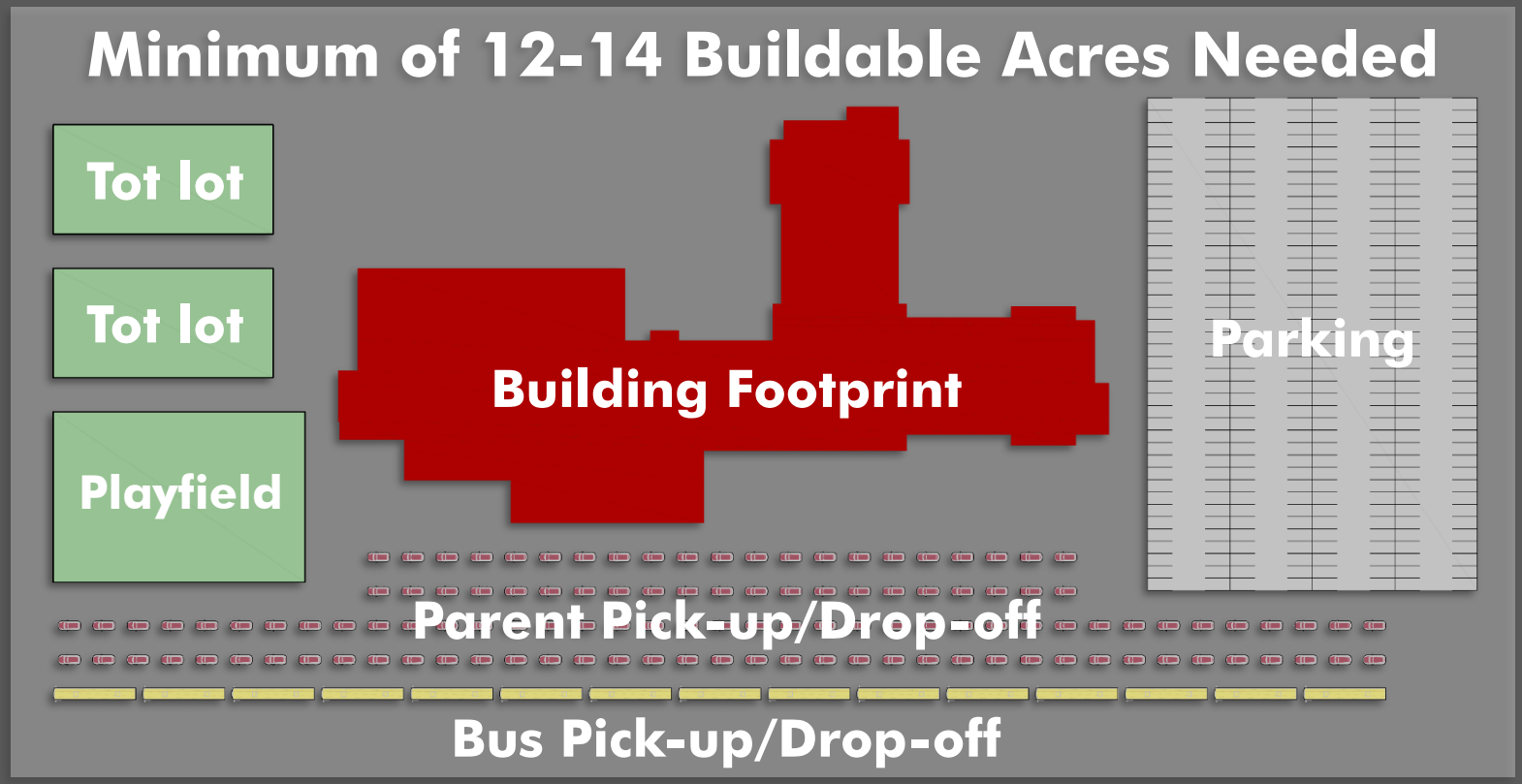
INDEX OF SITES EVALUATED



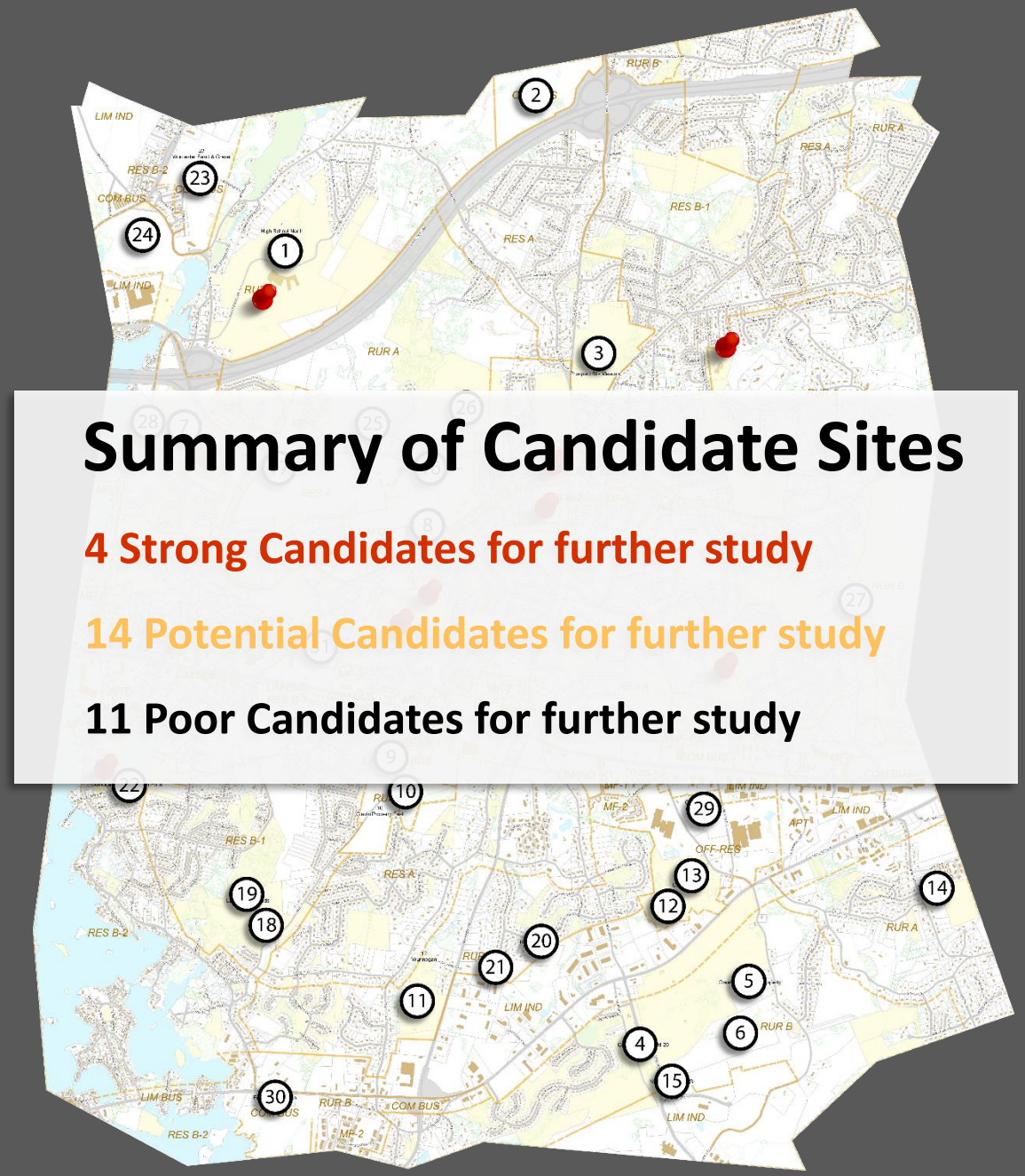
01| Holden Street | Town Owned | 194.17 Acres
02| Boylston Street | 129.77 Acres
03| Prospect Street | Town Owned | 70.71 Acres
04| Centech Boulevard | Town Owned | 70.87 Acres
05| Green Street | 13.76 Acres
06| Green Street | 71.76 Acres
07| Main Street | 51.71 Acres
08| Maple Street | Town Owned | 19.7 Acres
09-10| Lake Street | 98.97 Acres
11| Grafton Street |Town Owned | 29.7 Acres
12-13| South Street | Town Owned | 60.89 Acres
14| Walnut Street | Town Owned | 24.7 Acres
15| Cherry Street | 22.0 Acres
16| Maple Avenue | 42.15 Acres
17| Main Street | 17.11 Acres
18| Lake Street | 9.3 Acres
19| Lake Street | Town Owned | 27.8 Acres
20| Rockwell Drive | 7.97 Acres
21| Farmington Drive | Town Owned | 5.89 Acres
22| Florence Street | Town Owned | 14.27 Acres
23| Holden Street | 113.1 Acres
24| Holden Street | 88.65 Acres
25| Main Street | 74.92 Acres
26| Main Street | 20.55 Acres
27| Walnut Street | 45.15 Acres
28| N. Quinsigamond Avenue | Town Owned | 4.84 Acres
29| South Street | 42.44 Acres
30| Hartford Turnpike | 56.57 Acres
31| Oak Street | 9.7 Acres

SITE EVALUATION CRITERIA

- Location
- Size
- Topography
- Access/Frontage
- Wetlands/Water features
- Utilities
- Program



CATEGORIZED INDEX OF SITES



Summary of Candidate Sites

4 Strong Candidates for further study

14 Potential Candidates for further study

11 Poor Candidates for further study

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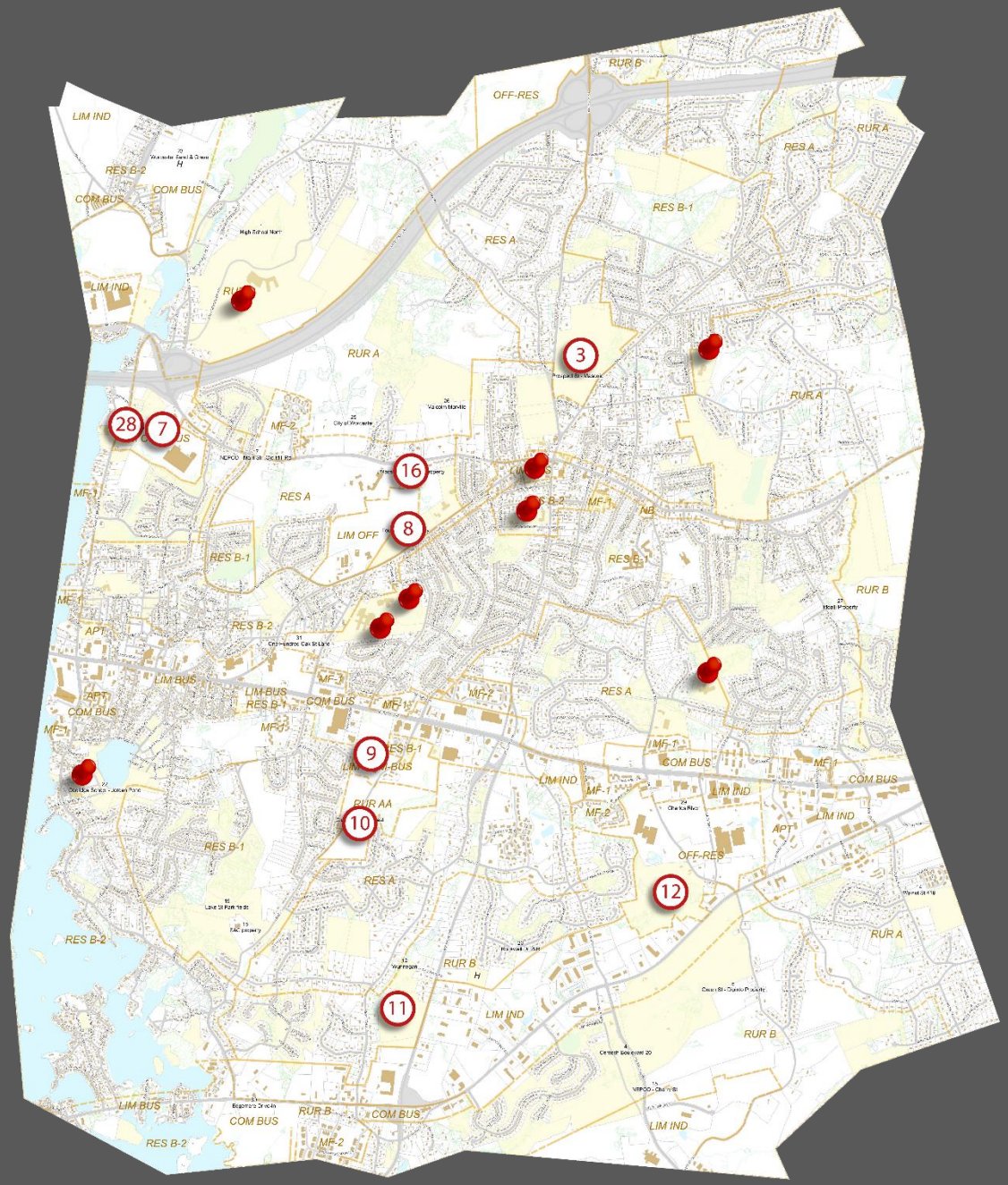
INDEX OF STRONG CANDIDATES



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31| Oak Street | 9.7 Acres

SITE EVALUATION CRITERIA

Geographical Location:
Rated on the ability to achieve equitable distribution of Elementary Schools throughout the town

Zoning & Adjacent Land Uses:
Rated according to the current uses of the subject parcel as well Compatible uses for a School include residential, business and publicly owned open space (i.e. parks, recreation fields, etc.).

Property Configuration, Size, & Buildable Area:
Rated on the size/configuration of developable acres, preliminary estimates anticipate 12-14 Buildable Acres

Topography:
Rated on the overall slopes of the Buildable Area. Slopes greater than 15% are considered excessive and will directly impact building design and site development costs.

Environmental Resources and Hydrology:
Rated on the presence of wetland resource areas, intermittent streams, endangered species, etc., and their impact on the development of the site.

Soils and Geologic Factors:
Some soils are more advantageous than other in respect to drainage, depth to bedrock, soil bearing capacity, etc. and were rated accordingly.

Utility Availability:
Rated on the availability of utilities, including public sewer, water, electrical power, fiber, and natural gas, determine this criterion.

Access Potential/Traffic, Pedestrian/Vehicular:
Each site is given rating based on a combination of factors including vehicular & pedestrian access and potential impact on traffic.

Existing Development, Buildings and Site:
Proposed sites are rated according to the level of existing site improvements and whether or not these improvements are betterments to the redevelopment of the site for a school or are a hindrance.

Easements and Other Property Limitations:
Ratings are based on limitations imposed by Easements/restrictions.

Acquisition Cost/Site development Cost:
Cost of land acquisition or purchase of adjacent land are factored in the rating of this category

General Comment:
Any items particular to the noted sites that is not covered in the above criteria, or factors worthy of note, and additional points, or negative points.

Rating is based on a scale of 0 to 5:
- **0 being not responsive**
- **1 least advantageous**
- **5 most advantageous**

SUMMARY OF SITE EVALUATIONS

CRITERIA	PROSPECT PARK PROPERTY	USPS SORTING FACILITY PROPERTY	MAPLE AVE FIELDS & UMASS PROPERTY	GLAVIN CENTER PROPERTY	CAMP WINNEGAN PROPERTY	ALLEN FARM PROPERTY
GEOGRAPHICAL LOCATION	2.0	3.0	3.0	4.0	5.0	4.0
ZONING & ADJACENT LAND USE	4.0	2.0	4.0	4.0	4.0	2.0
PROPERTY CONFIGURATION, SIZE, BUILDABLE AREA	4.0	4.0	5.0	4.0	4.0	2.0
TOPOGRAPHY	3.0	4.0	4.0	3.0	2.0	3.0
ENVIRONMENTAL RESOURCES & HYDROLOGY	3.0	3.0	4.0	5.0	3.0	1.0
SOILS & GEOLOGIC FACTORS	3.0	5.0	4.0	4.0	2.0	3.0
UTILITY AVAILABILITY	5.0	2.0	5.0	5.0	2.0	5.0
ACCESS POTENTIAL-TRAFFIC PEDESTRIAN & VEHICULAR	2.0	3.0	4.0	3.0	3.0	2.0
EXISTING DEVELOPMENT, BUILDING & SITE	2.0	3.0	4.0	1.0	3.0	2.0
EASEMENTS & OTHER PROPERTY LIMITATIONS	3.0	1.0	4.0	4.0	2.0	5.0
ACQUISITION COST	5.0	1.0	2.0	3.0	5.0	5.0
TOTAL	**36.0**	**31.0**	**43.0**	**40.0**	**35.0**	**34.0**
RANKING	**3**	**6**	**1**	**2**	**4**	**5**

PROSPECT PARK – PROSPECT ST
140
PROSPECT STREET
±16.5
140
70.71 ACRES
TOWN OWNED

PROSPECT PARK – PROSPECT ST

CRITERIA

GEOGRAPHICAL LOCATION	2.0
ZONING & ADJACENT LAND USE	4.0
PROPERTY CONFIGURATION, SIZE, BUILDABLE AREA	4.0
TOPOGRAPHY	3.0
ENVIRONMENTAL RESOURCES & HYDROLOGY	3.0
SOILS & GEOLOGIC FACTORS	3.0
UTILITY AVAILABILITY	5.0
ACCESS POTENTIAL-TRAFFIC PEDESTRIAN & VEHICULAR	2.0
EXISTING DEVELOPMENT, BUILDING & SITE	2.0
EASEMENTS & OTHER PROPERTY LIMITATIONS	3.0
ACQUISITION COST	5.0
TOTAL	**36.0**

USPS SORTING FACILITY – MAIN ST

56.19 ACRES

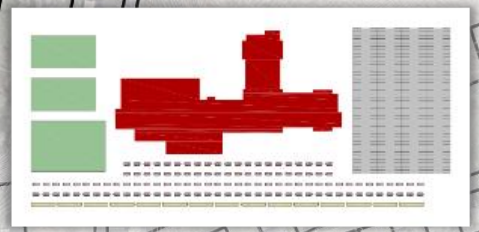
INTERSTATE 290

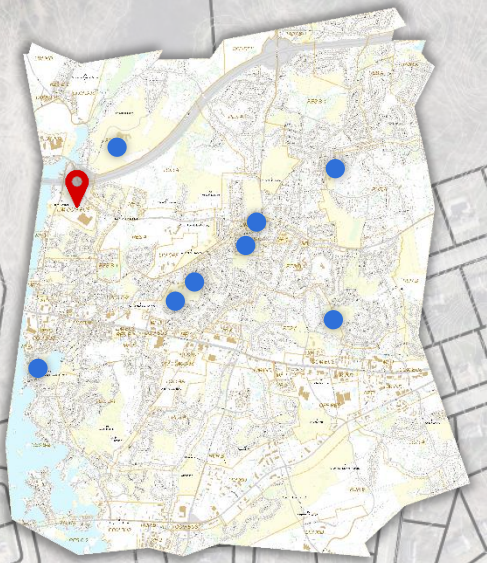
±19.5

TOWN OWNED

MAIN STREET

N. QUINSIGAMOND





CRITERIA

GEOGRAPHICAL LOCATION	3.0
ZONING & ADJACENT LAND USE	2.0
PROPERTY CONFIGURATION, SIZE, BUILDABLE AREA	4.0
TOPOGRAPHY	5.0
ENVIRONMENTAL RESOURCES & HYDROLOGY	3.0
SOILS & GEOLOGIC FACTORS	5.0
UTILITY AVAILABILITY	2.0
ACCESS POTENTIAL-TRAFFIC PEDESTRIAN & VEHICULAR	3.0
EXISTING DEVELOPMENT, BUILDING & SITE	3.0
EASEMENTS & OTHER PROPERTY LIMITATIONS	1.0
ACQUISITION COST	1.0
TOTAL	**31.0**

UMASS & MAPLE AVENUE FIELDS

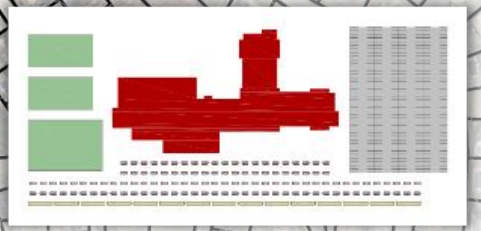
61.85 ACRES

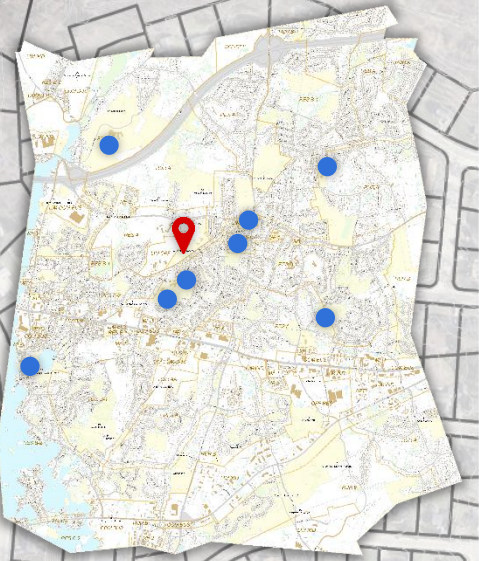
MAIN STREET

MAPLE AVENUE

±22

TOWN OWNED





UMASS & MAPLE AVENUE FIELDS

CRITERIA

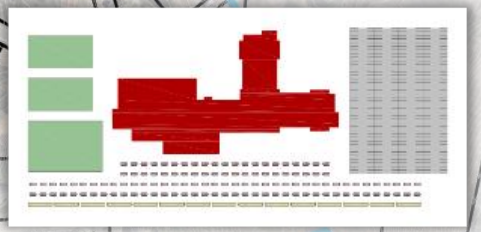
GEOGRAPHICAL LOCATION	3.0
ZONING & ADJACENT LAND USE	4.0
PROPERTY CONFIGURATION, SIZE, BUILDABLE AREA	5.0
TOPOGRAPHY	4.0
ENVIRONMENTAL RESOURCES & HYDROLOGY	4.0
SOILS & GEOLOGIC FACTORS	4.0
UTILITY AVAILABILITY	5.0
ACCESS POTENTIAL-TRAFFIC PEDESTRIAN & VEHICULAR	4.0
EXISTING DEVELOPMENT, BUILDING & SITE	4.0
EASEMENTS & OTHER PROPERTY LIMITATIONS	2.0
ACQUISITION COST	2.0
TOTAL	**43.0**

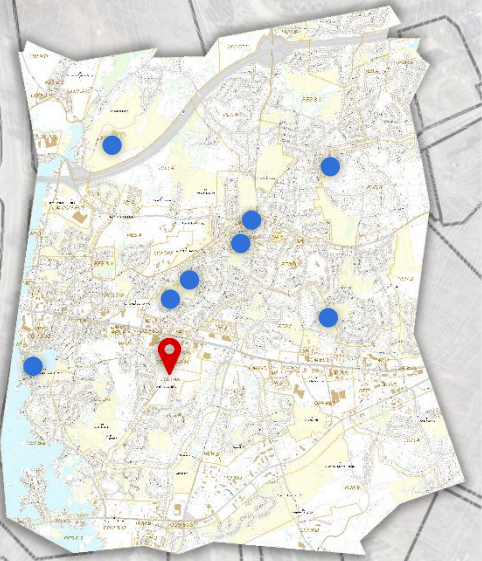
GLAVIN CENTER – LAKE STREET

98.97 ACRES

±16.5

LAKE STREET





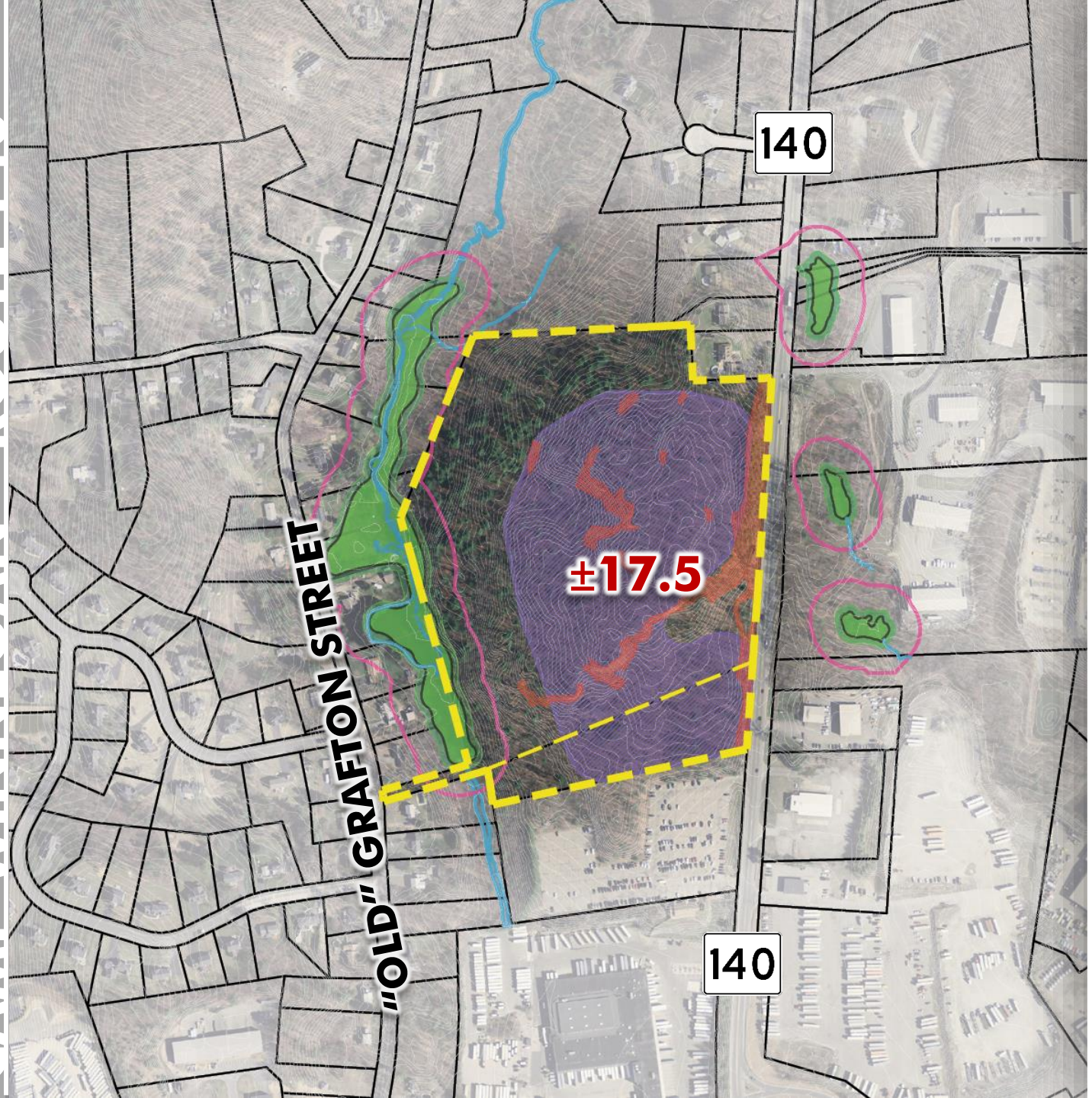
GLAVIN CENTER – LAKE STREET

CRITERIA

GEOGRAPHICAL LOCATION	4.0
ZONING & ADJACENT LAND USE	4.0
PROPERTY CONFIGURATION, SIZE, BUILDABLE AREA	4.0
TOPOGRAPHY	3.0
ENVIRONMENTAL RESOURCES & HYDROLOGY	5.0
SOILS & GEOLOGIC FACTORS	4.0
UTILITY AVAILABILITY	5.0
ACCESS POTENTIAL-TRAFFIC PEDESTRIAN & VEHICULAR	3.0
EXISTING DEVELOPMENT, BUILDING & SITE	1.0
EASEMENTS & OTHER PROPERTY LIMITATIONS	4.0
ACQUISITION COST	3.0
TOTAL	**40.0**

33.7 ACRES
TOWN OWNED
CAMP WINNEGAN – ROUTE 140
140
140
"OLD" GRAFTON STREET
±17.5

CAMP WINNEGAN – ROUTE 140



CRITERIA

GEOGRAPHICAL LOCATION	5.0
ZONING & ADJACENT LAND USE	4.0
PROPERTY CONFIGURATION, SIZE, BUILDABLE AREA	4.0
TOPOGRAPHY	2.0
ENVIRONMENTAL RESOURCES & HYDROLOGY	3.0
SOILS & GEOLOGIC FACTORS	2.0
UTILITY AVAILABILITY	2.0
ACCESS POTENTIAL-TRAFFIC PEDESTRIAN & VEHICULAR	3.0
EXISTING DEVELOPMENT, BUILDING & SITE	3.0
EASEMENTS & OTHER PROPERTY LIMITATIONS	2.0
ACQUISITION COST	5.0
TOTAL	**35.0**

ALLEN FARM – SOUTH STREET

60.89 ACRES
TOWN OWNED

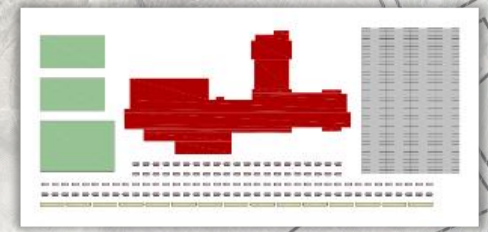
SOUTH STREET

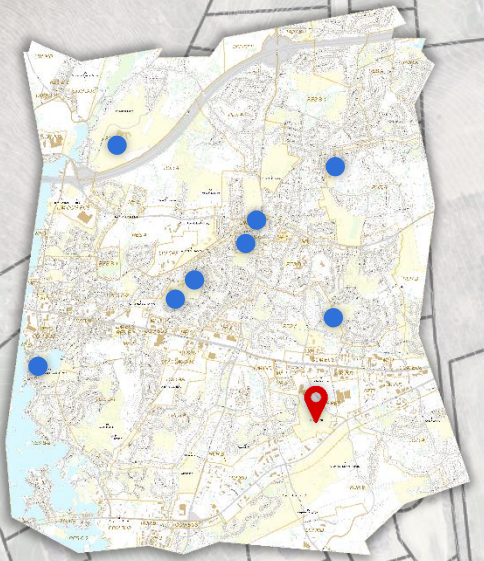
±12

±9

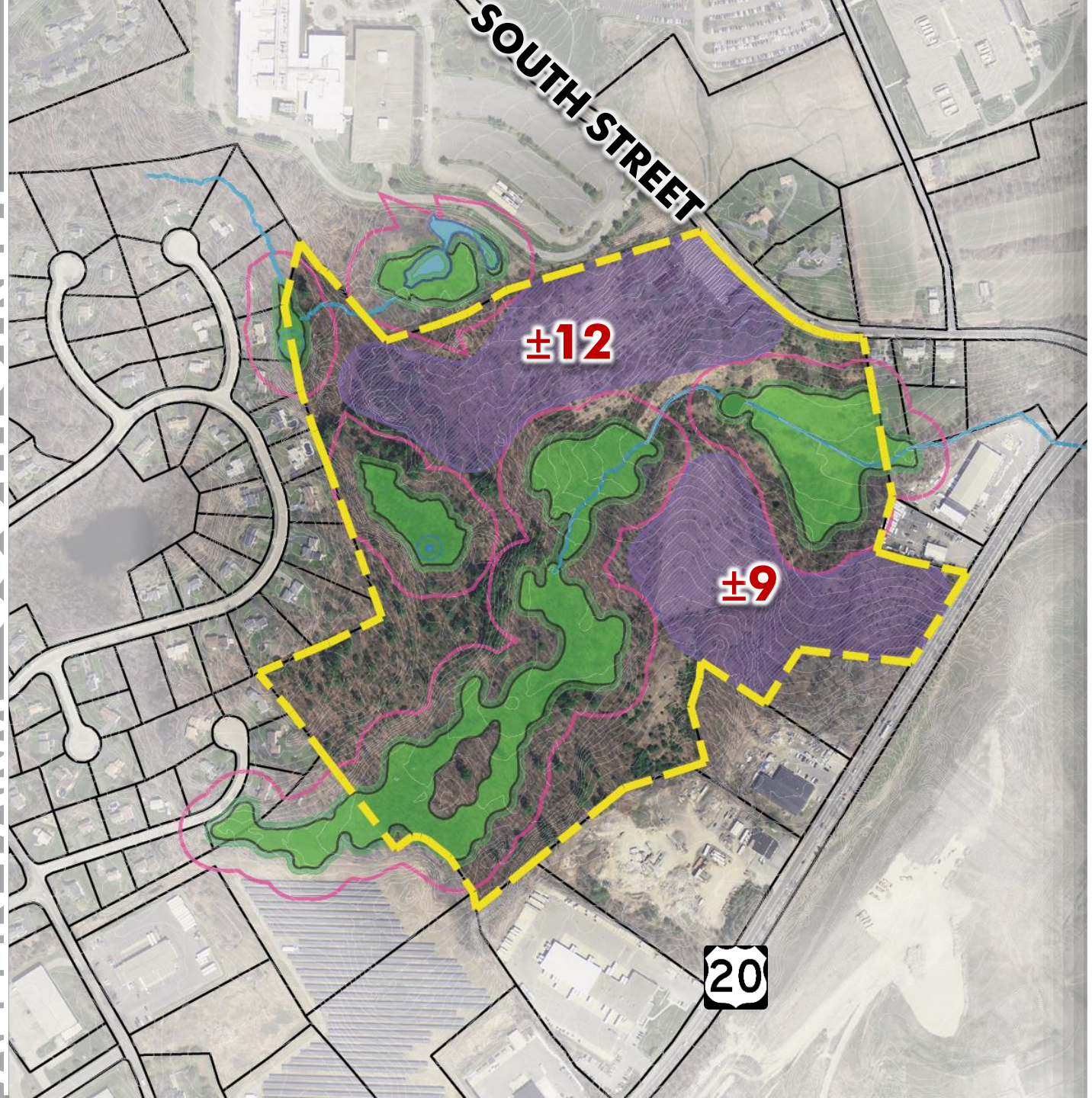
20

20





ALLEN FARM – SOUTH STREET



CRITERIA

GEOGRAPHICAL LOCATION	4.0
ZONING & ADJACENT LAND USE	2.0
PROPERTY CONFIGURATION, SIZE, BUILDABLE AREA	2.0
TOPOGRAPHY	3.0
ENVIRONMENTAL RESOURCES & HYDROLOGY	1.0
SOILS & GEOLOGIC FACTORS	3.0
UTILITY AVAILABILITY	5.0
ACCESS POTENTIAL-TRAFFIC PEDESTRIAN & VEHICULAR	2.0
EXISTING DEVELOPMENT, BUILDING & SITE	2.0
EASEMENTS & OTHER PROPERTY LIMITATIONS	5.0
ACQUISITION COST	5.0
TOTAL	**34.0**

BEAL EARLY CHILDHOOD CENTER

BEAL EARLY CHILDHOOD
CENTER BUILDING COMMITTEE

TELEPHONE: (508) 841-8508
FAX: (508) 842-0587

TOWN OF SHREWSBURY

Richard D. Carney Municipal Office Building
100 Maple Avenue
Shrewsbury, Massachusetts 01545-5338

RECEIVED
TOWN CLERK'S OFFICE
2017 NOV -3 AM 9:11
SHREWSBURY, MASS

November 3, 2017

To: Beal Early Childhood Center Building Committee

From: Kevin J. Mizikar

Re: Public Hearing Meeting Notice & Agenda

The Beal Early Childhood Center Building Committee will meet and hear comments from interested parties on Tuesday, November 7, 2017, at 7:00 PM in Beal Early Childhood Center Auditorium– 1 Maple Avenue to consider the following agenda:

AGENDA

1. Call to Order
2. Introductions
3. Hear reports, review and act on the following matters:
    a. Project Overview
    b. Report from the Owner's Project Manager
        i. Financial Update
    c. Report from the Architect
4. Site Selection Public Hearing
5. Further site selection discussion and refinement and act on recommendation of a site or sites to be included in the Preliminary Design Plan (PDP) and Preferred Schematic Report (PSR) process in accordance MSBA guidelines.
6. Set date for next meeting
7. Adjourn

MINUTES
Beal Early Childhood Center Building Committee
Public Hearing
November 7, 2017

Present: Mr. Kane, Ms. Boucher, Mr. Collins, Dr. Sawyer, Mr. Gerardi, Mr. Cox, Mr. Mizikar, Ms. Fryc, Mr. Masiello,

Also: Ms. Kristen Las, Assistant Town Manager, Mr. Paul Queeney of PMA Consultants, LLC. Mr. Michael Pagano, Ms. Katie Crockett, Mr. Sean Brennan of Lamoureux Pagano & Associates.

Call to order by Mr. Kane at 7:00 PM in the Auditorium of the Beal Early Childhood Center - 1 Maple Avenue using an agenda and meeting notice dated November 3, 2017.

Mr. Kane introduced the Committee members and professional project team and provided an overview of the work of the committee to date.

Mr. Queeney of PMA reported on the MSBA process and summarized the phase of the project through which the Committee is currently working. Mr. Queeney stated that MSBA would like to see site ownership control or a similar legal arrangement by the time they make their vote in October 2018.

Mr. Queeney reported on the financial status of the project and provided a budget summary dated November 2, 2017. He informed the Committee and distributed two documents on the MSBA reimbursement program including cost caps and eligible costs.

Ms. Crockett provided an overview process in LPA's review of the existing conditions of the Beal Early Childhood Center as required by the MSBA. Given the School Department's decision to go with a K-4 school, the educational programming will require a school roughly the size of the Sherwood Middle School, 130,000 square feet. The review of the existing Beal School included a review of the options from simply making repairs to the current building to constructing a new facility on the same property. The current building is +/- 34,000 square feet and was constructed in 1922. LPA has complied its findings in an Existing Conditions Report.

Mr. Kane introduced item 4 on the agenda, a Public Hearing on the Site Selection for this project. Mr. Pagano summarized the thorough review of 31 potential sites that were considered and reported the Committee has narrowed this list to six sites for discussion this evening.

Mr. Brennan provided a summary of the criteria that was used in narrowing the list of sites from 31 down to 14 and ultimately down to six. The site evaluation process included 11 criteria and utilized a numerical scale from zero to five with five being the most advantageous. Mr. Brennan summarized the ranking for the eleven criteria for all six sites. Comments from Committee members and the public follow:

USPS Sorting Facility Site

Mr. Massiello expressed concern with this site related to heavy traffic and the fact that this site contains the former Town landfill.

Allen Farm – South Street

Mr. Massiello hoped this site would be strongly considered because of the potential future development in this area, that fact that the Town currently owns this. Traffic can be minimized by utilizing the northern portion of this site.

Ms. Fryc asked Assistant Town Manager Las about the current zoning of this site. Ms. Las reviewed the zoning options available by right and through special permit. She pointed out that the Dover Amendment permits educational use in all zoning districts.

Ms. Boucher asked if the building and required development could occur on the northern portion of the site. Mr. Pagano believes it could fit on both aspects but should be studied further.

Dr. Sawyer reviewed the current elementary school districts of the Town. The Floral Street district is the largest geographically. Dr. Sawyer stated that the sites which are located south of Route 9 are most desirable given current schools and population density of the Town. The Floral Street school district is the most overburdened.

Mr. Ben Targalia stated he has concerns with traffic in the area of this site. He stated traffic on Lake Street is difficult at times and feels that development of and along Route 20 is going to change created additional concerns.

Mr. Christopher Kirk – 40 Westford Road - Mr. Kirk asked if it would be possible to put a road from Route 20 through the site to South Street. Mr. Pagano stated access is most desirable from South Street.

Camp Winnegan – Route 140/Old Grafton Street

Mr. Massiello does not feel that Town Meeting would support removing this land from the Town's open space inventory. Mr. Kane discussed how other Town land would have to be placed under conservation restriction of the same or greater size to this site.

Mr. John Lukach – Precinct Two – Mr. Lukach stated he was surprised how low the Camp Winnegan and Allen Farm sites were ranked. He questioned the overall evaluation process as he sees that it is flawed. Explanation of his concerns with the ranking system was given. He feels these two sites should be the highest ranked sites given their location within Town, the fact that Town owns the sites, access to utilities, site size and roadway access. Mr. Lukach felt that the conservation restriction could be overcome for the Camp Winnegan property. Mr. Lukach feels that the most important factor is location. Written comments were provided and are attached.

Mr. Pagano stated weighed rankings could be considered. He reviewed the firms approach including the maturity of the process when site review started. Most importantly more detailed analysis will occur on the sites that the Committee recommends.

Mr. Kirk – Asked if the Town was able to develop a list of parcels of Town-owned land which could be swapped with Camp Winnegan? Assistant Town Manager Las said an initial list has been developed based solely on parcel size but further research is required on the property deeds.

Charles Garabedian - Precinct 2 – Mr. Garabedian asked how numerical values were assigned to each criteria. How was each number found?

Mr. Pagano reviewed the firm's experience with site selection and assignment of values and stated assignment of numbers is based on experience and opinion.

Mr. Maurice Depalo - Precinct 2 – Mr. Depalo stated that he is concerned with traffic safety, particularly vehicle speed and turning movements on Route 140.

Mr. Ben Tartaglia – Precinct 6 – Mr. Tartaglia stated Old Grafton Street would be lousy for school buses.

Prospect Park – Prospect Street

Mr. Masiello stated that the southern portion of this site is supposed to be the final phase of the Town Cemetery. Further, he is concerned with traffic in this area.

Mr. Tartaglia stated the Town was unsuccessful in designating a portion of this land to install a drinking water well when they asked Town Meeting. He does not feel Town Meeting would support using this site for a school.

Glavin Center – Lake Street

Mr. John Lukach - Has the Town entered into conversations with the State to have the property transferred to the Town?

Mr. Kane reported that there has been an on-going conversation on the Glavin proper site. This continued as recently as yesterday about draft legislation for the Town to acquire the entire the site. The Commonwealth can no longer provide land at the cost of $1. Mr. Kane described the appraisal and special legislation process, which is quite burdensome.

Mr. Lukach feels this process provides too much risk (related to the potential time it could take) to include this site for further review.

Mr. Tartaglia asked what the likelihood is that this could be accomplished within the required timeframe. He sees the need to think ahead for land for an additional elementary school after this one is constructed. He favors this site.

Ms. Deana Nichols – Feels that his site is one of the most favorable along with the Allen Farm property. However, she has concerns over the acquisition costs and site improvements (demolition).

Mr. Masiello provided an estimate of $300,000/acre of commercial land in Town. That would mean this land could be valued at $5.4M.

Dr. Sawyer asked what the cost might be to remediate hazardous materials and demolish the existing structures

Mr. Pagano stated a very rough estimated based on limited knowledge of the buildings could be $2M for the abatement and $250K for final demolition.

UMass & Maple Avenue Fields

Mr. Masiello expressed concerns with development on land at the corner of Maple Ave and Route 9 as it relates to developing an elementary school on this site. He understands limited ingress and egress options for the property at Maple Ave and Route 9, which would push more traffic to Oak Street.

Mr. Collins acknowledged that this was the second time the Committee went through these six sites. He felt the discussions of the Committee and individual review of the sites weigh more importantly than the pure numerical ranking by LPA. He shared his most important considerations to determine the best site. The sites that are south of Route 9 weigh most favorably and that more than one site should remain after this phase of the site selection process.

Mr. DePalo thinks we should look long term and the Maple Ave site could have the greatest economic impact to the benefit of time. He is not sure if we have the luxury of that amount of time. He reviewed concerns with some of the other sites on the list. Further, the Town has paid for the High School site and the Floral Street School site. We are paying of a $6.1M note on the Allen farm parcel. The Committee should advance more than one site, and Maple Ave should be considered.

Mr. Tartaglia feels certain areas of this site may be contaminated and should be investigated. He does like the construction of the roadway between Main Street and Maple Ave.

Mr. Lukach doesn't see the benefit of constructing the roadway between Main Street and Maple Ave.

Mr. Garabedian – Express that no site is ideal and none ranked 55, or the highest ranking. He would like to see a weighed ranking method. That would provide a better solution and enable the Committee to make a better decision.

Mr. Kirk – asked the architect why the Sherwood and Oak site was not considered to construct this facility and would these proposed sites provide for future expansion to accommodate growth.

Mr. Pagano sited concerns with traffic and parking on the Sherwood and Oak site. There is growth built into the design of the school from the outset. Depending on the site, additional development would be possible.

Ms. Lisa Cossette – Shrewsbury Development Corp. - Requested that the SDC be given the opportunity to provide a letter regarding the impact of the development of the school on the Allen Farm Property. She provided a brief history as to why the land was acquired by the Town and what the SDC has done to improve and market the site.

Mr. Kane recapped the site selection process and asked for direction of the Committee. Mr. Masiello asked the committee move forward with the Allen Farm Property. Mr. Cox would like to add the Glavin Property and Camp Winnegan to the motion. Mr. Kane asked that all three of these sites be pushed forward for additional consideration, but not necessarily close the door on any site.

Mr. Kane asked the Town Manager's Office to provide a report on the Allen Farm Development. Where are we? Where we on an updated reuse plan? What could future development value be? What revenue? What approach should be taken into consideration of revenues the site would generate if developed commercially including building Permit fees, connections, taxes, etc. Who pays for the road?

Further regarding 645 Grafton Street, what other lands could we place in conversation to replace the property?

The Board of Selectmen should consider a Special Town Meeting after the holidays for any special acts.

Committee will meet again December 12, 2017 at 6pm.

Respectfully submitted,

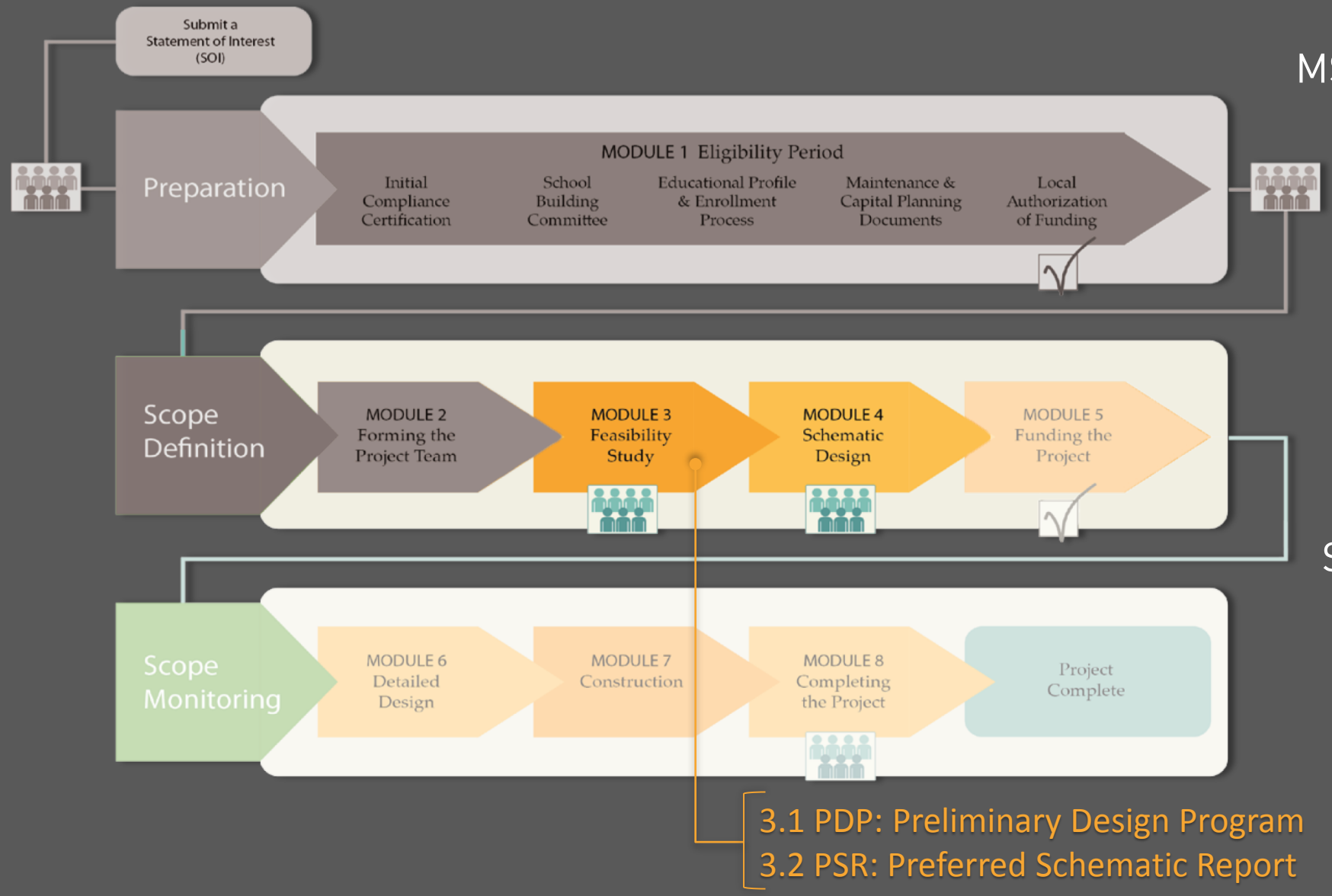
Kevin J. Mizikar
Town Manager

<u>Referenced Materials Attached:</u>

- November 3, 2017 dated, 11/2/2017 Agenda
- November 2, 2017 Budget Summary
- Beal Early Childhood Center – Existing Conditions Report
- Written Comments provided by Mr. John Lukach

BEAL EARLY CHILDHOOD CENTER

MSBA Core Program Process Overview



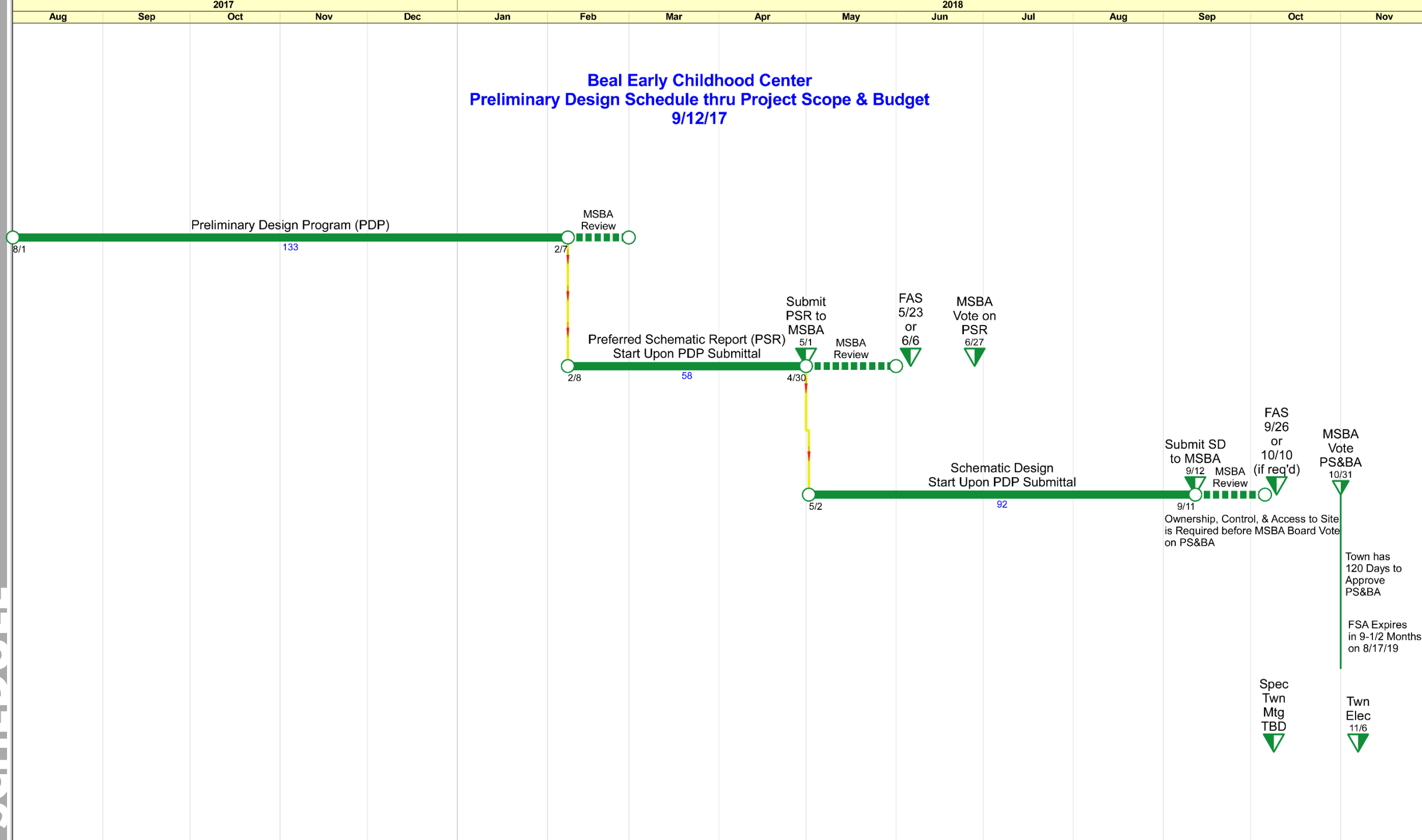
MSBA CORE PROGRAM PROCESS

MODULE 3: FEASIBILITY STUDY

MODULE 4:

SCHEMATIC DESIGN

Beal Early Childhood Center
Preliminary Design Schedule thru Project Scope & Budget
9/12/17

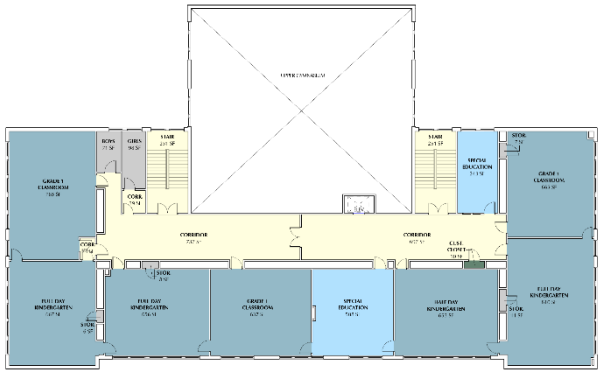


SCHEDULE

BEAL EARLY CHILDHOOD CENTER

Basement

First Floor



Second Floor

LEGEND

- Core Academic
- Special Education
- Art & Music
- Health & Physical Education
- Media Center
- Dining & Food Service
- Administration, Guidance
- Medical
- Custodial & Maintenance
- Other
- Mechanical / Electrical
- Circulation

±34,000 Sqft.

Built 1922

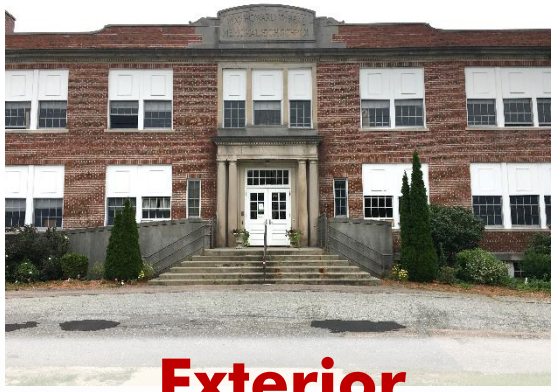
3.86 ACRES
TOWN OWNED

BEAL EARLY CHILDHOOD CENTER

Library

Accessibility

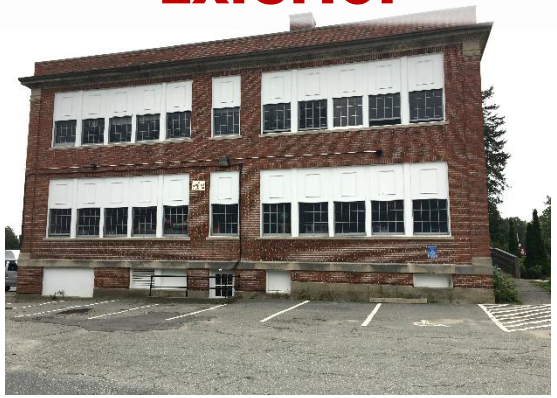
Cafeteria



Exterior

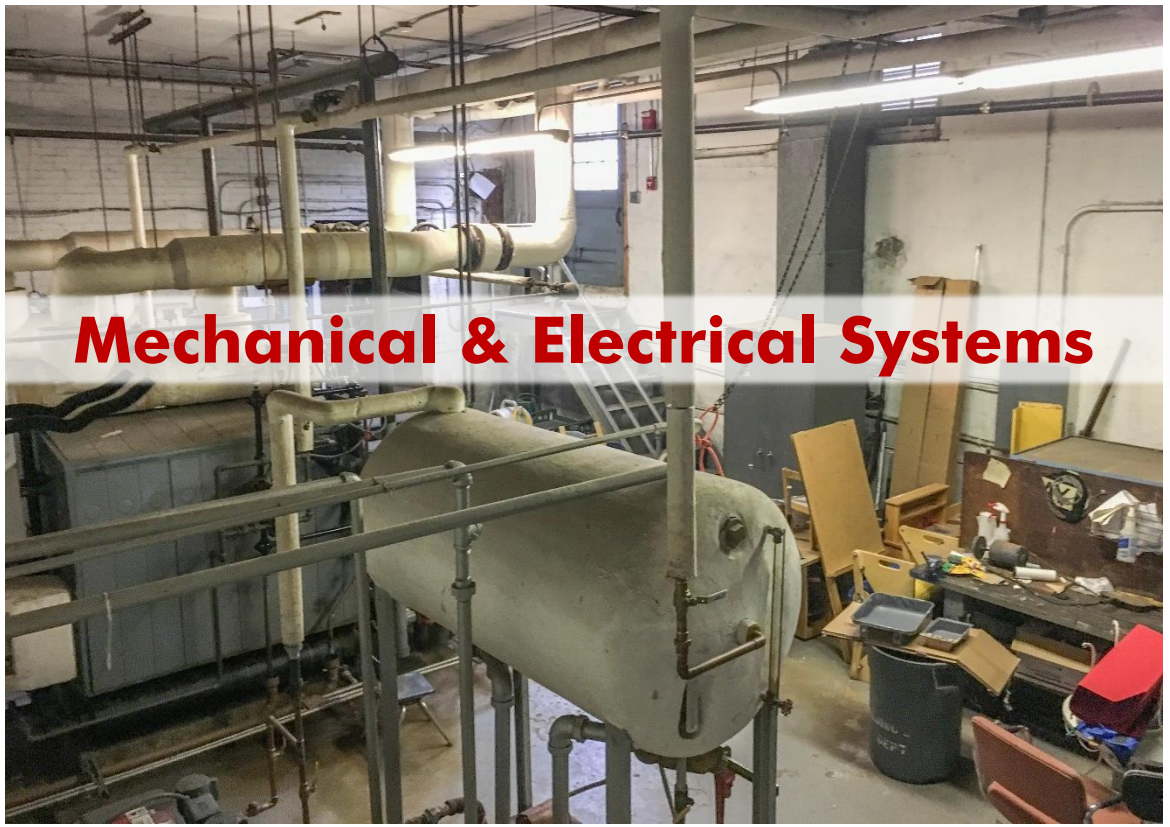
Corridors

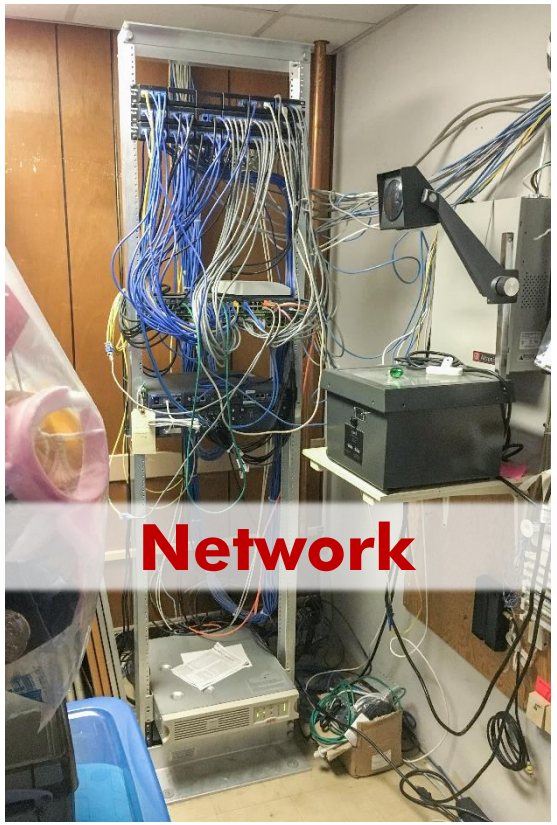
Classrooms

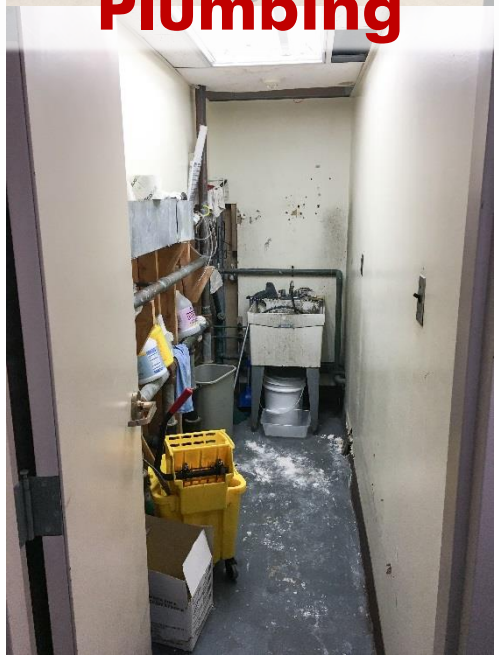


Gymnasium

BEAL EARLY CHILDHOOD CENTER

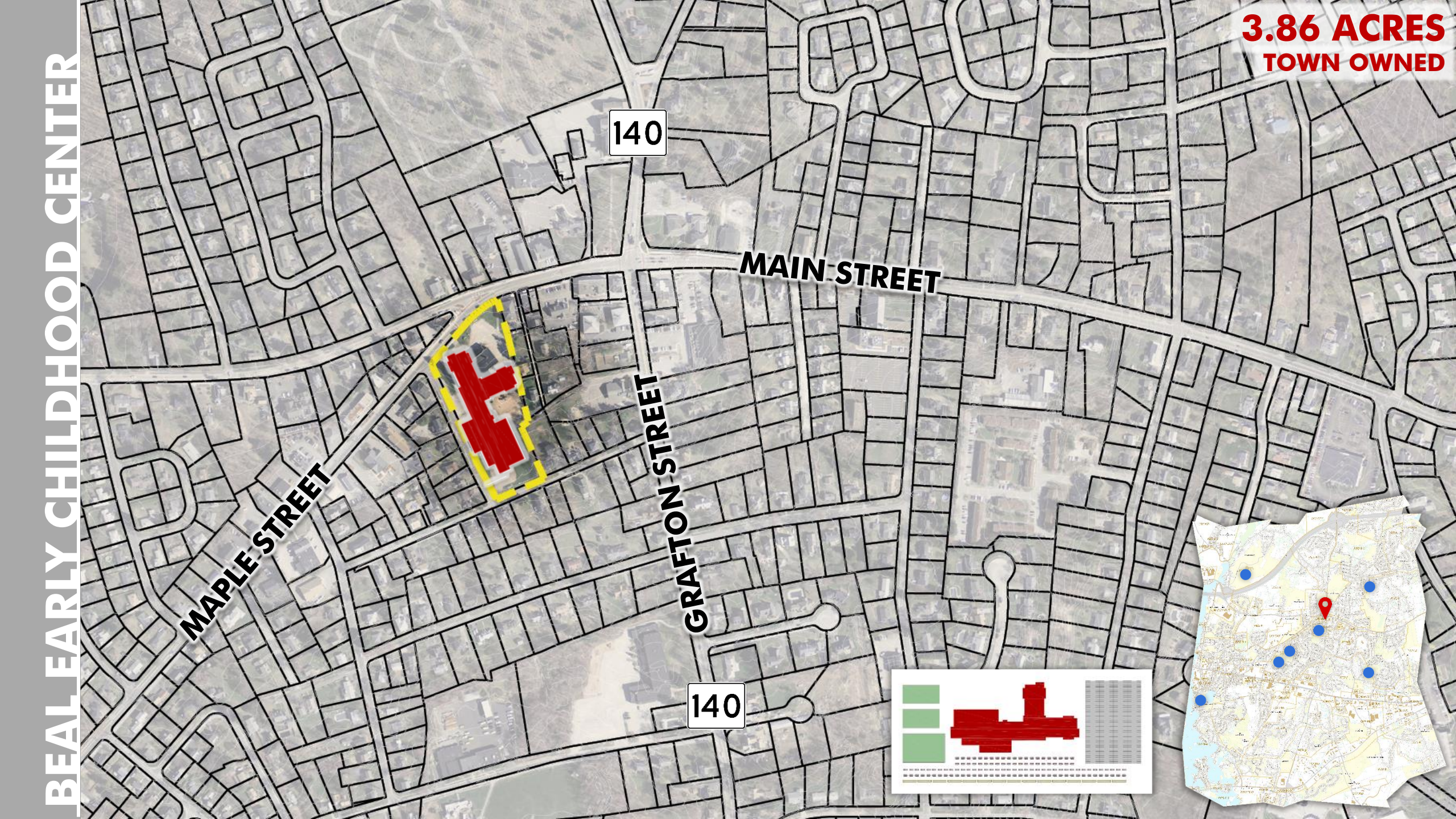




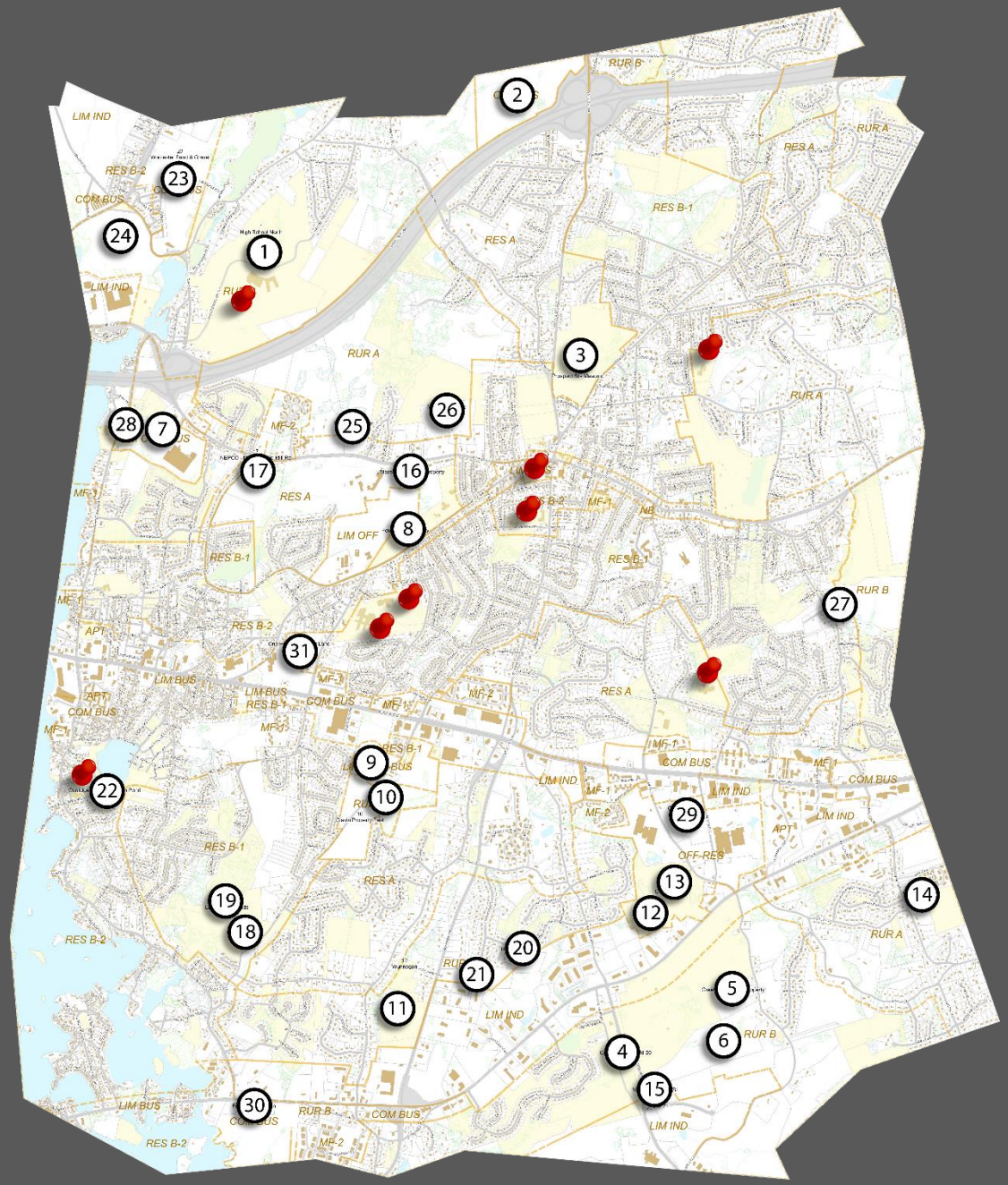


BEAL EARLY CHILDHOOD CENTER

3.86 ACRES
TOWN OWNED



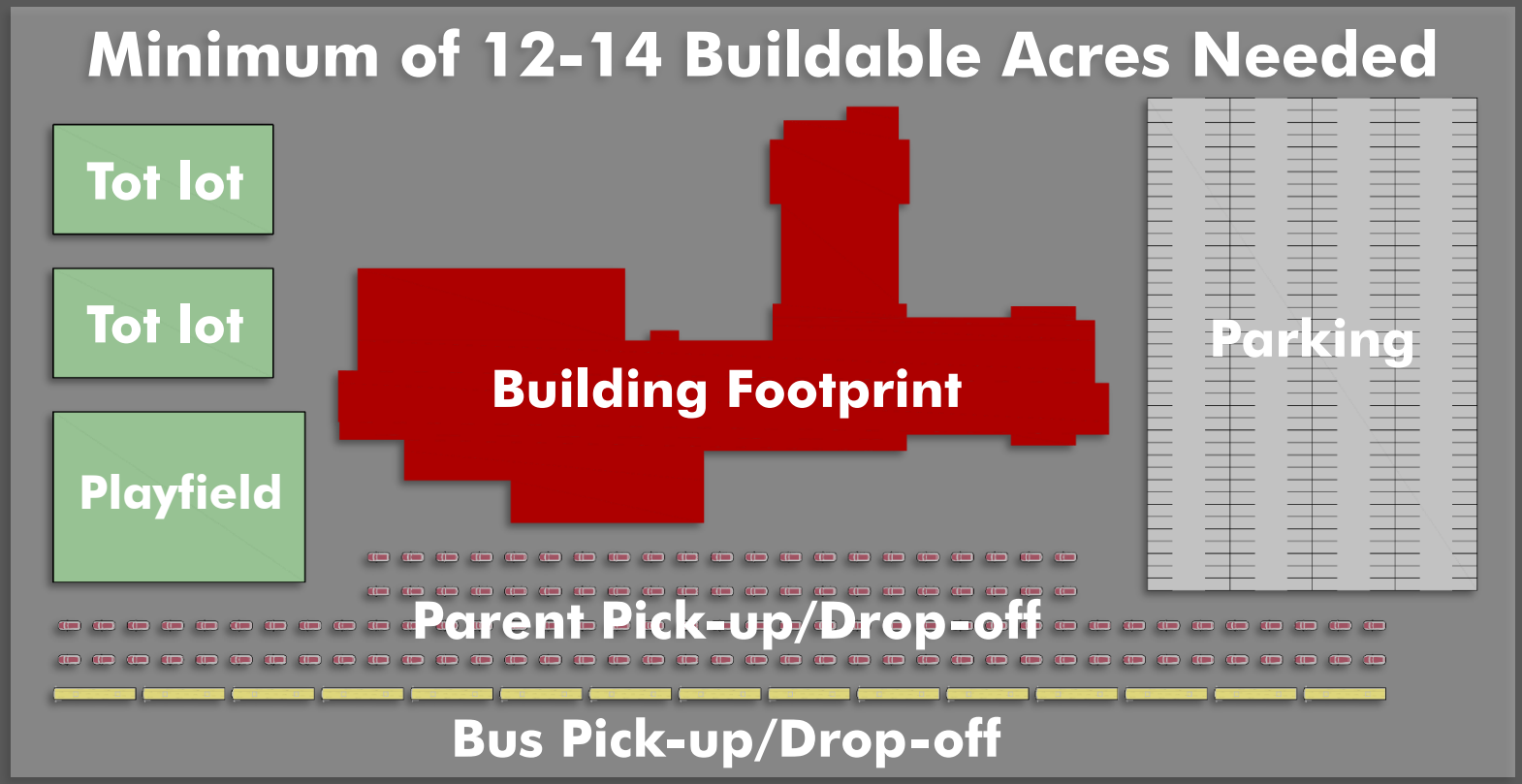
INDEX OF SITES EVALUATED



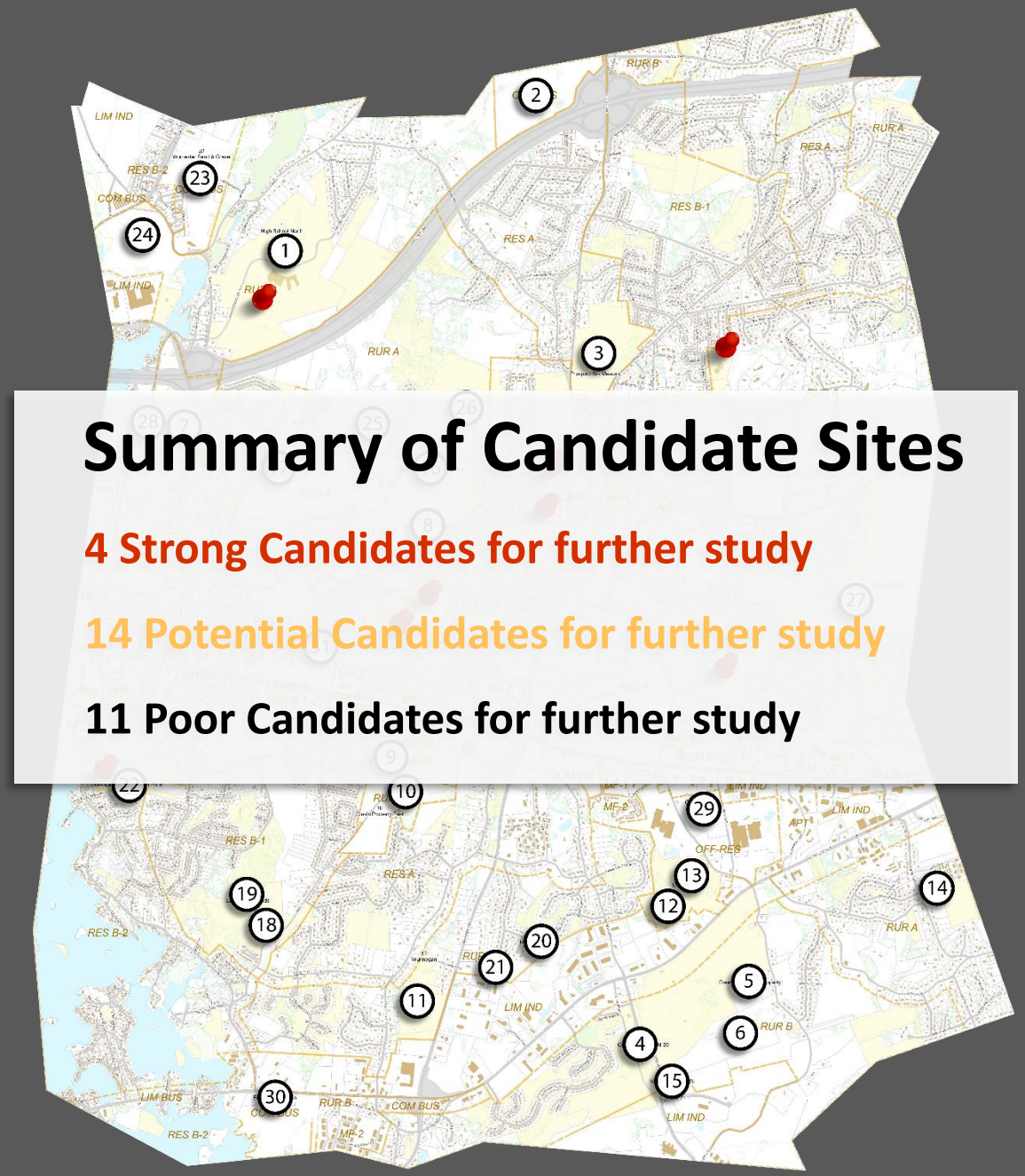
01| Holden Street | Town Owned | 194.17 Acres
02| Boylston Street | 129.77 Acres
03| Prospect Street | Town Owned | 70.71 Acres
04| Centech Boulevard | Town Owned | 70.87 Acres
05| Green Street | 13.76 Acres
06| Green Street | 71.76 Acres
07| Main Street | 51.71 Acres
08| Maple Street | Town Owned | 19.7 Acres
09-10| Lake Street | 98.97 Acres
11| Grafton Street |Town Owned | 29.7 Acres
12-13| South Street | Town Owned | 60.89 Acres
14| Walnut Street | Town Owned | 24.7 Acres
15| Cherry Street | 22.0 Acres
16| Maple Avenue | 42.15 Acres
17| Main Street | 17.11 Acres
18| Lake Street | 9.3 Acres
19| Lake Street | Town Owned | 27.8 Acres
20| Rockwell Drive | 7.97 Acres
21| Farmington Drive | Town Owned | 5.89 Acres
22| Florence Street | Town Owned | 14.27 Acres
23| Holden Street | 113.1 Acres
24| Holden Street | 88.65 Acres
25| Main Street | 74.92 Acres
26| Main Street | 20.55 Acres
27| Walnut Street | 45.15 Acres
28| N. Quinsigamond Avenue | Town Owned | 4.84 Acres
29| South Street | 42.44 Acres
30| Hartford Turnpike | 56.57 Acres
31| Oak Street | 9.7 Acres

SITE EVALUATION CRITERIA

- Location
- Size
- Topography
- Access/Frontage
- Wetlands/Water features
- Utilities
- Program



CATEGORIZED INDEX OF SITES



Summary of Candidate Sites

4 Strong Candidates for further study

14 Potential Candidates for further study

11 Poor Candidates for further study

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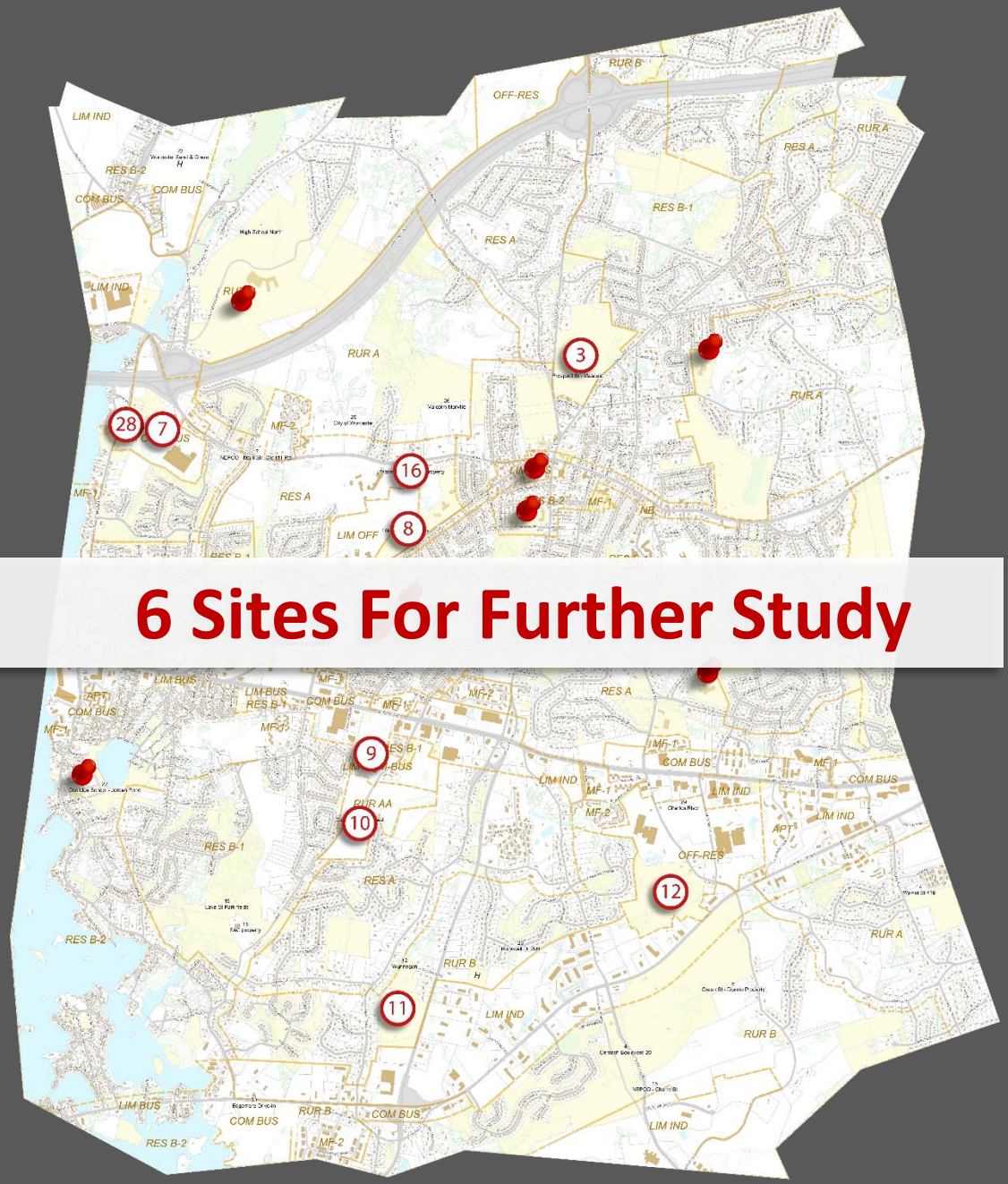
INDEX OF STRONG CANDIDATES



6 Sites For Further Study

01| Holden Street | Town Owned | 194.17 Acres
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31| Oak Street | 9.7 Acres

SITE EVALUATION CRITERIA

Geographical Location:
Rated on the ability to achieve equitable distribution of Elementary Schools throughout the town

Zoning & Adjacent Land Uses:
Rated according to the current uses of the subject parcel as well Compatible uses for a School include residential, business and publicly owned open space (i.e. parks, recreation fields, etc.).

Property Configuration, Size, & Buildable Area:
Rated on the size/configuration of developable acres, preliminary estimates anticipate 12-14 Buildable Acres

Topography:
Rated on the overall slopes of the Buildable Area. Slopes greater than 15% are considered excessive and will directly impact building design and site development costs.

Environmental Resources and Hydrology:
Rated on the presence of wetland resource areas, intermittent streams, endangered species, etc., and their impact on the development of the site.

Soils and Geologic Factors:
Some soils are more advantageous than other in respect to drainage, depth to bedrock, soil bearing capacity, etc. and were rated accordingly.

Utility Availability:
Rated on the availability of utilities, including public sewer, water, electrical power, fiber, and natural gas, determine this criterion.

Access Potential/Traffic, Pedestrian/Vehicular:
Each site is given rating based on a combination of factors including vehicular & pedestrian access and potential impact on traffic.

Existing Development, Buildings and Site:
Proposed sites are rated according to the level of existing site improvements and whether or not these improvements are betterments to the redevelopment of the site for a school or are a hindrance.

Easements and Other Property Limitations:
Ratings are based on limitations imposed by Easements/restrictions.

Acquisition Cost/Site development Cost:
Cost of land acquisition or purchase of adjacent land are factored in the rating of this category

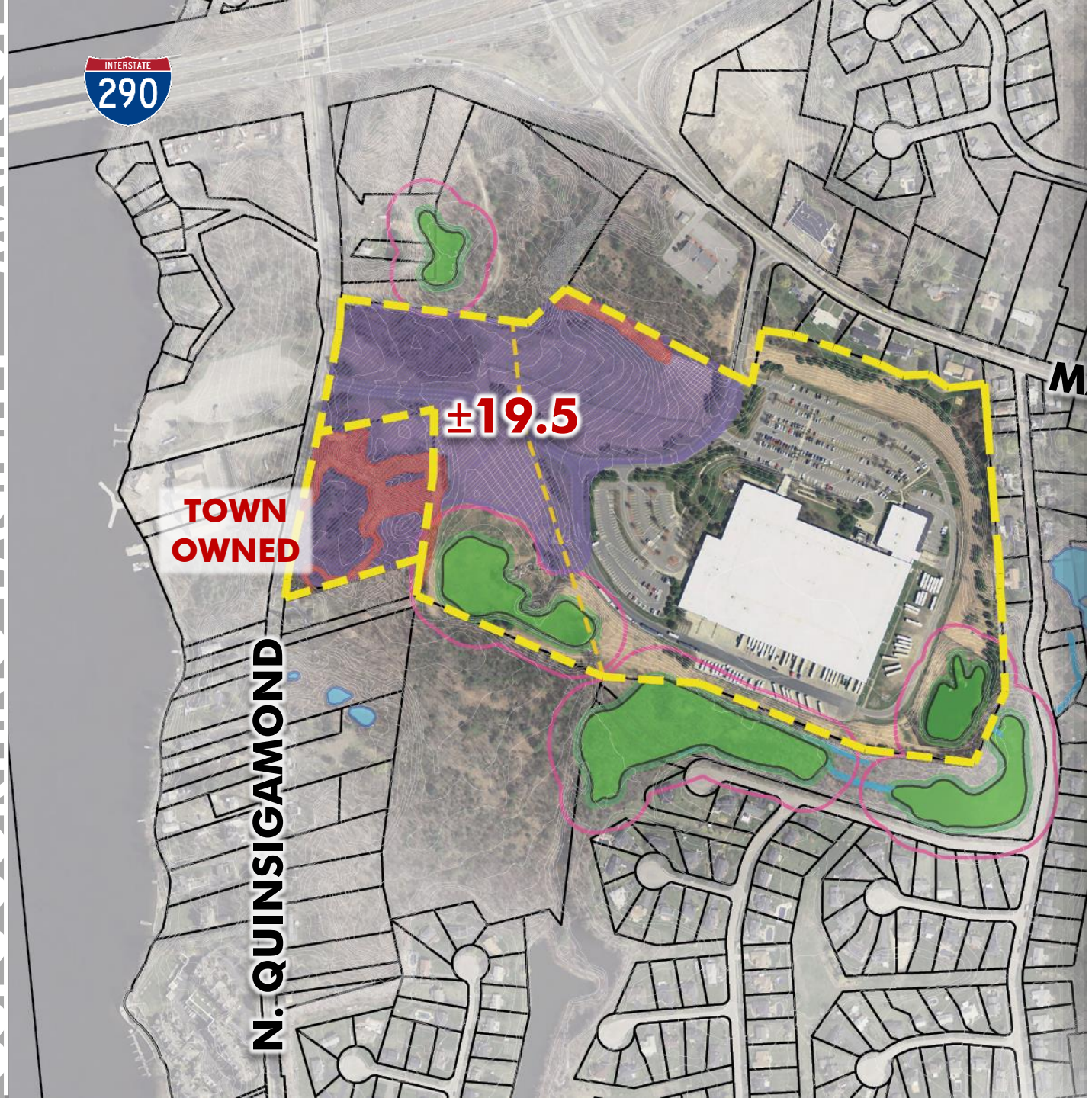
General Comment:
Any items particular to the noted sites that is not covered in the above criteria, or factors worthy of note, and additional points, or negative points.

Rating is based on a scale of 0 to 5:
- **0 being not responsive**
- **1 least advantageous**
- **5 most advantageous**

SUMMARY OF SITE EVALUATIONS

CRITERIA

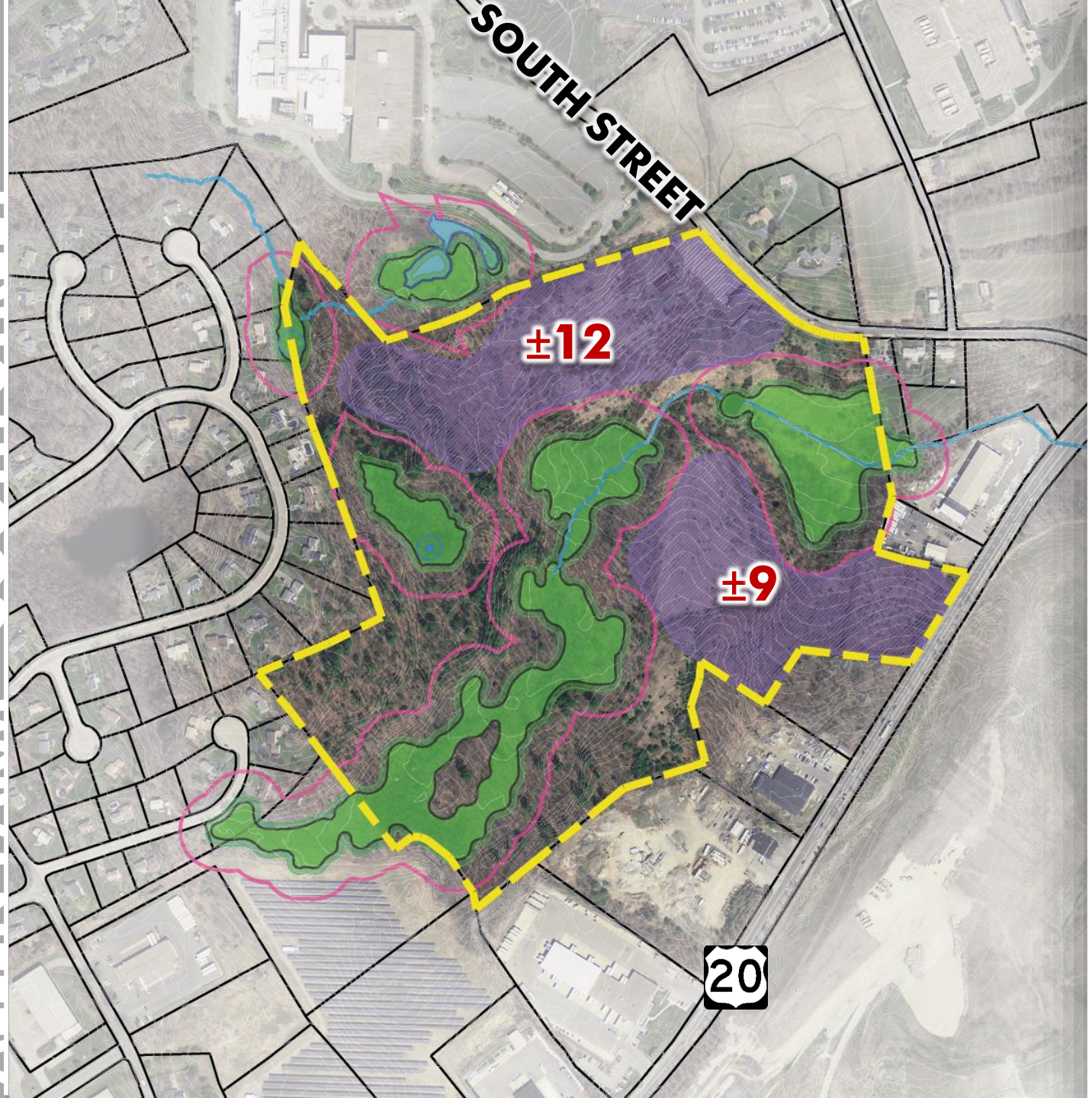
CRITERIA	USPS SORTING FACILITY PROPERTY	ALLEN FARM PROPERTY	CAMP WINNEGAN PROPERTY	PROSPECT PARK PROPERTY	GLAVIN CENTER PROPERTY	MAPLE AVE FIELDS & UMASS PROPERTY
GEOGRAPHICAL LOCATION	3.0	4.0	5.0	2.0	4.0	3.0
ZONING & ADJACENT LAND USE	2.0	2.0	4.0	4.0	4.0	4.0
PROPERTY CONFIGURATION, SIZE, BUILDABLE AREA	4.0	2.0	4.0	4.0	4.0	5.0
TOPOGRAPHY	4.0	3.0	2.0	3.0	3.0	4.0
ENVIRONMENTAL RESOURCES & HYDROLOGY	3.0	1.0	3.0	3.0	5.0	4.0
SOILS & GEOLOGIC FACTORS	5.0	3.0	2.0	3.0	4.0	4.0
UTILITY AVAILABILITY	2.0	5.0	2.0	5.0	5.0	5.0
ACCESS POTENTIAL-TRAFFIC PEDESTRIAN & VEHICULAR	3.0	2.0	3.0	2.0	3.0	4.0
EXISTING DEVELOPMENT, BUILDING & SITE	3.0	2.0	3.0	2.0	1.0	4.0
EASEMENTS & OTHER PROPERTY LIMITATIONS	1.0	5.0	2.0	3.0	4.0	4.0
ACQUISITION COST	1.0	5.0	5.0	5.0	3.0	2.0
TOTAL	**31.0**	**34.0**	**35.0**	**36.0**	**40.0**	**43.0**
RANKING	**6th**	**5th**	**4th**	**3rd**	**2nd**	**1st**



CRITERIA

GEOGRAPHICAL LOCATION	3.0
ZONING & ADJACENT LAND USE	2.0
PROPERTY CONFIGURATION, SIZE, BUILDABLE AREA	4.0
TOPOGRAPHY	5.0
ENVIRONMENTAL RESOURCES & HYDROLOGY	3.0
SOILS & GEOLOGIC FACTORS	5.0
UTILITY AVAILABILITY	2.0
ACCESS POTENTIAL-TRAFFIC PEDESTRIAN & VEHICULAR	3.0
EXISTING DEVELOPMENT, BUILDING & SITE	3.0
EASEMENTS & OTHER PROPERTY LIMITATIONS	1.0
ACQUISITION COST	1.0
TOTAL	**31.0**
RANKING	**6**

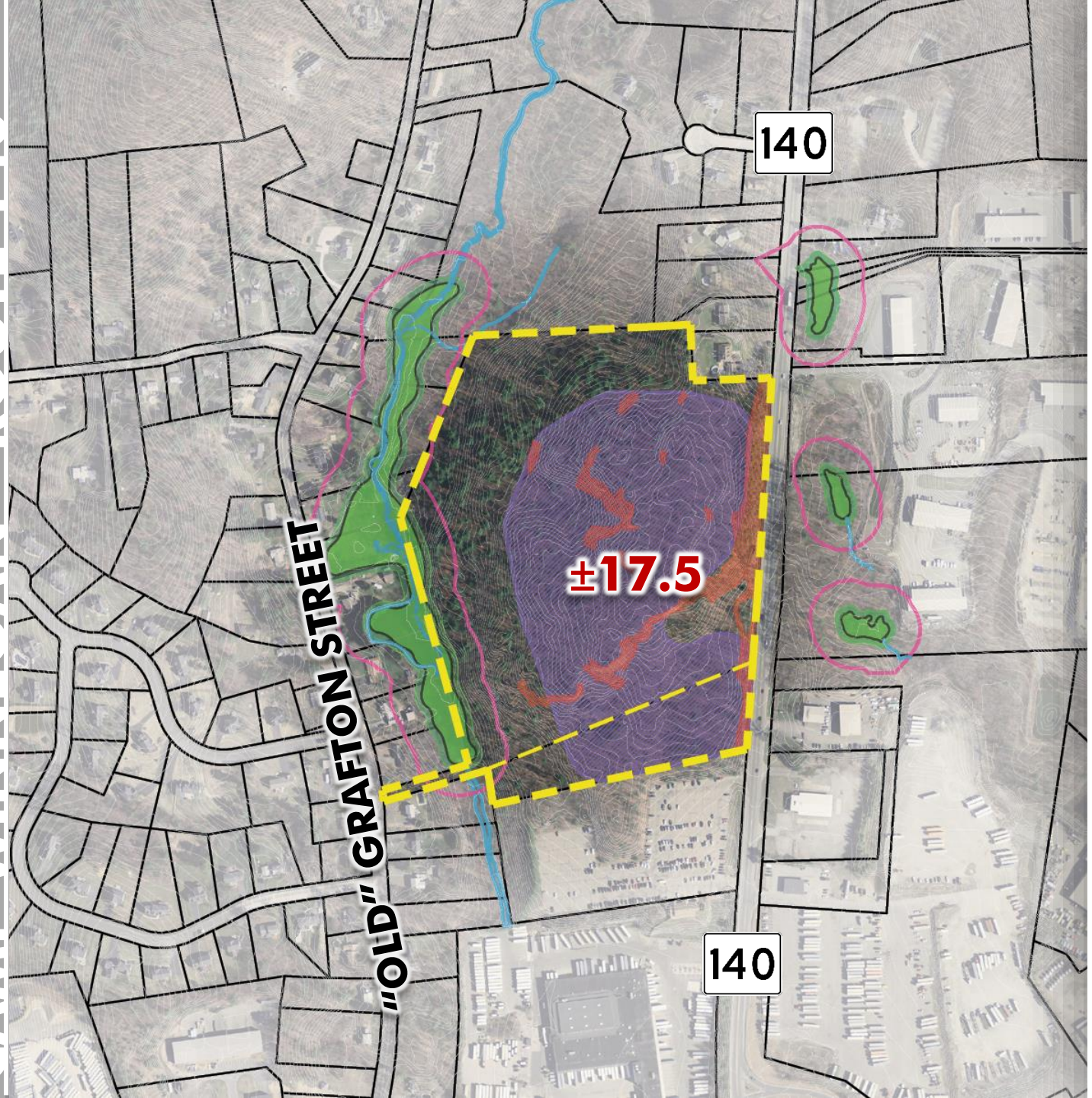
ALLEN FARM – SOUTH STREET



CRITERIA

GEOGRAPHICAL LOCATION	4.0
ZONING & ADJACENT LAND USE	2.0
PROPERTY CONFIGURATION, SIZE, BUILDABLE AREA	2.0
TOPOGRAPHY	3.0
ENVIRONMENTAL RESOURCES & HYDROLOGY	1.0
SOILS & GEOLOGIC FACTORS	3.0
UTILITY AVAILABILITY	5.0
ACCESS POTENTIAL-TRAFFIC PEDESTRIAN & VEHICULAR	2.0
EXISTING DEVELOPMENT, BUILDING & SITE	2.0
EASEMENTS & OTHER PROPERTY LIMITATIONS	5.0
ACQUISITION COST	5.0
TOTAL	**34.0**
RANKING	**5**

CAMP WINNEGAN – ROUTE 140



CRITERIA

GEOGRAPHICAL LOCATION	5.0
ZONING & ADJACENT LAND USE	4.0
PROPERTY CONFIGURATION, SIZE, BUILDABLE AREA	4.0
TOPOGRAPHY	2.0
ENVIRONMENTAL RESOURCES & HYDROLOGY	3.0
SOILS & GEOLOGIC FACTORS	2.0
UTILITY AVAILABILITY	2.0
ACCESS POTENTIAL-TRAFFIC PEDESTRIAN & VEHICULAR	3.0
EXISTING DEVELOPMENT, BUILDING & SITE	3.0
EASEMENTS & OTHER PROPERTY LIMITATIONS	2.0
ACQUISITION COST	5.0
TOTAL	**35.0**
RANKING	**4**

PROSPECT PARK – PROSPECT ST

CRITERIA

GEOGRAPHICAL LOCATION	2.0
ZONING & ADJACENT LAND USE	4.0
PROPERTY CONFIGURATION, SIZE, BUILDABLE AREA	4.0
TOPOGRAPHY	3.0
ENVIRONMENTAL RESOURCES & HYDROLOGY	3.0
SOILS & GEOLOGIC FACTORS	3.0
UTILITY AVAILABILITY	5.0
ACCESS POTENTIAL-TRAFFIC PEDESTRIAN & VEHICULAR	2.0
EXISTING DEVELOPMENT, BUILDING & SITE	2.0
EASEMENTS & OTHER PROPERTY LIMITATIONS	3.0
ACQUISITION COST	5.0
TOTAL	**36.0**
RANKING	**3**

GLAVIN CENTER – LAKE STREET

CRITERIA

GEOGRAPHICAL LOCATION	4.0
ZONING & ADJACENT LAND USE	4.0
PROPERTY CONFIGURATION, SIZE, BUILDABLE AREA	4.0
TOPOGRAPHY	3.0
ENVIRONMENTAL RESOURCES & HYDROLOGY	5.0
SOILS & GEOLOGIC FACTORS	4.0
UTILITY AVAILABILITY	5.0
ACCESS POTENTIAL-TRAFFIC PEDESTRIAN & VEHICULAR	3.0
EXISTING DEVELOPMENT, BUILDING & SITE	1.0
EASEMENTS & OTHER PROPERTY LIMITATIONS	4.0
ACQUISITION COST	3.0
TOTAL	**40.0**
RANKING	**2**

UMASS & MAPLE AVENUE FIELDS

CRITERIA

GEOGRAPHICAL LOCATION	3.0
ZONING & ADJACENT LAND USE	4.0
PROPERTY CONFIGURATION, SIZE, BUILDABLE AREA	5.0
TOPOGRAPHY	4.0
ENVIRONMENTAL RESOURCES & HYDROLOGY	4.0
SOILS & GEOLOGIC FACTORS	4.0
UTILITY AVAILABILITY	5.0
ACCESS POTENTIAL-TRAFFIC PEDESTRIAN & VEHICULAR	4.0
EXISTING DEVELOPMENT, BUILDING & SITE	4.0
EASEMENTS & OTHER PROPERTY LIMITATIONS	2.0
ACQUISITION COST	2.0
TOTAL	**43.0**
RANKING	**1**

BEAL EARLY CHILDHOOD CENTER

BEAL EARLY CHILDHOOD
CENTER BUILDING COMMITTEE

TELEPHONE: (508) 841-8508
FAX: (508) 842-0587

TOWN OF SHREWSBURY

Richard D. Carney Municipal Office Building
100 Maple Avenue
Shrewsbury, Massachusetts 01545-5338

RECEIVED
TOWN CLERK'S OFFICE
2017 DEC -8 PM 12:03
SHREWSBURY, MASS

December 12, 2017

To: Beal Early Childhood Center Building Committee

From: Kevin J. Mizikar

Re: Public Hearing Meeting Notice & Agenda

The Beal Early Childhood Center Building Committee will meet and hear comments from interested parties on Tuesday, December 12, 2017, at 6:00 PM in the Old Selectmen's Meeting Room – 100 Maple Ave to consider the following agenda:

AGENDA

1. Call to Order / Public Hearing
2. Meeting Minutes – November 2, 2017 & November 7, 2017
3. Review and act on the following bill schedules:

Vendor/Expense/Item	Amount
PMA Consultants/Prof Svcs	$7,251.10
Lamoureux Pagano/Prof Svcs	$44,445.00

4. Hear reports, review and act on the following matters:
    a. Site Selection Update
        i. Update from School Committee
    b. Review Draft Special Town Meeting Article – Glavin Property – Lake Street
5. Project Overview
    a. Report from the Owner's Project Manager
        i. Financial Update
    b. Report from the Architect
6. Further site selection discussion and refinement and act on recommendation of a site or sites to be included in the Preliminary Design Plan (PDP) and Preferred Schematic Report (PSR) process in accordance MSBA guidelines.
7. Vote to appoint delegate to Beal Reuse Committee
8. Set date for next meeting

a. January 2017 – To be determined

9. Adjourn

Referenced Materials

Minutes and Bill Schedules as noted above

Letter Requesting Delegate to Beal Reuse Committee

BEAL EARLY CHILDHOOD
CENTER BUILDING COMMITTEE

TELEPHONE: (508) 841-8508
FAX: (508) 842-0587

TOWN OF SHREWSBURY

Richard D. Carney Municipal Office Building
100 Maple Avenue
Shrewsbury, Massachusetts 01545-5338

Present: Mr. Kane, Ms. Boucher, Mr. Collins, Dr. Sawyer, Mr. Gerardi, Mr. Cox, Mr. Mizikar, Ms. Fryc, Mr. Masiello,

Also Present: Ms. Kristen Las, Assistant Town Manager, Mr. Paul Queeney of PMA Consultants, LLC, Ms. Katie Crockett, Mr. Sean Brennan of Lamoureux Pagano & Associates

1. Call to Order / Public Hearing

Chairman Kane called the meeting to order at 6:00 pm

2. Meeting Minutes – November 2, 2017 & November 7, 2017

On a motion by Mr. Cox, seconded by Ms. Fryc, the Committee voted to accept the minutes of November 2, 2017. On a motion by Ms. Fryc, seconded by Ms. Boucher, the Committee voted to accept the minutes of November 7, 2017.

3. Review and act on the following bill schedules:

Vendor/Expense/Item	Amount
PMA Consultants/Prof Svcs	$7,251.10
Lamoureux Pagano/Prof Svcs	$44,445.00

On a motion by Mr. Collins, seconded by Mr. Sawyer, the Committee unanimously voted to approve the payments as presented.

4. Hear reports, review and act on the following matters:

a. Site Selection Update

i. Update from School Committee

Mr. Kane stated that the Committee has reduced the list of proposed parcels down to three sites a number of meeting ago. Mr. Kane announced that Camp Winnegan would be removed from the parcels of interest due to a notice from Town Counsel; Glavin and Centech North remain.

Ms. Fryc reviewed the letter dated December 5, 2017 from Dale Magee of the School Committee. The letter states that the School Committee supports the three sites that are being considered. The biggest concern of the School Committee is that the chosen site is located south of Route 9. On a motion by Ms. Fryc, seconded by Mr. Masiello, the Committee unanimously voted to approve the matter presented.

b. Review Draft Special Town Meeting Article – Glavin Property – Lake Street

Mr. Kane reviewed the matter regarding the Glavin Center and the Home Rule Petition at Town Meeting. The land on east side would come to the Town for Open Space relative to article 97, and the land on the west side would go to the Shrewsbury Youth Soccer Association, which they

are currently leasing. If they cease to exist, that land would them go to the Town for recreation. The parcel with brick building on west and side on small grey buildings on the east side would go to the Town for purposes of use of a school. The objection would be to have the municipal restricted land appraised at a significantly reduced value. Mr. Kane clarified the reason why Shrewsbury Youth Soccer would receive the land, the reason being is that Shrewsbury Youth Soccer initially made the investments to improve the land for use. This matter will be an article on January 17, 2018, if Town Meeting supports it, it will move to legislature. If Town Meeting does not support it, only one location will remain, Allen Farm.

5. Project Overview

a. Report from the Owner's Project Manager

i. Financial Update

Mr. Queeney from PMA Consultants passed out a budget report. The project is on track to be completed under budget.

b. Report from the Architect

Ms. Crockett reviewed the program summary narrative. Ms. Crockett stated that Lamoureux Pagano had been working since September with School Department and Town Officials to determine a pre-grade configuration decision program. There is great interest in continuing standards that have been established. In late October, Lamoureux Pagano started progressing with more focus meeting on the K-4 Level, and met with department heads, district heads, and executive committees. Some major elements that came forward were school committee policy on class size, interest in maintaining neighborhood classroom clusters that integrate special education programs. The program will call for an air conditioned building that will be available year round. The building needs to be welcoming to parents and families. The school is for approximately 790 students. Ms. Crockett reviewed the space summary template. The gross square footage of existing Beal is under 34,000 square feet. MSBA guidelines is 115,000 square feet. Beal is significantly undersized. Full day kindergarten is included in the Beal program. ELL classrooms (4) and Teacher Planning (4) rooms are also included. Teacher planning is not within the MSBA guideline. The MSBA guideline has not changed in years.

The proposed Draft Space Summary stated that 8% of the population is in self-contained special education. Mr. Masiello asked if 8% is substantially different than programs currently. Dr. Sawyer spoke to the matter. The number is based on input from the Special Education Department. The expectation is that they need to have enough space to they are not forced to send students out of the school district for a program.

Mr. Masiello commented on the second page of narrative summary which shows a play field 120' x 180'. Mr. Masiello asked if the space was adequate for 790 kids. Ms. Crokett stated that the play field is the same size as Floral Street School. Ms. Crockett continued to review the Space Summary. Ms. Crockett stated that the number of classrooms are determined by the School Committee policy for number of children per classroom. The gym is 1,000 square feet larger, based on Floral Street, and larger storage which is a common request. The Media Center is the same size, dining and food are right in line with more space for the stage and kitchen, medical is based on Sherwood, administration is higher, extended learning program is a factor,

and you end up with 150,000 square foot building. There is a large parking area with 340-350 spaces, the summer program became a tipping point. 12-15 busses were factored in, along with 120 cars for parent drop off. Lamoureux Pagano reviewed different counts for different elementary schools to get a feel. All factors were taken into account when looking at a 12-15 acre size of development area.

Mr. Kane stated that the School should be away from the main road to avoid traffic with buses and parent drop off and pick up. Mr. Collins gave a briefing about before and after school programs and the umbrella of extended care programs.

Mr. Kane asked Dr. Sawyer to speak to the educational programmatic side as to why the proposed draft summary may differ from the MSBA guidelines. Mr. Sawyer stated that the School Committee guidelines state that there should be 17 students per kindergarten class, a 20 student minimum per class in grades 1-2, and 22 students in grade 3-4. The MSBA doesn't differentiate between primary grades. Given these guidelines, that averages to 40 classes for 790 students. In terms of importance of having adequate core classroom space, the School Department has had to modify Floral to accommodate more students and make more classrooms. 40 core classroom spaces is important for flexibility. Mr. Sawyer stated that the project is not only about replacing Beal, but looking to absorb more growth in Town by taking students in other elementary schools that need to reduce the number of students. Programs that are available now weren't in the mix when others were designed. When Beal is online, other schools will benefit by decreasing their class size.

Mr. Kane asked if ELL and special education are distinctly different spaces. Dr.Sawyer responded that it is possible to share the space, but hard to predict what the population will look like. ELL is about 250 students currently. The numbers in the draft space summary reflect what the school department has been discussing with Lamoreux Pagano, the refinement process will happen this point forward. Dr. Sawyer stated that the Common Room feature is one if the most innovative ideas the LPA has had and has maximized efficiency of space.

Ms. Boucher asked if 8 classrooms would suffice for full day kindergarten. Dr. Sawyer stated that the MSPA number will accommodate to be able to provide a full day in the district. Each elementary building will have k-4 and full day kindergarten is a highly desirable program.

Mr. Masiello asked why an auditorium was not listed in the proposed space summary. Ms. Crockett responded that auditoriums are not recognized by the MSBA and the gym and cafeteria with the stage can be used for those purposes.

Mr. Collins handed out and reviewed a document relative to school building projects and their student capacity over the past two decades.

6. Report from the Architect

Sean Brennan from Lamoreux Pagano stated that Lamoreux Pagano had a sit down with District 3 Mass DOT to review the permitting process and initial thoughts for the Centech North site. They discussed a curb cut on South Street or Route 20. Msss DOT and Lamoreux Pagano agreed on a curb cut on South Street rather than Route 20. Any curb cut on Route 20 would be for emergency access.

7. Further site selection discussion and refinement and act on recommendation of a site or sites to be included in the Preliminary Design Plan (PDP) and Preferred Schematic Report (PSR) process in accordance MSBA guidelines.

Mr. Kane reviewed the letter dated December 6, 2017 from Lamoreux Pagano which states a fee structure with a cost impact for sub consultants totaling $8,900.00. Mr. Queeney stated that he has reviewed the proposal and finds it to be fair for the level of effort and proposal for the two sites.

On a motion by Dr. Sawyer, seconded by Ms. Boucher, the Committee unanimously voted to approve the proposal as presented.

8. Vote to appoint delegate to Beal Reuse Committee

Mr. Kane reviewed the letter from John Lebeaux, Board of Selectmen, requesting the Committee to appoint a delegate to the Beal Reuse Committee. On a motion by Ms. Fryc, seconded by Ms. Boucher, the Committee unanimously voted to appoint Mr. Masiello to the Beal Reuse Committee.

9. Set date for next meeting.

a. January 2017 – To be determined

The Committee agreed to next meet on January 9, 2018 and January 23, 2018.

10. Adjourn

On a motion by Mr. Masiello, seconded by Ms. Boucher, the Committee unanimously voted to adjourn the meeting at 6:55pm.

Respectfully Submitted,

Valerie B. Clemmey

Valerie Clemmey, Administrative Assistant to the Town Manager

Referenced Materials

Minutes and Bill Schedules as noted above

Letter Requesting Delegate to Beal Reuse Committee

Letter from Dale Magee, December 5, 2017

Draft Proposed Space Summary from Lamoureux Pagano

Student Capacity Chart

PMA Budget Summary

Additional Services- Letter from Lamoreux Pagano 12/6/2017

BEAL EARLY CHILDHOOD
CENTER BUILDING COMMITTEE

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FAX: (508) 842-0587

TOWN OF SHREWSBURY

Richard D. Carney Municipal Office Building
100 Maple Avenue
Shrewsbury, Massachusetts 01545-5338

RECEIVED
TOWN CLERK'S OFFICE
2018 JAN -5 PM 3:44
SHREWSBURY, MASS

January 5, 2018

To: Beal Early Childhood Center Building Committee

From: Kevin J. Mizikar

Re: Public Meeting Notice & Agenda

The Beal Early Childhood Center Building Committee will meet and hear comments from interested parties on Tuesday, January 9, 2018, at 6:00 PM in the Old Selectmen's Meeting Room – 100 Maple Avenue to consider the following agenda:

AGENDA

1. Call to Order
2. Meeting Minutes – December 12, 2017
3. Review and act on the following bill schedules:

Vendor/Expense/Item	Amount
PMA Consultants/Prof Svcs	$7,021.25
Lamoureux Pagano/Prof Svcs	$44,445.00

4. Hear reports, review and act on the following matters:
   a. Report from the Owner's Project Manager
      i. Project Schedule
      ii. Project Financials
   b. Report from the Architect
      i. Site Selection Refinement
5. Review and discuss the development Preliminary Design Plan
6. Set date for next meeting
7. Adjourn

Referenced Materials

Minutes and Bill Schedules as noted above

BEAL EARLY CHILDHOOD
CENTER BUILDING COMMITTEE

TELEPHONE: (508) 841-8508
FAX: (508) 842-0587

TOWN OF SHREWSBURY

Board of Selectmen Meeting
Board of Selectmen's Meeting Room
Richard D. Carney Municipal Office Building
100 Maple Avenue
Shrewsbury, Massachusetts 01545-5398

Thursday, January 18, 2018 - 4:00 PM
AGENDA

RECEIVED
TOWN CLERK'S OFFICE
2018 JAN 11 PM 12:20
SHREWSBURY, MASS

January 11, 2018

To: Beal Early Childhood Center Building Committee

From: Kevin J. Mizikar

Re: Meeting Notice & Agenda

The Beal Early Childhood Center Building Committee will be participating in a taping on Thursday, January 18, 2018, at 4:00 PM at Shrewsbury Media Connection, 15 Parker Road, Shrewsbury, MA to consider the following agenda:

AGENDA

1. Call to Order - **4:00 PM**
2. Participate in discussions relative to the affairs and/or interests of the Beal Building Committee and/or the Town of Shrewsbury.
3. Adjourn

BEAL EARLY CHILDHOOD
CENTER BUILDING COMMITTEE

TELEPHONE: (508) 841-8508
FAX: (508) 842-0587

TOWN OF SHREWSBURY

Richard D. Carney Municipal Office Building
100 Maple Avenue
Shrewsbury, Massachusetts 01545-5338

January 9, 2018
MINUTES

Present: Mr. Kane, Ms. Boucher, Dr. Sawyer, Mr. Gerardi, Mr. Cox, Mr. Mizikar, Mr. Masiello,
Also Present: Ms. Kristen Las, Assistant Town Manager, Mr. Paul Queeney and Ms. Deborah Shaer of PMA Consultants, LLC, Ms. Katie Crockett and Mr. Sean Brennan of Lamoureux Pagano & Associates
Absent: Ms. Fryc, Mr. Collins

1. **Call to Order**

   Mr. Kane called the meeting to order at 6:00 PM.

2. **Meeting Minutes – December 12, 2017**

   On a motion by Mr. Masiello, seconded by Mr. Gerardi, the Committee unanimously approved the minutes as written.

3. **Review and act on the following bill schedules:**

Vendor/Expense/Item	Amount
PMA Consultants/Prof Svcs	$7,021.25
Lamoureux Pagano/Prof Svcs	$44,445.00

   Ms. Shaer briefly reviewed a brief budget summary with the Committee. On a motion by Mr. Cox, seconded by Ms. Boucher, the Committee unanimously voted to approve the bill schedules.

4. **Hear reports, review and act on the following matters:**

   a. **Report from the Owner's Project Manager**

      i. **Project Schedule**

Mr. Queeney informed the committee that the project remains on schedule to be submitted to the MSBA, as well as all policies, procedures, and monthly reports are being followed. PMA continues to represent the Town and collaborate with the architect to assemble deliverables for preliminary design.

      ii. **Project Financials**

Mr. Queeney stated he would add insight to cost estimates at future meetings. Mr. Kane requested that the Committee discuss the matter of the current building code and energy efficiency versus the delta to energy efficiency in public building and how it may be impacted by construction at the first meeting in February. Mr. Kane wants the committee to get a sense of the building code versus enhancement options. Mr. Kane requested that Mr. Cox is prepared to discuss practical matters relative to cutting edge technology put to action in a Northeast climate.

b. Report from the Architect

i. Site Selection Refinement

Ms. Crockett and Mr. Brennan began their presentation. Ms. Crockett stated that their main goal is to submit a preliminary design to the MSBA by February 14th. Mr. Brennan gave some updates on their progress. Mr. Brennan stated that Lamoureux Pagano is taking a greater look at additional services such as hydrology and wetlands, particularly relative to Allen Farm's preliminary report. The wetland in the southern portion is significant and will not be available for development, the goal is to now focus on the northern portion. This also limits the access points, access will only be available on South Street, with no option for second access. Mr. Kane asked about the wetlands within the parcel and if it is worth it to get a permit to cross the stream. Mr. Brennan responded that there are potential vernal pools on site that if disrupted will trigger Army Corps of Engineers review. There is a 100 foot no-build on vernal pools, and 20 foot on wetlands. If staying outside of those limitations there is no requirement through the Army Corps of Engineers, however implications could be significant. Ms. Crockett added that that they were able to get wetlands info in the winter, which is challenging, through GPS technology to determine if it is certifiable vernal pools they would have to go back out in the spring. It would require greater disturbance of wetlands than initially thought, much greater than permitting issues. The next stage is to develop options into preferred solutions and use that info during the PSR phase.

Mr. Masiello asked if Lamoureux Pagano was committed to the flagging of wetlands. Ms. Crockett responded that they would be doing the final flagging in the spring, however the GPS technology used is highly reliable. The results will be formalized in the spring and included in the PDP. Mr. Masiello asked if this information makes the south end of the site undevelopable. Ms. Crockett responded that in terms of a school, it is undevelopable and Lamoureux would not be responsible since it could pose significant impact.

Mr. Brennan reviewed a revised Proposed Space Summary. Mr. Brennan pointed out that the revised summary now has two prosed columns with corresponding dates as well as MSBA guidelines. Lamoureux Pagano met with the School Committee on December 12th and identified area for reduction on overall square footage. Mr. Kane asked about the significance of variance from the MSBA guidelines, and why we are seeking space for common areas, ESL, ELL and planning if the MSBA does not have those guidelines. Dr. Sawyer responded that the MSBA template is deficient when it comes to those areas because those are programs that are required by the State. This is an area that many projects tend to come in over the MSBA template. Ms. Crockett added that the special education component is reviewed by the Department of Secondary Education and the MSBA has purview over this and will not likely comment unless they feel something in that category was in error. Ms. Crockett also reminded the Committee that the number of classrooms is over MSBA guidelines due to School Committee policies.

Dr. Sawyer handed out a document to the Committee detailing the K-4 configuration of all elementary schools. Mr. Masiello asked where the figures for all the common areas came from. Ms. Crockett responded that they looked at the common areas for Sherwood Middle, which work well, and reduced them by a grossing factor to get a net. The common area is an instructional space that is currently being carried as additional space. Ms. Crockett stated that Lamoureux Pagano would work to improve their efficiency factor to the extent they can, 1.54 is what the MSBA shows for their guidelines. Dr. Sawyer added that the School Committee would work with the architects to see if it is possible to decrease the square footage efficiently while having adequate space.

Mr. Gerardi asked if it is not in the MSBA guideline, is it not reimbursable? Mr. Queeney responded that educational spaces are important and as MSBA reviews the template and deems it necessary, they will accept it. Sherwood Middle School has a gym space that was larger than the guidelines but the committee was able to show the MSBA that it was used for educational purposes and it was approved. Once the DESE approves something, the MSBA would likely not challenge it.

Ms. Crockett and Mr. Brennan reviewed the Program Adjacency Diagram with the Committee. The bubbles are to show space relationships. Mr. Brennan stated that the core common space area is similar to Floral. The academic wing is in one direction so they don't create east and west. The classrooms are clustered around the common area similar to Sherwood. Mr. Brennan stated that they don't want to require the students to go to a different floor to get to a common space. The layout is designed not to overwhelm the younger kids. Mr. Cox commented that the diagram shows a lot of similarities to Floral and Sherwood and the bubbles give a good display of space relationships and sizes. Mr. Masiello asked if it needed to be a two story building. Ms. Crockett responded that it depends on the grading, but it would be the most efficient footprint. Mr. Masiello expressed his concern that a staircase may be difficult for smaller children.

5. Review and discuss the development Preliminary Design Plan

Ms. Crockett briefly reviewed the Feasibility Study Table of Contents with hope that the Committee will vote approval to submit to the MSBA by mid-February. The introduction is a series of documents that lead up to PDP. The arrival of the K-4 configuration will be greatly described. Mr. Kane requested that the draft document be put on Dropbox by close of business on January 18th.

6. Set date for next meeting

The next meeting is set for January 23, 2018 to vote on submitting the PDP to the MSBA.

7. Adjourn

On a motion by Dr. Sawyer, seconded by Mr. Masiello, the Committee unanimously voted to adjourn the meeting at 6:55 PM.

Respectfully Submitted,

Valerie B. Clemmey

Valerie Clemmey, Administrative Assistant to the Town Manager

Referenced Materials

Minutes and Bill Schedules as noted above
Proposed Space Summary
Program Adjacency Diagram
Proposed Feasibility Study Table of Contents
K-4 Grade Configuration
Budget Summary

DRAFT

Proposed Space Summary

Beal K-4 Elementary	Existing Conditions			Proposed 12-01-17			Proposed 12-12-17			MSBA Guidelines			
ROOM TYPE	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	Comments
CORE ACADEMIC SPACES		13	9,272			48,500			47,180		34	33,800	
(List classrooms of different sizes separately)													
Pre-Kindergarten w/ toilet						0			0	1,200		-	1,100 SF min - 1,300 SF max
Kindergarten w/ toilet				1,200	8	9,600	1,150	8	9,200	1,200	6	7,200	1,100 SF min - 1,300 SF max
Kindergarten without toilet		10	7,185			0			0				
General Classrooms - Grade 1-6		3	2,087	950	32	30,400	925	32	29,600	950	28	26,600	900 SF min - 1,000 SF max
Commons				650	8	5,200	650	8	5,200				
ESL/ELL				500	4	2,000	450	4	1,800				
Teacher Planning				325	4	1,300	325	4	1,300				
SPECIAL EDUCATION		4	2,783			14,260			14,160			9,960	
(List rooms of different sizes separately)													
Self-Contained SPED [Substantially Separate]		2	2,248	950	4	3,800	925	4	3,700	950	6	5,700	4% of pop. in self-contained SPED
Self-Contained SPED - toilet				80	4	320	80	4	320	60	6	360	
Resource Room [Inclusion]				375	16	6,000	375	16	6,000	500	4	2,000	1/2 size Gen. Clrm
Small Group Room / Reading				250	4	1,000	250	4	1,000	500	2	1,000	1/2 size Gen. Clrm
Reading Office				120	1	120	120	1	120				
Reading Storage				120	1	120	120	1	120				
Speech	285	1	285	250	2	500	250	2	500				
OT/PT	220	1	220	950	2	1,900	950	2	1,900				
Special Education Site Coordinator Office				150	1	150	150	1	150				
Special Education Conference Room				350	1	350	350	1	350				
Observation Rooms						0			0				
ART & MUSIC		1	332			5,300			5,075			5,075	
Art Classroom - 25 seats		1	332	1,000	2	2,000	1,000	2	2,000	1,000	2	2,000	assumed schedule 2 times / week / student
Art Workroom w/ Storage & kiln				150	2	300	150	2	300	150	2	300	
Music Classroom / Large Group - 25-50 seats				1,500	2	3,000	1,500	1	1,500				
Music Classroom						0	1,275	1	1,275	1,200	2	2,400	assumed schedule 2 times / week / student
Music Practice / Ensemble				75	0	0	75	0	0	75	5	375	
HEALTH & PHYSICAL EDUCATION		4	3,269			7,650			7,650			6,300	
Gymnasium	3,126	1	3,126	7,000	1	7,000	7,000	1	7,000	6,000	1	6,000	6000 SF Min. Size
Gym Storeroom [includes Recreation Storage]		3	143	500	1	500	500	1	500	150	1	150	
Health instructor's Office w/ Shower & Toilet				150	1	150	150	1	150	150	1	150	
MEDIA CENTER		1	691			4,225			4,225			4,225	
Media Center / Reading Room	691	1	691	3,025	1	3,025	3,025	1	3,025	4,225	1	4,225	
Meeting Area [80 People]				1,200	1	1,200	1,200	1	1,200				
Office						0			0				
Workroom						0			0				
Storage						0			0				
Computers						0			0				
Maker Space						0			0				
Books						0			0				
Health						0			0				
IT Office						0			0				
DINING & FOOD SERVICE		3	2,178			11,386			10,461			9,776	
Cafeteria / Dining	954	1	954	5,925	1	5,925	5,000	1	5,000	5,925	1	5,925	2 seatings - 15SF per seat
Stage				1,500	1	1,500	1,500	1	1,500	1,000	1	1,000	
Chair / Table / Equipment Storage				463	1	463	463	1	463	463	1	463	
Kitchen	650	1	650	3,200	1	3,200	3,200	1	3,200	2,090	1	2,090	1800 SF for first 300 + 1 SF/student Addl
Staff Lunch Room	571	1	571	298	1	298	298	1	298	298	1	298	20 SF/Occupant
MEDICAL		2	172			960			960			710	
Medical Suite Toilet with Shower	54	1	54	100	1	100	100	1	100	60	1	60	
Nurses' Office / Waiting Room				350	1	350	350	1	350	250	1	250	
Examination Room / Resting	118	1	118	100	5	500	100	5	500	100	4	400	
ADMINISTRATION & GUIDANCE		6	1,026			3,338			2,925			2,925	
General Office / Waiting Room / Toilet	192	2	384	1,000	1	1,000	590	1	590	545	1	545	
Teachers' Mail and Time Room				100	1	100	100	1	100	100	1	100	
Duplicating Room				150	1	150	150	1	150	150	1	150	
Records Room				110	1	110	110	1	110	110	1	110	
Principal's Office w/ Conference Area	168	1	168	200	1	200	200	1	200	375	1	375	
Principal's Secretary / Waiting						0			0	125	1	125	
Assistant Principal's Office				150	1	150	150	1	150	120	1	120	
Supervisory / Spare Office				150	1	150	150	1	150	120	1	120	
Conference Room				400	1	400	400	1	400	250	1	250	
Guidance Office [Psychologist/Counselor]				150	3	450	150	3	450	150	3	450	
Guidance Storeroom				35	1	35	35	1	35	35	1	35	
Teachers' Work Room	208	1	208			0			0	545	1	545	
Instructional Coaches/Curriculum Coordinator	133	1	133	120	2	240	120	2	240				
Instructional/Curriculum Conference Room	133	1	133	350	1	350	350	1	350				
CUSTODIAL & MAINTENANCE		4	631			2,390			2,390			2,390	
Custodian's Office	445	1	445	150	1	150	150	1	150	150	1	150	
Custodian's Workshop				375	1	375	375	1	375	375	1	375	
Custodian's Storage		2	38	375	1	375	375	1	375	375	1	375	
Recycling Room / Trash				400	1	400	400	1	400	400	1	400	
Receiving and General Supply				363	1	363	363	1	363	363	1	363	
Storeroom				527	1	527	527	1	527	527	1	527	
Network / Telecom Room	48	1	48	200	1	200	200	1	200	200	1	200	
OTHER			0			370			0			0	
Other *(specify)*						0			0				
Extended Day Office				120	1	120			0				
Extended Day storage				250	1	250			0				Floral ±200sqft - Sherwood 230sqft
Total Building Net Floor Area (NFA)			20,221			98,366			94,936			74,251	
Proposed Student Capacity / Enrollment						790			790			790	
Total Building Gross Floor Area (GFA)[2]			33,779			151,484			146,201			114,550	
Grossing factor (GFA/NFA)			1.67			1.54			1.54			1.54	

[1] Individual Room Net Floor Area (NFA) — Includes the net square footage measured from the inside face of the perimeter walls and includes all specific spaces assigned to a particular program area including such spaces as non-communal toilets and storage rooms.

[2] Total Building Gross Floor Area (GFA) — Includes the entire building gross square footage measured from the outside face of exterior walls

Architect Certification

I hereby certify that all of the information provided in this "Proposed Space Summary" is true, complete and accurate and, except as agreed to in writing by the Massachusetts School Building Authority, in accordance with the guidelines, rules, regulations and policies of the Massachusetts School Building Authority to the best of my knowledge and belief. A true statement, made under the penalties of perjury.

Name of Architect Firm: _____

Name of Principal Architect: _____

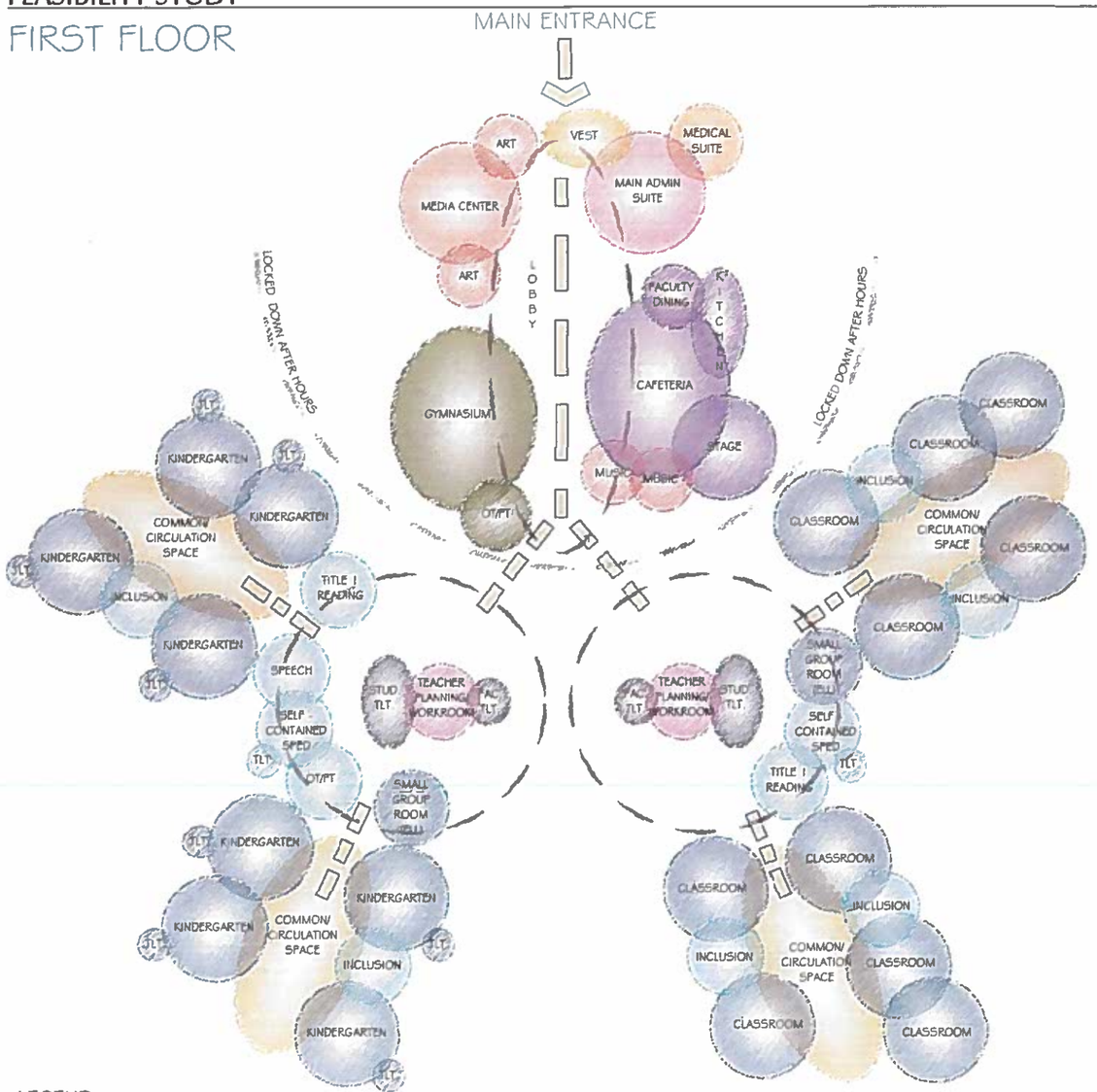
Signature of Principal Architect: _____

Date: _____

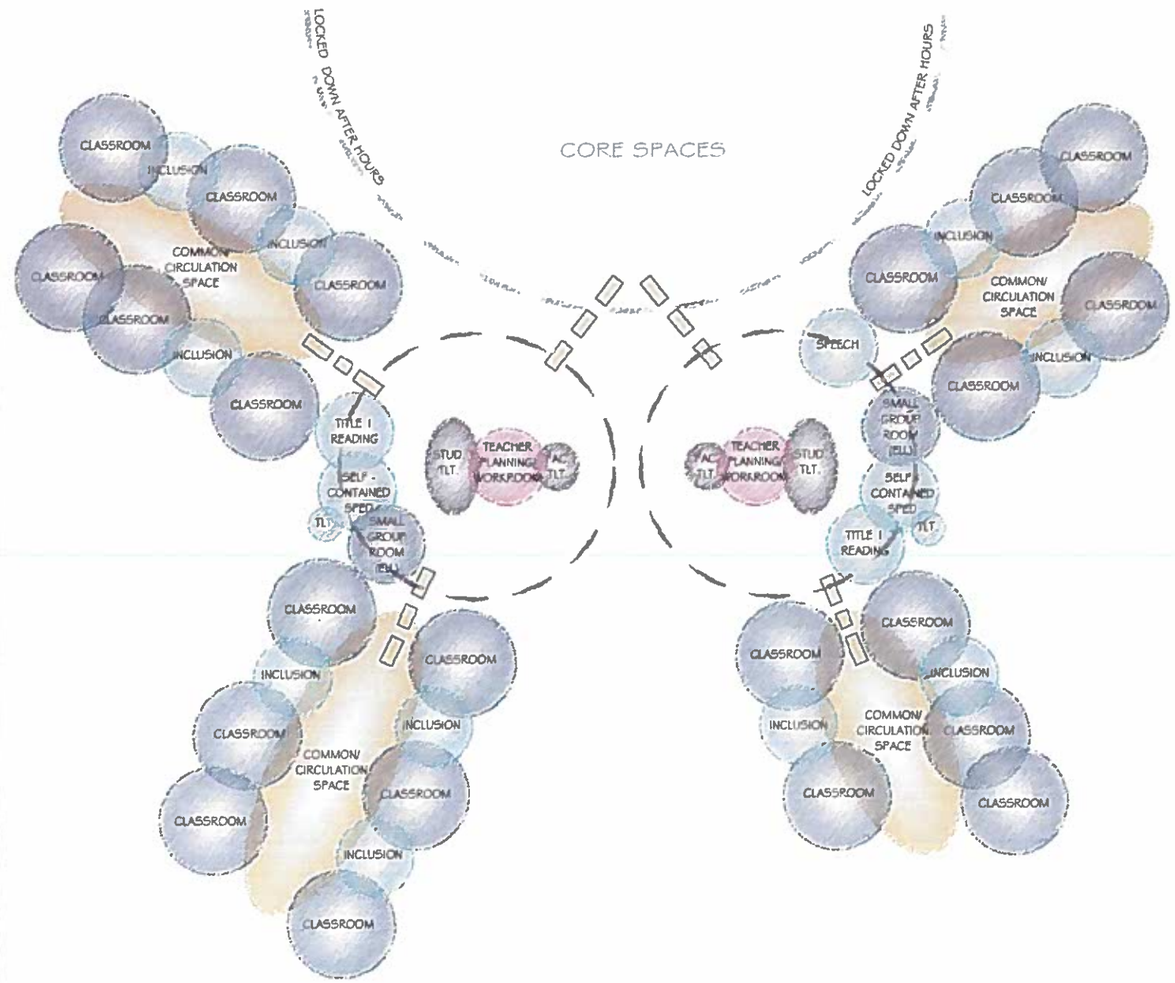
DRAFT

FEASIBILITY STUDY

FIRST FLOOR



SECOND FLOOR



LEGEND

- CORE ACADEMIC
- SPECIAL EDUCATION
- MEDIA / ART / MUSIC
- DINING & FOOD SERVICE
- ADMIN & GUIDANCE
- MEDICAL
- HEALTH & PE
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3. Existing Conditions Report-Environmental, CR Environmental
4. Existing Conditions Report-Structural, Bolton & DiMartino, Inc.
5. Existing Conditions Report-Fire Protection, Sensible Solutions
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K-4 GRADE CONFIGURATION- ALL ELEMENTARY SCHOOLS

CURRENT CONDITIONS				FUTURE PLAN				
School	Core Classrooms	Actual Enrollment 10/1/2017	Configuration	School	Core Classrooms	Target Enrollment 10/1/2025	K-4 Configuration	Enrollment Drawdown to Relieve Crowding
Coolidge	19	415	FDK-4, Sections vary	Coolidge	15	308	3 sections each, K-4	107
Paton	16	343	FDK-4, Sections vary	Paton	15	308	3 sections each, K-4	35
Spring	17	357	FDK-4, Sections vary	Spring	15	308	3 sections each, K-4	49
Floral	32	753	Gr. 1-4, Sections vary	Floral	30	608	6 sections each, K-4	145
		1868				1532		336
Beal ECC*	13	310	HDK, FDK & Gr. 1, Sections vary	Beal 2.0	40	790	8 sections each, K-4	
	97	2178			115	2322		

		Class Size Avg. K-4	Classrooms Required
Enrollment Drawdown	336	20	17
Enrollment Growth	132	20	7
Add'l Seats for Universal FDK	57	20	3
Current Beal Capacity*	265	20	13
	790	20	40

School Committee Class Size Guidelines	
Kindergarten	17-19
Gr. 1-2	20-22
Gr. 3-4	22-24

Enrollment drawdown from existing elementary schools provides parity of dedicated spaces across all elementary schools for Art, Music, Special Education, and ELL services.

** Beal ECC current enrollment [310] is a total headcount of all students attending full-day kindergarten, half-day kindergarten, and Grade 1. Of the total 138 students enrolled in half-day kindergarten- 65 attend in the morning session and 73 attend in the afternoon.*

**Beal ECC capacity [265] is the total amount of students the school has space for at any one time.*

PMA Consultants
35 Braintree Hill Office Park, Suite 300 ▪ Braintree, MA 02184
Tel: 781.794.1404 ▪ Fax: 781.794.1405

SHREWSBURY PUBLIC SCHOOLS

Beal Early Childhood Center Project
January 9, 2018

BUDGET SUMMARY	
Feasibility Study Agreement Budget	**$1,200,000**
Architect Feasibility Study	350,000
Architect Schematic Design	400,000
Sub Total A/E	**$750,000**
OPM FS/SD	242,556
Total Contract Values to Date	**$992,556**
Invoices/Cost To Date (thru Dec. 2017)	**$290,309**
Balance to Finish	**$909,691**
ProPay Reimbursement Payments to Date	**$68,208**
ProPay Reimbursements Payments Pending *(As of 1.09.2018 ProPay No. 5 in process with the MSBA)*	**$25,931**

BEAL EARLY CHILDHOOD
CENTER BUILDING COMMITTEE

TELEPHONE: (508) 841-8508
FAX: (508) 842-0587

RECEIVED
TOWN CLERK'S OFFICE
2018 JAN 19 PM 2:30
SHREWSBURY, MASS

TOWN OF SHREWSBURY

Richard D. Carney Municipal Office Building
100 Maple Avenue
Shrewsbury, Massachusetts 01545-5338

January 18, 2018

To: Beal Early Childhood Center Building Committee

From: Kevin J. Mizikar

Re: Public Meeting Notice & Agenda

The Beal Early Childhood Center Building Committee will meet and hear comments from interested parties on Tuesday, January 23, 2018, at 6:00 PM in the Old Selectmen's Meeting Room – 100 Maple Avenue to consider the following agenda:

AGENDA

1. Call to Order

2. Hear reports, review and act on the following matters:
    a. Report from the Owner's Project Manager
        i. Project Schedule
        ii. Project Financials
    b. Report from the Architect
        i. Site Selection Refinement
3. Public Hearing: Review and vote on authorizing the submission of the Preliminary Design Plan to the Massachusetts School Building Authority
4. Set date for next meeting
5. Adjourn

Referenced Materials

Minutes and Bill Schedules as noted above

BEAL EARLY CHILDHOOD
CENTER BUILDING COMMITTEE

TELEPHONE: (508) 841-8508
FAX: (508) 842-0587

TOWN OF SHREWSBURY

Richard D. Carney Municipal Office Building
100 Maple Avenue
Shrewsbury, Massachusetts 01545-5338

January 23, 2018
MINUTES

Present: Mr. Kane, Ms. Boucher, Dr. Sawyer, Mr. Gerardi, Mr. Cox, Mr. Mizikar, Mr. Masiello, Ms. Fryc, Mr. Collins
Also Present: Ms. Kristen Las, Assistant Town Manager, Mr. Paul Queeney and Ms. Deborah Shaer of PMA Consultants, LLC, Ms. Katie Crockett and Mr. Sean Brennan of Lamoureux Pagano & Associates

1. **Call to Order**

Mr. Kane called the meeting to order at 6:00 PM.

2. **Hear reports, review and act on the following matters:**

   a. **Report from the Owner's Project Manager**

      i. **Project Schedule**

Mr. Queeney stated that the project is on schedule and on track for submittal on preliminary design.

      ii. **Project Financials**

Ms. Shaer reviewed the budget summary document and stated that not much has changed since last meeting.

   b. **Report from the Architect**

      i. **Site Selection Refinement**

Ms. Crockett stated that the committee is progressing toward submitting the preliminary design by mid-February. PMA in conjunction with Lamoureux Pagano reviewed a PowerPoint presentation. Mr. Queeney reviewed the project schedule on the first slide. Ms. Crockett reviewed the summary of the table of contents for the MSBA feasibility study and the revised proposed space summary. Mr. Collins then reviewed the Beal Project and Elementary Schools Future Space Plan. Mr. Collins stated that 40 classrooms was reached by enrollment drawdown from other schools, enrollment growth, and full implementation of universal full day kindergarten. Beal School currently has 13 classrooms. When other schools are drawn down, classrooms in those schools can be repurposed for existing programs that currently don't have the space. Ms. Crockett reminded the Committee that that number is also based on school committee guidelines. Ms. Crocket pointed out that the revised space summary has 8,748 square

feet in overall reduction. Mr. Collins reviewed the Shrewsbury Public School Capacities. Floral, Sherwood, Oak, and Shrewsbury High School are all currently over capacity. Ms. Crockett stated that it is important to design Beal with a perspective on future growth. Mr. Collins stated that the committee really needs to right-size this project and keep in mind that MSBA currently reimburses 50%, however if additions are needed in the future it is 100% the Town's responsibility.

Mr. Brennan reviewed the options of new construction for Beal at the various sites considered through a series of aerial maps. Ms. Crockett stated that the committee should reach a decision on site selection by early April. Mr. Kane stated that Glavin is in progress to be acquired by the Town and currently pending legislature. Ms. Crockett stated that there are significant wetlands that have been assumed at the Allen farm site and geotechnical work and traffic reports will come in soon.

Mr. Queeny reviewed a chart from 2010 to 2017 that the MSBA developed regarding MSBA construction cost data to demonstrate current trends in the marketplace. The market is showing that we may anticipate bid prices in the range of $462-$486 a square foot. Mr. Kane stated the process now with MSBA, an all-encompassing estimate is necessary. Mr. Queeny stated that standard deviation estimates average 4.5% higher than bids resulting in a projection of $483-$508 square feet annually. Mr. Kane asked that Mr. Queeney run the numbers for 3%, 4%, and 5% for next meeting. Ms. Crockett reviewed a comparative cost analysis of the different options for construction. The construction budget is multiplied by a factor of 1.25 to equal the project budget. The acquisition costs for Glavin are not currently included in the cost analysis. Mr. Queeney stated that the final estimates will be done in October. Ms. Crockett stated that the three options recommended to be pursued is base repair at Beal, and new construction at Glavin and Allen Farm. Three options are needed by MSBA guidelines.

3. **Public Hearing: Review and vote on authorizing the submission of the Preliminary Design Plan to the Massachusetts School Building Authority**

No one in the audience wished to make a public comment. On a motion by Ms. Fryc, seconded by Mr. Gerardi, the committee unanimously voted 9 to 0 to authorize the OPM/Architect to submit the Preliminary Design Plan to the Massachusetts School Building Authority.

4. **Set date for next meeting**

Mr. Kane set Feb 13th as the next meeting date and Feb 26th to bring in a LPA consultant to bridge the gap from the building code today to the next level of efficiency.

5. **Adjourn**

On a motion by Mr. Masiello, seconded by Ms. Boucher, the Committee unanimously voted to adjourn at 6:50 PM.

Referenced Materials

PowerPoint presentation from Lamoureux Pagano and PMA Consultants
Proposed Space summary
Budget Summary
Beal Project and Elementary Schools Future Space Plan
Preliminary Design Plan

PMA Consultants
35 Braintree Hill Office Park, Suite 300 • Braintree, MA 02184
Tel: 781.794.1404 • Fax: 781.794.1405

SHREWSBURY PUBLIC SCHOOLS

Beal Early Childhood Center Project
January 23, 2018

BUDGET SUMMARY	
Feasibility Study Agreement Budget	**$1,200,000**
Architect Feasibility Study	350,000
Architect Schematic Design	400,000
Amendment No. 001 – Add'tl Preliminary Site Study and Haz-Mat Inspection @ 214 Lake Street	9,500
Sub Total A/E	**$759,500**
OPM FS/SD	242,556
Total Contract Values to Date	**$1,002,056**
Invoices/Cost To Date (thru Dec. 2017)	**$290,309**
Balance to Finish	**$909,691**
ProPay Reimbursement Payments to Date	**$67,364**
ProPay Reimbursements Payments Pending *(As of 1.23.2018 ProPay No. 5 & 6 are in process with the MSBA)*	**$51,746**

Proposed Space Summary

Beal K-4 Elementary	Existing Conditions			Proposed 12-01-17			Proposed 12-12-17			Proposed 01-11-17			MSBA Guidelines			
ROOM TYPE	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	Comments
CORE ACADEMIC SPACES		**13**	**9,272**			**48,500**			**47,100**			**46,650**		**34**	**33,800**	
(List classrooms of different sizes separately)																
Pre-Kindergarten w/ toilet						0			0			0	1,200		-	1,100 SF min - 1,300 SF max
Kindergarten w/ toilet				1,200	8	9,600	1,150	8	9,200	1,150	8	9,200	1,200	6	7,200	1,100 SF min - 1,300 SF max
Kindergarten without toilet		10	7,185			0			0			0				
General Classrooms - Grade 1-6		3	2,087	950	32	30,400	925	32	29,600	925	32	29,600	950	28	26,600	900 SF min - 1,000 SF max
Commons				650	8	5,200	650	8	5,200	650	8	5,200				
ESL/ELL				500	4	2,000	450	4	1,800	450	3	1,350				
Teacher Planning				325	4	1,300	325	4	1,300	325	4	1,300				
SPECIAL EDUCATION		**4**	**2,753**			**14,260**			**14,160**			**12,360**			**9,060**	
(List rooms of different sizes separately)																
Self-Contained SPED [Substantially Separate]		2	2,248	950	4	3,800	925	4	3,700	925	4	3,700	950	6	5,700	8% of pop in self-contained SPED
Self-Contained SPED - toilet				80	4	320	80	4	320	80	4	320	60	6	360	
Resource Room [Inclusion]				375	16	6,000	375	16	6,000	375	12	4,500	500	4	2,000	1/2 size Genl. Clrm.
Small Group Room / Reading				250	4	1,000	250	4	1,000	250	3	750	500	2	1,000	1/2 size Genl. Clrm.
Reading Office				120	1	120	120	1	120	120	1	120				
Reading Storage				120	1	120	120	1	120	120	1	120				
Speech	285	1	285	250	2	500	250	2	500	250	2	500				
OT/PT	220	1	220	950	2	1,900	950	2	1,900	925	2	1,850				
Special Education Site Coordinator Office				150	1	150	150	1	150	150	1	150				
Special Education Conference Room				350	1	350	350	1	350	350	1	350				
ART & MUSIC		**1**	**332**			**5,300**			**5,075**			**5,075**			**5,075**	
Art Classroom - 25 seats		1	332	1,000	2	2,000	1,000	2	2,000	1,000	2	2,000	1,000	2	2,000	assumed schedule 2 times / week / student
Art Workroom w/ Storage & kiln				150	2	300	150	2	300	150	2	300	150	2	300	
Music Classroom / Large Group - 25-50 seats				1,500	2	3,000	1,500	1	1,500	1,500	1	1,500				
Music Classroom						0	1,275	1	1,275	1,275	1	1,275	1,200	2	2,400	assumed schedule 2 times / week / student
Music Practice / Ensemble				75	0	0	75	0	0	75	0	0	75	5	375	
HEALTH & PHYSICAL EDUCATION		**4**	**3,269**			**7,650**			**7,650**			**7,650**			**6,300**	
Gymnasium	3,126	1	3,126	7,000	1	7,000	7,000	1	7,000	7,000	1	7,000	6,000	1	6,000	6000 SF Min. Size
Gym Storeroom [Includes Recreation Storage]		3	143	500	1	500	500	1	500	500	1	500	150	1	150	
Health Instructor's Office w/ Shower & Toilet				150	1	150	150	1	150	150	1	150	150	1	150	
MEDIA CENTER		**1**	**691**			**4,225**			**4,225**			**4,225**			**4,225**	
Media Center / Reading Room	691	1	691	3,025	1	3,025	3,025	1	3,025	3,025	1	3,025	4,225	1	4,225	
Meeting Area [80 People]				1,200	1	1,200	1,200	1	1,200	1,200	1	1,200				
Office						0			0			0				
Workroom						0			0			0				
Storage						0			0			0				
Computers						0			0			0				
Maker Space						0			0			0				
Books						0			0			0				
Health						0			0			0				
IT Offfice						0			0			0				
DINING & FOOD SERVICE		**3**	**2,175**			**11,386**			**10,461**			**10,461**			**9,776**	
Cafeteria / Dining	954	1	954	5,925	1	5,925	5,000	1	5,000	5,000	1	5,000	5,925	1	5,925	2 seatings - 15SF per seat
Stage				1,500	1	1,500	1,500	1	1,500	1,500	1	1,500	1,000	1	1,000	
Chair / Table / Equipment Storage				463	1	463	463	1	463	463	1	463	463	1	463	
Kitchen	650	1	650	3,200	1	3,200	3,200	1	3,200	3,200	1	3,200	2,090	1	2,090	1600 SF for first 300 + 1 SF/student Add'l
Staff Lunch Room	571	1	571	298	1	298	298	1	298	298	1	298	298	1	298	20 SF/Occupant

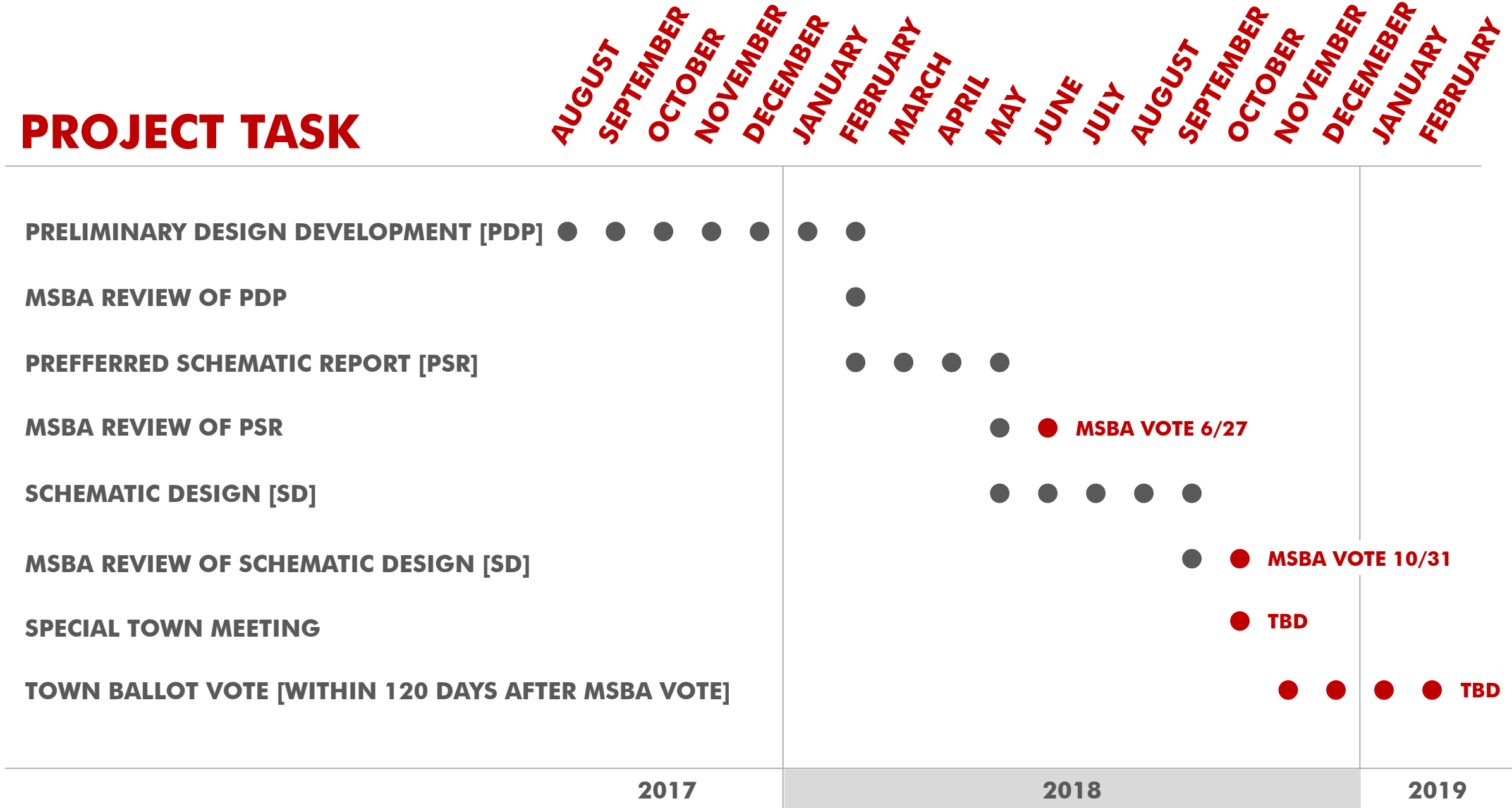
Proposed Space Summary

Beal K-4 Elementary	**Existing Conditions**			**Proposed 12-01-17**			**Proposed 12-12-17**			**Proposed 01-11-17**			**MSBA Guidelines**			
ROOM TYPE	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	Comments
MEDICAL		**2**	**172**			**950**			**950**			**950**			**710**	
Medical Suite Toilet with Shower	54	1	54	100	1	100	100	1	100	100	1	100	60	1	60	
Nurses' Office / Waiting Room				350	1	350	350	1	350	350	1	350	250	1	250	
Examination Room / Resting	118	1	118	100	5	500	100	5	500	100	5	500	100	4	400	
ADMINISTRATION & GUIDANCE		**6**	**1,026**			**3,335**			**2,925**			**2,925**			**2,926**	
General Office / Waiting Room / Toilet	192	2	384	1,000	1	1,000	590	1	590	590	1	590	545	1	545	
Teachers' Mail and Time Room				100	1	100	100	1	100	100	1	100	100	1	100	
Duplicating Room				150	1	150	150	1	150	150	1	150	150	1	150	
Records Room				110	1	110	110	1	110	110	1	110	110	1	110	
Principal's Office w/ Conference Area	168	1	168	200	1	200	200	1	200	200	1	200	375	1	375	
Principal's Secretary / Waiting						0			0			0	125	1	125	
Assistant Principal's Office				150	1	150	150	1	150	150	1	150	120	1	120	
Supervisory / Spare Office				150	1	150	150	1	150	150	1	150	120	1	120	
Conference Room				400	1	400	400	1	400	400	1	400	250	1	250	
Guidance Office [Psychologist/Counselor]				150	3	450	150	3	450	150	3	450	150	3	450	
Guidance Storeroom				35	1	35	35	1	35	35	1	35	35	1	35	
Teachers' Work Room	208	1	208			0			0			0	545	1	545	
Instructional Coaches/Curriculum Coordinator	133	1	133	120	2	240	120	2	240	120	2	240				
Instructional/Curriculum Conference Room	133	1	133	350	1	350	350	1	350	350	1	350				
CUSTODIAL & MAINTENANCE		**4**	**531**			**2,390**			**2,390**			**2,390**			**2,390**	
Custodian's Office	445	1	445	150	1	150	150	1	150	150	1	150	150	1	150	
Custodian's Workshop				375	1	375	375	1	375	375	1	375	375	1	375	
Custodian's Storage		2	38	375	1	375	375	1	375	375	1	375	375	1	375	
Recycling Room / Trash				400	1	400	400	1	400	400	1	400	400	1	400	
Receiving and General Supply				363	1	363	363	1	363	363	1	363	363	1	363	
Storeroom				527	1	527	527	1	527	527	1	527	527	1	527	
Network / Telecom Room	48	1	48	200	1	200	200	1	200	200	1	200	200	1	200	
OTHER			**0**			**370**			**0**			**0**			**0**	
Other *(specify)*						0			0			0				
Extended Day Office				120	1	120			0			0				
Extended Day storage				250	1	250			0			0				Floral ±200sqft - Sherwood 230sqft
Total Building Net Floor Area (NFA)			20,221			98,366			94,936			92,686			74,261	
Proposed Student Capacity / Enrollment						790			790			790			790	
Total Building Gross Floor Area (GFA)[2]			33,779			151,484			146,201			142,736			114,550	
Grossing factor (GFA/NFA)			1.67			1.54			1.54			1.54			1.54	

BEAL EARLY CHILDHOOD CENTER

SCHEDULE

PROJECT TASK



PRELIMINARY DESIGN PROGRAM

Beal Early Childhood Center
1 Maple Avenue, Shrewsbury, MA 01545

MSBA Feasibility Study

Preliminary Design Program (PDP)

January 18, 2018 – DRAFT REVIEW

MSBA
Massachusetts School Building Authority
40 Broad Street, Suite 500, Boston, MA 02111

OWNER
Town of Shrewsbury, MA
100 Maple Avenue, Shrewsbury, MA 01545

OPM
PMA Consultants
35 Braintree Hill Office Park, Suite 300, Braintree, MA 02184

DESIGNER
Lamoureux Pagano & Associates, Inc.
108 Grove Street, Suite 300, Worcester, MA 01605

DRAFT

Prepared by:

LAMOUREUX·PAGANO
ARCHITECTS PROJECT MANAGERS

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B. Base Repair Option

C. Existing Site Development Options

D. New Construction on Alternate Site

E. Comparative Cost Analysis

F. Recommended Alternatives for Further Development and Evaluation

3.1.7 LOCAL ACTIONS AND APPROVALS

B. Local Actions and Approvals Certification

MSBA SPACE SUMMARY TEMPLATE

Beal K-4 Elementary	Existing Conditions			Proposed 12-01-17			Proposed 12-12-17			Proposed 01-11-17			MSBA Guidelines			
ROOM TYPE	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	Comments
CORE ACADEMIC SPACES		**13**	**9,272**			**48,500**			**47,100**			**46,650**		**34**	**33,800**	
(List classrooms of different sizes separately)																
Pre-Kindergarten w/ toilet						0			0			0	1,200		-	1,100 SF min - 1,300 SF max
Kindergarten w/ toilet				1,200	8	9,600	1,150	8	9,200	1,150	8	9,200	1,200	6	7,200	1,100 SF min - 1,300 SF max
Kindergarten without toilet		10	7,185			0			0			0				
General Classrooms - Grade 1-6		**3**	2,087	950	32	30,400	925	32	29,600	925	32	29,600	950	28	26,600	900 SF min - 1,000 SF max
Commons				650	8	5,200	650	8	5,200	650	8	5,200				
ESL/ELL				500	4	2,000	450	4	1,800	450	3	1,350				
Teacher Planning				325	4	1,300	325	4	1,300	325	4	1,300				
SPECIAL EDUCATION		**4**	**2,753**			**14,260**			**14,160**			**12,360**			**9,060**	
(List rooms of different sizes separately)																
Self-Contained SPED [Substantially Separate]		2	2,248	950	4	3,800	925	4	3,700	925	4	3,700	950	6	5,700	8% of pop. in self-contained SPED
Self-Contained SPED - toilet				80	4	320	80	4	320	80	4	320	60	6	360	
Resource Room [Inclusion]				375	16	6,000	375	16	6,000	375	12	4,500	500	4	2,000	1/2 size Genl. Clrm.
Small Group Room / Reading				250	4	1,000	250	4	1,000	250	3	750	500	2	1,000	1/2 size Genl. Clrm.
Reading Office				120	1	120	120	1	120	120	1	120				
Reading Storage				120	1	120	120	1	120	120	1	120				
Speech	285	1	285	250	2	500	250	2	500	250	2	500				
OT/PT	220	1	220	950	2	1,900	950	2	1,900	925	2	1,850				
Special Education Site Coordinator Office				150	1	150	150	1	150	150	1	150				
Special Education Conference Room				350	1	350	350	1	350	350	1	350				
ART & MUSIC		**1**	**332**			**5,300**			**5,075**			**5,075**			**5,075**	
Art Classroom - 25 seats		1	332	1,000	2	2,000	1,000	2	2,000	1,000	2	2,000	1,000	2	2,000	assumed schedule 2 times / week / student
Art Workroom w/ Storage & kiln				150	2	300	150	2	300	150	2	300	150	2	300	
Music Classroom / Large Group - 25-50 seats				1,500	2	3,000	1,500	1	1,500	1,500	1	1,500				
Music Classroom						0	1,275	1	1,275	1,275	1	1,275	1,200	2	2,400	assumed schedule 2 times / week / student
Music Practice / Ensemble				75	0	0	75	0	0	75	0	0	75	5	375	
HEALTH & PHYSICAL EDUCATION		**4**	**3,269**			**7,650**			**7,650**			**7,650**			**6,300**	
Gymnasium	3,126	1	3,126	7,000	1	7,000	7,000	1	7,000	7,000	1	7,000	6,000	1	6,000	6000 SF Min. Size
Gym Storeroom [Includes Recreation Storage]		3	143	500	1	500	500	1	500	500	1	500	150	1	150	
Health Instructor's Office w/ Shower & Toilet				150	1	150	150	1	150	150	1	150	150	1	150	
MEDIA CENTER		**1**	**691**			**4,225**			**4,225**			**4,225**			**4,225**	
Media Center / Reading Room	691	1	691	3,025	1	3,025	3,025	1	3,025	3,025	1	3,025	4,225	1	4,225	
Meeting Area [80 People]				1,200	1	1,200	1,200	1	1,200	1,200	1	1,200				
Office						0			0			0				
Workroom						0			0			0				
Storage						0			0			0				
Computers						0			0			0				
Maker Space						0			0			0				
Books						0			0			0				
Health						0			0			0				
IT Offfice						0			0			0				
DINING & FOOD SERVICE		**3**	**2,175**			**11,386**			**10,461**			**10,461**			**9,776**	
Cafeteria / Dining	954	1	954	5,925	1	5,925	5,000	1	5,000	5,000	1	5,000	5,925	1	5,925	2 seatings - 15SF per seat
Stage				1,500	1	1,500	1,500	1	1,500	1,500	1	1,500	1,000	1	1,000	
Chair / Table / Equipment Storage				463	1	463	463	1	463	463	1	463	463	1	463	
Kitchen	650	1	650	3,200	1	3,200	3,200	1	3,200	3,200	1	3,200	2,090	1	2,090	1600 SF for first 300 + 1 SF/student Add'l
Staff Lunch Room	571	1	571	298	1	298	298	1	298	298	1	298	298	1	298	20 SF/Occupant
MEDICAL		**2**	**172**			**950**			**950**			**950**			**710**	

MSBA SPACE SUMMARY TEMPLATE

BEAL PROJECT AND ELEMENTARY SCHOOLS FUTURE SPACE PLAN
K-4 GRADE CONFIGURATION- ALL ELEMENTARY SCHOOLS

CURRENT CONDITIONS				FUTURE PLAN				
School	Core Classrooms	Actual Enrollment 10/1/2017	Configuration	School	Core Classrooms	Target Enrollment 10/1/2025	K-4 Configuration	Enrollment Drawdown to Relieve Crowding
Coolidge	19	415	FDK-4, Sections vary	Coolidge	15	308	3 sections each, K-4	107
Paton	16	343	FDK-4, Sections vary	Paton	15	308	3 sections each, K-4	35
Spring	17	357	FDK-4, Sections vary	Spring	15	308	3 sections each, K-4	49
Floral	32	753	Gr. 1-4, Sections vary	Floral	30	608	6 sections each, K-4	145
		1868				1532		336
Beal ECC*	13	310	HDK, FDK & Gr. 1, Sections vary	Beal 2.0	40	790	8 sections each, K-4	
	97	2178			115	2322		

		Class Size Avg. K-4	Classrooms Required
Enrollment Drawdown	336	20	17
Enrollment Growth	132	20	7
Add'l Seats for Universal FDK	57	20	3
Current Beal Capacity*	265	20	13
	790	20	40

School Committee Class Size Guidelines	
Kindergarten	17-19
Gr. 1-2	20-22
Gr. 3-4	22-24

Enrollment drawdown from existing elementary schools provides parity of dedicated spaces across all elementary schools for Art, Music, Special Education, and ELL services.

** Beal ECC current enrollment [310] is a total headcount of all students attending full-day kindergarten, half-day kindergarten, and Grade 1. Of the total 138 students enrolled in half-day kindergarten- 65 attend in the morning session and 73 attend in the afternoon.*

**Beal ECC capacity [265] is the total amount of students the school has space for at any one time.*

MSBA SPACE SUMMARY TEMPLATE

Beal K-4 Elementary

ROOM TYPE	Existing Conditions			Proposed 12-01-17			Proposed 12-12-17			Proposed 01-11-17			MSBA Guidelines			
	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	Comments
CORE ACADEMIC SPACES		13	9,272			48,500			47,100			46,650		34	33,800	
(List classrooms of different sizes separately)																
Pre-Kindergarten w/ toilet						0			0			0	1,200		-	1,100 SF min - 1,300 SF max
Kindergarten w/ toilet				1,200	8	9,600	1,150	8	9,200	1,150	8	9,200	1,200	6	7,200	1,100 SF min - 1,300 SF max
Kindergarten without toilet		10	7,185			0			0			0				
General Classrooms - Grade 1-6		3	2,087	950	32	30,400	925	32	29,600	925	32	29,600	950	28	26,600	900 SF min - 1,000 SF max
Commons				650	8	5,200	650	8	5,200	650	8	5,200				
ESL/ELL				500	4	2,000	450	4	1,800	450	3	1,350				
Teacher Planning				325	4	1,300	325	4	1,300	325	4	1,300				
SPECIAL EDUCATION		4	2,753			14,260			14,160			12,360			9,060	
(List rooms of different sizes separately)																
Self-Contained SPED [Substantially Separate]		2	2,248	950	4	3,800	925	4	3,700	925	4	3,700	950	6	5,700	8% of pop. in self-contained SPED
Self-Contained SPED - toilet				80	4	320	80	4	320	80	4	320	60	6	360	
Resource Room [Inclusion]				375	16	6,000	375	16	6,000	375	12	4,500	500	4	2,000	1/2 size Genl. Clrm.
Small Group Room / Reading				250	4	1,000	250	4	1,000	250	3	750	500	2	1,000	1/2 size Genl. Clrm.
Reading Office				120	1	120	120	1	120	120	1	120				
Reading Storage				120	1	120	120	1	120	120	1	120				
Speech	285	1	285	250	2	500	250	2	500	250	2	500				
OT/PT	220	1	220	950	2	1,900	950	2	1,900	925	2	1,850				
Special Education Site Coordinator Office				150	1	150	150	1	150	150	1	150				
Special Education Conference Room				350	1	350	350	1	350	350	1	350				
ART & MUSIC		1	332			5,300			5,075			5,075			5,075	
Art Classroom - 25 seats		1	332	1,000	2	2,000	1,000	2	2,000	1,000	2	2,000	1,000	2	2,000	assumed schedule 2 times / week / student
Art Workroom w/ Storage & kiln				150	2	300	150	2	300	150	2	300	150	2	300	
Music Classroom / Large Group - 25-50 seats				1,500	2	3,000	1,500	1	1,500	1,500	1	1,500				
Music Classroom						0	1,275	1	1,275	1,275	1	1,275	1,200	2	2,400	assumed schedule 2 times / week / student
Music Practice / Ensemble				75	0	0	75	0	0	75	0	0	75	5	375	
HEALTH & PHYSICAL EDUCATION		4	3,269			7,650			7,650			7,650			6,300	
Gymnasium	3,126	1	3,126	7,000	1	7,000	7,000	1	7,000	7,000	1	7,000	6,000	1	6,000	6000 SF Min. Size
Gym Storeroom [Includes Recreation Storage]		3	143	500	1	500	500	1	500	500	1	500	150	1	150	
Health Instructor's Office w/ Shower & Toilet				150	1	150	150	1	150	150	1	150	150	1	150	
MEDIA CENTER		1	691			4,225			4,225			4,225			4,225	
Media Center / Reading Room	691	1	691	3,025	1	3,025	3,025	1	3,025	3,025	1	3,025	4,225	1	4,225	
Meeting Area [80 People]				1,200	1	1,200	1,200	1	1,200	1,200	1	1,200				
Office						0			0			0				
Workroom						0			0			0				
Storage						0			0			0				
Computers						0			0			0				
Maker Space						0			0			0				
Books						0			0			0				
Health						0			0			0				
IT Offfice						0			0			0				
DINING & FOOD SERVICE		3	2,175			11,386			10,461			10,461			9,776	
Cafeteria / Dining	954	1	954	5,925	1	5,925	5,000	1	5,000	5,000	1	5,000	5,925	1	5,925	2 seatings - 15SF per seat
Stage				1,500	1	1,500	1,500	1	1,500	1,500	1	1,500	1,000	1	1,000	
Chair / Table / Equipment Storage				463	1	463	463	1	463	463	1	463	463	1	463	
Kitchen	650	1	650	3,200	1	3,200	3,200	1	3,200	3,200	1	3,200	2,090	1	2,090	1600 SF for first 300 + 1 SF/student Add'l
Staff Lunch Room	571	1	571	298	1	298	298	1	298	298	1	298	298	1	298	20 SF/Occupant
MEDICAL		2	172			950			950			950			710	

MSBA SPACE SUMMARY TEMPLATE

Beal K-4 Elementary

ROOM TYPE	Existing Conditions			Proposed 12-01-17			Proposed 12-12-17			Proposed 01-11-17			MSBA Guidelines			
	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	Comments
MEDICAL		**2**	**172**			**950**			**950**			**950**			**710**	
Medical Suite Toilet with Shower	54	1	54	100	1	100	100	1	100	100	1	100	60	1	60	
Nurses' Office / Waiting Room				350	1	350	350	1	350	350	1	350	250	1	250	
Examination Room / Resting	118	1	118	100	5	500	100	5	500	100	5	500	100	4	400	
ADMINISTRATION & GUIDANCE		**6**	**1,026**			**3,335**			**2,925**			**2,925**			**2,925**	
General Office / Waiting Room / Toilet	192	2	384	1,000	1	1,000	590	1	590	590	1	590	545	1	545	
Teachers' Mail and Time Room				100	1	100	100	1	100	100	1	100	100	1	100	
Duplicating Room				150	1	150	150	1	150	150	1	150	150	1	150	
Records Room				110	1	110	110	1	110	110	1	110	110	1	110	
Principal's Office w/ Conference Area	168	1	168	200	1	200	200	1	200	200	1	200	375	1	375	
Principal's Secretary / Waiting						0			0			0	125	1	125	
Assistant Principal's Office				150	1	150	150	1	150	150	1	150	120	1	120	
Supervisory / Spare Office				150	1	150	150	1	150	150	1	150	120	1	120	
Conference Room				400	1	400	400	1	400	400	1	400	250	1	250	
Guidance Office [Psychologist/Counselor]				150	3	450	150	3	450	150	3	450	150	3	450	
Guidance Storeroom				35	1	35	35	1	35	35	1	35	35	1	35	
Teachers' Work Room	208	1	208			0			0			0	545	1	545	
Instructional Coaches/Curriculum Coordinator	133	1	133	120	2	240	120	2	240	120	2	240				
Instructional/Curriculum Conference Room	133	1	133	350	1	350	350	1	350	350	1	350				
CUSTODIAL & MAINTENANCE		**4**	**531**			**2,390**			**2,390**			**2,390**			**2,390**	
Custodian's Office	445	1	445	150	1	150	150	1	150	150	1	150	150	1	150	
Custodian's Workshop				375	1	375	375	1	375	375	1	375	375	1	375	
Custodian's Storage		2	38	375	1	375	375	1	375	375	1	375	375	1	375	
Recycling Room / Trash				400	1	400	400	1	400	400	1	400	400	1	400	
Receiving and General Supply				363	1	363	363	1	363	363	1	363	363	1	363	
Storeroom				527	1	527	527	1	527	527	1	527	527	1	527	
Network / Telecom Room	48	1	48	200	1	200	200	1	200	200	1	200	200	1	200	
OTHER			**0**			**370**			**0**			**0**			**0**	
Other *(specify)*						0			0			0				
Extended Day Office				120	1	120			0			0				
Extended Day storage				250	1	250			0			0				Floral ±200sqft - Sherwood 230sqft
Total Building Net Floor Area (NFA)			**20,221**			**98,366**			**94,936**			**92,686**			**74,261**	
Proposed Student Capacity / Enrollment						790			790			790			**790**	
Total Building Gross Floor Area (GFA)[2]			**33,779**			**151,484**			**146,201**			**142,736**			**114,550**	
Grossing factor (GFA/NFA)			**1.67**			**1.54**			**1.54**			**1.54**			**1.54**	

151,484 GSF
Original Program

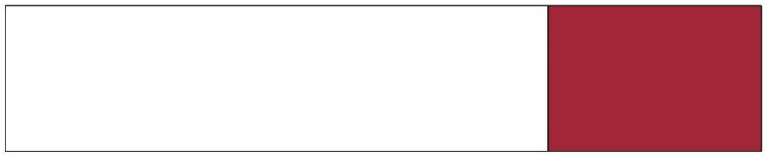
146,201 GSF
5,283 GSF Reduction

142,736 GSF
3,465 GSF Reduction

8,748 GSF Total Overall Reduction

MSBA SPACE SUMMARY TEMPLATE

ACADEMIC



MSBA: 33,800 NSF
PROPOSED: 46,650 NSF

SPECIAL EDUCATION

MSBA: 9,060 NSF
PROPOSED: 12,360 NSF

ART/MUSIC

MSBA: 5,075 NSF
PROPOSED: 5,075 NSF

HEALTH & PHYSICAL EDUCATION

MSBA: 6,300 NSF
PROPOSED: 7,650 NSF

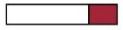
MEDIA CENTER

MSBA: 4,225 NSF
PROPOSED: 4,225 NSF

DINING & FOOD SERVICE

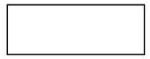
MSBA: 9,776 NSF
PROPOSED: 10,461 NSF

MEDICAL



MSBA: 710 NSF
PROPOSED: 950 NSF

ADMIN & GUIDANCE



MSBA: 2,925 NSF
PROPOSED: 2,925 NSF

CUSTODIAL & MAINTENANCE

MSBA: 2,390 NSF
PROPOSED: 2,390 NSF

GROSSING FACTOR: WALLS, CORRIDORS, STAIRS, TOILETS, MECHANICAL ROOMS, STORAGE ROOMS, JANITOR CLOSETS, ETC.

MSBA: 114,550 GSF
PROPOSED: 142,736 GSF

ADDITIONAL AREA REQUIRED BY EDUCATIONAL PROGRAM

TOTAL BUILDING AREA PER MSBA GUIDELINES — 114,500 G.S.F.

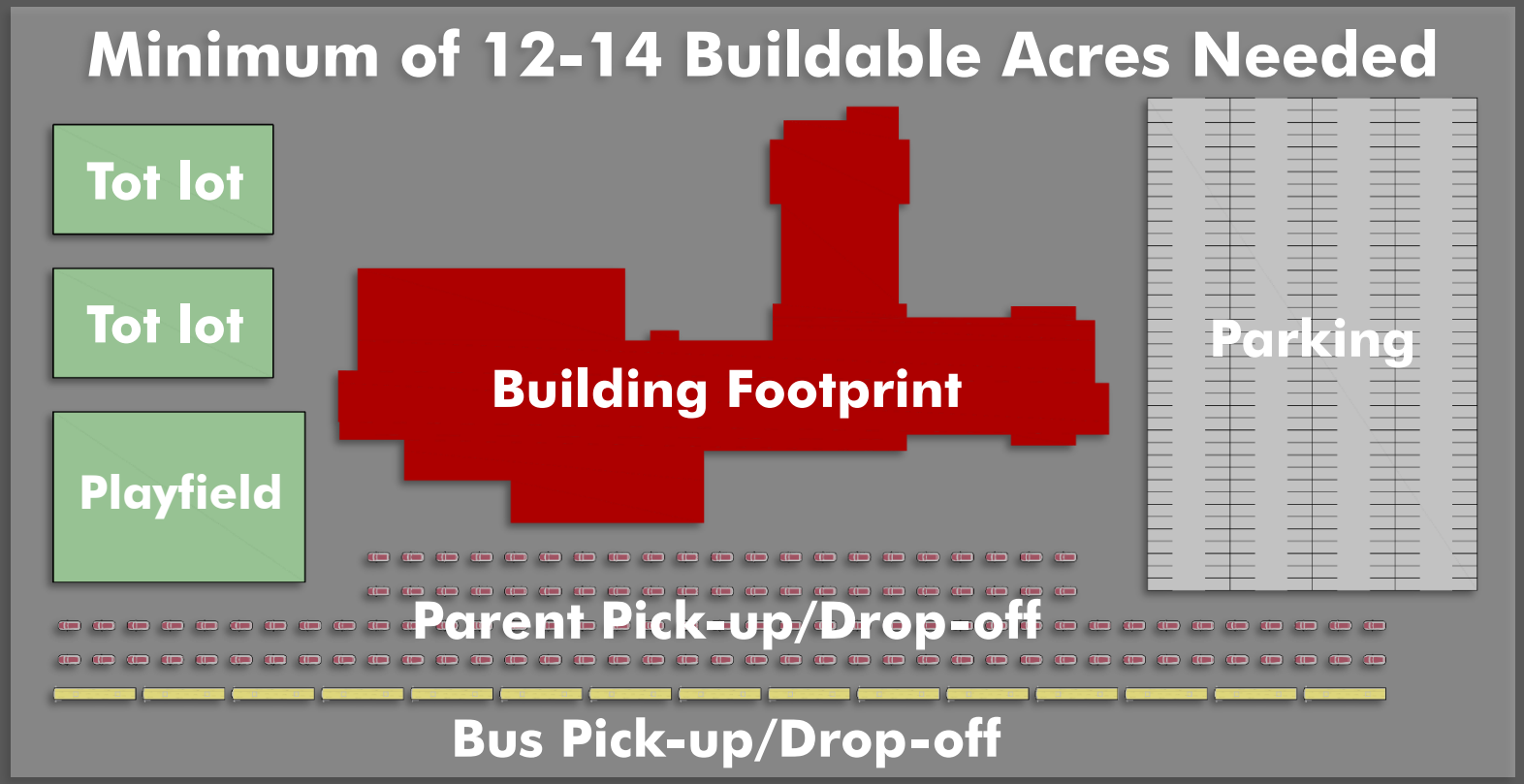
TOTAL BUILDING AREA REQUIRED BY EDUCATIONAL PROGRAM — 142,736 G.S.F.

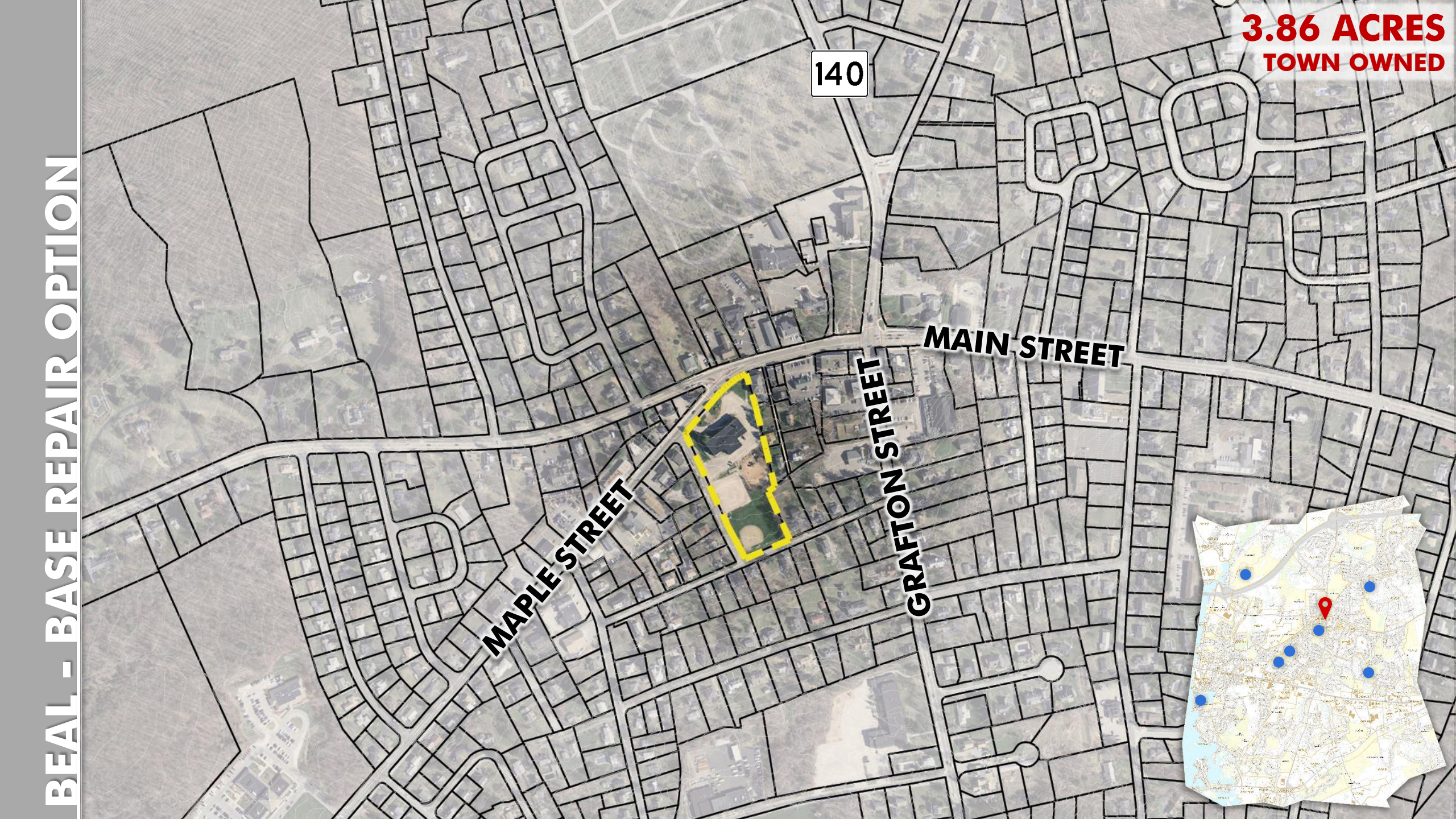
SPS CURRENT SCHOOL CAPACITIES

	Project Completion Date	Design Capacity	Current Enrollment 10.1.2017	# Over Capacity	% Over Capacity	Notes
Floral	1997	660	750	90	14%	55 Floral Grade 1 students are at Beal due to lack of space at Floral. If you include these we are 145 students or 22% over capcity.
Sherwood	2013	900	967	67	7%	
Oak	2004	900	1009	109	12%	
Shrewsbury High School	2002	1475	1832	357	24%	The Core Spaces [Media Center, Cafeteria,Gymnasium, Etc.] were designed for 1800; Core Academic Spaces design enrollment was 1475. Academic wings were constructed in a way to facilitate future additional expansion.
Total	na	3935	4558	623	16%	

SITE EVALUATION & PROGRAM

- Location
- Size
- Topography
- Access/Frontage
- Wetlands/Water features
- Utilities
- Program




3.86 ACRES
TOWN OWNED
140
MAIN STREET
GRAFTON STREET
MAPLE STREET
BEAL - BASE REPAIR OPTION

BEAL - NEW CONSTRUCTION

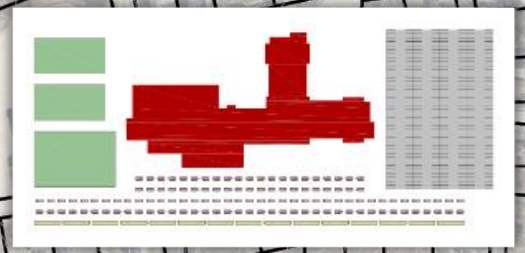
3.86 ACRES
TOWN OWNED

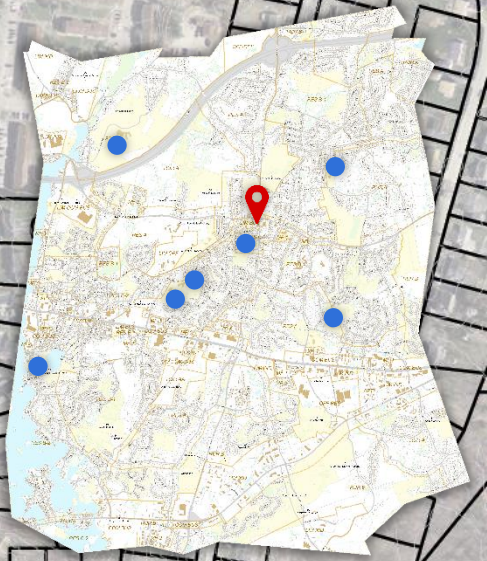
140

MAIN STREET

GRAFTON STREET

MAPLE STREET





GLAVIN CENTER – LAKE STREET

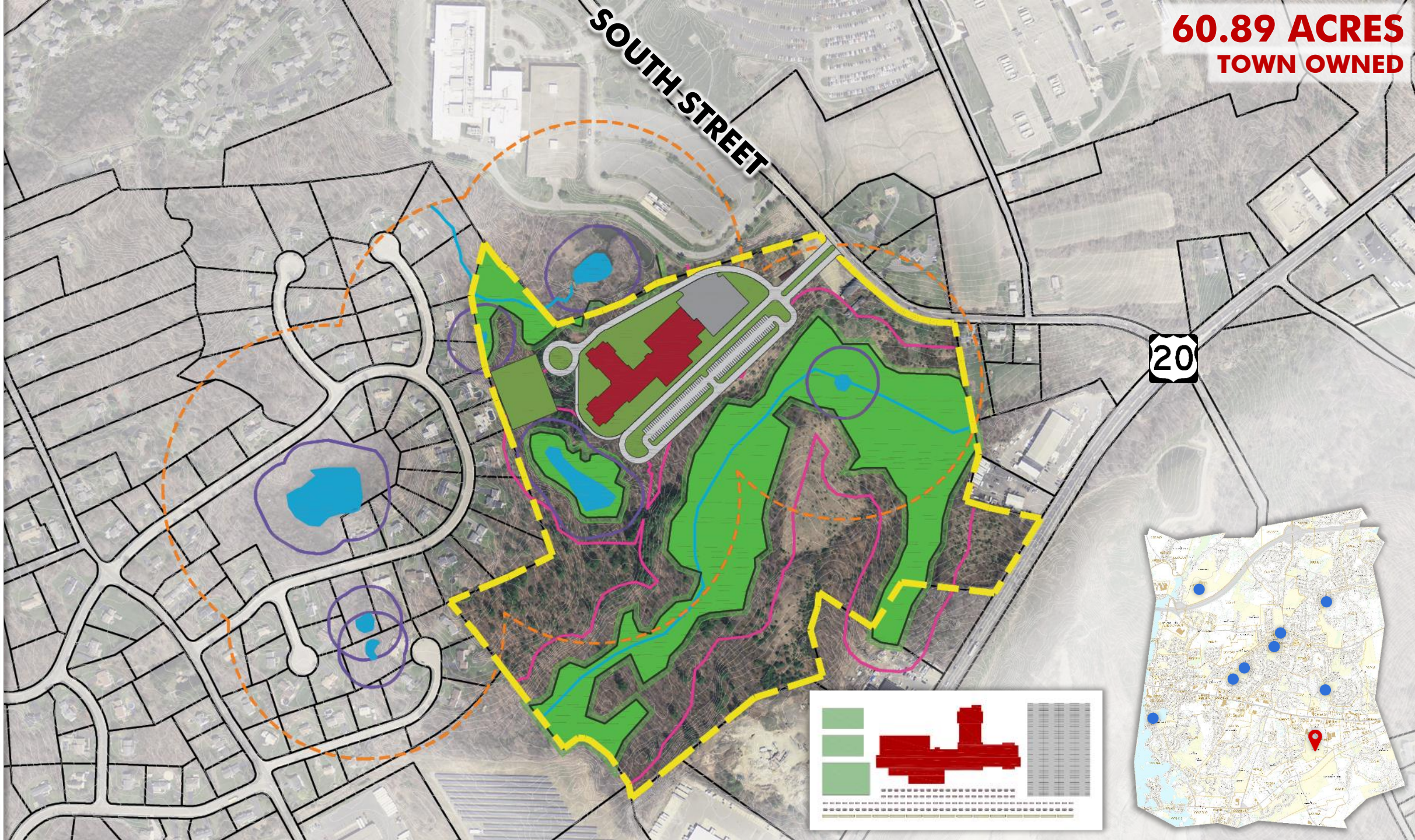
GLAVIN - NEW CONSTRUCTION

GLAVIN - NEW CONSTRUCTION

98.97 ACRES

ALLEN FARM – SOUTH STREET

ALLEN - NEW CONSTRUCTION

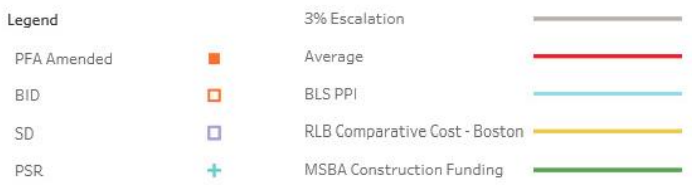


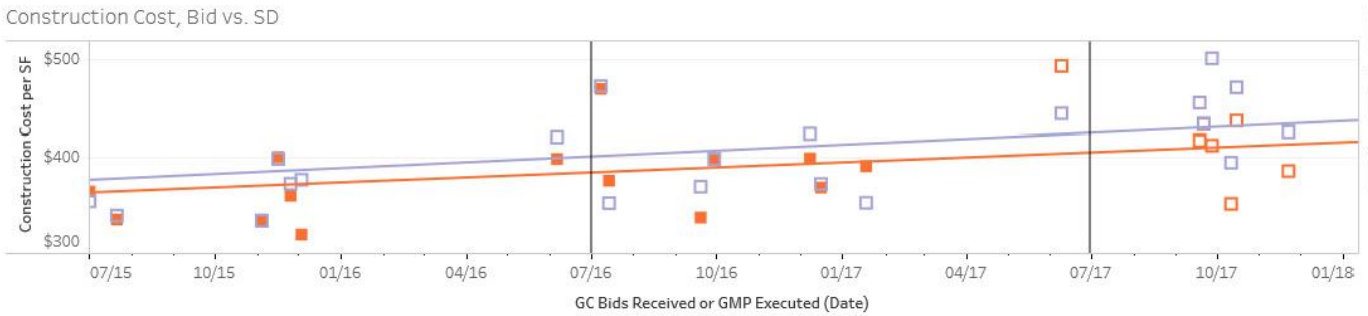
MSBA CONSTRUCTION COST DATA

Capital Planning Data & Information: School Construction Costs

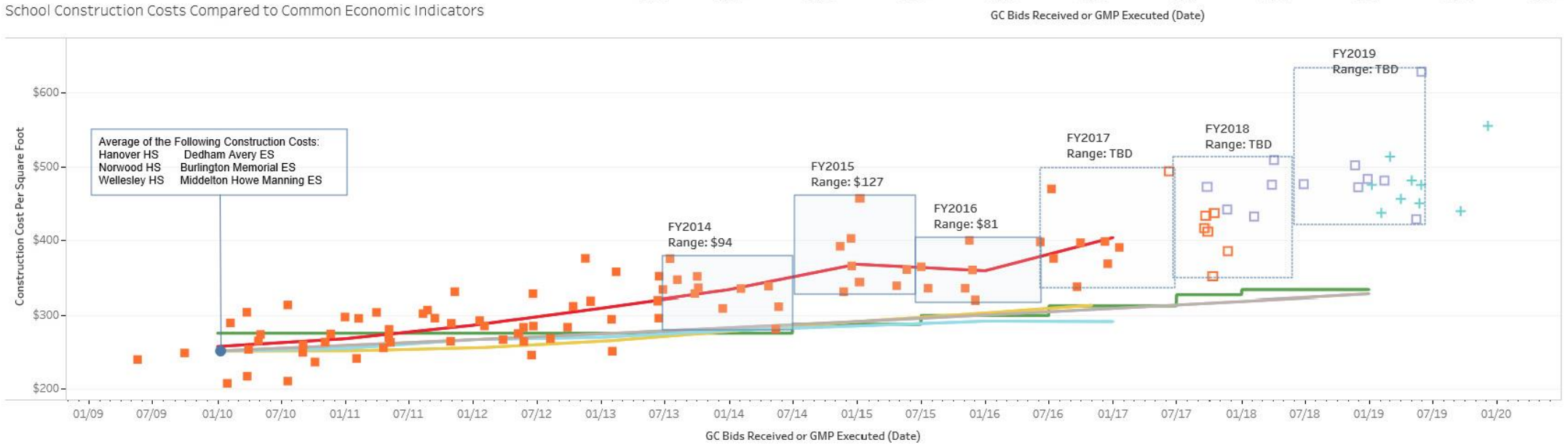
This chart includes construction costs for new construction projects as bid from FY 09 through FY 17, as well as construction cost estimates at preferred schematic and at schematic design for projects recently approved by the Board and expected to bid in FY 18 and FY 19. Additionally, the chart provides an inset with a closer look comparing the schematic design estimates to the bids received for FY 16, FY 17 and the first quarter of FY 18. Common economic indicators are included at the bottom of the chart.

To filter the data specific to a Contractor, Designer, and/or OPM, use the filters on the right to uncheck the boxes next to the categories you do not want shown. To uncheck all of the names, uncheck the box next to "All". Please note, for the common economic indicators lines to show, the "Null" box must remain checked. These filters act as "AND" filters when used in combination. (Ex: checking a contractor and a designer will filter to only those projects that had both that contractor and that designer.)





Contractor: (All)
Designer: (All)
OPM: (All)



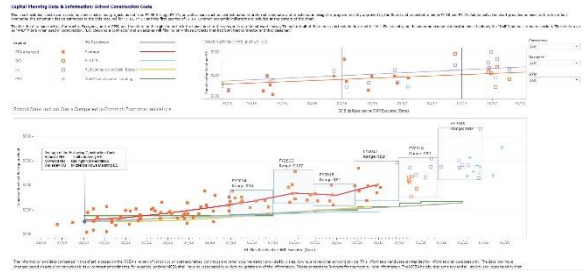
The information and data contained in this chart is based on the MSBA's review of construction cost estimates, contracts and other documentation provided by cities, towns, and regional school districts. This information and data is intended for informational purposes only. The data may have changed based on actual construction bids or contract amendments, for example, and the MSBA shall have no responsibility or duty to update any of the information. Please contact the Districts for the most current information. The MSBA hereby disclaims any and all liability and responsibility that

MSBA CONSTRUCTION COST DATA

SHERWOOD MIDDLE – 2011	Original	2020
Overall Square Footage:	130,000 sq.ft.	130,000 sq.ft.
Cost/Square Foot:	$263/sq.ft.	**$486/sq.ft.**
Construction Cost:	$34,190,000	**$63,180,000**
Project Cost:	$43,947,705	**$78,975,000**

SHREWSBURY HIGH - 2002		
Overall Square Footage:	265,000 sq.ft.	265,000 sq.ft.
Cost/Square Foot:	$130/sq.ft.	**$486/sq.ft.**
Construction Cost:	$34,565,600	**$128,790,000**
Project Cost:	$43,207,000	**$160,987,500**

FLORAL STREET SCHOOL - 1997		
Overall Square Footage:	84,000 sq.ft.	84,000 sq.ft.
Cost/Square Foot:	$94/sq.ft.	**$486/sq.ft.**
Construction Cost:	$7,918,440	**$40,824,000**
Project Cost:	$9,898,050	**$51,030,000**



Massachusetts School Building Authority

COST/SQUARE FOOT

2017: $415 – 435/sq.ft.

2020: $462 – 486/sq.ft.

S.D. Estimates average 4.5% higher than bids

$483 – 508/sq.ft.

COMPARATIVE COST ANALYSIS

BASE REPAIR OPTION	2020
Overall Square Footage:	34,000 sq.ft.
Cost/Square Foot:	$420 - 472/sq.ft.
Construction Budget:	$14 - 16 Million
Project Budget:	$18 – 20 Million
NEW CONSTRUCTION - BEAL	
Overall Square Footage:	150,000 sq.ft.
Cost/Square Foot:	$463 - 499/sq.ft.
Construction Budget:	$70 – 75 Million
Project Budget:	$87 – 94 Million
NEW CONSTRUCTION - GLAVIN	
Overall Square Footage:	142,800 sq.ft.
Cost/Square Foot:	$481 - 519/sq.ft.
Construction Budget:	$69 – 74 Million
Project Budget:	$86 – 93 Million
NEW CONSTRUCTION - ALLEN	
Overall Square Footage:	142,800 sq.ft.
Cost/Square Foot:	$467 - 504/sq.ft.
Construction Budget	$67 – 72 Million
Project Budget:	$83 – 90 Million

ESTIMATING PROCESS

CONSTRUCTION BUDGET

X 1.25 FACTOR

=

PROJECT BUDGET

1.25 FACTOR INCLUDES:

FURNITURE, FURNISHINGS, & EQUIPMENT

OFF-SITE IMPROVEMENTS

BONDS & LEGAL COSTS

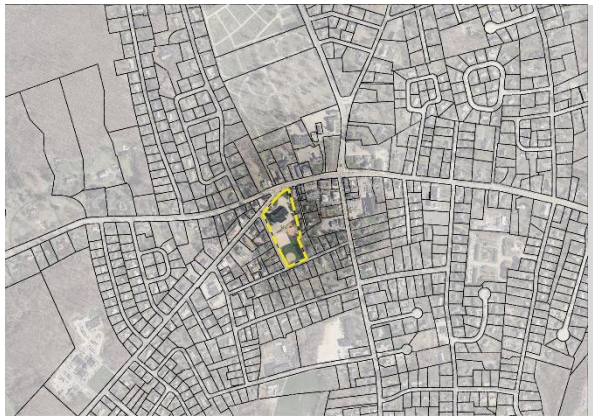
MOVING EXPENSES

OPM & DESIGNER FEES

Massachusetts School Building Authority

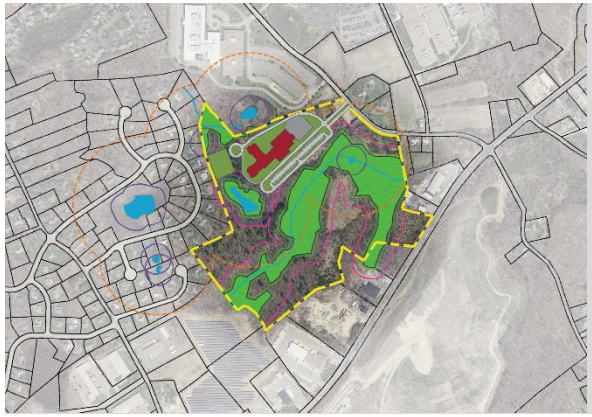
$483 – 508/sq.ft.

RECOMMENDED ALTERNATIVES



BASE REPAIR OPTION – EXISTING BEAL SCHOOL

NEW CONSTRUCTION – GLAVIN CENTER SITE



NEW CONSTRUCTION – ALLEN FARM SITE

NEXT STEPS

- **PRELIMINARY DESIGN PROGRAM (PDP)**
  - **MSBA Review and Comments**

- **PREFERRED SCHEMATIC REPORT (PSR)**
  - **Further Site Analysis**
    - Traffic Analysis
    - Geotechnical Report
    - Phase-I Report
    - Environmental Report
  - **Sustainable Design**
    - Design Charrette
  - **Building Design & Site**
    - Refinement of Building & Site Layouts
  - **Identification of a Preferred Solution**

BEAL EARLY CHILDHOOD CENTER

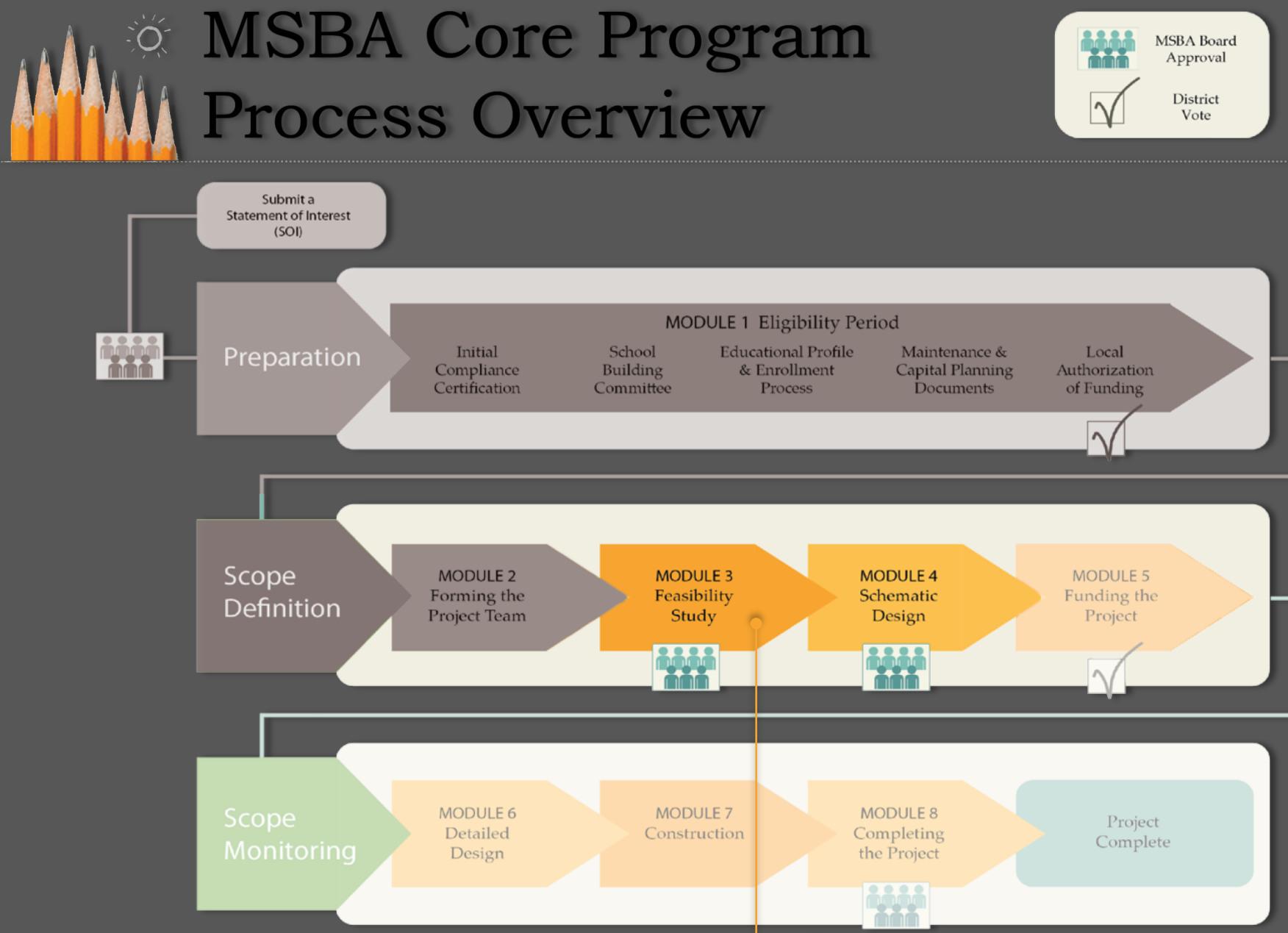
D. Public Meetings and Presentations

1. Presentation: Beal Early Childhood Center School Committee 2/27/17
2. Report: Beal Early Childhood Center School Committee 8/16/17
3. Agenda: Beal Early Childhood Center School Committee 8/23/17
4. Minutes: Beal Early Childhood Center School Committee 8/23/17
5. Task Lists: Beal Early Childhood Center School Committee
6. Agenda: Beal Early Childhood Center School Committee 9/13/17
7. Minutes: Beal Early Childhood Center School Committee 9/13/17
8. Presentation: Beal Early Childhood Center School Committee 9/13/17
9. Agenda: Beal Early Childhood Center School Committee 9/27/17
10. Minutes: Beal Early Childhood Center School Committee 9/27/17
11. Agenda: Beal Early Childhood Center School Committee 10/11/17
12. Minutes: Beal Early Childhood Center School Committee 10/11/17
13. Presentation: Beal Early Childhood Center School Committee 10/11/17
14. Report-Parent Survey: Beal Early Childhood Center School Committee 10/11/17
15. Report-Staff Survey: Beal Early Childhood Center School Committee 10/11/17
16. Agenda: Beal Early Childhood Center School Committee 10/25/17
17. Minutes: Beal Early Childhood Center School Committee 10/25/17
18. Presentation: Beal Early Childhood Center School Committee 10/25/17
19. Report-Transportation: Beal Early Childhood Center School Committee 10/25/17
20. Report-Educational Considerations: Beal Early Childhood Center School Comm. 10/25/17
21. Report-Recommendations: Beal Early Childhood Center School Committee 10/25/17
22. Agenda: Beal Early Childhood Center School Committee 11/15/17
23. Minutes: Beal Early Childhood Center School Committee 11/15/17
24. Presentation: Beal Early Childhood Center School Committee 11/15/17
25. Agenda: Beal Early Childhood Center School Committee 11/29/17
26. Minutes: Beal Early Childhood Center School Committee 11/29/17
27. Agenda: Beal Early Childhood Center School Committee 1/10/18
28. Minutes: Beal Early Childhood Center School Committee 1/10/18
29. Presentation: Beal Early Childhood Center School Committee 1/10/18

BEAL EARLY CHILDHOOD CENTER

MSBA CORE PROGRAM PROCESS

MSBA Core Program Process Overview



MSBA CORE PROGRAM PROCESS

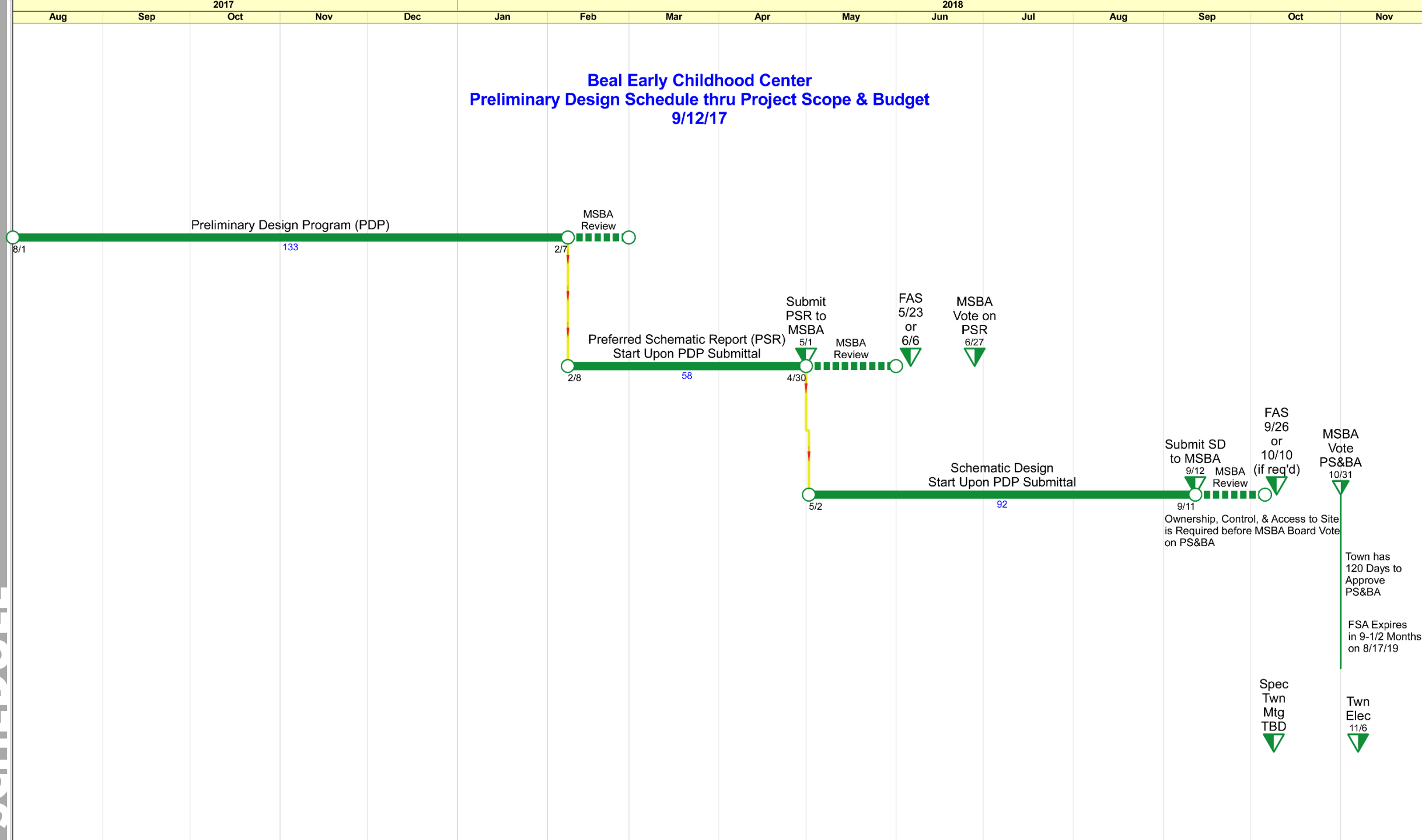
MODULE 3: FEASIBILITY STUDY

3.1 PDP: Preliminary Design Program
3.2 PSR: Preferred Schematic Report

MODULE 4:

SCHEMATIC DESIGN

Beal Early Childhood Center
Preliminary Design Schedule thru Project Scope & Budget
9/12/17



SCHEDULE

MODULE 3 – MSBA CHECKLIST

Module 3 Checklist | Preliminary Design Program

- ❑ Copy of executed OPM Contract forwarded to MSBA
- ❑ Copy of executed Designer Contract forwarded to MSBA
- ❑ Work Plan approved by School Building Committee
- ❑ Kick-Off Meeting with MSBA
- ❑ Processed Budget Revision Request to align ProPay Budget Line Items to executed OPM and Designer Contracts submitted to MSBA
- ❑ Reviewed Project Advisories
- ❑ SBC Vote to approve Preliminary Design Program ("PDP") Submittal and Local Actions and Approval Certification.
- ❑ PDP submitted to the MSBA
- ❑ District Response to PDP review comments submitted to MSBA
- ❑ School Committee Vote to approve Grade Reconfiguration and/or Districting and Grade Reconfiguration and Districting Approval Certification signed (if applicable)

Module 3 Checklist | Preferred Schematic Report

- ❑ SBC Vote to approve Preferred Schematic Report ("PSR") Submittal and Local Actions and Approval Certification.
- ❑ PSR submitted to the MSBA
- ❑ District Response to PSR review comments submitted to MSBA
- ❑ Facilities Assessment Subcommittee ("FAS") Meeting
- ❑ District Response to FAS comments submitted to MSBA
- ❑ Updates to SBC submitted to MSBA (if applicable)
- ❑ Updates to OPM and Designer Org Charts submitted to MSBA (if applicable)
- ❑ Copies of executed OPM and Designer Contract amendments (if applicable) submitted to the MSBA
- ❑ ProPay Budget Revision Request(s) submitted to MSBA (if applicable)
- ❑ Work plan updated and approved by SBC (if applicable)
- ❑ Preferred Schematic Conference Call
- ❑ MSBA Board Approval to Proceed into Schematic Design
- ❑ MSBA Board Action Letter denoting approval of authorization to proceed to schematic design

MODULE 4 – MSBA CHECKLIST

Module 4 Checklist | Schematic Design

- ❑ Updated Work Plan approved by School Building Committee
- ❑ Reviewed Project Advisories
- ❑ Evaluation of Construction Delivery Method complete and District selected to proceed through Traditional Design-Bid-Build or CM at Risk construction delivery method
- ❑ District Response to PSR review comments submitted to MSBA
- ❑ Confirmed all DESE Submittal components align
- ❑ Schematic Design Submittal Notification email sent to MSBA assigned project coordinator
- ❑ SBC Reviewed and voted to approve submittal of the Total Project Budget to the MSBA
- ❑ SBC Vote to approve Schematic Design ("SD") Submittal and Local Actions and Approval Certification signed.
- ❑ Schematic Design Submittal submitted to the MSBA
- ❑ District Response to Schematic Design review comments submitted to MSBA
- ❑ Vote Language submitted to MSBA for review
- ❑ Updates to SBC submitted to MSBA (if applicable)
- ❑ Updates to OPM and Designer Organization Charts submitted to MSBA (if applicable)
- ❑ Copies of executed OPM and Designer Contract amendments (if applicable) submitted to the MSBA
- ❑ ProPay Budget Revision Request(s) submitted to MSBA (if applicable)
- ❑ Work plan updated and approved by SBC
- ❑ Project Scope and Budget Conference Complete
- ❑ District understands and agrees with Total Project Budget Template
- ❑ MSBA Board Approval
- ❑ MSBA Board Action Letter denoting approval of proposed project

MSBA SPACE SUMMARY TEMPLATE

K-1 | 750 STUDENTS

K-4 | 790 STUDENTS

BEAL EARLY CHILDHOOD CENTER	Existing Conditions			PROPOSED									MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)				MSBA Guidelines (refer to MSBA Educational Program & Space Standard Guidelines)			
				Existing to Remain/Renovated			New			Total										
ROOM TYPE	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	ROOM NFA[1]	# OF RMS	area totals	Comments	ROOM NFA[1]	# OF RMS	area totals	Comments
CORE ACADEMIC SPACES			0			0			0			0		33	32,850			34	33,800	
(List classrooms of different sizes separately)																				
Pre-Kindergarten w/ toilet													1,200		-	1,100 SF min - 1,300 SF max	1,200		-	1,100 SF min - 1,300 SF max
Kindergarten w/ toilet													1,200	6	7,200	1,100 SF min - 1,300 SF max	1,200	6	7,200	1,100 SF min - 1,300 SF max
General Classrooms - Grade 1-6													950	27	25,650	900 SF min - 1,000 SF max	950	28	26,600	900 SF min - 1,000 SF max
SPECIAL EDUCATION			0			0			0			0			8,050				9,060	
(List rooms of different sizes separately)																				
Self-Contained SPED													950	5	4,750	8% of pop. in self-contained SPED	950	6	5,700	8% of pop. in self-contained SPED
Self-Contained SPED - toile													60	5	300		60	6	360	
Resource Room													500	4	2,000	1/2 size Genl. Clrm.	500	4	2,000	1/2 size Genl. Clrm.
Small Group Room / Reading													500	2	1,000	1/2 size Genl. Clrm.	500	2	1,000	1/2 size Genl. Clrm.
ART & MUSIC			0			0			0			0			5,075				5,075	
Art Classroom - 25 seats													1,000	2	2,000	assumed schedule 2 times / week / student	1,000	2	2,000	assumed schedule 2 times / week / student
Art Workroom w/ Storage & kiln													150	2	300		150	2	300	
Music Classroom / Large Group - 25-50 seats													1,200	2	2,400	assumed schedule 2 times / week / student	1,200	2	2,400	assumed schedule 2 times / week / student
Music Practice / Ensemble													75	5	375		75	5	375	
HEALTH & PHYSICAL EDUCATION			0			0			0			0			6,300				6,300	
Gymnasium													6,000	1	6,000	6000 SF Min. Size	6,000	1	6,000	6000 SF Min. Size
Gym Storeroom													150	1	150		150	1	150	
Health Instructor's Office w/ Shower & Toilet													150	1	150		150	1	150	
MEDIA CENTER			0			0			0			0			4,045				4,225	
Media Center / Reading Room													4,045	1	4,045		4,225	1	4,225	
DINING & FOOD SERVICE			0			0			0			0			9,412				9,776	
Cafeteria / Dining													5,625	1	5,625	2 seatings - 15SF per seat	5,925	1	5,925	2 seatings - 15SF per seat
Stage													1,000	1	1,000		1,000	1	1,000	
Chair / Table / Equipment Storage													450	1	450		463	1	463	
Kitchen													2,050	1	2,050	1600 SF for first 300 + 1 SF/student Add'l	2,090	1	2,090	1600 SF for first 300 + 1 SF/student Add'l
Staff Lunch Room													288	1	288	20 SF/Occupant	298	1	298	20 SF/Occupant
MEDICAL			0			0			0			0			610				710	
Medical Suite Toilet													60	1	60		60	1	60	
Nurses' Office / Waiting Room													250	1	250		250	1	250	
Examination Room / Resting													100	3	300		100	4	400	
ADMINISTRATION & GUIDANCE			0			0			0			0			2,885				2,925	
General Office / Waiting Room / Toilet													525	1	525		545	1	545	
Teachers' Mail and Time Room													100	1	100		100	1	100	
Duplicating Room													150	1	150		150	1	150	
Records Room													110	1	110		110	1	110	
Principal's Office w/ Conference Area													375	1	375		375	1	375	
Principal's Secretary / Waiting													125	1	125		125	1	125	
Assistant Principal's Office													120	1	120		120	1	120	
Supervisory / Spare Office													120	1	120		120	1	120	
Conference Room													250	1	250		250	1	250	
Guidance Office													150	3	450		150	3	450	
Guidance Storeroom													35	1	35		35	1	35	
Teachers' Work Room													525	1	525		545	1	545	
CUSTODIAL & MAINTENANCE			0			0			0			0			2,350				2,390	
Custodian's Office													150	1	150		150	1	150	
Custodian's Workshop													375	1	375		375	1	375	
Custodian's Storage													375	1	375		375	1	375	
Recycling Room / Trash													400	1	400		400	1	400	
Receiving and General Supply													350	1	350		363	1	363	
Storeroom													500	1	500		527	1	527	
Network / Telecom Room													200	1	200		200	1	200	
OTHER			0			0			0			0			0				0	
Other *(specify)*																				
Total Building Net Floor Area (NFA)			0			0			0			0			71,577				74,261	
Proposed Student Capacity / Enrollment															750				790	
Total Building Gross Floor Area (GFA)[2]															108,750				114,550	
Grossing factor (GFA/NFA)			#DIV/0!									#DIV/0!			1.52				1.54	

±115,000 sq. ft.

±115,000 sq. ft.

Sherwood Middle School
Educational Program Description
Prepared for Feasibility Study Submission to the Massachusetts School Building Authority
September 2009

The Sherwood Middle School serves all of the approximately 950 students in grades five and six attending the Shrewsbury Public Schools. As part of the feasibility study phase for a renovation/addition or new facility for 900 students, this document will describe the educational program that Sherwood provides in order to meet the requirements of the Department of Elementary and Secondary Education (DESE). It should be noted that there is no proposal to expand the current educational program, but consideration is made for program offerings that have recently been put on hiatus due to personnel cuts related to budget constraints (e.g., visual arts, foreign language, etc.)

Program Limitations Due to Space Constraints:

The Statement of Interest submitted to the Massachusetts School Building Authority (MSBA) in 2006 documented that the current building is inadequate for delivery of the educational program due to the following factors related to educational programming:

- space limitations forcing special education services to be delivered in hallways, cafeteria, lobby, and other inappropriate locations;
- space limitations forcing specialized classes such as music to be held in spaces that are not properly equipped, too small for the large number of students in performance groups, and in spaces where the noise is disruptive to other classes (stage was converted to office spaces);
- space limitations compromising the ability for educators to meet with parents, plan lessons, collaborate, etc. while also preventing teachers from planning or setting up lessons in their own classrooms due to the necessity to share core classroom spaces for specialized subjects during "off" periods.
- space limitations that, during multiple weeks of MCAS testing each year, require substantial disruption of the educational program in order to provide storage for secure materials and testing spaces for students who require accommodations.

Sherwood Middle School was constructed prior to the passage of laws and regulations that required the education of students with special needs in the least restrictive setting, prior to the surge in population of students with severe special needs on the autism spectrum, and prior to the influx of students with English language learning needs in a community where diversity is increasing; all of these factors require additional instructional spaces, often with specialized equipment. Further, the building was constructed as a traditional junior high school, and as such it does not support the middle school team teaching approach nor does it provide adequate space for the dynamic instructional approaches that teachers are expected to use within classrooms (multiple teaching stations for small group instruction, space for computer use within the classroom, etc.).

In addition to the limitations listed above, other educational programming issues related to lack of appropriate facilities include:

- lack of sufficient technology infrastructure to provide reliable access to the Internet for online learning in the classroom, educator communication, etc.;

- lack of access to water and lack of storage compromises the ability to provide appropriate science instruction;
- lack of sufficient space to provide for the growing number of students with severe special needs, typically on the autism spectrum, who are entering our preschool program;
- lack of sufficient space to provide alternative programming for students with special education needs such as language-based disabilities, behavioral disabilities, etc. resulting in more expensive out-of-district placements in specialized schools;
- lack of sufficient media center space to provide a media collection commensurate with the size of the student population, appropriate access research opportunities for classes, etc.;
- lack of sufficient gymnasium space to accommodate three sections of physical education instruction at one time, compromising the academic schedule; further, the condition of the gym floor has been damaged in recent years by leaks that buckled the floor boards, preventing appropriate use of the space during the time waiting for repairs;
- lack of appropriate assembly space to allow for biweekly "community meetings" where each grade level meets for special announcements, community guest speakers, recognition of academic performance and citizenship, etc.; and
- lack of sufficient space for teachers of special subjects to have their own teaching rooms, requiring itinerant instruction in core subject classrooms, which in turn compromises the ability to set up instructional spaces that are dedicated to the special subject with appropriate visual aids, teaching stations, materials and technology set up, etc.

Educational Program

The educational program at Sherwood Middle School follows the Massachusetts Curriculum Frameworks and includes instruction in:

- the four core subjects of English language arts, mathematics, science, and social studies;
- foreign language (French, Mandarin Chinese, and Spanish; on hiatus in fifth grade due to personnel cuts)
- physical education;
- health;
- educational technology;
- visual arts (on hiatus from fifth grade due to personnel cuts);
- music and drama (general music instruction, chorus, orchestra, and band; drama is on hiatus due to personnel cuts);
- supplemental reading support (for at-risk students performing below standard);
- supplemental mathematics support
- curriculum enrichment (currently in place to supplant reductions in special subjects instruction lost due to personnel cuts)

The sections below are excerpted from the 2009-2010 Sherwood Middle School Handbook and provide a detailed overview of the curriculum and educational programming.

Sherwood Middle School Course of Studies

Curriculum Philosophy

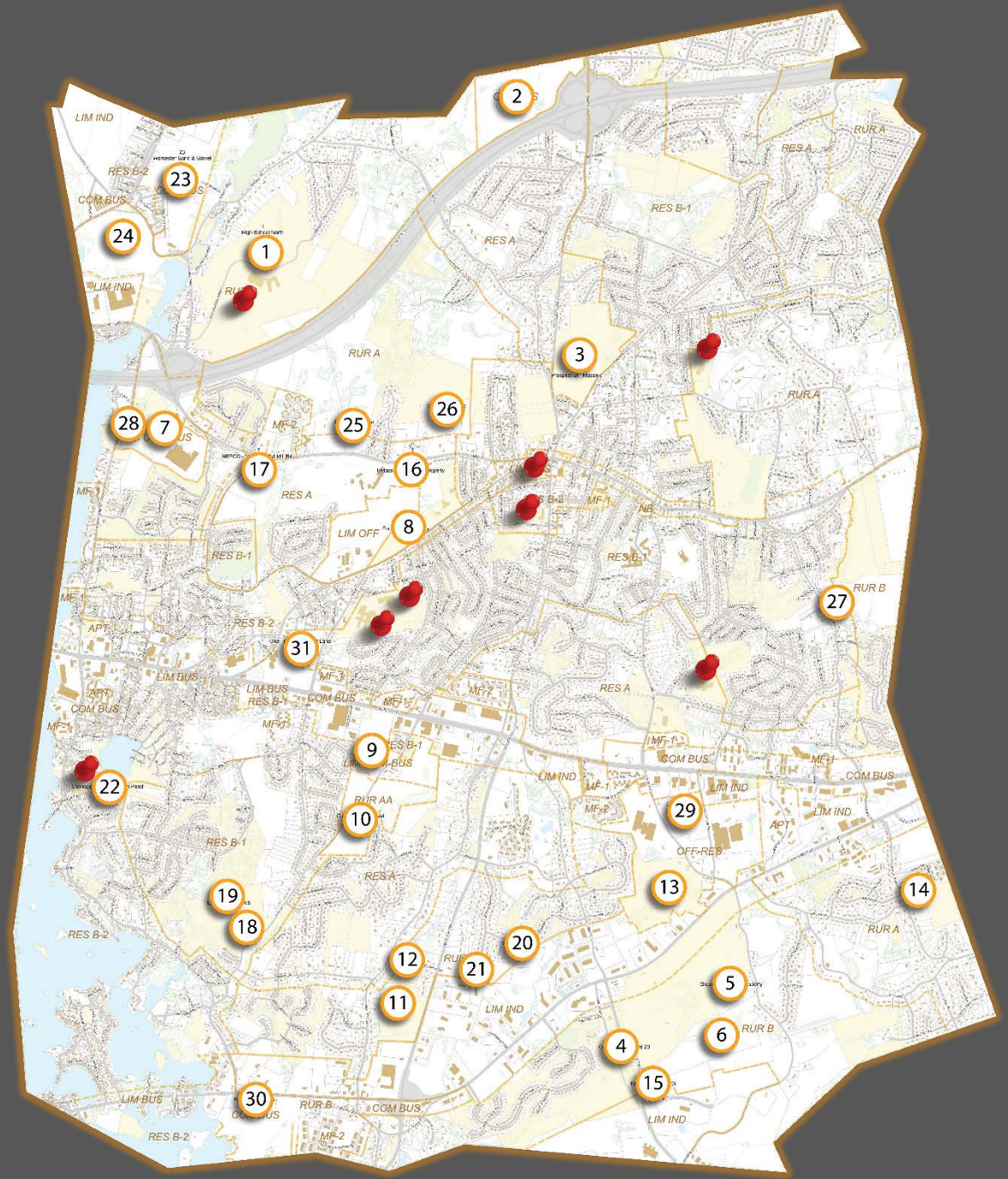
Recognizing the developmental needs of the young adolescent, Sherwood Middle School must ensure that students are prepared to be successful, productive, and contributing members of an ever-changing global society. In this context, students will demonstrate communication skills, facility in social

PDP – EDUCATIONAL PROGRAM

KEY ITEMS COVERED IN EDUCATIONAL PROGRAMMING

- **Grade** and **school configuration** policies
- **Class size** policies
- School **scheduling** method
- **Teaching methodology and structure** (e.g., academies, departments, houses, teams, etc.)
- Teacher planning and room assignment policies
- **Kindergarten** (full day, half day, locations, if applicable)
- **Lunch** programs (number of servings, district kitchen, full service kitchens, warming kitchens, etc.)
- **Technology** instruction policies and program requirements (labs, in-classroom, media center, infrastructure, etc.)
- **Art** programs (in-classroom, specialized area);
- **Music/Performing Arts** programs (in-classroom, specialized area)
- **Physical Education** programs
- **Special Education** programs (in-house, collaborative, facility restrictions)
- **Transportation** policies
- **Functional and spatial relationships**
- Key programmatic **adjacencies**
- **Security** and visual access requirements

POTENTIAL SITES FOR STUDY



Shrewsbury Public Schools

Patrick C. Collins, Assistant Superintendent for Finance & Operations

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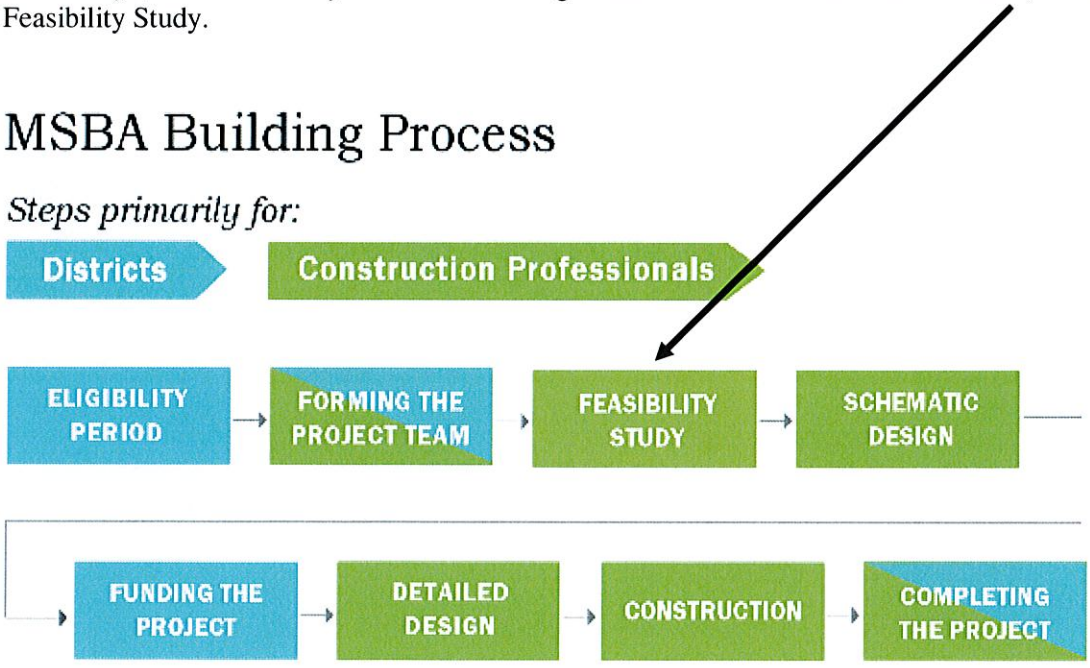
16 August 2017

To: School Committee

Subj: STATUS UPDATE ON BEAL SCHOOL PROJECT

Overview

As you know from my prior communication we have officially completed Module 2 [***Forming the Project Team***] with the contracting of Lamoureaux Pagano Associates as our architect/designer. So, a full eight months after the December 5, 2016 appropirtaion of $1.2M for the Feasibility Study and Schematic Design, we will actually now be able to begin that work. We are here at Module 3, the onset of the Feasibility Study.



Major Milestones and Timeline for Modules 3 & 4

Our OPM, PMA Associates, has devised a "First, Preliminary Schedule" and it is attached as part of this update. The Feasibility Study is expected to take approximately nine months from August 2017 through April 2018. The two main outcomes are completion of the Preliminary Design Program [PDP] which is expected to take six months and completing a Preferred Schematic Report [PSR] which is expected to take three months.

Included in the development of the Preliminary Design Program are two major tasks for the School Department staff and School Committee:

- **Deciding our future grade configuration as either K-1, 2-4 or reconfiguring all elementary schools to a K- 4 configuration** and phasing out the early childhood center concept. This will require a **School Committee vote this fall.** The earlier this decision is made, the better as it will provide the required clarity for our Educational Program development.

- **Development and School Committee approval of our Educational Program will be required by February 2018 to keep to the attached schedule.** An Educational Program defines the regular and special education curriculum, delivery methods, technology integration, student support services such as nursing and food service, and building/site security, use of outdoor space, and traffic/parking considerations. An exemplar plan has been provided by MSBA and it is also attached as part of this report.

Completion of Educational Program will require the input of many stakeholders and require a significant time commitment from administrative staff. The Educational Program is the key driver of the design of school facility and along with it goes a very detailed space planning worksheet.

Also during PDP is development of several facility alternatives to support the Educational Plan and identification of a suitable site for each alternative.

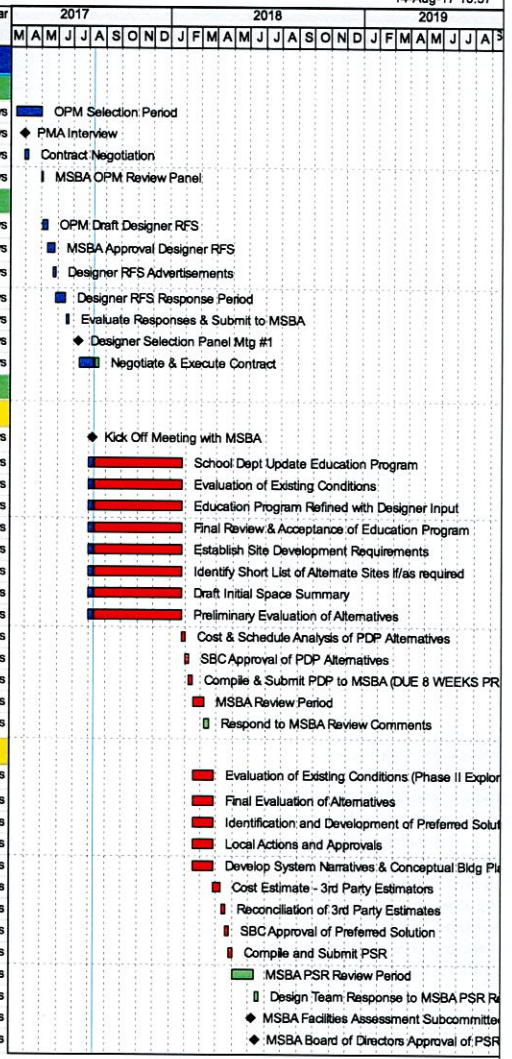
Once these objectives are met to the satisfaction of MSBA, we move into development of the Preferred Schematic Report [PSR]. Cost estimates are derived for each alternative and these are weighed in context of site options and acquisition/development costs as well. The School Committee and Building Committee will arrive at a Preferred Solution by vote and submit it to MSBA for their review and approval. The current MSBA Board of Directors meeting schedule and our project schedule are leading us towards MSBA Board approval of our Preferred Solution at their June 2018 meeting.

Provided this occurs we will subsequently move into Module 4 [***Schematic Design***] wherein detailed building plans are devised to 60% completion with detailed costs estimates. All of this information would be submitted in time for the MSBA Board of Directors meeting scheduled for October 2018 and **if approved would lead us to a local vote of approval [Town Meeting and town-wide votes required] in Fall 2018.**

In closing, it's important to note that there are many factors can affect this schedule. There are factors we control such as decisions regarding grade configuration and development of the Educational Program. There are other factors such as site assessment and selection and MSBA meeting schedules where we have less control. It seems unlikely that we could move any quicker and more likely that we may need more time than afforded here to accomplish the aforementioned tasks.

Beal Early Childhood Center (ES) Project - MSBA FS/SD Schedule | PMA Consultants | 14-Aug-17 10:57

Activity ID	Activity Name	Original Duration	Start	Finish	Actual Start	Actual Finish	Total Float	Calendar
Beal Early Childhood Center (ES) Project - MSBA FS/SD Schedule								
OPM Selection								
A1010	OPM Selection Period	33	15-Mar-17 A	01-May-17 A	15-Mar-17	01-May-17		Standard 5 Day Workweek w holidays
A1000	PMA Interview	0		30-Mar-17 A		30-Mar-17		Standard 5 Day Workweek w holidays
A1020	Contract Negotiation	4	31-Mar-17 A	06-Apr-17 A	31-Mar-17	06-Apr-17		Standard 5 Day Workweek w holidays
A1380	MSBA OPM Review Panel	2	01-May-17 A	03-May-17 A	01-May-17	03-May-17		Standard 5 Day Workweek w holidays
Designer Selection								
A1030	OPM Draft Designer RFS	6	04-May-17 A	12-May-17 A	04-May-17	12-May-17		Standard 5 Day Workweek w holidays
A1040	MSBA Approval Designer RFS	10	12-May-17 A	26-May-17 A	12-May-17	26-May-17		Standard 5 Day Workweek w holidays
A1060	Designer RFS Advertisements	3	24-May-17 A	29-May-17 A	24-May-17	29-May-17		Standard 5 Day Workweek w holidays
A1050	Designer RFS Response Period	13	29-May-17 A	16-Jun-17 A	29-May-17	16-Jun-17		Standard 5 Day Workweek w holidays
A1070	Evaluate Responses & Submit to MSBA	4	17-Jun-17 A	23-Jun-17 A	17-Jun-17	23-Jun-17		Standard 5 Day Workweek w holidays
A1080	Designer Selection Panel Mtg #1	0		11-Jul-17 A		11-Jul-17		Standard 5 Day Workweek w holidays
A1100	Negotiate & Execute Contract	27	12-Jul-17 A	17-Aug-17	12-Jul-17		316	Standard 5 Day Workweek w holidays
FEASIBILITY STUDY - 9 MONTHS								
Preliminary Design Program (6 Months)								
A1390	Kick Off Meeting with MSBA	0		08-Aug-17 A		08-Aug-17		Standard 5 Day Workweek w holidays
A1110	School Dept Update Education Program	120	01-Aug-17 A	23-Jan-18	01-Aug-17		0	Standard 5 Day Workweek w holidays
A1130	Evaluation of Existing Conditions	120	01-Aug-17 A	23-Jan-18	01-Aug-17		0	Standard 5 Day Workweek w holidays
A1190	Education Program Refined with Designer Input	120	01-Aug-17 A	23-Jan-18	01-Aug-17		0	Standard 5 Day Workweek w holidays
A1200	Final Review & Acceptance of Education Program	120	01-Aug-17 A	23-Jan-18	01-Aug-17		0	Standard 5 Day Workweek w holidays
A1140	Establish Site Development Requirements	120	01-Aug-17 A	23-Jan-18	01-Aug-17		0	Standard 5 Day Workweek w holidays
A1400	Identify Short List of Alternate Sites if/as required	120	01-Aug-17 A	23-Jan-18	01-Aug-17		0	Standard 5 Day Workweek w holidays
A1120	Draft Initial Space Summary	120	01-Aug-17 A	23-Jan-18	01-Aug-17		0	Standard 5 Day Workweek w holidays
A1150	Preliminary Evaluation of Alternatives	120	01-Aug-17 A	23-Jan-18	01-Aug-17		0	Standard 5 Day Workweek w holidays
A1210	Cost & Schedule Analysis of PDP Alternatives	5	24-Jan-18	30-Jan-18			0	Standard 5 Day Workweek w holidays
A1220	SBC Approval of PDP Alternatives	5	31-Jan-18	06-Feb-18			0	Standard 5 Day Workweek w holidays
A1160	Compile & Submit PDP to MSBA (DUE 8 WEEKS PRIOR TO PSR SUBMISSION)	6	07-Feb-18	14-Feb-18			0	Standard 5 Day Workweek w holidays
A1170	MSBA Review Period	15	15-Feb-18	08-Mar-18			0	Standard 5 Day Workweek w holidays
A1180	Respond to MSBA Review Comments	6	09-Mar-18	16-Mar-18			6	Standard 5 Day Workweek w holidays
Preferred Schematic Report (3 Months)								
A1230	Evaluation of Existing Conditions (Phase II Exploration)	26	16-Feb-18	26-Mar-18			0	Standard 5 Day Workweek w holidays
A1240	Final Evaluation of Alternatives	26	16-Feb-18	26-Mar-18			0	Standard 5 Day Workweek w holidays
A1250	Identification and Development of Preferred Solution	26	16-Feb-18	26-Mar-18			0	Standard 5 Day Workweek w holidays
A1260	Local Actions and Approvals	26	16-Feb-18	26-Mar-18			0	Standard 5 Day Workweek w holidays
A1410	Develop System Narratives & Conceptual Bldg Plans/Site Plans	26	16-Feb-18	26-Mar-18			0	Standard 5 Day Workweek w holidays
A1420	Cost Estimate - 3rd Party Estimators	10	27-Mar-18	09-Apr-18			0	Standard 5 Day Workweek w holidays
A1430	Reconciliation of 3rd Party Estimates	5	10-Apr-18	17-Apr-18			0	Standard 5 Day Workweek w holidays
A1440	SBC Approval of Preferred Solution	5	18-Apr-18	24-Apr-18			0	Standard 5 Day Workweek w holidays
A1310	Compile and Submit PSR	5	25-Apr-18	01-May-18			0	Standard 5 Day Workweek w holidays
A1280	MSBA PSR Review Period	29	02-May-18	12-Jun-18			19	Standard 5 Day Workweek w holidays
A1300	Design Team Response to MSBA PSR Review Comments Due	6	13-Jun-18	20-Jun-18			19	Standard 5 Day Workweek w holidays
A1290	MSBA Facilities Assessment Subcommittee (FAS Mtg)	0		06-Jun-18			29	Standard 5 Day Workweek w holidays
A1270	MSBA Board of Directors Approval of PSR	0		13-Jun-18			24	Standard 5 Day Workweek w holidays



Remaining Level of Effort | Remaining Work | Milestone
Actual Work | Critical Remaining Work

Data Date: 10-Aug-17
Page 1 of 2

Note: Preliminary Schedule

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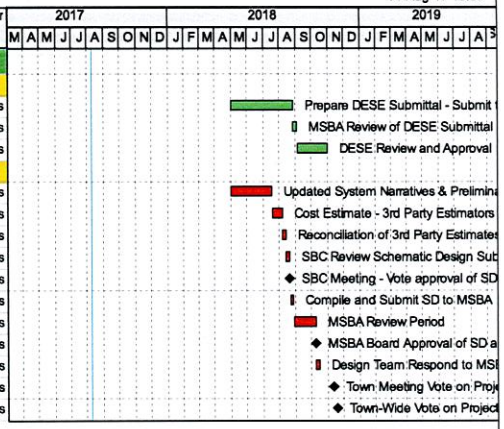
*subject to change

Activity ID	Activity Name	Original Duration	Start	Finish	Actual Start	Actual Finish	Total Float	Calendar
SCHEMATIC DESIGN (5 1/2 Months)								
DESE Submittal								
A1450	Prepare DESE Submittal - Submit to MSBA	82	02-May-18	27-Aug-18			9	Standard 5 Day Workweek w holidays
A1460	MSBA Review of DESE Submittal	5	28-Aug-18	04-Sep-18			9	Standard 5 Day Workweek w holidays
A1470	DESE Review and Approval	40	05-Sep-18	31-Oct-18			9	Standard 5 Day Workweek w holidays
Schematic Design Submittal								
A1480	Updated System Narratives & Preliminary SD Drawings - for Estimator Pricing	54	02-May-18	18-Jul-18			0	Standard 5 Day Workweek w holidays
A1490	Cost Estimate - 3rd Party Estimators	14	19-Jul-18	07-Aug-18			0	Standard 5 Day Workweek w holidays
A1500	Reconciliation of 3rd Party Estimates	5	08-Aug-18	14-Aug-18			0	Standard 5 Day Workweek w holidays
A1510	SBC Review Schematic Design Submittal	4	15-Aug-18	20-Aug-18			0	Standard 5 Day Workweek w holidays
A1520	SBC Meeting - Vote approval of SD submittal and budget	0		21-Aug-18			0	Standard 5 Day Workweek w holidays
A1330	Compile and Submit SD to MSBA	5	22-Aug-18	28-Aug-18			0	Standard 5 Day Workweek w holidays
A1340	MSBA Review Period	28	29-Aug-18	09-Oct-18			0	Standard 5 Day Workweek w holidays
A1530	MSBA Board Approval of SD and PS&BA	0		10-Oct-18			29	Standard 5 Day Workweek w holidays
A1350	Design Team Respond to MSBA Review Comments	6	10-Oct-18	17-Oct-18			0	Standard 5 Day Workweek w holidays
A1540	Town Meeting Vote on Project Scope & Budget Agreement	0		13-Nov-18			0	Standard 5 Day Workweek w holidays
A1550	Town-Wide Vote on Project Scope & Budget Agreement (PS&BA)	0		20-Nov-18			0	Standard 5 Day Workweek w holidays



Remaining Level of Effort | Remaining Work | Milestone
Actual Work | Critical Remaining Work

Data Date: 10-Aug-17

Note: Preliminary Schedule

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4.2 EDUCATIONAL PROGRAM

INTRODUCTION

A. GRADE AND SCHOOL CONFIGURATION POLICIES
B. CLASS-SIZE POLICIES
C. SCHOOL SCHEDULING METHOD
D. TEACHING METHODOLOGY AND STRUCTURE
E. TEACHER PLANNING AND ROOM ASSIGNMENT POLICIES
F. PREKINDERGARTEN PROGRAM
G. KINDERGARTEN PROGRAM
H. LUNCH PROGRAMS
I. TECHNOLOGY POLICIES/PROGRAM REQUIREMENTS, MEDIA CENTER/LIBRARY
J. ART PROGRAMS
K. MUSIC AND PERFORMING ARTS PROGRAMS
L. PHYSICAL EDUCATION PROGRAMS
M. SPECIAL EDUCATION PROGRAMS
N. VOCATIONAL AND TECHNOLOGY PROGRAMS
O. TRANSPORTATION POLICIES
P. FUNCTIONAL AND SPATIAL RELATIONSHIPS
Q. SECURITY AND VISUAL ACCESS REQUIREMENTS

INTRODUCTION

Clyde F. Brown Elementary School is a vibrant, close-knit school community that serves students in Preschool through Grade 4. Recognized for it's award-winning Spanish Immersion program and designation as a *Tools of the Mind* Northeast Regional Demonstration Site School, which proudly models exemplary early learning practices for visitors from around the nation and from Europe, Clyde F. Brown Elementary School actualizes its prior designation as a Lighthouse School in Massachusetts as students consistently meet or exceed averages on statewide tests.

Clyde F. Brown Elementary School strives to fulfill the Millis Public Schools deeply held philosophy of personalized learning for all students. This occurs at the elementary level through the infusion of technology in day-to-day learning, through the promotion of project-based learning at all grade levels, and through integrated curriculum that fosters inquiry-based experiences in learning STEM concepts through literacy. These educational practices, combined with more differentiated instruction through a fully articulated Response to Intervention instructional model, provide students with an academic foundation that allows for more student voice and choice in learning processes.

Clyde F. Brown Elementary School is proud of its ability to maintain innovative programming like Spanish language programming for all students in grades Kindergarten through four (and expanded to Grade 5 at the Middle School) through FLES (Foreign Language in the Elementary School). Equally proud of our designation as an International Spanish Academy (ISA) Elementary School, Clyde F. Brown Elementary School has served as a regional model for Spanish Immersion programming, welcoming visitors from around the Northeast region who are looking to implement and expand their own Spanish Immersion programming. Other innovative programming that directly and positively impacts our students includes our Music/Movement program in Kindergarten and Grade 1, which encourages further development of self-regulation skills necessary for independent executive functioning through integrated Music programming that dovetails rhythm and movement with literacy-based curriculum themes. Ongoing university partnerships with Tufts University, Boston University, and Framingham State University enhance programming for our students while providing exemplary professional development opportunities for faculty and staff.

In preparing both the PDP and PSR submissions the District has worked with the Architect and OPM to develop the educational program as well as the proposed space template. This process included two visioning sessions with educational planner Frank Locker and the school staff and administration as well as a public forums that solicited the input of parents and residents to develop an understanding of the strengths of the current program and the constraints and challenges posed by the existing facility.

Key components of the District's Educational Program include a new grade configuration of PK to Grade 5, meeting the District goal of bringing 5th Grade back to the Elementary School level. Creating three small learning communities of Early Learning (PreK & K); Primary (Gr. 1 & Gr. 2); and Upper Elementary (Gr. 3, Gr. 4, Gr. 5). Developing a focus at the upper Elementary level on Project Based Learning and STEM including incorporating a STEM classroom into this learning community. Creating a distributed Media Center that promotes access to information and technology at the primary and upper elementary levels and emphasizing peer assisted learning in a small group context with teachers are facilitators of learning. Another goal is to develop a site plan that has separate outdoor learning classrooms for each learning community and age appropriate play areas for all students.

The proposed building diagram supports these goals. There are three distinct classroom wings, one for each learning community. The media center is distributed between the primary and upper elementary classroom wings promoting student use of these areas for multiple project based activities and different group and individual learning opportunities. A STEM classroom is located on the upper floor adjacent to the upper elementary school wing but available for use by all students. There are three outdoor classrooms and three play areas proposed on the conceptual site plan. The youngest students will be able to access the school through a separate and dedicated early learning entrance.

A. GRADE AND SCHOOL CONFIGURATION POLICIES

The Clyde F. Brown Elementary School (CFB) serves all students in Millis in grades Preschool through 4. Grade levels within the school are organized by location and core programming: Preschool and Kindergarten are organized within the Early Childhood wing; Grades 1 and 2 are organized within the Primary wing; and Grades 3 and 4 are organized within the Upper Elementary wing. Within the primary and upper elementary wings, Spanish Immersion classrooms are located near their English classroom peers. Configuring grades into similar range groupings allows for greater flexibility in programming; for example, two grade levels can choose to collaborate on interdisciplinary projects, or switch classes for more diversified learning experiences if they are located near each other. Furthermore, configuring spaces into "neighborhoods" allows for the intentional planning of space needed for shared small group instruction, for project-based learning and for sharing of resources and staff.

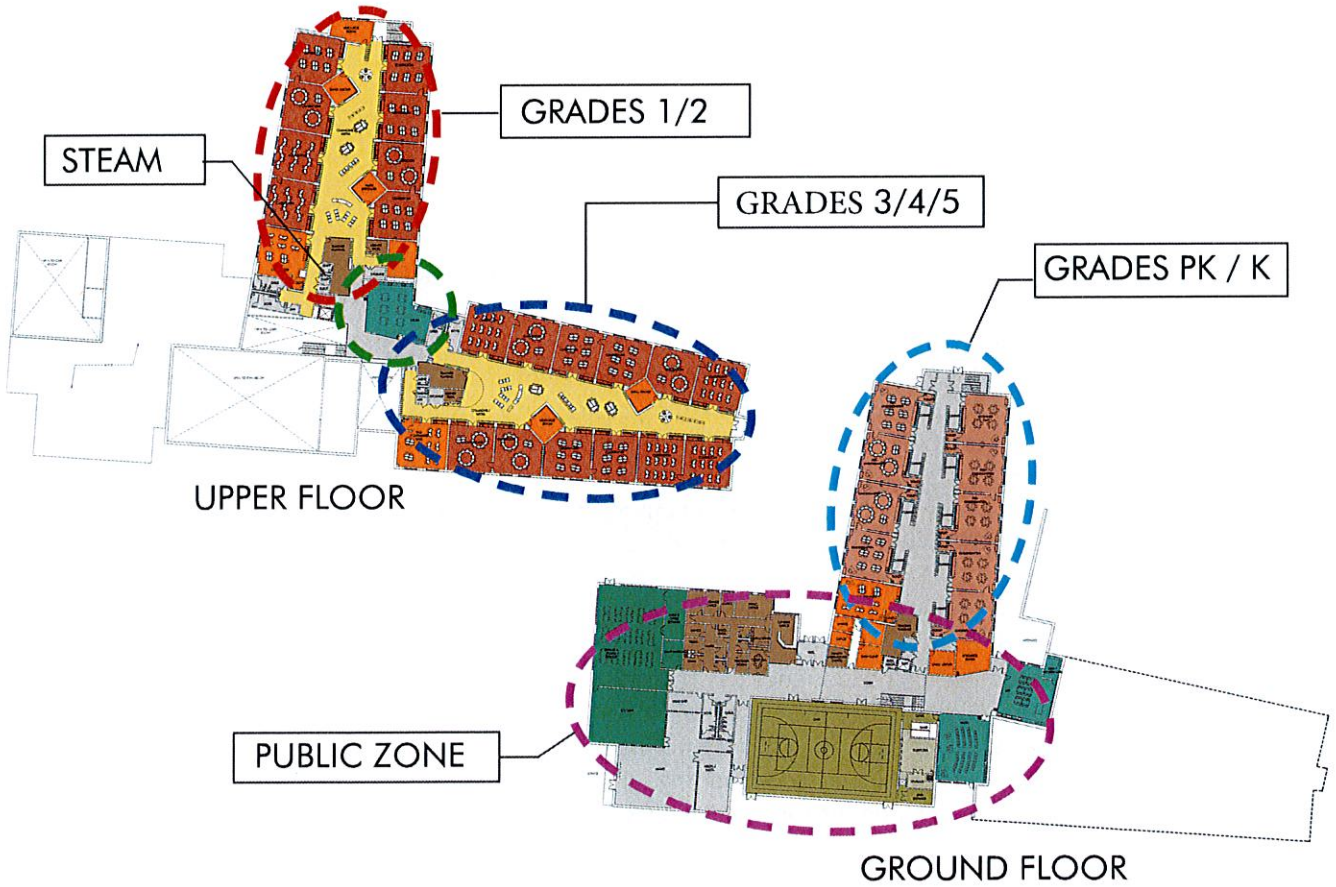
At all grade levels, classrooms are organized in self-contained design, where students stay with their homeroom teachers for all core content subjects throughout the course of the academic day. Teachers now plan more collaboratively for interdisciplinary project-based learning experiences as the Influence of more contemporary instructional practices has become more prevalent at Clyde Brown, and classroom space is utilized at times for this combined instruction and learning collaboration. Special Education programming occurs within a full inclusion model, where many academic services are provided directly within the classroom setting. 1:1 Special Education services are provided in smaller classroom settings located within the Student Support Services offices or within available spaces located in classroom wings.

Grade 5, once considered part of the elementary school, was moved to the Middle School as a solution to overcrowding at Clyde F. Brown School. At this time, space is at a premium both at Clyde F. Brown and at the Millis Middle/High School. It is proposed that Grade 5 will move back to the Clyde F. Brown School as part of a new project, thereby providing a more age-appropriate environment for Grade 5 students as well as freeing up space at the Middle School for program expansion at that building. Grade 5 currently operates within the team model for core academics, with ancillary programming shared between the middle school and the high school. Grade 5 currently shares Spanish

FLES programming with Clyde Brown, and the FLES teacher schedules time between Clyde Brown and Grade 5 to accommodate these classes.

Therefore the preferred grade configuration for the Clyde Brown School will be Grades PK – 5 with the Middle High School supporting grades 6 – 8 and 9 – 12. Relocation of the 5th grade will be more appropriate educationally and will allow the Middle / High School to improve programming for the upper grades. The transition from Grade 5 to grade 6 will be more educationally appropriate as grade 5 at the middle school level has tended to be isolated at that location.

Design Response:
The proposed new building is organized into three distinct learning communities. These communities are in building wings, with the early childhood center on the ground floor and the primary and upper elementary wings on the upper floor. The reconfiguration of the Clyde Brown Elementary School is accomplished by locating the fifth grade in the upper elementary wing along with grades three and four. The fifth graders will have immediate access to the STEM classroom so that the resources that they are able to use at the middle school such as video production will continue to be available at their new location.



GRADE ORGANIZATION

B. CLASS-SIZE POLICIES

The Millis School Committee supports target class sizes at the elementary level of not more than 23 students per classroom, with the exception of Spanish Immersion classrooms which should not exceed 26 students. Current enrollment trends confirm a pattern of average class sizes of approximately 19-21 students per classroom. Staffing trends that maintain these lower class sizes are fully supported by the School Committee, particularly at the Early Childhood and Primary levels, in recognition of the fact that teachers are better able to address student learning needs when student class sizes are lower.

The proposed space template for grades K – 5 includes four classrooms per grade. At an enrollment projection of 515 students, this would translate into approximately 86 students per grade or approximately 21 students per classroom.

Design Response:
The proposed plan accommodates four classrooms per grade in each wing as well as similar support and special education spaces for each of the three learning communities.

C. SCHOOL SCHEDULING METHOD

Academic programming at Clyde F. Brown Elementary School is centered around the philosophy of *Tiered Systems of Support and Enrichment* (TSSE), which promotes a data-driven instructional response to three instructional tiers - *whole-group instruction* for all students, skill-specific "double dosed" *small group instruction* for some students identified by data, and *intensive instructional support* for a few students whom data determines are academically at-risk. The schedule is designed around seven Academic Intervention blocks that are designed to personalize student learning by providing students with these opportunities to extend, enrich, review or remediate ongoing skills in English Language Arts and Mathematics. Each Intervention Block is 40-minutes in length; English Language Arts and Mathematics Intervention occur simultaneously and are staggered to accommodate whole-group instruction and small group instruction sections; for example, during the 8:40 - 9:20 Intervention Block, Kindergarten students receive small group interventions in English Language Arts while students in Grade 1 receive Enrichment and/or Intensive Intervention in Mathematics. Benchmark assessments that provide teachers with student learning data are conducted three times each year - at the beginning of the school year (September), at mid-year (January), and at end-of-year (May/June); the data generated and analyzed during these benchmark assessment periods allow staff to identify the skills, for all students at all grade levels, that need enrichment, review, and remediation. These scheduled Intervention Blocks provide the central instructional focus for skill development at Clyde F. Brown Elementary School.

Unified Arts classes are scheduled around the Intervention Blocks and are 40-minutes in length. Students at Clyde F. Brown Elementary School enjoy Physical Education twice each week. Instructional Technology is offered for students once each week with the Instructional Technology teacher in the Technology Lab, and also during an additional block once each week as part of integrated classroom learning where classroom teachers bring their students to the Technology Lab for a co-planned, co-taught lesson by both the classroom teacher and the Instructional Technology teacher; these co-taught lessons provide students with the opportunity to incorporate technology into interdisciplinary content learning. All students participate in a weekly Art lesson. Music classes for Grades 2, 3 and 4 occur once each week and are scheduled for the first block of the schedule to accommodate the Music teachers, who teach students at Clyde F. Brown Elementary School, Millis Middle School, and Millis High School. Students in Kindergarten and Grade 1 take part, once each week, in Music/Movement classes that integrate music and movement with ongoing curriculum themes and reinforce self-regulation skills. All students have the opportunity to visit the Library once each week to take out books. All students not enrolled in Spanish Immersion classrooms at Clyde F. Brown School participate in a 40-minute Spanish language class once per week.

Design Response:

The proposed school is self-contained and all programs for students are accommodated by the proposed space template and schedule. The start and finish times for the elementary school are staggered allowing for the same busses to complete separate routes for Middle/High students and elementary students. This staggered schedule allows for use of a shared pick up and drop off zone located between the two schools.

Clyde F. Brown School Schedule:

TIME	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
8:40 - 9:20 Music (Grades 2, 3, & 4) 8:35 - 9:15 Intervention Block 8:40 - 9:20	Music - 2A Hackett/Shea Music - 2B Lang/Shea PE (A) - PREP PE (M) - closed Art - 2 Migos Library - Tech - PREP FLES - 4 Nardone	Music - 2C Migos Music - 3A Mellin PE (A) - 3 Valluzzi PE (M) - closed Art - 4 Colcord Library - Tech - 4 Nardone FLES - 4 Al-Haza	Music - 3B Lucey/Tashian Music - 3C Merusi/Valluzzi PE (A) - PREP PE (M) - closed Art - PREP Library - Tech - 4 Al-Haza FLES - 4 Hernandez	Music - 4A Colcord Music - 4B Al-Haza PE (A) - PREP PE (M) - closed Art - PREP Library - Tech - 3 Mellin FLES - 4 Carlson	Music - 4C Nardone Music - 4D Carlson/Hernandez PE (A) - PREP PE (M) - closed Art - 1 Eaton Library - Tech - PREP
Intervention Block 8:40 - 9:20	Kindergarten	ELA	with	Open Block	MATH
9:22 - 10:02 Intervention Block 9:22 - 10:02	PE (A) - ADAPTIVE PE PE (M) - K Taft Art - 4 Carlson Library - Tech - 4 Hernandez FLES - K Guertin	PE (A) - PREP PE (M) - K White Art - PREP Library - Tech - PREP FLES - K Lafferty	PE (A) - K Lafferty PE (M) - K Guertin Art - PBL Block Library - Tech - 4 Carlson FLES - K Taft	PE (A) - Adaptive PE PE (M) - Art - 4 Nardone Library - Tech - PREP FLES - K White	PE (A) - Adaptive PE PE (M) - Art - PREP Library - Tech
Intervention Block 9:22 - 10:02	Grade 1	ELA	and	Grade 3	MATH
10:04 - 10:44 Intervention Block 10:04 - 10:44	PE (A) - 1 Eaton PE (M) - 1 Baglioni Art - 1 Ball/Giordano Library - Tech - K Perachio FLES - 1 Giunta	PE (A) - 1 Ball/Giordano PE (M) - 1 Giunta Art - 1 Baglioni Library - 1 Eaton Tech - FLES - Class Make Up	PE (A) - 1 Eaton PE (M) - 1 Baglioni Art - PBL Block Library - 1 Giunta Tech - PREP FLES - K Perachio	PE (A) - 1 Ball/Giordano PE (M) - 1 Giunta Art - 1 Osborne Library - K Perachio Tech FLES - 1 Baglioni	PE (A) - 1 Osborne PE (M) - Art - K Perachio Library - 1 Baglioni Tech FLES - 1 Ball/Giordano
Intervention Block 10:04 - 10:44	Grade 2	ELA	and	Grade 4	MATH
10:46 - 11:26 Intervention Block 10:46 - 11:26	PE (A) - 1 Osborne PE (M) - Art - K White Library Tech - 4 Colcord FLES - 2 Lang	PE (A) - 2 Lang PE (M) - 2 Hackett Art - PK Art Block (AM) Library - K Lafferty Tech - FLES - 2 Shea	PE (A) - 2 Shea PE (M) - 2 Migos Art - PBL Block Library - 1 Osborne Tech FLES - Class Make Up	PE (A) - 2 Lang PE (M) - 2 Hackett Art - K Taft Library - K Guertin Tech FLES - 1 Eaton	PE (A) - 2 Shea PE (M) - 2 Migos Art - 1 Giunta Library - 1 Ball/Giordano Tech - (K Guertin) FLES -2 Hackett
Intervention Block 10:46 - 11:26	Grade 3	ELA	and	Open Block	MATH
11:28 - 12:08 11:28 - 11:48 11:50 - 12:25	UA Lunch Block UAD	UA Lunch Block UAD	UA Lunch Block UAD	UA Lunch Block UAD	UA Lunch Block UAD
12:00 - 12:40 11:32 - 12:22	PE (A) - 4 Al-Haza FLES Lunch & Prep	PE (A) - 4 Carlson FLES Lunch & Prep	PE (A) - 4 Nardone FLES Lunch & Prep	PE (A) - 4 Hernandez FLES Lunch & Prep	PE (A) - 4 Colcord FLES Lunch & Prep
Intervention Block 11:28 - 12:08	Grade 4	ELA	with	Open Block	MATH
	DAILY	LUNCH BREAK	BLOCKS		
11:30 - 11:55	Grade 1 Lunch				
11:45 - 12:25	Grade 3	11:45 - 12:00 - Recess		12:00 - 12:25 - Lunch	
12:15 - 12:55	Kindergarten and Grade 2	12:15 - 12:30 - Recess		12:30 - 12:55 - Lunch	
12:45 - 1:25	Grade 4	12:45 - 1:00 - Recess		1:00 - 1:25 - Recess	
1:00 - 1:15	Grade 1 Recess				
12:15 - 12:41	FLES - Lunch Duty	FLES - Lunch Duty	FLES - Lunch Duty	FLES - Lunch Duty	FLES - Lunch Duty
Intervention Block 12:10 - 12:40	MATH - Grade 1	MATH - Grade 1	MATH - Grade 1	MATH - Grade 1	MATH - Grade 1
12:41 - 1:21 Intervention Block 12:56 - 1:26	PE (A) - 3 Valluzzi Art - 3 Tashian Library - Tech - FLES - 3 Merusi	PE (A) - 3 Merusi Art - PBL Block Library - Tech - FLES - 3 Lucey	PE (A) - Art - PK Art Block (PM) Library - Tech - FLES - Class Make Up	PE (A) - 3 Merusi Art - PBL Block Library - Tech - 3 Valluzzi FLES - 3 Tashian	PE (A) - 3 Lucey Art - 3 Merusi Library - Tech - 3 Tashian FLES - 3 Valluzzi
Intervention Block 12:32 - 1:32	MATH - Grade 2	MATH - Grade 2	MATH - Grade 2	MATH - Grade 2	MATH - Grade 2
1:23 - 2:03 Intervention Block 1:23 - 2:03	PE (A) - 3 Lucey Art - K Guertin Library - Tech - (K Lafferty) Ms.Elaine -	PE (A) - 3 Tashian Art - 3 Lucey Library - K Taft Tech Ms.Elaine - K Guertin	PE (A) - 3 Mellin Art - 2 Hackett Library - Tech - (K Taft) Ms.Elaine - K White	PE (A) - 3 Tashian Art - K Lafferty Library - 2 Migos Tech - (K White) Ms.Elaine - 1 Eaton	PE (A) - 3 Mellin Art - 2 Lang Library - K White Tech Ms.Elaine - K Lafferty
2:05 - 2:45 Intervention Block 2:05 - 2:45	PE (A) - 4 Nardone Art - 3 Mellin Library - Tech - 3 Merusi Ms.Elaine - 1 Giunta	PE (A) - 4 Hernandez Art - 4 Al-Haza Library - 2 Shea Tech - Ms.Elaine - 1 Osborne	PE (A) - 4 Colcord Art - 4 Hernandez Library - 2 Lang Tech Ms.Elaine - 1 Ball/Giordano	PE (A) - 4 Carlson Art - 2 Shea Library - Tech - 3 Lucey Ms.Elaine - 1 Baglioni	PE (A) - 4 Al-Haza Art - 3 Valluzzi Library - 2 Hackett Tech - Ms.Elaine - K Taft
2:50 Dismissal					

D. TEACHING METHODOLOGY AND STRUCTURE

Clyde F. Brown Elementary School subscribes to a varied teaching methodology that occurs in all classrooms across the building. The focus, as a district, on Personalized Learning has expanded opportunities for teachers to utilize approaches such as project-based learning in the classrooms as well as in an integrated curriculum context in Art - all grade levels are afforded the opportunity to enhance classroom content-based learning through co-taught Art classes in which the Art teacher and classroom teacher co-plan and co-teach a lesson. For example, students in Grade 4 who are learning to construct circles using compasses in Mathematics class learn more about spheres and circles in design, and work to solve a problem that involves thinking about creating circles for a real-life purpose - say on a basketball court. These Project Based Learning (PBL) blocks provide creatively integrated learning experiences that directly connect classroom concepts to real-life context through problem solving.

While the preferred pedagogy of the Millis Public Schools is one of active, project and inquiry- based learning that engages students and addresses higher-order critical thinking and problem-solving skills, educators at the Clyde Brown Elementary will continue to utilize different teaching methodologies to personalize learning in response to student interests, skill gaps and learning styles and to encourage students to take a more active role in goal setting and monitoring their progress.

Because teaching methodologies at Clyde F. Brown Elementary School are widely varied and designed to engage students in greater critical thinking practices, classroom design must be flexible enough to allow for frequent transitions from whole group instruction, to small group instruction, to peer-assisted interaction. In traditional classrooms, students sit at desks in rows and listen more passively to teacher-directed instruction; at the Clyde F. Brown Elementary School, student learning occurs in a small group, collaborative context as students sit at tables, then move to create smaller ad hoc "circles" with their chairs to dialogue around the learning at hand. Classroom design should accommodate this flexibility with an intentional focus on mobility of space (walls that move to accommodate large groups of students, or which can be drawn to create smaller, more intimate learning spaces) to accommodate co-teaching models when indicated. In addition to small group instructional classroom spaces located in each learning community, it is important to have nooks where small groups of students can meet to research, discuss, and create within the learning process, thereby providing for more individualized and personalized instruction at all grade levels.

A typical classroom is designed with active project-based and personalized learning in mind – furniture is easily moved to create configurations from large groups to smaller groups. Interior windows from 4 feet up allows teachers to view and monitor students who are accessing resources or working in the Media Center, as technology is now located centrally to classrooms to allow for more immediacy of access to resources. Natural lighting and furniture that allows for less restrictive movement and more comfort will allow students the opportunity for greater focus. Easy access to outdoor spaces, with perhaps an outdoor classroom area for each learning community, allows for greater integration of nature themes into academic curricula. Adequate storage within each classroom for project-based learning is key for hands-on learning

Inquiry-based learning occurs at Clyde F. Brown Elementary School through several university-based partnerships that have provided rich professional development for staff as they have applied this learning with students in the classroom. Through partnership with Tufts University, students benefit from the "STEM Through Literacy" program which promotes identification of problems in literature and forces students to work collaboratively in creating solutions

to these problems. Students in Grade 2 communicate with the Annuncion School in Malaga, Spain via Skype as they work to conduct life-science research through the Boston University-sponsored ECUSA program where students share solutions and results of their research as they create data-based hypotheses concerning the differences in findings. In Grade 4, teachers actively promote inquiry-based learning framed through *Genius Hour*, where students select a topic of passion, conduct research, and share results with an audience through a self-formulated presentation. Outdoor learning takes place in an integrated context as students in Grade 3 learn about crops grown in Colonial Massachusetts and work to germinate seeds, plant and harvest crops as part of a unit on life in 17th Century Massachusetts Bay Colony. Students in Grade 3 expand their understanding of the elements of design in nature as they work in small groups to design, test and revise their collaboratively created "bird nests" that withstand the "wind" created by a fan. Students in Grade 2 learn the fundamentals of engineering as they create, test, and revise bridges that support the weight of a small car. These rich and varied learning experiences encourage deep levels of collaboration and communication as students develop and refine 21st Century skills that will become essential for the world they will join as adults. In all cases where collaborative learning occurs, teachers combine classrooms and groups of students work on the floor to create the space needed for this interactive learning - many times students will opt to work in the hallway or will plan instruction around the availability of the Cafeteria or the Music Room as they seek suitable space to maximize spatial opportunities for project design. Clearly, space constraints limit the ability of teachers to expand these learning opportunities.

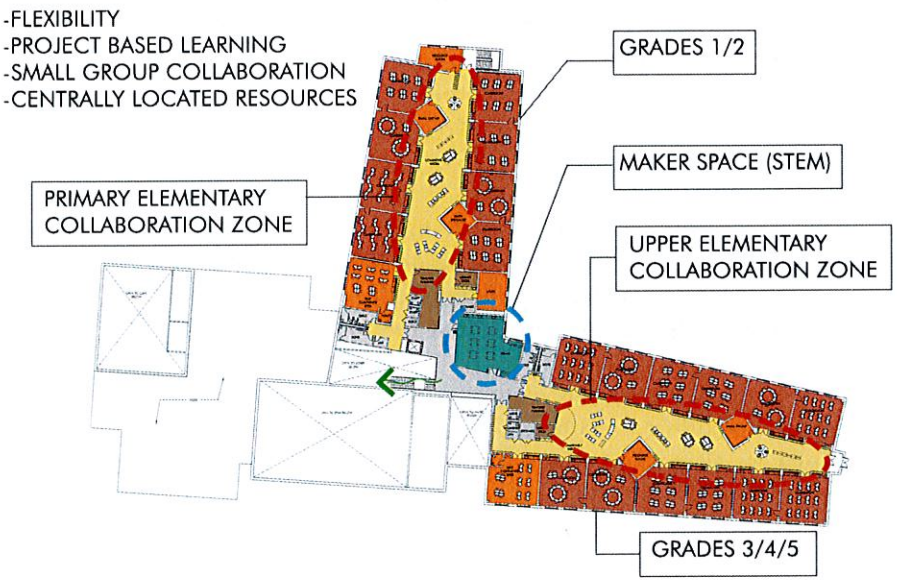
Maker spaces within the new school design to address current constraints will be created in both elementary learning communities through the redesign of the Media Center: rather than have one designated Media Center that students access, in classroom groups, following a traditional schedule, learning communities will have resources (trade books, devices, "construction" materials) redistributed throughout the "corridor" of each wing, thereby allowing students immediate access to information and technologies they need to construct learning in the moment. Typically corridors allow for passage to and from classrooms only; redesigning corridors to now become inviting maker spaces for students to engage in more collaborative and hands-on learning experiences contributes to the model of a more flexible learning environment for all learners. By design, the maker spaces allow for maximal adult support, when needed – classrooms in the learning community convene around these spaces; this is essential particularly for younger students who require more direct instruction and modeling around how to manage collaborative learning. The Media Specialist now serves as a consultant who is scheduled to be in each of the three learning communities on a rotating basis to assist in facilitating learning along with classroom teachers.

The use of technology is inherently woven into the teaching methodology of Clyde F. Brown Elementary School. Teachers embrace technology daily as they use SMART Boards, SMART Notebooks and the Internet for connected and interactive learning. Teachers have been trained in the use of Google Suite, and students use Google Docs as a means of collaborative communication and writing - feedback is provided instantaneously to students, who are better able to make more accurate revisions to their assignments. IPad carts provide students with opportunities for whole class connectivity, and teachers utilize web-based programs like Socratic and Kahoot to engage students in review of content that fosters deeper levels of understanding. Students use iPads to chronicle their learning, to collect information, to conduct research, and to create and introduce presentations that demonstrate their understanding of what they are learning. Use of the mobile iPad carts assists students in making learning flexible as learning can now happen anywhere students gather, whether in a classroom, in a hallway, in the Media Center, or outside - teachers at Clyde F. Brown School understand that today's learners need choices in how they will learn.

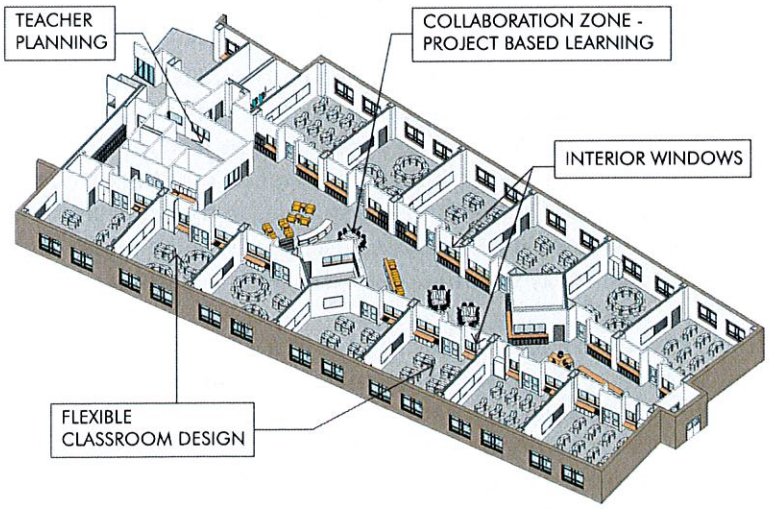
Teachers at the Clyde F. Brown Elementary School have invested much collaboration and professional learning around the development of "power standards" that guide content learning. Taken from the Massachusetts Common Core Curriculum Frameworks, quality instruction in a standards-based sense springs from the development of collaboratively developed "proficiency rubrics" that measure ongoing learning and skill mastery of these power standards in all content areas. This attention to *assessment for learning* assists in the focus of instruction on key elements of learning designed to maximize student learning experiences.

Design Response:

The design of a new Clyde Brown School is organized to support the schools teaching methodology. Lockers and cubbies have been pulled out of the classrooms to allow for maximum flexibility within the rooms, making them easily reconfigurable. Transparency is anticipated on the interior walls to allow views into either the corridor at the early childhood wing or the project based common zones in the primary and upper elementary wings. The direct adjacency to a central common will provide flexibility for learning to occur within the classroom as well as the adjacent space simultaneously, whether it is project based, group or individual activity. Collaboration between classes is enhanced by doors between classroom and double doors into the common, allowing multiple classrooms to congregate in a central location.



TEACHING METHODOLOGY



TEACHING METHODOLOGY / COLLABORATION ZONE

E. TEACHER PLANNING

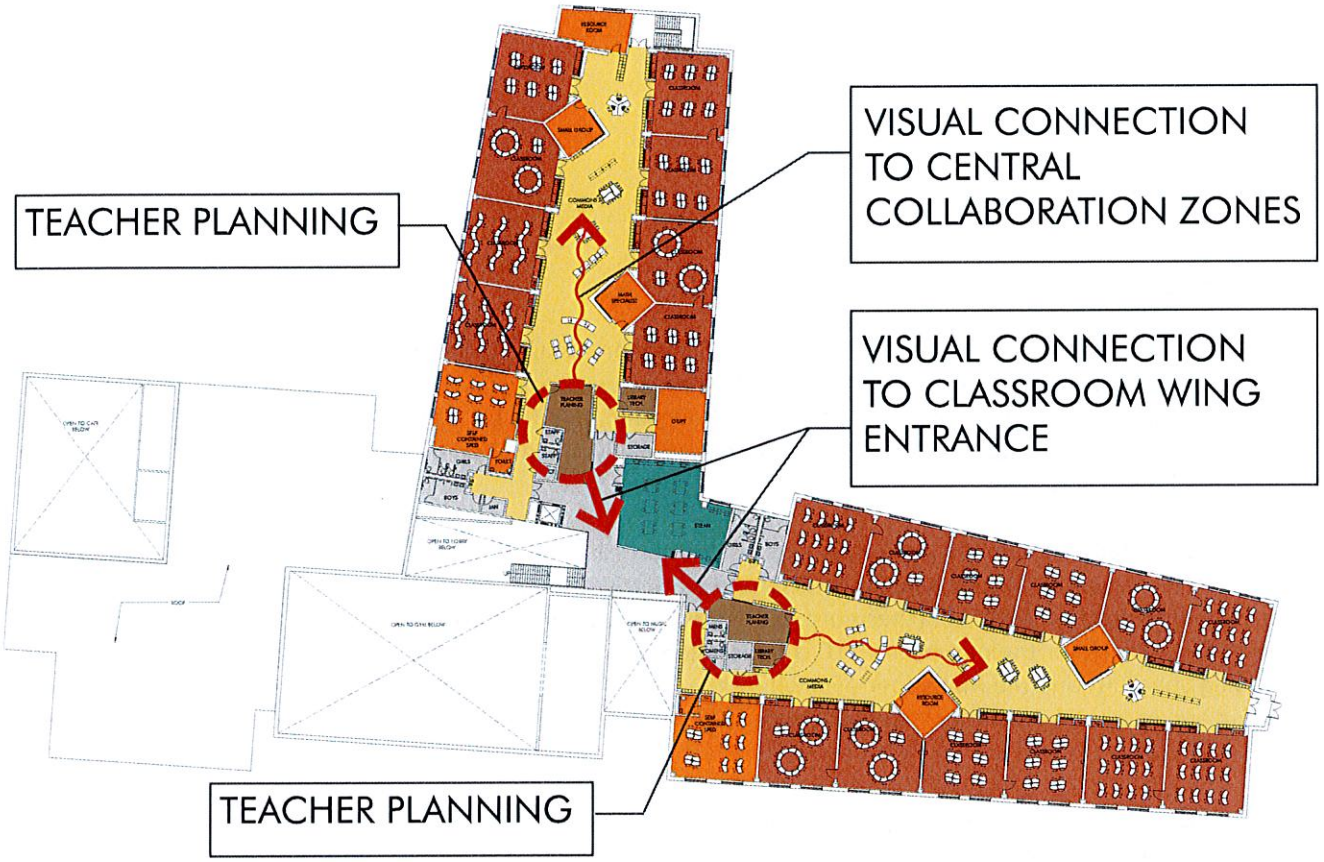
Currently, teachers at the Clyde F. Brown Elementary School are assigned rooms in classroom wings by grade level location - every effort is made to locate similar grade level teachers nearby one another to better promote instructional collaboration. By contract, teachers work a total of 6 hours and 45 minutes daily and are provided a duty-free lunch block equal to that of their students, as well as a 50-minute daily preparation block, during which time students take part in Unified Arts instruction.

In addition to the daily preparation block, teachers also utilize Professional Learning Community (PLC) planning blocks: a monthly, after-school PLC block enables teachers to work together on collaboratively developed student learning and professional practice goals. Furthermore, teachers are provided with an extended, duty-free block that aligns with their lunch block for the purpose of PLC collaboration, as well as a bi-weekly planning block with, alternatively, the Reading Specialist and the Math Specialist where the grade level team discusses strategies to support all learners in Reading and Mathematics. Most PLC and grade-level meetings occur in a classroom due to lack of meeting space within the school.

While there is a common room for teachers to make photocopies, this room is housed in a former supply closet and is not used for any other purpose due to its cramped conditions. No large-space areas are available for more large-scale planning, and teachers must conduct planning of this nature either before school or after school to allow for their own physical transport of planning materials to the designated classroom in which they gather to plan for instruction.

To address these shortcomings, the proposed space template proposes three teacher planning centers, one for each of the anticipated learning communities within the school (PK – K, 1 – 2, 3 – 5). Having three teacher planning centers will enhance professional collaboration and will allow for age and grade specific common planning. These locations will also act as localized copy centers to reduce the time teachers currently need to travel to access a single central location. This is an important aspect of the District's educational vision as it promotes common planning, professional development and collaboration and the supervision of the proposed multi-purpose project areas being developed in the classroom wings.

Design Response:
Each Teacher Planning Center is located with a view of the central common or corridor and they are at the head of the corridor so that visitors will pass them on the way into the classroom wing. This location offers supervision of students and of visitors for any teacher who is in the planning center and not in a classroom. The goal of these centers is to promote, support and enhance common planning time and professional collaboration. They also act as general meeting rooms and will have small copy centers and storage areas for book and material storage.



TEACHER PLANNING

F. PREKINDERGARTEN PROGRAM

Currently Clyde F. Brown Elementary School houses an integrated Preschool program comprised of 3.5 classrooms that services students in 2 morning sessions, 3 afternoon sessions, and 1 extended programming session. Pre-school classes offer 2.5 hours of instruction, 4 days each week. During SY 2015-16, a self-contained Extended Programming session was added to accommodate specific student needs. This program provides an instructional model for students on IEPs to benefit from peer models as they navigate the program; students for whom the program is designed attend class for 5 hours of instruction, 5 days each week, and peer models attend class for 4 hours of instruction, 5 days each week. Due to space constraints, 1 afternoon Preschool session shares space with a morning Kindergarten class; space for program materials storage is problematic, as the space is jointly shared within the one classroom.

The proposed use of space within the Early Learning community in the new school as an Extended Day classroom is designed to complement early learning programming in PreK and Kindergarten. This classroom is used as a space for providing supplementary general education services for our youngest learners in academic and social experiences within a small group setting. Rather than use other programmatic spaces within the building (cafeteria, the Gym, existing classrooms, or the STEAM classroom), which are utilized by large numbers of students throughout the building, all day long, the use of a designated Extended Day classroom space is designed to keep this classroom programmatically within the Early Learning community to better serve the needs of our students. There is dedicated staff for this program and students are enrolled in the program throughout the school day so a dedicated space is needed to accommodate these students and staff.

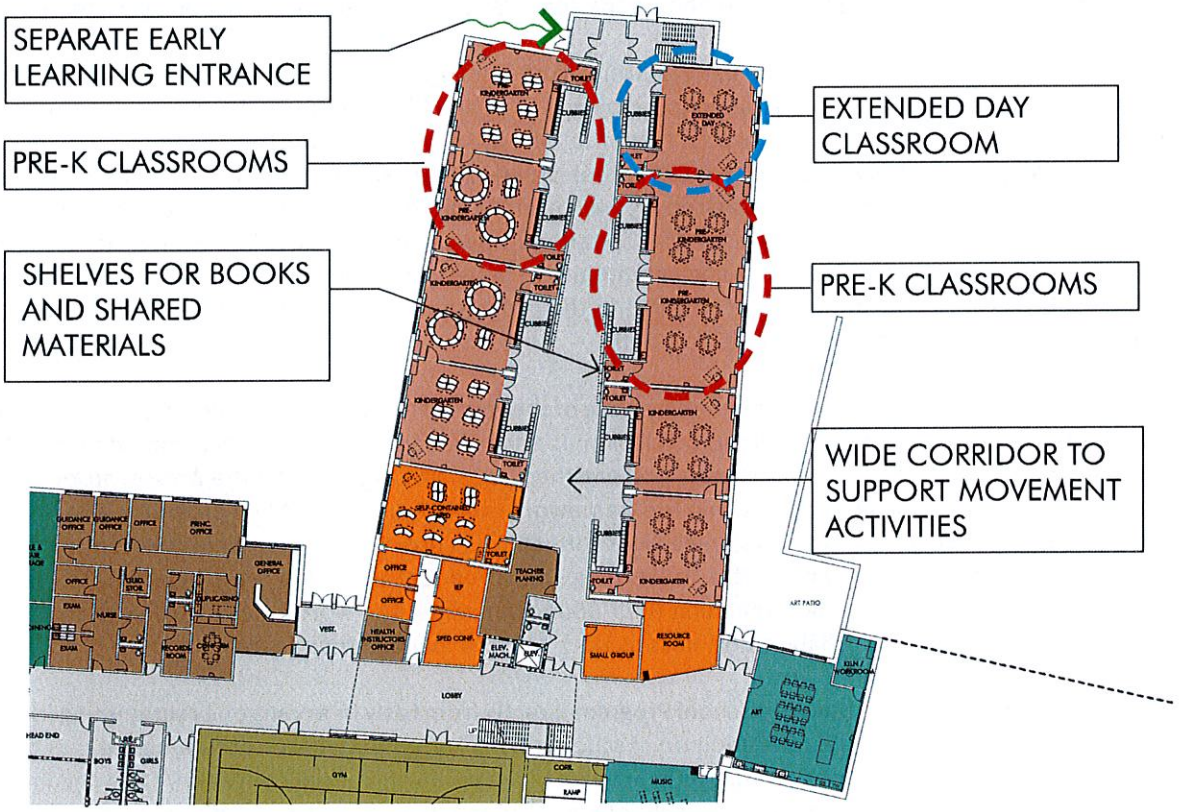
Preschool programming centers around the structure of the *Tools of the Mind* curriculum. Because of the multi-age mix of students (3- and 4-year-olds), the *Tools* curriculum is enhanced and modified to accommodate the developmental and skill range of all students, and teachers present thematic units aligned with the *Massachusetts Early Education and Care* (EEC), which are instructed within the framework of the *Tools of the Mind* program. The instructional focus of *Tools of the Mind* centers around learning skills through the curriculum that enable children to self-regulate their feelings and, subsequently, their choices in learning. Children learn through thematically-based topics that build upon their prior knowledge while expanding their understanding of the world. Peer-assisted learning is encouraged as students learn social and collaboration skills as they begin to manage their learning.

Currently, students enter the Millis Preschool Program directly from Early Intervention programming in the community. Space constraints do not allow for the addition of school-driven community-based programming that provides families with much-needed opportunities to engage in activities that promote Special Education/early childhood efforts that enrich critical early learning experiences. School-based experiences like play groups, parenting focus groups, and "story time" activities, for example, provide more opportunities to partner with our state-funded Coordinated Family and Community Engagement Program in reaching families with young children with and without disabilities, and also support our ongoing efforts to Child Find. It is our hope that the Clyde F. Brown Elementary School project will enable us to begin reaching our youngest learners at earlier ages by incorporating this early childhood learning programming as a supportive and coordinated part of our Early Learning Community educational focus.

The **program impact** on Prekindergarten programming involves current space constraints. The area of the Pre-school classrooms does not meet current program requirements, and the classroom spaces are simply not large enough to provide the quality of instruction that is required by our instructional programming. Pre-school students currently store their belongings in hallway lockers designed for use by older children; this creates accessibility issues for our young children who often need assistance in hanging/retrieving coats and backpacks. Inadequate storage space in the Pre-school classrooms makes storage of important learning materials impossible.

An updated facility offers the opportunity to have appropriately sized PK classrooms that support school programs. A full four classrooms will allow us to expand offerings as there is a high demand for these programs and will also help to accommodate an afternoon session for special education intensive intervention which research indicates is highly effective.

Design Response:
The four pre-kindergarten classrooms plus the one extended day classroom are included within the early childhood wing. These classrooms have direct access to the exterior which allows for students to enter directly into the classroom wing from the parking area and playground. This is particularly beneficial for half day programs. This wing of the building also houses kindergarten, a substantially separate special education classroom and resource rooms as well as a teacher planning center. Student cubbies are located in the corridor which allows for maximum flexibility within the classrooms themselves.



PRE-KINDERGARTEN

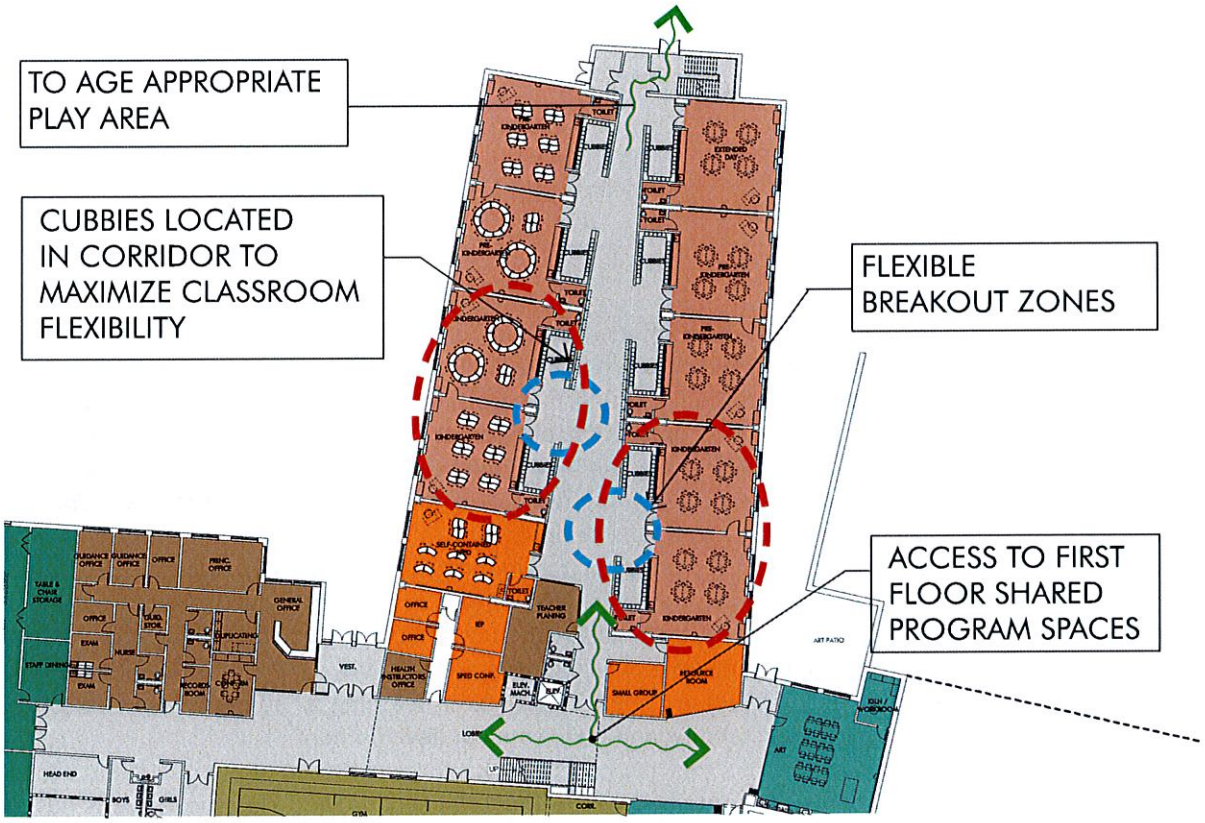
G. KINDERGARTEN PROGRAM

Currently, Clyde F. Brown Elementary School offers 4 sections of tuition-based full-day Kindergarten, as well as 1 half-day A.M. session Kindergarten class which is provided at no charge to families. Full-day Kindergarten is offered by lottery to families on a sliding-scale tuition based format; both the full-day and half-day Kindergarten classrooms operate 5 days each week and utilize the *Tools of the Mind* program that emphasizes the development of self-regulation skills designed to promote greater self-awareness and independence through peer-assisted learning. Now in its fifth year of implementation, the Kindergarten *Tools of the Mind* program has been recognized as a *Northeast Regional Model School of Excellence* in programming, and is designated as a Demonstration Site School for promoting best *Tools of the Mind* practices. Our Kindergarten program frequently receives visitors from around the United States and from as far away as Russia, and welcomes visitors who wish to learn more about how this programming best benefits young learners. Instruction occurs through literacy-based themes which develop student background knowledge and expand learning and understanding through role play and prop building; the dynamic curriculum is highly interactive and emphasizes the development of student choice and voice in learning as students work collaboratively, with teacher guidance, to frame their understanding and build concept development.

Currently, Kindergarten classrooms are contained within the 1954 section, and classroom size is not meet current program standards. This impacts learning for our students as space and storage is at a premium; student belongings are contained in hallway lockers designed for use by older students - student have difficulty in storing and accessing their belongings in these narrow locker spaces. Four of the five Kindergarten classrooms currently do not have toilets inside the classroom, and instruction must be interrupted for whole-class visits to the restroom. In order for our youngest learners to maximize opportunities to learn, we need large, bright classrooms, with accessible toilets, that are conducive to movement. Imaginative role-playing is a key element of literacy development. As part of this imaginative role play that fosters deep levels of comprehension through developmentally appropriate practice, students construct their own props that are used in acting out the roles of key characters within the literacy component. For example, in a unit on Knights, students construct castles - both table-top style and child-size, in which to act out roles from the literature as they reinforce comprehension and experientially apply the concepts they are learning both collaboratively and interactively. Therefore, it is important to have flexible classroom space for prop making and imaginative role-play. For further flexibility and collaboration, classroom spaces in the Early Learning Community area should have movable walls so that several classrooms of students can gather together in larger group learning.

Design Response:

The kindergarten classrooms are also located in the early childhood wing of the proposed new school. Cubbies are located in the corridor to maximize flexibility and available space within the classrooms. Bathrooms are located within each classroom. Kindergarten students will benefit from direct access to the exterior allowing for easy access to their play area and outdoor classroom zones.



KINDERGARTEN

H. LUNCH PROGRAMS

The Cafeteria at Clyde F. Brown Elementary School was constructed within the 1991 renovation. Currently, 4 lunches are held in the cafeteria due to space constraints. Lunches begin at 11:30am and conclude at 1:30pm. With the exception of Kindergarten and Grade 2, who share a Lunch block in the Cafeteria, each grade has an individually designated Lunch block of 25-minutes. Additionally, students participate in a 15-minute recess block prior to their scheduled Lunch block, as well as enjoy a 10-minute "movement break" at another scheduled time during the course of the school day; this movement break allows teachers to re-engage students in the learning process during a lengthy stretch in the day when student attention may flag - getting students up and moving re-ignites attention and focus

The kitchen equipment is 25-years-old, and is in need of replacement; it is not uncommon for equipment to lose functioning for long periods of time while an outdated part is located and installed. Currently, the cafeteria contains a serving line space that adjoins the cafeteria, and a kitchen space that contains ovens and warmers. Because the Cafeteria does not contain a designated dishwasher, meals are served on disposable styrofoam trays, and cooking implements are washed by hand in the sink area. The kitchen contains a large mixer which is currently not in use due to the fact that much of the food purchased is pre-processed and frozen, requiring that it be baked in the ovens before serving.

The proposed lunch program will reduce the number of seatings from four to three. Three lunches will be conducted: Lunch A - Kindergarten and Grade 1; Lunch B - Grades 2 and 3; and Lunch C - Grades 4 and 5.

Design Response:
A cafeteria of 3,000 sf is proposed which is anticipated to accommodate three servings with some room for expansion should there be a future population bubble. Because the cafeteria is on the edge of the building an addition at this location could also be a future consideration. The cafeteria is located in the public zone of the school to allow for community use and has windows facing the front of the building to create a welcoming character to the entrance area. The cafeteria could also easily be used for before or after school activities due to its proximity to pick up and drop off zones.

I. TECHNOLOGY POLICIES/PROGRAM REQUIREMENTS

Clyde F. Brown Elementary School has always benefitted from the Millis Public School's forward-thinking philosophy in providing our students with the use of technology across disciplines to promote critical thinking, problem solving, and personalized learning experiences as part of their ongoing education. Currently, the Instructional Technology space is located in a classroom that has been retrofitted and has been wired as a technology classroom that provides a dynamic, multi-functioning space for both instruction and project design. The technology space houses twenty-eight desktop iMac desktop computers that are used for both direct instruction in the use of application programs as well as for web-based assessments used formatively in Reading and Mathematics. In addition to the direct instruction provided by the Instructional Technology teacher, classroom teachers also utilize this space as a place to conduct some elements of project-based learning connected to content. In these instances, classroom teachers co-teach lessons with the Instructional Technology teacher and explore research skills, collaboration, data analysis and refining of hypotheses as they learn from one another through technology. As space within the building is limited for large-group work, the Instructional Technology space serves as a place for more large-group learning, by scheduled appointment. Though this does meet the needs of some students, some of the time, a technology model that utilizes a more interwoven use of devices and learning resources would certainly allow more students to access technology for learning, more of the time during the course of the school day - structuring multiple spaces for technology use, rather than one designated technology classroom, would provide this opportunity for students to maximize their learning more flexibly.

Wireless hubs, located in each of four wings throughout the building, provide access for portable devices that are used in daily instruction. Students use iPad-1 devices stored on one of four mobile iPad carts; these iPads, inherited from the high school's 1:1 device replacement program, the iPad-1s are rotated between classrooms at each grade level, and teachers actively plan technology-driven lessons for their scheduled time with the iPad carts. Additionally, students benefit from the use of two mobile laptop carts as part of instruction; again, the mobile laptop carts are shared in a rotation schedule, and teachers plan accordingly for the inclusion of the devices in their instruction on their scheduled days with the devices.

Through a donation from the school parent organization, the school has access to twelve iPad-2 devices which are used by students in Grade 4 in the creation of digital presentations that are created, edited and produced by students - students quickly learn the elements of digital editing and are eager to expand their learning in this area!

All classrooms at Clyde F. Brown School are equipped with overhead-mounted LCD projectors and SMART Boards; teachers use district-assigned laptop computers to access SMART Notebook programs used instructionally as a complement to the SMARTBoard software. Each classroom also contains three or four aged iMac desktop computers; due to their vintage, these devices are almost exclusively used for word processing in Writing or in creating digital illustrations for Writing assignments as the devices are so old that connectivity is an issue.

As part of technology learning, students are instructed in creating presentations that use video to relate learning to a broader audience. The use of software to edit video using iPads is an essential part of this learning process, particularly for students in Grade 4 and Grade 5 at the middle school. The use of a "green wall" in video production of presentations is an integral part of the skill set necessary to produce quality presentations at the upper elementary level. Students in Grade 5 at Millis Middle School currently have access to the TV Production Studio at Millis Middle/ High School; incorporating video presentation and editing space in Clyde F. Brown Elementary School ensures that these returning students will continue with equal programming access in their new school, while encouraging the use of this learning technology with other students in the Upper Elementary Learning Community.

While the existing school has an instructional technology space, the proposed space template does not include this classroom. It is anticipated that a new or renovated school would have adequate mobile devices to accommodate technology instruction in individual classrooms. It is anticipated that the proposed STEM classroom will offer the opportunity for video production and will be a technology rich environment as will the proposed central Media Center zones.

Design Response:
A STEM classroom has been located adjacent to the upper elementary wing to accommodate video editing as well as a stem curriculum for the older students. It is anticipated that the school will be a wireless environment and that device carts will be distributed throughout the school in classrooms and in other select locations.

MEDIA CENTER / LIBRARY

The Media Center at the Clyde F. Brown Elementary School is located centrally within the building and serves students in grades Kindergarten through Grade 4. The Media Center organization is split between the Library space and the Technology classroom space, which occupy two distinctly separate areas within the building.

The Media Center configuration was reorganized with the hire of an Instructional Technology Specialist. The role of the Instructional Technology teacher is to provide direct instruction to students in the use of technology in learning, and to support classroom teachers as they integrate technology into classroom instruction and learning. Students learn a variety of skills supported by both learning applications and web-based products; for example, students in Grade 3 complement a literacy unit on "Biographies" by conducting research from bookmarked websites as they synthesize their learning through skills learned in Powerpoint, while Grade 4 students conduct research and quantify their measurable outcomes through creation of databases using Excel that are then displayed in a variety of graphs – this learning nicely dovetails with skills and concepts from the Grade 4 Mathematics curriculum. Learning how to apply these technology skills through classroom learning assists students in a personalized context as they become more independent learners who are better able to capture and communicate what they have learned. Students are provided with a scheduled Instructional Technology class once per week; additionally, classroom teachers plan for an additional block in the technology classroom in which they either use the Tech classroom for their own whole-class instructional projects, or choose to co-teach a specific topic with the Instructional Technology teacher. Additionally, classroom teachers in Kindergarten, Grades 1 and 2 request a block in the Technology classroom with which to integrate technology within the scope of their own curriculum through the use of web-based assessments like Lexia Learning or Scootpad; these programs support ongoing classroom learning.

The Library component of the Media Center is staffed by a full-time paraprofessional who manages the general circulation and, for students in Kindergarten through Grade 2, promotes love of reading through read-aloud programming designed to spark student interest in specific content themes or authors. For example, prior to a school visit from the children's author Jeff Kinney, the library paraprofessional read excepts from the novel "Diary of a Wimpy Kid", thereby providing all of our younger students with a common frame of reference on the work of this author. Library classes are scheduled once per week for students in Kindergarten through Grade 2; students in Grades 3 and 4 are afforded a 15-minute visit to the Library once per week to return books and select new reading material. Teachers in Grades 3 and 4 regularly visit the Millis Public Library for student self-selected reading materials, as the Public Library is located within walking distance from the school building.

Because of building space constraints, the Library space, in addition to promoting love of literacy, also serves as a space for Reading and Math tutors to meet with small groups of students throughout the day. Additionally, the Library serves as a space for the entire faculty to gather for meetings – a section of the Library has been partitioned off and serves as an ad hoc "conference room" for meetings during the school day, and the space is used after school for faculty and staff meetings. The Library is used after school for tutoring and for some community meetings, on a sign-out basis.

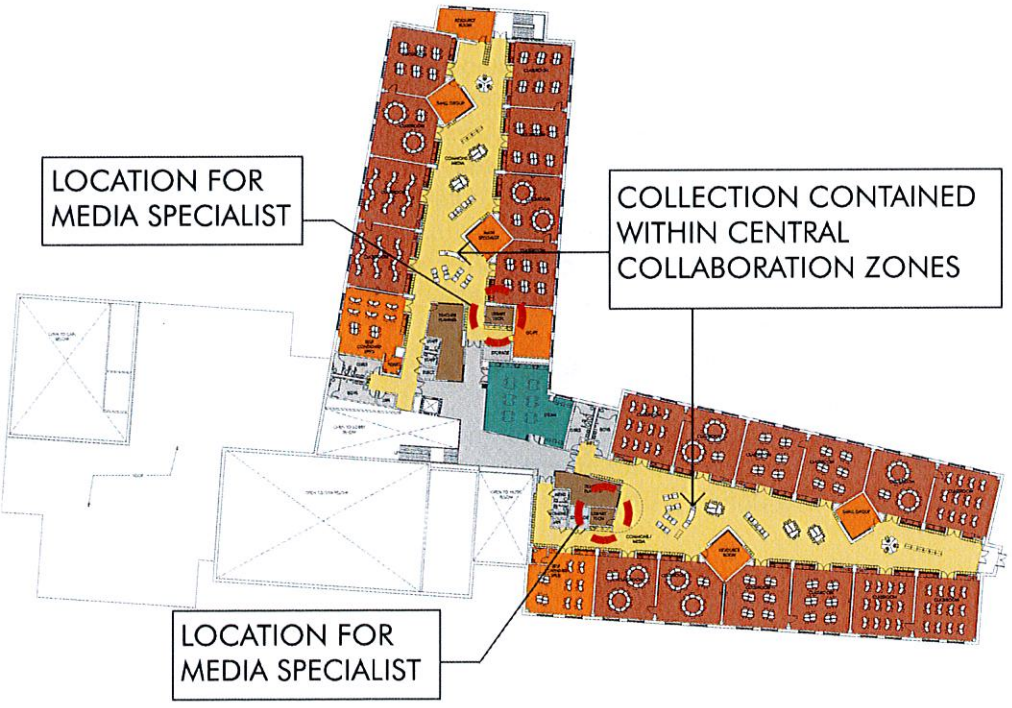
We anticipate that the best use of the Library/Media space would occur as distributed throughout the school building, with trade books, reference books, and other resources organized within each Learning Community; this "bring the resources to the students" philosophy encourages greater flexibility in learning and more immediacy with access to resources needed in a more project-based learning context. In the course of a typical day, students would access these spaces within their Learning Communities as the need for information gathering occurs within the learning

process. It would not be uncommon for a student to access this space several times during the day – for self-selection of reading materials, for small-group research, for individualized information gathering, and for personalized learning task work. This "distributed Media Center" model would greatly increase student access to resource materials while providing the impetus for a more personalized and independent approach to information gathering; rather than a once-per-week opportunity, students would now have more flexible information access that meets their in-the-moment learning needs.

Technology access, too, would operate in a distributed model: rather than have an identified "technology classroom", mobile devices like laptops and tablets would be distributed throughout the building and reside in mobile charging carts located within each learning community, thereby allowing students to access information more spontaneously as dictated by their learning needs. Again, making technology more mobile and distributed creates a school community where access to information is guaranteed to all students, thereby fostering a culture of problem solving as students work both collaboratively and independently in finding answers to the questions that drive their learning.

Potential Changes to Programming: In keeping with the distribution of technology throughout each of the learning communities, the role of Instructional Technology teacher would shift to become one of Technology Integration Specialist, whose function would be to consult with teachers around the use of distributed technology in their instruction, as well as to work with students in accessing the resources located within these resource spaces. This shift in role from "teacher" to "consultant" provides direct support to the community vision of Clyde F. Brown Elementary School's evolution to a school where personalized learning is central to both curriculum and instructional methodologies, and where students are empowered to take greater charge of their own learning.

Design Response:
The central common area in the primary and upper elementary learning communities will be multi-purpose. An area will be identified for performance and projection and a location will be designated for the media specialist to house materials, manage the collections and provide assistance to students. The two commons will each have multiple zones to support different activities including group projects, small group instruction, individual learning and hands on project based activities.



MEDIA CENTER

J. ART PROGRAMS

Clyde F. Brown Elementary School is proud of its visual arts program that assists students in both the development of inquiry skills, creativity, and conceptual extensions to the core curriculum, as well as in the development of executive functioning skills necessary for project planning and design execution. All students in Kindergarten through Grade 4 are offered an Art class each week; classes are designed to be project based with a finished product realized at the end of an instructional unit.

The Art program utilizes mixed media in programming: drawing, papier mache, watercolor and tempera painting, 3-D design, printmaking, jewelry making and ceramics are all presented with a collaborative eye towards expanding content learning. For example, students studying the biomes of ocean creatures in Life Science have learning extended in Art class as they study texture by creating clay-based fish. The "fish project" provides students with the opportunity to demonstrate wax resist methodology with crayons as they score and slip clay to show scales, patterns and colored texture - these Art-based experiences add an important dimension to holistic learning! Students work with clay and learn about glazing techniques as their projects are fired in the kiln. Student creativity is celebrated in displays outside the Art room and in display cases located within the school building.

Art projects are created in the Art room, a retrofitted classroom space located within the Grade 1 and 2 academic wing; the space is used by all students in Kindergarten through Grade 4, who must travel to this academic wing to access the Art room. The Art room itself contains tables for project-based work, multiple storage cabinets and two sinks. Technology is integrated through the use of a document camera that projects modeling of Art techniques for students onto a large flat screen monitor. A SMART Board allows the Art teacher to access the Internet for in-the-moment research, videos and interactive digital skills that enhance classroom learning. Currently, the Art room houses a kiln that was retrofitted into the classroom space. Because of the potential danger and safety concerns when firing and cooling, the kiln can only be operated before or after school, or at times when no students are present in the classroom. This limits the extent of learning that can take place around the media of clay and ceramics within the Art curriculum. A large storage space, for materials and student projects-under-construction, is essential for adequate storage in the Art room.

Ideally, the Art room contains a whole-group learning area for instruction that includes a SMART Board and document camera for demonstration and modeling, and a large-screen display; a project-based area that contains storage for ongoing projects; and a ceramics area, with multiple sinks, for use of mixed media materials. The kiln is housed in a separate accessible area to the instructional space, and is able to be secured to avoid potential danger when firing and cooling. There are portable display screens that can be used for displaying student work throughout the building, as well as movable display cases that the teacher can use for exhibitions of student projects. A large materials storage area provides adequate storage for materials. The scope of curriculum offered in Art programming requires the use of a kiln to fire ceramics created in both Art content lessons and project based learning blocks. A kiln is currently in use for Art instruction at Clyde F. Brown Elementary School; ceramics, as an artistic medium, is designed to make learning connections to content-based learning. For younger students, clay is used as a medium for learning about the earth (clay as a natural resource), and for the development of fine motor skill practice as well as in demonstrating techniques from ancient times (rolling coils of clay to produce both coil and pinch pots). For older students, these skills are carefully connected to content as students build upon these themes in Mathematics (patterning, tessellations), in Social Studies (creating "authentic" Native American art), in Science (elements of the earth that create clay, states of changing matter – firing ceramics in a kiln), and in collaborative design process (balance and design as students create a "bobblehead"). While there are commercially prepared products that could be substituted for clay, these products would alter the curriculum in ways that would not allow for the direct connections of clay as a naturally occurring medium.

We anticipate that, with a change in building design and the addition of a kiln room, programming in Art will not only continue at the same level of service but will expand opportunities for scheduled PBL blocks and for after school enrichment programming.

Design Response:
The proposed art classroom is on the first floor near the music room. This allows for the possibility of art and music working together on arts based projects. This art room is also accessible to the public for community use if desired. The classroom has direct access to the exterior allowing for the potential to make art outside when the weather will allow it expanding the scale of the room and the type of media that can be used

K. MUSIC AND PERFORMING ARTS PROGRAMS

Music classes occur at Clyde F. Brown Elementary School through Music teachers who share distributed instructional responsibility between all three schools in Millis. All students in Kindergarten through Grade 4 receive instruction in Music once per week. Students in Kindergarten and Grade 1 take part in Music/Movement classes, which combine elements of Music instruction with movement-based dance; this programming reinforces self-regulation skills and curriculum themes contained in the general curriculum. For example, students in Kindergarten, as part of a unit of study about the African savannah, listen to native African music as they take on the roles of lions, antelope and other animals, acting out through movement how the animals move and interact in their native environment. Due to the part-time, half-day nature of PreK programming, PreK students are afforded physical education exposure through visiting instructors who provide classes in yoga and in Music/Movement on a periodic, rotating basis; this model supports early learning skill growth in self regulation through a physical movement context.

Students in Grades 2, 3, and 4 have more formal choral music instruction as well as an introduction to reading music, where all students in Grade 3 learn to play the recorder. Beginning in Grade 4, students can elect to take part in the introductory instrumental program, which meets before school for small group instruction. Students contract privately to rent musical instruments, and are taught in small groups. Performances occur twice each year - in winter and in spring - as a showcase for emerging student competency in instrumental instruction and have become cultural events for the school community.

The Music room is a large, flexible space that accommodate two classes simultaneously. Currently, Music space is shared with the Extended Day director's office, as well as other small office spaces; much of the space is used as storage for the Extended Day program, and houses additional Music materials. In cases where two classes meet simultaneously, one class meets either in the Cafeteria or on the stage. Ideally, a Music classroom has a flexible room design which allow for movement of walls to create one large classroom area for choral music and instrumental instruction

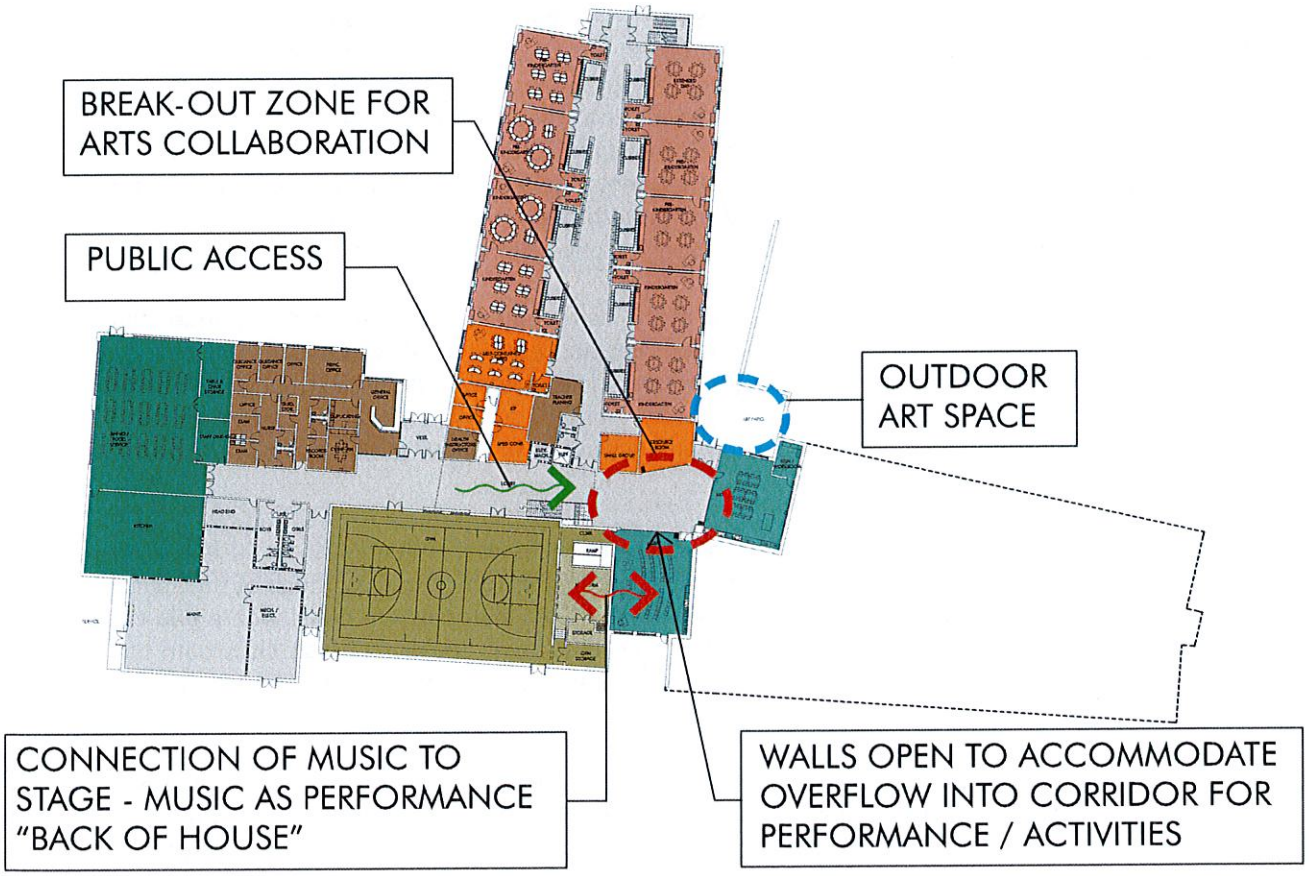
Music and Movement – allow for free movement and self-expression for students in Kindergarten and Grade 1. Currently, the Music and Movement program meets in the Music room, where movement is constrained by materials placed there in storage due to overcrowding. An ideal Music and Movement space needs to be carpeted and have adequate storage space for instruments, props, music equipment, etc.

Instrumental Music – occurs in a small-group format in the Music room before the start of the school day to accommodate space and scheduling needs. As students prepare for performances, practices are held on the stage area of the Cafeteria; there is sometimes competition for this space as Choral music programming occurs simultaneously.

Choral Music – teaches students the elements of "voice as instrument" as students practice songs that have a direct connection to grade-level curriculum contexts. All students in Grades 2, 3 and 4 take part in choral music as part of Music education; performances occur for Grade 4 (winter) and Grade 3 (spring) each year.

The proposed new building design, with the addition of a flexible Music classroom that supports programming in both vocal and instrumental music instruction as well as space in which to conduct Music/Movement programming, will provide continuity in ongoing programming and will expand opportunities for scheduled PBL blocks and for after school enrichment programming. Moreover, locating these Unified Arts programs adjacent to one another and centrally within the building will serve the school community as a Unified Arts "hub", and will encourage greater collaboration and integration of academic curriculum.

Design Response:
The music room is located adjacent to the art classroom. The space accommodates storage of instruments and props and is directly adjacent to the stage in the gymnasium allowing for relocation of materials for performances. The music room can also be used as a "back stage" area for major performances and events that happen on the gym stage.



MUSIC & ART

L. PHYSICAL EDUCATION PROGRAMS

At Clyde F. Brown Elementary School, the ultimate goal of Physical Education programming is to teach students about the important health benefits of enjoying an active and healthy lifestyle. Using the Massachusetts Comprehensive Health and Curriculum Frameworks and the National Standards in Physical Education, Physical Education programming encompasses a skills-based learning approach through a spiraling curriculum that guides students in introductory skill exposure, having students practice these skills alone in Kindergarten and Grade 1, and having students practice skills with a partner in Grade 2 before then applying the learned skills in small group, game capacity in Grades 3 and 4. Due to the part-time, half-day nature of PreK programming, PreK students are afforded physical education exposure through visiting instructors who provide classes in yoga and in Music/Movement on a periodic, rotating basis; this model supports early learning skill growth in self regulation through a physical movement context.

Two levels of skills instruction are addressed within the K-4 Physical Education curriculum. *Locomotor skills*, like skipping, galloping, hopping and jumping, assist students in moving purposefully from place to place with balance and agility, while *manipulative skills*, like throwing, catching, striking with a racquet, and dribbling, enable students to move objects from place to place. Both skill sets work in conjunction to instructively provide students with the foundation for both organized sports and individually-based sports that assist in fulfilling the program goal of espousing physical activity as part of an active and healthy lifestyle.

Health and Wellness instructional themes focus around both fitness and social/emotional support - these themes are intertwined within the curriculum themes at each grade level, from Kindergarten through Grade 4. The Physical Education staff uses *Hellison's Model of Self-Responsibility* to complement the social/emotional program learning in teaching students how to evaluate their own participation, helpful and empathy towards others.

Grade 5 Physical Education instruction is currently a hybrid of the elementary program and the middle school curriculum that emphasizes a more game-based approach to fitness rather than a skills-based focus. One Physical Education teacher has instructional responsibility for teaching Kindergarten and Grade 2 students at Clyde F. Brown Elementary as well as classes in Grade 5 at the Millis Middle School; this educator, within this role, has recognized that Grade 5 students are developmentally more similar to elementary students - she has made adjustments to the Grade 5 curriculum to reflect the need for Grade 5 students to have more opportunities for direct instruction, feedback, and small group practice before they attempt the skills necessary for the larger team-based middle school instructional model. At such time that Grade 5 rejoins the Clyde F. Brown Elementary School, the Grade 5 Physical Education curriculum would be revised to be more similarly aligned with the current Kindergarten through Grade 4 model.

Currently, 2 Phys Ed classes are taught in the Gym each morning to accommodate smaller-sized students in Grades K, 1 and 2; the movable wall is unfolded, thereby creating 2 Gym instructional spaces for younger learners in Grades K, 1 and 2 who need less physical space for Phys Ed instruction. Older students in Grades 3 and 4 are accommodated in the full Gym in the afternoon; the full Gym is necessary due to the larger physical size of these students, where a split-Gym option is not feasible. Offices for the Phys Ed staff are located in the equipment storage area, which is next to the boiler room. There are no provisions for a designated office space for these staff members, or for a handicap accessible restroom for students. As is the case in many elementary gym spaces, the Gym does not have spectator space. Currently, the Gym is heavily used by the community after hours as part of an inclusive sports model - the Clyde F. Brown Elementary gym is used as a practice space by the middle school.

Planning for the needs of the gym should include the following components:

- A handicapped-accessible restroom should be part of the Gym space to allow all students equal access to programming without differentiation based upon physical needs
- A platform for performances - locating a platform, with a curtain, in the Gym space allows for greater expansion of curriculum as dance, theatrical performance, and large group presentations could now be presented for the entire school community.
- A folding wall that divides the Gym into two distinct instructional spaces - while the use of "sports curtains" provides a more current use outlook, as many schools have adopted the sport curtain to define areas within the Gym, the instructional integrity of Physical Education programming demands that a folding wall is a better consideration. Much of the individual skill work at the elementary level demands the use of "wall space" for practice; some curriculum themes, like the dance unit, involve different music selections being played simultaneously for 2 different classes. Incorporating a folding wall, rather than a "sports curtain", allows for greater flexibility in programming, more developmental instructional options, and greater variety in possible space use by the community after hours.

Design Response:

The proposed gym can be divided to allow for multiple activities. A stage is provided within the gym to allow for performances for a larger audience then would be possible in the cafeteria. This platform can also be used for watching athletic activities on the gym floor. Directly adjacent to the gym is a large bathroom that will be shared with the cafeteria and can be used both by students and by visitors at public events. The gym is located within the public zone of the school and can be easily accessed for event and for community use on weekends and evenings.

M. SPECIAL EDUCATION PROGRAMS

At Clyde F. Brown Elementary School, Special Education programming is provided under the guidance of the Student Support Services Office, which provides student support for students who have Individualized Education Plans (IEPs). Inclusive of Special Education services are: Speech and Language services, Occupational Therapy, Physical Therapy, Adaptive Physical Education, Counseling, Social Skills instruction, and academic support, as well as Applied Behavioral Analysis (ABA) services. Special Education services are provided in an inclusion model, where education specialists provide services within the general classroom setting wherever possible, in keeping with the least restrictive environment philosophy of service delivery. In cases where student needs demand that services be provided in a setting other than the general classroom, student may receive these services in an academic resource room setting or, as dictated by students' IEPs, within a substantially separate classroom setting. However, students who receive some services in a parallel alternate setting are included in the general classroom setting for all academic elements that are not directly prescribed by their IEPs. The allocation of space for resource rooms and separate classrooms for students with disabilities, in determining programmatic needs, are given equal consideration and priority as general education programs for student and program access within the building. Every effort is made to ensure that the facilities and classrooms serving only students with disabilities are at least as equal in physical respects to the average standards of general educational facilities and classrooms, despite the challenges faced by space constraints within the Clyde F. Brown Elementary School.

Currently, spaces for instruction, therapeutic services and identified classrooms for students with disabilities are housed adjacent to general education classrooms to the greatest extent possible, so that students with disabilities receive services within the same portions of the building with their same-age peers. However, space constraints and the changing needs of students can impact this space assignment. For example, the PreK and Kindergarten section of the building houses a substantially separate classroom as well as a resource room classroom for primary and upper elementary students; locating these services together keeps student programming aligned with their age-appropriate peers even though the services are not located within the general classroom wings for primary and upper elementary students.

Speech and Language services are located together centrally within the Office of Student Support Services area, as many of these services take place within an inclusion classroom setting, while individualized services are accommodated within these small office spaces. Occupational Therapy and Physical Therapy services are located in a small classroom space within the primary section of the building; this ensures that some primary students who need these services are able to receive therapy as close to their general education classrooms as possible. Due to the current space limitations at Clyde Brown, students on IEPs with specialized instruction in grades 1-4 must leave the wings in which their general classes are located in order to receive these services. Additionally, space limitations within the building have made it impossible to establish programming for students with disabilities who require comprehensive programming related to their disability in a substantially separate environment. At this time young students are placed in collaborative settings where specific educational needs rising from disabilities such as Autism Spectrum Disorder (ASD) and Social Emotional Disabilities (SED) can be provided.

Currently, issues identified with Special Education Programming include:

Local review of Out of District placement and expenditures finds that, due to the current space limitations, the District cannot provide substantially separate programming for students with significant and specialized needs related to ASD and SED- this interferes with LRE provision for students and increased costs for the district. Currently ASD programming occurs within a fully inclusive model at Clyde F. Brown Elementary School. Elements of ASD programming that require specialized instruction take place in a substantially separate classroom setting. SED programming occurs within a fully inclusive model at Clyde F. Brown Elementary School. Elements of SED programming that require specialized instruction take place within the offices of the School Adjustment Counselor, the School Psychologist, or the district Behavior Specialist, who work together to tailor individualized services according to stated goals within a student's IEP.

- In addition, increasingly students with SED returning from hospitalizations or experiencing other challenges are demonstrating behaviors incompatible with being successful in a general classroom. These students would benefit from a separate setting for the provision of evaluation and support to continue to be in their neighborhood school in their own community. In the proposed new school small group spaces within each learning community wing will serve as spaces for the discrete programming needs of these students.

- As previously mentioned, the need for several settings for small group and individualized instruction, therapies and support, located in proximity to general classrooms will allow for greater inclusion of students with disabilities. These spaces should be flexible and include groups rising from the tiered intervention system- further removing the possibility of stigmatization of students on IEPs.

- There are NO Collaborative spaces or programs in the current school
    - o Currently there are the following specialized programs:
        - 1 Substantially separate Preschool full day class
        - 5 Half-day integrated Preschool classes
        - 1 Substantially separate special education class

These programs will continue without interruption within the organization of school programming. Additionally, there is no plan to reduce or eliminate any special education programming on the conditions of space constraints

- Previous issues identified with prior Special Education Coordinated Program Review (2010) include:

SE 17, Initiation of services at age three and Early Intervention transition procedures *- Department of Elementary and Secondary Education Findings: Interviews and documentation demonstrated that the district is not attending the transition planning conferences at Early Intervention programs to ensure effective transition of young children with disabilities from the local Early Intervention Program.*

SE 24, Notice to parent regarding proposal or refusal to initiate or change the identification, evaluation, or educational placement of the child or the provision of FAPE *- Department of Elementary and Secondary Education Findings: A review of student records and interviews indicated that the written notices to parents are inconsistently completed. Specifically when the district is seeking consent to evaluate and issues a Notice of Proposed School District Action (N1 form) attached to an Evaluation Consent Form (N1A) the written notice does not meet all of the content requirements set forth in federal regulation.*

o During the 2013 CPR Mid-cycle review the NO issues or problems were raised; as indicated the problems/issues found during the 2010 CPR were resolved by the time the Mid-Cycle took place in 2013

o The District is currently (2016) participating in the Self-Assessment portion of CPR, with the team visit and review to be conducted in the 2016-2017 school year.

Potential Changes to Address: The proposed new plan provides for small group and individualized instructional spaces for students with and without disabilities in each learning community. The new plan provides for classroom locations for these needed programs whether they be district or collaborative administered.

The plan for the new school is to house instructional, therapeutic and classroom spaces for students with disabilities in the early childhood or elementary portions of the building with their same-age peers.

Speech and Language

Speech and Language services are provided by two licensed Speech Pathologists in the general classroom setting, or in a small classroom setting located in the Student Support Services suite. Each Speech Pathologist maintains a space for small group instruction that doubles as an office space. Speech services, when delivered in a small group, parallel setting, are comprised within a 1:2 or 1:3 ratio; students whose learning needs demand a small group setting benefit from the direct instruction provided by the speech pathologists.

Occupational Therapy/Physical Therapy

Occupational Therapy and Physical Therapy services that are not delivered in the general classroom setting, by IEP designation, are provided in a small classroom space located within the first and second grade classroom wing due to the larger numbers of young students who require these services; students in PreK, Kindergarten, Grade 3 and Grade 4 must walk through the building to the OT/PT classroom for their academic support services. Each year, placement of OT/PT service space is re-evaluated, based upon the existing needs of students who require these services, as ongoing space constraints require that OT/PT services space be more fluid to accommodate these student needs in locating this space as close a as possible to nearby classroom spaces. Currently, Occupational Therapy services are conducted by a licensed Occupational Therapist and a licensed Occupational Therapy Assistant. Physical Therapy services are conducted by a licensed Physical Therapist. Ideally, OT/PT services should be conducted as close as possible student general classroom settings to avoid unnecessary disruption caused by lengthy travel time to service delivery areas; this is not always possible given the current space constraints faced by the Clyde F. Brown Elementary School.

Adaptive Physical Education

The purpose of Adaptive Physical Education (APE) at the elementary level is to provide students with support in strengthening the developmental acquisition of motor, physical and social skills in a small group, safe, and highly

supported setting. Adaptations are made programmatically to ensure that students have maximal opportunity to reach the goals set within their IEPs. Students receive APE services in addition to their general Physical Education classes. APE services are most often delivered in a small group setting, and paraprofessionals are part of the instruction to assist students with motor tasks that may require direct support.

Adaptive Physical Education is provided by one of the licensed Physical Education teachers, who provides additional Physical Education instruction in a small group setting for students whose IEPs indicate that they need additional support in acquiring developmental physical skills. Adaptive PE classes are provided in accordance and frequency with individual student IEPs. Adaptive PE classes must be scheduled into the existing Physical Education schedule; this is sometimes difficult, as the entire Gym is utilized for much of the day, and Adaptive PE classes must be scheduled at times when the entire Gym is available for the scope of equipment and instruction necessary for individualizing this instruction.

Academic Support

Clyde F. Brown Elementary School believes in fully including all students in general classroom settings for academic instruction whenever possible, and in providing students with direct special education services within this general classroom setting to maximize the education of all students. When student academic needs dictate that students require additional academic skill support in a separate small group setting in Reading and Mathematics, this instruction takes place within the Resource Room. Two licensed Special Educators with credential in Moderate Special Needs work in a 1:1, 1:2, or 1:3 service delivery model to meet the small group academic instruction needs of students in Reading and Mathematics as outlined in their IEPs. The Resource Room is a small group classroom with two instruction areas that also serves as an office space for the two teachers who occupy this classroom. Ideally, small group instructional support should take place as close to student classrooms as possible; however, this is not able to be actualized due to the current building space constraints.

Behavior Support and Applied Behavioral Analysis (ABA) Services

Millis Public Schools employs a full-time licensed board-certified ABA director who also serves as a district-wide consultant for the social/emotional/behavioral needs of students who have IEPs written for these needs. At the Clyde F. Brown Elementary School, the BCBA shares office space with the School Psychologist; in addition to their two desks, this space contains a small group instructional area that is utilized by the BCBA for social skills instruction, and by the School Psychologist for testing and delivery of counseling services. As both employees provide services district wide, student service delivery is dependent upon varying schedules of the staff as it is impossible to conduct social skills groups and educational testing simultaneously within the same space. Additionally, space needed for these programs relies upon smaller, quieter spaces with which to work with students in a 2:1 or 1:1 setting, as dictated by their needs; space constraints at Clyde F. Brown Elementary School are such that these required services take place in cubicles located in a variety of places around the school building, where space allows.

Counseling

Counseling services are provided by a licensed School Adjustment Counselor, who maintains additional credentials as a Licensed Independent Clinical Social Worker (LICSW). Counseling services are provided for students whose IEPs goals center around emotional adjustment concerns. Individual and small group counseling takes place throughout the school day for those students who require this additional support within their IEPs. Additionally, the School Adjustment Counselor conducts social skills "lunch bunch groups" that are designed to offer social skills and counselling support to students that complements their stated IEP goals. Due to building space constraints, counseling services are currently provided in a former storage closet that contains no windows and less than adequate ventilation; the space doubles as a small group space and office area. This arrangement is difficult, as the School Adjustment Counselor must sometimes make or receive confidential phone calls in space that offers no privacy. Ideally, counselling services would take place in a space that is well lit, has a window, and has a separate small group space in addition to a small office area where private telephone calls could be made or received to ensure that students receive support in a bright, uplifting environment.

As noted, providing three self-contained classrooms addresses the needs of each of the learning communities anticipated in the proposed facility while increasing small group rooms accommodates multiple learning situations for small groups and individuals. Special Education will continue to be delivered in a manner consistent with the current program but with improved facilities and better accommodation of all students.

Health

The Health Office at Clyde F. Brown Elementary School is overseen by a licensed RN School Nurse. The scope of the Health Office encompasses, but is not limited to administering medications, evaluating student health needs as they visit the Health Office, triaging immediate student illnesses and health concerns, communicating with families and other health care providers around specific student health needs, maintenance of student health records, screening all students in Kindergarten and Grade 4 for height, weight and vision, collaborating with the counselling staff around student emotional needs, overseeing the completion of injury incident reports, etc. Additionally, the school nurse collaborates with other district nursing staff to head the Millis Health and Wellness Committee, whose work reaches students through writing grants for ancillary before and after school movement programming and, most recently, a whole-school breakfast program for all students at the Clyde F. Brown Elementary School. The role of the School Nurse is a vibrant, far-reaching position that impacts all areas of health and wellness for the students of Clyde F. Brown Elementary School.

Currently, the Health Suite consists of one large room where the school nurse treats students, make and takes telephone calls, evaluates student health issues, and conducts record keeping. Two couches, placed foot-to-foot, provide space for up to two students to rest if they are not well; several chairs placed against the wall near the nurse's desk serve as the treatment waiting area. Additionally, there is a smaller room in the back that serves as a storage area and as an area for contagious students to be isolated in as they wait to be taken home; this space also is used by nursing mothers on staff as a place to privately take care of their nursing needs. One lavatory serves as a changing area for young students who are toilet training, for students who are ill, and for students whose health issues require a supervised area for toileting. Personal medications/ EpiPens, etc., are kept in a locked cabinet on the wall above the student waiting chairs. Space constraints within the Clyde F. Brown Elementary School impact the scope of services that are provided for our students.

Design Response:

Each of three learning communities has a self-contained classroom along with two small group resource rooms. The OT/PT classroom is located in the primary elementary wing as this student population (grades 1 & 2) will use this resource most intensively. Reading and math specialists are distributed through the learning communities. Counseling offices are located on the first floor adjacent to administration so that it is central to all three classroom wings as well as close to the entrance for visitors. Special Education offices are located in a central location that is between administration and the learning communities also accessible to visitors.

N. VOCATIONAL AND TECHNOLOGY PROGRAMS

STEAM learning at Clyde F. Brown Elementary School occurs in each grade level within the context of integrated curriculum themes. Currently, classroom teachers, using the Massachusetts Common Core Curriculum guides, develop thematic instructional units that create a learning framework integrating cross-curricular content themes that incorporate Science, Technology, Engineering, the Arts, and Mathematics.

Through the Tufts University "STEM Through Literacy Program", a partnership is established in Grades 2, 3 and 4 that provides teachers with training in the integration of inquiry-based problem analysis thinking within the structure of children's literature. For example, students in Grade 3 use "The Mouse and the Motorcycle", by Beverly Cleary, to use engineering, technology, critical thinking, and creativity in designing a collaboratively driven solution as students devise ways to assist the mouse in rescuing himself from a trap – students use an inquiry-based problem solving approach to brainstorm possible solutions, construct working models that test their hypotheses, and the revision of design strategies to arrive at more data-based solutions. Teachers use these learned strategies to promote greater fluidity and creativity in thinking and problem solving with students as their students create and recreate solutions to potential problems that, in many cases, have real-world application of learning.

STEM education also occurs through design construction, analysis and revision as students work collaboratively to create and test their thinking. For example, students in Grade 2 take part in a "Bridge Design Challenge" – after learning about some of the engineering concepts behind the construction of bridges, student groups use a variety of materials to create a bridge that is strong enough to withhold the weight of a Tonka truck passing over it. Another example of the "design challenge" occurs in Grade 3 when, following a literacy-based lesson on birds and why they build nests, student groups gather materials from outside and work to create their own group-designed "nest" that is evaluated for structural integrity in branch placement and wind effect ("nests" are created and then tested on the juncture of a branch that must withstand "wind" generated from a fan), as well as strength in holding a hard plastic "egg"; emphasis is placed more on success of the redesign process than on being the "winner", as students gain valuable skill in design re-evaluation.

Technology is utilized in STEM learning as students in Grade 2 conduct simultaneous experiments with seed germination and plant growth with a school in Malaga, Spain – students communicate via Skype to share information (Millis in Spanish, Spain in English) as they evaluate possible differences in experiment outcomes and practice language skills at the same time. Students in Grade 4 use technology as part of "Genius Hour" – a weekly hour-long block that

encourages students to identify a "passion project" that is deeply researched, analyzed, and communicated out to a larger audience, with the presenter serving as a topic "expert". Technology, for these purposes, takes the form of using devices to conduct personal research, gathering and quantifying information, organizing findings using a variety of apps, and ultimately in the creation of a presentation; many students work to use iMovie in capturing the presentation and then use software to video-edit their presentations for a polished end-result.

The Arts are interwoven within STEM learning as teachers collaborate with the Art teacher in integrating visual arts within a more Science and Engineering-driven context. As part of a geometry unit in shape patterns, students in Grade 1 learn about where patterns occur naturally in nature, and then work to replicate these patterns visually into collaboratively designed lessons which are co-taught between the classroom teacher and the Art teacher. Kindergarten students, as part of their Music/Movement class, learn about how muscle groups work together to move the bodies of animals on the African savannah as they observe video clips of animals stalking prey, and then use their own bodies as learning tools as they replicate the movement of these animals while listening to African tribal music – this Arts-based approach to Science learning greatly enhances the students' emerging sense of self-regulation as they access multiple learning modes.

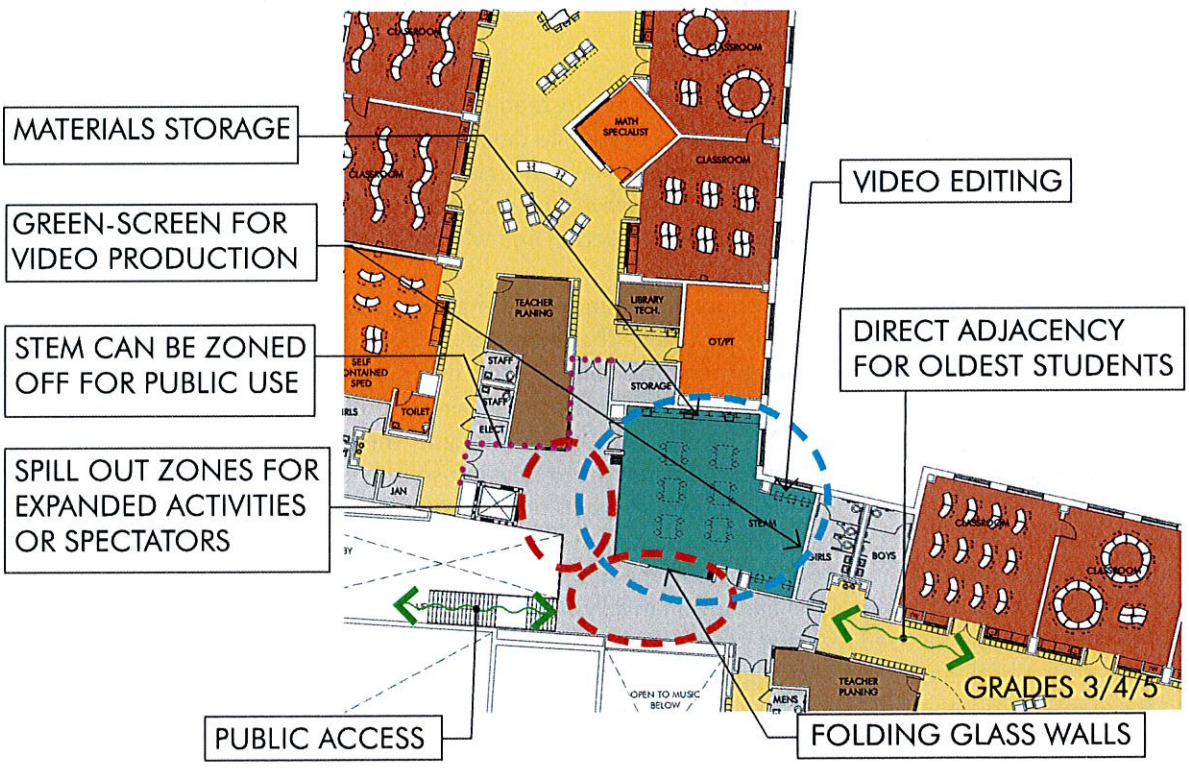
Currently, STEAM learning occurs in individual classrooms; students are often observed working in hallways or stairwells as space is at a premium. Programming is limited by space constraints, as students must disassemble and reassemble projects in make-shift spaces and travel to other parts of the building to find the space needed for project-based learning. Large, multi-use spaces are necessary for both project design and collaboration, as well as for integration of the Arts into STEM-based curriculum.

The proposed space template includes a STEM space instead of a dedicated technology lab. The goal is to integrate technology into the classroom through the use of mobile devices while at the same time increase the focus of the curriculum towards STEM education. This project based classroom would be located near the upper elementary learning community and would be used most intensively by the upper grades (3 – 5). This new approach represents a change in the schools approach to technology instruction and will better align with the curriculum goals.

The STEAM classroom will serve the school community as a maker space, as well as a space where Project Based Learning will occur, and will be available for use by the entire school community. Because students developmentally gain expertise and independence as learners gradually, guided practice with the teacher on a scheduled basis for teacher guided projects in the STEAM classroom would be predominantly utilized by older students in grades 3 through 5. In grades Kindergarten through 2, students are explicitly taught, through direct instruction and modeling, how to use the engineering design process to brainstorm and develop solutions to identified problems. Through guided practice in both whole group and supported small group process, our youngest students learn the skills necessary to become more independent critical thinkers. As students enter grades 3 through 5, they now have greater certainty in skill to be more independent learners who assume more responsibility for their own learning; they are now ready to expand their skill set in collaboration and problem solving as 21st Century learners as they collaboratively decide how to best manage project-based learning practices in a small group context. The STEAM classroom provides our older students with a designated space to explore problem solving and the design process in greater collaborative depth and more intermittently throughout the school day; materials can be left intact while under construction, or quickly moved to one of the storage spaces for easy access. Equipment necessary to promote learning in the STEAM would include multiple storage cabinets along the walls (for materials and storage of students projects in progress); 3 or 4 sinks (for water access during STEAM project time); a stove or cooktop, with small refrigerator (useful, under direct teacher supervision, for projects that might involve cooking, as well as for after school enrichment programming). Professional development for teachers in grades 3 through 5 has been previously provided through partnership with Tufts University – all teachers have benefitted from the "STEM through Literacy" training, and now regularly integrate this pedagogy into lesson design across contents. In order to expand opportunities for STEAM learning, teachers will use designated, district-provided professional development time within the school year to create lessons and engaging learning units that further promote the use of the STEAM classroom as new curriculum units are designed.

Scheduling for the STEAM classroom will take place, for each classroom at each grade level, on a rotating basis. Within a 6-day cycle, each classroom will have an assigned block (useful for more long-term planning); unfilled blocks will be available for use through a "sign-out" system (useful for longer instructional blocks that demand greater time constraints and allow students to continue working on projects in a more ongoing capacity).

Design Response:
The proposed location of the STEM classroom that is included within the new space template is between the primary elementary and the upper elementary wings. This location gives this space a central location for all of the 1st through 5th grade students. It is anticipated that the upper elementary students will make the most use of the space and it is easily accessible to their classrooms. The goal is to also allow this space to spill out into the corridor when a large project is underway or there are spectators for an event taking place in the space. The space will be designed as a multi-use maker space including video production, technology based instruction and hands on project based instruction. Because it is located outside of the classroom wings it will also be available for public use as it is readily accessible from the lobby when the classroom wings are closed off.



VOCATIONAL & TECHNOLOGY

O. TRANSPORTATION POLICIES

Students who attend Clyde F. Brown Elementary School can ride a bus to school or be driven to school. Millis Public Schools maintains free bus transportation for students who live more than a mile and a half distance from the school; families may opt to sign up for bus transportation, in a fee-for-service model, for student living within the mile-and-a-half distance. Millis Public Schools maintains a sliding scale payment for all fee-for-service models for families who qualify for the free or reduced federal lunch program. Students with special needs work with the Office of Student Support Services in identifying specific transportation based upon their individualized needs.

Six school busses transport the students of Clyde F. Brown Elementary School to and from school each day. To provide the safest possible disembarking and boarding of school busses, the front of the building is closed to through traffic and designated as bus lanes only; all busses load and unload student at a designated drop-off area in front of the school.

Families of Preschool students, as well as families who access the Millis Extended Day Program, drop off and pick up students in a small parking lot located adjacent to the school. Staff who work in the Extended Day Program, in the Millis Preschool Program and in the Kindergarten program park in designated spaces within this lot, and families access the remaining spaces. This parking lot has 66 parking spaces available for both families and staff. This parking lot extends behind the building to the loading dock access area connected to the kitchen; tractor trailer deliveries are scheduled around Preschool start and dismissal times, but due to the volume of parking in this small parking lot, trucks sometimes have difficulty making the turn into the loading dock area, creating safety issues with anyone accessing the parking lot at those times.

Families who choose to drive their students in Grades Kindergarten through Grade 4 to school access the Spring Street parking lot, located adjacent to the school building. This parking lot provides 74 parking spaces for both Clyde F. Brown Elementary staff as well as parking for families who are dropping off or picking up students. At the start of school and at dismissal time, the Spring Street parking lot is congested, and creates safety concerns for pedestrians walking to and from the building as they access the parking lot. This congestion is exacerbated in winter months when snow removal by the DPW further limits available parking spaces, further limiting the number of active parking spots available for use. The town of Millis has responded to safety concerns by assigning a crossing guard to assist with crossing students and families from the parking lot to the school building. The addition of more parking spaces would unequivocally relieve safety concerns and congestion in the parking lot as families and students seek access to the school during school hours.

Design Response:
The preferred alternative proposes to separate bus traffic from auto traffic by creating a bus zone on the rear of the building adjacent to the middle/high school. Due to staggered start and end times conflict with the activities of the other school are not anticipated. Bus students will be able to enter the school and be distributed to the gym or café as the wait to go to their classrooms in the morning. Parents who pick up and drop off will have a designated loop next to the main entrance. A main parking lot will act as a visitor lot and two separate lots can be designated as staff lots which should alleviate some of the current congestion experienced at the school. The early learning center is directly adjacent to the parking lot allowing for easy pick-up and drop-off. The proposed option shows an overall increase in parking spaces on site over the current condition.

P. FUNCTIONAL AND SPATIAL RELATIONSHIPS

The hub of the school building should be the Unified Arts Enrichment spaces, which are shared by all academic wings and remain central to the interactive, inquiry-based instructional approach espoused by the faculty. Locating the Gym, the Art room, the Music Room and the video editing area centrally allows for equal access to these spaces by students at all grade levels, and keeps these more interactive spaces central for larger groups of students to access in a project-based learning capacity.

Academic wings are to be organized by developmental similarity: an *Early Learning Community* wing would house PreK and Kindergarten students; a *Primary Learning Community* wing would contain students in Grades 1 and 2; and an *Upper Elementary Community* wing would encompass the oldest students in Grades 3, 4, and 5. Grouping students developmentally in this capacity allows for more flexibility in instructional planning and in collaboration between larger and more varied groups of students who are more developmentally connected. Storage spaces for students' coats and personal belongings must be part of classroom and building design; whether incorporating lockers into hallway design or creating a "coat hook and cubby" space in each classroom, it is essential to include a thoughtful and intentional plan for effectively storing students' personal effects.

Special Education spaces are to be located within each learning community to promote greatest accessibility to learning resources for students who require these services while honoring the least restrictive philosophy and environment for learning.

Large group interactive Science-based spaces are to be located nearby each learning community. A STEM classroom and makerspaces are to be located near or within the Upper Elementary Learning Community to promote broader inquiry based, project-based learning for the oldest students at Clyde F. Brown Elementary School.

Programmatic adjacencies that would further support collaboration, flexibility of space and increased opportunities for interactive learning would include:

Administrative Area

- **Administration** located centrally to the building entrance ensures adequate safety monitoring; the Administrative area includes the general office/waiting room, the records room, the principal's office, and the supervisory office
- **Medical suite** to be located near the Administrative office area and Guidance office - this adjacency offers the school nurse additional support at short notice when necessary
- **Guidance** office is to be connected to the Administration area
- **School Psychologist office** to be located next to Guidance, near the Administrative area - the school psychologist and school adjustment counselor frequently consult and the scope of their work requires close proximity

Commonly Shared Community Areas

- The **Gymnatorium** is located centrally to promote equity of access for student programming as well as greater community involvement during after school hours through community-based sports events and performing arts events; the Gymnatorium contains an staff office and toilet
- The **Cafeteria** is located within the shared community area to encourage greater student access from all academic wings of the building; additionally, the Cafeteria space is used after school hours by the community for meetings and gatherings; gang-style boys and girls rooms are located next to the Cafeteria
- The **Staff Lunch Room** is connected to the Cafeteria
- The **Conference Room** offers an equidistant neutral space for meetings that do not require access to the academic wings of the building. As this space will also serve as a space for the entire faculty to gather for meetings and professional development, the space should be large enough to accommodate 30 – 35 people. The Conference Room is available for use after school hours for smaller community-based events

- The **Art classroom** and **Music Room** are located centrally for equity of student access from all academic wings
- The **Media Center/Library** space is distributed throughout each of the learning communities, thereby allowing all students to more efficiently access resources essential to learning throughout the school day

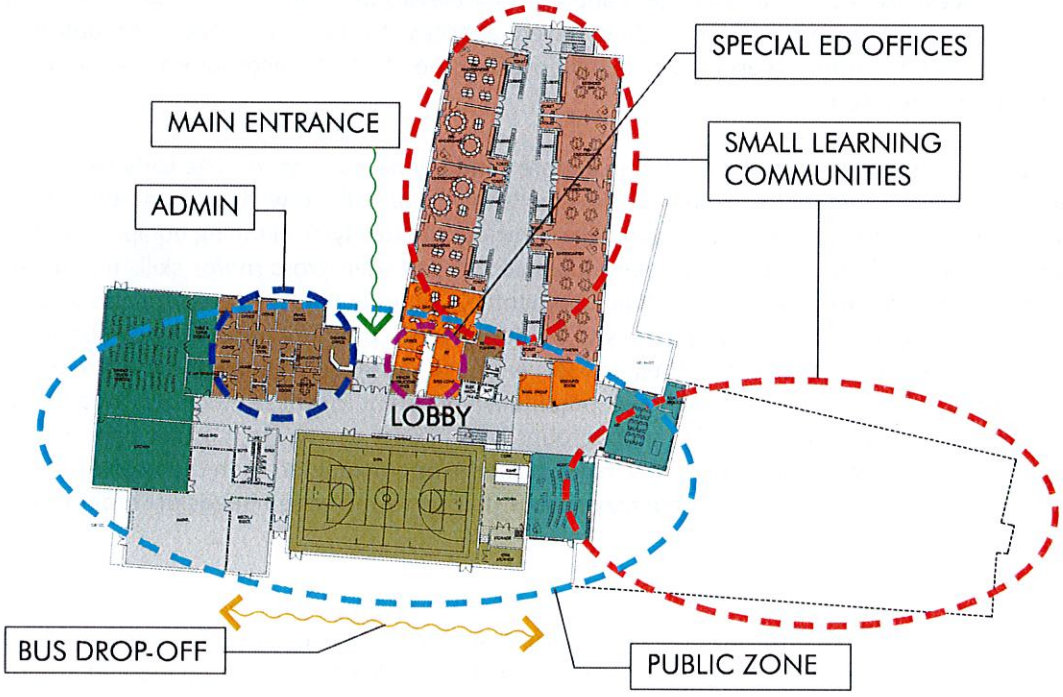
Academic Learning Communities

The academic wings are located around the the commonly shared community areas. There are three academic wings: the Early Learning Community (PreK and Kindergarten), the Primary Learning Community (Grades 1 and 2), and the Upper Elementary Learning Community (Grades 3, 4 and 5). **Special Education classrooms** and **small group learning spaces** are interspersed throughout each of the learning communities, rather than being located apart from instruction areas, in keeping with the spirit of inclusion within the Clyde F. Brown Elementary School.

- The Early Learning Community contains classrooms for PreK and Kindergarten students, as well as small group learning spaces designed for Special Education instruction
- The Primary Learning Community contains classrooms for students in Grades 1 and 2, as well as small group Special Education learning spaces, and a self-contained classroom designed to serve students with substantially separate programming
- The Upper Elementary Learning Community contains classrooms for students in Grades 3, 4 and 5, as well as small group Special Education learning spaces, and a classroom designed to serve students with Social/Emotional/ Behavioral needs. Additionally, A STEAM classroom, which serves as a maker space, is located in the Upper Elementary Learning Community

Design Response:

The building is organized into four zones. There are three academic wings and a public zone on the first floor. Administration is directly adjacent to the front door and acts as a control point and is easily accessible to visitors. The gym and café as well as music and art can be accessed by the public while the classroom wings could be zoned off as needed. The second floor STEM classroom can also be accessed by visitors while the classroom wings are zoned off making it a space that could be used by the community.



FUNCTIONAL AND SPACIAL RELATIONSHIPS

Outdoor Learning Spaces

Outdoor learning spaces, like a community garden and outdoor classroom spaces, are to be located near the Early Learning and Primary Learning communities to allow for equal access to these rich spaces. An outdoor classroom, located as part of each Community Learning space, will provide the ability to incorporate the seasonal aspects of nature within the core curriculum.

Additionally, outdoor play spaces are to be located in a more centrally-based context. The Early Learning Community play space should contain equipment for climbing to develop large motor skills, as well as equipment for imaginary role playing. Small house-like spaces, equipment shaped like vehicles, and low-lying climbing equipment allow for young learners to develop their self-regulation skills, their imaginations, and their gross motor skills in a developmentally appropriate context. The Primary Learning and Upper Elementary Community play spaces are also to be located near these academic wings; equipment in these spaces is to be designed to promote balance, locomotion, and evolving collaboration skills. Swings, basketball half courts, and soccer and little league-style fields allow for older students to practice team-based collaboration which is so developmentally important for these students. Additionally, benches and outdoor tables in the play area allow for small groups of students to engage in quiet conversation with one another, or as areas for students to visit when they might need the opportunity to calm themselves. These elements are so important to developmentally appropriate play spaces that serve the varied needs of students in Grades PreK through 5.

Design Response:

The proposed site plan anticipates three outdoor classroom areas and three play areas. The early childhood play area is directly adjacent to their classroom wing. Older students will come down stairs for recess and go outside to use either age appropriate play structures or the fields directly next to the school. The grade 3-5 wing has direct access to the outside and can access an outdoor classroom at the upper level for science classes and outdoor learning and activities.

Q. SECURITY AND VISUAL ACCESS REQUIREMENTS

Clyde F. Brown Elementary School can best continue its legacy as a vibrant, welcoming, community-based school by keeping safety in mind for its students, faculty and visitors. The entrance to the school should be designed to include a vestibule that doubles as a safety check in, where visitors to the school are welcomed, screened and buzzed into the building.

For transportation concerns, separate Bus and Car Drop-Off areas will be provided to maximize student safety. Cross walks will be strategically located to promote safe pedestrian crossing. An emergency access road will circle the perimeter of the building to provide emergency vehicle access to all parts of the building.

Parking lots are monitored by digital cameras for safety; the parking areas are well lit and have well lit pathways from the lots to the main building to provide staff and visitors safe access while on school grounds.

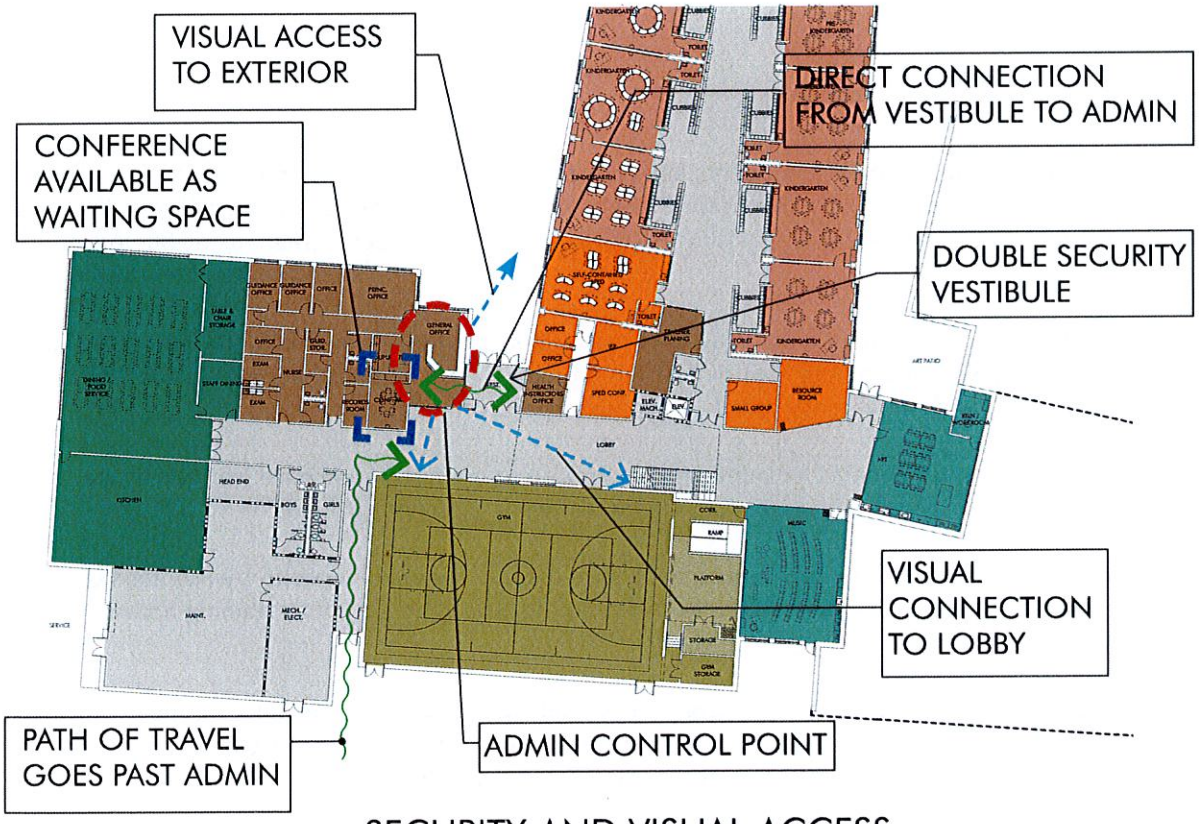
The Main Entrance will contain a camera/monitor and buzzer access to enter the building; visitors will enter a vestibule where they will be greeted through a window where identification can be checked before gaining access into the building near the main office.

Inside the general office, a bank of monitors provide visual access to all doorways into the building. Inside the building, strategically placed cameras monitor movement and activities in hallways that connect to outside doors, further providing monitoring of building safety. Digital cameras provide 24:7 safety monitoring.

Play areas adjacent to the Early Learning Community are fenced in to keep young children safe and to discourage wandering. The play areas adjacent to the Primary and Upper Elementary Learning Communities are monitored by digital cameras that record activities within the general office.

The Design team anticipates organizing regulatory review meetings during the Schematic Design phase of the project with all Millis Town Agencies having jurisdiction. This typically includes at a minimum police, fire, DPW, Con Com, Planning, building department. During this meeting(s) security for both the exterior site layout and interior building layout will be reviewed and agency requirements integrated into the final design.

Design Response:
The main building vestibule will have a door release system that allows a visitor only as far as the main vestibule where they will be greeted. They can then either enter into the administration waiting area or be buzzed through into the school. It is anticipated that the school will be fully equipped with CTV monitoring as well as locking exterior doors with electronic access by key cards. Administration reception will be designed with transparency into the building lobby and to the exterior so that there are good sight lines to monitor activity outside and within the school.



SECURITY AND VISUAL ACCESS

Shrewsbury Public Schools

School Committee Workshop Agenda
August 23, 2017
3:00pm
Shrewsbury High School - 64 Holden Street
Class of 2002 Conference Room

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Topics and estimated times:

3:00 Review agenda

3:05 Discussion of strategic planning approach, activities, and timeline

3:35 Discussion of School Committee topics and priorities for the 2017-2018 school year

3:55 Update and discussion of Beal Early Childhood Center building Project requirements, including education program and configuration planning

4:15 Discussion of School Committee and school district communication planning for the 2017-2018 school year

4:30 Discussion of support structure for the district's human resources and data reporting functions and potential improvements

4:50 Approval of minutes

4:55 Executive session for the purpose of reviewing and/or releasing minutes from previous executive session(s)

5:00 Adjourn

The Shrewsbury Public Schools, in partnership with the community, will provide students with the skills and knowledge for the 21st century, an appreciation of our democratic tradition, and the desire to continue to learn throughout life.

SHREWSBURY PUBLIC SCHOOLS
100 MAPLE AVENUE
SHREWSBURY, MASSACHUSETTS

MINUTES OF SCHOOL COMMITTEE WORKSHOP

Shrewsbury High School – 64 Holden Street
Class of 2002 Conference Room
Wednesday, August 23, 2017

Present: Dr. Dale Magee, Chairperson; Mr. Jon Wensky, Vice Chairperson; Ms. Sandra Fryc, Secretary; Mr. Jason Palitsch; Dr. Joseph Sawyer, Superintendent of Schools; Ms. Amy Clouter, Assistant Superintendent for Curriculum, Instruction & Assessment; Ms. Barb Malone, Director of Human Resources; Mr. Patrick Collins, Assistant Superintendent for Finance and Operations; and Ms. Meg Belsito, Director of Special Education and Pupil Personnel Services.

Absent: Erin Canzano

Workshop opened at 3:08 pm.

Topic I: Discussion of Strategic Planning Approach, Activities and Timeline

Dr. Sawyer shared with the group his recommended plans to best determine a new, compelling set of strategic priorities and goals for the next five years for the school district; as well as a draft timeline for the process. The group agreed that creating the district's new strategic priorities would occur in two phases this fall, with the first phase focusing on finalizing the *Profile of a Graduate*. The outcome of this work will provide a road map for the district priorities and goals. Discussion centered on including all stakeholders in the district in the process; assess resource needs and/or challenges as priorities and goals are developed; be focused on the district's mission; be measurable; and be broad enough to apply across the entire district, PreK-12.

The group also discussed the importance of having a subcommittee formed to reach out to other elected and appointed boards in the community in order for them to be knowledgeable of the district's plans and priorities; as well as having an opportunity to provide input.

Topic II: School Committee Topics and Priorities for the 2017-2018 School Year

Dr. Sawyer presented a list of potential topics for the upcoming school year. There is general consensus that the major topics we would cover include: Beal Early Childhood Center building project; finalize and approve the *Profile of a Graduate*; develop and approve new set of strategic priorities; Social Emotional Learning (SEL); project based learning; vocational education; and sleep needs/school start times.

The group expressed the need to focus on achievements of all learners during the school year and

showcase quality student success at School Committee meetings. This would better illustrate the inclusionary practice of education throughout the district. Some of this work can also be done through the School Committee School Talk television program.

Topic III: Update and Discussion of the Beal Early Childhood Center Building Project

Mr. Collins provided a detailed update on the Beal Early Childhood Center Building Project, including the MSBA process and the scope of work the district will be doing in the coming months. The district has officially completed Module 2 and has moved into Module 3 & 4. The Feasibility Study is expected to take nine months from August 2017 through April 2018. The two main areas of focus are the Preliminary Design Program (PDP) and the Preferred Schematic Report (PSR).

Two major tasks for the School Department staff and School Committee will be to: 1) Develop our future grade configuration as either K-1, 2-4, or reconfiguring all elementary schools to a K-4 configuration; and 2) Development and School Committee approval of our Educational Program will be required by February 2018.

The group reviewed a Preliminary List of Tasks of items that will need to be completed in order for the School Committee to vote on the grade configuration this fall.

Topic IV: School Committee and School District Communication Planning for 2017-2018 School Year

The committee expressed appreciation to Dr. Sawyer for his "Daily Briefing" reports. These reports provide the entire committee with real time information. Consensus is for the daily briefings to continue throughout the school year.

In addition to all of the social media, print and televised communication currently being utilized by the school district, Jason suggested a district YouTube channel could be a helpful medium to disseminate information. Dr. Sawyer will look into this further.

Topic V: Discussion of Support Structure for District's Human Resources

Dr. Sawyer and Ms. Malone presented the committee with information concerning the current staffing/workload issues being faced in the district's Human Resources Department. Due to significant increased workload, Dr. Sawyer advised that without additional staff support the department will continue to struggle to meet critical functions and further compromise Ms. Malone's ability to function in her administrative role in the way her position is intended.

Ms. Malone presented evidence of the increased workload in the school district's HR Department over the past five years and a comparative overview of HR organizations by local districts.

The committee supports Dr. Sawyer's request to hire a second administrative assistant for the HR function. The district has the fiscal resources to add this new employee within the current personnel budget.

Topic VI: SHS Athletic Facility Project and Fundraising

The group discussed the current status of the fundraising endeavor for the Turf Field project and the potential need to hire a professional development coordinator. There are dedicated individuals who are currently working on the project, but it appears there needs to be coordination of effort in order to reach the goal of $1.8 million. Dr. Sawyer will be meeting with members of the fundraising committee at the end of August and will discuss next steps.

Topic VII: Approval of Minutes

Without objections from the Committee, the minutes from the School Committee meeting held on June 14, 2017 and workshop minutes from July 26, 2017 were approved to be distributed.

VIII: Executive Session

Dr. Magee requested a motion for the School Committee to enter into executive session for the purpose of approving and releasing Executive Session Minutes. The Committee will reconvene to open session only for the purpose of adjourning for the evening. On a motion by Mr. Palitsch, seconded by Mr. Wensky, on a roll call vote: Mr. Wensky, yes; Mr. Palitsch, yes; Ms. Fryc, yes; and Dr. Magee, yes, the Committee voted to adjourn to Executive Session at 4:55 pm.

IX: Adjournment

On a motion from Mr. Palitsch, seconded by Mr. Wensky, open session was adjourned at 4:59 pm. Roll call votes were as follows: Mr. Wensky, yes; Mr. Palitsch, yes; Ms. Fryc, yes; and Dr. Magee, yes.

Respectfully submitted,

Sandra Fryc - Secretary

Documents referenced:

1. Strategic Planning Memo
2. Strategic Planning Process Draft
3. Potential School Committee Topics
4. Beal Building Project Report
5. Grade Configuration Tasks
6. Human Resources Staffing Memo
7. Human Resources Comparative Overview
8. Human Resources Workload Changes

9. Sets of Minutes Referenced Above

Shrewsbury Public Schools

Patrick C. Collins, Assistant Superintendent for Finance & Operations

Preliminary List of Tasks Leading to a Grade Configuration Decision

Task	Responsible Party	Timeline
Survey staff	Central Office	Early September
Survey parents	Central Office	Early September
Hold public forums for input	Superintendent and School Committee	September and October
Produce a cable TV show on the topic	SLT and School Committee	Mid-September
Survey research on the topic	Asst. Superintendent-Curriculum	By 9/15
Develop a Fact Sheet for distribution and communication to School Councils, SEPAC, PTOs and discuss decision-making process at respective meetings	Central Office	By 9/15
Produce school-specific enrollment projections	Asst. Superintendent-Finance	By 9/15
Provide updates to elected officials [BOS, FinCom, Town Meeting]	Superintendent and School Committee	September and October
Provide regular updates to School Committee during scheduled meetings	Central Office	
Survey other MA school districts on their grade configurations	Central Office	Nearly complete
Estimate cost differences regarding Beal project for addition/renovation or new construction	Design Team	Early October
Estimate any differences in transportation logistics or costs	Central Office	Early October
Feature article in Shrewsbury School Journal	School Committee	Does time allow or is this post-decision
Provide Updates in Community Bulletin	Superintendent	September and October
Provide regular updates to Building Committee on decision-making process	S. Fryc, J. Sawyer, P. Collins	September and October
Review staff impact of a K-1 versus a K-4 solution with respect to licensure considerations and processes for redeployment of staff	Director of HR	Early October
School Committee Vote on Future Grade Configuration	School Commitee	10/25

SHREWSBURY PUBLIC SCHOOLS
SCHOOL COMMITTEE MEETING AGENDA
September 13, 2017 7:00pm
Town Hall—100 Maple Avenue
Selectmen's Meeting Room

Revised 9/8/2017
Originally posted 9/6/17 at 3:37 PM

Items		**Suggested time allotments**
	Special Opening	7:00 – 7:10
I.	Public Participation	7:10 – 7:15
II.	Chairperson's Report & Members' Reports	7:15 – 7:20
III.	Superintendent's Report	7:25 – 7:30
IV.	Time Scheduled Appointments:	
	A. Accept Gifts for SHS Athletic Fields Project: Vote	7:30 – 7:40
	B. Summer Programming: Report	7:40 – 7:50
V.	Curriculum	
VI.	Policy	
VII.	Finance & Operations	
	A. Summer Facilities Work: Report	7:50 – 8:00
	B. Beal Building Project: Update	8:00 – 8:20
	C. Food Services: Annual Report	8:20 – 8:35
	D. Food Services Substitute Pay Rate: Vote	8:35 – 8:40
	E. Personnel Hiring: Update	8:40 – 8:50
VIII.	Old Business	
IX.	New Business	
	A. Bullying Statistics: Annual Report	8:50 – 9:00
	B. Appointment of Superintendent as Representative to Assabet Valley Collaborative Board of Directors: Vote	9:00 – 9:05
X.	Approval of Minutes	9:05 – 9:10
XI.	Executive Session	
XII.	Adjournment	9:10

Next regular meeting: September 27, 2017

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MINUTES OF SCHOOL COMMITTEE MEETING

Wednesday, September 13, 2017

Present: Dr. Dale Magee, Chairperson; Mr. Jon Wensky, Vice Chairperson; Ms. Sandy Fryc, Secretary; Ms. Erin Canzano; Mr. Jason Palitsch; Mr. Patrick Collins, Assistant Superintendent for Finance and Operations; Ms. Amy B. Clouter, Assistant Superintendent for Curriculum & Instruction; Ms. Barb Malone, Director of Human Resources; and Dr. Joseph Sawyer, Superintendent of Schools.

A complete audio/visual recording of this meeting is available on the Shrewsbury Public Schools website.

The meeting was convened by Dr. Magee at 7:00 pm.

Special Opening
The Shrewsbury High School (SHS) A Cappella Choir, under the direction of Music Teacher Michael Lapomardo, performed "The Star Spangled Banner" and "Tumekuja Kuimba" (We Have Come to Sing).

I. Public Participation
None.

II. Chairperson's Report & Members' Reports
None.

III. Superintendent's Report

Dr. Sawyer noted that Shrewsbury Public Schools (SPS) enjoyed a smooth opening, and thanked everyone who helped, especially Central Office staff, secretaries, and the Public Buildings Department. He added that SPS had an excellent first professional development day and thanked Ms. Amy Clouter for arranging nationally recognized speaker Chad Hymas to present to staff, noting that Mr. Hymas's presentation garnered more positive feedback than any other outside speaker in Dr. Sawyer's time at SPS. Dr. Sawyer advised that all of our schools are contributing to helping victims of Hurricanes Harvey and Irma by means of various fundraisers, which demonstrates staff and students' commitment to community service and helping those in need.

IV. Time Scheduled Appointments:
A. Accept Gifts for SHS Athletic Fields Project: Vote

Dr. Sawyer noted that SPS is in the midst of on an ongoing project to raise $1.8 million in private funds to renovate athletic fields at Shrewsbury High School (SHS). He advised that Campaign for Shrewsbury Athletic Fields Committee Co-Chairs Jim and Paula Buonomo were making a personal gift of $50,000, and Shrewsbury Federal Credit Union (SFCU) was committing to a $50,000 sponsorship for naming rights to the concession stand. Mr. and Mrs. Buonomo and representatives from SFCU were not in attendance at the meeting, but Dr. Sawyer expressed his appreciation and advised they would be recognized at another time. Mr. Collins provided a brief overview of the Memorandum of Agreement with SFCU. School Committee policy requires that sponsorships involving an amount greater than $5,000 must be approved by the School Committee. Dr. Sawyer recommended that the Committee vote to accept the gift and sponsorship.

On a motion by Mr. Palitsch, seconded by Mr. Wensky, the Committee voted unanimously to approve the memorandum of understanding regarding the proposed sponsorship for the athletic field project at Shrewsbury High School by Shrewsbury Federal Credit Union, including the acceptance of the $50,000 in funds for this sponsorship.

On a motion by Mr. Palitsch, seconded by Mr. Wensky, the Committee voted unanimously to accept a gift of $50,000 from Mr. James and Mrs. Paula Buonomo for the athletic field project at Shrewsbury High School.

B. Summer Programming: Report

Ms. Karen Isaacson, Director of Extended Learning, provided a report on Summer Programs for students in grades PreK-8. She discussed how the program provides value to community, helps transitioning kindergarteners, and provides English Language Education,Title I reading support, and summer reading opportunities. Ms. Isaacson cited 2017 summer enrichment registrations:
Elementary = 2,806 (a 40% increase since 2012)
Middle School = 1,032 (a 75% increase since 2012)
She also noted that Title I reading program participation decreased this summer, possibly due to transportation issues for students.

Ms. Isaacson presented information on some challenges the program experienced, including concern from participants regarding a $10 registration fee for each summer enrichment class, but noted that the fee actually represents a portion of the overall cost of running the class, and that it might be better to denote it as a cancellation fee. She closed with a description of highlights of the program.

Committee members thanked Ms. Isaacson for her work, and asked clarifying questions around students with special needs and confidentiality, the registration fee, and climate control in the summer.

V. Curriculum
None.

VI. Policy
None.

VII.Finance & Operations
A. Summer Facilities Work: Report

Mr. Collins's report provided information on summer repairs and improvements at various schools that included window cleaning, a new kitchen floor, re-paving and new sidewalks, and new public address systems. He noted that approximately $462,000 in capital repairs and improvements were completed, and that the new public address [PA] systems were installed at Parker Road preschool, Coolidge School, and Paton School at a total cost of $110,377. Mr. Collins added the new PA systems incorporated advanced technology that included the ability to trigger school lockdowns remotely.

In response to questions from the Committee, Mr. Collins advised that building projects are generally funded by the Public Buildings Department, and school-specific needs (lockers, PA systems) are funded by SPS.

B. Beal Building Project: Update

Mr. Collins began his report on the the Beal Building Project by providing an overview of the project, and noted that SPS is currently in the Feasibility Study phase. He advised that this phase requires study and consideration of changing current grade configuration, and requires that two potential options be explored for the Beal project, either a Kindergarten & Grade 1 school or a Kindergarten through Grade 4 school. He noted that both options under consideration include redistricting that would occur sometime prior to a projected August 2022 opening of a new or renovated/expanded Beal. Noting the demanding timeline for the feasibility phase, Mr. Collins recommended that the Committee make a determination on future grade configuration at their October 25, 2017 meeting.

The Committee asked clarifying questions about the academic impact of grade configuration, the volume of work associated with the Feasibility Phase, and the mechanics of the subsequent redistricting that will eventually occur. Dr. Sawyer advised that Ms. Clouter would be tasked with overseeing the impact to the academic program, and Mr. Collins noted that advanced technology tools and parent/community feedback would be utilized to assess potential redistricting configurations when the time comes.

C. Food Services: Annual Report

Ms. Beth Nichols, Director of Food Services, began by noting that the timing of her annual report had been changed to September to provide a more complete look at the previous school year. Ms. Nichols provided information on program offerings, staff, training requirements, menu, and legislative updates. Noting that DESE and the John Stalker Institute Partnered and funded the Massachusetts Smarter Lunchroom Initiative, Ms. Nichols added that Oak Middle School was Awarded Silver Recognition. Ms. Nichols noted the success of the Meal Magic Point of Sale (POS) System with 96% of current sales being account debits versus cash sales. She recommended no increase to meal prices for 2018, provided information on participation (district/free/reduced/paid), revenue, and financial information for FY 2017, and recommended a small increase to the Substitute Labor Rate to help attract and maintain the substitute labor pool.

The Committee asked clarifying questions about special dietary needs and the ability of Food Services to reach out directly to manufacturers as a result. Regarding a newly available link to information from Health and Human Services on free/reduced eligible families, Ms. Nichols advised that the number of families qualifying for subsidized meals remained constant at about 16%. Dr. Sawyer thanked Ms. Nichols for the report and noted that the planning for the online POS system rollout started several years ago and has contributed to increased sales and lower overall costs being enjoyed at present by Food Services.

D. Food Services Substitute Pay Rate: Vote

In her Annual Report cited previously, Ms. Nichols recommended a small increase to the Substitute Labor Rate to help attract and maintain the substitute labor pool.

On a motion by Mr. Palitsch, seconded by Mr. Wensky, the Committee voted unanimously to change the rate for substitute food service workers to $11.88 per hour.

E. Personnel Hiring: Update

Ms. Malone's report provided an overview of personnel changes in the district for the 2017-2018 school year. She detailed the rigorous process used for professional hires and added that only 1% of those who applied were appointed to a professional position with SPS. In contrast, 8% of those who applied were appointed to a paraprofessional position, and Ms. Malone noted that this might be a reflection of a stronger economy. Overall, 61 professional searches were conducted with 44 external hires appointed to positions and 17 existing staff appointed to transfer or promotional opportunities, and 35 staff were appointed to paraprofessional or other positions. Ms. Malone noted increased turnover in the areas of performing arts and foreign languages was due in large part due to employees choosing to teach in other districts after looking elsewhere when their positions were slated for possible elimination during the budget process in the spring.

In response to questioning from the Committee, Ms. Malone advised that qualified personnel had been found for the open arts and foreign language positions, and that the need for

paraprofessional staff was ongoing due to new families moving into the district and new needs for existing students being realized.

VIII. Old Business
None.

IX. New Business
A. Bullying Statistics: Annual Report

In his annual report to the Committee on bullying, Dr. Sawyer advised that SPS is once again statistically in a good place with low numbers, noting allegations decreased (minimally) and qualified incidents increased (minimally). He noted that most instances occurred in school. Dr. Sawyer advised that while instances of bullying were few, there is opportunity to improve the social and emotional environments in our schools, and that work on social emotional learning (SEL) will factor into upcoming strategic planning work this fall.

B. Appointment of Superintendent as Representative to Assabet Valley Collaborative Board of Directors

Dr. Sawyer provided a brief history of the Assabet Valley Collaborative (AVC) and noted that annually the Committee must vote to appoint the Superintendent as Representative to the AVC Board of Directors. If appointed, Dr. Sawyer would continue to serve as the Chair of the AVC Board of Directors for the 2017-2018 school year.

On a motion by Mr. Palitsch, seconded by Mr. Wensky, the Committee voted unanimously to appoint Dr. Joseph M. Sawyer, Superintendent of Schools, as its representative to the Assabet Valley Collaborative Board of Directors for the 2017-2018 school year.

X. Approval of Minutes

Without objections from the Committee, the minutes from the School Committee Workshop held on August 23, 2017 were accepted as distributed.

XI. Executive Session
None.

XII. Adjournment

On a motion by Mr. Palitsch , seconded by Mr. Wensky , the committee unanimously agreed to adjourn the meeting at 9:00 pm. Roll call votes were as follows: Mr. Palitsch, yes; Ms. Canzano, yes; Ms. Fryc, yes; Mr. Wensky, yes; Dr. Magee, yes.

Respectfully submitted,

Elizabeth McCollum, Clerk

Documents referenced:

1. Summer Facilities Report
2. Summer Facilities Slide Presentation
3. Food Services Report
4. Food Services Slide Presentation
5. MOU Shrewsbury Federal Credit Union
6. Beal Project Slides
7. 2017 Personnel Report
8. 2017 Personnel Slides
9. 2017 Summer Programs Report
10. 2017 Summer Programs Slides
11. Bullying Annual Report
12. Set(s) of minutes as listed above

Beal Project Status Update

Patrick C. Collins

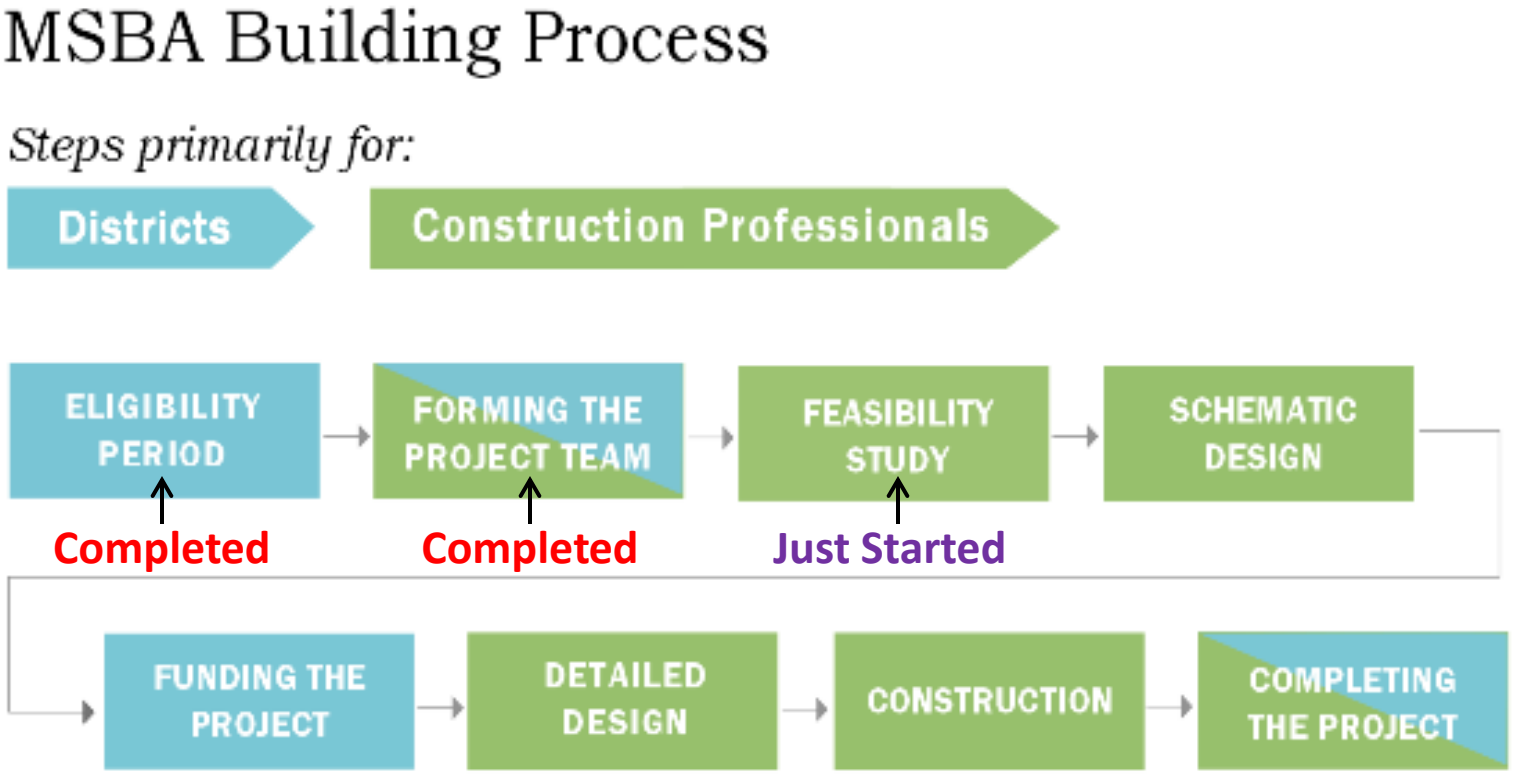
Assistant Superintendent for Finance and Operations

13 September 2017

Topics

- Overview
- Grade Configuration Decision Timeline & Process
  - Redistricting: K-1 versus K-4
- Development of Educational Program
- Beal School and Site Assessments
- Development of Alternative Solutions and Cost Estimates

Overview


MSBA Building Process
Steps primarily for:
Districts
Construction Professionals
ELIGIBILITY PERIOD
FORMING THE PROJECT TEAM
FEASIBILITY STUDY
SCHEMATIC DESIGN
Completed
Completed
Just Started
FUNDING THE PROJECT
DETAILED DESIGN
CONSTRUCTION
COMPLETING THE PROJECT

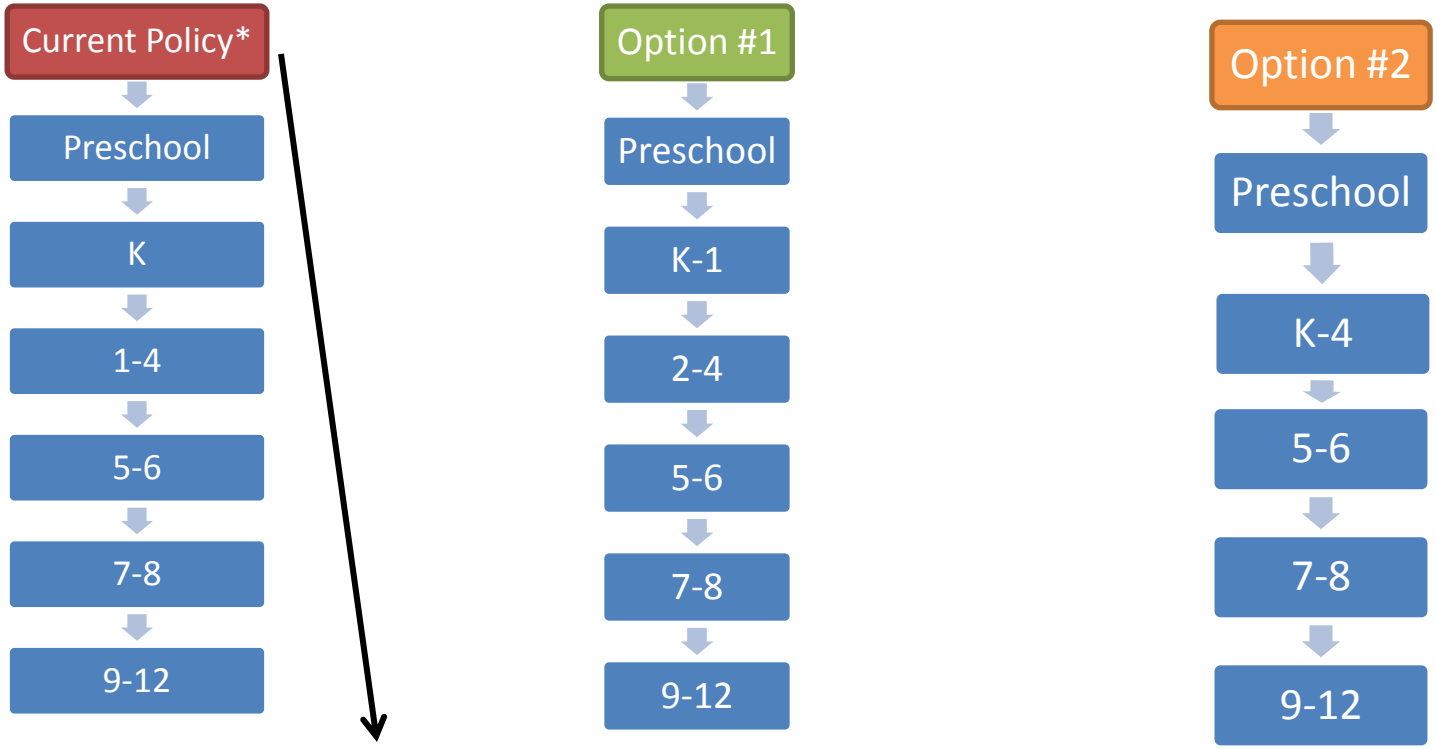
Project Team

Role	Individual
Board of Selectmen	Jim Kane [Chairman of Bldg. Cmtee.]
School Committee	Sandra Fryc
Town Manager	Kevin Mizikar
Superintendent of Schools	Joseph Sawyer
Superintendent of Public Buildings	Bob Cox
Asst. Superintendent for Finance & Operations-School	Patrick Collins
Beal Principal	Chris Girardi
Community Representative	John Masiello [Vice Chair of Bldg. Cmtee.]
Community Representative	Erin Boucher

Role	Company
Owner's Project Manager	PMA Consultants
Architect	Lamoureux Pagano Associates

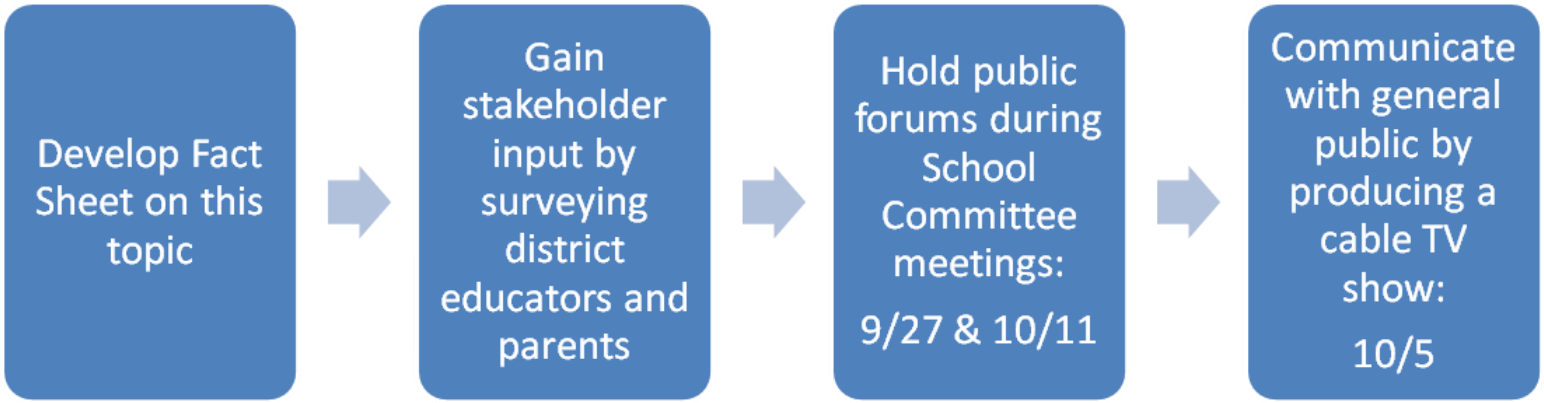
Grade Configuration Decision Timeline & Process

Feasibility Study Phase requires study and consideration of changing our current grade configuration.



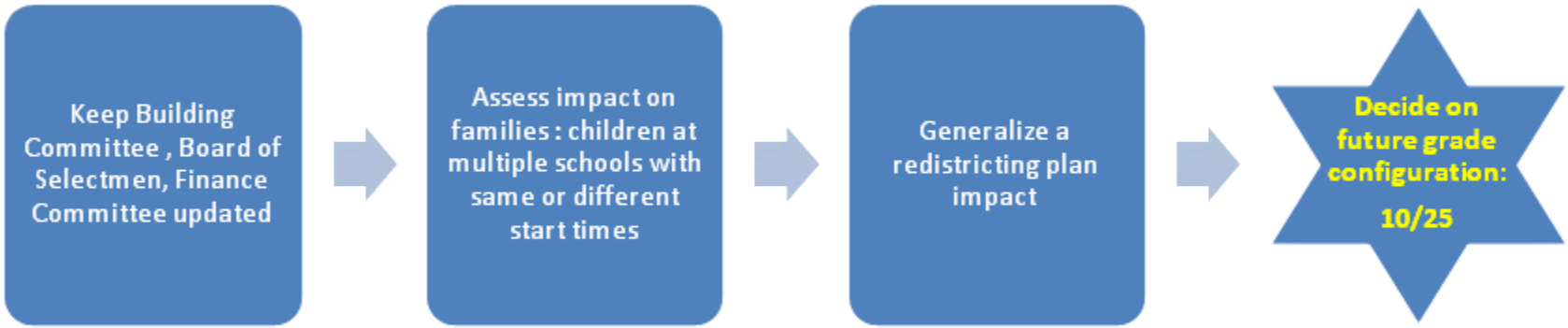
*Not in practice due to lack of space.

Grade Configuration Decision Timeline & Process Highlights



Grade Configuration Decision Timeline & Process Highlights

Grade Configuration Decision Timeline & Process Highlights



Development of Educational Program: Target Completion of early 2018

The Educational Program shall include a statement of the teaching philosophy and methods; a thorough, in-depth explanation of the District's curriculum goals; and, objectives of the program elements associated with the subject facility. Through the use of narratives, figures, and charts, the Educational Program shall describe and include, but not necessarily be limited to, the following as it relates to the current program, facility needs and proposed design features:

- Grade and school configuration policies;
- Class size policies;
- School scheduling method;
- Teaching methodology and structure (e.g., academies, departments, houses, teams, etc.);
- Teacher planning and room assignment policies;
- Pre-kindergarten (SPED only, tuition programs, locations, full day, half day, if applicable);
- Kindergarten (full day, half day, locations, if applicable);
- Lunch programs (number of servings, district kitchen, full service kitchens, warming kitchens, etc.);
- Technology instruction policies and program requirements (labs, in-classroom, media center, required infrastructure, etc.);
- Art programs (in-classroom, specialized area);
- Music/Performing Arts programs (in-classroom, specialized area);
- Physical Education programs;
- Special Education programs (in-house, collaborative, facility restrictions);
- Transportation policies;
- Functional and spatial relationships;
- Key programmatic adjacencies; and
- Security and visual access requirements.

Beal School and Site Assessments

- The current Beal site and other potential sites will be evaluated during the Feasibility Study for suitability to sustain a 750-790 seat school. Factors include:
  - Parcel size, topography, and location in town
  - Adjoining roadways and sidewalk infrastructure
  - Proximity and capacity of nearby utilities
  - Estimated acquisition and improvement cost

Development of Alternative Solutions and Cost Estimates

- It is required that **several options** to solve our long-term space needs be developed
- Included in the Feasibility Study Phase are initial cost estimates that **primarily serves the purpose of displaying the relative cost of each option as it compares to the other**.

Timeline

- The Feasibility Study will take anywhere between 9-18 months with many factors impacting this timeline to include:
  - School Committee decision on future grade configuration
  - Staff capacity to get this work done
  - Site selection and potential acquisition of a new site
  - MSBA review and approval of our processes and plans

Questions

SHREWSBURY PUBLIC SCHOOLS
SCHOOL COMMITTEE MEETING AGENDA
September 27, 2017 7:00pm
Town Hall—100 Maple Avenue
Selectmen's Meeting Room

Items		**Suggested time allotments**
I.	Public Participation	7:00 – 7:10
II.	Chairperson's Report & Members' Reports	
III.	Superintendent's Report	
IV.	Time Scheduled Appointments:	
A.	Beal Early Childhood Center Building Project: Presentation by Architect & Project Manager	7:10 – 7:30
B.	Beal Early Childhood Center Building Project: Public Hearing & Discussion on Future Grade Configuration	7:30 – 7:50
C.	Special Education Summer Programs: Report	7:50 – 8:10
V.	Curriculum	
VI.	Policy	
VII.	Finance & Operations	
A.	Fiscal Year 2019 Budget Calendar: Review	8:10 – 8:20
B.	Fiscal Year 2018 Grants: Report & Vote	8:20 – 8:35
VIII.	Old Business	
IX.	New Business	
A.	Donations for Coordinators of Development & Volunteer Activities: Vote	8:35 – 8:40
X.	Approval of Minutes	8:40 – 8:45
XI.	Executive Session	8:45 – 9:00
A.	Student Residency Request	
B.	Review and/or Release Executive Session Minutes	
XII.	Adjournment	9:00

Next regular meeting: October 11, 2017

RECEIVED
TOWN CLERK'S OFFICE
2017 SEP 22 AM 8:26
SHREWSBURY, MASS

SHREWSBURY PUBLIC SCHOOLS
100 MAPLE AVENUE
SHREWSBURY, MASSACHUSETTS

MINUTES OF SCHOOL COMMITTEE MEETING

Wednesday, September 27, 2017

Present: Dr. Dale Magee, Chairperson; Mr. Jon Wensky, Vice Chairperson; Ms. Sandy Fryc, Secretary; Ms. Erin Canzano; Mr. Jason Palitsch; Mr. Patrick Collins, Assistant Superintendent for Finance and Operations; Ms. Amy B. Clouter, Assistant Superintendent for Curriculum & Instruction; Ms. Barb Malone, Director of Human Resources; and Dr. Joseph Sawyer, Superintendent of Schools.

A complete audio/visual recording of this meeting is available on the Shrewsbury Public Schools website.

The meeting was convened by Dr. Magee at 7:00 pm.

I. Public Participation
Shrewsbury resident Benjamin Tartaglia addressed the Committee and advised that in regards to the Beal Building Project, he hoped that if a new school were placed at a different location, that the existing site would be utilized for senior citizen housing.

II. Chairperson's Report & Members' Reports
None.

III. Superintendent's Report
Dr. Sawyer congratulated everyone involved with the recent Spirit of Shrewsbury Fall Festival. He noted Shrewsbury Public Schools (SPS) participated in many ways, with the Speech & Debate and Robotics teams hosting bingo and a family carnival during the Oak Expo, along with fall athletics teams and the Shrewsbury High School (SHS) Marching Band participating in the parade on Sunday.

Dr. Sawyer noted Shrewsbury High School was recognized as a Unified Sports Champion School by Special Olympics Massachusetts, adding that we are very proud to have a variety of unified sports offerings at SHS, where students of all abilities play alongside one another and reap the benefits of being part of an athletic team. The recognition stated "Thank you for your school's commitment to fostering a socially inclusive school climate that emphasizes acceptance, respect, and human dignity for all students."

IV. Time Scheduled Appointments:

A. Beal Early Childhood Center Building Project: Presentation by Architect & Project Manager

Katie Crockett and Sean Brennan, representatives of the Architect (Lamoureux Pagano Associates) and Paul Queeney, representative of the Owner's Project Manager (PMA Consultants) provided an update on the Beal Early Childhood Center Building Project. Mr. Queeney described the Massachusetts School Building Association (MSBA) Program Process and Feasibility Study process, which he noted is in Module 3 for the Beal Project. Noting MSBA requires regular reports, he also provided detailed MSBA checklists for Modules 3 and 4.

Ms. Crockett provided a copy of an MSBA Space Summary Template, which is used to derive guidelines for space based on enrollment projections and grade level, and noted that both options under consideration (K-1, K-4) suggest a need for a 115,000 sq. ft. space. The Current Beal Early Childhood Center is approximately 30,000 sq.ft. Regarding sites, Mr. Brennan noted that they currently estimate a need for a site with 10-12 buildable acres, and that 31 locations are presently being reviewed for viability. They added that a number of factors, including site access and before/after school programs, must also be taken into consideration when deriving building placement.

In response to questions from the Committee, the group provided information on choosing sites, siting a new building relative to existing structures, deriving costs, and design methodologies.

B. Beal Early Childhood Center Building Project: Public Hearing & Discussion on Future Grade Configuration

This public hearing was one of two that give community members an opportunity to ask questions and provide feedback in advance of the School Committee vote on October 25, 2017, to decide which of two grade configuration (K-1, K-4) to adopt.

One community member asked about the relationship between the Beal Building Committee and the municipal Zoning Board, and about redistricting, and noted her preference for the K-4 configuration option.

Dr. Sawyer and Mr. Collins provided information on enrollment growth in the district in the past two decades, advised that growth in town is not the purview of the Beal Building or School Committees, and noted that redistricting was a complex process that would be studied and implemented through a thoughtful, multi-year process.

C. Special Education Summer Programs: Report

Ms. Meg Belsito, Director of Special Education and Pupil Personnel Services, gave a report on 2017 Extended School Year (ESY) services for special education students. Ms. Belsito provided criteria for eligibility; described process, procedures, and program organization; noted that by centralizing the process for eligibility there was an overall budget reduction of $67,002 from FY17 to FY18; provided a breakdown of students attending by school level; noted 29% of special education students receive ESY services; and provided a summary of services. Ms. Belsito went on to note changes to the program that included thoughtful reallocation of staff, and

for future, recommended a review of transportation services and communication with parents regarding the importance of student attendance.

In response to clarifying questions from the Committee, Ms. Belsito discussed how building transitions are addressed; communication with parents; potential barriers to attendance; the use of grant money; and assessing regression in students to determine eligibility for the program.

V. Curriculum
None.

VI. Policy
None.

VII.Finance & Operations
A. Fiscal Year 2019 Budget Calendar: Review
Mr. Collins provided an overview of the FY19 Initial Budget Calendar. He highlighted important dates, noted that some dates might be adjusted when the Town Manager publishes his FY19 Budget Calendar, and advised that a vote on the FY19 Budget Calendar was scheduled for the October 11, 2017 School Committee meeting.

B. Fiscal Year 2018 Grants: Report & Vote
Mr. Collins advised that most FY18 grants were in place, that SPS now receives only federal education grant funding, and that presently the district is poised to receive $201,206 more than FY17. He noted that an increase in Title I funding resulted from the district surpassing the 5% Poverty Percent threshold, which was not the case in FY17, and advised in response to questioning that state level data is used to determine Title I funding,

Dr. Magee noted that the amount of grant monies allocated to Shrewsbury is small relative to the overall budget, and that the correspondent rate of growth to grants is smaller than the rate of growth to the budget. Dr. Sawyer added that while we continue to apply for grants, our eligibility is declining because of the relative socioeconomic affluence of the student population.

On a motion by Mr. Palitsch, seconded by Mr. Wensky, the Committee voted unanimously to accept all FY18 grant funds noted in the enclosed chart and use such funds for their intended purpose.

VIII. Old Business
None.

IX. New Business

A. Donations for Coordinators of Development & Volunteer Activities: Vote
Dr. Sawyer noted that for several years, Shrewsbury Federal Credit Union and Audubon Shrewsbury have generously provided funding for the Coordinators of Development & Volunteer Activities positions. He added that the current Coordinators - Ms. Michelle Biscotti and Ms.Kathleen Keohane - work on development and sponsorship efforts and coordinate volunteer efforts across the district.

On a motion by Mr. Palitsch, seconded by Mr. Wensky, the Committee voted unanimously to accept a donation of $7,500 from Shrewsbury Federal Credit Union to be used as funding for the Coordinators of Development & Volunteer Activities.

On a motion by Mr. Palitsch, seconded by Mr. Wensky, the Committee voted unanimously to accept a donation of $7,500 from Audubon Shrewsbury to be used as funding for the Coordinators of Development & Volunteer Activities.

X. Approval of Minutes
Without objections from the Committee, the minutes from the School Committee Meeting held on September 13, 2017 were accepted as distributed.

XI. Executive Session
A. Review and act on student residency request
B. Review and act on executive session minutes

Dr. Magee requested a motion for the School Committee to enter into executive session in order to discuss approval and release of Executive Session Minutes and for a discussion and vote on a student residency request, adding that the Committee would reconvene to open session only for the purpose of adjourning for the evening. On a motion by Mr. Palitsch, seconded by Mr. Wensky, on a roll call vote: Mr. Palitsch, yes; Ms. Canzano, yes; Ms. Fryc, yes; Mr. Wensky, yes; Dr. Magee, yes, the Committee voted to adjourn to Executive Session at 8:20 pm.

XII. Adjournment
On a motion by Mr. Palitsch, seconded by Mr. Wensky, the committee unanimously agreed to adjourn the meeting at 8:27 pm. Roll call votes were as follows: Mr. Palitsch, yes; Ms. Canzano, yes; Mr. Wensky, yes; Ms. Fryc, yes; Dr. Magee, yes.

Respectfully submitted,

Elizabeth McCollum, Clerk

Documents referenced:

1. Beal Slide Presentation
2. FY19 Budget Calendar
3. Special Education Summer 2017 Report
4. Special Education Summer 2017 Slide Presentation
5. FY18 Grants Report
6. Title I Fund Allocation Document
7. Set(s) of Minutes as Referenced Above

SHREWSBURY PUBLIC SCHOOLS
SCHOOL COMMITTEE MEETING AGENDA
October 11, 2017 7:00pm
Town Hall—100 Maple Avenue
Selectmen's Meeting Room

Items		**Suggested time allotments**
I.	Public Participation	7:00-7:10
II.	Chairperson's Report & Members' Reports	
III.	Superintendent's Report	
IV.	Time Scheduled Appointments:	
A.	Beal Early Childhood Center Building Project:	
i.	Report on Future Grade Configuration Survey Data	7:10 – 7:35
ii.	Public Hearing on Future Grade Configuration	7:35 – 7:50
iii.	School Committee Discussion of Future Grade Configuration	7:50 – 8:05
B.	School Transportation Annual Report	8:05 – 8:25
V.	Curriculum	
VI.	Policy	
VII.	Finance & Operations	
A.	Fiscal Year 2019 Budget Calendar: Vote	8:25 – 8:30
B.	Fiscal Year 2019 Fiscal Priorities & Guidelines: Discussion	8:30 – 8:45
VIII.	Old Business	
IX.	New Business	
X.	Approval of Minutes	8:45 – 8:50
XI.	Executive Session	
XII.	Adjournment	

Next regular meeting: October 25, 2017

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SHREWSBURY, MASS

SHREWSBURY PUBLIC SCHOOLS
100 MAPLE AVENUE
SHREWSBURY, MASSACHUSETTS

MINUTES OF SCHOOL COMMITTEE MEETING

Wednesday, October 11, 2017

Present: Dr. Dale Magee, Chairperson; Mr. Jon Wensky, Vice Chairperson; Ms. Sandy Fryc, Secretary; Ms. Erin Canzano; Mr. Jason Palitsch; Mr. Patrick Collins, Assistant Superintendent for Finance and Operations; Ms. Amy B. Clouter, Assistant Superintendent for Curriculum & Instruction; Ms. Barb Malone, Director of Human Resources; and Dr. Joseph Sawyer, Superintendent of Schools.

A complete audio/visual recording of this meeting is available on the Shrewsbury Public Schools website.

The meeting was convened by Dr. Magee at 7:01 pm.

I. Public Participation
None.

II. Chairperson's Report & Members' Reports

Mr. Wensky offered thanks and congratulations to everyone who contributed to making the Colonial Way Experience at Shrewsbury High School (SHS) a success. He added that it was a student's idea to set up music, activities, and food trucks (in the manner of Yawkey Way in Boston) prior to a football game with St. John's High School.

III. Superintendent's Report

Dr. Sawyer also offered congratulations and thanks to everyone involved with the Colonial Way Experience at SHS, noting that outstanding student leadership, and hard work by SHS staff, made it a success, adding it was a terrific evening for our community. He noted SHS concerts happening that evening and the next day and wished good luck to the performers in the band, orchestra, and choirs. Finally, he advised that this evening was the annual dinner for families of our English language learners, happening at Oak Middle School. Dr. Sawyer offered thanks to all of our English Language Education staff for their efforts to reach out and make these families feel welcome in our schools and our community.

IV. Time Scheduled Appointments:

A. Beal Early Childhood Center Building Project

i. Report on Future Grade Configuration Survey Data

Dr. Sawyer began by noting that the surveys on grade configuration options (Kindergarten-Grade 1; Kindergarten-Grade 4) for the Beal Early Childhood Center enjoyed outstanding participation, with 922 respondents to the Parent & Community Survey, and 245 respondents to the Staff Survey. He addressed survey items in order for the K-Grade 1 configuration first, providing both Parent & Community and Staff responses regarding benefits and drawbacks for each consideration, and noted that the two were often aligned. Dr. Sawyer advised that overall, the weighted averages of almost all K-Grade 1 considerations were in the "drawbacks" category (with a score of less than 3 on a 5 point scale). Dr. Sawyer then similarly addressed survey items for the K-Grade 4 configuration, and noted that the weighted averages of all K- Grade 4 considerations were in the "benefits" category (with a score greater than 3 on a 5 point scale.)

Dr. Sawyer provided quotes from the survey in support of both configurations, and highlighted themes around the perceived strengths and challenges of both options. He noted that both configurations are currently in play, and work well, in the district. Dr. Sawyer advised that more information and his recommendation would be provided to the Committee in advance of their vote on a configuration choice at the meeting on October 25. In response to a question from the Committee, Dr. Sawyer advised that both options would expand the availability of Full Day Kindergarten (FDK), and that based on enrollment projections the new school would provide the ability to offer FDK to all students.

A. Beal Early Childhood Center Building Project

ii. Public Hearing on Future Grade Configuration

This public hearing was the second of two that gave community members an opportunity to ask questions and provide feedback in advance of the School Committee vote on October 25, 2017, to decide which of two grade configurations (K- Grade 1; K- Grade 4) to adopt.

Ms. Margaret Aulenback, a kindergarten teacher from the Beal Early Childhood Center (BECC), spoke on behalf of BECC staff and advocated for the K-Grade 1 configuration because of its collaborative learning environment and focus on the social, emotional, and academic learning of young students.

Mary Aicardi, a community member with children in SPS, commented on the number of transitions between schools that students make, asked about transportation costs and equity among schools, and felt both choices were good. Mr. Collins advised that the K-Grade 1 model would incur higher transportation costs and longer rides for students, and Dr. Sawyer noted that all district schools follow the same curriculum regardless of the grade configuration.

A. Beal Early Childhood Center Building Project

iii. School Committee Discussion of Future Grade Configuration

Committee members thanked survey respondents for their participation and thoughtful feedback; encouraged community members and staff to continue to provide feedback; noted that both

models would allow for continued student success at SPS; and acknowledged the thoroughness of the process being utilized to explore and compare both configuration options.

B. School Transportation Annual Report

Mr. Collins, Assistant Superintendent for Finance and Operations, and Mr. Stephen Rocco, Transportation, Safety & Security Coordinator, began their annual report with an overview of services and transportation providers. They provided information on: "Regular Day Busing" vehicles (47) and routes (254); bus utilization for high, middle, and elementary school students; contract and rates (SPS is in the last year of a 5 year contract, and anticipates a significant rate increase - greater than 1-2% - going forward); system changes; online payment and increased process automation; ridership statistics (4780 total daily riders); registration data by month; payment methods utilized (92% of families pay online by credit card); budget resources and state reimbursement; and challenges and areas of improvement for the future.

Mr. Wensky noted the availability of the federally-funded *Safe Routes to School Program* which offers information on bike and walking routes; Committee members also asked clarifying questions about the potential for an up-front, electronic bus change request portal; the percent of late registrants that were new residents; and the longest current bus ride for students (approximately 1 hour). Dr. Sawyer and Mr. Collins both acknowledged the close working relationship that SPS enjoys with local provider AA Transportation.

V. Curriculum

None.

VI. Policy

None.

VII.Finance & Operations

A. Fiscal Year 2019 Budget Calendar: Vote

Mr. Collins advised that he presented the initial Fiscal Year 2019 Budget Calendar at the School Committee meeting on September 27, 2017, and provided a brief summary of the upcoming year. He presented a copy of the Town Manager's FY19 Budget Town Calendar, noting it had been approved at the Board of Selectmen meeting on October 10, 2017. Mr. Collins advised that the calendar was solid, and added that Town Manager Mr. Kevin Mizikar would release his initial budget to the Finance Committee on February 7, 2018.

On a motion by Mr Palitsch, seconded by Mr. Wensky, the Committee voted unanimously to approve the Fiscal Year 2019 Budget Calendar as presented.

B. Fiscal Year 2019 Fiscal Priorities & Guidelines: Discussion

Mr. Collins began his report by noting that it included input from Subcommittee on Fiscal Projections members Dr. Magee and Mr. Palitsch. He advised that the overarching goal is to provide sufficient resources to maintain the excellence of our public education and make targeted improvements where needed. Mr. Collins summarized FY19 Budget assumptions, and listed FY19 Budget priorities. When addressing the priority of maintaining class sizes, he noted that SHS is now at all time high enrollment of 1,835 and projected to be at 1,868 for FY19. Mr. Collins added that as new district Strategic Priorities evolve and are voted on in December, FY19 Budget Priorities will align with them to allow for allocation of funding.

Dr. Sawyer thanked Fiscal Projections Subcommittee members Dr. Magee and Mr. Palitsch for their work and contributions to the report.

VIII. Old Business
None.

IX. New Business
None.

X. Approval of Minutes
Without objections from the Committee, the minutes of the School Committee meeting on September 27, 2017, and the Workshop meetings on September 25, 2017 and September 27, 2017 were accepted as distributed.

XI. Executive Session
None.

XII. Adjournment

On a motion by Mr. Palitsch, seconded by Mr. Wensky, the committee unanimously agreed to adjourn the meeting at 8:28 pm. Roll call votes were as follows: Mr. Palitsch, yes; Ms. Canzano, yes; Ms. Fryc, yes; Mr. Wensky, yes; Dr. Magee, yes.

Respectfully submitted,

Elizabeth McCollum, Clerk

Documents referenced:

1. FY19 Budget Calendar
2. FY19 Fiscal Guidelines and Priorities Draft
3. FY19 Budget Slide Presentation
4. FY19 Budget Town Calendar
5. Annual Transportation Report Slide Presentation
6. Beal Grade Configuration Slide Presentation
7. Beal Grade Configuration Parent Survey Data
8. Beal Grade Configuration Staff Survey Data
9. Set(s) of minutes as referenced above

Beal Building Project
Grade Configuration Survey Data

Presented to the Shrewsbury School Committee

October 11, 2017

Survey Information

- Surveys sent out via email list serv and website on 9/20/17; reminder also sent via email list serv
- Surveys were active through 10/3/17
- Parent & Community Survey:
  - 922 respondents
    - 495 parents & caretakers – oldest child in preschool/elementary school
    - 186 parents & caretakers – oldest child in middle school
    - 103 parents & caretakers – oldest child in high school
    - 134 community members who are not parents or caretakers of current students
    - 4 unidentified
- Staff Survey:
  - 245 respondents
    - 89 classroom teachers
    - 68 support staff (paraprofessionals, secretaries, etc.)
    - 44 special educators
    - 23 special subject teachers
    - 19 administrators
    - 2 unidentified

Kindergarten & Grade 1 Configuration: Benefits & Drawbacks

All or almost all Kindergarten & Grade 1 students in town would attend Beal for those two years.

	Benefit or Significant Benefit	Neutral	Drawback or Significant Drawback
Parents & Community	39%	18%	42%
Staff	34%	21%	45%

Kindergarten & Grade 1 Configuration: Benefits & Drawbacks

Coolidge, Floral Street, Paton, & Spring Street would primarily house Grades 2, 3 & 4.

	Benefit or Significant Benefit	Neutral	Drawback or Significant Drawback
Parents & Community	38%	24%	38%
Staff	34%	26%	41%

Kindergarten & Grade 1 Configuration: Benefits & Drawbacks

Students would experience attending two different schools, one for Grades K and 1 and one for Grades 2 through 4.

	Benefit or Significant Benefit	Neutral	Drawback or Significant Drawback
Parents & Community	23%	25%	53%
Staff	16%	19%	66%

Kindergarten & Grade 1 Configuration: Benefits & Drawbacks

All or almost all families with a child in Grades K-1 and another child in Grades 2-4 would have the children attending two different schools.

	Benefit or Significant Benefit	Neutral	Drawback or Significant Drawback
Parents & Community	7%	24%	69%
Staff	4%	18%	79%

Kindergarten & Grade 1 Configuration: Benefits & Drawbacks

The span of curriculum will be focused on a smaller number of grade levels in the same school (Grades K-1 early childhood center for one school and a Grades 2, 3, & 4 elementary school for the other)

	Benefit or Significant Benefit	Neutral	Drawback or Significant Drawback
Parents & Community	52%	29%	19%
Staff	54%	23%	23%

Kindergarten & Grade 1 Configuration: Benefits & Drawbacks

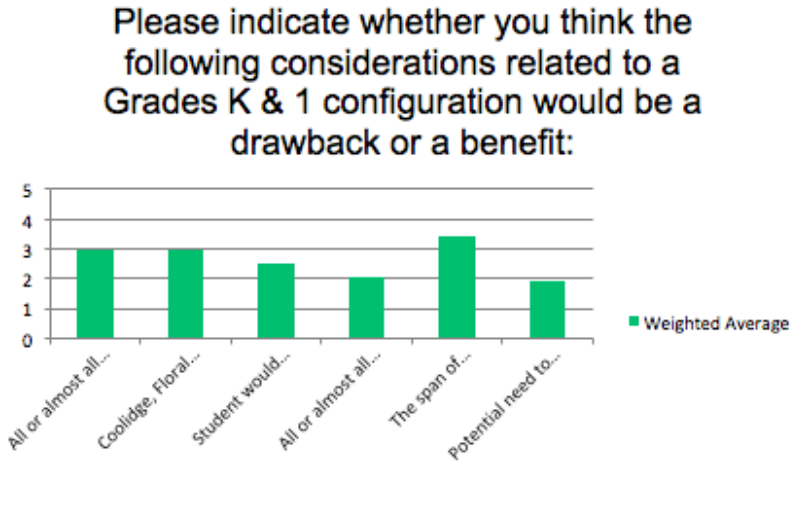
Potential need to transport students from the same neighborhood on separate buses to two different schools (Grades K-1 and Grades 2, 3, & 4) at approximately the same time.

	Benefit or Significant Benefit	Neutral	Drawback or Significant Drawback
Parents & Community	6%	19%	76%
Staff	3%	14%	83%

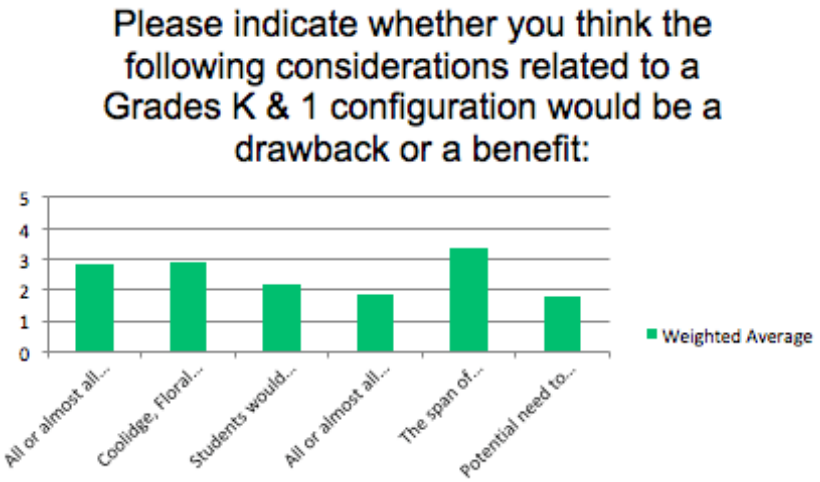
Kindergarten & Grade 1 Configuration: Benefits & Drawbacks

Weighted averages of almost all <u>K-1 considerations</u> are in "drawbacks" category (<3)

Parents & Community:



Staff:



5 = Significant Benefit 4 = Benefit 3 = Neutral 2 = Drawback 1 = Significant Drawback

Kindergarten – Grade 4 Configuration: Benefits & Drawbacks

All students in Grades K through 4 would attend a neighborhood elementary school.

	Benefit or Significant Benefit	Neutral	Drawback or Significant Drawback
Parents & Community	80%	13%	8%
Staff	83%	10%	7%

Kindergarten – Grade 4 Configuration: Benefits & Drawbacks

Kindergartens would be included in all neighborhood elementary schools rather than having an early childhood center model.

	Benefit or Significant Benefit	Neutral	Drawback or Significant Drawback
Parents & Community	65%	18%	17%
Staff	67%	15%	18%

Kindergarten – Grade 4 Configuration: Benefits & Drawbacks

Students would experience attending one school for the five years of Grades K through 4.

	Benefit or Significant Benefit	Neutral	Drawback or Significant Drawback
Parents & Community	79%	16%	6%
Staff	81%	13%	5%

Kindergarten – Grade 4 Configuration: Benefits & Drawbacks

Families with children in Grades K-4 would have their children attending the same school.

	Benefit or Significant Benefit	Neutral	Drawback or Significant Drawback
Parents & Community	90%	9%	2%
Staff	88%	11%	2%

Kindergarten – Grade 4 Configuration: Benefits & Drawbacks

The span of curriculum will be focused on a larger number of grade levels in the same school (Grades K-4 elementary school)

	Benefit or Significant Benefit	Neutral	Drawback or Significant Drawback
Parents & Community	38%	41%	22%
Staff	34%	39%	28%

Kindergarten – Grade 4 Configuration: Benefits & Drawbacks

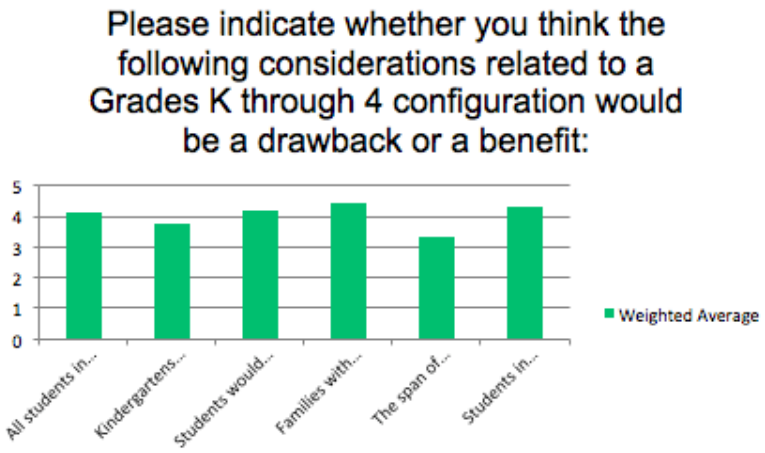
Students in Grades K-4 from the same neighborhood would be transported to the same school.

	Benefit or Significant Benefit	Neutral	Drawback or Significant Drawback
Parents & Community	87%	10%	3%
Staff	86%	12%	2%

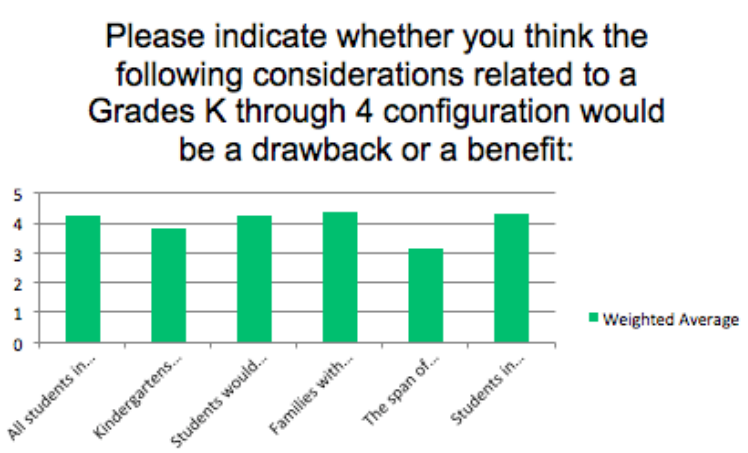
Kindergarten – Grade 4 Configuration: Benefits & Drawbacks

Weighted averages of all <u>K-4 considerations</u> are in "benefits" category (>3)

Parents & Community:



Staff:



5 = Significant Benefit 4 = Benefit 3 = Neutral 2 = Drawback 1 = Significant Drawback

Sample Parent Quotes in Support of K-1 Configuration

- Being an elementary school teacher and parent, I'm in favor of the K-1 model at Beal. Having all of the teachers planning curriculum together with unified goals and common assessment measures creates a solid foundation for future success as students continue on in their neighborhood schools for their grades 2-4 experience. The idea that they would all have a common experience is a significant benefit in my opinion.

- I loved Beal and feel it being an early childhood center feels like a safe, wonderful place for children to start their schooling! Those qualities make it worth the inconvenience of having kids in 2 different schools!

- I like the idea of kindergarten and grade one being in one school. All three of my kids went to Beal and I like that they can do things like sing along together as a grade. They don't do that in schools where there is one kindergarten. When looking back at their time in Beal going to sing along is still such a fun memory to look back on. Would more buses need to be added if the school is K-4? How would that affect the budget?

Sample Staff Quotes in Support of K-1 Configuration

- I hope that the committee will consider the importance of the early childhood building environment on the academic and social development of 5 and 6 year old students. Having an early childhood center does make a difference in the school's ability to focus on that particularly important beginning stage of learning. It also provides for a solid working environment for staff who are committed to the issues of developmental appropriateness in education. I cannot overstate the importance of developmental appropriateness for our youngest students. Including K/1 students in the elementary schools will water down developmentally appropriate practice as it does not provide the same experiences for either staff or students.
- I am very much in favor of a k-1 model for early childhood education. I believe this model would best provide our earliest learners with a strong educational and social/emotional foundation. Keeping K-1 students together as they start on their educational journey and having them reconnect years later when they come back together as middle-schoolers and high-schoolers just feels right. Professionals can provide a higher level of attention for curriculum in all areas when the grade-level focus of a school is smaller. As a parent in town, I have had several years with my three children being at 2 or 3 separate schools and on 2 or 3 different buses. It has not been an inconvenience and has allowed our children to claim their school as their own. Being pulled in multiple directions whether for school, sports or extra-curricular activities is something you sign on for when you have multiple children. We need to focus on doing what is right for our youngest learners rather than what is convenient.
- As a teacher at Beal, I strongly feel that a K to 1 model would have such a positive impact on our youngest learners! The children would be receiving support from teachers and staff that are truly specializing in their grade levels. We could provide learning spaces that are highly beneficial for such young learners - playground equipment, gym equipment, etc. Being part of a team that focuses their knowledge on our youngest learners will ensure that we're truly focusing on what is developmentally appropriate! Key points: - Eliminating half-day kindergarten would be essential in making sure each student is receiving the same educational experiences. - Fine tuning the bus situation will be a challenge; but it's imperative that we are thinking about what is best for their educational experience and not the convenience of busing.

Sample Parent Quotes in Support of K-4 Configuration

- I have been conflicted about the best option for our students and I see benefits to both models. While I love the benefits of having all K and 1 students in the same building as one focused Early Childhood Center, those benefits aren't as strong as having a consistent community and curriculum work for the first 5 years. There would be such greater continuity by having students in the same learning community for those 5 years. As a parent with children in K-4 this year (in 2 different schools), I would prefer to have my children have the experience of being in the same school for all five years for the common language, building culture and same teaching/learning expectations.
- My son currently attends Floral and I have a preschooler who will attend in a couple of years. The class sizes are large at Floral and with constant construction of apartments and housing in Shrewsbury, the amount of children is increasing. Shrewsbury is a wonderfully diverse town with a great community and wonderful schools, so naturally it is attractive to families. With Beal becoming a K-4 School, it could create the opportunity for reconfiguration in current schools which could decrease class sizes allowing for an optimal educational experience. This also allows for less transitions between schools for our children. They already transition from K to elementary, elementary to middle, middle to middle and finally to high school. That is a lot of shifting schools for our children as they grow. Please consider all of these extremely important issues as you make this decision. Thank you!!
- I think it would be best if a new building housing K-4 is created. There are already too many schools the children have to attend throughout their schooling in Shrewsbury- K school, 1-4, a 5-6 a 7-8 and then HS. It would be great if students could start in K in one building and continue through 4th grade, they would become more part of the community, more comfortable and settled and have similar friends throughout the 5 years rather than jumping from school to school so many times.

Sample Staff Quotes in Support of K-4 Configuration

- I think that having the consistency of going to one school from K-4 would help the students immensely. The students would learn school wide expectations that would transfer well year to year. I also think that this would allow teachers who loop to continue to do that work. As a first grade teacher, having a second grade class next door is a huge benefit to my students and myself. The children get to see role model students and it helps me to see the foundational skills I teach in action the next year.
- I think the fewer transitions students have between schools, the better it is for them. When at a school for several years, students are able to build relationships across grade levels and faculty get to know families more closely.
- I think that having younger children together with older students in the same school is a definite benefit. Not only does this provide the younger students with older role models, but it also provides more opportunities for cross grade level activities. From a teaching perspective, it is incredibly helpful to have the grade above you in the same building so that you can learn more about where your students need to be by the end of the year and tailor your instruction accordingly.

K & Grade 1 Configuration: Themes

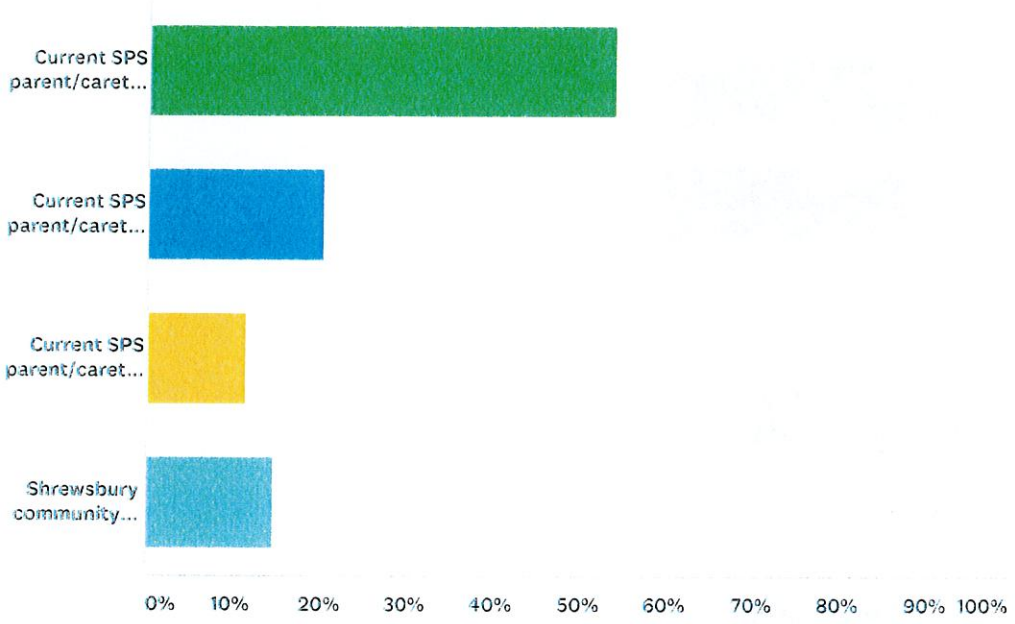
Perceived Strengths	Perceived Challenges
• Focus on early childhood and developmentally appropriate practices • Smaller range of ages (social aspect; school design) • Most K-1 students in town together in one place (equity) • Educators with similar focus/expertise • Horizontal alignment of curriculum • “Feel” of early childhood climate	• More transitions between schools • Most/all students in town together in one place, then dispersed to neighborhood schools • Less vertical curriculum alignment • Less time for school personnel to get to know students and families, and vice versa • Large population of young students (750 K & 1 students) • Logistics (siblings split across multiple schools; transportation; can’t fit all K-1 students in new school; etc.)

K through Grade 4 Configuration: Themes

Perceived Strengths	Perceived Challenges
• Fewer transitions, more stability and consistency over five year period • More time for school personnel to get to know students and families, and vice versa • Greater ability to even out population across schools (equity) • Vertical alignment of curriculum • “Feel” of neighborhood school climate (older kids models for younger kids) • Logistics for siblings, transportation, etc.	• Less focus on early childhood developmental level • Curriculum focused on a wider range of grades • Students divided in separate schools across town rather than most at same grade levels in one place (equity) • Design of school not entirely focused on early childhood • Older kids could be intimidating to younger kids

Q1 I am a:

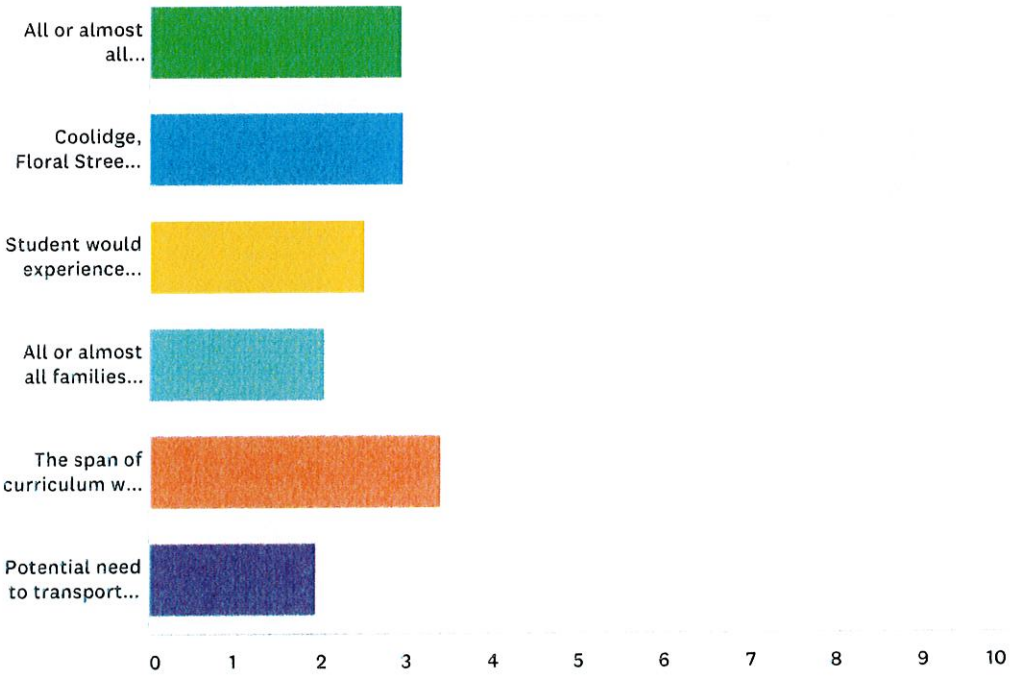
Answered: 918 Skipped: 4



ANSWER CHOICES	RESPONSES	
Current SPS parent/caretaker – youngest child is in early childhood/elementary school (Preschool-Grade 4)	53.92%	495
Current SPS parent/caretaker – youngest child is in middle school (Grades 5-8)	20.26%	186
Current SPS parent/caretaker – youngest child is in high school (Grades 9-12)	11.22%	103
Shrewsbury community member (not a current SPS parent/caretaker)	14.60%	134
TOTAL		918

Q2 Please indicate whether you think the following considerations related to a Grades K & 1 configuration would be a drawback or a benefit:

Answered: 805 Skipped: 117

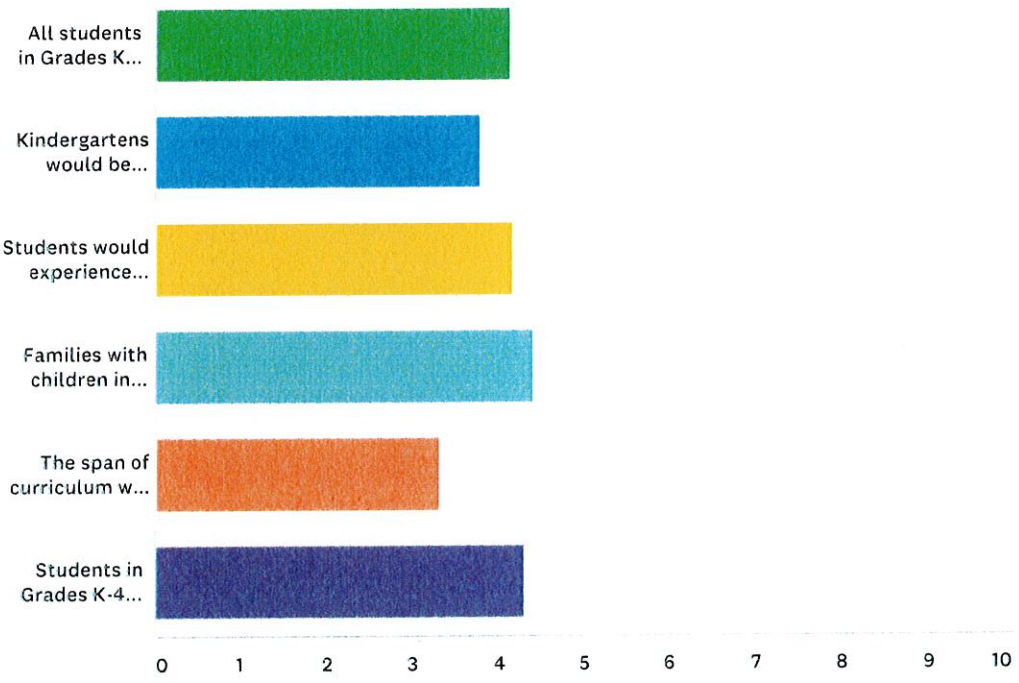


	SIGNIFICANT DRAWBACK	DRAWBACK	NEUTRAL	BENEFIT	SIGNIFICANT BENEFIT	TOTAL	WEIGHTED AVERAGE
All or almost all Kindergarten & Grade 1 students in town would attend Beal for those two years.	17.54% 141	24.75% 199	18.41% 148	24.00% 193	15.30% 123	804	2.95
Coolidge, Floral Street, Paton, & Spring Street would primarily house Grades 2, 3 & 4.	14.93% 120	23.51% 189	23.63% 190	24.75% 199	13.18% 106	804	2.98
Student would experience attending two different schools, one for Grades K and 1 and one for Grades 2 through 4.	25.47% 205	27.08% 218	24.60% 198	17.14% 138	5.71% 46	805	2.51
All or almost all families with a child in Grades K-1 and another child in Grades 2-4 would have the children attending two different schools.	34.83% 280	33.83% 272	24.13% 194	4.60% 37	2.61% 21	804	2.06
The span of curriculum will be focused on a smaller number of grade levels in the same school (Grades K-1 early childhood center for one school and a Grades 2, 3, & 4 elementary school for the other)	8.21% 66	11.07% 89	28.73% 231	34.70% 279	17.29% 139	804	3.42

Potential need to transport students from the same neighborhood on separate buses to two different schools (Grades K-1 and Grades 2, 3, & 4) at approximately the same time.	37.02% 298	38.76% 312	18.63% 150	3.23% 26	2.36% 19	805	1.95

Q3 Please indicate whether you think the following considerations related to a Grades K through 4 configuration would be a drawback or a benefit:

Answered: 774 Skipped: 148



	SIGNIFICANT DRAWBACK	DRAWBACK	NEUTRAL	BENEFIT	SIGNIFICANT BENEFIT	TOTAL	WEIGHTED AVERAGE
All students in Grades K through 4 would attend a neighborhood elementary school.	1.81% 14	5.70% 44	12.56% 97	35.88% 277	44.04% 340	772	4.15
Kindergartens would be included in all neighborhood elementary schools rather than having an early childhood center model.	3.36% 26	14.08% 109	17.70% 137	30.75% 238	34.11% 264	774	3.78
Students would experience attending one school for the five years of Grades K through 4.	1.56% 12	4.02% 31	15.82% 122	32.68% 252	45.91% 354	771	4.17
Families with children in Grades K-4 would have their children attending the same school.	0.90% 7	1.03% 8	8.53% 66	34.24% 265	55.30% 428	774	4.42
The span of curriculum will be focused on a larger number of grade levels in the same school (Grades K-4 elementary school)	3.63% 28	17.75% 137	40.67% 314	20.21% 156	17.75% 137	772	3.31
Students in Grades K-4 from the same neighborhood would be transported to the same school.	1.68% 13	1.68% 13	9.82% 76	37.60% 291	49.22% 381	774	4.31

Q4 Please share any feedback or questions you have regarding the choice of grade configuration for the Beal building project. Thank you!

Answered: 284 Skipped: 638

#	RESPONSES	DATE
1	I liked my children starting school with all the students being young. I found when they went to Coolidge they started having some injuries on the playground. I didn't want the exposure of the older students right away when they started school. My children were in a family daycare setting until school. I understand the teachers that are in a K setting in the elementary school would like to have other K teachers to collaborate with so they would like to have more than one classroom of K in the elementary setting. I also found that the having K-1 together the students meet other students in town. When they get to middle school and high school they will know other students than the neighborhood friends. Keeping siblings together sounds good but they will be apart when transition to middle school and high school and there will be different start times then.	10/3/2017 8:51 AM
2	I think continuity is important to elementary school kids. It's better for them to "grow up" in the same school. I think a wider age range, K-4, creates positive social opportunities. Younger kids learn from older and older kids can be encouraged to be protective of and mentor the younger kids.	10/2/2017 8:56 PM
3	We need a new school. Beal served its purpose, but we're trying to put a square peg in a round hole now. Move on.	9/29/2017 5:08 AM
4	The K-1 model is better because of the special focus on younger students.	9/28/2017 8:55 PM
5	I feel Beal should stay as a K and grade 1 school and NOT become another neighborhood school it is the best option as it has the least amount of reconfiguring and changes to the districts.	9/28/2017 8:35 PM
6	Neighborhood schools k through 4 is most desired solution.	9/28/2017 6:37 PM
7	Realizing the options I think the schools should be K - 4. Thank you.	9/28/2017 12:48 PM
8	As a future SPS parent, I would prefer my children to attend one school from K-4 where the staff can get to know my students better over a longer period of time. As an educator I like the thought of the teachers being able to more easily be able to vertically align with other teachers in the building. For me, it is a no brainer, a K-4 school would be much better than a K-1 school.	9/28/2017 10:49 AM
9	Beal School need lot of renovations and space to accommodate students for K - 4th. The school is sub standard compared to other Shrewsbury schools and children doesn't get enough encouragement to attend the School. Also the board should inspect the school to determine the hygiene level for continuity. Please renovate the school to match up standard with other Shrewsbury schools	9/28/2017 10:21 AM
10	Too much dividing up of elementary school locations already: first, you moved 5th grade out & then all/part KG & now want to move 1st. Better for the child all in one local elementary school. KISS (keep it simple).	9/28/2017 6:33 AM
11	A huge concern for Beal school is the small footprint and the exponential amount of traffic that this would add to the area. Please take that into consideration.	9/28/2017 6:07 AM
12	nothing special	9/28/2017 1:07 AM
13	Very strongly feel that staying at the same school for 5 years is a significant benefit for the children and families.	9/27/2017 8:46 PM
14	With the Shrewood/Oak split the town does not need another school for K+1. Let's go with the neighborhood school idea.	9/27/2017 8:28 PM

15	My son currently attends Floral and I have a preschooler who will attend in a couple of years. The class sizes are large at Floral and with constant construction of apartments and housing in Shrewsbury, the amount of children is increasing. Shrewsbury is a wonderfully diverse town with a great community and wonderful schools, so naturally it is attractive to families. With Beal becoming a K-4 School, it could create the opportunity for reconfiguration in current schools which could decrease class sizes allowing for an optimal educational experience. This also allows for less transitions between schools for our children. They already transition from K to elementary, elementary to middle, middle to middle and finally to high school. That is a lot of shifting schools for our children as they grow. Please consider all of these extremely important issues as you make this decision. Thank you!!	9/27/2017 6:45 PM
16	I think it makes it easier for parents to put two kids (say one in K and one in 3rd) on the same bus going to the same school. I also think it benefits the small child by having a familiar face when they first start going to school.	9/27/2017 5:37 PM
17	A huge undertaking this project. It is absolutely needed for the education and health of the students, staff and faculty. There will be difficult decisions to make however the best situation is to build another neighborhood school and then redistrict. Of course redistricting is very tricky and will not please everyone but it has veen done before. Previously had been in a district that did redistrict. They grandfathered families to the school they were currently in if they were actually due to change schools. This was the parent's choice. However they did not receive transportation to the grandfathered/non neighborhood school. Will be following the process. Thank you for your efforts.	9/27/2017 3:50 PM
18	Keeping neighborhood children together is most likely the best solution. It would greatly benefit anyone with anxiety issues. Switching schools could be traumatizing to some students.	9/27/2017 12:47 PM
19	It will be useful if the kid goes to the same school from K to 4th. It would also benefit in sharing town resources with all schools like transporting kids from a neighborhood to the same school (instead of use separate buses). I would like my kids within K-4 to go to same school for lots of scheduling reasons.	9/27/2017 12:34 PM
20	Why is Beal not being made into a preschool and kindergarten? Putting preschool with kindergarten seems to make the most academic sense.	9/27/2017 12:09 PM
21	I think it would have more negative impact to redistrict than to have to move kids more often.	9/27/2017 11:47 AM
22	I think there are pros and cons with both configurations. I think the district needs to choose what works best.	9/27/2017 11:38 AM
23	Beal and Paton schools are relatively close in proximity. How would redistricting of students affect families at those schools?	9/27/2017 11:22 AM
24	Transitions to new schools are difficult. Reducing the number of transitions is a benefit. This assumes full day kindergarten? Will the Town lose revenue? Busing would be simplified and the potential of older siblings on the bus with kindergarten is also a plus.	9/27/2017 11:12 AM
25	I support whichever decision that would allow the town to offer full day kindergarten experience to all Shrewsbury children.	9/27/2017 10:53 AM
26	Expanding Beal will increase traffic in an already congested area of town. Combined with Paton traffic on Grafton St (140), existing traffic on Maple and Main would increase even more. Getting to the library is already difficult enough, and semi trucks are often passing through the intersection. Any development would increase traffic to the area. Splitting grades and running Beal at lower grade levels for the entire district would just create a disastrous traffic situation everywhere, in addition to confusing young children, making it harder for them to learn school routines (crucial in K & 1st), and making transportation (bus and parent) a nightmare.	9/27/2017 10:32 AM
27	I think for Beal they need lots of improvements	9/27/2017 10:00 AM
28	Having all or most of Kindergarten children in one school is an opportunity for children from different neighborhoods to get to know each other, before middle school. But I think transportation arrangements and children from the same family going to the same school, if possible, is more important. So I lean towards a K-4 neighborhood school.	9/27/2017 9:56 AM
29	I think having siblings in the same school at an early age and taking the same bus is a huge benefit to working families.	9/27/2017 9:55 AM

30	As a community member and teacher in the district, I have found that having the kindergarten classes in the building is a distinct advantage. They get to know the building and the people in it. The teachers are aware of what the expectations are for all grades and as such all grades are working to support the other grades. I have found many positives to having the k-4 neighborhood school.	9/27/2017 9:38 AM
31	Given our school budget, and the recent need to override prop 2.5, the financial implications of these two choices should be a major factor in this decision.	9/27/2017 8:53 AM
32	I think K-4 in one elementary school is best for working families. It also, allows siblings to watch out for one another in the same school	9/27/2017 8:50 AM
33	If given the opportunity to share my opinion, I would voice my vote for a K-4 building.	9/27/2017 8:48 AM
34	Why did you make the survey so difficult. It could be 1 question and be done.	9/27/2017 8:46 AM
35	Both configurations have benefits and drawbacks. As long as the developmental and curricular needs are well thought out, both are viable options.	9/27/2017 8:36 AM
36	What would be the cost?	9/27/2017 8:32 AM
37	This is a difficult decision. Growing up in Stamford Connecticut I am only familiar having a elementary school for myself that was k-5. I enjoyed going to school with my siblings and having them around as needed. I remember being intimated by the older children on the bus when I was smaller and might have a less traumatic childhood experience if there was a separate early childhood school and a elementary school. Also as a child with a diagnosed learning disability I would have benefited from smaller class size and lower student to teacher ratio. This is one of my biggest concerns. Which model will have a lower student to teacher ratio as I feel this is my biggest concern. Thank you. I can be reached at [redacted]	9/27/2017 8:29 AM
38	Quality of education should be at the forefront. It is more efficient to implement best practices when same grade teachers/students are in the same building. This being such an important habit forming time in kids lives, I believe an early thru 1st grade building will give these students the best start.	9/27/2017 7:34 AM
39	I feel that having a new school that the whole school age population can utilize from is a benefit. The other elementary schools are declining and this would make it equitable for those ages. From experience, my children never had transition problems going from one school to another. In fact, they looked forward to it. I do feel a draw back could be the busing of the children at the same time. I also feel that the k-1 age group work really well together and there are many benefits for keeping them together. Even from the standpoint of the ESC program. It makes for better programming and concentrating on the needs and growth of those ages.	9/27/2017 7:30 AM
40	I have been conflicted about the best option for our students and I see benefits to both models. While I love the benefits of having all K and 1 students in the same building as one focused Early Childhood Center, those benefits aren't as strong as having a consistent community and curriculum work for the first 5 years. There would be such greater continuity by having students in the same learning community for those 5 years. As a parent with children in K-4 this year (in 2 different schools), I would prefer to have my children have the experience of being in the same school for all five years for the common language, building culture and same teaching/learning expectations.	9/27/2017 6:59 AM
41	As much as I would love for all the town to enjoy the benefit of a new school, the logistics of families needing to run to two different schools to pick up their children, or wait at the bus stop for two buses is unfair and illogical. Also, I think it's a huge benefit to the younger students to see and look up to the older students, which is lost at separate schools.	9/27/2017 6:57 AM
42	Currently the longest tenure of a student in a building would be 4 years in the HS, then 3 years in the local elementary. K-1, 5-6, 7-8 are 2 year buildings. Unfair use of each building. If the district continued full day K, K-4 elementarys. If half day K is still used, Beal should be PreK, K, 1. Regardless, plan to build a larger school than planned, the seams will again be bursting. The HS is already close to overcapacity...	9/27/2017 6:52 AM
43	K-4 would be fabulous. Especially considering the studies SPs has done regarding PBL and expeditiary learning. We learn from each other. This way the older kids can help the younger ones and vice versa, because everyone is in the same building.	9/27/2017 6:51 AM
44	Concerned about how long children would be in the bus for a central K-1 school. I don't think more than 20 minutes or so is appropriate at that age. However I like a central K-1 if this concern is addressed.	9/27/2017 6:49 AM

45	Being an elementary school teacher and parent, i'm in favor of the K-1 model at Beal. Having all of the teachers planning curriculum together with unified goals and common assessment measures creates a solid foundation for future success as students continue on in their neighborhood schools for their grades 2-4 experience. The idea that they would all have a common experience is a significant benefit in my opinion.	9/27/2017 1:23 AM
46	I think it's best to build Beal school as a full K-4th grade school instead of just for K-1st grade .	9/27/2017 12:23 AM
47	The early childhood center model is appealing when you have a new kindergartner and it feels like such a big step to send them off to school. But overall, I think it is more beneficial to incorporate kindergartners into their respective elementary schools. It may take a bit more adjustment for the students at the beginning of kindergarten, but then they are not changing schools later. It's also sweet for the rest of the school community to take care of the kindergartners. I think it will be nicer and less complicated for families to have their elementary age children at the same school as well. One thing that will be a little strange if the new Beal is built on the old Beal site is having Paton and Beal so close to one another.	9/26/2017 11:56 PM
48	If Beal would follow K-4 then Floral would need to have an additional class for "K"	9/26/2017 11:53 PM
49	I feel that the best solution is to reconfigure the school districts and add a new district ("Beal") with strong consideration of the Glavin location as a new construction site. Floral will continue to be overcrowded based on the development trajectory of the town, regardless of how many grades the school building itself will encompass. Redistricting provides a longer term solution for this problem. I would also prefer my children to stay in a smaller neighborhood school, either K-4 or even 1-4. Parents in Coolidge would be at a significant disadvantage trying to get to the center of town and back to Coolidge for multiple pickups from extended day, etc.	9/26/2017 11:28 PM
50	Build for the future. 20 years from now, what will Shrewsbury be ? How many school kids will we have to accommodate ? Having a focused curriculum at a young age will provide Shrewsbury kids with a significant advantage in their later school years	9/26/2017 10:47 PM
51	Beal school can be expanded and full day kindergarten programs can be given to all rather than the lottery system where the option of getting is merely based on luck	9/26/2017 10:26 PM
52	Three of my children attended Beal for Kindergarten and then transitioned to their neighborhood school for 2-4 grade. I can honestly say that it was a good experience. It would probably also be a good experience for a student to attend all 5 years in a neighborhood school but attending Beal for the K years only was certainly not a drawback	9/26/2017 10:17 PM
53	While the K-1 model of early childhood education is attractive and supports children's adjustment to elementary school, I am concerned that there would end up being "satellite" first grade classes at other schools. I would be inclined to vote for a K-4 model, to limit the number of transitions kids need to go through and to maximize the capacity (790 vs. 750 students).	9/26/2017 10:13 PM
54	I feel that there should be another elementary school to take the overcrowding in the other schools. Having it a K-4 will have more continuity within the school as opposed to 2 school. The teacher communication between grades will be easier than between schools. Siblings will be in the same school longer. It will be easier for parents and may get a better response from parents with volunteerism and PTO. [redacted]	9/26/2017 10:03 PM
55	If the configuration was K-4 and there 5 schools where would the boundaries be in terms of attending one school vs another ? Also if we have a children that will be currently at a school ie Spring in 2022 as a 2nd grader or third grader will they be able to remain at that school thru graduation or will they get pulled out of that school and put into another one? I think kids who are already in a particular district and school system should NOT be pulled out of that school come 2022. This is a huge concern that many parents have with this new proposal.	9/26/2017 9:58 PM
56	I absolutely think a K-4 school for each neighborhood would be fantastic for all families. Less transitions, more streamlined. Easier on the kids and the families.	9/26/2017 9:55 PM
57	It is essential to keep K separate from the upper grades. Putting K-1 together would be a great benefit to all of the grades.	9/26/2017 9:55 PM
58	I believe if the town of Shrewsbury is going to put money into changes in our current school districts it should be based around every neighborhood having their own K through four elementary school.	9/26/2017 9:52 PM
59	I believe the K/1 model makes the most sense. It will allow for a more focused building and grounds design, eliminate the need to modify existing schools in order to accommodate Kindergarten students, and most closely resemble our current system model.	9/26/2017 9:27 PM

60	I think it would be best if a new building housing K-4 is created. There are already too many schools the children have to attend throughout there schooling in Shrewsbury- K school, 1-4, a 5-6 a 7-8 and then HS. It would be great if students could start in K in one building and continue through 4th grade, they would become more part of the community, more comfortable and settled and have similar friends throughout the 5 years rather than jumping from school to school so many times.	9/26/2017 9:26 PM
61	When children start going to school in kindergarten, they are a bit anxious. I feel that going to school with higher grade kids in the same bus and same school could add to this anxiety. They should be with kids of same age group only in the initial years to help them better adjust in school environment and also to lessen the possibilities of bullying and other issues.	9/26/2017 9:25 PM
62	Really enjoying the early childcare model that allows my daughter to build confidence prior to transitioning to a school with older children.	9/26/2017 9:23 PM
63	both options have positives and negatives. The most positive for option one is that small kids grades K-1 would be only around. While the most positive for option two is that there won't be transitions in between which is a challenge I currently experience with my first grader at Floral transferred from Beal.	9/26/2017 9:20 PM
64	my son was at Patonin his first kindergarten year and I had my other two children that year at Paton and that was wonderful. I felt great knowing they were togetger and he would have fewer transitions. Being confortable helps growth and security allows for the child to focus on learning sooner. It would be great to house full day kindergarten for every student in town.	9/26/2017 9:12 PM
65	Kids learn by looking up to elder siblings at home and higher grade students at school. K-1 configuration will not provide that learning experience from their higher grade siblings or their friends.	9/26/2017 9:05 PM
66	If you have more than one child there are benefits to staying in one school. Creates consistency during that young age . They will be moving 3 other times for middle and High school years	9/26/2017 9:01 PM
67	It will be more convenient for the parents to keep their children at the same elementary schools. It also will help to form long term relationships between children and will help the school staff to know strength and challenges of the each particular student.	9/26/2017 9:01 PM
68	I think having a new k-4 school would be more beneficial to the students as they would have less transition and build friendships that they don't get with so many transfers at the current time.	9/26/2017 9:00 PM
69	I would hope we can keep an early childhood center.	9/26/2017 8:53 PM
70	I like the idea of having all the pre-k/k teachers in the same building so they can all collaborate and share resources. I think this will create a more equitable experience for the students. I am still concerned about all the transitions for students and logistical issues for parents with multiple children. For the k-4 option I like how teachers can follow students and more easily talk to their previous teachers. I'm concerned about equity between schools with regards to resources and student diversity. I want my son to be exposed to lots of people and I would hate for him to be in a classroom with everyone who looks, speaks, and thinks like him.	9/26/2017 8:53 PM
71	Too many transitions for young students isn't a benefit at all. Most young children don't transition well at all, never mind having to do it 4times before reaching high school.	9/26/2017 8:40 PM
72	We really loved Beal when our 2 kids were there. We found it to be a special experience because it was almost all Kindergartners (all little kids!)	9/26/2017 8:40 PM
73	With the growing number of students in town it's important to have another elementary school Thanks .	9/26/2017 8:30 PM
74	The toughest problem in shrewsbury is the drop off and pick logisitics. Minimizing conflicting traffic and timings is in everyones best interest.	9/26/2017 8:30 PM
75	My son's experience in K at Spring was much better than my daughter's experience at Beal. Tessa will tell you things would have been different if she'd started at Spring.	9/26/2017 8:24 PM
76	I felt like a k-1 school would be nice at first until the bussing issue was mentioned & thinking about a family who could possibly have two or more elementary aged children at two different schools. Once the questions were focused on k-4 neighborhood schools, that seemed to make much more sense.	9/26/2017 8:21 PM
77	I think an additional K-4 school is a better choice for our town.	9/26/2017 8:14 PM

78	Needs to be one school for grades K-4th. Children are already split between Sherwood and Oak. Would be terrible to have children attend 5 different schools if Beal is turned into a K-1st school (Beal, one of the elementary schools, Sherwood, Oak and then the high school. Kids should stay in as few schools as possible.	9/26/2017 8:11 PM
79	-	9/26/2017 8:05 PM
80	As we take the social-emotional learning of our students into consideration and understand the value and importance of building relationships with students, having them in one school for five years allows true, long-term relationships to grow and develop. Moving to a different school every two to three years in from early childhood to elementary to middle school does not allow students/teachers and staff member to forge those critical relationships.	9/26/2017 8:04 PM
81	For those of us townies we attended local schools and separate schools - ward, Beal etc... kids are flexible and change is part of life. A good life lesson	9/26/2017 7:54 PM
82	It seems that the only drawback to having k-5 in one school would be curriculum planning. I think the benefits outweigh this one drawback.	9/26/2017 7:41 PM
83	I loved Beal and feel it being an early childhood center feels like a safe, wonderful place for children to start their schooling! Those qualities make it worth the inconvience of having kids in 2 different schools!	9/26/2017 7:33 PM
84	I think Beal would be best as a k-1 school for 2 reasons. 1- the academic focus would be the same for all students and in 1 building, and 2- because the buses are already way too crowded for our school and it would lead to children not having seats if they combined k-4	9/26/2017 7:30 PM
85	I think having K-1 separate is good. The children are really young and having them mixed with older kids/4th grade is not always great for the children, even though it's more convenient for the parents.	9/26/2017 7:30 PM
86	Space is very limited at and around Beal school, even if you build a new multi-story (4 floors?) building. Where is the space for teacher parking, where is the outdoor space for a school with that number of students?	9/26/2017 7:21 PM
87	My only son attends Coolidge and while it may seem selfish since I do not need to deal with the logistics of chaffuering children to different schools at the same time. I do think a universal K-1 will elevate schools that have already been expanded to accommodate the ever growing population. This especially concerns the Coolidge area that will be housing all the children of the new spags apartment complex.	9/26/2017 7:19 PM
88	I like the idea of kindergarten and grade one being in one school. All three of my kids went to Beal and I like that they can do things like sing along together as a grade. They don't do that in schools where there is one kindergarten. When looking back at their time in Beal going to sing along is still such a fun memory to look back on. Would more buses need to be added if the school is K-4? How would that affect the budget?	9/26/2017 7:19 PM
89	How would the town be re divided .. what neighborhoods go where??	9/26/2017 6:55 PM
90	Good survey !	9/26/2017 6:53 PM
91	I think an early childhood configuration is the best model. Having the same age children in the building and on the buses is a positive as well as the collaboration of all the teachers in the same building would be a huge benefit.	9/26/2017 6:53 PM
92	I LOVE the idea of a kindergarten and first grade classes being separate from 2-4	9/26/2017 6:50 PM
93	Beal's current set-up as a K-1 school is antiquated. Having another K-4 school where neighborhood kids can all go to the same school makes more sense to families and their children.	9/26/2017 6:49 PM
94	Keep the k to 4 model. It is why we moved to town. My spouse went through the system and we love SPS. Also, the only bad thing is you do not have free K for all. This project should include that. Shame on central admin for not making that a priority. Again that is my only complaint.	9/26/2017 6:48 PM
95	I think it's most important to have as few school changes as possible,son new K-4 school is the best choice.	9/26/2017 6:45 PM
96	None	9/26/2017 6:32 PM

97	The beal early childhood center is a unique offering that Shrewsbury provides that is rarely found in other towns. Teachers and specialists have in depth expertise on early childhood learning and development, and their knowledge and ability to provide early interventions where needed is invaluable. The same level of care is not commonly found in a more traditional k-4 school where specialists are less specialized due to their focus across 5 grades. Early interventions provide students with critical tools that enable them to be strong, life-long learners, and can decrease the total cost of education over the life-cycle of a student by addressing challenges in early formative years. I don't believe the convenience of multiple children in one school outweighs the exceptional attention, care, and expertise that our young learners experience in a specialized early childhood center. It really is a gem that separates Shrewsbury from neighboring towns. For what it's worth, my mother is a math interventionist in the Westboro elementary school system, and she believes that the services provided at Beal blow Westboro away!	9/26/2017 6:32 PM
98	We moved here from a school district the did not have neighborhood schools but instead had schools divided by grade. It made the bussing difficult for both the district (in terms of scheduling) and for the parents who had multiple children who could spend the morning going between different bus stops. It also made it difficult if you were a drop offf/pick up family. It was also difficult for families with children in the after care programs who had to pick up at different schools. We were very happy to move to a district with neighborhood schools.	9/26/2017 6:28 PM
99	Attending different schools helps children learn to socialize with other groups when they get to high school	9/26/2017 6:23 PM
100	My daughter loved going to the same school for 5 years.	9/26/2017 6:22 PM
101	I think having a K-4 school could help with some overcrowding of the other elementary schools.	9/26/2017 6:18 PM
102	It would be my desire to see our elementary schools utilize a K-4 model, which is more traditional, especially in this area. I'd rather see a fifth elementary school and some redistricting put into place, to make neighborhoods more cohesive with the elementary school "attached" to it.	9/26/2017 6:16 PM
103	I would prefer to see all elementary schools house K-6 students. I see little advantage to the various K-1 or K-4 configurations	9/26/2017 6:15 PM
104	K-4 Bring back neighborhood schools.	9/26/2017 6:13 PM
105	It would be great for students to attend same school from k-4	9/26/2017 6:12 PM
106	Decreasing the number of transitions that students experience would be a significant benefit of the K-4 model. There would also be more time to develop the feeling of community for children in families at the elementary level.	9/26/2017 6:11 PM
107	K-4 in one school	9/26/2017 6:10 PM
108	I have three children two of whom when to K and 1st at beal and transition to Floral. It was difficult because most of kids already knew the rules of the new school vs my kid which to transition and learn a new school and only being there for two years and transitioning middle school. The one child who was at Floral since the beginning had much easier time with transition and consistency of being at one school for 4 years. It would greatly benefit many children have one building for k-4 less transitions for kids at such a young age.	9/26/2017 1:41 PM
109	I have 3 children who never attended the same school at the same time which I felt was unfortunate for them. First child attended Beal for K&1; and second child attended private K, Beal for 1st; then Floral. Lots of transition for young children.	9/26/2017 9:51 AM
110	Different grade levels is definitely not age appropriate. Hence the reasoning for not placing 7 & 8 with High School levels. History speaks loud and clear. Follow the patterns from our history's past if you are in fact expecting superior classroom behavior. This will eliminate the domino effect. Let's do the right thing for our children verses hind sight.	9/26/2017 9:15 AM
111	Because many families have more than one child, having to send the kindergartener and seconder, for example, to different schools would be difficult for parents. Mornings before school are short and can be challenging. However, I also chose significant benefit for having all SPS K and 1 same school for building community. Those students would know and remember each other when getting to middle school and hopefully promote more friendship and sense of community and belonging. Practically speaking, I'm in favor of a K-4 school, even though this will not affect my family. I appreciate the district asking for parent input. Shrewsbury schools are why we moved to the town!	9/26/2017 9:04 AM

112	No questions. I'm sure no matter what option is chosen there will be no benefits to the town. Any chance for smaller classrooms would probably be offset by the town voting for school choice. If more teachers are needed there will be even less incentive to fire the incompetent 25% that hide behind tenure. Add this to the list of school failures.....	9/25/2017 11:40 PM
113	having all parts of town come to Beal for K+1, could be an issue for already crowded traffic conditions in the center of town. Keeping K-4 neighborhood schools can help keep the traffic decentralized.	9/25/2017 10:12 PM
114	Good luck determining a configuration to best suit the entire school system.	9/25/2017 9:23 PM
115	Whatever it is, but has to have an efficient loop line.	9/25/2017 4:09 PM
116	I think we are missing 2 critical pieces to help parents better understand the impact of both options. 1) Right now we struggle with Full Day K placement. How do you envision the classroom structure changing in the existing community schools? For ex: Paton has 1 K class. How many Full Day K rooms would they have vs. 1/2 Day rooms? 2) What would the redistricting look like? I wouldn't like to see my children redistricted from Paton. For a child that went to Beal for Kindergarten, then to Paton for a few grades - I would not want them uprooted to another school for Grade 3 and 4, and then onto Sherwood, Oak and SHS. That is far too many changes. What does that plan look like?	9/25/2017 4:04 PM
117	By having Beal house PreK, K and 1 for the whole town, then separate students to neighborhood schools for grades 2,3, and 4 to all be together again in 5-12 ... it doesn't make sense for fostering relationships and a sense of neighborhood community. I like the K-4 for all the neighborhood schools, that way parents are not dealing with different schedules altogether. The kids are all in one place. Make Beal a K-4 neighborhood school, and make all the kindergarten full day. It's really hard on the parents that work - which most of us in town work.	9/25/2017 3:17 PM
118	I do not believe the K age children should be in the same school a 4th grade students. Not good to have kids separated by zoning - creates socio economic challenges. Better for kids same age to be together when younger.	9/25/2017 12:23 PM
119	I'd imagine that as long as you can finally offer full-day kindergarten to families, most people won't care which configuration you go with.	9/25/2017 12:01 PM
120	I feel a K-4 building would be more beneficial than a K-1 building.	9/25/2017 11:53 AM
121	Considering that Beal is being rebuilt/renovated it makes much more sense to add a "full service" elementary school to the district rather than another "kindergarten/lower grade" center. I know a complete redistricting would occur and some parents would probably protest but regardless of which scenario is employed, some type of restructuring would inevitably occur. We must also consider the logistics of the bus routes and how inefficient and less cost effective that would be if yet another bus for another school navigated through all the neighborhoods. From my experience it is better and more convenient to have all elementary age children in the same building.	9/25/2017 11:00 AM
122	My oldest is currently in kindergarten at Beal. While I was initially disappointed that she would not be in her neighborhood school, I have been very impressed with the teachers, communication and welcoming atmosphere at Beal. However, I would still prefer not having to make multiple school transitions in such a short time at such a young age. Compounded by the fact that her younger sister will be in kindergarten next year, I would much prefer the creation of an additional neighborhood elementary school and making Spring, Floral, etc all K-4.	9/25/2017 9:46 AM
123	just when you decide to build another school and the kids get in it - you state that it's too small. ridiculous. I am a product of the Shrewsbury School system, and a college graduate with honors. We went to school in trailers and had big class sizes. It was FINE! Also, start looking at kids from neighboring cities using grandparents addresses or other addresses to get into Shrewsbury. I knew at least ONE doing that.	9/25/2017 6:25 AM
124	I loved the small kid feel of Beal. I worry about kindergarteners and 4th graders being on the same bus and little ones being exposed to inappropriate language and behaviors.	9/24/2017 9:46 PM
125	I think there is a huge benefit to having a dedicated early childhood center in town. This gives the youngest of our students a sheltered place to learn and grow before they are shuffled into the "big kid" schools. While having students at multiple schools is a challenge (I have 3 in 3 different schools now) the benefits to my anxious 5 year old in this safe and sheltered environment are immeasurable.	9/24/2017 7:56 PM

126	Both solutions have similar levels of benefits, but adding a new K-4 school would require heavier redistricting of the elementary schools. I expect that process would be more contentious and problematic than adding Beal as simply a K-1 school.	9/24/2017 7:37 PM
127	I support another elementary school that is K-4. It would relieve crowding at Floral Street School in the classrooms. Also, having a new accessible elementary school built from "Green" materials would save the district money all year round. The new school can be used for programs for outside agencies to come in to use the facilities to raise money for the school district.	9/24/2017 5:10 PM
128	I think that continuity and community are important. Every time my middle schooler has changed schools it has been more traumatic than in this years where he was familiar with the school, rules, teachers etc ..	9/24/2017 4:58 PM
129	I think a K-1 model would be wonderful for this community.	9/24/2017 3:25 PM
130	Dear Dr. Sawyer and School Committee Members, As a parent of the Shrewsbury community and as a teacher in Shrewsbury, I am strongly in favor of building a "Beal Early Childhood Center" as originally brought forth. As first designed, Beal continues to be a place for our young K-1 children to feel socially and emotional secure with their same age peers (and not be influenced by older children-on the bus or in the halls). As such, an early childhood center is designed to allow the necessary time and space for K-1 children to learn and grow at their own pace. An Early Childhood Center like Beal, also provides a diverse population; children from different neighborhoods -the opportunity to come together and learn. As a former Full Day Kindergarten parent, I witnessed what the research shows. A school focused on Full Day Kindergarten (vs.1/2 day), yields improvement in children's overall social-emotional and academic success (which ultimately produces powerful returns on investment), and is preferred by both teachers and parents. An Early Childhood Center, configured with two grade levels by design, places emphasis on coordinating resources and personnel solely for the purpose of providing the highest quality, developmentally apporopriate education for our unique Kindergarten and First Grade children. I am strongly in favor of putting the needs of our young children first, and building another "Beal Early Childhood Center" and opposed to another K-4 Building. Respectfully Submitted, A Shrewsbury Parent and Teacher	9/24/2017 8:04 AM
131	While I don't think there are any huge drawbacks to have a specific K-1 school, it feels like it would be easier for families across the town to add a 5th elementary school K-5.	9/24/2017 7:12 AM
132	Given the continued building of residential housing in shrewsbury and subsequent steady flow of new students enrolled in SPS, it appears an additional school would provide the necessary space for this, even distribute student population across each of the neighborhood schools, and provide more continuity with the neighborhood school model.	9/24/2017 7:05 AM
133	I am very much in favor of an early childhood center. I feel that any "drawbacks" with regard to bussing and having children at different schools are minor inconveniences compared to the significant benefit that an early childhood model provides. To be able to start young children out on their educational journey in a developmentally appropriate setting is much more beneficial.	9/24/2017 7:01 AM
134	Although it would be nice to have Beal as an early childhood center (curriculum), the idea that some of the other schools might need to house k or grade 1 students causes me concern. Families that want all their children at the same school will want to try to move their children over making it difficult to create equity. Having a new elementary K-4 seems to provide the most equity and ease for parents with multiple kids in school.	9/23/2017 8:51 AM
135	I am strongly in favor of neighborhood K-4 schools rather than a town-wide K-1 school.	9/22/2017 10:11 PM
136	My daughter attended Beal for K, and started at Floral on 1st grade. This was a good change for her at that time. My son is 2 years old and I would prefer to have one school K-1 and another 2-4 so kids in different stages have different schools.	9/22/2017 8:45 PM
137	Parents with young children, i.e. PreK moved to specific streets in shrewsbury recently to have their children attend specific elementary schools. Creating a non-grandfathered rule would create redistricting of students and poor community relationships due to housing investments.	9/22/2017 3:46 PM
138	Do only one school. Hope there is enuf land on. East. Main. St across from the old. Bonnie. Dell farm next to. Ward. Hill for this project. Not across. Rt 20 and not along. Rt 140. Memorial dr	9/22/2017 3:40 PM
139	If Beal becomes K-4, would it free up spaces for every school to have full-day K?	9/22/2017 2:12 PM
140	I like the idea of an early childhood center because it helps kids transition from preschool. I think Kindergartners might be overwhelmed attending such a large school like Floral.	9/22/2017 12:51 PM

141	Hope this school build includes air conditioning and a proper ventilation system in the design. Research shows temperature for optimal learning is apx. 70 degrees. Current temperatures in our schools are well over this in the fall, late spring and summer programs. It's dreadful for the teachers and children to spend 6 plus hours in those conditions. Would also love to see green products used in this build. The school will off gas for years. Exposing developing children to a multitude of VOC's is harmful. Please consider and invest in these options! People in Shrewsbury will support this.	9/22/2017 9:17 AM
142	I feel when children are new to starting school for the very first time (especially children who have never been in child care) need specific focus and attention with lots of good hearted focused teachers. Without the interruptions or intimidating older students of those in 3rd or 4th grade. They need a calm atmosphere to get acclimated to their new journey.	9/22/2017 12:18 AM
143	Proud of your efforts to enhance the early childhood experience and optimize facilities and resources. Keep up the good work.	9/21/2017 10:55 PM
144	Keep the little ones in their own community at beal for their first two years.	9/21/2017 10:47 PM
145	I appreciate that SPS is collecting feedback from families. Our family already had the experience of having to seek kindergarten placement outside of our neighborhood school. Switching schools is so disruptive--at the middle school level, only the fact that both schools are on essentially the same campus mitigates the disruption. Neighborhood schools build the community around them--SPS should do everything possible to maximize the amount of time students stay in the same building.	9/21/2017 6:03 PM
146	All day kindergarten is necessary for town as so many parents are now working and not all can afford a private kindergarten. I plan to attend one of the school committee meetings to learn more.	9/21/2017 3:31 PM
147	Where is the money going to come from? Instead of spending $2M on artificial turf and charging our town sports teams to use the very fields and facilities we've already paid for, maybe we should learn to "live within our means" as many of us in town are doing.	9/21/2017 3:25 PM
148	Since essentially all K students currently attend Beal (and some 1st graders), a K-1 configuration does not seem very different. Although a K-4 configuration might be more convenient for "some" parents, there are also benefits to mixing students from all parts of town. Seems like the "early childhood" focus at 1 location would be a significant positive benefit, and the more focused grades 2-4 age group focus would be as well. I attended a K-6 school as a child, and can recall no benefit whatsoever to having the wider age range of students together - it was more problematic than beneficial. While transportation considerations might be simplified in the K-4 scenario, matters of "convenience" should be secondary to the impact on the students themselves.	9/21/2017 3:07 PM
149	I love living in Shrewsbury and know that my children are receiving a superb education. However, the size of the town is a definite challenge and it always troubled me that my children had to attend 5 different schools throughout their SPS education. I believe making Beal and all other elementary schools K-4 would be a significant improvement. It is often difficult for children to make lasting friendships in this town when they are young, since they may be in different schools from one year to the next!	9/21/2017 2:29 PM
150	floral parents never knew where there student would attend 1st grade until summer. that was hard to wait for that info	9/21/2017 1:58 PM
151	Not sure why we wouldn't consider building a school to accommodate Grades 3&4 for all town students and use the existing neighborhood elementary schools for grades K-2 since they are already fitting for students of that age/size. Seems more age bracket appropriate to me. We could call it the upper elementary. Then the students would move on to Sherwood, then Oak, then SHS.	9/21/2017 12:47 PM
152	I would be curious to see how many sections of each grade level would be at Spring, Coolidge, and Paton versus Floral and a new Beal if that was the configuration.	9/21/2017 12:41 PM
153	I think the age difference between K and 4 is too large to be on the same bus and in the same school. Grade 1 kids with K in a separate school is a more nurturing environment. All kids in K across town will meet at a younger age and help with social and relationship building.	9/21/2017 12:37 PM
154	I think the benefits of having a k-4 school as opposed to a k-1 school far out weigh any drawbacks.	9/21/2017 12:27 PM
155	Regardless of which project design goes forward, we want the overarching justification to be focused on the needs of the students with a particular focus on Universal Design principles and for disabled students to be in the least restrictive environment possible.	9/21/2017 12:20 PM

156	With children who are younger kept together, challenges involving bullying and role models will be minimized as children in KG and grade 1 are mostly the same size but after this there is a big jump in most kids growth wise and mental abilities which makes them a potential danger to younger kids. Keeping the older kids in a different school may help in the concerns I mentioned above. Problems involving transporting students from the same home to different schools on different bus routes will exist and families will need to come up with some solutions to them, but either model will have its own set of concerns.	9/21/2017 11:53 AM
157	Current beal building should be turned into restaurant, shop and office space with much needed public parking options for town center.	9/21/2017 11:37 AM
158	I think all the elementary schools should be K-4 if possible. This minimizes the number of school transitions children must go through, and will be easier for families who have children in both grade levels. I also would guess it would make busing more efficient, thus saving money.	9/21/2017 10:42 AM
159	I originally like the model of every elementary school becoming a neighborhood school. Then after thought 750 kids vs 790 is not a huge difference to solve rapid population growth. The k-4 would require a lot of reconfiguring and possibly cost more. The K-1 model expands the model already in place.	9/21/2017 10:32 AM
160	As much as I like the concept of a school just for the little ones, I think long term we are not doing ourselves any favors. I think we need another full K-4 school to off set the growing population of the town and some of the elementary schools. One issue that would need to be discussed with the kindergarten and first grade model is how would that impact the elementary schools? Would that mean there would be more classes of second third and fourth graders with a smaller number of kids in the class? And how does that differ from having a K through fourth school? Having an additional school will help cut down on transitions for little kids. Having an additional school will also really help out working parents, which are probably a majority of this population, to better manage pick ups from afterschool care. And additional school is really the forward thinking decision to make. Let's think about our community 10 years from now. What answers and solutions do we need.	9/21/2017 10:26 AM
161	Coolidge is pretty worn out. Any plans to improve that building?	9/21/2017 10:20 AM
162	I think having Beal become a neighborhood school would be great. As a parent with a half day kindergartener who spends an hour on a bus a day. I would much rather him be at Coolidge which is 5 mins down the road with his sister.	9/21/2017 10:20 AM
163	It would be a benefit for a lot of students to go to the same school for K & 1st grade. It would cut down their anxiety of going to a new school and trying to integrate that at 6 or 7 years old. Option 1 would be the best benefit for the kids.	9/21/2017 10:15 AM
164	Although I see benefits to both models, transportation, the convenience of having kids in the family attend only 1 school, and one less school transition for the kids outweighs the benefits of an early childhood center model in my opinion. Whichever model is adopted will be a huge improvement to our town!	9/21/2017 9:45 AM
165	Our town would benefit by adding k-4 school as the town is growing tremendously and the classrooms are increasing with the number of children	9/21/2017 9:42 AM
166	I feel strongly that having kids attend two different schools for K-4 is a drawback, given that they already have to switch schools twice more before high school.	9/21/2017 9:31 AM
167	Thank you	9/21/2017 9:26 AM
168	I think the K-4 is the better option as it helps kids get used to only one school and settle into a school once. While my daughter liked her time at Beal and especially Mrs. Biadasz she felt a bit nervous going into first grade having a whole new school to get used to.	9/21/2017 9:25 AM
169	I would be a proponent of K-1 model so that the new building could be designed around the developmental needs of this age group and there are many benefits of this. However, looking at the large number...almost 800 in one building at this age makes me uncomfortable. In this regard, I feel that the community of a multi-age school is better in the long run for them.There are benefits of building that kind of community for all of the students in the school.This also allows for flexibility for future building needs.	9/21/2017 9:23 AM
170	I think offering more full day kindergarten classes in either scenario would be a significant benefit. Having more buses take small children on longer bus rides greatly decreases experience. Some of the most cohesive neighborhoods in town are those where kids and parents walked kids to elementary school or carpooling to after school activities.	9/21/2017 9:19 AM

171	The movement from school-to-school in this district is a significant drawback. Students are not with siblings, those who experience challenges with transitions suffer and teachers and leaders in a building do not get to know their students well.	9/21/2017 9:05 AM
172	Re-districting is always unpopular to start, but it is in the best interest of families and children at the end of the day to be in neighborhood elementary schools for more than 2 years. I hope Beal becomes another K-4 school.	9/21/2017 9:00 AM
173	As a Floral Street district student, my son benefitted from the early education focus on K-1 at Beal, and I believe our youngest learners attending one school would be a good model. Also, our early education teachers would be working together and supporting each other and their students in a shared space. Collaboration and team work between classrooms and school wide would bring a great sense of community and togetherness for our young students and their families.	9/21/2017 8:56 AM
174	While a new neighborhood K-4 might require more operational resources, Shrewsbury's size demands another neighborhood elementary school which will benefit the children and families considerably.	9/21/2017 7:36 AM
175	Having had younger children at Beal while my eldest was at The neighborhood school was fine. The bus situation was no problem. I was concerned about the separation for the curriculum, bussing and other reasons head of time then but it quickly became of no concern at all.	9/21/2017 7:31 AM
176	Unfortunately, no matter what we do, it will be undersized in a few years. The town is growing too much and all of our schools are over crowded. The town needs to put a stop on housing projects and building of homes to stop the increased population growth.	9/21/2017 5:59 AM
177	share as much info with taxpayers as possible. We are sick of never ending overrides.	9/21/2017 4:08 AM
178	Any building and school improvement is good for the town.	9/21/2017 12:19 AM
179	Im worried about all of these kids entering middle school and high school later on- are Sherwood, Oak and high school capable of handling that? I dont hear any discussions regarding expanding either one of them - hence concerned.	9/20/2017 11:37 PM
180	Any new school should be located to the South of Rt. 9 to cover the new developments and lack of parks and any other town facilities.	9/20/2017 11:27 PM
181	It is a better idea to have K-4 schools than to break 1st grade off from the neighborhood schools.	9/20/2017 10:41 PM
182	If Beal was K- 1 school, I feel there would be too many transitions for the students. They would be changing schools too many times. Also, they would make friends in K and 1 grades and then potentially may have to make all friends in 2nd grade. That can be very difficult especially for a child who might have a hard time making friends. Personally I am in favor of a new school K-4.	9/20/2017 10:13 PM
183	Have locations been identified for the enlarged Beal? The current site is too small.	9/20/2017 10:03 PM
184	I think it is better to have K-4 at one school, especially for families with multiple children, it is good to have them attend the same school. Changing schools is hard for kids and the less they have to change schools, the better. One school for K-4 gives them more security.	9/20/2017 9:54 PM
185	I am pleased that this will allow for full day kindergarten for all- it's time for Shrewsbury to offer this. This will actually have a minimal impact on my family due to age of my child. I trust that our school leadership will collaborate to make the best decision for our town.	9/20/2017 9:22 PM
186	It sounds as though whatever choice is made both options are for large schools. This is an unfortunate choice--especially for early childhood programs.	9/20/2017 9:19 PM
187	The Biggest Challenge to Different School will be for the families with Multiple Children in the Family. It be Better if all can go to the same school then going to different schools when possible.	9/20/2017 9:15 PM
188	The less transitions a student has to make from school to school the better they will adjust and perform.	9/20/2017 9:14 PM
189	Currently we have one child at coolidge in 4th grade & one at Beal in kindergarten. That alone is so difficult have children going to 2 different schools at this age. Not to mention we only got 1/2 day which is so hard on working parents to then pay for afternoon school/care. We chose to live in Shrewsbury mainly because of the school system 15 yrs ago. The children would best benefit by going to 1 school K-4 as they foster relationships & build upon these. it is in the best interest for the children to have a full experience in the same school. You can see the children thrive each year in the comfort of their school environment.	9/20/2017 9:12 PM

190	Every option has its benefits, I think at younger ages the children are more comfortable in a smaller building, not one large one like the middle schools.	9/20/2017 9:11 PM
191	My daughter attended Beal for K-1 and had a very difficult transition to Floral during 2nd grade. I would strongly recommend the k-4 configuration being discussed. Thanks for the opportunity to weigh in.	9/20/2017 9:07 PM
192	Too late for our family, but think the K-4 configuration would have been best for us.	9/20/2017 9:06 PM
193	Smaller neighborhood schools can be more "family-oriented" for students and families.	9/20/2017 9:05 PM
194	I think it is obvious to me that families benefit from another K-4 neighborhood school.	9/20/2017 9:05 PM
195	I am very much in favor of creating a new K-4 elementary school. I think there is a significant benefit to this model. I know redistricting will be painful, but I feel the Floral community has suffered from the current system.	9/20/2017 9:00 PM
196	Not knowing what school my child would be attending was very frustrating. Waiting to see if the got full K, wondering if they would be at beal or floral for 1st! Very frustrating! Please make neighborhood schools! K-4	9/20/2017 8:52 PM
197	I like the model where students would attend the same school K-4. My children did not and the transportation at two different schools was very difficult. Students change schools every two years in middle school. I do not like the idea of transitioning multiple times in elementary school	9/20/2017 8:50 PM
198	It is a no brainer decision to gave 5 schools with k to 4. There are huge transportation issues if have the K plus 1 configuration. It is better for younger siblings to have older siblings at that age in same building. It is better for parents to have one bus to deal with if have kids in K to 4. In short it must be a brand new K to 4 building and have all 5 schools be K to 4. Bob Ryan 8 Colonial Drive	9/20/2017 8:50 PM
199	My preference is definitely to have all grades in one school. The other benefit that was not discussed is introverted kids being able to keep the friends they made in the early years. It has been a challenge for my current third grader to make new friends. He is still very friendly with someone he became good friends with in kindergarten. I do have a preschooler who will eventually be going to an elementary school and I do care!	9/20/2017 8:45 PM
200	The K-4 model makes more sense for families and each student. Students will be more successful academically and socially. I am a parent and a teacher, this model will benefit our students the most.	9/20/2017 8:40 PM
201	Is there a significant difference in tax increase, if any, to support either project?	9/20/2017 8:31 PM
202	As someone who has worked both at Beal and at a couple of the elementary schools in town, I see a significant benefit to having less grades in a building. All staff understands the expectation and the abilities of a K and 1st grader. I see this also being a benefit if the elementary schools were 2nd through 4th instead of K through 4th. I also realize that as a parent who had 4 children in the district at one time, having your children on different buses, I had mine on three different buses at one time, can be difficult. Also, if Shrewsbury was to create a K to 1 building, considering the amount of time a young child may be on the bus to get home is a matter to take into account as well.	9/20/2017 8:30 PM
203	Could we benchmark with any towns that have similar schools to the ones discussed?	9/20/2017 8:23 PM
204	I had one of my daughters go to Spring Street for K and one of my daughters at Beal. Having had the direct comparison in my own family, I believe it was much better to do K-4 at the local school. And this is still the case after considering that my other daughter had a very positive experience at Beal. It was just tough on the family, and added an additional transition.	9/20/2017 8:19 PM
205	I think it makes sense to build another elementary school, k-4. We'll have to do some re-districting, but I think that will make sense in the long run.	9/20/2017 8:13 PM
206	Would either option allow for the implementation of full day K in Shrewsbury as the standard?	9/20/2017 8:12 PM
207	Concerned about the traffic for the Beal neighborhood though i don't live in it. Having 750 students seems like a lot for drop off pick up etc	9/20/2017 8:11 PM
208	As a parent of a child that has significant learning issues and anxiety with transitions I would see another transition of schools as detrimental to students receiving special education services. Our town model of having two middle schools was very tough for one of my children. In general I wonder if our town model creates more anxiety for the younger middle school population.	9/20/2017 8:09 PM

209	As a former Shrewsbury early childhood educator, I believe both students and teachers would benefit by keeping the current early childhood model. The emphasis of this model is on the educational and social needs of young children. The curriculum and methods of instruction focuses specifically on the grade level of the age group. There is an increased opportunity for shared resources, collaboration, and curriculum planning for the staff. Special education and support staff members servicing young children would be located in one building. The results would be a more consistent K-1 district program. Consideration would be given to developing an age-appropriate learning environment for young students. Children in an early childhood program need both indoor and outdoor furnishings and equipment that is appropriate to their height and their activities. They engage in many different activities and there is significantly more space needed in classrooms. I strongly support and believe that the advantages of an early childhood center outweigh those of a K-4 model. After extensive research and recommendations from early childhood educators in the mid 1980's, the early childhood center was developed in Shrewsbury. Things have not changed in the world of educating young children and I continue to support this model. The decision should be based on what is the best educational program and school configuration for the children of Shrewsbury.	9/20/2017 8:05 PM
210	I feel that have an additional school to transition from would be a drawback for sure. I think the focus should be to keep as many grades together in the neighborhood school. Less transitions and siblings attending school together should be the goal. The curriculum can be altered and I don't think there is a need for a separate early childhood school, especially since 3 out of the 4 elementary schools already host kindergarten.	9/20/2017 8:04 PM
211	I have a son who will be 5, turning six in 2022. This project would directly impact my family. Would love full day kindergarten at the same school he would attend for 5 years.	9/20/2017 7:55 PM
212	An early childhood center housing k-1 will introduce the children to the diversity the town offers early on. There are too many inequities to the neighborhood school plan.	9/20/2017 7:50 PM
213	K through 1 model seems to be a better plan for the individual student	9/20/2017 7:48 PM
214	Decreasing the student population at the current elementary schools would be a benefit. A new Beal with K thru 4 would help this....but It was also good to keep all the Kindergardeners together.	9/20/2017 7:46 PM
215	I would like to see all KG - 1 in one school , so that teachers will have focused curriculum.	9/20/2017 7:40 PM
216	I have twins entering kindergarten in 2019 and I feel the less transition to different schools would be beneficial for both children and parents.	9/20/2017 7:34 PM
217	Could we have one elementary school were all the children attend? I think it would level the curriculum across the different elementary schools.	9/20/2017 7:27 PM
218	I think adding one more school transition, particularly at such a young age, is not in the best interest of the students.	9/20/2017 7:23 PM
219	A new beal should be located at parker road and combine preschool, beal and beal west. Given Parker road is so much newer it would only require an addition and no new purchase of land saving the tax payers yet another cost increase for a total of 5 million dollars. I know there are many draw backs to this approach but the financial benefit makes the most sense given on line education at all levels is sweeping the country and will be coming here when we become the next Hartford or Detroit	9/20/2017 7:23 PM
220	Maintaining a sense of community is important and could be lost if kids are being moved from school to school	9/20/2017 7:20 PM
221	As a parent who had 3 children attending elementary school simultaneously, it was odd having to wait for 2 different buses, (Beal 1st & Floral). It just didn't make sense to me at the time that although my oldest was attending Floral (4), my other 2 attended Beal (1). We waited for 2 buses every morning. Given that there are many 2-parent work schedules, wouldn't it make sense to streamline waiting for a bus for young families with all the morning chaos into just 1 bus and one location? I know I for one would have appreciated this option years ago. In addition, if someone misses a bus waiting for 2 different buses, more stress is added trying to get children on a bus knowing another child(ren) need to be driven to school. Just something to consider...	9/20/2017 7:16 PM
222	I think it would be in the best interest of the kids to stay in one building as long as possible. There is already a lot of moving from school to school at the middle school level. I believe this makes it more difficult to make life long friendships with nearby community. We have met neighbors through children. They look out for each other because they trust and bond with each other in these stressful early childhood years at a new school.	9/20/2017 7:07 PM

223	Send them to one school K-4 and be done with it.	9/20/2017 7:02 PM
224	Other districts have k-5 without issues.. my kids have handled many different schools without issues	9/20/2017 6:54 PM
225	With the population explosion in Shrewsbury area I don't think that this size will be sufficient for the incoming students. If we are building something new then it really need to be big enough keeping no. Of students coming in future instead of running into same problem after few years.	9/20/2017 6:51 PM
226	K-4 neighborhood school makes the most sense for our community going forward	9/20/2017 6:45 PM
227	I am strongly in favor of a Kindergarten and Grade 1 school designed for 750 students. Thank you for soliciting my opinion.	9/20/2017 6:41 PM
228	As a parent of 4 children, presently grades 10, 8, 5, & 2, (Spring Street district), the possibility of the splitting of elementary grades led us to educate our children in a k-8 school. We feel it is helpful & important for siblings to make connections in their school communities simultaneously. Also,separate schools increase the stress & inconvenience for parents.	9/20/2017 6:38 PM
229	Do what is best for kids K-4	9/20/2017 6:37 PM
230	I am curious about the zoning for each elementary school. Paton and Beal are very close to one another. What zone or area would students reside in order to attend Beal as well as the rest of the elementary schools? Will the school department share research that supports both models? Thank you	9/20/2017 6:37 PM
231	At the onset of the 2017-2018 school year, there was discussion (and probably execution) of staff reductions in the Shrewsbury Public School system. In either scenario presented here, based on the lack of appetite for another override and the inability to accurately predict state aid, how is the town going to be able to meet the needs of a growing primary school population without a 30-1 student to teacher ratio?	9/20/2017 6:23 PM
232	I'm surprised that housing 790 5 and 6 year old children is a good idea at all.	9/20/2017 6:22 PM
233	Strong support of new Beal to be grades k-4 makes the most sense all around !	9/20/2017 6:15 PM
234	Even though this would not benefit my older children....I definately thinking keeping kids in 1 school for k-4 is great. No one likes driving up to Beal if you don't live up there. Less change for younger kids is good. Reconfigure the neighborhoods to keep everyone together.	9/20/2017 6:14 PM
235	Neighborhood K - 4 schools give our youngest students (5 and 6 year olds) the psychological benefits of attending school with older siblings and/or being part of the same school community for all 5 years (not have the worry hanging over their head of transitioning to a new school when they are 7 years old).	9/20/2017 6:08 PM
236	Too many transitions to schools in the beal k/1 configuration.	9/20/2017 6:06 PM
237	Find any location other than the current Beal location. Traffic is unsolvable. Since there seem to be no commercial interests off South Street. Build over there.	9/20/2017 6:05 PM
238	There are pros and cons to all plans. One worry I have is that the history of Shrewsbury is quickly being washed away. Beal needs modifications but it's loss can never be made up. In our zeal to race to the future we should be respectful to the past.	9/20/2017 6:04 PM
239	There are both pros and cons. I think it would be great to have all K-1 in 1 school. The benefit would be that the elementary schools would be smaller. This would greatly benefit Floral which is so big. However, Floral is run extremely well for such a large school.	9/20/2017 6:03 PM
240	I strongly support the need for a new school but believe it should be K-4 and not create a split between K-1 and 2-4.	9/20/2017 5:57 PM
241	Kids with anxiety experience significant distress changing schools to a new environment. 6 schools from PreK to High School is excessive. Multiple children in multiple schools is hard for parents to manage. I like my kids new teachers to know them and the kids to know the teachers before moving to their class. This means less continuity. Shrewsbury schools are disjointed enough already. Think of kids with IEPs. I have a kid who is academically advanced and benefits from being around older kids. That will be lost.	9/20/2017 5:56 PM
242	Having young kids in multiple schools is a major logististical issue. The increased curriculum is a negligible benefit.	9/20/2017 5:49 PM
243	Community building with the same neighborhood families in grades K-4 offers us the leverage of truly being "the village" that supports students to succeed. I	9/20/2017 5:39 PM

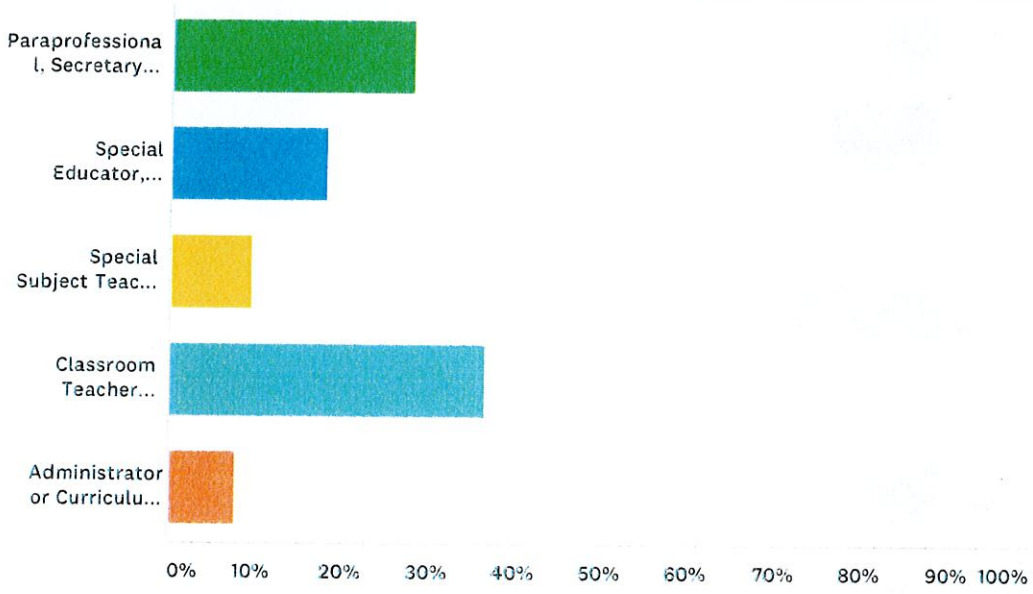
244	I feel that having k-1 in a school on their own would encourage the 1 grade to stay closer to the kindergarten level in emotional and structural development. Having the k-4 model would encourage the k-1 students to emulate the older students and create less of a kindergarten school model.	9/20/2017 5:38 PM
245	The difference in development of k-1 and 2-4 is so significant I only see benefits for students and teachers with ability to concentrate on their specific stage of development. My children benefited so greatly at big and little beal I feel a 2nd year there would have been so beneficial fir then to finish this critical stage of development without having to adjust to a school full of bigger kids they can not yet relate too instead.	9/20/2017 5:36 PM
246	My son loved to be in Beal, the teachers and the ESL education was amazing there,too. My son having had zero english when started the school, and he was able to communicate after 3-4 months. We were greatful for that very professional care!	9/20/2017 5:33 PM
247	Less buses for transportation means less money Young Children should feel comfortable in a school for 5 years	9/20/2017 5:32 PM
248	Thanks for doing what you do for our students!	9/20/2017 5:30 PM
249	Mostly I think the K-4 schools would be beneficial because it would lessen the number of transitions for students to different schools across the 13 years. I also think there will a benefit to the k/1 teachers teaching alongside the teachers in other grades to ensure student readiness as students move from grade to grade.	9/20/2017 5:28 PM
250	I think it's a great idea to have Beal be a k-1 school. It allows kids from all parts of town to be together regardless of their district school, and to be more accepting of economic differences early instead of waiting when they're all in Sherwood together again	9/20/2017 5:25 PM
251	It is a significant challenge to have children in multiple schools. Larger schools also mean more sections of each grade so it's difficult to maintain friendships from year to year. Because of the multiple schools we spend a fair amount of time waiting for multiple buses or driving around town for pickup and drop off.	9/20/2017 5:24 PM
252	The biggest drawback that I see if you make Beal K-4 is the redistricting of neighborhoods to new schools.	9/20/2017 5:21 PM
253	When my son was 4 years old, I was shocked and disappointed to learn he would not be going to our neighborhood school for kindergarten. Instead he would be far from home in a location that is not very accessible. Let's fix this situation for future generations of students!	9/20/2017 5:19 PM
254	Changing grade schools twice means a lot of transition for the youngest learners. Being in one school for 5 years at that early age makes sense for kids. My kids attended K/1 at Beal and I didn't see a benefit to that model at all. I would have rathered they be able to attend my neighborhood school (Floral) the whole time.	9/20/2017 5:18 PM
255	Build a new school. It will be for the next 100 years and you won't have a 200 year old renovated school. Take a lesson from the major sports teams! Out with the old in with the new.	9/20/2017 5:08 PM
256	I believe it should be an elementary school it's important for the children to feel like a community in their school so staying with a school for 5 years will give them that.	9/20/2017 5:08 PM
257	It's good to have one school for grades k-4	9/20/2017 5:08 PM
258	With the growth of the town, the number of children, we have to do this. Beal has lived a long life and needs to be replaced.	9/20/2017 5:06 PM
259	Was there a consideration to have a prek to grade1 school?	9/20/2017 5:04 PM
260	strongly support a K-4 school. I believe having one less transition and attending 1 school for 5 years would benefit students.	9/20/2017 5:04 PM
261	I feel that my children benefit(ed) from attending and in-town kindergarten before the district school. My eldest now has two great friends in another district we still see frequently. He also has friends in our "neighborhood" district that he sees daily. I feel this has helped him integrate into town activities. He still recognizes kids from kindergarten in sports and scouts. They aren't strangers he will know for the first time in 5th grade. I know some want a "uniform" K-4 experience, but I do think skills learned making friends across the community early are beneficial.	9/20/2017 5:03 PM
262	Feel too many transitions already.	9/20/2017 5:02 PM

263	Several k-4 grade schools will create food fights amongst parents for improvements at their neighbor school to the detriment of other schools. Comparisons of which good deals each school would get would be very divisive. Baselining of all schools would have to be done to level playing field. The one new school would end up being built in newer area of town as no school there yet, resulting in disenfranchisement of rest of communities feeling they lost out.	9/20/2017 5:01 PM
264	Pre k to 4	9/20/2017 5:01 PM
265	The students in K-1 will have two years of solid foundation building...plus they can get more use to transitions as they have to do it three more times in their school life anyhow. It keeps the younger kids young as there is a lot of difference emotionally between a K and 4th grader	9/20/2017 4:58 PM
266	In general and irrespective of K-4 or K-1 configurations (and assuming the student count goes up with whatever new configuration is decided), there might be need to ensure the school related vehicular traffic pattern does not get hindered or hinder the regular public traffic flow, given that the school is located near the center of the town.	9/20/2017 4:57 PM
267	It would be nice to have less transitions from school to school. Having neighborhood schools from k-4 is one less transition since they have to transition to Sherwood, Oak and then the H.S as well.	9/20/2017 4:56 PM
268	It's a small area. I just don't know how you will squeeze all those students into one school. Traffic will be a nightmare, as well.	9/20/2017 4:56 PM
269	In my opinion a K-4 model, where all students attend their neighborhood school is the most beneficial. I think it gives students more time to feel part of a school community and there are fewer transitions. It would also be helpful to parents who take part in parent drop off and pick up to only have one school to go to.	9/20/2017 4:54 PM
270	Having a K-4 school so close to Paton just doesn't make sense. If this is the desire wouldn't make more sense to look at moving it south of route 9 to make it closer to the potential neighborhood it would serve? I see benefits to both types of schools but think the proximity to Paton doesn't make sense for it to be K-4 unless it's moved to another location.	9/20/2017 4:53 PM
271	Most parents have kids 2-3 year apart. Having to drive to multiple schools in different parts of town would be difficult for parents, increase traffic in morning and afternoon, and cause you to possible stagger the start time more than now. Kids should go to school in the neighborhood at a young age and then move to Sherwood/OAK when older. I feel this makes more sense for families.	9/20/2017 4:52 PM
272	My daughter went to Beal for kindergarten and Spring Street first through fourth grade. She did fine and it had no impact on her. My other three went to one school for K through four and did the same as my other daughter as far as making friends, curriculum, etc. it really had no impact either way	9/20/2017 4:50 PM
273	I believe that have kindergarten and grade 1 together is the right choice because exposing these little ones to older kids does more harm than good.	9/20/2017 4:50 PM
274	Nothing good to add. The town is simply growing at a pace that is not sustainable for the school system to support. I am thankful that my children will be out of the school system before it gets too out of hand. There is no good scenario for a town that has been incredibly too cavalier and thoughtless in allowing so much growth that is absolutely unsustainable.	9/20/2017 4:48 PM
275	As a parent and an early childhood educator (in a different district), I feel that there are too many transitions for young children in the Shrewsbury schools. In her first 4 years of public school my daughter has to change schools three times. Two years at Parker Rd, one at Beal, and then Coolidge. Each time she started at a new school she experienced significant stress. All three schools are wonderful and we have been very happy but the transitions were decidedly difficult. The public school I work at serves children in grades PreK-6. While this may be too large a range, it does cut down on the stress for younger children and provides a more nurturing, family type environment in which teachers and children can remain in contact over the years and staff can continue to provide emotional support and security for young children even after they have moved to a new grade.	9/20/2017 4:47 PM
276	Consolidation of learning programs are a benefit to the community in terms of cost and consistency of delivery. Under that model logistics becomes the primary challenge with already congested streets and the potential of families with children in multiple locations. Is a third option possible? Beal is very old and will require substantial upgrades. Is a greenfield project possible to consolidate the neighborhood schools and realize the positive benefits of consolidation to a single location?	9/20/2017 4:47 PM

277	I like to have less classroom counts and more grades in one school. Floral kids lose connections to our kids since it is just so big	9/20/2017 4:46 PM
278	The traffic in and around Beal during pick-up and drop off would add to an already congested center of town.	9/20/2017 4:45 PM
279	Our children already switch schools more than most towns due to having 2 separate middle schools. I think adding Beal for grades K-1 is more change than most young children are comfortable with	9/20/2017 4:43 PM
280	This year I was actually faced with the question that is being raised in this survey. My daughter, who is entering kindergarten, was given the option to attend either Beal or Paton. We chose Paton so that she would have not have to switch to another school after only one year, and so that she could ride the same bus with her older sister, who is already attending Paton. So given I was faced with this question already, and my family came to a decision rather easily, my preference would be to keep K-4 together in one school.	9/20/2017 4:43 PM
281	I firmly believe that the elementary schools should be K-4, especially since there are two middle schools and the movement is pretty extensive from grades 4 to 9. However, I will have a student in fourth grade when the building comes online and will NOT be a fan of having to move my child for one year before then moving into the middle school systems. If the K-4 model is approved, there should be consideration of the students who have attended the same school for the first three years of their elementary!	9/20/2017 4:41 PM
282	Kindergarten age is a lot different than a fourth grader. Both my children attended Beal for K only and then went to Paton for first grade. I thought this was a nice transition to have K alone.	9/20/2017 4:39 PM
283	I think it's important that kids have the least amount of transitions when they're younger. Therefore schools should all be K-4	9/20/2017 4:39 PM
284	when will it open?	9/20/2017 3:38 PM

Q1 I am a:

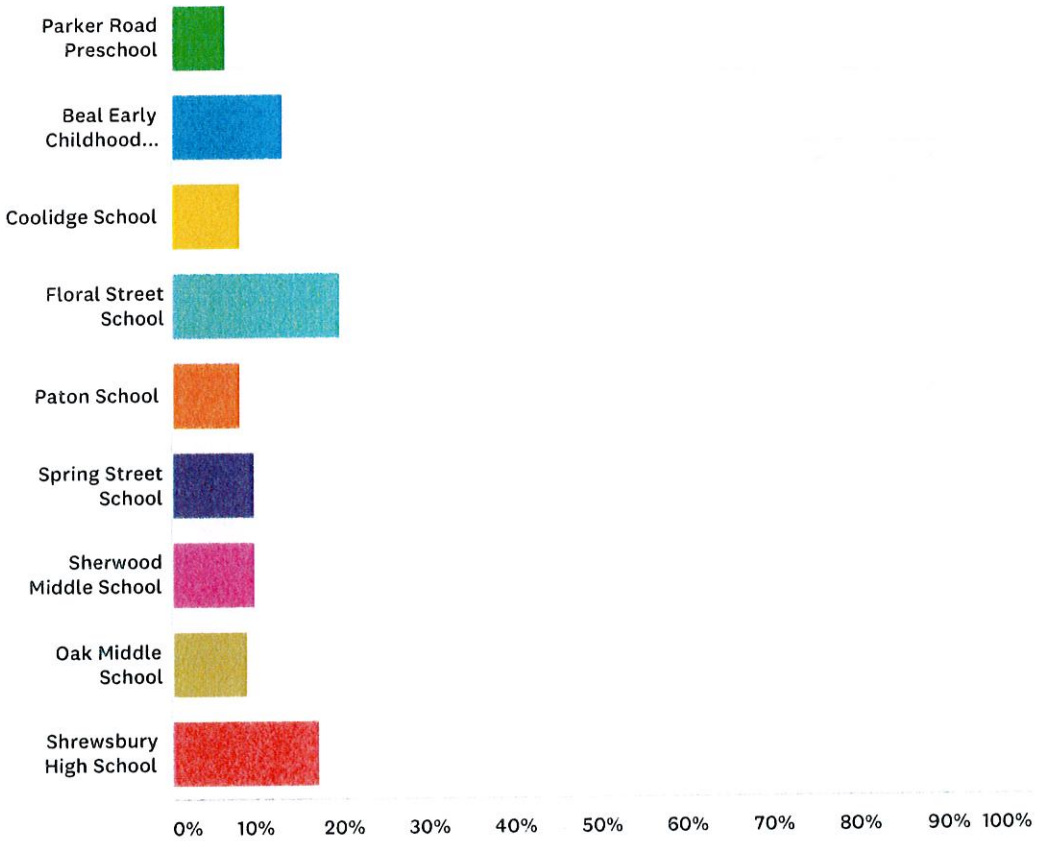
Answered: 243 Skipped: 2



ANSWER CHOICES	RESPONSES	
Paraprofessional, Secretary, or Other Support Staff	27.98%	68
Special Educator, Counselor, Psychologist	18.11%	44
Special Subject Teacher (i.e., K-12 Departments)	9.47%	23
Classroom Teacher (Science/Social Studies/Math/English)	36.63%	89
Administrator or Curriculum Leader (District Leadership Team)	7.82%	19
TOTAL		243

Q2 The school where I primarily work is:

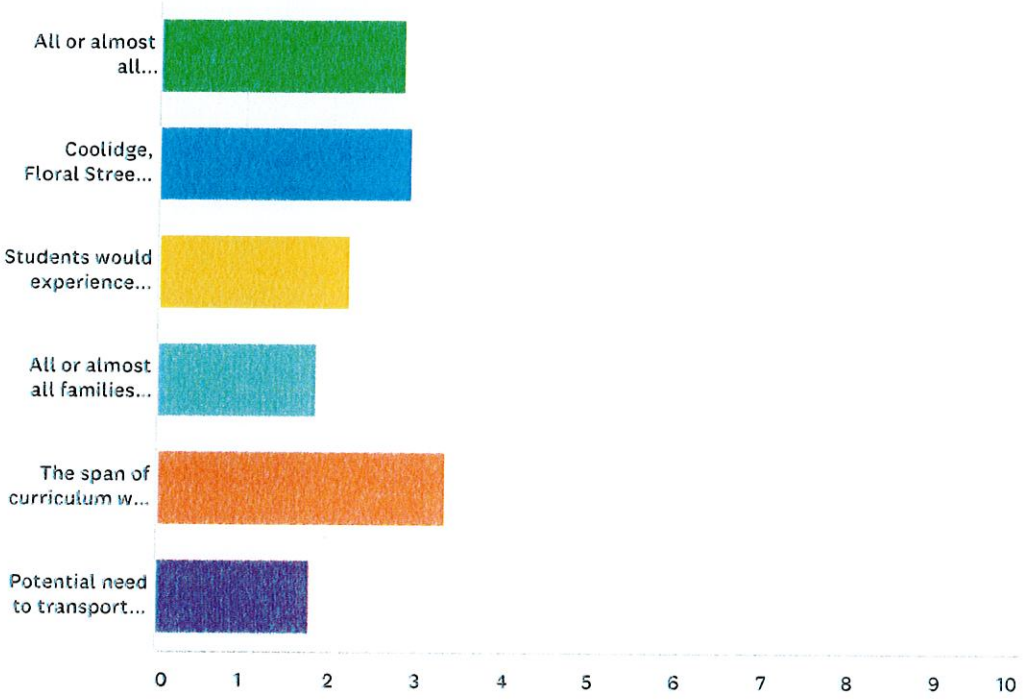
Answered: 239 Skipped: 6



ANSWER CHOICES	RESPONSES	
Parker Road Preschool	6.28%	15
Beal Early Childhood Center	12.97%	31
Coolidge School	7.95%	19
Floral Street School	19.67%	47
Paton School	7.95%	19
Spring Street School	9.62%	23
Sherwood Middle School	9.62%	23
Oak Middle School	8.79%	21
Shrewsbury High School	17.15%	41
TOTAL		239

Q3 Please indicate whether you think the following considerations related to a Grades K & 1 configuration would be a drawback or a benefit:

Answered: 214 Skipped: 31

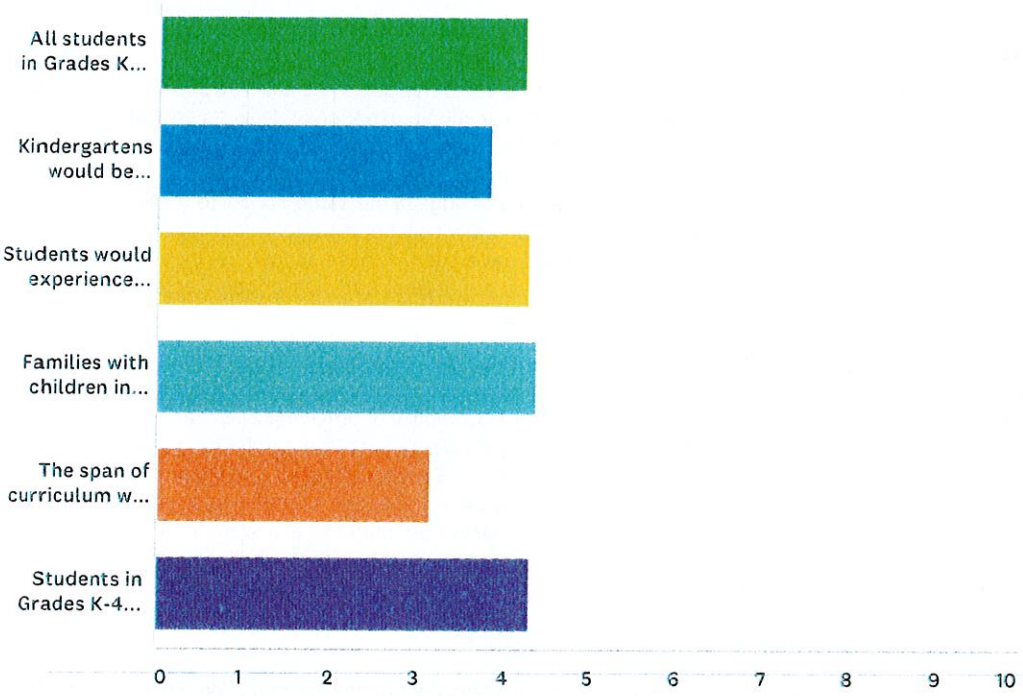


	SIGNIFICANT DRAWBACK	DRAWBACK	NEUTRAL	BENEFIT	SIGNIFICANT BENEFIT	TOTAL	WEIGHTED AVERAGE
All or almost all Kindergarten & Grade 1 students in town would attend Beal for those two years.	21.03% 45	23.83% 51	21.03% 45	19.63% 42	14.49% 31	214	2.83
Coolidge, Floral Street, Paton, & Spring Street would primarily house Grades 2, 3 & 4	16.82% 36	23.83% 51	25.70% 55	20.09% 43	13.55% 29	214	2.90
Students would experience attending two different schools, one for Grades K and 1 and one for Grades 2 through 4	34.74% 74	30.99% 66	18.78% 40	11.74% 25	3.76% 8	213	2.19
All or almost all families with a child in Grades K-1 and another child in Grades 2-4 would have the children attending two different schools.	41.59% 89	36.92% 79	17.76% 38	2.80% 6	0.93% 2	214	1.85
The span of curriculum will be focused on a smaller number of grade levels in the same school (Grades K-1 early childhood center for one school and a Grades 2, 3, & 4 elementary school for the other)	11.27% 24	11.74% 25	23.47% 50	39.44% 84	14.08% 30	213	3.33

Potential need to transport students from the same neighborhood on separate buses to two different schools (Grades K-1 and Grades 2, 3, & 4) at approximately the same time.	44.86% 96	38.32% 82	13.55% 29	1.87% 4	1.40% 3	214	1.77

Q4 Please indicate whether you think the following considerations related to a Grades K through 4 configuration would be a drawback or a benefit:

Answered: 209 Skipped: 36



	SIGNIFICANT DRAWBACK	DRAWBACK	NEUTRAL	BENEFIT	SIGNIFICANT BENEFIT	TOTAL	WEIGHTED AVERAGE
All students in Grades K through 4 would attend a neighborhood elementary school.	1.44% 3	5.74% 12	9.57% 20	33.01% 69	50.24% 105	209	4.25
Kindergartens would be included in all neighborhood elementary schools rather than having an early childhood center model.	5.29% 11	12.50% 26	15.38% 32	25.96% 54	40.87% 85	208	3.85
Students would experience attending one school for the five years of Grades K through 4.	0.48% 1	4.81% 10	13.46% 28	28.85% 60	52.40% 109	208	4.28
Families with children in Grades K-4 would have their children attending the same school.	0.00% 0	1.92% 4	10.58% 22	33.65% 70	53.85% 112	208	4.39
The span of curriculum will be focused on a larger number of grade levels in the same school (Grades K-4 elementary school)	7.66% 16	20.10% 42	38.76% 81	16.75% 35	16.75% 35	209	3.15
Students in Grades K-4 from the same neighborhood would be transported to the same school.	0.96% 2	1.44% 3	11.54% 24	34.62% 72	51.44% 107	208	4.34

Q5 Please share any feedback or questions you have regarding the choice of grade configuration for the Beal building project. Thank you!

Answered: 58 Skipped: 187

#	RESPONSES	DATE
1	I strongly believe that doing away with an early childhood center is a mistake. As a Shrewsbury parent I thought it was a great way for my children to start their school experience. Now as an staff member at Beal, I see so much development and growth occurring due to the environment and focused curriculum. I wish as a parent I had understood what happens at school more. I am saddened by the fact that the idea of fewer buses or keeping siblings in the same school to make it more convenient for parents, will outweigh the benefits of an early childhood center in our town. I know the schools are overcrowded, my children are in and have been in these school, yet they have and are receiving an amazing education that all started out at Beal Early Childhood Center. It would be a shame to take that away from future generations.	9/28/2017 7:47 AM
2	I would be in favor of the project that would provide the most full day kindergarten classrooms to the children in the district. The Half day kindergarten program is not appropriate for the demands of the Shrewsbury kindergarten curriculum. Would there be a possibility of providing a similar configuration of the current Beal/Floral school in which all the Kindergartens from the Floral district and the new school's district could be housed at the new school? Spring, Coolidge, and Paton would house their Kindergartens as K-4 schools; Floral would be 1-4; the new school would have a section for grades 1-4 and a section for the kindergarten students from both Floral and the new school district. This would provide a larger amount of kindergartens for integrating special needs and ELL students, as well as pooling resources for curriculum and early learning opportunities. This may be cost effective as the size of the new school would require 2 sets of specialists and support teachers to meet the needs of a large school population.	9/27/2017 9:39 PM
3	One of our major focuses as a district at this time is student's social-emotional learning. We know that students learn best when they have strong connections with the adults around them. If students jump to a different building every two to three years from grade K-8 there is not the time for the adults in the building to truly get to know ALL of the students. having students for 5 years allows them to make very strong connections that will have a very positive impact on how comfortable and safe students feel at school. I feel very strongly given the unstable state of our nation at this time, and I'm sure for a long time to come, having the stability of being in the same school for 5 years will have a prove to be most impactful for students social-emotional well-being.	9/27/2017 8:52 PM
4	K-4 neighborhood school is the way to go!!!! Makes sense for the community now and long term.	9/27/2017 6:53 PM
5	Too much moving schools, for students, if Beal becomes a K-1 building	9/27/2017 11:35 AM
6	I think that having the consistency of going to one school from K-4 would help the students immensely. The students would learn school wide expectations that would transfer well year to year. I also think that this would allow teachers who loop to continue to do that work. As a first grade teacher, having a second grade class next door is a huge benefit to my students and myself. The children get to see role model students and it helps me to see the foundational skills I teach in action the next year.	9/27/2017 11:34 AM
7	The greater number of years you can have one school influence a student's learning the more consistent you can make learning outcomes across the board. For example, if all students go to a K-1 school, some early interventions that may have started to work at that school may be lost in the transition to the new school. However, the main drawback to multiple K-4 schools as I see it would be that students are likely to experience all of the early part of their education in Shrewsbury with students who live in the same neighborhoods. While this might be convenient for transportation, it might lead to de facto segregation based on the demographics of those neighborhoods, and down the line, result in families with more resources choosing to live in certain parts of town to go to certain elementary schools.	9/27/2017 11:31 AM
8	I think the fewer transitions students have between schools, the better it is for them. When at a school for several years, students are able to build relationships across grade levels and faculty get to know families more closely.	9/27/2017 11:28 AM

9	I do like the idea of having a kindergarten/1st grade school however my hesitation is that it would be one extra school transition for students/parents. Going to 5 different schools in during your educational career seems like a lot for these ages.	9/27/2017 11:25 AM
10	It has been wonderful having the kindergartens back in our building. It truly makes us a complete family. The k teachers have a chance to work with all the rest of the grades and the goals for students in the upper grades are shared with those in the lower grades. The K teachers are able to see what the expectations are for the older grades and are able to begin that support in kindergarten. The older students enjoy supporting the younger ones and the younger ones have role models to look up to. Another plus is that when an older grade student is experiencing difficulty or is ELL, the teachers are able to share materials and have access to materials at a lower level to support their students. This also works in the opposite way if the k students are advanced in their skills, the teachers have access to enrichment materials.	9/27/2017 9:46 AM
11	The K-4 neighborhood school has many significant benefits. Students who start in Kindergarten are familiar with the school and faculty members for years. Teachers and staff get to know students and can track students as well as student progress for many years ultimately leading to higher student success, academic success as well as social/emotional success. Neighborhood schools create a great sense of community. K-4 schools can efficiently vertically align goals in grades K through 4, across all content areas.	9/26/2017 8:22 PM
12	It has been very difficult to have two different curriculums and grade level expectations due to half of our first graders being at Beal and then coming to Floral. The challenges we face are there is limited time to hear what our K and first graders need after spending time at Beal and then come over. There is a definite disconnect of the students coming from Beal in all areas of the curriculum compared to students who are at Floral already for first grade. Another challenge is Floral has a majority of the apartment complexes. This would help evenly distribute the number of transient students who often stay only for a year and then move on. Floral has 24-25 second grade students this year and Coolidge and Spring have 18 students. Floral is often overloaded and it needs to be more evenly distributed for every school between neighborhoods and apartment complexes ratios to meet the needs of students. Receiving students who have significant behavioral and educational learning needs after spending two years at Beal often lends to a difficult transition as we could have invested 2 years connecting and developing a relationship with these students to know what their significant needs are. I would hope the committee would seriously think how the teachers and students are impacted with problems and disconnect mentioned above. It is time to make every school a neighborhood school to have the same experience at every school where each child can feel comfortable attending one school for their K-5 experience. Having worked at Beal for 5 years in Kindergarten and 20 years in Grade 2 at Floral, I think this is what would be best for the town and its students seeing the progression through the past 25 years. The children of the future deserve to have one continuous learning experience. The early childhood experience was a great concept 25+ years ago but now due to how our town has grown it has made for many difficult transitions for students from Beal to Floral.	9/26/2017 7:10 AM
13	I feel it would be of great benefit for our youngest students in town to have each elementary school house k-4. The students would have fewer transitions at a young age and teachers would have the added benefit of being able to collaborate across all of the elementary grade levels. While this is happening a bit at some of the schools now and to a point across the district, Floral currently experiences many difficult adjustments as the students coming over from Beal into grades 1 & 2 get used to a new school culture, expectations and delivery of curriculum.	9/24/2017 8:50 PM
14	I would love to see a K-1 model and really focus on the early childhood curriculum. I think there would be great benefits to the community.	9/24/2017 3:30 PM
15	Although the idea of an early childhood center is a benefit, I'm afraid as Shrewsbury continues to grow, some first grades may need to move (as they have in the past). I think there is a significant benefit for neighborhood schools and it is easier for families too.	9/24/2017 3:30 PM
16	As a teacher at Beal, I strongly feel that a K to 1 model would have such a positive impact on our youngest learners! The children would be receiving support from teachers and staff that are truly specializing in their grade levels. We could provide learning spaces that are highly beneficial for such young learners - playground equipment, gym equipment, etc. Being part of a team that focuses their knowledge on our youngest learners will ensure that we're truly focusing on what is developmentally appropriate! Key points: - Eliminating half-day kindergarten would be essential in making sure each student is receiving the same educational experiences. - Fine tuning the bus situation will be a challenge; but it's imperative that we are thinking about what is best for their educational experience and not the convenience of bussing.	9/23/2017 8:06 PM

17	Now that Coolidge,Spring and Paton has had kindergarten for several years it would be nice to see the data from K students attending elementary vs a early childhood center in a full day setting not a half day setting. How much of a benefit is it for students? Does the additional transition for students out weigh the benefit? Most districts have a k-2, 3--5, 6-8, 9-12.	9/23/2017 3:00 PM
18	I hope there can be some sort of communication and discussion about how we can make a large school developmentally appropriate for young children.	9/23/2017 2:44 PM
19	Working st beal, I see there's still a big difference in the curriculum from class to class. I don't think having all the little kids in 1 building brings much cohesion to the teaching.	9/23/2017 1:17 PM
20	I am very much in favor of a k-1 model for early childhood eduction. I believe this model would best provide our earliest learners with a strong educational and social/emotional foundation. Keeping k-1 students together as they start on their educational journey and having them reconnect years later when they come back together as middle-schoolers and high-schoolers just feels right. Professionals can provide a higher level of attention for curriculum in all areas when the grade-level focus of a school is smaller. As a parent in town, I have had several years with my three children being at 2 or 3 separate schools and on 2 or 3 different buses. It has not been an inconvenience and has allowed our children to claim their school as their own. Being pulled in multiple directions whether for school, sports or extra-curricular activities is something you sign on for when you have multiple children. We need to focus on doing what is right for our youngest learners rather than what is convenient.	9/23/2017 10:24 AM
21	I hope that the committee will consider the importance of the early childhood building environment on the academic and social development of 5 and 6 year old students. Having an early childhood center does make a difference in the schools ability to focus on that particularly important beginning stage of learning. It also provides for a solid working environment for staff who are committed to the issues of developmental appropriateness in education. I cannot overstate the importance of developmental appropriateness for our youngest students. Including K/1 students in the elementary schools will water down developmentally appropriate practice as it does not provide the same experiences for either staff or students.	9/23/2017 8:50 AM
22	I love having a building with only younger students. It allows us to focus on their specific needs. When they are in with older students it muddies the waters for emotional and educational needs. We are able to have toys and equipment just for our younger students. They don't have to worry about dating or other topics the older students are involved in. We are able to stay young age appropriate as long as possible. For some of our students it is their first foray into the public school system. I had previously worked at Floral and Spring. My vote would be for a K/1 building. Thank You.	9/22/2017 1:53 PM
23	Hmm a tricky one. I feel that it may be challenging for some families to accept that some of their children went through one school while siblings may be relocated to the new school. Some families do relocate to certain parts of the town based on the school and may be against having to change their school choice because of new school zoning. I also think that looping line and bussing would be very challenging if all K and Grade 1 were to arrive at the same location at the same time. I am honestly sure that there will be conflict as to whatever decision is made and to be honest the loudest voices are going to be the ones who are not getting what they want!! Watch out Shrewsbury Facebook pages this will be a really heated topic!! I am a resident too and I know that there will be many thousands of hours and research put into this project, wishing everyone involved the best of luck and I know that the decision will be based on what is best for the children and the town	9/21/2017 10:57 PM
24	Having a k-4 nieghborhood school would save on busing and there will be less transitioning for students therefore decreasing anxieties in children who have a hard time with change.	9/21/2017 4:02 PM
25	If the decision is to make the configuration K-4, I would prefer that a new school be built in an area of town that could benefit from it (NW corner) as it seems silly to have four elementary schools near each other. Also, if the decision is to shutter Beal, I would like to see it repurposed instead of torn down.	9/21/2017 3:33 PM
26	Neighborhood schools would alleviate overcrowding in other schools.	9/21/2017 2:49 PM
27	I think it is important to have specialized programming for special education students (ELC/ILC) in every building with access to the same resources (i.e. separate room, equipment etc.) Right now we are in a position where the resources for students with significant profiles is not equitable which can cause students to have to be placed outside of their home schools or retained at schools due to a lack of availability. I feel as though when making these recommendations moving forward that this needs to be considered as a required use of space for all buildings.	9/21/2017 10:35 AM

28	Consistency is very important for children. Fewer transitions from one school building to another would increase students' comfort level and decrease their anxiety. I think it is also beneficial for students to continue to see past teachers as they move up in grades.	9/21/2017 10:14 AM
29	I feel the one school option will provide more continuity of services for our students throughout the K-4 experience through; 1. improved professional knowledge of the various grade level expectations 2. improved knowledge of student needs/growth over time 3. consistency of larger school expectations/culture 4. improved community building/ parent involvement as a result of 1-stop participation 5. less demand on families with children in multiple grades	9/21/2017 8:19 AM
30	Early childhood education is a strong foundation for future success. The idea of having them all together in one place seems to be the best choice. This will allow of educators to work much more efficiently together to ensure all students are provided with the same quality instruction that will given them a strong foundation for entering second grade.	9/21/2017 8:16 AM
31	Our elementary schools cannot handle the amount of students now. Just because you are building another elementary school will not solve future crowding problems with the amount of new homes and apartment complexes coming our way. Build the new Beal school large enough to handle all the kindergarten and 1st graders, not most. I feel like if we don't build it big enough it is setting us up for eventually having to put K & 1 back in the elementary schools down the road. Rebuild the current Beal for Half day Kindergarten and preschool and rebuild Parker Road back into an elementary school. Good Luck and thank you for all you do for our students.	9/21/2017 8:11 AM
32	Would love to know potential locations for school and the daily start and stop times.	9/21/2017 8:08 AM
33	K - 4 schools seem to be much more beneficial to the district at this point. Given the demands of the curriculum for children at the lower levels it would seem beneficial to have K-4 schools from a curriculum standpoint. K-4 provides opportunities for vertical teaming.	9/21/2017 8:07 AM
34	I think the age difference with K to 4 is not a good mix	9/21/2017 7:42 AM
35	In an era of trying to reduce childhood stress, why would we bring all the students together and then split them all up after two years. Never mind the stress on families potentially juggling two elementary schools. Are we thinking about the children, or are we just thinking about how easy it would be to have all the K-1 curricula in one place? Having raised 5 children, I know it is all about WHO their friends are in their classes. Don't bring them all together and then split them all up.	9/21/2017 7:41 AM
36	Having attended a neighborhood school myself, it is easier to visualize that model; however; I know that my colleagues at the lower elementary levels do excellent work and I have seen first-hand the product (the students) who come through the early-childhood education center and then move to the neighborhood school--they are still excellent students. I have no strong opinion on either model and I think we can make both work well.	9/21/2017 6:59 AM
37	I strongly support redistricting and maintaining neighborhood schools.	9/21/2017 6:36 AM
38	I think that making each school a neighborhood school would be easier on families ,cost less for bussing and makes more sense all around .	9/20/2017 9:37 PM
39	Transition is a very big deal ... we might not fully grasp just how important or the impact it has, but we see it with a transition from 6th to 7th grade ... kids going from smaller teams and pods to larger teams, more rooms, new layout ... it is overwhelming for them as tweens/teens. I can't imagine a child having to change schools multiple times, and at such a young age. I am looking forward to my children being in the same school. I think having them in separate schools often would be a nuisance / inconvenience. Especially when it comes to before school/after school care - you're bouncing around to different schools to drop off and pick up. I also think it helps the younger sibling when he/she sees their older sibling in school. It's a comfort. We want kids to feel comfortable, at ease, and school is essentially a second home to these kids. Why make the bounce around so much so, that they never feel like school is their "home away from home?" Do they ever get a true sense of community if moving after 1st and after 4th?Wouldn't seem like it ...	9/20/2017 9:13 PM
40	I think it would be great to have all students in a neighborhood school but one thing that I think would be extremely beneficial of all students starting in the same school is that there would be more consistency when starting special ed or intervention services for students in the younger grades.	9/20/2017 8:05 PM

41	I am the ELC coordinator at Beal and the students will "live" with me for only 1-2 years. This quick turnaround time is challenging. I love the Early Childhood model but also love the consistency grades K-4 would offer to students attending specialized programs. The ability to foster the development of a special needs child over the span of many years by a consistent educator is a huge plus for the K-4 model, as well as inclusion in a neighborhood school. Whatever is decided, let's build some really great spaces that meet the needs of our SPED population!	9/20/2017 7:47 PM
42	Having another elementary school built for close to 800 students would be a huge benefit. Having worked at Floral for a number of years, I have seen first-hand how non classroom space has been utilized as classroom space...a temporary fix that has become all too common and acceptable (in our building and others as well) is unacceptable for long term solutions. I just hope that once built, it is not 'over-enrolled' on day 1...	9/20/2017 7:43 PM
43	Minimizing the amount of transitions our youngest learners make will benefit their education. Having students from K to 4 also allows leaders and teachers to get to know students and families well, thus better able to meet the child's needs.	9/20/2017 7:38 PM
44	There is significant difference in the social and emotional development of a K student vs. a 4th grade student. A K/1 model allows for more focus on fostering the development of these essential skills in the early learning years.	9/20/2017 7:36 PM
45	Neighborhood schools make sense for kids. They can attend and ride the bus with siblings. They will have consistency and not need to transition as often which is tougher for younger kids. Just makes sense to go with K-5.	9/20/2017 7:35 PM
46	I personally feel that it is more beneficial for the buildings to all be K-4. I am currently at a K-4 building and can see the student benefits where you have older students to help mentor the younger students and build strong senses of community. I have witnessed students who have to transition from Beal to their "home" elementary school who have a very difficult time, specifically students with special needs. More time at one school can help their transition and provide them with a more streamlined education. Finally, as an educator, I find it very beneficial to have the opportunity to work with vertical teams and ensure that the vocabulary we use at all grades is similar thus making it smoother for kids to transition from grade to grade. It has also been beneficial when working in these vertical teams to have a better understanding of where students have come from and where they are going on the curriculum spectrum. Ultimately, I think the benefits of having K-4 models across the district will benefit more students, families, and staff.	9/20/2017 7:29 PM
47	I firmly believe that K-4 will foster an awesome schooling experience, involving fewer transitions for these youngsters. I live in Auburn, where the model is K-2, 3-5, 6-8, and then High School. With so much transition across the town, parents with multiple children are often running to pick-up times and activities that leave their heads spinning. Growing up in New York, I attended PS 114 for K-6, then moved on to Junior High and High School. Just three transitions was terrific, and much easier on my parents (who have 3 daughters, all two years apart). I wish you good luck in this endeavor.	9/20/2017 7:28 PM
48	There are pros and cons for both - easier for parents to have fewer schools if they have more than one child in the system. However, little kindergarteners with big 4th graders could be tricky on the buses and in the hallways and play spaces.	9/20/2017 7:24 PM
49	Philosophically, I believe an Early Childhood Center housing Grades K and 1 would be the best option for our young children.	9/20/2017 7:21 PM
50	The current elementary schools cannot hold any more students. Building a new elementary school is not going to solve the problem as long as the town keeps building more houses and more apartment complexes. Not sure what will solve the problem and I wish you all good luck in your decision and have confidence you will make the right choice.	9/20/2017 7:17 PM
51	K-4 neighborhood schools will enable us to community build with our social skills language and collective understanding of expected behaviors. Our students will have 5 years in the same learning environment where the teachers put their heads together to monitor progress in a PLC. The EIT process will stay the same. Expectations for parent involvement and opportunities to invest in school traditions will stay the same. Parents and students will build a rapport with faculty and our community will become "the village" that supports growth. Families will have the chance to have siblings in the same school for the longest stretch of time in their school careers. This continuity may even enable students to attend school for the regular school day and rather than needing the extended day hours, potentially having more time at home with their families as all elementary children head to school and return from school at the same time, on the same bus. It seems that this would be financially beneficiall, as we would eliminate one of the school start times. Finally, we work from constructivist frameworks. The shift to a K-4 building will allow children the opportunity to learn in that manner.	9/20/2017 6:55 PM

52	A focused K-1 curriculum would offer the opportunity to closely standardize the learning experiences for all students in the district. Additionally, it may be easier and quicker to identify students who may need special services since all centrally located.	9/20/2017 6:42 PM
53	How can each of these schools have a diversified population so that parents aren't upset that their home is on the border line and they are in a school that has a more homogenous community where the majority of the population are apartment dwellers. Diversity is key in making this equitable for parents, teachers and homeowners. There are preconceived ideas of the population of each school.	9/20/2017 6:32 PM
54	I think that having younger children together with older students in the same school is a definite benefit. Not only does this provide the younger students with older role models, but it also provides more opportunities for cross grade level activities. From a teaching perspective, it is incredibly helpful to have the grade above you in the same building so that you can learn more about where your students need to be by the end of the year and tailor your instruction accordingly. For example, this year for my ed eval plan, I am observing a teacher in the grade above me so I can learn more about how to best reach the above grade level readers at my own grade level. I wouldn't have that opportunity if we had a smaller configuration of grades.	9/20/2017 6:22 PM
55	Last year, our kindergartens had a mix of Coolidge and Floral students. At the end of the year, all students were completely comfortable in our building. They knew staff, their way around, etc. Students staying at Coolidge were very confident heading to first grade, and looking forward to continuing in a place that they knew well. Students transitioning to Floral for 1st grade did have some anxiety about starting all over again at a new school where everything was an "unknown". Even for older kids (4th graders transitioning to Sherwood) the move is somewhat anxiety producing. For a six year old 1st grader transitioning to a different school, it would be even more difficult. On the parent side, the logistics of 2 different schools vs. the same school for their elementary age children is important to look at.	9/20/2017 6:22 PM
56	K-4 would be the most effective and beneficial for the staff, students, and families!	9/20/2017 6:15 PM
57	I'm wondering if the numbers projected by the original design also take into consideration the amount of new housing coming into town - namely the 3 new developments that will include multi-bedroom units. It would be a shame to start a new school already at a deficit for space.	9/20/2017 6:13 PM
58	Transitions are so difficult for our kids, and as a 1st and 2nd grade special ed teacher, I get kids in 2nd grade from Beal in a totally different place than those who went to 1st at Floral. Consistency would be so nice!	9/20/2017 6:09 PM

SHREWSBURY PUBLIC SCHOOLS
SCHOOL COMMITTEE MEETING AGENDA
October 25, 2017 7:00pm
Town Hall—100 Maple Avenue
Selectmen's Meeting Room

Items		**Suggested time allotments**
I.	Public Participation	7:00-7:10
II.	Chairperson's Report & Members' Reports	
III.	Superintendent's Report	
IV.	Time Scheduled Appointments:	
A.	SHS Student Advisory Committee: Report	7:10 – 7:25
B.	Beal Early Childhood Center Building Project: Grade Configuration Recommendation & Vote	7:25 – 7:50
C.	SHS Class of 2017 Future Plans: Report	7:50 – 8:10
D.	Student Enrollment & Class Sizes: Report	8:10 – 8:35
V.	Curriculum	
VI.	Policy	
A.	Revised Policy on Rental & Use of School Facilities: First Reading	8:35 – 8:45
VII.	Finance & Operations	
A.	Fiscal Year 2019 Fiscal Priorities & Guidelines: Vote	8:45 – 8:55
VIII.	Old Business	
IX.	New Business	
X.	Approval of Minutes	8:55 – 9:00
XI.	Executive Session	
XII.	Adjournment	

Next regular meeting: November 15, 2017

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SHREWSBURY PUBLIC SCHOOLS
100 MAPLE AVENUE
SHREWSBURY, MASSACHUSETTS

MINUTES OF SCHOOL COMMITTEE MEETING

Wednesday, October 25, 2017

Present: Dr. Dale Magee, Chairperson; Mr. Jon Wensky, Vice Chairperson; Ms. Sandy Fryc, Secretary; Ms. Erin Canzano; Mr. Jason Palitsch; Mr. Patrick Collins, Assistant Superintendent for Finance and Operations; Ms. Amy B. Clouter, Assistant Superintendent for Curriculum & Instruction; Ms. Barb Malone, Director of Human Resources; and Dr. Joseph Sawyer, Superintendent of Schools.

A complete audio/visual recording of this meeting is available on the Shrewsbury Public Schools website.

The meeting was convened by Dr. Magee at 7:00 pm.

I. Public Participation
None.

II. Chairperson's Report & Members' Reports

Mr. Wensky thanked all parties responsible for bringing nationally recognized motivational speaker Chad Hymas to Shrewsbury Public Schools (SPS), and thanked donors to the Colonial Fund, which provided funding for his visit. He also congratulated Shrewsbury High School's (SHS) Speech and Debate Team for placing first at the recent tournament in Revere, MA.

Mr. Palitsch noted that SCAPE (Shrewsbury Coalition for Addiction Prevention and Education) is hosting, and State Representative Hannah Kane is sponsoring, a presentation by Dr. Ruth Potee on Thursday, November 16th at 7pm in the Shrewsbury High School auditorium. Dr. Potee will address adolescent brain development and its impact on teen risk taking, including alcohol and substance abuse.

III. Superintendent's Report

Dr. Sawyer advised that: the Colonial Fund allows funding for opportunities that fall outside of the operating budget, such as Mr. Hymas's presentations, and he acknowledged Ms. Clouter's work in securing Mr. Hymas's visit to SPS; the Unified Basketball Team at SHS has its last game on November 6 at SHS; the School Committee and SPS leadership team would host a

public forum on Wednesday, November 1, at 7 pm at Shrewsbury High School to discuss what priorities our schools should focus on over the next five years; approximately 40 SPS staff attended a local conference on Social and Emotional Learning (SEL); and the Massachusetts Computer Using Educators Technology Conference was taking place this week, with both SPS students and staff making presentations there.

IV. Time Scheduled Appointments:
A. SHS Student Advisory Committee: Report

Benjamin George, Student, Class of 2018, SAC Chair; Maya McCollum, Student, Class of 2018; Erica Hanlon, Student, Class of 2019; Paulina Hruskoci, Student, Class of 2019; and Prisha Singh, Student, Class of 2019 (Mr. Andrew Smith, SHS Teacher and Faculty Advisor to the SAC was in attendance; Mr. Wensky is the School Committee liaison) gave the presentation. They addressed a growing student population and some resultant challenges, new opportunities at SHS (like the Colonial Way Experience held prior to a football game), and recent events held to promote school spirit.

In response to questioning from the Committee, SAC advised that Zaahah software functions similarly to Schoology, but provides a platform for just extracurricular activities. While there have been issues with iPad use, and Zaahah requires students to request/be accepted by a club, overall response has been positive. Regarding crowding, Mr. Todd Bazydlo, SHS Principal, advised that physically, SHS was experiencing its largest historical enrollment, with 1832 students attending a school designed for a student body of 1475. Regarding students' inability to take a second science course, which was due in part to software technical issues, Mr. Bazydlo noted that this was being addressed by manually slotting students who had a study period into a second science class if available in the fall.

B. Beal Early Childhood Center Building Project: Grade Configuration Recommendation & Vote

Dr. Sawyer began with a brief summary to-date of the Beal Building Project, noting it must incorporate one of two different types of grade configurations: a Kindergarten and Grade 1 school designed for 750 students, or a Kindergarten through Grade 4 school designed for 790 students. Advising that the project would have to address long term needs, and that a School Committee vote on a recommended grade configuration was necessary to advance the project, Dr. Sawyer made his recommendation:

> That the School Committee vote to establish a Kindergarten through Grade 4 grade configuration for all elementary schools in the Shrewsbury Public Schools, to take effect if and when sufficient space is made available through construction of additional classrooms through the Beal building project.

Dr. Sawyer went on to summarize themes from feedback provided on surveys and at two public forums, and provided a detailed rationale for his grade configuration recommendation. Ms. Clouter addressed educational considerations for the choice, noting research does not show any grade configuration to be superior to others regarding educational outcomes, but that research indicates that transitions between schools can compromise student achievement. Mr. Collins addressed transportation considerations, noting data strongly suggests that the Kindergarten-Grade 4 model would be significantly more cost effective, and would lead to shorter rides times for students and more efficient use of bus assets.

All School Committee members voiced their support for Dr. Sawyer's recommendation, citing the thoroughness of the process, feedback received from the community, supportive educational research, and logistical and transportation considerations.

On a motion by Mr Palitsch, seconded by Mr. Wensky, the Committee voted unanimously to establish a Kindergarten through Grade 4 grade configuration for all elementary schools in the Shrewsbury Public Schools, to take effect if and when sufficient space is made available through construction of additional classrooms through the Beal building project.

C. SHS Class of 2017 Future Plans: Report

Mr. Bazydlo and Ms. Nga Huynh, Director of School Counseling, Shrewsbury High School, gave a report on the future plans of the SHS Class of 2017 that included information on public and private 2- and 4-year matriculations (86% attended 4-year colleges), future plans by gender (210 females; 188 males), a geographic breakdown (84% attended colleges and universities in New England), selectivity (40% attended schools rated "Competitive"), statistics for students receiving special education services(47% attended 4-year and 47% attended 2-year), and highlights from the 2017 Exit Survey with information (students noted the importance of individual meetings with school counselors, and of location in determining where they would go to school).

In response to questions from the Committee, Ms. Huynh addressed capacity and timing considerations for scheduling Application Boot Camp sections at SHS, noted taking a gap year was not a trend at SHS, advised that a list of colleges still accepting students was available in June to the 4% of students who were "Undecided" in the spring, and advised that college preparation starts for students in the spring of Junior year at SHS. Dr. Magee expressed a desire for information tracking outcomes for students after two or more years, and asked about opportunities for vocational students. Mr. Bazydlo advised that SHS offers a speaker series for students that features alumni and community members talking about their work in various areas including food service and construction.

D. Student Enrollment & Class Sizes: Report

Mr. Bazydlo and Mr. Gregory Nevader, Assistant Principal, Shrewsbury High School, presented a report on class size at SHS noting: overall enrollment was at an all time high of 1832 (adding

this is the largest single town enrollment in Worcester County); 88 students registered during the summer; diversity at SHS; illustrating building capacity (average use is 96% of available rooms/total rooms in that hallway); percent of teachers in two or more classrooms (25-83%); student-teacher ratios; pre- and post-override teacher caseloads and class enrollments; percent of academic sections with 27 or more students (6%); and counselor caseloads. Mr. Bazydlo added that overall student-teacher ratios were stable because of 3.0 FTEs added last year (except in math courses); counselor cases were trending upward post-override; and two physical spaces (labs) at SHS had been reallocated to allow for additional classroom teaching.

In response to questions from the Committee, Mr. Bazydlo advised that: online options are limited for allowing students to take a second science course because of difficulty around replicating labs; students who elect to take a course at a non-SPS entity will have that course added to their packet separate from the SHS transcript; there is no additional space to repurpose at SHS even if enrollment continues to increase; and some SHS students are dual enrolled at Quinsigamond Community College, but pay for those classes themselves. Dr. Sawyer added that there are currently no plans to add space or modular units at SHS, and that SHS and the middle schools share some staff.

Next, Dr. Sawyer presented data on Preschool – Grade12 enrollment and Preschool – Grade 8 class sizes to the Committee. He provided information on: key data points (student enrollment of 6218 is an all time high); enrollment history and grade level population; increase from Kindergarten to Grade 1 (9%); Grade 1 enrollment history by school; percentage of Full Day Kindergarten students (61% vs. 95% for all of MA - Full Day is preferred by parents but availability is down due to space limitations); class size guidelines; enrollment history by school; Special Education out of district placement; and vocational enrollment (down due to lower availability at Assabet Valley Regional Technical High School).

In response to questions from the Committee, Dr. Sawyer advised that: newer/ more sophisticated software is available to look at zoning maps and to manage and target growth and fluctuations in population; and students who move to the district are evaluated in different ways, with an age requirement for Kindergarten and Grade 1 students, and chronological data and previous education information used to assess older students.

V. Curriculum
None.

VI. Policy
A. Revised Policy on Rental & Use of School Facilities: First Reading

Mr. Palitsch and Ms. Canzano are members of the Policy Subcommittee, and Policy 851 addresses Rental & Use of School Facilities. Ms. Canzano noted that the proposed changes to Policy 851 include updating the regulations to reflect use of synthetic turf fields, establishing a

separate account for funds related to the rental of synthetic turf fields, and adding verbiage advising the that the policy will be reviewed within five years.

In response to a question from Dr. Magee regarding facility rental fees, Mr. Collins advised that the account established for the synthetic turf fields would be a separate account used exclusively for turf field rental and expenses, adding that since the Town of Shrewsbury pays for maintenance of existing fields, expenses for the Parks and Recreation Department would decrease as a result of the new fund paying for maintenance of the synthetic turf fields that will replace those existing fields.

VII.Finance & Operations
A. Fiscal Year 2019 Fiscal Priorities & Guidelines: Vote

Mr. Collins presented a draft of Fiscal Priorities & Guidelines for the Fiscal Year 2019 at the School Committee meeting on October 11, 2017, and Dr. Sawyer noted that there had been no follow up comments.

On a motion by Mr. Palitsch, seconded by Mr. Wensky, the Committee voted unanimously to approve the Priorities & Guidelines for Fiscal Year 2019 Budget Development document as presented.

VIII. Old Business
None.

IX. New Business
None.

X. Approval of Minutes

Without objections from the Committee, the minutes of the School Committee meeting on October 11, 2017 were accepted as distributed.

XI. Executive Session
None.

XII. Adjournment

On a motion by Mr. Palitsch, seconded by Mr. Wensky, the committee unanimously voted to adjourn the meeting at 9:10 pm.

Respectfully submitted,

Elizabeth McCollum, Clerk

Documents referenced:

1. Fiscal Priorities & Guidelines for the Fiscal Year 2019
2. Student Advisory Committee (SAC) Agenda
3. Beal Grade Configuration Transportation Report
4. Beal Grade Configuration Educational Report
5. Superintendent’s Beal Grade Configuration Recommendation Memo
6. Superintendent's Beal Grade Configuration Recommendation Slides
7. PreK-12 Enrollment/PreK-8 Class Size Report
8. Enrollment Presentation Slides
9. SHS Future Plans Report
10. SHS Future Plans Slide Presentation
11. SHS Class Size Report (May be several pieces)
12. SHS Class Size Slide Presentation
13. SC Policy 851 Revision Draft - Philosophy of After-Hours Use
14. Set(s) of minutes as referenced above

Beal Building Project Grade Configuration Recommendation

Presented to the Shrewsbury School Committee

by Dr. Joseph M. Sawyer, Superintendent of Schools

October 25, 2017

Superintendent's Recommendation

That the School Committee vote to establish a Kindergarten through Grade 4 grade configuration for all elementary schools in the Shrewsbury Public Schools, to take effect if and when sufficient space is made available through construction of additional classrooms through the Beal building project.

K & Grade 1 Configuration: Themes from Survey Feedback

Perceived Strengths	Perceived Challenges
• Focus on early childhood and developmentally appropriate practices • Smaller range of ages (social aspect; school design) • Most K-1 students in town together in one place (equity) • Educators with similar focus/expertise • Horizontal alignment of curriculum • “Feel” of early childhood climate	• More transitions between schools • Most/all students in town together in one place, then dispersed to neighborhood schools • Less vertical curriculum alignment • Less time for school personnel to get to know students and families, and vice versa • Large population of young students (750 K & 1 students) • Logistics (siblings split across multiple schools; transportation; can’t fit all K-1 students in new school; etc.)

K through Grade 4 Configuration: Themes from Survey Feedback

Perceived Strengths	Perceived Challenges
• Fewer transitions, more stability and consistency over five year period • More time for school personnel to get to know students and families, and vice versa • Greater ability to even out population across schools (equity) • Vertical alignment of curriculum • “Feel” of neighborhood school climate (older kids models for younger kids) • Logistics for siblings, transportation, etc.	• Less focus on early childhood developmental level • Curriculum focused on a wider range of grades • Students divided in separate schools across town rather than most at same grade levels in one place (equity) • Design of school not entirely focused on early childhood • Older kids could be intimidating to younger kids

Rationale for Recommendation of a K-4 Configuration

1. Educational research literature indicates that no one grade configuration is better than another with regard to educational outcomes (other factors are more important)

2. Educational research literature indicates that transitions between schools can compromise student achievement; the K-4 configuration requires one fewer transition for students

Rationale for Recommendation of a K-4 Configuration

3. Students remaining in one school for five years allows for more familiarity among students, families, and school staff

4. Vertical articulation of curriculum from grade to grade is stronger when educators in multiple grades are working in the same building

5. Knowledge of students' needs from year to year is more cohesive when the students remain in the same building for longer (especially important when students are having difficulties or have special learning needs)

Rationale for Recommendation of a K-4 Configuration

6. The climate of the school will have a “neighborhood” feel, where older students serve as role models for younger students

7. Siblings within the K-4 grade range will attend the same school, facilitating getting students to and from school for families and avoiding significant cost increases for bus transportation

8. The district’s student population projection for K-1 is for ~900 students; if the “new” Beal were K-1, it would be designed for 750 students, so ~150 students in K-1 would need to go to school in another district school; this would create issues of equity and of logistics

Important Considerations Based on Feedback that Supported a K-1 model

1. Having a critical mass of educators who are teaching the same grade and who have similar expertise is a positive aspect that exists at Beal; this can and will be preserved with a K-4 configuration (approximately 16 K and Grade 1 teachers would be at a “new” K-4 Beal and other K-4 schools would have 6 to 12 teachers in those grades)

2. A focus on having a proper early childhood environment for students in grades K and 1, including proper furniture, equipment, and instructional materials; a climate focused on developmental needs; etc. This is achievable in a K-4 configuration, and will be an important consideration in the district’s and architect’s planning

Superintendent's Recommendation

That the School Committee vote to establish a Kindergarten through Grade 4 grade configuration for all elementary schools in the Shrewsbury Public Schools, to take effect if and when sufficient space is made available through construction of additional classrooms through the Beal building project.

Questions?

Shrewsbury Public Schools

Patrick C. Collins, Assistant Superintendent for Finance & Operations

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18 October 2017

To: Dr. Sawyer

Subj: INPUT REGARDING SCHOOL TRANSPORTATION AND FUTURE GRADE CONFIGURATION

Background

As part of the decision-making process regarding the district's future grade configuration, you have asked for input regarding the estimated impacts and differences in transportation costs and services if the "Beal 2.0 School" were a K-1 grade configuration versus a K-4 grade configuration.

Assumptions

It is assumed for this type of estimating that the district would retain the basic three-tier bus utilization system whereby the same bus has a high school route, a middle school route and an elementary school route so as to maximize cost and use efficiency of that asset. It is also assumed that "Beal 2.0" would be part of the elementary tier. Moreover, it is assumed that the district would shift into either offering or requiring full-day kindergarten for all students under either grade configuration. Finally, it is noted that actual bus routes and number of buses required are not part of this preliminary estimating process, which focuses simply on the differences that can be estimated at this point in the two different configuration options.

Current Statistics

One way to ascertain the differences in the proposed configurations is to look at current data as the district is actually operating in a hybrid grade configuration status now. After aggregating data from the 250+ bus routes we currently operate, one can see some relatively significant differences in efficient use of bus assets and average bus route times in the K-1 versus K-4 schools.

Beal currently operates as a K-1 school and has an average of 22 students per bus with an average route length of 13 miles and 41 minutes. However, busing for our K-4 schools operates more favorably with an average of 38-51 students per bus, an average route length of 7-9 miles, and an average ride time of 28 to 35 minutes. Obviously, the "neighborhood school" model lends itself to shorter bus rides as opposed to a centralized/district school for all students in the same grade.

All of this data is depicted in the table below.

	Grade Span	Avg. Riders/Bus	Avg. Route Length [Miles]	Avg. Route Time [Minutes]
Beal	K-1	22	13	41
High School	9-12	48	13	39
Spring	K-4	38	9	35
Paton	K-4	40	9	33
Sherwood/Oak	5-8	50	9	32
Floral	1-4	52	9	29
Coolidge	K-4	51	7	28

Estimating Bus Assets Required Under Each Model

The table on the following page is used to estimate and demonstrate the differences among our current model of service, a future K-1 model, and a future K-4 model for our elementary grades. Again, given the assumption of operating under a three- tier system with students for a given school/age level bused together, we would need significantly more bus assets if Beal 2.0 were a K-1 school. As a reference point, the current annual cost of a bus is $60,316. Under the K-1 model, it's estimated that an additional 10-15 more buses would be needed at a total incremental cost of $600,000 to $900,000 more on an annual basis.

		Current
Tier 1	SHS	24
	Special Education-SHS	2
	Private School	2

		Current
Tier 2	Oak/Sherwood	33
	Special Education-Middle	2
	Private School	7

Tier 3		Current	Estimated K-1 Model	Estimated K-4 Model
	Beal	9	25-30	15
	Spring	6	6	6
	Paton	5	5	5
	Floral	11	11	11
	Coolidge	5	5	5
	Special Education-Elem	6	6	6
	Private School	2	2	2
		44	60-65	50

Notes:

1. Given that *Beal 2.0* would operate on Tier 3 and be required to transport students from the entire geography of the town, we would need sufficient assets at the same time we are using a separate set of buses to collect students in grades 2-4.

2. Given that we plan to moderately reduce student population at elementary schools at the time of opening *Beal 2.0*, we may be able to re-allocate some bus assets to service *Beal 2.0.*

Summary Comments

The data strongly suggests that from a transportation perspective, the K-4 model would be significantly more cost effective and also lead to shorter rides times for students and more efficient use of bus assets.

Beal Early Childhood Center Feasibility Study

Grade Level Configuration Report: Educational Considerations

Submitted by Amy Clouter

Assistant Superintendent for Curriculum, Instruction & Assessment

Shrewsbury Public Schools

October, 2017

Introduction

The Massachusetts School Building Authority has provided two possible options for the future Beal Early Childhood Center possible renovation/expansion or new building project:

- a Kindergarten – Grade 1 school with a design enrollment of 750 students, or
- a Kindergarten – Grade 4 school with a design enrollment of 790 students.

As part of the feasibility study, the School Committee, in partnership with Dr. Sawyer and with input from community stakeholders, must thoughtfully consider the benefits and drawbacks to each model.

This report seeks to summarize the research on grade level configuration and the impact of various models on students and families with the goal of better informing the community.

Background Information

A 'Grade span' refers to the number of grade levels in a given school building. 'Grade level configuration' is a term that depicts which grades are grouped together. Currently Shrewsbury students in grades Kindergarten- Grade 4 learn in five different buildings with three different grade spans:

School	***Grade Span***	***Configuration***
Beal Early Childhood Center	2	K-1
Calvin Coolidge School	5	K-4
Floral Street School	4	1-4
Walter J. Paton School	5	K-4
Spring Street School	5	K-4

Given the uneven nature of school construction, this degree of variety is typical, not just in Massachusetts but across the country. As an early record review states, "The grade level organization of the American school is characterized not by a single uniform pattern but by a variety of grade level configurations. Each of these grade level configurations has its advantages and disadvantages which have varying weights and influences in local districts as a result of local circumstances…most researchers have concluded that decisions on grade level organization have

been for reasons that are more administrative than educational." (KY state report, 1981) The same variety can be found in schools today.

Research and Literature Findings

What is the impact of different grade configurations on student achievement? Most studies have sought to answer this question for children in middle and/or high school. Researchers studying the effects of grade spans on high school graduation rates, for example concluded that students in rural communities and/or students that were disadvantaged benefitted from remaining in one school over a long period of time. (Howley, 2000) Not until recently did policy makers consider the impact of grade level configuration on younger students.

More recent studies cited on this topic suggest that the link between grade level configuration and achievement is specious even for our youngest learners. A report commissioned by the Scituate Public Schools in anticipation of an elementary building project in in 2013 reads:

> The research reveals that grade level configurations have little impact on student achievement (Hooper, 2002; Howley, 2002; Klump, 2006; Renchler, 2000). In other words, it does not matter which grades are grouped together in a building. More important than the physical or structural set up is the appropriate selection and sequencing of curriculum, effective teaching practices and alignment of the written, taught and tested curriculum (Hooper, 2002) When these are done well throughout the district, it does not matter which grades are housed in which building; students will achieve.

This conclusion is supported by an analysis of common assessment data in Shrewsbury. Every one of our local elementary schools has a demonstrated record of success, and children in each of the current grade level configurations have grown both academically and socially. At the same time, a new building project provides an opportunity to ask: Is there evidence to support one option over the other for educational reasons?

A review of the literature suggests that rather than determining the ideal grade level configuration, districts should weigh the pros and cons of two key factors, namely school size and transitions.

School Size

The literature indicates that when parents are surveyed, they generally feel that the smaller the school the better, and there are some studies that support this belief. A 2006 study concluded that achievement gaps between boys and girls were narrower in small schools (Black, 2006) Smaller high schools tend to have better rates of attendance, behavior and achievement (Nathan and Thao, 2007) However, findings are inconclusive when it comes to students in the

lower grades. Most importantly, in Shrewsbury our educators have managed to achieve a small school feeling in their school communities despite increasing enrollment, and academic achievement and parent satisfaction are high across all of our schools, including the larger ones such as Floral Street School, the two middle schools, and the high school.

Although the size of the school does not determine the likelihood of student academic success at the elementary level, practical considerations would likely come into play in a K-1 school with 750 five and six year olds, particularly in common areas (restrooms, playground, lunchroom) and at transition times (arrival, dismissal). In a K-4 model older students make for positive role models, and there are fewer "new" students to orient to school routines. For this reason, in a K-4 model routines may be established sooner, freeing students and staff alike to focus on learning.

Transitions

Researchers claim that achievement declines when students transition from one level to another, regardless of the grade in which the transition occurred. Further, studies of students in the middle grades (6-8) conclude that the number of transitions a student makes is correlated to the likelihood that he or she will drop out of school (Pardini, 2002) For this reason, many educators advocate for schools with bigger grade spans, arguing that students and their families develop stronger relationships with teachers when they remain in one school over time. It's important to note, however that others refute this belief, claiming that the effects of a transition can be mitigated by thoughtful planning. (Cromwell, 2006)

The Kindergarten – Grade 4 option reduces by one the number of transitions future students in Shrewsbury will have to make. Further, when students and families remain in one school over time, there are several other advantages to consider:

- Siblings are more likely to attend the same school.
- Kindergarten and Grade 1 students have opportunities to interact with older "learning buddies" as role models.
- When part of a longer, continuous stay at a single school with the same administration, families may be more comfortable with grade-to-grade transitions and be better able to anticipate the particulars of the following grade, as compared to a transition to an entirely new school.
- Educators can come to know students better, and to plan proactively to meet student needs. For example, students that are reading on grade level by third grade are likely to maintain their reading skills for the long term. Thus, early intervention and monitoring from Kindergarten through second grade is vital. Close communication between educators at different grade levels is more likely when teams teach in

proximity, and individual teachers are better able to consult with colleagues at the grade level below in this model as well.

Conclusion

In his book *What Works in Schools,* educational researcher Robert Marzano states, "Any school in the United States can operate at advanced levels of effectiveness – if it is willing to implement what is known about effective schooling." (2003) We are fortunate indeed that in Shrewsbury educators at all levels and in all grade level configurations work hard to put best practices into place, to serve children and their families and to contribute to our community. Not surprisingly, our youngest students in Shrewsbury are well served by both of the proposed models presented as options.

This success makes for a dilemma; although there is strong consensus through parent, community and staff surveys that the K-4 configuration is seen as more beneficial, there are committed educators and contented families advocating respectfully for both options. The thoughtful support for each model makes the decision more difficult, and transparency in the process paramount. It's my hope that the findings in this report will help guide this important decision. Finding the right fit for "Beal 2.0" is more a matter of scrutinizing local needs and comparing the number of proposed benefits of each option than dismissing either option out of hand.

Last Words

Research suggests that the support of parents and guardians, thoughtful consideration of the needs of students as they learn and grow, the degree of collaboration among school staff, and the individual efforts on the part of the children matter most. For that reason, regardless of the decision made by the School Committee, and because under either configuration a "new" Beal will represent a significant change, it's important that we honor the efforts of the educators that have served Beal Early Childhood Center students and families so well for so long. The teachers that shaped the model currently in place at Beal pioneered important work that met the needs of our students at a critical time, and that success will live on in the memories of the countless students and families that first experienced school at Beal.

References

Bickel, Robert; Howley, Craig; Williams, Tony & Glascock, Catherine. (2000, November) Will the real "Texas miracle in education" please stand up? Grade span configuration, achievement, and expenditure per pupil. Randolph, VT: Rural School and Community Trust. (ERIC Document No. ED447995)

Black, Susan.(2006). The Right Size School. A*merican School Board Journal, 193*, 63-65

Cromwell, S. (2006, September). Where does sixth grade belong? *Education World.*

Hooper, D.W. (2002, March). Configurations alone don't breed success. *School Administrator, 59(*3), 44

Howley, Craig. (2000). Research on Smaller Schools: What Education Leaders Need to Know to Make Better Decisions. *The Informed Educator* series: Educational Research Service, OR: ERIC Clearinghouse on Educational Management (ERIC Document Reproduction Service NoED453-996).

Howley, Craig. (2002, March). Grade-Span Configuration. *The School Administrator*, 59 (3), 44.

Klump, J.(2006) What the Research says (or doesn't say) about K-8 versus middle school grade configurations: Assessing the benefits of K-8 schools. *Northwest Education, 11*(3)

Nathan, J., & Thao, S, (2007) *Smaller, Safer, Saner, Successful Schools.* Washington, D.C.: National Clearinghouse for Educational Facilities.

Niskayuna Central School District (1981) Board report, KY

Pardini (2002, March). Revival of the K-8 School. School Administrator, *59*(3),6.

Renschler, Ron. (2000, Spring). Grade Span. *Research Roundup, 16 (3), 2-4.* Alexandria, VA: The National Association of Elementary School Principals, Eugene, OR: ERIC Clearinghouse on Educational Management (ERIC Document Reproduction Service NoED440 471).

Skeiber, Susan (2013, January). Gates Intermediate School Grade Configuration Study Report Scituate Public Schools.

Wasley, Patricia A. (2002, February). Small Schools, Real Gains. *Educational Leadership*, *58* (6), 5-8

Shrewsbury Public Schools

Joseph M. Sawyer, Ed.D.
Superintendent

October 20, 2017

To: School Committee
From: Joe Sawyer
Re: Beal Building Project: Recommendation for future elementary grade configuration

As the work to design a renovated/expanded or new Beal School moved into the Feasibility Study phase, it became necessary for the School Committee to determine which of the two grade configurations put forth by the Massachusetts School Building Authority for the project should be adopted by our school district. This decision is necessary at this time in order to inform the work of the architect, owner's project manager, and the Beal Building Committee so that the design process, site selection, and other elements can move forward with guidance as to exactly what kind of school "Beal 2.0" should be. Further, this decision will inform planning for how the other elementary schools will be configured, if and when a "new" Beal will come online, which we believe would be for the 2022-2023 school year at the earliest.

The two grade configurations put forth by the MSBA are:

1) A 750-student early childhood center with Kindergarten and Grade 1

or

2) A 790-student elementary school with Kindergarten through Grade 4

After carefully considering various factors related to these grade configurations, as well as the feedback from over 900 parents and community members and 275 staff members, **I recommend that the School Committee vote to establish a Kindergarten through Grade 4 grade configuration for all elementary schools in the Shrewsbury Public Schools**, to take effect if and when sufficient space is made available through construction of additional classrooms through the Beal building project.

Before outlining the factors that led me to this recommendation, it is important to note that both models are currently in place in different schools across the district, and both models are working well. In fact, the preference of staff for a K-1 or a K-4 model, respectively, is to continue the configuration in which they currently work. This indicates that they believe that their own respective configuration is successful, and based on our students' success in both configurations, the evidence is that both views are correct. This is a good thing, especially since we have several years in the immediate future where this hybrid configuration across the district will need to remain in place prior to a "new" Beal being built.

There are potential benefits and potential drawbacks to each model, and it will be very important to address the questions and concerns raised about both models regardless of

which configuration is adopted by the School Committee. I believe the K-4 model will be more beneficial for the following reasons:

1) A review of the educational research literature (see accompanying document) indicates that factors other than grade configuration are most important regarding student success and the quality of a school community; in other words, there is no evidence that a certain grade configuration is more effective than another educationally.

2) A review of the educational research literature indicates some concern that transitions between schools can compromise student achievement. Having fewer transitions was also seen by parents, community members, and staff as a strong benefit of the K-4 model.

3) Several other benefits are associated with the K-4 configuration regarding having fewer transitions, including:
    a) Students remaining in one school for five years allows families to be more familiar with the school and its staff, and vice versa, and for students to become familiar with a smaller group of classmates
    b) Vertical articulation of curriculum from grade to grade is stronger when educators from more grades are working together in the same building
    c) Knowledge of students' needs from year to year is more cohesive when remaining in the same building for more grades, and this is especially important for students who are experiencing difficulties or who have special learning needs

4) Logistically, a K-4 configuration provides several benefits that a significant majority of parents, community members, and staff found desirable, including:
    a) The climate of the school having a "neighborhood" feel, where older students serve as role models for younger students
    b) Siblings within the grade range are at the same school, facilitating both bus transportation for children in the same family as well as parent transportation to and from school and/or extended care
    c) Transportation on school buses will require fewer routes that are shorter in duration compared to the alternative; this is a logistical benefit as well as avoidance of significant additional cost that would require financial resources to be redirected from the educational program (see accompanying document)
    d) The student population of Kindergarten and Grade 1 students is projected to be significantly higher than what can be accommodated by a proposed new Beal School, meaning that there isn't a way to provide the same grade configuration model to all students (projection for 2022 is for approximately 900 students in Grades K and 1; if the "new" Beal were a 750 student K-1 school, 150 students would need to attend a *different* school for those two grades, creating an equity issue). A universal K-4 configuration across five elementary schools provides more flexibility to distribute students across the schools in an equitable manner.

Those educators, parents, and community members who promoted the K-1 configuration cited benefits and drawbacks as well, and it is very important that the district pay close attention to these if a K-4 configuration is adopted. I believe that many of these issues can be addressed effectively with the proper approaches. Examples include:

1) A benefit cited of a K-1 configuration was having a critical mass of early childhood educators working together in one school, as has been the case for the past 30 years at Beal, as well as being better able to have strong horizontal curriculum articulation across the the grade levels. If the "new" Beal were a K-1 building, there would be approximately 40 classroom teachers in Kindergarten and Grade 1, with about 20 in each grade. As we know from our experiences at Sherwood and Oak, it is very difficult to orchestrate certain kinds of collaboration among such large groups of teachers, and so these groups would need to be divided into smaller units even within the same building. It is interesting to note that if the "new" Beal is a K-4 building, there will be approximately 16 Kindergarten and Grade 1 teachers there, which is actually a *larger* team of early childhood educators than at the current Beal. A K-4 configuration will also provide teams of teachers at each grade level in each of the five schools, allowing for collaboration within that school. The district will need to ensure teachers in the same grade level at different schools are able to stay on the same page, which is something that we work to do in all of our grades K-4 in our current situation.

2) Another issue cited among K-1 supporters was ensuring that a proper early childhood environment be cultivated, and that this could be more challenging in a K-4 environment. It is important that the district commit to ensuring that Kindergarten and Grade 1 students have access to the proper furniture, equipment, and instructional materials for their age, regardless of which neighborhood school a student attends. Feedback from educators and parents, and my own observations over the several years during which our district has had Kindergarten and Grade 1 classes in K-4 schools, signal that we have been successfully meeting the needs of early learners within a K-4 configuration, in a manner that is developmentally sound. There are many successful school districts where Kindergarten and Grade 1 exist in grade configurations up to and including K-8 schools. The inclusion of higher grades in school with early childhood grades and having a successful early childhood program are not mutually exclusive, and it is incumbent upon the district and individual schools to ensure that the environment, the curriculum, and the approach to teaching are matched to the needs of our students. Along the same lines, the presence of upper elementary-aged students in the same environment as Kindergarten and Grade 1 students is something with which we have years of experience, and many see this as a benefit. While it is possible that younger students might have negative experiences with older students (some cited concerns about older students "intimidating" younger students), that is rare in our experience; of course, these same dynamics can and do happen among students in the same grade or only one grade apart.

In conclusion, after careful study and thoughtful feedback from stakeholders that represents a strong consensus, I believe that establishing a K-4 grade configuration across the district will be of greatest benefit to our students, educators, and families. I will be happy to answer any questions at our upcoming meeting on October 25.

SHREWSBURY PUBLIC SCHOOLS
SCHOOL COMMITTEE MEETING AGENDA
November 15, 2017 7:00pm
Town Hall—100 Maple Avenue
Selectmen's Meeting Room

Items		**Suggested time allotments**
I.	Public Participation	7:00-7:10
II.	Chairperson's Report & Members' Reports	
III.	Superintendent's Report	
IV.	Time Scheduled Appointments:	
A.	Superintendent's Awards for Academic Excellence: Presentation	7:10 – 7:20
B.	Athletics: Annual Report	7:20 – 7:35
C.	Concussions: Annual Report	7:35 – 7:45
D.	Nursing: Annual Report; Nurse Substitute Rate: Vote	7:45 – 8:05
E.	Beal Early Childhood Center Building Project: Report on Site Selection Process & Discussion	8:05 – 8:35
V.	Curriculum	
VI.	Policy	
A.	Revised Policy on Rental & Use of School Facilities: Second Reading & Vote; Rental Rates for Future SHS Synthetic Turf Stadium Field: Vote	8:35 – 8:45
VII.	Finance & Operations	
A.	Fiscal Year 2018 Budget Status: Report	8:45 – 8:55
VIII.	Old Business	
IX.	New Business	
X.	Approval of Minutes	8:55 – 9:00
XI.	Executive Session	
XII.	Adjournment	9:00

Next regular meeting: November 29, 2017

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SHREWSBURY, MASS

SHREWSBURY PUBLIC SCHOOLS
100 MAPLE AVENUE
SHREWSBURY, MASSACHUSETTS

MINUTES OF SCHOOL COMMITTEE MEETING

Wednesday, November 15, 2017

Present: Dr. Dale Magee, Chairperson; Mr. Jon Wensky, Vice Chairperson; Ms. Sandy Fryc, Secretary; Mr. Jason Palitsch; Mr. Patrick Collins, Assistant Superintendent for Finance and Operations; Ms. Amy B. Clouter, Assistant Superintendent for Curriculum & Instruction; and Dr. Joseph Sawyer, Superintendent of Schools.

Ms. Erin Canzano, School Committee member, and Ms. Barb Malone, Director of Human Resources, were not in attendance at the meeting.

A complete audio/visual recording of this meeting is available on the Shrewsbury Public Schools website.

The meeting was convened by Dr. Magee at 7:03 pm.

I. Public Participation
None.

II. Chairperson's Report & Members' Reports

Mr. Palitsch noted that SCAPE (Shrewsbury Coalition for Addiction Prevention and Education) is hosting, and State Representative Hannah Kane is sponsoring, a presentation by Dr. Ruth Potee on Thursday, November 16th at 7pm in the Shrewsbury High School auditorium. Dr. Potee will address adolescent brain development and its impact on teen risk taking, including alcohol and substance abuse.

Dr. Magee noted that a new episode of School Talk is available online or at SETV Channel 29/329 HD for Educational Access. The topic is the Shrewsbury Athletic Fields Turf Project.

III. Superintendent's Report

Dr. Sawyer noted that Shrewsbury Public Schools (SPS) recent ThoughtExchange survey enjoyed strong participation by staff and students, and he thanked respondents for sharing their thoughts about SPS and potential strategic priorities for the district for the next five years. He

also congratulated Calvin Coolidge School students on conducting a successful fundraiser which raised approximately $900 for hurricane victims in Puerto Rico.

IV. Time Scheduled Appointments:

A. Superintendent's Awards for Academic Excellence: Presentation

Every year the Massachusetts Association of School Superintendents requests that each superintendent, on its behalf, recognize outstanding members of the senior class in each district's high school. Due to the size of the district, Dr. Sawyer is allowed to present the award to two students, and he selected Ahana Mukhopadhyay and Albert Xu as this year's recipients. Dr. Sawyer provided highlights of each student's achievements, and invited them to make remarks. Ms. Mukhopadhyay and Mr. Xu, in turn, thanked family members and school personnel who have supported them throughout their educational careers at SPS. The students were then invited up to be recognized the Committee and presented with award certificates.

B. Athletics: Annual Report

Mr. Todd Bazydlo, Principal, Shrewsbury High School (SHS) and Mr. Jason Costa, Director of Athletics, gave a report on Athletics for 2016-17 that included information on programming, unified sports, participation by season and sport, successes (including State Finalists in Football and State Champions in Ice Hockey), collegiate participants, support groups (giving thanks to SHS Boosters Association and Friends of Shrewsbury Crew), budget, student leadership, athletic medical services, and future considerations (expanding programs at high school and middle level, new uniforms, and improving facilities).

In response to clarifying questions from the Committee, they advised that as participation has increased, consideration is being given to how to manage more players, make cuts, and potentially combine or reconfigure teams. Regarding uniforms, they noted they are changed out on a regular cycle with support from Boosters, and added that in some larger school districts, not all varsity players dress for games. Mr. Costa advised that budgeting an additional $10,000 - $15,000 per year for uniforms would be a great help to the program. Mr. Collins added that the appropriated budget provide 51% of the Athletics budget, fees provide 45%, and the balance is comprised of gate receipts.

C. Concussions: Annual Report

Ms. Noelle Freeman, Director of Nursing, and Mr. Walter Hildebrand, Athletic Trainer, Shrewsbury Public Schools, gave an annual report on concussions that included an overview, statistics, a breakdown by sport, historical data by sport (noting that the overall number of concussions dropped significantly over the past two years, with only 11 reported for SHS athletes in 2016-17), information on prevention efforts, and a description of the Transitions Program at SHS that provides extra support to students with concussions as they transition back to the classroom.

In response to questions from the Committee, they advised that the decrease in SHS athlete concussions might be related to increased awareness and education, prevention efforts, and strength and conditioning exercises. They also discussed sharing successful techniques with other districts, out of school concussions, and issues around the potential for concussions to be underreported. Dr. Sawyer noted that Mr. Hildebrand is now an employee of SPS and thanked the Committee for their budget support for the position.

D. Nursing: Annual Report; Nurse Substitute Rate: Vote

Ms. Noelle Freeman, Director of Nursing, presented an annual report to the Committee on the Department of Nursing that included an overview of the department, data on nurse visits (63,677 student visits; 1,184 staff visits), and nurse/student ratios. When comparing SPS nurse/student ratios to MA DPH ratios, Ms. Freeman advised that SPS ratio was below the recommended level at SHS, Oak and Sherwood Middle Schools, and Floral Street School. She went on to provide updates on Tourniquet, CPR, and AED training; stock epinephrine (noting 80% of families opted not to send their own supply that year); Screening, Brief Intervention and Referral to Treatment (SBIRT) screening; and the upcoming SCAPE presentation on brain development and teen risk taking. Ms. Freeman and Dr. Sawyer both offered thanks to an anonymous SPS donor for providing funding for training and emergency supplies that paid for staff to receive training at no cost to themselves.

In response to questions from the Committee, Ms. Freeman addressed student visits to the nurse for mental or emotional health issues; Naloxone usage (one instance so far), dosage issues, and replacement cycle; and the savings to families resulting from the stock epinephrine program.

Next, Ms. Freeman addressed the substitute nurse compensation rates at SPS, noting that the current rates of $20/hr for day-to-day substitutes and $30/hr for long term substitutes are insufficient for recruitment and retention of quality staff. She noted that the rate had not been adjusted for ten years, and that we are losing nurses to nearby communities that offer higher rates.

On a motion by Mr. Palitsch, seconded by Mr. Wensky, the Committee voted unanimously to increase the rate of pay for substitute nurses to $30/hour for daily substitute nurses and to a maximum of $40/hour, depending on experience, for long-term substitute nurses.

E. Beal Early Childhood Center Building Project: Report on Site Selection Process & Discussion

Mike Pagano and Sean Brennan, representatives of the Architect (Lamoureux Pagano Associates) and Paul Queeney, representative of the Owner's Project Manager (PMA Consultants) provided an update on the site selection process of the Beal Early Childhood Center Building Project. Mr. Queeney gave an overview of the MSBA process and the project task

schedule. Mr. Pagano noted that the choice of a K-Grade 4 grade configuration and the pending site selection will drive the design of the building. He advised that the existing site must be evaluated, but added that they are seeking a waiver of that requirement due to significant deficiencies at the existing site. Mr. Brennan noted that the list of desired sites to be studied for a potential new Beal School was narrowed from 31, to six, to three - Allen Farm (also known as Centech North), Camp Winnegan, and Glavin Center - and added that they vary in terms of ownership, use designation(s), and potential state legislation that might be required.

The Committee advised that there were pros and cons for all three sites and acknowledged the importance of location in the decision-making process. They asked clarifying questions about the presence of bedrock at Camp Winnegan and about the ability for students to walk to and from school at all three sites, and Dr. Sawyer advised that there was the potential for some walkability from local neighborhoods at all three.

V. Curriculum
None.

VI. Policy
A. Revised Policy on Rental & Use of School Facilities: Second Reading & Vote; Rental Rates for Future SHS Synthetic Turf Stadium Field: Vote

Policy 851 was recommended for updating to reflect the future rentals of the synthetic turf field. A first reading of the changes was held at the School Committee meeting on October 25, 2017, and Mr. Palitsch advised that no feedback had been received from the community since the first reading. Separately, a schedule of rental fees for the synthetic turf field was also presented to the Committee for approval.

On a motion by Mr. Palitsch, seconded by Mr. Wensky, the Committee voted unanimously to approve the Revised Policy 851 on Rental & Use of School Facilities.

On a motion by Mr. Palitsch, seconded by Mr. Wensky, the Committee voted unanimously to approve the rates in the Synthetic Turf Field Rental Rates chart found in the materials provided.

VII.Finance & Operations
A. Fiscal Year 2018 Budget Status: Report

Mr. Collins provided an update on the status of the Fiscal Year 2018 Budget, which is reported in 19 categories. Noting that the district is 30% of the way through the fiscal year (17% through the school year), he characterized the budget as stable and noted two highlights: there are currently 97 students budgeted and billed for at Assabet Valley Regional Technical High School; there are fewer out of district special education placements and changes in placements than were budgeted for.

Dr. Magee noted that Circuit Breaker funding is volatile, phased off by one year, and pays for out of district special education fees at rates that are set by the state.

VIII. Old Business
None.

IX. New Business
None.

X. Approval of Minutes

Without objections from the Committee, the minutes of the School Committee meeting on October 25, 2017 were accepted as distributed.

XI. Executive Session
None.

XII. Adjournment

On a motion by Mr. Palitsch, seconded by Mr. Wensky, the committee voted unanimously to adjourn the meeting at 8:59 pm.

Respectfully submitted,

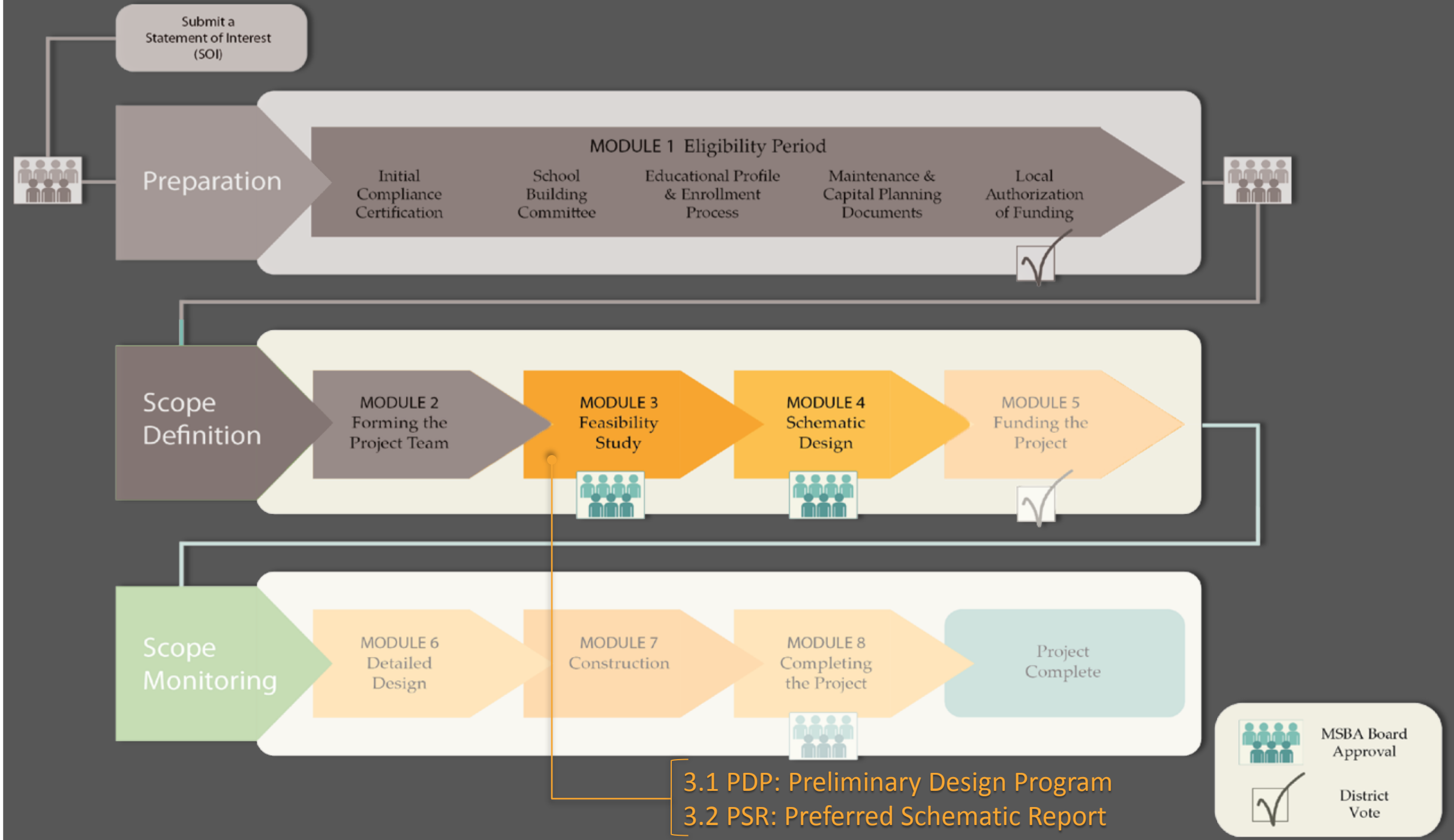
Elizabeth McCollum, Clerk

Documents referenced:

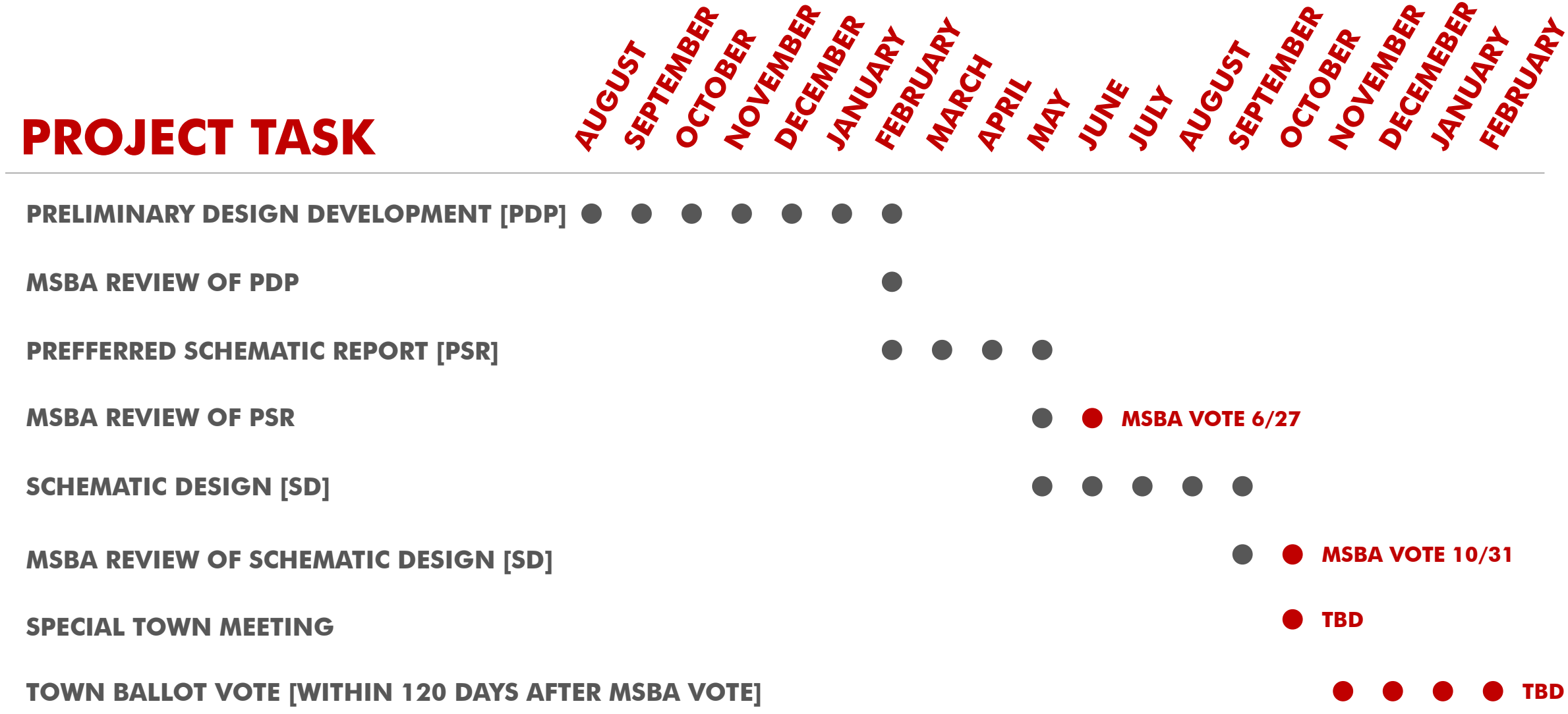
1. Athletics Annual Report
2. Athletics Slide Presentation
3. Concussions Annual Report
4. Concussions Slide Presentation
5. Nursing Annual Report
6. Nursing Slide Presentation
7. Memo re: Substitute Nurse Rate
8. Beal Site Selection Report Slides
9. SC Policy 851 Revision Draft - Philosophy of After-Hours Use
10. Rental Rates for Future SHS Synthetic Turf Stadium Field Document
11. FY2018 Budget Status Report
12. Set(s) of Minutes Referenced Above

BEAL EARLY CHILDHOOD CENTER

MSBA CORE PROGRAM PROCESS



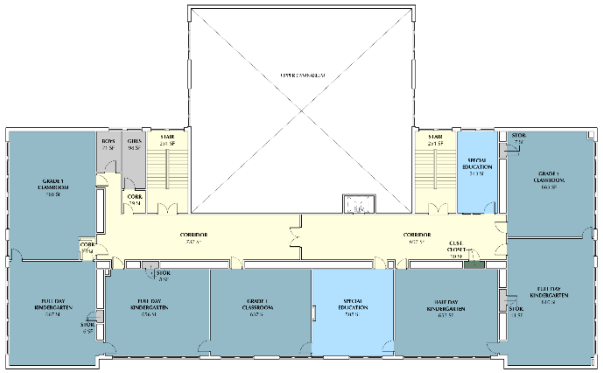
SCHEDULE


PROJECT TASK
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER
DECEMBER
JANUARY
FEBRUARY
MARCH
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER
DECEMEBER
JANUARY
FEBRUARY
PRELIMINARY DESIGN DEVELOPMENT [PDP]
MSBA REVIEW OF PDP
PREFFERRED SCHEMATIC REPORT [PSR]
MSBA REVIEW OF PSR
MSBA VOTE 6/27
SCHEMATIC DESIGN [SD]
MSBA REVIEW OF SCHEMATIC DESIGN [SD]
MSBA VOTE 10/31
SPECIAL TOWN MEETING
TBD
TOWN BALLOT VOTE [WITHIN 120 DAYS AFTER MSBA VOTE]
TBD

BEAL EARLY CHILDHOOD CENTER

Basement

First Floor



Second Floor

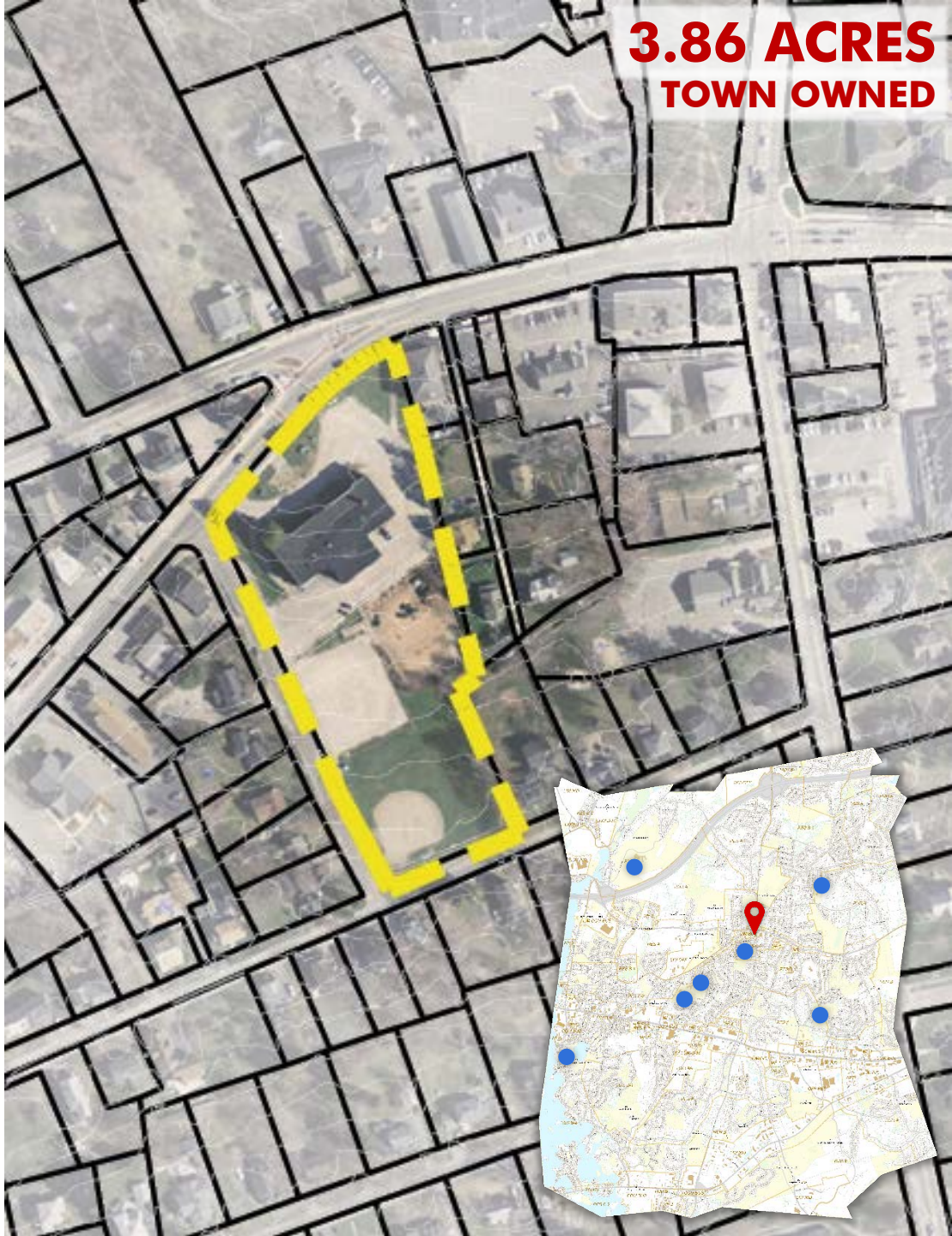
LEGEND

- Core Academic
- Special Education
- Art & Music
- Health & Physical Education
- Media Center
- Dining & Food Service
- Administration, Guidance
- Medical
- Custodial & Maintenance
- Other
- Mechanical / Electrical
- Circulation

±34,000 Sqft.

Built 1922

3.86 ACRES
TOWN OWNED



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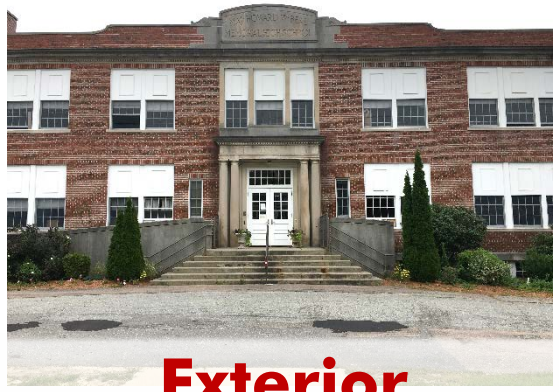

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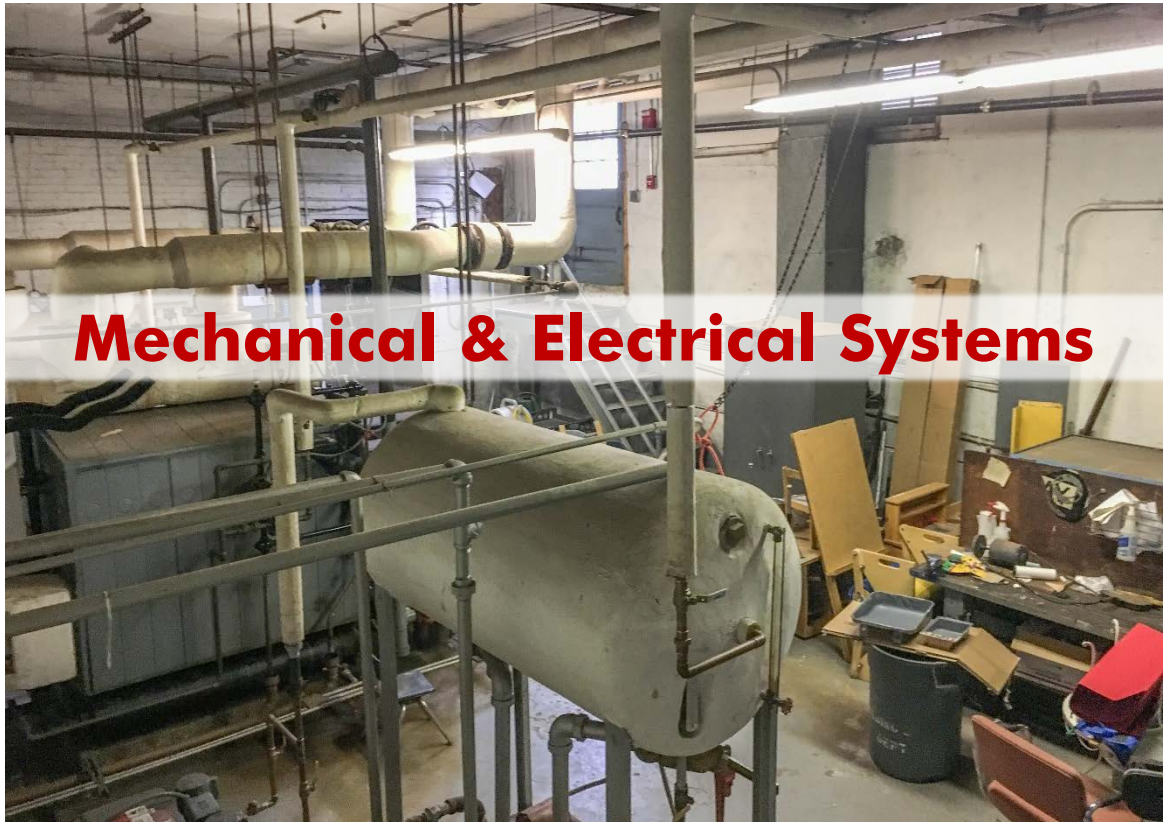

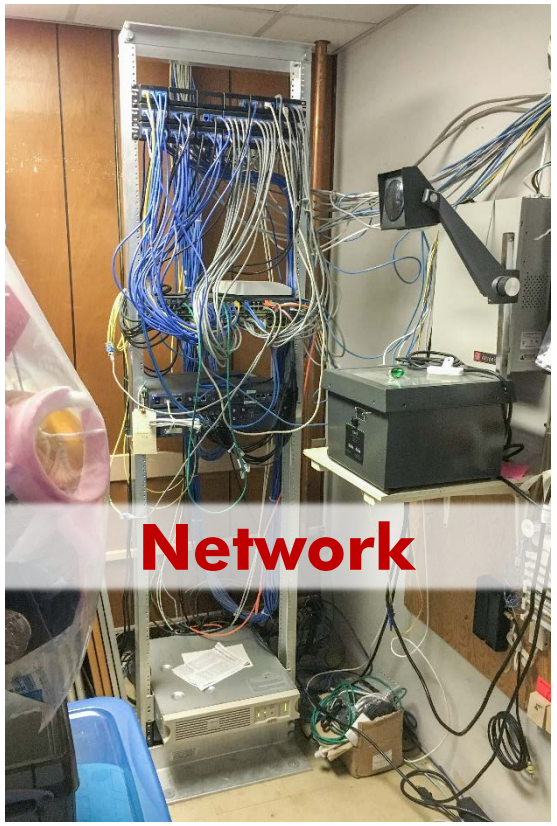

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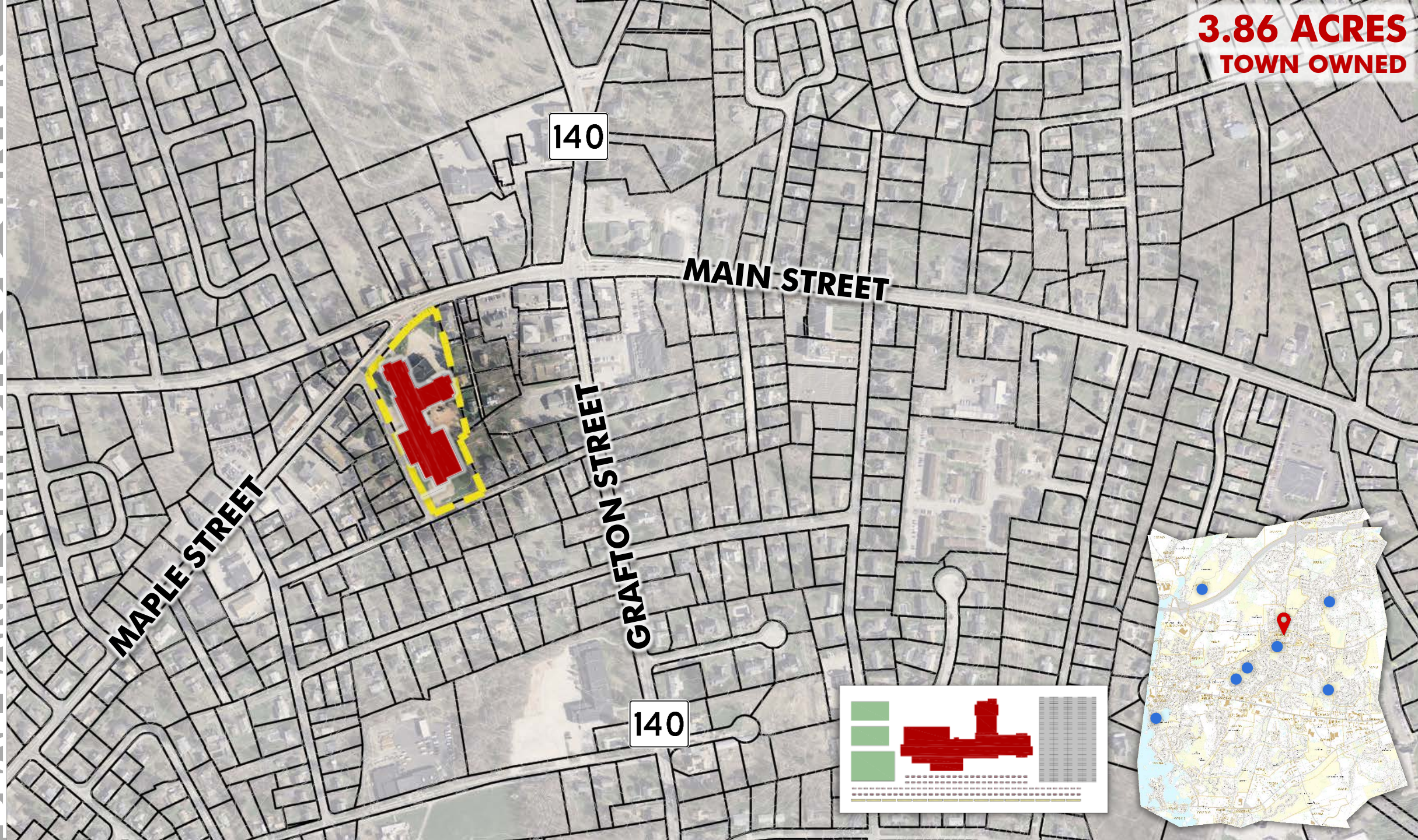
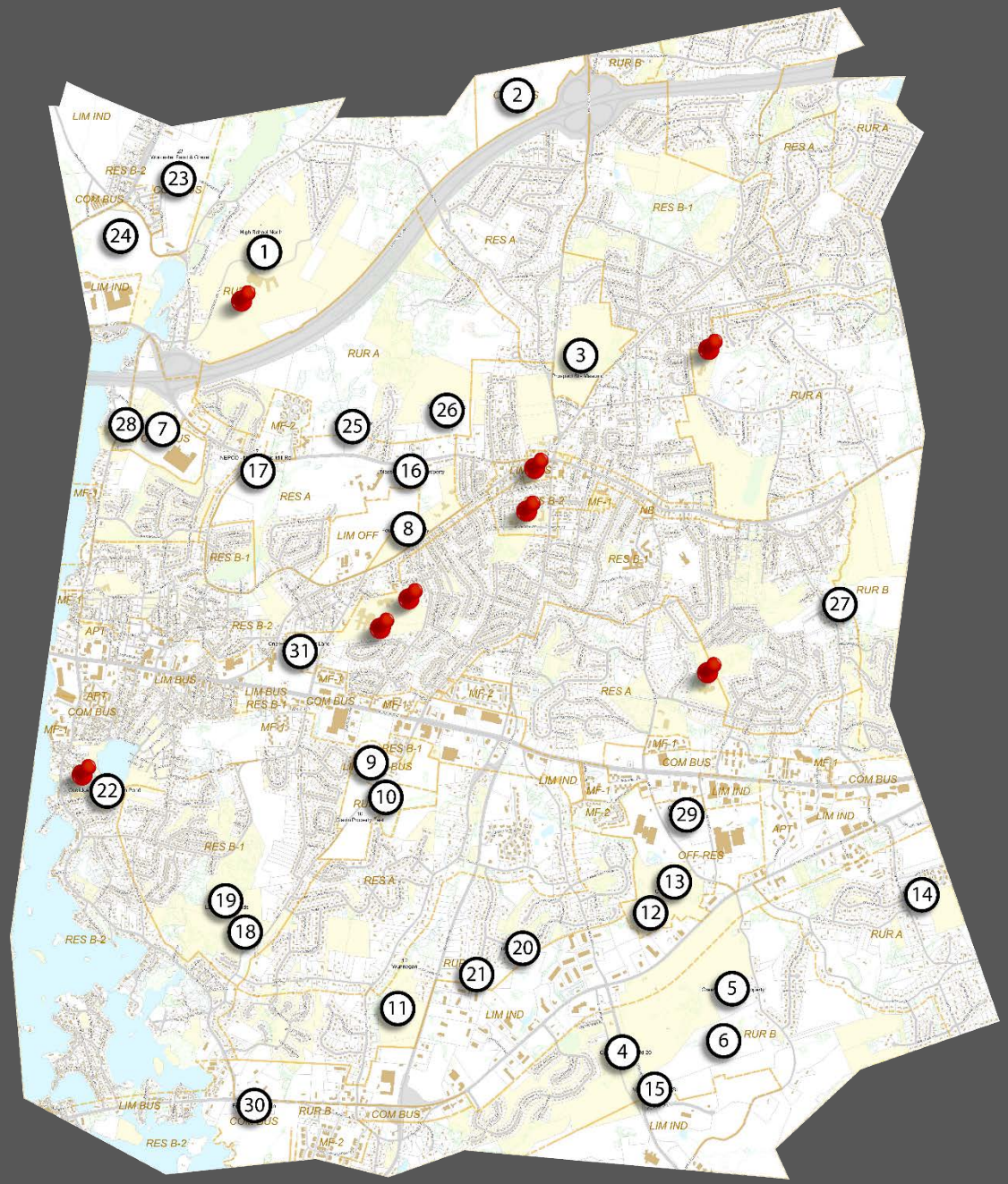
3.86 ACRES
TOWN OWNED



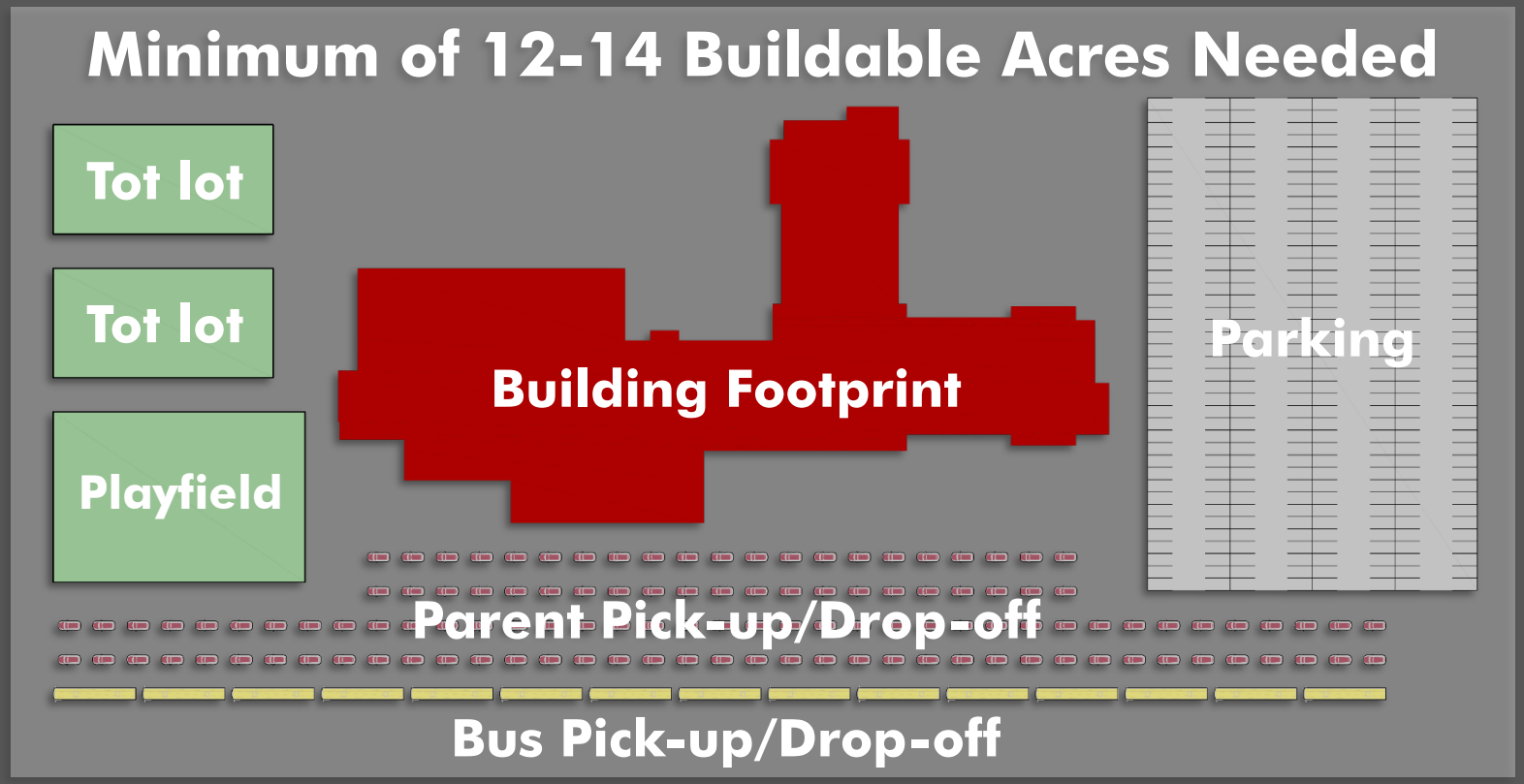
INDEX OF SITES EVALUATED



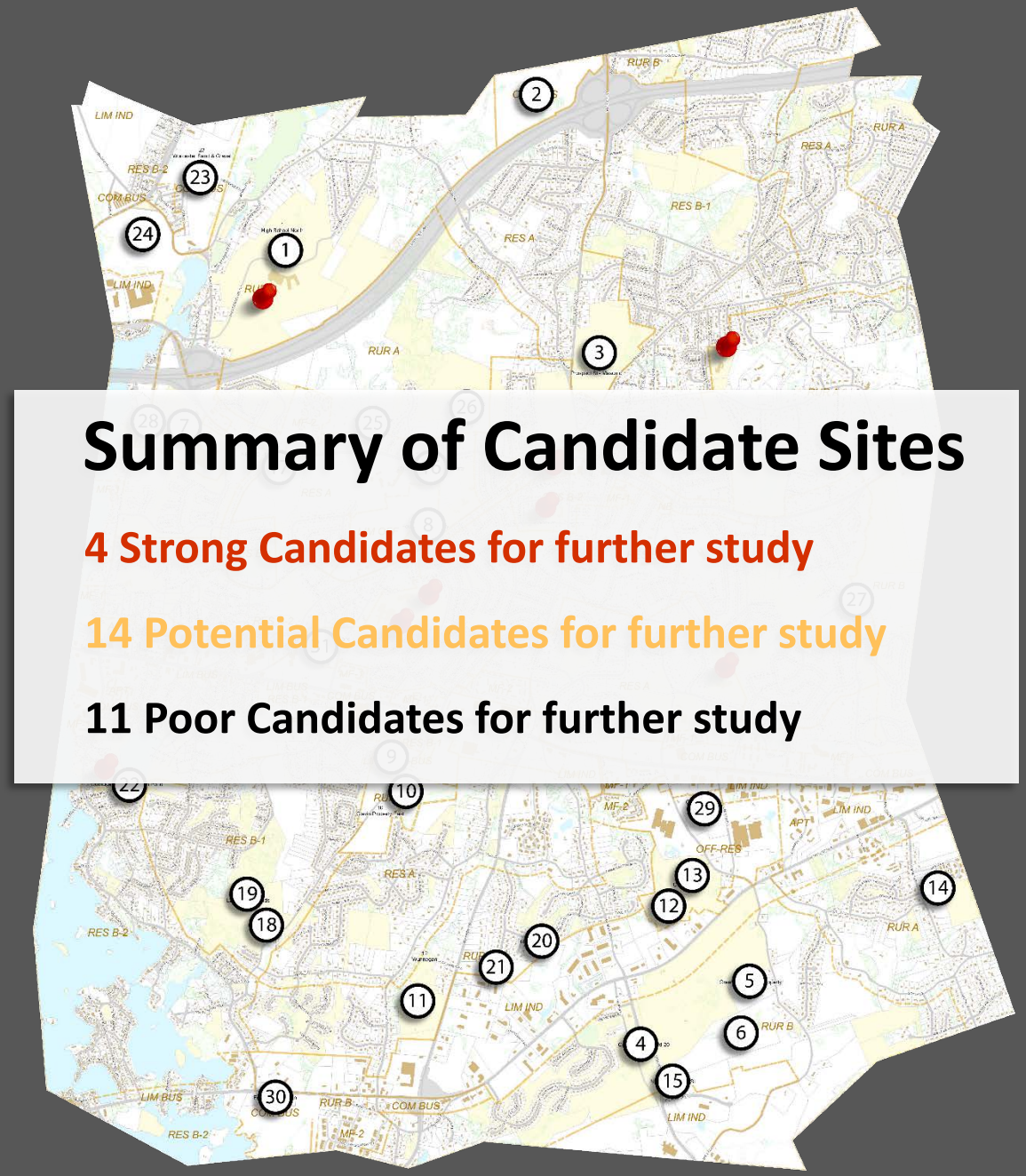
01| Holden Street | Town Owned | 194.17 Acres
02| Boylston Street | 129.77 Acres
03| Prospect Street | Town Owned | 70.71 Acres
04| Centech Boulevard | Town Owned | 70.87 Acres
05| Green Street | 13.76 Acres
06| Green Street | 71.76 Acres
07| Main Street | 51.71 Acres
08| Maple Street | Town Owned | 19.7 Acres
09-10| Lake Street | 98.97 Acres
11| Grafton Street |Town Owned | 29.7 Acres
12-13| South Street | Town Owned | 60.89 Acres
14| Walnut Street | Town Owned | 24.7 Acres
15| Cherry Street | 22.0 Acres
16| Maple Avenue | 42.15 Acres
17| Main Street | 17.11 Acres
18| Lake Street | 9.3 Acres
19| Lake Street | Town Owned | 27.8 Acres
20| Rockwell Drive | 7.97 Acres
21| Farmington Drive | Town Owned | 5.89 Acres
22| Florence Street | Town Owned | 14.27 Acres
23| Holden Street | 113.1 Acres
24| Holden Street | 88.65 Acres
25| Main Street | 74.92 Acres
26| Main Street | 20.55 Acres
27| Walnut Street | 45.15 Acres
28| N. Quinsigamond Avenue | Town Owned | 4.84 Acres
29| South Street | 42.44 Acres
30| Hartford Turnpike | 56.57 Acres
31| Oak Street | 9.7 Acres

SITE EVALUATION CRITERIA

- Location
- Size
- Topography
- Access/Frontage
- Wetlands/Water features
- Utilities
- Program



CATEGORIZED INDEX OF SITES



Summary of Candidate Sites

4 Strong Candidates for further study

14 Potential Candidates for further study

11 Poor Candidates for further study

01| Holden Street | Town Owned | 194.17 Acres
02| Boylston Street | 129.77 Acres
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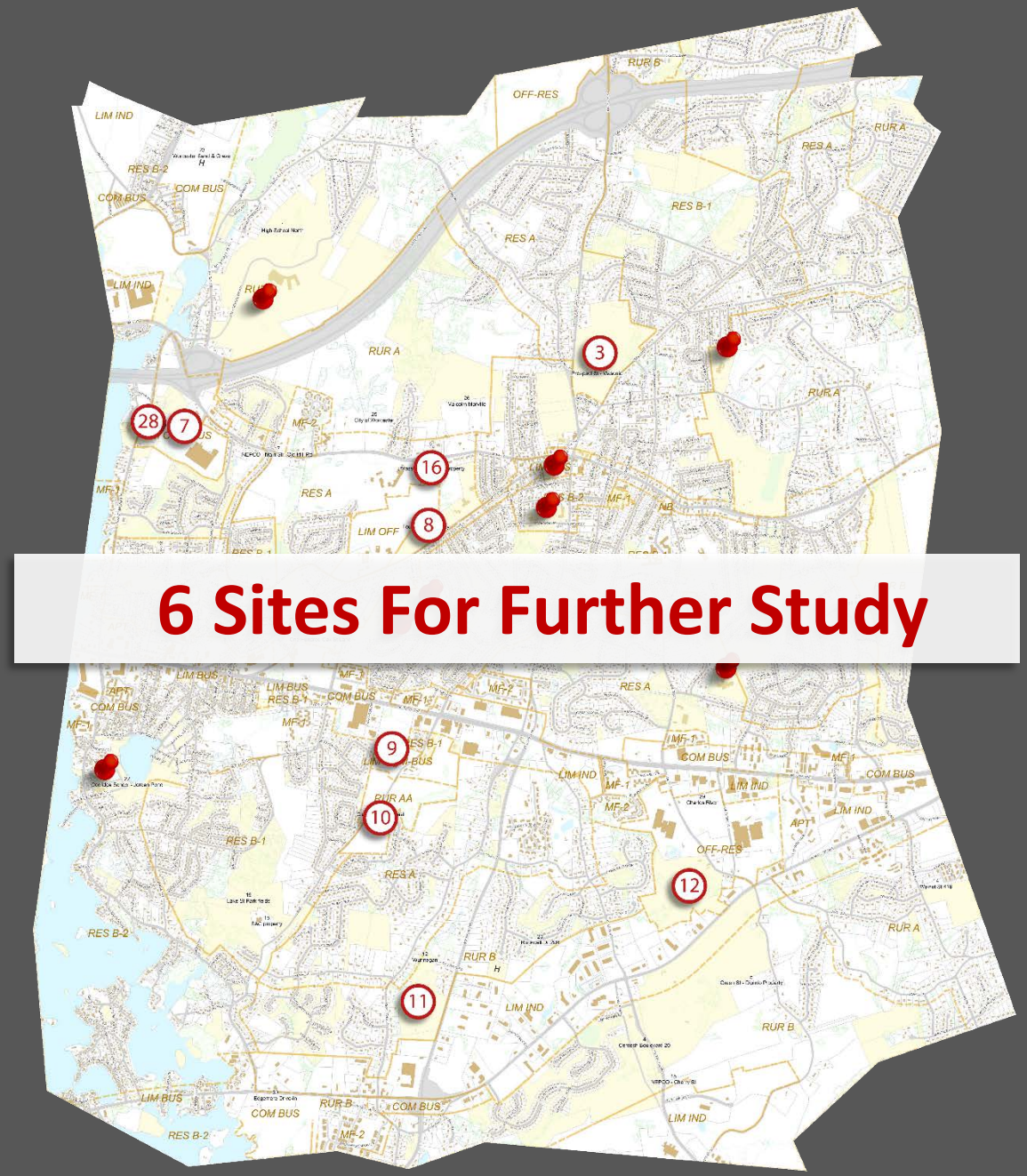
29| South Street | 42.44 Acres
30| Hartford Turnpike | 56.57 Acres
31| Oak Street | 9.7 Acres

INDEX OF STRONG CANDIDATES



6 Sites For Further Study

01| Holden Street | Town Owned | 194.17 Acres
02| Boylston Street | 129.77 Acres
03| Prospect Street | Town Owned | 70.71 Acres
04| Centech Boulevard | Town Owned | 70.87 Acres
05| Green Street | 13.76 Acres
06| Green Street | 71.76 Acres
07| Main Street | 51.71 Acres
08| Maple Street | Town Owned | 19.7 Acres
09-10| Lake Street | 98.97 Acres
11| Grafton Street |Town Owned | 29.7 Acres
12-13| South Street | Town Owned | 60.89 Acres
14| Walnut Street | Town Owned | 24.7 Acres
15| Cherry Street | 22.0 Acres
16| Maple Avenue | 42.15 Acres
17| Main Street | 17.11 Acres
18| Lake Street | 9.3 Acres
19| Lake Street | Town Owned | 27.8 Acres
20| Rockwell Drive | 7.97 Acres
21| Farmington Drive | Town Owned | 5.89 Acres
22| Florence Street | Town Owned | 14.27 Acres
23| Holden Street | 113.1 Acres
24| Holden Street | 88.65 Acres
25| Main Street | 74.92 Acres
26| Main Street | 20.55 Acres
27| Walnut Street | 45.15 Acres
28| N. Quinsigamond Avenue | Town Owned | 4.84 Acres
29| South Street | 42.44 Acres
30| Hartford Turnpike | 56.57 Acres
31| Oak Street | 9.7 Acres

SITE EVALUATION CRITERIA

Geographical Location:
Rated on the ability to achieve equitable distribution of Elementary Schools throughout the town

Zoning & Adjacent Land Uses:
Rated according to the current uses of the subject parcel as well Compatible uses for a School include residential, business and publicly owned open space (i.e. parks, recreation fields, etc.).

Property Configuration, Size, & Buildable Area:
Rated on the size/configuration of developable acres, preliminary estimates anticipate 12-14 Buildable Acres

Topography:
Rated on the overall slopes of the Buildable Area. Slopes greater than 15% are considered excessive and will directly impact building design and site development costs.

Environmental Resources and Hydrology:
Rated on the presence of wetland resource areas, intermittent streams, endangered species, etc., and their impact on the development of the site.

Soils and Geologic Factors:
Some soils are more advantageous than other in respect to drainage, depth to bedrock, soil bearing capacity, etc. and were rated accordingly.

Utility Availability:
Rated on the availability of utilities, including public sewer, water, electrical power, fiber, and natural gas, determine this criterion.

Access Potential/Traffic, Pedestrian/Vehicular:
Each site is given rating based on a combination of factors including vehicular & pedestrian access and potential impact on traffic.

Existing Development, Buildings and Site:
Proposed sites are rated according to the level of existing site improvements and whether or not these improvements are betterments to the redevelopment of the site for a school or are a hindrance.

Easements and Other Property Limitations:
Ratings are based on limitations imposed by Easements/restrictions.

Acquisition Cost/Site development Cost:
Cost of land acquisition or purchase of adjacent land are factored in the rating of this category

General Comment:
Any items particular to the noted sites that is not covered in the above criteria, or factors worthy of note, and additional points, or negative points.

ALLEN FARM – SOUTH STREET

60.89 ACRES
TOWN OWNED

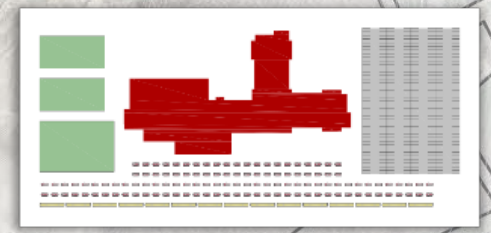
SOUTH STREET

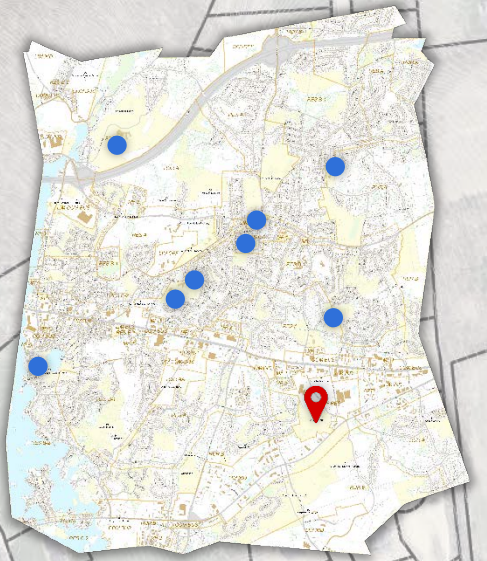
±12

±9

20

20





CAMP WINNEGAN – ROUTE 140

33.7 ACRES
TOWN OWNED

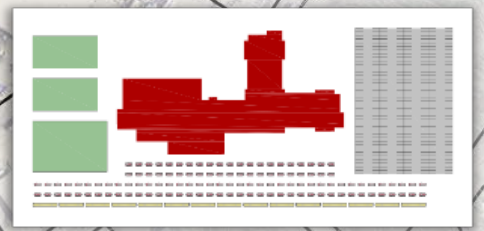
140

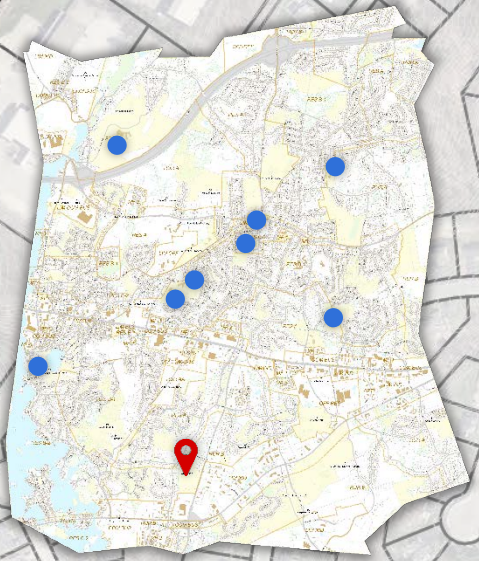
20

"OLD" GRAFTON STREET

±17.5

140



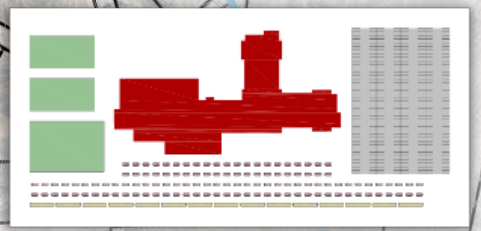


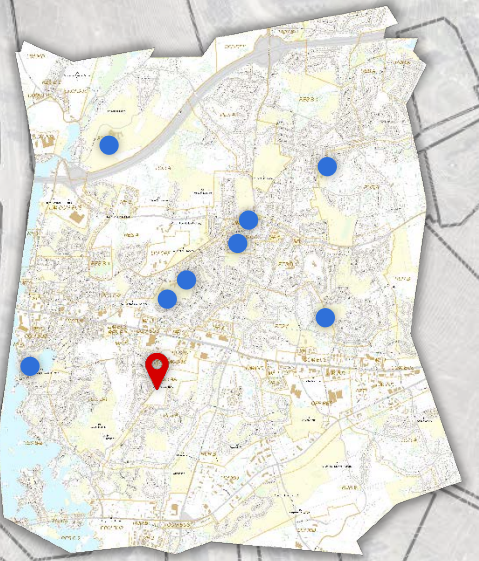
GLAVIN CENTER – LAKE STREET

98.97 ACRES

±16.5

LAKE STREET





BEAL EARLY CHILDHOOD CENTER

SHREWSBURY PUBLIC SCHOOLS
SCHOOL COMMITTEE MEETING AGENDA
November 29, 2017 7:00pm
Town Hall—100 Maple Avenue
Selectmen's Meeting Room

Items		**Suggested time allotments**
I.	Public Participation	7:00-7:10
II.	Chairperson's Report & Members' Reports	
III.	Superintendent's Report	
IV.	Time Scheduled Appointments:	
A.	District Goals 2015-2017: Report	7:10 – 7:30
B.	Strategic Planning: Report on Potential Priorities	7:30 – 8:15
V.	Curriculum	
VI.	Policy	
VII.	Finance & Operations	
A.	Fiscal Year 2018 Staffing Levels: Report	8:15 – 8:30
B.	Enrollment Projections: Report	8:30 – 8:55
VIII.	Old Business	
IX.	New Business	
X.	Approval of Minutes	8:55 – 9:00
XI.	Executive Session	
XII.	Adjournment	9:00

Next regular meeting: December 6, 2017

RECEIVED
TOWN CLERK'S OFFICE
2017 NOV 21 PM 12:33
SHREWSBURY, MASS

SHREWSBURY PUBLIC SCHOOLS
100 MAPLE AVENUE
SHREWSBURY, MASSACHUSETTS

MINUTES OF SCHOOL COMMITTEE MEETING

Wednesday, November 29, 2017

Present: Dr. Dale Magee, Chairperson; Mr. Jon Wensky, Vice Chairperson; Ms. Sandy Fryc, Secretary; Ms. Erin Canzano; Mr. Jason Palitsch; Mr. Patrick Collins, Assistant Superintendent for Finance and Operations; Ms. Amy B. Clouter, Assistant Superintendent for Curriculum & Instruction; Ms. Barb Malone, Director of Human Resources; and Dr. Joseph Sawyer, Superintendent of Schools.

A complete audio/visual recording of this meeting is available on the Shrewsbury Public Schools website.

The meeting was convened by Dr. Magee at 7:02 pm.

I. Public Participation
None.

II. Chairperson's Report & Members' Reports

Mr. Wensky thanked parents for their attendance and support at ongoing PTO meetings held at schools throughout the district.

III. Superintendent's Report

Dr. Sawyer provided a brief update on the Beal Building Project, noting there are complications around conservation zoning with one of the three sites being considered - Camp Winnegan - so there will be increased focus on the Allen Farm and Glavin Center properties; advised that the SPS Colonial Fund enjoyed a very successful #GivingTuesday; and noted the Shrewsbury High School (SHS) Performing Arts Department is celebrating its 50th musical this year and kicking off the timeline with an event from former SHS alum Catherine Brunell, who will be coming back to Shrewsbury for a one night cabaret event at SHS on Saturday, December 16.

IV. Time Scheduled Appointments:
A. District Goals 2015-2017: Report

In April 2015, the School Committee unanimously approved two-year district goals, and this past spring results on some of these goals were included in the reports to the School Committee on

the five-year strategic priorities. Ms. Clouter's presentation detailed progress on student goals relative to Writing and Math, and explained that the data collection for the goals in these areas was different than originally planned due to a variety of factors, including the shifting state expectations and decisions at different grade spans to shift assessments to better measure what was most important relative to student learning in those subjects. She noted the importance of utilizing common assessments, and added that initially growth was measured within a given year (not year to year). Ms. Clouter described the different areas of focus at the elementary, middle, and high school levels for Writing. For Math, Ms. Clouter noted the importance of finding exemplars at different student levels, and noted that collaboration among teachers was somewhat more challenging at the high school level because of the lack of common planning time.

Committee members commended teachers for calibrating as needed as things progressed, and asked clarifying questions about measurability and any additional resources that might be needed going forward.

B. Strategic Planning: Report on Potential Priorities

Ms. Clouter, Ms. Margaret Belsito, Director of Special Education & Pupil Personnel Services, and Dr. Jane O. Lizotte, Principal, Sherwood Middle School, provided a report on three areas identified as important to determining district priorities for the next five years based on feedback from public forums and surveys: 21st century skills, inclusive schools, and social and emotional learning (SEL).

Dr. Lizotte described the five core competencies of SEL and noted the link between strong student-teacher relationships and students' social emotional and academic outcomes. She presented a video featuring grade 1-12 students talking with her about different ways teachers help them in areas ranging from meeting friends to managing schoolwork, and detailed the type of assessment of current practices that is needed now. Ms. Clouter discussed engaging and challenging students, especially as it relates to preparing our graduates for success in the future. She addressed building proficiency in students (communication skills, problem solving, collaboration, resilience, leveraging technology) and staff (professional development, project-based learning, leadership training). Ms. Clouter noted the importance of schools and staff providing non-academic support and activities to students who needing additional academic help, and showed a video clip called "Building a Vision Together" that featured a student with Down Syndrome from Colorado named Megan Bomgaars who challenges educators by exhorting them "Don't limit me!" Ms. Belsito addressed inclusive schools by detailing the continuum of supports currently in place at SPS, defining "inclusive schools", showing a video illustrating inclusive practices at the Walter J. Paton School and SHS, and describing how the district can build a vision for the future that results in effective inclusive schools in Shrewsbury.

Committee members noted the importance of all three areas, especially as they relate to the embedded nature of resilience, problem solving skills, habits of mind, individualized education for all students, and mitigating anxiety. Mr. Palitsch noted that to facilitate these priorities it would be necessary to operationalize with staff and resources. Dr. Magee expressed concern about overloading students and staff who are already overloaded and asked about looking to

other districts working on this for guidance. Dr. Lizotte advised that SPS does pull from other districts and organizations, will work to create systems that work for individual school communities, and acknowledged that measurement of SEL would be the most challenging aspect of the work. Dr. Sawyer added that Shrewsbury was one of about 38 districts who applied for a cohort of 8 school systems working on SEL, and while SPS was not selected, he noted SEL is a key priority at the state level due to student anxiety and depression. Finally, he noted that recommendations for strategic priorities for the next five years would be presented at the School Committee meeting on December 6, 2017.

V. Curriculum
None.

VI. Policy
None.

VII.Finance & Operations
A. Fiscal Year 2018 Staffing Levels: Report

Ms. Barbara Malone, Director of Human Resources, provided a report on staffing levels for FY 18 effective October 1, 2017, which included a chart indicating the utilization of staff by position, department, and school level. She added that two staffing reports are generated - the Department of Elementary and Secondary Education (DESE) report, and the SPS staffing report (which is based on payroll records).

Ms. Malone noted that overall actual 831.25 Full Time Equivalent (FTE) positions represented +6.94 FTE over the projected 824.31, then broke down staffing by categories: Administration, Instructional Classroom, Instructional Specialist, Instructional Support, and Classified. She described anticipated needs relative new students (moving in/aging in), special education students, and human resources (to address work volume and state reporting).

B. Enrollment Projections: Report

Mr. Patrick C. Collins, Assistant Superintendent for Finance and Operations, noted that the enrollment projections report was done annually for capital planning purposes and near-term class size and staff planning. He noted two projection methods were used - Town Manager's (which does not include preschool) and New England School Development Council (NESDEC). Comparing the two for K-12 enrollments, NESDEC projected modest continued growth at one and five-year marks while the ten-year interval showed a small decline, and the Town Manager projection indicated a very small decline at the five and ten year intervals. Mr. Collins went on to show projections segmented by grade span and historical data for both methodologies; provide initial 2018-19 projections at the elementary and secondary levels; and show projected versus actual numbers for 2017-18. He expects that 2018-2019 will see continued enrollment growth, SHS will be at all time high enrollment of approximately 1,863 students, additional teaching staff

will not likely be needed for Kindergarten-Grade 8, and full-day kindergarten seats will need be reduced to accommodate increased kindergarten enrollment of approximately 40-45 students.

Committee members noted that both projections are historical and don't capture growth in housing stock, that grades K - 12 don't exhibit the same pattern of regular growth that preschool does due to students aging in for special education services, and that the Beal Building Project enrollment projection methodology does incorporate housing projections in the pipeline and migration factors. Dr. Sawyer advised that month-to-month enrollment numbers do not change dramatically, and that enrollment is not expected to get smaller, especially in the short term.

VIII. Old Business
None.

IX. New Business
None.

X. Approval of Minutes

Without objections from the Committee, the minutes of the School Committee meeting on November 15, 2017 were accepted as distributed.

XI. Executive Session
None.

XII. Adjournment

On a motion by Mr. Palitsch, seconded by Mr. Wensky, the committee unanimously agreed to adjourn the meeting at 8:52 pm.

Respectfully submitted,

Elizabeth McCollum, Clerk

Documents referenced:

1. Staffing Report Presentation Slides
2. Staffing Report Memo
3. Staffing Report Spreadsheet
4. Set(s) of Minutes as Referenced Above
5. Enrollment Projection Report

6. Enrollment Projection Slides
7. NESDEC Enrollment Projection
8. Town Manager's Enrollment Projection
9. District Goals Report
10. District Goals Slides
11. Strategic Planning Priorities Report
12. Strategic Planning Priorities Slides

SHREWSBURY PUBLIC SCHOOLS
SCHOOL COMMITTEE MEETING AGENDA
January 10, 2018 7:00pm
Town Hall—100 Maple Avenue
Selectmen's Meeting Room

Items		**Suggested time allotments**
I.	Public Participation	7:00-7:10
II.	Chairperson's Report & Members' Reports	
III.	Superintendent's Report	
IV.	Time Scheduled Appointments:	
	A. SHS Student Advisory Committee: Report	7:10 – 7:25
	B. Campaign for Shrewsbury Athletic Fields: Report & Vote	7:25 – 7:40
	C. Beal School Building Project: Space Planning Report	7:40 – 8:05
V.	Curriculum	
	A. SHS Program of Studies: Proposed Changes for 2018-2019	8:05 – 8:25
VI.	Policy	
VII.	Finance & Operations	
VIII.	Old Business	
IX.	New Business	
	A. Superintendent's State of the District Annual Report	8:25 – 8:45
X.	Approval of Minutes	8:45 – 8:50
XI.	Executive Session	
XII.	Adjournment	8:50

Next regular meeting: January 31, 2018

RECEIVED
TOWN CLERK'S OFFICE
2018 JAN -5 PM 4:24
SHREWSBURY, MASS

SHREWSBURY PUBLIC SCHOOLS
100 MAPLE AVENUE
SHREWSBURY, MASSACHUSETTS

MINUTES OF SCHOOL COMMITTEE MEETING

Wednesday, January 10, 2018

Present: Dr. Dale Magee, Chairperson; Mr. Jon Wensky, Vice Chairperson; Ms. Erin Canzano; Mr. Jason Palitsch; Mr. Patrick Collins, Assistant Superintendent for Finance and Operations; Ms. Amy B. Clouter, Assistant Superintendent for Curriculum & Instruction; Ms. Barb Malone, Director of Human Resources; and Dr. Joseph Sawyer, Superintendent of Schools.
Not present: Ms. Sandy Fryc, Secretary

A complete audio/visual recording of this meeting is available on the Shrewsbury Public Schools website.

The meeting was convened by Dr. Magee at 7:01 pm.

I. Public Participation
None.

II. Chairperson's Report & Members' Reports

Mr. Wensky advised that his three year term on the Committee was drawing to a close, and that he will be seeking re-election. Mr. Palitsch noted that Shrewsbury Education Foundation (SEF) would be hosting their annual fundraising dinner, which recognizes grant winners and leadership award recipients, on January 20th.

III. Superintendent's Report

Dr. Sawyer also noted the upcoming SEF dinner and acknowledged the following John P. Collins Award winners:

Paraprofessionals:
Lisa Pashou, Sherwood Middle School
Cindy Reid, Parker Road Preschool

Support Staff:
Travis Perron, Custodian, Oak Middle School (and who recently filled in at Sherwood)

Unsung Hero:
Jim Roche, Community Volunteer, ESL Program at Sherwood

Professional Educators:
Ken Avery, Grade 2 Teacher, Floral Street School
Liz McGandy, ESL Teacher, Sherwood Middle School
Sarah Monica, Little Colonials Preschool Teacher, Shrewsbury High School

Leadership:
Patrick Collins, Assistant Superintendent for Finance & Operations

Dr. Sawyer noted the Community Service Award is being given collectively to the students of Shrewsbury High School for their extraordinary contributions to serving the community.

IV. Time Scheduled Appointments:
A. SHS Student Advisory Committee (SAC): Report

Benjamin George, Student, Class of 2018, SAC Chair; Maya McCollum, Student, Class of 2018; Erica Hanlon, Student, Class of 2019; Paulina Hruskoci, Student, Class of 2019; Prisha Singh, Student, Class of 2019, gave a report that included information on Student Advocacy as it relates to Town Meeting at Shrewsbury High School (topics included the timing of assignments in the Schoology learning management system software, parking, social science electives/financial literacy learning opportunities, and vegetarian/vegan cafeteria choices) and the newly developed Strategic Priorities (topics included school start times, student workloads, AP course options and availability, and real-world application of classroom learning).

They went on to discuss extracurricular activities, detailing successes and providing information on athletics (noting the addition of freshman teams as an area of opportunity), the performing arts, clubs (over 50 at SHS), and community service (noting the student body has continually surpassed set hourly goals).

Committee members asked clarifying questions and noted the sophistication and relevance of students' concerns presented at this meeting, as well as at their SHS Town Meeting, relative to academics, extracurricular activities, and student well-being.

B. Campaign for Shrewsbury Athletic Fields: Report & Vote

Ms. Michelle Biscotti and Ms. Kathleen Keohane, Co-Coordinators of Development & Volunteer
Activities, provided an update on The Campaign for Shrewsbury Athletic Fields which included background information on the project and described how they have been working to raise funds. They noted that $1,145,717 of the needed $1.8 M has been raised, recognized donors, and described efforts in the coming weeks (which include the Tailgate for Turf fundraiser on

February 3) to raise the balance of funds by February 2018 to allow for field installation in time for the 2018-19 school year. Mr. Collins added that if funds were not raised in time, an increase of 3-5% in costs could be expected for installation the following year, and that maintenance costs for the existing natural grass fields would also be incurred for an additional year. The Committee asked clarifying questions, then Ms. Keohane read a statement from donors Columbia Tech and The Coghlin Family.

On a motion by Mr. Palitsch, seconded by Mr. Wensky, the School Committee voted unanimously to accept a $5,000 gift from Karyn Polito and Steve Rodolakis; a $5,000 gift from Jim and Hannah Kane; a $10,000 gift from Columbia Tech and The Coghlin Family; and a $25,000 gift from Mark and Lisa Govoni, for the athletic field project at Shrewsbury High School.

C. Beal School Building Project: Space Planning Report

Mr. Collins, Katie Crockett, Lamoureux Pagano Associates, and Sean Brennan, Lamoureux Pagano Associates, gave a report to the Committee on the status of the Feasibility Study Phase (Module 3) of the Beal School Building Project, noting key elements of the Preliminary Design Program (PDP). Mr. Collins began by describing the post construction space and enrollment plan (which informed the proposed plan for 40 classrooms in the new school) and provided historical information on recently completed SPS projects (since 1997) that are already over capacity. Ms. Crockett and Mr. Brennan presented a Proposed Space Summary draft with detailed information on conditions at the existing Beal School, MSBA guidelines, and proposed space summaries on different school configurations dated 12-1-17 and 12-12-17, noting that Ms. Clouter's work on the Educational Philosophy Statement informs the modeling they use to determine allocated spaces. They also presented a Program Adjacency Diagram which provided a very general representation of the physical spaces proposed in the summary.

In response to questions from the Committee they advised that MSBA guidelines are a starting point for space allocation, and that the size of spaces can vary depending (as in the two configurations previously referenced) on the particular needs of a school in areas including Special Education. Dr. Sawyer provided clarifying information on the "common circulation spaces" shown in the diagram. Ms. Crockett and Mr. Brennan concluded by providing a very detailed summary of the steps of the Feasibility Study Phase (Module 3) of the project.

V. Curriculum
A. SHS Program of Studies: Proposed Changes for 2018-2019

Mr. Todd Bazydlo, Principal; Ms. Maureen Monopoli, Assistant Principal; and Ms. Jennifer DiFrancesca, Director of Social Sciences, Shrewsbury High School, provided an annual report on proposed changes to the Program of Studies at SHS for 2018-2019. Mr. Bazydlo began with an overview and timeline of the course selection process, noted changes in efficiency and occupancy from the current school year that would be taken into consideration, and noted

changes to special programs that included a redefinition of *Senior Exhibition* (grade 12 program) to *Capstone Exhibition* (spring of grade 11 through fall of grade 12 program) and the addition of *Job Shadowing* and *Cooperative Work Study*.

Ms. Monopoli described detailed changes to courses in Family Consumer Science, Foreign Language, Mathematics, Physical Education, Instructional Technology and Media Services, Performing Arts, and Visual Arts. Ms. DiFrancesca described detailed changes in the Social Sciences department, which included the addition of courses based on student interest.

The Committee asked clarifying questions around *Job Shadowing* (length of program, opportunities/family demographics as a factor, quality of programs offered), data entry relative to course selection, and coordinating enrollment requests with instructor availability. Dr. Sawyer thanked the group for the report and noted that the proposed Program of Studies anticipated changes informed by data from the *Portrait of a Graduate* and Strategic Priorities surveys.

VI. Policy
None.

VII. Finance & Operations
None.

VIII. Old Business

IX. New Business
A. Superintendent's State of the District Annual Report

Dr. Sawyer noted that the annual State of the District Report would be an overarching view of the district from his perspective, summarized in five points:

1) Our students continue to demonstrate success by traditional measures, and community satisfaction with the quality of our schools is high.
2) We have articulated a bold, shared vision for the characteristics we wish for our students to develop as a result of their education in Shrewsbury.
3) We have developed an ambitious set of strategic priorities and goals that will guide the direction and focus the energy of our district and our schools for the next five years.
4) Realizing our vision, priorities, and goals will require the resources to do the job.
5) Empowerment is the key.

Dr. Sawyer discussed all five points, and specifically highlighted the resources needed to realize the district's vision, priorities, and goals: community partnerships with businesses, higher education, service agencies, alumni, etc; family engagement and culturally proficient practices in an increasingly diverse community; social emotional learning strategies and programming; comprehensive well-being strategy and programming for staff.

Committee members thanked Dr. Sawyer for the report and noted that: SPS students feel valued; the status of the district is strong, and keeps evolving; they like the reflective nature of the report and the district; and resources are needed to continue driving success.

X. Approval of Minutes

Without objections from the Committee, the minutes of the School Committee meeting on December 20, 2017 were accepted as distributed.

XI. Executive Session
None.

XII. Adjournment

On a motion by Mr. Palitsch, seconded by Mr. Wensky, the committee unanimously agreed to adjourn the meeting at 9:20 pm.

Respectfully submitted,

Elizabeth McCollum, Clerk

Documents referenced:

1. SAC Agenda
2. Campaign for Shrewsbury Athletic Fields Slide Report
3. MSBA Module 3 Document
4. Beal Project Space Planning Template
5. Beal Project K-4 Space/Enrollment Projection
6. Beal Project Slides
7. SHS Program of Studies Proposed Changes Memo
8. SHS Program of Studies Proposed Changes Slide Presentation
9. Superintendent's State of the District Report
10. Superintendent's State of the District Slide Presentation
11. Lamoureux Pagano Documents
12. Set(s) of Minutes as Referenced Above

Beal Project
Enrollment and Space Planning

January 2018

Patrick C. Collins
Assistant Superintendent for Finance and Operations

Post Construction
Space and Enrollment Plan

CURRENT CONDITIONS				FUTURE PLAN				
School	Core Classrooms	Actual Enrollment 10/1/2017	Configuration	School	Core Classrooms	Target Enrollment 10/1/2025	K-4 Configuration	Enrollment Drawdown to Relieve Crowding
Coolidge	19	415	FDK-4, Sections vary	Coolidge	15	308	3 sections each, K-4	107
Paton	16	343	FDK-4, Sections vary	Paton	15	308	3 sections each, K-4	35
Spring	17	357	FDK-4, Sections vary	Spring	15	308	3 sections each, K-4	49
Floral	32	753	Gr. 1-4, Sections vary	Floral	30	608	6 sections each, K-4	145
		1868				1532		336
Beal ECC*	13	310	HDK, FDK & Gr. 1, Sections vary	Beal 2.0	40	790	8 sections each, K-4	
	97	**2178**			**115**	**2322**		

How We Get to 40 Classrooms

		Class Size Avg. K-4	Classrooms Required
Enrollment Drawdown	336	20	17
Enrollment Growth	132	20	7
Add'l Seats for Universal FDK	57	20	3
Current Beal Capacity*	265	20	13
	790	20	40

School Committee Class Size Guidelines	
Kindergarten	17-19
Gr. 1-2	20-22
Gr. 3-4	22-24

Enrollment drawdown from existing elementary schools provides parity of dedicated spaces across all elementary schools for Art, Music, Special Education, and ELL services.

** Beal ECC current enrollment [310] is a total headcount of all students attending full-day kindergarten, half-day kindergarten, and Grade 1.*
Of the total 138 students enrolled in half-day kindergarten- 65 attend in the morning session and 73 attend in the afternoon.

**Beal ECC capacity [265] is the total amount of students the school has space for at any one time.*

Historical Perspective:
Space Planning and Enrollment

	Project Completion Date	Design Capacity	Current Enrollment 10.1.2017	# Over Capacity	% Over Capacity	Notes
Floral	1997	660	750	90	14%	55 Floral Grade 1 students are at Beal due to lack of space at Floral. If you include these we are 145 students or 22% over capcity.
Sherwood	2013	900	967	67	7%	
Oak	2004	900	1009	109	12%	
Shrewsbury High School	2002	1475	1832	357	24%	The Core Spaces [Media Center, Cafeteria,Gymnasium, Etc.] were designed for 1800; Core Academic Spaces design enrollment was 1475. Academic wings were constructed in a way to facilitate future additional expansion.
Total	**na**	**3935**	**4558**	**623**	**16%**	