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## The Pointe at Hill's Farm Presentation

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Lacirignola, Hillary &lt;lacirigh@wseinc.com&gt;

Mon, May 9, 2016 at 2:14 PM

To: Matthew Sarcione &lt;msarcione@shrewsburyma.gov&gt;

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Matthew,

Weston & Sampson has performed a preliminary review of the May 5, 2016 "Update No. 2 to Proposed Sewer Service Connection- Hydraulic Capacity Study & Report for the Pointe at Hills Farm Chapter 40B Development, Shrewsbury Massachusetts" (hereinafter referred to as "Update No. 2") While this does not constitute our formal or final review, it is intended to provide background for further technical discussions regarding the sewer connection for the proposed development.

Also, please note underlined segments which attempt to address your earlier request regarding potential conditions to be included in the ZBA's final decision.

### General Commentary

- Update No. 2 does not seem to recognize or acknowledge certain components of the technical discussions that occurred between the Applicant, its engineers and consultants, the Town of Shrewsbury, and Weston & Sampson on April 8, 2016.
- Update No. 2 repeatedly refers to analysis or actions provided or "required" by Weston & Sampson – Weston & Sampson is merely a peer reviewer in this process supporting the Town of Shrewsbury in technical matters, providing guidance to the town on the interpretation of data in accordance with historical information about the Shrewsbury wastewater collection system and generally accepted industry standards and practices.

### Pump Stations

1. Quail Hollow and Stoney Hill Pump Stations – Update No. 2 recommends that repairs be performed to restore pumps back to rated capacity.
  - The claim that the pumps should be pumping at the "nameplate pumping rates" does not take into account the actual hydraulics at the station. We don't believe the pumps will ever get to these rates, nor is there any information provided in the report that discusses this.
2. Address rag issues at Cherry Street PS.
  - It is agreed that there may be a ragging issue at the station, adding residential type flows will only increase this issue and related resolutions should be borne by the Applicant. The Applicant should also implement a non-dispersible prohibition program at the development once it becomes occupied.
3. Conduct a comprehensive review and develop a Capital Improvement List of maintenance items at each PS.

- It was agreed at the April 8 meeting that this was necessary, however, performing the required inspections and maintenance is not planned by the town for several years according to its ongoing pump station improvement program. Arrangements will need to be made to expedite these reviews outside of the town's established program and accommodations for that should be incorporated into the town's issuance of approval for this project.
4. Install VFDs to lower the pumping rate at Cherry Street PS to reduce the surcharging in Segment 2B-23 to 2B-21.
    - Weston & Sampson does not agree with this approach. Installing VFDs at the station should not be the town's responsibility, nor has an evaluation been performed to determine if the current station setup and pump motors can even accept VFDs. In addition, new level controls would have to be installed in order to utilize VFD speed control and this is not addressed in Update No. 2. There is no flow study provided that technically shows how often the pumps need to be running at full capacity (which would still surcharge the downstream segment).
  5. Utilize the expanded wet well (i.e., surge tank).
    - Weston & Sampson does not agree with this approach. Utilizing the surge tank full time to accommodate additional wastewater flow from the development should not be relied upon for adequate capacity at the pump station. In addition, the status or use of the surge tank is not fully understood at this time.
  6. Update No. 2 is lacking supporting calculation data. Specifically, the development of flow data for pump stations is not apparent. In addition, Weston & Sampson disagrees with the methodology for determining average daily and peak flows for the pump stations.

#### Pipeline Hydraulic Capacity Evaluation – Cherry Street Pump Station to Interceptor

1. Update No. 2 does not include a peaking factor in the "Segment 2B-25 to 2B-23" discussion
2. It is agreed that pipe segment 2B23 to 2B-22 appears to be over capacity with and without the proposed development.
  - Update No. 2 recommends mechanically cleaning all pipe segments (specifically 2B-23 to 2B-21) and manholes to maximize pipe's carrying capacity and reduce odors from solids buildup.
  - As discussed at previous ZBA hearings and the April 8 meeting, the theoretical capacity calculations assume clean, non-obstructed pipe. Even with cleaning, the segment under route 9 will be under capacity. The developer should propose a rehabilitation or replacement method to ensure full design capacity at this location.
3. The hydraulic capacity of line segment in the South Street Easement appears to be based on the overall hydraulic grade line from 2B-16 to 2B-9.
  - This methodology does not account for the hydraulic capacity of individual pipe segments within the easements. Update No. 2 states that "No Capacity Issues Identified or Report(sic) by the Town." However, as stated in previous study reports of this area and as shown at the March 28 ZBA hearing, there are in fact problems of sewer surcharging in this area. An attempt should be made to obtain accurate pipe material and slope information in this area so that appropriate pipeline rehabilitation or replacement can be performed.

**From:** Matthew Sarcione [mailto:[msarcione@shrewsburyma.gov](mailto:msarcione@shrewsburyma.gov)]

**Sent:** Thursday, May 05, 2016 2:55 PM

**To:** Lacirignola, Hillary; Nichols, Kent; Jeff Howland; Robert Tozeski; Kristen Las; Daniel Morgado; Michele Bowers

**Subject:** Fwd: The Pointe at Hill's Farm Presentation

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