2022-06-09 Wareham Engineering Consultant Phone Call

Thursday, June 9, 2022 1:49 PM

Attendees:

- Charles L. Rowley, Consulting Engineer and Land Surveyor
- Emily Williamson, Shive-Hattery

Notes

Review of Charles's Site Plan Review Comments:

- Shive-Hattery/Eversource to reach out to Ken Buckland with Planning Board to request a continuance to present at the 06/27 board meeting instead or be prepared to present at the 06/13 meeting to request the continuance.

I am in receipt of a set of plans for the above referenced project dated December 3, 2021 and a Stormwater Report dated December 3, 2021 by Shive Hattery, Architects and Engineers. A review of these documents has been completed and is summarized below.

General

1. The project is located in the CS (Strip Commercial Zoning District) and includes the clearing of existing vegetation, construction of a gravel-type parking area and stormwater basin, installation of fencing and landscape features for the site.
2. The Wareham Zoning By-Law requires an impact statement to be included in the submission of documents in accordance with Article 15, Site Plan Review and Section 1534. No impact statement was included with the information provided for review.
    a. In particular, an environmental analysis should be provided for current conditions as well as for proposed changes in the project area.
    b. Other requirements of the impact statement should also be addressed accordingly, including but not limited to the current use and activities of the site as well as the proposed use and activities anticipated.
    c. It should include a statement as to how the project conforms with the intended use for a location in a commercial zoning district.

- Charles found a copy of the submitted impact statement on the Town's website and downloaded for his review. Charles will email/call Shive-Hattery with any comments. Additional information may be requested which is common.

Landscape Requirements

3. Article 10, Landscape Requirements of the Zoning By-Law require any new projects or expansions of non-residential project over 5000 square feet to be done by a Landscape Architect. See Section 1031 of the By-Law. The project does not appear to comply with this section.

- Landscape sheets must be signed by a licensed landscape architect. No waiver form available, instead need Zoning Board Approval for variance. Typically expected to be licensed in MA.

4. The project is subject to the requirements of Section 1040 and 1061.1 of Article 10 as well. It should be demonstrated by photos and/or other means that the project meets these standards.

- Provide documentation or photos showing why we think we meet landscaping requirements. If we feel that it meets requirements then we should point out to board how we meet it. Provide photos (or other form of documentation) of existing landscape vegetation if it is to be remaining to prove it could count as screening. We may put photos directly in plan sheet.

Plans

1. The plans show a proposed clearing of an area that is supposedly to be used for the parking of vehicles. The parking area is proposed to consist of 8 inches of 3/4” crushed stone over soils of

undetermined type.

- If the vehicles parking in the storage lot are in good working condition, then gravel is an acceptable surface material. If the vehicles parked there require maintenance and are leaking, then hard surface pavement (asphalt or concrete) is required along with WQV treatment train to capture leaking oils.
- Per Shive-Hattery's conversations with Dave Pichette, Wareham's Conservation Commissioner, and Ken Buckland, Town Planner, confirmed that gravel is not considered impervious per the Stormwater Handbook and therefore has less stormwater requirements than pavement.

2. Reconsideration should be given to the depth and type of stone to be used for surface treatment due to the potential for displacement of the stone during ordinary movement of vehicles and the removal of snow during winter months.

- If using gravel pavement, Charles recommends 3" of 3/8"/pea gravel, on top of 8" of reclaimed asphalt per MA specs, on top of compacted subgrade.

3. The subgrade materials under the stone should be defined to insure appropriate and stable conditions upon compaction.
4. There are no cross-section details of the proposed drainage area that include surface treatment, emergency spillways or soil types for the section.

- Shive-Hattery will add a cross-sectional detail of the basin showing slopes, slope protection, spillway, etc.

5. The site plan indicates that an existing fence is to remain in the vicinity of the proposed drainage basin. The fence appears to be encroachment onto abutting property. Will any attempts be made to relocate the fence?

- Decision is up to the Planning Board if they require a fix or not for fence. Currently the scope of this project does not impact or alter the existing fence. Ask Eversource to identify who owns the fence.

Stormwater

1. On page 6 of the Stormwater Report, it indicates that no soil borings had been completed as of the writing of the report. The results of soil testing and high ground water determination are required. The use of generalized soil maps alone to determine specific site conditions is not acceptable.

- A test pit has been completed that provides the estimated seasonal high water table and infiltration rate. Emily will send Ken Buckland a copy of the results and Ken Buckland will forward on to Charles.

2. Projected infiltration rates for runoff control should be compatible with existing site conditions backed up by appropriate testing.

- See notes on Item #10 above. The test pit results confirmed the soils have good infiltration rate and are sandy soils. Shive-Hattery will update the infiltration calculations to reflect the calculated infiltration rate as opposed to the assumed slower rate.

3. The plans show an existing retention area. What is the condition of this retention area and what, if any, is the elevation of surface water?

- Charles required additional topographic survey be completed within the existing retention area to confirm conditions, water elevation, and spillway elevation. Shive-Hattery did previously request from the Town of Wareham any drainage reports or information related to the existing retention area but there was no information available. Reviewing surface information from the current topographic survey, it appears the retention basin does not overflow towards the proposed basin or project area. Surface runoff should run parallel to the project area and discharge north of the project area and basin.

4. The site plan shows that there is an existing subsurface stormwater system that includes catch basins, manholes and discharge pipe adjacent to the project area that collects runoff from existing roofs and pavement. The discharge point of the pipe appears to be such that flow will be directed toward the new drainage basin. This discharge and the area surrounding it should be included in the drainage areas considered in the stormwater calculations.

- Charles required additional survey to confirm the outlet point of the pipe referenced above.

Based on the available survey data, surface runoff should run parallel to the project area and discharge north of the project area and basin.

5. The calculation for stormwater runoff is in a format that is somewhat different than that which is customarily seen. It is not clear that adjustments were made in the calculations for rainfall intensity beyond the 2-year storm event. Both the 10-year data and 100-year data still show an intensity of 3.4" per hour which is the intensity usually associated with the 2-year event. Please explain.

- The correct intensities were assigned to the corresponding storms for calculations. Shive-Hattery will clarify the SewerGEMS output so it is clear that the 2-year intensity was not used for the 10-year and 100-year storms.

6. It is essential to know what the expected high ground water levels in the area of the drainage basin are given the wetlands line that shows near elevation 69 on the site plan. The bottom of the proposed basin is shown at elevation 67.5. Normal elevations of the bottom of such basins are 2 feet above high ground water.

- Based on the results from the test pit, the seasonal high water table is only 0.5' lower than the proposed basin bottom. Shive-Hattery will use the confirmed infiltration rate from the test pit and reconfigure the site to provide the required 2' of clearance between the bottom of the basin and the high ground water elevation.

7. The pre-construction and post-construction drainage sub-catchment areas need to be better defined for existing and proposed surface treatment.

- Charles requested this as part of his inquiry about the drainage area for the existing retention basin and confirmation of how the retention basin operates. Shive-Hattery will use the updated survey to further analyze the drainage areas and confirm that the retention basin does not drain into the proposed basin.