

August 28, 2024

Andover Planning Board
Town Office
36 Bartlett Street
Andover, MA 01810

Attn: Ms. Jacki Byerley, Town Planner,

RE: Response to Fourth Peer Review of the Stormwater Design
Eden Estates – Definitive Subdivision @ 9 Bancroft Road, Andover, MA

The Horsley Witten Group, Inc. performed a peer review of the stormwater design for Eden Estates and provided comments to the Board as outlined in their letter dated August 23, 2024. The following responses address each of the outstanding comments:

2. *Standard 2*

- c. *August 9, 2024: The Applicant has included a GIS figure that illustrates an 18" pipe on the Bancroft School property that runs parallel to the Eden Estates eastern property line. The figure calls out a drain manhole, DMH-567, and a catch basin, CB-1692. The figure does not clarify that the stormwater that flows to the east of the Eden Estates property is captured in this drainpipe. The existing contours suggest that a portion of the Bancroft School site flows west towards the project site. There appears to be a stone wall along the eastern property boundary. The stonewall may restrict runoff from flowing directly onto the Eden Estates parcel. HW recommends that the Applicant clarify how the runoff from the Bancroft School property is prevented from flowing onto the Eden Estates property or size the stormwater system to manage the addition surface flow.*

Response: There is a swale that runs parallel to the easterly boundary of the site with a visible catch basin and manhole in the swale. The swale intercepts any runoff flowing in a westerly direction. (See the accompanying photos.)

- i. *July 24, 2024: The Applicant is proposing to discharge stormwater from the basin via a 12-inch pipe set at a slope of 9.5%. HW recommends that the Applicant reduce the slope if feasible to avoid a 10-foot trench excavation. HW further recommends that prior to approval confirmation from the Department of Public Works is obtained, confirming that the municipal pipe can manage the flow.*

August 9, 2024: The proposed invert from the Outlet Control Structure, OS-1 is elevation 280.74. The Rim elevation of the drain manhole in Bancroft Street is 285.0 with an outlet elevation of 275.65. The Applicant is proposing to core into the manhole at elevation 276.05. If the Applicant reduces the slope of the proposed pipe to 1.0% instead of 9.5% the invert at the drain manhole would be elevation 280.22 which would require a 5 foot deep trench excavation instead of a 10 foot deep excavation. HW's previous comment stands.

Response: The basin has been raised so the elevations presented above have changed. However, the pipe from the outlet structure has also been raised and the pipe flattened. Please refer to the grading plan, Sheet 4.

- o. August 9, 2024: The Applicant has included a GIS figure that illustrates the stormwater infrastructure and the wetland resources in the vicinity of the project site. The figure appears to indicate wetland margins across the Eden Estates parcel. HW recommends that the Applicant clarify whether a wetland scientist has evaluated the site and confirmed the limits of the resource areas.*

Response: Norse Environmental Services have been involved in the analysis of the site. They have confirmed that the wetland resources shown on the GIS figure do not exist. Additionally, the Andover Conservation Director has been on the site several times and he mentioned at the IDR it was his opinion that no further filings would be required.

3. Standard 3

- c. August 9, 2024: The Applicant has updated the mounding analysis. As calculated the groundwater within 50 feet from the center of the basin will mound up approximately 2.0 feet. Within 100 feet from the center of the basin groundwater will rise approximately 1 foot. HW recommends that the Applicant confirm the distance of the abutting residential house and determine whether the proposed infiltration basin will impact the groundwater beneath the house.*

Response: The basin has been raised to provide a separation of four (4) feet to the estimated seasonal high water table. The mounding analysis is no longer required.

- d. August 9, 2024: The Applicant has added an area drain on the east side of the infiltration basin. It is not obvious what the purpose of this area drain is. The catchment area above the area drain (SC-6) has been included in the HydroCAD model as directly entering the infiltration basin. The installation of 94 feet of 8-inch HDPE pipe may harm the roots of the 20-inch Maple tree located in this area. HW recommends that the Applicant clarify the need for the area drain and drainage pipe and eliminate it if possible.*

Response: The grading for the basin created a small area of runoff confinement. The purpose of the drain is to eliminate any ponding. Because of the reconfiguration of the basin, the installation of the drainage pipe should not impact the existing 20" maple tree.

4. Standard 4

- a. August 9, 2024: The Applicant has provided calculations to illustrate that the Grassed Channel has been designed in accordance with the MSH. HW recommends that the Applicant include a pretreatment practice to received the 50% TSS removal credit.*

Response: A pea gravel diaphragm has been added along the roadway on sheet 4 for pretreatment and a detail on sheet 6.

- b. *August 9, 2024: HW concurs with the TSS worksheet provided once the Applicant adds pretreatment to the Grassed Channel.*

Response: No response necessary. See response above.

8. *Standard 8.*

- b. *July 24, 2024: The Applicant has included a Tree Removal Exhibit in the Stormwater Report. It is not clear how many trees will be removed though there is a 10-inch Apple tree within the right of way and a second Apple tree along the path of the drainpipe. HW defers to the Planning Board if additional clarification for the total number of trees being removed is required.*

Response: No response necessary.

- e. *July 24, 2024: As stated previously, the Planning Board may choose to require receipt of the SWPPP as a condition of approval.*

Response: No response necessary.

9. *Standard 9*

- a. *July 24, 2024: The Planning Board may choose to require receipt of the signed O&M Plan or the Homeowners Association documents as a condition of approval.*

Response: No response necessary.

10. *Standard 10*

- b. *July 24, 2024: The Planning Board may choose to require receipt of the signed Illicit Discharge Compliance Statement as a condition of approval.*

Response: The Illicit Discharge Compliance Statement with a note indicating that the statement will be signed prior to approval has been submitted to the Town and accompanies this letter.

Should you require any additional information or questions concerning the responses, please do not hesitate to contact me at your convenience.

Sincerely,



Daniel Koravos, P.E.

DK Engineering LLC