

# CARDINAL

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March 13, 2024

Michael Conklin  
Director of Environmental Affairs  
Town of Wilton  
238 Danbury Road  
Wilton, CT 06897  
*Sent via email: mike.conklin@wiltonct.org*

**RE: Wilton Inland Wetlands and Watercourses Agency Review  
Application for a Significant Regulated Activity  
Application #2904(S) AMS Acquisitions, LLC  
131 Danbury Road, Wilton, CT**

Dear Mr. Conklin:

Cardinal Engineering Associates, Inc. (CEA) has conducted a review of the following revised application documents pertaining to the proposed site improvements (Multi-Family Development) at 131 Danbury Road in the Town of Wilton. The revised documents were prepared following Cardinal's initial review letters that were prepared on February 8<sup>th</sup> and February 29<sup>th</sup> of 2024.

Reviewed application documents include:

- Response cover letter. SLR, dated March 8, 2024.
- Response cover letter. Agent: Craig Flaherty, Redniss & Mead, dated March 1, 2024.
- Preliminary Construction Management Plan, dated March 1, 2024, Prepared by AMS.
- Flood Preparedness Plan, dated January 31, 2024 (revised February 16, 2024 and March 1, 2024), Prepared by Redniss & Mead.
- SLR 2/28/2024 Responses to Cardinal's Review 1/19/24 Comments.
- SLR 3/8/2024 Responses to Cardinal's Review 2/28/24 Comments.
- SLR 3/11/2024 Responses to Cardinal's Review 2/28/24 Comments
- Site Plans: Proposed Multi-Family Development, 131 Danbury Road, Wilton, Connecticut, October 23, 2023 IWC Submission, Prepared by SLR. Revised February 28, 2024.

Based on a review of the above application documents, we offer the following comments for your consideration. Along with the previous Cardinal prepared reports, this report was prepared to provide comments during the Inland Wetlands and Watercourses Agency application process. However, some of the comments may not be applicable to the Inland Wetlands Application, but may be applicable to consistency with the Connecticut Stormwater Quality Manual, CTDOT Drainage Manual, Connecticut Guidelines for Erosion and Sediment Control, NPDES/MS4 standards, State Statutes, and current civil engineering design practices/standards.

Review comments noted as "Response Noted" unless additional comments were added do not require a response from the applicant or their consultant. Only the comments still deemed open as of the February 8 and February 29, 2024 reports are included in this document. The final close out comment is in **BOLD**.

## **FEBRUARY 29, 2024 CRITICAL COMMENTS**

Based on Cardinal's initial review and the review of the revised and additional information recently submitted, there are a number of critical issues that require attention by the applicant and their consultant.

4. The direct impact of the proposed project on the inland wetlands associated with the Norwalk River requires further consideration. The construction of the 36" dia. RCP outlet pipe, endwall and riprap splash pad are proposed with minimal protection of the river during construction. Conversely, the application does not provide any measures to protect the work from the river. As proposed, the splash pad requires 12" of excavation immediately adjacent to the river and the construction of the endwall requires 2 feet of excavation below the river. The applicant must show how this area will be protected not only during storm events, but during normal flow conditions.

**CC-R.4 Closeout: During the hearing on March 6, 2024, the applicant provided additional information on the above cited concern. In addition, the revised Sediment and Erosion Control Plan (revised March 8, 2024) included a construction sequence for the work. The sequence should include when the concrete flume is to be removed. The area is paved so removal of pavement might be a more suitable step than grub & strip topsoil. Coir log detail needed. Timetable of work might be contingent on conditions of the Corps permit.**

**The proposed plans do not adequately describe how the Norwalk River will be protected during construction during flooding events, including small storm events.**

## **FEBRUARY 29, 2024 OTHER COMMENTS**

### **Engineering Reports**

Drainage Report – Proposed Multifamily Development (prepared by SLR International Corporation, dated 10/23/23)

RPT-1: As requested by the Town Engineering Department, additional information is needed on the development in the floodplain. The information should include calculations and a discussion to show there is no net fill within the floodplain of the Norwalk River.

*R. RPT-1: Additional information on the floodplain and earthwork has been added to the set. The project does not result in an increase in fill in the floodplain.*

CC-RPT-1: Cardinal reviewed the additional drawings (including sheets EW and FP) that were provided showing proposed earthwork including the earthwork in the floodplain (specifically sheet 19 Floodplain Earthwork (FP) and sheet 20 Proposed Site Earthwork (EW)). As relates to earthwork calcs, the wetland application listed 237 cy of material excavated in the URA and 745 cy deposited in the URA. Based on the area (approximately 35,000 sf) and the supplied drawings, both values seem to be higher (greater than 1,000 cy), but additional information seems needed to confirm the values in the application. Additional information should include cut/fill amounts from western boundary to walking path along river, cut/fill within 10 foot parking setbacks on northern and southern borders (within floodplain).

*R. RPT-1: All earthwork sheets have been revised based on updated grading. An upland review area earthwork has been added to the set. Cut/fill tick marks are provided on these sheets to show a grid of cut/fill values across the area for support to the values calculated for total cut, total fill, and net total.*

CC-RPT-1: The elevation for the stairway/elevator areas (approximately 590 sf) in the ground floor of the parking

garage are being assigned the same elevation as adjacent open areas. These areas are partially filled areas and Sheet 19 Interpolated Floodplain Earthwork should indicate this. Sheet 19 should also include any fill associated with the retaining wall (approximately 70 LF) on the north side and retaining wall on the southern side (approximately 100 LF). See CC. GR-12 related to wall grading.

**CC-RPT-1 Close Out: A review of the revised Sheet 20-Interpolated Floodplain Earthwork Plan (revised 3-8-2024) addressed the additional fill in the parking garage, but the fill associated with the retaining walls (approximately 170 LF) was not addressed**

**Also, plan depicts older layout of parking. Should be based on current plans.**

RPT-2: Wilton Zoning regulations require certification by PE that encroachments in the floodway do not result in any increase in base flood elevations (0.00 ft) for the 100-year flood. Certification by a professional engineer with supporting hydrologic and hydraulic info (e.g. Hecras modeling) is needed.

*R. RPT-2: See Engineering Report – Floodplain Analysis prepared by SLR International Corporation dated November 27, 2023.*

CC-RPT-2: The floodplain analysis was prepared prior to latest revision of the plans so it should be updated as necessary with any grading and layout changes from the last revision. Under Section 2.0 Modeling, the conversion factor for the datum is provided. The conversion factor should be shown to two decimal places.

The floodplain analysis should include additional information. Due to the size of the site (a 385 feet border with the Norwalk River), two additional RAS cross sections appear needed to completely depict both existing and proposed conditions (on the site, in the river, and west of the river). Based on Figure 2, it appears only one RAS section (27.5) was used to evaluate the site for the base flood conditions. This cross section doesn't take in account the areas of the site that don't contain the proposed building. Cross section 27.5 for the proposed conditions (in Appendix B) appears to show the building starting at 120 feet from the center of the river (Station 880) whereas the grading plan shows the building closer to the river (100 feet). This cross section also shows flow in the area left (or east) of station 560 which should be modeled ineffective or obstructed since it is at elevation of 154 feet.

The distance downstream/upstream from adjacent cross sections should be provided along with distances from the FEMA cross sections (N and O). In addition, the floodplain report should address the duplicate effective model for 10-year storm to support the values used for 10-year existing conditions. The 10-year existing condition appears low compared to the FIS profile which shows a 10 year storm elevation of  $\pm 144.9$  (See comment GR-4).

The plans call for numerous boulders (30 or so) along the river including some in the floodway. These may need to be taken into account in the RAS model and be accounted for in the cut & fill calculations if they are sufficiently large. SD-3 provides a boulder detail, but doesn't provide a size.

*R. RPT-2: The conversion factor that was used in the hydraulic analysis and provided in the Engineering Report was taken directly from the most recent Flood Insurance Study (FIS) for Fairfield County revised to October 16, 2003, see Section 3.5 – Vertical Datum on Page 110-111 in Volume 1 of 6. The conversion factor provided in the FIS is to a tenth of a foot and therefore was used to convert elevation data as needed in the hydraulic analysis.*

*The hydraulic analysis was revised to include two additional cross sections up- and downstream of the proposed building location. All cross sectional data used to develop the geometry through the project site was checked and updated as needed to reflect the proposed changes, including grade changes and obstructions that will change due to the removal of the existing building and construction of the new building.*

CC-RPT-2: The revised Floodplain Report should address the following outstanding items:

- Distance downstream/upstream from adjacent cross sections should be provided along with distances to FEMA cross sections
- The boulder detail was removed from SD-3, but both the site plan and landscape plan still show

bouldering along the river.

- Tables 2-2 and 2-3 both show duplicate effective vs corrected effective data. It appears that Table 2-2 should be deleted and the name of Table 2-3 revised (it says corrective effective vs. proposed conditions).

The RAS cross sections (existing & proposed) should be provided for the three cross sections at the site. Cross sections were omitted from the report including cross section 27.5 which shows the proposed building

*R. RPT-2: The downstream reach lengths for the Corrected Effective and Existing Conditions model were obtained from the HEC-RAS hydraulic model. Note that the reach lengths did not change from Existing to Proposed conditions. See attached Table 2-2.1. The column headings for Table 2.3 were updated to correct the error in response to this comment, however the results that were provided in the table were correct and have not changed. See attached revised Table 2.3. The cross sectional view for the three sections that pass through the project site have been provided as requested. The sections compare Existing versus Proposed conditions geometry and resulting computed water surface elevations for the 10-year and 100-year floods.*

**CC-RPT-2: The additional information on the locations of the cross sections is noted. Boulders still need to be removed from site plan and landscape plan.**

**Several issues should be resolved as relates to cross section 27.5.**

- **Proposed cross section 27.5 elevations are not consistent with the revised grading plans dated 2/28/2024. Inside the parking garage at the far easterly end, the elevation is being modeled as 146.0 feet, but that has been changed to 148.0 feet on the latest grading plan. The 146.0 foot elevation is 160 feet west of this location which is closer to the center of the garage. The proposed elevation of the parking garage is approximately 145.4 feet at the location of the existing building's western wall, but cross section 27.5 shows it as 144.8 feet or more than 6 inches lower.**
- **The proposed building location has not been corrected in the model. As mentioned previously, the proposed building is shown in the model farther away from the river than has been proposed. The building is actually being located 30 to 40 feet closer.**
- **The bank stations used in latest modeling (142 ft) for XS27.5 are not consistent with site conditions and previous report (137 ft).**

**Other issues with the river modeling that need to be addressed:**

- **The bank stations of 141 feet seem very high compared to site conditions for the most downstream site cross section (XS27.25)**
- **Corrected effective table (the existing conditions table) needs to have water surface elevations for the three site cross sections**
- **Report should provide information in standard hydraulic report format where the frequencies (e.g. 10 and 100 year events) are separate tables.**

RPT-9: The 100-year peak flow runoff for PR-11: Building Roof is shown as 15.7 cfs with a volume of approximately 50,000 cf, but after routing through reach R1: Roof Leader (8 inch round pipe) the outflow is only 1.4 cfs. The underground detention system S-2 only provides 5,500 cubic feet of storage so there doesn't appear to be sufficient storage to warrant such a large decrease in the peak flow in this area.

*R. RPT-9: System S-2 has been sized to provide sufficient storage for the design 25- year storm event. Storage*

*for the 100-year storm is not a requirement. For larger storms, it is expected that water from the roof will discharge through overflow scuppers and be collected by the onsite inlet structures.*

CC-RPT-9: The summary on Table 1 in the report states that there are no increases in peak rates of runoff for the 2-year through 100-year storms which is supported by runoff results provided in the report on pages 5 through 7. Roof drainage significantly impacts the design of the site stormwater system so a complete drainage plan for the roof and its connection to the underground detention units should be provided.

During the wetlands meeting on December 14, there was a mention of a green roof. If this is part of the design and affects the runoff, it should be included in the report.

CC-RPT-9: The previous comment was not addressed. The February 13, 2024 plan set still only shows one roof leader from the main building (discharging to south side). Several roof leaders would be expected on several sides of the building. The roof drainage design appears incomplete. See CC-UT-1.

**CC-RPT-9 Response: Roof drain piping inverts and pipe sizes should also be added to sheet UT. Confirm with plumbing engineer that all roof leaders (including those on north side of building) can be piped to one 12" outlet pipe on south side.**

## Engineering Plans

We recommend including a site demolition plan or site preparation plan that outlines material to be removed (including pavement and concrete) and what materials are to remain. This plan should address any removal / capping / abandonment of existing site utilities including drainage. The site demolition plan should call out the trees to be removed also.

*R. Almost everything on the site is to be removed. A site demolition plan or site preparation plan will be prepared as part of the detailed building permit submission. All trees within the project disturbance area will be removed except those along the river, which have been called out to remain on Sheet LA.*

CC-1: A site demolition / preparation plan should be submitted as part of this application in order for the commission to see the extent of the work and to provide direction to the contractor.

CC-1: A site demolition plan will be submitted as part of the building permit submission.

*R-CC-1: A site demolition plan will be submitted as part of the building permit submission.*

**CC-1: Close Out: Response Noted.**

NL-5: Construction Sequence – The application package contained a sequence or staging plan prepared by AMS Construction Management LLC for the site. The construction duration was listed as 30 months. This sequence and information should be coordinated with the sequence provided on the Notes and Legend plan. Expected temporary parking and construction office locations should be designated.

*R. NL-5: The plans have been revised to reference the AMS construction narrative. The construction management plan will be expanded with the building permit submission.*

CC. NL-5: Please provide the updated AMS construction narrative as part of this application.

**CC.NL-5: AMS construction narrative updated as of 3/1/2024. Response Noted.**

NL-6: Construction Sequence – The sequencing should include removal of the existing building and associated utility removals/disconnects prior to filling. Utility pole(s) along the roadway may need relocation. Mention of town staff should include Town Director of Environmental Affairs.

*R. NL-6: The submitted construction management plan will be expanded for the building permit submission and with input from the construction manager.*

CC. NL-6: Please provide the updated AMS construction narrative as part of this application.

**CC.NL-6: AMS construction narrative updated as of 3/1/2024. Response Noted.**

#### Sheet 5 Site Plan-Layout

LA-4: ADA parking spots should be dimensioned.

*R. LA-4: ADA parking spots have been dimensioned.*

CC. LA-4: Space at northeast corner width is not dimensioned. Scales 8 ft. If van space, provide 8' striping on right side of space to accommodate a lift. If standard accessible space, space width shall be 10 ft. Second space is labeled a van space. Striping on right side of space should be 8 feet in width to allow for a lift.

CC. LA-4: Per CT Building Code, shared striped aisles between van and standard spaces shall be 96". Only 60" striped aisle provided.

*R. CC-LA-4: The final plan will be revised to include a 96" shared striped aisle.*

**CC-LA-4: Close Out: Response Noted.**

LA-11: Site lighting does not appear to be adequate (Insufficient pole mounted lights or wall mounted lighting). A photometric plan should be prepared clearly showing all fixtures and illuminance with closeness of the property lines and river area taken into consideration.

*R. LA-11: Photometric plan is included in the set.*

CC. LA-11: Photometric plan doesn't show the revised layout.

**CC. LA-11: Revised photometric plan provided was dated 2/7/2024. The plan does not appear to show sidewalk along Danbury Road. Plan was not updated to reflect changes in parking layout. There is no illumination on curved sidewalk in front of the jewel box.**

LA-23: Appears inadequate space available at the southern of 2 truck spaces for turning in and out of space.

*R. LA-23: Turning movements for truck spaces have been provided on Sheet VH-2.*

CC. LA-23: Turning movements require trucks to be angled across both truck spaces. If one space is occupied, how is access to be provided for the second space? SU-30 vehicles extend into the main travel aisle. Previous response indicates that no large trucks are expected. It is suggested that it be signed that no trucks are allowed to park within the garage (pick-ups and vans only).

*R. CC-LA-23: As suggested, resident small truck and van loading signage will be added to the final plan.*

**CC. LA-23: Close Out: Response Noted (SU-15 trucks are adequate enough to service 1-2 bedroom apartments.)**

LA-37: ADA ramps along Danbury Road – Identify ramp type per CTDOT Guide Sheets. Ramps may require curbing due to close proximity to roadway curbing.



*R. LA-37: ADA drop ramps along Danbury Road are CTDOT Type 4a with a detectable warning pad. Notes have been added to the plans.*

CC. LA-37: Ramp Type 4a and Type 4e are called out. Ramps may require curb along ramp or curb along road / drive may need to be tapered. Provide call-out for curbs.

CC. LA-37: Ramp at south side of entrance not identified.

*R.CC-LA-37: DOT drop ramps have been added to detail sheet SD-8. Additional callouts have been added to sheet LA.*

**CC.LA-37: Close Out: Response noted.**

LA-40: Provide documentation for right to construct proposed work on property to the north (pea stone walk, gate, grading, etc.). Plan calls for gate, but a fence is not observed on the plans.

*R.CC-LA-40: Construction of walkways outside of property is not part of scope. See note on sheet LA for coordination with adjacent property owner. Vegetation on both sides of walkway acts as barrier beyond either side of the proposed gate, see sheet LS.*

**CC. LA-40: Close Out: Plan revision noted.**

LA-41: Install sidewalk within Danbury Road ROW.

*R.CC-LA-41: Sidewalk has been revised.*

**CC. LA-41: Close Out: Plan revision (2/28/2023) noted. Provide call-out for sidewalk material type.**

LA-42: Revise plans where standard concrete curb ends and transitions to "Cape Cod" mountable curb.

*R.CC-LA-42: The mountable "Cape Cod" curbs are proposed along curb radius' and will transition to traditional concrete curbs at the tangent points. Additional labels will be added to the final plan.*

**CC. LA-41: Close Out: Plan revision (2/28/2023) noted.**

LA-43: Change linetypes at edge of drive to differentiate between curb types, and edge of drive without curb.

*R.CC-LA-43: Additional curbing callouts have been added to the final plan.*

**CC. LA-43: Close Out: Plan revision (2/28/2023) noted.**

**Sheet 6 Site Plan-Landscaping**

LS-1: It appears that the plan is to keep the large sycamore on the southwest corner of the site. Installation of the proposed drainage in this location would appear to undermine its root system.

*R. LS-1: The large sycamore tree has been noted as to be removed on the revised plans.*

CC. LS-1: Removal of the sycamore does not appear to be noted on any of the plan sheets. Provide a site demolition or preparation plan noting trees and other vegetation to be removed.

CC. LS-1: Removal of the existing trees, etc. not noted on the plans.

*R.CC-LS-1: A site demolition plan will be submitted as part of the building permit submission.*

**CC-LS-1: Close Out: Response Noted (Demolition Plan will be submitted as building permit process.)**

LS-3: The significant amount of plantings may require an irrigation system and plan.

*R. LS-3: While the design intent is to propose plant species that are native and sustainable, it may be necessary to provide drip irrigation within the planting beds and spray heads for the rear lawn access drive for use during plant establishment and periods of drought.*

CC. LS-3: If drip irrigation is proposed, it should be indicated on the plans.

*R.CC-LS-3: The final limits and level of irrigation will be determined at the time when a building permit application will be submitted.*

**CC. LS-3: Close Out: Response Noted (Irrigation Plans will be submitted as building permit process if necessary.)**

LS-7: Tufted Hair Grass – concern regarding sightlines at drive intersections. May obstruct views. Also, concern over taller shrubs that may obstruct visibility for safety concerns in parking areas.

*R. LS--7: Tufted Hair Grass will not grow above 3' in height and are planted far enough off the entry/exit so it will not impact sight lines. The Lowbush Blueberry plants in the parking island have a maximum growth height of 3'-0".*

CC. LS-7: Plantings of 36" may interfere with sight lines within the parking. / drives. This is especially a concern where the drive that runs southerly along the front of the building meets the east / west drive at the south end of the site. The grade of the east / west drive drops off considerably to the west, and a 3' planting screen of grasses may interfere with a southbound vehicle from seeing on-coming cars from the west.

*R.CC-LS-7: Sightlines and distances have been reviewed and added to sheet LS. The proposed planting does not interfere with the sight lines.*

**CC. LS-7: Close Out: Response noted. LS plan submitted on 2/28/24 does not reflect these changes.**

LS-8: The landscaped areas in the front of the proposed building may not benefit from the amount of proposed filling. Some of these areas may benefit from being depressed.

*R. LS-8: Comment noted.*

CC. LS-8: Are any modifications to the plans to be implemented?

*R.CC-LS-4: Planters have been removed from the plan to decrease the amount of fill in the front of the site.*

**CC. LS-8: Sheet 21 Proposed Site Earthwork should be updated to show the reduction in fill. Should show current layout.**

Sheet 7 Site Plan-Grading



GR-6: Provide top of wall and bottom of wall elevations for all site walls, including at each step / change in elevation. Suggest providing elevation view for each wall. Walls not shown to correct width (24") as noted on the Stone Veneer Masonry Block Wall detail

*R. GR-6: Top of wall and bottom of wall elevations for all site walls have been noted, including each change in elevation.*

CC. GR-6: Provide TW elevations of Wall #2 & Wall #3 at building. Contour 154 meets the walls at the building.

*R.CC-GR-6: Additional top of wall elevations have been added to the plan.*

**CC. GR-6: Close Out: Response noted.**

GR-8: Construction of Wall #4 will trap water from adjacent site that in the existing condition flows southeasterly across the site. In the proposed condition it will flow westerly between Wall #4 and the existing wall on the adjacent site and discharge onto the adjacent site. Suggest adding a yard drain at the western end of the existing wall and connect to CCB-28.

*R. GR-8: All water that does not infiltrate in the grass area will continue to flow west towards the Norwalk River.*

CC. GR-8: BW elevation (147.5) indicates a fairly flat grade on the north side of the wall and is lower than the existing grade in some locations. Provide proposed grading along north side of Wall #4 to show how runoff will be directed.

CC. GR-8: Revised grading and underdrain are noted for Wall #4.

*R.CC-GR-8: Grading has been revised.*

**CC. GR-8: Close Out: Response noted. Revised site layout on north end of the site will impact grading. Provide new GR plan.**

GR-9: Wall #4 height is greater than 6 feet at its highest point. Review typical wall section. Concrete cantilever retaining wall or geotextiles may be required for walls with greater heights. Suggest fence along top of wall to prevent falling, etc.

*R. GR-9: A fence has been added to the top of the retaining wall on Sheet LA and a detail added to Sheet SD-7. Final wall design will occur with building permit submission and wall structural design will likely vary depending on the constraints.*

CC. GR-9: Proposed geotextile may conflict with utility pad foundations. Typical length of geotextile from wall is 10 feet. Provide detail for fence installation on wall. Typically, modular block walls do not allow for installation of fence directly on wall.

*R.CC-GR-9: The geotextile associated with the wall will be designed with all site features taken into account and will be engineered by a structural engineer licensed in the State of Connecticut as part of the building permit submission. The fence location has been added to the Modular Block Retaining Wall detail on sheet SD-7.*

**CC. GR-9: Close Out: Fence location on SD-7 noted. Location of wall and length requirements of geotextile still conflict. Provide engineered plans and details with Building Permit Application submission.**

GR-11: Provide greater detail of grading of street sidewalk, particularly in relation to front wildflower meadow. Will wildflower meadow overtop and drain onto street? At the south end of the "meadow, the sidewalk drains to the street; in the middle, it drains to the "meadow"; at the north end the sidewalk drains to street. Suggest consistency in draining

in one direction or the other. Suggest providing a greater buffer between the “meadow” and the streetline. See note UT-2.

*R. GR-11: Additional spot grades have been added to the plans.*

CC. GR-11: Additional spot grades between “detention area” and street may be required to make sure runoff has adequate pitch. Proposed sidewalk has been relocated to inside the property. Provide sidewalk easement to the Town of Wilton.

*R.CC-GR-11: An additional walk has been provided within the road right of way. Spot grades have been added and revised to show drainage.*

**CC. GR-11: Close Out: The spot grades on the grading plan are noted.**

GR-12: Show grading south of Retaining Wall #1 to property line.

*R. GR-12: Grading south of Retaining Wall #1 to property line has been added to the plan.*

CC. GR-12: Review grading in this location. Contours are incorrect between proposed wall and existing stone wall. Low area appears to be created. 147 contour appears incorrect (there are 2).

*R.CC-GR-12: Grading has been revised.*

**CC. GR-12: Close Out: The revised grading (Grading Plan revised 2/28/2024) in this area is noted. High Pt. 147.50 is incorrect. The 147 and 148 contours on the east side would make this location a low point.**

GR-15: Show transformers and switch gear on grading plan. Provide top of slab elevations.

*R. GR-15: Transformers and switch gears are now shown on Sheet ‘GR’. Spot grades have been added to the transformer slab.*

CC. GR-15: Some spot grades appear to be incorrect in relation to top of curb elevations (assuming 6”) and TW elevations. Also, are generator pad and transformer pads flush with adjacent concrete pad or are they elevated? Typically, transformer pads are set level, but proposed adjacent concrete pad is sloped.

*R.CC-GR-15: Grading has been revised.*

**CC. GR-15: Close Out: Revised grading is noted.**

GR-16: Show generator pad and provide top of slab elevation.

*R. GR-16: Generator pad is now shown on Sheet ‘GR’. Spot grades have been added to the generator slab.*

CC. GR-16: Is the generator pad flush with adjacent concrete pad or are they elevated? Typically, transformer pads are set level, but proposed adjacent concrete pad is sloped. Provide generator pad detail. Typically, haunch depth is to frost (3’-6”).

*R.CC-GR-16: The generator pad is flush with adjacent concrete pad. A generator pad detail is shown on sheet SC-1 called “Concrete Utility Pad”.*

**CC. GR-16: Generator pad detail (labeled as Concrete Utility Pad) does not show sufficient haunch depth.**

GR-20: Rain Garden @ NW corner.

Ex. grade +/- 142.5;  
Per SLR-5 data, GW @ 3.5' deep (El. 139.0);  
Prop. Bottom of RG = 139.0;  
Bottom of Gravel = 136.0;

Rain Garden will not function as the underlaying materials will be below groundwater.

*R.CC-GR-20: An underdrain has been added to the rain garden. Only a small portion of overland flow reaches the rain garden, so it is not expected affect the function of the rain garden for water quality storage during the first flush of storm events. Rain garden detail has been revised. The overall water quality volume provided is 35% greater than what is required by the new CT DEEP stormwater manual. Rain garden detail has been revised.*

CC. GR-20: Detail refers to plan for location of underdrain. Not shown on plan at SW corner. Is underdrain to be wrapped in filter fabric? Is underdrain to be in existing soil or bedding material. Provide detail for underdrain.

*R.CC-GR-20: Underdrain will be added to the basin in SW corner for the final submission, along with an underdrain detail. See attached detail which will be added to the final plan.*

**CC. GR-20 Close Out: Include underdrain detail in final plan as mentioned.**

**GR-21: Grading inside garage incorrect. Provide 147 contour. Grade between 146 contour and elevation 148 at the eastern end of the garage is steeper than 1%.**

#### Sheet 8 Site Plan-Utilities

UT-1: The plan appears to indicate only one stormwater discharge from the building (located on south side Inv=143.2). Other connections to the underground drainage system may be necessary at other parts of the building. Note all drainage piping from building and note if it is roof drainage only.

*R. UT-1: The final number of connections will not be determined until a plumbing engineer is engaged for the building permit submission.*

CC. UT-1: As these connections relate to the stormwater system design, they should be indicated on the plans.

*R.CC-UT-1: Preliminary roof drain internal piping has been added to sheet UT.*

**CC. UT-1: Close Out: Response Noted. See CC-RPT-9.**

UT-6: The elevation of the 12-inch HDPE inletting to CCB 18 should be confirmed at the crossing of the water and fire service to insure adequate separation.

*R. UT-6: It is our opinion adequate separation will be provided.*

CC. UT-6: Provide detail or note regarding crossing of water and gas mains and note minimum separation.

*R.CC-UT-6: A callout has been added to the crossing and a note has been added to sheet NL with minimum separation between water and gas.*

**CC. UT-6: Close Out: Response Noted. FYI - Note was added to Erosion Control Notes, not Utility Notes.**

UT-7: The inlet pipe (12-inch) appears undersized to convey flow from the building roof (1.8 acres) to MH-13 and into the detention chambers.

*R. UT-7: The inlet pipe has been resized, but the final pipe size will be determined when a plumbing engineer is engaged for the Building Permit submission.*

CC. UT-7: As noted above, roof drainage design impacts the design of the site stormwater system. Provide complete drainage plan, including roof drains.

*R.CC-UT-7: Roof drain internal piping has been added to sheet UT.*

**CC. UT-7: Close Out: Response Noted. See CC-RPT-9.**

UT-11: Show connection to underslab and / or foundation drainage.

*R. UT-11: A foundation drain has been added to the plans.*

CC. UT-11: Foundation drain not observed on the plans.

CC. UT-11: Footing drain "FD" shown at SE corner of building. Building footings may be much lower due to garage floor elevations. Suggest connecting footing drain to drainage lower than the proposed footings.

*R.CC-UT-11: Footing drain location will be coordinated and determined once the foundation is designed and prior to building permit submission.*

**CC. UT-11 Close out: Response Noted (to be done prior to building permits)**

UT-17: Show any wall drains and connections to storm drainage system.

*R. UT-17: Wall drains and connections to storm drainage system have been added to Sheet UT.*

CC. UT-17: Suggest wall drain at Wall #4.

*R.CC-UT-17: A wall drain has been added to Wall #4.*

**CC. UT-17: Close Out: Response Noted.**

UT-19: Provide details for MH-15, MH-12 and MH-5 – f ft. dia. with weir.

*R. UT-19: Details have been provided on Sheet SD-5.*

CC. UT-19: Review details. MH-12 inverts do not match detail drawing or plan. MH-15 inverts do not match detail drawing. Weir elevations appear incorrect. 7" orifice shown, 6" orifice noted. MH-4 inverts do not match plan. Any revisions should be consistent with drainage report.

*R.CC-UT-19: Outlet Control Structure details have been revised to conform with the plan and drainage report.*

CC. UT-19: MH-15: Weir orifice elevations (143.64) are higher than inlet pipe invert (143.25). Similar at MH-4. How do systems drain?

*R.CC-UT-19: Pipe computations show that no hydraulic grade line issues exist under the proposed design. The system will continue to operate as designed upon reaching the orifice elevation and will not be impacted by the small amount of standing water.*

**CC. UT-19: Orifice elevation higher than inlet pipe will result in water remaining in the system. Lower orifice accordingly.**

UT-27: Show location of gas meter.

*R. UT-27: This detailed information will be shown on the building permit submission once the architect and mechanical engineer has coordinated with Eversource.*

CC. UT-27: Location of the gas meter is an important part of a site plan. It will require access, a concrete pad, modifications to the design of the walks, etc.

CC. UT-27: Gas meter location not shown on plans.

*R.CC-UT-27: The location of the gas meter will be determined at the time of the building permit application and upon coordination with the gas company.*

**CC. UT-27: Close Out: Response Noted: Gas meter location to be provided at Building Permit Application submission.**

UT-30: Water meter vault shown adjacent to retaining wall. Wall footing and vault may be in conflict.

*R. UT-30: The water meter vault has been moved.*

CC. UT-30: Water meter vault size does not match the detail. Provide correct detail. Coordinate location of proposed plantings with meter vault to provide access.

R.CC. UT-30: Water meter on sheet UT has been coordinated to show the correct size based on the detail.

**CC. UT-30: Close out: Response noted.**

UT-39: OVFL-25 -Consider considerably shortening the 8" HDPE and using a manhole to the east of the infiltration area and matching crowns with the 15" pipe.

*R. UT-39: Manhole 25A has been added to the plans.*

CC. UT-39: Suggest keeping stormwater that has been treated separate from the stormwater that has not been treated, otherwise, the "clean" stormwater will become compromised and require cleaning. This also will increase the size of the required treatment measure.

*R.CC-UT-39: Due to the site layout, keeping treated stormwater separate would be difficult, but the hydrodynamic separators are sized accordingly for the full flow.*

CC. UT-39: Drainage layout continues to combine "clean" stormwater with untreated stormwater. Suggest installing a separator between CCB-26 and MH-25A. Connect MH-22 to a manhole between MH-2 and the outfall. MH-2 would treat stormwater from CCB-6 only. It appears that MH-2 is not sized to handle 100% of the runoff from the site.

*R.CC. UT-39: MH 2 has been sized to properly handle 100% of the runoff directed to it. It is our opinion that providing an additional treatment to the "clean" stormwater does not diminish the water quality. Additionally, in the case of the "clean" stormwater from the roof, chambers provide a thermal benefit to the stormwater, allowing it to cool before discharging to the Norwalk River.*

**CC. UT-39 Close out: Response Noted.**

UT-44: The outfall, including the required grading and riprap splash pad, require work directly within the limits of

the inland wetlands. Provide calculations to show that the remaining streambank will be stabilized and not subject to erosion due to the discharge of stormwater. The riprap pad may need to be installed further towards the river.

*R. UT-44: The riprap has been sized properly based on size of outlet pipe, velocity, and flow. Calculations can be found in the. Riprap will be provided on all disturbed side slopes from the headwall to the river.*

CC. UT-44: See CC-RPT-3. The Norwalk River tailwater should be part of the design. The pad seems to be larger than necessary. Possibly the 24" pipe could be shortened to reduce impacts to the OHW.

CC. UT-44: Not addressed. No response offered. Outlet pipe size changed from 24" dia. to 36" dia. Revise grading to acc 36" Dia. RCP. Top of endwall elevation = 141.8. Top of pipe @ endwall = 140.6±.

*R. CC. UT-44: Pipe will be revised to 24" HDPE on the final plans. See 8.5x11 graphic attached.*

**R. CC. UT-44 Close out: Response Noted.**

UT-48: 24" HDPE from MH-5 to isolator row: Cover less than 2 feet.

*R. CC-UT-48: The invert has been lowered to maintain 2 feet. Of cover.*

CC. UT-48: MH-5 TF = 144.50. Inv. 24" HDPE = 141.24. Top 24" HDPE = 143.40. 1.1 ft. of cover provided.

*R. CC-UT-48: MH-5 has been revised.*

**CC. UT-48 Close out: Revised plan noted.**

UT-50: MH-2: Invert in N (137.6) is lower than invert out W (137.8). Suggest raising invert of 12" HDPE from CCB-6 to match crown of outlet pipe.

*R. CC-UT-50: Inverts in MH 10 have been revised. Due to the site elevation constraints, we are unable to match crowns.*

CC. UT-50: Inv. 36" RCP = 137.6. Top of pipe elev. = 140.93. TF MH-2 = 142.1. Cover = 1.17 ft.

*R. CC-UT-50: Pipe will be revised to 24" HDPE on the final plans.*

**CC. UT-50: Close out: Revised plan to be provided in final submission.**

UT-51: Review invert of 8" HDPE from OVFL-3 at connection to 24" HDPE. It appears the invert of the 8" HDPE at the 24" HDPE is higher than the invert at OVFL-3.

*R. CC-UT-51: The invert at OVFL-3 is 137.8. The invert at the 24" HDPE is 137.65.*

CC. UT-51: With a TEE connection, the invert of the 8" HDPE at the 4" HDPE is ±8" higher than the invert of the 24" HDPE. Therefore, the invert of the 8" HDPE @ the 24" HDPE is ±138.3.

*R. CC-UT-51: Invert at OVFL-3 will be revised for on the final plans.*

**CC. UT-51: Close out: Revised plan to be provided in final submission.**

UT-52: Riprap splash pad: Provide additional information. Note size of stone. Note depth to bedding layer. Detail calls for RCP pipe and culvert end. Coordinate with plan. Is filter fabric / geotextile included in the installation?

*R. CC-UT-52: See Rip Rap Splash Pad detail on Sheet SD-4 for all requested information. Detail has been*



*revised for RCP or HDPE flared end section. Filter fabric is not included in the installation.*

CC. UT-52: Revise detail. It appears W2 dimension (9 ft.) is incorrect for 36" pipe. 6" riprap is not adequate for a splash pad along the Norwalk River. River velocities will displace the material. Design the outlet splash pad based on the velocity of the river.

*R.CC-UT-52: Pipe will be revised to 24" HDPE on the final plans. From the RAS modeling, the channel velocity is estimated at approximately 3 ft/sec, which isn't highly erosive. But the final plan will be revised to increase the riprap size to intermediate riprap.*

**CC. UT-52: Close out: Revised plan to be provided in final submission**

UT-57: Wall #4 – show wall drain or note that weeps are to be provided per the detail.

*R.CC-UT-57: A wall drain has been added to Wall #4.*

**CC. UT-57: Close out: Response Noted.**

UT-58: Provide water service shut-off at streetline.

*R.CC-UT-58: Gate valves have been added to the water lines.*

**CC. UT-58: Close out: Response Noted.**

UT-59: A light pole base in parking lot along curb line appears to conflict with 12" pipe from CCB-27 to CCB-28.

*R.CC-UT-59: Light pole locations have been revised.*

**CC. UT-59: Revised site layout impacts proposed storm drainage layout along north side of the site. Provide revised UT plan. Show light poles on UT plan.**

#### Sheet 9 Sediment and Erosion Control Plan

SE-1-4: Proposed silt fence and straw wattles at drainage endwall cross riprap splash pad. Suggest turbidity curtain along river in this location due to excavation along riverbank.

*R. SE-1-4: No riverbank excavation is needed except for where the outlet pipe is proposed. We believe the turbidity curtain would not be appropriate with the flowing water.*

CC. SE-1-4: Provide measures to protect the river during construction at the outlet.

*R.CC-SE-1-4: Silt fence and straw wattles have been added at the outlet to protect the river.*

CC. SE-1-4: Silt fence and straw wattles are located within the ordinary high water of the river. As noted in the original comment. An alternate measure to protect the river from sediment shall be submitted for review.

*R.CC-SE-1-4: See updated sheet SE-1 attached. Relevant details for staked coir logs, wire backed silt fence and turbidity curtain will be added to the final plans.*

**CC. SE-1-4: Close out: Response Noted.**

SE-1-9: The location of sediment traps and dirt bags should be located out of the floodplain. Grading of sediment traps should be mindful of groundwater elevations.

*R. SE-1-9: It is necessary to have the sediment traps within the lower portion of the site to be the most effective and to capture the entire watershed.*

CC. SE-1-9: As the lower portion of the site is subject to flooding even during a 10-year storm event (per FEMA), provide measures to protect the sediment traps from flooding and depositing sediments into the river during storm events.

*R.CC-SE-1-9: A layer of straw wattles have been added to the river side of the proposed sediment traps.*

CC. SE-1-9: Silt fence and straw wattles will not protect the river during flooding events. Provide measures that will prevent the deposit of collected sediments from the basins into the river during storm events.

*R.CC-SE-1-9: See updated sheet SE-1 attached. Relevant details for staked coir logs, wire backed silt fence and turbidity curtain will be added to the final plans.*

**CC. SE-1-9: The plan does not indicate how the river will be protected during storm events such as the 10-year storm where the western portion of the site will be flooded and any collected sediments, etc. may be washed into the river. This is particularly true for the Temporary Sediment Traps.**

**SE-1-10: Old layout used as background. Update plan to include current layout.**

#### Sheet 11 Site Details SD-1

SD-1-1: The sheet shows details for stamped & colored sidewalk, concrete pavers along integral concrete walk. It is not clear on the plans where these are going to be installed. Additional call outs seem appropriate.

*R. SD-1-1: Callouts have been added to the plans to coordinate with the details.*

CC. SD-1-1: Where is integral concrete sidewalk and curb? Not observed on plans.

CC. SD-1-1: Not addressed. No response offered. Integral sidewalk and curb should be identified on the plans.

*R.CC-SD-1-1: Integral concrete sidewalk is located adjacent to the accessible parking spaces to the south of the entry drive.*

**CC. SD-1-1: Not addressed. Integral sidewalk not called out on plans.**

#### Sheet 12 Site Details SD-2

SD-2-4: Provide transformer pad detail.

*R. SD-2-4: Utility pad detail has been added to Sheet SD-1.*

CC. SD-2-4: Concrete Utility Pad detail is not a transformer pad. Transformer pads are typically 2'-7" to 3' deep. Coordinate pad size with Eversource.

CC. SD-2-4: Not addressed. No response offered.

*R-CC-SD-2-4: United Concrete Transformer pad detail added to sheet SD-1.*

**CC-SD-2-4: Close out: Response Noted.**

Sheet 13 Site Details SD-3

SD-3-4: Concrete Ramp at Building Face – Suggest detail for entranceway. We do not recommend pavers at the doorway as pavers may move as a result of frost, etc. and prevent the door from opening.

*R. SD-3-4: Pavers will be set on concrete and will not heave as a result of frost.*

CC. SD-3-4: Note on Sheet LA where pavers are to be set on concrete.

CC. SD-3-4: Not addressed. No response offered.

*R. CC-SD-3-4: Note has been added to the plan.*

**CC-SD-3-4: Close out: Response Noted**

Sheet 14 Site Details SD-4

SD-4-2: Provide flap gate detail.

*R. SD-4-2: A flap gate detail has been added to Sheet SD-4.*

CC. SD-4-2: Note which gate is to be provided.

*R. CC-SD-4-2: AF-41 Flatback, 24" flap gate to be used. A note has been added to the detail.*

CC. SD-4-2: Outlet pipe is 36" RCP. Gate appears to be in incorrect location on the detail.

*R. CC-SD-4-2: Pipe will be revised to 24" HDPE on the final plan.*

**CC-SD-4-2: Close out: Response Noted**

SD-4-5: Provide riprap splash pad detail for endwall outlet.

*R. SD-4-5: Riprap splash pad has been sized for the end wall outlet..*

**CC-SD-4-5: Close out: Response Noted**

SD-4-7: Storm Trench Detail – Note Final Backfill material if existing material is deemed unsuitable.

*R. SD-4-7: A note has been added to the storm trench detail.*

CC. SD-4-7: It should be noted that the backfill material shall be approved by the Engineer.

*R. CC-SD-4-7: Note has been added to the Storm Drainage Trench detail.*

CC. SD-4-7: Review notes. Note 2. appears to be incomplete.

*R. CC-SD-4-7: Note will be revised for final submission.*

**CC-SD-4-5: Close out: Response Noted. Provide revised plans.**

Sheet 15 Site Details SD-5

SD-5-1: Provide water meter pit detail.

*R. SD-5-1: A water meter pit detail has been provided on Sheet SD-6.*

CC. SD-5-1: Water meter vault detail does not match vault shown on Sheet UT. Verify that a 2" meter appropriate for a 4" dia. water service.

*R. SD-5-1: Water meter on sheet UT has been coordinated to show correct size based on the detail. Final size of water meter will be determined in coordination with Aquarion Water Company.*

**CC-SD-5-1: 2" water meter is not adequate for a 4" water service. Revise detail to match size of service.**

SD-5-3: CTDOT Trench Repair Detail – Typically, state road sections include 9 inches of pavement. Provide verification that CTDOT has approved the pavement repair detail

*R. SD-5-2: The final pavement section will be determined by the CTDOT as part of the Encroachment Permit process.*

CC. SD-5-2: Include CTDOT standard pavement section as part of this submission.

*R. CC-SD-5-2: Standard CTDOT trench repair detail is on sheet SD-6.*

**CC-SD-5-3: Close out: Response Noted.**

#### Sheet 16 Site Details SD-6

SD-6-1: Sanitary Cleanout Detail: Size not provided. Suggest not installing steel rod as may cause damage to mowers, etc. Suggest using a cast iron valve cover.

CC. SD-6-1: Not addressed. No response offered.

*R. CC-SD-6-1: Cleanout size shall match pipe size. Steel rebar is set below grade so as to not damage mowers.*

**CC-SD-6-1: Close out: Response Noted**

SD-6-2: Provide water meter vault detail for 4" service.

CC. SD-6-2: Not addressed. No response offered.

*R. CC-SD-6-2: Water meter pit is shown on sheet SD-6. Final size of water meter will be determined in coordination with Aquarion Water Company.*

**CC-SD-6-2: 2" water meter is not adequate for a 4" water service. Revise detail to match size of service.**

#### Sheet 17 Site Details SD-7

SD-7-1: Solid Board Privacy Fence: Are posts to be set in concrete? Provide detail.

CC. SD-7-1: Not addressed. No response offered.

*R. CC-SD-7-1: Detail has been added to sheet SD-7.*

**CC-SD-7-1: Close out: Response Noted**

Site Plan – Alternative Compared

A description of the alternatives should be provided. Although only a sketch is required for the alternatives, additional details such as any proposed plantings, storm drainage, rain gardens or other stormwater treatment measures, etc. should be called out.

*R: The alternative plan was provided for discussion, and we believe the proposed plan is superior to the alternate plan. We are ready to discuss further with the Commission if requested.*

**CC:** Provide additional detail for the alternative plan to allow for a better understanding of what is being proposed.

**CC: Not addressed. No response offered.**

Flood Preparation Plan – 2/8/24 Comments

*R. Development in Floodplains in the Town of Wilton falls under the jurisdiction of the Planning & Zoning Commission vis-à-vis Section 29-9.F. of the Wilton Zoning Regulations “Development in Floodplains”. The reviewer’s comments are appreciated and will be incorporated into the currently DRAFT Flood Preparedness Plan if appropriate and feasible. The applicant proposes a project that complies with Zoning Regulation, and National Flood Insurance Program Standards, which requires the first floor and supporting mechanical systems to be elevated above the Base Flood Elevation and permits the parking of vehicles below the Base Flood Elevation.*

**CC-FPP:** As stated during our reviews, some of our comments may not be applicable to the Inland Wetlands application, but may be applicable to other pertinent matters for the project or related to engineering design practices/standards. With that said, the applicant stated that a Flood Preparedness Plan was prepared when responding to two public comments in the Inland Wetland application process (January 31, 2024). We request a copy of the revised Flood Preparedness Plan so that it can be reviewed with regard to public comment response.

**CC-FPP Closeout: Applicant submitted revised Flood Prevention Plan on March 1, 2024. The plan addressed comments submitted on 2/8/2024. Storm Ida was essentially a 6-hour storm, 95% of the total precipitation amount fell in 6 hours from 6 pm to midnight. This storm produced the 7<sup>th</sup> highest flow event (approximately 2,000 cfs) at the South Wilton gage in the Norwalk River.**

Construction Management Plan – 2/8/24 Comments

*R. It is our professional opinion the Sediment and Erosion Control Plan is adequate to protect the Norwalk River from the temporary impacts and disturbances associated with construction activities. The reviewer’s comments are appreciated and will be incorporated into the currently DRAFT Construction Management Plan if appropriate and feasible once a contractor is selected and prior to the commencement of construction.*

**C-CMP:** The Construction Management Plan has been submitted as part of the Inland Wetlands application and comments on the plan should be addressed during the local wetlands permitting process. Although several comments were submitted as part of our review, all of the comments aren’t equal in importance as relates to protection of the existing wetlands and watercourses. Comments CMP-01, CMP-06, and CMP-08 can be considered most important. CMP-01 relates to phasing or demonstration that soil disturbance is minimized over the construction period. Comment CMP-06 directly relates to wetland impacts and CMP-08 is directly related to floodplain storage. Responses to CMP-01, CMP-06, and CMP-08 should be submitted along with revisions of the engineering plans independent of the

contractor selection process. Related to this, additional detail for the protection of the Norwalk River at the 36" dia. RCP outfall and for protecting the work at this location from impacts of the river during construction should be provided.

**R.C-CMP:** Applicant submitted revised Construction Management Plan on March 1, 2024. The plan addressed outstanding questions including CMP-01, CMP-06, and CMP-08. Additional concerns relate to the revised Logistics Plan. As relates to Storage Areas (see CMP-14), the construction equipment and sanitary facilities should be located above the 100 year interpolated floodplain elevation (as shown on existing conditions plan (Sheet Ex Sheet 3). The large area for staging and contractor parking should be broken into separate areas and material staging areas should be located east of the contractor parking areas. After building completion, all floodplain storage (including durable & non floatable materials) should be removed from the floodplain.

**Additional Minor Comments:**

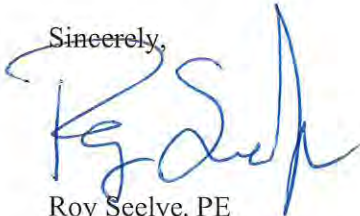
**Title Sheet**

**TS-1:** Under General Note 1, the date of BLEW survey should be included.

**TS-2:** Note 17 is confusing and could be construed that all materials do not need to be clean. Recommend that be reworded for clarity.

The comments above are the written final comments on the application as we understand that the public hearing closes on March 14, 2024. If you have any questions or require additional information, please feel free to contact us at 203-238-1969.

Sincerely,



Roy Seelye, PE  
Senior Project Manager



Darin Lemire, PE, CPESC, CPSWQ  
Senior Hydraulic Engineer