



Scott Lyons
Design Associate 1 - Civil

March 12, 2021

Re: **Yellin Trailer Parking Lot,**
Project Knight

Town of Killingly
David Capacchione, Town Engineer
172 Main Street
Killingly, CT 06239
(860) 779-5360

Dear Mr. Capacchione,

We are respectfully submitting to the Town of Killingly revised civil engineering plans for Yellin Trailer Parking Lot and Stormwater management plan for Project Knight located at Dayville, Windham County, Connecticut. The plans have been modified based on the comments received on 2/18/2021 and comment responses are listed below.

Comment #1:

On sheet 1C-120 there is a 12 ft wide gravel strip near the sediment forebay and behind the overhang stalls. What is the purpose / advantage of this strip?

Response: Subject gravel strip was to provide an access area to the backs of trailers. However, these overhang stalls and gravel strip have been removed.

Comment #2:

Given the location of the lighting pads and the intended use of the lot you may want to consider protecting the light pads.

Response: Per Frito - Lay standards, light poles will be mounted on top of 4' high pedestals to prevent being hit by trucks.

Comment #3:

On sheet 1C-140 there are two manholes upstream of the Hydrodynamic Separators (Downstream Defenders). In looking at the piping details and structure table it appears that these are diversion manholes however I do not see any details relating to these MH's and the pipe inverts seem to be the same. Please look at this and modify to show that the manufacturers recommendations are followed to separate low flow from high flow and prevent the sediment from washing out of the hydrodynamic separators.

Response: Low flow WQf diversion plate details have been added to the upstream manholes and are shown on sheet C-540 details C1 and C2. Diversion plate allows the

water quality peak flow to be directed to the hydrodynamic separators while larger events will be conveyed over the diversion plate and bypass the downstream defenders. The downstream defenders are also designed to bypass flows above the design water quality flow rate without allowing sediments/oils/trash from leaving the unit.

Comment #4:

On sheet 1C-140 there is a call out for an overflow weir INV 252.00 from the sediment forebay to the main detention pond. The cross section shows the weir at 254.00 please correct for consistency.

Response: The overflow weir and cross section have been corrected for consistency to reflect a weir elevation of 254.00.

Comment #5:

Sheet 1C-140 also shows what appears to be an emergency overflow on the south side of the detention pond. This would need protection from erosion however, I am concerned about possible damage to the sanitary sewer line that any potential overflow could cause. I would prefer to avoid using this area for concentrated flow.

Response: Emergency overflow has been moved to the east pond bank and emergency discharge does not enter the sanitary sewer easement area. Rip-Rap outlet protection has been included for erosion control.

Comment #6:

Sheet 1C-161 indicates the contractor to implement dust control. Please indicate where the water will be acquired.

Response: Water for dust control will be provided via water trucks. No water will be pumped from Five Mile River or from protected aquifer. Site contractor will be required to use water from an approved city or owner resource.

Comment #7:

Due to the slope of the proposed detention pond and the use of the lot please include a fence all the way around the pond. You may want to plan for future access of machinery in order to perform routine maintenance.

Response: The proposed parking lot as well as the stormwater pond will be fenced and shall be accessible for routine maintenance.

Comment #8:

On sheet 1C-170 there seems to be some missing data for the EXDA DEPRESSION pre-developed conditions table.

Response: Acknowledged. Information has been included on sheet 1C-170.

Comment #9:

On sheet 1C-170 the pre-developed peak discharge for the South Basin is shown as 30.18 cfs. Please identify the limits of the south basin and explain if it is sheet flow, shallow concentrated flow, a point discharge or a combination.

Response: For modeling purposes, the south basin was divided into three minor basins which each have unique hydraulics that were included within the routing analysis. The south basin has been shown on the drainage map as a Bold, Blue outline. Each minor basin has been designated with a red, dashed, line. Each minor basin flow path has been designated on the drainage map.

Comment #10:

Please list the existing conditions runoff for the EXDA- Upper, Yellin and Depression areas. Is this included in the south basin runoff?

Response: The south basin runoff is a combination of the three minor basins; however, EXDA-UPPER does not have any discharge as the existing pond fully contains runoff for all storms and does not have any infiltration through the bottom. Therefore, the south basin runoff discharge totals include EXDA-YELLEN and the discharge that exceeds the available surface storage within EXDA-DEPRESSION.

Comment #11:

Please show the finish grade for the detention pond to be filled in.

Response: See Civil sheet 1C-140 for proposed finished grades.

Comment #12:

On sheet 1C-171 the post development table seems to be missing some CN numbers they are shown on the plan. Please modify the table.

Response: Basins that do not have an assigned curve number are considered 100% directly connected impervious area and have been assigned CN of 98. For basins that are not 100% DCIA, the CN listed has been applied to the non directly connected area.

Comment #13:

Please identify the rainfall amounts used to determine the flows and water elevations for the 2 to 100-year storm events. Please list the flows and elevations for each storm event and catchment listed.

Response: Rainfall amounts have been listed in the hydrology report as well as pre and post development drainage maps. The pond stages have been listed in the hydrology

report node summary as well as on the pond sections shown on sheet C-440. The individual basin hydrographs have been provided within the hydrology report under appendix 3.

Comment #14:

On sheet 1C-172 it appears that DD-1 treats 24.06 acres including the upper lot and the area of the existing detention pond.

Response: Sheet 1C-172, BMP Drainage Area Map has been revised to more clearly define subject drainage areas. 4.00 AC will be routed to Downstream Defender – 1, 5.43 AC will be routed to Downstream Defender – 2, The remaining area (15.79 AC) will be conveyed thru the forebay and into the pond for treatment via infiltration.

Comment #15:

From looking at the BMP Drainage Area Map on sheet 1C-172 it appears that there are a few areas between the shaded and hatched areas not included in the calculations. Please modify the drainage calculations if necessary or correct the map.

Response: BMP Map 1C-172 has been revised to incorporate the total drainage basin.

Comment #16:

On sheet 1C-242 the STM 400-S cross section shows the proposed grade extending above the top of bank. Please clarify and modify if necessary.

Response: Top of bank grading has been modified.

Comment #17:

On sheet 1C-242 the STM 400-S cross section shows a 24-inch CMP riser. I would suggest another material besides CMP for longevity.

Response: Low flow riser has been changed to reflect an 18" ADS HP storm pipe riser. ADS HP Storm pipe is polypropylene pipe.

Comment #18:

Sheet 1C-440 shows the influent pipes to the sediment forebay set near the bottom. Given the New England winters it is advisable for these pipes not to be submerged during extended periods of cold weather.

Response: Acknowledged. The pipe inverts have been raised 6 inches and 12 inches at the forebay inlets.

Comment #19:

Given the proximity of the outlet structure 424 to the tail race please investigate creating a larger detention area to eliminate the need for a discharge or explore other options for infiltration. If this is not possible provide the discharge flow and velocity and demonstrate that the proposed outlet protection is adequate. Please note CT DEEP may consider this a discharge to a River and it may require additional permits and or monitoring.

Response: The proposed discharge outlet has been removed. No discharge to the Five Mile River is proposed.

Comment #20:

There are several areas that call for rip rap protection. Please provide the size required and the calculations (drainage and otherwise) to support the dimensions shown.

Response: Rip rap has been added to only the emergency overflow weir along the north-east side of the pond. Sizing for d50, thickness, width, and length have been shown on the plans.

Comment #21:

Please note as we discussed a disturbed area of this size requires a permit from CT DEEP.

Response: DEEP permit dated March 08, 2021 has been approved. Permit N.:GSN003670.

Comment #22:

In some areas the slopes of the proposed detention pond are 2H:1V. A 3H:1V is recommended in the CT Stormwater Manual. If you cannot meet the 3H:1V please indicate how you plan to stabilize the slopes.

Response: Grading around the pond has been adjusted to maintain a minimum of 3H:1V side slopes.

Comment #23:

Please provide the specifications of the Hydrodynamic Separators you plan to Install.

Response: Please see the water quality section of the provided hydrology report for downstream defender product brochure.

Comment #24:

Please modify the construction entrance detail to meet CT DOT standards.

Response: Construction entrance revised. See detail on sheet 1C-560.

Comment #25:

In your stormwater management plan, it is stated that the forebay is sized to accommodate 25% of the Water Quality Volume (WQV). In areas that see use like what you are proposing the ability to hold 100% is typical.

Response: Per the Connecticut Stormwater Manual forebays shall be sized for 25% of the required water quality volume. The treatment train approach on this project by utilizing downstream defenders will limit contaminants and trash from entering the forebay.

Comment #26:

In your stormwater management plan, you indicate you will be requesting a variance for WQV recovery (water quality volume recovery) and for the pond recovery time. Please call to discuss or provide the reasons for the variance(s).

Response: We are no longer requesting this variance as both water quality drawdown and pond attenuation drawdown requirements have been met. Refer to hydrology report page 7 for a pond drawdown analysis summary.

Comment #27:

In the stormwater management plan the catchment area data summary for pre-developed conditions is missing some data.

Response: Acknowledged. Table has been updated.

This completes our responses to the comments. As you review the plans if any additional information is required or if there are any questions, please contact me at 904-357-4877 or scott.lyons@haskell.com.

Sincerely,

Scott Lyons
Design Associate 1 - Civil