Reviews provided by the Engineering Division are for compliance with the Town’s “Roadway Design Manual and Standard Construction Details” and “Drainage Manual” as amended. Reviews are based upon the information and plans provided. Comments pertaining to the Town’s manuals are not all encompassing. Other reviewing entities may provide additional comments regarding consistency with these manuals in accordance with their jurisdictions. Review of sanitary sewer and septic systems are not reviewed by the Engineering Division.

All New Submittals for Commission Meetings must be received by the Engineering Division four weeks before scheduled Commission Meeting.

All Revised Submittals for Commission Meetings must be received by the Engineering Division three weeks before scheduled Commission Meeting.

Scott Marucci - Senior Civil Engineer

Reviewed and Approved by: Scott Marucci - Senior Civil Engineer

Date: 7/31/20

COMMENTS AND CONDITIONS OF APPROVAL: Resubmit Prior to Zoning/Building Permit Approval

1. The following reports shall be updated and submitted annually upon the completion of the school year by the Traffic Consultant to Planning & Zoning and the Department of Public Works – Engineering Division for a minimum of three years at which time it will be determined if further reporting is required.

2. Cardinal Road is a private road/private way and will never be accepted as a public road by the Commissioner of Public Works.
   a. Cardinal Road must be reconstructed as follows:
      i. From the Fairfield Road/Cardinal Road intersection to the proposed Cardinal Road Bridge the road shall have a minimum road width of 22-feet (Sheet PR-1 dated 7/14/2020 shall be updated as needed).
      ii. The Cardinal Road Bridge will be reconstructed with a minimum travel lane width of 26-feet and a sidewalk with a minimum width of 5-feet (Sheet PR-1 and STR-02 dated 7/14/2020 shall be updated as needed).
      iii. From the proposed Cardinal Road Bridge to the proposed parking lot the road shall have a minimum width of 22-feet and a sidewalk with a minimum width of 5-feet (Sheet PR-1 dated 7/14/2020 shall be updated as needed).
b. Cardinal Road reconstruction recommendations:
   i. A sidewalk with a minimum width of 5-feet should be installed from the proposed Cardinal Road Bridge to the Fairfield Road/Cardinal Road intersection.

c. The attached plan SKC – 01 dated 07/29/20 is acceptable in concept for the proposed swing gate and the reconstructed driveway (to act as a turnaround for vehicles when gate is closed). The final design plans shall be updated to include the swing gate and the reconstructed driveway.

d. The proposed gate at the existing parking lot is acceptable and shall be added to the final design plans.

e. Since this is a private road the proposed speed humps are acceptable and shall be added to the final design plans.

3. As per the letter from Fogarty Cohen Russo & Nemiroff, LLC dated July 14, 2020 the applicant has agreed to install a Rectangular Rapid Flash Beacon (RRFB) at the crosswalk on Fairfield Road at the driveway (main campus) to the Greenwich Country Day School. This must be completed before a Temporary or Final Certificate of Occupancy is issued.


5. A revised Form SC-100 needs to be submitted.

6. A revised Form SC-107 needs to be submitted. The Directly Connected Impervious Area number needs to be discussed.

7. The Drainage Summary Report is acceptable in concept for the proposed types of stormwater BMPs. A meeting with the Engineering Division is required to discuss the following revisions and additional information:
   a. The Hydraflow analysis for the 1, 2, 5, 10, 25, 50 and 100-years storms for existing conditions needs to be included in the final report.
   b. The use of exfiltration (Dynamic Field Method) in the Hydraflow routing analysis for the 1, 2, 5, 10, 25, 50 and 100-year storms is not acceptable as submitted.
   c. The following Hydraflow information needs to be discussed:
      i. The Pond Report for Pond No. 5 – DET 230 Football Chambers
         1. Culvert/Orifice Structure [A] 15” @ 56.75 -
         2. Culvert/Orifice Structure [B] 6” @ 54.50
         3. Weir Structures [A] @ 57.50
         4. Exfil. (in/hr.) 10.350
         5. TW Elev. (ft) 57.50
         6. The storage volume @ 56.30?
         7. The storage volume for DET 230A?
      d. The construction plan callout and Hydraflow Pond No. 5 information needs to be discussed:
         i. MH: 8
            1. 12” Manifold discharge @ 54.60
            2. 12” SW @ 56.30
            3. 12” W @ 54.00 (goes to maintenance MH: 8A)
      e. The Stormwater Retention Volume Table in Appendix I needs to be revised as follows:
         i. Show the retention volume provided during the 1-year storm.
         ii. Show the retention elevation provided during the 1-year storm.
         iii. Based on the Hydraflow analysis the maximum inflow from Hyd. No. 10 to DET 230 and DET 230A is 29,711 CF. Therefore, DET 230 and DET 230A cannot provide 18,208 +15,300 = 33,508 CF of storage since they only receive 29,711 CF.
      f. The use of exfiltration (Dynamic Field Method) for GRV and 72-Hour Drawdown is acceptable. These computations shall be revised as needed based on the revised design plans.
      g. The WQV computations for DET 230 Football Chambers need to be reviewed as the information does not match Worksheet 2 information for WS23, 24, & 30.
      h. WS 23, 24 & 30 – DET230 – Football Chambers & DET230A – Extended Stone:
         i. Need to discuss the storage computations (15,300 CF and 18,208 CF).
         j. The conveyance computations shall be revised as needed and will be reviewed with the zoning/building permit submittal.
         k. The outlet protection computations shall be revised as needed and will be reviewed with the zoning/building permit submittal.
      l. Review and revise all other information and computations as needed.
8. The construction plan set shall be revised as follows:
   a. Site Plan Sheets
      i. Revise as needed based on the revised Drainage Summary Report.
   b. Detour Plan:
      i. Add callout or note stating the following: No construction vehicles shall use the temporary bridge with a width of 15-feet. If construction vehicles need to use the temporary bridge it must be two-way and have width of 24-feet.
      ii. Add callout of note stating the following: A copy of the temporary bridge specifications, cut sheets, and details shall be submitted prior to zoning/building permit sign-off.
   c. Construction Details Sheets
      i. The control structure detail for DET230 needs to be added.
      ii. The detectable warning strip for pedestrian ramps needs to have the following note added for the two pedestrian ramps at the intersection of Fairfield Road and Cardinal Road. ADA Solutions Detectable Warning Panel - 24” x 48” Cast-In-Place – Brick Red.
10. Exhibit A needs to be revised as follows:
    a. A maintenance item for WET 600 needs to be added.
    b. A maintenance item for the synthetic turf fields with stone storage and infiltrators.
    c. A maintenance item needs to be added for the infiltration island.

**Standard Conditions for Each Submittal**

1. The Engineering Division will no longer keep any records for the submittals. All records for the submittal shall be obtained from the Town of Greenwich Department/Division that has taken in applications and/or submittals. These documents are maintained within each office (e.g. P&Z, IWWA, and DPW Building and Highway Divisions).
2. All revisions to the reports and plans must follow the requirements in the Town of Greenwich Drainage Manual February 2014 as amended.
3. All revisions must be accompanied by a point-by-point written response to the Engineering Division’s comments.

**Standard Conditions of Approval**

1. The Operations and Maintenance Plan Report must include the following for the Certificate of Occupancy:
   b. The final completed Exhibit A, and B
   c. The Maintenance Declaration needs to be filed on the Town of Greenwich Land Records prior to a Certificate of Occupancy. A review of the documents above must be completed before filing on the Town of Greenwich Land Records.
2. The Town of Greenwich – Standard Construction Notes for Site and Subdivision Plans are conditions that must be met.
3. All requests for a Temporary Certificate of Occupancy (T.C.O.) or a Certificate of Occupancy (C.O.) shall be submitted one month before the T.C.O. or C.O. is required.
4. The submittal for a Temporary or Final Certificate of Occupancy must include the following:
   c. Field Inspection Record (All required photos) – Form SC-106 – Sealed and Signed by a Connecticut Licensed Professional Engineer.
   d. Bioretention Soil Testing Certification Sign-Off (as applicable with the bioretention soil gradation test and the phosphorous test for the mixed soil) – Form SC-104 – Sealed and Signed by a Connecticut Licensed Professional Engineer.


h. A Letter discussing all the work that remains to be completed (Only for a Temporary Certificate of Occupancy Submittal).