



November 1, 2021

Mr. G. Peter Jensen

Planning Board Chair
Town of Moreau
351 Reynolds Road
Moreau, NY 12121

Regarding: 112 Harrison Ave Apartments
Stormwater Management Plan Review

Dear Mr. Jensen:

We have received the comment letter from Laberge Group dated October 25, 2021 for the above referenced project(s). In response to the comments, we offer the following:

1. *We note that the SWPPP is currently a draft document until authorized by the Town's MS4 designated authority and NYS DEC. The final SWPPP should contain the following documents:*
 - a. *Complete signed copy of the NOI;*
 - b. *Signed copy of the MS4 SWPPP acceptance form;*
 - c. *Copy of the NYS DEC Acknowledgement letter authorizing the project with conditions as may be noted;*
 - d. *Contractor/subcontractor certification statements that identify;*
 - i. *The specific elements of the SWPPP that each Contractor and Subcontractor will be responsible for;*
 - ii. *Contractor/subcontractor responsible for installation and maintenance of erosion and sediment control devices;*
 - iii. *The names, titles, and signatures for the trained contractor;*
 - iv. *The name, addresses, and telephone numbers of the contracting firms and the date signed;*
 - e. *Trained certifications showing the completion of DEC's Endorsed Four-Hour Erosion and Sediment Control E & SC Training;*
 - f. *The final SWPPP should be signed by a responsible corporate officer, general partner, proprietor, principal executive officer, ranking elected official, or duly authorized representative; and*
 - g. *A fully executed and recorded Town of Moreau Stormwater Control Facility Maintenance Agreement.*

Response: Comment noted. The final SWPPP shall contain all the documents noted above.

2. *While the applicant has performed several test pits on the site, none were performed in the immediate areas of the proposed infiltration practices. Therefore, the applicant should:*
 - a. *Conduct additional soils tests in the area of the Stormwater Management Practices (SMP). The soils investigations should be conducted to a minimum depth of three feet below the bottom of the proposed SMP to demonstrate that the proposed designs will be the required three feet above seasonal high ground water. Since the infiltration basin detail indicates a drywell to be installed in the bottom of the basins, tests should be to three feet minimum below*

- the bottom of the dry well; and*
- b. Perform infiltration testing at the proposed infiltration practices to confirm the design assumptions of 5"/hour. Testing results should also be added to the plans and included in the SWPPP. Testing should be in accordance with the NYS DEC Stormwater Design Manual (Design Manual) Appendix D.*

Response: Additional soil tests will be performed in the areas of the SMPs, with tests reaching to at least three feet below the bottom of the dry well. Soil tests have been performed near the vicinity of the proposed SMPs and we anticipate the soils will be consistent with the tests performed in April of 2021. Infiltration tests will also be performed at the proposed practices and results will be included in the plans and SWPPP. All testing will be in accorded with the NYS DEC Stormwater Design Manual.

- 3. Drainage area maps shall be revised to indicate the following for each drainage area:*
 - a. The time of concentration flow path segments with all variables used in determining each segment of the time of concentration. This typically includes: flow length; average velocity; land slope; surface roughness coefficient; 2-yr. 24-hr. rainfall, channel flow section information (cross-sectional flow area, wetted perimeter, etc.); and*
 - b. Soil types, hydrologic soil group, and weighted CN values.*

Response: Time of concentration and curve number for each subcatchment have been included on the drainage area maps. All other variables are available in the HydroCAD report for each subcatchment. The project area hydrological soil group can be found as Figure 2 in the Stormwater Management Narrative. The USDA Web Soil Survey (Figure 2) indicates Windsor loamy sand of HSG group "A" throughout the project site, which is consistent with the findings of the test pits on the project site.

- 4. The project notes that stormwater ponds may also serve as temporary sediment basins. Therefore, the applicant should:*
 - a. Revise SWPPP Section III.A.2.f, and the plans Erosion and Sediment Control and stabilization maintenance and inspection practices note 1.b to indicate that infiltration basin locations may be used as sediment basins/traps where partial excavation is performed to a minimum limit of 18" above the bottom of the infiltration basin; and*
 - b. Add a note to the plans that should the areas of proposed infiltration be utilized as temporary sediment basins that only partial excavation is to be performed to a minimum limit of 18" above the bottom of the proposed infiltration practice.*

Response: SWPPP, E&SC Note, and plans have been revised to include partial excavation note.

- 5. SWPPP Section III.A.3, Sequence of Major Activities, should be revised to include demolition activities.*

Response: SWPPP has been revised to include note of demolition activity.

- 6. SWPPP Section VI should note that the infiltration basins are required to dewater in less than 48 hours and observations and records should be kept to ensure the basin remains functioning as designed.*

Response: SWPPP has been revised to include dewatering note.

7. *The demolition plan should reference the erosion and sediment control plan and sequence of construction since many of the proposed control practices should be in place prior to the start of demolition. Likewise the sequence of construction should specifically note practice installation prior to demolition activities.*

Response: Removals Plan has been revised to include reference to E&SC plan and E&SC notes. Sequence of construction note has been revised to include note of practice installation prior to demolition of existing structures.

8. *The sequence of construction should note that upstream construction shall be completed and stabilized before connection to the downstream infiltration facilities, and that a dense and vigorous vegetative cover be established over the contributing pervious drainage areas before runoff can be accepted into the facilities.*

Response: Sequence of construction on the plans and in the SWPPP has been revised to include notes about stabilization and dense and vigorous cover.

9. *The infiltration system construction detail should include the following:*
- a. *A note indicating the required minimum three feet above seasonal high ground water;*
 - b. *An observation well in each basin consisting of a 6" perforated PVC pipe, with a lockable cap extending to three feet below the basin floor;*
 - c. *The proposed water surface elevations for each design storm event;*
 - d. *A complete "Infiltration Basin Elevations" table that provides the following:*
 - i. *The infiltration basin elevations; and*
 - ii. *The proposed water surface elevation for each design storm.*
 - e. *The location of observation wells, (these should also be indicated on the plans); and*
 - f. *Construction notes (also provided in the sequence of construction) that indicate the area is to be protected from heavy construction equipment traffic and not connected to the storm system until the completion of construction and the final stabilization of all upstream areas.*

Response: Infiltration system detail has been revised to include all comments noted above.

10. *A construction detail for the proposed dry wells should be provided. Note that drywells shall not exceed four feet in depth.*

Response: Dry well detail has been provided on sheet 8 of 10.

11. *The location of the sediment depth indicator should be shown on the plans.*

Response: Plans have been revised to show sediment depth indicators.

12. *The plans should indicate the locations of the emergency overflows for each basin.*

Response: Emergency overflow location has been provided for SMA#1. SMA#2 and #3 do not have a natural overflow location, so the basins have been sized to hold the 100-year storm with no overflow.

13. *Silt fence should also be provided around the soil stockpile area.*

Response: E&SC plans have been revised to include silt fence around the soil stockpile area.

14. *The equipment storage/materials laydown and staging area should be shown on the plans with appropriate erosion and sediment controls.*

Response: Plans have been revised to show a temporary laydown area with appropriate E&SC.

15. *Exit velocities from the infiltration basins shall be provided. Flows must be non-erosive (3.5 to 5.0 fps).*

Response: Exit velocities for the infiltration basins are available in the HydroCAD report provided in the appendix of the Stormwater Narrative. Flows are non-erosive.

16. *Exit velocities from the forebays shall be provided. Flows must be non-erosive for the 2-year storm.*

Response: Exit velocities for the forebays are available in the HydroCAD report provided in the appendix of the Stormwater Narrative. Flows are non-erosive for the 2-year storm.

17. *Sufficient summary design table is required for the proposed vegetated swales to demonstrate designs in accordance with the Design Manual and should include the required sizing elements and the provided element such as:*

- a. *The peak receiving water quality volume rates from the contributing area that are no greater than 3 cfs;*
- b. *The peak WQv flow no greater than 3 cfs at velocity 1.0 fps and 4" depth or less;*
- c. *Time WQv flow is retained (5 minutes minimum);*
- d. *Capacity to convey the 10-year storm with 6" freeboard at 5.0 fps;*
- e. *The n-values used in design.*

Response: The proposed swales are being used to convey stormwater from the site to the infiltration basins, not as a treatment facility. Any treatment that may be available is minimal and has not been included in the calculations for provided RRv or WQv. All treatment volumes are being provided by the infiltration basins.

18. *The plans should indicate the location of required storm water management facility signs which are required for each infiltration system as well as the vegetated swales.*

Response: Plans have been revised to show location of stormwater facility management signs for each SMA.

19. *The storm water management facility sign construction detail should be revised to identify the two types of permanent practices being proposed (infiltration basin and vegetative swale) and the location where signs are to be placed (infiltration basins 1, 2 and 3 and vegetative swale east and west.)*

Response: Stormwater Management Facility sign has been revised to include the types of practices being proposed. Site plans have been revised to show the location of the signs.

20. *The applicant should confirm the area of disturbance and ensure that the plan notes and the SWPPP/Stormwater Management Narrative are in agreement.*

Response: The area of disturbance on plans and stormwater/SWPPP documents are in agreeance.

21. *The SWPPP/Stormwater Management Narrative should be revised to resolve the discrepancy between the post-development area of imperviousness given in Section 5.1 for each stormwater management area and the area of imperviousness given in Section 5.4.2.*

Response: The Stormwater Management Narrative has been updated to reflect the accurate area of imperviousness.

22. *The storm water analysis should be revised to utilize the same practice labels as those shown on the plans.*

Response: The HydroCAD analysis has been revised to use the same practice labels as shown on the plans.

23. *The discrepancy between R values in Table 2 for SMA# 1 and SMA#3 those from Section 5.1 should be resolved.*

Response: The impervious area for SMA#1 has been revised in section 5.1. All R values are accurate, please see Attachment A, Water Quality Calculation, for more detailed calculations.

24. *If so required based upon the pervious comment, the required WQ should be recalculated.*

Response: The provided WQv is accurate, the impervious area in section 5.1 for SMA#1 has been updated to reflect the plans.

25. *The provided WQ calculations for the infiltration basins should be included in the SWPPP.*

Response: WQv calculations have been included in the SWPPP under section III.A.4.

The revised plans and reports have been attached for your review. If you have any additional questions or comments, please feel free to contact our office at your convenience.

Sincerely,



Anna Rehder
Environmental Design Partnership

cc: