



CHEMUNG  
COUNTY  
STORMWATER  
COALITION

851 Chemung Street  
Horseheads, New York 14845

September 12, 2016

Mr. Tom Skebey, Code Enforcement Officer  
Town of Horseheads Code Enforcement Department  
150 Wygant Road  
Horseheads, New York 14845

**Re: Fairport Ridge Planned Unit Development  
Horseheads, New York  
Review of Stormwater Management Plan**

Mr. Skebey:

I have completed a cursory review of the following submitted information for the above-referenced project regarding the Stormwater Pollution Prevention Plan and stormwater management system design for that project.

- Stormwater Pollution Prevention Plan for the Fairport Ridge Planned Unit Development, Not stamped by a NYS Licensed Professional Engineer, Prepared by Fagan Engineers & Land Surveyors, P.C., Dated August 2016, Received August 24, 2016
- PRELIMINARY PRINTS Site Plan Drawings for the Fairport Ridge Planned Unit Development, Not stamped by a NYS Licensed Professional Engineer, Prepared by Fagan Engineers & Land Surveyors, P.C., Revision Dated May 6, 2016, Received on August 24, 2016
- Stormwater Conveyance Calculations and Narrative, Prepared by Fagan Engineers & Land Surveyors, P.C., Submitted via e-mail on September 1, 2016

My cursory review comments and questions regarding the SWPPP and stormwater management system for the above-referenced project, based upon the submitted information, are as follows.

**HYDROLOGIC & HYDRAULIC MODELING**

1. As per the topographic mapping of the existing conditions, two existing shallow depressions are located in the southern portion of the property. One depression is located within Pre-Developed Drainage Area A and the other depression is located within Pre-Developed Drainage Area B. Given the porous nature of the underlying soil groups, these depression would act to contain and infiltrate stormwater, reducing runoff volumes and peak flow rates.
2. The tributary area boundary in the vicinity of the existing pond in the northeast corner of the project property should be checked.

3. A portion of the project site is situated upon Middlebury silt loam (Me). This soil group has a dual HSG of B/D. It appears that HSG D was utilized for the hydrologic analysis. What were the results of the percolation testing in this area? It is recommended that the percolation test and test pit results be compared to Table 7-1 and 7-2 of Chapter 7 of the NRCS's National Engineering Handbook to determine the most appropriate HSG for the on-site soils.
4. Maps, denoting the flow path used to calculate the respective Tc values for the various sub-areas, are requested.
5. A breakdown of the impervious area (i.e. roofs, drives, roads, etc) is requested.
7. How will the bottom of the proposed infiltration basin be treated? If topsoiled, could the topsoil layer be the rate-limiter in regards to the overall infiltration system capacity?

#### STORMWATER CONVEYANCE

1. As per the existing topographic mapping, it appears that runoff from Prospect Hill Road (along the project property) is currently directed to the adjacent project site. However, it appears from the submitted information that runoff from some areas is proposed to be directed to/towards the Prospect Hill Road right-of-way. Those areas include Post-Developed Areas A-1, A-2, and A-3. How will the runoff from these areas be managed?
2. In regards to the "4' Dia. Catch Basin Detail" on Sheet C12, the following items are noted.
  - The specified catch basin trap appears to be intended for mounting on a flat wall. How would it be effectively attached to a circular wall?
  - A 12" (min.) sump below the inlet of the out-going storm sewer is proposed. Given the proposed catch basin trap, relatively little sediment accumulation within the sump could block flows, effectively reducing the capacity of the storm sewer system.
3. The proposed driveway culverts should be indicated on the plans, with the culvert size and invert elevations noted. Are end sections proposed?
4. The proposed stormwater management design involves conveying runoff from the proposed impervious areas to the proposed forebay/infiltration basin system. How will runoff from the proposed rooftops be collected and conveyed to accomplish this design objective. Appropriate details and information should be included on the plans.
5. It appears that a sizeable off-site area (to the north of the project property) drains south into the project property. In the post-developed condition, as per the submitted plans, it appears that runoff from this area would be directed to a proposed cut slope behind Building #2 and Building #3. Will these off-site flows act to erode this slope? Would these off-site flows be problematic for that slope and those proposed buildings? How/where will runoff from this area be introduced into the proposed collection system?
6. Near the proposed Buildings #13 and #14, the proposed sanitary sewer is shown crossing the proposed storm sewer. Given the respective elevations of these, it appears that these proposed pipes would conflict in the proposed vertical alignment.
7. Calculations regarding the sizing of the proposed storm sewer system that discharges to the western forebay is requested. The sizing should consider inlet control conditions and the possible tailwater offered by the forebay.

8. Calculations regarding the sizing of the proposed storm sewer that discharges to the eastern forebay is requested. The sizing should consider inlet control conditions and the possible tailwater offered by the forebay.
9. In regards to the submitted stormwater conveyance calculations, the following items are noted.
  - Will the proposed drainage channel be erosive?
  - Was inlet control conditions considered in the sizing of the proposed culverts and storm sewers? Could the headwater elevation of a downstream culvert present a tailwater for an adjacent upstream culvert that would impact its capacity?
  - As per the submitted September 1, 2016 report, it is noted that the pipes entering both basins will be 18-inch diameter. As per the submitted plans, a 24-inch diameter pipe and a 15-inch diameter pipe are shown discharging to the forebays.

#### **ON-SITE SOILS TESTING & EVALUATION**

1. Infiltration testing and deep test pit results for the proposed infiltration basin should be provided and included in the SWPPP. As part of this information, a map indicating the location of the infiltration tests and deep test pits, should be provided. The depth to groundwater and/or the seasonal high groundwater should be indicated.
2. Deep test pit information and percolation test results for the proposed on-site sewage systems are provided on Sheet C11. It is requested that a map be provided that shows the locations of these test pits and percolation tests.

#### **SEQUENCE OF CONSTRUCTION**

1. The Sequence of Construction on Page SWPPP-11 of the SWPPP narrative does not match with the Construction Sequence on Sheet C13 of the plans.
2. In regards to Note #11 on Page SWPPP-11, it is noted that "Soil restoration includes mechanical decompaction, compost amendment, or both for all impervious areas of the site". The following questions and comments pertain to this note.
  - Soil restoration should be completed for pervious areas (not impervious areas)
  - Which pervious areas to receive soil restoration should be clearly specified.
  - Are any disturbed areas that shall remain pervious not receive soil restoration? If so, the HSG should be increased by one group accordingly for the post-developed hydrologic calculations. Also, the WQv calculations may need to be adjusted accordingly.
  - It is recommended that NYSDEC's document entitled "Deep Ripping and De-compaction, 2008" be referenced and included in the SWPPP.
3. The Sequence of Construction should clearly indicate the specifics of the proposed deep-ripping and decompaction, including when that task shall be completed.

#### EROSION & SEDIMENT CONTROL

1. The location of proposed erosion and sediment control BMPs, including temporary sediment traps, should be indicated on the E & S Plan.
2. Care should be taken if the sediment basins are within the footprint of the proposed infiltration basins. As per the NYSDEC Design Manual, infiltration basins should never serve as a sediment control device.
3. How will discharges from the roof drains be managed, prior to site stabilization?
4. The plans should indicate the location of proposed rip-rap storm sewer outlet aprons. Furthermore, the detail entitled "Rip-Rap Outlet Apron Detail" on Sheet C14 should indicate the dimensions and thickness of the aprons for each of the discharges. Also, the associated rock size should also be indicated on this detail. Calculations regarding the sizing of the rock should be provided.
5. The location and extents of the proposed rip rap lining for the overflow/emergency spillways should be shown on the plans. Calculations regarding the sizing of the rock should be provided.

#### OPERATION & MAINTENANCE AGREEMENT

1. In accordance with the Town's Stormwater Management and Erosion and Sediment Ordinance, a formal, signed enforceable operation and maintenance agreement for the stormwater collection and management system shall be provided by the Applicant. Furthermore, this agreement must reference and include an approved Operation & Maintenance Plan.

This agreement shall be binding on all subsequent landowners and recorded in the office of the County Clerk as a deed restriction on the property. Also, the Applicant shall convey to the Town easements and/or rights-of-way to assure access for periodic inspections by the Town or their representatives (and for maintenance if required). These agreements, as well as the Operation & Maintenance Plan, shall be subject to the review and approval of the Town of Horseheads, their attorney, and Chemung County Stormwater Coalition.

2. In regards to the Operation and Maintenance Plan on page SWPPP-14 of the SWPPP, the following comments are provided.
  - It is recommended that the proposed drainage ditches, culverts, and storm sewers be inspected after every significant rainfall event (greater than 1 inch of rain within a 24-hour period).
  - Specifics regarding the operation and maintenance of the proposed ditches should be included in the O & M Plan.
  - In regards to the eave troughs and roof leaders for the proposed individual buildings, these shall be inspected and cleaned regularly. During rainfall events, the Project Owner should routinely observe the performance of these and correct any observed operational deficiencies.

MISCELLANEOUS

1. Minimum horizontal separation distances between stormwater infiltration management practices and sewer system components (including sewer lines, septic tanks, and absorption fields) are outlined in Table B-2 of the New York State Design Standards for Intermediate Sized Wastewater Treatment Systems. It is recommended that the applicant's engineer review their proposed design to the minimum separation distances outlined in Table B-2.
2. This review pertains to stormwater management. The Applicant is responsible to obtaining all necessary approvals, including those from the Town of Horseheads, the Chemung County Health Department, and the NYSDEC.

It is important to note that the submitted plans are preliminary in nature. Accordingly, my review comments at this time are also preliminary in nature and additional comments may result in later reviews.

Sincerely,

A handwritten signature in dark ink that reads "Jimmie Joe Carl". The signature is written in a cursive style with a large initial "J" and "C".

Jimmie Joe Carl, P.E.

Cc: Fagan Engineers & Land Surveyors, P.C.