



851 Chemung Street
Horseheads, New York 14845

October 29, 2015

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

**Re: Proposed Retail Development - Primax Properties, LLC
658 Main Street, Horseheads, New York
Review of Stormwater Pollution Prevention Plan**

Mr. Skebey:

I have completed a cursory review of the above-referenced project regarding the proposed stormwater management system for that project.

- Stormwater Pollution Prevention Plan (SWPPP) for Proposed Retail Development, PRIMAX PROPERTIES, LLC, Not stamped by a NYS Licensed Professional Engineer, Prepared by Bohler Engineering, Dated October 9, 2015, Received , October 13, 2015
- Site Development Plans for PRIMAX PROPERTIES, LLC - Location of Site 658 Main Street, Town of Horseheads, Chemung County, NY, Not Stamped by a NYS Licensed Professional Engineer, Prepared by Bohler Engineering, Dated October 9, 2015, Received October 13, 2015.

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.

SOILS TESTING & EVALUATION

1. As per the submitted Geotechnical Engineering Report, two infiltrations tests (I-1 and I-2) were completed near the proposed infiltration basin. As per Page 4 of the Geotechnical Engineering Report, the average measured infiltration rates for I-1 and I-2 were 0.6 inches/hour and 0.3 inches/hour, respectively. As per Section 6.3.1 of the NYS Stormwater Design Manual, "*To be suitable for infiltration, underlying soils shall have an infiltration rate of at least 0.5 inches per hour*". As such, a fundamental question exists whether the proposed infiltration basin is a suitable stormwater management practice for this site.
2. What is the groundwater elevation at the proposed stormwater infiltration basin? Are seasonal fluctuations in the groundwater table expected? As per the NYS Stormwater Design Manual, a minimum of 3 feet of vertical separation from the bottom on an infiltration practice to the seasonally high groundwater elevation is required.

STORMWATER MODELING

1. As per the submitted hydrologic modeling, the proposed infiltration basin was modeling with an infiltration rate of 2.6 inches/hour, although the average of the infiltration tests was less than 0.5 inches/hour. Refer to Comment #1 under Soils Testing & Evaluation.
2. As per the submitted drainage area mapping for existing conditions, stormwater would currently leave the project site at two different locations. On the contrary, the submitted hydrologic modeling (for both the existing and post-developed conditions) appears to model all of the stormwater reaching a single location. Hydrologic modeling should be completed such that both Points of Interest are evaluated for this project site.
3. In regards to the modeling of the Grass Swale, the following items are noted.
 - a. Would off-site areas drain to this swale?
 - b. The slope of the swale along Main Street appears to be approximately 1 percent, as opposed to the 0.5 percent used in the hydrologic model.
4. With the proposed grading, would drainage from off-site areas be redirected to another location? Would more impervious area be redirected to the NYSDOT ditch that would result in higher flow rates reaching this ditch?
5. Details regarding the proposed Soil Restoration should be clearly outlined in the SWPPP and Plans. In regards to the calculation of CNs for developed conditions, consideration should be given that (from a practical standpoint) that soil restoration can't be completed for all disturbed areas that shall remain vegetated.

STORMWATER CONVEYANCE

1. Hydraulic calculations justifying the sizing of the proposed driveway culvert and the storm sewers for the roof drainage should be provided.
2. Drainage from off-site areas should be considered in the sizing of the driveway culvert and grassed swale.
3. The plans should clearly indicate how runoff from the pavement within the post-developed Subcatchment 1B will be directed to the proposed settling basin. Is curbing proposed?

MISCELLANEOUS

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 that are specific to the proposed stormwater management practices. It is recommended that the O & M Plan outline steps and measures to be implemented if operational/performance issues are encountered with the proposed stormwater infiltration system.

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. 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, the Chemung County Highway Department, and New York State Department of Transportation (NYSDOT).
3. Has NYSDOT been contacted regarding the driveway entrance permit, discharging developed stormwater to their ditch along Main Street, and culvert requirements ?
4. On Page 2 of the SWPPP narrative, it is noted that "*The site is not located within a Municipal Separate Storm Sewer System (MS4) municipality*". This statement is inaccurate, as the Town of Horseheads is a MS4 municipality.
5. How will the existing on-site well be decommissioned? Likewise, how will the existing on-site septic system be decommissioned?

If you have any questions or comments regarding this letter, please do not hesitate to contact me. Furthermore, I would be happy to meet to discuss this project in greater detail.

Sincerely,

A handwritten signature in blue ink that reads "Jimmie Joe Carl". The signature is written in a cursive style with a large, stylized 'J' and 'C'.

Jimmie Joe Carl, P.E.

Cc: Bohler Engineering