CHEMUNG COUNTY STORMWATER COALITION

851 Chemung Street
Horseheads, New York 14845

April 15, 2019

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

Re: Dollar General
Old Ithaca Road, Village of Horseheads
Review of Stormwater Pollution Prevention Plan

Mr. Skebey:

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

- Stormwater Pollution Prevention Plan for Horseheads Site, Stamped by a NYS Licensed Professional Engineer, Prepared by Fagan Engineers, Dated March 2019, Received March 13, 2019
- Project Drawings for the Broadway Group Horseheads Site, Preliminary Prints, Stamped by a NYS Licensed Professional Engineer, Prepared by Fagan Engineers, Dated January 2019, Received on March 13, 2019

My review comments and questions regarding the SWPPP and stormwater management system for the above-referenced project, based upon the submitted information, are as follows. As the submitted plans are preliminary, my review comments are also preliminary at this time.

I. STORMWATER MODELING

1. What is the nature of the fill that will be placed in the proposed pervious areas? The nature of this soil would impact the associated CN selection.

2. In regards to the modeling of the proposed infiltration basin, the following items are noted.

   - As per the SWPPP, a clay layer was found in the area of the proposed infiltration basin. Furthermore, the bottom of the proposed infiltration basin will be 3 feet above this clay layer. Could this clay layer act as a confining layer and act to restrict the downward infiltration of stormwater? This potential should be considered, when estimating the stage versus discharge characteristics for this basin.

   - An infiltration rate of 16.5 inches/hour was measured in the area of the proposed infiltration basin and this rate is used to estimate the stage versus discharge characteristics of this basin. Typically, the infiltration rate used for the hydrologic model is a portion of the measured infiltration rate, to account for construction impacts (such as topsoil addition, compaction, etc.) and sediment/debris build-up.

II. STORMWATER MANAGEMENT

1. A groundwater supply well for the Village of Horseheads municipal water system is located in the vicinity of the project site. Does the stormwater discharge to the proposed infiltration basin present a groundwater contamination concern? It is recommended that this potential be considered, including a review of separation requirements, available wellhead protection studies, and well boring or geologic data. Can the infiltration basin be sited further away from the well?

2. What pollutants from the project site could be introduced to the groundwater? Could additional media layers be added to the proposed Crystal Stream Water Quality Treatment Unit to address these pollutants?

3. What is the capacity of the proposed Crystal Stream Water Quality Unit?

4. Will the proposed filling of the project site (including the proposed berms) interrupt any existing drainage patterns on the adjacent properties, resulting in ponding/puddling on those properties?

5. Will runoff from the dumpster pad area be directed to the adjacent property?

6. The top of grate elevation of the proposed CB-3 (near the proposed entrance drive) is 899.5, while the adjacent proposed grade within the entrance drive is 899.4. Will runoff reaching CB-5 flow to the entrance drive? Given the relatively flat nature of the proposed parking lot, paving of the parking lot will be critical, to direct runoff to the intended points of collection.

7. In regards to Table IV of the SWPPP, the total flow estimate for PDA-2 for the 1-year storm event appears to be too high.

III. STORMWATER COLLECTION & CONVEYANCE

Storm Sewer System

1. Hydrologic calculations and associated information (including a drainage sub-area map) should be included in the SWPPP, in regards to estimating peak stormwater flows to the various proposed catch basins/storm sewer runs.

2. The type of storm sewer pipe should be clearly noted on the plans. Is the pipe proposed to have a smooth-bore interior?

3. The following comments pertain to the hydraulic sizing calculations.

   - A Manning's n-value of 0.01 is noted in the submitted hydraulic calculations. A n-value of 0.12 is typically recommended for smooth-bore HDPE pipe.
   - In regards to calculating the hydraulic profile, consideration should also be given to minor headlosses incurred at the discharge to the infiltration basin, through the Crystal Stream unit, and through the catch basins.
   - The sizing of inlet grates should consider the potential of these being partially clogged/blocked.

4. In regards to the Rip Rap Outlet Apron Detail, is the proposed 4-inch dia. stone pertain to the d_{50}? What is the proposed gradation of this rock?

5. The Storm Profile on Sheet C3 does not include CB-5 and the sewer run between CB-4 and CB-5.

Roof Runoff

1. It is unclear from the submitted plans how roof runoff is proposed to be collected and conveyed. How roof runoff will be collected and conveyed should be detailed in the plans and SWPPP.

IV. EROSION & SEDIMENT CONTROL

1. The Sequence of Construction in the SWPPP does not match the Sequence of Construction on Sheet C9 of the plans.

2. The Sequence of Construction on Sheet C9 of the plans makes note of the use of a sediment basin. What are the specifics of this sediment basin?

3. Will sediment be directed to the proposed stormwater infiltration basin?

V. SOIL RESTORATION

1. In addition to NYSDEC's document entitled Deep-Ripping and Decompaction, April 2008, it is requested that the Standard and Specifications for Soil Restoration in the NYS Standards and Specifications for Erosion and Sediment Control (July 2016) also be included in the SWPPP.

2. It is important to note that for pervious areas that are compacted during construction, but do not undergo soil restoration, the Hydrologic Soil Group (for modeling purposes) has to be increased by one group (for example, HSG C to HSG D). Is it reasonable to expect that soil restoration will be completed for 100 percent of the compacted pervious soils on the project site? Was this considered in the development of the post-developed CNs?

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.

A detailed O & M Plan for the proposed stormwater system should be prepared that includes (but not be limited to) an inspection schedule, maintenance schedule (as well as triggers to initiate maintenance), and details of the maintenance activities for the storm sewers, the catch basins, the Crystal Stream Water Quality Unit, and the Infiltration basin.

In regards to the infiltration basin, corrective actions should be pursued when the observed infiltration rate is less than the design infiltration rate. In regards to the Crystal Stream Water Quality Unit, the cleaning of the unit and the changing of the media needs to be outlined in the O & M Plan.

2. This review pertains to stormwater management. The Applicant is responsible to obtaining all necessary approvals, including those from the Town of Horseheads and the Chemung County DPW.

3. In accordance with the SPDES Stormwater General Permit for Construction Activity, documentation must be included in the SWPPP that the proposed construction activities will not adversely affect a property that is listed or is eligible for listing on the State of National Register of Historic Places (including archeological sites).

4. Planning for highway and drainage improvements for Old Ithaca Road (near the project site) is presently underway. Has the design/site engineer for the proposed Dollar General coordinated with the Chemung County DPW and the design engineers for the Old Ithaca Road project?

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,

Jimmie Joe Carl

Jimmie Joe Carl, P.E.

Cc: Nate Nagle, Village of Horseheads Manager
Fagan Engineers