CHEMUNG COUNTY STORMWATER COALITION

851 Chemung Street
Horseheads, New York 14845

April 3, 2017

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

Re: Rockwell Avenue Subdivision
Horseheads, New York
Review of Stormwater Management Plan

Mr. Skebey:

I have completed a 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. Please note that the submitted plans are at PRELIMINARY PRINT stage. As such, my comments are also preliminary at this time.

- Stormwater Pollution Prevention Plan (SWPPP) for Rockwell Avenue Subdivision, Prepared by Fagan Engineers, NOT Stamped by a NYS Licensed Professional Engineer, Dated February 2017, Revision dated February 21, 2017
- Site Plan Drawings for Rockwell Avenue Subdivision, NOT Stamped by a NYS Licensed Professional Engineer, Prepared by Fagan Engineers, Revision Dated February 17, 2017 , Received on February 21, 2017. These plans are indicated to be PRELIMINARY PRINTS.

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.

HYDROLOGIC & HYDRAULIC MODELING

1. The acreage of Developed Drainage Areas A-2 and B-2, as noted in Table III of the SWPPP, do not match those shown on the Developed Tributary Area Map.

2. The CN values used in the hydrologic modeling for the Developed Drainage Areas A-2 and B-2 appear to be too low. As per Table 2-2a of TR-55, a CN value of 77 is required for 1/8-acre residential lots on HSG A soils.

3. In regards to the estimation of the Sheet Flow component of the Tc values for the developed conditions, the following items are noted.
   - A n-value of 0.24 was utilized. Given that the roadside drainage swales would be maintained as lawn, a lower n-value would be applicable. Also, will these swales also have pavement?
   - Consideration should be given to reducing the length of sheet flow for developed conditions. Typically, grading is completed on home sites that forms small swales/drainageways.

4. Depending upon the final roadside drainage system/storm sewer system, the Tc calculations for developed conditions may need to be adjusted accordingly.

5. It appears that additional off-site area between the east side of the property and Grand Central Avenue would be tributary to the proposed stormwater management system. Also, would a portion of the existing roof area of the Fennel Spring Company building be tributary to the proposed stormwater management system? Could any area north of Hemlock Street be tributary to the proposed stormwater management system?

STORMWATER CONVEYANCE

1. As per the "Typical Roadway Section" on Sheet C3.1, it is indicated that roadside drainage may consist of either concrete gutter/storm sewer system or roadside ditches with 12-inch dia. min. driveway culverts. The plans should clearly indicate which is proposed to be utilized. On the contrary, the Typical Roadway Section shows a 9" deep swale.

   The Typical Roadway Section should be provided that outlines the proposed roadway section and roadside drainage system. It is requested that the applicant's engineer gains input from the Town of Horseheads Highway Superintendent regarding the proposed roadside drainage system.

2. As per the SWPPP, it is indicated that "*The proposed roads, buildings and driveways will all drain to the two roadside swales. Shallow roadside swales will convey home stormwater to the two forebays*". From the Grading Plan (Sheet C4), it appears that the depth of the roadside swales would be less than 2 inches. How will the proposed shallow roadside swales be constructed? Is the use of concrete gutters proposed?

3. As currently designed, developed stormwater would be conveyed along the roadside for relatively long distances before reaching a stormwater inlet. For example, stormwater would be conveyed overland along the roadside for over 750 LF (from Sta. 1+00 to 8+50), before being discharged to the stormwater forebay. Typically, stormwater inlets would be installed at intervals of 200 to 300 feet. When shallow swales/gutters are utilized, storm sewer systems (including inlets) are typically used in conjunction.

4. Requirements for buildings/homeowners for the collection and discharge of roof water should be provided on the Plans. As per the SWPPP, "Rooftop Runoff will be directed to the forebays". Would all rooftop runoff be collected and directed to the roadside drainage system? Would there be restrictions on discharging rooftop runoff to adjacent residential properties?

5. It is understood that an existing storm sewer either conveys stormwater from the project towards Hemlock Street or conveys stormwater from the Hemlock Street area to the project site. What is the status of this storm sewer? Could this storm sewer convey off-site stormwater into the project site?

6. The Phase I and Phase II portions of the project are not adjacent to the proposed infiltration basins. As such, after the construction of each of these phases (and before the construction of Phases III and IV), a means to convey stormwater from the Phase I and Phase II through the undeveloped Phase III and Phase IV areas to the infiltration basins would be needed. The Plans should indicate/detail these stormwater conveyance systems.

7. The use of beehive stormwater grates is proposed. It is recommended that the applicant's engineer gains input from the Town of Horseheads Highway Superintendent regarding the use of these.

STORMWATER MANAGEMENT

1. In regards to the proposed infiltration basins, it is important that the surface covers/treatment of the basins' surfaces do not act to impede infiltration. The Plans should note/detail the proposed surface covers/treatments for the basins.

2. From the submitted Grading Plan, it appears that a long narrow topographic depression is proposed along the backs of Lots #11 through #16 (as well as along the forebay of the northern infiltration basin). What is the intent of this depression? Is an easement needed over this area?

3. Will the filling of the existing depression (on the proposed Lot #24) result in ponding or other nuisance conditions for the adjacent properties to the south?

SEQUENCE OF CONSTRUCTION & **EROSION & SEDIMENT CONTROL**

1. A note should be added to the plans that states that an individual erosion & sediment control plan shall be required to be prepared for each home site. Each of these individual erosion & sediment control plans shall be submitted to the Town of Horseheads for their review and acceptance, as part of the building permit application for an individual home site.

2. As per the SWPPP, "*The forebays will be used as a sediment basin during construction. The infiltration basin will be constructed at the end of the project after the majority of the earth disturbance work has reached final stabilization*." This should be clearly indicated on the Sequence of Construction. Also, the specifics of the use of the forebays as sediment basins should be noted on the Plans and SWPPP.

3. After the initial development of a project phase (including the site grading, utility installation, and roadway construction), will the site be vegetated/restored, prior to the construction of individual homes? The Sequence of Construction should note these specifics.

MISCELLANEOUS

1. The Applicant is responsible to obtaining all necessary approvals, including those from the Town of Horseheads (including their Highway Superintendent), the Chemung County Health Department, the Chemung County Sewer District, and the NYSDEC.

2. Easements for the proposed stormwater collection system (including back-lot and side-lot swales) should be shown on the plans. In addition, easements for the other buried utilities should also be noted on the plans. Easements should be of sufficient width to allow for access for maintenance and repairs of these utilities.

3. In accordance with SPDES General Permit No. GP-0-15-002, documentation that the proposed project will not impact archeological or other historic properties is required.

If you have any questions or comments regarding this letter, please do not hesitate to contact me.

Sincerely,

Jimmie Joe Carl

Jimmie Joe Carl, P.E.