

851 Chemung Street
Horseheads, New York 14845

January 22, 2018

Mr. Thomas Skebey, Stormwater Management Officer
City of Elmira
101 West Second Street
Elmira, New York 14901

**Re: SWPPP for LaFrance Apartments
416 Powell Street, Elmira, New York**

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 LaFrance Apartments, Stamped by a NYS Licensed Professional Engineer, Prepared by Fagan Engineers, FE Project No. 2017.053, Dated December 2017, Received December 21, 2017
- Site Plan Drawings for LaFrance Apartments, Stamped by a NYS Licensed Professional Engineer, Prepared by Fagan Engineers, Revision dated December 21, 2017, Received on December 21, 2017

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

1. Details of the proposed trench drain should be provided on the plans.
2. Is the proposed storm sewer piping fully perforated? What type of joints are proposed for this pipe? The type of pipe should be clearly specified.
3. The following questions are in regards to the "Parking Lot Infiltration Trench Detail" and the "Rear Yard Infiltration Trench Detail" on Sheet C6 of the Site Plans,
 - Is geotextile fabric proposed to prevent soil from entering the voids of the stone bedding?
 - Are the proposed 3" to 9" dia. cobbles appropriate bedding for the HDPE storm sewer?
4. The following questions pertain to the elevations of the proposed storm sewer system.
 - What are the proposed invert elevations of the proposed storm sewer piping?
 - In regards to the proposed drywells, what is meant by the "BOTTOM" elevations noted on Sheet C4 for each of the proposed drywells? Is it the inside bottom of the drywell, the bottom of the drywell base, the bottom of the excavation? What is the height of the proposed drywell barrel sections?

5. Two 24-inch diameter storm sewers are proposed to be extended towards the east side of the proposed building. How will the western ends of these storm sewers be terminated? Will drainage structures be installed?
6. Portions of the proposed 24-inch diameter storm sewer along the west side of the proposed building are in close proximity to the proposed building. In one location, this storm sewer is less than 2 feet from the proposed building. Could this close proximity potentially present issues for the adjacent building foundation and/or basement?
7. The applicant may wish to provide stormwater pretreatment facilities, prior to the proposed infiltration system. Pretreatment may act to extend the effective life of the infiltration system. This is especially important given the future costs of repairs and/or replacement of a stormwater infiltration system that is underground and below pavement.
8. The following comments pertain to the "Operation and Maintenance of Permanent Structures" section of the submitted SWPPP.
 - The following maintenance item was noted "Remove accumulated silt and other debris from the catch basin sump after 50% of the sump volume has been lost". As per the current plan, catch basins are not proposed for pretreatment.
 - The proposed stormwater infiltration system is designed to accommodate stormwater flows from a 100-year storm event, without these flows overflowing the system. This design objective should be stated in the O & M Plan. Accordingly, if overflows from the proposed stormwater system occur (for a 100-year storm event or lower), the system is not performing as intended and appropriate maintenance attention would be required.
9. The rim elevations for the proposed two drywells on the west side of the proposed building appear to be too high, such that these drywells may not be in topographic depressions.
10. In lieu of curbing, a small berm is proposed between the proposed pavement and the existing sidewalk along Powell Street. Also, a berm is proposed along the pavement in the northeast corner of the project. The following comments pertain to these proposed berms.
 - It is recommended that notes be added to the plans that identify the extents of the proposed berms.
 - In regards to the northeast area of the site, is the proposed berm intended to be extended along a portion of the north side of the proposed pavement?
11. A formal, signed enforceable maintenance agreement for the stormwater management system shall be provided by the Applicant/Owner, accepted by the City, and executed by the Applicant, prior to the issuance of the Certificate of Occupancy for this project. 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. That agreement must be fully consistent with the City's Stormwater Management and Erosion and Sediment Control Ordinance and accepted by the City and their attorney.

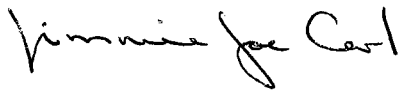
The maintenance agreement shall include a detailed operation & maintenance plan that has specific provisions for the long-term maintenance of the stormwater management system. It is important to note that the performance of stormwater infiltration systems tends to decrease over time, as the result of sediment and debris accumulation within the system. Accordingly, the operation & maintenance plan must include actions to be taken, if/when the design performance is not being achieved.

Proposed Drive Entrances/Exits

1. As per the City's Engineering Department, the following items are required for the proposed drive entrances.
 - Drop curbing should be provided between the edge of the pavement of the City street and the proposed entrance/exit drive pavement. An associated detail should be provided on the plans.
 - Sidewalk shall be extended across the proposed entrance/exit drives. An associated detail should be provided on the plans.

If you have any questions regarding these comments, please do not hesitate to contact us. Furthermore, I would be happy to meet to discuss this project.

Sincerely,

A handwritten signature in black ink that reads "Jimmie Joe Carl". The signature is written in a cursive, slightly slanted style.

Jimmie Joe Carl, P.E.

Cc: Andy Avery, P.E., City of Elmira
Craig Southard, City of Elmira
Rick Vary, City of Elmira