MEMORANDUM

FOCUS ENGINEERING, inc.

Cara Geheren, P.E.	**651.300.4261**
Jack Griffin, P.E.	**651.300.4264**
Ryan Stempski, P.E.	**651.300.4267**
Chad Isakson, P.E.	**651.300.4283**

Date: June 17, 2019

To: Ken Roberts, Planning Director
Cc: Chad Isakson, Assistant City Engineer
From: Jack Griffin, P.E., City Engineer

Re: Carmelite Site Improvements
Engineering Site Plan Review

A Site Plan engineering review has been completed for the Carmelite Hermitage Chapel Conditional Use Construction Plan set. The site is located at 8249 DeMontreville Trail North in Lake Elmo. The submittal consisted of the following documentation received on May 28, 2019:

- Site Plans prepared by Pioneer Engineering, dated April 26, 2019.
- Stormwater Management Report prepared by Pioneer Engineering, dated April 26, 2019.
- Certificate of Survey prepared by Landmark Surveying, dated June 27, 2018.
- Wetland Delineation Report prepared by MNR, dated May 2, 2019.
- Septic System Plan prepared by Steinbrecher Companies, Inc., dated May 8, 2019.

Engineering review comments are as follows:

STORMWATER MANAGEMENT

- A Valley Branch Watershed District (VBWD) permit will be required. The site plan is subject to a storm water management plan (SWMP) meeting State, VBWD and City rules and regulations.
- The SWMP executive summary must be revised and resubmitted to clarify the required standards for this project (City and VBWD) and to demonstrate compliance with those applicable standards.
    - The total new and recreated impervious surface area must be identified in detail.
    - The applicable standards must reference the VBWD rules and Stormwater Rules for the City of Lake Elmo.
    - The report must state the soil types determined by the soil borings. Assumed infiltration rates must be identified in the report and the report must demonstrate drawdown in 48 hrs.
    - A soil boring location map must be provided and verified that sufficient borings have been taken in accordance with the City Engineering Design Standards Manual.
- Storm water facilities proposed for meeting State and VBWD permitting requirements must be designed and constructed in accordance with the City Engineering Design Standards Manual available on the City website, dated March 2017.
- Ownership. The storm water facilities constructed for this development should remain privately owned and maintained.
- Stormwater Maintenance and Easement Agreement. The applicant will be required to execute and record a Stormwater Maintenance and Easement Agreement in the City's standard form of agreement.
- Maintenance Access. Even as privately owned and maintained facilities, maintenance access roads meeting the City engineering design standards must be provided for all storm water facilities.
- Easements. The storm water facility 100-year HWL must be fully contained within the subject property and easements must be provided to protect the 100-year HWL flood area.

- Sheet 4.10. The sanitary sewer and water services must be identified as to size and material. A plan note should be added to indicate the sanitary sewer and water service lines per state plumbing code requirements.
- Sheet 5.10. Revise grading plan to revise storm water BMP site to meet City of Lake Elmo and MN Storm Water Manual standards and as follows:
    - Provide 10:1 aquatic bench and 10:1 maintenance bench around retention BMP.
    - Provide 3:1 length to width ratio for retention basin.
    - Provide defined rip rap overflow location between retention basin and infiltration basin and define overflow spot elevation.
    - Provide retention basin NWL and ensure minimum 3-feet depth. Show NWL level contour on the plan sheet.
    - Provide 100-year HWL contour for the 996.9 HWL. The 100-year HWL of 996.9 is not shown consistent between Sheets 5.10 and 5.30. Revise plans and use spot elevations has required to demonstrate extent of 100-year HWL.
- Sheet 5.10 Provide drainage and utility easement over storm water BMP including the 100-year HWL and pond maintenance access road and access bench. Access road grade must be less than or equal to 10% to the maintenance bench.
- Sheet 5.10. Remove plan note that states “Remove Trees as required within grading limits”. All trees to be removed must be surveyed and shown on the plans. Tree removal may be subject to replacement per City ordinances.
- Sheet 5.20. The rock construction entrance must be positioned for all grading activity on site; not just for basin 100P.
- The site plans must be updated to show the proposed on-site SSTS design. The Septic System Plan prepared by Steinbrecher Companies is not consistent with the site improvements plans.
- The plans must call out detailed site protection from construction activities for the proposed on-site wastewater treatment system and for the proposed storm water infiltration basin.
- No construction may begin until the applicant has received City Engineer approval for the Final Construction Plans; the applicant has obtained and submitted to the City all applicable permits, easements and permissions needed for the project; and a preconstruction meeting has been held by the City’s engineering department.