S. LLEWELLYN & ASSOCIATES LIMITED
CONSULTING ENGINEERS

May 22, 2024
File: 20036

City of Burlington
Development and Infrastructure Division
426 Brant Street,
Burlington, Ontario
L7R 3Z6

Attention: Annette Simpson,
Senior Engineering Technologist
Engineering Services

RE: Preconsultation Update Comments 291 North Service Road – May 26, 2023

Thank you for your comments in connection with the above noted project. We have had the opportunity to review your comments and offer the following response:

Development Engineering Comments

General Comments

1. All plans to use the same base layer.
   Response: Noted.

2. Identify existing and/or proposed property lines on all plans, please clearly identify the deemed right of way dedication (as advised by Transportation Planning as required) on all drawings. The S. Llewellyn & Associates (SLA) engineering drawings and MMP draft R Plan, do not appear to reflect the deemed ROW dedication. The SLA overall site plan drawing does reflect the widening.
   Response: See revised engineering drawings for revised plans including all property lines and road widenings.

3. Identify existing and/or proposed easements on all plans.
   Response: See revised engineering drawings for all easements on plans.

4. Identify all applicable external agency setbacks on all plans, please ensure the MTO setback is taken from the deemed ROW, as it would be dedicated during the (future) site plan process. Please clearly identify the MTO setback, the Conservation Halton and Region of Halton regulated hazards and setbacks, on all drawings across all disciplines. The S. Llewellyn & Associates engineering drawings do not appear to identify the setbacks.
   Response: See revised engineering drawings for identified setbacks.

5. All infrastructure and private utilities must be constructed within the subject property limits. There is a concrete pad for gas identified within the MTO 14m setback, and part of the proposed pond looks to be within the setback, please revise.
   Response: See revised engineering plans for 14m MTO setback with no proposed works within setback.

6. City Plan and Profile drawings may be downloaded from the Open Data Portal.
   Response: Noted.

Functional Servicing and Stormwater Management Report

1. All documents to be prepared in accordance with the Council approved Stormwater Management Design Guidelines (COB SWM), as amended.
   Response: Noted.

2. To be stamped and certified by a Professional Engineer.
   Response: Noted.

3. External agency may review the report. If differing requirements exist between them and the City than the most stringent criteria shall apply.
   Response: Noted.

4. The City's Stormwater Engineer has provided the following criteria:
   a. Quality Control (COB SWM 6.1.4.1 and 6.1.4.2):Enhanced 80.0% TSS removal achieved with a treatment train approach. An OGS will only be credited with 50.0% TSS removal.
   - OGS CA-ETV certified units only (please include the ETA certification in the appendix of the report).
     Response: See revised FSR for OGS unit details and Appendix for ETA certification.

   - OGS to be sized to capture and treat a min. 90.0% of the runoff volume.
     Response: Noted. See revised FSR for details.

   - A thorough review if the stormwater management section of the September 2021 Scott Llewellyn and Associates FSR was not undertaken, however we did notice the following:
     a. The Conservation Halton hazard and setback limits are not clearly identified on the engineering plans, please show to confirm the proposed pond (and other infrastructure) is not within hazards or setback limits.
        Response: See engineering plans for proposed pond outside of setback limits.

b. Unless the roofed areas are collected and separately piped, they cannot be counted as clean, as the roof areas will mix with surface areas before treatment, Table 2.9 and the OGS calculation will need revising.

Response: See revised FSR for revised OGS calculations.

c. The drainage area for the pond is 1.594 hectares, whereas the MECP SWM manual recommends dry ponds having a drainage area of min. 5 hectares, please provide justification as to why a lesser drainage area than recommended would be suitable for this site.

Response: As per the Environment Stormwater Management Planning and Design Manual (March 2003), the proposed dry pond can service smaller drainage areas it is a part of a treatment train system, and is subject to the minimum orifice size and therefore, reduced detention time.

d. Does the dry pond outlet pipe slope meet the MECP stormwater management planning design manual min. slope?

Response: The dry pond outlet pipe has been revised to meet the MECP stormwater management planning design manual desired criteria of 1.0%.

e. Please provide the calculations for pond size, bottom width, etc. to demonstrate the pond design is in accordance with the MECP guidelines.

Response: See revised FSR for table comparing the dry pond design criteria and the proposed design.

f. Please provide a separate (preliminary) drawing(s) for the proposed dry pond itself, clearly identify the components, i.e. is a sediment forebay proposed?, if so, identify permanent pool, low flow channel, maintenance access, etc., to demonstrate it will all fit in the area marked for the pond, and that all elements are out side of the deemed ROW and MTO setback, as this would be a privately owned and maintained pond.

Response: The proposed dry pond does not have any of the above listed components, see engineering drawing set (C106 and C108) for the proposed dry pond.

g. The dry pond has a proposed drawdown time of 13 hours, whereas the MECP guidelines indicate dry ponds used for quality and erosion control should have a 48 hour detention, please clarify/justify the proposed reduction (just over 1/4 of recommended) in detention, and how it meets MECP requirements. Has it been considered to decrease the orifice size to increase the retention time? The minimum orifice size would be 75mm.

Response: As per the Environment Stormwater Management Planning and Design Manual (March 2003), a detention time of 12hours is adequate since the smallest orifice size (75mm) is proposed and the drainage area is susceptible to clogging (less than 8ha).

h. Review of Geotechnical/Hydrogeological information would be undertaken at the site plan stage, but if infiltration is a component of the dry pond, then please ensure (for the site plan stage) the geotechnical report will support the design of the proposed dry pond.

Response: Noted.

i. Advisory: an MECP Environmental Compliance Approval would be required for the private pond should the ZBZ/OPA application be approved.

Response: Noted.

b. Quantity Control (COB SWM 6.1.1.1):

- Post development to pre-development for the 2-year to the 100-year.

Response: See FSR for stormwater management as per Quantity Control requirements.

- A max. pre-development imperviousness of 36.0% (C = 0.50) for re- development is to be used for the pre-development calculations.

Response: See FSR for a pre-development imperviousness of 20.0% (C=0.25).

- A thorough review of the stormwater management section of the September 2021 Scott Llewellyn and Associates (SLA) FSR was not undertaken, however we did notice the following:
  - Section 2.2 notes a 100mm orifice pipe and Appendix A Stage-Storage Discharge Calculations and SWM Facility – Drawdown Calculations also both note a 100mm orifice pipe, but the SWMHYMO post development calculations note a 150mm orifice pipe. Before the report is submitted with an application please doublecheck what size orifice is to be utilized to achieve quantity controls, and ensure consistency between the report, tables and appendix.

Response: See FSR for revised stormwater management scheme.

- Design/Drawings will need to be revised to identify the deemed right of way dedication, MTO setback, please ensure all development is outside of the setback, i.e. gas pad, pond, etc.

Response: Noted.

- Please ensure engineering drawings are included in the appendix of the report.

Response: Noted.

c. Erosion Control (COB SWM 3.4 and 6.1.2):

- Deter to Conservation Halton to Advise.

Response: Noted.

d. Water Budget (COB SWM 3.5 and 6.1.3):

- First 5mm of rainfall shall be retained and infiltrated or reused onsite, the Scott Llewellyn and Associates September 2021 report does not look to detail water budget, please incorporate before submitting the application.

Response: Infiltration within the site is not feasible due to the presence of high groundwater and shale bedrock in close proximity of proposed ground surface. See revised FSR and Appendix E for Geotechnical Report and Monitoring Report.

e. Groundwater:

- If there is a foundation drainage collection system proposed in the future, flows must be accommodated in the quantity control for the site, and discharge must meet the Storm Sewer Discharge Bylaw 59-2022 Table 1 criteria, as amended.

Response: Noted.

f. External Flows:

- Identify all external flows and safely accommodate them under the developed conditions to avoid upstream flooding or ponding.

Response: See FSR for catchment areas and drainage area plans.

g. Overland Flow Route (COB SWM 5.3.2 and 6.1.1.3):

- Provide the emergency overland flow route on the plans and include the neighboring properties to ensure existing drainage patterns are being maintained.

Response: See revised drawings for emergency overland flow route.

5. Provide full sized scalable, signed, and stamped plans for the following:
   a. pre-development storm drainage area
   b. post-development storm drainage area
   c. grading d. servicing
   e. pond
   f. any additional applicable plans

Response: Noted.

7. Include a Letter of Reliance that allows the City to rely upon the documents.

Response: Noted.

Yours truly,

S. LLEWELLYN & ASSOCIATES LIMITED



Blair Henderson, C.Tech.