TRITON ENGINEERING SERVICES LIMITED
Consulting Engineers

Memorandum

DATE:	December 17, 2020
TO:	Clint Stredwick
FROM:	Dustin Lyttle / Ray Kirtz
RE:	100 Eco Parkway Preliminary Design Submission No. 1
FILE:	A4175A

SUBMITTED ITEMS LIST

- Servicing and Stormwater Management Report, dated October 2, 2020, prepared by WalterFedy ***(Digital Copy in PDF Format)***
- Electrical Drawing Set, dated October 2, 2020, prepared by WalterFedy, including ***(Digital Copy in PDF Format)***:
    - Drawing No. ES01 – Electrical Site Plan
    - Drawing No. ES02 – Lighting Fixture Cutsheets
- Architectural Drawing Set, dated October 5, 2020, prepared by WalterFedy, including ***(Digital Copy in PDF Format)***:
    - Drawing No. A2-1 – Main Floor Plan
    - Drawing No. A3-1 – Exterior Elevations
    - Drawing No. A3-2 – Exterior Elevations
- Application for Site Plan Approval, dated October 14, 2020, prepared by WalterFedy ***(Digital Copy in PDF Format)***
- Drawing Number SP1 – Site Plan, dated July 10, 2019, prepared by CH Four Biogas **Not Resubmitted**
- Drawing Number SP1 – Site Plan, dated July 10, 2019, prepared by CH Four Biogas **Not Resubmitted**
- GRCA Application for Permission No. 602/19, dated September 10, 2019, prepared by GRCA **Not Resubmitted**
- Environmental Compliance Approval Number 1984-BD9NBD, dated November 28, 2019, prepared by MECP. **Not Resubmitted**

PRE-SUBMISSION NO. 1 COMMENTS

1. Site is to be serviced by a dedicated low-pressure service (LPS) connection to existing MH west of the site. ***Pending, additional details regarding the sites' required servicing strategy/configuration will be provided by the Township under separate cover.***
2. Details (length, depth of bury, installation technique etc.) regarding how the LPS will cross the watercourse and connect to the existing MH are to be provide. ***Pending.***
3. Confirm with the GRCA if permit is required to install LPS, particularly at watercourse crossing. ***Pending.***
4. Storm Water Management ECA Permit is required for industrial developments. From the Township's perspective, SWM is expected to meet post-to-pre quantity control and provide Enhanced (80% TSS removal) level quality treatment. ***Pending; ECA permit for SWMF is to be provided.***
5. Complete functional servicing brief, including description of proposed water and sanitary usage/flow rates is to be provided. There may be a need to monitor usage and allocate reserve capacity, depending on actual demand/loading. ***Pending, this development will be allocated reserve capacity based on the Equivalent Residential Unit average daily flow rates. Confirm the***

expected sanitary loading (90.9m^3/day) and water demand (90.9m^3/day) are indicative of actual expected usage.

6. All submitted documents provided to the GRCA in support of this development are to be provided for TWSP record. ***Pending, copy of the submitted documents provided to the GRCA are to be provided, and confirmation that the GRCA is satisfied with the detailed design.***
7. ***Addressed.***

SUBMISSION NO. 1 COMMENTS

General Design Comments

1.1 Copy of the Geotechnical Report to be provided.

1.2 Existing grades (339.0m and 339.5m) discussed in Section 2.1 of the Servicing Report appear to be an error.

1.3 Confirm ownership of the 5.0m wide parcel at the front of the site. It appears to be indicated as a property line in front of the site, and as an easement in front of the adjacent properties.

1.4 Indicate the disturbed limits required for the servicing tie-ins, including necessary information for restoration.

1.5 A buffer strip of lower sloped grass should be provided between the vehicular travelled areas and areas of steep slope (3:1) and riprap, such as at the site entrance and beside the accessible parking spot.

1.6 Provide details regarding the Retaining Wall removal at the site entrance, such as extent of removal, removal method and proposed configuration.

1.7 Additional details regarding the re-construction of the existing retaining wall near the site entrance is to be provided. Ensure the revised retaining wall is complete with the necessary features to protect vehicles entering the site and using Eco Parkway.

Note: Eco Parkway will be connected to Highway 10 in the near future. Therefore, the entrance should be designed such that it is conducive to truck access from both directions.

1.8 Confirm/indicate if curb or curb/gutter or parking stops are proposed within the parking lot and provide reference to appropriate OPSDs.

1.9 Under the Construction-Concrete notes, curb and sidewalk details are specified. Please confirm/indicate if any is proposed.

1.10 Municipal boulevards to be reinstated with 200mm topsoil. Revise Landscape Note 17.

1.11 Vehicle movements for the type of trucks etc. that are expected to access this site are to be provided on a plan.

SWM Comments

1.12 Regarding the rear Containment Area (Catchment 204):

a. Provide additional details regarding the SWM strategy for this area. Confirm how the area will attenuate the storm water run-off to meet pre-development run-off rates. Also, if quality treatment is intended.

b. Provide additional details regarding the operation of the valved outlet. The report indicates that the water/runoff in the containment area will be sampled prior to being released to the creek. Does this mean that there isn't continual positive drainage to an outlet?

c. The spill containment function and related spill to the creek are to be subject to approval by the GRCA and MECP as applicable. Copies of these approvals are to be provide to the Township when available.

1.13 Proposed grade (520.24m) near the entrance to the containment area will result in drainage being directed into the area. Confirm this is the intent.

1.14 A complete storm sewer design sheet is to be prepared.

1.15 Confirm how "Storage Volume" is calculated on the Modified Rational Method sheets. It would be expected that the Volume-Stage Relationship is consistent between the 5-year and 100-year sheets

1.16 Pond outflow indicated on the 5-year "Modified Rational Method" sheet is to correlate with the stage-storage-discharge relationship.

1.17 Insulation is to be provided where 1.2m cover is not achieved. (i.e., CB4 lead and on the 300mm pipe between the roof drain invert and MH3).

1.18 Asphalt or concrete pad (3mx3m minimum) is to be provided surrounding proposed catchbasins to control sediment runoff and damage to the structure.

1.19 Culvert shall be galvanized CSP with a minimum 1.6 mm thickness or HDPE Boss 2000, 320 kPa stiffness c/w Ultra Stab 75.

1.20 Ensure upstream invert of 450mm CSP culvert is at the low point. It appears the invert of 508.17m is higher than the indicated grade 508.08m from the Grading Plan.

1.21 Indicate location and invert of the SWMF orifice on Servicing Drawing.

Sanitary Servicing Comments

1.22 The existing forcemain that services Lystek was designed to convey domestic flows from the plant's washrooms and plumbing fixtures. Section 2.3 of the Servicing Report to be revised accordingly. Additional details regarding the sanitary servicing details will be provided under separate cover.

1.23 The sanitary design provided in the Servicing report is for a generic site. Since the use and details of the site are known, sanitary flow specifics (daily volume, peak flows, effluent quality/sources) are to be provided.

1.24 On the Servicing Drawing, revise note "Install Shut-Off Valve and Box as per detail on this sheet" to "Install **Sanitary** Service Lead and Shut-off Valve and Box as per detail on this sheet" to avoid confusion with water servicing.

Water Servicing Comments

1.25 The water design provided in the Servicing report is for a generic site. Since the use and details of the site are known, water flow specifics (daily volume, peak demand) are to be provided.

1.26 Private wells on property that have municipal servicing available is not permitted. Therefore, other fire storage options (i.e., below grade storage tanks) are to be explored.

1.27 Available fire flow subsequent tower commissioning is not anticipated to meet the 150L/s requirement. Therefore, site is to be designed such that permanent fire storage is available. Alternatively, methods/provisions to reduce fire flow requirement are to be considered.

1.28 Confirm intent is to cut the existing watermain on Eco Parkway and install a tee and valve.

1.29 Only one gate valve is required on the water service, to be placed on the property line.

1.30 Watermain Note 6: Tracer wire is to be #12 gauge as opposed to the indicated #8 gauge.

1.31 Watermain Note 7 and 10: Anodes are to be DZP-12; 5.4 kg, not 2.3kg as currently indicated.

Utility and Lighting Comments

1.32 Utility drawing is to be provided, indicating all utility providers (Hydro, Gas, Bell, etc.) and their services.

1.33 Indicate units used for the Lighting Levels. Note that Lux (lumens/m^2) are to be used.

1.34 Indicate method for conducting photometric analysis (i.e. illuminance vs. luminance).

1.35 Photometric results past property limits are to be indicated. The intention is to confirm that a limited amount of light trespass is provided in the event that adjacent properties are developed.

1.36 Confirm wall lights are dark-sky complaint.

1.37 Confirm if the Transformer is existing as indicated on Drawing ES01.

If you have any questions please contact us.