



2800 MOODIE DRIVE – ZONING BY-LAW AMENDMENT
SERVICING OPTIONS
AND
CONCEPTUAL STORMWATER MANAGEMENT REPORT

October 3, 2018

Report Ref # R-2018-096
Novatech Project No: 113031

1.0 BACKGROUND

This Servicing Options and Conceptual Stormwater Management Report has been prepared in support of a proposed zoning by-law amendment for the property located at 2800 Moodie Drive.

The property is located on the west side of Moodie Drive between Fallowfield Road and McKenna Casey Drive, approximately 450 meters south of Fallowfield Road. The owner intends to re-zone the property to allow 'general industrial' as a permitted use.

Detailed servicing and stormwater management reports would be completed as part of the future site plan approval process.

2.0 EXISTING CONDITIONS

The subject site is approximately 2.1-hectares (5.2 acres) in area. The most recent use of the site was agricultural. The site is currently surrounded by existing agricultural land with a residential dwelling to the north, and one residential dwelling to the east. The property to the south and west is existing agricultural field.

The site is relatively flat with shallow slopes and a high area in the middle of the site. The front portion of the site slopes towards the southeast and currently sheet drains to the Moodie Drive roadside ditch. The rear of the site slopes toward the southwest and currently sheet drains to the adjacent agricultural fields. Some drainage from the adjacent properties to the north sheet drains across this site. Drainage from the Moodie Drive right-of way is conveyed in roadside ditches towards the south to the Jock River.

A Geotechnical Investigation report (July 13, 2018) has been prepared by Gemtec which includes the soil conditions and groundwater elevations. The report indicates that the soil profile encountered at the borehole locations consist of topsoil underlaid by glacial till, and shallow bedrock. Groundwater was not observed in the boreholes.

Refer to the **Figure 1 – Existing Conditions Plan** (attached) which provides an aerial view of the site and indicates the existing site location and features.

3.0 PROPOSED DEVELOPMENT

No specific development is proposed at this time.

The site access would be from Moodie Drive.

4.0 SITE GRADING AND DRAINAGE

There is an existing drainage spilt with approximately 4m of elevation drop from the high point of the site towards the southwest corner and the existing adjacent farm field. The Moodie Drive roadside ditch is relatively shallow and currently accepts minimal drainage from the site.

The Geotechnical Investigation by Gemtec indicates that there are no grade raise restrictions for the site.

The proposed drainage could be split with the front of the site draining towards the existing Moodie Drive roadside ditches. The rear of the site could continue to drain towards the existing farm field. Measures such as a level spreader or infiltration trench may be required to maintain flow and volume of runoff similar to pre-development conditions.

The existing drainage patterns can generally be maintained, including external drainage patterns onto and off the site. The conceptual drainage is shown on **Figure 2 – Conceptual Drainage Plan** (attached).

If, at the time of detailed design, the conceptual drainage proposed above will not work with the proposed site plan, then alternative drainage options would be investigated. These may include a combination of raising the grade (up to 6m) to allow more of the site to drain to Moodie Drive and/or lowering the Moodie Drive roadside ditch downstream of the proposed development to obtain positive drainage.

At the time of detailed design, the drainage and grading methodology will need to be confirmed.

5.0 SITE SERVICING

5.1 Existing Services

There are no existing services on the subject site.

5.2 Proposed Servicing

This site is located outside of the City of Ottawa urban boundary. Municipal services are not proposed or anticipated for the subject site. The closest municipal sanitary services are in Barrhaven, approximately 1.2-kilometres northeast of the subject property. The closest municipal water is at the intersection of Moodie Drive and Fallowfield Road, approximately 400m north of the site.

The proposed site would be serviced by a private sewage system and a private well. Gemtec has prepared two reports to assess the servicing requirements:

- Hydrogeological Investigation (September 19, 2018)
- Geotechnical Investigation (Section 6.8 Septic Design Considerations, July 13, 2018)

Sanitary Sewage System

A private sewage system, designed and constructed in conformance with the regulatory requirements would be constructed to service the proposed development. Based on the subsurface investigation by Gemtec, a fully raised leaching bed will be required for this site.

If the theoretical design flow is less than 10,000L/day the private sewage system would be regulated by the Ontario Building Code. The proposed septic system would require a permit from the Ottawa Septic System Office.

A more detailed analysis may be required during the Site Plan Application process when a specific development is proposed.

Water Supply System

Gemtec drilled a test well, completed pumping tests and obtained water samples for the proposed site. In Gemtec's opinion, the well yield is considered sufficient for typical commercial use (more than 39,000 litres per day).

Gemtec found that the water samples taken from the test well exceeded some of the applicable health related parameter limits of the Ontario Drinking Water Standards (ODWS). The analytical results indicated the following exceedances: hardness, nitrogen, colour, chloride and total dissolved solids. Gemtec recommended the use of water treatment systems, or that the groundwater be used for plumbing system only.

Gemtec has indicated that the subject site is suitable for commercial or industrial uses based on the available well water yield and water quality information. A more detailed water quality analysis may be required at the detailed design stage once a specific use is determined.

The test well may be able to be reused as part of the future Site Plan works to service the proposed development.

Fire Protection

Water storage for fire protection may be required for the proposed development, depending on the size and OBC requirements. Options may include underground storage tanks or water storage in an on-site pond to meet this requirement and would be designed as part of the future Site Plan works.

A more detailed analysis may be required during the Site Plan Application process when a specific development is proposed.

6.0 STORMWATER MANAGEMENT

The stormwater management criteria for the proposed development would be confirmed with the City of Ottawa and the Rideau Valley Conservation Authority (RVCA) prior to the Site Plan application stage, and are expected to be:

- Stormwater Quantity: Design of a storm drainage system (culverts and ditches) to convey post-development flows without negatively impacting downstream properties. On-site storage would be provided to control post development runoff from the site to pre-development levels.
- Stormwater Quality: Implementation of lot level and conveyance Best Management Practices to provide an Enhanced level of treatment corresponding to 80% long-term removal of suspended solids. It is anticipated that water quality control would be provided by means of perimeter swales developed to reduce TSS.
- Erosion and sediment control measures would be implemented prior to, during, and after construction.
- Any existing stormwater runoff from adjacent sites that crosses the property must be considered by the proposed design.
- Based on the existing topography of the site and the shallow roadside ditch on Moodie Drive, part of the subject site would drain towards Moodie Drive, with the balance continuing to drain towards the existing agricultural field. Where possible, infiltration would be considered at the time of Site Plan Application to minimize the post-development runoff flow rate and volume. This could be provided for using vegetated filter strips and infiltration trenches or other similar means.
- If existing flow patterns to the adjacent agricultural field cannot be maintained, then options such as grade raise and lowering of the Moodie Drive roadside ditch may be required.

Details would be provided at the Site Plan approval stage.

NOVATECH

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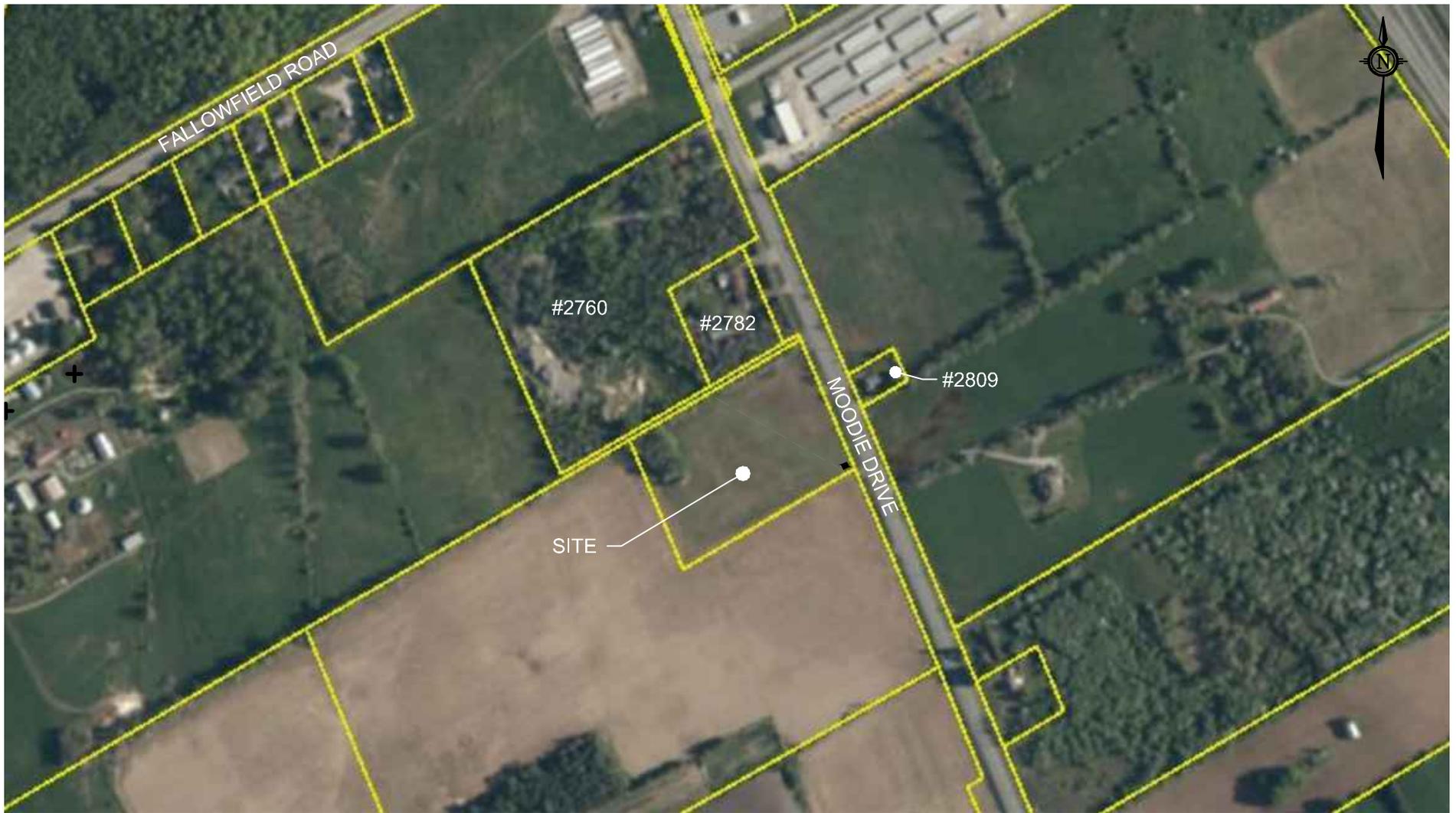


J. Lee Sheets, C.E.T.,
Director
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Attachments:

- Figure 1 - Existing Conditions Plan (dated October 2018)
- Figure 2 - Conceptual Drainage Plan (dated October 2018)

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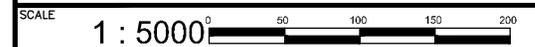
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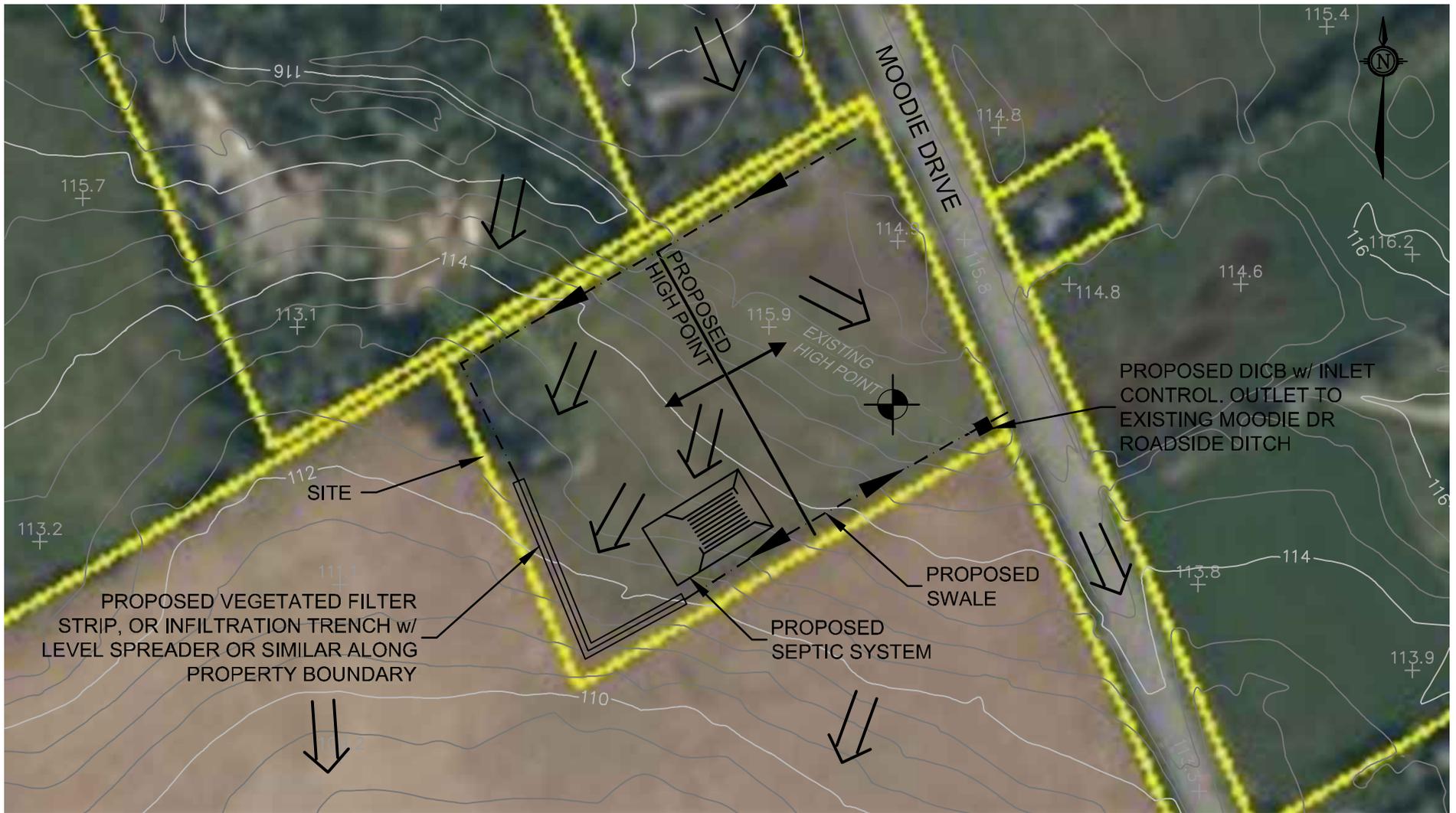
2800 MOODIE DRIVE

EXISTING CONDITIONS



DATE	JOB	FIGURE
OCT 2018	113031	1

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LEGEND

114 EXISTING CONTOURS (0.5m INTERVAL)
 109.2 EXISTING SPOT ELEVATION

—▶ PROPOSED SWALE

■ PROPOSED CATCH BASIN

←←← OVERLAND FLOW DIRECTION



GEMTEC TEST WELL LOCATION (APPROXIMATE)

2800 MOODIE DRIVE

CONCEPTUAL DRAINAGE

SCALE 1 : 2000

DATE OCT 2018 JOB 113031 FIGURE 2