

4139 MOODIE DRIVE – ZONING BY-LAW AMENDMENT

SERVICING OPTIONS AND CONCEPTUAL STORMWATER MANAGEMENT REPORT

April 28, 2017
Report Ref # R-2017-037
Novatech Project No: 117022

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 4139 Moodie Drive.

The property is located on the east side of Moodie Drive between Brophy Drive and Barnsdale Road. The owner intends to develop a research and development (R&D) facility on the subject site. To permit the facility, an amendment to the Zoning By-Law is required to add 'research and development facility' 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 located along Moodie Drive, approximately 1.25-kilometers north of Brophy Drive. The 20.2-hectares (50 acres) site was previously vacant and being used as a tree farm. The subject site is currently surrounded by vacant land to the north, south and west, and a vacant residential dwelling to the east. The property to the south is planned and zoned for a future waterpark.

The site is relatively flat with a slight grade toward the southwest and Moodie Drive. A small ditch system outlets to the Moodie Drive roadside ditches and ultimately to Mud Creek.

Paterson Group Consulting Engineers have completed a Geotechnical Investigation report which includes the soil conditions and groundwater elevations (April 25, 2017). The native soils generally consist of a silty material with sand over silty clay. The groundwater levels were measured at depths of about 0.8m to 1.6m below the existing grade.

Refer to the attached aerial photo Figure 1 – Existing Conditions Plan which indicates the existing site location and features. The existing house and garage shown on the aerial photo were recently demolished.

3.0 PROPOSED CONDITIONS

The land owner is proposing to construct a 20,000 square foot research and development facility building. This building will be divided into office space (approximately 5,000 sq.ft.), with the remainder used as warehouse space.

The single site access would be from Moodie Drive.

Refer to the attached figure showing the conceptual layout of the site, Figure 2 – Conceptual Drainage Plan.

4.0 SITE GRADING

The existing drainage patterns would be maintained, including external drainage patterns onto and off the site. The proposed drainage is shown on Figure 2 – Conceptual Drainage Plan.

5.0 SITE SERVICING

5.1 Existing Services

The recently demolished house was serviced with a well and septic system. Both are in the process of being decommissioned, with the well in accordance with O.Reg 903 and the septic system in accordance with Ottawa Septic System Office requirements.

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 as the closest municipal services are in Barrhaven, approximately 2.5-kilometres northeast of the subject property.

The proposed building would be serviced by a private Class 4 sewage system and a private well. Paterson Group Consulting Engineers has prepared two reports to assess the servicing requirements based on the proposed conceptual site layout:

- Private Wastewater Servicing Assessment (April 10, 2017)
- Potable Water Supply Assessment (April 10, 2017)

Sanitary Sewage System

Paterson has calculated the theoretical design flow for the proposed building to be 4,879L/day. This value is based the conceptual layout including; the office floor area (75L/day per 9.3m²) together with the warehouse loading bays (2), and one water closet. Paterson has indicated that the subject site can accommodate a Class 4 sewage system, designed and constructed in conformance with the regulatory requirements, to service the proposed development.

As 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.

Water Supply System

Paterson completed several pumping tests and obtained water samples from 4221 Moodie Drive in 2007 and 2008 for the adjacent waterpark. In Paterson's option the probable well yield determined for the neighbouring property is representative of the yield that can be expected at the subject property.

Paterson found that the water samples taken from the test well met all the applicable health related parameter limits of the Ontario Drinking Water Standards (ODWS). With respect to the aesthetic objectives the analytical results indicated the following exceedances, Hardness and Iron. Paterson recommended that a standard commercial grade water softener would be suitable for the reduction of hardness and iron.

Paterson has indicated that the subject site is suitable for commercial development based on the available well water yield and water quality information.

A new water supply well will be constructed as part of the future Site Plan works to service the proposed building.

Fire Protection

Water storage for fire protection would be required for the proposed facility. It is proposed to provide 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.

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, along with review of the potential for infiltration.
- Erosion and sediment control measures would be implemented prior to, during, and after construction.

In addition, the recommendations of the Environmental Impact Statement (Muncaster, March 2017) with regards to tree protection, erosion and sediment control and stormwater management would be incorporated.

Details would be provided at the Site Plan submission stage.

NOVATECH

Prepared by:



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Reviewed by:

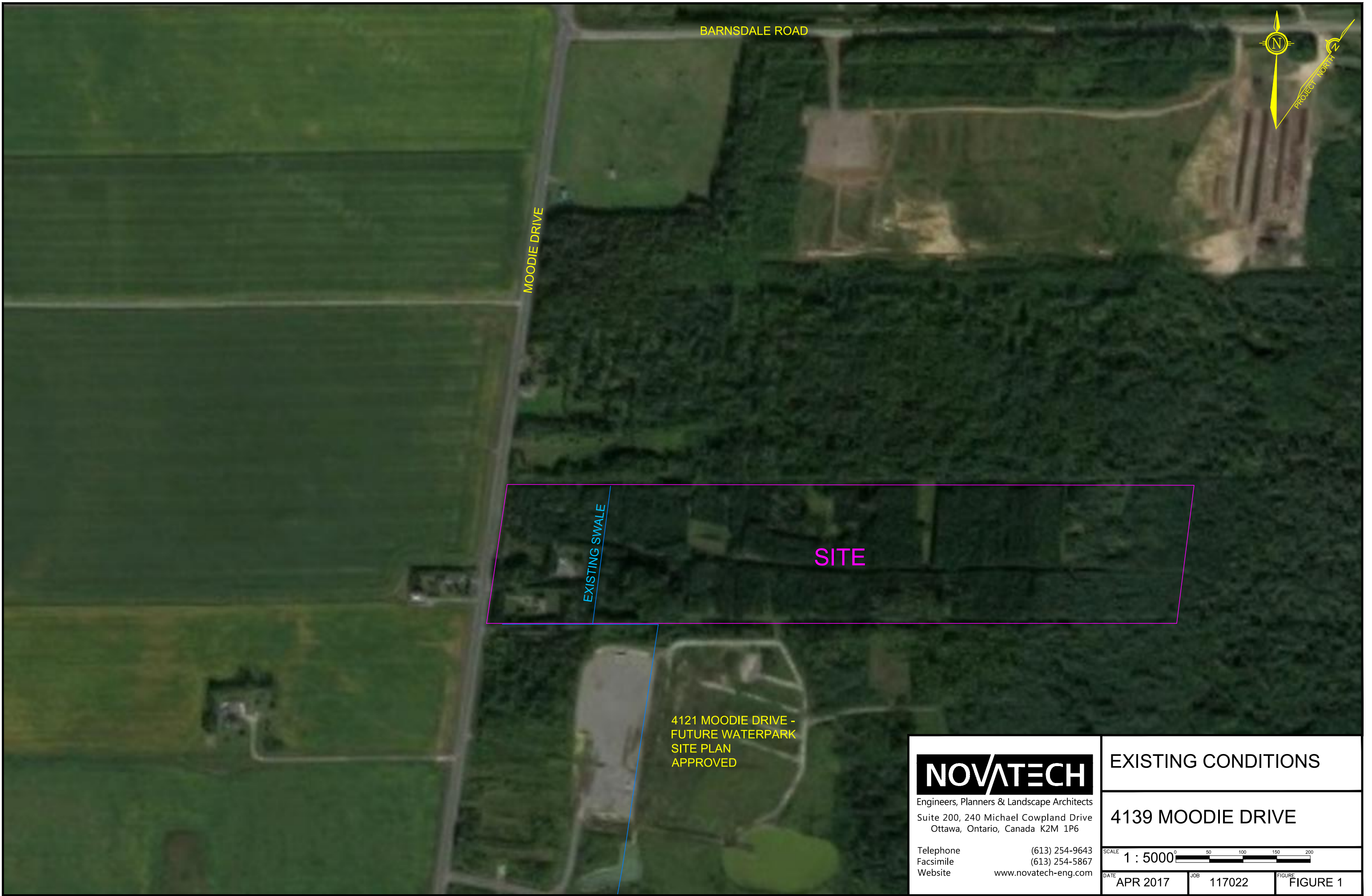


Susan M. Gordon, P. Eng.
Director
Land Development

Attachments:

- Figure 1 - Existing Conditions Plan (dated April 2017)
- Figure 2 - Conceptual Drainage Plan (dated April 2017)

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BARNSDALE ROAD

MOODIE DRIVE

EXISTING SWALE

SITE

4121 MOODIE DRIVE -
FUTURE WATERPARK
SITE PLAN
APPROVED

NOVATECH

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EXISTING CONDITIONS

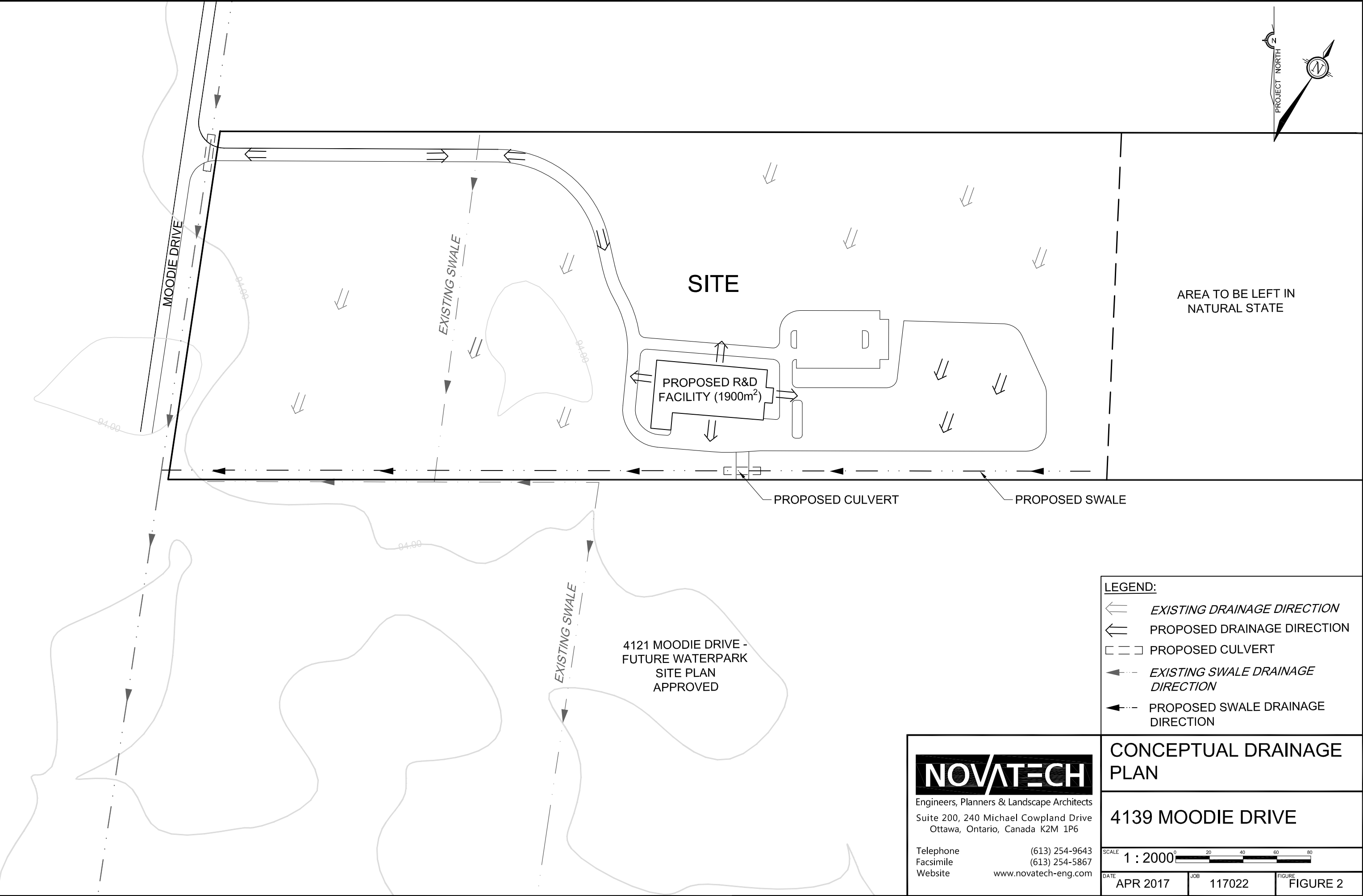
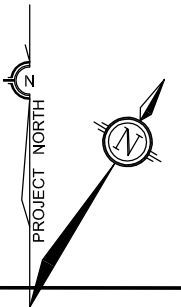
4139 MOODIE DRIVE

SCALE 1 : 5000

DATE APR 2017 JOB 117022 FIGURE FIGURE 1

CUT11x17 DIM: 270mmx420mm

M:\2017\117022\CAD\Design\Figures\117022-FIG2-CON DRN.dwg, FIGURE 2, Apr 28, 2017 - 9:54am, Ibowley



LEGEND:

	EXISTING DRAINAGE DIRECTION
	PROPOSED DRAINAGE DIRECTION
	PROPOSED CULVERT
	EXISTING SWALE DRAINAGE DIRECTION
	PROPOSED SWALE DRAINAGE DIRECTION

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CONCEPTUAL DRAINAGE PLAN

4139 MOODIE DRIVE

SCALE 1 : 2000

DATE	JOB	FIGURE
APR 2017	117022	FIGURE 2