

# The Township of Rideau Lakes



## Rideau Lakes

### **Request for Proposals** **Ronald E Holman Municipal Complex** **(441 Highway 15) Recreational Park** **Rough Grading**

**PW2022-18**

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## 1.0 Information to Bidders

### General Description

The Township of Rideau Lakes is seeking a qualified proponent to provide all labour, materials, products, and equipment necessary to execute the rough grading for the new recreational park area at the Ronal E. Holman Municipal Complex (441 Highway 15) as proposed in the attached tender documents and outlined in the "Scope of Work" under Section 3.0

### Bid Submission

Proposals shall be made in the format specified in Section 1, include the forms in Section 2, and fully contemplate the project scope outlined in Section 3. Proposals shall be properly labeled with the proposal number 'PW2022-18' and submitted no later than the Closing Date and Time.

**Proposals are to be submitted by email to: [mnorwood@rideaulakes.ca](mailto:mnorwood@rideaulakes.ca) . No sealed/hard copy submission is required. **Proposals will be received until 3:00p.m. E.S.T., July 19, 2022.** It is the Bidder's responsibility to ensure that the bid submission is received by the Township prior to the submission deadline.**

**All proposals received will be held, unopened, and in strict confidence until after the closing date and time.**

### Registration

Individuals or firms interested in submitting a proposal should register as a Bidder with the Municipality to ensure they receive any addenda which may be issued. Individuals or firms may register by contacting the Manager of Facilities and Parks by email at the contact below:

Malcolm Norwood  
Manager of Facilities and Parks  
[mnorwood@rideaulakes.ca](mailto:mnorwood@rideaulakes.ca)

### Optional Site Meeting

There is no required site meeting planned for this bid. **The site is publicly accessible at 441 Highway 15** should you wish to view the property. If you have any questions regarding accessing the site please contact Malcolm Norwood at [mnorwood@rideaulakes.ca](mailto:mnorwood@rideaulakes.ca).

### RFP Schedule

Every attempt will be made to meet all dates. The Township of Rideau Lakes reserves the right to modify any or all dates at its sole discretion.

**Last Day for Questions: July 15, 2022**  
**RFP Closing Date and Time: July 19, 2022 at 3:00pm**  
**Selection of Successful Vendor: July/August 2022**

**Project Execution: To be completed by October 1, 2022**

**Cost of Submission**

The Township of Rideau Lakes will not be liable nor reimburse any Bidder for any costs incurred in developing a Proposal submission, attending meetings/interviews, demonstrating the goods and or services, legal services, or any other services that may be required in responding to this Request for Proposal.

**Right to Accept or Reject Proposal**

The Township of Rideau Lakes reserves the right to reject any or all Proposals, as a whole or in part, and waive formalities as the interests of the Corporation may require, without stating reasons. Therefore, the lowest or any Proposal may not necessarily be accepted. If there are a limited number of responses to this request, the Township reserves the right to terminate the request or make further requests for proposals.

**Validity**

The Proposal submitted shall remain valid for at least one hundred and twenty (120) days from the Proposal Closing Date.

**Withdrawal of Proposal Prior to Closing**

A Bidder who has submitted a response to this Request for Proposal may request that such response be withdrawn. Withdrawals shall be completed and shall be allowed under the following conditions;

- 1 The RFP closing date and time has not passed. There shall be no withdrawals of Proposals allowed after the closing date and time for receiving Proposals;
- 2 The request is made in writing on the Bidder's letterhead and signed by a senior official of the Bidder, and include his direct contact information; and
- 3 The request is made to the Manager of Facilities and Parks by email or by hand.

In all cases, a request for the withdrawal of a Proposal will be verified by the Township of Rideau Lakes, by way of a telephone call to the senior official representing the Bidder and making the request, to confirm the withdrawal.

All confirmed requests for withdrawal will be placed on record and the associated Proposal shall be given no further consideration.

**Review of Documents**

The Bidder must personally study the entire Request for Proposal document as to satisfy himself/herself of the conditions and requirements of the Proposal. There will be no consideration of any claim, after submission of Proposals, that there is a misunderstanding with respect to the conditions imposed by the Request for Proposal.

### Multiple Proposals

Multiple responses from any one Bidder are acceptable, providing each response is complete as per the format specified herein, and is packaged and transmitted separately;

### Addenda

The Township of Rideau Lakes may choose to issue addenda to provide clarification or additional information. Addenda will only be sent to vendors that have registered as Bidders. It is the Bidder's responsibility to ensure they have received all addendums and provide the Township of Rideau Lakes with the proper contact information through the registration process.

### Price Submission

The Proposal price shall include total costs, in Canadian Dollars, including, but not limited to: labour, material, equipment, supervision, statutory charges and vendor overhead and profit.

### Award

Upon completion of evaluations, the Township of Rideau Lakes may select a Bidder with whom it wishes to undertake negotiations for the project. Negotiations may take the form of adding, deleting, or modifying certain requirements based on the response to the Request for Proposal, and adjusting pricing accordingly if required. Assuming mutually acceptable terms and conditions can be agreed upon, a purchase order will be issued to the selected bidder.

The Township of Rideau Lakes reserves the right in its absolute discretion to:

- 1 Adjust, discontinue, or cancel the submission process, and/or commence a new process for the same or similar goods or services, if the Township of Rideau Lakes, at its sole discretion, deems it necessary.
- 2 Accept or reject any submission(s) in whole or in part.

**Therefore, the lowest cost Proposal may not necessarily be accepted. The acceptance and award of a Proposal shall be subject to the approval of The Township of Rideau Lakes' Council.**

### Collection of Personal Information and Confidentiality Provision

Any personal information collected through the Request for Proposal process will be done so, and managed, in accordance with the *Municipal Freedom of Information and Protection of Privacy Act*. Any personal information collected is being done so for the purposes of proposal review and potential vendor selection.

All responses to this Request for Proposal will only be treated as Third Party Information and/or Economic or Other Interests in accordance with the provisions of the *Municipal Freedom of Information and Protection of Privacy Act* where **an explicit request to do so is provided in writing in the proposal**. Submission of a proposal without this explicit request shall constitute consent for disclosure in accordance with the Act.

The information contained in this Request for Proposal will be utilized by the Bidder solely for the purposes of preparing a submission. Any other use of the information for any other purpose is not authorized by the Township of Rideau Lakes.

### **Standard Terms and Conditions**

The Township of Rideau Lakes, maintains standard procurement Terms and Conditions that apply to this Proposal. A copy of the Township's Procurement of Goods and Services Policy – Revised March 2013 will be provided on request.

### **Terms of Payment and Invoices**

The terms will be as per the project proposal and any subsequent negotiated agreement. Generally, the Township of Rideau Lakes' terms of payment are net thirty (30) calendar days upon completion of work and receipt of invoice.

Malcolm Norwood  
Manager of Facilities and Parks  
[mnorwood@rideaulakes.ca](mailto:mnorwood@rideaulakes.ca)

### **Termination**

The Township of Rideau Lakes reserves the right to terminate the contract for sufficient cause, including, but not limited to, poor performance, late deliveries, inferior quality, incorrect pricing, statutory non-compliance, and health and safety concerns. If any successful Bidder should neglect to perform the work properly or fail to perform any provision of the Request for Proposal, the Township of Rideau Lakes may terminate the contract after fifteen (15) business days with written notice to the vendor.

### **Background Check**

The Township of Rideau Lakes, at its discretion, may perform background checks on any service personnel, and reserves the right to refuse access to buildings or equipment to any personnel or other representatives of any successful vendor or manufacturer.

### **Conduct of Vendor Staff**

The successful vendor shall employ orderly, competent and skilled staff to ensure that the Request for Proposal is completed in a respectable manner. If any one person employed by the successful vendor in connection with the Request for Proposals efforts, in the opinion of the Township of Rideau Lakes is just cause for complaint, the vendor, upon notification from the Township of Rideau Lakes, shall not permit such person to continue in any future work arising out of the Request for Proposal.

### **Accessibility**

The Township of Rideau Lakes is required to comply with the Accessibility for Ontarians with Disabilities Act, 2005 as amended and any associated regulations.

Any successful Bidder for the completion of work with regards to this Request for Proposal must be aware of these requirements and certifies that all statutory requirements will be met at the vendor's full cost.

### **Insurance – Liability, Automotive and Non-Owned Automobile Insurance**

Without in any way limiting the liability of any successful vendor, the vendor shall:

- 1 Maintain and keep in force during the term of the contract, General Liability Insurance protecting the contractor's liability, legal or assumed, under the contract for all claims arising from personal injury to members of the public, damage to property of public including loss of use of such property and the minimum insurance shall be \$5,000,000.00.
- 2 Maintain and keep in force during the term of the contract, automobile and non-owned automobile insurance on all vehicles used in connection with the work under this contract. Such insurance is to carry the minimum limit of \$2,000,000.00.
- 3 Maintain and keep in force during the term of the contract, Contractor's contingent liability insurance, covering the liability of the Contractor under this contract in respect to his sub-contractor's same limits as required in Clause (a).
- 4 Deposit with the Township of Rideau Lakes, before commencing any work under this contract, a certificate of insurance detailing the coverage and expiry date for all policies duly executed by the insuring company stating that if said policies are cancelled or changed in any manner, sixty (60) days written notice of such change or cancellation will be given to the Corporation of the Township of Rideau Lakes, Clerk, Delta Ontario. The Township shall be shown as an additional insured.

### **Workplace Safety Insurance Act**

Any successful vendor is required to comply with all the regulations of the Workplace Safety and Insurance Board (WSIB) in respect to the contract work and all persons employed on or in connection therewith, and shall furnish a Certificate of Clearance from the Board to the Township of Rideau Lakes, and maintain good standing with the WSIB throughout the contract period.

### **Contractor's Liability**

Any successful vendor shall be liable for all injuries and/or death to persons and for damage to property caused by his/her operations and those of sub-contractors and their employees engaged on and off site; and shall indemnify and save harmless the Township of Rideau Lakes from all suits and actions for damages and costs to such damages to property of others as well as the Township, resulting from negligence, poor workmanship and materials, as well as any cause whatsoever in the performance of the work.

### **Quality of Work**

Any successful vendor at all times shall provide the Township of Rideau Lakes Representative with suitable access, and or status of the work covered under the

Request for Proposal. The Township of Rideau Lakes Representative shall be the sole judge of the work and therefore of its acceptability. Work that is unsatisfactory, in the opinion of the Township of Rideau Lakes Representative, shall be made satisfactory at no additional cost to the Township of Rideau Lakes.

### **Conflict of Interest**

By submitting a bid, a Bidder declares that the submission is not made in connection with any other submitting Bidder or vendor, and is in all respects fair and without collusion or fraud and further that no member of Council, officer or employee of the Township of Rideau Lakes has become interested, directly or indirectly, as a contracting party, partner, stockholder, surety or otherwise on the performance of the said contract.

### **Lobbying**

In order to ensure fairness to all Proponents, the Township must endeavour to prevent unfair advantage created by lobbying. Therefore the Township reserves the right to disqualify, at any time and at its sole discretion, any Proponent engaging in lobbying in connection with a competitive bidding process between a date that is no later than the date of issue of the RFP and the date of signing of a contract or Purchase Order between the Township and the Successful Proponent(s). The Township may disqualify a Proponent at any time in the procurement process, including after the selection process has been completed.

Lobbying may include any activity that the Township, in its sole discretion, determines has or may give an unfair advantage to one Proponent relative to other Proponents. Without limiting the foregoing, lobbying may include:

- a) Verbal or written communication with or to any Township staff / Council member other than those identified as contacts in this RFP in respect of this RFP.
- b) Verbal or written communication with or to any expert or other advisor assisting the Evaluation and Selection of this RFP.
- c) Verbal or written communication with or to any member of the RFP Evaluation and Selection team other than those identified as contacts in this RFP.
- d) Direct or indirect requests by the Proponent to any person, organization or group to provide a written or verbal expression of support not required by this competitive bidding process to any member of the Evaluation and Selection team or Council.
- e) Verbal or written communication with or to media organizations.
- f) Direct or indirect offer of gifts of any kind or value to any Township representative or personnel.

### **Questions Regarding the Request for Proposal**

Bidders having questions or finding discrepancies or omissions, or having doubts as to the meaning or intent thereof, shall contact Malcolm Norwood. The Township may elect to provide clarifications directly or via an Addenda to all vendors, depending on the



nature, scope and materiality of the questions. Any questions arising from the Request for Proposal shall be directed to:

Malcolm Norwood  
 Manager of Facilities and Parks  
[mnorwood@rideaulakes.ca](mailto:mnorwood@rideaulakes.ca)

## 2.0 Submission Forms

### Form # 1 – Price Form

Please submit this form in lump sum as a part of your proposal outlining the costs for the proposed work in response to the scope outlined in Section 3 and associated attachments.

Item	Description	Unit(s)	Cost
1.0	Insurance/Bonding/Permits Note building permit will be obtained by Owner, Contractor responsible for all other required permits (street/sidewalk permit, etc.)	LS	
2.0	Mobilization Includes but not necessarily limited to site safety, administration, general instructions, barriers, temporary works, protection, signage, traffic control, coordination, etc.	LS	
3.0	Earth Excavation (Grading) – all cut material will be repurposed on-site	327 m3	
5.0	Earth Borrow – imported	21 m3	
5.1	Heavy-Duty Silt Fence Barriers	148 m	
5.2	Rip-Rap	5 m2	
5.3	Topsoil and Seed	1,924 m2	
5.4	Removal of Fence	25 m	
5.5	Soil Management (dust control, additional sediment controls, etc.)	6 LS	
5.5	Granular A	142 m3	
5.6	Granular B, Type II	154 m3	
5.7	Limestone Screening	18 m3	
5.8			
5.9	Removal of Concrete Pad	235 m2	
5.10	Preparation of Earth Subgrade	2,782 m2	
6.0	300mm CSP culvert	LS1	
7.0	HST		
8.0	Owner Allowance	LS	
9.0	Project Total Cost Insert Project Total Cost in Sentence 1.3, page 1		

The above noted costs must include all costs related to products, material, labour, site security, delivery, on-boarding, troubleshooting, training, professional fees, and ongoing costs.

### SUBCONTRACTORS

If my/our bid is accepted, it is my/our intention to employ the following Subcontractors. All portions of the Work, other than those to be placed with the subcontractors named, shall be executed by ourselves with our own workers and are indicated by the words "Own Forces". The subcontractors identified below will not be changed without the written approval of the Owner.

### UNIT OF WORK SUBCONTRACTORS

Other \_\_\_\_\_  
 Other \_\_\_\_\_  
 Other \_\_\_\_\_

### PRESCRIBED SUBCONTRACTORS

I/We acknowledge the subcontractor requirements of the drawings, specifications, and addenda.

### Form # 2 - Experience Form

To assist with proposal evaluation, please identify up to three (3) projects of a similar nature that you have completed, the scope of work involved and a reference contact.  
**Please submit this information as a separate attachment in the format you wish.**

### Form # 3 – Bidder's Declaration Form

I/We (enter name) \_\_\_\_\_

Title/Position \_\_\_\_\_

Name of Organization or Business \_\_\_\_\_

HST # \_\_\_\_\_

Email \_\_\_\_\_

Phone # \_\_\_\_\_

1) Declare that no person, firm or corporation other than the one whose signature or the signature of whose proper officers is attached below, has any interest in this proposal or in the contract proposed to be undertaken.

2) Further declare that this proposal is made without any connection, knowledge, comparison of figures or arrangements with any other company, firm or person making a proposal for the same work and is in all respects fair and without collusion or fraud.

- 3) Further declare that no Township of Rideau Lakes employee, or member of Township of Rideau Lakes Council and their families is, or will become, interested directly as a contracting party or otherwise or in the performance of the contract or in the supplies, work or business to which it relates or in any portion of the profits thereof, or of any such supplies to be used therein or any of the monies to be derived therefrom.
- 4) Further declare that the several matters stated in the said proposal are in all respects true.
- 5) Further declare that I/We have examined the Project Documents and hereby propose and offer to enter into a contract to provide all of the items mentioned and described or implied therein, including, in every case, freight, duty, exchange, and to accept in full payment therefore, the sums calculated in accordance with the actual quantities provided, and unit prices attached to this proposal.
- 6) Agree that this offer is to continue open for acceptance until a formal contract is executed or a purchase order is issued to the successful Bidder.

Name of Authorized Officer (please print) \_\_\_\_\_

Signature of Authorized Officer \_\_\_\_\_

Signature of Witness \_\_\_\_\_

Name of Witness (please print) \_\_\_\_\_

Dated \_\_\_\_\_

e

### 3.0 – Project Scope

The proposed work is the first phase in a multi-phase development of a new recreational park area on the northern portion of the property at 441 Highway 15, also known as the Ronald E. Holman Municipal Complex (REHMC). This building houses the South Elmsley Community Hall, newly renovated South Elmsley Library, and also has a public works component. The proposed exterior recreational park area is an outdoor extension of the community uses within the building, which the final product of the vision consists of an asphalt walking trail, pickle ball court, a large pump track and a junior pump track, and various other accessory structures (playground, boardwalk, viewing area etc...). This RFP is requesting proposals for the rough grading of this overall development plan, including:

- general grading of the site to the desired pooling area
- the creation of the stormwater grass swales
- the rough-in and granular bases for the pathways
- the trenching for laying the electrical conduits and rough-ins for all exterior lighting fixtures

The Work for this bid includes all labour, materials, equipment, required to execute the tender documents which are attached to this report. The Township will acquire the required permit from the Rideau Valley Conservation Authority, and the work is to strictly adhere to this permit's conditions (permit issuance pending).

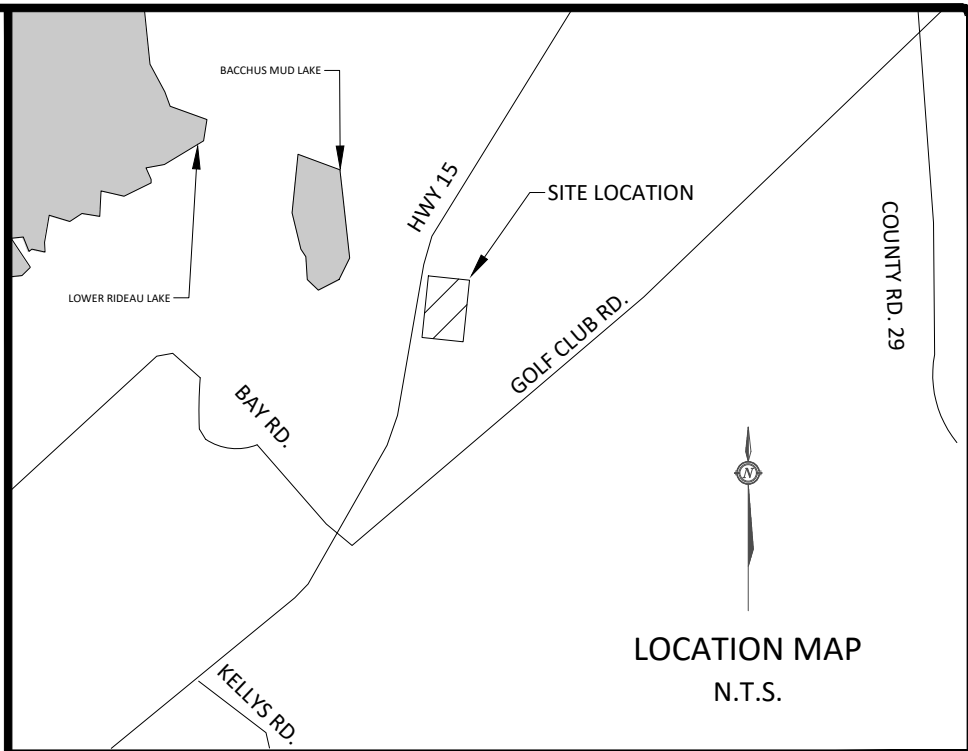
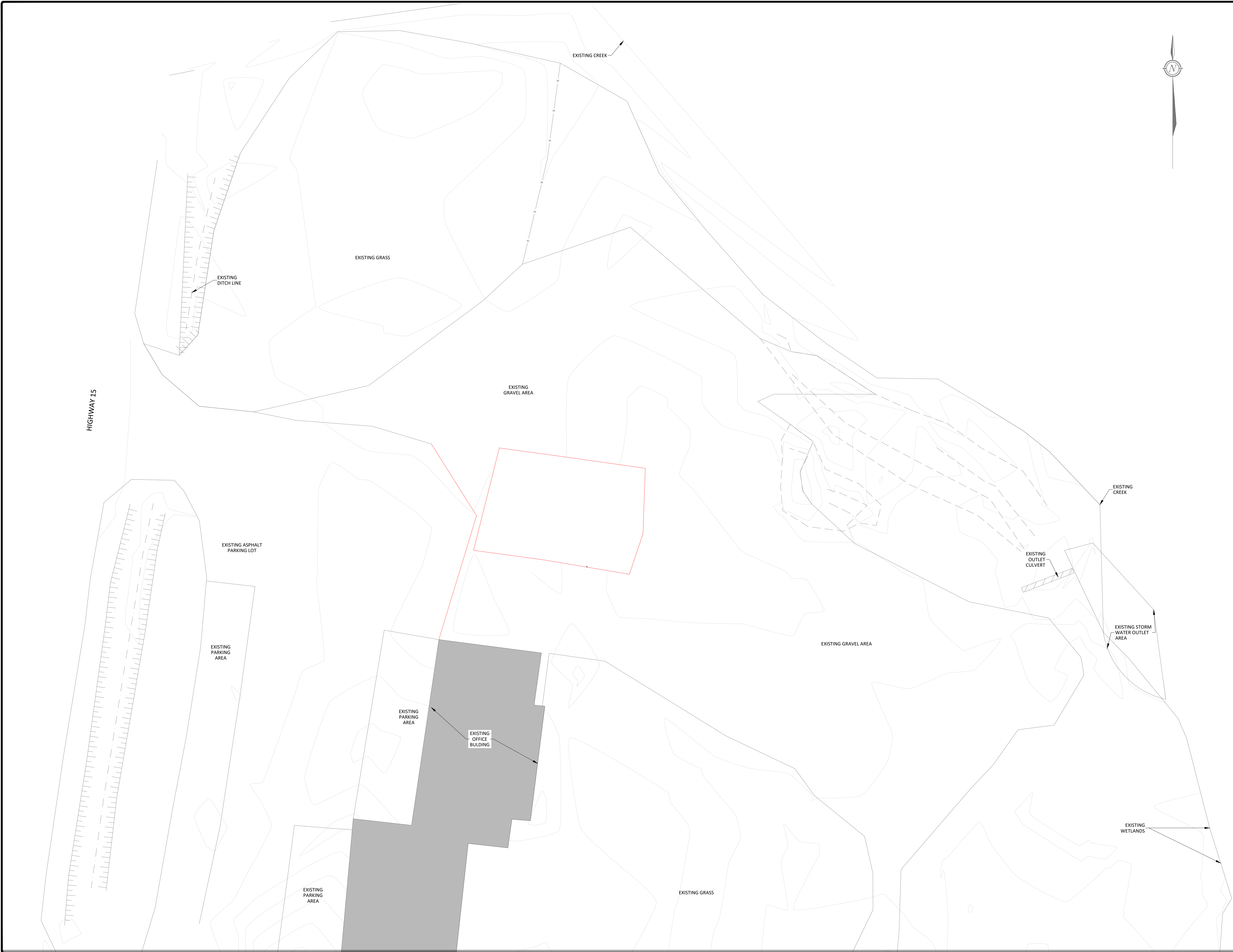
The work shall be in strict accordance with all Rideau Valley Conservation Authority, Ministry of the Environment Conservation and Parks (MECP) and Ministry of Labour (MOL) requirements.

Attachments (included as separate documents):

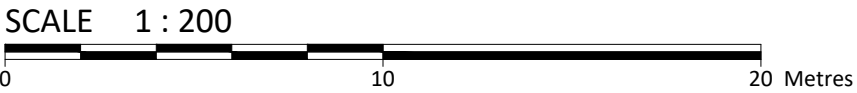
1. REHMC Existing Conditions of Site Area
2. REHMC Grading Plan
3. REHMC Details
4. REHMC Pre/Post Development
5. Stormwater Brief

*If unable to open or locate the attachments please contact Malcolm Norwood, Manager of Facilities and Parks at [mnorwood@rideaulakes.ca](mailto:mnorwood@rideaulakes.ca)*

FILE NAME: \\V:\projects\2022\CCO-22-2999-02\_Ronald E. Holman Mun. Complex\Grading Plan\CCO-22-2999-02\_RP1\_Compiled.dwg  
LAST SAVED: Wednesday, May 04, 2022 1:45:42 PM  
LAST PLOTTED: Friday, June 03, 2022 10:11:11 AM  
CUT FILE USED: ---



LEGEND	
PROPERTY BOUNDARY	---
LEGAL BOUNDARY	---
EX. ASPHALT	---
EX. GRAVEL	---
EX. DITCH	---
EX. FENCE	---
LOT CORNER GRADE	+
EX. GRADE	+
REMOVALS	---



2	ISSUED FOR TENDER	JUN/30/2022
1	REISSUED FOR REVIEW	MAY/04/2022
0	ISSUED FOR REVIEW	MAR/28/2022
No.	Revision/Issue	Date

Check and verify all dimensions before proceeding with the work Do not scale drawings

**McINTOSH PERRY**  
1-1329 Gardiners Road Kingston, ON K7P 0L8  
Tel: 613-542-3788 Fax: 613-542-7583  
www.mcintoshperry.com

Stamp:

Client:  
**TOWNSHIP OF RIDEAU LAKES**  
1439 COUNTY ROAD 8  
DELTA, ON K0E 1G0

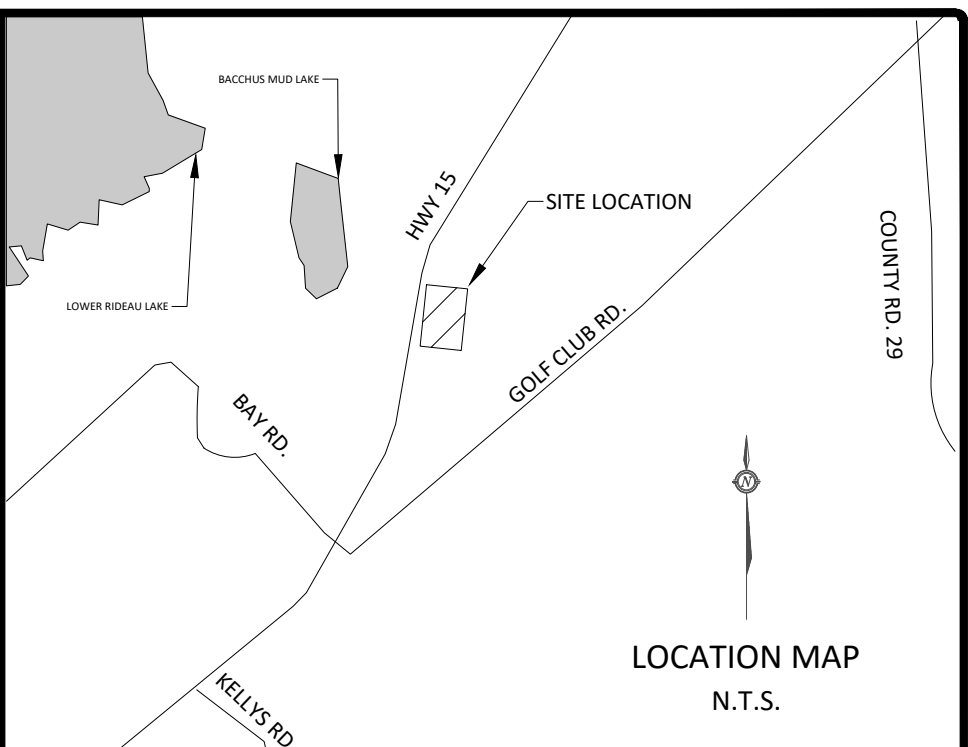
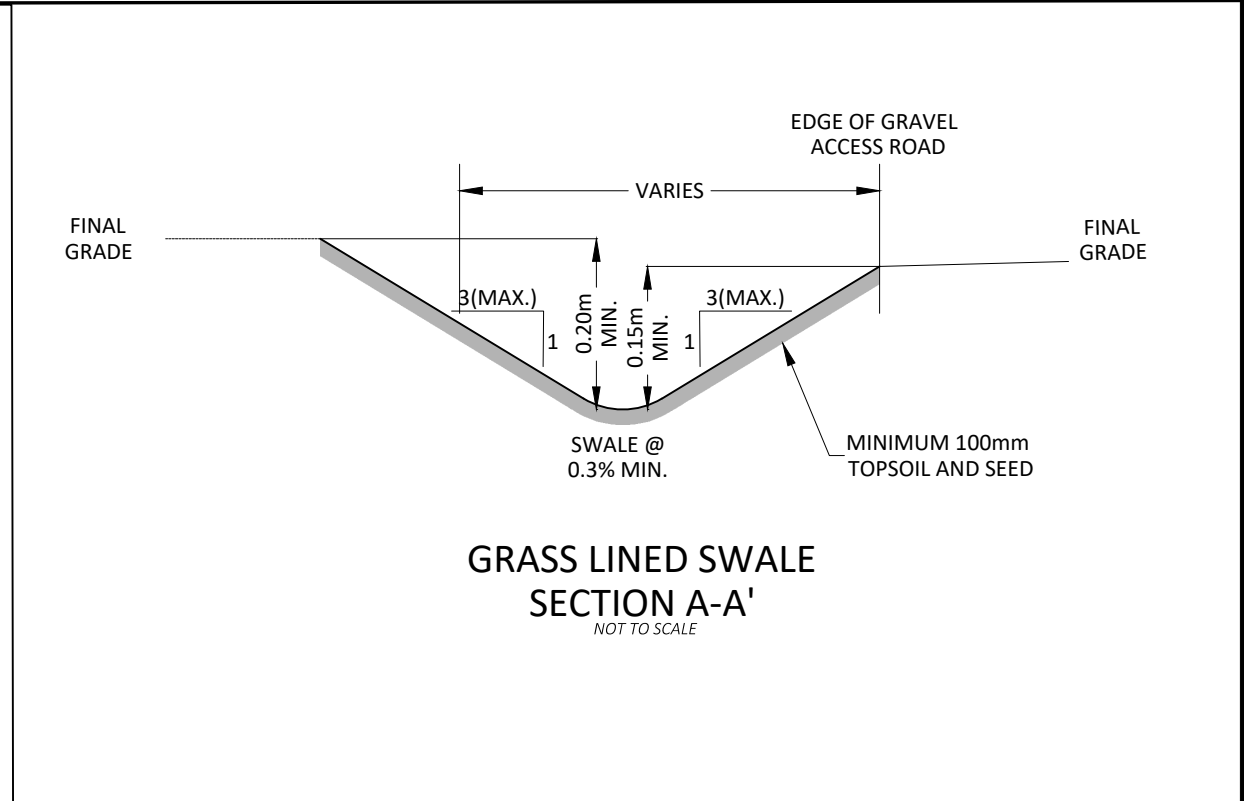
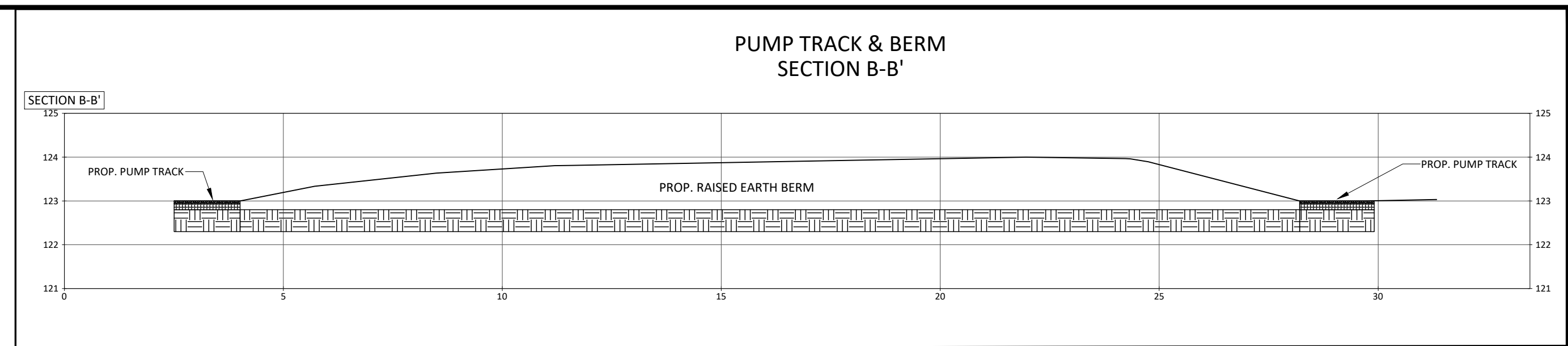
Project:  
**RONALD E. HOLMAN MUNICIPAL COMPLEX**

RIDEAU LAKES ONTARIO

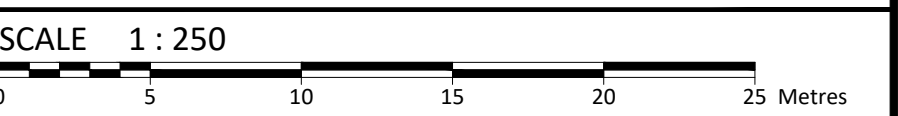
Drawing Title:  
**EXISTING LAYOUT**

Scale: 1:200	Project Number: CCO-22-2999
Drawn by: RP	
Checked By: FA	Drawing Number:
Designed By:	






<b>PROPERTY BOUNDARY</b>	
<b>LEGAL BOUNDARY</b>	
<b>EX. ASPHALT</b>	
<b>EX. GRAVEL</b>	
<b>EX. DITCH</b>	
<b>EX. FENCE</b>	
<b>LOT CORNER GRADE</b>	
<b>EX. GRADE</b>	
<b>REMOVALS</b>	
<b>PROPOSED LOT LINE</b>	
<b>PROPOSED CENTRELINE</b>	
<b>PROPOSED ASPHALT</b>	
<b>PROPOSED GRAVEL</b>	
<b>PROPOSED DITCH</b>	
<b>PROPOSED FENCE</b>	
<b>PROPOSED CULVERT</b>	
<b>PROPOSED RIPRAP</b>	
<b>PROPOSED SWALE</b>	
<b>PROPOSED TOP OF SLOPE</b>	
<b>PROPOSED SPOT GRADE</b>	
<b>PROPOSED SWALE GRADE</b>	
<b>PROPOSED LIGHT BASE</b>	



2	ISSUED FOR TENDER	JUN/30/2022
1	REISSUED FOR REVIEW	MAY/04/2022
0	ISSUED FOR REVIEW	MAR/28/2022
No.	Revision/Issue	Date

Check and verify all dimensions before proceeding with the work Do not scale drawings

**McINTOSH PERRY**  
1-1329 Gardiners Road Kingston, ON K7P 0L8  
Tel: 613-542-3788 Fax: 613-542-7583  
[www.mcintoshperry.com](http://www.mcintoshperry.com)

Stamp:	Stamp:
	

Client: **TOWNSHIP OF RIDEAU LAKES**  
1439 COUNTY ROAD 8  
DELTA, ON K0E 1G0

Project:	
RONALD E. HOLMAN MUNICIPAL COMPLEX	
RIDEAU LAKES	ONTARIO

Drawing Title:

GRADING PLAN

Scale: 1:250	Project Number:  CCO-22-2999
Drawn by: RP	
Checked By: FA	Drawing Number:  2
Designed By:	

FILENAME: U:\Kingston\02-Documents\2022\CCO-22-2999-02 Rideau Lakes Ronald E Holman Mun Complex\Grading Plan\CCO-22-2999 - REH Complex.dwg  
LAST SAVED: Wednesday, May 04, 2022 LAST SAVED BY: m.shettell-morris  
LAST PLOTTED: Friday, June 03, 2022 CTR EIT F USED: ----



GENERAL NOTES:

- ALL DIMENSIONS AND INVERTS MUST BE VERIFIED PRIOR TO CONSTRUCTION, IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.
- THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL UTILITIES DURING CONSTRUCTION. GAS, HYDRO, TELEPHONE OR ANY OTHER UTILITY THAT MAY EXIST ON SITE OR WITHIN THE ROAD ALLOWANCE MUST BE LOCATED BY ITS OWN UTILITIES AND VERIFIED.
- TOPSOIL TO BE STRIPPED AND STOCKPILED FOR REHABILITATION. CLEAN FILL TO BE PLACED IN FILL AREAS AND COMPACTED TO 95% STANDARD PROCTOR DENSITY.
- ALL UNDERGROUND SERVICES, MATERIALS AND INSTALLATIONS TO BE IN ACCORDANCE WITH THE CURRENT STANDARDS AND CODES OF THE TOWN AND PROVINCE.
- ALL DISTURBED AREAS TO BE RESTORED TO ORIGINAL CONDITION OR BETTER UNLESS OTHERWISE SPECIFIED.
- CONTRACTOR IS RESPONSIBLE FOR ALL LAYOUT FOR CONSTRUCTION PURPOSES. BOUNDARIES SHOWN ARE THE PLANS ARE APPROXIMATE ONLY AND MUST BE CONFIRMED BY THE CONTRACTOR.
- THE ORIGINAL TOPOGRAPHY AND GROUND ELEVATIONS, SERVICING AND SURVEY DATA SHOWN ON THIS PLAN ARE SUPPLIED FOR INFORMATION PURPOSES ONLY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE ACCURACY OF ALL INFORMATION OBTAINED FROM THESE PLANS.
- CONNECT TO EXISTING SERVICES AS DETAILED. INCLUDE ALL RESTORATION WORK IF NECESSARY TO REINSTATE SURFACES TO THE CONDITION THAT EXISTED PRIOR TO CONSTRUCTION OR BETTER.
- DETERMINE THE EXACT LOCATION, SIZE, MATERIAL AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING CONSTRUCTION. PROTECT AND ASSUME ALL RESPONSIBILITY FOR EXISTING UTILITIES WHETHER OR NOT SHOWN ON THESE DRAWINGS. IF THERE IS ANY DISCREPANCY THE CONTRACTOR IS TO NOTIFY THE ENGINEER PROMPTLY.
- CONTRACTOR TO OBTAIN AND PAY FOR ALL NECESSARY PERMITS AND APPROVALS FROM THE TOWN BEFORE COMMENCING CONSTRUCTION.
- RESTORE ALL TRENCHES AND SURFACES OF PUBLIC ROAD ALLOWANCES TO CONDITION EQUAL OR BETTER THAN ORIGINAL CONDITION AND TO THE SATISFACTION OF TOWN AUTHORITIES.
- ALL EXCESS MATERIAL GENERATED DURING EXCAVATION ACTIVITIES SHALL BE STOCKPILED ON SITE AT AN APPROVED LOCATION. NO OFF-SITE HAULING OF EXCESS MATERIAL IS REQUIRED.
- ALL ELEVATIONS ARE GEODETIC AND UTILIZE METRIC UNITS UNLESS OTHERWISE NOTED.
- TEMPORARY SEDIMENT CONTROL (FILTER CLOTH UNDER GRATE OR COVER) TO BE IMPLEMENTED DURING CONSTRUCTION ON ALL PROPOSED ROAD CATCHBASINS, REARYARD CATCHBASINS AND CATCHBASIN MANHOLES. NO RECYCLED GEOTEXTILE MATERIAL SHALL BE PERMITTED FOR USE ON SITE.

MATERIALS - SOIL

- ALL CUT MATERIAL SHALL BE RE-PURPOSED ON SITE AS FILL. IF THE IMPORTATION OF FILL MATERIAL IS REQUIRED, THE FILL MATERIAL SHALL MEET THE EITHER TABLE 1 OR TABLE 2.1 FOR RESIDENTIAL, PARKLAND, INSTITUTIONAL PROPERTY USES.
- IF IMPACTED MATERIAL IS ENCOUNTERED DURING CUT ACTIVITIES, THE CONTRACTOR SHALL IMMEDIATELY INFORM THE OWNER. THE OWNER WILL ADVISE ON THE COURSE OF ACTION TO BE TAKEN.

PATHWAY ASPHALT PAVEMENT

- ASPHALT PAVEMENT FOR PATHWAYS SHALL BE HL3 AND HL8 COMPACTED TO A MINIMUM OF 98% SPMD.
- EDGE OF ASPHALT PAVEMENT SHALL BE TAMPED TO A 45° INCLINE.
- ASPHALT PAVEMENT SHALL BE ACCORDING TO OPSS.MUNI 311 AND OPSS.MUNI 1150

GRANULAR

- GRANULAR SHALL MEET OPSS.MUNI 1010

TOPSOIL

- TOPSOIL SHALL BE REASONABLY FREE GRASS, ROOTS, WEEDS, STICK, STONES, OR OTHER DELETERIOUS FOREIGN MATERIALS.
- TOPSOIL SHALL BE COMPRISED OF:
  - CLAY: 0-25%
  - SILT: 25-50%
  - SAND: 50-70%
  - DECOMPOSED ORGANIC MATTER: 5-10%

TURF SEED

- GRASS SEED: CERTIFIED CANADA NO. 1 GRADE TO GOVERNMENT OF CANADA SEEDS REGULATIONS, AND HAVING MINIMUM GERMINATION OF 95% AND MINIMUM PURITY OF 97%. SEED SUPPLIED SHALL BE THE BEST QUALITY AND APPROVED BY THE CONSULTANT AND THE OWNER. SEEDS SHALL BE FURNISHED ON THE JOB IN THEIR ORIGINAL SEALED PACKAGES BEARING THE BRAND NAME OF THE PRODUCER OR DISTRIBUTOR. ONLY SEEDS HARVESTED THE PRECEDING SEASON WILL BE ACCEPTED. THE SEED MIX, RATE OF APPLICATION, AND THE SUPPLIER WILL BE IDENTIFIED ON THE APPROVED WORKING DRAWINGS.
- SEED MIXTURE SHALL COMPRISE:
  - 40% TALL FESCUE
  - 25% ANNUAL RYEGRASS
  - 15% CREEPING RED FESCUE
  - 15% TIMOTHY
  - 5% WHITE CLOVER

LIGHT STANDARDS

- STANDARD: ROUND , CLASS A LIGHT DUTY POLE BY STRESSCRETE OR OWNER APPROVED EQUAL
- STANDARD HEIGHT: POLE HEIGHT ABOVE GRADE 20 FEET
- COLOR AND FINISH: OWNER APPROVED FOR MANUFACTURER'S STANDARD COLORS AND FINISHES
- LUMINAIRE: BAYSHORE - LED STRESSCRETE OR OWNER APPROVED EQUAL

SITE SPECIFIC NOTES:

- CONTRACTOR TO VISIT THE SITE AND EXAMINE ALL CHARACTERISTIC FEATURES AND DIMENSIONS AFFECTING THE PROPOSED REPAIRS AND MUST INFORM MCINTOSH PERRY CONSULTING ENGINEERS LTD. OF ANY DISCREPANCIES.
- THESE DRAWINGS ILLUSTRATE THE REQUIRED WORK TO BE DONE. THE ENGINEER IS NOT RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES USED TO DO THE WORK, OR THE SAFETY ASPECTS OF CONSTRUCTION. CONTRACTOR SHALL CHECK AND VERIFY DIMENSIONS AND DETERMINE ALL CONDITIONS AT THE SITE AND SHALL BE RESPONSIBLE FOR KNOWING HOW THEY AFFECT THE WORK.
- MCINTOSH PERRY CONSULTING ENGINEERS LTD. WILL NOT BE LIABLE FOR ANY CONSTRUCTION THAT HAS NOT BEEN INSPECTED BY MPCE.

APPLICABLE CODES & STANDARDS

- ALL CODES SHALL BE CURRENT CODES APPLICABLE AT THE TIME OF SUBMISSION FOR BUILDING PERMIT APPLICATION, INCLUDING ALL NEW AND REVISED ARTICLES. THE APPLICABLE CODES AND STANDARDS FOR THE SCOPE OF WORK ARE AS FOLLOWS:
  - OBC 2012 - 2012 ONTARIO BUILDING CODE
  - CSA A23.1 - CONCRETE MATERIALS AND METHODS OF CONCRETE CONSTRUCTION
  - CSA A23.2 - TEST METHODS AND STANDARD PRACTICES FOR CONCRETE
  - CSA A23.3 - DESIGN OF CONCRETE STRUCTURES
  - CSA G30.18 - CARBON STEEL BARS FOR CONCRETE REINFORCEMENT
  - CSA S269.3 - CONCRETE FORMWORK

CONCRETE MATERIALS

- THE CONCRETE MAY BE REPAIRED USING READY MIX CONCRETE, SITE MIXED CONCRETE, POLYMER MODIFIED MORTAR OR SHOTCRETE. CONCRETE POURS OF 3 M<sup>3</sup> OR MORE SHALL BE FROM READY MIXED CONCRETE. SPECIFIED COMPRESSIVE STRENGTH FOR EACH REPAIR MATERIAL IS 35 MPa. ADMIXTURES CONTAINING CHLORIDES ARE NOT PERMITTED.
- READY MIXED CONCRETE: CLASS C-1 CONFORMING TO CSA A23.1, SUPPLIED BY A RMCAO COMPANY, WITH THE FOLLOWING PROPERTIES:
  - COURSE AGGREGATE: 10 MM MAXIMUM
  - AIR CONTENT: 5-8%
  - SLUMP: 50 MM WITHOUT SUPERPLASTICIZER INCREASED TO 80 MM WITH SUPERPLASTICIZER
  - WATER/CEMENT RATIO: 0.40 MAXIMUM
- MIXING WATER: FROM MUNICIPAL SUPPLY, CLEAN, POTABLE AND FREE FROM DELETERIOUS AMOUNTS OF ACIDS, ALKALIS AND ORGANIC MATTER.
- REINFORCING STEEL: REINFORCING STEEL TO BE DEFORMED BILLET 400N BAR TYPE IN ACCORDANCE WITH CAN/CSA G30.18 WITH 400 MPA YIELD STRENGTH.
- REINFORCING STEEL SUPPORTS: PLASTIC, PRECAST CONCRETE OR PLASTIC COATED STEEL CONFORMING TO THE REQUIREMENTS OF THE REINFORCING STEEL INSTITUTE OF ONTARIO.
- REINFORCING STEEL TIE WIRE: PLASTIC COATED WIRE CONFORMING TO THE REQUIREMENTS OF THE REINFORCING STEEL INSTITUTE OF ONTARIO.
- FORMWORK: PLYWOOD AND TIMBER CONFORMING TO CSA A23.1

SEALANTS AND JOINT MATERIALS

- SIKAFLEX 1A POLYURETHANE SEALANT COLOUR GREY OR APPROVED EQUAL.
- BACKER ROD CLOSED CELL POLYURETHANE FOAM MIN. 4" THICKNESS 2" Ø GREATER THAN JOINT WIDTH.
- ASPHALT IMPREGNATED EXPANSION BOARD MIN 2" THICKNESS.

FORMWORK

- DESIGN AND ERECT FORMWORK IN ACCORDANCE WITH CSA S269.3.
- MAKE FORMS TIGHT AND FLUSH TO PREVENT THE LEAKAGE OF CONCRETE MATERIALS.
- APPLY A FORM RELEASE AGENT TO ENSURE THE FORMS CAN BE REMOVED READILY AND WITHOUT DAMAGE TO THE CONCRETE.
- FORM EXPANSION JOINTS AT LOCATION AND SIZE AS DIRECTED BY THE ENGINEER OR INDICATED ON THE DRAWINGS.
- INSTALL BEARING PAD ABOVE LEDGE BEAMS. PADS SHALL COVER THE ENTIRE EXPOSED SURFACE OF THE LEDGE AND EXTEND 25 MM BEYOND THE FACE.
- LOCATE CONSTRUCTION JOINTS AS DIRECTED BY THE ENGINEER.
- DO NOT REMOVE SHORING, FALSEWORK OR FORMWORK UNLESS DIRECTED BY THE ENGINEER.

CONCRETE TESTING

- CONTRACTOR IS RESPONSIBLE TO ARRANGE FOR THE TESTING OF CONCRETE AND COMPACTION BY INDEPENDENT QUALITY CONTROL AGENT AND SUBMIT PROMPTLY ALL REPORTS TO THE ENGINEER.
- MAINTAIN ACCURATE RECORDS OF POURED CONCRETE ITEMS, RECORD DATE, LOCATION OF POUR, QUANTITY, AIR TEMPERATURE AND TEST SAMPLES TAKEN.
  - CONTRACTOR SHALL TEST CONCRETE ONCE FOR EACH DAY'S CONCRETE POUR. A MINIMUM OF THREE CYLINDERS SHALL BE TAKEN PER TEST AND ONE SLUMP TEST WILL BE TAKEN FOR EACH SET OF TEST CYLINDERS.

FINISHING AND CURING

- FINISH SURFACES TO THE LINES AND LEVELS OF ADJACENT CONCRETE.
- PROVIDE A SUITABLE FINISH FOR SURFACES TO BE COATED WITH PROTECTIVE MEMBRANE OR SEALER. PROVIDE A WOOD FLOAT FINISH FOR SHOTCRETE.
- CONCRETE TO BE GIVEN A BROOMED TEXTURE AFTER FINISHING WITH FLOAT.
- CURE CONCRETE AND SHOTCRETE WITH WET BURLAP OR OTHER SUITABLE MEANS AND KEEP CONTINUOUSLY MOIST 7 DAYS OR AS REQUIRED BY THE MANUFACTURER. COMMENCE CURING IMMEDIATELY AFTER FINISHING.
- DO NOT USE CURING AGENTS ON SURFACES TO RECEIVE A PROTECTIVE MEMBRANE OR SEALER.

MAKE GOOD

- UPON REMOVAL OF FORMWORK REMOVE CONCRETE SURFACE IRREGULARITIES, PARTICULARLY AT THE PERIMETER OF THROUGH-SLAB REPAIR AREAS. MAKE GOOD BY PATCHING WITH POLYMER MODIFIED MORTAR AT NO ADDITIONAL COST.
- PAINT WALL, SOFFIT AND THROUGH-SLAB REPAIR AREAS TO MATCH EXISTING.
- REINSTATE SURFACE MOUNTED CONDUIT, LIGHT FIXTURES, SIGNS, DRAIN PIPES AND OTHER ITEMS REMOVED TO FACILITATE THE WORK.

EROSION AND SEDIMENT CONTROL NOTES:

- THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES, TO PROVIDE FOR PROTECTION OF THE AREA DRAINAGE SYSTEM AND THE RECEIVING WATERCOURSE, DURING CONSTRUCTION ACTIVITIES. THIS INCLUDES LIMITING THE AMOUNT OF EXPOSED SOIL AND INSTALLING SILT FENCES AND OTHER SEDIMENT TRAPS.
- AT THE DISCRETION OF THE CONTRACT ADMINISTRATOR, CONSERVATION AUTHORITY OR MUNICIPALITY, ADDITIONAL SILT CONTROL DEVICES SHALL BE INSTALLED AT DESIGNATED LOCATIONS.
- FOR SILT FENCE BARRIER, USE OPSS 219.110. GEOTEXTILE FOR SILT FENCE SHALL BE ACCORDING TO OPSS 1860, TABLE 3.
- EXCEPT AS PROVIDED IN PARAGRAPHS 4.(a), and (b) BELOW, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS FEASIBLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 14 DAYS AFTER THE CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED.
  - WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASE IS PRECLUDED BY SNOW COVER, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS FEASIBLE.
  - WHERE CONSTRUCTION ACTIVITY WILL RESUME ON A PORTION OF THE SITE WITHIN 21 DAYS FROM WHEN ACTIVITIES CEASED, (E.G. THE TOTAL TIME PERIOD THAT CONSTRUCTION ACTIVITY IS TEMPORARILY CEASED IS LESS THAN 21 DAYS) THEN STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF SITE BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY CEASED.
- SEDIMENT THAT IS ACCUMULATED BY THE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED IN A MANNER THAT AVOIDS ESCAPE OF THE SEDIMENT TO THE DOWNSTREAM SIDE OF THE CONTROL MEASURE AND AVOIDS DAMAGE TO THE CONTROL MEASURE. SEDIMENT SHALL BE REMOVED TO THE LEVEL OF THE GRADE EXISTING AT THE TIME THE CONTROL MEASURE WAS CONSTRUCTED AND BE ACCORDING TO THE FOLLOWING:
  - FOR LIGHT-DUTY SEDIMENT BARRIERS, ACCUMULATED SEDIMENT SHALL BE REMOVED ONCE IT REACHES THE LESSER OF THE FOLLOWING:
    - A DEPTH OF ONE-HALF THE EFFECTIVE HEIGHT OF THE CONTROL MEASURE.
    - A DEPTH OF 300 MM IMMEDIATELY UPSTREAM OF THE CONTROL MEASURE.
  - FOR ALL CONTROL MEASURES, ACCUMULATED SEDIMENT SHALL BE REMOVED AS NECESSARY TO PERFORM MAINTENANCE REPAIRS.
  - ACCUMULATED SEDIMENT SHALL BE REMOVED IMMEDIATELY PRIOR TO THE REMOVAL OF THE CONTROL MEASURE.
  - ACCUMULATED SEDIMENT IS TO BE REMOVED AND DISPOSED OF AS PER OPSS 180.
- ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MONITORED TO ENSURE THEY ARE IN EFFECTIVE WORKING ORDER. THE CONDITION OF THE CONTROL MEASURES SHALL BE MONITORED PRIOR TO ANY FORECAST STOREVENT AND FOLLOWING A STORM EVENT.
- DUST CONTROL MEASURES SHOULD BE CONSIDERED PRIOR TO CLEARING AND GRADING. THE USE OF WATER, CALCIUM CHLORIDE FLAKES/SOLUTION OR MAGNESIUM CHLORIDE FLAKES/SOLUTION SHALL BE USED AS DUST SUPPRESSANTS AS PER OPSS 506. THIS IS TO LIMIT WIND EROSION OF SOILS WHICH MAY TRANSPORT SEDIMENTS OFFSITE, WHERE THEY MAY BE WASHED INTO THE RECEIVING WATER BY THE NEXT RAINSTORM.
- STOCKPILED MATERIAL IS TO BE STORED AWAY FROM POTENTIAL RECEIVERS (E.G. WATERCOURSES), AND BE SURROUNDED BY EROSION CONTROL MEASURES WHERE MATERIAL IS TO BE LEFT IN PLACE IN EXCESS OF 14 DAYS.
- IF REQUIRED, DEWATERING/SETTLING BASINS SHALL BE CONSTRUCTED AS PER OPSS 219.240 AND LOCATED ON FLAT GRADE UPSTREAM OF OTHER EXISTING MITIGATION MEASURES. WATERCOURSES SHALL NOT BE DIVERTED, OR BLOCKED, AND TEMPORARY WATERCOURSES CROSSINGS SHALL NOT BE CONSTRUCTED OR UTILIZED, UNLESS OTHERWISE SPECIFIED IN THE CONTRACT. IF CLOSURE OF ANY PERMANENT WATER PASSAGE IS NECESSARY, THE CONTRACTOR SHALL RELEASE ANY STRANDED FISH TO THE OPEN PORTION OF THE WATERCOURSE WITHOUT HARM.
- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL CONFORM TO OPSS 805
- WHERE DEWATERING IS REQUIRED, THE DISCHARGED WATER SHALL BE CONTROLLED IN ACCORDANCE WITH OPSS 518.
- ALL SETTLING/FILTRATION BASINS SHALL BE EQUIPPED WITH TERRAFIX 270R GEOTEXTILE (OR APPROVED EQUIVALENT) AND SHALL BE CLEANED AND REPLACED AS REQUIRED.
- FOR POTENTIAL SPILLS, THE CONTRACTOR SHALL HAVE ON SITE AT ALL TIMES AN EMERGENCY SPILL KIT THAT WILL INCLUDE AS A MINIMUM THE FOLLOWING ITEMS:
  - 10 - 18 in. X 18 in. ABSORBENT PADS, 5 LBS ZORBAL ABSORBING MATERIAL, 1 PAIR GOGGLES, 1 PAIR PVC GLOVES.

EMERGENCY RESPONSE PLAN

THE EMERGENCY RESPONSE PLAN IDENTIFIES SITE REQUIREMENTS AND ACTIONS TO BE TAKEN IN THE EVENT OF AN ENVIRONMENTAL EMERGENCY (SUCH AS A SPILL OF HAZARDOUS MATERIALS, DISCHARGE OF A DELETERIOUS SUBSTANCE (E.G. SEDIMENT) TO A WATERCOURSE OR OTHER ACCIDENT, ETC.). THIS PLAN IS TO BE IMPLEMENTED ON A CONTINUOUS BASIS AND UPDATED AS SITE CONDITIONS CHANGE.

SITE ENVIRONMENTAL INSPECTOR

A DESIGNATED SITE ENVIRONMENTAL INSPECTOR WILL BE APPOINTED BY THE CONTRACTOR. THIS PERSON WILL BE RESPONSIBLE FOR ENSURING THAT THE CONTRACTOR(S) HAS PREPARED A SPILL CLEAN-UP PROCEDURE/EMERGENCY RESPONSE PLAN AND APPROPRIATE EQUIPMENT, WITH ALL STAFF TRAINED IN THE RECOGNITION OF A SPILL AND PROPER IMPLEMENTATION IN THE EVENT OF A SPILL OR ACCIDENT ON-SITE. ALL SPILLS ARE TO BE RESPONDED TO, DOCUMENTED AND REPORTED TO THE OWNER AND MOECC AS REQUIRED BY LAW. THE INSPECTOR WILL ALSO BE RESPONSIBLE TO ENSURE THROUGH DOCUMENTED INSPECTIONS THAT, AMONGST OTHERS:

- EROSION AND SEDIMENT CONTROL WORKS ARE FUNCTIONAL AND EFFECTIVE (MINIMUM WEEKLY INSPECTION AND FOLLOWING PRECIPITATION EVENTS);
- PUMPED EXCESS STORMWATER IS DIRECTED PROPERLY TO VEGETATED AREAS AND EXCESSIVE WATER (>50,000 L) IS NOT TRANSFERRED WITHIN A 24 HOUR PERIOD UNLESS A PTTW IS AVAILABLE;
- WATER SETBACKS, OR OTHER SETBACKS, ARE MAINTAINED AT ALL TIMES DURING CONSTRUCTION;
- CEMENT/CONCRETE TRUCKS REMAIN 120 M AWAY FROM WATER;
- CONCRETE MIX (AND OTHER POTENTIALLY HAZARDOUS MATERIALS) ARE STORED PROPERLY;
- ALL PUBLIC COMPLAINTS, AS A RESULT OF CONSTRUCTION, ARE DOCUMENTED AND THE OWNER NOTIFIED;
- COMPLAINTS MADE TO THIRD PARTIES (E.G. MOECC, MNRF) ARE ALSO DOCUMENTED AND THE OWNER NOTIFIED.

SITE REQUIREMENTS

EMERGENCY CONTACTS SHALL BE POSTED IN A CONSPICUOUS SPACE ON SITE, INCLUDING 911, POLICE, FIRE DEPARTMENT, MOECC SPILLS ACTION CENTRE, AND THESE ORGANIZATIONS SHOULD BE CONTACTED AS REQUIRED. THE FOLLOWING IS A NON-EXHAUSTIVE LIST OF PHONE NUMBERS:

EMERGENCY - POLICE, FIRE, AMBULANCE	911
ONTARIO PROVINCIAL POLICE	1 888 310-1122
OFFICE OF THE FIRE MARSHAL	1 800 565-1842
MINISTRY OF ENVIRONMENT AND CLIMATE CHANGE	1 800 268-6060
(MOECC) SPILLS ACTION CENTRE	
MOECC EMERGENCY MANAGEMENT COORDINATOR	1 416 325-1995
ENVIRONMENT CANADA	1 416 739-4826
SITE/PROJECT DEPENDENT EMERGENCY CONTRACTOR	X XXX XXX-XXXX

\*SHOULD BE CONTACTED WHEN ON FEDERAL LANDS OR IF THE CONTAMINATION COULD AFFECT A FEDERAL LAND OR NAVIGABLE WATER AND FISH HABITAT.

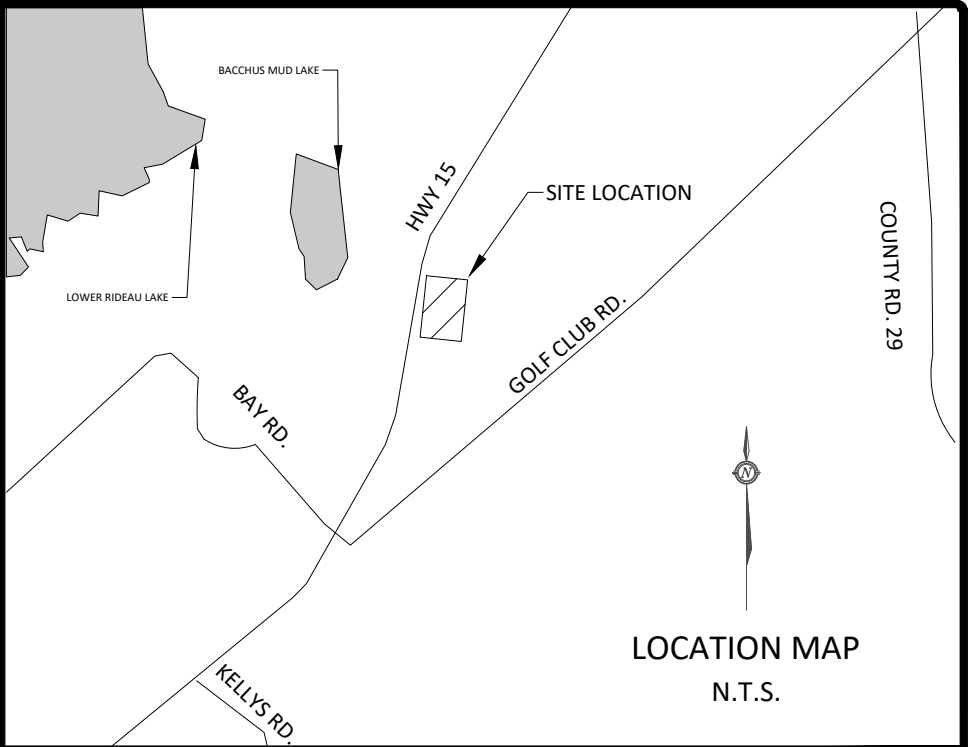
SPILL CONTAINMENT AND CLEAN-UP SUPPLIES ARE TO BE MAINTAINED ON SITE AT ALL TIMES. THESE "SPILL KITS" GENERALLY COME IN TRANSPORTABLE BAGS OR PLASTIC CONTAINERS DEPENDING ON SIZE. A TYPICAL SPILL KIT SHOULD INCLUDE:

- VARIOUS SIZES AND LENGTHS OF ABSORBENT SOCKS;
- VARIOUS SIZES OF ABSORBENT PADS OR CUSHIONS (10-18"x18" PADS MINIMUM);
- GRANULAR ABSORBENT MATERIAL (5 lb. MINIMUM);
- DRAIN MATS;
- WASTE BAGS AND TIES, AND;
- GLOVES AND PROTECTIVE EYEWEAR.

A SHOVEL OR OTHER HAND DEVICE SHOULD ALSO BE INCLUDED OR EASILY AVAILABLE ON THE WORK SITE TO ASSIST WITH THE CLEAN UP OR CONTROL OF A SMALL SPILL/RELEASE. THESE MATERIALS SHOULD BE USED DURING INTERVENTIONS/CLEANUPS FOLLOWING SMALL SPILLS OR LEAKS, HOWEVER IF A MAJOR INCIDENT OCCURS, A SPECIALIZED COMPANY WITH APPROPRIATE EQUIPMENT SHOULD BE CONTACTED (SEE LIST ABOVE).

ACTIONS

SPILLS MUST BE CLEANED UP IMMEDIATELY AND REPORTED ACCORDINGLY. IN THE EVENT OF A REPORTABLE SPILL, THE MOECC SPILLS ACTION CENTRE IS TO BE CONTACTED IMMEDIATELY, AS REQUIRED BY PROVINCIAL REGULATIONS. ALL SPILLS MUST BE DOCUMENTED AND REPORTED TO THE OWNER, FORTHWITH. THESE INCLUDE DISCHARGES OF ANY TURBID WATER FROM THE SITE AND/OR TO WATERCOURSES.



DISCLAIMER

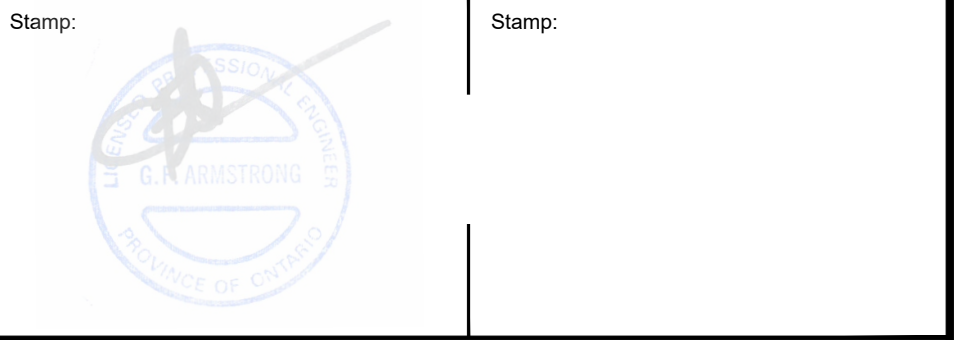
LOCATIONS OF ANY UTILITIES AND UNDERGROUND SERVICES ON THE PLAN ARE PROVIDED FOR INFORMATION PURPOSES ONLY AND MAY DIFFER FROM WHAT IS EXISTING. CONTRACTOR IS RESPONSIBLE FOR ALL ON-SITE LOCATES AND WILL BE RESPONSIBLE SHOULD ANY INFRASTRUCTURE BE DAMAGED IN ANY WAY. MCINTOSH PERRY AND THE OWNER SHALL NOT BE RESPONSIBLE FOR DAMAGES ON ACCOUNT OF ANY DISCREPANCIES SHOWN ON THE PLAN.

2	ISSUED FOR TENDER	JUN/30/2022
1	REISSUED FOR REVIEW	MAY/04/2022
0	ISSUED FOR REVIEW	MAR/28/2022
No.	Revision/Issue	Date

Check and verify all dimensions before proceeding with the work Do not scale drawings

McINTOSH PERRY

1-1329 Gardiners Road Kingston, ON K7P 0L8  
Tel: 613-542-3788 Fax: 613-542-7583  
www.mcintoshperry.com



Client: TOWNSHIP OF RIDEAU LAKES  
1439 COUNTY ROAD 8  
DELTA, ON K0E 1G0

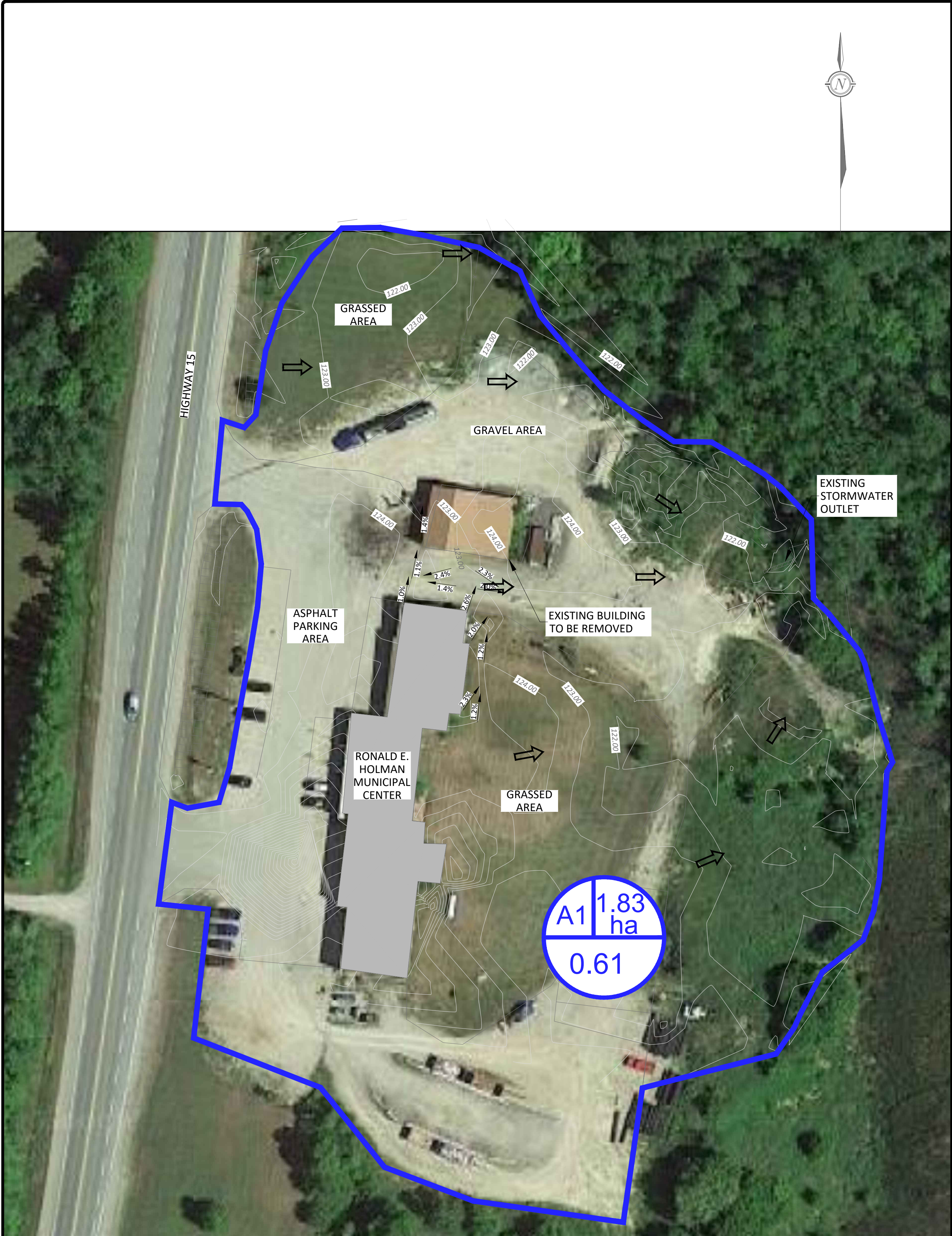
Project: RONALD E. HOLMAN MUNICIPAL COMPLEX

RIDEAU LAKES ONTARIO

Drawing Title: NOTES & DETAILS

Scale: NTS	Project Number: CCO-22-2999
Drawn by: RP	
Checked By: FA	Drawing Number:
Designed By:	

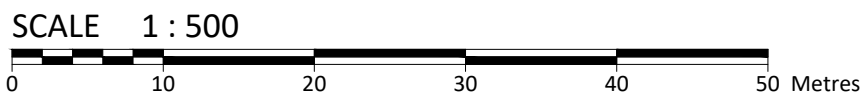
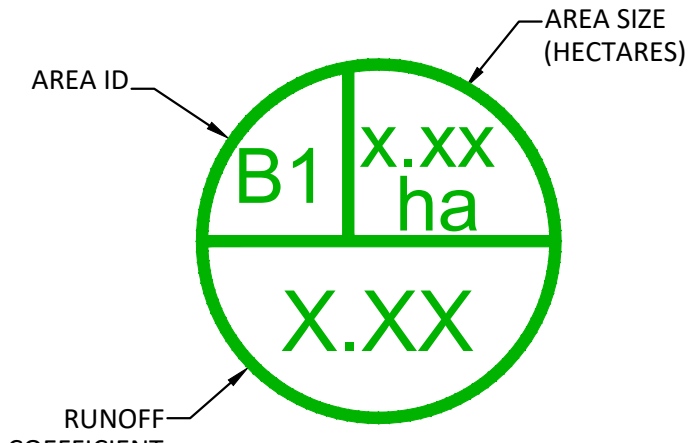
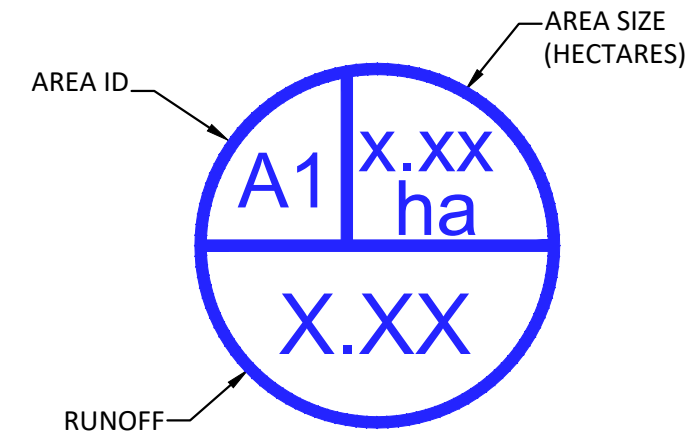




PRE-DEVELOPMENT



POST-DEVELOPMENT



2	ISSUED FOR TENDER	JUN/30/2022
0	ISSUED FOR REVIEW	MAY/04/2022
No.	Revision/Issue	Date

Check and verify all dimensions before proceeding with the work Do not scale drawings

**McINTOSH PERRY**  
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Stamp: 	Stamp:
------------	--------

Client:  
**TOWNSHIP OF RIDEAU LAKES**  
1439 COUNTY ROAD 8  
DELTA, ON K0E 1G0

Project:  
**RONALD E. HOLMAN MUNICIPAL COMPLEX**

RIDEAU LAKES ONTARIO  
Drawing Title:  
**PRE- AND POST-DEVELOPMENT DRAINAGE PLAN**

Scale: 1:500	Project Number: CCO-22-2999
Drawn by: DL	
Checked By: RC	Drawing Number:
Designed By:	



# STORMWATER MANAGEMENT BRIEF

## RONALD E. HOLMAN MUNICIPAL COMPLEX



Project No.: CCO-22-2999

Prepared for:

Township of Rideau Lakes  
1439 County Road 8  
Delta, Ontario  
K0E 1G0

Prepared by:

McIntosh Perry Consulting Engineers Ltd.  
1-1329 Gardiners Road  
Kingston, Ontario  
K7P 0L8

May 2022

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## APPENDICES

Appendix A: Pre- and Post-Development Drainage Plan & Calculations

## **1.0 INTRODUCTION**

McIntosh Perry Consulting Engineers Limited (McIntosh Perry) has been retained by the Township of Rideau Lakes to complete grading and drainage plans and associated Stormwater Management Brief, as well as construction details and specifications in support of the redevelopment of the Ronald E. Holman Municipal Complex property with various landscaping and recreational features.

The main purpose of this report is to provide stormwater management design analysis in accordance with the recommendations and guidelines provided by the Ministry of Transportation (MTO), the Ministry of the Environment, Conservation and Parks (MECP) and Cataraqui Region Conservation Authority (CRCA) as appropriate. These guidelines encourage the implementation of Best Management Practices (BMPs) for treating and controlling stormwater runoff.

## **2.0 SITE DESCRIPTION**

The subject property is located approximately 4km south of Smiths Falls on the east side of Highway 15. The subject property is approximately 3.5 ha, though the proposed works are located in an area of approximately 1 ha. The site is bounded by Highway 15 to the west and undeveloped treed area to the north, east and south mixed with farmland and wetland area. There are also two Provincially Significant Wetlands in the vicinity of the site – the Bacchus Mud Lake Complex is located west of the site across Highway 15, which appears to drain east across Highway 15 via a culvert located at the north end of the subject property. A stream along the north side of the property drains from this culvert east to the Otter Creek Wetland east of the site.

The property currently consists of a main building with attached garage building, a dome-style building, the remaining foundation of a demolished outbuilding, gravel and asphalt parking, driving and storage areas, landscaped grassed areas and undeveloped vegetated area. The property generally drains from its western limits along Highway 15 east toward the east limits of the site before entering the Otter Creek Wetland via overland flow or via a culvert located on the east side of the site. The area has an approximately 2-3 m elevation difference from the west side of the site to the east. An MECP Well (ID #3603605) is located directly across the Highway from the site and notes a depth to bedrock of 0.6m and a static water level of 6.1m. Soils near the site outside wetland areas, as identified by OMAFRA Agmaps and additional GIS data, appear to consist of sandy, silty glacial till.

## **3.0 BACKGROUND STUDIES, ASSUMPTIONS & LIMITATIONS**

- GIS data (1m interval contours) was obtained through the Digital Raster Acquisition Project for the East (DRAPE) (2014) and was reviewed for site topographical context;
- No legal survey information was provided for the site. A field survey was completed by MP for the project area and was used as a basis for the existing layout and topography, along with aerial imagery and landscaping plans.
- A stormwater management design for the original site was not completed or was not available for review.

- No geotechnical information was provided for the site.

## **4.0 PROPOSED STORMWATER MANAGEMENT**

### **4.1 Project Stormwater Review**

Proposed works, which include a recreational court, a courtyard, asphalt tracks, walkways and wooden structures. The change in the land use and land cover under proposed conditions were compared to the existing conditions of the site with regard to grading and drainage. Impervious areas (asphalt, compacted gravel and structures) and pervious areas (grass and vegetated areas) were measured using AutoCAD Civil 3D software in both the existing and proposed conditions.

The proposed works appear to maintain or increase the pervious area on site, and the hard surface areas to be added do not add large areas of connected pervious area. Proposed works tend to be hard surface areas surrounded or edged by landscaped area. As a result of this analysis, no stormwater quantity storage has been proposed, and the remainder of this report will focus on quality objectives.

### **4.2 Design Criteria and Methodology**

In the absence of a subwatershed plan for this area, the MTO Drainage Management Manual as well as the MECP Stormwater Management Planning and Design Manual were used where applicable. This methodology promotes stormwater management from an environmentally sustainable perspective. The intent of the stormwater management plan is to provide adequate stormwater treatment for both quantity and quality control.

The proposed stormwater management design for the building addition has been designed with the following design criteria:

- Limiting overall post-development peak flow rates to pre-development levels;
- Maintaining existing flow patterns; and
- Protection of water quality leaving the site, achieved through Best Management Practices.

Stormwater Best Management Practices (BMPs) will be implemented at the “lot level” locations. These concepts will be explained further in Section 4.3 To summarize, runoff will sheet flow over grassed surfaces while maintaining existing drainage patterns.

### **4.3 Best Management Practices**

The entire site will employ Best Management Practices (BMPs) wherever possible. The intent of implementing stormwater BMPs throughout the entire development is to ensure that water quality and quantity concerns are addressed at all stages of the development. Stormwater BMPs will be implemented at lot and conveyance levels.

Lot level BMPs include the directing of runoff onto grassed areas and maintaining/returning as much of the lot as possible to a natural/vegetated state.

The conveyance systems to be employed include sheet drainage, as in pre-development, and grass-lined swales. The swales are proposed to be constructed at minimal gradient, thus promoting absorption and infiltration, as well as providing opportunity for particle filtration. During construction, riprap will be placed at erosion-prone areas and all disturbed areas will be re-vegetated as soon as possible.

A flow spreader has also been proposed at the outlet of swales to return flow from the grassed swales to sheet flow prior to outletting via the existing culvert on the east side of the site.

#### 4.4 Runoff Calculations

The rational method has been employed for the stormwater management calculations using the following methodology.

$$Q = 2.78CIA \text{ (L/s)}$$

Where      C      = Runoff coefficient  
               I      = Rainfall intensity in mm/hr (per MTO IDF Lookup Tool)  
               A      = Drainage area in hectares

The following coefficients were used to develop an average C for each area:

Impervious (Roofs, Paved Areas)	0.90
Gravel Parking & Driving Areas	0.90
Grassed areas	0.25

The following table is a summary of pre- and post-development runoff for the project area as shown on the enclosed Pre- and Post-Development Drainage Plan.

Area ID	Drainage Area (ha)	C	Q (L/s)	
			5-year	100-year
A1	1.83	0.61	221	370
B1	1.83	0.55	200	335

## 5.0 EROSION AND SEDIMENT CONTROL

### 5.1 Temporary Measures

Before construction begins, temporary silt fence will be installed at all natural runoff outlets from the property, with straw bales or other additional measures at any concentrated locations. For this development, the east side of the site is of most concern, since the proposed construction area drains west to east toward the wetland area to the east. The timeline of proposed works will be important in the management of erosion and sediment. It is recommended that silt fence be constructed prior to or concurrently to grading activities as the site allows.

It is crucial that these proposed controls be maintained throughout construction and inspection of sediment and erosion control will be facilitated by the Contractor or McIntosh Perry staff throughout the construction period.

Silt fences will be installed where shown on the final engineering plans, specifically along the downstream property limits. The Contractor, at their discretion or at the instruction of the Owner, McIntosh Perry, MECP or Cataraqui Region Conservation Authority (CRCA), shall increase the quantity of sediment and erosion controls on-site to ensure that the development is operating as intended and no additional sediment finds its way off site. The straw bales and silt fences shall be inspected weekly and after rainfall events. Care shall be taken to properly remove sediment from the fences and straw bales as required.

Any work taking place through winter months shall be closely monitored for erosion along sloped areas. Should erosion be noted, the Contractor shall be alerted and shall take all necessary steps to rectify the situation. Should the Contractor's efforts fail at remediating the eroded areas, the Contractor shall contact McIntosh Perry to review the site conditions and determine the appropriate course of action. As the ground begins to thaw, the Contractor shall place silt fencing at all required locations as soon as ground conditions both warrant and permit. Please see the enclosed Grading Plan for additional details regarding the temporary measures to be installed.

### 5.2 Permanent Measures

Riprap will be placed at all locations that have the potential for concentrated flow. In particular, a riprap flow spreader is proposed downstream of the majority of proposed impervious surfaces. It is crucial that the Contractor ensure that the geotextile is keyed in properly to ensure runoff does not undermine the riprapped area. Additional riprap is to be placed at erosion prone locations as identified by the Contractor, Contract Administrator, Owner, MECP or CRCA staff.

It is expected that the Contractor will promptly ensure that all disturbed areas receive topsoil and seed/sod and that grass be established as soon as possible. Any areas of excess fill shall be removed or levelled as soon as possible and must be located a sufficient distance from any sensitive areas to ensure sediment is not washed out into downstream areas. As the vegetation growth within the site provides a key component to the control of sediment for the site, it must be properly maintained once established.

## 6.0 SUMMARY

- The proposed works are proposed to add both impervious and pervious surfaces, while maintaining the percentage of hard surfaces on site and avoiding adding significant connected hard-surface areas.
- Flows from the developed portion of the site will be directed east towards an existing outlet on the east side of the site, as in pre-development.
- Features including grassed swales and a riprap flow spreader are proposed and are anticipated to maintain or improve the quality of flow leaving the site from its current state.
- It is recommended that the Contractor take particular care to construct erosion and sediment controls as outlined above and any additional controls deemed necessary during construction based on conditions in the field or as recommended by McIntosh Perry or CRCA staff.



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*Ref: u:\kingston\02-documents\2022\cco-22-2999-02 rideau lakes ronald e holman mun complex\stormwater brief\cco-22-2999 stormwater management brief.docx*

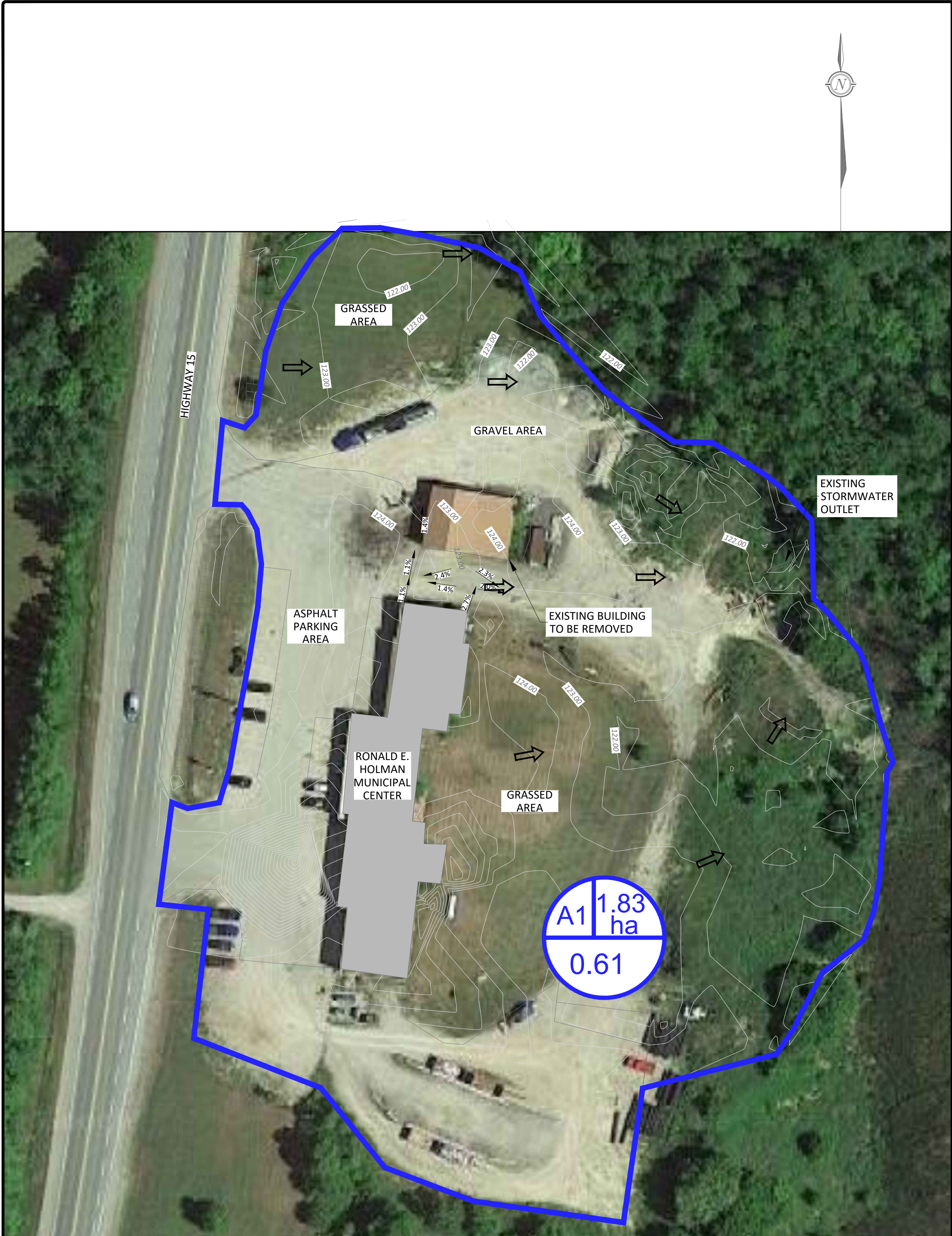


# **STORMWATER MANAGEMENT BRIEF RONALD E. HOLMAN MUNICIPAL COMPLEX**



## **APPENDIX A – PRE- AND POST-DEVELOPMENT DRAINAGE PLAN & CALCULATIONS**

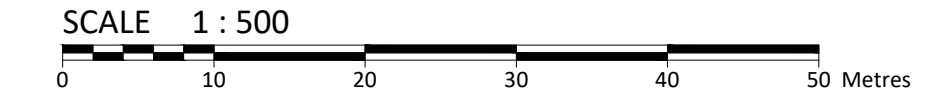
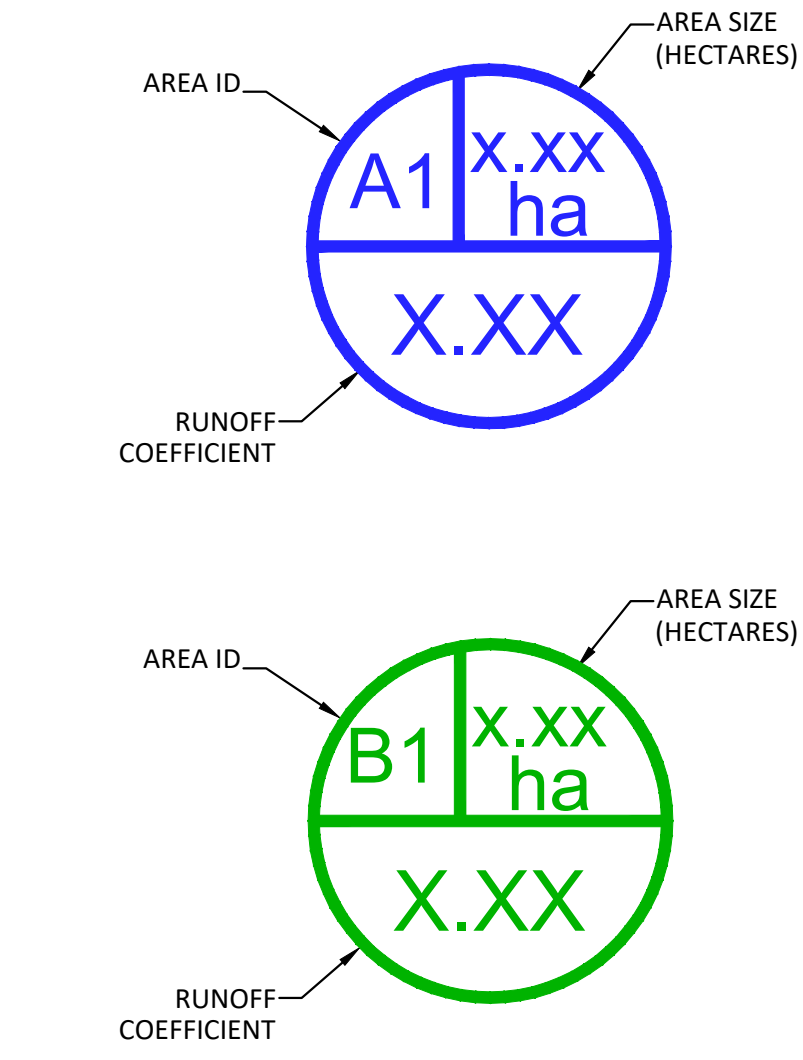




PRE-DEVELOPMENT



POST-DEVELOPMENT



0	ISSUED FOR REVIEW	MAY/04/2022
No.	Revision/Issue	Date

Check and verify all dimensions before proceeding with the work. Do not scale drawings

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Stamp: **FOR REVIEW ONLY**  
NOT FOR CONSTRUCTION

Client: TOWNSHIP OF RIDEAU LAKES  
1439 COUNTY ROAD 8  
DELTA, ON K0E 1G0

Project: RONALD E. HOLMAN MUNICIPAL COMPLEX

RIDEAU LAKES ONTARIO

Drawing Title: PRE- AND POST-DEVELOPMENT DRAINAGE PLAN

Scale: 1:500	Project Number: CCO-22-2999
Drawn by: DL	
Checked By: RC	Drawing Number:
Designed By:	



# McINTOSH PERRY

## CCO-22-2999 - RONALD E. HOLMAN MUNICIPAL CENTRE - DRAINAGE AREAS

### Pre-Development

Description	Drainage AreaID	Area (m <sup>2</sup> )	Impervious (m <sup>2</sup> )	C	Grass (m <sup>2</sup> )	C	Average C
Wetland east of site	A1	18315	10155	0.90	8160	0.25	<b>0.61</b>
	<b>Total</b>	<b>18315</b>					

Areas shown have been measured in the drawings

### Post-Development

Description	Drainage AreaID	Area (m <sup>2</sup> )	Impervious (m <sup>2</sup> )	C	Grass (m <sup>2</sup> )	C	Average C
Wetland east of site	B1	18315	8534	0.90	9781	0.25	<b>0.55</b>
	<b>Total</b>	<b>18315</b>					

All impervious areas shown have been measured in the drawings.

### Time of Concentration

Drainage Area ID	Overland Flow Distance (m)	Slope of Land (%)	Sheet Flow Distance (m)	Sheet Flow Tc	Shallow Concentrated Flow Distance (m)	Shallow Concentrated Flow Velocity (m/s)	Shallow Concentrated Tc (min)	Flow Distance in Ditch (m)	Ditch Slope (%)	Ditch Tc (min)	Total Tc	Design Tc
Description												
A1	106	2.7	30	6	76	0.34	4	0	0.0	0	10	15
Description												
B1	106	2.7	30	7	76	0.34	4	0	0.0	0	11	15

# McINTOSH PERRY

## CCO-22-2999 - RONALD E. HOLMAN MUNICIPAL CENTRE - PEAK FLOW CALCULATIONS

Pre-Development Runoff Calculations				T <sub>c</sub> (min)	I (mm/hr)		Q (L/s)	
Description	Drainage Area	Area (ha)	C		5-year	100-year	5-year	100-year
Wetland east of site	A1	1.83	0.61	15	71	119	221	370
	<b>Total</b>	<b>1.83</b>						

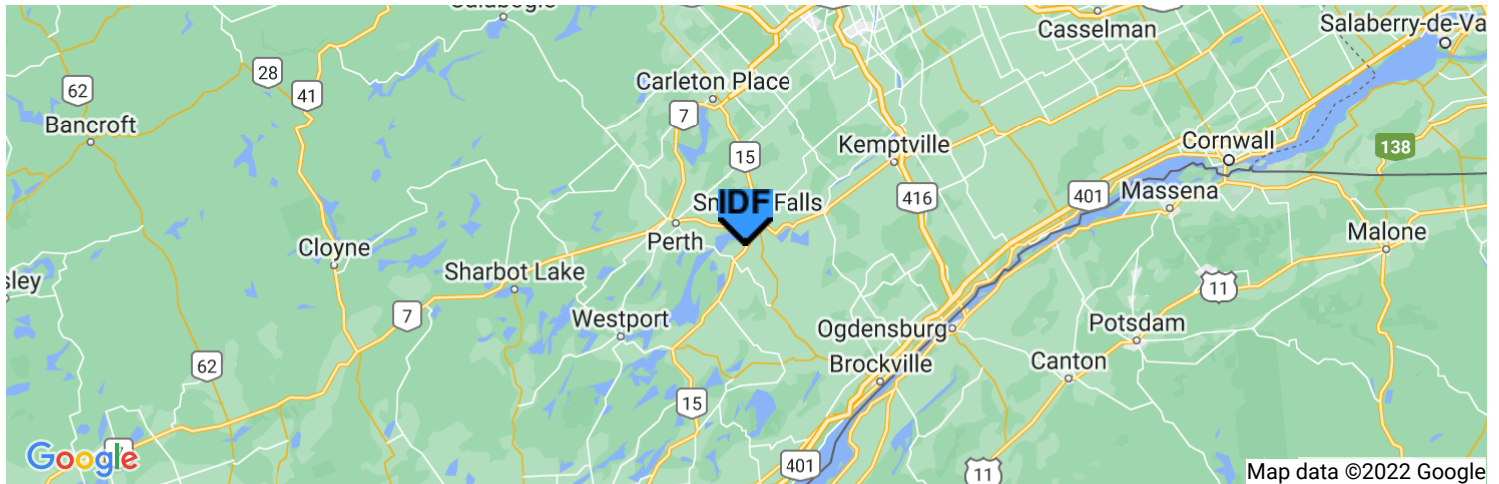
Post-Development Runoff Calculations				T <sub>c</sub> (min)	I (mm/hr)		Q (L/s)	
Description	Drainage Area	Area (ha)	C		5-year	100-year	5-year	100-year
Wetland east of site	B1	1.83	0.55	15	71	119	200	335
	<b>Total</b>	<b>1.83</b>						

**Note:** Intensities derived using the MTO IDF Curve Lookup tool for the site

## Active coordinate

44° 51' 15" N, 76° 3' 14" W (44.854167,-76.054167)

Retrieved: Thu, 14 Apr 2022 18:35:41 GMT



### Location summary

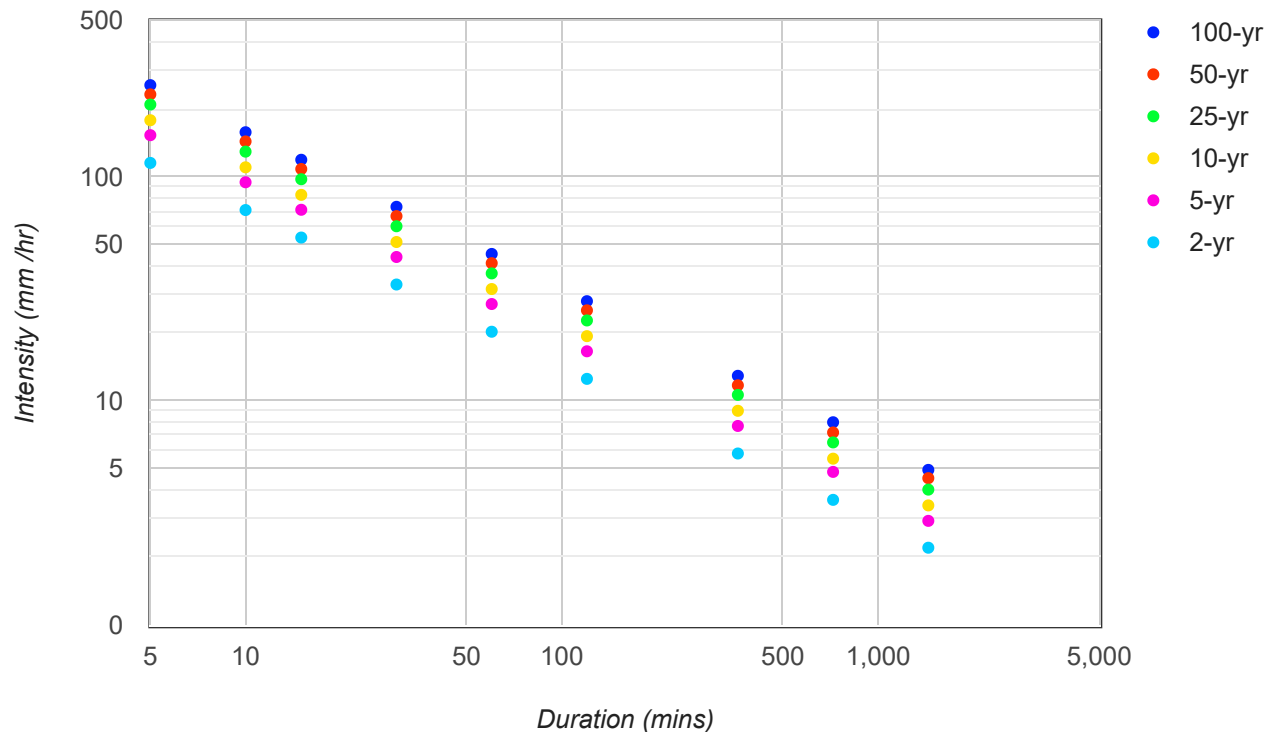
These are the locations in the selection.

**IDF Curve:** 44° 51' 15" N, 76° 3' 14" W (44.854167,-76.054167)

### Results

An IDF curve was found.

**Coordinate: 44.854167, -76.054167**  
**IDF curve year: 2010**



**Coefficient summary****IDF Curve:** 44° 51' 15" N, 76° 3' 14" W (44.854167,-76.054167)

Retrieved: Thu, 14 Apr 2022 18:35:41 GMT

**Data year:** 2010**IDF curve year:** 2010

Return period	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr
<b>A</b>	20.3	27.0	31.5	37.0	41.1	45.2
<b>B</b>	-0.699	-0.699	-0.699	-0.699	-0.699	-0.699

**Statistics****Rainfall intensity (mm hr<sup>-1</sup>)**

Duration	5-min	10-min	15-min	30-min	1-hr	2-hr	6-hr	12-hr	24-hr
<b>2-yr</b>	115.3	71.0	53.5	33.0	20.3	12.5	5.8	3.6	2.2
<b>5-yr</b>	153.4	94.5	71.2	43.8	27.0	16.6	7.7	4.8	2.9
<b>10-yr</b>	178.9	110.2	83.0	51.1	31.5	19.4	9.0	5.5	3.4
<b>25-yr</b>	210.2	129.5	97.5	60.1	37.0	22.8	10.6	6.5	4.0
<b>50-yr</b>	233.4	143.8	108.3	66.7	41.1	25.3	11.7	7.2	4.5
<b>100-yr</b>	256.7	158.1	119.1	73.4	45.2	27.8	12.9	8.0	4.9

**Rainfall depth (mm)**

Duration	5-min	10-min	15-min	30-min	1-hr	2-hr	6-hr	12-hr	24-hr
<b>2-yr</b>	9.6	11.8	13.4	16.5	20.3	25.0	34.8	42.9	52.8
<b>5-yr</b>	12.8	15.7	17.8	21.9	27.0	33.3	46.3	57.0	70.3
<b>10-yr</b>	14.9	18.4	20.8	25.6	31.5	38.8	54.0	66.5	82.0
<b>25-yr</b>	17.5	21.6	24.4	30.0	37.0	45.6	63.4	78.2	96.3
<b>50-yr</b>	19.5	24.0	27.1	33.4	41.1	50.6	70.5	86.8	107.0
<b>100-yr</b>	21.4	26.4	29.8	36.7	45.2	55.7	77.5	95.5	117.6

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Last Modified: September 2016