Robinson Consultants

Engineer's Report
John Taylor Municipal Drain
Realignment and Modifications

Prepared For:

Ottawa

Prepared By:

Robinson Consultants Inc.
Consulting Engineers

Our Project No. 15010
August 2020

Robinson Consultants

August 21st, 2020

Mayor and Members of Council
City of Ottawa
110 Laurier Ave. West
Ottawa, ON K1P 1J1

Attention: **Mr. Rick O'Connor**
City Clerk

Reference: **John Taylor Municipal Drain**
Realignment and Modifications
Engineer's Report
Our File No. B15010

Dear Sir:

This Engineer's Report is for amendments including Realignment and Modifications to the existing John Taylor Municipal Drain east of Proven Line Road, in response to an Ontario Court Order (Provincial Division -- file no. 14-6287), with regard to charges under S. 28 of the Conservation Authorities Act, R.S.O., 1990, Chapter 27, as amended. Subsequent to this Order, the City of Ottawa initiated this report under Section 78 of the Drainage Act, R.S.O. 1990, as required to do so by the Order. The John Taylor Municipal Drain Engineer's Report – Realignment and Modifications, is respectfully submitted for Council's consideration. The purpose of the report is to incorporate the required amendments to the drain resulting from an in-filling of a portion of the main drain and realignment of the drain.

All costs associated with the project, including the Engineer's Report, allowances and construction will be assessed against the landowner charged with the alteration of the drain as required by the Order.

Yours very truly,

ROBINSON CONSULTANTS INC.

A.J. Robinson, P.Eng.
Drainage Engineer

Lorne Franklin, L.E.T., C.E.T, rcca, CISEC
Licensed Drainage Technologist

cc: Dave Ryan, P.Geo., Manager, Municipal Drainage, City of Ottawa

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1.0 INTRODUCTION

1.1 History

Robinson Consultants Inc. was appointed by the City of Ottawa on February 11, 2015 to prepare a report for Realignment and Modifications of the John Taylor Municipal Drain, east of Proven Line Road, under Section 78 of the Drainage Act, RSO 1990. The on-site meeting was held on November 26, 2015 at 3:30 p.m. at the location where the drain crosses Proven Line Road. All affected landowners as well as the Rideau Valley Conservation Authority were notified of the meeting.

The original John Taylor Municipal Drain was completed under a report by J. H. Moore, O.L.S., C.E., dated December 3, 1904 and enacted by By-Law No. 346, Township of Marlborough, July 1905 and was last improved under a report by A. J. Graham Engineering Consultants Limited, dated October, 1974, revised January 1975.

Unauthorized modification of the drain was completed by Mr. Adrian Schouten on Lot 6, Con VIII former Township of Marlborough including the in-fill of a portion of the main drain and the realignment of the drain, south along Proven Line Road to the Unopened ROW between Con. VII and Con. VIII, east along the ROW to the Todd Branch and then North utilizing the existing Todd Branch, re-entering the Main drain at the outlet of the Todd Branch.

Subsequent to additional meetings regarding the depth of ditch on the Proven Line Road and the utilization of the unopened ROW, as well as additional site visits, the land owner agreed to reinstate the drain on his property from the Proven Line Road ROW to connect to the existing location on the east property line of the West ½ of Lot 6, Con. VIII.

The re-alignment of the drain as noted above only affects the property in the West ½ of Lot 6 Con VIII. Minor modifications were completed on the Todd Branch which are also incorporated in this report. The drainage area boundaries of the Main Drain, the remainder of the Todd Branch and other branch drains are not otherwise affected. A new report is required to amend the current report to incorporate modifications as required to the design and construction of the main drain in Lot 6, Con VIII and the Todd Branch in Lot 5, Con VIII.

Within the John Taylor Municipal Drain drainage basin portions of the main drain and Todd Branch as well as all other branches and contributing drains that are unaffected by the amendments included herein will remain governed by the current associated report and by-law. The assessment schedules in the existing October 1974 Engineer's Report will also continue to apply as updated from time to time by the City as a result of changes in ownership, including division of properties.

2.0 PURPOSE OF THE DRAINAGE REPORT

The City of Ottawa initiated the Amendment to the Engineer's Report under Section 78 of The Drainage Act, RSO 1990, in response to an Ontario Court Order (Provincial Division -- file no. 14-6287), with regard to charges under S. 28 of the Conservation Authorities Act, R.S.O., 1990, Chapter 27, as amended. The purpose of the Report is to amend the existing report to accommodate the alteration of the drain, modify as necessary to ensure that typical design standards and other considerations are met and to ensure that concerns of adjacent landowners with regard to the modifications are addressed.

To accommodate these changes, amendments are required to the existing Engineer's Report, entitled "John Taylor Municipal Drain", October 1974, revised January 1975, by A. J. Graham Engineering Consultants Limited.

A copy of the Ontario Court Order (Provincial Division -- file no. 14-6287) is provided for reference in **Appendix B.**

Amendments are as detailed in the following sections.

2.1 Modifications to the Existing Drain

Unauthorized modification of the drain was completed by the landowner of Lot 6, Con VIII former Township of Marlborough including the in-fill of a portion of the main drain and the realignment of the drain, south along Proven Line Road to the Unopened ROW between Con. VII and Con. VIII, east along the ROW to the Todd Branch and then North utilizing the existing Todd Branch, re-entering the Main drain at the outlet of the Todd Branch. Subsequently the landowner of the West ½ of Lot 6, Con VIII agreed to the reconstruction of the main drain easterly across the West ½ of Lot 6, Con VIII then south to connect to the existing main drain at the property line between the West ½ of Lot 6 and the East ½ of Lot 6, Con VIII.

2.2 Future Maintenance

A new Engineer's Report will provide for the realignment and modifications of the John Taylor Municipal Drain east of Proven Line Road through the West ½ of Lot 6, Con. VIII and to the Todd Branch between the unopened ROW between Con VII and VIII and the John Taylor Municipal Drain.

Structures, including those belonging to the road authority will be reviewed and if required improved under this report.

Once the modifications have been finalized, regular maintenance can be completed, under the direction of the Drainage Superintendent, to the new cross-sections and profiles.

3.0 EXISTING CONDITIONS

3.1 Location of the Drain

The portion of the John Taylor Municipal Drain to be modified by this report commences at the east end of the culvert crossing Proven Line Road in the West ½ of Lot 6, Con VIII, Geographic Township of Marlborough. The original alignment of the drain was south-easterly through the West ½ of Lot 6 as shown on Dwg. 15010-A1. Stations referenced from the 1975 Report are provide in imperial measurement (feet). The new alignment starts at Station 10+589.1 (Station 302+05 of the 1975 report) at the property line between the East ½ of Lot 6 and the West ½ of Lot 6, then continues northerly on Lot 6 Con VIII to Station 10+824.1 (new chainage) then westerly across the West ½ of Lot 6, Con VIII to Station 11+101.4 (Station 314+54 of the 1975 report) at the culvert under Proven Line Road.

To provide for future maintenance a new profile drawing has been included in this report from the location of the Todd Branch at new Station 10+000 (Station 282+72 of the 1975 report) and the culvert crossing Proven Line Road referenced previously. Between new Station 10+000 (Station 282+72 of the 1975 report) and 10+589.1 (Station 302+05 of the 1975 report) the alignment and profile are the same as in the 1974 report while being converted to metric.

A new profile for the Todd Branch between Station 0+000 (Station 00+00 of the1975 report) at the main drain and Station 0+358.7 (Station 11+77 of the 1975 report) is implemented by this report.

3.2 Drawings Forming Part of the Engineer's Report

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Drawing 15010-A1 is a Site Plan of the area modified by this report.

Drawing 15010-A2 is a Drainage Area Plan and provides soils information and sub-catchment areas.

Drawing 15010-P1 and P2 includes a profile of the John Taylor Municipal Drain modified by this report and **Drawing 15010-P3** is a profile of the portion of the Todd Branch modified by this report.

Drawing 15010-XS1 includes the design cross-sections of the modified sections of the Main Drain and the Todd Branch.

A Rock and Clay Berm is used to ensure flow is directed along the proposed alignment. The Typical Rock and Clay Berm Detail is included on **Std. Dwg. No. 14-A**.

All drawings and standard drawings are provided in **Appendix A.**

4.0 AREA REQUIRING DRAINAGE

The area requiring drainage under this report for Realignment and Modifications is limited to that reflected in the Court Order.

5.0 DESIGN CONSIDERATIONS

5.1 Drain Construction Limits

The Limits of Construction for the amendments of the John Taylor Municipal Drain lie within Lots 6, Con. VIII geographic Township of Marlbourough. The location of the drainage area, sub-catchment areas and the drain are shown on **Drawing 15010-A1**. Modifications to the John Taylor Municipal Drain commence at new Station 10+589.1 (Station 302+05 of the 1975 report), at the property line between the East ½ and West ½ of Lot 6 Con. VIII and terminate at Station 11+101.4 (Station 314+54 of the 1975 report) at the east end of the culvert crossing Proven Line Road. Modifications to the Todd Branch commence at the main drain at Station 0+000 (Station 00+00 of the 1975 report) and terminate at Station 0+358.7 (Station 11+77 of the 1975 report) at the north limit of the unopened road allowance between Con. VII and VIII.

The culvert under Proven Line Road will be upgraded by the City of Ottawa independent of the modifications to the John Taylor Municipal Drain and the Todd Branch. For reference the proposed design drawing is attached as **Dwg. No. 008 Contract No. CP000500,** provided in **Appendix A.**

5.2 Soil Characteristics

Soils within the basin are mainly sandy loams and stony loams. Soil groups found within the John Taylor Municipal Drain watershed are listed in **Table 5.1** and shown on Drawing No. 15010-A2.

Table 5.1
Soil Descriptions

Soil Type	Symbol	Description	HSG	CN (Crop)	CN (Pasture)	CN (Woodlot)
Farmington	F4	**Farmington**	A	66	58	50
		10-50cm of neutral to alkaline flaggy sandy loam, fine sandy loam, loamy fine sand, or loamy sand undifferentiated drift material, over Paleozoic limestone or dolomite bedrock.				
		Drainage/Stoniness/Slope				
		Very gently sloping and very stony with good drainage				

Table 5.1 cont'd
Soil Descriptions

Soil Type	Symbol	Description	HSG	CN (Crop)	CN (Pasture)	CN (Woodlot)
Farmington-Greely	F3-GY	**Farmington-Greely**	C	82	76	71
		Farmington-10-50cm of neutral to alkaline flaggy sandy loam, fine sandy loam, loamy fine sand or loamy sand undifferentiated drift material, over Paleozoic limestone or dolomite bedrock. Greely – 40-160cm of moderately to well decomposed forest peat, over loamy or sandy material and Paleozoic bedrock.				
		Drainage/Stoniness/Slope				
		Nearly level and slightly stony with poor drainage				
Farmington-Greely	F6-GY	**Farmington-Greely**	A	66	58	50
		Farmington-10-50cm of neutral to alkaline flaggy sandy loam, fine sandy loam, loamy fine sand or loamy sand undifferentiated drift material, over Paleozoic limestone or dolomite bedrock. Greely – 40-160cm of moderately to well decomposed forest peat, over loamy or sandy material and Paleozoic bedrock.				
		Drainage/Stoniness/Slope				
		Nearly level and moderately stony with good drainage				

Table 5.1 cont'd
Soil Descriptions

Soil Type	Symbol	Description	HSG	CN (Crop)	CN (Pasture)	CN (Woodlot)
Organic	H1	**Organic**	CD	84	79	74
		160cm or more of moderately to well decomposed forest peat, over loamy or sandy material.				
		Drainage/Stoniness/Slope				
		Level with poor to very poor drainage				
Farmington	F5	**Farmington**	B	74	65	58
		10-50cm of neutral to alkaline flaggy sandy loam, fine sandy loam, loamy fine sand, or loamy sand undifferent-iated drift material, over Paleozoic limestone or dolomite bedrock.				
		Drainage/Stoniness/Slope				
		Nearly level and slightly stony with imperfect drainage				
OKA	O1	**OKA**	A	66	58	50
		Neutral to alkaline gravelly to very gravelly coarse sandy loam, loamy coarse sand, or coarse sand marine material				
		Drainage/Stoniness/Slope				
		Very gently sloping and slightly stony with excessive to good drainage				

Table 5.1 cont'd
Soil Descriptions

Soil Type	Symbol	Description	HSG	CN (Crop)	CN (Pasture)	CN (Woodlot)
OKA	O1	**OKA**	A	66	58	50
		Neutral to alkaline gravelly to very gravelly coarse sandy loam, loamy coarse sand, or coarse sand marine material				
		Drainage/Stoniness/Slope				
		Very gently sloping and slightly stony with excessive to good drainage				
Greely	GY1	**Greely**	CD	84	79	74
		40-160cm of moderately to well decomposed forest peat, over loamy or sandy material and Paleozoic rock				
		Drainage/Stoniness/Slope				
		Level with poor to very poor drainage				
Goulbourn	GB1	**Goulbourn**	CD	84	79	74
		40-160cm of moderately to well decomposed forest peat, over loamy or sandy material				
		Drainage/Stoniness/Slope				
		Level with poor to very poor drainage				
North Gower	NG2	**North Gower**	C	82	76	71
		Neutral to alkaline silty clay loam or clay loam marine material, over silty clay or clay marine material at a depth greater than 1m				
		Drainage/Stoniness/Slope				
		Nearly level and moderately stony with poor drainage				

Table 5.1 cont'd
Soil Descriptions

Soil Type	Symbol	Description	HSG	CN (Crop)	CN (Pasture)	CN (Woodlot)
Grenville	G3	**Grenville**	C	82	76	71
		Alkaline stony sandy loam, fine sandy loam, loam, or silt loam glacial till material				
		Drainage/Stoniness/Slope				
		Nearly level and slightly stony with poor drainage				
Farmington	F3	**Farmington**	C	82	76	71
		10-50cm of neutral to alkaline flaggy sandy loam, fine sandy loam, loamy fine sand, or loamy sand undifferentiated drift material, over Paleozoic limestone or dolomite bedrock.				
		Drainage/Stoniness/Slope				
		Nearly level and slightly stony with poor drainage				

5.3 Hydrologic Modelling

The SWMHYMO model was developed to generate runoff rates from rainfall events for existing and proposed conditions. The rainfall events used for the generation of these hydrographs are the 6 hour 2, 5, 10, 25, 50 and 100 years design storms.

Rainfall hydrograph ordinates for the various events were calculated using data obtained from the Ottawa International Airport, Atmospheric Environment Service rain gauge. The SCS type II storm distribution was used. An average soil moisture condition was assumed for all flow simulations. Other parameters required for hydrograph generation are basin area, initial abstraction, slope, fraction impervious and soil curve number.

For modeling purposes, the watershed was divided into 2 sub-catchments and 1 channel reach. Each sub-catchment, shown on Drawing No. 15010-A2, was described by the various hydrologic parameters required by the model.

The sub-catchments were modeled using the CALIB WILHYD routine that requires three basic parameters, CN number, time to peak (TP), and the shape factor K. The CN number or Composite Number is used by the model to transform rainfall inputs into runoff; therefore, the parameter reflects all runoff related phenomena such as infiltration, interception and depression storage. The time to peak, and shape factor were calculated using the Federal Aviation Agency (FAA) Airport Method.

5.4 Hydrologic Modeling Results

The rainfall-runoff relationship of the John-Taylor Municipal Drain was evaluated for existing land use conditions. This provided flow estimates for the watershed under existing conditions. The total instantaneous peak flows at key locations along the Drain are presented in **Table 5.2**. and should be reviewed in conjunction with Drawing No. 15010-A2, which shows a plan view of the watershed. The flows are calculated at the downstream limit of the sub-catchment, or the outlet of the sub-catchment basin.

Table 5.2
Peak Flow Estimates
Existing Conditions

Location	Peak Flow (m^3/s)					
	2 yr	5 yr	10 yr	25 yr	50 yr	100 yr
Main Drain						
Sta. 11+101.4 – 10+000	1.038	2.442	3.637	5.381	6.746	8.219

5.5 Secondary Flow Check

Modeled flows were compared with flow estimates obtained from the MTO regional equation $Q_{25} = C\ A^{0.75}$.

Q_{25} = 25 year flow
C = watershed class
A = area in km^2

Using this method, the Q_{25} was found to be 4.40 m^3/s at the confluence of the drain with the existing Todd Branch. This is approximately 20.1% lower than the SWMHYMO peak flow.

5.6 Drain Capacity

The existing and proposed bankfull capacities at key locations along the drain are presented in **Table 5.3**.

Table 5.3
Bankfull Channel Capacity
Existing Conditions

Location	Existing Capacity (m^3/s)	Proposed Capacity (m^3/s)	Peak Flow (m^3/s)					
			2 yr	5 yr	10 yr	25 yr	50 yr	100 yr
Main Drain								
11+101.4 to 10+940	0.09	2.69	1.038	2.442	3.637	5.381	6.746	8.219
10+940 to 10+860	0.3	3.29	1.038	2.442	3.637	5.381	6.746	8.219
10+860 to 10+580	2.0	1.65	1.038	2.442	3.637	5.381	6.746	8.219
10+580 to 10+000	6.42	6.42	1.038	2.442	3.637	5.381	6.746	8.219

5.7 Side Slopes (Typical Cross Section)

The existing and proposed side slopes (typical minimum 2:1) at various sections of the John Taylor Municipal Drain are as shown on Drawing No. 15010-XS1.

5.8 Capacity of Culverts

5.8.1 General

The capacities of existing culverts along the John Taylor Municipal Drain were calculated using MTO nomographs. The modeled flow at these culverts was then used to verify if sufficient capacity exists. A summary of capacities and flows is included in **Table 5.4**.

Table 5.4
Summary of Culvert Capacities
Existing Conditions

Location	Existing Capacity (m^3/s)	Peak Flow (m^3/s)					
		2 yr	5 yr	10 yr	25 yr	50 yr	100 yr
Access Culverts							
Sta.10+220	3.2	1.038	2.442	3.637	5.381	6.746	8.219
Roadway Culverts							
Sta. 11+100 (Proven Line Road)	3.2	1.037	2.438	3.633	5.375	6.74	8.211

5.8.2 Culverts Requiring Replacement

The culverts that require replacement to increase the capacity and/or lowering to accommodate the new drain profile are listed in **Table 5.5**.

Table 5.5
Capacities of Culverts that Require Replacement

Culvert No. and Location	Design Return Period (year)	Existing		Proposed	
		Capacity (m^3/s)	Size (mm)	Capacity (m^3/s)	Size (mm)
Main Drain – Access Culverts					
Sta.10+215	5	3.2	1500mm Ø CSP	2.6	**1400mm Ø CSP
Main Drain – Roadway Culverts					
Sta. 11+100 (Proven Line Road)	25	3.2	1500mm Ø CSP	5.2	2 - 1400mm Ø CSP

Note: Existing capacity is based on inlet control with a HW/D equal to 1 for comparison purposes only.
Note** Culvert as noted (**) is within acceptable tolerances and, as such, may remain in place until such time as it is required to be replaced (poor condition) under future maintenance or otherwise at the discretion of the Drainage Superintendent.

5.8.3 New Access Culverts

New required farm access culverts are listed in **Table 5.6**.

Table 5.6
Capacities of New Required Culverts

Culvert No. and Location	Design Return Period (year)	Existing		Proposed	
		Capacity (m^3/s)	Size (mm)	Capacity (m^3/s)	Size (mm)
Main Drain – Access Culverts					
Sta.10+950(to be field determined with the property owner)	5	N/A	N/A	2.24	1630mm x 1120mm CSPA

Note: Existing capacity is based on inlet control with a HW/D equal to 1 for comparison purposes only.

5.9 Clearing

Landowners are advised that the Contractor will clear only those trees, which may affect its operation within the working area. All trees having a diameter of 150 mm or greater shall be cleared of limbs and cut in reasonable lengths and neatly piled clear of the drain so that the wood may be salvaged by the property owners. All brush, limbs and other debris resulting from the clearing operation shall be removed from the site at the Contractor's expense.

5.10 Excavation

The construction of the John Taylor Municipal Drain modifications will be an open channel with design grades, side slopes and ditch bottom widths as specified on the design profile Drawing No. 15010-P1 to 15010-P2, and Cross-Section Drawings No. 15010-XS1. The existing drain will be modified and relocated between new Station 10+589.1 and new Station 11+101.4.

A portion of the Todd Branch has been modified between new Station 0+000 and new Station 0+348 to the ditch profile shown on Drawing No. 15010-P3 with side slopes and bottom width as shown on Drawing 15010-XS1.

5.11 Erosion Control Measures

Associated with the drain relocation, erosion control measures will be placed at bends which are subject to erosion, at tile outlets, at culverts, confluences, and areas of bank instability. Erosion control measures may be of an engineering type – Rock Protection with filter cloth as per Std. Dwg. No. 1, provided in **Appendix A.**

5.12 Rideau Valley Conservation Authority and Department of Fisheries and Oceans Mitigation Measures

Typical measures recommended by the Rideau Valley Conservation Authority (RVCA) and the Department of Fisheries and Oceans (DFO) for the type of work are listed below. When implemented, these measures should allow for reasonable mitigation of the proposed construction.

The proposed Municipal Drain construction must abide by timing window restrictions, which include "no in-water work between March 15th and June 30th to protect local fish spawning populations".

- Finished channel to be as narrow and deep as possible.
- Riparian vegetation can be removed from either bank (preferably not both).
- Minimize tree removal.
- Install sediment & erosion control measures.
- Bends in channel to be stabilized.
- Work in water only when flows not elevated.

- Where applicable, measures must be implemented to protect any hibernating turtles during the period from October 15th to March 15th and nesting turtles from March 15th to June 30th.

The above noted requirements have been addressed in the design of the proposed works and are anticipated to form part of the permitting requirements by the RVCA and DFO. Where applicable, the permit conditions will be incorporated into the construction contract.

5.13 Disposal of Excavated Materials

The excavation of the drain shall be completed along all sections as previously described.

In excavation areas, all suitable material(s) will be placed outside the required buffer area, on the east or north side of the drain. All material shall be spread on the adjacent lands no closer than 5 metres to the top of slope (buffer strip) and to a maximum depth of 150mm for agricultural fields, and 300 mm for non-agricultural areas. Drainage openings shall be constructed wherever required throughout the disposal area at a maximum spacing of 50 meters for agricultural land and 100 meters for non-agricultural land. All drainage openings shall be maintained and the soil spread to accommodate these drainage openings to ensure that the drainage from adjacent land is not impeded. Any non-suitable material, such as rock, boulders, hard-pan or garbage/debris, shall be disposed of on the adjacent property, in an area of the property designated by the owner.

In areas scheduled for the spreading of material, owners who wish to pay the Contractor to have the Contractor dispose of the excavated material off-site rather than spread the material may make arrangements directly with the Contractor, subject to approval by the Drainage Engineer.

All unsuitable material and debris such as boulders, hardpan, etc. that is not designated for off-site disposal shall be disposed of by the Contractor in an area on the landowner's property as designated by the landowner. Suitable materials, which would otherwise be disposed of, such as rock excavated from the site that meets the standards for rock protection, or may otherwise be used in the implementation of bioengineering erosion control, fish habitat measures, or habitat mitigation may be reused on-site. Property owners who wish to pay the Contractor to have the Contractor dispose of the unsuitable material and debris off-site may make arrangements directly with the Contractor, subject to approval by the Drainage Engineer.

5.14 Permit Requirements and Underground Utilities

It may be expected that the Contractor will have to fill out an application for an encroachment permit within the City right-of-ways prior to the commencement of construction. It is also expected that underground Utility lines may be encountered during the construction of the project. A copy of the drawings must be submitted by the Contractor to all area Utilities, so that they may show underground plant on the plan. A copy of the drawings so marked, must be returned to the Drainage Engineer prior to commencing construction.

The Contractor will also be required to arrange with all Utilities to mark all underground cables or pipelines in the field before commencing construction. If any owner knows of other underground utilities please make the Drainage Engineer aware of such.

6.0 EROSION CONTROL

6.1 Seeding

Main Drain and Todd Branch

To help protect the drain banks against erosion, all disturbed banks and spread spoils in non-agricultural areas shall be hand seeded within 48 hours of construction. Disturbed areas due to construction in the 5 metre buffer strip shall also be hand seeded after construction. The seed mixture is to be as follows or an alternate approved by the Drainage Engineer:

Sow Rate (minimum)	100 kg/ha
Creeping Red Fescue	60%
Canada Bluegrass	20%
White Clover	3%
Perennial Rye	12%
Red Top	5%

6.2 Buffer Strips

It is recognized that buffer strips have a role in reducing bank erosion, reducing pollution (pesticides and nutrient runoff) and improving fish and wildlife habitat by providing shading and habitable areas, as well as reducing water temperatures. The provision and maintenance of adequate buffer strips is environmentally friendly and reduces long term costs associated with drain maintenance for all properties assessed on the drain and is a benefit to all. Therefore, following the guidelines noted below is strongly recommended.

Where the drain passes through cropland, where soil erosion is now occurring, or land where the farmer indicates the intention of tilling the soil for continuous field crop production, a strip of uncultivated land at least 5 m wide along the edge of the drain is required. It is recommended that the owner take hay off this buffer strip, and that the soil not to be tilled.

6.3 Fencing

Where fences are encountered or for access to the drain, it will be the Contractor's responsibility to remove the existing fence and re-erect the fence in a condition equal to or better than the condition of the fence prior to the commencement of the work.

6.4 Rock Protection

Associated with the drain improvements, Rock Protection with filter cloth will be placed at the following typical areas and as per Drawing Nos. 15010-A2, 15010-P1 to 15010-P3, and Standard Drawing No. 1. Rock Protection at tile drain outlets shall be installed at all outlets in accordance with Standard Drawing No. 2.

- Rock Protection at channel ends of realignment sections
- Rock Protection at bends
- Rock Protection at storm sewer outlets
- Rock Protection at tile drain outlets
- Rock Protection at culverts and concrete structures
- Rock Protection at confluence of branch drains

6.5 Flow Checks and Sediment Traps

6.5.1 Excavation

Sediment trap excavation shall be 15 m in length and 0.5 m below the proposed grade (drain bottom), directly upstream of the flow checks, as per Standard Drawing No. 3, Straw Bale Checks or Standard Drawing No. 6, Rock Checks.

6.5.2 Sediment Removal

Accumulated sediment in sediment traps shall be removed as necessary to affect maintenance repairs and immediately prior to the removal of the flow check.

6.5.3 Locations

Straw Bale or Rock flow checks shall be installed as indicated in Standard Drawing No. 3 and No. 6 to prevent sediment passage from the upstream to the downstream side of the flow check, and shall be installed at all specified locations as per Drawing No. 15010-A1, and 15010-P1 to 15010-P3.

6.5.4 Long-Term Use

Excavated sediment basins will remain in place following removal of the flow checks. It is anticipated that these basins will continue to serve as localized concentrated cleanout areas. Removal of sediment in these cleanout areas is expected to have long term benefits by reducing the need for full scale maintenance along the length of the drain.

7.0 ASSESSMENTS

7.1 General

The Assessment Schedules in the "John Taylor Municipal Drain", October 1974, Revised January 1975 by A. J. Graham Engineering Consultants Limited report shall continue to govern assessments on the drain for future maintenance. The City will update the assessment schedules for changes in property ownership, severances, etc. as required.

The initial costs associated with the Engineer's Report, allowances, construction and other costs are assessed to and will be the responsibility of the property owner of the land in the West ½ of Lot 6, Con VIII.

8.0 WORKING SPACE

A right-of way of 40m each way from the top of bank is designated for the initial construction and relocation.

A right-of-way of 25 m from the top of the bank is designated for future access and maintenance along the side of the drain that is best suited for clean-out as determined by the Drainage Superintendent.

9.0 CHANGING THE SCOPE OF THE WORK

Should changes, deletions or extensions in construction be requested or required after the bylaw is passed, the report must be amended and a revised bylaw must be passed. Since this project will be constructed through provisions of the Drainage Act, a bylaw must first be passed to authorize the work. Changes to the work are not to be undertaken without a change in the bylaw unless the changes can generally be completed for less than the contingency estimate or 10% of the construction costs. If it is desired to make any substantial increase or decrease in the scope of work as designed it will be necessary that either a revised report be prepared and processed, or if the desired works are considered to be a gross error in accordance with the Drainage Act, that an application be made to the Agricultural, Food and Rural Affairs Appeal Tribunal (Drainage Tribunal) pursuant to Section 58(4) of the Drainage Act to obtain approval for such change. If unforeseen obstacles are encountered and can be completed for the amount within the contingency allowance, the bylaw does not require modification. If any individual or group of owners require additional work and are

prepared to apply for such and do not wish to be part of the Drainage Works they may make their own arrangements with the Contractor, but the Drainage Engineer must approve such in order that no detrimental effect to the drain or its maintenance results.

10.0 MAINTENANCE

Future maintenance of the project shall be the responsibility of the City of Ottawa, although the individual owners shall be responsible for periodic inspection of the drain and reporting maintenance problems to the City.

11.0 MINISTRY OF ENVIRONMENT, CONDSERVATION AND PARKS – SPECIES AT RISK

Pre-Screening of the proposed John Taylor Municipal Drain was completed by the Ministry of Environment, Conservation and Parks regarding the Species at Risk (SAR) Legislation, and a "Letter of Advice" was issued. The Screening Report and Letter of Advice are provided in **Appendix B**.

11.1 Species at Risk

Any Species at Risk are outlined in the letter from the Ministry of Environment, Conservation and Parks which is included in Appendix B.

12.0 RIDEAU VALLEY CONSERVATION AUTHORITY PERMIT

The John Taylor Municipal Drain report was circulated to the Rideau Valley Conservation Authority for review and permit. A copy of the Permit Letter, including conditions is included in **Appendix B.**

13.0 DEPARTMENT OF FISHERIES AND OCEANS – CLASS AUTHORIZATION

The Federal Department of Fisheries and Oceans (DFO) provide review of projects where additional review is required by the completion of a self-screening process. Authorization under the Fisheries Act may be required as an outcome of the review process.

The affected portion of the drain is classified by the DFO as Class E (permanent, warm water, with sensitive species present), DFO ID No. 98020, last updated in 2017. However, it is noted that the original alignment affected by this classification has been previously permanently alter (infilled) by the owner and the proposed work provides restoration of the drain, completed under court order and the authority of the Drainage Act, R.S.O., 1990

In conjunction with the Draft Engineer's Report consultation was conducted with the DFO to determine suitable restoration and mitigation measures such that work may be completed with no net impact on fish and fish habitat. Robinson Consultants proposed the implementation of measures, applicable to the restoration of a "Class E" drain (as per the previous classification).

Implementation of these measures will minimize or eliminate the impact on this or adjacent watercourses, fish, sensitive or endangered species and have been incorporated into this report and the related plans and specifications.

Through consultation with the DFO it was determined that the proposed work could be completed in conformance with the Class Authorization process. All applicable conditions have been addressed by this Report and where applicable, will be incorporated into contract requirements and specifications for the construction of the John Taylor Municipal Drain. A copy of the Class Authorization is provided in Appendix B of this report.

All of which is respectfully submitted,

ROBINSON CONSULTANTS INC.

A.J. Robinson, P.Eng.
Drainage Engineer

Lorne Franklin, L.E.T., C.E.T., rcca, CISEC
Licensed Engineering Technologist
Drainage Services

LICENSED PROFESSIONAL ENGINEER
A. J. ROBINSON
20/08/21
PROVINCE OF ONTARIO

Professional Engineers Ontario
20/08/21
Licensed Engineering Technologist
Name: L. FRANKLIN
Number: 100501335
Limitations: Providing plans, non-technical content of reports and other non-technical advice for submission under the Ontario Drainage Act.
Association of Professional Engineers of Ontario

Appendix A

Drawings and Standard Details

Drawing No.15010-A1, Site Plan

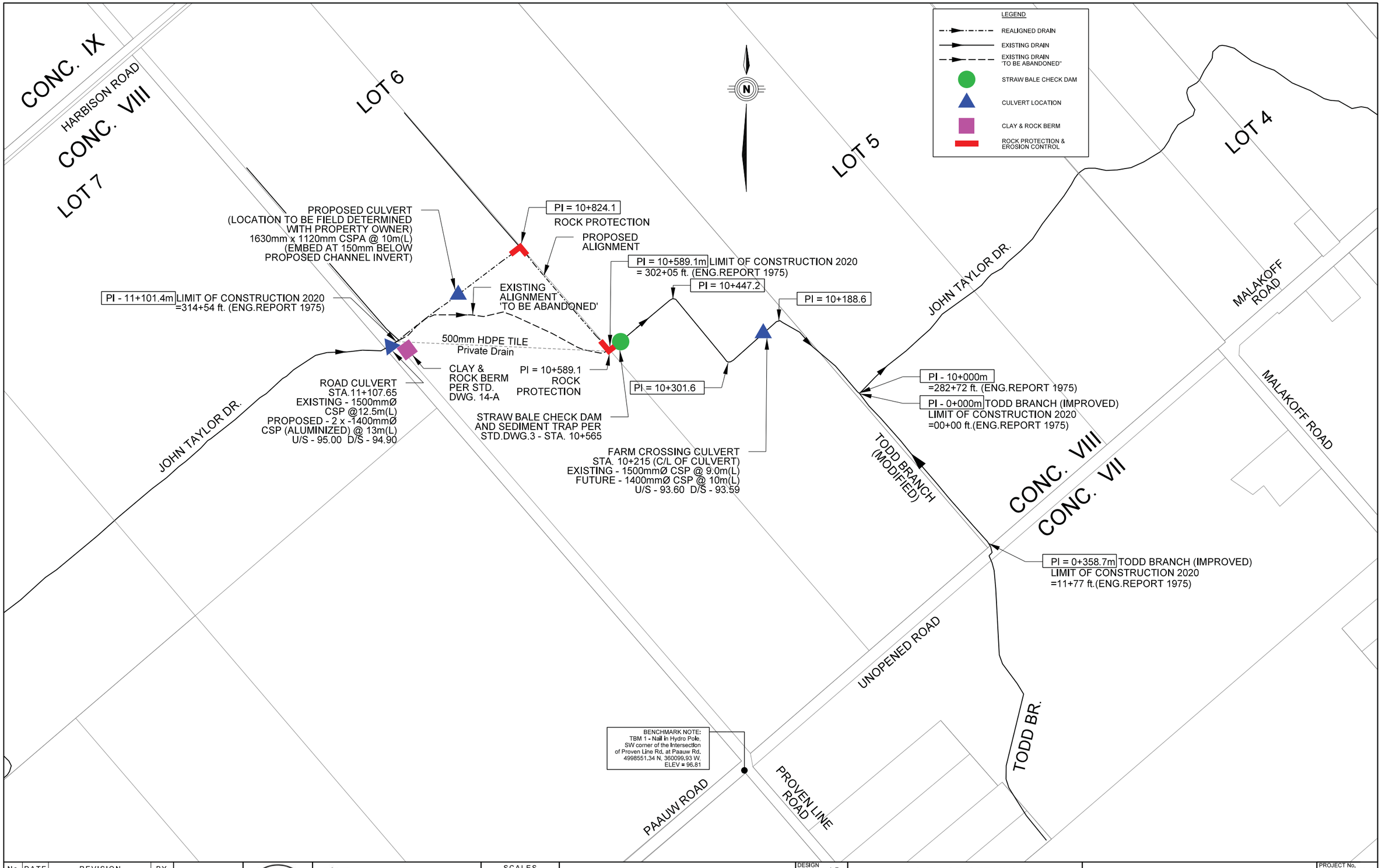
Drawing No. 15010-A2, Drainage Area Plan
Soils Information

Drawing No.15010-P1, P2 & P3, Profiles

Drawing No.15010-XS1, Cross Sections

Standard Drawing Nos. 1, 2, 3, 10 & 14-A

Drawing 008, Contract CP000500



No.	DATE	REVISION	BY
1	Apr.20/20	ISSUED FOR CITY REVIEW	L.F.
2	May22/20	ISSUED FOR AGENCY REVIEW	L.F.
3	Aug20/20	ISSUED FOR DISTRIBUTION	L.F.

LICENSED PROFESSIONAL ENGINEER — A. J. ROBINSON — 20/08/21 — PROVINCE OF ONTARIO

Professional Engineers Ontario — 20/08/21 — Licensed Engineering Technologist — Name: L. FRANKLIN — Member: 100561135 — Limitations: Providing plans for technical content of reports and other non-technical advice for submission under the Ontario Drainage Act. — Association of Professional Engineers of Ontario

SCALES
0 50 100 HORIZONTAL
0 50 100 VERTICAL

Robinson Consultants
CONSULTING ENGINEERS
350 Palladium Drive
Ottawa, Ontario, K2V 1A8
Telephone (613) 592-6060

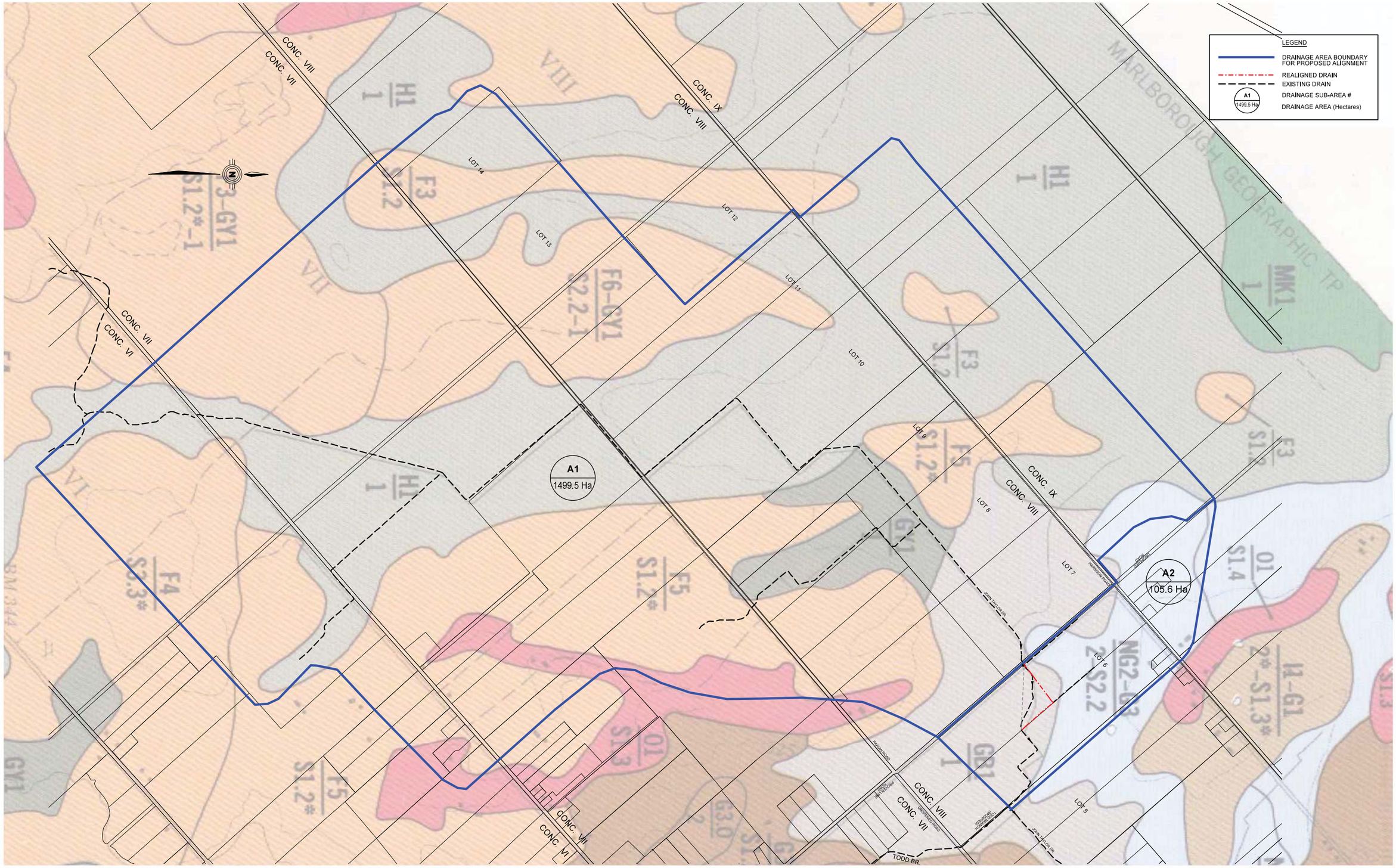
DESIGN L.E.
CHECKED L.F.
DRAWN I.M.
CHECKED L.F.
APPROVED A.J.R.

CITY OF OTTAWA

JOHN TAYLOR MUNICIPAL DRAIN

SITE PLAN

PROJECT No. 15010
CONTRACT No.
DATED MAY 2020
DWG. No: 15010-A1



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HORIZONTAL
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VERTICAL

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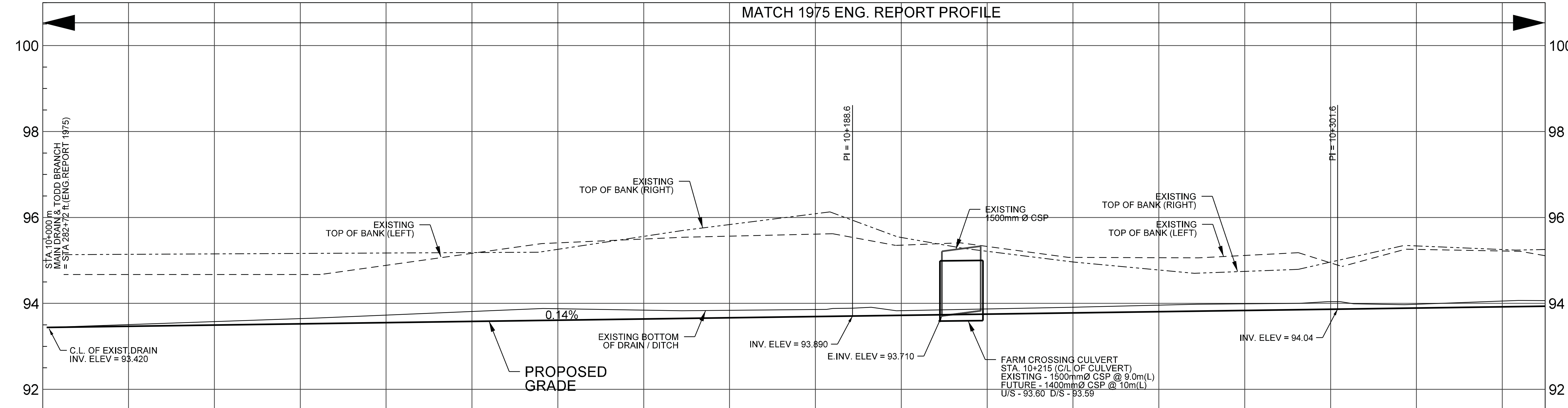
CHECKED	L.F.
DRAWN	I.M.
CHECKED	L.F.
APPROVED	A.J.R.

CITY OF OTTAWA

JOHN TAYLOR MUNICIPAL DRAIN

DRAINAGE AREA PLAN WITH SOILS INFORMATION

PROJECT No.	15010
CONTRACT No.	
DATED	MAY 2020
DWG. No:	15010-A2



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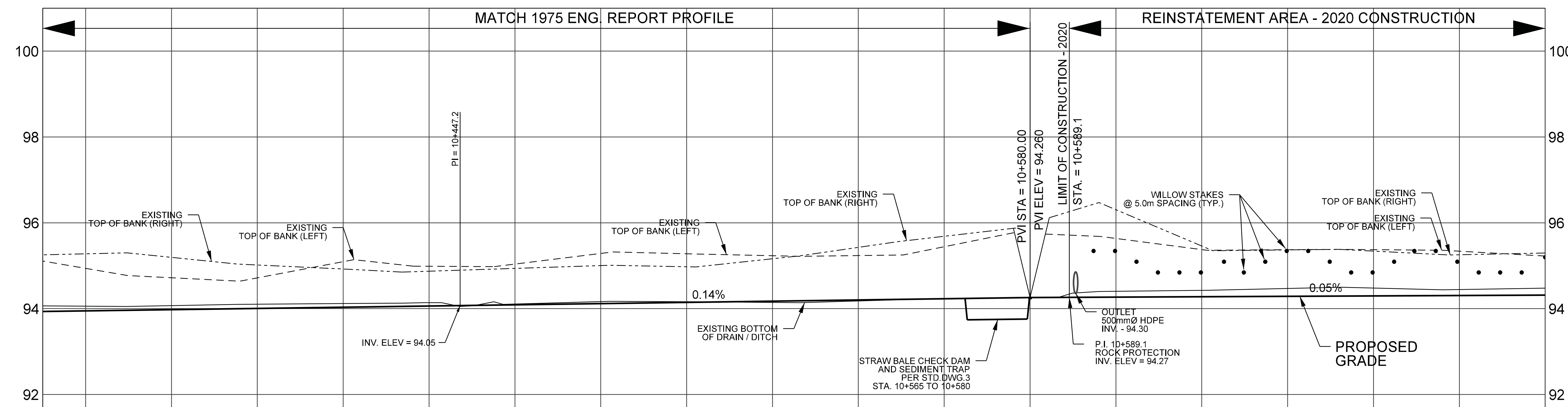
EXIST. ℄ DITCH		*93.51*	*93.58*	*93.65*	*93.73*	*93.81*	*93.87*	*93.84*	*93.84*	*93.86*			*93.91*	*93.96*	*93.99*	*94.04*	*93.98*	*94.06*
STATION	10+000	10+020	10+040	10+060	10+080	10+100	10+120	10+140	10+160	10+180	10+200	10+220	10+240	10+260	10+280	10+300	10+320	10+340



PROP. ℄ DITCH	93.95	93.98	94.00	94.03	94.06	94.09	94.12	94.15	94.17	94.20	94.23	94.26	94.27	94.28	94.29	94.30	94.31	94.32
EXIST. ℄ DITCH	*94.06*	*94.07*	*94.10*	*94.12*	*94.14*	*94.11*	*94.16*	*94.16*	*94.15*	*94.18*	*94.23*	*94.26*	*94.40*	*94.43*	*94.47*	*94.48*	*94.45*	*94.48*
STATION	10+360	10+380	10+400	10+420	10+440	10+460	10+480	10+500	10+520	10+540	10+560	10+580	10+600	10+620	10+640	10+660	10+680	10+700

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SCALES
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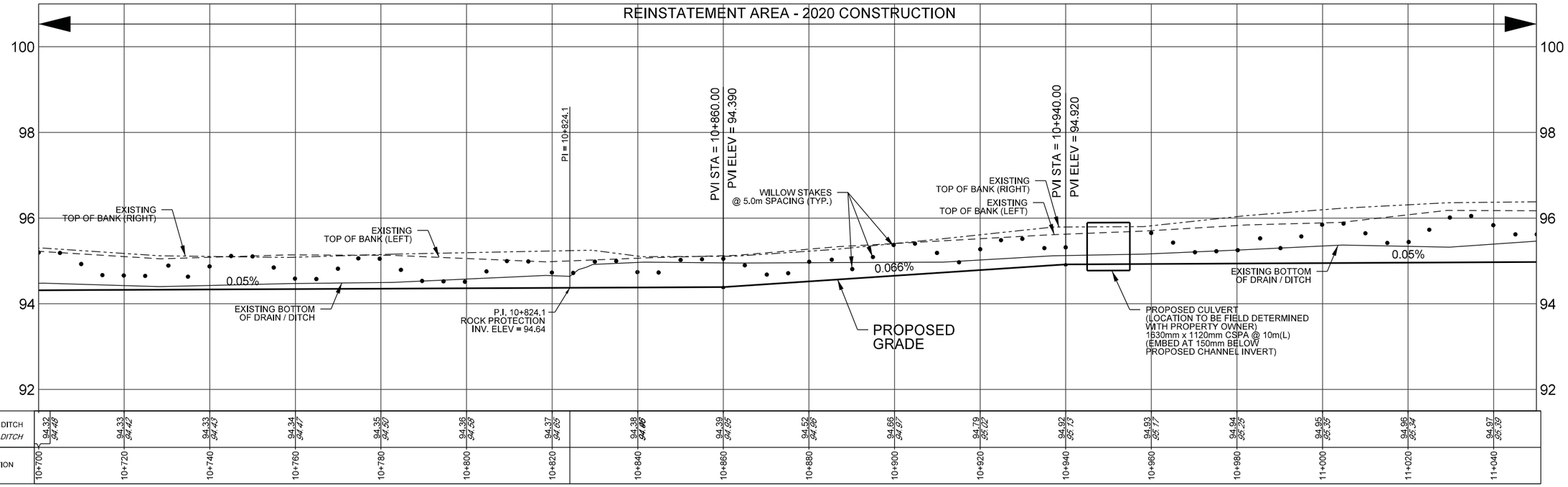
DRAWN	I.M.
CHECKED	L.F.
APPROVED	A.J.R.

CITY OF OTTAWA

JOHN TAYLOR
MUNICIPAL DRAIN

PROFILE - MAIN DRAIN STA. 10+000 TO STA. 10+700

PROJECT No.	15010
CONTRACT No.	
DATED	MAY 2020
DWG. No:	15010-P1



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VERTICAL

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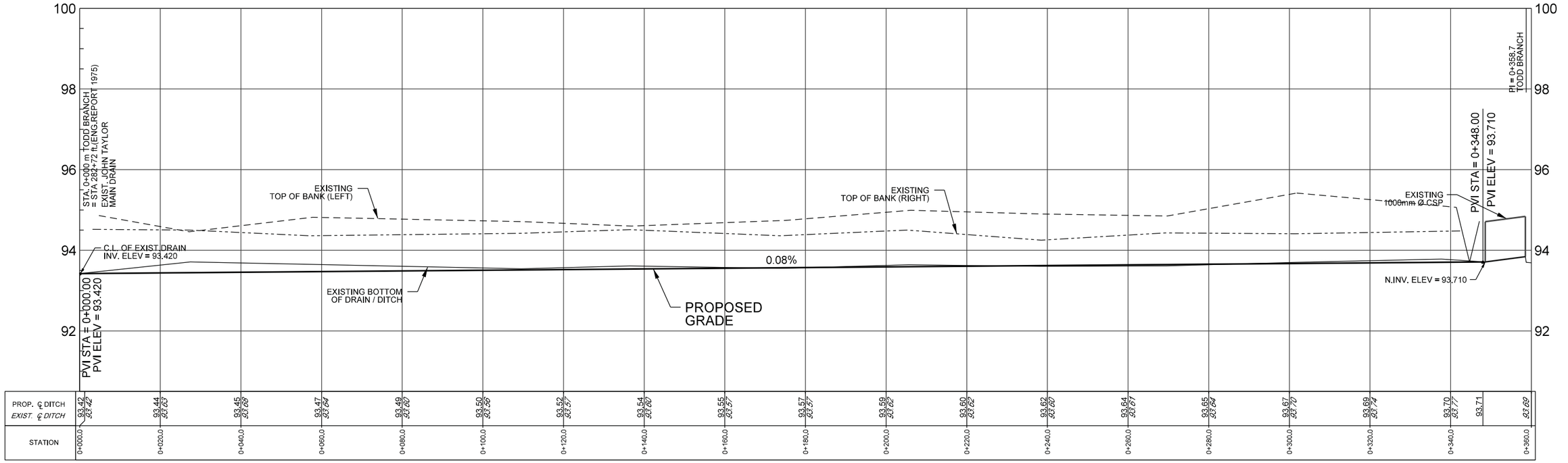
DESIGN	L.E.
CHECKED	L.F.
DRAWN	I.M.
CHECKED	L.F.
APPROVED	A.J.R.

CITY OF OTTAWA

JOHN TAYLOR MUNICIPAL DRAIN

PROFILE - MAIN DRAIN STA. 10+700 TO STA. 11+112

PROJECT No.	15010
CONTRACT No.	
DATED	MAY 2020
DWG. No:	15010-P2



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A. J. ROBINSON
20/08/21
PROVINCE OF ONTARIO

Professional Engineers Ontario
20/08/21
Licensed Engineering Technologist
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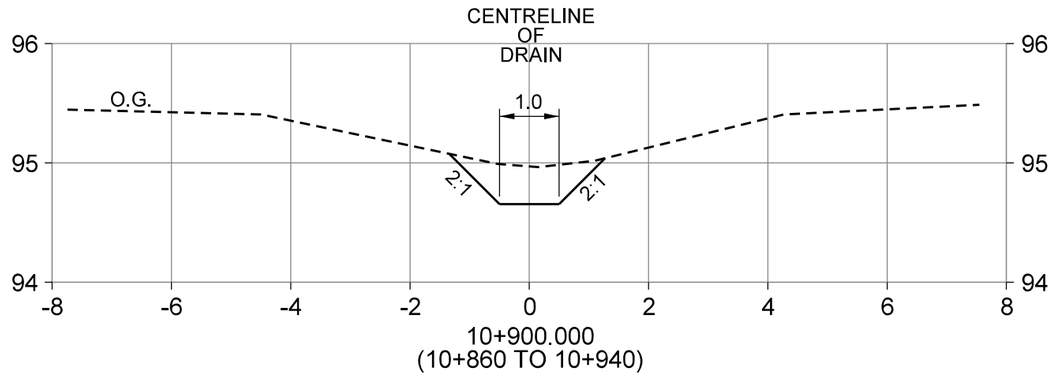
CHECKED L.F.
DRAWN I.M.
CHECKED L.F.
APPROVED A.J.R.

CITY OF OTTAWA

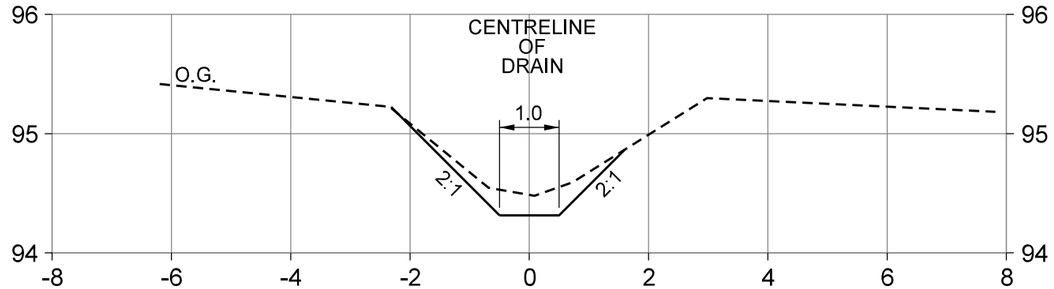
JOHN TAYLOR
MUNICIPAL DRAIN

PROFILE - TODD BRANCH
(MODIFIED)
STA. 0+000 TO STA. 0+360

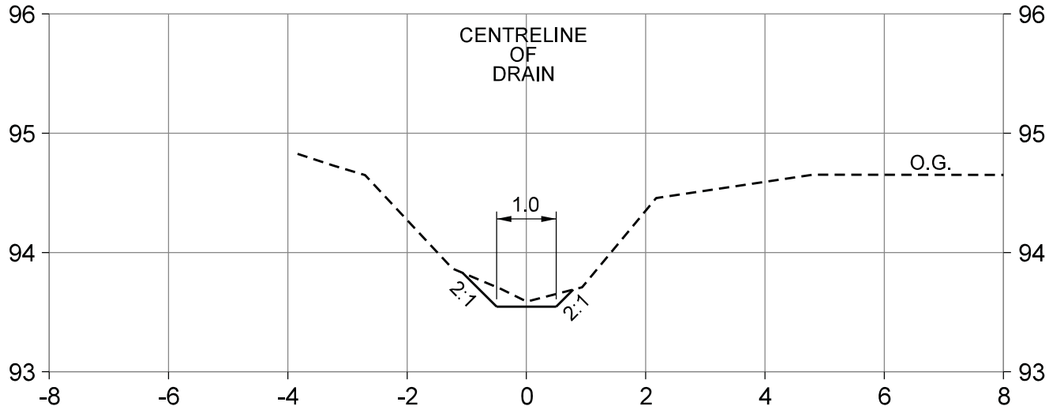
PROJECT No. 15010
CONTRACT No.
DATED MAY 2020
DWG. No: 15010-P3



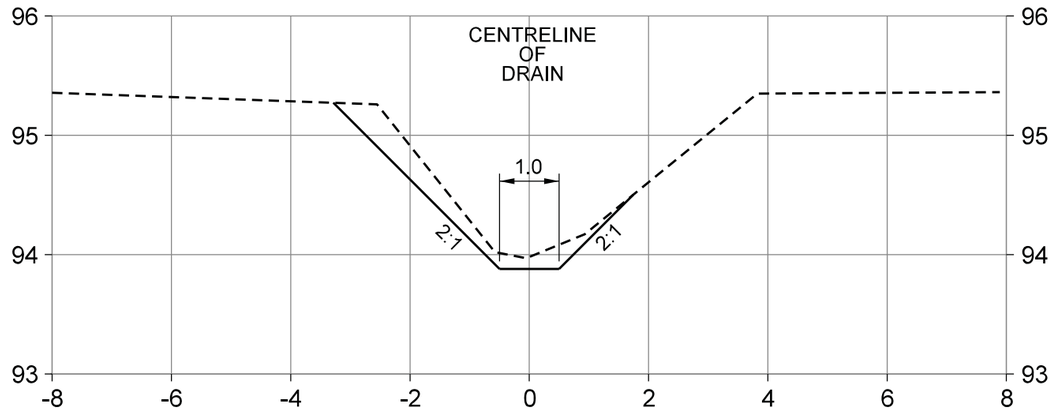
10+900.000
(10+860 TO 10+940)



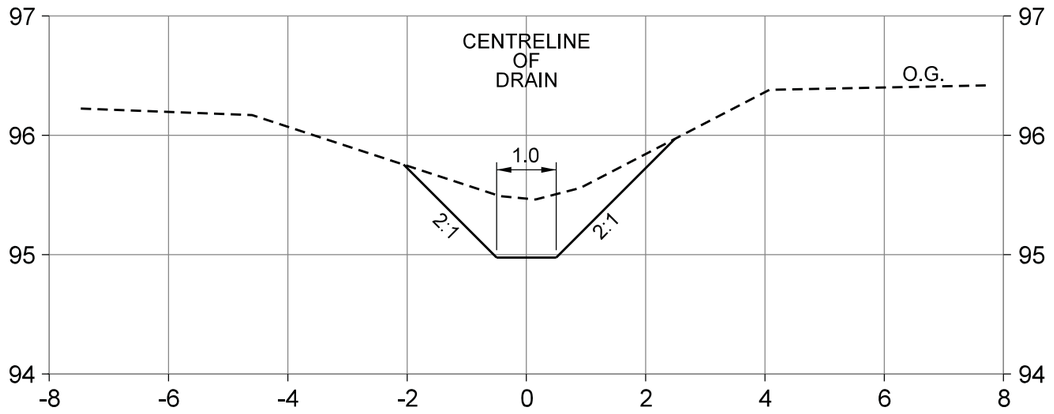
10+700.000
(10+580 TO 10+860)



0+150.000 TODD BRANCH
(0+000 TO 0+360)



10+315.000
(10+000 to 10+580)



11+050.000
(10+940 TO 11+100)

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20/08/21
PROVINCE OF ONTARIO

Professional Engineers Ontario
20/08/21
Licenced Engineering Technologist
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Limitations: Providing stamp non-technical content of reports and other non-technical advice for submission under the Ontario Drainage Act.
Association of Professional Engineers of Ontario

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0.5 0 1
HORIZONTAL
0.25 0 0.5
VERTICAL

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CHECKED	L.F.
DRAWN	I.M.
CHECKED	L.F.
APPROVED	A.J.R.

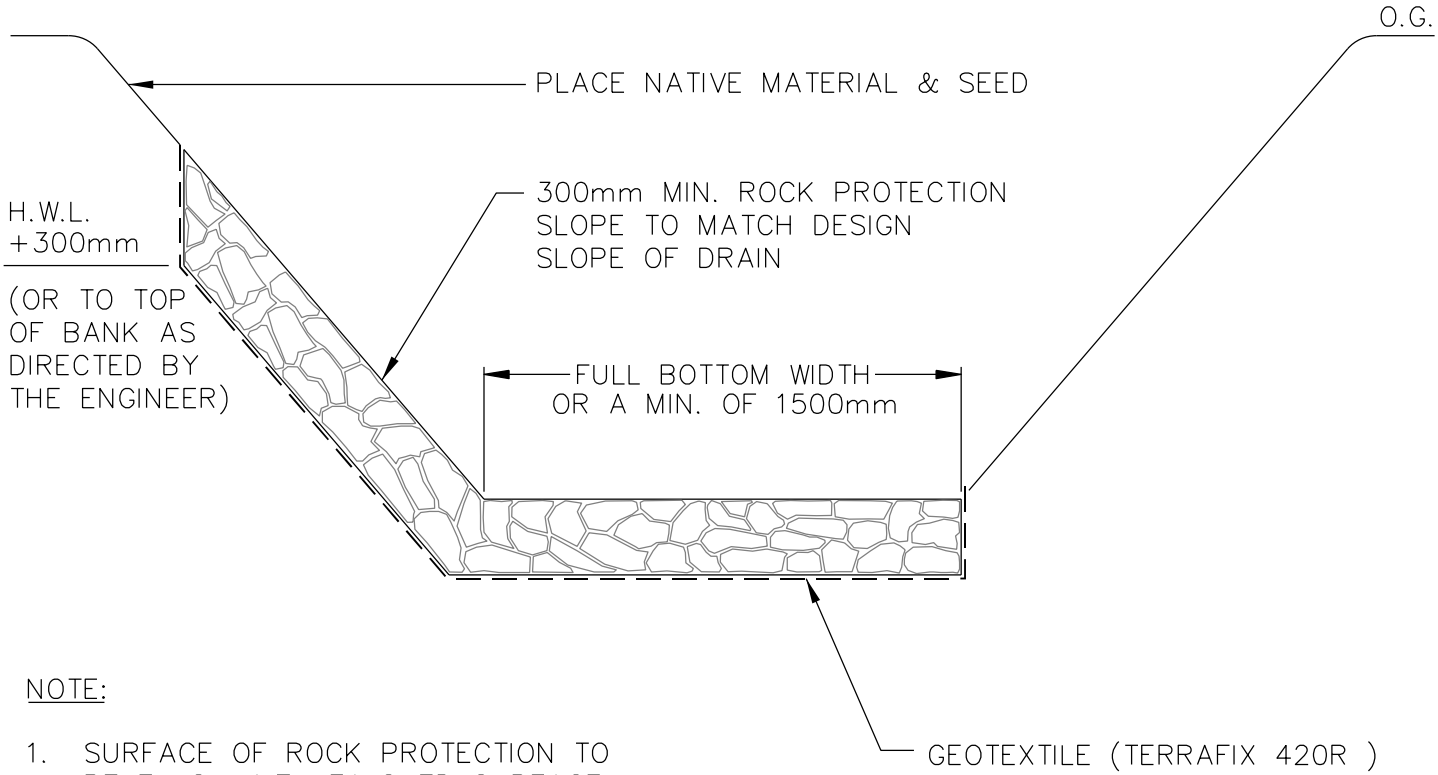
CITY OF OTTAWA

JOHN TAYLOR
MUNICIPAL DRAIN

CROSS-SECTIONS I

MAIN DRAIN - STA. 10+000 TO 11+100
TODD BRANCH - STA. 0+000 TO 0+360

PROJECT No.	15010
CONTRACT No.	
DATED	MAY 2020
DWG. No:	15010-XS1



NOTE:

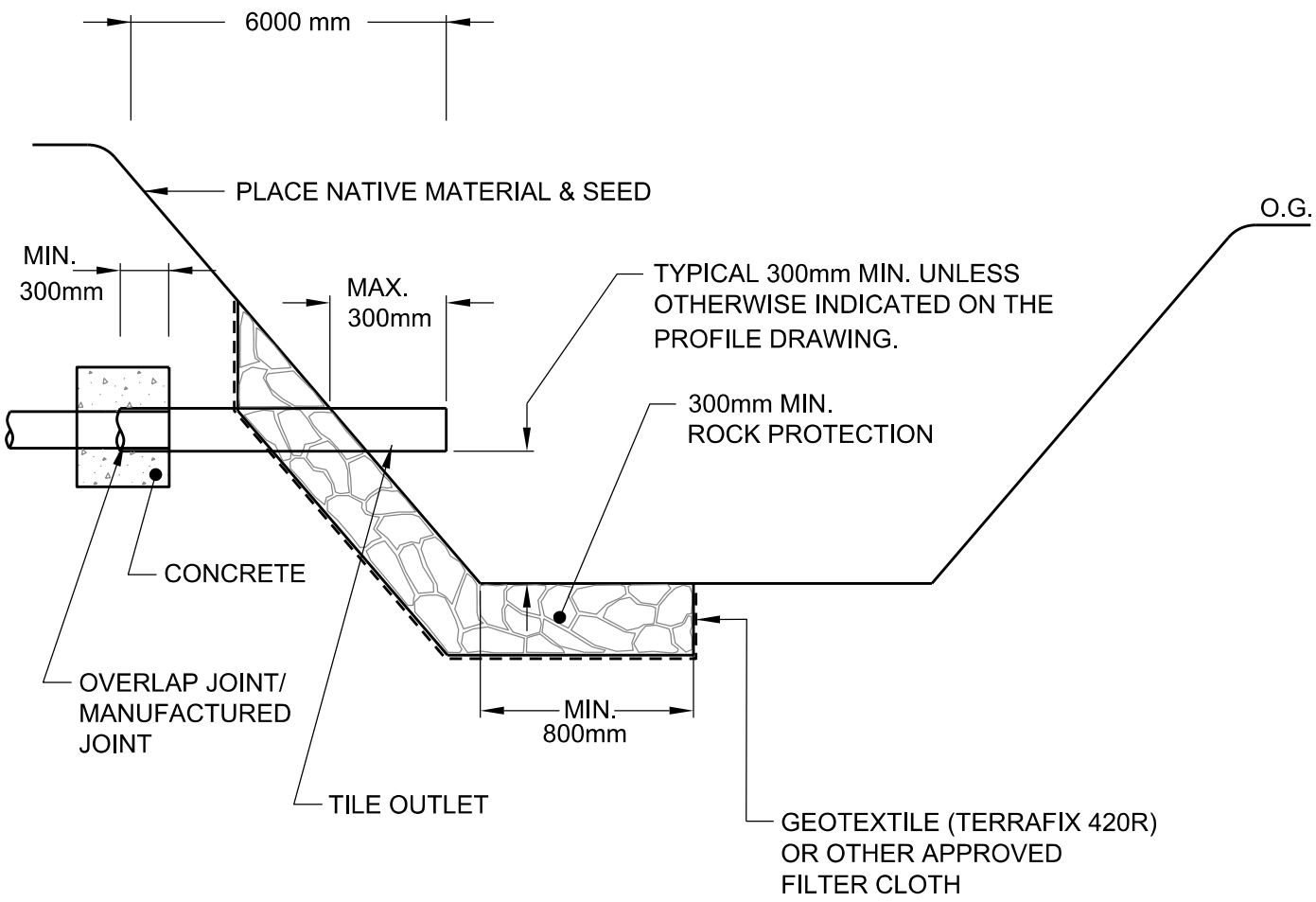
1. SURFACE OF ROCK PROTECTION TO BE FLUSH WITH FINISHED SURFACE OF DRAIN UPSTREAM AND DOWNSTREAM OF THE EROSION CONTROL. MIN. SIDE SLOPE IS 1 VERT TO 1 HOR. OR AS SPECIFIED IN ENGINEER'S REPORT.

2. FOR ROCK PROTECTION, USE R-50 AS PER OPSS 1004.05.05.02 OR ROCK PROTECTION AS PER OPSS 1004.05.05.03.

DATED: AUG/13

Robinson Consultants
CONSULTING ENGINEERS
350 Palladium Dr.,Suite 210
Kanata, Ontario, K2V 1A8
Telephone (613) 592-6060

SCALE	MUNICIPAL DRAIN	PROJECT NO.
HORIZONTAL N.T.S.		15010
VERTICAL N.T.S.	TYPICAL ROCK PROTECTION EROSION CONTROL	STD.DWG.No. 1



NOTES:

1. OUTLET TO BE CONTINUOUS HDPE (SMOOTHWALL - MIN. STIFFNESS OF 320KPa) AND A MIN. LENGTH OF 6.0m.

2. ROCK PROTECTION TO BE PLACED AS REQUIRED TO PREVENT EROSION. THE SURFACE TO BE FLUSH WITH THE STREAM BED AND BANK. ROCK PROTECTION TO EXTEND A MINIMUM OF 1000mm UPSTREAM AND 1000mm DOWNSTREAM OF THE TILE OUTLET.

3. THE CONNECTION BETWEEN THE OUTLET AND THE FIELD TILE IS TO BE A LOCKING MANUFACTURED JOINT - TAPE SEALED OR OVERLAP JOINT (MIN. 300mm) AND ENCASED IN CONCRETE.

4. A RODENT GRATE IS TO BE INSTALLED AT THE END OF THE C.S.P. OUTLET.

5. MIN. SIDE SLOPE IS 1 VERT TO 2 HOR OR AS SPECIFIED IN ENGINEER'S REPORT.

6. FOR ROCK PROTECTION, USE R-50 RIP-RAP AS PER OPSS MUNI 1004.05.05.02

DATED: JUL/17

Robinson Consultants
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Kanata, Ontario, K2V 1A8
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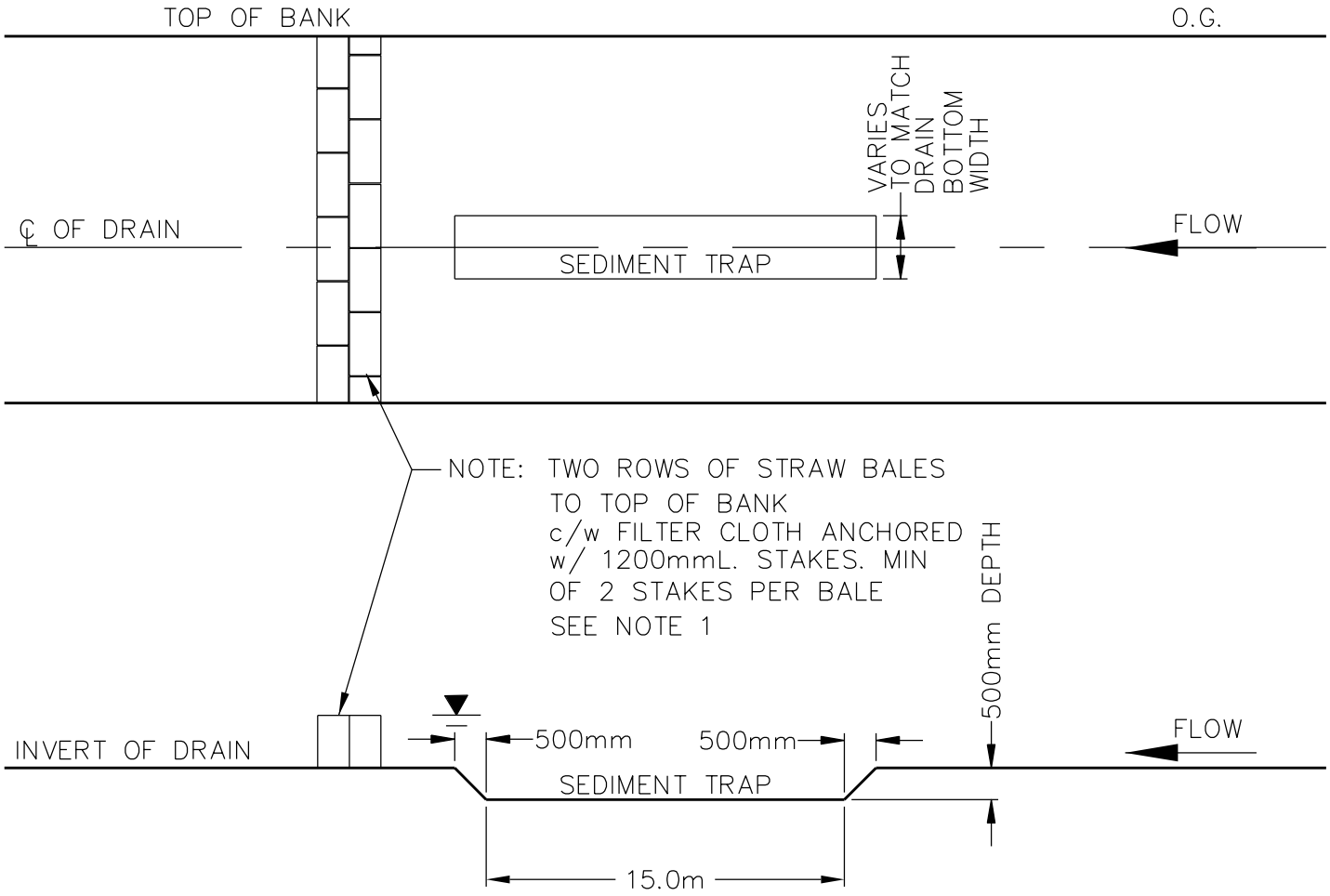
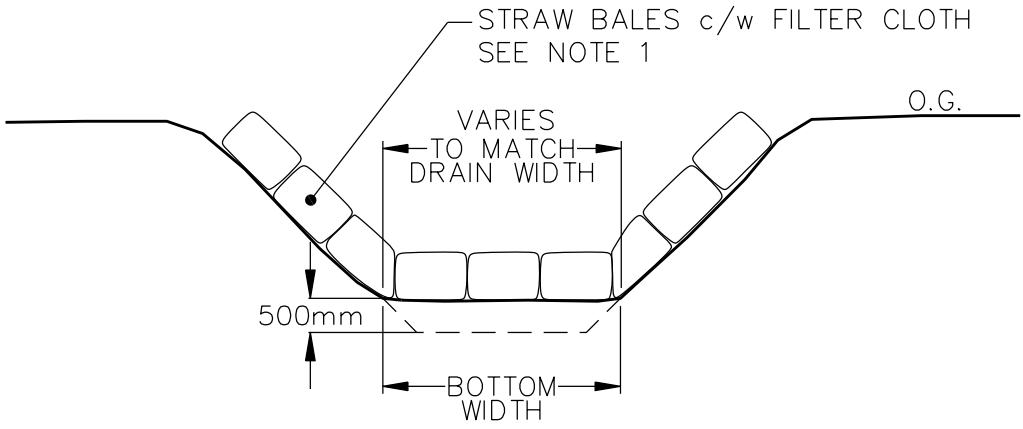
SCALE	MUNICIPAL DRAIN	PROJECT NO.
HORIZONTAL N.T.S.		
VERTICAL N.T.S.	STANDARD TILE OUTLET	STD.DWG.No. 2



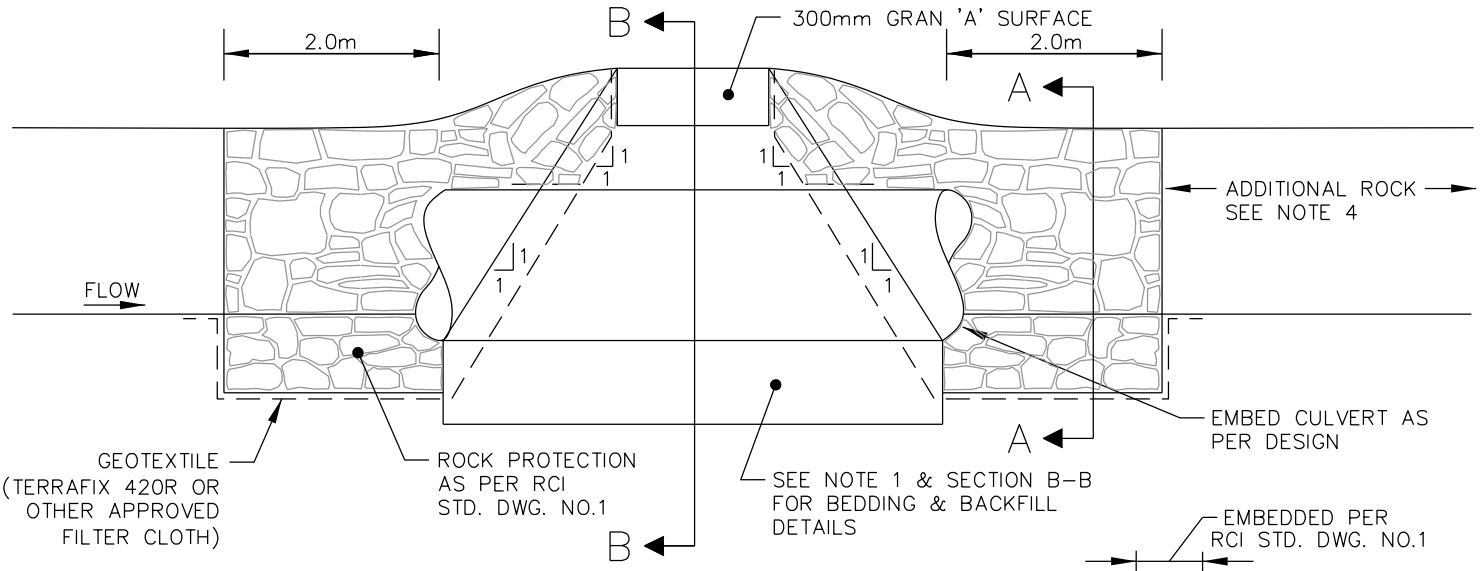


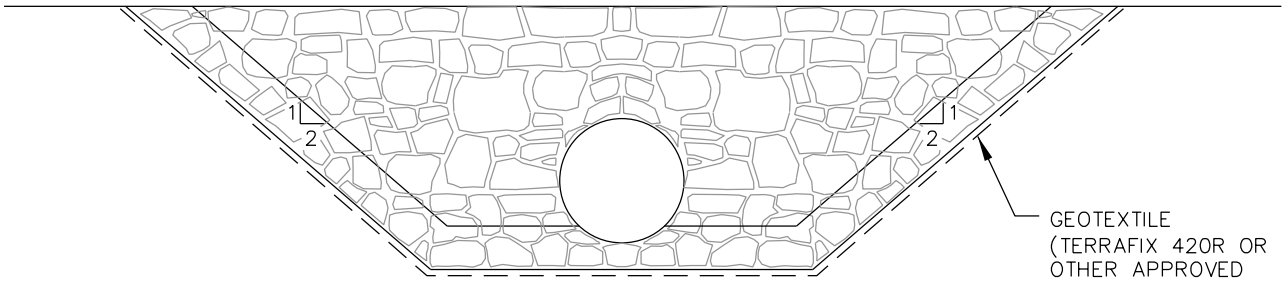
NOTE 1: GEOTEXTILE TO BE TERRAFIX 420R OR OTHER APPROVED FILTER CLOTH

DATED: APRIL 2020

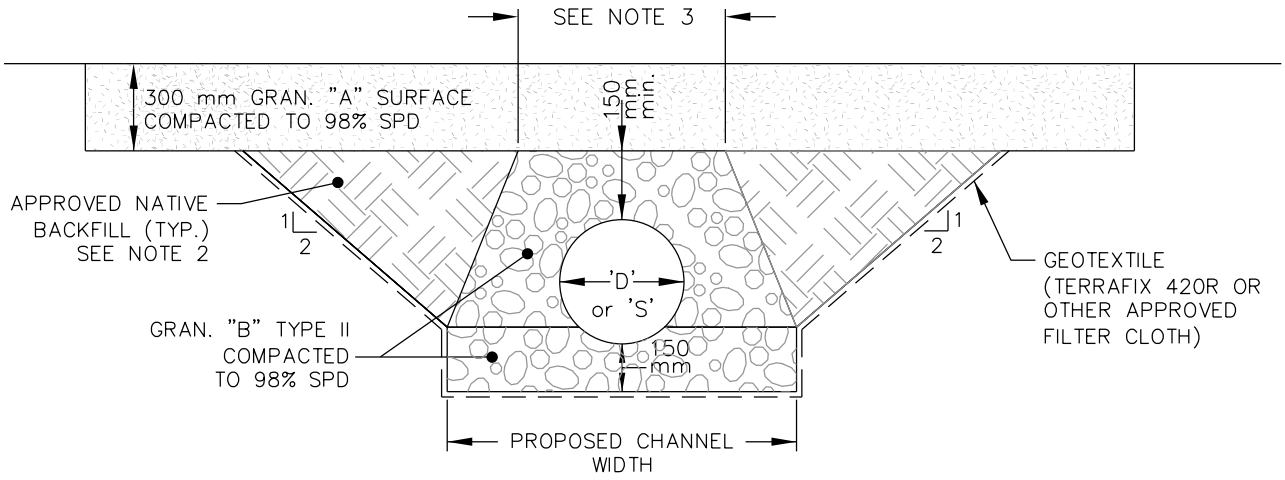
Robinson Consultants
CONSULTING ENGINEERS
350 Palladium Dr.,Suite 210
Kanata, Ontario, K2V 1A8
Telephone (613) 592-6060

SCALE	MUNICIPAL DRAIN	PROJECT NO. 15010
HORIZONTAL N.T.S.	TYPICAL STRAW BALE CHECK DAM AND SEDIMENT TRAP	STD.DWG.No. 3
VERTICAL N.T.S.		





END SECTION A–A



SECTION B–B

NOTES

1. All bedding, backfill and cover material to be placed as per section B-B and in general conformity with OPSD 802.010 (for circular pipes) and 802.020 for arch pipes.
2. "Approved Native Backfill" material may consist of dry clay, sand or granular material with no large stones, boulders, debris, or organic material. Backfill must be placed in lifts not exceeding 300mm thick and compacted. All requirements for granular bedding, cover and surface course must be met prior to placing any backfill.
3. For circular culverts, the top-width of cover material shall be a minimum of the diameter of the pipe ('D') plus 0.5 x 'D' each way for a total of 2.0 x 'D'. For arch culverts, the top-width of cover material shall be a minimum of the span of the pipe ('S') plus 0.75 x 'S' each way for a total of 2.5 x 'S'. The minimum bottom width shall conform with the proposed channel width upstream/downstream of the culvert.
4. Additional Rock Protection may be placed where required at the discretion of the Drainage Engineer. Length to be determined in the field. Additional Rock Protection is paid under its own item and not included in the culvert end treatment item.
5. Follow manufacturers installation instructions for all pipes.

DATED: APRIL 2020

CONSULTING ENGINEERS

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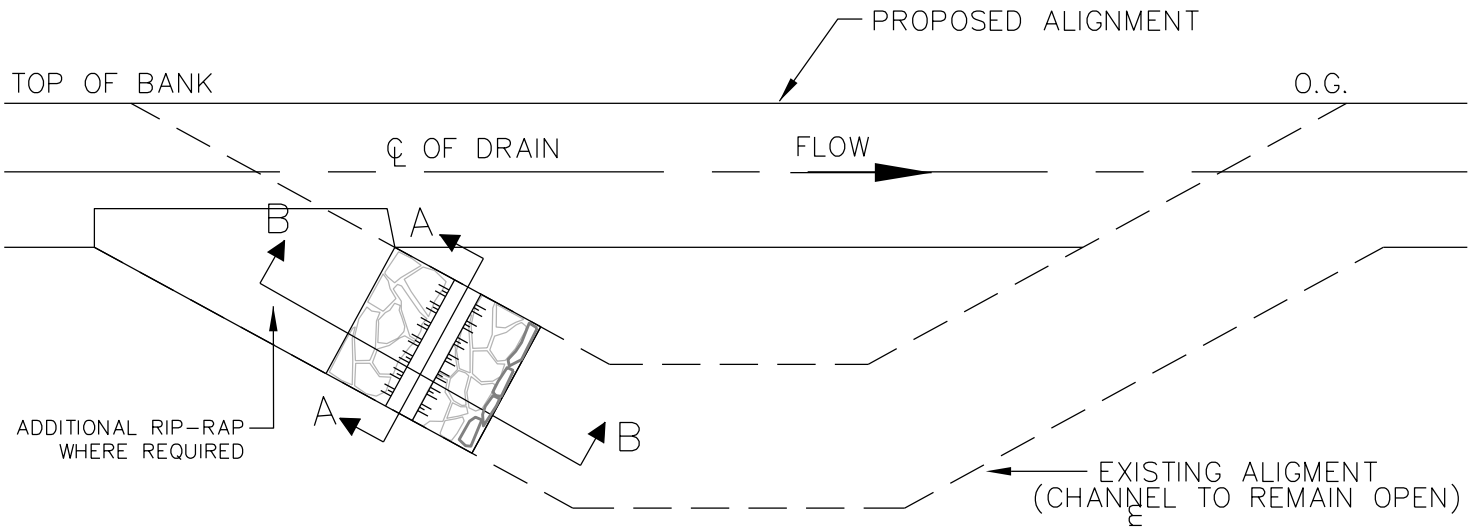
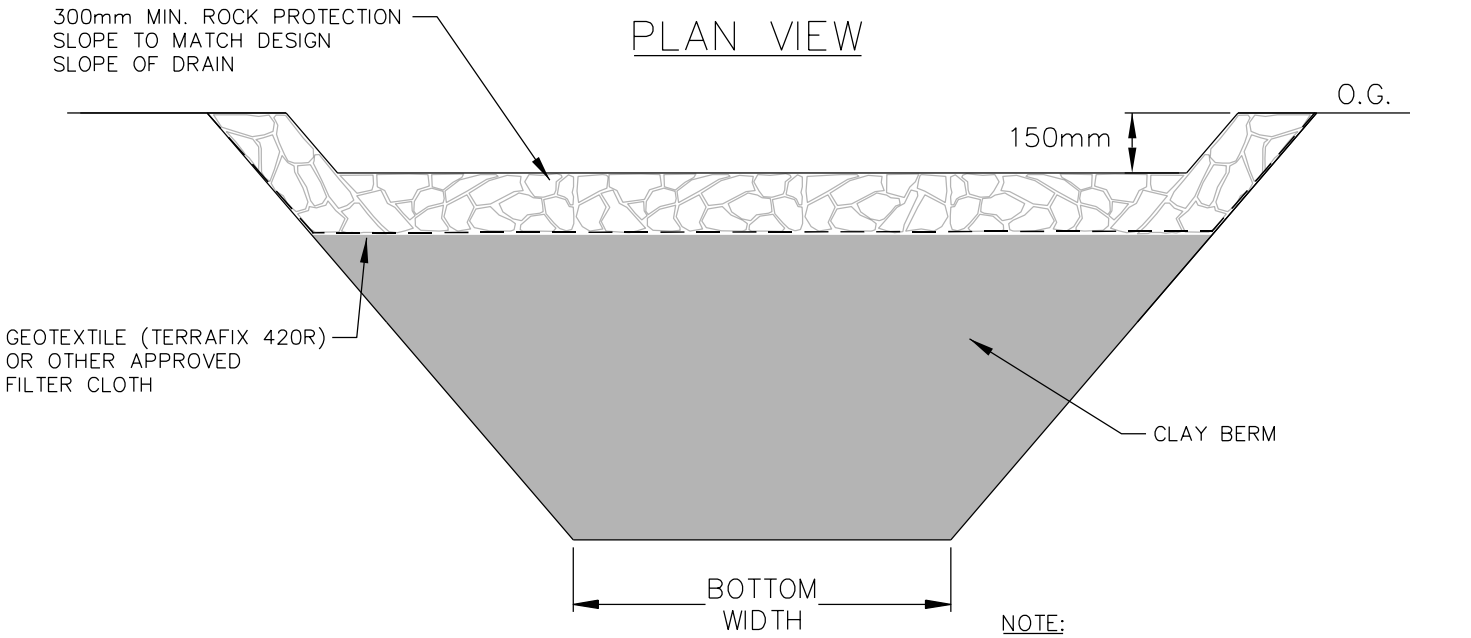
Kanata, Ontario, K2V 1A8
Telephone (613) 592-6060

SCALE	MUNICIPAL DRAIN	PROJECT NO. 15010
HORIZONTAL N.T.S.	STANDARD FARM CROSSING AND CULVERT END TREATMENT DETAIL	STD.DWG.No. 10
VERTICAL N.T.S.		



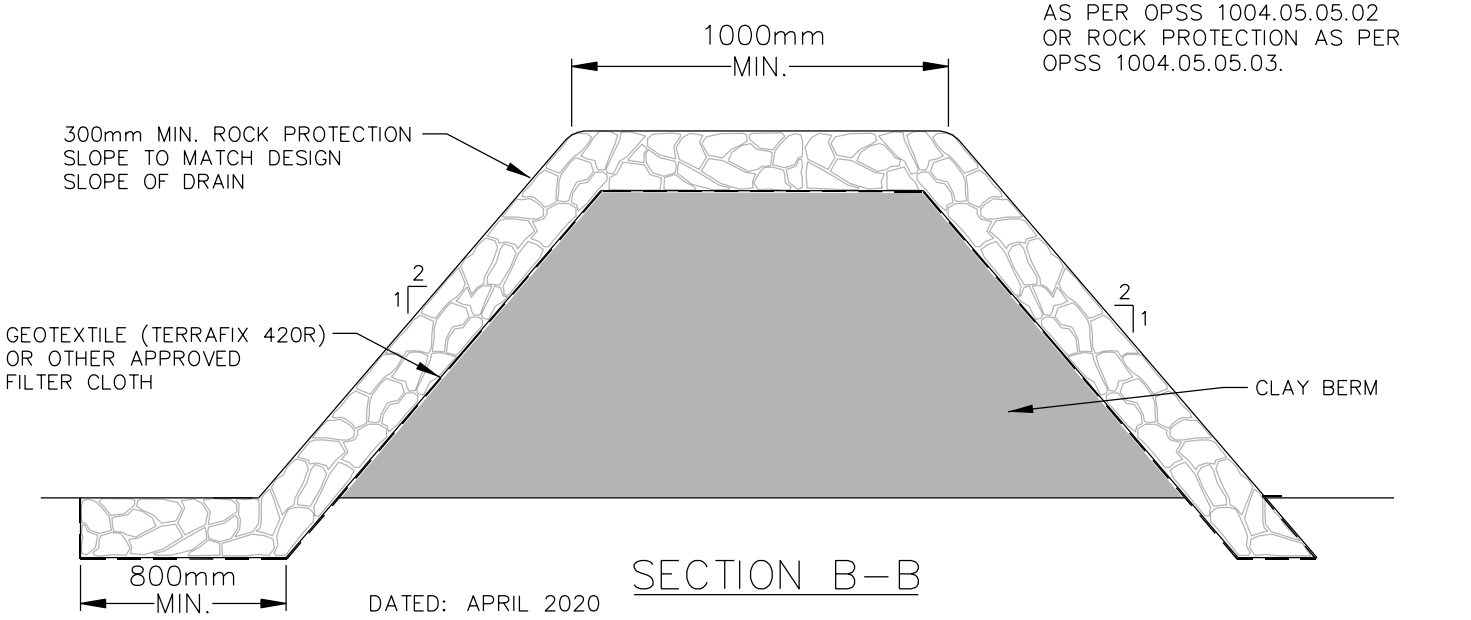
PLAN VIEW



SECTION A-A

NOTE:

1. FOR ROCK PROTECTION, USE R-50 AS PER OPSS 1004.05.05.02 OR ROCK PROTECTION AS PER OPSS 1004.05.05.03.



SECTION B-B

DATED: APRIL 2020

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Ottawa, Ontario, K2V 1A8
(613) 592-6060 rcii.com

SCALE	MUNICIPAL DRAIN	PROJECT NO. 15010
HORIZONTAL N.T.S.	TYPICAL CHANNEL ROCK & CLAY BERM DETAIL	STD.DWG.No. 14-A
VERTICAL N.T.S.		

Appendix B

Permits and Letters of Approval
MECP, RVCA & DFO

Ontario Court Order (File No. 14-6287)

MEMORANDUM

Robinson Consultants

DETAILS

DATE: AUGUST 21, 2020

TO: FILE – PROJECT No. 15010

FROM: LORNE FRANKLIN, L.E.T, C.E.T., rcca, CISEC
LICENSED ENGINEERING TECHNOLOGIST
DRAINAGE SERVICES

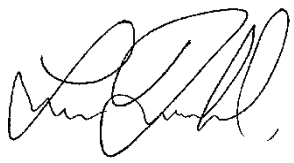
SUBJECT: JOHN TAYLOR MUNICIPAL DRAIN
MINISTRY OF ENVIRONMENT CONSERVATION AND PARKS
SPECIES AT RISK (SAR) AND COMMENTS/CONCERNS

Information was requested from the Ministry of Environment Conservation and Parks (MECP) with regard to Species at Risk (SAR) and any general comments, concerns, permits or authorizations under MECP regulation.

At the time of this report no response was received. In the absence of a response it is assumed that no specific SAR or MECP concerns or comments are applicable to this project.

Sincerely,

ROBINSON CONSULTANTS INC.



Lorne Franklin, L.E.T, C.E.T., rcca, CISEC
Licensed Engineering Technologist
Drainage Services

RVCA Letter of Permission —

Ont. Reg. 174/06, S. 28 *Conservation Authorities Act* 1990, As Amended.

July 8, 2020
File: RV4-0620
Contact: hal.stimson@rvca.ca (613) 692-3571 Ext 1127

Rideau Valley Conservation Authority

3889 Rideau Valley Drive
PO Box 599, Manotick ON K4M 1A5
T 613-692-3571 | 1-800-267-3504
F 613-692-0831 | www.rvca.ca

Mr. David Ryan
City of Ottawa
2155 Roger Stevens Dr.
North Gower, ON
K0A 2T0

Permit to alter a waterway under Section 28 of the *Conservation Authorities Act* for alterations to a municipal drain at Lot 6 Concession 8, Marlborough ward of Rideau township, now in the City of Ottawa.

Dear Mr. David Ryan,

The Rideau Valley Conservation Authority has reviewed your application on behalf of the City of Ottawa and understands the proposal to be for:

> **The realignment and modifications of the John Taylor Municipal Drain including a portion of the Todd Branch in accordance with the amended engineers report as prepared by Robinson Consulting dated May 2020. The watercourse is a tributary of Stevens Creek and is being realigned in accordance with Ontario Court order (File No. 14-6287).**

This proposal was reviewed under Ontario Regulation 174/06, the "*Development, Interference with Wetlands, and Alteration to Watercourse and Shorelines*" regulation and the RVCA Development Policies (approved by the RVCA, Board of Directors), specifically Section 3.0 Alteration to Waterways. The proposal is not expected to impact the control of flooding, pollution, erosion or conservation of land providing conditions are followed.

PERMISSION AND CONDITIONS

By this letter the Rideau Valley Authority hereby grants you approval to undertake this project as outlined in your permit application but subject to the following conditions:

1. Approval is subject to the understanding of the project as described above and outlined in the application and submitted plans including:
    - Report titled "John Taylor Municipal Drain – Realignment and Modifications", Project No. 15010 prepared by Robinson Consultants Inc. Consulting Engineers dated May 2020 (36 Pages).

2. **A De-watering Plan and Sediment and Erosion Control Plan must be submitted by the contractor to this office for review prior to construction activities commencing.**

3. Any excess excavated material, as a result of the work or on-going maintenance, must be disposed of ~~off-site~~ in accordance with the Engineers Report or in a suitable location outside any regulatory floodplain and fill regulated area. RVCA must be consulted to ensure fill is not placed elsewhere within a flood plain or wetland.

4. It is recommended that you retain the services of a professional engineer to conduct on-site inspections to ensure adequacy of the work, verify stability of the final grade and slopes and confirm all imported fill is of suitable type and has been adequately placed and compacted.

5. Work in-water shall not be conducted at times when flows are elevated due to local rain events, storms or seasonal floods. Existing stream flows must be maintained downstream of the de-watered work area without interruption, during all stages of the work. There must be no increase in water levels upstream of the de-watered work area.

6. Only clean non-contaminated fill material will be used, and all work is to occur on your property, or if on other property, only with full authorization of the owner(s).

7. Sediment barriers should be used on site in an appropriate method according to the Ontario Provincial Standard Specifications (OPSS) for silt barriers as a minimum. If the sediment and erosion control methods include silt fence it should be placed along the shoreline to prevent overland flow on disturbed areas from entering the watercourse. Soil type, slope of land, drainage area, weather, predicted sediment load and deposition should be considered when selecting the type of sediment/erosion control.

8. Demolition or construction debris is not to be deposited in the waters of any creek; inert concrete/asphalt debris will be considered a deleterious substance. An emergency spill kit should be kept on site in case of fluid leaks or spills from machinery.

9. Sediment and erosion control measures shall be in place before any excavation or construction works commence. All sediment/erosion control measures are to be monitored regularly by experienced personnel and maintained as necessary to ensure good working order. If the erosion and sedimentation control measures are deemed not to be performing adequately, the contractor shall undertake immediate additional measures as appropriate to the situation to the satisfaction of the Conservation Authority.

10. All materials and equipment used for the purpose of site preparation and project completion must be operated and stored in a manner that prevents any deleterious substance (e.g. petroleum products, silt, debris etc.) from entering the water.

11. The waters of the creek are NOT to be considered as machine staging areas. Activities such as equipment refuelling, and maintenance must be conducted away from the water to prevent entry of petroleum products, debris, or other deleterious substances into the water. All in-stream work on the new channel should be completed in the dry.

12. Operate machinery from outside the water, or on the water in a manner that minimizes disturbance to the banks or bed of the watercourse. Equipment shall not be cleaned in the watercourse or where wash-water can enter any watercourse. Machinery is to arrive on site in a clean condition and is to be maintained free of fluid leaks.

13. All disturbed soil areas must be appropriately stabilized to prevent erosion.

14. It is recommended that you ensure your contractor(s) are provided with a copy of this letter to ensure compliance with the conditions listed herein.

15. Develop a response plan that is to be implemented immediately in the event of a sediment release or spill of a deleterious substance. This plan is to include measures to: a) stop work, contain sediment-laden water and other deleterious substances and prevent their further migration into the watercourse and downstream receiving watercourses; b) notify the RVCA and all applicable authorities in the area c) promptly clean-up and appropriately dispose of the sediment-laden water and deleterious substances; and d) ensure clean-up measures are suitably applied so as not to result in further alteration of the bed and/or banks of the watercourse.

16. **There will be no in-water works between March 15 and June 30, of any given year to protect local aquatic species populations during their spawning and nursery time periods.**

17. Any aquatic species (fish, turtles) trapped within an enclosed work area are to be safely relocated outside of the enclosed area to the main watercourse downstream of the work zone.

18. The RVCA is to receive 48 hours' notice of the proposed commencement of the works to ensure compliance with all conditions. The applicant agrees that Authority staff may visit the subject property before, during and after project completion to ensure compliance with the conditions as set out in this letter of permission.

19. A new application must be submitted should any work as specified in this letter be ongoing or planned for or after July 8, 2022.

All other approvals as might be required from the Municipality, and/or other Provincial or Federal Agencies must be obtained prior to initiation of work. This includes but is not limited to the Drainage Act, the Endangered Species Act, the Ontario Water Resources Act, Environmental Protection Act, Public Lands Act, or the Fisheries Act.

By this letter the Rideau Valley Conservation Authority assumes no responsibility or liability for any flood, erosion, or slope failure damage which may occur either to your property or the structures on it or if any activity undertaken by you adversely affects the property or interests of adjacent landowners. This letter does not relieve you of the necessity or responsibility for obtaining any other federal, provincial or municipal permits. This permit is not transferable to subsequent property owners.

Should you have any questions regarding this letter, please contact Hal Stimson.

Terry K. Davidson

Terry K. Davidson P.Eng
Conservation Authority S. 28 Signing delegate
O. Reg. 174/06

c.c. L. Franklin, Robinson Consultants

- Pursuant to the provisions of S. 28(12) of the Conservation Authorities Act (R.S.O.1990, as amended.) any or all of the conditions set out above may be appealed to the Executive Committee of the Conservation Authority in the event that they are not satisfactory or cannot be complied with.
- Failure to comply with the conditions of approval or the scope of the project may result in the cancelling of the permission and/or initiation of legal action under S. 28(16) of the Act.
- Commencement of the work **and/or** a signed and dated copy of this letter indicates acknowledgement and acceptance of the conditions of the RVCA's approval letter concerning the application and the undertaking and scope of the project.

Name: DAVE RYAN (print)

Signed: _____ Date: July 16/20

RE: John Taylor drain restoration

GW
Glass, William R <William.Glass@dfo-mpo.gc.ca>
To Lorne Franklin
You forwarded this message on 8/21/2020 9:34 AM.

"CAUTION: External Sender"
Hi Lorne,
Since this work is considered restoration of an occurrence there is no Letter of Advice that will be issued. My approval of the restoration plan is all this is required.

This email chain will serve as that approval. Once the work is verified as completed I will be able to close out our compliance file.

You may want to keep this email on hand as proof of DFO approval of the restoration plan.

Let e know if you have any additional questions,
Bill

Bill Glass, PhD
Senior Biologist
Fish and Fish Habitat Protection Program | Programme de Protection du Poisson et de son habitat
Fisheries and Oceans Canada | Pêches et Océans Canada
867 Lakeshore Road | 867 Chemin Lakeshore
Burlington, ON, L7S 1A1
Telephone: (905) 319-7234 **Email**: william.glass@dfo-mpo.gc.ca

ONTARIO COURT (Provincial Division) Court file #: 14-6287

IN THE MATTER OF s. 28 of the *Conservation Authorities Act*, R.S.O., 1990, Chapter 27, as amended.

JUSTICE OF THE PEACE) the 11 day of December, 2014

BETWEEN

RIDEAU VALLEY CONSERVATION AUTHORITY
Prosecutor(s)

And

Adrian Schouten
Defendant

ORDER

Upon charges, relating to the alteration of a watercourse (filling a section of John Taylor Drain) in part of Lot 6, Concession 8, former Township of Rideau, City of Ottawa. The defendant did commit the offence of undertaking work without a permit, which is in an area described in Ontario Regulation 174/06, section 5 in which the alteration of a watercourse is prohibited without the permission in writing of the Rideau Valley Conservation authority, contrary to Section 28 (16) of the said Act.

Upon entering a conviction of the Defendant,

1. THIS COURT orders that the proposed remedial measure for an 18" diameter pipe and surface swale across the field be put in place ~~December 31st, 2014~~ before spring thaw 2015. The pipe will include rip rap at the outlet for erosion protection and the pipe will be installed at the rock elevation (at Proven Line) to ensure that any high water flows in the spring can be accommodated.

2. THIS COURT FURTHER ORDERS that a Drainage Review and Drainage Report be completed by a Drainage Engineer, by December 31st 2015, licensed to practice in the Province of Ontario, and that the Engineer's Report and any associated drainage works be approved, pursuant to the Drainage Act, RSO 1990, c.17, by the Council of the City of Ottawa and the RVCA.

(Signature of Justice of the Peace)

J. LAUZON