

Hobbs Municipal Drain Outlet  
Extension  
Works Cannot be Constructed  
Section 40 - Engineer's Report

Prepared For:



Prepared By:

Robinson Consultants Inc.  
Consulting Engineers

Our Project/ No.17042  
August 2019

August 20, 2019

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

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

**Reference:**           **Hobbs Municipal Drain Outlet Extension**  
                                  **Works Cannot be Constructed**  
                                  **Section 40 - Engineer's Report**  
                                  **Project No. B17042**

Dear Sir:

This Engineer's Report documents the Engineer's Findings under Section 40 (S.40) of the Ontario Drainage Act, R.S.O. 1990 (Drainage Act), that the modifications, improvements, and incorporation as a Municipal Drain of the Hobbs Municipal Drain Outlet Extension as defined by the current Draft Engineer's Report, cannot be constructed because the Rideau Valley Conservation Authority will not issue a Letter of Permission under Ontario Regulation 174/06, Section 28 Conservation Authorities Act 1990, as Amended.

This S.40 Engineer's Report, is respectfully submitted for Council's consideration. The purpose of the report is to recommend that Council instruct the Drainage Engineer to not proceed with any further work on the proposed Engineer's Report for the Hobbs Municipal Drain Outlet Extension. Implementation of the proposed Hobbs Municipal Drain Outlet Extension cannot be completed without receipt of a Letter of Permission from the Rideau Valley Conservation Authority, which Letter of Permission has been denied.

S. 40 of the Drainage Act states the following:

*"Where the engineer finds that a drainage works **is not required or is impractical, or cannot be constructed under this Act**, the engineer shall forthwith file with the clerk of the initiating municipality a report to that effect, stating **the reasons therefore, the amount of the engineer's fees and other charges and by whom they shall be paid**, and the clerk shall forthwith send a notice of the filing of such report to all persons who signed the petition and the matter shall not be further proceeded with unless the decision of the engineer is reversed on appeal. R.S.O. 1990, c. D.17, s. 40; 2010, c. 16, Sched. 1, s. 2 (8)."*

As per the requirements of S.40, the following sections detail the findings of the Engineer, stating the reasons for not proceeding, the amount of the engineer's fees and other charges and by whom they shall be paid.

## **Background**

The City of Ottawa initiated the Amendment to the Engineer's Report under Section 78 of the Drainage Act, RSO 1990, in response to a landowner's concern that the existing Municipal Drain did not provide an adequate or sufficient outlet.

The purpose of the Report was to provide for the extension of the outlet of the existing Hobbs Municipal Drain to a sufficient outlet at the Jock River.

The draft report makes provisions for extending the drain while limiting and mitigating impacts to the Provincially Significant Wetland (PSW) complex known as the "Richmond Fen Complex" that covers significant portions of the drainage area of the proposed outlet extension.

Project scoping consultation was completed with the Rideau Valley Conservation Authority (RVCA) on August 16, 2017 with specific focus on providing a suitable route to convey flows from the existing termination point of the Hobbs Municipal Drain to a sufficient outlet while limiting and/or mitigating potential impacts to the Provincially Significant Wetland (PSW). The RVCA summarized the results of the scoping meeting in a letter dated August 19, 2017 which is included in **Appendix B**.

Subsequent to the Scoping Meeting a total of four (4) potential routes and various combinations of route components were presented for preliminary consideration. The route options included those considered to be preferred by the RVCA (as indicated in preliminary discussions) and those that were considered to mitigate impacts to the PSW through utilizing existing channels, minimizing excavation and completing works in existing disturbed habitat areas (cleared Hydro corridor). The Options Report presented by Robinson Consultants, dated February 21<sup>st</sup>, 2018 and accompanying Dwg. No. 17042-OP are included in **Appendix A**.

In response, including a summary of the completed consultation meeting, the RVCA circulated a Technical Memorandum dated April 10<sup>th</sup>, 2018, a copy of which is provided in **Appendix B**. The memo concluded as follows:

*"WSES staff concluded that, as per O.Reg 174-06 and without evidence to the contrary, such as from extensive monitoring and modelling of the system, the proposed development would likely diminish the wetland's control of flooding and pollution for the area that it controls. In addition, we should note here that the proposed development would also have serious impacts to the conservation of land in the watershed, since the natural hydrologic functions of this area would be diminished which would result in the diminishment of related ecological functions and the wetland feature itself."*

The memo also reiterated the RVCA's initial stipulation from correspondence provided to the City of Ottawa prior to the appointment of the Engineer that there "be no hydrological impacts or ecological implications to the form and function of the PSW as a result of any work".

The route options and best management practices proposed by Robinson Consultants Inc. for the various preliminary options would, in practice, limit potential impacts, however, it is clear that no efforts to provide conveyance of flow to a sufficient outlet could meet the impractically high standard of "no hydrological impacts or ecological implications to the form and function of the PSW..."

The studies and information requested by the RVCA form an Environmental Appraisal. It is the requirement of Section 6 of the Ontario Drainage Act, R.S.O. 1990, that the agency requesting an environmental appraisal pay the cost of the appraisal. However, based on the correspondence provided the RVCA has indicated that they do not intend to pay such costs associated with the Environmental Appraisal, therefore, an Environmental Appraisal has not been completed. Additionally it is not clear that if completed, an "Environmental Appraisal" would result in a suitable finding to permit work under the stated standard of no impact.

### **Draft Engineer's Report Submitted to RVCA**

A draft Engineer's Report Hobbs Municipal Drain Outlet Extension, March 2019 was completed by Robinson Consultants Inc. specifically for review by the Rideau Valley Conservation Authority with the intent of receiving comments and suggestions for modifications that would lead to an approval and resulting Letter of Permission. RVCA had not indicated a preference for one of the four options presented in the initial Options Report by Robinson Consultants Inc. Therefore, an option for the extension of the existing municipal drain was chosen by the Drainage Engineer that mitigated the impact on the PSW by utilizing existing channels, minimizing excavation and completing works in existing disturbed habitat areas (such as cleared Hydro corridor).

### **Rideau Valley Conservation Authority Response**

The Rideau Valley Conservation Authority responded via e-mail dated April 16, 2019 from Terry Davidson as follows:

*"In reviewing Robinson Consultants letter of March 8 and the Draft Engineers Report for the Hobbs's Municipal Drain Outlet Extension, it is apparent that this proposal as submitted cannot be supported at a staff level in accordance with the Rideau Valley Conservation Authority's Ontario Regulation 174/06 and the Conservation Authorities Act which states under Section 5 "Subject to section 6, no person shall straighten, change, divert or interfere in any way with the existing channel of a river, creek, stream or watercourse or change or interfere in any way with a wetland."*

*“The report as submitted does not provide any information that would assist RVCA staff to complete a detailed review of this proposed municipal drain extension through the Richmond Fen PSW. The project is being proposed to provide sufficient outlet to the established Hobbs municipal drain, however there is no supporting documentation as to why “sufficient outlet” is no longer available per the findings of the original drainage engineer report. The report concludes that “the standard set by the RVCA is impractically high” for determining the hydrologic impact to the wetland and potential increased flooding downstream. The RVCA’s “standards” are requirements that are aligned with the Conservation Authorities Act Section 28 and the RVCA’s policies for Alterations to Waterways (Section 3).”*

A copy of the e-mail from the Rideau Valley Conservation Authority is included in **Appendix C**.

As noted in the e-mail, Mr. Davidson has indicated that an application under Ontario Regulation 174/06 requesting a hearing before the Executive Committee could be made. However, given the staff recommendation it is our opinion that such an application would not result in a decision by the Executive Committee to overturn the decision of the staff of the Authority, but would merely add additional costs without achieving the desired result of obtaining a Letter of Permission under Ontario Regulation Section 174/06.

Without a Letter of Permission construction of the proposed Hobbs Municipal Drain Outlet Extension cannot proceed.

### **Recommendation**

Considering the position of the Rideau Valley Conservation Authority to not provide a Letter of Authorization under Ontario Regulation 174/06 it is our conclusion that the works cannot be constructed under the Drainage Act RSO 1990. Therefore, Council should proceed under Section 40 of the Drainage Act, RSO, 1990 to notify the affected property owners and the matter will not proceed further unless the decision of the engineer is reversed on appeal.

### **Distribution of Costs**

As per S. 40 of the Drainage Act, RSO, 1990 the Engineer must make a determination of *“the amount of the engineer’s fees and other charges and by whom they shall be paid.”*

The Engineer’s Report was initiated under Section 78 of the Drainage Act RSO, 1990 by the City of Ottawa. Section 78 (4) states: “All proceedings, including appeals, under this section shall be the same as on a report for the construction of a drainage works.” The reference to all proceedings for construction of a drainage works refers to a drainage works initiated by petition under Section 4 of the Drainage Act. There are provisions for determining who pays for the cost of the Engineer’s Report and

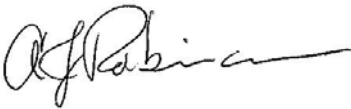
associated costs where the drainage works are initiated by petition under Section 4 of the Drainage Act. However, since a report under Section 78 of the Drainage Act is initiated by Council of the municipality the liability of the original petitioners does not apply. Therefore, there is no clear direction to provide guidance for assessment of the costs.

In the absence of any clear direction in the Drainage Act, given that the report was initiated by the City, the cost of the Engineers Report is assessed to the City of Ottawa. The total cost of the draft Engineer's Report Hobbs Municipal Drain Outlet Extension, March 2019 by Robinson Consultants Inc. which was completed specifically for review by the RVCA and this Section 40 report is \$85,000.00.

All of which is respectfully submitted for Council's consideration.

Yours very truly,

ROBINSON CONSULTANTS INC.



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



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

Appendix A

Options Report & Preliminary  
Options Dwg. 17042-OP

February 21, 2018

Rideau Valley Conservation Authority  
PO Box 599, 3889 Rideau Valley Drive  
Manotick, ON K4M 1A5

**Attention:** Terry Davidson, Director - Regulations

**Reference:** Hobb's Municipal Drain  
Our Project No. 17042

Dear Sir:

Further to the discussions at the scoping meeting and the Rideau Valley Conservation Authority (RVCA) letter outlining potential study considerations for work within the Provincially Significant Wetland (PSW), known as the Richmond Fen, we are providing a summary of four (4) potential options. These options are provided for your consideration in an effort to determine which of the options are considered to have the least potential for disturbance to the PSW and are therefore the most viable from an environmental protection standpoint while still meeting the requirements for drainage under the Drainage Act. Once this determination of viability is complete we anticipate that the RVCA will be able to provide guidance regarding the approval process.

A summary of the four (4) Preliminary Options is provided below. The location/route of each option as well as the adjacent drainage area boundary (Van Gaal Municipal Drain & Arbuckle Award Drain) and the PSW Boundary are provided on the Preliminary Options Plan, Dwg. 17042-OP as attached.

### **Option 1**

This option provides for a route along the westerly property line of the concerned landowner, extending along the east/west half lot line (offset by 15m) of Lot 16 Con 4 (Goulbourn) to the north/south half lot line and combining with options 2, 3 and 4 along the westerly limit of the hydro corridor, flowing south to Franktown Road and east to the current crossing. Ultimately this option will require the following:

- Up to 2550m of full reconstruction or new construction at 0.08% with depths ranging up to 4.0m deep.
- New crossings (culverts) at the ROW for Conley Road the Hydro corridor and for property access(s) from Franktown Road.
- There is significant potential for bedrock along this route – due to the volume and depth of construction, blasting may be the only alternative for removal.
- Significant clearing of trees and other PSW vegetation will be required for construction and maintenance of this route.
- This route may intercept flows at the boundary and direct them away from the core of the PSW.

### **Option 2**

This option provides for a route along the easterly property line of the concerned landowner, extending along the lot line between Lot 16 and 17, Con 4 (Goulbourn) to the south property line of the concerned landowner and combining with options 1, 2A, 3, 3A and 4 along the westerly (or easterly for option 3A) limit of the hydro corridor, flowing south to Franktown Road and east to the current crossing. Ultimately this option will require the following:



- 2050m of full reconstruction or new construction of the channel at 0.08% ranging in depth up to 2.0m deep.
- New crossings (culverts) at the adjacent properties to the east, Hydro corridor and for property access(s) from Franktown Road
- There is reduced potential for bedrock along this route, and a hoe-ram may be used in place of blasting
- Clearing of trees is reduced along this route, however, clearing of other PSW vegetation will be required for construction and maintenance of this route.
- Overall disturbance of the PSW is reduced by utilizing the Hydro Corridor which is already impacted/disturbed.

### **Option 3**

This option follows a minor existing channel south from the current end of the Municipal Drain to an existing channel flowing south-easterly and combining with options 1, 2, and 4 with flows directed down the west side of the hydro corridor. Alternatively, (Option 3A) directs flow across the hydro corridor and south down the easterly side of the corridor. This option will require the following:

- 1380m of full reconstruction or new construction of the channel at 0.08% ranging up to 1.5m deep.
- Clean-out and utilization/improvement of 750m of existing channel.
- New crossings (culverts) at adjacent properties, the Hydro corridor and for property access(s) from Franktown Road
- Clearing of trees is reduced along this route, however, clearing of other PSW vegetation will be required for construction and maintenance of this route.
- Overall disturbance of the PSW is reduced by utilizing the Hydro Corridor which is already impacted/disturbed.

### **Option 4**

This option follows a minor existing channel east from the current end of the Municipal Drain to the westerly limit of the Hydro corridor combining with options 1, 2, and 3 with flows directed down the west side of the hydro corridor. This option will require the following:

- 1875 of full reconstruction or new construction of the channel at 0.08% ranging up to 1.5m deep.
- Clean-out and utilization/improvement of 420m of existing channel.
- Clearing of trees and other PSW vegetation will be significantly reduced by utilizing the Hydro Corridor and limiting new construction outside of the corridor.
- The impacts of future maintenance may also be reduced through utilization of the hydro corridor.
- This dissects the drainage area and intercepts almost all flows that may occur from the west to the east which may impact water levels in the PSW, however, the existing built-up hydro access road also intercepts flows to varying degrees, therefore, the degree of the impact of the proposed construction may be limited

It would also be possible to combine sections of the various options to form a preferred option.

We would like to schedule a meeting with the RVCA before the end of February to discuss these options and determine which alignment to select for further development. As you know, Mr. Chrustie is very anxious to see our Engineer's Report completed.

Yours very truly,

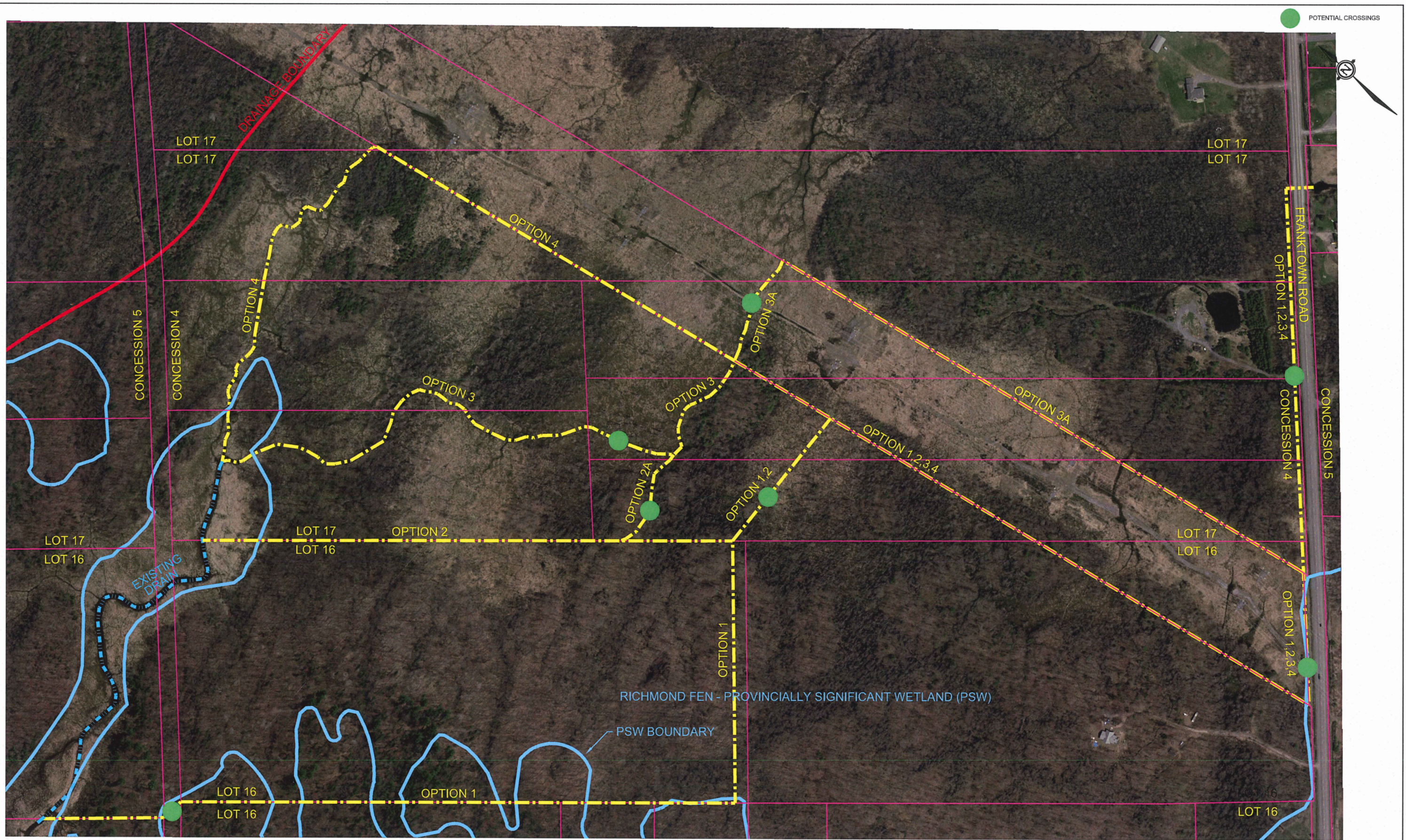
ROBINSON CONSULTANTS INC.

A handwritten signature in black ink, appearing to read 'Lorne Franklin', written in a cursive style.

Lorne Franklin, C.E.T., rcca, CISEC  
Drainage Services

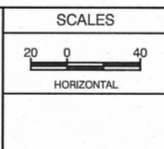
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c.c. David Ryan, Drainage Superintendent, City of Ottawa



POTENTIAL CROSSINGS

No.	DATE	REVISION	BY	No.	DATE	REVISION	BY
	dd.mm.yy	comment	xx		dd.mm.yy		
1							



**Robinson**  
Consultants

CONSULTING ENGINEERS  
350 PALLADIUM DRIVE  
KANATA, ONTARIO K2V 1A8  
TELEPHONE (613) 592-6060

DESIGN	LF
CHECKED	AJR
DRAWN	JHB
CHECKED	LF
APPROVED	AJR

CITY OF OTTAWA  
  
HOBBS MUNICIPAL DRAIN

PRELIMINARY OPTIONS

PROJECT No.	17042
CONTRACT No.	
DATED	FEBRUARY 2018
DWG. No:	17042-OP

Appendix B

RVCA Technical Memorandum  
April 2018  
RVCA Letter to City of Ottawa  
August 2017

April 10, 2018

**Attention:** Terry Davidson, P.Eng. Director of Regulations  
Rideau Valley Conservation Authority

**Prepared by:** Claire Milloy, P.Geo., Groundwater Scientist  
Watershed Science and Engineering Services, Rideau Valley Conservation Authority

**Project:** **Hobbs Municipal Drain**  
**Proposed extension into the Richmond Fen Provincially Significant Wetland**

**Re:** **March 29, 2018 Meeting**

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This memorandum follows a meeting between RVCA staff, the City of Ottawa appointed drainage engineer, Robinson Consultants, and City of Ottawa Public Works and Environmental Services staff. We met to discuss a proposed initiative to extend the Hobbs Drain through the part of the Richmond Fen Provincially Significant Wetland (PSW) north of Franktown Road. The discussions herein should be read in direct reference to RVCA's previous and related correspondence dated August 29, 2017 and May 18, 2017 and WSES's internal memo from February 22, 2018.

On March 29, 2018, RVCA heard from Robinson Consultants about the possible alignments of the proposed extension, which is an outlet improvement under the Drainage Act. These alignments are outlined in Robinson Consultants' February 21, 2018, letter and involve the extension of the drain by as much as 2.5 kilometers from its current terminus.

At the meeting, WSES summarized the following aspects of RVCA's position about the proposed extension of the drain: RVCA's responsibility under Ontario Regulation 174-06, to permit development, as defined in the Conservation Authority Act, only if "the control of flooding, erosion, dynamic beaches, pollution or the conservation of land will not be affected by the development"; RVCA's understanding of the hydrologic functions of this part of the Richmond Fen; and RVCA's position about the anticipated impacts to the PSW and the drainage area it controls if the proposed development were to proceed as intended.

WSES conveyed the following information about the physiographic position and hydrologic functions of the PSW:

- ❖ The Richmond Fen is situated in the only extensive and deep sand plain in the Jock River Subwatershed. The sand plain was deposited following the last glaciation when the Champlain Sea covered, amongst other regions, the Ottawa area.
- ❖ The PSW is also situated at the main break in the regional topography where the land flattens out.

- ❖ The combined topographic, sand plain and wetland system is one of the remaining features in the entire subwatershed that is a critical receiver and storehouse of abundant surface water and groundwater.
  - ↳ The system collects and stores abundant precipitation, more than most other areas of the Jock River Subwatershed (groundwater recharge)
  - ↳ The system also likely exhibits groundwater discharge from underlying bedrock aquifers which is then also stored in the sand plain and wetland.
  - ↳ In addition, the system collects and stores surface water from the upper reaches of the Hobbs catchment, although this is likely much less water than is held within the shallow groundwater system.
  - ↳ The system thereby acts as an important water repository and regulator/attenuator of flood waters immediately up-gradient of flood prone areas along Franktown Road and in the Village of Richmond.
- ❖ The system is also the main distributor of baseflows to the Jock River immediately up-gradient of the Village of Richmond, thereby establishing better water quality and aquatic habitat in this part of the river for residents and aquatic species alike.
- ❖ Further, the wetland's catchment has already experienced a 29 percent loss of historic wetland cover.
- ❖ Given the above, the Richmond Fen PSW should be considered to be a stable and ancient natural system of critical importance to the economic and personal well-being of local residents; and to the health of the wetland and Jock River habitats. As indicated in RVCA's Jock River Subwatershed Report 2016, a "no net loss" of currently existing wetlands should be employed to ensure the continued provision of tangible benefits accruing from them to landowners and surrounding communities.

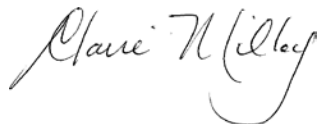
In addition, WSES discussed the following impacts, which would be anticipated from the proposed development.

- 1 The proposed drain extensions, given that there are several metres of topographic fall between the existing terminus and the desired terminus, would dewater upland parts of the wetland in a zone of impact around the drain alignment. However, lower elevation sections around the drain would not likely dewater. This would effectively reduce the storage of infiltrating floodwater and precipitation in the upland areas within the zone of impact. In addition, it is possible that the size of the wetland would be reduced within the zone of impact.
- 2 Dewatering would not just relocate surface water but also release otherwise sequestered groundwater into the Hobbs drainage system.
- 3 Given that the topography flattens out even more near Franktown Road, the conveyed and additional water would collect in that area thereby exacerbating existing seasonal flooding, which is already significant.
- 4 Given that less groundwater will be stored within the PSW and more open water will collect near Franktown Road and along the drain alignment, the quality of baseflow will also be reduced.

- 5 The proposed development would also likely generate the perceived need for additional development in the PSW to alleviate exacerbated local flooding, which in turn would significantly exacerbate the above impacts to the wetland and the drainage area it controls.

WSES staff concluded that, as per O.Reg 174-06 and without evidence to the contrary, such as from extensive monitoring and modelling of the system, the proposed development would likely diminish the wetland's control of flooding and pollution for the area that it controls. In addition, we should note here that the proposed development would also have serious impacts to the conservation of land in the watershed, since the natural hydrologic functions of this area would be diminished which would result in the diminishment of related ecological functions and the wetland feature itself.

Respectfully,



**Claire A Milloy, M.Sc., P.Geo.**

Groundwater Scientist

ext. 1217

[claire.milloy@rvca.ca](mailto:claire.milloy@rvca.ca)

August 29, 2017.

Mr. David Ryan  
Municipal Drainage Manager  
City of Ottawa  
2155 Roger Stevens Drive  
Ottawa (North Gower), ON  
K0A 2T0

Dear Mr. Ryan,

This letter is in reply to the inquiry made during the scoping meeting for the proposed Hobbs Municipal Drain improvements held August 16<sup>th</sup> in North Gower. Robinson Consultants, the City appointed engineer, inquired as to Conservation Authority information requirements to be considered in preparing an Engineers Report.

As you are aware the Hobbs Municipal Drain terminates in a Provincially Significant Wetland (P.S.W.) with the lands identified as EP3 zoning and Significant Wetlands in the City of Ottawa Official Plan. The land downstream of the current municipal drain falls within the Richmond Fen which under provincial legislation RVCA is mandated to protect. This was identified in the May 18<sup>th</sup> RVCA memorandum which we note was not brought to the City Councilors attention nor discussed at the Agriculture and Rural Affairs Committee (ARAC) or the subsequent City Council meeting. RVCA has not yet received the courtesy of a reply to our recommendations.

In that memo it was pointed out that “extensive hydrotechnical studies will be required to satisfy the Authority that there would be no hydrological impacts or ecological implications to the form and function of the PSW as a result of any work”.

The specific studies required will depend on the proposed solution and scale of the project. The characteristics of the feature will play a significant role in determining the scope of any necessary studies. As indicated at the scoping meeting the Conservation Authority is likely to be more receptive to a solution that impacts the least amount of wetland and can be located to the periphery of the wetland boundary. Ultimately, it will be the responsibility of the consulting engineer to provide evidence that the hydrologic function and ecological integrity will not be impacted.

In an effort to provide specific guidance, Appendix H from the 2010 Beacon Environmental report is provided for reference. The Beacon report was commissioned by Conservation Ontario on behalf of all Conservation Authorities to establish the items that should be addressed for various categories, scales



and types of proposed development and interference for proposed activities within a regulated wetland. The Linear Infrastructure or Peat Extraction columns under the Proposed Activity/Development section of the table are considered appropriate for a Municipal Drain, depending on how intrusive the drain will be. As you will note most of these requirements focus on the need for Hydrological Impact Studies (HIS) and should include reviews of the functional groups of water regime, local water balance, conveyance, and flood attenuation and specifically review hydro period, recharge/discharge functions as well as other elements of the Environmental Impacts as detailed in the table.

It is recommended that a pre-consultation meeting be scheduled with RVCA technical staff including our Groundwater Scientists and others in our Watershed Science and Engineering department to discuss the technical requirements of such studies.

It should be noted that RVCA is in the final stages of producing flood plain mapping for the Hobbs Drain from Fallowfield Road to the Jock River in accordance with an agreement with the City of Ottawa. Once finalized this may be useful information to be considered by the engineer.

RVCA may be able to contribute information that could be of use to the consultants including the Jock River Subwatershed report which is available on our website. We also hold a report by the Nature Conservancy Canada which was produced for the now RVCA owned Ruitter property which provides significant detail and inventory of the important features and ecological functions of the property and is considered relevant to surrounding lands.

I trust this information will assist in the preparation of an Engineers report that will respect the objectives of both the Conservation Authorities Act as well as the Drainage Act. Please don't hesitate to contact me or a member of my staff to discuss further.

Sincerely,

A handwritten signature in black ink that reads "Terry K. Davidson". The signature is written in a cursive style with a large, stylized 'D'.

Terry K. Davidson, P. Eng.  
Regulations Director, RVCA

c.c. A. Robinson, Robinson Consultants  
S. Moffatt, City Ottawa Councilor  
S. Vander Veen, OMAFRA, DART  
J. Boos, Kemptville MNRF  
L. Rich, Conservation Ontario, DART

# Appendix H

## Matrix Table

This Matrix Table provides a summary of the hydrologic and ecological functions that should be addressed for various categories, scales and types of proposed development and interference for proposed activities within a regulated wetland, and other areas, for the range of activities or types of development as previously identified.

This table provides a summary of the proposed activity/development, whether it is within the wetland or within other areas, wetland functions and the corresponding EIS assessment. The table provides recommendations as to whether a particular assessment is required, could be required, or would typically not be required, based on the activity/development and its location in the wetland or within other areas (see Key below). While this table provides guidance regarding what is likely to be required, the proponent should confirm the specific requirements for their application with the conservation authority.

Recommendations regarding conservation projects are not addressed within this report, as the Steering Committee decided that guidance specific to wetland conservation projects should be developed through a separate, focused exercise.

### Key

✓ required

o = may be required depending on site specific conditions and/or the proposal (i.e. where mitigation measures with no EIS are not considered adequate)

x = not likely required; where mitigation with no EIS is considered sufficient

Regulatory Category	Broad Functional Group	Wetland Functions	EIS Assessment	Scope of EIS Assessment	PROPOSED ACTIVITY / DEVELOPMENT <sup>21</sup>														Verify Special Scoping Requirements	
					Minor Permits Other Than Single Family Dwelling		Minor Permits Development of Single-family Dwellings Existing Lot		Development of Ind/Comm; Severances; Small Subdivisions		Large Scale Development		Agricultural Use		Peat Extraction		Linear Infrastructure		Specific Study Required	
					In Wetland	Other Areas	In Wetland	Other Areas	In Wetland	Other Areas	In Wetland	Other Areas	In Wetland	Other Areas	In Wetland	Other Areas	In Wetland	Other Areas	Yes	No
HYDROLOGIC ASSESSMENT	Water Regime	Erosion Control	Background Review		x	o	o	o	✓	o	✓	✓	o	o	✓	✓	✓	o		
			Erosion Assessment	Storage Capacity	x	x	o	x	✓	x	✓	x	o	x	✓	x	✓	x		
				Loss of Vegetation	x	x	o	x	✓	o	✓	✓	✓	✓	✓	✓	✓	o		
				Reduction in Water Levels	x	x	o	x	✓	o	✓	✓	✓	✓	✓	✓	✓	o		
		Contribution to Groundwater Recharge/Discharge	Local Groundwater Hydraulic Gradient	Wetland Hydroperiod		x	x	o	o	o	o	✓	✓	✓	✓	✓	✓	o	o	
				Adjacent Groundwater Levels		x	x	o	o	o	o	✓	✓	o	o	✓	✓	o	o	
				Spatial and Temporal Extent		x	x	o	o	o	o	✓	✓	o	o	✓	✓	o	o	
			Local Hydrostratigraphy	Surficial Geology		x	x	o	o	o	o	✓	✓	o	o	✓	✓	o	o	
				Lower Geologic Units		x	x	o	o	o	o	✓	✓	o	o	✓	✓	o	o	
			Groundwater	Discharge/Recharge Quality		x	x	o	o	o	o	✓	✓	o	o	✓	✓	o	o	

<sup>21</sup> Conservation projects are not addressed here, as the Steering Committee decided it would be more appropriate to identify guidance for conservation projects in separate, focused document.

Regulatory Category	Broad Functional Group	Wetland Functions	EIS Assessment	Scope of EIS Assessment	PROPOSED ACTIVITY / DEVELOPMENT <sup>21</sup>														Verify Special Scoping Requirements			
					Minor Permits Other Than Single Family Dwelling		Minor Permits Development of Single-family Dwellings Existing Lot		Development of Ind/Comm; Severances; Small Subdivisions		Large Scale Development		Agricultural Use		Peat Extraction		Linear Infrastructure		Specific Study Required Yes No			
					In Wetland	Other Areas	In Wetland	Other Areas	In Wetland	Other Areas	In Wetland	Other Areas	In Wetland	Other Areas	In Wetland	Other Areas	In Wetland	Other Areas				
ECOLOGICAL ASSESSMENT	Habitat for Flora and Fauna, Biological Productivity	Uncommon Habitat/ Communities at a Subwatershed Scale; Habitat for Species-at-Risk - habitat for rare vegetation communities - areas with diverse vegetation communities - breeding bird habitat - breeding habitat for colonial species - breeding habitat for amphibians - winter wildlife habitat - habitat for concentrations of migratory species - fish and fish habitat	Quality	Adjacent Groundwater Quality	x	x	o	o	o	o	✓	✓	o	o	✓	✓	o	o				
			Groundwater Assessment		x	x	o	o	o	o	✓	✓	o	o	✓	✓	o	o				
			Local Water Balance	Water Budget	Hydroperiod		x	x	o	o	✓	o	✓	✓	o	o	✓	✓	o	o		
					Surface Water Inputs		x	x	x	x	✓	o	✓	✓	x	x	✓	✓	o	x		
					Groundwater Inputs		x	x	x	x	✓	o	✓	✓	x	x	✓	✓	o	x		
					Evapotranspiration		x	x	x	x	✓	o	✓	✓	x	x	✓	✓	✓	x		
					Storage		x	x	x	x	✓	x	✓	x	x	x	✓	x	✓	x		
			Conveyance	Conveyance Assessment	Storage and Cross-sectional Flow Area		x	x	x	x	✓	x	✓	x	x	x	✓	x	✓	x		
			Flood Attenuation	Flood Assessment	Storage		x	x	x	x	✓	x	✓	x	x	✓	x	✓	x			
			Contribution to Living Things	Ecological Assessment	Frequency, Timing, Duration and Level of Flood/Inundation		x	x	x	x	✓	o	✓	✓	x	x	✓	✓	o	x		
			Biogeochemical	Water Quality Functions	Water Quality Assessment	Chemical Testing (e.g., pH, DO, hydrogen sulfide, ammonia)		x	x	x	x	o	o	o	o	x	x	✓	x	x	x	
						Contaminants (e.g., pesticides, excessive nutrients, heavy metals)		x	x	x	x	o	o	o	o	x	x	✓	x	x	x	
						Background Review		x	x	x	x	✓	x	✓	x	x	x	✓	x	✓	x	
			ECOLOGICAL ASSESSMENT	Habitat for Flora and Fauna, Biological Productivity	Uncommon Habitat/ Communities at a Subwatershed Scale; Habitat for Species-at-Risk - habitat for rare vegetation communities - areas with diverse vegetation communities - breeding bird habitat - breeding habitat for colonial species - breeding habitat for amphibians - winter wildlife habitat - habitat for concentrations of migratory species - fish and fish habitat	Wetland	Boundary Staked in Field with CA		x	x	o	x	✓	x	✓	x	x	✓	x	o	x	
							Other Areas Distance Identified		x	x	x	x	✓	x	✓	x	x	✓	x	o	x	
ELC	Community Series					x	x	x	x	x	x	x	x	x	x	x	x	x	o	x		
	Ecosite					x	x	x	x	x	x	x	x	x	x	x	x	x	✓	x		
	Vegetation Type					x	x	x	x	✓	x	✓	x	x	x	✓	x	o	x			
Botanical Survey	1 Season					x	x	o	x	✓	x	o	x	x	x	o	x	✓	x			
	2 Season					x	x	x	x	o	x	o	x	x	x	✓	x	o	x			
	3 Season					x	x	x	x	o	x	✓	x	x	x	o	x	o	x			
Breeding Bird Survey	1 Visit, roving					x	x	x	x	✓	x	o	x	x	x	o	x	o	x			
	2 Visits (> 7 days apart), roving					x	x	x	x	o	x	✓	x	x	x	✓	x	o	x			
	Breeding Bird Atlas					x	x	x	x	o	x	o	x	x	x	o	x	o	x			
Migratory Bird	Historical Records					x	x	x	x	o	x	o	x	x	x	o	x	x	x			

Regulatory Category	Broad Functional Group	Wetland Functions	EIS Assessment	Scope of EIS Assessment	PROPOSED ACTIVITY / DEVELOPMENT <sup>21</sup>														Verify Special Scoping Requirements				
					Minor Permits Other Than Single Family Dwelling		Minor Permits Development of Single-family Dwellings Existing Lot		Development of Ind/Comm; Severances; Small Subdivisions		Large Scale Development		Agricultural Use		Peat Extraction		Linear Infrastructure		Specific Study Required				
					In Wetland	Other Areas	In Wetland	Other Areas	In Wetland	Other Areas	In Wetland	Other Areas	In Wetland	Other Areas	In Wetland	Other Areas	In Wetland	Other Areas	In Wetland	Other Areas	Yes	No	
			Surveys	Incidental	X	X	X	X	✓	X	✓	X	X	X	X	○	X	✓	X				
				Multiple Visits	X	X	X	X	X	X	○	X	X	X	X	○	X	X	X	X			
				Breeding Frog and Toad Surveys	1 Visit	X	X	X	X	✓	X	○	X	X	X	X	○	X	✓	X			
					2 Visits	X	X	X	X	○	X	○	X	X	X	X	✓	X	○	X			
					3 Visits	X	X	X	X	○	X	✓	X	X	X	X	○	X	○	X			
				Breeding Salamander Surveys	1 Visit - Visual Survey	X	X	X	X	✓	X	✓	X	X	X	X	✓	X	○	X			
					2 Visits - Visual Surveys	X	X	X	X	○	X	○	X	X	X	X	○	X	○	X			
					Trapping & Tissue Sampling	X	X	X	X	X	X	○	X	X	X	X	○	X	X	X			
				Turtle and Snake Surveys	1 Visit - Diurnal	X	X	X	X	○	X	✓	X	X	X	X	○	X	○	X			
					2 Visits - Diurnal	X	X	X	X	○	X	○	X	X	X	X	○	X	○	X			
					Other	X		X	X					X	X								
				Fish Surveys	Visual	X	X	X	X	✓	X	✓	X	X	X	X	✓	X	✓	X			
					Electrofishing	X	X	X	X	○	X	○	X	X	X	X	○	X	○	X			
					Netting	X	X	X	X	X	X	○	X	X	X	X	X	X	X	X			
				Fish Habitat	Habitat Assessment	X	X	X	X	✓	X	✓	X	X	X	X	✓	X	✓	X			
				Benthics	Benthic Invertebrate Sampling	X	X	X	X	○	X	○	X	X	X	X	○	X	○	X			
				Mammal Surveys	Incidental Observations	X	X	X	X	✓	X	✓	X	X	X	X	✓	X	✓	X			
					Small Mammal Trapping	X	X	X	X	X	X	○	X	X	X	X	X	X	X	X			
				Dragonfly and Damselfly Surveys	Incidental Observations	X	X	X	X	✓	X	✓	X	X	X	X	✓	X	✓	X			
					1 Visit	X	X	X	X	○	X	○	X	X	X	X	○	X	○	X			
					2 Visits	X	X	X	X	○	X	○	X	X	X	X	○	X	X	X			
				Serves As An Ecological Linkage	Ecological Linkage Assessment	Incidental Observations	X	X	X	X	✓	X	✓	X	X	X	✓	X	✓	X			
						Local Wildlife Use Surveys	X	X	X	X	✓	X	✓	X	X	X	✓	X	○	X			
						Landscape Scale	X	X	X	X	○	X	○	X	X	X	✓	X	○	X			
				Specific Studies Based on Background Information	Provide Details:		X		X	X					X	X							
				MAPPING REQUIREMENTS	Existing Conditions	Hydrologic	Erosion Concerns/Issues	X	X	X	X	✓	✓	✓	✓	X	X	✓	✓	✓	X		
							Areas of Groundwater Recharge and Discharge	X		X	X					X	X					X	
							Conveyance		X			✓	✓	✓	✓			✓	✓	✓			
							Floodlines	Top of Bank	X	X	X	X	✓	✓	✓	✓	X	X	✓	✓	✓	X	
Regional Storm	X	X	X					X	✓	✓	✓	✓	X	X	○	○	✓	X					
100 year Storm	X	X	X				X	✓	✓	✓	✓	X	X	○	○	✓	X						
Ecological	Wetland	surveyed from field staking	X	X	X	X	✓	✓	✓	✓	X	X	✓	✓	✓	X							

Regulatory Category	Broad Functional Group	Wetland Functions	EIS Assessment	Scope of EIS Assessment	PROPOSED ACTIVITY / DEVELOPMENT <sup>21</sup>														Verify Special Scoping Requirements			
					Minor Permits Other Than Single Family Dwelling		Minor Permits Development of Single-family Dwellings Existing Lot		Development of Ind/Comm; Severances; Small Subdivisions		Large Scale Development		Agricultural Use		Peat Extraction		Linear Infrastructure		Specific Study Required Yes No			
					In Wetland	Other Areas	In Wetland	Other Areas	In Wetland	Other Areas	In Wetland	Other Areas	In Wetland	Other Areas	In Wetland	Other Areas	In Wetland	Other Areas				
			Boundary	with CA																		
			ELC Communities	Other Areas identified	X	X	X	X	✓	✓	✓	✓	X	X	✓	✓	✓	X				
				all communities identified and mapped	X	X	X	X	✓	○	✓	X	X	X	X	✓	X	✓	X			
			Botanical	watershed or provincially uncommon communities	X	X	X	X	✓	X	✓	X	X	X	✓	X	✓	X				
				locations of watershed rare species	X	X	X	X	✓	X	✓	X	X	X	✓	X	✓	X				
			Birds	locations of Species-at-Risk	X	X	X	X	✓	X	✓	X	X	X	✓	X	✓	X				
				locations of area-sensitive species	X	X	X	X	✓	X	✓	X	X	X	✓	X	✓	X				
				locations of watershed rare species	X	X	X	X	✓	X	✓	X	X	X	✓	X	✓	X				
			Herpetiles	locations of Species-at-Risk	X	X	X	X	✓	X	✓	X	X	X	✓	X	✓	X				
				locations of habitat structures, hibernacula, etc.	X	X	X	X	✓	X	✓	X	X	X	✓	X	✓	X				
				watercourses identified as permanent, intermittent, ephemeral	X	X	X	X	✓	X	✓	X	X	X	✓	X	✓	X				
			Aquatics	thermal regime (cold, cool, warm)	X	X	X	X	✓	X	✓	X	X	X	✓	○	✓	X				
				locations of Species-at-Risk habitat	X	X	X	X	✓	X	✓	X	X	X	✓	X	✓	X				
			Mammals	locations of habitat structures, e.g., dens, etc.	X	X	X	X	✓	X	✓	X	X	X	✓	X	✓	X				
				locations of Species-at-Risk habitat	X	X	X	X	✓	X	✓	X	X	X	✓	X	✓	X				
			Dragonfly and Damselfly	locations of Species-at-Risk captured	X	X	X	X	✓	X	✓	X	X	X	✓	X	✓	X				
				locations of Species-at-Risk habitat	X	X	X	X	✓	X	✓	X	X	X	✓	X	✓	X				
			Ecological Linkage	identify wildlife corridors	X	X	X	X	✓	X	✓	X	X	X	✓	X	✓	X				
				identify landscape linkages	X	X	X	X	✓	X	✓	X	X	X	✓	X	✓	X				
	Proposed Development	Structure/Activity	Proposed Footprint and Servicing	overlay on orthophoto	X	X	X	X	✓	✓	✓	✓	X	X	✓	✓	✓	X				
						overlay with ecological mapping	X	X	X	X	✓	X	✓	X	X	X	✓	X	✓	X		

## Appendix C

RVCA Correspondence (e-mail)  
April 2019

## Patti Wood

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**From:** Terry Davidson <terry.davidson@rvca.ca>  
**Sent:** Tuesday, April 16, 2019 9:45 AM  
**To:** Lorne Franklin  
**Cc:** Ryan, David W (David.Ryan@ottawa.ca); Hal Stimson  
**Subject:** Hobb's Municipal Drain Project No. 17042

Dear Mr. Franklin,

In reviewing Robinson Consultants letter of March 8 and the Draft Engineers Report for the Hobbs's Municipal Drain Outlet Extension, it is apparent that this proposal as submitted cannot be supported at a staff level in accordance with the Rideau Valley Conservation Authority's Ontario Regulation 174/06 and the Conservation Authorities Act which states under Section 5 "Subject to section 6, no person shall straighten, change, divert or interfere in any way with the existing channel of a river, creek, stream or watercourse or change or interfere in any way with a wetland."

The report as submitted does not provide any information that would assist RVCA staff to complete a detailed review of this proposed municipal drain extension through the Richmond Fen PSW. The project is being proposed to provide sufficient outlet to the established Hobbs municipal drain, however there is no supporting documentation as to why "sufficient outlet" is no longer available per the findings of the original drainage engineer report. The report concludes that "the standard set by the RVCA is impractically high" for determining the hydrologic impact to the wetland and potential increased flooding downstream. The RVCA's "standards" are requirements that are aligned with the Conservation Authorities Act Section 28 and the RVCA's policies for Alterations to Waterways (Section 3).

The issue you have raised about environmental appraisals was addressed before the appointment of your firm. The RVCA had indicated to City of Ottawa by the letter from the RVCA's General Manager (dated May 18, 2017), that recommended per Section 6(2) of the Drainage Act that City Council should "obtain appraisals on its own initiative and at its cost or at the cost of the original requester." The City's Staff report that was approved by the Agricultural and Rural Affairs Committee (ARAC), and subsequently City Council included this notification. Therefore, the RVCA considered the recommendation to have been accepted and approved by both ARAC and Council when the staff report was approved, and the Engineer was appointed.

If the City would like to proceed with this proposal as described in the draft engineer's report without the submission of appropriate environmental and hydrologic analysis, RVCA Staff will assist you in the process. We will require an application under Ontario Regulation 174/06 and an application requesting a hearing before the Executive Committee of the RVCA.

Please contact Hal Stimson to confirm details and requirements to schedule a hearing.

Sincerely,

Terry K. Davidson P.Eng  
Director of Engineering & Regulations