

Appendix **F**

Regulatory Documentation



NSECC Environmental Registry Export

NS PIDs: 37540317 and 37528221

Exported: August 9, 2023



August 9, 2023

Our file # ENV-2023-2712/2713

Email: michael.macgregor@aecom.com

Michael MacGregor
AECOM
1701 Hollis Street
Halifax NS B3J 2R8

**RE: Mines Rd. (PID 37540317); and Mines Rd. (PID 37528221), Fleet Settlement,
Guysborough**

I refer to your enquiry of the Environmental Registry received on July 28, 2023. We acknowledge receipt of payment for 2 properties.

Enclosed is the information that was located through the Environmental Registry with regards to Mines Rd. (PID 37540317), Fleet Settlement.

No information was located through the Environmental Registry with regards to the remaining above referenced properties.

Nova Scotia Environment makes no representations or warranties on the accuracy or completeness of the information provided.

Sincerely,

Arcum Chae

For/Tina Skeir
Information Access Office



155 Main Street, Suite 205
Antigonish, NS
Canada B2G 2B6

902-863-7389 T
902-863-7411 F
www.novascotia.ca

Our File Number: 95100-30-ANT-2021-2820661

June 03, 2021

PORT HAWKESBURY PAPER LIMITED PARTNERSHIP
2425 Prince William Street
Westville, NS
B0K 2A0

COPY

**Culvert with Fish Passage
NOTIFICATION RECEIPT**

**Province of Nova Scotia
Environment Act, S.N.S. 1994-95, c.1**

NOTIFIER: PORT HAWKESBURY PAPER LIMITED PARTNERSHIP

NOTIFICATION #: 2021-2820661-00

SITE: unnamed , North Brook
716 WATERNISH RD.
WATERNISH, GUYSBOROUGH COUNTY
PID 37540317, E - 557732, N - 4990022

EFFECTIVE DATE: June 2, 2021

EXPIRY DATE: September 30, 2021

DETAILS: Replacement of a Culvert with Fish Passage
450mm by 7.3 metres

Pursuant to Part V of the *Environment Act*, S.N.S. 1994-95, c.1 as amended from time to time, notification from the Notifier is acknowledged. The work done under this notification must follow the Nova Scotia Watercourse Alteration Activity Standards.

This Notification or a copy is to be kept on-site at all times as required under Section 22(3) of the Approval and Notification Procedures Regulations. All personnel involved in the project must be made fully aware of the standards associated with this notification. It is the Notifier's responsibility to ensure that they are followed. Failure to comply with the standards is an offence under the *Environment Act*.

It is the Notifier's duty to advise the Department of any new and relevant information respecting any adverse effect that results or may result from the activity, which comes to the Notifier's attention after the issuance of the Notification. This is required under Section 60 of the *Environment Act*.

If the activity is altered, extended or modified beyond the description given in this Notification, please reapply as a new Notification is required.

Nothing in this Notification relieves the property owner or person responsible of the responsibility for obtaining and paying for all licenses, permits, approvals or authorizations necessary for carrying out the work authorized to be performed by this Notification which may be required by municipal by-laws, provincial or federal legislation, or other organizations. The Minister does not warrant that such licenses, permits, approvals or other authorizations will be issued.



NOTIFICATION FORM

OFFICE USE ONLY	
Date Received: (yyyy/mm/dd) <u>2021/06/02</u>	Notification # <u>2021-2820661</u>

The notification form must be received by Nova Scotia Environment at least 5 days before work commences. Work may only start after you (the notifier) have received a notification receipt from Nova Scotia Environment.

PLEASE PRINT OR TYPE. Complete sections 1, 3, 4, applicable parts of 5, and 6 or the notification will not be accepted. Please keep a copy of your notification form. Incomplete forms will not be returned to the notifier.

SECTION 1 - NOTIFIER

Port Hantsbury Paper LP
Company/Organization/Municipality

Business Number (BN) if applicable

First Name <u>PAUL</u>	Middle Initial <u>S</u>	Last Name <u>MACDONALD</u>
---------------------------	----------------------------	-------------------------------

Primary Phone Number <u>902 331-0759</u>	Ext.	Secondary Phone Number	Ext.	Fax
---	------	------------------------	------	-----

E-mail

Civic/Street Address
2425 Prince William Street 111

Mailing Address (if different than Civic)

Community
Abstville County
Pictou

Province
NS Postal Code
B2K 2A0 Country
Canada

NOTE: Following application decision, all correspondence will go to the applicant

Preferred Method of Contact? Email Paper

Notifier Type (if applicable)

Installer Sizer Hydrogeologist Professional Engineer

1500452-S

Certification Number

SECTION 2 - NOTIFICATION CONTACT

Is the Notification Contact the same as Section 1 – Notifier? Yes No If yes, please skip to Section 3.
If there is more than one contact, please attach a complete list of contacts with the information below.

Company/Organization/Municipality

Business Number (BN) if applicable

First Name Middle Initial Last Name

Primary Phone Number Ext. Secondary Phone Number Ext. Fax

E-mail

Civic/Street Address

Mailing Address (if different than Civic)

Community County

Province Postal Code Country

NOTE: Following application decision, all correspondence will go to the applicant

Preferred Method of Contact? Email Paper

Contact Type
 Installer Sizer Hydrogeologist Professional Engineer

Certification Number

SECTION 3 - SITE/LOCATION OF PROPOSED ACTIVITIES

Property Identification numbers (PID) are available at the Nova Scotia Land Registry.
1:50,000 Topo Maps (identifying Easting and Northing) are available at Nova Scotia Environment offices.

If more than one Site, Copy this section and attach for each Site.

Watercourse Name UNNAMED Tributary To North Brook

Site Name Mohand Lake Road Spun #2

For each property associated with this site, please fill out the information below. If the activity/facility covers more than one property, copy and attach each site.

Civic/Street Address N/A

Lot Number

Community New Chester 37540317 County District of St. Marks
11211

Property Identification # (PID) Topographical Map Number

Coordinates:
Easting 557 732 Northing 4 990 022 Zone

If there are multiple point locations associated with this activity, provide the Easting and Northing information for each.

Additional Directions to Site (if applicable)

SECTION 4 - ACTIVITY

Please check (✓) activity that applies. Please refer to [Activities Designation Regulations](#) to make sure the activity can be completed under a notification, otherwise an application for approval may be required.

Watercourse alterations (work between June 1 and September 30 only)

- Bank alteration - Boat Launch (restricted to 5 m or less; watercourse bed is not disturbed) - Complete section 5A, 6
- Bridge or other open bottom structure - construction of new or modification of existing bridge or other open bottom structure (watercourse bed is not disturbed; bridge with maximum span 15 metres; other open bottom structure with maximum length of 25 m and maximum span of 3600 mm) Complete section 5B, 6
- Culvert or closed bottom structure - construction of new or modification of existing culvert (on watercourse sloped less than 8%; watershed area not exceeding 20 km²; length of structure 25 m or less). Complete section 5C, 6
- Bank alteration - Erosion Protection (restricted to 5 m or less; watercourse bed is not disturbed). Erosion Protection - Complete section 5D, 6
- Maintenance of structure in watercourse (does not include removal, replacement, expansion or reductions; work done below the ordinary high water mark) -Complete section 5E, 6
- Bank Alteration - Water Intake/Dry Hydrant (restricted to 5 m or less; watercourse bed is not disturbed) -Complete section 5F, 6
- Bank Alteration -Wharf (restricted to 5 m or less; watercourse bed is not disturbed) - Complete section 5G,6
- Work to improve fish habitat (not to exceed 15m, no use of vehicular machinery) -Complete section 5H.

SECTION 5 - ACTIVITY DETAILS

5A - All of the following information must be provided for a Bank Alteration (Boat Launch) in a watercourse or the notification will not be accepted.

Start Construction Date (yyyy/mm/dd) _____ End Date of Construction (yyyy/mm/dd) _____

Description of Channel Bottom _____

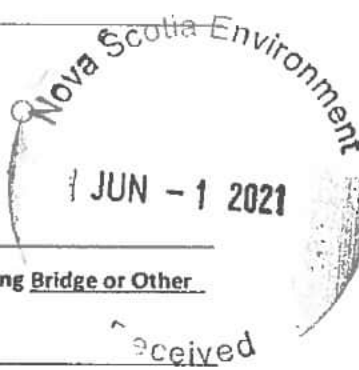
Is this a new Construction Yes No

Type of Modification (check one)

Expansion Reduction Removal Replacement

Length of Bank Alteration (m) (cannot exceed 5 meters*) _____ meters

NOTE: * If this is exceeded you must submit an application for approval



5B - All of the following information must be provided for construction of new or modification of an existing Bridge or Other Open Bottomed Structure or the notification will not be accepted.

Start Construction Date (yyyy/mm/dd) _____ End Date of Construction (yyyy/mm/dd) _____

Upstream Watershed Area (km2)(cannot exceed 20 km2*) _____ Watercourse Slope (%) _____

Watercourse Velocity (m/s) _____ Channel Width (meters) _____ Channel Depth (meters) _____

Description of Channel Bottom _____

Watercourse Assessed by Qualified Person Yes No Is the Watercourse Fish Habitat Yes No

Is this a New Construction? Yes No

Type of Modification (check one)

Expansion Reduction Removal Replacement

Arch Width (mm) _____ Bridge Width (meters) _____ Length (meters) _____

Crossing Type: Bridge/Concrete Span OR Pipe Arch/Open Bottom Structure

5C - All of the following information must be provided for construction of a new or modification of an existing Culvert or Other Closed Bottomed Structure, or the notification will not be accepted.

Start Construction Date (yyyy/mm/dd) 2021/06/09 End Date of Construction (yyyy/mm/dd) 2021/06/16

Upstream Watershed Area (km2)(cannot exceed 20 km2*) 0.05 Watercourse Slope (%) 0.5

Watercourse Velocity (m/s) 0.2 Channel Width (meters) 0.3 Channel Depth (meters) 0.05

Description of Channel Bottom _____

Watercourse Assessed by Qualified Person Yes No Is the Watercourse Fish Habitat Yes No

Is this a New Construction? Yes No

Type of Modification (check one)

Expansion Reduction Removal Replacement

Length (meters) 7.3

Crossing Type: Culvert with fish passage Culvert without fish passage

Diameter (mm) 150mm

Length of Dissipation Pool (meters) 1.35 Width of Dissipation Pool (meters) 0.9

5D – All of the following information must be provided for a Bank Alteration (Erosion Protection) in a watercourse or the notification will not be accepted.

Start Construction Date (yyyy/mm/dd) _____ End Date of Construction (yyyy/mm/dd) _____

Description of Channel bottom _____

Watercourse Assessed by Qualified Person Yes No Is the Watercourse Fish Habitat Yes No

Is this a New Construction? Yes No

Type of Modification (check one)
 Expansion Reduction Removal Replacement

Description of Alteration _____

Length of Bank alteration (meters) _____

5E - All of the following information must be provided for Maintenance of Structures in a watercourse or the notification will not be accepted.

Start Construction Date (yyyy/mm/dd) _____ End Date of Construction (yyyy/mm/dd) _____

Description of Channel bottom _____

Watercourse Assessed by Qualified Person Yes No Is the Watercourse Fish Habitat Yes No

Description of Maintenance _____

5F - All of the following information must be provided for a Bank Alteration (Water Intake/Dry Hydrant) in a watercourse or the notification will not be accepted.

Start Construction Date (yyyy/mm/dd) _____ End Date of Construction (yyyy/mm/dd) _____

Description of Channel bottom _____

Watercourse Assessed by Qualified Person Yes No Is the Watercourse Fish Habitat Yes No

Is this a New Construction? Yes No

Type of Modification (check one)
 Expansion Reduction Removal Replacement

Description of Alteration _____

Length of bank alteration (meters) _____

5G - All of the following information must be provided for a Bank Alteration - Wharf in a watercourse or the notification will not be accepted.

Start Construction Date (yyyy/mm/dd) _____ End Date of Construction (yyyy/mm/dd) _____

Description of Channel bottom _____

Is this a New Construction? Yes No

Type of Modification (check one)
 Expansion Reduction Removal Replacement

Description of Alteration _____

Length of watercourse alteration (meters) _____

5H - All of the following information must be provided for a Work to Improve Fish Habitat in a watercourse or the notification will not be accepted.

Start Construction Date (yyyy/mm/dd) _____ End Date of Construction (yyyy/mm/dd) _____

Description of Channel bottom _____

Description of Alteration _____

Length of watercourse alteration (meters) _____

SECTION 6 – DECLARATION

Please select the option that applies to your situation

- I own the site
- I have a lease or other written agreement or option with the Landowner or occupier that enables me to carry out the activity on the site
- I have a legal right or ability to carry out the activity without the consent of the landowner or occupier

By signing you agree to the below terms and conditions

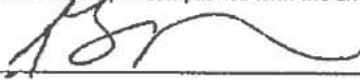
I agree that the information I have provided in this notification, including personal information, may be disclosed to the Department of Fisheries and Oceans

I consent to the use of the information I have provided on this form by Nova Scotia Environment and other government organizations as required for the purpose of processing my request to perform the activity indicated

I understand that I must provide all information about the activity, such as sketches, plans, and calculations, if requested by Nova Scotia Environment for a compliance audit

I have read and understand the regulations and standard that applies to the activity to which the notification relates including Nova Scotia Activities Designation Regulations, and the Nova Scotia Approval and Notification Procedures Regulations

I will carry out the activity in compliance with the Environment Act and the applicable regulations and standard

Signature:  Date: (yyyy/mm/dd) 2021/06/01

Name (Please print or type): PAUL S. McDONALD

Waterway Opening Area (m2) Calculation for Culverts

Location: Mohawk Ik #2

Easting 557 732
Northing 4 990 022
Map # 11 E1

Drainage area (ha) 5 *cell requires information*

km2 0.05

Coefficient: 2.25
Q (m3/sec): 0.1125

Channel width (m): 0.3
Channel Depth (m): 0.05
Watercourse slope(%): < .5%

Max Velocity: 1.8
Opening area (m2): 0.0625

Actual velocity (m/sec) 0

Diameter (m): 0.45 nomograph

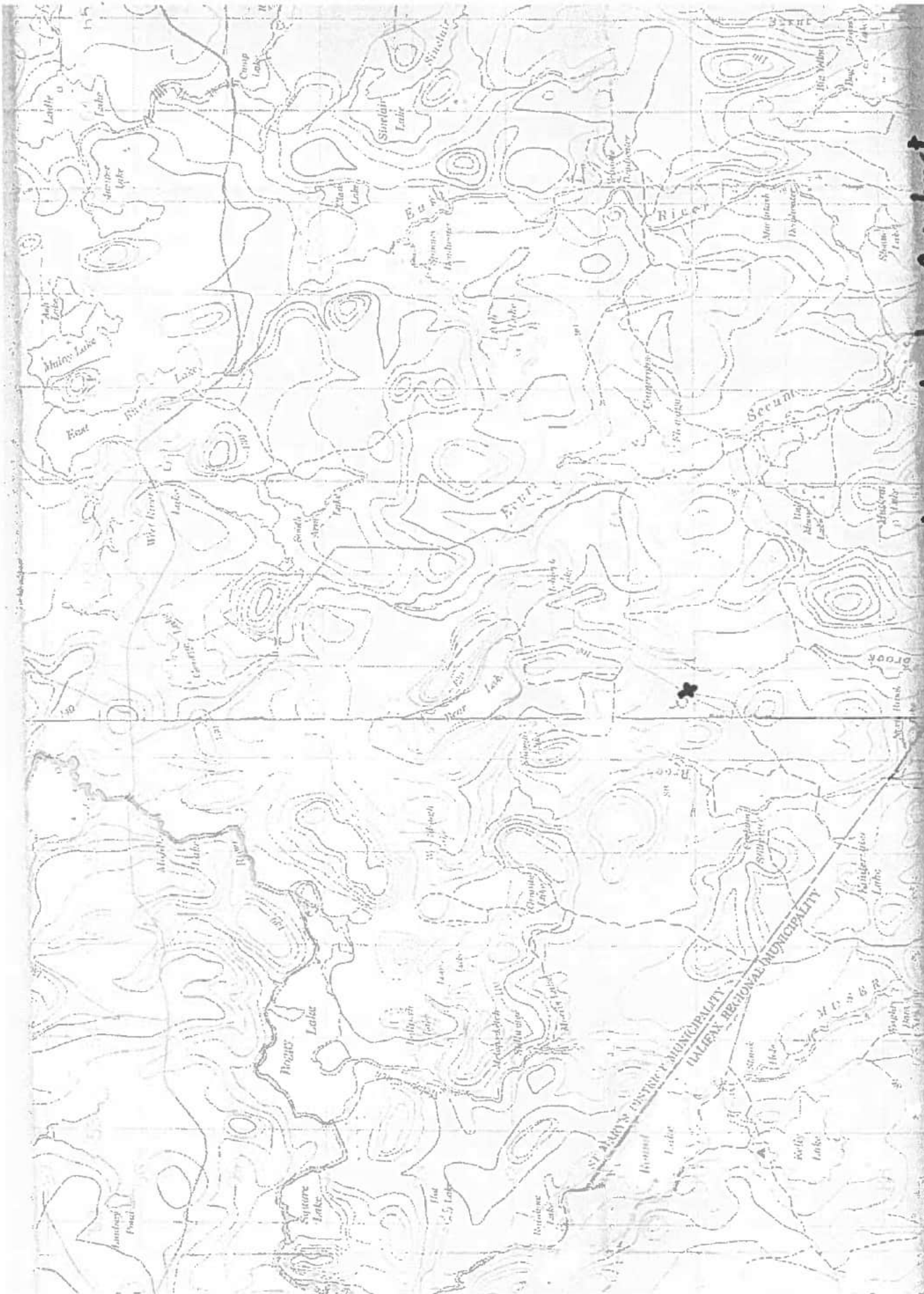
Description: Replacement Replace round culvert with 450 mm plastic culvert

Energy dissipation pool **width (m)** 0.9
Length (m) 1.35
Depth (m) 1.00

Work plan: Water backed up due to culvert failure will be pumped clear to establish channel location
 Channel will be dammed, culvert installed under "dry" conditions
 Upstream end set at thalweg level
 Downstream end set at 20% (9cm) below downstream thalweg elevation
 Energy dissipation pool constructed with clean stone
 Site flushed to remove any silt laden material







11/8/11 x- location of culvert

Our File Number: 95100-30-ANT-2021-2823794

June 10, 2021

PORT HAWKESBURY PAPER LIMITED PARTNERSHIP
2425 Prince William Street
Westville, NS
B0K 2A0

COPY

Culvert with Fish Passage NOTIFICATION RECEIPT

**Province of Nova Scotia
Environment Act, S.N.S. 1994-95, c.1**

NOTIFIER: PORT HAWKESBURY PAPER LIMITED PARTNERSHIP

NOTIFICATION #: 2021-2823794-00

SITE: Unnamed , North Brook
716 WATERNISH RD.
WATERNISH, GUYSBOROUGH COUNTY
PID 37540317, E - 556870, N - 4989338

EFFECTIVE DATE: June 10, 2021

EXPIRY DATE: September 30, 2021

DETAILS: Replacement of a Culvert with Fish Passage
600mm by 7.5 metres

Pursuant to Part V of the *Environment Act*, S.N.S. 1994-95, c.1 as amended from time to time, notification from the Notifier is acknowledged. The work done under this notification must follow the Nova Scotia Watercourse Alteration Activity Standards.



NOTIFICATION FORM

OFFICE USE ONLY	
Date Received: (yyyy/mm/dd) <u>2021/06/10</u>	Notification # <u>2021-2823794</u>

The notification form must be received by Nova Scotia Environment at least 5 days before work commences. Work may only start after you (the notifier) have received a notification receipt from Nova Scotia Environment.

PLEASE PRINT OR TYPE. Complete sections 1, 3, 4, applicable parts of 5, and 6 or the notification will not be accepted. Please keep a copy of your notification form. Incomplete forms will not be returned to the notifier.



SECTION 1 - NOTIFIER

Port Hanksbury Paper LP
Company/Organization/Municipality

Business Number (BN) if applicable 3266440

First Name PAUL Middle Initial S Last Name MACDONALD

Primary Phone Number 902 331-0759 Ext. Secondary Phone Number Ext. Fax

E-mail

Civic/Street Address 2425 Prince William Street 111

Mailing Address (if different than Civic) Pictou

Community Westville County Canada

Province Postal Code Country

NOTE: Following application decision, all correspondence will go to the applicant

Preferred Method of Contact? Email Paper

Notifier Type (if applicable)
 Installer Sizer Hydrogeologist Professional Engineer

1500452-S
Certification Number

SECTION 2 - NOTIFICATION CONTACT

Is the Notification Contact the same as Section 1 – Notifier? Yes No If yes, please skip to Section 3.
If there is more than one contact, please attach a complete list of contacts with the information below.

Company/Organization/Municipality

Business Number (BN) if applicable

First Name Middle Initial Last Name

Primary Phone Number Ext. Secondary Phone Number Ext. Fax

E-mail

Civic/Street Address

Mailing Address (if different than Civic)

Community County

Province Postal Code Country

NOTE: Following application decision, all correspondence will go to the applicant

Preferred Method of Contact? Email Paper

Contact Type

Installer Sizer Hydrogeologist Professional Engineer

Certification Number

SECTION 3 - SITE/LOCATION OF PROPOSED ACTIVITIES

Property Identification numbers (PID) are available at the Nova Scotia Land Registry.
1:50,000 Topo Maps (Identifying Easting and Northing) are available at Nova Scotia Environment offices.

If more than one Site, Copy this section and attach for each Site.

Watercourse Name unnamed Tributary To North Brook
New Chester

Site Name

For each property associated with this site, please fill out the information below. If the activity/facility covers more than one property, copy and attach each site.

Civic/Street Address N/A

Lot Number

Community New Chester County District of St Marys
37540317 11E/1

Property Identification # (PID) Topographical Map Number

Coordinates:

Easting 556 870 Northing 4 989 338 Zone

If there are multiple point locations associated with this activity, provide the Easting and Northing information for each.

Additional Directions to Site (if applicable)

SECTION 4 - ACTIVITY

Please check (✓) activity that applies. Please refer to [Activities Designation Regulations](#) to make sure the activity can be completed under a notification, otherwise an application for approval may be required.

Watercourse alterations (work between June 1 and September 30 only)

- Bank alteration - Boat Launch (restricted to 5 m or less; watercourse bed is not disturbed) -Complete section 5A, 6
- Bridge or other open bottom structure - construction of new or modification of existing bridge or other open bottom structure (watercourse bed is not disturbed; bridge with maximum span 15 metres; other open bottom structure with maximum length of 25 m and maximum span of 3600 mm) Complete section 5B, 6
- Culvert or closed bottom structure - construction of new or modification of existing culvert (on watercourse sloped less than 8%; watershed area not exceeding 20 km²; length of structure 25 m or less). Complete section 5C, 6
- Bank alteration - Erosion Protection (restricted to 5 m or less; watercourse bed is not disturbed). Erosion Protection - Complete section 5D, 6
- Maintenance of structure in watercourse (does not include removal, replacement, expansion or reductions; work done below the ordinary high water mark) -Complete section 5E, 6
- Bank Alteration - Water Intake/Dry Hydrant (restricted to 5 m or less; watercourse bed is not disturbed) -Complete section 5F, 6
- Bank Alteration -Wharf (restricted to 5 m or less; watercourse bed is not disturbed) -Complete section 5G,6
- Work to improve fish habitat (not to exceed 15m, no use of vehicular machinery) -Complete section 5H.

SECTION 5 - ACTIVITY DETAILS

5A - All of the following information must be provided for a Bank Alteration (Boat Launch) in a watercourse or the notification will not be accepted.

Start Construction Date (yyyy/mm/dd) _____ End Date of Construction (yyyy/mm/dd) _____

Description of Channel Bottom _____

Is this a new Construction Yes No

Type of Modification (check one)

Expansion Reduction Removal Replacement

Length of Bank Alteration (m) (cannot exceed 5 meters*) _____ meters

NOTE: * If this is exceeded you must submit an application for approval

5B - All of the following information must be provided for construction of new or modification of an existing Bridge or Other Open Bottomed Structure or the notification will not be accepted.

Start Construction Date (yyyy/mm/dd) _____ End Date of Construction (yyyy/mm/dd) _____

Upstream Watershed Area (km2)(cannot exceed 20 km2*) _____ Watercourse Slope (%) _____

Watercourse Velocity (m/s) _____ Channel Width (meters) _____ Channel Depth (meters) _____

Description of Channel Bottom _____

Watercourse Assessed by Qualified Person Yes No Is the Watercourse Fish Habitat Yes No

Is this a New Construction? Yes No

Type of Modification (check one)

Expansion Reduction Removal Replacement

Arch Width (mm) _____ Bridge Width (meters) _____ Length (meters) _____

Crossing Type: Bridge/Concrete Span OR Pipe Arch/Open Bottom Structure

5C - All of the following information must be provided for construction of a new or modification of an existing Culvert or Other Closed Bottomed Structure, or the notification will not be accepted.

Start Construction Date (yyyy/mm/dd) 2021/06/16 End Date of Construction (yyyy/mm/dd) 2021/06/20

Upstream Watershed Area (km2)(cannot exceed 20 km2*) 0.09 Watercourse Slope (%) 0.5

Watercourse Velocity (m/s) 0.5 Channel Width (meters) 0.6 Channel Depth (meters) 0.1

Description of Channel Bottom Mud & stone

Watercourse Assessed by Qualified Person Yes No Is the Watercourse Fish Habitat Yes No

Is this a New Construction? Yes No

Type of Modification (check one)

Expansion Reduction Removal Replacement

Length (meters) 7.3

Crossing Type: Culvert with fish passage Culvert without fish passage

Diameter (mm) 600

Length of Dissipation Pool (meters) 1.8 Width of Dissipation Pool (meters) 1.2

5D – All of the following information must be provided for a Bank Alteration (Erosion Protection) in a watercourse or the notification will not be accepted.

Start Construction Date (yyyy/mm/dd) _____ End Date of Construction (yyyy/mm/dd) _____

Description of Channel bottom _____

Watercourse Assessed by Qualified Person Yes No Is the Watercourse Fish Habitat Yes No

Is this a New Construction? Yes No

Type of Modification (check one)
 Expansion Reduction Removal Replacement

Description of Alteration _____

Length of Bank alteration (meters) _____

5E - All of the following information must be provided for Maintenance of Structures in a watercourse or the notification will not be accepted.

Start Construction Date (yyyy/mm/dd) _____ End Date of Construction (yyyy/mm/dd) _____

Description of Channel bottom _____

Watercourse Assessed by Qualified Person Yes No Is the Watercourse Fish Habitat Yes No

Description of Maintenance _____

5F - All of the following information must be provided for a Bank Alteration (Water Intake/Dry Hydrant) in a watercourse or the notification will not be accepted.

Start Construction Date (yyyy/mm/dd) _____ End Date of Construction (yyyy/mm/dd) _____

Description of Channel bottom _____

Watercourse Assessed by Qualified Person Yes No Is the Watercourse Fish Habitat Yes No

Is this a New Construction? Yes No

Type of Modification (check one)
 Expansion Reduction Removal Replacement

Description of Alteration _____

Length of bank alteration (meters) _____

5G - All of the following information must be provided for a Bank Alteration - Wharf in a watercourse or the notification will not be accepted.

Start Construction Date (yyyy/mm/dd) _____ End Date of Construction (yyyy/mm/dd) _____

Description of Channel bottom _____

Is this a New Construction? Yes No

Type of Modification (check one)
 Expansion Reduction Removal Replacement

Description of Alteration _____

Length of watercourse alteration (meters) _____

5H - All of the following information must be provided for a Work to Improve Fish Habitat in a watercourse or the notification will not be accepted.

Start Construction Date (yyyy/mm/dd) _____ End Date of Construction (yyyy/mm/dd) _____

Description of Channel bottom _____

Description of Alteration _____

Length of watercourse alteration (meters) _____

SECTION 6 – DECLARATION

Please select the option that applies to your situation

- I own the site
- I have a lease or other written agreement or option with the Landowner or occupier that enables me to carry out the activity on the site
- I have a legal right or ability to carry out the activity without the consent of the landowner or occupier

By signing you agree to the below terms and conditions

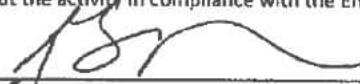
I agree that the information I have provided in this notification, including personal information, may be disclosed to the Department of Fisheries and Oceans

I consent to the use of the information I have provided on this form by Nova Scotia Environment and other government organizations as required for the purpose of processing my request to perform the activity indicated

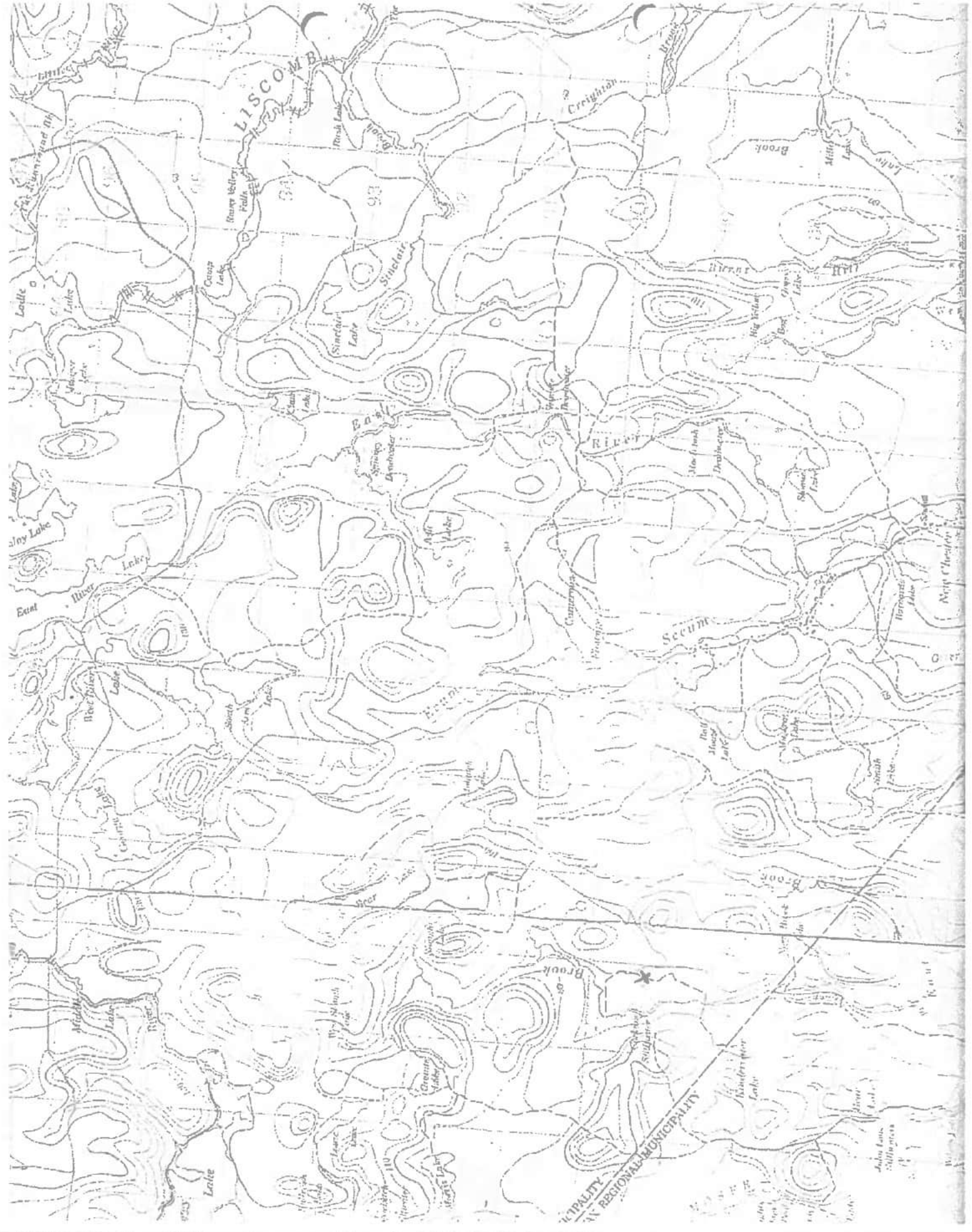
I understand that I must provide all information about the activity, such as sketches, plans, and calculations, if requested by Nova Scotia Environment for a compliance audit

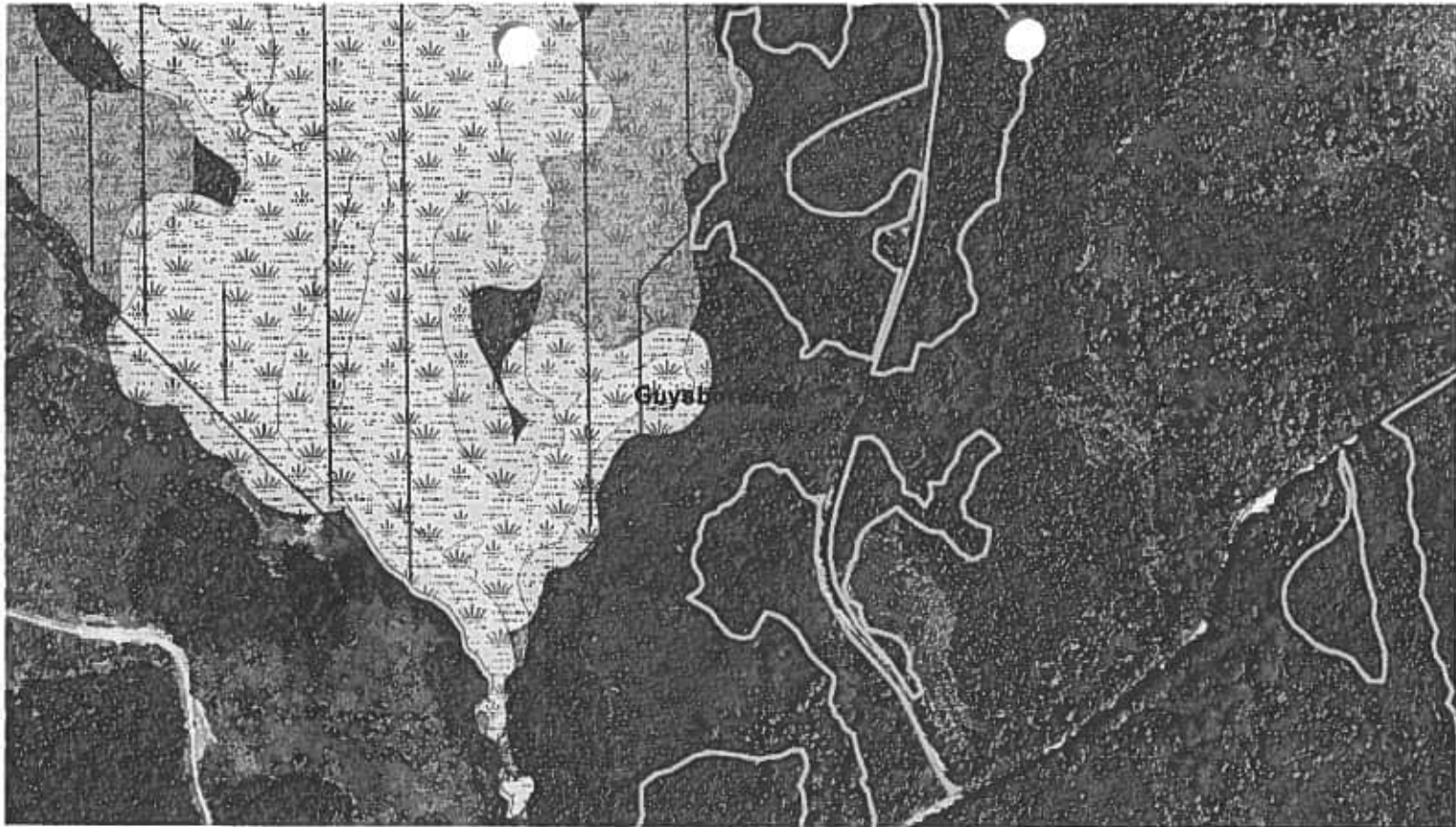
I have read and understand the regulations and standard that applies to the activity to which the notification relates including Nova Scotia Activities Designation Regulations, and the Nova Scotia Approval and Notification Procedures Regulations

I will carry out the activity in compliance with the Environment Act and the applicable regulations and standard

Signature:  Date: (yyyy/mm/dd) 2021/06/01

Name (Please print or type): PAUL S. McDONALD





Notification June 9, 2021

Waterway Opening Area (m2) Calculation for Culverts

Location: **Mohawk lk #2-culvert #2**

Easting 556 870
Northing 4 989 338
Map # 11 E1

Drainage area (ha)	<input type="text" value="9"/>	<input type="text" value=""/>	cell requires information
	km2 <input type="text" value="0.09"/>		
Coefficient:	<input type="text" value="2.25"/>	Channel width (m):	<input type="text" value="0.6"/>
Q (m3/sec):	<input type="text" value="0.2025"/>	Channel Depth (m):	<input type="text" value="0.1"/>
		Watercourse slope(%):	<input type="text" value="< .5%"/>
Max Velocity:	<input type="text" value="1.8"/>	Actual velocity (m/sec)	<input type="text" value="0.5"/>
Opening area (m2):	<input type="text" value="0.1125"/>		
Diameter (m):	<input type="text" value="0.60"/>	nomograph	

Description: **Replacement** Replace round culvert with 600 mm plastic culvert
Energy dissipation pool

width (m)	<input type="text" value="1.2"/>
Length (m)	<input type="text" value="1.8"/>
Depth (m)	<input type="text" value="1.00"/>

Work plan: Channel will be dammed, culvert installed under "dry" conditions
Upstream end set at thalweg level
Downstream end set at 20% (9cm) below downstream thalweg elevation
Energy dissipation pool constructed with clean stone
Site flushed to remove any silt laden material





AECOM Canada Ltd.
1701 Hollis Street
SH400 (PO Box 576 CRO)
Halifax, NS B3J 3M8
Canada

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F: 902.334.4140
www.aecom.com