

**THE CORPORATION OF THE TOWN OF AMHERSTBURG**

**BY-LAW NO. 2022 – 059**

**By-law to provide for the Jeths Drain Improvements based on the Drainage Report by M. Gerrits Consulting Inc.**

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**WHEREAS** a request for improvement of the Jeths Drain was received under section 78 of the Drainage Act;

**WHEREAS** a petition for drainage works was received under section 4 of the Drainage Act;

**WHEREAS** Council of the Corporation of the Town of Amherstburg appointed an engineer for the purpose of preparation of an engineer's report for the improvements of the Jeths Drain under section 78 of the Drainage Act and for the creation of the Jeths Branch Drain under section 4 of the Drainage Act;

**WHEREAS** Council of the Corporation of the Town of Amherstburg has authorized Michael Gerrits, P. Eng., to prepare a report and said engineer's report dated May 23, 2022, can be referenced as Schedule A, as attached hereto;

**WHEREAS** \$316,007.00 is the estimated cost of improving the drainage works;

**AND WHEREAS** the report was considered by the Amherstburg Drainage Board at the meeting held on June 7, 2022.

**NOW THEREFORE** the Council of the Corporation of the Town of Amherstburg hereby enacts as follows:

**1. AUTHORIZATION**

The attached report is adopted and the drainage works is authorized and shall be completed as specified in the report

**2. BORROWING**

The Corporation of the Town of Amherstburg may borrow on the credit of the Corporation the amount of \$316,007.00 being the amount necessary for the improvements of the drainage works.

**3. DEBENTURE(S)**

The Corporation may issue debenture(s) for the amount borrowed less the total amount of:

- (a) Grants received under section 85 of the Drainage Act;
- (b) Monies paid as allowances;
- (c) Commuted payments made in respect of lands and roads assessed with the municipality;
- (d) Money paid under subsection 61(3) of the Drainage Act; and
- (e) Money assessed in and payable by another municipality.

**4. PAYMENT**

Such debenture(s) shall be made payable within 5 years from the date of the debenture(s) and shall bear interest at a rate not higher than 1% more than the municipal lending rates as posted by The Town of Amherstburg's Bank's Prime Lending Rate on the date of sale of such debenture(s).

- (1) A special equal annual rate sufficient to redeem the principal and interest on the debenture(s) shall be levied upon the lands and roads and shall be collected in the same manner and at the same as other taxes are collected in

each year for 5 years after the passing of this by-law.

- (2) All assessments of \$1000.00 or less are payable in the first year in which the assessments are imposed.

Read a first and second time and provisionally adopted this 13<sup>th</sup> day of June, 2022.



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MAYOR - ALDO DICARLO



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CLERK - VALERIE CRITCHLEY

Read a third time and finally passed this 5<sup>th</sup> day of December, 2022.



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MAYOR - ALDO DICARLO MICHAEL PRUE



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CLERK - VALERIE CRITCHLEY KEVIN FOX

The Mayor and Council  
Town of Amherstburg  
271 Sandwich Street South  
Amherstburg, Ontario  
N9V 2A5

August 12, 2022

**Re: Jeths Drain Improvements – Reconsidered Report**

July 5, 2020 Drainage Board Instructions to Reconsider the Report

In accordance with the instructions received at the July 5, 2022 Drainage Board, M. Gerrits Consulting Inc. has revised the May 23, 2022 report for reconsideration by the Drainage Board. The Jeths Drain report has been revised to address the original request for drainage, and all other proposed works under the May 23, 2022 report will be revised for future works to be completed under maintenance.

The Drainage Board and present landowners were informed that referring the report back for the changes would result in all work upstream of the lands owned by the landowner with the Landowner ID 25, and all work downstream of Station 0+965, as being considered future work. The existing channel will remain overgrown and the outlet of the enclosure at Station 0+117, will not be maintained or improved to have better flows. In the future, when a landowner requests a culvert or channel maintenance, the Drainage Superintendent will be able to complete the work in accordance with the reconsidered report.

Landowners were made aware that drain access will become increasingly difficult, as the remaining vacant lots that abut the drain become developed. Maintenance equipment will be required to access the drain and may be required to traverse along residential property limits.

Introduction

As instructed through letter correspondence from Shane McVitty, Town of Amherstburg Drainage Superintendent and Engineering Coordinator, dated March 31, 2021, M. Gerrits Consulting Inc. has undertaken an examination of the Jeths Drain on part of Lot 10, Concession 1, with regards to providing an outlet for a proposed residential development on the lands owned by 1109152 Ont. Ltd. The proposed development includes 18 residential lots and a storm water retention pond, that controls the post development flows generated on the lands that are scheduled to be developed to the pre-development levels. The work will be completed in the Town of Amherstburg (former geographic Township of Anderdon).

### Authorization under the Drainage Act

As per the request of an affected landowner, this Engineer's report has been prepared under Section 4 and section 78 of the Drainage Act by M. Gerrits Consulting Inc.

Under Section 4 of the Drainage Act, a landowner may request drainage by means of a petition for drainage works, for an area requiring drainage as described in the petition. A petition may be filed with the Clerk of the local Municipality in which the area is situated by,

- (a) the majority in number of the owners, as shown by the last revised assessment roll of lands in the area, including the owners of any roads in the area;
- (b) the owner or owners, as shown by the last revised assessment roll, of lands in the area representing at least 60 percent of the hectarage in the area;
- (c) where a drainage works is required for a road or part thereof, the engineer, road superintendent or person having jurisdiction over such road or part, despite subsection 61(5);
- (d) where a drainage works is required for the drainage of lands used for agricultural purposes, the Director. R.S.O. 1990, c.D.17, s.4(1).

The petition, signed by 1109152 Ontario Ltd., requesting a branch drain, was determined to be valid based on Section 4 (1) (b).

Section 78 of the Drainage Act states that, where, for the better use, maintenance or repair of any drainage works constructed under a bylaw passed under this Act, or of lands or roads, it is considered expedient to change the course of the drainage works, or to make a new outlet for the whole or any part of the drainage works, or to construct a tile drain under the bed of the whole or any part of the drainage works as ancillary thereto, or to construct, reconstruct or extend embankments, walls, dykes, dams, reservoirs, bridges, pumping stations, or other protective works as ancillary to the drainage works, or to otherwise improve, extend to an outlet or alter the drainage works or to cover the whole or any part of it, or to consolidate two or more drainage works, the Council whose duty it is to maintain and repair the drainage works or any part thereof may, without a petition required under Section 4 but on the report of an Engineer appointed by it, undertake and complete the drainage works as set forth in such report.

### Existing Drainage

The drain commences in the south part of the lot with the Landowner Identification Number (Landowner ID 2), and the drain extends 1,160m west through Lot 10, Concession 1 to an outlet in the Detroit River. The drain is closed from Station 0+000 to Station 0+117. At Station 0+117 the drain outlets to an open channel. The open channel extends 927m west where it outlets to a closed drain at Station 1+044. The closed drain extends 118m west



where the drain outlets to the Detroit River. The open channel portion of the drain has a significant amount of sediment, brush and mature trees which are currently restricting the flows and capacity of the open drain.

J. Newman, C.E., prepared a drain report for the Jeths Drain dated July 2, 1932. The drain report included improving 754m of an existing channel. The drain commenced approximately 7.5m west of the west limit of what is now, the Knob Hill Drive road allowance. The drain was an open channel with a 0.76m bottom width and 1.25H:1V channel back slopes. The report specified that where the drain was located on the south side of the fence, the excavated material shall be cast to the south, and where the drain was located on the north side of the fence, the excavated material shall be cast to the north. Where the drain was located on the north side of the fence, the top of the channel bank to the south shall be 0.76m from the fence. The report included access culverts, but did not state the width of the working area. The drain paid allowances for land and crops on all lands that the drain was located on.

J. Newman, C.E., prepared a second drain report for the Jeths Drain dated October 28, 1944. The drain report included maintaining and improving the existing drain constructed in 1932 and extending the drain 274m west. The drain extension and improvements maintained the open channel, channel bottom width, channel back slopes and the alignment as described in the 1932 drain report. The report did include an additional specification, that allowed the excavated material to be cast on either or both sides of the drain when the drain passed through a field. The report did not state the width of the working area. The drain paid allowances for lands on which the drain extension works were located and for crops on all lands that the drain was located on.

C. Armstrong, P. Eng., prepared a drain report for the Jeths Drain dated July 16, 1958. The drain report included maintaining and improving the existing drain constructed in 1943, and extending the drain 194m west to the Detroit River. The drain extension and improvements maintained the open channel, the channel back slopes and the drain alignment as described in the 1943 drain report, but increased the channel bottom width to 0.91m. The report included access culverts. The drain paid allowances for lands on which the drain extension works were located, and for crops on all lands that the drain was located on.

E. Lafontaine, P. Eng., prepared a drain report for the Jeths Drain dated January 25, 1983. The drain report included outlet improvements for a widening of Front Road North (County Road 20). The report included relocating the section of drain between Front Road North and the Detroit River, north, as the existing drain was located adjacent to a residential home. The agricultural portion of the drain was designed to convey the 2-year flow. The highway right of way portion of the drain, was designed to convey the 10-year flow. The closed section of the drain between the highway right of way and the Detroit River was

designed to convey the 5-year flow. The report specified that the improvements be maintained in proportion to the amounts shown in the Schedule of Assessment prepared by C. Armstrong, dated July 16, 1958.

D. Joudrey, P. Eng., prepared a drain report for the Jeths Drain dated December 13, 1993. The drain report included a drain enclosure and relocation between Station 0+000 and Station 0+117 to allow for the development of the lands that front onto the south side of Marsh Court. The improvements were completed at the cost of the developer. The report specified that maintenance of this section of drain shall be assessed in accordance with the 1993 Schedule of Assessment.

Upon review of the existing reports, it was determined that the section of drain that is located on the lands owned by D. & P. Kellam (Landowner ID 28) was enclosed without a drain report and is considered a private enclosure under the Drainage Act.

#### Drain Classification

The Jeths Drain is currently classified as a class “F” drain throughout its length on the Ontario Ministry of Agriculture, Food and Rural Affairs’ Agricultural Mapping. The Jeths Drain outlets to the Detroit River.

Class “F” drains are intermittent or ephemeral (dry for more than two consecutive months). All construction will be completed in accordance with the Best Management Practices prepared by the Department of Fisheries and Oceans Canada (DFO), for completing maintenance and repair of class F drains.

A preliminary report was submitted to the DFO on October 4, 2021, and a revised report was submitted on March 18, 2022 for review and approval. DFO approval was received on October 26, 2021 and March 21, 2022 approving the proposed works. All Department of Fisheries and Oceans Canada requirements have been included in Appendix A of this report.

Essex Region Conservation Authority (ERCA) was contacted via an email dated January 27, 2021 to inform them of the project. A preliminary report was submitted to the ERCA on October 4, 2021, and a revised report was submitted on March 18, 2022. Correspondence from ERCA was received on October 8, 2021 and April 4, 2022. All ERCA requirements have been included in Appendix A of this report.

### Onsite Meetings

A virtual onsite meeting was held on May 7, 2021 to discuss the project. The following were in attendance:

Shane McVitty – Drainage Superintendent, Town of Amherstburg

Nicole Humber – Drainage Clerk, Town of Amherstburg

Michael Gerrits – Engineer, M. Gerrits Consulting Inc.

N. Bolger (1109152 Ont. Ltd.), Landowner ID 25

L. Durocher, Landowner ID 33

G. Fawcett, Landowner ID 22

J. & J. Farmer, Landowner ID 32 (Represented by A. Thompson)

C. Jubenville, 1109152 Ont. Ltd.'s Engineer

P. Harvey, Landowner ID 4

D. Kellam, Landowner ID 28

J. R., Landowner ID 31 (Represented by A. Thompson)

S. Reaume, Landowner ID 14

A. Thompson, Landowner ID 26

The following was discussed at the site meeting:

- S. McVitty provided a background on the Jeths Drain and meeting format.
- M. Gerrits summarized the Drainage Act and assessments. M. Gerrits provided landowners with an OMAFRA Factsheet on the Drainage Act.
- M. Gerrits informed landowners that he walked the drain and that the drain was overgrown, had localized areas of bank failure, had sediment buildup in the drain, had areas where landowners brushed their own sections of the drain, and there were two obstructions in the drain, one earth obstruction and one electrical line obstruction.
- M. Gerrits informed landowners that there was a petition for a branch drain to service a development. The petition was determined to be valid in accordance with Section 4 (1) (b) of the Drainage Act.
- M. Gerrits provided landowners with a general timeline for reports prepared under the Drainage Act.
- D. Kellam (Landowner ID 28) asked if downstream assessments account for upstream development. M. Gerrits informed the landowner that the proposed work is not expected to go to their property line. M. Gerrits informed the landowner that there is an enclosure on their lands which can be more expensive to maintain in the future if the enclosure fails and needs to be replaced. The enclosure benefits the abutting lands and not the landowners upstream, and as such, the additional costs of an enclosure versus an open channel are considered a special benefit to the landowner.

- S. Reaume (Landowner ID 14) mentioned that their lands receive a yearly \$200 drain maintenance costs on their taxes. S. McVitty can only recall one recent maintenance project on the drain. The project was for outlet repairs at the Detroit River.
- C. Jubenville informed M. Gerrits that he can contact him for any development information. He requested a timeline for the drain report. M. Gerrits informed all landowners that drain reports take time to prepare and get through the meeting process. It is anticipated a report will be authored late in the year.
- A. Thompson (Landowner ID 26) asked if the Town always responds to requests for maintenance. S. McVitty stated that the Town must respond to a request to determine if it is valid. S. McVitty informed landowners of the Town's procedures when they receive a request.
- A. Thompson (Landowner ID 26) asked for clarification on the D + W Fred Brown Drain. S. McVitty informed landowners that the D + W Fred Brown Drain was created under the Ditches and Watercourse Act, and is considered an award drain maintained by the affected landowners.
- L. Durocher (Landowner ID 33) asked if landowners get a report even if their lands were not assessed. S. McVitty informed that landowners will likely receive a report as the Schedule of Maintenance will change.
- N. Bolger (Landowner ID 25) stated the drain would require maintenance regardless of the development. M. Gerrits confirmed that the drain is in need of maintenance.

#### Additional Meetings

Two additional informal meetings were held on the Jeths Drain. The first meeting was held on April 30, 2021 and the second meeting was held March 3, 2022.

#### *April 30, 2021 Site Meeting*

The meeting was held with the landowner (Landowner ID 26), the owner of the lands upon which the proposed Jeths Branch Drain will be located. The following were in attendance:

Shane McVitty – Drainage Superintendent, Town of Amherstburg

Michael Gerrits – Engineer, M. Gerrits Consulting Inc.

A. Thompson, Landowner ID 26

The following was discussed at the site meeting:

- The landowner was informed that the purpose of the meeting was to discuss the project, gather background information on the lands, and answer any questions the landowner may have, since a significant amount of work would be completed on his lands. A survey of the drain was completed after the meeting.

- A. Thompson (Landowner ID 26) was concerned about the removal of the trees/buffer on his lands, and requested the engineer consider completing all proposed construction work from the south side of the drain on the lands owned by the landowner, with the Landowner ID 25, between Station 0+507 and Station 0+802. He also requested the engineer specify that all work between Station 0+802 and Station 0+960 be completed from the north side of the channel. The landowner is aware that once the project is complete, the working corridor for the drain for future maintenance will be from the north side of the drain, for the entire length of his lands.

*March 3, 2022 Site Meeting*

The meeting was held with the landowners who have an access culvert on their lands. The following were in attendance:

Shane McVitty – Drainage Superintendent, Town of Amherstburg  
 Michael Gerrits – Engineer, M. Gerrits Consulting Inc.  
 G. Bezaire, Landowner ID 13  
 S. Bezaire, Landowner ID 13  
 L. Durocher, Landowner ID 33  
 J. Hindi, Landowner ID 15 & 16  
 C. Martin, Landowner ID 18 & 19  
 S. Reaume, Landowner ID 14  
 F. Simone, Landowner ID 9  
 A. Thompson, Landowner ID 26  
 1109152 Ont. Ltd., Landowner ID 25 (Representative by B. Thompson)

The following was discussed at the site meeting:

M. Gerrits summarized the Drainage Act and assessments. M. Gerrits provided landowners with an OMAFRA Factsheet on the Drainage Act.

- M. Gerrits provided landowners with an overview of the Jeths Drain. The overview informed landowners that:
  - The drain has a legal working area on it for access and drain maintenance. Allowances for the working area were paid to the landowner under a previous report.
  - The original drain was constructed when the majority of the lands within the drain’s watershed were agricultural. The watershed has been developed but the rights to drainage remain, regardless of the change in land use.
  - Drains stay with the property until the drain is abandoned. If there is a drain on your lands, it means that at some point in time, a legal landowner of your lands accepted the drain, and the drain is passed on to subsequent landowners.

- Historically, landowners have installed culverts within the Jeths Drain privately, without a report.
- M. Gerrits Informed landowners that he walked the drain and noted the following:
  - The majority of the drain is overgrown with very large trees in the channel banks and bottom.
  - The drain needs a cleanout.
  - The 1993 drain realignment prepared by D. Joudrey, P. Eng., did not include any freeboard at the outlet of the closed drain and as such, the closed drain outlet is at the same elevation as the bottom of the open channel. The capacity of the closed drain is restricted by any accumulation of sediment in the open drain.
  - One landowner (Landowner ID 15 & 16) has taken it upon themselves to clean and brush the section of drain located on their lands; however, the work will not improve the conveyance of flows in the channel, since the channel immediately downstream of the work is unmaintained.
  - The corrugated steel culverts are in poor shape. The concrete culverts appear to be in good condition, but the headwalls are in disrepair and the culverts were not installed on grade.
  - There were minor bank failures.
  - There was 1 electrical obstruction and 1 earth obstruction.
- Once the report is complete, a report will be mailed out to all landowners. Landowners can contact M. Gerrits if they have any questions about the report.
- The Town of Amherstburg will hold a Meeting to Consider the report. At this meeting, the report will be presented and the Engineer will answer technical questions related to the design.
- A Court of Revision will be held approximately 30 days following the Meeting to Consider the report. At this meeting, landowners, who feel their lands are improperly or unfairly assessed, can appeal their property's assessment. If the Court of Revision denies their appeal, landowners have the right to appeal to the Agriculture, Food and Rural Affairs Appeal Tribunal. Landowners were informed that costs associated with an appeal to the Tribunal are distributed as per a Tribunal order, and may be assessed back to the drain.
- The intention of this meeting, is to address access culverts. Landowners with an access culvert will be given one culvert per property. The cost of the culvert will be shared with upstream lands, with 50% of the costs of the culvert assessed to the lands on which the culvert is located, and the remainder assessed to upstream landowners. The standard culvert is 10m in length and is based on a 6m traveled portion, plus rounding and end protection. Costs associated with extensions/enclosures are paid by the requesting landowner. Costs associated with electrical obstructions are paid by the landowner.

- M. Gerrits requested any landowners who do not want the standard culvert to inform him of the length they would like. J. Hindi J. Hindi, (Landowner ID 15 & 16) and C. Martin C. Martin, (Landowner ID 18 & 19) requested a 3m top width for their culvert. S. Reaume (Landowner ID 14) will get back to M. Gerrits with respect to the length of culvert on her lands. S. Reaume (Landowner ID 14) confirmed she would like the replacement culvert to have the same length. A. Thompson (Landowner ID 26) requested his culvert be removed and not replaced.
- S. Reaume (Landowner ID 14) requested a timeline. M. Gerrits anticipated this work would not be completed in the next 6 months. S. Reaume (Landowner ID 14) has a function in October, and would prefer the work not be completed on her lands at that time.
- L. Durocher (Landowner ID 33) and F. Simone (Landowner ID 9) inquired why they were not invited to the meeting, since they have lands on the drain. M. Gerrits informed them that the intention of the meeting was to address culvert replacements and as such, only landowners with culverts were invited to the meeting. The next public meeting for all landowners will be the Meeting to Consider the report, where questions related to the design can be brought forward.
- F. Simone (Landowner ID 9) met with S. McVitty and M. Gerrits after the meeting to review the open channel on his lands. F. Simone (Landowner ID 9) acknowledged the drain was in need of maintenance. F. Simone (Landowner ID 9) offered to allow the Contractor to use his land to access the drain from Easy Street and stockpile materials during construction.

#### *Written Submissions*

- A landowner voiced concerns over costs, limits of work, lack of notice for workers on private properties, increased flows and destruction of habitat. M. Gerrits informed the landowner, that normally a site meeting is held before a drain is surveyed and at this meeting, landowners would be informed of the upcoming survey/site investigation; however, with the current in person meeting restrictions due to the COVID pandemic, the survey was completed before the site meeting to allow the survey of the drain to be completed before the trees came into leaf. The landowner was informed that access will be via the existing working corridor. The landowner was informed that there will be no increase in flows due to the development; in addition, the development will be required to have a storm water management plan. The landowner was informed the project will require approval from ERCA.
- A. Hilton (Landowner ID 1) does not feel she should have a benefit, since her lands do not have a direct connection to the drain. M. Gerrits informed the landowner that he would be onsite to survey the lands to determine surface flow patterns on her lands.

#### *June 7, 2022 Meeting to Consider the Report*

- The Meeting to Consider the Report was held on June 7, 2022. M. Gerrits presented his report dated May 23, 2022, and answered questions from the Drainage Board and the landowners. With the exception of the requesting landowner (Landowner ID 25), all other landowners who made presentations to the Drainage Board were opposed to the project. Landowners stated the cost of the project was expensive and that the work was being requested due to a developer's request for drain improvements. Landowners acknowledged the drain was overgrown, but stated their lands are not experiencing water problems and do not want the drain maintained or their culverts replaced. Landowners stated that the Town of Amherstburg should have historically completed maintenance on the drain, despite never having received a maintenance request from a landowner. Landowners felt the lack of maintenance resulted in additional work being recommended under this report. M. Gerrits informed the landowners that the costs of the project are significant and reflect the amount of work required to maintain a drain with a significant amount of sediment, large diameter trees (>300mm Dia.) in the channel bottom, culverts that were installed privately without consideration for flows or grade, and a closed drain that has no freeboard at the outlet. Landowners were also informed that the requesting landowner has the same right to drainage as all other landowners in the watershed. Following the Meeting to Consider the Report, the Town of Amherstburg Council provisionally passed the bylaw for the Jeths Drain at the recommendation of the Drainage Board.

#### *July 5, 2022 Court of Revision*

- The Court of Revision was held on July 5, 2022. M. Gerrits presented his assessment and answered questions from the Drainage Board and the landowners. The landowners' concerns were similar to the concerns raised at the Meeting to Consider the Report. The Drainage Board felt that since the only landowner in favour of the works was the requesting landowner (Landowner ID 25), the report should be referred back to the engineer for revisions. The report should be revised to address the petitioning landowner's request for drainage and include future maintenance clauses for all other work proposed in the report. It was noted that in accordance with section 57 of the Drainage Act the Engineer's report can be referred back to the Engineer for reconsideration at any time before passing the by-law.



- M. Gerrits informed the Drainage Board and all landowners present:
  - That referring the report back for the changes would result in all work upstream of the Station 0+480 (Landowner ID 25) and all work downstream of Station 0+965 (Landowner ID 33) as being considered future work.
  - That the existing channel will remain overgrown and the outlet of the enclosure at Station 0+117 will not be maintained or improved to have better flows. In the future, when a landowner requests a culvert or channel maintenance, the Drainage Superintendent would be able to complete the work in accordance with this report.
  - That the report will include future culvert replacement specifications to ensure any future landowner will have the ability to install a culvert across the Jeths Drain without a new drain report.
  - That the current report specifies a temporary access via the requesting landowner's lands (landowner ID 25). This allows for construction equipment to access the drain's working corridor between Station 0+480 and Station 0+117 from the developer's lands, and not from the private lands along Texas Road. Once the development is completed, this temporary access will no longer be available. Access for future drain maintenance will be from the lands which the drain maintenance is located on or from any landowners who have lands that abut the drain.
  - Any affected landowner has the right to request maintenance at any time. Upon receipt of a request for maintenance by the Municipality, drain maintenance will proceed in accordance with the report. If the requesting landowner is located in the upper portion of the drain, then landowners will be responsible for maintenance costs similar to those identified in the May 23, 2022 report, less the assessments presented in this report.
  
- At the conclusion of the Court of Revision, the Drainage Board passed the following motions:
  - The Engineer's Report prepared by M. Gerrits Consulting Inc. dated May 23, 2022 for the Jeths Drain Improvements be reconsidered; and
  - Council direct M. Gerrits Consulting Inc. to modify the Engineer's Report dated May 23, 2022, for the Jeths Dain Improvements, and reduce the scope of work in order to provide the developer with an outlet, and to include the necessary provisions for future maintenance on the drain.

Following the Court of Revision, M. Gerrits Consulting Inc. completed a site visit with the Town of Amherstburg Drainage Superintendent /Engineering Coordinator Shane McVitty, to review the drain access locations from Texas Road. In order to complete maintenance works, access to the drain will be required through lots that abut the drain. As the vacant lots along Texas Road are developed, these access points may become reduced and heavy

equipment will be required to use any available property that abuts the drain to access the drain, even if the maintenance will not be completed on the lands used for access. Spoils generated during future maintenance operations will need to be spread out in the working allowance, and there will be no possibility of hauling spoils off site, unless the landowner on which the spoils are located provides access. Under the current report, the brush was to be stockpiled on agricultural lands and burned. In the future the vacant lands or agricultural lands may not be available for burning. If brushing debris cannot be burned on the lands which they were generated on, the brush will need to be chipped with larger logs and stumps being stockpiled on the lands from which they were generated on, or if possible, hauled offsite via residential lots.

In addition to this, the future drain cleaning and maintenance between Station 0+117, and Station 0+480, will be ineffective without addressing each of the culverts within this length of drain. Any future maintenance works in this section of drain should include replacement of the culverts, in accordance with this drainage report.

#### Investigation

M. Gerrits Consulting Inc. completed a site visit and surveyed the drain.

##### *Station 0+000 to Station 0+117*

This section of the drain was closed under a 1993 report prepared by D. Joudrey. The closed drain appears to have been designed with a minimal amount of freeboard at the outlet. The drain outlet invert is below the channel's sediment level. The enclosure is located in the rear lots that front onto Marsh Court and will be difficult to maintain due to fences, trees, structures etc. The enclosure was installed with bell and gasketed storm sewer pipe and appears to be in good condition. The lands in the south east corner of the watershed owned by J. & A. Hilton (Landowner ID 1), do not currently have a direct connection but have been assessed for a future connection in the 1993 report. The 1993 drain report included a Schedule of Assessment for maintenance, which remains valid.

##### *Station 0+117 to Station 0+735*

The existing open channel is overgrown and is in need of brushing and removal of sediment. In many areas there are mature trees within the channels wetted perimeter. There are two obstructions on this drain, one being an earth obstruction and the other an electrical line obstruction.

The access culverts on this section of the drain were not installed under a drain report, and are considered private crossings. The culverts on this section of drain do not follow the grade line, and some culverts are perched. Sediment levels restricted culvert inspections. There is a culvert extension on the lands owned by S. Reaume (Landowner ID 14). This culvert extension was not completed as part of a drain report, and is considered a private

extension. The culvert extension consists of 400mm dia. corrugated steel pipe and is undersized. The remaining access culverts convey a minimum of the 2-Year design storm. Access to this section of drain from Texas Road will be difficult, due to the number of residential homes along Texas Road. When the drain was originally constructed, the majority of these homes did not exist.

#### *Station 0+735 to Station 1+044*

Sections of the existing channel were recently maintained by the landowner (Landowner ID 26). The maintenance included the removal of some of the sediment by hand; however, maintenance did not include the removal of larger trees, brush or all of the sediment. In many areas, there are mature trees within the channels wetted perimeter. Bank failures are isolated and do not appear to be a significant problem. The section of drain between 0+960 and 1+044 has better grades and there is less sediment in this section of drain.

This section of drain has 5 private bridges and 1 access culvert (refer to Profile Drawing 3 for the locations). The access culvert has the capacity to convey a minimum 2-year design storm. The access culvert and bridges were not installed under a drain report, and are considered private crossings. The private bridges do not appear to restrict the conveyance of flows in the Jeths Drain.

#### *Station 1+044 to Station 1+092*

The drain is enclosed with a 600mm CSP pipe. The enclosure was not completed under a report, and is considered a private enclosure. The enclosure has a significant grade and appears to be able to convey the 5-year design storm. The enclosure will be difficult to maintain due to pipe depths, property lines and landscaping.

#### *Station 1+092 to Station 1+120*

The drain is enclosed with a 750mm concrete pipe within the Front Road North, road allowance. The enclosure was completed under the 1983 drain report. The enclosure appears to be able to convey the 10-year design storm. The enclosure was installed by bore which helped avoid a road closure and disturbance of the numerous utilities within the road allowance. Maintaining the drain using open cut methods would be difficult due to utilities, tile depth and traffic volumes.

#### *Station 1+120 to Station 1+160 (Detroit River)*

The drain is enclosed with a 750mm concrete pipe between the Front Road North, road allowance and the Detroit River. The enclosure was completed under the 1983 drain report. The enclosure appears to be able to convey the 5-year design storm. At some point in time, the last section of concrete tile was replaced with HDPE pipe. Maintaining the deeper sections of the drain using open cut methods, would be very difficult due to the drain's working corridor width.

The Town of Amherstburg received a request for a severance on the lands west of Front Road North at the drain's outlet to the Detroit River (Landowner ID 35). The Town of Amherstburg required the landowner retain a drainage engineer to complete an investigation on the effects the severance would have on the Jeths Drain. M. Gerrits Consulting Inc. completed a detailed investigation on the effects the severance would have on the drain and the upstream rate payers. The investigation concluded that a 7.3m (24') clear working corridor be registered on title, that a CCTV inspection of the existing drain be completed to verify the condition of the drain, and that all costs to maintain the drain beyond the standard tile drain maintenance costs be born by the benefiting landowner, on which the drain is located. The report specifications were to be updated to reflect the proposed working corridor, construction requirements and assessments. The cost of the investigation and report specifications were billed directly to the benefiting landowner, and are not included in this report.

### Recommendations

It is therefore recommended that the following work be carried out:

- Prepare a report for the Jeths Drain improvements satisfy the petition from a landowner (Landowner ID 25) for a branch drain to service their lands. The report includes the following:
  - Adoption of the Jeths Branch Drain in accordance with Section 4 of the Drainage Act.
  - A revised grade line for the open channel of the Jeths Drain between Station 0+480 and Station 0+965.
  - A revised grade line for the future maintenance of the open channel of the Jeths Drain between Station 0+117 and Station 0+480 and between Station 0+960 and Station 1+044.
  - Culvert sizing and specifications for future culvert replacements.
  - Removal of culverts no longer required.
  - Ditch cleanout c/w clearing, brushing, removal of sediment and grade adjustments between Station 0+695 and Station 0+480 of the Jeths Drain, to accommodate the Jeths Branch Drain.
  - Remove or replace all culverts between Station 0+117, and Station 0+480, when future drain maintenance is completed in this section of drain. The culverts are undersized and off grade. Any future drain clean out will be unsuccessful without addressing the culverts.

- The Town should require that when any landowners who own a property that abut the drain request a severance, site plan or plan of subdivision, the requesting landowner be required to provide unfettered access and or a Municipality controlled easement as part of their application. Any lots that are planned to directly abut the drain should be required to have building and development limitations in areas adjacent to the drain including, but not necessarily limited to, permanent fencing.
- Incorporating the private enclosures.
- Updated access routes and working areas.
- Updated maintenance schedules.
- Constructing the Jeths Branch Drain to service the proposed development on the lands owned by 1109152 Ontario Ltd. (Landowner ID 25).
- Installing a permanent fence on the lands owned by 1109152 Ontario Ltd. (Landowner 25). The fence shall be offset 5m south of the top of channel bank between Station 0+480 and Station 0+785 to ensure unobstructed access to the south side of the drain in the future once the land is developed.

### Design

The proposed open channel drain shall be designed to accommodate a minimum 150mm of freeboard at the closed drain outlet (Station 0+117). Channel back slopes will be increased from 1.25H to 1V to a minimum of 1.5H to 1V to improve bank stability and revegetation. When possible, the design utilized the existing top of bank to achieve these slopes; however, there are areas where the top of the bank has to be widened to accommodate the 1.5H:1V channel back slope. Channel cross sections are included in the report drawings.

Access culverts and enclosures shall be designed to convey a minimum 2-year design storm. The culverts will be embedded 10% to ensure they are not perched. The standard culvert is 10m in length and is based on a 6m traveled portion, plus rounding and end protection.

The Jeths Branch Drain is located on the lands owned by A. Thompson (Landowner ID 26) and extends 5.5m south from the Jeths Drain at Station 0+770 to the property limit between A. Thompson (Landowner ID 26) and 1109152 Ont. Ltd (Landowner ID 25). All work south of the property line is not part of the drain and is considered a private connection, and forms part of the subdivision approval process. The Jeths Branch Drain is a 300mm dia. HDPE smooth walled tile. The Jeths Branch Drain is the outlet for the proposed development's stormwater management facility. In order to ensure the proposed development on the lands owned by 1109152 Ont. Ltd (Landowner ID 25) will not negatively affect the Jeths Drain, the development will be required to control post development flows to pre-development levels.

The stormwater management facility will be permitted to discharge 65L/s into the Jeths[O1] Drain. 1109152 Ont. Ltd.'s Engineer requested the Jeths Branch Drain outlet elevation be 180.90m, and the grade of the Jeths Branch Drain be 0.36%. The Engineer's request resulted in the drain being lowered by 0.3m at Station 0+770. The request for additional depth was determined to be within the standard tile design depth of drains.

Allowances

Under Section 29 of the Drainage Act, the Engineer in his report shall estimate and allow in money to the landowner of any land that it is necessary to use for the construction or improvement of a drainage works, or for the disposal of material removed from drainage works. This shall be considered an allowance for right-of-way. Section 29 allowances have been provided for the Jeths Branch Drain.

Under Section 30 of the Drainage Act, the Engineer shall determine the amount to be paid to persons entitled thereto for damage, if any, to ornamental trees, lawns, fences, land and crops occasioned by the disposal of material removed from a drainage works. This shall be considered an allowance for damages. Section 30 allowances have been provided for the areas which are affected by the proposed work on both the Jeths Drain and the Jeths Branch Drain.

Conc.	Lot	Owner ID	Landowner	Section 29 (\$)	Section 30 (\$)	Total (\$)
<u>Main Drain</u>						
1	Pt. 10	19	C. & A. Martin		146	146
	Pt. 10	25	1109152 Ontario Limited		1,593	1,593
	Pt. 10	26	A. Thompson		1,026	1,026
	Pt. 10	33	L. Durocher & J. Gagnon		27	27
Subtotal Jeths Main Drain					2,792	2,792
<u>Branch Drain B</u>						
1	Pt. 10	26	A. Thompson	247	27	274
Subtotal Jeths Branch Drain					247	274

### Estimate of Cost

It is recommended that the work be carried out in accordance with the accompanying Specification of Work and the Profile, which form part of this report. There has been prepared an Estimate of Cost for the Jeths Drain and the Jeths Branch Drain in the amount of \$157,720.

The following is a summary of the total estimated cost for the Jeths Drain:

Construction	\$	63,975
Construction Contingency Allowance	\$	7,026
Allowances	\$	2,792
Engineering	\$	42,700
Tendering Allowance	\$	1,605
Conservation Fees (ERCA)	\$	400
Inspection (Provisional based on 5 days)	\$	9,000
<u>Non-Recoverable H.S.T.</u>	<u>\$</u>	<u>2,195</u>
Total	\$	129,693

The following is a summary of the total estimated cost for the Jeths Branch Drain:

Construction	\$	18,000
Construction Contingency Allowance	\$	1,000
Allowances	\$	274
Engineering	\$	4,483
Tendering Allowance	\$	1,600
Conservation Fees (ERCA)	\$	400
Inspection (Provisional based on 1 day))	\$	1,790
<u>Non-Recoverable H.S.T.</u>	<u>\$</u>	<u>480</u>
Total	\$	28,027

A detailed breakdown of the Estimate of Cost for each drain is provided within this report.

### Assessment

As per Section 21 of the Drainage Act, the Engineer in his report shall assess for benefit and outlet, for each parcel of land and road liable for assessment. Lands, roads, buildings, utilities, or other structures that are increased in value or are more easily maintained as a result of the construction, improvement, maintenance, or repair of a drainage works, may be assessed for benefit (Section 22).

Lands and roads that use a drainage works as an outlet, or for which, when the drainage works is constructed or improved, an improved outlet is provided either directly or indirectly through the medium of any other drainage works or of a swale, ravine, creek, or watercourse may be assessed for outlet. The assessment for outlet shall be based on the

volume and rate of flow of the water artificially caused to flow into the drainage works from the lands and roads liable for such assessments (Section 23). Outlet assessments shall be based on equivalent hectares, which represents the amount of water generated on properties. The equivalent hectare area considers the properties impervious surfaces, such as buildings, paved areas, etc.

The following are the equivalent hectare conversions rates utilized in this report.

<b>Description</b>	<b>Area (ha)</b>	<b>Factor</b>	<b>Equivalent Area (ha)</b>
Agricultural	1	1	1
Roads	1	4	4
Residential Lots	1	1.5-2	1.5-2

The Engineer may assess for special benefit any lands for which special benefits have been provided by the drainage works (Section 24). Private lawn enclosures are considered a special benefit and all costs associated with the construction, repair and maintenance of the enclosure, less any maintenance and access credits, shall be assessed as special benefit to the lands benefiting from the enclosure.

A Schedule of Assessment for lands and roads affected by the work, and therefore liable for the cost thereof, has been prepared as per the Drainage Act. Any affected public utility or road authority shall be assessed, as per Section 26 of the Drainage Act, any increased costs for the removal or relocation of any of its facilities and plant that may be necessitated by construction or future maintenance and repair work. Items to be assessed under Section 26 shall be tendered separately with the actual cost plus a portion of the engineering (25% of the cost).

The cost of any fees for permits or approvals or any extra work required by any affected utility or road authority, shall be assessed to that organization requiring the permit, approval, or extra work.

The estimated cost of the drainage works has been assessed in the following manner:

- The open channel between Station 0+480 and Station 0+965 has generally been assessed with 50% of the cost applied as a benefit assessment to the adjacent landowners, and the remainder of the cost assessed as an outlet assessment to upstream lands and roads based on equivalent hectares.
- Private tile outlet protection has been assessed with 100% of the cost applied as a benefit assessment to the lands which the outlet is located on (Station 0+630, 0+960 and 0+963).



- The removal of the private culvert at Station 0+802 has been assessed with 100% of the cost applied as a special benefit assessment to the lands on which the culvert is located.
- The costs to engineer the future access culverts, including future bridge replacements, has been assessed with 50% of the engineering cost applied as a benefit assessment to the landowner, and the remainder assessed as an outlet assessment on upstream lands, based on equivalent hectares.
- The costs to engineer the enclosures has been assessed with 50% of the engineering cost of a tile installation and structures, including any additional costs due to construction in areas where the drain abuts building structures, applied as a special benefit assessment to the landowner, and the remainder assessed as an outlet assessment to upstream lands based on equivalent hectares. The following is a summary of engineering costs for the future enclosure assessment.

Description	Location	Owner ID	Owner	Special Benefit	Benefit	Outlet
Enclosure 1	1+044 - 1+087	28	D. & P. Kellam	15%	50%	35%
Enclosure 2	1+087 - 1+100	27	A. Kojok & A. Ahmed Road Authority		15% 35%	50%
Road Crossing	1+100 - 1+120		Road Authority		99%	1%
Enclosure 3	1+120 - 1+160	36	A. Valente	20%	50%	30%

Note - Enclosure 1 and 3 assessments reflect the increased costs to maintain the drain due to the drain location, landscaping, building etc.  
 - If the land owned by Landowner ID 35 is severed into two parcels, Landowner ID 35 (retained parcel) and Landowner ID 36 (severed parcel on which the drain is located), the land owned by Landowner ID 35 will no longer require the drain and the land owned by Landowner ID 35 will not be assessed. If the land is not severed, all costs assessed to Landowner ID 36 are to be assessed to Landowner ID 35.

- The Jeths Branch Drain collects water from the land owned by 1109152 Ont. Ltd. The cost includes allowances paid to A. Thompson (Landowner ID 26) for land taken. The Jeths Branch Drain has been assessed with 100% of the costs, including allowances, assessed to the petitioning landowner, 1109152 Ont. Ltd.
- The Schedule of Maintenance and report specifications update has been assessed as an outlet assessment to all lands and roads within the watershed, based on equivalent hectares.
- If the land owned by Landowner ID 35 is severed into two parcels, Landowner ID 35 (retained parcel) and Landowner ID 36 (severed parcel on which the drain is located), the land owned by Landowner ID 35 will no longer require the drain and the land owned by Landowner ID 35 will not be assessed. If the land is not severed, all costs assessed to Landowner ID 36 are to be assessed to Landowner ID 35.

### Agricultural Grant

Under the current Section 85 of the current Agricultural Drainage Infrastructure Program (ADIP) policy of the OMAFRA, a grant may be available for assessments against privately owned parcels of land which are used for agricultural purposes and eligible for the Farm Property Class Tax Rate. Section 88 of the Drainage Act directs the Municipality to make application for this grant upon certification of this drain. The Municipality will then deduct the grant from the assessments, prior to collecting the final assessments.

Landowners will not be eligible for grants, since there are no landowners within the watershed which are eligible for the Farm Property Class Tax Rate.

### Access and Working Area

Access to the drain shall be gained from road allowances, when possible, along existing private lanes, along the fence lines, along property lines, and along the drain. Access to the working area along the private lanes, property lines and fence lines, shall be restricted to a width of 6m; in addition to this, additional access and working areas for sections of the drain have been summarized below:

#### *Station 0+117 to Station 0+960*

In addition to the access from Front Road North (County Road 20) where the drain crosses Front Road North, an access to the drain will be via the proposed development stormwater retention block, and lands (residential and vacant) that abut the drain. In the future, any land that abuts the drain may be used for access and that large equipment may be required to traverse across residential lands regardless of the location of the drainage works. In addition to the forementioned accesses, a landowner (Landowner ID 9) has indicated that he would be willing to allow access to the drain via a portion of the undeveloped lot that can be accessed via Easy Street. Permission from the landowner (Landowner ID 9) to access the drain via Easy Street, will be required before it is used as an access point for any future maintenance works.

The working area for construction of the proposed works between Station 0+480 and Station 0+802 shall be on the south side of the channel, and will be 20m in width for the entire length. The working area for the proposed works between Station 0+802 and Station 0+960, shall be from the north side of the channel and shall be 20m in width. Once the proposed work is completed, the working corridor for future works of maintenance between Station 0+117, and Station 0+960, shall be on the north side of the entire channel, and is 20m in width.

*Station 0+960 to Station 1+044*

Access for this section of drain will be within the drain's working area.

The working area for the drain between Station 0+960 and Station 1+044 for future works of maintenance, shall be from the north and east sides of the channel, and shall be 20m in width.

*Station 1+044 to Station 1+100*

Access for this section of drain will be within the working area from the Front Road North, road allowance, where the drain crosses Front Road North.

The working area for the closed drain for future works of maintenance, shall be 7.3m from the centre of the enclosure to the south limit, and 12.7m from the centre of the enclosure to the north limit.

*Station 1+100 to Station 1+120*

Access for this section of drain will be within the Front Road North, road allowance, where the drain crosses Front Road North.

The working area for the closed drain for future works of maintenance, shall be restricted to 40m, centred on the drain.

*Station 1+120 to Station 1+160*

Access for this section of drain will be within the Front Road North, road allowance, where the drain crosses Front Road North.

The working area for the closed drain for future works of maintenance, shall be 7.3m from the centre of the enclosure to the north limit, and 5m from the centre of the enclosure to the south limit.

Restrictions

No trees and shrubs shall be planted, nor shall permanent structures or hard surfaces be permitted in the working corridor. Any planted trees, structures or hard surfaces that interfere with access for future maintenance of the drainage works shall be removed at the expense of the landowner.

Attention is also drawn to Sections 80 and 82 of the Drainage Act that refers to the obstruction of a drainage works. Private bridges that affect the conveyance of flows in the Jeths Drain will be removed by the Town of Amherstburg at the expense of the landowner, on which the private bridge is located on.

## Maintenance

Upon completion of the work, the drainage works including the bridges, access culverts and enclosures constructed under the previous reports/bylaws shall be maintained as per the applicable Schedules of Maintenance enclosed with this report, unless otherwise altered under provisions of the Drainage Act, or as outlined below. The maintenance schedules are used to prorate the actual maintenance costs when maintenance occurs. The costs illustrated on the Schedules of Maintenance are not part of the proposed improvements.

- Each parcel of land that abuts the drain is permitted one culvert; therefore, any additional culverts are considered a secondary access, and would be assessed with 100% of the cost to the requesting landowner.
- The cost to repair, maintain or install a standard access culvert with a 6m maximum top width and rip rap end protection, will be assessed with 50% of the costs applied as a benefit assessment to the adjacent landowner, and the remainder assessed as an outlet assessment to upstream lands, based on equivalent hectares. Landowners who request an extra length of culvert beyond the standard length specified in this report, shall be assessed 100% of the cost of the extra length of culvert, as a benefit assessment. Currently, Culvert 2 (Station 0+256) is the only culvert on the drain which has extensions. If the landowner, (landowner ID 14), requested the culvert be replaced with the same length of culvert, the extra length of culvert beyond the standard length specified in this report is 16m. The extra length would result in 78% of the total culvert costs being assessed as a benefit assessment to the requesting landowner, and the remainder assessed as an outlet assessment to upstream lands, based on equivalent hectares.
- The cost to replace or maintain the drain enclosures shall be assessed for special benefit, benefit and outlet. The special benefit reflects the increased costs to maintain the enclosure due to the proximity to buildings, landscaping and hard surfaces, and for the removal of any excess material generated during the replacement to a location offsite. The special benefit and benefit assessments shall be assessed to the lands on which the enclosure is located, and the remainder assessed as an outlet assessment to upstream lands, based on equivalent hectares as follows:

Description	Location	Owner ID	Owner	Special Benefit	Benefit	Outlet
Enclosure 1	1+042 - 1+087	28	D. & P. Kellam	20%	40%	40%
Enclosure 2	1+087 - 1+100	27	A. Kojok & A. Ahmed Road Authority		10% 40%	50%
Road Crossing	1+100 - 1+120		Road Authority		98%	2%
Enclosure 3	1+120 - 1+160	36	A. Valente	20%	40%	40%

Note - Enclosure 3 Includes MH 4 and CB 4 c/w the 300mm Dia Lead

- If the land owned by Landowner ID 35 is severed into two parcels, Landowner ID 35 (retained parcel) and Landowner ID 36 (severed parcel on which the drain is located), the land owned by Landowner ID 35 will no longer require the drain and the land owned by Landowner ID 35 will not be assessed. If the land is not severed, all costs assessed to Landowner ID 36 are to be assessed to Landowner ID 35.

- If a private bridge fails or if it restricts the conveyance of flows in the Jeths Drain, the cost to remove the private bridge will be assessed with 100% of the costs to the landowner, on which the bridge is located.
- If a private culvert is replaced with a new culvert, the cost to remove the private culvert will be assessed with 100% of the costs to the landowner, on whose lands the culvert is located.
- The cost to repair or maintain the fence between Station 0+480 and Station 0+802, will be assessed with 100% of the costs applied as a benefit assessment to the abutting landowner on the south side of the drain.
- Accessing the drain via residential lots may require access across concrete drives, asphalt drives and landscaped areas. All damages to the existing access will be restored with the restoration costs forming part of the maintenance costs.
- Maintenance of the enclosure between Station 0+000 and Station 0+117 shall be as per the 1993 drain report specifications, prepared by D. Jourey, and assessed in accordance with the Schedule of Maintenance Section 1 of this report.

All of the above is submitted for your consideration.

Yours truly,

*M. Gerrits*  
Aug 12, 2022



Michael Gerrits, P. Eng  
M. Gerrits Consulting Inc.

Jeths Drain  
Town of Amherstburg  
August 12, 2022

**ESTIMATE OF COST - JETHS MAIN DRAIN**

	Quantity	Unit	Unit Price (\$)	Total (\$)
Allowances:				2,792
Brush Drain and Working Area (Station 0+480 to Station 0+965)	1	ha	17,500	17,500
Strip Channel (Station 0+480 - Station 0+965) and Working Area (Station 0+802 - Station 0+965) and Stockpile Topsoil	3900	sq.m.	2.50	9,750
Channel Excavation	485	m	14	6,790
Channel Excavation - Extra Depth (Station 0+690 to Station 0+800)	110	m	25	2,750
Level Spoils in Working Corridor	485	m	6.50	3,153
Remove Culvert 5 (Station 0+802) Remove and Dispose of Existing Culvert	1	LS	2,000	2,000
Channel Bank Hand Seeding	2183	sq.m.	4	8,732
Working Area Hand Seeding (Station 0+770 to Station 0+965)	2925	sq.m.	4	11,700
Channel Bank Protection (Station 0+955 - Station 0+965)	5	sq.m.	150	750
Tile Outlet Protection (1 sq.m./Location)	3	ea.	100	300
Heavy Duty Silt Fencing (Station 0+967)	1	m	550	550
			Sub Total	\$ 63,975
			Miscellaneous	\$ 7,026
			Allowances	\$ 2,792
			Survey, Design, Report and Meeting	\$ 41,700
			Schedule of Maintenance Update	\$ 1,000
			Tendering c/w Onsite Meeting (Provisional)	\$ 1,605
			5 Day Part Time Inspection Allowance (Provisional)	\$ 9,000
			ERCA Fee	\$ 400
			<b>Total Estimate Excluding HST</b>	<b>\$ 127,498</b>
			Non-Recoverable HST (1.76%)	\$ 2,195
			<b>Total Estimate</b>	<b>\$ 129,693</b>

Jeths Drain  
 Town of Amherstburg  
 August 12, 2022

**ESTIMATE OF COST - JETHS BRANCH DRAIN**

	Quantity	Unit	Unit Price (\$)	Total (\$)
Allowances:				274
Install 375mm Dia. HDPE Smooth Walled Storm Sewer (5.5m Length) c/w Bedding, Backfill, Rodent Grate, Cap for Future Private Storm Connection and Marker Post	5.5	m	400	2,200
Restoration (Hand Seeding)	100	sq.m.	5	500
Rip Rap c/w Geotextile	3	sq.m.	100	300
1.2m (4') Chain Link Fence	300	m	50	15,000
			Sub Total	\$ 18,000
			Miscellaneous	\$ 1,000
			Allowances	\$ 274
			Survey, Design, Report and Meeting	\$ 4,483
			Tendering c/w Onsite Meeting (Provisional)	\$ 1,600
			1 Day Part Time Inspection Allowance (Provisional)	\$ 1,790
			ERCA Fee	\$ 400
			<b>Total Estimate Excluding HST</b>	<b>\$ 27,547</b>
			Non-Recoverable HST (1.76%)	\$ 480
			<b>Total Estimate</b>	<b>\$ 28,027</b>

Jeths Drain  
 Town of Amherstburg  
 August 12, 2022

**SCHEDULE OF ASSESSMENT  
 JETHS MAIN DRAIN**

Conc.	Lot	Aff. Hect.	Owner ID	Landowner	Culverts/Enclosure			Channel Works			Maint. Schedule	Total (\$)	Eq. Ha.
					Special Benefit (\$)	Benefit (\$)	Outlet (\$)	Special Benefit (\$)	Benefit (\$)	Outlet (\$)			
<b>3. Municipal Lands</b>													
	Front Road N. (CR 20)	0.45		County of Essex	-	1,340	16	-	-	120	109	1,585	1.82
					\$ -	\$ 1,340	\$ 16	\$ -	\$ -	\$ 120	\$ 109	\$ 1,585	
				Total Special Benefit	-								
				Total Benefit	1,340								
				Total Outlet	245								
				<u>Total - Municipal Lands</u>	\$ 1,585								
<b>4. Privately-Owned Non-Agricultural Lands</b>													
1	Pt. 10	0.21	1	J. & A. Hilton	-	-	108	-	-	879	19	1,006	0.32
	Pt. 10	0.11	2	J. Brown & D. Landry	-	-	66	-	-	614	13	693	0.22
	Pt. 10	0.22	3	J. & K. Kearley	-	-	113	-	-	920	20	1,053	0.33
	Pt. 10	0.11	4	P. & S. Harvey	-	-	75	-	-	614	13	702	0.22
	Pt. 10	0.29	5	G. & A. Dethomasis	-	-	149	-	-	1,213	26	1,388	0.44
	Pt. 10	0.13	6	K. Desormeaux	-	-	89	-	-	727	16	832	0.26
	Pt. 10	0.29	7	R. & S. Meloche	-	-	149	-	-	1,213	26	1,388	0.44
	Pt. 10	0.31	8	R. Lackovic	-	-	159	-	-	1,298	28	1,485	0.47
	Pt. 10	1.15	9	F. & A. Simone	-	-	590	-	574	4,548	104	5,816	1.73
	Pt. 10	0.13	10	J. Litalien	-	-	89	-	-	725	16	830	0.26
	Pt. 10	0.47	11	T. LaPorte	-	-	241	-	139	1,796	42	2,218	0.71
	Pt. 10	0.27	12	D. & M. Donato	-	-	139	-	147	1,010	24	1,320	0.41
	Pt. 10	1.91	13	G. & S. Bezaire	-	500	488	-	989	4,601	115	6,693	1.91
	Pt. 10	0.75	14	S. Reaume	-	500	214	-	381	2,623	68	3,786	1.13



Conc.	Lot	Aff. Hect.	Owner ID	Landowner	Culverts/Enclosure			Channel Works			Maint. Schedule	Total (\$)	Eq. Ha.							
					Special Benefit	Benefit	Outlet	Special Benefit	Benefit	Outlet										
					(\$)	(\$)	(\$)	(\$)	(\$)	(\$)										
Pt. 10	1.08	15	J. & K. Hindi	-	500	217	-	466	3,692	98	4,973	1.62								
Pt. 10	0.23	16	J. & K. Hindi	-	-	46	-	-	786	21	853	0.35								
Pt. 10	0.09	17	J. Muresan & M. Campbell	-	-	24	-	-	410	11	445	0.18								
Pt. 10	0.06	18	C. & A. Martin	-	-	16	-	-	275	7	298	0.12								
Pt. 10	3.33	19	C. & A. Martin	-	500	352	-	2,390	8,007	200	11,449	3.33								
Pt. 10	0.37	20	C. & C. Blunt	-	-	50	-	198	1,192	33	1,473	0.56								
Pt. 10	0.36	21	L. Bortolin	-	-	49	-	198	1,145	33	1,425	0.54								
Pt. 10	0.32	22	G. Fawcett & K. Sullivan	-	-	43	-	198	1,003	29	1,273	0.48								
Pt. 10	0.28	23	B. & P. Pare	-	-	38	-	198	868	25	1,129	0.42								
Pt. 10	0.04	24	M. Conte & A. Calamita	-	-	5	-	-	123	4	132	0.06								
Pt. 10	3.36	25	1109152 Ontario Limited	-	-	609	13,590	15,169	7,719	405	37,492	6.73								
Pt. 10	3.69	26	A. Thompson	2,707	500	295	92	25,457	2,377	222	31,650	3.69								
Pt. 10	1.93	27	A. Kojok & A. Ahmed	-	650	86	-	-	2,056	116	2,908	1.93								
Pt. 10	0.77	28	D. & P. Kellam	150	500	20	-	-	204	-	874	0.77								
Pt. 10	0.32	33	L. Durocher & J. Gagnon	-	500	35	-	707	42	39	1,323	0.64								
Pt. 10	0.31	29	D. & J. Hay	-	-	34	-	-	107	37	178	0.62								
Pt. 10	0.09	30	B. Girard	-	-	10	-	-	31	11	52	0.18								
Pt. 10	0.20	31	J. & D. Rawlins	-	-	22	-	-	70	24	116	0.41								
Pt. 10	0.17	32	J. & J. Farmer	-	-	18	-	-	58	20	96	0.34								
Pt. 10	0.11	34	P. & K. Tough	-	-	6	-	-	15	13	34	0.22								
Pt. 10	0.10	*35	A. Valente	-	-	-	-	-	-	-	-	0.00								
Pt. 10	0.10	*36	A. Valente	200	500	-	-	-	13	12	725	0.20								
					\$	3,057	\$	4,650	\$	4,644	\$	13,682	\$	47,211	\$	52,974	\$	1,890	\$	128,108
Total Special Benefit					16,739															
Total Benefit					51,861															
Total Outlet					59,508															
Total - Privately-Owned Non-Agricultural Lands					\$ 128,108															
Total - Privately-Owned Non-Agricultural Lands					128,108															
Total - Municipal Lands					1,585															
Total Assessment					\$ 129,693															

Note If the land owned by Landowner ID 35 is severed into two parcels, Landowner ID 35 (retained parcel) and Landowner ID 36 (severed parcel on which the drain is located), the land owned by Landowner ID 35 will no longer require the drain and the land owned by Landowner ID 36 will not be assessed. If the land is not severed, all costs assessed to Landowner ID 36 are to be assessed to Landowner ID 35.

Jeths Drain  
 Town of Amherstburg  
 August 12, 2022

**SCHEDULE OF ASSESSMENT  
 JETHS BRANCH DRAIN**

Conc.	Lot	Affected Hect.	Owner ID	Landowner	Special Benefit (\$)	Benefit (\$)	Outlet (\$)	Total (\$)	Eq. Ha.
<b>4. Privately-Owned Non-Agricultural Lands</b>									
1	Pt. 10	3.36	25	1109152 Ontario Limited	22,725	5,302	-	28,027	3.4
					\$ 22,725	\$ 5,302	\$ -	\$ 28,027	
				Total Special Benefit	22,725				
				Total Benefit	5,302				
				Total Outlet	-				
				Total - Privately-Owned Non-Agricultural Lands	\$ 28,027				

Jeths Drain  
 Town of Amherstburg  
 August 12, 2022

**Schedule of Maintenance**  
**Section 1 - Station 0+000 to Station 0+117**

For assessing maintenance costs for the Jeths Drain between Station 0+000 and Station 0+117

The section of drain is to be maintained as per the 1993 drain report specifications, prepared by D. Jourey

Conc.	Lot	Aff. Hect.	Owner ID	Landowner	Benefit (\$)	Outlet (\$)	Total (\$)	Eq. Ha.
<b>4. Privately-Owned Non-Agricultural Lands</b>								
1	Pt. 10	0.21	1	J. & A. Hilton	25	227	252	0.3
	Pt. 10	0.11	2	J. Brown & D. Landry	105	103	208	0.2
	Pt. 10	0.22	3	J. & K. Kearley	105	153	258	0.3
	Pt. 10	0.11	4	P. & S. Harvey	105	103	208	0.2
	Pt. 10	0.29	5	G. & A. Dethomasis	56	157	213	0.4
	Pt. 10	0.13	6	K. Desormeaux	56	94	150	0.3
	Pt. 10	0.29	7	R. & S. Meloche	86	94	180	0.4
	Pt. 10	0.31	8	R. Lackovic	41	48	89	0.5
	Pt. 10	1.15	9	F. & A. Simone	154	34	188	1.7
	Pt. 10	0.13	10	J. Litalien	-	9	9	0.3
Total Maintenance Assessment - Section 1					\$ 733	\$ 1,022	\$ 1,755	

Jeths Drain  
Town of Amherstburg  
August 12, 2022

**Schedule of Maintenance**  
**Section 2 - Station 0+117 to Station 0+480**

For maintaining the Jeths Drain between Station 0+117 and Station 0+480.

Access culverts/bridges to be maintained in accordance with the maintenance section of the report.

Conc.	Lot	Aff. Hect.	Owner ID	Landowner	Benefit (\$)	Outlet (\$)	Total (\$)	Eq. Ha.
<b>4. Privately-Owned Non-Agricultural Lands</b>								
1	Pt. 10	0.21	1	J. & A. Hilton	-	1,976	1,976	0.3
	Pt. 10	0.11	2	J. Brown & D. Landry	-	1,380	1,380	0.2
	Pt. 10	0.22	3	J. & K. Kearley	-	2,071	2,071	0.3
	Pt. 10	0.11	4	P. & S. Harvey	-	1,380	1,380	0.2
	Pt. 10	0.29	5	G. & A. Dethomasis	-	2,730	2,730	0.4
	Pt. 10	0.13	6	K. Desormeaux	-	1,630	1,630	0.3
	Pt. 10	0.29	7	R. & S. Meloche	-	2,730	2,730	0.4
	Pt. 10	0.31	8	R. Lackovic	-	2,917	2,917	0.5
	Pt. 10	1.15	9	F. & A. Simone	5,009	8,692	13,701	1.7
	Pt. 10	0.13	10	J. Litalien	-	1,630	1,630	0.3
	Pt. 10	0.47	11	T. LaPorte	1,215	2,976	4,191	0.7
	Pt. 10	0.27	12	D. & M. Donato	1,286	1,521	2,807	0.4
	Pt. 10	1.91	13	G. & S. Bezaire	8,638	5,712	14,350	1.9
	Pt. 10	0.75	14	S. Reaume	3,324	2,617	5,941	1.1
	Pt. 10	1.08	15	J. & K. Hindi	4,062	3,019	7,081	1.6
	Pt. 10	0.23	16	J. & K. Hindi	-	644	644	0.3
	Pt. 10	0.09	17	J. Muresan & M. Campbell	-	336	336	0.2
	Pt. 10	0.06	18	C. & A. Martin	-	224	224	0.1
	Pt. 10	3.33	19	C. & A. Martin	16,887	2,335	19,222	3.3
	Pt. 10	0.37	20	C. & C. Blunt	1,726	392	2,118	0.6
	Pt. 10	0.36	21	L. Bortolin	1,726	244	1,970	0.5
	Pt. 10	0.32	22	G. Fawcett & K. Sullivan	1,726	103	1,829	0.5
	Pt. 10	0.28	23	B. & P. Pare	1,662	-	1,662	0.4
Total Maintenance Assessment - Section 2					\$ 47,261	\$ 47,259	\$ 94,520	

Jeths Drain  
Town of Amherstburg  
August 12, 2022

**Schedule of Maintenance**  
**Section 3 - Station 0+480 to Station 1+044**

For maintaining the Jeths Drain between Station 0+480 and Station 1+044.

Access culverts/bridges to be maintained in accordance with the maintenance section of the report.

Conc.	Lot	Aff. Hect.	Owner ID	Landowner	Benefit (\$)	Outlet (\$)	Total (\$)	Eq. Ha.
<b>4. Privately-Owned Non-Agricultural Lands</b>								
1	Pt. 10	0.21	1	J. & A. Hilton	-	65	65	0.3
	Pt. 10	0.11	2	J. Brown & D. Landry	-	45	45	0.2
	Pt. 10	0.22	3	J. & K. Kearley	-	69	69	0.3
	Pt. 10	0.11	4	P. & S. Harvey	-	45	45	0.2
	Pt. 10	0.29	5	G. & A. Dethomasis	-	91	91	0.4
	Pt. 10	0.13	6	K. Desormeaux	-	56	56	0.3
	Pt. 10	0.29	7	R. & S. Meloche	-	91	91	0.4
	Pt. 10	0.31	8	R. Lackovic	-	97	97	0.5
	Pt. 10	1.15	9	F. & A. Simone	-	361	361	1.7
	Pt. 10	0.13	10	J. Litalien	-	56	56	0.3
	Pt. 10	0.47	11	T. LaPorte	-	147	147	0.7
	Pt. 10	0.27	12	D. & M. Donato	-	85	85	0.4
	Pt. 10	1.91	13	G. & S. Bezaire	-	398	398	1.9
	Pt. 10	0.75	14	S. Reaume	-	235	235	1.1
	Pt. 10	1.08	15	J. & K. Hindi	-	337	337	1.6
	Pt. 10	0.23	16	J. & K. Hindi	-	72	72	0.3
	Pt. 10	0.09	17	J. Muresan & M. Campbell	-	38	38	0.2
	Pt. 10	0.06	18	C. & A. Martin	-	26	26	0.1
	Pt. 10	3.33	19	C. & A. Martin	481	751	1,232	3.3
	Pt. 10	0.37	20	C. & C. Blunt	-	117	117	0.6
	Pt. 10	0.36	21	L. Bortolin	-	111	111	0.5
	Pt. 10	0.32	22	G. Fawcett & K. Sullivan	-	100	100	0.5
	Pt. 10	0.28	23	B. & P. Pare	-	87	87	0.4
	Pt. 10	0.04	24	M. Conte & A. Calamita	-	12	12	0.1

Conc.	Lot	Aff. Hect.	Owner ID	Landowner	Benefit (\$)	Outlet (\$)	Total (\$)	Eq. Ha.
	Pt. 10	0.19	FL-1	1109152 Ont Ltd - Severed Lot 1	78	19	97	0.4
	Pt. 10	0.12	FL-2	1109152 Ont Ltd - Severed Lot 2	78	11	89	0.2
	Pt. 10	0.09	FL-3	1109152 Ont Ltd - Severed Lot 3	78	9	87	0.2
	Pt. 10	0.11	FL-4	1109152 Ont Ltd - Severed Lot 4	78	10	88	0.2
	Pt. 10	0.11	FL-5	1109152 Ont Ltd - Severed Lot 5	78	10	88	0.2
	Pt. 10	0.11	FL-6	1109152 Ont Ltd - Severed Lot 6	78	10	88	0.2
	Pt. 10	0.11	FL-7	1109152 Ont Ltd - Severed Lot 7	78	10	88	0.2
	Pt. 10	0.11	FL-8	1109152 Ont Ltd - Severed Lot 8	78	10	88	0.2
	Pt. 10	0.11	FL-9	1109152 Ont Ltd - Severed Lot 9	78	10	88	0.2
	Pt. 10	0.11	FL-10	1109152 Ont Ltd - Severed Lot 10	78	10	88	0.2
	Pt. 10	0.11	FL-11	1109152 Ont Ltd - Severed Lot 11	78	10	88	0.2
	Pt. 10	0.11	FL-12	1109152 Ont Ltd - Severed Lot 12	78	10	88	0.2
	Pt. 10	0.11	FL-13	1109152 Ont Ltd - Severed Lot 13	78	10	88	0.2
	Pt. 10	0.11	FL-14	1109152 Ont Ltd - Severed Lot 14	78	10	88	0.2
	Pt. 10	0.09	FL-15	1109152 Ont Ltd - Severed Lot 15	78	9	87	0.2
	Pt. 10	0.12	FL-16	1109152 Ont Ltd - Severed Lot 16	78	11	89	0.2
	Pt. 10	0.18	FL-17	1109152 Ont Ltd - Severed Lot 17	481	44	525	0.4
	Pt. 10	0.17	FL-18	1109152 Ont Ltd - Severed Lot 18	481	40	521	0.3
	Pt. 10	3.69	26	A. Thompson	1,012	124	1,136	3.7
	Pt. 10	1.93	27	A. Kojok & A. Ahmed	225	111	336	1.9
	Pt. 10	0.77	28	D. & P. Kellam	-	10	10	0.8
	Pt. 10	0.32	33	L. Durocher & J. Gagnon	59	4	63	0.6
	Pt. 10	0.31	29	D. & J. Hay	-	10	10	0.6
	Pt. 10	0.09	30	B. Girard	-	3	3	0.2
	Pt. 10	0.20	31	J. & D. Rawlins	-	7	7	0.4
	Pt. 10	0.17	32	J. & J. Farmer	-	5	5	0.3
	Pt. 10	0.11	34	P. & K. Tough	-	1	1	0.2
<b>3. Municipal Lands</b>								
1	Pt. 10	1.20	FL-19	1109152 Ont Ltd - Road Allowance	-	246	246	4.8
Total Maintenance Assessment - Section 2					\$ 3,987	\$ 4,266	\$ 8,253	

Jeths Drain  
Town of Amherstburg  
August 12, 2022

**Schedule of Maintenance**  
**Section 4 - Station 1+044 to Station 1+160**

For maintaining the Jeths Drain between Station 1+044 and Station 1+160.

The road crossing between Station 1+100 and Station 1+120 will be maintained in accordance with the maintenance section of the report.

Conc.	Lot	Aff. Hect.	Owner ID	Landowner	Benefit (\$)	Outlet (\$)	Total (\$)	Eq. Ha.
<b>3. Municipal Lands</b>								
1	Pt. 10	1.20	FL-19	1109152 Ont Ltd - Road Allowance	-	376	376	4.8
	Front Road N. (CR 20)	0.45		County of Essex	1,617	82	1,699	1.8
<b>4. Privately-Owned Non-Agricultural Lands</b>								
1	Pt. 10	0.21	1	J. & A. Hilton	-	24	24	0.3
	Pt. 10	0.11	2	J. Brown & D. Landry	-	18	18	0.2
	Pt. 10	0.22	3	J. & K. Kearley	-	26	26	0.3
	Pt. 10	0.11	4	P. & S. Harvey	-	18	18	0.2
	Pt. 10	0.29	5	G. & A. Dethomasis	-	33	33	0.4
	Pt. 10	0.13	6	K. Desormeaux	-	19	19	0.3
	Pt. 10	0.29	7	R. & S. Meloche	-	33	33	0.4
	Pt. 10	0.31	8	R. Lackovic	-	36	36	0.5
	Pt. 10	1.15	9	F. & A. Simone	-	135	135	1.7
	Pt. 10	0.13	10	J. Litalien	-	20	20	0.3
	Pt. 10	0.47	11	T. LaPorte	-	56	56	0.7
	Pt. 10	0.27	12	D. & M. Donato	-	31	31	0.4
	Pt. 10	1.91	13	G. & S. Bezaire	-	149	149	1.9
	Pt. 10	0.75	14	S. Reaume	-	87	87	1.1
	Pt. 10	1.08	15	J. & K. Hindi	-	127	127	1.6
	Pt. 10	0.23	16	J. & K. Hindi	-	27	27	0.3
	Pt. 10	0.09	17	J. Muresan & M. Campbell	-	15	15	0.2

Conc.	Lot	Aff. Hect.	Owner ID	Landowner	Benefit (\$)	Outlet (\$)	Total (\$)	Eq. Ha.
	Pt. 10	0.06	18	C. & A. Martin	-	11	11	0.1
	Pt. 10	3.33	19	C. & A. Martin	-	261	261	3.3
	Pt. 10	0.37	20	C. & C. Blunt	-	44	44	0.6
	Pt. 10	0.36	21	L. Bortolin	-	42	42	0.5
	Pt. 10	0.32	22	G. Fawcett & K. Sullivan	-	37	37	0.5
	Pt. 10	0.28	23	B. & P. Pare	-	32	32	0.4
	Pt. 10	0.04	24	M. Conte & A. Calamita	-	6	6	0.1
	Pt. 10	0.19	FL-1	1109152 Ont Ltd - Severed Lot 1	-	29	29	0.4
	Pt. 10	0.12	FL-2	1109152 Ont Ltd - Severed Lot 2	-	19	19	0.2
	Pt. 10	0.09	FL-3	1109152 Ont Ltd - Severed Lot 3	-	15	15	0.2
	Pt. 10	0.11	FL-4	1109152 Ont Ltd - Severed Lot 4	-	17	17	0.2
	Pt. 10	0.11	FL-5	1109152 Ont Ltd - Severed Lot 5	-	17	17	0.2
	Pt. 10	0.11	FL-6	1109152 Ont Ltd - Severed Lot 6	-	17	17	0.2
	Pt. 10	0.11	FL-7	1109152 Ont Ltd - Severed Lot 7	-	17	17	0.2
	Pt. 10	0.11	FL-8	1109152 Ont Ltd - Severed Lot 8	-	17	17	0.2
	Pt. 10	0.11	FL-9	1109152 Ont Ltd - Severed Lot 9	-	17	17	0.2
	Pt. 10	0.11	FL-10	1109152 Ont Ltd - Severed Lot 10	-	17	17	0.2
	Pt. 10	0.11	FL-11	1109152 Ont Ltd - Severed Lot 11	-	17	17	0.2
	Pt. 10	0.11	FL-12	1109152 Ont Ltd - Severed Lot 12	-	17	17	0.2
	Pt. 10	0.11	FL-13	1109152 Ont Ltd - Severed Lot 13	-	17	17	0.2
	Pt. 10	0.11	FL-14	1109152 Ont Ltd - Severed Lot 14	-	17	17	0.2
	Pt. 10	0.09	FL-15	1109152 Ont Ltd - Severed Lot 15	-	15	15	0.2
	Pt. 10	0.12	FL-16	1109152 Ont Ltd - Severed Lot 16	-	18	18	0.2
	Pt. 10	0.18	FL-17	1109152 Ont Ltd - Severed Lot 17	-	28	28	0.4
	Pt. 10	0.17	FL-18	1109152 Ont Ltd - Severed Lot 18	-	26	26	0.3
	Pt. 10	3.69	26	A. Thompson	-	289	289	3.7
	Pt. 10	1.93	27	A. Kojok & A. Ahmed	1,075	148	1,223	1.9
	Pt. 10	0.77	28	D. & P. Kellam	-	0	-	0.8
	Pt. 10	0.32	33	L. Durocher & J. Gagnon	-	51	51	0.6



Conc.	Lot	Aff. Hect.	Owner ID	Landowner	Benefit (\$)	Outlet (\$)	Total (\$)	Eq. Ha.
	Pt. 10	0.31	29	D. & J. Hay	-	48	48	0.6
	Pt. 10	0.09	30	B. Girard	-	14	14	0.2
	Pt. 10	0.20	31	J. & D. Rawlins	-	32	32	0.4
	Pt. 10	0.17	32	J. & J. Farmer	-	26	26	0.3
	Pt. 10	0.11	34	P. & K. Tough	-	18	18	0.2
	Pt. 10	0.10	*35	A. Valente	200	-	200	0.0
	Pt. 10	0.10	*36	A. Valente	200	-	200	0.2
Total Maintenance Assessment - Section 3					\$ 3,092	\$ 2,708	\$ 5,800	

Note \* If the land owned by Landowner ID 35 is severed into two parcels, Landowner ID 35 (retained parcel) and Landowner ID 36 (severed parcel on which the drain is located), the land owned by Landowner ID 35 will no longer require the drain and the land owned by Landowner ID 35 will not be assessed. If the land is not severed, all costs assessed to Landowner ID 36 are to be assessed to Landowner ID 35.

Jeths Drain  
Town of Amherstburg  
August 12, 2022

**Schedule of Maintenance**  
**Jeths Branch Drain**

For maintaining the Jeths Branch Drain between Station 3+000 to Station 3+006.

Conc.	Lot	Aff. Hect.	Owner ID	Landowner	Benefit (\$)	Outlet (\$)	Total (\$)	Eq. Ha.
<b><u>3. Municipal Lands</u></b>								
1	Pt. 10	1.20	FL-19	1109152 Ont Ltd - Road Allowance	-	158	158	4.8
<b><u>4. Privately-Owned Non-Agricultural Lands</u></b>								
1	Pt. 10	0.19	FL-1	1109152 Ont Ltd - Severed Lot 1	-	12	12	0.4
	Pt. 10	0.12	FL-2	1109152 Ont Ltd - Severed Lot 2	-	9	9	0.2
	Pt. 10	0.09	FL-3	1109152 Ont Ltd - Severed Lot 3	-	6	6	0.2
	Pt. 10	0.11	FL-4	1109152 Ont Ltd - Severed Lot 4	-	7	7	0.2
	Pt. 10	0.11	FL-5	1109152 Ont Ltd - Severed Lot 5	-	7	7	0.2
	Pt. 10	0.11	FL-6	1109152 Ont Ltd - Severed Lot 6	-	7	7	0.2
	Pt. 10	0.11	FL-7	1109152 Ont Ltd - Severed Lot 7	-	7	7	0.2
	Pt. 10	0.11	FL-8	1109152 Ont Ltd - Severed Lot 8	-	7	7	0.2
	Pt. 10	0.11	FL-9	1109152 Ont Ltd - Severed Lot 9	-	7	7	0.2
	Pt. 10	0.11	FL-10	1109152 Ont Ltd - Severed Lot 10	-	7	7	0.2
	Pt. 10	0.11	FL-11	1109152 Ont Ltd - Severed Lot 11	-	7	7	0.2
	Pt. 10	0.11	FL-12	1109152 Ont Ltd - Severed Lot 12	-	7	7	0.2
	Pt. 10	0.11	FL-13	1109152 Ont Ltd - Severed Lot 13	-	7	7	0.2
	Pt. 10	0.11	FL-14	1109152 Ont Ltd - Severed Lot 14	-	7	7	0.2
	Pt. 10	0.09	FL-15	1109152 Ont Ltd - Severed Lot 15	-	6	6	0.2
	Pt. 10	0.12	FL-16	1109152 Ont Ltd - Severed Lot 16	-	9	9	0.2
	Pt. 10	0.18	FL-17	1109152 Ont Ltd - Severed Lot 17	-	12	12	0.4
	Pt. 10	0.17	FL-18	1109152 Ont Ltd - Severed Lot 18	-	11	11	0.3
Total Maintenance Assessment - Jeths Branch Drain					\$ -	\$ 300	\$ 300	

Jeths Drain and  
Jeths Branch Drain  
Town of Amherstburg  
August 12, 2022

## SPECIFICATION OF WORK

### **1. Scope of Work**

The work to be included in this specification includes the open channel improvements, culvert replacements and drain enclosures in Part of Lot 10, Concession 1 in the Town of Amherstburg. Specifications for the maintenance and repair of the closed drain between Station 0+000 and Station 0+117 are to be in accordance with the D. Joudrey drain report dated 1993. Specifications for the maintenance and repair of the closed drain between Station 1+087 and Station 1+160 are to be in accordance with the E. Lafontaine, P. Eng., drain report dated January 25, 1983.

### **2. General**

Each Contractor must inspect the site to satisfy themselves by personal examination as to the local conditions that may be encountered during this project. Quantities or any information supplied by the Engineer is not guaranteed and is for reference only.

All work and materials shall be to the satisfaction of the Drainage Superintendent who may vary these specifications as to minor details but in no way decrease the proposed capacity of the drain.

The Contractor shall be responsible for the notification of all utilities prior to the start of construction.

All work must be completed in accordance with the attached Fisheries and Oceans Canada email dated October 26, 2019 and the Essex Region Conservation Authority permit.

### **3. Plans and Specifications**

These specifications shall apply and be part of the Contract. This Specification of Work shall take precedence over all plans and general conditions pertaining to the Contract. The Contractor shall provide all labour, equipment, materials, and supervision necessary to complete the work as shown in the Plans and described in these specifications. Any work not described in these specifications shall be completed according to the Ontario Provincial Standard Specifications and Standard Drawings.

Any reference to the Owner contained in these Contract Documents shall refer to the Town of Amherstburg or the Engineer authorized by the Town of Amherstburg, to act on its behalf.

#### **4. Health and Safety**

The Contractor, at all times, shall be responsible for health and safety on the worksite, including ensuring that all employees wear suitable personal protective equipment, including safety boots and hard hats.

The Contractor shall be responsible for traffic control as per the Ontario Traffic Manual Book 7 – Temporary Conditions (latest revision) when working on public road allowances. A copy of a traffic control plan shall be kept on site at all times. The Contractor shall maintain suitable barricades, warning lights, and temporary traffic notices, at his expense, in their proper position, to protect the public both day and night. Flagmen are the responsibility of the Contractor when working on the road allowance and when entering or exiting a worksite onto a roadway.

The Contractor shall be responsible to ensure that all procedures are followed under the Occupational Health and Safety Act, to ensure that work sites are safe, and that accidents are prevented. In the event of a serious or recurring problem, a notice of noncompliance will be issued. The Contractor will be responsible for reacting immediately to any deficiency, and correcting any potential health and safety risk. Continuous disregard for any requirement of the Occupational Health and Safety Act could be cause for the issuance of a stop work order, or even termination of the contract.

The Contractor shall also ensure that only competent workmen are employed onsite and that appropriate training and certification is supplied to all employees.

#### **5. Workplace Safety and Insurance Board**

Upon award of the contract and prior to commencement of work, the Contractor shall furnish the Town of Amherstburg with a satisfactory Certificate of Insurance (COI) containing the information below, for the period of the execution of the work:

A Commercial General Liability (CGL) policy that shall be not less than 5 million dollars per occurrence.

- i. The CGL policy shall include bodily injury including death, personal injury, property damage, tenants legal liability, non-owned automobile and contain a cross liability/severability of interest clause. The certificate must also include acknowledgement that coverage under the policy specifically extends to the works in question. The COI shall name the Town of Amherstburg as additional insured to the policy.

- ii. The CGL policy shall not contain any exclusion or limitation in respect to shoring, underpinning, raising or demolition of any building or structure, pile driving, caisson work, collapse of any structure or subsidence of any property, structure or land from any cause.
- iii. The Contractor shall note that where construction works are performed within lands owned by the County of Essex or Ministry of Transportation the CGL policy shall also name the County of Essex and/or the Ministry of Transportation as additional insured to the policy.
- iv. The liability insurance shall be endorsed to provide that the policy shall not be altered, cancelled or allowed to lapse without 30 days prior written notice to the Town of Amherstburg.

## **6. MNRF Drain Registration**

The Contractor is advised that the Town of Amherstburg has conducted an "Endangered Species Act Review" and has registered its drainage activities with the Ministry of Natural Resources and Forestry.

The Town of Amherstburg, in pursuant to the Endangered Species Act Municipal Agreement, has identified the potential presence of certain species within the project area. It is the responsibility of the Contractor to make certain that necessary provisions are undertaken to ensure the protection of all species at risk and their habitats throughout the course of construction. It is also the responsibility of the Contractor to become familiar with the following documents:

1. Town of Amherstburg – Complete Mitigation Documents
2. Town of Amherstburg - Additional Mitigation Measures for Snakes Species
3. Town of Amherstburg - Additional Mitigation Measures for Turtle Species
4. Snakes of Ontario Identifier Guide
5. Turtles of Ontario Identifier Guide

These documents will be provided to the successful bidder.

The Contractor will be responsible for providing the necessary equipment and materials required by the mitigation plans and shall contact the Town of Amherstburg Drainage Superintendent immediately if any endangered species are encountered during construction.

## **7. Benchmarks**

The benchmark locations are identified on the profile drawing. The Contractor is required to complete a benchmark loop prior to construction to verify the benchmarks. If discrepancies exist, the Contractor must notify the Drainage Superintendent and Engineer prior to completing any work.

## **8. Access and Working Area**

Access to the drain shall be gained from road allowances, when possible, along existing private lanes, along the fence lines, along property lines, and along the drain. Access to the working area along the private lanes, property lines and fence lines, shall be restricted to a width of 6m; in addition to this, additional access and working areas for sections of the drain have been summarized below:

### *Station 0+117 to Station 0+960*

In addition to the access from Front Road North (County Road 20) where the drain crosses Front Road North, an access to the drain will be via the proposed development stormwater retention block, and lands (residential and vacant) that abut the drain. In the future, any land that abuts the drain may be used for access and that large equipment may be required to traverse across residential lands regardless of the location of the drainage works. In addition to the forementioned accesses, a landowner (Landowner ID 9) has indicated that he would be willing to allow access to the drain via a portion of the undeveloped lot that can be accessed via Easy Street. Permission from the landowner (Landowner ID 9) to access the drain via Easy Street, will be required before it is used as an access point for any future maintenance works.

The working area for construction of the proposed works between Station 0+480 and Station 0+802 shall be on the south side of the channel, and will be 20m in width for the entire length. The working area for the proposed works between Station 0+802 and Station 0+960, shall be from the north side of the channel and shall be 20m in width. Once the proposed work is completed, the working corridor for future works of maintenance between Station 0+117, and Station 0+960, shall be on the north side of the entire channel, and is 20m in width.

### *Station 0+960 to Station 1+044*

Access for this section of drain will be within the drain's working area.

The working area for the drain between Station 0+960 and Station 1+044 for future works of maintenance, shall be from the north and east sides of the channel, and shall be 20m in width.

### *Station 1+044 to Station 1+100*

Access for this section of drain will be within the working area from the Front Road North, road allowance, where the drain crosses Front Road North.

The working area for the closed drain for future works of maintenance, shall be 7.3m from the centre of the enclosure to the south limit, and 12.7m from the centre of the enclosure to the north limit.

*Station 1+100 to Station 1+120*

Access for this section of drain will be within the Front Road North, road allowance, where the drain crosses Front Road North.

The working area for the closed drain for future works of maintenance, shall be restricted to 40m, centred on the drain.

*Station 1+120 to Station 1+160*

Access for this section of drain will be within the Front Road North, road allowance, where the drain crosses Front Road North.

The working area for the closed drain for future works of maintenance, shall be 7.3m from the centre of the enclosure to the north limit, and 5m from the centre of the enclosure to the south limit.

**9. Removals**

When applicable, the existing tile mains, drain structures, access culverts, headwalls and end protection (rip rap) shall be removed in their entirety from the drain. The tile mains, enclosures, drain structures, access culvert, headwall and rip rap shall be disposed offsite at the expense of the Contractor. Suitable backfill shall be stockpiled adjacent to the site for reuse during installation of the proposed culvert or tile mains. Any material not suitable for use shall be disposed offsite by the Contractor.

When the open channel is maintained between Station 0+305 and Station 0+373, the private culvert at Station 0+311 shall be removed in its entirety from the open channel and not replaced. All areas of the channel affected by the culvert removal shall be restored with 100mm of topsoil and seed, in accordance with the restoration specification.

When the enclosure between Station 1+044 and Station 1+160 fails and needs to be removed, it shall be removed in its entirety from the open channel. The enclosure and rip rap, shall be disposed offsite at the expense of the Contractor.

Future removal and disposal of private bridges and culverts are the responsibility of the owner of the lands which the structure is located on.

Removals are to be in accordance with OPSS 510.

## **10. Brushing and Tree Removal**

### Proposed Work (Station 0+480 to Station 0+960)

All brush, trees, woody vegetation, etc. shall be removed from the side slopes of the existing channel and working area using a mechanical grinder mounted on an excavator. The proposed brushing and tree removal shall be from the south side of the channel between Station 0+480 and Station 0+802. Once the initial brushing is complete, all future brushing will be from the north side of the channel. Larger trees, brush and stumps that cannot be ground, shall be hauled and stockpiled on the lands owned by the landowner with the Landowner ID 25, and burned onsite subject to municipal bylaws and Ministry of the Environment, Conservation and Parks (MECP) guidelines.

### Future Maintenance

All brush, trees, woody vegetation, etc. shall be removed from the side slopes of the existing channel and working area using a mechanical grinder mounted on an excavator. Brushing and tree removal shall be from the north side of the channel. Larger trees, brush and stumps that cannot be ground, shall be hauled offsite. The Contractor may contact other landowners within the drain's watershed, to determine if they would permit stockpiling and burning of brush and stumps on their lands, otherwise the brush and stumps are to be disposed of off site (providing the landowner on which the brush and stumps are located, provides access through their property). If no access can be provided the brush and stumps are to be stockpiled in one location on the lands which the brush and stumps were located on. All burning onsite is subject to municipal bylaws and Ministry of the Environment, Conservation and Parks (MECP) guidelines. The Contractor shall be responsible for obtaining all necessary burning permits.

Certain trees may be left in place at the direction of the Drainage Superintendent.

Brushing and clearing are to be in accordance with OPSS MUNI 201.

## **11. Strip Existing Channel**

The existing channel and the working area on lands not scheduled to be developed shall be stripped in accordance with OPSS 206. Topsoil shall be placed at the edge of the working area for restoration once leveling of the subsoils is complete. Stripping of the working area topsoil on the lands owned by 1109152 Ontario Ltd., will not be required.

## **12. Excavation of Channel**

The open channel shall be excavated and maintained to the depths and grades as per the profile and drawings as contained in this Engineers report. The channel shall be excavated to the proper depth using a laser or similar approved device with a labourer onsite to ensure correctness of grade and to confirm location of tile ends. The Contractor will be required to work around existing pedestrian bridges.



All spoils shall be levelled within the working area. Spoils shall be placed a minimum of 1.5m back from the top of the bank. The excavated material shall be placed and levelled to a maximum depth of two hundred millimetres (200mm) and shall not impede overland drainage. If the spoils have sub-soil in them, the topsoil shall be windrowed along the edge of the working corridor prior to placing the sub-soil. After the excavated material has been levelled, the topsoil shall be spread to its original depth and restored with seed.

When a building structure or driveway is located in the working area the excess excavated material shall be hauled away at the landowners' expense or as directed by the Drainage Superintendent provided the landowner provides access.

Restoration is to be in accordance with the Restoration Specification.

Excavation is to be in accordance with OPSS 206.

### **13. Installation of Tile Drain**

The Jeths Branch Drain shall be high density polyethylene (HDPE) pipe, or an approved equivalent.

When the enclosure between Station 1+044 and Station 1+092, (Enclosure 1), needs to be replaced it will be under the direction and to the satisfaction of the Town Drainage Superintendent. The existing 600mm dia. Corrugated Steel Pipe Culvert shall be replaced using HDPE pipe or an approved equivalent.

When the enclosure between Station 1+092 and Station 1+160, (Enclosure 2 and Road Crossing), needs to be replaced it will be under the direction and to the satisfaction of the Town Drainage Superintendent. The existing 750mm dia. Concrete Pipe and HDPE Outlet Pipe shall be replaced using Concrete Pipe.

All pipe material must meet the maximum cover requirement specified by the pipe manufacturer.

The Contractor shall supply, install, and backfill the specified sizes of tile and pipe to the depths and grades as shown on the drawings. Construction may require trench boxes due to the location of the adjacent structures and landscaping. HDPE pipe shall be smooth wall gasketed pipe with bell and spigot joints (320 kPa). Concrete pipe shall be reinforced concrete gasketed pipe with bell and spigot joints. The pipe class shall be in accordance with OPSD 807.010.

It is intended that the proposed tile drain be located in the same general alignment as the original tile providing the tile bedding can be founded on native substrate. If the tile bedding cannot be founded on native substrate, the Contractor must notify the Drainage Superintendent or Engineer.

The tile shall be constructed to the depths and grades as shown on the drawing with any over excavation backfilled with granular material or clear stone. When the tile has been installed to the proper grade and depth, the excavation shall be backfilled with Granular "A" or clear stone from the bottom of the excavation to the springline of the pipe. Care shall be taken to ensure that the backfill on either side of the culvert does not differ by more than 300mm so that the pipe is not displaced. The remainder of the backfill can be suitable native materials generated onsite during the removal of the existing enclosure.

All granular bedding and free draining backfill material shall be mechanically compacted to 95% standard proctor maximum dry density. Any backfill material that appears to be contaminated material must not be used for backfill and will be disposed off offsite by the Contractor.

The enclosure between Station 1+120 and Station 1+160 is located adjacent to existing homes and future homes. The drain is deep and will require special construction practices when the drain is replaced. Due to the proximity of residential homes, the Contractor may be required to hire an approved third-party vibration consultant, to ensure adjacent homes are not affected by the construction/maintenance works. The Contractor may be required to use stacked trench boxes to maintain the drain, and the Contractor may be required to stockpile materials and spoils off site.

Restoration shall be in accordance with the restoration specification.

#### **14. Installation of Culverts**

The Contractor shall supply, install, and backfill pipe culverts. Pipe material can be Corrugated Steel Pipe (CSP) or High density polyethylene (HDPE) pipe. HDPE pipe shall be smooth wall pipe (320 kPa) with bell and spigot joints. CSP culverts shall be aluminized corrugated steel pipe with a minimum wall thickness of 2.8mm in all cases. All corrugation profiles shall be of helical lockseam manufacture using 68mm x 13mm corrugations for 1600mm dia. pipe and smaller and 125mm x 25mm corrugations for 1800mm dia. pipe and larger. Pipe with 125mm x 25mm corrugations shall be used if 68mm x 13mm corrugations are not available. Future culvert replacements shall be to the same specifications.

The culvert lengths are based on using rip rap end protection (1.5H:1V). If concrete block walls are to be utilized in the future, the culvert length shall be reduced to accommodate the standard 6.0m top width plus the width of the concrete block headwalls.

Culverts shall be installed with the invert 10% below the grade line. The location of the culvert shall be in the same general location as the existing culvert.

Pipe culverts shall be constructed to the depths and grades as shown on the drawing. The bottom of the excavation shall be excavated to the required depth with any over excavation backfilled with granular material or clear stone. When the pipe has been installed to the proper grade and depth, the excavation shall be backfilled with Granular "A" or clear stone from the bottom of the excavation to the springline of the pipe. Care shall be taken to ensure that the backfill on either side of the culvert does not differ by more than 300mm so that the pipe is not displaced.

All granular bedding and free draining backfill material shall be mechanically compacted to 95% standard proctor maximum dry density. The Contractor shall supply any extra backfill material required above the springline.

Agricultural access pipe culverts shall be backfilled with native material free of stones or Granular "B" from the top of the bedding to within 150mm of finished grade for the width of the existing gravel plus 1m on each side. The top 150mm of lane shall be restored with Granular "A" for a sufficient distance to match the existing access road width. The Granular "A" material shall be mechanically compacted to 98% standard proctor maximum dry density. The location of agricultural access culverts may be moved a short distance upstream or downstream as necessary to avoid existing tile outlets to the approval of the Drainage Superintendent or the Engineer authorized by the Town of Amherstburg to act on its behalf. If a tile outlet cannot be avoided, the tile outlet shall be extended upstream or downstream to an outlet. Any tile outlets extended as a result of extra length requested by a landowner, shall be extended at the landowner's expense. If a landowner requests a longer culvert than that specified above, then the extra cost shall be assessed to the landowner making the request.

End protection shall consist of rip rap ends with a minimum 1.5:1 sideslopes. The rip rap shall consist of 100mm x 200mm quarry stone or approved equal. The area to receive the rip rap shall be graded to a depth of 400mm below finished grade. Filter fabric (Terrafix 270R or approved equal) shall then be placed with any joints overlapped a minimum 600mm. The quarry stone shall then be placed with the smaller pieces placed in the gaps and voids to give it a uniform appearance.

When concrete blocks endwalls are used, the endwalls shall consist of concrete blocks with dimensions of approx. 600mm x 600mm x 1200mm, 600mm x 600mm x 2400mm or 300mm x 600mm x 1200mm as required. The top of the culvert shall govern block elevation. The correct block shall be set with the top of the block equal to the top of the culvert. The blocks shall be set at each end of the culvert so that each row of blocks will be offset approx. 100mm from the row below. The bottom row shall consist of one block placed parallel to the culvert. The blocks shall be embedded a minimum of 300mm

into each bank and shall extend into the drain bottom to match the pipe invert or below.

The blocks shall be placed over a layer of filter fabric (Terrafix 270R or approved equal). The culvert shall be backfilled in conjunction with the placement of the blocks. The gaps between the culvert and the blocks shall be filled with concrete cinder blocks/bricks and mortar to give the endwall a finished appearance.

The Contractor shall maintain a dry working area during construction. The Contractor shall install a silt fence downstream of the work area (at bottom end of channel improvement if all work is completed at the same time). The silt fence shall consist of filter fabric or manufactured silt fence supported with posts (OPSD 219.190). For access culverts that are to be constructed, a temporary dam may be necessary.

After completion of the construction, the temporary dams and any collected sediment shall be removed. The final removal shall be the silt fence.

CULVERTS TO BE REPLACED IN THE FUTURE:

Culvert No.1, Part Lot 10, Concession 1 (Lands owned by Landowner ID 13) – The existing culvert consists of 7m of 600mm dia. concrete pipe. The pipe culvert is to be replaced in the future, with 10m of 600mm dia. HDPE smooth walled culvert with rip rap end protection. The culvert will have a 6m top travel width.

Culvert No.2, Part Lot 10, Concession 1 (Lands owned by Landowner ID 14) – The existing culvert consists of 28m of 400mm dia. CSP culvert. The pipe culvert is to be replaced in the future, with 28m of 600mm dia. HDPE smooth walled culvert with rip rap end protection. The culvert will have a 6m top travel width.

Culvert No.3, Part Lot 10, Concession 1 (Lands owned by Landowner ID 15) – The existing culvert consists of 7m of 600mm dia. concrete pipe. The pipe culvert is to be replaced in the future, with 10m of 600mm dia. HDPE smooth walled culvert with rip rap end protection. The culvert will have a 6m top travel width.

Culvert No.4, Part Lot 10, Concession 1 (Lands owned by Landowner ID 19) – The existing culvert consists of 6m of 400mm dia. CSP culvert. The pipe culvert is to be replaced in the future, with 10m of 600mm dia. HDPE smooth walled culvert with rip rap end protection. The culvert will have a 6m top travel width.

Culvert No.5, Part Lot 10, Concession 1 (Lands owned by Landowner ID 26) – The existing culvert will be removed and the lands will be serviced by existing private bridges. If a bridge is to be replaced, it shall be replaced with 10m of 750mm HDPE dia. smooth walled culvert with rip rap end protection, or an approved equivalent. The culvert will have a 6m top travel width.

Culvert No.6, Part Lot 10, Concession 1 (Lands owned by Landowner ID 33) – The lands are currently serviced by a private bridge. If the bridge is to be replaced, it shall be replaced with 10m of 750mm dia. HDPE smooth walled culvert with rip rap end protection, or an approved equivalent. The culvert will have a 6m top travel width.

Culvert No.7, Part Lot 10, Concession 1 (Lands owned by ID 27) – The lands are currently serviced by a private bridge. If the bridge is to be replaced, it shall be replaced with 10m of 750mm dia. HDPE smooth walled culvert with rip rap end protection, or an approved equivalent. The culvert will have a 6m top travel width.

Compaction is to be in accordance with OPSS 501. Granular material is to be in accordance with OPSS 1010.

Restoration is to be in accordance with the Restoration Specification.

### **15. Outlet Works**

The Jeths Branch Drain outlet works consists of rip rap and filter fabric and shall be installed on the Jeths Drain channel side slope, from the bottom of the channel to the top of the bank, and for a distance of 1m on either side of the outlet pipe. Rip rap shall be made up of 200mm nominal quarry stone or approved equal. The area to receive the rip rap shall first be graded to allow the placement of the rip rap to a depth of 300mm above the obvert of the tile. After grading, a layer of filter fabric (Terrafix 270R or approved equal) is to be placed with any joints overlapping a minimum of 600mm. Rip rap shall then be placed with the smaller pieces placed in the gaps and voids to give it a uniform appearance.

### **16. Silt Fence**

Light duty silt fencing shall be installed immediately downstream of any channel works for the duration of construction. The silt fence shall consist of filter fabric or manufactured silt fence supported with posts.

The light duty silt fencing shall be in accordance with OPSS 577 and OPSD 219.110. The light duty silt fencing and any accumulated sediment, shall be removed once the disturbed area has been revegetated.

### **17. Chain Link Fence**

Chain link fence shall be installed as shown on the report drawings (5m south of the proposed developments property line) between Station 0+480 and Station 0+802. The chain link fence shall be 1.2m (4') in height and will not have any gates.

The chain link fence shall be in accordance with OPSS PROV 772 and OPSD 972.130

## **18. Restoration**

Restoration of the affected lands shall be in accordance with the following:

- Disturbed areas not being farmed shall be restored in accordance with native topsoil and hand seed. Native topsoil is to match existing depths. Topsoil is to be placed in accordance with OPSS 802. Seed is to be supplied and placed in accordance with OPSS 804. A prairie seed mix is to be used on the Thompson lands (Landowner ID 26), unless the landowner requests the standard seed mix.
- Application rates are as follows:
  - a. Primary seed (85 kg/ha.) consisting of 50% red fescue, 40% perennial ryegrass and 5% white clover.
  - b. Nurse crop consisting of Italian (annual) ryegrass at 25% of total weight.
  - c. Fertilizer (300 kg/ha.) consisting of 8-32-16.
- Hand seeding shall be spread on the affected areas on a daily basis with the seed mixture, fertilizer and application rate as shown above.
- All accesses shall be restored to the existing conditions or better. This includes grassed laneways, sidewalks, and all driveable surfaces including concrete, asphalt, gravel, brick pavers, etc.

## **19. Environmental Considerations**

The Contractor shall take care to adhere to the following considerations.

- All excavated and stockpiled material shall be placed a minimum of 1.5m from the top of the bank. Material shall not be placed in surface water runs or open inlets that enter the channel.
- All granular and erosion control materials shall be stockpiled a minimum of 1.5m from the top of the bank. Material shall not be placed in surface water runs or open inlets that enter the channel.
- All activities, including maintenance procedures, shall be controlled to prevent the entry of petroleum products, debris, rubble, concrete, or other deleterious substances into the water. Vehicle and equipment refuelling and maintenance shall be conducted away from the channel, any surface water runs, or open inlets. All waste materials shall be stockpiled well back from the top of the bank and all surface water runs and open inlets that enter the drain.

- All construction in the channel shall be carried out during periods of low flow. When possible, the Contractor shall schedule work to avoid periods of high winds and rain. The Contractor shall maintain a dry working area during construction. Prior to construction the Contractor shall install a silt fence downstream of the work area. The silt fence shall consist of filter fabric or manufactured silt fence supported with posts. After completion of the construction, the silt fence and any collected sediment shall be removed.
- Operate machinery in a manner that minimizes disturbance to the banks of the watercourse.
- The Contractor shall take care to adhere to the following Best Management Practices prepared by the Department of Fisheries and Ocean.
  - a) Culvert Replacements in Municipal Drains (Appendix A)
- The Contractor shall take care to familiarize them with the Town of Amherstburg's mitigation documents and species identification guidelines, which will be provided to the successful bidder.
- The timing window for this project is March 15 to June 30 of any calendar year. If the drain is dry, the work can proceed anytime of the year.

By following the above procedure, the work should have little or no impact on the existing channel.

**20. Miscellaneous**

Any subsurface drains encountered upstream of the culvert that conflict with the proposed culvert shall be extended to an outlet to the open channel to the approval of the Drainage Superintendent.

Any fences that must be removed to allow construction or maintenance shall be reinstalled by the Contractor, using the existing materials.

The contractor will be required to work around private bridges.

It will be the Landowner's responsibility to mark all tile and tile mains prior to maintenance being carried out.

## **APPENDIX A**

- Department of Fisheries and Oceans Canada Correspondence
- Essex Region Conservation Authority Correspondence.
- Department of Fisheries and Oceans Canada Best Management Practices  
– Culvert Replacements in Municipal Drains



**Subject:** RE: 21-HCAA-02089 - Emailing: Jeths Drain, 21-006 Jeth Drain (October 4 2021), 21-006 Jeth Drain Signed (October 4 2021)

**Subject: [Drain Maintenance, Jeths Drain, Class F, Amherstburg] (21-HCAA-02089)**

Dear Mike:

The Fish and Fish Habitat Protection Program (the Program) of Fisheries and Oceans Canada received your drain maintenance proposal which has been reviewed under the *Fisheries Act* and the *Species at Risk Act*. Our review consisted of: Notification of Drain Maintenance or Repair for the Jeths Drain in the Township of Amherstburg, the Agriculture Information Atlas (Drain Maps) and Species at Risk Distribution of Fish and Mussel Maps. We understand that you propose to: complete maintenance work on approximately 480 metres of an F drain which includes: *bottom cleanout (removal of sediment to lower the elevation of the bed of the drain, as per the most recent Engineer's Report - Municipal Bylaw), bank stabilization, access culvert installation and install a new drain branch.*

Based on the information provided, your proposal has been identified as a project where a *Fisheries Act* Authorization is not required given that harmful alteration, disruption and destruction to fish and fish habitat can be avoided by following standard measures, and a Permit under the *Species at Risk Act* is not required. Your project, as proposed, is not considered to need an authorization from the Program under the *Fisheries Act* in order to proceed. In order to comply with the *Fisheries Act*, it is recommended that you incorporate the following measures into your project proposal:

*Timing*

- If you are conducting in stream work during periods of low flow to further reduce the risk to fish and their habitat no in-stream work or construction activity should occur from March 15<sup>th</sup> to June 30<sup>th</sup>.
- If the drain is dry, work can proceed at any time of the year.

*Erosion and Sediment Control*

- Install effective erosion and sediment control measures before starting work to prevent sediment from entering the water body.
- Conduct regular inspections and maintain erosion and sediment control measures and structures during the course of construction.
- Repair erosion and sediment control measures and structures if damage occurs.
- Remove non-biodegradable erosion and sediment control materials once site is stabilized.

*Shoreline Re-vegetation and Stabilization*

- Clearing of riparian vegetation should be kept to a minimum.
- Immediately stabilize shoreline or banks disturbed by any activity associated with the project to prevent erosion and/or sedimentation, preferably through re-vegetation with native species suitable for the site.

- If replacement rock reinforcement/armouring is required to stabilize eroding or exposed areas, ensure that appropriately-sized, clean rock is used; and that rock is installed at a similar slope to maintain a uniform bank/shoreline and natural stream/shoreline alignment.
- Remove all construction materials from site upon project completion.

### *Operation of Machinery*

- Operate machinery in a manner that minimizes disturbance to the banks of the watercourse.

It remains your responsibility to meet the requirements of other federal, provincial and municipal agencies.

Should your plans change or if you have omitted some information in your proposal such that your proposal meets the criteria for a site specific review, as described on our website ([www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html](http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html)), you should complete and submit the request for review form that is also available on the website.

Should you have any questions or concerns about the compliance of your proposal with the *Fisheries Act*, and/or those prohibitions of the *Species at Risk Act* that apply to listed aquatic species, you may wish to engage an environmental professional familiar with measures to avoid impacts to fish and fish habitat.

Yours sincerely,

### **Lucas Coletti**

#### **Biologist | Biologiste**

Fisheries and Oceans Canada | Pêches et Océans Canada

Fish and Fish Habitat Protection Program | Programme de Protection du Poisson et de Son Habitat

867 Lakeshore Road, Burlington, ON, L7S 1A1 | 867, ch. Lakeshore, Burlington, ON, L7S 1A1

Email/Courriel: [Lucas.Coletti@dfo-mpo.gc.ca](mailto:Lucas.Coletti@dfo-mpo.gc.ca)

---

**From:** [mike@mgerritsconsulting.ca](mailto:mike@mgerritsconsulting.ca) <[mike@mgerritsconsulting.ca](mailto:mike@mgerritsconsulting.ca)>

**Sent:** Monday, October 4, 2021 12:25 PM

**To:** FPP.CA / PPP.CA (DFO/MPO) <[fisheriesprotection@dfo-mpo.gc.ca](mailto:fisheriesprotection@dfo-mpo.gc.ca)>

**Subject:** 21-HCAA-02089 - Emailing: Jeths Drain, 21-006 Jeth Drain (October 4 2021), 21-006 Jeth Drain Signed (October 4 2021)

Please find attached the Jeths Drain for you review and approval. The KMX file does not have a direction as the camera's internal compass was not turned on but the location is correct.

Thanks

Mike

**From:** [Ashley Gyori](mailto:Ashley.Gyori@essexregionconservation.ca)  
**To:** [mike@mgerritsconsulting.ca](mailto:mike@mgerritsconsulting.ca)  
**Subject:** RE: Jeths Drain  
**Date:** Friday, October 8, 2021 8:39:19 AM  
**Attachments:** [21-006 Jeth Drain \(October 4 2021\).pdf](#)

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Good morning Mike,

I've had the opportunity to review the preliminary plans for the proposed works and have the following comments to provide.

- I noted that there is an existing private 300mm CSP at Station 0+310. Is there any plan to legalize this culvert under the Drainage Act so that it can be upgraded, as the surrounding culverts are proposed to be larger? If not, would this smaller private culvert restrict flows through the Jeth's Drain?
- With respect to the works located on the adjacent lands owned by A. Thompson, often times when a landowner undertakes stewardship work with a Conservation Authority, a stewardship agreement is entered into; however, it is my understanding from discussions with our Forester that this will not prevent removal of any planted vegetation. Any drainage works permitted under Section 28 of the Conservation Authorities Act are reviewed as they relate to the flooding and erosion impacts of the natural hazard (the drain) specifically. We do not review any proposed works with respect to the removal of vegetation or the Endangered Species Act. It is our expectation that any vegetation removal is isolated to the maintenance corridor in relation to the drainage works. Any inquiries with respect to the Endangered Species Act should be directed towards the Ministry of Environment, Conservation and Parks. It is the proponent's responsibility to ensure that all provincial and federal authorizations have been obtained.
- Can you confirm whether the pond located on the parcel north of the drain owned by A. Thompson is hydraulically connected to the drain and currently acts as storage for the system?
- Additionally, it is my understanding that these works were requested as a result of a developer wishing to develop the lands on ARN: 372942000020000. In the final report, can you please specify what release rate has been accounted for in this drain for the future development in litres per second per hectare, as this will form the basis of the stormwater management report for the development.

If you have any questions, please do not hesitate to contact me.

Thank you,



ASHLEY GYORI  
Regulations Analyst  
Essex Region Conservation Authority  
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[agyori@erca.org](mailto:agyori@erca.org) ☺ [essexregionconservation.ca](http://essexregionconservation.ca)

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**From:** [Ashley Gyori](mailto:Ashley.Gyori@erca.org)  
**To:** [mike@mgerritsconsulting.ca](mailto:mike@mgerritsconsulting.ca)  
**Subject:** RE: Jeths Drain  
**Date:** Monday, April 4, 2022 12:57:08 PM  
**Attachments:** [21-006 Jeth Drain Draft Report \(March 21, 2021\).pdf](#)

---

Good afternoon Mike,

I've had the opportunity to review the draft report and plans for the proposed works and I appreciate your patience as it has been a very busy spring.

In my initial comments below, I had noted that there is an existing private 300mm CSP at Station 0+310 and inquired whether there was any plan to legalize this culvert under the Drainage Act so that it can be upgraded, as the surrounding culverts are proposed to be larger (see correspondence on October 8<sup>th</sup>, 2021). You had identified on December 9<sup>th</sup>, 2021, that it would be proposed as a 600mm HDPE; however, the attached plans do not show this private crossing as being upgraded or removed. As such, can you please confirm whether this smaller private culvert is being upgraded and/or removed and if it would restrict flows through the Jeth's Drain?

Additionally, you are correct that the Application for Permit fee will be \$800.00 and will be invoiced to the Town of Amherstburg.

Thank you and have a great afternoon,



ASHLEY GYORI  
Regulations Analyst  
Essex Region Conservation Authority  
360 Fairview Avenue West, Suite 311 • Essex, Ontario • N8M 1Y6  
[agyori@erca.org](mailto:agyori@erca.org) • [essexregionconservation.ca](http://essexregionconservation.ca)

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**\*\* Please note that the ERCA office is closed to the public; however, staff are continuing to respond to inquiries and review applications in a modified capacity. We appreciate your understanding and patience at this time.\*\***

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**From:** [mike@mgerritsconsulting.ca](mailto:mike@mgerritsconsulting.ca) <[mike@mgerritsconsulting.ca](mailto:mike@mgerritsconsulting.ca)>  
**Sent:** Friday, March 18, 2022 11:08 AM  
**To:** Ashley Gyori <[AGyori@erca.org](mailto:AGyori@erca.org)>  
**Subject:** RE: Jeths Drain

Hello Ashely,

The project is a little longer than originally discusses but is of the same type of work. Attached is a draft report for your review and comment. Once I get though the meetings we will apply for a

## Best Management Practices – Culvert Replacements in Municipal Drains

This document describes the conditions on which one may proceed with a culvert replacement in a municipal drain without DFO approval/notification. All municipal, provincial, or federal legislation that applies to the work being proposed must be respected. If the conditions/requirements below cannot be met, please complete the drain notification form and submit it to the Fisheries Protection Program form review at: [FisheriesProtection@dfo-mpo.gc.ca](mailto:FisheriesProtection@dfo-mpo.gc.ca).

### Potential Impacts to Fish Habitat

- Infilling fish habitat by encroachment of the water crossing footprint or channel realignment to accommodate culvert
- Harmful substrate alteration of fish habitat (e.g. blockage of groundwater upwellings, critical SAR habitat, spawning areas)
- Removal of riparian vegetation and cover along the banks of the municipal drain
- Removal of edge habitat (e.g. undercut bank, shallower areas with lower velocity, aquatic vegetation) creation of barriers to fish movement (e.g. perched crossings, velocity barriers, alteration of the natural stream gradient)
- Alteration of channel flow velocity and/or depth (e.g. oversized culvert resulting in insufficient depth for fish passage at low flow or undersized culvert resulting in a flow velocity barrier at high flow)
- Alteration of channel morphology and sediment transport processes caused by the physical structure of the crossing resulting in upstream and downstream sediment aggradation/erosion
- Re-entry of sediment that was removed/stockpiled into the watercourse
- Erosion downstream from sudden release of water due to the failure of site isolation
- Stranding of fish in isolated ponds following de-watering of the site
- Impingement or entrainment of fish when de-watering pumps are used
- Short term or chronic transport of deleterious substances, including sediment, into fish habitat from construction or road drainage

### Requirements

The following requirements must be met:

- There are no aquatic Species at Risk present in the work zone or impact zone. To confirm there are no aquatic Species at Risk present, refer to the document, [A Guide for Interpreting Fish and Mussel Species at Risk Maps in Ontario](http://www.dfo-mpo.gc.ca/Library/356763.pdf) which can be found at: <http://www.dfo-mpo.gc.ca/Library/356763.pdf>. Links for Ontario Conservation Area specific fish and mussel maps that include critical habitat extents and a list of aquatic Species at Risk found within the conversation authority boundary can be found on Page 5 of [A Guide for Interpreting Fish and Mussel Species at Risk Maps in Ontario](http://www.dfo-mpo.gc.ca/Library/356763.pdf).
- The culvert is embedded into the streambed and must allow for the free passage of fish.
- The work involves like-for-like replacements of existing road or private access culverts on all drain types without SAR.
- On C and F Drains only, this can also include replacements with extensions and end walls for the purposes of providing the property or road with safe access, but the project permanent footprint will not increase more than 250 m<sup>2</sup> below the high water mark.
- The project does not involve replacing a bridge or arch with one or more culverts installed in parallel or a larger-diameter culvert with more than one culvert installed in parallel.

- The project does not involve building more than one culvert installed in parallel on a single watercourse crossing site (e.g. twin culvert).
- The project does not involve temporarily narrowing the watercourse to an extent or for a duration that is likely to cause erosion, structural instability or fish passage problems.
- The municipal drain has no flow/low flow or is frozen to the bottom at the time of the replacement.
- In-water work is scheduled to respect timing windows (Tables 1 and 2) to protect fish, including their eggs, juveniles, spawning adults, and/or the organisms upon which they feed.
- The work can be conducted using the Culvert Removal Method described below and Standard Measures to Avoid Causing *Serious Harm to Fish* will be implemented when required.

Note: If your project must be conducted without delay in response to an emergency (e.g. the project is required to address an emergency that poses a risk to public health or safety or to the environment or property), you may apply for an Emergency Authorization (<http://www.dfo-mpo.gc.ca/asp/forceDownload.asp?FilePath=/pnw-ppe/reviews-revues/Emergency-Authorizations-Autorisations-Urgences-eng.pdf>).

### **Culvert Removal Methodology**

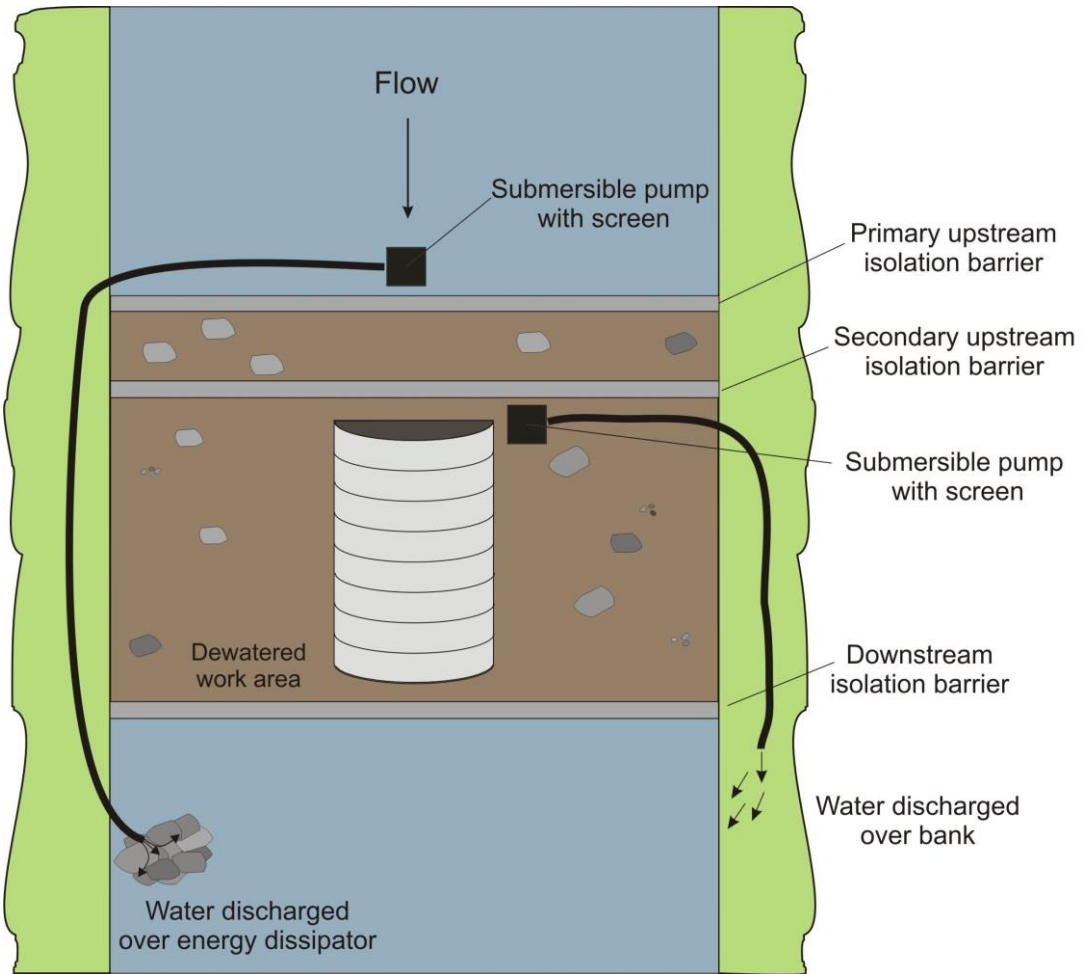
- Plan/manage the work site in a manner that prevents sediment from entering the municipal drain by installing sediment and erosion control materials where required. Ensure that a sediment and erosion control plan is developed and modified as necessary for the site.
- Where required, install effective erosion and sediment control measures before starting work to prevent sediment from entering the municipal drain.
- Implement site isolation measures when in-water work is required.
  - Install an impervious barrier upstream of the work area (Figure 1). If possible, install a secondary barrier upstream of the work area for added protection.
  - Attempt to drive out the fish from the work area and then install the impervious barrier downstream of the work area. This may reduce or eliminate the need for a fish salvage.
  - When the drain is flowing, maintain downstream flows (e.g. bypass water around the work site using pumps or flume pipes; Figure 2). Provide temporary energy dissipation measures (e.g. rip-rap) at discharge point of the hose or temporary outlet pipe when required. Routinely inspect bypass pump and hose or pipe to ensure proper operation. Inspect discharge point for erosion and reposition hose/pipe or install additional temporary energy dissipation material as needed.
  - Dewater the isolated work area. The hose for a pump may discharge along the top of the bank into existing vegetation; however, the area should be monitored for signs of erosion. Reposition the hose or install additional temporary energy dissipation material as needed.
  - A fish screen with openings no larger than 2.54 mm (0.10 inches) should be equipped on any pump used during the operation. Note: Additional information regarding fish screens can be found in the DFO Freshwater Intake End-of-Pipe Fish Screen Guideline document (<http://www.dfo-mpo.gc.ca/Library/223669.pdf>).
  - Collect any fish present in the isolated work area and relocate them downstream.
  - Fish salvage operations must be conducted under a license issued by the Ontario Ministry of Natural Resources and Forestry (MNRF). The MNRF should be contacted well in advance of any work to obtain the required fish collection license.
- Install the culvert so that it is embedded into the streambed; ensure the culvert remains passable (e.g. does not become perched) by fish and wildlife.



- Decommission the site isolation in a manner that minimizes the introduction of sediment. The downstream isolation barrier shall gradually be removed first, to equalize water levels inside and outside of the isolated area and to allow suspended sediments to settle.
- Stabilize and remove waste from the site.
- Where required, maintain effective erosion and sediment control measures until complete re-vegetation of disturbed areas is achieved.



**Figure 2. Isolation of Site**



**Figure 3. Isolation and Bypass Diversion when Working In-Water**



## Timing Windows

Figure 1 and Tables 1 and 2 can be used to determine the Restricted Activity period for the drain based on its classification. Note: Timing windows identified on [Conservation Authority](#) permits or [Ministry of Natural Resources](#) (Government of Ontario) work permits may differ and take precedence.



**Figure 1. Ontario's Northern and Southern Region boundaries for determining application of restricted activity timing windows.**

**Table 1. Restricted Activity timing windows for the protection of spawning fish and developing eggs and fry in the Northern Region. Dates represent when work should be avoided.**

DRAIN TYPE	RESTRICTED ACTIVITY PERIOD
A	SEPTEMBER 1 TO JULY 15
B	SEPTEMBER 1 TO JULY 15
C	APRIL 1 TO JULY 15
D	SEPTEMBER 1 TO JULY 15
E	APRIL 1 TO JULY 15

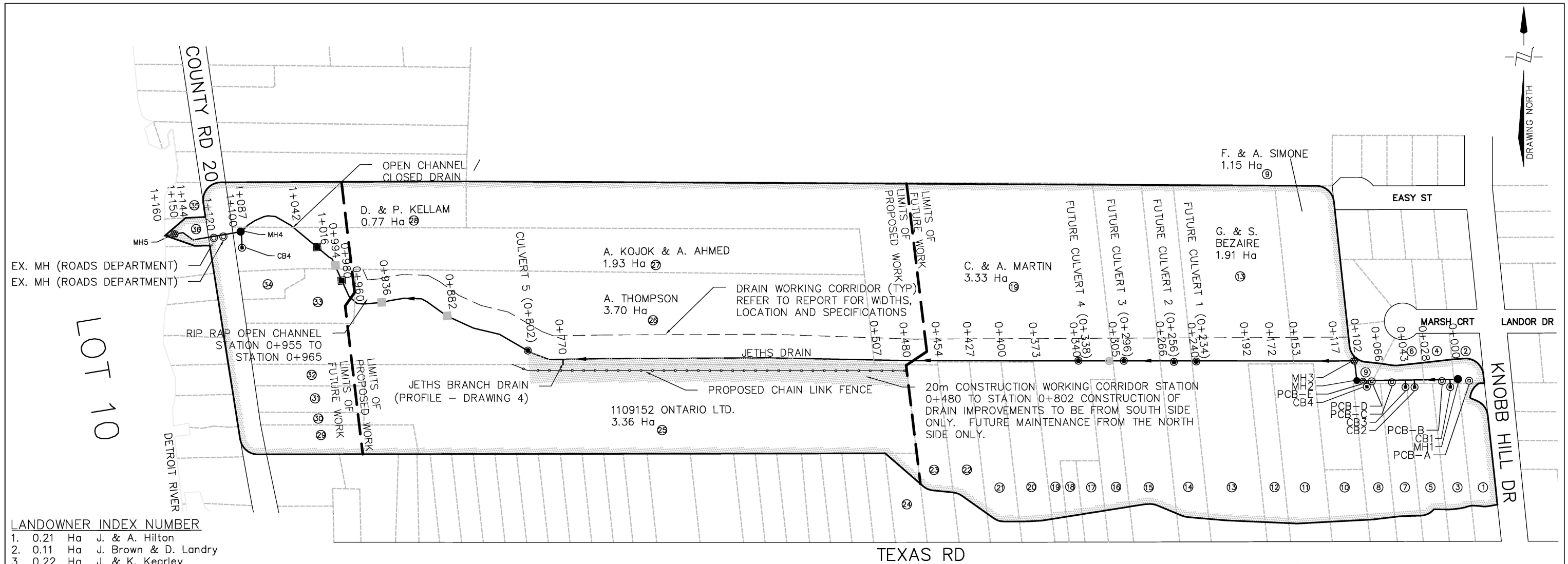
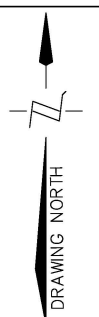
**Table 2. Restricted Activity timing windows for the protection of spawning fish and developing eggs and fry in the Southern Region. Dates represent when work should be avoided.**

DRAIN TYPE	RESTRICTED ACTIVITY PERIOD
A	SEPTEMBER 15 TO JULY 15
B	MARCH 15 TO JULY 15
C	MARCH 15 TO JULY 15
D	OCTOBER 1 TO JULY 15
E	MARCH 15 TO JULY 15

### Standard Measures to Avoid Causing *Serious Harm to Fish*

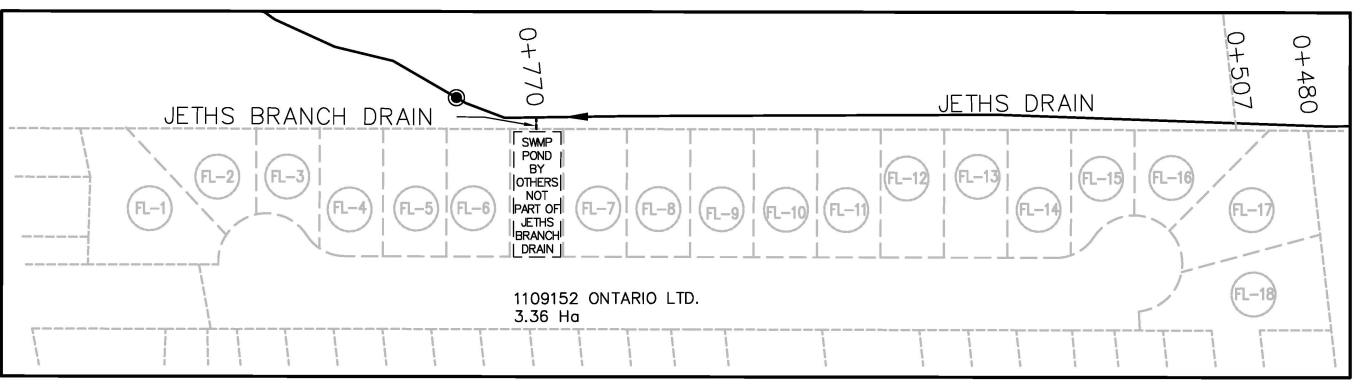
When implementing a culvert removal project in a municipal drain, the *Fisheries Act* still requires an individual/company to ensure they avoid causing *serious harm to fish* during any activities in or near water. The following advice will help one avoid causing harm and comply with the *Act* (for additional information see <http://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures/measures-mesures-eng.html>).

1. Schedule work to avoid wet, windy and rainy periods that may increase erosion and sedimentation.
2. Whenever possible, operate machinery on land above the high water mark or on ice and in a manner that minimizes disturbance to the banks and bed of the municipal drain.
  - Ensure that machinery arrives on site in a clean condition and is maintained free of fluid leaks.
  - Limit machinery fording of the municipal drain to a one-time event (i.e., over and back), and only if no alternative crossing method is available. If repeated crossings of the municipal drain are required, construct a temporary crossing structure.
  - Wash, refuel and service machinery and store fuel and other materials for the machinery in such a way as to prevent any deleterious substances from entering the water.
  - Keep an emergency spill kit on site in case of fluid leaks or spills from machinery.
3. Install effective sediment and erosion control measures before starting work to prevent sediment from entering the municipal drain. Inspect them regularly during the course of construction and make all necessary repairs if any damage occurs.
4. Erosion and sediment control measures should be maintained until all disturbed ground has been permanently stabilized, suspended sediment has resettled to the bed of the municipal drain and runoff water is clear.
5. Undertake all in-water activities in isolation of open or flowing water while maintaining the natural flow of water downstream and avoid introducing sediment into the municipal drain.
6. Ensure applicable permits for relocating fish are obtained and relocate any fish that become trapped in isolated pools or stranded in newly flooded areas to the main channel of the watercourse.
7. Ensure that the water that is being pumped/diverted from the site is filtered (sediment remove) prior to being released (e.g. pumping/diversion of water to a vegetated area).
8. Implement measures for containing and stabilizing waste material (e.g. dredging spoils, construction waste and materials, commercial logging waste, uprooted or cut aquatic plants, accumulated debris) above the high water mark of nearby waterbodies to prevent re-entry.
9. Stabilize shoreline or banks disturbed by any activity associated with the project to prevent erosion and/or sedimentation, preferably through re-vegetation with native species suitable for the site.
10. If replacement rock reinforcement/armouring is required to stabilize eroding or exposed areas, then ensure that appropriately-sized, clean rock is used; and that rock is installed at a similar slope to maintain a uniform bank/shoreline and natural stream/shoreline alignment.
11. Remove all construction materials from site upon project completion.



**LANDOWNER INDEX NUMBER**

1.	0.21	Ha	J. & A. Hilton
2.	0.11	Ha	J. Brown & D. Landry
3.	0.22	Ha	J. & K. Kearley
4.	0.11	Ha	P. & S. Harvey
5.	0.29	Ha	G. & A. Dethomasis
6.	0.13	Ha	K. Desormeaux
7.	0.29	Ha	R. & S. Meloche
8.	0.31	Ha	R. Lackovic
9.	1.15	Ha	F. & A. Simone
10.	0.13	Ha	J. Litalien
11.	0.47	Ha	T. LaPorte
12.	0.27	Ha	D. & M. Donato
13.	1.91	Ha	G. & S. Bezaire
14.	0.75	Ha	S. Reaume
15.	1.08	Ha	J. & K. Hindi
16.	0.23	Ha	J. & K. Hindi
17.	0.09	Ha	J. Muresan & M. Campbell
18.	0.06	Ha	C. & A. Martin
19.	3.33	Ha	C. & A. Martin
20.	0.37	Ha	C. & C. Blunt
21.	0.39	Ha	L. Bortolin
22.	0.32	Ha	G. Fawcett & K. Sullivan
23.	0.28	Ha	B. & P. Pare
24.	0.04	Ha	M. Conte & A. Calamita
25.	3.36	Ha	1109152 Ont. Ltd.
26.	3.70	Ha	A. Thompson
27.	1.93	Ha	A. Kojok & A. Ahmed
28.	0.77	Ha	D. & P. Kellam
29.	0.31	Ha	D. & J. Hay
30.	0.09	Ha	B. Girard
31.	0.20	Ha	J. & D. Rawlins
32.	0.17	Ha	J. & J. Farmer
33.	0.32	Ha	L. Durocher & J. Gagnon
34.	0.11	Ha	P. & K. Tough
35.	0.00	Ha	A. Valente
36.	0.10	Ha	A. Valente (Future Severance)



FUTURE DEVELOPMENT OF LANDS ENDING WITH THE AREA ROLL NUMBER 420-200-00 (18 LOTS C/W ROAD ALLOWANCE)

CON 1

**LEGEND**

	DRAINAGE AREA
	JETHS DRAIN - OPEN CHANNEL
	JETHS BRANCH DRAIN
	CULVERT
	PRIVATE ACCESS CULVERT
	BRIDGE
	PRIVATE ACCESS BRIDGE
	JETHS DRAIN MAINTENANCE HOLE
	MAINTENANCE HOLE
	JETHS DRAIN CATCHBASIN
	PRIVATE CATCHBASIN (PCB)
	LANDOWNER IDENTIFICATION NUMBER



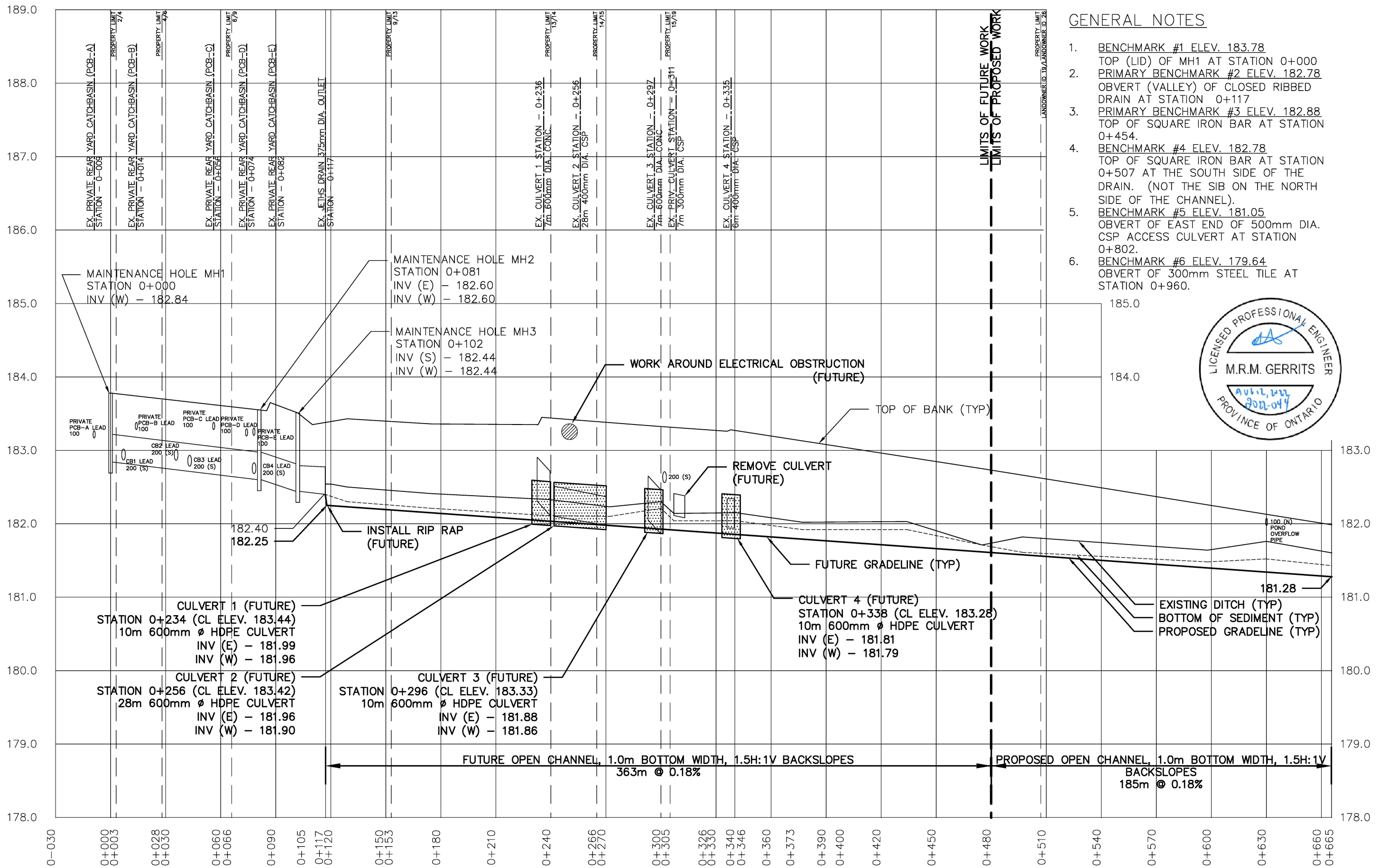
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2	FOR RECONSIDERATION	AUGUST 12, 2022	MG

**JETHS DRAIN**  
TOWN OF AMHERSTBURG

OVERALL PLAN

SCALE	1:3,325
DRAWN	MG
DATE	AUGUST 12, 2022
PROJECT NO.	2021-006
SHEET	1 OF 6





**GENERAL NOTES**

1. BENCHMARK #1 ELEV. 183.78  
TOP (LID) OF MH1 AT STATION 0+000
2. PRIMARY BENCHMARK #2 ELEV. 182.78  
OVERT (VALLEY) OF CLOSED RIBBED DRAIN AT STATION 0+117
3. PRIMARY BENCHMARK #3 ELEV. 182.88  
TOP OF SQUARE IRON BAR AT STATION 0+454.
4. BENCHMARK #4 ELEV. 182.78  
TOP OF SQUARE IRON BAR AT STATION 0+507 AT THE SOUTH SIDE OF THE DRAIN. (NOT THE SIB ON THE NORTH SIDE OF THE CHANNEL).
5. BENCHMARK #5 ELEV. 181.05  
OVERT OF EAST END OF 500mm DIA. CSP ACCESS CULVERT AT STATION 0+802.
6. BENCHMARK #6 ELEV. 179.64  
OVERT OF 300mm STEEL TILE AT STATION 0+960.



NO	REVISION	DATE	BY
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2	FOR RECONSIDERATION	AUGUST 12, 2022	MG

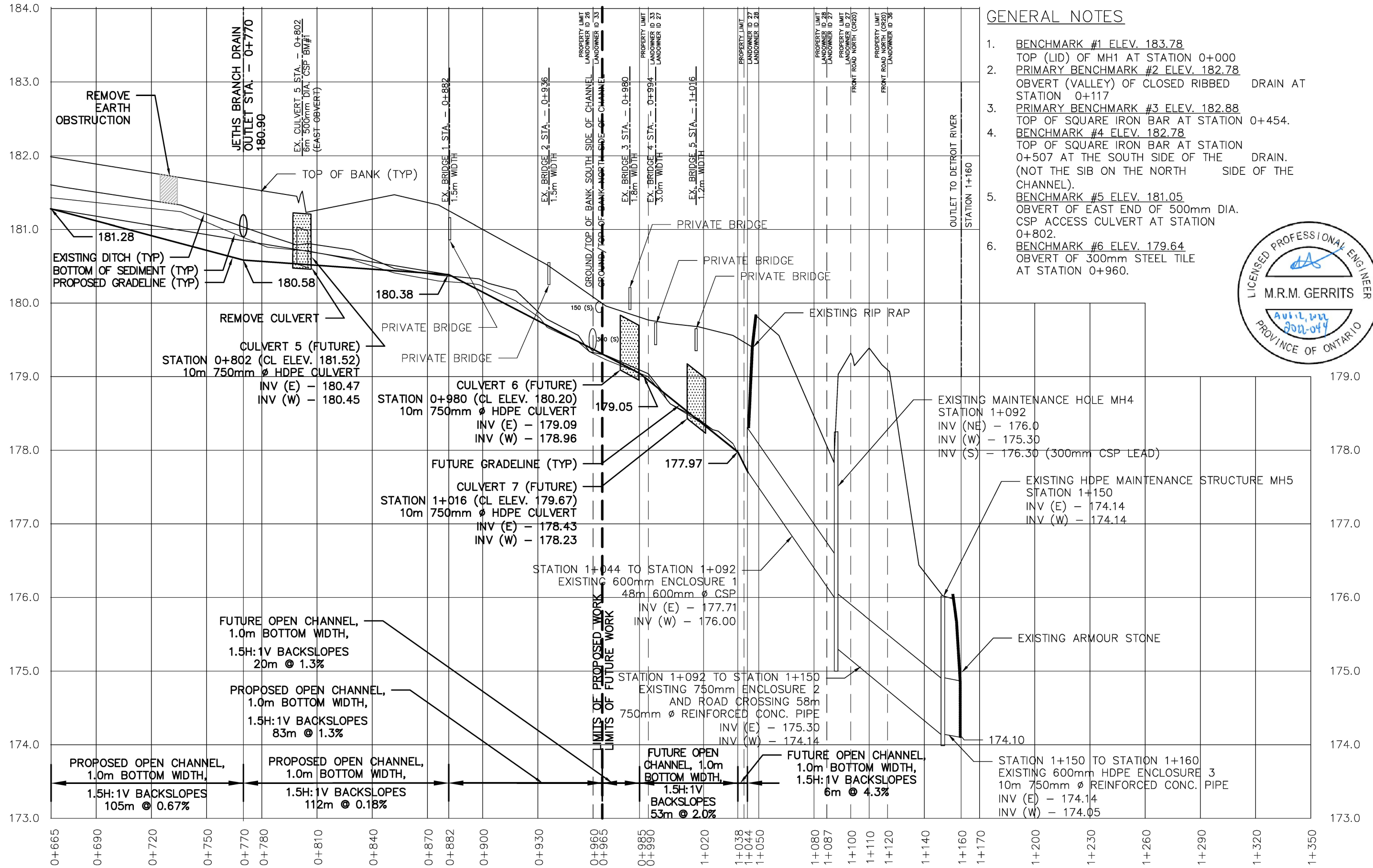
**JETHS DRAIN**  
TOWN OF AMHERSTBURG

PROFILE

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VERTICAL SCALE	1: 50
DRAWN	MG
CHECKED	EG
DATE	AUGUST 12, 2022
PROJECT NO.	2021-006
SHEET	2 OF 6

GENERAL NOTES

- BENCHMARK #1 ELEV. 183.78  
TOP (LID) OF MH1 AT STATION 0+000
- PRIMARY BENCHMARK #2 ELEV. 182.78  
OBVERT (VALLEY) OF CLOSED RIBBED DRAIN AT STATION 0+117
- PRIMARY BENCHMARK #3 ELEV. 182.88  
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- BENCHMARK #4 ELEV. 182.78  
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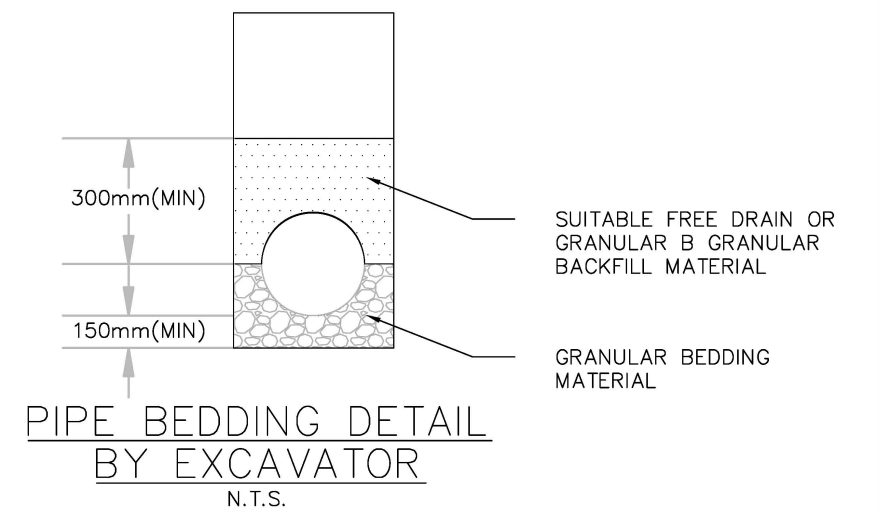
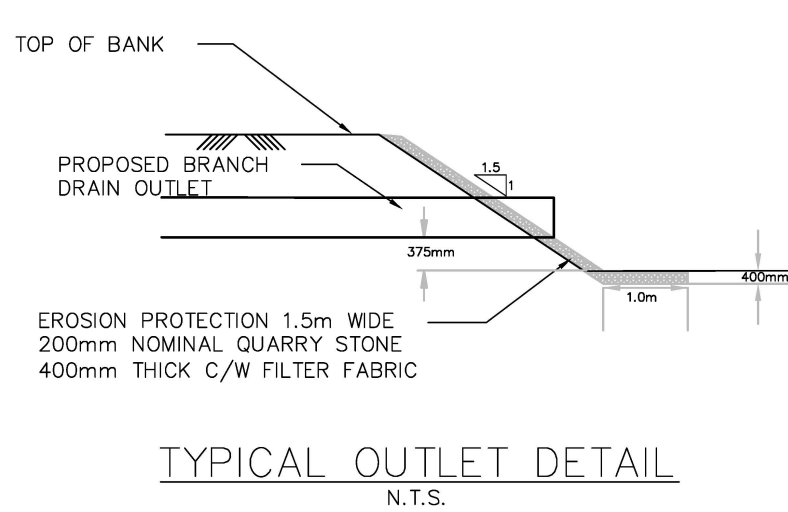
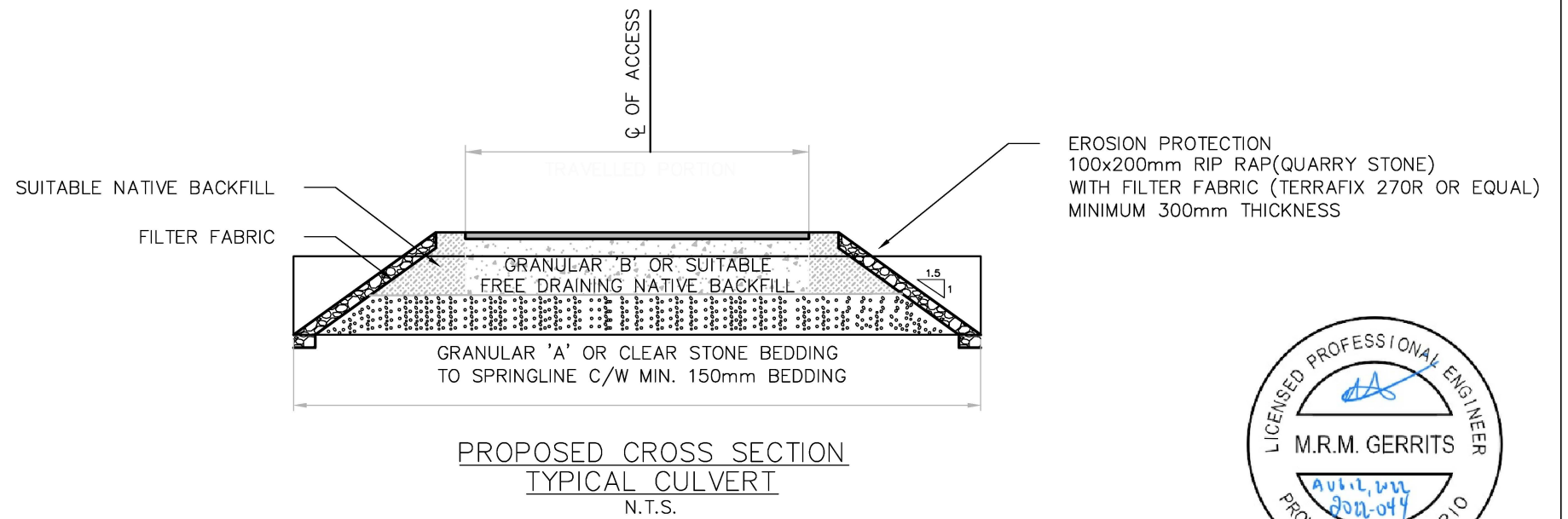
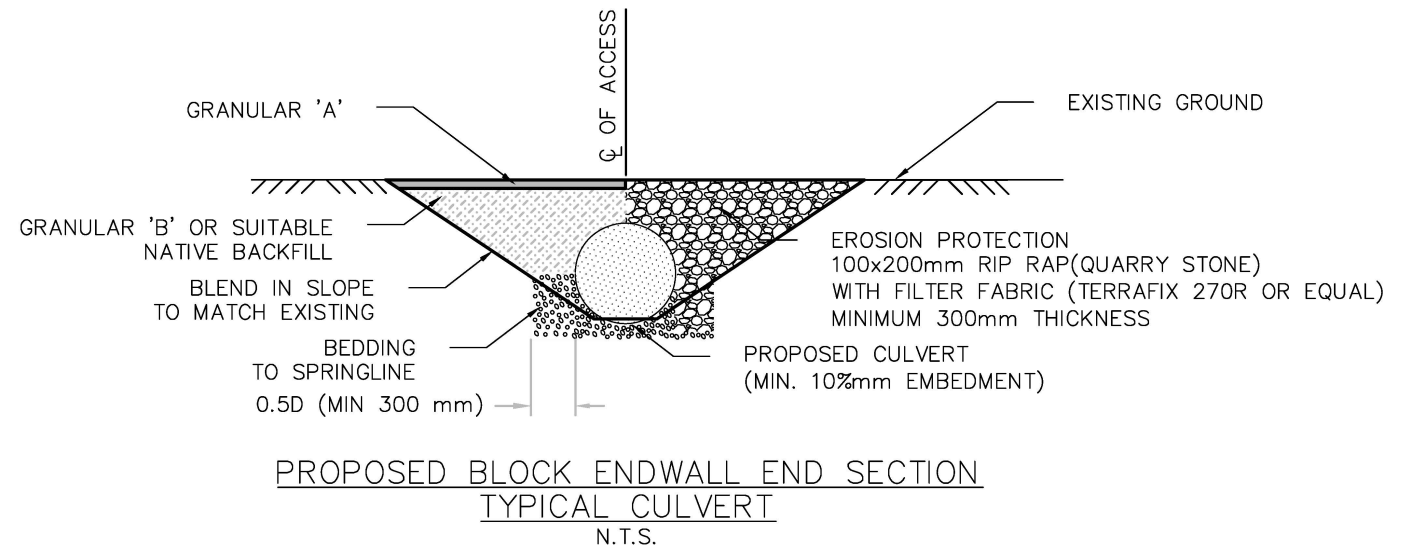
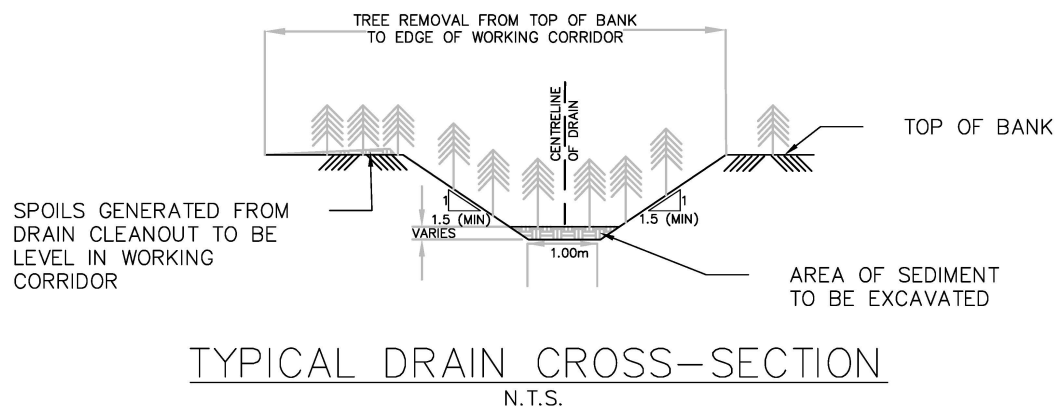
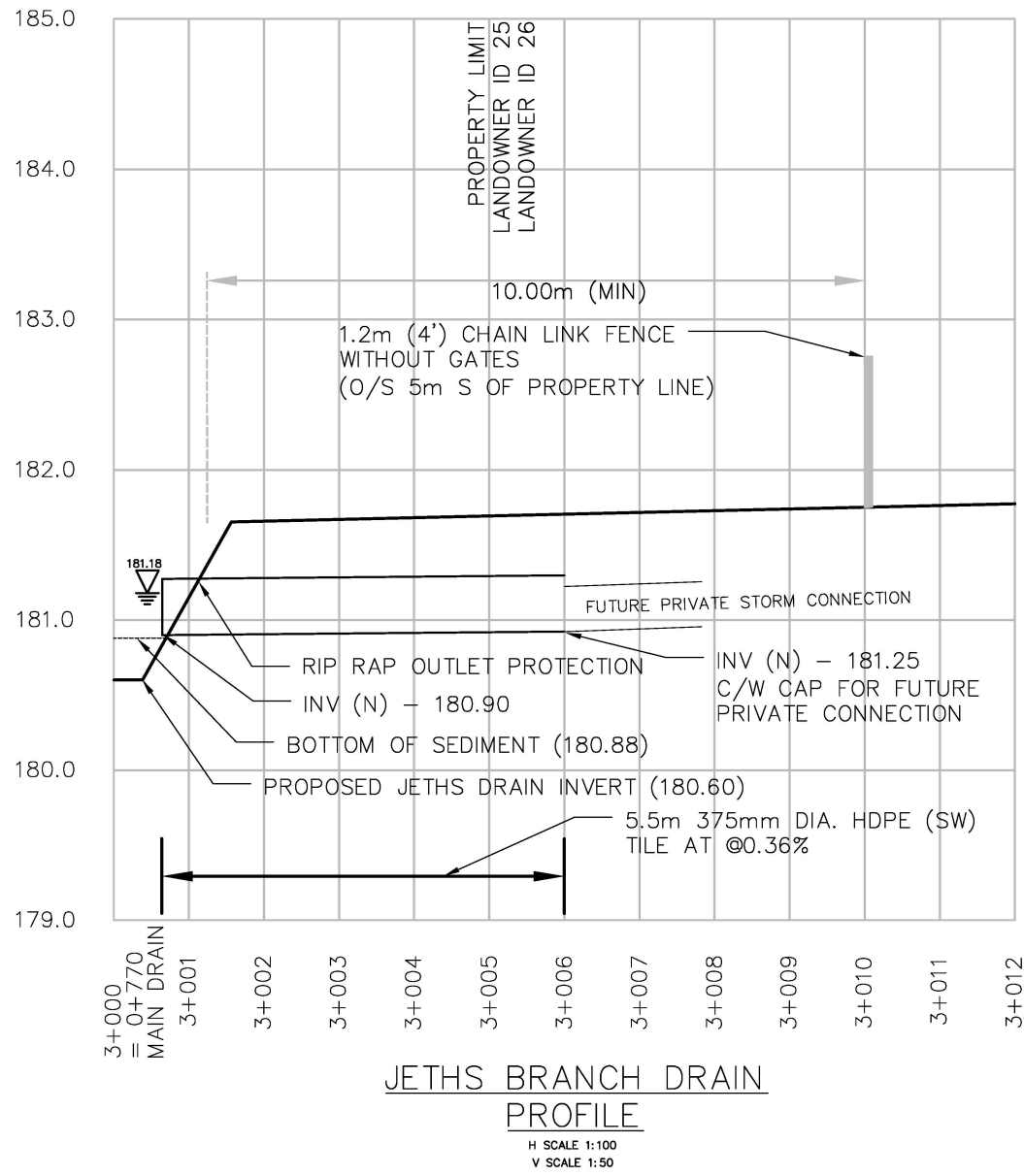
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JETHS DRAIN  
TOWN OF AMHERSTBURG

PROFILE

HORIZONTAL SCALE	1:200
VERTICAL SCALE	1:50
DRAWN	MG
CHECKED	EG
DATE	AUGUST 12, 2022
PROJECT NO.	2021-006
SHEET	3 OF 6



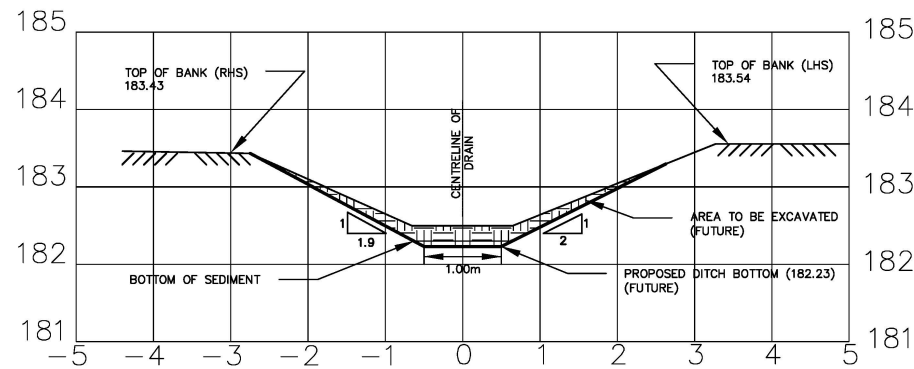


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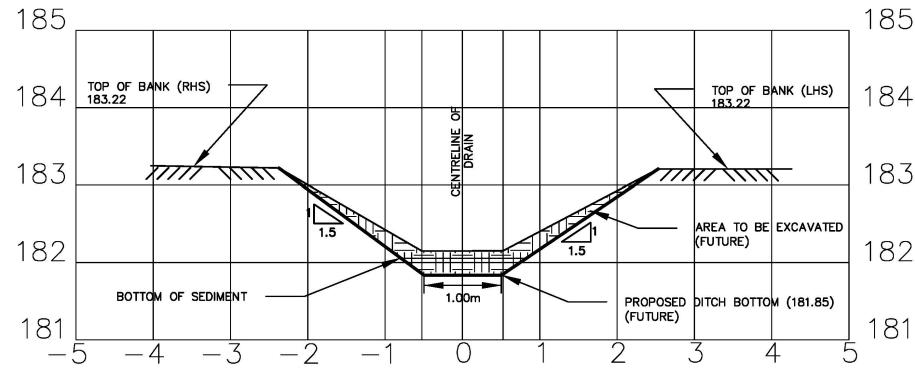
**JETHS DRAIN**  
 TOWN OF AMHERSTBURG

DETAILS

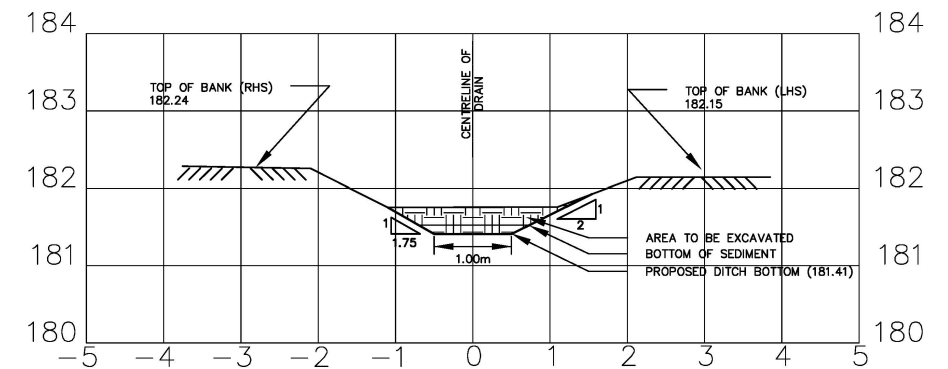
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SHEET	4 OF 6



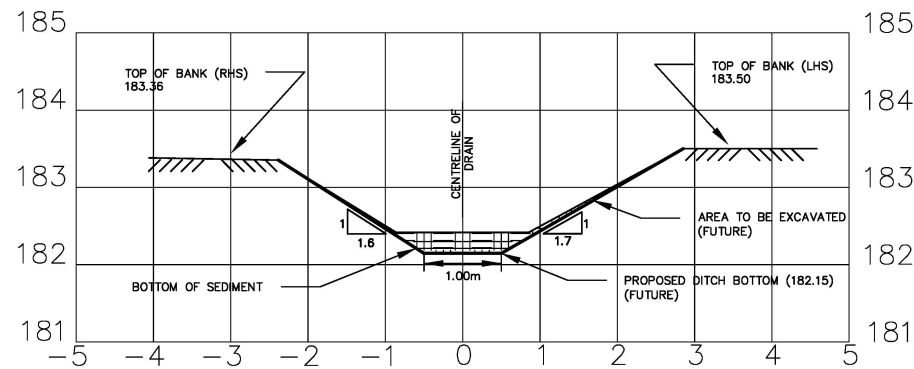
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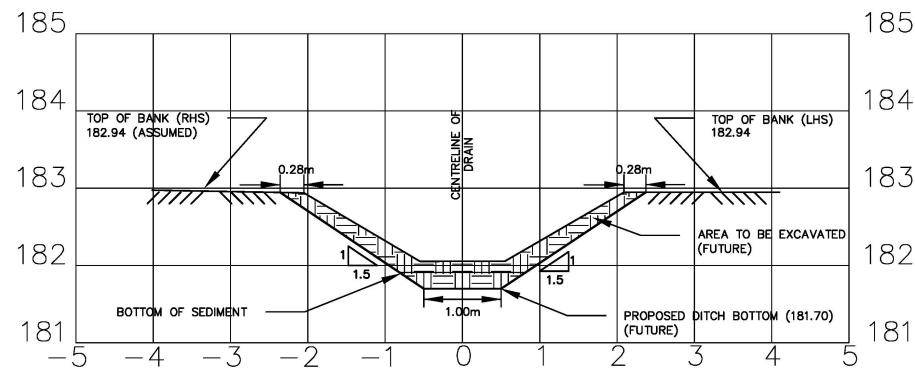
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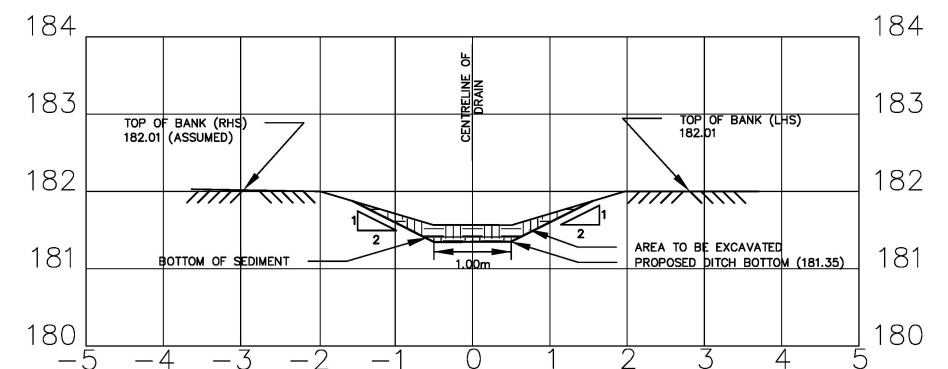
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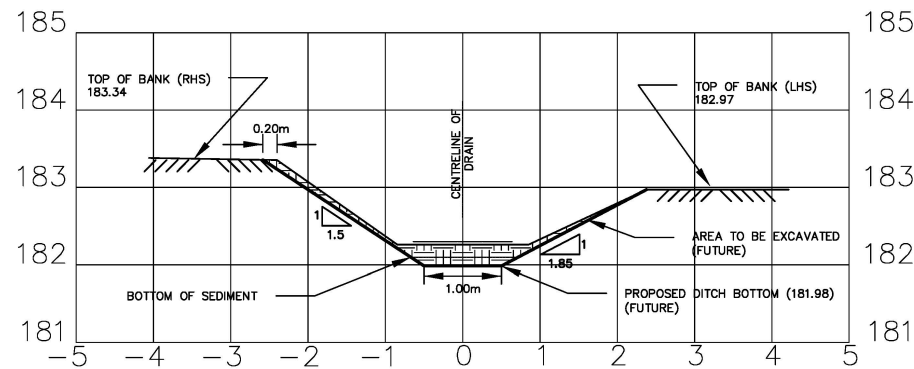
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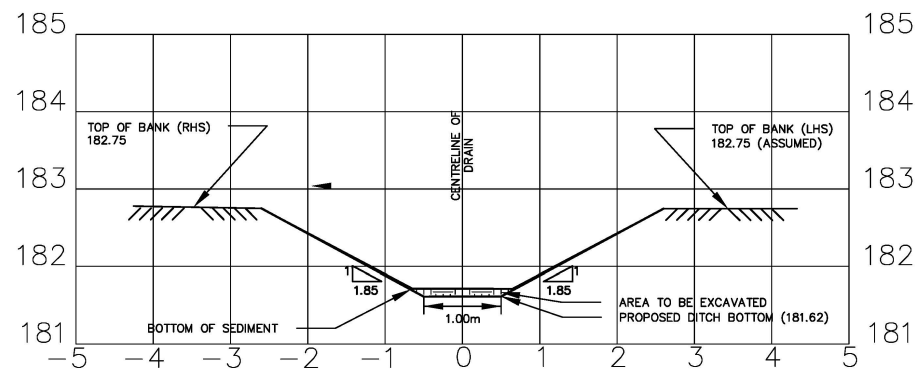
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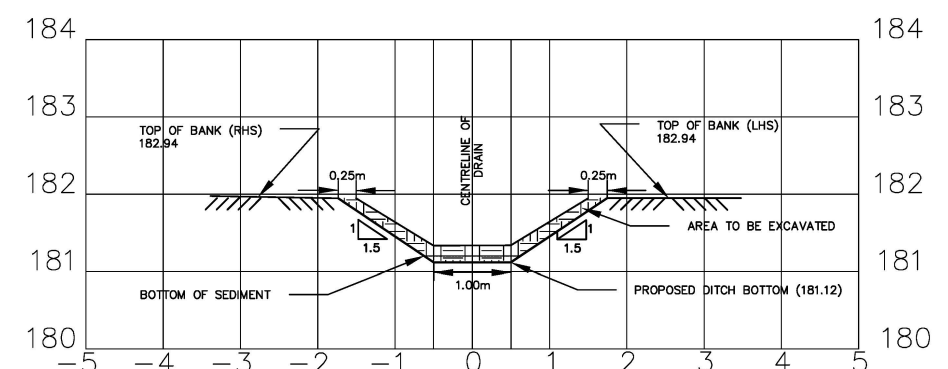
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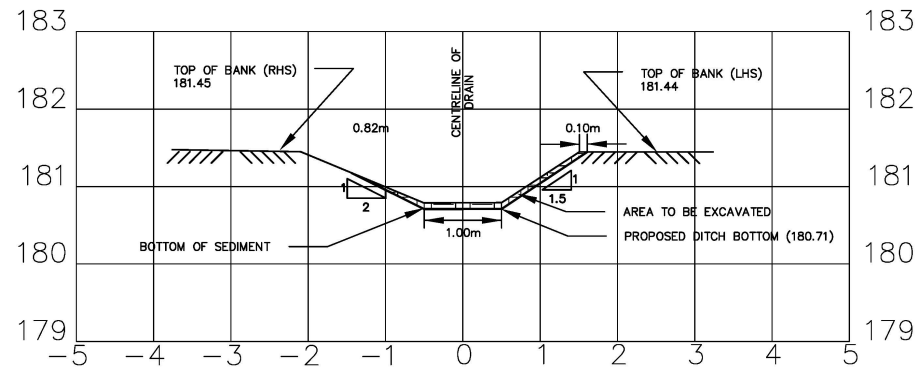
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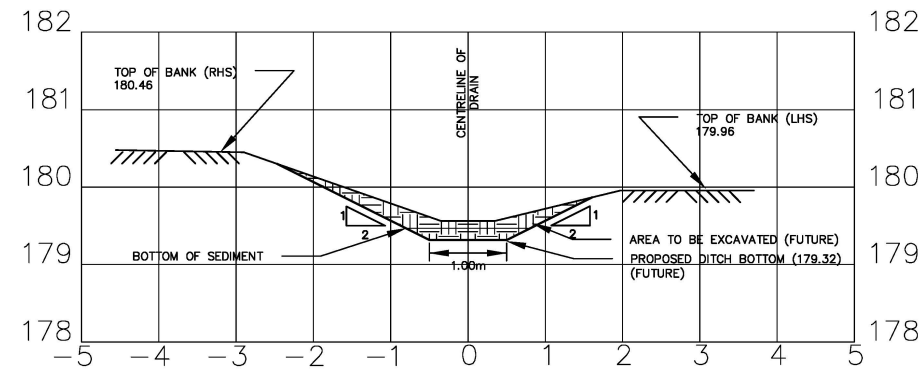
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2	FOR RECONSIDERATION	AUGUST 12, 2022	MG

**JETHS DRAIN**  
TOWN OF AMHERSTBURG  
CHANNEL CROSS SECTIONS

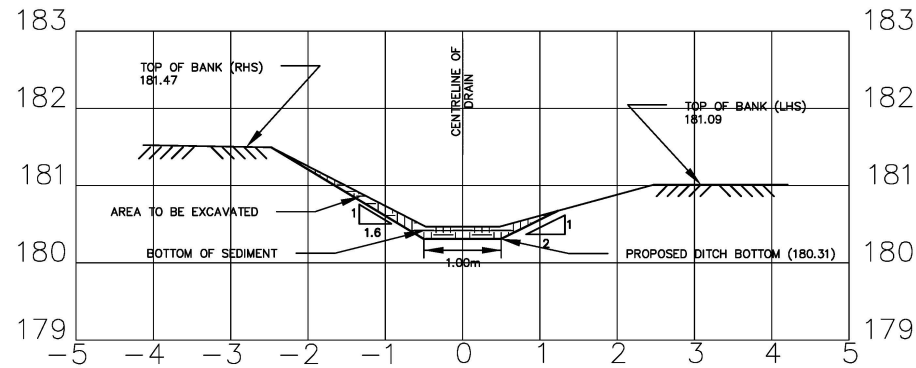
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DATE	AUGUST 12, 2022
PROJECT NO.	2021-006
SHEET	5 OF 6



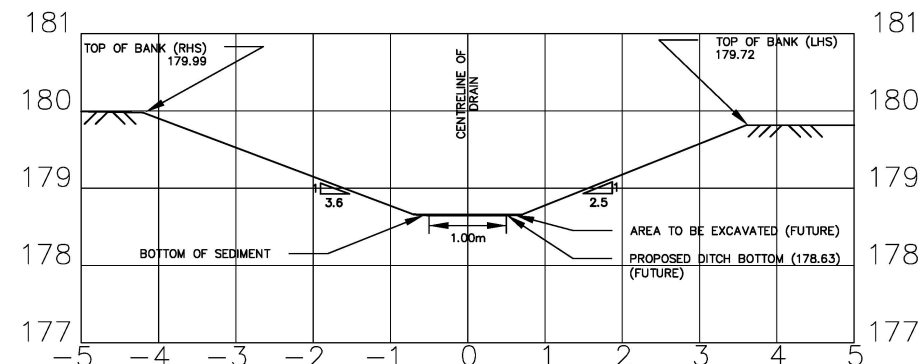
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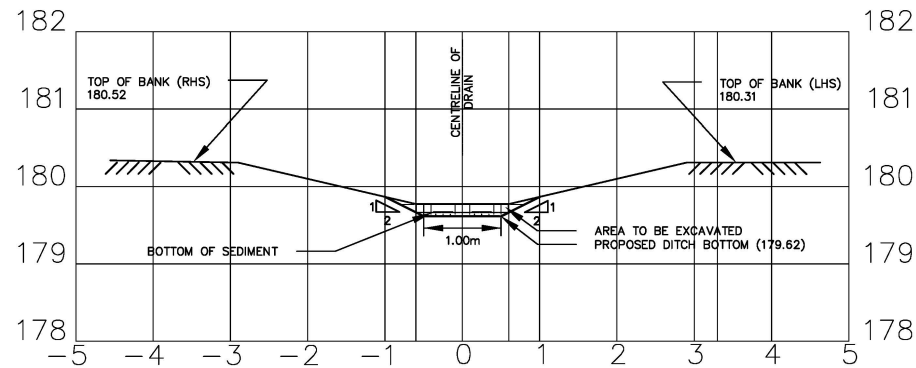
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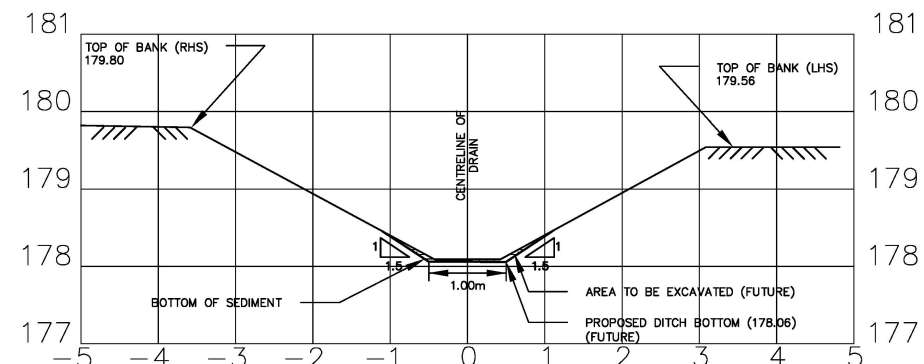
CROSS-SECTION  
STATION 0+857  
(LOOKING TO DETROIT RIVER)



CROSS-SECTION  
STATION 1+00  
(LOOKING TO DETROIT RIVER)



CROSS-SECTION  
STATION 0+937  
(LOOKING TO DETROIT RIVER)



CROSS-SECTION  
STATION 1+034  
(LOOKING TO DETROIT RIVER)



NO	REVISION	DATE	BY
1	FOR REPORT	MAY 23, 2022	MG
2	FOR RECONSIDERATION	AUGUST 12, 2022	MG

**JETHS DRAIN**  
TOWN OF AMHERSTBURG

CHANNEL CROSS SECTIONS

DRAWN	MG
CHECKED	EG
DATE	AUGUST 12, 2022
PROJECT NO.	2021-006
SHEET	6 OF 6