

**THE CORPORATION OF THE TOWN OF AMHERSTBURG**

**BYLAW NO. 2006-29**

**Being a Bylaw to provide for the Construction of a Residential Access Culvert over the Deslippe Drain**

**WHEREAS** Ethel Wismer has made a request for the replacement of a residential access bridge over the Deslippe Drain;

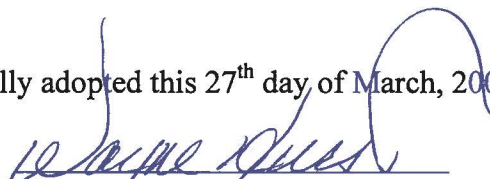
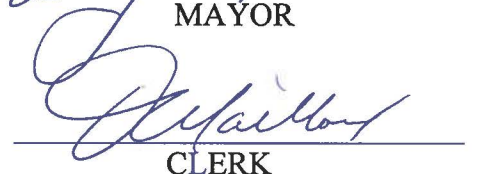
**AND WHEREAS** the Council of the Corporation of the Town of Amherstburg has authorized Bruce D. Crozier Engineering Inc. to prepare a report and said report dated January 6, 2006 is attached hereto and forms part of this bylaw;

**AND WHEREAS** Council is of the opinion that the said replacement is appropriate.

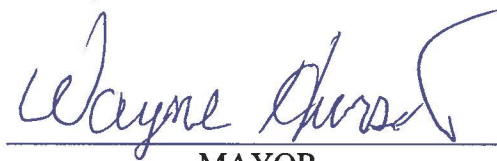
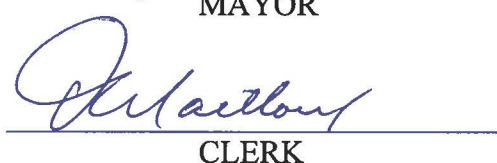
**NOW THEREFORE THE COUNCIL OF THE CORPORATION OF THE TOWN OF AMHERSTBURG ENACTS AS FOLLOWS:**

1. That the report of Bruce D. Crozier Inc. dated January 6, 2006 is hereby adopted and the drainage works therein shall be completed in accordance therewith.
2. That this Bylaw comes into force on the final passing thereof.

Read a first and second time and provisionally adopted this 27<sup>th</sup> day of March, 2006.

  
MAYOR  
  
CLERK

Read a third time and finally passed the 12<sup>th</sup> day of June, 2006.

  
MAYOR  
  
CLERK

**REPLACEMENT AGRICULTURAL ACCESS CULVERT**

**OVER THE DESLIPPE DRAIN**

**OWNER: MRS. ETHEL WISMER**

**IN THE**

**TOWN OF AMHERSTBURG**

**BRUCE D. CROZIER ENGINEERING**

**CONSULTING ENGINEER**

**1940 DEER RUN ROAD**

**LEAMINGTON, ONTARIO**

**N8H 3V7**

**PROJECT REFERENCE BC-05-060**

**DATE: JANUARY 6, 2006**

Mayor and Municipal Council  
Corporation of the Town of Amherstburg  
P.O. Box 159  
271 Sandwich Street South  
Amherstburg, Ontario  
N9V 2Z3

Mayor Hurst and Councillors

**SUBJECT: Replacement Agricultural Access Culvert  
Over the Deslippe Drain**  
Owner: Mrs. Ethel Wismer  
Town of Amherstburg  
Our Project Reference BC-05-060

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### **Authorization**

Pursuant to Section 78 of "The Drainage Act, 1990," the Corporation of the Town of Amherstburg received a request from Mrs. Ethel Wismer for the replacement of the existing access culvert over the Deslippe Drain. The firm of Bruce D. Crozier Engineering Inc. was subsequently appointed to prepare a report as provided for under the provisions of "The Drainage Act, 1990."

As requested by Council, I have therefore made a survey and examination and have taken measurements and cross sections of the Deslippe Drain at the location where the replacement access culvert is requested to be constructed, to serve the lands owned by Mrs. Ethel Wismer, being Part Lot 2, Concession 4, in the Town of Amherstburg and I report thereon as follows.

### **Current Drainage Report**

The latest drainage report on file for this portion of the Deslippe Drain is one prepared by N.J. Peralta, P. Eng. and dated February 4th, 1983.

### **Site Meeting**

On December 6<sup>th</sup>, 2005, I met at the site with Mr. Dwayne Grondin, Drainage Superintendent for the Town of Amherstburg, Mr. Darwin Wismer, acting on behalf of Mrs. Ethel Wismer, Mr. Jerry Wismer, Mr. Ron Wismer, Mr. Bill Mailloux and Mr. Josh Mailloux.

Mr. Crozier stated that the Town of Amherstburg had received a request from Mrs. Ethel Wismer to have her existing access bridge be replaced with a new access culvert. The reasons being that the structure is old and in poor condition and also it is too narrow for the current farm equipment to safely travel over the bridge.

Mr. Crozier further stated that the Town of Amherstburg had subsequently appointed him to prepare the necessary report to have the new access culvert constructed to service Mrs. Ethel Wismer's agricultural property.

Mr. Crozier explained that since this was a replacement of an existing access bridge that is a part of the Deslippe Drain, that the costs for the work would be assessed to the property owner along with upstream properties and affected roads.

Mr. Darwin Wismer asked Mr. Crozier what is the current standard driveway widths for agricultural access culverts. Mr. Crozier responded that the standard driveway width is 9.2 metres. Mr. Wismer stated that since the drain is located so close to the travelled road, he would request that the driveway width be 12.20 metres. Mr. Wismer further stated that he would pay the additional cost to have the wider driveway constructed, with sloped gabion stone end of pipe protection.

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Mr. Crozier stated that Mr. Wismer's request could be included in the report.

### **Recommendations**

I would recommend that a new multi-plate corrugated steel pipe arch access culvert be installed complete with sloped gabion stone end of pipe erosion protection, as provided for in this report and as described in the attached specifications.

I would further recommend that this work be carried out under "The Drainage Act, 1990".

I would further recommend that the agricultural access culvert be constructed under the report be hereinafter considered a part of the Deslippe Drain.

### Drawing and Specifications

Attached to this report is Drawing No. BC-05-060, Pages 1, 2 and 3, which consists of a plan showing the location of the new access culvert and the land affected by the work, together with the detail and cross-sections of the recommended work. Specifications are included in the report, which show the dimensions, grades, disposal of material, working areas for construction and future maintenance and other particulars of the recommended work.

### Estimate of Cost

My Estimate of the total cost of this work, including all incidental expenses, is the sum of Thirty Nine Thousand dollars (\$ 39,000.00) made up as follows:

#### CONSTRUCTION

|    |      |  |                     |
|----|------|--|---------------------|
| 1. | 19.8 | Metres of new multi-plate corrugated steel pipe arch, 3100 mm span x 1980 mm rise, with 4.0 mm wall thickness and 152 mm x 51 mm corrugations to be supplied and set in place, complete at \$ <u>1,000.00</u> per metre.   | \$ <u>19,800.00</u> |
| 2. | L.S. | Existing steel and concrete deck bridge to be removed and disposed of off-site, complete at \$ <u>1,200.00</u> Lump Sum.   | \$ <u>1,200.00</u>  |
| 3. | L.S. | Excavation of all topsoil and vegetation from existing sideslopes and bottom of drain for the full length of the culvert, excavated material to be disposed of off-site, complete at \$ <u>1,200.00</u> Lump Sum.  | \$ <u>1,200.00</u>  |
| 4. | 140  | Tonnes of Granular "A" material as per O.P.S.S. 1010 supplied, placed and compacted as pipe bedding and driveway construction (300 mm thick), complete at \$ <u>20.00</u> per tonne.   | \$ <u>2,800.00</u>  |
| 5. | 360  | Tonnes of Granular "B" material as per O.P.S.S. 1010 supplied, placed and compacted as pipe backfill, complete at \$ <u>15.00</u> per tonne.   | \$ <u>5,400.00</u>  |
| 6. | 54   | Square metres of gabion stone to be supplied and laid as end of pipe protection, gabion stone to be laid 300 mm thick over Terrafix 270 R filter fabric, complete at \$ <u>45.00</u> per square metre.   | \$ <u>2,430.00</u>  |
| 7. | L.S. | Supply, install and maintain sediment and erosion control device comprising of silt fence staked in place, complete at \$ <u>200.00</u> Lump Sum.  | \$ <u>200.00</u>    |
| 8. | L.S. | Contractor to prepare traffic plan for approval by the road authority having jurisdiction including all signage at site in accordance with the latest revision of the Ontario Traffic Manual Book 7 Temporary Conditions, complete at \$ <u>300.00</u> Lump Sum. | \$ <u>300.00</u>    |

|   |           |                         |
|---|-----------|-------------------------|
| SUB TOTAL FOR CONSTRUCTION                                    | \$        | <u>33,330.00</u>        |
| 7% G.S.T. PAYABLE (Municipality gets 100% rebate)             | \$        | 0.00                    |
| <b>ESTIMATED TOTAL FOR CONSTRUCTION</b>                       | <b>\$</b> | <b><u>33,330.00</u></b> |
| <b>INCIDENTALS</b>  |           |                         |
| Survey, report, estimate and specifications.                  | \$        | 2,800.00                |
| Assistants and expenses, typing report and preparing drawing. | \$        | 1,200.00                |
| Tender Documents  | \$        | 400.00                  |
| O.M.B. Fee (if required)                                      | \$        | 130.00                  |
| Construction Inspection (if required by Town)                 | \$        | 800.00                  |
| Contingency Allowance (if required)                           | \$        | 340.00                  |
| <b>TOTAL FOR INCIDENTALS</b>                                  | <b>\$</b> | <b><u>5,670.00</u></b>  |
| 7% G.S.T. ON INCIDENTALS (Municipality gets 100% rebate)      | \$        | 0.00                    |
| TOTAL FOR CONSTRUCTION (brought forward)                      | \$        | 33,330.00               |
| <b>TOTAL ESTIMATE</b>   | <b>\$</b> | <b><u>39,000.00</u></b> |

### Assessment

I would recommend that a portion of the cost of this work be assessed to the Owner of the agricultural lands being serviced by this access culvert, being Mrs. Ethel Wismer in Part of Lot 2, Concession 4, with Roll No. 940-003400. Also because it is a replacement of an existing access culvert which is a part of the Deslippe Drain, therefore the upstream properties and roads should also be assessed a portion of the cost.

A Schedule of Assessment has been included with this report, which outlines the estimated assessment amounts for each affected property and road.

The assessment schedule has been prepared based on the additional costs related to the additional width of the driveway access that was requested by the culvert owner. The additional cost has been determined to be \$12,426.00, which has been assessed to the culvert owner as a Special Benefit on the Schedule of Assessment. The balance of the cost, being \$26,574.00 has been assessed to the culvert owner along with upstream properties and roads. The cost has been proportionately assessed as 50% to the culvert owner and 50% to the upstream properties and roads.

### Maintenance

I would further recommend that this agricultural access culvert be kept up and maintained as part of the Deslippe Drain at the expense of the properties assessed herein, for the construction, in the proportion

of 50% to the Owner and 50% to the upstream properties and roads or until otherwise determined under the provisions of "The Drainage Act, 1990".

### **Grants**

In accordance with the provisions of Sections 85, 86 and 87 of "The Drainage Act, 1990," a grant in the amount of 33% of the assessment eligible for a grant, may be made in respect of the assessment made in this report, upon privately owned lands used for agricultural purposes. I would further recommend that an application be made by the Town upon completion of this project, to the Ministry of Agriculture and Food in accordance with Section 88 of "The Drainage Act, 1990," for this grant.

All of which is respectfully submitted.

**BRUCE D. CROZIER ENGINEERING INC.  
CONSULTING ENGINEER  
1940 DEER RUN ROAD  
LEAMINGTON, ONTARIO  
N8H 3V7**

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**Bruce D. Crozier, P. Eng.**

BDC/kc

SPECIFICATIONSREPLACEMENT AGRICULTURAL ACCESS CULVERTOVER THE DESLIPPE DRAINOWNER: MRS. ETHEL WISMERIN THETOWN OF AMHERSTBURGPROJECT REFERENCE BC-05-0601. PIPE MATERIAL

The Contractor shall supply and install, new multi-plate corrugated steel pipe arch having dimensions of 3100 mm span x 1980 mm rise, wall thickness of 4.0 mm, and 152 mm x 51 mm corrugations, and a completed pipe length of 19.80 m.

2. WORKING AREA

The Contractor shall restrict his equipment to the roadside of the drain and to within 6.0 metres of the farmland side.

3. DISPOSAL OF EXCAVATED MATERIAL

The Contractor shall dispose of all unsuitable surplus excavated material, at a site to be determined by him and at his expense. The material excavated from the drain bank shall be spread along the top of the west bank within the specified 6.0 m working area to a maximum depth of 100 mm.

4. LOCATION OF BRIDGE

The new corrugated steel pipe arch structure shall be set in the drain so that the centre line of the pipe is situated in the same line as the existing drain centreline, as shown on the drawing.

The centre of the new bridge is to be located at approximately Station 97+10.80 the stationing being as shown in the current report on this drain and as shown on the accompanying drawing, however, the final position of the bridge may be determined by the Commissioner in charge.

The inside bottom of the pipe will be situated approximately 210 mm lower than the bottom of the existing low flow channel, however, the pipe shall be set according to the elevations shown on the accompanying plan. For the purpose of construction the benchmark indicated on the accompanying plan shall be used to determine the elevation of the proposed culvert. After the pipe has been placed upon the prepared bed the elevation of the pipe invert shall be approved by the Town Drainage Superintendent prior to placing any backfill material.

5. BRIDGE BACKFILL

After the corrugated steel pipe has been set, the Contractor shall backfill the pipe with Granular "B" material, O.P.S.S. Spec 1010 with the exception of the top 300 mm of the backfill over the corrugated steel pipe. The top 300 mm of the backfill for the full width of the excavated area (between each side slope of the drain) and for the top width of the driveway, shall be Granular "A" material, O.P.S.S. Spec 1010. The backfill material shall be carefully placed so damage to or movement of the pipe is avoided and backfill materials shall be placed in layers not exceeding 300 mm in thickness, loose measurement. Each layer shall be thoroughly compacted in place to a Standard Proctor Density of 100% by means of mechanical compactors. The equipment and method of compacting the backfill material shall be to the full satisfaction of the Commissioner in charge.

6. GABION STONE END OF PIPE PROTECTION

Where specified and after the pipe has been set and backfilled the Contractor shall install gabion stone erosion protection at each end of the pipe.

The backfill over the ends of the pipe shall be set on a slope of 1½ metres horizontal to 1 metre vertical from the bottom of the corrugated steel pipe to the top of each side slope and between both side slopes. The

top 300 mm in thickness of the backfill over the ends of the pipe shall be gabion stone. The gabion stone shall be placed on a slope of 1½ metres horizontal to 1 metre vertical from the bottom of the pipe to the top of each side slope of the drain and between both side slopes. The gabion stone shall have a minimum dimension of 100 mm and a maximum dimension of 230 mm. Prior to placing gabion stone end protection over the granular material, the Contractor shall lay a non woven geotextile filter fabric equal to a "Terrafix 270R" or approved equal. The geotextile filter fabric shall extend from the bottom of the pipe to the top of each side slope of the drain and between both side slopes of the drain. The Contractor shall take extreme care not to damage the geotextile filter fabric when placing the gabion stone on top of the filter fabric. The geotextile filter fabric and gabion stone shall be placed to the complete satisfaction of the Town Drainage Superintendent.

7. ALIGNMENT

The alignment of the bridge throughout shall be to the full satisfaction of the Commissioner in charge. The whole of the work shall be done in a neat, thorough and workmanlike manner to the full satisfaction of the Commissioner in charge.

8. LOCATION OF STRUCTURES, ETC.

The Contractor shall satisfy himself as to the exact location, nature and extent of any existing structure, utility or other object which he may encounter during the course of the work. The Contractor shall indemnify and save harmless, the Township and the Engineer for any damages which he may cause or sustain during the progress of the work. He shall not hold the Township or the Engineer liable for any legal action arising out of any claims brought about by such damage caused by him.

9. DAMAGE TO TRAVELLED PORTION OF MUNICIPAL ROAD

The Contractor will be responsible for any damage caused by him to any portion of the municipal road system, especially to the travelled portion. When excavation work is being carried out and the excavation equipment is placed on the travelled portion of a road, the travelled portion shall be protected by having the excavation equipment placed on satisfactory timber planks or timber pads. If any parts of the travelled portion of the road is damaged by the Contractor, the Municipality shall have the right to have the necessary repair work done by its employees and the cost of all labour and materials used to carry out the repair work shall be deducted from the Contractor's contract and credited to the Municipality.

10. CONSTRUCTION SAFETY

The Contractor shall comply with all the requirements of the Occupational Health and Safety Act, 1978 and the regulations passed in connection therewith, as administered by the Ontario Ministry of Labour and all subsequent amendments of the said Act.

The Contractor shall exercise all possible precaution against injury to persons or property resulting from his work. The Contractor shall leave no trenches, pits, holes or excavations uncovered, without providing sufficient protection at all times. The Contractor shall install, erect and provide barricades, signs, traffic cones, flashers, lights, plates, warning and other devices, materials and personnel as may be required and at his own expense in order to provide for the safe passage and control of traffic and to ensure public safety. All traffic control shall be in accordance with the latest standards of the Ministry of Transportation.

11. CERTIFICATE OF CLEARANCE

The Contractor will be required to submit to the Municipality, a Certificate of Good Standing from the Workers' Compensation Board prior to the commencement of the work and the Contractor will be required to submit to the Municipality, a Certificate of Clearance for the project from the Workers' Compensation Board before final payment is made to the Contractor.

12. PROGRESS ORDERS

Monthly progress orders for payment shall be furnished to the Contractor by the Commissioner in charge; said orders shall not be for more than 90% of the value of the work done and the materials furnished on the site. The paying of the full 90% does not imply that any portion of the work has been accepted. The remaining 10% will be paid 45 days after the final acceptance and completion of the work.

SP-3

13. CLEANING UP

The Contractor shall leave the whole of the site of the work in a neat, thorough and workmanlike appearance to the full satisfaction of the Commissioner. He shall haul away any excess earth from the site. He shall haul to the site,



sufficient earth to fill any depressions caused by his work at his own expense. The site shall be left as close as possible in the same condition as it was prior to the commencement of the work.

14. MEASUREMENT AND PAYMENT

Payment for the work shall be on a lump sum basis unless otherwise indicated and shall include all the work shown on the accompanying drawings and specifications.

15. MAINTAINING FLOW

The Contractor shall maintain the flow of any drainage works encountered in the progress of the work and at no expense to the Owner. The Contractor shall obtain written approval from the Commissioner in charge to stop up any drain and if necessary provide pumping equipment, build necessary by-passes, etc. at no expense to the Owner.

16. COMMISSIONER

Where the work "Commissioner" is used in this specification, it shall mean the person or persons appointed by the Council of the Municipality having jurisdiction, to superintend the work.

The Commissioner will be permitted to make minor variations in the work so long as these variations will result in a more satisfactory project or a more economical one. These variations, however, must not be such as to change the intent of the work performed nor are they to reduce the standard of quality.

17. NOTIFICATION OF WORK

Prior to commencing any work of installing the new culvert or removing any existing structures, the Contractor shall inform the Town Drainage Superintendent of his intent to commence work at least 48 hours prior to commencing any work. The Owner or Contractor shall endeavour to install and complete the new structure without delay once he has commenced the work. If for any reason the work does not proceed continuously then the Owner or Contractor shall notify the Drainage Superintendent in advance of any backfilling operation or headwall construction so that he may schedule inspection of same. The completed work must be done to the satisfaction of the Township Drainage Superintendent and be approved by him.

18. MAINTENANCE

The Contractor shall repair and make good at his expense any damages or faults in the work that may appear within one year after its completion (as evidenced by the final inspection report), as the result of imperfect or defective work done or materials furnished. Nothing herein contained shall be construed as any way restricting or limiting the liability of the Contractor under the appropriate laws under which the work is being done.

19. ENTRANCE PERMIT

If the proposed bridge is to provide access from a county road under the jurisdiction of the County of Essex it will be necessary to obtain an entrance permit from the County of Essex Engineering Department. It will be the responsibility of the bridge owner to arrange for this permit and to pay for the refundable deposit.

20. SEEDING AND MULCHING

All side slopes of the drain that have been excavated shall be covered with a seed and mulch mixture. The seed and mulching operation shall be carried out according to Ministry of Transportation Specifications, Form 572, dated April 1976 or as subsequently amended or as amended by these specifications. The seeding mixture and rate of application per hectare shall be as follows: Creeping Red Fesque 54 kg (120 lbs.), Kentucky Blue Grass 22 kg (49 lbs.), Perennial Rye Grass 13 kg (30 lbs.), Crown Vetch 11 kg (25 lbs.), Wild White (Dutch) Clover 6 kg (12 lbs.) and Oats or Rye 62 kg (135 lbs.). If the seeding and mulching operation is carried out in the Spring, the seeding mixture shall contain Oats and if the seeding and mulching operation is carried out in the Fall, the seeding mixture shall contain Rye. The seeding and mulching operation shall be only carried out as weather conditions permit during the months of May and June in the Spring, and September and October in the Fall. If the excavation work is carried out during the months of May and June, or September or October, the Contractor has

the option of contacting the Commissioner in charge and if the Contractor receives his written permission, the seed mixture as above specified, may be placed on the excavated side slopes by the Contractor by hand, daily, at the completion of his daily excavation operation. If the Contractor has been given written permission by the Commissioner to place the seeding mixture by hand daily, at the completion of his daily excavation operation, the Contractor shall be responsible to give the side slopes a rough, harrowed texture prior to placing the seed mixture.