

**DRAINAGE REPORT
FOR THE**

**COLLINS HIGHWAY 3 DRAIN
& BRANCH**

**IN THE
TOWN OF TECUMSEH**



(DRAFT-PUBLIC INFORMATION CENTRE)

22 MAY 2026

MARK D. HERNANDEZ, P.ENG.

FILE No. 14-9799

TECUMSEH FILE NO. E09CO(12)

File No. 14-9799

Mayor and Council
Corporation of the Town of Tecumseh
917 Lesperance Road
Tecumseh, Ontario
N8N 1W9



Drainage Report for the COLLINS HIGHWAY 3 DRAIN & BRANCH Town of Tecumseh

Mayor and Council:

Instructions

The Town of Tecumseh received a request from the landowner of property Roll No. 490-03000 on April 29, 2014, to repair and improve the Collins Highway 3 Drain. Council accepted the request under Section 78 of the Drainage Act and on June 24, 2014, appointed Dillon Consulting Limited to prepare a drainage report. The Town of Tecumseh currently has two different drains named the Collins Drain. Therefore, we recommend this drain be known as Collins Highway 3 Drain and Branch. Council's instructions to the engineer were to examine and report on the improvements required for the entire length of drain and provide new assessment schedules for future drain maintenance. The previous reports (1979 and 1959) and respective assessments entailed both the Collins Highway 3 Drain and part of the Wolfe Drain downstream that were not separated for undertaking maintenance on the Collins Highway 3 Drain only.

Furthermore, there has been significant industrial development in the drainage area since the last report was prepared in 1979. The impacts of these developed lands warrant an updated design to ensure there is sufficient outlet.

Subsequently, a petition from the landowner of Roll No. 490-07000 was received on January 13, 2017, to incorporate and improve a portion of the existing road ditch on the east side of Walker Road for a sufficient outlet into the Collins Highway 3 Drain. Our appointment and the works of repair and improvement for this petition that we have determined to be valid have been included in accordance with Section 4 (1) (a) of the Drainage Act for the area requiring drainage defined as property Roll No. 490-07000.

The Town of Tecumseh Road Authority also requested drainage improvements to accommodate future regional stormwater infrastructure improvements, as recommended in the Oldcastle Stormwater Master Plan (OSMP) prepared by Landmark Engineers Inc. (Landmark).

Watershed Description

The Collins Highway 3 Drain consists of an open channel, with a short portion of closed drain, with a length of 2,131 metres and a watershed area of 74.8 hectares (185 acres). The drain commences at the south limit of McCord Lane approximately 265 m southeast of the east limit of Walker Road.

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The drain then proceeds southerly along the east limit of Roll No.490-06901 and then north-westerly along the south limit for a distance of approximately 140 m at which point the drain turns south-westerly and then westerly across Roll No. 490-01700 to and across Walker Road. The drain then turns southerly along the west limit of Walker Road to the north limit of King's Highway No. 3.

The drain then proceeds downstream north-westerly along the north limit of King's Highway No. 3 to its outlet into the Wolfe Drain at the east limit of Outer Drive.

The lands comprising the watershed are primarily residential and industrial with a small area of commercial and parkland at the east end belonging to the Town of Tecumseh. There is little topographic relief. The surface soils are predominantly poorly drained Brookston Clay Loam with a small circle of Burford Loam Shallow Phase on both sides of Highway No. 3 from Walker Road westerly.

Since the 1979 report, there has been considerable industrial development in the watershed as well as significant changes in ownership of property.

Drain History

The recent history of Engineers' reports for the Collins Highway 3 Drain follows:

- **2 October 1979 by C.G.R. Armstrong, P.Eng.:** The recommended work included the repair and improvement of the entire Collins Highway 3 Drain and included continuation of improvements downstream into the Wolfe Drain approximately 1,065 metres extending to the limits of Howard Avenue. The work entailed brushing, cleanout and the enlargement of two access culverts.
- **28 December 1959 by C.G.R. Armstrong, P.Eng.:** The recommended work included repair and improvement to the entire Collins Highway 3 Drain and included continuation downstream into the Wolfe Drain approximately 2,690 metres to its outlet into the Cahill Drain.

On-Site Meeting

We conducted an on-site meeting on October 20, 2014. The previous engineer of record did not take minutes of this meeting. Therefore, a record of the meeting is not provided. The sign-in sheets and landowner questionnaires are provided Schedule 'A-1', which is appended hereto.

Survey

Our survey and examination of the Collins Highway 3 Drain was carried out in June 2015. The survey comprised the recording of topographic data and examining the channel for available depth necessary to provide sufficient drainage. A more recent survey was carried out in January 2026 for quantity checks. We commenced the survey at the outlet into the Wolfe Drain at Outer Drive. We then proceeded upstream along the channel, parallel to and north of Highway No. 3 to Walker Road and then north, east, northeast, southeast and north to the head of the drain on the south side of McCord Lane.

Our survey revealed a significant amount of overgrown brush and vegetation with frequent accumulations of debris, forming blockages within the channel. There is a uniform build-up of sediment averaging 150 mm to 600 mm (6 to 24 inches) above the design bottom in the 1979 engineer's report.

We also found private tile inlets and two municipal storm sewers that outlet into the drain along the course of the drain that presently have no freeboard.

Additional survey was carried out in June 2015 of the existing roadside ditch along the east side of Walker Road for a distance of approximately 270 metres north of the Collins Highway 3 Drain.

Design Considerations

A Guide for Engineers working under the Drainage Act in Ontario, OMAFA Publication 852 (2018) is the current reference document used by engineers carrying out work on municipal drains under the Act. The Guideline recommends that drains serving agricultural lands be designed to freely pass the peak runoff generated from a storm event having an average frequency of occurrence of once in two years (i.e. a 2-year design storm). A greater design storm is used when there is a greater risk of flooding such as in developed areas and along provincial roads, where a greater design storm is considered. Based on the previous design of the Collins Highway 3 Drain we find that the drain can convey the 2-year design storm flows, which is consistent with the historical agricultural land use. We have considered this same design criteria to determine necessary what baseline recommendations are necessary to bring the drain back into working order.

The MTO Highway Drainage Design Standards (HDDS) requires that roadside drainage be designed to convey peak runoff from the 10-year design storm. The HDDS also requires that water levels within an adjacent watercourse provide 0.30 metre of freeboard from the edge of travelled lane to the calculated water surface during a 100-year design storm (also referred to as the ‘major storm event’).

The open portion of drain and culverts have been designed to convey peak runoff from a 10-year design storm. The 100-year design storm was analysed by Landmark through the OSMP and demonstrated recommended drain improvements meet the major storm event criteria.

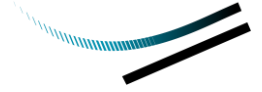
Design invert elevations of all new bridges are approximately 10% of the pipe diameter below the design grade. This embedment is a requirement to enhance aquatic habitat.

We believe that these design standards should provide a reasonable level of service, but it should be clearly understood that runoff generated from large storms or fast snow melts may sometimes exceed the capacity of the proposed systems and result in surface ponding for short periods of time.

Oldcastle Stormwater Master Plan

The Town of Tecumseh retained Landmark to prepare a stormwater master plan for the Oldcastle Hamlet area to provide recommendations for the long-term improvement of the area’s drainage considering the area’s economic importance and known drainage issues. The report was completed in 2022, and the Town subsequently requested the Collins Drain be improved to align with the objectives outlined in the OSMP. The following drainage improvement were recommended:

- Provide sufficient depth for a future auxiliary outlet for the Wolfe Drain.
- Provide sufficient depth for a future regional stormwater pond (Collins Pond).
- Provide sufficient depth for a future stormwater pipe outlet from Fasan Drive.



- Improved conveyance through existing culverts in the downstream half of the drain to meet freeboard standards required in provincial highway design standards and to meet regional stormwater objectives outlined in the OSMP.

Existing Conditions and Recommendations

Collins Highway 3 Drain

The last report for repair and improvement of the Collins Highway 3 Drain was completed in 1979. Generally, the drain banks are reasonably well grassed, sound and stable. We recommend the drain be deepened and widened from the current design profile to meet the objectives stated above. Future pipe outlet inverts have been provided by the Town of Tecumseh through coordination with Landmark and the OSMP. Pipe outlets are recommended to have minimum 300 mm of freeboard above the drain bottom.

All the access culverts were inspected during the course of our investigation. Our assessment identified culverts that are in poor condition, culverts that are in good condition and culverts that are still in serviceable condition but will likely require replacement in the next 5 to 10 years. Specific structure numbers have been designated for ease of reference between the specifications and the drawings. The locations, dimensions, condition and use of each structure are as follows:

Bridge No. 1: Station 0+107A – Congregation of the Order Antonin Maronite in Ontario (Roll No. 490-03200)

A 5.6 m long, 1000 mm diameter corrugated steel pipe with stone rip-rap end protection provides access to this property. This culvert was shown on the profile for the 1979 report. The path over this culvert is blocked on the north side by a chain link fence and is no longer in use.

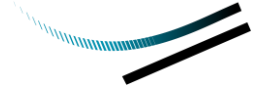
We recommend this bridge be removed from the drain.

Bridge No. 2: Station 0+290A – 1000033594 Ontario Limited (Roll No. 490-03110)

A 36.0 m long, 1.5 m span x 0.9 m rise concrete culvert with open footings joined with 20.0 m long, 900 mm diameter reinforced concrete pipe extension and concrete headwall at the west end provides access to this residential property. This culvert was shown on the 1979 profile. This culvert is deficient in hydraulic capacity. The concrete end wall at the west end is collapsing and the concrete pipe is separating.

We recommend that the 900 mm diameter concrete pipe be removed and replaced with a new 25.0 m long, 1500 mm diameter aluminized UltraFlo spiral rib steel pipe and sloping stone end wall.

We also recommend that when the remaining culvert portion requires replacement, that it consist of a new 36.0 m long, 1500 mm diameter aluminized UltraFlo spiral rib steel pipe with sloped stone end wall with filter fabric underlay providing a minimum 6.1 m driveable top width with the remainder being a lawn enclosure. We recommend the design elevation for the drain bottom be lowered to accommodate the new culvert as shown on the drain profile drawing. The future replacement is also recommended to include a flared inlet for improved conveyance.



A precast concrete junction box shall be installed to connect the new culvert to the existing box culvert. The existing box culvert portion shall butt up against the concrete junction box and void spaces filled with concrete grout. A continuous 12 mm thick galvanized steel plate, 200 mm wide shall be installed to attach the concrete junction box to the concrete box culvert to avoid separation.

Bridge No. 3: Station 0+490A - Christopher H. & Christine A. Loop (Roll No. 490-03010)

A 9.6 m long, 1500 mm x 1000 mm corrugated steel pipe arch (CSPA) with bagged cement end protection provides access to this residential property. This culvert was shown on the 1979 profile. This culvert is deficient in hydraulic capacity.

We recommend that this culvert be replaced with a new 14.0 m long, 1780 x 1360 mm aluminized corrugated steel pipe arch (CSPA) complete with flared inlet end section and sloped stone end walls with filter fabric underlay providing a minimum 6.1 m driveable top width.

Bridge No. 4: Station 0+515A - Fire Hydrant Access (Town of Tecumseh)

A 2.4 m long, 1000 mm diameter corrugated steel pipe with no end protection provides access to a fire hydrant. There is no backfill above this pipe. This culvert was not on the 1979 profile. This culvert is deficient in top width, hydraulic capacity, end protection and adequate backfill and requires immediate replacement.

We recommend that this culvert be replaced with a new 9 m long, 1780 x 1360 mm aluminized corrugated steel pipe arch (CSPA) complete with flared inlet end section and sloping stone end walls with filter fabric underlay providing a minimum 4.0 m grassed top width.

Bridge No. 5: Station 0+582A – Cards 5 Corporation (Roll No. 490-03000)

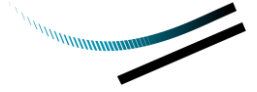
An 18.5 m long, 1800 mm x 1100 mm corrugated steel pipe arch (CSPA) with a small amount of broken concrete end protection provides access to this commercial property. This culvert was not on the 1979 profile. This culvert is deficient in hydraulic capacity and end protection.

We recommend that this culvert be replaced with a new 20.0 m long, 1350 mm diameter aluminized Ultra Flo spiral rib steel pipe (CSP) complete with flared inlet end section and sloping stone end walls with filter fabric underlay providing a minimum 12.2 m driveable top width.

Bridge No. 6: Station 0+620A - Fire Hydrant Access (Town of Tecumseh)

A 2.4 m long, 1000 mm diameter corrugated steel pipe with no end protection provides access to a fire hydrant. This culvert was not shown on the 1979 profile. This culvert is deficient in top width, hydraulic capacity and end protection and requires immediate replacement.

We recommend that this culvert be replaced with a new 8.5 m long, 1550 x 1200 mm aluminized corrugated steel pipe arch (CSPA) complete with flared inlet end section and sloping stone end walls with filter fabric underlay providing a minimum 4.0 m grassed top width.



Bridge No. 7: Station 0+825A - Fire Hydrant Access (Town of Tecumseh)

A 2.4 m long, 900 mm diameter corrugated steel pipe with no end protection provides access to a fire hydrant. This culvert was not on the 1979 profile. This culvert is deficient in top width, hydraulic capacity, end protection and requires immediate replacement.

We recommend that this culvert be replaced with a new 8.0 m long, 1000 mm diameter aluminized corrugated steel pipe (CSP) complete with sloping stone end walls with filter fabric underlay providing a minimum 4.0 m grassed top width.

Bridge No. 8: Station 1+130A – 1859380 Ontario Ltd. (Roll No. 490-02800)

A 34.0 m long, 900 mm diameter corrugated steel pipe with stone rip-rap end protection provides access and a lawn enclosure for this residential property. The enclosure also provides access to a fire hydrant. This culvert was shown on the 1979 profile (although two culverts were shown).

This culvert is in good condition and does not require replacement.

We anticipate this culvert will not require replacement in the near future. We recommend that in the future the culvert be replaced with a new 38.0 m long, 1000 mm diameter corrugated steel pipe (CSP) complete with sloping stone end walls with filter fabric underlay providing a minimum 12.2 m driveable top width and the remainder as a lawn enclosure.

Bridge No. 9: Station 1+355A - John Homeniuk (Roll No. 490-02700)

A 13.6 m, 900 mm diameter corrugated steel pipe with no end protection provides access to this residential property. This culvert was shown on the 1979 profile. This culvert is deficient in top width, hydraulic capacity, end treatment, available depth and requires immediate replacement.

We recommend that this culvert be replaced with a new 15.0 m long, 1000 mm diameter aluminized corrugated steel pipe (CSP) complete with sloping stone end walls with filter fabric underlay providing a minimum 6.1 m driveable top width.

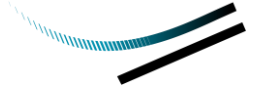
Bridge No. 10: Station 1+380A - Fire Hydrant Access (Town of Tecumseh)

A 6.2 m long, 900 mm diameter corrugated steel pipe with no end protection provides access to a fire hydrant. This culvert was not shown on the 1979 profile. This culvert is deficient in top width, hydraulic capacity, end protection, positive grade and requires immediate replacement.

We recommend that this culvert be replaced with a new 10.0 m long, 1000 mm diameter aluminized corrugated steel pipe (CSP) complete with sloping stone end walls with filter fabric underlay providing a minimum 4.0 m grassed top width.

Bridge No. 11: Station 1+425A - Benjamin and Anda Zegrean (Roll No. 490-02600)

A 23.0 m long, 900 mm diameter corrugated steel pipe with stone rip-rap end protection on the east end and none on the west end provides access and lawn enclosure for this residential property. This culvert was shown on the 1979 profile (although two culverts were shown). This culvert is deficient in hydraulic capacity, end protection, available depth and requires immediate replacement.



We recommend that this culvert be replaced with a new 25.0 m long, 1000 mm diameter aluminized corrugated steel pipe (CSP) complete with sloping stone end walls with filter fabric underlay providing a minimum 6.1 m driveable top width.

Bridge No. 12: Station 1+460A – Gaby Tannous (Roll No. 490-02500)

A 13.0 m long, 900 mm diameter corrugated steel pipe with no end protection provides access to this residential property. This culvert was shown on the 1979 profile. This culvert is deficient in top width, hydraulic capacity, structural adequacy, end protection, available depth and requires immediate replacement.

We recommend that this culvert be replaced with a new 15.0 m long, 1000 mm diameter aluminized corrugated steel pipe (CSP) complete with sloping stone end walls with filter fabric underlay providing a minimum 6.1 m driveable top width.

Bridge No. 13: Station 1+492A – Michael & Rachael Iacoban (Roll No. 490-02400)

A 13.0 m long, 900 mm diameter corrugated steel pipe with no end protection provides access to this residential property. This culvert was shown on the 1979 profile. This culvert is deficient in top width, hydraulic capacity, end protection, available depth and requires immediate replacement.

We recommend that this culvert be replaced with a new 15.0 m long, 1000 mm diameter aluminized corrugated steel pipe (CSP) complete with sloping stone end walls with filter fabric underlay providing a minimum 6.1 m driveable top width.

Bridge No. 14: Station 1+605A – Pannu Durlabjitt (Roll No. 490-2300), Matthew S. Wade (Roll No. 490-02200), Ion and Elena Zegrean (Roll No. 490-02100) & Town of Tecumseh Public Works

A 118 m long, 1150 mm x 750 mm reinforced concrete elliptical pipe with stone rip rap end protection on the east end and none on the west end, provides access to three residential properties. This culvert was shown on the 1979 profile. This culvert is deficient in end protection at the west end.

We recommend that stone rip rap end protection with filter fabric underlay be installed on the west end.

We recommend that in the future the culvert be replaced with a new 119 m long, 1000 mm diameter corrugated steel pipe (CSP) complete with sloping stone end walls with filter fabric underlay providing a minimum 6.1 m driveable top width for three (3) residential accesses and the remainder as a lawn enclosure and hydrant access.

There are also two road crossings on the drain as follows:

Bridge No. 15: Station 1+750A - Extension of Bridge No. 16 - County of Essex

A 58 m long, 900 mm diameter reinforced concrete pipe with rip rap end treatment on the south end. The north end enters a catch basin/maintenance hole at Station 1+778 where Bridge No. 16 begins. This culvert was not on the 1979 profile. This culvert is reasonably new and is in good condition but is perched by approximately 0.34 metres above the design drain bottom and requires lowering.

We recommend that this culvert be replaced with a new 58.0 m long, 900 mm diameter precast reinforced concrete pipe complete with sloping stone end walls with filter fabric underlay. Lowering of the culvert by salvaging the existing concrete pipe materials may be considered provided that it is carefully removed and reinstalled without damage.

Bridge No. 16: Station 1+795A - Walker Road – County of Essex

A 33 m long, 600 mm diameter reinforced concrete pipe with rip rap end treatment at the east end provides a crossing for Walker Road. The west end enters the catch basin/maintenance hole at Station 1+778. This culvert has been replaced since the 1979 report. This culvert is reasonably new and is in good condition but is deficient in hydraulic capacity and perched 0.40 metres above the design drain bottom.

We recommend that this culvert be replaced with a new 33.0 m long, 900 mm diameter precast reinforced concrete pipe complete with sloping stone end walls with filter fabric underlay.

Collins Highway 3 Drain Branch

The drain consists of approximately 240 metres of open drain with a grade of approximately 0.05% and side slopes of 2:1 on the west side and 1.5:1 on the east side. A 600 mm diameter H.D.P.E. pipe, 45 metres long exists under McCord Lane denoted herein as Bridge No. 1B. This pipe is in good condition. The drain exists entirely within the road allowance of Walker Road (County Road No. 11).

The development of Roll No. 490-07000 petitioned for an outlet to the Collins Highway 3 Drain. As the road drain has no status under the Drainage Act, the adjacent property owners have no means to force the Road Authority to maintain this road drain. Further, the Road Authority is not obliged to provide outlet for systems that discharge into the road drainage system. Finally, if works are done on the existing road drain, there is no mechanism to fairly apportion the cost of the works against those lands that use the drain.

The existing drain banks appear to be well grassed and stable and has sufficient grade. Therefore, we recommend the drain along the east side of Walker Road for a distance of 240 metres north of the Collins Highway 3 Drain be incorporated under this report as a municipal drain and we find the petition for drainage to be valid in accordance with Section 4 (1) (a) of the Drainage Act. We recommend the new drain along the east side of Walker Road be known as the Collins Highway 3 Drain Branch.

Excess Soils Management

In November 2021 at the instruction of the Town of Tecumseh, Dillon Consulting completed an Environmental Review and a Soil Characterization Report following the requirements of *Ontario Regulation 406/19 – On-Site Excess Soil Management* (O. Reg 406/19) to determine the level of contamination of the excess soils generated from the Collins Highway 3 Drain improvements and confirm appropriate reuse sites for the excess soils.

The Environmental Review investigated for potential or actual sources of environmental contamination that would affect the reuse capability of any excavated soils as a result of the Collins Highway 3 Drain and Branch improvements along King's Highway No. 3 and Walker Road.

A review of historical and current records of the surrounding area and a cursory site inspection were completed to identify areas of potential environmental concern, and to support planning of soil sampling program.

The review identified that the downstream section of the drain located along Highway No. 3 has a moderate risk of potential contamination associated with petroleum hydrocarbon spills, diesel fuel spills, storage of fuels on adjacent lands, and the long-term use of King's Highway No. 3. It was recommended that soil sampling of the drain along the highway be conducted to determine the level of contamination from the identified potential sources.

Soil sampling was conducted on August 4, 2021, and August 7, 2021. The sampling program consisted of 4 test pits evenly distributed over the length of drain located on the north side of King's Highway No. 3 and test pit located east of Walker Road. Two additional supplemental test pits were excavated near Roll No. 490-06325. Soil sample analyses showed the spoils within the drain have been contaminated with salts and other contaminants, but have some reuse potential, and is to be handled as described in the Specifications.

Allowances

From McCord Lane to Walker Road, in accordance with Sections 29 and 30 of the Drainage Act, we have made a determination of the amount to be paid for damages to the lands and for land taken in the improvements to the drain as recommended.

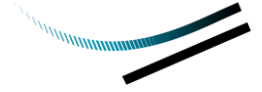
In accordance with Section 30 of the Drainage Act, we have made a determination of the amount to be paid for damages to the lands for the designated working corridor adjacent to properties along the Collins Highway 3 Drain from Station 1+845A to Station 2+131A. Schedule 'B' shows the distribution of these allowances for a corridor area designated to be 10.0 metres wide north and east of and beyond the top of bank of the drain. The area exposed to damages represents approximately 0.3 ha (0.7 acres).

Throughout the length of the work, the excavated material is to be disposed of as set out in the Special Provisions in Schedule 'F' herein. In accordance with Section 30 of the Drainage Act, we determined the amount to be paid to the owners for damages to lands and crops (if any) occasioned by the operation of equipment and the disposal of material excavated from the drain. The allowance for damages is calculated at a rate of \$4,448 per hectare, (\$1,800 per acre).

From Walker Road to Outer Drive the excavated material from the drain must be trucked away, since there is not space available to spread it. In accordance with Section 29 of the Drainage Act, we have made a determination for land used for the establishment of an access to the working corridor as recommended. The average land cost for the surrounding area used to calculate the value of land taken is \$59,300 per hectare (\$24,000 per acre). A 6 metre wide access and working corridor shall be designated on Roll No. 490-03200 from Station 0+000A to Station 0+050A. Further, all work will be done from the Highway No. 3 right-of-way.

Cost Estimate

Based on our review of the history, the information obtained during the site meeting and our examination and analysis of the survey data, we recommend that the Collins Highway 3 Drain be repaired and improved by cleaning the entire drain along with bridge replacements as follows:

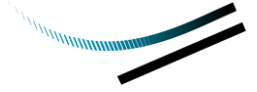


COLLINS HIGHWAY 3 DRAIN		
Item	Description	Amount
	<u>OPEN DRAIN WORK</u>	
1.	Brushing of the drain from Station 0+000A to Station 2+131A including the disposal by removal off-site with trimming and/or removal of existing trees as required to accommodate the drainage works. The work shall include disposal of brush off-site.	\$23,000.00
2.	Excavation, trucking and/or levelling of excavated materials works, as follows:	
	a) Excavation of the drain bottom only, as follows:	
	i) Station 1+148A to Station 1+544A, totalling approximately 396 lineal metres of drain and approximately 200 m ³ of material.	\$4,600.00
	ii) Station 1+811A to Station 2+131A, totalling approximately 320 lineal metres of drain and approximately 145 m ³ of material.	\$3,600.00
	b) Excavation of drain bottom and widening, as follows:	
	i) Station 0+000A to Station 0+264A, totalling approximately 264 lineal metres of drain and approximately 825 m ³ of material. Including removal and re-installation of chain link fence for access at Station 0+000A to Station 0+050A, if necessary.	\$8,000.00
	ii) Station 0+320A to Station 0+821A, totalling approximately 501 lineal metres of drain and approximately 1,200m ³ of material.	\$11,000.00
	iii) Station 0+821A to Station 1+114A, totalling approximately 293 lineal metres of drain and approximately 160 m ³ of material.	\$4,000.00
	iv) Station 1+662A to Station 1+720A, totalling approximately 58 lineal metres of drain and approximately 130 m ³ of material.	\$1,500.00
	c) Levelling of excavated materials, as follows:	
	i) Station 1+850A to Station 2+131A, totalling approximately 281 lineal metres of drain and approximately 100 m ³ of material.	\$500.00

COLLINS HIGHWAY 3 DRAIN		
Item	Description	Amount
	d) Trucking of excavated materials, as follows:	
	i) Station 0+000A to Station 0+264A, totalling approximately 825 m ³ of material.	\$33,000.00
	ii) Station 0+320A to Station 0+821A, totalling approximately 1,200 m ³ of material.	\$48,000.00
	iii) Station 0+821A to Station 1+114A, totalling approximately 160 m ³ of material.	\$6,400.00
	iv) Station 1+148A to Station 1+544A, totalling approximately 200 m ³ of material.	\$8,000.00
	v) Station 1+662A to Station 1+720A, totalling approximately 130 m ³ of material.	\$5,200.00
	vi) Station 1+811A to Station 1+850A, totalling approximately 45 m ³ of material.	\$1,800.00
3.	Hydraulic seeding of drain banks disturbed by drain widening as follows:	
	i) Station 0+000A to Station 0+264A (approximately 1,000 m ²)	\$5,800.00
	ii) Station 0+320A to Station 1+114A (approximately 985 m ²)	\$5,700.00
	iii) Station 1+662A to Station 1+720A (approximately 175 m ²)	\$1,000.00
4.	Private access bridge removals, as follows:	
	a) <u>Bridge No. 1 - Station 0+107A (Roll No. 490-03200)</u> - Remove and dispose of existing 5.6 m long, 1000 mm diameter CSP culvert and end wall materials off-site, including restoration and seeding of drain banks.	\$2,000.00
5.	Private access bridge replacement works, as follows:	
	a) <u>Bridge No. 2 - Station 0+290A (Roll No. 490-03110)</u> – Removal and disposal of existing 20 m long 900 mm diameter concrete pipe, existing end wall and backfill off-site that are not suitable for native backfill. The work is to include site clean-up, seeding of disturbed drain banks and restoration within the working area. Supply and installation of a new 25.0 m long, 1500 mm diameter aluminized UltraFlo spiral rib steel pipe culvert with a 2.8 mm thickness (see specifications) complete with clear stone bedding bedding material beneath pipe, minimum 150 mm thickness (approximately 25 tonnes), full Granular 'A' backfill for driveway portion (approximately 40 tonnes). Granular 'B' backfill to pipe springline (approximately 45 tonnes) with clean native or imported clean native backfill	\$60,000.00

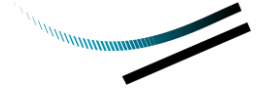
COLLINS HIGHWAY 3 DRAIN		
Item	Description	Amount
	material outside of driveway portion (approximately 135 m ³). Asphalt restoration, 80 mm HL3 layer (two 40 mm lifts) (approximately 5 tonnes) Sloping stone end wall on west end (approximately 25 m ²). Supply and installation of a new 0.9 m x 2.25 m x 2.58 m deep precast concrete junction box (JB1) between the existing concrete culvert and new C.S.P. culvert complete with concrete lid manufactured by Coldstream Concrete Inc. (or approved equal) and a minimum 300 mm sump. Work is to include grouting of all voids around pipe connections with non-shrink concrete grout. The junction box shall be connected to the existing box culvert with a 12 mm galvanized steel plate, 200 mm long fastened to the junction box and box culvert on the top and sides of the opening with predrilled holes for 150 mm diameter galvanized lag bolts at 450 mm spacing.	
	b) <u>Bridge No. 3 – 0+490A (Roll No. 490-03010)</u> – Removal and disposal of existing 9.6 m long 1500 x 1000 mm CSPA, existing end walls and backfill off-site that are not suitable for native backfill. The work is to include site clean-up, seeding of disturbed drain banks and restoration within the working area. Supply and installation of a new 14.0 m long, 1780 x 1360 mm aluminized corrugated steel pipe arch (CSPA) culvert with a 2.8 mm thickness (see specifications) complete with clear stone bedding up to springline of pipe complete with filter fabric overlay (approximately 35 tonnes), full Granular 'A' backfill (approximately 140 tonnes). Clean native or imported clean native backfill material outside of driveway portion to construct the 0.50 m wide native buffer strips (approximately 20 m ³). Concrete driveway restoration, 150 mm thickness (approximately 10 m ³) Sloping stone end walls (approximately 30 m ²).	\$31,900.00
	c) <u>Bridge No. 5 - Station 0+582A (Roll No. 490-03000)</u> – Removal and disposal of existing 18.5 m long 1800 x 1100 mm CSPA and backfill off-site that are not suitable for native backfill. The work is to include site clean-up, seeding of disturbed drain banks and restoration within the working area. Supply and installation of a new 20.0 m long, 1350 mm diameter aluminized Ultra Flo spiral rib steel pipe (CSP) culvert with a 2.8 mm thickness (see specifications) complete with clear stone bedding material beneath pipe, minimum 150 mm thickness (approximately 20 tonnes), full Granular 'A' backfill (approximately 215 tonnes). Clean native or imported clean native backfill material outside of driveway portion to construct the 0.50 m wide native buffer strips (approximately 20 m ³).	\$34,300.00

COLLINS HIGHWAY 3 DRAIN		
Item	Description	Amount
	Asphalt restoration, 80 mm HL3 layer (two 40 mm lifts) (approximately 15 tonnes) Sloping stone end walls (approximately 30 m ²).	
	d) <u>Bridge No. 9</u> - Station 1+355A (Roll No. 490-02700) – Removal and disposal of existing 13.6 m long 900 mm diameter CSP, existing end walls and backfill off-site that are not suitable for native backfill. The work is to include site clean-up, seeding of disturbed drain banks and restoration within the working area. Supply and installation of a new 15.0 m long, 1000 mm diameter aluminized corrugated steel pipe (CSP) culvert with a 2.0 mm thickness (see specifications) with clear stone bedding material beneath pipe, minimum 150 mm thickness (approximately 15 tonnes). Full Granular 'B' backfill (approximately 170 tonnes). Clean native or imported clean native backfill material outside of driveway portion to construct the 0.50 m wide native buffer strips (approximately 20 m ³). Granular 'A' (crushed limestone) compacted driveway surface, minimum 200 mm thickness (approximately 25 tonnes). Sloping stone end walls (approximately 40 m ²).	\$18,100.00
	e) <u>Bridge No. 11</u> - Station 1+425A (Roll No. 490-02600) – Removal and disposal of existing 23 m long 900 mm diameter CSP, existing end walls and backfill off-site that are not suitable for native backfill. The work is to include site clean-up, seeding of disturbed drain banks and restoration within the working area. Supply and installation of a new 25.0 m long, 1000 mm diameter aluminized corrugated steel pipe (CSP) culvert with a 2.0 mm thickness (see specifications) complete with clear stone bedding material beneath pipe, minimum 150 mm thickness (approximately 20 tonnes), full Granular 'A' backfill (crushed limestone) (approximately 235 tonnes), compacted under driveway providing a minimum 6.1 m (20 ft.) driveable top width, asphalt restoration, 80 mm HL3 layer (approximately 10 tonnes), and the remaining portion as a lawn enclosure, Granular 'B' backfill material up to springline of pipe for enclosure portion (approximately 15 tonnes), clean native backfill material above for enclosure (approximately 70 m ³). The work shall include grading of topsoil and seeding for enclosure (approximately 110 m ²). Sloping stone end walls (approximately 40 m ²). All surplus native materials resulting from the culvert installation are to be trucked away to an approved dumping site at the Contractor's expense.	\$32,150.00



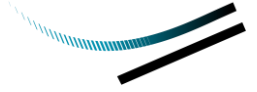
COLLINS HIGHWAY 3 DRAIN		
Item	Description	Amount
	f) <u>Bridge No. 12</u> - Station 1+460A (Roll No. 490-02500) – Removal and disposal of existing 13 m long 900 mm diameter CSP, existing end walls and backfill off-site that are not suitable for native backfill. The work is to include site clean-up, seeding of disturbed drain banks and restoration within the working area. Supply and installation of a new 15.0 m long, 1000 mm diameter aluminized corrugated steel pipe (CSP) culvert with a 2.0 mm thickness (see specifications) with clear stone bedding material beneath pipe, minimum 150 mm thickness (approximately 15 tonnes). Full Granular 'B' backfill (approximately 170 tonnes). Clean native or imported clean native backfill material outside of driveway portion to construct the 0.50 m wide native buffer strips (approximately 20 m ³). Granular 'A' (crushed limestone) compacted driveway surface, minimum 200 mm thickness (approximately 35 tonnes). Sloping stone end walls (approximately 40 m ²).	\$18,600.00
	g) <u>Bridge No. 13</u> - Station 1+492A (Roll No. 490-02400) – Removal and disposal of existing 13 m long 900 mm diameter CSP, existing end walls and backfill off-site that are not suitable for native backfill. The work is to include site clean-up, seeding of disturbed drain banks and restoration within the working area. Supply and installation of a new 15.0 m long, 1000 mm diameter aluminized corrugated steel pipe (CSP) culvert with a 2.0 mm thickness (see specifications) with clear stone bedding material beneath pipe, minimum 150 mm thickness (approximately 15 tonnes). Full Granular 'B' backfill (approximately 185 tonnes). Clean native or imported clean native backfill material outside of driveway portion to construct the 0.50 m wide native buffer strips (approximately 20 m ³). Granular 'A' (crushed limestone) compacted driveway surface, minimum 200 mm thickness (approximately 35 tonnes). Sloping stone end walls (approximately 45 m ²).	\$19,500.00
6.	Private access bridge cleaning works, as follows:	
	a) Bridges No. 2, 8 and 14 – Clean three (3) existing bridges.	\$6,000.00
7.	Supply and installation of flared inlet end sections on upstream ends of access bridges, as follows:	
	a) Bridge No. 3	\$6,000.00
	b) Bridge No. 5	\$5,000.00
8.	Stone Erosion protection works as follows:	
	a) Station 0+683A - Supply and install 15 m ² (300 mm thick) of stone erosion protection (SEP) including new filter fabric underlay at the location of washout on south drain bank.	\$1,450.00

COLLINS HIGHWAY 3 DRAIN		
Item	Description	Amount
	b) Station 1+544A - Supply and install 40 m ² (300 mm thick) of stone erosion protection (SEP) end wall including new filter fabric underlay at the west end of Bridge No. 14.	\$3,600.00
9.	Traffic Control	\$6,000.00
10.	Temporary Silt Control Measures During Construction	\$1,200.00
11.	ERCA application review and permit fee	<u>\$800.00</u>
	SUB-TOTAL – EXCLUDING SECTION 26 COSTS	\$417,700.00
12.	Allowances under Sections 29 and 30	\$4,200.00
13.	Survey, Report, Assessment and Final Inspection (cost portion)	\$94,500.00
14.	Expenses and incidentals (cost portion)	\$2,500.00
15.	Contract Administration and Construction Observation.	<u>\$34,000.00</u>
	TOTAL – EXCLUDING SECTION 26 COSTS	\$552,900.00
	SECTION 26 NON PRO-RATEABLE COSTS	
16.	Hydrant access bridge replacement works, as follows:	
	a) <u>Bridge No. 4</u> - Station 0+515A– Removal and disposal of existing 2.4 m long 1000 mm diameter CSP, existing end walls and backfill off-site that are not suitable for native backfill. The work is to include site clean-up, seeding of disturbed drain banks and restoration within the working area. Supply and installation of a new 9.0 m long, 1780 x 1360 mm aluminized corrugated steel pipe arch (CSPA) culvert with a 2.8 mm thickness (see specifications) complete with clear stone bedding up to springline of pipe complete with filter fabric overlay (approximately 25 tonnes), clean native backfill material above (approximately 25 m ³), seeded surface (approximately 20 m ²) and sloping stone end walls c/w filter fabric underlay (approximately 30 m ²) providing a minimum 4.0 m (13 ft.) grassed top width. All surplus native materials resulting from the culvert installation are to be trucked away to an approved dumping site at the Contractor's expense.	\$11,400.00



COLLINS HIGHWAY 3 DRAIN		
Item	Description	Amount
	b) <u>Bridge No. 6</u> - Station 0+620A– Removal and disposal of existing 2.4 m long 1000 mm diameter CSP, existing end walls and backfill off-site that are not suitable for native backfill. The work is to include site clean-up, seeding of disturbed drain banks and restoration within the working area. Supply and installation of a new 8.5 m long, 1550 x 1200 mm aluminized corrugated steel pipe arch (CSPA) culvert with a 2.8 mm thickness (see specifications) complete with clear stone bedding up to springline of pipe complete with filter fabric overlay (approximately 20 tonnes), clean native backfill material above (approximately 20 m ³), seeded surface (approximately 30 m ²) and sloping stone end walls c/w filter fabric underlay (approximately 20 m ²) providing a minimum 4.0 m (13 ft.) grassed top width. All surplus native materials resulting from the culvert installation are to be trucked away to an approved dumping site at the Contractor's expense.	\$9,050.00
	c) <u>Bridge No. 7</u> - Station 0+825A– Removal and disposal of existing 2.4 m long 900 mm diameter CSP, existing end walls and backfill off-site that are not suitable for native backfill. The work is to include site clean-up, seeding of disturbed drain banks and restoration within the working area. Supply and installation of a new 8.0 m long, 1000 mm diameter aluminized corrugated steel pipe (CSP) culvert with a 2.0 mm thickness (see specifications) with clear stone bedding material beneath pipe, minimum 150 mm thickness (approximately 10 tonnes), compacted Granular 'B' backfill up to the springline of pipe (approximately 10 tonnes), clean native backfill material above (approximately 25 m ³), seeded surface (approximately 30 m ²) and sloping stone end walls c/w filter fabric underlay (approximately 20 m ²) providing a minimum 4.0 m (13 ft.) grassed top width. All surplus native materials resulting from the culvert installation are to be trucked away to an approved dumping site at the Contractor's expense.	\$6,300.00
	d) <u>Bridge No. 10</u> - Station 1+380A– Removal and disposal of existing 6.2 m long 900 mm diameter CSP, existing end walls and backfill off-site that are not suitable for native backfill. The work is to include site clean-up, seeding of disturbed drain banks and restoration within the working area. Supply and installation of a new 10.0 m long, 1000 mm diameter aluminized corrugated steel pipe (CSP) culvert with a 2.0 mm thickness (see specifications) with clear stone bedding material beneath pipe, minimum 150 mm thickness (approximately 10 tonnes), compacted Granular 'B' backfill up to the springline of pipe (approximately 10 tonnes), clean native backfill material	\$8,350.00

COLLINS HIGHWAY 3 DRAIN		
Item	Description	Amount
	above (approximately 30 m ³), seeded surface (approximately 30 m ²) and sloping stone end walls c/w filter fabric underlay (approximately 25 m ²) providing a minimum 4.0 m (13 ft.) grassed top width. All surplus native materials resulting from the culvert installation are to be trucked away to an approved dumping site at the Contractor's expense.	
17.	Road bridge replacement works, as follows:	
	a) <u>Bridge No. 15</u> -Walker Road - Station 1+750A – Removal and disposal of existing 58 m long 900 mm diameter concrete pipe, existing end walls and backfill off-site that are not suitable for native backfill. Supply and installation of a new 58 m long, 900 mm diameter reinforced concrete pipe A257.2 100-D. Clear stone bedding material beneath pipe, minimum 150 mm thickness (approximately 40 tonnes). Granular 'B' backfill up to pipe springline of pipe (approximately 70 tonnes), clean native or imported clean native backfill material from springline of pipe culvert to the existing ground (approximately 165 m ³). Restoration of all grassed surfaces. Sloping stone end wall (approximately 20 m ²). Note: Contractor may elect to salvage existing culvert for reuse provided it is carefully removed without damage.	\$65,000.00
	b) <u>Bridge No. 16</u> -Walker Road - Station 1+795A – Removal and disposal of existing 33 m long 600 mm diameter concrete pipe, existing end walls and backfill off-site that are not suitable for native backfill. Supply and installation of a new 33 m long, 900 mm diameter reinforced concrete pipe A257.2 100-D. Clear stone bedding material beneath pipe, minimum 150 mm thickness (approximately 25 tonnes). Beneath the road surface and shoulders, full Granular 'A' backfill is required up to the underside of the road surface and shoulders (approximately 175 tonnes). Beyond road surface and shoulders, Granular 'B' backfill up to pipe springline (approximately 10 tonnes), clean native or imported clean native backfill material from springline of pipe culvert to the underside of existing shoulder material (approximately 10 m ³). Asphalt road restoration, 110 mm HL8 layer and 40 mm HL4 (approximately 60 tonnes), and restoration of all grassed surfaces. Sloping stone end wall (approximately 15 m ²).	\$83,000.00



COLLINS HIGHWAY 3 DRAIN		
Item	Description	Amount
18.	Supply and installation of new concrete manhole and drain connections as follows:	
	a) <u>Manhole No. 1</u> Station 1+778A - Supply and installation of one (1) new 2400 mm diameter precast manhole complete with steel flat style open top, as manufactured by Coldstream Concrete Inc. (or approved equal), and a minimum 300 mm deep sump. Work to include connection and capping of all tiles, as described herein, including grouting of all voids around pipes with non-shrink concrete grout. The grate is to be equipped with fasteners to secure grates to catch basins as supplied by the manufacturer.	\$17,300.00
19.	Supply and installation of flared inlet end sections on upstream ends of access bridges, as follows:	
	a) Bridge No. 4	\$6,000.00
	b) Bridge No. 6	\$5,200.00
20.	Utility work(s), as follows:	
	c) Co-ordination with Union Gas Ltd. to facilitate locates of any existing underground pipe lines. Any utility relocation works required as a result of the drainage works if any (actual utility relocation costs) are at the expense of the operating utility as per Section 26 of the Drainage Act).	\$600.00
	d) Co-ordination with Bell to facilitate locates of any existing underground utility lines. Any utility relocation works required as a result of the drainage works if any (actual utility relocation costs) are at the expense of the operating utility as per Section 26 of the Drainage Act).	\$600.00
	e) Co-ordination with Town of Tecumseh PUC to facilitate locates of any existing underground water lines. Any utility relocation works required as a result of the drainage works if any (actual utility relocation costs) are at the expense of the operating utility as per Section 26 of the Drainage Act).	\$600.00
21.	Traffic Control in accordance with OTM Book 7	<u>\$10,000.00</u>
	SUB-TOTAL – SECTION 26 NON PRO-RATEABLE COSTS	\$223,400.00
22.	Survey, Report, Assessment & Final Inspection (cost portion)	\$45,500.00
23.	Expenses & Incidental (cost portion)	\$2,500.00
24.	Contract Administration and Construction Observation.	<u>\$17,400.00</u>
	TOTAL – SECTION 26 NON PRO-RATEABLE COSTS	\$288,800.00
	TOTAL ESTIMATE – COLLINS HIGHWAY 3 DRAIN	\$841,700.00

COLLINS HIGHWAY 3 DRAIN BRANCH		
Item	Description	Amount
	<u>OPEN DRAIN WORK</u>	
1.	Brushing of the drain from Station 0+000B to Station 0+174B including the disposal by removal off-site with trimming and/or removal of existing trees as required to accommodate the drainage works. The work shall include disposal of brush by means of stockpiling and burning where permitted or alternatively disposed of off-site.	\$1,200.00
2.	Excavation, trucking and/or levelling of excavated materials works, as follows:	
	a) Excavation of the drain bottom only, as follows:	
	i) Station 0+000B to Station 0+010B, totalling approximately 10 lineal metres of drain and approximately 5 m ³ of material.	\$200.00
	b) Trucking of excavated materials, as follows:	
	i) Station 0+000B to Station 0+010B totalling approximately 5 m ³ of material.	\$200.00
3.	Stone Erosion protection works as follows:	
	a) Station 0+000B - Supply and install approximately 20 m ² (300 mm thick) of stone erosion protection (SEP) including new filter fabric underlay on drain banks at outlet.	\$1,600.00
	b) (Roll No. 490-006901) – Station 0+144B - Supply and install approximately 10 m ² (300 mm thick) of stone erosion protection (SEP) including new filter fabric underlay at the location of existing surface swale on east bank.	<u>\$800.00</u>
	SUB-TOTAL – EXCLUDING SECTION 26 COSTS	\$4,000.00
4.	Survey, Report, Assessment and Final Inspection (cost portion)	\$4,500.00
5.	Expenses and incidentals (cost portion)	\$500.00
6.	Contract Administration and Construction Observation	<u>\$1,000.00</u>
	TOTAL ESTIMATE – COLLINS HIGHWAY 3 DRAIN BRANCH	\$10,000.00

The estimate provided in this report was prepared according to current materials and installation prices as of the date of this report. In the event of delays from the time of filing of the report by the Engineer to the time of tendering the work, it is understood that the estimate of cost is subject to inflation. The rate of inflation shall be calculated using the Consumer Price Index applied to the cost of construction from the date of the report to the date of tendering.

Should the Road Authority elect to construct the drainage works across their road right-of-ways (Section 26.0 increased cost items) with their own forces, as per Section 69 of the Drainage Act, R.S.O., 1990, the Road Authority shall remain responsible for their allotment of costs for the preparation of this report as outlined in our estimate. Should the Road Authority elect not to undertake this work, the work items, as noted under Section 26 above, should be kept separate when tendering out the entire drainage works.

Assessment of Costs

The individual assessments are comprised of three (3) assessment components:

- i. Benefit (*advantages relating to the betterment of lands, roads, buildings, or other structures resulting from the improvement to the drain*).
- ii. Outlet Liability (*part of cost required to provide outlet for lands and roads*).
- iii. Special Benefit (*additional work or feature that may not affect function of the drain*).

We have assessed the estimated costs against the affected lands and roads as listed in Schedule 'C' under "Value of Special Benefit," "Value of Benefit" and "Value of Outlet." Details of the Value of Special Benefit listed in Schedule 'C' are provided in Schedule 'D.'

Collins Highway 3 Drain Assessment Rationale

The recommendations included herein are heavily influenced by the MTO design criteria and objectives laid out in the OSMP. The following scenarios were considered to determine the assessment of costs.

- Baseline works: Drainage works required to restore the drain to its previous design section and profile. These works generally include drain bottom cleanout, brushing, bank repairs, and culvert repairs and/or replacements based on the 2-year design storm flows. The costs associated with these works are generally assessed to the lands and roads in fair proportions based on Outlet Liability and Benefit assessments in what would be considered a standard assessment.
- MTO works: Additional drainage works above the baseline scenario associated with improving the drain to convey the 10-year design storm flows. These works included greater sized culverts for Bridge Nos. 2 through 14 and improvements to the open drain between Station 0+000A and Station 1+114 in the form of drain deepening and widening. The costs associated with these improvements are generally assessed 100% against the MTO being that the improvements are of benefit to Highway No. 3.
- OSMP works: Additional drainage works above the MTO works to meet objectives outlined in the OSMP. The OSMP considered the 100-year design storm flows, which are also of benefit to MTO for meeting additional design criteria within the HDDS associated with the 100-year design storm event.

These works included the following:

- Additional improvements to Bridge Nos. 2 and 5 in the form of smooth interior spiral ribbed steel pipes for greater conveyance.
- Flared inlet end treatments to further improve conveyance through Bridge Nos. 2 through 6.
- Further drain deepening to accommodate future stormwater outlets which affects the drain between Station 0+000A and Station 0+825A.

The costs associated with the culvert improvements are assessed against the Town of Tecumseh because they serve to further the Town's stormwater master plan, as well as against the MTO because the higher capacity culverts serve to improve drainage along the road during major storm events.

The overall costs for deepening between below the previous drain design grade Station 0+000A and Station 0+821A is assessed equally against the Town of Tecumseh and MTO as the works are necessary to meet the objectives of each.

Assessment Rationale-Open Drain Improvements

We have assessed the above estimated costs for the repair and improvement of the Collins Highway 3 Drain against the affected lands and roads listed in Schedule 'C-1' under "Benefit" and "Outlet Liability".

The above estimated costs have been assessed 50% as a Benefit assessment and 50% as an Outlet Liability assessment against all lands and roads within the drainage area. Special Benefit assessments shown in Schedule 'C-1' and detailed in Schedule 'D-1' were derived as follows:

1. Costs associated with deepening the drain from Station 0+000A to Station 0+821A to meet the MTO and OSMP stormwater objectives are assessed 50% against the MTO and 50% against the Town of Tecumseh Road Authority as Special Benefit assessments.
2. Costs associated with deepening the drain from Station 0+821A to Station 1+114A to meet the MTO design criteria are assessed 100% against the MTO as Special Benefit assessments.
3. For tile main outlet repairs including stone erosion protection as required, at the location of the said main tile outlets, the Drainage Superintendent and/or Engineer may direct the Contractor to make these repairs at the expense of the landowner. Private tile repairs shall be assessed 100% against the property on which the said tile exists.
4. Bank failure repairs caused by surface water inlets on abutting lands along this section of drain shall be assessed 100% to the abutting landowner if the failure is on the north side of the drain and 100% to the Road Authority if the failure is on the south side of the drain.
5. The connection of outlet pipes for road sub drains and markers when encountered shall be assessed 100% to Ministry of Transportation. The costs to be assessed as a non-proratable assessment.

Assessment Rationale for Special Benefit Assessments-Bridge Replacements

Special Benefit assessment shown in Schedule 'C-1' and detailed in Schedule 'D-1' were derived as follows:

1. Costs associated with the removal of Bridge No. 1 have been assessed 50% to Roll No. 490-03200 and 50% to Ministry of Transportation.
2. Recommendations in the OSMP required Bridge Nos. 2 and 5 to have additional capacity. The additional capacity is provided by recommending special spiral-ribbed corrugated steel pipe which provides greater capacity however at a greater cost than standard corrugated steel pipe. These increased costs shall be assessed 50% against the Town of Tecumseh and 50% against the MTO as non-proratable cost apportionment.
3. Access bridge replacement costs (driveway portion) for Bridge No. 2 have been assessed 50% against the abutting property and the remaining 50% is assessed as an Outlet assessment against the upstream lands and roads within the Collins Highway 3 Drain watershed. The bridge replacement costs (lawn enclosure portion) for Bridge No. 2 have been assessed 100% against the abutting property. The assessment is based on a smaller size culvert required for a 2-year design capacity. The increased costs for the larger 10-year design culvert recommended is assessed to MTO as a cost apportionment.

Future maintenance and repair of the lawn enclosure (approximately 36m length) shall be assessed 100% to the adjacent landowner based on the 2-year design and the increased costs for the larger culvert shall be assessed 100% to MTO.

The costs associated with the precast concrete junction box shall be assessed 50% against the abutting property and 50% to the MTO.

4. The increased costs for the larger 10-year design culvert and the cost of premature culvert replacement for Bridges No. 3 and 5 are assessed to MTO as a cost apportionment. The assessment is based on a smaller size culvert required for a 2-year design capacity. The remaining access bridge replacement costs for Bridges No. 3 and 5 have been assessed 50% against the abutting property and the remaining 50% is assessed as an Outlet assessment against the upstream lands and roads within the Collins Hwy. 3 Drain watershed.
5. Increased costs to provide asphalt and concrete driveway surfaces have been assessed 100% against the adjacent landowner.
6. Fire hydrant access bridge replacement costs for Bridges No. 4, 6, 7 and 10 have been assessed 100% against the Town of Tecumseh Public Works Department under Section 26 of the Drainage Act and shall be a non-proratable assessment. The 100% assessment is based on a smaller size culvert required for a 2-year design capacity. The increased costs for the larger 10-year design culvert recommended is assessed to MTO as a cost apportionment.
7. An engineering cost portion of \$2,000.00 for design provisions on the future replacement of the driveway portion of Bridge No. 8 has been assessed 50% against the abutting property Roll No. 490-02800 and the remaining 50% as an Outlet assessment to the upstream lands and roads. The engineering cost portion of \$2,000.00 for the hydrant portion has been assessed 100% against the Town of

Tecumseh Public Works Department.

8. Access bridge replacement costs for Bridges No. 9, 11, 12 and 13 have been assessed 50% against the abutting properties Roll No. 490-02700, 490-02600, 490-02500 and 490-02400 respectively and the remaining 50% is assessed as an Outlet assessment against the upstream lands and roads within the Collins Highway 3 Drain watershed. This cost sharing is based on a smaller size culvert required for a 2-year design capacity. The increased costs for the larger 10-year design culvert recommended is assessed 100% to MTO as a cost apportionment.
9. Lawn enclosure costs representing part of Bridge No. 11 have been assessed 100% to Roll No. 490-02600.
10. Costs associated with the repair of the sloping stone end wall of Bridge No. 14 have been assessed 50% against all the abutting properties Roll No. 490-02100, Roll No. 490-02200 and 490-02300 and the remaining 50% as an outlet assessment against the upstream lands and roads within the Collins Highway 3 Drain watershed.
11. An engineering cost portion of \$6,000.00 for design provisions on the future replacement of the driveway portion of Bridge No. 14 has been assessed 50% against the abutting properties and the remaining 50% as an Outlet assessment to the upstream lands and roads. The engineering cost of \$2,000.00 for the hydrant portion has been assessed 100% against the Town of Tecumseh Public Works Department.
12. Road bridge replacement costs for Bridges No. 15 and 16 have been assessed 100% against the Ministry of Transportation under Section 26 of the Drainage Act and shall be a non-proratable assessment.
13. The purpose of the flared inlets recommended on Bridge Nos. 3 through 6 is to improve conveyance in the drain to meet MTO design standards and OSMP design criteria. We therefore assess the associated costs 50% against the MTO and 50% against the Town of Tecumseh Road Authority as a non-proratable Special Benefit assessment.

Collins Highway 3 Drain Branch

Assessment Rationale-Open Drain Improvements

We have assessed the above estimated costs for the repair and improvement of the Collins Highway 3 Drain Branch against the affected lands and roads listed in Schedule 'C-2' under "Benefit" and "Outlet Liability".

The above estimated costs have been assessed 50% as a Benefit assessment and 50% as an Outlet Liability assessment against all lands and roads within the drainage area.

Special Benefit assessments shown in Schedule 'C-2' and detailed in Schedule 'D-2' were derived as follows:

1. For tile main outlet repairs including stone erosion protection as required, at the location of the said main tile outlets, the Drainage Superintendent and/or Engineer may direct the contractor to make these repairs at the expense of the landowner. Private tile repairs shall be assessed 100% against the property on which the said tile exists.

2. Bank failure repairs caused by surface water inlets on abutting lands along this section of drain shall be assessed 100% to the abutting landowner if the failure is on the east side of the drain and 100% to the Road Authority if the failure is on the west side of the drain.
3. An engineering cost portion of \$1,500.00 for design provisions on the future replacement of Bridge No. 1B (McCord Lane) has been assessed 100% against the Town of Tecumseh under Section 26 of the Drainage Act and shall be a non-proratable assessment.

Utilities

It may become necessary to temporarily or permanently relocate utilities that may conflict with the construction recommended under this report. In accordance with Section 26 of the Drainage Act, we assess any relocation cost against the public utility having jurisdiction. Under Section 69 of the Drainage Act, the public utility is at liberty to do the work with its own forces, but if it should not exercise this option within a reasonable time, the Municipality will arrange to have this work completed and the costs will be charged to the appropriate public utility.

Collins Highway 3 Drain Future Maintenance

Open Drain

After completion, the Collins Highway 3 Drain shall be maintained by the Town of Tecumseh at the expense of the lands and road herein assessed in Schedule E-1,” and in the same relative proportions subject, of course, to any variations that may be made under the authority of the Drainage Act. The assessments are based on an arbitrary amount of \$20,000.00.

Access Bridges

We recommend that future work of repair and maintenance of the Collins Highway 3 Drain private access bridges be carried out by the Town of Tecumseh at the expense of the property or properties accessed by the bridge and of the lands and roads shown in Schedule ‘E-2,’ but only to those properties located upstream of each bridge.

Part of the maintenance cost of each bridge will be assessed as a Special Benefit assessment against the property or properties served by the bridge. The remainder of the maintenance cost will be assessed as Outlet assessment only to the lands and roads upstream of each bridge prorated to the assessments shown in Schedule ‘E-2.’ Where a bridge is shared between properties and/or there is a lawn enclosure portion, the representative lengths of culvert are identified in the table below. Future maintenance costs associated with the flared inlets recommended on Bridge Nos. 3 through 6 shall continue to be assessed in the same proportions as construction – 50% against the Town of Tecumseh Road Authority and 50% against the MTO. At the time when the upstream portion of Bridge No. 2 is replaced, a flared inlet is required and shall be assessed the same.

Schedule ‘E-2’ represents all the lands and roads upstream of Bridge No. 2 and is applicable to other primary access bridges located further upstream by including only those properties that are upstream of the said bridge. The assessment is based on an arbitrary amount of \$10,000.00 of future access bridge maintenance costs.

The division between Special Benefit and Outlet assessment for each bridge shall be as follows:

Bridge No.	Type	Owner(s)	Special Benefit	Outlet	MTO	Town of Tecumseh
2	Primary (9m)	Roll No. 490-03110	21%	50%	27%	2%
2	Enclosure (52m)	Roll No. 490-03110	46%	0%	52%	2%
2	Fire Hydrant Access	Town of Tecumseh Public Works (Section 26)	71%	0%	27%	2%
3	Primary	Roll No. 490-03010	25%	50%	25%	-
4	Fire Hydrant Access	Town of Tecumseh Public Works (Section 26)	75%	0%	25%	-
5	Primary	Roll No. 490-03000	21%	50%	27%	2%
6	Fire Hydrant Access	Town of Tecumseh Public Works (Section 26)	75%	0%	25%	-
7	Fire Hydrant Access	Town of Tecumseh Public Works (Section 26)	75%	0%	25%	-
8	Primary (15m)	Roll No. 490-02800	50%	50%	0%	-
8	Enclosure (19m)	Roll No. 490-02800	100%	0%	0%	-
8	Fire Hydrant Access (4m)	Town of Tecumseh Public Works (Section 26)	100%	0%	0%	-
9	Primary	Roll No. 490-02700	48%	50%	2%	-
10	Fire Hydrant Access	Town of Tecumseh Public Works (Section 26)	96%	0%	4%	-
11	Primary	Roll No. 490-02600	48%	50%	2%	-
12	Primary	Roll No. 490-02500	48%	50%	2%	-
13	Primary	Roll No. 490-02400	48%	50%	2%	-
14	Primary (9.8m)	Roll No. 490-02300	50%	50%	0%	-

Bridge No.	Type	Owner(s)	Special Benefit	Outlet	MTO	Town of Tecumseh
14	Enclosure (8.2m)	Roll No. 490-02300	100%	0%	0%	-
14	Primary (6.1m)	Roll No. 490-02200	50%	50%	0%	-
14	Enclosure (28.9m)	Roll No. 490-02200	100%	0%	0%	-
14	Primary (6.1m)	Roll No. 490-02100	50%	50%	0%	-
14	Enclosure (48.9m)	Roll No. 490-02100	100%	0%	0%	-
14	Fire Hydrant Access (11m)	Town of Tecumseh Public Works (Section 26)	100%	0%	0%	-
15	Extension	County of Essex (Section 26)	100%	0%	0%	-
16	Road	County of Essex (Section 26)	100%	0%	0%	-

Collins Highway 3 Drain Branch

Future Maintenance (Open Drain)

After completion, the Collins Highway 3 Drain Branch shall be maintained by the Town of Tecumseh at the expense of the lands and road herein assessed in Schedule C-2,” and in the same relative proportions subject, of course, to any variations that may be made under the authority of the Drainage Act and excluding any special benefit assessments.

Future Maintenance (McCord Lane Road Bridge)

We recommend that future work of repair and maintenance of Bridge No. 1B be carried out by the Town of Tecumseh and assessed 100% to Town of Tecumseh Road Authority under Section 26 of the Drainage Act.

Drawings and Specifications

Attached to this report is Schedule ‘F’, which are Specifications setting out the details of the recommended works and Schedule ‘G’ which represent the drawings that are attached to this report.

Page 1 of 14 - Overall Watershed Plan

Page 2 of 14 - Bridge Design Table

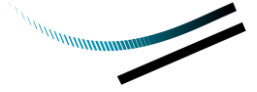
Page 3 of 14 - Profile 1

Page 4 of 14 - Profile 2

Page 5 of 14 - Cross Sections

Page 6 of 14 - Branch Profile

Page 7 of 14 - Residential Bridge Details
Page 8 of 14 - Bridge (Asphalt Surface) Details
Page 9 of 14 - Bridge (Arch/Asphalt Surface) Details
Page 10 of 14 - Bridge & Enclosure Details
Page 11 of 14 - Hydrant Bridge (Arch) Details
Page 12 of 14 - Road Bridge Details
Page 13 of 14 - Miscellaneous Details
Page 14 of 14 - Miscellaneous Details



Approvals

The construction and/or improvement to drainage works, including repair and maintenance activities, and all operations connected therewith are subject to the approval, inspection, by-laws and regulations of all Municipal, Provincial, Federal and other authorities having jurisdiction in respect to any matters embraced by the proposed works. Prior to any construction or maintenance works, the Municipality or proponent designated on the Municipality's behalf shall obtain all required approvals/permits and confirm any construction limitations including timing windows, mitigation/off-setting measures, standard practices or any other limitations related to in-stream works.

Grants

In accordance with the provisions of Sections 85, 86 and 87 of the Drainage Act, a grant in the amount of 33–1/3 percent of the assessment eligible for a grant may be made in respect to the assessment made under this report upon privately owned lands used for agricultural purposes.

The assessments levied against privately owned agricultural land must also satisfy all other eligibility criteria set out in the Agricultural Drainage Infrastructure Program policies. Most of the privately owned lands are used for agricultural purposes and are eligible under the A.D.I.P. policies. We are not aware of any lateral drains involved in this work that would not be eligible for a grant. We recommend that application be made to the Ontario Ministry of Agriculture and Food in accordance with Section 88 of the Drainage Act, for this grant, as well as for all other grants for which this work may be eligible. The privately owned lands are residential, industrial, commercial and municipal. There are no agricultural lands involved, and no grant is available.

Respectfully submitted,

DILLON CONSULTING LIMITED

Mark D. Hernandez, P.Eng.

MDH:prc:wlb:lld

October 20, 2014

NAME	ADDRESS	PHONE	EMAIL
JOHN Homenick	1970 Hwy 3	519-737-6362	john.homenick@SYMPATICO.ca
Greg Demers	1960 Hwy. 3	519-966- XXXX ⁴⁹¹¹	SILVERTEK.COM
DAN McCULLOCH	6555 MALDEN RD LASALLE	519-734-7575 EX-55	dan.mcculloch@rosatigroup.com
9.11 Mark R Bower	2060 3 Hwy	519-737-6469	NONE
SAM PAGLIA	TOWN OF TECUMSEH	735-2184	spaglia@tecumseh.ca
Chris Thibert	Dillon		Cthibert@dillon.ca
T. Jobin	4710 11th CONC.	735-9286	Council



ON-SITE QUESTIONNAIRE – Collins/Hwy #3 Drain

1. Please print your name MACK N BOWER
2. Please provide your parcel address so that we may confirm your location in the watershed
2060 #3 HWY OLDEASTLE
ZIP CODE NOR-120
3. Please provide us with a current contact phone number where you can be reached
519 737-6469
4. Please provide us with a current contact email address where you can be reached
NONE
5. Please provide us with your question or concern regarding drainage
PLEASE REMOVE ALL THE BRUSH, TREES, VEGETATION
FROM THE DITCH, FROM THE HYDRO LINES, OUT
TO #3 HWY. IN FRONT OF 2060 #3 HWY OLDEASTLE AT
MACK N BOWER HOME NOR-120 (attach additional pages and photos if required).

For further information on Municipal Drainage and the Rights and Responsibilities of the Landowner, visit the Ontario Ministry of Agriculture, Food, and Rural Affairs website at www.omafra.gov.on.ca.

Please bring this sheet with you to the onsite meeting where the engineer shall be present. Or you can mail, email or fax this complete questionnaire to:

Town of Tecumseh
Attention: Sam Paglia, B.A.Sc., E.I.
917 Lesperance Road
Tecumseh, ON
N8N 1W9
Email: spaglia@tecumseh.ca

Information collected will be used in accordance with the Freedom of information and Protection of Privacy Act. Unless otherwise stated in the submission, any personal information such as name, address and telephone number and property location included in all submissions will become part of the public record files for this project and may be included in the final report. ONLY

This document is available in alternate formats upon request.



ON-SITE QUESTIONNAIRE – Collins/Hwy #3 Drain

1. Please print your name 2068630 ONTARIO INC. (ROSATI)
2. Please provide your parcel address so that we may confirm your location in the watershed 5455 ROSCON DR.
3. Please provide us with a current contact phone number where you can be reached 519-734-7575 EXT. 55
4. Please provide us with a current contact email address where you can be reached dan.mcculloch@rosatigroup.com
5. Please provide us with your question or concern regarding drainage
HOW WILL THIS AFFECT OUR PROPERTY?
WILL THERE BE ANY NEW ASSESSMENTS LEVIED?
LOCAL IMPROVEMENT CHARGES?

(attach additional pages and photos if required).

For further information on Municipal Drainage and the Rights and Responsibilities of the Landowner, visit the Ontario Ministry of Agriculture, Food, and Rural Affairs website at www.omafra.gov.on.ca.

Please bring this sheet with you to the onsite meeting where the engineer shall be present. Or you can mail, email or fax this complete questionnaire to:

Town of Tecumseh
Attention: Sam Paglia, B.A.Sc., E.I.
917 Lesperance Road
Tecumseh, ON
N8N 1W9
Email: spaglia@tecumseh.ca

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This document is available in alternate formats upon request.



EO9 CO(12)

The Corporation of the



Public Works & Environmental Services

RECEIVED

JUN 01 2015

917 Lesperance Road
Tecumseh, ON
N8N 1W9

Phone (519) 735-2184
Fax (519) 735-6712
www.tecumseh.ca

To: Affected Property Owners and Agencies

Re: Duties Re Survey for the Collins/Hwy#3 Drain

This letter is provided to you as a courtesy advisement that work will be conducted on the affected lands for the **Collins/Hwy#3 Drain** improvements project.

Town Council at their regular council meeting on June 24, 2014 appointed Chris Thibert, P.Eng., of Dillon Consulting as the Drainage Engineer to examine and report on the drainage works for the Collins/Hwy#3 Drain. An on-site meeting was held on October 20, 2014 and it was indicated at that time that as part of the examination of the drain, the engineer would conduct surveying for the purpose of obtaining visual inspection, elevations and benchmarks for the Drain.


The Engineer has notified the Town that the examination and survey will be conducted beginning on May 28, 2015 and is likely to take several days to complete. It is advised that the engineer or any of his/her assistants is permitted under statute law to enter upon lands for the purpose of conducting works relating to a drainage project.

Please contact the Town if the Engineer or his/her assistants are not conducting themselves in a responsible and respectful manner, but please do not interfere with the workers as they conduct the necessary work.

The Sections of the Drainage Act which permit this activity are 12 and 13 inclusive. You can find out more information at the Ontario Ministry of Agriculture, Food and Rural Affairs website at: www.omafra.gov.on.ca

If you have any questions or concerns, please contact Sam Paglia at the Town of Tecumseh.

Thank you,


Sam Paglia B.A.Sc., E.I.
Drainage Superintendent
The Corporation of the Town of Tecumseh
Phone (519) 735-2184 - Ext 105
Fax (519) 735-6712
Cell (519) 818-0101

www.tecumseh.ca
spaglia@tecumseh.ca

RECEIVED

JUN 06 2015

Town of Tecumseh

QUESTIONNAIRE – Collins/Hwy #3 Drain

1. Please print your name Oscar Construction Company Limited

2. Please provide your parcel address so that we may confirm your location in the watershed 3075 Blackacre Drive
CONTR PT LOT 304 RP 12R10334 PART 16

3. Please provide us with a current contact phone number where you can be reached
(519) 737-0350

4. Please provide us with a current contact email address where you can be reached
oscarcst@mnsi.net

5. Please provide us with your question or concern regarding drainage

(attach additional pages and photos if required).

For further information on Municipal Drainage and the Rights and Responsibilities of the Landowner, visit the Ontario Ministry of Agriculture, Food, and Rural Affairs website at www.omafra.gov.on.ca.

Please email or mail the completed questionnaire to the Town Drainage Superintendent at the following contact information to assist in addressing all concerns related to this project.

Town of Tecumseh
Attention: Sam Paglia, B.A.Sc., E.I.
917 Lesperance Road
Tecumseh, ON
N8N 1W9
Email: spaglia@tecumseh.ca

Information collected will be used in accordance with the Freedom of Information and Protection of Privacy Act. Unless otherwise stated in the submission, any personal information such as name, address and telephone number and property location included in all submissions will become part of the public record files for this project and may be included in the final report.

This document is available in alternate formats upon request.



"SCHEDULE B"
SCHEDULE OF ALLOWANCES

COLLINS HIGHWAY 3 DRAIN
TOWN OF TECUMSEH

Roll No.	Con.	Description	Owner	Section 30 Damages	Section 29 Land	Total Allowances
490-03200	N.T.R.	S. Pt. Lot 305	Congregation of the Order Antonin Maronite in Ontario	\$0.00	\$3,000.00	\$3,000.00
490-01700	N.T.R.	Pt. Lot 302	Town of Tecumseh	\$1,200.00	\$0.00	\$1,200.00
TOTAL ALLOWANCES				\$1,200.00	\$3,000.00	\$4,200.00

"SCHEDULE C-1"
SCHEDULE OF ASSESSMENT
COLLINS HIGHWAY 3 DRAIN
TOWN OF TECUMSEH

ONTARIO LANDS:

Description	Area Affected		Owner	Special Benefit	Benefit	Outlet	Total Assessment
	(Acres)	(Ha.)					
Roll No. 490-02000	0.45	0.18	Ministry of Transportation	\$0.00	\$702.00	\$293.00	\$995.00
King's Highway No. 3	25.37	10.27	Ministry of Transportation	\$144,450.00	\$18,719.00	\$32,998.00	\$196,167.00
470-06500 STR N. Pt. Lot 303	5.09	2.06	Ministry of Transportation	\$0.00	\$271.00	\$2,942.00	\$3,213.00
Total on Ontario Lands.....				\$144,450.00	\$19,692.00	\$36,233.00	\$200,375.00

MUNICIPAL LANDS:

Description	Area Affected		Owner	Special Benefit	Benefit	Outlet	Total Assessment
	(Acres)	(Ha.)					
County Road No. 11 (Walker Road)	3.58	1.45	County of Essex	\$0.00	\$1,573.00	\$11,824.00	\$13,397.00
McCord Lane	1.35	0.55	Town of Tecumseh	\$0.00	\$362.00	\$4,553.00	\$4,915.00
Fasan Drive	3.49	1.41	Town of Tecumseh	\$75,354.00	\$928.00	\$3,005.00	\$79,287.00
Roscon Industrial Drive	2.15	0.87	Town of Tecumseh	\$0.00	\$573.00	\$802.00	\$1,375.00
Outer Drive Connector	0.20	0.08	Town of Tecumseh	\$0.00	\$136.00	\$71.00	\$207.00
Roll No. 490-01700	9.00	3.64	Town of Tecumseh	\$0.00	\$2,977.00	\$8,868.00	\$11,845.00
Roll No. 490-06901	5.00	2.02	Town of Tecumseh	\$0.00	\$1,982.00	\$6,455.00	\$8,437.00
Roll No. 490-03108	0.79	0.32	Town of Tecumseh	\$0.00	\$673.00	\$142.00	\$815.00
Total on Municipal Lands.....				\$75,354.00	\$9,204.00	\$35,720.00	\$120,278.00

PRIVATELY-OWNED - NON-AGRICULTURAL LANDS:

Roll No.	Con.	Description	Area Affected		Owner	Special Benefit	Benefit	Outlet	Total Assessment
			(Acres)	(Ha.)					
470-06000	STR	N. Pt. Lot	0.78	0.32	Roger & Karen Halden	\$0.00	\$101.00	\$523.00	\$624.00
470-06200	STR	N. Pt. Lot 303 RP12R14841 Pts.1,2 &6	0.53	0.21	Raymond H. Chase Jr.	\$0.00	\$82.00	\$1,000.00	\$1,082.00
470-06300	STR	N. Pt. Lot 303 RP12R14841 Pts. 3,4&5	2.32	0.94	Supersiding Inc.	\$0.00	\$145.00	\$1,558.00	\$1,703.00
470-06400	STR	N. Pt. Lot 303	0.64	0.26	Supersiding Inc.	\$0.00	\$68.00	\$738.00	\$806.00
470-08500	STR	N. Pt. Lot	0.40	0.16	2865211 Ontario Inc.	\$0.00	\$63.00	\$686.00	\$749.00
470-08600	STR	N. Pt. Lot	4.35	1.76	Maria Pap	\$0.00	\$232.00	\$2,514.00	\$2,746.00
470-08700	STR	N. Pt. Lot	1.07	0.43	Raymond Simrak	\$0.00	\$110.00	\$1,198.00	\$1,308.00
490-06900	NTR	Plan 1304 Pt. Blk A	0.49	0.20	360 Indoor Air Solutions Ltd.	\$0.00	\$296.00	\$844.00	\$1,140.00
490-07000	NTR	S. Pt. Lot 303 RP12R13656 Pts. 21&30	4.84	1.96	2854762 Ontario Inc.	\$0.00	\$258.00	\$2,812.00	\$3,070.00
490-07005	NTR	S. Pt. Lot 303 RP12R25005 Pt. 2 RP12R13656 Pt. 28	2.90	1.17	3-K Leasing Limited	\$0.00	\$158.00	\$1,751.00	\$1,909.00
490-07099	NTR	S. Pt. Lot 303 RP12R13656 Pts. 19&27	0.50	0.20	1001381556 Ontario Inc.	\$0.00	\$79.00	\$876.00	\$955.00

Roll No.	Con.	Description	Area Affected		Owner	Special Benefit	Benefit	Outlet	Total Assessment
			(Acres)	(Ha.)					
490-01750	NTR	Pt. Lot 302 Plan 1304 Pt. Blk A RP12R19608 Pts. 1,2&5	3.83	1.55	Essex Powerlines Corporation	\$0.00	\$500.00	\$5,424.00	\$5,924.00
490-01900	NTR	Plan 1304 Pt. Blk A RP12R4348 Pt. 1	1.45	0.59	360 Indoor Air Solutions Ltd.	\$0.00	\$190.00	\$2,065.00	\$2,255.00
490-06800	NTR	S. Pt. Lot 303 RP12R674 Pts. 2 & 3	0.66	0.27	Mihaela & Dorin Zegrean	\$0.00	\$94.00	\$1,026.00	\$1,120.00
490-02100	NTR	S. Pt. Lot 303	1.51	0.61	Ion & Elena Zegrean	\$1,786.00	\$120.00	\$1,301.00	\$3,207.00
490-06700	NTR	S. Pt. Lot 303	0.72	0.29	Stephan J. Kovacs	\$0.00	\$97.00	\$1,060.00	\$1,157.00
490-02200	NTR	S. Pt. Lot 303	1.27	0.51	Matthew S. Wade	\$1,786.00	\$362.00	\$1,266.00	\$3,414.00
490-02300	NTR	S. Pt. Lot 303	1.74	0.70	Pannu Durlabjiti	\$1,786.00	\$567.00	\$1,374.00	\$3,727.00
490-02400	NTR	S. Pt. Lot 303	0.44	0.18	Michael & Rachael Iacaban	\$12,286.00	\$293.00	\$637.00	\$13,216.00
490-02500	NTR	S. Pt. Lot 303	1.22	0.49	Gaby Tannous	\$11,696.00	\$338.00	\$912.00	\$12,946.00
490-06500	NTR	S. Pt. Lot 303 RP12R16244 Pt. Pt. 2	2.70	1.09	Richard W. & Kimberly C. Laforet	\$0.00	\$154.00	\$1,679.00	\$1,833.00
490-06600	NTR	S. Pt. Lot 303 RP12R16244 Pt. Pt. 1	4.18	1.69	2361269 Ontario Inc.	\$0.00	\$223.00	\$2,422.00	\$2,645.00
490-02600	NTR	S. Pt. Lots 303 & 304	1.54	0.62	Beniamin & Anda Zegrean	\$26,668.00	\$766.00	\$681.00	\$28,115.00
490-02700	NTR	S. Pt. Lot 304 RP12R19199 Pt. 1	1.50	0.61	John Homeniuk	\$11,369.00	\$332.00	\$534.00	\$12,235.00
490-06309	NTR	Pt. Lot 304 RP12R29494 Pt. 59	1.57	0.64	Carpenters Training Centre Windsor Incorporated	\$0.00	\$123.00	\$399.00	\$522.00
490-06313	NTR	Pt. Lot 304 RP12R29494 Pt. 60	2.07	0.84	Carpenters Training Centre Windsor Incorporated	\$0.00	\$136.00	\$441.00	\$577.00
490-06314	NTR	Pt. Lot 304 RP12R29494 Pt. 61	2.00	0.81	Carpenters Training Centre Windsor Incorporated	\$0.00	\$133.00	\$432.00	\$565.00
490-06311	NTR	Lot 304 RP12R10334 Pts. 57&58	4.33	1.75	Tri-Liuna Labourers' Local 625 Training Centre	\$0.00	\$611.00	\$1,977.00	\$2,588.00
490-02800	NTR	S. Pt. Lot 304	2.00	0.81	1859380 Ontario Ltd.	\$1,000.00	\$554.00	\$953.00	\$2,507.00
490-06315	NTR	Lot 304 RP12R10334 Pt. 56	1.26	0.51	981204 Ontario Limited	\$0.00	\$179.00	\$617.00	\$796.00
490-06316	NTR	Lot 304 RP12R10334 Pt. 55	1.00	0.40	981204 Ontario Limited	\$0.00	\$53.00	\$170.00	\$223.00
490-06318	NTR	Pt Lot 304 RP12R10334 Pts. 53&54	2.00	0.81	Sernacon Holdings Inc.	\$0.00	\$337.00	\$1,091.00	\$1,428.00
490-06319	NTR	Lot 304 RP12R10334 Pt. 52	1.00	0.40	Sernacon Holdings Inc.	\$0.00	\$120.00	\$387.00	\$507.00
490-06320	NTR	Lot 304 RP12R10334 Pt. 51	1.00	0.40	Dorod Holdings (Windsor) Limited	\$0.00	\$180.00	\$583.00	\$763.00
490-06321	NTR	Lot 304 RP12R10334 Pt. 50	1.00	0.40	5009628 Ontario Inc	\$0.00	\$116.00	\$375.00	\$491.00

Roll No.	Con.	Description	Area Affected (Acres) (Ha.)		Owner	Special Benefit	Benefit	Outlet	Total Assessment
490-06322	NTR	Lot 304 RP12R10334 Pt. 49	1.00	0.40	Mid Century Classic Ltd.	\$0.00	\$137.00	\$443.00	\$580.00
490-06324	NTR	Lot 304 RP12R10334 Pt. 48	1.00	0.40	Nomad Services Inc.	\$0.00	\$117.00	\$378.00	\$495.00
490-06325	NTR	Lot 304 RP12R10334 Pt. 47	1.00	0.40	Nomad Services Inc.	\$0.00	\$53.00	\$170.00	\$223.00
490-06326	NTR	Lot 304 RP12R10334 Pt. 46	1.80	0.73	1432351 Ontario Inc.	\$0.00	\$235.00	\$759.00	\$994.00
490-06363	NTR	Lot 304 RP12R10334 Pt. 28	1.10	0.45	981204 Ontario Ltd.	\$0.00	\$172.00	\$556.00	\$728.00
490-06362	NTR	Pt. Lot 304 RP12R10334 Pt. 29	0.88	0.36	Titan Mold Inc.	\$0.00	\$155.00	\$503.00	\$658.00
490-06361	NTR	Lot 304 RP12R10334 Pt. 30	0.74	0.30	939405 Ontario Inc.	\$0.00	\$176.00	\$569.00	\$745.00
490-06360	NTR	Pt Lot 304 RP12R10334 Pt. 31	0.80	0.32	939405 Ontario Inc.	\$0.00	\$190.00	\$614.00	\$804.00
490-06359	NTR	Lot 304 RP12R10334 Pt. 32	0.80	0.32	1741071 Ontario Inc.	\$0.00	\$107.00	\$348.00	\$455.00
490-06358	NTR	Lot 304 RP12R10334 Pt. 33	1.00	0.40	Aleksandar Stevanov	\$0.00	\$122.00	\$396.00	\$518.00
490-06357	NTR	Lot 304 RP12R10334 Pt. 34	1.00	0.40	Three Star Mold Finishing	\$0.00	\$53.00	\$170.00	\$223.00
490-06356	NTR	Lot 304 RP12R10334 Pt. 35	1.00	0.40	2607573 Ontario Limited	\$0.00	\$53.00	\$170.00	\$223.00
490-06355	NTR	Lot 304 RP12R10334 Pt. 36	1.03	0.42	True Phantom Solutions Inc	\$0.00	\$149.00	\$483.00	\$632.00
490-06354	NTR	Lot 304 RP12R10334 Pt. 37	1.00	0.40	1775938 Ontario Inc	\$0.00	\$208.00	\$673.00	\$881.00
490-06353	NTR	Lot 304 RP12R10334 Pt. 38	1.03	0.42	5009628 Ontario Inc	\$0.00	\$163.00	\$528.00	\$691.00
490-06351	NTR	Lot 304 RP12R10334 Pts. 39&40	2.07	0.84	Sernacon Holdings Inc.	\$0.00	\$327.00	\$1,060.00	\$1,387.00
490-06350	NTR	Lot 304 RP12R10334 Pt. 41	1.03	0.42	1580724 Ontario Inc.	\$0.00	\$222.00	\$718.00	\$940.00
490-06349	NTR	Lot 304 RP12R10334 Pt. 42	1.03	0.42	Etch-Tech Inc.	\$0.00	\$169.00	\$546.00	\$715.00
490-06348	NTR	Pt. Lot 304 RP12R10334 Pt. 43	1.00	0.40	2089792 Ontario Limited	\$0.00	\$129.00	\$418.00	\$547.00
490-06347	NTR	Pt. Lot 304 RP12R10334 Pt. 44	1.00	0.40	Mid Century Classic Ltd.	\$0.00	\$187.00	\$607.00	\$794.00

Roll No.	Con.	Description	Area Affected (Acres) (Ha.)		Owner	Special Benefit	Benefit	Outlet	Total Assessment
490-06346	NTR	Lot 304 RP12R10334 Pt. 45	1.32	0.53	1118531 Ontario Inc.	\$0.00	\$258.00	\$836.00	\$1,094.00
490-03000	NTR	S. Pt. Lot 305 RP12R6818 Pt. 2	15.27	6.18	Cards 5 Corporation	\$15,534.00	\$1,891.00	\$2,355.00	\$19,780.00
490-03010	NTR	Pt. Lot 305 RP12R22851 Pt. 1	1.86	0.75	Christopher H. & Christine A. Loop	\$15,154.00	\$775.00	\$272.00	\$16,201.00
490-03001	NTR	Pt. Lot 305 RP12R24676 Pt. 3	9.31	3.77	Westco Windsor Inc.	\$0.00	\$993.00	\$1,826.00	\$2,819.00
490-03005	NTR	Pt. Lot 305 RP12R24676 Pt. 1	2.51	1.02	Westco Windsor Inc.	\$0.00	\$823.00	\$284.00	\$1,107.00
490-03110	NTR	Pt. Lot 305 RP12R15741 Pt. 1	2.62	1.06	1000033594 Ontario Limited	\$51,830.00	\$785.00	\$252.00	\$52,867.00
490-03106	NTR	Pt. Lot 305 RP12R18145 Pts. 1-9	4.50	1.82	1382229 Ontario Limited	\$0.00	\$719.00	\$1,007.00	\$1,726.00
490-03105	NTR	Pt. Lot 305 RP12R18145 Pts. 3&12	1.19	0.48	Levden Management Inc	\$0.00	\$171.00	\$239.00	\$410.00
490-03103	NTR	Pt. Lot 305 RP12R18145 Pts. 4,5,13&14	2.39	0.97	1808250 Ontario Limited	\$0.00	\$358.00	\$501.00	\$859.00
490-03102	NTR	Pt. Lot 305 RP12R18145 Pts. 6&15	1.19	0.48	DAP Holdings Limited	\$0.00	\$63.00	\$89.00	\$152.00
490-03101	NTR	Pt. Lot 305 RP12R18145 Pts. 7 & 16	1.19	0.48	2443176 Ontario Limited	\$0.00	\$173.00	\$243.00	\$416.00
490-03200	NTR	S. Pt. Lot 305 RP12R11182 Pt. 5	0.80	0.32	Congregation of the Order Antonin Maronite in Ontario	\$1,311.00	\$1,112.00	\$290.00	\$2,713.00

Total on Privately-Owned - Non-Agricultural Lands..... \$152,206.00 \$19,415.00 \$60,609.00 \$232,230.00

SECTION 26 INCREASED COSTS - NON PRO-RATABLE

Roll No.	Con.	Description	Owner	Special Benefit	Benefit	Outlet	Total Assessment
			Town of Tecumseh Public Works Department	\$40,687.00	\$0.00	\$0.00	\$40,687.00
			Town of Tecumseh Road Authority	\$7,141.00	\$0.00	\$0.00	\$7,141.00
			Ministry of Transportation	\$239,789.00	\$0.00	\$0.00	\$239,789.00
			Union Gas Limited	\$600.00	\$0.00	\$0.00	\$600.00
			Bell Canada	\$600.00	\$0.00	\$0.00	\$600.00

Total Section 26 Increased Costs (Non Pro-ratable)..... \$288,817.00 \$0.00 \$0.00 \$288,817.00

TOTAL ASSESSMENT \$660,827.00 \$48,311.00 \$132,562.00 \$841,700.00

(Acres) (Ha.)

Total Area: 182.74 73.89

"SCHEDULE C-2"
SCHEDULE OF ASSESSMENT
COLLINS HIGHWAY 3 DRAIN BRANCH
TOWN OF TECUMSEH

MUNICIPAL LANDS:

Description	Area Affected		Owner	Special Benefit	Benefit	Outlet	Total Assessment
	(Acres)	(Ha.)					
County Road No. 11 (Walker Road)	0.80	0.32	County of Essex	\$0.00	\$1,724.00	\$1,561.00	\$3,285.00
Roll No. 490-01700	0.11	0.04	Town of Tecumseh	\$0.00	\$487.00	\$44.00	\$531.00
Roll No. 490-06901	0.33	0.13	Town of Tecumseh	\$1,000.00	\$590.00	\$233.00	\$1,823.00
Total on Municipal Lands.....				\$1,000.00	\$2,801.00	\$1,838.00	\$5,639.00

PRIVATELY-OWNED - NON-AGRICULTURAL LANDS:

Roll No.	Con.	Description	Area Affected		Owner	Special Benefit	Benefit	Outlet	Total Assessment
			(Acres)	(Ha.)					
490-07000	NTR	S Pt Lot 303 RP12R13656 Pts. 21&30	4.84	1.96	2854762 Ontario Inc.	\$0.00	\$949.00	\$1,912.00	\$2,861.00
Total on Privately-Owned - Non-Agricultural Lands.....						\$0.00	\$949.00	\$1,912.00	\$2,861.00

SECTION 26 INCREASED COSTS - NON PRO-RATABLE

Roll No.	Con.	Description	Owner	Special Benefit	Benefit	Outlet	Total Assessment
McCord Lane			Town of Tecumseh Road Authority	\$1,500.00	\$0.00	\$0.00	\$1,500.00
Total Section 26 Increased Costs (Non Pro-ratable.....				\$1,500.00	\$0.00	\$0.00	\$1,500.00

TOTAL ASSESSMENT				\$2,500.00	\$3,750.00	\$3,750.00	\$10,000.00
		(Acres)	(Ha.)				
	Total Area:	6.08	2.45				

"SCHEDULE D-1"
DETAILS OF SPECIAL BENEFIT
COLLINS HIGHWAY 3 DRAIN
TOWN OF TECUMSEH

SPECIAL BENEFIT ASSESSMENT
(GENERAL DESCRIPTION OF SPECIAL BENEFIT)

Roll No.	Owner	Item Description	Estimated Cost	Cost of Report	Special Benefit
490-03200	Congregation of the Order Antonin Maronite in Ontario	<u>Bridge No. 1</u> - Station 0+107A - Remove and dispose of existing 5.6 m long, 1000 mm diameter CSP culvert and end wall materials off-site, including restoration and seeding of drain banks. (50%)	\$1,000.00	\$311.00	\$1,311.00
490-03110	1000033594 Ontario Limited	<u>Bridge No. 2</u> - Station 0+290A - Bridge replacement costs 9 m long, 1500 mm diameter aluminized UltraFlo spiral rib steel pipe complete w/ sloping stone end wall. (50%)	\$5,950.00	\$1,847.00	\$7,797.00
		<u>Bridge No. 2</u> - Asphalt driveway surface restoration. (100%)	\$2,100.00	\$652.00	\$2,752.00
		<u>Bridge No. 2 Lawn Enclosure</u> - Supply & install a new 16 m, 1500 mm diameter aluminized UltraFlo spiral rib steel pipe. (100%)	\$21,000.00	\$6,521.00	\$27,521.00
		Supply, installation and connection of precast concrete junction box to ex. conc. box culvert (50%)	\$10,500.00	\$3,260.00	\$13,760.00
		Total Special Benefit - Roll No. 490-03110	\$39,550.00	\$12,280.00	\$51,830.00
490-03010	Christopher H. & Christine A. Loop	<u>Bridge No. 3</u> - Station 0+490A - Bridge replacement costs 14 m long, 1780x1360 mm aluminized corrugated steel pipe arch complete w/ sloping stone end walls. (50%)	\$7,963.00	\$2,473.00	\$10,436.00
		<u>Bridge No. 3</u> - Concrete driveway surface restoration. (100%)	\$3,600.00	\$1,118.00	\$4,718.00
		Total Special Benefit - Roll No. 490-03010	\$11,563.00	\$3,591.00	\$15,154.00
490-03000	Cards 5 Corporation	<u>Bridge No. 5</u> - Station 0+582A - Bridge replacement costs 20 m long, 1350 mm dia. aluminized Ultra Flo spiral rib steel pipe complete w/ sloping stone end walls. (50%)	\$8,000.00	\$2,484.00	\$10,484.00
		<u>Bridge No. 5</u> - Asphalt driveway surface restoration. (100%)	\$4,300.00	\$750.00	\$5,050.00
		Total Special Benefit - Roll No. 490-03000	\$12,300.00	\$3,234.00	\$15,534.00
490-02800	1859380 Ontario Ltd.	<u>Bridge No. 8</u> - Station 1+130A (Future Replacement) (50%)	\$0.00	\$1,000.00	\$1,000.00
490-02700	John Homeniuk	<u>Bridge No. 9</u> - Station 1+355A - Bridge replacement costs 15 m long, 1000 mm diameter aluminized corrugated steel pipe complete w/ sloping stone end walls (50%)	\$8,675.00	\$2,694.00	\$11,369.00
490-02600	Benjamin & Anda L. Zegrean	<u>Bridge No. 11</u> - Station 1+425A - Bridge replacement costs 14 m long, 1000 mm diameter aluminized corrugated steel pipe complete w/ sloping stone end walls. (50%)	\$10,550.00	\$3,276.00	\$13,826.00
		<u>Bridge No. 11</u> - Asphalt driveway surface restoration (100%)	\$2,900.00	\$900.00	\$3,800.00
		<u>Bridge No. 11 Lawn Enclosure</u> - Supply & install a new 11 m, 1000 mm diameter aluminized corrugated steel pipe (100%)	\$6,900.00	\$2,142.00	\$9,042.00
		Total Special Benefit - Roll No. 490-02600	\$20,350.00	\$6,318.00	\$26,668.00

Roll No.	Owner	Item Description	Estimated Cost	Cost of Report	Special Benefit
490-02500	Gaby Tannous	<u>Bridge No. 12</u> - Station 1+460A - Bridge replacement costs 15 m long, 1000 mm diameter aluminized corrugated steel pipe complete w/ sloping stone end walls. (50%)	\$8,925.00	\$2,771.00	\$11,696.00
490-02400	Michael & Rachael Iacoban	<u>Bridge No. 13</u> - Station 1+460A - Bridge replacement costs 15 m long, 1000 mm diameter aluminized corrugated steel pipe complete w/ sloping stone end walls. (50%)	\$9,375.00	\$2,911.00	\$12,286.00
490-02300	Pannu Durlabjitt	<u>Bridge No. 14</u> - Station 1+605A (Future Replacement (50%)) Supply & installation of sloping stone end wall (approx. 40 m ²) on west end of Bridge No. 14 c/w filter fabric underlay. (50%)	\$0.00 \$600.00	\$1,000.00 \$186.00	\$1,000.00 \$786.00
Total Special Benefit - Roll No. 490-02300			\$600.00	\$1,186.00	\$1,786.00
490-02200	Matthew S. Wade	<u>Bridge No. 14</u> - Station 1+605A (Future Replacement (50%)) Supply & installation of sloping stone end wall (approx. 40 m ²) on west end of Bridge No. 14 c/w filter fabric underlay. (50%)	\$0.00 \$600.00	\$1,000.00 \$186.00	\$1,000.00 \$786.00
Total Special Benefit - Roll No. 490-02200			\$600.00	\$1,186.00	\$1,786.00
490-02100	Ion & Elena Zegrean	<u>Bridge No. 14</u> - Station 1+605A (Future Replacement (50%)) Supply & installation of sloping stone end wall (approx. 40 m ²) on west end of Bridge No. 14 c/w filter fabric underlay. (50%)	\$0.00 \$600.00	\$1,000.00 \$186.00	\$1,000.00 \$786.00
Total Special Benefit - Roll No. 490-02100			\$600.00	\$1,186.00	\$1,786.00
King's Hwy. No. 3	Ministry of Transportation	<u>Bridge No. 1</u> - Station 0+107A - -Remove and dispose of existing 5.6 m long, 1000 mm diameter CSP culvert and end wall materials off-site, including restoration and seeding of drain banks. (50%)	\$1,000.00	\$311.00	\$1,311.00
	Ministry of Transportation	<u>Bridge No. 2</u> - Station 0+290A - Cost Apportionment includes: Increased cost for high capacity spiral rib pipe (50%) -Increased cost for 10-year capacity (100%) -Supply & installation of precast junction box (50%)	\$12,500.00	\$3,881.00	\$16,381.00
	Ministry of Transportation	<u>Bridge No. 3</u> - Station 0+490A - Cost Apportionment includes: Increased cost for high capacity spiral rib pipe (50%) -Increased cost for 10-year capacity (100%) -Cost for premature replacement of pipe (100%)	\$12,375.00	\$3,842.00	\$16,217.00
	Ministry of Transportation	<u>Bridge No. 3</u> - Station 0+490A - Flared Inlet End Section (50%)	\$3,000.00	\$932.00	\$3,932.00
	Ministry of Transportation	<u>Bridge No. 5</u> - Station 0+582A - Cost Apportionment includes: Increased cost for high capacity spiral rib pipe (50%) -Increased cost for 10-year capacity (100%) -Cost for premature replacement of pipe (100%)	\$14,000.00	\$4,347.00	\$18,347.00
	Ministry of Transportation	<u>Bridge No. 5</u> - Station 0+582A - Flared Inlet End Section (50%)	\$2,500.00	\$776.00	\$3,276.00
	Ministry of Transportation	<u>Bridge No. 9</u> - Station 1+355A - Cost Apportionment includes: Increased cost for 10-year capacity (100%)	\$750.00	\$233.00	\$983.00

Roll No.	Owner	Item Description	Estimated Cost	Cost of Report	Special Benefit
	Ministry of Transportation	<u>Bridge No. 11</u> - Station 1+425A - Cost Apportionment includes: Increased cost for 10-year capacity (100%)	\$1,250.00	\$388.00	\$1,638.00
	Ministry of Transportation	<u>Bridge No. 12</u> - Station 1+460A - Cost Apportionment includes: Increased cost for 10-year capacity (100%)	\$750.00	\$233.00	\$983.00
	Ministry of Transportation	<u>Bridge No. 13</u> - Station 1+460A - Cost Apportionment includes: Increased cost for 10-year capacity (100%)	\$750.00	\$233.00	\$983.00
	Ministry of Transportation	Station 0+683A - Supply and install 15 m ² (300 mm thick) of stone erosion protection (SEP) including	\$1,450.00	\$450.00	\$1,900.00
	Ministry of Transportation	Costs associated with deepening drain Station 0+000A to Station 0+264A (50%).	\$20,500.00	\$6,365.00	\$26,865.00
	Ministry of Transportation	Costs associated with deepening drain Station 0+320A to Station 0+821A (50%).	\$29,500.00	\$9,160.00	\$38,660.00
	Ministry of Transportation	Costs associated with deepening drain Station 0+821A to Station 1+114A.	\$9,900.00	\$3,074.00	\$12,974.00
Total Special Benefit - Ministry of Transportation (King's Highway No. 3)			\$110,225.00	\$34,225.00	\$144,450.00
Fasan Drive	Town of Tecumseh Road Authority	<u>Bridge No. 2</u> - Station 0+290A - Cost Apportionment includes: Increased cost for high capacity spiral rib pipe (50%)	\$2,000.00	\$621.00	\$2,621.00
	Town of Tecumseh Road Authority	<u>Bridge No. 3</u> - Station 0+490A - Flared Inlet End Section (50%)	\$3,000.00	\$932.00	\$3,932.00
	Town of Tecumseh Road Authority	<u>Bridge No. 5</u> - Station 0+582A - Flared Inlet End Section (50%)	\$2,500.00	\$776.00	\$3,276.00
	Town of Tecumseh Road Authority	Costs associated with deepening drain Station 0+000A to Station 0+264A (50%).	\$20,500.00	\$6,365.00	\$26,865.00
	Town of Tecumseh Road Authority	Costs associated with deepening drain Station 0+320A to Station 0+821A (50%).	\$29,500.00	\$9,160.00	\$38,660.00
Total Special Benefit - Town of Tecumseh Road Department (Fasan Drive)			\$57,500.00	\$17,854.00	\$75,354.00
Total Special Benefit Assessment (Excl. Non Pro-Ratable Costs).....			\$281,263.00	\$90,747.00	\$372,010.00

SPECIAL BENEFIT ASSESSMENT
(SECTION 26 - NON PRO-RATABLE COSTS)

Roll No.	Owner	Item Description	Estimated Cost	Cost of Report	Special Benefit
	Town of Tecumseh Public Works Department	<u>Bridge No. 4</u> - Station 0+515A - Bridge replacement costs for fire hydrant access bridge 9.0 m long, 1780 x 1360 mm aluminized corrugated steel pipe arch complete w/ sloping stone end walls. (100%)	\$8,000.00	\$2,201.00	\$10,201.00
	Town of Tecumseh Public Works Department	<u>Bridge No. 6</u> - Station 0+620A - Bridge replacement costs for fire hydrant access bridge 8.5 m long, 1550 x 1200 mm aluminized corrugated steel pipe arch complete w/ sloping stone end walls. (100%)	\$6,550.00	\$1,802.00	\$8,352.00
	Town of Tecumseh Public Works Department	<u>Bridge No. 7</u> - Station 0+825A - Bridge replacement costs for fire hydrant access bridge 8.0 m long, 1000 mm diameter aluminized corrugated steel pipe complete w/ sloping stone end walls. (100%)	\$5,900.00	\$1,624.00	\$7,524.00
	Town of Tecumseh Public Works Department	<u>Bridge No. 8</u> - Station 1+130A - (Hydrant Future Replacement) (100%)	\$0.00	\$2,000.00	\$2,000.00

Roll No.	Owner	Item Description	Estimated Cost	Cost of Report	Special Benefit
	Town of Tecumseh Public Works Department	<u>Bridge No. 10</u> - Station 1+380A - Bridge replacement costs for fire hydrant access 10.0 m long, 1000 mm diameter aluminized corrugated steel pipe complete w/ sloping stone end walls. (100%)	\$7,850.00	\$2,160.00	\$10,010.00
	Town of Tecumseh Public Works Department	<u>Bridge No. 14</u> - Station 1+605A (Future Replacement hydrant access (100%)	\$0.00	\$2,000.00	\$2,000.00
	Town of Tecumseh Public Works Department	Co-ordination with Town of Tecumseh Public Works Department to facilitate locates of any existing underground waterlines.	\$600.00	\$0.00	\$600.00
Total Special Benefit - Town of Tecumseh Public Works Department			\$28,900.00	\$11,787.00	\$40,687.00
Fasan Drive	Town of Tecumseh Road Authority	<u>Bridge No. 4</u> - Station 0+515A - Flared inlet end section (50%)	\$3,000.00	\$826.00	\$3,826.00
Fasan Drive	Town of Tecumseh Road Authority	<u>Bridge No. 6</u> - Station 0+620A - Flared inlet end section (50%)	\$2,600.00	\$715.00	\$3,315.00
Total Special Benefit - Town of Tecumseh Authority			\$5,600.00	\$1,541.00	\$7,141.00
County Road No. 11 Walker Road	Ministry of Transportation	<u>Bridge No. 15</u> - Station 1+750A - Bridge replacement costs 58 m long, 900 mm diameter concrete pipe complete w/ sloping stone end walls. (100%)	\$65,000.00	\$17,886.00	\$82,886.00
County Road No. 11 Walker Road	Ministry of Transportation	<u>Manhole No. 1</u> - 2400 mm dia.	\$17,300.00	\$4,761.00	\$22,061.00
County Road No. 11 Walker Road	Ministry of Transportation	<u>Bridge No. 16</u> - Station 1+790A - Bridge replacement costs 33 m long, 900 mm diameter concrete pipe complete w/ sloping stone end walls and asphalt restoration. (100%)	\$83,000.00	\$22,840.00	\$105,840.00
County Road No. 11 Walker Road	Ministry of Transportation	Traffic Control in accordance with OTM Book 7	\$10,000.00	\$2,752.00	\$12,752.00
	Ministry of Transportation	<u>Bridge No. 4</u> - Station 0+515A - Cost Apportionment includes: Increased cost for 10-year capacity (100%)	\$3,400.00	\$1,056.00	\$4,456.00
	Ministry of Transportation	<u>Bridge No. 4</u> - Station 0+515A - Flared inlet end section (50%)	\$3,000.00	\$932.00	\$3,932.00
	Ministry of Transportation	<u>Bridge No. 6</u> - Station 0+620A - Cost Apportionment includes: Increased cost for 10-year capacity (100%)	\$2,500.00	\$776.00	\$3,276.00
	Ministry of Transportation	<u>Bridge No. 6</u> - Station 0+620A - Flared inlet end section (50%)	\$2,600.00	\$807.00	\$3,407.00
	Ministry of Transportation	<u>Bridge No. 7</u> - Station 0+825A - Cost Apportionment includes: Increased cost for 10-year capacity (100%)	\$400.00	\$124.00	\$524.00
	Ministry of Transportation	<u>Bridge No. 10</u> - Station 1+380A - Cost Apportionment includes: Increased cost for 10-year capacity (100%)	\$500.00	\$155.00	\$655.00
Total Special Benefit - Ministry of Transportation			\$187,700.00	\$52,089.00	\$239,789.00
Public Utility	Union Gas Limited	Co-ordination with Union Gas Ltd. to facilitate locates of any existing underground pipe lines.	\$600.00	\$0.00	\$600.00
Public Utility	Bell Canada	Co-ordination with Bell to facilitate locates of any existing underground utilities.	\$600.00	\$0.00	\$600.00
Total Special Benefit Assessment (Non Pro-Ratable Costs)			\$223,400.00	\$65,417.00	\$288,817.00
OVERALL TOTAL SPECIAL BENEFIT ASSESSMENT					\$660,827.00

"SCHEDULE D-2"
DETAILS OF SPECIAL BENEFIT
COLLINS HIGHWAY 3 DRAIN BRANCH
TOWN OF TECUMSEH

Roll No.	Owner	Item Description	Estimated Cost	Cost of Report	Special Benefit
490-06901	Town of Tecumseh	Station 0+144B - Supply and installation of stone erosion protection (SEP) including new filter fabric underlay at the location of existing surface swale on east bank.	\$800.00	\$200.00	\$1,000.00
Total Special Benefit Assessment (Excl. Non Pro-Ratable Costs).....			\$800.00	\$200.00	\$1,000.00

SPECIAL BENEFIT ASSESSMENT
(SECTION 26 - NON PRO-RATABLE COSTS)

Roll No.	Owner	Item Description	Estimated Cost	Cost of Report	Special Benefit
McCord Lane	Town of Tecumseh Road Authority	<u>Bridge No. 1B</u> - Station 1+196B (Future Replacement road access (100%))	\$0.00	\$1,500.00	\$1,500.00
Total Special Benefit Assessment (Non Pro-Ratable Costs).....			\$0.00	\$1,500.00	\$1,500.00
OVERALL TOTAL SPECIAL BENEFIT ASSESSMENT					\$2,500.00

"SCHEDULE E-1"
SCHEDULE OF ASSESSMENT FOR FUTURE MAINTENANCE (OPEN DRAIN)
COLLINS HIGHWAY 3 DRAIN
TOWN OF TECUMSEH

ONTARIO LANDS:

Description	Area Affected		Owner	Special Benefit	Benefit	Outlet	Total Assessment
	(Acres)	(Ha.)					
Roll No. 490-02000	0.45	0.18	Ministry of Transportation	\$0.00	\$145.00	\$11.00	\$156.00
King's Highway No. 3	25.37	10.27	Ministry of Transportation	\$0.00	\$3,878.00	\$3,254.00	\$7,132.00
470-06500 STR N. Pt. Lot 303	5.09	2.06	Ministry of Transportation	\$0.00	\$56.00	\$128.00	\$184.00
Total on Ontario Lands.....				\$0.00	\$4,079.00	\$3,393.00	\$7,472.00

MUNICIPAL LANDS:

Description	Area Affected		Owner	Special Benefit	Benefit	Outlet	Total Assessment
	(Acres)	(Ha.)					
County Road No. 11 (Walker Road)	3.58	1.45	County of Essex	\$0.00	\$327.00	\$461.00	\$788.00
McCord Lane	1.35	0.55	Town of Tecumseh	\$0.00	\$75.00	\$189.00	\$264.00
Fasan Drive	3.49	1.41	Town of Tecumseh	\$0.00	\$192.00	\$330.00	\$522.00
Roscon Industrial Drive	2.15	0.87	Town of Tecumseh	\$0.00	\$119.00	\$166.00	\$285.00
Outer Drive Connector	0.20	0.08	Town of Tecumseh	\$0.00	\$28.00	\$15.00	\$43.00
Roll No. 490-01700	9.00	3.64	Town of Tecumseh	\$0.00	\$616.00	\$340.00	\$956.00
Roll No. 490-06901	5.00	2.02	Town of Tecumseh	\$0.00	\$410.00	\$268.00	\$678.00
Roll No. 490-03108	0.79	0.32	Town of Tecumseh	\$0.00	\$139.00	\$29.00	\$168.00
Total on Municipal Lands.....				\$0.00	\$1,906.00	\$1,798.00	\$3,704.00

PRIVATELY-OWNED - NON-AGRICULTURAL LANDS:

Roll No.	Con.	Description	Area Affected		Owner	Special Benefit	Benefit	Outlet	Total Assessment
			(Acres)	(Ha.)					
470-06000	STR	N. Pt. Lot	0.78	0.32	Roger & Karen Halden	\$0.00	\$21.00	\$43.00	\$64.00
470-06200	STR	N. Pt. Lot 303 RP12R14841 Pts.1,2 &6	0.53	0.21	Raymond H. Chase Jr.	\$0.00	\$17.00	\$37.00	\$54.00
470-06300	STR	N. Pt. Lot 303 RP12R14841 Pts. 3,4&5	2.32	0.94	Supersiding Inc.	\$0.00	\$30.00	\$66.00	\$96.00
470-06400	STR	N. Pt. Lot 303	0.64	0.26	Supersiding Inc.	\$0.00	\$14.00	\$31.00	\$45.00
470-08500	STR	N. Pt. Lot	0.40	0.16	2865211 Ontario Inc.	\$0.00	\$13.00	\$30.00	\$43.00
470-08600	STR	N. Pt. Lot	4.35	1.76	Maria Pap	\$0.00	\$48.00	\$110.00	\$158.00
470-08700	STR	N. Pt. Lot	1.07	0.43	Raymond Simrak	\$0.00	\$23.00	\$52.00	\$75.00
490-06900	NTR	Plan 1304 Pt. Blk A	0.49	0.20	360 Indoor Air Solutions Ltd.	\$0.00	\$61.00	\$37.00	\$98.00
490-07000	NTR	S. Pt. Lot 303 RP12R13656 Pts. 21&30	4.84	1.96	2854762 Ontario Inc.	\$0.00	\$53.00	\$125.00	\$178.00
490-07005	NTR	S. Pt. Lot 303 RP12R25005 Pt. 2 RP12R13656 Pt. 28	2.90	1.17	3-K Leasing Limited	\$0.00	\$33.00	\$83.00	\$116.00
490-07099	NTR	S. Pt. Lot 303 RP12R13656 Pts. 19&27	0.50	0.20	1001381556 Ontario Inc.	\$0.00	\$16.00	\$41.00	\$57.00
490-019750	NTR	Pt. Lot 302 Plan 1304 Pt. Blk A RP12R19608 Pts. 1,2&5	3.83	1.55	Essex Powerlines Corporation	\$0.00	\$103.00	\$236.00	\$339.00

Roll No.	Con.	Description	Area Affected		Owner	Special Benefit	Benefit	Outlet	Total Assessment
			(Acres)	(Ha.)					
490-01900	NTR	Plan 1304 Pt. Blk A RP12R4348 Pt. 1	1.45	0.59	360 Indoor Air Solutions Ltd.	\$0.00	\$39.00	\$90.00	\$129.00
490-06800	NTR	S. Pt. Lot 303 RP12R674 Pts. 2 & 3	0.66	0.27	Mihaela & Dorin Zegrean	\$0.00	\$19.00	\$45.00	\$64.00
490-02100	NTR	S. Pt. Lot 303	1.51	0.61	Ion & Elena Zegrean	\$0.00	\$25.00	\$56.00	\$81.00
490-06700	NTR	S. Pt. Lot 303	0.72	0.29	Stephan J. Kovacs	\$0.00	\$20.00	\$47.00	\$67.00
490-02200	NTR	S. Pt. Lot 303	1.27	0.51	Matthew S. Wade	\$0.00	\$75.00	\$54.00	\$129.00
490-02300	NTR	S. Pt. Lot 303	1.74	0.70	Pannu Durlabjitt	\$0.00	\$117.00	\$58.00	\$175.00
490-02400	NTR	S. Pt. Lot 303	0.44	0.18	Michael & Rachael Iacoban	\$0.00	\$61.00	\$32.00	\$93.00
490-02500	NTR	S. Pt. Lot 303	1.22	0.49	Gaby Tannous	\$0.00	\$70.00	\$51.00	\$121.00
490-06500	NTR	S. Pt. Lot 303 RP12R16244 Pt. Pt. 2	2.70	1.09	Richard W. & Kimberly C. Laforet	\$0.00	\$32.00	\$74.00	\$106.00
490-06600	NTR	S. Pt. Lot 303 RP12R16244 Pt. Pt. 1	4.18	1.69	2361269 Ontario Inc.	\$0.00	\$46.00	\$107.00	\$153.00
490-02600	NTR	S. Pt. Lots 303 & 304	1.54	0.62	Beniamin & Anda Zegrean	\$0.00	\$158.00	\$53.00	\$211.00
490-02700	NTR	S. Pt. Lot 304 RP12R19199 Pt. 1	1.50	0.61	John Homeniuk	\$0.00	\$69.00	\$51.00	\$120.00
490-06309	NTR	Pt. Lot 304 RP12R29494 Pt. 59	1.57	0.64	Carpenters Training Centre Windsor Incorporated	\$0.00	\$26.00	\$44.00	\$70.00
490-06313	NTR	Pt. Lot 304 RP12R29494 Pt. 60	2.07	0.84	Carpenters Training Centre Windsor Incorporated	\$0.00	\$28.00	\$48.00	\$76.00
490-06314	NTR	Pt. Lot 304 RP12R29494 Pt. 61	2.00	0.81	Carpenters Training Centre Windsor Incorporated	\$0.00	\$28.00	\$47.00	\$75.00
490-06311	NTR	Lot 304 RP12R10334 Pts. 57&58	4.33	1.75	Tri-Liuna Labourers' Local 625 Training Centre	\$0.00	\$126.00	\$217.00	\$343.00
490-02800	NTR	S. Pt. Lot 304	2.00	0.81	1859380 Ontario Ltd.	\$0.00	\$115.00	\$111.00	\$226.00
490-06315	NTR	Lot 304 RP12R10334 Pt. 56	1.26	0.51	981204 Ontario Limited	\$0.00	\$37.00	\$71.00	\$108.00
490-06316	NTR	Lot 304 RP12R10334 Pt. 55	1.00	0.40	981204 Ontario Limited	\$0.00	\$11.00	\$19.00	\$30.00
490-06318	NTR	Pt Lot 304 RP12R10334 Pts. 53&54	2.00	0.81	Semacon Holdings Inc.	\$0.00	\$70.00	\$120.00	\$190.00
490-06319	NTR	Lot 304 RP12R10334 Pt. 52	1.00	0.40	Semacon Holdings Inc.	\$0.00	\$25.00	\$42.00	\$67.00
490-06320	NTR	Lot 304 RP12R10334 Pt. 51	1.00	0.40	Dorod Holdings (Windsor) Limited	\$0.00	\$37.00	\$64.00	\$101.00
490-06321	NTR	Lot 304 RP12R10334 Pt. 50	1.00	0.40	5009628 Ontario Inc.	\$0.00	\$24.00	\$41.00	\$65.00
490-06322	NTR	Lot 304 RP12R10334 Pt. 49	1.00	0.40	Mid Century Classic Ltd.	\$0.00	\$28.00	\$49.00	\$77.00
490-06324	NTR	Lot 304 RP12R10334 Pt. 48	1.00	0.40	Nomad Services Inc.	\$0.00	\$24.00	\$42.00	\$66.00
490-06325	NTR	Lot 304 RP12R10334 Pt. 47	1.00	0.40	Nomad Services Inc.	\$0.00	\$11.00	\$19.00	\$30.00

Roll No.	Con.	Description	Area Affected (Acres) (Ha.)		Owner	Special Benefit	Benefit	Outlet	Total Assessment
490-06326	NTR	Lot 304 RP12R10334 Pt. 46	1.80	0.73	1432351 Ontario Inc.	\$0.00	\$49.00	\$83.00	\$132.00
490-06363	NTR	Lot 304 RP12R10334 Pt. 28	1.10	0.45	981204 Ontario Ltd.	\$0.00	\$36.00	\$61.00	\$97.00
490-06362	NTR	Pt. Lot 304 RP12R10334 Pt. 29	0.88	0.36	Titan Mold Inc.	\$0.00	\$32.00	\$55.00	\$87.00
490-06361	NTR	Lot 304 RP12R10334 Pt. 30	0.74	0.30	939405 Ontario Inc.	\$0.00	\$36.00	\$62.00	\$98.00
490-06360	NTR	Pt Lot 304 RP12R10334 Pt. 31	0.80	0.32	939405 Ontario Inc.	\$0.00	\$39.00	\$67.00	\$106.00
490-06359	NTR	Lot 304 RP12R10334 Pt. 32	0.80	0.32	1741071 Ontario Inc.	\$0.00	\$22.00	\$38.00	\$60.00
490-06358	NTR	Lot 304 RP12R10334 Pt. 33	1.00	0.40	Aleksandar Stevanov	\$0.00	\$25.00	\$43.00	\$68.00
490-06357	NTR	Lot 304 RP12R10334 Pt. 34	1.00	0.40	Three Star Mold Finishing	\$0.00	\$11.00	\$19.00	\$30.00
490-06356	NTR	Lot 304 RP12R10334 Pt. 35	1.00	0.40	2607573 Ontario Limited	\$0.00	\$11.00	\$19.00	\$30.00
490-06355	NTR	Lot 304 RP12R10334 Pt. 36	1.03	0.42	True Phantom Solutions Inc	\$0.00	\$31.00	\$53.00	\$84.00
490-06354	NTR	Lot 304 RP12R10334 Pt. 37	1.00	0.40	1775938 Ontario Inc	\$0.00	\$43.00	\$74.00	\$117.00
490-06353	NTR	Lot 304 RP12R10334 Pt. 38	1.03	0.42	5009628 Ontario Inc	\$0.00	\$34.00	\$58.00	\$92.00
490-06351	NTR	Lot 304 RP12R10334 Pts. 39&40	2.07	0.84	Sernacon Holdings Inc.	\$0.00	\$68.00	\$116.00	\$184.00
490-06350	NTR	Lot 304 RP12R10334 Pt. 41	1.03	0.42	1580724 Ontario Inc.	\$0.00	\$46.00	\$79.00	\$125.00
490-06349	NTR	Lot 304 RP12R10334 Pt. 42	1.03	0.42	Etch-Tech Inc.	\$0.00	\$35.00	\$60.00	\$95.00
490-06348	NTR	Pt. Lot 304 RP12R10334 Pt. 43	1.00	0.40	2089792 Ontario Limited	\$0.00	\$27.00	\$46.00	\$73.00
490-06347	NTR	Pt. Lot 304 RP12R10334 Pt. 44	1.00	0.40	Mid Century Classic Ltd.	\$0.00	\$39.00	\$67.00	\$106.00
490-06346	NTR	Lot 304 RP12R10334 Pt. 45	1.32	0.53	1118531 Ontario Inc.	\$0.00	\$53.00	\$92.00	\$145.00
490-03000	NTR	S. Pt. Lot 305 RP12R6818 Pt. 2	15.27	6.18	Cards 5 Corporation	\$0.00	\$391.00	\$281.00	\$672.00
490-03010	NTR	Pt. Lot 305 RP12R22851 Pt. 1	1.86	0.75	Christopher H. & Christine A. Loop	\$0.00	\$160.00	\$42.00	\$202.00
490-03001	NTR	Pt. Lot 305 RP12R24676 Pt. 3	9.31	3.77	Westco Windsor Inc.	\$0.00	\$205.00	\$301.00	\$506.00

Roll No.	Con.	Description	Area Affected (Acres) (Ha.)		Owner	Special Benefit	Benefit	Outlet	Total Assessment
490-03005	NTR	Pt. Lot 305 RP12R24676 Pt. 1	2.51	1.02	Westco Windsor Inc.	\$0.00	\$170.00	\$47.00	\$217.00
490-03110	NTR	Pt. Lot 305 RP12R15741 Pt. 1	2.62	1.06	1000033594 Ontario Limited	\$0.00	\$162.00	\$46.00	\$208.00
490-03106	NTR	Pt. Lot 305 RP12R18145 Pts. 2&11	4.50	1.82	1382229 Ontario Limited	\$0.00	\$149.00	\$208.00	\$357.00
490-03105	NTR	Pt. Lot 305 RP12R18145 Pts. 3&12	1.19	0.48	Levden Management Inc	\$0.00	\$35.00	\$49.00	\$84.00
490-03103	NTR	Pt. Lot 305 RP12R18145 Pts. 5&14	2.39	0.97	1808250 Ontario Limited	\$0.00	\$74.00	\$104.00	\$178.00
490-03102	NTR	Pt. Lot 305 RP12R18145 Pts. 6&15	1.19	0.48	DAP Holdings Limited	\$0.00	\$13.00	\$18.00	\$31.00
490-03101	NTR	Pt. Lot 305 RP12R18145 Pts. 7 & 16	1.19	0.48	2443176 Ontario Limited	\$0.00	\$36.00	\$50.00	\$86.00
490-03200	NTR	S. Pt. Lot 305 RP12R11182 Pt. 5	0.80	0.32	Congregation of the Order Antonin Maronite in Ontario	\$0.00	\$230.00	\$28.00	\$258.00
Total on Privately-Owned - Non-Agricultural Lands.....						\$0.00	\$4,015.00	\$4,809.00	\$8,824.00
TOTAL ASSESSMENT						\$0.00	\$10,000.00	\$10,000.00	\$20,000.00
			(Acres)	(Ha.)					
Total Area:			182.74	73.89					

"SCHEDULE E-2"
SCHEDULE OF ASSESSMENT FOR FUTURE MAINTENANCE (BRIDGES)
COLLINS HIGHWAY 3 DRAIN
TOWN OF TECUMSEH

ONTARIO LANDS:

Description	Area Affected		Owner	Special Benefit	Benefit	Outlet	Total Assessment
	(Acres)	(Ha.)					
Roll No. 490-02000	0.45	0.18	Ministry of Transportation	\$0.00	\$0.00	\$11.00	\$11.00
King's Highway No. 3	25.37	10.27	Ministry of Transportation	\$0.00	\$0.00	\$2,747.00	\$2,747.00
470-06500 STR N. Pt. Lot 303	5.09	2.06	Ministry of Transportation	\$0.00	\$0.00	\$131.00	\$131.00
Total on Ontario Lands.....				\$0.00	\$0.00	\$2,889.00	\$2,889.00

MUNICIPAL LANDS:

Description	Area Affected		Owner	Special Benefit	Benefit	Outlet	Total Assessment
	(Acres)	(Ha.)					
County Road No. 11 (Walker Road)	3.58	1.45	County of Essex	\$0.00	\$0.00	\$462.00	\$462.00
McCord Lane	1.35	0.55	Town of Tecumseh	\$0.00	\$0.00	\$175.00	\$175.00
Fasan Drive	3.49	1.41	Town of Tecumseh	\$0.00	\$0.00	\$449.00	\$449.00
Roll No. 490-01700	9.00	3.64	Town of Tecumseh	\$0.00	\$0.00	\$348.00	\$348.00
Roll No. 490-06901	5.00	2.02	Town of Tecumseh	\$0.00	\$0.00	\$248.00	\$248.00
Total on Municipal Lands.....				\$0.00	\$0.00	\$1,682.00	\$1,682.00

PRIVATELY-OWNED - NON-AGRICULTURAL LANDS:

Roll No.	Con.	Description	Area Affected		Owner	Special Benefit	Benefit	Outlet	Total Assessment
			(Acres)	(Ha.)					
470-06000	STR	N. Pt. Lot	0.78	0.32	Roger & Karen Halden	\$0.00	\$0.00	\$49.00	\$49.00
470-06200	STR	N. Pt. Lot 303 RP12R14841 Pts.1,2&6	0.53	0.21	Raymond H. Chase Jr.	\$0.00	\$0.00	\$39.00	\$39.00
470-06300	STR	N. Pt. Lot 303 RP12R14841 Pts. 3,4&5	2.32	0.94	Supersiding Inc.	\$0.00	\$0.00	\$70.00	\$70.00
470-06400	STR	N. Pt. Lot 303	0.64	0.26	Supersiding Inc.	\$0.00	\$0.00	\$33.00	\$33.00
470-08500	STR	N. Pt. Lot	0.40	0.16	2865211 Ontario Inc.	\$0.00	\$0.00	\$31.00	\$31.00
470-08600	STR	N. Pt. Lot	4.35	1.76	Maria Pap	\$0.00	\$0.00	\$112.00	\$112.00
470-08700	STR	N. Pt. Lot	1.00	0.40	Raymond Simrak	\$0.00	\$0.00	\$51.00	\$51.00
490-06900	NTR	Plan 1304 Pt. Blk A	0.49	0.20	360 Indoor Air Solutions Ltd.	\$0.00	\$0.00	\$37.00	\$37.00
490-07000	NTR	S. Pt. Lot 303 RP12R13656 Pts. 21&30	4.84	1.96	2854762 Ontario Inc.	\$0.00	\$0.00	\$125.00	\$125.00
490-07005	NTR	S. Pt. Lot 303 RP12R25005 Pt. 2 RP12R13656 Pt. 28	2.90	1.17	3-K Leasing Limited	\$0.00	\$0.00	\$76.00	\$76.00
490-07099	NTR	S. Pt. Lot 303 RP12R13656 Pts. 19&27	0.50	0.20	1001381556 Ontario Inc.	\$0.00	\$0.00	\$38.00	\$38.00
490-01750	NTR	Pt. Lot 302 Plan 1304 Pt. Blk A RP12R19608 Pts. 1,2&5	3.83	1.55	Essex Powerlines Corporation	\$0.00	\$0.00	\$242.00	\$242.00

Roll No.	Con.	Description	Area Affected		Owner	Special Benefit	Benefit	Outlet	Total Assessment
			(Acres)	(Ha.)					
490-01900	NTR	Plan 1304 Pt. Blk A RP12R4348 Pt. 1	1.45	0.59	360 Indoor Air Solutions Ltd.	\$0.00	\$0.00	\$92.00	\$92.00
490-06800	NTR	S. Pt. Lot 303 RP12R674 Pts. 2 & 3	0.66	0.27	Mihaela & Dorin Zegrean	\$0.00	\$0.00	\$46.00	\$46.00
490-02100	NTR	S. Pt. Lot 303	1.51	0.61	Ion & Elena Zegrean	\$0.00	\$0.00	\$58.00	\$58.00
490-06700	NTR	S. Pt. Lot 303	0.72	0.29	Stephan J. Kovacs	\$0.00	\$0.00	\$47.00	\$47.00
490-02200	NTR	S. Pt. Lot 303	1.27	0.51	Matthew S. Wade	\$0.00	\$0.00	\$57.00	\$57.00
490-02300	NTR	S. Pt. Lot 303	1.74	0.70	Pannu Durlabjitt	\$0.00	\$0.00	\$62.00	\$62.00
490-02400	NTR	S. Pt. Lot 303	0.44	0.18	Michael & Rachael Iacoban	\$0.00	\$0.00	\$34.00	\$34.00
490-02500	NTR	S. Pt. Lot 303	1.22	0.49	Gaby Tannous	\$0.00	\$0.00	\$56.00	\$56.00
490-06500	NTR	S. Pt. Lot 303 RP12R16244 Pt. Pt. 2	2.70	1.09	Richard W. & Kimberly C. Laforet	\$0.00	\$0.00	\$75.00	\$75.00
490-06600	NTR	S. Pt. Lot 303 RP12R16244 Pt. Pt. 1	4.18	1.69	2361269 Ontario Inc.	\$0.00	\$0.00	\$108.00	\$108.00
490-02600	NTR	S. Pt. Lots 303 & 304	1.54	0.62	Beniamin & Anda Zegrean	\$0.00	\$0.00	\$59.00	\$59.00
490-02700	NTR	S. Pt. Lot 304 RP12R19199 Pt. 1	1.50	0.61	John Homeniuk	\$0.00	\$0.00	\$58.00	\$58.00
490-06309	NTR	Pt. Lot 304 RP12R29494 Pt. 59	1.57	0.64	Carpenters Training Centre Windsor Incorporated	\$0.00	\$0.00	\$60.00	\$60.00
490-06313	NTR	Pt. Lot 304 RP12R29494 Pt. 60	2.07	0.84	Carpenters Training Centre Windsor Incorporated	\$0.00	\$0.00	\$66.00	\$66.00
490-06314	NTR	Pt. Lot 304 RP12R29494 Pt. 61	2.00	0.81	Carpenters Training Centre Windsor Incorporated	\$0.00	\$0.00	\$64.00	\$64.00
490-06311	NTR	Lot 304 RP12R10334 Pts. 57&58	4.33	1.75	Tri-Liuna Labourers' Local 625 Training Centre	\$0.00	\$0.00	\$295.00	\$295.00
490-02800	NTR	S. Pt. Lot 304	2.00	0.81	1859380 Ontario Ltd.	\$0.00	\$0.00	\$133.00	\$133.00
490-06315	NTR	Lot 304 RP12R10334 Pt. 56	1.26	0.51	981204 Ontario Limited	\$0.00	\$0.00	\$87.00	\$87.00
490-06316	NTR	Lot 304 RP12R10334 Pt. 55	1.00	0.40	981204 Ontario Limited	\$0.00	\$0.00	\$25.00	\$25.00
490-06318	NTR	Pt Lot 304 RP12R10334 Pts. 53&54	2.00	0.81	Semacon Holdings Inc.	\$0.00	\$0.00	\$163.00	\$163.00
490-06319	NTR	Lot 304 RP12R10334 Pt. 52	1.00	0.40	Semacon Holdings Inc.	\$0.00	\$0.00	\$58.00	\$58.00
490-06320	NTR	Lot 304 RP12R10334 Pt. 51	1.00	0.40	Dorod Holdings (Windsor) Limited	\$0.00	\$0.00	\$87.00	\$87.00
490-06321	NTR	Lot 304 RP12R10334 Pt. 50	1.00	0.40	5009628 Ontario Inc	\$0.00	\$0.00	\$56.00	\$56.00
490-06322	NTR	Lot 304 RP12R10334 Pt. 49	1.00	0.40	Mid Century Classic Ltd.	\$0.00	\$0.00	\$66.00	\$66.00
490-06324	NTR	Lot 304 RP12R10334 Pt. 48	1.00	0.40	Nomad Services Inc.	\$0.00	\$0.00	\$57.00	\$57.00

Roll No.	Con.	Description	Area Affected (Acres) (Ha.)		Owner	Special Benefit	Benefit	Outlet	Total Assessment
490-06325	NTR	Lot 304 RP12R10334 Pt. 47	1.00	0.40	Nomad Services Inc.	\$0.00	\$0.00	\$25.00	\$25.00
490-06326	NTR	Lot 304 RP12R10334 Pt. 46	1.80	0.73	1432351 Ontario Inc.	\$0.00	\$0.00	\$113.00	\$113.00
490-06363	NTR	Lot 304 RP12R10334 Pt. 28	1.10	0.45	981204 Ontario Ltd.	\$0.00	\$0.00	\$83.00	\$83.00
490-06362	NTR	Pt. Lot 304 RP12R10334 Pt. 29	0.88	0.36	Titan Mold Inc.	\$0.00	\$0.00	\$75.00	\$75.00
490-06361	NTR	Lot 304 RP12R10334 Pt. 30	0.74	0.30	939405 Ontario Inc.	\$0.00	\$0.00	\$85.00	\$85.00
490-06360	NTR	Pt Lot 304 RP12R10334 Pt. 31	0.80	0.32	939405 Ontario Inc.	\$0.00	\$0.00	\$92.00	\$92.00
490-06359	NTR	Lot 304 RP12R10334 Pt. 32	0.80	0.32	1741071 Ontario Inc.	\$0.00	\$0.00	\$52.00	\$52.00
490-06358	NTR	Lot 304 RP12R10334 Pt. 33	1.00	0.40	Aleksandar Stevanov	\$0.00	\$0.00	\$59.00	\$59.00
490-06357	NTR	Lot 304 RP12R10334 Pt. 34	1.00	0.40	Three Star Mold Finishing	\$0.00	\$0.00	\$25.00	\$25.00
490-06356	NTR	Lot 304 RP12R10334 Pt. 35	1.00	0.40	2607573 Ontario Limited	\$0.00	\$0.00	\$25.00	\$25.00
490-06355	NTR	Lot 304 RP12R10334 Pt. 36	1.03	0.42	True Phantom Solutions Inc	\$0.00	\$0.00	\$72.00	\$72.00
490-06354	NTR	Lot 304 RP12R10334 Pt. 37	1.00	0.40	1775938 Ontario Inc.	\$0.00	\$0.00	\$101.00	\$101.00
490-06353	NTR	Lot 304 RP12R10334 Pt. 38	1.03	0.42	5009628 Ontario Inc.	\$0.00	\$0.00	\$79.00	\$79.00
490-06351	NTR	Lot 304 RP12R10334 Pts. 39&40	2.07	0.84	Sernacon Holdings Inc.	\$0.00	\$0.00	\$158.00	\$158.00
490-06350	NTR	Lot 304 RP12R10334 Pt. 41	1.03	0.42	1580724 Ontario Inc.	\$0.00	\$0.00	\$107.00	\$107.00
490-06349	NTR	Lot 304 RP12R10334 Pt. 42	1.03	0.42	Etch-Tech Inc.	\$0.00	\$0.00	\$82.00	\$82.00
490-06348	NTR	Pt. Lot 304 RP12R10334 Pt. 43	1.00	0.40	2089792 Ontario Limited	\$0.00	\$0.00	\$62.00	\$62.00
490-06347	NTR	Pt. Lot 304 RP12R10334 Pt. 44	1.00	0.40	Mid Century Classic Ltd.	\$0.00	\$0.00	\$91.00	\$91.00
490-06346	NTR	Lot 304 RP12R10334 Pt. 45	1.32	0.53	1118531 Ontario Inc.	\$0.00	\$0.00	\$125.00	\$125.00
490-03000	NTR	S. Pt. Lot 305 RP12R6818 Pt. 2	15.27	6.18	Cards 5 Corporation	\$0.00	\$0.00	\$393.00	\$393.00

Roll No.	Con.	Description	Area Affected (Acres) (Ha.)		Owner	Special Benefit	Benefit	Outlet	Total Assessment
490-03010	NTR	Pt. Lot 305 RP12R22851 Pt. 1	1.86	0.75	Christopher H. & Christine A. Loop	\$0.00	\$0.00	\$63.00	\$63.00
490-03001	NTR	Pt. Lot 305 RP12R24676 Pt. 3	9.31	3.77	Westco Windsor Inc.	\$0.00	\$0.00	\$480.00	\$480.00
490-03005	NTR	Pt. Lot 305 RP12R24676 Pt. 1	2.51	1.02	Westco Windsor Inc.	\$0.00	\$0.00	\$73.00	\$73.00
490-03110	NTR	Pt. Lot 305 RP12R15741 Pt. 1	2.62	1.06	1000033594 Ontario Limited	\$0.00	\$0.00	\$37.00	\$37.00
Total on Privately-Owned - Non-Agricultural Lands.....						\$0.00	\$0.00	\$5,429.00	\$5,429.00
TOTAL ASSESSMENT						\$0.00	\$0.00	\$10,000.00	\$10,000.00
			(Acres)	(Ha.)					
Total Area:			168.27	68.04					

”SCHEDULE F”
DRAINAGE REPORT FOR THE
COLLINS HIGHWAY 3 DRAIN & BRANCH
TOWN OF TECUMSEH

SPECIAL PROVISIONS - GENERAL

1.0 GENERAL SPECIFICATIONS

The General Specifications attached hereto is part of “Schedule F.” It also forms part of this specification and is to be read with it, but where there is a difference between the requirements of the General Specifications and those of the Special Provisions which follow, the Special Provisions will take precedence.

2.0 DESCRIPTION OF WORK

The work to be carried out under this Contract includes, but is not limited to, the supply of all **labour, equipment and materials** to complete the following items:

Collins Highway 3 Drain

OPEN DRAIN WORK

- Brushing of the drain from Station 0+000A to Station 2+131A including the disposal by removal off-site with trimming and/or removal of existing trees as required to accommodate the drainage works. The work shall include disposal of brush off-site.
- Excavation, trucking and/or levelling of excavated materials works, as follows:
 - Excavation of the drain bottom only, as follows:
 - Station 1+148A to Station 1+544A, totalling approximately 396 lineal metres of drain and approximately 200 m³ of material.
 - Station 1+811A to Station 2+131A, totalling approximately 320 lineal metres of drain and approximately 145 m³ of material.
 - Excavation of drain bottom and widening, as follows:
 - Station 0+000A to Station 0+264A, totalling approximately 264 lineal metres of drain and approximately 825 m³ of material. Including removal and re-installation of chain link fence for access at Station 0+000A to Station 0+050A, if necessary.
 - Station 0+320A to Station 0+821A, totalling approximately 501 lineal metres of drain and approximately 1,200m³ of material.
 - Station 0+821A to Station 1+114A, totalling approximately 293 lineal metres of drain and approximately 160 m³ of material.
 - Station 1+662A to Station 1+720A, totalling approximately 58 lineal metres of drain and approximately 130 m³ of material.
 - Levelling of excavated materials, as follows:
 - Station 1+850A to Station 2+131A, totalling approximately 281 lineal metres of drain and approximately 100 m³ of material.

- Trucking of excavated materials, as follows:
 - Station 0+000A to Station 0+264A, totalling approximately 825 m³ of material.
 - Station 0+320A to Station 0+821A, totalling approximately 1,200 m³ of material.
 - Station 0+821A to Station 1+114A, totalling approximately 160 m³ of material.
 - Station 1+148A to Station 1+544A, totalling approximately 200 m³ of material.
 - Station 1+662A to Station 1+720A, totalling approximately 130 m³ of material.
 - Station 1+811A to Station 1+850A, totalling approximately 45 m³ of material.
- Hydraulic seeding of drain banks disturbed by drain widening as follows:
 - Station 0+000A to Station 0+264A (approximately 1,000 m²)
 - Station 0+320A to Station 1+114A (approximately 985 m²)
 - Station 1+662A to Station 1+720A (approximately 175 m²)
- Private access bridge removals, as follows:
 - Bridge No. 1 - Station 0+107A (Roll No. 490-03200) - Remove and dispose of existing 5.6 m long, 1000 mm diameter CSP culvert and end wall materials off-site, including restoration and seeding of drain banks.
- Private access bridge replacement works, as follows:
 - Bridge No. 2 - Station 0+290A (Roll No. 490-03110) – Removal and disposal of existing 20 m long 900 mm diameter concrete pipe, existing end wall and backfill off-site that are not suitable for native backfill. The work is to include site clean-up, seeding of disturbed drain banks and restoration within the working area. Supply and installation of a new 25.0 m long, 1500 mm diameter aluminized UltraFlo spiral rib steel pipe culvert with a 2.8 mm thickness (see specifications) complete with clear stone bedding bedding material beneath pipe, minimum 150 mm thickness (approximately 25 tonnes), full Granular 'A' backfill for driveway portion (approximately 40 tonnes). Granular 'B' backfill to pipe springline (approximately 45 tonnes) with clean native or imported clean native backfill material outside of driveway portion (approximately 135 m³). Asphalt restoration, 80 mm HL3 layer (two 40 mm lifts) (approximately 5 tonnes) Sloping stone end wall on west end (approximately 25 m²). Supply and installation of a new 0.9 m x 2.25 m x 2.58 m deep precast concrete junction box (JB1) between the existing concrete culvert and new C.S.P. culvert complete with concrete lid manufactured by Coldstream Concrete Inc. (or approved equal) and a minimum 300 mm sump. Work is to include grouting of all voids around pipe connections with non-shrink concrete grout.

The junction box shall be connected to the existing box culvert with a 12 mm galvanized steel plate, 200 mm long fastened to the junction box and box culvert on the top and sides of the opening with predrilled holes for 150 mm diameter galvanized lag bolts at 450 mm spacing.

- Bridge No. 3 – 0+490A (Roll No. 490-03010) – Removal and disposal of existing 9.6 m long 1500 x 1000 mm CSPA, existing end walls and backfill off-site that are not suitable for native backfill. The work is to include site clean-up, seeding of disturbed drain banks and restoration within the working area. Supply and installation of a new 14.0 m long, 1780 x 1360 mm aluminized corrugated steel pipe arch (CSPA) culvert with a 2.8 mm thickness (see specifications) complete with clear stone bedding up to springline of pipe complete with filter fabric overlay (approximately 35 tonnes), full Granular 'A' backfill (approximately 140 tonnes). Clean native or imported clean native backfill material outside of driveway portion to construct the 0.50 m wide native buffer strips (approximately 20 m³). Concrete driveway restoration, 150 mm thickness (approximately 10 m³) Sloping stone end walls (approximately 30 m²).
- Bridge No. 5 - Station 0+582A (Roll No. 490-03000) – Removal and disposal of existing 18.5 m long 1800 x 1100 mm CSPA and backfill off-site that are not suitable for native backfill. The work is to include site clean-up, seeding of disturbed drain banks and restoration within the working area. Supply and installation of a new 20.0 m long, 1350 mm diameter aluminized Ultra Flo spiral rib steel pipe (CSP) culvert with a 2.8 mm thickness (see specifications) complete with clear stone bedding material beneath pipe, minimum 150 mm thickness (approximately 20 tonnes), full Granular 'A' backfill (approximately 215 tonnes). Clean native or imported clean native backfill material outside of driveway portion to construct the 0.50 m wide native buffer strips (approximately 20 m³). Asphalt restoration, 80 mm HL3 layer (two 40 mm lifts) (approximately 15 tonnes) Sloping stone end walls (approximately 30 m²).
- Bridge No. 9 - Station 1+355A (Roll No. 490-02700) – Removal and disposal of existing 13.6 m long 900 mm diameter CSP, existing end walls and backfill off-site that are not suitable for native backfill. The work is to include site clean-up, seeding of disturbed drain banks and restoration within the working area. Supply and installation of a new 15.0 m long, 1000 mm diameter aluminized corrugated steel pipe (CSP) culvert with a 2.0 mm thickness (see specifications) with clear stone bedding material beneath pipe, minimum 150 mm thickness (approximately 15 tonnes). Full Granular 'B' backfill (approximately 170 tonnes). Clean native or imported clean native backfill material outside of driveway portion to construct the 0.50 m wide native buffer strips (approximately 20 m³). Granular 'A' (crushed limestone) compacted driveway surface, minimum 200 mm thickness (approximately 25 tonnes). Sloping stone end walls (approximately 40 m²).

- Bridge No. 11 - Station 1+425A (Roll No. 490-02600) – Removal and disposal of existing 23 m long 900 mm diameter CSP, existing end walls and backfill off-site that are not suitable for native backfill. The work is to include site clean-up, seeding of disturbed drain banks and restoration within the working area. Supply and installation of a new 25.0 m long, 1000 mm diameter aluminized corrugated steel pipe (CSP) culvert with a 2.0 mm thickness (see specifications) complete with clear stone bedding material beneath pipe, minimum 150 mm thickness (approximately 20 tonnes), full Granular 'A' backfill (crushed limestone) (approximately 235 tonnes), compacted under driveway providing a minimum 6.1 m (20 ft.) driveable top width, asphalt restoration, 80 mm HL3 layer (approximately 10 tonnes), and the remaining portion as a lawn enclosure, Granular 'B' backfill material up to springline of pipe for enclosure portion (approximately 15 tonnes), clean native backfill material above for enclosure (approximately 70 m³). The work shall include grading of topsoil and seeding for enclosure (approximately 110 m²). Sloping stone end walls (approximately 40 m²). All surplus native materials resulting from the culvert installation are to be trucked away to an approved dumping site at the Contractor's expense.
- Bridge No. 12 - Station 1+460A (Roll No. 490-02500) – Removal and disposal of existing 13 m long 900 mm diameter CSP, existing end walls and backfill off-site that are not suitable for native backfill. The work is to include site clean-up, seeding of disturbed drain banks and restoration within the working area. Supply and installation of a new 15.0 m long, 1000 mm diameter aluminized corrugated steel pipe (CSP) culvert with a 2.0 mm thickness (see specifications) with clear stone bedding material beneath pipe, minimum 150 mm thickness (approximately 15 tonnes). Full Granular 'B' backfill (approximately 170 tonnes). Clean native or imported clean native backfill material outside of driveway portion to construct the 0.50 m wide native buffer strips (approximately 20 m³). Granular 'A' (crushed limestone) compacted driveway surface, minimum 200 mm thickness (approximately 35 tonnes). Sloping stone end walls (approximately 40 m²).
- Bridge No. 13 - Station 1+492A (Roll No. 490-02400) – Removal and disposal of existing 13 m long 900 mm diameter CSP, existing end walls and backfill off-site that are not suitable for native backfill. The work is to include site clean-up, seeding of disturbed drain banks and restoration within the working area. Supply and installation of a new 15.0 m long, 1000 mm diameter aluminized corrugated steel pipe (CSP) culvert with a 2.0 mm thickness (see specifications) with clear stone bedding material beneath pipe, minimum 150 mm thickness (approximately 15 tonnes). Full Granular 'B' backfill (approximately 185 tonnes). Clean native or imported clean native backfill material outside of driveway portion to construct the 0.50 m wide native buffer strips (approximately 20 m³). Granular 'A' (crushed limestone) compacted driveway surface, minimum 200 mm thickness (approximately 35 tonnes). Sloping stone end walls (approximately 45 m²).

- Private access bridge cleaning works, as follows:
 - Bridges No. 2, 8 and 14 – Clean three (3) existing bridges.
- Supply and installation of flared inlet end sections on upstream ends of access bridges, as follows:
 - Bridge No. 3
 - Bridge No. 5
- Stone Erosion protection works as follows:
 - Station 0+683A - Supply and install 15 m² (300 mm thick) of stone erosion protection (SEP) including new filter fabric underlay at the location of washout on south drain bank.
 - Station 1+544A - Supply and install 40 m² (300 mm thick) of stone erosion protection (SEP) end wall including new filter fabric underlay at the west end of Bridge No. 14.
- Traffic Control
- Temporary Silt Control Measures During Construction

SECTION 26 NON PRO-RATEABLE COSTS

- Hydrant access bridge replacement works, as follows:
 - Bridge No. 4 - Station 0+515A– Removal and disposal of existing 2.4 m long 1000 mm diameter CSP, existing end walls and backfill off-site that are not suitable for native backfill. The work is to include site clean-up, seeding of disturbed drain banks and restoration within the working area. Supply and installation of a new 9.0 m long, 1780 x 1360 mm aluminized corrugated steel pipe arch (CSPA) culvert with a 2.8 mm thickness (see specifications) complete with clear stone bedding up to springline of pipe complete with filter fabric overlay (approximately 25 tonnes), clean native backfill material above (approximately 25 m³), seeded surface (approximately 20 m²) and sloping stone end walls c/w filter fabric underlay (approximately 30 m²) providing a minimum 4.0 m (13 ft.) grassed top width. All surplus native materials resulting from the culvert installation are to be trucked away to an approved dumping site at the Contractor's expense.
 - Bridge No. 6 - Station 0+620A– Removal and disposal of existing 2.4 m long 1000 mm diameter CSP, existing end walls and backfill off-site that are not suitable for native backfill. The work is to include site clean-up, seeding of disturbed drain banks and restoration within the working area. Supply and installation of a new 8.5 m long, 1550 x 1200 mm aluminized corrugated steel pipe arch (CSPA) culvert with a 2.8 mm thickness (see specifications) complete with clear stone bedding up to springline of pipe complete with filter fabric overlay (approximately 20 tonnes), clean native backfill material above (approximately 20 m³), seeded surface (approximately 30 m²) and sloping stone end walls c/w filter fabric underlay (approximately 20 m²) providing a minimum 4.0 m (13 ft.) grassed top width.

All surplus native materials resulting from the culvert installation are to be trucked away to an approved dumping site at the Contractor's expense.

- Bridge No. 7 - Station 0+825A– Removal and disposal of existing 2.4 m long 900 mm diameter CSP, existing end walls and backfill off-site that are not suitable for native backfill. The work is to include site clean-up, seeding of disturbed drain banks and restoration within the working area. Supply and installation of a new 8.0 m long, 1000 mm diameter aluminized corrugated steel pipe (CSP) culvert with a 2.0 mm thickness (see specifications) with clear stone bedding material beneath pipe, minimum 150 mm thickness (approximately 10 tonnes), compacted Granular 'B' backfill up to the springline of pipe (approximately 10 tonnes), clean native backfill material above (approximately 25 m³), seeded surface (approximately 30 m²) and sloping stone end walls c/w filter fabric underlay (approximately 20 m²) providing a minimum 4.0 m (13 ft.) grassed top width. All surplus native materials resulting from the culvert installation are to be trucked away to an approved dumping site at the Contractor's expense.
- Bridge No. 10 - Station 1+380A– Removal and disposal of existing 6.2 m long 900 mm diameter CSP, existing end walls and backfill off-site that are not suitable for native backfill. The work is to include site clean-up, seeding of disturbed drain banks and restoration within the working area. Supply and installation of a new 10.0 m long, 1000 mm diameter aluminized corrugated steel pipe (CSP) culvert with a 2.0 mm thickness (see specifications) with clear stone bedding material beneath pipe, minimum 150 mm thickness (approximately 10 tonnes), compacted Granular 'B' backfill up to the springline of pipe (approximately 10 tonnes), clean native backfill material above (approximately 30 m³), seeded surface (approximately 30 m²) and sloping stone end walls c/w filter fabric underlay (approximately 25 m²) providing a minimum 4.0 m (13 ft.) grassed top width. All surplus native materials resulting from the culvert installation are to be trucked away to an approved dumping site at the Contractor's expense.
- Road bridge replacement works, as follows:
 - Bridge No. 15-Walker Road - Station 1+750A – Removal and disposal of existing 58 m long 900 mm diameter concrete pipe, existing end walls and backfill off-site that are not suitable for native backfill. Supply and installation of a new 58 m long, 900 mm diameter reinforced concrete pipe A257.2 100-D. Clear stone bedding material beneath pipe, minimum 150 mm thickness (approximately 40 tonnes). Granular 'B' backfill up to pipe springline of pipe (approximately 70 tonnes), clean native or imported clean native backfill material from springline of pipe culvert to the existing ground (approximately 165 m³). Restoration of all grassed surfaces. Sloping stone end wall (approximately 20 m²). Note: Contractor may elect to salvage existing culvert for reuse provided it is carefully removed without damage.

- Bridge No. 16-Walker Road - Station 1+795A – Removal and disposal of existing 33 m long 600 mm diameter concrete pipe, existing end walls and backfill off-site that are not suitable for native backfill. Supply and installation of a new 33 m long, 900 mm diameter reinforced concrete pipe A257.2 100-D. Clear stone bedding material beneath pipe, minimum 150 mm thickness (approximately 25 tonnes). Beneath the road surface and shoulders, full Granular 'A' backfill is required up to the underside of the road surface and shoulders (approximately 175 tonnes). Beyond road surface and shoulders, Granular 'B' backfill up to pipe springline (approximately 10 tonnes), clean native or imported clean native backfill material from springline of pipe culvert to the underside of existing shoulder material (approximately 10 m³). Asphalt road restoration, 110 mm HL8 layer and 40 mm HL4 (approximately 60 tonnes), and restoration of all grassed surfaces. Sloping stone end wall (approximately 15 m²).
- Supply and installation of new concrete manhole and drain connections as follows:
 - Manhole No. 1 Station 1+778A - Supply and installation of one (1) new 2400 mm diameter precast manhole complete with steel flat style open top, as manufactured by Coldstream Concrete Inc. (or approved equal), and a minimum 300 mm deep sump. Work to include connection and capping of all tiles, as described herein, including grouting of all voids around pipes with non-shrink concrete grout. The grate is to be equipped with fasteners to secure grates to catch basins as supplied by the manufacturer.
- Supply and installation of flared inlet end sections on upstream ends of access bridges, as follows:
 - Bridge No. 4
 - Bridge No. 6
- Utility work(s), as follows:
 - Co-ordination with Union Gas Ltd. to facilitate locates of any existing underground pipe lines. Any utility relocation works required as a result of the drainage works if any (actual utility relocation costs) are at the expense of the operating utility as per Section 26 of the Drainage Act).
 - Co-ordination with Bell to facilitate locates of any existing underground utility lines. Any utility relocation works required as a result of the drainage works if any (actual utility relocation costs) are at the expense of the operating utility as per Section 26 of the Drainage Act).
 - Co-ordination with Town of Tecumseh PUC to facilitate locates of any existing underground water lines. Any utility relocation works required as a result of the drainage works if any (actual utility relocation costs) are at the expense of the operating utility as per Section 26 of the Drainage Act).
- Traffic Control in accordance with OTM Book 7.

Collins Branch Drain

- Brushing of the drain from Station 0+000B to Station 0+174B including the disposal by burning on-site or removal off-site with trimming and/or removal of existing trees as required to accommodate the drainage works. The work shall include disposal of brush by means of stockpiling and burning where permitted or alternatively disposed of off-site.
- Excavation, trucking and/or levelling of excavated materials works, as follows:
 - Excavation of the drain bottom only, as follows:
 - Station 0+000B to Station 0+010B, totalling approximately 10 lineal metres of drain and approximately 5 m³ of material.
 - Trucking of excavated materials, as follows:
 - Station 0+000B to Station 0+010B totalling approximately 5 m³ of material.
- Stone Erosion protection works as follows:
 - Station 0+000B - Supply and install approximately 20 m² (300 mm thick) of stone erosion protection (SEP) including new filter fabric underlay on drain banks at outlet.
 - (Roll No. 490-006901) – Station 0+144B - Supply and install approximately 10 m² (300 mm thick) of stone erosion protection (SEP) including new filter fabric underlay at the location of existing surface swale on east bank.

3.0 ACCESS TO THE WORK

Access to the drain shall be from Walker Road (County Road No. 11), McCord Lane and King's Highway No. 3. The Contractor shall make his/her own arrangements for any additional access for his/her convenience. All road areas and grass lawn areas disturbed shall be restored to original conditions at the Contractor's expense.

4.0 WORKING AREA

Collins Highway 3 Drain

One lane of Walker Road and one lane of King's Highway No. 3 shall remain open during the construction period and traffic control (found in General Specifications) maintained at all times. Any damages to lands and/or roads from the Contractor's work within the working area for the bridge sites shall be rectified to pre-existing conditions at his expense.

The Contractor shall restrict his equipment to the working corridors as specified in this Section. Any damage resulting from non-compliance with this Section shall be borne by the Contractor.

The working corridor shall be measured from the top of the drain bank and shall be as follows:

FROM STA.	TO STA.	PRIMARY (See Note 1)	SECONDARY (See Note 2)
0+000A	0+050A	6.0 m wide on north side of drain	-
0+050A	1+700A	King's Highway No. 3 R.O.W.	-
1+700A	1+720A	Walker Road R.O.W.	-
1+720A	1+812A	Walker Road R.O.W.	-
1+812A	1+850A	9.0 m wide on north side of drain	-
1+850A	2+036A	10.0 m wide on south side of drain*	-
2+036A	2+131A	10.0 m wide on east side of drain*	-

Note 1: *Primary working corridor* indicates the access corridor along the side of the drain where excavation and levelling is recommended (unless noted otherwise below and/or in the Specifications, as well as all purposes listed for Secondary Working Corridors).

Note 2: *Secondary working corridor* indicates the access corridor alongside the drain where construction equipment may travel for the purpose of trucking, drain bank repairs, tile inlet repairs, surface water inlet repairs, grass buffer strips and other miscellaneous works. **No disposal of fill or levelling of materials shall be permitted within a secondary working corridor. As further specified, use of this secondary working corridor may be further restricted due to site conditions. Read all Specifications, Drawings and/or notes before completing works.**

***Note:** *In the event that a landowner owns the property on both sides of the drain, the landowner can choose which side of the drain to place the spoil. The landowner should advise the Drainage Superintendent of their preference of spoil placement before improvements to the drain are made so that the Drainage Superintendent can notify the Contractor in advance.*

The Applicant being the Municipality (Town of Tecumseh) shall be required to obtain an Encroachment Permit from the Ministry of Transportation Ontario (MTO) prior to construction and adhere to its conditions as set out in Appendix 'A' of the permit. It is understood that MTO does not accept Encroachment Permit applications from the Contractor however the Municipality shall require the Contractor to fulfill conditions of these permits and accept responsibility for all costs incurred, as outlined throughout Special Provisions No. 15 & 16 contained herein where reference has been made to the Applicant. The Contractor may obtain a copy of the permit conditions (Appendix 'A') from the Municipality upon request.

The Applicant shall give the Emcon Services Incorporated Patrol Supervisor, five (5) working days notice PRIOR to commencing any work, and shall also inspect the site on completion with the Patrol Supervisor. If the Applicant is unable to contact the Patrol Supervisor, the District/Area office responsible for issuing the permit must be contacted five (5) days PRIOR to commencing any work.

The Applicant shall also contact the Technical Services Officer (Issuer of Permit), by Phone, Fax or Email five (5) working days notice PRIOR to commencing any work. If the Applicant is unable to contact the Technical Services Officer, the District/Area office responsible for issuing the permit must be contacted five (5) working days PRIOR to commencing any work.

The Applicant shall also provide notice to the Ministry of Transportation Traffic Operations Centre. Notification must be received by 1600 hours on the day PRIOR to commencing any work. This Permit may be temporarily revoked as result of the ministry wishing to carry out construction or other works in the area or for any other reasons, for any works carried out by the Applicant under this permit.

Collins Highway 3 Drain Branch

For the portion of the Collins Highway 3 Drain Branch between Station 0+000B and Station 0+241B, the working corridor shall be within the Walker Road (County Road No. 11) right-of-way. One lane of Walker Road shall remain open during the construction period and traffic control (found in General Specifications) maintained at all times. Any damages to lands and/or roads from the Contractor's work within the working area for the bridge sites shall be rectified to pre-existing conditions at his expense.

The Contractor shall restrict his equipment to the working corridors as specified in this Section. Any damage resulting from non-compliance with this Section shall be borne by the Contractor.

SPECIAL PROVISIONS – OPEN DRAIN

5.0 BRUSHING

Brushing shall be carried out on the entire drain within the above identified sections of the drain where required and as specified herein. **All** brush and trees located within the drain side slopes shall be cut parallel to the side slopes, as close to the ground as practicable. Tree branches that overhang the drain shall be trimmed. Small branches and limbs are to be disposed of by the Contractor along with the other brush. Tree stumps, where removed to facilitate the drain excavation and reshaping of the drain banks, may be burned by the Contractor where permitted; otherwise, they shall be disposed of, off the site. The Contractor shall make every effort to preserve mature trees which are beyond the drain side slopes, and the working corridors. If requested to do so by the Drainage Superintendent, the Contractor shall preserve certain mature trees within the designated working corridors (see Section 4.0).

Except as specified herein, all brush and trees shall be stockpiled adjacent to the drain within the working corridors. Stockpiles shall not be less than 100 m apart and shall be a minimum of 2.0 m from the edge of the drain bank. All brush, timber, logs, stumps, large stones or other obstructions and deleterious materials that interfere with the construction of the drain, as encountered along the course of the drain are to be removed from the drain by the Contractor. Large stones and other similar material shall be disposed of by the Contractor off the site.

Following completion of the work, the Contractor is to trim up any broken or damaged limbs on trees which remain standing, disposing of the branches cut off along with other brush and leaving the trees in a neat and tidy condition. The Contractor is to haul away the materials to an approved dump site. Since the trees and brush that are cut off flush with the earth surface may sprout new growth later, it is strongly recommended that the Municipality make arrangements for spraying this new growth at the appropriate time so as to kill the trees and brush.

As part of this work, the Contractor shall remove any loose timber, logs, stumps, large stones or other debris from the drain bottom and from the side slopes. **Timber, logs, stumps, large stones or other debris shall be disposed of off-site.**

6.0 EXCAVATION AND LEVELLING OF EXCAVATED MATERIALS

6.1 Excavation of Existing Drain Channel

In all cases, the Contractor shall use the benchmarks to establish the proposed grade. However, for convenience, the drawings provide the approximate depth from the surface of the ground and from the existing drain bottom to the proposed grades. **THE CONTRACTOR SHALL NOT EXCAVATE DEEPER THAN THE GRADELINES SHOWN ON THE DRAWINGS.** Should over-excavation of the drain bank occur, the Contractor will **not** be permitted to repair with native material packed into place by the excavator and reshaped. Should over-excavation occur, the Contractor will be required to have a bank repair detail engineered by a Professional Engineer (hired by the Contractor), to ensure long term stability of the bank is maintained. Such repairs shall be subject to approval by the Engineer and will be at no extra cost to the item.

If, during the setting out, the contractor finds an error in the benchmarks or points of reference provided by the Engineer or is uncertain as to the interpretation of the information provided or the work intended, he shall notify the Engineer immediately for additional verification or clarification before proceeding with construction.

All excavated material shall be handled as specified in Section 6.2. Materials deposited on the farmlands shall be within the working corridors, at least 1.0 m from the top of the drain bank, or as specified on the drawings. Upon allowing drying of excavated materials (if necessary) and as approved by the Drainage Superintendent, the Contractor shall level excavated materials in accordance with Section 6.2. Excavated material shall not be placed on dykes, in ditches, tiles or depressions intended to conduct water into the drain.

Seeding of the disturbed drain banks shall be completed immediately following drain construction and as specified in Section 17.

All excavation work shall be done in such a manner as to not harm any vegetation or trees, not identified in this report or by the Drainage Superintendent for clearing. Any damages to trees or vegetation caused by the Contractors work shall be rectified to the satisfaction of the Drainage Superintendent.

The Contractor shall exercise caution around existing tile inlets and shall confirm with the property owners that all tiles have been located, and tile ends repaired as specified.

6.2 Levelling of Excavated Materials

Excavation of the drain bottom shall be completed as specified in Section 6.1, above and also as specified below and as shown on the drawings.

Excavated drain materials shall be spread to a depth not to exceed 300 mm, unless specified otherwise on the drawings. The material shall be sufficiently levelled to allow further working by agricultural implements. All stones and other debris removed from the drain, which may interfere with agricultural implements, shall be disposed of off-site. Excavated material shall not be placed on dykes, in ditches, tiles or depressions intended to conduct water into the drain.

6.3 Trucking of Excavated Materials

The Contractor shall be solely responsible for acquiring all permits required from the Town of Tecumseh prior to hauling any fill materials off-site. The Contractor shall restore any such areas which are damaged by his operations, to original or better condition. The Contractor will be held liable for damages to roads, sodded areas and gardens, resulting from his non-compliance with these specifications.

7.0 INSULATE WATERMAIN LESS THAN 1.5 m IN DEPTH

OPSS 493 shall apply and govern except as extended or amended herein.

Where watermain cover is between 1.05 m and 1.5 m, the Contractor shall use closed-cell polystyrene boards (690 kPa compressive strength blue boards) with a minimum dimension of 50 mm thick and 600 mm wide, or 1.2 m wide for pipe diameter greater than 300 mm. A minimum of two layers shall be used for a total thickness of 100 mm.

Prior to placement of the polystyrene boards, bedding material shall be placed to a height of 150 mm over the top of the pipe, level and compacted.

The insulating boards shall be placed on the cover material with the long side parallel to the centerline of the watermain with a width of outside diameter + 600 mm. The boards shall be placed in staggered arrangement to eliminate continuous transverse joints. Each layer shall be placed to cover the joints of the layer immediately below.

The first lift of backfill material shall consist of 150 mm bedding material, which shall be end or side dumped onto the insulation board and spread in such a manner that construction equipment does not operate directly on the insulation. This layer shall be compacted with equipment that exerts a contact pressure of 520 kPa. Once this layer has been compacted, the remaining layers of backfill may be constructed utilizing conventional procedures.

Insulating concrete shall be used to insulate the watermain wherever watermain cover is less than 1.05 m. Insulating concrete shall be placed under the entire main above the bedding material to a minimum thickness of 150 mm. Insulating concrete shall consist of one part Portland Cement and eight parts of perlite or vermiculite aggregate by volume. Clean water shall be added to the mixture in sufficient quantity to permit the mix to be workable with as little water as possible.

8.0 STONE EROSION PROTECTION (SEP)

The Contractor shall supply and install the required quantities of graded stone rip-rap erosion protection materials where specified. All stone to be used for erosion protection shall be 125 - 250 mm clear **quarried rock** or OPSS 1001 placed over a non-woven filter fabric Terrafix 270R or approved equivalent. **Concrete rip-rap will not be permitted.**

The minimum thickness requirement of the erosion stone layer is 300 mm with no portion of the filter fabric to be exposed.

9.0 HYDRAULIC SEEDING OF DRAIN BANKS

All existing grassed areas disturbed by construction shall be hydraulic mulch seeded as specified herein. The existing ground surface to be seeded shall be loosened to a depth of 25 mm and shall be rendered uniformly loose for that 25 mm depth. The surface shall be predominantly fine and free from weeds and other unwanted vegetation. All other loose surface litter shall be removed and disposed of.

Hydraulic mulch shall consist of finely ground cellulose pulp derived from recycled newsprint and shall be dyed green. Its fiber consistency shall be approximately 60% fine fiber with the balance being paper particles, 40% of which shall be a diameter of 3 mm minimum and 6 mm maximum. Hydraulic mulch shall be applied at 2,000 kg per 10,000 m². Clean water shall be applied at 42,700 liters per 10,000 m².

Seeding and mulching shall be a one step process in which the seed, fertilizer and hydraulic mulch are applied simultaneously in a water slurry via the hydraulic seeder/mulcher. The materials shall be added to the supply tank while it is being loaded with water. The materials shall be thoroughly mixed into a homogeneous water slurry and shall be distributed uniformly over the prepared surface. The materials shall be measured by mass or by a mass-calibrated volume measurement, acceptable to the Drainage Superintendent.

The hydraulic seeder/mulcher shall be equipped with mechanical agitation equipment capable of mixing the materials into a homogenous state until applied. The discharge pumps and gun nozzles shall be capable of applying the material uniformly.

Grass seed shall be Canada No. 1 grass seed mixture meeting the requirements of a Waterway Slough Mixture as supplied by Growmark or approved equal, as follows:

<i>Creeping Red Fescue</i>	20%
<i>Meadow Fescue</i>	30%
<i>Tall Fescue</i>	30%
<i>Timothy</i>	10%
<i>White Clover</i>	10%

Bags shall bear the label of the supplier indicating the content by species, grade and mass. Seed shall be applied at a rate of 200 kg per 10,000 m².

Fertilizer shall be 8-32-16 applied at 350 kg per 10,000 m². It shall be in granular form, dry, free from lumps and in bags bearing the label of the manufacturer, indicating mass and analysis.

The hydraulic seeding shall be deemed "Completed by the Contractor" when the seed has established in all areas to the satisfaction of the Engineer. Re-seeding and/or other methods required to establish the grass will be given consideration to achieve the end result and the costs shall be incidental to the works.

10.0 ROAD SUBDRAIN OUTLET PIPE CONNECTIONS

Road subdrain outlet pipe connections and pre-fabricated tees connecting to the existing subdrain pipe shall consist of non-perforated corrugated high density polyethylene pipe (HDPE) smooth interior wall pipe of matching size meeting the following Specifications:

ASTM D3350, CSA B182.8-02 and OPSS 1840. The pipe is to provide a minimum pipe stiffness of 320 kPa. Shall be joined using (soil tight) "split" coupler joining system (Split couplers manufactured by Armtec Limited or approved equal), supplied by the pipe manufacturer and conforming to ASTM D3350, CSA B182.8-02 and OPSS 1840.

The Contractor shall remove the existing 2.5 m long 150 mm diameter corrugated steel pipe portion at the end of the subdrain outlet pipe and replace with a new 6 m length of 150 mm diameter HDPE drain connection pipe meeting the material and bedding specifications noted above and in accordance with OPSS 405 and OPSD 206.05. The connection to the existing subdrain outlet pipe shall remain a minimum distance of 3 metres away from the paved road surface. The new subdrain outlet connection pipe shall be embedded in 19 mm sized clearstone envelope wrapped in filter fabric. Where the road shoulder is disturbed by trenching, it shall be fully backfilled with Granular 'A' materials above the clearstone bedding around pipe and compacted to minimum 98% of Standard Proctor Density. Each subdrain outlet shall be marked at the connection to the main drainage pipe for the Collins Highway 3 Drain using a 2.2 m long galvanized steel T bar marker post.

11.0 CLEANING OF PRIVATE ACCESS CULVERTS

At the locations listed below, the Contractor shall clean the existing pipes or culverts to their full capacity and cross section or width. The operation may be carried out by mechanical means or by flushing. Any damage resulting from the Contractor's operation shall be rectified at his expense. All material removed from the pipes or culverts shall be transported to a dump site arranged by the Contractor. The Contractor shall be solely responsible for acquiring all permits required for the dump site. The Contractor shall take precautions during the construction period to avoid re-sedimentation of the pipes and culverts.

Any sediment deposited as a result of construction activities shall be removed at the Contractor's expense.

- Bridge No. 2 - Station 0+290A, 36 m long, 1500 x 900 mm concrete culvert.
- Bridge No. 8 – Station 1+130A, 34 m long, 900 mm diameter corrugated steel pipe (CSP) culvert.
- Bridge No. 14 – Station 1+605A, 118 m long, 1150 x 750 mm concrete pipe elliptical culvert.

12.0 ACCESS BRIDGE WORK

12.1 Location of New Bridges

The new culvert shall be installed as shown on the drawings attached hereto. The centerline of the new culvert shall be located to align itself with the existing laneway.

12.2 Removal of Existing Culverts

The Contractor shall exercise caution when removing these materials as to minimize damage to the drain banks. Any damage to the drain shall be restored to original conditions at the expense of the Contractor. The removed materials (existing culvert debris and end wall materials) shall be hauled away off-site.

12.3 Materials for New Bridges

Materials shall be as follows:

- | | |
|---------------------|---|
| <i>Culvert Pipe</i> | Bridge No. 2 – Station 0+290A: <i>New 25.0 m long, 1500 mm diameter aluminized Type II UltraFlo spiral rib steel pipe with wall thickness of 2.8 mm and 190 mm x 19 mm x 19 mm corrugation profile.</i> |
| | Bridge No. 3 – Station 0+490A: <i>New 14.0 m long, 1780 x 1360 mm aluminized Type II corrugated steel pipe arch (CSPA) with wall thickness of 2.8 mm and 125 mm x 25 mm corrugations with rolled ends.</i> |
| | Bridge No. 4 – Station 0+515A: <i>New 9.0 m long, 1780 x 1360 mm aluminized Type II corrugated steel pipe arch (CSPA) with wall thickness of 2.8 mm and 125 mm x 25 mm corrugations with rolled ends.</i> |
| | Bridge No. 5 – Station 0+582A: <i>New 20.0 m long, 1350 mm diameter aluminized Type II UltraFlo spiral rib steel pipe with wall thickness of 2.8 mm and 190 mm x 19 mm x 19 mm corrugation profile.</i> |
| | Bridge No. 6 – Station 0+620A: <i>New 8.5 m long, 1550 x 1200 mm aluminized Type II corrugated steel pipe arch (CSPA) with wall thickness of 2.8 mm and 125 mm x 25 mm corrugations with rolled ends.</i> |
| | Bridge No. 7 – Station 0+825A: <i>New 8.0 m long, 1000 mm diameter aluminized Type II corrugated steel pipe (CSP) with wall thickness of 2.0 mm and 68 mm x 13 mm corrugations with rolled ends.</i> |

Bridge No. 9 – Station 1+355A: New 15.0 m long, 1000 mm diameter aluminized Type II corrugated steel pipe (CSP) with wall thickness of 2.0 mm and 68 mm x 13 mm corrugations with rolled ends.

Bridge No. 10 – Station 1+380A: New 10.0 m long, 1000 mm diameter aluminized Type II corrugated steel pipe (CSP) with wall thickness of 2.0 mm and 68 mm x 13 mm corrugations with rolled ends.

Bridge No. 11 – Station 1+425A: New 25.0 m long, 1000 mm diameter aluminized Type II corrugated steel pipe (CSP) with wall thickness of 2.0 mm and 68 mm x 13 mm corrugations with rolled ends.

Bridge No. 12 – Station 1+460A: New 15.0 m long, 1000 mm diameter aluminized Type II corrugated steel pipe (CSP) with wall thickness of 2.0 mm and 68 mm x 13 mm corrugations with rolled ends.

Bridge No. 13 – Station 1+492A: New 15.0 m long, 1000 mm diameter aluminized Type II corrugated steel pipe (CSP) with wall thickness of 2.0 mm and 68 mm x 13 mm corrugations with rolled ends.

New culvert shall be joined with annular corrugated wide bolt and angle couplers (minimum of 8 corrugation overlap and matching pipe materials and thickness) and no single pipe less than 6.0 m in length. All pipes connected with couplers shall abut to each other with no more than a 25 mm gap between pipes prior to installation of the coupler and wrapped with filter fabric.

Pipe Bedding Below Pipe 20-25 mm clear stone conforming to OPSS Division 10.

Backfill up to Pipe Culvert Springline (Arch Pipe) 20-25 mm clear stone conforming to OPSS Division 10.

Backfill up to Pipe Culvert Springline (Round Pipe) Granular 'B' conforming to OPSS Division 10.

Backfill Above Pipe Springline up to Bottom of Driveway Surface Dry native material free of topsoil, organic matter, broken concrete, steel, wood and deleterious substances. Alternatively, Granular 'A' or 'B' conforming to OPSS Division 10.

Materials (Farm Access Bridges)

Backfill Material (Residential/Commercial Access Bridges) Granular 'B' conforming to OPSS Division 10.

<i>Backfill Material (Residential/Commercial Access Bridges w/ Asphalt Surface)</i>	<i>Granular 'A' made from crushed limestone conforming to OPSS Division 10.</i>
<i>Driveway Surface</i>	<i>Granular 'A' made from crushed limestone conforming to OPSS Division 10. Minimum 200 mm thickness.</i>
<i>Erosion Stone</i>	<i>All stone to be used for erosion protection shall be 125 - 250 mm clear quarried rock or OPSS 1004, minimum 300 mm thickness.</i>
<i>Buffer Strips</i>	<i>Dry native material free of topsoil, organic matter, broken concrete, steel, wood and deleterious substances.</i>
<i>Filter Fabric</i>	<i>"Non-Woven" geotextile filter fabric with a minimum strength equal to or greater than Terrafix 270R, Amoco 4546, Mirafi 140NC or approved equivalent.</i>

12.4 Culvert Installation

Suitable dykes shall be constructed in the drain so that the installation of the pipe can be accomplished in the dry. The drain bottom shall be cleaned, prepared, shaped and compacted to suit the new culvert configuration, as shown on the drawings. Granular materials shall be compacted to 100% of their maximum dry density; imported clean native materials shall be supplied, placed and compacted to 95% of their maximum dry density.

12.5 Sloping Stone End Walls

End walls shall be constructed of quarry stone rip-rap, as specified herein. Each end wall shall extend from the invert of the new culvert to the top of the proposed lane. The end walls shall be sloped 1 vertical to 1.5 horizontal with a filter fabric underlay surrounding the pipe and spanning across the entire width of the drain and wrapping around the drain banks to align with the ends of the new pipe culvert. The minimum thickness requirement of the erosion stone layer is 300 mm with no portion of the filter fabric to be exposed to sunlight.

12.6 Granular 'A' Driveway

The Contractor shall construct the driveway with a maximum 3% longitudinal grade approach over the new culvert providing a minimum 300 mm cover. This work includes the installation of a minimum 200 mm thickness of compacted Granular 'A' (crushed limestone) surface. The minimum top width of the driveway shall be as shown on the drawings.

12.7 Concrete Driveway

The Contractor shall construct the driveway with a maximum 3% longitudinal grade approach over the new culvert providing a minimum cover as per OPSD 805.020. This work includes the installation of a minimum 300 mm thickness of compacted Granular 'A' (crushed limestone) surface and a minimum 150 mm thickness of concrete driveway surface. The minimum top width of the driveway shall be as shown on the drawings.

12.8 Native Materials

Native materials suitable for use as backfill, as defined under Section 10.2, shall be salvaged from the existing bridge site, as required to complete the work as shown on the drawings, **(Native Backfill Zone only)**. Where there is an insufficient amount of native fill materials for backfilling the culvert, the Contractor may elect to import additional dry native materials or alternatively use Granular 'B' at his/her own expense.

12.9 Lateral Tile Drains

Should the Contractor encounter any lateral tiles within the proposed culvert limits not shown on attached drawings, the Contractor shall re-route the outlet tile drain(s) in consultation with the Drainage Superintendent, as required, to accommodate the new culvert. **Tile drain outlets through the wall of the new culvert pipe will not be permitted.** All costs associated with re-routing lateral tile drains (if any) shall be at the Contractor's expense.

Care must be taken in handling plastic drain pipe in cold weather to avoid causing damage.

Plastic drain pipe shall be held in position on planned grade immediately after installation by careful placement of backfill material.

12.10 Junction Chamber (JB1)

The Contractor shall arrange for the supply and installation of a new junction box at the location and elevation as shown on the drawings.

The Contractor shall install the precast structure plumb and true to line and grade. Precast base shall be set to the specified grade, shall be level and shall have uniform overall contact with the underlying soil.

Precast concrete junction chamber shall conform to the requirements of OPSS 407. The floor elevation shall be at least 300 mm below the invert of the outlet pipe in the wall of the chamber.

Pipe placed in the walls for inlet and outlet connections shall extend through the wall a sufficient distance to allow for connections. The pipes shall be trimmed flush with the inside wall and shall be securely sealed into place using grout.

The junction chamber shall be supplied with minimum 200 mm thick concrete lid. The top of the chamber lid shall have a manhole frame and grate as per OPSD 401.010 and the chamber shall have ladder rungs as per OPSD 405.010 for maintenance access.

13.0 ACCESS BRIDGE WORK – FUTURE REPLACEMENT

13.1 Location of New Bridges

The future replacement of Bridges Nos. 2, 8 and 14 shall be constructed in accordance with the specifications and drawings attached hereto. The centerline of the new culvert shall be located to align itself with the existing laneway in each case.

13.2 Removal of Existing Culverts

The Contractor shall exercise caution when removing these materials as to minimize damage to the drain banks. Any damage to the drain shall be restored to original conditions at the expense of the Contractor. The removed materials (existing culvert debris and end wall materials) shall be hauled away off-site and disposed of at an approved disposal site.

13.3 Materials for New Bridges

Materials shall be as follows:

<i>Culvert Pipe</i>	<p>Bridge No. 2 – Station 0+290A: New 36.0 m long, 1500 mm diameter aluminized Type II UltraFlo spiral rib steel pipe with wall thickness of 2.8 mm and 190 mm x 19 mm x 19 mm corrugation profile.</p> <p>Bridge No. 8 – Station 1+130A: New 38.0 m long, 1000 mm diameter aluminized Type II corrugated steel pipe (CSP) with wall thickness of 2.0 mm and 68 mm x 13 mm corrugations with rolled ends.</p> <p>Bridge No. 14 – Station 1+605A: New 119.0 m long, 1000 mm diameter aluminized Type II corrugated steel pipe (CSP) with wall thickness of 2.0 mm and 68 mm x 13 mm corrugations with rolled ends.</p> <p>All culvert pipes shall be aluminized Type II corrugated steel pipe (CSP) with rerolled ends. New culverts shall be joined with annular corrugated wide bolt and angle couplers (minimum of 8 corrugation overlap and matching pipe materials and thickness) and no single pipe less than 6.0 m in length. All pipes connected with couplers shall abut to each other with no more than a 25 mm gap between pipes prior to installation of the coupler and wrapped with filter fabric.</p>
<i>Pipe Bedding Below Pipe</i>	20-25 mm clear stone conforming to OPSS Division 10.
<i>Backfill up to Pipe Culvert Springline (Arch Pipe)</i>	20-25 mm clear stone conforming to OPSS Division 10.
<i>Backfill Material (Residential Access Bridges)</i>	Granular 'B' conforming to OPSS Division 10.
<i>Backfill Material (Access Bridges w/ Asphalt Surface)</i>	Granular 'A' made from crushed limestone conforming to OPSS Division 10. Minimum 200 mm thickness.
<i>Gravel Driveway Surface</i>	Granular 'A' made from crushed limestone conforming to OPSS Division 10. Minimum 200 mm thickness.
<i>Erosion Stone</i>	All stone to be used for erosion protection shall be 125 - 250 mm clear quarried rock or OPSS.Muni 1004, minimum 300 mm thickness.
<i>Driveway Buffer Strips</i>	Dry native material free of topsoil, organic matter, broken concrete, steel, wood and deleterious substances.
<i>Filter Fabric</i>	"Non-Woven" geotextile filter fabric with a minimum strength equal to or greater than Terrafix 270R, Amoco 4546, Mirafi 140NC or approved equivalent.

13.4 Culvert Installation

Suitable dykes shall be constructed in the drain so that the installation of the pipe can be accomplished in the dry. The drain bottom shall be cleaned, prepared, shaped and compacted to suit the new culvert configuration, as shown on the drawings. Granular materials shall be compacted to 100% of their maximum dry density; imported clean native materials shall be supplied, placed and compacted to 95% of their maximum dry density.

13.5 Sloping Stone End Walls

End walls shall be constructed of quarry stone rip-rap, as specified herein. Each end wall shall extend from the invert of the new culvert to the top of the proposed lane. The end walls shall be sloped 1 vertical to 1.5 horizontal with a filter fabric underlay surrounding the pipe and spanning across the entire width of the drain and wrapping around the drain banks to align with the ends of the new pipe culvert. The minimum thickness requirement of the erosion stone layer is 300 mm with no portion of the filter fabric to be exposed to sunlight.

13.6 Granular 'A' Driveway

The Contractor shall construct the driveway with a maximum 3% longitudinal grade approach over the new culvert providing a minimum 300 mm cover. This work includes the installation of a minimum 200 mm thickness of compacted Granular 'A' (crushed limestone) surface. The minimum top width of the driveway shall be as shown on the drawings.

13.7 Asphalt Driveway Restoration

Asphalt driveways shall be constructed as follows:

- 80 mm HL3 Surface Asphalt (two 40 mm lifts)
- 200 mm Granular 'A'

13.8 Native Materials

Native materials suitable for use as backfill, as defined under Section 10.2, shall be salvaged from the existing bridge site, as required to complete the work as shown on the drawings, **(Native Backfill Zone only)**. Where there is an insufficient amount of native fill materials for backfilling the culvert, the Contractor may elect to import additional dry native materials or alternatively use Granular 'B' at his/her own expense.

13.9 Lateral Tile Drains

Should the Contractor encounter any lateral tiles within the proposed culvert limits not shown on attached drawings, the Contractor shall re-route the outlet tile drain(s) in consultation with the Drainage Superintendent, as required, to accommodate the new culvert. **Tile drain outlets through the wall of the new culvert pipe will not be permitted.** All costs associated with re-routing lateral tile drains (if any) shall be at the Contractor's expense.

Care must be taken in handling plastic drain pipe in cold weather to avoid causing damage.

Plastic drain pipe shall be held in position on planned grade immediately after installation by careful placement of backfill material.

13.10 Site Cleanup and Restoration

As part of the work and upon completion, the Contractor shall remove and dispose of, off-site any loose timber, logs, stumps, large stones, rubber tires, cinder blocks or other debris from the drain bottom and from the side slopes. Where the construction works cross a lawn, the Contractor shall take extreme care to avoid damaging the lawn, shrubs and trees encountered. Upon completion of the work, the Contractor shall completely restore the area by the placement and fine grading of topsoil and seeding or sodding the area as specified by the Engineer or Drainage Superintendent.

14.0 ROAD CROSSING WORK

14.1 Existing Structure(s)

The Contractor shall completely remove the existing road bridge(s) as follows:

- Bridge No. 15 - Station 1+750A (Walker Road extension), consisting of a 58 m long, 900 mm diameter reinforced concrete pipe.
- Bridge No. 16 - Station 1+795A (Walker Road), consisting of a 33 m long, 600 mm diameter reinforced concrete pipe.

Dry, native material, free of topsoil, organic matter, broken concrete, steel, wood and deleterious substances may be used as native backfill for the new bridge beyond the limits of the road surface and shoulders.

All excess materials removed from the existing bridge structure that are not suitable to use as native backfill, shall be disposed of, off the site. Such materials include rubber tires, poured concrete end walls, broken concrete, stones, wood, metal, etc. Existing concrete blocks shall be salvaged for re-use in the new bridge end walls.

14.2 Location of Bridge Replacements

The bridge replacements shall be located and installed as shown on the drawings.

14.3 Materials

Materials shall be as follows:

<i>Culvert Pipe</i>	Bridge No. 15 – Station 1+750A: <i>New 58.0 m long, 900 mm diameter reinforced concrete pipe 100-D according to A257.2 standards.</i>
	Bridge No. 16 – Station 1+795A: <i>New 33.0 m long, 900 mm diameter reinforced concrete pipe 100-D according to A257.2 standards.</i>
<i>Pipe Bedding Below Pipe</i>	<i>20-25 mm clear stone conforming to OPSS Division 10.</i>
<i>Backfill (Under Road Surface and Shoulders)</i>	<i>Granular 'A' conforming to OPSS Division 10.</i>

<i>Beyond Road Surface and Shoulders, Backfill up to Pipe Springline</i>	<i>Granular 'B' conforming to OPSS Division 10.</i>
<i>Beyond Road Surface and Shoulders, Backfill Above Pipe Springline to Finished Topsoil Layer</i>	<i>Dry native material free of topsoil, organic matter, broken concrete, steel, wood and deleterious substances. Alternatively, Granular 'A' or 'B' conforming to OPSS Division 10.</i>
<i>Road Surface</i>	<i>Premium HL8 hot mix asphalt road base, minimum 110 mm thickness and premium HL4 hot mix asphalt road surface, minimum 40mm thickness as per OPSS 1150.</i>
<i>Erosion Stone</i>	<i>All stone to be used for erosion protection shall be 125 - 250 mm clear quarried rock or OPSS 1004, minimum 300 mm thickness.</i>
<i>Filter Fabric</i>	<i>"Non-Woven" geotextile filter fabric with a minimum strength equal to or greater than Terrafix 270R, Amoco 4546, Mirafi 140NC or approved equivalent.</i>

14.4 Lateral Tile Drains

Should the Contractor encounter any lateral tiles within the proposed culvert limits not shown on attached drawings, the Contractor shall re-route the outlet tile drain(s) in consultation with the Drainage Superintendent, as required, to accommodate the new culvert.

Tile drain outlets through the wall of the new culvert pipe will not be permitted. All costs associated with re-routing lateral tile drains (if any) shall be at the Contractor's expense.

Care must be taken in handling plastic drain pipe in cold weather to avoid causing damage.

Plastic drain pipe shall be held in position on planned grade immediately after installation by careful placement of backfill material.

14.5 Culvert Installation

Suitable dykes shall be constructed in the drain so that the installation of the pipe can be accomplished in the dry. The drain bottom shall be cleaned, prepared, shaped and compacted to suit the new culvert configuration, as shown on the drawings. Granular materials shall be compacted to 100% of their maximum dry density; native materials shall be compacted to 95% of their maximum dry density.

14.6 Sloping Stone End Walls

Sloping stone end walls shall be constructed of quarry stone rip-rap, as shown on the drawings and as specified herein. Each end wall shall extend from the invert of the new culvert to the top of the proposed lane. The end walls shall be sloped 1 vertical to 1.5 horizontal, with a filter fabric underlay surrounding the pipe and spanning across the entire width of the drain. The minimum thickness requirement of the erosion stone layer is 300 mm, with no portion of the filter fabric to be exposed.

14.7 Native Materials

Native materials suitable for use as backfill, as defined under Section 22.2, shall be salvaged from the existing bridge site as required to complete the work as shown on the drawings and/or from the drain widening between Station 0+015A to Station 0+264A. Any surplus native materials (if any) not required in the bridge installation shall be disposed of.

14.8 Road Restoration

The Contractor shall construct the driveway as shown on the drawings. This work includes the removal of topsoil, placement of compacted native material, and the installation of a minimum of 750 mm of compacted Granular 'A' surface (crushed limestone). The width of the driveway and layout of gravel drain surface shall be as shown on the drawings.

Asphalt roads shall be constructed as follows:

- 40 mm HL4 surface asphalt
- 110 mm HL8 base asphalt (two 55 mm lifts)
- 750 mm Granular 'A'

14.9 Site Cleanup and Restoration

As part of the work and upon completion, the Contractor shall remove and dispose of, off-site any loose timber, logs, stumps, large stones, rubber tires, cinder blocks or other debris from the drain bottom and from the side slopes. Where the construction works cross a lawn, the Contractor shall take extreme care to avoid damaging the lawn, shrubs and trees encountered. Upon completion of the work, the Contractor shall completely restore the area by the placement and fine grading of topsoil and seeding or sodding the area as specified by the Engineer or Drainage Superintendent.

15.0 FUTURE ROAD CROSSING WORK-COLLINS BRANCH DRAIN

15.1 Existing Structure(s)

The Contractor shall completely remove the existing road bridge(s) as follows:

- Bridge No. 1B - Station 0+196B (McCord Lane), consisting of a 45 m long, 600 mm diameter H.D.P.E. pipe.

Dry, native material, free of topsoil, organic matter, broken concrete, steel, wood and deleterious substances may be used as native backfill for the new bridge beyond the limits of the road surface and shoulders. All excess materials removed from the existing bridge structure that are not suitable to use as native backfill, shall be disposed of, off the site. Such materials include rubber tires, poured concrete end walls, broken concrete, stones, wood, metal, etc. Existing concrete blocks shall be salvaged for re-use in the new bridge end walls.

15.2 Location of Future Bridge Replacement

The bridge replacement shall be located and installed as shown on the drawings.

15.3 Materials

Materials shall be as follows:

<i>Culvert Pipe</i>	Bridge No. 1B – Station 0+196B: <i>New 45.0 m long, 600 mm diameter solid (non-perforated) corrugated High Density Polyethylene (H.D.P.E.) smooth wall interior (Armtec Boss 2000 or approved equivalent) unless otherwise specified conforming to the following specifications: ASTM @3350, CSA B182.8-02 and OPSS 1840. The pipe is to provide a minimum pipe stiffness of 320 kPa.</i> <i>Joined using (soil tight) “split” coupler joining system (Split couplers manufactured by Armtec Limited or approved equal), supplied by the pipe manufacturer and conforming to ASTM D3350, CSA 182.8-02 and OPSS 1840. Joints wrapped in “Non-Woven” geotextile filter fabric with a minimum strength equal to or greater than Terrafix 270R, Amoco 446, Mirafi 140NC or approved equivalent.</i>
<i>Pipe Bedding Below Pipe</i>	<i>20-25 mm clear stone conforming to OPSS Division 10.</i>
<i>Backfill (Under Road Surface and Shoulders)</i>	<i>Granular 'A' conforming to OPSS Division 10.</i>
<i>Beyond Road Surface and Shoulders, Backfill up to Pipe Springline</i>	<i>Granular 'B' conforming to OPSS Division 10.</i>
<i>Beyond Road Surface and Shoulders, Backfill Above Pipe Springline to Finished Topsoil Layer</i>	<i>Dry native material free of topsoil, organic matter, broken concrete, steel, wood and deleterious substances. Alternatively, Granular 'A' or 'B' conforming to OPSS Division 10.</i>
<i>Road Surface</i>	<i>Premium HL3 hot mix asphalt road surface, minimum 80 mm thickness as per OPSS 1150.</i>
<i>Erosion Stone</i>	<i>All stone to be used for erosion protection shall be 125 - 250 mm clear quarried rock or OPSS 1004, minimum 300 mm thickness.</i>
<i>Filter Fabric</i>	<i>"Non-Woven" geotextile filter fabric with a minimum strength equal to or greater than Terrafix 270R, Amoco 4546, Mirafi 140NC or approved equivalent.</i>

15.4 Lateral Tile Drains

Should the Contractor encounter any lateral tiles within the proposed culvert limits not shown on attached drawings, the Contractor shall re-route the outlet tile drain(s) in consultation with the Drainage Superintendent, as required, to accommodate the new culvert. **Tile drain outlets through the wall of the new culvert pipe will not be permitted.** All costs associated with re-routing lateral tile drains (if any) shall be at the Contractor's expense.

Care must be taken in handling plastic drain pipe in cold weather to avoid causing damage.

Plastic drain pipe shall be held in position on planned grade immediately after installation by careful placement of backfill material.

15.5 Culvert Installation

Suitable dykes shall be constructed in the drain so that the installation of the pipe can be accomplished in the dry. The drain bottom shall be cleaned, prepared, shaped and compacted to suit the new culvert configuration, as shown on the drawings. Granular materials shall be compacted to 100% of their maximum dry density; native materials shall be compacted to 95% of their maximum dry density.

15.6 Sloping Stone End Walls

Sloping stone end walls shall be constructed of quarry stone rip-rap, as shown on the drawings and as specified herein. Each end wall shall extend from the invert of the new culvert to the top of the proposed lane. The end walls shall be sloped 1 vertical to 1.5 horizontal, with a filter fabric underlay surrounding the pipe and spanning across the entire width of the drain. The minimum thickness requirement of the erosion stone layer is 300 mm, with no portion of the filter fabric to be exposed.

15.7 Native Materials

Native materials suitable for use as backfill, as defined under Section 22.2, shall be salvaged from the existing bridge site as required to complete the work as shown on the drawings and/or from the drain widening between Station 0+015A to Station 0+264A. Any surplus native materials (if any) not required in the bridge installation shall be disposed of.

15.8 Driveway Restoration

The Contractor shall construct the driveway as shown on the drawings. This work includes the removal of topsoil, placement of compacted native material, and the installation of a minimum of 750 mm of compacted Granular 'A' surface (crushed limestone). The width of the driveway and layout of gravel drain surface shall be as shown on the drawings. Asphalt roads shall be constructed as follows:

- 40 mm HL4 surface asphalt
- 110 mm HL8 base asphalt (two 55 mm lifts)

15.9 Site Cleanup and Restoration

As part of the work and upon completion, the Contractor shall remove and dispose of, off-site any loose timber, logs, stumps, large stones, rubber tires, cinder blocks or other debris from the drain bottom and from the side slopes. Where the construction works cross a lawn, the Contractor shall take extreme care to avoid damaging the lawn, shrubs and trees encountered. Upon completion of the work, the Contractor shall completely restore the area by the placement and fine grading of topsoil and seeding or sodding the area as specified by the Engineer or Drainage Superintendent.

16.0 ON-SITE AND EXCESS SOIL MANAGEMENT

The Contractor's attention is hereby drawn to the fact that construction of this Contract will necessitate special measures being taken with respect to the management of on-site and excess soil to meet the requirements of Ontario Regulation 406/19 On-Site and Excess Soil Management and supporting documents, in particular the Rules for Soil Management and Excess Soil Quality Standards, MECP, December 2019.

The Contractor shall prepare an excavation contingency plan in compliance with Section 23 of O.Reg. 406/19 and submit the procedure to the Owner for review and approval prior to excavating any soil in the Project Area.

The Contractor is responsible for ensuring that any vehicle hauling excess soil from the project area meets the criteria listed in Section 17 of O.Reg. 406/19 and can provide the information set out in Section 18 of O.Reg. 406/19 upon request.

In general, on-site storage will not be permitted, unless special approval is provided by the Town. If required and approved, on-site soil storage shall comply with the Soil Storage Rules set out in Section C of the Rules for Soil Management and Excess Soil Quality Standards.

16.1 Chemical Soils Analysis and Results

An Environmental Review Report and Soil Characterization Report (both dated November 2021) have been prepared for the Project Area.

As described in the Soil Characterization Report, soils are recommended to be managed according to the identified reuse potential, described as follows:

- Excess soils are considered to meet the Table 1 Residential ESQS, with the exception of EC and SAR (across the entire Project Area), barium (for soils west of CD-103), uranium (for soils east of CD-101) and PHC fraction F4 (across the entire Project Area).
- Excess soils are considered to meet the Table 2 AgO ESQS, with the exception of EC and SAR (across the entire Project Area) and arsenic (for soils west of CD-102).
- Excess soils are considered to meet the Table 3.1 RPI and ICC ESQS, with the exception of EC and SAR (across the entire Project Area).

Due to the presence of these salt-based impacts,

- The excess soil is finally placed at one of the following locations:
 - Where it is reasonable to expect that the soil will be affected by the same chemicals as a result of continued application of a substance for the safety of vehicular or pedestrian traffic under conditions of snow or ice;
 - At an industrial or commercial property use and to which non-potable standards would be applicable; or
 - At least 1.5 metres below the surface of the soil.
- The excess soil is not finally placed at any of the following locations:
 - Within 30 metres of a waterbody;
 - Within 100 metres of a potable water well or area with an intended property use that may require a potable water well; or

- A location that will be used for growing crops or pasturing livestock unless the excess soil is placed 1.5 metres or greater below the soil surface.
- The project leader or operator of the Project Area has informed the reuse site owner or operator that the excess soil is from a location that may be expected to contain the chemical and, if sampling and analysis has been conducted in accordance with the Regulation, the project leader or operator of the Project Area has provided relevant sampling results to the reuse site owner or operator, including the soil characterization report if prepared, and identified and communicated any potential risks to surface water and ground water to the reuse site owner or operator.

The Contractor shall not claim any misunderstanding with regard to subsurface physical or chemical conditions provided in the reports for this contract. No claims related to Contract delays while obtaining an approved disposal/reuse site will be paid to the Contractor.

16.2 Excess Excavated Material

Material excavated in carrying out the work of the various tender items included in this Contract which is surplus to the requirements of the Contract shall be reused offsite at the Contractor's expense in accordance with OPSS 180. It is the Contractor's responsibility to find a suitable reuse site and no claims related to Contract delays while obtaining an approved reuse site will be paid to the Contractor. Any additional chemical testing required by reuse sites shall be at the Contractor's expense. The Contractor shall determine the appropriate reuse site, and all costs associated with the disposal shall be at the Contractor's expense.

All excess soils must be finally placed within a period of 90 days following excavation.

The Contractor shall provide the Contract Administrator with a copy of OPSF 180-2 form, "SITE SELECTION NOTIFICATION FOR MATERIAL MANAGED AS DISPOSABLE FILL" as well as a copy of OPSF 180-3 form, "PROPERTY OWNER'S RELEASE" two weeks prior to the start of excavation activities. The Contractor shall certify that soil reuse sites can accept the volume and quality of excess soil being transported from the project area.

The Contractor is not permitted to start any excavation works until these forms have been signed and provided the Contract Administrator.

This item applies to any item that includes excavation, removal and reuse of excess material. All costs associated with the requirements of this special provision are to be included within the unit prices for those items.

GENERAL SPECIFICATIONS

1.0 AGREEMENT AND GENERAL CONDITIONS

The part of the Specifications headed "Special Provisions" which is attached hereto forms part of this Specification and is to be read with it. Where there is any difference between the requirements of this General Specification and those of the Special Provisions, the Special Provisions shall govern.

Where the word "Drainage Superintendent" 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.

Tenders will be received and contracts awarded only in the form of a lump sum contract for the completion of the whole work or of specified sections thereof. The Tenderer agrees to enter into a formal contract with the Municipality upon acceptance of the tender. The General Conditions of the contract and Form of Agreement shall be those of the Stipulated Price Contract CCDC2-Engineers, 1994 or the most recent revision of this document.

2.0 EXAMINATION OF SITE, PLANS AND SPECIFICATIONS

Each tenderer must visit the site and review the plans and specifications before submitting his/her tender and must satisfy himself/herself as to the extent of the work and local conditions to be met during the construction. Claims made at any time after submission of his/her tender that there was any misunderstanding of the terms and conditions of the contract relating to site conditions, will not be allowed. The Contractor will be at liberty, before bidding to examine any data in the possession of the Municipality or of the Engineer.

The quantities shown or indicated on the drawings or in the report are estimates only and are for the sole purpose of indicating to the tenderers the general magnitude of the work. The tenderer is responsible for checking the quantities for accuracy prior to submitting his/her tender.

3.0 MAINTENANCE PERIOD

The successful Tenderer shall guarantee the work for a period of one (1) year from the date of acceptance thereof from deficiencies that, in the opinion of the Engineer, were caused by faulty workmanship or materials. The successful Tenderer shall, at his/her own expense, make good and repair deficiencies and every part thereof, all to the satisfaction of the Engineer. Should the successful Tenderer for any cause, fail to do so, then the Municipality may do so and employ such other person or persons as the Engineer may deem proper to make such repairs or do such work, and the whole costs, charges and expense so incurred may be deducted from any amount due to the Tenderer or may be collected otherwise by the Municipality from the Tenderer.

4.0 GENERAL CO-ORDINATION

The Contractor shall be responsible for the coordination between the working forces of other organizations and utility companies in connection with this work. The Contractor shall have no cause of action against the Municipality or the Engineer for delays based on the allegation that the site of the work was not made available to him by the Municipality or the Engineer by reason of the acts, omissions, misfeasance or non-feasance of other organizations or utility companies engaged in other work.

5.0 RESPONSIBILITY FOR DAMAGES TO UTILITIES

The Contractor shall note that overhead and underground utilities such as hydro, gas, telephone and water are not necessarily shown on the drawings. It is the Contractor's responsibility to contact utility companies for information regarding utilities, to exercise the necessary care in construction operations and to take other precautions to safeguard the utilities from damage. All work on or adjacent to any utility, pipeline, railway, etc., is to be carried out in accordance with the requirements of the utility, pipeline, railway, or other, as the case may be, and its specifications for such work are to be followed as if they were part of this specification. The Contractor will be liable for any damage to utilities.

6.0 CONTRACTOR'S LIABILITY

The Contractor, his/her agents and all workmen or persons under his/her control including sub-contractors, shall use due care that no person or property is injured and that no rights are infringed in the prosecution of the work. The Contractor shall be solely responsible for all damages, by whomsoever claimable, in respect to any injury to persons or property of whatever description and in respect of any infringement of any right, privilege or easement whatever, occasioned in the carrying on of the work, or by any neglect on the Contractor's part.

The Contractor shall indemnify and hold harmless the Municipality and the Engineer, their agents and employees from and against claims, demands, losses, costs, damages, actions, suits, or proceedings arising out of or attributable to the Contractor's performance of the contract.

7.0 PROPERTY BARS AND SURVEY MONUMENTS

The Contractor shall be responsible for marking and protecting all property bars and survey monuments during construction. All missing, disturbed or damaged property bars and survey monuments shall be replaced at the Contractor's expense, by an Ontario Land Surveyor.

8.0 MAINTENANCE OF FLOW

The Contractor shall, at his/her own cost and expense, permanently provide for and maintain the flow of all drains, ditches and water courses that may be encountered during the progress of the work.

9.0 ONTARIO PROVINCIAL STANDARDS

Ontario Provincial Standard Specifications (OPSS) and Ontario Provincial Standard Drawings (OPSD) shall apply and govern at all times unless otherwise amended or extended in these Specifications or on the Drawing. Access to the electronic version of the Ontario Provincial Standards is available online through the MTO website, free of charge to all users. To access the electronic standards on the Web go to <http://www.mto.gov.on.ca/english/transrd/>. Under the title Technical Manuals is a link to the Ontario Provincial Standards. Users require Adobe Acrobat to view all pdf files.

10.0 APPROVALS, PERMITS AND NOTICES

The construction of the works and all operations connected therewith are subject to the approval, inspection, by-laws and regulations of all Municipal, Provincial, Federal and other authorities having jurisdiction in respect to any matters embraced in this Contract. The Contractor shall obtain all approvals and permits and notify the affected authorities when carrying out work in the vicinity of any public utility, power, underground cables, railways, etc.

11.0 SUBLETTING

The Contractor shall keep the work under his/her personal control, and shall not assign, transfer, or sublet any portion without first obtaining the written consent of the Municipality.

12.0 TIME OF COMPLETION

The Contractor shall complete all work on or before the date fixed at the time of tendering. The Contractor will be held liable for any damages or expenses occasioned by his/her failure to complete the work on time and for any expenses of inspection, superintending, re-tendering or re-surveying, due to their neglect or failure to carry out the work in a timely manner.

13.0 TRAFFIC CONTROL

The Contractor will be required to control vehicular and pedestrian traffic along roads at all times and shall, at his/her own expense, provide for placing and maintaining such barricades, signs, flags, lights and flag persons as may be required to ensure public safety. The Contractor will be solely responsible for controlling traffic and shall appoint a representative to maintain the signs and warning lights at night, on weekends and holidays and at all other times that work is not in progress. All traffic control during construction shall be strictly in accordance with the **Occupational Health and Safety Act** and the current version of the **Ontario Traffic Manuals**. Access to the electronic version of the **Ontario Traffic Manual** is available online through the MTO website, free of charge to all users. To access the electronic standards on the Web go to <http://www.mto.gov.on.ca/english/transrd/>, click on "Library Catalogue," under the "Title," enter "Ontario Traffic Manual" as the search. Open the applicable "Manual(s)" by choosing the "Access Key," once open look for the "Attachment," click the pdf file. Users require Adobe Acrobat to view all pdf files.

Contractors are reminded of the requirements of the Environmental Protection Act and Occupational Health and Safety Act (of Ontario) pertaining to Traffic Protection Plans for workers and Traffic Control Plan for Public Safety. The Collins Highway 3 Drain and Collins Highway 3 Branch Drain are along the roadside (King's Highway No. 3 and Walker Road) and as noted above will require proper traffic control during all phases of the project. The Contractor and their contractor(s) are responsible for all safety precautions and shall assume all liability for accidents. Two-way traffic must be maintained with a minimum of disruption at all times unless arrangements have been approved by the ministry. Traffic safety measures must be taken in accordance with the Ontario Traffic Manual, Book 7, March 2014.

14.0 SITE CLEANUP AND RESTORATION

As part of the work and upon completion, the Contractor shall remove and dispose of, off-site any loose timber, logs, stumps, large stones, rubber tires, cinder blocks or other debris from the drain bottom and from the side slopes. Where the construction works cross a lawn, the Contractor shall take extreme care to avoid damaging the lawn, shrubs and trees encountered. Upon completion of the work, the Contractor shall completely restore the area by the placement and fine grading of topsoil and seeding or sodding the area as specified by the Engineer or Drainage Superintendent.

15.0 UTILITY RELOCATION WORKS

In accordance with Section 26 of the Drainage Act, if utilities are encountered during the installation of the drainage works that conflict with the placement of the new culvert, the operating utility company shall relocate the utility at their own costs. The Contractor however will be responsible to co-ordinate these required relocations (if any) and their co-ordination work shall be considered incidental to the drainage works.

16.0 FINAL INSPECTION

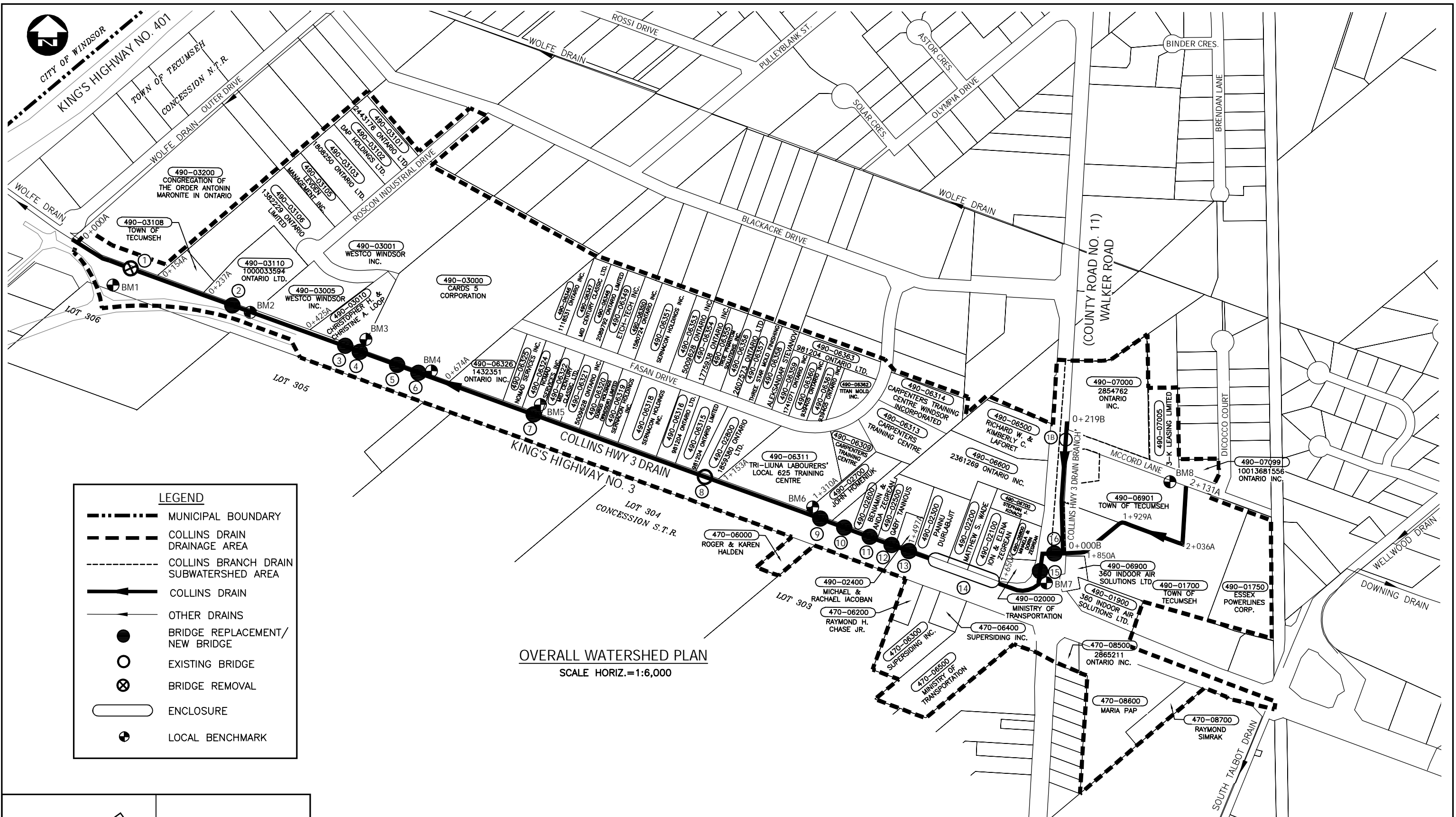
All work shall be carried out to the satisfaction of the Drainage Superintendent for the Municipality, in compliance with the specifications, drawings and the Drainage Act. Upon completion of the project, the work will be inspected by the Engineer and the Drainage Superintendent. Any deficiencies noted during the final inspection shall be immediately rectified by the Contractor.

Final inspection will be made by the Engineer within 20 days after the Drainage Superintendent has received notice in writing from the Contractor that the work is completed, or as soon thereafter as weather conditions permit.

17.0 FISHERIES CONCERNS

Standard practices to be followed to minimize disruption to fish habitat include embedment of the culvert a minimum 10% below grade, constructing the work 'in the dry' and cutting only trees necessary to do the work (no clear-cutting). No in-water work is to occur during the timing window unless otherwise approved by the appropriate authorities.

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LEGEND

- MUNICIPAL BOUNDARY
- - - COLLINS DRAIN DRAINAGE AREA
- - - COLLINS BRANCH DRAIN SUBWATERSHED AREA
- COLLINS DRAIN
- OTHER DRAINS
- BRIDGE REPLACEMENT/NEW BRIDGE
- EXISTING BRIDGE
- ⊗ BRIDGE REMOVAL
- ▭ ENCLOSURE
- ⊕ LOCAL BENCHMARK

OVERALL WATERSHED PLAN
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1	CLIENT REVIEW	OCT. 6/22	MDH

DESIGN	MDH	REVIEWED BY	EPS
DRAWN	WLB/AJL	CHECKED BY	TRO
DATE	May 22, 2026		
SCALE	AS SHOWN		

DILLON CONSULTING

PROJECT NO. 14-9799

DRAWING SCALES BASED ON A 11" X 17" SHEET

'SCHEDULE G'

Drainage Report for the
COLLINS HWY 3 DRAIN & BRANCH
Town of Tecumseh

SHEET TITLE
OVERALL WATERSHED PLAN

PAGE NO.
1 of 14

May 20, 2026 - 12:55pm C:\pwworking\directory\projects\2017\33\wib\d0183644\149799-03-DRN-CON (PIC MAR2026).dwg

TABLE 1 - BRIDGE DESIGN INFORMATION

DESCRIPTION	BRIDGE No. 2 (DRIVEWAY)	BRIDGE No. 3	BRIDGE No. 4	BRIDGE No. 5	BRIDGE No. 6	BRIDGE No. 7	BRIDGE No. 9	BRIDGE No. 10	BRIDGE No. 11	BRIDGE No. 12	BRIDGE No. 13	BRIDGE No. 15	BRIDGE No. 16
BRIDGE ϕ LOCATION (STA.)	0+290A	0+490A	0+515A	0+582A	0+620A	0+825A	1+355A	1+380A	1+425A	1+460A	1+492A	1+750A	1+795A
BRIDGE TYPE	RESIDENTIAL	RESIDENTIAL	HYDRANT	COMMERCIAL	HYDRANT	HYDRANT	RESIDENTIAL	HYDRANT	RESIDENTIAL	RESIDENTIAL	RESIDENTIAL	ROAD	ROAD
PIPE INVERT ELEV. U/S SIDE (m)	186.33	186.97	186.99	187.01	187.04	187.75	188.86	188.89	188.94	188.98	189.01	189.28	189.31
PIPE INVERT ELEV. D/S SIDE (m)	186.30	186.95	186.97	186.99	187.02	187.73	188.84	188.87	188.92	188.96	188.99	189.22	189.27
TOP OF ϕ DRIVEWAY SURFACE ELEV. (m)	188.88	188.86	188.68	189.00	188.62	189.05	190.89	190.61	191.26	191.09	191.28	191.02	191.08
DRAIN BOTTOM (m) (DESIGN)	186.45	187.10	187.11	187.13	187.15	187.83	188.95	189.98	189.03	189.07	189.10	189.34	189.38
MIN. TOP WIDTH OF DRIVEWAY (m)	6.1	6.1	4.0	12.2	4.0	4.0	6.1	4.0	6.1	6.1	6.1	-	24.0
MIN. CULVERT GRADE (%)	0.10	0.10	0.10	0.10	0.10	0.30	0.11	0.11	0.11	0.11	0.11	0.10	0.10
CULVERT TYPE	ULTRAFLO	CSPA	CSPA	ULTRAFLO	CSPA	CSP	CSP	CSP	CSP	CSP	CSP	RCP	RCP
CULVERT MATERIAL	ALUMINIZED	ALUMINIZED	ALUMINIZED	ALUMINIZED	ALUMINIZED	ALUMINIZED	ALUMINIZED	ALUMINIZED	ALUMINIZED	ALUMINIZED	ALUMINIZED	CONCRETE	CONCRETE
CULVERT LENGTH (m)	25.0	14.0	9.0	20.0	8.5	8.0	15.0	10.0	25.0	15.0	15.0	58.0	33.0
CULVERT THICKNESS (mm)	2.8	2.8	2.8	2.8	2.8	2.0	2.0	2.0	2.0	2.0	2.0	-	-
CULVERT CORRUGATIONS (mm)	190x19	125x25	125x25	190x19	125x25	68x13	68x13	68x13	68x13	68x13	68x13	-	-
PIPE SIZE (mm)	1500	1780x1360	1780x1360	1350	1550x1200	1000	1000	1000	1000	1000	1000	900	900
CULVERT ENDWALL TYPE	SLOPING	SLOPING	SLOPING	SLOPING	SLOPING	SLOPING	SLOPING	SLOPING	SLOPING	SLOPING	SLOPING	SLOPING	SLOPING

TABLE 2 - FUTURE BRIDGE DESIGN INFORMATION

DESCRIPTION	BRIDGE No. 2 (FUTURE) LAWN ENCLOSURE	BRIDGE No. 8 (FUTURE)	BRIDGE No. 14 (FUTURE)
BRIDGE LOCATION (STA.)	0+290A	1+130A	1+605A
BRIDGE TYPE	RESIDENTIAL	RES/COMMERCIAL	RESIDENTIAL
PIPE INVERT ELEV. U/S SIDE(m)	186.37	188.63	189.16
PIPE INVERT ELEV. D/S SIDE(m)	186.33	188.61	189.04
TOP OF ϕ DRIVEWAY SURFACE ELEV. (m)	188.88	190.50	191.58
DRAIN BOTTOM (m) (DESIGN)	186.50	188.71	189.20
MIN. TOP WIDTH OF DRIVEWAY (m)	N/A	12.2	6.1
MIN. CULVERT GRADE (%)	0.10	0.11	0.11
CULVERT TYPE	ULTRAFLO	CSP	CSP
CULVERT MATERIAL	ALUMINIZED	ALUMINIZED	ALUMINIZED
CULVERT LENGTH (m)	36.0	38.0	119.0
CULVERT THICKNESS (mm)	2.8	2.0	2.0
CULVERT CORRUGATIONS (mm)	190x19	68x13	68x13
PIPE SIZE (mm)	1500	1000	1000
CULVERT ENDWALL TYPE	SLOPING	SLOPING	SLOPING

SITE BENCHMARKS

- BM1**-TOP OF NORTHEAST CORNER OF CONC. PAD LOCATED 40m SOUTHWEST OF COLLINS HWY 3 DRAIN ϕ AT STA. 0+185A. ELEVATION=188.57m
- BM2**-CUT CROSS LOCATED ON SOUTH END OF BRIDGE NO. 2 EAST HEADWALL AT STA. 0+320A. ELEVATION=188.65m
- BM3**-TOP OF FIRE HYDRANT APPROX. 3m NORTHEAST OF ϕ OF COLLINS HWY 3 DRAIN AT STA. 0+515A. ELEVATION=189.56m
- BM4**-TOP OF FIRE HYDRANT APPROX. 4m NORTHEAST OF ϕ OF COLLINS HWY 3 DRAIN AT STA. 0+620A. ELEVATION=189.75m
- BM5**-TOP OF FIRE HYDRANT APPROX. 3.5m NORTHEAST OF ϕ OF COLLINS HWY 3 DRAIN AT STA. 0+825A. ELEVATION=190.11m
- BM6**-TOP OF CONCRETE MONUMENT APPROX. 4m NORTHEAST OF ϕ OF COLLINS HWY 3 DRAIN AT STA. 1+330A. ELEVATION=190.86m
- BM7**-TOP OF SOUTHWEST BOLT ON LIGHT STANDARD BASE ON EAST SIDE OF COLLINS HWY 3 DRAIN AT STA. 1+727A. ELEVATION=191.38m
- BM8**-TOP OF NORTHWEST END OF CONCRETE PAD FOR COMMUNITY MAILBOX ON MCCORD LANE APPROXIMATELY 50m WEST OF COLLINS HWY W DRAIN STA. 2+131A. ELEVATION=190.99m

NOTE: SUPPLY & INSTALL FLARED INLET END SECTION ON UPSTREAM END OF BRIDGE NO. 3-6, IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS AS SUPPLIED BY ARMTEC OR APPROVED EQUAL.
 SUPPLY & INSTALL FLARED INLET END SECTION ON UPSTREAM END OF BRIDGE NO. 2 IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS AS SUPPLIED BY ARMTEC OR APPROVED EQUAL. (FUTURE MAINTENANCE)

NOTE: CONTRACTOR SHALL ARRANGE TO HAVE ALL UTILITY LOCATES COMPLETED ONSITE PRIOR TO ANY EXCAVATION WORK. DILLON CONSULTING LIMITED DOES NOT GUARANTEE THE ACCURACY OF THE EXISTING UTILITIES SHOWN ON THE DRAWINGS. CONTRACTOR IS TO VERIFY THE LOCATION PRIOR TO COMMENCING WORK.

NOTE: CONTRACTOR TO VERIFY BENCHMARKS PRIOR TO CONSTRUCTION.

'SCHEDULE G'



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MDH	EPS
DRAWN	CHECKED BY
WLB/AJL	TRO
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SCALE	AS SHOWN

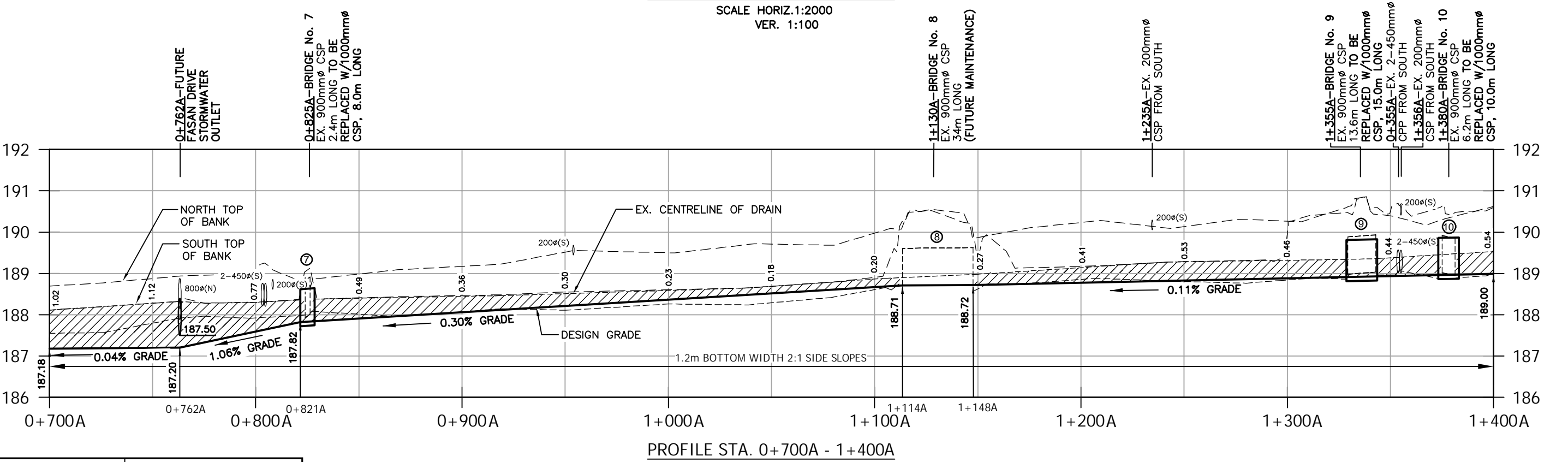
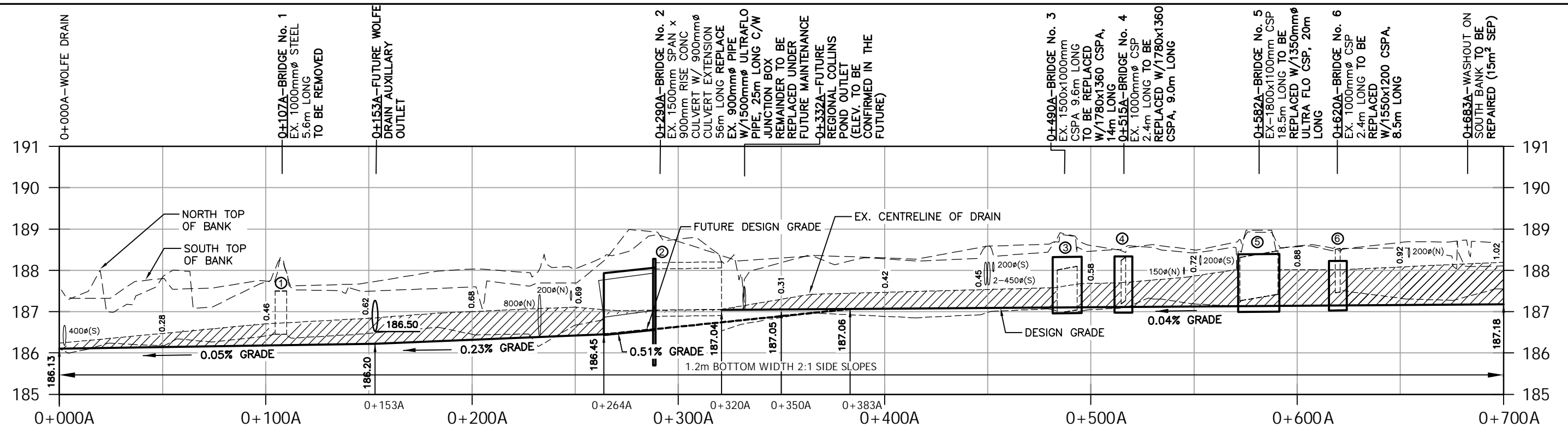
PROJECT NO. 14-9799
 DRAWING SCALES BASED ON A 11" X 17" SHEET

Drainage Report for the
COLLINS HWY 3 DRAIN & BRANCH
 Town of Tecumseh

SHEET TITLE
BRIDGE DESIGN TABLE

PAGE NO.
 2 of 14

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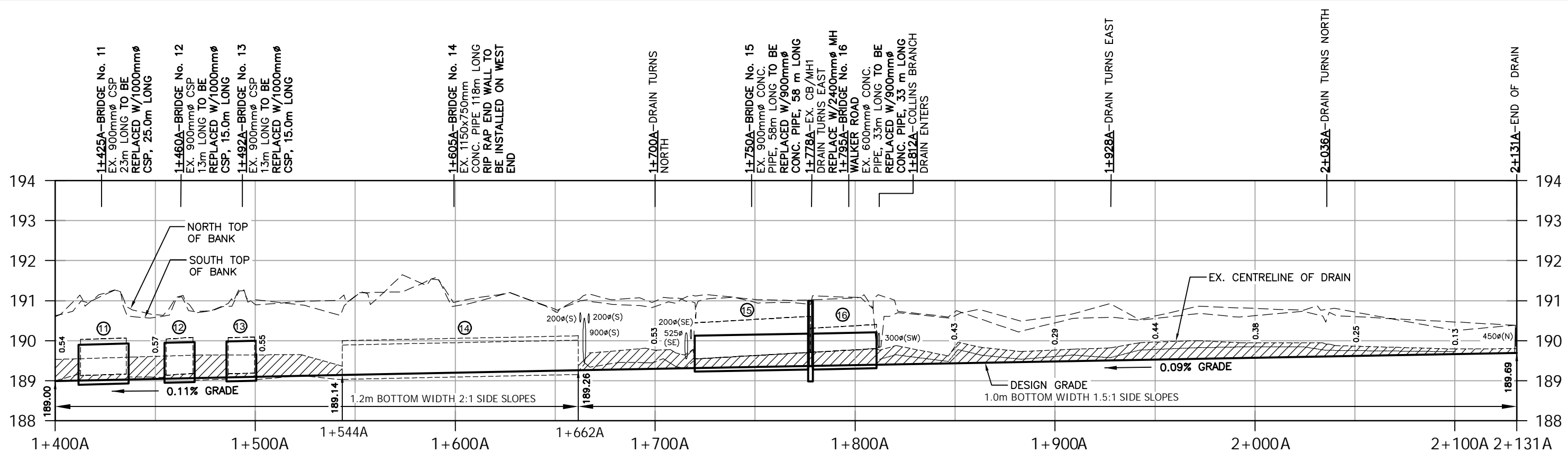
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Drainage Report for the
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Town of Tecumseh

SHEET TITLE: **PROFILE 1**

PAGE NO. 3 of 14

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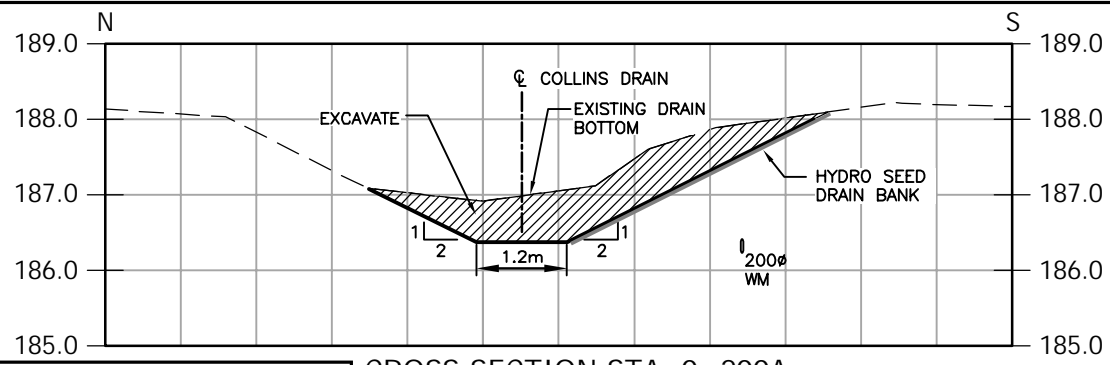
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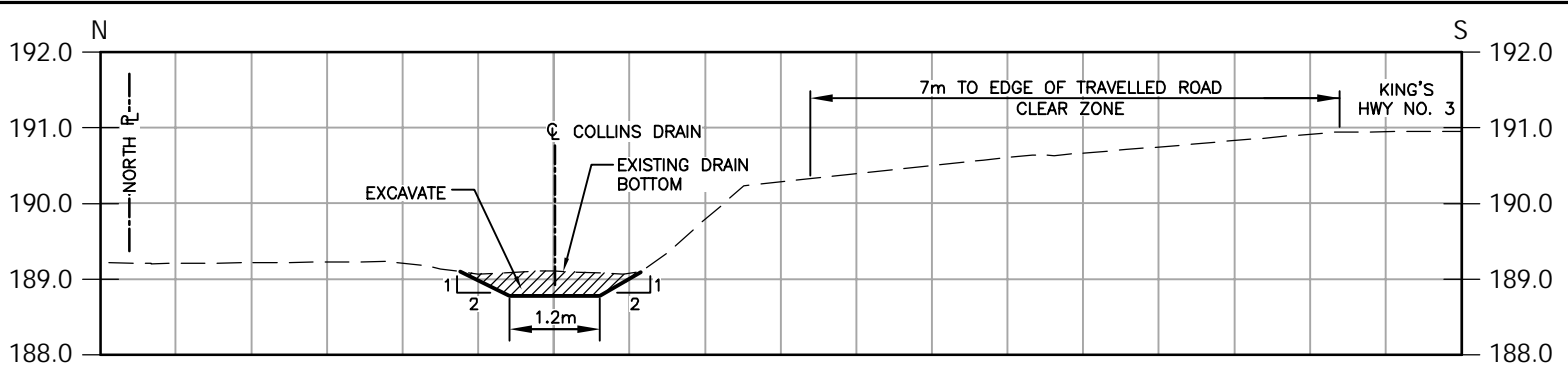
SHEET TITLE
PROFILE 2

PAGE NO.
 4 of 14

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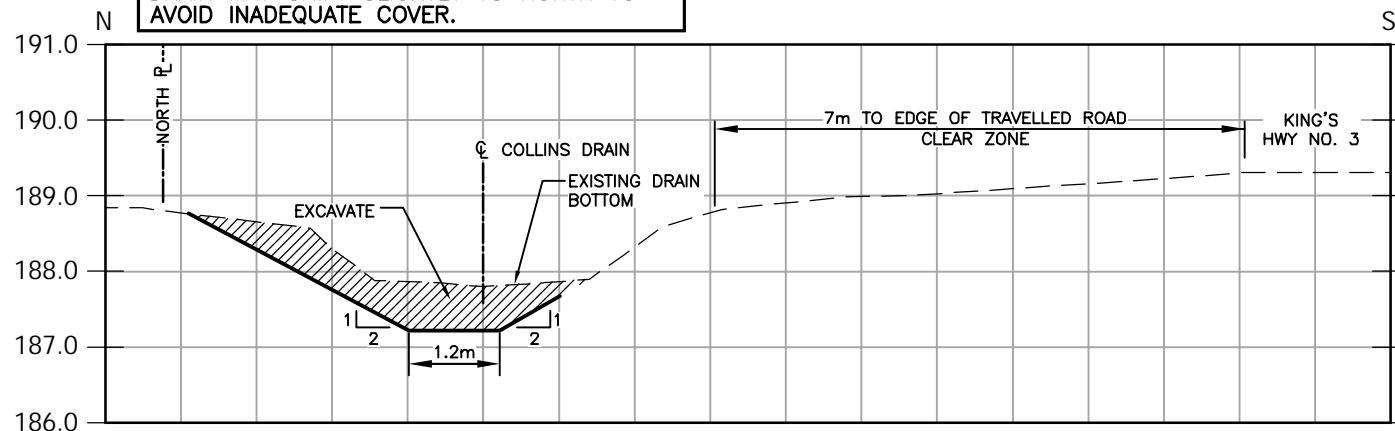


CROSS SECTION STA. 0+200A
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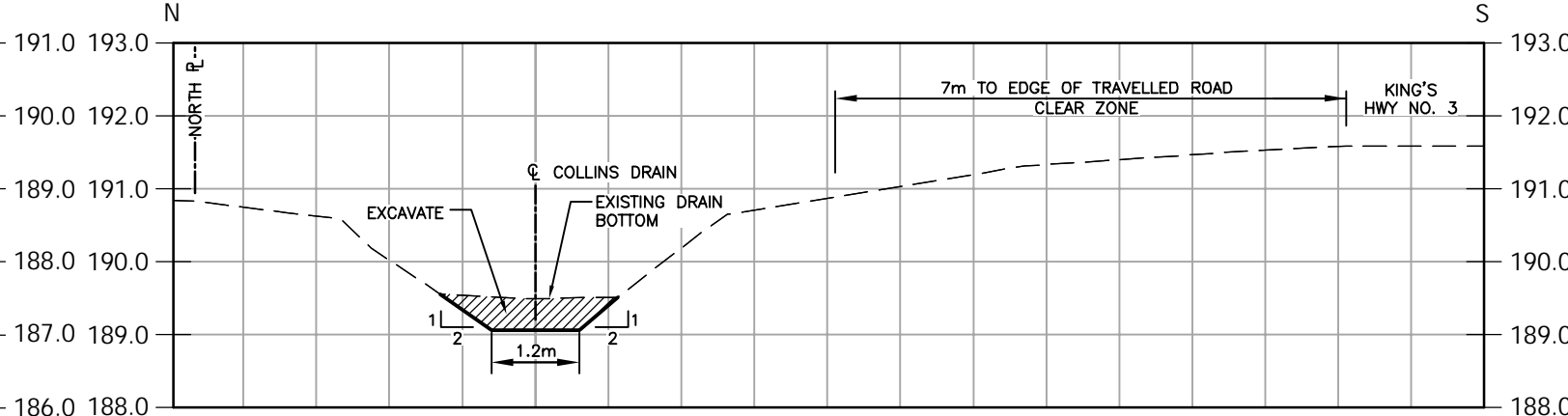


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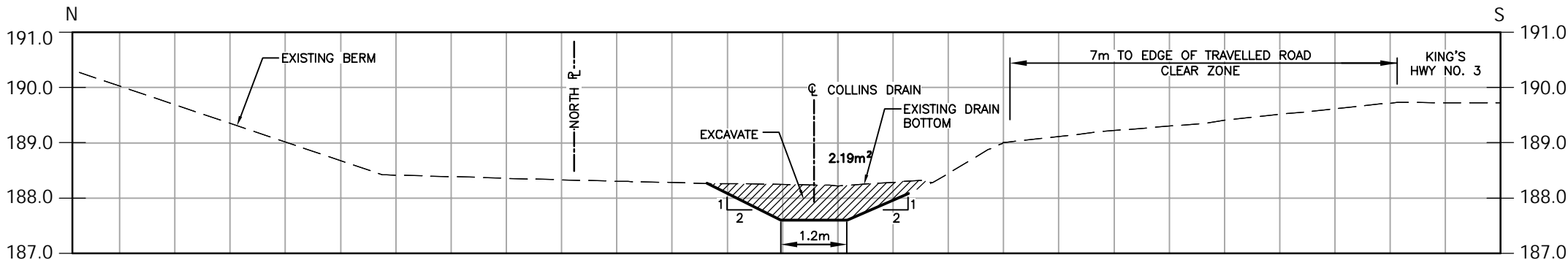
CAUTION: CONTRACTOR TO VERIFY WATERMAIN LOCATION. 1.5m COVER TO BE MAINTAINED. DRAIN MAY SHIFT SLIGHTLY TO NORTH TO AVOID INADEQUATE COVER.



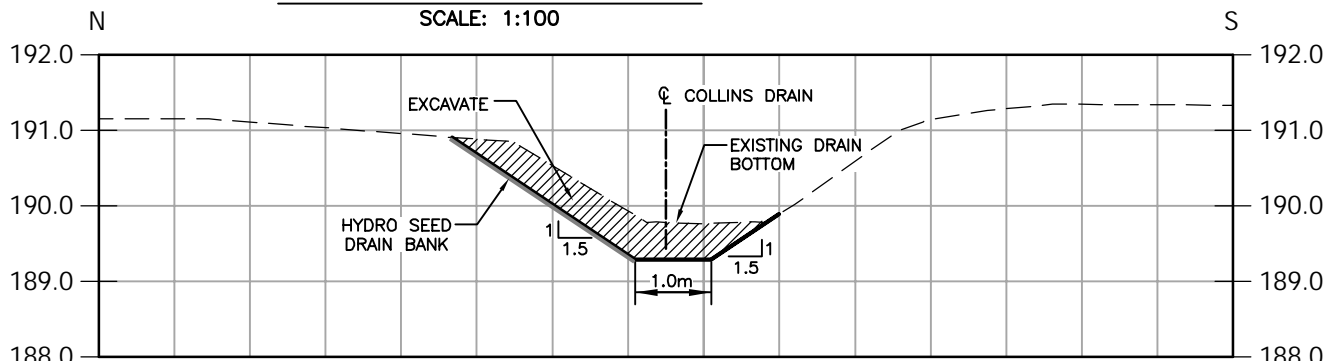
CROSS SECTION STA. 0+600A
SCALE: 1:100



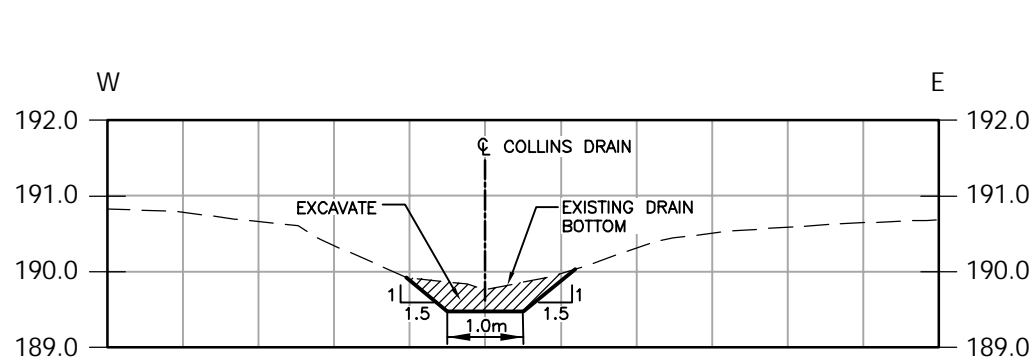
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CROSS SECTION STA. 1+900A
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DATE	May 22, 2026		
SCALE	AS SHOWN		

DILLON CONSULTING

PROJECT NO. 14-9799

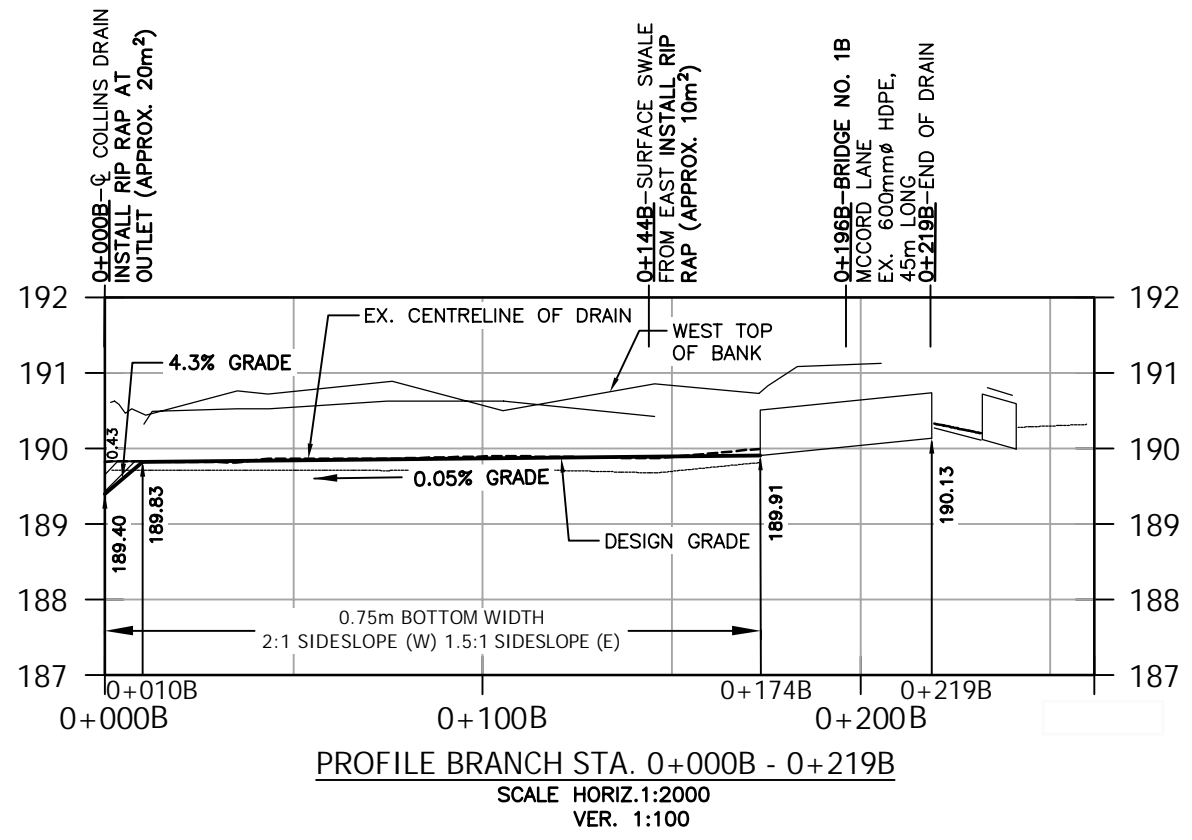
DRAWING SCALES BASED ON A 11" X 17" SHEET

'SCHEDULE G'
Drainage Report for the
COLLINS HWY 3 DRAIN & BRANCH
Town of Tecumseh

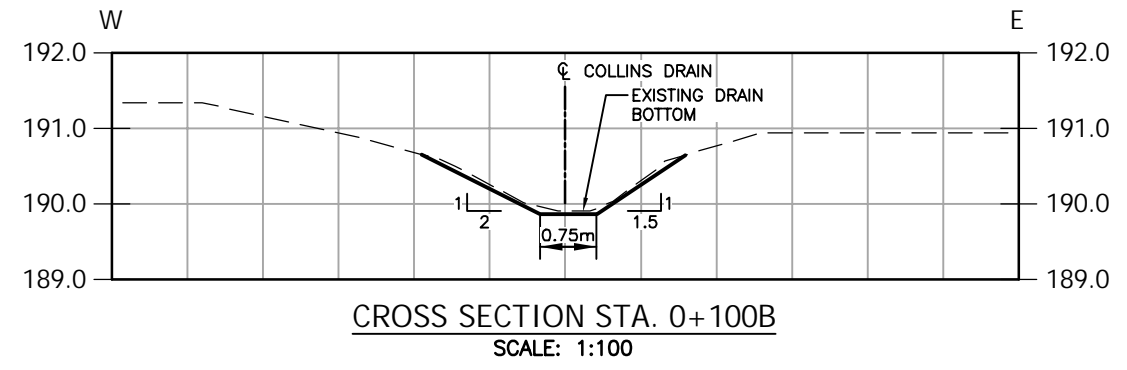
SHEET TITLE
CROSS SECTIONS

PAGE NO.
5 of 14

May 20, 2026 - 12:59pm C:\paw working directory\projects to 2017\33wib\0183644\149799-03-DRN-PROF(PIC MAR2026).dwg



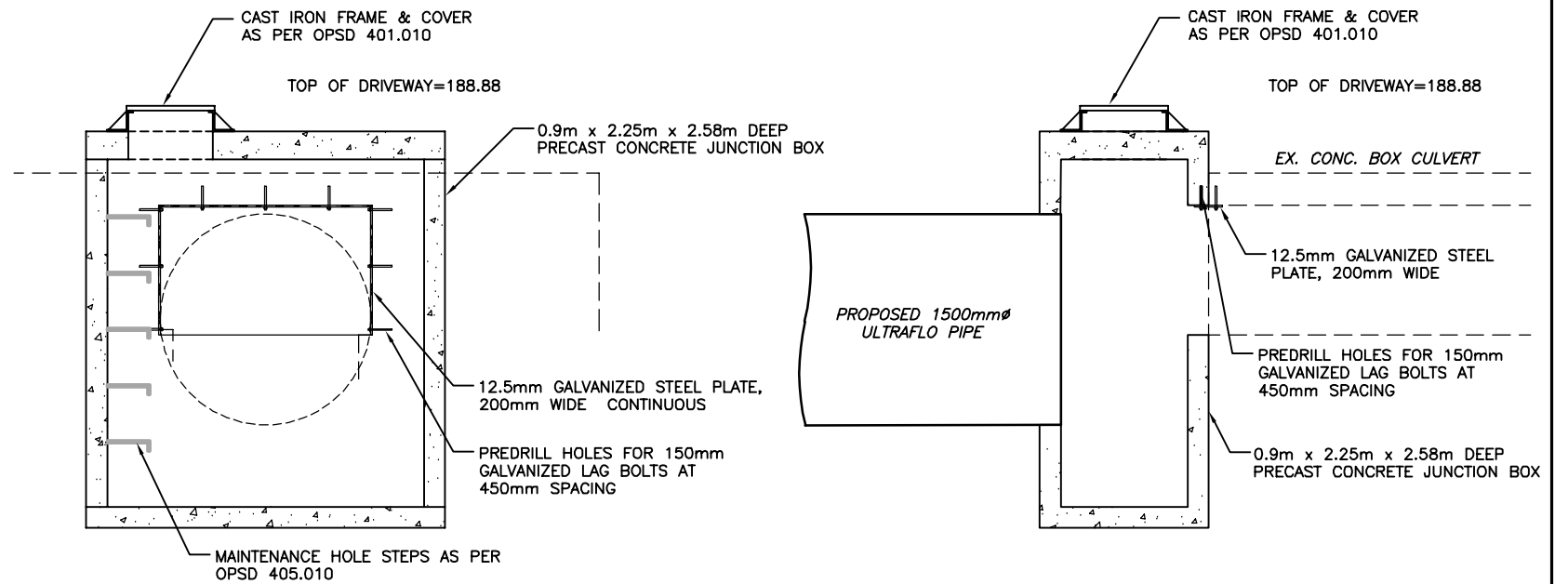
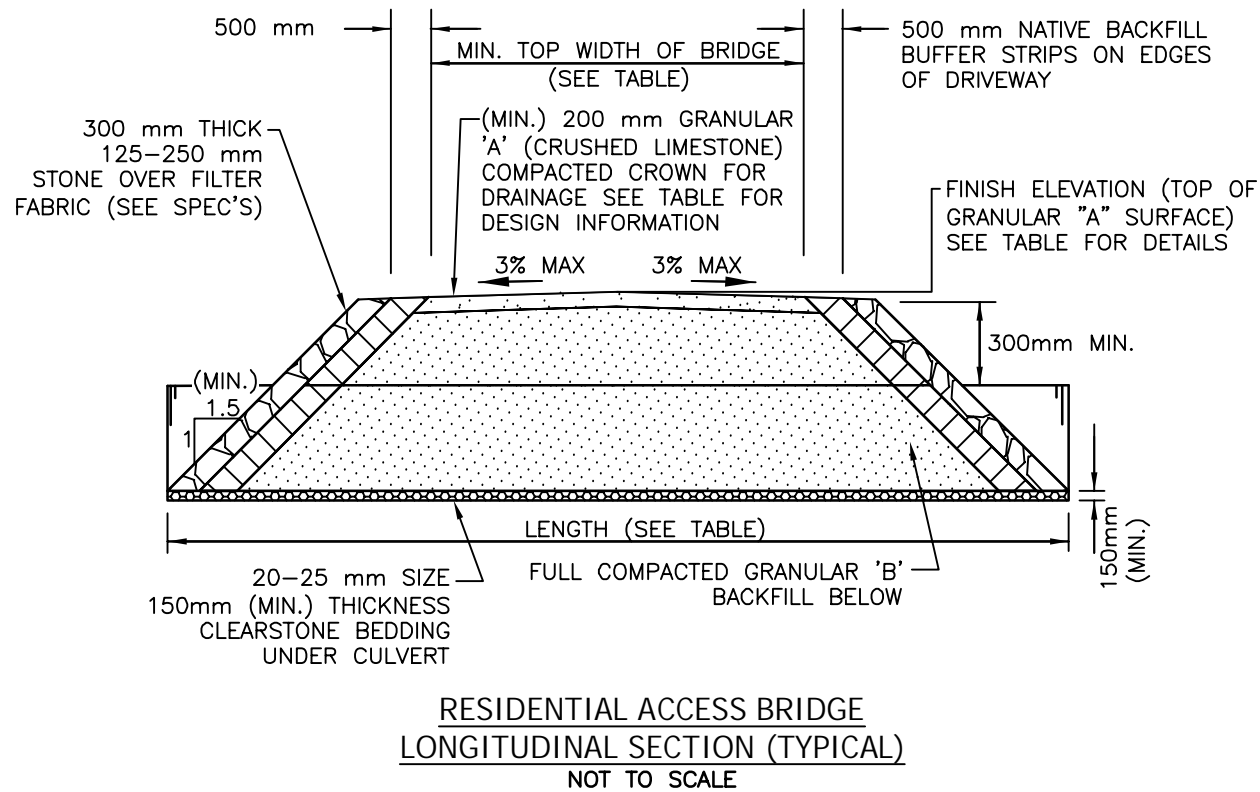
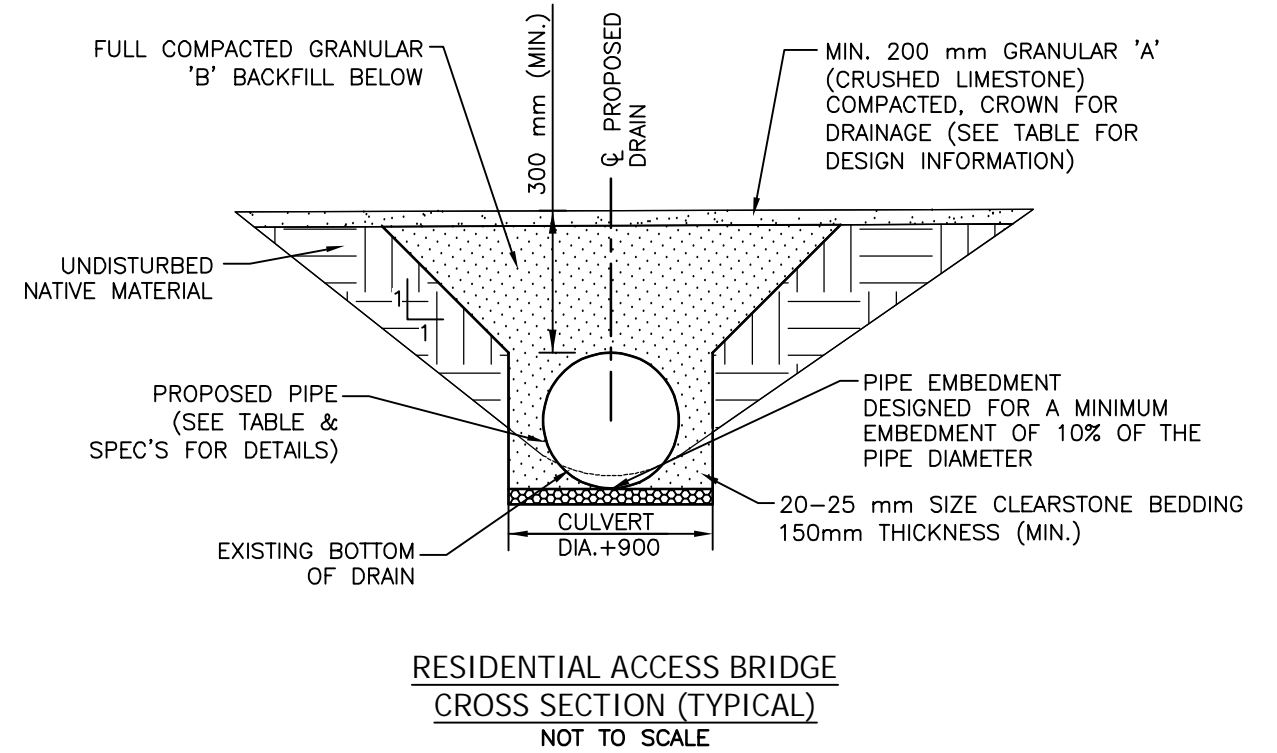
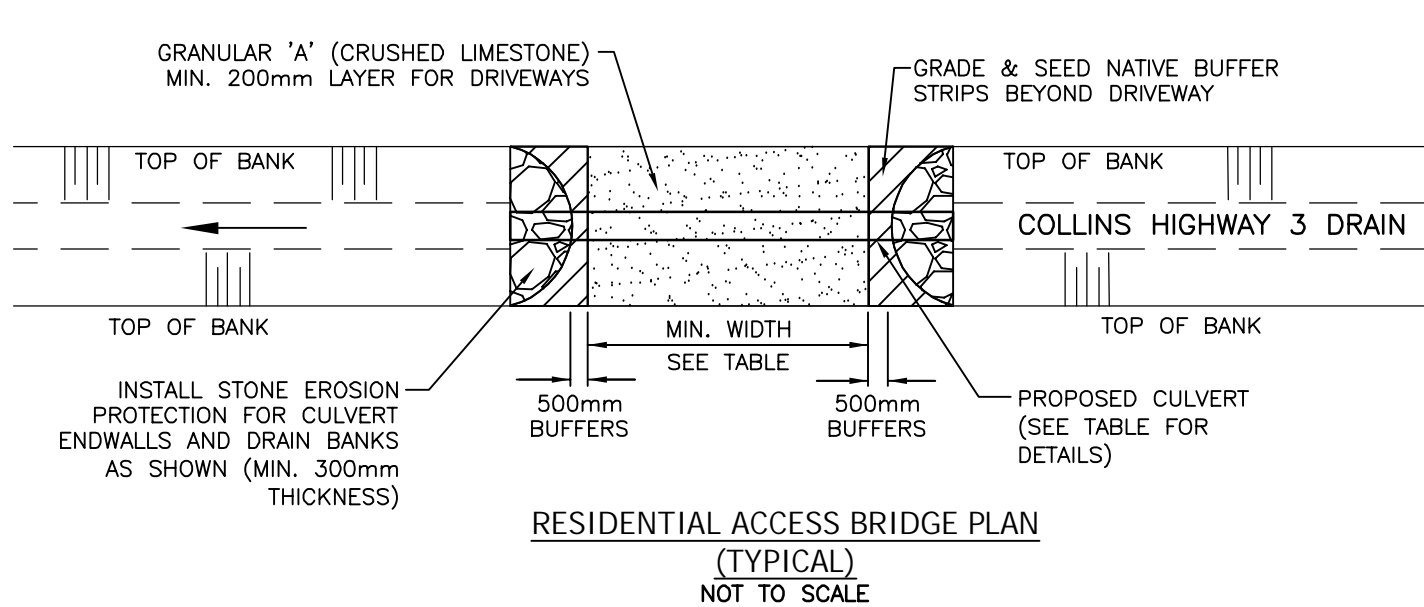
DESCRIPTION	BRIDGE No. 1B (FUTURE)
BRIDGE LOCATION (STA.)	0+196B
BRIDGE TYPE	ROAD
PIPE INVERT ELEV. U/S SIDE(m)	190.13
PIPE INVERT ELEV. D/S SIDE(m)	189.91
TOP OF ϕ ROAD SURFACE ELEV. (m)	191.20
DRAIN BOTTOM (m) (DESIGN)	190.02
MIN. TOP WIDTH OF ROAD (m)	23.0
MIN. CULVERT GRADE (%)	0.50
CULVERT TYPE	HDPE
CULVERT MATERIAL	320kPa
CULVERT LENGTH (m)	45.0
CULVERT THICKNESS (mm)	-
CULVERT CORRUGATIONS (mm)	-
PIPE SIZE (mm)	600
CULVERT ENDWALL TYPE	SLOPING



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						DRAWN WLB/AJL	CHECKED BY TRO		SHEET TITLE BRANCH PROFILE	
			DATE May 22, 2026		PROJECT NO. 14-9799		PAGE NO. 6 of 14			
			SCALE AS SHOWN		DRAWING SCALES BASED ON A 11" X 17" SHEET					
No.	ISSUED FOR	DATE	BY							

May 20, 2026 - 1:01pm C:\pw working directory\projects to 2017\33wib\40183644\149789-03-DRN-PROF(PIC MAR2026).dwg



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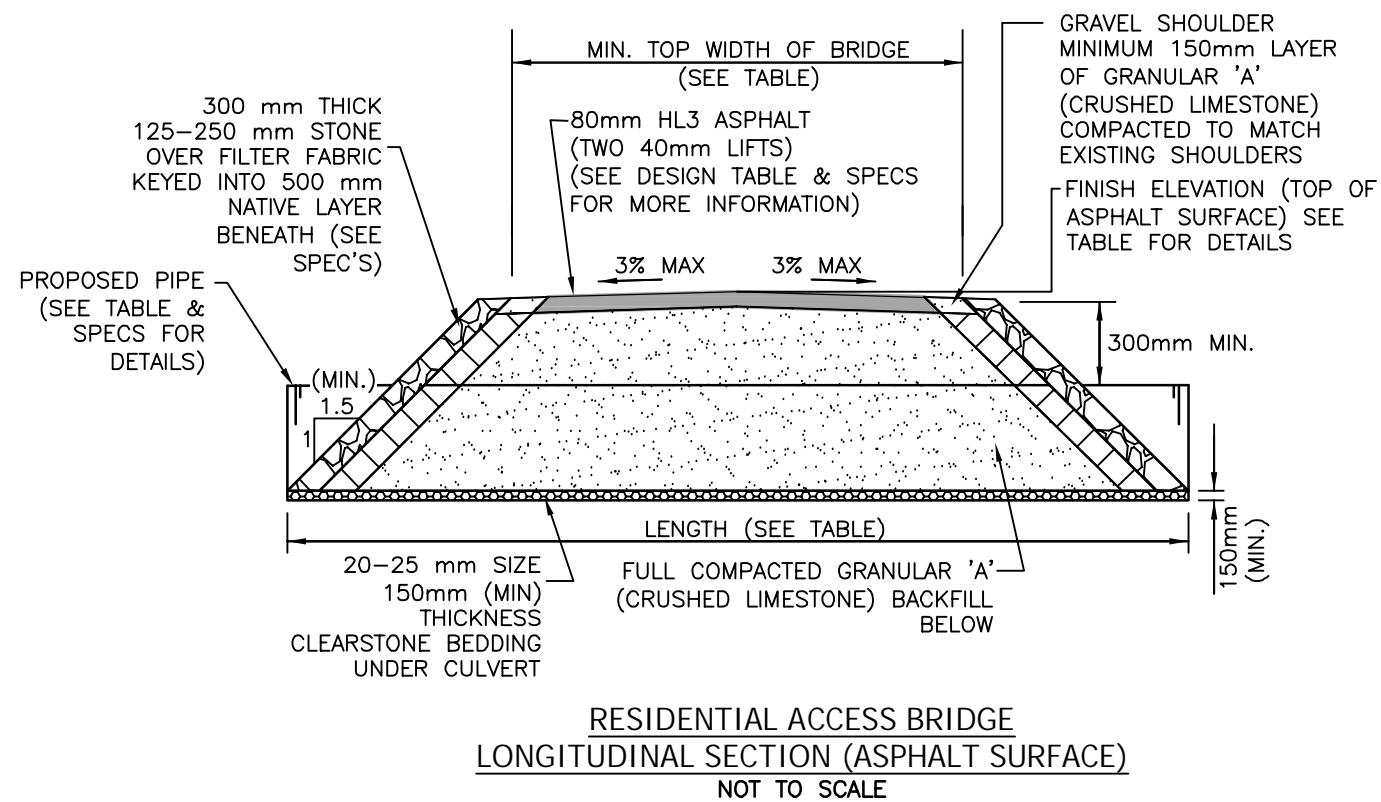
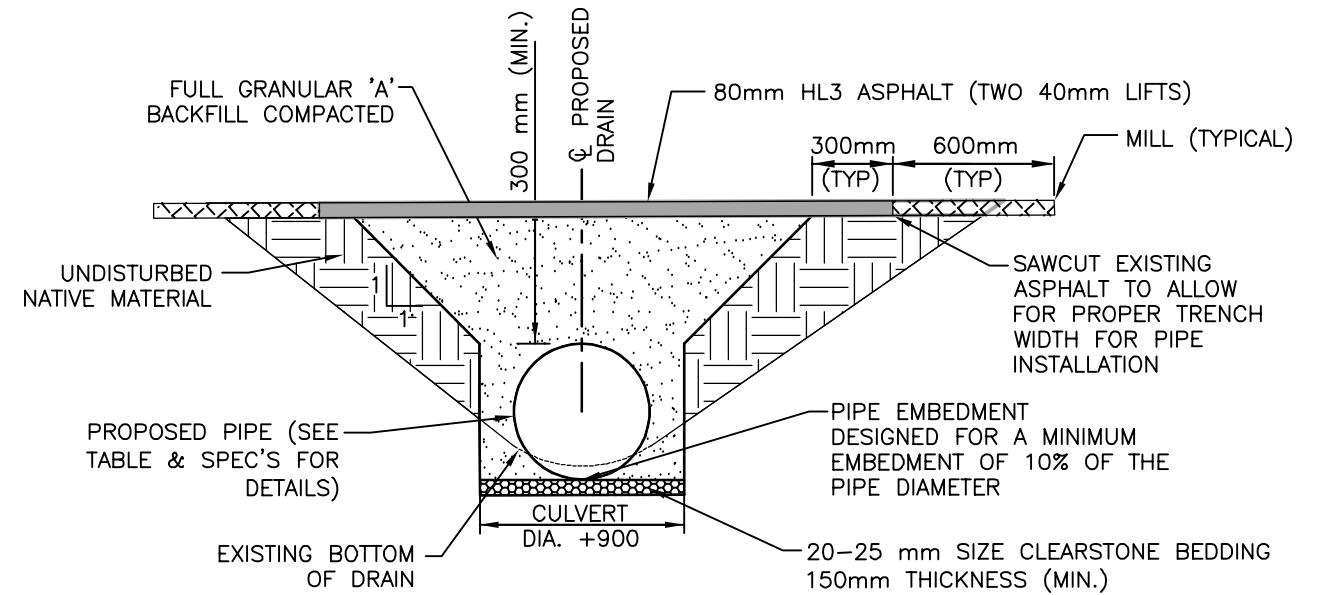
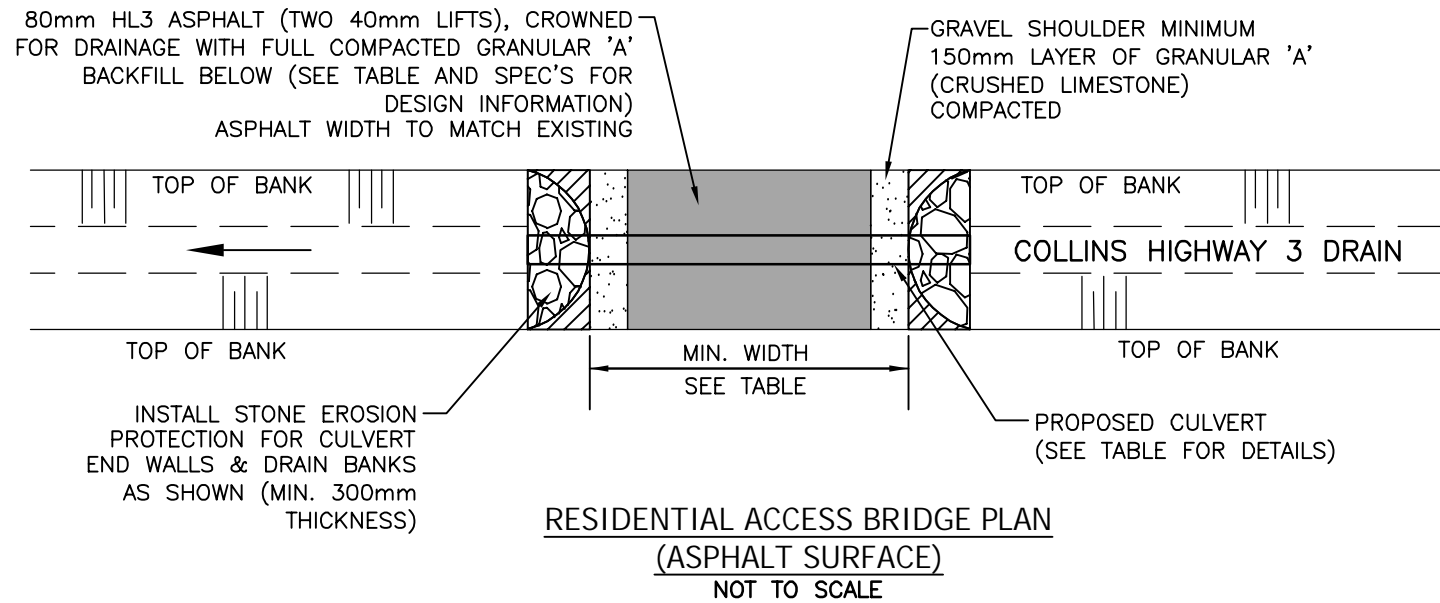
No.	ISSUED FOR	DATE	BY
4	PUBLIC INFORMATION CENTRE	MAY 22/26	MDH
3	CLIENT REVIEW	OCT. 6/25	MDH
2	MTO & ERCA REVIEW	JAN. 11/23	MDH
1	CLIENT REVIEW	OCT. 6/22	MDH

DESIGN	REVIEWED BY
MDH	EPS
DRAWN	CHECKED BY
WLB/AJL	TRO
DATE	May 22, 2026
SCALE	AS SHOWN

 DILLON CONSULTING
PROJECT NO. 14-9799
DRAWING SCALES BASED ON A 11" X 17" SHEET

'SCHEDULE G' Drainage Report for the COLLINS HWY 3 DRAIN & BRANCH Town of Tecumseh
SHEET TITLE RESIDENTIAL BRIDGE DETAILS
PAGE NO. 7 of 14

May 20, 2026 - 1:01pm C:\pw\working directory\projects to 2017\33\wb\40183644\149789-03-DRN-PROF(PIC MAR2026).dwg



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No.	ISSUED FOR	DATE	BY
4	PUBLIC INFORMATION CENTRE	MAY 22/26	MDH
3	CLIENT REVIEW	OCT. 6/25	MDH
2	MTO & ERCA REVIEW	JAN. 11/23	MDH
1	CLIENT REVIEW	OCT. 6/22	MDH

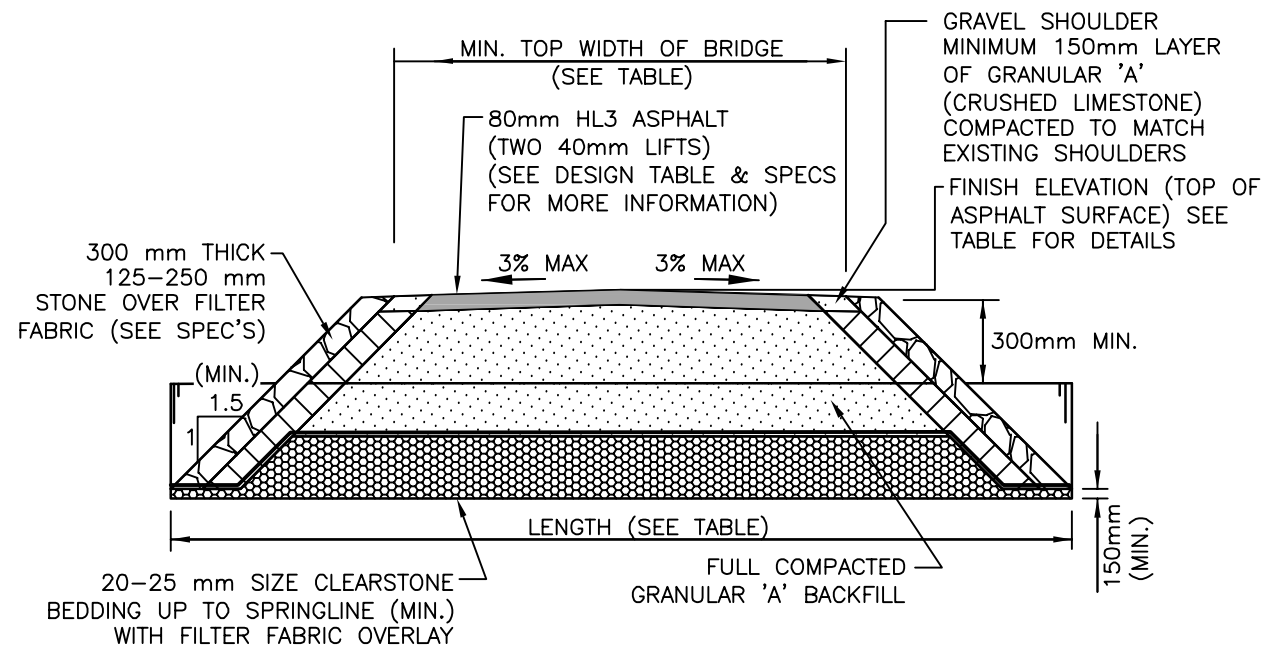
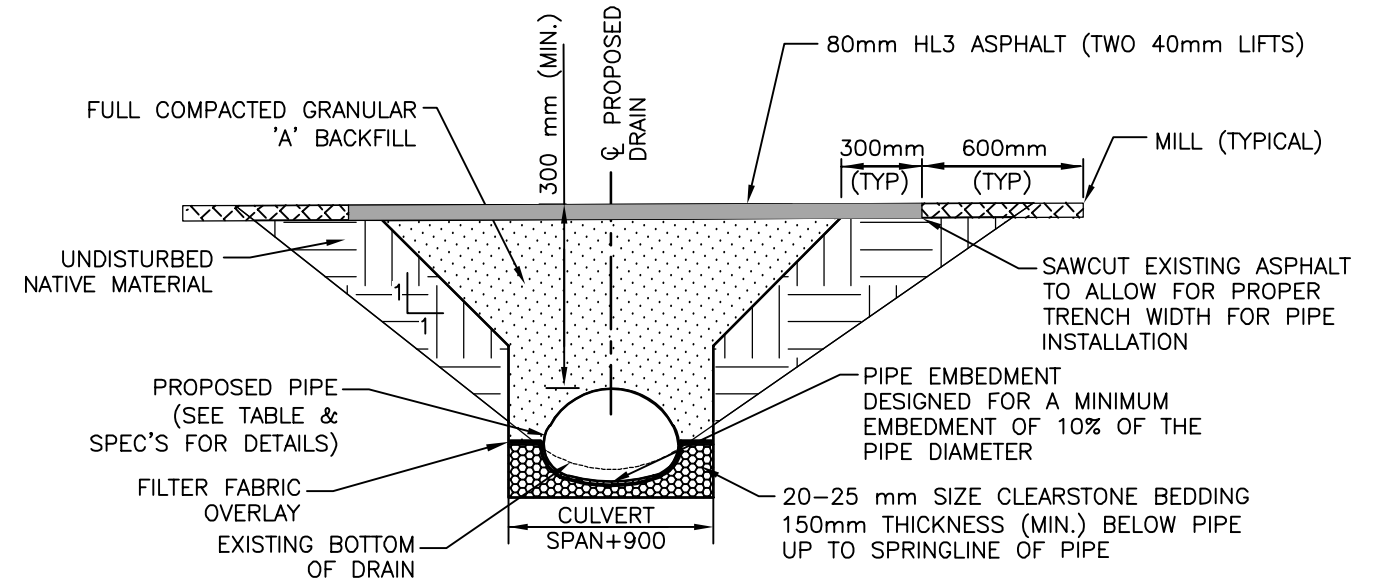
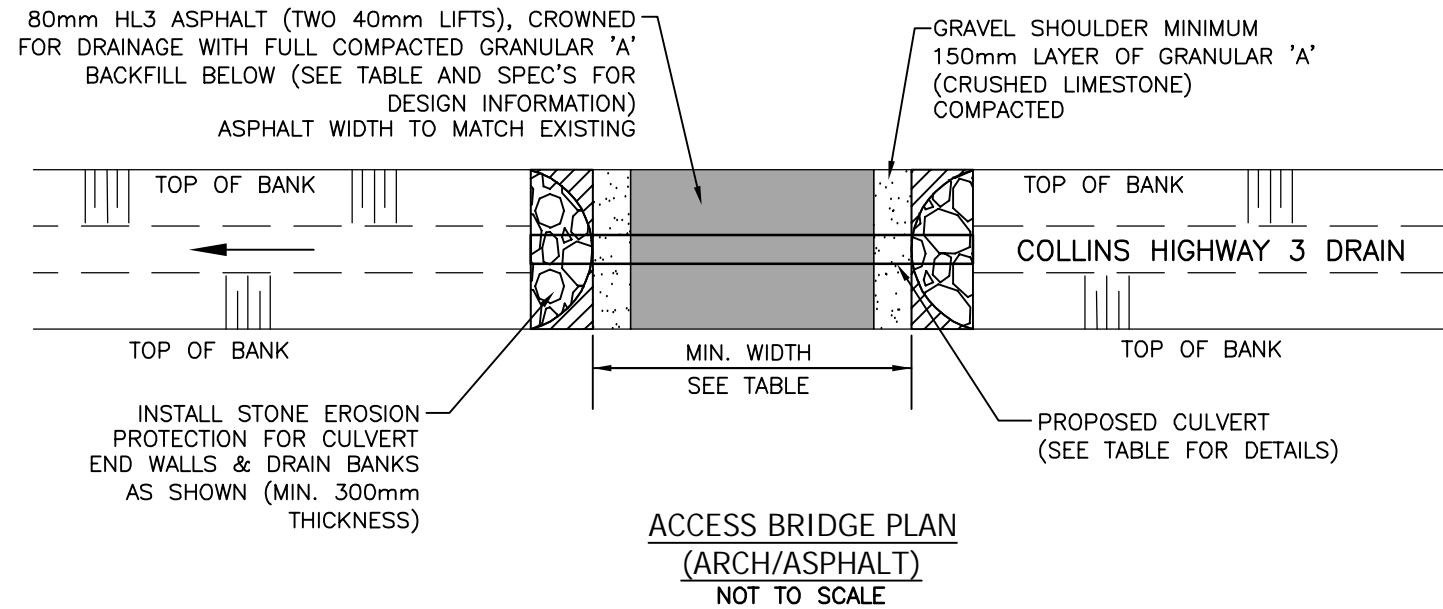
DESIGN	MDH	REVIEWED BY	EPS
DRAWN	WLB/AJL	CHECKED BY	TRO
DATE	May 22, 2026		
SCALE	AS SHOWN		


DILLON CONSULTING
 PROJECT NO. 14-9799
 DRAWING SCALES BASED ON A 11" X 17" SHEET

'SCHEDULE G'
 Drainage Report for the
COLLINS HWY 3 DRAIN & BRANCH
 Town of Tecumseh

SHEET TITLE	RESIDENTIAL BRIDGE (ASPHALT SURFACE) DETAILS
PAGE NO.	8 of 14

May 20, 2026 - 1:02pm C:\pwworking\directory\projects to 2017\333wib\0183644\149799-03-DRN-PROF(PIC MAR2026).dwg



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No.	ISSUED FOR	DATE	BY
4	PUBLIC INFORMATION CENTRE	MAY 22/26	MDH
3	CLIENT REVIEW	OCT. 6/25	MDH
2	MTO & ERCA REVIEW	JAN. 11/23	MDH
1	CLIENT REVIEW	OCT. 6/22	MDH

DESIGN	REVIEWED BY
MDH	EPS
DRAWN	CHECKED BY
WLB/AJL	TRO
DATE	May 22, 2026
SCALE	AS SHOWN

DILLON CONSULTING

PROJECT NO. 14-9799

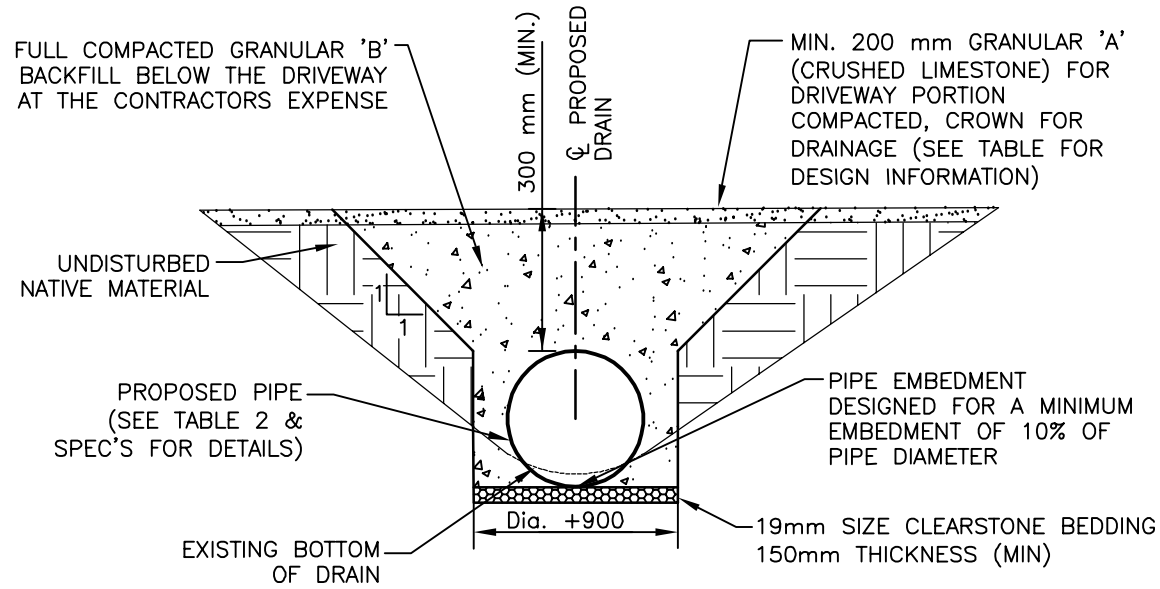
DRAWING SCALES BASED ON A 11" X 17" SHEET

'SCHEDULE G'

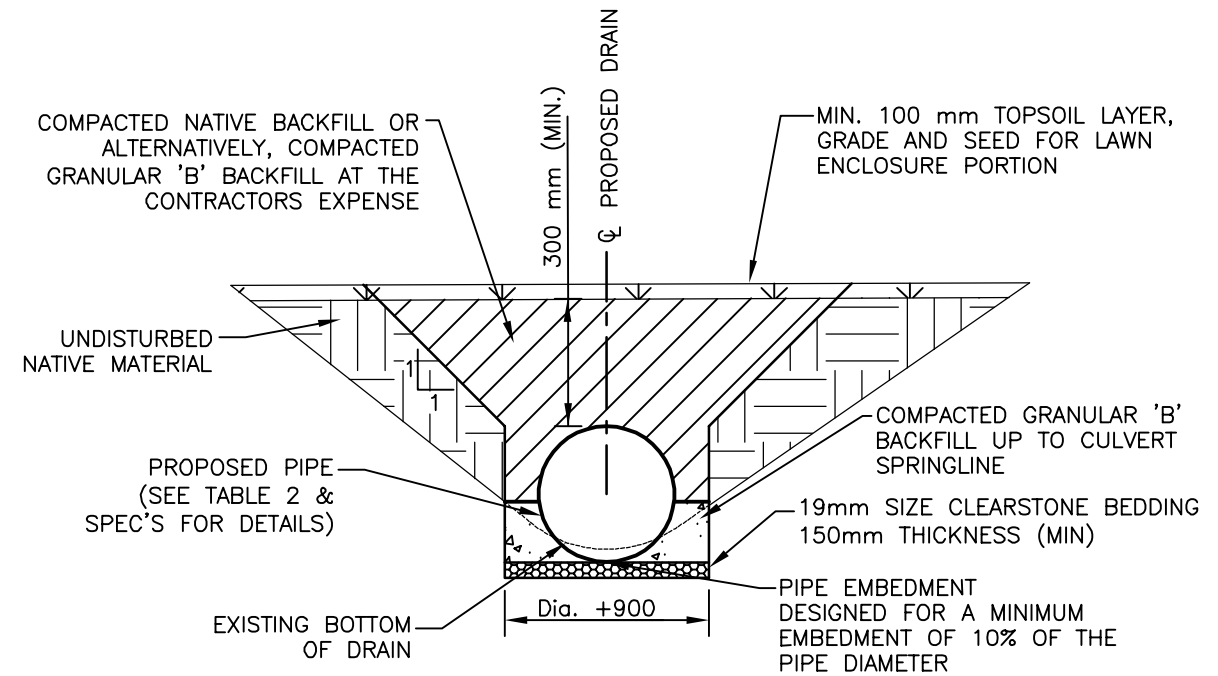
Drainage Report for the
COLLINS HWY 3 DRAIN & BRANCH
 Town of Tecumseh

SHEET TITLE
BRIDGE (ARCH/ASPHALT) DETAILS
PAGE NO.
9 of 14

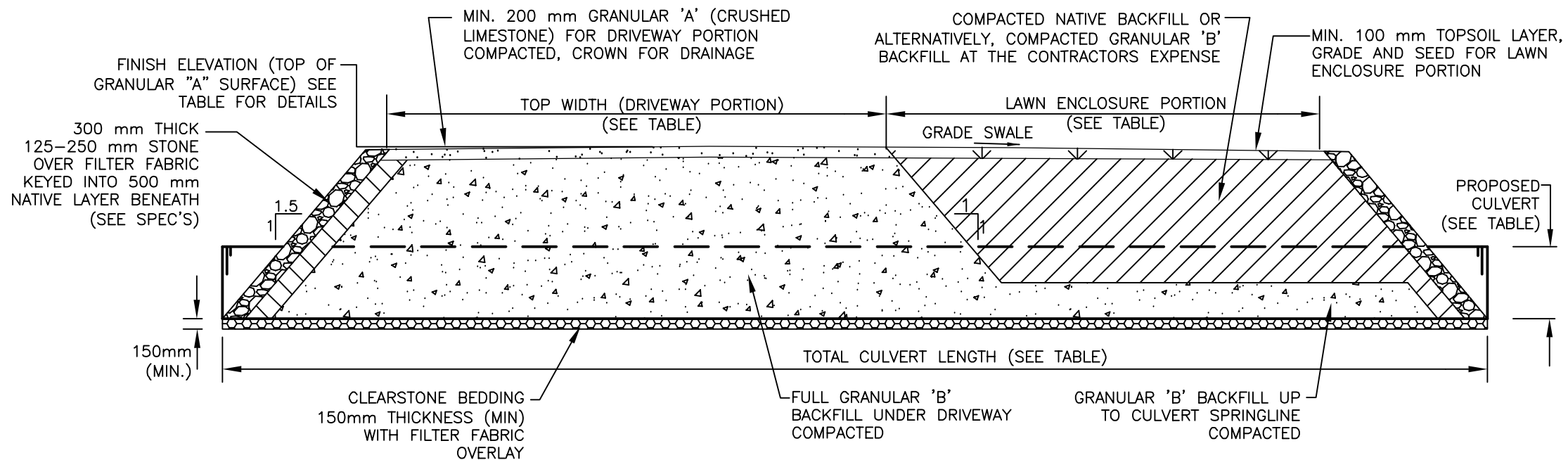
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**RESIDENTIAL ACCESS BRIDGE
CROSS SECTION (DRIVEWAY PORTION)**
NOT TO SCALE



**RESIDENTIAL ACCESS BRIDGE
CROSS SECTION (ENCLOSURE PORTION)**
NOT TO SCALE



**RESIDENTIAL ACCESS BRIDGE
LONGITUDINAL SECTION (DRIVEWAY & ENCLOSURE)**
NOT TO SCALE

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No.	ISSUED FOR	DATE	BY
4	PUBLIC INFORMATION CENTRE	MAY 22/26	MDH
3	CLIENT REVIEW	OCT. 6/25	MDH
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1	CLIENT REVIEW	OCT. 6/22	MDH

DESIGN	REVIEWED BY
MDH	EPS
DRAWN	CHECKED BY
WLB/AJL	TRO
DATE	May 22, 2026
SCALE	AS SHOWN

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PROJECT NO. 14-9799

DRAWING SCALES BASED ON A 11" X 17" SHEET

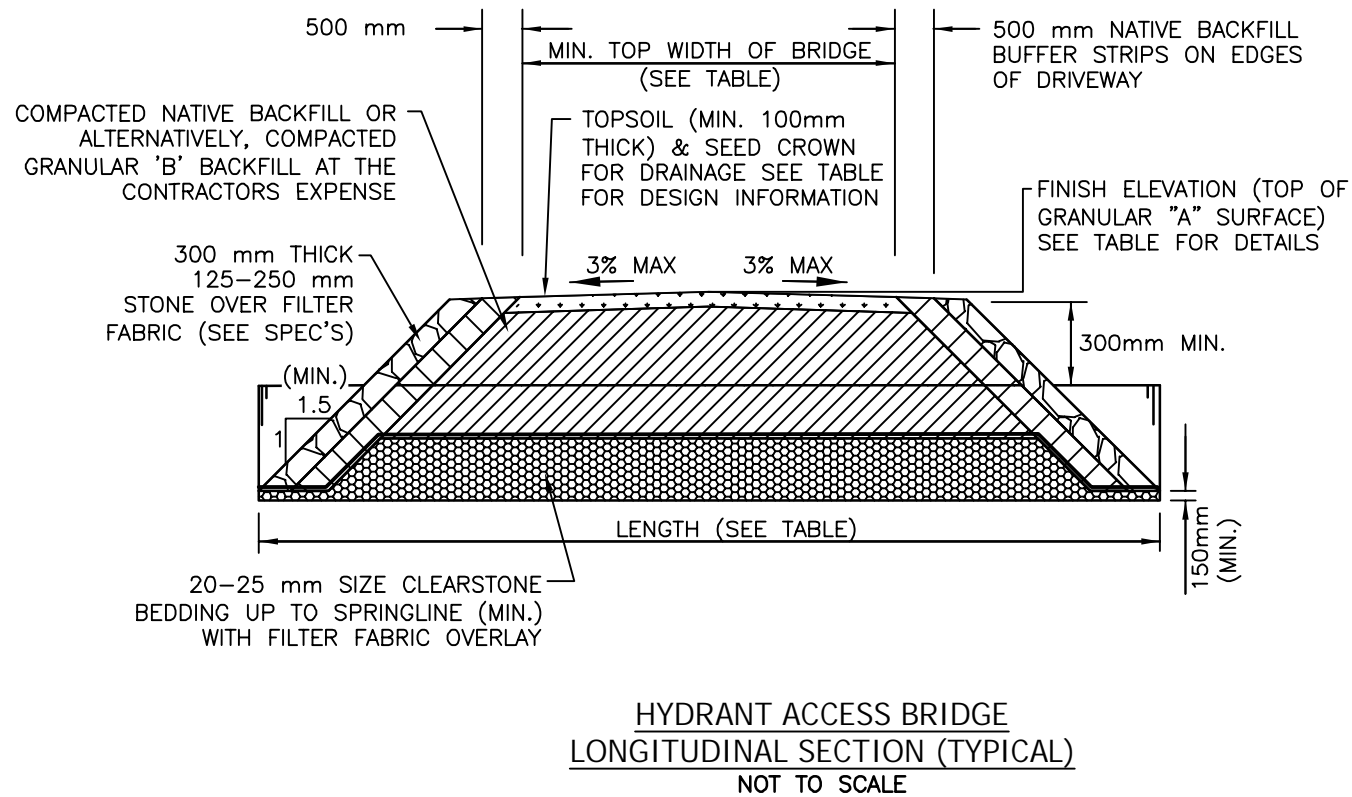
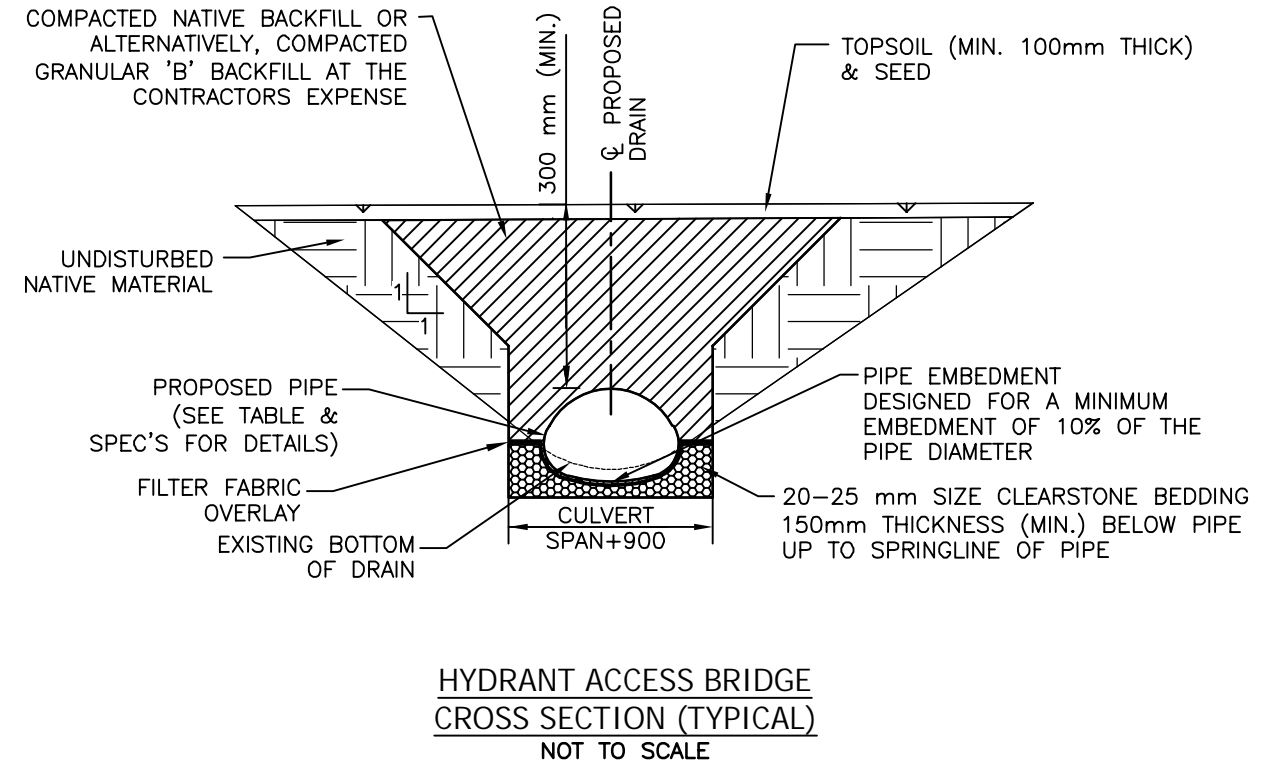
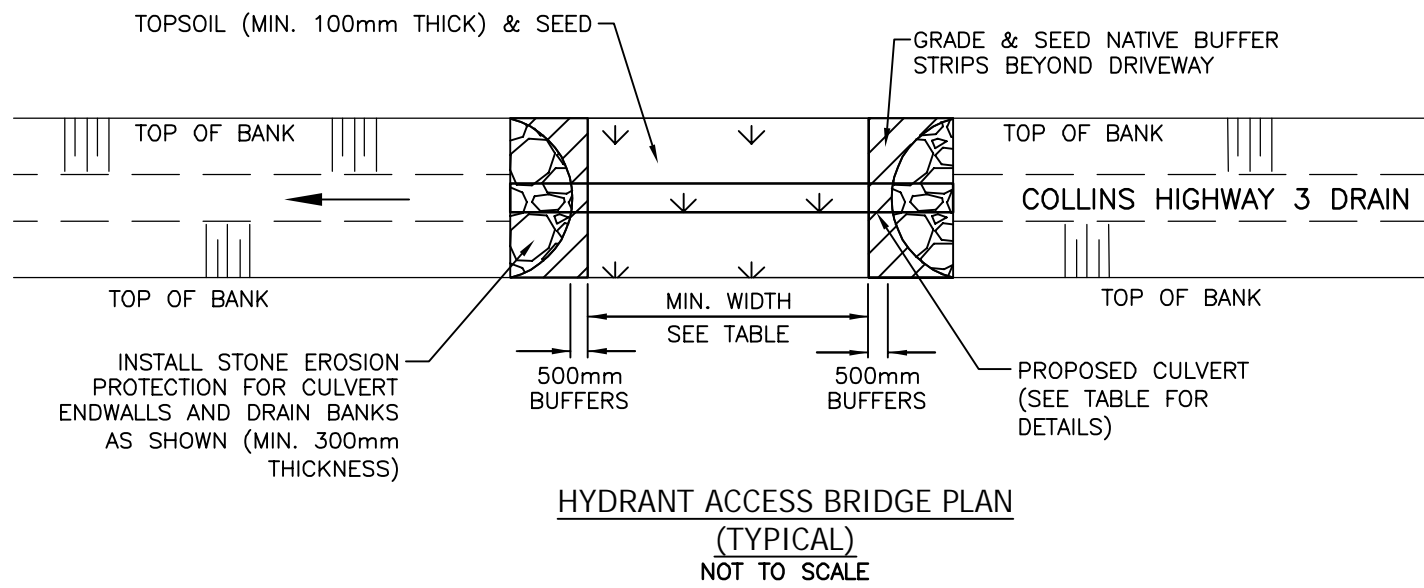
'SCHEDULE G'

Drainage Report for the
COLLINS HWY 3 DRAIN & BRANCH
Town of Tecumseh

SHEET TITLE: **BRIDGE & ENCLOSURE DETAILS**

PAGE NO. 10 of 14

May 20, 2026 - 1:05pm C:\pwworking\directory\projects to 2017\333wib\0183644\149799-03-DRN-PROF(PIC MAR2026).dwg



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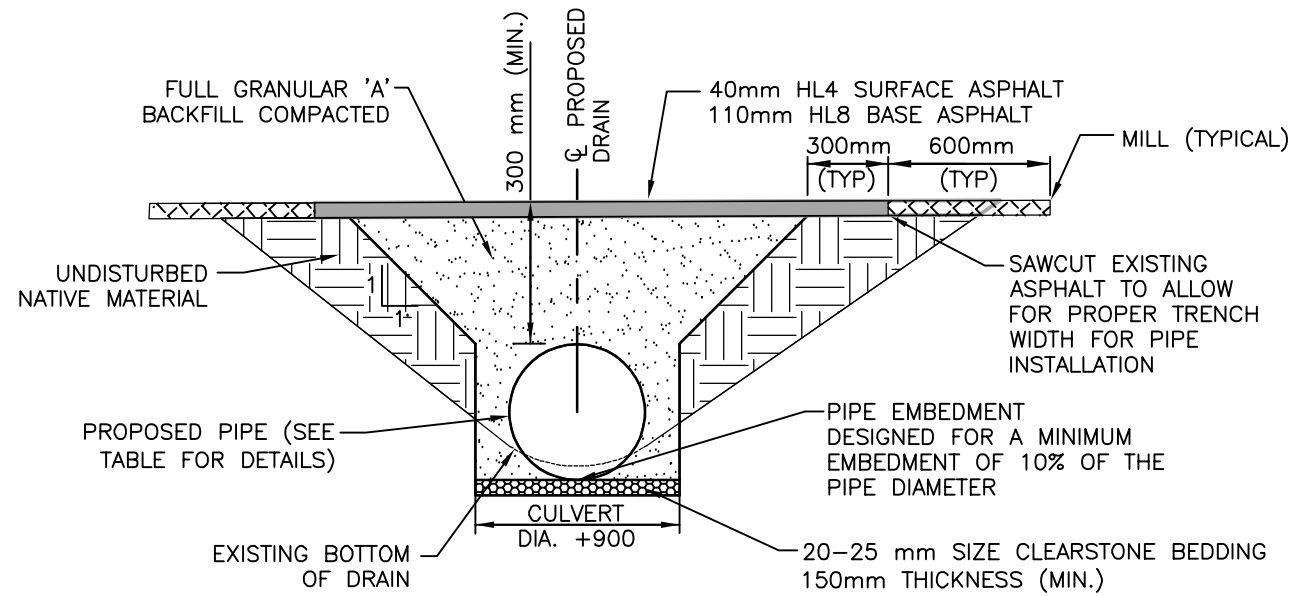
No.	ISSUED FOR	DATE	BY
4	PUBLIC INFORMATION CENTRE	MAY 22/26	MDH
3	CLIENT REVIEW	OCT. 6/25	MDH
2	MTO & ERCA REVIEW	JAN. 11/23	MDH
1	CLIENT REVIEW	OCT. 6/22	MDH

DESIGN	REVIEWED BY
MDH	EPS
DRAWN	CHECKED BY
WLB/AJL	TRO
DATE	May 22, 2026
SCALE	AS SHOWN

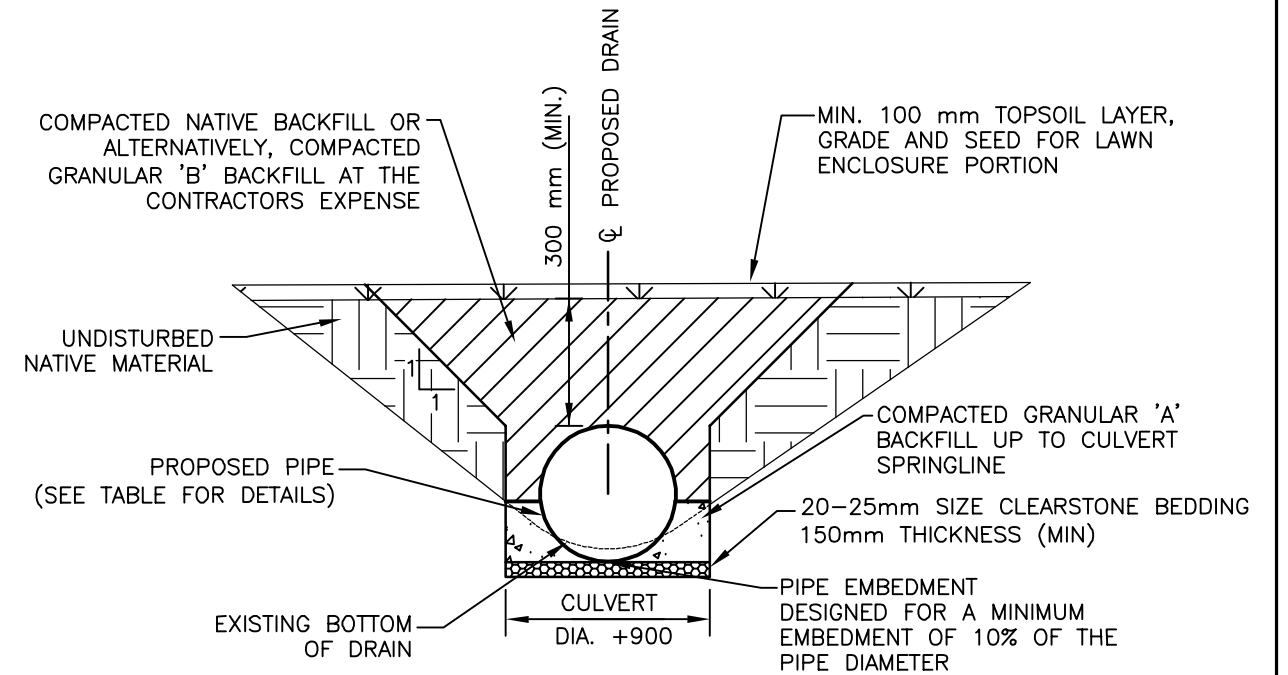
	PROJECT NO.	14-9799
	DRAWING SCALES BASED ON A 11" X 17" SHEET	

'SCHEDULE G'	
Drainage Report for the COLLINS HWY 3 DRAIN & BRANCH Town of Tecumseh	
SHEET TITLE	HYDRANT BRIDGE DETAILS
PAGE NO.	11 of 14

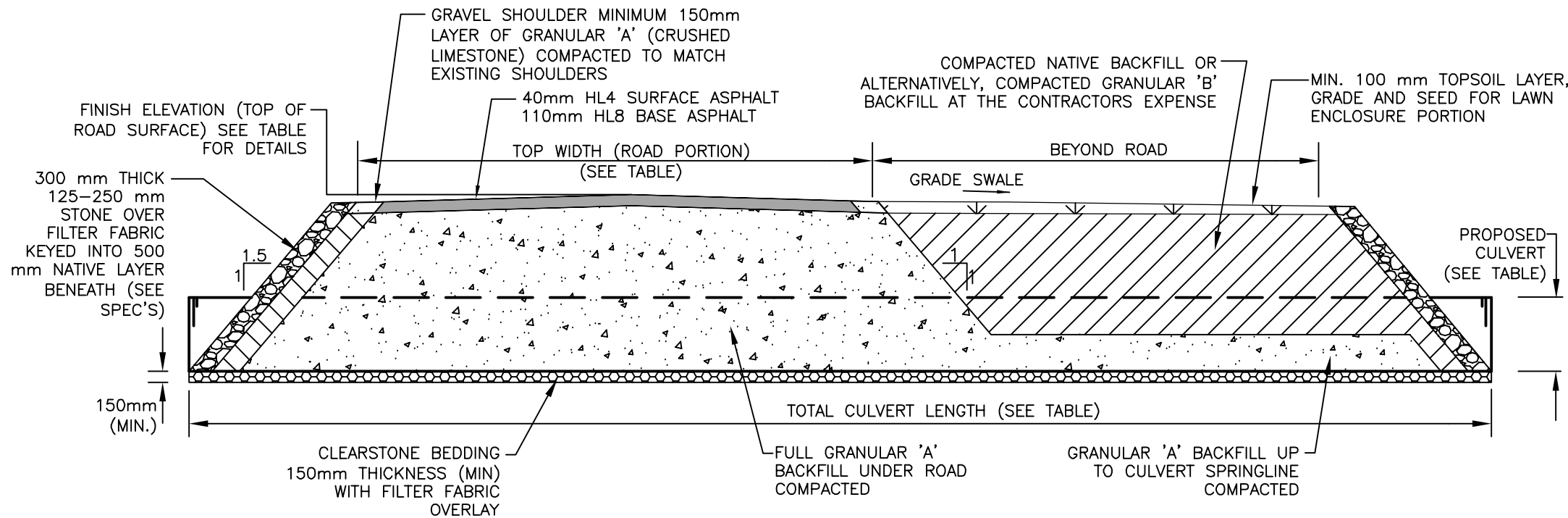
May 20, 2026 - 1:05pm C:\pwworking\directory\projects to 2017_33\wib\0183644\149799-03-DRN-PROF(PIC MAR2026).dwg



**ROAD ACCESS BRIDGE
CROSS SECTION (UNDER ROAD)**
NOT TO SCALE



**ROAD ACCESS BRIDGE CROSS SECTION
(BEYOND ROAD)**
NOT TO SCALE



**ROAD BRIDGE
LONGITUDINAL SECTION (BRIDGE NO. 15 & 16)**
NOT TO SCALE

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1	CLIENT REVIEW	OCT. 6/22	MDH

DESIGN	MDH	REVIEWED BY	EPS
DRAWN	WLB/AJL	CHECKED BY	TRO
DATE	May 22, 2026		
SCALE	AS SHOWN		

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PROJECT NO. 14-9799

DRAWING SCALES BASED ON A 11" X 17" SHEET

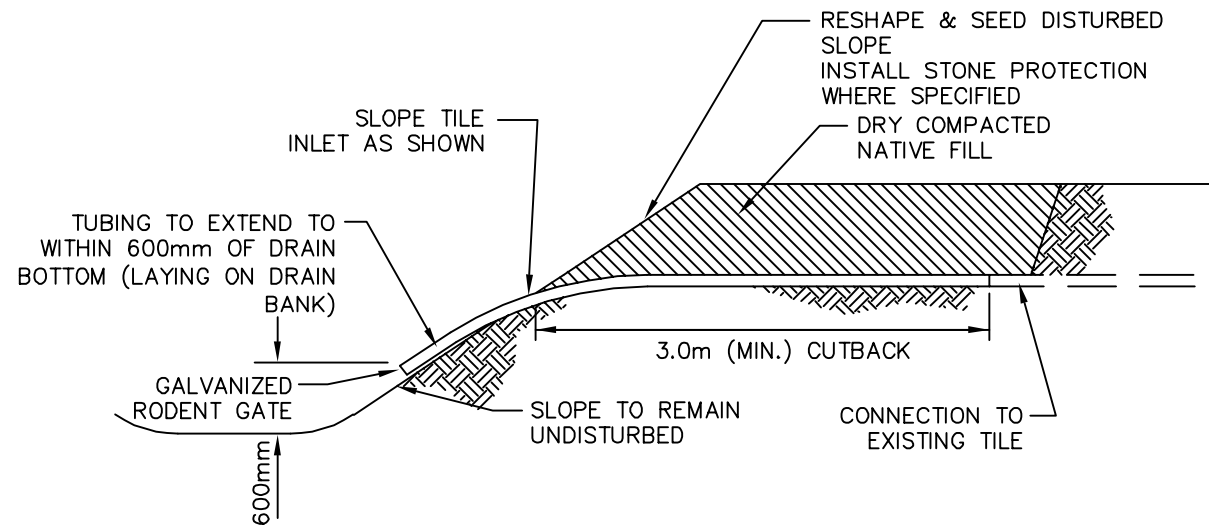
'SCHEDULE G'

Drainage Report for the
COLLINS HWY 3 DRAIN & BRANCH
Town of Tecumseh

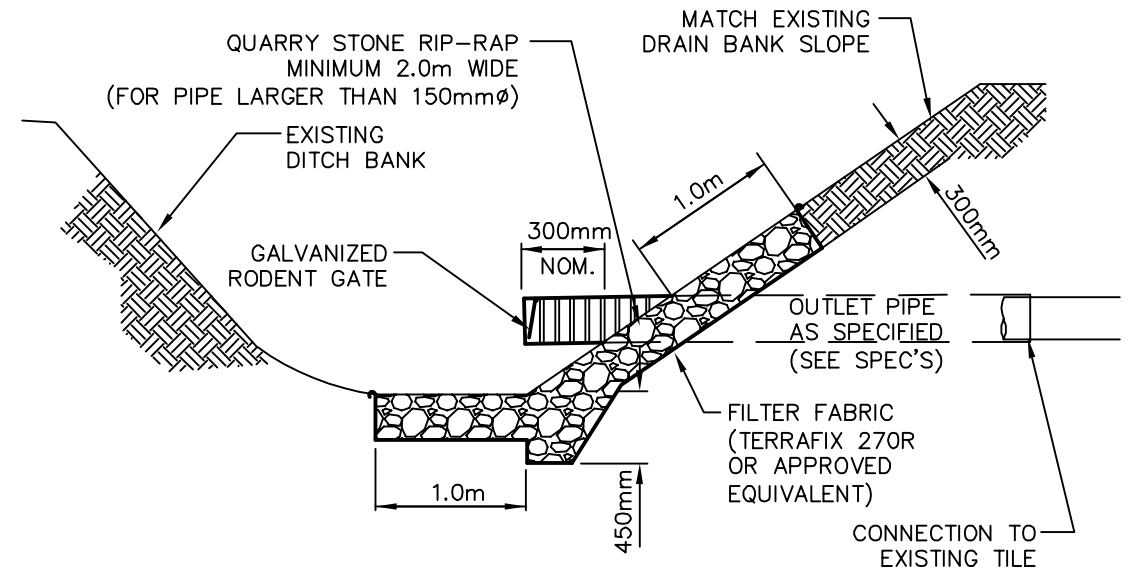
SHEET TITLE
ROAD BRIDGE DETAILS

PAGE NO.
12 of 14

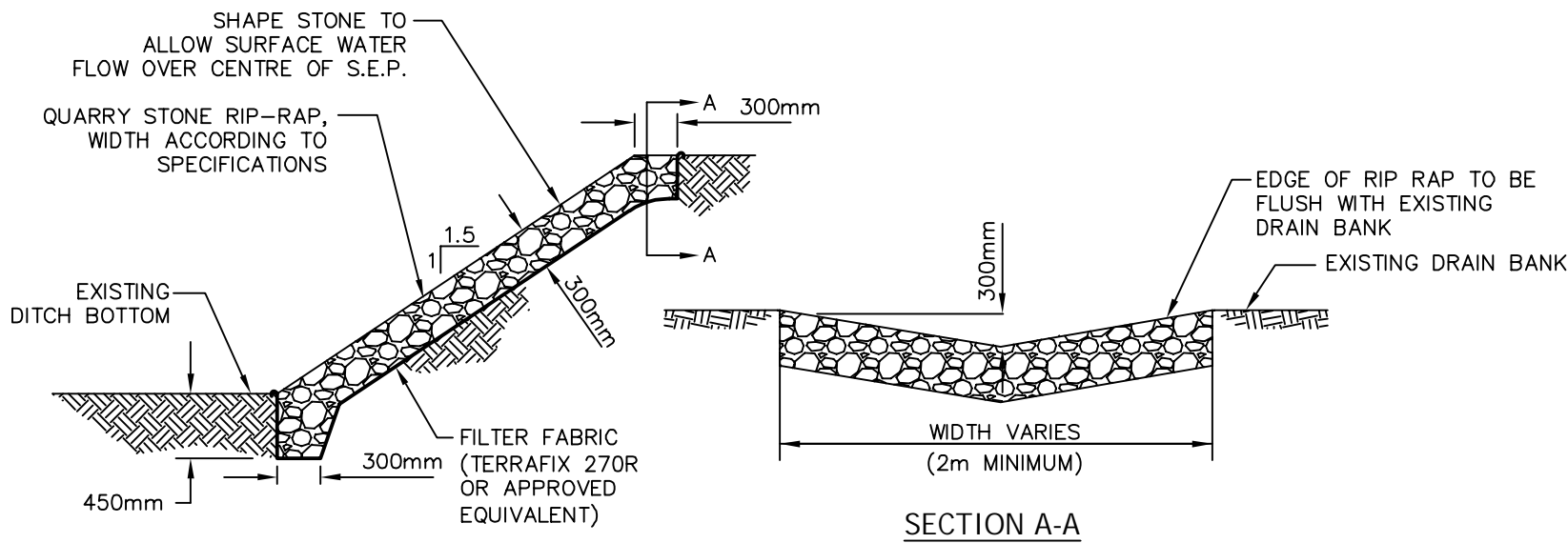
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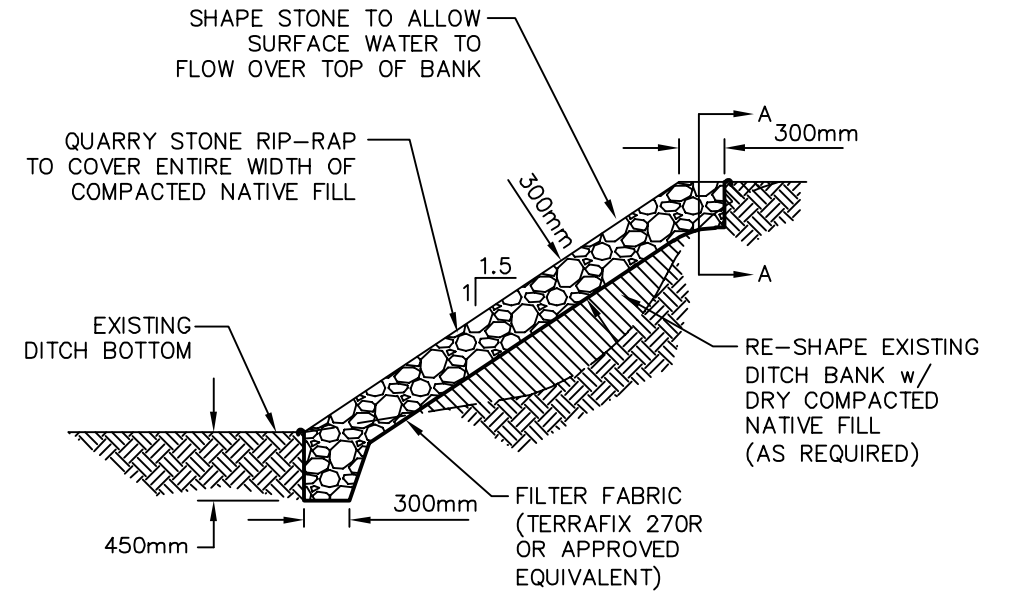
**TILE DRAINAGE TUBING TILE
INLET REPLACEMENT DETAIL**
(FOR TILES 150mmØ OR SMALLER)
N.T.S.



**TYPICAL CSP TILE INLET
REPLACEMENT DETAIL**
N.T.S.



**TYPICAL DITCH BANK WASHOUT
DETAIL w/ RIP RAP**
N.T.S.



**TYPICAL DITCH BANK WASHOUT
DETAIL w/ BACKFILLING & RIP RAP**
N.T.S.

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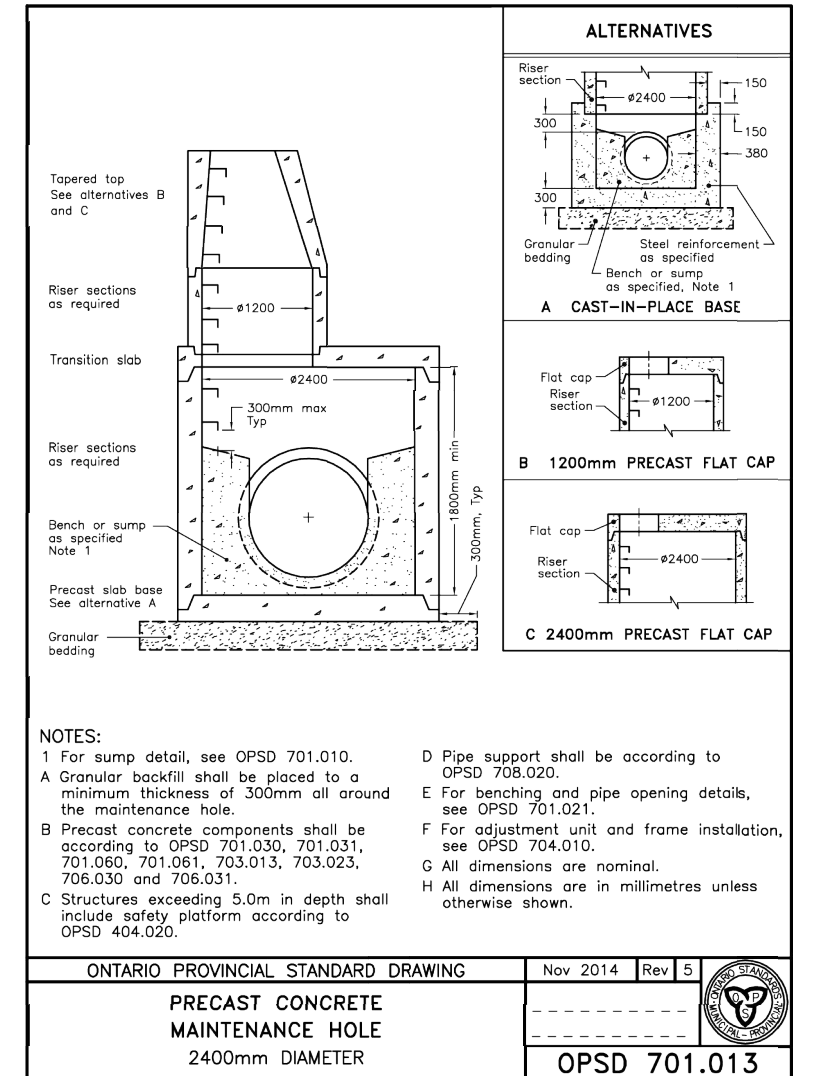
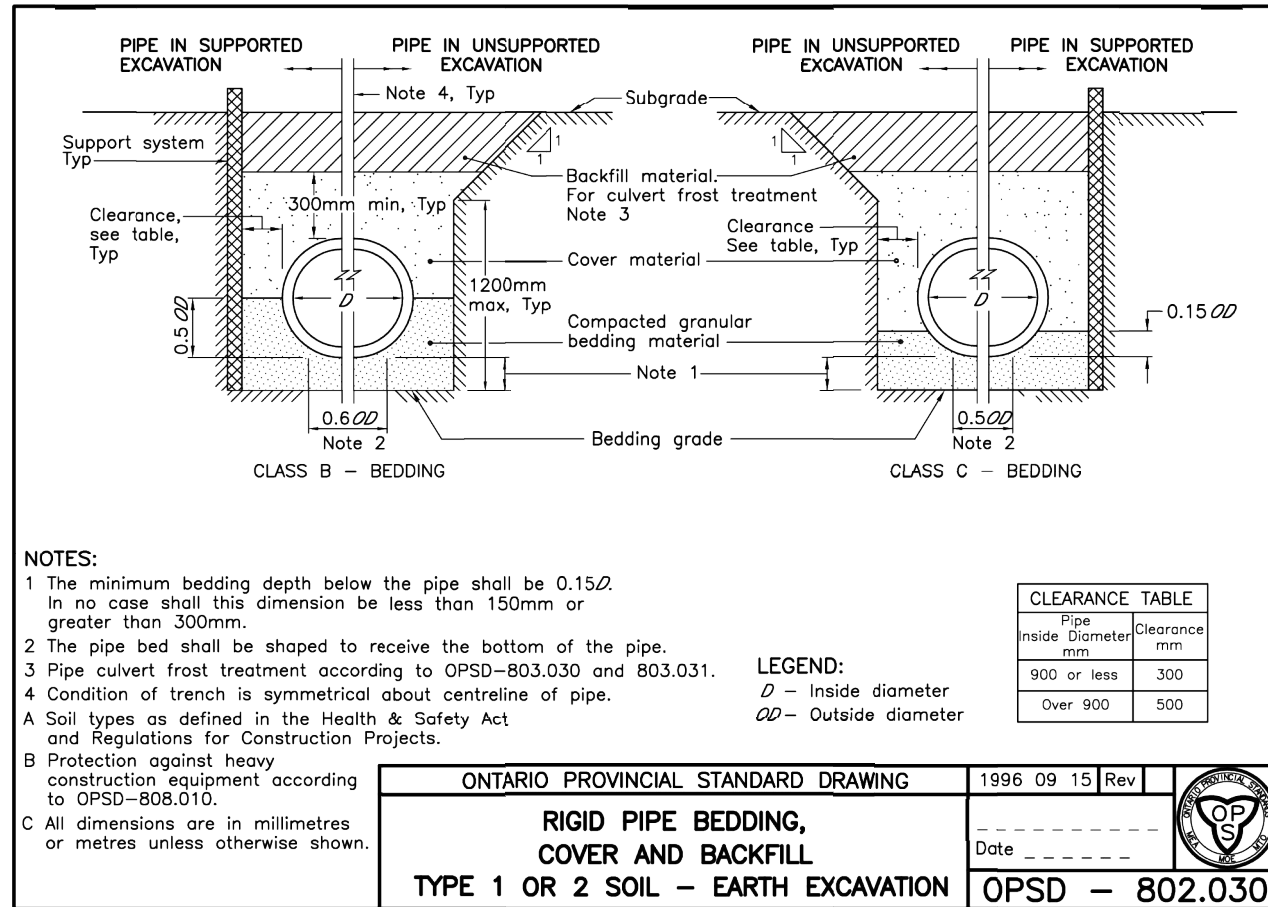
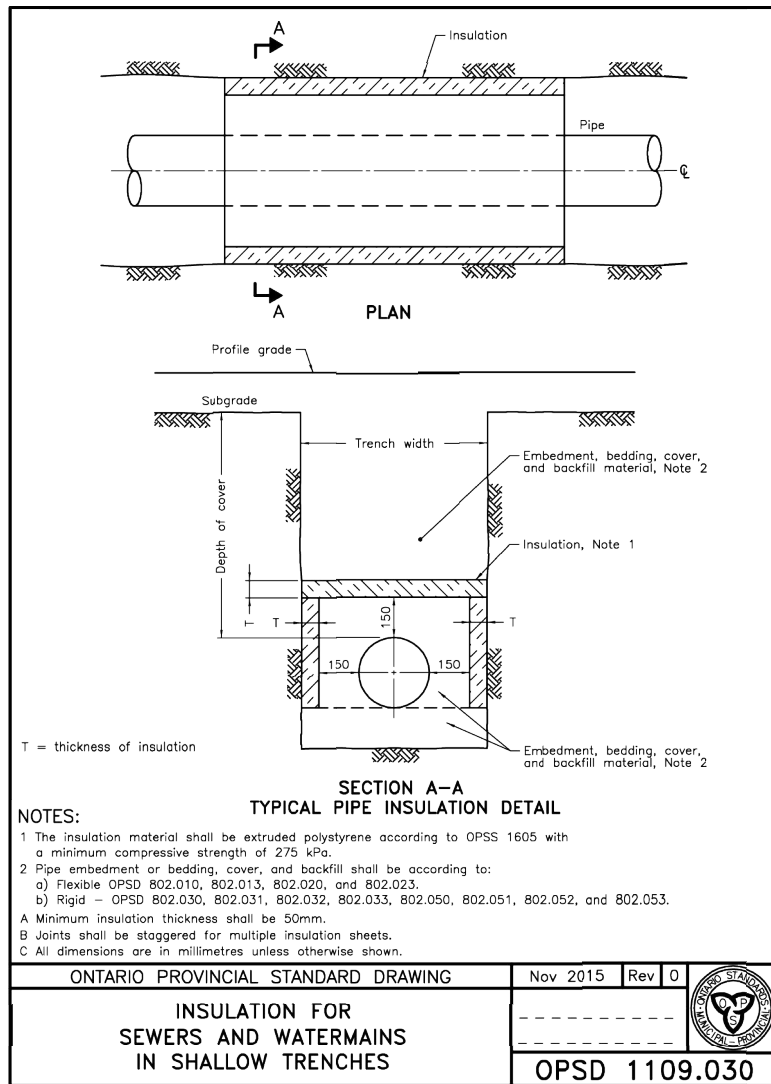
No.	ISSUED FOR	DATE	BY
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1	CLIENT REVIEW	OCT. 6/22	MDH

DESIGN	MDH	REVIEWED BY	EPS
DRAWN	WLB/AJL	CHECKED BY	TRO
DATE	May 22, 2026		
SCALE	AS SHOWN		

PROJECT NO.	14-9799
DRAWING SCALES BASED ON A 11" X 17" SHEET	

'SCHEDULE G'	
Drainage Report for the COLLINS HWY 3 DRAIN & BRANCH Town of Tecumseh	
SHEET TITLE	MISCELLANEOUS DETAILS
PAGE NO.	13 of 14

May 20, 2026 - 1:07pm C:\pwworking\directory\projects to 2017_33\wib\d0183644\149799-03-DRN-PROF(PIC MAR2026).dwg



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DESIGN	MDH	REVIEWED BY	EPS
DRAWN	WLB/AJL	CHECKED BY	TRO
DATE	May 22, 2026		
SCALE	AS SHOWN		

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PROJECT NO. 14-9799

DRAWING SCALES BASED ON A 11" X 17" SHEET

'SCHEDULE G'

Drainage Report for the
COLLINS HWY 3 DRAIN & BRANCH
 Town of Tecumseh

SHEET TITLE
MISCELLANEOUS DETAILS

PAGE NO.
 14 of 14