# Appendix E.6 Geotechnical Report

# Preliminary Geotechnical Investigation Highway 50 from Castlemore to Mayfield Road Mayfield Road from Highway 50 to Coleraine Drive Town of Caledon and City of Vaughn, Region of Peel, Ontario

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Appendix 'E': Results of Culvert Inspection



# 1 Introduction

The investigation described in this report was requested by HDR|iTRANS Consulting Inc. in connection with the environmental assessment (EA) study of Highway 50 from Castlemore Road to Mayfield Road, and for Mayfield Road from Highway 50 to Coleraine Drive for the purpose of improvement works. The total length of the roadways for the study is about 6.9 kilometers. The details of the improvement work are to be determined, but could include widening of the roads, improving road drainage, upgrading or reconstructing the existing pavement etc. We understand that no major change to existing horizontal and vertical road alignments is expected.

The engineering services completed by Trow include a preliminary geotechnical investigation, a hydrogeological assessment, a site contamination assessment, and inspection of the culverts to determine their structural conditions. There are several CSP culverts and two box culverts within the study area, which may need to be replaced or extended. This report is concerned with the preliminary geotechnical investigation, and includes the results of site contamination assessment and the culvert inspection. The report on hydrogeological assessment is provided under separate cover.

The purpose of the preliminary geotechnical investigation was to establish the composition of the existing pavement structure and subsurface conditions along the road, to provide recommendations for evaluation of the existing conditions and for planning the improvement works.

The comments and recommendations given in this report are based on the assumption of above-described concepts. If changes are made either in the planning/design phases or during construction, this office must be retained to review those modifications. The result of this review may be a modification of our recommendations or it may require additional field or laboratory work to check whether the changes are acceptable from a geotechnical viewpoint.



# 2 Methodology

The scope of the study as agreed with HDR|iTRANS consisted of drilling eighteen (18) boreholes along the road at about 500 m spacing. Eleven (11) boreholes were drilled to depths ranging from 5.0 to 6.6 m below existing road surface along Highway 50, while the three (3) boreholes on Mayfield Road were drilled to depths of 4.9 to 6.6 m below existing road surfaces. The remaining four (4) boreholes at the intersection of Highway 50 and Mayfield Road, were located close to the ends of the two box culverts across the roadways. These boreholes were drilled to depths of 7.8 to 9.6 m below existing road grades. The scope of the geotechnical investigation is summarized in Table 1.

Length of No. of Depth of Borehole Location Road (km) **Boreholes** Boreholes (m) **Designations** BH-5 to BH-8 Highway 50 5.5 11 5.0 to 6.6 BH-9 to BH-15 4.9 to 6.6 Mayfield Road 1.4 3 BH-1 to BH-3 Mayfield / Highway 50 4 7.8 to 9.6 BH-4A to BH-4C Intersection (Box culverts) 6.9 18 Total

Table 1: - Scope of Geotechnical Investigation

The boreholes were drilled from February 10 to 22, 2010. All boreholes were advanced using a truck-mounted drilling rig equipped with powered augers. The boreholes were advanced at the approximate locations shown in Drawing Nos. L-1 to L-10 attached in Appendix 'D'. Approximate ground elevation at borehole locations were estimated from the existing ground elevation information available from contour plan of roadways provided by HDR|iTRANS.

A senior field technician from our office supervised the fieldwork. In each borehole location, the composition of the existing pavement was recorded. Below the pavement, soil samples were obtained from the boreholes using a 50-mm diameter split spoon sampler. Split spoon sampling was carried out in conjunction with the Standard Penetration Test (SPT) procedure, in general accordance with American Society for Testing and Materials (ASTM) Test Designation D-1586.

The samples were visually identified in the field and transported to our laboratory for moisture content, unit weight and grain size distribution evaluations on selected samples. The results of the SPT and index tests are summarized in the borehole logs, Drawing Nos. 1 to 18 in Appendix 'A'.



Figure Nos. 1 to 3 in Appendix 'B' show the results of the grain size analyses. In addition to the physical tests, eight (8) samples were forwarded to an accredited laboratory and tested for selected inorganic parameters listed in the MOE document entitled Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the *Environmental Protection Act*. The results are summarized in the Certificates of Analysis presented in Appendix 'C' of this report.

The results of the culvert inspection to assess their existing structural condition are presented in Appendix 'E'.





# 3 Subsurface Conditions

All the boreholes were drilled through the asphalt pavement surface of existing roads. The boreholes encountered fill below the existing pavement and granular material, except for two (2) Boreholes (Nos. 8 and 9) where native material was identified under the pavement structure. Traces of organics and decayed vegetation, possibly consisting of topsoil, was identified at the bottom of the fill in some boreholes. Native soils encountered in all the boreholes mostly consist of clayey silt to sandy silt till deposits, except that silty sand was encountered at the bottom in three (3) of the Boreholes (Nos. 12 to 14). In the following paragraphs, the relevant properties of the various deposits encountered are briefly described. The detailed subsurface conditions at the borehole locations are presented in the individual borehole logs, which are attached to this report as Drawing Nos. 1 to 18 inclusive, in Appendix 'A'.

It should be noted that the soil boundaries indicated on the borehole logs are inferred from non-continuous sampling and observations during the drilling. These boundaries are intended to reflect transition zones, for the purpose of geotechnical design and should not be interpreted as exact planes of geological change. The "Notes on Sample Description" preceding the borehole logs in Appendix 'A' are an integral part of and should be read in conjunction with this report.

# 3.1 Existing Pavement

The composition of the existing asphalt pavement on roadways at borehole locations was determined by recording the thicknesses of the asphaltic concrete and of the granular materials at the borehole locations. The results are summarized in Table 2 below. The thicknesses of the existing asphaltic concrete could be determined reasonably accurately in the boreholes; however, the thickness of the granular layer could only be determined approximately as it is often not possible to differentiate between the granular base and subbase. Relatively thick (~430 mm) asphalt was encountered in Borehole 3, probably as a result of repeated overlays locally. In view of the unusually thick asphalt that might be local, the existing pavement identified at Borehole 3 is disregarded from overall evaluation of pavement requirements for Mayfield Road.

The moisture contents measured in the existing granular base material generally ranged from 2 to 5%, but mostly from 2 to 4%, with an average of about 3%.

Granular Base Equivalency (GBE) factors of 1.25 and 0.7, and Structural Number (SN) factors of 0.26 and 0.1, are assumed for the existing pavement and granular base respectively, for the assessment of the GBE and SN values in Table 2.



**Table 2: – Existing Pavement Composition** 

Boreholes	Location (Road)	Approximate Station (m)	Asphaltic Concrete (mm)	Granular Base (mm)*	GBE (mm)	SN (mm)
1	Mayfield Road	10+350	90	430	414	66
2	Mayfield Road	10+700	130	610	590	95
3	Mayfield Road	11+150	430	670	1007**	179**
4C	Mayfield Road	11+450	140	390	448	75
4D	Mayfield Road	11+450	140	340	413	70
4A	Highway 50	15+550	130	700	653	104
4B	Highway 50	15+550	220	380	541	95
5	Highway 50	14+850	150	520	552	91
6	Highway 50	14+300	150	510	545	90
7	Highway 50	13+900	200	510	607	103
8	Highway 50	13+300	200	640	698	116
9	Highway 50	12+600	190	700	728	119
10	Highway 50	12+300	150	690	671	108
11	Highway 50	11+850	250	500	663	115
12	Highway 50	11+350	150	610	615	100
13	Highway 50	10+850	270	210	485	91
14	Highway 50	10+500	150	470	517	86
15	Highway 50	10+300	300	430	676	121

<sup>\*</sup> Includes base and subbase;

The boreholes found considerable differences in the composition of the existing pavement, as may be noted in Table 2. Based on the information derived from these widely spaced boreholes, structural capacity of the existing pavement structure along Highway 50 appears to be higher on the average, in terms of either GBE or the SN, than that of Mayfield Road.

The existing asphaltic concrete is generally in a fair condition.

<sup>\*\*</sup> Disregarded from pavement evaluation in view of unusually thick asphalt that may be local.

## 3.2 Fill

All the boreholes except two (Boreholes 8 and 9) encountered fills underneath the existing granular road base materials. Where present, the depth of fill ranged approximately from 0.5 to 2 m below the granular base.

The existing fill materials comprise mostly a mixture of clayey silt, sandy silt, and gravel with traces of topsoil inclusions. In general, the organic content in the fill materials appeared low. The moisture contents of the fill materials range from about 4 to 32%, but mostly from 11 to 21%, with an average of about 18%. The higher moisture contents appeared to correspond to fills with organic traces, probably attributable to topsoil inclusions. The SPT 'N' values of the fill are between 2 and 26 blows per 0.3 m, indicating variable degrees of compaction.

# 3.3 Clayey Silt Till

Clayey silt till deposit constitutes the majority of the soils encountered in the boreholes. It is found underlying the fill in 16 boreholes, and underlying the granular base in 2 boreholes (Nos. 8 and 9), and extended to the full depth of exploration in 3 boreholes (Nos. 4B, 4D and 6). A thin layer of sandy silt till was identified within the clayey silt till deposit in Borehole 2. SPT 'N' values ranging from 5 to 49 blows, and averaging about 17 bows per 0.3 m were recorded in the clayey silt till material, suggesting firm to hard, but generally firm to very stiff consistency. The natural moisture contents of the till range from 11 to 24%.

Grain size analysis on seven (7) clayey silt till samples from six (6) different boreholes indicated 1 to 5% (average 2.5%) gravel, 13 to 23% (average 18.5%) sand, 46 to 55% (average 49.5%) silt and 25 to 42% (average 29.5%) clay. The results of these grain size analyses are shown on Figure 1 in Appendix 'B'.

# 3.4 Sandy Silt Till

Except for a thin layer sandwiched within clayey silt till in Borehole 2, sandy silt till deposit (where encountered) underlies the clayey silt deposits. Sandy silt till extends to the full depth of exploration in 10 boreholes (Nos. 3, 4A, 4C, 5, 7, 8, 9 to 11 and 15), and is underlain by silty sand in 3 boreholes (Nos. 12 to 14). Natural moisture contents measured in sandy silt till range from 7 to 16%. SPT 'N' values of 10 to over 100 blows per 0.3 m were recorded sandy silt till, indicating compact to very dense, but mostly compact to dense, conditions.

Two samples of sandy silt till soils taken from Boreholes 10 and 11 were analyzed for grain size distribution (Figure 2 in Appendix 'B'). The results show approximately 5 to 7% gravel, 29 to 32% sand, 44 to 45% silt, and 16 to 21% clay. The glacial deposits are also known to contain cobbles and boulders.



# 3.5 Silty Sand

Silty sand was identified in 3 Boreholes (Nos. 12 to 14) on Highway 50. Silty sand underlies the sandy silt till and extends to the full depth of all three boreholes. Silty sands have natural moistures of 11 to 17%. SPT 'N' values recorded in the silty sandy range from 13 to over 100 blows per 0.3 m, which indicate compact to very dense conditions. One sample of silty sand from Borehole 13 analyzed for grain size distribution (Figure 3, Appendix 'B') indicated approximately 65% sand, 32% silt and 3% clay.

# 3.6 Groundwater Conditions

The groundwater condition at the site was assessed by observing the water levels in the open boreholes during the fieldwork. Shortly after drilling, groundwater was not detected in the open boreholes, except for Boreholes 7, 12, 13, and 15, where groundwater was detected at depths ranging from 4.3 to 6.1 m below existing grades (~Elevations 200.5 to 212.8 m).

The ground water levels observed in open boreholes may not represent the true groundwater conditions at the site due to the short period of observation and the low permeabilities of some of the site soils, and possibly surface water infiltration.

A transient perched water table could exist in the fill materials in times of heavy precipitation and during thawing in Spring.

Ground water monitoring wells were installed in Boreholes 1, 4A, 4D, 6, 7, 9, 12 and 15 for longer term monitoring of ground water. Table 3 summarizes the groundwater levels observed in the monitoring wells. The observed water levels indicate a general groundwater flow from north to south. In the long term, some fluctuation in ground water levels is to be expected.

The monitoring wells may be used for long term observation of the groundwater in these areas.

It should be noted that in accordance with O.Reg.903, all of the monitoring wells/piezometers installed for this investigation will have to be decommissioned once they are no longer required. Responsibility for this rests with the property owner and this requirement is now being more strenuously enforced by the MOE. It is suggested that this be done on a time and materials basis utilizing the services of a licensed well driller.



**Table 3: – Groundwater Levels in Monitoring Wells** 

Borehole No.	Date Installed	Date of Water Level Observation	Time in Days	Depth of Water (m)	Approximate Elevation (m)
1	Feb 22, 2010	Mar 19, 2010	25	2.9	227.1
4A	Feb 12, 2010	Mar 18, 2010	34	8.6	217.5
4D	Feb 22, 2010	Mar 18, 2010	24	5.4	219.8
6	Feb 11, 2010	Mar 18, 2010	35	1.1	221.7
7	Feb 12, 2010	Mar 19, 2010	35	5.0	213.9
9	Feb 11, 2010	Mar 18, 2010	35	1.5	210.7
12	Feb 10, 2010	Mar 18, 2010	36	2.9	206.1
15	Feb 11, 2010	Mar 19, 2010	36	3.0	203.3

## 3.7 Environmental Test Results

The eight (8) samples shown in the 4 below were sent to an environmental laboratory for testing of selected inorganic parameters listed in Table 3 of the MOE document entitled Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the *Environmental Protection Act*.

The results of the chemical tests are compared with the criteria listed in Table 3, which is considered the most appropriate for this study, based on the assumption of following site conditions:

- The road right of way has not been identified as a possible sensitive site.
- The road right of way and immediate adjacent area are supplied with water that is not derived from local groundwater.
- Full depth restoration of contamination (if encountered) is assumed.

The project being road widening, industrial/commercial land use criteria under this guideline are considered applicable. Soils at the site were found to be classified as predominantly medium to fine textured.



**Table 4: – Environmental Test Samples** 

Borehole and Sample	Depth (m)	Material	Electrical Conductivity, EC (mS/cm)	SAR
BH-2, SS2	0.7 – 1.2	Fill	3.0	35
BH-4B, SS2	0.7 – 1.2	Fill	4.4	22
BH-5, SS2	0.7 – 1.2	Fill	2.7	Below limit
BH-7, SS2	0.2 - 0.6	Fill	4.7	27
BH-9, SS3	1.5 - 2.0	Clayey silt till	Below limit	Below limit
BH-11, SS3	1.5 - 2.0	Clayey silt till	3.1	14
BH-13, SS3	1.5 - 2.0	Clayey silt till	1.6	Below limit
BH-15, SS3	1.5 - 2.0	Clayey silt till	2.0	Below limit
Table 3 limit	s for commercial/indu	1.4	12	

The test results meet the limits specified in the MOE document except for electrical conductivity (EC) for 7 samples, and Sodium Absorption Ratio (SAR) for 4 samples (see Table 6). The SAR is higher than the permissible value of 12 for four (4) of the eight (8) samples tested, with the lowest and highest values of 1.6 and 35.0 respectively, indicating wide variability over the site. In addition, Electrical Conductivity (EC) was found to exceed the permissible limit of 1.4 mS/cm on seven (7) of the samples tested, with the lowest and highest values of 1.2 mS/cm and 4.7 mS/cm respectively. The average EC for all the samples tested is about 2.8 mS/cm, which is twice the applicable limit of 1.4, while the average SAR is about 15.7, which is marginally greater than the applicable limit of 12. EC and SAR are not health related parameters, and do not trigger a need for clean up. They do, however, affect the growth of certain plant species.

In relation to the stratified site condition Standards, the SAR and EC criteria are not applicable.

The results of limited environmental tests indicate that excess site soils may be suitable for use on like sites (public roadways) requiring fill. Alternatively, excess soils may be taken to any land based sites being developed for industrial/commercial/community uses, subject to the acceptance by the receiving site authorities, and for placement more than 2 m below the final grade. The excavated soils can also be disposed of at appropriately licensed landfill sites, subject to further testing that may be required by the landfill operator.



# 4 Site Contamination Assessment

A site reconnaissance and available public record search was conducted for the subject property to assess potential sources of contamination adjacent to the Site.

## 4.1 Site Reconnaissance

A site visit was conducted on May 20<sup>th</sup>, 2010 by Ms. Marie Bianchi of Trow Associates Inc. The purpose of this site visit was to identify potential sources of contamination in the vicinity of the Site. The properties adjacent to Mayfield Road, between Highway No. 50 and Coleraine Drive were primarily under residential land use, with the exception of 'Albion Nursery & Garden Centre' at 8602 Mayfield Road. A newly constructed warehouse structure at the northwest corner of Mayfield Road & Highway No. 50 (Sardo) was also observed during the site visit. However, this property is not likely to have adversely impacted the subsurface conditions of the Site.

Potential sources of contamination identified on the adjacent properties of the Site are listed in the following table.

Municipal Address	Description of Activities	Associated Risk
9301 Highway 50	A gasoline service station (Petro Canada) was located on the northeast corner of Highway 50 and Castlemore Road.	Moderate – this southeast adjacent property is located within 50m of the subject property and may have adversely impacted the subsurface conditions of the south end of the Site. However, the Site is located down-gradient in terms of the inferred groundwater flow of the area.
7491 Nashville Road	A gasoline service station (Esso) was located on the southeast corner of Highway 50 and Nashville Road.	Moderate to High – this east adjacent property is located within 50m of the subject property and may have adversely impacted the subsurface conditions of the Site.

**Table 5: Potential Sources of Contamination** 

# 4.2 Aerial Photographs

Aerial photographs of the Site, dated 1951, 1974 and 1980, were obtained from the National Aerial Photo Library in Ottawa in order to review the development and land use history of the Site. Our review of the aerial photographs indicated the following:



- 1951: Highway No. 50 was depicted in this aerial photograph. The Site and surrounding land use was depicted primarily as agricultural land use with scattered residential dwellings (farmhouses).
- 1974: Mayfield Road was depicted in this aerial photograph. No significant changes were depicted from the 1951 aerial photograph. A commercial or industrial structure was depicted adjacent to Highway No. 50, just north of Major Mackenzie Drive (south of the Site).
- 1980: No significant changes were depicted from the 1974 aerial photograph.

The review of aerial photographs indicated that the Site and its general area were primarily under agricultural land use historically. No apparent sources of contamination were depicted on Site or on its adjacent properties based on the aerial photograph review.

# 4.3 Property Use Directories

The available volumes of the Polk Suburban Toronto City Directory (City Directories), dated between 1985 and 2001, were reviewed at the Toronto Reference Library in order to identify the occupancy history of the Site and adjacent properties to the Site. It should be noted that the City Directories were no longer published after 2001. The occupancy records for the Site and adjacent properties are provided in Table 6.

**Municipal Address** Years Reviewed Listings 9301 Highway No. 50 Not Listed 10223 Highway No. 50 Kleinburg War Games 10335 Highway No. 50 Cheyenne Insulation Ltd., residential 2001, 1997, 1995, 10462 Highway No. 50 Residential 1994, 1991, 1990, 11221 Highway No. 50 Boltonview Dodge Chrysler Jeep 1989, 1988, 1987, (dealership) 1986, 1985 7491 Nashville Road Penny's Gas Bar, Priti Gas Bar, Coffee Time Doughnuts, Hurry 'N' Doughnuts 8782, 8779, 8752, 8576 Residential Mayfield Road

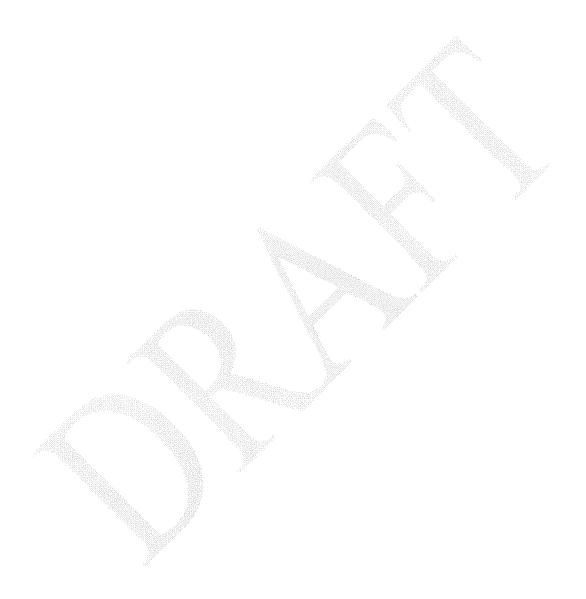
Table 6: Occupancy Listings for the Site and Adjacent Properties

Our review of the City Directories confirmed that a gasoline service station was located adjacent to the Site at 7491 Nashville Road and is likely the existing gasoline service station (Esso) on the southeast corner of Highway No. 50 and Nashville Road. According to the City



Directories, this source of contamination existed at this location since the mid-1980s.

Our review of the City Directories did not indicate any other obvious sources of contamination on the surrounding properties of the Site.





# 5 Existing Culvert Inspection

There are 18 pipe culverts and two (2) concrete box culverts along Highway 50, and 15 pipe culverts along Mayfield Road (of which 3 were found removed), within the area covered by this study. Inspection of these culverts in accordance with the Ontario Structures Inspection Manual (OSIM) was completed by Trow and their results, including photographs taken during site visit, are presented in Appendix 'E'. The results are summarized in Tables 9 and 10. Most of the culverts are in generally good conditions. Major rehabilitation is expected for one CSP culvert under Highway 50.

**Table 9: – List of Culverts (Highway 50)** 

Serial No.	Peel Region Structure No	Type of Culvert	Direction	Repair	Remarks
1	2924	CSP; 500 mm φ	NS	Minor Rehab.	East entrance from Highway 50
2	2925	Poly; 400 mm φ	NS	None	West entrance from Highway 50
3	2926	CSP; 500 mm φ	NS	Minor Rehab.	West entrance from Highway 50
4	2927	CSP; 500 mm ¢	NS	None	West entrance from Highway 50
5	2928	CSP; 500 mm ¢	NS	None	West entrance from Highway 50
6	2929	CSP; 500 mm φ	NS	None	West entrance from Highway 50
7	2930	CSP; 500 mm φ	NS	None	West entrance from Highway 50
8	2952	CSP; 500 mm ø	NS	Minor Rehab.	East entrance from Highway 50
9	2953	CSP; 500 mm φ	NS	Minor Rehab.	East entrance from Highway 50
10	2954	CSP; 500 mm φ	NS	Minor Rehab.	East entrance from Highway 50
11	2955	CSP; 500 mm φ	NS	Minor Rehab.	East entrance from Highway 50
12	2956	CSP; 500 mm φ	NS	None	West entrance from Highway 50
13	2957	CSP; 600 mm φ	NS	None	West entrance from Highway 50
14	2967	CSP; 2-1350 mm φ	EW	Minor Rehab.	Across Highway 50
15	2968	CSP; 2-700 mm φ	EW	None	Across Highway 50
16	2971	CSP; 2-700 mm φ	EW	Major Rehab.	Across Highway 50
17	2973	CSP; 2-750 mm φ	EW	Minor Rehab.	Across Highway 50
18	2975	CSP; 2-1350 mm φ	EW	Minor Rehab.	Across Highway 50
19	2997	Box; 1.5 mX4.5 m	EW	None	Highway 50 & Mayfield
20	3027	Box; 1.5 mX2.5 m	NS	None	Highway 50 & Mayfield



**Table 10: – List of Culverts (Mayfield Road)** 

Serial No.	Peel Region Structure No	Type of Culvert	Direction	Repair	Remarks
1	1915	CSP; 400 mm φ	EW	Replace	South entrance from Mayfield
2	1917	CSP; 400 mm φ	EW	Minor Rehab.	North entrance from Mayfield
3	1918	CSP; 400 mm ø	EW	Replace	North entrance from Mayfield
4	1919	CSP; 400 mm ¢	EW	None	North entrance from Mayfield
5	1921	CSP; 400 mm φ	EW	None	North entrance from Mayfield
6	1922	Removed	EW		North entrance from Mayfield
7	1923	Removed	EW	-	North entrance from Mayfield
8	1924	CSP; 400 mm φ	EW	Unable to inspect	North entrance from Mayfield
9	1925	CSP; 600 mm ¢	EW	None	North entrance from Mayfield
10	1926	CSP; 400 mm ¢	EW	None	North entrance from Mayfield
11	1927	CSP; 400 mm ø	EW	Minor Rehab.	North entrance from Mayfield
12	1928	Removed	EW	<u>-</u>	North entrance from Mayfield
13	1936	CSP; 900 mm ¢	NS	None	Across Mayfield Road
14	1937	CSP; 1200 mm ¢	NS	Minor Rehab.	Across Mayfield Road
15	1938	CSP; 1200 mm φ	NS	None	Across Mayfield Road



# 6 Discussions and Recommendations

# 6.1 Engineering Evaluation of Pavement and Subgrade Conditions

Although the widely spaced for this preliminary investigation, the information from boreholes indicate some differences between Highway 50 and Mayfield Road concerning composition of the existing pavement. The existing pavement composition is as summarized in Table 2. Estimated overall structural capacity in terms of GBE and SN are about 610 mm and 100 mm respectively on the average for the existing pavement structure within project limits of Highway 50 covered by this investigation. In comparison, the estimated GBE and SN are 470 mm and 75 mm respectively for portion of the Mayfield Road covered in this investigation.

Although a variety of subgrade soils were encountered, the pavement should be designed for the subgrade soils in the upper 1.2 m of the road, which in most boreholes consist of clayey silt to sandy silt fill. The existing fill materials may be poor pavement subgrades due to their low load carrying value, high frost susceptibility, and poor drainage characteristics. Nevertheless, a properly designed and constructed pavement should perform satisfactorily.

The consistency of native clayey silt till underlying the fill or the pavement generally ranges from firm to very stiff, white the sandy silt till underlying the clayey silt till is in generally compact to dense condition. They should provide good support for, culverts or culvert extensions as necessary.

# 6.2 Pavement Requirements

The given design AADT, truck percentage and growth rate for the various segments of Highway 50, and for Mayfield Road, are summarized in Table 5.

The calculated design ESAL's for 20 years design period are also shown in Table 7. Although there are some variations for different segments of Highway 50, the pavement design should be based on 48.9 million ESAL. The pavement for Mayfield Road should be designed for traffic of 15.7 million ESAL.

Using the AASHTO pavement design method with an estimated subgrade resilient modulus of 35 MPa for the existing subgrade, pavement structures with structural numbers of 164 and 142 mm are recommended for Highway 50 and Mayfield Road, respectively. Since the average structural numbers of the existing pavement structures in Highway 50 and Mayfield Road are approximately 103 and 77 mm respectively (Table 2), upgrading or reconstruction of the existing pavements will be required.



**Table 7: - Design AADT** 

Road Segments	Year	2009	2011	2021	2031	Truck Traffic	Design Lane ESAL
Mayfield Rd.:	AADT	10100	10700	13900	18100	25%	15.7
Colerain Dr. to. Highway 50	Growth Rate		2.7%	2.7%	2.7%		Million
Highway 50:	AADT	34300	35500	41800	49400		47.5
Mayfield to Major Mack.	Growth Rate		1.7%	1.7%	1.7%	25%	47.5 Million
Highway 50:	AADT	30400	31400	36700	42900		44.5
Major Mac to Cadetta Rd.	Growth Rate		1.6%	1.6%	1.6%	25%	41.7 Million
Highway 50:	AADT	31800	33500	43300	55900		40.0
Cadetta Road to Castlemore Road	Growth Rate		2.6%	2.6%	2.6%	25%	48.9 Million
Highway 50:	AADT	34200	35300	41300	48300		46.0
South of Castlemore Road	Growth Rate		1.6%	1.6%	1.6%	25%	46.9 Million

# 6.3 Pavement Alternatives

Various methods of upgrading the existing pavement structure to the required capacity have been considered, including overlaying, insitu recycling, and complete reconstruction.

# 6.3.1 Overlaying

The existing pavements could be strengthened by providing an overlay as shown in Table 6. Before overlaying, the top 50 mm of the existing asphaltic concrete should be shaved to remove the majority of the pavement cracks. Any major cracks remaining in the asphaltic concrete should be grouted and sealed, and a tack coat applied before overlaying.



Table 8: - Overlaying

		Hot Mix Overlay (Aft	Cuada	
Location	Shaving	Superpave 12.5 FC1 (or HL3)	Superpave 19.0 (or HL8)	Grade Raise
Mayfield Road	50 mm	50 mm	50+55+55 mm	155 mm
Highway 50	50 mm	50 mm	50+55+55 mm	155 mm

The asphalt grade should be PG 64-28.

## 6.3.2 Insitu Recycling with Foam Stabilization, and Asphalt Overlay

Foam stabilization (OPSS 331 November 2003) is one of several cold insitu recycling method of rehabilitating existing pavements. In this strategy, the top part of the existing asphaltic concrete (about 50 mm) is shaved, the remaining asphalt is pulverized and mixed with some of the existing granular materials, asphalt (and possibly soil fines) is added, and a foaming process is carried out to form a stabilized layer of 150 mm. This stabilized layer is structurally superior to the existing asphaltic concrete but not as strong as new hot mix asphalt. The foam stabilized base asphalt should then be overlaid with hot mix asphalt to achieve the desired strength. The foam stabilized layer can be open to traffic immediately, but two to three days of curing are needed before the overlay can be applied.

The length of time the foam stabilized layer can be open to traffic is generally regarded as about 3 days, but will depend on the type and volume of traffic. It is possible to use foam stabilization in areas surrounding built up structures such as manholes etc. with proper grade adjustments. Foam stabilization generally involves less grade raises than mill and overlay

**Table 9: – Foam Stabilization** 

	F	Hot Mix Over	0	
Location	Foam Asphalt	Superpave 12.5 FC1 (or HL3)	Superpave 19.0 (or HL8)	Grade Raise
Mayfield Road	150 mm	50 mm	50+50 mm	115 mm
Highway 50	150 mm	50 mm	65+70 mm	150 mm

With this rehabilitation strategy, all of the surface cracks will be eliminated. The rise in the final road grades will be about 115 to 150 mm, which includes a 10% increase in thickness of the foam layer. The actual thickness of the foam stabilized layer and the grade raise will vary across the width of the road. The values shown in Table 7 can be taken as the average values.



### 6.3.3 Reconstruction

If the road grades cannot be raised, the pavement may be completely reconstructed, which will provide maximum design flexibility and the most uniform final pavement structure.

The recommended new pavement structures are summarized in Table 8.

It should be noted that the pavement structures in Table 10 are the minimum required for the anticipated traffic, and is suitable for dry inorganic clayey subgrades. Any organic fills must be sub-excavated to 1.2 m below the finished pavement grades. The heaviest loading on the subgrades may be during construction. If construction is carried out when the subgrades are in a wet condition, as in late Fall or early Spring, it may be necessary to increase the thickness of the subbase materials to avoid overstressing of the subgrade soils. Alternatively, it may be necessary to reduce the weight of the trucks by using half loads.

			46
Pavement Components	Mayfield Road	Highway 50	Degree of Compaction
Superpave 12.5 FC1	40 mm	50 mm	92 – 97.5 % MRD*
Superpave 19.0	50+55 mm	70+75 mm	91 – 97.5 % MRD
Granular 'A' base	<b>1</b> 50 mm	150 mm	100 % SPMDD*
Granular 'B' Type 2	500 mm	600 mm	100 % SPMDD
Total Thickness	795 mm	945 mm	

**Table 10: – New Pavement Structures** 

## 6.3.4 New Pavement for Widening

The pavement given in Table 10 above can be used for any widening as necessary, with the additional requirements that the thickness of the sub-base materials should be extended to the same depth as that of the existing granular base materials (including any sand fill).

# 6.3.5 Subgrade Preparation for New Pavement

The long-term performance of the pavement structure is highly dependent upon the subgrade support conditions. To prepare the site for construction, all vegetation, organic surface soils, and other deleterious materials should be stripped and removed from the site. Once clearing and grubbing operations are complete, grading to establish desired subgrades can be initiated. The exposed subgrades should be surface compacted to 98% SPMDD, and proof rolled. In order to achieve proper fill compaction, the subgrade must be in a relatively stable condition. Subgrade materials which are wet, or otherwise not compactible, should be sub-excavated

<sup>\*</sup> denotes Maximum Relative Density; \*\* denotes Standard Proctor Maximum Dry Density



and replaced with suitable clean fills. New fill materials for grading in the upper 600 mm of the subgrades should be compacted to minimum 98% SPMDD, and their moisture contents should be within 2% below and 1% above optimum moisture. Below this top layer, 95% compaction should be satisfactory.

If excessive soft and yielding subgrade is observed and it cannot be stabilized in place by aeration and compaction, bridging the unstable area using a geosynthetic fabric and then placing clean granular fill material can be considered. In general, a minimum of 0.5 m of clean, granular structural fill over the geosynthetic fabric should establish a stable bearing surface.

The finished pavement subgrade surface should be free of depressions and should be sloped at a minimum grade of three percent.

### 6.3.6 Subdrains

In rural sections of the road, sufficient deep ditches should be provided on both sides of the road to ensure that the subgrades are well drained.

In urban sections, subdrains in accordance with OPSD 216.021 should be installed under the edges of the new pavement widening. The subdrains should be 150 mm in diameter, and the clear stones should be wrapped with a Class II non-woven filter fabric with a filtration opening size of 100 microns or smaller.

## 6.4 Road Embankment

If widening is planned, it will require filling outside the existing road embankment, which we understand is no more than about 2.0 m above surrounding lands. Provided that the final road grades will not be significantly higher than the existing grades, the limited subsurface information indicate that stability of the new embankments should be satisfactory in most areas.

All topsoils should be stripped from under the footprint of the fill areas, and benches should be cut into the slopes of the existing embankments to receive the new fills (OPSD 208.010). The new fill materials should be inorganic clean fills at moisture contents suitable to be compacted to a high density. The new fills should be placed in 200 mm lifts and compacted to minimum 95% SPMDD, except for the top 0.6 m, which should be compacted to 98%. The finished slope surfaces should not be steeper than 2H:1V, and should be seeded or sodded for erosion protection. Our experience indicates that a 150 mm layer of topsoil on the finished slopes should be adequate for seeding or sodding.

The road widening works may also involve some short cut sections. Generally the cuts are expected to be less than 2 m high, and should be stable at 2H:1V. The finished slope surfaces



should be seeded or sodded for erosion protection.

# 6.5 Storm Sewer Support and Bedding

Storm sewers, where needed, are expected to be founded mostly in native soils, which should provide adequate support for the sewers. The sewer pipes should be provided with granular bedding in accordance with OPSD 802.030 to 802.032 or the equivalent Region of Peel specification.

Sewer bedding materials should be well graded (e.g. Granular 'A'). If the subgrades are wet, clear stone may be used as pipe bedding provided that they are completely wrapped with a non woven filter fabric.

## 6.6 Trench Backfill

Where applicable, the sewer and culvert trenches should be backfilled with the excavated inorganic fill or native materials. Fill materials containing a significant proportion of organics should not be re-used. The backfills should be compacted to minimum 95% SPMDD. In the top 0.6 m of the subgrades, the degree of compaction should be increased to 98%.

# 6.7 Reuse of Excavated Materials

The existing granular base materials may be reused for road grading.

The excavated native inorganic soils may be reused for general grading or trench backfill. Our study indicates that the native soils contain a sufficient percentage of fines (silt and clay particles) that will make them difficult to compact as engineering fill if they are too wet or too dry. Accordingly, the ability to use native soils from site excavations as engineering fill will depend on their moisture content and the prevailing weather conditions when site grading activities take place. Native soils that are too wet to properly compact could be dried by aeration during dry weather conditions.

Some of the re-excavated existing fill materials may also be re-used for general grading. Fill materials containing a significant amount of organic inclusions should not be re-used. Any excavated organic soils may be reused for slope flattening or landscaping.

Based on the results of the environmental tests, the excavated materials are environmentally suitable to be reused on site, or they may be taken to any land based sites being developed for industrial/commercial/community uses, subject to the acceptance by the receiving site authorities, and for placement more than 2 m below the final grade. The excavated soils can also be disposed of at appropriately licensed landfill sites.



# 7 Construction Conditions

All excavations for the project, including road grading, utility trenches, box culvert foundation excavation, as necessary, must be completed in accordance with the Ontario Health and Safety Act. For the purpose of this Act, the existing fills, and silty sand above the water table may be classified as Type 3 soils. The native clayey silt till and sandy silt till may be classified as Type 2 soils. Only minor groundwater seepage is expected in these soils at shallow depths, where it should be possible to handle the seepage by gravity drainage and pumping from filtered sumps.

The silty sand soils below water table are classified as Type 4 soils. It should be noted that, due to seepage pressure, these soils may not be stable even when they are excavated to 3H:1V slopes as suggested by OHSA. To maintain stability, the water level in the sandy soils should be temporarily lowered to below excavation level, possibly by installing closely spaced well points. The well points should be surrounded with a graded granular filter to prevent the removal of fine soil particles during pumping. The dewatering system should be designed and installed by a specialist contractor experienced in this field. As an alternative to dewatering, excavations in these soils could also be carried out within interlocking sheet piles, which could serve as shoring support and limit the extent of the excavation. The toes of the sheet piles should generally be driven to a depth below the excavation level equal to the height of the water table above the excavation level.



# 8 General Comments

Trow Associates Inc. should be retained for a general review of the final design and specifications to verify that this report has been properly interpreted and implemented. If not accorded the privilege of making this review, Trow Associates Inc. will assume no responsibility for interpretation of the recommendations in the report.

The comments given in this report are intended only for the guidance of design engineers. The number of boreholes required to determine the localized underground conditions between boreholes affecting construction costs, techniques, sequencing, equipment, scheduling, etc., could be greater than has been carried out for design purposes. Contractors bidding on or undertaking the works should, in this light, decide on their own investigations, as well as their own interpretations of the factual borehole results, so that they may draw their own conclusions as to how the subsurface conditions may affect them.

More specific information with respect to the conditions between samples, or the lateral and vertical extent of materials may become apparent during excavation operations. The interpretation of the borehole information must, therefore, be validated during excavation operations. Consequently, during the future development of the project area, conditions not observed during this evaluation may become apparent; should this occur, Trow Associates Inc. should be contacted to assess the situation, and additional testing and reporting may be required. Trow has qualified personnel to provide assistance in regards to future geotechnical and environmental issues related to this property.

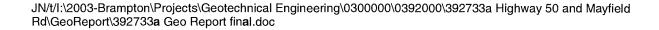


# 9 Closure

We trust that this report has provided sufficient information for the preliminary design of the pavement. Should you have any questions regarding this report, please do not hesitate to call the undersigned.

Trow Associates Inc.

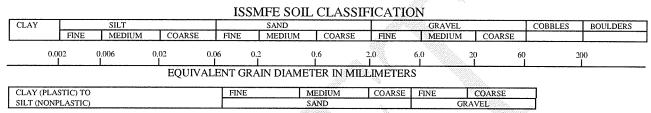
James Ng, M.Eng., P.Eng., MICE Senior Project Manager Geotechnical Division Peter Chan, P.Eng. Manager Geotechnical Division



Appendix 'A':
Notes on Sample Description;
Borehole Logs - Drawing Nos. 1 to 18

# **Notes On Sample Descriptions**

1. All sample descriptions included in this report follow the Canadian Foundations Engineering Manual soil classification system. This system follows the standard proposed by the International Society for Soil Mechanics and Foundation Engineering. Laboratory grain size analyses provided by Trow also follow the same system. Different classification systems may be used by others; one such system is the Unified Soil Classification. Please note that, with the exception of those samples where a grain size analysis has been made, all samples are classified visually. Visual classification is not sufficiently accurate to provide exact grain sizing or precise differentiation between size classification systems.



UNIFIED SOIL CLASSIFICATION

- Fill: Where fill is designated on the borehole log it is defined as indicated by the sample recovered during the boring process. The reader is cautioned that fills are heterogeneous in nature and variable in density or degree of compaction. The borehole description may therefore not be applicable as a general description of site fill materials. All fills should be expected to contain obstruction such as wood, large concrete pieces or subsurface basements, floors, tanks, etc., none of these may have been encountered in the boreholes. Since boreholes cannot accurately define the contents of the fill, test pits are recommended to provide supplementary information. Despite the use of test pits, the heterogeneous nature of fill will leave some ambiguity as to the exact composition of the fill. Most fills contain pockets, seams, or layers of organically contaminated soil. This organic material can result in the generation of methane gas and/or significant ongoing and future settlements. Fill at this site may have been monitored for the presence of methane gas and, if so, the results are given on the borehole logs. The monitoring process does not indicate the volume of gas that can be potentially generated nor does it pinpoint the source of the gas. These readings are to advise of the presence of gas only, and a detailed study is recommended for sites where any explosive gas/methane is detected. Some fill material may be contaminated by toxic/hazardous waste that renders it unacceptable for deposition in any but designated land fill sites; unless specifically stated the fill on this site has not been tested for contaminants that may be considered toxic or hazardous. This testing and a potential hazard study can be undertaken if requested. In most residential/commercial areas undergoing reconstruction, buried oil tanks are common and are generally not detected in a conventional geotechnical site investigation.
- 3. Till: The term till on the borehole logs indicates that the material originates from a geological process associated with glaciation. Because of this geological process the till must be considered heterogeneous in composition and as such may contain pockets and/or seams of material such as sand, gravel, silt or clay. Till often contains cobbles (60 to 200 mm) or boulders (over 200 mm). Contractors may therefore encounter cobbles and boulders during excavation, even if they are not indicated by the borings. It should be appreciated that normal sampling equipment cannot differentiate the size or type of any obstruction. Because of the horizontal and vertical variability of till, the sample description may be applicable to a very

limited zone; caution is therefore essential when dealing with sensitive excavations or dewatering programs in till materials.

4. Excerpt from "OHSA Regulations for Construction Projects," Part III, Section 226:

# Soil Types

# Type 1 Soil

- a) is hard, very dense and only able to be penetrated with difficulty by a small sharp object;
- b) has a low natural moisture content and a high degree of internal strength;
- c) has no signs of water seepage; and
- d) can be excavated only by mechanical equipment.

## Type 2 Soil

- a) is very stiff, dense and can be penetrated with moderate difficulty by a small sharp object;
- b) has a low to medium natural moisture content and a medium degree of internal strength; and
- c) has a damp appearance after it is excavated.

# Type 3 Soil

- a) is stiff to firm and compact to loose in consistency or is previously excavated soil;
- b) exhibits signs of surface cracking;
- c) exhibits signs of water seepage;
- d) if it is dry, may run easily into a well-defined conical pile; and
- e) has a low degree of internal strength.

## Type 4 Soil

- a) is soft to very soft and very loose in consistency, very sensitive and upon disturbance is significantly reduced in natural strength;
- b) runs easily or flows, unless it is completely supported before excavating procedures;
- c) has almost no internal strength;
- d) is wet or muddy; and
- e) exerts substantial fluid pressure on its supporting system. O. Reg. 213/91, s. 22

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# Log of Borehole 2

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Time	Water Level (m)	Depth to Cave (m)
Completion	No free water	4.7

# Log of Borehole 3

brge00392733A Project No. Drawing No. Preliminary Geotechnical Investigation, Highway 50 and Mayfield Road Sheet No. 1 of 1 Project: Town of Caledon and City of Vaughan, Region of Peel, ONtario Location: Mayfield Road Combustible Vapour Reading  $\boxtimes$ Auger Sample February 22, 2010 X Date Drilled: Natural Moisture 0 🛭 SPT (N) Value Plastic and Liquid Limit CME 45C Drill Type: Dynamic Cone Test Undrained Triaxial at  $\oplus$ Shelby Tube % Strain at Failure Geodetic Datum: Field Vane Test Penetrometer Combustible Vapour Reading (ppm) N Value Natural 50 Unit Weight kN/m<sup>3</sup> G W L ELEV. 25 50 75 Natural Moisture Content % Atterberg Limits (% Dry Weight) Soil Description m Shear Strength 228.50 ~430 mm asphalt over ~670 mm granular base 228.1 227.4 FILL sanady silt with some clay, trace gravel, some organics and decayed vegetation; dark brown; damp Ö X 20.8 226.5 CLAYEY SILT TILL trace gravel and sand; light brown; moist; stiff Ö 20.7 G\* 225.6 SANDY SILT TILL trace clay, some gravel; light brown; Ö 21.7 damp; compact to very dense 51 O 22.1 × End of Borehole \* G: Grain size analysis



5/25/10

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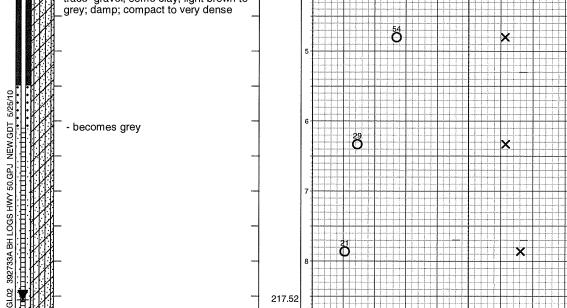
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Time	Water Level (m)	Depth to Cave (m)
Completion	No free water	4.72

Log of Borehole 4A brge00392733A Project No. Drawing No. Preliminary Geotechnical Investigation, Highway 50 and Mayfield Road Sheet No. 1 of 2 Project: Town of Caledon and City of Vaughan, Region of Peel, ONtario Location: Highway 50 Combustible Vapour Reading  $\boxtimes$ Auger Sample February 12, 2010 Date Drilled: Natural Moisture X OØ SPT (N) Value Plastic and Liquid Limit CME 45C Drill Type: Dynamic Cone Test Undrained Triaxial at Shelby Tube % Strain at Failure Geodetic Datum: Field Vane Test Penetrometer Combustible Vapour Reading (ppm) N Value Natura 50 Ğ W L ELEV. Unit Weight kN/m<sup>3</sup> Soil Description m 226.10 ~130 mm asphalt over 226.0 ~700 mm granular base 225.3 FILL clayey silt, trace sand and gravel, trace organics; dark brown; moist ô 19.7 - organics/decayed vegetation 223.4 **CLAYEY SILT TILL** trace gravel, some sand; light brown to brown; damp; very stiff G\* 21.3 222.1 **SANDY SILT TILL** trace gravel, some clay; light brown to grey; damp; compact to very dense 21.7





Continued Next Page

Time	Water <b>L</b> evel (m)	Depth to Cave (m)
Completion	No free water	9.45
March 8, 2010	8.75	
March 18,2010	8.58	9.06

22.8

21.5

# Log of Borehole 4A

brge00392733A Project No. 4 Drawing No. Preliminary Geotechnical Investigation, Highway 50 and Mayfield Road Sheet No. Project: Natural Unit Weight kN/m<sup>3</sup> SYMBOL G W L ELEV. Natural Moisture Content % Atterberg Limits (% Dry Weight) Soil Description m 217.10 216.5 **End of Borehole** \* G : Grain size analysis

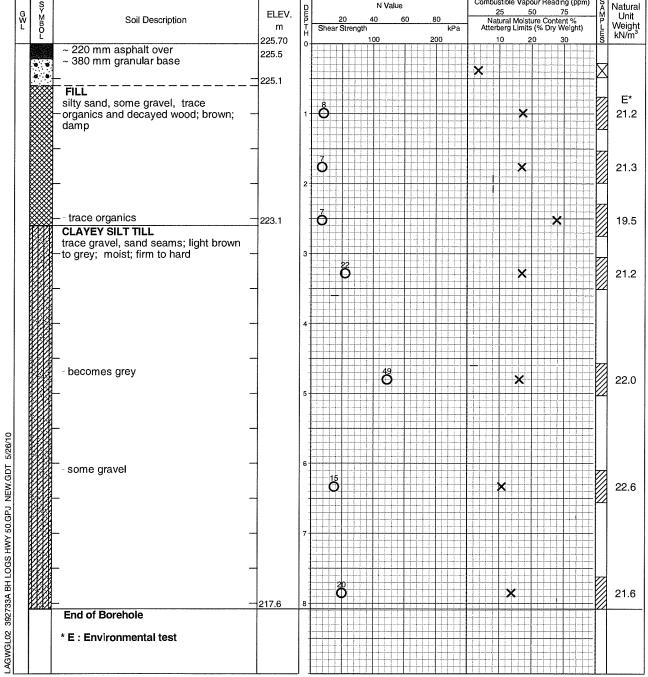


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Completion	No free water	9.45
March 8, 2010	8.75	
March 18,2010	8.58	9.06

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Time	Water Level (m)	Depth to Cave (m)
Completion	No free water	7.63

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							₿₩				×				22.6
			-											4	
			7	4											
			4												
	- bec	omes grey			14						×				21.6
			_	5									i i i	4	
			7												
	_			6											
						23									00.4
						O					×				22.1
	SAN	DY SILT TILL	217.8	7											
	trace	gravel, some clay; grey; damp; dense													
	very	JC    10C							ا ا	1					
			216.8	8							×				
	End	of Borehole													
															1



LAGWGL02 392733A BH LOGS HWY 50.GPJ NEW.GDT 5/25/10

Water Level (m)	Depth to Cave (m)
No free water	7.93
_	Level (m)

Project No.	brge00392733A_	g oi	ا	borenoi	t 41)	Drawing N	o	7
Project:	Preliminary Geotechnical Ir						o. <u>1</u>	of <u>1</u>
Location:	Town of Caledon and City	of Vaug	lha	an, Region of P	eel, ONtari	0		
	Mayfield Road		-			Combustible Vapour Rea	ding	l
Date Drilled:	February 22, 2010		-	Auger Sample SPT (N) Value	O 🛭	Natural Moisture Plastic and Liquid Limit	<b>×</b>	
Drill Type:	CME 45C		-	Dynamic Cone Test		Undrained Triaxial at % Strain at Failure	•	,
Datum:	Geodetic	·	_	Shelby Tube Field Vane Test	•	Penetrometer	<b>A</b>	
S		T	Τ_	N Value		Combustible Vapour Readir	ng (ppm) Ş	Notirel
G N M B O	Soil Description	ELEV.	DEPTH	20 40 6 Shear Strength	60 80 kPa	25 50 7 Natural Moisture Conter Atterberg Limits (% Dry W	ng (ppm) S 75 M nt % P Veight) E 80 S	Natural Unit Weight
L	40 mm asphalt over	225.20 225.1	0	100	200		80 S	kN/m³
~ 34	40 mm granular base	224.7				X	$\square$	
FIL	L / sand with some gravel, trace clay;	-						
brov	wn; moist		1	8		×		
		223.9						
trac	AYEY SILT TILL be gravel, some sand; light brown to			29				
grey	y; moist; very stiff		2					21.9
	-	-				<b>X</b>		21.4
	_		3					
			ľ	8				22.0
	-							
	-		4					
	-							
				- d		<b>*</b>		21.8
	-		5					
	-	219.79						
9/25/10								
	-		6					
	_			<b>Ö</b>		<b>X</b>		G*
3								
	-	-	7					
H S S S S S S S S S S S S S S S S S S S								
- gra	avel and cobbles	217.5		50/125mr		*	Z	23.3
TYSE End	d of Borehole							
* G	: Grain size analysis							
Endwelde 3927334 BH LOGS HWY 50.GPJ NEW GDJ C S G G G G G G G G G G G G G G G G G G								
[Ag				TO 100 100 100 100 100 100 100 100 100 10				



Time	Water Level (m)	Depth to Cave (m)
Completion	No free water	7.63
March 8, 2010ope	n to 5.72, no w	ater
March 18,2010	5.41	5.69

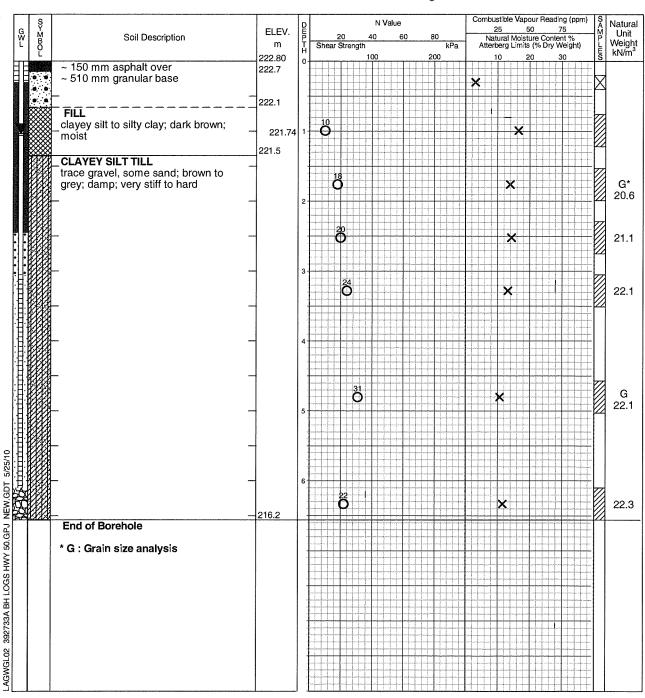
Projec	t No.	brge00392733A	8 -	_											Dra	wing N	lo		8
Projec	t:	Preliminary Geotechnical I	nvestiga	ati	or	۱, ۱	łig	hw	ay	50	an	d N	/layfi	eld R	oad s	Sheet N	lo.	1_	of <u>1</u>
Locat	on:	Town of Caledon and City	of Vaug	gha	ar	, R	leg	gior	۱ 0	f P	eel	, O	Ntari	0					
		Highway 50		_												_			
Date I	Orilled:	February 11, 2010				iger S		•			_	Ø			oustible Va al Moistur		ading	×	
Drill T	vpe:	CME 45C		_		PT (N) mami		alue one T	est		_	) Ø			c and Liquined Tria:		-	—	)
Datun	= · · •	Geodetic				elby								% Str	ain at Fai		(	⊕	
Datan				-	FIE	ela Va	ane	Test				Š		Penet	rometer		•	<u> </u>	
G S Y			ELEV.	Tp	T				N	Value					ustible Var 25		ng (ppm) 75	S	Natural
SY MBOL		Soil Description	m m	DHPTH	F		20 Str	ength	40		60	80	kPa	Na Atter	atural Mois rberg Limit	ture Conte s (% Dry V	nt % Veight)	N≪Z¤⊸шc	Unit Weight
	~ 150	mm asphalt over	223.90 223.8	0				1	100		П	20	0		10	20	30	ร	kN/m³
6	~ 520	) mm granular base			H									×				X	
e (		·	223.2															-	
₩	FILL _claye	y silt to silty clay, some gravel,		1	Ħ	13 O													E*
₩	trace	organics; brown; damp			l	Ĭ													_
	<u></u>		222.4		-		-												
	wets wets	YEY SILT TILL and seams, trace gravel; brown				<u>ا</u> ر	H									k 🗆			20.7
	to gre	ey; damp; firm to stiff	-	2	H													-14	
				H	9	H			Н										
		•	221.2			0										<b>\$</b>			19.7
		DY SILT TILL clay and gravel; grey; damp;		3	H														
	dense				H			ŏ			H				×				21.6
			-		H	#	+		-										21.0
$\mathcal{U}$					H							H							
	-	-		4	Ħ				$^{\dagger}$									-	
					H	Ш			#										
$\mathcal{M}$		•	1			Ш		35											
	_	_	218.9	5	H			ő							X				22.6
	End	of Borehole		Γ	H													Π	
	* E : I	Environmental test			H	H	+											-	
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LAGWGL02 392733A BH LOGS HWY 50.GPJ NEW.GDT 5/25/10

Time	Water Level (m)	Depth to Cave (m)
Completion	No free water	5.03

Project No.	brge00392733A			Drawing No.		9	
Project: Location:	Preliminary Geotechnical Investigat Town of Caledon and City of Vaugh	· · · · · · · · · · · · · · · · · · ·			1	of _	1
	Highway 50			Combustible Vapour Reading		7	
Date Drilled:	February 11, 2010	Auger Sample SPT (N) Value	O Ø	Natural Moisture  Plastic and Liquid Limit	<b>&gt;</b>	_	
Drill Type:	CME 45C	Dynamic Cone Test Shelby Tube		Undrained Triaxial at % Strain at Failure	⊕ `	0	
Datum:	Geodetic	Field Vane Test	Š	Perietrometer	<b>A</b>		





Time	Water Level (m)	Depth to Cave (m)
Completion March 8, 2010	No free water 2.32	6.04
March 18,2010	1.06	5.87

brge00392733A 10 Project No. Drawing No. Preliminary Geotechnical Investigation, Highway 50 and Mayfield Road Sheet No. 1 of 1 Project: Town of Caledon and City of Vaughan, Region of Peel, ONtario Location: Highway 50 Combustible Vapour Reading  $\boxtimes$ Auger Sample Date Drilled: February 12, 2010 Natural Moisture X OØ SPT (N) Value Plastic and Liquid Limit CME 45C Drill Type: Dynamic Cone Test Undrained Triaxial at Ф Shelby Tube % Strain at Failure Datum: Geodetic Field Vane Test Combustible Vapour Reading (ppm) N Value Natural G W L ELEV. Natural Moisture Content % Atterberg Limits (% Dry Weight) Soil Description 80 20 Shear Strength Weight kN/m<sup>3</sup> m 218.90 ~ 200 mm asphalt over 218.7 ~ 510 mm granular base 218.2 FILL E\* ŏ clayey silt to silty clay, some gravel; 21.2 brown; moist to damp ö 21.4 trace to some organics 216.4 ô 20.6 **CLAYEY SILT TILL** wet sand seams, trace gravel; light brown; moist; firm Ô 19.9 214.9 SANDY SILT TILL trace clay and gravel; grey; wet; loose to dense ő 213.88 22.6 212.3 **End of Borehole** \* E : Environmental test



392733A BH LOGS HWY 50.GPJ

-AGWGL02

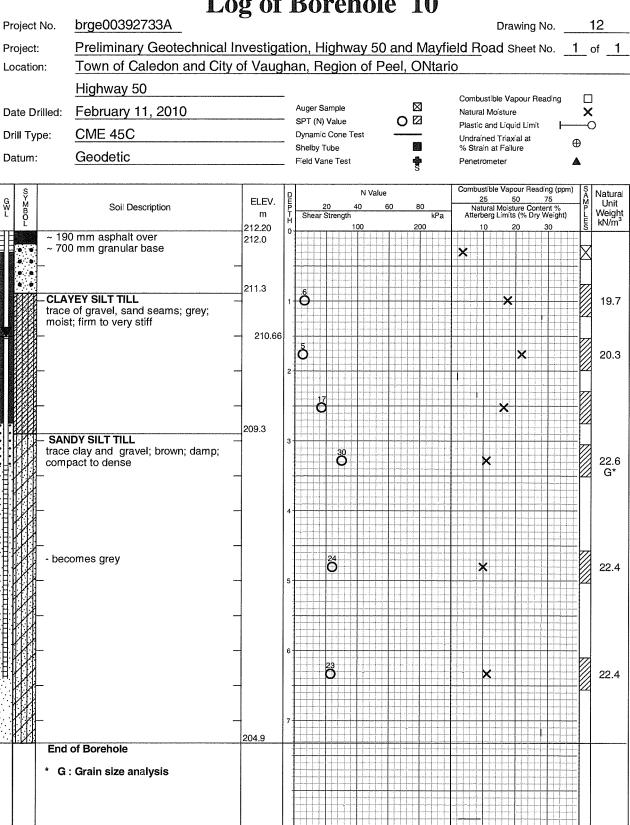
Time	Water Level (m)	Depth to Cave (m)
Completion	6.09	6.1
March 8, 2010	5.15	
March 19,2010	5.02	5.88

Project No.	brge00392733A	ng vi	1	DUI CHUI	CO	Drawing No.		11
Project:	Preliminary Geotechnical	Investiga	ati	on, Highway 50	and Mayfi	eld Road Sheet No.	_1(	of <u>1</u>
Location:	Town of Caledon and City	y of Vaug	gha	an, Region of P	eel, ONtari	0	<del></del>	
	Highway 50		_			Combustible Vapour Readin	ng 🔲	
Date Drilled:	February 11, 2010		_	Auger Sample SPT (N) Value	o ⊠ ⊠	Natural Moisture	X	
Drill Type:	CME 45C		_	Dynamic Cone Test	<del></del>	Plastic and Liquid Limit Undrained Triaxial at	⊕	)
Datum:	Geodetic		_	Shelby Tube Field Vane Test	121 131	% Strain at Failure Penetrometer	<b>△</b>	
			_		S			
G X M BO L	Soil Description	ELEV. m 215.20	DWALH	100	60 80 kPa 200	Combustible Vapour Reading 25 50 75 Natural Moisture Content of Atterberg Limits (% Dry Wei	101	Natural Unit Weight kN/m <sup>3</sup>
~ 20 ~ 64	00 mm asphalt over 40 mm granular base	215.20	0			×	X	
trace	YEY SILT TILL e gravel, sand seams; brown; p; firm to stiff	214.4 	1	10		*		21.4
			2	ð		×		20.9
- org	ganics/decayed vegetation	212.3		å		×		20.1
trace	NDY SILT TILL a clay and gravel; grey; damp; pact to very dense		3	8		×		21.4
		_	4					
				29 O		×		22.6
			5					
	Let Dande la	209.0	6-	507 125m	m	×		22.7
End	l of Borehole							



LAGWGL02 392733A BH LOGS HWY 50.GPJ NEW.GDT 5/25/10

Time	Water Level (m)	Depth to Cave (m)
Completion	No free water	6.22





392733A BH LOGS HWY 50.GPJ NEW.GDT

AGWGL02

Time	Water Level (m)	Depth to Cave (m)
Completion	No free water	7.32
March 8, 2010	1.72	
March 18,2010	1.54	6.10

Projec	t No.	brge00392733A_	ig vi	L J	DU	PL		.IV	IC	; ]			D	rav	ving N	lo.	4	13
Projec	t:	Preliminary Geotechnical I											Road	Sh	neet N	lo. <u>1</u>	(	of <u>1</u>
Locati	on:	Town of Caledon and City	of Vauç	gha	an, I	Re	gior	n of	Pe	el, C	<u>ONtar</u>	io						
		Highway 50									7	Com	bustible	Vap	our Rea	ading		
Date E	Orilled:	February 10, 2010		_	Auger SPT (					0 8	3 2		ral Mois tic and L			L	×	
Drill T	ype:	CME 45C			Dynar Shelb			est	•		<del></del>	Undr	ained Tr	riaxia	al at			
Datum	1:	Geodetic			Field \					a de la companya de l			etromete			A	<b>L</b>	
s G X			ELEV.	P				N Va					25	50	)	ng (ppm) 75	S	Natural Unit
GWL SYMBOL		Soil Description	m	DEPTH	Shea	20 ar St	rength	40	60		kPa	Atte	atural Merberg Lir			ent % Veight)	Ø4∑₽ШØ	Weight kN/m³
	~ 150	0 mm asphalt over 0 mm granular base	212.00 211.9	0				100			200		10	20		30	S	
e e	-		211.2															
	∛ silty s	:: SILTY SAND sand to sandy silt, some gravel, clay; brown; damp	210.7	1			ő						×					
	CLA'	YEY SILT TILL e gravel, sand seams; brown to moist; stiff to very stiff			Č									<b>&gt;</b>	<b>4</b>			20.6
				2														
	_					<b>3</b> -								<b>-&gt;</b>	<b>X</b>			20.4
	_		_	3		ď							×					22.1
	-		208.3			Ħ								$\pm$				
		DY SILT TILL e clay, trace gravel; brown; moist; pact		4														
	- bed	comes grey					28 Ö					110	*					G*
				5								111 / District of the control of the						
			205.4	6			26 <b>O</b>						×					23.1
A.C.LA	End	of Borehole	200.4	T										$\blacksquare$			M	
	* G :	Grain size analysis																
						H								#		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		
						H	ШП			H				Į.				



LAGWGL02 392733A BH LOGS HWY 50.GPJ NEW.GDT 5/25/10

Time	Water Level (m)	Depth to Cave (m)
Completion	No free water	6.1

brge00392733A Project No. Drawing No. Preliminary Geotechnical Investigation, Highway 50 and Mayfield Road Sheet No. 1 of 1 Project: Town of Caledon and City of Vaughan, Region of Peel, ONtario Location: Highway 50 Combustible Vapour Reading  $\boxtimes$ Auger Sample February 12, 2010 Date Drilled: Natural Moisture X 0 🛭 SPT (N) Value Plastic and Liquid Limit CME 45C Drill Type: Dynamic Cone Test Undrained Triaxial at Shelby Tube % Strain at Failure Geodetic Datum: Field Vane Test Penetrometer Combustible Vapour Reading (ppm) N Value Natura ELEV. G V L Unit Weight kN/m<sup>3</sup> Soil Description 20 Shear Strength m 210.70 ~ 250 mm asphalt over 210.5 ~ 500 mm granular base 210.0 FILL silty sand, some garvel, trace organics; dark brown; damp; compact 209.4 **CLAYEY SILT TILL** trace gravel, some sand; light brown; ö damp; stiff to very stiff 20.2 207.8 SANDY SILT TILL some clay, trace gravel; light brown to grey; damp; compact to very dense 22.5 205.7 **End of Borehole** \* E : Environmental test

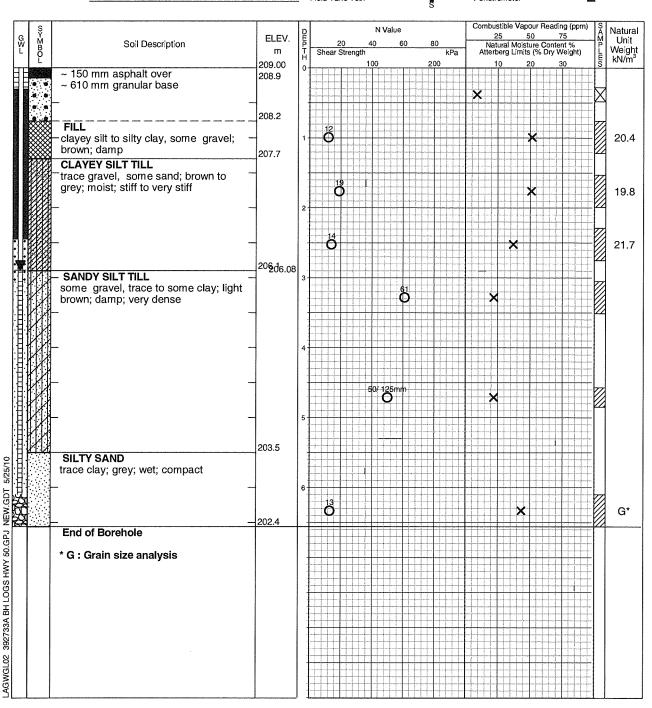


392733A BH LOGS HWY 50.GPJ NEW.GDT 5/25/10

AGWGL02

Time	Water Level (m)	Depth to Cave (m)
Completion	No free water	4.58

brge00392733A Project No. Drawing No. Preliminary Geotechnical Investigation, Highway 50 and Mayfield Road Sheet No. 1 of 1 Project: Location: Town of Caledon and City of Vaughan, Region of Peel, ONtario Highway 50 Combustible Vapour Reading Auger Sample  $\boxtimes$ February 10, 2010 X Date Drilled: Natural Moisture 0 🛭 SPT (N) Value Plastic and Liquid Limit CME 45C Drill Type: Dynamic Cone Test Undrained Triaxial at Ф Shelby Tube % Strain at Failure Geodetic Datum: Field Vane Test Penetrometer





Time	Water Level (m)	Depth to Cave (m)
Completion	4.58	5.49
March 8, 2010	3.47	
March 18 2010	2.92	5.99

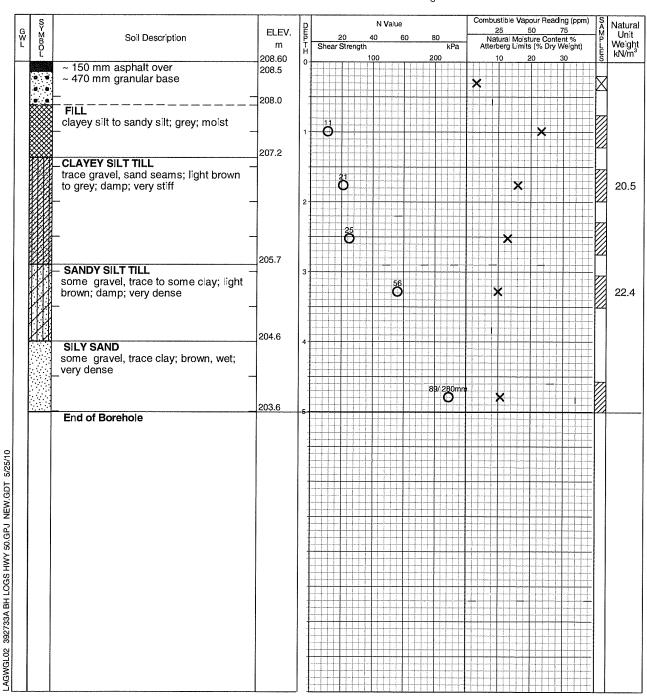
٥r	oject No.	brge00392733A	g vi			罗鼠	. U	PL	₽B₹		A.			Dra	awing I	۷o	-	16
٦r	oject:	Preliminary Geotechnical I	nvestig	ati	on,	Hi	ghw	ay	50	and	Mk	ayfi	eld R	oad	Sheet I	No	1_ (	of1_
C	cation:	Town of Caledon and City	of Vaug	gh	an,	Re	gio	n of	Pe	eel,	<u>10</u>	ltari	0		· · · · · · · · · · · · · · · · · · ·			
		Highway 50		_									Comb	ustible V	apour Re	adina	_	
Da	ate Drilled:	February 12, 2010		_	Auge					^				al Moistu		aung	×	
٦	rill Type:	CME 45C			SPT Dyna		raiue Cone 1	est		0	_			and Liq		-		)
	atum:	Geodetic			Shelb	-	be e Test						% Str	ain at Fai			<b>⊕</b>	
				-	riela	v ai i	E 165t				S		renet	runieter			<b>A</b>	
Š	S Y M B O L	Soil Description	ELEV. m 208.20	DEPTH	She	20 ar St	) trength	N \ 40 100	/alue 6	60	80	kPa	Na Atter	25	50 50 sture Cont ts (% Dry 20	75	101	Natural Unit Weight kN/m³
	~ 270 ~ 210	0 mm asphalt over 0 mm granular base	207.9	l°									×					
	dark	ey silt to silty clay, trace organics; brown; damp	206.9	1	10 C													17.9
	wet s	YEY SILT TILL sand seams, trace gravel; brown ey; damp; firm to stiff		2		3												E* 20.4
	_			3	ð										*			21.0
	some	DY SILT TILL e gravel, trace to some clay; light n; damp; very dense	204.3							Õ				The state of the s				22.1
	some	Y SAND o gravel, trace clay; brown, wet; dense	203.4	4					25mr	n				×	10 10 10 10 10 10 10 10 10 10 10 10 10 1			
	End	of Borehole	1.00.1	T														
	*E:	Environmental test																



LAGWGL02 392733A BH LOGS HWY 50.GPJ NEW.GDT 5/26/10

Time	Water Level (m)	Depth to Cave (m)
Completion	4.34	4.42

Project No.	brge00392733A			Drawing No.	17	
Project: Location:	Preliminary Geotechnical Investigat Town of Caledon and City of Vaugh				of	_1_
	Highway 50			Combustible Vapour Reading		
Date Drilled:	February 10, 2010	Auger Sample SPT (N) Value	O Ø	Natural Moisture  Plastic and Liquid Limit	×	
Drill Type:	CME 45C	Dynamic Cone Test Shelby Tube		Undrained Triaxial at % Strain at Failure	<b>⊕</b>	
Datum:	Geodetic	Field Vane Test	<b>S</b> S	Penetrometer	<b>A</b>	



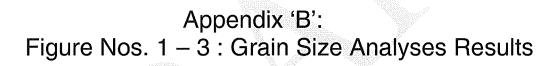


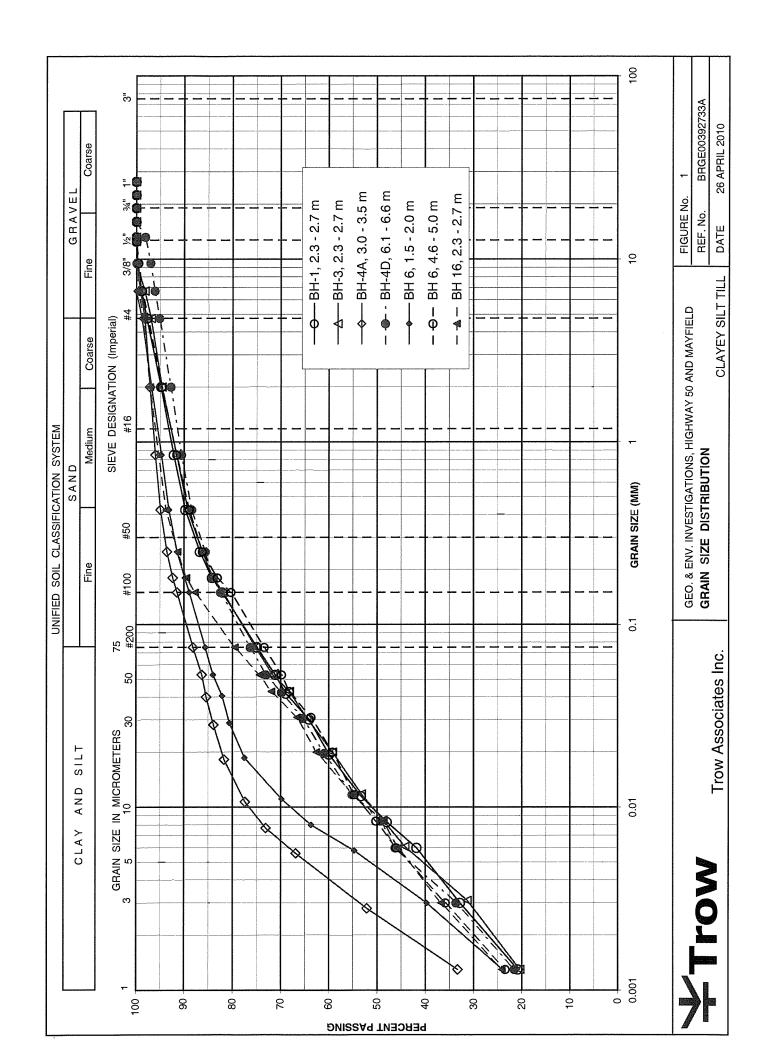
Time	Water Level (m)	Depth to Cave (m)
Completion	No free water	4.88

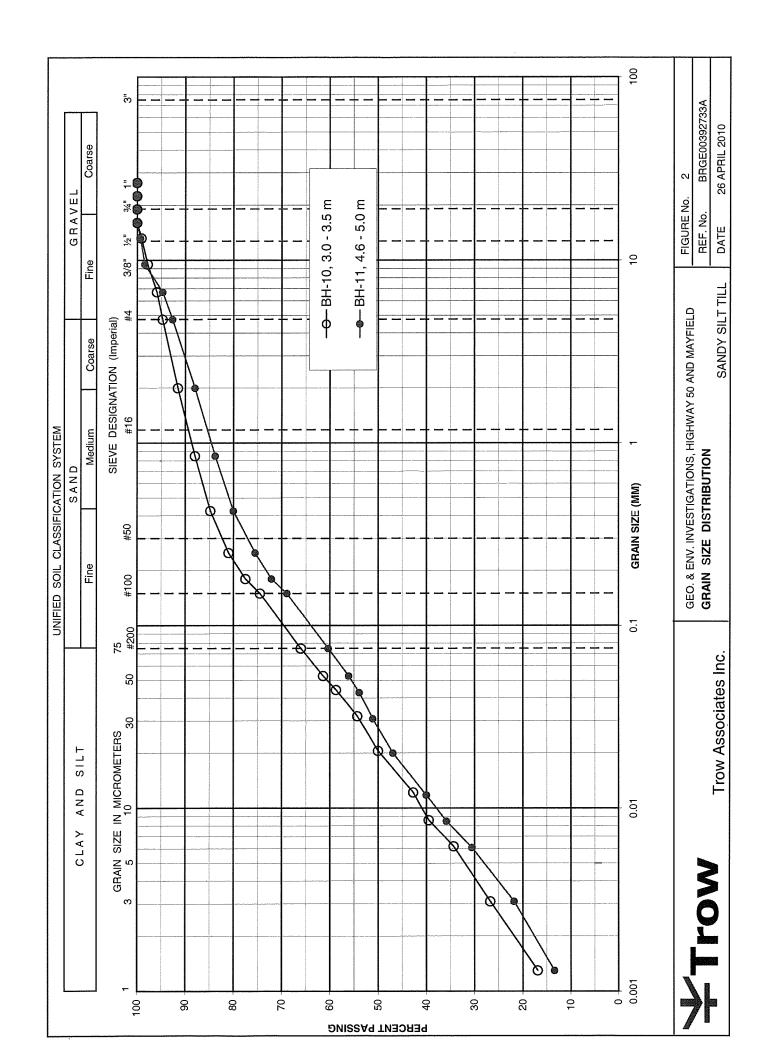
Project No.	brge00392733A	og o		٠	<b>.</b>	. •	<i>-</i> <u> </u>	. •		-	<b>A. Y</b>	y			Dra	wing	No.		18	8
Project:	Preliminary Geotechnical	Investi	gat	ion,	Hi	gh	wa	y 5	0 a	nd	Ma	ayfie	eld F	<u>{</u> oa	d s	heet	No.	1	of	i <u>1</u>
_ocation:	Town of Caledon and City	of Vau	ıgh	an,	Re	egi	on	of F	<sup>2</sup> ee	el, (	<u> </u>	tari	0							
	Highway 50												0						_	
Date Drilled:	February 11, 2010			_	er Sa						Ø		Natu			-	Reading		□ <b>K</b>	
Orill Type:	CME 45C				(N) \ amic			st		0	✓		Plast Undr			id Limi	t	<b> </b>	0	
Datum:	Geodetic			Shel	by Tu	ube							% St	rain a	t Failt			<b>⊕</b>		
Jatam.	deddilo			Field	l Van	ie ie	est				S		Pene	trome	eter			<b>A</b>		
S Y		ELEV	. [	2				N Val	ue				Comb	ustible 25		our Re	ading (p 75	opm) S	N	Vatura
SY M B O	Soil Description	m	.   <u> </u>	Sh	ear S		th 4	0	60			kPa	N Atte	atura rberg	Moist Limits	ure Co s (% Di	ntent % y <b>W</b> eigl	ht)	V	Unit Neigh kN/m³
	) mm asphalt	206.30	ď			H	10	0			200			10	2 	20	30		3 '	KIN/III
~ 430	) mm granular base	206.0				#							×				11		7	
8 0		205.6																		
FILL sand	y silt, trace organics; dark brown;				0 0									×						
damp		205.0			Ĭ														4	
some	YEY SILT TILL e gravel, sand seams; brown to	-				$\pm$											11			
grey;	moist; very stiff				Ó	士									<b> </b>   >	<b>k</b>				E*
SAN	DY SILT TILL	204.2	2																4	
trace	to some clay and trace gravel; n to grey; damp; compact to			H	2	2														G**
dens						1					1						+			20.7
		203.2	29 3	H		H														
bec	omes grey			H		H	36 <b>O</b>				#				x					21.1
		_																	4	
						Ħ														
			4																	
				Ħ																
			l				35 Ö							Ι,	<b>K</b>					21.9
		4	5											ľ					4	21.0
						#								1	H					
				H			H		Н											
			6					50												
		199.7		Ш				0						×						22.0
End	of Borehole			H				詌												
* E:	Environmental test Grain size analysis			H													$\mathbf{H}$			
"	a.a onto analyolo				Ш		Ш													
						1	Ш													
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							H		П	H				+			$\prod$	H		
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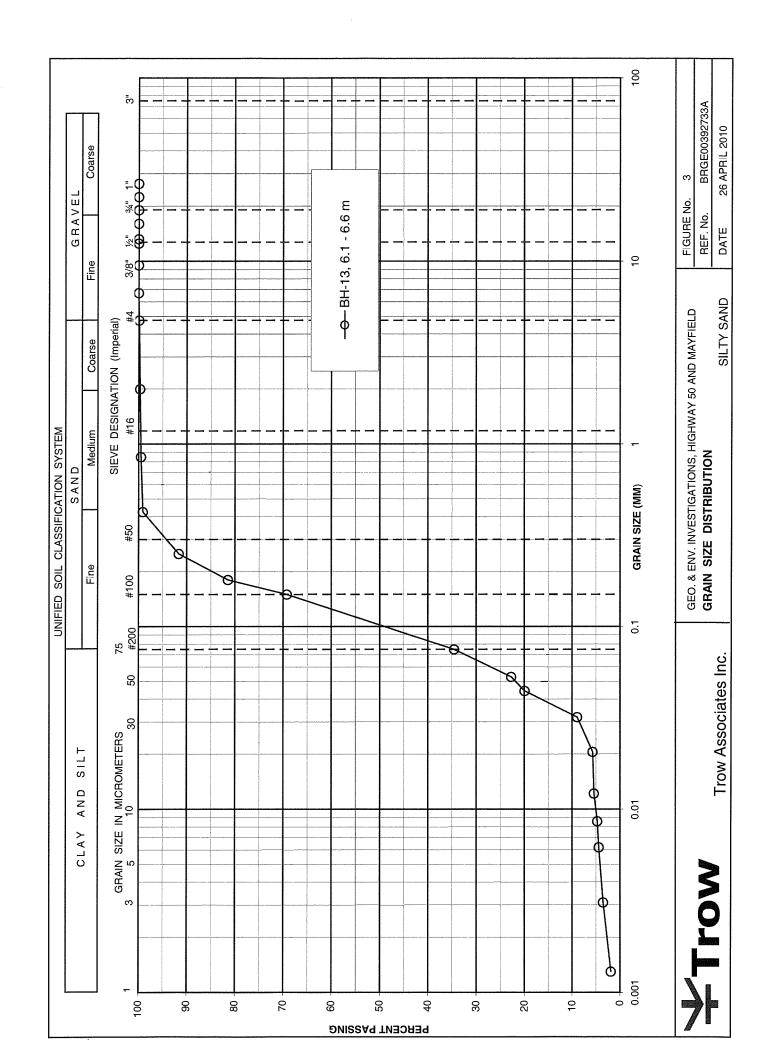


Time	Water Level (m)	Depth to Cave (m)
Completion	5.77	5.8
March 8, 2010	3.59	
March 19,2010	3.01	5.94









# Appendix 'C': Results of Environmental Analyses



Your Project #: BRGE00392733A Site: HWY 50 & MAYFIELD RD. Your C.O.C. #: OO616207

Attention: Madan Karkee

Trow Associates Inc 1595 Clark Blvd Brampton, ON L6T 4V1

Report Date: 2010/03/11

#### **CERTIFICATE OF ANALYSIS**

**MAXXAM JOB #: B025327** Received: 2010/03/03, 10:16

Sample Matrix: Soil # Samples Received: 8

		Date	Date	Method
Analyses	Quantity	Extracted	Analyzed Laboratory Method	Reference
Hot Water Extractable Boron	7	2010/03/08	2010/03/08 CAM SOP-00408	R153 Ana. Prot. 2004
Hot Water Extractable Boron	1	2010/03/08	2010/03/09 CAM SOP-00408	R153 Ana. Prot. 2004
Free Cyanide	5	N/A	2010/03/09 CAM SOP-00457	SM 4500CN-I
Free Cyanide	2	N/A	2010/03/10 CAM SOP-00457	SM 4500CN-I
Free Cyanide	1	N/A	2010/03/11 CAM SOP-00457	SM 4500CN-I
Conductivity	8	N/A	2010/03/09 CAM SOP-00414	APHA 2510
Chromium (VI) in Soil	8	2010/03/08	2010/03/09 CAM SOP-00420	EPA 3060A
Acid Extr. Metals (aqua regia) by ICPMS	6	2010/03/08	2010/03/08 CAM SOP-00447	EPA 6020
Acid Extr. Metals (aqua regia) by ICPMS	2	2010/03/09	2010/03/09 CAM SOP-00447	EPA 6020
MOISTURE	8	N/A	2010/03/06 CAM SOP-00445	McKeague 2nd ed 1978
pH CaCl2 EXTRACT	8	2010/03/09	2010/03/09 CAM SOP-00413	SM 4500 H
Sodium Adsorption Ratio (SAR)	8	2010/03/03	2010/03/09 CAM SOP-00102	EPA 6010

<sup>\*</sup> RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

**Encryption Key** 

11 Mar 2010 12:53:47 -05:00
Please direct all questions regarding this Certificate of Analysis to your Project Manager.

SARA SAROOP, Project Manager

Email: Sara.Saroop@maxxamanalytics.com

Phone# (905) 817-5700 Ext:5821

\_\_\_\_\_

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

For Service Group specific validation please refer to the Validation Signature Page

Total cover pages: 1

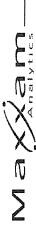
<sup>\*</sup> Results relate only to the items tested.



Trow Associates Inc Client Project #: BRGE00392733A Project name: HWY 50 & MAYFIELD RD.

# O'REG 153 METALS & INORGANICS COMPLETE (SOIL)

Maxxam ID		FF7085		FF7086	FF7086		FF7087		FF7088	FF7088		
Sampling Date		2010/03/03		2010/03/03	2010/03/03		2010/03/03		2010/03/03	2010/03/03		
	Units	BH2, SS2	QC Batch	BH4B, SS2	BH4B, SS2 Lab-Dup	QC Batch	BH5, SS2	QC Batch	BH7, SS2	BH7, SS2 Lab-Dup	RDL	QC Batch
Calculated Parameters												
Sodium Adsorption Ratio	N/A	35	2091555	22		2091555	9.2	2091555	27		N/A	2091555
Inorganics												
Conductivity	mS/cm	3.0	2095626	4.4	4.5	2095647	2.7	2095626	4.7		0.002	2095626
Free Cyanide	g/gn	0.01	2095655	<0.01		2095655	<0.01	2095648	<0.01	<0.01	0.01	2095657
Moisture	%	9.7	2094497	14		2094497	41	2094497	14		0.2	2094497
Available (CaCl2) pH	H	7.49	2095621	7.79	7.80	2095645	7.45	2095621	7.82			2095621
Metals												
Hot Water Ext. Boron (B)	6/6n	0.40	2095143	0.11		2095143	0.22	2095143	0.24		0.05	2095143
Chromium (VI)	g/gn	<0.2	2094944	<0.2		2094944	<0.2	2094944	<0.2		0.2	2094944
Acid Extractable Antimony (Sb)	6/bn	<0.2	2094960	<0.2		2094960	<0.2	2094960	<0.2		0.2	2094960
Acid Extractable Arsenic (As)	g/gn	က	2094960	4		2094960	င	2094960	4		-	2094960
Acid Extractable Barium (Ba)	6/6n	82	2094960	80		2094960	81	2094960	77		0.5	2094960
Acid Extractable Beryllium (Be)	6/6n	0.5	2094960	9.0		2094960	9.0	2094960	0.5		0.2	2094960
Acid Extractable Cadmium (Cd)	g/gn	0.2	2094960	<0.1		2094960	0.1	2094960	<0.1		0.1	2094960
Acid Extractable Chromium (Cr)	6/6n	14	2094960	50		2094960	20	2094960	18		-	2094960
Acid Extractable Cobalt (Co)	6/6n	7.3	2094960	7		2094960	10	2094960	10		0.1	2094960
Acid Extractable Copper (Cu)	6/6n	25	2094960	30		2094960	21	2094960	24		0.5	2094960
Acid Extractable Lead (Pb)	g/gn	1	2094960	1		2094960	14	2094960	10		1	2094960
Acid Extractable Molybdenum (Mo)	b/bn	<0.5	2094960	<0.5		2094960	<0.5	2094960	<0.5		0.5	2094960
Acid Extractable Nickel (Ni)	6/6n	14	2094960	24		2094960	21	2094960	22		0.5	2094960
Acid Extractable Selenium (Se)	g/gn	<0.5	2094960	<0.5		2094960	<0.5	2094960	<0.5		0.5	2094960
Acid Extractable Silver (Ag)	6/6n	<0.2	2094960	<0.2		2094960	<0.2	2094960	<0.2		0.2	2094960
Acid Extractable Thallium (TI)	6/bn	0.09	2094960	0.12		2094960	0.11	2094960	60.0		0.05	2094960
Acid Extractable Vanadium (V)	6/6n	24	2094960	29		2094960	29	2094960	26		2	2094960
Acid Extractable Zinc (Zn)	6/6n	49	2094960	55		2094960	55	2094960	52		2	2094960
Acid Extractable Mercury (Hg)	g/gn	<0.05	2094960	<0.05		2094960	<0.05	2094960	<0.05		0.05	2094960
												1



Trow Associates Inc Client Project #: BRGE00392733A Project name: HWY 50 & MAYFIELD RD.

# O'REG 153 METALS & INORGANICS COMPLETE (SOIL)

Maxxam ID		FF7089	FF7089	FF7090			FF7091	FF7091		FF7092		
Sampling Date		2010/03/03	2010/03/03	2010/03/03			2010/03/03	2010/03/03		2010/03/03		
	Units	BH10, SS3	BH10, SS3 Lab-Dup	BH12, SS3	RDL	QC Batch	BH14, SS3	SS3	RDI.	BH16, SS3	RDL	QC Batch
Calculated Parameters												
Sodium Adsorption Ratio	N/A	4.8		14	N/A	2091555	1.6		N/A	12	N/A	2091555
Inorganics												
Conductivity	mS/cm	1.2		3.1	0.002	2095626	1.6		0.002	2.0	0.002	2095626
Free Cyanide	g/gn	<0.01		<0.01	0.01	2095648	<0.01		0.01	<0.01	0.01	2095648
Moisture	%	20		18	0.2	2094497	11		0.2	17	0.2	2094497
Available (CaCl2) pH	Hd	7.68		7.71		2095621	7.60			7.73		2095621
Metals												
Hot Water Ext. Boron (B)	g/gn	0.45		0.13	0.05	2095143	<0.25		0.25	0.18	0.05	2095143
Chromium (VI)	6/6n	<0.2	<0.2	<0.2	0.5	2094944	<0.2		0.2	<0.2	0.2	2094944
Acid Extractable Antimony (Sb)	b/bn	<0.2		<0.2	0.5	2094960	<0.2	<0.2	0.2	<0.2	0.2	2095698
Acid Extractable Arsenic (As)	6/6n	4		3	1	2094960	2	2	-	င	-	2095698
Acid Extractable Barium (Ba)	g/gn	110		120	0.5	2094960	63	64	0.5	110	0.5	2095698
Acid Extractable Beryllium (Be)	g/gn	8.0		9.0	0.2	2094960	0.5	0.4	0.2	9.0	0.2	2095698
Acid Extractable Cadmium (Cd)	g/gu	<0.1		0.1	0.1	2094960	0.3	0.3	0.1	0.1	0.1	2095698
Acid Extractable Chromium (Cr)	6/6n	25		22	-	2094960	18	19	1	50	-	2095698
Acid Extractable Cobalt (Co)	6/6n	14		10	0.1	2094960	7.3	7.7	0.1	9.1	0.1	2095698
Acid Extractable Copper (Cu)	6/6n	25		22	0.5	2094960	17	19	0.5	19	0.5	2095698
Acid Extractable Lead (Pb)	g/gn	13		0	-	2094960	8	7	1	6	-	2095698
Acid Extractable Molybdenum (Mo)	6/6n	<0.5		<0.5	0.5	2094960	<0.5	<0.5	0.5	<0.5	0.5	2095698
Acid Extractable Nickel (Ni)	6/bn	59		21	0.5	2094960	18	17	0.5	50	0.5	2095698
Acid Extractable Selenium (Se)	g/gu	<0.5		<0.5	0.5	2094960	<0.5	<0.5	0.5	<0.5	0.5	2095698
Acid Extractable Silver (Ag)	6/6n	<0.2		<0.2	0.2	2094960	<0.2	<0.2	0.2	<0.2	0.2	2095698
Acid Extractable Thallium (TI)	g/gu	0.08		0.12	0.05	2094960	0.08	0.09	0.05	0.12	0.05	2095698
Acid Extractable Vanadium (V)	g/gn	31		31	ည	2094960	22	23	5	25	2	2095698
Acid Extractable Zinc (Zn)	g/gn	64		55	2	2094960	89	90	5	48	2	2095698
Acid Extractable Mercury (Hg)	ng/g	<0.05		<0.05	0.05	2094960	<0.05	<0.05	0.05	<0.05	0.05	2095698

N/A = Not Applicable
RDL = Reportable Detection Limit
QC Batch = Quality Control Batch



Trow Associates Inc Client Project #: BRGE00392733A Project name: HWY 50 & MAYFIELD RD.

Package 1 7.7°C Each temperatures taken at receipt	GENERAL COMMENTS	Sample FF7091-01: Due to the sample matrix, sample required dilution. Detection limit was adjusted accordingly.



Trow Associates Inc Client Project #: BRGE00392733A Project name: HWY 50 & MAYFIELD RD.

# **QUALITY ASSURANCE REPORT**

			Wall IX Spine		Opined Dialin			Received Digitin		-	40 Otaliaa	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	Units	Value (%)	QC Limits	% Recovery	QC Limits
2094497	Moisture	2010/03/06							4.9	90		
2094944	Chromium (VI)	2010/03/09	27(1,2)	75 - 125	103	75 - 125	<0.2	g/gn	NC	35	66	85 - 115
2094960	Acid Extractable Antimony (Sb)	2010/03/08	92	75 - 125			<0.2	g/gn	NC	35	66	75 - 125
2094960	Acid Extractable Arsenic (As)	2010/03/08	103	75 - 125			<1	b/bn	NC	35	106	75 - 125
2094960	Acid Extractable Barium (Ba)	2010/03/08	NC	75 - 125			<0.5	g/gn	1.0	35	103	75 - 125
2094960	Acid Extractable Beryllium (Be)	2010/03/08	96	75 - 125			<0.2	g/gn	NC	35	86	75 - 125
2094960	Acid Extractable Cadmium (Cd)	2010/03/08	103	75 - 125			<0.1	6/6n	NC	35	102	75 - 125
2094960	Acid Extractable Chromium (Cr)	2010/03/08	66	75 - 125			7	6/bn	1.1	35	104	75 - 125
2094960	Acid Extractable Cobalt (Co)	2010/03/08	102	75 - 125			<0.1	6/bn	3.9	35	105	75 - 125
2094960	Acid Extractable Copper (Cu)	2010/03/08	96	75 - 125			<0.5	g/gn	2.7	35	103	75 - 125
2094960	Acid Extractable Lead (Pb)	2010/03/08	95	75 - 125			۲>	6/bn	5.7	35	103	75 - 125
2094960	Acid Extractable Molybdenum (Mo)	2010/03/08	105	75 - 125			<0.5	6/6n	NC	35	103	75 - 125
2094960	Acid Extractable Nickel (Ni)	2010/03/08	100	75 - 125			<0.5	6/bn	2.7	35	105	75 - 125
2094960	Acid Extractable Selenium (Se)	2010/03/08	107	75 - 125			<0.5	6/bn	NC	35	107	75 - 125
2094960	Acid Extractable Silver (Ag)	2010/03/08	100	75 - 125			<0.2	6/6n	NC	35	101	75 - 125
2094960	Acid Extractable Thallium (TI)	2010/03/08	81	75 - 125			<0.05	g/gn	NC	35	86	75 - 125
2094960	Acid Extractable Vanadium (V)	2010/03/08	102	75 - 125			<5	6/bn	NC	35	103	75 - 125
2094960	Acid Extractable Zinc (Zn)	2010/03/08	NC	75 - 125			<5	6/bn	2.0	35	104	75 - 125
2094960	Acid Extractable Mercury (Hg)	2010/03/08	100	75 - 125			<0.05	g/gn	NC	35	104	75 - 125
2095143	Hot Water Ext. Boron (B)	2010/03/08					<0.05	g/gn			66	85 - 115
2095626	Conductivity	2010/03/09					<0.002	mS/cm	2.9	35	107	75 - 125
2095647	Conductivity	2010/03/09					<0.002	mS/cm	1.1	35	107	75 - 125
2095648	Free Cyanide	2010/03/09	54(1)	75 - 125	105	75 - 125	<0.01	g/gn	NC	35		
2095655	Free Cyanide	2010/03/10	102	75 - 125	103	75 - 125	<0.01	6/bn	NC	35		
2095657	Free Cyanide	2010/03/11	90	75 - 125	105	75 - 125	<0.01	g/gn	NC	35		
2095698	Acid Extractable Antimony (Sb)	2010/03/09	88	75 - 125			<0.2	g/gn	NC	35	95	75 - 125
2095698	Acid Extractable Arsenic (As)	2010/03/09	97	75 - 125			^	b/bn	NC	35	86	75 - 125
2095698	Acid Extractable Barium (Ba)	2010/03/09	NC	75 - 125			<0.5	b/bn	2.4	35	92	75 - 125
2095698	Acid Extractable Beryllium (Be)	2010/03/09	88	75 - 125			<0.2	6/6n	S	35	06	75 - 125
2095698	Acid Extractable Cadmium (Cd)	2010/03/09	86	75 - 125			<0.1	b/bn	S	35	96	75 - 125
2095698	Acid Extractable Chromium (Cr)	2010/03/09	86	75 - 125			₹	6/6n	7.3	35	66	75 - 125
2095698	Acid Extractable Cobalt (Co)	2010/03/09	96	75 - 125			<0.1	b/bn	5.6	35	66	75 - 125
2095698	Acid Extractable Copper (Cu)	2010/03/09	92	75 - 125			<0.5	b/bn	7.6	35	86	75 - 125
2095698	Acid Extractable Lead (Pb)	2010/03/09	96	75 - 125			7	6/bn	1.2	35	86	75 - 125
2095698	Acid Extractable Molybdenum (Mo)	2010/03/09	66	75 - 125			<0.5	6/Bn	S	35	66	75 - 125
2095698	Acid Extractable Nickel (Ni)	2010/03/09	96	75 - 125			<0.5	6/6n	2.1	35	66	75 - 125
2095698	Acid Extractable Selenium (Se)	2010/03/09	94	75 - 125			<0.5	b/bn	S	35	96	75 - 125
2095698	Acid Extractable Silver (Ag)	2010/03/09	62	75 - 125			<0.2	6/bn	S	35	96	75 - 125
2095698	Acid Extractable Thallium (TI)	2010/03/09	85	75 - 125			<0.05	b/bn	S	35	96	75 - 125
2095698	A old Extractable Wending AA	2010/02/00	20	10,7					9			

# Page 5 of 7



Trow Associates Inc Client Project #: BRGE00392733A Project name: HWY 50 & MAYFIELD RD.

# **QUALITY ASSURANCE REPORT**

			Matrix S	rix Spike	Spiked Blank	3lank	Method Blank	Blank	ada	٥	QC Standard	Idard
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits Value	Value	Units	Value (%)	Value (%) QC Limits	% Recovery	QC Limits
2095698	Acid Extractable Zinc (Zn)	2010/03/09	NC	75 - 125			<5	b/bn	1.2	35	66	75 - 125
2095698	Acid Extractable Mercury (Hg)	2010/03/09	94	75 - 125			<0.05	b/bn	NC	35	86	75 - 125

N/A = Not Applicable

RPD = Relative Percent Difference

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

QC Standard: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.

Spiked Blank: A blank matrix to which a known amount of the analyte has been added. Used to evaluate analyte recovery.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spiked amount was not sufficiently significant to permit a reliable recovery calculation.

NC (RPD): The RPD was not calculated. The level of analyte detected in the parent sample and its duplicate was not sufficiently significant to permit a reliable calculation.

(1) - Recovery or RPD for this parameter is outside control limits. The overall quality control for this analysis meets acceptability criteria.

(2) - The recovery was below the lower control limit. This may be due in part to the reducing environment of the sample.



# Validation Signature Page

Maxxam Job #: B025327

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).

(litie Calline Carliere CRISTINA CARRIERE, Scientific Services

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. SCC and CALA have approved this reporting process and electronic report format.

Appendix 'D': Drawing Nos. L-1 to L-10 : Borehole Location Plans

# Appendix 'E': Results of Culvert Inspection

# Ontario Structure Inspection Manual – Inspection Form Region of Peel Structure # 1915

Inventory Data:				
Structure Name				
Main Hwy/Road#		On □ Under 🖰	Crossing ☐ Navig. Water Type: ☑ Roa	☐ Non-Navig. Water ☐ Rail d ☐ Ped. ☐ Other
Hwy/Road Name	Mayfield	Rd		
Structure Location	South fi	eld entrance	e Mayfield Rd	
Latitude GPS Coord	E:604294		Longitude N:4855091	
Owner(s)	Region of	Peel	Heritage 🗆 Not Cons. 🗆 ( Designation: 🗆 Design	
MTO Region	Central		Road Class: Freeway [] A	rterial □ Collector □ Local □
MTO District			Posted Speed	No. of Lanes
Old County			AADT	% Trucks
Geographic Twp.	Brampton		Inspection Route Sequence	
Structure Type	Culvert		Interchange Number	
Total Deck Length		(m)	Interchange Structure Number	
Overall Str. Width	9.2	(m)	Min. Vertical Clearance	0.16 (m)
Total Deck Area	_	(sq.m)	Special Routes:   Transit	☐ Truck ☐ School ☐ Bicycle
Roadway Width		(m)	Detour Length Around Bridge	(km)
Skew Angle [		(Degrees)	Direction of Structure	E to W
No. of Spans [	1		Fill on Structure	0.95 (m)
Span Lengths [	0.46			(m)
Historical Data:				
Year Built			Year of Last Major Rehab.	
Last OSIM Inspection	n 07.	/22/2005	Last Evaluation	
Last Enhanced OSIM			Current Load Limit	/ / (tonnes)
Enhanced Access Equal (ladder, boat, lift, etc.			Load Limit By-Law #	
Last Underwater Insp	ection		By-Law Expiry Date	
Last Condition Surve	у			
Rehab History: (Date	description)			
				j

### ${\bf Ontario\ Structure\ Inspection\ Manual-Inspection\ Form}$

MTO Site Number:	1915

Scheduled Improvemen	its:		
Regional Priority Number		Programmed Work Year	
Nature of Program Work	:		

Appraisal Indices:		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

#### Ontario Structure Inspection Manual - Inspection Form

1915 MTO Site Number:

Field Inspection Infor	mation:			мениндерия (што, и избанов, не во возвативно и интересура (подативной подативной подативной подативной податив
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM
Inspector:	Eric Cheng			
Others in Party:	Alan Chung, Dan	Urian		
Access Equipment Used:	Hand Tools, Dig	ital Camera, M	ſeasurin	g Tape
Weather:	Clear, some flur	ries		
Temperature:	-3°			

Additional Investigations Required:		Priority	
	None	Normal	Urgent
Material Condition Survey			<u> </u>
Detailed Deck Condition Survey:	X		
Non-destructive Delamination Survey of Asphalt-Covered Deck:	X		
Concrete Substructure Condition Survey:	X		
Detailed Coating Condition Survey:	X		
Detailed Timber Investigation	Х		
Post-Tensioned Strand Investigation	X		
Underwater Investigation:	X		
Fatigue Investigation:	X		
Seismic Investigation:	X		
Structure Evaluation:	X		
Monitoring			
Monitoring of Deformations, Settlements and Movements:	X		
Monitoring Crack Widths:	X		*
Investigation Notes:		·	
Effective Cross-Section:30%	í		

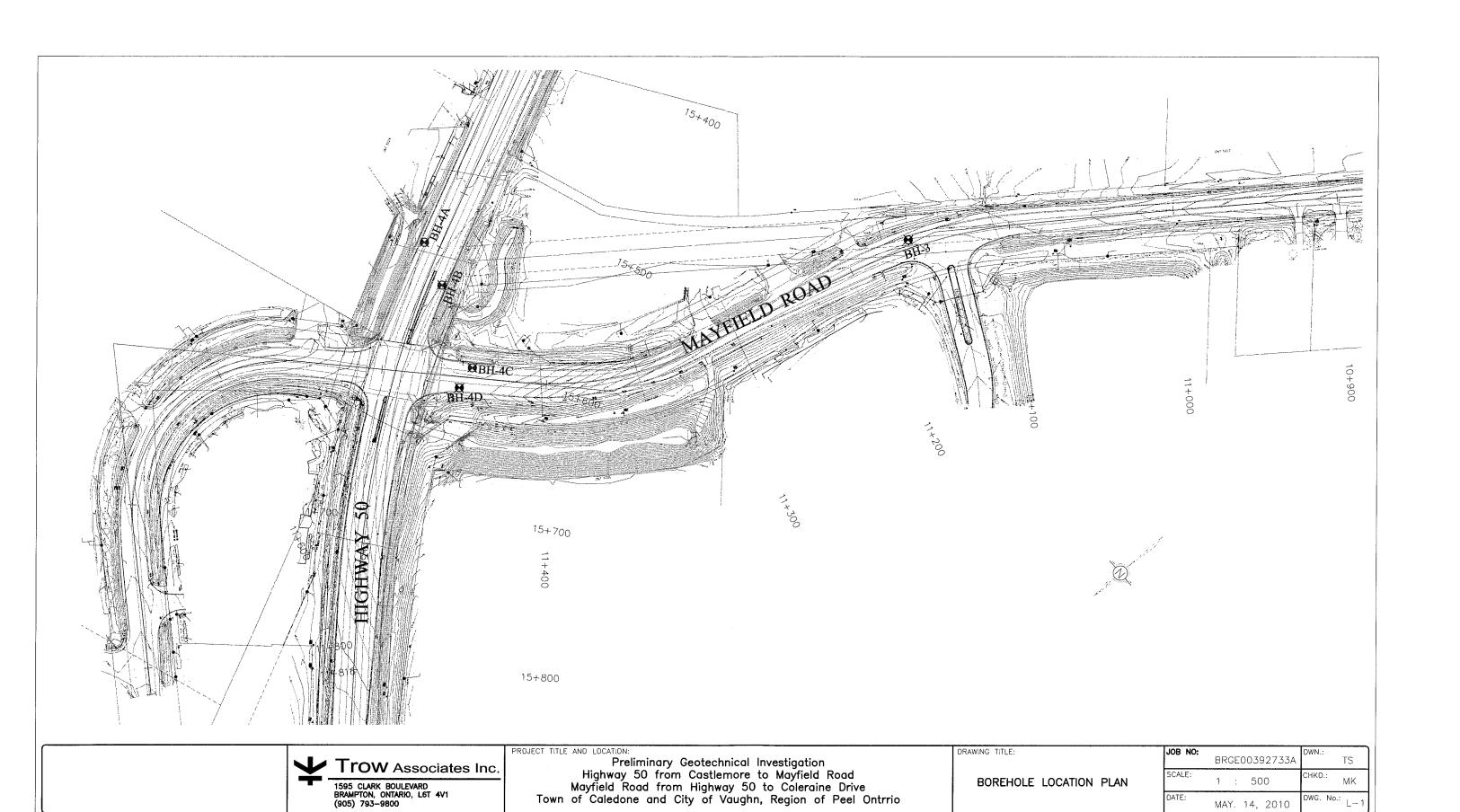
Overall Structure Notes:				
Recommended Work on Structure:	□ None	□ Minor Rehab.	□ Major Reha	b. ⊠ Replace
Timing of Recommended Work:	⊠ 1 to 5	years ☐ 6 to 10 years	ars	
	l	ructure is in ds are rusted	_	oor condition.
Date of Next Inspection:				

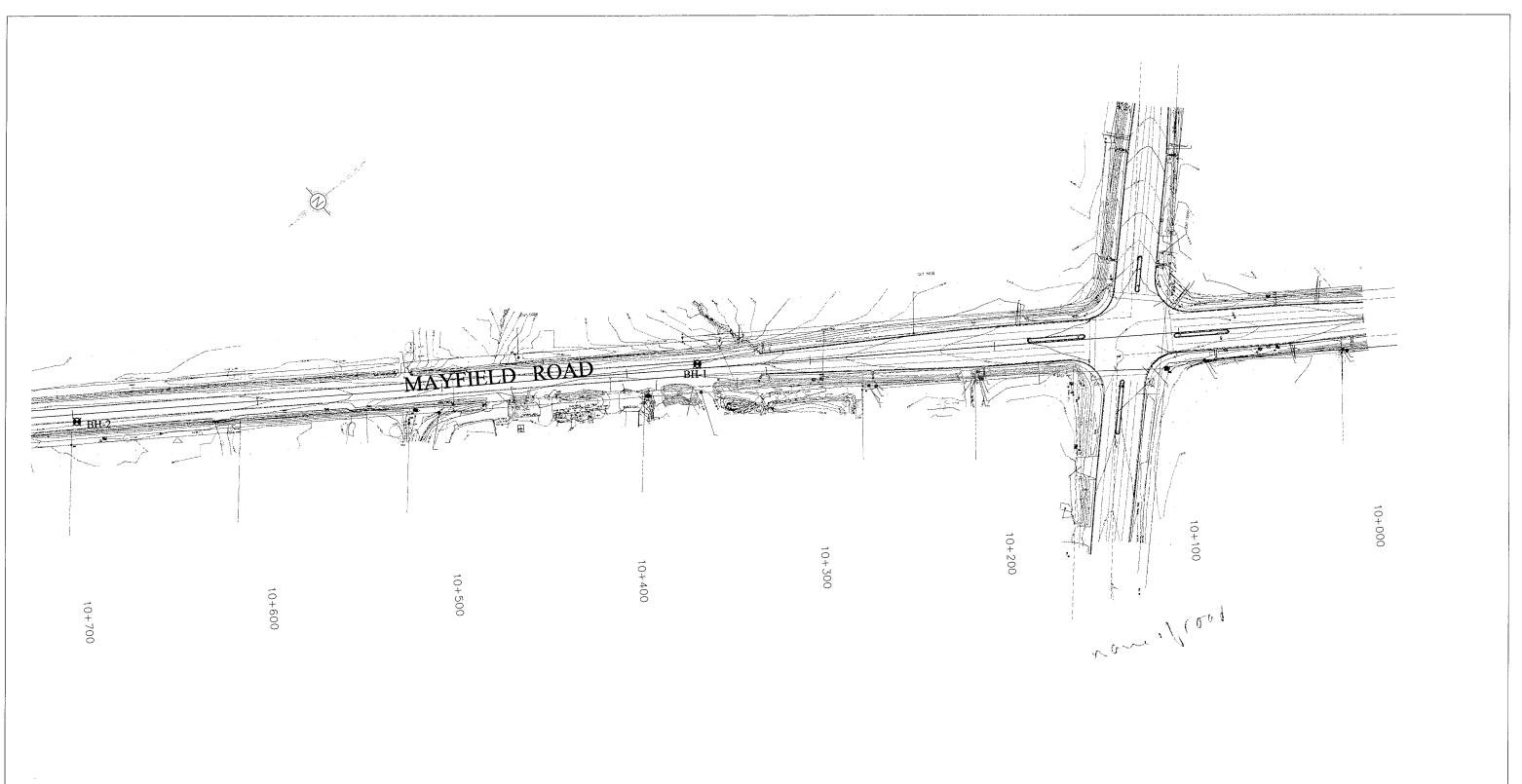
#### Suspected Performance Deficiencies

- 01 Load carrying capacity 02 Excessive deformations (deflections & rotations) Continuing settlement 03 04 Continuing movements
- Seized bearings 05
- Maintenance Needs
- Lift and Swing Bridge Maintenance Bridge Cleaning 02
- Bridge Handrail Maintenance 03 04 Painting Steel Bridge Structures
- Bridge Deck Joint Repair 05 Bridge Bearing Maintenance

- 06 Bearing not uniformly loaded/unstable 07 Jammed expansion joint
- Deck drainage 11
- 08 Pedestrian/vehicular hazard Rough riding surface 09 10 Surface ponding
- Repair to Structural Steel Repair of Bridge Concrete 08
- 09 Repair of Bridge Timber 10 Bailey bridges - Maintenance
- Animal/Pest Control 11 Bridge Surface Repair

- 12 Slippery surfaces
- 13 Flooding/channel blockage Undermining of foundation 14
- 15 Unstable embankments
- 16 Other
- 13 Erosion Control at Bridges
- 14 Concrete Sealing
- 15 Rout and Seal Bridge Deck Drainage 16
- 17 Scaling (Loose Concrete or ACR Steel)
- 18 Other





Trow Associates Inc.

1595 CLARK BOULEVARD
BRAMPTON, ONTARIO, L6T 4V1
(905) 793–9800

PROJECT TITLE AND LOCATION:

Preliminary Geotechnical Investigation

Highway 50 from Castlemore to Mayfield Road

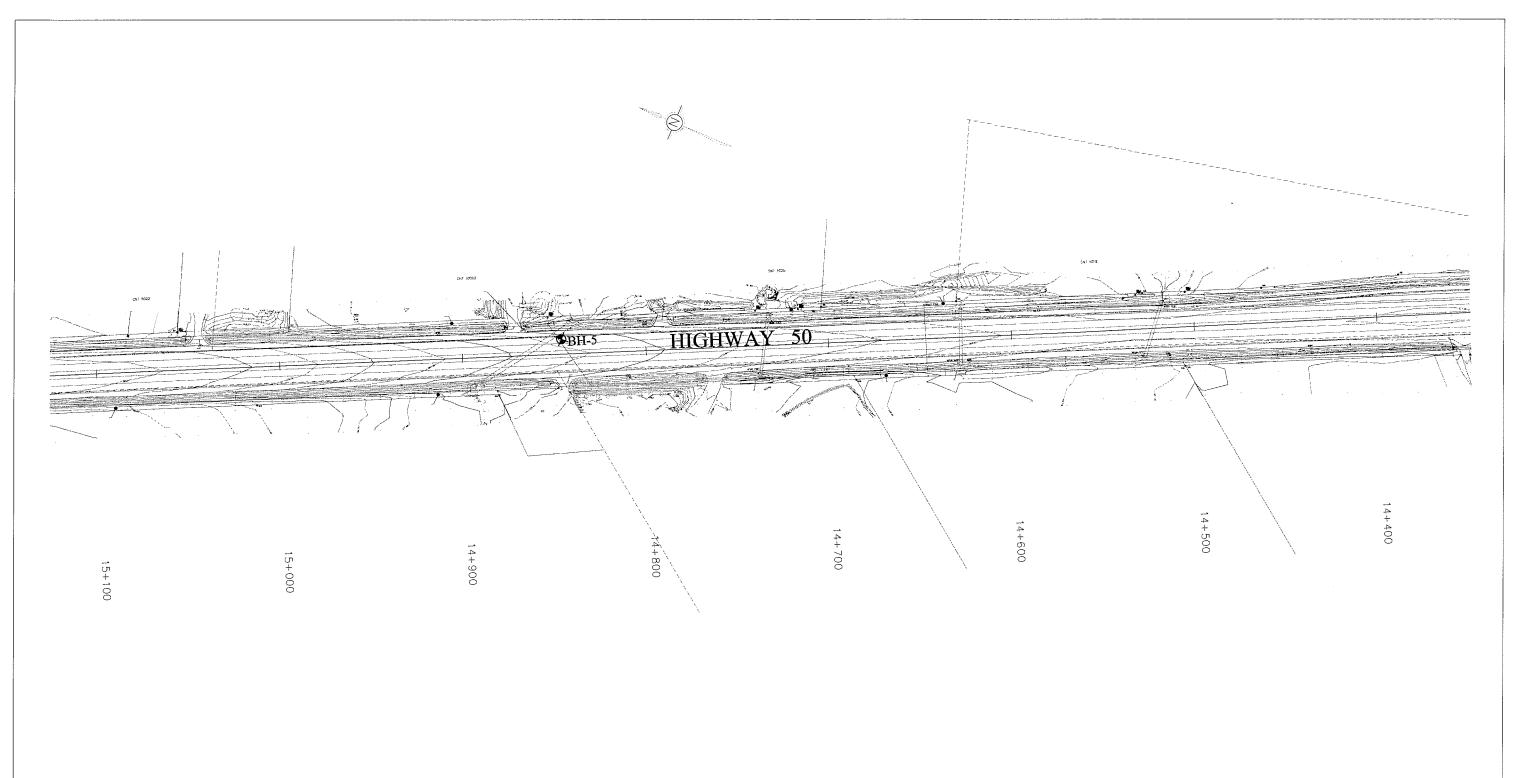
Mayfield Road from Highway 50 to Coleraine Drive

Town of Caledon And City of Vaughn, Region of Peel, Ontario

DRAWING TITLE:

BOREHOLE LOCATION PLAN

JOB NO:	BRGE00392733A	DWN.: TS
SCALE:	1 : 500	CHKD.: MK
DATE:	MAY. 14, 2010	DWG. No.: L-3



Trow Associates Inc.

1595 CLARK BOULEVARD
BRAMPTON, ONTARIO, LET 4V1
(905) 793–9800

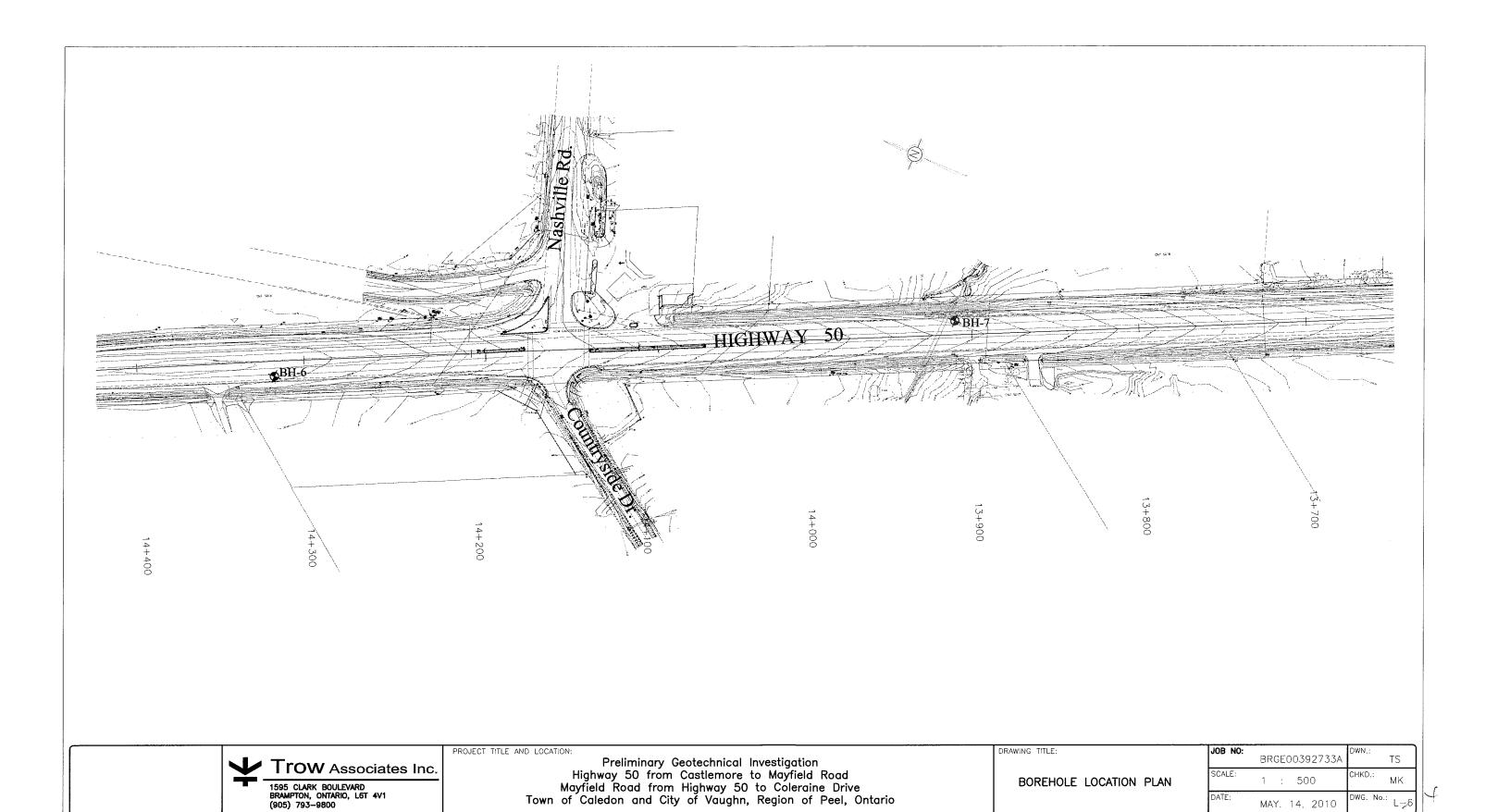
PROJECT TITLE AND LOCATION:

Preliminary Geotechnical Investigation
Highway 50 from Castlemore to Mayfield Road
Mayfield Road from Highway 50 to Coleraine Drive
Town of Caledon and City of Vaughn, Region of Peel, Ontario

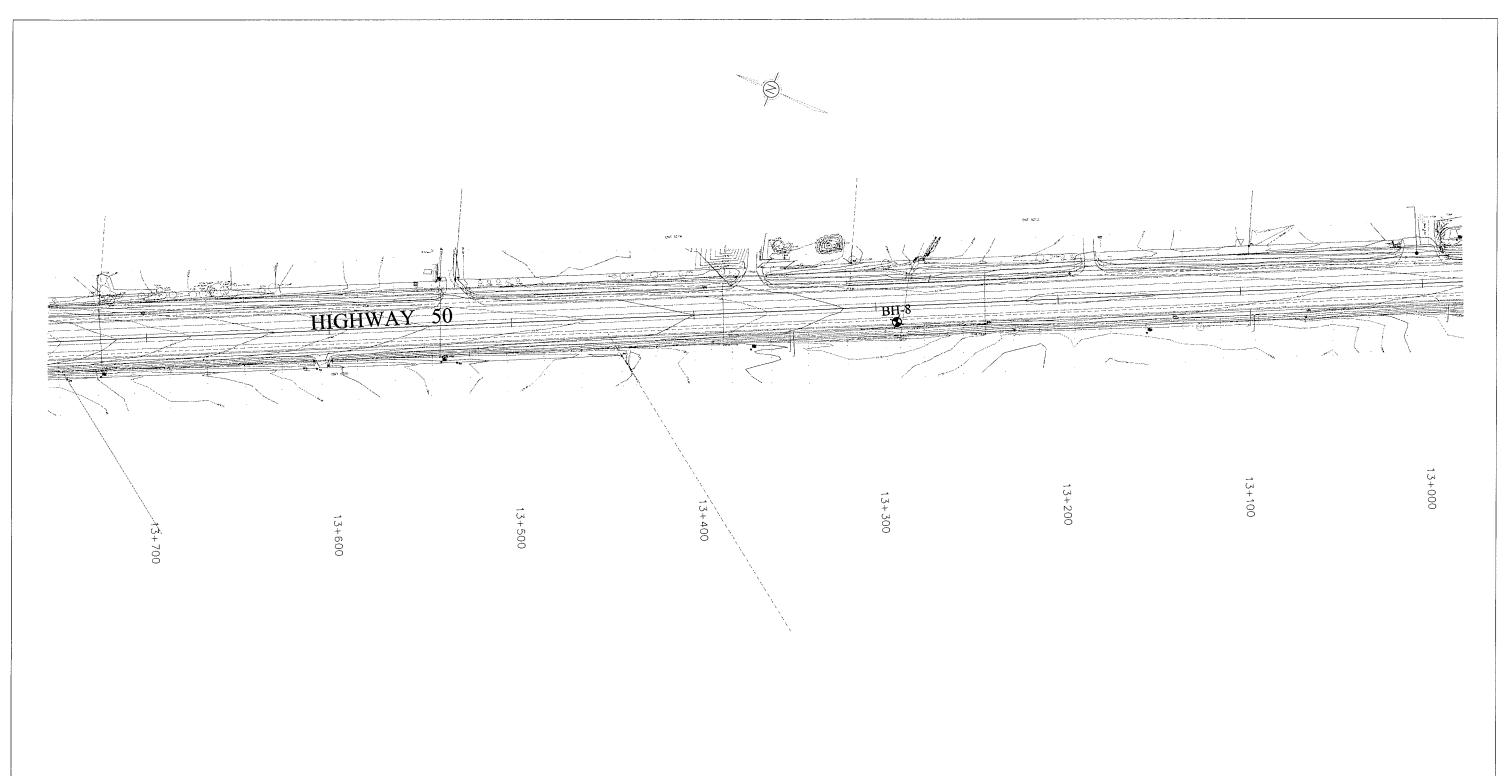
DRAWING TITLE:

BOREHOLE LOCATION PLAN

JOB NO:	BRGE00392733A	DWN.: TS
SCALE:	1 : 500	CHKD.: MK
DATE:	MAY. 14, 2010	DWG. No.: L-5



MAY. 14, 2010



Trow Associates Inc.

1595 CLARK BOULEVARD
BRAMPTON, ONTARIO, L6T 4V1
(905) 793–9800

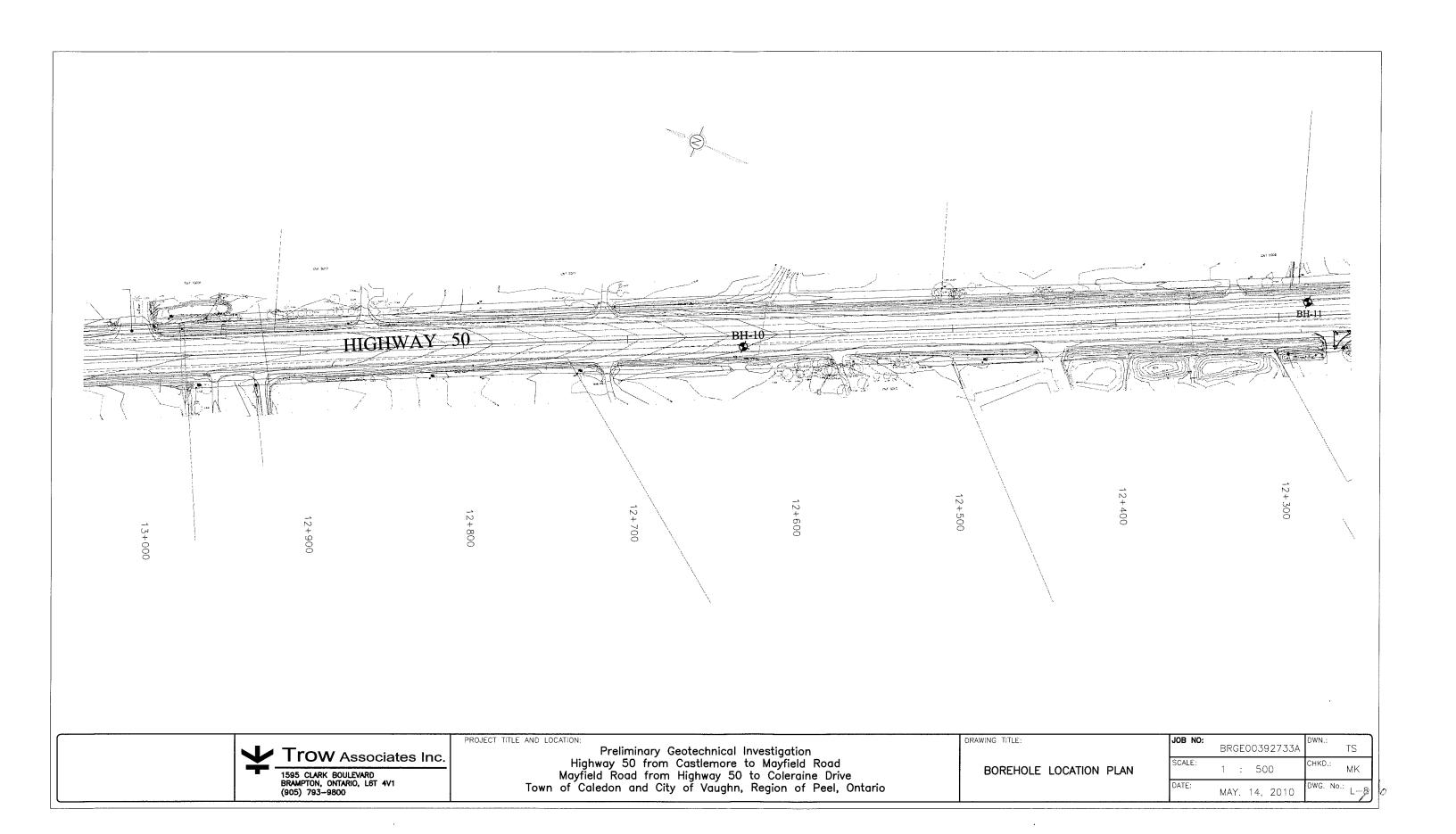
PROJECT TITLE AND LOCATION:

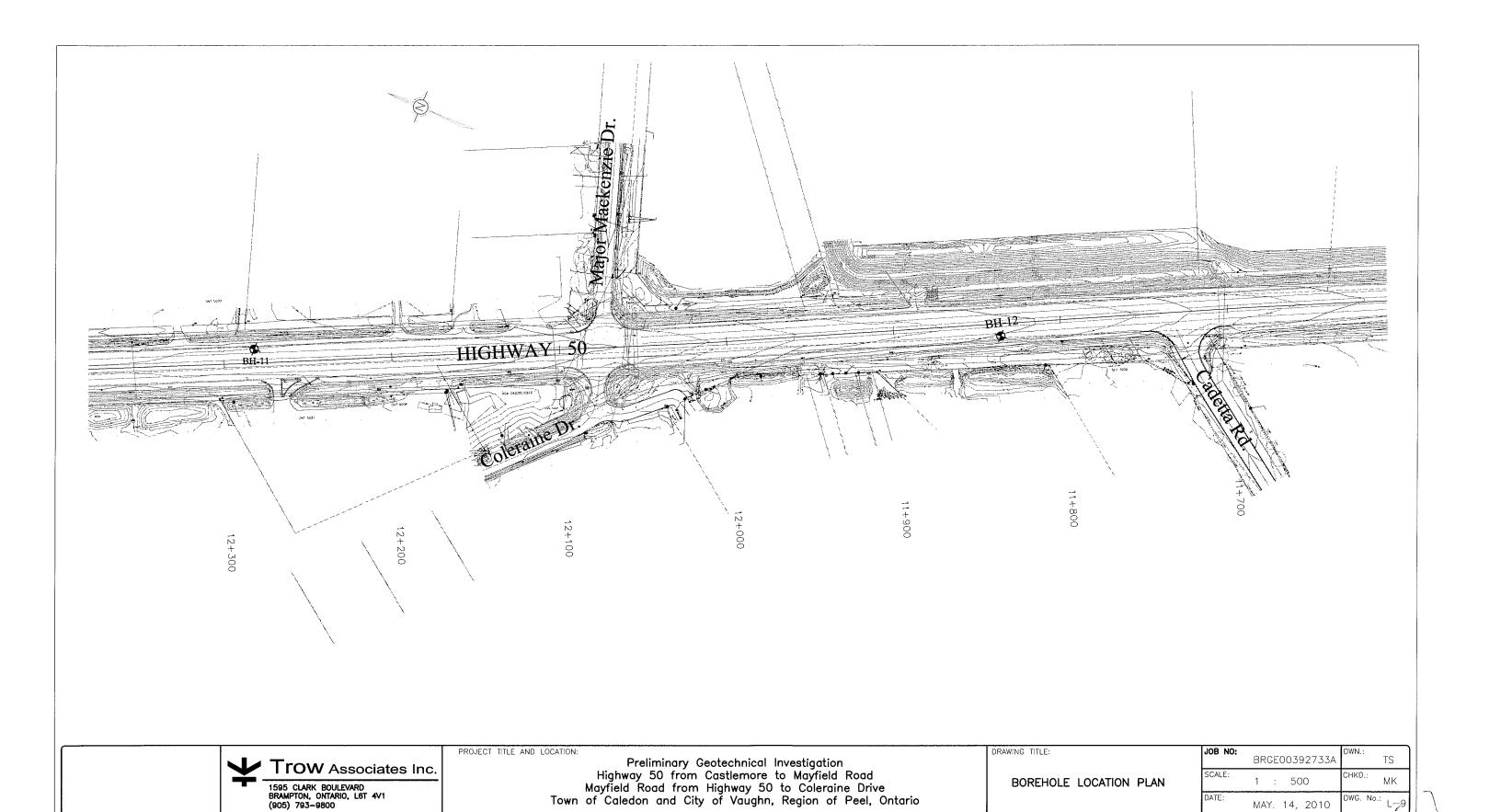
Preliminary Geotechnical Investigation
Highway 50 from Castlemore to Mayfield Road
Mayfield Road from Highway 50 to Coleraine Drive
Town of Caledon and City of Vaughn, Region Peel, Ontario

BOREHOLE LOCATION PLAN

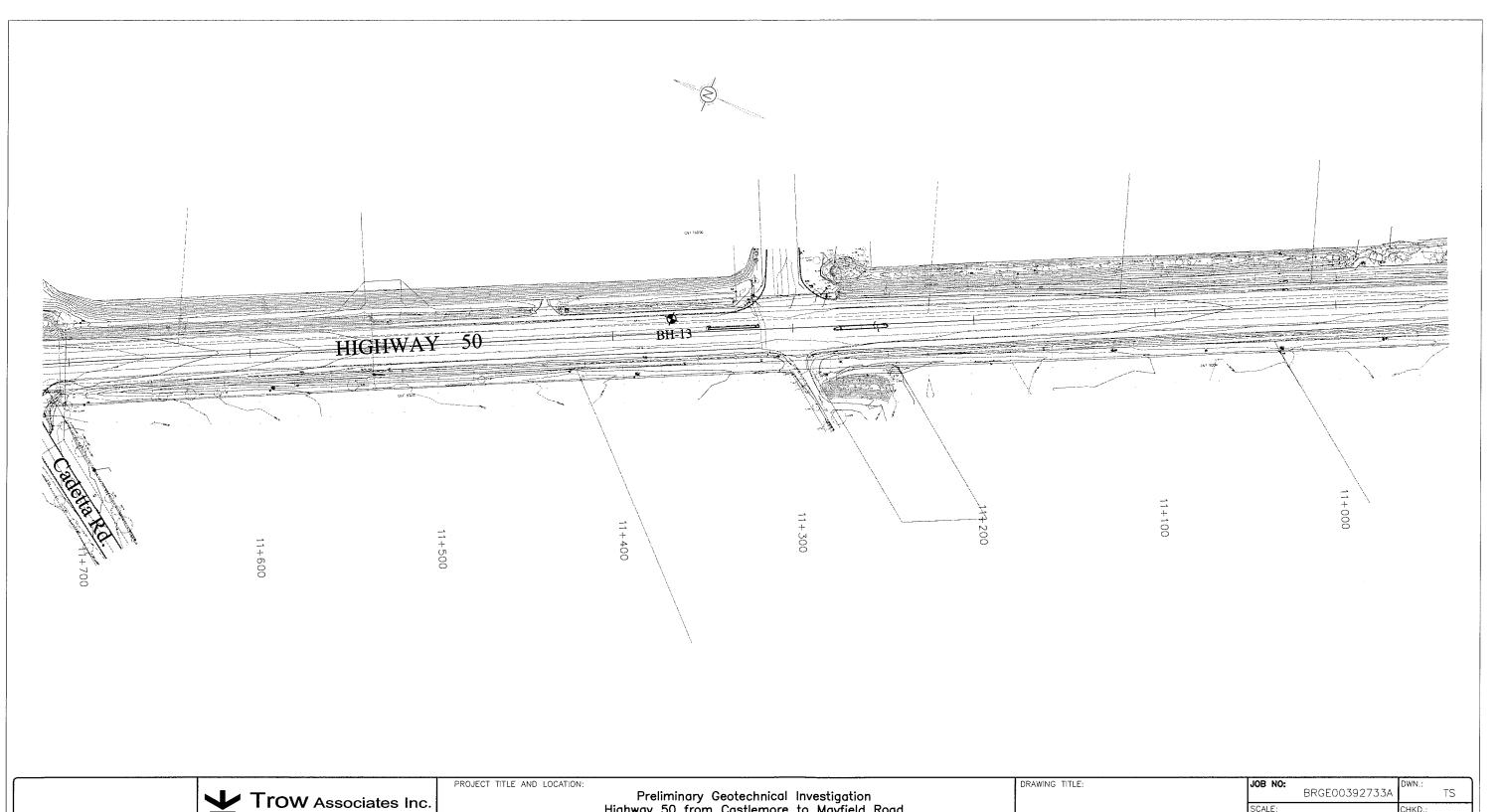
DRAWING TITLE:

JOB NO:	BRGE00392733A	DWN.:
SCALE:	1 : 500	CHKD.: MK
DATE:	MAY. 14, 2010	DWG. No.: L





MAY. 14, 2010



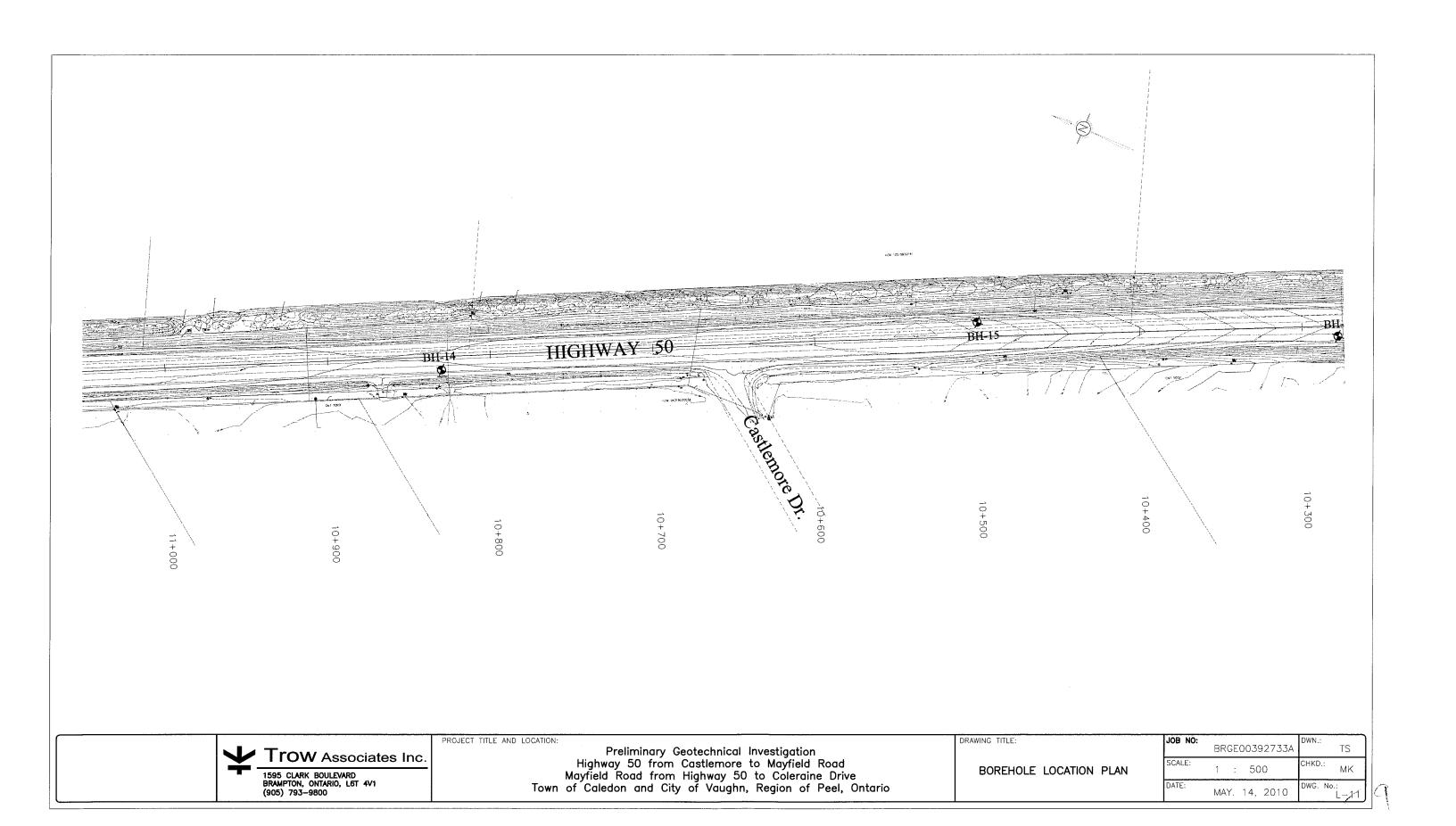
Trow Associates Inc.

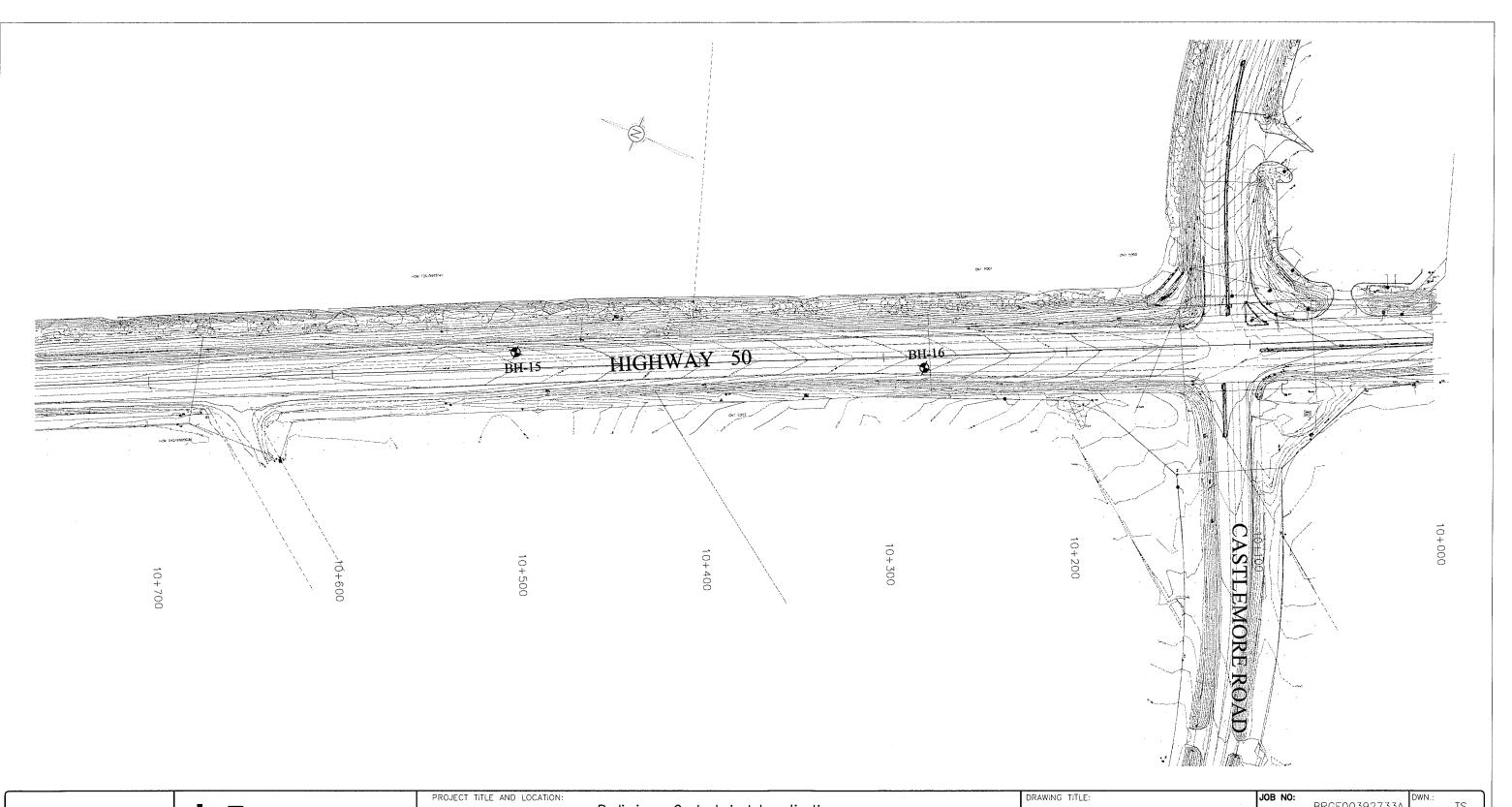
1595 CLARK BOULEVARD
BRAMPTON, ONTARIO, L6T 4V1
(905) 793–9800

Preliminary Geotechnical Investigation
Highway 50 from Castlemore to Mayfield Road
Mayfield Road from Mayfield Road to Coleraine Drive
Town of Caledon and City of Vaughn, Region of Peel, Ontario

BOREHOLE LOCATION PLAN

 JOB NO:	BRGE00392733A	DWN.: TS
SCALE:	1 : 500	CHKD.: MK
DATE:	MAY. 14, 2010	DWG. No.: Lーよの



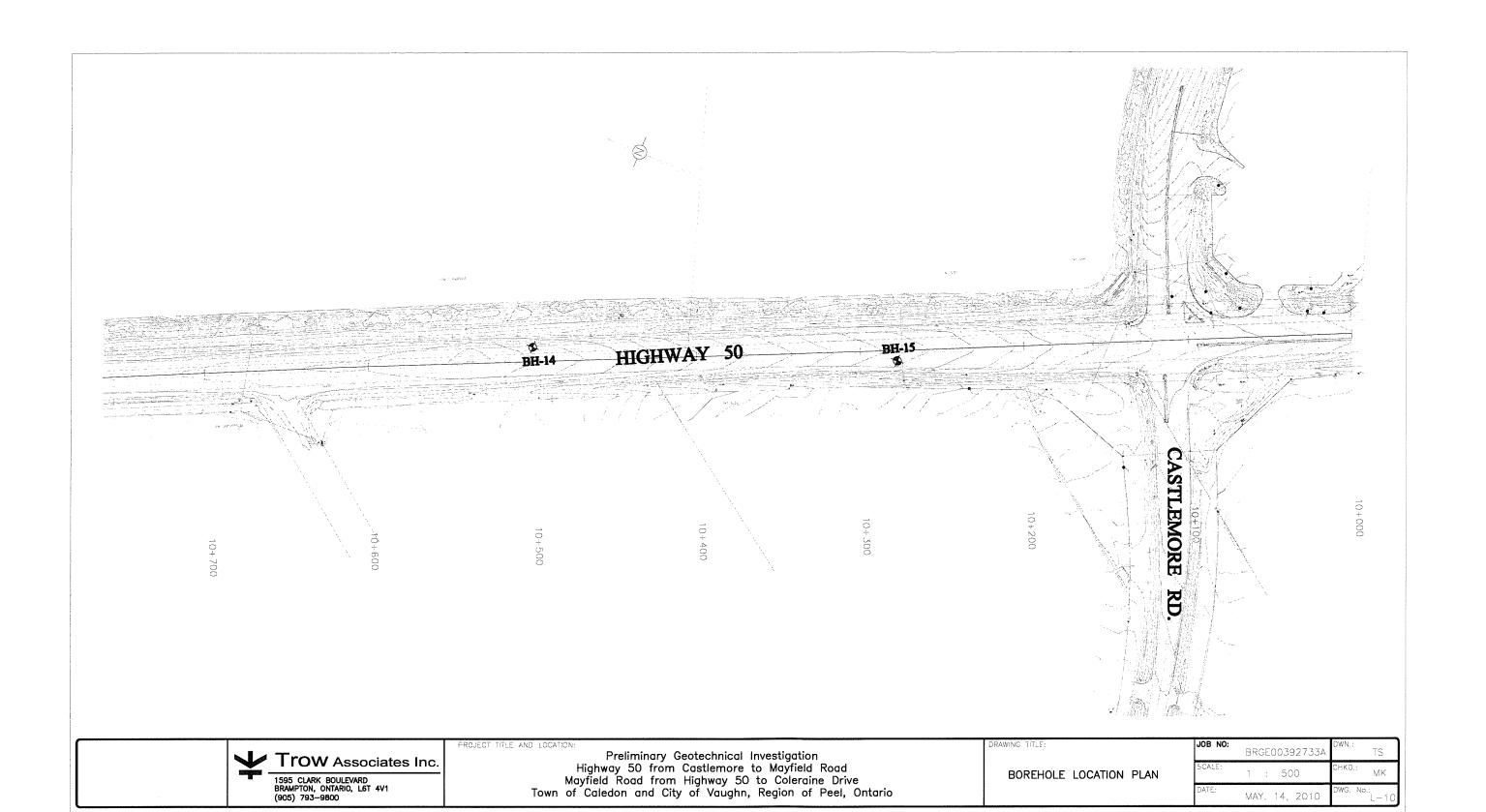


**▼** Trow Associates Inc. 1595 CLARK BOULEVARD BRAMPTON, ONTARIO, L6T 4V1 (905) 793-9800

Preliminary Geotechnical Investigation
Highway 50 from Castlemore to Mayfield Road
Mayfield Road from Highway 50 to Coleraine Drive
Town of Caledon and City of Vaughn, Region of Peel, Ontario

BOREHOLE LOCATION PLAN

JOB NO:	BRGE00392733A DWN.:	TS
SCALE:	1 : 500 CHKD.	· MK
DATE:	MAY. 14, 2010 DWG.	No.: L—J-2



Element Gro Element Nan Location:		Culvert	等/数据数据等/图据数据数数数据数据数数数数数数数数数数数数数数数数数数数数数数			0 0	
		100000000000000000000000000000000000000		Length:		9.2m	
T castion.	<u>1e:</u>			Width:		0.46m	
		Entrance Ma					
Material:		Corrugated	Steel	Count:		1	
Element Typ		Round		Total Qua		9.2m	
Environment		Benign / Moderat	e / Severe	Limited In	nspection	. 0	
Protection Sy	stem:						Perform.
Condition		Units	Exc.	Good	Fair	r Poor*	Deficiencies
Data:	$m^2/m$	/each/%/all				x	
Comments:							
Recommend	ed Wor	rk: □ Reha	b ⊠ Replace		Maint	enance Needs:	
		⊠ 1-5 ye	·	rs	☐ Urgen		2 year
			7410	10	<u> </u>	<u> </u>	L y Chi
				į			
	- >->3						
Element Grou				Length:			
Element Nam	e:			Width:			
Location:				Height:			
Material:				Count:			
Element Type				Total Quar			
Environment:		Benign / Moderate	e / Severe	Limited In	spection		
Protection Sys	tem:						Perform.
Condition		Units	Exc.	Good	Fair	Poor*	Deficiencies
Data:	$\overline{\mathbf{m}^2/\mathbf{m}}$	/ each / % / all					
Comments:							
Docommend	4 Worl	- □ Rehah	□ Danlace		Mainte	Tongs Nands	
Recommende	d Worl		*			enance Needs:	
Recommende	d Worl	<b>k:</b> □ Rehab □ 1-5 ye:	*	S	Mainte		2 year
Recommende	ed Worl		*	S			2 year
Recommende	ed Worl		*	S			2 year
Recommende			ars □ 6-10 year	Length:			2 year
	p:		ars □ 6-10 year				2 year
Element Grou	p:	□ 1-5 yea	ars □ 6-10 year	Length:			2 year
Element Grou	p:	□ 1-5 yea	ars □ 6-10 year	Length: Width:			2 year
Element Grou Element Name Location: Material:	<b>p</b> :	□ 1-5 yea	ars □ 6-10 year	Length: Width: Height:	□ Urgent		2 year
Element Grou Element Name Location:	p:	□ 1-5 yea	ars □ 6-10 year	Length: Width: Height: Count: Total Quan	□ Urgent	t □1 year □2	2 year
Element Grou Element Name Location: Material: Element Type: Environment:	<b>p</b> ;	□ 1-5 yea	ars □ 6-10 year	Length: Width: Height: Count:	□ Urgent	t □1 year □2	2 year Perform.
Element Grou Element Name Location: Material: Element Type: Environment: Protection Sys	<b>p</b> ;	□ 1-5 yea	ars □ 6-10 year	Length: Width: Height: Count: Total Quan Limited Ins	Urgent	t 1 year 2	
Element Grou Element Name Location: Material: Element Type: Environment: Protection Sys Condition	p;	□ 1-5 yea	ars □ 6-10 year	Length: Width: Height: Count: Total Quan	□ Urgent	t 1 year 2	Perform.
Element Grou Element Name Location: Material: Element Type: Environment: Protection Sys Condition Data:	p;	□ 1-5 yea	ars □ 6-10 year	Length: Width: Height: Count: Total Quan Limited Ins	Urgent	t 1 year 2	Perform.
Element Grou Element Name Location: Material: Element Type: Environment: Protection Sys Condition Data: Comments:	p:	☐ 1-5 year  Benign / Moderate  Units / each / % / all	/ Severe  Exc.	Length: Width: Height: Count: Total Quan Limited Ins	Urgent  ntity: spection	t 1 year 2	Perform.
Element Grou Element Name Location: Material: Element Type: Environment: Protection Sys Condition Data:	p:	Benign / Moderate Units / each / % / all	/ Severe  Exc.	Length: Width: Height: Count: Total Quan Limited Ins	utity: spection Fair	Poor*	Perform. Deficiencies
Element Grou Element Name Location: Material: Element Type: Environment: Protection Sys Condition Data: Comments:	p:	☐ 1-5 year  Benign / Moderate  Units / each / % / all	/ Severe  Exc.	Length: Width: Height: Count: Total Quan Limited Ins	Urgent  ntity: spection	Poor*	Perform.

<sup>\*</sup> A quantity must be estimated using the appropriate unit (e.g. m²). Percent should not be used.

Inventory Data:				
Structure Name				
Main Hwy/Road#	C	On □ Under 🖺	Crossing ☐ Navig. Water Type: ☑ Road	☐ Non-Navig. Water ☐ Raill ☐ Ped. ☐ Other
Hwy/Road Name	Mayfield R	d		
Structure Location	South entr	ance from	Mayfield Rd	
Latitude GPS Coord	E:604701		Longitude N:4855639	
Owner(s)	Region of I	Peel	Heritage ☐ Not Cons. ☐ C Designation: ☐ Desig./	
MTO Region	Central		Road Class: Freeway 🗆 A	rterial  Collector Local
MTO District			Posted Speed	No. of Lanes
Old County			AADT	% Trucks
Geographic Twp.	Brampton		Inspection Route Sequence	
Structure Type	Culvert		Interchange Number	
Total Deck Length		(m)	Interchange Structure Number	
Overall Str. Width		(m)	Min. Vertical Clearance	(m)
Total Deck Area		(sq.m)	Special Routes:   Transit	☐ Truck ☐ School ☐ Bicycle
Roadway Width [		(m)	Detour Length Around Bridge	(km)
Skew Angle		(Degrees)	Direction of Structure	W to E
No. of Spans			Fill on Structure	(m)
Span Lengths [	The struct	ure could	not be located	(m)
			Commissioner Burger (1888) (1884) (1885) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) The Commission (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886) (1886)	
Historical Data:				
Year Built			Year of Last Major Rehab.	
Last OSIM Inspection		2/2005	Last Evaluation	
Last Enhanced OSIM			Current Load Limit	/ / (tonnes)
Enhanced Access Equal (ladder, boat, lift, etc.			Load Limit By-Law #	
Last Underwater Insp	ection		By-Law Expiry Date	
Last Condition Surve	у			
Rehab History: (Date	description)			
11111111				

MTO Site Number: 1916

Scheduled Improvemen	ts:		
Regional Priority Number		Programmed Work Year	
Nature of Program Work	:		

Appraisal Indices:		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

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Ontario Structure Inspection Manual – Inspection Form	Ontario	Structure	Inspection	Manual -	Inspection	Form
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1916 MTO Site Number:

Field Inspection Info	ormation:						
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM			
Inspector:	Eric Cheng	Eric Cheng					
Others in Party:	Alan Chung, Dan	Alan Chung, Dan Urian					
Access Equipment Used:	Hand Tools, Digital Camera, Measuring Tape						
Weather:	Clear, some flurries						
Temperature:	-3°						

Material Condition Survey	None	Normal	Timonet
		,	Urgent
Detailed Deck Condition Survey:	X		
Non-destructive Delamination Survey of Asphalt-Covered Deck:	X		
Concrete Substructure Condition Survey:	X		
Detailed Coating Condition Survey:	X		
Detailed Timber Investigation	X		
Post-Tensioned Strand Investigation	X		
Underwater Investigation:			
Fatigue Investigation:	X		
Seismic Investigation:	Х		
Structure Evaluation:	X		
Monitoring			
Monitoring of Deformations, Settlements and Movements:	Х		
Monitoring Crack Widths:			
Investigation Notes:			

Overall Structure Notes:				
Recommended Work on Structure:	□None	☐ Minor Rehab.	□ Major Rehab.	□ Replace
Timing of Recommended Work:	□ 1 to 5 ye	ears $\Box$ 6 to 10 years	ars	
Overall Comments:	The structure could not be located.			
Date of Next Inspection:				

#### **Suspected Performance Deficiencies**

- 01 Load carrying capacity Excessive deformations (deflections & rotations) 02 Continuing settlement 03
- Continuing movements 04 05 Seized bearings

#### Maintenance Needs

- Lift and Swing Bridge Maintenance 01 Bridge Cleaning 02
- Bridge Handrail Maintenance 03 04
- Painting Steel Bridge Structures Bridge Deck Joint Repair 05 06 Bridge Bearing Maintenance

- 06 Bearing not uniformly loaded/unstable 07
- 08 09 Rough riding surface
- Jammed expansion joint Pedestrian/vehicular hazard
- 10 Surface ponding 11 Deck drainage
- 07 Repair to Structural Steel 08 Repair of Bridge Concrete
- 09 Repair of Bridge Timber 10
- Bailey bridges Maintenance Animal/Pest Control 11 12 Bridge Surface Repair

- 12 Slippery surfaces
- Flooding/channel blockage 13 14 Undermining of foundation
- 15 Unstable embankments
- 16 Other
- Erosion Control at Bridges 13
- Concrete Sealing 14
- Rout and Seal
- Bridge Deck Drainage 16
- 17 Scaling (Loose Concrete or ACR Steel)
- 18

Inventory Data:				
Structure Name				
Main Hwy/Road #		On 🗆 Under 🖺	Crossing ☐ Navig. Water Type: ☑ Roa	☐ Non-Navig. Water ☐ Raīld ☐ Ped. ☐ Other
Hwy/Road Name	Mayfield			
Structure Location	North en	trance from	Mayfield Rd	
Latitude GPS Coord	E:604534		Longitude N:4855426	
Owner(s)	Region of	Peel	Heritage ☐ Not Cons. ☐ ( Designation: ☐ Desig	Cons./not App. ☐ List/not Desig. /not List ☐ Desig. & List
MTO Region	Central		Road Class: Freeway 🗆 A	rterial  Collector  Local
MTO District			Posted Speed	No. of Lanes
Old County	_		AADT	% Trucks
Geographic Twp.	Brampton		Inspection Route Sequence	
Structure Type	Culvert		Interchange Number	
Total Deck Length		(m)	Interchange Structure Number	
Overall Str. Width	6.8	(m)	Min. Vertical Clearance	0.25 (m)
Total Deck Area	_	(sq.m)	Special Routes:	☐ Truck ☐ School ☐ Bicycle
Roadway Width	mas.	(m)	Detour Length Around Bridge	(km)
Skew Angle		(Degrees)	Direction of Structure	W to E
No. of Spans	1		Fill on Structure	0.6 (m)
Span Lengths	0.46			(m)
Historical Data:				
Year Built			Year of Last Major Rehab.	
Last OSIM Inspection		/22/2005	Last Evaluation	
Last Enhanced OSIM I			Current Load Limit	/ / (tonnes)
Enhanced Access Equal (ladder, boat, lift, etc.)			Load Limit By-Law #	
Last Underwater Inspe	ection		By-Law Expiry Date	
Last Condition Survey	/			
Rehab History: (Date/	description)			
				1

## ${\bf Ontario\ Structure\ Inspection\ Manual-Inspection\ Form}$

MTO Site Number:	1917
THE COURT PURE TO A SECTION OF THE PERSON OF	

Scheduled Improveme	nts:		
Regional Priority Number		Programmed Work Year	
Nature of Program Wor	k:		
	•		

Appraisal Indices:		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

MTO Site Number: 1917

Field Inspection Infor	mation:				
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM	
Inspector:	Eric Cheng				
Others in Party:	Alan Chung, Dan Urian				
Access Equipment Used:	Hand Tools, Digital Camera, Measuring Tape				
Weather:	Clear, some flurr	ries			
Temperature:	-3°				

Additional Investigations Required:		Priority		
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	Х			
Non-destructive Delamination Survey of Asphalt-Covered Deck:	X			
Concrete Substructure Condition Survey:	Х			
Detailed Coating Condition Survey:	Х			
Detailed Timber Investigation	Х			
Post-Tensioned Strand Investigation	Х			
Underwater Investigation:	X			
Fatigue Investigation:	Х			
Seismic Investigation:	X			
Structure Evaluation:	Х			
Monitoring				
Monitoring of Deformations, Settlements and Movements:	Х			
Monitoring Crack Widths:	X			
Investigation Notes:				
Effective Cross-Section: 55	응			

Overall Structure Notes:	
Recommended Work on Structure:	□ None ☑ Minor Rehab. □ Major Rehab. □ Replace
Timing of Recommended Work:	☑ 1 to 5 years ☐ 6 to 10 years
Overall Comments:	The structure has some damages at the east end. No urgent work is required.
Date of Next Inspection:	

S	uspected Performance Deficiencies				
	•	06	Bearing not uniformly loaded/unstable		12 Slippery surfaces
01	Load carrying capacity	07	Jammed expansion joint		13 Flooding/channel blockage
02	Excessive deformations (deflections & rotations)	08	Pedestrian/vehicular hazard		14 Undermining of foundation
03	Continuing settlement	09	Rough riding surface		15 Unstable embankments
04	Continuing movements	10	Surface ponding		16 Other
05	Seized bearings	11	Deck drainage		
M	aintenance Needs				
01	Lift and Swing Bridge Maintenance	07	Repair to Structural Steel	13	Erosion Control at Bridges
02	Bridge Cleaning	08	Repair of Bridge Concrete	14	Concrete Sealing
03	Bridge Handrail Maintenance	09	Repair of Bridge Timber	15	Rout and Seal
04	Painting Steel Bridge Structures	10	Bailey bridges - Maintenance	16	Bridge Deck Drainage
05	Bridge Deck Joint Repair	11	Animal/Pest Control	17	Scaling (Loose Concrete or ACR Steel
06	Bridge Bearing Maintenance	12	Bridge Surface Repair	18	Other

Element Group:	Culvert		Length:		6.8			
Element Name:			Width:		0.4	6m		
Location:	Entrance M		Height:					
Material:	Corrugated	Steel	Count: Total Qua		1			
Element Type:	Round				6.8	m		
Environment:	Benign / Modera	te / Severe	Limited I	nspection				
<b>Protection System:</b>								Perform.
Condition	Units	Exc.	Good	Fair	•	Poor*	k	Deficiencies
Data: $m^2/$	m/each/%/all		x					***************************************
(	ne structure end. No urgen	nt work is	_	red.		***************************************		
Recommended W						e Needs:	:	
	□ 1-5 y	ears 🗵 6-10 ye	ars	☐ Urgen	t 🛛	1 year	⊠ 2 y	year
Element Group:	1		Length:			FF 75704 (500 YULL) - FUTUR	-	A
Element Name:			Width:					
Location:	A HARD IN A SECRETAR OF THE		Height:			·····		
Material:			Count:		**************************************	<del></del>		
Element Type:			Total Qua	ntity:				
Environment:	Benign / Moderat	e / Severe	Limited In		П			
Protection System:	Beingin / Moderate	e / Bereie	Limited II	ispection	<u>u</u>	***************************************		Perform.
Condition	Units	Exc.	Good	Fair		Poor*		Deficiencies
		DAC.	Good	Fan		F OOL		Defreiencies
Data: $m^2/r$	n/each/%/all				- 1		- 1	
Data: m <sup>2</sup> /1 Comments:	n/each/%/all							
Comments:								
111 / 1	ork: □ Rehal	•				Needs:		
Comments:		•	rs	<b>Mainte</b> □ Urgent				ear
Comments:	ork: □ Rehal	•	rs					ear
Comments:	ork: □ Rehal	•	rs					ear
Comments:	ork: □ Rehal	•						ear
Comments:	ork: □ Rehal	•	Length:					ear
Comments:  Recommended Wo	ork: □ Rehal	•	Length:					ear
Comments:  Recommended Wo  Element Group: Element Name:	ork: □ Rehal	•	Length:					ear
Comments:  Recommended Wo  Element Group: Element Name: Location:	ork: □ Rehal	•	Length: Width: Height:	□ Urgent				ear
Comments:  Recommended Wo  Element Group: Element Name: Location: Material:	ork: □ Rehal	ears	Length: Width: Height: Count:	Urgent				ear
Comments:  Recommended Wo  Element Group: Element Name: Location: Material: Element Type:	ork: □ Rehal □ 1-5 ye	ears	Length: Width: Height: Count: Total Quar	Urgent			☐ 2 y	ear Perform.
Comments:  Recommended Wo  Element Group: Element Name: Location: Material: Element Type: Environment:	ork: □ Rehal □ 1-5 ye	ears	Length: Width: Height: Count: Total Quar	Urgent				
Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition	ork: ☐ Rehal☐ 1-5 ye  Benign / Moderate  Units	ears	Length: Width: Height: Count: Total Quar Limited In	Urgent  ntity:		year (		Perform.
Comments:  Recommended Wo  Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/n	ork: □ Rehal □ 1-5 ye Benign / Moderate	ears	Length: Width: Height: Count: Total Quar Limited In	Urgent  ntity:		year (		Perform.
Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition	ork: ☐ Rehal☐ 1-5 ye  Benign / Moderate  Units	ears	Length: Width: Height: Count: Total Quar Limited In	Urgent  ntity:		year (		Perform.
Comments:  Recommended Wo  Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/n	Benign / Moderate Units 1 / each / % / all	e/ Severe  Exc.	Length: Width: Height: Count: Total Quar Limited In	Urgent  ntity: spection  Fair		Poor*	□ 2 y	Perform.
Comments:  Recommended Work  Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/n  Comments:	Benign / Moderate  Units 1 / each / % / all	e/ Severe  Exc.	Length: Width: Height: Count: Total Quar Limited In	Urgent  ntity: spection Fair  Mainter	nance	Poor*		Perform. Deficiencies
Comments:  Recommended Work  Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/n  Comments:	Benign / Moderate Units 1 / each / % / all	e/ Severe  Exc.	Length: Width: Height: Count: Total Quar Limited In	Urgent  ntity: spection  Fair	nance	Poor*		Perform.

<sup>\*</sup> A quantity must be estimated using the appropriate unit (e.g. m²). Percent should not be used.

Inventory Data:					
Structure Name					
Main Hwy/Road#	On	□ Under 🖺	Crossing ☐ Navig. Water Type: ☑ Road	☐ Non-Navig. Water I ☐ Ped. ☐ Other	□Rail
Hwy/Road Name	Mayfield Ro				
Structure Location	North entra	nce from	Mayfield Rd		
Latitude GPS Coord	E:604517		Longitude N:4855408		
Owner(s)	Region of Pe	eel	Heritage ☐ Not Cons. ☐ C Designation: ☐ Desig./	Cons./not App. ☐ List/no not List ☐ Desig. & Lis	
MTO Region	Central		Road Class: Freeway A	rterial 🗆 Collector 🗅 Loca	ıl 🗆
MTO District			Posted Speed	No. of Lanes	
Old County			AADT	% Trucks	
Geographic Twp.	Brampton		Inspection Route Sequence		
Structure Type [	Culvert		Interchange Number		
Total Deck Length		(m)	Interchange Structure Number		
Overall Str. Width [	7.8	(m)	Min. Vertical Clearance	0.25 (m)	
Total Deck Area	_	(sq.m)	Special Routes:	☐ Truck ☐ School ☐ B	icycle
Roadway Width	_	(m)	Detour Length Around Bridge	(km)	
Skew Angle	_	(Degrees)	Direction of Structure	W to E	
No. of Spans	1 .		Fill on Structure	0.45 (m)	
Span Lengths	0.46			(m)	
		erien betreit betreit – "White and the lease of the lease		and the second of the second o	Sale-party and the sale
Historical Data:					
Year Built			Year of Last Major Rehab.		
Last OSIM Inspection	07/22	/2005	Last Evaluation		
Last Enhanced OSIM	Inspection		Current Load Limit	/ / (tonnes)	
Enhanced Access Equal (ladder, boat, lift, etc.			Load Limit By-Law #		
Last Underwater Insp	ection		By-Law Expiry Date		
Last Condition Survey	y				
Rehab History: (Date	description)				
					l
					1

## ${\bf Ontario\ Structure\ Inspection\ Manual-Inspection\ Form}$

MTO Site Number: 1918

Scheduled Improvemen	ts:		
Regional Priority Number		Programmed Work Year	
Nature of Program Work	:		

Appraisal Indices:		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

MTO Site Number:	1918
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Field Inspection Info	rmation:		MASSIMATION OF THE PARTY OF THE	AND THE PROPERTY OF THE PARTY AND THE PROPERTY OF THE PARTY OF THE PAR	
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM	
Inspector:	Eric Cheng				
Others in Party:	Alan Chung, Dan Urian				
Access Equipment Used:	Hand Tools, Digital Camera, Measuring Tape				
Weather:	Clear, some flurries				
Temperature:	-3°				

Additional Investigations Required:	Priority			
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	Х			
Non-destructive Delamination Survey of Asphalt-Covered Deck:	X			
Concrete Substructure Condition Survey:	X			
Detailed Coating Condition Survey:	Х			
Detailed Timber Investigation	Х			
Post-Tensioned Strand Investigation	Х			
Underwater Investigation:				
Fatigue Investigation:	X			
Seismic Investigation:	X			
Structure Evaluation:	X			
Monitoring				
Monitoring of Deformations, Settlements and Movements:	Х			
Monitoring Crack Widths:	X			
Investigation Notes:			***************************************	
Effective Cross-Section:	55%			

Overall Structure Notes:	
Recommended Work on Structure:	□ None □ Minor Rehab. □ Major Rehab. ☒ Replace
Timing of Recommended Work:	☑ 1 to 5 years ☐ 6 to 10 years
Overall Comments:	The structure has both ends damaged. The ends should be replaced.
Date of Next Inspection:	

Susp	ected Performance Deficiencies				
-		06	Bearing not uniformly loaded/unstable		12 Slippery surfaces
01	Load carrying capacity	07	Jammed expansion joint		13 Flooding/channel blockage
02	Excessive deformations (deflections & rotations)	08	Pedestrian/vehicular hazard		14 Undermining of foundation
03	Continuing settlement	09	Rough riding surface		15 Unstable embankments
04	Continuing movements	10	Surface ponding		16 Other
05	Seized bearings	11	Deck drainage		
Main	tenance Needs				
01	Lift and Swing Bridge Maintenance	07	Repair to Structural Steel	13	Erosion Control at Bridges
02	Bridge Cleaning	08	Repair of Bridge Concrete	14	Concrete Sealing
03	Bridge Handrail Maintenance	09	Repair of Bridge Timber	15	Rout and Seal
04	Painting Steel Bridge Structures	10	Bailey bridges - Maintenance	16	Bridge Deck Drainage
05	Bridge Deck Joint Repair	11	Animal/Pest Control	17	Scaling (Loose Concrete or ACR Steel)
06	Bridge Bearing Maintenance	12	Bridge Surface Repair	18	Other

12 Bridge Surface Repair

Bridge Bearing Maintenance

ĺ	Element Gro	oup:	Culvert		Length:		7.8m		
	Element Nar	me:			Width:		0.46m		
ı	Location:	*******************************	Entrance M	d Height:		***************************************			
Ī	Material:		Corrugated	Count:		1			
	Element Typ	e:	Round	Total Qu	antity:	7.8m			
Ī	Environmen	t:	Benign / Modera	ite / Severe		nspection			
ı	Protection S	ystem:		***************************************				Perform.	
Ιħ	Condition		Units	Exc.	Good	Fair	Poor*	Deficiencies	
	Data:	$m^2/m$	/each/%/all			X			
1 F	Comments:		1 / cacii / /0 / 411	1					
- 1	Comments.		structure	has both	ends da	maged.	•		
-			e ends shoul			J			
L		1110		ra be repr	Lacca:				
	Recommend	ded Wor	rk: 🗆 Reh	ab 🛚 Replace		Mainte	enance Needs:		
			⊠ 1-5 y	ears □ 6-10 ye	ears	☐ Urgen	t □lyear 🗵	2 year	
	Section of the sectio			The State of the same and specified the same and state and state and specified the same and					
		1640.0444.1.			21 + 7,				
	Element Gro Element Nam				Length:				
	Location:	ie:			Width:				
L	Location:  Material:				Height:				
-				<del></del>	Count:	_4.4			
	Element Type Environment		Benign / Moderat	to / Corrora		otal Quantity:			
L.	Protection Sy		Denign / Moderat	e / Severe	Limited II	Limited Inspection		Perform.	
-	·····	stem:	¥T:4.						
	Condition	<del> </del>	Units	Exc.	Good	Fair	Poor*	Deficiencies	
	Data:	$m^2/m$	/each / % / all	i I				1	
$\perp$	C			<u> </u>		l			
ľ	Comments:			L		<u> </u>			
	Comments: Recommend		<b>k:</b> □ Reha				nance Needs:		
					ars	<b>Mainte</b> □ Urgent		2 year	
			<b>k:</b> □ Reha		ars			2 year	
			<b>k:</b> □ Reha		ars			2 year	
]	Recommend	ed Wor	<b>k:</b> □ Reha					2 year	
		ed Wor	<b>k:</b> □ Reha		Length:			2 year	
	Recommend Element Grou Element Namo	ed Wor	<b>k:</b> □ Reha		Length: Width:			2 year	
	Recommend  Element Grou  Element Name  Location:	ed Wor	<b>k:</b> □ Reha		Length: Width: Height:			2 year	
	Recommend Element Grou Element Name Location: Material:	ed Wor	<b>k:</b> □ Reha		Length: Width: Height: Count:	Urgent		2 year	
	Recommend  Element Grou  Element Name  Location:	ed Wor	<b>k:</b> □ Reha	ears	Length: Width: Height: Count: Total Quan	Urgent	□1 year □2	2 year	
	Recommend  Element Grou  Clement Name  Location:  Material:  Element Type  Environment:	ed Wor	k: □ Reha □ 1-5 yo	ears	Length: Width: Height: Count:	Urgent	□1 year □2		
II II II P	Recommend  Element Grout  Element Name  Location:  Material:  Element Type  Environment:  Protection Sys	ed Wor	k: □ Reha □ 1-5 yo Benign / Moderato	ears	Length: Width: Height: Count: Total Quan	Urgent  ntity:	□ 1 year □ 2	Perform. Deficiencies	
	Recommend Element Grou Element Name Location: Material: Element Type Environment: Protection Sys Condition	ed Wor	k: □ Reha □ 1-5 yo  Benign / Moderate  Units	ears	Length: Width: Height: Count: Total Quan	Urgent	□1 year □2	Perform.	
	Recommend  Element Grou  Clement Name  Location:  Material:  Element Type  Environment:  Protection Sys  Condition  Data:	ed Wor	k: □ Reha □ 1-5 yo Benign / Moderato	ears	Length: Width: Height: Count: Total Quan	Urgent  ntity:	□ 1 year □ 2	Perform.	
	Recommend Element Grou Element Name Location: Material: Element Type Environment: Protection Sys Condition	ed Wor	k: □ Reha □ 1-5 yo  Benign / Moderate  Units	ears	Length: Width: Height: Count: Total Quan	Urgent  ntity:	□ 1 year □ 2	Perform.	
	Recommend  Element Grou  Clement Name  Location:  Material:  Element Type  Environment:  Protection Sys  Condition  Data:	ed Wor	k: □ Reha □ 1-5 yo  Benign / Moderate  Units	ears	Length: Width: Height: Count: Total Quan	Urgent  ntity:	□ 1 year □ 2	Perform.	
	Recommend  Element Grou  Clement Name  Location:  Material:  Element Type  Environment:  Protection Sys  Condition  Data:	ed Wor	k: □ Reha □ 1-5 yo  Benign / Moderate  Units	ears	Length: Width: Height: Count: Total Quan	Urgent  ntity:	□ 1 year □ 2	Perform.	
II	Recommend  Element Grou  Clement Name  Location:  Material:  Element Type  Environment:  Protection Sys  Condition  Data:	p: e: tem:	k:	ears	Length: Width: Height: Count: Total Quan	ntity: spection Fair	□ 1 year □ 2	Perform.	
	Recommend  Element Grou  Element Name  Location:  Material:  Element Type  Environment:  Protection Sys  Condition  Data:  Comments:	p: e: tem:	k:	ears	Length: Width: Height: Count: Total Quar Limited In	ntity: spection Fair	Poor*	Perform.	
II	Recommend  Element Grou  Element Name  Location:  Material:  Element Type  Environment:  Protection Sys  Condition  Data:  Comments:	p: e: tem:	k:	ears	Length: Width: Height: Count: Total Quar Limited In	ntity:   spection Fair	Poor*	Perform. Deficiencies	

<sup>\*</sup> A quantity must be estimated using the appropriate unit (e.g. m<sup>2</sup>). Percent should not be used.

Inventory Data:				
Structure Name				
Main Hwy/Road#		On 🗆 Under 🕾	Crossing ☐ Navig. Water Type: ☑ Roa	☐ Non-Navig. Water ☐ Rail d ☐ Ped. ☐ Other
Hwy/Road Name	Mayfield	Rd		
Structure Location	North en	trance fro	m Mayfield Rd	
Latitude GPS Coord	E:604477		Longitude N:4855353	
Owner(s)	Region of	Peel	Heritage ☐ Not Cons. ☐ 0 Designation: ☐ Desig.	Cons./not App. ☐ List/not Desig. /not List ☐ Desig. & List
MTO Region	Central		Road Class: Freeway 🗆 A	arterial □ Collector □ Local □
MTO District	_		Posted Speed	No. of Lanes
Old County	_		AADT	% Trucks
Geographic Twp.	Brampton		Inspection Route Sequence	
Structure Type	Culvert		Interchange Number	
Total Deck Length		(m)	Interchange Structure Number	
Overall Str. Width	7.8	(m)	Min. Vertical Clearance	0.1 (m)
Total Deck Area	_	(sq.m)	Special Routes:	☐ Truck ☐ School ☐ Bicycle
Roadway Width	_	(m)	Detour Length Around Bridge	(km)
Skew Angle	***	(Degrees)	Direction of Structure	W to E
No. of Spans	1 .		Fill on Structure	0.45 (m)
Span Lengths	0.46			(m)
Historical Data:				
Year Built			Year of Last Major Rehab.	
Last OSIM Inspection		/22/2005	Last Evaluation	
Last Enhanced OSIM	-		Current Load Limit	/ / (tonnes)
Enhanced Access Equal (ladder, boat, lift, etc.			Load Limit By-Law #	
Last Underwater Insp	ection		By-Law Expiry Date	
Last Condition Surve	у			j
Rehab History: (Date,	description)			

MTO Site Number:	1919	
	Destructive of the second of the second of the second	ě

Scheduled Improvemen	its:		
Regional Priority Number		Programmed Work Year	
Nature of Program Work	•		
NEW CONTROL OF THE C	DATE (1800) And Amerika sing Michigan yang di arta araba sahar da ang araba sahar arta araba yang di ang araba		

Appraisal Indices		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

Ontario Structure Inspection Manual – Inspection Form	Ontario	Structure	Inspection	Manual -	Inspection	Form
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1919 MTO Site Number:

Field Inspection Info	ormation:			MINISTERNA (1995) (1996		
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM		
Inspector:	Eric Cheng	Eric Cheng				
Others in Party:	Alan Chung, Dan	Alan Chung, Dan Urian				
Access Equipment Used:	Hand Tools, Digital Camera, Measuring Tape					
Weather:	Clear, some flurries					
Temperature:	-3°	-3°				

Additional Investigations Required:	Priority		
	None	Normal	Urgent
Material Condition Survey			
Detailed Deck Condition Survey:	X		
Non-destructive Delamination Survey of Asphalt-Covered Deck:	X		
Concrete Substructure Condition Survey:	X		
Detailed Coating Condition Survey:	X		
Detailed Timber Investigation	X		***************************************
Post-Tensioned Strand Investigation	X		
Underwater Investigation:	X		
Fatigue Investigation:	Х		······································
Seismic Investigation:	Х		
Structure Evaluation:	х		
Monitoring			
Monitoring of Deformations, Settlements and Movements:	X		
Monitoring Crack Widths:	x		
Investigation Notes:  Effective Cross-Section: 1	16%	<del> </del>	W

Overall Structure Notes:					
Recommended Work on Structure:	☑ None ☐ Minor Rehab. ☐ Major Rehab. ☐ Replace				
Timing of Recommended Work:	⊠ 1 to 5 years □ 6 to 10 years				
Overall Comments:					
Date of Next Inspection:					

Suspected	Performance	Deficiencies	

- 01 Load carrying capacity Excessive deformations (deflections & rotations) 02 03 Continuing settlement Continuing movements 04
- 05 Seized bearings
- Maintenance Needs
- Lift and Swing Bridge Maintenance 01 02
- Bridge Cleaning Bridge Handrail Maintenance 03 Painting Steel Bridge Structures 04
- 05 06 Bridge Deck Joint Repair Bridge Bearing Maintenance

- 06 Bearing not uniformly loaded/unstable Jammed expansion joint
- 08 Pedestrian/vehicular hazard 09 Rough riding surface
- 11 Deck drainage

12

- 07
- 10 Surface ponding
- 07 Repair to Structural Steel 08
- Repair of Bridge Concrete Repair of Bridge Timber 09 10 11
  - Bailey bridges Maintenance Animal/Pest Control Bridge Surface Repair

- 12
- Slippery surfaces Flooding/channel blockage 13 14 Undermining of foundation
- 15 Unstable embankments
- 16 Other
- 13 Erosion Control at Bridges
- Concrete Sealing 14
- 15 Rout and Seal 16 Bridge Deck Drainage Scaling (Loose Concrete or ACR Steel) 17
- 18 Other

						************		
Element Gro		Culvert		Length:			. 8m	
Element Nan	1e:			Width:		0.	.46m	
Location:		Entrance M		Height:				
Material:		Corrugated	Steel	Count:		1		
Element Typ		Round		Total Qu	antity:	7.	. 8m	
Environment	:	Benign / Modera	ate / Severe	Limited	Inspectio	n 🗆		
Protection Sy	stem:							Perform.
Condition		Units	Exc.	Good	Fa	ir	Poor*	Deficiencies
Data:	$m^2/m$	/each/%/all			x			
Comments:	The	structure p	resents s		wear	(b	ent) at	the ends.
Recommend	ed Wor	rk: ⊠ Reh	ab   Replace		Main	tenai	ice Needs:	
		⊠ 1-5 y		ars	⊠ Urge		······································	2 year
				Mark Controller of the Asset Charles	1 3 3 1 5 1			<i></i>
L								
Element Grou				Length:				
Element Nam	e:			Width:				
Location:				Height:				
Material:				Count:				
Element Type	:			Total Qua	antity:			
Environment:		Benign / Moderat	te / Severe	Limited I	nspection	ı 🗆		
Protection Sys	tem:							Perform.
Condition		Units	Exc.	Good	Fai	r	Poor*	Deficiencies
Data:	$m^2/m$	/ each / % / all				·- ·· ·· ·		
Comments:	ed Wor	k: □ Reha	ıb □ Replace		Maint	enan	ce Needs:	
		□ 1-5 y	*	ırs	□Urgeı	~		l year
			THE THE PERSON OF THE PERSON AND THE PERSON AND ADDRESS OF THE PERSON AND THE PER	NAME OF STREET, SQUARE STREET, SQUAR				
				,				
Element Group				Length:				
Element Name	:			Width:				
Location:				Height:				
Material:				Count:				
Element Type:				Total Qua				
Environment:		Benign / Moderate	e / Severe	Limited In	spection			
Protection Syst	em:				_			Perform.
Condition		Units	Exc.	Good	Fair		Poor*	Deficiencies
Data:	$m^2/m$	each / % / all						
Data: m²/m/each/%/all Comments:								
Comments:								
	d Work	: □ Rehal	o ∏ Replace		Maint	enand	ce Needs:	
Comments:	d Work		^	rs.			ce Needs:	∏2 vear
	d Work	k: □ Rehal □ 1-5 ye	^	rs .	<b>Maint</b> □ Urgen			□ 2 year

<sup>\*</sup> A quantity must be estimated using the appropriate unit (e.g. m²). Percent should not be used.

Inventory Data:				
Structure Name				
Main Hwy/Road#		On 🗆 Under 🖰	Crossing ☐ Navig. Water Type: ☑ Road	□ Non-Navig. Water □ Rail
Hwy/Road Name	Mayfield	Rd		
Structure Location	North ent	trance from	Mayfield Rd	
Latitude GPS Coord	E:604464		Longitude N:4855332	
Owner(s)	Region of	Peel	Heritage Not Cons.	
MTO Region	Central		] Road Class: Freeway 🗆 A	rterial   Collector   Local
MTO District	_		Posted Speed	No. of Lanes
Old County			AADT	% Trucks
Geographic Twp.	Brampton		Inspection Route Sequence	
Structure Type	Culvert		Interchange Number	
Total Deck Length		(m)	Interchange Structure Number	
Overall Str. Width [		(m)	Min. Vertical Clearance	(m)
Total Deck Area		(sq.m)	Special Routes:	☐ Truck ☐ School ☐ Bicycle
Roadway Width		(m)	Detour Length Around Bridge	(km)
Skew Angle		(Degrees)	Direction of Structure	W to E
No. of Spans	*		Fill on Structure	(m)
Span Lengths	The struc	cture could	not be located.	(m)
	nast uid päivelpulmas sääksis		on de mismos en somos locación en le niem se beneve en la consensa de	
Historical Data:	7			
Year Built			Year of Last Major Rehab.	
Last OSIM Inspection	n 07,	/22/2005	Last Evaluation	
Last Enhanced OSIM	Inspection		Current Load Limit	/ / (tonnes)
Enhanced Access Equal (ladder, boat, lift, etc.			Load Limit By-Law#	
Last Underwater Insp	ection		By-Law Expiry Date	
Last Condition Surve	у			
Rehab History: (Date	description)		•	
	S			

## ${\bf Ontario\ Structure\ Inspection\ Manual-Inspection\ Form}$

	1920
MTO Site Number:	1920

Scheduled Improveme	nts:		
Regional Priority Number		Programmed Work Year	
Nature of Program Worl	ς:		

Appraisal Indices:		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

MTO Site Number:	1920

Field Inspection Info	rmation:		Carlo Ca	a terra visi a terra de productivo de des de de de de de de de maio de de productivo de menor de mesos que perso			
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM			
Inspector:	Eric Cheng	Eric Cheng					
Others in Party:	Alan Chung, Dan	Alan Chung, Dan Urian					
Access Equipment Used:	Hand Tools, Dig	Hand Tools, Digital Camera, Measuring Tape					
Weather:	Clear, some flurries						
Temperature:	-3°						

Additional Investigations Required:		Priority		
· ·	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			
Non-destructive Delamination Survey of Asphalt-Covered Deck:	X			
Concrete Substructure Condition Survey:	X			
Detailed Coating Condition Survey:	X			
Detailed Timber Investigation	X			
Post-Tensioned Strand Investigation	X			
Underwater Investigation:	X			
Fatigue Investigation:	X			
Seismic Investigation:	X			
Structure Evaluation:	X			
Monitoring				
Monitoring of Deformations, Settlements and Movements:	Х			
Monitoring Crack Widths:	X			
Investigation Notes:				
The structure could not be	locate	d.		

**Overall Structure Notes:** Recommended Work on □ None ☐ Minor Rehab. ☐ Major Rehab. ☐ Replace Structure: Timing of Recommended Work: □ 1 to 5 years □ 6 to 10 years Overall Comments: The structure could not be located. Date of Next Inspection:

Spenacted	Performance	Deficiencies

- Load carrying capacity Excessive deformations (deflections & rotations)
- Continuing settlement 03 Continuing movements 04
- Seized bearings

### Maintenance Needs

- Lift and Swing Bridge Maintenance
- Bridge Cleaning 02
- Bridge Handrail Maintenance 03 04 Painting Steel Bridge Structures
- Bridge Deck Joint Repair 05
- Bridge Bearing Maintenance

- 06 Bearing not uniformly loaded/unstable
- Jammed expansion joint 07 08 Pedestrian/vehicular hazard
- 09 Rough riding surface 10 Surface ponding Deck drainage
- 07 Repair to Structural Steel 08 Repair of Bridge Concrete
- 09 Repair of Bridge Timber 10
- Bailey bridges Maintenance Animal/Pest Control 11 Bridge Surface Repair 12

- 12 Slippery surfaces
- Flooding/channel blockage 13 14 Undermining of foundation
- 15 Unstable embankments
- 16 Other
- Erosion Control at Bridges Concrete Sealing 14
- Rout and Seal 15
- Bridge Deck Drainage 16
- 17 Scaling (Loose Concrete or ACR Steel)
- 18

	_		_
19	2	1	

Structure Name					
Main Hwy/Road#	On 🗆	Under 🖰	Crossing ☐ Navig. Water Type: ☑ Road	□ Non-Navig. □ Ped. □	Water □ Rail □ Other
Hwy/Road Name	Mayfield Rd				
Structure Location	North field	entrance	from Mayfield Rd		
Latitude GPS Coord	E:604410		Longitude N:4855271		
Owner(s)	Region of Pee	1	Heritage □ Not Cons. □ C Designation: □ Desig./	* *	□ List/not Desig sig. & List
MTO Region	Central		Road Class: Freeway [] A	rterial  Collect	or 🛘 Local 🗎
MTO District	_		Posted Speed	No. of Lanes	
Old County	_		AADT	% Trucks	
Geographic Twp.	Brampton		Inspection Route Sequence		
Structure Type	Culvert		Interchange Number		
Total Deck Length		(m)	Interchange Structure Number		]
Overall Str. Width	0	(m)	Min. Vertical Clearance		] (m)
Total Deck Area		(sq.m)	Special Routes:	□ Truck □ Sch	ool 🗆 Bicycle
Roadway Width	_	(m)	Detour Length Around Bridge		] (km)
Skew Angle	NEW CONTRACTOR OF THE PROPERTY	(Degrees)	Direction of Structure		
No. of Spans			Fill on Structure		] (m)
Span Lengths	The structur	e was re	moved.		(m)
zerentini ili kalintini ili karal 800 a				Short Dented Superport Languages when a distribute	end form de party e fello ligitaria i change margu (ou cur regue).
Historical Data:					
Year Built			Year of Last Major Rehab.		
Last OSIM Inspection	n 07/22/	2005	Last Evaluation		
Last Enhanced OSIM	Inspection		Current Load Limit	/ /	(tonnes)
Enhanced Access Equal (ladder, boat, lift, etc.			Load Limit By-Law #		
Last Underwater Insp	ection		By-Law Expiry Date		
Last Condition Surve	y				
Rehab History: (Date	description)				
					***

Scheduled Improvements:			
Regional Priority Number	Programmed Year	Work	
Nature of Program Work:			<del></del>
•			
	•		į

Appraisal Indices:		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

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Oct. 2000

1921

MTO Site Number:

мто	Site	Number:	.   .	1921

Field Inspection Infor	mation:			NGC COCCUPATION CONTRACTOR AND AND AN AND AN AND AN AND AN ANALYSIS OF AN AN ANALYSIS OF AN AN ANALYSIS OF AN	
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM	
Inspector:	Eric Cheng				
Others in Party:	Alan Chung, Dan Urian				
Access Equipment Used:	Hand Tools, Digital Camera, Measuring Tape				
Weather:	Clear, some flurries				
Temperature:	-3°				

Additional Investigations Required:		Priority			
9 .	None	Normal	Urgent		
Material Condition Survey					
Detailed Deck Condition Survey:	x				
Non-destructive Delamination Survey of Asphalt-Covered Deck:	х				
Concrete Substructure Condition Survey:	x				
Detailed Coating Condition Survey:	x				
Detailed Timber Investigation	X				
Post-Tensioned Strand Investigation	x				
Underwater Investigation:	x		-		
Fatigue Investigation:	X				
Seismic Investigation:	Х				
Structure Evaluation:	X				
Monitoring					
Monitoring of Deformations, Settlements and Movements:	X				
Monitoring Crack Widths:	X				
Investigation Notes:					
The structure was removed.					

Overall Structure Notes:	
Recommended Work on Structure:	☑ None ☐ Minor Rehab. ☐ Major Rehab. ☐ Replace
Timing of Recommended Work:	☐ 1 to 5 years ☐ 6 to 10 years
Overall Comments:	The structure was removed (see photo).
Date of Next Inspection:	

	~ -	~ ~ .
Suspected	Performance	Deficiencies

- 01 Load carrying capacity Excessive deformations (deflections & rotations) 02
- 03 Continuing settlement Continuing movements 04
- Seized bearings 05

#### Maintenance Needs

- Lift and Swing Bridge Maintenance 01
- Bridge Cleaning 02
- Bridge Handrail Maintenance Painting Steel Bridge Structures 03
- 04 Bridge Deck Joint Repair 05
- 06 Bridge Bearing Maintenance

- 06 Bearing not uniformly loaded/unstable Jammed expansion joint 07
- 10 Surface ponding
- Deck drainage 11
- 08 Pedestrian/vehicular hazard 09 Rough riding surface

- 07 Repair to Structural Steel Repair of Bridge Concrete
- 08 09 Repair of Bridge Timber
- Bailey bridges Maintenance Animal/Pest Control 10
- 11 Bridge Surface Repair

- Slippery surfaces 12
- Flooding/channel blockage 13
- 14 Undermining of foundation
- 15 Unstable embankments
- 16 Other
- Erosion Control at Bridges 13
- Concrete Sealing 14
- Rout and Seal
- Bridge Deck Drainage 16
- 17 Scaling (Loose Concrete or ACR Steel)

Inventory Data:				
Structure Name				
Main Hwy/Road#		On 🗆 Under 🖰	Crossing ☐ Navig. Water Type: ☑ Roac	□ Non-Navig. Water □ Rail d □ Ped. □ Other
Hwy/Road Name	Mayfield			
Structure Location	North fi	eld entrance	from Mayfield Rd	
Latitude GPS Coord	E:604347		Longitude N:4855191	
Owner(s)	Region of	Peel	Heritage	
MTO Region	Central		Road Class: Freeway [] A	rterial   Collector   Local
MTO District			Posted Speed	No. of Lanes
Old County	_		AADT	% Trucks
Geographic Twp.	Brampton		Inspection Route Sequence	
Structure Type	Culvert		Interchange Number	
Total Deck Length		(m)	Interchange Structure Number	
Overall Str. Width	0	(m)	Min. Vertical Clearance	(m)
Total Deck Area	ena.	(sq.m)	Special Routes:	☐ Truck ☐ School ☐ Bicycle
Roadway Width		(m)	Detour Length Around Bridge	(km)
Skew Angle	_	(Degrees)	Direction of Structure	
No. of Spans	F		Fill on Structure	(m)
Span Lengths	The struc	ture was rem	oved	(m)
Historical Data:				
Year Built	<u></u>		Year of Last Major Rehab.	
Last OSIM Inspectio	n 07	/22/2005	Last Evaluation	
Last Enhanced OSIM			Current Load Limit	/ / (tonnes)
Enhanced Access Eq (ladder, boat, lift, etc			Load Limit By-Law #	
Last Underwater Insp	pection		By-Law Expiry Date	
Last Condition Surve	ey			
Rehab History: (Date	/description)			

Scheduled Improvements:		
Regional Priority Number	Programmed Work Year	
Nature of Program Work:		

1922

MTO Site Number:

Appraisal Indices		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

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Oct. 2000

MTO Site Number:	1922
MITO BILE Mainbel.	

Field Inspection Infor	mation:		n de at Mala de Talla annaño en prenante en prenante en prenante en prenante en prenante en prenante en prenan	PROTOCON PROPERTY Comments And all mining of the Annual Property Comments and Comme	
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM	
Inspector:	Eric Cheng				
Others in Party:	Alan Chung, Dan Urian				
Access Equipment Used:	Hand Tools, Digital Camera, Measuring Tape				
Weather:	Clear, some flurries				
Temperature:	-3°				

Additional Investigations Required:	Priority			
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	х			
Non-destructive Delamination Survey of Asphalt-Covered Deck:	x			
Concrete Substructure Condition Survey:	Х			
Detailed Coating Condition Survey:	X			
Detailed Timber Investigation	х			
Post-Tensioned Strand Investigation	x			
Underwater Investigation:	X			
Fatigue Investigation:	X			
Seismic Investigation:	X			
Structure Evaluation:	Х			
Monitoring	·····		***************************************	
Monitoring of Deformations, Settlements and Movements:	x			
Monitoring Crack Widths:	X		*	
Investigation Notes:	***************************************	1		
The structure was removed(s	see pho	to).		

Overall Structure Notes:						
Recommended Work on Structure:	☑ None ☐ Minor Rehab. ☐ Major Rehab. ☐ Replace					
Timing of Recommended Work:	□ 1 to 5 years □ 6 to 10 years					
Overall Comments:	The structure was removed.					
Date of Next Inspection:						

#### **Suspected Performance Deficiencies**

- Load carrying capacity Excessive deformations (deflections & rotations) 02 03 Continuing settlement
- Continuing movements 04 05 Seized bearings

#### Maintenance Needs

- Lift and Swing Bridge Maintenance 01 02 Bridge Cleaning
- Bridge Handrail Maintenance 03 Painting Steel Bridge Structures 04
- 05 Bridge Deck Joint Repair 06 Bridge Bearing Maintenance

- 06 Bearing not uniformly loaded/unstable
- 07 Jammed expansion joint Pedestrian/vehicular hazard 08 09 Rough riding surface
- Surface ponding 10 11 Deck drainage

12

- 07 Repair to Structural Steel 08 Repair of Bridge Concrete 09 Repair of Bridge Timber
- 10 Bailey bridges - Maintenance 11 Animal/Pest Control

Other

Slippery surfaces

Flooding/channel blockage

Undermining of foundation

Unstable embankments

- Erosion Control at Bridges 13 Concrete Sealing 14 15 Rout and Seal
- 16 Bridge Deck Drainage 17 Scaling (Loose Concrete or ACR Steel)

12

13

14

15

16

- 18
- Other

Inventory Data:							
Structure Name							
Main Hwy/Road#		On 🗆	Under 🕾	Crossing Type:	☐ Navig. Water ☑ Road	□ Non-Navig. □ Ped. □	Water □ Rail Other
Hwy/Road Name	Mayfield	Rd					
Structure Location	North en	tranc	e from	Mayfield R	d		]
Latitude GPS Coord	E:604298			Longitude	N:4855125		
Owner(s)	Region of	Peel	L	Heritage Designation:	□ Not Cons. □ C □ Desig./ı		□ List/not Desig. sig. & List
MTO Region	Central			Road Class:	Freeway [] A	rterial 🗆 Collecto	or 🗆 Local 🗆
MTO District	-			Posted Speed		No. of Lanes	
Old County	=			AADT		% Trucks	
Geographic Twp.	Brampton			Inspection Rout	e Sequence		
Structure Type [	Culvert			Interchange Nur	mber		
Total Deck Length			(m)	Interchange Stru	icture Number		
Overall Str. Width	0		(m)	Min. Vertical Cl	learance		(m)
Total Deck Area	-		(sq.m)	Special Routes:	☐ Transit	□ Truck □ Sch	ool 🗆 Bicycle
Roadway Width	_		(m)	Detour Length A	Around Bridge		(km)
Skew Angle	100		(Degrees)	Direction of Stru	icture		
No. of Spans	1			Fill on Structure	:		(m)
Span Lengths	The struc	ture	was re	moved			(m)
		saesee					
Historical Data:							
Year Built				Year of Last Ma	jor Rehab.		
Last OSIM Inspection	07	/25/2	005	Last Evaluation			
Last Enhanced OSIM	Inspection			Current Load Lin	mit	/ /	(tonnes)
Enhanced Access Equal (ladder, boat, lift, etc.)				Load Limit By-L	aw#		
Last Underwater Insp	ection			By-Law Expiry I	Date		
Last Condition Survey	у						
Rehab History: (Date/	description)						

MTO Site Number: 1923

Scheduled Improvement	nts:		
Regional Priority Number		Programmed Work Year	
Nature of Program Work	:		

Appraisal Indices:		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

MTO Site Number: 1923

Field Inspection Infor	mation:			TO THE STATE OF TH		
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM		
Inspector:	Eric Cheng					
Others in Party:	Alan Chung, Dan Urian					
Access Equipment Used:	Hand Tools, Digital Camera, Measuring Tape					
Weather:	Clear, some flurries					
Temperature:	-3°					

Additional Investigations Required:	Priority		
	None	Normal	Urgent
Material Condition Survey			
Detailed Deck Condition Survey:	X		
Non-destructive Delamination Survey of Asphalt-Covered Deck:	X		
Concrete Substructure Condition Survey:	X		
Detailed Coating Condition Survey:	X		
Detailed Timber Investigation	X		
Post-Tensioned Strand Investigation	X		
Underwater Investigation:	X		
Fatigue Investigation:	X		
Seismic Investigation:	Х		
Structure Evaluation:	X		
Monitoring			
Monitoring of Deformations, Settlements and Movements:	X		
Monitoring Crack Widths:	X		
Investigation Notes:			
The structure was removed.			

Overall Structure Notes:						
Recommended Work on Structure:	☑ None ☐ Minor Rehab. ☐ Major Rehab. ☐ Replace					
Timing of Recommended Work:	□ 1 to 5 years □ 6 to 10 years					
Overall Comments:	The structure was removed (see photo).					
Date of Next Inspection:						

Duoi	pected Performance Deficiencies	~ -	~		
		06	Bearing not uniformly loaded/unstable		12 Slippery surfaces
01	Load carrying capacity	07	Jammed expansion joint		13 Flooding/channel blockage
02	Excessive deformations (deflections & rotations)	08	Pedestrian/vehicular hazard		14 Undermining of foundation
03	Continuing settlement	09	Rough riding surface		15 Unstable embankments
04	Continuing movements	10	Surface ponding		16 Other
05	Seized bearings	11	Deck drainage		
Mai	ntenance Needs				
01	Lift and Swing Bridge Maintenance	07	Repair to Structural Steel	13	Erosion Control at Bridges
02	Bridge Cleaning	08	Repair of Bridge Concrete	14	Concrete Sealing
03	Bridge Handrail Maintenance	09	Repair of Bridge Timber	15	Rout and Seal
04	Painting Steel Bridge Structures	10	Bailey bridges - Maintenance	16	Bridge Deck Drainage
05	Bridge Deck Joint Repair	11	Animal/Pest Control	17	Scaling (Loose Concrete or ACR Steel)
06	Bridge Bearing Maintenance	12	Bridge Surface Repair	18	Other

1924

Inventory Data:					
Structure Name					
Main Hwy/Road #	On C	] Under 🖰	Crossing ☐ Navig. Water Type: ☑ Road	☐ Non-Navig. Water ☐ Raīl	
Hwy/Road Name	Mayfield Rd			900_0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.	
Structure Location	North entran	ce Mayfi	eld Rd		
Latitude GPS Coord	E:604254		Longitude N:4855073		
Owner(s)	Region of Pe	el	Heritage		
MTO Region	Central		Road Class: Freeway [] A	rterial 🛘 Collector 🖨 Local 🗀	
MTO District	_		Posted Speed	No. of Lanes	
Old County [	-		AADT	% Trucks	
Geographic Twp. [	Brampton		Inspection Route Sequence		
Structure Type [	Culvert		Interchange Number		
Total Deck Length [		] (m)	Interchange Structure Number		
Overall Str. Width	15.0	] (m)	Min. Vertical Clearance	0 (m)	
Total Deck Area		] (sq.m)	Special Routes:   Transit	☐ Truck ☐ School ☐ Bicycle	
Roadway Width	=	] (m)	Detour Length Around Bridge	(km)	
Skew Angle		] (Degrees)	Direction of Structure	W to E	
No. of Spans	1 .	]	Fill on Structure	0.7 (m)	
Span Lengths	0.38			(m)	
Historical Data:					
Year Built			Year of Last Major Rehab.		
Last OSIM Inspection	07/25/	2005	Last Evaluation		
Last Enhanced OSIM I			Current Load Limit	/ / (tonnes)	
Enhanced Access Equ (ladder, boat, lift, etc.)			Load Limit By-Law #		
Last Underwater Inspe	ection		By-Law Expiry Date		
Last Condition Survey	/				
Rehab History: (Date/	description)				

MTO Site Numl	er:	1924

Scheduled Improvemen	ts:		
Regional Priority Number		Programmed Work Year	
Nature of Program Work:			

Appraisal Indices		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

1924 MTO Site Number:

Field Inspection Info	rmation:			Martin Control (Control Control Contro
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM
Inspector:	Eric Cheng			
Others in Party:	Alan Chung, Dan Urian			
Access Equipment Used:	Hand Tools, Digital Camera, Measuring Tape			
Weather:	Clear, some flurries			
Temperature:	-3°			

Additional Investigations Required:		Priority		
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			
Non-destructive Delamination Survey of Asphalt-Covered Deck:	Х			
Concrete Substructure Condition Survey:	X			
Detailed Coating Condition Survey:	Х		······································	
Detailed Timber Investigation	Х			
Post-Tensioned Strand Investigation	х			
Underwater Investigation:				
Fatigue Investigation:	Х			
Seismic Investigation:			T-14	
Structure Evaluation:				
Monitoring				
Monitoring of Deformations, Settlements and Movements:			***************************************	
Monitoring Crack Widths:				
Investigation Notes:				
Effective Cross-Section:0%				

Overall Structure Notes:				
Recommended Work on Structure:		☐ Minor Rehab.	□ Major Rehab.	□ Replace
Timing of Recommended Work:	☑ 1 to 5 year	rs □ 6 to 10 yea	ars	
Overall Comments:	The structure was buried under water and we were not able to inspect it.			
Date of Next Inspection:				

Suspected	Performance	Deficiencies
Busnecteu	I CI IUI IIIAIICC	DOLLEGICIO

Bridge Deck Joint Repair

Bridge Bearing Maintenance

01	Load carrying capacity
02	Excessive deformations (deflections & rotations)
03	Continuing settlement
04	Continuing movements
05	Seized bearings
Mair	ntenance Needs
01	Lift and Swing Bridge Maintenance
02	Bridge Cleaning
03	Bridge Handrail Maintenance
04	Painting Steel Bridge Structures

12

- Bearing not uniformly loaded/unstable 07 Jammed expansion joint Pedestrian/vehicular hazard
- 08 Rough riding surface 10 Surface ponding
- 11 Deck drainage
- Repair to Structural Steel Repair of Bridge Concrete Repair of Bridge Timber Bailey bridges - Maintenance 11
- Erosion Control at Bridges Concrete Sealing 14 15 Rout and Seal

Other

12

13

15

16

- 16 Bridge Deck Drainage
- Animal/Pest Control 17 Scaling (Loose Concrete or ACR Steel)

Bridge Surface Repair 18 Other

03

04

05

Slippery surfaces Flooding/channel blockage

Undermining of foundation

Unstable embankments

Element Group:	Culvert		Length:		15.		
Element Name:			Width:		0.3	38m	
Location:	Entrance M					****	
Material:	Corrugated	<u> Steel</u>	Count:		1		
Element Type:	Round			tal Quantity: 15.0m			
Environment:	Benign / Modera	ite / Severe	Limited	Inspection			
Protection System:			***		······	***************************************	Perform.
Condition	Units	Exc.	Good	Fai	r	Poor*	Deficiencies
Data: $m^2/$	m/each/%/all						
it. Flushir	ructure was u ng and ditchi			e were	e no	t able	to inspect
Recommended W	ork: ⊠ Reh	ab □ Replace		Maint	enanc	e Needs:	
	⊠ 1-5 y	years □ 6-10 ye	ears	☑ Urger	nt 🗆	1 year □ 2	2 year
Element Group:			Length:			Mintopolis Montopolis Angeles	
Element Name:			Width:				
Location:			Height:				
Material:			Count:				
Element Type:		* *** * · · · · · · · · · · · · · · · ·	Total Qua	ntity:			
Environment:	Benign / Moderat	ze / Severe	Limited I				
<b>Protection System:</b>							Perform.
Condition	Units	Exc.	Good	Fair	•	Poor*	Deficiencies
Data: $m^2/m^2$	m / each / % / all					W.A	
Recommended Work:				<b>Mainte</b> □ Urgen		e Needs:	Vegr
			to Million of Afficiant separate programme and a six on a consistency				year
<b>.</b>							year
Element Group:			Length:				your
Element Name:			Width:				your
Element Name: Location:			Width: Height:				your
Element Name: Location: Material:			Width: Height: Count:	ntity			your
Element Name: Location: Material: Element Type:		// Severe	Width: Height: Count: Total Quar				your
Element Name: Location: Material: Element Type: Environment:	Benign / Moderate	:/ Severe	Width: Height: Count:				
Element Name: Location: Material: Element Type: Environment: Protection System:	Benign / Moderate		Width: Height: Count: Total Quar Limited In	spection		Poor*	Perform.
Element Name: Location: Material: Element Type: Environment: Protection System: Condition	Benign / Moderate Units	e/ Severe Exc.	Width: Height: Count: Total Quar			Poor*	
Element Name: Location: Material: Element Type: Environment: Protection System: Condition	Benign / Moderate		Width: Height: Count: Total Quar Limited In	spection		Poor*	Perform.
Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/n	Benign / Moderate Units n / each / % / all	Exc.	Width: Height: Count: Total Quar Limited In	spection			Perform.
Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/n Comments:	Benign / Moderate Units n / each / % / all	Exc.	Width: Height: Count: Total Quan Limited In	spection Fair	nance	Needs:	Perform.

<sup>\*</sup> A quantity must be estimated using the appropriate unit (e.g. m²). Percent should not be used.

Inventory Data:				
Structure Name				
Main Hwy/Road#		On 🗆 Under 🖰	Crossing ☐ Navig. Water Type: ☑ Road	☐ Non-Navig, Water ☐ Rail ☐ Ped. ☐ Other
Hwy/Road Name	Mayfield	Rd		
Structure Location	North ent	rance Mayfi	eld Rd	
Latitude GPS Coord	E:604240		Longitude N:4855054	
Owner(s)	Region of	Peel	Heritage	Cons./not App. □ List/not Desig. /not List □ Desig. & List
MTO Region	Central		Road Class: Freeway [] A	rterial 🗆 Collector 🗆 Local 🗀
MTO District			Posted Speed	No. of Lanes
Old County	1000		AADT	% Trucks
Geographic Twp.	Brampton		Inspection Route Sequence	
Structure Type	Culvert		Interchange Number	
Total Deck Length [		(m)	Interchange Structure Number	
Overall Str. Width [	12.8	(m)	Min. Vertical Clearance	0.25 (m)
Total Deck Area	-	(sq.m)	Special Routes:	☐ Truck ☐ School ☐ Bicycle
Roadway Width		(m)	Detour Length Around Bridge	(km)
Skew Angle		(Degrees)	Direction of Structure	W to E
No. of Spans	1 .		Fill on Structure	0.4 (m)
Span Lengths	0.61			(m)
Historical Data:				
Year Built			Year of Last Major Rehab.	
Last OSIM Inspection		25/2005	Last Evaluation	
Last Enhanced OSIM 1	•		Current Load Limit	/ / (tonnes)
Enhanced Access Equal (ladder, boat, lift, etc.)			Load Limit By-Law #	
Last Underwater Inspe	ection		By-Law Expiry Date	
Last Condition Survey	<i>y</i>			
Rehab History: (Date/	description)	***************************************		

Page 1

Scheduled Improvemen	its:		
Regional Priority Number		Programmed Work Year	
Nature of Program Work	•		

Appraisal Indices:		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

1925 MTO Site Number:

Field Inspection Infor	mation:	CONTROL OF CHARLES AND	Medical Medical annuals of second property of the second	APPONENTACION (PER SENSE MANAGEMENTO CONTRACTOR ANTICONO MANAGEMENTO CONTRACTOR CONTRACT	
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM	
Inspector:	Eric Cheng				
Others in Party:	Alan Chung, Dan	Urian			
Access Equipment Used:	Hand Tools, Digital Camera, Measuring Tape				
Weather:	Clear, some flurr	ries			
Temperature:	-3°				

Additional Investigations Required:	Priority			
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			
Non-destructive Delamination Survey of Asphalt-Covered Deck:	x			
Concrete Substructure Condition Survey:	Х			
Detailed Coating Condition Survey:	X			
Detailed Timber Investigation	Х			
Post-Tensioned Strand Investigation	X			
Underwater Investigation:	X		***************************************	
Fatigue Investigation:	X			
Seismic Investigation:	X			
Structure Evaluation:	Х			
Monitoring	<del></del>			
Monitoring of Deformations, Settlements and Movements:	X			
Monitoring Crack Widths:	X			
Investigation Notes:				
Effective Cross-Section:38%				

Overall Structure Notes:	
Recommended Work on Structure:	⊠ None    □ Minor Rehab.    □ Major Rehab.    □ Replace
Timing of Recommended Work:	☑ 1 to 5 years ☐ 6 to 10 years
Overall Comments:	The structure is in fair condition. The culvert is protected by armour stone.
Date of Next Inspection:	

#### Suspected Performance Deficiencies

- 01 Load carrying capacity Excessive deformations (deflections & rotations) 02 03 Continuing settlement 04 Continuing movements
- 05 Seized bearings

#### Maintenance Needs

- Lift and Swing Bridge Maintenance 01
- 02 Bridge Cleaning Bridge Handrail Maintenance 03
- 04 Painting Steel Bridge Structures 05 Bridge Deck Joint Repair Bridge Bearing Maintenance

- 06 Bearing not uniformly loaded/unstable
- 07 Jammed expansion joint 08 Pedestrian/vehicular hazard Rough riding surface
- 09 10 Surface ponding 11 Deck drainage

12

- 07 Repair to Structural Steel 08 Repair of Bridge Concrete
- 09 Repair of Bridge Timber 10 Bailey bridges - Maintenance 11 Animal/Pest Control

- 12 Slippery surfaces
- Flooding/channel blockage 13 14 Undermining of foundation
- Unstable embankments 15
- 16 Other
- 13 Erosion Control at Bridges
  - Concrete Sealing 14
  - 15 Rout and Seal
- Bridge Deck Drainage
- 17 Scaling (Loose Concrete or ACR Steel)
- 18 Other

1-2-4-30750000 (200000000000000000000000000000000	KATO OTALE CONTROL CONTRA		Secretary of the second of the second	<del></del>				
Element Gro		Culvert		Length:			.8m	
Element Nan	ne:			Width:		0.	61m	
Location:		Entrance M				<u> </u>		
Material:		Corrugated	Steel	Count:		1		
Element Typ		Round		Total Qu		_ <del></del> _	.8m	
Environment		Benign / Modera	te / Severe	Limited I	nspection	n 🗆		
Protection Sy	ystem:							Perform.
Condition	T	Units	Exc.	Good	Fa	ir	Poor*	Deficiencies
Data:	$m^2/m$	n/each/%/all	1		x			
Comments:		structure	is protec	ted by		r st	one and	slightly
	ben	t in the mi	ddle.					
Recommend	led Wor	rk: 🗵 Reha	ab □ Replace		Main	tenan	ce Needs:	<del>, , , , , , , , , , , , , , , , , , , </del>
			vears □ 6-10 year	ars	☐ Urge		L	2 year
		<u></u>		ALO	1 0-		J1 J041	2 your
	**************************************							
Element Grou	up:			Length:				
Element Nam				Width:				
Location:				Height:				
Material:				Count:				***************************************
Element Type	e:		· · · · · · · · · · · · · · · · · · ·		Total Quantity:			
Environment:		Benign / Moderat	e / Severe	Limited Ir				
Protection Sys		Benign / Moderate / Severe Limited			Perform.			
i i i otection sys	STCIII.							A VA - VA
<del> </del>	stem.	Units	Exc.	Cond	Fair	-	Poor*	Deficiencies
Condition Data:		Units / each / % / all	Exc.	Good	Fai	r	Poor*	Deficiencies
Condition Data: Comments:	m <sup>2</sup> / m	/ each / % / all		Good				Deficiencies
Condition Data:	m <sup>2</sup> / m	/ each / % / all k: □ Reha	b □ Replace		Maint	enanc	e Needs:	
Condition Data: Comments:	m <sup>2</sup> / m	/ each / % / all k: □ Reha				enanc	e Needs:	Deficiencies year
Condition Data: Comments:	m <sup>2</sup> / m	/ each / % / all k: □ Reha	b □ Replace		Maint	enanc	e Needs:	
Condition Data: Comments:	m <sup>2</sup> / m	/ each / % / all k: □ Reha	b □ Replace		Maint	enanc	e Needs:	
Condition Data: Comments: Recommende	m²/m	/ each / % / all k: □ Reha	b □ Replace	rs	Maint	enanc	e Needs:	
Condition Data: Comments:	m²/m	/ each / % / all k: □ Reha	b □ Replace		Maint	enanc	e Needs:	
Condition Data: Comments: Recommende	m²/m	/ each / % / all k: □ Reha	b □ Replace	Length: Width:	Maint	enanc	e Needs:	
Condition Data: Comments: Recommende	m²/m	/ each / % / all k: □ Reha	b □ Replace	Length: Width: Height:	Maint	enanc	e Needs:	
Condition Data: Comments:  Recommende Element Grout Element Name Location: Material:	m²/m	/ each / % / all k: □ Reha	b □ Replace	Length: Width: Height: Count:	<b>Maint</b> □ Urgen	enanc	e Needs:	
Condition Data: Comments:  Recommende Element Group Element Name Location:	m²/m ed Wor	/ each / % / all  k: □ Rehal □ 1-5 ye	b □ Replace ears □ 6-10 year	Length: Width: Height: Count: Total Quar	Maint □ Urgen	enanc	e Needs:	
Condition Data: Comments:  Recommende Element Group Element Name Location: Material: Element Type: Environment:	m²/m	/ each / % / all k: □ Reha	b □ Replace ears □ 6-10 year	Length: Width: Height: Count:	Maint □ Urgen	enanc	e Needs:	year
Condition Data: Comments:  Recommende Element Grou Element Name Location: Material: Element Type: Environment: Protection Syst	m²/m	/ each / % / all  k: □ Rehal □ 1-5 ye  Benign / Moderate	b	Length: Width: Height: Count: Total Quar	Maint □ Urgen ntity:	enance.tt	ee Needs: 2	year Perform.
Condition Data: Comments:  Recommende Element Group Element Name Location: Material: Element Type: Environment: Protection Syst	m²/m ed Wor	k: Rehal  1-5 ye  Benign / Moderate  Units	b □ Replace ears □ 6-10 year	Length: Width: Height: Count: Total Quar	Maint □ Urgen	enance.tt	e Needs:	year
Condition Data: Comments:  Recommende  Element Group Element Name Location: Material: Element Type: Environment: Protection Syst Condition Data:	m²/m ed Wor	/ each / % / all  k: □ Rehal □ 1-5 ye  Benign / Moderate	b	Length: Width: Height: Count: Total Quar	Maint □ Urgen ntity:	enance.tt	ee Needs: 2	year Perform.
Condition Data: Comments:  Recommende  Element Group Element Name Location: Material: Element Type: Environment: Protection Syst Condition Data: Comments:	m²/m  ed Worl  p:  tem:  m²/m/	k: Rehal 1-5 ye  Benign / Moderate  Units  each / % / all	b Replace ears 6-10 year  e/ Severe  Exc.	Length: Width: Height: Count: Total Quar	Maint □ Urgen  ntity: spection Fair	enance.tt	Poor*	year Perform.
Condition Data: Comments:  Recommende  Element Group Element Name Location: Material: Element Type: Environment: Protection Syst Condition Data:	m²/m  ed Worl  p:  tem:  m²/m/	k: Rehal 1-5 ye  Benign / Moderate  Units 4 each / % / all	b Replace ears 6-10 year  e/ Severe  Exc.	Length: Width: Height: Count: Total Quar	Maint □ Urgen  ntity: spection Fair	enance.tt	ee Needs: 2	year Perform.
Condition Data: Comments:  Recommende  Element Group Element Name Location: Material: Element Type: Environment: Protection Syst Condition Data: Comments:	m²/m  ed Worl  p:  tem:  m²/m/	k: Rehal 1-5 ye  Benign / Moderate  Units  each / % / all	b Replace ears 6-10 year  e/ Severe  Exc.	Length: Width: Height: Count: Total Quar Limited In	Maint □ Urgen  ntity: spection Fair	enance	Poor*	year  Perform. Deficiencies
Condition Data: Comments:  Recommende  Element Group Element Name Location: Material: Element Type: Environment: Protection Syst Condition Data: Comments:	m²/m  ed Worl  p:  tem:  m²/m/	k:	b Replace ears 6-10 year  e/ Severe  Exc.	Length: Width: Height: Count: Total Quar Limited In	Maint  □ Urgen  ntity: spection  Fair	enance	Poor*	year Perform.

<sup>\*</sup> A quantity must be estimated using the appropriate unit (e.g. m²). Percent should not be used.

Inventory Data:				
Structure Name				
Main Hwy/Road#		On 🗆 Under 🖺	Crossing ☐ Navig. Water Type: ☑ Roa	•
Hwy/Road Name	Mayfield	Rđ		
Structure Location	North en	trance Mayfi	leld Rd	
Latitude GPS Coord	E:604211		Longitude N:4855022	
Owner(s)	Region of	Peel	Heritage ☐ Not Cons. ☐ ( Designation: ☐ Desig	Cons./not App. ☐ List/not Desig. /not List ☐ Desig. & List
MTO Region	Central		Road Class: Freeway 🗆 A	arterial □ Collector □ Local □
MTO District	_		Posted Speed	No. of Lanes
Old County			AADT	% Trucks
Geographic Twp.	Brampton		Inspection Route Sequence	
Structure Type	Culvert		Interchange Number	
Total Deck Length		(m)	Interchange Structure Number	
Overall Str. Width	12.0	(m)	Min. Vertical Clearance	0.2 (m)
Total Deck Area		(sq.m)	Special Routes:	☐ Truck ☐ School ☐ Bicycle
Roadway Width	_	(m)	Detour Length Around Bridge	(km)
Skew Angle	_	(Degrees)	Direction of Structure	W to E
No. of Spans			Fill on Structure	0.4 (m)
Span Lengths	0.46			(m)
Historical Data:				
Year Built			Year of Last Major Rehab.	
Last OSIM Inspection	on 07	/25/2005	Last Evaluation	Control Contro
Last Enhanced OSIM			Current Load Limit	/ / (tonnes)
Enhanced Access Eq (ladder, boat, lift, etc			Load Limit By-Law #	
Last Underwater Insp	pection		By-Law Expiry Date	
Last Condition Surve	еу 🗔			
Rehab History: (Date	e/description)			

Scheduled Improvemen	ts:		
Regional Priority Number		Programmed Work Year	
Nature of Program Work:			

Appraisal Indices:		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

MTO Site Number: 1926

-	1	0	2	-
		~	_	n

Field Inspection Infor	mation:					
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM		
Inspector:	Eric Cheng					
Others in Party:	Alan Chung, Dan Urian					
Access Equipment Used:	Hand Tools, Digi	ital Camera, M	leasurin	g Tape		
Weather:	Clear, some flurr	ries				
Temperature:	-3°					

Additional Investigations Required:	Priority			
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			
Non-destructive Delamination Survey of Asphalt-Covered Deck:	X			
Concrete Substructure Condition Survey:	Х			
Detailed Coating Condition Survey:	X			
Detailed Timber Investigation	X			
Post-Tensioned Strand Investigation	Х			
Underwater Investigation:	X			
Fatigue Investigation:	Х		VIII.	
Seismic Investigation:	X			
Structure Evaluation:	X			
Monitoring				
Monitoring of Deformations, Settlements and Movements:	Х			
Monitoring Crack Widths:	X			
Investigation Notes:		······································	***************************************	
Effective Cross-Section:428	5			

Overall Structure Notes:	
Recommended Work on Structure:	⊠ None □ Minor Rehab. □ Major Rehab. □ Replace
Timing of Recommended Work:	☑ 1 to 5 years ☐ 6 to 10 years
Overall Comments:	The structure is in good condition.
Date of Next Inspection:	

### Suspected Performance Deficiencies

- Load carrying capacity 01 Excessive deformations (deflections & rotations) 02 Continuing settlement 03 Continuing movements 04 05 Seized bearings
- Maintenance Needs
- Lift and Swing Bridge Maintenance Bridge Cleaning 02
- Bridge Handrail Maintenance 03 04 Painting Steel Bridge Structures
- 05 Bridge Deck Joint Repair Bridge Bearing Maintenance 06

- Bearing not uniformly loaded/unstable 06 07 Jammed expansion joint
- 08 Pedestrian/vehicular hazard 09 Rough riding surface
- 10 Surface ponding Deck drainage
- 07 Repair to Structural Steel
- 08 Repair of Bridge Concrete 09 Repair of Bridge Timber 10 Bailey bridges - Maintenance
- Animal/Pest Control 11 12 Bridge Surface Repair
- Erosion Control at Bridges 13

Slippery surfaces

Flooding/channel blockage

Undermining of foundation

Unstable embankments

- Concrete Sealing 14 15 Rout and Seal
- 16 Bridge Deck Drainage

Other

- 17 Scaling (Loose Concrete or ACR Steel)
- 18

12

13

14

15

16

Element Group:	Culvert		Length:		12.0m	
Element Name:			Width:		0.46m	
Location:	Entrance M	ayfield Ro				
Material:	Corrugated		Count:		1	
Element Type:	Round		Total Qu	antity:	12.0m	
Environment:	Benign / Modera	ate / Severe		Inspection		
Protection System				mspection		Perform.
Condition	Units	Exc.	Good	Fair	Poor*	Deficiencies
	/m/each/%/all	1	X	1. an	1 001	
Comments:	Vork: ⊠ Reh	ab □ Replace		Mainte	enance Needs:	
	⊠ 1-5 y		ars	□Urgen		2 year
Element Group: Element Name: Location: Material:			Length: Width: Height: Count:			,
Element Type:			Total Qua	ntitu		
Environment:	Benign / Moderat	to / Savara		nspection		
Protection System:		ie / Severe	Limited I	nspection	Ц	Perform.
Condition Condition	Units	177		T3.	T 75 -1.	Deficiencies
I	m/each/%/all	Exc.	Good	Fair	Poor*	Deficiencies
Comments:						
Recommended W	/ork: □ Reha	b □ Replace	The same of the same and the same of the s	Mainte	nance Needs:	
		*	rs		nance Needs:	2 vear
Recommended W	/ork: □ Reha □ 1-5 ya	*		Mainte		2 year
Recommended W		*	Length:			2 year
Recommended W  Element Group: Element Name:		*	Length:			2 year
Recommended W  Element Group: Element Name: Location:		*	Length: Width: Height:			2 year
Recommended W  Element Group: Element Name: Location: Material:		*	Length: Width: Height: Count:	Urgent		2 year
Recommended W  Element Group: Element Name: Location: Material: Element Type:	□ 1-5 ye	ears	Length: Width: Height: Count: Total Qua	Urgent	□ 1 year □	2 year
Element Group: Element Name: Location: Material: Element Type: Environment:		ears	Length: Width: Height: Count:	Urgent	□ 1 year □	
Recommended W  Element Group: Element Name: Location: Material: Element Type: Environment: Protection System:	Benign / Moderate	ears	Length: Width: Height: Count: Total Qual	Urgent	□ 1 year □	Perform.
Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition	Benign / Moderate Units	ears	Length: Width: Height: Count: Total Qua	Urgent	□ 1 year □	
Recommended W  Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/	Benign / Moderate	ears	Length: Width: Height: Count: Total Qual	Urgent	□ 1 year □	Perform.
Recommended W  Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/ Comments:	Benign / Moderate  Units m / each / % / all	ears	Length: Width: Height: Count: Total Qual	ntity:	□ 1 year □  Poor*	Perform.
Recommended W  Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/	Benign / Moderate  Units m / each / % / all	ears	Length: Width: Height: Count: Total Qua Limited In	ntity: spection Fair Mainten	Poor*	Perform. Deficiencies
Recommended W  Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/ Comments:	Benign / Moderate  Units m / each / % / all	ears	Length: Width: Height: Count: Total Qua Limited In	ntity:	□ 1 year □  Poor*	Perform.

<sup>\*</sup> A quantity must be estimated using the appropriate unit (e.g. m²). Percent should not be used.

Inventory Data:			
Structure Name			
Main Hwy/Road#		On □ Under E	Crossing ☐ Navig. Water ☐ Non-Navig. Water ☐ Rail Type: ☑ Road ☐ Ped. ☐ Other
Hwy/Road Name	Mayfield	Rd	
Structure Location	North ent	trance May	yfield Rd
Latitude GPS Coord	E:604202		Longitude N:4855007
Owner(s)	Region of	Peel	Heritage □ Not Cons. □ Cons./not App. □ List/not Desig.  Designation: □ Desig./not List □ Desig. & List
MTO Region	Central		Road Class: Freeway  Arterial Collector Local
MTO District	_		Posted Speed No. of Lanes
Old County [	_		AADT % Trucks
Geographic Twp.	Brampton		Inspection Route Sequence
Structure Type [	Culvert		Interchange Number
Total Deck Length		(m)	Interchange Structure Number
Overall Str. Width	8.0	(m)	Min. Vertical Clearance 0.25 (m)
Total Deck Area	1000	(sq.m)	Special Routes: ☐ Transit ☐ Truck ☐ School ☐ Bicycle
Roadway Width	_	(m)	Detour Length Around Bridge (km)
Skew Angle	-	(Degrees)	b) Direction of Structure W to E
No. of Spans	1		Fill on Structure 0.2 (m)
Span Lengths	0.38		(m)
		CONTROL CONTROL OF LINE OF STATE OF STA	
Historical Data:			
Year Built			Year of Last Major Rehab.
Last OSIM Inspection	07/	/25/2005	Last Evaluation
Last Enhanced OSIM I	nspection		Current Load Limit / / (tonnes)
Enhanced Access Equal (ladder, boat, lift, etc.)			Load Limit By-Law #
Last Underwater Inspe	ection		By-Law Expiry Date
Last Condition Survey	/		
Rehab History: (Date/	description)		

Scheduled Improvements:			
Regional Priority Number		Programmed Work Year	
Nature of Program Work:			
	•		

Appraisal Indices:		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

Page 2

1927

1927 **MTO Site Number:** 

Field Inspection Info	rmation:						
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM			
Inspector:	Eric Cheng	Eric Cheng					
Others in Party:	Alan Chung, Dan	Alan Chung, Dan Urian					
Access Equipment Used:	Hand Tools, Dig:	Hand Tools, Digital Camera, Measuring Tape					
Weather:	Clear, some flurries						
Temperature:	-3°						

Additional Investigations Required:	Priority			
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			
Non-destructive Delamination Survey of Asphalt-Covered Deck:	X			
Concrete Substructure Condition Survey:	X		***************************************	
Detailed Coating Condition Survey:	X			
Detailed Timber Investigation	X			
Post-Tensioned Strand Investigation	×			
Underwater Investigation:	X			
Fatigue Investigation:	X			
Seismic Investigation:	X			
Structure Evaluation:	X			
Monitoring			······································	
Monitoring of Deformations, Settlements and Movements:	X			
Monitoring Crack Widths:	X		***************************************	
Investigation Notes:				

Effective Cross-Section:70%

Overall Structure Notes:	
Recommended Work on Structure:	☑ None ☐ Minor Rehab. ☐ Major Rehab. ☐ Replace
Timing of Recommended Work:	☐ 1 to 5 years
Overall Comments:	The structure is in good condition.
Date of Next Inspection:	

#### Suspected Performance Deficiencies

- 01 Load carrying capacity 02 Excessive deformations (deflections & rotations) 03 Continuing settlement
- Continuing movements 04 05 Seized bearings
- 01
- 03
- 04 05
- Maintenance Needs Lift and Swing Bridge Maintenance Bridge Cleaning Bridge Handrail Maintenance 02
  - Painting Steel Bridge Structures Bridge Deck Joint Repair Bridge Bearing Maintenance

- 06 Bearing not uniformly loaded/unstable
- 07 Jammed expansion joint 08 Pedestrian/vehicular hazard Rough riding surface 09
- 10 Surface ponding 11 Deck drainage
- 07 Repair to Structural Steel
- Repair of Bridge Concrete 08 Repair of Bridge Timber 09 10 Bailey bridges - Maintenance
- Animal/Pest Control 11 12 Bridge Surface Repair

- 12 Slippery surfaces
- 13 Flooding/channel blockage 14 Undermining of foundation
- 15 Unstable embankments
- Other
- Erosion Control at Bridges 13
- 14 Concrete Sealing 15 Rout and Seal
- Bridge Deck Drainage 16 17 Scaling (Loose Concrete or ACR Steel)
- 18 Other

Element Gro	oup:	Culvert		Length:		8.	0 m		
Element Nai	me:			Width:	**		38m		
Location:		Entrance M	ayfield Ro	Height:					
Material:	<del></del>	Corrugated		Count:		1			
Element Typ	e:	Round		Total Qu	antity:	8.	Om		
Environmen	t:	Benign / Modera	te / Severe		Limited Inspection				
Protection S	ystem:							Perform.	
Condition		Units	Exc.	Good	Fai	r	Poor*		
Data:	$m^2/m$	1 / each / % / all		X			2 002		
Comments:	Comments:  The structure is in good condition.								
Recommend	led Wor	rk: ⊠ Reha	ab □ Replace	**************************************	Maint	tenan	ce Needs:		
	, , , , , ,	□ 1-5 y		ars	☐ Urgei			型 2 year	
Element Gro				Length:			······································		
Element Nam	ie:			Width:					
Location:				Height:					
Material:				Count:					
Element Type				Total Qua					
Environment		Benign / Moderat	e / Severe	Limited I	nspection				
Protection Sy	stem:				·1			Perform.	
Condition		Units	Exc.	Good	Fair	r	Poor*	Deficiencies	
4						1			
Data:	$m^2/m$	/ each / % / all							
Comments:			h □ Replace		Mainte	enanc	e Needs.		
		k: □ Reha	*	rc			e Needs:	12 year	
Comments:			*	rs	Mainto			2 year	
Comments:	ed Wor	k: □ Reha	*	rs Length:				] 2 year	
Comments:	ed Wor	k: □ Reha	*					] 2 year	
Comments:  Recommend  Element Grou	ed Wor	k: □ Reha	*	Length:				] 2 year	
Comments:  Recommend  Element Groutelement Name	ed Wor	k: □ Reha	*	Length: Width:				2 year	
Comments:  Recommend  Element Groutelement Name Location:	ed Wor	k: □ Reha □ 1-5 ye	ears □ 6-10 yea	Length: Width: Height:	□ Urgen			2 year	
Comments:  Recommend  Element Groutelement Name Location: Material: Element Type: Environment:	ed Wor	k: □ Reha	ears □ 6-10 yea	Length: Width: Height: Count:	□ Urgen	t 🗆		] 2 year	
Comments:  Recommend  Element Groute Element Name Location: Material: Element Type	ed Wor	k: □ Reha □ 1-5 ye	ears □ 6-10 yea	Length: Width: Height: Count: Total Qua	□ Urgen	t 🗆		] 2 year Perform.	
Element Grou Element Name Location: Material: Element Type Environment: Protection Sys Condition	p:	k: □ Reha □ 1-5 ye	ears □ 6-10 yea	Length: Width: Height: Count: Total Qua	□ Urgen				
Element Groute Element Name Location: Material: Element Type: Environment: Protection System Condition Data: Comments:	p: e: tem:	k:	e/ Severe  Exc.	Length: Width: Height: Count: Total Qua	ntity:		l year  Poor*	Perform.	
Element Grou Element Name Location: Material: Element Type: Environment: Protection Sys Condition Data:	p: e: tem:	k:	ears	Length: Width: Height: Count: Total Qua Limited In	ntity:		1 year	Perform.	
Element Grou Element Name Location: Material: Element Type: Environment: Protection Sys Condition Data: Comments:	p: e: tem:	k:	ears	Length: Width: Height: Count: Total Qua Limited In	ntity:	nance	l year  Poor*	Perform.	

<sup>\*</sup> A quantity must be estimated using the appropriate unit (e.g. m<sup>2</sup>). Percent should not be used.

Inventory Data:						
Structure Name						
Main Hwy/Road#		On 🗆 Unde	er 🖺 Crossing Type:	□ Navig. Water Road	☐ Non-Navig. □ Ped. □	Water □ Rail I Other
Hwy/Road Name	Mayfield	l Rd				
Structure Location	North er	itrance f	rom Mayfield	Rd		
Latitude GPS Coord	E:604182		Longitude	N:4854984		
Owner(s)	Region o	f Peel	Heritage Designation	□ Not Cons. □ C :: □ Desig./	• •	□ List/not Desig. sig. & List
MTO Region	Central		Road Class:	Freeway D A	rterial 🗆 Collecte	or 🗆 Local 🗆
MTO District			Posted Spee	d	No. of Lanes	
Old County	come		AADT		% Trucks	
Geographic Twp.	Brampton		Inspection F	toute Sequence		
Structure Type	Culvert		Interchange	Number		
Total Deck Length		(m)	Interchange	Structure Number		
Overall Str. Width		(m)	Min. Vertica	al Clearance		(m)
Total Deck Area		(sq.m)	) Special Rou	tes:   Transit	□ Truck □ Sch	ool 🗆 Bicycle
Roadway Width		(m)	Detour Leng	th Around Bridge		(km)
Skew Angle	_	(Degre	ees) Direction of	Structure	W to E	
No. of Spans	, p		Fill on Struc	ture		(m)
Span Lengths	The stru	cture was	removed.			(m)
Historical Data:						
Year Built			Year of Last	Major Rehab.		
Last OSIM Inspection	n 07	//25/2005	Last Evaluati	on		
Last Enhanced OSIM	Inspection		Current Load	Limit	/ /	(tonnes)
Enhanced Access Equal (ladder, boat, lift, etc.			Load Limit B	y-Law#		
Last Underwater Insp	ection		By-Law Expi	ry Date		
Last Condition Surve	у		]			
Rehab History: (Date	description)				<del></del>	

Scheduled Improvemen	its:		
Regional Priority Number		Programmed Work Year	
Nature of Program Work	:		

Appraisal Indices		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

2-51

MTO Site Number: 1928

Field Inspection Infor	mation:	A STEEL OF THE OWN CONTRACTOR COMMAND AND AND AND AND AND AND AND AND AND		en de Carlos de Marie Major de Carlos de Carlos de Carlos de Marie de Carlos
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM
Inspector:	Eric Cheng	Eric Cheng		
Others in Party:	Alan Chung, Dan	Alan Chung, Dan Urian		
Access Equipment Used:	Hand Tools, Digital Camera, Measuring Tape			
Weather:	Clear, some flurries			
Temperature:	-3°			

Additional Investigations Required:		Priority			
	None	Normal	Urgent		
Material Condition Survey					
Detailed Deck Condition Survey:	Х		****		
Non-destructive Delamination Survey of Asphalt-Covered Deck:	X				
Concrete Substructure Condition Survey:	X				
Detailed Coating Condition Survey:	X				
Detailed Timber Investigation	X				
Post-Tensioned Strand Investigation					
Underwater Investigation:	Х				
Fatigue Investigation:	X				
Seismic Investigation:	X				
Structure Evaluation:	Х				
Monitoring			****		
Monitoring of Deformations, Settlements and Movements:	X				
Monitoring Crack Widths:	Х				
Investigation Notes:		1L			
The structure was removed.					

Overall Structure Notes:	보면 등 경험을 받는 것 같습니다. 기계 기계 기
Recommended Work on Structure:	☐ None ☐ Minor Rehab. ☐ Major Rehab. ☐ Replace
Timing of Recommended Work:	☐ 1 to 5 years ☐ 6 to 10 years
Overall Comments:	The structure was removed (see photos).
Date of Next Inspection:	

Susp	pected Performance Deficiencies				
		06	Bearing not uniformly loaded/unstable		12 Slippery surfaces
01	Load carrying capacity	07	Jammed expansion joint		13 Flooding/channel blockage
02	Excessive deformations (deflections & rotations)	08	Pedestrian/vehicular hazard		14 Undermining of foundation
03	Continuing settlement	09	Rough riding surface		15 Unstable embankments
04	Continuing movements	10	Surface ponding		16 Other
05	Seized bearings	11	Deck drainage		
Mair	ntenance Needs				
01	Lift and Swing Bridge Maintenance	07	Repair to Structural Steel	13	Erosion Control at Bridges
02	Bridge Cleaning	08	Repair of Bridge Concrete	14	Concrete Sealing
03	Bridge Handrail Maintenance	09	Repair of Bridge Timber	15	Rout and Seal
04	Painting Steel Bridge Structures	10	Bailey bridges - Maintenance	16	Bridge Deck Drainage
05	Bridge Deck Joint Repair	11	Animal/Pest Control	17	Scaling (Loose Concrete or ACR Steel)
06	Bridge Bearing Maintenance	12	Bridge Surface Repair	18	Other

Region of Peel Structure # 1936

Inventory Data:					
Structure Name					
Main Hwy/Road#	0	n □ Under 🖺	Crossing ☐ Navig. Type:	Water □ Non-Navig. W ☑ Road □ Ped. □ O	
Hwy/Road Name	Mayfield R	å			
Structure Location	Cross Mayf:	Leld Rd			
Latitude GPS Coord	E:604187		Longitude N:485	4957	
Owner(s)	Region of F	eel		s. □ Cons./not App. □ l Desig./not List □ Desig.	
MTO Region	Central		Road Class: Freewa	ny □ Arterial □ Collector [	□ Local □
MTO District	_		Posted Speed	No. of Lanes	
Old County	400		AADT	% Trucks	
Geographic Twp.	Brampton		Inspection Route Sequence		
Structure Type [	Culvert		Interchange Number		
Total Deck Length [		(m)	Interchange Structure Num	iber	
Overall Str. Width	21.2	(m)	Min. Vertical Clearance	0.7	m)
Total Deck Area	_	(sq.m)	Special Routes:	ransit 🗆 Truck 🗆 School	l □Bicycle
Roadway Width	GEN	(m)	Detour Length Around Bri	dge (I	km)
Skew Angle	_	(Degrees)	Direction of Structure	W to E	
No. of Spans	1		Fill on Structure	0.9 (r	n)
Span Lengths	0.9			(r	n)
Historical Data:					
Year Built			Year of Last Major Rehab.		
Last OSIM Inspection	n 08/1	0/2005	Last Evaluation		
Last Enhanced OSIM	Inspection		Current Load Limit	(te	onnes)
Enhanced Access Equal (ladder, boat, lift, etc.			Load Limit By-Law #		
Last Underwater Insp	ection		By-Law Expiry Date		
Last Condition Survey					ľ
Rehab History: (Date/	description)				

**Scheduled Improvements:** 

Nature of Program Work:

Regional Priority Number

Programmed Work

MTO Site Number:

1936

Appraisal Indices		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

Year

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1936 MTO Site Number:

Field Inspection Info	ormation:		CANADA (18. 18. 18. 18. 18. 18. 18. 18. 18. 18.	and the second property of the second
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM
Inspector:	Eric Cheng	Eric Cheng		
Others in Party:	Alan Chung, Dan	Alan Chung, Dan Urian		
Access Equipment Used:	Hand Tools, Dig	Hand Tools, Digital Camera, Measuring Tape		
Weather:	Clear, some flurries			
Temperature:	-3°	-3°		

Additional Investigations Required:		Priority			
	None	Normal	Urgent		
Material Condition Survey					
Detailed Deck Condition Survey:	X				
Non-destructive Delamination Survey of Asphalt-Covered Deck:	x				
Concrete Substructure Condition Survey:	x				
Detailed Coating Condition Survey:	X				
Detailed Timber Investigation					
Post-Tensioned Strand Investigation					
Underwater Investigation:	x				
Fatigue Investigation:	X				
Seismic Investigation:	X				
Structure Evaluation:	X		***************************************		
Monitoring					
Monitoring of Deformations, Settlements and Movements:					
Monitoring Crack Widths:	X				
Investigation Notes:					

Effective Cross-Section: 83%

Overall Structure Notes:	
Recommended Work on Structure:	☑ None ☐ Minor Rehab. ☐ Major Rehab. ☐ Replace
Timing of Recommended Work:	☐ 1 to 5 years
Overall Comments:	The structure is in excellent condition.
Date of Next Inspection:	

#### **Suspected Performance Deficiencies**

- 01 Load carrying capacity Excessive deformations (deflections & rotations) 02 Continuing settlement 03
- 04 Continuing movements Seized bearings 05
- Maintenance Needs
- 01 Lift and Swing Bridge Maintenance
- Bridge Cleaning 02
- Bridge Handrail Maintenance 03
- Painting Steel Bridge Structures 04 05 Bridge Deck Joint Repair
- Bridge Bearing Maintenance

- 06 Bearing not uniformly loaded/unstable
- 07 Jammed expansion joint 08 Pedestrian/vehicular hazard Rough riding surface 09
- 10 Surface ponding 11
- Deck drainage
- 07 Repair to Structural Steel 08 Repair of Bridge Concrete
- Repair of Bridge Timber 09 10 Bailey bridges - Maintenance
- Animal/Pest Control 11 12

- 12 Slippery surfaces
- Flooding/channel blockage 13
- Undermining of foundation 14
- Unstable embankments 15
- 16 Other
- Erosion Control at Bridges 13 14 Concrete Sealing
- 15 Rout and Seal
- Bridge Deck Drainage 16
- 17 Scaling (Loose Concrete or ACR Steel)
- Bridge Surface Repair 18

Element Nan				Length:		21		
	ie:			Width:		0.	9 m	
Location:		Entrance Ma	ayfield Ro	Height:				
Material:		Poly		Count:		1		
Element Type		Round		Total Qu	Quantity: 21.2m			
Environment	:	Benign / Modera	Limited )	nspection				
Protection Sy	stem:							Perform.
Condition		Units	Exc.	Good	Fair	r	Poor*	Deficiencies
Data:	m <sup>2</sup> /m	/each/%/all	x		<del> </del>			
Comments:  The structure is in excellent condition.								
Recommend	ed Wor	k: 🗵 Reha	ib 🗆 Replace		Maint	enan	ce Needs:	
	Person to a deliciti a constituta del se del constituta del se del se deliciti del se del se deliciti del se d	□ 1-5 y	ears 🗵 6-10 ye	ars	☐ Urgen	nt [	]lyear ⊠2	2 year
Element Grou	p: 1			Length:				
Element Nam				Width:				
Location:				Height:				
Material:				Count:		**********		
Element Type	:			Total Qua	ntity:		***************************************	
Environment:		Benign / Moderate	e / Severe	Limited In				
Protection Sys	tem:						***************************************	Perform.
Condition		Units	Exc.	Good	Fair	.	Poor*	Deficiencies
Data:	$m^2/m$	/ each / % / all						
Recommended Work: Replace Maintenance Needs:								
Recommende	d Worl	k: □ Rehal	D □ Replace		Mainte	nanc	e Needs:	
Recommende	d Worl	k: □ Rehal	•	rs	Mainte			year
Recommende	d Worl		•	rs				year
Element Group	9:		•	Length:				year
	9:		•					year
Element Group Element Name Location:	9:		•	Length: Width: Height:				year
Element Group Element Name Location: Material:	9:		•	Length: Width: Height: Count:	□ Urgent			year
Element Group Element Name Location: Material: Element Type:	05	□ 1-5 ye	ears	Length: Width: Height: Count: Total Qua	Urgent	t O		year
Element Group Element Name Location: Material: Element Type: Environment:	<b>9</b> ;		ears	Length: Width: Height: Count:	Urgent	t O		
Element Group Element Name Location: Material: Element Type: Environment: Protection Syst	<b>9</b> ;	□ 1-5 ye	ears	Length: Width: Height: Count: Total Qua	Urgent	t O	1 year □ 2	Perform.
Element Group Element Name Location: Material: Element Type: Environment: Protection Syst Condition	p:	□ 1-5 ye  Benign / Moderate  Units	ears	Length: Width: Height: Count: Total Qua	Urgent	t O		
Element Group Element Name Location: Material: Element Type: Environment: Protection Syst Condition	p:	□ 1-5 ye	ears	Length: Width: Height: Count: Total Qua	Urgent	t O	1 year □ 2	Perform.
Element Group Element Name Location: Material: Element Type: Environment: Protection Syst Condition Data: Comments:	D;	Benign / Moderate Units each / % / all	ears	Length: Width: Height: Count: Total Qua	ntity: spection		1 year	Perform.
Element Group Element Name Location: Material: Element Type: Environment: Protection Syst Condition Data:	D;	Benign / Moderate Units each / % / all	ears	Length: Width: Height: Count: Total Qua Limited In	ntity: spection		1 year □ 2	Perform.
Element Group Element Name Location: Material: Element Type: Environment: Protection Syst Condition Data: Comments:	D;	Benign / Moderate Units each / % / all	ears	Length: Width: Height: Count: Total Qua Limited In	ntity: spection	nanc	1 year	Perform.
Element Group Element Name Location: Material: Element Type: Environment: Protection Syst Condition Data: Comments:	D;	Benign / Moderate Units each / % / all	ears	Length: Width: Height: Count: Total Qua Limited In	ntity:   spection   Fair	nanc	1 year	Perform. Deficiencies

<sup>\*</sup> A quantity must be estimated using the appropriate unit (e.g. m<sup>2</sup>). Percent should not be used.

Inventory Data:				1 27 25 25 25 25 25 25 25 25 25 25 25 25 25			
Structure Name							
Main Hwy/Road#		On 🗆	Under 🖰	Crossing Type:	□ Navig. Water ☑ Road	☐ Non-Navig. d ☐ Ped. ☐	Water □ Rail □ Other
Hwy/Road Name	Mayfi	eld Rd					
Structure Location	Cross	Mayfie	ld Rd				
Latitude GPS Coord	E:6042	278		Longitude	N:4855077		
Owner(s)	Region	of Pee	1	Heritage Designation:	□ Not Cons. □ C □ Desig.		☐ List/not Desig. sig. & List
MTO Region	Centra	a I		Road Class:	Freeway D A	rterial 🗆 Collect	or □ Local □
MTO District	_			Posted Speed		No. of Lanes	
Old County	com			AADT [		% Trucks	
Geographic Twp.	Brampt			Inspection Rou	ite Sequence		
Structure Type	Culve	rt		Interchange Nu	ımber		
Total Deck Length			(m)	Interchange Str	nucture Number		]
Overall Str. Width	18.4		(m)	Min. Vertical C	Clearance	0.5	] (m)
Total Deck Area			(sq.m)	Special Routes:	: 🗆 Transit	☐ Truck ☐ Sch	100l 🗆 Bicycle
Roadway Width	-		(m)	Detour Length	Around Bridge		] (km)
Skew Angle	_		(Degrees)	Direction of Str	ructure	N to S	]
No. of Spans	1 .			Fill on Structur	e	0.4	(m)
Span Lengths	1.3				WIL ROSE AND A STREET AND A STR		(m)
Historical Data:							
Year Built				Year of Last Ma	aior Rehab.		
Last OSIM Inspection	n	08/10/	2005	Last Evaluation	-		
Last Enhanced OSIM				Current Load Li	imit	/ /	(tonnes)
Enhanced Access Equ (ladder, boat, lift, etc.				Load Limit By-	Law#		
Last Underwater Insp	ection		}	By-Law Expiry	Date		
Last Condition Survey	у [						
Rehab History: (Date/	description)						

Scheduled Improvements:		
Regional Priority Number	Programmed Work Year	
Vature of Program Work:		

Appraisal Indices:		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

1937

1937 **MTO Site Number:** 

Field Inspection Infor	mation:		der die der Articular der State der George d		
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM	
Inspector:	Eric Cheng				
Others in Party:	Alan Chung, Dan	Urian			
Access Equipment Used:	Hand Tools, Digital Camera, Measuring Tape				
Weather:	Clear, some flurr	ries			
Temperature:	-3°				

Additional Investigations Required:	Priority			
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			
Non-destructive Delamination Survey of Asphalt-Covered Deck:	x			
Concrete Substructure Condition Survey:	x			
Detailed Coating Condition Survey:	X			
Detailed Timber Investigation	X			
Post-Tensioned Strand Investigation	x			
Underwater Investigation:	x			
Fatigue Investigation:	Х			
Seismic Investigation:	X			
Structure Evaluation:	X			
Monitoring			···	
Monitoring of Deformations, Settlements and Movements:	X			
Monitoring Crack Widths:	X			
Investigation Notes:		<u> </u>		

Effective Cross-Section:35%

Overall Structure Notes:				
Recommended Work on Structure:	□ None	☑ Minor Rehab.	□ Major Rehab.	□ Replace
Timing of Recommended Work:	☑ 1 to 5 ye	ars □ 6 to 10 ye	ars	
	are cor		outh end is b	ion.Both ends croken. There
Date of Next Inspection:				

#### **Suspected Performance Deficiencies**

- 01 Load carrying capacity 02 Excessive deformations (deflections & rotations) Continuing settlement 03
- 04 Continuing movements Seized bearings 05
- Maintenance Needs
- 01 Lift and Swing Bridge Maintenance Bridge Cleaning 02
- Bridge Handrail Maintenance 03 04 Painting Steel Bridge Structures
- Bridge Deck Joint Repair 05 Bridge Bearing Maintenance

- 06 Bearing not uniformly loaded/unstable
- 07 Jammed expansion joint 08 Pedestrian/vehicular hazard Rough riding surface 09
- 10 Surface ponding 11 Deck drainage
- 07 Repair to Structural Steel 08 Repair of Bridge Concrete
- 09 Repair of Bridge Timber 10
- Bailey bridges Maintenance 11 Animal/Pest Control
- Slippery surfaces 12 Flooding/channel blockage
- 13 14 Undermining of foundation
- 15 Unstable embankments
- 16 Other
- Erosion Control at Bridges 13
- Concrete Sealing 14 15 Rout and Seal
- Bridge Deck Drainage 16 17 Scaling (Loose Concrete or ACR Steel)
- 18

Element Gr								
		Culvert Len						
Element Na	me:			Width:		1.	3 m	
Location:		Entrance M		Height:				
Material:		Corrugated	Steel	Count:		1		
Element Ty		Round		Total Qua	antity:	18	.4m	
Environmen		Benign / Modera	te / Severe	Limited I	nspection	n 🗆		
Protection S	ystem:							Perform.
Condition		Units	Exc.	Good	Fa	ir	Poor*	Deficiencies
Data:	$m^2/m$	n/each/%/all			X			
Comments	Comments: The structure is in fair con					***************************************	<del></del>	
	'I'he	structure	is in fai	r condi	tion.			
	The	replacemen	t is suga	ested fo	or bo	th e	nds	
					O± 20	O11 C		
Recommen	ded Wor	rk: □ Reha	ab 🛭 Replace		Main	tenan	ce Needs:	
		⊠ 1-5 y	ears □ 6-10 ye	ars	☐ Urge	nt 🗆	lyear ⊠	2 year
								And the same of th
	i de de de de de de			1 7 41				
Element Gro				Length: Width:				
Location:	1e:							
Material:				Height:				
<u></u>				Count:				
Element Typ Environment		Panian / Madayat	o / Corrora	Total Qua				
		Benign / Moderat	e / Severe	Limited In	ispection	<u> </u>		T B 0
Protection Sy	stem:	** •.						Perform.
Condition		Units	Exc.	Good	Fair	r	Poor*	Deficiencies
Data:								
	m / m	/ each / % / all						
Comments:	M / M	/ each / % / all ]	<u> </u>					
Comments:					No. AT The second secon			
		<b>k:</b> □ Rehal	•				e Needs:	
Comments:		<b>k:</b> □ Rehal	b □ Replace ears □ 6-10 yea	rs	Maint			2 year
Comments:		<b>k:</b> □ Rehal	•	rs				2 year
Comments:		<b>k:</b> □ Rehal	•	rs				2 year
Comments:	ed Wor	<b>k:</b> □ Rehal	•					2 year
Comments:  Recommend	ed Wor	<b>k:</b> □ Rehal	•	Length:				2 year
Comments:  Recommend  Element Grou	ed Wor	<b>k:</b> □ Rehal	•	Length: Width:				2 year
Recommend  Element Group Element Nam Location:	ed Wor	<b>k:</b> □ Rehal	•	Length: Width: Height:				2 year
Recommend  Element Grow Element Nam Location: Material:	ed Wor	<b>k:</b> □ Rehal	•	Length: Width: Height: Count:	Urgen			2 year
Element Grot Element Nam Location: Material: Element Type	ed Wor	k: □ Rehal □ 1-5 ye	ears □ 6-10 yea	Length: Width: Height: Count: Total Quar	□ Urgen	ıt 🖸		2 year
Element Grot Element Nam Location: Material: Element Type Environment:	ed Work	<b>k:</b> □ Rehal	ears □ 6-10 yea	Length: Width: Height: Count:	□ Urgen	ıt 🖸		
Element Grou Element Nam Location: Material: Element Type Environment: Protection Sys	ed Work	k: □ Rehal □ 1-5 ye Benign / Moderate	ears	Length: Width: Height: Count: Total Quar Limited In	□ Urgen		1 year	Perform.
Element Grou Element Nam Location: Material: Element Type Environment: Protection Sys	ed Wor	k: □ Rehal □ 1-5 ye Benign / Moderate Units	ears □ 6-10 yea	Length: Width: Height: Count: Total Quar	□ Urgen			
Element Groutelement Nam Location: Material: Element Type Environment: Protection System Condition Data:	ed Wor	k: □ Rehal □ 1-5 ye Benign / Moderate	ears	Length: Width: Height: Count: Total Quar Limited In	□ Urgen		1 year	Perform.
Element Grou Element Nam Location: Material: Element Type Environment: Protection Sys	ed Wor	k: □ Rehal □ 1-5 ye Benign / Moderate Units	ears	Length: Width: Height: Count: Total Quar Limited In	□ Urgen		1 year	Perform.
Element Grou Element Nam Location: Material: Element Type Environment: Protection Sys Condition Data: Comments:	ed Work  p: e:  tem:  m²/m/	k:	ears	Length: Width: Height: Count: Total Quar Limited In	utity: spection Fair		l year  Poor*	Perform.
Element Groutelement Nam Location: Material: Element Type Environment: Protection System Condition Data:	ed Work  p: e:  tem:  m²/m/	k:	ears	Length: Width: Height: Count: Total Quar Limited In	utity: spection Fair	enance	Poor*	Perform. Deficiencies
Element Grou Element Nam Location: Material: Element Type Environment: Protection Sys Condition Data: Comments:	ed Work  p: e:  tem:  m²/m/	k:	ears	Length: Width: Height: Count: Total Quar Limited In	utity: spection Fair	enance	Poor*	Perform.

<sup>\*</sup> A quantity must be estimated using the appropriate unit (e.g. m<sup>2</sup>). Percent should not be used.

Inventory Data:			The state of the s				
Structure Name							
Main Hwy/Road#		On 🗆	Under 🕾	Crossing Type:	□ Navig. Water ⊠ Roa	-	Water □ Rail □ Other
Hwy/Road Name	Mayfie	ld Rd					
Structure Location	Cross 1	Mayfiel	d Rd				J
Latitude GPS Coord	E:6046	60		Longitude	N:4855561	-	
Owner(s)	Region	of Pee	1	Heritage Designation:			☐ List/not Desig. sig. & List
MTO Region	Centra	_		Road Class:	Freeway 🗆 A	Arterial 🗆 Collect	or □ Local □
MTO District				Posted Speed		No. of Lanes	
Old County [				AADT [		% Trucks	
Geographic Twp.	Brampto	on		Inspection Rou	ite Sequence		
Structure Type [	Culver	L		Interchange Nu	ımber		
Total Deck Length			(m)	Interchange Str	ructure Number		]
Overall Str. Width	19.8		(m)	Min. Vertical (	Clearance	0.45	] (m)
Total Deck Area	-		(sq.m)	Special Routes	: 🗆 Transit	☐ Truck ☐ Sch	ool 🗆 Bicycle
Roadway Width	_		(m)	Detour Length	Around Bridge		(km)
Skew Angle	-		(Degrees)	Direction of Str	ructure	N to S	
No. of Spans	1 .			Fill on Structur	re	1.4	(m)
Span Lengths	1.2						(m)
Historical Data:	zonoù muzikafev						
Year Built	<u>_</u>	50/50/6		Year of Last Ma	-		
Last OSIM Inspection		08/10/2	2005]	Last Evaluation			
Last Enhanced OSIM I	_			Current Load Li	ımıt		(tonnes)
Enhanced Access Equal (ladder, boat, lift, etc.)				Load Limit By-	Law#		
Last Underwater Inspe	ection			By-Law Expiry	Date		
Last Condition Survey	<i>i</i>						
Rehab History: (Date/	description)						

MTO Site Number: 1938

Scheduled Improvements:		
Regional Priority Number	Programmed Work Year	
Nature of Program Work:		

Appraisal Indices:		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

2-51

MTO Site Number: 1938

Field Inspection Infor	mation:	And the second section of the section of t			
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM	
Inspector:	Eric Cheng				
Others in Party:	Alan Chung, Dan	Urian			
Access Equipment Used:	Hand Tools, Digital Camera, Measuring Tape				
Weather:	Clear, some flurries				
Temperature:	-3°				

Additional Investigations Required:		Priority	
	None	Normal	Urgent
Material Condition Survey			
Detailed Deck Condition Survey:	X		
Non-destructive Delamination Survey of Asphalt-Covered Deck:	X		
Concrete Substructure Condition Survey:	X		***************************************
Detailed Coating Condition Survey:	X		
Detailed Timber Investigation	x		***************************************
Post-Tensioned Strand Investigation	X		
Underwater Investigation:	X		
Fatigue Investigation:	X		
Seismic Investigation:	X		
Structure Evaluation:	X		
Monitoring			
Monitoring of Deformations, Settlements and Movements:	X		
Monitoring Crack Widths:	X		*
Investigation Notes:		<u> </u>	
Effective Cross-Section:34	L %		

Overall Structure Notes:					
Recommended Work on Structure:	⊠ None	☐ Minor Rehab.	□ Major Rehab.	□ Replace	
Timing of Recommended Work:	⊠ 1 to 5 ye	ears 🗆 6 to 10 ye	ars		
Overall Comments:			in good condi	ition. South o be replaced	
Date of Next Inspection:					

Susp	ected Performance Deficiencies				
-		06	Bearing not uniformly loaded/unstable		12 Slippery surfaces
01	Load carrying capacity	07	Jammed expansion joint		13 Flooding/channel blockage
02	Excessive deformations (deflections & rotations)	08	Pedestrian/vehicular hazard		14 Undermining of foundation
03	Continuing settlement	09	Rough riding surface		15 Unstable embankments
04	Continuing movements	10	Surface ponding		16 Other
05	Seized bearings	11	Deck drainage		
Mair	ntenance Needs				
01	Lift and Swing Bridge Maintenance	07	Repair to Structural Steel	13	Erosion Control at Bridges
02	Bridge Cleaning	08	Repair of Bridge Concrete	14	Concrete Sealing
03	Bridge Handrail Maintenance	09	Repair of Bridge Timber	15	Rout and Seal
04	Painting Steel Bridge Structures	10	Bailey bridges - Maintenance	16	Bridge Deck Drainage
05	Bridge Deck Joint Repair	11	Animal/Pest Control	17	Scaling (Loose Concrete or ACR Steel)
06	Bridge Bearing Maintenance	12	Bridge Surface Repair	18	Other

11

Til	California e e e e e e e e e e e e e e e e e e e	1 Ch. 1		~ T			0	
Element Gro		Culvert		Length:			8m	
Element Nan	ne:	77		Width:		10.	46m	
Location:		Entrance M						
Material:		Corrugated	<u>Steel</u>	Count:		1	_	
Element Typ		Round		Total Qu		7.	8m	
Environment		Benign / Modera	ite / Severe	Limited 1	nspection	1 🗆		
Protection Sy	stem:				Perforr			Perform.
Condition		Units	Exc.	Good	Fai	ir	Poor*	Deficiencies
Data:	$m^2/m$	1 / each / % / all		x	<del> </del>			
Comments:							<u> </u>	
	The	structure :	is in good	d condit	cion.	Sou	th end	is rusted
and the needs to be replaced.								
	and	ciic iiccab	co be rep	racca.				
Recommend	ed Wor	rk: 🗵 Reh	ab □ Replace		Maint	tenan	ce Needs:	
		⊠ 1-5 v	years □ 6-10 ye	ars	☐ Urger			2 year
***************************************	***************************************			and the second section of the second section of the second	1 3.85		3 2 3 0 0 2	2 7 001
Element Grou				Length:				
Element Nam	e:			Width:		_		
Location:				Height:				
Material:				Count:				
Element Type	:			Total Qua	ntity:			
Environment:		Benign / Moderat	te / Severe	Limited In	spection			
Protection Sys	tem:						······································	Perform.
Condition	L	Units	Exc.	Good	Fair	r I	Poor*	Deficiencies
. L	$m^2/m$		Exc.	3004	1 44,1		1 001	
	XXX / XXX	Data: m <sup>2</sup> /m/each/%/all						
III / III / CHEIT / / / / III								
Comments:			1		L			
Comments:			JL		L			
Comments:			J					
Comments:	ed Wor		b		Mainto	enanc	e Needs:	
	ed Wor		1	urs		~~~~~~		2 vear
	ed Wor	k: □ Reha		urs	<b>Maint</b> o	~~~~~~		2 year
	ed Wor	k: □ Reha		ırs		~~~~~~		2 year
Recommende		k: □ Reha				~~~~~~		2 year
Recommende	o:	k: □ Reha	ears 🗆 6-10 yea	rs Length:		~~~~~~		2 year
Recommende	o:	k: □ Reha				~~~~~~		2 year
Recommende	o:	k: □ Reha	ears 🗆 6-10 yea	Length:		~~~~~~		2 year
Recommende	o:	k: □ Reha	ears 🗆 6-10 yea	Length:		~~~~~~		2 year
Recommender  Element Group  Element Name  Location:	<b>D</b> :	k: □ Reha	ears 🗆 6-10 yea	Length: Width: Height: Count:	Urgen	~~~~~~		2 year
Recommender  Element Group  Element Name  Location:  Material:	<b>)</b>	k: □ Reha	ears	Length: Width: Height: Count: Total Quan	Urgen	t 🗆		2 year
Element Group Element Name Location: Material: Element Type: Environment:	<b>D</b> :	k: □ Reha □ 1-5 ye	ears	Length: Width: Height: Count:	Urgen	t 🗆		
Element Group Element Name Location: Material: Element Type: Environment: Protection Syst	<b>D</b> :	k: □ Reha □ 1-5 yo Benign / Moderate	ears	Length: Width: Height: Count: Total Quan	Urgen		l year □2	Perform.
Element Group Element Name Location: Material: Element Type: Environment: Protection Syst	p:	k: □ Reha □ 1-5 yo  Benign / Moderate  Units	ears	Length: Width: Height: Count: Total Quan	Urgen			
Element Group Element Name Location: Material: Element Type: Environment: Protection Syst Condition Data:	p:	k: □ Reha □ 1-5 yo Benign / Moderate	ears	Length: Width: Height: Count: Total Quan	Urgen		l year □2	Perform.
Element Group Element Name Location: Material: Element Type: Environment: Protection Syst	p:	k: □ Reha □ 1-5 yo  Benign / Moderate  Units	ears	Length: Width: Height: Count: Total Quan	Urgen		l year □2	Perform.
Element Group Element Name Location: Material: Element Type: Environment: Protection Syst Condition Data:	p:	k: □ Reha □ 1-5 yo  Benign / Moderate  Units	ears	Length: Width: Height: Count: Total Quan	Urgen		l year □2	Perform.
Element Group Element Name Location: Material: Element Type: Environment: Protection Syst Condition Data:	p:	k: □ Reha □ 1-5 yo  Benign / Moderate  Units	ears	Length: Width: Height: Count: Total Quan	Urgen		l year □2	Perform.
Element Group Element Name Location: Material: Element Type: Environment: Protection Syst Condition Data: Comments:	p; : em: m <sup>2</sup> / m /	k:	e/ Severe  Exc.	Length: Width: Height: Count: Total Quan	urgen		l year	Perform.
Element Group Element Name Location: Material: Element Type: Environment: Protection Syst Condition Data:	p; : em: m <sup>2</sup> / m /	k:	ears	Length: Width: Height: Count: Total Quar Limited In	Urgen	nance	l year □2 Poor*	Perform. Deficiencies
Element Group Element Name Location: Material: Element Type: Environment: Protection Syst Condition Data: Comments:	p; : em: m <sup>2</sup> / m /	k:	ears	Length: Width: Height: Count: Total Quar Limited In	urgen	nance	l year □2 Poor*	Perform.
Element Group Element Name Location: Material: Element Type: Environment: Protection Syst Condition Data: Comments:	p; : em: m <sup>2</sup> / m /	k:	ears	Length: Width: Height: Count: Total Quar Limited In	Urgen	nance	l year □2 Poor*	Perform. Deficiencies

<sup>\*</sup> A quantity must be estimated using the appropriate unit (e.g. m²). Percent should not be used.

Inventory Data:				
Structure Name				
Main Hwy/Road#		On 🗆 Under 🖺	Crossing ☐ Navig. Water Type: ☑ Roa	9
Hwy/Road Name	Mayfield	Rd		
Structure Location	North en	trance from	Mayfield Rd	
Latitude GPS Coord	E:604652		Longitude N:4855569	
Owner(s)	Region of	Peel		Cons./not App. ☐ List/not Desig. /not List ☐ Desig. & List
MTO Region	Central		Road Class: Freeway 🗆 A	rterial □ Collector □ Local □
MTO District			Posted Speed	No. of Lanes
Old County			AADT	% Trucks
Geographic Twp.	Brampton		Inspection Route Sequence	
Structure Type [	Culvert		Interchange Number	
Total Deck Length [		(m)	Interchange Structure Number	
Overall Str. Width		(m)	Min. Vertical Clearance	(m)
Total Deck Area		(sq.m)	Special Routes:	☐ Truck ☐ School ☐ Bicycle
Roadway Width		(m)	Detour Length Around Bridge	(km)
Skew Angle		(Degrees)	Direction of Structure	
No. of Spans	,		Fill on Structure	(m)
Span Lengths	The struc	ture could	not be located.	(m)
Zacazana maneri (ne esta)	_v:125_			
Historical Data:				
Year Built			Year of Last Major Rehab.	
Last OSIM Inspection		/10/2005	Last Evaluation	
Last Enhanced OSIM I	Inspection		Current Load Limit	/ / (tonnes)
Enhanced Access Equal (ladder, boat, lift, etc.			Load Limit By-Law #	
Last Underwater Insp	ection		By-Law Expiry Date	
Last Condition Survey				
Rehab History: (Date/	description)			

Scheduled Improvemen	its:		
Regional Priority Number		Programmed Work Year	
Nature of Program Work	• 5		

Appraisal Indices:		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

1939 MTO Site Number:

Field Inspection Info	rmation:			THE STATE OF THE S		
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM		
Inspector:	Eric Cheng					
Others in Party:	Alan Chung, Dan	Urian				
Access Equipment Used:	Hand Tools, Dig:	Hand Tools, Digital Camera, Measuring Tape				
Weather:	Clear, some flura	ries				
Temperature:	-3°					

Additional Investigations Required:		Priority	
	None	Normal	Urgent
Material Condition Survey			
Detailed Deck Condition Survey:	X		
Non-destructive Delamination Survey of Asphalt-Covered Deck:	x		
Concrete Substructure Condition Survey:	Х		***************************************
Detailed Coating Condition Survey:	Х		
Detailed Timber Investigation	X		
Post-Tensioned Strand Investigation	x		
Underwater Investigation:	X		
Fatigue Investigation:	X		***************************************
Seismic Investigation:	X		
Structure Evaluation:	X		
Monitoring	····		· · · · · · · · · · · · · · · · · · ·
Monitoring of Deformations, Settlements and Movements:	Х		
Monitoring Crack Widths:	X		······································
Investigation Notes:  The structure could not be	locate	d .	

Overall Structure Notes:				
Recommended Work on Structure:	□ None □	Minor Rehab.	□ Major Rehab.	☐ Replace
Timing of Recommended Work:	☐ 1 to 5 years	☐ 6 to 10 yea	ars	
Overall Comments:	The stru	cture could	d not be loca	ated.
Date of Next Inspection:				

#### Suspected Performance Deficiencies

- 01 Load carrying capacity 02 Excessive deformations (deflections & rotations)
- Continuing settlement 04 Continuing movements
- 05 Seized bearings

#### Maintenance Needs

- 02
- Bridge Cleaning Bridge Handrail Maintenance 03
- Painting Steel Bridge Structures 04
- 05 Bridge Deck Joint Repair
- Lift and Swing Bridge Maintenance 01
- 06 Bridge Bearing Maintenance

- 06 Bearing not uniformly loaded/unstable
- 07 08
- Rough riding surface 10 Surface ponding
- Jammed expansion joint Pedestrian/vehicular hazard
- Deck drainage 11
- 07 Repair to Structural Steel
- 08 Repair of Bridge Concrete 09 Repair of Bridge Timber
- 10 Bailey bridges - Maintenance
- 11 Animal/Pest Control Bridge Surface Repair 12

- 12 Slippery surfaces
- Flooding/channel blockage 13
- 14 Undermining of foundation Unstable embankments 15
- 16 Other
- Erosion Control at Bridges 13 Concrete Sealing 14
- 15 Rout and Seal 16 Bridge Deck Drainage
- Scaling (Loose Concrete or ACR Steel) 17
- 18 Other

Inventory Data:				
Structure Name				
Main Hwy/Road#	50	On □ Under 🕾	Crossing ☐ Navig. Water Type: ☐ Road	☐ Non-Navig. Water ☐ Rail ☐ Ped. ☐ Other
Hwy/Road Name	Hwy 50			
Structure Location	East ent	rance from H	Iwy50	
Latitude GPS Coord	E:605692		Longitude N:4853990	
Owner(s)	Region of	Peel	Heritage □ Not Cons. □ C Designation: □ Desig.	
MTO Region	Central		Road Class: Freeway   A	rterial  Collector Local
MTO District			Posted Speed	No. of Lanes
Old County			AADT	% Trucks
Geographic Twp.	Brampton		Inspection Route Sequence	
Structure Type [	Culvert		Interchange Number	
Total Deck Length [		(m)	Interchange Structure Number	
Overall Str. Width	17.2	(m)	Min. Vertical Clearance	0.3 (m)
Total Deck Area	-	(sq.m)	Special Routes:     Transit	☐ Truck ☐ School ☐ Bicycle
Roadway Width		(m)	Detour Length Around Bridge	(km)
Skew Angle	_	(Degrees)	Direction of Structure	N to S
No. of Spans	1		Fill on Structure	0.4 (m)
Span Lengths	0.46			(m)
	ngalogdass, 200 salikan katasan darakkalang jowak terasatiya j			
Historical Data:				
Year Built			Year of Last Major Rehab.	
Last OSIM Inspection	06/	/07/2005	Last Evaluation	
Last Enhanced OSIM	Inspection		Current Load Limit	/ / (tonnes)
Enhanced Access Equal (ladder, boat, lift, etc.			Load Limit By-Law #	
Last Underwater Insp	ection		By-Law Expiry Date	
Last Condition Surve	у			
Rehab History: (Date	description)			

Scheduled Improvements:		
Regional Priority Number	Programmed Work Year	
Nature of Program Work:		

Appraisal Indices:		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

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2924

2924 MTO Site Number:

Field Inspection Info	rmation:		A CONTROL OF THE PROPERTY OF T		
Date of Inspection:	January 27,2010	Type of Inspection: 🛮 OSIN		☐ Enhanced OSIM	
Inspector:	Eric Cheng				
Others in Party:	Alan Chung, Dan Urian				
Access Equipment Used:	Hand Tools, Digital Camera, Measuring Tape				
Weather:	Clear, some flurries				
Temperature:	-3°				

Additional Investigations Required:		Priority		
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	Х			
Non-destructive Delamination Survey of Asphalt-Covered Deck:	Х			
Concrete Substructure Condition Survey:	X		***************************************	
Detailed Coating Condition Survey:	X			
Detailed Timber Investigation	X			
Post-Tensioned Strand Investigation	Х			
Underwater Investigation:	X		······································	
Fatigue Investigation:				
Seismic Investigation:				
Structure Evaluation:				
Monitoring	***************************************			
Monitoring of Deformations, Settlements and Movements:	Х			
Monitoring Crack Widths:	Х		*	
Investigation Notes:		<u> </u>		

Effective Cross-Section:69%

Overall Structure Notes:						
Recommended Work on Structure:	□ None	⊠ Minor Rehab.	□ Major Rehab.	☐ Replace		
Timing of Recommended Work:	⊠ 1 to 5 years □ 6 to 10 years					
Overall Comments:	The structure is in good condition. North end of structure is caved-in and to be replaced.					
Date of Next Inspection:						

- Load carrying capacity 02 Excessive deformations (deflections & rotations) 03 Continuing settlement Continuing movements 04
- 05 Seized bearings
- Maintenance Needs
- Lift and Swing Bridge Maintenance 01
- Bridge Cleaning 02
- 03 Bridge Handrail Maintenance Painting Steel Bridge Structures 04
- Bridge Deck Joint Repair 05
- Bridge Bearing Maintenance

- 06 Bearing not uniformly loaded/unstable 07 Jammed expansion joint
- 08 Pedestrian/vehicular hazard 09 Rough riding surface
- 10 Surface ponding 11 Deck drainage

12

- 07 Repair to Structural Steel Repair of Bridge Concrete 08
- 09 Repair of Bridge Timber 10 11
  - Bailey bridges Maintenance Animal/Pest Control
- Erosion Control at Bridges 13 Concrete Sealing 14

12

13

14

15

15 Rout and Seal

Other

- Bridge Deck Drainage 16
- 17 Scaling (Loose Concrete or ACR Steel)

Slippery surfaces

Flooding/channel blockage

Undermining of foundation

Unstable embankments

18

### **Element Data**

Comments:	Corrugate Round Cu Benign / Moder  ""  Units  2/m/each / % / all  North end of s  Work: □ Ref	Exc.	Count: Total Qu: Limited I	antity: Inspection Ins	0.46m 1.7.2m   <b>Poor*</b>   to be re	Perform. Deficiencies
Material: Element Type: Environment: Protection Syste Condition Data: Comments:	Corrugate Round Cu Benign / Moder  ""  Units  2/m/each / % / all  North end of s  Work: □ Ref	ed Steel lvert ate/Severe  Exc.	Count: Total Qu: Limited I	antity: 1 Inspection  Fair X	Poor*	Deficiencies
Element Type: Environment: Protection Syste Condition Data: Comments:	Round Cu. Benign / Moder m: Units  2/m/each / % / all North end of s Work: □ Ref	Exc.	Total Qualities I	antity: 1 Inspection  Fair X	Poor*	Deficiencies
Environment: Protection Syste Condition Data: m Comments:	Benign / Moder m:  Units  2/m/each / % / all  North end of s  Work: □ Ref	Exc.	Limited I	respection	Poor*	Deficiencies
Protection Syste  Condition Data: m  Comments:	m:  Units  2/m/each/%/all  Jorth end of s  Work: □ Ref	Exc.	Good	Fair X		Deficiencies
Condition Data: m Comments:	Units  2/m/each/%/all  North end of s  Work: □Reb	structure		х		Deficiencie
Data: m Comments: n	<sup>2</sup> /m/each/%/all North end of a Work: □Reb	structure		х		
Comments:	North end of s	structure	is cave		to be re	nlaced
	<b>Work:</b> □ Reŀ		is cave	d-in and	to be re	anlaced
Recommended						-Praceu.
and the second of the second o		Recommended Work:   Rehab Replace  Maintenance Needs:				
	☑ 1-5	years □ 6-10 y	ears	☑ Urgent	□ 1 year □ 2	year .
Element Group: Element Name: Location: Material: Element Type: Environment:	Benign / Modera	te / Severe	Length: Width: Height: Count: Total Qua	ntity:		
Protection Systen						Perform.
Condition	Units	Exc.	Good	Fair	Poor*	Deficiencies
Data: m <sup>2</sup>	/m/each/%/all					
Recommended \			**************************************	Maintenar		
	□ 1-5 y	rears □ 6-10 ye	ars	☐ Urgent	□lyear □2	year
Element Group:			Length:			
Element Name:			Width:			
Location:			Height:			
Material:			Count:			
			Total Quar	itity:		
		e / Severa	Limited In	spection 🗆		
Element Type:	Benign / Moderat	C/ BEVELE	AII			Perform.
Element Type: Environment:		e, bevele				
Element Type: Environment: Protection System		Exc.	Good	Fair	Poor*	Periorm. Deficiencies
Element Type: Environment: Protection System Condition	: Units	***************************************		Fair	Poor*	
Element Type: Environment: Protection System Condition Data: m <sup>2</sup> Comments:	Units / m / each / % / all	Exc.				
Element Type: Environment: Protection System Condition	Units  / m / each / % / all	Exc.	Good	Fair  Maintenan  Urgent	ce Needs:	

<sup>\*</sup> A quantity must be estimated using the appropriate unit (e.g. m<sup>2</sup>). Percent should not be used.

Region of Peel Structure # 2925

Inventory Data:				
Structure Name				
Main Hwy/Road#	50 On 🗆	Under 🖰	Crossing ☐ Navig. Water Type: ☑ Roac	☐ Non-Navig. Water ☐ Rail I ☐ Ped. ☐ Other
Hwy/Road Name	Hwy 50			
Structure Location	West entranc	:e		
Latitude GPS Coord	E:604915		Longitude N:4855648	
Owner(s)	Region of Pee	el	Heritage ☐ Not Cons. ☐ C Designation: ☐ Desig.	**
MTO Region	Central		Road Class: Freeway   A	rterial 🛘 Collector 🖨 Local 🖯
MTO District			Posted Speed	No. of Lanes
Old County			AADT	% Trucks
Geographic Twp.	Brampton		Inspection Route Sequence	
Structure Type	Culvert		Interchange Number	
Total Deck Length		(m)	Interchange Structure Number	
Overall Str. Width	6.4	] (m)	Min. Vertical Clearance	0.19 (m)
Total Deck Area	_	sq.m)	Special Routes:   Transit	☐ Truck ☐ School ☐ Bicycle
Roadway Width		(m)	Detour Length Around Bridge	(km)
Skew Angle	_	Degrees)	Direction of Structure	N to S
No. of Spans	1		Fill on Structure	0.8 (m)
Span Lengths [	0.35			(m)
			Direction is a contract to the contract of the	ris plus consule substitution of desperature despense and traction in a signal and grows in the substitution of
Historical Data:				
Year Built			Year of Last Major Rehab.	
Last OSIM Inspection	n 11/07/	2005	Last Evaluation	
Last Enhanced OSIM	Inspection		Current Load Limit	/ / (tonnes)
Enhanced Access Equal (ladder, boat, lift, etc.			Load Limit By-Law #	
Last Underwater Insp	ection		By-Law Expiry Date	
Last Condition Surve	у			
Rehab History: (Date	/description)			

**Scheduled Improvements:** 

Nature of Program Work:

Regional Priority

Number

rogrammed Work		
ear	<u> </u>	

MTO Site Number:

2925

Appraisal Indices:		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

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Oct. 2000

2925 MTO Site Number:

Field Inspection Info	rmation:		A CANADA CAN	MANAGER (MEN A CONTINUE AND A CONTIN
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM
Inspector:	Eric Cheng			
Others in Party:	Alan Chung, Dan	Urian		
Access Equipment Used:	Hand Tools, Dig	ital Camera, M	ſeasurin	g Tape
Weather:	Clear, some flur	ries		
Temperature:	-3°			

Additional Investigations Required:	Priority			
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			
Non-destructive Delamination Survey of Asphalt-Covered Deck:	Х			
Concrete Substructure Condition Survey:	X			
Detailed Coating Condition Survey:	X			
Detailed Timber Investigation	X			
Post-Tensioned Strand Investigation	X			
Underwater Investigation:	X			
Fatigue Investigation:	Х			
Seismic Investigation:	X			
Structure Evaluation:	X			
Monitoring				
Monitoring of Deformations, Settlements and Movements:	X			
Monitoring Crack Widths:	x		***************************************	
Investigation Notes:		1		
Effective Cross-Section: 59	5 %			

Overall Structure Notes:	
Recommended Work on Structure:	☑ None ☐ Minor Rehab. ☐ Major Rehab. ☐ Replace
Timing of Recommended Work:	☐ 1 to 5 years
Overall Comments:	The structure is in good condition.
Date of Next Inspection:	

#### **Suspected Performance Deficiencies**

- 01 Load carrying capacity Excessive deformations (deflections & rotations) 02 Continuing settlement 04 Continuing movements
- Seized bearings 05
- Maintenance Needs
- Lift and Swing Bridge Maintenance 01
- 02
- Bridge Cleaning Bridge Handrail Maintenance 03
- Painting Steel Bridge Structures 04
- 05 Bridge Deck Joint Repair 06 Bridge Bearing Maintenance

- Bearing not uniformly loaded/unstable 06
- 07 Jammed expansion joint 08 Pedestrian/vehicular hazard
- Surface ponding 10
- 11 Deck drainage

12

- 09 Rough riding surface
- 07 Repair to Structural Steel Erosion Control at Bridges Concrete Sealing 08 Repair of Bridge Concrete 14 09 Repair of Bridge Timber 15 Rout and Seal
- 10 Bailey bridges - Maintenance 16 Bridge Deck Drainage 11 Animal/Pest Control 17 Scaling (Loose Concrete or ACR Steel)

12

13

14

15

16

Bridge Surface Repair 18 Other

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Page 3

Slippery surfaces

Other

Flooding/channel blockage

Undermining of foundation

Unstable embankments

Element Gre	mn.	Culvert	F 19 19 19		Length:	<del>*************************************</del>	- E	34m	
Element Na					Width:	***************************************		35m	
Location:		East e	ntra	ance Hwy5(			+	33111	
Material:		Poly		7	Count:		1		
Element Typ		Round	Cult	zert	Total Qu	antity:	6	.34m	
Environmen		Benign / Me				mited Inspection			
Protection S		Benight 141	ouci a	ic / Severe	Limited Inspection				Perform.
Condition	Jacon.	Units		<b>1</b> 0	Good	177-	······································	D	Deficiencies
Data:	2,		, ,,	Exc.		Fa	ır	Poor*	Denciencies
		ı/each/%	/ all	LL	X			<u> </u>	
Comments:  The structure is in good condition.									
Recommend	ied wo		<sup>™</sup> Reha		par and the second specific below to the second to broady report			ce Needs:	
			] 1-5 ye	ears 🗵 6-10 yea	ırs	☐ Urge	nt [	]1 year ⊠	2 year
<u> </u>	MART THUSING STREET			70				***************************************	
Element Gro	ın•				Length:				
Element Nan					Width:				
Location:					Height:				
Material:					Count:				
Element Type	2:				Total Qua	ntity:			
Environment		Benign / Mo	derate	/ Severe	Limited Ir				
Protection Sy		Domgii, 1120		. Severe	Limited II	ispection			Perform.
Condition	occiai.	Units	I	Exc.	Good	Fai	<u>.                                    </u>	Poor*	Deficiencies
Continuon		Units	- 1	EAC.	Good	r an	·	E OOL	Deliciencies
Data	2/	/ 1- / 0/ /	-11					~~~	
Data:	m <sup>2</sup> /m	/ each / % /	all						
Data: Comments: Recommend			all Rehal	o □ Replace		Maint	enanc	e Needs:	
Comments:		k: 🗆		*	rs				. vear
Comments:		k: 🗆	Rehat	*	rs .	Maint			l year
Comments:		k: 🗆	Rehat	*	rs				l year
Comments:	ed Wor	k: 🗆	Rehat	*					. year
Comments:  Recommend  Element Grou	ed Wor	k: 🗆	Rehat	*	Length:				. year
Recommend  Element Grou	ed Wor	k: 🗆	Rehat	*	Length: Width:				2 year
Recommend  Element Groutelement Name	ed Wor	k: 🗆	Rehat	*	Length: Width: Height:				2 year
Recommend  Element Groutelement Name Location: Material:	ed Wor	k: 🗆	Rehat	*	Length: Width: Height: Count:	□ Urger			. year
Element Grou Element Name Location: Material: Element Type	ed Wor	<b>k:</b>	Rehab	ars □ 6-10 yea	Length: Width: Height: Count: Total Quan	□ Urger	at 🗆		. year
Element Groutelement Name Location: Material: Element Type Environment:	ed Wor	k: 🗆	Rehab	ars □ 6-10 yea	Length: Width: Height: Count:	□ Urger	at 🗆		
Recomments:  Recommend  Element Groutelement Name Location:  Material: Element Type Environment: Protection Sys	ed Wor	k:   Benign / Mod	Rehab	ars □ 6-10 yea	Length: Width: Height: Count: Total Quan	□ Urger	at O	1 year □ 2	Perform.
Element Group Element Name Location: Material: Element Type Environment: Protection System Condition	ed Wor	k:   Benign / Mod Units	Rehab 1-5 ye	ars □ 6-10 yea	Length: Width: Height: Count: Total Quan	□ Urger	at O		
Element Grou Element Name Location: Material: Element Type Environment: Protection Sys Condition Data:	ed Wor	k:   Benign / Mod	Rehab 1-5 ye	ars □ 6-10 yea	Length: Width: Height: Count: Total Quan	□ Urger	at O	1 year □ 2	Perform.
Element Group Element Name Location: Material: Element Type Environment: Protection System Condition	ed Wor	k:   Benign / Mod Units	Rehab 1-5 ye	ars □ 6-10 yea	Length: Width: Height: Count: Total Quan	□ Urger	at O	1 year □ 2	Perform.
Element Grout Element Name Location: Material: Element Type Environment: Protection Syst Condition Data: Comments:	p: et m:	k:   Benign / Mod Units  each / % /	Rehab 1-5 ye derate	ars □ 6-10 yea  / Severe  Exc.	Length: Width: Height: Count: Total Quan	Urger	at	1 year □ 2  Poor*	Perform.
Element Grou Element Name Location: Material: Element Type Environment: Protection Sys Condition Data:	p: et m:	Benign / Mod Units / each / % /	Rehab	ars □ 6-10 yea  / Severe  Exc.	Length: Width: Height: Count: Total Quar Limited In	Urger	enance	1 year □ 2  Poor*	Perform. Deficiencies
Element Grout Element Name Location: Material: Element Type Environment: Protection Syst Condition Data: Comments:	p: et m:	Benign / Mod Units / each / % /	Rehab 1-5 ye derate	ars □ 6-10 yea  / Severe  Exc.	Length: Width: Height: Count: Total Quar Limited In	Urger	enance	1 year □ 2  Poor*	Perform.

<sup>\*</sup> A quantity must be estimated using the appropriate unit (e.g. m²). Percent should not be used.

Element	Group:	Culvert		Length:		16	.4m		
Element	Name:			Width:			46m		
Location	1:	West entra	ance Hwy50	Height:	-				
Material	l:	Corrugated	Steel	Count:		1			
Element	Type:	Round Cul	vert	Total Qua	intity:		Jr., 22-112, 112-1		
Environ	ment:	Benign / Modera	te / Severe			spection			
Protection	on System:			<u></u>	Perform				
Conditi	ion	Units	Exc.	Good	Fair Poor*			Deficiencies	
Data		n/each/%/all				-	X		
Comme		ir cucii y yo y uig			<u> </u>				
	The d	lamaged sect		pe repla	,				
Recomn	nended Wo				Maint	enanc	e Needs:		
***		№ 1-5 y	ears 🛘 6-10 yea	rs	☐ Urgen	ıt 🗆	l year 🗵	2 year	
Element	Croup:			Length:	T				
Element			<ul> <li>100 Table up selective et al.</li> <li>100 Table up selective et al.</li> </ul>	Width:					
Location:				Height:					
Material:				Count:					
Element 7				Total Qua	ntitu				
Environn		Benign / Moderate	o / Sovere	Limited In					
Protection		Denign / Moderate	c / Bevere	Limited III	spection	<u> </u>		Perform.	
Condition		Tīnita	E	Card	F-!		n - 4	Deficiencies	
	OH	Units Exc. Good Fair Poor*			Deficiencies				
	2,	/ 1 / 0/ / 11							
Data:	111 / 111	/each/%/all							
Data:	111 / 111	'k: □ Rehai	*	rs			e Needs:	2 year	
Data:	its:	'k: □ Rehai	o □ Replace ars □ 6-10 year	TS .	Mainte □ Urgeni			2 year	
Data:	its:	'k: □ Rehai	•	TS .				2 year	
Data: Commen	ended Wor	'k: □ Rehai	•					2 year	
Data: Comment	ended Wor	'k: □ Rehai	•	Length:				2 year	
Data: Comment Recomment Element C	ended Wor	'k: □ Rehai	•	Length: Width:				2 year	
Data: Comment Recomment Element C Element N Location:	ended Wor	'k: □ Rehai	•	Length: Width: Height:				2 year	
Data: Comment Recomm Element C Element N Location: Material:	ended Wor	'k: □ Rehai	•	Length: Width: Height: Count:	□ Urgent			2 year	
Data: Comment Recomm  Element C Element N Location: Material: Element T	ended Wor	'k: □ Rehat □ 1-5 ye	ars □ 6-10 year	Length: Width: Height: Count: Total Quan	Urgent	t 🗆		2 year	
Comment Commen	ended Wor  Group: Vame:  Type: ent:	'k: □ Rehai	ars □ 6-10 year	Length: Width: Height: Count:	Urgent	t 🗆			
Recomment Comment Comm	ended Wor  Group: Name:  Cype: ent: System:	k: □ Rehat□ 1-5 ye □ Benign / Moderate	/ Severe	Length: Width: Height: Count: Total Quan	Urgent	t 🗆	l year	Perform.	
Recomment Comment Comm	ended Work Group: Name:  Type: ent: n System: n	Pk: □ Rehat □ 1-5 ye  Benign / Moderate  Units	ars □ 6-10 year	Length: Width: Height: Count: Total Quan	Urgent	t 🗆			
Recomment Comment Comm	ended Work Group: Name:  Type: ent: n System: n	k: □ Rehat□ 1-5 ye □ Benign / Moderate	/ Severe	Length: Width: Height: Count: Total Quan	Urgent	t 🗆	l year	Perform.	
Recomment Comment Comm	ended Wor  Group: Name:  Type: ent: System: n m²/m	Pk: □ Rehat □ 1-5 ye  Benign / Moderate  Units	/ Severe	Length: Width: Height: Count: Total Quan	Urgent	t 🗆	l year	Perform.	
Recomment Comment Comm	ended Wor  Group: Name:  System: n m²/m ts:	Benign / Moderate Units / each / % / all	/ Severe  Exc.	Length: Width: Height: Count: Total Quan	Urgent		l year   Poor*	Perform.	
Recomment Comment Comm	ended Wor  Group: Name:  Type: ent: System: n m²/m	Benign / Moderate  Units / each / % / all	/ Severe  Exc.	Length: Width: Height: Count: Total Quan Limited Ins	utity:   spection Fair	nance	Poor*	Perform. Deficiencies	
Recomment Comment Comm	ended Wor  Group: Name:  System: n m²/m ts:	Benign / Moderate Units / each / % / all	/ Severe  Exc.	Length: Width: Height: Count: Total Quan Limited Ins	Urgent	nance	l year   Poor*	Perform.	

<sup>\*</sup> A quantity must be estimated using the appropriate unit (e.g. m²). Percent should not be used.

2926 MTO Site Number:

Field Inspection Infor	mation:			
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM
Inspector:	Eric Cheng			
Others in Party:	Alan Chung, Dan	Urian		
Access Equipment Used:	Hand Tools, Dig	ital Camera, M	leasurin	g Tape
Weather:	Clear, some flurr	ries		
Temperature:	-3°			

Additional Investigations Required:		Priority	
·	None	Normal	Urgent
Material Condition Survey			
Detailed Deck Condition Survey:	x		
Non-destructive Delamination Survey of Asphalt-Covered Deck:	Х		
Concrete Substructure Condition Survey:	Х		
Detailed Coating Condition Survey:	Х		
Detailed Timber Investigation	Х		
Post-Tensioned Strand Investigation	Х		
Underwater Investigation:	Х		
Fatigue Investigation:	Х		
Seismic Investigation:	Х		
Structure Evaluation:	Х		
Monitoring			
Monitoring of Deformations, Settlements and Movements:	Х		
Monitoring Crack Widths:	Х		
Investigation Notes:			
Effective Cross-Section:56	<del>-</del> 응		

Overall Structure Notes:									
Recommended Work on Structure:	□ None	⊠ Mi	nor R	Lehab.	□ Ma	ajor Rehab	. 0]	Replace	,
Timing of Recommended Work:	⊠ 1 to 5	years	□ 61	to 10 yea	ars				
Overall Comments:	The cı	ılvert	is	defo	rmed	about	1.2m	from	end.
Date of Next Inspection:									

Suspected	Performance	Deficiencies

01	Load carrying capacity
02	Excessive deformations (deflections & rotations)
03	Continuing settlement
04	Continuing movements
05	Seized bearings

	_
Main	tenance Needs
01	Lift and Swing Bridge Maintenance
02	Bridge Cleaning
03	Bridge Handrail Maintenance
04	Painting Steel Bridge Structures
05	Bridge Deck Joint Repair
06	Bridge Bearing Maintenance

- 06 Bearing not uniformly loaded/unstable 07 Jammed expansion joint Pedestrian/vehicular hazard
- 08 09 Rough riding surface 10 Surface ponding
- 11 Deck drainage
- 07 Repair to Structural Steel
- Repair of Bridge Concrete Repair of Bridge Timber 08 09 10 Bailey bridges - Maintenance 11
- Erosion Control at Bridges 13 Concrete Sealing 14 Rout and Seal 15

Other

12

13

15

16

- 16 Bridge Deck Drainage 17 Scaling (Loose Concrete or ACR Steel)
- Animal/Pest Control 12 Bridge Surface Repair 18

Slippery surfaces Flooding/channel blockage

Undermining of foundation

Unstable embankments

MTO Site Number: 2926

Scheduled Improvemen	its:		
Regional Priority Number		Programmed Work Year	
Nature of Program Work	**		
	•		

Appraisal Indices		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

# Ontario Structure Inspection Manual – Inspection Form Region of Peel Structure # 2926

Inventory Data:				
Structure Name				
Main Hwy/Road#	50 On 🗆	Under 🖰	Crossing ☐ Navig. Water Type: ☑ Roac	☐ Non-Navig. Water ☐ Rail i ☐ Ped. ☐ Other
Hwy/Road Name	Hwy50			
Structure Location	West entranc	e from H	wy50	
Latitude GPS Coord	E:604938		Longitude N:4855611	
Owner(s)	Region of Pee	1	Heritage	
MTO Region	Central		Road Class: Freeway   A	rterial  Collector Local
MTO District	_		Posted Speed	No. of Lanes
Old County			AADT	% Trucks
Geographic Twp.	Brampton		Inspection Route Sequence	
Structure Type [	Culvert		Interchange Number	
Total Deck Length [	:	(m)	Interchange Structure Number	
Overall Str. Width [	16.4	(m)	Min. Vertical Clearance	0.25 (m)
Total Deck Area		(sq.m)	Special Routes:   Transit	☐ Truck ☐ School ☐ Bicycle
Roadway Width	1904	(m)	Detour Length Around Bridge	(km)
Skew Angle		(Degrees)	Direction of Structure	W to E
No. of Spans	1		Fill on Structure	0.6 (m)
Span Lengths	0.46			(m)
			ak der Sylven in de halfe i solven stadt verbeleget i Solva i 1800 kilot kolonyal deli sa sa ye we han hawasila solvi solven solven i Solvensia solvi solven i Solvensia solven i Solven	
Historical Data:				
Year Built			Year of Last Major Rehab.	
Last OSIM Inspection	n 11/07/	2005	Last Evaluation	
Last Enhanced OSIM	Inspection		Current Load Limit	/ / (tonnes)
Enhanced Access Equ (ladder, boat, lift, etc.)			Load Limit By-Law #	
Last Underwater Insp	ection		By-Law Expiry Date	
Last Condition Survey	у			
Rehab History: (Date/	/description)			

Region of Peel Structure # 2927

Inventory Data:				
Structure Name				
Main Hwy/Road#	50	On 🗆 Under 🖰	Crossing ☐ Navig. Water Type: ☑ Roac	☐ Non-Navig. Water ☐ Raild ☐ Ped. ☐ Other
Hwy/Road Name	Hwy 50			
Structure Location	West fiel	ld entrance	from Hwy50	
Latitude GPS Coord	E:604990		Longitude N:4855489	
Owner(s)	Region of	Peel	Heritage ☐ Not Cons. ☐ C Designation: ☐ Desig./	Cons./not App. 🗆 List/not Desig. /not List 🖈 Desig. & List
MTO Region	Central		Road Class: Freeway [] A	rterial 🗆 Collector 🗆 Local 🗆
MTO District			Posted Speed	No. of Lanes
Old County [			AADT	% Trucks
Geographic Twp. [	Brampton		Inspection Route Sequence	
Structure Type [	Culvert		Interchange Number	
Total Deck Length		(m)	Interchange Structure Number	
Overall Str. Width	14.0	(m)	Min. Vertical Clearance	0.3 (m)
Total Deck Area	_	(sq.m)	Special Routes:	☐ Truck ☐ School ☐ Bicycle
Roadway Width		(m)	Detour Length Around Bridge	(km)
Skew Angle	-4-8	(Degrees)	Direction of Structure	W to E
No. of Spans	1 .		Fill on Structure	0.7 (m)
Span Lengths	0.46			(m)
				andelina a majo linko kiring kandisaning sa sasajan ng sa
Historical Data:				
Year Built			Year of Last Major Rehab.	
Last OSIM Inspection	11	/07/2005	Last Evaluation	
Last Enhanced OSIM I	nspection		Current Load Limit	/ / (tonnes)
Enhanced Access Equ (ladder, boat, lift, etc.)			Load Limit By-Law #	
Last Underwater Inspe	ection		By-Law Expiry Date	
Last Condition Survey	/			
Rehab History. (Date/	description)			

MTO Site Number:	2927
------------------	------

Scheduled Improvement	\$	
Regional Priority Number	Programmed Work Year	
Nature of Program Work:	 	

Appraisal Indices:		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

MTO Site Number: 2927

Field Inspection Infor			<del>ng panakan da 19 ka matan a manaka kama da naka ka manaka na ka manaka na ka ka ka manaka na manaka na manaka n</del>		
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM	
Inspector:	Eric Cheng				
Others in Party:	Alan Chung, Dan Urian				
Access Equipment Used:	Hand Tools, Digital Camera, Measuring Tape				
Weather:	Clear, some flurries				
Temperature:	-3°				

Additional Investigations Required:		Priority		
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	Х			
Non-destructive Delamination Survey of Asphalt-Covered Deck:	X		***************************************	
Concrete Substructure Condition Survey:	X			
Detailed Coating Condition Survey:	X			
Detailed Timber Investigation	Х			
Post-Tensioned Strand Investigation	Х			
Underwater Investigation:	х			
Fatigue Investigation:	Х			
Seismic Investigation:	X			
Structure Evaluation:	X			
Monitoring			****	
Monitoring of Deformations, Settlements and Movements:	Х			
Monitoring Crack Widths:	Х			
Investigation Notes:		·		
Effective Cross-Section: 699	00			

Overall Structure Notes:	
Recommended Work on Structure:	☑ None ☐ Minor Rehab. ☐ Major Rehab. ☐ Replace
Timing of Recommended Work:	☐ 1 to 5 years
Overall Comments:	The structure is in good condition.
Date of Next Inspection:	

Susp	pected Performance Deficiencies				
		06	Bearing not uniformly loaded/unstable		12 Slippery surfaces
01	Load carrying capacity	07	Jammed expansion joint		13 Flooding/channel blockage
02	Excessive deformations (deflections & rotations)	08	Pedestrian/vehicular hazard		14 Undermining of foundation
03	Continuing settlement	09	Rough riding surface		15 Unstable embankments
04	Continuing movements	10	Surface ponding		16 Other
05	Seized bearings	11	Deck drainage		
Mair	itenance Needs				
01	Lift and Swing Bridge Maintenance	07	Repair to Structural Steel	13	Erosion Control at Bridges
02	Bridge Cleaning	08	Repair of Bridge Concrete	14	Concrete Sealing
03	Bridge Handrail Maintenance	09	Repair of Bridge Timber	15	Rout and Seal
04	Painting Steel Bridge Structures	10	Bailey bridges - Maintenance	16	Bridge Deck Drainage
05	Bridge Deck Joint Repair	11	Animal/Pest Control	17	Scaling (Loose Concrete or ACR Steel)
06	Bridge Bearing Maintenance	12	Bridge Surface Repair	18	Other

## **Element Data**

Liement Gro		curvert		Length:		14	.Om		
Element Name:				Width:	0.46m				
Location:		Entrance Hwy50		Height:					
Material:		Corrugated Steel		Count:		1			
Element Type:		Round		Total Qu					
Environment		Benign / Modera	te / Severe	Limited	Inspection	ı 🗆			
Protection Sy						Perform.			
Condition		Units Exc.		Good	Fai	r	Poor*	Deficiencies	
Data:	$m^2/m$	/each/%/all		x					
Comments:		e structure		ood cond					
Recommend	ed Wor	k: 🛮 Reha	ab □ Replace rears		Maint	tenanc	e Needs:		
Element Grou				Length: Width:			CP C	2 year	
Location:		<u> </u>		Height:					
Material:				Count:			-		
Element Type	:			Total Qu	antity:				
Environment:		Benign / Moderat	e / Severe	~	nspection				
Protection Sys		27778117 111040141		- Diffited t	nspection			Perform.	
Condition	tom.	Units	Exc.	Good	Fair		Poor*	Deficiencies	
	2 /	each / % / all	Ext.	Good	Fall		roor"	Deficiencies	
Recommende	d Work						Needs:		
		□ 1-5 уе	ears 🗆 6-10 ye	ears	rs ☐ Urgent ☐ 1 year ☐ 2 year				
Element Group			<u> </u>	Length:					
Element Name Location:				Width:		<del></del>			
		· · · · · · · · · · · · · · · · · · ·		Height:		<del></del>			
Material:				Count:	4.4				
Element Type: Environment:	-	Donign / Madaust	/ Correra	<del></del>	tal Quantity:				
		Benign / Moderate	і вечеге	Limited li	Inspection				
Protection Syst	em:	XI	<b>1</b>			<del></del>		Perform.	
Condition	2 .	Units	Exc.	Good	Fair		Poor*	Deficiencies	
	m*/ m /	each / % / all							
Comments:	1 Works	: □ Rehab	□ Replace		Mainte	nanco	Naads		
LLCCOMMICHUE	A TTULK	. □ Renau	•	are	☐ Urgent			7.2 ***	
The state of the s	. Man armeren popularie - version - des also d'adres	- 1 J y C	-10 U 0-10 yea	** U	_ U OIGCIIL		ı yeai L	2 year	

<sup>\*</sup> A quantity must be estimated using the appropriate unit (e.g. m²). Percent should not be used.

# Ontario Structure Inspection Manual - Inspection Form Region of Peel Structure #

2928

Inventory Data:			
Structure Name			
Main Hwy/Road #	50 On □ Under 🕾	Crossing ☐ Navig. Water ☐ Non-I Type: ☑ Road ☐ Ped	Navig. Water ☐ Rail . ☐ Other
Hwy/Road Name	Hwy 50		
Structure Location	West entrance from H	wy50	
Latitude GPS Coord	E:605128	Longitude N:4855179	
Owner(s)	Region of Peel	Heritage ☐ Not Cons. ☐ Cons./not A Designation: ☐ Desig./not List	pp. ☐ List/not Desig. ☐ Desig. & List
MTO Region	Central	Road Class: Freeway   Arterial   C	ollector 🗆 Local 🗆
MTO District		Posted Speed No. of L	anes
Old County [		AADT % Tr	ucks
Geographic Twp.	Brampton	Inspection Route Sequence	
Structure Type [	Culvert	Interchange Number	
Total Deck Length [	(m)	Interchange Structure Number	
Overall Str. Width	14.4 (m)	Min. Vertical Clearance 0.25	(m)
Total Deck Area	- (sq.m)	Special Routes:   Transit Truck	□ School □ Bicycle
Roadway Width	(m)	Detour Length Around Bridge	(km)
Skew Angle	- (Degrees)	Direction of Structure N to	S
No. of Spans	1	Fill on Structure 0.4	(m)
Span Lengths	0.46		(m)
		e dia mandra di mangrapa di Santoni (Santoni Santoni di Santoni di Santoni di Santoni di Santoni di Santoni di	
Historical Data:			
Year Built		Year of Last Major Rehab.	
Last OSIM Inspection	11/07/2005	Last Evaluation	
Last Enhanced OSIM I	Inspection	Current Load Limit /	(tonnes)
Enhanced Access Equal (ladder, boat, lift, etc.)		Load Limit By-Law #	
Last Underwater Insp	ection	By-Law Expiry Date	
Last Condition Survey	<i>y</i>		
Rehab History: (Date/	description)		

	2928
MTO Site Number:	1 2320
MITO SHE MUMBER:	

Scheduled Improvemen	its:		
Regional Priority Number		Programmed Work Year	
Nature of Program Work	:		

Appraisal Indices:		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

2928 MTO Site Number:

Field Inspection Info	rmation:						
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM			
Inspector:	Eric Cheng						
Others in Party:	Alan Chung, Dan Urian						
Access Equipment Used:	Hand Tools, Digital Camera, Measuring Tape						
Weather:	Clear, some flurries						
Temperature:	-3°						

Additional Investigations Required:	Priority			
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	Х			
Non-destructive Delamination Survey of Asphalt-Covered Deck:	X			
Concrete Substructure Condition Survey:	Х			
Detailed Coating Condition Survey:	Х			
Detailed Timber Investigation	Х			
Post-Tensioned Strand Investigation	Х			
Underwater Investigation:	X			
Fatigue Investigation:	Х			
Seismic Investigation:	X			
Structure Evaluation:	Х			
Monitoring				
Monitoring of Deformations, Settlements and Movements:	Х			
Monitoring Crack Widths:	Х			
Investigation Notes:		· · · · · · · · · · · · · · · · · · ·		
Effective Cross-Section:56%	•			

Effective Cross-Section:56%

Overall Structure Notes:	
Recommended Work on Structure:	☑ None ☐ Minor Rehab. ☐ Major Rehab. ☐ Replace
Timing of Recommended Work:	☐ 1 to 5 years
Overall Comments:	The structure is in good condition.
Date of Next Inspection:	

#### Suspected Performance Deficiencies

Bridge Bearing Maintenance

01	Load carrying capacity
02	Excessive deformations (deflections & rotations)
03	Continuing settlement
04	Continuing movements
05	Seized bearings

Mai	ntenance Needs
01	Lift and Swing Bridge Maintenance
02	Bridge Cleaning
03	Bridge Handrail Maintenance
04	Painting Steel Bridge Structures
05	Bridge Deck Joint Repair

- 06 Bearing not uniformly loaded/unstable Jammed expansion joint
- Pedestrian/vehicular hazard 08 09 Rough riding surface 10 Surface ponding
  - Deck drainage

12

- 11 07 Repair to Structural Steel
- Repair of Bridge Concrete 08 Repair of Bridge Timber Bailey bridges - Maintenance 09 10 Animal/Pest Control 11

Bridge Surface Repair

Erosion Control at Bridges 13 Concrete Sealing Rout and Seal 15

Other

16 Bridge Deck Drainage 17 Scaling (Loose Concrete or ACR Steel)

18 Other

12

13

14

15

16

Slippery surfaces

Flooding/channel blockage

Undermining of foundation

Unstable embankments

Element Gr		Culvert		Length:			.4m	
Element Na	me:			Width:		0.	46m	
Location:		West entra						
Material:		Corrugated		Count:		1		
Element Ty		Round Cul		Total Qua			.4m	
Environme		Benign / Moderat	te / Severe	Limited I	nspection	ı 🗆		,
Protection S			<del></del>					Perform.
Condition		Units	Exc.	Good	Fai	r	Poor*	Deficiencies
Data:	$\int m^2/m$	n/each/%/all		X	<u> </u>			
Recommen	Th	e structure rk: ⊠ Reha □1-5 y	ab □ Replace			tenan	ce Needs:	2 year
	an kara magazaga.							
Element Gro				Length:				
Element Nar	ne:			Width:				
Location: Material:				Height:				
Element Typ				Count:	+:+			
Environmen		Benign / Moderate	o / Coviora	Total Qua				
Protection Sy		Benign / Mouerau	2/ Severe	Limited In	ispection	Ш		Douform
	ystem.	Units	Exc.	Good	Fair		Poor*	Perform. Deficiencies
* ~ ~ + + O m	1	I Inite .	HVO.	t-non .	10.20	٠ .	POOL.	Dentioner
Condition	2/		Ext.	G00u	7 411		1001	
Data: Comments:	$m^2/m$	/each/%/all	IJAC.	Good	1 411		1001	
Data:		/ each / % / all		Good			e Needs:	
Data: Comments:		/ each / % / all	o □ Replace			enanc	e Needs:	2 year
Data: Comments:		/ each / % / all k: □ Rehab	o □ Replace		Mainte	enanc	e Needs:	2 year
Data: Comments: Recommend	led Wor	/ each / % / all k: □ Rehab	o □ Replace	'S	Mainte	enanc	e Needs:	2 year
Data: Comments: Recommend	led Wor	/ each / % / all k: □ Rehab	o □ Replace	Eength:	Mainte	enanc	e Needs:	2 year
Data: Comments: Recommend Element Gro Element Nam	led Wor	/ each / % / all k: □ Rehab	o □ Replace	Length: Width:	Mainte	enanc	e Needs:	2 year
Data: Comments: Recommend	led Wor	/ each / % / all k: □ Rehab	o □ Replace	Eength:	Mainte	enanc	e Needs:	2 year
Data: Comments: Recomment Element Gro Element Nam Location: Material:	led Wor	/ each / % / all k: □ Rehab	o □ Replace	Length: Width: Height: Count:	Mainte □ Urgen	enanc	e Needs:	2 year
Data: Comments: Recommend Element Gro Element Nam Location:	led Wor	/ each / % / all k: □ Rehab	o □ Replace ears □ 6-10 year	Length: Width: Height:	Mainte □ Urgen	enanc t 🗆	e Needs:	2 year
Data: Comments:  Recommend  Element Gro Element Nam Location: Material: Element Type	led Wor	/ each / % / all	o □ Replace ears □ 6-10 year	Length: Width: Height: Count: Total Quar	Mainte □ Urgen	enanc t 🗆	e Needs:	2 year Perform.
Data: Comments: Recomment Element Gro Element Nam Location: Material: Element Type Environment	led Wor	/ each / % / all	o □ Replace ears □ 6-10 year	Length: Width: Height: Count: Total Quar	Mainte □ Urgen	enanc t	e Needs:	
Data: Comments: Recomment Element Gro Element Nam Location: Material: Element Type Environment Protection Sy	up; ue: e: stem:	k: □ Rehat□ 1-5 ye  Benign / Moderate  Units	Replace ears	Length: Width: Height: Count: Total Quan	Mainte ☐ Urgen  ntity: spection	enanc t	e Needs:  1 year	Perform.
Data: Comments: Recomment Element Gro Element Nam Location: Material: Element Type Environment Protection Sy Condition	up; ue: e: stem:	k: □ Rehat □ 1-5 ye  Benign / Moderate	Replace ears	Length: Width: Height: Count: Total Quan	Mainte ☐ Urgen  ntity: spection	enanc t	e Needs:  1 year	Perform.
Data: Comments: Recomment Recomment Element Nam Location: Material: Element Type Environment Protection Sy Condition Data:	up;   te:   te:	k: Rehat 1-5 ye  Benign / Moderate  Units / each / % / all	Property of the control of the contr	Length: Width: Height: Count: Total Quan	Mainte	enance t	e Needs:  1 year   Poor*	Perform.
Data: Comments: Recomment Recomment Flement Nam Location: Material: Element Type Environment Protection Sy Condition Data: Comments:	up;   te:   te:	k: Rehat 1-5 ye  Benign / Moderate  Units / each / % / all	Replace cars   6-10 year  // Severe  Exc.	Length: Width: Height: Count: Total Quar Limited In	Mainte	enance	e Needs:  1 year	Perform.

<sup>\*</sup> A quantity must be estimated using the appropriate unit (e.g. m²). Percent should not be used.

# Ontario Structure Inspection Manual - Inspection Form Region of Peel Structure # 2929

Inventory Data:					
Structure Name					
Main Hwy/Road#	50 On E	Under 🖺	Crossing ☐ Navig. Water Type: ☑ Road	□ Non-Navig.	Water □ Rail Other
Hwy/Road Name	Hwy 50				
Structure Location	Field entrar	nce from	Hwy50		]
Latitude GPS Coord	E:605157		Longitude N:4855112		
Owner(s)	Region of Pe	el	Heritage ☐ Not Cons. ☐ C Designation: ☐ Desig./		□ List/not Desig. sig. & List
MTO Region	Central		Road Class: Freeway   A	rterial 🗆 Collect	or 🗆 Local 🗆
MTO District	_		Posted Speed	No. of Lanes	
Old County			AADT	% Trucks	
Geographic Twp.	Brampton		Inspection Route Sequence		
Structure Type	Culvert		Interchange Number		]
Total Deck Length		] (m)	Interchange Structure Number		
Overall Str. Width	13.4	] (m)	Min. Vertical Clearance	0.15	(m)
Total Deck Area	_	] (sq.m)	Special Routes:	□ Truck □ Sch	ool 🗆 Bicycle
Roadway Width [	_	] (m)	Detour Length Around Bridge		(km)
Skew Angle		] (Degrees)	Direction of Structure	N to S	
No. of Spans [	1	]	Fill on Structure	0.6	(m)
Span Lengths [	0.46				(m)
Historical Data:	<u>-</u>				
Year Built			Year of Last Major Rehab.		
Last OSIM Inspection	n 11/07/	2005	Last Evaluation		
Last Enhanced OSIM	Inspection		Current Load Limit	/ /	(tonnes)
Enhanced Access Equal (ladder, boat, lift, etc.			Load Limit By-Law #		
Last Underwater Insp	ection		By-Law Expiry Date		
Last Condition Surve	у				
Rehab History: (Date	/description)			error de 1977 de la companya esta esta esta esta esta esta esta est	

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MTO Site Number: 2929

Scheduled Improvemen	ts:		
Regional Priority Number		Programmed Work Year	
Nature of Program Work:			

Appraisal Indices:		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

2929 MTO Site Number:

Field Inspection Infor	mation:			
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM
Inspector:	Eric Cheng			
Others in Party:	Alan Chung, Dan Urian			
Access Equipment Used:	Hand Tools, Dig	ital Camera, N	Measurin	g Tape
Weather:	Clear, some flur	ries		
Temperature:	-3°			

Additional Investigations Required:		Priority	
•	None	Normal	Urgent
Material Condition Survey			
Detailed Deck Condition Survey:	x		
Non-destructive Delamination Survey of Asphalt-Covered Deck:	x		
Concrete Substructure Condition Survey:	Х		
Detailed Coating Condition Survey:	X		
Detailed Timber Investigation	X		
Post-Tensioned Strand Investigation	X		
Underwater Investigation:	x		
Fatigue Investigation:	X		
Seismic Investigation:	X		
Structure Evaluation:	X		
Monitoring			
Monitoring of Deformations, Settlements and Movements:	x		
Monitoring Crack Widths:	X		
Investigation Notes:			

Investigation Notes:

Effective Cross-Section: 28%

Overall Structure Notes:	
Recommended Work on Structure:	☑ None ☐ Minor Rehab. ☐ Major Rehab. ☐ Replace
Timing of Recommended Work:	☐ 1 to 5 years
Overall Comments:	The structure is in good condition.
Date of Next Inspection:	

Suspected	Performance	Deficien	cies

- Load carrying capacity Excessive deformations (deflections & rotations) 02 Continuing settlement 03
- 04 Continuing movements
- Seized bearings 05

#### Maintenance Needs

- Lift and Swing Bridge Maintenance 01 Bridge Cleaning 02
- Bridge Handrail Maintenance 03 Painting Steel Bridge Structures 04
- Bridge Deck Joint Repair 05 Bridge Bearing Maintenance

- Bearing not uniformly loaded/unstable 06
- 07 Jammed expansion joint 08 Pedestrian/vehicular hazard 09 Rough riding surface
- 10 Surface ponding 11
- Deck drainage

12

- Repair to Structural Steel 07 Repair of Bridge Concrete 08
- 09 Repair of Bridge Timber 10 Bailey bridges - Maintenance Animal/Pest Control 11
- 13 Flooding/channel blockage Undermining of foundation 14 15
- Unstable embankments

Slippery surfaces

16 Other

12

- Erosion Control at Bridges 13
- 14 Concrete Sealing 15 Rout and Seal
- Bridge Deck Drainage 16 Scaling (Loose Concrete or ACR Steel)
- Bridge Surface Repair 18 Other

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Apr. 2008

Element Group:	Culvert		Length:	<del></del>	13.4m	
Element Name:			Width:		0.46m	
Location:	Cross Hwy		Height:			
Material:	Corrugate		Count:		1	
Element Type:	Round Culvert Total C			antity:	13.4m	
Environment:	Benign / Modera	ite / Severe	Limited )	Inspection		
Protection System:						Perform.
Condition	Units	Exc.	Good	Fair	r Poor*	Deficiencies
Data: $m^2/1$	m/each/%/all		x			
	ne structure	is in goo	od cond.	ition.		
Recommended Wo	ork: 🛮 Reh	ab □ Replace		Maint	enance Needs:	
	□ 1-5 y	years ⊠ 6-10 ye	ars	☐ Urger	nt 🗆 1 year 🛭	☑ 2 year
Element Group:	1		Length:			
Element Name:			Width:			
Location:			Height:		***************************************	
Material:			Count:			·
Element Type:			Total Qua	antity:		
Environment:	Benign / Moderat	te / Severe	Limited I	nspection		
Protection System:						Perform.
Condition	Units	Exc.	Good	Fair	Poor*	Deficiencies
Condition						
Data: m <sup>2</sup> /n	n/each/%/all					
I	rk: □ Reha	-			enance Needs:	
Data: m²/n Comments:		-	urs	Mainte		12 year
Data: m²/n Comments:  Recommended Wo	rk: □ Reha	-				12 year
Data: m²/n Comments:  Recommended Wo  Element Group:	rk: □ Reha	-	Length:			) 2 year
Data: m²/n Comments:  Recommended Wo  Element Group: Element Name:	rk: □ Reha	-	Length:			2 year
Data: m²/n Comments:  Recommended Wo  Element Group: Element Name: Location:	rk: □ Reha	-	Length: Width: Height:			2 year
Data: m²/n Comments:  Recommended Wo  Element Group: Element Name: Location: Material:	rk: □ Reha	-	Length: Width: Height: Count:	□ Urgent		2 year
Data: m²/n Comments:  Recommended Wo  Element Group: Element Name: Location: Material: Element Type:	rk: □ Reha □ 1-5 y	ears	Length: Width: Height: Count: Total Qua	Urgent	t □1 year □	2 year
Data: m²/n Comments:  Recommended Wo  Element Group: Element Name: Location: Material: Element Type: Environment:	rk: □ Reha	ears	Length: Width: Height: Count:	Urgent	t □1 year □	
Data: m²/n Comments:  Recommended Wo  Element Group: Element Name: Location: Material: Element Type: Environment: Protection System:	rk: □ Reha □ 1-5 y.  Benign / Moderate	ears	Length: Width: Height: Count: Total Qua	Urgent	t 🗆 l year 🗆	Perform. Deficiencies
Data: m²/n Comments:  Recommended Wo  Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition	rk:	ears	Length: Width: Height: Count: Total Qua	Urgent	t □1 year □	Perform.
Data: m²/n Comments:  Recommended Wo  Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/m	rk: □ Reha □ 1-5 y.  Benign / Moderate	ears	Length: Width: Height: Count: Total Qua	Urgent	t 🗆 l year 🗆	Perform.
Data: m²/n Comments:  Recommended Wo  Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/m Comments:	rk:	ears	Length: Width: Height: Count: Total Qua	ntity:	t	Perform.
Data: m²/n Comments:  Recommended Wo  Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/m	Benign / Moderate Units / each / % / all	ears	Length: Width: Height: Count: Total Qua Limited In	ntity: spection Fair Mainte	Poor*	Perform. Deficiencies
Data: m²/n Comments:  Recommended Wo  Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/m Comments:	rk:	ears	Length: Width: Height: Count: Total Qua Limited In	ntity:	Poor*	Perform.

<sup>\*</sup> A quantity must be estimated using the appropriate unit (e.g. m²). Percent should not be used.

Ontario Structure Inspection Manual - Inspection Form Region of Peel Structure # 2930

Inventory Data:				
Structure Name				
Main Hwy/Road#	50	On □ Under 🖰	Crossing □ Navig. Water □ Non-Navig. Water □ R Type: ☑ Road □ Ped. □ Other	lail
Hwy/Road Name	Hwy 50			
Structure Location	West ent	rance from 1	Hwy50	
Latitude GPS Coord	E:605326		Longitude N:4854730	
Owner(s)	Region of	Peel	Heritage ☐ Not Cons. ☐ Cons./not App. ☐ List/not De Designation: ☐ Desig./not List ☐ Desig. & List	sig.
MTO Region	Central		Road Class: Freeway 🗆 Arterial 🗆 Collector 🗅 Local 🗅	
MTO District	-		Posted Speed No. of Lanes	
Old County			AADT % Trucks	]
Geographic Twp.	Brampton		Inspection Route Sequence	
Structure Type	Culvert		Interchange Number	
Total Deck Length		(m)	Interchange Structure Number	
Overall Str. Width	13.2	(m)	Min. Vertical Clearance 0.25 (m)	
Total Deck Area	5397	(sq.m)	Special Routes: ☐ Transit ☐ Truck ☐ School ☐ Bicyc	le
Roadway Width	-	(m)	Detour Length Around Bridge (km)	
Skew Angle		(Degrees)	Direction of Structure S to N	
No. of Spans	1		Fill on Structure 0.8 (m)	
Span Lengths	0.46		(m)	
versus electroliste electroliste electroliste electroliste electroliste electroliste electroliste electroliste				
Historical Data:				
Year Built			Year of Last Major Rehab.	
Last OSIM Inspection	n 11	/07/2005	Last Evaluation	
Last Enhanced OSIM	Inspection		Current Load Limit / / (tonnes)	
Enhanced Access Equal (ladder, boat, lift, etc.			Load Limit By-Law #	
Last Underwater Insp	ection		By-Law Expiry Date	
Last Condition Surve	у			
Rehab History: (Date	/description)			$\neg$

MTO Site Number: 2930

Scheduled Improvements:		
Regional Priority Number	Programmed Work Year	
Nature of Program Work:		

Appraisal Indices:		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

2930 MTO Site Number:

Field Inspection Infor	mation:		4-20-20-20-20-20-20-20-20-20-20-20-20-20-	
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM
Inspector:	Eric Cheng			
Others in Party:	Alan Chung, Dan Urian			
Access Equipment Used:	Hand Tools, Digi	ital Camera, M	leasurin	g Tape
Weather:	Clear, some flurr	ries		
Temperature:	-3°			:

Additional Investigations Required:		Priority		
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	Х			
Non-destructive Delamination Survey of Asphalt-Covered Deck:	x			
Concrete Substructure Condition Survey:	x			
Detailed Coating Condition Survey:	X			
Detailed Timber Investigation	x			
Post-Tensioned Strand Investigation	x			
Underwater Investigation:	x			
Fatigue Investigation:	X			
Seismic Investigation:	Х			
Structure Evaluation:	х			
Monitoring				
Monitoring of Deformations, Settlements and Movements:	X		· · · · · · · · · · · · · · · · · · ·	
Monitoring Crack Widths:	X			
Investigation Notes:		····		

Investigation Notes:

Effective Cross-Section: 56%

Overall Structure Notes:	
Recommended Work on Structure:	☐ None ☐ Minor Rehab. ☐ Major Rehab. ☐ Replace
Timing of Recommended Work:	☐ 1 to 5 years
Overall Comments:	The structure is rusted at the bottom.
Date of Next Inspection:	

#### Suspected Performance Deficiencies

- 01 Load carrying capacity Excessive deformations (deflections & rotations) Continuing settlement 03 Continuing movements 04
- 05 Seized bearings
- Maintenance Needs
- Lift and Swing Bridge Maintenance 02
- Bridge Cleaning Bridge Handrail Maintenance 03 04
- Bridge Deck Joint Repair 05

- Bearing not uniformly loaded/unstable
- 08 Pedestrian/vehicular hazard 09 Rough riding surface

12

- 12
- Slippery surfaces Flooding/channel blockage 13
- 14 Undermining of foundation
  - 15 Unstable embankments
- Other

- Painting Steel Bridge Structures Bridge Bearing Maintenance

- 06 07 Jammed expansion joint
- 10 Surface ponding 11 Deck drainage
- 07 Repair to Structural Steel Repair of Bridge Concrete 08
- 09 Repair of Bridge Timber
- 10 Bailey bridges - Maintenance 11 Animal/Pest Control Bridge Surface Repair

2-52

- Erosion Control at Bridges Concrete Sealing 14
- 15 Rout and Seal
- 16 Bridge Deck Drainage Scaling (Loose Concrete or ACR Steel) 17
- 18

		The same and the same and the same			***************************************	-		
Element Gro		Culvert		Length:				
Element Nan	ie:			Width:		0	.46m	
Location:		Entrance	from Hwy50	Height:				
Material:		Corrugate	d Steel	Count:		1		
Element Typ	e:	Round		Total Qu	antity:	1	3.2m	
Environment	:	Benign / Moderate / Severe Lin			(nspectio	n 🗆		
Protection Sy	stem:				***************************************			Perform.
Condition	I	Units	Exc.	Good	Fa	ir	Poor*	Deficiencies
Data:	$m^2/n$	n/each/%/all			x			
	he s	tructure is	rusted at	the bo			ome rehab	oilitation
Recommend	od Wo	wlze M Dob	oh □ Donloos		Main	+ an an	oo Noodaa	
Recommend	eu wo	***************************************					ce Needs:	•
	. 4074	⊠ 1-5 <u>y</u>	/ears □ 6-10 year	ars	☑ Urge	nt l	□lyear □:	2 year
<u></u>								
Element Grou	in.			Length:				
Element Nam				Width:				
Location:				Height:	····		· · · · · · · · · · · · · · · · · · ·	
Material:				Count:		<del> </del>	<del></del>	
Element Type				Total Qua	ntity			
Environment:		Benign / Moderat	te / Sovere	Limited I	····			
Protection Sys		Denign / Wiouciai	ic / Bevere	Limited i	ushection	<u> </u>		Perform.
	tem.	TT:4-	1 10		107.		TB 34	Deficiencies
Condition	3 .	Units	Exc.	Good	Fai	r	Poor*	Denciencies
	m²/ m	/each/%/all			<u> </u>			
Comments:	ed Wor	·k: □ Reha	b □ Replace		Maint	enan	ce Needs:	
		□ 1-5 ye		rs	□ Urgent □ 1 year □ 2 year			vear
						,		
Element Group	D:			Length:				
Element Name				Width:				
Location:	. • . • . • . • . • . • . • . • . • . •			Height:				
Material:				Count:				
Element Type:				Total Qua	ntity			
Environment:		Benign / Moderate	o / Savara	Limited In				
Protection Syst	tom:	Denign / Moderate	e/ Bevere	Limiteu ii	spection			Perform.
	cm.	TT *4-	<b>T</b>	<b>C</b> -3	77. •.	T	D 4	Deficiencies
Condition		Units	Exc.	Good	Fair	-	Poor*	Denciencies
	m²/ m	/ each / % / all						
Comments:								
Recommende	d Worl	k: □ Rehab	^		Mainte	enanc	e Needs:	
		□ 1-5 ye	ars □ 6-10 year	s	☐ Urgen	t	□ l year [	□ 2 year
2 1 3 years 2 6 16 years 2 10 gent 2 1 year 2 2 year								

<sup>\*</sup> A quantity must be estimated using the appropriate unit (e.g. m²). Percent should not be used.

Region of Peel Structure #

2952

Inventory Data:				
Structure Name				
Main Hwy/Road#	50 On 1	□ Under 🖰	Crossing ☐ Navig. Water Type: ☑ Roa	☐ Non-Navig. Water ☐ Rail d ☐ Ped. ☐ Other
Hwy/Road Name	Hwy 50			
Structure Location	East field	entrance	from Hwy50	
Latitude GPS Coord	E:605177		Longitude N:4855147	
Owner(s)	Region of Pe	el		Cons./not App. □ List/not Desig. /not List □ Desig. & List
MTO Region	Central		Road Class: Freeway [] A	rterial □ Collector □ Local □
MTO District	-		Posted Speed	No. of Lanes
Old County	_		AADT	% Trucks
Geographic Twp.	Brampton		Inspection Route Sequence	
Structure Type	Culvert		Interchange Number	
Total Deck Length [		(m)	Interchange Structure Number	
Overall Str. Width [	12	(m)	Min. Vertical Clearance	0.42 (m)
Total Deck Area		sq.m)	Special Routes:	☐ Truck ☐ School ☐ Bicycle
Roadway Width	=	] (m)	Detour Length Around Bridge	(km)
Skew Angle	1000 C C C C C C C C C C C C C C C C C C	(Degrees)	Direction of Structure	N to S
No. of Spans	1		Fill on Structure	0.5 (m)
Span Lengths	0.5			(m)
Historical Data:				
Year Built			Year of Last Major Rehab.	
Last OSIM Inspection	n 06/07	/2005	Last Evaluation	
Last Enhanced OSIM	Inspection		Current Load Limit	// (tonnes)
Enhanced Access Equ (ladder, boat, lift, etc.			Load Limit By-Law #	
Last Underwater Insp	ection		By-Law Expiry Date	
Last Condition Surve	у			
Rehab History: (Date	/description)			

MTO Site Number:	2952
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Scheduled Improvement	ents:		
Regional Priority Number		Programmed Work Year	
Nature of Program Wor	k:		

Appraisal Indices:		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

			2052
MTO	Site	Number:	2952

Field Inspection Infor			MACHINE CONTROL OF CON			
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM		
Inspector:	Eric Cheng					
Others in Party:	Alan Chung, Dan Urian					
Access Equipment Used:	Hand Tools, Digital Camera, Measuring Tape					
Weather:	Clear, some flurries					
Temperature:	-3°					

Additional Investigations Required:		Priority			
· •	None	Normal	Urgent		
Material Condition Survey					
Detailed Deck Condition Survey:	x				
Non-destructive Delamination Survey of Asphalt-Covered Deck:	Х				
Concrete Substructure Condition Survey:	Х				
Detailed Coating Condition Survey:	X				
Detailed Timber Investigation	Х				
Post-Tensioned Strand Investigation	Х				
Underwater Investigation:	Х				
Fatigue Investigation:	x				
Seismic Investigation:	Х				
Structure Evaluation:	X				
Monitoring					
Monitoring of Deformations, Settlements and Movements:	X				
Monitoring Crack Widths:	Х				
Investigation Notes:					

Effective Cross-Section: 90%

Overall Structure Notes:						
Recommended Work on Structure:	☑ None ☐ Minor Rehab. ☐ Major Rehab. ☐ Replace					
Timing of Recommended Work:	☐ 1 to 5 years ☑ 6 to 10 years					
Overall Comments:	The structure is in fair condition. The bottom of structure is rusted.					
Date of Next Inspection:						

#### Suspected Performance Deficiencies

- 01 Load carrying capacity Excessive deformations (deflections & rotations) 02 03 Continuing settlement Continuing movements 04
- 05 Seized bearings
- Maintenance Needs
- Lift and Swing Bridge Maintenance

Bridge Bearing Maintenance

- Bridge Cleaning Bridge Handrail Maintenance 02 03
- 04 Painting Steel Bridge Structures Bridge Deck Joint Repair 05

- Bearing not uniformly loaded/unstable 06 07 Jammed expansion joint
- 08 Pedestrian/vehicular hazard 09 Rough riding surface
- 10 Surface ponding 11 Deck drainage
- 07 Repair to Structural Steel 08 Repair of Bridge Concrete Repair of Bridge Timber 09
- 10 Bailey bridges - Maintenance 11 Animal/Pest Control 12 Bridge Surface Repair

- Slippery surfaces
- 13 Flooding/channel blockage 14 Undermining of foundation
- 15 Unstable embankments
- 16 Other
- Erosion Control at Bridges 13 14 Concrete Sealing
- Rout and Seal 15
- 16 Bridge Deck Drainage 17 Scaling (Loose Concrete or ACR Steel)
- Other 18

Element Group:	Culvert		Length:		12	.Om		
Element Name:			Width:		0.	50m		
Location:	Cross Hwy		Height:					
Material:	Corrugate		Count:		1			
Element Type:	Round Cul			al Quantity: 12.0m				
Environment:	Benign / Modera	ite / Severe	Limited I	nspection				
Protection System:				<del></del>			Perform.	
Condition	Units	Exc.	Good	Fair	r	Poor*	Deficiencies	
	m/each/%/all			X				
44.	Comments: The structure is in fair condition. The bottom of structure is rusted. Some rehabilitation is suggested.							
Recommended W	ork: Reh	ab □ Replace		Maint	enanc	e Needs:		
	⊠ 1-5	years □ 6-10 y	ears	☑ Urgen	ıt 🗆	l year	☐ 2 year	
Element Group:			Length:		***************************************			
Element Name:			Width:					
Location:			Height:					
Material:			Count:					
Element Type:	77.5		Total Qua					
Environment:	Benign / Modera	te / Severe	Limited Ir	spection				
Protection System:	TT •/	T	~ .				Perform.	
Condition Data: m <sup>2</sup> /	Units m / each / % / all	Exc.	Good	Fair		Poor*	Deficiencies	
Comments:								
Recommended Wo	ork: $\Box$ Reha	ıb □ Replace		Mainte	nanc	e Needs:		
Recommended Wo	ork: □ Reha □ 1-5 y	•	ears	Mainte ☐ Urgent			2 year	
		^					2 year	
Element Group:		^	Length:				2 year	
Element Group: Element Name:		^	Length: Width:				2 year	
Element Group: Element Name: Location:		^	Length: Width: Height:				2 year	
Element Group: Element Name: Location: Material:		^	Length: Width: Height: Count:	□ Urgent			2 year	
Element Group: Element Name: Location: Material: Element Type:	□ 1-5 y	ears □ 6-10 ye	Length: Width: Height: Count: Total Quar	□ Urgent			2 year	
Element Group: Element Name: Location: Material: Element Type: Environment:		ears □ 6-10 ye	Length: Width: Height: Count:	□ Urgent				
Element Group: Element Name: Location: Material: Element Type: Environment: Protection System:	□ 1-5 y  Benign / Moderat	ears	Length: Width: Height: Count: Total Quar Limited In	Urgent		l year □	Perform.	
Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition	□ 1-5 y  Benign / Moderat  Units	ears □ 6-10 ye	Length: Width: Height: Count: Total Quar	□ Urgent				
Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/r	□ 1-5 y  Benign / Moderat	ears	Length: Width: Height: Count: Total Quar Limited In	Urgent		l year □	Perform.	
Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/ r. Comments:	Benign / Moderat Units 1 / each / % / all	ears	Length: Width: Height: Count: Total Quar Limited In	Urgent  ntity: spection  Fair		l year  Poor*	Perform.	
Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/r	□ 1-5 y  Benign / Moderat  Units n / each / % / all  rk: □ Reha	ears	Length: Width: Height: Count: Total Quar Limited In	Urgent  ntity: spection  Fair  Maintel	nance	I year  Poor*  Needs:	Perform.	
Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/ r. Comments:	Benign / Moderat Units 1 / each / % / all	ears	Length: Width: Height: Count: Total Quar Limited In	Urgent  ntity: spection  Fair	nance	l year  Poor*	Perform.	

<sup>\*</sup> A quantity must be estimated using the appropriate unit (e.g. m²). Percent should not be used.

Region of Peel Structure # 2953

Inventory Data:				
Structure Name				
Main Hwy/Road #	50 On 🗆	Under 🖺	Crossing ☐ Navig. Water Type: ☑ Road	□ Non-Navig. Water □ Rail
Hwy/Road Name	Hwy 50	* * * * * * * * * * * * * * * * * * * *		
Structure Location	East entranc	e from H	wy50	
Latitude GPS Coord	E:605147		Longitude N:4855222	
Owner(s)	Region of Pee	el	Heritage □ Not Cons. □ C Designation: □ Desig./	
MTO Region	Central		Road Class: Freeway [] A	rterial □ Collector □ Local □
MTO District	A00		Posted Speed	No. of Lanes
Old County			AADT	% Trucks
Geographic Twp.	Brampton		Inspection Route Sequence	
Structure Type	Culvert		Interchange Number	
Total Deck Length		] (m)	Interchange Structure Number	
Overall Str. Width	12.5	] (m)	Min. Vertical Clearance	0.3 (m)
Total Deck Area		(sq.m)	Special Routes:	☐ Truck ☐ School ☐ Bicycle
Roadway Width		] (m)	Detour Length Around Bridge	(km)
Skew Angle [		Degrees)	Direction of Structure	W to E
No. of Spans	1 ,		Fill on Structure	0.7 (m)
Span Lengths	0.5			(m)
Historical Data:				
Year Built			Year of Last Major Rehab.	
Last OSIM Inspection	n 06/07/	2005	Last Evaluation	
Last Enhanced OSIM	Inspection		Current Load Limit	/ / (tonnes)
Enhanced Access Equal (ladder, boat, lift, etc.			Load Limit By-Law #	
Last Underwater Insp	pection		By-Law Expiry Date	
Last Condition Surve	у			
Rehab History: (Date	/description)			

Scheduled Improvements:			
Regional Priority Number		Programmed Work Year	
Nature of Program Work:		Milatinian kan Mahadi Milatinian kan manangan pangan ngapan ng pangan na mangan ng pangan ng pangan ng pangan	
	4		

2953

MTO Site Number:

Appraisal Indices:		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

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2953 MTO Site Number:

Field Inspection Info	rmation:		and an and from the farmer and an angular and an a			
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM		
Inspector:	Eric Cheng					
Others in Party:	Alan Chung, Dan	Alan Chung, Dan Urian				
Access Equipment Used:	Hand Tools, Digital Camera, Measuring Tape					
Weather:	Clear, some flur	ries				
Temperature:	-3°					

Additional Investigations Required:		Priority		
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	x			
Non-destructive Delamination Survey of Asphalt-Covered Deck:	x			
Concrete Substructure Condition Survey:	Х			
Detailed Coating Condition Survey:	Х			
Detailed Timber Investigation	Х			
Post-Tensioned Strand Investigation	Х			
Underwater Investigation:	x			
Fatigue Investigation:	Х			
Seismic Investigation:	X			
Structure Evaluation:	х			
Monitoring				
Monitoring of Deformations, Settlements and Movements:	X			
Monitoring Crack Widths:	X			
Investigation Notes:		***************************************		

Investigation Notes:

Effective Cross-Section: 63%

Overall Structure Notes:	
Recommended Work on Structure:	□ None ☑ Minor Rehab. □ Major Rehab. □ Replace
Timing of Recommended Work:	☑ 1 to 5 years ☐ 6 to 10 years
Overall Comments:	The structure is deformed at the north end The bottom of the structure is rusted.
Date of Next Inspection:	

#### Suspected Performance Deficiencies

- Load carrying capacity Excessive deformations (deflections & rotations) 02 Continuing settlement 03
- 04 Continuing movements
- Seized bearings 05

#### Maintenance Needs

- Lift and Swing Bridge Maintenance 01 Bridge Cleaning 02
- Bridge Handrail Maintenance 03 Painting Steel Bridge Structures 04
- 05 Bridge Deck Joint Repair
- Bridge Bearing Maintenance

- 06 Bearing not uniformly loaded/unstable
- 07 Jammed expansion joint 08 Pedestrian/vehicular hazard
- 09 Rough riding surface 10 Surface ponding
- Deck drainage 11
- 07 Repair to Structural Steel
- 08 Repair of Bridge Concrete 09 Repair of Bridge Timber 10 Bailey bridges - Maintenance
- 11 Animal/Pest Control Bridge Surface Repair 12

- Slippery surfaces 12
- 13 Flooding/channel blockage Undermining of foundation 14
- 15 Unstable embankments
- Other
- Erosion Control at Bridges 13
- 14 Concrete Sealing Rout and Seal 15
  - 16 Bridge Deck Drainage 17 Scaling (Loose Concrete or ACR Steel)
- 18 Other

Element Group:							
	Culvert		Length:		12	2.5m	
Element Name:			Width:		0	.5m	
Location:	East entr	ance Hwy50	Height:				
Material:	Corrugate	d Steel	Count:		1	**************************************	
Element Type:	Round Cul	vert	Total Qu	antity:		2.5m	
Environment:	Benign / Modera		Limited I	<del>~</del>			
Protection System							Perform.
Condition	Units	Exc.	Good	Fa	i <sub>r</sub>	Poor*	Deficiencies
1	/m/each/%/all		Good	X		1 001	
	/ m / eacn / % / au	<u> </u>		^			
	eds to be re	placed. Th	e botto				abilitated.
Recommended \	Vork: 🛚 🛚 Reh	ab 🛚 Replace	- pay or NAS 140° pages to page or \$400000 hope. Market against a deal pay de company or conserve	Main	tenan	ce Needs:	
	⊠ 1-5 ي	years 🗆 6-10 yea	ars	☑ Urge	nt [	]lyear □	2 year
			, , , , , , , , , , , , , , , , , , , ,				
THE CO.	*227		1 7 77	***********			
Element Group: Element Name:			Length:				
			Width:				
Location:			Height:				
Material:			Count:				
Element Type:			Total Qua				
Environment:	Benign / Modera	te / Severe	Limited In	<b>1spection</b>			
Protection System		·					Perform.
Condition	Units	Exc.	Good	Fair	r	Poor*	Deficiencies
Data: m <sup>2</sup>	m/each/%/all						
Comments:							
				l war e ,			
Recommended V						e Needs:	
Recommended V		ab □ Replace ears □ 6-10 yea	rs	<b>Maint</b> □ Urger			2 year
Recommended V			rs				2 year
Recommended V			rs				2 year
		ears □ 6-10 yea					2 year
Element Group:			Length:				2 year
Element Group: Element Name:		ears □ 6-10 yea	Length:				2 year
Element Group: Element Name: Location:		ears □ 6-10 yea	Length: Width: Height:				2 year
Element Group: Element Name: Location: Material:		ears □ 6-10 yea	Length: Width: Height: Count:	□ Urger			2 year
Element Group: Element Name: Location: Material: Element Type:	□ 1-5 y	ears □ 6-10 yea	Length: Width: Height: Count: Total Quan	□ Urger	nt 🗆		2 year
Element Group: Element Name: Location: Material: Element Type: Environment:		ears □ 6-10 yea	Length: Width: Height: Count:	□ Urger	nt 🗆		
Element Group: Element Name: Location: Material: Element Type: Environment: Protection System:	Benign / Moderat	ears	Length: Width: Height: Count: Total Quan	Urger	nt 🗆	l year	Perform.
Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition	Benign / Moderat Units	ears □ 6-10 yea	Length: Width: Height: Count: Total Quan	□ Urger	nt 🗆		
Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition	Benign / Moderat	ears	Length: Width: Height: Count: Total Quan	Urger	nt 🗆	l year	Perform.
Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition	Benign / Moderat Units	ears	Length: Width: Height: Count: Total Quan	Urger	nt 🗆	l year	Perform.
Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/ Comments:	Benign / Moderat Units m / each / % / all	e/ Severe  Exc.	Length: Width: Height: Count: Total Quan	ntity: spection		l year  Poor*	Perform.
Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/	Benign / Moderat  Units m / each / % / all  Ork:	e/ Severe  Exc.	Length: Width: Height: Count: Total Qual Limited In	ntity: spection Fair	enanc	l year  Poor*	Perform. Deficiencies
Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/ Comments:	Benign / Moderat Units m / each / % / all	e / Severe  Exc.	Length: Width: Height: Count: Total Qual Limited In	ntity: spection	enanc	l year  Poor*	Perform.

<sup>\*</sup> A quantity must be estimated using the appropriate unit (e.g. m<sup>2</sup>). Percent should not be used.

Region of Peel Structure # 2954

Inventory Data:					
Structure Name					
Main Hwy/Road#	50 On [	∃ Under 🖺	Crossing ☐ Navig. Water Type: ☑ Road	□ Non-Navig.	Water □ Rail Other
Hwy/Road Name	Hwy 50				
Structure Location	East entran	ce			
Latitude GPS Coord	E:605079		Longitude N:4855376		
Owner(s)	Region of Pe	el	Heritage ☐ Not Cons. ☐ C Designation: ☐ Desig./	* *	□ List/not Desig. sig. & List
MTO Region	Central		Road Class: Freeway 🗆 A	rterial 🗆 Collect	or 🛘 Local 🗆
MTO District	100V		Posted Speed	No. of Lanes	
Old County			AADT	% Trucks	
Geographic Twp.	Brampton		Inspection Route Sequence		]
Structure Type	Culvert		Interchange Number		]
Total Deck Length [		] (m)	Interchange Structure Number		]
Overall Str. Width [	13.3	(m)	Min. Vertical Clearance	0.35	(m)
Total Deck Area	-	(sq.m)	Special Routes:	□ Truck □ Sch	ool 🛘 Bicycle
Roadway Width	-	(m)	Detour Length Around Bridge		(km)
Skew Angle	-	(Degrees)	Direction of Structure	N to S	
No. of Spans	1		Fill on Structure	0.6	(m)
Span Lengths [	0.46				(m)
			rakornosta kantas kun minkon minkan kornak kaha kaha kaha kan kan kan kan kan kan kan kan kan ka	O ST 4-15 mil 19 Marin Green Laboratoria de la constante de la constante de la constante de la constante de la	
Historical Data:					
Year Built			Year of Last Major Rehab.		
Last OSIM Inspection	n 06/07,	/2005	Last Evaluation		
Last Enhanced OSIM	Inspection		Current Load Limit	/ /	(tonnes)
Enhanced Access Equal (ladder, boat, lift, etc.			Load Limit By-Law #		
Last Underwater Insp	ection		By-Law Expiry Date		
Last Condition Survey	у				
Rehab History: (Date	description)				

Scheduled Improvements:

Nature of Program Work:

Regional Priority

Number

 Programmed Work Year	
1 000	

MTO Site Number:

2954

Appraisal Indices		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

2954 **MTO Site Number:** 

Field Inspection Info	rmation:		Alaka MARANA Alaka meninggan sebagai sepagai pagaga			
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM		
Inspector:	Eric Cheng					
Others in Party:	Alan Chung, Dan	Alan Chung, Dan Urian				
Access Equipment Used:	Hand Tools, Digital Camera, Measuring Tape					
Weather:	Clear, some flurries					
Temperature:	-3°					

Additional Investigations Required:		Priority		
•	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	X			
Non-destructive Delamination Survey of Asphalt-Covered Deck:	x			
Concrete Substructure Condition Survey:	X			
Detailed Coating Condition Survey:	X			
Detailed Timber Investigation	X			
Post-Tensioned Strand Investigation	X			
Underwater Investigation:	x			
Fatigue Investigation:	X			
Seismic Investigation:	Х			
Structure Evaluation:	x			
Monitoring			***************************************	
Monitoring of Deformations, Settlements and Movements:	x			
Monitoring Crack Widths:	X			
Investigation Notes:	_			

Effective Cross-Section: 82%

Overall Structure Notes:				
Recommended Work on Structure:	□None	⊠ Minor Rehab.	☐ Major Rehab.	□ Replace
Timing of Recommended Work:	☑ 1 to 5 ye	ears □ 6 to 10 yea	ars	
Overall Comments:			n fair condi	
Date of Next Inspection:				

#### Suspected Performance Deficiencies

- 01 Load carrying capacity Excessive deformations (deflections & rotations) 02 Continuing settlement 03 04 Continuing movements
- Seized bearings 05
- 01
- 02 03
- 04
- 05
- Maintenance Needs Lift and Swing Bridge Maintenance Bridge Cleaning Bridge Handrail Maintenance
  - Painting Steel Bridge Structures Bridge Deck Joint Repair Bridge Bearing Maintenance

- 06 Bearing not uniformly loaded/unstable
- 07 Jammed expansion joint 08 Pedestrian/vehicular hazard Rough riding surface 09
- 10 Surface ponding 11
- Deck drainage
- 07 Repair to Structural Steel
- 08 Repair of Bridge Concrete 09 Repair of Bridge Timber Bailey bridges - Maintenance 10
- 11 Animal/Pest Control 12

- 12 Slippery surfaces
- 13 Flooding/channel blockage 14 Undermining of foundation
- 15 Unstable embankments
- 16 Other

Erosion Control at Bridges Concrete Sealing 14 15 Rout and Seal

- Bridge Deck Drainage 16 17 Scaling (Loose Concrete or ACR Steel)
- Bridge Surface Repair 18

13

2-52

Element Gro	124 Table 1981	Culvert		Length:			.3m	
Element Name:				Width:	h:		0.46m	
Location:		East entrance Hwy50		0 Height:	Height:			
Material:		Corrugated	d Steel	Count:		1		
Element Type:		Round Culvert		Total Qu	Total Quantity:		.3m	
Environment	:	Benign / Modera	te / Severe		Inspection			
Protection Sy	stem:							Perform.
Condition	1	Units	Exc.	Good	Fai	r	Poor*	Deficiencies
Data:	$m^2/m$	/ each / % / all		0004	X		2 002	
Comments:	<u> </u>	/ cacii / /0 / aii	<u> </u>					
Th		ructure is a			d shou	ıld 1	be reha	abilitated
Recommend	ed Wor	k: ⊠ Reha	ab 🛭 Replace		Maintenance Needs:			
		⊠ 1-5 y		ears	···			☐ 2 year
Element Grou Element Namo Location: Material: Element Type	e:			Length: Width: Height: Count: Total Qua				
Environment:		Benign / Moderat	e / Severe	Limited I	nspection			
Protection Sys	tem:				· -			Perform.
Condition		Units	Exc.	Good	Fair	•	Poor*	Deficiencies
Data:	$m^2/m$	/ each / % / all					,,,	
Recommended Work:					Maintenance Needs:  ☐ Urgent ☐ 1 year ☐ 2 year			
	breather to the last							
Element Group			7.50	Length:				
Element Name				Width:				
Location:				Height:				
Material:				Count:				
Element Type:		Total Quantity:						
Environment:		Benign / Moderate / Severe Limited Inspection						
Protection Syst	em:	· · · · · · · · · · · · · · · · · · ·						Perform.
Condition		Units	Exc.	Good	Fair		Poor*	Deficiencies
Data:	$m^2/m/$	each / % / all						
Comments:	3 887 1				70.07			
Recommended	a Work		□ Replace				Needs:	
Market workshop and the first of the first state of	a programme of the section of the section of	☐ 1-5 yea	ars 🗆 6-10 yea	ars	☐ Urgent		] l year	☐ 2 year

2954

<sup>\*</sup> A quantity must be estimated using the appropriate unit (e.g. m²). Percent should not be used.

# Ontario Structure Inspection Manual – Inspection Form Region of Peel Structure #

2955

Inventory Data:				
Structure Name				
Main Hwy/Road#	50	On 🗆 Under 🖺	Crossing ☐ Navig. Water Type: ☐ Roa	_
Hwy/Road Name	Hwy 50			
Structure Location	East ent	rance from H	łwy50	
Latitude GPS Coord	E:604990		Longitude N:4855577	
Owner(s)	Region of	Peel	Heritage Not Cons.	Cons./not App. ☐ List/not Desig. /not List ☐ Desig. & List
MTO Region	Central		Road Class: Freeway [] A	rterial □ Collector □ Local □
MTO District			Posted Speed	No. of Lanes
Old County	_		AADT	% Trucks
Geographic Twp.	Brampton		Inspection Route Sequence	
Structure Type	Culvert		Interchange Number	
Total Deck Length		(m)	Interchange Structure Number	
Overall Str. Width	19.3	(m)	Min. Vertical Clearance	0.32 (m)
Total Deck Area	_	(sq.m)	Special Routes:   Transit	$\square$ Truck $\square$ School $\square$ Bicycle
Roadway Width		(m)	Detour Length Around Bridge	(km)
Skew Angle	_	(Degrees)	Direction of Structure	N to S
No. of Spans	1		Fill on Structure	0.5 (m)
Span Lengths	0.46			(m)
				of the street land the street and the street land to the street land to the street land to the street land to
Historical Data:				
Year Built			Year of Last Major Rehab.	
Last OSIM Inspection		/07/2005	Last Evaluation	
Last Enhanced OSIM	-		Current Load Limit	(tonnes)
Enhanced Access Equal (ladder, boat, lift, etc.			Load Limit By-Law #	
Last Underwater Insp	ection		By-Law Expiry Date	
Last Condition Surve	у			
Rehab History: (Date	description)	Mit die welche die des weiere en een een een geverende en een een een een een een een een		

1 (955)		2055
WIO Site Number:	MTO Site Number:	2955

Scheduled Improvem	ents:		
Regional Priority Number		Programmed Work Year	
Nature of Program Wo	rk:		
	•		

Appraisal Indices:		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

2955 MTO Site Number:

Field Inspection Info	ormation:			
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM
Inspector:	Eric Cheng	Eric Cheng		
Others in Party:	Alan Chung, Dan	Alan Chung, Dan Urian		
Access Equipment Used:	Hand Tools, Digital Camera, Measuring Tape			
Weather:	Clear, some flur	Clear, some flurries		
Temperature:	-3°	-3°		

Additional Investigations Required:		Priority		
•	None	Urgent		
Material Condition Survey				
Detailed Deck Condition Survey:	x			
Non-destructive Delamination Survey of Asphalt-Covered Deck:	X			
Concrete Substructure Condition Survey:	X			
Detailed Coating Condition Survey:	X			
Detailed Timber Investigation	Х			
Post-Tensioned Strand Investigation	Х			
Underwater Investigation:	Х			
Fatigue Investigation:	Х			
Seismic Investigation:	X			
Structure Evaluation:	x			
Monitoring				
Monitoring of Deformations, Settlements and Movements:	X		***************************************	
Monitoring Crack Widths:	x			
Investigation Notes:				
Effective Cross-Section:72	%			

Overall Structure Notes:	
Recommended Work on Structure:	☐ None ☑ Minor Rehab. ☐ Major Rehab. ☐ Replace
Timing of Recommended Work:	☑ 1 to 5 years ☐ 6 to 10 years
Overall Comments:	The structure is in fair condition. The structure is rusted inside.
Date of Next Inspection:	

#### Suspected Performance Deficiencies

- Load carrying capacity Excessive deformations (deflections & rotations) 02 03 Continuing settlement 04 Continuing movements Seized bearings
- 05
- Maintenance Needs Lift and Swing Bridge Maintenance 01
- Bridge Cleaning 02 Bridge Handrail Maintenance 03
- Painting Steel Bridge Structures
- 04 05 Bridge Deck Joint Repair 06 Bridge Bearing Maintenance

- 06 Bearing not uniformly loaded/unstable 07 Jammed expansion joint
- Pedestrian/vehicular hazard 08 09 Rough riding surface Surface ponding 10
- 11 Deck drainage
- 07 Repair to Structural Steel Repair of Bridge Concrete
- 09 Repair of Bridge Timber 10
- Bailey bridges Maintenance 11 Animal/Pest Control 12

- 12 Slippery surfaces
- 13 Flooding/channel blockage Undermining of foundation
- 15 Unstable embankments 16 Other
- Erosion Control at Bridges 13 Concrete Sealing 14
- 15 Rout and Seal 16 Bridge Deck Drainage
- Scaling (Loose Concrete or ACR Steel) 17
- Bridge Surface Repair 18 Other

2-52

	Element Group:	Culvert		Length:		19	9.3m	
	Element Name:			Width:		0	.46m	
	Location:	East entrance Hwy50						
I	Material:	Corrugated Steel		Count:		1		
I	Element Type:	Round Culvert		Total Qua			).3m	······································
-	Environment:	Benign / Modera	te / Severe	Limited I	nspectio	n 🗆		-
,	Protection System:						·	Perform.
	Condition	Units	Exc.	Good	Fa	ir	Poor*	Deficiencies
L	Data: $m^2/m$	1/each/%/all			×	Σ		
	Comments:							
	The structure is rusted inside and should be rehabiliatat					abiliatated		
	or repl	aced in the	near fut	ure.				
ıŀ	Recommended Wor	rk: 🗵 Reha	ab ⊠ Replace		Main	tenan	ce Needs:	
<b> </b> -		⊠ 1-5 y		are	Urge			☐ 2 year
	Principles substitutes as the transfer of the transfer of the substitute of the transfer of th		ours a o-ro yet	410	Orgo	411 5	s i yeai	□ 2 year
-								
- ا				<del></del>		······································		
	Element Group:			Length:				
<u> </u>	Element Name:			Width:				
-	Location:			Height:		ļ		
-	Material:			Count:			•	
	Element Type: Environment:	Benign / Moderate	- / Co	Total Qua		<u> </u>		
L	Protection System:	benign / Moderate	e / Severe	Limited In	Inspection □ Perform.			
H	Condition	Units	Exc.	Good	Fai		D+	Deficiencies
	ļ.,,		Exc.	G00a	Fai	<u>r</u>	Poor*	Deficiencies
- 1	Data. M/M	/each/%/all						
	Commontes							
Ī	Comments:							
	Comments:							
	Comments:  Recommended World		*				ce Needs:	
			o □ Replace ears □ 6-10 yea	rs	<b>Maint</b> □ Urger			□ 2 year
			*	rs				☐ 2 year
			*	rs				⊒2 year
			*	rs Length:				] 2 year
	Recommended Work		*					☐ 2 year
	Recommended Wor		*	Length:				☐ 2 year
	Recommended Work  Clement Group;  Clement Name:		*	Length: Width: Height: Count:	□ Urger			2 year
	Recommended Work  Clement Group: Clement Name: Location: Aaterial: Clement Type:	□ 1-5 ye	ears	Length: Width: Height:	□ Urger			□ 2 year
	Recommended Work  Clement Group: Clement Name: Location: Material: Clement Type: Cnvironment:		ears	Length: Width: Height: Count:	☐ Urger	nt 🗆		
	Recommended Work  Element Group:  Element Name:  Location:  Aterial:  Element Type:  Crotection System:	□ 1-5 ye  Benign / Moderate	ears	Length: Width: Height: Count: Total Quar Limited Ins	☐ Urger	nt 🗆		Perform.
	Recommended Work  Element Group:  Clement Name:  Location:  Asterial:  Clement Type:  Crotection System:  Condition	□ 1-5 ye  Benign / Moderate  Units	ears	Length: Width: Height: Count: Total Quar	☐ Urger	nt 🗆		
	Recommended Work  Element Group:  Clement Name:  Location:  Asterial:  Clement Type:  Crotection System:  Condition	□ 1-5 ye  Benign / Moderate	ears	Length: Width: Height: Count: Total Quar Limited Ins	□ Urger	nt 🗆	1 year [	Perform.
I I I I I I I I I I I I I I I I I I I	Recommended Work  Element Group:  Clement Name:  Location:  Asterial:  Clement Type:  Crotection System:  Condition	□ 1-5 ye  Benign / Moderate  Units	ears	Length: Width: Height: Count: Total Quar Limited Ins	□ Urger	nt 🗆	1 year [	Perform.
I I I I I I I I I I I I I I I I I I I	Recommended Work  Element Group:  Element Name:  Location:  Material:  Element Type:  Environment:  Protection System:  Condition  Data:  m²/ m/	□ 1-5 ye  Benign / Moderate  Units	ears	Length: Width: Height: Count: Total Quar Limited Ins	□ Urger	nt 🗆	1 year [	Perform.
I I I I I I I I I I I I I I I I I I I	Recommended Work  Element Group:  Element Name:  Location:  Material:  Element Type:  Environment:  Protection System:  Condition  Data:  m²/ m/	□ 1-5 ye  Benign / Moderate  Units	ears	Length: Width: Height: Count: Total Quar Limited Ins	□ Urger	nt 🗆	1 year [	Perform.
I I I I I I I I I I I I I I I I I I I	Recommended Work  Element Group:  Clement Name:  Location:  Atterial:  Clement Type:  Convironment:  Protection System:  Condition  Data:  Data:  Comments:	Benign / Moderate Units / each / % / all	ears	Length: Width: Height: Count: Total Quar Limited Ins	Urger	nt -	Poor*	Perform.
I I I I I I I I I I I I I I I I I I I	Recommended Work  Element Group:  Element Name:  Location:  Material:  Element Type:  Environment:  Protection System:  Condition  Data:  m²/ m/	Benign / Moderate Units / each / % / all	ears	Length: Width: Height: Count: Total Quar Limited Ins	utity: spection Fair	enance	Poor*	Perform. Deficiencies
I I I I I I I I I I I I I I I I I I I	Recommended Work  Element Group:  Clement Name:  Location:  Atterial:  Clement Type:  Convironment:  Protection System:  Condition  Data:  Data:  Comments:	Benign / Moderate Units / each / % / all	ears	Length: Width: Height: Count: Total Quar Limited Ins	Urger	enance	Poor*	Perform.
I I I I I I I I I I I I I I I I I I I	Recommended Work  Element Group:  Clement Name:  Location:  Atterial:  Clement Type:  Convironment:  Protection System:  Condition  Data:  Data:  Comments:	Benign / Moderate Units / each / % / all	ears	Length: Width: Height: Count: Total Quar Limited Ins	utity: spection Fair	enance	Poor*	Perform. Deficiencies

<sup>\*</sup> A quantity must be estimated using the appropriate unit (e.g. m²). Percent should not be used.

Ontario Str	cucture Inspec	ction Manual – Ins	spection Form Region of Peel Structure # 2956
Inventory Data:			
Structure Name			
Main Hwy/Road#	50	On □ Under 🖰	Crossing ☐ Navig. Water ☐ Non-Navig. Water ☐ Ra Type: ☑ Road ☐ Ped. ☐ Other
Hwy/Road Name	Hwy 50		
Structure Location	West ent	rance from H	łwy50
Latitude GPS Coord	E:605524		Longitude N:4854285
Owner(s)	Region of	Peel	Heritage □ Not Cons. □ Cons./not App. □ List/not Des Designation: □ Desig./not List □ Desig. & List
MTO Region [	Central		Road Class: Freeway 🗆 Arterial 🗆 Collector 🗆 Local 🗆
MTO District	New		Posted Speed No. of Lanes
Old County [	_		AADT % Trucks
Geographic Twp.	Brampton		Inspection Route Sequence
Structure Type	Culvert		Interchange Number
Total Deck Length		(m)	Interchange Structure Number
Overall Str. Width	10.6	(m)	Min. Vertical Clearance 0.3 (m)
Total Deck Area	_	(sq.m)	Special Routes:
Roadway Width	_	(m)	Detour Length Around Bridge (km)
Skew Angle		(Degrees)	Direction of Structure S to N
No. of Spans	1		Fill on Structure 0.6 (m)
Span Lengths	0.46		(m)
Historical Data:			
Year Built			Year of Last Major Rehab.
Last OSIM Inspection	n 11/	/07/2005	Last Evaluation
Last Enhanced OSIM I	Inspection		Current Load Limit / / (tonnes)

Year Built		Year of Last Major Rehab.	
Last OSIM Inspection	11/07/2005	Last Evaluation	
Last Enhanced OSIM Inspection		Current Load Limit	/ / (tonnes)
Enhanced Access Equipment [ladder, boat, lift, etc.)		Load Limit By-Law #	
_ast Underwater Inspection		By-Law Expiry Date	
Last Condition Survey			
Rehab History: (Date/description)			

## ${\bf Ontario\ Structure\ Inspection\ Manual-Inspection\ Form}$

MTO Site Number:	2956
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Scheduled Improvemen	its:		
Regional Priority Number		Programmed Work Year	
Nature of Program Work	:		

Appraisal Indices:		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

2-51

MTO Site Number:

2	9	5	6

Field Inspection Infor	mation:					
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM		
Inspector:	Eric Cheng					
Others in Party:	Alan Chung, Dan Urian					
Access Equipment Used:	Hand Tools, Digital Camera, Measuring Tape					
Weather:	Clear, some flurries					
Temperature:	-3°					

Additional Investigations Required:		Priority	
	None	Normal	Urgent
Material Condition Survey			
Detailed Deck Condition Survey:	Х		
Non-destructive Delamination Survey of Asphalt-Covered Deck:	Х		
Concrete Substructure Condition Survey:	Х		
Detailed Coating Condition Survey:	Х		
Detailed Timber Investigation	Х		
Post-Tensioned Strand Investigation	х		
Underwater Investigation:	Х		
Fatigue Investigation:	X		
Seismic Investigation:	Х		
Structure Evaluation:	Х		
Monitoring			1
Monitoring of Deformations, Settlements and Movements:	Х		
Monitoring Crack Widths:	x		
Investigation Notes:			
Effective Cross-Section: 69%	5		

Overall Structure Notes:				
Recommended Work on Structure:	⊠ None	☐ Minor Rehab.	□ Major Rehab.	□ Replace
Timing of Recommended Work:	☑ 1 to 5 year	ars □ 6 to 10 ye	ars	
Overall Comments:	The str		fair conditio Lightly damag ide.	
Date of Next Inspection:				

#### Suspected Performance Deficiencies

- 01 Load carrying capacity Excessive deformations (deflections & rotations) 03 Continuing settlement Continuing movements 04
- 05 Seized bearings
- Maintenance Needs
- Lift and Swing Bridge Maintenance 01
- Bridge Cleaning 02
- Bridge Handrail Maintenance 03
- 04 Painting Steel Bridge Structures 05 Bridge Deck Joint Repair
- Bridge Bearing Maintenance

- 06 Bearing not uniformly loaded/unstable 07
- Jammed expansion joint 08 Pedestrian/vehicular hazard
- 09 Rough riding surface 10 Surface ponding
- 11 Deck drainage
- 07 Repair to Structural Steel 08 Repair of Bridge Concrete 09 Repair of Bridge Timber
- 10 Bailey bridges - Maintenance 11
  - Animal/Pest Control Bridge Surface Repair

- 12 Slippery surfaces
- Flooding/channel blockage 13 Undermining of foundation
- Unstable embankments 15
- Other 16

- 13 Erosion Control at Bridges
- Concrete Sealing 14
- 15 Rout and Seal
- 16 Bridge Deck Drainage 17 Scaling (Loose Concrete or ACR Steel)
- 18

Element Gro							
		Culvert		Length:		10.6m	
Element Nan	1e:			Width:		0.46m	
Location:		West entr					
Material:		Corrugated	d Steel	Count:		_ 1	
Element Typ		Round		Total Qua		10.6m	
Environment		Benign / Modera	te / Severe	Limited I	nspection		
Protection Sy	stem:						Perform.
Condition		Units	Exc.	Good	Fair	Poor*	Deficiencies
Data:	$m^2/m$	/each/%/all			X		
Comments:  The structure is rusted inside and should be rehabiliatated or replaced in the near future.							
Recommend	ed Wor	k: 🛮 Reha	ab 🛚 Replace	······	Mainte	nance Needs:	
		⊠ 1-5 y		ears	☐ Urgent		2 year
The state area areas are and to horsely. The last code contribution of an			0415 0010 )		U OIBOIL	es i your — 2	z ycai
Element Grou				Length:			
Element Nam	e:			Width:			
Location:				Height:		• • • • • • • • • • • • • • • • • • • •	
Material:				Count:			
Element Type				Total Qua			
Environment:		Benign / Moderat	e / Severe	Limited In	nspection 🗆		
Protection Sys	tem:						Perform.
Condition		Units	Exc.	Good	Fair	Poor*	Deficiencies
Data:	$m^2/m$	/each/%/all					
Comments:	ed Worl	<b>k:</b> □ Rehal	b □ Replace		Mainten	ance Needs:	
		□ 1-5 ye	ears 🗆 6-10 ye	ars	s □ Urgent □ 1 year □ 2 year		
	hade the second place and an arrange of the	Angelingung Pin (Parjahatahan Pilana) and angelingung angelini (Parjahanan)					
	02-100000000000000000000000000000000000	under von Serversen von er en en ver		ad <b>-</b>			
HIAMANT L. PANI				Length:			
Element Group		E COM SPOCIALE COM SECULO EN EL COMO DE COME CON EN			E .		
Element Name	• 3 4 1 1 1 1			Width:			
Element Name Location:				Height:			
Element Name Location: Material:				Height: Count:			
Element Name Location: Material: Element Type:				Height: Count: Total Quar			
Element Name Location: Material: Element Type: Environment:		Benign / Moderate	/ Severe	Height: Count:			
Element Name Location: Material: Element Type: Environment: Protection Syst				Height: Count: Total Quar Limited In	spection [		Perform,
Element Name Location: Material: Element Type: Environment: Protection Syst Condition	tem:	Units	e/ Severe Exc.	Height: Count: Total Quar		Poor*	Perform. Deficiencies
Element Name Location: Material: Element Type: Environment: Protection Syst Condition Data:	tem:			Height: Count: Total Quar Limited In	spection [		
Element Name Location: Material: Element Type: Environment: Protection Syst Condition	tem:	Units / each / % / all	Exc.	Height: Count: Total Quar Limited In	Spection [	Poor*	

<sup>\*</sup> A quantity must be estimated using the appropriate unit (e.g. m²). Percent should not be used.

## Ontario Structure Inspection Manual – Inspection Form Region of Peel Structure # 2957

Inventory Data:				
Structure Name				
Main Hwy/Road #	50	On 🗆 Under 🖰	Crossing ☐ Navig. Water Type: ☑ Road	☐ Non-Navig. Water ☐ Raîl
Hwy/Road Name	Hwy 50			
Structure Location	West fie	ld entrance	from Hwy50	
Latitude GPS Coord	E:605631		Longitude N:4854046	
Owner(s)	Region of	Peel	Heritage ☐ Not Cons. ☐ C Designation: ☐ Desig.	Cons./not App. 🗆 List/not Desig. /not List 🗆 Desig. & List
MTO Region	Central		Road Class: Freeway   A	rterial   Collector   Local
MTO District	60K		Posted Speed	No. of Lanes
Old County [	100		AADT	% Trucks
Geographic Twp.	Brampton		Inspection Route Sequence	
Structure Type [	Culvert		Interchange Number	
Total Deck Length		(m)	Interchange Structure Number	
Overall Str. Width	10.2	(m)	Min. Vertical Clearance	0.35 (m)
Total Deck Area	_	(sq.m)	Special Routes:   Transit	☐ Truck ☐ School ☐ Bicycle
Roadway Width		(m)	Detour Length Around Bridge	(km)
Skew Angle	-	(Degrees)	Direction of Structure	E to W
No. of Spans	1		Fill on Structure	0.6 (m)
Span Lengths	0.75			(m)
Historical Data:				
Year Built			Year of Last Major Rehab.	
Last OSIM Inspection	11/	707/2005	Last Evaluation	
Last Enhanced OSIM I			Current Load Limit	/ / (tonnes)
Enhanced Access Equilibrium (ladder, boat, lift, etc.)			Load Limit By-Law #	
Last Underwater Inspe	ection		By-Law Expiry Date	
Last Condition Survey				
Rehab History: (Date/	description)			

Scheduled Improvements:		
Regional Priority Number	Programmed Work Year	
Nature of Program Work:		

Appraisal Indices:		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

2957

MTO Site Number:

2957 MTO Site Number:

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Field Inspection Infor	mation:					
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM		
Inspector:	Eric Cheng					
Others in Party:	Alan Chung, Dan Urian					
Access Equipment Used:	Hand Tools, Digital Camera, Measuring Tape					
Weather:	Clear, some flurries					
Temperature:	-3°					

Additional Investigations Required:		Priority			
	None	Normal	Urgent		
Material Condition Survey			<u> </u>		
Detailed Deck Condition Survey:	Х				
Non-destructive Delamination Survey of Asphalt-Covered Deck:	Х		· · · · · · · · · · · · · · · · · · ·		
Concrete Substructure Condition Survey:	Х		***************************************		
Detailed Coating Condition Survey:	Х				
Detailed Timber Investigation	Х				
Post-Tensioned Strand Investigation	X				
Underwater Investigation:	X				
Fatigue Investigation:	X				
Seismic Investigation:	Х				
Structure Evaluation:	Х				
Monitoring			Mellususususususususususususususususususu		
Monitoring of Deformations, Settlements and Movements:	X				
Monitoring Crack Widths:	Х		•		
Investigation Notes:		····			
Effective Cross-Section:469	ò				

Overall Structure Notes:						
Recommended Work on Structure:	☑ None ☐ Minor Rehab. ☐ Major Rehab. ☐ Replace					
Timing of Recommended Work:	☐ 1 to 5 years					
Overall Comments:	The structure is in good condition.					
Date of Next Inspection:						

Sus	pected Performance Deficiencies				
-		06	Bearing not uniformly loaded/unstable		12 Slippery surfaces
01	Load carrying capacity	07	Jammed expansion joint		13 Flooding/channel blockage
02	Excessive deformations (deflections & rotations)	08	Pedestrian/vehicular hazard		14 Undermining of foundation
03	Continuing settlement	09	Rough riding surface		15 Unstable embankments
04	Continuing movements	10	Surface ponding		16 Other
05	Seized bearings	11	Deck drainage		
Main	ntenance Needs				
01	Lift and Swing Bridge Maintenance	07	Repair to Structural Steel	13	Erosion Control at Bridges
02	Bridge Cleaning	08	Repair of Bridge Concrete	14	Concrete Sealing
03	Bridge Handrail Maintenance	09	Repair of Bridge Timber	15	Rout and Seal
04	Painting Steel Bridge Structures	10	Bailey bridges - Maintenance	16	Bridge Deck Drainage
05	Bridge Deck Joint Repair	11	Animal/Pest Control	17	Scaling (Loose Concrete or ACR Steel)
06	Bridge Bearing Maintenance	12	Bridge Surface Repair	18	Other
			2-52		
n.	2				4 2000

<sup>\*</sup> A quantity must be estimated using the appropriate unit (e.g. m<sup>2</sup>). Percent should not be used.

## Ontario Structure Inspection Manual - Inspection Form Region of Peel Structure # 2967

Inventory Data:				
Structure Name				
Main Hwy/Road#	50	On 🗆	Under 🖰	Crossing ☐ Navig. Water ☐ Non-Navig. Water ☐ Rai Type: ☑ Road ☐ Ped. ☐ Other
Hwy/Road Name	Hwy 50			
Structure Location	Cross H	wy50		
Latitude GPS Coord	E:605114	1		Longitude N:4855227
Owner(s)	Region c	f Pee	1	Heritage
MTO Region	Central			Road Class: Freeway Arterial Collector Local
MTO District [				Posted Speed No. of Lanes
Old County [				AADT % Trucks
Geographic Twp. [	Bramptor	1		Inspection Route Sequence
Structure Type [	Culvert			Interchange Number
Total Deck Length			(m)	Interchange Structure Number
Overall Str. Width	65.2		(m)	Min. Vertical Clearance 0.5 (m)
Total Deck Area			(sq.m)	Special Routes: ☐ Transit ☐ Truck ☐ School ☐ Bicycle
Roadway Width			(m)	Detour Length Around Bridge (km)
Skew Angle	_		(Degrees)	Direction of Structure W to E
No. of Spans	2 .			Fill on Structure 1.0 (m)
Span Lengths	1.3			(m)
			5 <u>2200 2200 0</u> 000 0000	
Historical Data:		+ +		
Year Built				Year of Last Major Rehab.
Last OSIM Inspection	ı <u>1</u> 4	4/07/2	2005	Last Evaluation
Last Enhanced OSIM I	nspection			Current Load Limit / / (tonnes)
Enhanced Access Equal (ladder, boat, lift, etc.)				Load Limit By-Law #
Last Underwater Inspe	ection			By-Law Expiry Date
Last Condition Survey	7			
Rehab History: (Date/	description)			

	1 2967
MTO Site Number:	2001
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Scheduled Improvemen	ts:		
Regional Priority Number		Programmed Work Year	
Nature of Program Work:			
	•		

Appraisal Indices	•	Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

MTO Site Number:

2	9	6	7	

Field Inspection Infor	mation:			
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM
Inspector:	Eric Cheng		I	
Others in Party:	Alan Chung, Dan	Urian		
Access Equipment Used:	Hand Tools, Digi	tal Camera, M	leasuring	g Tape
Weather:	Clear, some flurr	ies		
Temperature:	-3°			

Additional Investigations Required:	Priority			
	None	Normal	Urgent	
Material Condition Survey	_			
Detailed Deck Condition Survey:	х			
Non-destructive Delamination Survey of Asphalt-Covered Deck:	x			
Concrete Substructure Condition Survey:	x			
Detailed Coating Condition Survey:	X			
Detailed Timber Investigation	X			
Post-Tensioned Strand Investigation	X			
Underwater Investigation:	X			
Fatigue Investigation:	X			
Seismic Investigation:	X			
Structure Evaluation:	X			
Monitoring				
Monitoring of Deformations, Settlements and Movements:	X			
Monitoring Crack Widths:	X			
Investigation Notes:		<u> </u>		
Effective Cross-Section: 3	35%			

Overall Structure Notes:				
Recommended Work on Structure:	□ None	⊠ Minor Rehab.	☐ Major Rehab.	☐ Replace
Timing of Recommended Work:	⊠ 1 to 5 y	rears	ars	
Overall Comments:	North i		ide) is clogge	ed w/ rip rap
Date of Next Inspection:				

Suspected	Performance	Deficien	cies

ous	Jeetcu I ci toi manee Denerencies					
•		06	Bearing not uniformly loaded/unstable		12	Slippery surfaces
1	Load carrying capacity	07	Jammed expansion joint		13	Flooding/channel blockage
2	Excessive deformations (deflections & rotations)	08	Pedestrian/vehicular hazard		14	Undermining of foundation
3	Continuing settlement	09	Rough riding surface		15	Unstable embankments
4	Continuing movements	10	Surface ponding		16	Other
5	Seized bearings	11	Deck drainage			
/air	ntenance Needs					
1	Lift and Swing Bridge Maintenance	07	Repair to Structural Steel	13	Erc	sion Control at Bridges

trol at Bridges Repair of Bridge Concrete Repair of Bridge Timber 02 08 14 Concrete Sealing 03

Bridge Cleaning
Bridge Handrail Maintenance
Painting Steel Bridge Structures
Bridge Deck Joint Repair 09 Rout and Seal 15 10 16 Bridge Deck Drainage

04 05 Bailey bridges - Maintenance Animal/Pest Control 11 Scaling (Loose Concrete or ACR Steel) 17

Bridge Bearing Maintenance 12 Bridge Surface Repair 18 Other

Element Group:	Culvert		Length:		65.2m	
Element Name:			Width:		1.3m	
Location:	Cross Hwy	50	Height:		0.9m	
Material:	Corrugate		Count:		1	
Element Type:	Oval Culv		Total Qu	antity:	65.2m	
Environment:	Benign / Modera	ite / Severe	····	Inspection	······································	
Protection System:	8			spect.on	144	Perform.
Condition	Units	Exc.	Good	Fair	Poor*	Deficiencies
	n/each/%/all	Exc.	3000	X	1001	
Comments:	II / CACII / /0 / AU					
The structure	is in fair	r conditi	on Mort	h end	needs to b	e re-shane
and a flush/				0110	110000 00 2	e re brape
				т : : : : :		
Recommended Wo				~	enance Needs:	
	⊠ 1-5 <u>y</u>	years □ 6-10 y	ears	☑ Urgen	t □1 year □2	2 year
Element Group:			Length:			
Element Name:			Width:			
Location:			Height:			
Material:			Count:			
Element Type:			Total Qua	intity:		***************************************
Environment:	Benign / Moderat	te / Severe	Limited I	nspection		
Protection System:						Perform.
Condition	Units	Exc.	Good	Fair	Poor*	Deficiencies
Data: $m^2/m$	/ each / % / all		91-11-1-1-1			
	/ cach / /u / an	I		<u> </u>		<u> </u>
Comments:						
	<b>k:</b> □ Reha	*		Mainte	nance Needs:	
Comments:		*	ars	Mainte ☐ Urgent		year
Comments:	<b>k:</b> □ Reha	*	ars			year
Comments:	<b>k:</b> □ Reha	*	ars			year
Comments:  Recoinmended Wor	<b>k:</b> □ Reha	*				year
Comments:	<b>k:</b> □ Reha	*	Length:			year
Comments:  Recoinmended Wor	<b>k:</b> □ Reha	*				year
Comments:  Recoinmended Wor  Element Group: Element Name:	<b>k:</b> □ Reha	*	Length: Width:			year
Comments:  Recoinmended Wor  Element Group: Element Name: Location:	<b>k:</b> □ Reha	*	Length: Width: Height:	□ Urgent		year
Comments:  Recommended Wor  Element Group: Element Name: Location: Material: Element Type:	<b>k:</b> □ Reha	ears □ 6-10 ye	Length: Width: Height: Count:	□ Urgent	□ I year □ 2	year
Comments:  Recommended Wor  Element Group: Element Name: Location: Material: Element Type:	k: □ Reha □ 1-5 y	ears □ 6-10 ye	Length: Width: Height: Count: Total Quar	□ Urgent	□ I year □ 2	year Perform.
Comments:  Recommended Wor  Element Group: Element Name: Location: Material: Element Type: Environment:	k: □ Reha □ 1-5 y	ears □ 6-10 ye	Length: Width: Height: Count: Total Quar	□ Urgent	□ I year □ 2	
Comments:  Recommended Wor  Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition	k: □ Reha □ 1-5 y	ears	Length: Width: Height: Count: Total Quar	Urgent  ntity:	□ 1 year □ 2	Perform.
Comments:  Recommended Wor  Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition	k: □ Reha □ 1-5 yo  Benign / Moderate  Units	ears	Length: Width: Height: Count: Total Quar	Urgent  ntity:	□ 1 year □ 2	Perform.
Comments:  Recommended Worn  Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/m.	k: □ Reha □ 1-5 yo  Benign / Moderate  Units	ears	Length: Width: Height: Count: Total Quar	Urgent  ntity:	□ 1 year □ 2	Perform.
Comments:  Recommended Work  Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/m  Comments:	k: □ Reha □ 1-5 y  Benign / Moderate  Units / each / % / all	ears	Length: Width: Height: Count: Total Quar	ntity: spection Fair	□ l year □ 2 □ Poor*	Perform.
Comments:  Recommended Worn  Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/m.	k: ☐ Reha ☐ 1-5 yo  Benign / Moderate  Units / each / % / all	ears	Length: Width: Height: Count: Total Qual Limited In	ntity: spection Fair Mainten	Poor*	Perform. Deficiencies
Comments:  Recommended Work  Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/m  Comments:	k: □ Reha □ 1-5 y  Benign / Moderate  Units / each / % / all	ears	Length: Width: Height: Count: Total Qual Limited In	ntity: spection Fair	Poor*	Perform.
Comments:  Recommended Work  Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/m  Comments:	k: ☐ Reha ☐ 1-5 yo  Benign / Moderate  Units / each / % / all	ears	Length: Width: Height: Count: Total Qual Limited In	ntity: spection Fair Mainten	Poor*	Perform. Deficiencies

<sup>\*</sup> A quantity must be estimated using the appropriate unit (e.g. m²). Percent should not be used.

## Ontario Structure Inspection Manual – Inspection Form Region of Peel Structure # 2968

Inventory Data:					
Structure Name					
Main Hwy/Road#	50	On □ Under 🖰	Crossing ☐ Navig. Water Type: ☒ Road		Rail
Hwy/Road Name	Hwy 50				
Structure Location	Cross Hwy	y50			
Latitude GPS Coord	E:605175		Longitude N:4855089		
Owner(s)	Region of	Peel	Heritage ☐ Not Cons. ☐ C Designation: ☐ Desig./		sig.
MTO Region	Central		Road Class: Freeway [ A	rterial 🗆 Collector 🗆 Local 🗆	
MTO District			Posted Speed	No. of Lanes	
Old County [			AADT	% Trucks	
Geographic Twp.	Brampton		Inspection Route Sequence		
Structure Type [	Culvert		Interchange Number		
Total Deck Length [		(m)	Interchange Structure Number		
Overall Str. Width	33.8	(m)	Min. Vertical Clearance	0 (m)	
Total Deck Area	_	(sq.m)	Special Routes:	☐ Truck ☐ School ☐ Bicyc	:le
Roadway Width		(m)	Detour Length Around Bridge	(km)	
Skew Angle	100	(Degrees)	Direction of Structure	W to E	
No. of Spans	2 .		Fill on Structure	0.7 (m)	
Span Lengths	0.8			(m)	
Historical Data:					
Year Built			Year of Last Major Rehab.		
Last OSIM Inspection	n 14,	/07/2005]	Last Evaluation		
Last Enhanced OSIM l	Inspection		Current Load Limit	/ / (tonnes)	
Enhanced Access Equal (ladder, boat, lift, etc.)			Load Limit By-Law #		
Last Underwater Insp	ection		By-Law Expiry Date		
Last Condition Survey	у				
Rehab History: (Date/	description)			The state of the s	1

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MTO Site Number: 2968

Scheduled Improvemen	its:		
Regional Priority Number		Programmed Work Year	
Nature of Program Work	ik K		
	,		
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Appraisal Indices:		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

MTO Site Number:

2	9	6	8	

Field Inspection Infor	mation:			protective and the second	
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM	
Inspector:	Eric Cheng				
Others in Party:	Alan Chung, Dan Urian				
Access Equipment Used:	Hand Tools, Digital Camera, Measuring Tape				
Weather:	Clear, some flurries				
Temperature:	-3°				

Additional Investigations Required:	Priority		
·	None	Normal	Urgent
Material Condition Survey			
Detailed Deck Condition Survey:	Х		
Non-destructive Delamination Survey of Asphalt-Covered Deck:	Х		
Concrete Substructure Condition Survey:	X		
Detailed Coating Condition Survey:	X		
Detailed Timber Investigation	X		
Post-Tensioned Strand Investigation	X		
Underwater Investigation:	X		
Fatigue Investigation:	Х		
Seismic Investigation:	Х		
Structure Evaluation:	Х		
Monitoring			
Monitoring of Deformations, Settlements and Movements:	Х		
Monitoring Crack Widths:	Х		***************************************
Investigation Notes:			
Effective Cross-Section:	0 %		

Overall Structure Notes:	
Recommended Work on Structure:	☑ None ☐ Minor Rehab. ☐ Major Rehab. ☐ Replace
Timing of Recommended Work:	☐ 1 to 5 years ☑ 6 to 10 years
Overall Comments:	The structure is in good condition.
Date of Next Inspection:	

#### Suspected Performance Deficiencies

- 01 Load carrying capacity Excessive deformations (deflections & rotations) 02 Continuing settlement
- 03 04 Continuing movements
- 05 Seized bearings

#### Maintenance Needs

- Lift and Swing Bridge Maintenance 01
- 02 Bridge Cleaning
- Bridge Handrail Maintenance 03 Painting Steel Bridge Structures 04
- 05 Bridge Deck Joint Repair Bridge Bearing Maintenance

- 06 Bearing not uniformly loaded/unstable
- 07 Jammed expansion joint 08 Pedestrian/vehicular hazard
- 09 Rough riding surface Surface ponding 10
- 11 Deck drainage

- 07 Repair to Structural Steel
- Repair of Bridge Concrete 08 09 Repair of Bridge Timber
- 10 Bailey bridges - Maintenance
- 11 Animal/Pest Control Bridge Surface Repair

- 12 Slippery surfaces
- 13 Flooding/channel blockage Undermining of foundation 14
- Other
- 16
- 15 Unstable embankments
- 13 Erosion Control at Bridges
- 14 Concrete Sealing
- 15 Rout and Seal 16
- Bridge Deck Drainage 17 Scaling (Loose Concrete or ACR Steel)
- 18 Other

		・ 動きを含めることがあります。ことがないというというできます。ことがないます。						
Element Gro		Culvert		Length:			3.8m	
Element Nan	ne:			Width:		0	.8m	
Location:		Cross Hwy		Height:				
Material:		Corrugate	d Steel	Count:		2		
Element Typ	e:	Round Cul	.vert	Total Qu	Total Quantity: 33.8m			
Environment	:	Benign / Modera	Limited )	<del></del>	ı 🛮			
Protection Sy	stem:	Perform.						
Condition	T	Units	Exc.	Good	Fai	r	Poor*	Deficiencies
Data:	$m^2/m$	/each/%/all	1	X				
Comments:	Comments: The culvert needs flushing and the outlet freed of silty							
1		d vegetatic		J				1
Recommend	led Wor	rk: ⊠ Reh	ab □ Replace		Main	tenan	ce Needs:	
		□ 1-5 y		ars	☑ Urge	nt [	]lyear □2	2 year
				egyptigethe and high property and the second section of the first plant of the second section of the section of the second section of the section of the second section of the s	1			
	Anthonorum and an annual a							
Element Grou	ւթ։			Length:	***************************************			
Element Nam	e:			Width:				
Location:				Height:				
Material:				Count:				
Element Type	:			Total Qua	ntity:			
Environment:		Benign / Moderat	te / Severe	Limited I	nspection			
Protection Sys	stem:							Perform.
Condition		Units	Exc.	Good	Fair	r	Poor*	Deficiencies
Data:	$m^2/m$	/ each / % / all						·
Recommended Work:   Rehab Replace Maintenance Needs:								
Recommende	ed Wor							
Recommende	ed Wor	<b>k:</b> □ Reha □ 1-5 y		ars	Maint			year
Recommende	ed Wor			urs				year
								year
Element Grou	p:			Length:				year
Element Grou	p:			Length:				year
Element Group Element Name Location:	p:			Length: Width: Height:				year
Element Group Element Name Location: Material:	p: ::			Length: Width: Height: Count:	Urgen			year
Element Group Element Name Location: Material: Element Type:	p:	□ 1-5 y	ears	Length: Width: Height: Count: Total Qua	Urgen	t 🗆		year
Element Group Element Name Location: Material: Element Type: Environment:	p;		ears	Length: Width: Height: Count:	Urgen	t 🗆		
Element Group Element Name Location: Material: Element Type: Environment: Protection Syst	p;	□ 1-5 yo Benign / Moderato	ears	Length: Width: Height: Count: Total Qua	Urgen		1 year □2	Perform.
Element Group Element Name Location: Material: Element Type: Environment: Protection Syst	p:	□ 1-5 y	ears	Length: Width: Height: Count: Total Qua	Urgen			
Element Group Element Name Location: Material: Element Type: Environment: Protection Syst	p:	□ 1-5 yo Benign / Moderato	ears	Length: Width: Height: Count: Total Qua	Urgen		1 year □2	Perform.
Element Group Element Name Location: Material: Element Type: Environment: Protection Syst	p:	□ 1-5 y	ears	Length: Width: Height: Count: Total Qua	Urgen		1 year □ 2	Perform.
Element Group Element Name Location: Material: Element Type: Environment: Protection Syst Condition Data:	p: :: tem: m <sup>2</sup> / m /	□ 1-5 ye  Benign / Moderate  Units / each / % / all	ears	Length: Width: Height: Count: Total Qua	ntity: spection		1 year	Perform.
Element Group Element Name Location: Material: Element Type: Environment: Protection Syst Condition Data: Comments:	p: :: tem: m <sup>2</sup> / m/	□ 1-5 y	ears	Length: Width: Height: Count: Total Qua Limited In	ntity: spection Fair	enance	l year □ 2  Poor*	Perform. Deficiencies
Element Group Element Name Location: Material: Element Type: Environment: Protection Syst Condition Data: Comments:	p: :: tem: m <sup>2</sup> / m/	□ 1-5 ye  Benign / Moderate  Units / each / % / all	ears	Length: Width: Height: Count: Total Qua Limited In	ntity: spection	enance	l year □ 2  Poor*	Perform.

<sup>\*</sup> A quantity must be estimated using the appropriate unit (e.g. m²). Percent should not be used.

## Ontario Structure Inspection Manual – Inspection Form Region of Peel Structure # 2971

Inventory Data:					
Structure Name					
Main Hwy/Road#	50	On □ Under 🕾	Crossing ☐ Navig. Water Type: ☑ Road		Rail
Hwy/Road Name	Hwy 50				
Structure Location	Cross Hw	y50			
Latitude GPS Coord	E:605219		Longitude N:4855984		
Owner(s)	Region of	Peel	Heritage ☐ Not Cons. ☐ C Designation: ☐ Desig./	Cons./not App. ☐ List/not Denot List ☐ Desig. & List	esig.
MTO Region	Central		Road Class: Freeway [] A	rterial □ Collector □ Local □	I
MTO District	_		Posted Speed	No. of Lanes	
Old County	_		AADT	% Trucks	
Geographic Twp.	Brampton		Inspection Route Sequence		
Structure Type	Culvert		Interchange Number		
Total Deck Length		(m)	Interchange Structure Number		
Overall Str. Width	31.4	(m)	Min. Vertical Clearance	0 (m)	
Total Deck Area		(sq.m)	Special Routes:	☐ Truck ☐ School ☐ Bicy	cle
Roadway Width	_	(m)	Detour Length Around Bridge	(km)	
Skew Angle		(Degrees)	Direction of Structure	W to E	
No. of Spans	2 .		Fill on Structure	0.6 (m)	
Span Lengths	0.75			(m)	
					54275
Historical Data:					
Year Built			Year of Last Major Rehab.		
Last OSIM Inspection	n 14,	/07/2005	Last Evaluation		ı
Last Enhanced OSIM	Inspection		Current Load Limit	/ / (tonnes)	
Enhanced Access Equal (ladder, boat, lift, etc.			Load Limit By-Law #		
Last Underwater Insp	ection		By-Law Expiry Date		
Last Condition Surve	у				
Rehab History: (Date	/description)				
					İ

## ${\bf Ontario\ Structure\ Inspection\ Manual-Inspection\ Form}$

Armo di ar	2971
<b>MTO Site Number:</b>	

Scheduled Improvements		
Regional Priority Number	Programmed Year	l Work
Nature of Program Work:		
	•	
	The state of the s	

Appraisal Indices:		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

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MTO Site Number:

2	9	7	1

Field Inspection Info	rmation:			Table - Control of Table - Contr	
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM	
Inspector:	Eric Cheng		<u> </u>		
Others in Party:	Alan Chung, Dan Urian				
Access Equipment Used:	Hand Tools, Digital Camera, Measuring Tape				
Weather:	Clear, some flur	cies			
Temperature:	-3°				

Additional Investigations Required:		Priority		
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	x			
Non-destructive Delamination Survey of Asphalt-Covered Deck:	x			
Concrete Substructure Condition Survey:	x			
Detailed Coating Condition Survey:	X			
Detailed Timber Investigation	X			
Post-Tensioned Strand Investigation	x			
Underwater Investigation:	х			
Fatigue Investigation:	х			
Seismic Investigation:	X			
Structure Evaluation:	Х			
Monitoring				
Monitoring of Deformations, Settlements and Movements:	x			
Monitoring Crack Widths:	X			
Investigation Notes:				
Effective Cross-Section: (	۱2			

Effective Cross-Section: 0%

Overall Structure Notes:	
Recommended Work on Structure:	☐ None ☐ Minor Rehab. ☐ Replace
Timing of Recommended Work:	☐ 1 to 5 years ☐ 6 to 10 years
Overall Comments:	The structure is in poor condition. It is rusted inside and west end bent upwards.
Date of Next Inspection:	

#### Suspected Performance Deficiencies

- Load carrying capacity Excessive deformations (deflections & rotations) 02 03 Continuing settlement 04 Continuing movements Seized bearings 05
- Maintenance Needs
- Lift and Swing Bridge Maintenance 01 02
- Bridge Cleaning Bridge Handrail Maintenance 03
- Painting Steel Bridge Structures 04 05 Bridge Deck Joint Repair Bridge Bearing Maintenance

- 06 Bearing not uniformly loaded/unstable
- 08 Pedestrian/vehicular hazard
- 07 Jammed expansion joint
- 09 Rough riding surface
- Surface ponding 10 11 Deck drainage
- 07 Repair to Structural Steel 08 Repair of Bridge Concrete 09
- Repair of Bridge Timber 10 Bailey bridges - Maintenance 11
  - Animal/Pest Control

- 12 Slippery surfaces Flooding/channel blockage 13
- Undermining of foundation 14 15 Unstable embankments
- 16 Other
- Erosion Control at Bridges
- 13 Concrete Sealing 14 15 Rout and Seal
- 16 Bridge Deck Drainage 17 Scaling (Loose Concrete or ACR Steel)
- Bridge Surface Repair 18 Other

12

Element Group:	Culvert		Length:			.4m		
Element Name:			Width:		0	.75m		
Location:	Cross Hwy		Height:					
Material:	Corrugate		Count:		2			
Element Type:	Round Cul		Total Qua			1.8m		
Environment:	Benign / Modera	te / Severe	Limited I	nspection	1 🗆			
Protection System:			,					Perform.
Condition	Units	Exc.	Good	Fai	r	Poor*	*	Deficiencies
Data: $m^2$	m/each/%/all					Х		
Comments:			7 7	4				
1	re is broken						_	
	s necessary		est end.					required
Recommended W	ork: 🗵 Reha	ab 🗆 Replace				ce Needs:	<u>:                                    </u>	
and a remain remains and constitutions. Let's a server reforms the second of the contract of the constitution of the contract of the constitution of the contract of the contr	⊠ 1-5 y	rears 🗆 6-10 y	ears	☑ Urger	nt 🗆	l year	□2 y	year
		***********************				70		
Element Group:			Length:					
Element Name:			Width:					
Location:			Height:					
Material:			Count:					
Element Type:			Total Qua	ntity:				
Environment:	Benign / Moderat	e / Severe	Limited In		П			
Protection System:			1 =====================================	Броодол		Perturb	T	Perform.
Condition	Units	Exc.	Good	Fair		Poor*	$\dashv$	Deficiencies
I		23.1.0						
Data: $m^2/r$	n/each/%/all						- 1	
	n/each/%/all				L			
Data:   m <sup>2</sup> / r Comments:	n / each / % / all							
	n/each/%/all							
Comments:				Not				
	rk: □ Reha					e Needs:		
Comments:			ears	<b>Mainte</b> □ Urgen				ear
Comments:	rk: □ Reha		ears					ear
Comments:	rk: □ Reha		ears					ear
Comments:	rk: □ Reha		ears Length:					ear
Comments:	rk: □ Reha							ear
Comments:  Recommended Wo	rk: □ Reha		Length:					ear
Comments:  Recommended Wo  Element Group: Element Name:	rk: □ Reha		Length: Width:					ear
Comments:  Recommended Wo  Element Group: Element Name: Location: Material: Element Type:	rk: □ Reha □ 1-5 ye	ears □ 6-10 ye	Length: Width: Height:	□ Urgen				ear
Comments:  Recommended Wo  Element Group: Element Name: Location: Material: Element Type: Environment:	rk: □ Reha	ears □ 6-10 ye	Length: Width: Height: Count:	□ Urgen	t 🗆		 □ 2 y	
Comments:  Recommended Wo  Element Group: Element Name: Location: Material: Element Type:	rk: □ Reha □ 1-5 ye  Benign / Moderate	ears □ 6-10 ye	Length: Width: Height: Count: Total Quar	□ Urgen	t 🗆			Perform.
Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition	Prk: □ Reha □ 1-5 ye  Benign / Moderate  Units	ears □ 6-10 ye	Length: Width: Height: Count: Total Quar	□ Urgen				
Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition	rk: □ Reha □ 1-5 ye  Benign / Moderate	ears	Length: Width: Height: Count: Total Quar	□ Urgen		1 year (		Perform.
Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition	Prk: □ Reha □ 1-5 ye  Benign / Moderate  Units	ears	Length: Width: Height: Count: Total Quar	□ Urgen		1 year (	□ 2 y	Perform.
Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/ m	Prk: □ Reha □ 1-5 ye  Benign / Moderate  Units	ears	Length: Width: Height: Count: Total Quar	□ Urgen		1 year (		Perform.
Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/ m	Prk: □ Reha □ 1-5 ye  Benign / Moderate  Units	ears	Length: Width: Height: Count: Total Quar	□ Urgen		1 year (		Perform.
Comments:  Recommended Wo  Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/ m  Comments:	Benign / Moderate Units 1 / each / % / all	e/ Severe  Exc.	Length: Width: Height: Count: Total Quar	□ Urgen		1 year (		Perform.
Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/ m	Benign / Moderate  Units  1 / each / % / all	e/ Severe  Exc.	Length: Width: Height: Count: Total Quar Limited In	Urgen  ntity: spection Fair  Mainte	nance	1 year (Poor*		Perform. Deficiencies
Comments:  Recommended Wo  Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/ m  Comments:	Benign / Moderate Units 1 / each / % / all	e/ Severe  Exc.	Length: Width: Height: Count: Total Quar Limited In	□ Urgen	nance	1 year (		Perform.
Comments:  Recommended Wo  Element Group: Element Name: Location: Material: Element Type: Environment: Protection System: Condition Data: m²/ m  Comments:	Benign / Moderate  Units  1 / each / % / all	e/ Severe  Exc.	Length: Width: Height: Count: Total Quar Limited In	Urgen  ntity: spection Fair  Mainte	nance	1 year (Poor*		Perform. Deficiencies

<sup>\*</sup> A quantity must be estimated using the appropriate unit (e.g. m<sup>2</sup>). Percent should not be used.

Region of Peel Structure #

2973

Inventory Data:			
Structure Name			
Main Hwy/Road#	50 On □ Under 🖰	Crossing ☐ Navig. Water Type: ☑ Road	☐ Non-Navig. Water ☐ Rail ☐ Ped. ☐ Other
Hwy/Road Name	Hwy 50		
Structure Location	Cross Hwy50		
Latitude GPS Coord	E:605257	Longitude N:4855892	
Owner(s)	Region of Peel	Heritage □ Not Cons. □ C Designation: □ Desig./1	ons./not App. 🗆 List/not Desig. not List 🗆 Desig. & Līst
MTO Region	Central	Road Class: Freeway [] Ar	terial  Collector Local
MTO District [		Posted Speed	No. of Lanes
Old County [		AADT	% Trucks
Geographic Twp.	Brampton	Inspection Route Sequence	
Structure Type [	Culvert	Interchange Number	
Total Deck Length	(m)	Interchange Structure Number	
Overall Str. Width	31.2 (m)	Min. Vertical Clearance	0 (m)
Total Deck Area	- (sq.m)	Special Routes:     Transit	□ Truck □ School □ Bicycle
Roadway Width	- (m)	Detour Length Around Bridge	(km)
Skew Angle	- (Degrees)	Direction of Structure	E to W
No. of Spans	2 .	Fill on Structure	0.6 (m)
Span Lengths	0.75		(m)
Historical Data:			
Year Built		Year of Last Major Rehab.	
Last OSIM Inspection	14/07/2005	Last Evaluation	
Last Enhanced OSIM I	Inspection	Current Load Limit	/ / (tonnes)
Enhanced Access Equal (ladder, boat, lift, etc.)		Load Limit By-Law #	
Last Underwater Inspe	ection	By-Law Expiry Date	
Last Condition Survey	<i>y</i>		
Rehab History: (Date/	description)		

Page 1

Scheduled Improvemen	its:		
Regional Priority Number		Programmed Work Year	
Nature of Program Work	:		

Appraisal Indices:		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

мто	Site	Number:	2973

Field Inspection Info	ormation:				
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM	
Inspector:	Eric Cheng				
Others in Party:	Alan Chung, Dan	Alan Chung, Dan Urian			
Access Equipment Used:	Hand Tools, Digital Camera, Measuring Tape				
Weather:	Clear, some flur	ries			
Temperature:	-3°				

Additional Investigations Required:		Priority		
	None	Normal	Urgent	
Material Condition Survey	Trong Trong			
Detailed Deck Condition Survey:	x			
Non-destructive Delamination Survey of Asphalt-Covered Deck:	x			
Concrete Substructure Condition Survey:	Х			
Detailed Coating Condition Survey:	x			
Detailed Timber Investigation	x			
Post-Tensioned Strand Investigation	x			
Underwater Investigation:	Х			
Fatigue Investigation:	X			
Seismic Investigation:	X			
Structure Evaluation:	x			
Monitoring				
Monitoring of Deformations, Settlements and Movements:	Х			
Monitoring Crack Widths:	X		**************************************	
Investigation Notes:		I		

Effective Cross-Section:0%

Overall Structure Notes:	
Recommended Work on Structure:	□ None ☑ Minor Rehab. □ Major Rehab. □ Replace
Timing of Recommended Work:	☑ 1 to 5 years ☐ 6 to 10 years
Overall Comments:	The structure has minor deformations at west end and rusted inside and outside.
Date of Next Inspection:	

#### Suspected Performance Deficiencies

01	Load carrying capacity
02	Excessive deformations (deflections & rotations)
03	Continuing settlement
14	Continuing movements

05

Seized bearings

Maintenance Needs

Lift and Swing Bridge Maintenance 01 Bridge Cleaning Bridge Handrail Maintenance 02 03 Painting Steel Bridge Structures 04 Bridge Deck Joint Repair 05 Bridge Bearing Maintenance

06 Bearing not uniformly loaded/unstable Jammed expansion joint

Pedestrian/vehicular hazard 08 09 Rough riding surface Surface ponding

10 Deck drainage 11

07 Repair to Structural Steel 08 Repair of Bridge Concrete 09 Repair of Bridge Timber 10 Bailey bridges - Maintenance 11

Animal/Pest Control 12 Bridge Surface Repair

Erosion Control at Bridges 13 14 Concrete Sealing Rout and Seal

Other

13

14

15

15 16 Bridge Deck Drainage 17

Scaling (Loose Concrete or ACR Steel) 18

Slippery surfaces Flooding/channel blockage Undermining of foundation

Unstable embankments

***	the first construction and the								
Element Gro		Culvert		Length:		3	1.2m		
Element Nar	ne:			Width:		0	.75m		
Location:		Cross Hwy!		Height:					
Material:		Corrugated		Count:		2			
Element Typ	e:	Round Cul		Total Qu	antity:		4.4m		
Environmen	t:	Benign / Modera	te / Severe	Limited 1	Inspection	n 🗆			
Protection Sy	ystem:					····	A	Perform.	
Condition	T	Units	Exc.	Good	Fa	ir	Poor*	Deficiencies	
Data:	$\frac{ \mathbf{m}^2/\mathbf{n} }{ \mathbf{m} ^2}$	n/each/%/all			<del> </del>	·	X		
Comments: The structures have minor deformations at west ends. First section of structures must be replaced. Cleaning work is required.									
Recommend	led Wo						ice Needs:		
☑ 1-5 years ☐ 6-10 years ☑ Urgent ☐ 1 year ☐ 2 year					? year				
Element Gro				Length:				W	
Element Nam	ie:			Width:					
Location:				Height:					
Material:				Count:					
Element Type	):			Total Qua	antity:				
Environment		Benign / Moderate	e / Severe	Limited I					
Protection Sys	stem:							Perform.	
Condition		Units	Exc.	Good	Fai	r	Poor*	Deficiencies	
Data:	$m^2/m$	/each/%/all		· · · · · · · · · · · · · · · · · · ·	<del> </del>				
Recommende	ed Wor	'k: □ Rehab					ce Needs:		
	The section of the se	L 1 - J V	als 10-10 yo	ars:	☐ Urger	ıt _	] 1 year □ 2	year	
Element Grou				Length:					
Element Name	3:			Width:					
Location:				Height:					
Material:				Count:					
Element Type:			***************************************	Total Qua					
Environment:		Benign / Moderate	/ Severe	Limited In	spection				
Protection Sys	tem:		***************************************					Perform.	
Condition		Units	Exc.	Good	Fair	.	Poor*	Deficiencies	
Data:	$\overline{\mathbf{m}^2/\mathbf{m}}$	/each / % / all						***************************************	
Comments:	d Worl	k: □ Rehab	□ Replace		Mainto	enanc	e Needs:		
11000		☐ 1-5 yea	*		☐ Urgen		Maintenance Needs:		
		- ) VE2		318			☐ 1 year [	2 year	

<sup>\*</sup> A quantity must be estimated using the appropriate unit (e.g. m²). Percent should not be used.

## Ontario Structure Inspection Manual - Inspection Form Region of Peel Structure # [

Inventory Data:					en a 20 de como estados. A como estados en acesar en ace	
Structure Name						
Main Hwy/Road#	50 On 🗆	Under 🖰	Crossing	ig. Water ☑ Road	☐ Non-Navig. ☐ Ped. ☐	Water □ Rail Other
Hwy/Road Name	Hwy 50					
Structure Location	Cross Hwy50					
Latitude GPS Coord	E:605497		Longitude N:48	54341		
Owner(s)	Region of Pee	1	Heritage ☐ Not C Designation:	ons. 🗆 Co		□ List/not Desig. sig. & List
MTO Region	Central		Road Class: Free	eway 🗆 An	terial   Collecte	or 🗆 Local 🗆
MTO District			Posted Speed		No. of Lanes	
Old County			AADT		% Trucks	
Geographic Twp.	Brampton		Inspection Route Seque	nce		
Structure Type	Culvert		Interchange Number			
Total Deck Length		(m)	Interchange Structure N	umber		
Overall Str. Width	42.8	(m)	Min. Vertical Clearance	:	0.8	(m)
Total Deck Area	100	(sq.m)	Special Routes:	Transit [	∃Truck □Sch	ool 🗆 Bicycle
Roadway Width		(m)	Detour Length Around I	Bridge		(km)
Skew Angle		(Degrees)	Direction of Structure		WtoE	
No. of Spans	2		Fill on Structure		1.6	(m)
Span Lengths	1.35					(m)
Historical Data:						
Year Built			Year of Last Major Reha	ab. [		
Last OSIM Inspection	n 14/07/	2005	Last Evaluation	[		
Last Enhanced OSIM	Inspection		Current Load Limit		/ /	(tonnes)
Enhanced Access Equal (ladder, boat, lift, etc.			Load Limit By-Law #			
Last Underwater Insp	ection		By-Law Expiry Date	[		
Last Condition Survey	y					
Rehab History: (Date	description)	·····				
						;

## ${\bf Ontario\ Structure\ Inspection\ Manual-Inspection\ Form}$

МТО	Sita N	umber:	2	97	5
MIO	Site N	umber:			

Scheduled Improvemen	ıts:		
Regional Priority Number		Programmed Work Year	
Nature of Program Work			

Appraisal Indices		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

2975 MTO Site Number:

Field Inspection Info	ormation:						
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM			
Inspector:	Eric Cheng	Eric Cheng					
Others in Party:	Alan Chung, Dan	Alan Chung, Dan Urian					
Access Equipment Used:	Hand Tools, Dig	Hand Tools, Digital Camera, Measuring Tape					
Weather:	Clear, some flurries						
Temperature:	-3°						

Additional Investigations Required:	Priority			
•	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	Х			
Non-destructive Delamination Survey of Asphalt-Covered Deck:	X			
Concrete Substructure Condition Survey:	Х			
Detailed Coating Condition Survey:	Х			
Detailed Timber Investigation	X			
Post-Tensioned Strand Investigation	Х			
Underwater Investigation:	X			
Fatigue Investigation:	Х			
Seismic Investigation:	X			
Structure Evaluation:	Х			
Monitoring				
Monitoring of Deformations, Settlements and Movements:	Х			
Monitoring Crack Widths:	Х			
T	,	<u> </u>		

Investigation Notes:

Effective Cross-Section:62%

Overall Structure Notes:							
Recommended Work on Structure:	□None	☑ Minor Rehab.	□ Major Rehab.	☐ Replace			
Timing of Recommended Work:	☑ 1 to 5 years ☐ 6 to 10 years						
Overall Comments:	The structure is in good condition. Western inlets are rusted.						
Date of Next Inspection:							

#### Suspected Performance Deficiencies

- 01 Load carrying capacity Excessive deformations (deflections & rotations) 02 Continuing settlement 04 Continuing movements
- Seized bearings 05
- Maintenance Needs
- Lift and Swing Bridge Maintenance 01
- Bridge Cleaning Bridge Handrail Maintenance Painting Steel Bridge Structures 02 03
- 04 05 Bridge Deck Joint Repair Bridge Bearing Maintenance

- 06 Bearing not uniformly loaded/unstable 07 Jammed expansion joint
- 08 Pedestrian/vehicular hazard 09 Rough riding surface
- 10 Surface ponding Deck drainage 11
- 07 Repair to Structural Steel
- Repair of Bridge Concrete 08 09 Repair of Bridge Timber
- 10 Bailey bridges - Maintenance 11 Animal/Pest Control 12

- 12 Slippery surfaces
- 13 Flooding/channel blockage 14 Undermining of foundation
- Unstable embankments 15
- 16 Other
- Erosion Control at Bridges 13
- Concrete Sealing Rout and Seal 15
- Bridge Deck Drainage 16 17 Scaling (Loose Concrete or ACR Steel)
- Bridge Surface Repair 18 Other

	_			4	-	مستجد					
Element Gro	oup:	Culvert		Length:		4	2.8m				
Element Nar	ne:			Width:		1	.3m				
Location:		Cross Hwy	·50	Height:		T					
Material:		Corrugate		Count:		2					
Element Typ	e:	Round Cul		Total Qu	antity:	8	5.6m				
Environmen		Benign / Modera			Inspectio						
Protection S				Billitted	mspeemo			Perform.			
Condition		Units	Exc.	Good	Fa	iw	Poor*	Deficiencies			
Data:	2,		EAC.	Good			FOOL	Boncioneres			
		n / each / % / all		<u> </u>	<u> </u>						
	Comments: Western inlets are rusted and  Recommended Work:   ☐ Rehab ☐ Replace ☐ 1-5 years ☐ 6-10 years				Maintenance Needs:    Urgent   1 year   2 year						
Element Gro	ım.	Barriers		Length:		1 4 4	. Om				
Element Nam		Railing Sy	stems	Width:		1					
Location:		West of Hw		Height:	·	<del> </del> -					
Material:		Hybrid	<u> </u>	Count:		<del> </del>					
Element Type	<b>A•</b>	Steel Rods on W	ooden Posts	Total Qu	antity:	44	.0m				
Environment		Benign / Modera		Limited 1	····	<u> </u>					
Protection Sy		Hot dip ga			поресцог			Perform.			
Condition	JtCIII.	Units Units	Exc.	Good	Fai	<u> </u>	Poor*	Deficiencies			
Data:	2 /	/each/%/all	Ext.	X	Fai	1	T UUI	Doncioneres			
Comments:	m/n	1 / eacn / % / au	L					<u> </u>			
Recommend	The railing system is in good condition.  Recommended Work:   ☐ Replace  ☐ Urgent ☐ 1 year ☐ 2 year					year					
Element Grou		Barriers		Length:		40	.0m				
Element Name		Railing Sy	stems	Width:							
Location:		East of Hw		Height:							
Material:		Hybrid		Count:							
Element Type	:	Steel Rods on Wo	oden Posts	Total Qua	ntity:	40	.Om				
Environment:		Benign / Moderat	e / Severe	Limited I	nspection						
Protection Sys	tem:							Perform.			
Condition		Units	Exc.	Good	Fair	r	Poor*	Deficiencies			
COHULUUL					<del> </del>						
Data:	$m^2/m$										
Data:		/each/%/all	den posts	broken	<del></del>	l ieed	to be r	eplaced.			
Data:	There	/each/%/all e are 3 wood	-	broken	and r		to be r	eplaced.			
Data: Comments:	There	/each/%/all e are 3 wood	D □ Replace		and r	enan	ce Needs:	replaced.			
Data: Comments:	There	/each/%/all e are 3 wood k: ⊠Reha	D □ Replace		and r	enan	ce Needs:				

<sup>\*</sup> A quantity must be estimated using the appropriate unit (e.g. m²). Percent should not be used.

# Ontario Structure Inspection Manual – Inspection Form Region of Peel Structure #

Inventory Data:				
Structure Name				
Main Hwy/Road#	50 On 🗆	Under ⊠	Crossing ☐ Navig. Water Type: ☑ Road	☐ Non-Navig. Water ☐ Rail ☐ Ped. ☐ Other
Hwy/Road Name	Hwy50			
Structure Location	South of int	ersectio	n Hwy 50 and Mayfiel	d Rd
Latitude GPS Coord	E:604835		Longitude N:4855843	
Owner(s)	Region of Pee	1	Heritage □ Not Cons. □ C Designation: □ Desig./	
MTO Region	Central		Road Class: Freeway A	rterial  Collector Local
MTO District			Posted Speed	No. of Lanes
Old County [			AADT	% Trucks
Geographic Twp. [	Brampton		Inspection Route Sequence	
Structure Type	Box		Interchange Number	
Total Deck Length [		(m)	Interchange Structure Number	
Overall Str. Width [	55.60	(m)	Min. Vertical Clearance	(m)
Total Deck Area		(sq.m)	Special Routes:	☐ Truck ☐ School ☐ Bicycle
Roadway Width		(m)	Detour Length Around Bridge	(km)
Skew Angle		(Degrees)	Direction of Structure	W to E
No. of Spans	1 .		Fill on Structure	0.9 (m)
Span Lengths	3.0			(m)
Historical Data:				
Year Built			Year of Last Major Rehab.	
Last OSIM Inspection	n 7/14/2	2005	Last Evaluation	
Last Enhanced OSIM	Inspection		Current Load Limit	/ / (tonnes)
Enhanced Access Equal (ladder, boat, lift, etc.)	- ,		Load Limit By-Law #	
Last Underwater Insp	ection		By-Law Expiry Date	
Last Condition Survey	у			,
Rehab History: (Date/	description)			

## ${\bf Ontario\ Structure\ Inspection\ Manual-Inspection\ Form}$

MTO Site Number: 2997

Scheduled Improvements:		
Regional Priority Number	Programmed Work Year	
Nature of Program Work:		
		:

Appraisal Indices:		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

2997 MTO Site Number:

Field Inspection Infor	mation:			Million di Chine (I A Million (I anni A	
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM	
Inspector:	Eric Cheng				
Others in Party:	Alan Chung, Dan	Urian			
Access Equipment Used:	Hand Tools, Digital Camera, Measuring Tape				
Weather:	Clear, some flurr	ries			
Temperature:	-3°				

Additional Investigations Required:	Priority			
	None	Normal	Urgent	
Material Condition Survey				
Detailed Deck Condition Survey:	Х			
Non-destructive Delamination Survey of Asphalt-Covered Deck:	Х			
Concrete Substructure Condition Survey:	Х			
Detailed Coating Condition Survey:	Х		***************************************	
Detailed Timber Investigation	Х			
Post-Tensioned Strand Investigation	Х			
Underwater Investigation:	Х			
Fatigue Investigation:	Х		· · · · · · · · · · · · · · · · · · ·	
Seismic Investigation:	Х		***************************************	
Structure Evaluation:	Х		<del></del>	
Monitoring				
Monitoring of Deformations, Settlements and Movements:	Х		***************************************	
Monitoring Crack Widths:	Х			
Investigation Notes:		1		
Effective Cross-Section: 5	50%			

**Overall Structure Notes:** Recommended Work on None ☐ Minor Rehab. ☐ Major Rehab. ☐ Replace Structure: Timing of Recommended Work:  $\Box$  1 to 5 years ⊠ 6 to 10 years Overall Comments: The structure is in good condition Date of Next Inspection:

Sucnected	Performance	Deficiencies

- 01 Load carrying capacity Excessive deformations (deflections & rotations) Continuing settlement 03 Continuing movements 04
- Seized bearings
- Maintenance Needs
- Lift and Swing Bridge Maintenance Bridge Cleaning 02
- Bridge Handrail Maintenance 03 04 Painting Steel Bridge Structures
- Bridge Deck Joint Repair 05 Bridge Bearing Maintenance 06

- Bearing not uniformly loaded/unstable 06
- 07 Jammed expansion joint 08 Rough riding surface
- Deck drainage
- Pedestrian/vehicular hazard 09
- 10 Surface ponding
- 07 Repair to Structural Steel 08 Repair of Bridge Concrete
- 09 Repair of Bridge Timber 10 Bailey bridges - Maintenance
- Animal/Pest Control 11 12 Bridge Surface Repair

- 12 Slippery surfaces
- Flooding/channel blockage 13
- Undermining of foundation 14 Unstable embankments 15
- 16 Other
- Erosion Control at Bridges
- 13 Concrete Sealing 14
- Rout and Seal 16 Bridge Deck Drainage
- Scaling (Loose Concrete or ACR Steel) 17

		CHARLE CO. 10 CO	Maria de la companione de					
Element Gro	oup:	Embankmen	t& Stream	S   Length:				
Element Nar	ne:			Width:				
Location:				Height:				
Material:		Rip Rap		Count:				
Element Typ	e:			Total Q	iantity:			
Environmen		Benign / Modera	ite / Severe		Inspectio	n 🗆		
Protection S	ystem:				······			Perform.
Condition	T	Units	Exc.	Good	Fa	ir	Poor*	Deficiencies
Data:	m <sup>2</sup> / r	n/each/%/all					1001	
Comments:	111 / 1	n/cacn/ /0/ an	1	X				
Recommended Work:          ☑ Rehab □ Replace         ☐ 1-5 years ☑ 6-10 years				ears	Mair		ce Needs:	2 year
Element Gro	in:	Barriers		Length:		143	l m	
Element Nam		Railing Sy	zeteme	Width:		<del> </del>	L (	
Location:		East of HW	75CCIIIS 7750	Height:				
Material:		Steel	V130	Count:		+		
Element Type		Steel Flex Beam	on Steel Post		antitus	14		
Environment		Benign / Moderat		~~~			<u> T [[[</u>	
				Limited 1	nspection	<u>1                                    </u>		D C
Protection Sy	stem:	Hot dip ga	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	<del></del>	T			Perform.
Condition Data:	2 /	Units	Exc.	Good	Fai	ır	Poor*	Deficiencies
	m-/ m	/each/%/all	11	X				
Comments:			<b>-</b>			_		
		on East side	-					ally by
impacts.	7.5	m of steel	beam and	5 posts	are	bent	•	
Recommend	ed Woı	rk: ⊠ Reha	b □ Replace	***************************************	Main	tenanc	e Needs:	
			ears □ 6-10 ye	ars				
also recent a selection of the second section of the section of the second section of the sec	ALAL PIRESTANA PROPERTY		The state of the s	Commence of the commence of th			1 7001 - 2	· your
	2022 N. 2023							
Element Grou		Barriers		Length:		73.	5m	
Element Name		Railing Sy		Width:				
Location:		West of Hw	y50	Height:				
Material:		Hybrid	·	Count:		1		
Element Type:	:	Steel Flex Beam		Total Qua		73.	5m	
Environment:		Benign / Moderate		Limited I	nspection			<b>,</b>
<b>Protection Sys</b>	tem:	Hot dip ga			· [	——————————————————————————————————————		Perform.
Condition		Units	Exc.	Good	Fai	r	Poor*	Deficiencies
Data:	$m^2/m$	/ each / % / all		x				
Comments:								
Recommende	d Wor	k: ⊠ Rehal	D □ Replace		Maint	enance	e Needs:	
Tecommittee			-					
☐ 1-5 years ☑ 6-10 years			ars:		\T '	I WAST	XI ) MAGE	
The second like the special case in the second	gg - we distributed beautiful	⊔ 1-5 ye	ars 🗠 0-10 yea	irs	□Urger	<u>ιτ</u> [	☐ 1 year	ĭ 2 year
	ggy - We distributed battle from	□ 1-5 ye	ars M 0-10 yea	ATS	Urger	<u> </u>	∃ I year	ĭ 2 year

<sup>\*</sup> A quantity must be estimated using the appropriate unit (e.g. m²). Percent should not be used.

Element Gro	up:	Box Culver	ts	Length:		3	.Om	
Element Nam	ie:	Headwall		Width:			0.4m	
Location:		West and E	ast End	Height:		0	.3m	
Material:		Concrete		Count:		2		
Element Type	e:			Total Qu	antity:			
Environment	:	Benign / Modera	te / Severe	Limited	Inspectio	n 🗆		
<b>Protection Sy</b>	stem:							Perform
Condition		Units	Exc.	Good	Fa	ir	Poor*	Deficiencie
Data:	$m^2/n$	n / each / % / all		X				
Comments:  The structure is in good condition.								
Recommend	ea wo						ce Needs:	
		□ 1-5 y	ears ⊠ 6-10 y	ears	Urge	ent	□ 1 year l	⊠ 2 year
Element Grou		Box Culver	ts	Length:			.6m	
	Element Name: Box		Width:		2.	5m	······································	
Location:		Cross Hwy5	0	Height:		1.	0 m	
Material:		Concrete		Count:				
Element Type	:			Total Qu			.6m	
Environment:		Benign / Moderate	e / Severe	Limited I	Inspection			
Protection Sys	tem:	L						Perform.
Condition		Units	Exc.	Good	Fai	r	Poor*	Deficiencies
Data:	$m^2/m$	/each/%/all		x				
Comments:					·	tenan	<b>ce Needs:</b> □ 1 year   ☑	2 year
	·							
Element Group		Pavement		Length:				
Element Name	• 120	Asphaltic .	Surface	Width:		***************************************		
Location:		70 7 7		Height:				
Material:		Asphalt		Count:			·	
Element Type:			/ 6	Total Qua				
Environment:		Benign / Moderate	:/ Severe	Limited In	ispection		······································	
Protection Syst	em:		75				~ .	Perform. Deficiencies
Condition	<u> </u>	Units	Exc.	Good	Fair	r	Poor*	Deliciencies
	m²/ m	/ each / % / all		X				
Comments:		e pavement	is in god	od condi				
Recommende	d Worl		*		Maint	enanc	e Needs:	
		☑ 1-5 yea	n		□ TT	. –	□ 1 ···· ·	
		⊠ 1-3 yea	ars 🗆 6-10 yea	irs	☐ Urgen	it	☐ 1 year	☑ 2 year

<sup>\*</sup> A quantity must be estimated using the appropriate unit (e.g. m²). Percent should not be used.

# Ontario Structure Inspection Manual – Inspection Form Region of Peel Structure #

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Inventory Data:				
Structure Name				
Main Hwy/Road#	Hwy50 On 🗆	Under 🖺	Crossing ☐ Navig. Water Type: ☑ Roac	☐ Non-Navig. Water ☐ Rail
Hwy/Road Name	Mayfield Rd			
Structure Location	West of inte	rsection	Hwy 50 and Mayfield	l Rd
Latitude GPS Coord	E:604803		Longitude N:4855900	
Owner(s)	Region of Pee	el	Heritage ☐ Not Cons. ☐ C Designation: ☐ Desig./	
MTO Region	Central		Road Class: Freeway   A	rterial □ Collector □ Local □
MTO District	_		Posted Speed	No. of Lanes
Old County			AADT	% Trucks
Geographic Twp.	Caledon		Inspection Route Sequence	
Structure Type	Box		Interchange Number	
Total Deck Length		] (m)	Interchange Structure Number	
Overall Str. Width	43.40	(m)	Min. Vertical Clearance	0.75 (m)
Total Deck Area		(sq.m)	Special Routes:	☐ Truck ☐ School ☐ Bicycle
Roadway Width		(m)	Detour Length Around Bridge	(km)
Skew Angle	0	(Degrees)	Direction of Structure	N to S
No. of Spans	1 .		Fill on Structure	0.9 (m)
Span Lengths	2.5			(m)
Historical Data:				
Year Built			Year of Last Major Rehab.	
Last OSIM Inspection		2005	Last Evaluation	
Last Enhanced OSIM			Current Load Limit	/ / (tonnes)
Enhanced Access Equal (ladder, boat, lift, etc.	- :		Load Limit By-Law #	
Last Underwater Insp	ection		By-Law Expiry Date	
Last Condition Survey	у			
Rehab History: (Date/	description)			

MTO Site Number: 3027

Scheduled Improven	ients:		
Regional Priority Number		Programmed Work Year	
Nature of Program Wo	ork:		
	•		

Appraisal Indices:		Comments
Fatigue	0	
Seismic	0	
Scour	0	
Flood	0	
Geometrics	0	
Barrier	0	
Curb	0	
Load Capacity	0	

3027 MTO Site Number:

Field Inspection Infor				
Date of Inspection:	January 27,2010	Type of Inspection:	⊠ OSIM	☐ Enhanced OSIM
Inspector:	Eric Cheng			
Others in Party:	Alan Chung, Dan Urian			
Access Equipment Used:	Hand Tools, Digital Camera, Measuring Tape			
Weather:	Clear, some flurr	ries		
Temperature:	-3°			

Additional Investigations Required:		Priority			
	None	Normal	Urgent		
Material Condition Survey					
Detailed Deck Condition Survey:	X				
Non-destructive Delamination Survey of Asphalt-Covered Deck:	X				
Concrete Substructure Condition Survey:	X				
Detailed Coating Condition Survey:	Х				
Detailed Timber Investigation	X				
Post-Tensioned Strand Investigation	X				
Underwater Investigation:	X				
Fatigue Investigation:	X				
Seismic Investigation:	Х				
Structure Evaluation:	X				
Monitoring	****		***************************************		
Monitoring of Deformations, Settlements and Movements:	X				
Monitoring Crack Widths:	X				
Investigation Notes:		<del></del>			
	_				

Effective Cross-Section:75%

Overall Structure Notes:	
Recommended Work on Structure:	☑ None ☐ Minor Rehab. ☐ Major Rehab. ☐ Replace
Timing of Recommended Work:	☐ 1 to 5 years
Overall Comments:	The structure is in good condition
Date of Next Inspection:	

#### Suspected Performance Deficiencies

01	Load carrying capacity
02	Excessive deformations (deflections & rotations)
03	Continuing settlement
04	Continuing movements
05	Seized bearings

Maintenance Needs Lift and Swing Bridge Maintenance 01 Bridge Cleaning 02 Bridge Handrail Maintenance Painting Steel Bridge Structures 03 04

07 08 09 10 Bridge Deck Joint Repair 11 Bridge Bearing Maintenance

Bearing not uniformly loaded/unstable 07 Jammed expansion joint

Pedestrian/vehicular hazard 08 09 Rough riding surface 10 Surface ponding Deck drainage

12 Slippery surfaces

Flooding/channel blockage 13 Undermining of foundation 15 Unstable embankments

16 Other

#### Repair to Structural Steel 13

Repair of Bridge Concrete 14 Repair of Bridge Timber 15 Rout and Seal Bailey bridges - Maintenance 16 Bridge Deck Drainage

Animal/Pest Control Bridge Surface Repair

Erosion Control at Bridges Concrete Sealing

17 Scaling (Loose Concrete or ACR Steel)

18 Other

05

CONTRACTOR	Market Arabica Services	Aggin (1995) - Aggin (1996) - Aggin	and a second control of the second control o		<del></del>			
Element Gr		Embankmen	t& Streams					
Element Na	me:			Width:				
Location:			South End	22482				
Material:		Rip Rap		Count:				
Element Ty				Total Qu	antity:			
Environmen			Limited 1	Limited Inspection				
Protection S	ystem:						Perform.	
Condition		Units	Exc.	Good	Fair	Poor*	Deficiencies	
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Recommen	ucu vvo				···		2	
			years & 0-10 ye	als	□ Urgent		2 year	
Element Gro		Barriers		Length:		120.0m		
Element Nan	ne:	Railing Sy	<u>rstems</u>	Width:				
Location:		South of M	layfield R					
Material:		Steel		Count:				
Element Typ		Steel Flex Beam		s Total Qua	antity:			
Environment		Benign / Modera	te / Severe	Limited I	nited Inspection			
Protection Sy	stem:						Perform.	
	!	WY24	107	Good	Fair	Poor*	Deficiencies	
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<sup>\*</sup> A quantity must be estimated using the appropriate unit (e.g. m²). Percent should not be used.

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Element Gre		Pavement		Length:			
Element Na	me:	Asphaltic	Surface	Width:			
Location:		Over box c		Height:			
Material:		Asphalt		Count:			
Element Typ	e:			Total Qua	antity:		
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Element Nan		Box		Width:		2.5m	
Location:	10	Cross Mayf	iald Pd	Height:		1.0m	
Material:		Concrete	TETA VA	Count:		T.0111	
Element Type	۵٠	Rectangula	~	Total Qua	ntitu.		
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<sup>\*</sup> A quantity must be estimated using the appropriate unit (e.g. m²). Percent should not be used.