

Appendix I

Designated Substance Survey



Designated Substance Survey

Highway 401 Improvements From 1 km East of Highway 16 to 3.3 km West of Maitland Road, Preliminary Design and Class Environmental Assessment Study – G.W.P. 4024-20-00

Ministry of Transportation, Eastern Region, Ontario

60638229

May 2022



AECOM Canada Ltd.
105 Commerce Valley Drive West, 7th Floor
Markham, ON L3T 7W3
Canada

T: 905.886.7022
F: 905.538.8076
www.aecom.com

David Brake, P.Eng.
Senior Project Engineer
Ministry of Transportation
Eastern Region
Design & Engineering Project Delivery East
1355 John Courtier Boulevard Postal Bag 4000
Kingston ON K7L 5A3

May 12, 2022

Project #
60638229

Subject: Designated Substance Survey – Highway 401 Improvements From 1 km East of Highway 16 to 3.3 km West of Maitland Road, Preliminary Design and Class Environmental Assessment Study – G.W.P. 4024-20-00

Dear Mr. Brake:

Please see the attached above noted report.

Sincerely,
AECOM Canada Ltd.

Sergiy N. Tchernikov, M.Sc., P.Geo., QP (ESA-O Reg 153-04)
Senior Environmental Geoscientist/Hydrogeologist
Senior Project Manager

D 905-747-7591 C 416-315-5797
sergiy.tchernikov@aecom.com

ST:mm
Encl.

Designated Substance Survey

Highway 401 Improvements From 1 km East of Highway 16 to 3.3 km West of Maitland Road, Preliminary Design and Class Environmental Assessment Study – G.W.P. 4024-20-00

Statement of Qualifications and Limitations

The attached Report (the “Report”) has been prepared by AECOM Canada Ltd. (“AECOM”) for the benefit of the Client (“Client”) in accordance with the agreement between AECOM and Client, including the scope of work detailed therein (the “Agreement”).

The information, data, recommendations and conclusions contained in the Report (collectively, the “Information”):

- is subject to the scope, schedule, and other constraints and limitations in the Agreement and the qualifications contained in the Report (the “Limitations”);
- represents AECOM’s professional judgement in light of the Limitations and industry standards for the preparation of similar reports;
- may be based on information provided to AECOM which has not been independently verified;
- has not been updated since the date of issuance of the Report and its accuracy is limited to the time period and circumstances in which it was collected, processed, made or issued;
- must be read as a whole and sections thereof should not be read out of such context;
- was prepared for the specific purposes described in the Report and the Agreement; and
- in the case of subsurface, environmental or geotechnical conditions, may be based on limited testing and on the assumption that such conditions are uniform and not variable either geographically or over time.

AECOM shall be entitled to rely upon the accuracy and completeness of information that was provided to it and has no obligation to update such information. AECOM accepts no responsibility for any events or circumstances that may have occurred since the date on which the Report was prepared and, in the case of subsurface, environmental or geotechnical conditions, is not responsible for any variability in such conditions, geographically or over time.

AECOM agrees that the Report represents its professional judgement as described above and that the Information has been prepared for the specific purpose and use described in the Report and the Agreement, but AECOM makes no other representations, or any guarantees or warranties whatsoever, whether express or implied, with respect to the Report, the Information or any part thereof.

Without in any way limiting the generality of the foregoing, any estimates or opinions regarding probable construction costs or construction schedule provided by AECOM represent AECOM’s professional judgement in light of its experience and the knowledge and information available to it at the time of preparation. Since AECOM has no control over market or economic conditions, prices for construction labour, equipment or materials or bidding procedures, AECOM, its directors, officers and employees are not able to, nor do they, make any representations, warranties or guarantees whatsoever, whether express or implied, with respect to such estimates or opinions, or their variance from actual construction costs or schedules, and accept no responsibility for any loss or damage arising therefrom or in any way related thereto. Persons relying on such estimates or opinions do so at their own risk.

Except (1) as agreed to in writing by AECOM and Client; (2) as required by-law; or (3) to the extent used by governmental reviewing agencies for the purpose of obtaining permits or approvals, the Report and the Information may be used and relied upon only by Client.

AECOM accepts no responsibility, and denies any liability whatsoever, to parties other than Client who may obtain access to the Report or the Information for any injury, loss or damage suffered by such parties arising from their use of, reliance upon, or decisions or actions based on the Report or any of the Information (“improper use of the Report”), except to the extent those parties have obtained the prior written consent of AECOM to use and rely upon the Report and the Information. Any injury, loss or damages arising from improper use of the Report shall be borne by the party making such use.

This Statement of Qualifications and Limitations is attached to and forms part of the Report and any use of the Report is subject to the terms hereof.

AECOM: 2015-04-13

© 2009-2015 AECOM Canada Ltd. All Rights Reserved.

Designated Substance Survey

Highway 401 Improvements From 1 km East of Highway 16 to 3.3 km West of Maitland Road, Preliminary Design and Class Environmental Assessment Study – G.W.P. 4024-20-00

Quality Information

Prepared by



Brian Ryell, B.A.A.
Lead Field Inspector

Approved by



Sergiy N. Tchernikov, M.Sc., P.Geo., QP (ESA-O Reg 153-04)
Senior Environmental Geoscientist/Hydrogeologist
Senior Project Manager

D 905-747-7591 C 416-315-5797
sergij.tchernikov@aecom.com

Distribution List

# Hard Copies	PDF Required	Association / Company Name
	✓	Ministry of Transportation, Eastern Region, Ontario
	✓	AECOM Canada Ltd.

Ministry of Transportation, Eastern Region, Ontario

Designated Substance Survey

Highway 401 Improvements From 1 km East of Highway 16 to 3.3 km West of Maitland Road, Preliminary Design and
Class Environmental Assessment Study – G.W.P. 4024-20-00

Prepared for:

Ministry of Transportation
Eastern Region
Design & Engineering Project Delivery East
1355 John Courtier Boulevard Postal Bag 4000
Kingston ON K7L 5A3

Prepared by:

Sergiy N. Tchernikov, M.Sc., P.Geo., QP (ESA-O Reg 153-04)
Senior Environmental Geoscientist/Hydrogeologist
Senior Project Manager

D 905-747-7591 C 416-315-5797
sergiy.tchernikov@aecom.com

AECOM Canada Ltd.
105 Commerce Valley Drive West, 7th Floor
Markham, ON L3T 7W3
Canada

T: 905.886.7022
F: 905.538.8076
www.aecom.com

Designated Substance Survey

Highway 401 Improvements From 1 km East of Highway 16 to 3.3 km West of Maitland Road, Preliminary Design and Class Environmental Assessment Study – G.W.P. 4024-20-00

Table of Contents

- 1. Introduction 1**
- 2. Regulatory Requirements 3**
- 3. Designated Substance Site Descriptions 4**
 - 3.1 Survey Program6
 - 3.2 Asbestos.....9
 - 3.2.1 Friable and Non-Friable Asbestos Containing Materials10
 - 3.2.2 Presumed Asbestos Containing Materials (ACMs”)10
 - 3.3 Lead 11
 - 3.4 Mercury (update) 12
 - 3.5 Silica 12
 - 3.6 Other Designated Substances 12
 - 3.7 Polychlorinated Biphenyls (PCBs)..... 13
 - 3.8 Ozone Depleting Substances (ODS) 13
 - 3.9 Mould..... 13
- 4. Conclusions 14**
- 5. Recommendations 15**

Figures

- Figure 1: Study Area Location Map
- Figure 2: Bulk Sample Locations Plan – Bridge No. 16-126 Highway 401 Maitland Road Interchange
- Figure 3: Bulk Sample Locations Plan – Bridge No. 16-165 Highway 401 Blue Church Road Underpass
- Figure 4: Bulk Sample Locations Plan – Bridge No. 16-166 Highway 401 Merwin Lane Underpass
- Figure 5: Bulk Sample Locations Plan – Bridge No. 16-128 Highway 401 Edward Street Interchange
- Figure 6: Bulk Sample Locations Plan – Bridge No. 16-129 Highway 401 CPR Overhead
- Figure 7: Bulk Sample Locations Plan – Bridge No. 16-307 Highway 416 Cedar Grove Road Overpass
- Figure 8: Bulk Sample Locations Plan – Bridge No. 16-308 Highway 416 Southbound Connector N-E
- Figure 9: Bulk Sample Locations Plan – Bridge No. 16-306 Highway 401/416 W-N Ramp
- Figure 10: Bulk Sample Locations Plan – Bridge No. 16-130 Highway 16 U/P
- Figure 11: Bulk Sample Locations Plan – Bridge No. 16-131 Highway 16 CNR Overhead
- Figure 12: Site Location Plan – Culvert No. 16-239/C Highway 401 and Lemon’s Creek Culvert
- Figure 13: Site Location Plan – Culvert No. 16-250/C Highway 401 Culvert
- Figure 14: Site Location Plan – Culvert No. 16-259/C Highway 401W-416N Ramp Culvert
- Figure 15: Site Location Plan – Culvert No. 16-260/C Highway 416N-401W Ramp Culvert
- Figure 16: Site Location Plan – Additional Unlabelled Culverts

Designated Substance Survey

Highway 401 Improvements From 1 km East of Highway 16 to 3.3 km West of Maitland Road, Preliminary Design and Class Environmental Assessment Study – G.W.P. 4024-20-00

Tables

Table 1:	Summary of Designated Substance Sites	1
Table 2:	Designated Substance Site Description Summary	5
Table 3:	Bulk Asbestos Sampling Results.....	9
Table 4:	Lead Sampling Results	11

Appendices

Appendix A.	Site Photographs
Appendix B.	Asbestos Sample Analysis Results

Designated Substance Survey

Highway 401 Improvements From 1 km East of Highway 16 to 3.3 km West of Maitland Road, Preliminary Design and Class Environmental Assessment Study – G.W.P. 4024-20-00

1. Introduction

The Ontario Ministry of Transportation (MTO) has retained AECOM Canada Ltd. (AECOM) to undertake a Designated Substances Survey (DSS) in support of the Preliminary Design and Group B Class Environmental Assessment (Class EA) Study initiated to provide improvements to Highway 401 from 1 km east of Highway 16 to 3.3 km west of Maitland Road for a total length of approximately 20.75 km within the Township of Augusta, Town of Prescott, and the Township of Edwardsburg Cardinal. The study will address current and future transportation needs by developing a plan for the rehabilitation and/or replacement of 10 bridges & 4 structural culverts, determine the long-term plans for the Maitland Road, Edward Street, and Highway 16 interchanges, and establish the future footprint for an interim six lanes and ultimate eight lanes of Highway 401.

The DSS Sites were limited to the ten (10) bridge structures and four (4) structural culverts as summarized in **Table 1**, but did not include surrounding grade level roads, or other connecting roadways or highways (refer to **Figure 1** and summary listed below). Each of the structures was constructed differently with unique designs and construction materials for each of their functions.

Table 1: Summary of Designated Substance Sites

Structure Name	MTO Site Number	Sampled: Yes/No
Bridge Rehabilitation		
<i>GWP 4024-20-00 – Highway 401 Highway 16 Interchange</i>		
Highway 401 Maitland Road Interchange	16-126	Yes
Highway 401 Blue Church Road Underpass	16-165	Yes
Highway 401 Merwin Lane Underpass	16-166	Yes
Highway 401 Edward Street Interchange	16-128	Yes
Highway 401 CPR Overhead	16-129	Yes
Highway 416 Cedar Grove Overpass SBL	16-307	Yes
Highway 416 Southbound Connector N-E	16-308	Yes
Highway 401/416 W-N Ramp	16-306	Yes
Highway 16 U/P	16-130	Yes
Highway 16 CNR Overhead	16-131	Yes
Culvert Removal		
<i>Structural Culvert</i>		
Highway 410 and Lemon’s Creek Culvert	16-239/C	No
Highway 401 Culvert	16-250/C	No
Highway 401 W-416N Ramp Culvert	16-259/C	No
Highway 416 N-401W Ramp Culvert	16-260/C	No

Note: Yes - Bulk samples of bridge deck materials collected from the road level portion of the bridges.

The DSS work completed by AECOM included the collection of representative vehicular bridge surface material samples for analysis. For the purposes of the DSS work, vehicular bridges and the structural culverts are stamped with identification numbers to identify the bridge site. The original bridge numbering sequence includes - 16 with an additional multiple digit/letter bridge identification number (e.g., Bridge #30-126) and construction date (e.g., 1959) (e.g., No. 16-126 1959). AECOM observed a complete date stamp on only seven (7) bridge and three (3) structural culvert sites. Whereas most of the bridge Sites were stamped with identification numbers generally matching the MTO Site numbers, bridge Site 16-306 was stamped as 6-806-1998. Bridge Sites 16-128, 16-129, and 16-130 did not have a visible identification number stamped along side of bridge structures. Structural culvert Site 16-250/C was not stamped with any visible number or identification.

Designated Substance Survey

Highway 401 Improvements From 1 km East of Highway 16 to 3.3 km West of Maitland Road, Preliminary Design and Class Environmental Assessment Study – G.W.P. 4024-20-00

The locations of the ten (10) bridges and four (4) structural culverts are illustrated in **Figures 1** and location of asbestos samples are shown on **Figures 2 to 16**. Photographs of the DSS Sites can be found in **Appendix A**.

DSS work was completed between April 19th, May 11th – 14th, and June 14th – 15th, 2021 by AECOM. The work was completed during the daytime hours of approximately 8:00 am to 4:00 pm Monday to Friday. All ten (10) bridges, four (4) structural culverts were assessed with assistance by Salus Traffic Solutions (“Salus”) and Beaconlite (“Beaconlite”). During the DSS work, three (3) additional structural culverts were also observed and assessed by AECOM at the DSS Sites. As a component of the DSS work, a general walk-through of the DSS Sites and immediate surrounding areas was conducted to check that all designated areas of the DSS Sites were included and hazards were identified. All ten (10) bridges were structurally sound and were open to vehicular traffic, and all four (4) structural culverts as well as the additional three (3) culverts were structurally sound and were open to surface water flow at the time the DSS work was conducted. The location of these additional culverts are also shown on the figures included in this report.

The purpose of this DSS work is to identify and confirm the presence of hazardous materials or designated substances that may be present at any of the Sites and to identify recommendations for the safe removal of any substances found.

Designated Substance Survey

Highway 401 Improvements From 1 km East of Highway 16 to 3.3 km West of Maitland Road, Preliminary Design and Class Environmental Assessment Study – G.W.P. 4024-20-00

2. Regulatory Requirements

The DSS work was conducted in accordance with the requirements set under Ontario Regulation 490/09, Designated Substances, as amended by Ontario Regulation 148/12 (“O. Reg. 490/09”), and Ontario Regulation 278/05, Designated Substance – Asbestos on Construction Projects and in Buildings and Repair Operations, as amended by O. Reg. 479/10 (“O. Reg. 278/05”) of the Ontario Occupational Health and Safety Act (“OOHSA”). In accordance with Section 30 (1) of the OOHSA, a project owner must determine whether any designated substances are present at a project site. If so, a list of these substances must be compiled and provided to all bidders [Section 30(2)] at the tendering stage prior to demolishing or renovating any structure. Regardless of whether the owner intends to demolish or retain the Site and its present uses, proposed renovations or repair and/or partial demolitions of any part of the Site is subject to this section. The asbestos regulations are divided among federal and provincial agencies. A DSS identifies the designated substances present, their location, concentrations, and quantities. Additional legislative requirements also require a DSS to identify the potential presence of Polychlorinated Biphenyls (“PCBs”), Ozone Depleting Substances (“ODS”) and mould. In Ontario, there are currently eleven (11) designated substances that must be assessed as part of a DSS survey. These substances are:

- Asbestos,
- Lead,
- Silica,
- Mercury,
- Ethylene Oxide,
- Vinyl Chloride,
- Benzene,
- Arsenic,
- Coke Oven Emissions,
- Acrylonitrile, and
- Isocyanates.

3. Designated Substance Site Descriptions

The bridge Sites assessed were typically composed of a layer of non-friable asphalt (approximately 80 mm in thickness) applied over a layer of non-friable waterproofing membrane (approximately 10 mm in thickness). Depending on the varying ages of the bridges, the asphalt material may be composed of several layers applied during previous maintenance programs. The asphalt and membrane material is applied directly on top of the poured concrete deck. Covered utility hatches, stormwater catch basins, and metal lined drains were also visible along the sides of some of the bridges. The physical boundaries of the bridges were generally defined as the complete bridge surface of the roadway (topside) between the expansion joints located along either side of the bridges. The bridges do not include the bridge approaches and therefore does not include road areas beyond the expansion joints which are outside the bridges.

The ten bridges were constructed and finished with the following equipment:

- Bridge No. 16-126 was constructed without any lighting pole bases along either side of the bridge;
- Bridge No. 16-165 was constructed without any lighting pole bases along either side of the bridge;
- Bridge No. 16-166 was constructed without any lighting pole bases along either side of the bridge;
- Bridge No. 16-128 was constructed without any lighting pole bases along either side of the bridge;
- Bridge No. 16-129 was constructed without any lighting pole bases along either side of the bridge;
- Bridge No. 16-307 was constructed without any lighting pole bases along either side of the bridge;
- Bridge No. 16-308 was constructed without any lighting pole bases along either side of the bridge;
- Bridge No. 16-306 was constructed without any lighting pole bases along either side of the bridge;
- Bridge No. 16-130 was constructed without any lighting pole bases along either side of the bridge; and
- Bridge No. 16-131 was constructed without any lighting pole bases along either side of the bridge.

Rigid PVC piping was observed along bridge Nos. 16-307, 16-306, and 16-308 inside the concrete barrier walls along the sides of the bridge Sites only. Electrical wiring was observed along the west outer sides of the concrete barrier walls of bridge 16-306. However, the wiring was not connected to any equipment along the bridge Site. Where present, AECOM opened accessible metal conduit hatches along the barrier wall of the remaining bridges to access any rigid conduit cement piping and collected representative samples for analysis where warranted.

Four (4) structural culverts were observed within the DSS study area. Structural culvert 16-239/C was located along the west side of the DSS study area along the underside of highway 401 and Lemon's Creek east of Maitland Road and is composed of a single cell reinforced precast concrete rectangular culvert. The single culvert extends along the entire underside of the Highway 401 Right of Way (ROW). Structural culvert 16-250/C was located along the underside of the Highway 401 ROW west of bridge Site 16-306 and is composed of a single cell reinforced precast concrete rectangular culvert. Structural culvert 16-259/C was located along the underside the south abutment of bridge Site 16-306 and is composed of a two (2) cell reinforced precast concrete rectangular culvert. The culvert extends along the underside of the south abutment of bridge Site 16-306 only. Structural Culvert 16-260/C was located along the underside of the south abutment of bridge Site 16-307, north of the Highway 401 and is composed of a single cell reinforced precast concrete rectangular culvert. The culvert extends along the underside of the south abutment of bridge Site 16-307 only.

During the DSS work completed at bridge Site 16-306, AECOM observed several additional culverts around the bridge Site, not included in the project Site list. One (1) additional structural culvert was observed along the underside of the north abutment of bridge Site 16-307, one (1) additional structural culvert was observed along the underside of Cedar Grove Road east of bridge Site 16-307, and one (1) additional structural culvert was observed

Designated Substance Survey

Highway 401 Improvements From 1 km East of Highway 16 to 3.3 km West of Maitland Road, Preliminary Design and Class Environmental Assessment Study – G.W.P. 4024-20-00

along the underside of the south abutment of bridge Site 16-306, immediately west of culvert 16-259/C. All three (3) additional structural culverts were composed of a single cell reinforced precast concrete circular culvert with a rectangular framing. The south side of the additional culvert located underneath the west of culvert 16-259/C could not be visually identified by AECOM during the DSS work. The single culvert was lined with a PVC liner. The culverts convey stormwater to neighbouring creeks. The culverts were not insulated or finished with any visible waterproofing or any other insulation materials or illuminated with any lighting or other electrical or mechanical equipment. During the DSS work, AECOM did not observe any suspected hazardous materials along the four (4) DSS Site culverts or the additional three (3) structural culverts observed at the DSS Sites and therefore, AECOM did not collect any representative surface or material samples at the single culvert. The structural culvert Sites physical boundaries is defined as the entire visible portions of the culvert extending underneath the DSS Sites or adjacent property. The culverts were overlain with both earth fill and gravel materials and installed underneath adjacent DSS Sites, the Highway 401 ROW, and/or bridge abutments.

A Designated Substances Site Description Summary is provided in **Table 2** below.

Table 2: Designated Substance Site Description Summary

Bridge I.D. / Construction Date	Bridge Direction/ Number of Lanes	DSS Completed by AECOM	Samples Collected by AECOM	Condition
Bridge No. 16-126 (Highway 401 Maitland Road Interchange) (1959*)	Two (2) lanes in NB and SB direction.	May 14 th , 2021.	Road Level Asphalt	Good
Bridge No. 16-165 (Highway 401 Blue Church Road Underpass) (1965)	One (1) lane in NB and SB direction.	May 13 th , 2021.	Road Level Asphalt and Paper Insulation.	Good
Bridge No. 16-166 (Highway 401 Merwin Lane Underpass) (1965)	One (1) lane in NB and SB direction.	May 13 th , 2021.	Road Level Asphalt	Good
Bridge No. 16-128 (Highway 401 Edward Street Interchange) NB (Unknown**)	Two (2) lanes in NB and SB direction.	May 13 th , 2021.	Road Level Asphalt	Good
Bridge No. 16-129 (Highway 401 CPR Overhead) (Unknown)	Two (2) lanes in EB and WB direction.	June 15 th , 2021	Road Level Asphalt	Good
Bridge No. 16-307 (Highway 416 Cedar Grove Road Overpass SBL) (1998)	Two (2) lanes SB only.	May 13 th , 2021	Road Level Asphalt	Good
Bridge No. 16-308 (Highway 416 Southbound Connector N-E) (1998)	One (1) lane SB only.	June 15 th , 2021	Road Level Asphalt	Good
Bridge No. 16-306 (Highway 401/416 W-N Ramp) (1998)	One (1) lane NB only.	April 19 th , 2021	Road Level Asphalt	Good
Bridge No. 16-130 (Highway 16 U/P) (1960***)	Two (2) lanes in EB and WB direction.	June 15 th , 2021	Road Level Asphalt	Good
Bridge No. 16-131 (Highway 16 CNR Overhead) (1962)	Two (2) lanes in EB and WB direction.	May 14 th , 2021	Road Level Asphalt	Good
Culvert No. 16-239/C (Highway 401 and Lemon's Creek Culvert) (1959***)	Extend N/S along the underside of Highway 401 Right of Way (ROW) east of Maitland Road.	June 15 th , 2021	No Samples Collected	Good
Culvert No. 16-250/C (Highway 401 Culvert) (Unknown)	Underside of Highway 401 ROW west of bridge Site 16-306.	April 19 th , 2021	No Samples Collected	Good
Culvert No. 16-259/C (Highway 401W-416N Ramp Culvert) (1998)	Underside of the south abutment of bridge Site 16-306.	April 19 th , 2021	No Samples Collected	Good
Culvert No. 16-260/C (Highway 416N – 401W Ramp Culvert) (1998)	Underside of the south abutment of bridge Site 16-307.	May 13 th , 2021	No Samples Collected	Good

Note: Good – the road level asphalt and membrane materials were observed to be in good condition with no visible damage or deterioration.

(*) Bridge construction date stamped along side of bridge deck.

(**) The construction date of the Bridge/Culvert Site is unknown.

(***) Bridge construction date information taken from Detailed Condition Survey Reports and Structural Inspection Reports.

Designated Substance Survey

Highway 401 Improvements From 1 km East of Highway 16 to 3.3 km West of Maitland Road, Preliminary Design and Class Environmental Assessment Study – G.W.P. 4024-20-00

3.1 Survey Program

Prior to the completion of the DSS work, AECOM reviewed readily available structural design reports, detailed condition surveys, and drawings or other information relating to the bridges included in the DSS project. The following reports and drawings were reviewed by AECOM as a component of this project:

Drawings reviewed for the project include:

Bridge Site 16-130:

1. General Plan. Edwardsburg T.W.P. #4 H.W.Y. 401 Underpass (WP 216-58) prepared by the Department of Highways: Ontario. November 1959.
2. Contract Drawings Contract No 40-84-20. District 9 – Ottawa. Highway 16 Underpass General Arrangement and Details. Ontario Ministry of Transportation and Communications. January 1984 (bridge Site 16-130).
3. Highway 16 U'Pass General Arrangement, July 1988;
4. Highway 16 & 401 Int. U'Pass (Highway 401) General Arrangement. Ontario Ministry of Transportation. August 2002;
5. Contract Drawings G.W.P. 4222-15-00 Contract No. 2016-4036 Eastern Region. Ontario Ministry of Transportation. April 2016;

Bridge Site 16-131

1. General Plan. Edwardsburg T.W.P. C.N.R. Overhead Bridge. Department of Highways Ontario. May 1959;
2. C.N.R. Overhead General Arrangement and Details. Reference Drawings. Ontario Ministry of Transportation. July 1988;
3. Contract Drawings. Contract No. 40-97-35. District 9. CNR Overhead Highway 16 General Arrangement. Cumming Cockburn Limited. 1997;
4. Contract Drawings G.W.P. 4222-15-00 Contact No. 2016-4036 Book 1 of 1. Eastern Region. Ontario Ministry of Transportation. April 2016;

Bridge 16-308

1. General Arrangement. District No. 42. CONT No. 97-68. Highway 401/416 interchange Ramp 416 SB Connection. DELCAN Engineering. November 1997;

Structural Culvert 16-239/C

1. General Arrangement Highway 401/Lemons Creek Culvert Rehabilitation. Morrison Hershfield. January 2014.

Structural Culvert 16-260/C

1. Culverts Under Ramp N-W & Ramp W-N. Bore Hole Locations & Soil Strata. Jacques, Whitford Limited. November 1997.

The drawings show the portions of Highway 401 and the three (3) bridge and two (2) culvert Sites included in this DSS work only. The drawings appear to show the original layout, design, and construction of the bridge and culvert Sites included in this program. AECOM reviewed these contract drawings and inserted any relevant information regarding the completion of the DSS Work in the report where relevant.

Designated Substance Survey

Highway 401 Improvements From 1 km East of Highway 16 to 3.3 km West of Maitland Road, Preliminary Design and Class Environmental Assessment Study – G.W.P. 4024-20-00

Additional Reports reviewed by AECOM for this project:

Bridge Site No. 16-130

1. Detailed Condition Survey Report. Site No. 16-130 Highway 401 at Highway 16 TWP of Edwardsburg, Ontario. Bridge Check Canada Ltd. September 14, 2015;
2. Ontario Bridge Management System (OBMS). Ontario Structure Inspection Manual – Inspection Form Report generated on Thursday, June 9, 2016.
3. Structure Inspection Report. Highway 16/UP Site Number 16X-0130/B0. Inspection Date 2018-09-30. Ontario Ministry of Transportation.

Bridge Site No. 16-131

1. Detailed Condition Survey Report. Site #16-130, Highway 16, CNR Overhead, TWP Edwardsburg ON. SPL Consultants Limited. March, 2011.
2. Structure Inspection Report. CNR Overhead Site Number 16X-0131/B0. Inspection Date 2018-10-22. Ontario Ministry of Transportation.

Bridge Site No. 16-308

1. Structure Inspection Report. Southbound Connection N-E. Site Number 16X-0308/B0. Inspection Date 2019-10-20. Ontario Ministry of Transportation.
2. Ontario Bridge Management System (OBMS). Ontario Structure Inspection Manual – Inspection Form Report generated on Tuesday February 27, 2018.

Bridge Site No. 16-239/C

1. Structure Inspection Report Lemon's Creek Culvert. Site Number 16X-0239/C0. Inspection Date 2019-09-24. Ontario Ministry of Transportation.

The reports and drawings available for review only included Bridge Site Nos. 16-130, 16-131, 16-308, and Culvert Nos. 16-239/C and 16-260/C. The Detailed Condition Survey Report were prepared by Bridge Check Canada Ltd. and SPL Consultants Limited. The Ontario Bridge Management System (OBMS) reports and Structural Inspection Reports were all prepared by the Ontario Ministry of Transportation (MTO). All reports were prepared between 2011 – 2019. In addition, AECOM reviewed both updated and historical drawings of the bridges and culverts included in this project in order to identify any specific information regarding any of the sites included in the DSS program. Drawings reviewed included information detailing Site layout, site dimensions, construction materials, and site geography. AECOM reviewed these reports and drawings and inserted any relevant information regarding the completion of the DSS Work in the report where relevant.

In general, the vehicular bridges reported in the documents range between approximately 39 - 161 metres (~ 127 – 528 feet) in overall length and between approximately 11 – 15.7 metres (~ 36 – 51.6 feet) in width each.

According to the previous Structural Design Reports, Detailed Bridge Condition Surveys, and Detailed Condition Survey Reports reviewed for this project, bridge Site 16-131 (Highway 16 CNR Overhead) was constructed in 1962. Several bridge rehabilitation projects occurred between the years 1989 and 2010. A major rehabilitation was completed in 1998 including removal and replacement of the surface asphalt and waterproofing membrane, replacement of expansion joints, refacing the barrier walls and installation of PVC drain tube. Additional minor bridge repair work was completed in the years following including 2010, 2014, and 2016. Bridge Site 16-130 (Highway 16 U/P) was reportedly constructed between 1960 – 1962 based on several reports. Bridge repair work was listed in 1984 and 1989 including deck joint modification, shotcrete repair at abutment and retaining walls, and

Designated Substance Survey

Highway 401 Improvements From 1 km East of Highway 16 to 3.3 km West of Maitland Road, Preliminary Design and Class Environmental Assessment Study – G.W.P. 4024-20-00

removal and replacement of asphalt pavement and waterproofing materials. A major rehabilitation was listed in 2003 with no inspection completed due to construction work been completed. Additional minor rehabilitation was also listed in 2010, 2106, and 2018 including concrete repair. Lastly bridge Site 16-308 (Highway 416 Southbound Connector N-E) was reportedly constructed in 1999. Although inspections were completed between 2013 – 2019, no specific repair work was listed. Structural culvert 16-239/C was reportedly constructed in 1959 with an overall length of 52.3 m (~ 172 ft>). Two inspections were completed in 2015 and 2019. The only work listed was end portions of soffit replaced in 2015. Numerous large spalls and delams were observed along the culvert. There were no reports listed for structural culvert 16-260/C.

As a component of the DSS project, AECOM reviewed previous designated substances and asbestos surveys completed at the bridge Sites.

Bridge Site 16-125

A Designated Substance Survey (DSS) was completed for bridge Sites 16-125 and 21-308. However, these specific Sites were not included in the list of bridge Sites included in this project and therefore were not reviewed by AECOM.

Culvert Coating Asbestos Analysis Report.

A culvert coating asbestos analysis report was completed of culverts located along Highway 401 between Mallorytown Road (I/C 675) easterly to Maitland Road (I/C 705). However, based on a review of the report, the location of the culverts were not within the project limits for this project and therefore were not reviewed by AECOM.

PINCHIN Environmental Asbestos Laboratory Results

Two (2) separate PINCHIN laboratory reports were reviewed for this project. The first report, dated May 29, 2013 included bulk sample results for Morrison Hershfield. The laboratory report included analysis of eight (8) bulk samples of tar and transite insulation materials collected from six (6) bridges including 16-165, 31-157, 11-174, 16-159, 11-044, and 17-002. However, only one (1) bridge Site 16-65 was included in the bridge Site list for this project. In the laboratory report, two (2) samples of non-homogeneous, black, hard, tar impregnated compressed fibrous material were submitted for analysis for asbestos. The samples were collected from bridge Site 16-165 (Highway 401, Blue Church Road Underpass, Bell Duct @ E.J. gap (SW corner) and west duct in east curb near NW wing wall. Both samples were found to contain between 0.5 – 5% Chrysotile asbestos. During the DSS work completed by AECOM at the bridge Site 16-165, AECOM attempted to locate the bell duct mentioned in the previous laboratory report. AECOM searched the bridge Site as well as lands surrounding the bridge but was not able to locate the bell duct in the PINCHIN report.

The second PINCHIN laboratory report included four (4) bulk samples of similar tar like material submitted for asbestos analysis. The samples were collected from three (3) bridge sites including 27-214, 31-292, and 16-166. However, only one (1) bridge Site 16-66 was included in the bridge Site list for this project. In the laboratory report, one (1) sample of non-homogeneous, black, tar with fibrous material were submitted for analysis for asbestos. The samples were collected from bridge Site 16-166 (Highway 401, Merwyn Lane underpass, bell duct in west curb). The single bulk sample was found to contain between 0.5 – 5% Chrysotile asbestos. During the DSS inspection work completed by AECOM at the bridge Site 16-166, AECOM attempted to locate the bell duct mentioned in the previous laboratory report. AECOM searched the bridge Site as well as lands surrounding the bridge but was not able to locate the bell duct in the PINCHIN report.

Designated Substance Survey

Highway 401 Improvements From 1 km East of Highway 16 to 3.3 km West of Maitland Road, Preliminary Design and Class Environmental Assessment Study – G.W.P. 4024-20-00

The DSS is not a management tool and only applies to projects where demolition or renovation activities may disturb any of the eleven (11) substances plus PCBs, ODS, or mould. During the DSS work, AECOM inspected all bridges and culverts as well as other immediately accessible areas of the DSS Sites. This was a non-destructive sampling program whereby AECOM did not readily damage or dismantle any bridge DSS Sites or materials in order to collect representative bulk samples. Bulk samples of suspected hazardous materials (i.e., asbestos and/or lead paint) were collected where observed and accessible.

All bridges were open to vehicular traffic and the culverts conveyed stormwater to neighbouring creeks at the time the DSS work was conducted.

3.2 Asbestos

The inspection of the individual DSS Sites identified potential suspected asbestos-containing materials (“ACMs”) and locations including the bridge barrier wall insulations (Homogenous set: "Paper" or "Caulking"), bearing components, conduit piping, and load distribution boards, including "Transite" (“TR”), Bridge mastic compound (“MS”) road level asphalt (“ASP”), road level tar (“TAR”), waterproofing membrane (“MEM”), expansion joint sealant (“EXP”), and embedded rigid conduit cement piping insulation (“CONDUIT”). During the DSS work, AECOM observed a variety of insulation materials along the surface areas of the DSS Sites. Samples of these materials were collected where readily accessible and submitted for analysis. AECOM’s ACM sampling methodology follows the Ontario Occupational Health and Safety Act and its regulations and guidelines referenced throughout this report. Suspected ACMs not sampled during this project for reasons listed in this report must be presumed to contain asbestos under sampled for analysis. During the DSS work, AECOM notes both the sample material, location, and condition of potential suspected ACMs for possible exposure information. Condition of materials is listed as either Good, Fair, or Poor based on visual observations of any potential damage/deterioration of the assessed DSS Sites.

All bulk sample analysis of potential ACMs was performed by AGAT Laboratories, of Mississauga, Ontario a National Laboratory Accreditation Program (“NVLAP”) accredited laboratory. As per the requirements of O. Reg. 278/05, samples are analyzed following the PLM analytical procedure using U.S. Environmental Protection Agency Method EPA/600/R-93/116 *Method for the Determination of Asbestos in Bulk Building Materials*, June 1993. **Table 3** below presents the results of the laboratory asbestos testing on the bulk samples. The laboratory Certificates of Analysis are included in **Appendix B**.

Table 3: Bulk Asbestos Sampling Results

Bridge I.D.	Sample Description	Laboratory Sample I.D.	Asbestos Concentration (%) and Type	Condition
Highway 401 Maitland Road Interchange (Site 16-126)				
Bridge No. 16-126	Road Level Asphalt	16-126-ASP-01A	None Detected	Good
Bridge No. 16-126	Road Level Asphalt	16-126-ASP-01B	None Detected	Good
Bridge No. 16-126	Road Level Asphalt	16-126-ASP-01C	None Detected	Good
Highway 401 Blue Church Road Underpass (Site 16-165)				
Bridge No. 16-165	Road Level Asphalt	16-165-ASP-01A	None Detected	Good
Bridge No. 16-165	Road Level Asphalt	16-165-ASP-01B	None Detected	Good
Bridge No. 16-165	Road Level Asphalt	16-165-ASP-01C	None Detected	Good
Bridge No. 16-165	Bridge Insulation Paper	16-165-PR-01A	None Detected	Good
Bridge No. 16-165	Bridge Insulation Paper	16-165-PR-01B	None Detected	Good
Bridge No. 16-165	Bridge Insulation Paper	16-165-PR-01C	None Detected	Good
Highway 401 Merwin Lane Underpass (Site 16-166)				
Bridge No. 16-166	Road Level Asphalt	16-166-ASP-01A	None Detected	Good
Bridge No. 16-166	Road Level Asphalt	16-166-ASP-01B	None Detected	Good
Bridge No. 16-166	Road Level Asphalt	16-166-ASP-01C	None Detected	Good

Designated Substance Survey

Highway 401 Improvements From 1 km East of Highway 16 to 3.3 km West of Maitland Road, Preliminary Design and Class Environmental Assessment Study – G.W.P. 4024-20-00

Table 3: Bulk Asbestos Sampling Results

Bridge I.D.	Sample Description	Laboratory Sample I.D.	Asbestos Concentration (%) and Type	Condition
Highway 401 Edward Street Interchange (Site 16-128)				
Bridge No. 16-128	Road Level Asphalt	16-128-ASP-01A	None Detected	Good
Bridge No. 16-128	Road Level Asphalt	16-128-ASP-01B	None Detected	Good
Bridge No. 16-128	Road Level Asphalt	16-128-ASP-01C	None Detected	Good
Highway 401 CPR Overhead (Site 16-129)				
Bridge No. 16-129	Road Level Asphalt	16-129-ASP-01A	None Detected	Good
Bridge No. 16-129	Road Level Asphalt	16-129-ASP_01B	None Detected	Good
Bridge No. 16-129	Road Level Asphalt	16-129-ASP-01C	None Detected	Good
Highway 416 Cedar Grove Road Overpass SBL (16-307)				
Bridge No. 16-307	Road Level Asphalt	16-307-ASP-01A	None Detected	Good
Bridge No. 16-307	Road Level Asphalt	16-307-ASP-01A	None Detected	Good
Bridge No. 16-307	Road Level Asphalt	16-307-ASP-01A	None Detected	Good
Highway 416 Southbound Connector N-E (16-308)				
Bridge No. 16-308	Road Level Asphalt	16-308-ASP-01A	None Detected	Good
Bridge No. 16-308	Road Level Asphalt	16-308-ASP-01B	None Detected	Good
Bridge No. 16-308	Road Level Asphalt	16-308-ASP-01C	None Detected	Good
Highway 401/416 W-N Ramp (16-306)				
Bridge No. 16-306	Road Level Asphalt	16-306-ASP-01A	None Detected	Good
Bridge No. 16-306	Road Level Asphalt	16-306-ASP-01B	None Detected	Good
Bridge No. 16-306	Road Level Asphalt	16-306-ASP-01C	None Detected	Good
Highway 16 U/P (16-130)				
Bridge No. 16-130	Road Level Asphalt	16-130-ASP-01A	None Detected	Good
Bridge No. 16-130	Road Level Asphalt	16-130-ASP-01B	None Detected	Good
Bridge No. 16-130	Road Level Asphalt	16-130-ASP-01C	None Detected	Good
Highway 16 CNR Overhead (16-131)				
Bridge No. 16-131	Road Level Asphalt	16-131-ASP-01A	None Detected	Good
Bridge No. 16-131	Road Level Asphalt	16-131-ASP-01B	None Detected	Good
Bridge No. 16-131	Road Level Asphalt	16-131-ASP-01C	None Detected	Good

Note: 1. GOOD – The road level asphalt was observed to be in GOOD condition.

Approximate locations of asbestos-containing materials (“ACMs”) or other hazardous substances identified during the survey are illustrated in **Figures 2 through 16**. All DSS Site photographs are included in **Appendix A**. Copies of all laboratory analysis for the bridges are included in **Appendix B**.

The results indicated that asbestos-containing materials (“ACMs”) are not present in any of the bulk samples sampled along any of the bridges sampled by AECOM as part of this DSS survey program.

3.2.1 Friable and Non-Friable Asbestos Containing Materials

Under *O. Reg. 278/05 – Definitions*, friability means that material, when dry, can be crumbled, pulverized or powdered by hand pressure/or is crumbled, pulverized/or powdered. Non-friable materials are those materials that cannot be easily crumbled or pulverized by hand pressure. These are more hardened/or stiffer products. AECOM did not encounter any friable or non-friable ACMs at the Sites.

3.2.2 Presumed Asbestos Containing Materials (ACMs”)

Waterproofing Membrane (“MEM”): Due to the limitations of the DSS work completed by AECOM, non-friable waterproofing membrane was not observed between the surface road asphalt and the reinforced concrete deck at any of the ten (10) bridges and four (4) culvert Sites. This membrane was assumed to be present across all ten (10) bridge Sites only inspected by AECOM.

Designated Substance Survey

Highway 401 Improvements From 1 km East of Highway 16 to 3.3 km West of Maitland Road, Preliminary Design and Class Environmental Assessment Study – G.W.P. 4024-20-00

Given the potential historical use of asbestos in many different bridge insulation and construction materials, the contractor should assume that the waterproofing membrane at all bridge Sites, and road level expansion joint compound along bridge Sites or project limits contains asbestos and sample where present immediately prior to any demolition work in order to confirm whether or not these materials contain asbestos. In accordance with Section 8 of the O. Reg. 278/05, the Owner of a Site (i.e., MTO), must treat all suspected insulation materials as though they contain ACM unless laboratory analysis confirms non-detect for asbestos content.

Consideration should also be given to the following:

- *Sampling materials that were not readily accessible to AECOM and not sampled for the purpose of this report. (Materials that may have been located in isolated or inaccessible locations). As an alternative to sampling, these suspect materials may be assumed to contain asbestos.*
- *Assessing any areas that were otherwise deemed inaccessible by the surveyor .e.g., construction and design of the vehicular DSS Sites made it difficult to inspect portions of the underside of the elevated vehicular bridge DSS Sites.*

3.3 Lead

During the DSS work, AECOM observed painted or otherwise coated surface areas along one (1) of the DSS Sites inspected by AECOM as part of this DSS survey program. During the DSS AECOM observed potential lead-based paint in the following area:

- Light green paint – On length of concrete bridge barrier of bridge Site 16-129 (Highway 401 CPR Overhead).

AECOM collected one (1) bulk paint sample of bridge paint material observed at the DSS Site as potentially containing lead. The one (1) paint sample was submitted to EMSL Canada, Inc. in Mississauga, Ontario for analysis of lead using the Atomic Absorption Spectroscopy (AAS) method. Table 4 presents the laboratory results of the lead testing on the paint sample. The laboratory certificates of analysis are provided in **Appendix C**.

Table 4: Lead Sampling Results

Sample ID	Paint Description and Sample Location	Lead Concentration by Weight (%)	Lead Concentration (ppm/µg/g)
16-129-PT-01	Light green paint along concrete barriers of Highway 401 CPR Overhead.	<0.001	<10

In 1976, the Hazardous Products Act limited the amount of lead in interior paint accessible to children to 0.5% by dry weight. In October 2010, the federal Hazardous Products Act Surface Coating Materials Regulation (SOR/2005-109) limited the allowable concentration of total lead present in a surface coating material to 90 mg/kg (or 90 ppm). This regulation does not apply to anti-corrosive coatings, touch-ups, traffic signs, and many commercial products which children may come in contact with. AECOM has adopted to use this current regulation to provide guidance to the Client regarding paints and other coatings that are considered lead based. Adoption of this regulation by the Client does not necessarily require any further action regarding remediation and/or management of lead containing coatings or other paints as it applies to the DSS completed under the OHSA. The one (1) paint sample contained lead below the recommended limit and therefore is not considered lead containing paint. The paint was observed to be in good condition with minor peeling and chipping due to overall age and deterioration.

Designated Substance Survey

Highway 401 Improvements From 1 km East of Highway 16 to 3.3 km West of Maitland Road, Preliminary Design and Class Environmental Assessment Study – G.W.P. 4024-20-00

Legislation regarding exposure to lead under O. Reg. 490/09 refers to occupational exposure of lead dust and mists measured in terms of air quality. Occupational and work place related air sampling was not completed as a component of this DSS. The Ontario Ministry of Labour (MOL) does not have a lower limit for lead paint concentrations for which precautions must be considered.

However, other potential sources may include:

- Coated rebar previously inserted during original construction of DSS Sites; and
- Painted or otherwise coated surfaces along DSS Sites not inspected by AECOM during this project.

As much as possible, paint removal should be completed using hand-powered scraping tools or by disassembling painted components (i.e., disassemble steel beams, etc.). Additionally, workers should employ general safety precautions such as appropriate dust suppression methods and proper personal protective equipment.

All potential lead-containing materials that may be disturbed during any scheduled work performed at the Site should be removed following O. Reg. 490/09, Regulation on Construction Projects, ("O. Reg. 213/91"), and Guideline: Lead on Construction Projects (Ontario Ministry of Labour) April 2011 ("Lead").

3.4 Mercury (update)

AECOM did not observe any potential mercury-containing materials along any of the ten (10) bridge or four (4) structural culvert Sites inspected by AECOM. In addition, AECOM did not observe any potential mercury-containing materials along any of the three (3) additional culverts inspected by AECOM as part of this project.

3.5 Silica

Free crystalline silica, in the form of common construction sand, is present in all concrete and masonry products, materials, and finishes within the DSS Sites. During the survey, the potential source of silica observed at the DSS Sites included poured concrete decking, beams, foundations, abutments, footings, guardrails, and culverts. The only silica product used in concrete is most likely silica fume, which is a finely divided product used in high strength concrete or in concrete with special requirements such as very low permeability. Silica fume is added to the concrete at a rate generally between five and ten percent of the weight of portland cement.

Demolition or any disturbance of any silica-containing DSS Site or bridge materials should be conducted following recommendations detailed within the Ministry of Labour Guideline, "*Silica on Construction Projects*", dated April 2011 ("Silica"), where specific legislation is not included under the OHS Act.

3.6 Other Designated Substances

Other designated substances, including benzene, ethylene oxide, vinyl chloride, arsenic, coke oven emissions, acrylonitrile, and isocyanates were not observed or reported to be present at any Sites inspected by AECOM. These materials are not expected to be present in any bulk form in any of the DSS Sites.

Designated Substance Survey

Highway 401 Improvements From 1 km East of Highway 16 to 3.3 km West of Maitland Road, Preliminary Design and Class Environmental Assessment Study – G.W.P. 4024-20-00

3.7 Polychlorinated Biphenyls (PCBs)

There were no Polychlorinated Biphenyls (PCBs) observed or reported at any of the DSS Sites inspected by AECOM as part of this DSS survey program.

3.8 Ozone Depleting Substances (ODS)

There were no Ozone Depleting Substances (ODSs) observed or reported at any of the DSS Sites inspected by AECOM as part of this DSS survey program. Based on the results of the inspections completed by AECOM, ozone depleting substances are not expected to be present at the DSS Sites.

3.9 Mould

There was no mould observed at any of the DSS Sites inspected by AECOM for this DSS survey program. Based on the DSS inspection work completed to date, AECOM does not expect that mould will be present at any other DSS Sites.

4. Conclusions

Based on the results of the DSS work, AECOM makes the following conclusions:

- a) Representative bulk samples of road level asphalt and paper insulation collected for analysis from the ten (10) bridge Sites were found not to contain asbestos.
- b) Rigid PVC piping was observed along bridge Nos. 16-307, 16-306, and 16-308 inside the concrete barrier walls along the sides of the bridge Sites. There was no light poles or pole bases attached to either bridges Sites at the time of the inspection completed by AECOM. In addition, there was no electrical wiring observed inside the PVC piping along either bridge Sites. Electrical wiring was observed along the west outer sides of the concrete barrier walls of bridge 16-306. However, the wiring was not connected to any equipment along the bridge Site. Where present, AECOM opened accessible metal conduit hatches along the barrier wall of the remaining bridges to access any rigid conduit cement piping and collected representative samples for analysis where warranted.
- c) Given the potential historical use of asbestos in many different bridge insulation and construction materials, the contractor should assume that the waterproofing membrane at all ten (10) bridge Sites contains asbestos and sample where present immediately prior to any demolition work in order to confirm whether or not these materials contain asbestos. In accordance with Section 8 of the O. Reg. 278/05, the Owner of a Site (i.e., MTO), must treat all suspected insulation materials as though they contain ACM unless laboratory analysis confirms non-detect for asbestos content. During the DSS work, waterproofing membrane was not observed along any of the four (4) structural culverts and three (3) additional unlabelled culverts.
- d) Prior to or during any scheduled demolition or rehabilitation of the bridges, other suspected materials encountered during the removal work can either be sampled and submitted for analysis or otherwise assumed to contain asbestos and treated as such. Compliance with the regulations requires that in accordance with Section 8 of the O. Reg. 278/05, the Owner of a Site (i.e., MTO), must treat all unknown and/or suspected insulation materials as though they contain ACM unless laboratory analysis confirms non-detect for asbestos content.
- e) There were no potential sources of PCBs or mercury observed or otherwise suspected of being present at the ten (10) bridge and four (4) culvert Sites inspected by AECOM as part of this DSS survey program. In addition, AECOM did not observe any potential sources of PCBs or mercury along any of the additional culverts inspected by AECOM as part of this project.
- f) There were no potential sources of sources of lead, mould, or ODS observed along any of the DSS Sites inspected by AECOM.
- g) Free crystalline silica, in the form of common construction sand, is present in all concrete and masonry products, materials, and finishes within the DSS Sites. During the survey, the potential source of silica observed at the DSS Sites included poured concrete decking, beams, foundations, abutments, footings, and guardrails. The only silica product used in concrete is most likely silica fume, which is a finely divided product used in high strength concrete or in concrete with special requirements such as very low permeability. Silica fume is added to the concrete at a rate generally between five and ten percent of the weight of portland cement.
- h) Other designated substances, including benzene, ethylene oxide, vinyl chloride, arsenic, coke oven emissions, acrylonitrile, and isocyanates were not observed or reported to be present at any DSS Sites inspected by AECOM. Based on the results of the inspections completed by AECOM, other Designated Substances are not expected to be present at the DSS Sites.

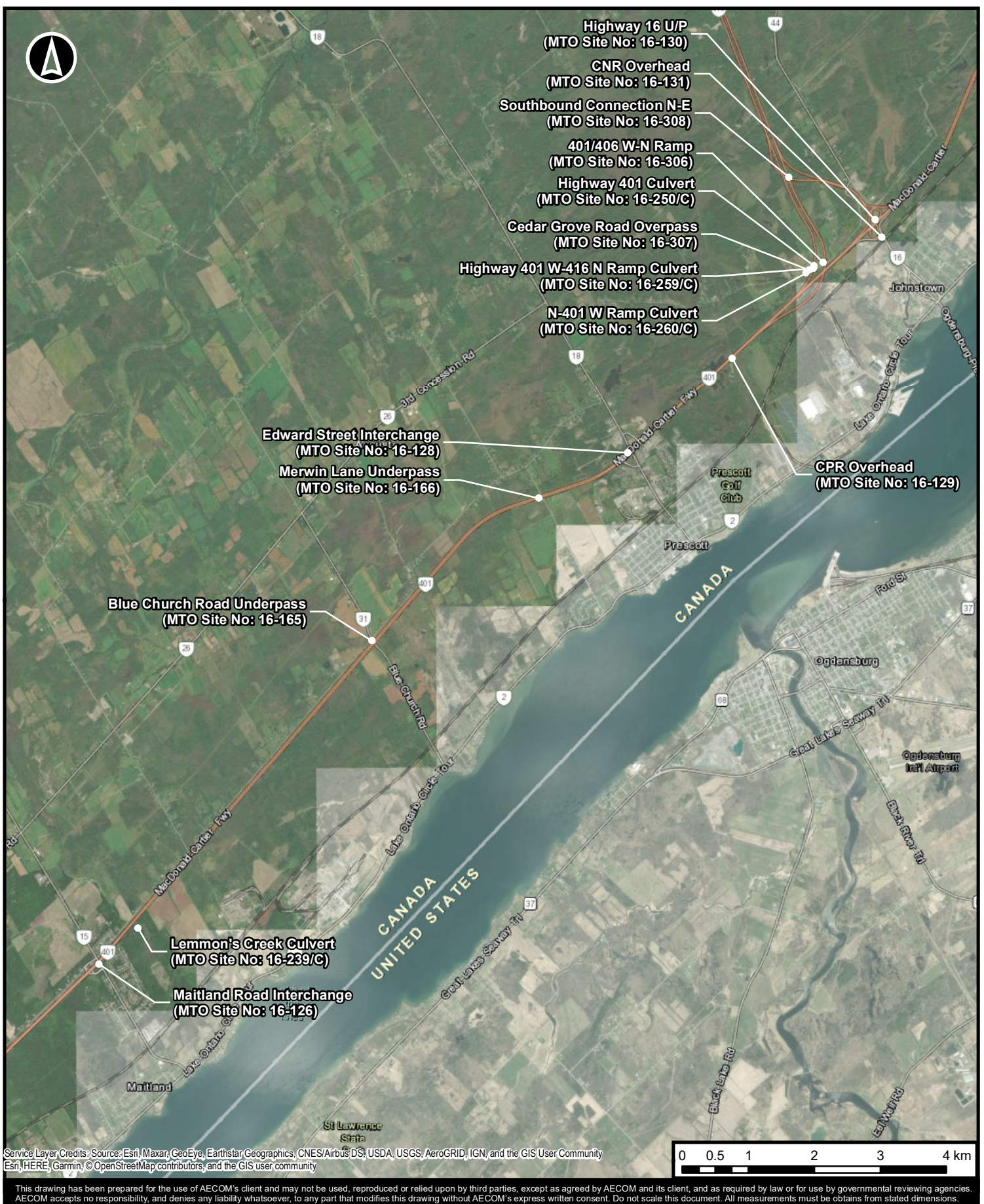
5. Recommendations

Based on the findings of the DSS, AECOM submits the following recommendations:

- a) During the scheduled bridge rehabilitation work, a contractor must stop any work in the event suspected ACM or other unknown and suspect building materials are encountered that were not already documented in the Designated Substance Survey (DSS) report completed by AECOM as either ACM, non-ACM, or remain suspected due to limitations of the DSS work. The contractor should then contact AECOM, and either have the newly encountered materials sampled and analyzed for ACM or treat the material as containing ACM and take appropriate action based on current applicable legislation and guidelines.
- b) All road level non-friable waterproofing membrane along the ten (10) bridge Sites should be sampled prior to any scheduled demolition work to confirm whether or not they contain asbestos or otherwise assumed to contain asbestos and treated as such in accordance with The Ontario Environmental Protection Act.
- c) A qualified contractor must control all DSS Sites repair or maintenance activities on site to minimize worker exposure to silica and/or lead dust in accordance with O. Reg. 490/09. As required by O. Reg. 490/09, airborne silica concentrations must not exceed a TWA of 0.10 milligrams of silica per cubic metre for quartz/tripoli and a TWA of 0.05 milligrams of lead per cubic metre for elemental lead, inorganic and organic compounds of lead respectively. Recycling of silica-based materials removed from any work areas should be conducted in accordance with O. Reg. 102/94 and O. Reg. 103/94 under the *Ontario Environmental Protection Act*.

Figures





Service Layer Credits: Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Esri, HERE, Garmin, © OpenStreetMap contributors, and the GIS user community

This drawing has been prepared for the use of AECOM's client and may not be used, reproduced or relied upon by third parties, except as agreed by AECOM and its client, and as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any part that modifies this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from stated dimensions.

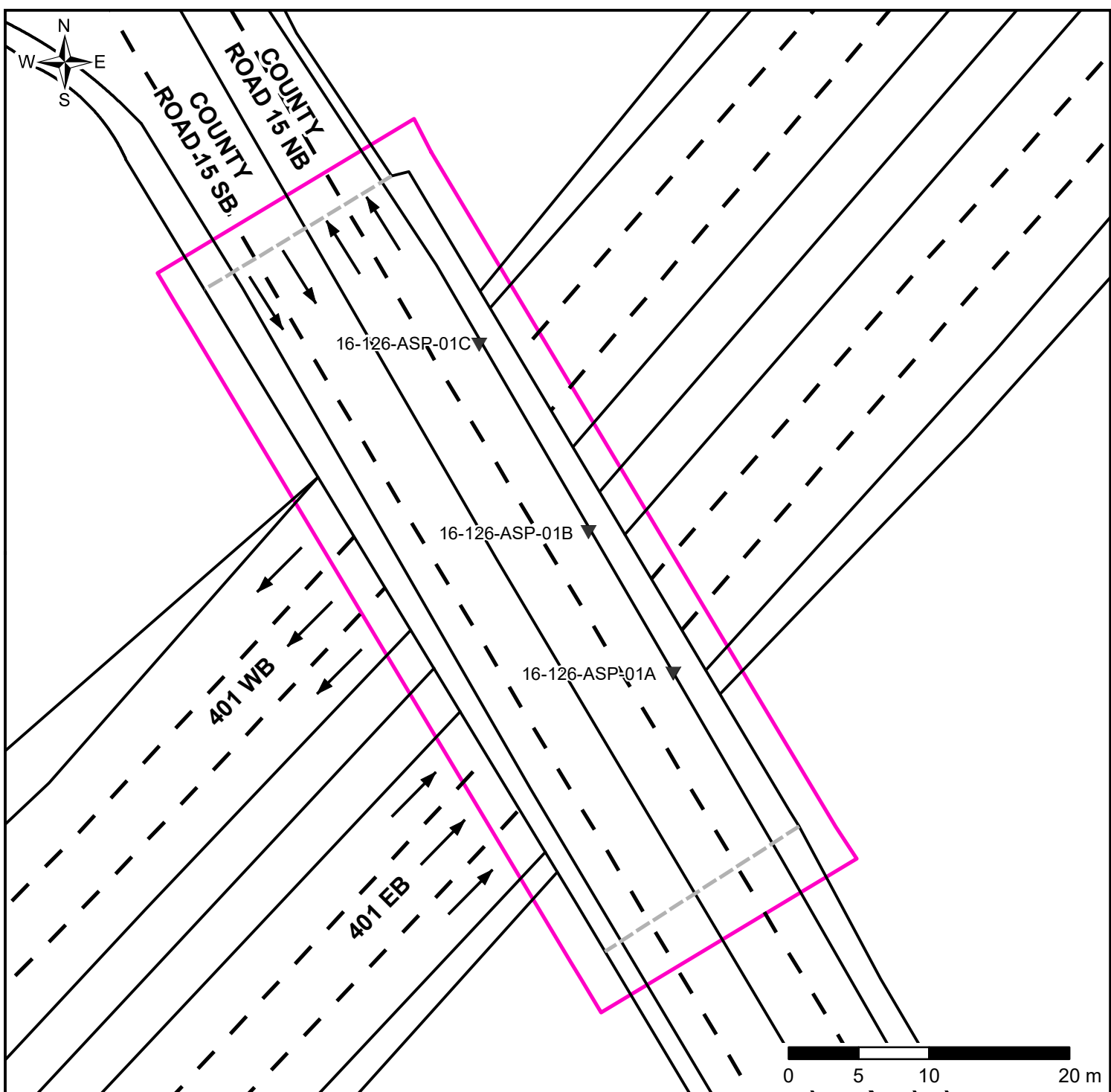
Ministry of Transportation, Eastern Region
Designated Substance Survey
 Ten Bridge Structures and Four Structural Culverts
 Highway 401, Maitland Road Interchange to Highway 16 Interchange
 Township of Augusta, Township of Edwardsburgh/Cardinal, and Town of Prescott
 Project No.: 60638228 Date: April, 2022



Site Location Map



FIGURE: 1

ANSI 215.9mm x 279.4mm
Date Saved: 6/28/2021 4:43:32 PM
Filename: E:\PR\60648228_DSS\02_MXD\02_60638228_DSHMS_16-126.mxd
Last saved by: PC



- LEGEND**
-  DESIGNATED SUBSTANCE SURVEY BOUNDARY
 -  16-126-ASP-01A LOCATION AND ID OF ASPHALT SAMPLE

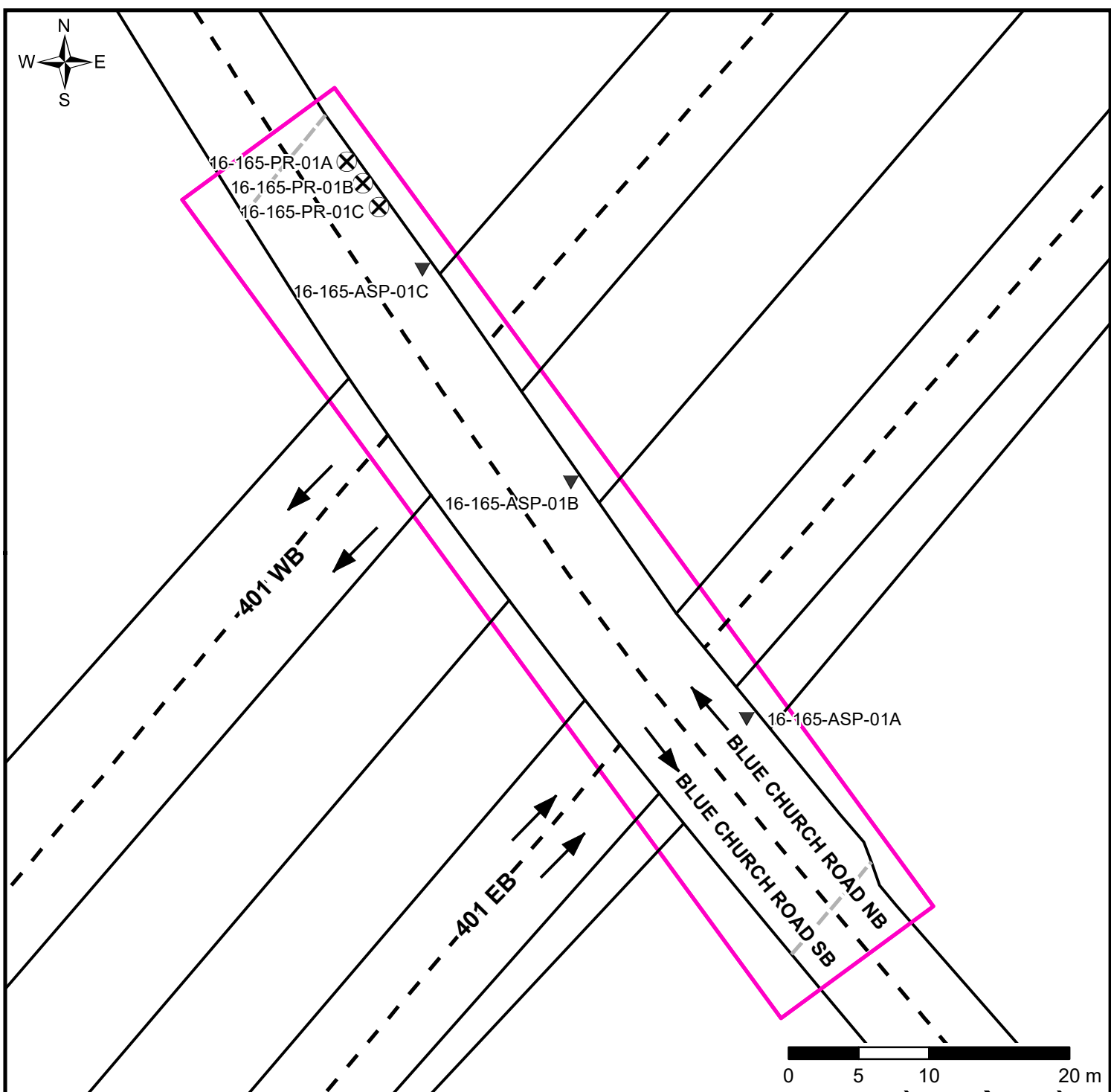
This drawing has been prepared for the use of AECOM's client and may not be used, reproduced or relied upon by third parties, except as agreed by AECOM and its client, and as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any part that modifies this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from stated dimensions.




Ministry of Transportation, Eastern Region
Designated Substance Survey
Ten Bridge Structures and Four Structural Culverts
Highway 401, Maitland Road Interchange to Highway 16 Interchange
Township of Augusta, Township of Edwardsburgh/Cardinal, and Town of Prescott
Project No.: 60638228
Date: April, 2022

BULK SAMPLE LOCATIONS PLAN
BRIDGE No: 16-126
HIGHWAY 401 MAITLAND
ROAD INTERCHANGE

AECOM
FIGURE: 2

ANSI 215.9mm x 279.4mm
 Date Saved: 6/28/2021 4:44:25 PM
 Filename: E:\PRJ\60648228_DSS\02_MXD\003_60638228_DSHMS_16-165.mxd
 Last saved by: PC



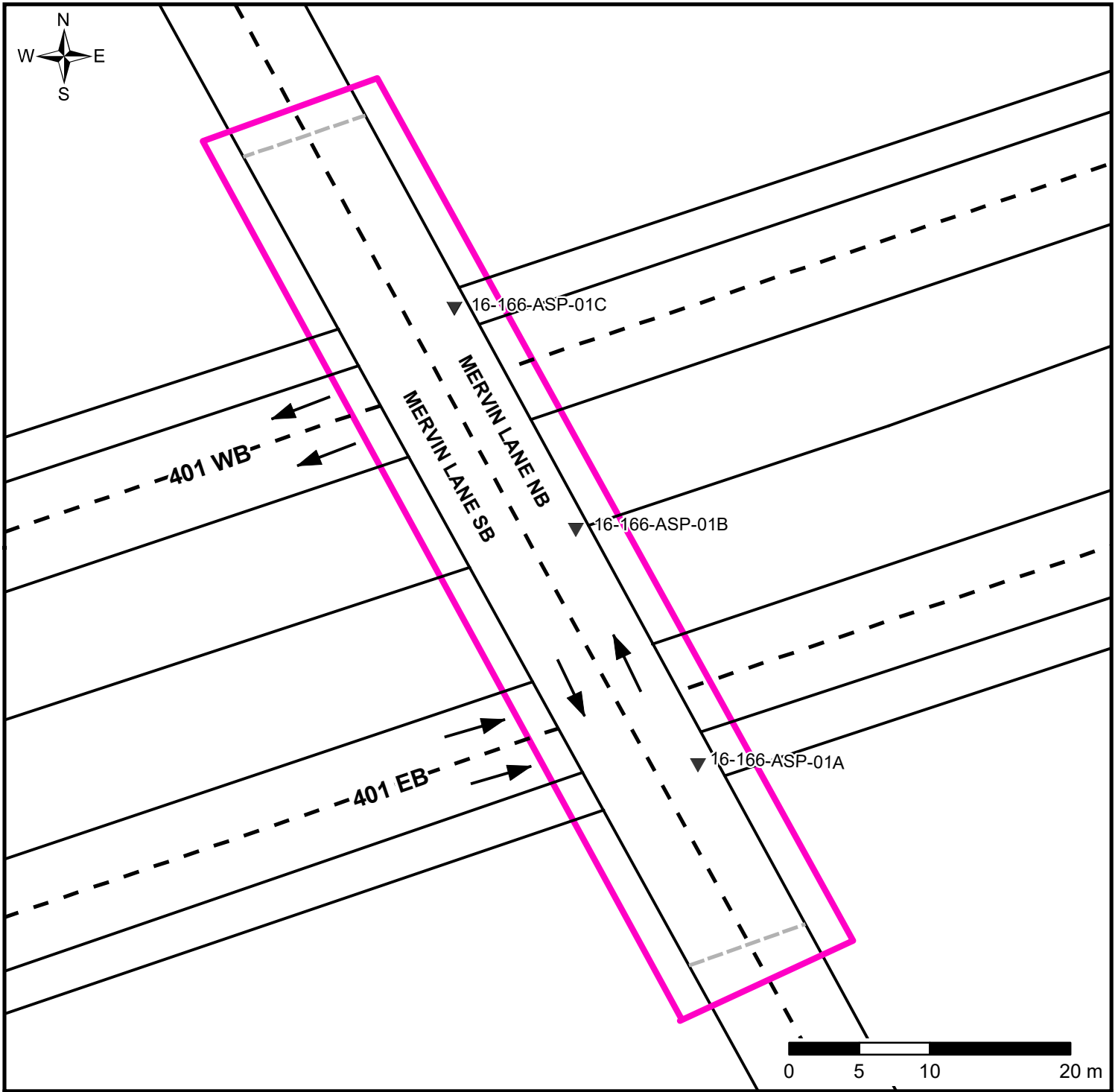
LEGEND	
	DESIGNATED SUBSTANCE SURVEY BOUNDARY
	16-165-ASP-01A LOCATION AND ID OF ASPHALT SAMPLE
	16-165-PR-01A LOCATION AND ID OF PAPER SAMPLE

This drawing has been prepared for the use of AECOM's client and may not be used, reproduced or relied upon by third parties, except as agreed by AECOM and its client, and as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any part that modifies this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from stated dimensions.

Ministry of Transportation, Eastern Region
Designated Substance Survey
 Ten Bridge Structures and Four Structural Culverts
 Highway 401, Maitland Road Interchange to Highway 16 Interchange
 Township of Augusta, Township of Edwardsburgh/Cardinal, and Town of Prescott
 Project No.: 60638228 Date: April, 2022

BULK SAMPLE LOCATIONS PLAN
BRIDGE No: 16-165
HIGHWAY 401 BLUE CHURCH ROAD
UNDERPASS

AECOM
FIGURE: 3



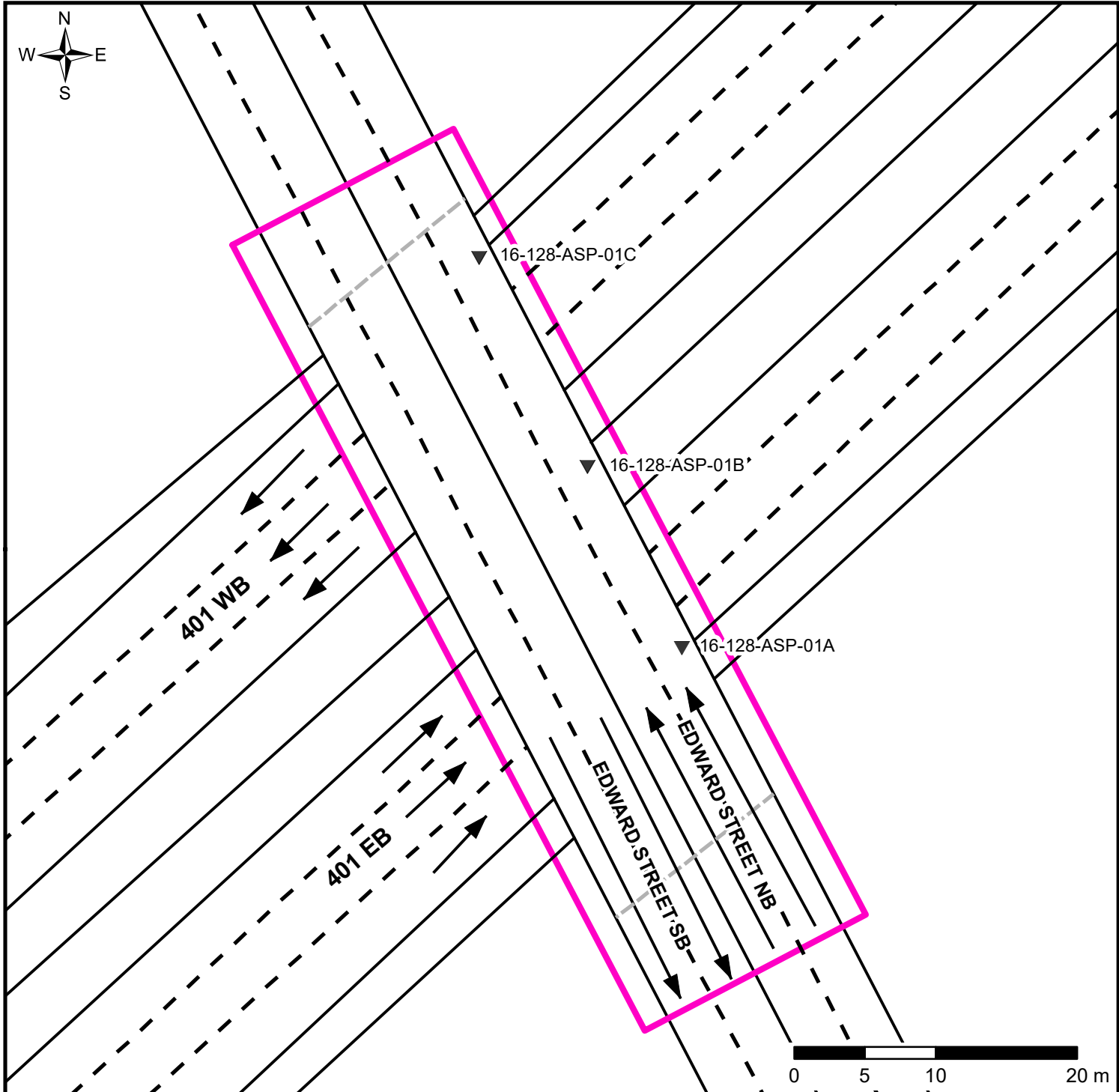
LEGEND





DESIGNATED SUBSTANCE SURVEY BOUNDARY

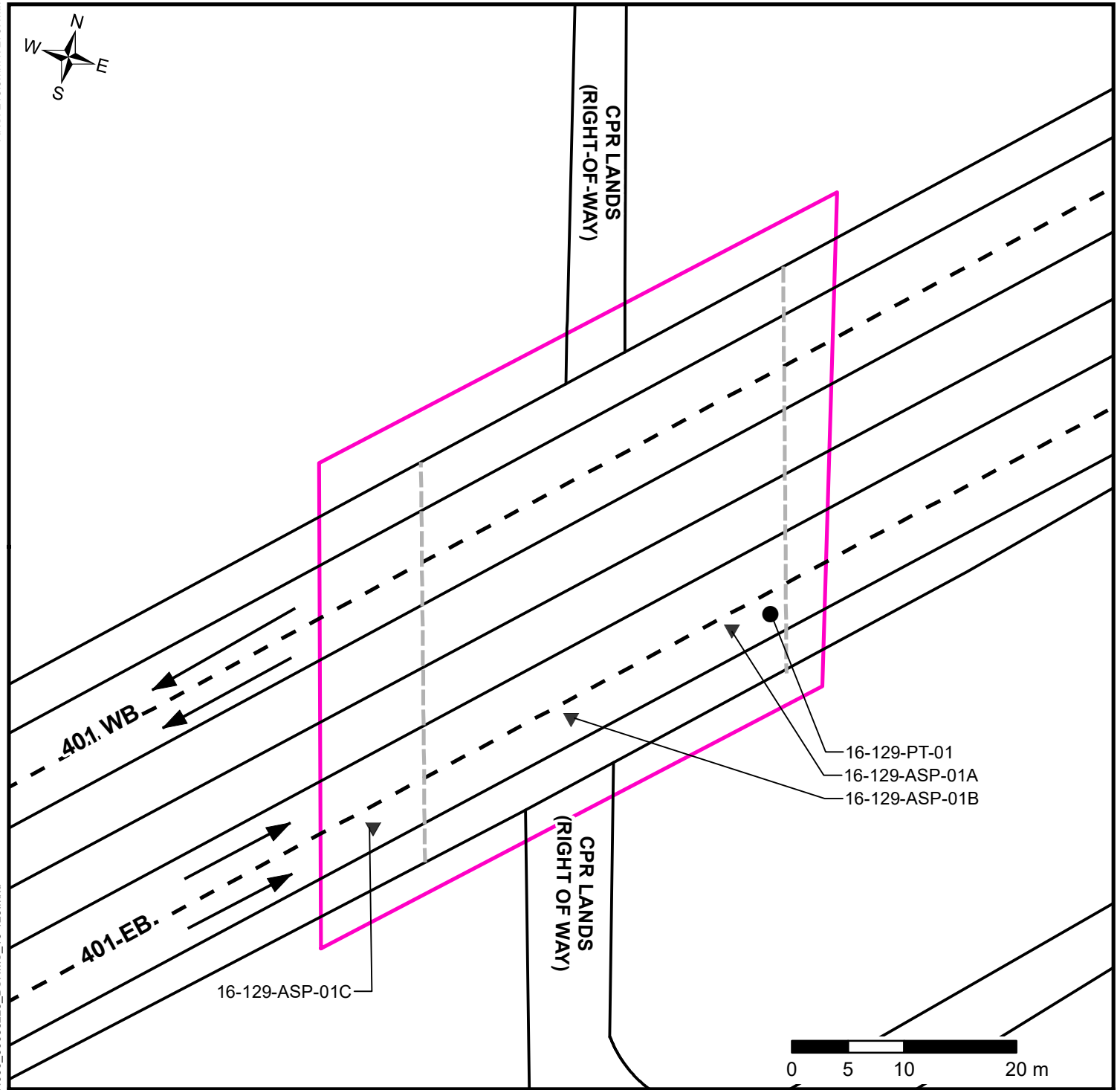


16-166-ASP-01A LOCATION AND ID OF ASPHALT SAMPLE






- LEGEND**
-  DESIGNATED SUBSTANCE SURVEY BOUNDARY
 -  16-128-ASP-01A LOCATION AND ID OF ASPHALT SAMPLE

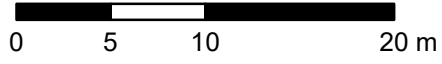
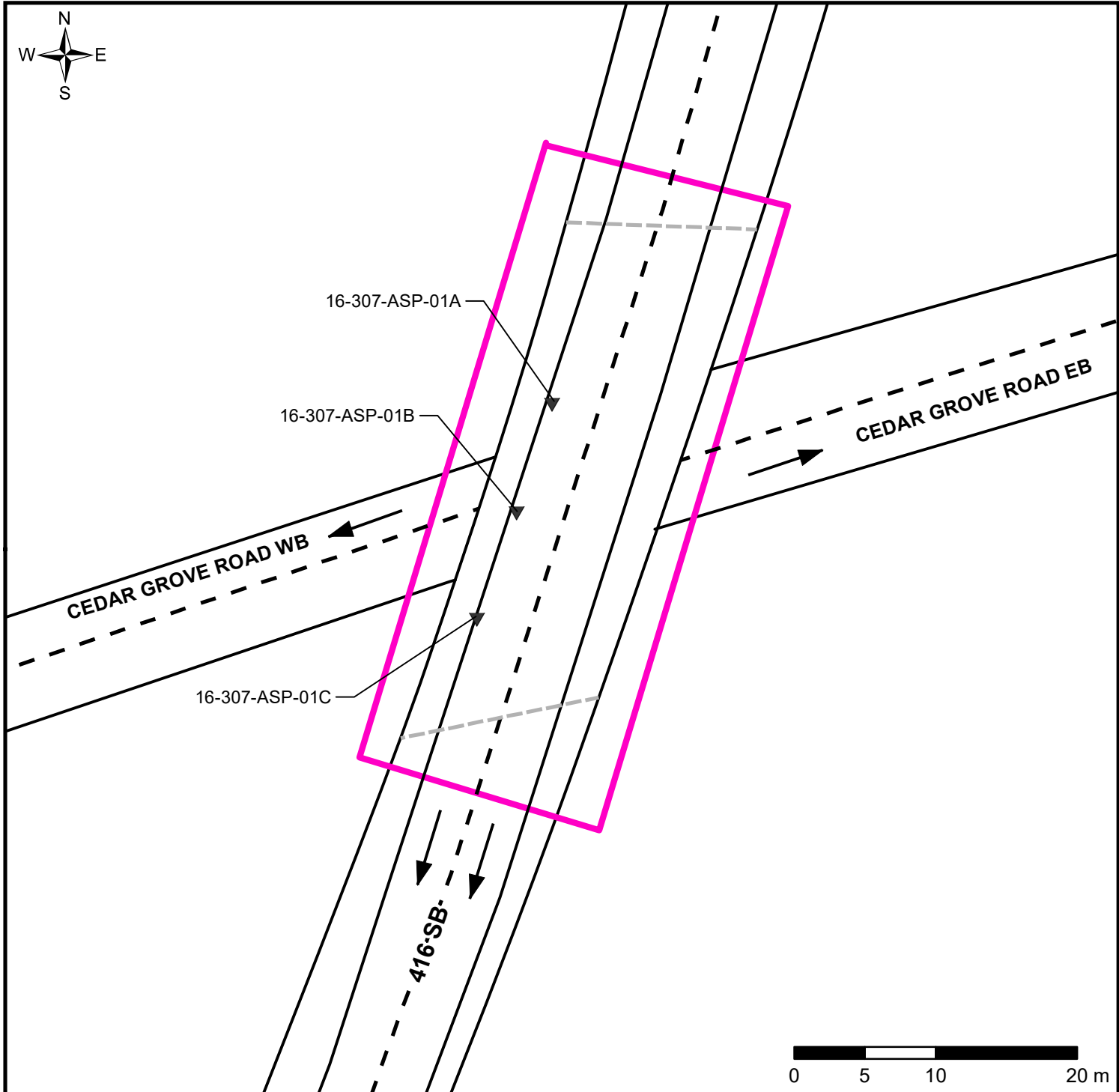
This drawing has been prepared for the use of AECOM's client and may not be used, reproduced or relied upon by third parties, except as agreed by AECOM and its client, and as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any part that modifies this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from stated dimensions.



LEGEND

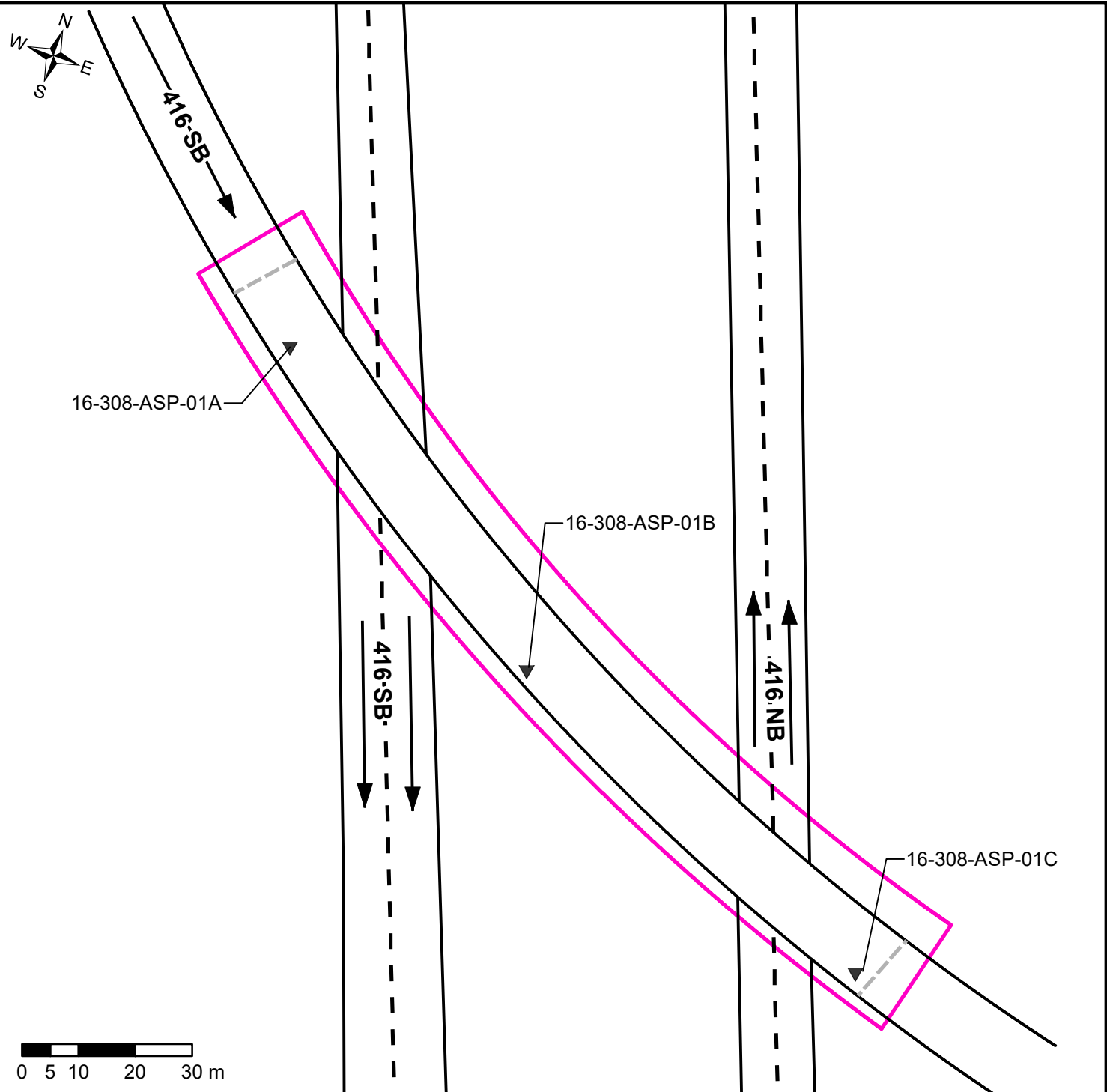
-  DESIGNATED SUBSTANCE SURVEY BOUNDARY
-  16-129-ASP-01A LOCATION AND ID OF ASPHALT SAMPLE
-  16-129-PT-01 LOCATION AND ID OF PAINT SAMPLE

This drawing has been prepared for the use of AECOM's client and may not be used, reproduced or relied upon by third parties, except as agreed by AECOM and its client, and as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any part that modifies this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from stated dimensions.



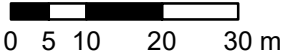
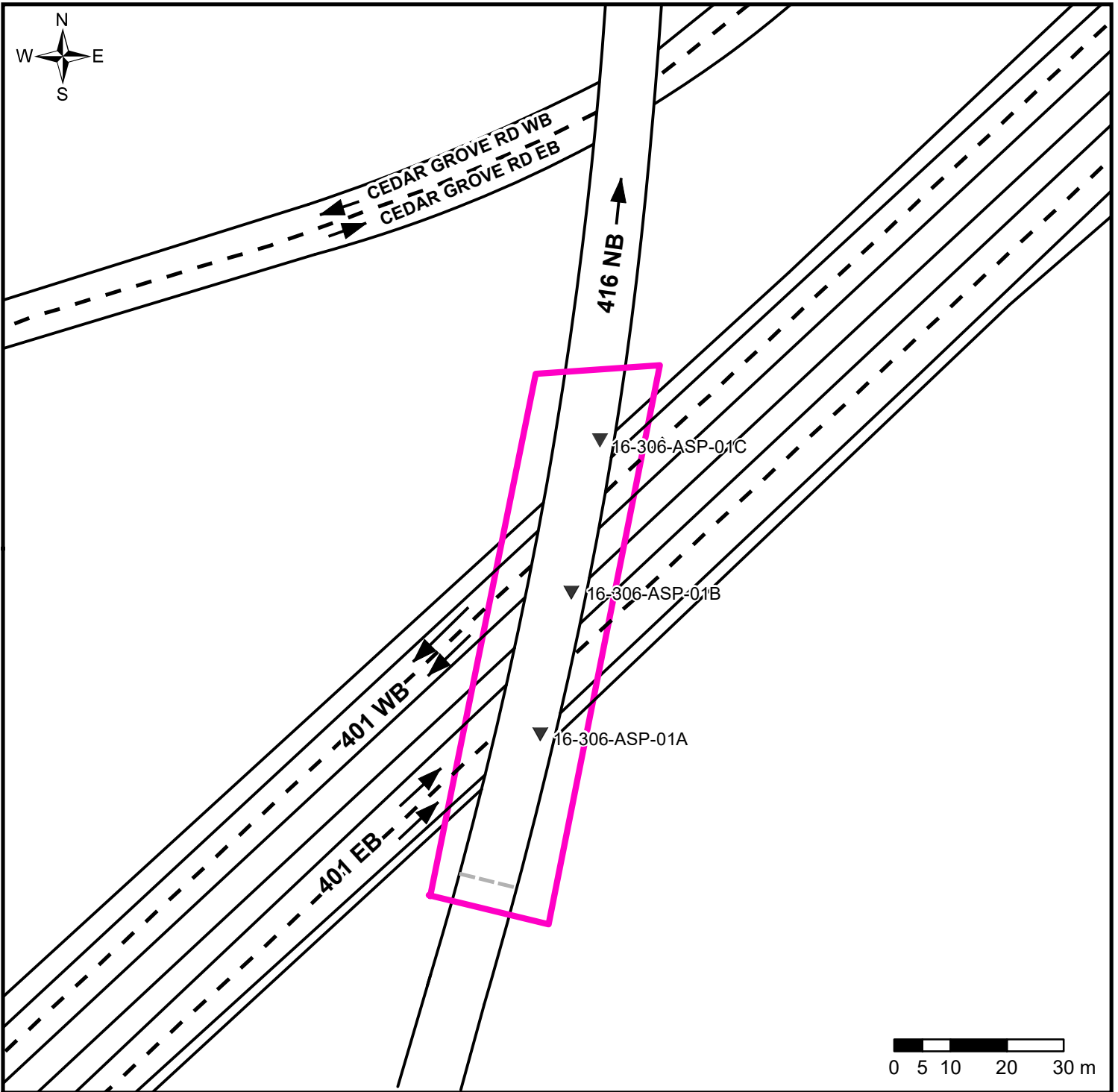
- LEGEND**
- DESIGNATED SUBSTANCE SURVEY BOUNDARY
 - ▼ 16-307-ASP-01A LOCATION AND ID OF ASPHALT SAMPLE

This drawing has been prepared for the use of AECOM's client and may not be used, reproduced or relied upon by third parties, except as agreed by AECOM and its client, and as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any part that modifies this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from stated dimensions.



- LEGEND**
- DESIGNATED SUBSTANCE SURVEY BOUNDARY
 - ▼ 16-308-ASP-01A LOCATION AND ID OF ASPHALT SAMPLE

This drawing has been prepared for the use of AECOM's client and may not be used, reproduced or relied upon by third parties, except as agreed by AECOM and its client, and as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any part that modifies this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from stated dimensions.



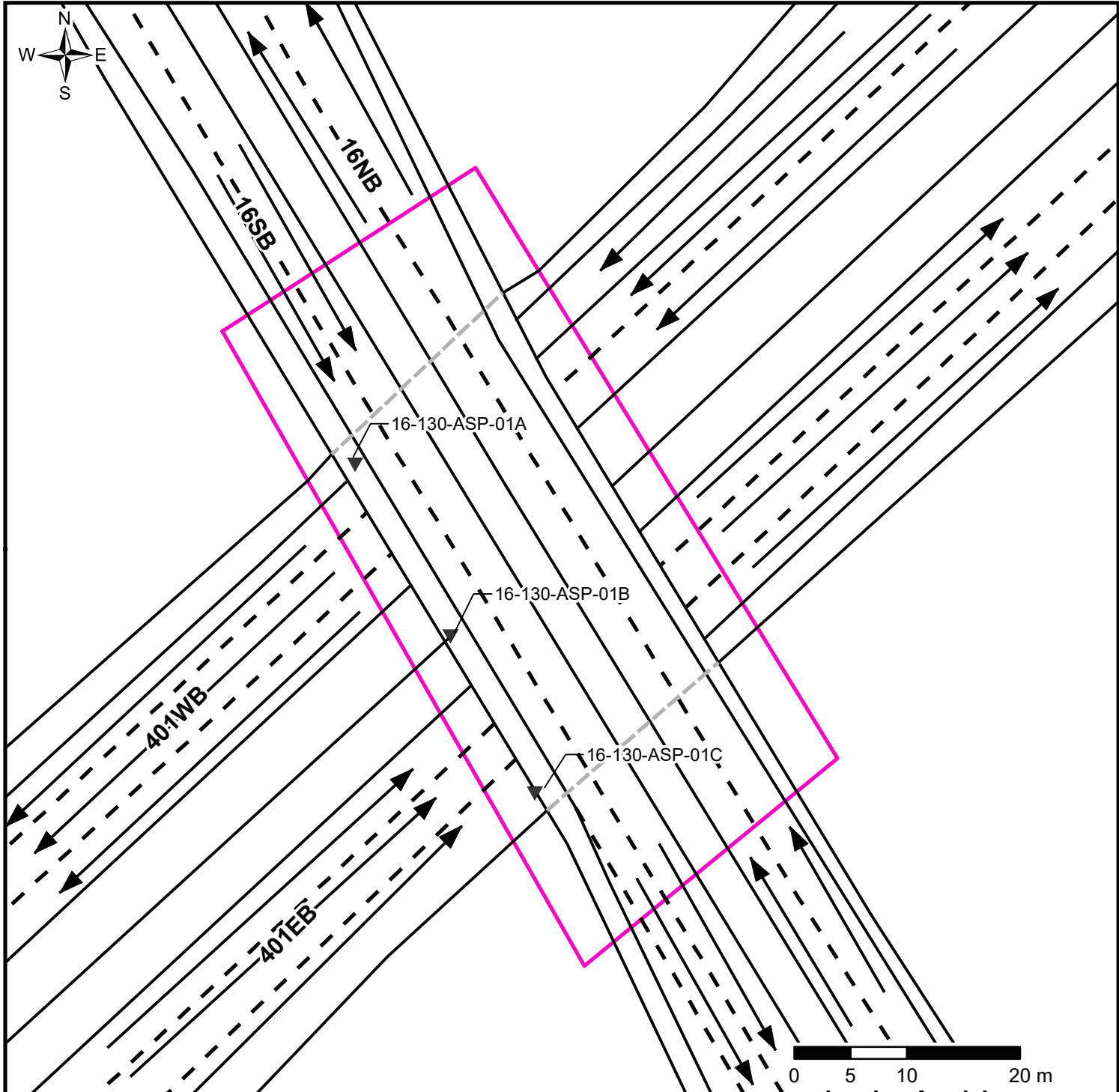
LEGEND





DESIGNATED SUBSTANCE SURVEY BOUNDARY



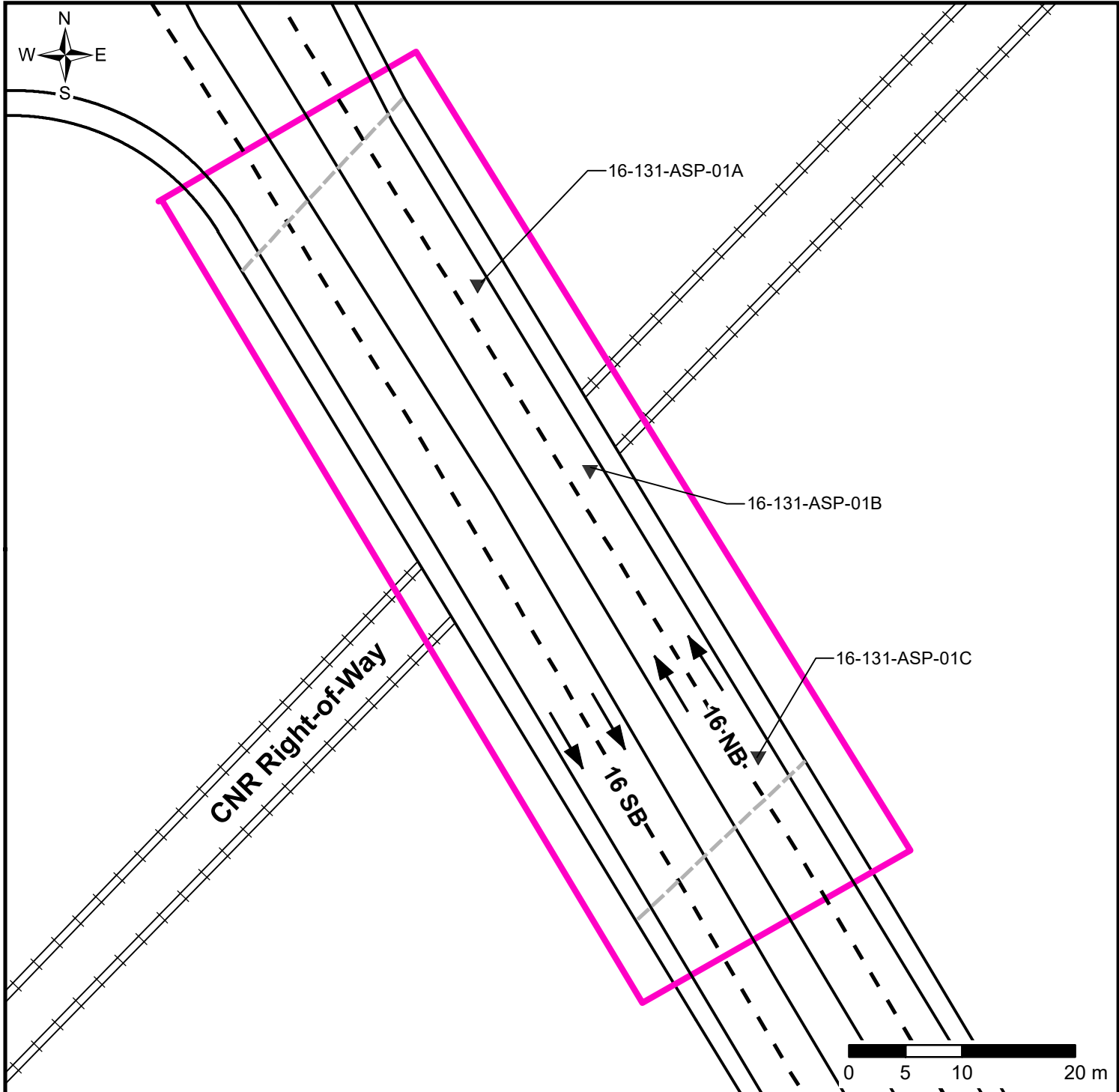
16-306-ASP-01A LOCATION AND ID OF ASPHALT SAMPLE



LEGEND

-  DESIGNATED SUBSTANCE SURVEY BOUNDARY
-  16-130-ASP-01A LOCATION AND ID OF ASPHALT SAMPLE

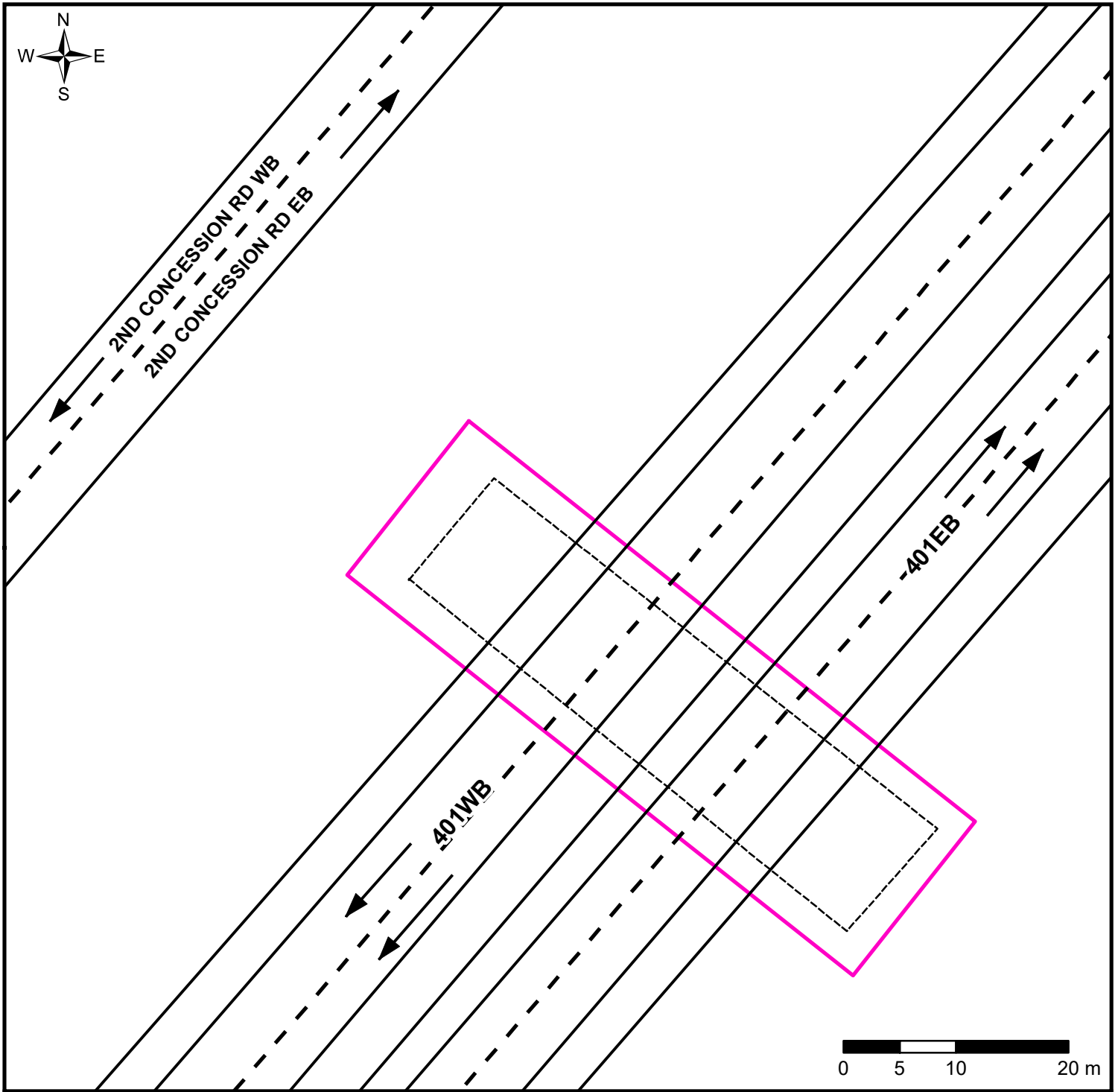
This drawing has been prepared for the use of AECOM's client and may not be used, reproduced or relied upon by third parties, except as agreed by AECOM and its client, and as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any part that modifies this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from stated dimensions.



- LEGEND**
- DESIGNATED SUBSTANCE SURVEY BOUNDARY
 - ▼ 16-131-ASP-01A LOCATION AND ID OF ASPHALT SAMPLE

Last saved by: PC
Filename: E:\PRJ\60648228_DSS\02_MXD\H011_60638228_DSHMS_16-131.mxd
Date Saved: 6/28/2021 4:52:53 PM

This drawing has been prepared for the use of AECOM's client and may not be used, reproduced or relied upon by third parties, except as agreed by AECOM and its client, and as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any part that modifies this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from stated dimensions.



LEGEND



DESIGNATED SUBSTANCE SURVEY BOUNDARY



CULVERT BOUNDARY

This drawing has been prepared for the use of AECOM's client and may not be used, reproduced or relied upon by third parties, except as agreed by AECOM and its client, and as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any part that modifies this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from stated dimensions.

ANSI 215.9mm x 279.4mm



CEDAR GROVE RD

16-307

UNLABELLED CULVERT

16-250/C

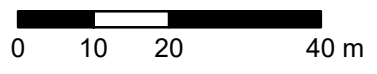
401SB

401NB

416 NB

16-259/C

UNLABELLED CULVERT



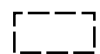
LEGEND



DESIGNATED SUBSTANCE SURVEY BOUNDARY FOR SURROUNDING BRIDGE STRUCTURES.



DESIGNATED SUBSTANCE SURVEY BOUNDARY



CULVERT BOUNDARY

Last saved by: PC
Date Saved: 6/28/2021 4:55:18 PM
Filename: E:\PR\J60648228_DSS\02_MXD\013_60638228_DSHMS_16-250.mxd

This drawing has been prepared for the use of AECOM's client and may not be used, reproduced or relied upon by third parties, except as agreed by AECOM and its client, and as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any part that modifies this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from stated dimensions.

Ministry of Transportation, Eastern Region
Designated Substance Survey
Ten Bridge Structures and Four Structural Culverts
Highway 401, Maitland Road Interchange to Highway 16 Interchange
Township of Augusta, Township of Edwardsburgh/Cardinal, and Town of Prescott
Project No.: 60638228 Date: April, 2022

SITE LOCATION MAP
CULVERT No.:16-250/C
HIGHWAY 401 CULVERT

AECOM
FIGURE: 13

ANSI 215.9mm x 279.4mm



CEDAR GROVE RD

16-307

UNLABELLED CULVERT

16-250/C

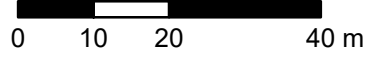
401SB

401NB

416 NB

16-259/C

UNLABELLED CULVERT



LEGEND



DESIGNATED SUBSTANCE SURVEY BOUNDARY FOR SURROUNDING BRIDGE STRUCTURES.



DESIGNATED SUBSTANCE SURVEY BOUNDARY



CULVERT BOUNDARY

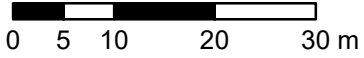
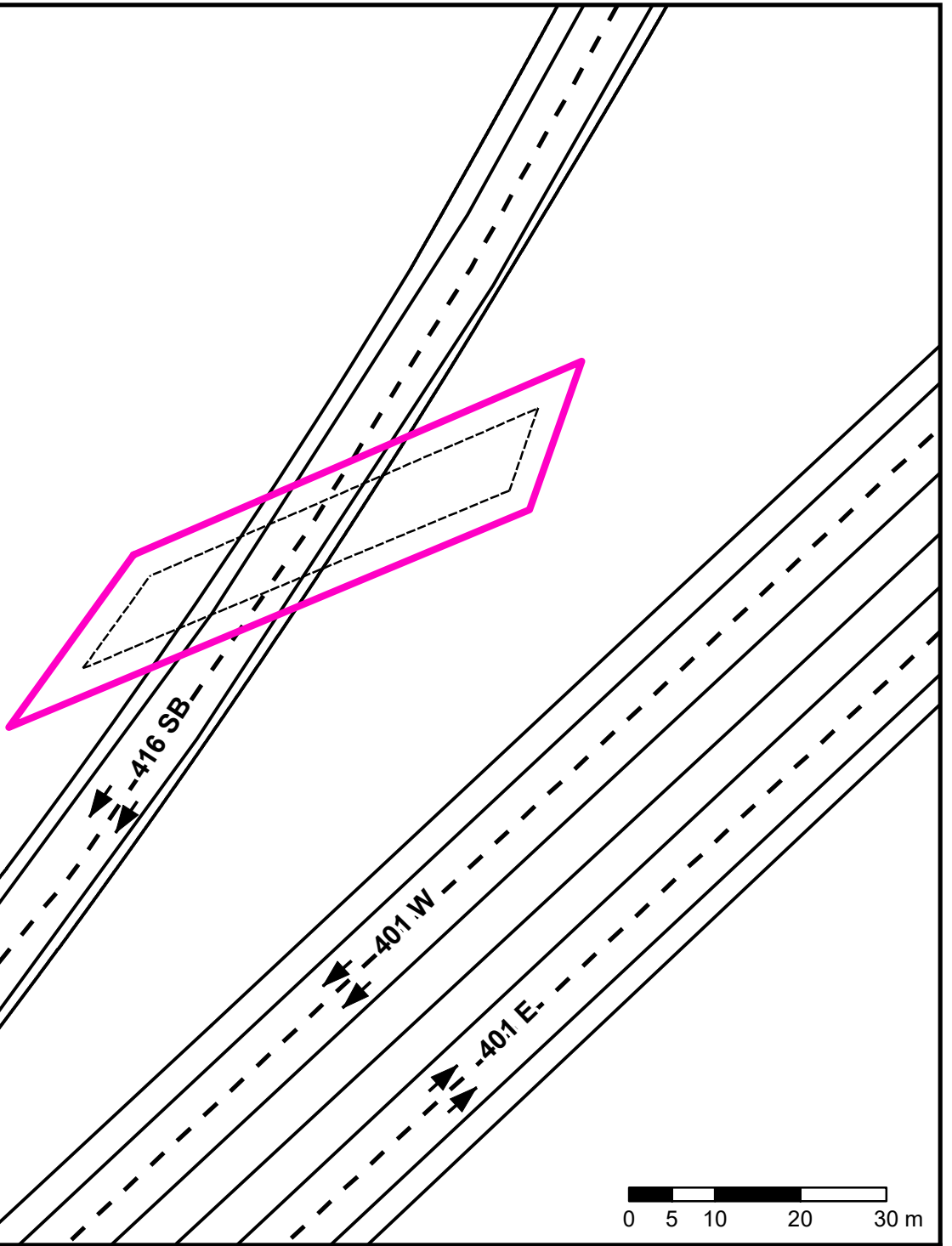
Last saved by: PC
Date Saved: 6/28/2021 4:56:38 PM
Filename: E:\PR\J60648228_DSS\02_MXD\014_60638228_DSHMS_16-259.mxd

This drawing has been prepared for the use of AECOM's client and may not be used, reproduced or relied upon by third parties, except as agreed by AECOM and its client, and as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any part that modifies this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from stated dimensions.

Ministry of Transportation, Eastern Region
Designated Substance Survey
Ten Bridge Structures and Four Structural Culverts
Highway 401, Maitland Road Interchange to Highway 16 Interchange
Township of Augusta, Township of Edwardsburgh/Cardinal, and Town of Prescott
Project No.: 60638228 Date: April, 2022

SITE LOCATION MAP
CULVERT No.:16-259/c
HIGHWAY 401W-416N
RAMP CULVERT

AECOM
FIGURE: 14



LEGEND

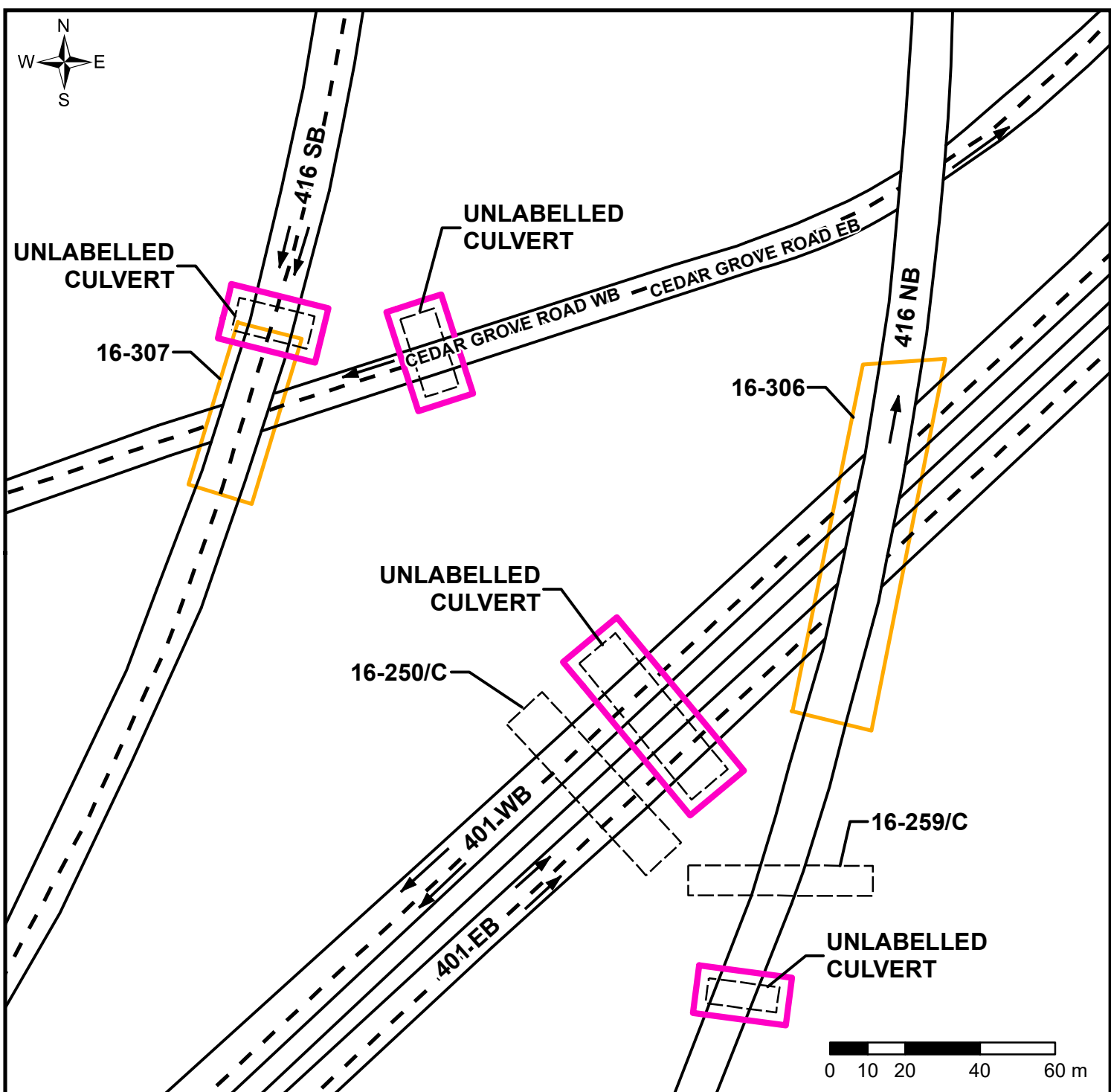


DESIGNATED SUBSTANCE SURVEY BOUNDARY



CULVERT BOUNDARY

This drawing has been prepared for the use of AECOM's client and may not be used, reproduced or relied upon by third parties, except as agreed by AECOM and its client, and as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any part that modifies this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from stated dimensions.



LEGEND



- DESIGNATED SUBSTANCE SURVEY BOUNDARY FOR SURROUNDING BRIDGE STRUCTURES
- DESIGNATED SUBSTANCE SURVEY BOUNDARY
- CULVERT BOUNDARY

This drawing has been prepared for the use of AECOM's client and may not be used, reproduced or relied upon by third parties, except as agreed by AECOM and its client, and as required by law or for use by governmental reviewing agencies. AECOM accepts no responsibility, and denies any liability whatsoever, to any part that modifies this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from stated dimensions.

Appendix **A**

Site Photographs

DRAFT

Appendix A: Site Photographs



Photograph 1: Bridge No. 16-126 – Highway 401 Maitland Road Interchange. General view looking north along the bridge.



Photograph 2: Bridge No. 16-126 – Highway 401 Maitland Road Interchange. View of bridge stamp with construction date along the east side of the bridge. Bridge stamped 16-126-1959.

DRAFT

Appendix A: Site Photographs



Photograph 3: Bridge No. 16-126 – Highway 401 Maitland Road Interchange. View of concrete barrier wall along the east side of the bridge.



Photograph 4: Bridge No. 16-126 – Highway 401 Maitland Road Interchange. View of bridge boundary along the south side of the bridge.

DRAFT

Appendix A: Site Photographs



Photograph 5: Bridge No. 16-126 – Highway 401 Maitland Road Interchange. View of bulk asphalt sample 16-126-ASP-01A along top side of the bridge. All bulk samples collected from the Site found not to contain asbestos.



Photograph 6: Bridge No. 16-165 – Highway 401 Blue Church Road Underpass. General view looking north along the bridge.

DRAFT

Appendix A: Site Photographs



Photograph 7: Bridge No. 16-165 – Highway 401 Blue Church Road Underpass. View of bridge stamp with construction date along the east side of the bridge. Bridge stamped 16-165-1965.



Photograph 8: Bridge No. 16-165 – Highway 401 Blue Church Road Underpass. View of bridge deck expansion joint along the south side of the bridge.

DRAFT

Appendix A: Site Photographs



Photograph 9: Bridge No. 16-165 – Highway 401 Blue Church Road Underpass. View of metal surface drain pipe along the east side of the bridge.



Photograph 10: Bridge No. 16-165 – Highway 401 Blue Church Road Underpass. View of bulk asphalt sample 16-165-ASP-01A along top side of the bridge. All bulk samples collected from the Site found not to contain asbestos.

DRAFT

Appendix A: Site Photographs



Photograph 11: Bridge No. 16-165 – Highway 401 Blue Church Road Underpass. View of bridge bulk paper insulation sample 16-165-PR-01A. All bulk samples collected from the Site found not to contain asbestos.



Photograph 12: Bridge No. 16-166 – Highway 401 Merwin Lane Underpass. General view looking north along the bridge.

DRAFT

Appendix A: Site Photographs



Photograph 13: Bridge No. 16-166 – Highway 401 Merwin Lane Underpass. View of bridge stamp with construction date along the east side of the bridge. Bridge stamped 16-166-1965.



Photograph 14: Bridge No. 16-166 – Highway 401 Merwin Lane Underpass. View of bridge deck expansion joint along the south side of the bridge.

DRAFT

Appendix A: Site Photographs



Photograph 15: Bridge No. 16-166 – Highway 401 Merwin Lane Underpass. View of concrete barrier wall with single metal tube railing along the west side of the bridge.



Photograph 16: Bridge No. 16-166 – Highway 401 Merwin Lane Underpass. View of bulk asphalt sample 16-166-ASP-01A along top side of the bridge. All bulk samples collected from the Site found not to contain asbestos.

DRAFT

Appendix A: Site Photographs



Photograph 17: Bridge No. 16-128 – Highway 401 Edward Street Interchange. General view looking north along the bridge.



Photograph 18: Bridge No. 16-128 – Highway 401 Edward Street Interchange. View of the east side of the bridge with no date stamp present.

DRAFT

Appendix A: Site Photographs



Photograph 19: Bridge No. 16-128 – Highway 401 Edward Street Interchange. View of bridge boundary along the south side of the bridge.



Photograph 20: Bridge No. 16-128 – Highway 401 Edward Street Interchange. View of light pole along southeast area of the bridge Site. Light pole outside of the Site designated substance boundary.

DRAFT

Appendix A: Site Photographs



Photograph 21: Bridge No. 16-128 – Highway 401 Edward Street Interchange. View of the bridge deck expansion joint along the north side of the bridge.



Photograph 22: Bridge No. 16-128 – Highway 401 Edward Street Interchange. View of bulk asphalt sample 16-128-ASP-01A along top side of the bridge. All bulk samples collected from the Site found not to contain asbestos.

DRAFT

Appendix A: Site Photographs



Photograph 23: Bridge No. 16-129 – Highway 401 CPR Overhead. General view looking west along the bridge.



Photograph 24: Bridge No. 16-129 – Highway 401 CPR Overhead. View of the south side of the bridge with no date stamp present.

DRAFT

Appendix A: Site Photographs



Photograph 25: Bridge No. 16-129 – Highway 401 CPR Overhead. General view of underside of the bridge along former CNR right of way.



Photograph 26: Bridge No. 16-129 – Highway 401 CPR Overhead. View of paint sample from concrete barrier wall along the south side of the bridge. Paint sample 16-129-PT-01 contained <10 ppm of lead.

DRAFT

Appendix A: Site Photographs



Photograph 27: Bridge No. 16-307 – Highway 401 Cedar Grove Road Overpass. General view looking south along the bridge.



Photograph 28: Bridge No. 16-307 – Highway 401 Cedar Grove Road Overpass. View of bridge stamp with construction date along the west side of the bridge. Bridge stamped 16-307-1998.

DRAFT

Appendix A: Site Photographs



Photograph 29: Bridge No. 16-307 – Highway 401 Cedar Grove Road Overpass. View of a bridge deck expansion joint along the north side of the bridge.



Photograph 30: Bridge No. 16-307 – Highway 401 Cedar Grove Road Overpass. View of conduit hatch with PVC piping along the east side of the bridge. The hatch did not contain any electrical wiring.

DRAFT

Appendix A: Site Photographs



Photograph 31: Bridge No. 16-307 – Highway 401 Cedar Grove Road Overpass. View of bulk asphalt sample 16-307-ASP-01A along top side of the bridge. All bulk samples collected from the Site found not to contain asbestos.



Photograph 32: Bridge No. 16-308 – Highway 401 Southbound Connector N-E. General view looking south along the bridge.

DRAFT

Appendix A: Site Photographs



Photograph 33: Bridge No. 16-308 – Highway 401 Southbound Connector N-E. View of bridge stamp with construction date along the east side of the bridge. Bridge stamped 16-308-1998.



Photograph 34: Bridge No. 16-308 – Highway 401 Southbound Connector N-E. View of concrete barrier wall along The east side of the bridge.

DRAFT

Appendix A: Site Photographs



Photograph 35: Bridge No. 16-308 – Highway 401 Southbound Connector N-E. View of bridge deck expansion joint along the north side of the bridge.



Photograph 36: Bridge No. 16-308 – Highway 401 Southbound Connector N-E. View of conduit hatch with PVC piping along the east side of the bridge. The hatch did not contain any electrical wiring.

DRAFT

Appendix A: Site Photographs



Photograph 37: Bridge No. 16-308 – Highway 401 Southbound Connector N-E. View of bulk asphalt sample 16-308-ASP-01A along top side of the bridge. All bulk samples collected from the Site found not to contain asbestos.



Photograph 38: Bridge No. 16-306 – Highway 401/416 W-N Ramp. General view looking south along the bridge.

DRAFT

Appendix A: Site Photographs



Photograph 39: Bridge No. 16-306 – Highway 401/416 W-N Ramp. View of bridge stamp with construction date along the east side of the bridge. Bridge stamped 6-806-1998.



Photograph 40: Bridge No. 16-306 – Highway 401/416 W-N Ramp. View of bridge deck expansion joint along the north side of the bridge.

DRAFT

Appendix A: Site Photographs



Photograph 41: Bridge No. 16-306 – Highway 401/416 W-N Ramp. View of conduit hatch with PVC piping along the east side of the bridge. The hatch did not contain any electrical wiring.



Photograph 42: Bridge No. 16-306 – Highway 401/416 W-N Ramp. View of bulk asphalt sample 16-306-ASP-01A along top side of the bridge. All bulk samples collected from the Site found not to contain asbestos.

DRAFT

Appendix A: Site Photographs



Photograph 43: Bridge No. 16-130-Highway 16 U/P. General view looking south along the bridge.



Photograph 44: Bridge No. 16-130-Highway 16 U/P. View of west side of bridge with no date stamp present.

DRAFT

Appendix A: Site Photographs



Photograph 45: Bridge No. 16-130-Highway 16 U/P. View of concrete barrier wall along west side of bridge with single tube metal railing.



Photograph 46: Bridge No. 16-130-Highway 16 U/P. View of bulk asphalt sample 16-130-ASP-01A along top side of the bridge. All bulk samples collected from the Site found not to contain asbestos.

DRAFT

Appendix A: Site Photographs



Photograph 47: Bridge No. 16-131 – Highway 16 CNR Overhead. General view looking north along the bridge.



Photograph 48: Bridge No. 16-131 – Highway 16 CNR Overhead. View of bridge stamp with construction date along the east side of the bridge. Bridge stamped 16-131-1962.

DRAFT

Appendix A: Site Photographs



Photograph 49: Bridge No. 16-131 – Highway 16 CNR Overhead. View of bridge boundary along the south side of the bridge.



Photograph 50: Bridge No. 16-131 – Highway 16 CNR Overhead. View of concrete barrier wall along the east side of the bridge.

DRAFT

Appendix A: Site Photographs



Photograph 51: Bridge No. 16-131 – Highway 16 CNR Overhead. View of bulk asphalt sample 16-131-ASP-01A along top side of the bridge. All bulk samples collected from the Site found not to contain asbestos.



Photograph 52: Structural Culvert 16-239/C – Highway 401 Lemmon’s Creek Culvert. View of culvert along underside of Highway 401 ROW.

DRAFT

Appendix A: Site Photographs



Photograph 53: Structural Culvert 16-239/C – Highway 401 Lemmon’s Creek Culvert. View of culvert stamp with construction date along the east side of the culvert. Culvert stamped 16-239C.



Photograph 54: Structural Culvert 16-250/C – Highway 401 Culvert. General view of single structural culvert along underside of Highway 401 EB/WB Right of Way.

DRAFT

Appendix A: Site Photographs



Photograph 55: Structural Culvert 16-250/C – Highway 401 Culvert. General view of single structural culvert along underside of Highway 401 EB/WB Right of Way.



Photograph 56: Structural Culvert 16-259/C – Highway 401 W-416N Ramp Culvert. General view of structural culvert along south side of Highway 416 south abutment.

DRAFT

Appendix A: Site Photographs



Photograph 57: Structural Culvert 16-259/C – Highway 401 W-416N Ramp Culvert. View of culvert stamp with construction date along the east side of the culvert. Culvert stamped 16-259-1998.



Photograph 58: Structural Culvert 16-259/C – Highway 401 W-416N Ramp Culvert. General view of structural culvert along the north side of Highway 416 south abutment.

DRAFT

Appendix A: Site Photographs



Photograph 59: Structural Culvert 16-260/C – Highway 401 W-401W Ramp Culvert. General view of structural culvert along the south side Highway 416 south abutment. Culvert stamped 16-260-1998.



Photograph 60: Structural Culvert 16-260/C – Highway 401 W-401W Ramp Culvert. General view of structural culvert along the north side Highway 416 south abutment Structural

DRAFT

Appendix A: Site Photographs



Photograph 61: Additional culvert at Project Site: View of additional culvert located along the north side of Highway 416 south abutment immediately west of culvert 16-259. The south portion of the additional culvert could not be located by AECOM. Culvert was not stamped with any identification or construction date.



Photograph 62: Additional culvert at Project Site: View of additional culvert located along the south side of Highway 416 north abutment immediately north of bridge Site 16-307. Culvert was not stamped with any identification or construction date.

DRAFT

Appendix A: Site Photographs



Photograph 63: Additional culvert at Project Site: View of additional culvert located along the north side of Cedar Grove Road east of the bridge Site 16-307. Culvert was not stamped with any identification or construction date.



Photograph 64: Additional culvert at Project Site: View of additional culvert located along the south side of Cedar Grove Road east of the bridge Site 16-307. Culvert was not stamped with any identification or construction date.

Appendix **B**

Asbestos Sample Analysis Results





CLIENT NAME: AECOM CANADA LTD
105 Commerce Valley Drive West 7th Floor
MARKHAM, ON L3T7W3
(905) 886-7022
ATTENTION TO: Brian Ryell
PROJECT: MTO 60638228
AGAT WORK ORDER: 21T747894
ASBESTOS REVIEWED BY: Whenhong Zou, Lab Analyst
DATE REPORTED: May 19, 2021
PAGES (INCLUDING COVER): 6
VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

*Notes

Disclaimer:

- *All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.*
- *All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.*
- *AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.*
- *This Certificate shall not be reproduced except in full, without the written approval of the laboratory.*
- *The test results reported herewith relate only to the samples as received by the laboratory.*
- *Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.*
- *All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.*



Certificate of Analysis

AGAT WORK ORDER: 21T747894

PROJECT: MTO 60638228

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
<http://www.agatlabs.com>

CLIENT NAME: AECOM CANADA LTD

ATTENTION TO: Brian Ryell

SAMPLING SITE:

SAMPLED BY:

Bulk Asbestos											
DATE RECEIVED: 2021-05-17						DATE REPORTED: 2021-05-19					
SAMPLE DESCRIPTION: 16-165-ASP-01A 16-165-ASP-01B 16-165-ASP-01C 16-307-ASP-01A 16-307-ASP-01B 16-307-ASP-01C 16-306-ASP-01A 16-306-ASP-01B											
SAMPLE TYPE: Other Other Other Other Other Other Other Other Other Other											
DATE SAMPLED: 2021-05-13 2021-05-13 2021-05-13 2021-05-13 2021-05-13 2021-05-13 2021-04-19 2021-04-19											
Parameter	Unit	G / S	RDL	2477886	2477887	2477888	2477889	2477890	2477891	2477892	2477893
Asbestos (Bulk)	%	0.5	0.5	ND	ND	ND	ND	ND	ND	ND	ND
SAMPLE DESCRIPTION: 16-306-ASP-01C 16-165-PR-01A 16-165-PR-01B 16-165-PR-01C 16-128-ASP-01A 16-128-ASP-01B 16-128-ASP-01C 16-166-ASP-01A											
SAMPLE TYPE: Other Other Other Other Other Other Other Other Other Other											
DATE SAMPLED: 2021-04-19 2021-05-13 2021-05-13 2021-05-13 2021-05-13 2021-05-13 2021-05-13 2021-05-13											
Parameter	Unit	G / S	RDL	2477894	2477895	2477896	2477897	2477898	2477899	2477900	2477901
Asbestos (Bulk)	%	0.5	0.5	ND	ND	ND	ND	ND	ND	ND	ND
SAMPLE DESCRIPTION: 16-166-ASP-01B 16-166-ASP-01C 16-131-ASP-01A 16-131-ASP-01B 16-131-ASP-01C 16-126-ASP-01A 16-126-ASP-01B 16-126-ASP-01C											
SAMPLE TYPE: Other Other Other Other Other Other Other Other Other Other											
DATE SAMPLED: 2021-05-13 2021-05-13 2021-05-13 2021-05-13 2021-05-13 2021-05-13 2021-05-13 2021-05-13											
Parameter	Unit	G / S	RDL	2477902	2477903	2477904	2477905	2477906	2477907	2477908	2477909
Asbestos (Bulk)	%	0.5	0.5	ND	ND	ND	ND	ND	ND	ND	ND

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ON OHSA - Reg. 278
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.

2477886-2477909 Condition of sample was satisfactory at time of arrival in laboratory.

"ND" - Not Detected

As per Reg 278/05 and AGAT SOP, all non-detect results have been analyzed and confirmed three times.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:

Wenhong Zou



Method Summary

CLIENT NAME: AECOM CANADA LTD

AGAT WORK ORDER: 21T747894

PROJECT: MTO 60638228

ATTENTION TO: Brian Ryell

SAMPLING SITE:

SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Asbestos (Bulk)	INOR-249-6010	modified from EPA 600/R-93/116 & NIOSH 9002	PLM



AGAT Laboratories

5835 Coopers Avenue
Mississauga, Ontario L4Z 1Y2
Ph: 905.712.5100 Fax: 905.712.5122
webearth.agatlabs.com

Laboratory Use Only

Work Order #: _____

Cooler Quantity: _____

Arrival Temperatures: _____

Custody Seal Intact: Yes No N/A

Notes: _____

Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water consumed by humans)

Report Information:

Company: AECOM

Contact: 105 Community Valley Dr

Address: West Mountain

Phone: 9.9832370 Fax: _____

Reports to be sent to: mianinyeel@aecom.com

1. Email: _____

2. Email: _____

Regulatory Requirements:

(Please check all applicable boxes)

Regulation 153/04 Excess Soils R406 Sewer Use
 Sanitary Storm

Table Indicate One Ind/Com Agriculture Region _____

Res/Park Regulation 558 Prov. Water Quality Objectives (PWQO)

Soil Texture (Check One) Coarse CCME Other _____

Fine CCME Other _____

Indicate One

Turnaround Time (TAT) Required:

Regular TAT (Most Analysis) 3 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

3 Business Days 2 Business Days Next Business Day

OR Date Required (Rush Surcharges May Apply): _____

Please provide prior notification for rush TAT
*TAT is exclusive of weekends and statutory holidays

For 'Same Day' analysis, please contact your AGAT CPM

Project Information:

Project: MTO 401/416

Site Location: B. Ryell

Sampled By: B. Ryell PO: 60638228

AGAT ID #: _____

Please note: If quotation number is not provided, client will be billed full price for analysis.

Is this submission for a Record of Site Condition?

Yes No

Report Guideline on Certificate of Analysis

Yes No

Sample Matrix Legend

- B** Biota
- GW** Ground Water
- O** Oil
- P** Paint
- S** Soil
- SD** Sediment
- SW** Surface Water

Invoice Information:

Bill To Same: Yes No

Company: _____

Contact: _____

Address: _____

Email: _____

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Y/N	Field Filtered - Metals, Hg, CrVI, DOC	O. Reg 153	Metals & Inorganics	Metals - <input type="checkbox"/> CrVI, <input type="checkbox"/> Hg, <input type="checkbox"/> HWSB	BTEX, F1-F4, PHCs	Analyze F4G if required <input type="checkbox"/> Yes <input type="checkbox"/> No	PAHs	Total PCBs	Aroclor	VOC	O. Reg 55B	O. Reg 406	Potentially Hazardous or High Concentration (Y/N)
16-165-PR-01C	MAY/13/2	AM	1	Bulk	Asbestos	N													
16-128-ASP-01A		AM	1																
16-128-ASP-01B		PM	1																
16-133-ASP-01C		AM	1																
16-166-ASP-01A		AM	1																
16-166-ASP-01B		PM	1																
16-166-ASP-01C		AM	1																
16-131-ASP-01A		PM	1																
16-131-ASP-01B		AM	1																
16-131-ASP-01C		PM	1																
16-126-ASP-01A		AM	1																
16-126-ASP-01B		PM	1																
16-126-ASP-01C		AM	1																

Samples Relinquished By (Print Name and Sign): <u>[Signature]</u>	Date: <u>MAY/13/2</u>	Time: <u>2:00</u>	Samples Received By (Print Name and Sign): _____	Date: _____	Time: _____
Samples Relinquished By (Print Name and Sign): _____	Date: _____	Time: _____	Samples Received By (Print Name and Sign): _____	Date: _____	Time: _____
Samples Relinquished By (Print Name and Sign): _____	Date: _____	Time: _____	Samples Received By (Print Name and Sign): _____	Date: _____	Time: _____

Page 23 of _____

No: **T118848**



AGAT Laboratories

5835 Coopers Avenue
Mississauga, Ontario L4Z 1Y2
Ph: 905.712.5100 Fax: 905.712.5122
webearth.agatlabs.com

Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water consumed by humans)

Report Information:
 Company: AECOM
 Contact: 105 Commerce Valley Dr W
 Address: MARKHAM
 Phone: 9-483-2370 Fax: _____
 Reports to be sent to: blau + nyel @aecom.com
 1. Email: _____
 2. Email: _____

Project Information:
 Project: 470-401/416
 Site Location: 606-382-28
 Sampled By: B. RYER
 AGAT ID #: _____ PO: _____
Please note: if quotation number is not provided, client will be billed full price for analysis.

Invoice Information: Bill To Same: Yes No
 Company: _____
 Contact: _____
 Address: _____
 Email: _____

Regulatory Requirements:
(Please check all applicable boxes)

Regulation 153/04 Excess Soils R406 Sewer Use
 Sanitary Storm
 Table Indicate One Table Indicate One
 Ind/Com Res/Park Agriculture Regulation 558 Prov. Water Quality Objectives (PWQO)
 Agriculture CCME Other
 Soil Texture (Check One) Coarse Fine CCME Other
Indicate One

Is this submission for a Record of Site Condition? Yes No
 Report Guideline on Certificate of Analysis Yes No

Sample Matrix Legend

- B** Biota
- GW** Ground Water
- O** Oil
- P** Paint
- S** Soil
- SD** Sediment
- SW** Surface Water

Laboratory Use Only
 Work Order #: _____
 Cooler Quantity: _____
 Arrival Temperatures: _____
 Custody Seal Intact: Yes No N/A
 Notes: _____

Turnaround Time (TAT) Required:
 Regular TAT (Most Analysis) 5 to 7 Business Days
 Rush TAT (Rush Surcharges Apply) 3 Business Days 2 Business Days Next Business Day
 OR Date Required (Rush Surcharges May Apply): _____
 Please provide prior notification for rush TAT
 *TAT is exclusive of weekends and statutory holidays
 For 'Same Day' analysis, please contact your AGAT CPM

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Y / N	Field Filtered - Metals, Hg, CrVI, DOC	Metals & Inorganics	Metals - <input type="checkbox"/> CrVI, <input type="checkbox"/> Hg, <input type="checkbox"/> HWSB	BTEX, F1-F4, PHCS	Analyze F4G if required <input type="checkbox"/> Yes <input type="checkbox"/> No	PAHs	Total PCBs	Aroclor	VOC	Landfill Disposal Characterization TOLP: <input type="checkbox"/> M&I, <input type="checkbox"/> VOCs, <input type="checkbox"/> ABNs, <input type="checkbox"/> B1a1P, <input type="checkbox"/> PCBs	Excess Soils SPLP Rainwater Leach	SPLP: <input type="checkbox"/> Metals, <input type="checkbox"/> VOCs, <input type="checkbox"/> SVOCs	Excess Soils Characterization Package	pH, ICPMS Metals, BTEX, F1-F4	SP - EC/SAR	Potentially Hazardous or High Concentration (Y/N)
16-126-ASP OIB	MAY 13	5 AM	1	Bulk	Asbestos	Y																
16-126-ASP OIC	MAY 13	5 AM	1	Bulk	Asbestos	Y																

Samples Relinquished By (Print Name and Sign): [Signature] Date: MAY 17/13 Time: 2:00
 Samples Received By (Print Name and Sign): _____ Date: _____ Time: _____
 Samples Relinquished By (Print Name and Sign): _____ Date: _____ Time: _____
 Samples Received By (Print Name and Sign): _____ Date: _____ Time: _____
 Samples Relinquished By (Print Name and Sign): _____ Date: _____ Time: _____
 Samples Received By (Print Name and Sign): _____ Date: _____ Time: _____

Page 33 of 33
 No: **T 118847**



CLIENT NAME: AECOM CANADA LTD
105 Commerce Valley Drive West 7th Floor
MARKHAM, ON L3T7W3
(905) 886-7022

ATTENTION TO: Brian Ryell
PROJECT: 60638228 - 401/416 Prescott

AGAT WORK ORDER: 21T761843

ASBESTOS REVIEWED BY: Ian Seddon, Analyst

OCCUPATIONAL HYGIENE REVIEWED BY: Jacky Zhu, Spectroscopy Technician

DATE REPORTED: Jun 21, 2021

PAGES (INCLUDING COVER): 6

VERSION*: 1

Should you require any information regarding this analysis please contact your client services representative at (905) 712-5100

*Notes

Disclaimer:

- All work conducted herein has been done using accepted standard protocols, and generally accepted practices and methods. AGAT test methods may incorporate modifications from the specified reference methods to improve performance.
- All samples will be disposed of within 30 days after receipt unless a Long Term Storage Agreement is signed and returned. Some specialty analysis may be exempt, please contact your Client Project Manager for details.
- AGAT's liability in connection with any delay, performance or non-performance of these services is only to the Client and does not extend to any other third party. Unless expressly agreed otherwise in writing, AGAT's liability is limited to the actual cost of the specific analysis or analyses included in the services.
- This Certificate shall not be reproduced except in full, without the written approval of the laboratory.
- The test results reported herewith relate only to the samples as received by the laboratory.
- Application of guidelines is provided "as is" without warranty of any kind, either expressed or implied, including, but not limited to, warranties of merchantability, fitness for a particular purpose, or non-infringement. AGAT assumes no responsibility for any errors or omissions in the guidelines contained in this document.
- All reportable information as specified by ISO/IEC 17025:2017 is available from AGAT Laboratories upon request.



Certificate of Analysis

AGAT WORK ORDER: 21T761843
PROJECT: 60638228 - 401/416 Prescott

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
<http://www.agatlabs.com>

CLIENT NAME: AECOM CANADA LTD
SAMPLING SITE:

ATTENTION TO: Brian Ryell
SAMPLED BY:

Bulk Asbestos											
DATE RECEIVED: 2021-06-16						DATE REPORTED: 2021-06-21					
SAMPLE DESCRIPTION: 16-130-ASP-01A 16-130-ASP-01B 16-130-ASP-01C 16-308-ASP-01A 16-308-ASP-01B 16-308-ASP-01C 16-129-ASP-01A 16-129-ASP-01B											
		SAMPLE TYPE:		Asphalt	Asphalt	Asphalt	Asphalt	Asphalt	Asphalt	Asphalt	Asphalt
		DATE SAMPLED:		2021-06-15	2021-06-15	2021-06-15	2021-06-15	2021-06-15	2021-06-15	2021-06-15	2021-06-15
Parameter	Unit	G / S	RDL	2617528	2617530	2617531	2617532	2617533	2617534	2617535	2617536
Asbestos (Bulk)	%	0.5	0.5	ND	ND	ND	ND	ND	ND	ND	ND
SAMPLE DESCRIPTION: 16-129-ASP-01C											
		SAMPLE TYPE:		Asphalt							
		DATE SAMPLED:		2021-06-15							
Parameter	Unit	G / S	RDL	2617537							
Asbestos (Bulk)	%	0.5	0.5	ND							

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard: Refers to ON OHS - Reg. 278
Guideline values are for general reference only. The guidelines provided may or may not be relevant for the intended use. Refer directly to the applicable standard for regulatory interpretation.
2617528-2617537 Condition of sample was satisfactory at time of arrival in laboratory.

"ND" - Not Detected

As per Reg 278/05 and AGAT SOP, all non-detect results have been analyzed and confirmed three times.

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



Certificate of Analysis

AGAT WORK ORDER: 21T761843

PROJECT: 60638228 - 401/416 Prescott

5835 COOPERS AVENUE
MISSISSAUGA, ONTARIO
CANADA L4Z 1Y2
TEL (905)712-5100
FAX (905)712-5122
<http://www.agatlabs.com>

CLIENT NAME: AECOM CANADA LTD

ATTENTION TO: Brian Ryell

SAMPLING SITE:

SAMPLED BY:

Lead in Paint by ICP-OES

DATE RECEIVED: 2021-06-16

DATE REPORTED: 2021-06-21

SAMPLE DESCRIPTION: 16-129-PT-01

SAMPLE TYPE: Paint

DATE SAMPLED: 2021-06-15

Parameter	Unit	G / S	RDL	2617538
Lead	µg/g	10	<10	

Comments: RDL - Reported Detection Limit; G / S - Guideline / Standard

Analysis performed at AGAT Toronto (unless marked by *)

Certified By:



Quality Assurance

 CLIENT NAME: AECOM CANADA LTD
 PROJECT: 60638228 - 401/416 Prescott
 SAMPLING SITE:

 AGAT WORK ORDER: 21T761843
 ATTENTION TO: Brian Ryell
 SAMPLED BY:

Occupational Hygiene Analysis

RPT Date: Jun 21, 2021			DUPLICATE			Method Blank	REFERENCE MATERIAL			METHOD BLANK SPIKE			MATRIX SPIKE		
PARAMETER	Batch	Sample Id	Dup #1	Dup #2	RPD		Measured Value	Acceptable Limits		Recovery	Acceptable Limits		Recovery	Acceptable Limits	
								Lower	Upper		Lower	Upper		Lower	Upper

Lead in Paint by ICP-OES

Lead	2614713	43	44	NA	< 10	99%	80%	120%	102%	80%	120%	92%	70%	130%
------	---------	----	----	----	------	-----	-----	------	------	-----	------	-----	-----	------

 Comments: NA Signifies Not Applicable.
 Duplicate NA: results are under 5X the RDL and RPD will not be calculated.

Certified By: _____





Method Summary

CLIENT NAME: AECOM CANADA LTD
PROJECT: 60638228 - 401/416 Prescott
SAMPLING SITE:

AGAT WORK ORDER: 21T761843
ATTENTION TO: Brian Ryell
SAMPLED BY:

PARAMETER	AGAT S.O.P	LITERATURE REFERENCE	ANALYTICAL TECHNIQUE
Asbestos (Bulk)	INOR-249-6010	modified from EPA 600/R-93/116 & NIOSH 9002	PLM
Occupational Hygiene Analysis			
Lead	MET-93-6106	EPA SW 846 3050B & 6010C	ICP/OES



AGAT Laboratories

5835 Coopers Avenue
Mississauga, Ontario L4Z 1Y2
Ph: 905.712.5100 Fax: 905.712.5122
web@earth.agatlabs.com

Chain of Custody Record

If this is a Drinking Water sample, please use Drinking Water Chain of Custody Form (potable water consumed by humans)

Report Information:

Company: ATELON
Contact: Brian Ryeel
Address: 105 Commerce Valley Dr W
Phone: _____ Fax: _____
Reports to be sent to:
1. Email: brian.ryeel@atelon.com
2. Email: _____

Regulatory Requirements:

(Please check all applicable boxes)

- Regulation 153/04 Excess Soils R406 Sewer Use
 Sanitary Storm
- Table _____ Indicate One Ind/Com Res/Park Agriculture Regulation 558 Prov. Water Quality Objectives (PWQO) Other
- Soil Texture (Check One) Coarse Fine CCME Other
- Region _____ Indicate One

Is this submission for a Record of Site Condition?

Yes No

Report Guideline on Certificate of Analysis

Yes No

Sample Matrix Legend

- B** Blota
GW Ground Water
O Oil
P Paint
S Soil
SD Sediment
SW Surface Water

Field Filtered - Metals, Hg, CrVI, DOC

0. Reg 153

Metals & Inorganics
Metals - CrVI, Hg, HWSB
BTEX, F1-F4 PHCS
Analyze F4G if required Yes No
PAHs
Total PCBs Aroclor
VOC

0. Reg 406

Landfill Disposal Characterization TCP
TCP: M&I, VOCs, ABNs, BAP, PCBs
Excess Soils SPLP Rainwater Leach
SPLP: Metals, VOCs, SVOCs
Excess Soils Characterization Package
pH, IC/PMS Metals, BTEX, F1-F4
Salt - EC/SAR

Asbestos
Pb(lead) = PPM

Potentially Hazardous or High Concentration (Y/N)

Project Information:

Project: 401/416 Prescott
Site Location: Prescott
Sampled By: B. Ryeel
AGAT ID #: 60638220

Please note: If quotation number is not provided, client will be billed full price for analysis.

Invoice Information:

Bill To Same: Yes No

Company: as above
Contact: _____
Address: _____
Email: _____

Sample Identification	Date Sampled	Time Sampled	# of Containers	Sample Matrix	Comments/ Special Instructions	Y / N	Metals & Inorganics	Metals - <input type="checkbox"/> CrVI, <input type="checkbox"/> Hg, <input type="checkbox"/> HWSB	BTEX, F1-F4 PHCS	Analyze F4G if required <input type="checkbox"/> Yes <input type="checkbox"/> No	PAHs	Total PCBs	<input type="checkbox"/> Aroclor	VOC	Landfill Disposal Characterization TCP	TCP: <input type="checkbox"/> M&I, <input type="checkbox"/> VOCs, <input type="checkbox"/> ABNs, <input type="checkbox"/> BAP, <input type="checkbox"/> PCBs	Excess Soils SPLP Rainwater Leach	SPLP: <input type="checkbox"/> Metals, <input type="checkbox"/> VOCs, <input type="checkbox"/> SVOCs	Excess Soils Characterization Package	pH, IC/PMS Metals, BTEX, F1-F4	Salt - EC/SAR	Potentially Hazardous or High Concentration (Y/N)
16-130-ASP-01A	Jun 15	AM	1	Bulk	Asphalt - Alum	N																
16-130-ASP-01B		PM	1																			
16-130-ASP-01C		AM	1																			
16-308-ASP-01A		AM	1																			
16-308-ASP-01B		PM	1																			
16-308-ASP-01C		AM	1																			
16-129-ASP-01A		AM	1																			
16-129-ASP-01B		PM	1																			
16-129-ASP-01C		AM	1																			
16-129-PT-01		AM	1	Bulk	PAVOTM																	

Samples Relinquished By (Print Name and Sign): <u>[Signature]</u>	Date: <u>Jun 16/21</u>	Time: <u>11:01</u>	Samples Received By (Print Name and Sign): <u>NEAL</u>	Date: _____	Time: _____
Repotes Relinquished By (Print Name and Sign): _____	Date: _____	Time: _____	Repotes Received By (Print Name and Sign): _____	Date: _____	Time: _____
Samples Relinquished By (Print Name and Sign): _____	Date: _____	Time: _____	Samples Received By (Print Name and Sign): _____	Date: _____	Time: _____

Laboratory Use Only

Work Order #: 21T761843
Cooler Quantity: _____
Arrival Temperatures: _____
Custody Seal Intact: Yes No N/A
Notes: Plastic Bag

Turnaround Time (TAT) Required:

Regular TAT (Most Analysis) 5 to 7 Business Days

Rush TAT (Rush Surcharges Apply)

3 Business Days 2 Business Days Next Business Day

OR Date Required (Rush Surcharges May Apply): _____

Please provide prior notification for rush TAT
*TAT is exclusive of weekends and statutory holidays

For 'Same Day' analysis, please contact your AGAT CPM