TBT ENGINEERING
CONSULTING GROUP

April 17, 2026 TBTE Ref No: 25-520

Dilworth Development Inc.
92 Bentley Avenue
Ottawa, ON K2E 6T9

Attn: Mr. Dennis Colautti and Mr. Walter Griesseier

Subject: City of Ottawa File Number: D02-02-24-0029
Supplemental Groundwater Investigation – 2095 Dilworth Road, Ottawa, Ontario

1.0 Introduction

TBT Engineering Limited (TBTE) was retained by Dilworth Development Inc. (the "Client") to conduct a Supplemental Groundwater Investigation at the property located at 2095 Dilworth Road in Ottawa, Ontario (the "Site"). The subject investigation was completed in support of the Zoning By-law Amendment application for the Site (File No.: D02-02-24-0029), in response to City of Ottawa comments to the application, received on January 26, 2026, and our virtual meeting with Mr. Vahid Arasteh, of the City of Ottawa, on February 24, 2026.

This letter summarizes the methodologies and results of the Supplemental Groundwater Investigation, which serves as a supplemental program to the previously completed Phase II Environmental Site Assessment (ESA) report for the Site, referenced below:

- **Phase II Environmental Site Assessment, 2095 Dilworth Road, Kars, Ontario,** prepared by DST Consulting Engineers, dated April 2021, sealed December 8, 2024.

This letter should be read in conjunction with the above noted report.

2.0 Scope of Work

The investigation scope of work included the following activities:

- Obtaining underground utility clearances and locates;
- The advancement of two groundwater monitoring wells (MW26-01 and MW26-02) at the Site to delineate the previously identified ethylbenzene impact in groundwater at monitoring well location MW21-01;
- The collection of groundwater samples from the newly installed monitoring wells, for laboratory analysis of petroleum hydrocarbon fractions F1 – F4 (PHCs F1 – F4) and benzene, toluene, ethylbenzene, and xylenes (BTEX); and

- Completion of an elevation survey of the monitoring wells on Site to determine the local groundwater flow direction.

3.0 Applicable Site Condition Standards

Groundwater analytical results were compared against the applicable provincial Site Condition Standards (SCSs) for the Site, as set out in the following document:

- Ontario Ministry of the Environment, Conservation and Parks (MECP) ""Soil, Groundwater and Sediment Standards for Use under Part XV.1 of the Environmental Protection Act", April 2011, Table 1: Full Depth Background Site Condition Standards for All Types of Property Use.

Refer to the original Phase II ESA (DST, 2021) for the rationale of why the above standards apply to this Site.

4.0 Summary of Field Program and Methodology

4.1 Monitoring Well Installation and Groundwater Sampling

Two monitoring wells (MW26-01 and MW26-02) were advanced at the Site, on April 13, 2026, for the purpose of delineating the previously identified ethylbenzene exceedance in groundwater at monitoring well location MW21-01. A Monitoring Well Location Plan depicting the locations of the additional monitoring wells is provided in Attachment A.

Monitoring wells MW26-01 and MW26-02 were both advanced to an approximate depth of 5.2 metres below ground surface (mbgs), utilizing a track-mounted CME-850 drill rig equipped with continuous flight hollow stem augers. No soil logging or sampling was completed for the purposes of this investigation. The monitoring wells were constructed of a Schedule 40, 50 mm diameter polyvinyl chloride (PVC) pipe and a #10 slotted PVC well screen (approximately 3.0 m in length) placed to intercept the inferred groundwater table. A sand-pack consisting of clean silica sand was placed within the annular space surrounding the screened section of each well, and bentonite chips were added from the top of the sand-pack to within approximately 0.3 m of the surface. A locking J-Plug cap was placed at the top of each well pipe. Both wells were completed with a protective steel monument casing (stick-up) cemented at surface. The monitoring wells were installed in accordance with Ontario Regulation (O. Reg.) 903 – Wells (as amended), made under the Ontario Water Resources Act.

Drilling and monitoring well installation activities were completed by Marathon Underground Constructors Corporation (Marathon), under the supervision of TBTE field personnel. Monitoring well construction details are provided in the borehole logs, in Attachment B.

Following monitoring well installation activities, the monitoring wells were developed, using dedicated Waterra™ tubing equipped with inertial foot valves, to remove groundwater impacted by drilling activities and to reduce the amount of sediment within the wells.

Two groundwater samples (one sample from each of the newly advanced monitoring wells) were collected by TBTE on April 14, 2026. The samples were collected directly into laboratory-supplied sample bottles, all of which were labelled with the Site name, sample identification, and sampling

time and date. The groundwater samples were collected using low-flow sampling techniques, with a peristaltic pump. To prevent cross-contamination, new single-use powder-free nitrile gloves and sample tubing was used and replaced between wells. Collected groundwater samples were placed in a cooler, maintained at a temperature of below 10°C, and delivered to a certified laboratory under a Chain of Custody protocol for chemical analysis.

The collected groundwater samples were analyzed for petroleum hydrocarbon fractions F1 – F4 (PHCs F1 – F4) and benzene, toluene, ethylbenzene and xylenes (BTEX).

4.2 Quality Assurance / Quality Control (QA/QC) Measures

TBTE's investigation was completed in accordance with industry-standard quality assurance and control measures. The potential for cross-contamination between sample locations was prevented by using single-use dedicated field sample containers, decontaminating all sampling equipment between samples using phosphorus-free soap and distilled water, and changing gloves between the handling of each sample by the TBTE field technician.

All borehole drilling, monitoring well installation, and well development and sampling activities were completed in accordance with applicable regulations and guidelines, as well as in-line with industry standards and practices. All field equipment was calibrated prior to use, to ensure accuracy.

Groundwater samples were submitted to Paracel Laboratories Ltd. (Paracel), a recognized Canadian Association for Laboratory Accreditation Inc. (CALA) accredited laboratory, for chemical analysis.

4.3 Elevation Surveying

The geodetic ground surface elevation of the monitoring wells was surveyed by TBTE personnel using a Trimble R8 Integrated GNSS System connected to the Cansel East Network UTM Zone 18T (NAD83). The system connects to a network of satellites to determine the coordinates and elevation of each monitoring well location, measured in meters above sea level (masl).

5.0 Field Investigation Results

5.1 Field Observations

No visual or olfactory evidence of petroleum hydrocarbons or other contaminants was observed during the drilling, well development, or sampling activities.

5.2 Groundwater Field Measurements

TBTE field personnel collected groundwater levels and geographic coordinates for each monitoring well location. Groundwater level measurements were obtained prior to groundwater sampling activities. A summary of the groundwater measurement data is provided in Table 5-1.

Table 4-1: Groundwater Field Measurements

Monitoring Well ID	Easting (m)	Northing (m)	Measurement Date (dd/mm/yyyy)	Surface Elevation (masl)	Depth to Groundwater (mbgs)	Groundwater Elevation (masl)
MW26-01	449218.3	4993878.9	14/04/2026	87.61	0.41	87.20
MW26-02	449165.0	4993968.5	14/04/2026	87.13	0.09	87.04
MW21-01	449213.4	4993933.62	14/04/2026	87.81	0.73	87.08
MW21-06	448745.14	4993761.75	14/04/2026	88.65	1.51	87.14

Based on the measured groundwater elevations within the on-Site monitoring wells presented above, the inferred local groundwater flow direction at the Site is to the north/northeast.

5.3 Groundwater Quality

Based on the laboratory analytical results, concentrations of the analyzed parameters in both samples (MW26-01 and MW26-02) met the applicable MECP Table 1 SCSs for PHCs F1 – F4 and BTEX. All concentrations were below the laboratory reportable detection limits (RDLs) for the analyzed parameters.

These results indicate that the previously identified ethylbenzene impact in groundwater at monitoring well location MW21-01, which marginally exceeded the MECP Table 1 SCS, is isolated in the vicinity of MW21-01.

The laboratory certificate of analysis is included in Attachment C.

6.0 Closure

We trust that the information herein meets your present requirements. Should you have any questions, please do not hesitate to contact the undersigned at your convenience.

Yours very truly,

TBT Engineering Limited

Salim Eid, P.Eng.
Senior Environmental Engineer

Andrew Naoum, P.Eng.
Branch Manager – Ottawa

TBT ENGINEERING
CONSULTING GROUP

TBTE REF No.: 26-0017

Attachment A

Figure

TBT ENGINEERING
CONSULTING GROUP

Note:
This drawing shall be read in conjunction with the associated letter report.

LEGEND

- Monitoring Well Location (TBTE, 2026)
- Historical Monitoring Well Location (DST, 2021)

Client	Dilworth Development Inc.
Site	2095 Dilworth Road, Ottawa, Ontario
Report Title	Supplemental Groundwater Investigation
Drawing Title	Monitoring Well Location Plan
Scale:	NTS
Date	April 2026
Project No.	25-520
Figure No.	1

TBT ENGINEERING
CONSULTING GROUP

TBTE REF No.: 26-0017

Attachment B

Borehole Logs

MW26-01

Project: Supplemental Groundwater Investigation | Project No.: 25-520

Site Address: 2095 Dilworth Rd, Ottawa, Ontario | Client: Dilworth Development Inc.

Easting (m): 449218.3 | Northing: 4993878.9 | Weather: Rainy

Logged By: AR | Reviewed By: SE | Investigation Date: 2026-04-13

PIEZOMETER	DEPTH	ELEVATION	SOIL DESCRIPTION	SYMBOL	BORING METHOD	SAMPLES NO.	SAMPLES RECOVERY (%)	SAMPLES TYPE	BLOWS / 150MM	COMBUSTIBLE VAPOUR CONCENTRATION (▲ Hex (ppm) 30 60 90 120; ■ Iso (ppm) 30 60 90 120)	COMMENTS
2.8ft		87.61	Grass surface EL 87.61 m								
#1 ; Standpipe (JP)	0		Augered down to 4.3 m								
		87									Groundwater level measured at 0.41 mbgs on April 14, 2026
	1	86									
	2	85									
	3	84									
	4		4.3 m EL 83.31 m								
		83	End of borehole at 4.3 m								50 mm monitoring well installed at 4.3 mbgs. Stick-up.
	5	82									
	6	81									

TBT ENGINEERING CONSULTING GROUP

Notes:

MW26-02

Project: Supplemental Groundwater Investigation | Project No.: 25-520

Site Address: 2095 Dilworth Rd, Ottawa, Ontario | Client: Dilworth Development Inc.

Easting (m): 449165.0 | Northing: 4993968.5 | Weather: Rainy

Logged By: AR | Reviewed By: SE | Investigation Date: 2026-04-13

PIEZOMETER	DEPTH	ELEVATION	SOIL DESCRIPTION	SYMBOL	BORING METHOD	SAMPLES NO.	SAMPLES RECOVERY (%)	SAMPLES TYPE	BLOWS / 150MM	COMBUSTIBLE VAPOUR CONCENTRATION (Hex (ppm) 30 60 90 120; Iso (ppm) 30 60 90 120)	COMMENTS
2.8ft		87.13	Grass surface EL 87.13 m								
#1 Standpipe	0	87	Augered down to 4.3 m								Groundwater level measured at 0.09 mbgs on April 14, 2026
	1	86									
	2	85									
	3	84									
	4	83	4.3 m EL 82.83 m								
			End of borehole at 4.3 m								50 mm monitoring well installed at 4.3 mbgs. Stick-up.
	5	82									
	6	81									

TBT ENGINEERING CONSULTING GROUP

Notes:

TBT ENGINEERING
CONSULTING GROUP

TBTE REF No.: 26-0017

Attachment C

Laboratory Certificates of Analysis

PARACEL LABORATORIES LTD.
TRUSTED.
RESPONSIVE.
RELIABLE.

300 - 2319 St. Laurent Blvd
Ottawa, ON, K1G 4J8
1-800-749-1947
www.paracellabs.com

Certificate of Analysis

TBT Engineering Ltd (Ottawa)
92 Bentley Ave.
Ottawa, ON K2E 6T9
Attn: Salim Eid

Client PO:
Project: 25-520-1
Custody: 150615

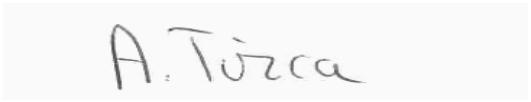
Report Date: 15-Apr-2026
Order Date: 14-Apr-2026

Order #: 2616169

This Certificate of Analysis contains analytical data applicable to the following samples as submitted:

Paracel ID	Client ID
2616169-01	MW26-01
2616169-02	MW26-02

Approved By:



Adriana Tirca, B.Eng (Chem)
Supervisor

Analysis Summary Table

Analysis	Method Reference/Description	Lab Location	Extraction Date	Analysis Date
BTEX by P&T GC-MS	EPA 624 - P&T GC-MS	Ottawa	14-Apr-26	14-Apr-26
PHC F1	CWS Tier 1 - P&T GC-FID	Ottawa	14-Apr-26	14-Apr-26
PHCs F2 to F4	CWS Tier 1 - GC-FID, extraction	Ottawa	14-Apr-26	14-Apr-26

Summary of Criteria Exceedances

If this page is blank, then there are no exceedances

Regulatory Comparison:

Paracel Laboratories has provided regulatory guidelines on this report for informational purposes only and makes no representations or warranties that the data is accurate or reflects the current regulatory values. The user is advised to consult with the appropriate official regulations to evaluate compliance. Sample results that are highlighted in red have exceeded the selected regulatory limit. A blue highlight represents a non-detect result with a reporting limit that exceeds the selected regulatory limit. Calculated uncertainty estimations have not been applied for determining regulatory exceedances.

Sample	Analyte	MDL / Units	Result	Reg 153/04 -T1 Groundwater	-

Certificate of Analysis

Report Date: 15-Apr-2026

Client: **TBT Engineering Ltd (Ottawa)**

Order Date: 14-Apr-2026

Client PO:

Project Description: 25-520-1

	Client ID:	MW26-01	MW26-02	-	-	Criteria:	
	Sample Date:	14-Apr-26 11:15	14-Apr-26 10:45	-	-	Reg 153/04 -T1	-
	Sample ID:	2616169-01	2616169-02	-	-	Groundwater	
	Matrix:	Ground Water	Ground Water	-	-		
	MDL/Units						
Volatiles							
Benzene	0.5 ug/L	<0.5	<0.5	-	-	0.5 ug/L	-
Ethylbenzene	0.5 ug/L	<0.5	<0.5	-	-	0.5 ug/L	-
Toluene	0.5 ug/L	<0.5	<0.5	-	-	0.8 ug/L	-
m,p-Xylenes	0.5 ug/L	<0.5	<0.5	-	-	-	-
o-Xylene	0.5 ug/L	<0.5	<0.5	-	-	-	-
Xylenes, total	0.5 ug/L	<0.5	<0.5	-	-	72 ug/L	-
Toluene-d8	Surrogate	96.1%	97.4%	-	-	-	-
Hydrocarbons							
F1 PHCs (C6-C10)	25 ug/L	<25	<25	-	-	420 ug/L	-
F2 PHCs (C10-C16)	100 ug/L	<100	<100	-	-	150 ug/L	-
F3 PHCs (C16-C34)	100 ug/L	<100	<100	-	-	500 ug/L	-
F4 PHCs (C34-C50)	100 ug/L	<100	<100	-	-	500 ug/L	-

Method Quality Control: Blank

Analyte	Result	Reporting Limit	Units	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons								
F1 PHCs (C6-C10)	ND	25	ug/L					
F2 PHCs (C10-C16)	ND	100	ug/L					
F3 PHCs (C16-C34)	ND	100	ug/L					
F4 PHCs (C34-C50)	ND	100	ug/L					
Volatiles								
Benzene	ND	0.5	ug/L					
Ethylbenzene	ND	0.5	ug/L					
Toluene	ND	0.5	ug/L					
m,p-Xylenes	ND	0.5	ug/L					
o-Xylene	ND	0.5	ug/L					
Xylenes, total	ND	0.5	ug/L					
Surrogate: Toluene-d8	*79.1*		*%*	*98.9*	*50-140*			

Method Quality Control: Duplicate

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	ND	25	ug/L	ND			NC	30	
F2 PHCs (C10-C16)	ND	100	ug/L	ND			NC	30	
F3 PHCs (C16-C34)	ND	100	ug/L	ND			NC	30	
F4 PHCs (C34-C50)	ND	100	ug/L	ND			NC	30	
Volatiles									
Benzene	ND	0.5	ug/L	ND			NC	30	
Ethylbenzene	ND	0.5	ug/L	ND			NC	30	
Toluene	ND	0.5	ug/L	ND			NC	30	
m,p-Xylenes	ND	0.5	ug/L	ND			NC	30	
o-Xylene	ND	0.5	ug/L	ND			NC	30	
Surrogate: Toluene-d8	*80.1*		*%*		*100*	*50-140*			

Method Quality Control: Spike

Analyte	Result	Reporting Limit	Units	Source Result	%REC	%REC Limit	RPD	RPD Limit	Notes
Hydrocarbons									
F1 PHCs (C6-C10)	1890	25	ug/L	ND	94.4	85-115			
F2 PHCs (C10-C16)	1410	100	ug/L	ND	94.4	60-140			
F3 PHCs (C16-C34)	4010	100	ug/L	181	104	60-140			
F4 PHCs (C34-C50)	2340	100	ug/L	ND	101	60-140			
Volatiles									
Benzene	45.0	0.5	ug/L	ND	112	60-130			
Ethylbenzene	42.8	0.5	ug/L	ND	107	60-130			
Toluene	41.2	0.5	ug/L	ND	103	60-130			
m,p-Xylenes	86.9	0.5	ug/L	ND	109	60-130			
o-Xylene	45.0	0.5	ug/L	ND	112	60-130			
Surrogate: Toluene-d8	*72.2*		*%*		*90.3*	*50-140*			

Certificate of Analysis

Report Date: 15-Apr-2026

Client: **TBT Engineering Ltd (Ottawa)**

Order Date: 14-Apr-2026

Client PO:

Project Description: 25-520-1

Qualifier Notes:

Sample Data Revisions:

None

Work Order Revisions / Comments:

None

Other Report Notes:

n/a: not applicable

ND: Not Detected

MDL: Method Detection Limit

Source Result: Data used as source for matrix and duplicate samples

%REC: Percent recovery.

RPD: Relative percent difference.

NC: Not Calculated

CCME PHC additional information:

- The method for the analysis of PHCs complies with the Reference Method for the CWS PHC and is validated for use in the laboratory. All prescribed quality criteria identified in the method has been met.

- F1 range corrected for BTEX.

- F2 to F3 ranges corrected for appropriate PAHs where available.

- The gravimetric heavy hydrocarbons (F4G) are not to be added to C6 to C50 hydrocarbons.

- In the case where F4 and F4G are both reported, the greater of the two results is to be used for comparison to CWS PHC criteria.

- When reported, data for F4G has been processed using a silica gel cleanup.

PARACEL LABORATORIES LTD.

Paracel ID: 2616169

Laurent Blvd.
ro K1G 4J8
8947
racellabs.com
abs.com

Paracel Order Number (Lab Use Only)	Chain Of Custody (Lab Use Only)
2616169	№ 150615

Client Name: TBT Engineering Ltd.
Contact Name: Salim Eid
Address: 92 Bentley Ave., Ottawa, ON
Telephone:

Project Ref: 25-520-1
Quote #:
PO #:
E-mail: seid@tbte.ca
mrichard@tbte.ca

Page 1 of 1

Turnaround Time
☑ 1 day ☐ 3 day
☐ 2 day ☐ Regular
Date Required: Apr 15, 2026

☑ REG 153/04 ☐ REG 406/19

☑ Table 1 ☐ Agri/Other ☐ Med/Fine
☐ Table 2 ☐ Res/Park ☐ Coarse
☐ Table 3 ☐ Ind/Comm
☐ Table ___
For RSC: ☐ Yes ☐ No

Other Regulation
☐ REG 558 ☐ PWQO
☐ CCME ☐ MISA
☐ SU - Sani ☐ SU - Storm
Mun: ___
☐ Other:

Matrix Type: S (Soil/Sed.) GW (Ground Water) SW (Surface Water) SS (Storm/Sanitary Sewer) P (Paint) A (Air) O (Other)

Required Analysis

	Sample ID/Location Name	Matrix	Air Volume	# of Containers	Field Filtered	Sample Taken: Date	Sample Taken: Time	PHCs F1-F4+BTEX	~~VOCs~~	~~PAHs~~	~~Metals by ICP~~	~~Hg~~	~~CrVI~~	~~B(HWS)~~				
1	MW26-01	GW	-	4	No	Apr 14, 2026	11:15	X										
2	MW26-02	GW	-	4	No	↓	10:45	X										
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		

Comments:

Method of Delivery:

Relinquished By (Sign):	Received at Depot:	Received at Lab:	Verified By:
Relinquished By (Print): Ashton Richard	Date/Time: April 14/26 1207	Date/Time: Apr/04/26 13:10	Date/Time: Apr 14/26 14:36
Date/Time: Apr 14, 2026 @ 12:05	Temperature: 17.6 °C	Temperature: 11.3 °C	pH Verified: ☐ By: