



WASTE MANAGEMENT OF CANADA CORPORATION

WATFORD, ONTARIO

TWIN CREEKS ENVIRONMENTAL CENTRE: 2022 FOURTH QUARTER & ANNUAL MONITORING REPORT VOLUME 2C OF 5 – COMPLIANCE MONITORING APPENDICES J TO S

RWDI #2202861.01 March 1, 2023

SUBMITTED TO

Angela McLachlan Environmental Compliance Manager amclachl@wm.com

Waste Management of Canada Corporation

Twin Creeks Environmental Centre 5768 Nauvoo Road (Watford) Warwick Township, County of Lambton N0M 2S0

T: 519.849.5810 F: 519.849.5811

SUBMITTED BY

Brent J. Langille, B.Sc., P.Geo. Senior Technical Director | Principal Brent.Langille@rwdi.com | ext. 2618

Khalid Hussein, P.Eng. Project Manager Khalid Hussein@rwdi.com | ext. 2055

RWDI AIR Inc.

Consulting Engineers & Scientists 4510 Rhodes Drive | Suite 530

Windsor, Ontario N8W 5K5

T: 519.974.7384 F: 519.823.1316



rwdi.com

This document is intended for the sole use of the party to whom it is addressed and may contain information that is privileged and/or confidential. If you have received this in error, please notify us immediately. Accessible document formats provided upon request. ® RWDI name and logo are registered trademarks in Canada and the United States of America.



APPENDIX J:

Gas Monitoring Results

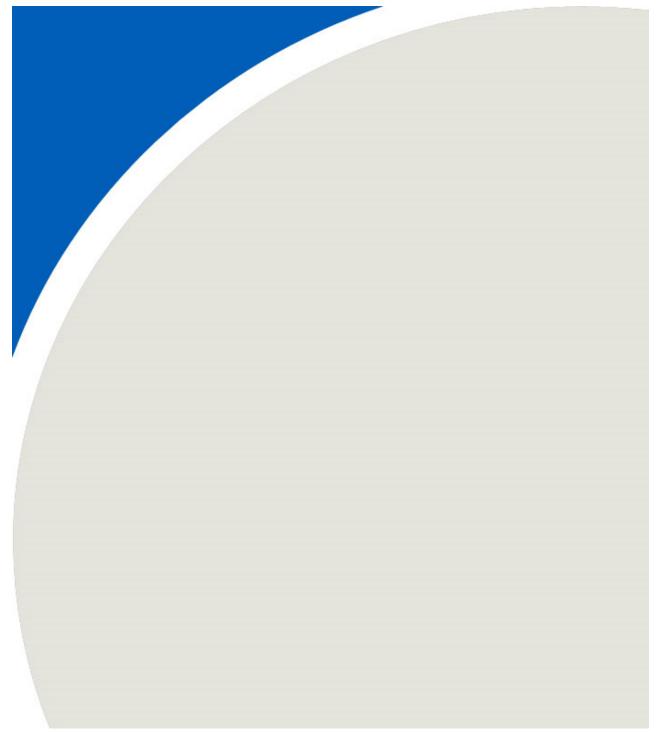


Table J-1 Methane Monitoring Results - Compliance Monitoring Twin Creeks Environmental Centre

Gas Probe	% LEL Methane											
Location				Date								
Location	5-Jan-22	3-Feb-22	1-Mar-22	27-Apr-22	28-Jul-22	17-Nov-22	1-Dec-22					
GP1A	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
GP2	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
GP3	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
GP4	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
GP5	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
GP6	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
GP7	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
GP8	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
GP9	-	-	-	-	0.0	0.0	0.0					
GP10	-	-	-	-	0.0	0.0	0.0					

NOTES: 1) LEL denotes the lower explosive limit for methane.

2) GP9 and GP10 installed in June 2022.



APPENDIX K:

Automobile Shredder Residue Chemical Results



Table K-1

Automobile Shredder Residue - General Chemical Results - Compliance Monitoring

Twin Creeks Environmental Centre

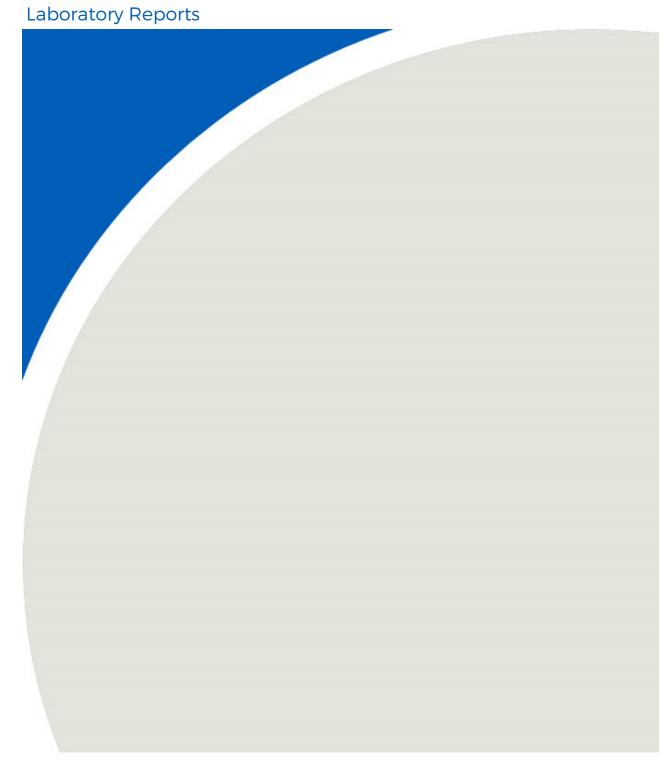
Parameter	Units	O. Reg.										Automob	ile Shredder Res	idue (ASR)										
Date		558	15-Sep-11	6-Dec-11	7-Sep-12	21-Nov-12	7-Mar-12	8-Jun-12	5-Apr-13	7-Jun-16	17-Oct-16	27-Apr-17	11-Oct-17	5-Apr-18	28-Sep-18	4-Apr-19	26-Sep-19	1-Apr-20	22-Sep-20	6-Apr-21	1-Oct-21	2-Feb-22	6-Apr-22	5-0
Laboratory			EXOVA	EXOVA	EXOVA	EXOVA	EXOVA	EXOVA	EXOVA	EXOVA	EXOVA	EXOVA	EXOVA	Eurofins	Eurofins	Eurofins	Eurofins	Eurofins	Eurofins	Eurofins	Eurofins	BV Labs	BV Labs	BV
and Inorganics																								
e (free)	mg/L	20.0	<0.02	<0.02	< 0.005	<0.02	<0.05	<0.005	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	< 0.05	<0.05	<0.05	<0.05	< 0.05	<0.010	<0.010	<
le	mg/L	150.0	0.46	0.51	0.54	1.07		0.59	0.82	0.52	0.30	0.35	0.24	0.72	0.44	0.34	0.43	0.51	<0.10	0.3	0.49	0.22	1.1	
NO3 as N	mg/L	1000	4.08	0.20	<0.10	0.15	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<10	<1.0	<1.0	<1.0	<1.0	
:	mg/L	2.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	0.001	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.2	<0.2	
1	mg/L	100.0	0.7	0.5	0.7	0.6	0.4	0.9	0.5	0.52	<1	<1	0.95	0.57	0.477	0.68	0.68	0.56	0.8	1.05	0.91	0.8	0.4	
	mg/L	500.0	0.6	0.6	1.4	0.8	1.5	0.6	<1	1.10	1.6	1.2	2.3	0.9	1.14	1.2	1.6	1.2	0.5	1.2	2.5	1.3	2.8	
ım	mg/L	0.5	0.08	<0.005	0.463	<0.1	0.09	0.13	<0.1	0.09	0.187	0.088	0.088	0.079	0.135	0.145	0.128	0.089	0.230	0.131	0.124	0.16	< 0.05	
um	mg/L	5.0	<0.05	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	0.0008	<0.05	<0.05	<0.05	<0.05	<0.05	< 0.05	<0.1	<0.1	
	mg/L	5.0	<0.1	0.07	0.13	0.01	0.16	0.070	<0.05	0.04	0.08	0.03	0.04	0.04	0.253	0.06	0.04	0.03	1.06	0.46	0.06	0.2	<0.1	
у	mg/L	0.1	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00008	0.00007	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Im	mg/L	1.0	< 0.01	<0.01	<0.01	< 0.01	<0.01	<0.01	<0.01	<0.02	<0.02	<0.02	<0.02	<0.02	0.0004	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.1	<0.1	
	mg/L	5.0	< 0.001	<0.005	<0.001	< 0.001	<0.001	<0.001	<0.001	<0.01	<0.01	<0.01	<0.01	<0.01	<0.0002	<0.01	<0.01	<0.01	<0.01	<0.01	< 0.01	<0.01	<0.01	
n	mg/L	10.0	<0.01	<0.01	<0.01	< 0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.001	<0.01	<0.01	<0.01	<0.01	<0.01	< 0.01	<0.01	<0.01	
Organic Compounds (VOCs)																								
Ethyl Ketone (MEK)	ug/L	200000	<20	<50	40	<20	<20	<10	<10	<10	<10	<10	<10	<10	<10	<10	30	<10	<10	<10	<10	<1000	<1000	
loroethylene	ug/L	1400	<1		<0.5	<1	<0.5	< 0.05	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<20	_
lorobenzene	ug/L	20000	<0.8	<2	<0.4	<0.8	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<50	<50	_
oroethane	ug/L	500	<0.4	<1	<0.2	<0.4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.6	<0.2	<0.2	<0.2	<50	<50	_
lorobenzene	ug/L	500	<0.8	<2	<0.4	<0.8	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<50	<50	-
	ug/L	500	<1	<5	< 0.05	<1	<1	<0.05	<0.5	<0.5	<0.5	0.6	<0.5	<0.5	<0.5	<0.5	<0.5	1.4	<0.5	<0.5	<0.5	<20	<20	-
Tetrachloride	ug/L	500	<1	<5	<0.2	<0.4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<20	<20	-
omethane	ug/L	5000	<8.0		<4.0	<8.0		<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<200	<200	-
nlorobenzene	ug/L	8000	<4.0		<0.2	<0.4		<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<20	-
loroethylene	ug/L	3000	<0.6	2	<0.3	<0.6	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<20	<20	-
roethylene	ug/L	5000	<0.6	2	<0.3	<0.6	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<20	<20	-
nloride	ug/L	200	<0.4	1	<0.2	<0.4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<20	<20	-
orm	ug/L	10000	<1	2	<0.5	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<20	
platile Organic Compounds (SVOC's)		1		1		1	1	1	1	1	1	1			1				1					
ylnaphthalene	ug/L			0.50	0.20	1.29	1.21	0.15	0.20	0.5	<0.1	0.2	0.4	<1	<0.1	0.2	<0.1	0.3	0.2	<0.1	0.2	<0.20	1.3	
ylnaphthalene	ug/L			0.60	0.20	1.83	1.78	0.26	0.20	0.7	<0.1	0.3	0.6	<1	<0.1	0.2	<0.1	0.3	0.6	<0.1	0.2	0.32	1.8	-
hthene	ug/L			<0.2	0.2	0.21	0.1	<0.05	<0.1	0.2	<0.1	0.2	0.2	<1	<0.1	<0.1	<0.1	<0.1	<0.1	0.6	<0.1	<0.20	0.23	-
hthylene	ug/L			<0.2	0.2	0.06	0.02	< 0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.20	<0.20	-
ene	ug/L			<0.2	0.2	0.38	0.05	<0.05	<0.1	<0.1	0.1	0.4	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.20	<0.20	
anthracene	ug/L			<0.2	0.2	<0.01	<0.01	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.20	<0.20	
)pyrene	ug/L	1.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	0.14	<0.01	<0.01	<0.10	<0.10	-
)fluoranthene	ug/L	1.0		<0.2	0.2	<0.02	<0.02	< 0.05	<0.05	< 0.05	<0.05	<0.05	<0.05	<0.5	<0.05	< 0.05	< 0.05	< 0.05	< 0.05	<0.05	<0.05	<0.10	<0.10	-
z,h,i)perylene	ug/L			<0.2	0.2	<0.02	<0.02	< 0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.20	<0.20	-
k)fluoranthene	ug/L			<0.2	0.2	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.20	<0.20	
le	ug/L			<0.2	0.2	<0.02	<0.02	< 0.05	< 0.05	< 0.05	<0.05	< 0.05	<0.05	<0.5	< 0.05	< 0.05	< 0.05	0.06	< 0.05	0.09	<0.05	<0.20	<0.20	-
(a,h)anthracene	ug/L			<0.2	0.2	<0.02	<0.02	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.20	<0.20	
hene	ug/L			0.3	0.2	0.21	0.08	0.13	0.3	0.3	0.1	<0.1	0.3	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.20	<0.20	
	ug/L			<0.2	0.2	0.21	0.08	<0.05	<0.1	0.3	0.1	0.2	0.3	<1	<0.1	<0.1	<0.1	<0.1	0.2	<0.1	<0.1	<0.20	<0.20	+-
e ,2,3-c,d)pyrene				<0.2	0.2	<0.02	<0.02	<0.05	<0.1	<0.1	<0.1	<0.2	<0.1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.20	<0.20	
alene	ug/L ug/L			0.2	0.2	3.19	0.6	0.03	<0.1	0.6	0.1	0.2	0.4	<1	0.1	0.3	<0.1	0.5	0.4	<0.1	0.5	<0.20	4.0	
				0.8	0.2	0.81						0.2	0.4								0.5			
threne	ug/L			0.2	0.2	0.81	0.17	0.21	0.6	0.3	0.2	<0.1	0.2	<1 <1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.20	0.36	
	ug/L			0.2	0.2	0.17	0.05	0.10	0.2	×0.1	<0.1	×0.1	0.2	S1	0.4	SO.1	<u.1< td=""><td>SU.1</td><td><u.1< td=""><td><u.1< td=""><td>S0.1</td><td>×0.20</td><td>~U.2U</td><td></td></u.1<></td></u.1<></td></u.1<>	SU.1	<u.1< td=""><td><u.1< td=""><td>S0.1</td><td>×0.20</td><td>~U.2U</td><td></td></u.1<></td></u.1<>	<u.1< td=""><td>S0.1</td><td>×0.20</td><td>~U.2U</td><td></td></u.1<>	S0.1	×0.20	~U.2U	

`

3) BV Labs denotes chemical analytical testing was completed by Bureau Veritas.



APPENDIX K2:





Attention: Khalid Hussein

RWDI Inc. 600 Southgate Drive Guelph, ON Canada N1G 4P6 Your P.O. #: 11146211 Your Project #: 2202861-1000 Site#: 500 Site Location: ON07 Your C.O.C. #: n/a

> Report Date: 2022/04/20 Report #: R7092899 Version: 3 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C230199 Received: 2022/02/04, 08:52

Sample Matrix: Soil # Samples Received: 1

		Date	Date		
Analyses	Quantity	Extracted	Analyzed	Laboratory Method	Analytical Method
Cyanide (WAD) in Leachates	1	N/A	2022/02/10	CAM SOP-00457	OMOE 3015 m
Fluoride by ISE in Leachates	1	2022/02/10	2022/02/11	CAM SOP-00449	SM 23 4500-F- C m
Total Metals in TCLP Leachate by ICPMS	1	2022/02/10	2022/02/10	CAM SOP-00447	EPA 6020B m
Nitrate& Nitrite as Nitrogen in Leachate	1	N/A	2022/02/10	CAM SOP-00440	SM 23 4500-NO3I/NO2B
PAH Compounds in Leachate by GC/MS (SIM)	1	2022/02/10	2022/02/11	CAM SOP-00318	EPA 8270D m
TCLP - % Solids	1	2022/02/09	2022/02/10	CAM SOP-00401	EPA 1311 Update I m
TCLP - Extraction Fluid	1	N/A	2022/02/10	CAM SOP-00401	EPA 1311 Update I m
TCLP - Initial and final pH	1	N/A	2022/02/10	CAM SOP-00401	EPA 1311 Update I m
TCLP Zero Headspace Extraction	1	2022/02/08	2022/02/09	CAM SOP-00430	EPA 1311 m
VOCs in ZHE Leachates	1	2022/02/09	2022/02/09	CAM SOP-00228	EPA 8260C m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Page 1 of 12

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



Attention: Khalid Hussein

RWDI Inc. 600 Southgate Drive Guelph, ON Canada N1G 4P6 Your P.O. #: 11146211 Your Project #: 2202861-1000 Site#: 500 Site Location: ON07 Your C.O.C. #: n/a

> Report Date: 2022/04/20 Report #: R7092899 Version: 3 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C230199 Received: 2022/02/04, 08:52

Encryption Key

Patricia Legette Project Manager 20 Apr 2022 16:48:43

Please direct all questions regarding this Certificate of Analysis to your Project Manager. Patricia Legette, Project Manager Email: Patricia.Legette@bureauveritas.com Phone# (905)817-5799

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total Cover Pages : 2 Page 2 of 12 Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



Bureau Veritas ID			RTX898		
Sampling Date			2022/02/02		
COC Number			n/a		
	UNITS	347	ASR	RDL	QC Batch
Polyaromatic Hydrocarbons					
Leachable Benzo(b)fluoranthene	ug/L	-	<0.10	0.10	7828379
Leachable Naphthalene	ug/L	-	<0.20	0.20	7828379
Leachable Acenaphthylene	ug/L	-	<0.20	0.20	7828379
Leachable Acenaphthene	ug/L	-	<0.20	0.20	7828379
Leachable Fluorene	ug/L	-	<0.20	0.20	7828379
Leachable Phenanthrene	ug/L	-	<0.20	0.20	7828379
Leachable Anthracene	ug/L	-	<0.20	0.20	7828379
Leachable Fluoranthene	ug/L	-	<0.20	0.20	7828379
Leachable Pyrene	ug/L	-	<0.20	0.20	7828379
Leachable Benzo(a)anthracene	ug/L	-	<0.20	0.20	7828379
Leachable Chrysene	ug/L	-	<0.20	0.20	7828379
Leachable Benzo(k)fluoranthene	ug/L	-	<0.20	0.20	7828379
Leachable Benzo(a)pyrene	ug/L	1	<0.10	0.10	7828379
Leachable Indeno(1,2,3-cd)pyrene	ug/L	-	<0.20	0.20	7828379
Leachable Dibenzo(a,h)anthracene	ug/L	-	<0.20	0.20	7828379
Leachable Benzo(g,h,i)perylene	ug/L	-	<0.20	0.20	7828379
Leachable 1-Methylnaphthalene	ug/L	-	<0.20	0.20	7828379
Leachable 2-Methylnaphthalene	ug/L	-	0.32	0.20	7828379
Surrogate Recovery (%)				•	
Leachable D10-Anthracene	%	-	102		7828379
Leachable D14-Terphenyl (FS)	%	-	83		7828379
Leachable D8-Acenaphthylene	%	-	99		7828379
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					
347: Ontario Reg. 347/90 Schedule 4	l Leacha	te Qı	ality Criteria	(as am	nended by
Reg 558/00)					

O.REG 558 TCLP BENZO(A)PYRENE

Page 3 of 12 Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



Bureau Veritas ID			RTX898							
Sampling Date			2022/02/02							
COC Number			n/a							
	UNITS	347	ASR	RDL	QC Batch					
Inorganics										
Leachable Fluoride (F-)	mg/L	150	0.22	0.10	7827200					
Leachable WAD Cyanide (Free)	mg/L	20	<0.010	0.010	7827201					
Leachable Nitrite (N)	mg/L	-	0.12	0.10	7827203					
Leachable Nitrate (N)	mg/L	-	<1.0	1.0	7827203					
Leachable Nitrate + Nitrite (N)	mg/L	1000	<1.0	1.0	7827203					
Metals										
Leachable Arsenic (As)	mg/L	2.5	<0.2	0.2	7826766					
Leachable Barium (Ba)	mg/L	100	0.8	0.2	7826766					
Leachable Boron (B)	mg/L	500	1.3	0.1	7826766					
Leachable Cadmium (Cd)	mg/L	0.5	0.16	0.05	7826766					
Leachable Chromium (Cr)	mg/L	5	<0.1	0.1	7826766					
Leachable Lead (Pb)	mg/L	5	0.2	0.1	7826766					
Leachable Mercury (Hg)	mg/L	0.1	<0.001	0.001	7826766					
Leachable Selenium (Se)	mg/L	1	<0.1	0.1	7826766					
Leachable Silver (Ag)	mg/L	5	<0.01	0.01	7826766					
Leachable Uranium (U)	mg/L	10	<0.01	0.01	7826766					
RDL = Reportable Detection Limit										
QC Batch = Quality Control Batch	า									
347: Ontario Reg. 347/90 Schedu by Reg 558/00)	ule 4 Lea	achate	Quality Criter	ria (as a	mended					

O.REG 558 TCLP INORGANICS PACKAGE (SOIL)



		```							
Bureau Veritas ID		RTX898							
Sampling Date		2022/02/02							
COC Number		n/a							
	UNITS	ASR	RDL	QC Batch					
Inorganics									
Final pH	рН	5.99		7825103					
Initial pH	рН	9.03		7825103					
TCLP - % Solids	%	100	0.2	7825083					
TCLP Extraction Fluid	N/A	FLUID 1		7825100					
RDL = Reportable Detection Limit QC Batch = Quality Control Batch									

## **TCLP LEACHATE PREPARATION (SOIL)**

Page 5 of 12 Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



## **O.REG 558 TCLP VOCS BY HS (SOIL)**

Bureau Veritas ID			RTX898		
Sampling Date			2022/02/02		
COC Number			n/a		
	UNITS	347	ASR	RDL	QC Batch
Charge/Prep Analysis					
Amount Extracted (Wet Weight) (g)	N/A	-	25	N/A	7822263
Volatile Organics					
Leachable Benzene	ug/L	500	<20	20	7824415
Leachable Carbon Tetrachloride	ug/L	500	<20	20	7824415
Leachable Chlorobenzene	ug/L	8000	<20	20	7824415
Leachable Chloroform	ug/L	10000	<20	20	7824415
Leachable 1,2-Dichlorobenzene	ug/L	20000	<50	50	7824415
Leachable 1,4-Dichlorobenzene	ug/L	500	<50	50	7824415
Leachable 1,2-Dichloroethane	ug/L	500	<50	50	7824415
Leachable 1,1-Dichloroethylene	ug/L	1400	<20	20	7824415
Leachable Methylene Chloride(Dichloromethane)	ug/L	5000	<200	200	7824415
Leachable Methyl Ethyl Ketone (2-Butanone)	ug/L	200000	<1000	1000	7824415
Leachable Tetrachloroethylene	ug/L	3000	<20	20	7824415
Leachable Trichloroethylene	ug/L	5000	<20	20	7824415
Leachable Vinyl Chloride	ug/L	200	<20	20	7824415
Surrogate Recovery (%)	•				
Leachable 4-Bromofluorobenzene	%	-	93		7824415
Leachable D4-1,2-Dichloroethane	%	-	105		7824415
Leachable D8-Toluene	%	-	93		7824415
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					
347: Ontario Reg. 347/90 Schedule 4 Leachate Qua	lity Crite	ria (as an	nended by Re	g 558/	00)
N/A = Not Applicable					

Page 6 of 12 Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



#### **GENERAL COMMENTS**

Revised Report (2022/04/20): Reporting units has been updated for VOC. Criteria policy has been included in this CofA as per Jeff Cleland's request.

Results relate only to the items tested.

Page 7 of 12 Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



## **QUALITY ASSURANCE REPORT**

RWDI Inc. Client Project #: 2202861-1000 Site Location: ON07 Your P.O. #: 11146211 Sampler Initials: EVH

			Matrix	Spike	SPIKED	BLANK	Method Blank		RPD		Leachate Blank	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	Value	UNITS
7824415	Leachable 4-Bromofluorobenzene	2022/02/09	102	70 - 130	102	70 - 130	95	%				
7824415	Leachable D4-1,2-Dichloroethane	2022/02/09	97	70 - 130	98	70 - 130	101	%				
7824415	Leachable D8-Toluene	2022/02/09	105	70 - 130	104	70 - 130	95	%				· · · · ·
7828379	Leachable D10-Anthracene	2022/02/11	106	50 - 130	103	50 - 130	104	%				
7828379	Leachable D14-Terphenyl (FS)	2022/02/11	108	50 - 130	103	50 - 130	99	%				
7828379	Leachable D8-Acenaphthylene	2022/02/11	97	50 - 130	104	50 - 130	102	%				
7824415	Leachable 1,1-Dichloroethylene	2022/02/09	95	70 - 130	99	70 - 130	<20	ug/L	NC (1)	30		
7824415	Leachable 1,2-Dichlorobenzene	2022/02/09	96	70 - 130	97	70 - 130	<50	ug/L	NC (1)	30		
7824415	Leachable 1,2-Dichloroethane	2022/02/09	91	70 - 130	94	70 - 130	<50	ug/L	NC (1)	30		
7824415	Leachable 1,4-Dichlorobenzene	2022/02/09	113	70 - 130	112	70 - 130	<50	ug/L	NC (1)	30		
7824415	Leachable Benzene	2022/02/09	92	70 - 130	93	70 - 130	<20	ug/L	NC (1)	30		
7824415	Leachable Carbon Tetrachloride	2022/02/09	98	70 - 130	99	70 - 130	<20	ug/L	NC (1)	30		
7824415	Leachable Chlorobenzene	2022/02/09	98	70 - 130	99	70 - 130	<20	ug/L	NC (1)	30		
7824415	Leachable Chloroform	2022/02/09	95	70 - 130	97	70 - 130	<20	ug/L	NC (1)	30		
7824415	Leachable Methyl Ethyl Ketone (2-Butanone)	2022/02/09	102	60 - 140	106	60 - 140	<1000	ug/L	NC (1)	30		
7824415	Leachable Methylene Chloride (Dichloromethane)	2022/02/09	92	70 - 130	95	70 - 130	<200	ug/L	NC (1)	30		
7824415	Leachable Tetrachloroethylene	2022/02/09	94	70 - 130	94	70 - 130	<20	ug/L	NC (1)	30		
7824415	Leachable Trichloroethylene	2022/02/09	102	70 - 130	104	70 - 130	<20	ug/L	NC (1)	30		
7824415	Leachable Vinyl Chloride	2022/02/09	92	70 - 130	99	70 - 130	<20	ug/L	NC (1)	30		
7826766	Leachable Arsenic (As)	2022/02/10	97	80 - 120	100	80 - 120	<0.2	mg/L	NC (1)	35	<0.2	mg/L
7826766	Leachable Barium (Ba)	2022/02/10	NC	80 - 120	96	80 - 120	<0.2	mg/L	0.18 (1)	35	<0.2	mg/L
7826766	Leachable Boron (B)	2022/02/10	99	80 - 120	104	80 - 120	<0.1	mg/L	NC (1)	35	<0.1	mg/L
7826766	Leachable Cadmium (Cd)	2022/02/10	94	80 - 120	97	80 - 120	<0.05	mg/L	NC (1)	35	<0.05	mg/L
7826766	Leachable Chromium (Cr)	2022/02/10	96	80 - 120	97	80 - 120	<0.1	mg/L	NC (1)	35	<0.1	mg/L
7826766	Leachable Lead (Pb)	2022/02/10	90	80 - 120	93	80 - 120	<0.1	mg/L	NC (1)	35	<0.1	mg/L
7826766	Leachable Mercury (Hg)	2022/02/10	95	80 - 120	102	80 - 120	<0.001	mg/L	NC (1)	35	<0.001	mg/L
7826766	Leachable Selenium (Se)	2022/02/10	96	80 - 120	100	80 - 120	<0.1	mg/L	NC (1)	35	<0.1	mg/L
7826766	Leachable Silver (Ag)	2022/02/10	94	80 - 120	98	80 - 120	<0.01	mg/L	NC (1)	35	<0.01	mg/L
7826766	Leachable Uranium (U)	2022/02/10	99	80 - 120	98	80 - 120	<0.01	mg/L	NC (1)	35	<0.01	mg/L

#### Page 8 of 12

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



## QUALITY ASSURANCE REPORT(CONT'D)

RWDI Inc. Client Project #: 2202861-1000 Site Location: ON07 Your P.O. #: 11146211 Sampler Initials: EVH

			Matrix	Spike	SPIKED	BLANK	Method Blank		RPD		Leachate Blank	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	Value	UNITS
7827200	Leachable Fluoride (F-)	2022/02/11	74 (2)	80 - 120	101	80 - 120	<0.10	mg/L	0.93 (1)	25	<0.10	mg/L
7827201	Leachable WAD Cyanide (Free)	2022/02/10	77 (2)	80 - 120	89	80 - 120	<0.0020	mg/L	NC (1)	20	<0.010	mg/L
7827203	Leachable Nitrate (N)	2022/02/10	90	80 - 120	97	80 - 120	<1.0	mg/L	NC (1)	25	<1.0	mg/L
7827203	Leachable Nitrate + Nitrite (N)	2022/02/10	94	80 - 120	99	80 - 120	<1.0	mg/L	NC (1)	25	<1.0	mg/L
7827203	Leachable Nitrite (N)	2022/02/10	106	80 - 120	110	80 - 120	<0.10	mg/L	NC (1)	25	<0.10	mg/L
7828379	Leachable 1-Methylnaphthalene	2022/02/11	76	50 - 130	82	50 - 130	<0.20	ug/L				
7828379	Leachable 2-Methylnaphthalene	2022/02/11	72	50 - 130	78	50 - 130	<0.20	ug/L				
7828379	Leachable Acenaphthene	2022/02/11	87	50 - 130	91	50 - 130	<0.20	ug/L				
7828379	Leachable Acenaphthylene	2022/02/11	83	50 - 130	88	50 - 130	<0.20	ug/L				
7828379	Leachable Anthracene	2022/02/11	99	50 - 130	95	50 - 130	<0.20	ug/L				
7828379	Leachable Benzo(a)anthracene	2022/02/11	96	50 - 130	98	50 - 130	<0.20	ug/L				
7828379	Leachable Benzo(a)pyrene	2022/02/11	88	50 - 130	95	50 - 130	<0.10	ug/L	NC (1)	40		
7828379	Leachable Benzo(b)fluoranthene	2022/02/11	102	50 - 130	101	50 - 130	<0.10	ug/L				
7828379	Leachable Benzo(g,h,i)perylene	2022/02/11	102	50 - 130	94	50 - 130	<0.20	ug/L				
7828379	Leachable Benzo(k)fluoranthene	2022/02/11	105	50 - 130	101	50 - 130	<0.20	ug/L				
7828379	Leachable Chrysene	2022/02/11	93	50 - 130	97	50 - 130	<0.20	ug/L				
7828379	Leachable Dibenzo(a,h)anthracene	2022/02/11	103	50 - 130	94	50 - 130	<0.20	ug/L				
7828379	Leachable Fluoranthene	2022/02/11	112	50 - 130	104	50 - 130	<0.20	ug/L				
7828379	Leachable Fluorene	2022/02/11	94	50 - 130	98	50 - 130	<0.20	ug/L				
7828379	Leachable Indeno(1,2,3-cd)pyrene	2022/02/11	109	50 - 130	99	50 - 130	<0.20	ug/L				
7828379	Leachable Naphthalene	2022/02/11	71	50 - 130	76	50 - 130	<0.20	ug/L				
7828379	Leachable Phenanthrene	2022/02/11	100	50 - 130	99	50 - 130	<0.20	ug/L				

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



## QUALITY ASSURANCE REPORT(CONT'D)

RWDI Inc. Client Project #: 2202861-1000 Site Location: ON07 Your P.O. #: 11146211 Sampler Initials: EVH

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		Leachate Blank	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	Value	UNITS
7828379	Leachable Pyrene	2022/02/11	112	50 - 130	103	50 - 130	<0.20	ug/L				

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

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

Leachate Blank: A blank matrix containing all reagents used in the leaching procedure. Used to determine any process contamination.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

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

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Duplicate Parent ID

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



#### VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Brad Newman, B.Sc., C.Chem., Scientific Service Specialist



Ewa Pranjic, M.Sc., C.Chem, Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Page 11 of 12 Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



#### **Attention: Khalid Hussein**

RWDI Inc. 600 Southgate Drive Guelph, ON Canada N1G 4P6 Your P.O. #: 11146211 Your Project #: 2202861-1000 Site#: 900 Site Location: ON07 Your C.O.C. #: TCLF-ASR-APR

> Report Date: 2022/04/20 Report #: R7092922 Version: 2 - Revision

## CERTIFICATE OF ANALYSIS – REVISED REPORT

#### BUREAU VERITAS JOB #: C293494 Received: 2022/04/08, 09:26

Sample Matrix: Solid # Samples Received: 1

		Date	Date		
Analyses	Quantity	Extracted	Analyzed	Laboratory Method	Analytical Method
Cyanide (WAD) in Leachates	1	N/A	2022/04/12	CAM SOP-00457	OMOE 3015 m
Fluoride by ISE in Leachates	1	2022/04/12	2022/04/12	CAM SOP-00449	SM 23 4500-F- C m
Total Metals in TCLP Leachate by ICPMS	1	2022/04/12	2022/04/12	CAM SOP-00447	EPA 6020B m
Nitrate& Nitrite as Nitrogen in Leachate	1	N/A	2022/04/12	CAM SOP-00440	SM 23 4500-NO3I/NO2B
PAH Compounds in Leachate by GC/MS (SIM)	1	2022/04/12	2022/04/13	CAM SOP-00318	EPA 8270D m
TCLP - % Solids	1	2022/04/11	2022/04/12	CAM SOP-00401	EPA 1311 Update I m
TCLP - Extraction Fluid	1	N/A	2022/04/12	CAM SOP-00401	EPA 1311 Update I m
TCLP - Initial and final pH	1	N/A	2022/04/12	CAM SOP-00401	EPA 1311 Update I m
TCLP Zero Headspace Extraction	1	2022/04/12	2022/04/13	CAM SOP-00430	EPA 1311 m
VOCs in ZHE Leachates	1	2022/04/13	2022/04/13	CAM SOP-00228	EPA 8260C m

#### Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Page 1 of 12

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



#### **Attention: Khalid Hussein**

RWDI Inc. 600 Southgate Drive Guelph, ON Canada N1G 4P6 Your P.O. #: 11146211 Your Project #: 2202861-1000 Site#: 900 Site Location: ON07 Your C.O.C. #: TCLF-ASR-APR

> Report Date: 2022/04/20 Report #: R7092922 Version: 2 - Revision

## CERTIFICATE OF ANALYSIS – REVISED REPORT

#### BUREAU VERITAS JOB #: C293494 Received: 2022/04/08, 09:26

**Encryption Key** 

Patricia Legette Project Manager 20 Apr 2022 17:18:49

Please direct all questions regarding this Certificate of Analysis to your Project Manager. Patricia Legette, Project Manager Email: Patricia.Legette@bureauveritas.com Phone# (905)817-5799

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total Cover Pages : 2 Page 2 of 12 Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



Bureau Veritas ID			SHV660						
Sampling Date			2022/04/06						
COC Number			TCLF-ASR-APR						
	UNITS	347	ASR	RDL	QC Batch				
Inorganics									
Leachable Fluoride (F-)	mg/L	150	1.1	0.10	7935702				
Leachable WAD Cyanide (Free)	mg/L	20	<0.010	0.010	7935703				
Leachable Nitrite (N)	mg/L	-	0.16	0.10	7935704				
Leachable Nitrate (N)	mg/L	-	<1.0	1.0	7935704				
Leachable Nitrate + Nitrite (N)	mg/L	1000	<1.0	1.0	7935704				
Metals									
Leachable Arsenic (As)	mg/L	2.5	<0.2	0.2	7935688				
Leachable Barium (Ba)	mg/L	100	0.4	0.2	7935688				
Leachable Boron (B)	mg/L	500	2.8	0.1	7935688				
Leachable Cadmium (Cd)	mg/L	0.5	<0.05	0.05	7935688				
Leachable Chromium (Cr)	mg/L	5	<0.1	0.1	7935688				
Leachable Lead (Pb)	mg/L	5	<0.1	0.1	7935688				
Leachable Mercury (Hg)	mg/L	0.1	<0.001	0.001	7935688				
Leachable Selenium (Se)	mg/L	1	<0.1	0.1	7935688				
Leachable Silver (Ag)	mg/L	5	<0.01	0.01	7935688				
Leachable Uranium (U)	mg/L	10	<0.01	0.01	7935688				
RDL = Reportable Detection Limi QC Batch = Quality Control Batcl									
347: Ontario Reg. 347/90 Schedule 4 Leachate Quality Criteria (as amended by Reg 558/00)									

## **O.REG 558 TCLP INORGANICS PACKAGE (SOLID)**

Page 3 of 12 Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



		•							
Bureau Veritas ID		SHV660							
Sampling Date		2022/04/06							
COC Number		TCLF-ASR-APR							
	UNITS	ASR	RDL	QC Batch					
Inorganics									
Final pH	рН	6.53		7934121					
Initial pH	рН	8.81		7934121					
TCLP - % Solids	%	100	0.2	7934103					
TCLP Extraction Fluid	N/A	FLUID 1		7934110					
RDL = Reportable Detection Limit QC Batch = Quality Control Batch									

## TCLP LEACHATE PREPARATION (SOLID)

Page 4 of 12 Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



## **O.REG 558 TCLP VOCS BY HS (SOLID)**

Bureau Veritas ID			SHV660		
Sampling Date			2022/04/06		
COC Number			TCLF-ASR-APR		
	UNITS	347	ASR	RDL	QC Batch
Charge/Prep Analysis					
Amount Extracted (Wet Weight) (g)	N/A	-	23	N/A	7936065
Volatile Organics					•
Leachable Benzene	ug/L	500	<20	20	7937913
Leachable Carbon Tetrachloride	ug/L	500	<20	20	7937913
Leachable Chlorobenzene	ug/L	8000	<20	20	7937913
Leachable Chloroform	ug/L	10000	<20	20	7937913
Leachable 1,2-Dichlorobenzene	ug/L	20000	<50	50	7937913
Leachable 1,4-Dichlorobenzene	ug/L	500	<50	50	7937913
Leachable 1,2-Dichloroethane	ug/L	500	<50	50	7937913
Leachable 1,1-Dichloroethylene	ug/L	1400	<20	20	7937913
Leachable Methylene Chloride(Dichloromethane)	ug/L	5000	<200	200	7937913
Leachable Methyl Ethyl Ketone (2-Butanone)	ug/L	200000	<1000	1000	7937913
Leachable Tetrachloroethylene	ug/L	3000	<20	20	7937913
Leachable Trichloroethylene	ug/L	5000	<20	20	7937913
Leachable Vinyl Chloride	ug/L	200	<20	20	7937913
Surrogate Recovery (%)					
Leachable 4-Bromofluorobenzene	%	-	100		7937913
Leachable D4-1,2-Dichloroethane	%	-	102		7937913
Leachable D8-Toluene	%	-	98		7937913
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					
347: Ontario Reg. 347/90 Schedule 4 Leachate Qua	lity Crite	ria (as an	nended by Reg 5	558/00	))
N/A = Not Applicable					



Bureau Veritas ID			SHV660							
Sampling Date			2022/04/06							
COC Number			TCLF-ASR-APR							
	UNITS	347	ASR	RDL	QC Batch					
Polyaromatic Hydrocarbons										
Leachable Benzo(b)fluoranthene	ug/L	-	<0.10	0.10	7936561					
Leachable Naphthalene	ug/L	-	4.0	0.20	7936561					
Leachable Acenaphthylene	ug/L	-	<0.20	0.20	7936561					
Leachable Acenaphthene	ug/L	-	0.23	0.20	7936561					
Leachable Fluorene	ug/L	-	<0.20	0.20	7936561					
Leachable Phenanthrene	ug/L	-	0.36	0.20	7936561					
Leachable Anthracene	ug/L	-	<0.20	0.20	7936561					
Leachable Fluoranthene	ug/L	-	<0.20	0.20	7936561					
Leachable Pyrene	ug/L	-	<0.20	0.20	7936561					
Leachable Benzo(a)anthracene	ug/L	-	<0.20	0.20	7936561					
Leachable Chrysene	ug/L	-	<0.20	0.20	7936561					
Leachable Benzo(k)fluoranthene	ug/L	-	<0.20	0.20	7936561					
Leachable Benzo(a)pyrene	ug/L	1	<0.10	0.10	7936561					
Leachable Indeno(1,2,3-cd)pyrene	ug/L	-	<0.20	0.20	7936561					
Leachable Dibenzo(a,h)anthracene	ug/L	-	<0.20	0.20	7936561					
Leachable Benzo(g,h,i)perylene	ug/L	-	<0.20	0.20	7936561					
Leachable 1-Methylnaphthalene	ug/L	-	1.3	0.20	7936561					
Leachable 2-Methylnaphthalene	ug/L	-	1.8	0.20	7936561					
Surrogate Recovery (%)										
Leachable D10-Anthracene	%	-	98		7936561					
Leachable D14-Terphenyl (FS)	%	-	100		7936561					
Leachable D8-Acenaphthylene	%	-	102		7936561					
RDL = Reportable Detection Limit										
QC Batch = Quality Control Batch 347: Ontario Reg. 347/90 Schedule 4 Leachate Quality Criteria (as amended by Reg 558/00)										

## SEMI-VOLATILE ORGANICS BY GC-MS (SOLID)

Page 6 of 12 Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



#### **GENERAL COMMENTS**

Revised Report (2022/04/20): Reporting units has been updated for VOC. Criteria policy has been included in this CofA as per Jeff Cleland's request.

Results relate only to the items tested.

Page 7 of 12 Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



## **QUALITY ASSURANCE REPORT**

RWDI Inc. Client Project #: 2202861-1000 Site Location: ON07 Your P.O. #: 11146211 Sampler Initials: EVH

			Matrix	Spike	SPIKED	BLANK	Method I	Blank	RP	D	Leachate	Blank
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	Value	UNITS
7936561	Leachable D10-Anthracene	2022/04/13	98	50 - 130	102	50 - 130	98	%				
7936561	Leachable D14-Terphenyl (FS)	2022/04/13	101	50 - 130	106	50 - 130	100	%				
7936561	Leachable D8-Acenaphthylene	2022/04/13	100	50 - 130	104	50 - 130	98	%				
7937913	Leachable 4-Bromofluorobenzene	2022/04/13	101	70 - 130	102	70 - 130	81	%				
7937913	Leachable D4-1,2-Dichloroethane	2022/04/13	100	70 - 130	102	70 - 130	101	%				
7937913	Leachable D8-Toluene	2022/04/13	98	70 - 130	97	70 - 130	74	%				
7935688	Leachable Arsenic (As)	2022/04/12	97 (1)	80 - 120	99	80 - 120	<0.2	mg/L	NC (3)	35	<0.2	mg/L
7935688	Leachable Barium (Ba)	2022/04/12	76 (2,1)	80 - 120	99	80 - 120	<0.2	mg/L	0.14 (3)	35	<0.2	mg/L
7935688	Leachable Boron (B)	2022/04/12	NC (1)	80 - 120	92	80 - 120	<0.1	mg/L	1.1 (3)	35	<0.1	mg/L
7935688	Leachable Cadmium (Cd)	2022/04/12	97 (1)	80 - 120	98	80 - 120	<0.05	mg/L	NC (3)	35	<0.05	mg/L
7935688	Leachable Chromium (Cr)	2022/04/12	94 (1)	80 - 120	94	80 - 120	<0.1	mg/L	NC (3)	35	<0.1	mg/L
7935688	Leachable Lead (Pb)	2022/04/12	80 (1)	80 - 120	94	80 - 120	<0.1	mg/L	NC (3)	35	<0.1	mg/L
7935688	Leachable Mercury (Hg)	2022/04/12	96 (1)	80 - 120	101	80 - 120	< 0.001	mg/L	NC (3)	35	<0.001	mg/L
7935688	Leachable Selenium (Se)	2022/04/12	100 (1)	80 - 120	102	80 - 120	<0.1	mg/L	NC (3)	35	<0.1	mg/L
7935688	Leachable Silver (Ag)	2022/04/12	97 (1)	80 - 120	96	80 - 120	<0.01	mg/L	NC (3)	35	<0.01	mg/L
7935688	Leachable Uranium (U)	2022/04/12	97 (1)	80 - 120	94	80 - 120	<0.01	mg/L	NC (3)	35	<0.01	mg/L
7935702	Leachable Fluoride (F-)	2022/04/12	76 (4,1)	80 - 120	101	80 - 120	<0.10	mg/L	0.46 (3)	25	<0.10	mg/L
7935703	Leachable WAD Cyanide (Free)	2022/04/12	80 (1)	80 - 120	96	80 - 120	<0.0020	mg/L	NC (3)	20	<0.010	mg/L
7935704	Leachable Nitrate (N)	2022/04/12	98 (1)	80 - 120	97	80 - 120	<1.0	mg/L	NC (3)	25	<1.0	mg/L
7935704	Leachable Nitrate + Nitrite (N)	2022/04/12	98 (1)	80 - 120	98	80 - 120	<1.0	mg/L	NC (3)	25	<1.0	mg/L
7935704	Leachable Nitrite (N)	2022/04/12	101 (1)	80 - 120	104	80 - 120	<0.10	mg/L	23 (3)	25	<0.10	mg/L
7936561	Leachable 1-Methylnaphthalene	2022/04/13	111	50 - 130	113	50 - 130	<0.20	ug/L				
7936561	Leachable 2-Methylnaphthalene	2022/04/13	103	50 - 130	105	50 - 130	<0.20	ug/L				
7936561	Leachable Acenaphthene	2022/04/13	108	50 - 130	106	50 - 130	<0.20	ug/L				
7936561	Leachable Acenaphthylene	2022/04/13	102	50 - 130	102	50 - 130	<0.20	ug/L				
7936561	Leachable Anthracene	2022/04/13	105	50 - 130	104	50 - 130	<0.20	ug/L				
7936561	Leachable Benzo(a)anthracene	2022/04/13	110	50 - 130	109	50 - 130	<0.20	ug/L				
7936561	Leachable Benzo(a)pyrene	2022/04/13	93	50 - 130	95	50 - 130	<0.10	ug/L	NC (5)	40		
7936561	Leachable Benzo(b)fluoranthene	2022/04/13	103	50 - 130	105	50 - 130	<0.10	ug/L				
7936561	Leachable Benzo(g,h,i)perylene	2022/04/13	105	50 - 130	107	50 - 130	<0.20	ug/L				

Page 8 of 12

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



## QUALITY ASSURANCE REPORT(CONT'D)

RWDI Inc. Client Project #: 2202861-1000 Site Location: ON07 Your P.O. #: 11146211 Sampler Initials: EVH

			Matrix	Spike	SPIKED	BLANK	Method	Blank	RPD		Leachate Blank	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	Value	UNITS
7936561	Leachable Benzo(k)fluoranthene	2022/04/13	104	50 - 130	103	50 - 130	<0.20	ug/L				
7936561	Leachable Chrysene	2022/04/13	108	50 - 130	107	50 - 130	<0.20	ug/L				
7936561	Leachable Dibenzo(a,h)anthracene	2022/04/13	97	50 - 130	101	50 - 130	<0.20	ug/L				Τ
7936561	Leachable Fluoranthene	2022/04/13	117	50 - 130	115	50 - 130	<0.20	ug/L				
7936561	Leachable Fluorene	2022/04/13	105	50 - 130	103	50 - 130	<0.20	ug/L				
7936561	Leachable Indeno(1,2,3-cd)pyrene	2022/04/13	103	50 - 130	106	50 - 130	<0.20	ug/L				
7936561	Leachable Naphthalene	2022/04/13	93	50 - 130	95	50 - 130	<0.20	ug/L				
7936561	Leachable Phenanthrene	2022/04/13	105	50 - 130	103	50 - 130	<0.20	ug/L				
7936561	Leachable Pyrene	2022/04/13	114	50 - 130	112	50 - 130	<0.20	ug/L				
7937913	Leachable 1,1-Dichloroethylene	2022/04/13	93	70 - 130	102	70 - 130	<20	ug/L	NC (5)	30		
7937913	Leachable 1,2-Dichlorobenzene	2022/04/13	96	70 - 130	101	70 - 130	<50	ug/L	NC (5)	30		
7937913	Leachable 1,2-Dichloroethane	2022/04/13	94	70 - 130	101	70 - 130	<50	ug/L	NC (5)	30		
7937913	Leachable 1,4-Dichlorobenzene	2022/04/13	110	70 - 130	116	70 - 130	<50	ug/L	NC (5)	30		
7937913	Leachable Benzene	2022/04/13	90	70 - 130	98	70 - 130	<20	ug/L	NC (5)	30		
7937913	Leachable Carbon Tetrachloride	2022/04/13	94	70 - 130	101	70 - 130	<20	ug/L	NC (5)	30		
7937913	Leachable Chlorobenzene	2022/04/13	97	70 - 130	103	70 - 130	<20	ug/L	NC (5)	30		
7937913	Leachable Chloroform	2022/04/13	94	70 - 130	102	70 - 130	<20	ug/L	NC (5)	30		
7937913	Leachable Methyl Ethyl Ketone (2-Butanone)	2022/04/13	105	60 - 140	114	60 - 140	<1000	ug/L	NC (5)	30		
7937913	Leachable Methylene Chloride (Dichloromethane)	2022/04/13	95	70 - 130	103	70 - 130	<200	ug/L	NC (5)	30		
7937913	Leachable Tetrachloroethylene	2022/04/13	89	70 - 130	94	70 - 130	<20	ug/L	NC (5)	30		
7937913	Leachable Trichloroethylene	2022/04/13	101	70 - 130	109	70 - 130	<20	ug/L	NC (5)	30		

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



## QUALITY ASSURANCE REPORT(CONT'D)

RWDI Inc. Client Project #: 2202861-1000 Site Location: ON07 Your P.O. #: 11146211 Sampler Initials: EVH

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		Leachate Blank	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	Value	UNITS
7937913	Leachable Vinyl Chloride	2022/04/13	96	70 - 130	105	70 - 130	<20	ug/L	NC (5)	30		

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

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

Leachate Blank: A blank matrix containing all reagents used in the leaching procedure. Used to determine any process contamination.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

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

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Matrix Spike Parent ID [SHV660-01]

(2) Metal Analysis: Matrix Spike exceeds acceptance limits, probable matrix interference.

(3) Duplicate Parent ID [SHV660-01]

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

(5) Duplicate Parent ID

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



#### VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

austin Came

Cristina Carriere, Senior Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



#### **Attention: Khalid Hussein**

RWDI Inc. 600 Southgate Drive Guelph, ON Canada N1G 4P6 Your P.O. #: 11146211 Your Project #: 2202861-1000 Site#: 900 Site Location: ON07 Your C.O.C. #: N/A

> Report Date: 2022/10/18 Report #: R7346313 Version: 1 - Final

### **CERTIFICATE OF ANALYSIS**

#### BUREAU VERITAS JOB #: C2T0819 Received: 2022/10/06, 10:13

Sample Matrix: Solid # Samples Received: 1

		Date	Date		
Analyses	Quantity	Extracted	Analyzed	Laboratory Method	Analytical Method
Cyanide (WAD) in Leachates	1	N/A	2022/10/12	CAM SOP-00457	OMOE 3015 m
Fluoride by ISE in Leachates	1	2022/10/12	2022/10/13	CAM SOP-00449	SM 23 4500-F- C m
Total Metals in TCLP Leachate by ICPMS	1	2022/10/12	2022/10/12	CAM SOP-00447	EPA 6020B m
Nitrate& Nitrite as Nitrogen in Leachate	1	N/A	2022/10/13	CAM SOP-00440	SM 23 4500-NO3I/NO2B
PAH Compounds in Leachate by GC/MS (SIM)	1	2022/10/14	2022/10/14	CAM SOP-00318	EPA 8270D m
TCLP - % Solids	1	2022/10/11	2022/10/12	CAM SOP-00401	EPA 1311 Update I m
TCLP - Extraction Fluid	1	N/A	2022/10/12	CAM SOP-00401	EPA 1311 Update I m
TCLP - Initial and final pH	1	N/A	2022/10/12	CAM SOP-00401	EPA 1311 Update I m
TCLP Zero Headspace Extraction	1	2022/10/11	2022/10/12	CAM SOP-00430	EPA 1311 m
VOCs in ZHE Leachates	1	2022/10/12	2022/10/12	CAM SOP-00228	EPA 8260C m

#### Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

Page 1 of 12

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com



#### **Attention: Khalid Hussein**

RWDI Inc. 600 Southgate Drive Guelph, ON Canada N1G 4P6 Your P.O. #: 11146211 Your Project #: 2202861-1000 Site#: 900 Site Location: ON07 Your C.O.C. #: N/A

> Report Date: 2022/10/18 Report #: R7346313 Version: 1 - Final

## CERTIFICATE OF ANALYSIS

#### BUREAU VERITAS JOB #: C2T0819 Received: 2022/10/06, 10:13

**Encryption Key** 

Patri Proje 18 Oc

Patricia Legette Project Manager 18 Oct 2022 16:01:07

Please direct all questions regarding this Certificate of Analysis to your Project Manager. Patricia Legette, Project Manager Email: Patricia.Legette@bureauveritas.com Phone# (905)817-5799

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Total Cover Pages : 2 Page 2 of 12 Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com



## **RESULTS OF ANALYSES OF SOLID**

Bureau Veritas ID		TYE239		
Sampling Date		2022/10/05		
COC Number		N/A		
	UNITS	ASR	RDL	QC Batch
Charge/Prep Analysis				
Amount Extracted (Wet Weight) (g)	N/A	25	N/A	8275658
Inorganics				
Final pH	рН	6.58		8275790
Leachable Fluoride (F-)	mg/L	0.62	0.10	8278221
Initial pH	рН	8.84		8275790
TCLP - % Solids	%	100	0.2	8275786
TCLP Extraction Fluid	N/A	FLUID 1		8275789
Leachable WAD Cyanide (Free)	mg/L	<0.010	0.010	8278215
Leachable Nitrite (N)	mg/L	0.31	0.10	8278229
Leachable Nitrate (N)	mg/L	1.2	1.0	8278229
Leachable Nitrate + Nitrite (N)	mg/L	1.5	1.0	8278229
RDL = Reportable Detection Limit QC Batch = Quality Control Batch				
N/A = Not Applicable				

Page 3 of 12 Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com



Bureau Veritas ID		TYE239		
Sampling Date		2022/10/05		
COC Number		N/A		
	UNITS	ASR	RDL	QC Batch
Metals				
Leachable Arsenic (As)	mg/L	<0.2	0.2	8278543
Leachable Barium (Ba)	mg/L	0.5	0.2	8278543
Leachable Boron (B)	mg/L	6.4	0.1	8278543
Leachable Cadmium (Cd)	mg/L	<0.05	0.05	8278543
Leachable Chromium (Cr)	mg/L	<0.1	0.1	8278543
Leachable Lead (Pb)	mg/L	<0.1	0.1	8278543
Leachable Mercury (Hg)	mg/L	<0.001	0.001	8278543
Leachable Selenium (Se)	mg/L	<0.1	0.1	8278543
Leachable Silver (Ag)	mg/L	<0.01	0.01	8278543
Leachable Uranium (U)	mg/L	<0.01	0.01	8278543
RDL = Reportable Detection	Limit			
QC Batch = Quality Control E	Batch			

## **ELEMENTS BY ATOMIC SPECTROSCOPY (SOLID)**



Bureau Veritas ID		TYE239		
Sampling Date		2022/10/05		
COC Number		N/A		
	UNITS	ASR	RDL	QC Batch
Polyaromatic Hydrocarbons				
Leachable Benzo(b)fluoranthene	ug/L	<0.10	0.10	8284518
Leachable Naphthalene	ug/L	2.3	0.20	8284518
Leachable Acenaphthylene	ug/L	<0.20	0.20	8284518
Leachable Acenaphthene	ug/L	<0.20	0.20	8284518
Leachable Fluorene	ug/L	<0.20	0.20	8284518
Leachable Phenanthrene	ug/L	<0.20	0.20	8284518
Leachable Anthracene	ug/L	<0.20	0.20	8284518
Leachable Fluoranthene	ug/L	<0.20	0.20	8284518
Leachable Pyrene	ug/L	<0.20	0.20	8284518
Leachable Benzo(a)anthracene	ug/L	<0.20	0.20	8284518
Leachable Chrysene	ug/L	<0.20	0.20	8284518
Leachable Benzo(k)fluoranthene	ug/L	<0.20	0.20	8284518
Leachable Benzo(a)pyrene	ug/L	<0.10	0.10	8284518
Leachable Indeno(1,2,3-cd)pyrene	ug/L	<0.20	0.20	8284518
Leachable Dibenzo(a,h)anthracene	ug/L	<0.20	0.20	8284518
Leachable Benzo(g,h,i)perylene	ug/L	<0.20	0.20	8284518
Leachable 1-Methylnaphthalene	ug/L	0.88	0.20	8284518
Leachable 2-Methylnaphthalene	ug/L	1.2	0.20	8284518
Surrogate Recovery (%)				
Leachable D10-Anthracene	%	101		8284518
Leachable D14-Terphenyl (FS)	%	81		8284518
Leachable D8-Acenaphthylene	%	100		8284518
RDL = Reportable Detection Limit QC Batch = Quality Control Batch				

## SEMI-VOLATILE ORGANICS BY GC-MS (SOLID)

Page 5 of 12 Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com



## VOLATILE ORGANICS BY GC/MS (SOLID)

Bureau Veritas ID		TYE239		
Sampling Date		2022/10/05		
COC Number		N/A		
	UNITS	ASR	RDL	QC Batch
Volatile Organics				
Leachable Benzene	mg/L	<0.020	0.020	8277863
Leachable Carbon Tetrachloride	mg/L	<0.020	0.020	8277863
Leachable Chlorobenzene	mg/L	<0.020	0.020	8277863
Leachable Chloroform	mg/L	<0.020	0.020	8277863
Leachable 1,2-Dichlorobenzene	mg/L	<0.050	0.050	8277863
Leachable 1,4-Dichlorobenzene	mg/L	<0.050	0.050	8277863
Leachable 1,2-Dichloroethane	mg/L	<0.050	0.050	8277863
Leachable 1,1-Dichloroethylene	mg/L	<0.020	0.020	8277863
Leachable Methylene Chloride(Dichloromethane)	mg/L	<0.20	0.20	8277863
Leachable Methyl Ethyl Ketone (2-Butanone)	mg/L	<1.0	1.0	8277863
Leachable Tetrachloroethylene	mg/L	<0.020	0.020	8277863
Leachable Trichloroethylene	mg/L	<0.020	0.020	8277863
Leachable Vinyl Chloride	mg/L	<0.020	0.020	8277863
Surrogate Recovery (%)				
Leachable 4-Bromofluorobenzene	%	99		8277863
Leachable D4-1,2-Dichloroethane	%	108		8277863
Leachable D8-Toluene	%	98		8277863
RDL = Reportable Detection Limit QC Batch = Quality Control Batch				



#### **GENERAL COMMENTS**

Results relate only to the items tested.

Page 7 of 12 Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com



## **QUALITY ASSURANCE REPORT**

RWDI Inc. Client Project #: 2202861-1000 Site Location: ON07 Your P.O. #: 11146211 Sampler Initials: JCL

			Matrix	Spike	SPIKED	BLANK	Method	Blank	RP	D	Leachate	Blank
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	Value	UNITS
8277863	Leachable 4-Bromofluorobenzene	2022/10/12	100	70 - 130	103	70 - 130	99	%				
8277863	Leachable D4-1,2-Dichloroethane	2022/10/12	108	70 - 130	106	70 - 130	109	%				
8277863	Leachable D8-Toluene	2022/10/12	98	70 - 130	99	70 - 130	98	%				
8284518	Leachable D10-Anthracene	2022/10/14	106	50 - 130	111	50 - 130	108	%				
8284518	Leachable D14-Terphenyl (FS)	2022/10/14	97	50 - 130	114	50 - 130	105	%				
8284518	Leachable D8-Acenaphthylene	2022/10/14	104	50 - 130	109	50 - 130	105	%				
8277863	Leachable 1,1-Dichloroethylene	2022/10/12	107	70 - 130	96	70 - 130	<0.020	mg/L	NC (1)	30		
8277863	Leachable 1,2-Dichlorobenzene	2022/10/12	97	70 - 130	87	70 - 130	<0.050	mg/L	NC (1)	30		
8277863	Leachable 1,2-Dichloroethane	2022/10/12	111	70 - 130	99	70 - 130	<0.050	mg/L	NC (1)	30		
8277863	Leachable 1,4-Dichlorobenzene	2022/10/12	112	70 - 130	99	70 - 130	<0.050	mg/L	NC (1)	30		
8277863	Leachable Benzene	2022/10/12	103	70 - 130	93	70 - 130	<0.020	mg/L	NC (1)	30		
8277863	Leachable Carbon Tetrachloride	2022/10/12	103	70 - 130	93	70 - 130	<0.020	mg/L	NC (1)	30		
8277863	Leachable Chlorobenzene	2022/10/12	104	70 - 130	95	70 - 130	<0.020	mg/L	NC (1)	30		
8277863	Leachable Chloroform	2022/10/12	105	70 - 130	94	70 - 130	<0.020	mg/L	NC (1)	30		
8277863	Leachable Methyl Ethyl Ketone (2-Butanone)	2022/10/12	118	60 - 140	104	60 - 140	<1.0	mg/L	NC (1)	30		
8277863	Leachable Methylene Chloride (Dichloromethane)	2022/10/12	111	70 - 130	99	70 - 130	<0.20	mg/L	NC (1)	30		
8277863	Leachable Tetrachloroethylene	2022/10/12	93	70 - 130	86	70 - 130	<0.020	mg/L	NC (1)	30		
8277863	Leachable Trichloroethylene	2022/10/12	109	70 - 130	99	70 - 130	<0.020	mg/L	NC (1)	30		
8277863	Leachable Vinyl Chloride	2022/10/12	101	70 - 130	87	70 - 130	<0.020	mg/L	NC (1)	30		
8278215	Leachable WAD Cyanide (Free)	2022/10/12	88	80 - 120	106	80 - 120	<0.0020	mg/L	NC (1)	20	<0.010	mg/L
8278221	Leachable Fluoride (F-)	2022/10/13	78 (2)	80 - 120	98	80 - 120	<0.10	mg/L	1.0 (1)	25	<0.10	mg/L
8278229	Leachable Nitrate (N)	2022/10/13	65 (2)	80 - 120	105	80 - 120	<1.0	mg/L	NC (1)	25	<1.0	mg/L
8278229	Leachable Nitrate + Nitrite (N)	2022/10/13	75 (2)	80 - 120	106	80 - 120	<1.0	mg/L	NC (1)	25	<1.0	mg/L
8278229	Leachable Nitrite (N)	2022/10/13	115	80 - 120	109	80 - 120	<0.10	mg/L	NC (1)	25	<0.10	mg/L
8278543	Leachable Arsenic (As)	2022/10/12	99	80 - 120	99	80 - 120	<0.2	mg/L	NC (1)	35	<0.2	mg/L
8278543	Leachable Barium (Ba)	2022/10/12	99	80 - 120	97	80 - 120	<0.2	mg/L	2.1 (1)	35	<0.2	mg/L
8278543	Leachable Boron (B)	2022/10/12	99	80 - 120	100	80 - 120	<0.1	mg/L	1.8 (1)	35	<0.1	mg/L
8278543	Leachable Cadmium (Cd)	2022/10/12	102	80 - 120	101	80 - 120	<0.05	mg/L	NC (1)	35	<0.05	mg/L
8278543	Leachable Chromium (Cr)	2022/10/12	100	80 - 120	98	80 - 120	<0.1	mg/L	NC (1)	35	<0.1	mg/L

Page 8 of 12

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com



### QUALITY ASSURANCE REPORT(CONT'D)

RWDI Inc. Client Project #: 2202861-1000 Site Location: ON07 Your P.O. #: 11146211 Sampler Initials: JCL

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		Leachate Blank	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	Value	UNITS
8278543	Leachable Lead (Pb)	2022/10/12	100	80 - 120	103	80 - 120	<0.1	mg/L	NC (1)	35	<0.1	mg/L
8278543	Leachable Mercury (Hg)	2022/10/12	103	80 - 120	105	80 - 120	< 0.001	mg/L	NC (1)	35	<0.001	mg/L
8278543	Leachable Selenium (Se)	2022/10/12	100	80 - 120	97	80 - 120	<0.1	mg/L	NC (1)	35	<0.1	mg/L
8278543	Leachable Silver (Ag)	2022/10/12	106	80 - 120	106	80 - 120	<0.01	mg/L	NC (1)	35	<0.01	mg/L
8278543	Leachable Uranium (U)	2022/10/12	103	80 - 120	104	80 - 120	<0.01	mg/L			<0.01	mg/L
8284518	Leachable 1-Methylnaphthalene	2022/10/14	86	50 - 130	92	50 - 130	<0.20	ug/L				
8284518	Leachable 2-Methylnaphthalene	2022/10/14	79	50 - 130	87	50 - 130	<0.20	ug/L				
8284518	Leachable Acenaphthene	2022/10/14	97	50 - 130	104	50 - 130	<0.20	ug/L				
8284518	Leachable Acenaphthylene	2022/10/14	98	50 - 130	104	50 - 130	<0.20	ug/L				
8284518	Leachable Anthracene	2022/10/14	107	50 - 130	109	50 - 130	<0.20	ug/L				
8284518	Leachable Benzo(a)anthracene	2022/10/14	110	50 - 130	120	50 - 130	<0.20	ug/L				
8284518	Leachable Benzo(a)pyrene	2022/10/14	105	50 - 130	108	50 - 130	<0.10	ug/L	NC (1)	40		
8284518	Leachable Benzo(b)fluoranthene	2022/10/14	110	50 - 130	110	50 - 130	<0.10	ug/L				
8284518	Leachable Benzo(g,h,i)perylene	2022/10/14	112	50 - 130	113	50 - 130	<0.20	ug/L				
8284518	Leachable Benzo(k)fluoranthene	2022/10/14	106	50 - 130	112	50 - 130	<0.20	ug/L				
8284518	Leachable Chrysene	2022/10/14	110	50 - 130	111	50 - 130	<0.20	ug/L				
8284518	Leachable Dibenzo(a,h)anthracene	2022/10/14	100	50 - 130	103	50 - 130	<0.20	ug/L				
8284518	Leachable Fluoranthene	2022/10/14	108	50 - 130	123	50 - 130	<0.20	ug/L				
8284518	Leachable Fluorene	2022/10/14	107	50 - 130	113	50 - 130	<0.20	ug/L				
8284518	Leachable Indeno(1,2,3-cd)pyrene	2022/10/14	109	50 - 130	110	50 - 130	<0.20	ug/L				
8284518	Leachable Naphthalene	2022/10/14	90	50 - 130	96	50 - 130	<0.20	ug/L				
8284518	Leachable Phenanthrene	2022/10/14	109	50 - 130	110	50 - 130	<0.20	ug/L				

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com



### QUALITY ASSURANCE REPORT(CONT'D)

RWDI Inc. Client Project #: 2202861-1000 Site Location: ON07 Your P.O. #: 11146211 Sampler Initials: JCL

		Matrix Spike		SPIKED BLANK		Method Blank		RPD		Leachate Blank		
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	Value	UNITS
8284518	Leachable Pyrene	2022/10/14	106	50 - 130	122	50 - 130	<0.20	ug/L				
Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.												
Matrix Spike	Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.											

Leachate Blank: A blank matrix containing all reagents used in the leaching procedure. Used to determine any process contamination.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

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

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Duplicate Parent ID

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

Page 10 of 12

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com



RWDI Inc. Client Project #: 2202861-1000 Site Location: ON07 Your P.O. #: 11146211 Sampler Initials: JCL

### VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Anastassia Hamanov, Scientific Specialist

aistin Camere

Cristina Carriere, Senior Scientific Specialist

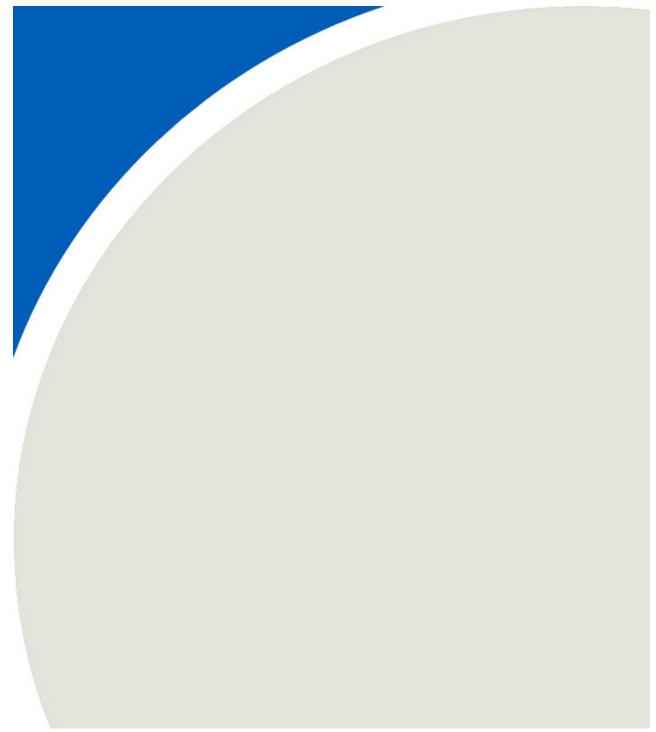
Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Page 11 of 12 Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com



## APPENDIX L:

**Construction Details** 





## TABLE L1: Warwick D&O - October 1997 | Drawings





# WASTE SYSTEMS (WARWICK) LIMITED

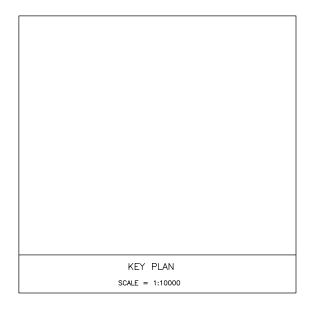
## WARWICK TOWNSHIP LANDFILL SITE

LOCATED IN WARWICK TOWNSHIP COUNTY OF LAMBTON

# DEVELOPMENT AND OPERATION PLANS

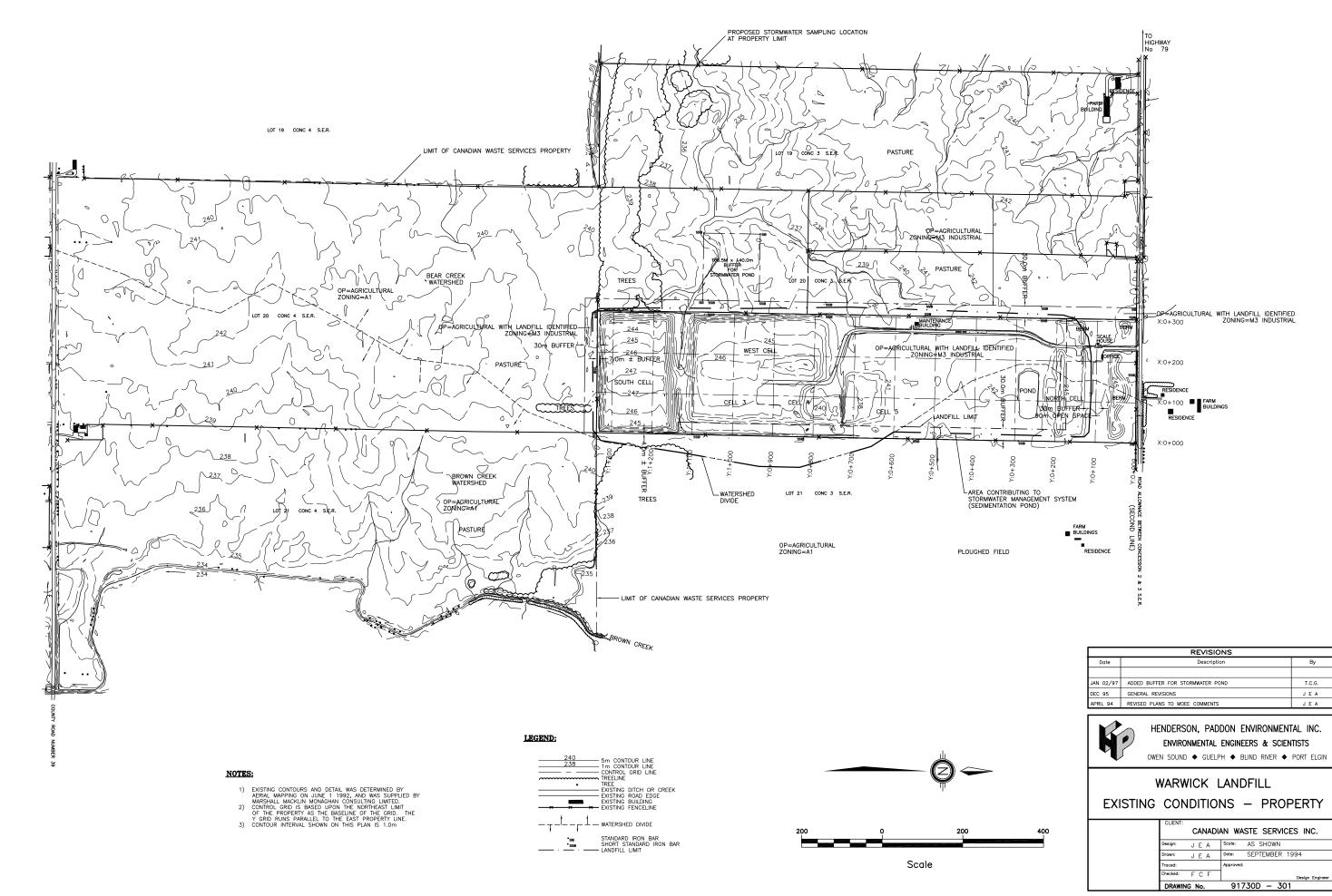
### DRAWING INDEX

91730D-300	TITLE SHEET			
91730D-301	EXISTING CONDITIONS - PROPERTY			
91730D-302	EXISTING CONDITIONS - SITE - SEPTEMBER 1995			
91730D-303	EXISTING CONDITIONS - NORTH			
91730D-304	EXISTING CONDITIONS - SOUTH			
91730D-305	EXISTING LEACHATE COLLECTORS AND CUT-OFF WALL			
91730D-306	FINAL CONTOURS - NORTH			
91730D-306A	LANDSCAPE & PLANTING PLAN - NORTH (100% COMPLETE)			
91730D-306B	LANDSCAPE & PLANTING PLAN - NORTH (75% COMPLETE)			
91730D-307	FINAL CONTOURS - SOUTH			
91730D-307A	LANDSCAPE & PLANTING PLAN - SOUTH (100% COMPLETE)			
91730D-307B	LANDSCAPE & PLANTING PLAN - SOUTH (25% COMPLETE)			
91730D-307C	LANDSCAPE & PLANTING PLAN - SOUTH (50% COMPLETE)			
91730D-308	BASE CONTOURS - NORTH			
91730D-309	BASE CONTOURS - SOUTH			
91730D-310	STORMWATER MANAGEMENT - NORTH			
91730D-311	STORMWATER MANAGEMENT - SOUTH			
91730D-312	SEDIMENTATION POND DETAILS			
91730D-313	PHASING PLAN			
91730D-314	SECTION A-A AND SECTION B-B			
91730D-315	SECTION C-C AND SECTION D-D			
91730D-316	SECTION E-E			
91730D-317	SECTION F-F, G-G, AND H-H			
91730D-318	DETAILS			



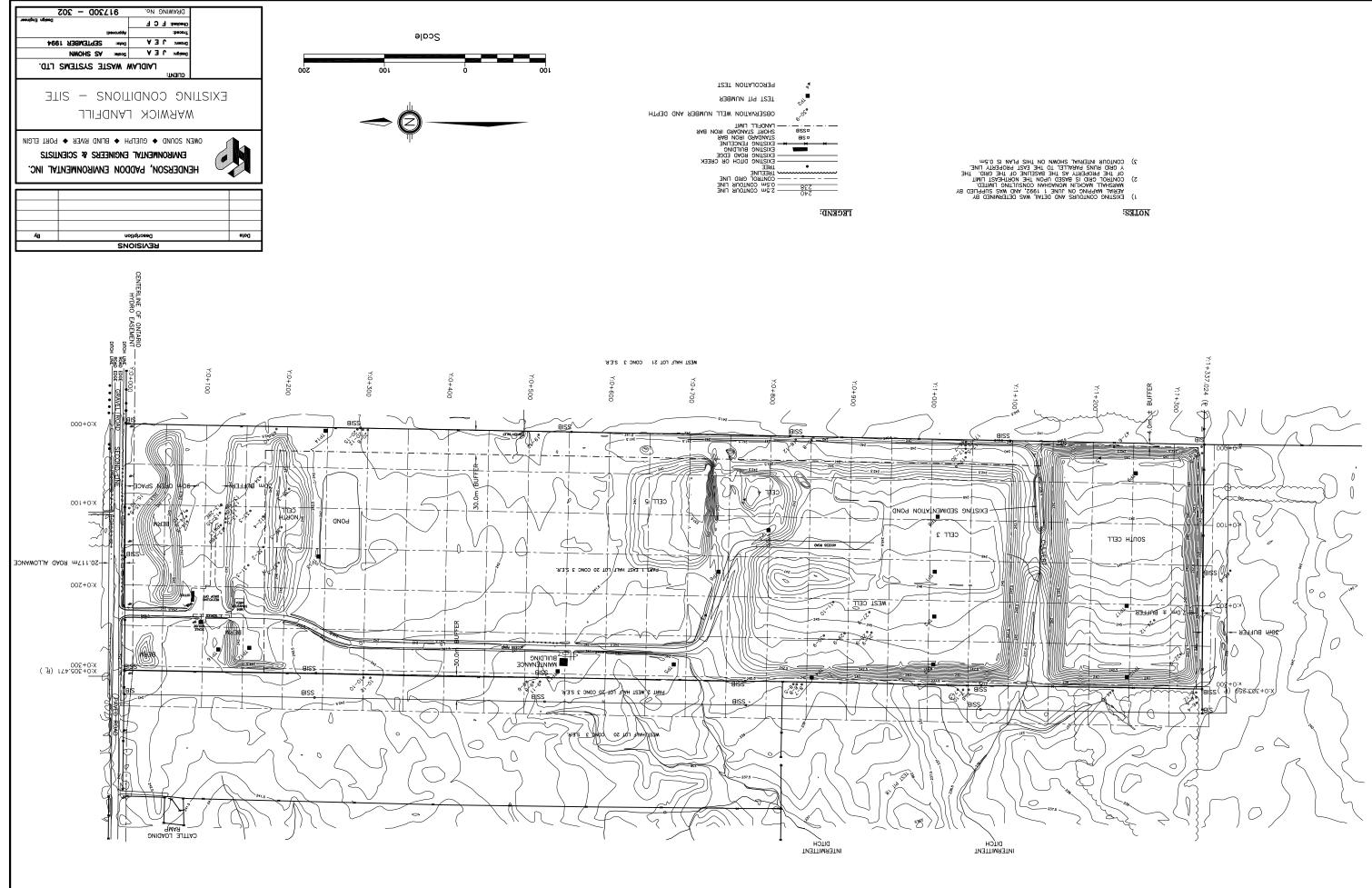
REVISIONS				
Date	Description	By		
JAN 97	DRAWING INDEX REVISED TO INCLUDE 306B, 307B & 307C	T.C.G.		
DEC 95	GENERAL REVISIONS	J.E.A.		
APRIL 94	REVISED PLANS TO MOEE COMMENTS	J.E.A.		

	ENVIRONMENTAL	DEN ENVIRENMENTAL INC. ENGINEERS & SCIENTISTS PH ← BLIND RIVER ← PORT ELGIN			
WARWICK TOWNSHIP LANDFILL TITLE SHEET					
	CLIENT: LAIDLAW WAS	TE SYSTEMS (WARWICK) LTD			
	Design: J.E.A.	Scale: N/A			
	Drawn: J.E.A.	Date: FEBRUARY 1993			
	Traced: Approved:				
	Checked: F.C.F.	Design Engineer			
	DRAWING No.	91730D - 300			



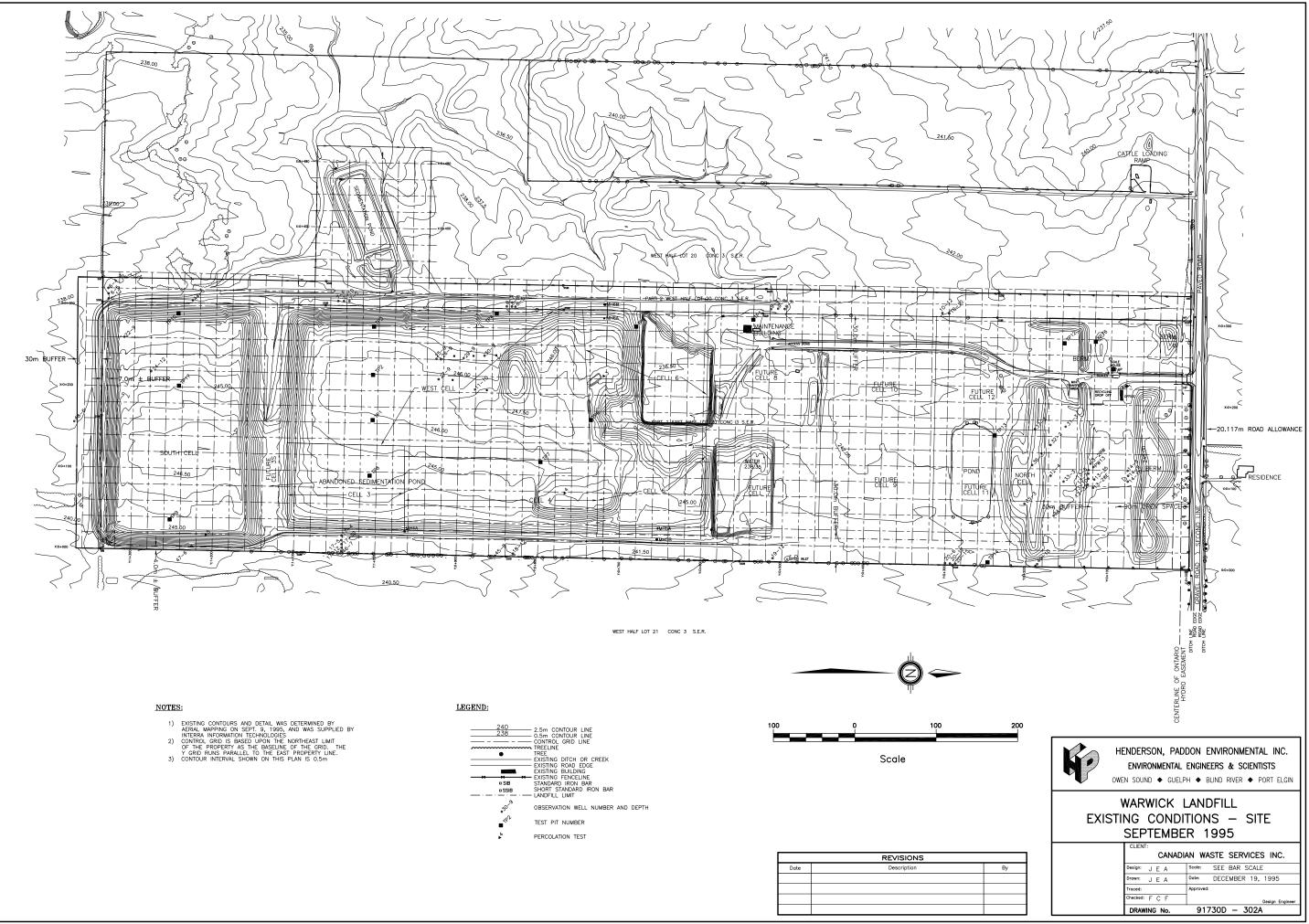
DRAWING No.

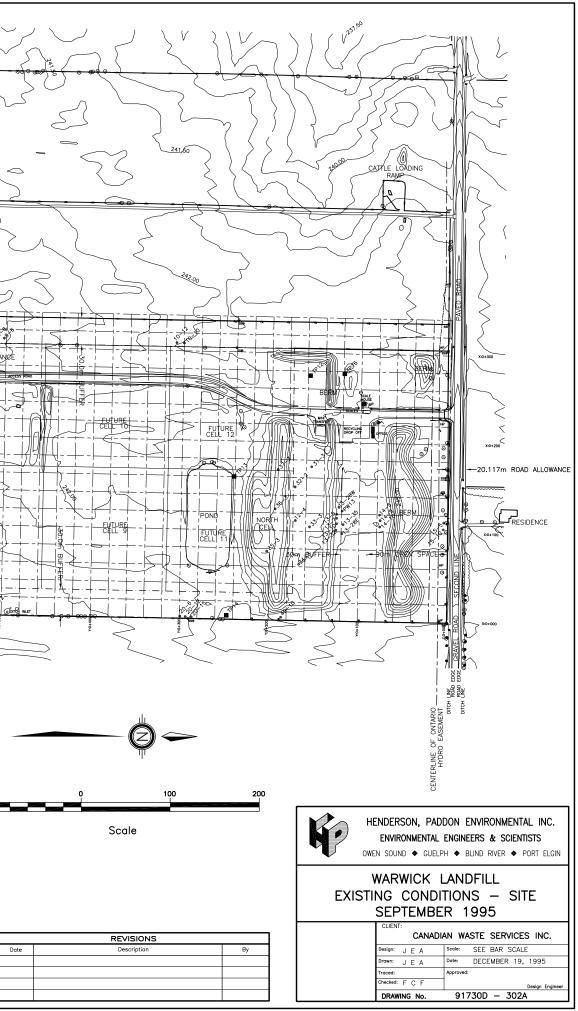
400

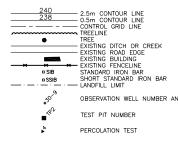




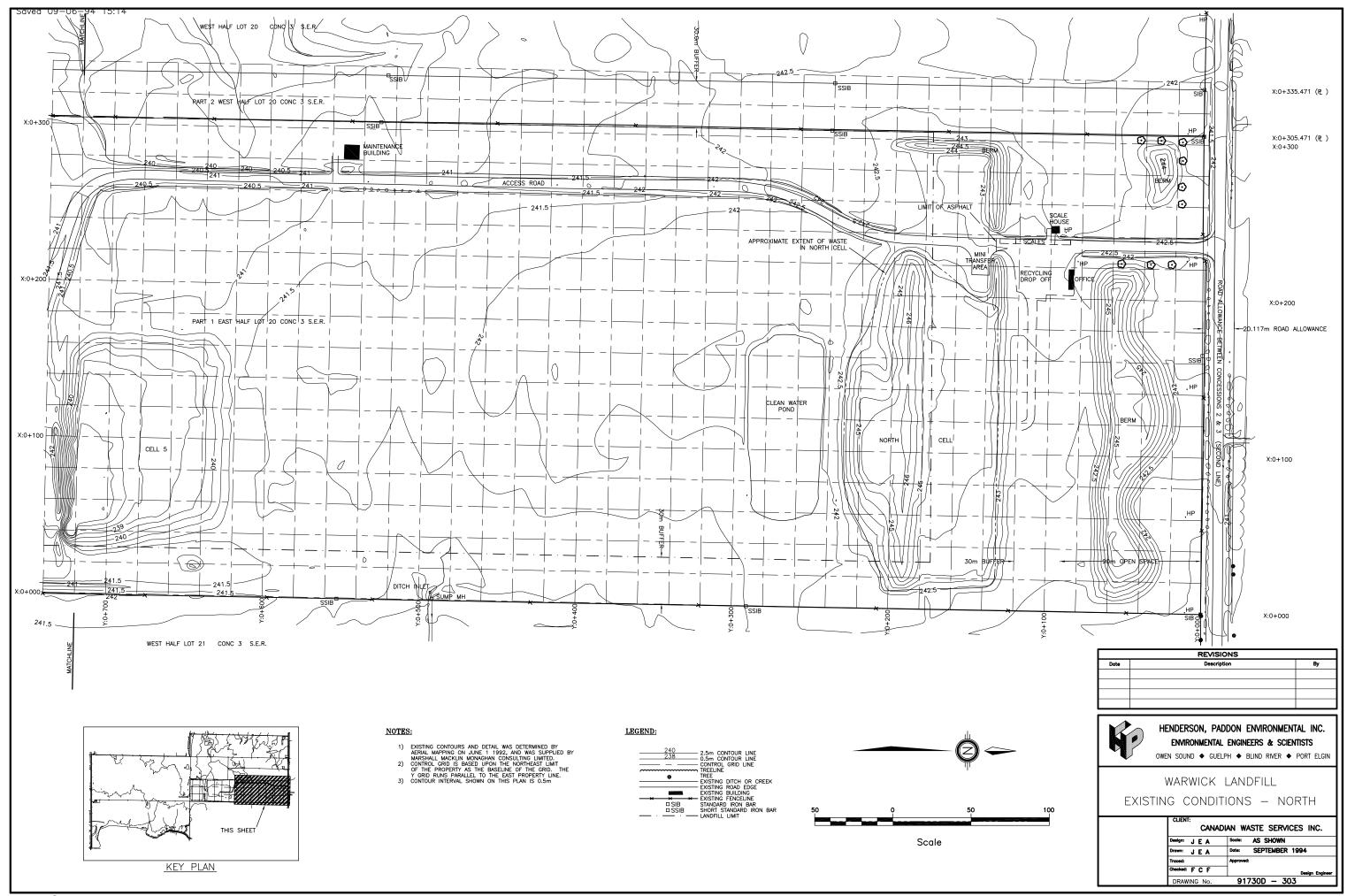
У СКІД КОИЗ РАКАLLEL ТО СОИТОЛЯ ІИТЕRVAL SHOWN	(£
MARSHALL MACKLIN MOUND CONTROL GRID IS BASED L OF THE PROPERTY AS THE	5)
EXISTING CONTOURS AND L	(1

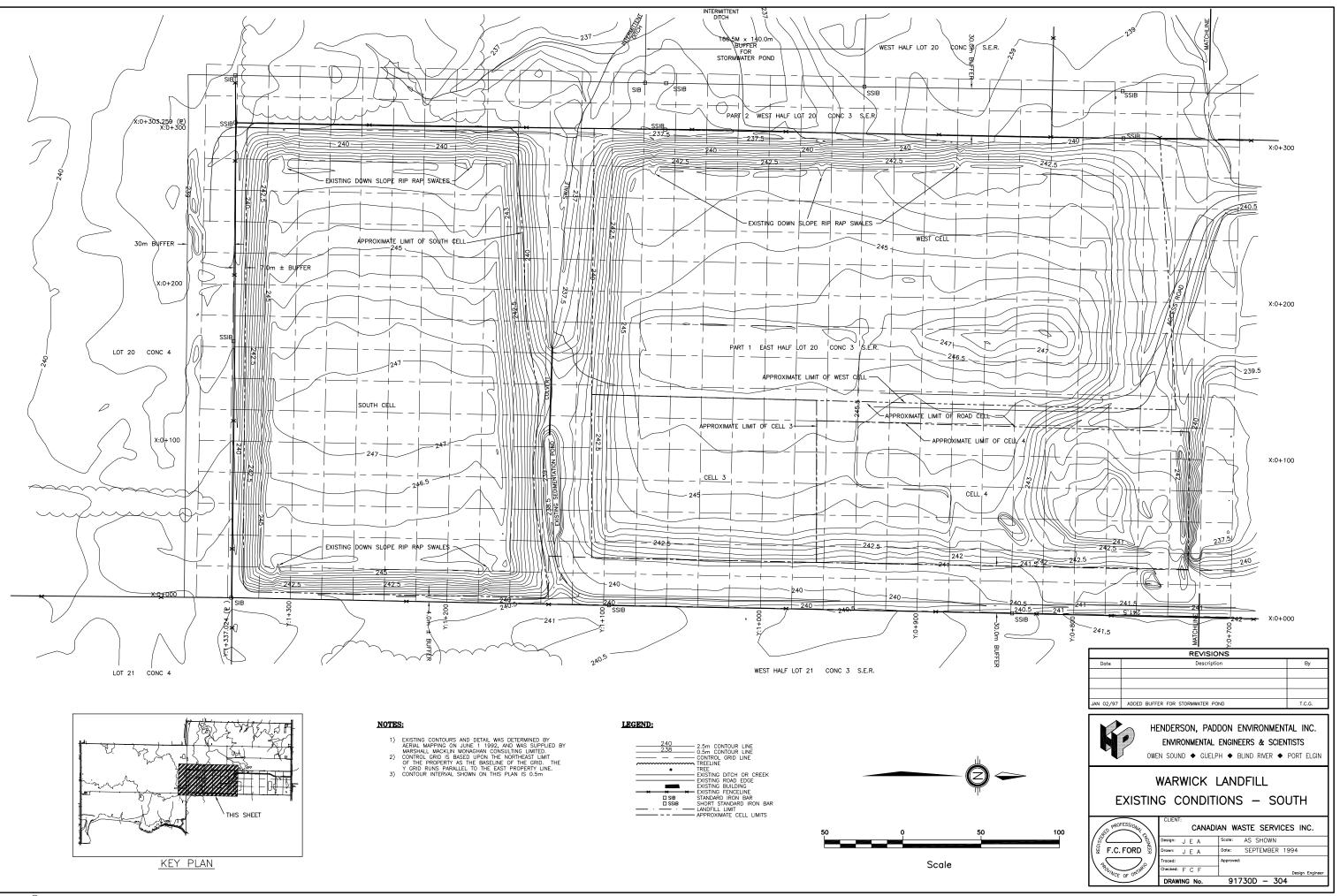


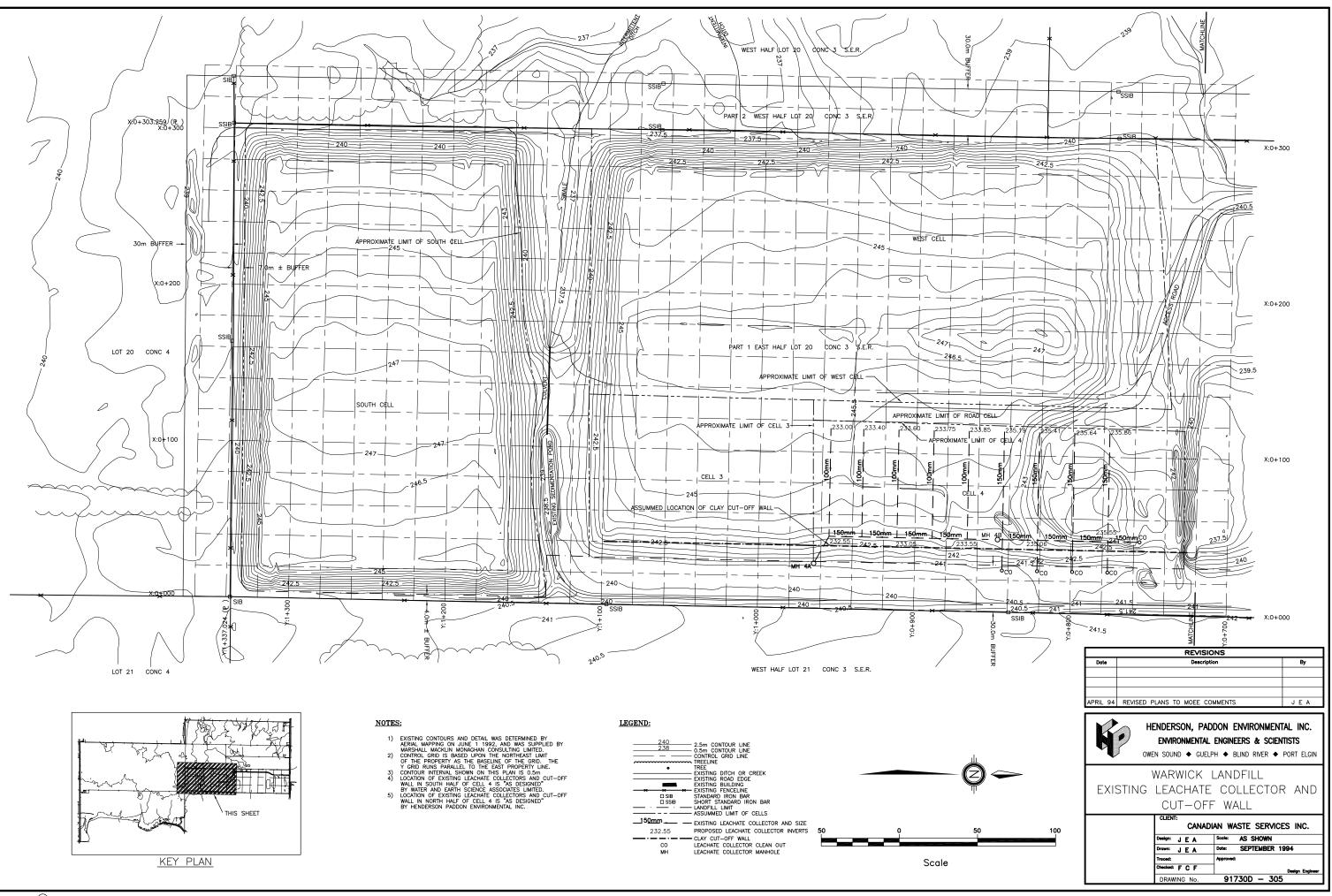


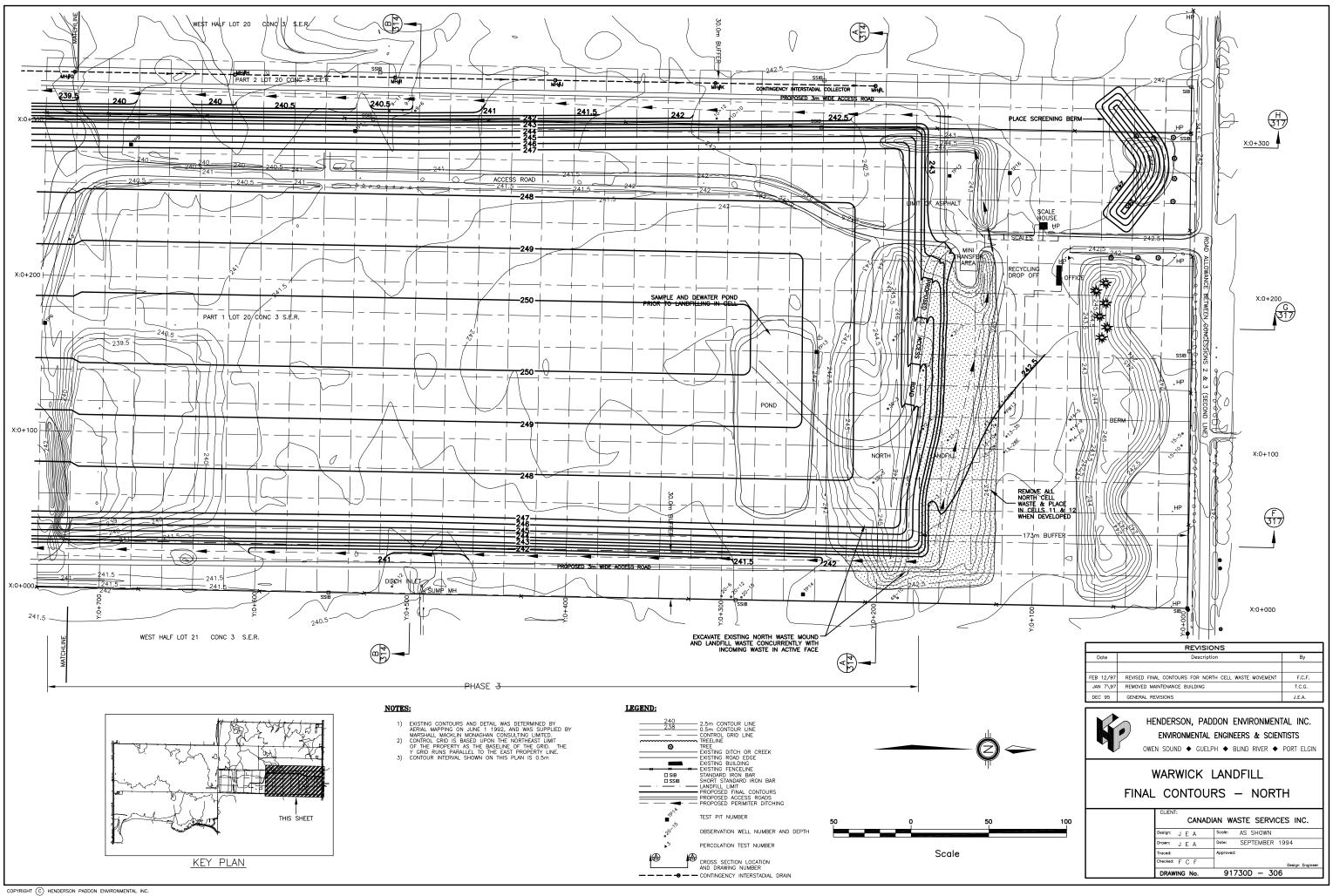


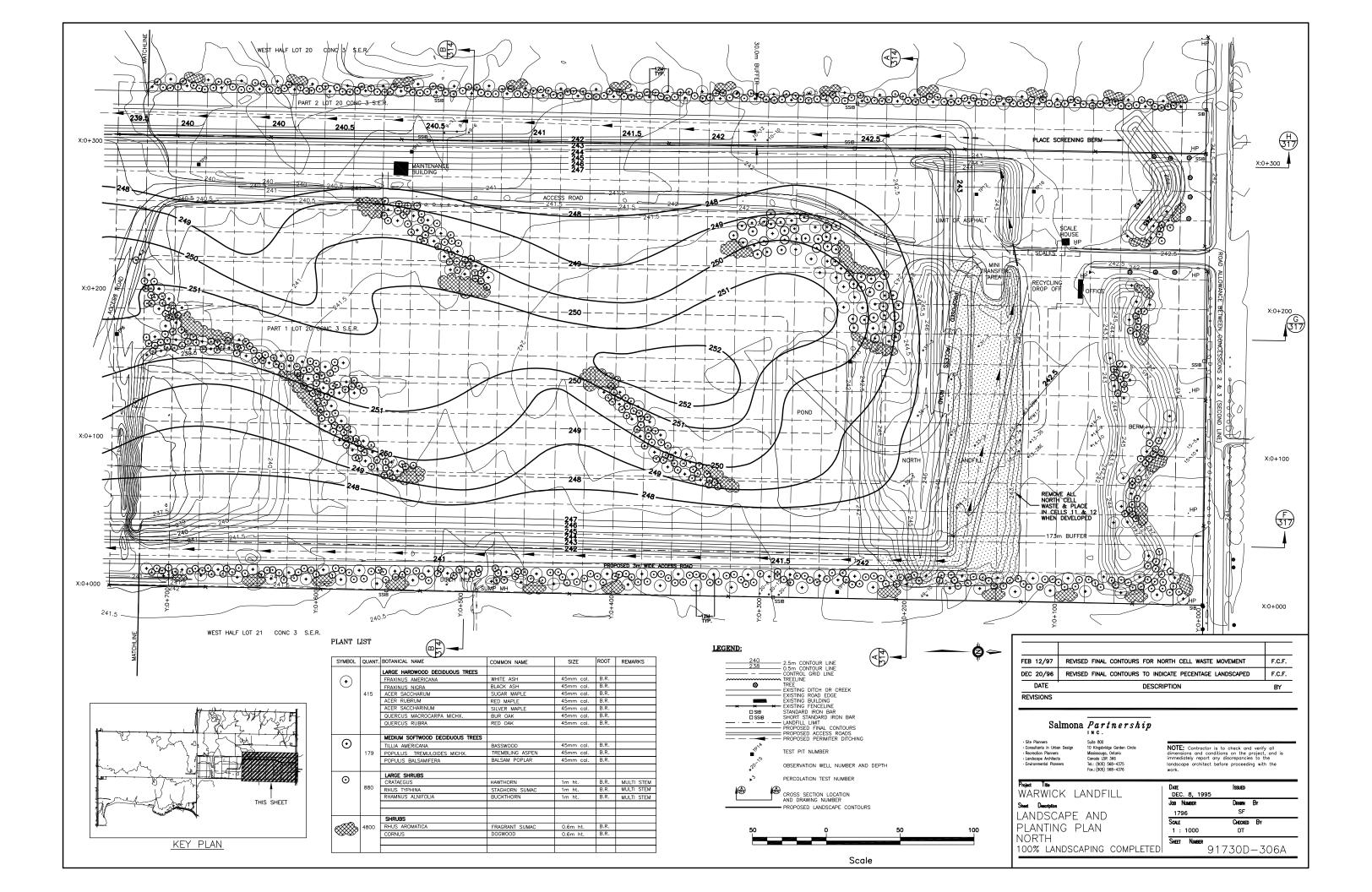
-	
	REVISIONS
Date	Description

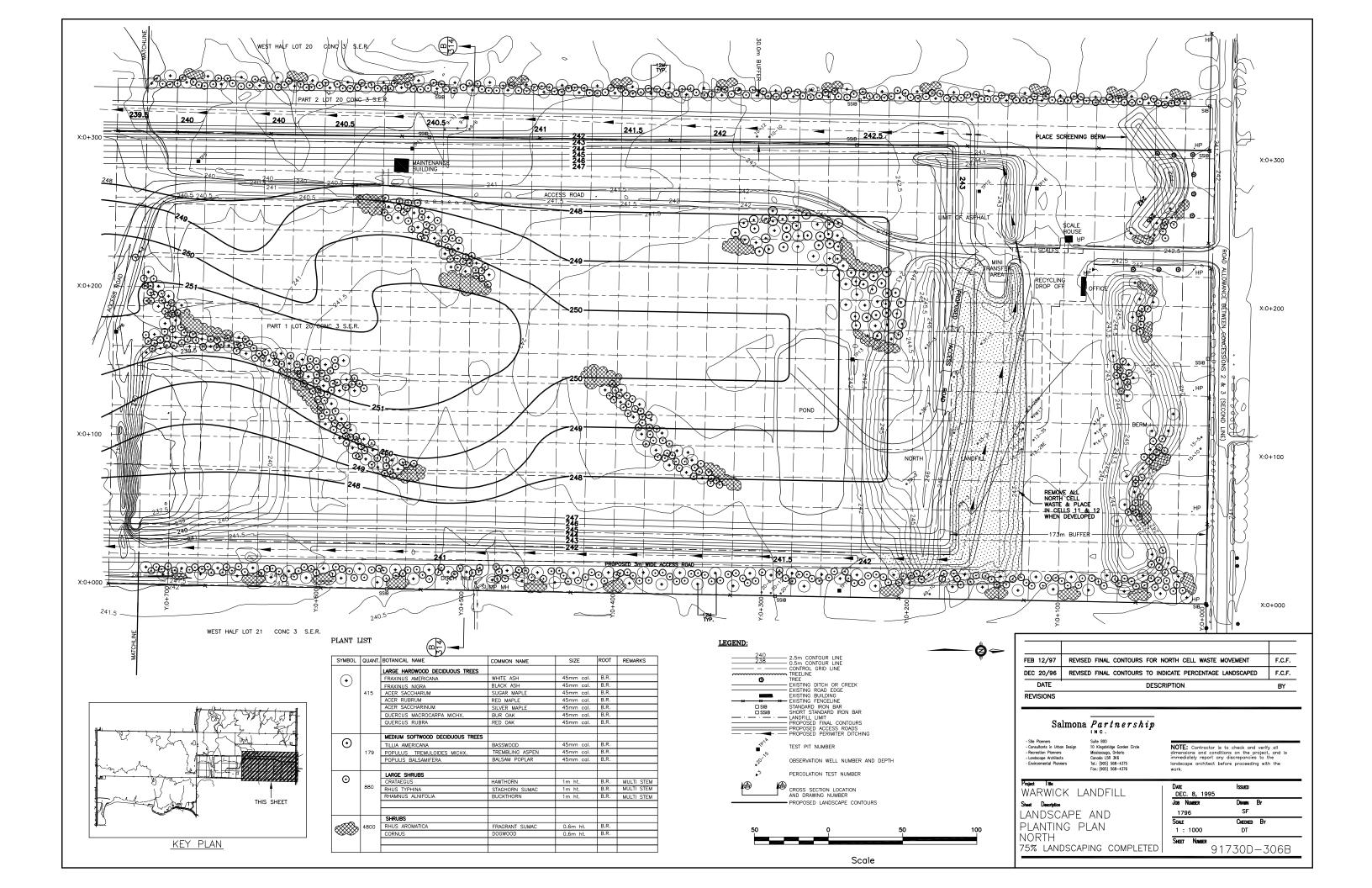


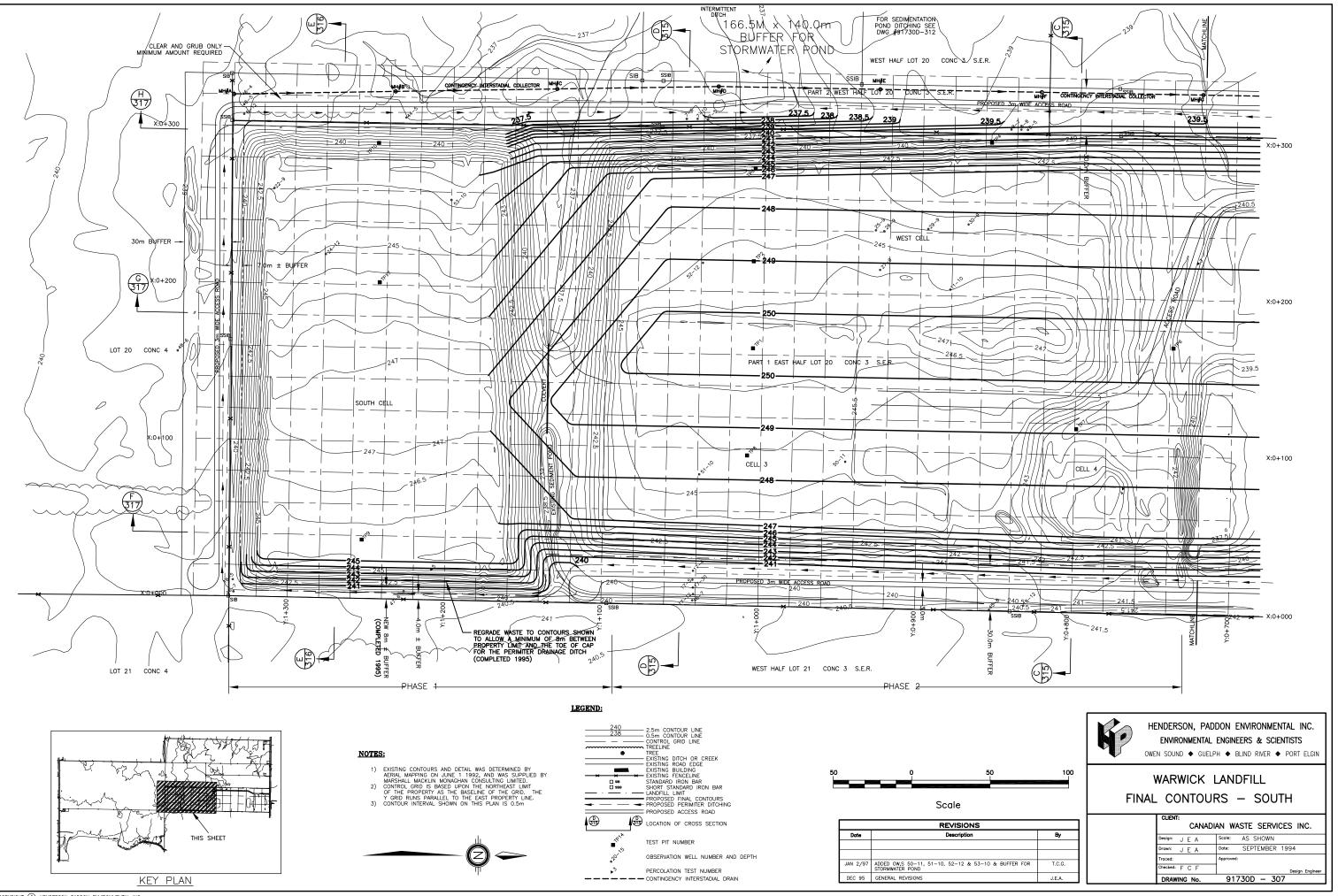


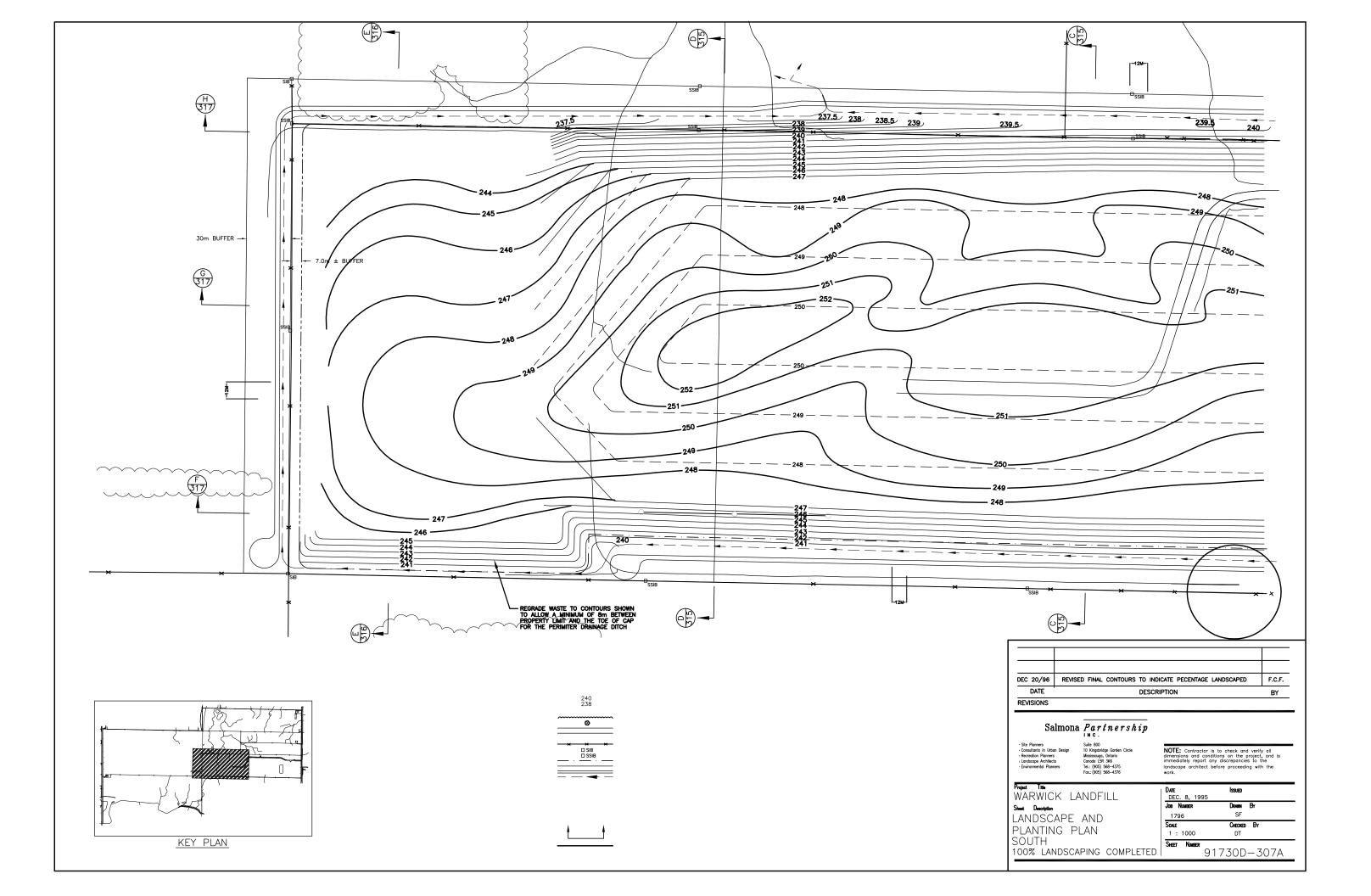


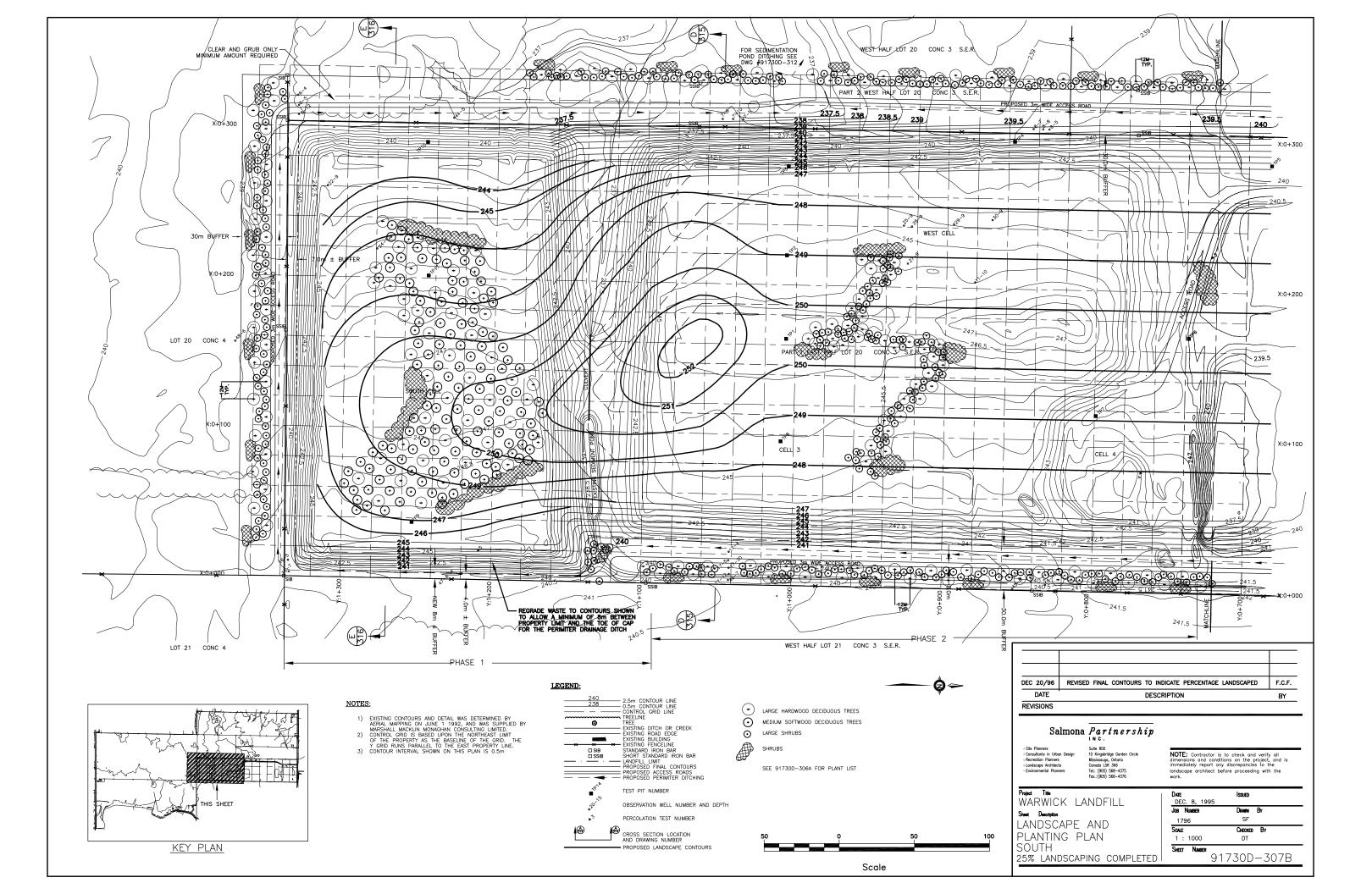


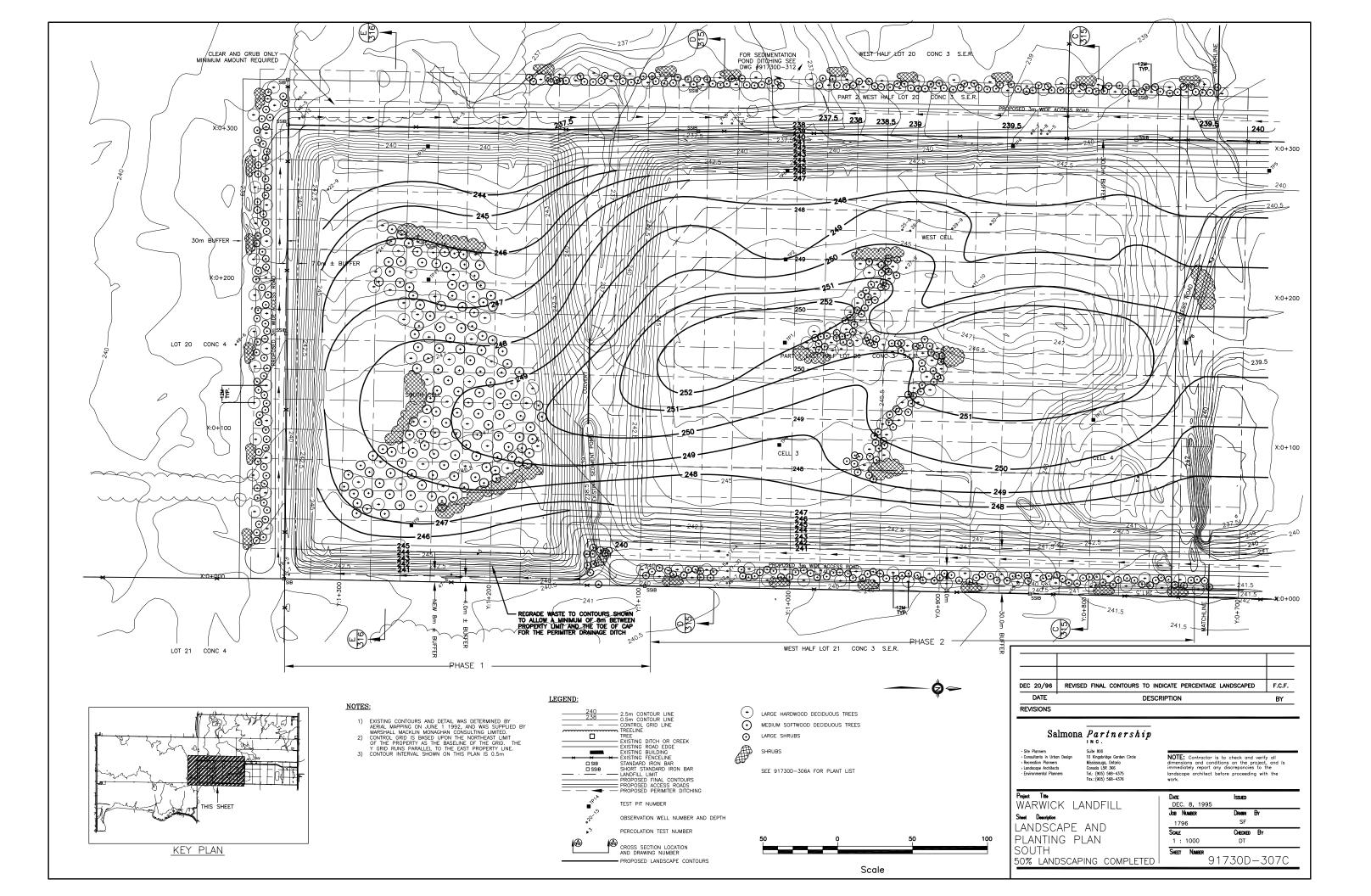


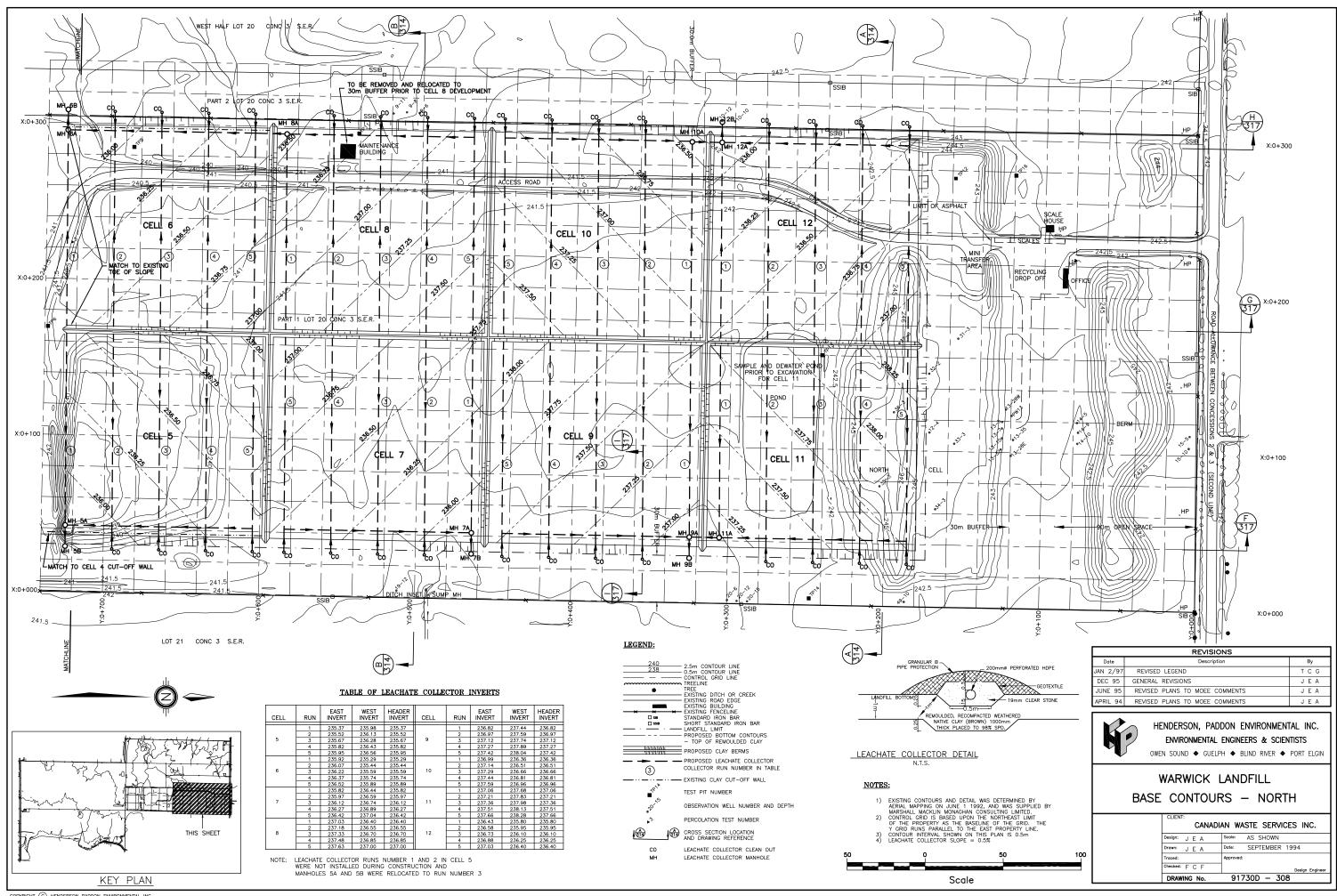


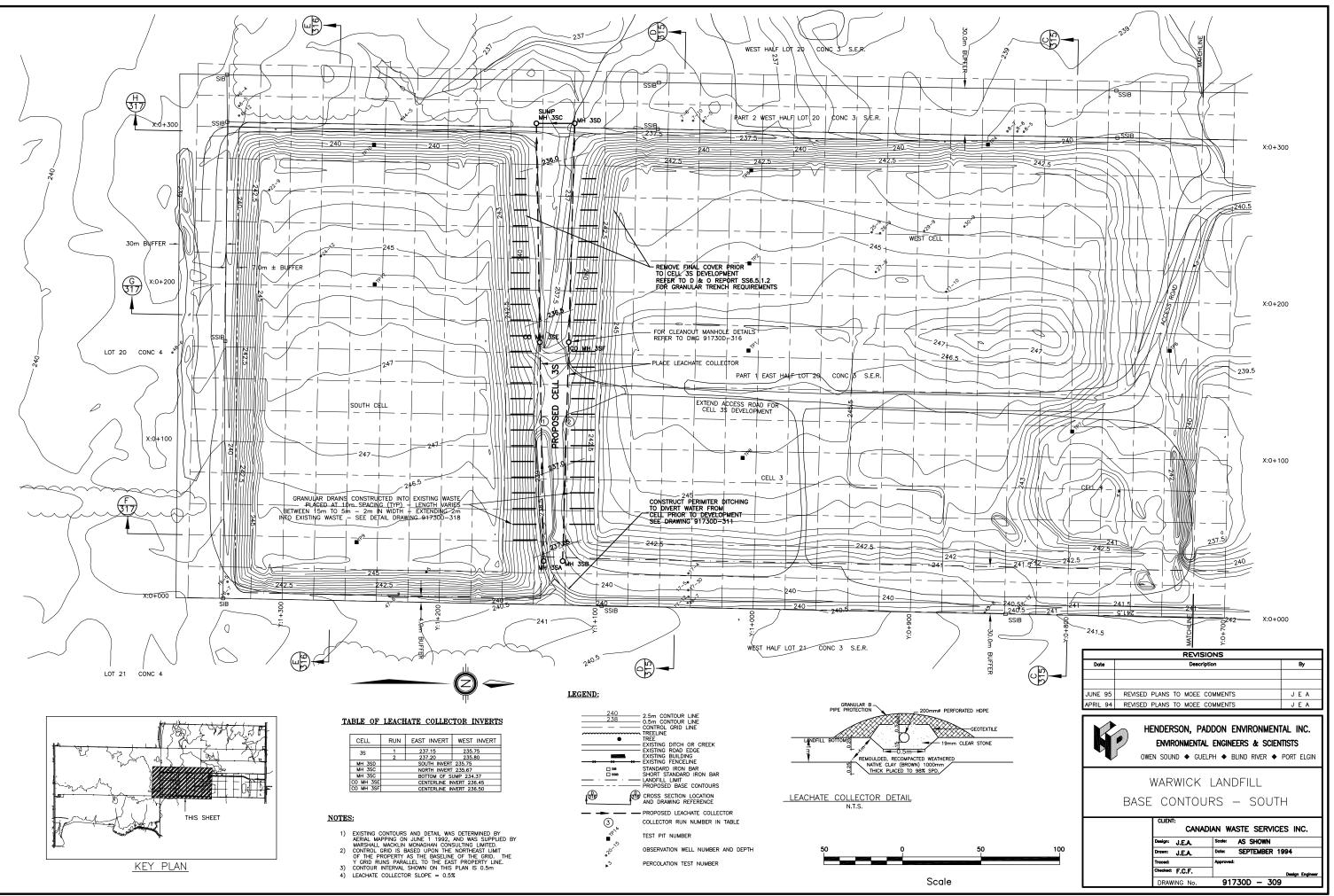


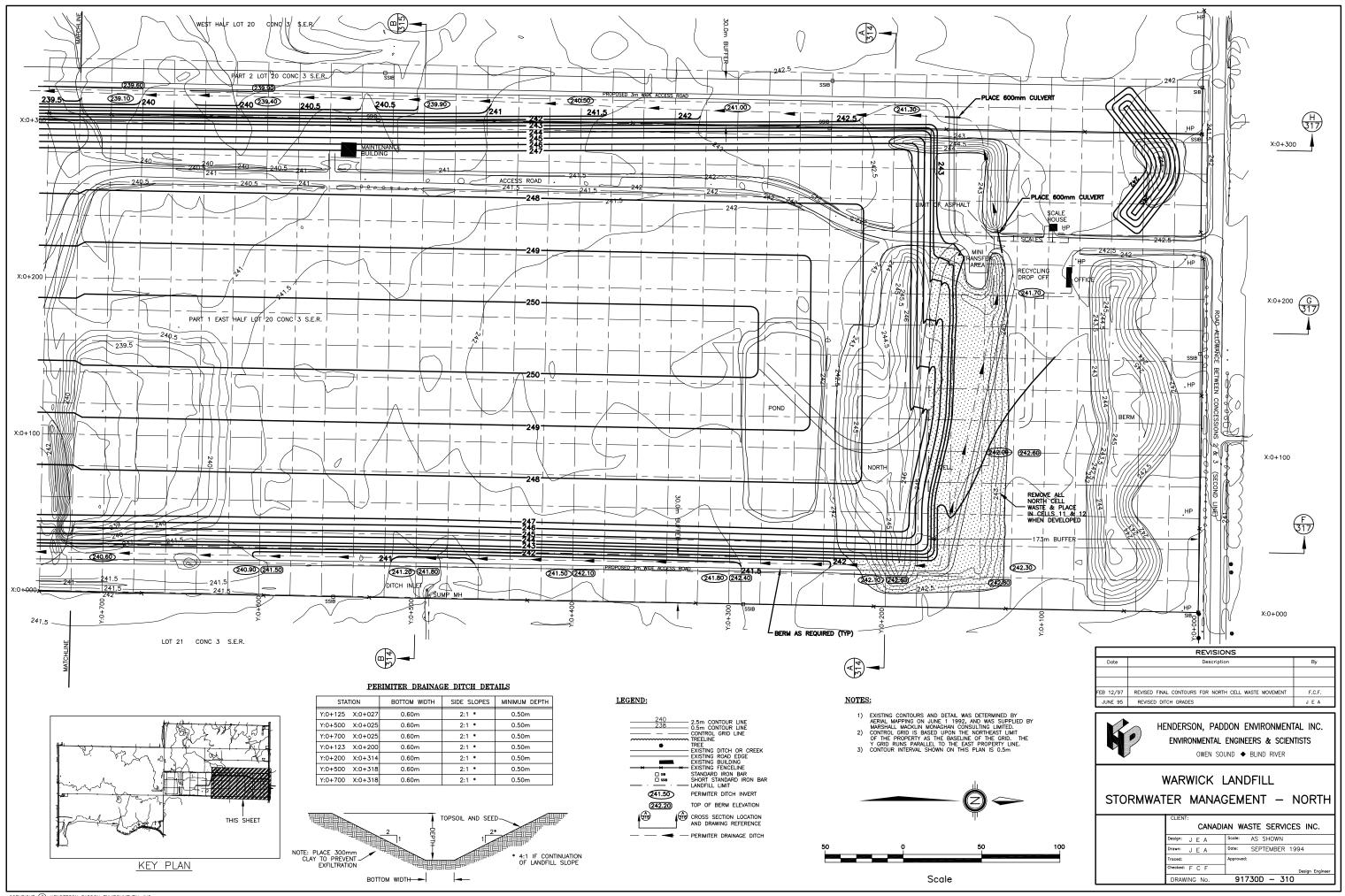


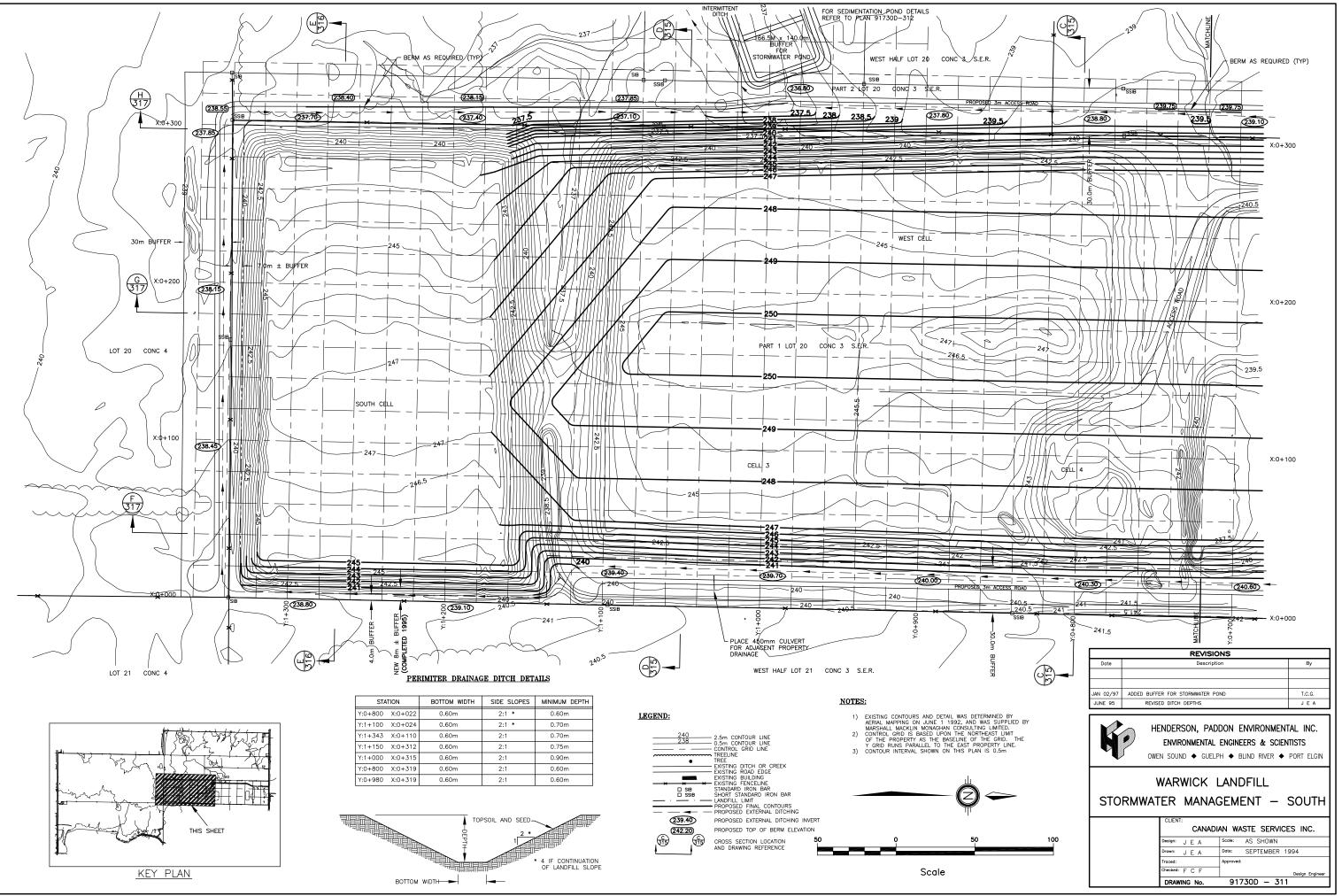


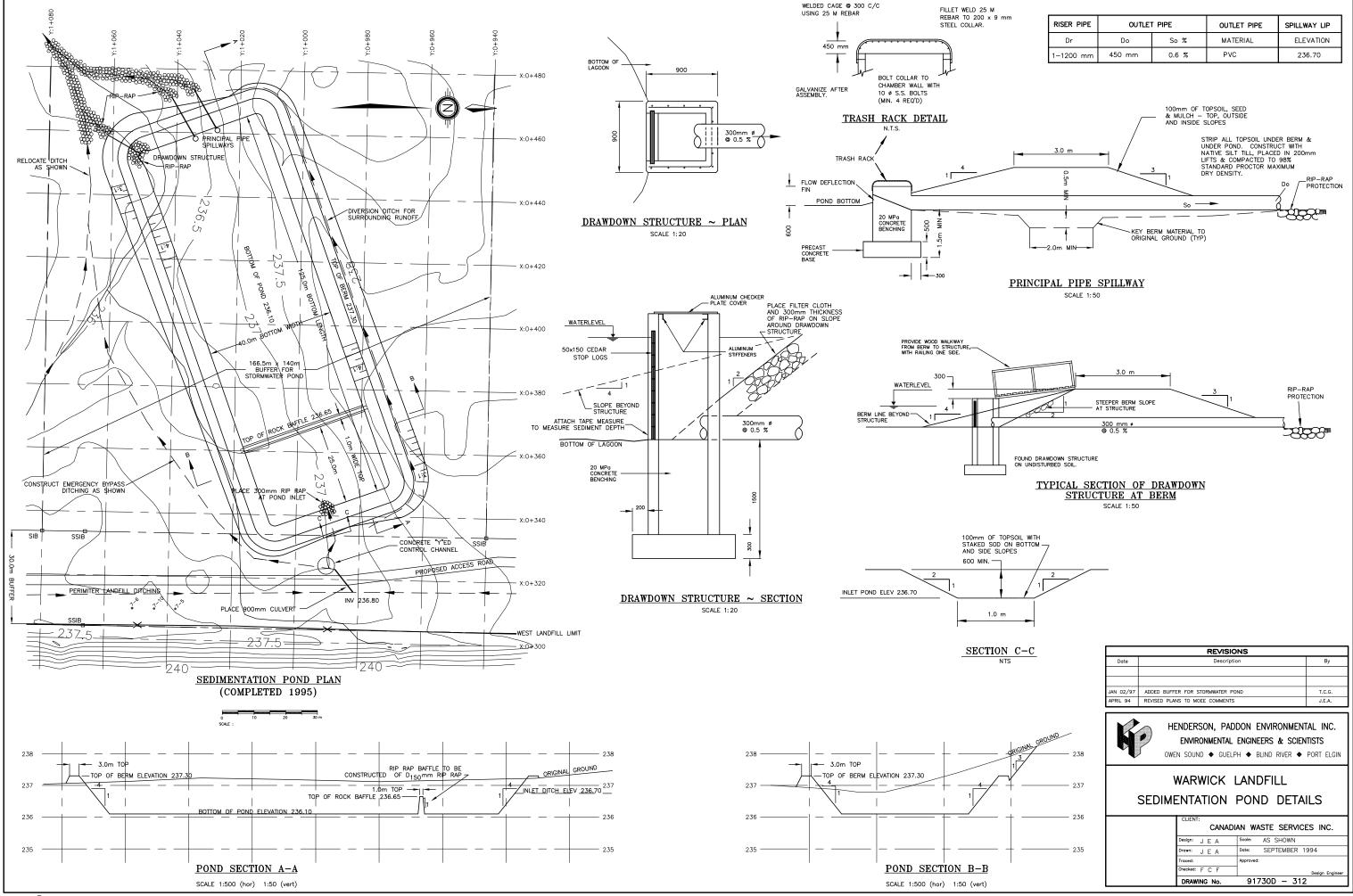


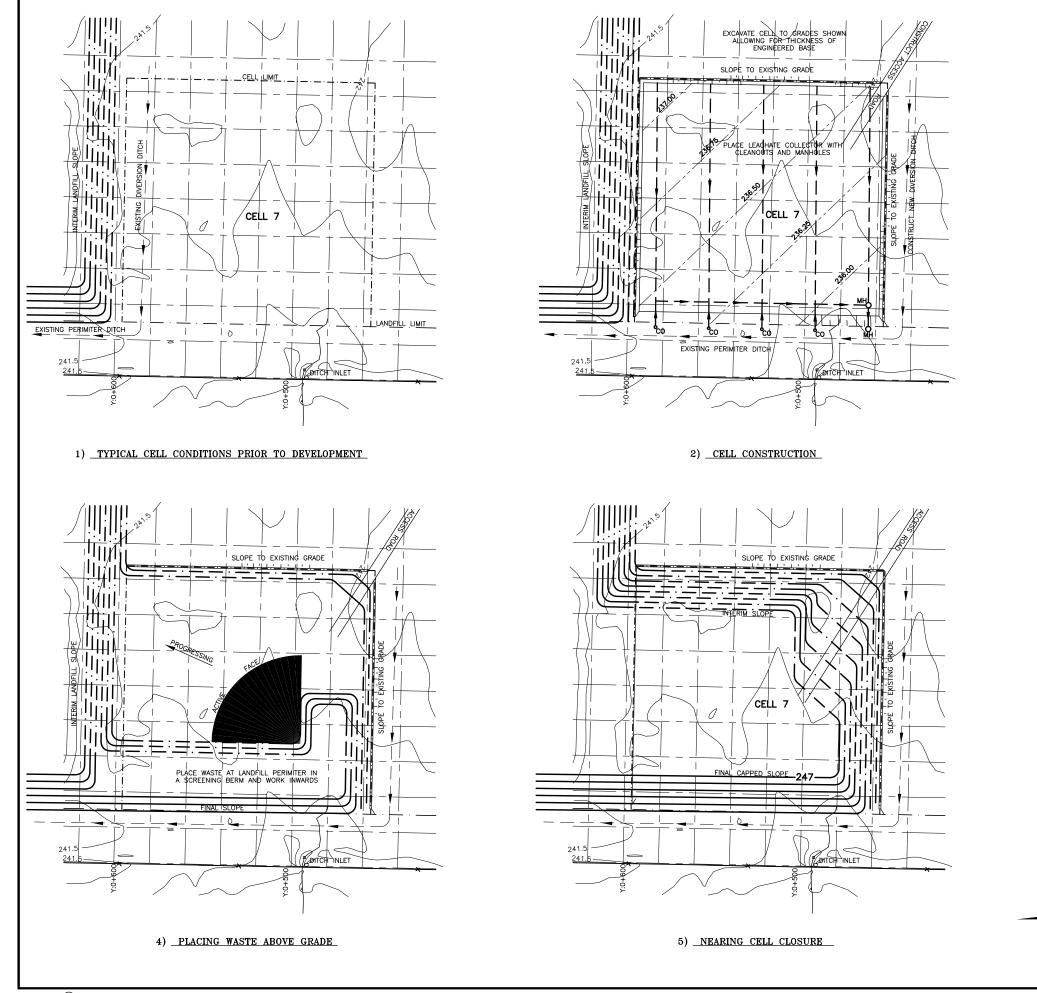








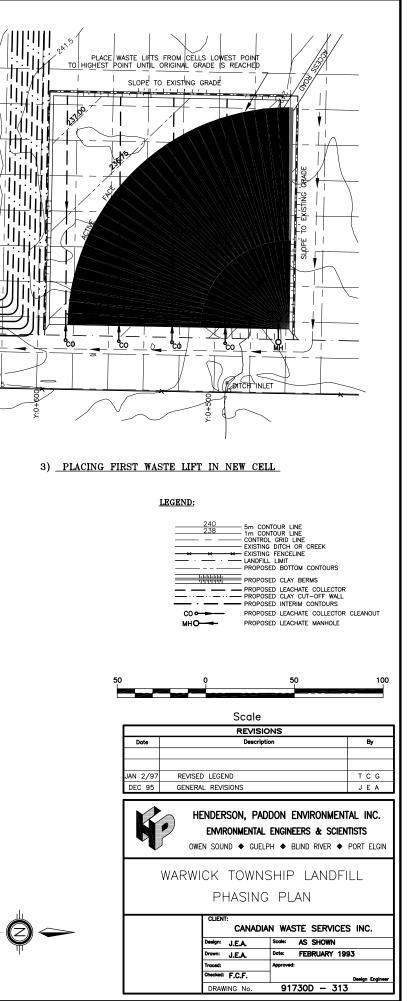


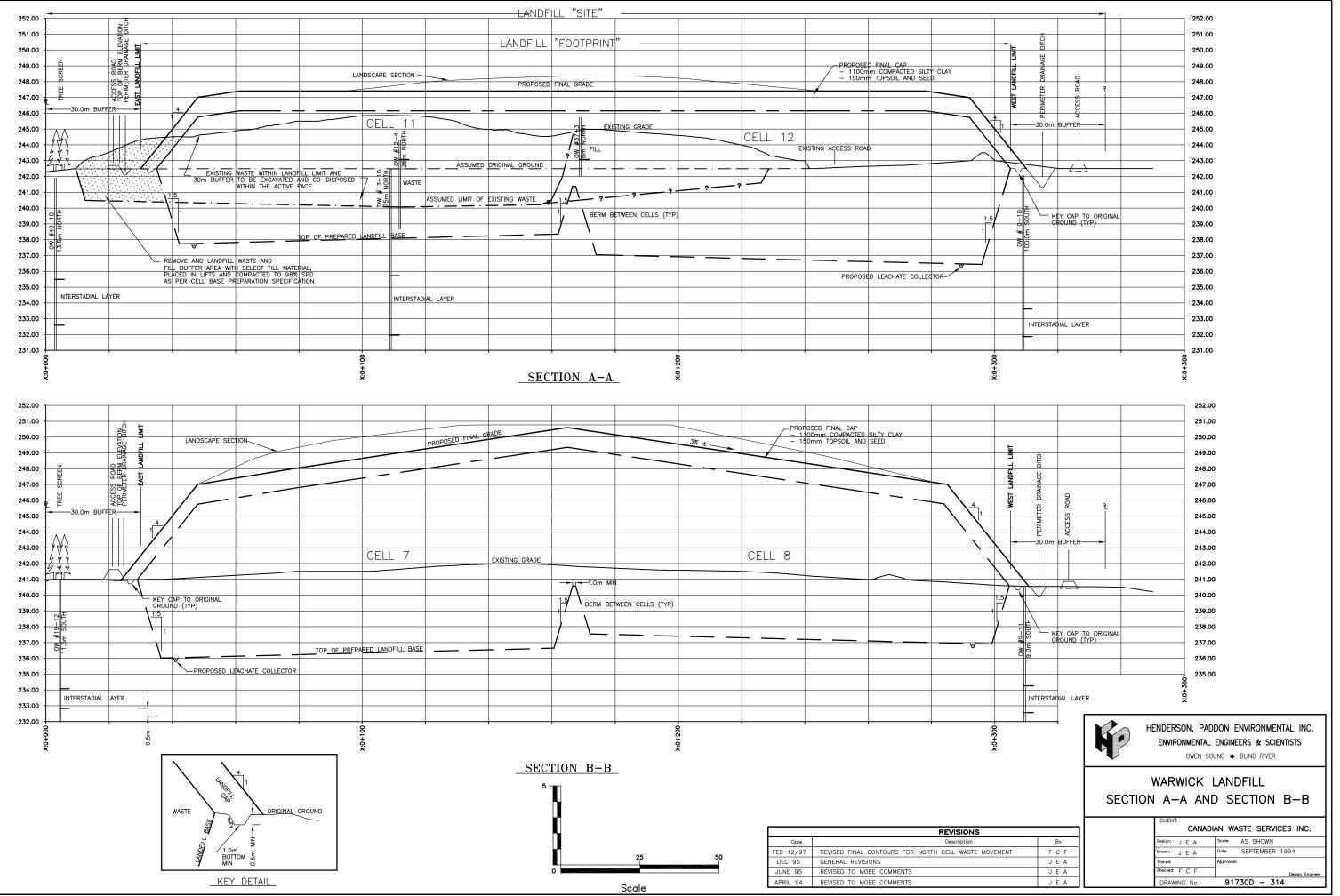


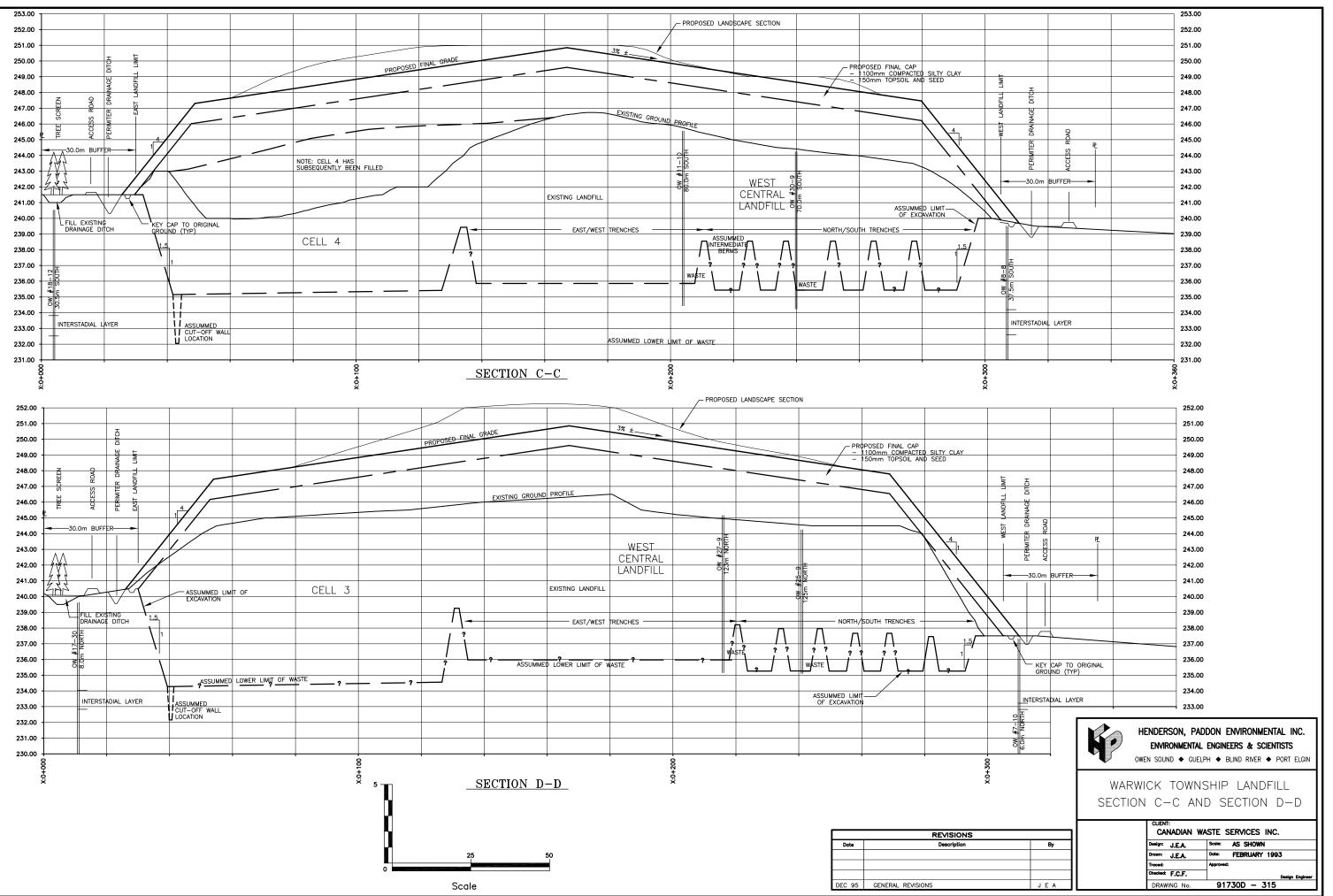
COPYRIGHT C HENDERSON PADDON ENVIRONMENTAL INC.

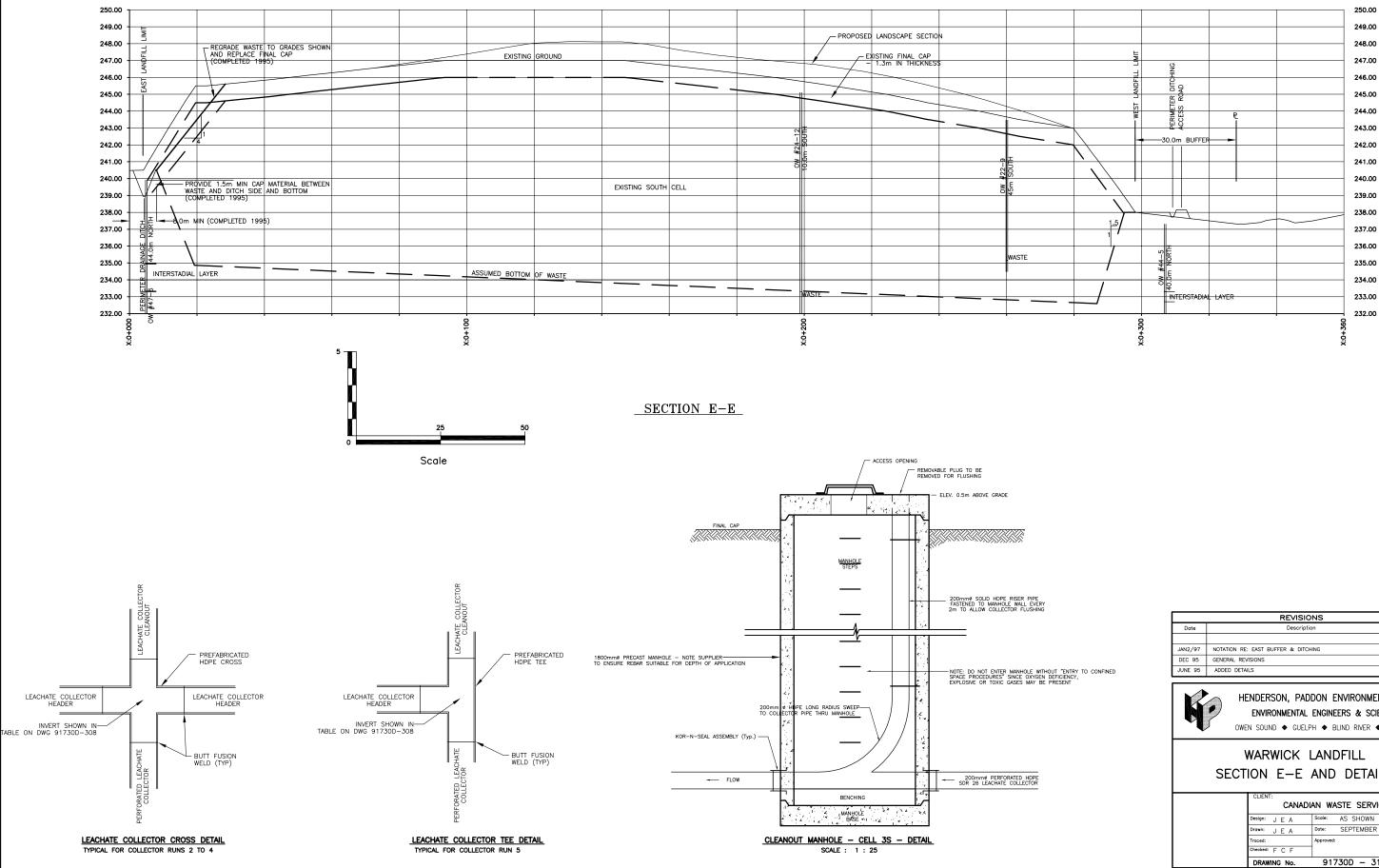
241.5

241.









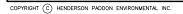
REVISIONS				
Date	Description	By		
JAN2/97	NOTATION RE: EAST BUFFER & DITCHING	TCG		
DEC 95	GENERAL REVISIONS	JEA		
JUNE 95 ADDED DETAILS J E A				

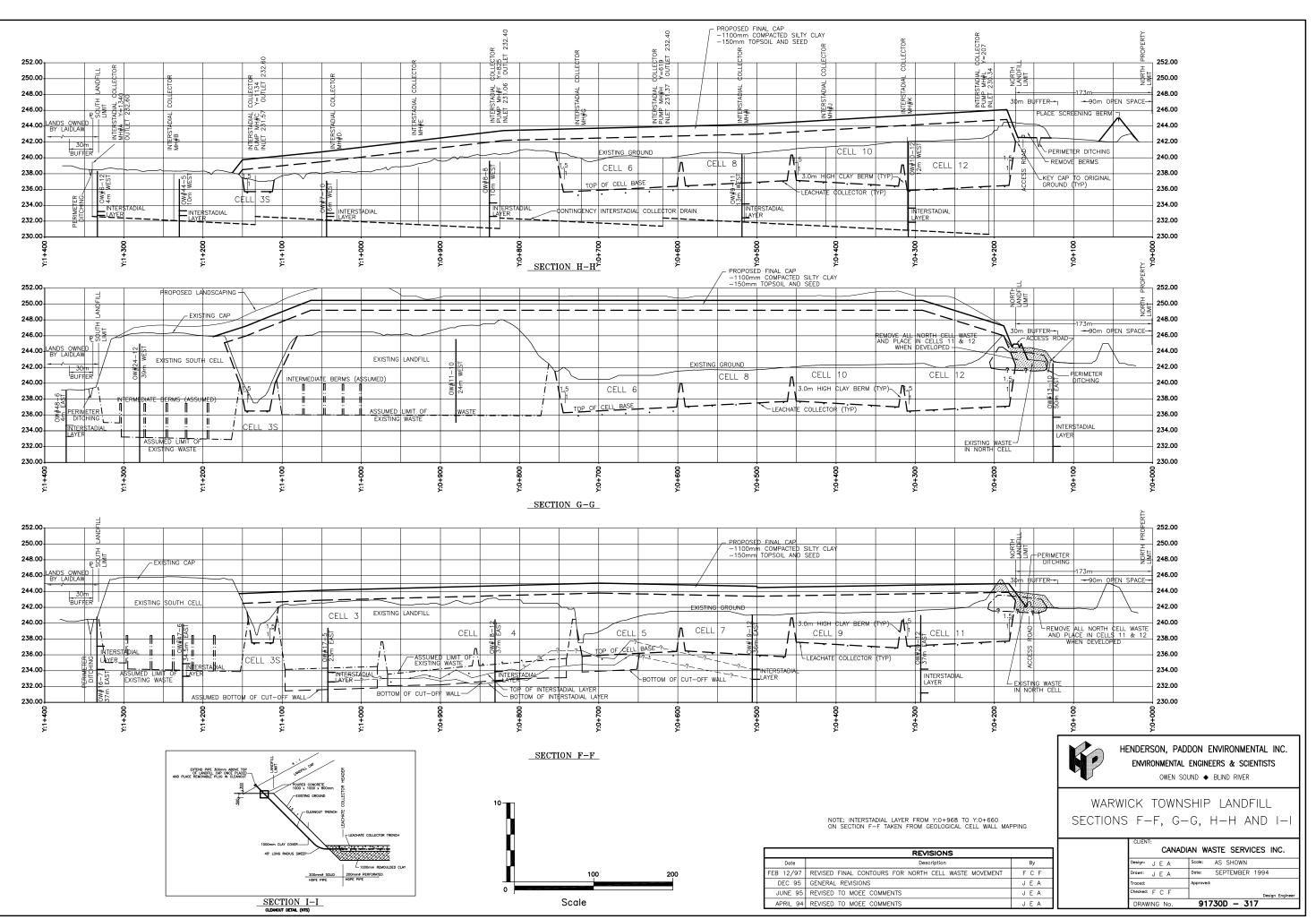
d?

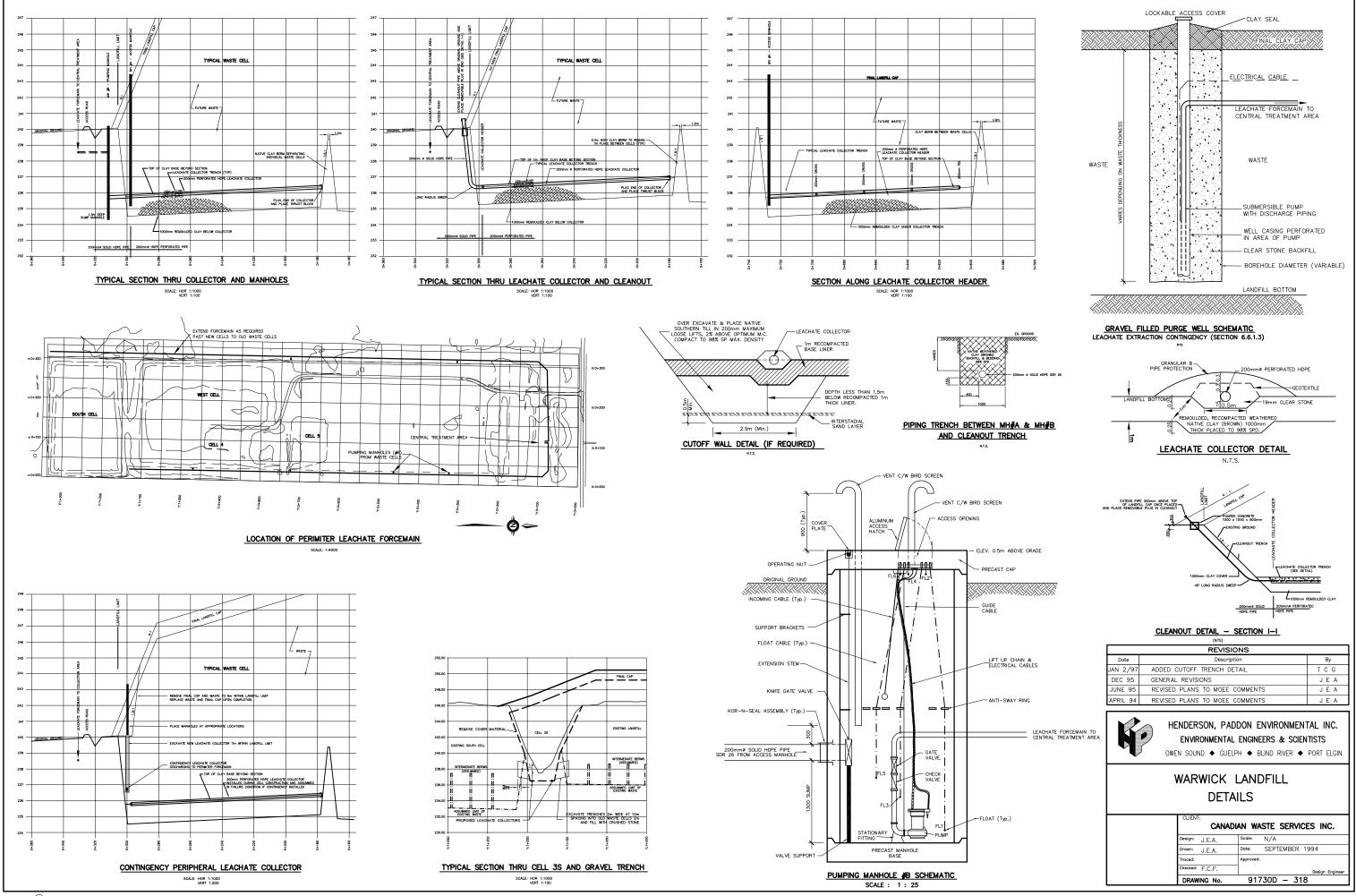
HENDERSON, PADDON ENVIRONMENTAL INC. ENVIRONMENTAL ENGINEERS & SCIENTISTS OWEN SOUND ♦ GUELPH ♦ BLIND RIVER ♦ PORT ELGIN

## SECTION E-E AND DETAILS

CLIENT: CANADI	AN WASTE SERVICES INC.
Design: JEA	Scale: AS SHOWN
Drawn: JEA	Date: SEPTEMBER 1994
Traced:	Approved:
Checked: F C F	Design Engineer
DRAWING No.	91730D - 316

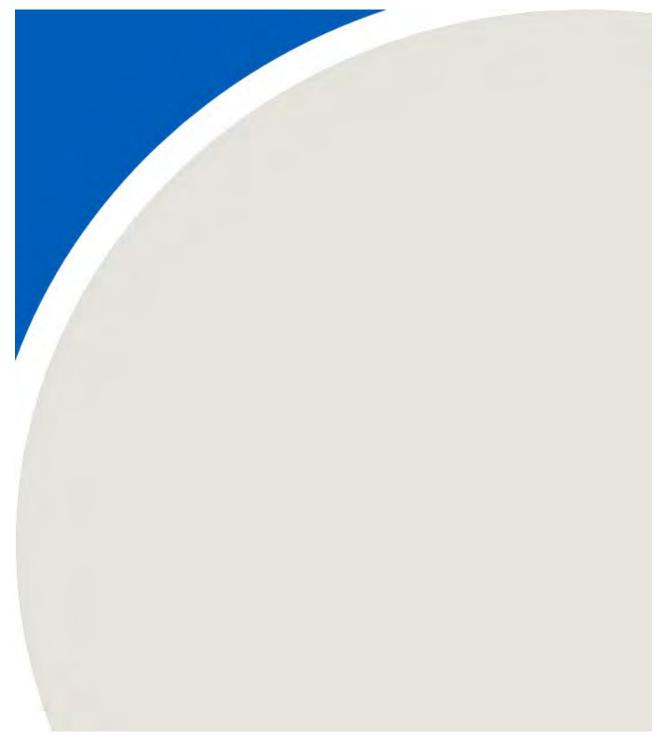








# TABLE L2: 2008 D&O Drawings

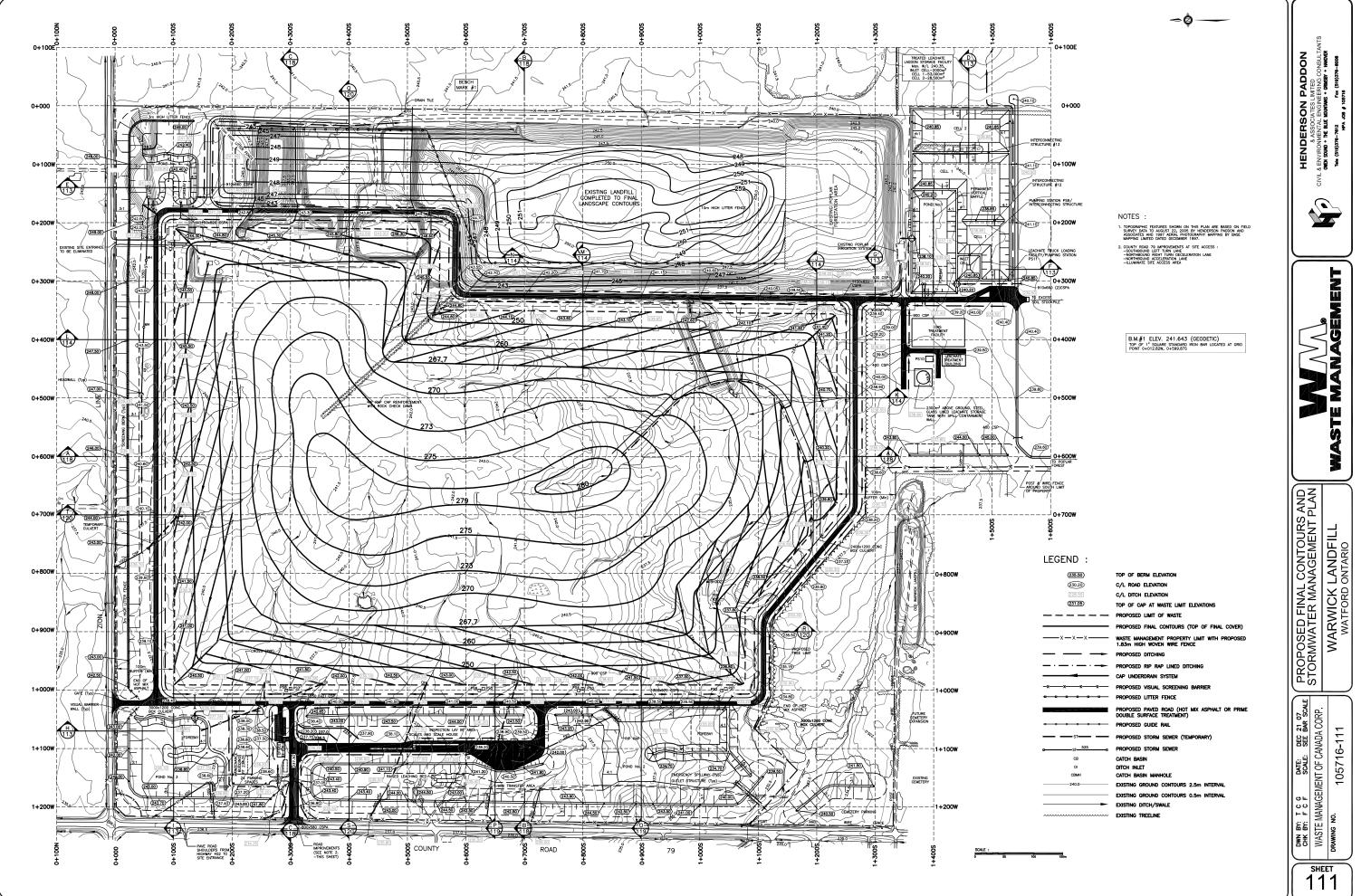


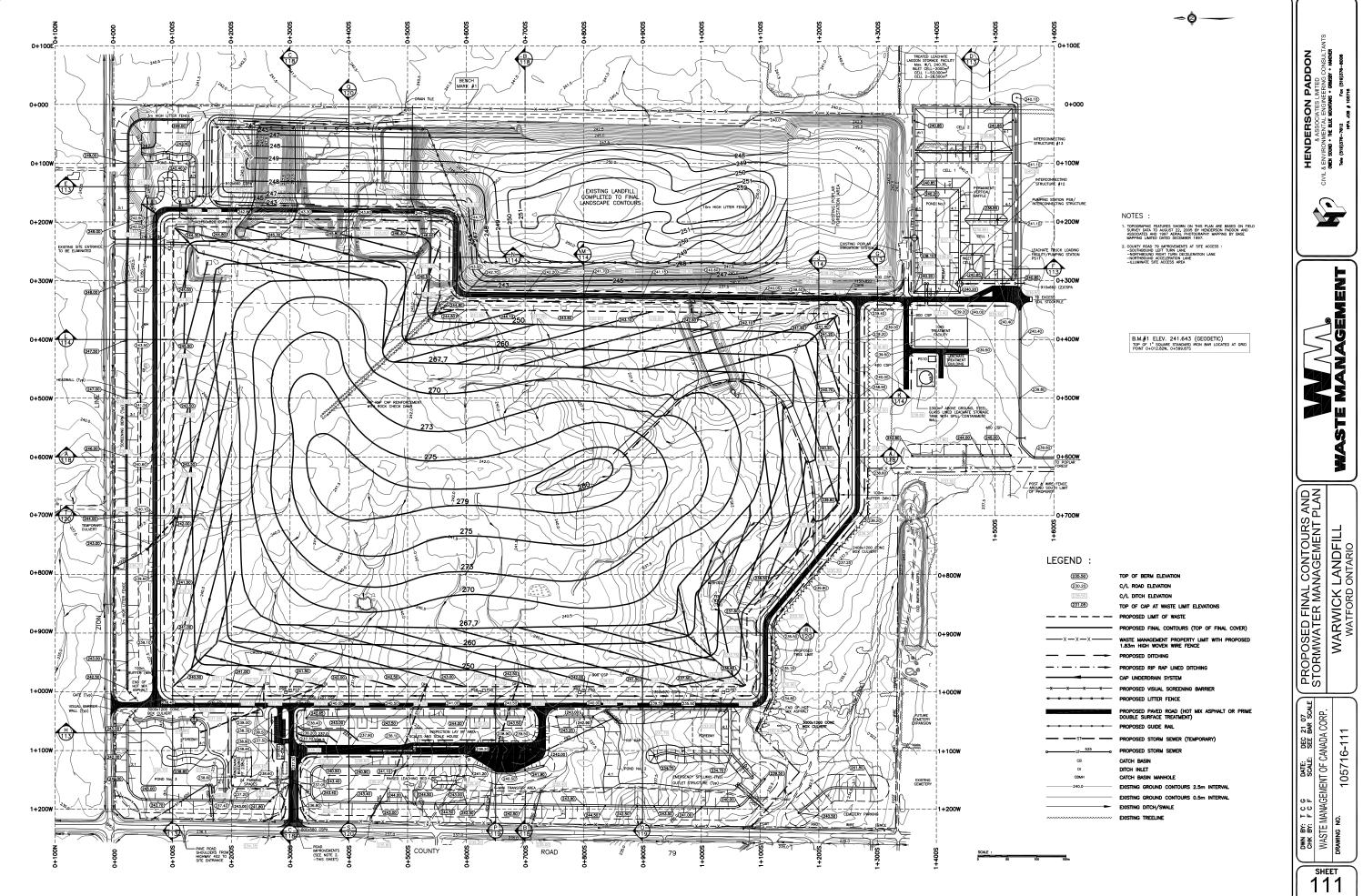
## LIST OF DRAWINGS

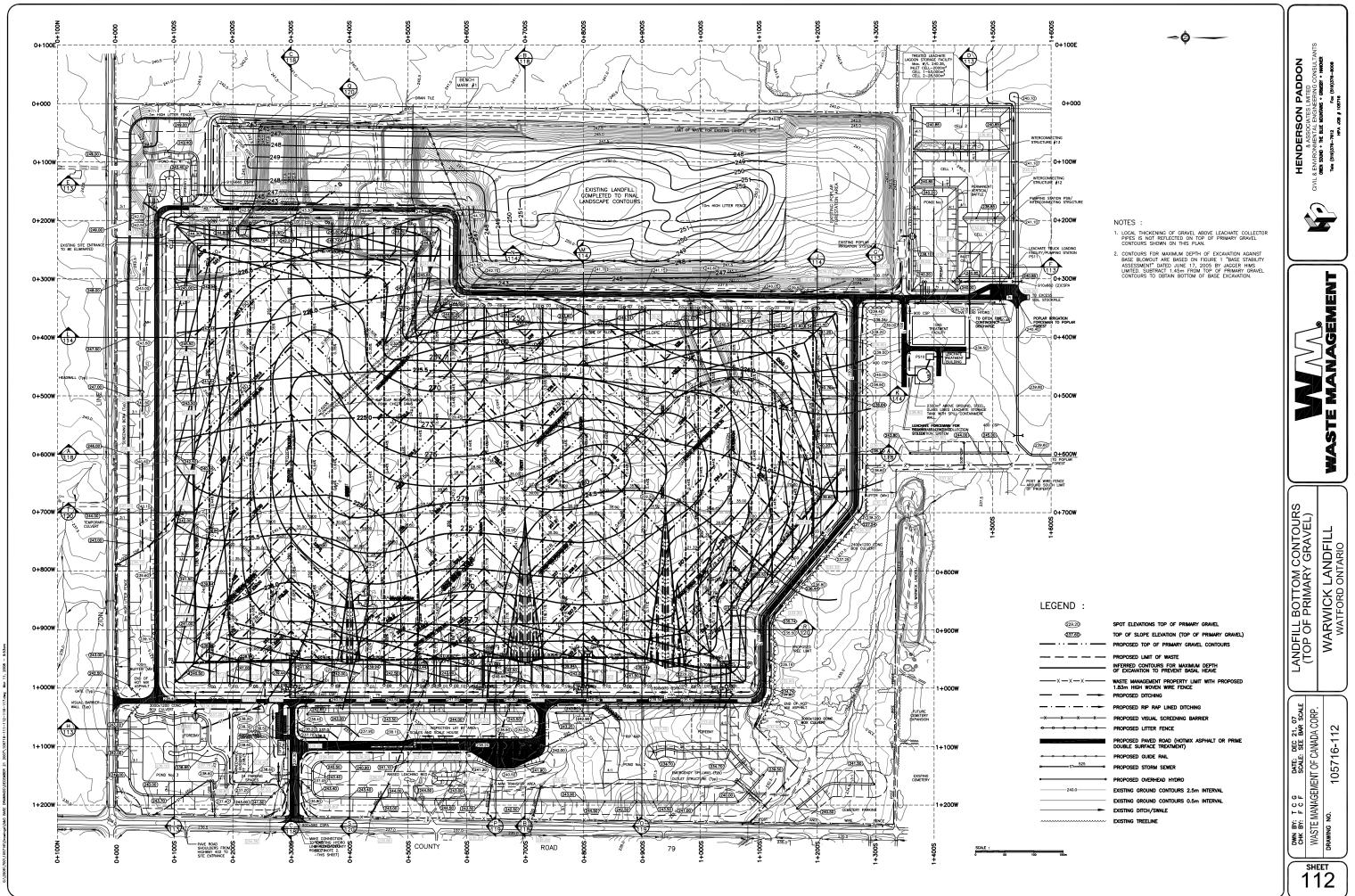
- Drawing 111 Proposed Final Contours and Stormwater Management Plan
- Drawing 112 Landfill Bottom Contours (Top of Primary Gravel Layer)
- Drawing 113 Landfill Perimeter Sections
- Drawing 114 Landfill Perimeter Sections
- Drawing 115 Leachate Collection Sump Details
- Drawing 116 Primary Leachate Collection System
- Drawing 117 Secondary Leachate Collection System
- Drawing 118 Landfill Sections
- Drawing 119 Landfill Perimeter Sections
- Drawing 120 Landfill Perimeter Sections
- Drawing 125 Leachate Collection Sump Details
- Drawing 25R-9125Plan of Survey of: Lot 20, Part of Lot 19, Concession 3, S.E.R., Lot 20, Part of Lots 19 and 21, Concession 4, S.E.R., Geographic Township of Warwick, Township of Warwick, County of Lambton, Deposited May 1, 2006, Prepared by Monteith and Sutherland Ltd., Sarnia, File No. 440, Plan File No. D-897
- 106716-127 Plan Poplar Irrigation Area

## GAS MANAGEMENT DRAWINGS PREPARED BY COMCOR ENVIRONMENTAL LIMITED

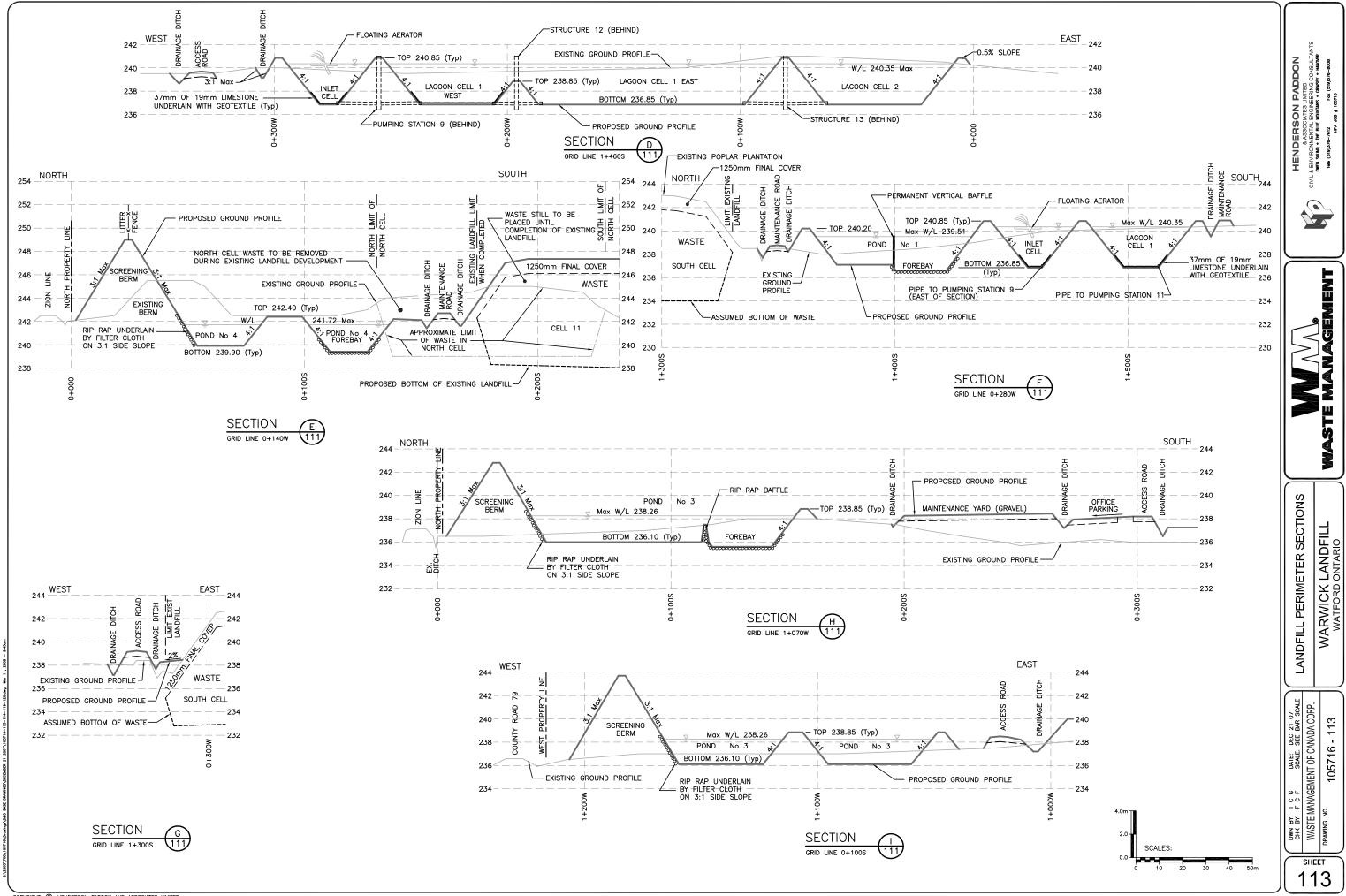
- G101 Existing Site Conditions
- G102 Vertical Well Gas Collection System Layout
- G103 Horizontal Gas Collectors System Layout
- G104 Vertical & Horizontal Well Schedules
- G105 Compressed Air Piping Layout
- G111 Plan & Profile North Header Sta 0+000 to 0+820
- G112 Plan & Profile North Header Sta 0+820 to 1+640
- G113 Plan & Profile North Header Sta 1+640 to 2+460
- G114 Plan & Profile North Header Sta 2+460 to 3+280
- G115 Plan & Profile North Header Sta 3+280 to 4+082.49
- G131 LFG Plant Area Plan & Details
- G132 LFG Plant Plan & Details
- G133 LFG Plant Exterior Elevations
- G134 LFG Plant Part Plan & Sections
- G161 Trench Details
- G162 System Details
- G163 System Details
- G164 System Details

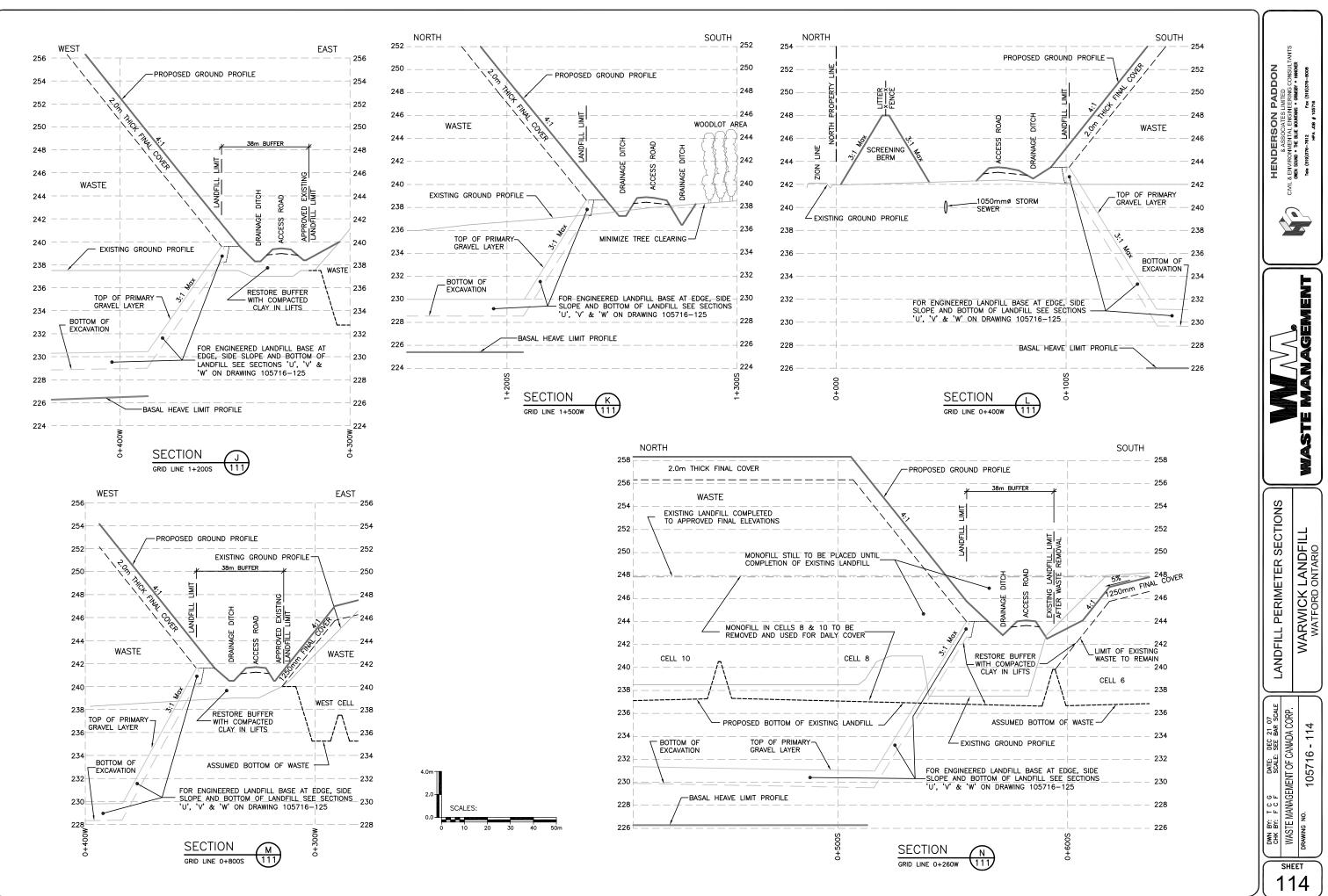


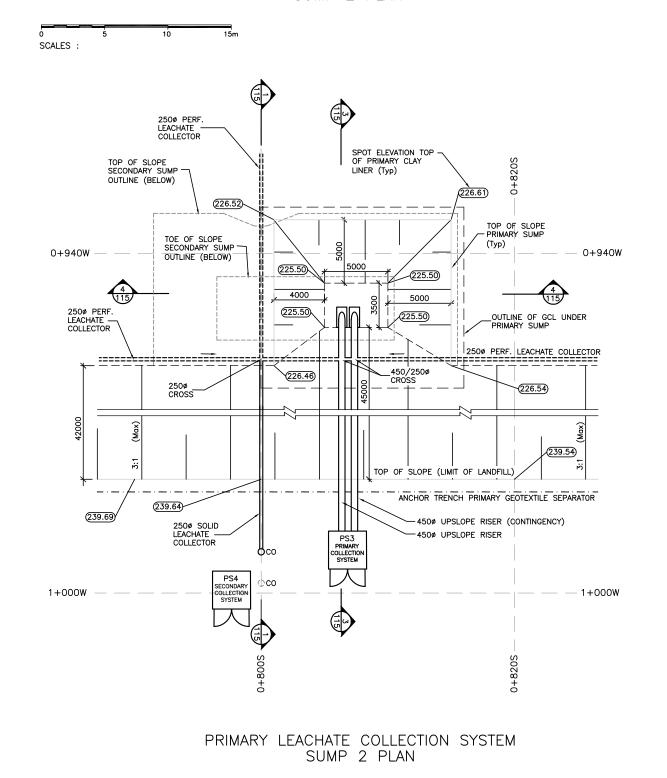


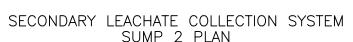


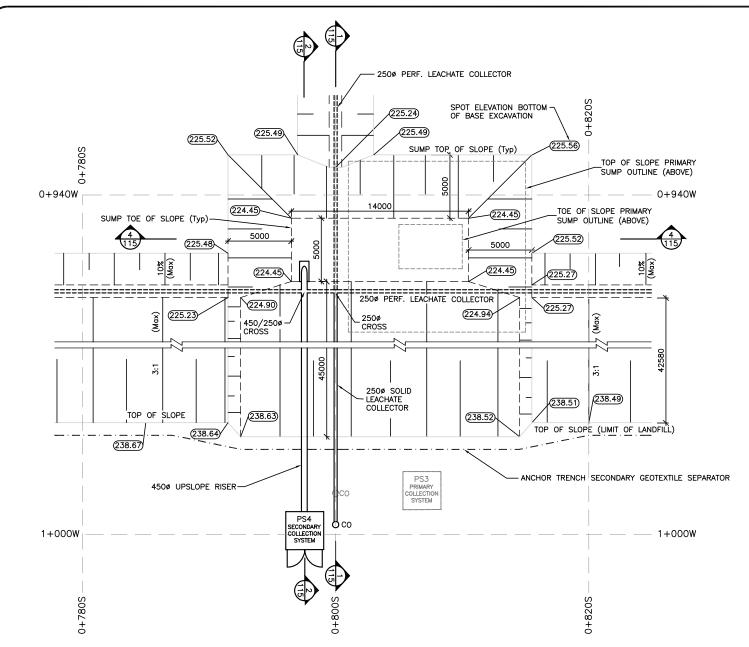
COPYRIGHTOC HENDERSON PADDON AND ASSOCIATES LIMITED

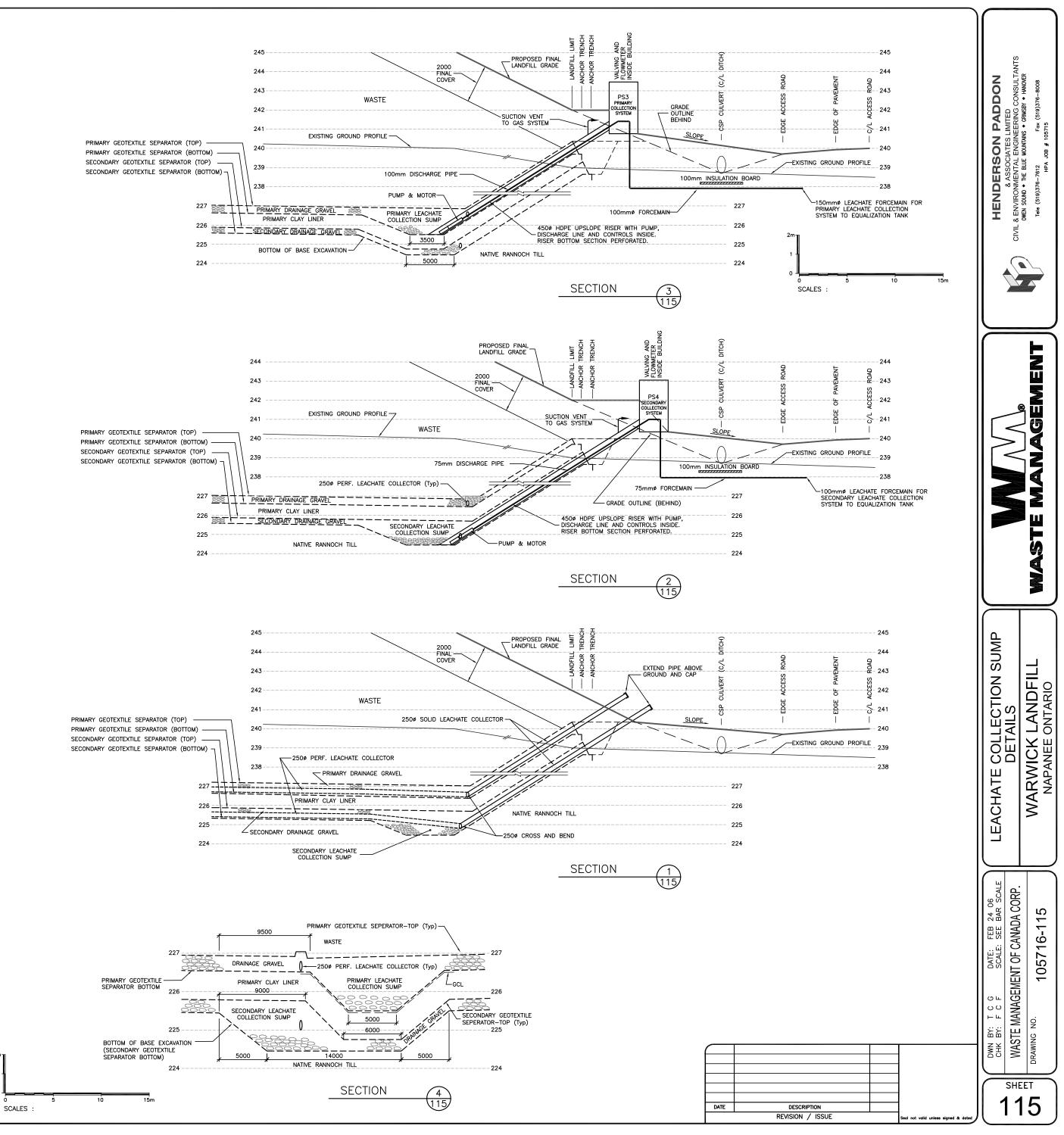


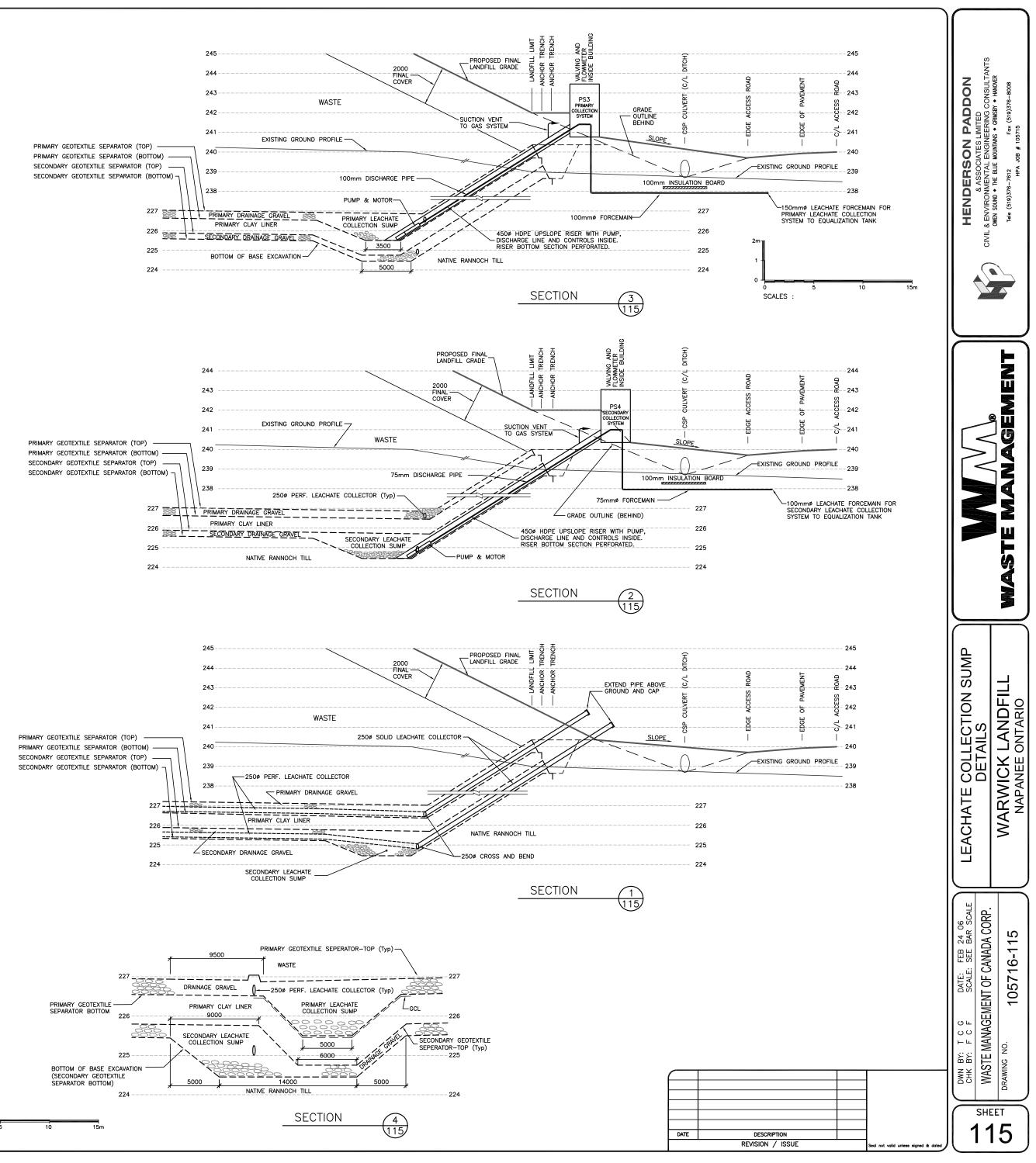


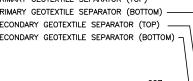


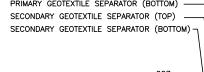


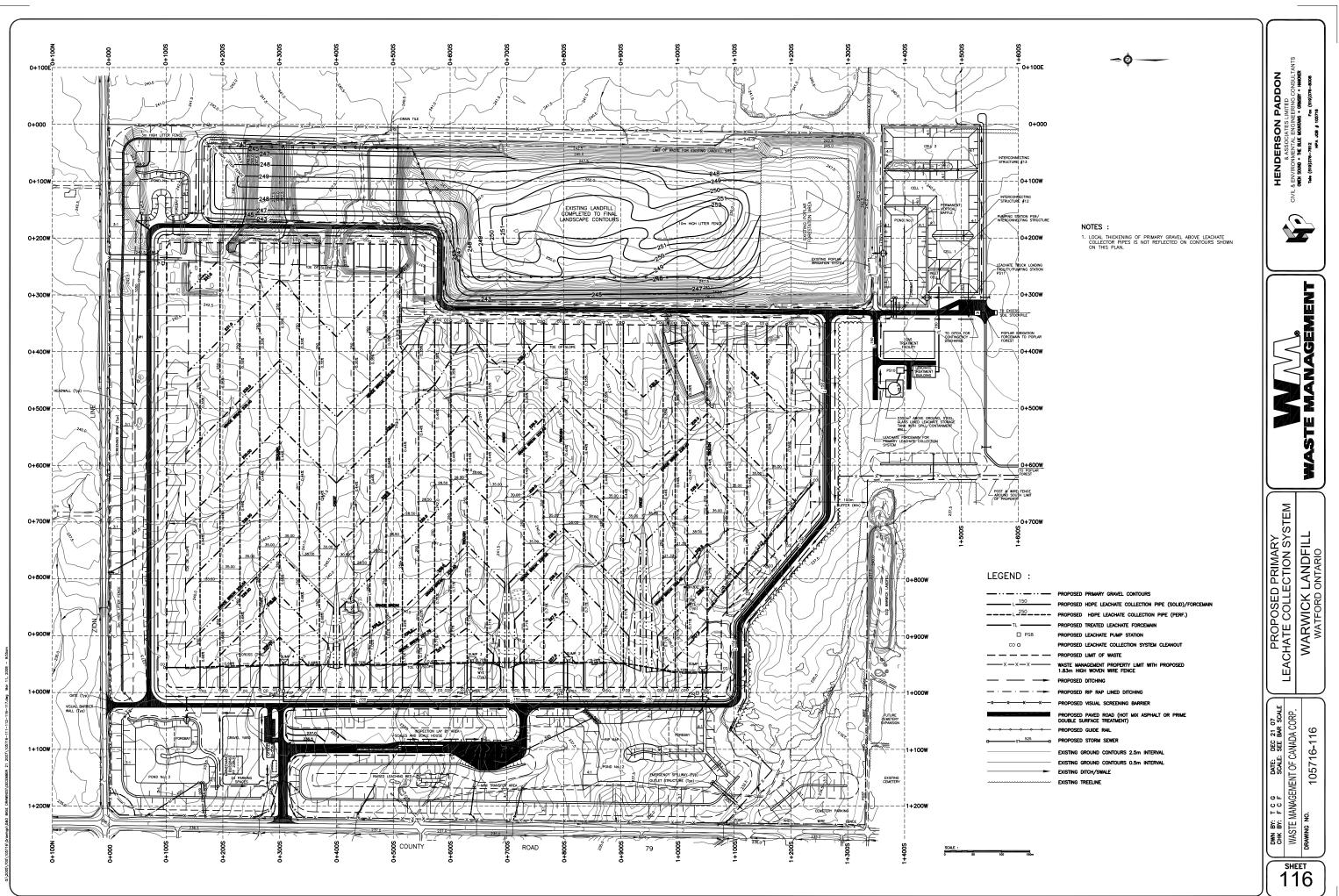




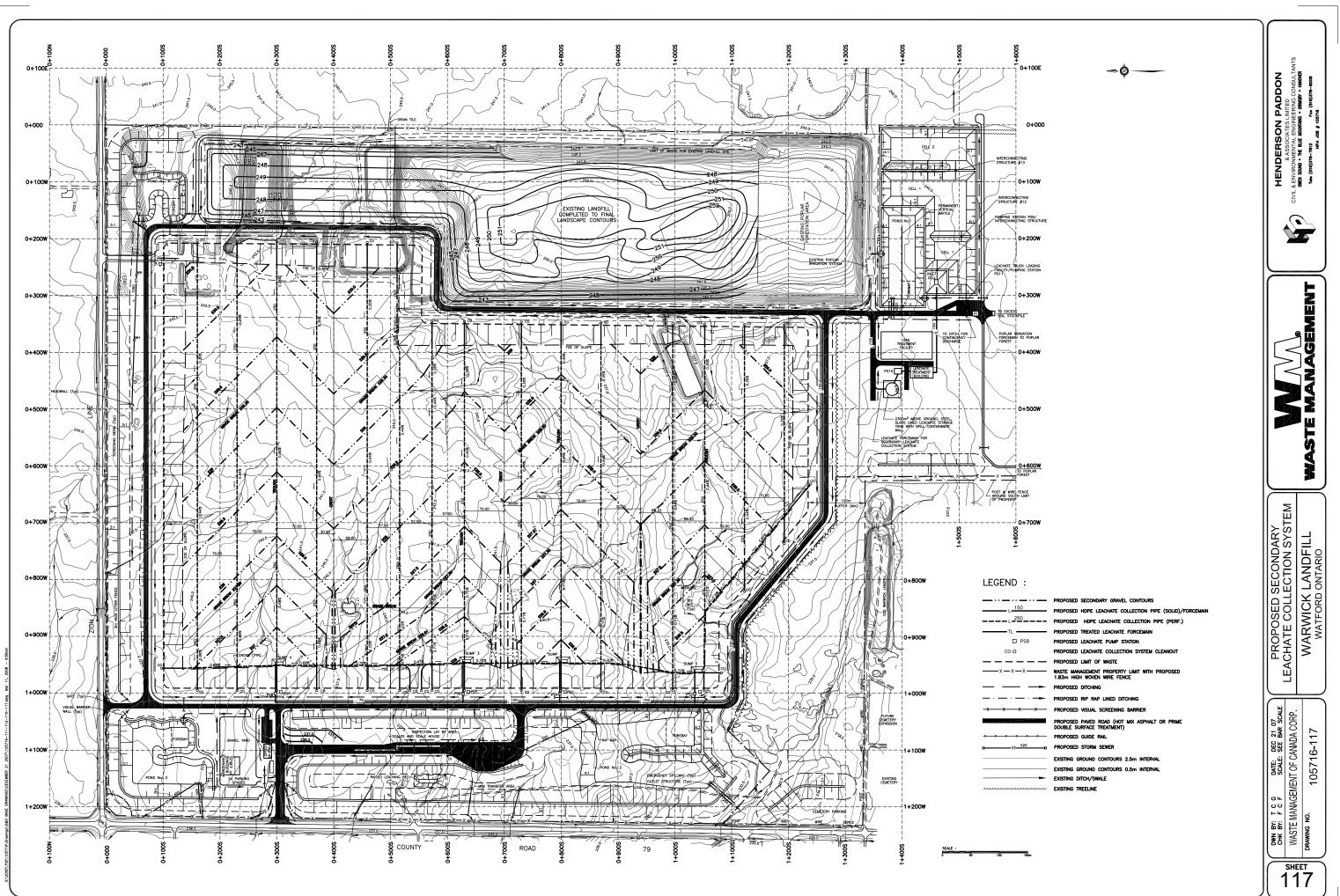


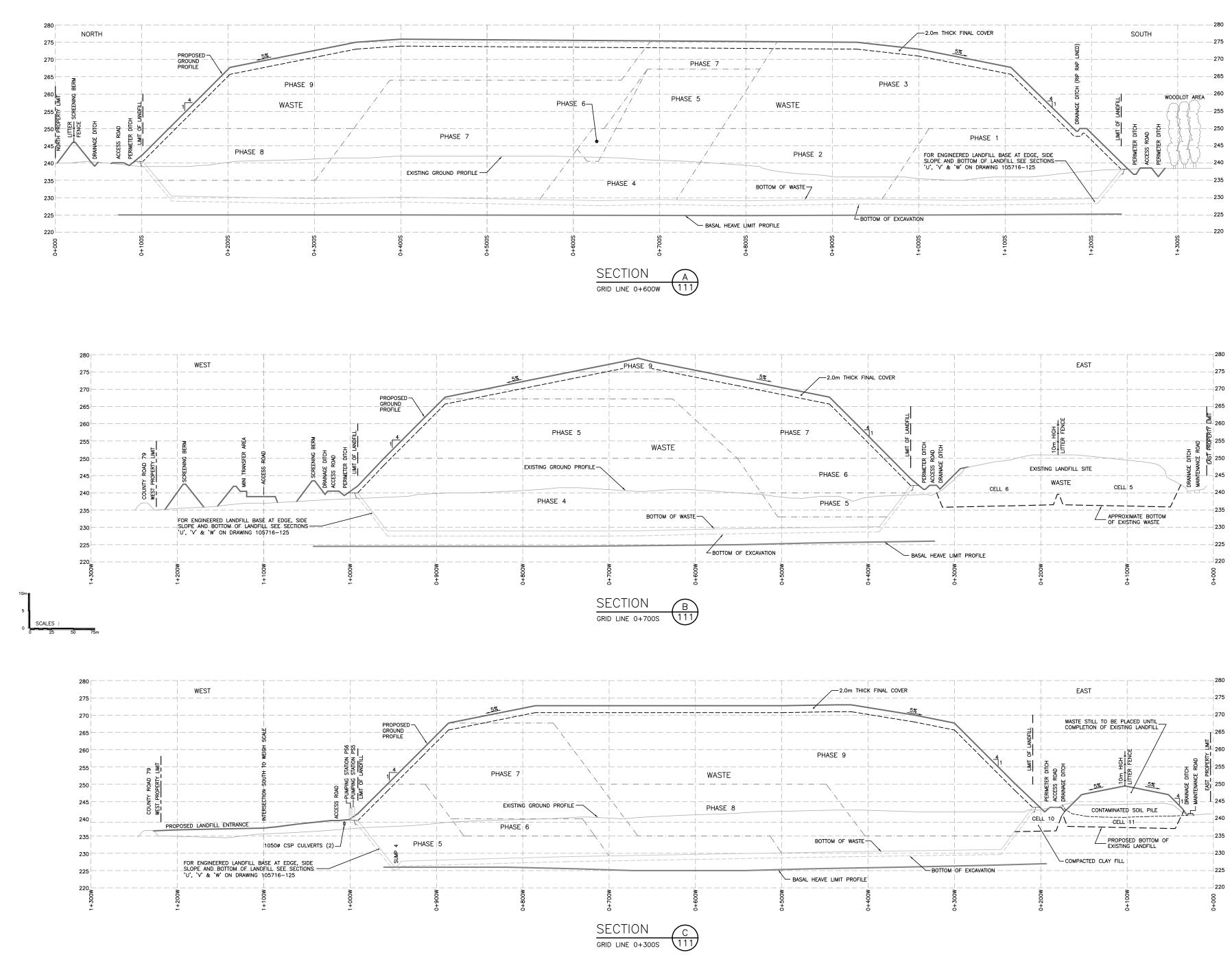




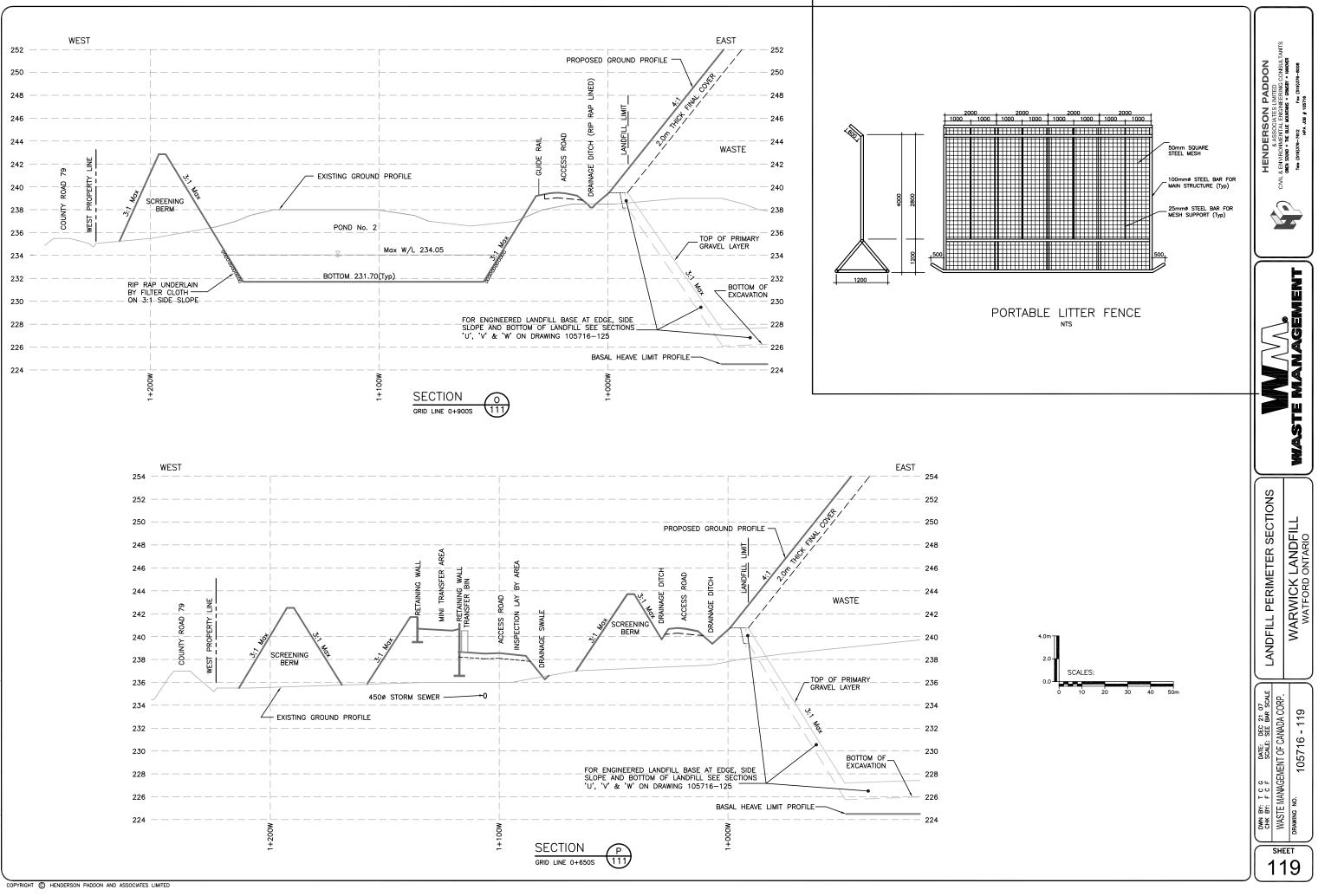


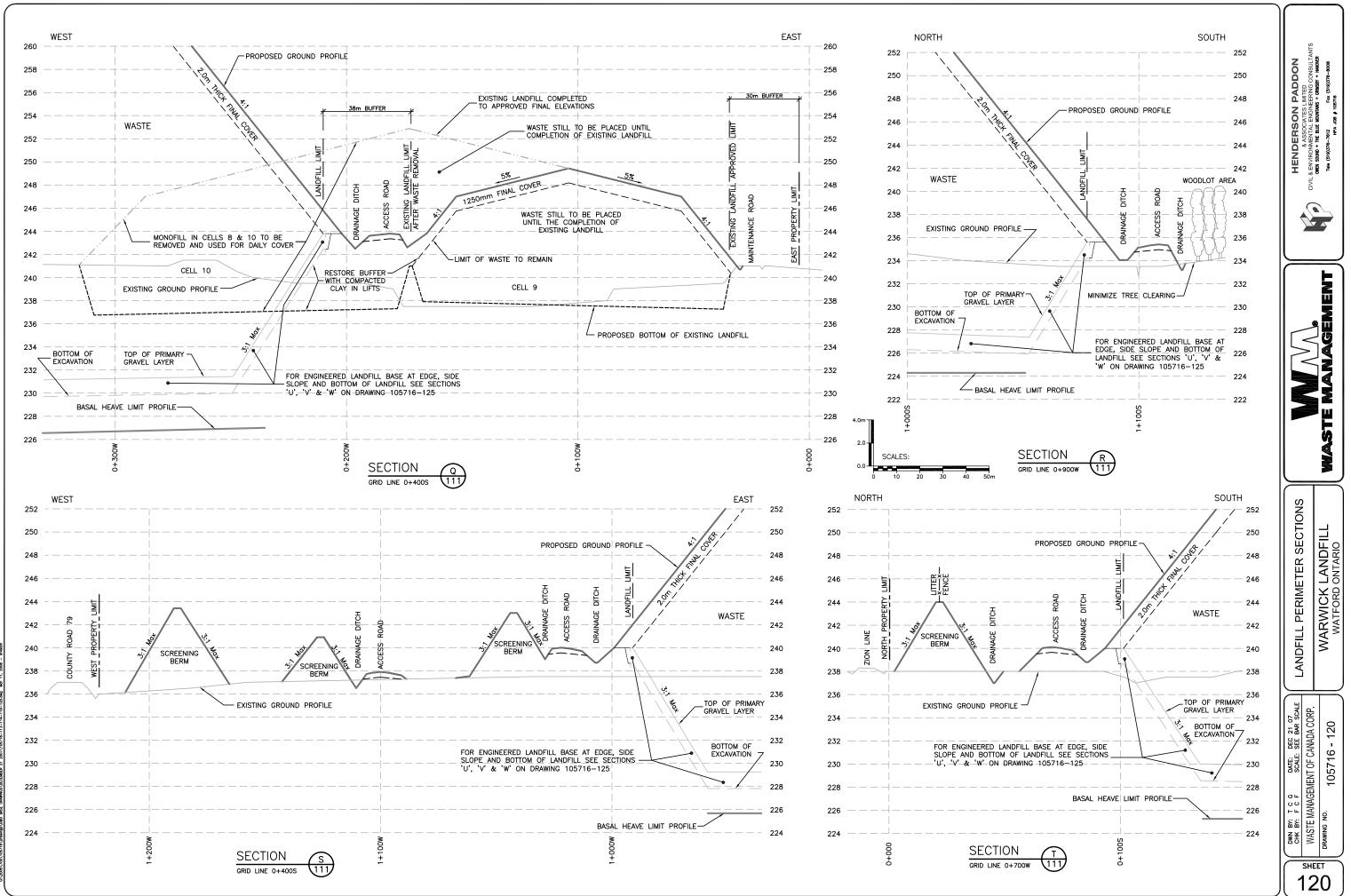
COPYRIGHT C HENDERSON PADDON AND ASSOCIATES LIMITED

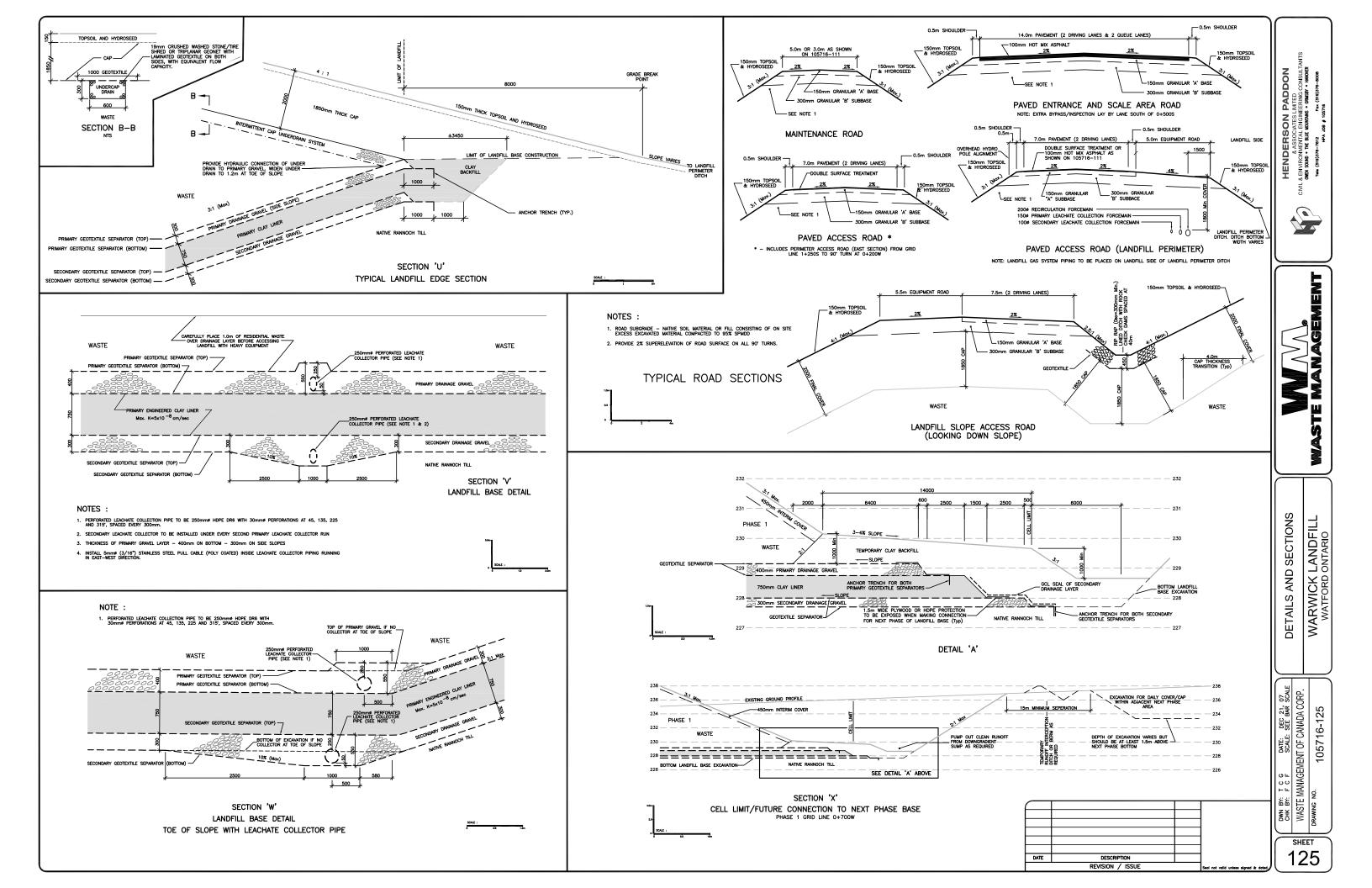


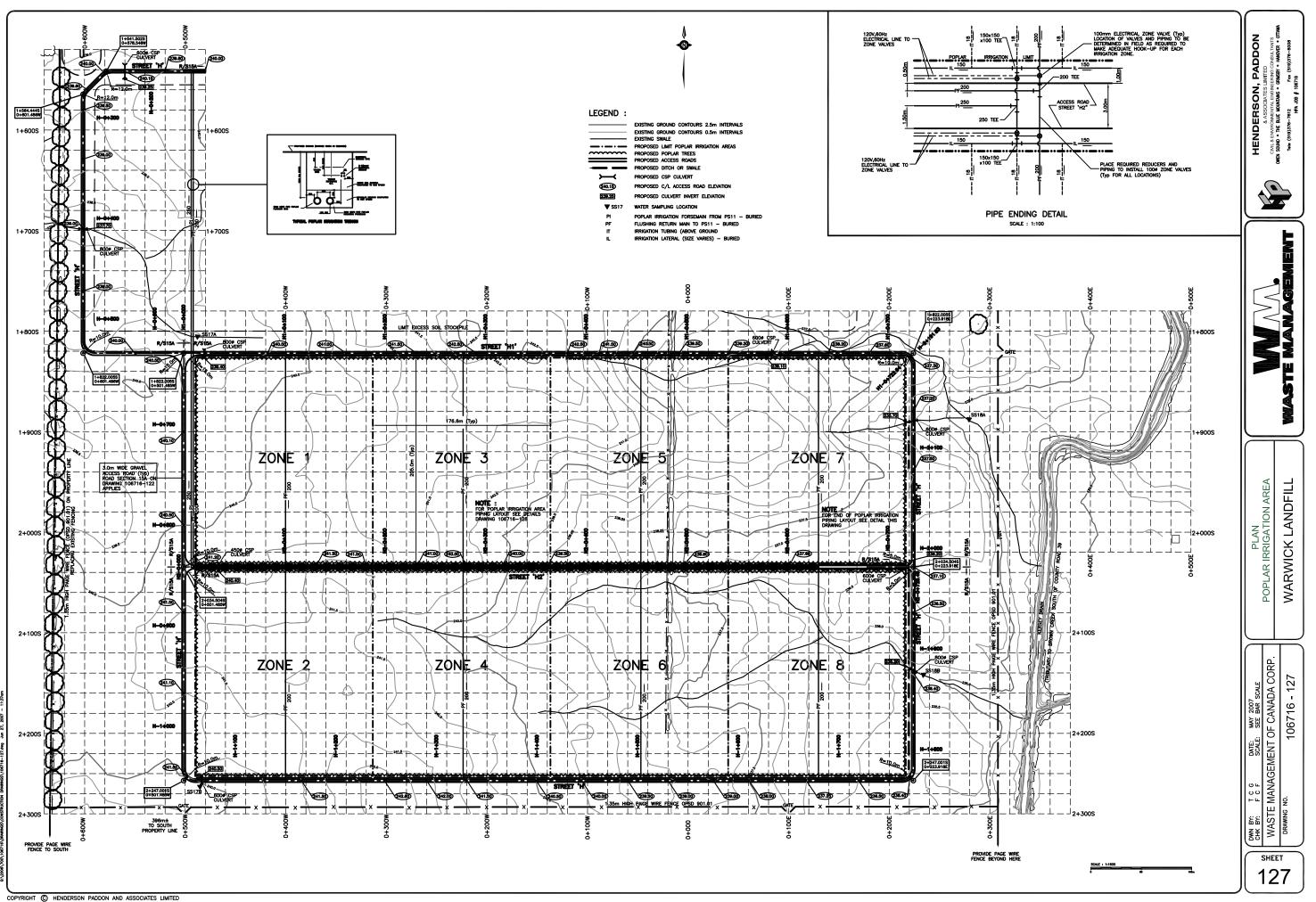








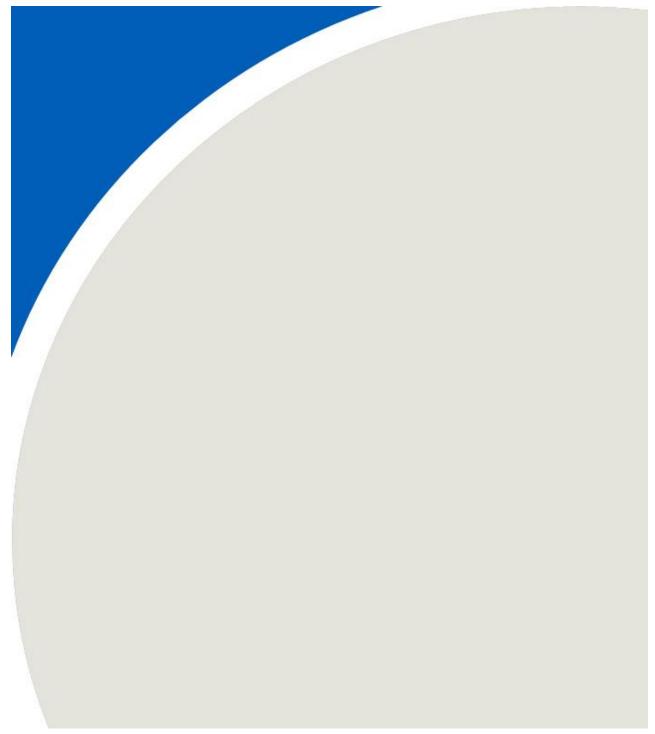






# TABLE L-3

TCEC 2021 CQA CQC Liner System Summary - Final





4510 Rhodes Drive | Suite 530 Windsor, ON N8W 5K5 Canada Tel:+1.519.823.1311Fax:+1.519.823.1316E-mail:solutions@rwdi.com

September 12, 2022

Mr. Wayne Jenken Waste Management of Canada Corporation 5768 Nauvoo Road Watford, Ontario N0M2S0

Re: CQA/CQC Liner System Summary Report (Cell 6A) 2022 Twin Creeks Environmental Centre Expansion Contract 106716T Twin Creeks Environmental Centre RWDI Reference No. 2203209.01

Email: wjenken@wm.com

Dear Mr. Jenken,

**RWDI AIR Inc. (RWDI)** is pleased to provide this Construction Quality Assurance and Construction Quality Control (CQA/CQC) Cell 6A Liner System Summary Report to Waste Management of Canada Corporation (WM) for the 2022 Twin Creek Environmental Centre Expansion Contract 106716T. This letter report is written in conformance with Conditions 4.6 and 4.11 of the Environmental Compliance Approval (ECA) No. A032203, dated December 19, 2020 (Waste ECA).

# 1. INTRODUCTION

The Twin Creeks Environmental Centre (Site) is owned and operated by WM, and is located in Part Lots 19 and 20, Concession 2, south of Egremont Road (SER) and Part Lots 20 to 22, Concession 4 SER, in the Township of Warwick, Lambton County, Ontario (Site). The Site is operated and being expanded in conformance with the Ministry of Environment, Conservation and Parks (MECP) approved landfill design in the Development and Operations Plan Volumes 1 through 3 (Henderson Paddon & Associates, March 2008).

The Liner System was constructed and CQA/CQC inspected for conformance with design details from May 1 to September 2, 2022. It is noted that Cell 6A, is the first stage (sub-cell) of Cell 6, with the full Cell 6 being comprised of full stages 6A through 6C. The CQA/CQC program for the Cell 6A Liner System was completed in conformance with the following documents.

- Twin Creeks Environmental Centre Expansion Contract 106716T, Landfill Base Preparation, Cell 6A (WSP, January 2022) (2022 Tender).
- ECA for Waste No. A032203, dated December 19, 2020 (MECP).
- Permit-To-Take-Water (PTTW) No. 4682-BLJRYJ, dated November 8, 2021, for the removal of surface water from four (4) Sedimentation Ponds and the dewatering of the Secondary Drainage Layer (SDL) for the Expansion Site (MECP).
- ECA for Air No. 9488-AMPH4Y, dated July 6, 2017 (MECP).
- Amended ECA for Industrial Sewage Works No. 2403-BE6LZ4, dated August 21, 2019 (MECP).



- Evaluation of Liner Test Pad Geotechnical CQA/CQC Program letter (Jagger Hims, a Division of GENIVAR Consultants LP, July 2009): Required per Geotechnical CQA/CQC Program noted below.
- Waste Management of Canada Corporation Twin Creeks Landfill Use of Geonet for Secondary Drainage Layer (Henderson Paddon & Associates, January 2009: Item 55 of Schedule A of the Waste ECA.
- Development & Operations Plan Warwick Landfill Volumes 1 through 3 (Henderson Padden & Associates, March 2008): Items 66, 67, and 68 of Schedule A of the Waste ECA.
- Geotechnical CQA/CQC Program for Landfill Liner System letter (Jagger Hims Limited, March 2007): Part of Items 30 and 31 of Schedule A of the Waste ECA.

# 2. LINER SYSTEM

# 2.1 Liner System Conceptual Layout

The Liner System for Cell 6A comprised an area of approximately 6.74 hectares and consisted of the following layers.

#### First (Bottom) Layer:

 Secondary Liner (SL), which is the native clayey silt to silty clay soil at the Site (unsuitable material, such as silty sand and/or cobbles, where was encountered, was removed and replaced with select liner grade soil per remoulded and compacted clayey silt to silty clay soil per the requirements for the Primary Liner).

#### > <u>Second Layer:</u>

 Secondary Drainage Layer (SDL), which consists of geonet (geosynthetic grid that has a boxed tri-planer structure with geotextile attached to the top and bottom) across the top of the SL that gravity drains to drainage trenches that are backfilled over the geonet with high density polyethylene (HDPE) pipe embedded in drainage stone overlain with non-woven geotextile fabric.

#### > <u>Third Layer:</u>

 Primary Liner (PL), which is constructed on top of the SDL and consists of remoulded and compacted clayey silt to silty clay soil with a minimum design thickness of 0.8 metre (it is noted that the Site is approved with a 0.75 m thick PL, the additional 0.05 m is added for PL protection purposes from drying effects during construction).

#### > <u>Fourth (Top) Layer:</u>

 Primary Drainage Layer (PDL), which overlays the PL and consists of drainage stone that directs leachate by gravity to HDPE pipes within the drainage stone. Non-woven geotextile fabric is below and above the PDL.



# 2.2 Location and Slope Details

Cell 6A has a western limit at Site survey-control gridline 0+991W, and is north of Cell 4A, with a southern limit at an approximate connection of the two cells along the Site survey-control gridline 0+401S. The northern extent of Cell 6A is along Site survey-control gridline 0+101S. The east limit of Cell 6A is at Site survey-control gridline 0+769W. Actual north, east, south, and west limits for each layer of the Liner System are different due to the connection methodology of cell to cell (ie Cell 4 to Cell 6) or from cell stage to cell stage (ie. Cell 6A to Cell 6B). The aforementioned coordinates are the boundary limits for the PL. Cross-sectional details for cell to cell connection are presented in Section C on Drawing 708 of the 2022 Tender, while cross-sectional details for cell stage to cell stage connection are presented in Section D on Drawing 708 of the 2022 Tender. The SL and PL generally slope upward in a saw-tooth pattern from the low point at approximately Site survey-control gridline 0+300S and approximately Site survey-control gridline 0+300S and approximately Site survey-control gridline 0+945W at 0.5% with a slope trend 45° to the Site survey-control gridline system.

A temporary clayey soil seal was placed over each layer of the eastern limits approximately between gridlines 0+101S and 0+403.2S. In the future, this temporary clayey soil seal will be progressively removed for the connection of each layer to the Cell 6B Liner System. A similar clayey soil seal was previously placed over the northern limit of Cell 4A, which was partially removed to expose the PL for connection of the PL of Cell 4A to Cell 6A.

The SL is naturally connected between Cell 4A to Cell 6A. The SDL and PDL for Cell 4A to Cell 6A were not connected, in accordance with Items 75 to 77 of Schedule A of the Waste ECA. As-built temporary clay seal grades are detailed on Drawing 1006.

# 3. CQA/CQC INSPECTIONS

## **3.1 General Considerations**

Similar to previous CQA/CQC Programs for the Cell 1A Stages 1 and 2, Cell 1B Stages 1 and 2, Cell 2A, Cell 2B, Cell 2D, Cell 2D, Cell 2E, Cell 4A Stages 1 and 2, Cell 4B Stages 1 and 2, and Cell 4C, the CQA/CQC Program for Cell 6A accounted for failing material inspection results in accordance with USEPA recommendations for maximum allowable percentages of outliers due to the variable nature of liner material, as well as part of Items 30 and 31 of Schedule A of the Waste ECA. The USEPA notes that typical deviations range from 5% to 10% depending on the assessment parameter. It is noted that failed inspection results for the compacted clay liner for Cell 6A were notably less than 5%. Where encountered, the failed results were excluded from the database for the final overall statistical evaluation.



# **3.2 Secondary Liner**

#### 3.2.1 Basal Uplift Assessment

After excavation of large areas of soil to the top of SL elevation grades along the foot-print of Cell 6A, Basal Uplift Assessments were initiated on May 31, July 5, July 6, and July 11, 2022. The survey points were re-measured for vertical and lateral location on June 1, July 6, July 7, and July 13, 2022, respectively. This time-frame was equal to or greater than the required minimum of 24 hours between surveys.

Survey assessment shots were completed at a frequency of approximately 13 shots per hectare, which is greater than the minimum 5 shots per hectare, per the requirements of the QA/QC Program of Special Provision 22.0, Item 1.0 of Division 4 of the Contract No. 106716T. The frequency of shots taken amounted to approximately 13 shots per hectare, based on a cell floor area of approximately 6.74 hectares.

Each of the 88 survey points showed no indication of Basal Uplift (>30 mm uplift) from initial to the follow-up assessments. The data for each of the survey points for the initial to the follow-up assessments were essentially the same and are representative of minor variances attributed to the instrument and site survey control accuracy. Therefore, the results do not represent an upheaval or subsidence of soil but represent instrument/site control accuracy limitations.

In summary, the Basal Uplift Assessment for the base excavation of Cell 6A was completed as required and there was no indication of Basal Uplift.

Vertical elevations of the top of the SL were of acceptable tolerances (within 30 mm). Survey results are maintained on file. As-built SL surface grades are detailed on Drawing 1002.

### 3.2.2 Unsuitable Material Removal

The floor and the slopes of the SL of Cell 6A were inspected for sand lenses, as well as cobbles in excess of 100 mm in diameter. Unsuitable material (sand) was encountered on the west and north slopes of Cell 6A within the SL. As such this material was removed per the requirements of the QA/QC Program of Special Provision 30.0, item 11.0 of Division 4 of Contract 106716T. Protruding cobbles greater than 100 mm in diameter were removed from the surface of the SL as required. Finish grade of the SL was successfully achieved by grading and smooth drum roller finishing.

## **3.3 Drainage Layers**

As detailed in **Section 2.1**, the SDL and the PDL are generally constructed as detailed below.

• Secondary Drainage Layer (SDL), which consists of geonet (geosynthetic grid that has a boxed tri-planer structure with geotextile attached to the top and bottom) across the top of the SL that gravity drains to drainage trenches that are backfilled over the geonet with high density

polyethylene (HDPE) pipe embedded in drainage stone overlain with non-woven geotextile fabric.

• Primary Drainage Layer (PDL), which overlays the PL and consists of drainage stone that directs leachate by gravity to HDPE pipes within the drainage stone. Non-woven geotextile fabric is below and above the PDL.

### 3.3.1 Geonet Results

The geonet placed on the top of the SL was manufactured and supplied by GSE Environmental LLC of Houston, Texas, USA. GSE Environmental completed the QA/QC testing on the geonet product, with findings verified by the design engineer (WSP) that indicated that material satisfied or was better than the minimum specifications detailed in the following summary. Laboratory test reports are maintained on file.

#### **Geonet Characteristics:**

Property	Test Method	Units	Specification
Thickness (Min)	ASTM D 5199	mils (mm)	330 (8.4) ± 10%
Tensile Strength Ratio (Min)	ASTM D 7179	lbs/in (kN/m)	80 (14)
Density (Range)	ASTM D 792	g/cm ³	0.94-0.96
Melt Flow Index (Max)	ASTM D 1238	g/10 min	1.0
Carbon Black Content (Range)	ASTM D 4218	%	2-3

#### **Geonet Composite Characteristics:**

Property	Test Method	Units	Specification
Ply Adhesion (Min)	ASTM D 7005	lbs/in (g/in)	1.0 (454)
Transmissivity (Min)	ASTM D 4716	m²/sec	2.0 X 10 ⁻³ @ 0.1 Gradient

#### **Geotextile Characteristics:**

Property	Test Method	Units	Specification
Mullen Burst Strength (Min)	ASTM D 3786	kPa (psi)	2,900 (420)
Grab Tensile Strength (Min)	ASTM D 4632	N (lbs)	900 (202)
Puncture Resistance (Min)	ASTM D 4833	N (lbs)	500 (112)
Apparent Opening Size (Max)	ASTM D 4751	mm (U.S. Sieve)	0.21 (70)
Trapezoid Tear Strength (Min)	ASTM D 4533	N (lbs)	350 (79)
UV Resistance (500 hrs)	ASTM D 4355	%	70%
Mass (Min)	ASTM D 5261	g/m² (oz/yd²)	350 (10.2)



## 3.3.2 Geonet Placement

The geonet was installed by under the direction of Murphy Contracting Ltd. of London, ON (RMC). The geonet rolls were placed on the western sideslope portion of the SL in a west to east trend, and on the northern sideslope portion of the SL in a north to south trend. The geonet extended rom the top of slope to approximately Site survey-control gridline 0+940W and 0+155S, respectively, for the western and northern sideslopes. On the floor of the SL in Cell 6A, the geonet was placed in a north to south trend from approximately Site survey-control gridline 0+155S to 0+398S and between approximately Site survey-control gridline 0+940W.

In Cell 6A, the geonet core was zip-tied together as required at 1.5 m (roll length) 0.6 m (roll width) spacing or less with the geonet overlapped approximately 75 to 100 mm along the roll length and approximately 300 mm along the roll width (ends). The geotextile of the geonet was sewn with a two-thread, double-lock stitch typically with a 75 to 100 mm overlap. Areas of geonet that were patched were repaired in general accordance with manufacturer's recommendations. The southern and eastern limit of the geonet were enveloped (0.3 m underside and 0.6 m topside) with geotextile or sewn shut to prevent inward movement of fine soil. As required, the western and northern limits of geonet were anchored at the top of the western and northern sideslopes, respectively, to prevent slippage.

The degree of wrinkling was assessed and approved by CQA/CQC personnel prior to coverage of the SDL with the clayey soil of the PL.

In summary, the geonet was placed as required with proper orientation of the length of the rolls being at 45° to the slope trend of the SL (excavation base) floor and the side slope with seams properly overlapped, zip-tied, and sewn.

### 3.3.3 Geotextile Results

The geotextile was manufactured by GSE Environmental LLC of Houston, Texas, USA. Internal QA/QC of the material was completed by GSE Environmental LLC with results that were verified by the design engineer (WSP) to have met or be of superior quality than design specifications, which are detailed below. Laboratory test reports are maintained on file.

Property	Test method	Units	Specification
Mullen Burst Strength (Min)	ASTM D 3786	kPa	2,900
Tensile Strength (Min)	ASTM D 4632	N	900
Puncture Resistance (Min)	ASTM D 4833	N	500
Apparent Opening Size (Max)	ASTM D 4751	mm	0.21
Trapezoid Tear Strength (Min)	ASTM D 4533	N	350

#### **Geotextile Characteristics:**



UV Resistance (500 hrs)	ASTM D 4355	%	70%
Permittivity (Min)	ASTM D 4491	sec ⁻¹	0.2
Mass (Min)	ASTM D 5261	g/m²	350

### 3.3.4 Geotextile Placement

The geotextile was installed under the direction of RMC. The geotextile was placed above the SDL collection/drainage trenches, below and above the remolded and recompacted clayey soil as it was completed as well as above the PDL beginning approximately along the south Site survey-control gridline 0+401S of Cell 6A working toward the approximate north Site survey-control gridline of 0+101S. The geotextile above the SDL collection/drainage trenches was placed in a continuous length beginning on the west top of slope limit of Cell 6A to the east limit of Cell 6A, with an west to east trend. In addition, for the SDL collection line trenches, the geotextile was placed over the drainage stone parallel to the trenches for two roll widths to cover the trench top. The geotextile was not placed with an apparent directional trend throughout the base of Cell 6A. The geotextile was sewn with a two-thread, double-lock stitch typically with a 75 mm overlap.

In summary, the geotextile was placed as required with proper orientation of the length of the rolls being at 45° to the slope trend of the SL (excavation base) floor, as well as seams properly overlapped and sewn. The degree of wrinkling was assessed and approved by CQA/CQC personnel prior to coverage of the SDL with the clayey soil of the PL, and coverage of the PL with the drainage stone of the PDL.

The sewn seam strength was completed by CTT Group of Quebec, CAN for each of the geotextile layers (top of SDL, as well as bottom and top of PDL). Test results indicated that sewn seam strength is notably stronger than the required minimum of 90% of the tear strength of the geotextile. Laboratory test reports are maintained on file.

### 3.3.5 Drainage Stone Gradation Results

The drainage stone was supplied by Blythe Dale Sand and Gravel, Embro, ON, CAN (approximately 5,026 m³, was on-Site remaining from the 2021 purchase). The QA/QC service for the drainage stone gradation was completed by WSP Golder Associates Ltd. of London, ON, CAN and results were verified to meet or be of superior quality than the design specifications. Laboratory test reports are maintained on file. The gradation results for the drainage stone were better than the minimum project specifications, which in-turn is better than the requirements noted in Condition 7.15 of the Waste ECA. Samples were collected and tested at a frequency of every 2,000 cubic metres, for 15 samples total to date for the stone in the SDL and PDL. Project specifications are noted below.

- D₇₅ of 37 mm min.
- D₈ of 19 mm min.
- Uniformity coefficient ( $C_u = D_{60}/D_{10}$ ) of 1.8 max.



• 0.8% of the material was finer than the 0.075 mm particle size (i.e. passing the #200 sieve).

### 3.3.6 Drainage Stone Placement

The drainage stone was placed by RMC in accordance to design requirements, which satisfy and were better than noted in Conditions 7.16 and 7.17 of the Waste ECA. Continuous supervision by CQA/CQC personnel noted that approximately 50 mm of drainage stone was placed below, and 300 mm of drainage stone was placed above, the HDPE collection pipes in the SDL and PDL.

The drainage stone was protected from clay contamination from vehicle tracking during placement. As the drainage stone was being placed, the drainage stone was visually inspected for particle crushing/cracking that could be attributed to construction practice. No evidence of significant crushing/cracking of concern was observed.

In summary, the drainage stone was placed as required. As-built drawings for the SDL and PDL are appended as Drawings 702 and 704, respectively.

### 3.3.7 HDPE Collector Pipe Characteristics

The HDPE collector pipes were installed by RMC as required for both the SDL and PDL. The HDPE pipe was 250 mm diameter dimension ratio 6 (DR6) product. The collector pipe across the base of the SDL and PDL was factory perforated. Perforations were orientated in accordance to Condition 7.14 of the Waste ECA, and have the following characteristics.

- 19 mm diameter perforations.
- Perforations at 45°, 135°, 225°, and 315°; with minor deviations due to pipe rotation during manufacturing.
- Perforations spaced at 300 mm intervals.

### 3.3.8 HDPE Collector Pipe Placement

The HDPE collector pipes were heat-fusion welded and dragged into place. The connection of the pipes between Cell 6A and Cell 6B will be completed with a sleeve-fit connection, as presented in the Leachate Collector Temporary Cleanout Detail on Drawing 709 of the 2022 Tender. Temporary Cleanouts were installed during construction of the temporary clayey soil seal along the eastern limit of the Cell 6A Liner System and will be removed during the future Cell 6B construction where the Cell 6A and Cell 6B connection will be completed. Pipes were placed with the required drainage stone below/above them as noted in the Landfill Base with Geonet Detail on Drawing 709 of the 2022 Tender. The slope of the pipes, along the floor component of the SDL and PDL, was verified to be approximately 0.5%.

The stainless steel pull cable, to facilitate closed-circuit television (CCTV) access, was installed in each HDPE pipe for each the SDL and PDL, as required.



# 3.4 Clayey Soil Borrow Material

Clayey silt to silty clay that was used to construct the PL of Cell 6A was excavated from the borrow area of Cell 4C during 2021 construction activities. Laboratory test reports are maintained on file.

#### 2021 (Stockpile 7):

Parameter	Average Test Result	Test Result Range
Atterberg Limits	W _L : 40%, W _P : 20%; I _P : 20%	W _{L:} 37 to 43%, W _P : 19 to 22%, I _P : 17 to 22%
Particle Size Distribution	Clay: 43%, Silt: 53%, Sand: 4%, Gravel: 0%	Clay: 39 to 45%, Silt: 51 to 57%, Sand: 3 to 9%, Gravel: 0%
Hydraulic Conductivity	2.9 x 10 ⁻⁸ cm/s	2.7 to 3.3 x 10 ⁻⁸ cm/s
Compaction Curve	SPMDD: 1,646 kg/m ³ Optimum Moisture: 18.6%	SPMDD: 1,627 to 1,690 kg/m ³ Optimum Moisture: 17 to 20%
Water Content	18%	15 to 21%

The aforementioned listed information is based on the 2021 borrow area sampling programs, which were carried out at the frequencies as noted below.

Description	Frequency
Atterberg Limits, Particle Size Distribution and Compaction Curve	1 test per 5,000 m ³
Hydraulic Conductivity	1 test per 10,000 m ³
Water Content	1 test per 2,000 m ³

## 3.5 Remoulded & Compacted Clayey Soil Liner

The PL was continuously inspected by CQA/CQC personnel during placement. Key inspection activities included the following tasks.

- Pre-processing activities of the liner soil in the borrow material pile.
- Oversight of loose lift placement.
- Liner soil quality.
- Compaction methodology and testing.

#### 3.5.1 Pre-processing Activities of the Liner Soil

The select clayey liner soil in the borrow material pile required the addition of water to meet the required 1 to 3% greater than optimum moisture content range (see moisture and compaction details in Section 3.4).

Water was added as part of liner soil conditioning to the liner borrow material pile through water truck hauling from the four sedimentation ponds around Site, the temporary stormwater storage area located north of Cell 4C, as well as the SDL of Cell 4 (Pumping Station 6). This addition of water facilitated hydration and created an overall uniform product within the liner borrow material pile. Prior to loading and trucking clayey liner soil material to be placed in loose lifts for Cell 6A construction, the clayey liner soil material was then marginally hydrated to adjust for factors such as weather and any inconsistent pockets of clayey liner soil material that were encountered.

When encountered, cobbles greater than 100 mm in diameter were removed from the liner soil before the liner soil was transferred for PL construction.

## 3.5.2 Loose Lift Placement

Loose lifts were inspected during placement to verify that cobbles greater than 100 mm in diameter were not present in the soil. Where encountered, cobbles greater than 100 mm were removed prior to soil compaction. Also, inspections were completed to make sure that dry soil clods greater than 100 mm were not present. Lifts were also surveyed to make sure they were not placed too thick to inhibit proper lift to lift kneading during compaction.

Loose lifts were placed by dozers. Off-road trucks end-dumped the liner soil at the edge of the cell at select locations and then the dozers spread the soil at the required thickness for each lift. Loose lifts were placed from the north, east, and west boundaries of Cell 6A. The underlying geonet and geotextile were observed during placement activities and were noted to not slip or roll (wave) unacceptably along the floor.

Loose lifts were placed at approximately 150 mm thick and compacted to 100 mm thick. One exception was for the first loose lift, which was placed at 300 mm thick and compacted to approximately 200 mm. The thicker first lift is placed to prevent damage to the underlying SDL from the feet of the sheepsfoot compactor. It is noted the first and last lift of soil liners are classified as sacrificial lifts to serve as protection lifts to the inner lifts of the constructed liner.

Subsequent lifts were not placed until the underlying lift was approved by CQA/CQC personnel such that an adequate lift was constructed and that proper lift to lift kneading would occur. Where a leading edge of a completed section of liner was connected to a new section of liner, the connection was completed in a stair-step fashion, with each step length approximately 3-times the compacted lift height.

At the connection of Cell 4A to Cell 6A, the liner of Cell 6A was stair stepped/extended up and into the northern limit of the liner of Cell 4C. See Section C on Drawing 708 of the 2022 Tender for cross-section details for this connection.



## 3.5.3 Liner Soil Quality

The clayey soil liner material was also assessed during loose lift placement for select geotechnical quality components to verify the findings from the borrow material sampling program detailed in **Section 3.4**. Sample parameter and frequencies are noted below.

Parameter (ASTM Reference Method)	Test Frequency	
Atterberg Limits (ASTM D-4318)	1 test per 800 m ³	
Particle Size Distribution (ASTM D-422)	1 test per 800 m ³	
Water Content (ASTM D-2216, D-4643)	1 test per 800 m ³	
Compaction Curve (ASTM D-698)	1 test per 5,000 m ³	

Considering the aforementioned sampling program, summarized below are the select geotechnical quality results for the clayey soil material used to construct the PL for Cell 6A.

Parameter	Average Test Result	Test Result Range
Atterberg Limits	W _L : 42%, W _P : 19%, I _P : 23%	W _L : 38 to 46%, W _P : 16 to 21%, I _P : 19 to 29%
Particle Size Distribution	Clay 42%, Silt 53%, Sand 4%, Gravel: 0%	Clay: 34 to 46%, Silt: 49 to 59%, Sand: 2 to 7%, Gravel: 0 to 4%
Water Content	24.2%	19.8 to 28.7%
Compaction Curve	SPMDD: 1,643 kg/m ³ Optimum Moisture: 19.6 %	SPMDD: 1,618 to 1,689 kg/m ³ Optimum Moisture: 16.6 to 21.3%

In summary, the soil quality sampling program for the PL for Cell 6A noted that the material was suitable for use in construction of a liner. Furthermore, the results were generally consistent with the borrow material sampling findings for 2021. The average standard Proctor value for the 2022 Cell 6A samples was slightly less than the 2021 Stockpile 7 borrow material value. A target Proctor value of 1660 kg/m³ and associated moisture of 19% were used as the targets for the 2022 compacted liner. The 2021 and 2022 standard Proctor and moisture values are well within the historical range for the liner material for the Expansion Site (2009 to 2022). Laboratory test reports are maintained on file.

## 3.5.4 Compaction Methodology & Results

As discussed in **Section 3.5.2**, the liner is constructed in loose lifts, and then compacted. Compaction typically kneads the full loose lift thickness, as well as compresses the loose lift by 33% in thickness. The PL is a minimum of 800 mm thick, therefore, with a first compacted lift of 200 mm thick and subsequent lifts compacted to 100 mm thick, for a total of 7 lifts. Each lift was surveyed for thickness control, with less than 5% of the elevations deviating by more than the 30 mm tolerance. Loose lifts were compacted with a sheepsfoot compactor with 100 mm long feet. Each lift was assessed for the required number of compactor passes (six passes) over a given location at a minimum frequency of three times per lift per hectare. Full sheepsfoot penetration was noted, as well as the drum roll depressed into the lift by

another approximately 10 to 20 mm. Through these two observations it was concluded that each lift was kneaded into the underlying lift.

The PL was constructed in a continuous fashion to prevent desiccation to underlying lifts. The final lift was left slightly high (thicker), such that if desiccation were to occur it would be confined in this additional material and the upper sacrificial lift (lift 7) of the liner. Where a lift would be left overnight, the lift was inspected for proper moisture before the subsequent lift was added over top. If a lift was left exposed for longer than 24 hours (over weekends) the material was hydrated at a frequency such that the lift did not desiccate (more frequent during dry hot days, less frequent during cool cloudy days). Where a lift, or lifts, were unsuitable (too dry or too wet) this material was removed and replaced with new properly conditioned liner material per the above-noted methodology and in a stair-step fashion as detailed in **Section 3.5.2** for each leading face.

No areas of ponded water were present on the surface of a lift prior to subsequent lift placement. Where ponded water occurred, the undesirable material was pushed to the edge of the liner limit until it dried sufficiently to be used in construction.

Infield CQA/CQC testing of the PL was generally performed in a spatially representative manner across each lift of the liner floor and side wall, as determined by the field personnel.

Parameter (ASTM reference method)	Test Frequency
Rapid Density and Water Content Tests (ASTM D-2922)	13 tests per hectare per lift
Water Content Test (ASTM D-2216)	2 tests per hectare per lift
Density Test (ASTM D-2167)	1 test per hectare per lift

As discussed, the clayey soil liner material was compacted to a minimum of 98% of the standard Proctor maximum dry density (SPMDD) at 1 to 3% above optimum moisture content. The target standard Proctor density of 1660 kg/m³ was used during clay compaction, based on the historical Proctor results and slightly higher than the 2021 average of 1646 kg/m³ for the borrow material stockpile. Similarly, the 2022 moisture value of 19% was used for the target moisture based on the 2021 average for the borrow material stockpile. In situ testing of compaction was completed using a nuclear densitometer, and the density and water content results, as measured in the field, are summarized below for the 664 compaction tests taken for Cell 6A. It is noted that this is 51 more tests than the required quantity for Cell 6A (613 tests required).

Parameter	Measured Dry Density (kg/m³)	Measured Moisture (%)	Compaction (%)
Average	1,645	21	99
Maximum	1,701	22	100+
Minimum	1,619	20	98

Water content tests (ASTM D-2216) and density tests (ASTM D-2167) were completed as required for both the as-placed liner material and for the borrow piles. Laboratory results for 2022 were consistent and within the historical range for the 2021 laboratory results for the borrow area.

The rapid field density and water content tests obtained with the nuclear densiometer were relatively reflective of the 2021 laboratory results for the borrow area and are therefore, accurate as collected and are representative of actual conditions. The 2021 and 2022 standard Proctor and moisture values are well within the historical range for the liner material for the Expansion Site (2009 to 2022). As discussed in **Section 3.1**, where the target field compaction and/or moisture readings indicated rework of the liner was required, the rework was verified to meet the desired specifications.

In summary, the above field testing indicated that the liner soil was constructed at the acceptable compaction and moisture content for optimum placement. As-built PL surface grades are detailed on Drawing A1004.

# 3.6 Hydraulic Conductivity

The fundamental evaluation of the overall effectiveness of a clayey soil liner to contain liquid is to complete hydraulic conductivity testing. The hydraulic conductivity testing results of the Cell 6A clayey soil liner verified that the compaction and moisture of the soil during placement were at the ideal relationship to prevent micro-scale features (fractures and void spaces), which would facilitate liquid movement. Therefore, the liner of Cell 6A will effectively contain liquid.

The required design hydraulic conductivity for the liner is 5.0 x 10⁻⁸ cm/sec. This is to be assessed via collecting undisturbed samples using Shelby tube samples inserted into the constructed clayey liner, and performing laboratory hydraulic conductivity testing (ASTM D1857 and D-5084) at a rate of two times per hectare of finished liner.

A total of fourteen (14) Shelby tube samples were collected from Cell 6A, which satisfied the required testing frequency. Laboratory hydraulic conductivity results ranged from  $8.4 \times 10^{-9}$  to  $4.3 \times 10^{-8}$  cm/sec, with an average of  $2.0 \times 10^{-8}$  cm/sec.

In summary, each of the hydraulic conductivity tests of the PL of Cell 6A satisfied and were below the design requirement of a minimum of  $5.0 \times 10^{-8}$  cm/sec.



# 4. CLOSURE

In closure we note that Liner System for Cell 6A was constructed in conformance with relevant documents with acceptable CQA/CQC results. Cell 6A is acceptable for receipt of waste.

We trust that this CQA/CQC Cell 6A Liner System Summary Report is sufficient for your needs. Please contact is with any questions that you may have.

Yours very truly,

Prepared By:

RWDI

1

Brent J. Langille, B.Sc., P.Geo. Strategic Director | Principal 519-567-0205

Attachments: Drawings 1002 to 1006

cc: Mr. John McDonald - WM Ms. Angela McLachlan – WM Ms. Cristina Olarte – WSP Mr. Tesfaye Gebrezghi – MECP Mr. Sean Morrison – MECP Mr. Michael Harris – MECP Mr. Khalid Hussein - RWDI Reviewed By:

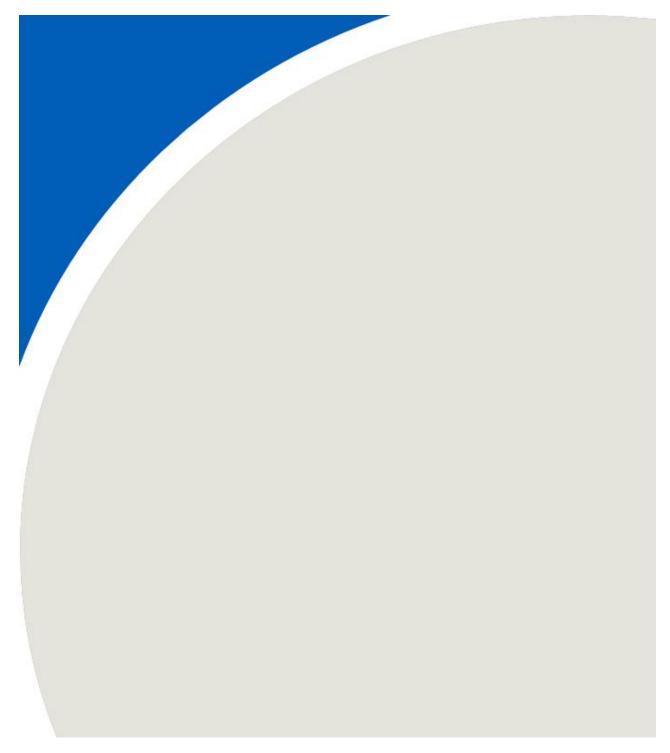
**GHD** Limited

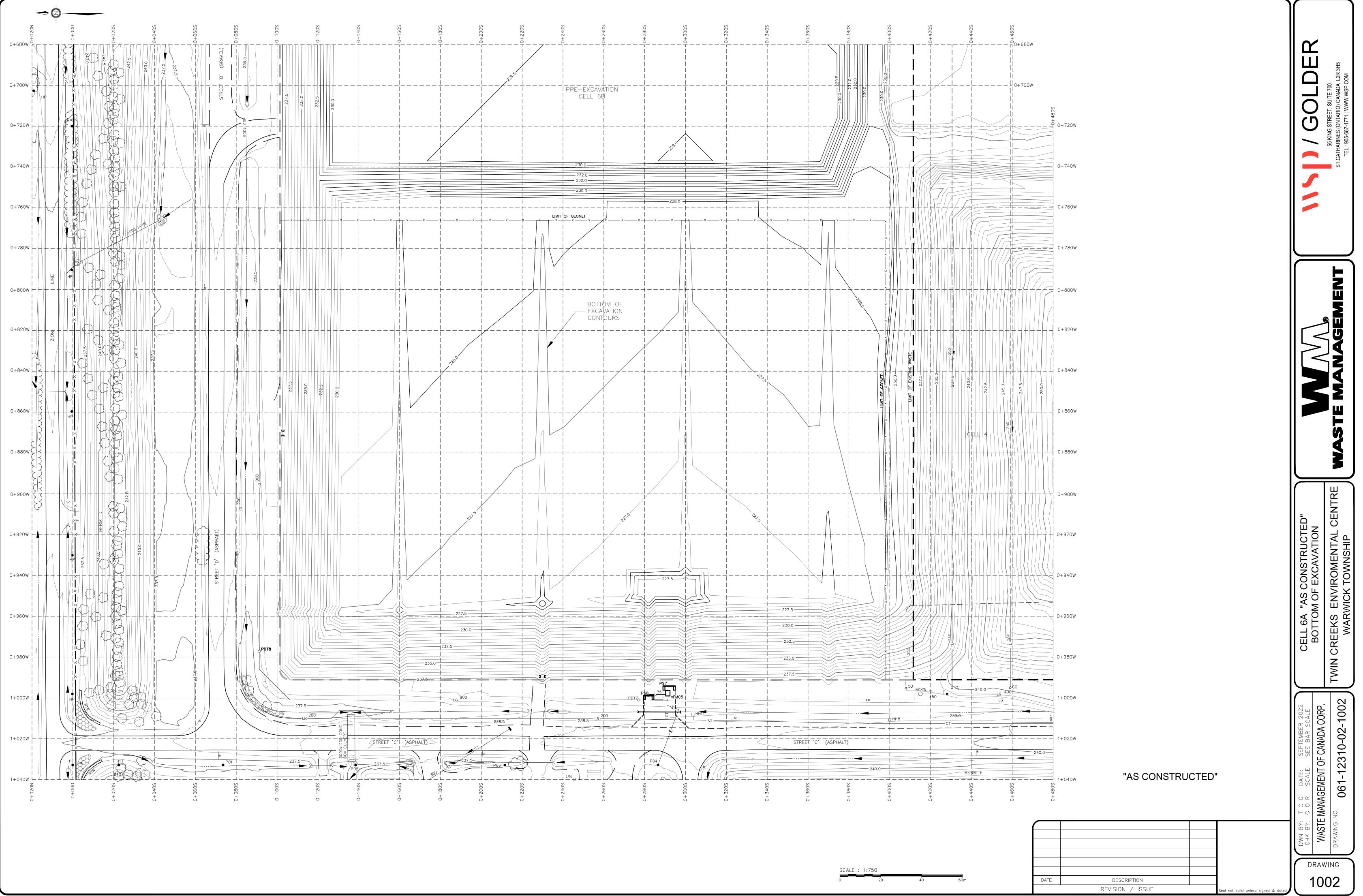
B_ M

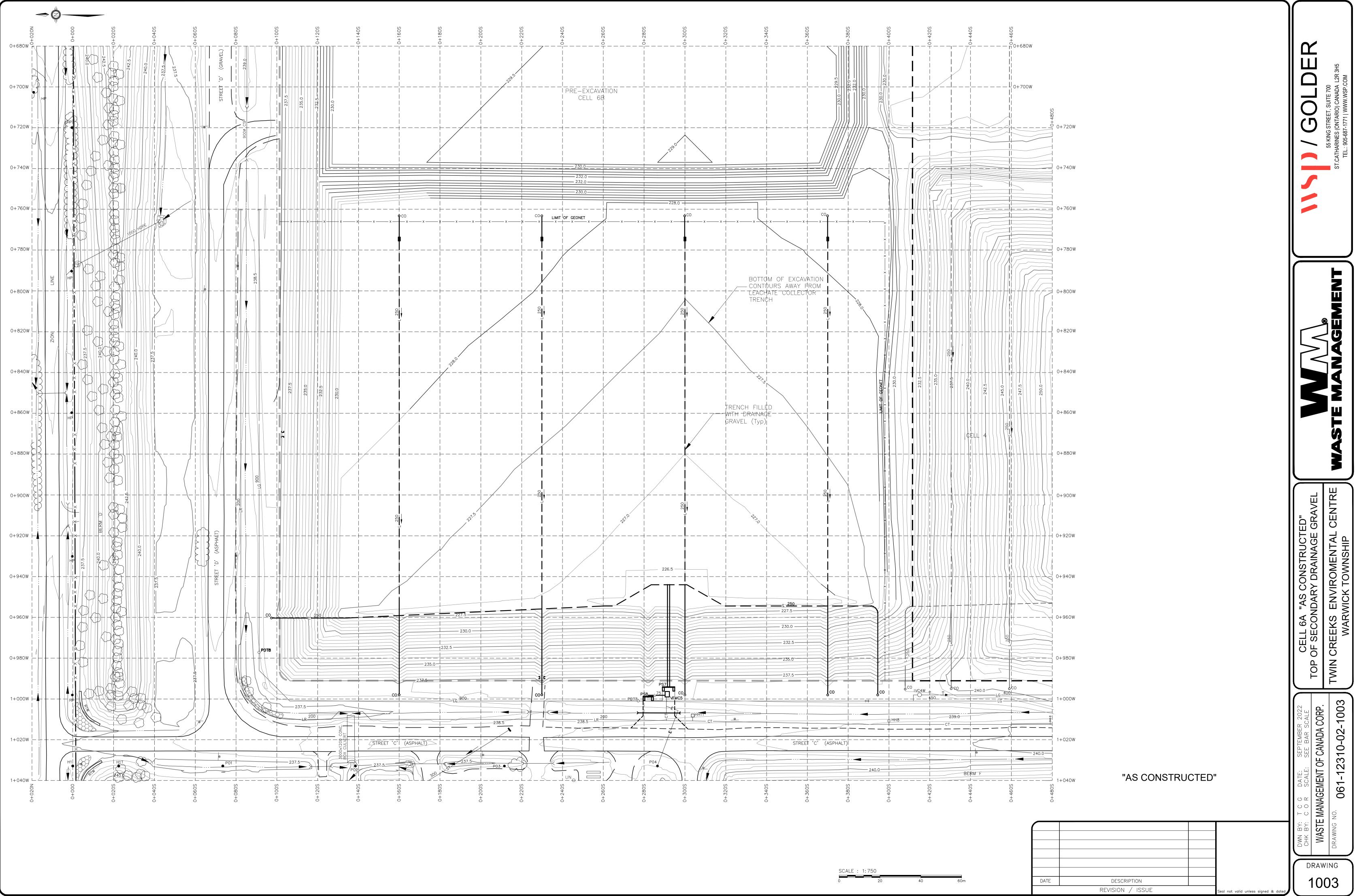
Bruce Polan, M.A.Sc., P.Eng. Geotechnical Engineer - Associate 519-884-0510

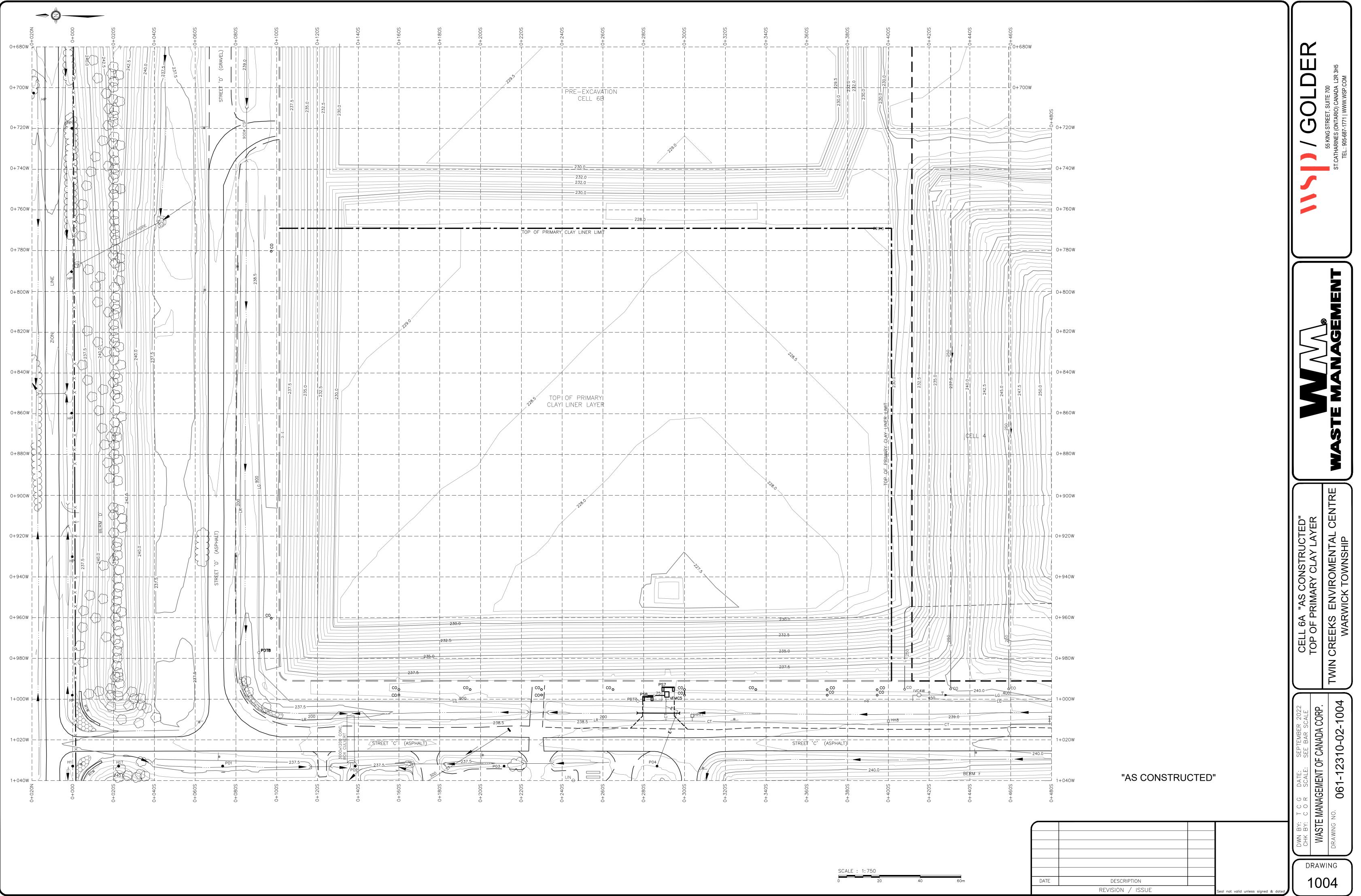


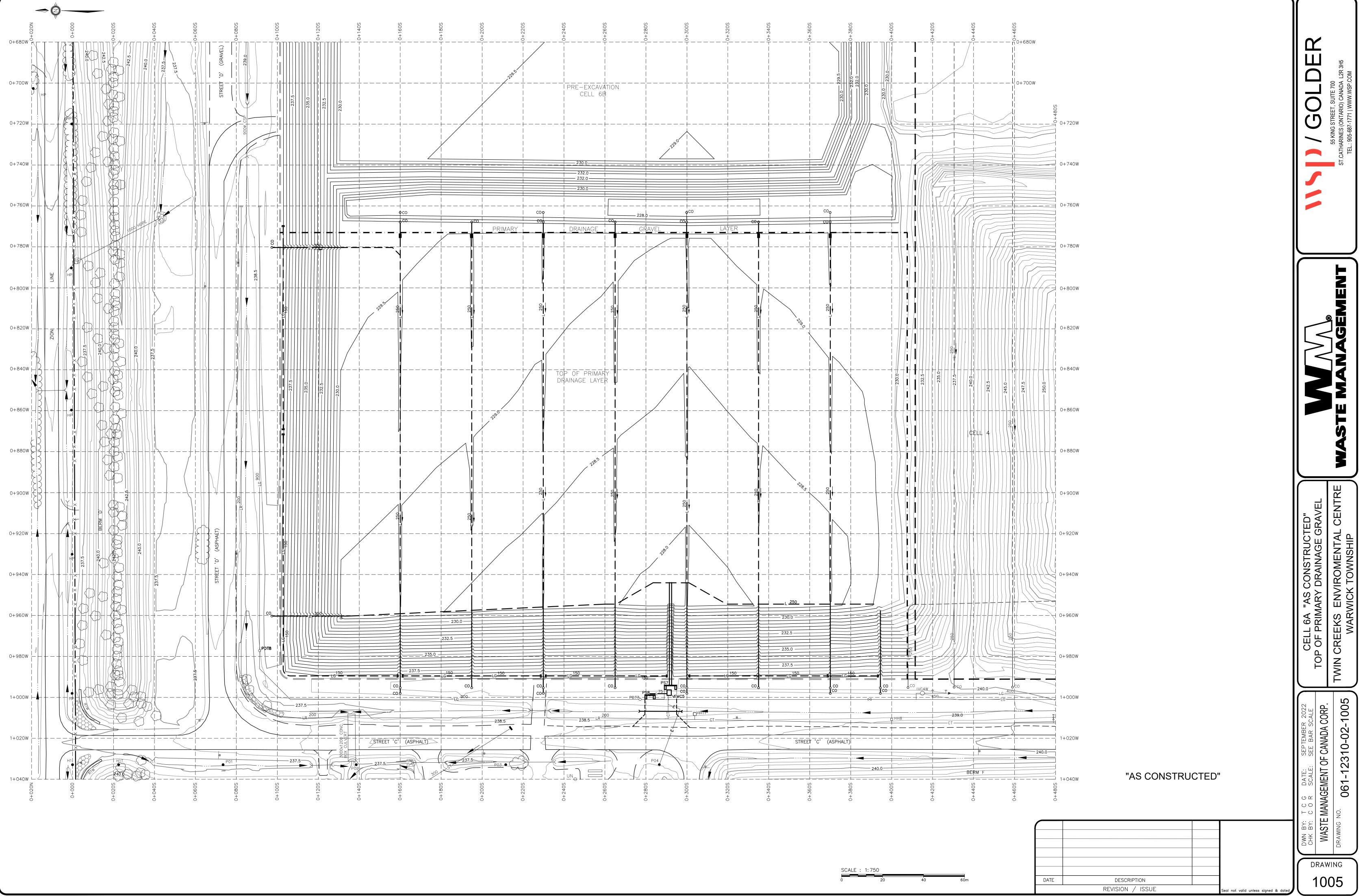
# ATTACHMENT

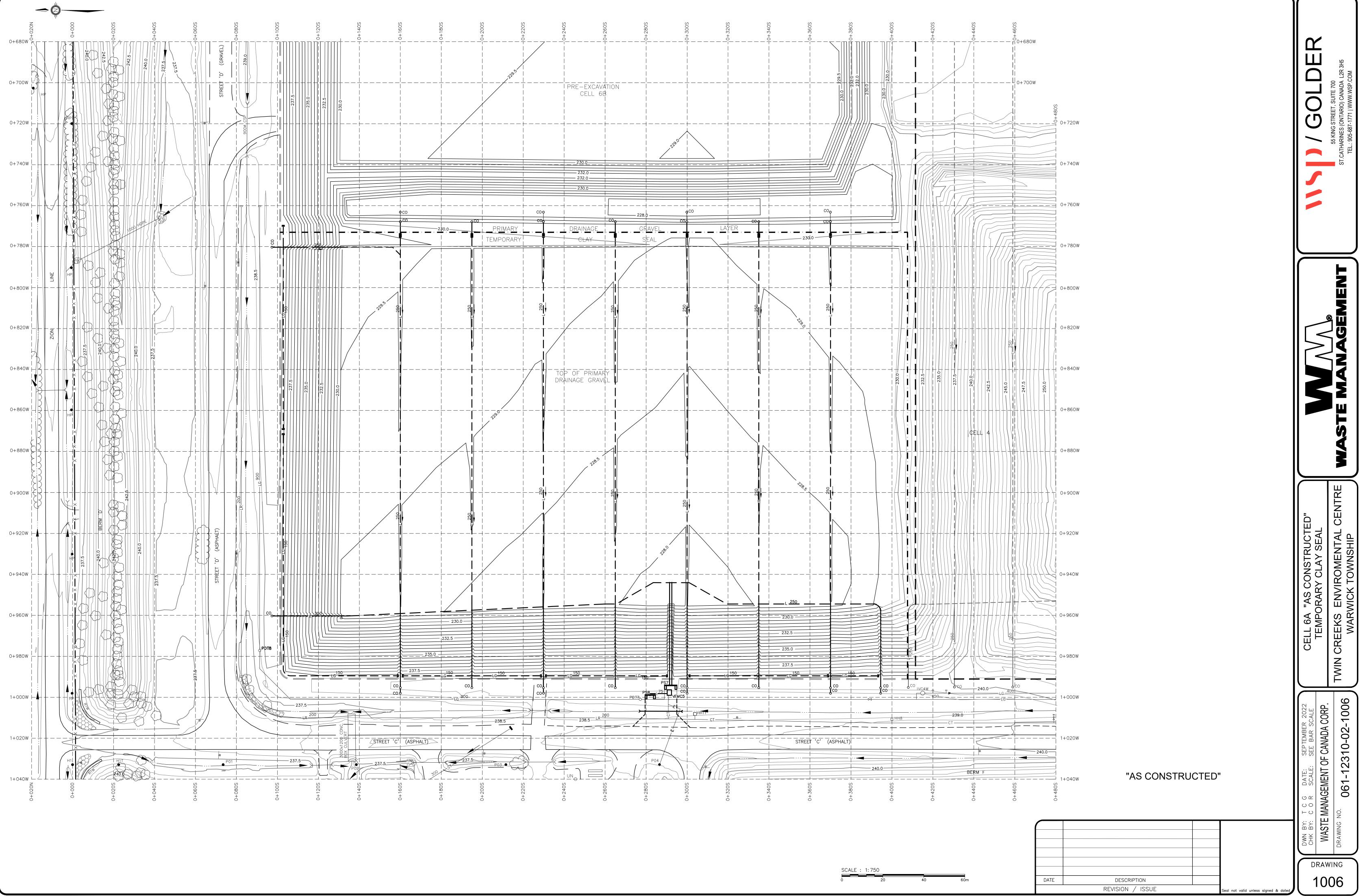








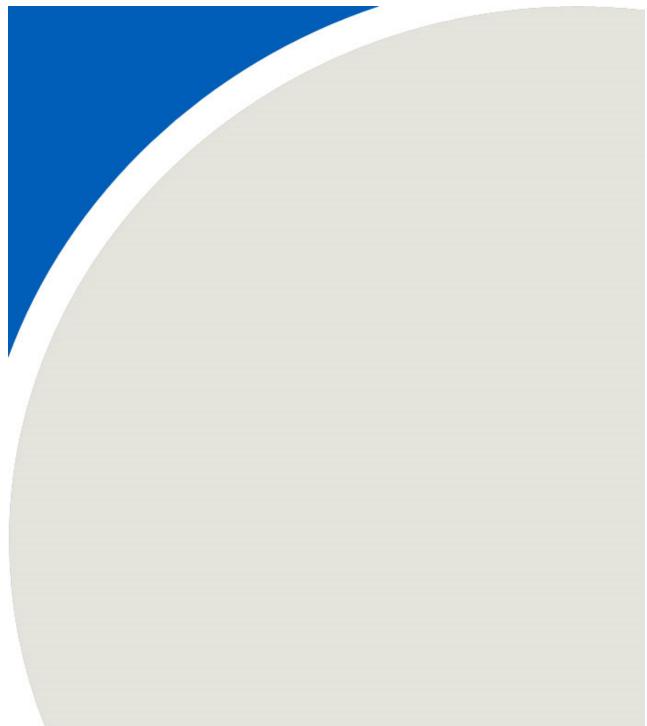






# APPENDIX M:

Monitoring Well and Gas Probe Status

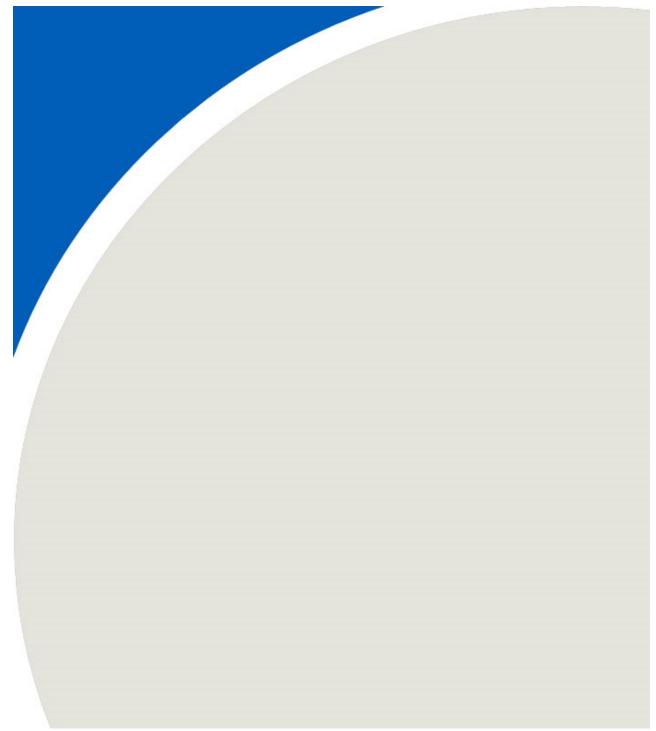


Groundwater well nests OW82, OW83, and OW84, along with gas probes GP9 and GP10 were installed at the Site in June 2022.



# APPENDIX N:

MECP Inspection Reports





## Twin Creeks Environmental Centre 5768 NAUVOO RD, WARWICK, ON, N0M 2S0 **Inspection Report**

System Number: Inspection Start Date: Inspected By: Badge #:

0470-4L8R85 12/01/2021 02/28/2022 Nicole Does 1932

Mirole Does

(signature)

#### **NON-COMPLIANCE/NON-CONFORMANCE ITEMS**

This should not be construed as a confirmation of full compliance with all potential applicable legal requirement and BMPs. These inspection findings are limited to the components and/or activities that were assessed, and the legislative framework(s) that were applied. It remains the responsibility of the owner to ensure compliance with all applicable legislative and regulatory requirements.

If you have any questions related to this inspection, please contact the signed Provincial Officer.

#### **INSPECTION DETAILS**

This section includes all questions that were assessed during the inspection.

#### Ministry Program: Regulated Activity: WASTE : Landfills

Question ID NOL 1		
Question	Question Type	Legislative Requirement
Does the Open landfill site have an Environmental Compliance Approval (ECA)?	Legislative	EPA   27   (1)
Observation		ł

Observation Yes

Landfill sites require an Environmental Compliance Approval (ECA) issued by the Ministry under the Environmental Protection Act in order to dispose of waste in Ontario. An ECA imposes conditions related to development, operation, and closure of the site. In order to assess compliance with these requirements, the Ministry is committed to conducting proactive inspections of waste disposal sites.

As part of the Sarnia District Office's 2021/22 inspection program, an inspection was conducted at the Twin Creeks Landfill (the Site) in Warwick Township, which is owned and operated by Waste Management of Canada Corporation (The Company).

The focus of this inspection was to assess the Company's operation of the Site against the terms and conditions of its Ministry approvals and with the requirements of applicable environmental legislation, regulations, and guidelines. This report also summarizes the findings of the weekly inspections conducted at the Site during the fourth quarter (Q4) of 2021/2022 fiscal year (FY), covering the period of December 1, 2021 to February 28, 2022.

The Site has the following Ministry approvals:

#### WASTE DISPOSAL SITE:

ECA No. A032203, dated December 19, 2020

- For the operation of a 101.8-hectare landfilling area with a total site area of 301 hectares, accepting only municipal, industrial, commercial, institutional solid non-hazardous waste generated within Ontario, including non-hazardous contaminated soil. The site is approved to receive 1,400,000 tonnes per year.

AIR:

ECA No. 4155-BMCLZ8, dated March 3, 2020

Approved to install and operate:

- four enclosed flare systems;

- emergency diesel generators to provide back-up power as needed;

- a 50kW diesel generator to provide regular power to the south fill area leachate pumping system; and- exhaust fans, exhaust louvres, and aeration tanks exhausting to the atmosphere from the leachate treatment facility.

# INDUSTRIAL SEWAGE:

ECA No. 2403-BE6LZ4, dated August 21, 2019

- Issued for the establishment of a leachate collection, treatment, and disposal facility as well as a stormwater management facility to service the Site.

PERMIT TO TAKE WATER (PTTW):

No. 4682-BLJRYJ, dated November 8, 2021

Issued for dewatering at the Site and industrial activities such as road watering to reduce dust. On-Site water taking locations include:

- stormwater management ponds 1, 2, 3, and 4

- secondary drainage layer (SDL)

- four pumping stations, PS2, PS4, PS6, PS8.

Question ID NOL 2		
Question	Question	Legislative
	Туре	Requirement
Is this landfill on Crown land?	Information	Not Applicable
Observation		
No		

<b>Question ID</b>	NOL 4		
Question		Question	Legislative
		Туре	Requirement
Does the landfi	ll have a Contaminant Attenuation Zone	Information	Not Applicable
(CAZ)?			
Observation			
No			

Question ID NOL 12		
Question	Question Type	Legislative Requirement
Does the landfill have a large enough Buffer Area as specified in the ECA or Regulation 232/98?	Legislative	EPA   27   (1)
Observation		
Yes		

Question ID NOL 13		
Question	Question	Legislative
	Туре	Requirement
Are access roads and on-site roads provided so that vehicles	Information	EPA   27   (1)
hauling waste to and on the site may travel readily on any		
day under all normal weather conditions?		
Observation		

Yes

Access to and exit from the Site for the transportation of waste is permitted from Country Road 79 (Nauvoo Road). No issues with on-Site road access were identified in Q4 2021/22.

Question ID NOL 14		
Question	Question	Legislative
	Туре	Requirement
Is site access limited to times when an attendant is on duty?	Legislative	EPA   27   (1)
Observation		
Yes		

An attendant is always on duty at the Site during operating hours.

Question ID NOL 15		
Question	Question	Legislative
	Туре	Requirement
Does the site only receive waste from within its approved service area?	Legislative	EPA   27   (1)
Observation		

Yes

The Site is approved to receive waste from within the province of Ontario.

During the inspection, a number of scale tickets and waste acceptance records were reviewed within Q4 (Dec. 2021 - Feb. 2022). According to the reviewed scale tickets provided by the Company on the select dates, all waste originated from within Ontario.

The Site is approved for the use and operation of a 101.8-hectare landfilling area with a total Site area of 301 hectares. During Q4, the Company deposited waste in Cell 4B and 4C of the Expansion Site. Also ongoing was the pre-excavation construction activities within Cell 6A, which is within the approved landfill footprint.

Condition 6.6 of ECA No. A032203 authorizes the Company to receive up to a maximum of 1,400,000 tonnes of waste per year (including contaminated soil) for disposal at the Site.

According to the tonnage reports provided by the Company, monthly totals for Q4 are as follows: December 2021 - 69,942.89 tonnes January 2022 - 95,828.36 tonnes February 2022 - 102,611.96 tonnes

In the 2021 calendar year, the Site received a total of 1,399,849.06 tonnes of waste, which is just below their maximum yearly tonnage limit. Of this amount, 94,319.39 tonnes was contaminated soil and 1,302.94 tonnes was waste from the Township of Warwick public drop-off bins.

Question ID	NOL 16		
Question		Question	Legislative

	Туре	Requirement
Is the site required to have a ground water monitoring program by the ECA?	Information	Not Applicable
Observation		•

Yes

The following Site-specific approvals outline the requirements for groundwater monitoring:

- Industrial Sewage ECA No. 2403-BE6LZ4:

Specifies operation, monitoring and reporting requirements related to storm/surface water, ground water, leachate, leachate treatment plant effluent, and treated effluent storage pond monitoring programs.

- Waste Disposal Site ECA No. A032203:

Condition 13.6 requires monitoring programs to be carried out for groundwater, surface water, and landfill gas in accordance with the Environmental Monitoring Plan (EMP), listed as Item 39 and Appendix H of Item 68 of Schedule "A".

Groundwater monitoring is completed semi-annually in the spring and fall as per the EMP.

Question ID NOL 17		
Question	Question	Legislative
	Туре	Requirement
Is the site implementing the groundwater monitoring	Legislative	EPA   27   (1)
program as required by the ECA?		
Observation		

Yes

The Company documents the results of the required monitoring programs in quarterly and annual monitoring reports which are routinely reviewed by the Ministry for compliance purposes.

The 2021 Fourth Quarter ("Q4") Monitoring Report was submitted to the Ministry in conjunction with the 2021 Annual Report on March 1, 2022. The Company's quarterly reports are reported by calendar year and are required by Condition 15.4 of ECA No. A032203 and Condition 12.3 of ECA No. 2403-BE6LZ4. Their Q4 reporting period reflects all monitoring completed between October 1 and December 31, 2021, and was reviewed as part of this inspection.

The fall (semi-annual) groundwater sampling was completed on November 2 to 3, 2021. RWDI reported that the analytical results of the groundwater monitoring wells generally satisfied the relevant trigger concentrations.

RWDI attributed the elevated chloride concentrations at monitoring location OW81-7 during the spring sampling event to road salting effects from Nauvoo Road. The second round of verification sampling was conducted in November 2021, which confirmed the initial assessment findings. An Alternative Source Evaluation as per Figure 3 of the EMP was also completed. Based on these results, the next step is to submit a request to the Ministry to remove chloride as a PLIL parameter at OW81-7. During this inspection an update on the status of this was requested. RDWI stated that the final version is expected to be submitted by end of April 2022.

Legislative

Requirement

Question ID NOL 20		
Question	Question Type	Legislative Requirement
Is there ongoing abatement to address any concerns the ministry has with the ground water monitoring?	Information	Not Applicable
Observation		
No		

# Question ID NOL 21 Question Question Type

Is the site required to manage leachate by the ECA? Information Not Applicable **Observation** 

Yes

The Site is required to manage leachate in accordance with the Industrial Sewage ECA No. 2403-BE6LZ4 and Waste ECA No. A032203.

Leachate Collection - Existing Site:

This consists of:

- Three finger drains in the South Fill Area;

- Pumping sump in the West Central Cell near monitoring station OW-29;

- Two parallel waste underdrains in Cell 3S (north of the South Fill Area); and

- Waste underdrains in the Northern part of Cell 5 and in Cells 4, 6, 7, 8, 9, 10 and 11.

The waste under-drains direct leachate to a perimeter collection system which is then automatically pumped to the leachate equalization tank.

Leachate Collection - Expansion Site:

A leachate collection system has been installed in Cell 1, Cell 2 and Cell 4. The leachate level in the primary drainage layer of these cells is currently controlled by automated Pump Station 1 (PS1), Pump Station 3 (PS3) and Pump Station 5 (PS5). Leachate is transferred from the Primary Drainage Layer (PDL) to the leachate equalization tank. The Secondary Drainage Layer (SDL) is controlled by PS2, PS4, and PS6. The trigger for implementation of groundwater contingency measures for the Expansion Site is the loss of hydraulic containment. This occurs when leachate levels within the PDL are higher than the surrounding groundwater elevations.

Poplar Tree Leachate Irrigation System:

The Company has established a drip irrigation system which supplies leachate to a stand of poplar trees, known as the Poplar System ("PS"). The poplars are located on top of a portion of the existing landfill and have been operable since September 27, 2017. The PS is only utilized on a seasonal basis when the trees can actively uptake the leachate.

There are a number of monitoring requirements under Condition 8.7 of ECA No. A032203 related to the PS including soil monitoring, visual assessments, leachate monitoring, tree tissue monitoring and surface water monitoring.

## Off-Site Leachate Disposal:

The remaining leachate produced from both the existing and expansion site is hauled off-Site for treatment and disposal at the Chatham Water Pollution Control Plant or Canflow Environmental Services in Ontario. According to reports provided by the Company, 4727.02 mt of leachate was hauled off-site in December 2021, 5190.48 mt in January 2022, and 3233.5 mt in February 2022 for disposal.

In 2021, a total of 6403.03 m3 was irrigated onto the PS during the growing season and 44,284.83 m3 was shipped for off-Site disposal.

Question ID NOL 22		
Question	Question	Legislative
	Туре	Requirement
Is the landfill implementing the procedures required by the	Legislative	EPA   27   (1)
ECA to manage leachate?		

Observation

Yes

**Existing Site:** 

Leachate liquid levels are monitored semi-annually in May and November for the Existing Site. During the Company's Q4 reporting period, monitoring was completed on November 1, 2021.

Overall, hydraulic containment of the leachate in the Existing Site was generally maintained, with some exceptions as described in the Q4/Annual report. Higher leachate levels in several cells of the existing site in November was attributed to the greater number of precipitation events during the 2021 growing season, which reduced the amount of leachate extracted for poplar system irrigation, and increased the generation of leachate due to rain infiltration. In summary RWDI stated that the leachate levels did not represent a concern, based on the acceptable groundwater and surfacewater results in 2021. Also, no leachate seeps in the Existing Site were observed by the Ministry or RWDI in 2021.

Over the long term, leachate levels are expected to decrease in the Existing Site since it is capped and leachate is extracted for poplar system irrigation and off-Site disposal.

Expansion Site:

For the Expansion Site ECA No. A032203 condition 7.18 requires that a hydraulic trap be developed and maintained beneath the expansion area and that the leachate head on the landfill liner does not exceed 300 mm. Condition 14.1 also requires additional groundwater level monitoring if the leachate level elevation in any of the following pumping station wells rise above their respective trigger level:

PS1 - 232.7 mASL PS3 - 232.6 mASL PS5 - 232.8 mASL PS7 - 233.4 mASL (not yet installed)

According to Table F-6 of the Company's Q4/Annual report, for the monitoring period of October

- December 2021 leachate levels remained below their trigger elevations, as outlined in Condition 14.1. The leachate levels in the pumping stations also remained below the maximum leachate head limit (300 mm), as outlined in Condition 7.18, with the exception of PS5 on three occasions from Oct. 26 - Nov. 3, Dec. 13 - Dec. 14, and Dec. 27 to Dec. 31, 2022. Majority of these exceedances were only slightly above the limit by 3cm or less. RWDI stated that these occurrences were related to precipitation and/or snowmelt and the time it takes for it to percolate to the leachate collection system. The Environmental Monitoring Plan (EMP) mentions that temporary exceedances of this limit may occur during landfill construction after precipitation events.

Starting mid-October, the Company reported that the PS3 level sensor was faulty and was still awaiting replacement, due to supplier delays. To ensure compliance with the respective trigger levels, the pump was set to pump every 10 minutes, and turn off once no flow was detected. Compliance of PS3's levels was not able to be assessed during this inspection due to elevation reading errors.

RWDI reported that the leachate elevations within Cell 1, 2, and 4 were below the historical groundwater elevation in the active aquitard and the interstadial silt and sand groundwater flow systems and was therefore hydraulically contained.

During the Ministry's weekly inspections in the Q4 fiscal year (December - February), no leachate seeps were observed at the Expansion Site.

Question ID NOL 23		
Question	Question Type	Legislative Requirement
Are samples taken to monitor leachate quality?	Legislative	EPA   27   (1), EPA   O. Reg. 232/98   26
Observation	L	

Yes

**Existing Site:** 

Leachate quality is assessed annually in May for manholes within the Existing Site and the leachate pumping stations of the Expansion Site.

Expansion Site:

Leachate quality from the equalization tank is assessed quarterly, with an extended list of parameters assessed semi-annually (May and November). The Equalization Tank represents leachate quality from PS1 (Cell 1), PS3 (Cell 3) and PS5 (Cell 4A) of the Expansion Site, automated maintenance holes in the Existing Site, and condensate from the gas collection system. No concerns for leachate quality were noted for the Q4 results taken on November 4, 2021. RWDI reported that leachate quality in 2021 was generally consistent with historical monitoring results for the relevant constituents.

### Poplar System (PS):

The PS is authorized to operate from May 1 - Oct. 15th. During the irrigation season there are a number of monitoring and reporting requirements. Irrigation liquid quality is sampled monthly in consideration of the application rates to the trees. In 2021, the PS was operational until September 30th. The PS was not active during this inspection's Q4 review period.

Question	Legislative
Туре	Requirement
Information	Not Applicable
	Туре

Question ID NOL 25		
Question	Question Type	Legislative Requirement
Is there ongoing abatement to address any concerns the ministry has with the leachate monitoring?	Information	Not Applicable
Observation		
No		

Question ID NOL 26		
Question	Question Type	Legislative Requirement
Is the site required to manage landfill gas by the ECA?	Information	Not Applicable
Observation		
Yes Gas produced by the landfill is managed by the on-Site gas c portion of this gas is conveyed from the landfill to a neighbo and used for building heat for a large greenhouse on an as-ne The remaining gas is sent to one of the two existing flares on	uring property, w eded basis during	here it is converted

Waste ECA No. A032203:

- Condition 7.10 and 13.6 requires the gas control system to be managed and monitored as specified in the D&O Report and the EMP.

- Condition 14.8 states that if landfill gas concentrations exceed 10% LEL (Lower Explosive Limit) during monitoring, the Company is to undertake additional monitoring to determine if the elevated levels are landfill related.

- The Company must report all landfill gas monitoring to the Ministry on a quarterly and annually basis.

### Air ECA No. 4155-BMCLZ8:

- Describes the notifications, operation, maintenance, performance and record keeping requirements for the flaring system.

- Notably, condition 2 (c) requires the Company to use a Continuous Emission Monitoring System to ensure each flare operates with a minimum temperature of 875 degrees Celsius at a point representing a minimum retention time of 0.7 second, at all times when the landfill gas incineration is in progress.

Question ID NOL 27		
Question	Question	Legislative
	Туре	Requirement
Is the site implementing the landfill gas manangement requirements in the ECA?	Legislative	EPA   27   (1)
Observation		

Yes

Landfill gas monitoring is completed monthly from November to April and in July at gas probes GP1A to GP8. Methane gas was not detected within any of the gas probes in 2021, according to the Company's Q4/Annual Report.

Total Hydrocarbon (THC) capped surface monitoring is conducted in the spring and fall in accordance with the Ambient Air Quality Monitoring Plan (AAQMP), required by Condition 13.8 of ECA No. A032203. It consists of a walk-over survey of the final capped landfill area using a handheld THC analyzer. Elevated THC concentrations are indicators of the escape of possible landfill gas in certain areas. The fall monitoring was conducted on October 20, 2021 and identified no locations in need of repair, meaning there were no THC concentrations measured at 500 ppm or greater.

The temperatures of the flares are checked during the unannounced weekly inspections to ensure they are operating above 875 degrees Celsius. During the fiscal Q4 period of December to February, flare #2 was operating and was above 875 degrees Celsius according to the SCADA system on all occasions. The remainder of landfill gas collected was sent to the greenhouse for building heat utilization.

Deficiencies in the gas collection system were noted by the Company for the following reasons:

- Temporary power outages which causes the gas collection system to shut down. The power supply at the Site comes from Hydro One. Power outages usually occur due to supplier issues or starlings (birds) that congregate on the power lines on or near the Site and cause static which shorts the lines as they fly away, known as "bird strikes". The Company continues to install arrestors, bird shields and other electrical protectors to reduce these occurrences. In general, when power outages occur the back-up generator for the gas collection system starts automatically within seconds, unless enough air to the flare is lost or the flare light goes out. In this case, an operator has to reset the system manually on-Site. Gas Technicians are sent automatic notifications to their phones if a power outage occurs and/or if the flare goes down. The Company has also had issues with the network going down, which doesn't allow for notifications to go through. This causes a problem when the gas collection system goes down during non-operating hours and no one is notified. J. McDonald says their battery back-up was recently replaced and

they now have a UPS (uninterrupted power supply) to reduce network shutdowns during power outages.

- Damages to the early rising vertical gas wells during the raising process of the wells. Supplier delays for parts like extra lids caused delays in these repairs. The Company now keeps extra lids on-Site to avoid these delays in the future. They has also since reviewed their well raising process and now ensures gas technicians are on-Site on days where well raising is occurring, in order to limit the amount of damage done to the wells due to operator errors.

- Landfill gas being produced within the vertical gas wells in Cell 4B and 4C and released to atmosphere because they are not yet connected due to delays in achieving sufficient waste height. Vertical wells cannot be fully connected to the collection system until landfilling in the cell is for the most part completed. This delay was caused by an early start to landfilling in Cell 4C in order to get the newly constructed liner covered, which slowed down the progression of landfilling in Cell 4B. Company Representative John McDonald reported that this was due to the timing of 4C liner construction, but that they would not have the same issue with the next cell, Cell 6A. In the interim the Company took efforts to reduce landfill gas escape from these wells through improving the seals with bentonite around the casings, caulking, and/or welding.

The Company attributes the odour complaints in part to the these factors in 2021/2022.

Question ID NOL 29		
Question	Question	Legislative
	Туре	Requirement
Is the ministry concerned with landfill gas at this site?	Information	Not Applicable
Observation		
No		
The concerns with landfill gas at the Site were addressed a	s part of this inspec	ction. The
undersigned officer will continue to monitor the actions tal	ken by the Compan	y to manage landfill
gas at the Site during the Ministry's weekly inspections.		

Question ID NOL 30		
Question	Question Type	Legislative Requirement
Is there ongoing abatement to address any concerns the ministry has with landfill gas at this site?	Information	Not Applicable
Observation		
No		

Question ID NOL 31		
Question	Question Type	Legislative Requirement
Is the site required to have a surface water monitoring program by the ECA?	Information	Not Applicable

### Observation

Yes

The following Site-specific approvals outline the requirements for surfacewater monitoring:

- Industrial Sewage ECA No. 2403-BE6LZ4:

Specifies operation, monitoring and reporting requirements related to storm/surface water, ground water, leachate, leachate treatment plant effluent, and treated effluent storage pond monitoring programs.

- Waste Disposal Site ECA No. A032203:

Condition 13.6 requires monitoring programs to be carried out for groundwater, surface water, and landfill gas in accordance with the Environmental Monitoring Plan (EMP), listed as Item 39 and Appendix H of Item 68 of Schedule "A".

The Company conducts quarterly surface water monitoring following precipitation events of greater than 10 mm in a 24-hour period.

Question ID NOL 32		
Question	Question Type	Legislative Requirement
Is the site implementing the surface water monitoring program as required by the ECA?	Legislative	EPA   27   (1)

### Observation

Yes

Following precipitation events of greater than 10 mm in a 24-hour period, routine surfacewater samples were collected on October 4, 2021 at monitoring stations SS1, SP2, SP3, SP4, and SP1. Samples were not collected at SS10 and SS16 due to no flow conditions. The relevant trigger concentrations for these samples were satisfied, with the following exceptions:

- The concentration of boron exceeded the trigger concentration of 0.20mg/L at monitoring stations SS1 (0.26 mg/L), SP2 (0.22 mg/L), and SP3 (0.22 mg/L), due to the lasting erosional effects of Street C reconstruction activities and other nearby soil erosional effects. RWDI noted that for stations SS1 and SP2, it is anticipated that the water quality will return to the quality observed prior to Street C reconstruction activities once the vegetation along the ditches is re-established. It was reported that straw-bale check dams were re-installed upstream of SS1 and SP2 prior to sampling, which demonstrated improved results.

Verification monitoring was completed on October 15, 2021, which indicated an acceptable concentration of boron at SP3, but concentrations greater than the respective trigger concentrations for SS1 and SP2. The biological results for all three sample locations indicated that the water quality did not pose a detrimental effect to aquatic life and was of acceptable quality for continued discharge.

The Poplar System (PS) monitoring stations SS14A, SS14B and SS15A were also sampled as part of the routine quarterly monitoring event on October 4 and 26, 2021 and the storm monitoring events were completed on September 8 and 23, 2021. In summary, RWDI stated that the 2021

chemical results for stations SS14B and SS15A may be partly indicative of an irrigation liquid impact to surface water runoff from the operation of the PS. They noted however that the chemical results at the downstream location of SP1 did not support this effect, and location SS1 which is further downstream of SP1 showed acceptable water quality. RWDI also noted that the indicator parameter concentrations also appear to be present in these locations in part due to the erosional effects of localized construction and excavation/hauling activities at Cell 4 and 6 within 2021. This is evidenced by elevated turbidity values while sampling at certain locations.

Overall, RWDI concluded that the 2021 surface water results for the PS monitoring stations did not indicate a negative affect to downstream water quality due to the runoff from the PS. These stations are not required to be assessed against the trigger concentrations as outlined in the EMP.

The Ministry's Regional Technical Support staff will be conducting a more detailed surfacewater and groundwater review of the 2021 Annual Monitoring Report.

Question ID NOL 34		
Question	Question Type	Legislative Requirement
Are there water quality concerns with the results of the samples that have been tested?	Information	Not Applicable
Observation		
No		

Question ID NOL 35		
Question	Question Type	Legislative Requirement
Is there ongoing abatement to address any concerns the ministry has with the surface water monitoring?	Information	Not Applicable
Observation		
No		

Question ID NOL 36			
Question		Question	Legislative
		Туре	Requirement
	ble for the compaction of waste	Legislative	EPA   27   (1)
and applying cover materia	1?		
Observation			
Yes			
The proper equipment for	vaste compaction and daily cover	application was o	bserved during the
Ministry's weekly on-Site	nspections.		-
	-		

<b>Question ID</b>	NOL 37		
Question		Question	Legislative

	Туре	Requirement
Is the landfill able to accurately determine the amount of	Legislative	EPA   27   (1)
waste received?		
Observation		

Yes

The Site has an entrance and exit scale and records all incoming waste volumes. Tonnage tracking reports are also sent to the Ministry on a monthly basis and yearly waste quantities are summarized in the annual reports.

Question ID NOL 38			
Question	Question Type	Legislative Requirement	
Are all disposal operations at the site adequately and continually supervised?	Legislative	EPA   27   (1)	
Observation			
Yes			
There is always a Supervisor on-Site during the weekly in	spections.		

Question ID NOL 39		
Question	Question	Legislative
	Туре	Requirement
Does the landfill operator have a site inspection program as required by the ECA?	Information	Not Applicable
Observation		

Yes

Section 9 of ECA # A032203 contains daily, weekly and monthly inspection and record keeping requirements for the general operation and maintenance of the Site. These records are periodically requested by the Company during weekly inspections and are assessed for compliance. No issues or concerns have been identified with the frequency or details of site inspections.

Question ID NOL 40	_	
Question	Question	Legislative
	Туре	Requirement
Does the landfill operator have a procedure in place to	Legislative	EPA   27   (1)
address issues identified by staff during the site inspection?		
Observation		
Yes		
These procedures are documented in the D&O Report and BM	MP Plans.	

Question ID NOL 41		
Question	Question	Legislative
	Туре	Requirement
Is the waste being compacted adequately?	Legislative	EPA   27   (1)

# Observation

### Yes

Compactors are regularly observed in operation at the active working face during weekly on-Site inspections.

Question	Question	Legislative
Is Daily cover applied to the waste at the end of each	TypeLegislative	Requirement           EPA   27   (1),
working day or as otherwise specified in the ECA?		EPA   O. Reg. 232/98   7
Observation	·	· ·
Yes Condition 6.47 of ECA No. A032203 outlines the requiren cover.	nents for daily, inte	ermediate, and final
Daily Cover: The working face must be covered with at least 15cm of so material.	oil or approved alte	ernative cover
Intermittent Cover: In areas where landfilling is temporarily stopped for six me cover or approved alternative cover material is required.	onths or more, at le	east 30 cm of soil
Final Cover: In completed landfill areas, at least 1.85 m of cover soil an required.	d then at least 15cr	m of topsoil is
The Company reports that daily cover is adequately applied after-hour site visits were conducted during Q4. Stockpiles on-Site near the active working face during operating hour inspections. The following cover material was observed an Company in Q4:	s of daily cover we s while conducting	re regularly observed the weekly
<ul> <li>Automobile Shredder Residue (ASR)</li> <li>Soil</li> <li>Contaminated Soil</li> <li>Woodchips</li> <li>Tarps</li> </ul>		
According to condition 6.52, samples of the ASR are to be and are to meet the specifications of non-hazardous waster material was collected on February 2, 2022 and results ind was classified as non-hazardous.	under O. Reg. 347.	A sample of ASR
The Company veluptorily discontinued the use of ASD in 1	November 2021 de	a to off Cita two als

The Company voluntarily discontinued the use of ASR in November 2021 due to off-Site track-

out issues. In January 2022 the Company received a small amount of ASR from a new supplier to trial at the Site. This material is much finer in size, which the Company's District Manager John McDonald anticipates will reduce the amount of pieces getting stuck in/around truck tires as they exit the Site. During the Ministry's weekly inspections, the undersigned officer observed improvement in the reduction of visible ASR along the roads. Further monitoring of this area will continue during weekly inspections to assess the effectiveness of the new ASR material.

According to condition 6.57, samples of contaminated soils shall be taken quarterly and submitted for analysis of Reg. 347 Schedule IV Inorganics, VOCs, PAHs and PCBs. The Company's Q4 sample was collected on October 1, 2021 and the results satisfied the daily cover requirements and was classified as non-hazardous.

Question ID NOL 43		
Question	Question	Legislative
	Туре	Requirement
Are procedures implemented to control rodents or other	Legislative	EPA   27   (1)
animals and insects at the site?		
Observation		
Yes		
Condition 6.32 of ECA No. A032203 states that the Site sha	all be operated and	maintained such
that vermin, vectors, dust, litter, odour, noise and traffic do	not create a nuisan	ce. Procedures for
pest control are listed in the Company's D&O Report. Preda	tor Bird Services I	nc. is on-Site from
Monday to Friday during regular operating hours. They use	a combination of r	noise makers.

Monday to Friday during regular operating hours. They use a combination of noise makers, whistlers and a bird of prey (a falcon or hawk) to deter non native species from populating the landfill and surrounding area. Orkin is also on-Site monthly to maintain the prescribed plan for traps and baiting.

No concerns or issues with pest control were identified during Q4.

Question ID NOL 44		
Question	Question Type	Legislative Requirement
Is site access restricted by use of a gate, fence, or phy barrier when the site is not operating?	vsical Legislative	EPA   27   (1)
Observation		
Yes ECA No. A032203 requires the following to be in pl - The entire Site enclosed with a 6 foot high wire wo The Site entrance and exit gates must be locked and	ven fence.	by upouthorized
<ul> <li>The Site entrance and exit gates must be locked and persons during non-operational hours.</li> <li>Access to and exit from the Site for the transportational hours.</li> </ul>	on of waste must (under	
circumstances) be only permitted from Country Road		
- A sign must be displayed at the main entrance/exit	to the Site, detailing:	

-Name of the Site and Owner

-ECA number

-Name of the Operator
-Hours of operation
-Approved and prohibited waste types
-Warning against unauthorized access
-Telephone number for complaints
-24/7 emergency telephone number (if different from above)
-Warning against dumping outside the Site.

No concerns or issues with access control were identified during the weekly inspections in Q4.

Question ID NOL 45		
Question	Question	Legislative
	Туре	Requirement
Is the waste disposal area adequately screened from public	Legislative	EPA   27   (1)
view?		
Observation		
Vac		

Yes

There are 7 meter high perimeter berms vegetated with trees along Zion Ln. and Nauvoo Rd. in order to block the public's view of the landfill. No complaints of public view were received.

Question ID NOL 46		
Question	Question	Legislative
	Туре	Requirement
Are daily records of site operations available at the site for at	Legislative	EPA   27   (1),
least the past 2 years or as otherwise required by the ECA?	_	EPA   O. Reg.
		232/98   21
Observation	•	· · ·

Yes

Condition 1.22 and 9.8 of ECA No. A032203 state that all records required by the ECA are to be retained at the Site for a minimum of two years.

Question ID NOL 47		
Question	Question Type	Legislative Requirement
Has the annual operations report been submitted to MECP or available on site as required by the ECA?	Legislative	EPA   27   (1)
Observation		
Yes The 2021 Annual Report was submitted on March 1, 2022 in accordance with condition 15.6 and 15.7 of ECA No. A032203. The Company is also required to submit quarterly reports in accordance with condition 15.4 and 15.5. The 2021 fourth quarterly (Q4) report was submitted in conjunction with the 2021 Annual Report.		

Question ID NOL 48		
Question	Question	Legislative
	Туре	Requirement
Is scavenging being prevented?	Legislative	EPA   27   (1), EPA   O. Reg. 232/98   23

### Observation

Yes

Condition 6.33 of ECA No. A032203 states that the Company shall ensure that there is no scavenging as defined by O. Reg. 347 at the Site. "Scavenging" is defined by the uncontrolled removal of reusable material from waste at a waste disposal site.

The Site is secure during non-operating hours and there have been no reported incidents or evidence of scavenging during the Ministry's on-Site weekly inspections.

Question ID NOL 51		
Question	Question Type	Legislative Requirement
Is the landfill only accepting the types of waste that they are approved to receive?	Legislative	EPA   27   (1)
Observation		

Yes

The Site is approved to accept municipal, industrial, commercial, and institutional solid nonhazardous waste, including non-hazardous contaminated soils, generated within the Province of Ontario.

No non-compliances with waste types were identified during the review of the scale tickets and waste acceptance records provided by the Company for the purposes of this inspection.

Question ID NOL 52		
Question	Question	Legislative
	Туре	Requirement
Does the landfill have a waste refusal procedure in place to manage waste that arrives at the site that the site is not approved the accept?	Information	Not Applicable
Observation		
Yes In accordance with Condition 9.5 the Company must keep records in a daily log book of all refusal of waste shipments, the reason(s) for refusal, and the origin of the waste, if known. The Company has their own Waste Verification, Acceptance and Rejection Procedure and records rejection events by filling out a 'Waste Discrepancy Form'.		

Question ID	NOL 53		
Question		Question	Legislative

	Туре	Requirement
is the waste refusal procedure being followed?	Legislative	EPA   27   (1)
Observation		
Yes		

Question ID NOL 54		
Question	Question	Legislative
	Туре	Requirement
Does the landfill have a procedure in place to address and	Legislative	EPA   27   (1)
document spills and fires?		
Observation		

Yes

Procedures for spills, fires and other emergencies are outlined in the D&O Report.

Condition 12 of ECA No. A032203 also lists requirements regarding emergency situations:

- in the event of a fire or discharge of a contaminant to the environment, the Company shall contact the Spills Action Centre (SAC) and the Sarnia District Office forthwith.

- a written report shall be submitted to the District Manager within 3 days of the incident, outlining the nature of the incident, remedial measures taken and measures taken to prevent future occurrences.

- the Company shall ensure that adequate fire fighting and contingency spill clean-up equipment is available as per Item 66 of Schedule A and that emergency response personnel are familiar with its use and location.

The Company confirmed that emergency response personnel are familiar with the use and location of the emergency equipment. A variety of heavy equipment is available including a back hoe, rock truck, excavator, sweepers, water truck, as well as a spill kit which is located at the scale. The Company says this information is reviewed annually at a minimum.

No spills, fires, or other emergencies were reported to the Ministry during Q4 2021/22.

Question ID     NOL 55       Question	Question Type	Legislative Requirement
Does the landfill have emergency contingency plan as required by the ECA?	Legislative	EPA   27   (1)
Observation		
Yes The Emergency Response Plan is included in the D&O Rep	port.	

<b>Question ID</b>	NOL 56		
Question		Question	Legislative
		Туре	Requirement

Is there an ECA condition requiring financial assurance?	Information	Not Applicable
Observation		

### Yes

Financial Assurance (FA) is required for private sector landfill sites under Ontario Regulation 232/98, in order to ensure that funds are available for site closure, post-closure care, and contingencies in the event that the site owner cannot or does not carry out their obligations under the ECA.

Condition 2.0 of ECA No. A032203 addresses FA requirements for the Site. The Company is required to submit a re-evaluation of the FA amount every four years. The next re-evaluation is required to be submitted on March 31, 2024.

Question ID NOL 57		
Question	Question	Legislative
	Туре	Requirement
Has the financial assurance been submitted, as specified in	Legislative	EPA   27   (1)
the ECA?		
Observation		
Yes		
The Company is currently in compliance with their FA requirements.		

Question ID NOL 59		
Question	Question Type	Legislative Requirement
Does the landfill have a procedure in place to address complaints?	Legislative	EPA   27   (1)
Observation		

Yes

The Company's complaint procedure is listed in the D&O Report. Responses to complaints related to dust, odour, and litter are also described in the Best Management Practices (BMP) Plans for the Site.

The following complaint procedure is required by Condition 11 of ECA No. A032203:

"If at any time, the Owner receives complaints regarding the operation of the Site, the Owner shall respond to these complaints according to the following procedure:

a. The Owner shall record and number each complaint, either electronically or in a log book, and shall include the following information: the nature of the complaint, the name, address and the telephone number of the complainant if the complainant will provide this information, the time and date of the complaint, specific details of operations that were occurring, any changes from normal operations, types of waste loads (including source) and other on Site activities; b. The Owner, upon notification of the complaint, shall initiate appropriate steps to determine all possible causes of the complaint, proceed to take the necessary actions to eliminate the cause of the complaint and forward a formal reply to the complainant; and

c. The Owner shall complete and retain on-Site a report written within one (1) week of the

complaint date, listing the actions taken to resolve the complaint and any recommendations for remedial measures, and managerial or operational changes to reasonably avoid the recurrence of similar incidents.

11.2 The Owner shall designate a person to receive any complaints and to respond with a written notice of action as soon as possible. The Owner shall post the Site complaints procedure at the Site entrance. All complaints and the Owner's actions taken to remedy the complaints must be summarized in the Annual Report.

11.3 All complaints received by the Owner are to be reported within twenty-four (24) hours of receipt to the District Manager, the Township of Warwick, the Environmental Inspector and WIFN. Complaints shall be reported to the WPLC at the next WPLC meeting. "

As part of their annual reporting, the Company completed a review of the complaints received in 2021. It was determined that of the complaints interpreted to be related to Site operations, the majority of odours were related to the landfill gas collection system issues as previously discussed in Question ID No. 27.

The Company also identified a trend with the number of complaints received per quarter in 2021 and the development/construction of landfill gas wells in Cell 4. The extended gas collection system which began to collect gas from Cell 4A in December 2020 is evidenced by the low number of related complaints during the first half of 2021, whereas the increase in related complaints in the second half of 2021 may in part be due to the progression of landfilling in Cell 4B and 4C, which yet to have the early vertical gas wells fully connected to the system.

Question ID NOL 61		
Question	Question	Legislative
	Туре	Requirement
Has the landfill operator developed a Design and Operations	Information	EPA   27   (1)
Manual?		
Observation		

Yes

A Design and Operations (D&O) Report was prepared by Henderson Paddon & Associates Limited, dated March 2008, and is listed as Items 66-68 of Schedule A under ECA No. A032203.

The D&O Report requires minor updates to be made, which the Company plans to address during their next ECA amendment application with regards to the proposed vertical landfill expansion.

Question ID NOL 63		
Question	Question Type	Legislative Requirement
Does the landfill operator have training procedures for site personnel?	Legislative	EPA   27   (1)
Observation		
Yes		

The Company has their own training procedure. Training requirements for employees are described under condition 10.1 of ECA No. A032203.

## Question ID NOL 64

Question	Question Type	Legislative Requirement
Is the landfill operator following the established training procedures?	Legislative	EPA   27   (1)
Observation		

Yes

Employees must provide proof of training to the Ministry upon request. Proof of training was not reviewed as part of this inspection.

Question ID NOL 65		
Question	Question	Legislative
	Туре	Requirement
Has the Certificate of Requirement been registered on Title?	Legislative	EPA   27   (1)
Observation		
Yes		

Question ID 949100		
Question	Question	Legislative
	Туре	Requirement
Were the inspection questions sufficient to address other	Legislative	Not Applicable
identified non-compliance items?		
Observation		

AIR QUALITY & NOISE:

Condition 13.8 of ECA No. A032203 requires that Air Quality, Dust, Hydrocarbon, and Volatile Organic Carbon (VOC) monitoring be undertaken in accordance with the Ambient Air Quality Monitoring Plan.

Total Suspended Particulate (TSP) is sampled at 3 fixed locations around the landfill footprint. TSP samples are taken on a 6-day interval from October - May and taken on a 3-day interval from June - September. Between the fiscal Q4 of December 1, 2021 to February 28, 2022 no TSP exceedances were reported.

Metals are analyzed on the highest filter TSP concentration out of every four samples per location. All Q4 samples collected for metals were below their air quality standards as outlined in O. Reg. 419.

Fenceline VOC sampling takes place between June - September during operating hours. Five sets of upwind and downwind samples are collected, with no more than two samples collected within

the same calendar month. The measured VOC concentrations for 2021 were reported to be generally quite low and less than their respective air quality standards.

Condition 13.10 requires noise monitoring to be undertaken at the Site in accordance with the Environmental Noise Monitoring Program. Sound levels are recorded and analysed at 4 on-Site monitors (M1-M4) located around the perimeter of the Site for a minimum of a 1 month period per quarter.

A review of the year's noise monitoring data was presented in the Company's 2021 Q4 & Annual Report. RWDI concluded that the noise exceedances for the monitoring locations were not attributed to landfilling activities but rather either off-Site road traffic, on-Site construction, or property maintenance.

### WEEKLY INSPECTIONS:

During fiscal Q4 2021, weekly on-Site inspections were completed on the following dates:

- December 9, 14, 22, 30
- January 7, 11, 20, 27, 31
- February 9, 16, 24

The purpose of these weekly inspections was to assess the Company's efforts towards preventing, minimizing and mitigating off-site impacts resulting from their operations such as odours, litter, noise and dust.

Off-Site landfill related odours (refuse and/or gas) were detected directly downwind of the Site during 12/12 inspections, mainly on Zion Line and Nauvoo Road beside the landfill. No odours were detected south of Nauvoo Park. 25 odour complaints were received within Q4 (Dec. - Feb.). Of those complaints, 16 were from one particular caller who reported landfill odours on either Nauvoo Road or Zion Line beside the landfill as they drove by. The efficiency issues with the gas collection system are believed to have contributed to the increase in odour complaints, as described earlier in this report.

Off-Site dust was observed during 1/12 inspections, due to truck track-out onto Nauvoo Road. Dust suppression measures including sweeping and watering are not generally done in the winter months due to freezing and snowy conditions and the use of sand and salt on the roads. No dust-related complaints were received.

Off-Site litter was observed during 6/12 inspections, mainly due to windblown litter around Zion Line. There were several high wind events that caused windblown litter on and off Site in January and February. The property owners of the agricultural fields across from Zion Line were contacted promptly by the Company to schedule a time for litter retrieval. During the February 16th weekly inspection, the undersigned officer reviewed the Company's written litter logs and identified non-compliance with the Company's frequency and timing of on-Site litter retrieval. The Company has since increased the frequency of litter retrieval and implemented additional measures in order to demonstrate compliance. No litter-related complaints were received in Q4.

**Question ID** NOL 60

Question	Question Type	Legislative Requirement	
Has the landfill operator addressed the complaints to the satisfaction of the ministry?	Legislative	EPA   27   (1)	
Observation			
Yes			

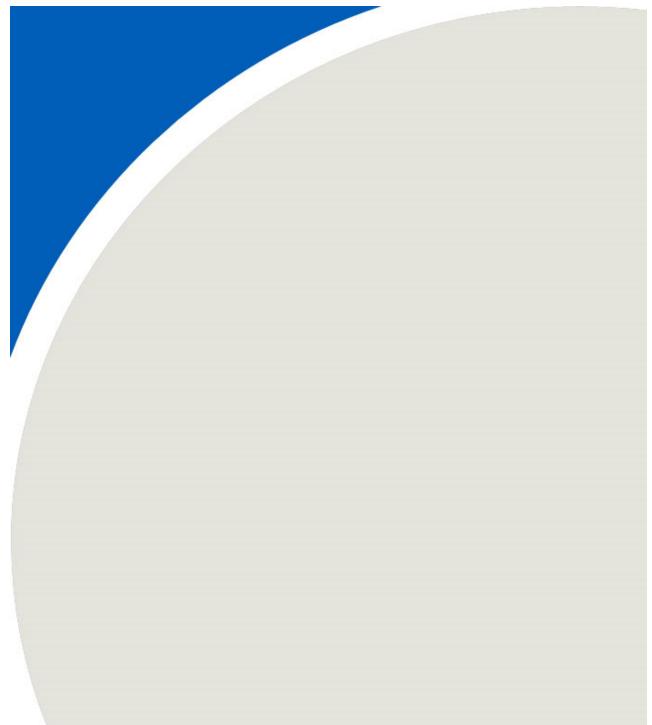
There were a total of 21 complaints received during this inspection review period of December 1, 2021 - February 28, 2022 related to odour, as discussed above.

All complaints were reported to the Ministry within 24 hours and were responded to by the Company in accordance with Condition 11 of ECA No. A032203.



# APPENDIX O:

Quarterly Contaminated Soil Analytical Results



### Table O-1

### Contaminated Soil - General Chemical Results - Compliance Monitoring

Twin Creeks Environmental Centre

Parameter	Units	O. Reg.												c	ontaminated So	bil													
Date	Units	558	14-Jan-16	5-Apr-16	7-Jul-16	17-Oct-16	13-Jun-17	1-Aug-17	4-Oct-17	4-Jan-18	5-Apr-18	4-Jul-18	1-Oct-18	2-Jan-19	4-Apr-19	9-Jul-19	1-Oct-19	17-Jan-20	1-Apr-20	3-Sep-20	8-Oct-20	16-Mar-21	5-May-21	12-Aug-21	1-Oct-21	11-Jan-22	6-Apr-22	6-Jul-22	5-Oct-22
Laboratory	-		EXOVA	EXOVA	EXOVA	EXOVA	EXOVA	EXOVA	EXOVA	Eurofins	Eurofins	Eurofins	Eurofins	Eurofins	Eurofins	Eurofins	Eurofins	Eurofins	Eurofins	Eurofins	Eurofins	Eurofins	Eurofins	Eurofins	Eurofins	Eurofins	BV Labs	BV Labs	BV Labs
Metals and Inorganics			-																										
Arsenic	mg/L	2.5	<0.02	< 0.02	< 0.02	<0.02	<0.02	<0.02	<0.02	< 0.02	<0.02	<0.02	0.0064	< 0.02	<0.02	<0.02	<0.02	<0.02	< 0.02	<0.02	<0.02	< 0.02	<0.02	<0.02	<0.02	<0.02	<0.2	<0.2	<0.2
Barium	mg/L	100.0	0.66	0.64	0.87	<1	<1	0.70	1.02	0.44	0.67	0.37	2.44	0.50	0.62	0.40	1.31	0.75	0.56	0.48	0.37	1.1	0.4	0.5	0.37	0.91	0.8	0.7	0.4
Boron	mg/L	500.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	0.148	<0.1	<0.1	<0.1	0.3	0.1	<0.1	<0.1	0.1	0.1	<0.1	<0.1	<0.1	0.2	0.1	0.3	0.3
Cadmium	mg/L	0.5	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	< 0.008	<0.008	<0.0003	<0.008	<0.008	<0.008	<0.008	<0.008	<0.008	0.014	<0.008	0.009	<0.008	<0.008	<0.008	0.026	<0.05	<0.05	<0.05
Chromium	mg/L	5.0	<0.05	< 0.05	< 0.05	<0.05	<0.05	<0.05	<0.05	< 0.05	<0.05	<0.05	0.0011	<0.05	<0.05	< 0.05	<0.05	<0.05	< 0.05	<0.05	<0.05	< 0.05	< 0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.1
Lead	mg/L	5.0	<0.01	0.02	0.01	<0.01	<0.01	<0.01	<0.01	< 0.01	<0.01	<0.01	0.0012	<0.01	<0.01	< 0.01	<0.01	<0.01	<0.01	0.02	<0.01	< 0.01	< 0.01	0.01	<0.01	0.2	<0.1	<0.1	0.2
Selenium	mg/L	1.0	<0.02	< 0.02	< 0.03	<0.02	<0.02	<0.02	< 0.02	< 0.02	<0.02	<0.02	0.0012	<0.02	<0.001	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	< 0.02	< 0.02	<0.02	<0.02	<0.02	<0.1	<0.1	<0.1
Silver	mg/L	5	<0.01	<0.01	< 0.01	< 0.01	<0.01	<0.01	< 0.01	<0.01	<0.01	< 0.01	< 0.0003	<0.1	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	< 0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	< 0.01
Uranium	mg/L	10.0	<0.01	< 0.01	< 0.01	<0.01	<0.01	<0.01	<0.01	< 0.01	<0.01	<0.01	0.003	<0.01	<0.01	< 0.01	<0.01	<0.01	<0.01	<0.01	<0.01	< 0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury	mg/L	0.1	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	< 0.001	< 0.001	< 0.0001	0.00003	<0.001	0.00005	< 0.001	<0.01	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	< 0.001	< 0.001	< 0.001	<0.001	< 0.001	<0.001	<0.001	<0.001	< 0.001
Cyanide (free)	mg/L	20.0	<0.05	< 0.05	<0.05	< 0.05	<0.05	<0.05	< 0.05	<0.05	<0.05	<0.05	< 0.05	< 0.05	<0.05	< 0.005	< 0.05	<0.05	< 0.05	<0.005	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.010	<0.010	<0.010
Fluoride	mg/L	150.0	0.32	0.21	0.16	0.18	0.20	0.31	0.54	0.24	0.25	<0.10	0.33	0.22	0.17	0.210	0.29	0.22	0.22	<0.10	0.17	0.18	0.34	0.25	0.25	<0.10	0.32	0.11	0.17
Nitrate + Nitrite	mg/L	1000.0	<0.10	10.90	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	<0.10	<0.10	0.14	<0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<10	<10	<1.0	<1.0	<1.0	0.43	<1.0	<1.0	<1.0	<1.0
Polychlorinated Biphenyls (PCBs)				1	1			1	1					1			1			1	1								
Polychlorinated Biphenyls (PCBs)	ug/L	300	<0.1	<0.1	<10	<0.1	<1.0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.10	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<3.0	<3.0	<3.0
Volatile Organic Compounds (VOCs				1	1			1	1					1			1			1	1								
1,1-dichloroethylene	ug/L	1400	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<20	<20
1,2-dichlorobenzene	ug/L	20000	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<50	<50	<50
1,2-dichloroethane	ug/L	500	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	103	<0.2	<0.2	<0.2	<0.2	0.3	<0.2	1.7	<0.2	<0.2	<0.2	<0.2	<50	<50	<50
1,4-dichlorobenzene	ug/L	500	<0.4	<0.4	< 0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.2	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<50	<50	<50
Benzene	ug/L	500	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.4	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<20	<20	<20
Carbon Tetrachloride	ug/L	500	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<20	<20	<20
Chloroform	ug/L	10000	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	< 0.5	<0.5	<0.5	1.5	<0.5	0.5	<0.5	< 0.5	<0.5	<0.5	<20	<20	<20
Dichloromethane	ug/L	5000	<4.0	<4.0	<4.0	<4.0	<0.2	<0.2	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0	<200	<200	<200
Methyl Ethyl Ketone (MEK)	ug/L	200000	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	30	<10	<10	<10	<10	<10	<10	<10	<10	<10	<1000	<1000	<1000
Monochlorobenzene	ug/L	8000	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.9	<0.5	<0.5	<0.5	<0.5	<20	<20	<20
Tetrachloroethylene	ug/L	3000	<0.3	<0.3	<0.3	0.4	<0.3	<0.3	<0.3	<0.3	<0.3	<0.02	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<20	<20	<20
Trichloroethylene	ug/L	5000	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	2.1	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<20	<20	<20
Vinyl Chloride	ug/L	200	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<20	<20	<20
Semi-Volatile Organic Compounds (		200	0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.2	-0.12	-0.2	0.2	-012	-0.2	-0.2	-0.2	-0.12	-0.2	-0.2	-012	0.2	-0.2	-0.2	20		
1-methylnaphthalene	ug/L	1	<0.1	56.1	22.3	0.1	<0.2	<0.1	0.1	<0.1	<0.1	<0.1	0.7	0.4	<0.1	0.1	<0.1	5.3	2.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.42	0.65	<0.20
2-methylnaphthalene	ug/L		<0.1	19.7	6.2	0.3	<0.2	<0.1	0.2	<0.1	<0.1	<0.1	0.6	0.3	<0.1	<0.1	<0.1	6.0	1.4	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.42	0.52	<0.20
Acenaphthene	ug/L		<0.1	3.4	3.6	0.3	<0.2	0.7	<0.1	<0.1	<0.1	<0.1	0.5	<0.1	<0.1	<0.1	0.2	0.9	0.4	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.60	<0.20	<0.20
Acenaphthylene	ug/L		<0.1	0.4	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	1.8	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.20	<0.20	<0.20
Anthracene	ug/L		<0.1	0.4	0.1	0.1	<0.2	0.7	<0.1	<0.1	<0.1	<0.1	0.5	<0.1	<0.1	<0.1	<0.1	0.5	0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.20	<0.20	<0.20
Benzo(a)anthracene	ug/L		<0.1	<0.2	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.22	<0.20	<0.20
Benzo(a)pyrene	ug/L	1.0	<0.1	<0.2	<0.1	<0.01	<0.2	<0.1	<0.1	<0.1	<0.01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.01	<0.01	<0.01	<0.2	<0.1	<0.1	<0.01	<0.1	<0.1	<0.1	<0.20	<0.20	<0.20
Benzo(b)fluoranthene	ug/L ug/L	1.0	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.10	<0.10	<0.10
			<0.05	<0.2	<0.05	<0.05		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.10		<0.10
Benzo(g,h,i)perylene	ug/L	-		-	-		<0.2							-		-						<0.1						<0.20	
Benzo(k)fluoranthene Chrysene	ug/L		<0.05	<0.2	<0.05	<0.05	<0.2	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.20 <0.20	<0.20	<0.20
Dibenzo(a,h)anthracene	ug/L			<0.2	<0.1	<0.05	<0.2	<0.05	<0.05	<0.05	<0.5	<0.05	<0.05			<0.05	<0.05		<0.05	<0.1	<0.05			<0.05					<0.20
	ug/L	-	<0.1	-	-		<0.2				-	<0.1	-	<0.1	<0.1	-		<0.1				<0.1	<0.1		<0.1	<0.1	<0.20	<0.20	
Fluoranthene	ug/L		<0.1	<0.2	0.1	0.1	<0.2	0.5	<0.1	<0.1	<0.1	<0.1	0.4	<0.1	<0.1	<0.1	0.1	0.2	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.20	<0.20	<0.20
Fluorene	ug/L		<0.1	3.0	2.3	0.3	<0.2	0.6	<0.1	<0.1	<0.1	<0.1	0.8	<0.1	<0.1	<0.1	0.2	1.8	0.4	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.75	0.21	<0.20
Indeno(1,2,3-c,d)pyrene	ug/L		<0.1	<0.2	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.20	<0.20	<0.20
Naphthalene	ug/L		<0.1	3.0	4.0	0.6	<0.2	0.8	0.3	<0.1	<0.5	<0.1	0.7	0.1	<0.1	0.20	0.2	12.0	3.6	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.0	<0.20	<0.20
Phenanthrene	ug/L		<0.1	2.2	1.0	0.6	<0.2	2.6	<0.1	0.2	<0.1	<0.1	0.8	0.2	<0.1	<0.1	0.1	1.7	0.4	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.1	0.27	<0.20
Pyrene	ug/L	otes milligram	<0.1	<0.2	0.3	<0.1	<0.2	0.3	<0.1	<0.1	<0.1	<0.1	0.3	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.20	<0.20	<0.20

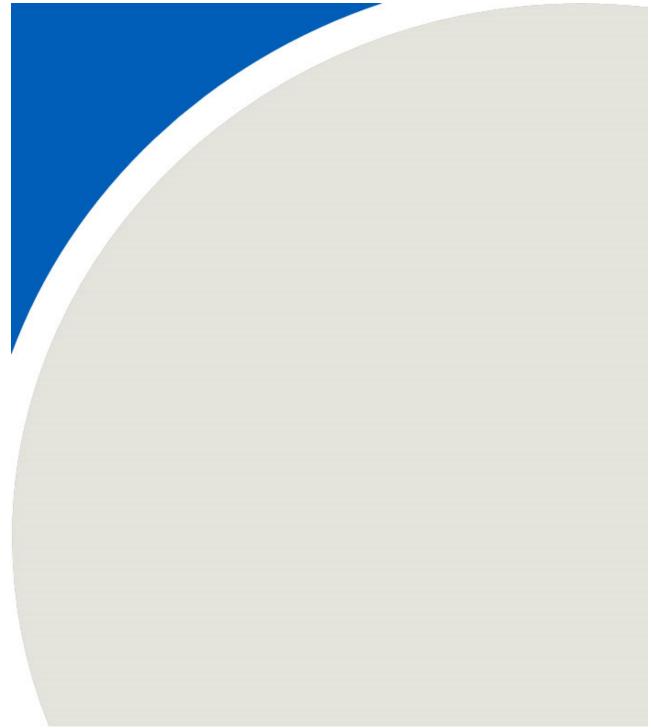
NOTE: 1) 'mg/L denotes milligrams per litre; ug/L denotes microgram per litre.

2) '<' denotes parameter concentration is some concentration less than the laboratory reportable detection limit (RDL).</li>
 3) BV Labs denotes chemical analytical testing was completed by Bureau Veritas.



# APPENDIX O2:

Laboratory Reports



# **Environment Testing**

	•				
Client:	RWDI Air Inc (WM of Canada)		Report Number:	1970039	
	4510 Rhodes Drive - Unit 530		Date Submitted:	2022-01-13	
	Windsor, ON		Date Reported:	2022-01-24	
	N8W 5K5		Project:	2202861-1000	
Attention:	Mr. Brent Langille		COC #:	885064	
PO#:	10385185				
Invoice to:	Waste Management of Canada Corp	Page 1 of 8			

### Dear Brent Langille:

🛟 eurofins

Please find attached the analytical results for your samples. If you have any questions regarding this report, please do not hesitate to call (613-727-5692).

**Report Comments:** 

APPROVAL:

Long Qu, Organics Supervisor

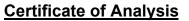
All analysis is completed at Eurofins Environment Testing Canada Inc. (Ottawa, Ontario) unless otherwise indicated.

Eurofins Environment Testing Canada Inc. (Ottawa, Ontario) is accredited by CALA, Canadian Association for Laboratory Accreditation to ISO/IEC 17025 for tests which appear on the scope of accreditation. The scope is available at: <u>http://www.cala.ca/scopes/2602.pdf</u>.

Eurofins Environment Testing Canada Inc. (Ottawa, Ontario) is licensed by the Ontario Ministry of the Environment, Conservation, and Parks (MECP) for specific tests in drinking water (license #2318). A copy of the license is available upon request.

Eurofins Environment Testing Canada Inc. (Ottawa, Ontario) is accredited by the Ontario Ministry of Agriculture, Food, and Rural Affairs for specific tests in agricultural soils.

Please note: Field data, where presented on the report, has been provided by the client and is presented for informational purposes only. Guideline values listed on this report are provided for ease of use (informational purposes) only. Eurofins recommends consulting the official provincial or federal guideline as required. Unless otherwise stated, measurement uncertainty is not taken into account when determining guideline or regulatory exceedances.



# **Environment Testing**

Client:	RWDI Air Inc (WM of Canada)
	4510 Rhodes Drive - Unit 530
	Windsor, ON
	N8W 5K5
Attention:	Mr. Brent Langille
PO#:	10385185
Invoice to:	Waste Management of Canada Corp

🛟 eurofins

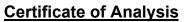
Report Number:	1970039
Date Submitted:	2022-01-13
Date Reported:	2022-01-24
Project:	2202861-1000
COC #:	885064

Group	Analyte	MRL	Units	Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D. Guideline	1605653 R347 2022-01-11 CONT SOIL
Anions	F	0.10	mg/L	LQC 150.0	<0.10
General Chemistry	Cyanide (free)	0.10	mg/L	LQC 20.0	<0.05
Leachate	REG 558 Leach	0.00	iiig/L	LQO 20.0	y
Leachate	Zero Headspace Extraction				y y
Mercury	Hg	0.001	mg/L	LQC 0.1	<0.001
Metals	Ag	0.001	mg/L	LQC 5	<0.001
- Wetais	As	0.01	mg/L	LQC 2.5	<0.02
	B	0.02	mg/L	LQC 500.0	0.2
	Ba	0.01	mg/L	LQC 100.0	0.91
	Cd	0.008	mg/L	LQC 0.5	0.026
	Cr	0.05	mg/L	LQC 5.0	< 0.05
	Pb	0.01	mg/L	LQC 5.0	0.20
	Se	0.02	mg/L	LQC 1.0	<0.02
	U	0.01	mg/L	LQC 10.0	<0.01
Moisture	Moisture-Humidite	0.1	<u> </u>		18.3
Others	NO2 + NO3 as N	1.0	mg/L	LQC 1000	<1.0
PAH	1-methylnaphthalene	0.1	ug/L		<0.1
	2-methylnaphthalene	0.1	ug/L		<0.1
	Acenaphthene	0.1	ug/L		<0.1
	Acenaphthylene	0.1	ug/L		<0.1
	Anthracene	0.1	ug/L		<0.1
	Benzo(a)anthracene	0.1	ug/L		<0.1
	Benzo(a)pyrene	0.01	ug/L	LQC 1.0	<0.01
	Benzo(b)fluoranthene	0.05	ug/L		<0.05
	Benzo(g,h,i)perylene	0.1	ug/L		<0.1

#### Guideline = REG 558

#### * = Guideline Exceedence

Results relate only to the parameters tested on the samples submitted. Methods references and/or additional QA/QC information available on request.



# **Environment Testing**

Client:	RWDI Air Inc (WM of Canada)
	4510 Rhodes Drive - Unit 530
	Windsor, ON
	N8W 5K5
Attention:	Mr. Brent Langille
PO#:	10385185
Invoice to:	Waste Management of Canada Corp

🛟 eurofins

Report Number:	1970039
Date Submitted:	2022-01-13
Date Reported:	2022-01-24
Project:	2202861-1000
COC #:	885064

				Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.	1605653 R347 2022-01-11 CONT SOIL
Group	Analyte	MRL	Units	Guideline	
PAH	Benzo(k)fluoranthene	0.05	ug/L		<0.05
	Chrysene	0.05	ug/L		<0.05
	Dibenzo(a,h)anthracene	0.1	ug/L		<0.1
	Fluoranthene	0.1	ug/L		<0.1
	Fluorene	0.1	ug/L		<0.1
	Indeno(1,2,3-c,d)pyrene	0.1	ug/L		<0.1
	Naphthalene	0.1	ug/L		<0.1
	Phenanthrene	0.1	ug/L		<0.1
	Pyrene	0.1	ug/L		<0.1
PCBs	Polychlorinated Biphenyls (PCBs)	0.1	ug/L	LQC 300	<0.1
VOCs Surrogates	1,2-dichloroethane-d4	0	%		123
	4-bromofluorobenzene	0	%		74
[	Toluene-d8	0	%		116
Volatiles	1,1-dichloroethylene	0.5	ug/L	LQC 1400	<0.5
	1,2-dichlorobenzene	0.4	ug/L	LQC 20000	<0.4
	1,2-dichloroethane	0.2	ug/L	LQC 500	<0.2
	1,4-dichlorobenzene	0.4	ug/L	LQC 500	<0.4
	Benzene	0.5	ug/L	LQC 500	<0.5
	Carbon Tetrachloride	0.2	ug/L	LQC 500	<0.2
Γ	Chloroform	0.5	ug/L	LQC 10000	<0.5
[	Dichloromethane	4.0	ug/L	LQC 5000	<4.0
Γ	Methyl Ethyl Ketone (MEK)	10	ug/L	LQC 200000	<10
[	Monochlorobenzene	0.5	ug/L	LQC 8000	<0.5
	Tetrachloroethylene	0.3	ug/L	LQC 3000	<0.3
	Trichloroethylene	0.3	ug/L	LQC 5000	<0.3

#### Guideline = REG 558

#### * = Guideline Exceedence

Results relate only to the parameters tested on the samples submitted. Methods references and/or additional QA/QC information available on request.

# **Environment Testing**

Client:	RWDI Air Inc (WM of Canada)
	4510 Rhodes Drive - Unit 530
	Windsor, ON
	N8W 5K5
Attention:	Mr. Brent Langille
PO#:	10385185
Invoice to:	Waste Management of Canada Corp

🛟 eurofins

 Report Number:
 1970039

 Date Submitted:
 2022-01-13

 Date Reported:
 2022-01-24

 Project:
 2202861-1000

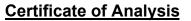
 COC #:
 885064

				Lab I.D. Sample Matrix Sample Type Sampling Date Sample I.D.	1605653 R347 2022-01-11 CONT SOIL
Group	Analyte	MRL	Units	Guideline	
Volatiles	Vinyl Chloride	0.2	ug/L	LQC 200	<0.2

Guideline = REG 558

* = Guideline Exceedence

Results relate only to the parameters tested on the samples submitted. Methods references and/or additional QA/QC information available on request. MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range



# **Environment Testing**

Client:	RWDI Air Inc (WM of Canada)
	4510 Rhodes Drive - Unit 530
	Windsor, ON
	N8W 5K5
Attention:	Mr. Brent Langille
PO#:	10385185
Invoice to:	Waste Management of Canada Corp

🛟 eurofins

 Report Number:
 1970039

 Date Submitted:
 2022-01-13

 Date Reported:
 2022-01-24

 Project:
 2202861-1000

 COC #:
 885064

### QC Summary

Analyte	Blank	QC % Rec	QC Limits
Run No415344Analysis/Extraction Date20MethodP8270	022-01-21 <b>Ana</b>	ılyst CM	
Methlynaphthalene, 1-	<0.1 ug/L	100	50-140
Methlynaphthalene, 2-	<0.1 ug/L	100	50-140
Acenaphthene	<0.1 ug/L	102	50-140
Acenaphthylene	<0.1 ug/L	100	50-140
Anthracene	<0.1 ug/L	100	50-140
Benz[a]anthracene	<0.1 ug/L	84	50-140
Benzo[a]pyrene	<0.01 ug/L	95	50-140
Benzo[b]fluoranthene	<0.05 ug/L	99	50-140
Benzo[ghi]perylene	<0.1 ug/L	100	50-140
Benzo[k]fluoranthene	<0.05 ug/L	104	50-140
Chrysene	<0.05 ug/L	111	50-140
Dibenz[a h]anthracene	<0.1 ug/L	82	50-140
Fluoranthene	<0.1 ug/L	94	50-140
Fluorene	<0.1 ug/L	96	50-140
Indeno[1 2 3-cd]pyrene	<0.1 ug/L	92	50-140
Naphthalene	<0.1 ug/L	104	50-140

#### Guideline = REG 558

* = Guideline Exceedence

Results relate only to the parameters tested on the samples submitted. Methods references and/or additional QA/QC information available on request. MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

# **Environment Testing**

Client:	RWDI Air Inc (WM of Canada)
	4510 Rhodes Drive - Unit 530
	Windsor, ON
	N8W 5K5
Attention:	Mr. Brent Langille
PO#:	10385185
Invoice to:	Waste Management of Canada Corp

🛟 eurofins

Report Number: 1970039 Date Submitted: 2022-01-13 Date Reported: 2022-01-24 Project: COC #: 885064

2202861-1000

### QC Summary

Analyte	Blank	QC % Rec	QC Limits
Phenanthrene	<0.1 ug/L	102	50-140
Pyrene	<0.1 ug/L	94	50-140
Run No415736Analysis/Extraction Date20MethodEPA 1311/O. Reg 347	)22-01-20 Ana	l <b>yst</b> AA	
REG 558 Leach			
Zero Headspace Extraction			
Run No     415738     Analysis/Extraction Date     20       Method     ASTM 2216	)22-01-19 <b>Ana</b>	lyst AA	
Moisture-Humidite			80-120
Run No415756Analysis/Extraction Date20MethodEPA 8260	)22-01-20 <b>Ana</b>	lyst YH	
Dichloroethylene, 1,1-	<0.5 ug/L	93	60-130
Dichlorobenzene, 1,2-	<0.4 ug/L	82	60-130
Dichloroethane, 1,2-	<0.2 ug/L	97	60-130
Dichlorobenzene, 1,4-	<0.4 ug/L	85	60-130
Benzene	<0.5 ug/L	88	60-130
Carbon Tetrachloride	<0.2 ug/L	90	60-130
Chloroform	<0.5 ug/L	90	60-130
Methylene Chloride	<4.0 ug/L	117	60-130

#### Guideline = REG 558

* = Guideline Exceedence

Results relate only to the parameters tested on the samples submitted. Methods references and/or additional QA/QC information available on request. MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

# **Environment Testing**

Client:	RWDI Air Inc (WM of Canada)
	4510 Rhodes Drive - Unit 530
	Windsor, ON
	N8W 5K5
Attention:	Mr. Brent Langille
PO#:	10385185
Invoice to:	Waste Management of Canada Corp

🛟 eurofins

Report Number: 1970039 Date Submitted: 2022-01-13 Date Reported: 2022-01-24 Project: COC #: 885064

2202861-1000

### QC Summary

Analyte	Blank	QC % Rec	QC Limits
Methyl Ethyl Ketone	<10 ug/L	100	60-130
Chlorobenzene	<0.5 ug/L	99	60-130
Tetrachloroethylene	<0.3 ug/L	81	60-130
Trichloroethylene	<0.3 ug/L	88	60-130
Vinyl Chloride	<0.2 ug/L	89	60-130
Run No         415768         Analysis/Extraction Date         20           Method         SM4500-CNC/MOE         E3015	22-01-20 Ana	llyst ZS	
Cyanide (CN-)	<0.05 mg/L	101	75-125
Run No         415785         Analysis/Extraction Date         20           Method         M SM3112B-3500B	22-01-20 Ana	ilyst AaN	
Mercury	<0.001 mg/L	121	76-123
Run No         415819         Analysis/Extraction Date         20           Method         C SM4500-FC	22-01-21 Ana	ilyst AsA	
F	<0.10 mg/L	100	90-110
Run No         415827         Analysis/Extraction Date         20           Method         C SM4500-NO3-F	22-01-21 Ana	ilyst SKH	
NO2 + NO3 as N	<1.0 mg/L	99	
Run No     415847     Analysis/Extraction Date     20       Method     EPA 200.8	122-01-21 Ana	ilyst SD	

#### Guideline = REG 558

* = Guideline Exceedence

Results relate only to the parameters tested on the samples submitted. Methods references and/or additional QA/QC information available on request. MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC = Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

# **Environment Testing**

Client:	RWDI Air Inc (WM of Canada)
	4510 Rhodes Drive - Unit 530
	Windsor, ON
	N8W 5K5
Attention:	Mr. Brent Langille
PO#:	10385185
Invoice to:	Waste Management of Canada Corp

🛟 eurofins

Report Number: 1970039 Date Submitted: 2022-01-13 Date Reported: 2022-01-24 Project: COC #: 885064

2202861-1000

### QC Summary

Analyte	Blank	QC % Rec	QC Limits
Silver	<0.01 mg/L	90	70-130
Arsenic	<0.02 mg/L	95	70-130
Boron (total)	<0.1 mg/L	82	70-130
Barium	<0.01 mg/L	105	70-130
Cadmium	<0.008 mg/L	103	70-130
Chromium Total	<0.05 mg/L	95	70-130
Lead	<0.01 mg/L	91	70-130
Selenium	<0.02 mg/L	108	70-130
Uranium	<0.01 mg/L	88	70-130
Run No         415925         Analysis/Extraction Date         20           Method         EPA 8081B	22-01-24 <b>Ana</b>	ilyst QL	
Polychlorinated Biphenyls	<0.1 ug/L	109	60-140

#### Guideline = REG 558

* = Guideline Exceedence

Results relate only to the parameters tested on the samples submitted. Methods references and/or additional QA/QC information available on request. Maximum Acceptable Concentration, IMAC = Interim Maximum Acceptable Concentration, STD = Standard, PWQO = Provincial Water Quality Guideline, IPWQO = Interim Provincial Water Quality Objective, TDR = Typical Desired Range

MRL = Method Reporting Limit, AO = Aesthetic Objective, OG = Operational Guideline, MAC =



### **Attention: Khalid Hussein**

RWDI Inc. 600 Southgate Drive Guelph, ON Canada N1G 4P6 Your P.O. #: 11146211 Your Project #: 2202861-1000 Site#: 900 Site Location: ON07 Your C.O.C. #: TCLF-SOIL-APR

> Report Date: 2022/04/22 Report #: R7095840 Version: 2 - Revision

### CERTIFICATE OF ANALYSIS – REVISED REPORT

### BUREAU VERITAS JOB #: C293483 Received: 2022/04/08, 09:25

Sample Matrix: Soil # Samples Received: 1

		Date	Date		
Analyses	Quantity	Extracted	Analyzed	Laboratory Method	Analytical Method
Cyanide (WAD) in Leachates	1	N/A	2022/04/13	CAM SOP-00457	OMOE 3015 m
Fluoride by ISE in Leachates	1	2022/04/13	2022/04/13	CAM SOP-00449	SM 23 4500-F- C m
Total Metals in TCLP Leachate by ICPMS	1	2022/04/13	2022/04/13	CAM SOP-00447	EPA 6020B m
Moisture	1	N/A	2022/04/09	CAM SOP-00445	Carter 2nd ed 51.2 m
Nitrate& Nitrite as Nitrogen in Leachate	1	N/A	2022/04/13	CAM SOP-00440	SM 23 4500-NO3I/NO2B
PAH Compounds in Leachate by GC/MS (SIM)	1	2022/04/16	2022/04/16	CAM SOP-00318	EPA 8270D m
Polychlorinated Biphenyl in Leachate	1	2022/04/21	2022/04/22	CAM SOP-00309	EPA 8082A m
TCLP - % Solids	1	2022/04/12	2022/04/13	CAM SOP-00401	EPA 1311 Update I m
TCLP - Extraction Fluid	1	N/A	2022/04/13	CAM SOP-00401	EPA 1311 Update I m
TCLP - Initial and final pH	1	N/A	2022/04/13	CAM SOP-00401	EPA 1311 Update I m
TCLP Zero Headspace Extraction	1	2022/04/12	2022/04/13	CAM SOP-00430	EPA 1311 m
VOCs in ZHE Leachates	1	2022/04/12	2022/04/12	CAM SOP-00228	EPA 8260C m

### Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested. This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Page 1 of 14

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



Your P.O. #: 11146211 Your Project #: 2202861-1000 Site#: 900 Site Location: ON07 Your C.O.C. #: TCLF-SOIL-APR

### **Attention: Khalid Hussein**

RWDI Inc. 600 Southgate Drive Guelph, ON Canada N1G 4P6

> Report Date: 2022/04/22 Report #: R7095840 Version: 2 - Revision

### **CERTIFICATE OF ANALYSIS – REVISED REPORT**

### BUREAU VERITAS JOB #: C293483 Received: 2022/04/08, 09:25

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

 $\ast$  RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

**Encryption Key** 

Patricia Legette Project Manager 22 Apr 2022 14:43:29

Please direct all questions regarding this Certificate of Analysis to your Project Manager. Patricia Legette, Project Manager

Email: Patricia.Legette@bureauveritas.com Phone# (905)817-5799

-----

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



RWDI Inc. Client Project #: 2202861-1000 Site Location: ON07 Your P.O. #: 11146211 Sampler Initials: EVH

Bureau Veritas ID			SHV563			
Sampling Date			2022/04/06			
COC Number			TCLF-SOIL-APR			
	UNITS	347	CONT SOIL	RDL	QC Batch	
Inorganics						
Leachable Fluoride (F-)	mg/L	150	0.32	0.10	7938238	
Leachable WAD Cyanide (Free)	mg/L	20	<0.010	0.010	7938242	
Leachable Nitrite (N)	mg/L	-	<0.10	0.10	7938240	
Leachable Nitrate (N)	mg/L	-	<1.0	1.0	7938240	
Leachable Nitrate + Nitrite (N)	mg/L	1000	<1.0	1.0	7938240	
Metals						
Leachable Arsenic (As)	mg/L	2.5	<0.2	0.2	7938316	
Leachable Barium (Ba)	mg/L	100	0.8	0.2	7938316	
Leachable Boron (B)	mg/L	500	0.1	0.1	7938316	
Leachable Cadmium (Cd)	mg/L	0.5	<0.05	0.05	7938316	
Leachable Chromium (Cr)	mg/L	5	<0.1	0.1	7938316	
Leachable Lead (Pb)	mg/L	5	<0.1	0.1	7938316	
Leachable Mercury (Hg)	mg/L	0.1	<0.001	0.001	7938316	
Leachable Selenium (Se)	mg/L	1	<0.1	0.1	7938316	
Leachable Silver (Ag)	mg/L	5	<0.01	0.01	7938316	
Leachable Uranium (U)	mg/L	10	<0.01	0.01	7938316	
RDL = Reportable Detection Limi	it					
QC Batch = Quality Control Batch						
347: Ontario Reg. 347/90 Schedule 4 Leachate Quality Criteria (as amended by Reg 558/00)						

### **O.REG 558 TCLP INORGANICS PACKAGE (SOIL)**

Page 3 of 14 Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



		- (-	- /					
Bureau Veritas ID		SHV563						
Sampling Date		2022/04/06						
COC Number		TCLF-SOIL-APR						
	UNITS	CONT SOIL	RDL	QC Batch				
Inorganics								
Final pH	рН	6.18		7936181				
Initial pH	рН	9.31		7936181				
TCLP - % Solids	%	100	0.2	7936172				
TCLP Extraction Fluid	N/A	FLUID 1		7936180				
RDL = Reportable Detection Limit QC Batch = Quality Control Batch								

## **TCLP LEACHATE PREPARATION (SOIL)**

Page 4 of 14 Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



# **O.REG 558 TCLP VOCS BY HS (SOIL)**

Bureau Veritas ID			SHV563		
Sampling Date			2022/04/06		
COC Number			TCLF-SOIL-APR		
	UNITS	347	CONT SOIL	RDL	QC Batch
Charge/Prep Analysis					
Amount Extracted (Wet Weight) (g)	N/A	-	25	N/A	7936065
Volatile Organics	·		<u>.</u>		
Leachable Benzene	ug/L	500	<20	20	7935824
Leachable Carbon Tetrachloride	ug/L	500	<20	20	7935824
Leachable Chlorobenzene	ug/L	8000	<20	20	7935824
Leachable Chloroform	ug/L	10000	<20	20	7935824
Leachable 1,2-Dichlorobenzene	ug/L	20000	<50	50	7935824
Leachable 1,4-Dichlorobenzene	ug/L	500	<50	50	7935824
Leachable 1,2-Dichloroethane	ug/L	500	<50	50	7935824
Leachable 1,1-Dichloroethylene	ug/L	1400	<20	20	7935824
Leachable Methylene Chloride(Dichloromethane)	ug/L	5000	<200	200	7935824
Leachable Methyl Ethyl Ketone (2-Butanone)	ug/L	200000	<1000	1000	7935824
Leachable Tetrachloroethylene	ug/L	3000	<20	20	7935824
Leachable Trichloroethylene	ug/L	5000	<20	20	7935824
Leachable Vinyl Chloride	ug/L	200	<20	20	7935824
Surrogate Recovery (%)					
Leachable 4-Bromofluorobenzene	%	-	99		7935824
Leachable D4-1,2-Dichloroethane	%	-	100		7935824
Leachable D8-Toluene	%	-	99		7935824
RDL = Reportable Detection Limit					
QC Batch = Quality Control Batch					
347: Ontario Reg. 347/90 Schedule 4 Leachate Qua	lity Crite	ria (as ar	nended by Reg 5	58/00	)
N/A = Not Applicable					



## **RESULTS OF ANALYSES OF SOIL**

Bureau Veritas ID		SHV563					
Sampling Date		2022/04/06					
COC Number		TCLF-SOIL-APR					
	UNITS	CONT SOIL	RDL	QC Batch			
Inorganics							
Inorganics				•			
Inorganics Moisture	%	14	1.0	7931706			

Page 6 of 14 Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



Bureau Veritas ID			SHV563					
Sampling Date			2022/04/06					
COC Number			TCLF-SOIL-APR					
	UNITS	347	CONT SOIL	RDL	QC Batch			
Polyaromatic Hydrocarbons								
Leachable Benzo(b)fluoranthene	ug/L	-	<0.10	0.10	7943174			
Leachable Naphthalene	ug/L	-	1.0	0.20	7943174			
Leachable Acenaphthylene	ug/L	-	<0.20	0.20	7943174			
Leachable Acenaphthene	ug/L	-	0.60	0.20	7943174			
Leachable Fluorene	ug/L	-	0.75	0.20	7943174			
Leachable Phenanthrene	ug/L	-	1.1	0.20	7943174			
Leachable Anthracene	ug/L	-	0.22	0.20	7943174			
Leachable Fluoranthene	ug/L	-	<0.20	0.20	7943174			
Leachable Pyrene	ug/L	-	<0.20	0.20	7943174			
Leachable Benzo(a)anthracene	ug/L	-	<0.20	0.20	7943174			
Leachable Chrysene	ug/L	-	<0.20	0.20	7943174			
Leachable Benzo(k)fluoranthene	ug/L	-	<0.20	0.20	7943174			
Leachable Benzo(a)pyrene	ug/L	1	<0.10	0.10	7943174			
Leachable Indeno(1,2,3-cd)pyrene	ug/L	-	<0.20	0.20	7943174			
Leachable Dibenzo(a,h)anthracene	ug/L	-	<0.20	0.20	7943174			
Leachable Benzo(g,h,i)perylene	ug/L	-	<0.20	0.20	7943174			
Leachable 1-Methylnaphthalene	ug/L	-	0.42	0.20	7943174			
Leachable 2-Methylnaphthalene	ug/L	-	0.42	0.20	7943174			
Surrogate Recovery (%)		•						
Leachable D10-Anthracene	%	-	95		7943174			
Leachable D14-Terphenyl (FS)	%	-	88		7943174			
Leachable D8-Acenaphthylene	%	-	93		7943174			
RDL = Reportable Detection Limit								
RDL = Reportable Detection Limit QC Batch = Quality Control Batch 347: Ontario Reg. 347/90 Schedule 4 Leachate Quality Criteria (as amended by Reg 558/00)								

# SEMI-VOLATILE ORGANICS BY GC-MS (SOIL)

Page 7 of 14 Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



## POLYCHLORINATED BIPHENYLS BY GC-ECD (SOIL)

Bureau Veritas ID			SHV563					
Sampling Date			2022/04/06					
COC Number			TCLF-SOIL-APR					
	UNITS	347	CONT SOIL	RDL	QC Batch			
PCBs								
Leachable Total PCB	ug/L	300	<3.0	3.0	7952436			
Surrogate Recovery (%)								
Leachable Decachlorobiphenyl	%	-	122		7952436			
RDL = Reportable Detection Lim	it							
QC Batch = Quality Control Batch	h							
347: Ontario Reg. 347/90 Sched by Reg 558/00)	ule 4 Lea	achat	e Quality Criteria	a (as a	amended			

Page 8 of 14 Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



#### **GENERAL COMMENTS**

Revised Report (2022/04/22): Reporting units has been updated for VOC and PCB. Criteria policy has been included in this CofA as per Jeff Cleland's request.

Results relate only to the items tested.

Page 9 of 14 Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



#### QUALITY ASSURANCE REPORT

RWDI Inc. Client Project #: 2202861-1000 Site Location: ON07 Your P.O. #: 11146211 Sampler Initials: EVH

			Matrix	Spike	SPIKED	BLANK	Method I	Blank	RP	D	Leachate	Blank
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	Value	UNITS
7935824	Leachable 4-Bromofluorobenzene	2022/04/12	100	70 - 130			99	%				
7935824	Leachable D4-1,2-Dichloroethane	2022/04/12	98	70 - 130			98	%				
7935824	Leachable D8-Toluene	2022/04/12	99	70 - 130			100	%				
7943174	Leachable D10-Anthracene	2022/04/16	102 (2)	50 - 130	97	50 - 130	95	%				
7943174	Leachable D14-Terphenyl (FS)	2022/04/16	100 (2)	50 - 130	97	50 - 130	96	%				
7943174	Leachable D8-Acenaphthylene	2022/04/16	103 (2)	50 - 130	101	50 - 130	96	%				
7952436	Leachable Decachlorobiphenyl	2022/04/22	127	30 - 130	126	30 - 130	113	%				
7931706	Moisture	2022/04/09							3.3 (1)	20		
7935824	Leachable 1,1-Dichloroethylene	2022/04/12	104	70 - 130			<20	ug/L	NC (1)	30		
7935824	Leachable 1,2-Dichlorobenzene	2022/04/12	100	70 - 130			<50	ug/L	NC (1)	30		
7935824	Leachable 1,2-Dichloroethane	2022/04/12	96	70 - 130			<50	ug/L	NC (1)	30		
7935824	Leachable 1,4-Dichlorobenzene	2022/04/12	115	70 - 130			<50	ug/L	NC (1)	30		
7935824	Leachable Benzene	2022/04/12	96	70 - 130			<20	ug/L	NC (1)	30		
7935824	Leachable Carbon Tetrachloride	2022/04/12	102	70 - 130			<20	ug/L	NC (1)	30		
7935824	Leachable Chlorobenzene	2022/04/12	101	70 - 130			<20	ug/L	NC (1)	30		
7935824	Leachable Chloroform	2022/04/12	99	70 - 130			<20	ug/L	NC (1)	30		
7935824	Leachable Methyl Ethyl Ketone (2-Butanone)	2022/04/12	100	60 - 140			<1000	ug/L	NC (1)	30		
7935824	Leachable Methylene Chloride (Dichloromethane)	2022/04/12	101	70 - 130			<200	ug/L	NC (1)	30		
7935824	Leachable Tetrachloroethylene	2022/04/12	95	70 - 130			<20	ug/L	NC (1)	30		
7935824	Leachable Trichloroethylene	2022/04/12	108	70 - 130			<20	ug/L	NC (1)	30		
7935824	Leachable Vinyl Chloride	2022/04/12	109	70 - 130			<20	ug/L	NC (1)	30		
7938238	Leachable Fluoride (F-)	2022/04/13	105 (2)	80 - 120	104	80 - 120	<0.10	mg/L	0.93 (3)	25	<0.10	mg/L
7938240	Leachable Nitrate (N)	2022/04/13	89 (2)	80 - 120	97	80 - 120	<1.0	mg/L	NC (3)	25	<1.0	mg/L
7938240	Leachable Nitrate + Nitrite (N)	2022/04/13	91 (2)	80 - 120	99	80 - 120	<1.0	mg/L	NC (3)	25	<1.0	mg/L
7938240	Leachable Nitrite (N)	2022/04/13	100 (2)	80 - 120	104	80 - 120	<0.10	mg/L	NC (3)	25	<0.10	mg/L
7938242	Leachable WAD Cyanide (Free)	2022/04/13	87 (2)	80 - 120	97	80 - 120	<0.0020	mg/L	NC (3)	20	<0.010	mg/L
7938316	Leachable Arsenic (As)	2022/04/13	102 (2)	80 - 120	100	80 - 120	<0.2	mg/L	NC (3)	35	<0.2	mg/L
7938316	Leachable Barium (Ba)	2022/04/13	NC (2)	80 - 120	97	80 - 120	<0.2	mg/L	0.34 (3)	35	<0.2	mg/L
7938316	Leachable Boron (B)	2022/04/13	101 (2)	80 - 120	92	80 - 120	<0.1	mg/L	4.4 (3)	35	<0.1	mg/L

Page 10 of 14

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



## QUALITY ASSURANCE REPORT(CONT'D)

RWDI Inc. Client Project #: 2202861-1000 Site Location: ON07 Your P.O. #: 11146211 Sampler Initials: EVH

			Matrix	Spike	SPIKED	BLANK	Method	Blank	RP	D	Leachate	Blank
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	Value	UNITS
7938316	Leachable Cadmium (Cd)	2022/04/13	100 (2)	80 - 120	98	80 - 120	<0.05	mg/L	NC (3)	35	<0.05	mg/L
7938316	Leachable Chromium (Cr)	2022/04/13	97 (2)	80 - 120	95	80 - 120	<0.1	mg/L	NC (3)	35	<0.1	mg/L
7938316	Leachable Lead (Pb)	2022/04/13	96 (2)	80 - 120	96	80 - 120	<0.1	mg/L	NC (3)	35	<0.1	mg/L
7938316	Leachable Mercury (Hg)	2022/04/13	101 (2)	80 - 120	100	80 - 120	<0.001	mg/L	NC (3)	35	<0.001	mg/L
7938316	Leachable Selenium (Se)	2022/04/13	100 (2)	80 - 120	99	80 - 120	<0.1	mg/L	NC (3)	35	<0.1	mg/L
7938316	Leachable Silver (Ag)	2022/04/13	96 (2)	80 - 120	98	80 - 120	<0.01	mg/L	NC (3)	35	<0.01	mg/L
7938316	Leachable Uranium (U)	2022/04/13	98 (2)	80 - 120	96	80 - 120	<0.01	mg/L	NC (3)	35	<0.01	mg/L
7943174	Leachable 1-Methylnaphthalene	2022/04/16	120 (2)	50 - 130	115	50 - 130	<0.20	ug/L	11 (3)	40		
7943174	Leachable 2-Methylnaphthalene	2022/04/16	112 (2)	50 - 130	111	50 - 130	<0.20	ug/L	18 (3)	40		
7943174	Leachable Acenaphthene	2022/04/16	101 (2)	50 - 130	94	50 - 130	<0.20	ug/L	8.9 (3)	40		
7943174	Leachable Acenaphthylene	2022/04/16	102 (2)	50 - 130	97	50 - 130	<0.20	ug/L	NC (3)	40		
7943174	Leachable Anthracene	2022/04/16	100 (2)	50 - 130	95	50 - 130	<0.20	ug/L	7.2 (3)	40		
7943174	Leachable Benzo(a)anthracene	2022/04/16	105 (2)	50 - 130	101	50 - 130	<0.20	ug/L	NC (3)	40		
7943174	Leachable Benzo(a)pyrene	2022/04/16	94 (2)	50 - 130	91	50 - 130	<0.10	ug/L	NC (3)	40		
7943174	Leachable Benzo(b)fluoranthene	2022/04/16	107 (2)	50 - 130	101	50 - 130	<0.10	ug/L	NC (3)	40		
7943174	Leachable Benzo(g,h,i)perylene	2022/04/16	92 (2)	50 - 130	86	50 - 130	<0.20	ug/L	NC (3)	40		
7943174	Leachable Benzo(k)fluoranthene	2022/04/16	112 (2)	50 - 130	111	50 - 130	<0.20	ug/L	NC (3)	40		
7943174	Leachable Chrysene	2022/04/16	101 (2)	50 - 130	97	50 - 130	<0.20	ug/L	NC (3)	40		
7943174	Leachable Dibenzo(a,h)anthracene	2022/04/16	96 (2)	50 - 130	88	50 - 130	<0.20	ug/L	NC (3)	40		
7943174	Leachable Fluoranthene	2022/04/16	101 (2)	50 - 130	98	50 - 130	<0.20	ug/L	NC (3)	40		
7943174	Leachable Fluorene	2022/04/16	108 (2)	50 - 130	102	50 - 130	<0.20	ug/L	11 (3)	40		
7943174	Leachable Indeno(1,2,3-cd)pyrene	2022/04/16	93 (2)	50 - 130	85	50 - 130	<0.20	ug/L	NC (3)	40		
7943174	Leachable Naphthalene	2022/04/16	91 (2)	50 - 130	87	50 - 130	<0.20	ug/L	14 (3)	40		
7943174	Leachable Phenanthrene	2022/04/16	101 (2)	50 - 130	97	50 - 130	<0.20	ug/L	13 (3)	40		
7943174	Leachable Pyrene	2022/04/16	101 (2)	50 - 130	97	50 - 130	<0.20	ug/L	NC (3)	40		

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



#### QUALITY ASSURANCE REPORT(CONT'D)

RWDI Inc. Client Project #: 2202861-1000 Site Location: ON07 Your P.O. #: 11146211 Sampler Initials: EVH

			Matrix	Spike	SPIKED	BLANK	Method E	Blank	RPI	D	Leachate	Blank
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	Value	UNITS
7952436	Leachable Total PCB	2022/04/22	121	30 - 130	121	30 - 130	<3.0	ug/L	NC (1)	40		

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

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

Leachate Blank: A blank matrix containing all reagents used in the leaching procedure. Used to determine any process contamination.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

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

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Duplicate Parent ID

(2) Matrix Spike Parent ID [SHV563-01]

(3) Duplicate Parent ID [SHV563-01]

Page 12 of 14

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



#### VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Anastassia Hamanov, Scientific Specialist

aistin Camere

Cristina Carriere, Senior Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Page 13 of 14 Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



#### **Attention: Khalid Hussein**

RWDI Inc. 600 Southgate Drive Guelph, ON Canada N1G 4P6 Your P.O. #: 11146211 Your Project #: 2202861-1000 Site#: 900 Site Location: ON07 Your C.O.C. #: TCLF-SOIL-JUL

> Report Date: 2022/07/14 Report #: R7210821 Version: 1 - Final

#### **CERTIFICATE OF ANALYSIS**

#### BUREAU VERITAS JOB #: C2I8016 Received: 2022/07/07, 09:20

Sample Matrix: Soil # Samples Received: 1

		Date	Date		
Analyses	Quantity	Extracted	Analyzed	Laboratory Method	Analytical Method
Cyanide (WAD) in Leachates	1	N/A	2022/07/12	CAM SOP-00457	OMOE 3015 m
Fluoride by ISE in Leachates	1	2022/07/12	2022/07/12	CAM SOP-00449	SM 23 4500-F- C m
Total Metals in TCLP Leachate by ICPMS	1	2022/07/12	2022/07/12	CAM SOP-00447	EPA 6020B m
Moisture	1	N/A	2022/07/09	CAM SOP-00445	Carter 2nd ed 51.2 m
Nitrate& Nitrite as Nitrogen in Leachate	1	N/A	2022/07/12	CAM SOP-00440	SM 23 4500-NO3I/NO2B
PAH Compounds in Leachate by GC/MS (SIM)	1	2022/07/12	2022/07/13	CAM SOP-00318	EPA 8270D m
Polychlorinated Biphenyl in Leachate	1	2022/07/12	2022/07/13	CAM SOP-00309	EPA 8082A m
TCLP - % Solids	1	2022/07/11	2022/07/12	CAM SOP-00401	EPA 1311 Update I m
TCLP - Extraction Fluid	1	N/A	2022/07/12	CAM SOP-00401	EPA 1311 Update I m
TCLP - Initial and final pH	1	N/A	2022/07/12	CAM SOP-00401	EPA 1311 Update I m
TCLP Zero Headspace Extraction	1	2022/07/13	2022/07/14	CAM SOP-00430	EPA 1311 m
VOCs in ZHE Leachates	1	2022/07/14	2022/07/14	CAM SOP-00228	EPA 8260C m

#### Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested. This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Page 1 of 14

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



#### **Attention: Khalid Hussein**

RWDI Inc. 600 Southgate Drive Guelph, ON Canada N1G 4P6 Your P.O. #: 11146211 Your Project #: 2202861-1000 Site#: 900 Site Location: ON07 Your C.O.C. #: TCLF-SOIL-JUL

> Report Date: 2022/07/14 Report #: R7210821 Version: 1 - Final

#### **CERTIFICATE OF ANALYSIS**

#### BUREAU VERITAS JOB #: C2I8016 Received: 2022/07/07, 09:20

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

**Encryption Key** 

Patricia Legette Project Manager 14 Jul 2022 17:25:20

Please direct all questions regarding this Certificate of Analysis to your Project Manager. Patricia Legette, Project Manager Email: Patricia.Legette@bureauveritas.com

Phone# (905)817-5799

_____

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



Bureau Veritas ID		TCF906		
Sampling Date		2022/07/06		
COC Number		TCLF-SOIL-JUL		
	UNITS	CONT SOIL	RDL	QC Batch
Inorganics				
Leachable Fluoride (F-)	mg/L	0.11	0.10	8103839
Leachable WAD Cyanide (Free)	mg/L	<0.010	0.010	8103844
Leachable Nitrite (N)	mg/L	<0.10	0.10	8103843
Leachable Nitrate (N)	mg/L	<1.0	1.0	8103843
Leachable Nitrate + Nitrite (N)	mg/L	<1.0	1.0	8103843
Metals		-		
Leachable Arsenic (As)	mg/L	<0.2	0.2	8103810
Leachable Barium (Ba)	mg/L	0.7	0.2	8103810
Leachable Boron (B)	mg/L	0.3	0.1	8103810
Leachable Cadmium (Cd)	mg/L	<0.05	0.05	8103810
Leachable Chromium (Cr)	mg/L	<0.1	0.1	8103810
Leachable Lead (Pb)	mg/L	<0.1	0.1	8103810
Leachable Mercury (Hg)	mg/L	<0.001	0.001	8103810
Leachable Selenium (Se)	mg/L	<0.1	0.1	8103810
Leachable Silver (Ag)	mg/L	<0.01	0.01	8103810
Leachable Uranium (U)	mg/L	<0.01	0.01	8103810
RDL = Reportable Detection Limi QC Batch = Quality Control Batcl				

# **O.REG 558 TCLP INORGANICS PACKAGE (SOIL)**



Bureau Veritas ID		TCF906							
Sampling Date		2022/07/06							
COC Number		TCLF-SOIL-JUL							
	UNITS	CONT SOIL	RDL	QC Batch					
Inorganics									
Final pH	рН	5.14		8105106					
Initial pH	рН	9.21		8105106					
TCLP - % Solids	%	100	0.2	8101748					
TCLP Extraction Fluid	N/A	FLUID 1		8105091					
RDL = Reportable Detection Limit QC Batch = Quality Control Batch									

## **TCLP LEACHATE PREPARATION (SOIL)**

Page 4 of 14 Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



# **O.REG 558 TCLP VOCS BY HS (SOIL)**

Bureau Veritas ID		TCF906		
Sampling Date		2022/07/06		
COC Number		TCLF-SOIL-JUL		
	UNITS	CONT SOIL	RDL	QC Batch
Charge/Prep Analysis				
Amount Extracted (Wet Weight) (g)	N/A	25	N/A	8107137
Volatile Organics			•	
Leachable Benzene	mg/L	<0.020	0.020	8108814
Leachable Carbon Tetrachloride	mg/L	<0.020	0.020	8108814
Leachable Chlorobenzene	mg/L	<0.020	0.020	8108814
Leachable Chloroform	mg/L	<0.020	0.020	8108814
Leachable 1,2-Dichlorobenzene	mg/L	<0.050	0.050	8108814
Leachable 1,4-Dichlorobenzene	mg/L	<0.050	0.050	8108814
Leachable 1,2-Dichloroethane	mg/L	<0.050	0.050	8108814
Leachable 1,1-Dichloroethylene	mg/L	<0.020	0.020	8108814
Leachable Methylene Chloride(Dichloromethane)	mg/L	<0.20	0.20	8108814
Leachable Methyl Ethyl Ketone (2-Butanone)	mg/L	<1.0	1.0	8108814
Leachable Tetrachloroethylene	mg/L	<0.020	0.020	8108814
Leachable Trichloroethylene	mg/L	<0.020	0.020	8108814
Leachable Vinyl Chloride	mg/L	<0.020	0.020	8108814
Surrogate Recovery (%)				
Leachable 4-Bromofluorobenzene	%	96		8108814
Leachable D4-1,2-Dichloroethane	%	108		8108814
Leachable D8-Toluene	%	96		8108814
RDL = Reportable Detection Limit		· · · · ·		
QC Batch = Quality Control Batch				
N/A = Not Applicable				

Page 5 of 14 Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



## **RESULTS OF ANALYSES OF SOIL**

Bureau Veritas ID		TCF906						
Sampling Date		2022/07/06						
COC Number		TCLF-SOIL-JUL						
	UNITS	CONT SOIL	RDL	QC Batch				
Inorganics								
Inorganics								
Inorganics Moisture	%	18	1.0	8100175				

Page 6 of 14 Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



Bureau Veritas ID		TCF906		
Sampling Date		2022/07/06		
COC Number		TCLF-SOIL-JUL		
	UNITS	CONT SOIL	RDL	QC Batch
Polyaromatic Hydrocarbons				
Leachable Benzo(b)fluoranthene	ug/L	<0.10	0.10	8105605
Leachable Naphthalene	ug/L	<0.20	0.20	8105605
Leachable Acenaphthylene	ug/L	<0.20	0.20	8105605
Leachable Acenaphthene	ug/L	<0.20	0.20	8105605
Leachable Fluorene	ug/L	0.21	0.20	8105605
Leachable Phenanthrene	ug/L	0.27	0.20	8105605
Leachable Anthracene	ug/L	<0.20	0.20	8105605
Leachable Fluoranthene	ug/L	<0.20	0.20	8105605
Leachable Pyrene	ug/L	<0.20	0.20	8105605
Leachable Benzo(a)anthracene	ug/L	<0.20	0.20	8105605
Leachable Chrysene	ug/L	<0.20	0.20	8105605
Leachable Benzo(k)fluoranthene	ug/L	<0.20	0.20	8105605
Leachable Benzo(a)pyrene	ug/L	<0.10	0.10	8105605
Leachable Indeno(1,2,3-cd)pyrene	ug/L	<0.20	0.20	8105605
Leachable Dibenzo(a,h)anthracene	ug/L	<0.20	0.20	8105605
Leachable Benzo(g,h,i)perylene	ug/L	<0.20	0.20	8105605
Leachable 1-Methylnaphthalene	ug/L	0.65	0.20	8105605
Leachable 2-Methylnaphthalene	ug/L	0.52	0.20	8105605
Surrogate Recovery (%)	•		•	
Leachable D10-Anthracene	%	106		8105605
Leachable D14-Terphenyl (FS)	%	96		8105605
Leachable D8-Acenaphthylene	%	100		8105605
RDL = Reportable Detection Limit QC Batch = Quality Control Batch				

# SEMI-VOLATILE ORGANICS BY GC-MS (SOIL)

Page 7 of 14 Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



## POLYCHLORINATED BIPHENYLS BY GC-ECD (SOIL)

Bureau Veritas ID		TCF906							
Sampling Date		2022/07/06							
COC Number		TCLF-SOIL-JUL							
	UNITS	CONT SOIL	RDL	QC Batch					
PCBs									
Leachable Total PCB	ug/L	<3.0	3.0	8105514					
Surrogate Recovery (%)									
Leachable Decachlorobiphenyl	%	120		8105514					
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batch	h								

Page 8 of 14 Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



#### **GENERAL COMMENTS**

Results relate only to the items tested.

Page 9 of 14 Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



#### **QUALITY ASSURANCE REPORT**

RWDI Inc. Client Project #: 2202861-1000 Site Location: ON07 Your P.O. #: 11146211 Sampler Initials: JCL

			Matrix	Spike	SPIKED	BLANK	Method I	Blank	RP	D	Leachate	Blank
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	Value	UNITS
8105514	Leachable Decachlorobiphenyl	2022/07/13	125	30 - 130	121	30 - 130	121	%				
8105605	Leachable D10-Anthracene	2022/07/13	109	50 - 130	107	50 - 130	109	%				
8105605	Leachable D14-Terphenyl (FS)	2022/07/13	107	50 - 130	100	50 - 130	106	%				
8105605	Leachable D8-Acenaphthylene	2022/07/13	109	50 - 130	107	50 - 130	105	%				
8108814	Leachable 4-Bromofluorobenzene	2022/07/14	100	70 - 130	102	70 - 130	96	%				
8108814	Leachable D4-1,2-Dichloroethane	2022/07/14	105	70 - 130	107	70 - 130	107	%				
8108814	Leachable D8-Toluene	2022/07/14	102	70 - 130	102	70 - 130	97	%				
8100175	Moisture	2022/07/09							6.7 (1)	20		
8103810	Leachable Arsenic (As)	2022/07/12	97	80 - 120	98	80 - 120	<0.2	mg/L	NC (1)	35	<0.2	mg/L
8103810	Leachable Barium (Ba)	2022/07/12	99	80 - 120	100	80 - 120	<0.2	mg/L	0.68 (1)	35	<0.2	mg/L
8103810	Leachable Boron (B)	2022/07/12	101	80 - 120	100	80 - 120	<0.1	mg/L	1.2 (1)	35	<0.1	mg/L
8103810	Leachable Cadmium (Cd)	2022/07/12	97	80 - 120	97	80 - 120	<0.05	mg/L	NC (1)	35	<0.05	mg/L
8103810	Leachable Chromium (Cr)	2022/07/12	93	80 - 120	94	80 - 120	<0.1	mg/L	NC (1)	35	<0.1	mg/L
8103810	Leachable Lead (Pb)	2022/07/12	90	80 - 120	93	80 - 120	<0.1	mg/L	NC (1)	35	<0.1	mg/L
8103810	Leachable Mercury (Hg)	2022/07/12	92	80 - 120	97	80 - 120	< 0.001	mg/L	NC (1)	35	< 0.001	mg/L
8103810	Leachable Selenium (Se)	2022/07/12	99	80 - 120	97	80 - 120	<0.1	mg/L	NC (1)	35	<0.1	mg/L
8103810	Leachable Silver (Ag)	2022/07/12	94	80 - 120	97	80 - 120	< 0.01	mg/L	NC (1)	35	<0.01	mg/L
8103810	Leachable Uranium (U)	2022/07/12	94	80 - 120	95	80 - 120	< 0.01	mg/L	NC (1)	35	<0.01	mg/L
8103839	Leachable Fluoride (F-)	2022/07/12	96	80 - 120	102	80 - 120	<0.10	mg/L	1.5 (1)	25	<0.10	mg/L
8103843	Leachable Nitrate (N)	2022/07/12	NC	80 - 120	100	80 - 120	<1.0	mg/L	NC (1)	25	<1.0	mg/L
8103843	Leachable Nitrate + Nitrite (N)	2022/07/12	NC	80 - 120	101	80 - 120	<1.0	mg/L	NC (1)	25	<1.0	mg/L
8103843	Leachable Nitrite (N)	2022/07/12	89	80 - 120	105	80 - 120	<0.10	mg/L	NC (1)	25	<0.10	mg/L
8103844	Leachable WAD Cyanide (Free)	2022/07/12	85	80 - 120	92	80 - 120	<0.0020	mg/L	NC (1)	20	<0.010	mg/L
8105514	Leachable Total PCB	2022/07/13	89	30 - 130	88	30 - 130	<3.0	ug/L	NC (1)	40		
8105605	Leachable 1-Methylnaphthalene	2022/07/13	100	50 - 130	94	50 - 130	<0.20	ug/L				
8105605	Leachable 2-Methylnaphthalene	2022/07/13	94	50 - 130	88	50 - 130	<0.20	ug/L				
8105605	Leachable Acenaphthene	2022/07/13	112	50 - 130	107	50 - 130	<0.20	ug/L				
8105605	Leachable Acenaphthylene	2022/07/13	115	50 - 130	106	50 - 130	<0.20	ug/L				
8105605	Leachable Anthracene	2022/07/13	113	50 - 130	107	50 - 130	<0.20	ug/L				1
8105605	Leachable Benzo(a)anthracene	2022/07/13	111	50 - 130	105	50 - 130	<0.20	ug/L				

Page 10 of 14

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



## QUALITY ASSURANCE REPORT(CONT'D)

RWDI Inc. Client Project #: 2202861-1000 Site Location: ON07 Your P.O. #: 11146211 Sampler Initials: JCL

			Matrix	Spike	SPIKED	BLANK	Method I	Blank	RP	D	Leachate	Blank
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	Value	UNITS
8105605	Leachable Benzo(a)pyrene	2022/07/13	103	50 - 130	98	50 - 130	<0.10	ug/L	NC (1)	40		
8105605	Leachable Benzo(b)fluoranthene	2022/07/13	105	50 - 130	99	50 - 130	<0.10	ug/L				
8105605	Leachable Benzo(g,h,i)perylene	2022/07/13	103	50 - 130	99	50 - 130	<0.20	ug/L				
8105605	Leachable Benzo(k)fluoranthene	2022/07/13	99	50 - 130	96	50 - 130	<0.20	ug/L				
8105605	Leachable Chrysene	2022/07/13	111	50 - 130	105	50 - 130	<0.20	ug/L				
8105605	Leachable Dibenzo(a,h)anthracene	2022/07/13	89	50 - 130	86	50 - 130	<0.20	ug/L				
8105605	Leachable Fluoranthene	2022/07/13	125	50 - 130	112	50 - 130	<0.20	ug/L				
8105605	Leachable Fluorene	2022/07/13	108	50 - 130	103	50 - 130	<0.20	ug/L				
8105605	Leachable Indeno(1,2,3-cd)pyrene	2022/07/13	101	50 - 130	99	50 - 130	<0.20	ug/L				
8105605	Leachable Naphthalene	2022/07/13	99	50 - 130	96	50 - 130	<0.20	ug/L				
8105605	Leachable Phenanthrene	2022/07/13	110	50 - 130	107	50 - 130	<0.20	ug/L				
8105605	Leachable Pyrene	2022/07/13	124	50 - 130	111	50 - 130	<0.20	ug/L				
8108814	Leachable 1,1-Dichloroethylene	2022/07/14	94	70 - 130	98	70 - 130	<0.020	mg/L	NC (1)	30		
8108814	Leachable 1,2-Dichlorobenzene	2022/07/14	91	70 - 130	93	70 - 130	<0.050	mg/L	NC (1)	30		
8108814	Leachable 1,2-Dichloroethane	2022/07/14	95	70 - 130	100	70 - 130	<0.050	mg/L	NC (1)	30		
8108814	Leachable 1,4-Dichlorobenzene	2022/07/14	103	70 - 130	105	70 - 130	<0.050	mg/L	NC (1)	30		
8108814	Leachable Benzene	2022/07/14	87	70 - 130	91	70 - 130	<0.020	mg/L	NC (1)	30		
8108814	Leachable Carbon Tetrachloride	2022/07/14	100	70 - 130	104	70 - 130	<0.020	mg/L	NC (1)	30		
8108814	Leachable Chlorobenzene	2022/07/14	92	70 - 130	96	70 - 130	<0.020	mg/L	NC (1)	30		
8108814	Leachable Chloroform	2022/07/14	95	70 - 130	99	70 - 130	<0.020	mg/L	NC (1)	30		
8108814	Leachable Methyl Ethyl Ketone (2-Butanone)	2022/07/14	99	60 - 140	106	60 - 140	<1.0	mg/L	NC (1)	30		
8108814	Leachable Methylene Chloride (Dichloromethane)	2022/07/14	93	70 - 130	98	70 - 130	<0.20	mg/L	NC (1)	30		
8108814	Leachable Tetrachloroethylene	2022/07/14	89	70 - 130	92	70 - 130	<0.020	mg/L	NC (1)	30		
8108814	Leachable Trichloroethylene	2022/07/14	99	70 - 130	103	70 - 130	<0.020	mg/L	NC (1)	30		

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



#### QUALITY ASSURANCE REPORT(CONT'D)

RWDI Inc. Client Project #: 2202861-1000 Site Location: ON07 Your P.O. #: 11146211 Sampler Initials: JCL

			Matrix Spike		SPIKED BLANK Method Blank		RPD		Leachate Blank			
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	Value	UNITS
8108814	Leachable Vinyl Chloride	2022/07/14	84	70 - 130	89	70 - 130	<0.020	mg/L	NC (1)	30		
1												

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

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

Leachate Blank: A blank matrix containing all reagents used in the leaching procedure. Used to determine any process contamination.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

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

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Duplicate Parent ID

Page 12 of 14

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvlabs.com



#### VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Anastassia Hamanov, Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



#### **Attention: Khalid Hussein**

RWDI Inc. 600 Southgate Drive Guelph, ON Canada N1G 4P6 Your P.O. #: 11146211 Your Project #: 2202861-1000 Site#: 900 Site Location: ON07 Your C.O.C. #: N/A

> Report Date: 2022/10/18 Report #: R7346317 Version: 1 - Final

#### **CERTIFICATE OF ANALYSIS**

#### BUREAU VERITAS JOB #: C2T0812 Received: 2022/10/06, 10:13

Sample Matrix: Soil # Samples Received: 1

		Date	Date		
Analyses	Quantity	Extracted	Analyzed	Laboratory Method	Analytical Method
Cyanide (WAD) in Leachates	1	N/A	2022/10/12	CAM SOP-00457	OMOE 3015 m
Fluoride by ISE in Leachates	1	2022/10/12	2022/10/13	CAM SOP-00449	SM 23 4500-F- C m
Total Metals in TCLP Leachate by ICPMS	1	2022/10/12	2022/10/12	CAM SOP-00447	EPA 6020B m
Nitrate& Nitrite as Nitrogen in Leachate	1	N/A	2022/10/13	CAM SOP-00440	SM 23 4500-NO3I/NO2B
PAH Compounds in Leachate by GC/MS (SIM)	1	2022/10/14	2022/10/14	CAM SOP-00318	EPA 8270D m
Polychlorinated Biphenyl in Leachate	1	2022/10/12	2022/10/13	CAM SOP-00309	EPA 8082A m
TCLP - % Solids	1	2022/10/11	2022/10/12	CAM SOP-00401	EPA 1311 Update I m
TCLP - Extraction Fluid	1	N/A	2022/10/12	CAM SOP-00401	EPA 1311 Update I m
TCLP - Initial and final pH	1	N/A	2022/10/12	CAM SOP-00401	EPA 1311 Update I m
TCLP Zero Headspace Extraction	1	2022/10/10	2022/10/11	CAM SOP-00430	EPA 1311 m
VOCs in ZHE Leachates	1	2022/10/11	2022/10/11	CAM SOP-00228	EPA 8260C m

#### Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.

Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested. This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

Page 1 of 13

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com



#### **Attention: Khalid Hussein**

RWDI Inc. 600 Southgate Drive Guelph, ON Canada N1G 4P6 Your P.O. #: 11146211 Your Project #: 2202861-1000 Site#: 900 Site Location: ON07 Your C.O.C. #: N/A

> Report Date: 2022/10/18 Report #: R7346317 Version: 1 - Final

#### **CERTIFICATE OF ANALYSIS**

#### BUREAU VERITAS JOB #: C2T0812 Received: 2022/10/06, 10:13

Received. 2022/10/00, 10.15

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

**Encryption Key** 

Patricia Legette Project Manager 18 Oct 2022 16:06:29

Please direct all questions regarding this Certificate of Analysis to your Project Manager. Patricia Legette, Project Manager Email: Patricia.Legette@bureauveritas.com Phone# (905)817-5799

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.



## **RESULTS OF ANALYSES OF SOIL**

Bureau Veritas ID		TYE203						
Sampling Date		2022/10/05						
COC Number		N/A						
	UNITS	CONT SOIL	RDL	QC Batch				
Charge/Prep Analysis								
Amount Extracted (Wet Weight) (g)	N/A	25	N/A	8274671				
Inorganics			•					
Final pH	рН	5.37		8275795				
Leachable Fluoride (F-)	mg/L	0.17	0.10	8278221				
Initial pH	рН	9.19		8275795				
TCLP - % Solids	%	100	0.2	8275786				
TCLP Extraction Fluid	N/A	FLUID 2		8275789				
Leachable WAD Cyanide (Free)	mg/L	<0.010	0.010	8278215				
Leachable Nitrite (N)	mg/L	<0.10	0.10	8278229				
Leachable Nitrate (N)	mg/L	<1.0	1.0	8278229				
Leachable Nitrate + Nitrite (N)	mg/L	<1.0	1.0	8278229				
RDL = Reportable Detection Limit								
QC Batch = Quality Control Batch N/A = Not Applicable								



Bureau Veritas ID		TYE203							
Sampling Date		2022/10/05							
COC Number		N/A							
	UNITS	CONT SOIL	RDL	QC Batch					
Metals									
Leachable Arsenic (As)	mg/L	<0.2	0.2	8278543					
Leachable Barium (Ba)	mg/L	0.4	0.2	8278543					
Leachable Boron (B)	mg/L	0.3	0.1	8278543					
Leachable Cadmium (Cd)	mg/L	<0.05	0.05	8278543					
Leachable Chromium (Cr)	mg/L	<0.1	0.1	8278543					
Leachable Lead (Pb)	mg/L	0.2	0.1	8278543					
Leachable Mercury (Hg)	mg/L	<0.001	0.001	8278543					
Leachable Selenium (Se)	mg/L	<0.1	0.1	8278543					
Leachable Silver (Ag)	mg/L	<0.01	0.01	8278543					
Leachable Uranium (U)	mg/L	<0.01	0.01	8278543					
RDL = Reportable Detection									
QC Batch = Quality Control B	atch								

# **ELEMENTS BY ATOMIC SPECTROSCOPY (SOIL)**



Bureau Veritas ID		TYE203		
Sampling Date		2022/10/05		
COC Number		N/A		
	UNITS	CONT SOIL	RDL	QC Batch
Polyaromatic Hydrocarbons				
Leachable Benzo(b)fluoranthene	ug/L	<0.10	0.10	8284518
Leachable Naphthalene	ug/L	<0.20	0.20	8284518
Leachable Acenaphthylene	ug/L	<0.20	0.20	8284518
Leachable Acenaphthene	ug/L	<0.20	0.20	8284518
Leachable Fluorene	ug/L	<0.20	0.20	8284518
Leachable Phenanthrene	ug/L	<0.20	0.20	8284518
Leachable Anthracene	ug/L	<0.20	0.20	8284518
Leachable Fluoranthene	ug/L	<0.20	0.20	8284518
Leachable Pyrene	ug/L	<0.20	0.20	8284518
Leachable Benzo(a)anthracene	ug/L	<0.20	0.20	8284518
Leachable Chrysene	ug/L	<0.20	0.20	8284518
Leachable Benzo(k)fluoranthene	ug/L	<0.20	0.20	8284518
Leachable Benzo(a)pyrene	ug/L	<0.10	0.10	8284518
Leachable Indeno(1,2,3-cd)pyrene	ug/L	<0.20	0.20	8284518
Leachable Dibenzo(a,h)anthracene	ug/L	<0.20	0.20	8284518
Leachable Benzo(g,h,i)perylene	ug/L	<0.20	0.20	8284518
Leachable 1-Methylnaphthalene	ug/L	<0.20	0.20	8284518
Leachable 2-Methylnaphthalene	ug/L	<0.20	0.20	8284518
Surrogate Recovery (%)				
Leachable D10-Anthracene	%	107		8284518
Leachable D14-Terphenyl (FS)	%	98		8284518
Leachable D8-Acenaphthylene	%	104		8284518
RDL = Reportable Detection Limit				
QC Batch = Quality Control Batch				
L				

# SEMI-VOLATILE ORGANICS BY GC-MS (SOIL)

Page 5 of 13 Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com



# VOLATILE ORGANICS BY GC/MS (SOIL)

Bureau Veritas ID		TYE203		
Sampling Date		2022/10/05		
COC Number		N/A		
	UNITS	CONT SOIL	RDL	QC Batch
Volatile Organics				
Leachable Benzene	mg/L	<0.020	0.020	8275396
Leachable Carbon Tetrachloride	mg/L	<0.020	0.020	8275396
Leachable Chlorobenzene	mg/L	<0.020	0.020	8275396
Leachable Chloroform	mg/L	<0.020	0.020	8275396
Leachable 1,2-Dichlorobenzene	mg/L	<0.050	0.050	8275396
Leachable 1,4-Dichlorobenzene	mg/L	<0.050	0.050	8275396
Leachable 1,2-Dichloroethane	mg/L	<0.050	0.050	8275396
Leachable 1,1-Dichloroethylene	mg/L	<0.020	0.020	8275396
Leachable Methylene Chloride(Dichloromethane)	mg/L	<0.20	0.20	8275396
Leachable Methyl Ethyl Ketone (2-Butanone)	mg/L	<1.0	1.0	8275396
Leachable Tetrachloroethylene	mg/L	<0.020	0.020	8275396
Leachable Trichloroethylene	mg/L	<0.020	0.020	8275396
Leachable Vinyl Chloride	mg/L	<0.020	0.020	8275396
Surrogate Recovery (%)				
Leachable 4-Bromofluorobenzene	%	95		8275396
Leachable D4-1,2-Dichloroethane	%	105		8275396
Leachable D8-Toluene	%	91		8275396
RDL = Reportable Detection Limit QC Batch = Quality Control Batch				



## POLYCHLORINATED BIPHENYLS BY GC-ECD (SOIL)

Bureau Veritas ID		TYE203							
Sampling Date		2022/10/05							
COC Number		N/A							
	UNITS	CONT SOIL	RDL	QC Batch					
PCBs									
Leachable Total PCB	ug/L	<3.0	3.0	8278783					
Surrogate Recovery (%)									
Leachable Decachlorobiphenyl	%	104		8278783					
RDL = Reportable Detection Limit									
QC Batch = Quality Control Batc	h								

Page 7 of 13 Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com



#### **GENERAL COMMENTS**

Results relate only to the items tested.

Page 8 of 13 Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com



#### **QUALITY ASSURANCE REPORT**

RWDI Inc. Client Project #: 2202861-1000 Site Location: ON07 Your P.O. #: 11146211 Sampler Initials: JCL

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		Leachate	Blank
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	Value	UNITS
8275396	Leachable 4-Bromofluorobenzene	2022/10/11	104	70 - 130	106	70 - 130	95	%				
8275396	Leachable D4-1,2-Dichloroethane	2022/10/11	103	70 - 130	101	70 - 130	105	%				
8275396	Leachable D8-Toluene	2022/10/11	103	70 - 130	104	70 - 130	92	%				1
8278783	Leachable Decachlorobiphenyl	2022/10/13	108	30 - 130	96	30 - 130	98	%				
8284518	Leachable D10-Anthracene	2022/10/14	106	50 - 130	111	50 - 130	108	%				
8284518	Leachable D14-Terphenyl (FS)	2022/10/14	97	50 - 130	114	50 - 130	105	%				
8284518	Leachable D8-Acenaphthylene	2022/10/14	104	50 - 130	109	50 - 130	105	%				
8275396	Leachable 1,1-Dichloroethylene	2022/10/11	96	70 - 130	96	70 - 130	<0.020	mg/L	NC (1)	30		
8275396	Leachable 1,2-Dichlorobenzene	2022/10/11	94	70 - 130	94	70 - 130	<0.050	mg/L	NC (1)	30		
8275396	Leachable 1,2-Dichloroethane	2022/10/11	97	70 - 130	95	70 - 130	<0.050	mg/L	NC (1)	30		
8275396	Leachable 1,4-Dichlorobenzene	2022/10/11	110	70 - 130	111	70 - 130	<0.050	mg/L	NC (1)	30		
8275396	Leachable Benzene	2022/10/11	93	70 - 130	93	70 - 130	<0.020	mg/L	NC (1)	30		
8275396	Leachable Carbon Tetrachloride	2022/10/11	98	70 - 130	95	70 - 130	<0.020	mg/L	NC (1)	30		
8275396	Leachable Chlorobenzene	2022/10/11	97	70 - 130	97	70 - 130	<0.020	mg/L	NC (1)	30		
8275396	Leachable Chloroform	2022/10/11	97	70 - 130	95	70 - 130	<0.020	mg/L	NC (1)	30		
8275396	Leachable Methyl Ethyl Ketone (2-Butanone)	2022/10/11	113	60 - 140	113	60 - 140	<1.0	mg/L	NC (1)	30		
8275396	Leachable Methylene Chloride (Dichloromethane)	2022/10/11	100	70 - 130	99	70 - 130	<0.20	mg/L	NC (1)	30		
8275396	Leachable Tetrachloroethylene	2022/10/11	90	70 - 130	89	70 - 130	<0.020	mg/L	NC (1)	30		
8275396	Leachable Trichloroethylene	2022/10/11	103	70 - 130	101	70 - 130	<0.020	mg/L	NC (1)	30		
8275396	Leachable Vinyl Chloride	2022/10/11	86	70 - 130	88	70 - 130	<0.020	mg/L	NC (1)	30		
8278215	Leachable WAD Cyanide (Free)	2022/10/12	88 (2)	80 - 120	106	80 - 120	<0.0020	mg/L	NC (3)	20	<0.010	mg/L
8278221	Leachable Fluoride (F-)	2022/10/13	78 (4,2)	80 - 120	98	80 - 120	<0.10	mg/L	1.0 (3)	25	<0.10	mg/L
8278229	Leachable Nitrate (N)	2022/10/13	65 (4,2)	80 - 120	105	80 - 120	<1.0	mg/L	NC (3)	25	<1.0	mg/L
8278229	Leachable Nitrate + Nitrite (N)	2022/10/13	75 (4,2)	80 - 120	106	80 - 120	<1.0	mg/L	NC (3)	25	<1.0	mg/L
8278229	Leachable Nitrite (N)	2022/10/13	115 (2)	80 - 120	109	80 - 120	<0.10	mg/L	NC (3)	25	<0.10	mg/L
8278543	Leachable Arsenic (As)	2022/10/12	99	80 - 120	99	80 - 120	<0.2	mg/L	NC (1)	35	<0.2	mg/L
8278543	Leachable Barium (Ba)	2022/10/12	99	80 - 120	97	80 - 120	<0.2	mg/L	2.1 (1)	35	<0.2	mg/L
8278543	Leachable Boron (B)	2022/10/12	99	80 - 120	100	80 - 120	<0.1	mg/L	1.8 (1)	35	<0.1	mg/L
8278543	Leachable Cadmium (Cd)	2022/10/12	102	80 - 120	101	80 - 120	<0.05	mg/L	NC (1)	35	<0.05	mg/L

Page 9 of 13

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com



## QUALITY ASSURANCE REPORT(CONT'D)

RWDI Inc. Client Project #: 2202861-1000 Site Location: ON07 Your P.O. #: 11146211 Sampler Initials: JCL

			Matrix	Matrix Spike		SPIKED BLANK		Method Blank		RPD		Blank
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	Value	UNITS
8278543	Leachable Chromium (Cr)	2022/10/12	100	80 - 120	98	80 - 120	<0.1	mg/L	NC (1)	35	<0.1	mg/L
8278543	Leachable Lead (Pb)	2022/10/12	100	80 - 120	103	80 - 120	<0.1	mg/L	NC (1)	35	<0.1	mg/L
8278543	Leachable Mercury (Hg)	2022/10/12	103	80 - 120	105	80 - 120	<0.001	mg/L	NC (1)	35	<0.001	mg/L
8278543	Leachable Selenium (Se)	2022/10/12	100	80 - 120	97	80 - 120	<0.1	mg/L	NC (1)	35	<0.1	mg/L
8278543	Leachable Silver (Ag)	2022/10/12	106	80 - 120	106	80 - 120	<0.01	mg/L	NC (1)	35	<0.01	mg/L
8278543	Leachable Uranium (U)	2022/10/12	103	80 - 120	104	80 - 120	<0.01	mg/L			<0.01	mg/L
8278783	Leachable Total PCB	2022/10/13	96	30 - 130	96	30 - 130	<3.0	ug/L	NC (1)	40		
8284518	Leachable 1-Methylnaphthalene	2022/10/14	86	50 - 130	92	50 - 130	<0.20	ug/L				
8284518	Leachable 2-Methylnaphthalene	2022/10/14	79	50 - 130	87	50 - 130	<0.20	ug/L				
8284518	Leachable Acenaphthene	2022/10/14	97	50 - 130	104	50 - 130	<0.20	ug/L				
8284518	Leachable Acenaphthylene	2022/10/14	98	50 - 130	104	50 - 130	<0.20	ug/L				
8284518	Leachable Anthracene	2022/10/14	107	50 - 130	109	50 - 130	<0.20	ug/L				
8284518	Leachable Benzo(a)anthracene	2022/10/14	110	50 - 130	120	50 - 130	<0.20	ug/L				
8284518	Leachable Benzo(a)pyrene	2022/10/14	105	50 - 130	108	50 - 130	<0.10	ug/L	NC (1)	40		
8284518	Leachable Benzo(b)fluoranthene	2022/10/14	110	50 - 130	110	50 - 130	<0.10	ug/L				
8284518	Leachable Benzo(g,h,i)perylene	2022/10/14	112	50 - 130	113	50 - 130	<0.20	ug/L				
8284518	Leachable Benzo(k)fluoranthene	2022/10/14	106	50 - 130	112	50 - 130	<0.20	ug/L				
8284518	Leachable Chrysene	2022/10/14	110	50 - 130	111	50 - 130	<0.20	ug/L				
8284518	Leachable Dibenzo(a,h)anthracene	2022/10/14	100	50 - 130	103	50 - 130	<0.20	ug/L				
8284518	Leachable Fluoranthene	2022/10/14	108	50 - 130	123	50 - 130	<0.20	ug/L				
8284518	Leachable Fluorene	2022/10/14	107	50 - 130	113	50 - 130	<0.20	ug/L				
8284518	Leachable Indeno(1,2,3-cd)pyrene	2022/10/14	109	50 - 130	110	50 - 130	<0.20	ug/L				
8284518	Leachable Naphthalene	2022/10/14	90	50 - 130	96	50 - 130	<0.20	ug/L				
8284518	Leachable Phenanthrene	2022/10/14	109	50 - 130	110	50 - 130	<0.20	ug/L				

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com



#### QUALITY ASSURANCE REPORT(CONT'D)

RWDI Inc. Client Project #: 2202861-1000 Site Location: ON07 Your P.O. #: 11146211 Sampler Initials: JCL

			Matrix Spike		SPIKED BLANK		Method Blank		RPD		Leachate Blank	
QC Batch	Parameter	Date	% Recovery	QC Limits	% Recovery	QC Limits	Value	UNITS	Value (%)	QC Limits	Value	UNITS
8284518	Leachable Pyrene	2022/10/14	106	50 - 130	122	50 - 130	<0.20	ug/L				

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

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

Leachate Blank: A blank matrix containing all reagents used in the leaching procedure. Used to determine any process contamination.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

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

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Duplicate Parent ID

(2) Matrix Spike Parent ID [TYE203-01]

(3) Duplicate Parent ID [TYE203-01]

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

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, LSN 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com



#### VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Anastassia Hamanov, Scientific Specialist

aistin Camere

Cristina Carriere, Senior Scientific Specialist

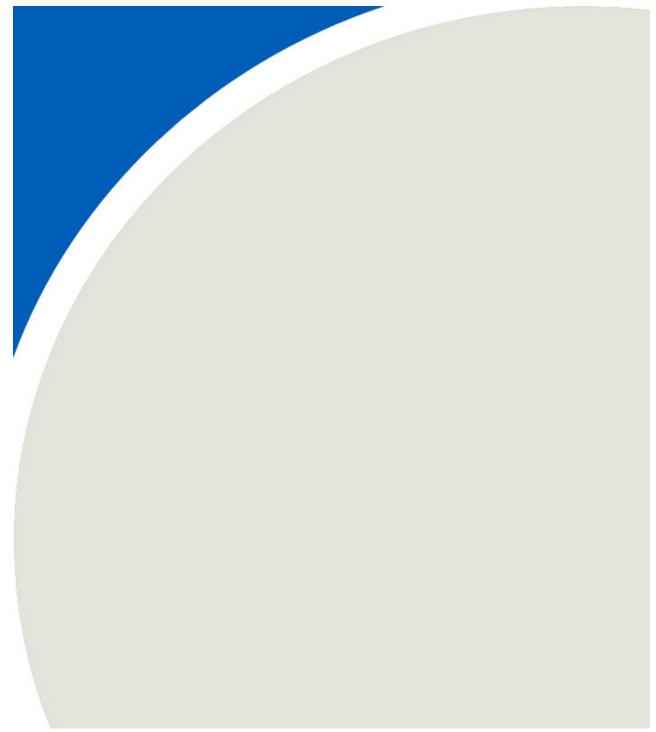
Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Page 12 of 13 Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com



# APPENDIX P:

Complaint Logs



#### WM Twin Creeks Environmental Centre - Summary of Complaints - 2022-ECA A032203

Log	Name	Date	Time	Relationship	Туре	Where	Wind Direction	Corrective Action	Response
1	Amanda Gubbels	1/4/2022	4:39 p.m.	Township	Odour	Township Office- 6332 Nauvoo	SSE/S	Investigation, continue to monitor previous casing repairs	No Response at this time
2	Bonnie Ross	1/19/2022	12:59 p.m.	Not provided	Odour (Transient)	Driving By Site	W	Investigation, Wind direction not consistent with complaint, stockpiling of biosolids and spreading-strong odours on Nauvoo	No Response at this time
3	Stephanie Cattrysse	1/24/2022	11:41 a.m.	Township	Odour (Transient)	Driving By Site	SSE	Investigation, Site inspections indicated slight waste odour onsite-North Rd., no odour detected offsite on Zion	No Response at this time
4a	Stephanie Cattrysse	1/31/2022	8:54 a.m.	Township	Odour (Transient)	Driving By Site	SE	Landfill operational, Site Inspect. Waste odour identified 7:15 a.m., add. Cover applied to WF	No Response at this time
4b	Stephanie Cattrysse	1/31/2022	4:36 p.m.	Township	Odour (Transient)	Driving By Site	SE	Landfill operational, Site Inspect. Waste odour identified 7:15 a.m. and periodically throughout day, add. Cover applied to WF	No Response at this time
4c	Bonnie Ross	1/31/2022	6:02 p.m.	Not provided	Odour (Transient)	Driving By Site	SE	Site Inspections identified waste odour at 7:15 a.m. and periodically throughout the day, additional cover applied to WF	No Response at this time
5	Mac Parker	2/1/2022	11:27 a.m.	Resident	Odour (Transient)	Driving By Site	SE	Landfill operational, site inspections identified odours periodically throughout the day, continue to follow BMP	There is a smell there, and can smell downwind, worse earlier in the day and later at night due to inversion. Generally, that is when it is the worst.
6	Stephanie Cattrysse	2/4/2022	7:36 p.m.	Township	Odour (Transient)	Driving By Site	Ν	Completed Verification as required by D&O	No Response at this time
7	Stephanie Cattrysse	2/5/2022	4:37 p.m., 6:53 p.m.	Township	Odour (Transient)	Driving By Site	S/SSE	Completed Verification as required by D&O	No Response at this time
8a	Stephanie Cattrysse	2/6/2022	5:16 p.m. & 8:19 p.m.	Township	Odour (Transient)	Driving By Site	S	Completed Verification as required by D&O	No Response at this time
8b	Stephanie Cattrysse	2/7/2022	8:35 a.m.	Township	Odour (Transient)	Driving By Site	SSW	Completed Verification as required by D&O, WM noted: mild odour detected, not consistent with odour modelling (no strong odour detected at Landfill), complainant location 3 km from Landfill	No Response at this time
9	Stephanie Cattrysse	2/8/2022	9:22 a.m.	Township	Odour	Residence (Non- Resident)	WSW	Completed Verification as required by D&O, WM noted: Arkona Rd. detected slight landfill odour, Donnelly, sources of agricultural odours, mixture of smells, in front of location could not detect Landfill, Note: complainant residence 8 km from Landfill	No Response at this time
10	Stephanie Cattrysse	2/9/2022	4:23 p.m.	Township	Odour (Transient)	Driving By Site	S	Completed Verification as required by D&O	No Response at this time
11	Stephanie Cattrysse	2/15/2022	5:48 p.m. & 6:58 p.m.	Township	Odour (Transient)	Driving By Site	SE	Completed Verification as required by D&O, Flare went down at 530pm for no more than ten minutes, WM noted 5:49 p.mDrove Nauvoo to Cemetery and Zion to Greenhouse to a few hundred meters west of Nauvoo. Detected a very slight landfill odour at the intersection of Zion and Nauvoo nothing detected north of Zion or West of Nauvoo. WM Notes at 7 p.m. There is still slight odour at intersection of Zion and Nauvoo but no odour west on Zion and definitely no odour east on Zion	No Response at this time
12	Stephanie Cattrysse	2/16/2022	6:58 p.m.	Township	Odour (Transient)	Driving By Site	S/SSW	Completed Verification as required by D&O	No Response at this time
13	Stephanie Cattrysse	2/20/2022	10:15 p.m.	Township	Odour (Transient)	Driving By Site	SW	Completed Verification as required by D&O	No Response at this time
14	Stephanie Cattrysse	2/22/2022	8:30 a.m.	Township	Odour (Transient)	Driving By Site	SE	Completed Verification as required by D&O	No Response at this time
15	Pat Muxlow	2/22/2022	11:31 a.m.	Resident	Odour	Residence	NNE	Completed Verification as required by D&O	No Response at this time
16	Bonnie Ross	2/23/2022	6:33 p.m.	Not provided	Odour (Transient)	Driving By Site	NW	Weather - wind direction not consistent, Complaint submission after occurrence	No Response at this time
17	Stephanie Cattrysse	2/25/2022	9:53 p.m.	Township	Odour (Transient)	Driving By Site	SW	Completed Verification as required by D&O	No Response at this time
18	Stephanie Cattrysse	2/26/2022	8 p.m.	Township	Odour (Transient)	Driving By Site	SW/SSW	Completed Verification as required by D&O	No Response at this time
19	Stephanie Cattrysse	3/4/2022	7:25 p.m.	Township	Odour (Transient)	Driving By Site	SW	Completed Verification as required by D&O, Power outage-Watford. Alvinston-reported by Bluewater Power, Gas Tech came to Site	No Response at this time
20	Stephanie Cattrysse	3/5/2022	3:03 p.m.	Township	Odour (Transient)	Driving By Site	ESE/SE	Completed Verification as required by D&O	No Response at this time
21	Stephanie Cattrysse	3/13/2022	8:50 p.m.	Township	Odour (Transient)	Driving By Site	ESE	Completed Verification as required by D&O	No Response at this time
22	Stephanie Cattrysse	3/15/2022	9:16 p.m.	Township	Odour (Transient)	Driving By Site	SE	Completed Verification as required by D&O, Confirmed address to be 8290 Zion Line	No Response at this time
23	Marcie Parker	3/16/2022	4:57 p.m.	Resident	Track Out	Nauvoo	N/A	Completed Verification as required by D&O, continue to follow Dust BMP	No Response at this time
24	Stephanie Cattrysse	3/17/2022	8:13 p.m.	Township	Odour (Transient)	Driving By Site	S/SSW	Completed verification as required by D&O, WM noted: strong, earthy smell on field west of Nauvoo, where biosolids had previously been spread. Weather conditions reviewed - wind direction consistent with odours detected by WM noted above. Odour potentially from another source	LOL I live on a farm and can clearly distinguish the difference between chicken manure, cow manure, pig manure, bio solids and methane, but I appreciate your response. That would be like WM coming to my house and telling me the smell chicken manure and I say no that's not what you smell, you're smelling fresh green grass
25	Stephanie Cattrysse	3/31/2022	4:05 p.m.	Township	Odour (Transient)	Driving by Site (8152 Zion Line)	SW	Completed Verification as required by D&O	No Response at this time
26	Stephanie Cattrysse	4/2/2022	8:03 p.m. & 9:42 p.m.	Township	Odour (Transient)	Driving by (Cemetery, Nauvoo)	ESE/NNE	Completed Verification as required by D&O, weather conditions reviewed-wind direction not consistent with complaint	No Response at this time
27	Marcie Parker	4/6/2022	11:03 a.m.	Resident	Litter	Nauvoo	N/A	Completed Verification as required by D&O, investigation confirmed material not associated with Landfill, coordination with the County to address ditch maintenance	No Response at this time
28	Bonnie Ross	4/22/2022	8:11 a.m.	Not provided	Odour (Transient)	Nauvoo	Ν	Completed verification as required by D&O, WM Notes: (2) employees went out to investigate-no odour detected on Nauvoo/Ontario or in vicinity. Very faint agricultural odour closer to school.	No Response at this time
29	Stephanie Cattrysse	5/3/2022	4:45 p.m.	Township	Odour (Transient)	On Nauvoo Driving by Site	Е	Completed verification as required by D&O	No Response at this time

Log	Name	Date	Time	Relationship	Туре	Where	Wind Direction	Corrective Action	Response
30a	Stephanie Cattrysse	5/5/2022	8:33 a.m.	Township	Odour (Transient)	Giving Hope	ESE	Completed verification as required by D&O, weather conditions reviewed, address is 5639 Nauvoo, WM Notes: odour detected on-site to entrance gate, but not down as far as the store.	No Response at this time
30b	Bonnie Ross	5/5/2022	9:31 a.m.	Not provided	Odour (Transient)	On Nauvoo Driving by Site	ESE	Completed verification as required by D&O, WM notes: odour detected on site to entrance gate	No Response at this time
31	Paul Leliveld	5/9/2022	1:22 p.m.	5966 Nauvoo Rd.	Odour	Residence	SE	Completed verification as required by D&O	Wanted to advise again that whenever there is a south wind he can smell the Landfill
32	Bonnie Ross	5/28/2022	11:06 p.m.	Not provided	Odour (Transient)	On Nauvoo Driving by Site	Е	Completed verification as required by D&O, WM Notes: Employee on site that evening from 7-9 p.m. no odour detected at all at the Site Entrance, at the Office, or on Nauvoo from the Site to the 402	No Response at this time
33	Martina Jackson	7/14/2022	9:53 p.m.	Resident	Odour	Residence	Various	Completed verification as required by D&O	No Response at this time
34 a	Amanda Gubbels	8/12/2022	8:19 a.m.	Township	Odour	Arena, Office (5280 Nauvoo Rd.)	NE	Completed verification as required by D&O. Weather conditions create times when landfill odours cannot dissipate effectively. These inversion periods are unavoidable, and WM will continue to follow the BMP.	No Response at this time
34 b	Shannon Woods	8/12/2022	8:13 p.m.	Resident	Odour	Residence	Various	Completed verification as required by D&O, Weather conditions create times when landfill odours cannot dissipate effectively. These inversion periods are unavoidable, and WM will continue to follow the BMP.	No Response at this time
34 c	Martina Jackson	8/12/2022	9: 36 p.m.	Resident	Odour	Residence	Various	Completed verification as required by D&O, Weather conditions create times when landfill odours cannot dissipate effectively. These inversion periods are unavoidable, and WM will continue to follow the BMP.	No Response at this time
34 d	Pat Muxlow	8/24/2022 for 8/1	10:38 a.m.	Resident	Odour	Residence	NNW	Completed verification as required by D&O, Weather conditions create times when landfill odours cannot dissipate effectively. These inversion periods are unavoidable, and WM will continue to follow the BMP.	
35 a	Martina Jackson	8/17/2022	5:30 p.m.	Resident	Odour	St. Peter Canisius	NNE	Unable to complete verification as required by D&O due to late notification of complaint	No Response at this time
35 b	Pat Muxlow	8/24/22 for 8/17	10:39 a.m.	Resident	Odour	Residence	Ν	Unable to complete verification as required by D&O due to late notification of complaint	No Response at this time
36	Klaas De Jong	8/18/2022	9:07 a.m.	Resident	Odour	SE Corner of Landfill	WNW	Completed verification as required by D&O, Landfill was operational at the time of complaint. Potentially odourous load received in that timeframe	Ok, thanks
37 a	Ursula Verberne	8/23/2022	9:37 p.m.	Resident	Odour	554 Ontario St.	NNE	Completed verification as required by D&O, inversion potential based on weather	No Response at this time
37 b	Martina Jackson	8/23/2022	9:38 p.m.	Resident	Odour	537 Gold St.	NNE	Completed verification as required by D&O, inversion potential based on weather	No Response at this time
37 c	Pat Muxlow	8/24/22 for 8/23	10:40 a.m.	Resident	Odour (Transient)	Nauvoo Rd.	Ν	Unable to complete verification as required by D&O due to late notification of complaint	No Response at this time
38	Pat Muxlow	9/7/2022	7:14 a.m.	Resident	Odour	Sunset and Walking	Е	Completed verification as required by D&O, Skunk on Nauvoo, inversion potential based on weather	No Response at this time
39 a	Martina Jackson	9/7/2022	11:08 p.m.	Resident	Odour	Residence	NNE	Completed verification as required by D&O, Landfill Staff notes: on site 9:30-11:30 p.m. did not detect odour, weather inversion	No Response at this time
39 b	Jody Jasek	9/8/2022	8:21 a.m.	Resident	Odour	Residence	NW	Completed verification as required by D&O, Odour surveys completed by WM Staff, RWDI, MECP, pockets of moderate odour detected, weather inversion	No Response at this time
39 c	Andrew Maver	9/8/2022	8:25 a.m.	Township	Odour	Office	NW	Completed verification as required by D&O, Odour surveys completed by WM Staff, RWDI, MECP, pockets of moderate odour detected, weather inversion	No Response at this time
39 d	Martina Jackson	9/8/2022	9:08 a.m.	Resident	Odour	Residence	NW	Completed verification as required by D&O, Odour surveys completed by WM Staff, RWDI, MECP, pockets of moderate odour detected, weather inversion	No Response at this time
39 e	Keri Cooper	9/8/2022	9:08 a.m.	Resident	Odour	Walking	NE	Completed verification as required by D&O, Odour surveys completed by WM Staff, RWDI, MECP, pockets of moderate odour detected, weather inversion	No Response at this time
39 f	Tracey Fisher	9/8/2022	9:20 a.m.	Resident	Odour	Residence/Walking	NE	Completed verification as required by D&O, Odour surveys completed by WM Staff, RWDI, MECP, pockets of moderate odour detected, weather inversion	No Response at this time
39 g	Stephanie Cattrysse	9/8/2022	8:40 a.m.	Township	Odour	Town	NW	Completed verification as required by D&O, Odour surveys completed by WM Staff, RWDI, MECP, pockets of moderate odour detected, weather inversion	No Response at this time
39 h	Jackie Rombouts	9/8/2022	10:07 a.m.	Resident/Township- Mayor	Odour	Ballpark	NNE	Completed verification as required by D&O, Odour surveys completed by WM Staff, RWDI, MECP, pockets of moderate odour detected, weather inversion	No Response at this time
40	Danielle Maes	9/14/2022	9:38 p.m.	Resident	Odour	Residence	NNE	Completed verification as required by D&O, includes: review weather, gas ops, site conditions nothing abnormal noted, higher than normal volume of odourous material received combined with weather conditions may have contributed to related concerns. Areas where odourous loads are deposited will receive additional or alternate cover application to prevent potential sources of odour.	No Response at this time
41	Holly Watson	10/3/2022	2:47 p.m.	Resident/WPLC Member	Odour	Driving/Residence St.	NE	Indust are deposited with receive automator an aternate cover application to preven potential sources of couor. Gas techs report there are six leaking wells that require attention. This is a continuation of a project to seal off penetration points in the Landfill to improve gas capture. The next step is installing gas collection headers to all casings in Cell 4. This project will take some time to complete • Reviewed weather conditions, Gas operations, and site conditions; nothing abnormal noted Connection of gas wells is a scheduled activity based on fill volumes and cell construction. The project is currently on schedule; however this is a large task that will take several mombs to complete.	Thank you
42	Danielle Maes	10/3/2022	10:17 p.m.	Resident	Odour	Residence	NE	Gas techs report there are six leaking wells that require attention. This is a continuation of a project to seal off penetration points in the Landfill to improve gas capture. The next step is installing gas collection headers to all casings in Cell 4. This project will take some time to complete • Reviewed weather conditions, Gas operations, and site conditions; nothing abnormal noted Connection of gas wells is a scheduled activity based on fill volumes and cell construction. The project is currently on schedule; however this is a large task that will take several months to complete.	No Response at this time
43	Bernie Davidson	10/11/2022	8:45 p.m.	Resident	Odour (Transient)	Driving by Site	s	WM is currently working on a continuation of a project to seal off penetration points in the Landfill to improve gas capture. The next step is installing gas collection headers to all casings in Cell 4. This project will take some time to complete	Thanked for call back.
44	Betsy Rombouts	10/16/2022	6:22 p.m.	Resident	Litter	Zion/Nauvoo Rd	N/A	Ops Manager investigated first thing, minimal litter observed-mattress fluff by Stop sign, pieces of paper on opposite corner, had picked that morning	actually there was a fair amount of debris along Nauvoo from Zion Line to the first detour sign on the east side of the road too.
45	Betsy Rombouts	10/28/2022	10 a.m.	Resident	Litter	Zion/Nauvoo Rd	N/A	Ops Manager investigated, two labourers dispatched (included in complaint description felt the clean up first time was completely unacceptable)	Ok
46	Betsy Rombouts	10/31/2022	11:47 a.m.	Resident	Odour (Transient)	Driving by Site	SSE/SE	WM is currently working on a continuation of a project to seal off penetration points in the Landfill to improve gas capture. The next step is installing gas collection headers to all casings in Cell 4. This project will take some time to complete	Thx will pass this message and information along to the concerned public

Log	Name	Date	Time	Relationship	Туре	Where	Wind Direction	Corrective Action	Response
47	Sharron Bourret	10/31/2022	5:55 p.m.	Resident	Odour	Front St.	ESE	WM is currently working on a continuation of a project to seal off penetration points in the Landfill to improve gas capture. The next step is installing gas collection headers to all casings in Cell 4. This project will take some time to complete. Provided direct contact to address timely reporting.	Thanked for call, and glad to know there is a reason and it is being addressed
48	Megan Cattrysse	11/7/2022	8:19 p.m.	Resident	Odour	Huron	NNW/NNE/N	WM is currently working on a continuation of a project to seal off penetration points in the Landfill to improve gas capture. The next step is installing gas collection headers to all casings in Cell 4. This project will take some time to complete.	Thx.
49	Bernie Davidson	11/8/2022	8:33 a.m.	Resident	Odour	First School Rd.	ENE	WM is currently working on a continuation of a project to seal off penetration points in the Landfill to improve gas capture. The next step is installing gas collection headers to all casings in Cell 4. This project will take some time to complete.	Thanks
50	Betsy Rombouts	11/11/2022	9:28 a.m.	Resident	Odour (Transient)	Driving by Site	SE	Advised related to the Gas Well Connection previously discussed	No Response at this time
51a	Martina Jackson	11/11/2022	5:34 p.m.	Resident	Odour (Transient)	Driving by Site	ESE	WM is currently working on a continuation of a project to seal off penetration points in the Landfill to improve gas capture. The next step is installing gas collection headers to all casings in Cell 4. This project will take some time to complete.	No Response at this time
51b	Bonnie Ross	11/11/2022	5:46 p.m.	Not provided	Odour (Transient)	Driving by Site	ESE	WM is currently working on a continuation of a project to seal off penetration points in the Landfill to improve gas capture. The next step is installing gas collection headers to all casings in Cell 4. This project will take some time to complete.	No Response at this time
52	Amanda Gubbels	11/26/2022	11:01 a.m.	Township	Litter	North Side of Site	N/A	Litter collectors dispatched	Thank you
53	Mac Parker	11/27/2022	1:46 p.m.	Resident	Odour (Transient)/Site Access	Driving by Site	Various	WM is currently working on a continuation of a project to seal off penetration points in the Landfill to improve gas capture. The next step is installing gas collection headers to all casings in Cell 4. This project will take some time to complete. /Litter Collectors on site reminded of closure of gates during non operating hours.	No Response at this time
54	Bernie Davidson	12/6/2022	9:28 a.m.	Resident	Odour	Residence		Reviewed Weather conditions, Gas and Site conditions, Ops Mgr, GOM, ECM went out did not detect any landfill odour other than on Nauvoo Rd. outside Landfill gate, mild odour detected (burning smell) not Landfill related on Nauvoo	It was the Landfill, has to travel to get to their house, on a field trip, thanks
55	Stephanie Cattrysse	12/8/2022	8:15 p.m.	Township	Odour	Township Office	Ν	WM is currently working on a continuation of a project to seal off penetration points in the Landfill to improve gas capture. The next step is installing gas collection headers to all casings in Cell 4. This project will take some time to complete.	No Response at this time

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-001				
Certificate of Approval/Permit Number for site: A032203 (If none, go to Section B)					
Does a condition of the C. of A./Permit require this complaint log					
be (tick those that apply):					
a) Retained on site	$\boxtimes$				
b) Submitted to the Environment Ministry	$\boxtimes$				
c) Summarized for inclusion in a Report (monthly, $\overline{\boxtimes}$					
quarterly, annual)					
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permi	t conditions.				

#### **B. SUMMARY**

1. Date and Time of Complaint	January 4, 2022 @ 4:39 p.m.		
2. Name of Complainant	Amanda Gubbels		
3. Address of Complainant	Township of Warwick		
4. Telephone Number of Complainant	519-849-3926		
5. Relationship of Complainant	CAO/Clerk Township		
6. Employee receiving complaint	Angela McLachlan		
(name):			
7. Type of complaint	Odour		
8. Nature of complaint (details):			
There is landfill odour at the township off	ice now at 6332 nauvoo. It has been detected on site		
for at least the last 30 minutes.			
9. Precipitation: Yes 🛛 No	10. Wind Direction: SSE/S		
11. Precipitation Type & Amount: N/A	12. Wind Speed: 16/21 kmh		

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	🗌 Yes 🛛 No						
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste strear etc): N/A</li> </ol>	m creating odours,						
3. If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A							
4. Where the complaint was for odours, was:							
a) An odour suppression system available for use at the site?	🖂 Yes 🗌 No						
b) The suppression system operational?	🗌 Yes 🔀 No						

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Investigation into possible source of on-site odour-Operations Nothing abnormal to generate landfill odour offsite.
  - Reviewed occurrence with Operations Gas Nothing abnormal to generate landfill odour offsite.
  - Completed and filed relevant complaint log.
  - Weather Conditions reviewed

2. When were these actions taken (date/time): January 4, 2022 @ 5:18 p.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• Continue to monitor previous casing repairs

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.								
Date and time complainant was contacted to provide details January 7, 2022 @ 2:41								
of the investigation and to describe any correct	tive and/or	p.m.						
preventative measures:								
Who contacted the complainant (name/title): Angela McLachlan/Envtal Compl Mgr.								
How was the complainant contacted?	How was the complainant contacted? Email							
Complainant Response:								
<ul> <li>No Response at this time</li> </ul>								
·								

	Angela McLachlan Environmental Compliance Manager
Date completed:	January 7, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-002				
Certificate of Approval/Permit Number for site: A032203 (If none, go to Section B)					
Does a condition of the C. of A./Permit require this complaint log					
be (tick those that apply):					
a) Retained on site	$\boxtimes$				
b) Submitted to the Environment Ministry	$\boxtimes$				
c) Summarized for inclusion in a Report (monthly,					
quarterly, annual)					
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permi	it conditions.				

#### **B. SUMMARY**

1. Date and Time of Complaint	January 19, 2022 @ 12:59 p.m.			
2. Name of Complainant	Bonnie Ross			
3. Address of Complainant	N/A			
4. Telephone Number of Complainant	Not provided			
5. Relationship of Complainant	Not provided			
6. Employee receiving complaint	Angela McLachlan			
(name):				
7. Type of complaint	Odour			
8. Nature of complaint (details):				
The smell going by the dump today, Wedn	esday, January 19, 2022 at 12:43 a.m. is terrible!!!			
9. Precipitation: Yes No	10. Wind Direction: W			
11. Precipitation Type & Amount: N/A	12. Wind Speed: 25 kmh			
	-			

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint? ☐ Yes
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream creating odours, etc):</li> <li>N/A</li> </ol>
<ol> <li>If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A</li> </ol>
<ul> <li>4. Where the complaint was for odours, was:</li> <li>a) An odour suppression system available for use at the site?</li> <li>b) The suppression system operational?</li> <li>C) Yes ∑ No</li> </ul>

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Investigation into possible source of on-site odour-Operations Nothing abnormal to generate landfill odour offsite.
  - Reviewed occurrence with Operations Gas Nothing abnormal to generate landfill odour offsite.
  - Completed and filed relevant complaint log.
  - Weather Conditions reviewed-wind direction not consistent with complaint
  - WM noted: stockpiling of biosolids earlier in the week and spreading (Field North of Penta Building), strong odours on Nauvoo on Jan. 18/19

2. When were these actions taken (date/time): January 18, 2022 @ 4:15 p.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

- No further action required at this time
- Odour not associated with the Landfill

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.								
Date and time complainant was contacted to provide details January 20, 2022 @ 3:06								
of the investigation and to describe any correct	ctive and/or	p.m.						
preventative measures:								
Who contacted the complainant (name/title):	Angela McLac	hlan/Envtal Compl Mgr.						
How was the complainant contacted?	Email							
Complainant Response:								
<ul> <li>No Response at this time</li> </ul>								

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	January 20, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-003
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
b) Submitted to the Environment Ministry	$\boxtimes$
c) Summarized for inclusion in a Report (monthly,	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permit conditions.	

#### **B. SUMMARY**

1. Date and Time of Complaint	January 24, 2022 @ 11:41 a.m.	
2. Name of Complainant	Stephanie Cattrysse (Verhooven)	
3. Address of Complainant	1150 Mullifarry Dr., Adelaide Metcalfe	
4. Telephone Number of Complainant	519-636-9587	
5. Relationship of Complainant	Township Staff	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Odour	
8. Nature of complaint (details):		
just passing the landfill on Zion line and the methane smell is present. It is 11:42 a.m.		
9. Precipitation: Yes No	10. Wind Direction: SSE	
11. Precipitation Type & Amount: N/A	12. Wind Speed: 13 kmh	
	-	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint? ☐ Yes
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream creating odours, etc):</li> <li>N/A</li> </ol>
<ol> <li>If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A</li> </ol>
<ul> <li>4. Where the complaint was for odours, was:</li> <li>a) An odour suppression system available for use at the site?</li> <li>b) The suppression system operational?</li> <li>C) Yes ○ No</li> <li>C) Yes ○ No</li> </ul>

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Landfill was operational
  - Site inspections indicated slight waste odour on North Rd. (onsite) at 9 a.m., no odour detected offsite on Zion.
  - Weather conditions reviewed
  - Completed and filed relevant complaint log

2. When were these actions taken (date/time): January 24, 2022 @ 12 p.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• No additional measures required

#### E. FOLLOW-UP

 Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.

 Date and time complainant was contacted to provide details of the investigation and to describe any corrective and/or preventative measures:
 January 28, 2022 @ 3:34

 Who contacted the complainant (name/title):
 Angela McLachlan

 How was the complainant contacted?
 Email

 Complainant Response:
 • No response at this time

	Angela McLachlan Environmental Compliance Manager
Date completed:	January 28, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-004a
Certificate of Approval/Permit Number for site:	A032203
(If none, go to Section B)	
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
<ul> <li>b) Submitted to the Environment Ministry</li> </ul>	$\boxtimes$
<ul><li>c) Summarized for inclusion in a Report (monthly,</li></ul>	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permit conditions.	

#### **B. SUMMARY**

1. Date and Time of Complaint	January 31, 2022 @ 8:54 a.m.	
2. Name of Complainant	Stephanie Cattrysse (Verhooven)	
3. Address of Complainant	1150 Mullifarry Dr., Adelaide Metcalfe	
4. Telephone Number of Complainant	519-636-9587	
5. Relationship of Complainant	Township Staff	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Odour	
8. Nature of complaint (details):		
8:27 January 31-or four from north side of landfill on Zion line starting at the laneway extending		
at least to Nauvoo rd. Right on par with daily odour schedule. Would like to meet with		
environmental person who does onsite visit because either he has long-term loss of smell due to		
covid or he's use to the methane smell and can no longer pinpoint it.		
9. Precipitation: Yes No	10. Wind Direction: SE	
11. Precipitation Type & Amount: N/A	12. Wind Speed: 4 kmh	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	Yes 🔀 No	
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream cr etc): N/A</li> </ol>	reating odours,	
<ol> <li>If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A</li> </ol>		
4. Where the complaint was for odours, was:		
a) An odour suppression system available for use at the site?	🖾 Yes 🗌 No	
b) The suppression system operational?	🗌 Yes 🔀 No	

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Landfill was operational
  - Site inspections identified waste odour at 7:15 a.m., additional cover applied to Workface
  - Weather conditions reviewed
  - Completed and filed relevant complaint log

2. When were these actions taken (date/time): January 31, 2022 @ 7:15 a.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• Additional cover applied to Workface

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide		
the details of the investigation, and to describe any corrective/preventative actions taken.		
Date and time complainant was contacted to provide details February 1, 2022 @ 2		February 1, 2022 @ 1:33
of the investigation and to describe any corrective and/or		p.m.
preventative measures:		
Who contacted the complainant (name/title): Angela McLachlan		hlan
How was the complainant contacted? Email		
Complainant Response:		
No response at this time		

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	February 1, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-004b
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
b) Submitted to the Environment Ministry	$\boxtimes$
c) Summarized for inclusion in a Report (monthly,	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permit conditions.	

#### **B. SUMMARY**

1. Date and Time of Complaint	January 31, 2022 @ 4:36 p.m.	
2. Name of Complainant	Stephanie Cattrysse (Verhooven)	
3. Address of Complainant	1150 Mullifarry Dr., Adelaide Metcalfe	
4. Telephone Number of Complainant	519-636-9587	
5. Relationship of Complainant	Township Staff	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	of complaint Odour	
8. Nature of complaint (details):		
is just after 430 on Monday and there is an odour coming from the landfill right at the corner		
of Zion line and Navu Road and it goes all the way south almost to where the Snow Hill is right		
before the cemetery		
9. Precipitation: Yes No	10. Wind Direction: SE	
11. Precipitation Type & Amount: N/A	12. Wind Speed: 15 kmh	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?□ Yes ⊠ No
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream creating odours, etc):</li> <li>N/A</li> </ol>
<ol> <li>If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A</li> </ol>
<ul> <li>4. Where the complaint was for odours, was:</li> <li>a) An odour suppression system available for use at the site?</li> <li>b) The suppression system operational?</li> <li>C) Yes □ No</li> <li>D) Yes ○ No</li> </ul>

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Landfill was operational
  - Site inspections identified waste odour at 7:15 a.m. and periodically throughout the day, additional cover applied to Workface
  - Weather conditions reviewed
  - Completed and filed relevant complaint log

2. When were these actions taken (date/time): January 31, 2022 @ 7:15 a.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• Additional cover applied to Workface

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide			
the details of the investigation, and to describe any corrective/preventative actions taken.			
Date and time complainant was contacted to provide details February 1, 2022 @ 1:33			
of the investigation and to describe any corrective and/or			
Angela McLac	chlan		
Email			
	provide details provide and/or Angela McLac		

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	February 1, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-004c
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
b) Submitted to the Environment Ministry	$\boxtimes$
<ul><li>c) Summarized for inclusion in a Report (monthly,</li></ul>	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permi	it conditions.

#### **B. SUMMARY**

1. Date and Time of Complaint	January 31, 2022 @ 6:02 p.m.	
2. Name of Complainant	Bonnie Ross	
3. Address of Complainant	N/A	
4. Telephone Number of Complainant	Not provided	
5. Relationship of Complainant	Not provided	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Odour	
8. Nature of complaint (details):		
The dump stinks going by at 6:00 pm today, Monday January 31/22		
9. Precipitation: Yes XNo	10. Wind Direction: SE	
11. Precipitation Type & Amount: N/A	12. Wind Speed: 12 kmh	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	🗌 Yes 🖂 No
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream etc): N/A</li> </ol>	m creating odours,
<ol> <li>If the site-specific nuisance control equipment/procedures were no describe the problem and when it was corrected: N/A</li> </ol>	t operational
4. Where the complaint was for odours, was:	
a) An odour suppression system available for use at the site?	🛛 Yes 🗌 No
b) The suppression system operational?	🗌 Yes 🔀 No

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Site inspections identified waste odour at 7:15 a.m. and periodically throughout the day, additional cover applied to Workface
  - Weather conditions reviewed
  - Completed and filed relevant complaint log

2. When were these actions taken (date/time): January 31, 2022 @ 7:15 a.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• Additional cover applied to Workface

### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.			
Date and time complainant was contacted to provide details   February 1, 2022 @ 1:46			
of the investigation and to describe any corrective and/or			
contacted the complainant (name/title): Angela McLachlan/Envtal Compl Mgr.			
Email			
Complainant Response:			
No Response at this time			
	rrective/preventativ provide details ctive and/or Angela McLac Email		

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	February 1, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-005
Certificate of Approval/Permit Number for site:	A032203
(If none, go to Section B)	
Does a condition of the ECA/Permit require this complaint log be	
(tick those that apply):	
a) Retained on site	$\boxtimes$
b) Submitted to the Environment Ministry	$\boxtimes$
c) Summarized for inclusion in a Report (monthly,	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with C. of A./Pe.	rmit conditions.

#### **B. SUMMARY**

1. Date and Time of Complaint	February 1, 2022 @ 11:27 a.m.	
2. Name of Complainant	Mac Parker	
3. Address of Complainant	9077 Egremont Rd.	
4. Telephone Number of Complainant	(519) 339-9444	
5. Relationship of Complainant	Resident	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Odour	
8. Nature of complaint (details):		
could smell odour from Nauvoo Gate to Egermont		
9. Precipitation: Yes No	10. Wind Direction: SE	
11. Precipitation Type & Amount: N/A	12. Wind Speed: 29 kmh	

# INVESTIGATION

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?□ Yes ⊠ No	1
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream creating odo etc): N/A</li> </ol>	urs,
<ol> <li>If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A</li> </ol>	
<ul> <li>4. Where the complaint was for odours, was:</li> <li>a) An odour suppression system available for use at the site?</li> <li>b) The suppression system operational?</li> <li>Yes </li> </ul>	] No ] No

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Landfill was operational
  - Site inspections identified odours periodically throughout the day
  - Weather conditions reviewed
  - Completed and filed relevant complaint log

2. When were these actions taken (date/time): January 31, 2022 @ 7:15 a.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• Continue to follow the BMP

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.			
Date and time complainant was contacted to provide details February 1, 2022 @ 1:5			
of the investigation and to describe any corrective and/or		p.m.	
preventative measures:			
Who contacted the complainant (name/title): Angela McLachlan		chlan	
How was the complainant contacted? Telephone			
Complainant Response:			
There is a smell there, and can smell when downwind, worse earlier in the day and later at night due to inversion. Generally, that is when it is the worst.			

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	February 1, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-006
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\bowtie$
b) Submitted to the Environment Ministry	$\boxtimes$
<ul><li>c) Summarized for inclusion in a Report (monthly,</li></ul>	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permi	it conditions.

#### **B. SUMMARY**

1. Date and Time of Complaint	February 4, 2022 @ 7:36 p.m.	
2. Name of Complainant	Stephanie Cattrysse (Verhooven)	
3. Address of Complainant	1150 Mullifarry Dr., Adelaide Metcalfe	
4. Telephone Number of Complainant	519-636-9587	
5. Relationship of Complainant	Township Staff	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Transient Odour	
8. Nature of complaint (details):		
Landfill past the Cemetery and it smells like methane gas.		
9. Precipitation: Yes No 10. Wind Direction: N		
11. Precipitation Type & Amount: N/A	12. Wind Speed: 2 kmh	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	🗌 Yes 🖂 No		
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream etc): N/A</li> </ol>	creating odours,		
3. If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A			
4. Where the complaint was for odours, was:			
a) An odour suppression system available for use at the site?	🛛 Yes 🗌 No		
b) The suppression system operational?	🗌 Yes 🔀 No		

 What actions were taken to resolve the source of the complaint. Describe:

 Completed verification as required by D&O

 When were these actions taken (date/time): February 4, 2022 @ 7:38 p.m.
 What measures have been employed or will be employed to prevent any future reoccurrence? Describe:

 No additional measures required

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide			
the details of the investigation, and to describe any corrective/preventative actions taken.			
Date and time complainant was contacted to provide details		February 8, 2022 @ 4	
<b>o</b> ,	of the investigation and to describe any corrective and/or		
preventative measures:	preventative measures:		
Who contacted the complainant (name/title):	Angela McLachlan		
How was the complainant contacted?	Email		
Complainant Response:			
No response at this time			

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	February 8, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-007
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
b) Submitted to the Environment Ministry	$\boxtimes$
c) Summarized for inclusion in a Report (monthly,	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permi	it conditions.

#### **B. SUMMARY**

1. Date and Time of Complaint	February 5, 2022 @ 4:37 p.m & 6:53 p.m.	
2. Name of Complainant	Stephanie Cattrysse (Verhooven)	
3. Address of Complainant	1150 Mullifarry Dr., Adelaide Metcalfe	
4. Telephone Number of Complainant	519-636-9587	
5. Relationship of Complainant	Township Staff	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Transient Odour	
8. Nature of complaint (details):		
it's about 4:35 on Saturday just on Nauvoo and Zion Line at the corner and you can		
smell the methaneSaturday night 10 to 7 and I am at the corner of Nauvoo Rd and the exit		
ramp of the 402 and I can smell the methane gas from the Landfill		
9. Precipitation: Yes No 10. Wind Direction: S/SSE		
11. Precipitation Type & Amount: N/A	12. Wind Speed: 9/10 kmh	

 What actions were taken to resolve the source of the complaint. Describe:

 Completed verification as required by D&O

 When were these actions taken (date/time): February 4, 2022 @ 7:38 p.m.
 What measures have been employed or will be employed to prevent any future reoccurrence? Describe:

 No additional measures required

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.			
Date and time complainant was contacted to provide details		February 8, 2022 @ 4	
of the investigation and to describe any corrective and/or		p.m.	
preventative measures:			
Who contacted the complainant (name/title):	Angela McLac	hlan	
How was the complainant contacted? Email			
Complainant Response:			
No response at this time			

Form completed by: Name: Title:	Angela McLachlan Environmental Compliance Manager
Date completed:	February 8, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-008a
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log be (tick those that apply): a) Retained on site b) Submitted to the Environment Ministry c) Summarized for inclusion in a Report (monthly, quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permi	it conditions.

#### **B. SUMMARY**

1. Date and Time of Complaint	February 6, 2022 @ 5:16 p.m. & 8:19 p.m.	
2. Name of Complainant	Stephanie Cattrysse (Verhooven)	
3. Address of Complainant	1150 Mullifarry Dr., Adelaide Metcalfe	
4. Telephone Number of Complainant	519-636-9587	
5. Relationship of Complainant	Township Staff	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint Transient Odour		
8. Nature of complaint (details):		
it's 10 after five on Sunday driving westbound on Zion line right in the centre of the		
landfill it smells like methane gas and extends at least to Nauvoo Rdheading eastbound on		
Zion line in the Landfill really smells right in the front there starts about halfway through and		
extends just to the Greenhouse		
9. Precipitation: Yes No	10. Wind Direction: S	
11. Precipitation Type & Amount: N/A	12. Wind Speed: 33/25 kmh	

С.	INVESTIGATION	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	🗌 Yes 🔀 No	
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream etc): N/A</li> </ol>	n creating odours,	
<ol> <li>If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A</li> </ol>		
4. Where the complaint was for odours, was:		
a) An odour suppression system available for use at the site?	🛛 Yes 🗌 No	
b) The suppression system operational?	🔄 Yes 🖂 No	

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Completed verification as required by D&O

2. When were these actions taken (date/time): February 4, 2022 @ 7:38 p.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• No additional measures required

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.		
Date and time complainant was contacted to provide details February 8, 2022 @ 4		
of the investigation and to describe any corrective and/or p.m.		p.m.
preventative measures:		
Who contacted the complainant (name/title): Angela McLachlan		hlan
How was the complainant contacted?	acted? Email	
Complainant Response:		
No response at this time		

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	February 8, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-008b
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log be (tick those that apply):	
a) Retained on site	$\boxtimes$
b) Submitted to the Environment Ministry	
c) Summarized for inclusion in a Report (monthly,	$\bowtie$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permit conditions.	

#### **B. SUMMARY**

D. OOMMAN		
1. Date and Time of Complaint	February 7, 2022 @ 8:35 a.m.	
2. Name of Complainant	Stephanie Cattrysse (Verhooven)	
3. Address of Complainant	1150 Mullifarry Dr., Adelaide Metcalfe	
4. Telephone Number of Complainant	519-636-9587	
5. Relationship of Complainant	Township Staff	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Transient Odour	
8. Nature of complaint (details):		
it's just after 830 on Monday I am at the corner of Egermont and Nauvoo Rd and I		
can smell the landfill up here at this intersection just east of the intersection it starts 100-200 ft or		
SO		
9. Precipitation: Yes 🛛 No	10. Wind Direction: SSW	
11. Precipitation Type & Amount: N/A	12. Wind Speed: 9 kmh	

<ol> <li>Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?</li> <li>Yes ⊠ No</li> </ol>	
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream creating odours, etc):</li> <li>N/A</li> </ol>	
<ol> <li>If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A</li> </ol>	
4. Where the complaint was for odours, was:	
a) An odour suppression system available for use at the site? 🛛 🖄 Yes 🗌 No	
b) The suppression system operational?	

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Completed verification as required by D&O
  - WM noted: mild odour detected, not consistent with odour modelling (no strong odour detected at Landfill)
  - Note: complainant location 3 km from Landfill

2. When were these actions taken (date/time): February 4, 7, 2022 @ 7:38 p.m. & 8:41 a.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• No additional measures required

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.		
Date and time complainant was contacted to provide details February 8, 2022 @ 4		•
of the investigation and to describe any corrective and/or p.m. preventative measures:		p.m.
Who contacted the complainant (name/title): Angela McLachlan		chlan
low was the complainant contacted? Email		
Complainant Response:		
No response at this time		

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	February 8, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-009
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply): a) Retained on site	$\boxtimes$
b) Submitted to the Environment Ministry	
<ul> <li>c) Summarized for inclusion in a Report (monthly, quarterly, annual)</li> </ul>	
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permit conditions.	

#### **B. SUMMARY**

B: COMMANY		
1. Date and Time of Complaint	February 8, 2022 @ 9:22 a.m.	
2. Name of Complainant	Stephanie Cattrysse (Verhooven)	
3. Address of Complainant	1150 Mullifarry Dr., Adelaide Metcalfe	
4. Telephone Number of Complainant	519-636-9587	
5. Relationship of Complainant	Township Staff	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint Odour-Non Resident		
8. Nature of complaint (details):		
I am working from home right now and I am standing in my front porch and can smell		
the methane from the Landfill. It's 9:22 February 8 and this is three side roads away from the		
Site. I will be calling my municipal office in Adelaide to file a complaint.		
9. Precipitation: Yes 🛛 No	10. Wind Direction: WSW	
11. Precipitation Type & Amount: N/A	12. Wind Speed: 8 kmh	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?□ Yes ⊠ No
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream creating odours, etc):</li> <li>N/A</li> </ol>
<ol> <li>If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A</li> </ol>
<ul> <li>4. Where the complaint was for odours, was:</li> <li>a) An odour suppression system available for use at the site?</li> <li>b) The suppression system operational?</li> <li>C) Yes ∑ No</li> </ul>

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Completed verification as required by D&O
  - WM noted: Arkona Rd. detected slight landfill odour, Donnelly sources of agricultural odours, mixture of smells, in front of location could not detect landfill
  - Note: complainant residence 8 km from Landfill

2. When were these actions taken (date/time): February 8, 2022 @ 9:48 a.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• No additional measures required

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide			
the details of the investigation, and to describe any corrective/preventative actions taken.			
Date and time complainant was contacted to provide details		February 8, 2022 @ 4	
of the investigation and to describe any corrective and/or		p.m.	
preventative measures:			
Who contacted the complainant (name/title):	Angela McLac	hlan	
How was the complainant contacted?	w was the complainant contacted? Email		
Complainant Response:			
<ul> <li>No response at this time</li> </ul>			

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	February 8, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-010
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	
<ul> <li>b) Submitted to the Environment Ministry</li> </ul>	$\boxtimes$
<ul><li>c) Summarized for inclusion in a Report (monthly,</li></ul>	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permi	it conditions.

#### **B. SUMMARY**

1. Date and Time of Complaint	February 9, 2022 @ 4:23 p.m.	
2. Name of Complainant	Stephanie Cattrysse (Verhooven)	
3. Address of Complainant	1150 Mullifarry Dr., Adelaide Metcalfe	
4. Telephone Number of Complainant	519-636-9587	
5. Relationship of Complainant	Township Staff	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Odour-(Transient)	
8. Nature of complaint (details):		
it's 20 after four heading westbound on Zion line once again it's 430 almost and the		
methane gas is as fresh as my chicken bar next door.		
9. Precipitation: Yes No	10. Wind Direction: S	
11. Precipitation Type & Amount: N/A	12. Wind Speed: 15 kmh	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	🗌 Yes 🔀 No	
2. If yes, describe (Ex. high winds creating litter, unusual waste stream etc):	creating odours,	
N/A		
<ol> <li>If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A</li> </ol>		
4. Where the complaint was for odours, was:		
a) An odour suppression system available for use at the site?	🖂 Yes 🗌 No	
b) The suppression system operational?	🗌 Yes 🖂 No	

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Completed verification as required by D&O

2. When were these actions taken (date/time): February 9, 2022 @ 4:24 p.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• No additional measures required

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.			
Date and time complainant was contacted to provide details		February 10, 2022 @	
of the investigation and to describe any correct	ctive and/or	12:23 p.m.	
preventative measures:			
Who contacted the complainant (name/title):	Angela McLac	hlan	
How was the complainant contacted?	Email		
Complainant Response:			
No response at this time			

Form completed by: Name: Title:	Angela McLachlan Environmental Compliance Manager
Date completed:	February 10, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-011	
Certificate of Approval/Permit Number for site:	A032203	
(If none, go to Section B)		
Does a condition of the C. of A./Permit require this complaint log		
be (tick those that apply):		
a) Retained on site	$\boxtimes$	
<ul> <li>b) Submitted to the Environment Ministry</li> </ul>	$\boxtimes$	
c) Summarized for inclusion in a Report (monthly,	$\boxtimes$	
quarterly, annual)		
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permit conditions.		

#### **B. SUMMARY**

February 15, 2022 @ 5:45 p.m. & 6:58 p.m.		
Stephanie Cattrysse (Verhooven)		
1150 Mullifarry Dr., Adelaide Metcalfe		
519-636-9587		
Township Staff		
Angela McLachlan		
Odour-(Transient)		
8. Nature of complaint (details):		
it is 5:45 on Tuesday and I'm at the corner of Nauvoo Rd and Zion Line and there is a heavy		
methane odour that is heading south onto Nauvoo Rd as I'm drivingjust before 7:00		
p.m.travelling northbound on Nauvoo Rd and the smell of methane is here from the dump it is a		
lot more prominent once you turn right on the Zion Line which is heading eastbound right here		
on Zion line in front of the Landfill		
10. Wind Direction: SE		

9. Precipitation: Yes Kino	10. Wind Direction: SE
11. Precipitation Type & Amount: N/A	12. Wind Speed: 18-21 kmh

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?□ Yes ⊠ No	
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream creating odours etc): N/A</li> </ol>	3,
<ol> <li>If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A</li> </ol>	
4. Where the complaint was for odours, was:	
a) An odour suppression system available for use at the site? $\square$ Yes $\square$ N	0
b) The suppression system operational? $\Box$ Yes $\boxtimes$ N	0

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Completed verification as required by D&O
  - Gas Operations verified Flare went down at 5:30 p.m. for no more than 10 minutes
  - WM noted 5:49 p.m.: Drove Nauvoo to Cemetery and Zion to Greenhouse to a few hundred meters west of Nauvoo. Detected a very slight landfill odour at the intersection of Zion and Nauvoo, nothing detected north of Zion or West of Nauvoo
  - WM noted 7 p.m.: There is still slight odour at intersection of Zion and Nauvoo but no odour west on Zion and definitely no odour east on Zion.
- 2. When were these actions taken (date/time): February 15, 2022 @ 5:49 p.m.
- 3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• No additional measures required

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.		
Date and time complainant was contacted to provide details of the investigation and to describe any corrective and/or preventative measures:		February 22, 2022 @ 11:01 a.m.
Who contacted the complainant (name/title): Angela McLachlan		hlan
How was the complainant contacted? Email		
Complainant Response:		
No response at this time		

Form completed by: Name: Title:	Angela McLachlan Environmental Compliance Manager	
Date completed:	February 22, 2022	

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-012	
Certificate of Approval/Permit Number for site: A032203 (If none, go to Section B)		
Does a condition of the C. of A./Permit require this complaint log		
be (tick those that apply): a) Retained on site	$\boxtimes$	
b) Submitted to the Environment Ministry		
<ul> <li>c) Summarized for inclusion in a Report (monthly, guarterly, annual)</li> </ul>		
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permit conditions.		

#### **B. SUMMARY**

1. Date and Time of Complaint	February 16, 2022 @ 6:58 p.m.	
2. Name of Complainant	Stephanie Cattrysse (Verhooven)	
3. Address of Complainant	1150 Mullifarry Dr., Adelaide Metcalfe	
4. Telephone Number of Complainant	519-636-9587	
5. Relationship of Complainant	Township Staff	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Odour-(Transient)	
8. Nature of complaint (details):		
it's 5 to 7 on Wednesday, February 16 heading east on Zion Line just at the Landfill here		
and you can smell the smell of methane gas.		
9. Precipitation: Yes No	10. Wind Direction: S/SSW	
11. Precipitation Type & Amount: N/A	12. Wind Speed: 25/23 kmh	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	🗌 Yes 🖂 No	
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste streat etc): N/A</li> </ol>	m creating odours,	
3. If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A		
<ul><li>4. Where the complaint was for odours, was:</li><li>a) An odour suppression system available for use at the site?</li><li>b) The suppression system operational?</li></ul>	⊠ Yes □ No □ Yes ⊠ No	

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Completed verification as required by D&O

2. When were these actions taken (date/time): February 16, 2022 @ 7:00 p.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• No additional measures required

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.				
Date and time complainant was contacted to provide details   February 22 @ 11:01		February 22 @ 11:01		
of the investigation and to describe any corrective and/or		a.m.		
preventative measures:				
Who contacted the complainant (name/title):	Angela McLachlan			
How was the complainant contacted?	Email			
Complainant Response:	Complainant Response:			
No response at this time				

Form completed by: Name: Title:		Angela McLachlan Environmental Compliance Manager
Date completed:		February 22, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-013	
Certificate of Approval/Permit Number for site: A032203 (If none, go to Section B)		
Does a condition of the C. of A./Permit require this complaint log be (tick those that apply): a) Retained on site b) Submitted to the Environment Ministry c) Summarized for inclusion in a Report (monthly, quarterly, annual)	$\boxtimes$	
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permit conditions.		

#### **B. SUMMARY**

1. Date and Time of Complaint	February 20, 2022 @ 10:15 p.m.	
2. Name of Complainant	Stephanie Cattrysse (Verhooven)	
3. Address of Complainant	1150 Mullifarry Dr., Adelaide Metcalfe	
4. Telephone Number of Complainant	519-636-9587	
5. Relationship of Complainant	Township Staff	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Odour-(Transient)	
8. Nature of complaint (details):		
it's quarter after 10 on Sunday, February 20 just heading east on Zion line right in front of		
the Landfill and it smells like nothing gas it's 10:15 p.m.		
9. Precipitation: Yes No	10. Wind Direction: SW	
11. Precipitation Type & Amount: N/A	12. Wind Speed: 14 kmh	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	🗌 Yes 🖂 No	
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream etc): N/A</li> </ol>	m creating odours,	
<ol> <li>If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A</li> </ol>		
4. Where the complaint was for odours, was:		
a) An odour suppression system available for use at the site?	🖂 Yes 🗌 No	
b) The suppression system operational?	🗌 Yes 🔀 No	

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Completed verification as required by D&O

2. When were these actions taken (date/time): February 20 @ 10:16 p.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• No additional measures required

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.			
Date and time complainant was contacted to provide details   February 22, 2022 @		February 22, 2022 @	
of the investigation and to describe any corrective and/or		11:01 a.m.	
preventative measures:			
Who contacted the complainant (name/title):	Angela McLachlan		
How was the complainant contacted? Email			
Complainant Response:	Complainant Response:		
No response at this time			

Form completed by: Name: Title:		Angela McLachlan Environmental Compliance Manager
Date completed:		February 22, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-014	
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203	
Does a condition of the C. of A./Permit require this complaint log		
be (tick those that apply):		
a) Retained on site	$\boxtimes$	
b) Submitted to the Environment Ministry	$\boxtimes$	
c) Summarized for inclusion in a Report (monthly,	$\boxtimes$	
quarterly, annual)		
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permit conditions.		

#### **B. SUMMARY**

1. Date and Time of Complaint	February 22, 2022 @ 8:30 a.m.	
2. Name of Complainant	Stephanie Cattrysse (Verhooven)	
3. Address of Complainant	1150 Mullifarry Dr., Adelaide Metcalfe	
4. Telephone Number of Complainant	519-636-9587	
5. Relationship of Complainant	Township Staff	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Odour-(Transient)	
8. Nature of complaint (details):		
at 8:30 on Tuesday morning, February 21 I believe and wow corner of Nauvoo and Zion		
Line sure is smelling pretty profuse this morning like methane.		
9. Precipitation: Yes 🛛 No	10. Wind Direction: SE	
11. Precipitation Type & Amount: N/A	12. Wind Speed: 20 kmh	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	🗌 Yes 🛛 No	
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste streat etc): N/A</li> </ol>	m creating odours,	
<ol> <li>If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A</li> </ol>		
4. Where the complaint was for odours, was:		
a) An odour suppression system available for use at the site?	🖂 Yes 🗌 No	
b) The suppression system operational?	🗌 Yes 🔀 No	

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Completed verification as required by D&O

2. When were these actions taken (date/time): February 22 @ 8:32 a.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• No additional measures required

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.		
Date and time complainant was contacted to provide details   February 22, 2022 @		
of the investigation and to describe any corrective and/or		11:01 a.m.
preventative measures:		
Who contacted the complainant (name/title):	Angela McLac	chlan
How was the complainant contacted?	Email	
Complainant Response:		
No response at this time		

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	February 22, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-015
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
b) Submitted to the Environment Ministry	$\boxtimes$
<ul><li>c) Summarized for inclusion in a Report (monthly,</li></ul>	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permi	it conditions.

### **B. SUMMARY**

February 22, 2022 @ 11:31 a.m.		
Pat Muxlow		
19 Sunset Ave.		
519-876-2534		
Resident		
Angela McLachlan		
Odour		
8. Nature of complaint (details):		
Monday morning, Feb 21 @ 6:15 a.m. when I opened my front door, all I could smell		
was the landfill. I live at 19 Sunset Avenue. As I walked on Confederation I could smell it. As		
I walked on Nauvoo I could smell it. I could smell it all the way over to 542 McGregor. We		
nd then stopped paying attention to the smell		
10. Wind Direction: NNE		
12. Wind Speed: 2 kmh		

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	es 🖂 No
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream creating):</li> <li>N/A</li> </ol>	iting odours,
<ol> <li>If the site-specific nuisance control equipment/procedures were not opera describe the problem and when it was corrected: N/A</li> </ol>	ational
4. Where the complaint was for odours, was:	
a) An odour suppression system available for use at the site?	🛾 Yes 📃 No
b) The suppression system operational?	] Yes 🔀 No

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Completed verification as required by D&O

2. When were these actions taken (date/time): February 22 @ 11:35 a.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• No additional measures required

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.		
Date and time complainant was contacted to provide details February 23, 2022 @		3
of the investigation and to describe any corrective and/or		9:05 a.m.
preventative measures:		
Who contacted the complainant (name/title):	Angela McLac	hlan
How was the complainant contacted?	the complainant contacted? Email	
Complainant Response:		
No response at this time		

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	February 23, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-016
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
b) Submitted to the Environment Ministry	$\boxtimes$
c) Summarized for inclusion in a Report (monthly,	
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permi	it conditions.

### **B. SUMMARY**

1. Date and Time of Complaint	February 23, 2022 @ 6:33 p.m.	
2. Name of Complainant	Bonnie Ross	
3. Address of Complainant	N/A	
4. Telephone Number of Complainant	Not provided	
5. Relationship of Complainant	Not provided	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Odour	
8. Nature of complaint (details):		
Today, Wednesday, Feb. 23/22 at 11:21 am the dump smelled. I was heading south on Nauvoo		
near Zion.		
Then again at 12:38 pm I was heading north on Nauvoo near Zion		
9. Precipitation: Yes No	10. Wind Direction: NW	
11. Precipitation Type & Amount: N/A	12. Wind Speed: 27/24 kmh	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint? $\Box$ Yes $\boxtimes$ N	0
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream creating od etc): N/A</li> </ol>	lours,
3. If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A	
4. Where the complaint was for odours, was:	
a) An odour suppression system available for use at the site?	_ No
b) The suppression system operational?	🛛 No

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Weather Conditions reviewed-wind direction not consistent with complaint
- 2. When were these actions taken (date/time): February 23, 2022 @ 6:54 p.m.
- 3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

- No further action required at this time
- Odour not associated with the Landfill
- Note: importance of timely reporting

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	February 25, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-017
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log be (tick those that apply): a) Retained on site	$\boxtimes$
<ul> <li>b) Submitted to the Environment Ministry</li> <li>c) Summarized for inclusion in a Report (monthly, guarterly, annual)</li> </ul>	
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permi	it conditions.

### **B. SUMMARY**

February 25, 2022 @ 9:53 p.m.	
Stephanie Cattrysse (Verhooven)	
1150 Mullifarry Dr., Adelaide Metcalfe	
519-636-9587	
Township Staff	
Angela McLachlan	
Odour-(Transient)	
t night just heading eastbound on Zion Line in front of	
the landfill smells pretty strongly of methane gas and I am passing 8234 Zion and you can still	
10. Wind Direction: SW	
12. Wind Speed: 3 kmh	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?□ Yes ⊠ No	
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream creating odou etc):</li> <li>N/A</li> </ol>	rs,
<ol> <li>If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A</li> </ol>	
4. Where the complaint was for odours, was:	
	No
b) The suppression system operational?	No

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Completed verification as required by D&O

2. When were these actions taken (date/time): February 25, 2022 @ 9:54 p.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

No additional measures required

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide<br/>the details of the investigation, and to describe any corrective/preventative actions taken.Date and time complainant was contacted to provide details<br/>of the investigation and to describe any corrective and/or<br/>preventative measures:February 28, 2022 @<br/>2:24 p.m.

Who contacted the complainant (name/title):Angela McLachlanHow was the complainant contacted?Phone

Complainant Response:

• No response at this time

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	February 28, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-018
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log be (tick those that apply): a) Retained on site b) Submitted to the Environment Ministry c) Summarized for inclusion in a Report (monthly, quarterly, annual)	$\boxtimes$
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permi	it conditions.

### **B. SUMMARY**

1. Date and Time of Complaint	February 26, 2022 @ 8 p.m.	
2. Name of Complainant	Stephanie Cattrysse (Verhooven)	
3. Address of Complainant	1150 Mullifarry Dr., Adelaide Metcalfe	
4. Telephone Number of Complainant	519-636-9587	
5. Relationship of Complainant	Township Staff	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Odour-(Transient)	
8. Nature of complaint (details):		
it is just before 8:00 p.m. on Saturday, February 27 and I'm at the north east corner of		
the landfill on Zion line and there is a strong smell of methane gas.		
9. Precipitation: Yes No	10. Wind Direction: SW/SSW	
11. Precipitation Type & Amount: N/A	12. Wind Speed: 16 kmh	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	🗌 Yes 🖂 No	
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream etc): N/A</li> </ol>	creating odours,	
<ol> <li>If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A</li> </ol>		
4. Where the complaint was for odours, was:		
a) An odour suppression system available for use at the site?	🖂 Yes 🗌 No	
b) The suppression system operational?	🗌 Yes 🔀 No	

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Completed verification as required by D&O

2. When were these actions taken (date/time): February 26, 2022 @ 8:01 p.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• No additional measures required

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.		
Date and time complainant was contacted to provide details February 28, 2022 @		
of the investigation and to describe any corrective and/or		2:24 p.m.
preventative measures:		
Who contacted the complainant (name/title):	Angela McLachlan	
How was the complainant contacted?	Phone	
Complainant Response:		
No response at this time		

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	February 28, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-019
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log be (tick those that apply): a) Retained on site b) Submitted to the Environment Ministry c) Summarized for inclusion in a Report (monthly, quarterly, annual)	$\boxtimes$
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permi	t conditions.

### **B. SUMMARY**

1. Date and Time of Complaint	March 4, 2022 @ 7:25 p.m.	
2. Name of Complainant	Stephanie Cattrysse (Verhooven)	
3. Address of Complainant	1150 Mullifarry Dr., Adelaide Metcalfe	
4. Telephone Number of Complainant	519-636-9587	
5. Relationship of Complainant	Township Staff	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Odour-(Transient)	
8. Nature of complaint (details):		
7:24 north of landfill on Zion line. Mild scent coming from landfill.		
9. Precipitation: Yes No	10. Wind Direction: SW	
11. Precipitation Type & Amount: N/A	12. Wind Speed: 9 kmh	
	-	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	🛾 Yes 🖂 No
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream etc): N/A</li> </ol>	creating odours,
3. If the site-specific nuisance control equipment/procedures were not of describe the problem and when it was corrected: N/A	operational
<ul><li>4. Where the complaint was for odours, was:</li><li>a) An odour suppression system available for use at the site?</li><li>b) The suppression system operational?</li></ul>	⊠ Yes □ No □ Yes ⊠ No

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Completed verification as required by D&O
  - Bluewater Power reported outages affecting all customers in Alvinston and Watford
  - Due to Power Outage-Gas Tech came to Site to resolve

2. When were these actions taken (date/time): March 4, 2022 @ 6:44 p.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• No additional measures required

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.		
Date and time complainant was contacted to provide details of the investigation and to describe any corrective and/or		March 8, 2022 @ 12:16 p.m.
preventative measures:		p.m.
Who contacted the complainant (name/title): Angela McLachlan		chlan
How was the complainant contacted? Phone		
Complainant Response:		
No response at this time		

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	March 8, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-020
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log be (tick those that apply):	
a) Retained on site b) Submitted to the Environment Ministry c) Summarized for inclusion in a Report (monthly,	
quarterly, annual) Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permi	it conditions.

### **B. SUMMARY**

1. Date and Time of Complaint	March 5, 2022 @ 3:03 p.m.	
2. Name of Complainant	Stephanie Cattrysse (Verhooven)	
3. Address of Complainant	1150 Mullifarry Dr., Adelaide Metcalfe	
4. Telephone Number of Complainant	519-636-9587	
5. Relationship of Complainant	Township Staff	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Odour-(Transient)	
8. Nature of complaint (details):		
just another drive by on Zion line at Nauvoo Saturday March 5 3:02pm smell of methane.		
Also tonnes of garbage in farmers fields, some that's been here for a week now.		
9. Precipitation: Yes No 10. Wind Direction: ESE/SE		
11. Precipitation Type & Amount: N/A	12. Wind Speed: 33/30 kmh	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint? $\Box$ Yes $\boxtimes$ I	No	
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream creating o etc): N/A</li> </ol>	dours,	
<ol> <li>If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A</li> </ol>		
4. Where the complaint was for odours, was:		
a) An odour suppression system available for use at the site? $\Box$ Yes	🗌 No	
b) The suppression system operational?	🛛 No	

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Completed verification as required by D&O

2. When were these actions taken (date/time): March 5, 2022 @ 3:09 p.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• No additional measures required

### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.		
Date and time complainant was contacted to provide details   March 8, 2022 @ 12:16		
of the investigation and to describe any correct	tive and/or	p.m.
preventative measures:		
Who contacted the complainant (name/title):	Angela McLac	hlan
How was the complainant contacted?	Phone	
Complainant Response:		
<ul> <li>No response at this time</li> </ul>		

Form completed by: Name: Title:	Angela McLachlan Environmental Compliance Manager
Date completed:	March 8, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-021
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
b) Submitted to the Environment Ministry	$\boxtimes$
<ul><li>c) Summarized for inclusion in a Report (monthly,</li></ul>	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permit conditions.	

### **B. SUMMARY**

1. Date and Time of Complaint	March 13, 2022 @ 8:50 p.m.	
2. Name of Complainant	Stephanie Cattrysse (Verhooven)	
3. Address of Complainant	1150 Mullifarry Dr., Adelaide Metcalfe	
4. Telephone Number of Complainant	519-636-9587	
5. Relationship of Complainant	Township Staff	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Odour-(Transient)	
8. Nature of complaint (details):		
Sunday March 13 8:49 p.m. north on Nauvoo at the landfill (? Word). Strong smell of methane		
extends to Zion and eastbound along Zion line.		
9. Precipitation: Yes No	10. Wind Direction: ESE	
11. Precipitation Type & Amount: N/A	12. Wind Speed: 15 kmh	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?Image: Yes Description	No
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream creating etc): N/A</li> </ol>	odours,
<ol> <li>If the site-specific nuisance control equipment/procedures were not operation describe the problem and when it was corrected: N/A</li> </ol>	nal
4. Where the complaint was for odours, was:	
a) An odour suppression system available for use at the site? $\Box$ Ye	es 🗌 No
b) The suppression system operational?	es 🖂 No

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Completed verification as required by D&O

2. When were these actions taken (date/time): March 13, 2022 @ 8:51 p.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• No additional measures required

### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.		
Date and time complainant was contacted to provide details March 16, 2022 @ 2:23		
of the investigation and to describe any correct	ctive and/or	p.m.
preventative measures:		
Who contacted the complainant (name/title):	Angela McLac	hlan
How was the complainant contacted? Phone		
Complainant Response:		
No response at this time		

Form completed by: Name: Title:	Angela McLachlan Environmental Compliance Manager
Date completed:	March 16, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-022
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log be (tick those that apply): a) Retained on site	$\boxtimes$
<ul><li>b) Submitted to the Environment Ministry</li><li>c) Summarized for inclusion in a Report (monthly,</li></ul>	
quarterly, annual) Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permi	it conditions.

### **B. SUMMARY**

1. Date and Time of Complaint	March 15, 2022 @ 9:16 p.m.	
2. Name of Complainant	Stephanie Cattrysse (Verhooven)	
3. Address of Complainant	1150 Mullifarry Dr., Adelaide Metcalfe	
4. Telephone Number of Complainant	519-636-9587	
5. Relationship of Complainant	Township Staff	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Odour-(Transient)	
8. Nature of complaint (details):		
I'm here at my friends house on Zion Line and it is just about 20 after nine on Tuesday, March		
5 15 th and strong odour of methane gas		
9. Precipitation: Yes 🛛 No	10. Wind Direction: SE	
11. Precipitation Type & Amount: N/A	12. Wind Speed: 9 kmh	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	🗌 Yes 🔀 No
2. If yes, describe (Ex. high winds creating litter, unusual waste stream etc):	creating odours,
N/A	
3. If the site-specific nuisance control equipment/procedures were not of describe the problem and when it was corrected: N/A	operational
4. Where the complaint was for odours, was:	
a) An odour suppression system available for use at the site?	🖂 Yes 🗌 No
b) The suppression system operational?	🗌 Yes 🖂 No

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Completed verification as required by D&O
  - Confirmed address to be 8290 Zion Line

2. When were these actions taken (date/time): March 15, 2022 @ 9:17 p.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• No additional measures required

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.			
Date and time complainant was contacted to provide details March 16, 2022 @ 2:23			
of the investigation and to describe any corrective and/or p.m.		p.m.	
preventative measures:			
Who contacted the complainant (name/title): Angela McLachlan		chlan	
How was the complainant contacted?	Phone		
Complainant Response:			
No response at this time			

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	March 16, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-023
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
b) Submitted to the Environment Ministry	$\boxtimes$
<ul><li>c) Summarized for inclusion in a Report (monthly,</li></ul>	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Perm	it conditions.

### **B. SUMMARY**

1. Date and Time of Complaint	March 16, 2022 @ 4:57 p.m.
2. Name of Complainant	Marcie Parker
3. Address of Complainant	6158 Wisbeach Rd., Watford
4. Telephone Number of Complainant	226-932-2528
5. Relationship of Complainant	Resident
6. Employee receiving complaint	Angela McLachlan
(name):	
7. Type of complaint	Track Out
<ul><li>7. Type of complaint</li><li>8. Nature of complaint (details):</li></ul>	Track Out
	Track Out
8. Nature of complaint (details):	Track Out 10. Wind Direction: N/A
8. Nature of complaint (details): Mud on Nauvoo Rd.	
<ul> <li>8. Nature of complaint (details):</li> <li>Mud on Nauvoo Rd.</li> <li>9. Precipitation: Yes No</li> </ul>	10. Wind Direction: N/A

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint? □ Yes ☑ No
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream creating odours, etc):</li> <li>N/A</li> </ol>
<ol> <li>If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A</li> </ol>
<ul> <li>4. Where the complaint was for odours, was:</li> <li>a) An odour suppression system available for use at the site?</li> <li>b) The suppression system operational?</li> <li>C) Yes □ No</li> <li>D) Yes ○ No</li> </ul>

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Completed verification as required by D&O

2. When were these actions taken (date/time): March 16, 2022 @ 5 p.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• Continue to follow Dust BMP

### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.		
Date and time complainant was contacted to provide details March 17, 2022 @ 12:10		
of the investigation and to describe any corrective and/or		p.m.
preventative measures:		
Who contacted the complainant (name/title):	Angela McLac	hlan
How was the complainant contacted?	Phone	
Complainant Response:		
<ul> <li>Called, no answer (and phone does not take messages)</li> </ul>		

Form completed by: Name: Title:	Angela McLachlan Environmental Compliance Manager
Date completed:	March 17, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-024
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log be (tick those that apply): a) Retained on site b) Submitted to the Environment Ministry c) Summarized for inclusion in a Report (monthly, guarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permi	it conditions.

### **B. SUMMARY**

B. SOMMAN		
1. Date and Time of Complaint	March 17, 2022 @ 8:13 p.m.& 8:58 p.m.	
2. Name of Complainant	Stephanie Cattrysse (Verhooven)	
3. Address of Complainant	1150 Mullifarry Dr., Adelaide Metcalfe	
4. Telephone Number of Complainant	519-636-9587	
5. Relationship of Complainant	Township Staff	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Odour-(Transient)	
8. Nature of complaint (details):		
just sitting at the cemetery here in Watford it's quarter after eight on St. Patrick's Day		
March 17 and the smell of methane gas here at the land feels quite strong tonight.		
at 8060 Zion Line here tonight March 17 just before 9 o'clock at night and the methane gases		
is smelling from the Landfill		
9. Precipitation: Yes No	10. Wind Direction: S/SSW	
11. Precipitation Type & Amount: N/A	12. Wind Speed: 9 kmh	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	es 🖂 No
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream creating):</li> <li>N/A</li> </ol>	ating odours,
<ol> <li>If the site-specific nuisance control equipment/procedures were not opera describe the problem and when it was corrected: N/A</li> </ol>	ational
4. Where the complaint was for odours, was:	
a) An odour suppression system available for use at the site?	🛛 Yes 🛄 No
b) The suppression system operational?	🛾 Yes 🔀 No

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Completed verification as required by D&O
  - WM noted: Strong, earthy smell on field west of Nauvoo, where biosolids had previously been spread.
  - Weather conditions reviewed wind direction consistent with odours detected by WM noted above

2. When were these actions taken (date/time): March 17, 2022 @ 8:14 p.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

- No additional measures required
- Odour potentially from another source

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide		
the details of the investigation, and to describe any corrective/preventative actions taken.		
Date and time complainant was contacted to provide details March 18 @ 10:07 a.m.		March 18 @ 10:07 a.m.
of the investigation and to describe any corrective and/or		
preventative measures:		
Who contacted the complainant (name/title): Angela McLachlan		hlan
How was the complainant contacted?	Phone	
Complainant Response:		
No recencie at this time.		

- No response at this time
- Updated response received at 10:24 a.m., March 17/22: LOL I live on a farm and can clearly distinguish the difference between chicken manure, cow manure, pig manure, bio solids and methane, but I appreciate your response. That would be like WM coming to my house and telling me the smell chicken manure and I say no that's not what you smell, you're smelling fresh green grass.

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	March 18, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-025		
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203		
Does a condition of the C. of A./Permit require this complaint log			
be (tick those that apply): a) Retained on site			
<ul><li>b) Submitted to the Environment Ministry</li><li>c) Summarized for inclusion in a Report (monthly,</li></ul>	$\boxtimes$		
quarterly, annual)			
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permit conditions.			

### **B. SUMMARY**

1. Date and Time of Complaint	March 31, 2022 @ 4:05 p.m.	
2. Name of Complainant	Stephanie Cattrysse (Verhooven)	
3. Address of Complainant	1150 Mullifarry Dr., Adelaide Metcalfe	
4. Telephone Number of Complainant	519-636-9587	
5. Relationship of Complainant	Township Staff	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint Odour-(Transient)		
8. Nature of complaint (details):		
I'm at 8152 Zion Line at Cibo five after four on Thursday, March 31 and there is an odour of		
methane gas.		
9. Precipitation: Yes 🛛 No	10. Wind Direction: SW	
11. Precipitation Type & Amount: N/A	12. Wind Speed: 31kmh	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	🗌 Yes 🛛 No
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste streat etc): N/A</li> </ol>	m creating odours,
3. If the site-specific nuisance control equipment/procedures were no describe the problem and when it was corrected: N/A	t operational
<ul><li>4. Where the complaint was for odours, was:</li><li>a) An odour suppression system available for use at the site?</li><li>b) The suppression system operational?</li></ul>	⊠ Yes □ No □ Yes ⊠ No

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Completed verification as required by D&O

2. When were these actions taken (date/time): March 31, 2022 @ 4:10 p.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• No additional measures required

### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.			
Date and time complainant was contacted to p	Date and time complainant was contacted to provide details April 6 @ 12:09 p.m.		
of the investigation and to describe any correct	ctive and/or		
preventative measures:			
Who contacted the complainant (name/title):	Who contacted the complainant (name/title): Angela McLachlan		
How was the complainant contacted?	Phone		
Complainant Response:			
No response at this time			

Form completed by: Name: Title:	Angela McLachlan Environmental Compliance Manager	
Date completed:	April 6, 2022	

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-026	
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203	
Does a condition of the C. of A./Permit require this complaint log be (tick those that apply):		
a) Retained on site		
<ul><li>b) Submitted to the Environment Ministry</li><li>c) Summarized for inclusion in a Report (monthly,</li></ul>		
quarterly, annual)		
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permit conditions.		

#### **B. SUMMARY**

1. Date and Time of Complaint	April 2, 2022 @ 8:03 p.m. and 9:42 p.m.	
2. Name of Complainant	Stephanie Cattrysse (Verhooven)	
3. Address of Complainant	1150 Mullifarry Dr., Adelaide Metcalfe	
4. Telephone Number of Complainant	519-636-9587	
5. Relationship of Complainant	Township Staff	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Odour-(Transient)	
8. Nature of complaint (details):		
it's just after 8 o'clock on Saturday, April 2 and at the cemetery here it really smells of		
methane gas not a very pleasant smell when you're sitting by a grave.		
it is 20 to 10 on Saturday, April 2 and I am just passing the landfill on Nauvoo Road and just		
turning onto 610 or sorry Zion line and it still smells like nothing		
Methane** not nothing		
9 Precipitation: Yes XNo	10 Wind Direction: ESE/NNE	

 9. Precipitation:
 Yes
 No
 10. Wind Direction: ESE/NNE

 11. Precipitation Type & Amount: N/A
 12. Wind Speed:

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?□ Yes ⊠ No	
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream creating odours etc): N/A</li> </ol>	3,
<ol> <li>If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A</li> </ol>	
4. Where the complaint was for odours, was:	
a) An odour suppression system available for use at the site? $\square$ Yes $\square$ N	0
b) The suppression system operational? $\Box$ Yes $\boxtimes$ N	0

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Completed verification as required by D&O
  - Weather Conditions reviewed-wind direction not consistent with complaint

2. When were these actions taken (date/time): April 2, 2022 @ 8:05 p.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• No additional measures required

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.			
Date and time complainant was contacted to provide details		April 6, 2022 @ 12:09	
of the investigation and to describe any corrective and/or p.m. preventative measures:		p.m.	
Who contacted the complainant (name/title): Angela McLachlan		hlan	
How was the complainant contacted?	Phone		
Complainant Response:			
No response at this time			

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	April 6, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-027
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
<ul> <li>b) Submitted to the Environment Ministry</li> </ul>	$\boxtimes$
<ul><li>c) Summarized for inclusion in a Report (monthly,</li></ul>	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permi	it conditions.

### **B. SUMMARY**

April 6, 2022 @ 11:03 a.m.
Marcie Parker
6158 Wisbeach Rd., Watford
226-932-2528
Resident
Angela McLachlan
-
Litter
both sides of the road around the landfill
n down Zion lately). Is there a plan to get those
to do it before the new grass growth covers it up.
10. Wind Direction: N/A
12. Wind Speed: N/A

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?☐ Yes ⊠ No
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream creating odours, etc):</li> <li>N/A</li> </ol>
<ol> <li>If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A</li> </ol>
<ul> <li>4. Where the complaint was for odours, was:</li> <li>a) An odour suppression system available for use at the site?</li> <li>b) The suppression system operational?</li> <li>C Yes □ No</li> <li>C Yes ○ No</li> </ul>

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Completed verification as required by D&O

2. When were these actions taken (date/time): April 6, 2022 @ 11:08 a.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

- Investigation confirmed material not associated with Landfill
- Coordination with the County to address ditch maintenance

### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.			
Date and time complainant was contacted to provide details April 6, 2022 @ 12:16			
of the investigation and to describe any correct	of the investigation and to describe any corrective and/or		
preventative measures:			
Who contacted the complainant (name/title):	/ho contacted the complainant (name/title): Angela McLachlan		
How was the complainant contacted?	was the complainant contacted? Email		
Complainant Response:			
No Response at this time			

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	April 6, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-028
Certificate of Approval/Permit Number for site:	A032203
(If none, go to Section B)	
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
<ul> <li>b) Submitted to the Environment Ministry</li> </ul>	$\boxtimes$
<ul><li>c) Summarized for inclusion in a Report (monthly,</li></ul>	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permi	t conditions.

### **B. SUMMARY**

1. Date and Time of Complaint	April 22, 2022 @ 8:11 a.m.		
2. Name of Complainant	Bonnie Ross		
3. Address of Complainant	N/A		
4. Telephone Number of Complainant	Not provided		
5. Relationship of Complainant	Not provided		
6. Employee receiving complaint	Angela McLachlan		
(name):			
7. Type of complaint	Odour (Transient)		
8. Nature of complaint (details):			
April 22 nd at 8:10 a.m.on Nauvoo road at Ontario street right in the town of Watford dump			
smells bad!			
9. Precipitation: Yes No	10. Wind Direction: N		
11. Precipitation Type & Amount: N/A	12. Wind Speed: 8 kmh		
	·		
<ul> <li>(name):</li> <li>7. Type of complaint</li> <li>8. Nature of complaint (details):</li> <li>April 22nd at 8:10 a.m.on Nauvoo road at 0 smells bad!</li> <li>9. Precipitation: Yes No</li> </ul>	Odour (Transient) Ontario street right in the town of Watford dump 10. Wind Direction: N		

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	🛛 No
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream creating etc): N/A</li> </ol>	g odours,
<ol> <li>If the site-specific nuisance control equipment/procedures were not operation describe the problem and when it was corrected: N/A</li> </ol>	nal
	es

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Completed verification as required by D&O
  - WM Notes: (2) employees went out to investigate no odour detected on Nauvoo/Ontario or in vicinity. Very faint agricultural odour closer to High School.

2. When were these actions taken (date/time): April 22, 2022 @ 8:15 a.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

- No further action required at this time
- Unable to confirm source of odour

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.		
Date and time complainant was contacted to provide details of the investigation and to describe any corrective and/or		April 26, 2022 @ 8:27 a.m.
preventative measures:		
Who contacted the complainant (name/title):	Angela McLachlan/Envtal Compl Mgr.	
How was the complainant contacted?	Email	
Complainant Response:	·	
No Response at this time		
·		

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	April 26, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-029
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\bowtie$
b) Submitted to the Environment Ministry	$\boxtimes$
<ul><li>c) Summarized for inclusion in a Report (monthly,</li></ul>	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permi	t conditions.

### **B. SUMMARY**

1. Date and Time of Complaint	May 3, 2022 @ 4:45 p.m.
2. Name of Complainant	Stephanie Cattrysse (Verhooven)
3. Address of Complainant	1150 Mullifarry Dr., Adelaide Metcalfe
4. Telephone Number of Complainant	519-636-9587
5. Relationship of Complainant	Township Staff
6. Employee receiving complaint	Angela McLachlan
(name):	
7. Type of complaint	Odour-(Transient)
8. Nature of complaint (details):	
it's about 4:45on Tuesday, May 3 Reid ( <i>right</i> ) here outside the entrance of the landfill it	
smells like methane gas.	
9. Precipitation: Yes 🛛 No	10. Wind Direction: E
11. Precipitation Type & Amount: N/A	12. Wind Speed: 25 kmh

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?□ Yes ⊠ No
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream creating odours, etc):</li> <li>N/A</li> </ol>
<ol> <li>If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A</li> </ol>
<ul> <li>4. Where the complaint was for odours, was:</li> <li>a) An odour suppression system available for use at the site?</li> <li>b) The suppression system operational?</li> <li>C) Yes □ No</li> <li>D) Yes ○ No</li> </ul>

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Completed verification as required by D&O

2. When were these actions taken (date/time): May 3, 2022 @ 4:53 p.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• Continue to comply with conditions of the ECA

### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.			
Date and time complainant was contacted to provide details May 6, 2022 @ 10:02			
of the investigation and to describe any corrective and/or		a.m.	
preventative measures:			
Who contacted the complainant (name/title): Angela McLac		hlan	
How was the complainant contacted? Phone			
Complainant Response:			
No response at this time			

Form completed by: Name: Title:	Angela McLachlan Environmental Compliance Manager	
Date completed:	May 6, 2022	

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-030a
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
b) Submitted to the Environment Ministry	$\boxtimes$
<ul><li>c) Summarized for inclusion in a Report (monthly,</li></ul>	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permi	t conditions.

### **B. SUMMARY**

May 5, 2022 @ 8:33 a.m.	
Stephanie Cattrysse (Verhooven)	
1150 Mullifarry Dr., Adelaide Metcalfe	
519-636-9587	
Township Staff	
Angela McLachlan	
Odour (Transient)	
8. Nature of complaint (details):	
I'm at giving hope secondhand store and it is 830 on Thursday, May 5 and the smell of	
methane gas is coming from the landfill today	
10. Wind Direction: ESE	
12. Wind Speed: 16 kmh	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?□ Yes ⊠ No		
<ul> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream creating odours, etc):</li> <li>N/A</li> </ul>		
3. If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A		
<ul> <li>4. Where the complaint was for odours, was:</li> <li>a) An odour suppression system available for use at the site?</li> <li>b) The suppression system operational?</li> <li>C Yes □ No</li> <li>C Yes ○ No</li> </ul>		

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Completed verification as required by D&O
  - Weather Conditions reviewed
  - Address is 5639 Nauvoo Rd
  - WM Notes: Odour detected on-site to entrance gate, but not down as far as the store

2. When were these actions taken (date/time): May 5, 2022 @ 8:34 a.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• Continue to comply with conditions of the ECA

#### E. FOLLOW-UP

Form completed by: Name: Title:	Angela McLachlan Environmental Compliance Manager	
Date completed:	May 6, 2022	

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-030b
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
b) Submitted to the Environment Ministry	$\boxtimes$
<ul><li>c) Summarized for inclusion in a Report (monthly,</li></ul>	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permi	it conditions.

### **B. SUMMARY**

May 5, 2022 @ 9:31 a.m.		
Bonnie Ross		
N/A		
Not provided		
Not provided		
Angela McLachlan		
Odour (Transient)		
8. Nature of complaint (details):		
At 8:34 a.m. this morning, May 5 th heading north on Nauvoo right near the entrance to the dump		
10. Wind Direction: ESE		
12. Wind Speed: 16 kmh		

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	🗌 Yes 🖂 No	
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste strea etc):</li> <li>N/A</li> </ol>	m creating odours,	
<ol> <li>If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A</li> </ol>		
<ul><li>4. Where the complaint was for odours, was:</li><li>a) An odour suppression system available for use at the site?</li><li>b) The suppression system operational?</li></ul>	⊠ Yes □ No □ Yes ⊠ No	

D. CORRECTIVE ACTION				
1. What actions were taken to resolve the source of the complaint.				
Describe:				
<ul> <li>Completed verification as required by D&amp;O</li> </ul>				
WM Notes: odour detected on site to entrance gate				
2. When were these actions taken (date/time): May 5, 2022 @ 8:34 a.m.				
3. What measures have been employed or will be employed to prevent any future reoccurrence? Describe:				
<ul> <li>Continue to comply with conditions of the ECA</li> </ul>				

## E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.					
Date and time complainant was contacted to provide details of the investigation and to describe any corrective and/or preventative measures:		May 6, 2022 @ 10:16 a.m.			
Who contacted the complainant (name/title): How was the complainant contacted?	Angela McLachlan/Envtal Compl Mgr. Email				
Complainant Response: • No Response at this time					

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	May 6, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-031			
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203			
Does a condition of the C. of A./Permit require this complaint log be (tick those that apply):				
a) Retained on site				
<ul><li>b) Submitted to the Environment Ministry</li><li>c) Summarized for inclusion in a Report (monthly,</li></ul>	$\boxtimes$			
quarterly, annual)				
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permit conditions.				

### **B. SUMMARY**

1. Date and Time of Complaint	May 9, 2022 @ 1:22 p.m.			
2. Name of Complainant	Paul Leliveld			
3. Address of Complainant	5966 Nauvoo			
4. Telephone Number of Complainant	519-330-8236			
5. Relationship of Complainant	Resident			
6. Employee receiving complaint	Angela McLachlan			
(name):				
7. Type of complaint	Odour			
8. Nature of complaint (details):				
Advised when there is a South wind can smell the Landfill, currently could smell.				
9. Precipitation: Yes No	10. Wind Direction: SE			
11. Precipitation Type & Amount: N/A	12. Wind Speed: 29 kmh			

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	🗌 Yes 🔀 No			
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste strear etc): N/A</li> </ol>	m creating odours,			
<ol> <li>If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A</li> </ol>				
4. Where the complaint was for odours, was:				
a) An odour suppression system available for use at the site?	🖂 Yes 🗌 No			
b) The suppression system operational?	🛛 Yes 🗌 No			

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Completed verification as required by D&O

2. When were these actions taken (date/time): May 9, 2022 @ 1:58 p.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

- Continue to comply with conditions of the ECA
- Followed up on resident status for impact payment

## E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.			
the details of the investigation, and to describe any con	rective/preventativ	e actions taken.	
Date and time complainant was contacted to provide details May 10, 2022 @ 2:31			
of the investigation and to describe any corrective and/or		p.m.	
preventative measures:			
Who contacted the complainant (name/title):	le): Angela McLachlan/Envtal Compl Mgr.		
How was the complainant contacted?	Phone		
Complainant Response:			
<ul> <li>Wanted to advise again that whenever there is a South wind he can smell the Landfill.</li> </ul>			

Form completed by: Name: Title:	Angela McLachlan Environmental Compliance Manager
Date completed:	May 11, 2022

# A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-032	
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203	
Does a condition of the C. of A./Permit require this complaint log		
be (tick those that apply):		
a) Retained on site	$\boxtimes$	
b) Submitted to the Environment Ministry	$\boxtimes$	
c) Summarized for inclusion in a Report (monthly,	$\boxtimes$	
quarterly, annual)		
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permit conditions.		

## **B. SUMMARY**

1. Date and Time of Complaint	May 28, 2022 @ 11:06 p.m.	
2. Name of Complainant	Bonnie Ross	
3. Address of Complainant	N/A	
4. Telephone Number of Complainant	Not provided	
5. Relationship of Complainant	Not provided	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint Odour (Transient)		
8. Nature of complaint (details):		
It is 11:05 p.m. Saturday May 28 th		
Heading by the dump on Nauvoo road right at the entrance and heading south into Watford the		
smell was awful.		
9. Precipitation: Yes 🛛 No	10. Wind Direction: E	
11. Precipitation Type & Amount: N/A	12. Wind Speed: 9 kmh	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	🗌 Yes 🖂 No	
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream etc): N/A</li> </ol>	n creating odours,	
<ol> <li>If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A</li> </ol>		
4. Where the complaint was for odours, was:		
a) An odour suppression system available for use at the site?	🛛 Yes 🗌 No	
b) The suppression system operational?	🗌 Yes 🔀 No	

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Completed verification as required by D&O
  - WM Notes: Employee on site that evening from 7-9 p.m. no odour detected at all at the Site Entrance, at the Office or on Nauvoo from the Site to the 402

2. When were these actions taken (date/time): May 28, 2022 @ 11:20 p.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• Continue to comply with conditions of the ECA

## E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.			
Date and time complainant was contacted to provide details		June 3, 2022 @ 9:57 a.m.	
of the investigation and to describe any corrective and/or			
preventative measures:			
Who contacted the complainant (name/title):	Angela McLachlan/Envtal Compl Mgr.		
How was the complainant contacted?	Email		
Complainant Response:			
No Response at this time			

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	June 3, 2022

# A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-033	
Certificate of Approval/Permit Number for site:	A032203	
(If none, go to Section B)		
Does a condition of the C. of A./Permit require this complaint log		
be (tick those that apply):		
a) Retained on site	$\boxtimes$	
b) Submitted to the Environment Ministry	$\boxtimes$	
<ul><li>c) Summarized for inclusion in a Report (monthly,</li></ul>	$\boxtimes$	
quarterly, annual)		
Note: it is the Site Manager's responsibility to ensure compliance with C. of A./Permit conditions.		

## **B. SUMMARY**

1. Date and Time of Complaint	July 14, 2022 @ 9:53 p.m.		
2. Name of Complainant	Martina Jackson		
3. Address of Complainant	537 Gold Street		
4. Telephone Number of Complainant	N/A		
5. Relationship of Complainant	Resident		
6. Employee receiving complaint	Angela McLachlan		
(name):			
7. Type of complaint	Odour		
8. Nature of complaint (details):			
• July 14 2022			
• The smell of the dump was horrible for most of the day			
9. Precipitation: Yes No	10. Wind Direction: N/A (no specific time)		
11. Precipitation Type & Amount: N/A	12. Wind Speed: N/A (no specific time)		

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	🗌 Yes 🖂 No		
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste strea etc):</li> <li>N/A</li> </ol>	m creating odours,		
<ol> <li>If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A</li> </ol>			
<ul><li>4. Where the complaint was for odours, was:</li><li>a) An odour suppression system available for use at the site?</li><li>b) The suppression system operational?</li></ul>	⊠ Yes □ No ⊠ Yes □ No		

1. What actions were taken to resolve the source of the complaint.
--------------------------------------------------------------------

• completed verification as required by the D&O

2. When were these actions taken (date/time): July 14, 2022 @ 10:12 p.m..

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• Continue to comply with conditions of the ECA

## E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.			
Date and time complainant was contacted to provide details		July 19, 2022 @ 2:08	
of the investigation and to describe any corrective and/or		p.m.	
preventative measures:			
Who contacted the complainant (name/title):	: Angela McLachlan (Environmental		
	Compliance Manager)		
How was the complainant contacted?	Email		
Complainant Response:			
No Response at this time			

Form completed by: Name: Title:	Angela McLachlan Environmental Compliance Manager	
Date completed:	July 19, 2022	

# A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001): 2022-034 a		
Certificate of Approval/Permit Number for site: A032203		
(If none, go to Section B)		
Does a condition of the C. of A./Permit require this complaint log		
be (tick those that apply):		
a) Retained on site	$\boxtimes$	
<ul> <li>b) Submitted to the Environment Ministry</li> </ul>	$\boxtimes$	
<ul><li>c) Summarized for inclusion in a Report (monthly,</li></ul>	$\boxtimes$	
quarterly, annual)		
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permit conditions.		

## **B. SUMMARY**

1. Date and Time of Complaint	August 12, 2022 @ 8:18 a.m.	
2. Name of Complainant	Amanda Gubbels	
3. Address of Complainant	Township of Warwick	
4. Telephone Number of Complainant	519-849-3926	
5. Relationship of Complainant	CAO/Clerk Township	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Odour	
8. Nature of complaint (details):		
I would like to notify WM that there is a strong landfill odour in Watford this morning. It can		
be detected very strongly at the Watford Arena and is less strong, but still noticeable at our		
Office (5280 Nauvoo). I noticed this when I arrived at work around 8:10 a.m		
9. Precipitation: Yes 🛛 No	10. Wind Direction: NE	
11. Precipitation Type & Amount: N/A	12. Wind Speed: 5 kmh	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	🗌 Yes 🖂 No	
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste strea etc): N/A</li> </ol>	m creating odours,	
<ol> <li>If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A</li> </ol>		
<ul><li>4. Where the complaint was for odours, was:</li><li>a) An odour suppression system available for use at the site?</li><li>b) The suppression system operational?</li></ul>	⊠ Yes □ No ⊠ Yes □ No	

D. CORREC	TIVE ACTION
	ons were taken to resolve the source of the complaint.
Describe:	
•	Completed verification as required by the D&O
•	Updated August 24, 2022: Verification of the complaint involves operations
	personnel and occasionally consultants responding to the area of the complaint
	to determine the presence, type and potential origin of the odour. In addition,
	Gas techs are queried to identify any potential sources of landfill gas not under
	active collection or an upset in the gas system operation. Findings if any, are
	listed in the complaint log under section D. Based on the conditions observed,
	action is taken based on the control methods identified in the Odour BMP.
•	The timing of the complaints was a factor in actively managing the process. 2 of
	the 3 complaints (34 b and c) were received after the close of the landfill but
	referenced odours that occurred during the morning aligning the odour event to
	one specific occurrence
•	Operations Manager and District Operations Manager Investigation Notes: drove
	area including Arena and Township Office did not detect an odour past Cemetary
2. When we	re these actions taken (date/time): August 12, 2022 @ 8:23 a.m.
3. What mea	asures have been employed or will be employed to prevent any future
reoccurren	
Describe:	
•	Continue to comply with the conditions of the ECA
•	Weather conditions create times when landfill odours cannot dissipate effectively.
	These inversion periods are unavoidable, and WM will continue to follow the
	BMP.
•	Updated: August 24, 2022: a temperature inversion prevents the dissipation of
	air particulates such as water vapor, that trap odours, smoke and dust closer to
	the ground. A temperature inversion occurs when air cools at ground level faster
	than the warmer air aloft. This cooler, moister air does not allow particulates to
	rise and dissipate. The cooler air usually pockets in low lying areas where little to
	no wind will displace it. The Inversion usually occurs in the late afternoon and
	evening and will continue into the morning to mid-day. Indications of an inversion
	are clear skies, little to no wind, dew, low lying fog, horizontal smoke and cooler
	morning temperatures. Landfill odours tend to combine with other sources such
	as agricultural odours to form small dense pockets of odours.
•	During certain times of landfill development, Inversions create a higher potential
	for off-site odours. Our fill plan and construction plan is developed to minimize
	the impact of temperate inversions by entering new cells early in the summer to
	prevent low lying odours from leaving the cell. The berms are constructed to
	create pockets to contain odours onsite as well. As part of the ECA process,
	modeling indicated that these inversions would create times when landfill odours
	could be detected over the sampling area, and as a result, formed the basis of
	the Odour BMP.
•	During this event, landfill activity was at a higher elevation however the active
	face is not typically the source of the odours. Odorous loads and landfill gas are
	the main sources of odours and are addressed by the use of the odour
	suppression system as needed as well as adjustments to the gas system. It was
	noted that a series of active wells were taken off line to allow for the raising of
	casings in the active tip face. The IVC in this case was closed to prevent loss of
	vacuum and the influx of oxygen in the system when the casings were open.
	This is a normal part of the daily operation and is only a temporary controlled
	outage.

## E. FOLLOW-UP

Note: where complainant contact information is provide	ed all complainant	s must be contacted to provide
the details of the investigation, and to describe any corrective/preventative actions taken.		
Date and time complainant was contacted to provide details August 17, 2022 @ 10:22		
of the investigation and to describe any corrective and/or		a.m.
preventative measures:		
Who contacted the complainant (name/title):	Angela McLac	hlan/Envtal Compl Mgr.
How was the complainant contacted?	Email	
Complainant Response:		
No Response at this time		

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	August 17, 2022/Updated August 24, 2022

# A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001): 2020-034		
Certificate of Approval/Permit Number for site: A032203 (If none, go to Section B)		
Does a condition of the C. of A./Permit require this complaint log		
be (tick those that apply):		
a) Retained on site	$\boxtimes$	
b) Submitted to the Environment Ministry	$\boxtimes$	
c) Summarized for inclusion in a Report (monthly,	$\boxtimes$	
quarterly, annual)		
Note: it is the Site Manager's responsibility to ensure compliance with C. of A./Permit conditions.		

## **B. SUMMARY**

1. Date and Time of Complaint	August 12, 2022 @ 8:13 p.m.	
2. Name of Complainant	Shannon Woods	
3. Address of Complainant	582 St. Clair St.	
4. Telephone Number of Complainant	519-876-2131	
5. Relationship of Complainant	Resident	
6. Employee receiving complaint (name):	Angela McLachlan	
7. Type of complaint	Odour	
8. Nature of complaint (details):		
Hello, I am writing to report that this morning and again tonight the dump can be smelled in		
town.		
9. Precipitation: Yes No	10. Wind Direction: Various	
11. Precipitation Type & Amount: N/A	12. Wind Speed: Various	

## **C. INVESTIGATION**

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	] Yes 🛛 No	
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream etc): N/A</li> </ol>	creating odours,	
<ol> <li>If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A</li> </ol>		
4. Where the complaint was for odours, was:		
a) An odour suppression system available for use at the site?	🖂 Yes 🗌 No	
b) The suppression system operational?	🖂 Yes 🗌 No	

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Completed verification as required by the D&O
  - Updated August 24, 2022:Verification of the complaint involves operations personnel and occasionally consultants responding to the area of the complaint to determine the presence, type and potential origin of the odour. In addition, Gas techs are queried to identify any potential sources of landfill gas not under active collection or an upset in the gas system operation. Findings if any, are listed in the complaint log under section D. Based on the conditions observed, action is taken based on the control methods identified in the Odour BMP.
  - The timing of the complaints was a factor in actively managing the process. 2 of the 3 complaints (34 b and c) were received after the close of the landfill but referenced odours that occurred during the morning aligning the odour event to one specific occurrence

2. When were these actions taken (date/time): August 12, 2022 @ 8:23 a.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

- Continue to comply with the conditions of the ECA
- Weather conditions create times when landfill odours cannot dissipate effectively. These inversion periods are unavoidable, and WM will continue to follow the BMP.
- Updated: August 24, 2022: a temperature inversion prevents the dissipation of air particulates such as water vapor, that trap odours, smoke and dust closer to the ground. A temperature inversion occurs when air cools at ground level faster than the warmer air aloft. This cooler, moister air does not allow particulates to rise and dissipate. The cooler air usually pockets in low lying areas where little to no wind will displace it. The Inversion usually occurs in the late afternoon and evening and will continue into the morning to mid-day. Indications of an inversion are clear skies, little to no wind, dew, low lying fog, horizontal smoke and cooler morning temperatures. Landfill odours tend to combine with other sources such as agricultural odours to form small dense pockets of odours.
- During certain times of landfill development, Inversions create a higher potential for off-site odours. Our fill plan and construction plan is developed to minimize the impact of temperate inversions by entering new cells early in the summer to prevent low lying odours from leaving the cell. The berms are constructed to create pockets to contain odours onsite as well. As part of the ECA process, modeling indicated that these inversions would create times when landfill odours could be detected over the sampling area, and as a result, formed the basis of the Odour BMP.
- During this event, landfill activity was at a higher elevation however the active face is not typically the source of the odours. Odorous loads and landfill gas are the main sources of odours and are addressed by the use of the odour suppression system as needed as well as adjustments to the gas system. It was noted that a series of active wells were taken off line to allow for the raising of casings in the active tip face. The IVC in this case was closed to prevent loss of vacuum and the influx of oxygen in the system when the casings were open. This is a normal part of the daily operation and is only a temporary controlled outage.

## E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.		
Date and time complainant was contacted to provide details   August 17, 2022 @ 10:31		
of the investigation and to describe any correct	of the investigation and to describe any corrective and/or	
preventative measures:		
Who contacted the complainant (name/title):	AMcLachlan	
How was the complainant contacted?	Email	
Complainant Response:		
No Response at this time.		

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	August 17, 2022/Updated August 24, 2022

# A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-034c
Certificate of Approval/Permit Number for site:	A032203
(If none, go to Section B)	
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
<ul> <li>b) Submitted to the Environment Ministry</li> </ul>	$\boxtimes$
<ul><li>c) Summarized for inclusion in a Report (monthly,</li></ul>	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with C. of A./Pe.	rmit conditions.

## **B. SUMMARY**

1. Date and Time of Complaint	August 12, 2022 @ 9:36 p.m.	
2. Name of Complainant	Martina Jackson	
3. Address of Complainant	537 Gold Street	
4. Telephone Number of Complainant	N/A	
5. Relationship of Complainant	Resident	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Odour	
8. Nature of complaint (details):		
• This is a formal complaint of waste in Watford during the following times:		
• August 11 2022 5-11 pm		
• August 12 2022 8 a.m.		
• August 12 2022 1030 a.m.		
537 Gold Street Watford Ontario		
9. Precipitation: Yes 🛛 No	10. Wind Direction: Aug 11-Various-NW & Aug	
	12 NE	
11. Precipitation Type & Amount: N/A	12. Wind Speed: Aug 11 Various 4-22 kmh &	
	Aug 12-5-6 kmh	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	🗌 Yes 🖂 No
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste streat etc): N/A</li> </ol>	m creating odours,
<ol> <li>If the site-specific nuisance control equipment/procedures were no describe the problem and when it was corrected: N/A</li> </ol>	t operational
<ul><li>4. Where the complaint was for odours, was:</li><li>a) An odour suppression system available for use at the site?</li><li>b) The suppression system operational?</li></ul>	⊠ Yes □ No ⊠ Yes □ No

- 1. What actions were taken to resolve the source of the complaint.
  - Completed verification as required by the D&O
  - Updated August 24, 2022:Verification of the complaint involves operations personnel and occasionally consultants responding to the area of the complaint to determine the presence, type and potential origin of the odour. In addition, Gas techs are queried to identify any potential sources of landfill gas not under active collection or an upset in the gas system operation. Findings if any, are listed in the complaint log under section D. Based on the conditions observed, action is taken based on the control methods identified in the Odour BMP.
  - The timing of the complaints was a factor in actively managing the process. 2 of the 3 complaints (34 b and c) were received after the close of the landfill but referenced odours that occurred during the morning aligning the odour event to one specific occurrence

2. When were these actions taken (date/time): August 12, 2022 @ 8:23 a.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

- Continue to comply with conditions of the ECA
- Weather conditions create times when landfill odours cannot dissipate effectively. These inversion periods are unavoidable, and WM will continue to follow the BMP.
- Updated: August 24, 2022: a temperature inversion prevents the dissipation of air particulates such as water vapor, that trap odours, smoke and dust closer to the ground. A temperature inversion occurs when air cools at ground level faster than the warmer air aloft. This cooler, moister air does not allow particulates to rise and dissipate. The cooler air usually pockets in low lying areas where little to no wind will displace it. The Inversion usually occurs in the late afternoon and evening and will continue into the morning to mid-day. Indications of an inversion are clear skies, little to no wind, dew, low lying fog, horizontal smoke and cooler morning temperatures. Landfill odours tend to combine with other sources such as agricultural odours to form small dense pockets of odours.
- During certain times of landfill development, Inversions create a higher potential for offsite odours. Our fill plan and construction plan is developed to minimize the impact of temperate inversions by entering new cells early in the summer to prevent low lying odours from leaving the cell. The berms are constructed to create pockets to contain odours onsite as well. As part of the ECA process, modeling indicated that these inversions would create times when landfill odours could be detected over the sampling area, and as a result, formed the basis of the Odour BMP.
- During this event, landfill activity was at a higher elevation however the active face is not typically the source of the odours. Odorous loads and landfill gas are the main sources of odours and are addressed by the use of the odour suppression system as needed as well as adjustments to the gas system. It was noted that a series of active wells were taken off line to allow for the raising of casings in the active tip face. The IVC in this case was closed to prevent loss of vacuum and the influx of oxygen in the system when the casings were open. This is a normal part of the daily operation and is only a temporary controlled outage

## E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.		
Date and time complainant was contacted to provide details August 17, 2022 @ 10 of the investigation and to describe any corrective and/or a.m. preventative measures:		August 17, 2022 @ 10:38 a.m.
Who contacted the complainant (name/title):	Angela McLac Compliance M	chlan (Environmental lanager)
How was the complainant contacted?	Email	
How was the complainant contacted?     Email       Complainant Response:     No Response at this time		

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	August 17, 2022/Updated August 24, 2022

# A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-34 d
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log be (tick those that apply):	
a) Retained on site	
<ul><li>b) Submitted to the Environment Ministry</li><li>c) Summarized for inclusion in a Report (monthly,</li></ul>	
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permit conditions.	

## **B. SUMMARY**

1. Date and Time of Complaint	August 24, 2022 @ 10:38 a.m. (for August 12)	
2. Name of Complainant	Pat Muxlow	
3. Address of Complainant	19 Sunset Ave.	
4. Telephone Number of Complainant	519-876-2534	
5. Relationship of Complainant	Resident	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Odour	
8. Nature of complaint (details):		
<ul> <li>8. Nature of complaint (details):</li> <li>I came out my front door on Sunset Avenue in Watford at 6:15 am and could smell the landfill. I walked over to MacGregor</li> <li>Street and could still smell it. That smell continued until we were down at the corner of Wall Street and Front street.</li> <li>9. Precipitation: Yes No</li> <li>10. Wind Direction: NNW</li> <li>11. Precipitation Type &amp; Amount: N/A</li> <li>12. Wind Speed: 3 kmh</li> </ul>		

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?□ Yes ⊠ No
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream creating odours, etc): N/A</li> </ol>
<ol> <li>If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A</li> </ol>
<ul> <li>4. Where the complaint was for odours, was:</li> <li>a) An odour suppression system available for use at the site?</li> <li>b) The suppression system operational?</li> <li>Xes □ No</li> </ul>

- 1. What actions were taken to resolve the source of the complaint.
  - Describe:
    - Completed verification as required by the D&O (based on Log 34 a)
    - Updated August 24, 2022:Verification of the complaint involves operations personnel and occasionally consultants responding to the area of the complaint to determine the presence, type and potential origin of the odour. In addition, Gas techs are queried to identify any potential sources of landfill gas not under active collection or an upset in the gas system operation. Findings if any, are listed in the complaint log under section D. Based on the conditions observed, action is taken based on the control methods identified in the Odour BMP.
    - Updated August 25: The timing of the complaints was a factor in actively managing the process. 3 of the 4 complaints (34 b, c, d) were received after the close of the landfill but referenced odours that occurred during the morning aligning the odour event to one specific occurrence

#### 2. When were these actions taken (date/time): August 12, 2022 @ 8:23 a.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

- Continue to comply with conditions of the ECA
- Weather conditions create times when landfill odours cannot dissipate effectively. These inversion periods are unavoidable, and WM will continue to follow the BMP.
- Updated: August 24, 2022: a temperature inversion prevents the dissipation of air particulates such as water vapor, that trap odours, smoke and dust closer to the ground. A temperature inversion occurs when air cools at ground level faster than the warmer air aloft. This cooler, moister air does not allow particulates to rise and dissipate. The cooler air usually pockets in low lying areas where little to no wind will displace it. The Inversion usually occurs in the late afternoon and evening and will continue into the morning to mid-day. Indications of an inversion are clear skies, little to no wind, dew, low lying fog, horizontal smoke and cooler morning temperatures. Landfill odours tend to combine with other sources such as agricultural odours to form small dense pockets of odours.
- During certain times of landfill development, Inversions create a higher potential for offsite odours. Our fill plan and construction plan is developed to minimize the impact of temperate inversions by entering new cells early in the summer to prevent low lying odours from leaving the cell. The berms are constructed to create pockets to contain odours onsite as well. As part of the ECA process, modeling indicated that these inversions would create times when landfill odours could be detected over the sampling area, and as a result, formed the basis of the Odour BMP.
- During this event, landfill activity was at a higher elevation however the active face is not typically the source of the odours. Odorous loads and landfill gas are the main sources of odours and are addressed by the use of the odour suppression system as needed as well as adjustments to the gas system. It was noted that a series of active wells were taken off line to allow for the raising of casings in the active tip face. The IVC in this case was closed to prevent loss of vacuum and the influx of oxygen in the system when the casings were open. This is a normal part of the daily operation and is only a temporary controlled outage

## E. FOLLOW-UP

Note: where complainant contact information is provide the details of the investigation, and to describe any cor		
Date and time complainant was contacted to post of the investigation and to describe any correct preventative measures:	provide details	August 25, 2022 @ 2:27 p.m.
Who contacted the complainant (name/title): Angela McLachlan		hlan
How was the complainant contacted?	Email	
Complainant Response:		
No response at this time		

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	August 25, 2022

# A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-035
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
b) Submitted to the Environment Ministry	$\boxtimes$
c) Summarized for inclusion in a Report (monthly,	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with C. of A /Pe	rmit conditions.

## **B. SUMMARY**

1. Date and Time of Complaint	August 17, 2022, 5:30 p.m.	
2. Name of Complainant	Martina Jackson	
3. Address of Complainant	537 Gold Street	
4. Telephone Number of Complainant	N/A	
5. Relationship of Complainant	Resident	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Odour	
8. Nature of complaint (details):		
August 17, 2022, 8 a.m.		
Came out of daycare at St Peter Canisius school and all we could smell was the dump.		
9. Precipitation: Yes No	10. Wind Direction: NNE	
11. Precipitation Type & Amount:	12. Wind Speed: 8 kmh	
14.2		

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	🗌 Yes 🖂 No
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste strear etc): N/A</li> </ol>	n creating odours,
<ol> <li>If the site-specific nuisance control equipment/procedures were not describe the problem and when it was corrected: N/A</li> </ol>	t operational
4. Where the complaint was for odours, was:	
a) An odour suppression system available for use at the site?	🖂 Yes 🗌 No
b) The suppression system operational?	🛛 Yes 🗌 No

- 1. What actions were taken to resolve the source of the complaint.
  - Unable to complete verification as required by the D&O due to late notification of complaint

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• Continue to comply with conditions of the ECA

## E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.		
Date and time complainant was contacted to provide details August 22, 2022 @ 1:02		August 22, 2022 @ 1:02
of the investigation and to describe any corrective and/or		p.m.
preventative measures:		
Who contacted the complainant (name/title):	Angela McLac	hlan (Environmental
	Compliance M	lanager)
How was the complainant contacted?	Email	
Complainant Response:		
No Response at this time		

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	August 22, 2022

# A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-35 b
Certificate of Approval/Permit Number for site: A032203 (If none, go to Section B)	
Does a condition of the C. of A./Permit require this complaint log be (tick those that apply): a) Retained on site b) Submitted to the Environment Ministry c) Summarized for inclusion in a Report (monthly, quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permit conditions.	

## **B. SUMMARY**

1. Date and Time of Complaint	August 24, 2022 @ 10:39 a.m. (for August 17)	
2. Name of Complainant	Pat Muxlow	
3. Address of Complainant	19 Sunset Ave.	
4. Telephone Number of Complainant	519-876-2534	
5. Relationship of Complainant	Resident	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Odour	
8. Nature of complaint (details):		
I had been outside my home on Sunset Avenue at 7:00 am and couldn't smell the		
landfill, but when I came out of my home at 9:00 am the smell was terrible		
9. Precipitation: Yes No	10. Wind Direction: N	
11. Precipitation Type & Amount: N/A	12. Wind Speed: 3 kmh	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	🖂 No
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream creatinetc): N/A</li> </ol>	ng odours,
<ol> <li>If the site-specific nuisance control equipment/procedures were not operation describe the problem and when it was corrected: N/A</li> </ol>	onal
	∕es

D. CORRECTIVE ACTION	
1. What actions were taken to resolve the source of the complaint.	
Describe:	
<ul> <li>Unable to complete verification as required by the D&amp;O due to late notification of complaint</li> </ul>	
2. When were these actions taken (date/time): August 24, 2022 @ 10:39 a.m.	
3. What measures have been employed or will be employed to prevent any future reoccurrence?	
Describe:	

• Continue to comply with the conditions of the ECA

# E. FOLLOW-UP

 Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.

 Date and time complainant was contacted to provide details of the investigation and to describe any corrective and/or preventative measures:
 August 25, 2022 @ 2:35

 Who contacted the complainant (name/title):
 Angela McLachlan

 How was the complainant contacted?
 Email

 Complainant Response:
 • No response at this time

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	August 25, 2022

# A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-036
Certificate of Approval/Permit Number for site:	A032203
(If none, go to Section B)	
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
b) Submitted to the Environment Ministry	$\boxtimes$
<ul><li>c) Summarized for inclusion in a Report (monthly,</li></ul>	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with C. of A./Permit conditions.	

## **B. SUMMARY**

1. Date and Time of Complaint	August 18, 2022 @ 9:07 a.m.	
2. Name of Complainant	Klaas de Jong	
3. Address of Complainant	N/A	
4. Telephone Number of Complainant	519-719-5840	
5. Relationship of Complainant	Resident	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Odour	
8. Nature of complaint (details):		
South East of the dump a real bad smell at the moment		
9. Precipitation: Yes No	10. Wind Direction: WNW	
11. Precipitation Type & Amount: N/A	12. Wind Speed: 4kmh	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?☐ Yes ⊠ No
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream creating odours, etc):</li> <li>N/A</li> </ol>
<ol> <li>If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A</li> </ol>
<ul> <li>4. Where the complaint was for odours, was:</li> <li>a) An odour suppression system available for use at the site?</li> <li>b) The suppression system operational?</li> <li>C Yes □ No</li> <li>C Yes □ No</li> </ul>

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Completed verification as required by D&O
  - Landfill was operational at the time of complaint. Potentially odourous load received in that timeframe

2. When were these actions taken (date/time): August 18, 2022 @ 9:10 a.m

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• Continue to comply with conditions of the ECA

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.			
Date and time complainant was contacted to provide details			
of the investigation and to describe any corrective and/or		August 18, 2022 @ 10:06	
preventative measures:		a.m.	
Who contacted the complainant (name/title): Angela McLac		hlan	
How was the complainant contacted?	Phone (Text)		
Complainant Response:			
Ok, thanks			

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	August 18, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-37 a
Certificate of Approval/Permit Number for site:	A032203
(If none, go to Section B)	
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
b) Submitted to the Environment Ministry	$\boxtimes$
c) Summarized for inclusion in a Report (monthly,	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with C. of A./Per	rmit conditions.

## **B. SUMMARY**

1. Date and Time of Complaint	August 23, 2022 @ 9:37 p.m.
2. Name of Complainant	Ursula Verberne
3. Address of Complainant	554 Ontario St.
4. Telephone Number of Complainant	519-402-3748
5. Relationship of Complainant	Resident
6. Employee receiving complaint	Angela McLachlan
(name):	
7. Type of complaint	Odour

8. Nature of complaint (details):

I am a resident of Watford. This Evening I went out after dinner to enjoy a nice time outside with my children(8pm) and there was a very strong, foul odour coming with the North

wind in which we had to go back inside. It makes me choke on how foul it is. 😣

My family has smelled this disgustingly, awful odour many times before and we even have to close the windows in our house because of this smell.

The smell is becoming more frequent (mostly on Tuesday's) and we wanted to bring it to your attention.

Hopefully, this foul odour is dealt with ASAP!

9. Precipitation: Yes No	10. Wind Direction: NNE
11. Precipitation Type & Amount:	12. Wind Speed: 6kmh

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?□ Yes ⊠ No
2. If yes, describe (Ex. high winds creating litter, unusual waste stream creating odours, etc):
3. If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A
<ul><li>4. Where the complaint was for odours, was:</li><li>a) An odour suppression system available for use at the site?  ∑ Yes  No</li></ul>

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Completed verification as required by the D&O
  - Operational logs did not indicate any issues with Landfill Gas System
  - Observations during the day indicated an increased level of agricultural activity which can cause an enhancement of various odours

2. When were these actions taken (date/time): August 23, 2022 @ 9:39 p.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

- Weather conditions create times when landfill odours cannot dissipate effectively. These inversion periods are unavoidable, and WM will continue to follow the BMP.
- Temperature indicated the inversion begam approximately 7 p.m. with a temperature of 24.2 C steadily dropping and at 10 p.m. to 19.9 C at this time the wind shifted direction to S

## E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide			
the details of the investigation, and to describe any corrective/preventative actions taken. Date and time complainant was contacted to provide details			
of the investigation and to describe any corrective and/or		August 30, 2022 @ 10:51	
preventative measures:		a.m.	
Who contacted the complainant (name/title): Angela McLac		hlan	
How was the complainant contacted?	Email		
Complainant Response:			
No response at this time			

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	August 30, 2022

# A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-037 b
Certificate of Approval/Permit Number for site:	A032203
(If none, go to Section B)	
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
<ul> <li>b) Submitted to the Environment Ministry</li> </ul>	$\boxtimes$
<ul><li>c) Summarized for inclusion in a Report (monthly,</li></ul>	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with C. of A./Pel	rmit conditions.

## **B. SUMMARY**

1. Date and Time of Complaint	August 23, 2022 @ 9:38 p.m.	
2. Name of Complainant	Martina Jackson	
3. Address of Complainant	537 Gold Street	
4. Telephone Number of Complainant	N/A	
5. Relationship of Complainant	Resident	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Odour	
8. Nature of complaint (details):		
Aug 23 2022		
Started 815pm and still happening at 936pm		
Smell of landfill blowing through our backyards and in windows		
537 Gold Street		
9. Precipitation: Yes No	10. Wind Direction: NNE	
11. Precipitation Type & Amount:	12. Wind Speed: 6 kmh	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	] Yes 🖂 No
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream of etc): N/A</li> </ol>	creating odours,
<ol> <li>If the site-specific nuisance control equipment/procedures were not or describe the problem and when it was corrected: N/A</li> </ol>	perational
4. Where the complaint was for odours, was:	
a) An odour suppression system available for use at the site?	🖂 Yes 🗌 No
b) The suppression system operational?	🖂 Yes 🗌 No

- 1. What actions were taken to resolve the source of the complaint.
  - Completed verification as required by the D&O
  - Operational logs did not indicate any issues with Landfill Gas System
  - Observations during the day indicated an increased level of agricultural activity which can cause an enhancement of various odours

2. When were these actions taken (date/time): August 23, 2022 @ 9:39 p.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

- Weather conditions create times when landfill odours cannot dissipate effectively. These inversion periods are unavoidable, and WM will continue to follow the BMP.
- Temperature indicated the inversion begam approximately 7 p.m. with a temperature of 24.2 C steadily dropping and at 10 p.m. to 19.9 C at this time the wind shifted direction to S

## E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.		
Date and time complainant was contacted to provide details August 30, 2022 @ 10:59		
of the investigation and to describe any corrective and/or		a.m.
preventative measures:		
Who contacted the complainant (name/title):	Angela McLachlan (Environmental	
	Compliance Manager)	
How was the complainant contacted?	Email	
Complainant Response:		
No Response at this time		

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	August 30, 2022

# A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-37 c	
Certificate of Approval/Permit Number for site: A032203 (If none, go to Section B)		
Does a condition of the C. of A./Permit require this complaint log be (tick those that apply):		
a) Retained on site	$\boxtimes$	
b) Submitted to the Environment Ministry 🛛 🖂 c) Summarized for inclusion in a Report (monthly, 🕅		
quarterly, annual)	it conditions	
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permi	t conditions.	

## **B. SUMMARY**

1. Date and Time of Complaint	August 24, 2022 @ 10:40 a.m. (for August 22)	
2. Name of Complainant	Pat Muxlow	
3. Address of Complainant	19 Sunset Ave.	
4. Telephone Number of Complainant	519-876-2534	
5. Relationship of Complainant	Resident	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Odour (Transient)	
8. Nature of complaint (details):		
(On August 22) I came out of my house on Sunset Avenue and didn't smell the landfill.		
However when I got to Nauvoo Road at 6:30 am the smell was terrible. I could smell it		
on MacGregor Street and over on Centennial.		
9. Precipitation: Yes 🛛 No	10. Wind Direction: N	
11. Precipitation Type & Amount: N/A	12. Wind Speed: 3 kmh	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	🗌 Yes 🔀 No	
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream etc): N/A</li> </ol>	n creating odours,	
<ol> <li>If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A</li> </ol>		
4. Where the complaint was for odours, was:		
a) An odour suppression system available for use at the site?	🖾 Yes 🗌 No	
b) The suppression system operational?	🖂 Yes 🗌 No	

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Unable to complete verification as required by the D&O due to late notification of complaint

2. When were these actions taken (date/time): August 24, 2022 @ 10:40 a.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• Continue to comply with the conditions of the ECA

## E. FOLLOW-UP

 Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.

 Date and time complainant was contacted to provide details of the investigation and to describe any corrective and/or preventative measures:
 August 30, 2022 @ 11:04 a.m.

 Who contacted the complainant (name/title):
 Angela McLachlan

 How was the complainant contacted?
 Email

 Complainant Response:
 • No response at this time

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	August 30, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-038
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
<ul> <li>b) Submitted to the Environment Ministry</li> </ul>	$\boxtimes$
<ul><li>c) Summarized for inclusion in a Report (monthly,</li></ul>	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permi	it conditions.

## **B. SUMMARY**

1. Date and Time of Complaint	September 7, 2022 @ 7:14 a.m.	
2. Name of Complainant	Pat Muxlow	
3. Address of Complainant	19 Sunset Ave.	
4. Telephone Number of Complainant	519-876-2534	
5. Relationship of Complainant	Resident	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Odour (Transient)	
8. Nature of complaint (details):		
I wanted to let you know that I could smell the landfill when I walked out my door at 19		
Sunset Avenue this morning at 6:20 am. I could smell it different times when walking		
around the outside of Watford. However, the smell was really strong when I was		
coming up John Street after crossing Simcoe		
9. Precipitation: Yes No	10. Wind Direction: E	
11. Precipitation Type & Amount: N/A	12. Wind Speed: 4 kmh	

## **C. INVESTIGATION**

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	🗌 Yes 🔀 No
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste streated):</li> <li>N/A</li> </ol>	am creating odours,
3. If the site-specific nuisance control equipment/procedures were no describe the problem and when it was corrected: N/A	ot operational

☑ Yes □ No☑ Yes □ No

4. Where the complaint was for odours, was:

a) An odour suppression system available for use at the site?b) The suppression system operational?

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Completed verification as required by D&O
  - Sr. DM notes: identified a skunk from Confederation Line to the Cemetery. At that point there was a dead skunk on the road just south of the landfill gate. The Odour was very strong. Wind is out of the East at that time.
  - Contacted Township and County of Lambton Works Dept for removal
  - Weather observations indicate an inversion with low lying cloud and cooler temperature

2. When were these actions taken (date/time): September 7, 2022 @ 7:25 a.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• Continue to comply with the conditions of the ECA

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide			
the details of the investigation, and to describe any corrective/preventative actions taken. Date and time complainant was contacted to provide details September 7, 2022 @			
of the investigation and to describe any corrective and/or		10:06 a.m.	
preventative measures:			
Who contacted the complainant (name/title): Angela McLachlan			
How was the complainant contacted? Email			
Complainant Response:			
No response at this time			

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	September 7, 2022

# A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-039a
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\bowtie$
<ul> <li>b) Submitted to the Environment Ministry</li> </ul>	$\boxtimes$
<ul><li>c) Summarized for inclusion in a Report (monthly,</li></ul>	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with C. of A /Pe	rmit conditions.

## **B. SUMMARY**

1. Date and Time of Complaint	September 7, 2022 @ 11:08 p.m.	
2. Name of Complainant	Martina Jackson	
3. Address of Complainant	537 Gold Street	
4. Telephone Number of Complainant	N/A	
5. Relationship of Complainant	Resident	
6. Employee receiving complaint (name):	Angela McLachlan	
7. Type of complaint	Odour	
8. Nature of complaint (details):		
September 7 2022		
1045pm		
537 Gold Street		
Smell of garbage coming in all of our windows		
9. Precipitation: Yes No	10. Wind Direction: NNE	
11. Precipitation Type & Amount:	12. Wind Speed: 3 kmh	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	] Yes 🖂 No	
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream of etc): N/A</li> </ol>	creating odours,	
<ol> <li>If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A</li> </ol>		
4. Where the complaint was for odours, was:		
a) An odour suppression system available for use at the site?	🖾 Yes 🗌 No	
b) The suppression system operational?	🛛 Yes 🗌 No	

- 1. What actions were taken to resolve the source of the complaint.
  - Completed verification as required by the D&O
  - Landfill Engineer Manager Notes: On site from 9:30 p.m.-11:30 p.m.-no odour detected

2. When were these actions taken (date/time): September 7, 2022 @ 11:44 p.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• Weather conditions create times when landfill odours cannot dissipate effectively. These inversion periods are unavoidable, and WM will continue to follow the BMP.

## E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.		
		September 13, 2022 @ 1:45 p.m.
Who contacted the complainant (name/title):	Angela McLachlan (Environmental Compliance Manager)	
How was the complainant contacted?	Email	
Complainant Response: No Response at this time		

Form completed by: Name: Title:	Angela McLachlan Environmental Compliance Manager
Date completed:	September 13, 2022

# A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-039b
Certificate of Approval/Permit Number for site:	A032203
(If none, go to Section B)	
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
<ul> <li>b) Submitted to the Environment Ministry</li> </ul>	$\boxtimes$
<ul><li>c) Summarized for inclusion in a Report (monthly,</li></ul>	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with C. of A./Per	rmit conditions.

## **B. SUMMARY**

September 8, 2022 @ 8:21 a.m.
Jody Jasek
548 Front St.
519-876-3642
Resident
Angela McLachlan
-
Odour
rbagey" smell
10. Wind Direction: NW
12. Wind Speed: 2 kmh

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?□ Yes ⊠ No
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream creating odours, etc): N/A</li> </ol>
<ol> <li>If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A</li> </ol>
<ul> <li>4. Where the complaint was for odours, was:</li> <li>a) An odour suppression system available for use at the site?</li> <li>b) The suppression system operational?</li> <li>C) Yes □ No</li> <li>C) Yes □ No</li> </ul>

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Completed verification as required by the D&O
  - Odour Surveys completed by WM Staff, RWDI, MECP
  - Pockets of moderate odour intermittently detected at various locations.

2. When were these actions taken (date/time): September 8, 2022 @ 8:31 a.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• Weather conditions create times when landfill odours cannot dissipate effectively. These inversion periods are unavoidable, and WM will continue to follow the BMP.

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.		
Date and time complainant was contacted to p of the investigation and to describe any correct preventative measures:		September 13, 2022 @ 1:50 p.m.
Who contacted the complainant (name/title):	Angela McLac	chlan
How was the complainant contacted?	Telephone	
Complainant Response:		
<ul> <li>Left message on machine</li> </ul>		

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	September 13, 2022

# A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-039c
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
b) Submitted to the Environment Ministry	$\boxtimes$
c) Summarized for inclusion in a Report (monthly,	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with C. of A./Pe.	rmit conditions.

## **B. SUMMARY**

1. Date and Time of Complaint	September 8, 2022 @ 8:25 a.m.
2. Name of Complainant	Andrew Maver
3. Address of Complainant	Township of Warwick
4. Telephone Number of Complainant	519-876-3642
5. Relationship of Complainant	Township Staff
6. Employee receiving complaint	Angela McLachlan
(name):	
7. Type of complaint	Odour
8. Nature of complaint (details):	
-There is a strong odour of Landfill in Wat	ford this morning. Our office is located at the south
end of Watford and the odour is very strong. Please consider this a formal complaint	

9. Precipitation: Yes No	10. Wind Direction: NW
11. Precipitation Type & Amount:	12. Wind Speed: 2 kmh

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	🗌 Yes 🖂 No
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste strea etc):</li> <li>N/A</li> </ol>	m creating odours,
<ol> <li>If the site-specific nuisance control equipment/procedures were no describe the problem and when it was corrected: N/A</li> </ol>	t operational
<ul><li>4. Where the complaint was for odours, was:</li><li>a) An odour suppression system available for use at the site?</li><li>b) The suppression system operational?</li></ul>	⊠ Yes □ No ⊠ Yes □ No

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Completed verification as required by the D&O
  - Odour Surveys completed by WM Staff, RWDI, MECP
  - Pockets of moderate odour intermittently detected at various locations

2. When were these actions taken (date/time): September 8, 2022 @ 8:31 a.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• Weather conditions create times when landfill odours cannot dissipate effectively. These inversion periods are unavoidable, and WM will continue to follow the BMP.

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.			
Date and time complainant was contacted to provide details of the investigation and to describe any corrective and/or September 13, 2022 @			
preventative measures: 1:57 p.m. Who contacted the complainant (name/title): Angela McLachlan			
How was the complainant contacted?	Email		
Complainant Response:			
No response at this time.			

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	September 13, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-039d
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log be (tick those that apply):	
a) Retained on site	
<ul><li>b) Submitted to the Environment Ministry</li><li>c) Summarized for inclusion in a Report (monthly,</li></ul>	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with C, of A./Pel	rmit conditions.

### **B. SUMMARY**

1. Date and Time of Complaint	September 8, 2022 @ 9:08 a.m.	
2. Name of Complainant	Martina Jackson	
3. Address of Complainant	537 Gold Street	
4. Telephone Number of Complainant	N/A	
5. Relationship of Complainant	Resident	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Odour	
8. Nature of complaint (details):		
September 8 2022		
830 am		
537 Gold Street		
Smell of garbage so terrible it was making me nauseated.		
9. Precipitation: Yes No	10. Wind Direction: NW	
11. Precipitation Type & Amount: N/A	12. Wind Speed: 2 kmh	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	🗌 Yes 🖂 No	
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream etc): N/A</li> </ol>	creating odours,	
<ol> <li>If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A</li> </ol>		
4. Where the complaint was for odours, was:		
a) An odour suppression system available for use at the site?	🖂 Yes 🗌 No	
b) The suppression system operational?	🖂 Yes 🗌 No	

- 1. What actions were taken to resolve the source of the complaint.
  - Completed verification as required by the D&O
  - Odour Surveys completed by WM Staff, RWDI, MECP
  - Pockets of moderate odour intermittently detected at various locations

#### 2. When were these actions taken (date/time): September 8, 2022 @ 8:31 a.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• Weather conditions create times when landfill odours cannot dissipate effectively. These inversion periods are unavoidable, and WM will continue to follow the BMP.

## E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.		
Date and time complainant was contacted to provide details of the investigation and to describe any corrective and/or preventative measures:		September 13, 2022 @ 2:02 p.m.
Who contacted the complainant (name/title):	ntacted the complainant (name/title): Angela McLachlan (Environmental Compliance Manager)	
How was the complainant contacted?	Email	
Complainant Response: No Response at this time		

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	September 13, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-039e
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log be (tick those that apply):	
a) Retained on site b) Submitted to the Environment Ministry	$\boxtimes$
<ul> <li>c) Summarized for inclusion in a Report (monthly, guarterly, annual)</li> </ul>	$\square$
Note: it is the Site Manager's responsibility to ensure compliance with C. of A./Pe.	rmit conditions.

#### **B. SUMMARY**

1. Date and Time of Complaint	September 8, 2022 @ 9:08 a.m.
2. Name of Complainant	Keri Cooper
3. Address of Complainant	489 Gold Street
4. Telephone Number of Complainant	N/A
5. Relationship of Complainant	Resident
6. Employee receiving complaint	Angela McLachlan
(name):	
7. Type of complaint	Odour
O Neture of complete (details)	

8. Nature of complaint (details):

I have smelled the dump before, but the past few weeks have been beyond the scope of toleration. I've actually had to go inside to escape the pungent smell permeating my nostrils. Walking near your dump some days is impossible as you can actually almost taste the smell. Yuck. Yesterday, September 7, 2022, during my daily noon hour walk, I could smell it when on the North side of town but the wind was blowing towards town quite strongly. This morning, Sept 8, at 9:00, when taking the kids to school, however has very little wind and the smell is as pungent as ever.

> I would like this to be on the record as a formal complaint because if the smell continues today, I am afraid I won't be able to walk outside in that disgusting Watford dump air.

9. Precipitation: Yes No	10. Wind Direction: NE
11. Precipitation Type & Amount: N/A	12. Wind Speed: 4 kmh

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	🗌 Yes 🔀 No
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste streated):</li> <li>N/A</li> </ol>	am creating odours,
3. If the site-specific nuisance control equipment/procedures were no describe the problem and when it was corrected: N/A	ot operational

4. Where the complaint was for odours, was:

a) An odour suppression system available for use at the site?

🖂 Yes 🛛

Yes

No

No

b) The suppression system operational?

## D. CORRECTIVE ACTION

- 1. What actions were taken to resolve the source of the complaint.
  - Completed verification as required by the D&O
  - Odour Surveys completed by WM Staff, RWDI, MECP
  - Pockets of moderate odour intermittently detected at various locations

2. When were these actions taken (date/time): September 8, 2022 @ 8:31 a.m.

# 3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• Weather conditions create times when landfill odours cannot dissipate effectively. These inversion periods are unavoidable, and WM will continue to follow the BMP.

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.			
Date and time complainant was contacted to provide details of the investigation and to describe any corrective and/or preventative measures:		September 13, 2022 @ 2:12 p.m.	
Who contacted the complainant (name/title): Angela McLachlan (Environmental Compliance Manager)			
How was the complainant contacted?	Email		
Complainant Response:			
No Response at this time			

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	September 13, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-039f
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
b) Submitted to the Environment Ministry	$\boxtimes$
c) Summarized for inclusion in a Report (monthly,	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with C. of A./Pe	rmit conditions.

#### **B. SUMMARY**

1. Date and Time of Complaint	September 8, 2022 @ 9:20 a.m.
2. Name of Complainant	Tracey Fisher
3. Address of Complainant	408 Bernadette Close
4. Telephone Number of Complainant	N/A
5. Relationship of Complainant	Resident
6. Employee receiving complaint	Angela McLachlan
(name):	
7. Type of complaint	Odour
8 Nature of complaint (details):	

8. Nature of complaint (details):

My address is 408 Bernadette Close, in Watford, ON. On the overnight hours of September 5, 6, and 7th the smell of the dump has been unbearable. This is generally around the 2am mark, as I am letting my dog out. However, this morning September 8th from 6-until now the smell is even worse. I walked my kids to school at 8:30 am and we were gagging. This is not okay.

9. Precipitation: Yes No	10. Wind Direction: NE
11. Precipitation Type & Amount: N/A	12. Wind Speed: 4 kmh

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	Yes 🖂 No	
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream c etc): N/A</li> </ol>	reating odours,	
<ol> <li>If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A</li> </ol>		
4. Where the complaint was for odours, was:		
a) An odour suppression system available for use at the site?	🖾 Yes 🗌 No	
b) The suppression system operational?	🖾 Yes 🗌 No	

- 1. What actions were taken to resolve the source of the complaint.
  - Completed verification as required by the D&O
  - Odour Surveys completed by WM Staff, RWDI, MECP
  - Pockets of moderate odour intermittently detected at various locations

2. When were these actions taken (date/time): September 8, 2022 @ 8:31 a.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• Weather conditions create times when landfill odours cannot dissipate effectively. These inversion periods are unavoidable, and WM will continue to follow the BMP.

### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.		
Date and time complainant was contacted to provide details of the investigation and to describe any corrective and/or preventative measures:		September 13, 2022 @ 2:06 p.m.
Who contacted the complainant (name/title):	Angela McLachlan (Environmental Compliance Manager)	
How was the complainant contacted? Complainant Response: No Response at this time	low was the complainant contacted? Email	

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	September 13, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-039g
Certificate of Approval/Permit Number for site:	A032203
(If none, go to Section B)	
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
b) Submitted to the Environment Ministry	$\boxtimes$
c) Summarized for inclusion in a Report (monthly,	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Perm	nit conditions.

### **B. SUMMARY**

1. Date and Time of Complaint	September 8, 2022 @ 8:40 a.m.	
2. Name of Complainant	Stephanie Cattrysse (Verhooven)	
3. Address of Complainant	1150 Mullifarry Dr., Adelaide Metcalfe	
4. Telephone Number of Complainant	519-636-9587	
5. Relationship of Complainant	Township Staff	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Odour	
8. Nature of complaint (details):		
the whole town of Watford smells of methane and garbage this morning		
9. Precipitation: Yes No	10. Wind Direction: NW	
11. Precipitation Type & Amount: N/A	12. Wind Speed: 2 kmh	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	🗌 Yes 🔀 No
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste strean etc):</li> <li>N/A</li> </ol>	n creating odours,
3. If the site-specific nuisance control equipment/procedures were not describe the problem and when it was corrected: N/A	operational
<ul><li>4. Where the complaint was for odours, was:</li><li>a) An odour suppression system available for use at the site?</li></ul>	X Yes 🗆 No
b) The suppression system operational?	☐ Yes ⊠ No

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Completed verification as required by the D&O
  - Odour Surveys completed by WM Staff, RWDI, MECP
  - Pockets of moderate odour intermittently detected at various locations

2. When were these actions taken (date/time): September 8,2022 @ 8:31 a.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• Weather conditions create times when landfill odours cannot dissipate effectively. These inversion periods are unavoidable, and WM will continue to follow the BMP.

## E. FOLLOW-UP

 Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.

 Date and time complainant was contacted to provide details of the investigation and to describe any corrective and/or preventative measures:
 September 13, 2022 @

 Who contacted the complainant (name/title):
 Angela McLachlan

 How was the complainant contacted?
 Phone

 Complainant Response:

 No response at this time

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	September 13, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-039h
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
b) Submitted to the Environment Ministry	$\boxtimes$
c) Summarized for inclusion in a Report (monthly,	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with C. of A /Pe	rmit conditions.

### **B. SUMMARY**

1. Date and Time of Complaint	September 8, 2022 @ 10:07 a.m.	
2. Name of Complainant	Jackie Rombouts	
3. Address of Complainant	8605 Brickyard Line	
4. Telephone Number of Complainant	N/A	
5. Relationship of Complainant	Township Mayor	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Odour	
8. Nature of complaint (details):		
I am at the ballpark in Watford and the odour from your facility is horrible. I could also smell		
it downtown as well.		
9. Precipitation: Yes No	10. Wind Direction: NNE	
11. Precipitation Type & Amount: N/A	12. Wind Speed: 7 kmh	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	🗌 Yes 🖂 No
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste strea etc):</li> <li>N/A</li> </ol>	m creating odours,
3. If the site-specific nuisance control equipment/procedures were no describe the problem and when it was corrected: N/A	t operational
<ul><li>4. Where the complaint was for odours, was:</li><li>a) An odour suppression system available for use at the site?</li><li>b) The suppression system operational?</li></ul>	⊠ Yes □ No ⊠ Yes □ No

- 1. What actions were taken to resolve the source of the complaint.
  - Completed verification as required by the D&O
  - Odour Surveys completed by WM Staff, RWDI, MECP
  - Pockets of moderate odour intermittently detected at various locations

2. When were these actions taken (date/time): September 8, 2022 @ 8:31 a.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• Weather conditions create times when landfill odours cannot dissipate effectively. These inversion periods are unavoidable, and WM will continue to follow the BMP.

### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.		
Date and time complainant was contacted to provide details September 13, 2022 @		
of the investigation and to describe any corrective and/or		2:22 p.m.
preventative measures:		-
Who contacted the complainant (name/title):	Angela McLac	hlan (Environmental
	Compliance M	lanager)
How was the complainant contacted? Email		
Complainant Response:		
No Response at this time		

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	September 13, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-040
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
b) Submitted to the Environment Ministry	$\boxtimes$
c) Summarized for inclusion in a Report (monthly,	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with C. of A./Permit conditions.	

### **B. SUMMARY**

1. Date and Time of Complaint	September 14, 2022 @ 9:38 p.m.
2. Name of Complainant	Danielle Maes
3. Address of Complainant	Not provided
4. Telephone Number of Complainant	Not provided
5. Relationship of Complainant	Resident
6. Employee receiving complaint	Angela McLachlan
(name):	
7. Type of complaint	Odour
8. Nature of complaint (details):	
It is 9:35pm on September 14th and I live right in Watford, ON by the Foodland. It is a nice cool evening	
where it would be great to have the windows open, but the odour has been so bad we need to keep	
them closed. This is unaccontable. Last living by a dump can be smally at times, but this is disgusting. It	

where it would be great to have the windows open, but the odour has been so bad we need to keep them closed. This is unacceptable. I get living by a dump can be smelly at times, but this is disgusting. It has never been this bad and something needs to be done.

9. Precipitation: Yes 🛛 No	10. Wind Direction: NNE
11. Precipitation Type & Amount:	12. Wind Speed: 5kmh

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	🗌 Yes 🖂 No
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste streatetc):</li> <li>N/A</li> </ol>	m creating odours,
<ol> <li>If the site-specific nuisance control equipment/procedures were no describe the problem and when it was corrected: N/A</li> </ol>	ot operational
<ul><li>4. Where the complaint was for odours, was:</li><li>a) An odour suppression system available for use at the site?</li><li>b) The suppression system operational?</li></ul>	⊠ Yes □ No ⊠ Yes □ No

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Completed verification as required by the D&O
  - This includes: reviewed weather conditions, Gas operations, and site conditions; nothing abnormal noted
  - Higher than normal volume of odourous material received combined with weather conditions may have contributed to related concerns.

2. When were these actions taken (date/time): September 15, 2022 @ 6:32 a.m.

- 3. What measures have been employed or will be employed to prevent any future reoccurrence?
  - Describe:
  - Weather conditions create times when landfill odours cannot dissipate effectively. These inversion periods are unavoidable, and WM will continue to follow the BMP.
  - Areas where odourous loads are deposited will receive additional or alternate cover application to prevent potential sources of odour.

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.		
Date and time complainant was contacted to p of the investigation and to describe any correct preventative measures:		September 19, 2022 @ 11:10 a.m.
Who contacted the complainant (name/title): Angela McLachlan/E		hlan/Envtal Protection
How was the complainant contacted? Email		
Complainant Response:		
No response at this time		

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	September 19, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-041
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log be (tick those that apply): a) Retained on site b) Submitted to the Environment Ministry c) Summarized for inclusion in a Report (monthly, quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with C. of A./Permit conditions.	

### **B. SUMMARY**

1. Date and Time of Complaint	October 3, 2022 @ 2:47 p.m.	
2. Name of Complainant	Holly Watson	
3. Address of Complainant	603 Front St.	
4. Telephone Number of Complainant	226-402-0116	
5. Relationship of Complainant	Resident/WPLC Member	
6. Employee receiving complaint (name):	Angela McLachlan	
7. Type of complaint	Odour (Transient)	
8. Nature of complaint (details): Driving home from Strathroy (down Confed) could smell strong odour outside town limits, could still smell on Front St. but not as strong. (at 1:30 p.m.)		
9. Precipitation: Yes No	10. Wind Direction: NE	
11. Precipitation Type & Amount: N/A	12. Wind Speed:8 kmh	

<ul><li>4. Where the complaint was for odours, was:</li><li>a) An odour suppression system available for use at the site?</li><li>b) The suppression system operational?</li></ul>	⊠ Yes □ No ⊠ Yes □ No
3. If the site-specific nuisance control equipment/procedures were not describe the problem and when it was corrected:	t operational
2. If yes, describe (Ex. high winds creating litter, unusual waste strear etc):	m creating odours,
1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	🗌 Yes 🖂 No

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Gas techs report there are six leaking wells that require attention. This is a continuation of a project to seal off penetration points in the Landfill to improve gas capture. The next step is installing gas collection headers to all casings in Cell 4. This project will take some time to complete
  - Reviewed weather conditions, Gas operations, and site conditions; nothing abnormal noted

2. When were these actions taken (date/time): October 3, 2022 @ 2:55 p.m.

# 3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• connection of gas wells is a scheduled activity based on fill volumes and cell construction. The project is currently on schedule; however, this is a large task that will take several months to complete.

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.		
Date and time complainant was contacted to	provide details	
of the investigation and to describe any corre-	ctive and/or	October 4, 2022 @ 1:45
preventative measures:		p.m.
Who contacted the complainant (name/title):	Angela McLachlan/Envtal Compl. Mgr.	
How was the complainant contacted?	Phone	
Complainant Response:		
No Response at this time.		

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	October 4, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-042	
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203	
Does a condition of the C. of A./Permit require this complaint log		
be (tick those that apply):		
a) Retained on site	$\boxtimes$	
b) Submitted to the Environment Ministry	$\boxtimes$	
<ul><li>c) Summarized for inclusion in a Report (monthly,</li></ul>	$\boxtimes$	
quarterly, annual)		
Note: it is the Site Manager's responsibility to ensure compliance with C. of A./Permit conditions.		

#### **B. SUMMARY**

B. COMMAN		
1. Date and Time of Complaint	October 3, 2022 @ 10:17 p.m.	
2. Name of Complainant	Danielle Maes	
3. Address of Complainant	Not provided	
4. Telephone Number of Complainant	Not provided	
5. Relationship of Complainant	Resident	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Odour	
8. Nature of complaint (details):		
Just writing again in regards to the smell of the Watford dump No windows are even open tonight and		
you can smell the dump. I understand weather can play a factor but it's a calm cool night and I'm sure		
lots of people are growing sick of this ongoing issue.		
	<u> </u>	
9. Precipitation: Yes No	10. Wind Direction: NE	
11. Precipitation Type & Amount: 12. Wind Speed: 4 kmh		

### **C. INVESTIGATION**

1. Were there any unusual events/occurrences around the time of	
the complaint that may have contributed to the complaint?	🗌 Yes 🔀 No
2. If yes, describe (Ex. high winds creating litter, unusual waste strea	am creating odours
etc):	

N/A

3. If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A

🛛 Yes 🗌 No

No

Yes

 $\boxtimes$ 

4. Where the complaint was for odours, was:

a) An odour suppression system available for use at the site?

b) The suppression system operational?

1. What actions were taken to resolve the source of the complaint.

#### Describe:

- Reviewed weather conditions, Gas operations, and site conditions; nothing abnormal noted
- Gas techs report there are six leaking wells that require attention. This is a continuation of a project to seal off penetration points in the Landfill to improve gas capture. The next step is installing gas collection headers to all casings in Cell 4. This project will take some time to complete

2. When were these actions taken (date/time): October 3, 2022 @ 10:24 p.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• connection of gas wells is a scheduled activity based on fill volumes and cell construction. The project is currently on schedule; however, this is a large task that will take several months to complete.

### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.			
Date and time complainant was contacted to provide details October 4, 2022 @ 2:01			
of the investigation and to describe any correct	ctive and/or	p.m.	
preventative measures:			
Who contacted the complainant (name/title):	Angela McLac	hlan/Envtal Protection	
How was the complainant contacted?	Email		
Complainant Response:			
No response at this time			

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	October 4, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-043	
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203	
Does a condition of the C. of A./Permit require this complaint log		
be (tick those that apply):		
a) Retained on site	$\boxtimes$	
b) Submitted to the Environment Ministry	$\boxtimes$	
c) Summarized for inclusion in a Report (monthly,	$\boxtimes$	
quarterly, annual)		
Note: it is the Site Manager's responsibility to ensure compliance with C. of A./Permit conditions.		

### **B. SUMMARY**

1. Date and Time of Complaint	October 11, 2022 @ 8:45 p.m.	
2. Name of Complainant	Bernie Davidson	
3. Address of Complainant	5215 First School Rd.	
4. Telephone Number of Complainant	519-384-4590	
5. Relationship of Complainant	Resident	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Odour (Transient)	
8. Nature of complaint (details):		
Driving down Zion, could smell Landfill		
9. Precipitation: Yes No	10. Wind Direction: S	
11. Precipitation Type & Amount: N/A	12. Wind Speed:	
	14 kmh	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	🗌 Yes 🔀 No
2. If yes, describe (Ex. high winds creating litter, unusual waste streatetc):	am creating odours,
3. If the site-specific nuisance control equipment/procedures were no describe the problem and when it was corrected:	ot operational
<ul><li>4. Where the complaint was for odours, was:</li><li>a) An odour suppression system available for use at the site?</li><li>b) The suppression system operational?</li></ul>	⊠ Yes □ No ⊠ Yes □ No

1. What actions were taken to resolve the source of the complaint. Describe:

- Reviewed weather conditions, Gas operations, and site conditions; nothing abnormal noted
- WM is currently working on a continuation of a project to seal off penetration points in the Landfill to improve gas capture. The next step is installing gas collection headers to all casings in Cell 4. This project will take some time to complete

#### 2. When were these actions taken (date/time): Ongoing

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• connection of gas wells is a scheduled activity based on fill volumes and cell construction. The project is currently on schedule; however, this is a large task that will take several months to complete

### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.		
Date and time complainant was contacted to	orovide details	
of the investigation and to describe any corrective and/or		October 12, 2022 @ 1:04
preventative measures:		p.m.
Who contacted the complainant (name/title):	Angela McLachlan/Envtal Compl Mgr.	
How was the complainant contacted?	Phone	
Complainant Response:		
Thank you for the call, no additional comments.		

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	October 12, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-044
Certificate of Approval/Permit Number for site:	A032203
(If none, go to Section B)	
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
<ul> <li>b) Submitted to the Environment Ministry</li> </ul>	$\boxtimes$
<ul><li>c) Summarized for inclusion in a Report (monthly,</li></ul>	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with C. of A./Per	rmit conditions.

### **B. SUMMARY**

1. Date and Time of Complaint	October 16, 2022 @ 6:22 p.m.		
2. Name of Complainant	Betsy Rombouts		
3. Address of Complainant	570 Gold St.		
4. Telephone Number of Complainant	519-383-3178		
5. Relationship of Complainant	Resident/WPLC Member		
6. Employee receiving complaint	Angela McLachlan		
(name):			
7. Type of complaint	litter		
8. Nature of complaint (details):			
-noticed a lot of litter at the Zion Line and Nauvoo Rd Intersection.			
9. Precipitation: Yes No N/A	10. Wind Direction: N/A		
11. Precipitation Type & Amount:	12. Wind Speed: N/A		

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Operations Manager went out first thing 10/17 to investigate observed minimal litter (mattress fluff and pieces of paper) at intersection, to be collected that morning.

2. When were these actions taken (date/time): October 16, 2022 @ 6:28 p.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• Continue to follow Litter BMP

### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide		
the details of the investigation, and to describe any corrective/preventative actions taken.		
Date and time complainant was contacted to	provide details	
of the investigation and to describe any corrective and/or		October 17, 2022 @ 9:10
preventative measures:		a.m.
Who contacted the complainant (name/title):	Angela McLac	hlan
How was the complainant contacted?	Phone	
Complainant Response:		

....there was a fair amount of debris along Nauvoo from Zion Line to the first detour sign on the east side of the road too;

1 5	Angela McLachlan Environmental Compliance Manager
Date completed:	October 17, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-045
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
b) Submitted to the Environment Ministry	$\boxtimes$
<ul><li>c) Summarized for inclusion in a Report (monthly,</li></ul>	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with C, of A./Pe.	rmit conditions.

## **B. SUMMARY**

1. Date and Time of Complaint	October (27)/28, 2022 @ (12:29 p.m.)/10 a.m.	
2. Name of Complainant	Betsy Rombouts	
3. Address of Complainant	570 Gold St.	
4. Telephone Number of Complainant	519-383-3178	
5. Relationship of Complainant	Resident/WPLC Member	
6. Employee receiving complaint (name):	Angela McLachlan	
7. Type of complaint	litter	
<ul> <li>8. Nature of complaint (details):</li> <li>-noticed a lot of litter at the Zion Line and Nauvoo Rd Intersection againfelt the clean up job the first time was completely unacceptable</li> </ul>		
9. Precipitation: Yes No N/A	10. Wind Direction: N/A	
11. Precipitation Type & Amount: 12. Wind Speed: N/A		

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	] Yes 🛛 No	
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream etc): N/A</li> </ol>	creating odours,	
<ol> <li>If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A</li> </ol>		
4. Where the complaint was for odours, was:		
a) An odour suppression system available for use at the site?	🖂 Yes 🗌 No	
b) The suppression system operational?	🛛 Yes 🗌 No	

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Operations Manager went out to investigate
  - Two Labourers were dispatched

2. When were these actions taken (date/time): October 27, 2022 @12:35 p.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• Continue to follow Litter BMP

#### E. FOLLOW-UP

Note: where complainant contact information is provide the details of the investigation, and to describe any con		
Date and time complainant was contacted to provide details		October 28 @ 3:15 p.m.
of the investigation and to describe any corrective and/or preventative measures:		(October 27 @ 2:43 p.m.)
Who contacted the complainant (name/title):	Angela McLachlan	
How was the complainant contacted?	Phone	
Complainant Response:		
Ok		

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	October 28, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-046
Certificate of Approval/Permit Number for site:	A032203
(If none, go to Section B)	
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
<ul> <li>b) Submitted to the Environment Ministry</li> </ul>	$\boxtimes$
<ul> <li>c) Summarized for inclusion in a Report (monthly,</li> </ul>	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with C. of A./Pe	rmit conditions.

### **B. SUMMARY**

1. Date and Time of Complaint	October 31, 2022 @ 11:47 a.m.
2. Name of Complainant	Betsy Rombouts
3. Address of Complainant	570 Gold St.
4. Telephone Number of Complainant	519-383-3178
5. Relationship of Complainant	Resident/WPLC Member
6. Employee receiving complaint	Angela McLachlan
(name):	
7. Type of complaint	Odour (Transient)
0 Neture of completet (details):	

8. Nature of complaint (details):

-...I just drove by Landfill on Nauvoo and there was a very strong unpleasant odour starting at the laneway and almost up to the 402. Last night I came by shortly after eight and it was the worst smelling stench that I've every smelled from there, started at Zion line and it went all the way to the cemetery. When I got home in town I didn't smell it anymore.....

9. Precipitation: Yes No	10. Wind Direction: SSE/SE
11. Precipitation Type & Amount: 0.8mm/N/A	12. Wind Speed: 17 kmh/12 kmh

<ol> <li>Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?</li> </ol>	🗌 Yes 🖂 No
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste strea etc):</li> <li>N/A</li> </ol>	m creating odours,
<ol> <li>If the site-specific nuisance control equipment/procedures were no describe the problem and when it was corrected: N/A</li> </ol>	ot operational
4. Where the complaint was for odours, was:	
a) An odour suppression system available for use at the site?	🖂 Yes 🗌 No
b) The suppression system operational?	🖂 Yes 🗌 No

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Reviewed weather conditions, Gas operations, and site conditions; nothing abnormal noted
  - WM is currently working on a continuation of a project to seal off penetration points in the Landfill to improve gas capture. The next step is installing gas collection headers to all casings in Cell 4. This project will take some time to complete

2. When were these actions taken (date/time): October 31, 2022 @ 11:57 a.m.

# 3. What measures have been employed or will be employed to prevent any future reoccurrence? Describe:

• connection of gas wells is a scheduled activity based on fill volumes and cell construction. The project is currently on schedule; however, this is a large task that will take several months to complete

## E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.			
Date and time complainant was contacted to p of the investigation and to describe any correct preventative measures:		October 31, 2022 @ 12:30 p.m.	
Who contacted the complainant (name/title):	Angela McLac	hlan	
How was the complainant contacted?	Phone		
Complainant Response: Thx. Angela. I will pass this message and information on to the concerned public.			

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	October 31, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-047
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log be (tick those that apply): a) Retained on site b) Submitted to the Environment Ministry c) Summarized for inclusion in a Report (monthly, guarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with C. of A./Pe.	rmit conditions.

### **B. SUMMARY**

1. Date and Time of Complaint	October 31, 2022 @ 5:55 p.m.	
2. Name of Complainant	Sharron Bourret	
3. Address of Complainant	575 Front St.	
4. Telephone Number of Complainant	519-902-7542	
5. Relationship of Complainant	Resident	
6. Employee receiving complaint	WM Public Comment System	
(name):		
7. Type of complaint	Odour	
8. Nature of complaint (details):		
-odour from the Landfill last several months, could smell it October 30 th at 2 a.m.		
9. Precipitation: Yes No N/A	10. Wind Direction:ESE	
11. Precipitation Type & Amount:	12. Wind Speed: 8 kmh	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	] Yes 🔀 No	
2. If yes, describe (Ex. high winds creating litter, unusual waste stream etc):	creating odours,	
3. If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected:		
4. Where the complaint was for odours, was:		
a) An odour suppression system available for use at the site?	🖂 Yes 🗌 No	
b) The suppression system operational?	🛛 Yes 🗌 No	

## ECTIVE ACTION

D. CORRECTIVE ACTION
<ol> <li>What actions were taken to resolve the source of the complaint. Describe:</li> </ol>
<ul> <li>Reviewed weather conditions, Gas operations, and site conditions; nothing abnormal noted</li> <li>WM is currently working on a continuation of a project to seal off penetration points in the Landfill to improve gas capture. The next step is installing gas collection headers to all casings in Cell 4. This project will take some time to complete</li> </ul>
2. When were these actions taken (date/time): November 1, 2022 @ 8:36 a.m.
3. What measures have been employed or will be employed to prevent any future reoccurrence? Describe:
• connection of gas wells is a scheduled activity based on fill volumes and cell construction. The project is currently on schedule; however, this is a large task that will take several months to complete
• provided direct contact information, to address timely reporting

## E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.			
Date and time complainant was contacted to p of the investigation and to describe any correct preventative measures:		November 1, 2022 @ 9:03 a.m.	
Who contacted the complainant (name/title):	Angela McLac	chlan	
How was the complainant contacted?	Telephone		
Complainant Response:			
Thanked for call, and glad to know there is a reason and it is being addressed			

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	November 1, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-048
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
b) Submitted to the Environment Ministry	$\boxtimes$
c) Summarized for inclusion in a Report (monthly,	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permi	it conditions.

### **B. SUMMARY**

1. Date and Time of Complaint	November 7, 2022 @ 8:19 p.m.
2. Name of Complainant	Megan Cattrysse
3. Address of Complainant	419 Huron St.
4. Telephone Number of Complainant	519-384-5125
5. Relationship of Complainant	Resident
6. Employee receiving complaint	Angela McLachlan
(name):	
7. Type of complaint	Odour
8. Nature of complaint (details):	
I live in Watford and the dump ha	s smelt for a couple hours now.
9. Precipitation: Yes No	10. Wind Direction: NNW/NNE/N
11. Precipitation Type & Amount: N/A	12. Wind Speed: 9-6-5 kmh

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	′es 🖂 No
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream creatc):</li> <li>N/A</li> </ol>	eating odours,
3. If the site-specific nuisance control equipment/procedures were not ope describe the problem and when it was corrected: N/A	rational
<ul><li>4. Where the complaint was for odours, was:</li><li>a) An odour suppression system available for use at the site?</li><li>b) The suppression system operational?</li></ul>	⊠ Yes □ No ⊠ Yes □ No

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Reviewed weather conditions, Gas operations, and site conditions; nothing abnormal noted
  - WM is currently working on a continuation of a project to seal off penetration points in the Landfill to improve gas capture. The next step is installing gas collection headers to all casings in Cell 4. This project will take some time to complete
- 2. When were these actions taken (date/time): November 7, 2022 @ 8:20 p.m.
- 3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• connection of gas wells is a scheduled activity based on fill volumes and cell construction. The project is currently on schedule; however, this is a large task that will take several months to complete

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.		
of the investigation and to describe any corrective and/or 9:56 a.m.		November 8, 2022 @ 9:56 a.m.
preventative measures: Who contacted the complainant (name/title):	Angela McLac	hlan
How was the complainant contacted?	Phone	llall
Complainant Response:		
• Thx.		

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	November 8, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-049
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
b) Submitted to the Environment Ministry	$\boxtimes$
c) Summarized for inclusion in a Report (monthly,	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with C. of A./Pe	rmit conditions.

### **B. SUMMARY**

1. Date and Time of Complaint	November 8, 2022 @ 8:33 a.m.
2. Name of Complainant	Bernie Davidson
3. Address of Complainant	5215 First School Rd.
4. Telephone Number of Complainant	519-384-4590
5. Relationship of Complainant	Resident
6. Employee receiving complaint	Angela McLachlan
(name):	
7. Type of complaint	Odour
8. Nature of complaint (details):	
Could smell Landfill at house	
9. Precipitation: Yes No	10. Wind Direction: ENE
11. Precipitation Type & Amount: N/A	12. Wind Speed:8 kmh

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	🗌 Yes 🔀 No
2. If yes, describe (Ex. high winds creating litter, unusual waste stream etc):	n creating odours,
3. If the site-specific nuisance control equipment/procedures were not describe the problem and when it was corrected:	operational
4. Where the complaint was for odours, was:	
a) An odour suppression system available for use at the site?	🛛 Yes 🗌 No
b) The suppression system operational?	🖂 Yes 🗌 No

1. What actions were taken to resolve the source of the complaint. Describe:

- Reviewed weather conditions, Gas operations, and site conditions; nothing abnormal noted
- WM is currently working on a continuation of a project to seal off penetration points in the Landfill to improve gas capture. The next step is installing gas collection headers to all casings in Cell 4. This project will take some time to complete

2. When were these actions taken (date/time): November 8, 2022 @ 9:40 a.m.

- 3. What measures have been employed or will be employed to prevent any future reoccurrence? Describe:
  - connection of gas wells is a scheduled activity based on fill volumes and cell construction. The project is currently on schedule; however, this is a large task that will take several months to complete

### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide		
the details of the investigation, and to describe any corrective/preventative actions taken.		
Date and time complainant was contacted to	provide details	
of the investigation and to describe any corrective and/or		November 8, 2022 @
preventative measures:		9:44 a.m.
Who contacted the complainant (name/title):	Angela McLac	chlan/Envtal Compl Mgr.
How was the complainant contacted?	Phone	
Complainant Response:		
Thanks		

Form completed by: Name: Title:	Angela McLachlan Environmental Compliance Manager
Date completed:	November 8, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-050
Certificate of Approval/Permit Number for site:	A032203
(If none, go to Section B)	
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
b) Submitted to the Environment Ministry	$\boxtimes$
c) Summarized for inclusion in a Report (monthly,	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with C. of A./Pe	ermit conditions.

### **B. SUMMARY**

November 11, 2022 @ 9:28 a.m.		
Betsy Rombouts		
570 Gold St.		
519-383-3178		
Resident/WPLC Member		
Angela McLachlan		
Odour (Transient)		
just driving down there Nauvoo past landfill and onto Zion there's a strong odour		
trance heading north, and down Zion line		
10. Wind Direction: SE		
12. Wind Speed: 17 kmh		

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?       □ Yes ⊠ No
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream creating odours, etc):</li> <li>N/A</li> </ol>
<ol> <li>If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A</li> </ol>
<ul> <li>4. Where the complaint was for odours, was:</li> <li>a) An odour suppression system available for use at the site?</li> <li>b) The suppression system operational?</li> <li>C Yes □ No</li> <li>C Yes □ No</li> </ul>

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Reviewed weather conditions, Gas operations, and site conditions; nothing abnormal noted
  - WM is currently working on a continuation of a project to seal off penetration points in the Landfill to improve gas capture. The next step is installing gas collection headers to all casings in Cell 4. This project will take some time to complete

2. When were these actions taken (date/time): November 11, 2022 @ 9:33 a.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• connection of gas wells is a scheduled activity based on fill volumes and cell construction. The project is currently on schedule; however, this is a large task that will take several more weeks to complete

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.			
Date and time complainant was contacted to provide details of the investigation and to describe any corrective and/or		November 11, 2022	
preventative measures:			
Who contacted the complainant (name/title):	Angela McLac	hlan	
How was the complainant contacted?	Phone		
Complainant Response:			
No Response			

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	November 11, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-051a
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
b) Submitted to the Environment Ministry	$\boxtimes$
c) Summarized for inclusion in a Report (monthly,	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with C, of A/Pe	rmit conditions.

## **B. SUMMARY**

1. Date and Time of Complaint	November 11, 2022 @ 5:34 p.m.	
2. Name of Complainant	Martina Jackson	
3. Address of Complainant	537 Gold Street	
4. Telephone Number of Complainant	N/A	
5. Relationship of Complainant	Resident	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Odour (Transient)	
8. Nature of complaint (details):		
5:33pm		
Nov 11 2022		
Driving into Watford past the waste management site. Landfill Smell so strong that it was		
making us nauseated and burning our noses		
9. Precipitation: Yes No	10. Wind Direction: ESE	
11. Precipitation Type & Amount: N/A	12. Wind Speed: 1 kmh	

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	] Yes 🖂 No
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream cetc):</li> <li>N/A</li> </ol>	creating odours,
<ol> <li>If the site-specific nuisance control equipment/procedures were not or describe the problem and when it was corrected: N/A</li> </ol>	perational
4. Where the complaint was for odours, was:	
a) An odour suppression system available for use at the site?	🛛 Yes 🗌 No
b) The suppression system operational?	🛛 Yes 🗌 No

- 1. What actions were taken to resolve the source of the complaint.
  - WM is currently working on a continuation of a project to seal off penetration points in the Landfill to improve gas capture. The next step is installing gas collection headers to all casings in Cell 4. This project will take some time to complete
- 2. When were these actions taken (date/time): November 11, 2022 @ 5:41 p.m.
- 3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• Connection of gas wells is a scheduled activity based on fill volumes and cell construction. The project is currently on schedule; however, this is a large task, that will take several more weeks to complete

## E. FOLLOW-UP

Note: where complainant contact information is provide the details of the investigation, and to describe any con		
Date and time complainant was contacted to provide details		November 11, 2022 @
of the investigation and to describe any corrective and/or preventative measures:		5:49 p.m.
Who contacted the complainant (name/title):	Angela McLachlan (Environmental Compliance Manager)	
How was the complainant contacted?	Email	
Complainant Response:		
No Response at this time		

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	November 11, 2022

## A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-051b
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
b) Submitted to the Environment Ministry	$\boxtimes$
<ul><li>c) Summarized for inclusion in a Report (monthly,</li></ul>	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permi	t conditions.

### **B. SUMMARY**

1. Date and Time of Complaint	November 11, 2022 @ 5:46 p.m.	
2. Name of Complainant	Bonnie Ross	
3. Address of Complainant	N/A	
4. Telephone Number of Complainant	Not provided	
5. Relationship of Complainant	Not provided	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint	Odour (Transient)	
8. Nature of complaint (details):		
Just drove by the dump at 5:35 pm today, November 11th and it stinks so bad. It is very potent		
tonight. I was on Nauvoo heading south and it started around Zion and continued into town.		
The worst of it was between Zion and the main entrance of the dump!		

9. Precipitation: Yes XNo	10. Wind Direction: ESE
11. Precipitation Type & Amount: N/A	12. Wind Speed: 1 kmh

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	] Yes 🔀 No
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream etc):</li> <li>N/A</li> </ol>	creating odours,
<ol> <li>If the site-specific nuisance control equipment/procedures were not o describe the problem and when it was corrected: N/A</li> </ol>	perational
4. Where the complaint was for odours, was:	
a) An odour suppression system available for use at the site?	🖂 Yes 🗌 No
b) The suppression system operational?	🖂 Yes 🗌 No

#### D. CORRECTIVE ACTION

- 1. What actions were taken to resolve the source of the complaint.
  - Describe:
    - WM is currently working on a continuation of a project to seal off penetration points in the Landfill to improve gas capture. The next step is installing gas collection headers to all casings in Cell 4. This project will take some time to complete

2. When were these actions taken (date/time): November 11, 2022 @ 5:57 p.m.

# 3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• Connection of gas wells is a scheduled activity based on fill volumes and cell construction. The project is currently on schedule; however, this is a large task, that will take several more weeks to complete

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.			
Date and time complainant was contacted to provide details November 11, 202			
of the investigation and to describe any corrective and/or		6:03 p.m.	
preventative measures:			
Who contacted the complainant (name/title):	Angela McLachlan/Envtal Compl Mgr.		
How was the complainant contacted?	Email		
Complainant Response:			
No Response at this time			

#### F. FORM COMPLETION

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	November 11, 2022

#### COMPLAINT LOG (FO-02)

#### A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-052
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
b) Submitted to the Environment Ministry	$\boxtimes$
c) Summarized for inclusion in a Report (monthly,	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Permi	t conditions.

#### **B. SUMMARY**

1. Date and Time of Complaint	November 26, 2022 @ 11:01 a.m.
2. Name of Complainant	Amanda Gubbels
3. Address of Complainant	Township of Warwick
4. Telephone Number of Complainant	519-849-3926
5. Relationship of Complainant	CAO/Clerk Township
6. Employee receiving complaint	Angela McLachlan
(name):	
7. Type of complaint	Litter
8. Nature of complaint (details):	
Litter on the North Side of the Landfill.	
9. Precipitation: Yes No	10. Wind Direction: N/A
11. Precipitation Type & Amount: N/A	12. Wind Speed: N/A
	·

#### C. INVESTIGATION

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	] Yes 🖂 No
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream etc):</li> <li>N/A</li> </ol>	creating odours,
3. If the site-specific nuisance control equipment/procedures were not o describe the problem and when it was corrected: N/A	perational
<ul><li>4. Where the complaint was for odours, was:</li><li>a) An odour suppression system available for use at the site?</li><li>b) The suppression system operational?</li></ul>	⊠ Yes □ No ⊠ Yes □ No

#### D. CORRECTIVE ACTION

<ol> <li>What actions were taken to resolve the source of the complaint. Describe:</li> </ol>
Operations Manager contacted
Dispatched litter collection
2. When were these actions taken (date/time): November 26, 2022 @ 11:09 a.m.
3. What measures have been employed or will be employed to prevent any future reoccurrence? Describe:
<ul> <li>Continue to comply with the conditions of the ECA and the Litter BMP</li> </ul>

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide			
the details of the investigation, and to describe any corrective/preventative actions taken.Date and time complainant was contacted to provide details of the investigation and to describe any corrective and/orNovember 28, 2022 @ 11:38 a.m.			
preventative measures: Who contacted the complainant (name/title): Angela McLachlan/Envtal Compl Mgr.			
How was the complainant contacted? Email			
Complainant Response:			
No Response at this time			

#### **F. FORM COMPLETION**

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	November 28, 2022

#### A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-053
Certificate of Approval/Permit Number for site:	A032203
(If none, go to Section B)	
Does a condition of the ECA/Permit require this complaint log be	
(tick those that apply):	
a) Retained on site	$\boxtimes$
<ul> <li>b) Submitted to the Environment Ministry</li> </ul>	$\boxtimes$
c) Summarized for inclusion in a Report (monthly,	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with C. of A./Pe	rmit conditions.

#### **B. SUMMARY**

1. Date and Time of Complaint	November 27, 2022 @ 1:46 p.m.	
2. Name of Complainant	Mac Parker	
3. Address of Complainant	9077 Egremont Rd.	
4. Telephone Number of Complainant	(519) 339-9444	
5. Relationship of Complainant	Resident	
6. Employee receiving complaint	Angela McLachlan	
(name):		
7. Type of complaint Odour (Transient)/Site Access		
8. Nature of complaint (details):		
As I was driving south on Nauvoo Rd on Nov. 27th at 9.15 am there was a very strong odour coming from the		
Landfill. The weather was light rain with an east wind		
The main gate was open at this time. On the same day at 11.15 am driving north on Nauvoo rd the odour was not as strong, and the main gate was still		
open, also the gate on Zion Line was open.		
WM has to do a better job controlling the odour issues The evening of November 24th at 9pm driving on Egremont		
Rd directly N,NE of landfill, again very strong odour with a wind direction from the South West		
9. Precipitation: Yes No 10. Wind Direction: 11/27/22-9 a.m.ESE /11 a.m.		
	NE//11/24/22-SE	
11. Precipitation Type & Amount: N/A	12. Wind Speed: 11/27/22-9 a.m. 9 kmh/11 a.m. 12	
	kmh//11/24/22-11 kmh	

#### **C. INVESTIGATION**

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?□ Yes ⊠ No	
<ol> <li>If yes, describe (Ex. high winds creating litter, unusual waste stream creating odo etc): N/A</li> </ol>	urs,
3. If the site-specific nuisance control equipment/procedures were not operational describe the problem and when it was corrected: N/A	
<ul> <li>4. Where the complaint was for odours, was:</li> <li>a) An odour suppression system available for use at the site?</li> <li>b) The suppression system operational?</li> <li>C Yes</li> </ul>	] No ] No

#### D. CORRECTIVE ACTION

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - WM is currently working on a continuation of a project to seal off penetration points in the Landfill to improve gas capture. The next step is installing gas collection headers to all casings in Cell 4. This project will take some time to complete
  - Notified Operations Manager regarding maintaining gates in closed access during non-operating hours

#### 2. When were these actions taken (date/time): November 27, 2022 @ 2:23 p.m.

# 3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

- Connection of gas wells is a scheduled activity based on fill volumes and cell construction. The project is currently on schedule; however, this is a large task, that will take several more weeks to complete
- Litter collection occurring on site have reminded during non-operating hours must close gates while on site

#### E. FOLLOW-UP

Note: where complainant contact information is provided, all complainants must be contacted to provide the details of the investigation, and to describe any corrective/preventative actions taken.		
Date and time complainant was contacted to provide details of the investigation and to describe any corrective and/or		November 28, 2022 @ 11:46 a.m.
preventative measures:		
Who contacted the complainant (name/title): Angela McLachlan		hlan
How was the complainant contacted?	Email	
Complainant Response:		
No response at this time.		

#### F. FORM COMPLETION

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	November 28, 2022

#### COMPLAINT LOG (FO-02)

#### A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-054
Certificate of Approval/Permit Number for site: (If none, go to Section B)	A032203
Does a condition of the C. of A./Permit require this complaint log be (tick those that apply):	
<ul> <li>a) Retained on site</li> <li>b) Submitted to the Environment Ministry</li> <li>c) Summarized for inclusion in a Report (monthly,</li> </ul>	
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with C. of A./Pe	rmit conditions.

#### **B. SUMMARY**

1. Date and Time of Complaint	December 6, 2022 @ 9:28 a.m.
2. Name of Complainant	Bernie Davidson
3. Address of Complainant	5215 First School Rd.
4. Telephone Number of Complainant	519-384-4590
5. Relationship of Complainant	Resident
6. Employee receiving complaint	Angela McLachlan
(name):	
7. Type of complaint	Odour
8. Nature of complaint (details):	
Could smell Landfill at house	
9. Precipitation: Yes 🛛 No	10. Wind Direction: ESE
11. Precipitation Type & Amount: N/A	12. Wind Speed:5 kmh

#### **C. INVESTIGATION**

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	🗌 Yes 🔀 No
2. If yes, describe (Ex. high winds creating litter, unusual waste stream etc):	n creating odours,
3. If the site-specific nuisance control equipment/procedures were not describe the problem and when it was corrected:	operational
4. Where the complaint was for odours, was:	
a) An odour suppression system available for use at the site?	🛛 Yes 🗌 No
b) The suppression system operational?	🖂 Yes 🗌 No

#### D. CORRECTIVE ACTION

1. What actions were taken to resolve the source of the complaint. Describe:

- Reviewed weather conditions, Gas operations, and site conditions; nothing abnormal noted
- Operations Manager, Gas Operations Manager immediately investigated- did not detect any Landfill odour other than on Nauvoo Rd outside Landfill
- Environmental Compliance Manager (10 a.m.) investigated noted a mild odour not landfill related on Nauvoo (burning smell), could detect faint garbage odour at entrance gate of Landfill

2. When were these actions taken (date/time): December 6, 2022 @ 9:30 a.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• Continue to follow conditions of ECA

#### E. FOLLOW-UP

Note: where complainant contact information is provide the details of the investigation, and to describe any con		
Date and time complainant was contacted to p	provide details	
of the investigation and to describe any correct	ctive and/or	December 6, 2022 @
preventative measures:		12:47 p.m.
Who contacted the complainant (name/title):	Angela McLac	hlan/Envtal Compl Mgr.
How was the complainant contacted?	Phone	
Complainant Response:	·	
It was the Landfill, has to travel to get to their	house, on a fie	ld trip, thanks.

#### **F. FORM COMPLETION**

Form completed by: Name: Title:	Angela McLachlan Environmental Compliance Manager
Date completed:	December 6, 2022

#### COMPLAINT LOG (FO-02)

#### A. ADMINISTRATIVE

Complaint Number (year-number, Ex. 2001-001):	2022-055
Certificate of Approval/Permit Number for site:	A032203
(If none, go to Section B)	
Does a condition of the C. of A./Permit require this complaint log	
be (tick those that apply):	
a) Retained on site	$\boxtimes$
b) Submitted to the Environment Ministry	$\boxtimes$
c) Summarized for inclusion in a Report (monthly,	$\boxtimes$
quarterly, annual)	
Note: it is the Site Manager's responsibility to ensure compliance with ECA/Perm	nit conditions.

#### **B. SUMMARY**

1. Date and Time of Complaint	December 8, 2022 @ 8:15 p.m.
2. Name of Complainant	Stephanie Cattrysse (Verhooven)
3. Address of Complainant	1150 Mullifarry Dr., Adelaide Metcalfe
4. Telephone Number of Complainant	519-636-9587
5. Relationship of Complainant	Township Staff
6. Employee receiving complaint	Angela McLachlan
(name):	
7. Type of complaint	Odour
8. Nature of complaint (details):	
It is moonlight madness and I am in tow	n and can smell the landfill
9. Precipitation: Yes No	10. Wind Direction: N
11. Precipitation Type & Amount: N/A	12. Wind Speed: 2 kmh

#### **C. INVESTIGATION**

1. Were there any unusual events/occurrences around the time of the complaint that may have contributed to the complaint?	🗌 Yes 🔀 No
2. If yes, describe (Ex. high winds creating litter, unusual waste strea etc): N/A	m creating odours,
3. If the site-specific nuisance control equipment/procedures were no describe the problem and when it was corrected: N/A	ot operational
<ul><li>4. Where the complaint was for odours, was:</li><li>a) An odour suppression system available for use at the site?</li><li>b) The suppression system operational?</li></ul>	⊠ Yes □ No ⊠ Yes □ No

#### D. CORRECTIVE ACTION

- 1. What actions were taken to resolve the source of the complaint. Describe:
  - Completed verification as required by the D&O
  - WM is currently working on a continuation of a project to seal off penetration points in the Landfill to improve gas capture. The next step is installing gas collection headers to all casings in Cell 4. This project will take some time to complete

2. When were these actions taken (date/time): December 8, 2022 @ 8:18 p.m.

3. What measures have been employed or will be employed to prevent any future reoccurrence?

Describe:

• Connection of gas wells is a scheduled activity based on fill volumes and cell construction. The project is currently on schedule; however, this is a large task, that will take several more weeks to complete

#### E. FOLLOW-UP

Note: where complainant contact information is provide the details of the investigation, and to describe any cor		
Date and time complainant was contacted to p of the investigation and to describe any correct preventative measures:		December 13, 2022 @ 11:46 a.m.
Who contacted the complainant (name/title):	Angela McLac	hlan
How was the complainant contacted?	Phone	
Complainant Response:		
No response at this time		

#### **F. FORM COMPLETION**

Form completed by: Name:	Angela McLachlan
Title:	Environmental Compliance Manager
Date completed:	December 13, 2022

# APPENDIX Q



# 2022 ANNUAL OPERATIONS REPORT: PER CONDITION 15.7 OF WASTE ECA NO. A032203

RWDI AIR Inc. Consulting Engineers & Scientists 4510 Rhodes Drive – Suite 530 Windsor Ontario Canada N8W 5K5 T: 519.974.7384 F: 519.823.1316



© RWDI AIR Inc. ("RWDI") ALL RIGHTS RESERVED This document is intended for the sole use of the party to whom it is addressed and may contain information that is privileged and/or confidential. If you have received this in error, please notify us immediately. Accessible document formats provided upon request. @ RWDI name and logo are registered trademarks in Canada and the United States of America

rwdi.com



# TABLE OF CONTENTS

<b>Q1</b> .	ECA NO. A032203
Q.1.1	Condition 15.7(a)1
Q.1.2	Condition 15.7(b)1
Q.1.3	Condition 15.7(c)
Q.1.4	Condition 15.7(d)2
Q.1.5	Condition 15.7(e)2
Q.1.6	Condition 15.7(f)
Q.1.7	Condition 15.7(g)2
Q.1.8	Condition 15.7(h)
Q.1.9	Condition 15.7(i)
Q.1.10	Condition 15.7(j)
Q.1.11	Condition 15.7(k)
Q.1.12	Condition 15.7(I)
Q.1.13	Condition 15.7(m)
Q.1.14	Condition 15.7(n)
Q.1.15	Condition 15.7(o)4
Q.1.16	Condition 15.7(p)5
Q.1.17	Condition 15.7(q)5
Q.1.18	Condition 15.7(r)
Q.1.19	Condition 15.7(s)7
Q.1.20	Condition 15.7(t)7
Q.1.21	Condition 15.7(u)7
Q.1.22	Condition 15.7(v)
Q.1.23	Condition 15.7(w)9



Q.1.24 Condition 15.7(x)	9
Q.1.25 Condition 15.7(y)	10
Q.1.26 Condition 15.7(z)	10

#### Q.2 AMENDED AIR ENVIRONMENTAL COMPLIANCE APPROVAL NO. 4155-BMCLZ8..10

Condition 110
Condition 2.110
Condition 2.211
Condition 2.3
Conditions 3.1 to 3.13
Conditions 4.1 to 4.2
Conditions 6.1 to 6.11
Conditions 7.1 to 7.5
Conditions 8.1 to 8.4
Conditions 9.1 and 11 12
PERMIT TO TAKE WATER NO. 4682-BLJRYJ12
EAA MONITORING AND ANNUAL REPORTING
Condition 512
Condition 613
Condition 713



This Annual Operations Report for the 2022 reporting year for the Waste Management of Canada Corporation's (WM) Twin Creeks Environmental Centre (Site) is submitted as part of Volumes 1 and 2 of the 2022 Fourth Quarter and Annual Monitoring Report (2022 Annual Report) and in accordance with the regulatory approvals noted below.

- Amended Environmental Compliance Approval (ECA) No. A032203, dated February 4, 2023. It is noted that during the 2022 calendar year, WM was required to conform to the ECA dated December 19, 2020 (Waste ECA).
- Amended ECA for Industrial Sewage Works No. 2403-BE6LZ4, dated August 21, 2019 (Sewage ECA).
- Amended ECA for Air No. 4155-BMCLZ8, dated March 3, 2020 (Air ECA).
- Permit-To-Take-Water (PTTW) No. 4682-BLJRYJ, dated November 8, 2021, for the removal of surface water from four (4) Sedimentation Ponds and the dewatering of the Secondary Drainage Layer (SDL) for the Expansion Site.
- MECP Letter entitled "Request for Modification to Surface Water Monitoring/Assessment Process at Twin Creeks Landfill, dated February 27, 2014 (2014 MECP Letter).

# Q1. ECA NO. A032203

The following subsections address the annual reporting requirements per Condition 15.7 of the Waste ECA.

# Q.1.1 Condition 15.7(a)

Leachate, groundwater, surface water, and subsurface landfill gas monitoring results for 2022 are discussed in detail in **Sections 1 to 5 of Volume 1** of the 2022 Annual Report. No subsurface landfill gas migration was observed in 2022. Ambient air quality monitoring that was completed is discussed in detail within the Volume 4 of the 2022 Annual Report. Noise monitoring was also completed and is discussed in Volume 5 of the 2022 Annual Report.

## Q.1.2 Condition 15.7(b)

The existing and constructed engineered facilities on the Site during 2022 were effective in their respective functions. Changes to the designs of the existing engineered facilities on the Site or the implementation of remedial measures are not warranted. The implementation of contingency measures was not required in 2022.

Design specifications are provided under Items 66 to 68 in Schedule A of the Waste ECA, namely, the report titled *"Development and Operations Plans – Warwick Landfill Expansion (Volumes 1 to 3)"*, as prepared by Henderson Paddon & Associates and dated March 2008 (D&O Report). The D&O Report recognizes that periodic leachate heads in excess of 0.3 metres (m) on the landfill liner (Condition 7.18 of the Waste ECA) will occur after severe precipitation events. Leachate levels within pumping stations PS1, PS3, PS5, and PS7, satisfied the cell base 0.3 m head leachate level target elevation in 2022, with one (1) exception at PS7 on September 29, 2022, where the leachate elevation exceeded the 0.3 m of head by 0.01 m.



Details related to measured maximum level sensor readings for the above dates are provided in **Table F6** of **Appendix F.** Of note, the elevations referenced above satisfied the relevant trigger leachate elevations to maintain hydraulic containment as required (Condition 14.1 of the Waste ECA).

Details are also provided in Section 4.1.2 of Volume 1 of the 2022 Annual Report.

# Q.1.3 Condition 15.7(c)

The expanded Poplar System was operational from May 11 to October 11, 2022. Per the Waste ECA, the last approved day to apply irrigation liquid to the Poplar System is October 15. During 2022, approximately 7,172.57 m³ of leachate was applied to the expanded Poplar System. Monitoring of the Poplar System in 2022 included the required routine monitoring requirements, in consideration of the operational dates of the system. Details are presented in the **Volume 3** of the 2022 Annual Report.

# Q.1.4 Condition 15.7(d)

Per Condition 8.6(1) of the Waste ECA, the on-Site leachate treatment facility was not constructed or operated in 2022.

# Q.1.5 Condition 15.7(e)

A detailed Site Contour Plan, as prepared by WSP Canada Inc., was updated to late December 2022 and is presented as **Figure Q-1** of Volume 2 of the 2022 Annual Report (WSP Canada Inc. Drawing No. 106716U-801).

## Q.1.6 Condition 15.7(f)

During 2022, landfilling of waste and contaminated soil occurred in Cell 4 and Cell 6A.

## Q.1.7 Condition 15.7(g)

During 2023, it is anticipated that landfilling of waste is scheduled to continue to occur in Phase 3 (Cell 1 and Cell 2), Cell 4, Cell 6A, and Cell 6B when constructed. Upon completion of the landfill liner system of Cell 6 (Cell 6B), it is anticipated that landfilling of waste is scheduled to occur in Cell 6B (approximately September 2023). It is also possible that waste filling will occur in Cell 1 and Cell 2 in 2023. Contaminated soil is anticipated to be disposed in the active portions of the Expansion Site. Contaminated soil may also be disposed in Cell 12 of the Existing Site, if a large enough demand for disposal of contaminated soil is required. Cell 12 is currently on idle status. Of note, contaminated soil must meet the 10% toxicity characteristic leachate procedure (TCLP) criteria for acceptable disposal into Cell 12. Contaminated soil that is placed on the Expansion Site sideslopes as daily and/or final cover must also meet the 10% TCLP criteria. Contaminated soil used for daily cover is only used where precipitation runoff would not be directed to a surface water drainage course (i.e. an outside sideslope).



# Q.1.8 Condition 15.7(h)

During 2022, the Cell 6B pre-excavation activities related to the future construction of the Cell 6B landfill liner system of the Expansion Site were initiated.

# Q.1.9 Condition 15.7(i)

Cover placement activities during 2022 consisted of intermediate cover placement on the southern, eastern and western sideslopes of Cell 1 and on the northern, eastern and western sideslopes of Cell 2. Cell 4 also received intermediate cover placed along the eastern and northern sideslopes during 2022. Both Cell 1 and Cell 2 had interim cover placed on the relative "flat-top".

## Q.1.10 Condition 15.7(j)

There are no pre-existing Site facilities of significance to report.

## Q.1.11 Condition 15.7(k)

Completed facilities/infrastructure at Twin Creeks Environmental Centre during 2022 consisted of the following.

- Cell 6A landfill liner system of the Expansion Site.
- Cell 6B pre-excavation activities related to the future construction of the Cell 6B landfill liner system.
- Installation of Expansion Site pumping stations PS7 and PS8.
- Conversion of existing manhole (MH3SB) of the leachate the collection system within Cell 3S into leachate pumping station (MH3SB/PS).
- Widening of Screening Berm 'D' and ditch realignment on the north side of Street 'D' along the north end of the Site.

# Q.1.12 Condition 15.7(I)

Planned Site construction activities in 2023 are anticipated to consist of the following.

- Select stages of the expansion of the horizontal gas extraction system in Cell 4.
- Construction of the Cell 6B landfill liner system.
- Potential resurfacing of select internal paved roads.

There are no surface water stations scheduled to be constructed or established during the 2023 monitoring period.



# Q.1.13 Condition 15.7(m)

Based on the quarterly GPS surveys conducted by WSP Canada Inc. (Owen Sound, ON) for the Site, the total volume of waste and daily cover material consumed within the Expansion Site during the survey period from December 13, 2021, to December 21, 2022, was approximately 1,442,422 cubic metres (m³). This represents approximately 5.4% of the total approved air space volume available for the Existing and Expansion Sites combined (Existing Site: 2,917,371 m³ + Expansion Site: 23,590,629 m³).

## Q.1.14 Condition 15.7(n)

Based on the GPS surveys of the Site completed in 2022, and an estimated daily cover amount of 15% of the total volume of waste plus daily cover (12,187,253 m³), approximately 10,359,165 m³ of waste was placed within the Expansion Site as of December 21, 2022, since landfilling began in late 2009. The total tonnage of waste received at Expansion Site as of December 21, 2022 was approximately 10,785,799 T. For calculating the remaining Site Life for the Twin Creeks Environmental Centre, an approximate calculated waste density of 1,041 kg/m³ was used (based on average waste density since 2009: 10,785,799 T/9,343,377 m³ = 1.041 T/m³).

Assuming WM will landfill an average of approximately 1,400,000 T of waste per year of the approved 1,400,000 T of waste per year and achieve a waste density of 1,041 kg/m³, the remaining landfill Site Life is approximately 8.5 years.

Site Life =  $\frac{11,403,376 \text{ m}^3}{1,344,623 \text{ m}^3/\text{yr}}$  = 8.5 years

In addition, as of December 21, 2022, a total of 15,104,624 m³ (Existing Site: 2,917,371 m³ + Expansion Site: 12,187,253 m³) of air space (without cap) was consumed of the 26,508,000 m³ of available air space (without cap). This represents approximately 57.0% of the total approved air space volume available for waste for the Existing and Expansion Sites combined. Therefore, the remaining total approved air space volume available for waste filling is 43.0% of the permitted volume.

# Q.1.15 Condition 15.7(o)

Between January 1 and December 31, 2022, a total of 57,393.88 m3 of leachate was managed, of which 50,221.31 m3 of leachate was removed and transported off-Site for treatment and disposal at the Chatham Water Pollution Control Plant, while 7,172.57 m³ was irrigated onto the Poplar system during the 2022 growing season. Details regarding the 2022 Poplar System irrigation activities are discussed in **Volume 3** of the 2022 Annual Report.

Of the 57,393.88 m3 noted above, the approximate breakdown of leachate source location between the Existing Site and the Expansion Site is 23% (13,047.34 m3) and 77% (44,346.54 m3), respectively. This breakdown is based on the leachate source distribution which incorporates the separate approximate volumes of leachate extracted from the Existing Site (38% of area) and Expansion Site (62% of area) for either off-site disposal of stronger strength leachate (i.e. Expansion Site leachate) or storage of weaker strength leachate (i.e. Existing Site leachate) for use as irrigation liquid to the Poplar System during the 2022 growing season.



A breakdown of the leachate volume treated in 2022 is presented in **Section 4.1.3 of Volume 1** of the 2022 Annual Report.

# Q.1.16 Condition 15.7(p)

Detailed in **Table Q-1** of Volume 2 of the 2022 Annual Report are the weekly summaries and total annual waste disposed at the Site during 2022. Original commodity reports are maintained on file. The maximum daily tonnage received at the Site during 2022 was on February 10th at 7,370.58 tonnes (T). In 2022, the total amount of waste received at the Site was 1,391,172.38 T, of which 74,108.67 T was contaminated soil and 1,299.36 T was waste from the Township of Warwick public drop off bins.

## Q.1.17 Condition 15.7(q)

Where complaints were received during the 2022 monitoring period, Waste Management completed the required steps in response. This included logging the complaint, completing the appropriate investigated into the potential source of the complaint, any required corrective action or mitigation and complainant follow up, as well as filing a formal complaint log (**Complaint Log**). The **Complaint Log** includes the above noted steps and is distributed to the MECP and other relevant stakeholders. The relevant **Complaint Logs** are detailed in **Appendix P of Volume 2** of the 2022 Annual Report.

In 2022, WM received a total of 73 complaints (68 for odour, 4 for litter, 1 for trackout of clay soil material, and 1 for the site entrance gates being open during non-operating hours). It is noted that one (1) of the odour complaints and the complaint regarding the open site entrance gates were submitted to WM as one (1) complaint. Of the 73 complaints received, they represented a total of 56 complaint driven events, which occurred on 52 separate days. Of the 56 complaint driven events, 50 of the events were related to odour, four (4) were related to litter, one (1) was related to trackout of clay soil material, and one (1) was related to the site entrance gates being open during non-operating hours.

#### Odour

Of the 50 odour events, 18 were documented from 26 discrete physical locations such as a residence or commercial building. The other 32 odour events were transient (drive-by) occurrences in which the complainant observed an odour while in transit along a road near to the Site.

WM has reviewed the odour related complaints that were received during the 2022 operating period to assess for any trends and to identify corrective actions, as required. Of the odours that were identified as being related to Site operations, it was determined that the majority of the odours that were associated with the Site were related to infrequent odourous loads of waste being landfilled, temporary power outages to the landfill gas (LFG) collection system or a LFG well observed to be releasing LFG to the atmosphere. In addition, odours related to Site operations are in part, attributable to Early Vertical Gas Wells (EVGWs) that are not yet connected to the landfill gas system for their first horizontal connection, although they are connected to the system at the base of the EVGW. Construction operation to connect the EVGWs of Cell 4C to the landfill gas collection system began in early February 2023, with construction anticipated to conclude March 15, 2023. Construction operations to connect the EVGWs of Cell 4B to the landfill gas collection system is expected to begin (shortly after the completion of the interconnection for Cell 4C), with construction anticipated to conclude by April 15, 2023.



In response to each power outage, WM would promptly focus their efforts to regain power to the LFG collection system. In response to each instance where a LFG well was observed to be releasing LFG to the atmosphere, WM would promptly have the LFG well repaired.

For odours not related to Site operations, it is noted that, upon completing investigations following receiving some of the complaints, WM made note of off-Site odours such as agricultural odours, skunk odour, biosolids that were being stockpiled off of Nauvoo Road, near the Highway 402. There were also a number of occurrences of temperature inversion in which odours are more easily trapped closer to ground surface than higher in the atmosphere.

#### Litter

WM has reviewed the litter related complaints that were received to assess for any trends and to identify corrective actions, as required. Of, the litter that was identified as being related to Site operations, it was determined that it was either a result of trackout from the waste hauling trucks leaving Site or windblown litter during high winds. In response to each litter complaint, WM would promptly have the litter cleaned up.

#### Trackout

WM has reviewed the complaint related to the trackout of clay soil material to assess for any trends and to identify corrective actions, as required. It was determined that the trackout of clay soil material was a result of waste hauling trucks leaving Site. In response to the trackout complaint, WM continued to follow their Best Management Practices (Dust) which includes having the material cleaned from off the surface of the internal asphalt/concrete roads, as well as the off-Site acceleration lane heading north to Hwy 402.

#### General

WM has reviewed the complaint related to the site entrance gates being open during non-operating hours. In response the complaint, WM reminded their staff and sub-contractors of maintaining the Site entrance gates in closed access during non-operating hours.

Details are also provided in Section 10 of Volume 1 of the 2022 Annual Report.

## Q.1.18 Condition 15.7(r)

No operational problems were observed during the 2022 monitoring period, other than detailed above for power outages and pump maintenance tasks needed for PS1, PS3, PS5, and PS7.

Minor cap repairs were undertaken on the Existing Site in response to the total hydrocarbon (THC) Survey completed in the fall of 2022. A follow-up inspection indicated that the repair was effective and THC was no longer detected at elevated concentrations in that area. Details relating to the air quality findings, as well as cap repair is provided in **Section 6.1.1** of Volume 1, and within Volume 4 of the 2022 Annual Report.

# Q.1.19 Condition 15.7(s)

Financial assurances have been provided to the Ministry of the Environment, Conservation and Parks (MECP) Director, as required. Details are maintained on file with WM and the MECP. Per Condition 2.1 of the amended Waste ECA dated December 19, 2020, WM provided financial assurance in a form acceptable to the MECP Director, which by March 31, 2022, was in the amount of \$35,256,829.00, with the next scheduled FA posting adjustment occurring by March 31, 2023.

# Q.1.20 Condition 15.7(t)

Each monitoring well on-Site complies with Ontario Regulation 903. Monitoring wells are labeled, capped, encased in a steel protective casing, and locked. Monitoring wells near vehicle access routes are also marked with 4" X 4" wooden protective/warning posts, which are painted yellow. Monitoring wells were generally noted to be in good condition during the 2022 monitoring period.

It is noted that the groundwater quality at monitoring well OW69-5 at the Site continued to show elevated boron concentrations in 2022. The boron concentrations are interpreted to be an early indication of the bentonite seal moving into the screened interval of the monitoring well. A similar trend of periodic infrequent spikes in boron concentrations is evident at OW46-7, which is also likely a result of bentonite moving into the filter pack of the monitoring well. It is likely that, similar to observations for monitoring well OW58-14, the bentonite seal for these locations is likely moving into the filter screen material of the monitoring well, and as such may require decommissioning and replacement in the future depending on chemical results.

The 2022 monitoring well and gas probe installation/decommissioning status summary is provided in **Appendix M** of **Volume 2** of the 2022 Annual Report. For monitoring wells that were active in 2022, the borehole logs are presented in **Appendix D** and monitoring well construction details are summarized in **Table F-1**, **Appendix F**, of **Volume 2** of the 2022 Annual Report.

# Q.1.21 Condition 15.7(u)

Additional information was requested from WM by the MECP local office. The submitted information is summarized below.

- PTTW records (as listed in the five bullet points below) for MECP review, submitted February 17, 2022.
  - $\circ$   $\,$  Water taking records for 2020 and 2021.
  - $\circ$   $\quad$  Water pump, holding tank, and water taking volume calculation information.
  - Water conservation measures.
  - Frequency at which the Expansion Site Secondary Drainage Layer is sampled.
  - Verification of what the SDL source is that is listed in Table A in PTTW No. 4682-BLJRYJ, dated November 8, 2021.
- In follow up to the 2022 Fourth Quarter & Annual Monitoring Report, the information in the following two bullet points was submitted.



- Request for Groundwater Quality Assessment Modification Removal of Chloride as a Primary Leachate Indicator List Parameter for Monitoring Well OW81-7, dated April 29, 2022.
- Further explanation on the 2021 PS5 liquid level elevations, submitted March 23, 2022.
- Total Suspended Solids (TSS) Action Plan Development, dated April 29, 2022.
- Evaluation of the area of the surface water drainage network where surface water passes through the culvert under Berm 'D' and discharges into the southern roadside ditch of Zion Line, submitted on May 5, 2022.
- Daily Cover Abatement Plan, dated July 2, 2022.
- Automobile Shredder Residue (ASR) Abatement Plan, dated August 11, 2022.
  - Additional information regarding the speed limit for the waste hauling trucks as they leave the landfill workface as well as ongoing cleanup of ASR material tracked out of the Site, submitted on August 28, 2022.
- Activities regarding the shutdown of the Poplar Irrigation System on October 6, 2022, after a small amount of irrigation liquid had ponded in a tire rut, just outside the western limit of the Poplar Irrigation System, submitted on October 7, 2022.
- TSS Action Plan, dated October 31, 2022.
  - Additional information submitted November 13, 2022, regarding sediment loading to the ponds and how that will be evaluated and corrected during the execution of the TSS Action Plan.
- Information on how WM manages leachate levels within the Primary Drainage Layer of the Expansion Site, submitted on November 13, 2022.

# Q.1.22 Condition 15.7(v)

The Site was operated from January 1 to December 31, 2022, in conformance with the regulatory approvals noted below.

- Amended Environmental Compliance Approval (ECA) No. A032203, dated February 4, 2023. It is noted that during the 2022 calendar year, WM was required to conform to the ECA dated December 19, 2020 (Waste ECA).
- Amended ECA for Industrial Sewage Works No. 2403-BE6LZ4, dated August 21, 2019 (Sewage ECA).
- Amended ECA for Air No. 4155-BMCLZ8, dated March 3, 2020 (Air ECA).
- Permit-To-Take-Water (PTTW) No. 4682-BLJRYJ, dated November 8, 2021, for the removal of surface water from four (4) Sedimentation Ponds and the dewatering of the Secondary Drainage Layer (SDL) for the Expansion Site.
- MECP letter entitled "Request for Modification to Surface Water Monitoring/Assessment Process at Twin Creeks Landfill", dated February 27, 2014, (2014 MECP Letter).



# Q.1.23 Condition 15.7(w)

Inspections at the Site were conducted by WM and/or RWDI in 2022 in accordance with Conditions 6.17, 6.31, 6.32, 7.11, 8.7, 9.1, 9.2, 9.3, and 9.6 of the Waste ECA. No notable issues were observed by WM during 2022. Inspections of the watercourses during each precipitation monitoring event (typically after  $\ge$  10 mm of rain in a 24-hr period between 08:00 and 08:00 hrs) were completed by RWDI and indicated acceptable conditions. Except as discussed above in **Section Q.1.20**, where relevant, monitoring wells and maintenance holes were in acceptable condition. Findings from the MECP monthly inspections are summarized in the MECP Inspection Reports in **Appendix N** of Volume 2 of the 2022 Annual Report.

#### Q.1.24 Condition 15.7(x)

During 2022, WM collected 66.02 T of recyclable material as summarized in the following table. The material consisted of recyclable goods such as paper, cardboard, metal, glass, and plastics.

Month	Total Metric Tonnes
January	9.13
February	4.51
March	1.41
April	5.23
Мау	5.13
June	3.22
July	1.38
August	12.29
September	14.07
October	0.90
November	7.32
December	1.43
Total	66.02

WM also actively uses recycled products on-Site where possible, including crushed building materials for aggregate road base for internal haul roads within the waste disposal cells. No compost material was received, processed, or used at the Site during 2022.



# Q.1.25 Condition 15.7(y)

No changes in operations, equipment, or procedures were implemented at the Site during 2022 as a result of corrective actions. The relevant requirements of the Waste, Air, and Sewage ECA's, as well as the PTTW, were satisfied in 2022.

# Q.1.26 Condition 15.7(z)

No recommended changes are proposed for the operations of the Site in 2023, with the exception of the implementation of the infrastructure noted in **Section Q.1.12**.

# Q.2 AMENDED AIR ENVIRONMENTAL COMPLIANCE APPROVAL NO. 4155-BMCLZ8

Although the flare became operational on November 18, 2009, the flare was unable to run for more than 4 consecutive days until February 2010, due to the limited gas volume generated from the Existing Site. The Expansion Site was connected to the landfill gas extraction, collection, and flaring system (Gas Facility) in 2012, with horizontal wells that had been installed in Cell 1A – Stage 1 in 2011. Further horizontals were installed and connected in 2012. Additionally, the horizontal gas collection system – Elevation A, within Cell 1B – Stage 1 and 2 was installed in 2013. During 2013 through 2021 the early vertical gas extraction wells were installed progressively through Cell 2A through 4C, with Cell 2A through 4A connected to the landfill gas extraction system. In 2015 and 2017 vertical gas extraction wells were installed in Cell 1, with these wells connected to the landfill gas extraction system. In late 2017 the landfill gas utilization project for redirecting landfill gas to the neighbouring farm for use in its greenhouse operations was completed. Outlined in the following subsections are the requirements for the annual performance reporting per the Air ECA.

# Q.2.1 Condition 1

The third enclosed flare system of the Gas Facility was not scheduled for installation in 2022 and therefore, notification to the MECP District Manager one (1) month prior to the expected date of installation was not required in 2022.

## Q.2.2 Condition 2.1

Noise emissions from the Gas Facility are detailed in Volume 5 of the 2022 Annual Report and generally comply with the limits set in MECP Publication NPC-205.

TWIN CREEKS ENVIRONMENTAL CENTRE 2022 FOURTH QUARTER & ANNUAL MONITORING REPORT RWDI#2202861.01 APPENDIX Q



## Q.2.3 Condition 2.2

Testing of the emergency diesel generators was completed as required between 07:00 and 19:00 hours. Documentation is maintained on file by WM.

## Q.2.4 Condition 2.3

The flare was operated at greater than 875°C at a point representing a minimum retention time of 0.7 seconds. Documentation is maintained on file by WM.

#### Q.2.5 Conditions 3.1 to 3.13

The flare was operated by trained WM personnel in accordance with the Flare Operation Manual. The Flare Operation Manual is maintained at the Gas Facility for reference. Flare operation records are maintained on file by WM.

#### Q.2.6 Conditions 4.1 to 4.2

The acoustic audit was completed on February 8, 2010, which is prior to the extended completion date of May 3, 2010, per direction from the on-Site MECP Inspector. An acoustic audit was also completed on June 20, 2013, in consideration of the landfill entering Phase 2 of construction. An acoustic audit was also completed on November 6, 2019, in consideration of the landfill entering Phase 4 of construction. An acoustic audit was also completed across the dates of August 25, August 26, and December 13, 2022, in consideration of the landfill entering Phase 6 of construction.

These audits were completed to satisfy Condition 4.1 of the Amended Environmental Compliance Approval number 4155-BMCLZ8 dated March 3, 2020. This condition requires compliance with noise criteria guidelines outlined in Ontario's Ministry of the Environment, Conservation and Parks NPC-205 document, titled "Sound Level Limits for Stationary Sources in Class 1 and 2 Areas (Urban)" (MOE, 1995). The applicable sound level limits at the receptors surrounding the facility are the Class 2 guideline limits as defined in NPC-205 (MOE, 1995). Since the flare is intended to operate 24 hours per day, impacts are assessed against the default night-time criterion of 45 dBA. The newly installed flare was compliant with guideline limits at the surrounding noise-sensitive receptors.

#### Q.2.7 Conditions 6.1 to 6.11

Required records of the Gas Facility operation are maintained by WM for a minimum of two (2) years. Records are maintained on-Site or are presented in previous years quarterly and annual reports for the Air Quality and Noise Monitoring Programs.



## Q.2.8 Conditions 7.1 to 7.5

No complaints were received by WM during 2022 related to the Gas Facility.

#### Q.2.9 Conditions 8.1 to 8.4

An application to amend the Air ECA for the Site was not required to be submitted to the MECP in 2022.

#### Q.2.10 Conditions 9.1 and 11

As the leachate treatment facility was not required to be constructed at the landfill Site per the Waste ECA (Notice No.6, dated April 4, 2014), no source testing was required for 2022.

# Q.3 PERMIT TO TAKE WATER NO. 4682-BLJRYJ

Reporting of 2022 water takings is required to be completed for Sedimentation Ponds 1 to 4 and the SDL per PTTW No. 4682-BLJRYJ, dated November 8, 2021. The water taking information collated for 2022 is submitted electronically to the Water Taking Registry System (WTRS) by March 31 following each calendar period. In 2022, water that was taken from the aforementioned ponds was used mainly for dust control for Cell 6A pre-excavation activities. The water taking volumes in 2022 at the Site satisfied the PTTW requirements and are summarized in **Section 11** of Volume 1 of the 2022 Annual Report.

# Q.4 EAA MONITORING AND ANNUAL REPORTING

In accordance with the Notice of Approval to Proceed with the Undertaking, dated January 15, 2007, in regard to the Environmental Assessment Act (EAA) approval of the Twin Creeks (formerly Warwick) Landfill Expansion, WM provides the following information.

## Q.4.1 Condition 5

The landfill site was operated from January 1 to December 31, 2022, in conformance with the regulatory documents noted below.

- Amended Environmental Compliance Approval (ECA) No. A032203, dated February 4, 2023. It is noted that during the 2022 calendar year, WM was required to conform to the ECA dated December 19, 2020 (Waste ECA).
- Amended ECA for Industrial Sewage Works No. 2403-BE6LZ4, dated August 21, 2019 (Sewage ECA).
- Amended ECA for Air No. 4155-BMCLZ8, dated March 3, 2020 (Air ECA).
- PTTW No. 4682-BLJRYJ, dated November 8, 2021, for the removal of surface water from four (4) Sedimentation Ponds and the dewatering of the Secondary Drainage Layer (SDL) for the Expansion Site.
- MECP letter entitled "Request for Modification to Surface Water Monitoring/Assessment Process at Twin Creeks Landfill", dated February 27, 2014, (2014 MECP Letter).

TWIN CREEKS ENVIRONMENTAL CENTRE 2022 FOURTH QUARTER & ANNUAL MONITORING REPORT RWDI#2202861.01 APPENDIX Q



# Q.4.2 Condition 6

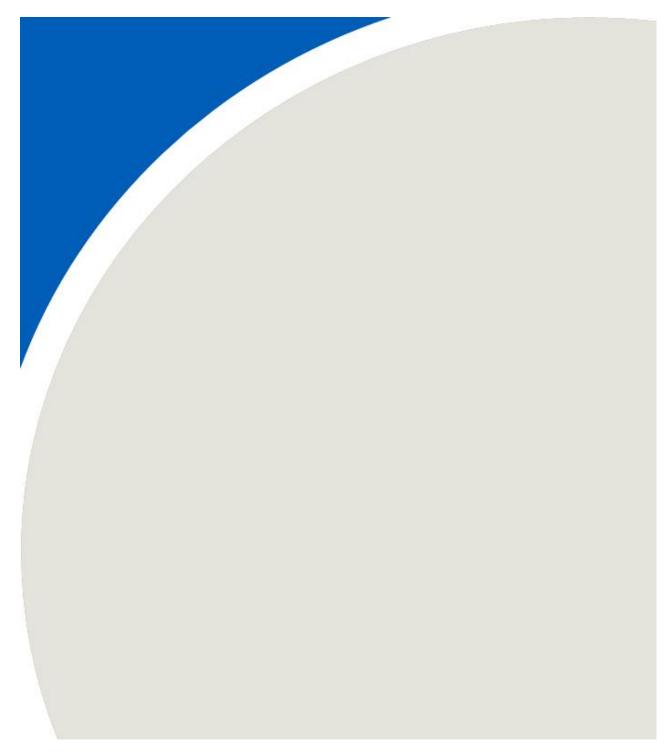
WM maintains copies of annual reports and associated documentation of compliance monitoring activities at the Site.

#### Q.4.3 Condition 7

Table Q-2 of this report and Volume 2 of the 2022 Annual Report provides a summary of the status of mitigation measures under commitment by WM as detailed in Discussion Paper No. 8, dated September 2005. Tables Q-3 and Q-4 of Volume 2 of the 2021 Annual Report indicate the status of the monitoring measures and contingency measures referred to in Exhibits 7-1 and 7-2, respectively, of the EA dated September 2005. Therefore, Conditions 5, 6, and 7 of the Site EA were satisfied for the 2022 reporting period.



# TABLES



# Table Q-1 Weekly Waste Tonnage - Twin Creeks Environmental Centre

#### Calendar Year 2022

Week Sta	art	Week En	d	Total Metric (tonnes)	Warwick Residents (tonnes)	MSW (tonnes)	Contaminated Soil
January	1	January	2	0.00	0.00	0.00	0.00
January	3	January	9	18,115.18	21.83	17,898.42	194.93
January	10	January	16	23,072.95	20.13	22,246.49	806.33
January	17	January	23	21,010.44	22.90	18,875.59	2,111.95
January	24	January	30	28,855.03	20.66	23,367.92	5,466.45
January	31	January	31	4,885.06	2.38	4,419.36	463.32
February	1	February	6	17,467.97	19.99	15,928.66	1,519.32
February	7	February	13	32,701.26	22.19	29,566.24	3,112.83
February	14	February	20	26,552.69	20.14	21,050.42	5,482.13
February	21	February	27	21,486.03	21.34	20,618.42	846.27
February	28	February	28	4,490.27	2.60	4,487.67	0.00
March	1	March	6	21,865.49	23.56	20,881.66	960.27
March	7	March	13	27,905.53	24.91	27,506.71	373.91
March	14	March	20	29,836.57	23.59	26,807.13	3,005.85
March	21	March	27	30,906.94	26.73	28,727.68	2,152.53
March	28	March	31	22,117.11	19.82	20,419.10	1,678.19
April	1	April	3	5,912.19	0.00	5,693.58	218.61
April	4	April	10	27,429.92	25.38	26,715.75	688.79
April	11	April	17	23,912.09	27.16	23,762.91	122.02
April	18	April	24	29,156.45	26.05	28,018.99	1,111.41
April	25	April	30	30,844.35	26.17	30,267.81	550.37
May	1	May	8	32,324.97	29.49	31,844.74	450.74
May	9	May	15	31,460.25	29.07	31,225.82	205.36
May	16	May	22	31,621.73	28.81	31,306.81	286.11 1.483.21
May	23	May	29	26,362.39	27.82	24,851.36	,
May	30	May	31	11,226.72	2.61 22.39	10,783.73	440.38 151.96
June	1 6	June	5 12	17,903.34	22.39	17,728.99 27,019.42	
June	13	June June	12	28,504.21 30,651.77		29,351.81	1,458.90 1,284.04
June			26		24.76		414.41
June June	20 27	June June	30	28,856.30 21,226.95	24.70	28,417.13 21,159.93	39.23
July	1	July	30	21,220.95	0.00	2,709.47	0.00
July	4	July	10	28,485.12	29.55	26,643.30	1,812.27
July	11	July	17	29,844.01	25.30	28,677.93	1,140.78
July	18	July	24	29,632.87	23.30	29,057.11	553.76
July	25	July	31	28,291.44	25.59	28,223.16	42.69
August	1	August	7	24,475.78	27.88	24,061.57	386.33
August	8	August	14	27,418.91	26.80	26,451.70	940.41
August	15	August	21	30,229.55	29.00	24,952.87	5.247.68
August	22	August	28	34,876.16	24.84	27,015.56	7,835.76
August	29	August	31	18,869.06	15.05	15,316.84	3,537.17
September	1	September	4	14,211.95	8.70	11,146.02	3,057.23
September	5	September	11	29,397.08	19.98	24,304.06	5,073.04
September	12	September	18	30,920.39	27.10	29,977.07	916.22
September	19	September	25	28,625.48	28.15	27,914.00	683.33
September	26	September	30	25,262.65	28.20	24,350.62	883.83
October	1	October	2	738.26	0.00	738.26	0.00
October	3	October	9	28,841.93	26.47	27,767.75	1,047.71
October	10	October	16	22,675.13	19.58	22,633.34	22.21
October	17	October	23	25,148.70	18.13	25,130.57	0.00
October	24	October	30	25,911.49	30.34	25,410.02	471.13
October	24	October	31	4,430.28	2.85	4,191.59	235.84
November	31	0000001					
November	1	November	6	19,073.50	26.11	18,333.30	714.09
	1 7	November November	6 13	20,926.60	26.95	20,581.73	317.92
November	1 7 14	November November November	6 13 20	20,926.60 19,946.45	26.95 27.13	20,581.73 19,453.78	317.92 465.54
November November	1 7 14 21	November November November November	6 13 20 27	20,926.60 19,946.45 21,619.66	26.95 27.13 24.03	20,581.73 19,453.78 21,335.65	317.92 465.54 259.98
November November November	1 7 14 21 28	November November November November November	6 13 20 27 30	20,926.60 19,946.45 21,619.66 12,671.56	26.95 27.13 24.03 16.32	20,581.73 19,453.78 21,335.65 12,655.24	317.92 465.54 259.98 0.00
November November November December	1 7 14 21 28 1	November November November November December	6 13 20 27 30 4	20,926.60 19,946.45 21,619.66 12,671.56 9,754.67	26.95 27.13 24.03 16.32 12.07	20,581.73 19,453.78 21,335.65 12,655.24 9,190.46	317.92 465.54 259.98 0.00 552.14
November November November December December	1 7 14 21 28 1 5	November November November November December December	6 13 20 27 30 4 11	20,926.60 19,946.45 21,619.66 12,671.56 9,754.67 22,906.62	26.95 27.13 24.03 16.32 12.07 26.14	20,581.73 19,453.78 21,335.65 12,655.24 9,190.46 22,143.60	317.92 465.54 259.98 0.00 552.14 736.88
November November December December December	1 7 14 21 28 1 5 12	November November November November December December December	6 13 20 27 30 4 11 18	20,926.60 19,946.45 21,619.66 12,671.56 9,754.67 22,906.62 21,126.32	26.95 27.13 24.03 16.32 12.07 26.14 22.75	20,581.73 19,453.78 21,335.65 12,655.24 9,190.46 22,143.60 21,091.99	317.92 465.54 259.98 0.00 552.14 736.88 11.58
November November December December December December	1 7 14 21 28 1 5 12 19	November November November November December December December December	6 13 20 27 30 4 11 18 25	20,926.60 19,946.45 21,619.66 12,671.56 9,754.67 22,906.62 21,126.32 23,041.36	26.95 27.13 24.03 16.32 12.07 26.14 22.75 29.35	20,581.73 19,453.78 21,335.65 12,655.24 9,190.46 22,143.60 21,091.99 22,928.68	317.92 465.54 259.98 0.00 552.14 736.88 11.58 83.33
November November December December December	1 7 14 21 28 1 5 12	November November November November December December December December December	6 13 20 27 30 4 11 18	20,926.60 19,946.45 21,619.66 12,671.56 9,754.67 22,906.62 21,126.32	26.95 27.13 24.03 16.32 12.07 26.14 22.75	20,581.73 19,453.78 21,335.65 12,655.24 9,190.46 22,143.60 21,091.99	317.92 465.54 259.98 0.00 552.14 736.88 11.58

Note: Total tonnes is sum of MSW and Contaminated Soil. The Warwick Resident tonnage is already accounted in the MSW value.

Discipline	Mitigation, Monitoring, and Contingency Measure	Comments
Air Quality:	Design and Operation	
ust	Increase the watering during dry conditions.	Completed as required
	Applying material such as encrusting agents to exposed areas (areas without vegetation) to reduce the amount of material that might erode during high wind events (greater than 6.0 m/s).	Completed as required
	For areas frequently disturbed (for example the daily cover area), apply water or an encrusting agent. The exposed areas should only be moistened. Over watering will increase the leachate production on-site.	Completed as required
	Post an on-site speed limit of 15 km/h to minimize the amount of dust that becomes airborne from fast vehicle 0 movements.	Completed
	t	Road finishing reduces tracking. Regular road cleaning
	Sweeping/washing of roads on external and internal haul routes and paving of road shoulders along key sections of the external route.	Completed as required
	During heavy construction periods consider increased mitigation efforts such as additional watering of haul routes and exposed areas, use of meteorological information to define appropriate conditions for construction, possible night or winter construction, additional berms around construction areas, sealing of surfaces in areas infrequently disturbed.	Completed as required
	Construct additional screening berms along the haul route. Placing a berm along the internal haul route should act as a wind block to reduce the effects of the wind on vehicles travelling along the internal haul routes.	Completed
	Consider providing adverse weather areas for construction and landfilling. The defined area should be landfilled or worked only during high wind events. The area should be located in a position that would supply adequate screening to reduce the wind effects from vehicle travel and materials being handled at the working face. Each expansion phase should allow for an inclement weather area, low-level area. These areas would be at lower elevations, sheltered from north and west winds.	Completed as required
		On-going operations procedure
	Other Measures	
	problematic, the location of the complaint, dominant wind direction and on-site activities that may have caused the complaint.	Completed
	Install an on-site meteorological station. A meteorological station can be used to provide wind data to validate complaints. This station could help minimize future complaints by relating events to on-site activities and concurrent meteorological conditions.	Completed
	Prepare a dust mitigation plan outlining all of the dust mitigation and monitoring recommendations.	Completed
	Monitoring	
	Monitor off-site particulate concentrations, particularly the PM10 and PM2.5 fractions.	Completed per AQMP
	The monitoring station should also be equipped to measure meteorological parameters such as wind speed and wind direction. This will help determine the impact related to on-site and external haul route activities. The station may also be used to validate the predicted concentrations and determine the relative conservatism within the modeling.	Completed per AQMP

Discipline	Mitigation, Monitoring, and Contingency Measure	Comments
Air Quality:	Design and Operation	
Vehicle Emissions	No mitigation measures are required.	
	Additional Measures	
	▶ While mitigation is unnecessary, the following good practices may be considered.	
	<ul> <li>Minimize the amount of time vehicles are allowed to idle when on-site.</li> </ul>	On-going operations
		procedure
	Process trucks through the scale house as quickly as possible in order to reduce the number of vehicles	On-going operations
	that are queuing and on-site.	procedure
	Report vehicles that appear to be gross polluters.	On-going operations
		procedure
Air Quality:	Design and Operation	
Landfill Gas	A thick soil cap of 2.0 m (including final cover), as provided in Draft DP#6 Site Characteristics, will provide	On-going operations
	excellent control of landfill gas emissions.	procedure
	Monitoring	
	Regularly inspect the covered landfill areas (existing and future landfill areas) to identify any fissures, cracks	On-going operations
	or erosion of the soil cover that would allow unmitigated landfill gas to escape directly to the atmosphere.	procedure
	This inspection could be undertaken with the use of a handheld portable flame ionization detector (FID)	
	capable of measuring methane in small quantities.	
	An annual monitoring program for volatile organic compounds at the property line during the worst-case,	Completed
	summer conditions.	
Air Quality:	Design and Operation	
Combustion	Although, maximum predicted concentrations from the flare emissions were predicted to be below provincial	
	limits and AAQCs, the following are recommended to maintain the system and minimize emissions.	
Emissions Landfill	Install a flame out indicator with an automatic shut-off to prevent landfill gas from flowing though the collection	Completed
Gas Flare	system during an upset condition. This control system would minimize potential adverse effects associated	
	with a flare out situation.	
	Progressively install the landfill gas collection system as the working face expands into new areas. This	On-going operations
	strategy could minimize odour problems and reduce the amount of landfill gas escaping from the landfill.	procedure
Air Quality:	Design and Operation	
Odour	Cap completed cells as quickly as possible with final soil to minimize odorous emissions from the landfilled	On-going operations
	gas.	procedure
	Conduct regular inspections of the covered fill areas to identify any fissures, cracks or erosion of the soil	On-going operations
	cover that would allow landfill gases to escape.	procedure
	▶ Progressively expand and activate the landfill gas collection and flaring system to minimize the amount of	On-going operations
	odorous landfill gas that escapes through the mound.	procedure
	Maintain the leachate collection systems, including all manholes and clean outs, under negative pressure to	Completed as required.
	minimize the amount of odorous leachate gases that escape through the system.	

Discipline	Mitigation, Monitoring, and Contingency Measure	Comments
Air Quality:	Monitoring	
Odour (Cont'd)	Develop a monitoring plan, which may include:	Completed
	<ul> <li>outlining landfill cover inspection intervals.</li> </ul>	
	methods of recording odour complaints.	
	log of mitigation work completed.	
	Develop a reporting system for odour complaints, and relate odour events to local meteorological conditions	Completed
	at the site. This system would allow WM to track and potentially validate odour complaints from the public.	
	This strategy could assist in determining the source of odours and expedite mitigation.	
Air Quality:	Design and Operation	
Blowing Litter	Recommended components of Litter Management Plan for consideration:	
J	Install portable litter fences that can be moved around the working face area to capture blowing litter on a day	Completed
	to-day basis.	
	Install permanent litter fences, downwind of the new proposed phases to capture the blowing litter for the	Completed
	predominant wind directions.	
	Routinely monitor and retrieve blowing litter around the site. This will help to minimize the amount of litter	On-going operations
	than may leave the site if not captured by the portable or permanent litter fences.	procedure
	Create an inclement weather area. This area should be designed as an inclement weather area and landfill	On-going operations
	only during high wind events. The area should be in locations where adequate screening would reduce the	procedure
	effects of the wind on blowing litter at the working face. Each expansion phase should allow for an inclement	
	weather area, low-level area, to be considered.	
Agriculture	Design and Operations	
	During design phase of road alterations, consider agricultural traffic moving along the shoulders of the	Completed
	roadway, avoiding design features that affect this equipment travel.	
	Monitoring	
	Monitor groundwater, wells and surface water for leachate contamination, on an on-going basis.	On-going
	Provide a monitoring program to identify and remove litter from neighbouring farm fields, including a spring	On-going operations
	and later summer pickup coinciding with most active farm operations.	procedure
	Contingency	
	► Any changes in surface water, quality or quantity affecting livestock can be mitigated by providing alternative	Will be implemented if
	water sources. This could involve the provision of new wells.	required
	Any tile drainage impacts or disruption of drainage outlets can be mitigated by installation of new drainage	Will be implemented if
	works.	required
Archaeology and Heritage	Design and Operations	
5	Archealogy	
	Conduct Stage 3 assessment on seven identified sites prior to start of construction. Appropriate mitigation	Completed
	measures must be evaluated and recommended in response to the results of that investigation.	

Discipline	Mitigation, Monitoring, and Contingency Measure	Comments
Economics:	Other Measures	
Community	Property Value Protection Program.	Completed
Economics:	Community Information Programs.	On-going
Impact	Develop Financing Model to assure municipality that increased municipal costs will be covered.	Completed
	Continued and expanded use of local suppliers.	On-going
	Support new business that would compliment landfill operation.	On-going
	Provide financial support to local charities/community organizations.	On-going
Hydrogeology	Design and Operations	
	None required beyond the mitigation built into site design components.	Completed
	Monitoring and Contingency	
	Pumping of Secondary Drainage Layer with treatment of water prior to disposal.	Completed as required
	► A full Environmental Monitoring and Contingency Plan will be prepared.	Completed
Landfill Gas:	Design and Operations	
Explosive	Install methane detectors in every on-site building.	Completed as required
Hazard	Equip foundations of on-site buildings with passive LFG venting systems.	Completed as construction
		progresses
	Equip all on-site manholes with appropriate explosive hazard signage.	Completed as construction
		progresses
	Monitoring	
	Install landfill gas monitoring probes at landfill boundary.	Installations completed per
		EMP landfill expansion
		progress
	Regular monitoring program for LFG probes; predetermined methane level would trigger further mitigation	On-going
	activities.	0 0
	Contingency	
	► A full inspection and monitoring plan will be prepared.	Completed
Land Use	Design and Operations	
Planning	► None required.	
5	Other Measures	
	Modify Warwick Official Plan to reflect Provincial land use standards for landfills.	Completed
	Develop a Site Plan Agreement between WM and the Township of Warwick to implement mitigation	Completed
	requirements for any potential impacts of the expansion, and thus guide its development and phasing. The	
	agreement is registered on title and would provide the framework for mitigation measures required during the	
	operating life of the landfill. Revise Zoning Bylaws to be consistent with the agreement.	

Table Q-2Mitigation, Monitoring, and Contingency Summary

Discipline		Mitigation, Monitoring, and Contingency Measure	Comments
Natural	Des	sign and Operation	
Environment	►	Mitigate all stream crossings to maintain baseline flow and down channel characteristics.	Completed as required
and Resources	►	Store treated effluent in a lagoon, discharge to surface water on seasonal and flow-weighted basis so that	Not Applicable - No
		effluent volume will not exceed 20% of stream flow during periods of discharge, and discharge volume will not	
		exceed channel capacity.	treated leachate to surface
			water will occur.
	►	Use standard procedures for management of erosion and sediment to prevent significant alteration to aquatic	Completed
		environment.	
		Provide additional planting and naturalization on the southern part of the landfill when closed.	To be completed - Poplar
			System
		Undertake potential for rehabilitation/enhancement riparian work on Brown Creek.	On-going
		Consider options for final use that allow portions of the site to be naturalized or allowed to succeed naturally,	Dog park constructed within
		or periodically (i.e., once annually or biannually) mowed.	south east portion of land ir
			2013. Public trail enhanced
			in 2016, 2017, and 2022.
		Provide long-term plan to replant forest with native locally indigenous trees and shrubs when the southern	To be completed
		part of proposed landfill is closed. Consider initiating this replanting in Phase 5 when the south face has	
		reached its maximum extent.	
		Plant native locally indigenous species on the berms.	Completed
		Consider the potential for sedimentation ponds to provide habitat for amphibians, water birds, etc.	Completed
		Transplant any False Mermaid-weed and Spotted St. Johns Wort that occur in the proposed landfill footprint,	Completed
		into suitable habitat in the forest area to be protected.	
		Develop a litter management program to minimize garbage blowing into the retained woodlots.	On-going operations
			procedure
	►	At the time when the portion of woodlot is removed, salvage useable trees for use as fuel wood.	Completed
		nitoring	
		Leachate monitoring program to determine any effects on water quality in Bear Creek.	Not Applicable - No
			discharge of leachate or
			treated leachate to surface
			water will occur.
	Cor	htingency	
			Not Applicable - No
	Ĺ	of lagoon waters.	discharge of leachate or
			treated leachate to surface
			water will occur.
		Further reduction in potential effects can be achieved with higher dilution (6:1); will require a larger storage	Not Applicable - No
		lagoon for treated leachate.	discharge of leachate or
			treated leachate to surface
			water will occur.
	$\vdash$	Appropriate spills management protocols to minimize effects of waste, chemical or leachate spills.	
		Appropriate spins management protocols to minimize enects or waste, chemical or leachate spins.	On-going operations procedure
		pagendix D of Discussion Deport #9, dated Sentember 2005	procedure

Discipline	Mitigation, Monitoring, and Contingency Measure	Comments
Noise	Design and Operation	
	► Erect a perimeter berm or acoustically equivalent barrier of some form around the site as shown on Fig	
	1-ALT 2 (Noise Impact Assessment) at the earliest feasible time in the landfill preparation stage. It sho remain in place throughout the life of the landfill.	puld
	Provide a working berm around the area where landfilling is in progress as shown in each Phase figure	and On-going as landfill expand
	<ul> <li>Figure 4 (Noise Impact Assessment).</li> <li>When landfilling in phases 1, 10 and 11 provide maximum feasible barrier effect to protect the closest receptors. In those phases landfilling should start where shown on Figure 8-1-ALT 2, Figure 8-10-ALT.</li> </ul>	On-going 2 and
	<ul> <li>Figure 8-11-ALT 2 and move in the direction specified (Noise Impact Assessment).</li> <li>Noise emission levels from landfilling equipment should not exceed the levels in Table 8-1 (Noise Assessment).</li> </ul>	On-going operations procedure.
	<ul> <li>Locate site and acoustically shield all wood chipping, tire shredding and crushing of concrete and asphatthat those operations will not produce noise impacts in excess of the levels predicted.</li> </ul>	1
	Provide queuing area inside the premises behind a berm, so truck heaters or air conditioners can run w noise impact while waiting.	vithout Completed
	Other Measures	
	Limit any equipment activity, such as removing daily cover to prepare for landfilling or placing daily cover landfilling during night-time hours, as specified in the Noise Assessment Report. In Phase 11, limit was receipt times such that no equipment activities at the working face are required during night-time hours	ste procedure
	Subject any proposed changes to the operating plan or noise sources to review of acoustic implications acoustical engineer.	s by an On-going
	Selection of back-up warnings should include the objective of minimal noise impact that is commensural with safety. If beepers are used it is recommended that they be installed down low to ensure maximum barrier attenuation at distant receptors, and selection of models at the low end of the noise emission rais should be considered.	procedure
	Consider prohibiting use of engine brakes in specified zones.	Completed
	Implement a maintenance program to ensure minimal unnecessary noise - squeals, bangs, rattles, exh from vehicles and machinery and from broken road surfaces.	
	Provide noise reduction measures where there are predicted exceedances of interior noise guidelines of increase in traffic; particularly residences along CR79 north of Zion Line. Combined baseline and landf traffic indicates need for air conditioning and possibly acoustic insulation for closest residences and for	due to To be completed as require

Discipline	Mitigation, Monitoring, and Contingency Measure	Comments
Social	Impact Management Recommendations:	
	Property Value Protection Program.	Completed
		Completed
		Completed as required
	Community Impact Management Measures such as:     F	Part of Community
	support of economic activity in adjacent Industrial Park.	Commitment
		Agreement (CCA)
	<ul> <li>complaints/dispute resolution/small claims compensation process.</li> </ul>	
		On-going
	Consideration of additional impact management suggestions made by community.	On-going
Transportation	Design and Operation	
		Completed
	Lift intersections at off and on ramps of Hwy 402 and County Road 79 to improve sight distances.	Completed
	Provide for signalization at Highway 402 north on/off at County Road 79.	Not required
	Southbound left turn lane at CR79 site access.	Completed
	Northbound right turn lane at CR 79 site access.	Completed
	Northbound acceleration lane at CR79 site access.	Completed
	Provide an inspection and cleaning lay-by on-site near the site's egress, where drivers and/or WM employees 0	On-going operations
	can safely inspect and clean off (if necessary) any mud picked up while traveling through the site. Visitors to p the expanded landfill (both commercial and private) as well as WM will share in this responsibility.	procedure
	Other Measures	
		Completed
Visual	Design and Operation	•
	A) Landfill and Site	
		On-going operations procedure
	<ul> <li>removal of south berm at County Road 39. Replace with evergreen trees (1.5 m o.c.) to include extension C along west property line of south property.</li> </ul>	Completed
	<ul> <li>natural shaping of the ponds should be explored. This would allow for easy incorporation as an amenity for future end use.</li> </ul>	Completed
	return berms at vehicular entrances or re-align entrance roads to minimize direct views into the site from Zion Line.	Completed
		Completed
	<ul> <li>gas combustion chamber and equalization storage tank to be painted a dark colour to minimize light reflection</li> </ul>	
		Completed
	County Road 79 berm to be shifted to allow ±10.0 m setback property line and the toe of the berm. The	Completed
	height is to be increased to 7.0 m.	

Discipline	Mitigation, Monitoring, and Contingency Measure	Comments
Visual	B) Landscape	
(Cont'd)	<ul> <li>extend large caliper tree planting (±3.0 m height) along east property line of north property.</li> </ul>	Completed
	<ul> <li>uniformly planted evergreen and deciduous trees along the Zion Line berm.</li> </ul>	Completed
	<ul> <li>naturalized planting (woodland extension) for berm along the County Road 79 (refer to Figure 7-45). This will also enhance the gateway approach to the village.</li> </ul>	Completed
	<ul> <li>evergreen tree installation at the property line of the adjacent cemetery.</li> </ul>	Completed
	<ul> <li>woodland rehabilitation at southwest corner of expansion area.</li> </ul>	Completed
	<ul> <li>evergreen trees at gas management and leachate treatment facilities.</li> </ul>	To be completed
	<ul> <li>naturalization of soil stockpile (outside face).</li> </ul>	On-going
	Brown Creek rehabilitation planting.	On-going
	Monitoring	
	► On-going visual impact monitoring program should be considered. Series of photographs would be assessed	On-going
	for discrepancies between built conditions and anticipated conditions defined in the report.	
	Contingency Plans	
	augmentation of the on-site measures to ensure consistency with design intent.	To be completed
	additional off-site mitigation options including:	Part of the CCA
	roadside tree planting within the municipal road allowance.	
	tree planting within private properties.	
	screen fencing within private properties.	

Table Q-3 Monitoring Measures Summary

Type of	Status	Status
Monitoring Landfill	Amount of wasta/contaminated call tangage each day, weak, year	On-going weekly summary in Table Q-1
	Amount of waste/contaminated soil tonnage each day, week, year. Annual (or more frequent) survey of landfill mound.	Completed annually
Operations	Amount of landfill with interim cover, final cap, vegetation.	Documented in Section Q.1.9
		Documented in Section Q.1.17
	Complaints, action taken, response.	
Ctonneton	New Cells constructed.	Documented in Section Q.1.8
Stormwater	On-site Ditches (selected locations).	On-going
Management	Stormwater Pond Contents.	On-going
	Stormwater Pond Discharge.	On-going
	Downgradient Stream Locations.	On-going
	Upgradient Stream Location (if applicable).	On-going
	At Weather Station on Site.	On-going
	Wind direction and velocity.	On-going
	Precipitation.	On-going
	Temperature.	On-going
Groundwater	Pumping of secondary Drainage Layer with treatment of water prior to disposal.	Will be completed as required.
	A full Environmental Monitoring and Contingency Plan will be prepared.	Completed
Leachate	Leachate monitoring program to determine any effects on water quality in Bear Creek.	Direct discharge not
Treatment		applicable. Monitoring on-going
	Monitor off-site particulate concentrations, particularly the PM10 and PM2.5 fractions.	On-going
	The monitoring station should also be equipped to measure meteorological parameters such as wind speed and	Completed
	wind direction. This will help determine the impact related to on-site and external haul route activities. The station	
	may also be used to validate the predicted concentrations and determine the relative conservatism within the	
	modeling.	
	Regularly inspect the covered landfill areas (existing and future landfill areas) to identify any fissures, cracks or	Completed
	erosion of the soil cover that would allow for unmitigated landfill gas to escape directly to the atmosphere. This	
	inspection could be undertaken with the use of a handheld portable flame ionization detector (FID) capable of	
	measuring methane in small quantities.	
Air Quality	An annual monitoring program for volatile organic compounds at the property line during the worst-case, summer	Completed
	conditions.	
	Develop a monitoring plan, which may include:	Completed
	outlining landfill cover inspection intervals.	
	methods of recording odour complaints.	
	log of mitigation work completed.	
	Develop a reporting system for odour complaints, and relate odour events to local meteorological conditions at the	Completed
	site. This system would allow WM to track and potentially validate odour complaints from the public. This strategy	Completed
	could assist in determining the source of odours and expedite mitigation.	
Litter	Routine monitoring and retrieving escaped litter.	On-going operations procedure
Gas	Install landfill gas monitoring probes, as required, at landfill boundary.	On-going per EMP as landfill progresse
	Regular monitoring program for LFG probes; predetermined methane level would trigger further mitigation activities.	On-going per EMP as landfill progresse
Agriculture	Monitor groundwater, wells and surface water for leachate contamination, on an on-going basis.	On-going per EMP as landfill progresse
Agriculture	Provide a monitoring program to identify and remove litter from neighbouring farm fields, including a spring and later	On-going operations procedure
	summer pickup coinciding with most active farm operations.	Shi-going operations procedule
Visual	Summer pickup coinciding with most active farm operations. On-going visual impact monitoring program should be considered. Series of photographs would be assessed for	
		On-going
	discrepancies between built conditions and anticipated conditions.	

Note: Table based on Exhibit 7-1 of Environmental Assessment document, dated September 2005.

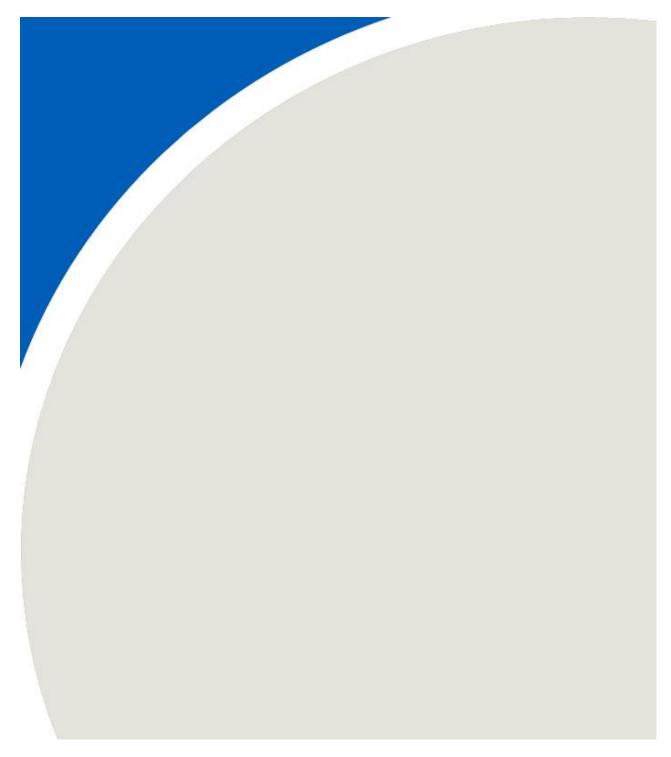
#### Table Q-4 Contingency Measures Summary

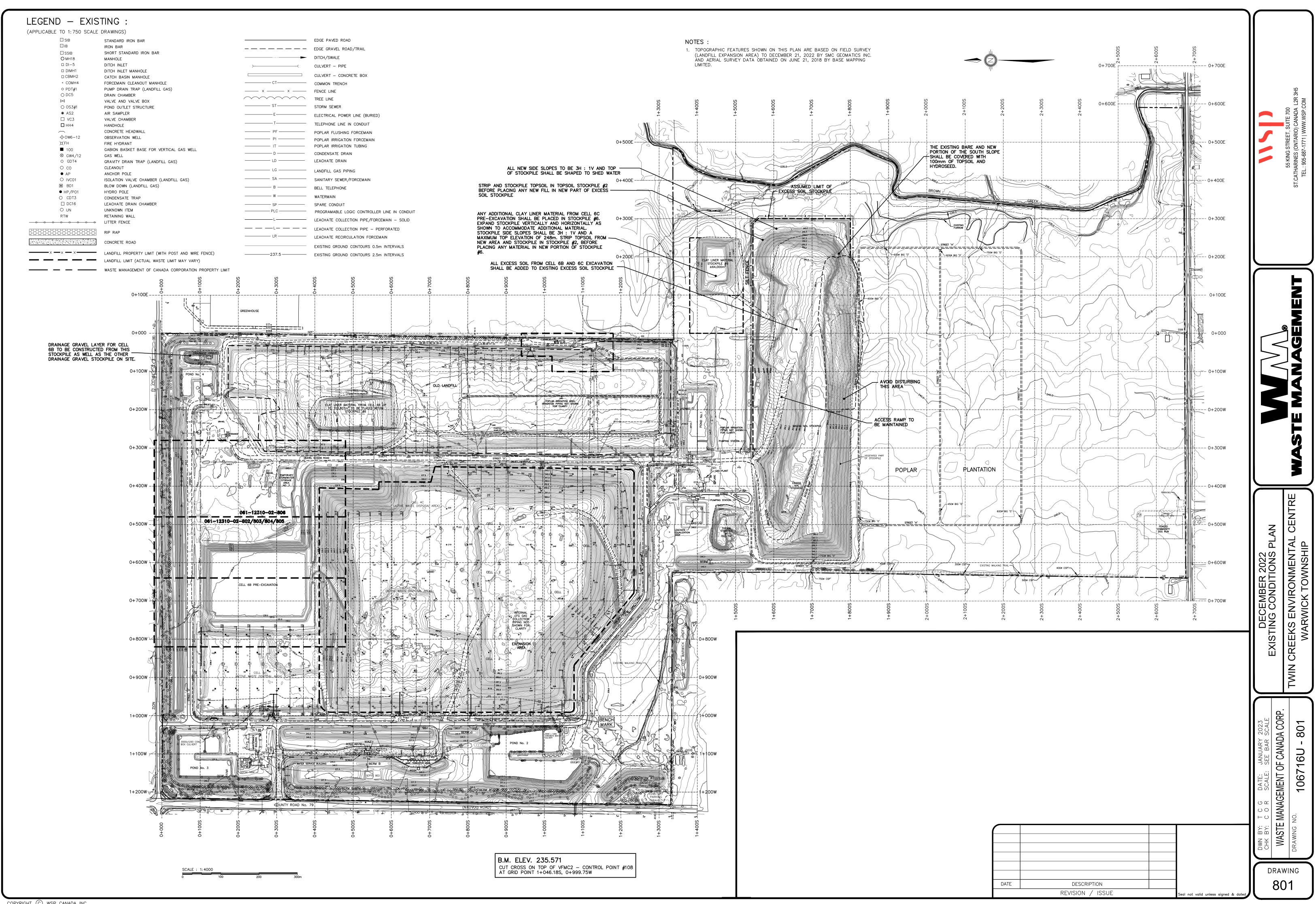
Contingency Plan	Contingency Plan Details	Status
	Leachate elevation control with waste sumps or trenches.	On-going. No discharge of leachate or treated leachate to surface water will be completed.
Leachate-Impacted	Groundwater control through use of the Secondary Drainage Layer.	On-going
Groundwater	Perimeter leachate interceptor system within the active aquitard.	Will be completed if required.
	Perimeter cut-off wall.	Will be completed if required.
	▶ If required, temporary or permanent groundwater supplies would be provided to affected groundwater users.	Will be completed if required.
Contaminated Stormwater	If confined to a local area, close off ditch and sump out contaminated water into tanker truck for treatment in an on-site leachate treatment plant, or dispose (if suitable) in a treated leachate pond for irrigation on poplar forest, or haul to off-site sewage treatment plant.	Will be completed if required.
	If stormwater pond is contaminated, do not permit discharge. Pump out and pump or truck for treatment to an on-site leachate treatment plant or dispose (if suitable) in a treated leachate pond for irrigation on a poplar forest or haul to an off-site sewage treatment plant.	Will be completed if required.
Emergency Spill	▶ Have a crew trained on notification and clean up procedures so workers and equipment can attend to local waste spill.	Completed.
Response-Waste	Cooperate with local officials (e.g., police, road crews, environment officials, etc.).	Will be completed if required.
Truck on Public	Prevent contact with ditches and watercourses and retrieve from vulnerable locations.	Will be completed if required.
Road	Clean up spilled material into roll off or appropriate containers and remove to landfill.	Will be completed if required.
	► Have crew trained on notification and clean up procedures so workers and equipment can attend to local waste spill.	Completed.
Emergency Spill	Assemble appropriate protective equipment and containment equipment.	Completed.
<b>Response-Liquids</b>	Contain spill with absorbent material, ponds and berms. Ditch, berm or excavate sump as required to contain spill.	Will be completed if required.
on Public Road	Clean up liquid or solids into appropriate leak-proof containers, such as drums or lugger boxes.	Will be completed if required.
	Dispose to proper facility.	Will be completed if required.
	If spill is a dangerous chemical or toxic to handle with equipment on site, then contain any escape paths and engage crews skilled in handling hazardous waste.	Will be completed if required.

Note: Table based on Exhibit 7-2 of Environmental Assessment document, dated September 2005.



## FIGURE





# APPENDIX R



# 2022 ANNUAL SEWAGE WORKS PERFORMANCE REPORT: PER CONDITION 12(3) OF SEWAGE ECA NO. 2403-BE6LZ4

RWDI AIR Inc. Consulting Engineers & Scientists 4510 Rhodes Drive – Suite 530 Windsor Ontario Canada N8W 5K5 T: 519.974.7384 F: 519.823.1316



© RWDI AIR Inc. ("RWDI") ALL RIGHTS RESERVED This document is intended for the sole use of the party to whom it is addressed and may contain information that is privileged and/or confidential. If you have received this in error, please notify us immediately. Accessible document formats provided upon request. ® RWDI name and logo are registered trademarks in Canada and the United States of America



#### SEWAGE ENVIRONMENTAL COMPLIANCE APPROVAL

The following subsections address the annual performance reporting requirements for the Waste Management of Canada Corporation's Twin Creeks Environmental (Site) per ECA for Industrial Sewage Works No. 3506-7M5PU3, dated July 9, 2009 as amended to February 20, 2013 up until August 20, 2019, as well as ECA for Industrial Sewage Works No. 2403-BE6LZ4 (Condition 12(3)), dated August 21, 2019 – both collectively referred to as "Sewage ECA" in consideration of their relevant approval dates.

#### R.1 CONDITION 12(3) (A)

Per Condition 8.6(1) of ECA No. A032203, dated February 4, 2023. It is noted that during the 2022 calendar year, WM was required to conform to the ECA dated December 19, 2020 (Waste ECA), the on-Site Leachate Treatment Facility was not constructed or operated in 2022. As such, there is no 2022 data to report for the Leachate Treatment Facility.

#### R.2 CONDITION 12(3) (B)

For the relevant Works outlined in the Sewage ECA, a summary of the surface water monitoring completed in 2022 and a detailed interpretation of the relevant monitoring results, including a comparison to relevant trigger concentrations, is provided in **Sections 2.4 and 5.3** of Volume 1 of the 2022 Fourth Quarter and Annual Monitoring Report (2022 Annual Report). The Works were effective in managing surface water at the Site during 2022.

#### R.3 CONDITION 12(3) (C)

Sedimentation (Stormwater Management) Ponds 1 to 4 were constructed and operational by August 2009. The surface water that discharged from the ponds was generally of acceptable quality during 2022.

During the 2022 operating period, maintenance to the Sedimentation (Stormwater Management) Ponds 1, 2, 3 and 4 was completed as per the relevant assessment results from the fall of 2021 as it was too wet to facilitate sediment removal before the end of 2021. Maintenance to Ponds 1, 2, 3, and 4 began in January 2022, when weather was favourable (dry and freezing conditions) and included the removal of sediment build-up from the forebays of each of the sedimentation ponds, as well as the main portion of Pond 1. Maintenance to Pond 2 also occurred in the late fall of 2022 which included the removal of sediment from the forebays as well as the main portion of the pond, as per the relevant assessment results from the fall of 2022. Additionally, maintenance was completed on portions of the southbound and westbound surface water drainage ditches along both sides of the street directly west and south of Cell 1 and Cell 2 of the Expansion Site (Street C). The maintenance included the removal of sediment build-up within the surface water drainage ditches.



## R.4 CONDITION 12(3) (D)

Maintenance on major appurtenances related to the sewage works was not required in 2022.

## R.5 CONDITION 12(3) (E)

As detailed in **Section R.1**, in accordance with Condition 8.6(1) the Waste ECA, the on-Site Leachate Treatment Facility did not require to be constructed in 2022 and therefore, did not operate during 2022. As such, no quality assurance or quality control (QA/QC) measures with respect to the Leachate Treatment Facility were required in 2022.

Detailed in **Section 3.2 of Volume 1** of the 2022 Annual Report are the QA/QC measures completed for the surface water monitoring for the landfill during 2022. Additionally, **Section 1.4** details the hydrogeologic setting for the Site, including the surface water system, **Section 1.5** presents the water budget for the Site, **Section 2.4** details the surface water sampling completed, **Section 5.3** summarizes the chemical findings of the surface water monitoring program, and **Section 6.1.4** discusses the surface water management for the Site during 2022.

### R.6 CONDITION 12(3) (F)

As discussed, the Leachate Treatment Facility was not constructed in 2022. Therefore, there was no Leachate Treatment Facility effluent monitoring equipment to calibrate or service. Beyond the placement/re-enforcement of sediment control measures (e.g., straw bale check dams, silt fences), there were no calibration or maintenance activities required to be implemented during 2022 for the Stormwater Management Facility at the Site.

#### R.7 CONDITION 12(3) (G)

As detailed in **Section R.1**, the Leachate Treatment Facility was not constructed in 2022 and therefore, no dry salt cake was generated in 2022.

#### R.8 CONDITION 12(3) (H)

No complaints were received during 2022 related to the Sewage Works.

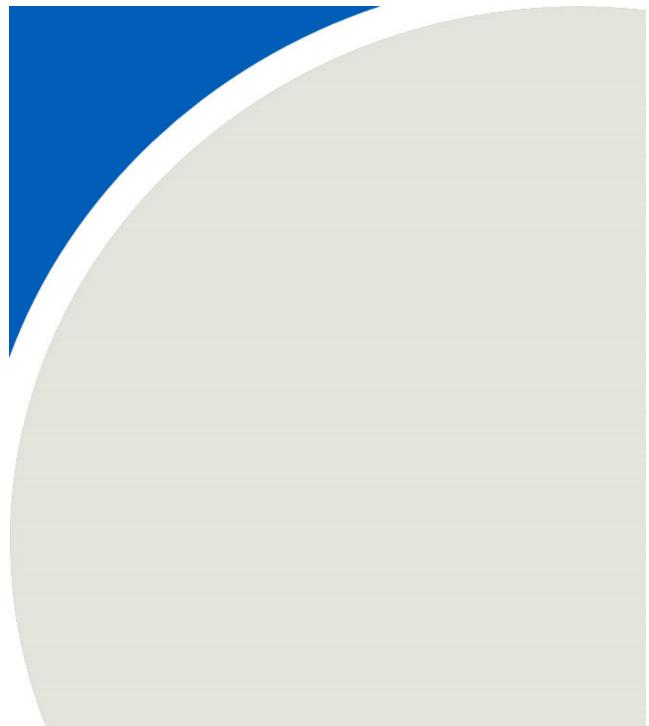
#### R.9 CONDITION 12(3) (I)

No additional information beyond what is required in the Sewage ECA with respect to the previous or proposed Sewage Works was requested by the Ministry of the Environment, Conservation and Park (MECP) District Manager during 2022.



## APPENDIX S:

Monitoring and Screening Checklist



## Appendix D-Monitoring and Screening Checklist General Information and Instructions

#### General Information: The checklist is to be completed, and submitted with the Monitoring Report.

**Instructions:** A complete checklist consists of:

(a) a completed and signed checklist, including any additional pages of information which can be attached as needed to provide further details where indicated.

(b) completed contact information for the Competent Environmental Practitioner (CEP)

(c) self-declaration that CEP(s) meet(s) the qualifications as set out below and in Section 1.2 of the Technical Guidance Document.

#### Definition of Groundwater CEP:

For groundwater, the CEP must have expertise in hydrogeology and meet one of the following:

(a) the person holds a licence, limited licence or temporary licence under the Professional Engineers Act; or

(b) the person holds a certificate of registration under the *Professional Geoscientists Act, 2000* and is a practicing member, temporary, member or limited member of the Association of Professional Geoscientists of Ontario. O. Reg. 66/08, s. 2..

#### **Definition of Surface water CEP:**

A CEP for surface water assessments is a scientist, professional engineer or professional geoscientist as described in (a) and (b) above with demonstrated experience and post-secondary education, either a diploma or degree, in hydrology, aquatic ecology, limnology, aquatic biology, physical geography with specialization in surface water, and/or water resource management.

The type of scientific work that a CEP performs must be consistent with that person's education and experience. If an individual has appropriate training and credentials in both groundwater and surface water and is responsible for both areas of expertise, the CEP may then complete and validate both sections of the checklist.

Monitoring Report and Site Information			
Waste Disposal Site Name	Twin Creeks Environmental Centre		
Location (e.g. street address, lot, concession)	5768 Nauvoo Road (Watford)		
GPS Location (taken within the property boundary at front gate/ front entry)	NAD 83: Zone 17, 428350E, 4758780N		
Municipality	Township of Warwick, County of Lambton		
Client and/or Site Owner	Waste Management of Canada Corporation		
Monitoring Period (Year)	2022		
This N	Ionitoring Report is being submitted under the following:		
Certificate of Approval No.:	Waste ECA No. A032203; Sewage ECA No. 2403-BE6LZ4		
Director's Order No.:			
Provincial Officer's Order No.:			
Other:			

Report Submission Frequency	○ Annual	Specify (Type Here): Quarterly and Annual Reports
The site is:	C	Active Inactive Closed
If closed, specify C of A, control or authorizing document closure date:		Select Date
Has the nature of the operations at the site changed during this monitoring period?		) Yes ) No
If yes, provide details:	Type Here	
Have any measurements been taken since the last reporting period that indicate landfill gas volumes have exceeded the MOE limits for subsurface or adjacent buildings? (i. e. exceeded the LEL for methane)		⊖Yes ●No

<b>Groundwater WDS Verification:</b> Based on all available information about the site and site knowledge, it is my opinion that:			
	ampling and Monitorin		
1) The monitoring program continues to effectively characterize site conditions and any groundwater discharges from the site. All monitoring wells are confirmed to be in goo condition and are secure:	● Yes ○ No	If no, list exceptions (Type Here):	
2) All groundwater, leachate and WDS gas sampling and monitoring for the monitoring period being reported on was successfully completed as required by Certificate(s) of Approval or other relevant authorizing/control document(s	• Yes           • No             • No           If no, list exceptions below or attach information.             • Not Applicable           If no, list exceptions below or attach information.		ch information.
Groundwater Sampling Location	Description/Explanation for change (change in name or location, additions, deletions) Date		Date

3) a) Some or all groundwater, leachate and WDS gas sampling and monitoring requirements have been established or defined outside of a ministry C of A, authorizing, or control document.		<ul> <li>○ Yes</li> <li>● No</li> <li>○ Not Applicable</li> </ul>	
b) If yes, the sampling and monitoring identified under 3(a) for the monitoring period being reported on was successfully completed in accordance with established protocols, frequencies, locations, and parameters developed as per the Technical Guidance Document:		<ul> <li>○ Yes</li> <li>○ No</li> <li>● Not Applicable</li> </ul>	If no, list exceptions below or attach additional information.
Groundwater Sampling Location	Description/Explanation for cha (change in name or location, add		Date
4) All field work for groundwater investigations was done in accordance with standard operating procedures as established/outlined per the Technical Guidance Document (including internal/external QA/ QC requirements) (Note: A SOP can be from a published source, developed internally by the site owner's consultant, or adopted by the consultant from another organization):	● Yes ○ No		

	Sampling and Monitoring Program Results/WDS Conditions and Assessment:			
5)	The site has an adequate buffer, Contaminant Attenuation Zone (CAZ) and/or contingency plan in place. Design and operational measures, including the size and configuration of any CAZ, are adequate to prevent potential human health impacts and impairment of the environment.	● Yes ○ No		
6)	The site meets compliance and assessment criteria.	<ul><li>● Yes</li><li>○ No</li></ul>	Refer to Section 5.2.3 of the 2022 F Monitoring Report	ourth Quarter and Annual
7)	The site continues to perform as anticipated. There have been no unusual trends/ changes in measured leachate and groundwater levels or concentrations.	● Yes ○ No		
1)	Is one or more of the following risk reduction practices in place at the site: (a) There is minimal reliance on natural attenuation of leachate due to the presence of an effective waste liner and active leachate collection/treatment; or (b) There is a predictive monitoring program in-place (modeled indicator concentrations projected over time for key locations); or (c) The site meets the following two conditions (typically achieved after 15 years or longer of site operation): <i>i</i> .The site has developed stable leachate mound(s) and stable leachate plume geometry/concentrations; and <i>ii</i> .Seasonal and annual water levels and water quality fluctuations are well understood.	<ul> <li>Yes</li> <li>No</li> </ul>	Note which practice(s):	<ul> <li>☑ (a)</li> <li>☑ (b)</li> <li>☑ (c)</li> </ul>
9)	Have trigger values for contingency plans or site remedial actions been exceeded (where they exist):	<ul><li>○ Yes</li><li>● No</li><li>○ Not Applicable</li></ul>	Refer to Section 6.2.3 of the 2022 and Annual Monitoring Report	Fourth Quarter

#### **Groundwater CEP Declaration:**

I am a licensed professional Engineer or a registered professional geoscientist in Ontario with expertise in hydrogeology, as defined in Appendix D under Instructions. Where additional expertise was needed to evaluate the site monitoring data, I have relied on individuals who I believe to be experts in the relevant discipline, who have co-signed the compliance monitoring report or monitoring program status report, and who have provided evidence to me of their credentials.

I have examined the applicable Certificate of Approval and any other environmental authorizing or control documents that apply to the site. I have read and followed the Monitoring and Reporting for Waste Disposal Sites Groundwater and Surface Water Technical Guidance Document (MOE, 2010, or as amended), and associated monitoring and sampling guidance documents, as amended from time to time. I have reviewed all of the data collected for the above-referenced site for the monitoring period(s) identified in this checklist. Except as otherwise agreed with the ministry for certain parameters, all of the analytical work has been undertaken by a laboratory which is accredited for the parameters analysed to *ISO/IEC 17025:2005 (E)- General requirements for the competence of testing and calibration laboratories,* or as amended from time to time by the ministry.

If any exceptions or potential concerns have been noted in the questions in the checklist attached to this declaration, it is my opinion that these exceptions and concerns are minor in nature and will be rectified for the next monitoring/reporting period. Where this is not the case, the circumstances concerning the exception or potential concern and my client's proposed action have been documented in writing to the Ministry of the Environment District Manager in a letter from me dated:

#### **Recommendations:**

Based on my technical review of the monitoring results for the waste disposal site:

<ul> <li>No changes to the monitoring program are recommended</li> </ul>	
The following change(s) to the	
<ul> <li>No Changes to site design and operation are recommended</li> </ul>	
The following change(s) to the	

Name:	Brent J. Langille		
Seal:	BRENT J. LANGILLE PRACTISING MEMBER 2337		
Signature:	Date: 2023/03/01		
CEP Contact Information:	Brent J. Langille		
Company:	RWDI AIR Inc.		
Address:	4510 Rhodes Drive, Suite 530, Windsor, ON N8W 5K5		
Telephone No.:	(519) 823-1311 Fax No. : (519) 823-1316		
E-mail Address:	Brent.Langille@rwdi.com		
Co-signers for additional expertise provided:			
Signature:	Date:		
Signature:		Date:	

Surface Water WDS Verifica	ation		
Provide the name of surface water waterbody (including the nearest sur			proximate distance to the
Name (s)	Gilliand-Geerts Drain 'A' - Bear Creek Watershed Brown Creek - Brown Creek Watershed		
Distance(s)	The water bodies are adjacent to	the landfill property limits.	
Based on all available information an	d site knowledge, it is my opinio	n that:	
Sa	ampling and Monitoring	g Program Status:	
1) The current surface water monitoring program continues to effectively characterize the surface water conditions, and includes data that relates upstream/background and downstream receiving water conditions:	● Yes ○ No	If no, identify issues (Type Here):	
2) All surface water sampling for the monitoring period being reported was successfully completed in accordance with the Certificate(s) of Approval or relevant authorizing/control document(s) (if applicable):	<ul> <li>Yes</li> <li>No</li> <li>Not applicable (No C of A,</li> <li>authorizing / control document applies)</li> </ul>	If no, specify below or provide det	ails in an attachment.
Surface Water Sampling Location		lanation for change Date Date	
SS10	Could not be sampled in Q1 of 2022 as insufficient flow was observed for sample collection.		Q1
SS10, SS16, SP4	Could not be sampled in Q3 of 2022 as insufficient flow was observed for sample collection.		Q3
SS10, SS16	Could not be sampled in Q4 of 2022 as insufficient flow was Q4 observed for sample collection.		Q4

3) a) Some or all surface water sampling and monitoring program requirements for the monitoring period have been established outside of a ministry C of A or authorizing/control document.		<ul> <li>○ Yes</li> <li>● No</li> <li>○ Not Applicable</li> </ul>	
b) If yes, all surface water sampling and monitoring identified under 3 (a) was successfully completed in accordance with the established program from the site, including sampling protocols, frequencies, locations and parameters) as developed per the Technical Guidance Document:		<ul> <li>○ Yes</li> <li>○ No</li> <li>● Not Applicable</li> </ul>	lf no, specify below or provide details in an attachment.
Surface Water Sampling Location		anation for change ion, additions, deletions)	Date
4) All field work for surface water investigations was done in accordance with standard operating procedures, including internal/external QA/QC requirements, as established/ outlined as per the Technical Guidance Document, MOE 2010, or as amended. (Note: A SOP can be from a published source, developed internally by the site owner's consultant, or adopted by the consultant from another organization):	• Yes If no, specify (Type Here):		

## Sampling and Monitoring Program Results/WDS Conditions and Assessment:

#### 5) The receiving water body meets surface water-related compliance criteria and assessment criteria: i.e., there are no exceedances of criteria, based on MOE legislation, regulations, Water Management Policies, Guidelines and Provincial Water Quality Objectives and other assessment criteria (e.g., CWQGs, APVs), as noted in Table A or Table B in the Technical Guidance Document (Section 4.6):

() Yes

🖲 No

If no, list parameters that exceed criteria outlined above and the amount/percentage of the exceedance as per the table belo	ow or
provide details in an attachment:	

Parameter	Compliance or Assessment Criteria or Background	Amount by which Compliance or Assessment Criteria or Background Exceeded
e.g. Nickel	e.g. C of A limit, PWQO, background	e.g. X% above PWQO
Please refer to Section 5.3 of Volume 1 of the 2022 Fourth Quarter and Annual Monitoring Report.		
6) In my opinion, any exceedances listed in Question 5 are the result of non-WDS related influences (such as background, road salting, sampling site conditions)?	● Yes ○ No	Section 5.3 of Volume 1 of the 2022 Fourth Quarter and Annual Monitoring Report summarizes the surface water monitoring findings.

7)	All monitoring program surface water parameter concentrations fall within a stable or decreasing trend. The site is not characterized by historical ranges of concentrations above assessment and compliance criteria.	<ul> <li>○ Yes</li> <li>● No</li> </ul>	Refer to Section 5.3 of Volume 1 of the 2022 Fourth Quarter and Annual Monitoring Report.
8)	For the monitoring program parameters, does the water quality in the groundwater zones adjacent to surface water receivers exceed assessment or compliance criteria (e.g. , PWQOs, CWQGs, or toxicity values for aquatic biota (APVs)):	<ul> <li>Yes</li> <li>No</li> <li>Not Known</li> <li>Not Applicable</li> </ul>	Groundwater quality naturally exceeds select surface water trigger concentrations.
9)	Have trigger values for contingency plans or site remedial actions been exceeded (where they exist):	<ul> <li>○ Yes</li> <li>● No</li> <li>○ Not Applicable</li> </ul>	Refer to Section 5.3 of the 2022 Fourth Quarter and Annual Monitoring Report. Trigger concentration exceedances were noted in Q1 (at SS1), Q2 (at SS1 and SP2), Q3 (SP1 and SP2), and Q4 (at SS1 and SP2).

#### **Surface Water CEP Declaration:**

I, the undersigned hereby declare that I am a Competent Environmental Practitioner as defined in Appendix D under Instructions, holding the necessary level of experience and education to design surface water monitoring and sampling programs, conduct appropriate surface water investigations and interpret the related data as it pertains to the site for this monitoring period.

I have examined the applicable Certificate of Approval and any other environmental authorizing or control documents that apply to the site. I have read and followed the Monitoring and Reporting for Waste Disposal Sites Groundwater and Surface Water Technical Guidance Document (MOE, 2010, or as amended) and associated monitoring and sampling guidance documents, as amended from time to time. I have reviewed all of the data collected for the above-referenced site for the monitoring period(s) identified in this checklist. Except as otherwise agreed with the ministry for certain parameters, all of the analytical work has been undertaken by a laboratory which is accredited for the parameters analysed to *ISO/IEC 17025:2005 (E)- General requirements for the competence of testing and calibration laboratories,* or as amended from time to time by the ministry.

If any exceptions or potential concerns have been noted in the questions in the checklist attached to this declaration, it is my opinion that these exceptions and concerns are minor in nature or will be rectified for future monitoring events. Where this is not the case, the circumstances concerning the exception or potential concern and my client's proposed action have been documented in writing to the Ministry of the Environment District Manager in a letter from me dated:

Select Date					
Recommendations: Based on my technical review of the monitoring results for the waste disposal site:					
The following change(s) to the					
No changes to the site design and operation are recommended					
The following change(s) to the site					

CEP Signature		
Relevant Discipline	Geology	
Date:	2023	
CEP Contact Information:	Brent J. Langille	
Company:	RWDI AIR Inc.	
Address:	4510 Rhodes Drive, Suite 530, Windsor, ON N8W 5K5	
Telephone No.:	(519) 823-1311	
Fax No. :	(519) 823-1316	
E-mail Address:	Brent.Langille@rwdi.com	
Save As		Print Form

CEP Signature	B	
Relevant Discipline	Geology	
Date:	2023/03/01	
CEP Contact Information:	Brent J. Langille	
Company:	RWDI AIR Inc.	
Address:	4510 Rhodes Drive, Suite 530, Windsor, ON N8W 5K5	
Telephone No.:	(519) 823-1311	
Fax No. :	(519) 823-1316	
E-mail Address:	Brent.Langille@rwdi.com	
Save As		Print Form