



March 6, 2024

Via: Email

Ms. Gloria Suarez, M.Sc., P.Geo.
Hydrogeologist
MECP West Central Region
119 King Street West, 12th Floor
Hamilton ON L8P 4Y7

Dear Ms. Suarez:

**Re: Fergus Golf Club Redevelopment MCEA
Project No.: 300052719.1000**

R.J. Burnside & Associates Limited (Burnside) is part of an engineering team that is currently conducting work in support of a Municipal Class Environmental Assessment (MCEA) associated with the proposed development of a residential subdivision at the Fergus Golf Club near Belwood Lake in the Township of Centre Wellington. Burnside received comments from yourself, dated November 21, 2023, outlining concerns regarding the characterization of the overburden across the site and whether the materials were acting to provide hydraulic separation between the overburden and the underlying water supply bedrock aquifer. The following information is being provided to support our conclusion that the overburden provides hydraulic separation and may be considered a low permeability environment.

1.0 Additional Hydrogeological Investigations

To support the hydrogeological interpretation Burnside reviewed borehole logs for additional boreholes completed on the site in response to the comments provided by the MECP on November 23, 2023. The borehole logs reviewed included boreholes completed in early 2024 in the area at the northeastern end of the site and downgradient of the area where the proposed effluent pond is to be located. The locations of boreholes and monitoring wells considered during the current assessment are shown on Figure A (attached).

In addition to the borehole logs, Burnside examined grain size analyses and used empirical formulae to estimate hydraulic conductivity of the sediments encountered. The estimated hydraulic conductivity was compared to previous values included in the hydrogeology study completed by WSP/Golder (April 2023).

2.0 Site Stratigraphy

A schematic geological cross-section across the site was prepared by Burnside to illustrate our interpretation of site conditions. The location of the line of section is shown on Figure A and the section itself is attached as Figure B. The cross-section shows that the sediments underlying

the site are a silty clay to clayey silt till with occasional gravel and sand particles forming the predominant material. The BH logs for the monitoring wells and boreholes shown on Figure A are provided as Appendix A. The borehole logs confirm that the materials are predominantly fine grained with sand lenses being thin and discontinuous. Notes included on the BH logs indicate that the materials encountered and described as sandy silty clay to clayey silt were generally stiff to hard and cohesive, indicating a high clay content.

The interpreted cross-section (Figure B) indicates that the predominantly low permeability materials are a minimum 20 m thick and overlie the bedrock. Occasional sandy lenses are noted, however these are not continuous and not regionally or locally extensive. Our review of previous borehole logs confirms this interpretation with the low permeability materials being predominant in the areas north and south of the proposed ponds. Review of available MECP water well records for wells in the general area, confirms that clay and sand designation in these records are better interpreted as clay till with some sand included, which is consistent with the low permeability materials. The conclusion therefore can be drawn that the overburden in this area is a low permeability environment. The location of one of the effluent ponds is illustrated on the cross-section and is used to illustrate that the low permeability materials extend for over 300 m downgradient of the pond area. The cross-section can therefore be interpreted to indicate that the hydrogeological environment meets the requirements for having over 10 m thickness of low permeability material and extending for over 100 m down gradient.

A second pond that is proposed for use in effluent storage is also shown on Figure C in the south of the golf course area. This pond is located directly adjacent to the interpreted shallow groundwater divide, however groundwater flow is expected to be towards the north and similar conditions to those described above are expected. As part of due diligence, groundwater flow occurring to the south was evaluated and it was determined that information from BH21-08, BH21-11 and BH21-16 (WSP study) showed that while there are thin surficial layers containing sand, the materials are better classified as silty sand till and are not locally extensive. Our interpretation is that these silty sand layers are associated with low-lying wetlands that occur in this area. It is notable that in the development plan for the golf course, these wetlands are to be removed and replaced with housing. Groundwater flow south of the wetlands occurs in low permeability materials as demonstrated by logs for BH21-5 and BH21-6 from the WSP study. We conclude that groundwater flow from both ponds will be to the north into low permeability materials that extend for over 100 m downgradient. In the unlikely event that groundwater flows occurs to the south, low permeability sediments are interpreted to occur in excess of 100 m down gradient.

3.0 Hydrogeological Properties

Burnside reviewed grain size analyses and other laboratory testing completed for representative soil samples from the site (Appendix B). Samples were selected to represent the materials encountered on the site and the results are presented below.

Sample Location	Depth (mbgs)	Description	Percent Fine (clay and silt)	Estimated Hydraulic Conductivity (cm/s)
BH24-1 (SS-5)	3.0 – 33.5	Sandy silt, some gravel, some clay	59.5	2.25×10^{-4}
BH24-1 (SS-9A)	9.2 – 9.5	Silty clay, trace sand	96.7	2.25×10^{-6}

Sample Location	Depth (mbgs)	Description	Percent Fine (clay and silt)	Estimated Hydraulic Conductivity (cm/s)
BH24-2 (SS-7)	6.1 – 6.6	Silt and clay, trace sand	98.4	1.96×10^{-6}
BH24-2 (SS-8)	7.8 – 8.1	Silty clay, trace sand	98.2	1.44×10^{-6}
BH24-03 (SS-7)	6.3	Clay and silt, trace gravel, trace sand	95.9	1.96×10^{-6}

The estimated hydraulic conductivities shown above indicate that the predominant silty clay and silt and clay materials qualify to be considered as a low permeability environment with values that are below 10^{-5} cm/s. It is recognized that the sandy silt that occurs is shown to have values that do not qualify for this classification, however the sandy layers are generally surficial, discontinuous, localized and most importantly, groundwater flow into or out of these lenses will be controlled by the lower hydraulic conductivity of the surrounding materials. It can be concluded that these layers do not provide a continuous path for offsite migration and migration will be limited by the low permeability of the predominant materials.

To obtain a wider perspective on hydraulic conductivity, Burnside compared the values obtained in the current assessment with values from the previous assessment conducted by WSP/Golder (April 2023). WSP/Golder conducted analyses for cohesive and non-cohesive materials and noted that the values ranged from 2×10^{-4} cm/s in non-cohesive materials (silty sand) to 8×10^{-7} cm/s in cohesive silty clay till. The values from the WSP/Golder report (April 2023) are attached as Table 1 and the locations of the boreholes tested are illustrated on WSP/Golder Figure 2 – Site Location Map (Appendix C). The values obtained by WSP/Golder are consistent with the Burnside estimates for the predominant silty clay-clayey silt till and indicate that the hydraulic conductivity ranges from about 1×10^{-6} cm/s to below 8×10^{-7} cm/s. These values confirm that the predominant materials can be considered to be a low permeability environment. As previously noted, higher permeabilities noted for non-cohesive materials are interpreted to represent higher permeability in occasional and discontinuous lenses. These lenses are not expected to create pathways for contaminant movement offsite.

4.0 Irrigation

The existing golf course is being redeveloped but will remain an 18-hole course. The attached Figure C shows the proposed course layout, including the main irrigation pond in the central portion of the site and another interconnected irrigation pond to the south. Other ponds shown in the golf course layout are water feature ponds only and will not receive any treated effluent from the wastewater treatment plant. Treated effluent will be directed to the effluent ponds where it is stored and applied to the golf course greens, tees and fairways as part of the golf course operations. The estimated area to be irrigated is 10.3 ha.

It is anticipated that the irrigation water will be applied in keeping with best management practices and industry standards for fertigation (applying fertilizer in irrigation water). Fertigation as a process is known to be very efficient as fertilizers are typically applied at rates that the plants will absorb and may in fact reduce nutrient leaching.

The onsite soils are interpreted to have a low permeability (hydraulic conductivity $K = 1 \times 10^{-6}$ cm/s) and are uniform vertically (to a depth of at least 10 m) and laterally (at least

100 m) as illustrated on Figure B. Therefore, the site represents a low permeability environment and a dilution / attenuation calculation for nitrate is not warranted. It is our interpretation that there is no potential for offsite impacts to local groundwater receptors as a result of the application of effluent for irrigation on the golf course.

5.0 Revised Effluent Targets

On the basis of the foregoing analysis and confirmation of a low permeability environment, the potential for impacts to local groundwater receptors is negligible and we have therefore revised the proposed effluent targets for nitrogen. For all parameters except total nitrogen, the below table shows the previously proposed effluent objectives and limits for key parameters (as submitted in our March 13, 2023, letter response and our November 2023 draft Environmental Study Report). We recommend these objectives and limits be incorporated into the ECA for the wastewater treatment facility. The previously proposed effluent limit of 10 mg/L for total inorganic nitrogen has been removed based on the demonstrated low permeability environment and the low risk of any potential nitrate impacts to off-site groundwater users.

Design Parameter	Units	Effluent Objective	Effluent Limit	Compliance Based On
Carbonaceous Biochemical Oxygen Demand – 5 Day (cBOD ₅)	mg/L	5.0	10	Monthly Average
Total Suspended Solids (TSS)	mg/L	5.0	10	Monthly Average
Total Phosphorus (TP)	mg/L	< 0.3	< 0.5	Monthly Average
Total Ammonia (TAN)	mg/L	< 1.0	< 2.0 (summer) < 3.0 (winter)	Monthly Average
pH		6.5 to 9.5	6.5 – 9.5	Single Sample Result
E. Coli	CFU/100 mL	< 100	< 200	Monthly Geometric Mean Density

6.0 Conclusions

The data reviewed and presented has been interpreted to indicate that the site stratigraphy meets the requirements of having a low permeability material extending a minimum of 10 m below the pond. Based on the cross-section, the material also extends a sufficient distance downgradient (over 300 m) from the pond.

The hydraulic conductivity of the low permeability material has been estimated to range between 1×10^{-6} cm/s to below 8×10^{-7} cm/s. These values are sufficient to meet the classification as low permeability.

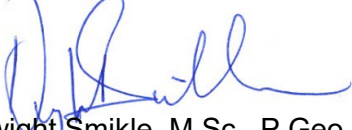
It can be concluded that the hydrogeological setting on the site is low permeability with these materials extending to a sufficient depth and distance downgradient for the site to meet the requirements in Section 22.5.14 of the MECP Sewage Manual.

The use of fertigation as per industry standards should not result in the creation of a plume and migration of contaminants offsite is of low potential due to the low permeability of the predominant sediments.

Yours truly,

R.J. Burnside & Associates Limited

Prepared By:



Dwight Smikle, M.Sc., P.Geo.
Vice President – Hydrogeology
DS/AE/SC:rk

Reviewed By:



Anne Egan, M.Sc., (Eng.), P.Eng.
Onsite Wastewater Specialist



Stephanie Charity, B.Sc., P.Geo.
Hydrogeologist

Enclosure(s) Figures A, B, and C
 Appendix A – Borehole Logs
 Appendix B – Grain Size Analysis
 Appendix C – WSP/Golder Report Table 1 and Figure 2

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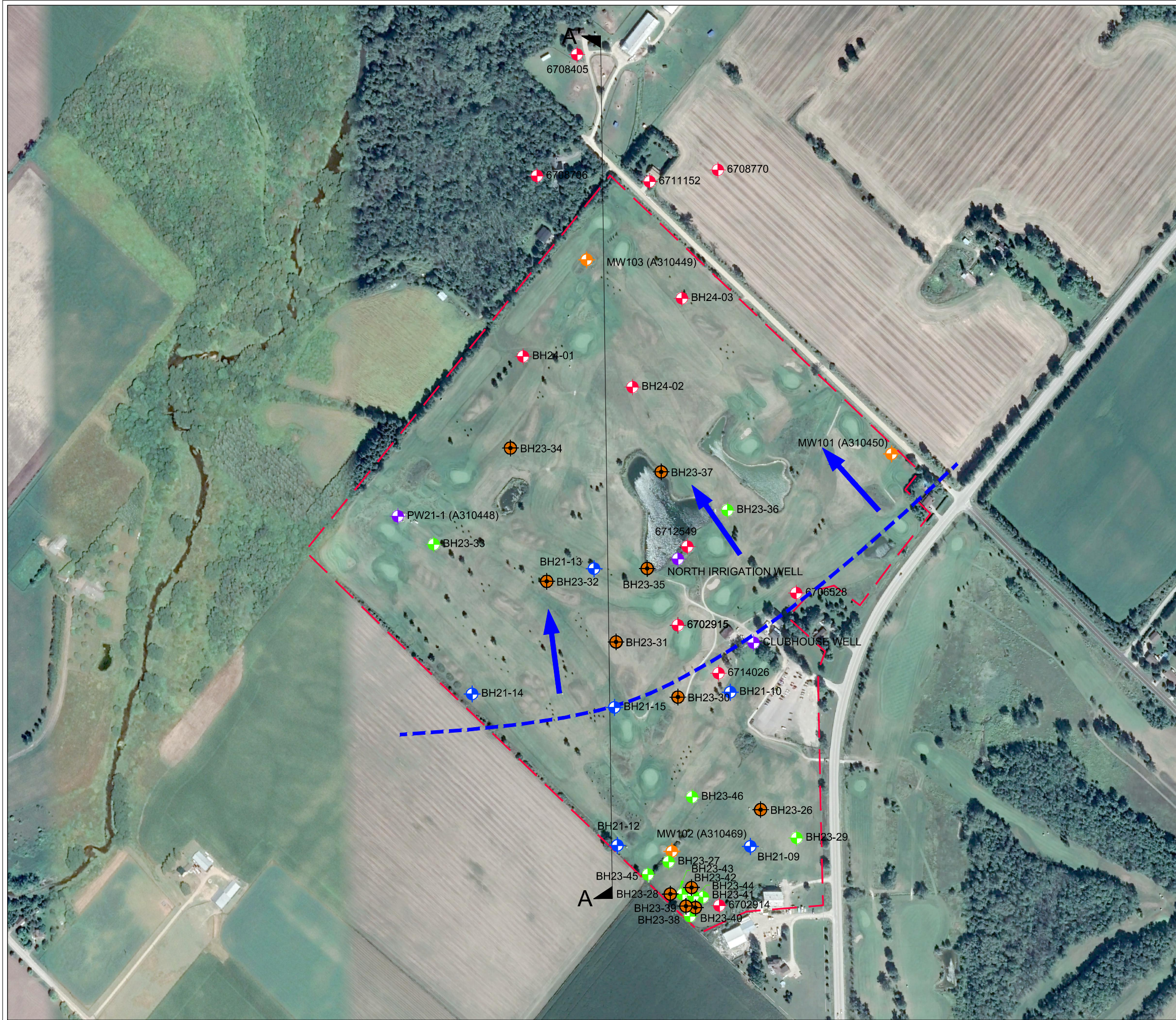
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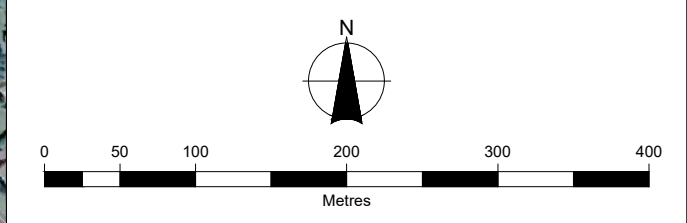
[THE DIFFERENCE IS OUR PEOPLE]

Figures



LEGEND

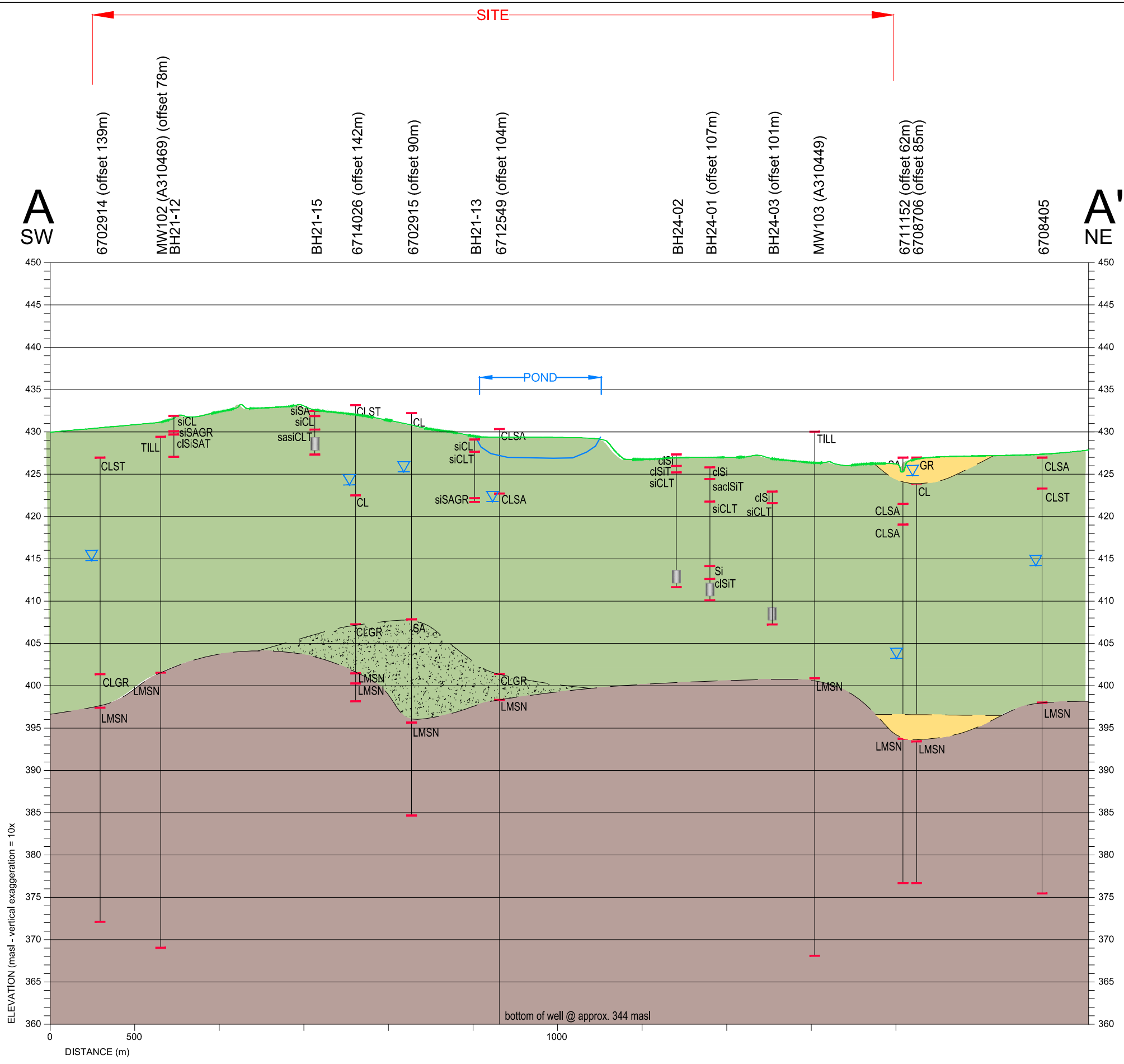
- SUBJECT LANDS
- ⊕ MONITORING WELL (MECP WELL RECORD)
- ⊕ PRODUCTION WELL
- ⊕ BEDROCK MONITORING WELL
- ⊕ OVERBURDEN MONITORING WELL (GOLDER, 2021)
- ⊕ MONITORING WELL (GEMTEC, 2023)
- ⊕ BOREHOLE (GEMTEC, 2023)
- - - GROUNDWATER DIVIDE
- ➔ INTERPRETED GROUNDWATER FLOW DIRECTION
- ▲ ▲ CROSS-SECTION LOCATION KEY



Client / Report
 FERGUS DEVELOPMENT INC.
 CENTRE WELLINGTON, ONTARIO
 FERGUS GOLF CLUB REDEVELOPMENT - MCEA
 HYDROGEOLOGICAL CHARACTERIZATION

Figure Title
**BOREHOLE, WELL AND
 CROSS-SECTION LOCATIONS**

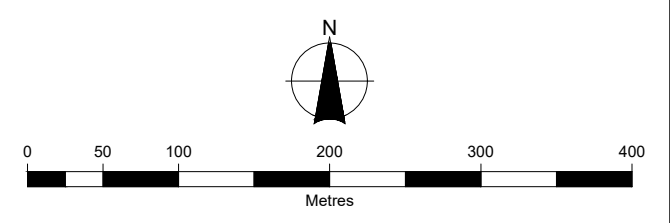
Drawn SK	Checked DS	Date February 2024	Figure No. A
Scale 1:5,000	Project No. 300052719		



LEGEND

- BH- WELL NUMBER / ID
- EXISTING GROUND PROFILE
- GEOLOGICAL CONTACT
- STATIC WATER LEVEL (MECP WELL RECORD)
- WELL SCREEN
- si SILTY
- sa SANDY
- cl CLAYEY
- gr GRAVELY
- GR GRAVEL
- SA SAND
- Si SILT
- CL CLAY
- ST STONES
- LMSN LIMESTONE

- INTERPRETED STRATIGRAPHY
- SILT / SAND / CLAY TILL
- SAND / GRAVEL / TILL
- SAND / GRAVEL
- BEDROCK



Client / Report
 FERGUS DEVELOPMENT INC.
 CENTRE WELLINGTON, ONTARIO
 FERGUS GOLF CLUB REDEVELOPMENT - MCEA
 HYDROGEOLOGICAL CHARACTERIZATION

Figure Title
**INTERPRETED GEOLOGICAL
 CROSS-SECTION A-A'**

Drawn SK	Checked DS	Date February 2024	Figure No. B
Scale 1:5,000	Project No. 300052719		



LEGEND

- - - SUBJECT LANDS
- PROPOSED FAIRWAY
- PROPOSED TEES AND GREENS

IRRIGATION AREA (GREENS, TEES AND FAIRWAYS) = 10.3 ha

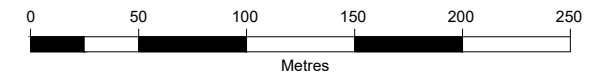
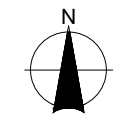
PROPOSED GOLF COURSE
FEATURE POND
(NO EFFLUENT)

PROPOSED
IRRIGATION POND

PROPOSED IRRIGATION POND

PROPOSED WASTE WATER
TREATMENT PLANT

WELLINGTON ROAD 19



Client / Report
FERGUS DEVELOPMENT INC.
 CENTRE WELLINGTON, ONTARIO
**FERGUS GOLF CLUB REDEVELOPMENT - MCEA
 HYDROGEOLOGICAL CHARACTERIZATION**

Figure Title
SITE PLAN - REDEVELOPED GOLF COURSE

Drawn SK	Checked DS	Date February 2024	Figure No. C
Scale 1:3,500	Project No. 300052719		



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Appendix A

Borehole Logs

Appendix A

RECORD OF BOREHOLE : BH24-1

CLIENT: Fergus development Inc.
 PROJECT: Fergus Golf Course Redevelopment, Fergus
 JOB#: 101987.017
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: Unknown
 BORING DATE: Jan 3 2024

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE			SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	●	WATER CONTENT, % Wp — W — Wl	⊕ NATURAL ⊕ REMOULDED		
0	Power Auger Hollow Stem Auger (200mm OD)	Ground Surface												
0.15		TOPSOIL (ML) CLAYEY SILT, some sand; brown to grey, mottled; cohesive, w~PL, firm		1	SS	254	7		●					
1				2	SS	406	7		●					
1.37		(ML) CLAYEY SILT, some sand; brown to grey (TILL), mottled; cohesive, w<PL to w>PL, stiff to hard		3	SS	457	13		●					
2				4	SS	457	34			●				
3				5	SS	457	38				●			
4														
4.04		(CL) SILTY CLAY, trace sand, trace gravel; grey (TILL); cohesive, w<PL to w~PL, very stiff to hard		6	SS	356	18			●				
5														
6				7	SS	406	22				●			
7														
8				8	SS	152	16				●			
9														
9.1 - 9.6	- soft to firm between approximately 9.1 m and 9.6 m depths		9A	SS	457	8				●				
9B														
10														
11			10	SS	457	38					●			
12														
11.66	(ML) SILT, trace sand, trace clay; grey; non-cohesive, wet, dense		11	SS	203	46					●			
13														
13.18	(ML) CLAYEY SILT, trace sand, trace gravel; grey (TILL); cohesive, w<PL to w~PL, hard		12	SS	457	30					●			
14														
15														
16			13	SS	457	44						●		
16	End of Borehole													
17	Notes: 1. Borehole was dry upon completion of drilling. 2. Monitoring well installed as shown upon completion of drilling.													
18														
19														
20														

50 mm PVC

Monument Casing

Bentonite
(0 - 13.1 mbgs)

Sand
(13.1 - 13.7 mbgs)

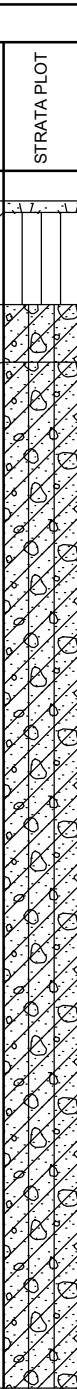
Screen
(13.7 - 15.2 mbgs)

GEO - BOREHOLE LOG, 101987.017, FERGUS, 2024, 01_12.GPJ, GEMTEC 2018.GDT, 1/16/24

RECORD OF BOREHOLE : BH24-2

CLIENT: Fergus development Inc.
 PROJECT: Fergus Golf Course Redevelopment, Fergus
 JOB#: 101987.017
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: Unknown
 BORING DATE: Jan 3 2024

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE			SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	●	WATER CONTENT, % Wp W Wl	⊕ NATURAL ⊕ REMOULDED			
0	Power Auger Hollow Stem Auger (200mm OD)	Ground Surface													
0.15		TOPSOIL		1	SS	406	15								
1		(ML) CLAYEY SILT, some sand, trace gravel; brown; cohesive, w<PL to w~PL, stiff to very stiff		2	SS	406	12								
1.37		(ML) CLAYEY SILT, some sand, trace gravel; brown (TILL); cohesive, w<PL, very stiff		3	SS	406	20								
2		(CL) SILTY CLAY, trace sand, trace gravel; grey (TILL); cohesive, w<PL to w~PL, very stiff to hard		4	SS	457	24								
2.13				5	SS	406	18								
3				6	SS	356	19								
4				7	SS	406	21								
5				8	SS	457	14								
6				9	SS	254	31								
7				10	SS	432	71								
8				11	SS	457	46								
9				12	SS	457	40								
10		13	SS	51	67										
11															
12															
13															
14															
15															
16															
17															
18															
19															
20															
		End of Borehole		15.70											
		Notes:													
		1. Borehole was dry upon completion of drilling.													
		2. Monitoring well installed as shown upon completion of drilling.													

50 mm PVC

Monument Casing

Bentonite
(0 - 13.1 mbgs)

Sand
(13.1 - 13.7 mbgs)


Screen
(13.7 - 15.2 mbgs)

GEO - BOREHOLE LOG, 101987.017, FERGUS, 2024, 01, 12.GPJ, GEMTEC 2018.GDT, 1/16/24

RECORD OF BOREHOLE : BH24-3

CLIENT: Fergus development Inc.
 PROJECT: Fergus Golf Course Redevelopment, Fergus
 JOB#: 101987.017
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: Unknown
 BORING DATE: Jan 4 2024

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE			SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	●	WATER CONTENT, % Wp — W — Wl	⊕ NATURAL ⊕ REMOULDED		
0	Power Auger Hollow Stem Auger (200mm OD)	Ground Surface		0.20	1	SS	457	12	●				50 mm PVC Monument Casing Bentonite (0 - 13.1 mbgs) Sand (13.1 - 13.7 mbgs) Screen (13.7 - 15.2 mbgs)	
0		TOPSOIL												
0.20		(ML) CLAYEY SILT, some sand, trace gravel; brown; cohesive, w~PL, firm to stiff												
1														
1.37		(CL) SILTY CLAY, trace sand, trace gravel; grey (TILL); cohesive, w<PL to w~PL, very stiff to hard												
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														
16														
16		End of Borehole		15.70										
17		Notes:												
18		1. Borehole was dry upon completion of drilling.												
19		2. Monitoring well installed as shown upon completion of drilling.												
20														

GEO - BOREHOLE LOG, 101987.017, FERGUS, 2024_01_12.GPJ, GEMTEC 2018.GDT, 1/16/24

RECORD OF BOREHOLE BH23-26

CLIENT: Geranium
 PROJECT: Fergus Golf Course Redevelopment, Fergus, Ontario
 JOB#: 101987.017
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE:





DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE			SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	+ NATURAL ⊕ REMOULDED	WATER CONTENT, % W _p W W _L			
0	Power Auger Solid Stem Auger (152 mm)	Ground Surface		432.15											
		TOPSOIL		0.00											
		(ML) SILT, some sand, trace gravel; dark brown; cohesive, w<PL, firm		0.23	1	SS	279	6	●						
1		(CL-ML) sandy SILTY CLAY, trace gravel; grey (TILL); cohesive, w<PL, stiff to hard		431.39											
				0.76	2	SS	330	22	●						
2					3	SS	356	14	●						
3		- auger grinding between approximately 2.7 m and 3.1 m depths		4	SS	432	65		●						
4				5	SS	457	50 / 0.08								
5				6	SS	279	50 / 0.14								
5		End of Borehole		427.12											
		Notes:		5.03											
6		1. Borehole open and dry upon completion of drilling.													
7		2. Borehole was backfilled with soil cuttings upon completion of drilling.													
8		3. Ground surface interpolation derived from '21016tp07a.dwg' (RP-E Surveying, December 7, 2023). Location not yet surveyed.													
9															
10															
11															

GEO - BOREHOLE LOG 101987.017 - FERGUSSOUTH_GEO TECH_R0_2023_11_14.GPJ_GEMTEC 2018.GDT_1/15/24

RECORD OF BOREHOLE BH23-27

CLIENT: Geranium
 PROJECT: Fergus Golf Course Redevelopment, Fergus, Ontario
 JOB#: 101987.017
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Nov 16 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	+ NATURAL ⊕ REMOULDED		
0	Power Auger Hollow Stem Auger (203 mm)	Ground Surface		434.20								MH	 Monument Concrete Bentonite Filter Sand 50 mm dia. well screen End of Augering
		TOPSOIL		0.00 434.00	1	SS	203	3	●	○			
		(SM) SILTY SAND, trace rootlets; brown; non-cohesive, moist		0.20									
1		(CL-ML) sandy SILTY CLAY, some gravel; brown to grey (TILL); cohesive, w<PL, very stiff to hard		433.44 0.76	2	SS	254	15	●				
					3	SS	178	19	○	●			
2					4	SS	406	23		●			
3					5	SS	254	19	○	●			
4					6	SS	330	25		●			
5				7	SS	305	56	○		●			
6				8	SS	0	50 / 0.01						
7													
8													
8		End of Borehole		426.43 7.77									
9		Notes: 1. Borehole dry upon completion of drilling. 2. Monitoring well installed as shown upon completion of drilling.											
10													
11													

GEO - BOREHOLE LOG 101987.017 - FERGUSNORTH_GEO TECH_R0_2023_12_11.GPJ_GEMTEC 2018.GDT 1/15/24

GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV (m)
24/01/03	0.9	433.3

RECORD OF BOREHOLE BH23-28

CLIENT: Geranium
 PROJECT: Fergus Golf Course Redevelopment, Fergus, Ontario
 JOB#: 101987.017
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Nov 15 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	NATURAL	REMOULDED			WATER CONTENT, % W _p W W _L
0		Ground Surface		433.27										
		TOPSOIL		0.00 433.07										
		(SM) SILTY SAND; brown; non-cohesive, moist		0.20	1	SS	254	7	●					
		(CL) sandy SILTY CLAY, trace gravel; brown-grey (mottled) (TILL); cohesive, w<PL, stiff to hard		432.51 0.76	2	SS	457	19	○	●				
1														
2	Power Auger Solid Stem Auger (152 mm)				3	SS	305	8	●					
3					4	SS	457	33	○	●				
4					5	SS	457	38		●				
5					6	SS	457	69	○		●			
6														
7														
8														
9														
10														
11														
		End of Borehole		428.24 5.03										
		Notes:												
		1. Borehole open and dry upon completion of drilling.												
		2. Borehole backfilled with bentonite upon completion of drilling.												
		3. Ground surface interpolation derived from '21016tp07a.dwg' (RP-E Surveying, December 7, 2023). Location not yet surveyed.												

GEO - BOREHOLE LOG 101987.017 - FERGUSNORTH_GEO TECH_R0_2023_12_11.GPJ GEMTEC 2018.GDT 1/15/24

RECORD OF BOREHOLE BH23-29

CLIENT: Geranium
 PROJECT: Fergus Golf Course Redevelopment, Fergus, Ontario
 JOB#: 101987.017
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Nov 10 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	NATURAL	REMOULDED		
0	Power Auger Hollow Stem Auger (203 mm)	Ground Surface		432.72									Monument Bentonite Filter Sand 50 mm dia. well screen End of Augering
		TOPSOIL		0.00 432.52	1	SS	432	6	●				
		(ML) SILT, some sand, trace gravel; brown; cohesive, w~PL		0.20									
1		(CL) SILTY CLAY, trace sand, trace gravel; brown to brown-grey (mottled); cohesive, w~PL, stiff		431.96 0.76	2	SS	457	12	●				
2					3	SS	305	9	●				
3		(ML) gravelly, sandy SILT; brown (TILL); cohesive, w<PL, very stiff to hard - auger grinding on probable cobbles/boulders between approximately 2.3 m and 6.1 m depths		430.43 2.29	4	SS	356	24	●				
4					5	SS	330	66	○ H			MH	
5				6	SS	229	50 / 0.15						
6													
7													
8													
9													
10													
11													

Notes:
 1. Borehole dry upon completion of drilling.
 2. Monitoring well installed as shown upon completion of drilling.

GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV (m)
24/01/03	1.4	431.3

GEO - BOREHOLE LOG 101987.017, FERGUSNORTH, GEOTECH, R0_2023_12_11.GPJ, GEMTEC 2018.GDT, 1/15/24



LOGGED: CC
 CHECKED:

RECORD OF BOREHOLE BH23-30

CLIENT: Geranium
 PROJECT: Fergus Golf Course Redevelopment, Fergus, Ontario
 JOB#: 101987.017
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Nov 10 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE			SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	●	▲	+ NATURAL ⊕ REMOULDED	WATER CONTENT, % W _p W W _L			
0		Ground Surface		432.78											
		TOPSOIL	[Symbol]	432.66											
		(ML) SILT, trace sand, trace gravel; dark brown; cohesive, w<PL	[Symbol]	0.13	1	SS	305	10	●						
1		(CL) sandy SILTY CLAY, trace to some gravel; brown to grey (TILL); cohesive, w<PL to w>PL, stiff to hard	[Symbol]	432.02											
			[Symbol]	0.76	2	SS	279	8	●	○					
2	Power Auger				3	SS	457	26			●				
3	Solid Stem Auger (152 mm)				4	SS	406	53	○		●				
4		End of Borehole		429.27	5	SS	279	21			●				
		Notes: 1. Borehole open and dry upon completion of drilling. 2. Borehole backfilled with bentonite upon completion of drilling. 3. Ground surface interpolation derived from '21016tp07a.dwg' (RP-E Surveying, December 7, 2023). Location not yet surveyed.		3.51											
5															
6															
7															
8															
9															
10															
11															

GEO - BOREHOLE LOG 101987.017 - FERGUSNORTH_GEO TECH_R0_2023_12_11.GPJ_GEMTEC 2018.GDT 1/15/24

RECORD OF BOREHOLE BH23-31

CLIENT: Geranium
 PROJECT: Fergus Golf Course Redevelopment, Fergus, Ontario
 JOB#: 101987.017
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Nov 9 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE			SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV.	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	WATER CONTENT, %		+ NATURAL ⊕ REMOULDED		
				DEPTH (m)						W _p	W			
0	Power Auger Solid Stem Auger (152 mm)	Ground Surface		431.24										
		TOPSOIL		0.00 431.04	1	SS	330	5	●					
		(ML) SILT, some sand; dark brown; cohesive, w<PL		0.20										
1		(CL) sandy SILTY CLAY, trace gravel; brown-grey (mottled) to grey (TILL); cohesive w~PL to w>PL, firm to hard		430.48 0.76	2	SS	457	5	●					
2					3	SS	457	15	●					
3					4	SS	127	67	○		●			
4				5	SS	457	26		●					
4		End of Borehole		427.73 3.51										
4		Notes:												
5		1. Groundwater measured at approximately 0.9 m depth in open borehole upon completion of drilling.												
5		2. Borehole backfilled with bentonite upon completion of drilling.												
5		3. Ground surface interpolation derived from '21016tp07a.dwg' (RP-E Surveying, December 7, 2023). Location not yet surveyed.												
6														
7														
8														
9														
10														
11														

GEO - BOREHOLE LOG 101987.017 - FERGUSNORTH_GEO/TECH_R0_2023_12_11.GPJ_GEMTEC 2018.GDT 1/15/24



LOGGED: CC

CHECKED:

RECORD OF BOREHOLE BH23-32

CLIENT: Geranium
 PROJECT: Fergus Golf Course Redevelopment, Fergus, Ontario
 JOB#: 101987.017
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE:

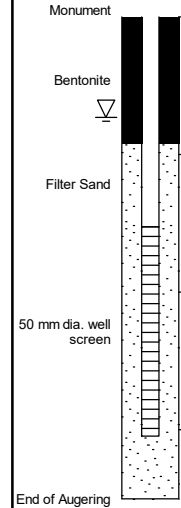


DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE			SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	+ NATURAL ⊕ REMOULDED	WATER CONTENT, % W _p W W _L			
0	Power Auger Solid Stem Auger (152 mm)	Ground Surface		429.48									MH		
		TOPSOIL		0.00 429.28											
		(SM) SILTY SAND; dark brown; non-cohesive, moist		0.20	1	SS	305	7	●						
1		(CL-ML) sandy SILTY CLAY, trace gravel; brown to grey (TILL); cohesive, w<PL, stiff to hard		428.72 0.76	2	SS	457	12	●						
2					3	SS	457	34	○	●					
3					4	SS	457	38		●					
4		End of Borehole		425.97 3.51	5	SS	457	72	○	●					
5	Notes:														
6	1. Groundwater measured at approximately 1.8 m depth in open borehole upon completion of drilling.														
7	2. Borehole backfilled with bentonite upon completion of drilling.														
8	3. Ground surface interpolation derived from '21016tp07a.dwg' (RP-E Surveying, December 7, 2023). Location not yet surveyed.														
9															
10															
11															

GEO - BOREHOLE LOG 101987.017 - FERGUSNORTH_GEO TECH_R0_2023_12_11.GPJ_GEMTEC 2018.GDT 1/15/24

RECORD OF BOREHOLE BH23-33

CLIENT: Geranium
 PROJECT: Fergus Golf Course Redevelopment, Fergus, Ontario
 JOB#: 101987.017
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Nov 13 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	WATER CONTENT, % W _p W W _L	+ NATURAL ⊕ REMOULDED		
0	Power Auger Solid Stem Auger (152 mm)	Ground Surface		429.94								MH	
		TOPSOIL		0.00 429.74	1	SS	356	7	●	○			
		(SM) SILTY SAND; dark brown; non-cohesive, moist		0.20									
1		(CL) sandy SILTY CLAY, trace gravel, brown-grey (mottled) to grey (TILL); cohesive, w<PL, stiff to hard		429.18 0.76	2	SS	457	13	●	○			
					3	SS	457	25		○	●		
2					4	SS	203	28		○	●		
3				5	SS	457	65		○	●			
4		End of Borehole		426.43 3.51									
4	Notes:												
5	1. Borehole dry upon completion of drilling.												
6	2. Monitoring well installed as shown upon completion of drilling.												
7	3. Ground surface interpolation derived from '21016tp07a.dwg' (RP-E Surveying, December 7, 2023). Location not yet surveyed.												
8													
9													
10													
11													




GEO - BOREHOLE LOG_101987.017_FERGUSNORTH_GEO TECH_R0_2023_12_11.GPJ_GEMTEC_2018.GDT_1/15/24

GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV (m)
24/01/04	0.7	429.2

RECORD OF BOREHOLE BH23-34

CLIENT: Geranium
 PROJECT: Fergus Golf Course Redevelopment, Fergus, Ontario
 JOB#: 101987.017
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE:

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE			SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION		
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	●	WATER CONTENT, % W _p — W — W _L					
0	Power Auger Solid Stem Auger (152 mm)	Ground Surface		426.42												
		TOPSOIL		0.00												
		(SM) SILTY SAND; black, trace organics; non-cohesive, moist		426.12	1	SS	330	7	●							
		(CL-ML) sandy SILTY CLAY, trace gravel; brown-grey (mottled) to grey (TILL); cohesive, w<PL, stiff to hard		425.66												
1				0.30												
				0.76	2	SS	457	8	●	○						
2					3	SS	457	10	●							
3					4	SS	457	41		○	●					
4					5	SS	381	44			●					
4		End of Borehole		422.91												
4		Notes:		3.51												
5		1. Groundwater measured at approximately 1.2 m depth in open borehole upon completion of drilling.														
5		2. Borehole backfilled with bentonite upon completion of drilling.														
5		3. Ground surface interpolation derived from '21016tp07a.dwg' (RP-E Surveying, December 7, 2023). Location not yet surveyed.														
6																
7																
8																
9																
10																
11																

GEO - BOREHOLE LOG 101987.017 - FERGUSNORTH_GEO TECH_R0_2023_12_11.GPJ_GEMTEC 2018.GDT 1/15/24

RECORD OF BOREHOLE BH23-35

CLIENT: Geranium
 PROJECT: Fergus Golf Course Redevelopment, Fergus, Ontario
 JOB#: 101987.017
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Nov 10 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE			SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	+ NATURAL ⊕ REMOULDED	WATER CONTENT, % W _p — W — W _L			
0		Ground Surface		429.95											
		TOPSOIL	[Symbol]	0.00											
		(ML) SILT, trace gravel; dark brown; cohesive, w<PL	[Symbol]	429.77	1	SS	330	11	●						
				0.18											
1		(CL) sandy SILTY CLAY, trace gravel, trace rock fragments; brown to grey (TILL), cohesive, w<PL to w~PL, firm to hard	[Symbol]	429.19	2	SS	432	5	●	○					
				0.76											
2	Power Auger Solid Stem Auger (152 mm)				3	SS	457	12	●						
						4	SS	406	71	○			●		
						5	SS	406	40						
3															
4															
5						6	SS	406	40	○			●		
				424.92											
		End of Borehole		5.03											
		Notes: 1. Groundwater measured at approximately 0.9 m depth in open borehole upon completion of drilling. 2. Borehole backfilled with bentonite upon completion of drilling. 3. Ground surface interpolation derived from '21016tp07a.dwg' (RP-E Surveying, December 7, 2023). Location not yet surveyed.													
6															
7															
8															
9															
10															
11															

GEO - BOREHOLE LOG 101987.017 - FERGUSNORTH_GEO TECH_R0_2023_12_11.GPJ_GEMTEC 2018.GDT 1/15/24

RECORD OF BOREHOLE BH23-36

CLIENT: Geranium
 PROJECT: Fergus Golf Course Redevelopment, Fergus, Ontario
 JOB#: 101987.017
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Nov 10 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE			SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	●	▲	+ NATURAL	⊕ REMOULDED			
0	Power Auger Hollow Stem Auger (203 mm)	Ground Surface		430.46										MH	
		TOPSOIL		0.00											
		(SM) SILTY SAND; dark brown; non-cohesive, moist		430.21	1	SS	254	9	●						
1		(CL-ML) sandy SILTY CLAY, trace gravel; brown to brown-grey (TILL), cohesive, w<PL, stiff to very stiff		429.70	2	SS	178	16	●	○					
2				0.25											
		(SM) SILTY SAND; brown; non-cohesive, wet, compact		428.17	3	SS	457	14	●						
3			2.29												
	(CL-ML) sandy SILTY CLAY, trace gravel, trace rock fragments; grey (TILL); cohesive, w<PL, hard		427.41	4	SS	356	11	●	○						
4			3.05												
				5	SS	406	52								
5			425.43	6	SS	76	50 / 0.08	○							
5			5.03												
6	Notes:														
7	1. Borehole dry upon completion of drilling.														
8	2. Monitoring well installed as shown upon completion of drilling.														
9	3. Ground surface interpolation derived from '21016tp07a.dwg' (RP-E Surveying, December 7, 2023). Location not yet surveyed.														
10															
11															

GEO - BOREHOLE LOG - 101987.017 - FERGUSNORTH - GEOTECH_R0_2023_12_11.GPJ - GEMTEC 2018.GDT - 1/15/24

GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV (m)
24/01/04	1.0	▽ 429.5

RECORD OF BOREHOLE BH23-37

CLIENT: Geranium
 PROJECT: Fergus Golf Course Redevelopment, Fergus, Ontario
 JOB#: 101987.017
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE:

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE			SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION		
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	+ NATURAL ⊕ REMOULDED	WATER CONTENT, % W _p W W _L				
0	Power Auger Solid Stem Auger (152 mm)	Ground Surface		428.67												
		TOPSOIL		0.00												
		(ML) SILT, trace gravel; brown-black; cohesive, w~PL		428.39	1	SS	406	4	●							
		(SM) SILTY SAND; brown; non-cohesive, moist, loose		427.91	2	SS	25	9	●							
		(CL) sandy SILTY CLAY, trace gravel; brown to grey (TILL); cohesive, w~PL to w>PL, stiff to very stiff		427.15	3	SS	457	10	●	○						
				423.64	6	SS	457	22	●	○						
5		End of Borehole		5.03												
6		Notes: 1. Groundwater measured at approximately 1.8 m depth in open borehole upon completion of drilling. 2. Borehole backfilled with bentonite upon completion of drilling. 3. Ground surface interpolation derived from '21016tp07a.dwg' (RP-E Surveying, December 7, 2023). Location not yet surveyed.														
7																
8																
9																
10																
11																

GEO - BOREHOLE LOG 101987.017 - FERGUSNORTH_GEO TECH_R0_2023_12_11.GPJ GEMTEC 2018.GDT 1/15/24

RECORD OF BOREHOLE BH23-38

CLIENT: Geranium
 PROJECT: Fergus Golf Course Redevelopment, Fergus, Ontario
 JOB#: 101987.017
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Nov 16 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	NATURAL	REMOULDED			WATER CONTENT, %
0	Power Auger Hollow Stem Auger (203 mm)	Ground Surface		434.67										
		TOPSOIL		0.00 434.49										
		(SM) SILTY SAND, trace rootlets; brown; non-cohesive, moist		0.18	1	SS	229	6	●					
1		(CL-ML / ML) sandy CLAYEY SILT to SILT, trace to some gravel; brown to grey (TILL); cohesive, w<PL to w~PL, very stiff to hard		433.91 0.76	2	SS	178	34	●					
2					3	SS	279	20	●					
3					4	SS	254	43	○					
4					5	SS	279	47	●					
5					6	SS	229	39	●					
6					7	SS	127	50 / 0.08	○				MH	
8					8	SS	279	50 / 0.15	○					
9				9	SS	152	50 / 0.15	○						
10		End of Borehole		425.07 9.60										
11		Notes: 1. Borehole dry upon completion of drilling. 2. Monitoring well installed as shown upon completion of drilling.												



GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV. (m)
24/01/03	0.9	▽ 433.8

GEO - BOREHOLE LOG 101987.017, FERGUSNORTH, GEOTECH, R0_2023_12_11.GPJ, GEMTEC 2018.GDT, 1/15/24

RECORD OF BOREHOLE BH23-39

CLIENT: Geranium
 PROJECT: Fergus Golf Course Redevelopment, Fergus, Ontario
 JOB#: 101987.017
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 2
 DATUM: CGVD28
 BORING DATE: Nov 17 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m		WATER CONTENT, %			
									10	20	30			40
0	Power Auger Solid Stem Auger (152 mm)	Ground Surface		433.55										
		TOPSOIL		0.00 433.32										
		(SM) SILTY SAND; brown; non-cohesive, moist		0.23	1	SS	254	5	●					
1		(CL-ML) sandy SILTY CLAY, some gravel; brown to grey (TILL); w<PL, stiff to hard		432.79 0.76	2	SS	432	20	○	●				
2					3	SS	305	13	●					
3					4	SS	457	29	○	●				MH
4					5	SS	279	41		●				
5					6	SS	305	35	○	●				
6					7	SS	254	50 / 0.15						
8					8	SS	279	50 / 0.15	○					
9				9	SS	254	50 / 0.10							
10		End of Borehole		423.95 9.60										
11		Notes: 1. Borehole open and dry upon completion of drilling. 2. Borehole backfilled with bentonite upon completion of drilling.												

GEO - BOREHOLE LOG 101987.017, FERGUSNORTH, GEOTECH, R0_2023_12_11.GPJ, GEMTEC 2018.GDT, 1/15/24

RECORD OF BOREHOLE BH23-39

CLIENT: Geranium
 PROJECT: Fergus Golf Course Redevelopment, Fergus, Ontario
 JOB#: 101987.017
 LOCATION: See Borehole Location Plan

SHEET: 2 OF 2
 DATUM: CGVD28
 BORING DATE: Nov 17 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE			SAMPLES				TESTING									
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	PENETRATION RESISTANCE (N), BLOWS/0.3m	SHEAR STRENGTH (Cu), kPA	WATER CONTENT, %		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION				
								●	+	⊕	W _p	W	W _L					
11		3. Ground surface interpolation derived from '21016tp07a.dwg' (RP-E Surveying, December 7, 2023). Location not yet surveyed.																
12																		
13																		
14																		
15																		
16																		
17																		
18																		
19																		
20																		
21																		
22																		

GEO - BOREHOLE LOG 101987.017 - FERGUSNORTH_GEO TECH_R0_2023_12_11.GPJ GEMTEC 2018.GDT 1/15/24

RECORD OF BOREHOLE BH23-40

CLIENT: Geranium
 PROJECT: Fergus Golf Course Redevelopment, Fergus, Ontario
 JOB#: 101987.017
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Nov 17 2023





DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	●	+ NATURAL ⊕ REMOULDED		
0	Power Auger Solid Stem Auger (152 mm)	Ground Surface		433.71									
		TOPSOIL		433.46	1	SS	279	6	●	○			
		(SM) SILTY SAND; brown; non-cohesive, moist		432.95									
1		(CL-ML) sandy SILTY CLAY, trace gravel; brown to grey (TILL); cohesive, w<PL to w~PL, very stiff to hard		432.95	2	SS	254	78				●	
				0.25									
				0.76									
2					3	SS	457	20	○	●			
3					4	SS	457	34				●	
4				5	SS	457	27	○	●	—			
5				6	SS	457	50				●		
6				7	SS	457	50 / 0.15						
7				8	SS	457	50 / 0.14					○	
8		End of Borehole		425.63									
		Notes:		8.08									
9		1. Borehole open and dry upon completion of drilling.											
10		2. Borehole backfilled with bentonite upon completion of drilling.											
11		3. Ground surface interpolation derived from '21016tp07a.dwg' (RP-E Surveying, December 7, 2023). Location not yet surveyed.											

GEO - BOREHOLE LOG 101987.017 - FERGUSNORTH_GEO TECH_R0_2023_12_11.GPJ_GEMTEC 2018.GDT 1/15/24

RECORD OF BOREHOLE BH23-41

CLIENT: Geranium
 PROJECT: Fergus Golf Course Redevelopment, Fergus, Ontario
 JOB#: 101987.017
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Nov 14 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	⊕ NATURAL ⊕ REMOULDED		
0	Power Auger Hollow Stem Auger (203 mm)	Ground Surface		434.64									Monument Concrete 
		TOPSOIL		0.00 434.41	1	SS	229	5	●				
		(SM) SILTY SAND; dark brown; non-cohesive, moist		0.23									
1		(ML) sandy SILT, trace gravel; brown-grey (mottled) to grey (TILL), cohesive, w<PL, very stiff to hard		433.88 0.76	2	SS	254	30	●				
2		- auger grinding on probable cobbles/boulders between approximately 1.5 m and 2.8 m depths			3	SS	330	26	○ H	●			
					4	SS	25	62			●		
					5	SS	432	30		●			
					6	SS	178	60			●		
6				7	SS	254	50 / 0.13	○ H					
				8	SS	305	50 / 0.13						
8			426.56 8.08										
9		End of Borehole											
10		Notes: 1. Borehole dry upon completion of drilling. 2. Monitoring well installed as shown upon completion of drilling. 3. Auger refusal encountered at approximately 3.8 m depth. Borehole moved 1 m north.											
11													

GEO - BOREHOLE LOG 101987.017 - FERGUSNORTH_GEO/TECH_R0_2023_12_11.GPJ_GEMTEC 2018.GDT 1/15/24

GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV (m)
24/01/03	0.7	433.9

RECORD OF BOREHOLE BH23-42

CLIENT: Geranium
 PROJECT: Fergus Golf Course Redevelopment, Fergus, Ontario
 JOB#: 101987.017
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Nov 15 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	+ NATURAL ⊕ REMOULDED			WATER CONTENT, % W _p — W — W _L
0	Power Auger Solid Stem Auger (152 mm)	Ground Surface		433.55										
		TOPSOIL		0.00										
		(SM) SILTY SAND, trace organics; brown; non-cohesive, moist		433.30	1	SS	279	5	●					
				0.25										
1		(CL) sandy SILTY CLAY, trace gravel; brown to grey (TILL), cohesive, w<PL, very stiff to hard		432.79	2	SS	305	21	●					
				0.76										
		- auger grinding on probable cobbles/boulders between approximately 1.3 m and 4.6 m depths			3	SS	406	18	●					
2					4	SS	457	29	●					
3				5	SS	381	27	●	○					
4				6	SS	457	39	●						
5				7	SS	457	87 / 0.13							
6				8	SS	356	50 / 0.14							
8		End of Borehole		425.47										
		Notes:		8.08										
9		1. Borehole open and dry upon completion of drilling.												
10		2. Borehole backfilled with bentonite upon completion of drilling.												
11		3. Ground surface interpolation derived from '21016tp07a.dwg' (RP-E Surveying, December 7, 2023). Location not yet surveyed.												

GEO - BOREHOLE LOG, 101987.017, FERGUSNORTH, GEOTECH, R0_2023_12_11.GPJ, GEMTEC 2018.GDT, 1/15/24

RECORD OF BOREHOLE BH23-43

CLIENT: Geranium
 PROJECT: Fergus Golf Course Redevelopment, Fergus, Ontario
 JOB#: 101987.017
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Nov 20 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	WATER CONTENT, %	+ NATURAL		
0	Power Auger Hollow Stem Auger (203 mm)	Ground Surface		434.63									
		TOPSOIL		0.00 434.40									
		(SM) SILTY SAND, trace gravel; brown; non-cohesive, moist		0.23	1	SS	229	14	●				
1		(CL-ML) sandy SILTY CLAY, trace gravel; brown to grey (TILL); cohesive, w<PL to w~PL, very stiff to hard		433.87 0.76	2	SS	279	25	●				
2					3	SS	279	16	○ ●				
3					4	SS	305	28	●				
4					5	SS	25	50 / 0.10	○				
5					6	SS	254	50 / 0.15	○				
6				7	SS	25	50 / 0.03	○					
7				8	SS	203	50 / 0.15	○					
8		End of Borehole		426.55 8.08									
9		Notes:											
10		1. Borehole dry upon completion of drilling.											
		2. Monitoring well installed as shown upon completion of drilling.											
		3. Auger refusal encountered at approximately 0.6 m depth. Borehole moved 2 m east.											
11													

GEO - BOREHOLE LOG 101987.017, FERGUSNORTH, GEOTECH, R0_2023_12_11.GPJ, GEMTEC 2018.GDT, 1/15/24

GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV. (m)
24/01/03	0.7	▽ 434.0

RECORD OF BOREHOLE BH23-44

CLIENT: Geranium
 PROJECT: Fergus Golf Course Redevelopment, Fergus, Ontario
 JOB#: 101987.017
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Nov 20 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	▲ DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	● PENETRATION RESISTANCE (N), BLOWS/0.3m	+ NATURAL ⊕ REMOULDED		
0	Power Auger Hollow Stem Auger (203 mm)	Ground Surface		434.50									
		TOPSOIL		0.00 434.32									
		(SM) SILTY SAND, trace gravel; brown; moist		0.18	1	SS	457	13	●				
1		(CL-ML) sandy SILTY CLAY, trace to some sand, trace to some gravel; brown to grey (TILL); w<PL, very stiff to hard		433.74 0.76									
					2	SS	305	15	○	●			
2					3	SS	76	15		●			
3					4	SS	330	40	○	●			
4					5	SS	51	45		●			
5				6	SS	229	30	○	●				
6				7	SS	203	50 / 0.15						
7				8	SS	305	90 / 0.15	○					
8													
8		End of Borehole		426.42 8.08									
9		Notes: 1. Borehole dry upon completion of drilling. 2. Monitoring well installed as shown upon completion of drilling.											
10													
11													

GEO - BOREHOLE LOG, 101987.017, FERGUSNORTH, GEOTECH, R0_2023_12_11.GPJ, GEMTEC 2018.GDT, 1/15/24



LOGGED: CC
 CHECKED:

GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV. (m)
24/01/03	0.7	433.8

RECORD OF BOREHOLE BH23-45

CLIENT: Geranium
 PROJECT: Fergus Golf Course Redevelopment, Fergus, Ontario
 JOB#: 101987.017
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Nov 15 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE		SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	NATURAL	REMOULDED			WATER CONTENT, % W _p W W _L
0	Power Auger Hollow Stem Auger (203 mm)	Ground Surface		433.73								MH		
		TOPSOIL		433.98	1	SS	203	5	●					
		(SM) SILTY SAND; dark brown; non-cohesive, moist		433.53										
1		(CL-ML) sandy SILTY CLAY, trace to some gravel; brown to grey (TILL); cohesive, w<PL, stiff to hard		432.97	2	SS	356	12	●					
				0.76										
2					3	SS	305	10	●					
3					4	SS	279	17	●					
4					5	SS	457	22	○	●				
5				6	SS	457	61			●				
6				7	SS	305	50 / 0.08	○						
7				8	SS	229	50 / 0.10							
8														
8		End of Borehole		425.65										
				8.08										
9		Notes: 1. Borehole dry upon completion of drilling. 2. Monitoring well installed as shown upon completion of drilling.												
10														
11														

GEO - BOREHOLE LOG, 101987.017, FERGUSNORTH, GEOTECH, R0_2023_12_11.GPJ, GEMTEC 2018.GDT, 1/15/24

GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV. (m)
24/01/03	0.6	433.2

RECORD OF BOREHOLE BH23-46

CLIENT: Geranium
 PROJECT: Fergus Golf Course Redevelopment, Fergus, Ontario
 JOB#: 101987.017
 LOCATION: See Borehole Location Plan

SHEET: 1 OF 1
 DATUM: CGVD28
 BORING DATE: Nov 16 2023

DEPTH SCALE METRES	BORING METHOD	SOIL PROFILE			SAMPLES				PENETRATION RESISTANCE (N), BLOWS/0.3m		SHEAR STRENGTH (Cu), kPA		ADDITIONAL LAB. TESTING	PIEZOMETER OR STANDPIPE INSTALLATION	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY, mm	BLOWS/0.3m	DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m	NATURAL	REMOULDED	WATER CONTENT, % W _p W W _L			
0	Power Auger Hollow Stem Auger (203 mm)	Ground Surface		433.75											
		TOPSOIL		0.00 433.55											
		(SM) SILTY SAND; brown; non-cohesive, moist		0.20	1	SS	254	7	●						
1		(CL-ML) sandy SILTY CLAY, trace gravel; brown to grey (TILL); cohesive, w<PL, stiff to hard		432.99 0.76											
					2	SS	76	14	●						
					3	SS	279	11	●						
					4	SS	76	50 / 0.15	○						
3	- auger grinding on probable cobbles/boulders between approximately 2.8 m and 3.1 m depths														
				5	SS	152	80	○				●			
				6	SS	457	86	○				●			
5		End of Borehole		428.72 5.03											
6	Notes: 1. Borehole dry upon completion of drilling. 2. Monitoring well installed as shown upon completion of drilling. 3. Auger refusal encountered at approximately 2.4 m depth. Borehole moved 1 m north.														
7															
8															
9															
10															
11															

GEO - BOREHOLE LOG 101987.017 - FERGUSNORTH_GEO/TECH_R0_2023_12_11.GPJ GEMTEC 2018.GDT 1/15/24

GROUNDWATER OBSERVATIONS		
DATE	DEPTH (m)	ELEV (m)
24/01/03	0.2	433.6



BURNSIDE

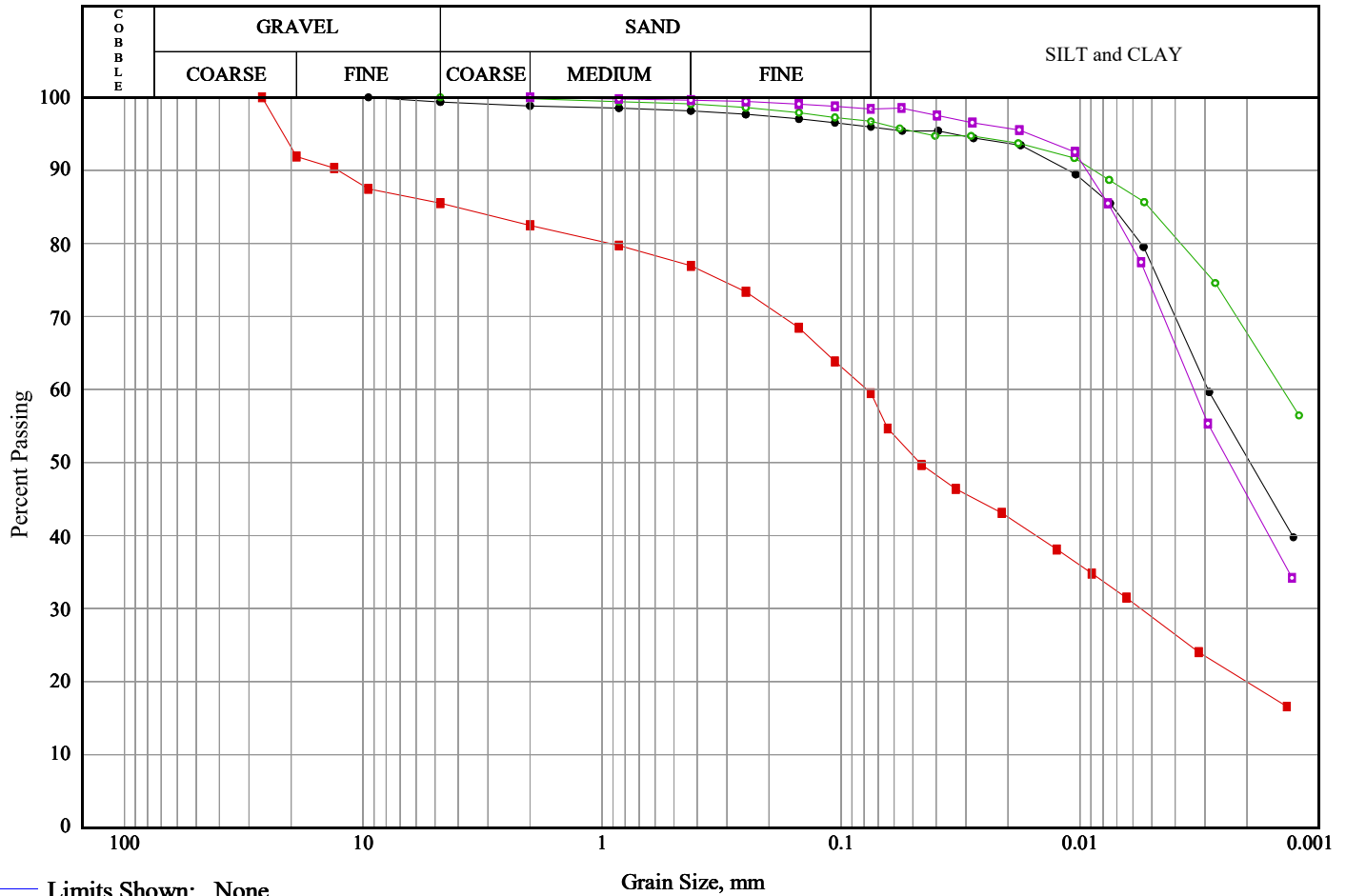
[THE DIFFERENCE IS OUR PEOPLE]

Appendix B

Grain Size Analysis



Note: More information available upon request

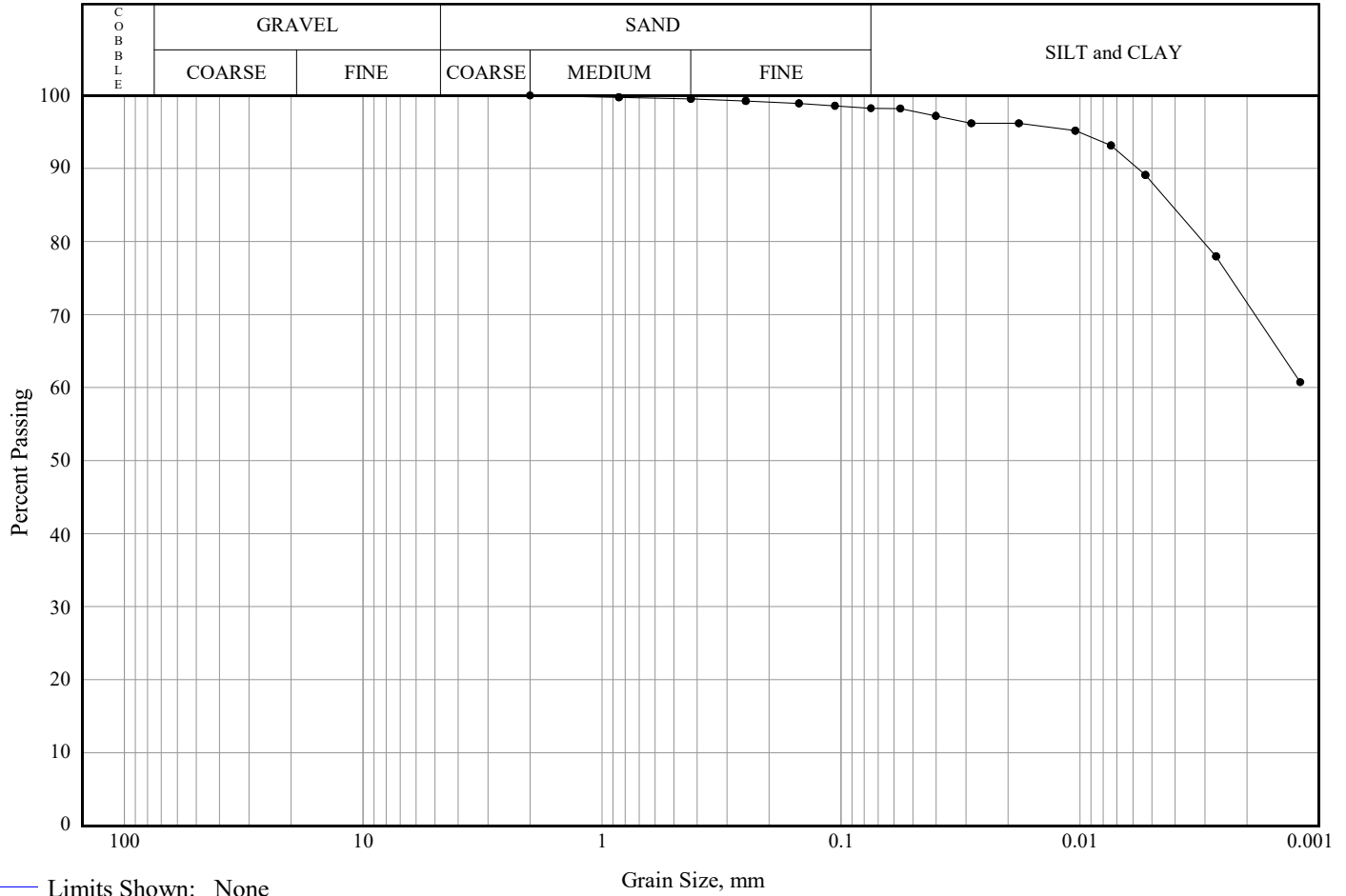


Line Symbol	Sample	Borehole/ Test Pit	Sample Number	Depth	% Cob.+ Gravel	% Sand	% Silt	% Clay
—●—		24-03	SA-7	N/A	0.6	3.4	45.2	50.7
—■—		24-01	SA-5	3.0-3.5	14.5	26.0	39.6	19.9
—○—		24-01	SA-9A	9.2-9.54	0.0	3.3	29.0	67.7
—□—		24-02	SA-7	6.1-6.6	0.0	1.6	52.9	45.5

Line Symbol	CanFEM Classification	USCS Symbol	D ₁₀	D ₁₅	D ₃₀	D ₅₀	D ₆₀	D ₈₅	% 5-75µm
—●—	Clay and silt , trace gravel, trace sand	N/A	---	---	---	0.00	0.00	0.01	45.2
—■—	Sandy silt , some gravel, some clay	N/A	---	---	0.01	0.05	0.08	4.11	39.6
—○—	Silty clay , trace sand	N/A	---	---	---	---	0.00	0.01	29.0
—□—	Silt and clay , trace sand	N/A	---	---	---	0.00	0.00	0.01	52.9



Note: More information available upon request



Line Symbol	Sample	Borehole/ Test Pit	Sample Number	Depth	% Cob.+ Gravel	% Sand	% Silt and Clay
—●—		24-2	SA-8	7.8-8.1	0.0	1.8	98.2

Line Symbol	USCS Classification	USCS Symbol	D ₁₀	D ₁₅	D ₃₀	D ₅₀	D ₆₀	D ₈₅	% 5-75µm
—●—	Silty clay , trace sand	N/A	---	---	---	---	---	0.00	26.6

**GEMTEC**CONSULTING ENGINEERS
AND SCIENTISTS

Client Geranium

Project: Fergus Golf Course Redevelopment, Fergus, Ontario

Project #: 101987017

**Soils Sieve and
Hydrometer**

Sample #: SA-07	Description:	
Borehole/Test Pit: 23-03	Depth: N/A	
Date/Time Sampled: 24/02/06 12:14:00 PM	Date/Time Tested: 24/02/06 12:15:01 PM	

Material finer finer than - #200 : 95.9 %

GrainSize, mm	Total % Passing
	100.00
	100.00
	100.00
	100.00
75	100.00
63	100.00
53	100.00
37.5	100.00
26.5	100.00
19	100.00
13.2	100.00
9.5	100.00
4.75	99.38
2	98.83
0.85	98.52
0.425	98.14
0.25	97.67
0.15	97.06
0.106	96.54
0.075	95.95
0.0554	95.43
0.0392	95.43
0.0279	94.43
0.0177	93.44
0.0104	89.46
0.0075	85.48
0.0054	79.52
0.0029	59.64
0.0013	39.76

<i>Interpolated:</i>	0.0200	93.70
	0.0050	79.52
	0.0020	50.74



GEMTEC
CONSULTING ENGINEERS
AND SCIENTISTS

Client	Geranium
Project:	Fergus Golf Course Redevelopment, Fergus, Ontario
Project #:	101987017

Soils Sieve and Hydrometer

Sample #: SA-05	Description:	
Borehole/Test Pit: 24-01	Depth: 3.0-3.5	
Date/Time Sampled: 24/01/19 11:15:23 AM	Date/Time Tested: 24/01/24 1:34:53 PM	

Material finer finer than - #200 : 59.5 %

GrainSize, mm	Total % Passing
	100.00
	100.00
	100.00
	100.00
75	100.00
63	100.00
53	100.00
37.5	100.00
26.5	100.00
19	91.90
13.2	90.30
9.5	87.49
4.75	85.51
2	82.46
0.85	79.71
0.425	76.94
0.25	73.39
0.15	68.46
0.106	63.84
0.075	59.50
0.0638	54.66
0.0461	49.69
0.0331	46.38
0.0212	43.07
0.0125	38.10
0.0089	34.78
0.0064	31.47
0.0032	24.02
0.0014	16.56

<i>Interpolated:</i>	0.0200	42.52
	0.0050	28.86
	0.0020	19.94



GEMTEC
CONSULTING ENGINEERS
AND SCIENTISTS

Client	Geranium
Project:	Fergus Golf Course Redevelopment, Fergus, Ontario
Project #:	101987017

Soils Sieve and Hydrometer

Sample #: SA-09A	Description:	
Borehole/Test Pit: 24-01	Depth: 9.2-9.54	
Date/Time Sampled: 24/01/19 11:14:00 AM	Date/Time Tested: 24/01/24 1:28:30 PM	

Material finer finer than - #200 : 96.7 %

GrainSize, mm	Total % Passing
	100.00
	100.00
	100.00
	100.00
75	100.00
63	100.00
53	100.00
37.5	100.00
26.5	100.00
19	100.00
13.2	100.00
9.5	100.00
4.75	100.00
2	99.81
0.85	99.41
0.425	99.09
0.25	98.60
0.15	97.90
0.106	97.24
0.075	96.72
0.0567	95.73
0.0403	94.73
0.0285	94.73
0.0181	93.72
0.0106	91.70
0.0075	88.68
0.0054	85.66
0.0027	74.57
0.0012	56.43

<i>Interpolated:</i>	0.0200	93.94
	0.0050	85.66
	0.0020	67.73

**GEMTEC**CONSULTING ENGINEERS
AND SCIENTISTS

Client Geranium

Project: Fergus Golf Course Redevelopment, Fergus, Ontario

Project #: 101987017

**Soils Sieve and
Hydrometer**

Sample #: SA-07	Description:	
Borehole/Test Pit: 24-02	Depth: 6.1-6.6	
Date/Time Sampled: 24/01/19 11:15:23 AM	Date/Time Tested: 24/01/24 1:41:01 PM	

Material finer finer than - #200 : 98.4 %

GrainSize, mm	Total % Passing
	100.00
	100.00
	100.00
	100.00
75	100.00
63	100.00
53	100.00
37.5	100.00
26.5	100.00
19	100.00
13.2	100.00
9.5	100.00
4.75	100.00
2	100.00
0.85	99.78
0.425	99.62
0.25	99.44
0.15	99.08
0.106	98.76
0.075	98.42
0.0558	98.54
0.0397	97.54
0.0282	96.53
0.0179	95.53
0.0105	92.51
0.0076	85.47
0.0055	77.43
0.0029	55.31
0.0013	34.19

<i>Interpolated:</i>	0.0200	95.77
	0.0050	73.85
	0.0020	45.50



GEMTEC
CONSULTING ENGINEERS
AND SCIENTISTS

Client	Geranium
Project:	Fergus Golf Course Redevelopment, Fergus, Ontario
Project #:	101987017

Soils Sieve and Hydrometer

Sample #: SA-08	Description:	
Borehole/Test Pit: 24-02	Depth: 7.8-8.1	
Date/Time Sampled: 24/01/19 11:15:23 AM	Date/Time Tested: 24/01/24 1:37:11 PM	

Material finer finer than - #200 : 98.2 %

GrainSize, mm	Total % Passing
	100.00
	100.00
	100.00
	100.00
75	100.00
63	100.00
53	100.00
37.5	100.00
26.5	100.00
19	100.00
13.2	100.00
9.5	100.00
4.75	100.00
2	100.00
0.85	99.76
0.425	99.54
0.25	99.24
0.15	98.90
0.106	98.58
0.075	98.24
0.0564	98.21
0.0401	97.19
0.0285	96.18
0.0180	96.18
0.0104	95.17
0.0074	93.14
0.0053	89.09
0.0027	77.96
0.0012	60.75

<i>Interpolated:</i>	0.0200	96.18
	0.0050	89.09
	0.0020	71.65



BURNSIDE

[THE DIFFERENCE IS OUR PEOPLE]

Appendix C

WSP/Golder Report Table 1 and Figure 2

Table 1: Summary of Estimated Hydraulic Conductivity

Borehole	Unit Screened	Depth of Monitoring Well (mbgs)	Method	K (m/s)
Screened Intervals including Non-Cohesive Soil Units				
BH21-05	(SM) Silty Sand; (SM-ML) Silt and Sand (CL) Clayey Silt TILL	4.0	Bouwer and Rice (1976), unconfined	2×10^{-6}
BH21-06	(SM) Silty Sand; (CL) Sandy Silty Clay TILL	4.9	Bouwer and Rice (1976), unconfined	2×10^{-7}
BH21-08	(SM) Silty Sand; (CL) Clayey Silt TILL	4.2	Bouwer and Rice (1976), unconfined	4×10^{-6}
BH21-18	(ML) Sandy Silt; (SM-GM) Silty Sand and Gravel; (CL) Silty Clay TILL; (SM/ML) Silt and Sand TILL	4.2	Bouwer and Rice (1976), unconfined	2×10^{-7}
Screened Intervals with only Cohesive Soil Units				
BH21-01	(CL) Silty Clay TILL	5.8	Bouwer and Rice (1976), unconfined	8×10^{-9}
BH21-03	(CL-ML) Silty Clay-Clayey Silt; (CL) Silty Clay TILL	4.1	Bouwer and Rice (1976), unconfined	6×10^{-6}
BH21-07S (Shallow)	(CL-ML) Silty Clay-Clayey Silt; (CM-ML) Sandy Silty Clay-Clayey Silt (TILL)	2.7	Bouwer and Rice (1976), unconfined	6×10^{-7}
BH21-10	(CL) Sandy Silty Clay TILL	5.9	Bouwer and Rice (1976), unconfined	2×10^{-8}
BH21-16	(CL-ML) Silty Clay-Clayey Silt TILL	5.1	Bouwer and Rice (1976), unconfined	6×10^{-8}
BH21-17	(CL-ML) Sandy Silty Clay-Clayey Silt TILL	4.6	Bouwer and Rice (1976), unconfined	1×10^{-8}

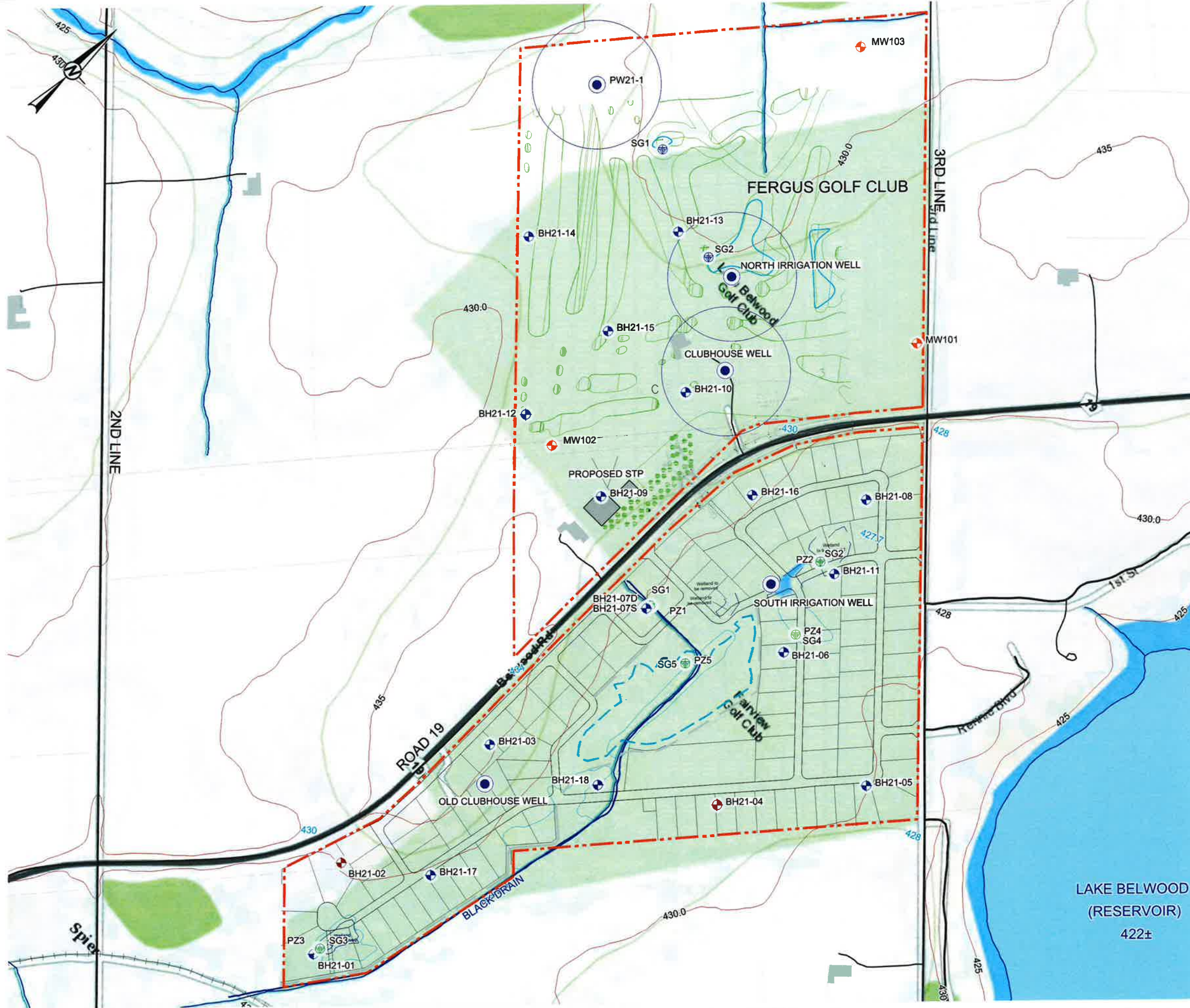
Note:

mbgs – metres below ground surface. m/s –metres per second

The hydraulic conductivity estimates from screened intervals that included non-cohesive soil units are most likely to be representative of the hydraulic conductivity of those units, and ranged from 2×10^{-7} m/s to 4×10^{-6} m/s with a geometric mean of 7×10^{-7} m/s (n = 4). These values are considered to be reasonable for the units tested.

The hydraulic conductivity estimates from screened intervals that included mainly cohesive and non-cohesive soils and glacial till units ranged from 8×10^{-9} m/s to 6×10^{-6} m/s, with a geometric mean of 8×10^{-8} m/s (n=6). These values are considered to be reasonable for the units tested, with the exception of the hydraulic conductivity value estimated from Borehole BH21-03 (6×10^{-6} m/s), which is higher than expected for silty clay-clayey silt and clayey silt till soils.

Path: \\g:\data\gis\gpr\Barr\ComplexData\SMM\Clients\Gensum\Fergus_Golf\Barr\Properties\199_PROD\21456909\40_PROD\010111_Myoc\0_Update\1 | File Name: 21456909-011-CH-002.dwg | Last Edited By: gld_jregier | Date: 2023-04-28 Time: 12:56:52 PM | Printed By: gld_jregier | Date: 2023-04-28 Time: 12:56:52 PM



PLAN LEGEND

- - - PROPERTY BOUNDARY
- MAPPED WETLAND FEATURE
- CONCEPT PLAN WETLAND PROTECTED AREA

SITE EXISTING & PROPOSED WELLS

- BOREHOLE
- OVERBURDEN MONITORING WELL
- BEDROCK MONITORING WELL
- STAFF GAUGE
- PIEZOMETER
- EXISTING PRODUCTION WELL

REFERENCES & DISCLAIMERS

BASE IMAGERY - SOURCE: ESRI, MAXAR, GEOEYE; GIS USER COMMUNITY.

ALIGNMENT OF ORTHOGRAPHIC IMAGERY IS APPROXIMATED TO SELECT FEATURES ON DATUM. AWAY FROM POINTS OF ALIGNMENT THE ORTHOGRAPHIC IMAGE MAY BE DIMENSIONALLY SKEWED OR PROJECTED OFF THE MAP DATUM PLANE.

DEVELOPMENT CONCEPT; GSP GROUP, PROVIDED APRIL 2023.

0 120 240 360 m
1:8000
PLOTTED 11X17" TABLOID PROJECTION IS UTM NAD 83 ZONE 17

CLIENT
883890 ONTARIO LIMITED
 c/o FERGUS DEVELOPMENT INC.

PROJECT
FERGUS GOLF CLUB
HYDROGEOLOGICAL INVESTIGATION

TITLE
SITE LOCATION MAP

CONSULTANT	YYYY-MM-DD	2023-04-28
	DESIGNED	
	PREPARED	JPR
	REVIEWED	DH
	APPROVED	JAP

PROJECT NO. 21456909 CONTROL 0011 REV. ---- FIGURE 2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN ADJUSTED FROM A4S B



Administration Centre: 400 Clyde Road, P.O. Box 729 Cambridge, ON N1R 5W6

Phone: 519-621-2761 Toll free: 1-866-900-4722 Fax: 519-621-4844 www.grandriver.ca

June 16, 2022

Via email

Chantalle Pellizzari, Development Coordinator
Centre Wellington,
1 Macdonald Square,
Elora ON, NOB 1S0

Dear Ms. Pellizzari,

Re: RZ06-22, OP2022-01, 23T-22001, 23CD-22001; Fergus Golf Course Redevelopment

Grand River Conservation Authority (GRCA) staff has reviewed the above-noted application for Rezoning to facilitate the redevelopment of the Fergus Golf Course for a Plan of Subdivision and a Plan of Condominium, and has prepared the following comments on the Zoning By-law Amendment, Official Plan, Subdivision and Condominium applications.

GRCA has reviewed the information that has been provided to date, and has the following comments to offer regarding the proposed redevelopment.

GRCA Comments

GRCA has reviewed this application as per our delegated responsibility from the Province to represent provincial interests regarding natural hazards identified in Section 3.1 of the Provincial Policy Statement (PPS, 2020) and as a regulatory authority under Ontario Regulation 150/06. GRCA has also provided comments as per our MOU with the County of Wellington and as a public body under the Planning Act as per our CA Board approved policies.

The subject lands contain wetland features, and watercourses with associated buffers delineating the GRCA regulation limits.

GRCA Comments:

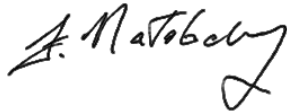
- Groundwater levels should be shown on Figure 8. Can be provided at the next stage in process.
- Further details for how major flows will enter SWM pond will need to be provided at the next stage in process
- Water Balance: A decrease of 14% of infiltration is expected over the site. LID features will try to be incorporated during detailed design. GW could be limiting factor with average depth 0.6.

Advisory Comments:

- Provide automated monitoring and alarming of the sewage pumping station and provide backup power to ensure that the sewage pumping station does not overflow into the nearest watercourse in the event of a loss of hydro or equipment failure.

The proponents will be invoiced for the remaining fees associated with this review. Should you have any questions, please contact Ben Kissner at 519-621-2763 ext. 2237 or bkissner@grandriver.ca.

Sincerely,

A handwritten signature in black ink, appearing to read "F. Natolochny". The signature is fluid and cursive, with a large loop at the end.

Fred Natolochny, MCIP, RPP
Supervisor of Resource Planning - North & South, Resource Planning

Grand River Conservation Authority

cc: Geranium c/o Farrah Ward



Administration Centre: 400 Clyde Road, P.O. Box 729 Cambridge, ON N1R 5W6

Phone: 519-621-2761 Toll free: 1-866-900-4722 Fax: 519-621-4844 www.grandriver.ca

June 21, 2022

Via email

Chantalle Pellizzari, Development Coordinator
Centre Wellington,
1 Macdonald Square,
Elora ON, N0B 1S0

Dear Ms. Pellizzari,

Re: RZ06-22, OP2022-01, 23T-22001, 23CD-22001; Fergus Golf Course Redevelopment

Grand River Conservation Authority (GRCA) staff has reviewed the above-noted application for Rezoning to facilitate the redevelopment of the Fergus Golf Course for a Plan of Subdivision and a Plan of Condominium, and has prepared the following comments on the Zoning By-law Amendment, Official Plan, Subdivision and Condominium applications. These comments update and replace our previously issued comments dated June 16th 2022.

GRCA has reviewed the information that has been provided to date, and has no objections to the proposed Official Plan amendment. The additional information that is requested below may impact the lot pattern and proposed zone provisions, therefore GRCA is requesting that the applications for the Plan of Condominium and Subdivision and their implementing Zoning By-law Amendment be deferred to allow the applicant an opportunity to address the comments.

Documents Reviewed:

- GRCA Mapping of Property.
- Environmental Impact Study Fergus Golf Club, Township of Centre Wellington, Wellington County. Beacon Environmental. February 2022.
- Hydrogeological Investigation. Proposed Residential Development, 8243 and 8282 Wellington Road 19, Fergus, Ontario. Golder Associates Ltd. February 2022.
- Fergus Golf Club Stormwater Management Report. RJ Burnside and Associates Limited. January 2022.
- Functional Servicing Report – Fergus Golf Course. 883890 Ontario Limited c/o Fergus Development Inc. 3190 Steeles Avenue East, Suite 300, Markham Ontario L3R 1G9.

GRCA Comments

GRCA has reviewed this application as per our delegated responsibility from the Province to represent provincial interests regarding natural hazards identified in Section 3.1 of the Provincial Policy Statement (PPS, 2020) and as a regulatory authority under Ontario Regulation 150/06. GRCA has also provided comments as per our MOU with the County of Wellington and as a public body under the Planning Act as per our CA Board approved policies.

The subject lands contain wetland features, and watercourses with associated adjacent areas.

1. If available, the approved Terms of References for the study should also be included in the EIS appendices.

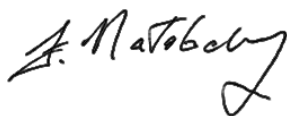
2. It is indicated in the EIS that wetlands on site are unevaluated and not considered significant. Evaluation work using the OWES protocol to confirm status should be completed and presented as part of the EIS, or a clear rationale indicating how these wetlands are not significant should be provided. GRCA requests that field data sheets be included in the appendices of the EIS report. We request that the wetland units proposed for removal meet all of the requirements under Section 8.4.4 of the GRCA's *Policies for the Administration of the Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation* document.
3. Please provide justification for using a 10 m buffer for the retained wetland unit. Additionally, please indicate whether the planned trail or other development components will remain completely outside of this buffer, and if any additional mitigations are planned for the buffer (e.g. enhancement plantings within the 10 m buffer).
4. Please add more detailed discussion on the potential impacts that the predicted post-development changes to the water balance in the study area may have on the wetland.
5. The proposed enclosure the Black Drain in a culvert may impact fish habitat or be contributory to fish habitat. The EIS should address this issue, and examine if the proposed works would meet the GRCA policy 9.1.2.
6. Please also confirm that thermal mitigations will be employed for the release of storm water into the cold water Black Drain system.
7. Ensure that DFO is consulted regarding potential impacts to fisheries.

Advisory Comments:

- Water Balance: A decrease of 14% of infiltration is expected over the site. LID features will try to be incorporated during detailed design. Ground Water could be limiting factor with average depth 0.6. Please consider the Groundwater levels should be shown on Figure 8. Can be provided at the detailed design stage.
- Further details for how major flows will enter SWM pond will need to be provided at the detailed design stage.
- Please address the setbacks identified in the Centre Wellington Zoning By-law, section 4.12 Environmental Protection (Ep) Zone, Municipal Drain And Watercourse Setbacks; in particular the subsection 4.12.3 and/or 4.12.4.

We acknowledge the initial payment of \$33, 520, however the total review fee is calculated to be \$51, 292.25. The proponents will be invoiced for the remaining \$22, 177.25 associated with this review. Should you have any questions, please contact Ben Kissner at 519-621-2763 ext. 2237 or bkissner@grandriver.ca.

Sincerely,



Fred Natolochny, MCIP, RPP

Supervisor of Resource Planning - North & South, Resource Planning
Grand River Conservation Authority

cc: County of Wellington
Geranium c/o Farrah Ward

Ministry of the Environment,
Conservation and Parks
Drinking Water and Environmental
Compliance Division
West Central Region

Ministère de l'Environnement de la
Protection de la nature et des Parcs
Division de la conformité en matière
d'eau potable et d'environnement
Direction régionale du Centre-Ouest



119 King Street West, 12th Floor
Hamilton, Ontario L8P 4Y7
Tel.: 905 521-7640
Fax: 905 521-7820

119 rue King Ouest, 12^e étage
Hamilton (Ontario) L8P 4Y7
Tél.: 905 521-7640
Télec.: 905 521-7820

January 30, 2023

MEMORANDUM

To: Lynnette Armour
Environmental Officer
Guelph District Office

From: Maisa Fumagalli
Surface Water Specialist
Technical Support Section

RE: Fergus Golf Course Redevelopment Project
County Road 19, Centre Wellington
Surface Water Technical Review Request, Reference Number: 1-132234034

In preparation of this memorandum, I have reviewed the following report:

1. Technical Memorandum, Fergus Golf Club Redevelopment, dated September 15, 2022, Project No.: 300052719.0000, Submitted By: Anne Egan, P.Eng. R.J. Burnside & Associates Limited

Background

The Fergus Golf Club Redevelopment project aims to convert a portion of the golf club to a 188 dwelling residential development. The 39 ha parcel (SE Site) is located south of County Road 19, Centre Wellington, while the northern (NW Site) 42 ha will remain operational as the 18-hole golf course.

The site is located in the Upper Grand watershed. The Living Springs Wetland Complex is a Provincially Significant Swamp Wetland located just beyond the northwest site boundary. Irvine Creek flows southwest through this wetland.

The NW Site includes the clubhouse, on-site sewage system, and 2 interconnecting constructed ponds that are used for irrigation of the golf course. The ponds are off-line storage with no outlet or overflow. An irrigation well is also on the NW Site and used to fill the ponds. This area has primarily low permeability soils.

The proposed development includes a communal well water supply and treatment facility, and a new wastewater treatment plant discharging treated effluent to the ponds to irrigate the golf course. The proposed wastewater treatment facility is also to accept flows from the existing golf course clubhouse. The memo notes an ECA was issued in 2004 for the existing system.

Wastewater Treatment and Capacity

Effluent will be treated to remove solids, organics, ammonia, and pathogens. Treatment will include denitrification, phosphorus removal, and disinfection. Treated effluent will discharge to the irrigation pond, which will be the point of compliance. Effluent will be spread over the 42 ha NW Site through the golf course irrigation system. The final treatment plant design is yet to be confirmed. Effluent objects are proposed based on similar operations in Ontario and on groundwater sampling.

Based on Township and MECP guidelines, the development capacity is calculated for 365 people, with a conservative total wastewater design average daily flow of 175 m³/day. This includes 127,782 L/day for the proposed development, 10,000L for the golf clubhouse (current system has a maximum of 5,500L/day), and inflow and infiltration allowance.

The Memo notes that the pond would be required to store ~37,625 m³ of effluent during the off season of October-April, or 215 days at the average daily flow of 175 m³/day. The ponds capacity is 64,250 m³ which is reportedly 1.7 times the above noted required volume. The Memo also notes the golf course typically draws down the water level in the ponds at the end of the golf season, and that this should continue in future to ensure adequate storage.

Comments and Conclusion

1. The assessment does not account for precipitation and overland flow in calculations of storage capacity of the ponds. Water balance calculations or estimates should be provided to ensure the amount irrigated and used by the grass will be sufficient to prevent overland flow. This is given that the deeper soils on the NW site are noted to be of low permeability and that flow is likely to neighbouring Living Springs Wetland and Irvine Creek.
2. A monitoring and contingency plan should be prepared in case of severe precipitation that would require the prevention from the pond overtopping (i.e., pumping the pond and disposing of the waste effluent).
3. A review of the reported water taking data under the PTTW (No. 5817-8JQN3B) indicates the maximum water taking volumes are not often and regularly reached, even with the current, expanded golf course. The calculations and contingency plan should consider storage capacity in situations where the ponds are not drawn down at the end of the irrigation season (from use or from additional precipitation).

4. The existing ECA issued in 2004 should be quoted or provided in future submissions. The fate of the systems described in the ECA are not clear and should be described in the final submission.

It is recommended the above comments be addressed before the Fergus Golf Course Redevelopment project proceeds with submitting an ECA application.

If there are any questions or comments, please do not hesitate to contact me.



Maisa Fumagalli
Surface Water Specialist
Technical Support Section

cc: Sarah Day, TSS Supervisor
Michael Spencer, Surface Water Group Leader

File: E-07-IR-36

Limitations: The purpose of the preceding review is to provide advice to the Ministry of the Environment, Conservation and Parks regarding surface water impacts based on a review of the information provided in the above referenced documents. The conclusions, opinions and recommendations of the reviewer are based on information provided by others, except where otherwise noted. The Ministry cannot guarantee that the information that is provided by others is accurate or complete. A lack of specific comment by the reviewer is not to be construed as endorsing the content or views expressed in the reviewed material.

Mishaal Rizwan

From: Del Villar Cuicas, Joan (MECP) <Joan.DelVillarCuicas@ontario.ca>
Sent: Tuesday, May 09, 2023 8:09 AM
To: Jennifer Vandermeer
Cc: Theyonas Manoharan; Andrea Miller; Bobby Wang; Steven Roorda; Anne Egan
Subject: RE: Fergus Golf Club Redevelopment Schedule C MCEA Study - Indigenous Communities List

Good morning Jennifer,

Thank you for your email. Please note MECP acknowledgement letter will be provided upon receiving the Notice of commencement. The acknowledgment letter will include the Indigenous consultation list for the project.

Regards,

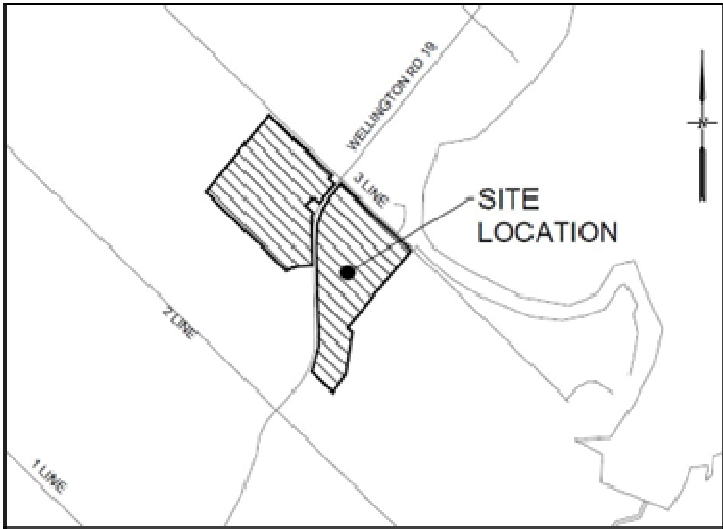
Joan Del Villar Cuicas (she/her)
Regional Environmental Planner
Project Review Unit | Environmental Assessment Branch
Ontario Ministry of the Environment, Conservation and Parks
Joan.delvillarcuicas@ontario.ca | Phone: 365-889-1180

From: Jennifer Vandermeer <Jennifer.Vandermeer@rjburnside.com>
Sent: May 8, 2023 1:48 PM
To: Del Villar Cuicas, Joan (MECP) <Joan.DelVillarCuicas@ontario.ca>
Cc: Theyonas Manoharan <theyonasm@geranium.com>; Andrea Miller <andream@geranium.com>; Bobby Wang <bobbyw@geranium.com>; Steven Roorda <Steven.Roorda@rjburnside.com>; Anne Egan <Anne.Egan@rjburnside.com>
Subject: Fergus Golf Club Redevelopment Schedule C MCEA Study - Indigenous Communities List

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Hello Joan,

We are contacting the MECP to request confirmation of the recommended list of Indigenous communities to contact as part of a Schedule C Municipal Class Environmental Assessment (MCEA) being undertaken a private proponent (Fergus Development Inc.) to evaluate alternatives for water and wastewater servicing required for the redevelopment of part of the Fergus Golf Club lands in Centre Wellington. The site is located southwest of Belwood Lake and northeast of Fergus, Ontario. Please see the site location map below for reference.



A Notice of Commencement / PIC1 for the project will be provided to the MECP next week via the West Central Region (eanotification.wcregion@ontario.ca) one window email process along with the Project Information Form.

To date, the following Indigenous communities have been engaged by Fergus Development Inc., so these communities are proposed to be contacted for this EA Study.

- Mississaugas of the Credit First Nation
- Six Nations of the Grand River
- Haudenosaunee Confederacy Council/Haudenosaunee Development Institute
- Huron-Wendat Nation

Could you please confirm if this list is representative of all the communities which may be interested in the study and should be engaged regarding this study? Please let me know if you require any additional information.

Thank you,
Jennifer



Jennifer Vandermeer, P.Eng.
Senior Environmental Coordinator

R.J. Burnside & Associates Limited
292 Speedvale Avenue West, Unit 20, Guelph, ON N1H 1C4
Office: 800-265-9662 Direct: 226-486-1559
www.rjburnside.com

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Thank you.



Administration Centre: 400 Clyde Road, P.O. Box 729 Cambridge, ON N1R 5W6

Phone: 519-621-2761 Toll free: 1-866-900-4722 Fax: 519-621-4844 www.grandriver.ca

May 25, 2023

via email

Theyonas Manoharan, P.Eng.
Project Manager
Fergus Development Inc.

Jennifer Vandermeer, P.Eng.
Consultant Project Manager
R.J. Burnside & Associates Limited

Email: FergusGolfEA@rjburnside.com

Re: Notice of Study Commencement and Public Information Centre #1
Municipal Class Environmental Assessment
Fergus Golf Club Redevelopment
Township of Centre Wellington, Wellington County

Thank you for circulating our office the Notice of Study Commencement for the Municipal Class Environmental Assessment (MCEA) Study to re-evaluate alternatives for water and wastewater servicing required for the redevelopment of part of the Fergus Golf Club lands.

We request that our office remains notified of any information pertaining to the MCEA as it becomes available.

The Study Area contains natural hazard and natural heritage features including Irvine Creek, a pond, floodplain, wetlands, and the associated regulated allowances to these features. A copy of our resource mapping is attached.

These features and their allowances are regulated under Ontario Regulation 150/06. Any future development or site alteration within the regulated areas may require the issuance of a Development, Interference with Wetlands and Alterations to Shorelines and Watercourses permit from the GRCA.

If you have any questions or require additional information, please contact Jessica Conroy, Resource Planner, at 519-621-2763 ext. 2230 or jconroy@grandriver.ca.

Sincerely,

A handwritten signature in cursive script that reads "Laura Warner".

Laura Warner
Assistant Supervisor of Resource Planning
Grand River Conservation Authority
LW/jc

Enclosed: GRCA Map of Study Area



Fergus Golf Club, Centre Wellington



Legend

- Regulation Limit (GRCA)
- Regulated Watercourse (GRCA)
- Regulated Waterbody (GRCA)
- Wetland (GRCA)
- Floodplain (GRCA)
 - Engineered
 - Estimated
 - Approximate
 - Special Policy Area
- Slope Valley (GRCA)
 - Steep
 - Oversteep
 - Steep
- Slope Erosion (GRCA)
 - Oversteep
 - Toe
- Lake Erie Flood (GRCA)
- Lake Erie Shoreline Reach (GRCA)
- Lake Erie Dynamic Beach (GRCA)
- Lake Erie Erosion (GRCA)
- Parcel - Assessment (MPAC/MNRF)

This legend is static and may not fully reflect the layers shown on the map. The text of Ontario Regulation 150/06 supercedes the mapping as represented by these layers.

Copyright Grand River Conservation Authority, 2023. Disclaimer: This map is for illustrative purposes only. Information contained herein is not a substitute for professional review or a site survey and is subject to change without notice. The Grand River Conservation Authority takes no responsibility for, nor guarantees, the accuracy of the information contained on this map. Any interpretations or conclusions drawn from this map are the sole responsibility of the user. The source for each data layer is shown in parentheses in the map legend. For a complete listing of sources and citations go to: <https://maps.grandriver.ca/Sources-and-Citations.pdf>



Mishaal Rizwan

From: FergusGolfEA
Sent: Wednesday, June 07, 2023 10:43 AM
To: nina.arron@ontario.ca; heather.watt@ontario.ca; Karina.Cerniavskaja@ontario.ca; MNRF.Ayl.Planners@ontario.ca; karla.barboza@ontario.ca; Joseph.Harvey@ontario.ca; zeeshan.abedin@ontario.ca; centralFBCplanning@HydroOne.com; SecondaryLandUse@HydroOne.com; Susan.SUN@HydroOne.com; Frank.Dieterman@infrastructureontario.ca; richard.de_bokx@bell.ca; rowcentre@bell.ca; aphilips@electrautilities.com; notifications@enbridge.com; mark-ups@enbridge.com; TCEnergy@mhbcplan.com; Utility.Circulations@zayo.com; bpatton@centrewellington.ca; municipal.circulations@ugdsb.on.ca; generalinquiries@wellingtoncdsb.ca
Subject: Fergus Golf Club Development - Notice of Commencement / Public Information Centre #1
Attachments: 052719_NOCm PIC1.pdf

Hello,

On behalf of the Fergus Development Inc. / Geranium, please see attached Notice of Commencement / Public Information Centre #1. R.J. Burnside & Associates Limited (Burnside) has been retained by the Geranium to complete a Schedule C Municipal Class Environmental Assessment (MCEA) process. The Study will evaluate alternatives for water and wastewater servicing for the redevelopment of part of the Fergus Golf Club lands. A site map is provided on the attached notice.

To provide comment, request additional information about this Study, please email or contact either of the following Project Team members:

Theyonias Manoharan, P.Eng.

Project Manager

Fergus Development Inc.

3190 Steeles Avenue East, Suite 300

Markham, ON L3R 1G9

Tel: 905-477-1177 x 257

Jennifer Vandermeer, P.Eng.

Consultant Project Manager

R. J. Burnside & Associates Limited

292 Speedvale Avenue West, Unit 20

Guelph, ON N1H 1C4

Tel: 226-486-1559

Email: FergusGolfEA@rjburnside.com


Mishaal Rizwan

From: FergusGolfEA
Sent: Monday, June 12, 2023 12:03 PM
To: eanotification.wregion@ontario.ca
Subject: Centre Wellington - Schedule C MCEA, Fergus Golf Club Redevelopment
Attachments: EA ProjectInfoForm Fergus.xlsx; 052719_NOCm PIC1_FINAL.pdf

Hello,

Please find attached the Project Information Form and Notice of Commencement for the Fergus Golf Club Redevelopment EA.

Thank you,


Mishaal Rizwan
Environmental Planner

R.J. Burnside & Associates Limited
292 Speedvale Avenue West, Unit 20, Guelph, Ontario, N1H 1C4
Office: 800-265-9662 Direct Line: 226-343-7014
www.rjburnside.com

Mishaal Rizwan

From: Harvey, Joseph (MCM) <Joseph.Harvey@ontario.ca>
Sent: Wednesday, June 14, 2023 2:48 PM
To: FergusGolfEA
Subject: FW: File 0013990: Fergus Golf Club Development - Notice of Commencement / Public Information Centre #1
Attachments: 052719_NOCm PIC1.pdf; 2023-06-14_FergusGolfClubRedevelopment-MCM-Ltr.pdf

Theyonas Manoharan,

Please find attached our initial advice on the above referenced undertaking.

Please note that the responsibility for administration of the *Ontario Heritage Act* and matters related to cultural heritage have been transferred from the Ministry of Tourism, Culture and Sport (MTCS) to the Ministry of Citizenship and Multiculturalism (MCM). Individual staff roles and contact information remain unchanged. Please continue to send any notices, report and/or documentation to both Karla Barboza and myself.

Please do not hesitate to contact me with any questions or concerns.

Regards,

Joseph Harvey | Heritage Planner

Citizenship, Inclusion and Heritage Division | Heritage Branch | Heritage Planning Unit
Ministry of Citizenship and Multiculturalism

613.242.3743

Joseph.Harvey@ontario.ca

From: FergusGolfEA <FergusGolfEA@rjburnside.com>

Sent: June-07-23 10:43 AM

To: Arron, Nina (MOH) <Nina.Arron@ontario.ca>; Watt, Heather (MMAH) <Heather.Watt@ontario.ca>; Karina.Cerniavskaja@ontario.ca; MNRF Ayl Planners (MNRF) <MNRF.Ayl.Planners@ontario.ca>; Barboza, Karla (MCM) <Karla.Barboza@ontario.ca>; Harvey, Joseph (MCM) <Joseph.Harvey@ontario.ca>; Abedin, Zeeshan (MCM) <Zeeshan.Abedin@ontario.ca>; centralFBCplanning@HydroOne.com; SecondaryLandUse@HydroOne.com; Susan.SUN@HydroOne.com; Dieterman, Frank (IO) <Frank.Dieterman@infrastructureontario.ca>; richard.de_bokx@bell.ca; rowcentre@bell.ca; aphillips@alecrautilities.com; notifications@enbridge.com; mark-ups@enbridge.com; TCEnergy@mhbcplan.com; Utility.Circulations@zayo.com; bpatton@centrewellington.ca; municipal.circulations@ugdsb.on.ca; generalinquiries@wellingtoncdsb.ca

Subject: Fergus Golf Club Development - Notice of Commencement / Public Information Centre #1

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Hello,

On behalf of the Fergus Development Inc. / Geranium, please see attached Notice of Commencement / Public Information Centre #1. R.J. Burnside & Associates Limited (Burnside) has been retained by the Geranium to complete a Schedule C Municipal Class Environmental Assessment (MCEA) process. The Study will evaluate alternatives for water and wastewater servicing for the redevelopment of part of the Fergus Golf Club lands. A site map is provided on the attached notice.

To provide comment, request additional information about this Study, please email or contact either of the following Project Team members:

Theyonas Manoharan, P.Eng.

Project Manager

Fergus Development Inc.

3190 Steeles Avenue East, Suite 300

Markham, ON L3R 1G9

Tel: 905-477-1177 x 257

Jennifer Vandermeer, P.Eng.

Consultant Project Manager

R. J. Burnside & Associates Limited

292 Speedvale Avenue West, Unit 20

Guelph, ON N1H 1C4

Tel: 226-486-1559

Email: FergusGolfEA@rjburnside.com

**Ministry of Citizenship
and Multiculturalism**

Heritage Planning Unit
Heritage Branch
Citizenship, Inclusion and
Heritage Division
5th Flr, 400 University Ave
Tel.: 613.242.3743

**Ministère des Affaires civiques
et du Multiculturalisme**

Unité de la planification relative au
patrimoine
Direction du patrimoine
Division des affaires civiques, de
l'inclusion et du patrimoine
Tél.: 613.242.3743



June 14, 2023

EMAIL ONLY

Theyonas Manoharan, P.Eng.
Project Manager
Fergus Development Inc.
3190 Steeles Avenue East, Suite 300
Markham, ON L3R 1G9
FergusGolfEA@rjburnside.com

MCM File : **0013990**
Proponent : **Fergus Development Inc.**
Subject : **Municipal Class EA – Schedule C – Notice of Commencement**
Project : **Fergus Golf Club Redevelopment**
Location : **Centre Wellington, Wellington County**

Dear Theyonas Manoharan:

Thank you for providing the Ministry of Citizenship and Multiculturalism (MCM) with the Notice of Commencement for the above-referenced project.

MCM's interest in this project relates to its mandate of conserving Ontario's cultural heritage, which includes:

- archaeological resources, including land and marine);
- built heritage resources, including bridges and monuments; and
- cultural heritage landscapes.

Under the EA process, the proponent is required to determine a project's potential impact on known (previously recognized) and potential cultural heritage resources.

Project Summary

Fergus Development Inc. is undertaking a Municipal Class Environmental Assessment (MCEA) Study to evaluate alternatives for water and wastewater servicing required for the redevelopment of part of the Fergus Golf Club lands. The project is being conducted in accordance with the planning and design processes for 'Schedule C' projects, as outlined in the Municipal Class Environmental Assessment (2023) which is approved under the *Environmental Assessment Act*.

Identifying Cultural Heritage Resources

While some cultural heritage resources may have already been formally identified, others may be identified through screening and evaluation.

Archaeological Resources

This EA project may impact archaeological resources and should be screened using the Ministry's [Criteria for Evaluating Archaeological Potential](#) to determine if an archaeological assessment is needed. MCM archaeological sites data are available at archaeology@ontario.ca.

If the EA project area exhibits archaeological potential, then an archaeological assessment (AA) shall be undertaken by an archaeologist licenced under the *Ontario Heritage Act (OHA)*, who is responsible for submitting the report directly to MCM for review.

Built Heritage Resources and Cultural Heritage Landscapes

A Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment will be undertaken for the entire study area during the planning phase and will be summarized in the EA Report. This study will:

1. Describe the existing baseline cultural heritage conditions within the study area by identifying all known or potential built heritage resources and cultural heritage landscapes, including a historical summary of the study area. The Ministry has developed screening criteria that may assist with this exercise: [Criteria for Evaluating for Potential Built Heritage Resources and Cultural Heritage Landscapes](#).
2. Identify preliminary potential project-specific impacts on the known and potential built heritage resources and cultural heritage landscapes that have been identified. The report should include a description of the anticipated impact to each known or potential built heritage resource or cultural heritage landscape that has been identified.
3. Recommend measures to avoid or mitigate potential negative impacts to known or potential built heritage resources and cultural heritage landscapes. The proposed mitigation measures are to inform the next steps of project planning and design.

Given that this project covers a large study area, MCM recommends that the Cultural Heritage Report is carried out so that step 1 described above is undertaken early in the planning process. Then, steps 2 and 3 can be undertaken once the preferred alternatives have been selected.

Cultural Heritage Reports will be undertaken by a qualified person who has expertise, recent experience, and knowledge relevant to the type of cultural heritage resources being considered and the nature of the activity being proposed.

Community input should be sought to identify locally recognized and potential cultural heritage resources. Sources include, but are not limited to, municipal heritage committees, historical societies and other local heritage organizations.

Cultural heritage resources are often of critical importance to Indigenous communities. Indigenous communities may have knowledge that can contribute to the identification of cultural heritage resources, and we suggest that any engagement with Indigenous communities includes a discussion about known or potential cultural heritage resources that are of value to them.

Environmental Assessment Reporting

All technical cultural heritage studies and their recommendations are to be addressed and incorporated into EA projects. Please advise MCM whether any technical cultural heritage studies will be completed for this EA project, and provide them to MCM before issuing a Notice of Completion or commencing any work on the site. If screening has identified no known or potential cultural heritage resources, or no impacts to these resources, please include the completed checklists and supporting documentation in the EA report or file.

Please note that the responsibility for administration of the *Ontario Heritage Act* and matters related to cultural heritage have been transferred from the Ministry of Tourism, Culture and Sport (MTCS) to the Ministry of Citizenship and Multiculturalism (MCM). Individual staff roles and contact information remain unchanged. Please remove Zeeshan Abedin from your list of contacts and continue to send any notices, report and/or documentation to both Karla Barboza and myself.

- Karla Barboza, Team Lead - Heritage | Heritage Planning Unit (Citizenship and Multiculturalism) | 416-660-1027 | karla.barboza@ontario.ca
- Joseph Harvey, Heritage Planner | Heritage Planning Unit (Citizenship and Multiculturalism) | 613-242-3743 | joseph.harvey@ontario.ca

Thank you for consulting MCM on this project and please continue to do so throughout the EA process. If you have any questions or require clarification, please do not hesitate to contact me.

Sincerely,

Joseph Harvey
Heritage Planner
Heritage Planning Unit
joseph.harvey@Ontario.ca

Copied to: Jennifer Vandermeer, Consultant Project Manager, R. J. Burnside & Associates Limited

It is the sole responsibility of proponents to ensure that any information and documentation submitted as part of their EA report or file is accurate. The Ministry of Citizenship and Multiculturalism (MCM) makes no representation or warranty as to the completeness, accuracy or quality of the any checklists, reports or supporting documentation submitted as part of the EA process, and in no way shall MCM be liable for any harm, damages, costs, expenses, losses, claims or actions that may result if any checklists, reports or supporting documents are discovered to be inaccurate, incomplete, misleading or fraudulent.

Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48(1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out an archaeological assessment, in compliance with Section 48(1) of the *Ontario Heritage Act*.

The *Funeral, Burial and Cremation Services Act, 2002, S.O. 2002, c.33* requires that any person discovering human remains must cease all activities immediately and notify the police or coroner. If the coroner does not suspect foul play in the disposition of the remains, in accordance with *Ontario Regulation 30/11* the coroner shall notify the Registrar, Ontario Ministry of Public and Business Service Delivery, which administers provisions of that Act related to burial sites. In situations where human remains are associated with archaeological resources, the Ministry of Citizenship and Multiculturalism should also be notified (at archaeology@ontario.ca) to ensure that the archaeological site is not subject to unlicensed alterations which would be a contravention of the *Ontario Heritage Act*.

Mishaal Rizwan

From: Notifications <Notifications@enbridge.com>
Sent: Monday, June 19, 2023 10:44 AM
To: FergusGolfEA
Subject: RE: Fergus Golf Club Development - Notice of Commencement / Public Information Centre #1

Follow Up Flag: Follow up
Flag Status: Flagged

Thank you for your email.

Enbridge will review all planning and development notifications to determine their proximity and potential to impact our liquid pipeline network. If your notification is in proximity to an Enbridge liquid transmission pipeline, a formal response will be prepared and emailed by your specified deadline.

Planning and development notifications not in proximity to an Enbridge transmission pipeline will not receive a response. Please continue to send in planning and development notifications to notifications@enbridge.com. You can view the approximate locations of Enbridge liquid transmission pipelines on our web map [here](#).

We appreciate the opportunity to work with you in support of Enbridge's damage prevention and integrity management program and look forward to collaborating in the future.

Sincerely,

Enbridge Damage Prevention.

Nous avons bien reçu votre courriel et vous en remercions.

Enbridge examineront toutes les notifications de planification et de développement afin de déterminer leur proximité et leur potentiel d'impact sur notre réseau de pipelines de liquides. Si votre notification se trouve à proximité d'un pipeline de transport de liquides d'Enbridge, une réponse officielle sera préparée et envoyée par courriel dans le délai indiqué.

Les notifications de planification et de développement qui ne se trouvent pas à proximité d'un pipeline de transmission d'Enbridge ne recevront pas de réponse. Veuillez continuer à envoyer vos notifications de planification et de développement à notifications@enbridge.com. Vous pouvez voir les emplacements approximatifs des pipelines de transport de liquides d'Enbridge sur notre carte Web [ici](#).

Toutes les autres demandes non liées à l'utilisation des terres seront transmises au contact approprié d'Enbridge. Nous répondrons à toutes les demandes et questions d'ordre général.

Nous apprécions l'opportunité de travailler avec vous pour soutenir le programme de prévention des dommages et de gestion de l'intégrité d'Enbridge et nous espérons pouvoir collaborer à l'avenir.

Sincèrement,

Prévention des dommages d'Enbridge

From: FergusGolfEA <FergusGolfEA@rjburnside.com>
Sent: Wednesday, June 7, 2023 8:43 AM
To: nina.arron@ontario.ca; heather.watt@ontario.ca; Karina.Cerniavskaja@ontario.ca; MNRF.Ayl.Planners@ontario.ca; karla.barboza@ontario.ca; Joseph.Harvey@ontario.ca; zeeshan.abedin@ontario.ca; centralFBCplanning@HydroOne.com; SecondaryLandUse@HydroOne.com; Susan.SUN@HydroOne.com;

Frank.Dieterman@infrastructureontario.ca; richard.de_bokx@bell.ca; rowcentre@bell.ca;
aphillips@electrautilities.com; Notifications <Notifications@enbridge.com>; mark-ups <Mark-Ups@enbridge.com>;
TCEnergy@mhbcplan.com; Utility.Circulations@zayo.com; bpatton@centrewellington.ca;
municipal.circulations@ugdsb.on.ca; generalinquiries@wellingtoncdsb.ca

Subject: [External] Fergus Golf Club Development - Notice of Commencement / Public Information Centre #1

CAUTION! EXTERNAL SENDER

Were you expecting this email? TAKE A CLOSER LOOK. Is the sender legitimate?

DO NOT click links or open attachments unless you are 100% sure that the email is safe.

Hello,

On behalf of the Fergus Development Inc. / Geranium, please see attached Notice of Commencement / Public Information Centre #1. R.J. Burnside & Associates Limited (Burnside) has been retained by the Geranium to complete a Schedule C Municipal Class Environmental Assessment (MCEA) process. The Study will evaluate alternatives for water and wastewater servicing for the redevelopment of part of the Fergus Golf Club lands. A site map is provided on the attached notice.

To provide comment, request additional information about this Study, please email or contact either of the following Project Team members:

Theyonas Manoharan, P.Eng.

Project Manager

Fergus Development Inc.

3190 Steeles Avenue East, Suite 300

Markham, ON L3R 1G9

Tel: 905-477-1177 x 257

Jennifer Vandermeer, P.Eng.

Consultant Project Manager

R. J. Burnside & Associates Limited

292 Speedvale Avenue West, Unit 20

Guelph, ON N1H 1C4

Tel: 226-486-1559

Email: FergusGolfEA@rjburnside.com

Mishaal Rizwan

From: Warren, Catherine (She/Her) (MNRF) <Catherine.Warren@ontario.ca>
Sent: Wednesday, June 21, 2023 11:12 AM
To: FergusGolfEA
Subject: RE: Fergus Golf Club Development - Notice of Commencement / Public Information Centre #1
Attachments: 2023-06-21_MNRF_Comments.pdf
Follow Up Flag: Follow up
Flag Status: Flagged

Dear Theyonas Manoharan and Jennifer Vandermeer,

Attached are some sources of information on MNRF interests. Please let me know if you plan to have any in-water works that would require an authority from us.

Thanks,
Catherine

From: FergusGolfEA <FergusGolfEA@rjburnside.com>
Sent: June 7, 2023 10:43 AM
To: Arron, Nina (MOH) <Nina.Arron@ontario.ca>; Watt, Heather (MMAH) <Heather.Watt@ontario.ca>; Karina.Cerniavskaja@ontario.ca; MNRF Ayl Planners (MNRF) <MNRF.Ayl.Planners@ontario.ca>; Barboza, Karla (MCM) <Karla.Barboza@ontario.ca>; Harvey, Joseph (MCM) <Joseph.Harvey@ontario.ca>; Abedin, Zeeshan (MCM) <Zeeshan.Abedin@ontario.ca>; centralFBCplanning@HydroOne.com; SecondaryLandUse@HydroOne.com; Susan.SUN@HydroOne.com; Dieterman, Frank (IO) <Frank.Dieterman@infrastructureontario.ca>; richard.de_bokx@bell.ca; rowcentre@bell.ca; aphillips@alecrautilities.com; notifications@enbridge.com; mark-ups@enbridge.com; TCEnergy@mhbcplan.com; Utility.Circulations@zayo.com; bpatton@centrewellington.ca; municipal.circulations@ugdsb.on.ca; generalinquiries@wellingtoncdsb.ca
Subject: Fergus Golf Club Development - Notice of Commencement / Public Information Centre #1

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Hello,

On behalf of the Fergus Development Inc. / Geranium, please see attached Notice of Commencement / Public Information Centre #1. R.J. Burnside & Associates Limited (Burnside) has been retained by the Geranium to complete a Schedule C Municipal Class Environmental Assessment (MCEA) process. The Study will evaluate alternatives for water and wastewater servicing for the redevelopment of part of the Fergus Golf Club lands. A site map is provided on the attached notice.

To provide comment, request additional information about this Study, please email or contact either of the following Project Team members:

Theyonas Manoharan, P.Eng.
Project Manager

Jennifer Vandermeer, P.Eng.
Consultant Project Manager

Fergus Development Inc.
3190 Steeles Avenue East, Suite 300
Markham, ON L3R 1G9
Tel: 905-477-1177 x 257

R. J. Burnside & Associates Limited
292 Speedvale Avenue West, Unit 20
Guelph, ON N1H 1C4
Tel: 226-486-1559

Email: FergusGolfEA@rjburnside.com

June 21, 2023

Dear Theyonas Manoharan and Jennifer Vandermeer,

SUBJECT: Notice of Study Commencement and Public Information Centre #1 Municipal Class Environmental Assessment Fergus Golf Club Redevelopment

The Ministry of Natural Resources and Forestry (MNRF) received the Notice of Study Commencement and Public Information Centre #1 Municipal Class Environmental Assessment Fergus Golf Club Redevelopment, on June 7, 2023. Thank you for circulating this to our office. Please note that we have not completed a screening of natural heritage or other resource values for the project at this time. This response, however, does provide information to guide you in identifying and assessing natural features and resources as required by applicable policies and legislation, as well as engaging with the ministry for advice as needed.

Please also note that it is the proponent's responsibility to be aware of, and comply with, all relevant federal or provincial legislation, municipal by-laws or other agency approvals.

Natural Heritage

MNRF's natural heritage and natural resources GIS data layers can be obtained through the ministry's [Land Information Ontario \(LIO\)](#) website. You may also view natural heritage information online (e.g., Provincially Significant Wetlands, ANSI's, woodlands, etc.) using the [Make a Map: Natural Heritage Areas](#) tool. We recommend that you use the above-noted sources of information during the review of your project proposal.

Natural Hazards

A series of natural hazard technical guides developed by MNRF are available to support municipalities and conservation authorities implement the natural hazard policies in the Provincial Policy Statement (PPS). For example, standards to address flood risks and the potential impacts and costs from riverine flooding are addressed in the *Technical Guide River and Stream Systems: Flooding Hazard Limit (2002)*. We recommend that you consider these technical guides as you assess specific improvement projects that can be undertaken to reduce the risk of flooding.

Fish and Wildlife Conservation Act

Please note, that should the project require:

- The relocation of fish outside of the work area, a Licence to Collect Fish for Scientific Purposes under the *Fish and Wildlife Conservation Act* will be required.

- The relocation of wildlife outside of the work area (including amphibians, reptiles, and small mammals), a Wildlife Collector's Authorization under the *Fish and Wildlife Conservation Act* will be required.

Public Lands Act & Lakes and Rivers Improvement Act

Some projects may be subject to the provisions of the *Public Lands Act* or *Lakes and River Improvement Act*. Please review the information on MNRF's web pages provided below regarding when an approval is, or is not, required. Please note that many of the authorizations under the *Lakes and Rivers Improvement Act* are administered by the local Conservation Authority.

- For more information about the *Public Lands Act*: <https://www.ontario.ca/page/crown-land-work-permits>
- For more information about the *Lakes and Rivers Improvement Act*: <https://www.ontario.ca/page/lakes-and-rivers-improvement-act-administrative-guide>

Please note that proposed works on the bed of Lake Ontario may require authorization under the *Public Lands Act* through a work permit and/or occupational authority.

After reviewing the information provided, if you have not identified any of MNRF's interests stated above, there is no need to circulate any subsequent notices to our office. If you have identified any of MNRF's interests and/or may require permit(s) or further technical advice, please feel free to contact me.

Best Regards,

[original signed by]

Catherine Warren
Regional Planner
Ministry of Natural Resources and Forestry
(705) 772-9012
catherine.warren@ontario.ca

Mishaal Rizwan

From: SUN Hongxia <Susan.SUN@HydroOne.com> on behalf of SECONDARY LAND USE Department <Department.SecondaryLandUse@hydroone.com>
Sent: Wednesday, June 28, 2023 10:06 AM
To: FergusGolfEA
Cc: SECONDARY LAND USE Department
Subject: Hydro One Response: 20230628-NoticeOfPIC1-Fergus Golf Club Redevelopment
Attachments: 20230628-NoticeOfPIC1-Fergus Golf Club Redevelopment.pdf

Please see the attached for Hydro One's Response.

Hydro One Networks Inc

SecondaryLandUse@HydroOne.com

This email and any attached files are privileged and may contain confidential information intended only for the person or persons named above. Any other distribution, reproduction, copying, disclosure, or other dissemination is strictly prohibited. If you have received this email in error, please notify the sender immediately by reply email and delete the transmission received by you. This statement applies to the initial email as well as any and all copies (replies and/or forwards) of the initial email



Hydro One Networks Inc.

483 Bay Street
8th Floor South Tower
Toronto, Ontario M5G 2P5

HydroOne.com

June 28, 2023

Re: Fergus Golf Club Redevelopment

Attention:
Theyonias Manoharan, P.Eng.
Project Manager
Fergus Development Inc.

Thank you for sending us notification regarding (Fergus Golf Club Redevelopment). In our preliminary assessment, we have confirmed that Hydro One has existing distribution assets within your study area.

At this time, we do not have sufficient information to comment on the potential resulting impacts that your project may have on our infrastructure. As such, we must stay informed as more information becomes available so that we can advise if any of the alternative solutions present actual conflicts with our assets, and if so; what resulting measures and costs could be incurred by the proponent. Note that this response does not constitute approval for your plans and is being sent to you as a courtesy to inform you that we must continue to be consulted on your project.

Hydro One must be consulted during all stages of your project. Please ensure that all future communications about this and future project(s) are sent to us electronically to secondarylanduse@hydroone.com

Sent on behalf of,

**Secondary Land Use
Asset Optimization
Strategy & Integrated Planning
Hydro One Networks Inc.**

Mishaal Rizwan

From: FergusGolfEA
Sent: Wednesday, August 09, 2023 10:17 AM
To: mayor@centrewellington.ca; ward5@bronwynnewilton.ca; ward1@centrewellington.ca; ward2@centrewellington.ca; ward3@centrewellington.ca; ward4@centrewellington.ca; ward6@centrewellington.ca
Cc: Colin Baker; Brett Salmon
Subject: Fergus Golf Club Redevelopment EA - Study Webpage Update

Follow Up Flag: Follow up
Flag Status: Flagged

Good morning, Honorable Mayor Watters and Members of Council,

We have recently updated the webpage for the Fergus Golf Club Redevelopment Environmental Assessment Study to include the PIC #1 Summary Report, Water Supply Memo and Natural Heritage Summary Memo. The webpage is accessed at: <https://www.rjburnside.com/fergusgea/>

We will also be sending this update to the Township and County staff for their information. A separate email with this update has been circulated to the PIC#1 participants who provided their email addresses to us.

Please note that a second PIC for this Study will be held on Monday September 11, 2023 from 6:00pm - 8:00pm at Belwood Hall (36 Queen Street, Belwood, ON N0B 1J0). An official Notice of PIC #2 will be circulated in advance of the meeting.

Should you have any questions, please contact either Theyonas or me:

Theyonas Manoharan, P.Eng. Project Manager Fergus Development Inc. 3190 Steeles Avenue East, Suite 300 Markham, ON L3R 1G9 Tel: 905-477-1177 x 257	Jennifer Vandermeer, P.Eng. Consultant Project Manager R. J. Burnside & Associates Limited 292 Speedvale Avenue West, Unit 20 Guelph, ON N1H 1C4 Tel: 226-486-1559
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Email: FergusGolfEA@rjburnside.com

Best regards,
Jennifer



Jennifer Vandermeer, P.Eng.
Senior Environmental Coordinator

R.J. Burnside & Associates Limited
292 Speedvale Avenue West, Unit 20, Guelph, ON N1H 1C4
Office: 800-265-9662 Direct: 226-486-1559
www.rjburnside.com

Mishaal Rizwan

From: Jennifer Vandermeer
Sent: Thursday, August 24, 2023 2:18 PM
To: Nick.Colella@ontario.ca
Cc: Del Villar Cuicas, Joan (MECP); Battarino, Gavin (MECP); Mishaal Rizwan
Subject: FW: Centre Wellington - Schedule C MCEA, Fergus Golf Club Redevelopment
Attachments: Centre Wellington - Schedule C MCEA, Fergus Golf Club Redevelopment

Hi Nick,

I just spoke with Gavin and he suggested that I reach out to you to ask for an update on the status of receiving a response from MECP to confirm the list of Indigenous communities. I've attached the email circulation of the Notice of Commencement / PIC#1 as well for your reference, as we would also appreciate a status update on when we can expect to get a response from MECP on this Notice of Commencement. We moved forward and circulated the Notice of Commencement / PIC#1 to the four Indigenous communities listed in our previous emails, as our client has already been engaging with these communities as part of their Planning Act Approvals work. The Notice of PIC #2 has just been issued today to Joan so we would appreciate an update as soon as possible.

Best regards,

Jennifer



Jennifer Vandermeer, P.Eng.
Senior Environmental Coordinator

R.J. Burnside & Associates Limited
292 Speedvale Avenue West, Unit 20, Guelph, ON N1H 1C4
Office: 800-265-9662 **Direct:** 226-486-1559
www.rjburnside.com

From: Mishaal Rizwan <Mishaal.Rizwan@rjburnside.com>
Sent: Monday, July 17, 2023 11:39 AM
To: Colella, Nick (MECP) <Nick.Colella@ontario.ca>
Cc: Del Villar Cuicas, Joan (MECP) <Joan.DelVillarCuicas@ontario.ca>; Battarino, Gavin (MECP) <Gavin.Battarino@ontario.ca>; Jennifer Vandermeer <Jennifer.Vandermeer@rjburnside.com>
Subject: RE: Centre Wellington - Schedule C MCEA, Fergus Golf Club Redevelopment

Hi Nick,

My apologies for following up again, however we are looking to start engaging with Indigenous communities this week and would appreciate the confirmed list of communities and acknowledgement letter. We will also be issuing our Notice of PIC #2 in the coming weeks.

These are the four communities our client, Fergus Development Inc., has been engaging with as part of their Planning Act Application:

- Mississaugas of the Credit First Nation
- Six Nations of the Grand River
- Haudenosaunee Confederacy Council/Haudenosaunee Development Institute
- Huron-Wendat Nation

Please confirm if this list is consistent with the Ministry's advice.

Thank you,



R.J. Burnside & Associates Limited
292 Speedvale Avenue West, Unit 20, Guelph, Ontario, N1H 1C4
Office: 800-265-9662 Direct Line: 226-343-7014
www.rjburnside.com

From: Colella, Nick (MECP) <Nick.Colella@ontario.ca>
Sent: Tuesday, July 04, 2023 12:57 PM
To: Mishaal Rizwan <Mishaal.Rizwan@rjburnside.com>
Cc: Del Villar Cuicas, Joan (MECP) <Joan.DelVillarCuicas@ontario.ca>; Battarino, Gavin (MECP) <Gavin.Battarino@ontario.ca>; Jennifer Vandermeer <Jennifer.Vandermeer@rjburnside.com>
Subject: RE: Centre Wellington - Schedule C MCEA, Fergus Golf Club Redevelopment

Hello there Mishaal,

Joan shared your email with me. Apologies for the delay. We hope to have an acknowledgment letter and Indigenous consultation list to you as soon as we can.

Thanks,
Nick

Nick Colella (he/him)
A/Manager, Environmental Assessment Services
Environmental Assessment Branch
Ministry of the Environment, Conservation and Parks

Our working hours may be different. Please do not feel obligated to reply outside your normal working hours.

If you have any accommodation needs or require communication supports or alternate formats, please let me know.

Si vous avez des besoins en matière d'adaptation, ou si vous nécessitez des aides à la communication ou des médias substituts, veuillez me le faire savoir.

From: Mishaal Rizwan <Mishaal.Rizwan@rjburnside.com>
Sent: June 28, 2023 10:18 AM
To: Del Villar Cuicas, Joan (MECP) <Joan.DelVillarCuicas@ontario.ca>
Cc: Jennifer Vandermeer <Jennifer.Vandermeer@rjburnside.com>; EA Notices to WCRegion (MECP) <eanotification.wcregion@ontario.ca>
Subject: FW: Centre Wellington - Schedule C MCEA, Fergus Golf Club Redevelopment

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Hello Joan,

I hope you are doing well.

I am just following up on the MECP acknowledgement letter and Indigenous communities list as per your email (attached) to Jennifer Vandermeer.

Thank you,

 **BURNSIDE**
Mishaal Rizwan
Environmental Planner

R.J. Burnside & Associates Limited
292 Speedvale Avenue West, Unit 20, Guelph, Ontario, N1H 1C4
Office: 800-265-9662 Direct Line: 226-343-7014
www.rjburnside.com

From: FergusGolfEA
Sent: Monday, June 12, 2023 12:03 PM
To: eanotification.wregion@ontario.ca
Subject: Centre Wellington - Schedule C MCEA, Fergus Golf Club Redevelopment

Hello,

Please find attached the Project Information Form and Notice of Commencement for the Fergus Golf Club Redevelopment EA.

Thank you,

 **BURNSIDE**
Mishaal Rizwan
Environmental Planner

R.J. Burnside & Associates Limited
292 Speedvale Avenue West, Unit 20, Guelph, Ontario, N1H 1C4
Office: 800-265-9662 Direct Line: 226-343-7014
www.rjburnside.com

Mishaal Rizwan

From: FergusGolfEA
Sent: Thursday, August 24, 2023 2:07 PM
To: CentralFBCPlanning@HydroOne.com; SecondaryLandUse@HydroOne.com; Susan.SUN@HydroOne.com; david.marriott@ontario.ca; Frank.Dieterman@infrastructureontario.ca; eanotification.wcregion@ontario.ca; joan.delvillarcuicas@ontario.ca; nina.arron@ontario.ca; heather.watt@ontario.ca; karla.barboza@ontario.ca; Joseph.Harvey@ontario.ca; richard.de_bokx@bell.ca; rowcentre@bell.ca; aPhillips@alecrautilities.com; notifications@enbridge.com; mark-ups@enbridge.com; TCEnergy@mhbcpplan.com; jconroy@grandriver.ca; bpatton@centrewellington.ca; municipal.circulations@ugdsb.on.ca; generalinquiries@wellingtoncdsb.ca; Mr.mckee@sympatico.ca; dwalker@centrewellington.ca; sr.planning@ontario.ca; cpellizzari@centrewellington.ca
Subject: Fergus Golf Club Development - Notice of Public Information Centre #2
Attachments: 052719_NOPIC2.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Hello,

On behalf of the Fergus Development Inc. / Geranium, please see attached Public Information Centre #2. R.J. Burnside & Associates Limited (Burnside) has been retained by Geranium to complete a Schedule C Municipal Class Environmental Assessment (MCEA) process. The Study will evaluate alternatives for water and wastewater servicing for the redevelopment of part of the Fergus Golf Club lands. A site map is provided on the attached notice.

PIC #2 will present the results of environmental and technical studies completed to date, the alternative solutions considered and the preferred solution, and the alternative design concepts considered for the preferred solution. PIC #2 will be held as an "Open House" with materials pertaining to the study on display and members of the study team on hand to answer questions related to the project.

To provide comment, request additional information about this Study, please email or contact either of the following Project Team members:

Theyonas Manoharan, P.Eng. Project Manager Fergus Development Inc. 3190 Steeles Avenue East, Suite 300 Markham, ON L3R 1G9 Tel: 905-477-1177 x 257	Jennifer Vandermeer, P.Eng. Consultant Project Manager R. J. Burnside & Associates Limited 292 Speedvale Avenue West, Unit 20 Guelph, ON N1H 1C4 Tel: 226-486-1559
---	---

Email: FergusGolfEA@rjburnside.com

Mishaal Rizwan

From: FergusGolfEA
Sent: Thursday, August 24, 2023 2:08 PM
To: info@shawnwatters.com; ward5@bronwynnewilton.ca; ward3@centrewellington.ca; ward1@centrewellington.ca; ward4@centrewellington.ca; ward2@centrewellington.ca; ward6@centrewellington.ca
Cc: cbaker@centrewellington.ca; Bsalmon@centrewellington.ca
Subject: Fergus Golf Club Development - Notice of Public Information Centre #2
Attachments: 052719_NOPIC2.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Good morning, Honorable Mayor Watters and Members of Council,

On behalf of the Fergus Development Inc. / Geranium, please see attached Public Information Centre #2.

PIC #2 will present the results of environmental and technical studies completed to date, the alternative solutions considered and the preferred solution, and the alternative design concepts considered for the preferred solution. PIC #2 will be held as an "Open House" with materials pertaining to the study on display and members of the study team on hand to answer questions related to the project.

To provide comment, request additional information about this Study, please email or contact either of the following Project Team members:

Theyonas Manoharan, P.Eng. Project Manager Fergus Development Inc. 3190 Steeles Avenue East, Suite 300 Markham, ON L3R 1G9 Tel: 905-477-1177 x 257	Jennifer Vandermeer, P.Eng. Consultant Project Manager R. J. Burnside & Associates Limited 292 Speedvale Avenue West, Unit 20 Guelph, ON N1H 1C4 Tel: 226-486-1559
---	---

Email: FergusGolfEA@rjburnside.com

Mishaal Rizwan

From: FergusGolfEA
Sent: Thursday, August 24, 2023 2:04 PM
To: cbaker@centrewellington.ca; Bsalmon@centrewellington.ca; meaganf@wellington.ca
Cc: Theyonas Manoharan; Andrea Kelly; Steven Roorda; Anne Egan; Mishaal Rizwan
Subject: Fergus Golf Club Development - Notice of Public Information Centre #2
Attachments: 052719_NOPIC2 (1).pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Hello Colin, Brett and Meagan,

On behalf of the Fergus Development Inc. / Geranium, please see attached Public Information Centre #2.

PIC #2 will present the results of environmental and technical studies completed to date, the alternative solutions considered and the preferred solution, and the alternative design concepts considered for the preferred solution. PIC #2 will be held as an "Open House" with materials pertaining to the study on display and members of the study team on hand to answer questions related to the project.

The presentation and boards for PIC#2 as well as a comment sheet will be posted to the project webpage within a week of PIC#2: <https://www.rjburnside.com/fergusGEA/>

Theyonas Manoharan, P.Eng.
Project Manager

Fergus Development Inc.
3190 Steeles Avenue East, Suite 300
Markham, ON L3R 1G9
Tel: 905-477-1177 x 257

Jennifer Vandermeer, P.Eng.
Consultant Project Manager

R. J. Burnside & Associates Limited
292 Speedvale Avenue West, Unit 20
Guelph, ON N1H 1C4
Tel: 226-486-1559

Email: FergusGolfEA@rjburnside.com



Jennifer Vandermeer, P.Eng.
Senior Environmental Coordinator

R.J. Burnside & Associates Limited
292 Speedvale Avenue West, Unit 20, Guelph, ON N1H 1C4
Office: 800-265-9662 Direct: 226-486-1559
www.rjburnside.com

Anne Egan

From: Armour, Lynnette (MECP) <Lynnette.Armour@ontario.ca>
Sent: Friday, September 01, 2023 2:57 PM
To: Anne Egan
Subject: RE: Echo #: 1-132234034 - Fergus Golf

Hi Anne,

Yes, to my knowledge the pre-consultation requirement has been satisfied.

Thanks,

Lynnette Armour
Provincial Officer

Ministry of the Environment, Conservation and Parks
Drinking Water and Environmental Compliance Division
West Central Region, Guelph District Office
Tel: 519-993-6449 or 1-800-265-8658
Fax: 519-826-4286

We want to hear from you. How was my service? You can provide feedback at 1-888-745-8888 or ontario.ca/inspectionfeedback
Nous attendons vos commentaires. Qu'avez-vous pensé de mon service? Vous pouvez nous faire part de vos commentaires au 1-888-745-8888 ou à ontario.ca/retroactioninspection

From: Anne Egan <Anne.Egan@rjburnside.com>
Sent: August 31, 2023 4:05 PM
To: Armour, Lynnette (MECP) <Lynnette.Armour@ontario.ca>
Subject: RE: Echo #: 1-132234034 - Fergus Golf

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Good afternoon Lynette,

Thank you for forwarding the comments from surface water. Based on our review of the comments, we are interpreting that surface water is generally satisfied with our proposed approach to the design effluent targets, monitoring plan and contingency measures. We are interpreting that we can proceed with the design and ECA application, subject to incorporating information to address his 3 points in the email.

Could you please confirm whether any additional comments from groundwater are expected, or can we consider the pre-consultation requirement to be satisfied and move forward with the design and application?

Thank you.

Anne

Anne Egan, M.Sc.(Eng.),P.Eng.
Manager, Onsite Wastewater

R.J. Burnside & Associates Limited | www.rjburnside.com
Office: +1 800-265-9662 Direct: +1 905-821-5888

From: Armour, Lynnette (MECP) <Lynnette.Armour@ontario.ca>
Sent: Thursday, August 24, 2023 11:16 AM
To: Anne Egan <Anne.Egan@rjburnside.com>
Subject: FW: Echo #: 1-132234034 - Fergus Golf

Hi Anne,

Below please find the surface water comments to be addressed and provided with the ECA application package.

If you have any questions, please contact me to discuss.

Thanks,

Lynnette Armour
Provincial Officer

Ministry of the Environment, Conservation and Parks
Drinking Water and Environmental Compliance Division
West Central Region, Guelph District Office
Tel: 519-993-6449 or 1-800-265-8658
Fax: 519-826-4286

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Nous attendons vos commentaires. Qu'avez-vous pensé de mon service? Vous pouvez nous faire part de vos commentaires au 1-888-745-8888 ou à ontario.ca/retroactioninspection

From: Looker, Mark (MECP) <Mark.Looker@ontario.ca>
Sent: August 22, 2023 1:32 PM
To: Armour, Lynnette (MECP) <Lynnette.Armour@ontario.ca>
Subject: RE: Echo #: 1-132234034 - Fergus Golf

Hi Lynnette,

I have reviewed the updated information provided by R.J. Burnside (attached) as it relates to pond capacity, water level monitoring and contingency plans. Overall, I am satisfied with the evaluation that was done, and confident that the monitoring and contingency plan proposed will prevent pond overtopping. However, I do have the following comments for the consultant.

- 1) The calculations of average daily wastewater flow (ADF) were based on Township of Wellington Draft Engineering Guidelines. Based on an average density of 3.094 people per unit and 350 L per capita daily, the resultant daily sewage flow is 127,782 L/Day. Including the clubhouse (10,000 L/day) and a nominal allowance for inflow and infiltration (32,850 L/day) the total ADF was rounded to 175,000 L/Day (175 m³/day).

The Ministry's groundwater hydrogeologist (Gloria Suarez) noted that under Ontario Building Code (OBC) – Sewage System Design Flows Tables 8.2.1.3 A & B, a three bedroom dwelling requires 1,600 L/day versus the 1083.25 L/day (i.e. 350 L/person X 3.094 persons per dwelling) calculated based on the Township of Wellington Draft Engineering Guidelines.. Using the OBC design flows the resultant ADF would be calculated as follows:

1600 L/day per dwelling X 118 dwellings = 188,800 L/day
188,800 L/day + 10,000 L/Day (clubhouse) + 32,850 L/day (inflow and infiltration) = 231,650 L/day or 232 m³/day (rounded)

As 232 m³/day is significantly higher than the 175 m³/day calculated by R.J. Burnside, the method used to calculate the ADF should be verified by the Ministries' Approval Engineers. If the OBC method is used it does have an impact on the storage capacity calculations for the ponds. For example, if 232 m³/day is used then the pond volume required to store the sewage flows during the off season (215 days from October to April) would be 49,880 m³ or approximately 78% of the total pond volume (64,240 m³). This would result in an increased risk of overtopping the ponds during the off season.

- 2) Section 2.0 of the August 4th, 2023 technical memorandum discusses irrigation pond volumes and irrigation rates. R.J. Burnside selected a value of 1,000 m³/day for 20 days per month (20,000 m³/month) as a reasonable value to represent irrigation rates. While using this value may be reasonable, it could be better supported by using existing data. The golf course has been in operation for a number of years and may have data to indicate the

average daily or average monthly irrigation rates. As there is some inherent variability to the daily irrigation rates due to local weather patterns and golf course conditions it is appropriate to use an average monthly irrigation rate.

The data presented in Table 1 and Table 2 indicates that there is adequate storage capacity in the ponds to account for effluent volumes and rainfall runoff. Using the irrigation rate 20,000 m³/day between May and September results in an overall negative volume in the ponds by the end of the season, ensuring the ponds would be drawn down to ensure capacity for effluent storage over the off season. In fact the ponds may need to be topped up using the existing groundwater source to ensure adequate volumes for irrigation in August and September. As noted in the memo, it is typical practise for the golf club to draw down the ponds at the end of the season. This will be particularly important to ensure that there is adequate storage volume for the effluent over the off season.

- 3) Despite the concerns noted above, the monitoring and contingency plan presented by R.J. Burnside (Section 3.0, and Table 3 of the August 4th, 2023 Technical Memorandum) is sufficient to monitor the storage capacity in the ponds and respond appropriately by increasing irrigation rates or mobilizing emergency hauling procedures. I agree that this robust plan should prevent the pond overtopping, and potential impacts to the environment. However, the emergency hauling procedures should be described a bit further, as the water in the ponds may need to meet specific criteria to be hauled to an approved treatment facility. The monitoring and contingency plan described should be included as a condition in the ECA.

Please feel free to forward these comments on the R.J. Burnside on my behalf, and I am always available to discuss these further as needed.

Cheers,



Mark Looker

Surface Water Specialist | Provincial Officer #1963

West Central Region

Ministry of the Environment, Conservation and Parks

mark.looker@ontario.ca | Tel: (905) 512-8295

We want to hear from you. How was my service? You can provide feedback at 1-888-745-8888

Nous attendons vos commentaires. Qu'avez-vous pensé de mon service? Vous pouvez nous faire part de vos commentaires au 1-888-745-8888 ou à ontario.ca/retroactioninspection

From: Geurts, Hugh (MECP) <Hugh.Geurts@ontario.ca>

Sent: August-09-23 1:51 PM

To: Looker, Mark (MECP) <Mark.Looker@ontario.ca>

Cc: Armour, Lynnette (MECP) <Lynnette.Armour@ontario.ca>; Fumagalli, Maisa (MECP) <Maisa.Fumagalli@ontario.ca>

Subject: Echo #: 1-132234034 - Fergus Golf

Hey Mark;

Here is another one that Maisa was working on. Attached is their response to her comments. Her original comments are in attachments in the ECHO request. Feel free to reach out to her if you have any questions

Hugh Geurts

Water Assessment Unit

West Central Regional Office

Ministry of the Environment, Conservation, and Parks

548-388-7471

hugh.geurts@ontario.ca

**Ministry of the Environment,
Conservation and Parks**

**Ministère de l'Environnement,
de la Protection de la nature
et des Parcs**

Environmental Assessment
Branch

Direction des évaluations
environnementales

1st Floor
135 St. Clair Avenue W
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Rez-de-chaussée
135, avenue St. Clair Ouest
Toronto ON M4V 1P5
Tél. : 416 314-8001
Télééc. : 416 314-8452

October 13, 2023

Theyonas Manoharan
Project Manager
Fergus Development Inc.
theyonasm@geranium.com

Jennifer Vandermeer
Consultant Project Manager
R. J. Burnside & Associates Limited
FergusGolfEA@rjburnside.com

BY EMAIL ONLY

**Re: Fergus Golf Club Redevelopment
Fergus Development Inc.
Municipal Class Environmental Assessment, Schedule C
Acknowledgement of Notice of Commencement**

Dear Project Team,

This letter is in response to the Notice of Commencement for the above noted project. The Ministry of the Environment, Conservation and Parks (MECP) acknowledges that Fergus Development Inc (proponent) has indicated that the study is following the approved environmental planning process for a Schedule C project under the Municipal Class Environmental Assessment (Class EA).

The **updated (August 2022)** attached “Areas of Interest” document provides guidance regarding the ministry’s interests with respect to the Class EA process. Please address all areas of interest in the EA documentation at an appropriate level for the EA study. Proponents who address all the applicable areas of interest can minimize potential delays to the project schedule. **Further information is provided at the end of the Areas of Interest document relating to recent changes to the Environmental Assessment Act through Bill 197, Covid-19 Economic Recovery Act 2020.**

The Crown has a legal duty to consult Aboriginal communities when it has knowledge, real or constructive, of the existence or potential existence of an Aboriginal or treaty right and contemplates conduct that may adversely impact that right. Before authorizing this project, the Crown must ensure that its duty to consult has been fulfilled, where such a duty is triggered. Although the duty to consult with Aboriginal peoples is a duty of the Crown, the Crown may delegate procedural aspects of this duty to project proponents while retaining oversight of the consultation process.

The proposed project may have the potential to affect Aboriginal or treaty rights protected under Section 35 of Canada’s *Constitution Act* 1982. Where the Crown’s duty to consult is triggered in relation to the proposed project, **the MECP is delegating the procedural aspects of rights-based consultation to the proponent through this letter.** The Crown intends to rely on the delegated consultation process in discharging its duty to consult and maintains the right to participate in the consultation process as it sees fit.

Based on information provided to date and the Crown’s preliminary assessment the proponent is required to consult with the following communities who have been identified as potentially affected by the proposed project:

- Mississaugas of the Credit First Nation
- Six Nations of the Grand River
 - Elected Council, and Traditional Council (Haudenosaunee Confederacy Chiefs Council (HCCC) / Haudenosaunee Development Institute (HDI)).

Steps that the proponent may need to take in relation to Aboriginal consultation for the proposed project are outlined in the [“Code of Practice for Consultation in Ontario’s Environmental Assessment Process”](#). Additional information related to Ontario’s Environmental Assessment Act is available online at: www.ontario.ca/environmentalassessments.

Please also refer to the attached document “A Proponent’s Introduction to the Delegation of Procedural Aspects of consultation with Aboriginal Communities” for further information, including the MECP’s expectations for EA report documentation related to consultation with communities.

The proponent must contact the Director of Environmental Assessment Branch (EABDirector@ontario.ca) under the following circumstances after initial discussions with the communities identified by the MECP:

- Aboriginal or treaty rights impacts are identified to you by the communities;
- You have reason to believe that your proposed project may adversely affect an Aboriginal or treaty right;
- Consultation with Indigenous communities or other stakeholders has reached an impasse; or
- A Section 16 Order request is expected based on impacts to Aboriginal or treaty rights

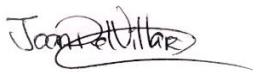
The MECP will then assess the extent of any Crown duty to consult for the circumstances and will consider whether additional steps should be taken, including what role you will be asked to play should additional steps and activities be required.

A draft copy of the report should be sent directly to me prior to the filing of the final report, allowing a minimum of 30 days for the ministry's technical reviewers to provide comments.

Please also ensure a copy of the final notice is sent to the ministry's West Central Region EA notification email account (eanotification.wcregion@ontario.ca) after the draft report is reviewed and finalized.

Should you or any members of your project team have any questions regarding the material above, please contact me at Joan.DelVillarCuicas@ontario.ca.

Sincerely,



Joan Del Villar Cuicas
Regional Environmental Planner – West Central Region
Project Review Unit, Environmental Assessment Branch

Cc: Aaron Todd, Manager, Guelph District Office, MECP
Mishaal Rizwan, Environmental Planner, R.J Burnside & Associates Limited

Enclosed: Areas of Interest

Attached: Client's Guide to Preliminary Screening for Species at Risk

A Proponent's Introduction to the Delegation of Procedural Aspects of Consultation
with Aboriginal Communities

AREAS OF INTEREST (v. August 2022)

It is suggested that you check off each section after you have considered / addressed it.

Planning and Policy

- Applicable plans and policies should be identified in the report, and the proponent should describe how the proposed project adheres to the relevant policies in these plans.
 - Projects located in MECP Central, Eastern or West Central Region may be subject to [A Place to Grow: Growth Plan for the Greater Golden Horseshoe \(2020\)](#).
 - Projects located in MECP Central or Eastern Region may be subject to the [Oak Ridges Moraine Conservation Plan \(2017\)](#) or the [Lake Simcoe Protection Plan \(2014\)](#).
 - Projects located in MECP Central, Southwest or West Central Region may be subject to the [Niagara Escarpment Plan \(2017\)](#).
 - Projects located in MECP Central, Eastern, Southwest or West Central Region may be subject to the [Greenbelt Plan \(2017\)](#).
 - Projects located in MECP Northern Region may be subject to the [Growth Plan for Northern Ontario \(2011\)](#).
- The [Provincial Policy Statement \(2020\)](#) contains policies that protect Ontario's natural heritage and water resources. Applicable policies should be referenced in the report, and the proponent should describe how the proposed project is consistent with these policies.
- In addition to the provincial planning and policy level, the report should also discuss the planning context at the municipal and federal levels, as appropriate.

Source Water Protection

The *Clean Water Act, 2006* (CWA) aims to protect existing and future sources of drinking water. To achieve this, several types of vulnerable areas have been delineated around surface water intakes and wellheads for every municipal residential drinking water system that is located in a source protection area. These vulnerable areas are known as a Wellhead Protection Areas (WHPAs) and surface water Intake Protection Zones (IPZs). Other vulnerable areas that have been delineated under the CWA include Highly Vulnerable Aquifers (HVAs), Significant Groundwater Recharge Areas (SGRAs), Event-based modelling areas (EBAs), and Issues Contributing Areas (ICAs). Source protection plans have been developed that include policies to address existing and future risks to sources of municipal drinking water within these vulnerable areas.

Projects that are subject to the Environmental Assessment Act that fall under a Class EA, or one of the Regulations, have the potential to impact sources of drinking water if they occur in designated vulnerable areas or in the vicinity of other at-risk drinking water systems (i.e.

systems that are not municipal residential systems). MEA Class EA projects may include activities that, if located in a vulnerable area, could be a threat to sources of drinking water (i.e. have the potential to adversely affect the quality or quantity of drinking water sources) and the activity could therefore be subject to policies in a source protection plan. Where an activity poses a risk to drinking water, policies in the local source protection plan may impact how or where that activity is undertaken. Policies may prohibit certain activities, or they may require risk management measures for these activities. Municipal Official Plans, planning decisions, Class EA projects (where the project includes an activity that is a threat to drinking water) and prescribed instruments must conform with policies that address significant risks to drinking water and must have regard for policies that address moderate or low risks.

- In October 2015, the MEA Parent Class EA document was amended to include reference to the Clean Water Act (Section A.2.10.6) and indicates that proponents undertaking a Municipal Class EA project must identify early in their process whether a project is or could potentially be occurring with a vulnerable area. **Given this requirement, please include a section in the report on source water protection.**
 - The proponent should identify the source protection area and should clearly document how the proximity of the project to sources of drinking water (municipal or other) and any delineated vulnerable areas was considered and assessed. Specifically, the report should discuss whether or not the project is located in a vulnerable area and provide applicable details about the area.
 - If located in a vulnerable area, proponents should document whether any project activities are prescribed drinking water threats and thus pose a risk to drinking water (this should be consulted on with the appropriate Source Protection Authority). Where an activity poses a risk to drinking water, the proponent must document and discuss in the report how the project adheres to or has regard to applicable policies in the local source protection plan. This section should then be used to inform and be reflected in other sections of the report, such as the identification of net positive/negative effects of alternatives, mitigation measures, evaluation of alternatives etc.
- While most source protection plans focused on including policies for significant drinking water threats in the WHPAs and IPZs it should be noted that even though source protection plan policies may not apply in HVAs, these are areas where aquifers are sensitive and at risk to impacts and within these areas, activities may impact the quality of sources of drinking water for systems other than municipal residential systems.
- In order to determine if this project is occurring within a vulnerable area, proponents can use [Source Protection Information Atlas](#), which is an online mapping tool available to the public. Note that various layers (including WHPAs, WHPA-Q1 and WHPA-Q2, IPZs, HVAs, SGRAs, EBAs, ICAs) can be turned on through the “Map Legend” bar on the left. The

mapping tool will also provide a link to the appropriate source protection plan in order to identify what policies may be applicable in the vulnerable area.

- For further information on the maps or source protection plan policies which may relate to their project, proponents must contact the appropriate source protection authority. **Please consult with the local source protection authority to discuss potential impacts on drinking water. Please document the results of that consultation within the report and include all communication documents/correspondence.**

More Information

For more information on the *Clean Water Act*, source protection areas and plans, including specific information on the vulnerable areas and drinking water threats, please refer to [Conservation Ontario's website](#) where you will also find links to the local source protection plan/assessment report.

A list of the prescribed drinking water threats can be found in [section 1.1 of Ontario Regulation 287/07](#) made under the *Clean Water Act*. In addition to prescribed drinking water threats, some source protection plans may include policies to address additional "local" threat activities, as approved by the MECP.

Climate Change

The document "[Considering Climate Change in the Environmental Assessment Process](#)" (Guide) is now a part of the Environmental Assessment program's Guides and Codes of Practice. The Guide sets out the MECP's expectation for considering climate change in the preparation, execution and documentation of environmental assessment studies and processes. The guide provides examples, approaches, resources, and references to assist proponents with consideration of climate change in EA. Proponents should review this Guide in detail.

• **The MECP expects proponents of Class EA projects to:**

1. Consider during the assessment of alternative solutions and alternative designs, the following:
 - a. the project's expected production of greenhouse gas emissions and impacts on carbon sinks (climate change mitigation); and
 - b. resilience or vulnerability of the undertaking to changing climatic conditions (climate change adaptation).
2. Include a discrete section in the report detailing how climate change was considered in the EA.

How climate change is considered can be qualitative or quantitative in nature and should be scaled to the project's level of environmental effect. In all instances, both a project's impacts on climate change (mitigation) and impacts of climate change on a project (adaptation) should be considered.

- The MECP has also prepared another guide to support provincial land use planning direction related to the completion of energy and emission plans. The "[Community Emissions Reduction Planning: A Guide for Municipalities](#)" document is designed to educate stakeholders on the municipal opportunities to reduce energy and greenhouse gas emissions, and to provide guidance on methods and techniques to incorporate consideration of energy and greenhouse gas emissions into municipal activities of all types. We encourage you to review the Guide for information.

□ **Air Quality, Dust and Noise**

- If there are sensitive receptors in the surrounding area of this project, a quantitative air quality/odour impact assessment will be useful to evaluate alternatives, determine impacts and identify appropriate mitigation measures. The scope of the assessment can be determined based on the potential effects of the proposed alternatives, and typically includes source and receptor characterization and a quantification of local air quality impacts on the sensitive receptors and the environment in the study area. The assessment will compare to all applicable standards or guidelines for all contaminants of concern. **Please contact this office for further consultation on the level of Air Quality Impact Assessment required for this project if not already advised.**
- If a quantitative Air Quality Impact Assessment is not required for the project, the MECP expects that the report contain a qualitative assessment which includes:
 - A discussion of local air quality including existing activities/sources that significantly impact local air quality and how the project may impact existing conditions;
 - A discussion of the nearby sensitive receptors and the project's potential air quality impacts on present and future sensitive receptors;
 - A discussion of local air quality impacts that could arise from this project during both construction and operation; and
 - A discussion of potential mitigation measures.
- As a common practice, "air quality" should be used as an evaluation criterion for all road projects.
- Dust and noise control measures should be addressed and included in the construction plans to ensure that nearby residential and other sensitive land uses within the study area are not adversely affected during construction activities.
- The MECP recommends that non-chloride dust-suppressants be applied. For a comprehensive list of fugitive dust prevention and control measures that could be applied, refer to [Cheminfo Services Inc. Best Practices for the Reduction of Air Emissions from](#)

[Construction and Demolition Activities](#) report prepared for Environment Canada. March 2005.

- The report should consider the potential impacts of increased noise levels during the operation of the completed project. The proponent should explore all potential measures to mitigate significant noise impacts during the assessment of alternatives.

Ecosystem Protection and Restoration

- Any impacts to ecosystem form and function must be avoided where possible. The report should describe any proposed mitigation measures and how project planning will protect and enhance the local ecosystem.
- Natural heritage and hydrologic features should be identified and described in detail to assess potential impacts and to develop appropriate mitigation measures. The following sensitive environmental features may be located within or adjacent to the study area:
 - Key Natural Heritage Features: Habitat of endangered species and threatened species, fish habitat, wetlands, areas of natural and scientific interest (ANSIs), significant valleylands, significant woodlands; significant wildlife habitat (including habitat of special concern species); sand barrens, savannahs, and tallgrass prairies; and alvars.
 - Key Hydrologic Features: Permanent streams, intermittent streams, inland lakes and their littoral zones, seepage areas and springs, and wetlands.
 - Other natural heritage features and areas such as: vegetation communities, rare species of flora or fauna, Environmentally Sensitive Areas, Environmentally Sensitive Policy Areas, federal and provincial parks and conservation reserves, Greenland systems etc.

We recommend consulting with the Ministry of Natural Resources and Forestry (MNRF), Fisheries and Oceans Canada (DFO) and your local conservation authority to determine if special measures or additional studies will be necessary to preserve and protect these sensitive features. In addition, for projects located in Central Region you may consider the provisions of the Rouge Park Management Plan if applicable.

Species at Risk

- The Ministry of the Environment, Conservation and Parks has now assumed responsibility of Ontario's Species at Risk program. Information, standards, guidelines, reference materials and technical resources to assist you are found at <https://www.ontario.ca/page/species-risk>.
- The Client's Guide to Preliminary Screening for Species at Risk (Draft May 2019) has been attached to the covering email for your reference and use. Please review this document for next steps.

- For any questions related to subsequent permit requirements, please contact SAROntario@ontario.ca.

□ **Surface Water**

- The report must include enough information to demonstrate that there will be no negative impacts on the natural features or ecological functions of any watercourses within the study area. Measures should be included in the planning and design process to ensure that any impacts to watercourses from construction or operational activities (e.g. spills, erosion, pollution) are mitigated as part of the proposed undertaking.
- Additional stormwater runoff from new pavement can impact receiving watercourses and flood conditions. Quality and quantity control measures to treat stormwater runoff should be considered for all new impervious areas and, where possible, existing surfaces. The ministry's [Stormwater Management Planning and Design Manual \(2003\)](#) should be referenced in the report and utilized when designing stormwater control methods. **A Stormwater Management Plan should be prepared as part of the Class EA process** that includes:
 - Strategies to address potential water quantity and erosion impacts related to stormwater draining into streams or other sensitive environmental features, and to ensure that adequate (enhanced) water quality is maintained
 - Watershed information, drainage conditions, and other relevant background information
 - Future drainage conditions, stormwater management options, information on erosion and sediment control during construction, and other details of the proposed works
 - Information on maintenance and monitoring commitments.
- Ontario Regulation 60/08 under the *Ontario Water Resources Act* (OWRA) applies to the Lake Simcoe Basin, which encompasses Lake Simcoe and the lands from which surface water drains into Lake Simcoe. If a proposed sewage treatment plant is listed in Table 1 of the regulation, the report should describe how the proposed project and its mitigation measures are consistent with the requirements of this regulation and the OWRA.
- Any potential approval requirements for surface water taking or discharge should be identified in the report. A Permit to Take Water (PTTW) under the OWRA will be required for any water takings that exceed 50,000 L/day, except for certain water taking activities that have been prescribed by the Water Taking EASR Regulation – *O. Reg. 63/16*. These prescribed water-taking activities require registration in the EASR instead of a PTTW. Please

review the [Water Taking User Guide for EASR](#) for more information. Additionally, an Environmental Compliance Approval under the OWRA is required for municipal stormwater management works.

Groundwater

- The status of, and potential impacts to any well water supplies should be addressed. If the project involves groundwater takings or changes to drainage patterns, the quantity and quality of groundwater may be affected due to drawdown effects or the redirection of existing contamination flows. In addition, project activities may infringe on existing wells such that they must be reconstructed or sealed and abandoned. Appropriate information to define existing groundwater conditions should be included in the report.
- If the potential construction or decommissioning of water wells is identified as an issue, the report should refer to Ontario Regulation 903, Wells, under the OWRA.
- Potential impacts to groundwater-dependent natural features should be addressed. Any changes to groundwater flow or quality from groundwater taking may interfere with the ecological processes of streams, wetlands or other surficial features. In addition, discharging contaminated or high volumes of groundwater to these features may have direct impacts on their function. Any potential effects should be identified, and appropriate mitigation measures should be recommended. The level of detail required will be dependent on the significance of the potential impacts.
- Any potential approval requirements for groundwater taking or discharge should be identified in the report. A Permit to Take Water (PTTW) under the OWRA will be required for any water takings that exceed 50,000 L/day, with the exception of certain water taking activities that have been prescribed by the Water Taking EASR Regulation – *O. Reg. 63/16*. These prescribed water-taking activities require registration in the EASR instead of a PTTW. Please review the [Water Taking User Guide for EASR](#) for more information.
- Consultation with the railroad authorities is necessary wherever there is a plan to use construction dewatering in the vicinity of railroad lines or where the zone of influence of the construction dewatering potentially intercepts railroad lines.

Excess Materials Management

- In December 2019, MECP released a new regulation under the Environmental Protection Act, titled “[On-Site and Excess Soil Management](#)” (O. Reg. 406/19) to support improved management of excess construction soil. This regulation is a key step to support proper management of excess soils, ensuring valuable resources don’t go to waste and to provide

clear rules on managing and reusing excess soil. New risk-based standards referenced by this regulation help to facilitate local beneficial reuse which in turn will reduce greenhouse gas emissions from soil transportation, while ensuring strong protection of human health and the environment. The new regulation is being phased in over time, with the first phase in effect on January 1, 2021. For more information, please visit <https://www.ontario.ca/page/handling-excess-soil>.

- The report should reference that activities involving the management of excess soil should be completed in accordance with O. Reg. 406/19 and the MECP's current guidance document titled "[Management of Excess Soil – A Guide for Best Management Practices](#)" (2014).
- All waste generated during construction must be disposed of in accordance with ministry requirements

Contaminated Sites

- Any current or historical waste disposal sites should be identified in the report. The status of these sites should be determined to confirm whether approval pursuant to Section 46 of the EPA may be required for land uses on former disposal sites. We recommend referring to the [MECP's D-4 guideline](#) for land use considerations near landfills and dumps.
 - Resources available may include regional/local municipal official plans and data; provincial data on [large landfill sites](#) and [small landfill sites](#); Environmental Compliance Approval information for waste disposal sites on [Access Environment](#).
- Other known contaminated sites (local, provincial, federal) in the study area should also be identified in the report (Note – information on federal contaminated sites is found on the Government of Canada's [website](#)).
- The location of any underground storage tanks should be investigated in the report. Measures should be identified to ensure the integrity of these tanks and to ensure an appropriate response in the event of a spill. The ministry's Spills Action Centre must be contacted in such an event.
- Since the removal or movement of soils may be required, appropriate tests to determine contaminant levels from previous land uses or dumping should be undertaken. If the soils are contaminated, you must determine how and where they are to be disposed of, consistent with *Part XV.1 of the Environmental Protection Act* (EPA) and Ontario Regulation 153/04, Records of Site Condition, which details the new requirements related to site assessment and clean up. Please contact the appropriate MECP District Office for further consultation if contaminated sites are present.

Servicing, Utilities and Facilities

- The report should identify any above or underground utilities in the study area such as transmission lines, telephone/internet, oil/gas etc. The owners should be consulted to discuss impacts to this infrastructure, including potential spills.
- The report should identify any servicing infrastructure in the study area such as wastewater, water, stormwater that may potentially be impacted by the project.
- Any facility that releases emissions to the atmosphere, discharges contaminants to ground or surface water, provides potable water supplies, or stores, transports or disposes of waste must have an Environmental Compliance Approval (ECA) before it can operate lawfully. Please consult with MECP's Environmental Permissions Branch to determine whether a new or amended ECA will be required for any proposed infrastructure.
- We recommend referring to the ministry's [environmental land use planning guides](#) to ensure that any potential land use conflicts are considered when planning for any infrastructure or facilities related to wastewater, pipelines, landfills or industrial uses.

Mitigation and Monitoring

- Contractors must be made aware of all environmental considerations so that all environmental standards and commitments for both construction and operation are met. Mitigation measures should be clearly referenced in the report and regularly monitored during the construction stage of the project. In addition, we encourage proponents to conduct post-construction monitoring to ensure all mitigation measures have been effective and are functioning properly.
- Design and construction reports and plans should be based on a best management approach that centres on the prevention of impacts, protection of the existing environment, and opportunities for rehabilitation and enhancement of any impacted areas.
- The proponent's construction and post-construction monitoring plans must be documented in the report, as outlined in Section A.2.5 and A.4.1 of the MEA Class EA parent document.

Consultation

- The report must demonstrate how the consultation provisions of the Class EA have been fulfilled, including documentation of all stakeholder consultation efforts undertaken during the planning process. This includes a discussion in the report that identifies concerns that were raised and **describes how they have been addressed by the proponent** throughout

the planning process. The report should also include copies of comments submitted on the project by interested stakeholders, and the proponent's responses to these comments (as directed by the Class EA to include full documentation).

- Please include the full stakeholder distribution/consultation list in the documentation.

□ **Class EA Process**

- If this project is a Master Plan: there are several different approaches that can be used to conduct a Master Plan, examples of which are outlined in Appendix 4 of the Class EA. **The Master Plan should clearly indicate the selected approach for conducting the plan**, by identifying whether the levels of assessment, consultation and documentation are sufficient to fulfill the requirements for Schedule B or C projects. Please note that any Schedule B or C projects identified in the plan would be subject to Part II Order Requests under the Environmental Assessment Act, although the plan itself would not be. **Please include a description of the approach being undertaken (use Appendix 4 as a reference).**
- If this project is a Master Plan: Any identified projects should also include information on the MCEA schedule associated with the project.
- The report should provide clear and complete documentation of the planning process in order to allow for transparency in decision-making.
- The Class EA requires the consideration of the effects of each alternative on all aspects of the environment (including planning, natural, social, cultural, economic, technical). The report should include a level of detail (e.g. hydrogeological investigations, terrestrial and aquatic assessments, cultural heritage assessments) such that all potential impacts can be identified, and appropriate mitigation measures can be developed. Any supporting studies conducted during the Class EA process should be referenced and included as part of the report.
- Please include in the report a list of all subsequent permits or approvals that may be required for the implementation of the preferred alternative, including but not limited to, MECP's PTTW, EASR Registrations and ECAs, conservation authority permits, species at risk permits, MTO permits and approvals under the *Impact Assessment Act*, 2019.
- Ministry guidelines and other information related to the issues above are available at <http://www.ontario.ca/environment-and-energy/environment-and-energy>. We encourage you to review all the available guides and to reference any relevant information in the report.

Amendments to the EAA through the Covid-19 Economic Recovery Act, 2020

Once the EA Report is finalized, the proponent must issue a Notice of Completion providing a minimum 30-day period during which documentation may be reviewed and comment and input can be submitted to the proponent. The Notice of Completion must be sent to the appropriate MECP Regional Office email address.

The public can request a higher level of assessment on a project if they are concerned about potential adverse impacts to constitutionally protected Aboriginal and treaty rights. In addition, the Minister may issue an order on his or her own initiative within a specified time period. The Director (of the Environmental Assessment Branch) will issue a Notice of Proposed Order to the proponent if the Minister is considering an order for the project within 30 days after the conclusion of the comment period on the Notice of Completion. At this time, the Director may request additional information from the proponent. Once the requested information has been received, the Minister will have 30 days within which to make a decision or impose conditions on your project.

Therefore, the proponent cannot proceed with the project until at least 30 days after the end of the comment period provided for in the Notice of Completion. Further, the proponent may not proceed after this time if:

- a Section 16 Order request has been submitted to the ministry regarding potential adverse impacts to constitutionally protected Aboriginal and treaty rights, or
- the Director has issued a Notice of Proposed order regarding the project.

Please ensure that the Notice of Completion advises that outstanding concerns are to be directed to the proponent for a response, and that in the event there are outstanding concerns regarding potential adverse impacts to constitutionally protected Aboriginal and treaty rights, Section 16 Order requests on those matters should be addressed in writing to:

Minister David Piccini
Ministry of Environment, Conservation and Parks
777 Bay Street, 5th Floor
Toronto ON M7A 2J3
minister.mecp@ontario.ca

and

Director, Environmental Assessment Branch
Ministry of Environment, Conservation and Parks
135 St. Clair Ave. W, 1st Floor
Toronto ON, M4V 1P5
EABDirector@ontario.ca

Client's Guide to Preliminary Screening for Species at Risk

***Ministry of the Environment, Conservation and Parks
Species at Risk Branch, Permissions and Compliance***

DRAFT - May 2019

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1.0 Purpose, Scope, Background and Context

1.1 Purpose of this Guide

This guide has been created to:

- help clients better understand their obligation to gather information and complete a preliminary screening for species at risk before contacting the ministry,
- outline guidance and advice clients can expect to receive from the ministry at the preliminary screening stage,
- help clients understand how they can gather information about species at risk by accessing publicly available information housed by the Government of Ontario, and
- provide a list of other potential sources of species at risk information that exist outside the Government of Ontario.

It remains the client's responsibility to:

- carry out a preliminary screening for their projects,
- obtain best available information from all applicable information sources,
- conduct any necessary field studies or inventories to identify and confirm the presence or absence of species at risk or their habitat,
- consider any potential impacts to species at risk that a proposed activity might cause, and
- comply with the *Endangered Species Act (ESA)*.

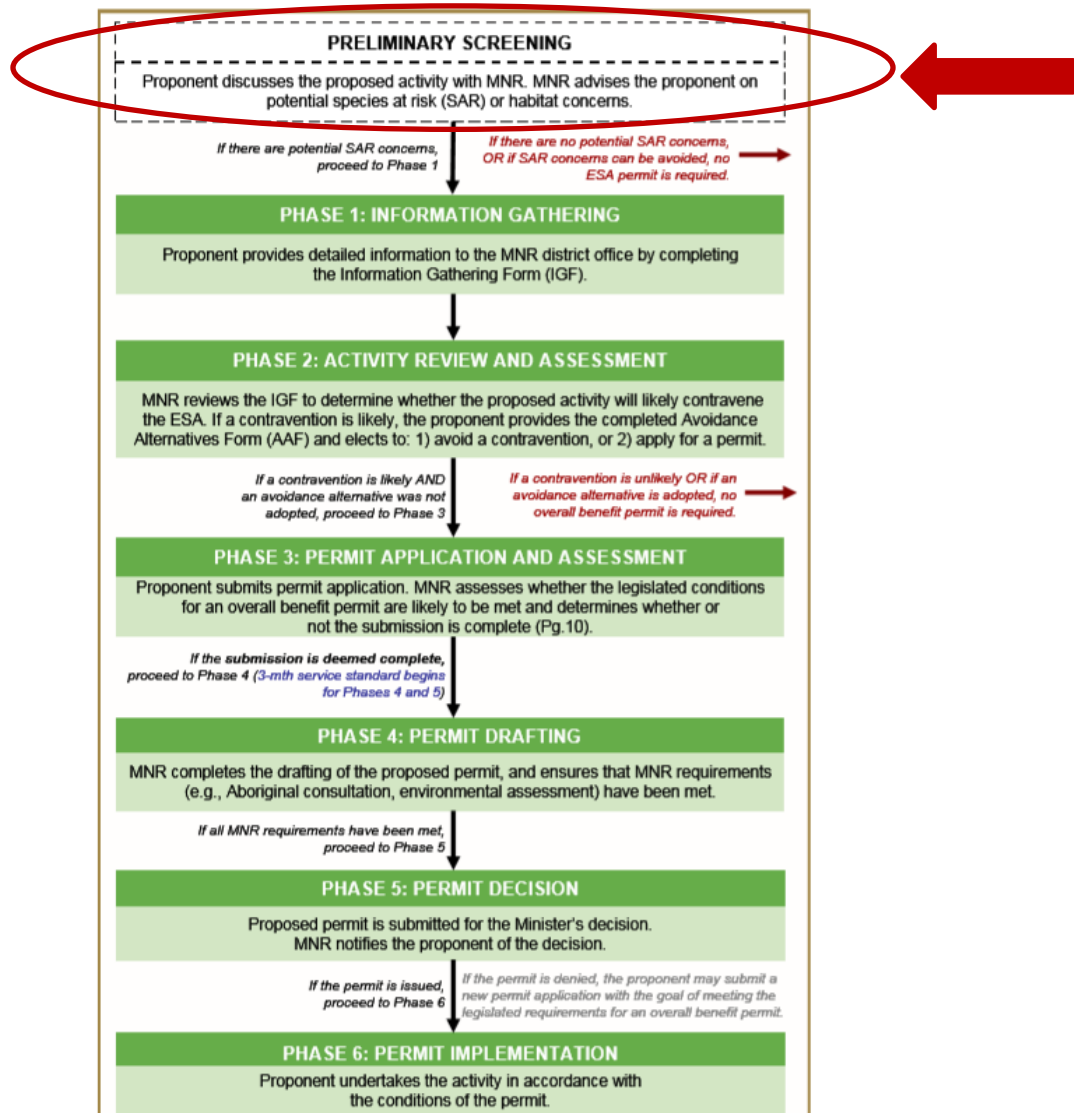
To provide the most efficient service, clients should initiate species at risk screenings and seek information from all applicable information sources identified in this guide, at a minimum, prior to contacting Government of Ontario ministry offices for further information or advice.

1.2 Scope

This guide is a resource for clients seeking to understand if their activity is likely to impact species at risk or if they are likely to trigger the need for an authorization under the ESA. It is not intended to circumvent any detailed site surveys that may be necessary to document species at risk or their habitat nor to circumvent the need to assess the impacts of a proposed activity on species at risk or their habitat. This guide is not an exhaustive list of available information sources for any given area as the availability of information on species at risk and their habitat varies across the province. This guide is intended to support projects and activities carried out on Crown and private land, by private landowners, businesses, other provincial ministries and agencies, or municipal government.

1.3 Background and Context

To receive advice on their proposed activity, clients must first determine whether any species at risk or their habitat exist or are likely to exist at or near their proposed activity, and whether their proposed activity is likely to contravene the ESA. Once this step is complete, clients may contact the ministry at SAROntario@ontario.ca to discuss the main purpose, general methods, timing and location of their proposed activity as well as information obtained about species at risk and their habitat at, or near, the site. At this stage, the ministry can provide advice and guidance to the client about potential species at risk or habitat concerns, measures that the client is considering to avoid adverse effects on species at risk or their habitat and whether additional field surveys are advisable. This is referred to as the “Preliminary Screening” stage. For more information on additional phases in the diagram below, please refer to the *Endangered Species Act Submission Standards for Activity Review and 17(2)(c) Overall Benefit Permits* policy available online at <https://www.ontario.ca/page/species-risk-overall-benefit-permits>. Please note: any reference to MNR in the diagram is replaced by MECP.



2.0 Roles and Responsibilities

To provide the most efficient service, clients should initiate species at risk screenings and seek information from all applicable information sources identified in this guide prior to contacting Government of Ontario ministry offices for further information or advice.

Step 1: Client seeks information regarding species at risk or their habitat that exist, or are likely to exist, at or near their proposed activity by referring to all applicable information sources identified in this guide.

Step 2: Client reviews and consider guidance on whether their proposed activity is likely to contravene the ESA (see section 3.4 of this guide for guidance on what to consider).

Step 3: Client gathers information identified in the checklist in section 4 of this guide.

Step 4: Client contacts the ministry at SAROntario@ontario.ca to discuss their preliminary screening. Ministry staff will ask the client questions about the main purpose, general methods, timing and location of their proposed activity as well as information obtained about species at risk and their habitat at, or near, the site. Ministry staff will also ask the client for their interpretation of the impacts of their activity on species at risk or their habitat as well as measures the client has considered to avoid any adverse impacts.

Step 5: Ministry staff will provide advice on next steps.

Option A: Ministry staff may advise the client they can proceed with their activity without an authorization under the ESA where the ministry is confident that:

- no protected species at risk or habitats are likely to be present at or near the proposed location of the activity; or
- protected species at risk or habitats are known to be present but the activity is not likely to contravene the ESA; or
- through the adoption of avoidance measures, the modified activity is not likely to contravene the ESA.

Option B: Ministry staff may advise the client to proceed to Phase 1 of the overall benefit permitting process (i.e. Information Gathering in the previous diagram), where:

- there is uncertainty as to whether any protected species at risk or habitats are present at or near the proposed location of the activity; or
- the potential impacts of the proposed activity are uncertain; or
- ministry staff anticipate the proposed activity is likely to contravene the ESA.

3.0 Information Sources

Land Information Ontario (LIO) and the Natural Heritage Information Centre (NHIC) maintain and provide information about species at risk, as well as related information about fisheries, wildlife, crown lands, protected lands and more. This information is made available to organizations, private individuals, consultants, and developers through online sources and is often considered under various pieces of legislation or as part of regulatory approvals and planning processes.

The information available from LIO or NHIC and the sources listed in this guide should not be considered as a substitute for site visits and appropriate field surveys. Generally, this information can be regarded as a starting point from which to conduct further field surveys, if needed. While this data represents best available current information, it is important to note that a lack of information for a site does not mean that species at risk or their habitat are not present. There are many areas where the Government of Ontario does not currently have information, especially in more remote parts of the province. The absence of species at risk location data at or near your site does not necessarily mean no species at risk are present at that location. On-site assessments can better verify site conditions, identify and confirm presence of species at risk and/or their habitats.

Information on the location (i.e. observations and occurrences) of species at risk is considered sensitive and therefore publicly available only on a 1km square grid as opposed to as a detailed point on a map. This generalized information can help you understand which species at risk are in the general vicinity of your proposed activity and can help inform field level studies you may want to undertake to confirm the presence, or absence of species at risk at or near your site.

Should you require specific and detailed information pertaining to species at risk observations and occurrences at or near your site on a finer geographic scale; you will be required to demonstrate your need to access this information, to complete data sensitivity training and to obtain a Sensitive Data Use License from the NHIC. Information on how to obtain a license can be found online at <https://www.ontario.ca/page/get-natural-heritage-information>.

Many organizations (e.g. other Ontario ministries, municipalities, conservation authorities) have ongoing licensing to access this data so be sure to check if your organization has this access and consult this data as part of your preliminary screening if your organization already has a license.

3.1 Make a Map: Natural Heritage Areas

The Make a Natural Heritage Area Map (available online at <https://www.ontario.ca/page/make-natural-heritage-area-map>) provides public access to natural heritage information, including species at risk, without the user needing to have Geographic Information System (GIS) capability. It allows users to view and identify generalized species at risk information, mark areas of interest, and create and print a custom map directly from the web application. The tool also shows topographic information such as roads, rivers, contours and municipal boundaries.

Users are advised that sensitive information has been removed from the natural areas dataset and the occurrences of species at risk has been generalized to a 1-kilometre grid to mitigate the risks to the species (e.g. illegal harvest, habitat disturbance, poaching).

The web-based mapping tool displays natural heritage data, including:

- Generalized Species at risk occurrence data (based on a 1-km square grid),
- Natural Heritage Information Centre data.

Data cannot be downloaded directly from this web map; however, information included in this application is available digitally through Land Information Ontario (LIO) at <https://www.ontario.ca/page/land-information-ontario>.

3.2 Land Information Ontario (LIO)

Most natural heritage data is publicly available. This data is managed in a large provincial corporate database called the LIO Warehouse and can be accessed online through the LIO Metadata Management Tool at

<https://www.javacoeapp.lrc.gov.on.ca/geonetwork/srv/en/main.home>. This tool provides descriptive information about the characteristics, quality and context of the data. Publicly available geospatial data can be downloaded directly from this site.

While most data are publicly available, some data may be considered highly sensitive (i.e. nursery areas for fish, species at risk observations) and as such, access to some data maybe restricted.

3.3 Additional Species at Risk Information Sources

- The Breeding Bird Atlas can be accessed online at <http://www.birdsontario.org/atlas/index.jsp?lang=en>
- eBird can be accessed online at <https://ebird.org/home>
- iNaturalist can be accessed online at <https://www.inaturalist.org/>
- The Ontario Reptile and Amphibian Atlas can be accessed online at <https://ontarionature.org/programs/citizen-science/reptile-amphibian-atlas>
- Your local Conservation Authority. Information to help you find your local Conservation Authority can be accessed online at <https://conservationontario.ca/conservation-authorities/find-a-conservation-authority/>

Local naturalist groups or other similar community-based organizations

- Local Indigenous communities
- Local land trusts or other similar Environmental Non-Government Organizations
- Field level studies to identify if species at risk, or their habitat, are likely present or absent at or near the site.
- When an activity is proposed within one of the continuous caribou ranges, please be sure to consider the caribou Range Management Policy. This policy includes figures and maps of the continuous caribou range, can be found online at <https://www.ontario.ca/page/range-management-policy-support-woodland-caribou-conservation-and-recovery>

3.4 Information Sources to Support Impact Assessments

- Guidance to help you understand if your activity is likely to adversely impact species at risk or their habitat can be found online at <https://www.ontario.ca/page/policy-guidance-harm-and-harass-under-endangered-species-act> and <https://www.ontario.ca/page/categorizing-and-protecting-habitat-under-endangered-species-act>
- A list of species at risk in Ontario is available online at <https://www.ontario.ca/page/species-risk-ontario>. On this webpage, you can find out more about each species, including where it lives, what threatens it and any specific habitat protections that apply to it by clicking on the photo of the species.

4.0 Check-List

Please feel free to use the check list below to help you confirm you have explored all applicable information sources and to support your discussion with Ministry staff at the preliminary screening stage.

- ✓ Land Information Ontario (LIO)
- ✓ Natural Heritage Information Centre (NHIC)
- ✓ The Breeding Bird Atlas
- ✓ eBird
- ✓ iNaturalist
- ✓ Ontario Reptile and Amphibian Atlas
- ✓ List Conservation Authorities you contacted: _____

- ✓ List local naturalist groups you contacted: _____

- ✓ List local Indigenous communities you contacted: _____

- ✓ List any other local land trusts or Environmental Non-Government Organizations you contacted: _____

- ✓ List and field studies that were conducted to identify species at risk, or their habitat, likely to be present or absent at or near the site: _____

- ✓ List what you think the likely impacts of your activity are on species at risk and their habitat (e.g. damage or destruction of habitat, killing, harming or harassing species at risk): _____

Mishaal Rizwan

From: Del Villar Cuicas, Joan (MECP) <Joan.DelVillarCuicas@ontario.ca>
Sent: Friday, October 13, 2023 11:07 AM
To: FergusGolfEA; Theyonas Manoharan
Cc: Mishaal Rizwan; Todd, Aaron (MECP)
Subject: RE: Centre Wellington - Schedule C MCEA, Fergus Golf Club Redevelopment
Attachments: MECP Acknowledgement of NOC - Fergus Golf Club Redevelopment.pdf; Client Guide to Preliminary Screening-May 2019.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Good morning,

Sincere apologies for the delay.

Please find attached MECP's Letter of Acknowledgement and attachment in response to the Notice of Commencement for Fergus Golf Club Redevelopment, schedule C, MCEA.

Please do not hesitate to contact me if you have any questions.

Regards,

Joan Del Villar Cuicas (she/her)
Regional Environmental Planner
Project Review Unit | Environmental Assessment Branch
Ontario Ministry of the Environment, Conservation and Parks
Joan.delvillarcuicas@ontario.ca | Phone: 365-889-1180

From: FergusGolfEA <FergusGolfEA@rjburnside.com>
Sent: June 12, 2023 12:03 PM
To: EA Notices to WCRegion (MECP) <eanotification.wcregion@ontario.ca>
Subject: Centre Wellington - Schedule C MCEA, Fergus Golf Club Redevelopment

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Hello,

Please find attached the Project Information Form and Notice of Commencement for the Fergus Golf Club Redevelopment EA.

Thank you,



Mishaal Rizwan
Environmental Planner

R.J. Burnside & Associates Limited
292 Speedvale Avenue West, Unit 20, Guelph, Ontario, N1H 1C4
Office: 800-265-9662 Direct Line: 226-343-7014
www.rjburnside.com

Mishaal Rizwan

From: Raechelle Williams <raechellewilliams@hdi.land>
Sent: Thursday, November 02, 2023 3:54 PM
To: Mishaal Rizwan
Cc: Matt Turner; Theyonas Manoharan; Bobby Wang; Brian G. Tamblyn; Todd Williams; HDI Administration; Shannon Hill; Jake Linklater; Aaron Detlor; Steven Roorda
Subject: Re: Fergus Golf Club Redevelopment Environmental Assessment - Link to Environmental Reports

Follow Up Flag: Follow up
Flag Status: Flagged

Sge:no Mishaal,

I will have a response available next week for our review of the Environmental Impact Study Report.

Nya:weh,

Raechelle Williams
HDI Environmental Supervisor
Haudenosaunee Development Institute
P.O. Box 714
Ohsweken, ON
NOA 1M0
Ph: 519-445-4222
(Direct): 519-802-9402



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On Wed, Nov 1, 2023 at 2:31 PM Mishaal Rizwan <Mishaal.Rizwan@rjburnside.com> wrote:

Good afternoon Raechelle,

I hope this message finds you well.

Could you please confirm if your team has completed their review.

Thank you,



Mishaal Rizwan
Environmental Planner

R.J. Burnside & Associates Limited
292 Speedvale Avenue West, Unit 20, Guelph, Ontario, N1H 1C4
Office: 800-265-9662 Direct Line: 226-343-7014
www.rjburnside.com

From: Jennifer Vandermeer <Jennifer.Vandermeer@rjburnside.com>
Sent: Thursday, October 05, 2023 4:11 PM
To: Raechelle Williams <raechellewilliams@hdi.land>
Cc: Matt Turner <matijturner@gmail.com>; Theyonas Manoharan <theyonasm@geranium.com>; Bobby Wang <bobbyw@geranium.com>; Brian G. Tamblyn <briantamblyn11@gmail.com>; Mishaal Rizwan <Mishaal.Rizwan@rjburnside.com>; Todd Williams <toddwilliams@hdi.land>; HDI Administration <administration@hdi.land>; Shannon Hill <shannonhill@hdi.land>; Jake Linklater <jake@detlorlaw.com>; Aaron Detlor <aarondetlor@gmail.com>
Subject: RE: Fergus Golf Club Redevelopment Environmental Assessment - Link to Environmental Reports

Hi Raechelle,

Thank-you for your email. We look forward to hearing from you once your team has completed their review.

Best regards,

Jennifer



Jennifer Vandermeer, P.Eng.
Senior Environmental Coordinator

R.J. Burnside & Associates Limited
292 Speedvale Avenue West, Unit 20, Guelph, ON N1H 1C4
Office: 800-265-9662 Direct: 226-486-1559
www.rjburnside.com

From: Raechelle Williams <raechellewilliams@hdi.land>
Sent: Thursday, October 05, 2023 3:59 PM
To: Jennifer Vandermeer <Jennifer.Vandermeer@rjburnside.com>

Cc: Matt Turner <matijturner@gmail.com>; Theyonasm Manoharan <theyonasm@geranium.com>; Bobby Wang <bobbyw@geranium.com>; Brian G. Tamblyn <briantamblyn11@gmail.com>; Mishaal Rizwan <Mishaal.Rizwan@rjburnside.com>; Todd Williams <toddwilliams@hdi.land>; HDI Administration <administration@hdi.land>; Shannon Hill <shannonhill@hdi.land>; Jake Linklater <jake@detlorlaw.com>; Aaron Detlor <aarondetlor@gmail.com>

Subject: Re: Fergus Golf Club Redevelopment Environmental Assessment - Link to Environmental Reports

Sge:no Jennifer,

My team and I will begin our reviewing process next week. Once we complete our review, we will arrange a meeting to discuss the cumulative effects/impacts to established Haudenosaunee rights and interests. We will also seek the commencement date of the construction phase of this project to coordinate an onsite monitor to be present from HDI archaeology department and environmental department.

Nya:weh,

Raechelle Williams
HDI Environmental Supervisor
Haudenosaunee Development Institute
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On Wed, Oct 4, 2023 at 11:56 AM Jennifer Vandermeer <Jennifer.Vandermeer@rjburnside.com> wrote:

Hi Raechelle and Matt,

I hope this message finds you well. I'm just following up on the email that I sent to you on September 22, 2023 with the environmental reports to ask how your review is proceeding and if you have any initial questions. We are looking to file the EA in mid-December and would like to ensure that we have incorporated any comments from HDI. I look forward to hearing from you shortly.

Best regards,

Jennifer

Jennifer Vandermeer, P.Eng.
Senior Environmental Coordinator

R.J. Burnside & Associates Limited
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www.rjburnside.com

From: Jennifer Vandermeer
Sent: Friday, September 22, 2023 10:26 AM
To: Raechelle Williams <raechellewilliams@hdi.land>; Matt Turner <matijturner@gmail.com>
Cc: Theyonas Manoharan <theyonasm@geranium.com>; Bobby Wang <bobbyw@geranium.com>; Brian G. Tamblyn <briantamblyn11@gmail.com>; Mishaal Rizwan <Mishaal.Rizwan@rjburnside.com>
Subject: Fergus Golf Club Redevelopment Environmental Assessment - Link to Environmental Reports

Hi Raechelle and Matt,

Further to our meeting on August 10, 2023, I have provided below a link for you to download a copy of the Environmental Impact Study (EIS) Report prepared by Beacon Environmental in support of the planned redevelopment of a portion of the Fergus Golf Club for residential units. As mentioned at our meeting, Beacon also prepared (more recently) a memo describing the natural heritage features associated with the water and wastewater servicing systems to service the planned redevelopment. I have also included the memo in the link below for your review / reference.

[230922 Environmental Reports](#)

Note: Link will expire on November 21, 2023.

Please confirm when you receive these documents and let me know if you have any questions.

Best regards,

Jennifer

Jennifer Vandermeer, P.Eng.
Senior Environmental Coordinator

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**Ministry of the Environment,
Conservation and Parks**

**Ministère de l'Environnement, de la
Protection de la nature et des Parcs**



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Via E-mail Only

November 23, 2023

Theyonas Manoharan
Project Manager
Fergus Development Inc
Email: theyonasm@geranium.com

**Re: Fergus Golf Club Redevelopment
Fergus Development Inc
Municipal Class Environmental Assessment – Schedule C
Project Review Unit Comments – Draft Environmental Study Report**

Dear Theyonas Manoharan,

Thank you for providing the Ministry of the Environment, Conservation and Parks (ministry) with an opportunity to comment on the draft Environmental Study Report (ESR) for the above noted Class Environmental Assessment (EA) project. Our understanding is that in order to evaluate alternatives for water and wastewater servicing required for the redevelopment of part of the Fergus Golf Club lands, Fergus Development Inc. (the proponent) has determined that the preferred alternative solution for water servicing is a new onsite communal water supply system, and for wastewater servicing is a new onsite wastewater system with discharge to an irrigation pond. The ministry provides the following comments for your consideration.

General

- 1) The Ministry of Natural Resources and Forestry (MNR) has returned to their MNR title, and no longer uses the Ministry of Northern Development, Mines, Natural Resources and Forestry (MNDMNR) title. Please correct references to MNDMNR throughout the ESR accordingly.
- 2) A preliminary anticipated project timeline should be included in the ESR.

- 3) Please revise the hyperlinks in the Appendices section of the Table of Contents in the ESR as Appendix B and Appendix J are not working, and Appendix I leads to Appendix J when clicked on.
- 4) The ministry recommends that a conclusion be included in the ESR to summarize important information, including the preferred alternative, how the alternative meets the problem, when the file was received or approved by MECP, etc.

Evaluation of Alternatives

- 5) One of the key principles of successful environmental assessment planning is the systematic evaluation of alternatives in terms of their advantages, and disadvantages, to determine their net environmental effects. Section A.2.3 of the Municipal Class EA document, available online at www.municipalclassea.ca/manual/page12.html, further describes the evaluation step of Phase 2 of the Class EA planning process. In order to best meet the requirements of the Class EA process, the evaluation of alternative solutions provided in Section 5.2 and evaluation of alternative design concepts in Section 6.2 of the ESR should demonstrate how the magnitude of net positive and negative effects on all natural, social, and economic components of the environment was considered during the evaluation of alternatives.

Indigenous Consultation

- 6) It was noted that the Huron Wendat Nation was included in the consultation in Section 11.3 of the ESR, however there was not any record of correspondence with this community in Appendix I Consultation. Any efforts to follow-up by the proponent should be documented in the record of consultation that accompanies the Class EA documentation.
- 7) Please revise the first column of Table 11.1 on page 75 of the ESR as Haudenosaunee is spelled as "Haudenosauuee", which is misspelled, and should be corrected once finalized.

Technical Support Groundwater

The adequacy of the hydrogeological investigation was the primary focus of our review. We have reviewed the report to assess potential impacts on off-site groundwater receptors as a direct result of the new onsite communal water supply and wastewater treatment plant and whether the groundwater impact assessment was completed in accordance with Chapter 22 - Large Subsurface Sewage Disposal Systems of the MOE 2008 Design Guidelines for Sewage Works.

The recommended alternative is a new onsite communal water supply with a new onsite communal wastewater treatment plant with a discharge to existing irrigation ponds, followed by land application (18-hole golf course) of sewage effluent through a spray irrigation system or overland flow.

- 8) Please note that an Environmental Compliance Approval (ECA) will be required for the waste treatment plant.
- 9) A Permit to Take Water (PTTW) will be required for the new onsite communal water supply.
- 10) Please note that there will be Construction Dewatering and Permits Requirements.

Further Information regarding the comments above can be found below:

Waste Treatment System – Environmental Compliance Approval (ECA)

The treatment plant will be designed to treat 175 m³ /day with flow equalization for peak flows. Effluent will be treated to meet the proposed effluent targets, suitable for discharge to the existing onsite irrigation ponds, and be reused as irrigation water for the golf course of ~ 42 ha within the north parcel.

The annual sewage volume of 63,875 m³ /day will be discharged on two existing no-lined ponds that have a total storage volume of 64,250 m³ . During the off-season (October to April ~ 215 days) and frost ground, the ponds will be required to store ~ 37,625 m³ or 58.5% of the total volume stored available. The ponds' water storage capacity will depend on the total sewage daily design flow. The peak flow sewage data and peak day calculations for the proper operation of the proposed sewage, as well as the percolation time of the soils for land application requirements, need to be reviewed. The Ministry's review engineer will ensure these during the review and approval of the sewage work.

Based on the review of the existing geologic and hydrogeologic information, the consultant concluded that the tile bed is hydraulically isolated from the bedrock aquifer because the site is underlain by a relatively impermeable overburden of greater than 10 m thick having hydraulic conductivity of 10⁻⁵ cm/sec and the impermeable overburden extends greater than 100 m downgradient of the no-lined irrigation lagoons.

However, the consultant concluded a low-permeability environment downgradient of the no-lined lagoons, based on only two onsite bedrock wells (North irrigation A6712549 and MW103 A310449) that are separated by approximately 500 m and located NW portion of the north parcel. There is a lack of borehole data covering the downgradient irrigation pond area, hydraulic conductivity tests, and a hydrostratigraphic cross-section to assume a low-permeability environment. Till is generally considered fractured through the upper few meters (2-7 m). If the upper overburden is used or WILL BE USED as an aquifer, especially downgradient of the site, the impermeable till is not impermeable, as concluded by the consultant. Also, there are some permeable shallow layers overlying the till, which are unconfined, and lateral discontinuous outwash deposits north of the NW site and within the SE site.

The irrigation ponds are not lined, and the source of irrigation will be treated sewage with a proposed nitrate effluent objective $N < 5 \text{ mg/L}$ and effluent limit $N < 10 \text{ mg/L}$. The wastewater treatment plant will require regular operations and maintenance to ensure adequate storage volume available in the ponds to confirm that they are not overflowing (spill prevention control and contingency plans), as well as regular sampling of the irrigation pond water quality and treated effluent to ensure the treatment effluent objectives/limits are being met. However, it is difficult or impossible to meet the RUC standard for nitrate (2.5 mg/L) at the property boundary solely by treatment.

The effluent quality of 2.5 mg/L nitrate requires no attenuation in the subsurface. However, some systems have been approved on this basis and most have not met performance goals. Claims of achieving effluent quality better than 5 mg/L are dubious.

No site-specific geologic and hydrogeologic data have been provided for us to confirm a low permeability environment at downgradient irrigation ponds area (NW portion of the north parcel) to confirm low potential for sewage-impacted groundwater users. A formal dilution-dispersion assessment for determining the TIN effluent concentration meeting the Guideline B-7 requirements has not been completed because it is indicated that the site is situated in a low permeability environment as outlined in Section 22.5.14 of the Sewage Manual.

Based on the above, it is concluded that the report lacks site-specific geologic and hydrogeologic data to substantiate that the site meets the low-permeability environment requirements. This was the basis of the consultant's argument that the site is hydraulically isolated from the bedrock aquifer, and hence, a detailed groundwater impact assessment using the dilution-dispersion approach for confirming groundwater quality impact will comply with the Guideline B-7 requirements is not required.

- a) In our opinion, at least two (2) borehole/monitoring wells (at least 10 m deep) within 100 m downgradient of the no-lined lagoons should be drilled to characterize the soil and groundwater conditions (conductivity tests) and to demonstrate that the site meets the low-permeability environment requirements.
- b) A map identifying the irrigation land area and the proper buffer for nitrate attenuation at the property boundary is required.

New Water Supply Well – Permit to Take Water

The bedrock well PW2-1 (A310448) was completed to a depth of 91.4 mbgs. Aquifer testing was conducted at the new well (PW2-1) through variable stepped and constant rate pumping rates. The testing rate showed the capacity to yield 7.5 L/s which was higher than the required for the proposed development (5.02 L/s). The drawdowns at private wells within 600 m would be minor than 1 m. Water quality testing indicates that except for TDS and hardness, all the parameters meet Ontario's Drinking Water Quality Standards (ODWQS); indicating the potential water quantity and quality required for the proposed subdivision. There are no

anticipated impacts to Irvine Creek and Living Springs Wetland Complex from the use of the bedrock well due to thick overburden.

A second bedrock well should be constructed to provide a backup water supply. The backup water supply should be situated approximately 200 m away from private water supplies. The new water supply well and backup well will require a Permit to Take Water from the MECP.

The proposed supply wells for the drinking water system should be located at cross-gradient shallow groundwater flow from the no-lined lagoons. A map is required to identify irrigation land areas and ensure that proposed supply wells are at least 100 m away from agriculture and irrigation land.

According to the Source Protection Information Atlas of the MECP, the well PW2-1 does not fall within Guelph's draft WHPA-Q1 or delineated area where activities that take water without returning it to the same source may be a threat to the FUTURE Municipal groundwater demand. There are currently no approved water quantity policies for the WHPA-Q1 – these policies have been under discussion and remain in draft form at this time.

All unused private water wells (i.e., clubhouse, golf irrigation wells) should be abandoned in accordance with O.Reg. 903.

Construction Dewatering and Permits Requirements

Based on the hydrogeological assessment, the steady state groundwater inflow rate for servicing excavations, pumping station building, and SWM pond construction will require combine average day water taking of approximately 128 m³ /day and a maximum day water taking of 435 m³ /day for the proposed development and the need to obtain a Category 3 PTTW could be anticipated for water control.

If a PTTW is required, an environmental assessment report prepared by a qualified professional (PGO or equivalent) and a geotechnical note prepared by a geotechnical engineer should be included in the supporting documentation of the PTTW application.

If a PTTW is required, MECP requires a discussion of the potential impacts on the surrounding natural environment and adjacent waterbody feature(s), any risks posed to nearby structures from subsidence, and the potential for contaminated groundwater migration from construction dewatering and the proposed monitoring/contingency and mitigation plan (O. Reg. 153/04: Records of Site Conditions – Part XV.1 of the Act).

PTTW applications must also provide details regarding the proposed discharge plan and discuss how the dewatering effluent/surface water (i.e., rain) will be managed and treated to meet water quality criteria based on the final discharge location (i.e., sanitary sewer or natural environment). Appropriate water quality sampling will be required for comparison against the Provincial Water Quality Objectives (PWQO) in preparation for obtaining a water handling permit, which may include suitable sewer-use bylaws.

If construction of this project requires the disposal of solids and sediments, the prescribed activity will be required to provide information on the chemical quality of the subsurface soils and analytical test results (Soil, Ground Water and Sediments Standards for Use Under Part XV.1 of the Environmental Protection Act, effective July 1, 2011). Disposal material options are applicable under Regulation 153/04 Records of Site Condition - Part XV. 1 of the Act – Table 1, 2, and 3 of the Soil, Ground Water, and Sediment Standards. O. Reg. 153/04, s. 36 (2); O. Reg. 511/09, s. 16 (1). effective July 1, 2011.

Noise and Vibration

- 11) The “Technical Studies” portion on page 779 of the PIC #1 Section of the ESR states that an Environmental Noise Report by Jade Acoustics was conducted, however, this study is not mentioned anywhere in the ESR. Please address this issue.

Conservation and Source Water Protection Branch

- 12) The property is located in a wellhead protection area noted for significant quantity stress (WHPA - Q1), and other vulnerable areas as per the *Clean Water Act*. Infrastructure associated with the proposed project could be located in various points of intersection with vulnerable areas, depending on the option chosen. For all options, the proponent should specifically identify whether any Grand River Source Protection Plan (Chapters 4-6) policies would apply to the proposed works and associated construction activity, and whether any mitigation measures will be necessary to address any negative environmental impacts to the sources.
- 13) If the drinking water system will ultimately be owned by the municipality, there may be need to amend the source protection plan to account for the new drinking water system. Please clarify who will maintain ultimate ownership and operation of the drinking water and wastewater treatment plants, as well as the drinking water wells, pumping station and other associated infrastructure.

Species at Risk Branch

- 14) Section 4.3.4 - In addition to the SAR species already mentioned here (i.e. Bobolink, Eastern Meadowlark and Silver Shiner), SARB recommends that SAR bats and Bank Swallow also be added to this section given that they are discussed in Appendix C and were confirmed present on-site.
- 15) For Table 8.1, where it says “*Site buildings outside of suitable habitat for threatened avian species to the extent possible...*”:
 - a) SARB recommends clarifying when and how Bobolink and Eastern Meadowlark habitat will be visually marked / delineated in order to ensure site alteration does not occur within those areas.

- b) Habitat for Bobolink, Eastern Meadowlark and Bank Swallow are protected under the ESA 2007 and impacts to any areas identified as SAR habitat must be avoided to remain in compliance with the Act. If avoidance of impacts to Bobolink and/or Eastern Meadowlark species and habitat is not possible, MECP recommends the proponent assess their eligibility under Ontario Regulation 830/21 Part IV (<https://www.ontario.ca/laws/regulation/210830>) prior to any site alteration.
- 16) SARB requests that Table 8.1 be updated to consider SAR bat species and habitat protected under the ESA 2007, and to specify measures to avoid creating new features suitable for Bank Swallow during construction activities. If avoidance of impacts to SAR bat species and habitat is not possible, then MECP should be contacted through the submission of an Information Gathering Form (IGF) (<https://forms.mgcs.gov.on.ca/en/dataset/018-0180>) to SAROntario@ontario.ca.
- 17) For Table 8.1, where it says, *“Any necessary vegetation removal should be undertaken between September 1 and March 30...”*, it is important to note that under the ESA 2007, tree removal should only occur between October 1 and March 31 to avoid impacts to Little Brown Myotis and Northern Myotis. If Eastern Small-footed Myotis is likely to occur in the area and rock features are also present on-site (see comments below), then the tree removal window should be reduced to only occur between December 1 and March 14. However, these timing windows only avoid impacts to bat species and does not avoid impacts to bat habitat.
- 18) For Appendix C, Section 2.2.7, it is important to note that MECP has bat survey guidance documents more current than the 2017 MNRF protocol followed for this project’s acoustic monitoring. Please contact SAROntario@ontario.ca to request copies of the most current versions.
- 19) For Appendix C, Section 4.2.6, and Section 5.4:
- a) Please confirm whether the subject lands were assessed for rock features suitable for Eastern Small-footed Myotis and if any of these habitat features were observed.
 - b) Table 5 appears to be incorrectly titled as acoustic monitoring results. SARB requests a summary table (e.g. number of calls and timing per SAR species for each detector site) and more detailed analysis (e.g. size of habitat area to be impacted) be included for the acoustic monitoring results and SAR bat habitat features proposed to be impacted, specific to Northern Myotis and Little Brown Myotis, to help confirm whether the habitat features should be considered maternity roost habitat and whether an authorization under the ESA 2007 is needed. This can be provided in an IGF to SAROntario@ontario.ca if that is preferred.

Guelph District Office - Water Compliance

- 20) Based on the report the Fergus Golf Club is currently serviced by existing wells throughout the site. There are two existing wells on the NW Site (North Irrigation Well and Clubhouse Well) and two existing wells (South Irrigation Well and Old Clubhouse Well) on the SE Site. Based on our understanding, those wells will continue to service the Fergus golf club. There is indication of a new well to be drilled for the development, but also the use of the current existing ground water wells. Please confirm who will be the “owner” of the wells; if there are different owners for the existing/new well, and which wells will be utilized for the communal drinking water system (as it is not clear in the documentation).
- 21) Municipal Responsibility Agreements: The Safe Drinking Water Act (SDWA) does not speak to municipal responsibility agreements. Section 53, SDWA prohibits the establishment or extension of a non-municipal drinking water system serving a major residential development within the geographic area of a municipality without obtaining the written consent of the municipality to do so. The municipality may give written consent subject to such conditions and limits it considers necessary including the provision of financial assurance to ensure sufficient funds to deal with any failure to comply with a ministry order under the SDWA. If consent is granted by the municipality, a copy of the consent must be provided to the ministry within 30 days of granting the consent. See Section 53 of SDWA below:

Prohibition, development

53 (1) *No person shall construct a non-municipal drinking water system that is intended to serve a major residential development within the geographic area of a municipality or extend an existing non-municipal drinking water system within the geographic area of a municipality to serve a major residential development, unless the person obtains the written consent of the municipality to do so. 2002, c. 32, s. 53 (1).*

Financial assurance

(4) If a municipality grants a consent mentioned in subsection (1), the municipality may, as a condition of granting the consent, require the owner of the system to provide cash, a letter of credit from a bank, a bond or another form of financial assurance that the municipality considers appropriate in any amount the municipality believes is necessary to ensure that the municipality has sufficient funds to deal with any failure by the owner or a future owner to comply with an order issued under this Act,

(a) that relates to a deficiency with the system; or

(b) that arises after the system or part of the system is abandoned, within the meaning of Part IX. 2002, c. 32, s. 53 (4).

Copy of consent

(5) If a municipality grants a consent mentioned in subsection (1), the municipality shall provide the Director with a copy of the consent within 30 days of granting the consent. 2002, c. 32, s. 53 (5).

22) The proposed development would be required to follow the requirements under the Safe Drinking Water Act, 2002 and O. Reg.170/03 for non-municipal drinking water systems that supply water to year-round residential developments. Based on the information provided the treatment plant will be privately owned/operated, supply water on a year-round basis to a residential development with 6 or more private residences, and therefore would be classified as a non-municipal drinking water system. Non-municipal year-round residential systems falling under O.Reg.170/03 have a number of monitoring and reporting requirements to follow:

- Registering with the Ministry
- Sampling requirements (microbiological and chemical sampling).
- Operator certification requirements, and day to day operations and operational checks of drinking water system must be completed by a person who holds appropriate certifications.
- Engineer Evaluation Report (EER), an EER must be prepared for the drinking water system by a licensed engineering practitioner with experience in sanitary engineering related to drinking water systems.
- Record keeping requirements.
- Notify authorities of adverse test results.

Below is a guide that highlights responsibilities of owners and operators of drinking water systems that have their own source of raw water and that supply water to non-municipal year-round residential developments.

<https://www.ontario.ca/page/providing-safe-drinking-water-public-guide-owners-and-operators-non-municipal-year-round-residential>

23) A non-municipal year-round residential system does not need to apply for a Permit to Take Water (PTTW) (as indicated on page 8 & 87): Section 34(2) 1. i of the OWRA indicates that taking less than 379,000 L per day is exempt from needing a PTTW where taken for domestic purposes and not a municipal DWS.

24) Based on page 8 & 87 – A Drinking Water License (DWL) is not required to be obtained from the MECP for the operation of a non-municipal water treatment system. For non-municipal year-round residential developments an Engineer Evaluation Report will be required to be completed, along with registering the drinking water system with the

Ministry. An EER must be completed and submitted to the Ministry within 30 days after a new system begins operation.

Environmental Permissions Branch

Water Supply

- 25) Our understanding is that the development is to be 118 units for a population of about 365. Accordingly, this is to be a residential water system and to be transferred to the Township to be operated by the Township. If it is not connected to the existing system 098-101, it will get a new Municipal Drinking Water Licencing Program (MDWL) and Drinking Water Works Permit (DWWP), and if it will be connected to the existing system, it will be added to the existing system. According to our review of the Study, it will be new stand-alone system.
- 26) Page 58 of the Report (72 of 942 of pdf) states that *“The two groundwater wells identified as the primary water source as classified as non [1] GUDI as per the criteria set out in O.Reg. 170/03. However, the water treatment plant would be designed to provide disinfection to the requirements of GUDI wells with insitu-filtration”*. We were unable to find a clear discussion in the Appendix A that reached this conclusion that the new wells are/will be non-GUDI. It is very important to conclude the treatment design of the water treatment plant. If the wells are not GUDI, there is no discussion as to why the treatment provided is for GUDI with insitu-filtration. This is okay for the MECP, but it needs to be clarified for the stakeholders.
- 27) The following statement is provided in more that one place: *“Primary disinfection will be provided by UV with secondary disinfection by sodium hypochlorite”*. This statement is incorrect, the statement should be *“Primary disinfection will be provided by UV and chlorination (Sodium hypochlorite) with secondary disinfection by chlorine (sodium hypochlorite)”*. The chlorination upstream of the reservoir for CT in the reservoir is part of the primary disinfection.

Wastewater

- 28) Detail design should evaluate contingency requirements for disposal during off-season, i.e., when golf course is not operating in the winter, along with potential storage requirements and alternative disposal options if applicable.
- 29) It is recommended that the Biofilter should be designed for peak flow or balanced flow in case ultimate design uses balancing tank.
- 30) The Report/design should clarify whether the condominium units are townhomes, detached homes etc. More information is needed to judge assumptions.

- 31) Page 1 of the report refers to existing 1996 approvals without further details. It should be clarified whether any of these existing approvals concern sewage works that may be required to be amended during the ECA approvals stage.
- 32) The report appears to focus on the domestic wastewater servicing. It should be noted that stormwater is considered sewage as well and subject to OWRA s.53 approval requirements unless otherwise exempt via available legislation.
- 33) The project is described as private sector development. It should be clarified whether ultimate ownership of any of the proposed works is intended to be transferred to the municipality or to remain in private ownership. Depending on the final ownership, different approval requirements for some of the works may apply (CLI-ECA or individual ECA for stormwater management works for example).
- 34) The design flow is currently estimated based on a per capita flow rate of 350 L/day based on Township of Centre Wellington Draft Engineering Guidelines (2018). As the proposed sewage treatment and disposal works would be subject to ECA approval requirements, it is suggested to consult the Ministry's 2008 Design Guidelines for Sewage Works and Ontario Building Code tables as well when determining daily design sewage flows.
- 35) It is recommended to pre-consult with the MECP's approval's branch once a detailed design for the sewage works (sanitary and SWM if applicable) becomes available.
- 36) Sampling points subject to effluent limits/objectives should be clarified. Spray irrigation in outdoor areas with public access can be a risk to human health. It is understood that effluent discharged to the irrigation pond is proposed to be disinfected, however the irrigation pond itself should be evaluated as a potential source of E. coli as well.
- 37) Figure 7.2 should be expanded to show the spray irrigation system as this would be considered part of the sewage works.

Technical Support Surface Water

- 38) Note that applications for ECA should not be submitted to the Client Services and Permissions Branch until concurrence is received from Technical Support/District Office with the effluent Criteria and any needed monitoring.

Water Servicing

- 39) The preferred solution for water servicing is a new on-site supply well and treatment system. The proposed supply wells are within a deep bedrock aquifer which is separated from any of the identified surface water features by thick layers of clay. While there are several surface water features in the vicinity of the site including the Living Springs Wetland Complex, and the Black Drain, the proposed taking is not anticipated to impact these features. As the proponent will require a PTTW for the taking, the Ministry will provide more technical comments during the PTTW application process.

- 40) The proponent will require a Municipal Responsibility Agreement with the Township of Center Wellington for the water treatment plant. This ensures that there is a responsible party to operate the plant in the case that the developer is unable.

Wastewater Servicing

- 41) The preferred solution for wastewater servicing is a new onsite communal wastewater treatment plant and discharge to existing irrigation ponds for beneficial re-use for golf course irrigation. The approach is acceptable and is likely the simplest and least costly as it does not require the proponent to assess the assimilative capacity of a surface water receiver or construct a long pipe to a surface water receiver. The Ministry has already provided preliminary comments on the proposed wastewater treatment plant which are included in the appendices of the ESR.

- a. To summarize the Ministry comments provided were in relation to monitoring conditions for the irrigation ponds to ensure that there was adequate capacity in the irrigation ponds to store the treated effluent in the non-irrigation season.

- 42) As discussed in the ESR, the proponent will require an ECA for the new wastewater treatment works. It is our understanding that the application process is underway as the Ministry has already provided some preliminary comments and will continue to work with the applicant on conditions to include within the ECA. Further guidance on spray irrigation can be found in section 15.9 of the MECPs Design Guidelines for Sewage Works.

- a. The design guideline notes several factors including soil types and infiltration rates affect the suitability for spray irrigation. As these are more related to potential groundwater impacts, we will reserve comments for the assigned Ministry Hydrogeologist.

- 43) The proponent will require a Municipal Responsibility Agreement with the Township of Center Wellington for the wastewater treatment plant. This ensures that there is a responsible party to operate the plant in the case that the developer is unable.

- 44) Alternative 4 includes discharge of treated wastewater to the Grand River. While this is not the preferred alternative, it should be noted that additional studies (i.e. Assimilative Capacity Study, Fisheries Assessments) would be required if the proponent decided to pursue this option.

Stormwater Servicing

- 45) Stormwater servicing will also be required for the proposed development, and the ESR included an evaluation of stormwater needs in Appendix A (Hydrogeological Investigation prepared by WSP). As discussed, the proposed development would result in substantial increase in impervious area as compared to the pre-development

condition. As a result, WSP recommended several mitigation strategies including LID (infiltration galleries, downspout disconnection) and foundation drain collectors to help maintain groundwater recharge, provide additional water quality treatment, reduce the volume of runoff from the site, and maintain the ecological function of the central wetland area. While the proposed mitigation strategies may maintain the average annual infiltration rate the average annual runoff is still predicted to increase significantly. Preliminary information regarding a stormwater management pond and associated oil grit separator to provide water quantity and quality control prior to discharge to the Black Drain are included in supplementary reports and studies.

- a. An ECA for the stormwater management works will also be required, which was not included in summary of approval and permit requirements discussed in section 10 (page 73) of the ESR.
- b. The stormwater management works and LID strategies should consider the guidelines provided in the MECP stormwater Management Planning and Design Manual (2003).

To clarify comment 45) above even further, mitigation measures including LID features (infiltration galleries, downspout disconnection) and foundation drain collectors are recommended in order to mitigate against increases in post-development infiltration rates and preserve the ecological function of the surface water features (e.g., the central wetland). The design of these features should consider the guidance provided in the MECP Stormwater Management Planning and Design Manual (2003). Supporting information for the suitability of these features should be provided at the PSC stage for the SWM ECA.

Surface Water Features and Potential Impacts

- 46) There are several surface water features within the study area according to the ESR report including the following:
- a. Portions of the Living Springs Wetland Complex
 - The proposed development does indicate that some of the smaller wetland areas will not be retained, but a large central wetland will be retained in the development area. It is noted that permits will be required from the GRCA under O Reg 150/06 for any construction works within GRCA regulated areas.
 - The water supply wells are not anticipated to impact surface water features as the taking is from a confined bedrock aquifer and there is a large clay layer that isolates the surface water features.
 - b. Various offline ponds, including the existing irrigation ponds
 - The proposed development does indicate that some of the smaller pond will not be retained, but that the two irrigation ponds on the Golf Course will be retained

to be used as storage for treated effluent for the spray irrigation. It is noted that permits will be required from the GRCA under O Reg 150/06 for any construction works within GRCA regulated areas.

- The water supply wells are not anticipated to impact surface water features as the taking is from a confined bedrock aquifer and there is a large clay layer that isolates the surface water features.

c. The Black Drain and other small tributaries to Irvine Creek

- Sections of the Black Drain will be realigned to accommodate the development. Fisheries surveys indicate that these sections contain no fish, but that areas further downstream may provide fish habitat. The outlet of the stormwater management works is also proposed to be to the Black Drain. As such, the stormwater management works would be defined as discharging to the natural environment and an ECA would be required. Technical comments on stormwater effluent limits, monitoring criteria and other conditions can be provided through pre-consultation for the stormwater ECA. The applicant should provide estimates of peak flows from the stormwater management works and an assessment of the capacity of the Black Drain to convey the treated stormwater while preventing erosion, sediment transport and maintaining the geomorphological functions of the Black Drain.

To clarify comment 46c) above even further, despite the use of LID features to mitigate increases in infiltration rates, run-off from the site is predicted to increase by 62%. As such there is potential to exceed the current capacity of the Black Drain to convey water downstream and result in erosion, excess sediment transport or downstream flooding. So, it is my recommendation that the capacity of the Black Drain be assessed and this assessment included in the pre-consultation for the SWM ECA. This assessment may need to include a geomorphological survey of the Black Drain and an assessment of any stormwater quantity controls that may be required to mitigate impacts to the Black Drain. Monitoring conditions may need to be included in the ECA to determine if the proposed quantity controls are successful in mitigating impacts to the Black Drain. These conditions can be discussed with regional technical support at the PSC stage.

Thank you for circulating this draft Report for the ministry's consideration. Please document the provision of the draft Report to the ministry as well as this Project Review Unit Comments letter in the final report, and please provide an accompanying response letter to support our review of the final report. A copy of the final Notice should be sent to the ministry's West Central Region EA notification email account (eanotification.wcregion@ontario.ca).

Should you or any members of your project team have any questions regarding the material above, please contact me at joan.delvillarcuicas@ontario.ca.

Sincerely,

A handwritten signature in black ink, appearing to read "Joan Del Villar". The signature is stylized with a large, sweeping underline that extends to the right.

Joan Del Villar Cuicas
Regional Environmental Planner
Project Review Unit, Environmental Assessment Branch
Ontario Ministry of the Environment, Conservation and Parks

cc Jennifer Vandermeer, Consultant Project Manager, R. J. Burnside & Associates Limited
Nick Colella, Manager, Environmental Assessment Services, EAPD, MECP
Gavin Battarino, Project Unit Supervisor, EAPD, MECP

Mishaal Rizwan

From: Del Villar Cuicas, Joan (MECP) <Joan.DelVillarCuicas@ontario.ca>
Sent: Thursday, November 23, 2023 4:46 PM
To: FergusGolfEA; Theyonas Manoharan
Cc: Colella, Nick (MECP); Battarino, Gavin (MECP)
Subject: RE: Centre Wellington - Schedule C MCEA, Fergus Golf Club Redevelopment
Attachments: MECP Comments - Draft ESR - Sch C Fergus Golf Club Redevelopment.pdf

Good afternoon,

Thank you for circulating the Draft ESR for Fergus Golf Club Redevelopment Municipal Class Environmental Assessment. Please find attached MECP comments for your consideration.

Should you have any questions regarding our comments, please feel free to contact me. I'm also happy to arrange a meeting to discuss any of the comments if desired.


Regards,

Joan Del Villar Cuicas (she/her)
Regional Environmental Planner
Project Review Unit | Environmental Assessment Branch
Ontario Ministry of the Environment, Conservation and Parks
Joan.delvillarcuicas@ontario.ca | Phone: 365-889-1180

From: FergusGolfEA <FergusGolfEA@rjburnside.com>
Sent: November 3, 2023 4:00 PM
To: Del Villar Cuicas, Joan (MECP) <Joan.DelVillarCuicas@ontario.ca>
Cc: Todd, Aaron (MECP) <Aaron.Todd@ontario.ca>; Colella, Nick (MECP) <Nick.Colella@ontario.ca>; Andrea Kelly <andreak@geranium.com>; Theyonas Manoharan <theyonasm@geranium.com>; Bobby Wang <bobbyw@geranium.com>; Steven Roorda <Steven.Roorda@rjburnside.com>; Anne Egan <Anne.Egan@rjburnside.com>
Subject: RE: Centre Wellington - Schedule C MCEA, Fergus Golf Club Redevelopment

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Good afternoon,

Please find the draft ESR for the Fergus Golf Course Redevelopment EA saved at this link:  [Fergus Golf Course Redevelopment EA- Draft ESR](#)

Our timeline to file this ESR is quite tight, so we are asking that you please provide your comments within 3 weeks.

Please reach out if you have any questions.

Thank you,

From: Del Villar Cuicas, Joan (MECP) <Joan.DelVillarCuicas@ontario.ca>
Sent: Friday, October 13, 2023 11:07 AM
To: FergusGolfEA <FergusGolfEA@rjburnside.com>; Theyonas Manoharan <theyonasm@geranium.com>
Cc: Mishaal Rizwan <Mishaal.Rizwan@rjburnside.com>; Todd, Aaron (MECP) <Aaron.Todd@ontario.ca>
Subject: RE: Centre Wellington - Schedule C MCEA, Fergus Golf Club Redevelopment

Good morning,

Sincere apologies for the delay.

Please find attached MECP's Letter of Acknowledgement and attachment in response to the Notice of Commencement for Fergus Golf Club Redevelopment, schedule C, MCEA.

Please do not hesitate to contact me if you have any questions.

Regards,

Joan Del Villar Cuicas (she/her)
Regional Environmental Planner
Project Review Unit | Environmental Assessment Branch
Ontario Ministry of the Environment, Conservation and Parks
Joan.delvillarcuicas@ontario.ca | Phone: 365-889-1180

From: FergusGolfEA <FergusGolfEA@rjburnside.com>
Sent: June 12, 2023 12:03 PM
To: EA Notices to WCREgion (MECP) <eanotification.wcregion@ontario.ca>
Subject: Centre Wellington - Schedule C MCEA, Fergus Golf Club Redevelopment

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Hello,

Please find attached the Project Information Form and Notice of Commencement for the Fergus Golf Club Redevelopment EA.

Thank you,

Mishaal Rizwan

From: Jessica Conroy <jconroy@grandriver.ca>
Sent: Friday, December 01, 2023 3:27 PM
To: FergusGolfEA; Mishaal Rizwan
Cc: Theyonas Manoharan; Bobby Wang; Andrea Kelly; Steven Roorda; Jennifer Vandermeer
Subject: RE: Fergus Golf Club Redevelopment EA - GRCA Comments
Attachments: Fergus Golf Club Redevelopment EA - Draft ESR - GRCA Comments.pdf; Fergus Golf Club Redevelopment - GRCA Map.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Good afternoon,

Please find attached GRCA comments on the Draft ESR.

Thank you,

Jessica Conroy, MES Pl.

Resource Planner

Grand River Conservation Authority

400 Clyde Road, PO Box 729

Cambridge, ON N1R 5W6

Office: 519-621-2763 ext. 2230

Toll-free: 1-866-900-4722

Email: jconroy@grandriver.ca

www.grandriver.ca | [Connect with us on social media](#)

From: FergusGolfEA <FergusGolfEA@rjburnside.com>
Sent: Monday, November 13, 2023 2:59 PM
To: Jessica Conroy <jconroy@grandriver.ca>
Cc: Laura Warner <lwarner@grandriver.ca>; Theyonas Manoharan <theyonasm@geranium.com>; Bobby Wang <bobbyw@geranium.com>; Andrea Kelly <andreak@geranium.com>; Steven Roorda <Steven.Roorda@rjburnside.com>
Subject: FW: Fergus Golf Club Redevelopment EA - Notice of Commencement - GRCA Comments

Good afternoon,

Given your request to be provided with information regarding the Fergus Redevelopment EA, please find the draft ESR saved at the following link:

[Fergus Golf Course Redevelopment EA- Draft ESR](#)

Best regards,

 **BURNSIDE**
Mishaal Rizwan
Environmental Planner

R.J. Burnside & Associates Limited
292 Speedvale Avenue West, Unit 20, Guelph, Ontario, N1H 1C4
Office: 800-265-9662 Direct Line: 226-343-7014
www.rjburnside.com

From: Jennifer Vandermeer <Jennifer.Vandermeer@rjburnside.com>
Sent: Monday, June 05, 2023 10:31 AM
To: Mishaal Rizwan <Mishaal.Rizwan@rjburnside.com>
Subject: FW: Fergus Golf Club Redevelopment EA - Notice of Commencement - GRCA Comments

From: Jessica Conroy <jconroy@grandriver.ca>
Sent: Thursday, May 25, 2023 12:54 PM
To: Jennifer Vandermeer <Jennifer.Vandermeer@rjburnside.com>
Subject: Fergus Golf Club Redevelopment EA - Notice of Commencement - GRCA Comments

Good afternoon,

Please find attached GRCA comments on the Notice of Study Commencement for the Fergus Golf Club Redevelopment.

Sincerely,
Jessica

Jessica Conroy, MES Pl.

Resource Planner

Grand River Conservation Authority

400 Clyde Road, PO Box 729

Cambridge, ON N1R 5W6

Office: 519-621-2763 ext. 2230

Toll-free: 1-866-900-4722

Email: jconroy@grandriver.ca

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Fergus Golf Club, Centre Wellington



Legend

- Regulation Limit (GRCA)
- Regulated Watercourse (GRCA)
- Regulated Waterbody (GRCA)
- Wetland (GRCA)
- Floodplain (GRCA)
 - Engineered
 - Estimated
 - Approximate
 - Special Policy Area
- Slope Valley (GRCA)
 - Steep
 - Oversteep
 - Steep
- Slope Erosion (GRCA)
 - Oversteep
 - Toe
- Lake Erie Flood (GRCA)
- Lake Erie Shoreline Reach (GRCA)
- Lake Erie Dynamic Beach (GRCA)
- Lake Erie Erosion (GRCA)
- Parcel - Assessment (MPAC/MNRF)

This legend is static and may not fully reflect the layers shown on the map. The text of Ontario Regulation 150/06 supercedes the mapping as represented by these layers.

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Administration Centre: 400 Clyde Road, P.O. Box 729 Cambridge, ON N1R 5W6

Phone: 519-621-2761 Toll free: 1-866-900-4722 Fax: 519-621-4844 www.grandriver.ca

December 1, 2023

via email

Mishaal Rizwan
Environmental Planner
R.J. Burnside & Associates Limited
Mishaal.Rizwan@rjburnside.com

Theyonas Manoharan, P.Eng.
Project Manager
Fergus Development Inc.
theyonasm@geranium.com

Jennifer Vandermeer, P.Eng.
Consultant Project Manager
R.J. Burnside & Associates Limited
Jennifer.Vandermeer@rjburnside.com

Re: Draft Environmental Study Report
Municipal Class Environmental Assessment
Fergus Golf Club Redevelopment
Township of Centre Wellington, Wellington County

Thank you for circulating our office the Fergus Golf Club Redevelopment Environmental Assessment – Environmental Study Report (prepared by R.J. Burnside & Associates Limited, November 2023).

We understand that Fergus Development Inc. is undertaking a Schedule C Municipal Class Environmental Assessment (MCEA) Study to evaluate alternatives for water and wastewater servicing required for the redevelopment of part of the Fergus Golf Club lands.

The Study Area contains natural hazard and natural heritage features including Irvine Creek, a pond, floodplain, wetlands, and the associated regulated allowances to these features. A copy of our resource mapping is attached.

These features and their allowances are regulated under Ontario Regulation 150/06. Any future development or site alteration within the regulated areas may require the issuance of a Development, Interference with Wetlands and Alterations to Shorelines and Watercourses permit from the GRCA.

GRCA staff have previously reviewed materials in support of the proposed subdivision development and provided comments on June 30, 2023. Our comments noted that we were

satisfied with the information presented and we had no objection to the approval of the Draft Plan of Subdivision or Condominium subject to conditions. We understand the Draft Plan of Subdivision and associated Draft Plan of Condominium applications were approved with conditions on October 5, 2023.

We understand that the preferred water servicing design concept is based on utilizing UV light for primary disinfection, softening membranes to reduce water hardness, chlorination for secondary disinfection and treated water to be stored within an above ground reservoir.

We generally have no objections to the preferred alternative outlined in the Environmental Study Report if it meets applicable GRCA policies. We wish to be kept informed of the project as it proceeds. We will also conduct a detailed review of the proposed project during the detailed design stage for the subdivision application.

If you have any questions or require additional information, please contact me at 519-621-2763 extension 2230 or jconroy@grandriver.ca.

Sincerely,



Jessica Conroy, MES PI.
Resource Planner
Grand River Conservation Authority

Enclosed: GRCA Map of Study Area

Copy: Steven Roorda, R.J. Burnside & Associates Limited
Bobby Wang, Geranium
Andrea Kelly, Geranium