

HYDROLOGICAL REVIEW SUMMARY

The form is to be completed by the Professional that prepared the Hydrological Review.

Use of the form by the City of Toronto is not to be construed as verification of engineering/hydrological content.

RefertotheTermsofReference,HydrologicalReview: Link

 $\underline{toTermsofReferenceHydrologicalReview}$

For City Staff Use Only:	
Name of ECS Case Manager (Please print)	2
Date Review Summary provided to	
to TW, EM&P	

IF ANY OF THE REQUIREMENTS LISTED BELOW HAVE NOT BEEN INLCUDED IN THE HYDROLOGICAL REVIEW, THE REVIEW WILL BE CONSIDERED INCOMPLETE.

THE GREY SHADED BOXES WILL REQUIRE A CONSISTANCY CHECK BY THE ECS CASE MANAGER.

Summary of Key Information:

SITE INFORMATION		Page # & Section # of Review	Review Includes this Information City Staff (Check)
Site Address	230 and 240 The Donway West, Toronto	Cover Page	
Postal Code	M3B 2V8	Cover Page	
Property Owner (on request for comments memo)	Donway Co-operative Development Corporation	Cover Page	
Proposed description of the project (if applicable) (point towers, number of podiums)	Six (6) storey residential medium-rise structure	Pg. 3, Sec.1.1	
Land Use	Urban	Pg.6, Sec.2.2.1	
(ex. commercial, residential, mixed, institutional, industrial)			
Number of below grade levels for the proposed structure	3 Levels	Pg. Error! Bookmark not defined., Sec. 1.1	
HYDROLOGIC	CAL REVIEW INFORMATION		
Date Hydrological Review was prepared:	October 31, 2023	Cover Page	
Who Performed the Hydrological Review (Consulting Firm)	EXP Services Inc.	Pg. Error! Bookmark not defined., Sec.1.1	
Name of Author of Hydrological Review	Amar Neku, Ph.D., P.Eng., P.Geo.	Pg.24, Sec. 8	



SITE INFORMATION		Page # & Section #of Review	Review Includes this Information City Staff (Check)
Check the directories on the website for Professional Geoscientists and/or Professional Engineers of Ontario been checked to ensure that the Hydrological Report has been prepared by a qualified person who is a licensed Professional Geoscientist as set out in the Professional Geoscientist Act of Ontario or a Professional Engineer? PEO: Professional Engineers of Ontario APGO: Association of Professional Geoscientists of Ontario Has the Hydrological Review been prepared in accordance with all the following: Ontario Water Resources Act Ontario Regulation 387/04 Toronto Municipal Code Chapter 681	Yes	N/A Pg. 4, Sec.1.3	
		Page #& Section # of every occurrence in the Review	Review Includes this Information City Staff (Check)



SITE INFORMATI	ON	Page # & Section #of Review	Review Includes this Information City Staff (Check)
Total Volume (L/day) Short Term Discharge of groundwater (construction dewatering) with safety factor included	298,000 L/day including rain fall amount What safety factor was used? 2.0	Pg.16, Sec. 4.4.1 Appendix E –Construction and Post-Construction Flow Rate Calculations	
Total Volume (L/day) Short Term Discharge of groundwater (construction dewatering) without safety factor included	225,000 L/day including rain fall amount	Pg. 16, Sec. 4.4.1 Appendix E –Construction and Post-Construction Flow Rate Calculations	
Total Volume (L/day) Long Term drainage of groundwater (from foundation drainage, weeping tiles, sub slab drainage) with safety factor included If the development is part of a multiple tower complex, include total volume for each separate tower	11,000 L/day What safety factor was used? 1.5	Pg17, Sec. 4.4.2 Appendix E –Construction and Post-Construction Flow Rate Calculations	
List the nearest surface water (river, creek, lake)	The nearest surface water feature is a small tributary of the Don River East Branch, located approximately 400 meters northeast of the Site boundary.	Pg. 6 Sec. 2.2.2	



SITE INFORMATIO	N	Page # & Section#of Review	Review Includes this Information City Staff (Check)
Lowest basement elevation	133.3 masl	Pg Error! Bookmark not defined., Sec.4	
Foundation elevation	131.8 masl	Pg. Error! Bookmark not defined., Sec.4	
Ground elevation	142.85 masl	Pg Error! Bookmark not defined., Sec.4 Appendix E –Construction and Post-Construction Flow Rate Calculations	
STUDY AREA MAP		Page # & Section#of every occurrence in the Review	Review Includes this Information City Staff (Check)
List the nearest surface water (river, creek, Study area map(s) have been included in the report.	✓Yes	Figures	N/A
Study area map(s) been prepared according to the Hydrological Review Terms of Reference.	✓Yes		N/A
WATER LEVEL AND WELLS		Page # & Section#of every occurrence	Review Includes this Information (City Staff Initial)



SITE INFORMATIO	N	Page # & Section# of Review	Review Includes this Information City Staff (Check)
The groundwater level has been monitored using all wells located on site (within property boundary).	Yes	Pg. 9-10, Sec. 3.2	
The static water level measurements have been monitored at all monitoring wells for a minimum of 3 months with samples taken every 2 weeks for a minimum of 6 samples. The intent is for the qualified professional to use professional judgement to estimate the seasonally high groundwater level.	Yes	Pg.9-10, Sec. 3.2	
All water levels in the wells have been measured with respect to masl.	Yes	Pg.9-10, Sec. 3.2	
A table of geology/soil stratigraphy for the property has been included.	Yes	Pg. Error! Bookmark not defined., Sec.2.1.2	
GEOLOGY AND PHYSICAL HYDROLOGY		Page # & Section# of every occurrence in the Review	Review Includes this Information (City Staff Initial)
The review has made reference to the soil materials including thickness, composition and texture, and bedrock environments.	Yes	Pg. 6, Sec. 2.2.3	
Key aquifers and the site's proximity to nearby surface water has been identified.	✓Yes	Pg. Error! Bookmark not defined., Sec.2.1.2	N/A



PUMP TEST/SLUG TEST/DR	Page # & Section#	Review	
POMP TEST/SLOG TEST/DIX	of every occurrence in the Review	Includes this Information City Staff (Check)	
SITE INFORMATION		Page # & Section# of Review	Review Includes this Information City Staff (Check)
A summary of the pumping test data and analysis is included in the review.	No pumping test conducted, slug test data and analysis included in report.	Appendix C – SWRT Procedures and Results	
The pump test been carried out for at least 24 hours if possible. If not, has a slug test been conducted?	Single Well Response Tests (SWRT) have been conducted.	Pg. Error! Bookmark not defined., Sec. 3.3	
Have the monitoring well(s) have been monitored using digital devices? If yes how frequently?	Monitoring wells monitored using data loggers set to 1 second intervals	Pg. Error! Bookmark not defined., Sec. 3.3	
If a slug or pump test has been conducted has the static groundwater level been monitored at all monitoring well(s) multiple times to measure recovery? -prior to the slug or pumping test(s)? -post slug or pumping test(s)?	✓Yes Prior to and following completion of slug tests	Pg. Error! Bookmark not defined., Sec. 3.3 Pg. 9-10, Sec. 3.2	N/A
The above noted slug or pump tests have been included in the report.	✓Yes Slug test data has been included in report	Appendix C – SWRT Procedures and Results	



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WATER QUA	LIIY	Page # & Section# of every occurrence in the Review	Review Includes this Information City Staff (Check)	
SITE INFORMATION	N	Page # & Section# of Review	Review Includes this Information City Staff (Check)	
The report includes baseline water quality samples from a laboratory. The water quality must be analyzed for all parameters listed in Tables 1 and 2 of Chapter 681 Sewers of the Toronto Municipal Code (found in Appendix A) and the samples must have to be taken unfiltered within 9 months of the date of submission.	Water quality has been analyzedfor all parameters listed in Tables 1 and 2 of Chapter 681 Sewers of the Toronto Municipal Code (found in Appendix A) and the samples have been taken unfiltered within 9 months of the date of submission.	Appendix D – Laboratory Certificates of Analysis		
The water quality data templates in Appendix A have been completed for each sample taken for both sanitary/combined and storm sewer limits.	For sanitary discharge- See the sanitary/combined sewer parameter limit template Water quality data templates have been completed. For storm discharge-Seethestormsewer parameter limit template	Appendix A of Hydrology Summary Review Form		
Qualified professional to list all sample parameters that have violated the Bylaw limits for each sample taken for the sanitary/combined Bylaw limits If there are any sample parameters exceedances the groundwater can't be discharged as is.	No Exceedances for City of Toronto Sanitary/Combined Bylaw limits	Pg. Error! Bookmark not defined., Sec.3.4		



Qualified professional to list all sample parameters that have violated the Bylaw limits for each sample taken for the storm Bylaw limits. If there are any sample parameter exceedances the groundwater can't be discharged as is.	There is an exceedance for Manganese for City Storm Bylaw limits.	Pg.12, Sec. 3.4	
The water quality samples have been analyzed by a Canadian laboratory accredited and licensed by Standards Council of Canada and/or Canadian Association for Laboratory Accreditation.	✓Yes	Pg. 12, Sec. 3.4	N/A
SITE INFORMATIO	N	Page # & Section# of Review	Review Includes this Information City Staff (Check)
List of Canadian accredited laboratories: Standards Council of Canada	BV Labs	Pg.12, Sec. 3.4	
A chain of custody record for the samples is included with the report.	Yes	Appendix D – Laboratory Certificates of Analysis	
Has the chain of custody reference any filtered sample? If yes, the report has to be amended and resubmitted to include only non-filtered samples.	No	Appendix D – Laboratory Certificates of Analysis	
List any of the sample parameters that exceed the Bylaw limits with the reporting detection limit (RDL) included.	No exceedances	Pg. 12, Sec. 3.4 and Appendix D Laboratory Certificate of Analysis	
A true copy of the Certificate of Analysis report is included with the report.	Yes	Appendix D – Laboratory Certificates of Analysis	



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EVALUATION OF IMPACT		Page # & Section# of every occurrence in the Review	Review Includes this Information City Staff (Check)
Does the report recommend a back-up system or relief safety valve(s)?	✓No		(-)
Does the associated Geotechnical report recommend a back-up system or relief safety valve(s)?	✓No		
The taking and discharging of groundwater on site has been analyzed to ensure that no negative Impacts will occur to: the City sewage works in terms of quality and quantity (including existing infrastructure), the natural environment, and settlement issues.	✓Yes	Pg.20, Sec.6	N/A
Has it been determined that there will be a negative impact to the natural environment, City sewage works,	If yes, identify impact:		N/A
or surrounding properties has the study identified the following: the extent of the negative impact, the detail of the precondition state or all the infrastructure, City sewage works, and natural environment within the effected zone and the proposed remediation and monitoring plan?	√No		

Summary of Additional Information and Key Items (if applicable):



HYDROLOGICAL REVIEW SUMMARY

Appendix A:

SANITARY/COMBINED	Sample ID	BH/MW2	BH 106		
Inorganics (Parameters)		Sample Result	Sample Result	Sample Result with upper RDL included	
Parameter	mg/L	_	_	_	<u>ug/L</u>
Total BOD	300	ND	ND	2	300,000
Fluoride (F-)	10	0.16	0.47	0.10	10,000
Total Kjeldahl Nitrogen (TKN)	100	1.1	2.1	0.10	100,000
рН	6.0 - 11.5	7.41	8	-	6.0 - 11.5
Phenols-4AAP	1	ND	ND	0.0010	1,000
Total Suspended Solids	350	14	15	10	350,000
Total Cyanide (CN)	2	ND	ND	0.0050	2,000
Metals		(ug/L)	(ug/L)		
Chromium (VI)	2	ND	ND	0.50	2,000
Mercury (Hg)	0.01	ND	ND	0.00010	10
Total Aluminum (AI)	50	140	1200	4.9	50,000
Total Antimony (Sb)	5	0.6	0.5	0.50	5,000
Total Arsenic (As)	1	ND	3	1.0	1,000
Total Cadmium (Cd)	0.7	ND	ND	0.090	700
Total Chromium (Cr)	4	ND	ND	5.0	4,000
Total Cobalt (Co)	5	1.4	ND	0.50	5,000
Total Copper (Cu)	2	1.5	2.7	0.90	2,000
Total Lead (Pb)	1	ND	ND	0.50	1,000
Total Manganese (Mn)	5	140	65	2.0	5,000
Total Molybdenum (Mo)	5	6	23	0.50	5,000
Total Nickel (Ni)	2	3.9	1.7	1.0	2,000
Total Phosphorus (P)	10	ND	110	100	10,000
Total Selenium (Se)	1	ND	ND	2.0	1,000
Total Silver (Ag)	5	ND	ND	0.090	5,000
Total Tin (Sn)	5	2	3.5	1.0	5,000
Total Titanium (Ti)	5	6.6	43	5.0	5,000
Total Zinc (Zn)	2	9.8	ND	5.0	2,000
Petroleum Hydrocarbons		(mg/L)	(mg/L)		
Total Oil & Grease	150	ND	ND	0.50	150,000
Total Oil & Grease Mineral/Synthetic	15	ND	ND	0.50	15,000



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Volatile Organics		Sample Result	Sample Result	Sample Result with upper RDL included	
<u>Parameter</u>	mg/L	_	_	_	<u>ug/L</u>
Benzene	0.01	ND	ND	0.40	10
Chloroform	0.04	ND	1.8	0.40	40
1,2-Dichlorobenzene	0.05	ND	ND	0.80	50
1,4-Dichlorobenzene	0.08	ND	ND	0.80	80
cis-1,2-Dichloroethylene	4	ND	ND	1.0	4,000
trans-1,3-Dichloropropene	0.14	ND	ND	0.80	1,400
Ethylbenzene	0.16	ND	ND	0.40	160
Methylene Chloride(Dichloromethane)	2	ND	ND	4.0	2,000
1,1,2,2-Tetrachloroethane	1.4	ND	ND	0.80	1,400
Tetrachloroethylene	1	ND	ND	0.40	1,000
Toluene	0.016	ND	ND	0.40	16
Trichloroethylene	0.4	ND	ND	0.40	400
Total Xylenes	1.4	ND	ND	0.40	1,400
Semi-Volatile Organics					
Di-N-butyl phthalate	0.08	ND	ND	2	80
Bis(2-ethylhexyl)phthalate	0.012	3	ND	2	12
3,3'-Dichlorobenzidine	0.002	ND	ND	0.8	2
Pentachlorophenol	0.005	ND	ND	1	5
Total PAHs (18 PAHs)	0.005	ND	ND	1	5
Total PCB	0.0001	ND	ND	0.05	6
Misc Parameters					
Nonylphenol Ethoxylate (Total)	0.2	ND	ND	0.005	200
Nonylphenol (Total)	0.02	ND	ND	0.001	20

Sample Collected: 8/13/2019 - 10/7/2021Temperature: $16.3^{\circ}C - 10.7^{\circ}C$



STORM	Sample ID	BH/MW2	BH106		
Inorganics (Parameters)		Sample Result	Sample Result	Sample Result with upper RDL included	
<u>Parameter</u>	mg/L	_	_	_	ug/L
рН	6.0:9.5	7.41	8	-	6.0:9.5
Total BOD	15	ND	ND	2	15,000
Phenols-4AAP	0.008	ND	ND	0.0010	8
Total Suspended Solids	15	14	15	10	15,000
Total Cyanide (CN)	0.02	ND	ND	0.0050	20
Metals		(ug/L)	(ug/L)		
Total Arsenic (As)	0.02	ND	3	1.0	20
Total Cadmium (Cd)	0.008	ND	ND	0.090	8
Total Chromium (Cr)	0.08	ND	ND	5.0	80
Chromium (VI)	0.04	ND	ND	0.50	40
Total Copper (Cu)	0.04	1.5	2.7	0.90	40
Total Lead (Pb)	0.12	ND	ND	0.50	120
Total Manganese (Mn)	0.05	140	65	2.0	50
Mercury (Hg)	0.0004	ND	ND	0.00010	0.4
Total Nickel (Ni)	0.08	3.9	1.7	1.0	80
Total Phosphorus (P)	0.4	ND	110	100	400
Total Selenium (Se)	0.02	ND	ND	2.0	20
Total Silver (Ag)	0.12	ND	ND	0.090	120
Total Zinc (Zn)	0.04	9.8	ND	5.0	40
Microbiology		CFU/100mL	CFU/100mL		
Escherichia coli	200	30	<10	10	200,000
Volatile Organics		(ug/L)	(ug/L)		
<u>Parameter</u>	mg/L	_	_	-	<u>ug/L</u>
Benzene	0.002	ND	ND	0.40	2
Chloroform	0.002	ND	1.8	0.40	2
1,2-Dichlorobenzene	0.0056	ND	ND	0.80	5.6
1,4-Dichlorobenzene	0.0068	ND	ND	0.80	6.8
cis-1,2-Dichloroethylene	0.0056	ND	ND	1.0	5.6
trans-1,3-Dichloropropene	0.0056	ND	ND	0.80	5.6
Ethylbenzene	0.002	ND	ND	0.40	2
Methylene Chloride(Dichloromethane)	0.0052	ND	ND	4.0	5.2
1,1,2,2-Tetrachloroethane	0.017	ND	ND	0.80	17
Tetrachloroethylene	0.0044	ND	ND	0.40	4.4
Toluene	0.002	ND	ND	0.40	2
Trichloroethylene	0.0076	ND	ND	0.40	7.6
Total Xylenes	0.0044	ND	ND	0.40	4.4



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Semi-Volatile Organics		(ug/l)	(ug/L)		
D'ALL CLUB LO	0.045	(ug/L)	(ug/L)	0	45
Di-N-butyl phthalate	0.015	ND	ND	2	15
Bis(2-ethylhexyl)phthalate	0.0088	3	ND	2	8.8
3,3'-Dichlorobenzidine	0.0008	ND	ND	0.8	0.8
Pentachlorophenol	0.002	ND	ND	1	2
Total PAHs (18 PAHs)	0.002	ND	ND	1	2
Total PCB	0.004	ND	ND	0.05	4
Misc Parameters		(mg/L)	(mg/L)		
Nonylphenol (Total)	0.001	ND	ND	0.001	1
Nonylphenol Ethoxylate (Total)	0.01	ND	ND	0.005	10

Sample Collected: 8/13/2019 - 10/7/2021

Temperature: 16.3°C - 10.7°C



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Consulting Firm that prepared Hydrological Report:	EXP Services Inc.
Qualified Professional who completed the report summary	Amar Neku, Ph.D., P.Eng., P.Geo. Print Name
Qualified Professional who completed the report summary:	Amar Neku PRACTISING MEMBER 2566 ONTARIO October 31, 2023

Signature

Date &Stamp