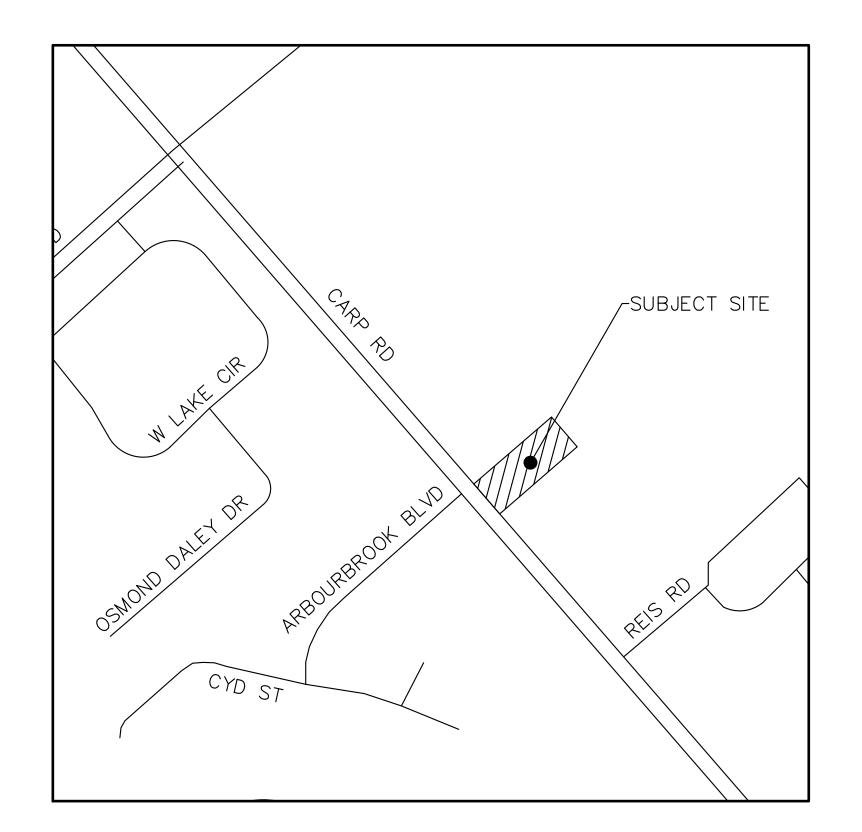
MULTI-TENANT COMMERCIAL DEVELOPMENT 2822 CARP RD, CARP CITY OF OTTAWA

DRAWING LIST

EP-1

ND-1
SGS-1
SITE GRADING AND SERVICING PLAN
STM-1
PRE-DEVELOPMENT STORM CATCHMENT PLAN
POST-DEVELOPMENT STORM CATCHMENT PLAN

POST-DEVELOPMENT STORM CATCHMENT PLAN EROSION AND SEDIMENT CONTROL PLAN



CITY OF OTTAWA
110 LAURIER AVE W
OTTAWA, ONTARIO
K1P 1J1

ARGUE CONSTRUCTION LTD.
2900 CARP RD
CARP, ONTARIO
KOA 1LO



C. THE STANDARD DRAWINGS INCLUDED WITH THESE PLANS ARE PROVIDED FOR CONVENIENCE ONLY AND ARE NOT TO BE CONSTRUED TO BE A COMPLETE SET FOR THE PURPOSE OF THE CONTRACT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ALL RELEVANT STANDARD DRAWINGS AND SPECIFICATIONS AS REQUIRED FOR THIS CONTRACT.

MEASUREMENTS

A. ALL DIMENSIONS ARE IN METRES, EXCEPT PIPE DIAMETERS, WHICH ARE IN MILLIMETRES, UNLESS SPECIFIED OTHERWISE. B. ALL DIMENSIONS SHALL BE CHECKED AND VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION, AND ANY

DISCREPANCIES SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER.

- EXISTING SERVICES AND UTILITIES SHOWN ON THESE CONTRACT DRAWINGS ARE BASED ON THE BEST INFORMATION AVAILABLE AND THEIR LOCATIONS ARE NOT GUARANTEED. THE CONTRACTOR SHALL INTERPRET THIS INFORMATION AS HE WISHES WITH THE UNDERSTANDING THAT THE OWNER DISCLAIMS ALL RESPONSIBILITY FOR ITS ACCURACY AND/OR SUFFICIENCY. THE CONTRACTOR IS REQUIRED TO NOTIFY THE VARIOUS UTILITY COMPANIES 48 HOURS PRIOR TO THE COMMENCEMENT OF ANY WORK.
- B. NATIVE MATERIAL, SUITABLE FOR BACKFILL, SHALL BE COMPACTED TO 95% STANDARD PROCTOR MAXIMUM DRY DENSITY.
- C. GRANULAR MATERIAL, USED FOR BACKFILL, SHALL BE PLACED IN LAYERS 150mm IN DEPTH MAXIMUM AND COMPACTED TO 100% STANDARD PROCTOR MAXIMUM DRY DENSITY.
- D. ALL DISTURBED AREAS ARE TO BE REINSTATED TO THEIR ORIGINAL CONDITION OR BETTER, AS DETERMINED BY THE ENGINEER. ALL GRASS AND VEGETATION COVERED AREAS SHALL BE RESTORED BY PLACING 200mm OF APPROVED TOPSOIL AND NURSERY SOD UNLESS NOTED OTHERWISE.

4. PAVEMENT

A. THE PAVEMENT STRUCTURE SHALL CONSIST OF THE FOLLOWING (REFER TO GEOTECHNICAL INVESTIGATION PREPARES BY GEMTEC FOR PAVEMENT STRUCTURE DETAILS):

LIGHT DUTY PARKING AREAS

 60mm SUPERPAVE 12.5 150mm GRANULAR 'A' BASE300mm GRANULAR 'B' TYPE II SUBBASE

HEAVY DUTY PARKING AREAS

- 40mm SUPERPAVE 12.5 60mm SUPERPAVE 19.0
- 150mm GRANULAR 'A' BASE 450mm GRANULAR 'B' TYPE II SUBBASE

REFERENCED FROM GEOTECHNICAL REPORT COMPLETED BY GEMTEC DATED OCTOBER 23, 2020

5. SEPTIC DESIGN NOTES:

DESIGN DAILY SEWAGE FLOW

<u>FLOW</u> WATER CLOSETS 3800 L/DAY FUEL OUTLET O L/DAY VEHICLES SERVED* 160 L/DAY TOTAL FLOW Q = 3960 L/DAY*ASSUME 2 CARS/BAY/DAY

SEPTIC SYSTEM

TYPE A DISPERSAL BED AS PER OBC 8.7.7.

SEPTIC TANK

MINIMUM SIZE OF SEPTIC TANK TO BE 21,510 L (0.B.C 8.2.2.3.(1))

REQ'D TYPE A DISPERSAL BED STONE AREA

RECOMMENDED SIZE OF SEPTIC TANK TO BE 23,00 L

A = Q/50A = 3960 / 50

 $A = 79.2m^2$

PROVIDED AREA BED STONE AREA $A = 5.0 m \times 16.0 m$

 $A = 80.0m^2$ REQ'D SAND AREA OF TYPE A DISPERSAL BED

A = QT/400

 $A = 3960 \times 20 / 400$ $A = 198.0 m^2$

PROVIDED SAND AREA OF TYPE A DISPERSAL BED

 $A = 378.0 \text{m}^2$

* GEO-TECHNICAL ENGINEER TO REVIEW TYPE A DISPERSAL BED AREA SUBGRADE PRIOR TO SEPTIC BED INSTALLATION PROPOSED SEPTIC BED SHALL HAVE A MINIMUM TOPSOIL COVER OF 150mm AND A MAXIMUM COVER OF 500mm TERTIARY TREATMENT REQUIRED

DISTRIBUTION PIPE

DISTRIBUTION PIPE TO BE INSTALLED WITHIN A LAYER OF STONE AS PER O.B.C. 8.7.3.3.(5). CONTRACTOR TO ENSURE THAT ALL TOPSOIL IS STRIPPED FROM SEPTIC BED AREA. ALL HEAVY EQUIPMENT TO BE KEPT OFF LEACHING BED AREA. BASE OF BED TO BE INSPECTED AND APPROVED BY THE ENGINEER PRIOR TO THE PLACEMENT OF DISTRIBUTION PIPING.

REINSTATEMENT:

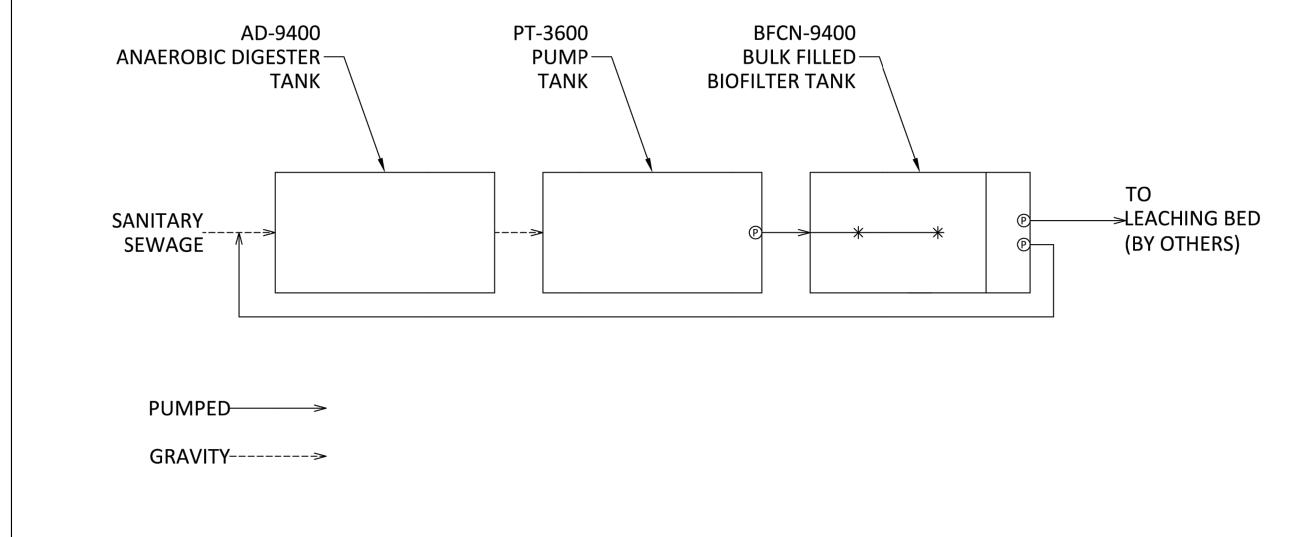
(O.B.C. 8.7.7.1.(6))

(0.B.C. 8.7.7.1.(5))

ALL TOPSOIL FROM CONSTRUCTION AREAS TO BE STOCKPILED AND THEN REPLACED TO A MINIMUM DEPTH OF 150mm. SOD AND/OR SEED AND MULCH TO BE APPLIED TO ALL DISTURBED AREAS. ALL MATERIALS AND CONSTRUCTION TO BE IN ACCORDANCE WITH LATEST EDITION OF THE ONTARIO BUILDING CODE (PART 8). ALL SURFACE DRAINAGE, FOOTING DRAINS, ROOF LEADERS AND SUMP PUMP DRAINS MUST BE DIRECTED AWAY

PROPOSED SEPTIC BED SHALL HAVE A CLEAN TOPSOIL COVER OF 300 mm. TOPSOIL IS TO HAVE A MINIMUM HYDRAULIC CONDUCTIVITY OF 0.01 m/d.

PRELIMINARY SCHEMATIC ONLY



1. THIS IS A PRELIMINARY SCHEMATIC FOR A WATERLOO BIOFILTER SEWAGE TREATMENT SYSTEM. THIS IS FOR PLANNING PURPOSES ONLY AND IS NOT AN ENGINEERED DESIGN. 2. THE PEAK SEWAGE FLOW FOR THIS FACILITY IS 3,910 L/day. PEAK

TSS = 210 mg/L

IT IS ALSO ASSUMED THAT THERE IS SUFFICIENT ALKALINITY FOR THOROUGH NITRIFICATION. 4. WASTEWATER FROM THE FACILITY FLOWS BY GRAVITY INTO AN AD-9400 SINGLE COMPARTMENT ANAEROBIC DIGESTER TANK, THE INLET OF THE TANK IS EQUIPPED WITH AN INNERTUBE. THE OUTLET IS EQUIPPED WITH AN EFFLUENT FILTER.

3. THE RAW SEWAGE IS EXPECTED TO HAVE THE FOLLOWING

5. THE ANAEROBIC DIGESTER TANK EFFLUENT FLOWS BY GRAVITY INTO A PT-3600 PUMP TANK. THE PUMP TANK IS EQUIPPED WITH A SUBMERSIBLE EFFLUENT PUMP (P) OPERATING ON A TIMER.

6. THE PUMP IN THE PUMP TANK DOSES THE SEWAGE TO THE FIRST COMPARTMENT OF A DOUBLE COMPARTMENT BFCN-9400 BULK-FILLED BIOFILTER TANK, THE FIRST COMPARTMENT IS FILLED WITH BIOFILTER THE MEDIUM AND TREATED AS IT TRICKLES THROUGH THE INTERIOR OF THE MEDIUM. A LOW VOLTAGE AIR FAN AND PASSIVE VENTING PROMOTES AEROBIC CONDITIONS. THE TANK IS EQUIPPED WITH A SUBMERSIBLE EFFLUENT PUMP (P) OPERATING ON A TIMER AND A

7. THE TIMER PUMP IN THE BULK-FILLED BIOFILTER TANK RECIRCULATES A PORTION OF THE EFFLUENT TO THE INLET OF THE ANAEROBIC DIGESTER

SUBMERSIBLE EFFLUENT PUMP (P) OPERATING ON DEMAND.

8. THE DEMAND PUMP IN THE BULK-FILLED BIOFILTER TANK IS PUMPED TO A LEACHING BED (BY OTHERS).

SMART PANEL PROVIDES REMOTE MONITORING, CONTROL, AND DATA LOGGING OVER A STABLE WIRELESS CELLULAR NETWORK. THIS FUNCTIONALITY ALLOWS FOR REAL TIME OPERATIONAL ADJUSTMENTS TO OPTIMIZE SYSTEM PERFORMANCE. THE WATERLOO SMART PANEL ALSO IMMEDIATELY NOTIFIES THE SERVICE PROVIDER OF A PUMP FAILURE OR HIGH LEVEL ALARM, PROVIDING THEM WITH VITAL INFORMATION TO LIMIT SITE VISITS WHILE KEEPING THE SYSTEM OPERATING PROPERLY.

10.BY ADHERING TO BEST MANAGEMENT PRACTICES (PROVIDING THE APPROPRIATE STRENGTH SEWAGE, PERFORMING ROUTINE MAINTENANCE, LIMITING TOXINS ENTERING THE SYSTEM) THE WATERLOO BIOFILTER TREATMENT SYSTEM OUTLINED IN THIS SCHEMATIC IS DESIGNED FOR THE FOLLOWING EFFLUENT OBJECTIVES. cBOD = 10 mg/L

TSS = 10 mg/L TOTAL NITROGEN ≥ 50% REMOVAL

65 MASSEY ROAD SUITE C, GUELPH ON N1H 7M6 TEL: 519-856-0757 FAX: 519-856-0759 EMAIL: INFO@WATERLOO-BIOFILTER.COM TITLE: PROCESS SCHEMATIC PROJECT: 2822 CARP ROAD - OTTAWA

FOR: PEARSON ENGINEERING

ON-C-2016-0190-B 3,960 L/day BFCN DISCHARGE:

							/ F	–15.0m 75mmø DISTRIE PIPE @ 0.5% SPACED T 1.0m 0/C		
				OVER MATER TO BE TOPS	SOIL \			O.28m THICK LAYER CLEAR STONE TO BE PERMEABLE GEOTEXT	COVERED IN	
5.4	AND MANTLE TO		GROUND -					BT-23000 BASK	KET	
	INIMUM 0.3m Th					115.62×	×115			
		115.32	115.3 115.0		11	115.32	115.32	EXISTING GRO	JUND	
	114.84		11 <u>4.</u> 72			4.72	115.02 114.72			
					21.00					
								SUBGRADE		
	LEACHIN TO CON	IG BED FILL - NFORM WITH				ELEVATION 113 -03 GEMTEC II		OCT. 28, 2020)		
		DBC 8.7.4.2		,						

HORIZONTAL SCALE 1:250

VERTICAL SCALE 1:50

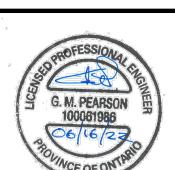
0.28m THICK LAYER OF 19mmø CLEAR STONE TO BE COVERED IN PERMEABLE GEOTEXTILE FABRIC COVER MATERIAL TO BE TOPSOIL -5-15.0m 75mmø DISTRIBUTION PIPE @ 0.5% SPACED AT 1.0m 0/C - DISTRIBUTION BOX FINISHED GROUND -HEADER PIPE SAND MANTLE TO BE 7 A MINIMUM 0.3m THICK LEACHING BED FILL TO CONFORM WITH OB¢ 8.7.4.2 ₹ GROUNDWATER ELEVATION 113.30 (AS PER BH20-03 GEMTEC INVESTIGATION OCT. 28, 2020) 112

> SECTION D-D HORIZONTAL SCALE 1:250 VERTICAL SCALE 1:50

				<u>BENCHMARK</u>
				ELEVATIONS S 68U001/CGVD
				BEARINGS ARE
2.	UPDATED GRADING	06/16/22	NW	PLAN 4R-303 THE CENTRAL
1.	AS PER 1ST SUBMISSION COMMENTS	01/07/22	NW	(ORIGINAL)
NO.	REVISION NOTE	DATE	BY	

/ATIONS SHOWN ARE GEODETIC AND ARE REFERRED TO BENCHMARK 001/CGVD28 GEODETIC DATUM.

RINGS ARE GRID, DERIVED FROM THE SOUTHWESTERLY LIMIT OF PART 1 4R-30382 SHOWN TO BE N41°38'40"W THERON AND ARE REFERRED TO CENTRAL MERIDIAN OF MTM ZONE 9 (76°30' WEST LONGITUDE) NAD-83



MULTI-TENANT COMMERCIAL BLDGS 2822 CARP ROAD CITY OF OTTAWA

NOTES AND DETAILS



DESIGNED BY PROJECT # 19124 NW/MWD DRAWN BY N/A DRAWING # ND-1SEPTEMBER 2020 REVISION # CHECKED BY GMP

