

**GENERAL**

1. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL OTHER APPLICABLE CONTRACT DRAWINGS AND PERMITS.
2. ORIGINAL TOPOGRAPHY, GROUND ELEVATION AND SURVEY DATA SHOWN ARE PROVIDED FOR INFORMATION PURPOSES ONLY AND IMPLY NO GUARANTEE OF ACCURACY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL INFORMATION OBTAINED FROM THEM PRIOR TO CONSTRUCTION.
3. CONTRACTOR TO CONFIRM AT ONSET OF CONSTRUCTION THAT THE SOIL IN THE PROPOSED LEACHING BED AREA IS CONSISTENT WITH THE SOIL DESCRIBED IN THE TEST HOLE LOGS. (I.E. CLAYEY SILT). IF THIS SOIL DOES NOT MATCH THE TEST HOLE LOGS, THE CONTRACTOR SHALL CONTACT THE DESIGNER PRIOR TO THE PLACEMENT OF LEACHING BED MATERIALS.
4. NATIVE SOIL TO BE SCARIFIED BEFORE PLACEMENT OF IMPORTED LEACHING BED SAND FILL.

**CONSTRUCTION NOTES**

1. THIS SYSTEM IS NOT DESIGNED FOR THE USE OF A GARBAGE DISPOSAL.
2. THIS SYSTEM IS NOT DESIGNED TO RECEIVE BACKWASH FROM A DOMESTIC WATER TREATMENT DEVICE.
3. ANY FILL MATERIAL REQUIRED TO MEET 600mm VERTICAL SETBACK BETWEEN THE HIGH GROUND WATER ELEVATION/BEDROCK AND THE 150mm OF SPECIFIED SAND SHALL BE ASTM C33 SAND OR IMPORTED SAND WITH A PERCOLATION TIME OF AT LEAST 6 AND NOT MORE THAN 10 min/cm, WITH NOT MORE THAN 5% FINES PASSING THE "200 SIEVE".
4. ALL FILL MATERIAL SHALL BE CLEAN AND PERMEABLE AND MEET ELJEN DESIGN MANUAL REQUIREMENTS. THE 150mm OF SPECIFIED SAND UNDERNEATH AND SURROUNDING THE GSF MODULES SHALL COMPLY WITH ASTM C33 SAND.
5. BACKFILL MATERIAL CAN BE NATIVE TOPSOIL WITH NO STONES LARGER THAN 50mm IN ANY DIMENSION TO A MAXIMUM DEPTH OF 30cm OVER THE GSF MODULES AND SHALL INCLUDE A MINIMUM 150mm OF CLEAN LOAM.
6. ANY ELJEN GSF SYSTEM THAT IS MORE THAN 450mm BELOW FINISHED GRADE AS MEASURED FROM THE TOP OF THE MODULE SHALL BE VENTED.
7. THIS DESIGN COMPLIES WITH AND MUST BE INSTALLED IN ACCORDANCE WITH CURRENT ELJEN GSF SYSTEM DESIGN AND INSTALLATION MANUAL.
8. INSTALLATION TO BE BY AUTHORIZED ELJEN INSTALLER WITH VALID BCIN
9. ELJEN GSF PRODUCT SHALL BE SUPPLIED BY AN ONTARIO AUTHORIZED ELJEN GSF DISTRIBUTOR
10. ENSURE POSITIVE DRAINAGE AWAY LEACHING BEDS AND BUILDINGS.
11. FORCE MAINS TO EITHER BE FREE-DRAINING BACK TO PUMP OR FROST-PROTECTED AS PER CITY OF OTTAWA STANDARD W22.
12. THIS PLAN IS TO BE READ IN CONJUNCTION WITH OBC SEPTIC PERMIT APPLICATION, AND ANY OTHERS WHICH MAY APPLY.

**DESIGN CRITERIA**

**RESTAURANT SEWAGE SYSTEM:**

- RESTAURANT SEWAGE SYSTEM DESIGN FLOW  $Q_{MIN} = 4,375$  L/day
- OVERSIZED WATERLOO BIOFILTER LEVEL 4 TREATMENT (WITH RECIRCULATION) DISCHARGING TO ELJEN GSF LEACHING BED
- MIN. NUMBER OF ELJEN MODULES =  $Q/95 = 4,375/95 = 47$  UNITS
- ACTUAL ELJEN UNITS IN DESIGN = 6 RUNS X 8 UNITS = 48
- NATIVE T-TIME = 50 min/cm (CLAYEY SILT)
- MIN. INFILTRATION AREA =  $Q \cdot T / 400 = 4,375 \cdot 50 / 400 = 546.9$  m<sup>2</sup>

**CAR WASH SEWAGE SYSTEM:**

- CAR WASH SEWAGE SYSTEM DESIGN FLOW  $Q_{MIN} = 4,325$  L/day
- MIN. NUMBER OF ELJEN MODULES =  $Q/95 = 4,325/95 = 46$  UNITS
- ACTUAL ELJEN UNITS IN DESIGN = 6 RUNS X 8 UNITS = 48
- NATIVE T-TIME = 50 min/cm (CLAYEY SILT)
- MIN. INFILTRATION AREA =  $Q \cdot T / 400 = 4,325 \cdot 50 / 400 = 540.7$  m<sup>2</sup>

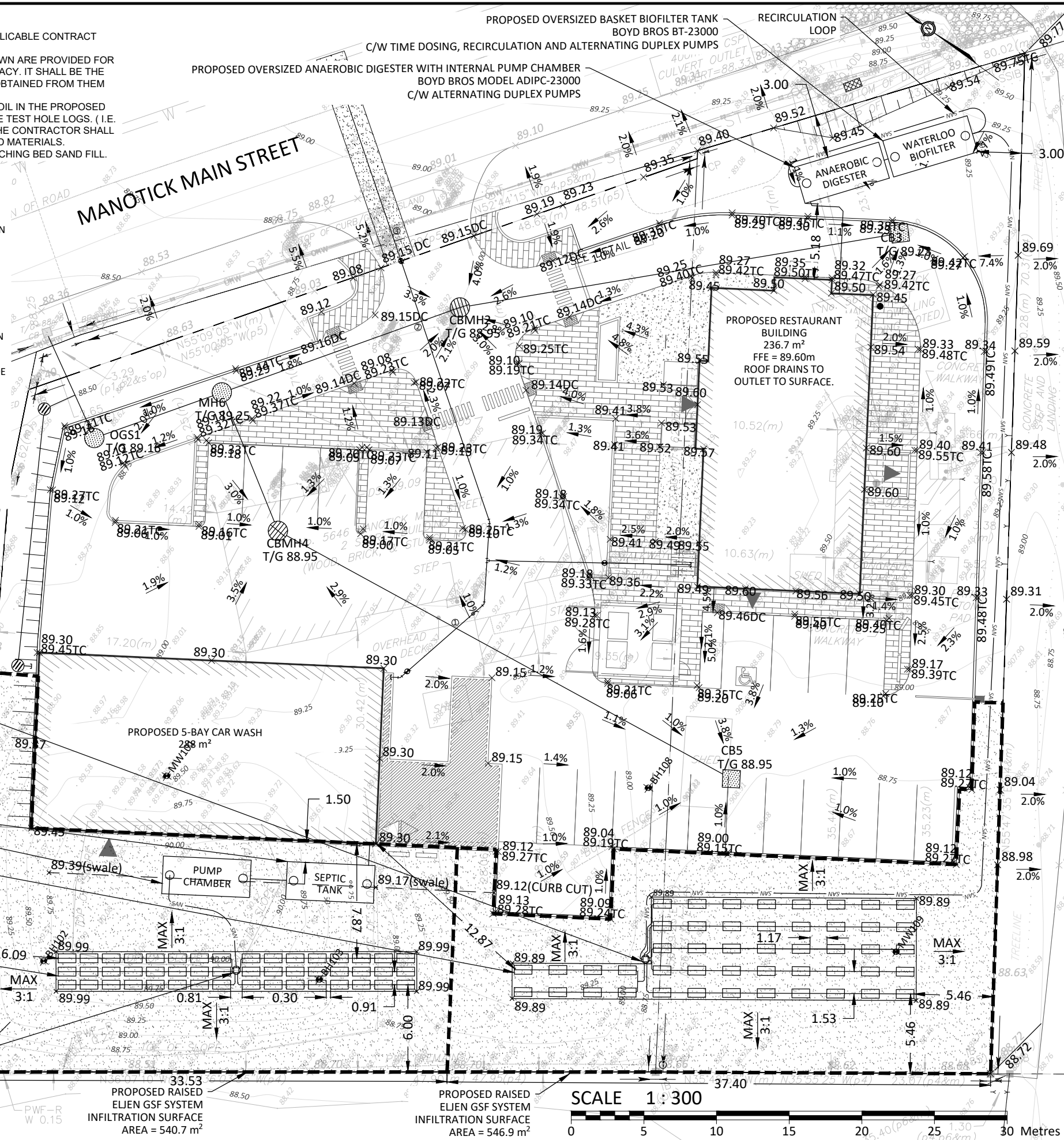
- DISTRIBUTION BOX OUTLET INV. MUST BE MIN. 50mm ABOVE TOP OF GSF MODULES
- CONTRACTOR TO SELECT AN OVERSIZED DISTRIBUTION BOX
- PROVIDE VELOCITY REDUCTION IN DISTRIBUTION BOX WITH A TEE OR BAFFLE
- DO NOT USE FLOW EQUALIZERS OR OTHER RESTRICTING DEVICES IN THE OUTLETS OF THE DISTRIBUTION BOX

- PROPOSED OVERSIZED 27650 L SEPTIC TANK
- PROPOSED 27650 L BALANCING/PUMP CHAMBER C/W TIMED-DOSING ALTERNATING DUPLEX PUMPS

- PROPOSED RAISED ELJEN GSF SYSTEM 6 ROWS/CLUSTERS OF 8 ELJEN UNITS TOP OF ELJEN UNITS = 89.59 BOTTOM OF ELJEN UNITS = 89.41 BOTTOM OF SPECIFIED SAND = 89.26 MINIMUM 600mm SAND LEACHING BED FILL BETWEEN BOTTOM OF SPECIFIED SAND AND NATIVE SOIL

- PROPOSED RAISED ELJEN GSF SYSTEM 6 ROWS OF 8 ELJEN UNITS TOP OF ELJEN UNITS = 89.69 BOTTOM OF ELJEN UNITS = 89.51 BOTTOM OF SPECIFIED SAND = 89.36 MINIMUM 600mm SAND LEACHING BED FILL BETWEEN BOTTOM OF SPECIFIED SAND AND NATIVE SOIL

- DISTRIBUTION BOX OUTLET INV. MUST BE MIN. 50mm ABOVE TOP OF GSF MODULES
- CONTRACTOR TO SELECT AN OVERSIZED DISTRIBUTION BOX
- PROVIDE VELOCITY REDUCTION IN DISTRIBUTION BOX WITH A TEE OR BAFFLE
- DO NOT USE FLOW EQUALIZERS OR OTHER RESTRICTING DEVICES IN THE OUTLETS OF THE DISTRIBUTION BOX



No.	Revision/Issue	Date

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Client:  
**HAWKINS PROPERTIES**  
 650a EAGLESON ROAD,  
 OTTAWA, ONTARIO, K2M 1H4

Project:  
**MANOTICK MAIN STREET**  
 5646-5650 MANOTICK MAIN STREET

Drawing Title:  
**SEWAGE SYSTEM DESIGN**

Scale: 1:300	Project Number: CCO-22-2383
Drawn by: P.L.	Drawing Number: <b>SSD-01</b>
Checked by: P.L.	
Designed by: P.L.	Date: JAN/24/2024

FILENAME: U:\OTAWA\01 - Project - Proposed\2022 Jobs\CCO-22-2383 Hawkins Properties\_ZBA\_5646 Manotick Main Street - Design Septic Jan 24 2023.dwg  
 DRAWING TITLE: Sewage System Design  
 PROJECT: 5646 Manotick Main Street  
 CLIENT: Hawkins Properties  
 DATE: January 24, 2024  
 DESIGNED BY: P.L.  
 CHECKED BY: P.L.  
 DRAWN BY: P.L.  
 SCALE: 1:300