TOWN OF LUNENBURG

WASTEWATER TREATMENT PLANT UPGRADES & EXPANSION

CONTRACT NO. 240800.00

ADDENDUM NO. 3

February 14, 2025

The following changes or modifications shall be made to the Tender Documents:

TO THE SPECIFICATIONS

Add new APPENDIX D: TOWN OF LUNENBURG WASTEWATER TREATMENT PLANT UPGRADE AND EXPANSION WATER INGRESS STUDY, dated June 10, 2024, attached, for information only.

SECTION 00 21 13 – INFORMATION TO TENDERERS

Page 1, delete subsection 2. and replace with the following:

2. **Tenders shall be submitted exclusively by email to** purchasing@townoflunenburg.ca **up until 3:00 p.m., local time, on Thursday March 6th, 2025, hereinafter** referred to as the Tender Closing. Subject heading of email to read "CONTRACT NO. 240800.00 – TENDER SUBMISSION." The time stamp of the email received by purchasing@townoflunenburg.ca will be used to determine if the submission was received in time – not the time it was emailed sent by the sender. Last minute submissions are not recommended.

SECTION 00 41 42 – TENDER FORM – STIPULATED PRICE

Delete Section 00 41 42 – Tender Form and replace with new Section 00 41 42 – Tender Form, dated February 14, 2025, attached.

SECTION 08 33 23 – OVERHEAD ROLL-UP DOORS

Add new Section 08 33 23, dated February 14, 2025, attached.

SECTION 26 32 14 – POWER GENERATION DIESEL

Page 12, delete subsection 2.5.2.1 and replace with the following:

.1 Spring type isolators with adjustable side snubbers or Neoprene pad isolators (or equivalent) for leveling.

SECTION 44 46 16 – SLUDGE DEWATERING EQUIPMENT

Page 1, delete subsection 1.4.2.1 and replace as follows:

.1 Peak system hour flow (inlet): 17 m^3/h.

Page 4, delete subsection 2.1.9 and replace as follows:

.9 Carry out refurbishment of existing Rotary press channels and Appurtenances, including one (1) filtering element for 36" press, and for each of the two (2) existing channels, six (6) scraper blades, one (1) pair of stainless steel housing halves, and one (1) restrictor, and installation of the above.

Page 4, delete subsection 2.2.1 and replace as follows:

.1 Supply and install one (1) positive cavity pump with split stator design, to pump raw sludge to the rotary press, sized to supply three (3) channels simultaneously, as well as VFDs and control modifications as required. Product to be supplied as a package with the rotary press equipment.

TO THE DRAWINGS

DRAWING A08 – SCHEDULES
On DOOR SCHEDULE, delete note that reads "EXISTING TRACK TO REMAIN" and replace with "EXISTING TRACK TO REMAIN IF SUITABLE FOR NEW DOOR, REPLACE AS REQUIRED", in 4 places.

DRAWING P03 – P&ID SHEET 1 OF 3
See attached sketch PSK01, dated February 13, 2025.

DRAWING P04 – P&ID SHEET 2 OF 3
See attached sketch PSK02, dated February 13, 2025.

DRAWING P15 – HEADWORKS PLAN, DETAIL AND SECTIONS
PLAN – See attached sketch PSK03, dated February 13, 2025.
See attached sketch PSK04, dated February 13, 2025.

DRAWING P21– SLUDGE HOLDING TANK MODIFICATIONS PLAN AND SECTION

PLAN – See attached sketch PSK05, dated February 13, 2025.
See attached sketch PSK06, dated February 13, 2025.

CBCL Limited
February 14, 2025

Martitime Centre, 1505 Barrington Street, Suite 901, Box 606, Halifax, NS,
B3J 2R7 | 902-421-7241 | CBCL.ca | info@CBCL.ca

June 10, 2024

Tyson Joyce, P.Eng., PMP, Town Engineer
Town of Lunenburg
119 Cumberland Street, PO Box 129
Lunenburg, NS Canada B0J 2C0
tjoyce@townoflunenburg.ca

RE: ***Town of Lunenburg Wastewater Treatment Plant Upgrade and Expansion Water Ingress Study***

Introduction

CBCL has completed a preliminary investigation of groundwater conditions at the site of a proposed Wastewater Treatment Plant (WWTP) in Lunenburg, NS (Figure 1). The objective of the work was to provide order-of-magnitude estimates of dewatering rates that may be needed during site excavation and after the building is constructed. Rates of water ingress depend on the permeability of the material to be excavated, the depth of the excavation, and the elevation of the water table. The investigation included the following tasks:

- Review of area topography, drainage patterns, and geology mapping.
- Drilling and installation of five new monitoring wells at the edges of the building footprint.
- Measurement of the water table elevation at the time of site work (May 2024).
- In situ hydraulic conductivity testing at the new monitoring wells.
- Scoping of potential groundwater ingress rates for the excavation and finished building.

Physical Setting

The Town of Lunenburg is located within an expansive regional drumlin field that extends inland to the northwest. The site of the proposed WWTP expansion is to the north of the town, situated on a coastal lowland between Back Harbour and Lunenburg Front Harbour, approximately 250 m west of coastline. The ground surface of the building footprint is relatively level, sitting at an elevation of ~5 m above sea level. Provincial mapping shows a stream that borders the site to the west and north, draining east to a pond that discharges to the ocean. The pond is approximately 50 m east of the planned excavation.

Bedrock underlying the building is mapped as Halifax Formation slate, which was confirmed during pre-design geotechnical investigations. The bedrock surface is 5 to 6 meters below grade. The overlying sediment is primarily reworked material (construction fill) and was logged in geotechnical boreholes as a predominantly silty sand with gravel, with construction debris

Legend

- Monitoring Wells
- Building Footprint
- Excavation Limit
- Pond
- Rivers and Streams

FIGURE 1

Study Area

Town of Lunenburg Water Ingress Study

N
W E
S

0 10 20
m

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Scale 1:1,000
when printed @ 8.5 x 11

CBCL

Document Path: Y:\Halifax\Data\Projects\2024\240800.00 TOL WWTP Upgrade & Expansion\44 CAD\08 GIS\HYDROG\Figure 1 - Site Map.mxd

(glass, metal, brick, rubber, etc.). The presence of reworked sand and gravel indicates that rates of water ingress could be on the higher end of expected values for shallow groundwater systems.

Site Work

Monitoring Well Installation

Five monitoring wells were drilled at the edges of the proposed excavation in April 2024. Each well was constructed using a 3 m-long 2" PVC machine slotted screen, with the intent to be screened across the water table. The wells were completed at the ground surface with flush-mount covers. Monitoring well construction is summarized in Table A1 and borehole logs are provided in Appendix A.

In Situ Hydraulic Conductivity Testing

Hydraulic conductivity slug tests were completed on each well in May 2024. Each well was developed for 30 – 60 minutes using a Waterra inertial pump (3/8" tubing and foot-valve equipped with a surge block), or until the well was dry. Following complete recovery, a sensor was installed in the well to measure water levels at 1-second intervals. A cylindrical slug (0.67 Liters) was introduced into the well and remained until water levels returned to static conditions (falling head test). The slug was then removed to initiate a rising head test, and measurements continued until the water level returned to static conditions. When the depth of the water column allowed, the test was repeated by adding one and two additional lengths to the slug, effectively doubling, and tripling the displacement volume. Well responses were extremely rapid, close to the viable rate for slug test analyses.

Recovery data from each well was analyzed using the Hvorslev method to estimate the hydraulic conductivity representing the screened interval of the formation. The bulk average hydraulic conductivity of the fill was estimated to be on the order of at least 10^{-3} m/s. Response times were variable between wells, reflecting the heterogeneous nature of the reworked material that the well screens are installed in. Response times at MW3 and MW5 indicated a lower hydraulic conductivity than at MW1, MW2, and MW4. Table A1 provides a summary of testing results, and analysis curves are provided in Appendix A.

Water Ingress

Water Table Mapping

The position of the water table at each well is shown in Figure 2. The water table surface appears to slope away from the building footprint, which would be generally consistent with

Legend

- Monitoring Wells
- Pond
- Rivers and Streams

FIGURE 2

Water Table Elevation

Town of Lunenburg Water Ingress Study

N
W E
S

0 10 20
m

Coordinate System: NAD 1983 CSRS UTM Zone 20N
Projection: Transverse Mercator
Datum: North American 1983 CSRS
Scale 1:1,000
when printed @ 8.5 x 11

CBCL

local, shallow flow paths that discharge to the stream to the west and north, and to the pond to the east. In May 2024, the water table was at approximately 1.8 m geodetic, compared to a minimum excavation floor of ~ -1.4 m geodetic), resulting in a maximum seepage face height of approximately 3.2 m, which was used for water ingress calculations.

Potential rates of inflow to the building excavation were scoped using equations for groundwater flow and pumping, using a bulk hydraulic conductivity of 2.5×10^{-3} m/s, which is close to the upper bound of values as indicated by in situ testing.

Table B1, Appendix B, provides a scoping of potential rates of water ingress, based on stepwise excavation in 0.4 m lifts, and according to conditions as observed in May 2024. Estimates are based on representation of the excavation wall as a series of pumping wells with overlapping cones of drawdown. Calculations suggest that average rates of ingress could peak at on the order of 330 m^3/d (50 igpm) during excavation. Dewatering rates would be expected to decline over time if the material can be drained at a rate that exceeds the local recharge rate. The high apparent hydraulic conductivity of the local sediment suggests that rates of groundwater ingress could vary significantly following heavy rain events, and according to seasonal weather patterns.

These scoping calculations are approximate and do not account for unexpected subsurface features or surface water run-off. More detailed numerical modelling would be required to provide a more comprehensive estimate of inflow rates.

Yours very truly,

CBCL Limited

Prepared by:
Ryan Threndyle, M.A.Sc., M.I.T.
Hydrogeologist
Direct: 902-329-6930
E-Mail: rthrendyle@cbcl.ca

Reviewed by:
Colin Walker, M.Sc., P.Geo., FGC
Senior Hydrogeologist
Direct: 902-478-8875
E-Mail: colinw@cbcl.ca

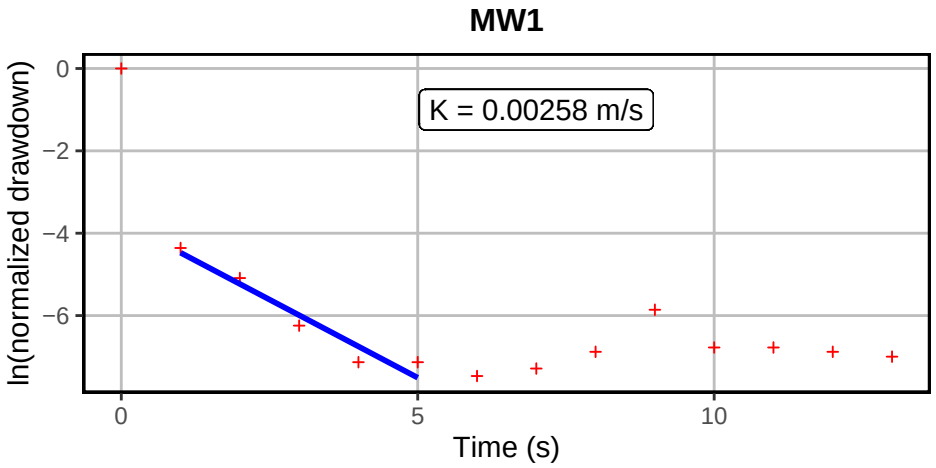
CBCL Project: 240800.00

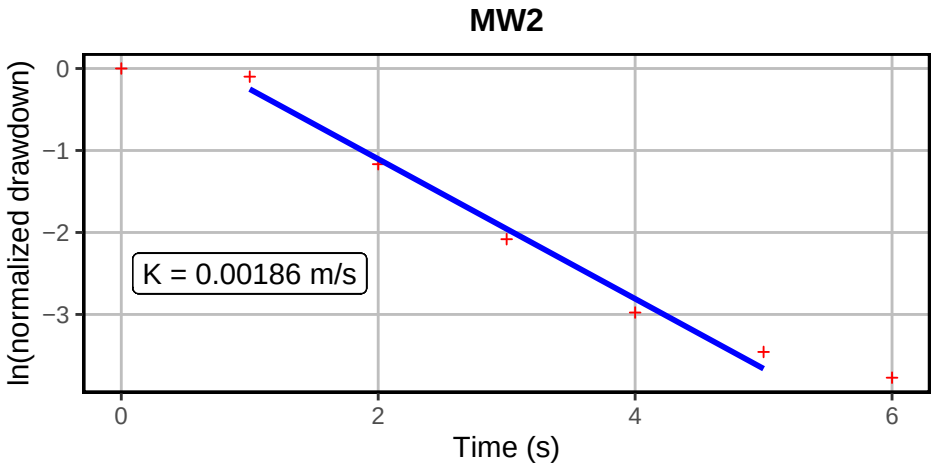
Attachment A

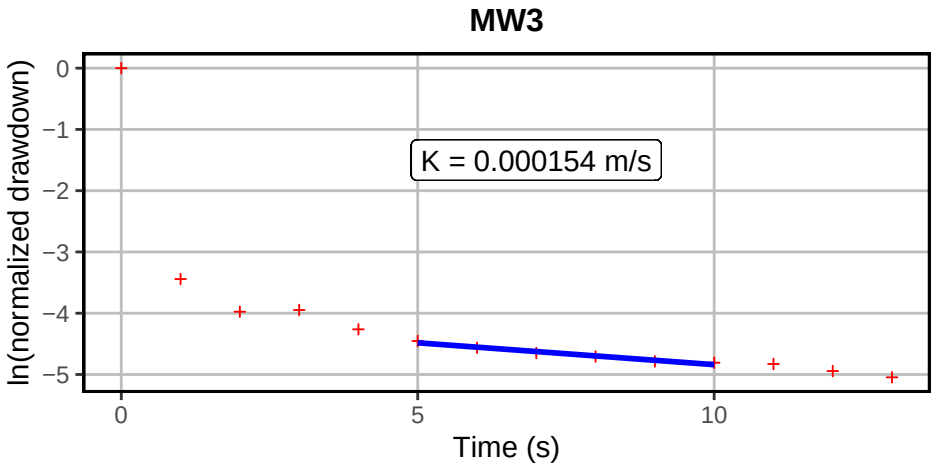
Well Information, Borehole Logs, and Hvorslev Analysis Curves

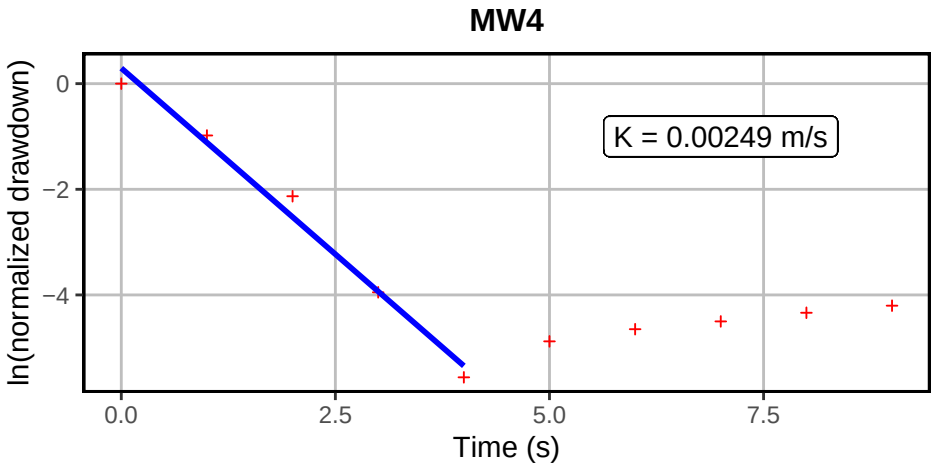
Table A1 – Monitoring Well Construction

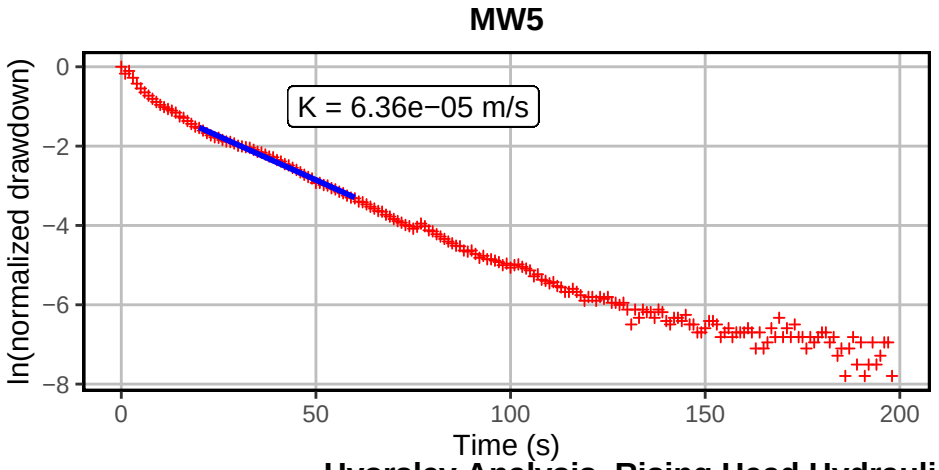
Well ID	Easting* (m)	Northing* (m)	Screen Interval (m below grade)	Groundwater Elevation (m geodetic)	Top of Screen Elevation (m geodetic)	Hydraulic Conductivity (m/s)
MW1	394971	4915231	1.5 - 4.6	1.60	3.64	2.58E-03
MW2	394967	4915256	0.91 - 4.6	1.74	3.04	1.86E-03
MW3	394958	4915300	3.1 - 6.1	1.54	2.05	1.54E-04
MW4	394989	4915263	3.1 - 6.1	1.72	2.34	2.49E-03
MW5	394931	4915272	3.1 - 6.1	1.94	1.67	6.36E-05











Hvorslev Analysis, Rising Head Hydraulic Conductivity Tests, Town of Lunenburg WWTP

Monitoring Well 24MW01

PROJECT NUMBER 240800.00
PROJECT NAME WWTP Upgrade & Expansion
CLIENT Town of Lunenburg
ADDRESS 524 NS-324, Lunenburg, NS
DRILLING DATE 12 April, 2024

DRILLING COMPANY Nova Drilling
DRILLING METHOD Solid Stem Auger
TOTAL DEPTH 15 ft
DIAMETER 3 1/2″

COORDINATES 394975.0611 4915228.315
COORD SYS NAD 1983 UTM Z 20N
SURFACE ELEVATION
WELL TOC Flush Mount
LOGGED BY B.C.
CHECKED BY D.F.

COMPLETION

CASING uPVC

SCREEN uPVC Factory Slotted

Depth (ft)	Drilling Method	Samples	% Recovery	Graphic Log	Material Description	PID	Lab Sample	Water	Moisture	Well Installation	Additional Observations	Elevation (m)
0		SS1 (0-2)	45		GRAVELLY SAND: Grey coarse sand and gravel.				D			45
1						0.2						44
2		SS2 (2-4)	90						D			43
3						1.6						42
4		SS3 (4-6)	50						W			41
5						3.4		▽				40
6		SS4 (6-8)	55		SILTY SAND WITH GRAVEL: Fine dark brown silty sand with some gravel. Wet.		24MW01 SS4; PHCs, PAHs, Metals		W			39
7	AU					5.8						38
8		SS5 (8-10)	50		SAND; Fine dark brown sand with coarse sand. Wet.				W			37
9						1.0						36
10					Augered remaining depth from 10 - 15'. Based on cuttings, assumed to be an overburden (sand with slate fragments) / very fractured grey slate interface zone.							35
11												34
12												33
13												32
14												31
15					Termination Depth at 15 ft							30

Disclaimer This bore log is intended for environmental not geotechnical purposes.

produced by ESlog.ESdat.net on 09 May 2024

Monitoring Well 24MW02

PROJECT NUMBER 240800.00
PROJECT NAME WWTP Upgrade & Expansion
CLIENT Town of Lunenburg
ADDRESS 524 NS-324, Lunenburg, NS
DRILLING DATE 12 April, 2024

DRILLING COMPANY Nova Drilling
DRILLING METHOD Solid Stem Auger
TOTAL DEPTH 15 ft
DIAMETER 3 1/2″

COORDINATES 394966.1121 4915243.598
COORD SYS NAD 1983 UTM Z 20N
SURFACE ELEVATION
WELL TOC Flush Mount
LOGGED BY B.C.
CHECKED BY D.F.

COMPLETION

CASING uPVC

SCREEN uPVC Factory Slotted

Depth (ft)	Drilling Method	Samples	% Recovery	Graphic Log	Material Description	PID	Lab Sample	Water	Moisture	Well Installation	Additional Observations	Elevation (m)
0		SS1 (0-2)	50		GRAVELLY SAND: Brown coarse sand and gravel.	0.7			D			45
1												44
2		SS2 (2-4)	95		SAND; Fine to medium brown/black sand. Some glass present within black lenses. Wet	2.4	24MW02 SS2; PHCs, PAHs, Metals		D			43
3												42
4		SS3 (4-6)	30		SILTY SAND WITH GRAVEL: Fine dark brown silty sand with some gravel. Wet.	2.4		▽	W			41
5												40
6		SS4 (6-8)	10						W			39
7	AU					2.4						38
8					Augered remaining depth from 10 - 15'.				W			37
9					Based on cuttings, assumed to be an overburden (sand with slate fragments) / very fractured grey slate interface zone.							36
10												35
11												34
12												33
13												32
14												31
15					Termination Depth at 15 ft							30

Disclaimer This bore log is intended for environmental not geotechnical purposes.

produced by ESlog.ESdat.net on 09 May 2024

Monitoring Well 24MW03

PROJECT NUMBER 240800.00
PROJECT NAME WWTP Upgrade & Expansion
CLIENT Town of Lunenburg
ADDRESS 524 NS-324, Lunenburg, NS
DRILLING DATE 12 April, 2024

DRILLING COMPANY Nova Drilling
DRILLING METHOD Solid Stem Auger
TOTAL DEPTH 20 ft
DIAMETER 3 1/2″

COORDINATES 394958.2091 4915295.548
COORD SYS NAD 1983 UTM Z 20N
SURFACE ELEVATION
WELL TOC Flush Mount
LOGGED BY B.C.
CHECKED BY D.F.

COMPLETION

CASING uPVC

SCREEN uPVC Factory Slotted

Depth (ft)	Drilling Method	Samples	% Recovery	Graphic Log	Material Description	PID	Lab Sample	Water	Moisture	Well Installation	Additional Observations	Elevation (m)
0		SS1 (0-2)	90		GRAVELLY SAND: Brown coarse sand and gravel. Ceramic shards present.	1.0			D			45
1												44
2		SS2 (2-4)	40		SAND; Fine to medium brown/black sand with few gravel.		24MW03 SS2; Dioxins/ Furans, Glycols, Pesticides, Cyanide		D			43
3						1.8						42
4			2						W			41
5												40
6		SS3 (6-8)	50		GRAVELLY SAND: Brown coarse sand and gravel.		24MW03 SS3; PHCs, PAHs, Metals					39
7						3.4						38
8	AU		10									37
9												36
10		SS4 (10-12)	5									35
11						0.3						34
12			5		GRAVELLY SAND: Brown coarse sand and some very severely weathered shale flakes.							33
13												32
14					Augered from 13.2 to 15'							31
15		SS5 (15-16)	20		GRAVELLY SAND: Brown coarse sand and some very severely weathered shale flakes.	0.5						30
16					BEDROCK (assumed); Very severely fractured to fractured dark grey SLATE: BEDROCK							29
17												28
18												27
19												26
20					Termination Depth at 20 ft							25

Disclaimer This bore log is intended for environmental not geotechnical purposes.

produced by ESlog.ESdat.net on 09 May 2024

Monitoring Well 24MW04

PROJECT NUMBER 240800.00
PROJECT NAME WWTP Upgrade & Expansion
CLIENT Town of Lunenburg
ADDRESS 524 NS-324, Lunenburg, NS
DRILLING DATE 12 April, 2024

DRILLING COMPANY Nova Drilling
DRILLING METHOD Solid Stem Auger
TOTAL DEPTH 20 ft
DIAMETER 3 1/2″

COORDINATES 394990.8671 4915258.125
COORD SYS NAD 1983 UTM Z 20N
SURFACE ELEVATION
WELL TOC Flush Mount
LOGGED BY B.C.
CHECKED BY D.F.

COMPLETION

CASING uPVC

SCREEN uPVC Factory Slotted

Depth (ft)	Drilling Method	Samples	% Recovery	Graphic Log	Material Description	PID	Lab Sample	Water	Moisture	Well Installation	Additional Observations	Elevation (m)
0	AU	SS1 (0-2)	100		GRAVELLY SAND: Brown medium to coarse sand and gravel.	1.4			D			45
1												44
2		SS2 (2-4)	50						Dp			43
3						56.1						42
4			30		GRAVELLY SILTY SAND: Brown medium to coarse silty sand and gravel. Damp							41
5												40
6		SS3 (6-8)	20		GRAVELLY SILTY SAND: Brown medium to coarse silty sand and gravel. Damp		24MW04 SS2; PHCs, PAHs, Metals					39
7						20.6						38
8			20									37
9												36
10		SS4 (10-12)	10						W			35
11						1.3						34
12			100									33
13												32
14					SAND BEDROCK INTERFACE (assumed); Very severely fractured to fractured dark grey SLATE: BEDROCK							31
15												30
16												29
17												28
18												27
19												26
20					Termination Depth at 20 ft Cave in, final depth 18 ft							25

Disclaimer This bore log is intended for environmental not geotechnical purposes.

produced by ESlog.ESdat.net on 09 May 2024

Monitoring Well 24MW05

PROJECT NUMBER 240800.00
PROJECT NAME WWTP Upgrade & Expansion
CLIENT Town of Lunenburg
ADDRESS 524 NS-324, Lunenburg, NS
DRILLING DATE 12 April, 2024

DRILLING COMPANY Nova Drilling
DRILLING METHOD Solid Stem Auger
TOTAL DEPTH 20 ft
DIAMETER 3 1/2″

COORDINATES 394930.476 4915260.152
COORD SYS NAD 1983 UTM Z 20N
SURFACE ELEVATION
WELL TOC Flush Mount
LOGGED BY B.C.
CHECKED BY D.F.

COMPLETION

CASING uPVC

SCREEN uPVC Factory Slotted

Depth (ft)	Drilling Method	Samples	% Recovery	Graphic Log	Material Description	PID	Lab Sample	Water	Moisture	Well Installation	Additional Observations	Elevation (m)
0												45
1		SS1 (0-2)	85		GRAVELLY SAND: Brown fine sand and gravel.	0.5			D			44
2												43
3		SS2 (2-4)	50			2.4			Dp			42
4												41
5		SS3 (4-6)	10			9.6						40
6												39
7			15									38
8	AU											37
9			2		GRAVELLY SILTY SAND: Brown medium to coarse silty sand and gravel. Wet							36
10		SS4 (10-12)	60				24MW05 SS4;		W			35
11						0.6	PHCs, PAHs, Metals					34
12		SS5 (12-14)	55									33
13						0.5						32
14					SAND BEDROCK INTERFACE (assumed); Very severely fractured to fractured dark grey SLATE: BEDROCK							31
15												30
16												29
17												28
18												27
19												26
20					Termination Depth at 20 ft							25

Disclaimer This bore log is intended for environmental not geotechnical purposes.

produced by ESlog.ESdat.net on 09 May 2024

Attachment B

Summary of Water Ingress Calculations

Equivalent Well Method

Groundwater Lowering in Construction. Cashman and Preene, 2nd Ed. Applied Geotechnics Vol. 6. CRC Press.

The equivalent well method models the excavation as a ring of individual pumping wells around the perimeter of the excavation. The cumulative pumping rate required to lower the water table to the floor of the excavation is used to estimate the rate of water ingress. The following simplifying assumptions are required:

- The ring of wells is represented as a single well with an equivalent radius, r_e, based on a circular excavation with a perimeter equal to the perimeter of the excavation.
- The aquifer extends horizontally with uniform thickness and hydraulic conductivity in all directions, without encountering recharge or barrier boundaries within the radius of influence.
- The Darcy equation is valid everywhere in the aquifer.
- The aquifer is isotropic and homogenous.
- Water is released from storage instantly when head is reduced.

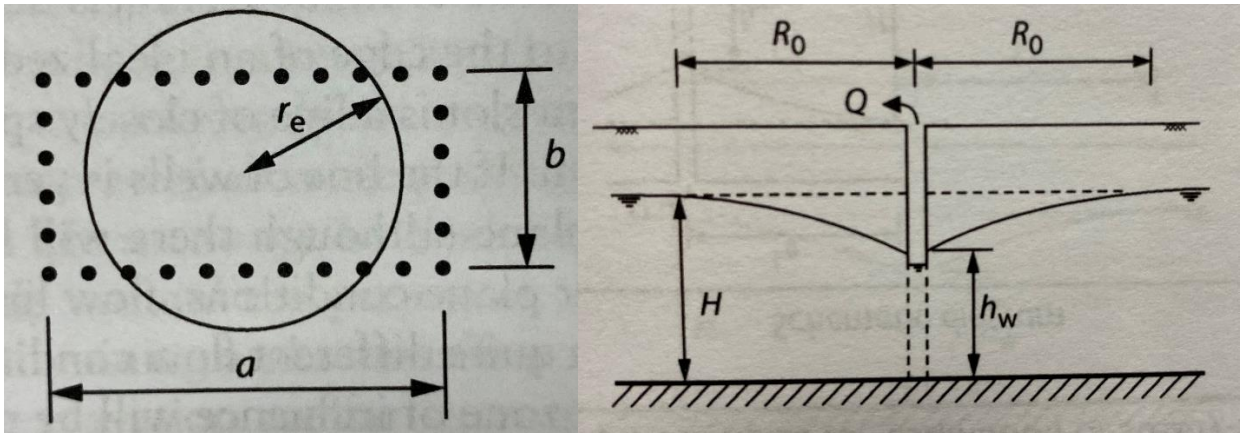


Table B1. Theoretical Rates of Inflow (required dewatering rates), Equivalent Well Method

Day	Pumping Rate (igpm)
1	27
2	43
5	50
30	47
365	38

Notes

The Equivalent Well method models the wall of the excavation as a series of individual wells. Groundwater flow equations for time-dependent pumping drawdown are summed according to the principle of superposition. Method after Groundwater Lowering in Construction, 2nd Ed.

Assumptions: Saturated depth from water table to excavation floor is up to 3.2 m. Excavation takes 10 days, proceding in lifts of 0.43 m per day.

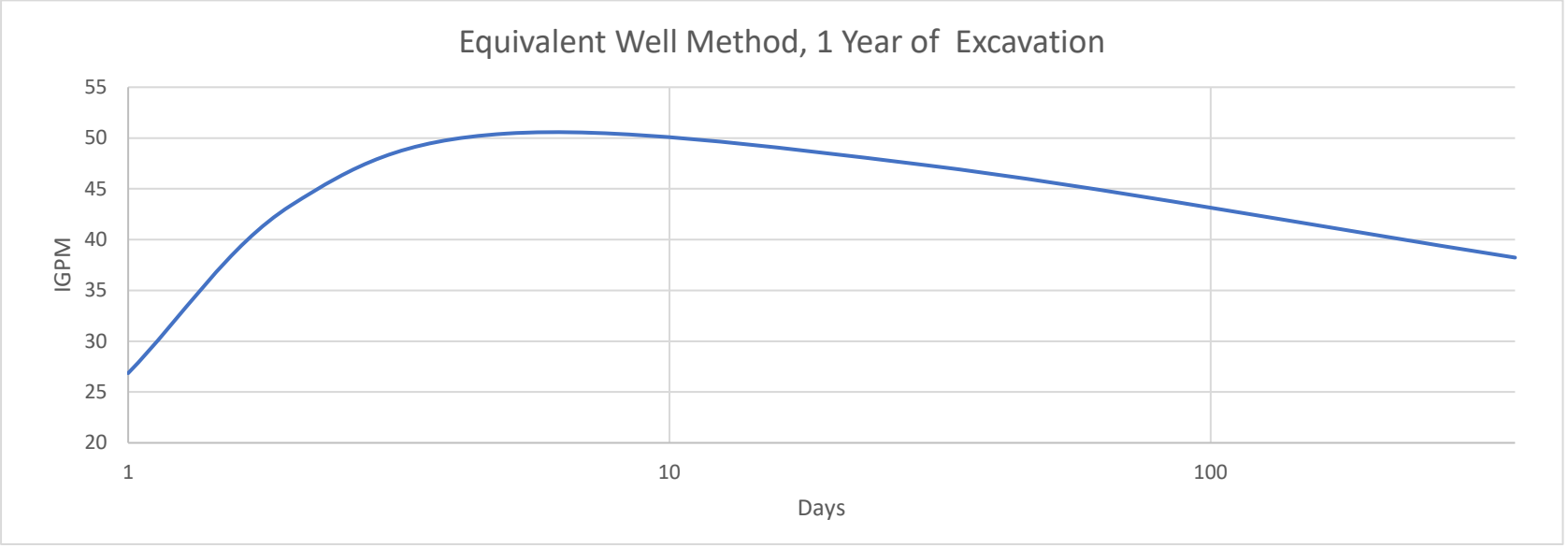


Figure B1. Theoretical Rates of Inflow (dewatering requirements), shown for 365 days.

TO: Town of Lunenburg

FROM: _____

The undersigned Tenderer, having carefully read and examined the undermentioned Contract Documents prepared by CBCL Limited for the completion of the Town of Lunenburg, Wastewater Treatment Plant Upgrades and Expansion, Contract No. 240800.00, which comprise all the tender documents in accordance with the following documents:

- Tender Form – Stipulated Price
- CCDC 2-2020:
  - Agreement Between *Owner* and Contractor
  - Definitions
  - General Conditions of the Stipulated Price Contract - CCDC 2-2020
  - Supplementary General Conditions
- Specifications
- Drawings
- Addendum/Addenda

hereby accepts the same as part and parcel of the Contract herein referred to, and having carefully examined the locality and site of *Work* and having full knowledge of the *Work* required and of the materials to be furnished and used, does hereby Tender and offer to enter into a contract to perform and complete, the whole of the said *Work* and provide all necessary labour, plant, tools, materials and equipment and pay all applicable taxes, as set forth and in strict accordance with the Specifications, Drawings and other Contract Documents and to do all therein called for on the terms and conditions and under the provisions therein set forth as follows.

CONTRACT PRICE	**$_____**	**(A)**
Pre-Selected Equipment Allowance	$ 1,583,373.00	(B)
Electrical Maintenance Allowance	$ 20,000.00	(C)
Key Pipe Data Hydrovac/Survey Allowance	$ 15,000.00	(D)
SUBTOTAL	$_____	(A+B+C+D)
ADD HST (15% OF SUBTOTAL)	$_____	
TOTAL AMOUNT PAYABLE	**$_____**	

Tenderer's HST Registration No. _____

SEPARATE PRICES

Separate Prices requested shall not be included in the Contract Price. Consistent with their acceptance or rejection by the *Owner* they will be carried as a Change Order to the Contract Price, or in a separate agreement after the determination of award.

The Separate Prices required are as the follows:

1. Provide a price to supply and transport to Site between one and two hundred and fifty cubic metres of material from the Contractor's own off-Site sources meeting the definition of Select Backfill as described in Section 31 23 10. Such material will be measured by way of topographical survey taken both before its placement and after it is placed and compacted. No change order will be created for this item until all of the usable on Site material has been exhausted.

$ _____/m^3

COMPLETION TIME

1. Tenderer agrees to achieve Ready-for-Takeover of the *Work* within _____ weeks from written notification of Award.

The Undersigned Tenderer:

.1 Declares that this tender is valid for acceptance until _____, 202___ (being sixty (60) calendar days from the Tender Closing).

.2 Declares that the Contract Price set forth in the Tender Form has been correctly computed for the purposes of this tender and that it includes and covers all duties, and handling charges; transportation; and all other charges. Harmonized sales tax is not to be included in the Contract Price.

.3 Hands you herewith by way of Tender Security a Bid Bond or Certified Cheque or irrevocable Letter of Credit in the amount of ten percent (10%) of the *Total Amount Payable* on the understanding that in the event of this tender not being accepted by you, then this Tender Security will be returned to the undersigned Tenderer either at the time that the Contract is entered into with some other Tenderer, or at the expiration of validity of this tender, whichever is the sooner.

.4 Undertakes in the event of your acceptance of this tender, to execute a formal agreement in the form hereto attached, within seven (7) calendar days of written acceptance and further agrees to provide the Contract Security as specified in Part 14 of Section 00 73 00 – Supplementary General Conditions, and Insurance as specified in GC 11.1.

.5 Undertakes, in the event of your acceptance of the Tender, to achieve *Ready*

for Takeover within the number of weeks of written notification of Award indicated above.

.6 Upon request, provide evidence of ability and experience within seven (7) calendar days of request, including experience in similar *Work*, *Work* currently in progress, senior supervisory staff available for the *Work*, equipment available for the *Work*, and financial resources.

.7 Agrees that in the event of failing or neglecting either to provide the Contract Security and Insurance and/or to execute the Agreement in the manner herein before undertaken, then the Tender Security shall be forfeited.

.8 Agrees that unless and until a formal agreement is prepared and executed, this tender together with your written acceptance thereof shall constitute a binding Contract between us.

.9 Understands and agrees that the *Owner* is not bound to accept the lowest or any tender which they may receive.

.10 Agrees to provide, maintain and pay for the insurance coverages specified in the Contract Documents. One copy of all insurance policies of the Contractor and two copies of certificates of insurance, certifying to the issuance of all insurance policies, shall be furnished to the *Owner*. Each and every insurance policy shall name the Contractor, *Owner* and *Consultant* as being insured in the full amount of the insurance.

.11 Declares to have personal knowledge of the location of the proposed *Work* and is informed as to the actual conditions and requirements, including labour conditions and labour rules and shall not claim at any time after execution of the Agreement that there was any misunderstanding in regard to such conditions and requirements.

.12 Declares to have carefully examined the documents and Addenda No._____to _____ referred to in the first paragraph of this Tender Form, and the Tenderer hereby accepts and agrees to the same as forming a part of the Contract.

.13 Understands that in the event that the tendered Contract Price is not within the project budget, the *Owner* has the right to negotiate the Contract with the low bidder or reject all tenders received.

.14 Agrees that the Warranty Period defined in the Contract Documents shall be for a period of one (1) year from the date of Ready-for-Takeover of the *Work*.

.15 Understands Contract Security, as specified herein, will be retained until the expiration of the Warranty Period.

.16 Understands that Substantial Performance of the *Work* will be established in accordance with General Conditions of the Contract and applicable lien legislation at the Place of *Work*.

.17 Understands that after the issuance of the certificate of Substantial Performance of the Work by the Consultant, provided that the Contractor has relieved the Owner from any and all claims, demands and lien claims for and in respect of the Contract, and has completed all outstanding items and corrected all deficiencies, the Contractor shall submit an application for Final Payment and the Consultant will thereafter prepare the Final Certificate for payment in accordance with the General Conditions of the Contract and applicable lien legislation at the Place of Work.

.18 Understands that *Ready for Takeover* will only be given when the Contractor has completed all outstanding items and corrected all deficiencies. The Contractor can then submit an application for Final Payment and the *Consultant* will thereafter prepare the Final Certificate for payment in accordance with the General Conditions of the Contract.

.19 Understands that the payment of holdback will be in accordance with the General Conditions of the Contract and subject to the provisions of the lien legislation applicable to the Place of *Work*.

.20 Understands the occupational Health and Safety Legislation and any Workers or Workplace compensation legislation applicable to the Place of the *Work* and declares that they are in good standing and have all necessary certification as required by such legislation.

.21 Agrees that time shall be construed as being of the essence of the Contract.

DATED THIS _____ DAY OF_____ , 202_____.

[Seal]

_____
Name of Firm Tendering

_____
Signature of Signing Officer

_____
Witness

_____
Name and Title (Printed)

_____
Witness

_____
Signature of Signing Officer

_____
Name and Title (Printed)

_____
Company Address

_____
Telephone No.

_____
Fax No.

_____
Email

*NOTE: Tenders submitted by or on behalf of any Corporation must be signed and sealed in the name of such Corporation by a duly authorized officer or agent.

END OF SECTION

1 GENERAL

1.01 WORK INCLUDED

.1 This Section specifies requirements for supplying and installing overhead roll-up doors where indicated and as specified herein.

1.02 RELATED WORK

.1 Masonry: Section 04 20 00

.2 Metal Fabrications: Section 05 50 00

.3 Insulation: Section 07 21 00

.4 Electrical General Requirements: Section 26 05 00

1.03 REFERENCES

.1 ASTM A653/A 653M-2023, Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

.2 ASTM A666-2024, Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate and Flat Bar.

.3 ASTM A924-2022, Standard Specification for General Requirements for Steel Sheet, Metallic - Coated by the Hot Dip Process.

.4 ASTM B221-2021, Standard Specification for Aluminum and Aluminum Alloy Extruded Bars, Rods, Wires, Profiles and Tubes.

.5 ASTM E330-14(R2021), Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference.

1.04 DESIGN CRITERIA

.1 Design exterior door assembly to withstand windload of 1 kPa with a maximum horizontal deflection of 1/240 of opening width.

.2 Design door panel (slat) assemblies with an R-value of 7.7.

1.05 SHOP DRAWINGS

.1 Submit shop drawings in accordance with Section 01 33 00.

.2 Indicate materials, operating mechanisms, required clearances and electrical connections.

1.06 MAINTENANCE DATA

.1 Provide operation and maintenance data for overhead door hardware for incorporation into manual specified in Section 01 78 00.

2 PRODUCTS

2.01 EXTERIOR DOOR

.1 Materials:
- .1 Galvanized steel sheet: commercial quality to ASTM A 653/A 653M, with Coating Designation Z275.
- .2 Doors: face sheets 22 gauge base thickness for exterior face and 24 gauge for interior face.

.2 Coiling door curtain interlocking slat sections:
- .1 Roll formed steel, 22 gauge base metal thickness for exterior and 24 gauge for interior, galvanized steel and receive a rust-inhibitive roll-coating process that includes a baked-on prime paint and baked-on polyester top coat paint. Colour as selected by the Consultant.
- .2 Insulated, 19mm thick, polyurethane foam.
- .3 Profile: flat, type F-265I.

.3 Rivet wind locks to slat ends to meet windload requirements.

.4 Rivet alternate end locks to slate ends.

.5 Provide bottom bar of double equal weight steel angles equipped with tubular neoprene or flexible vinyl weatherstrip.

.6 Form guides of structural steel angles for face of wall installation. Equip guides with windlock bars, and flexible vinyl weatherstrip on both faces (double brush type).

.7 Construct counterbalance assembly of heat treated torsion spring designed for 20,000 cycles. Enclose spring in steel pipe to support door curtain and counterbalance mechanism with maximum deflection of 9mm of opening width. Provide spring tension adjusting wheel, accessible for setting.

.8 Support counterbalance assembly on 5mm minimum thickness steel plate brackets, forming end enclosures.

.9 Enclose counterbalance assembly with galvanized steel sheet formed hood, prime painted, supplied with an internal hood baffle weather seal and with optional lintel weather seals and equipped with weatherstripping. Provide intermediate support brackets as required.

.10 Equip door for locking with slide bolt locks on bottom bar and chain keepers suitable for padlocks. Interlock switches are required for electrical motor operated doors.

.11 Finish non-galvanized, exposed ferrous surfaces with rust inhibitive primer.

.12 Acceptable products: "Stormtite Insulated 625 UFN" as manufactured by Overhead Door Company with insulated slats and jambs; or approved equivalent.

2.02 OPERATION

.1 Electrical jack shaft side mounted type operator.
  .1 Acceptable product: Liftmaster GH 208V, 1-phase, 3/4 hp, side-mounted, manufactured by Chamberlain Products.
  .2 Hand chain hoist with galvanized steel chain for emergency back-up operation.

2.03 ELECTRICAL OPERATOR

.1 Electrical motors, controller units, remote pushbutton stations, relays and other electrical components: to CSA approval with CSA enclosure type NEMA 1.

.2 Power supply: 208V, 1-phase, 60 Hz, 3/4 HP.

.3 Controller units with integral motor reversing starter, solenoid operated brake, 1 heater elements for overload protection, including 3 pushbuttons and control relays as applicable.

.4 Operation: remote pushbutton station: surface mounted, in 1 location, with "OPEN-STOP-CLOSE" designations on pushbuttons in English.

.5 Sensing edge: photoelectric sensors to produce a non-visible beam across the door opening, which will activate a switch that stops and reverses door to open position when coming in contact with object on closing cycle.

.6 For jack shaft operators:
  .1 Provide floor level disconnect device to allow for manual operation in event of power failure.
  .2 Equip Operator with:
    .1 Electrical interlock switch to disconnect power to operator when in manual operation.
    .2 Built-in chain hoist for manual operation in event of power failure.

.7 Door speed: as per manufacturer recommendations.

.8 Control transformer: for 24 V AC control voltage.

.9 Mounting brackets: galvanized steel, size and gauge to suite conditions.

.10 Coordinate with overhead door supplier to confirm operator is adequately sized to provide smooth operation over the full range of motion.

.11 Electric operator, controls and wiring to be suitable for installation

in a Zone 2 hazardous area. Refer to Division 26 and electrical drawings for requirements.

3 EXECUTION

3.01 INSTALLATION

.1 Install rolling service doors in accordance with manufacturer's printed instructions.

.2 Provide and install all pressure-treated wood shims and blocking required to mount overhead rolling door guides and drum above the steel lintels. Use epoxy masonry anchors into concrete block bond beam as required.

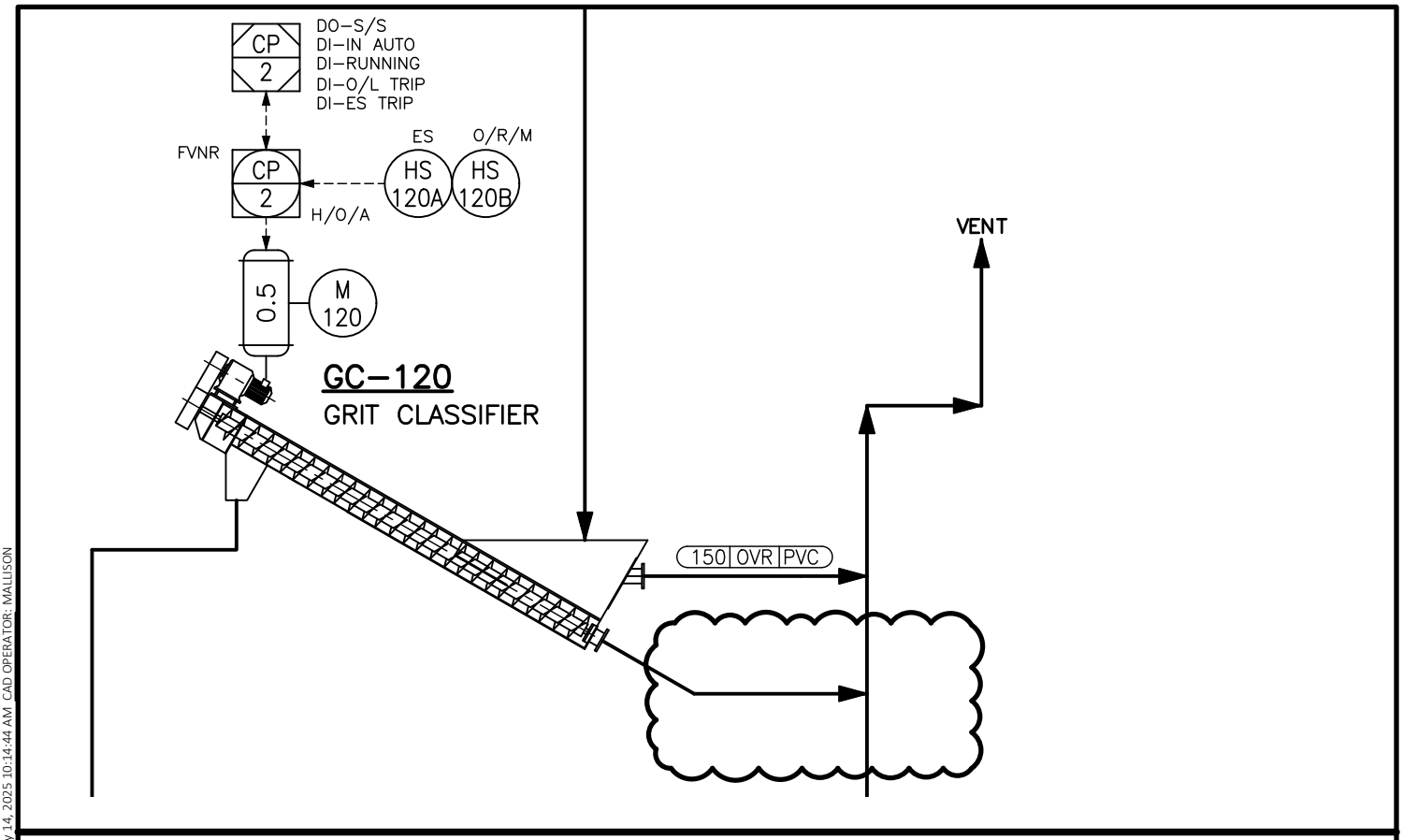
.3 Adjust operable parts for correct function and smooth operation.

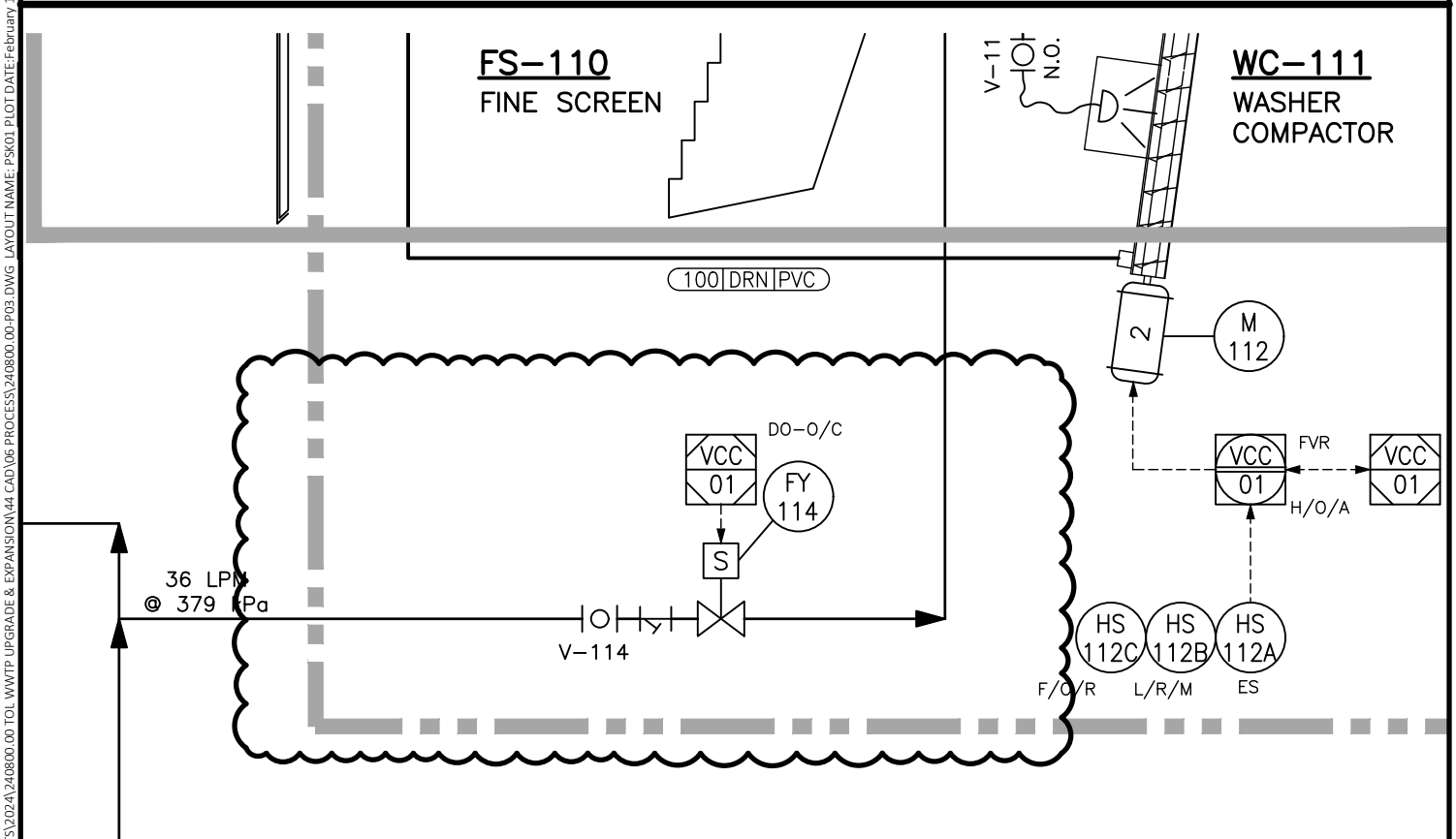
.4 Adjust weatherstripping to form weathertight seal.

.5 Install electrical motors, controller units, pushbutton stations, relays and other electrical equipment required for door operation. Use Class 1, Division 2 installation procedures.

.6 Installation includes electric wiring from power supply disconnect switch located near door opening.

END OF SECTION





Date	Scale	Designed	Drawn	Checked	Approved	CBCL No.	Contract
FEB. 13, 2025	N.T.S.	SHE	RH	DAT	SHE	240800.00	-

CBCL

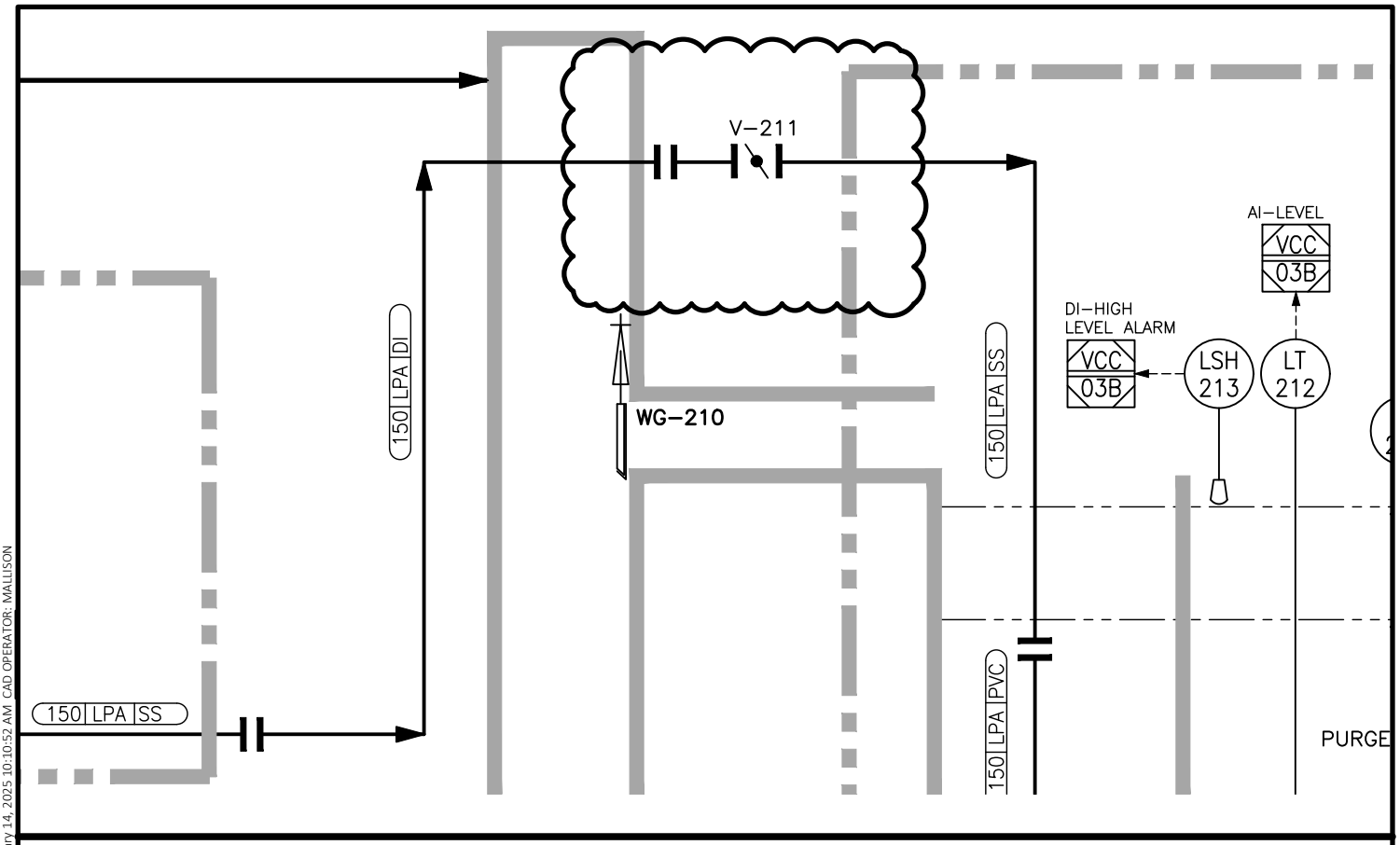
WASTEWATER TREATMENT PLANT
UPGRADES & EXPANSION

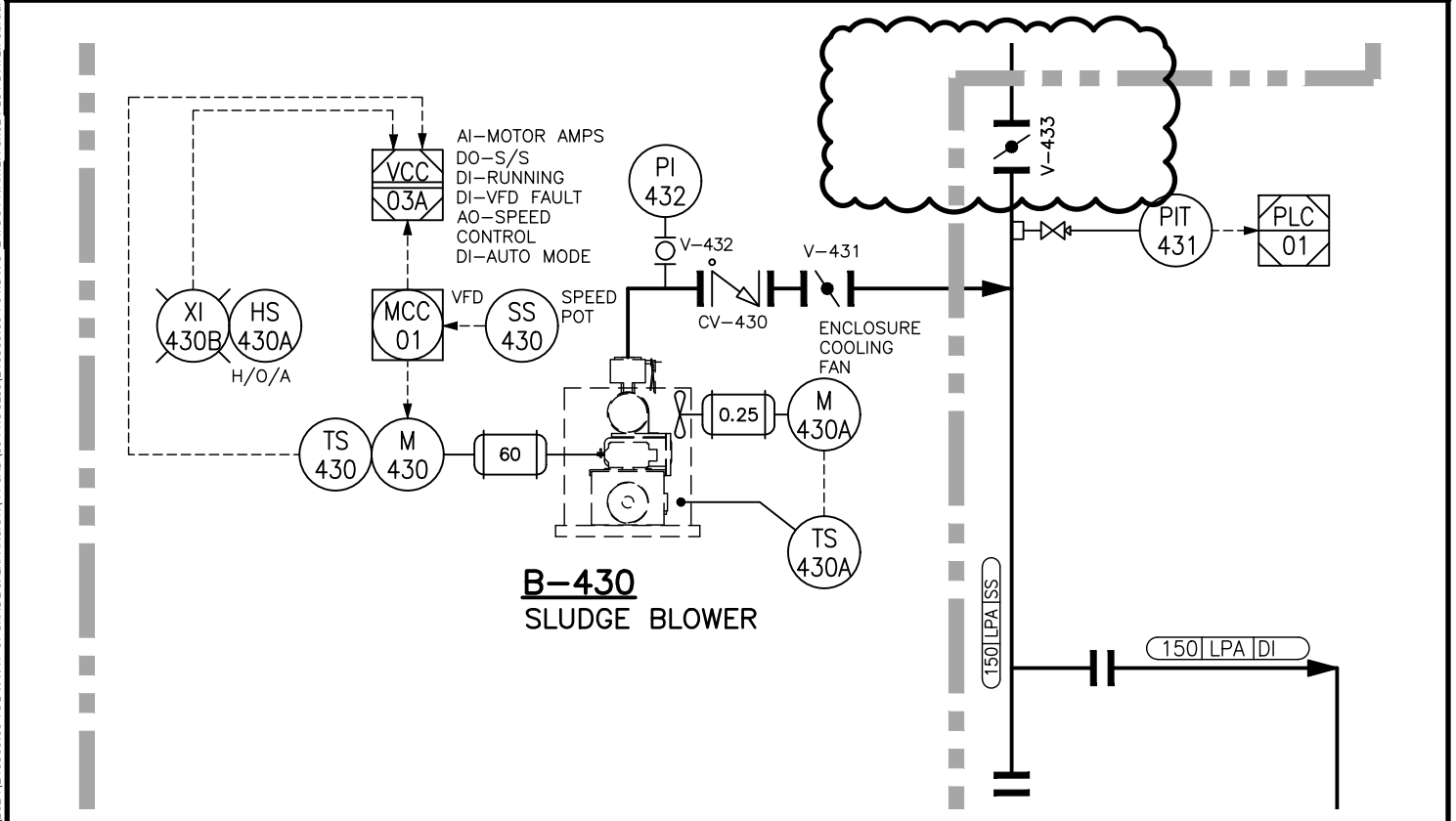
PARTIAL P&ID - REFERENCE DRAWING P03

Drawing

PSK01

DRAWING NAME: Y:\HALIFAX\DATA\PROJECTS\2024\240800.00 TOL WWTP UPGRADE & EXPANSION\44 CAD\06 PROCESS\240800.00-P03.DWG LAYOUT NAME: PSK01 PLOT DATE: February 14, 2025 10:14:44 AM CAD OPERATOR: MALLISON





Date	Scale	Designed	Drawn	Checked	Approved	CBCL No.	Contract
FEB 13, 2025	N.T.S.	SHE	RH	DAT	SHE	240800.00	-

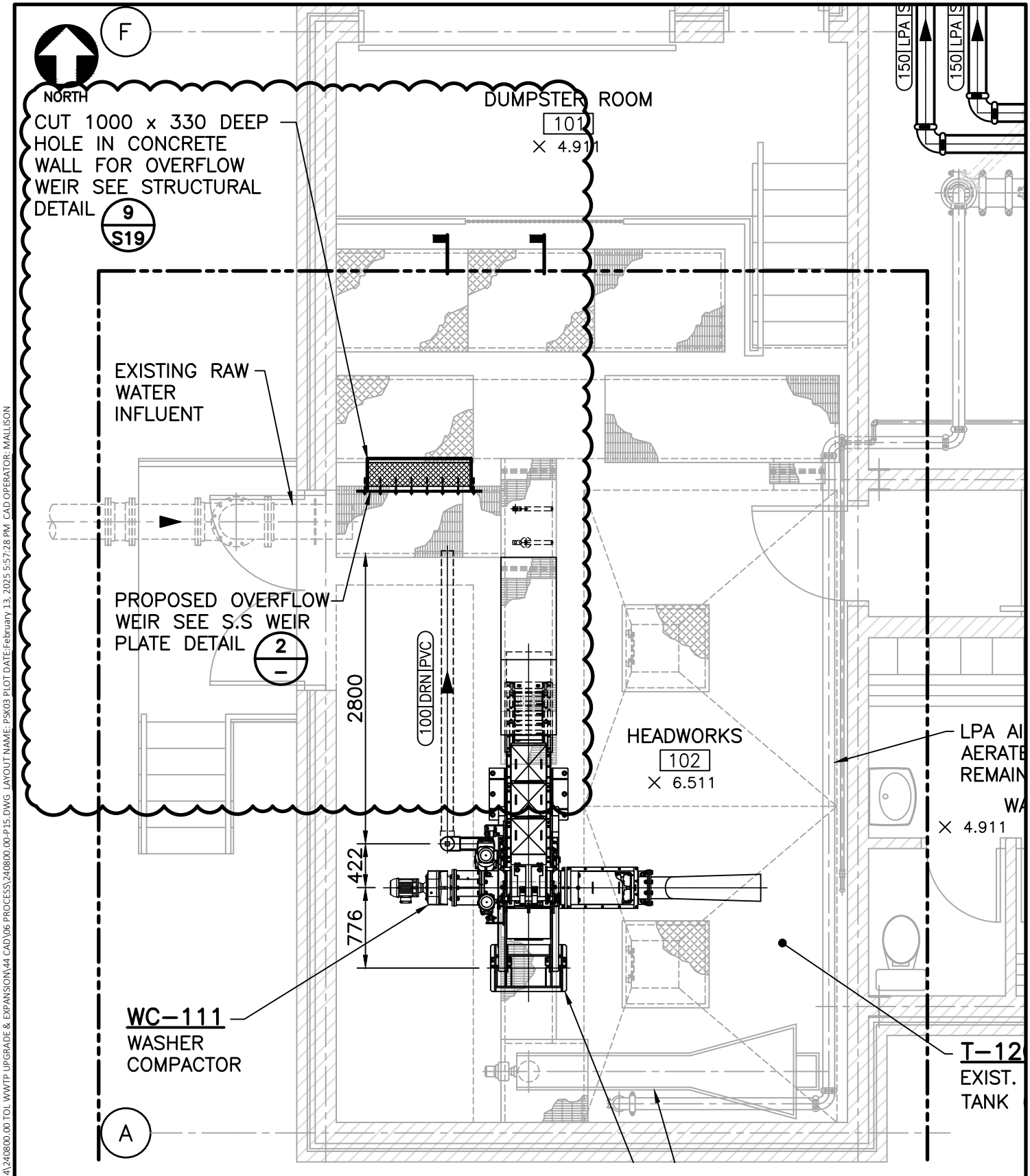
CBCL

WASTEWATER TREATMENT PLANT
UPGRADES & EXPANSION

PARTIAL P&ID - REFERENCE DRAWING P04

Drawing

PSK02



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CBCL

WASTEWATER TREATMENT PLANT
UPGRADES & EXPANSION

PARTIAL PLAN - REFERENCE DRAWING P15

Drawing

PSK03

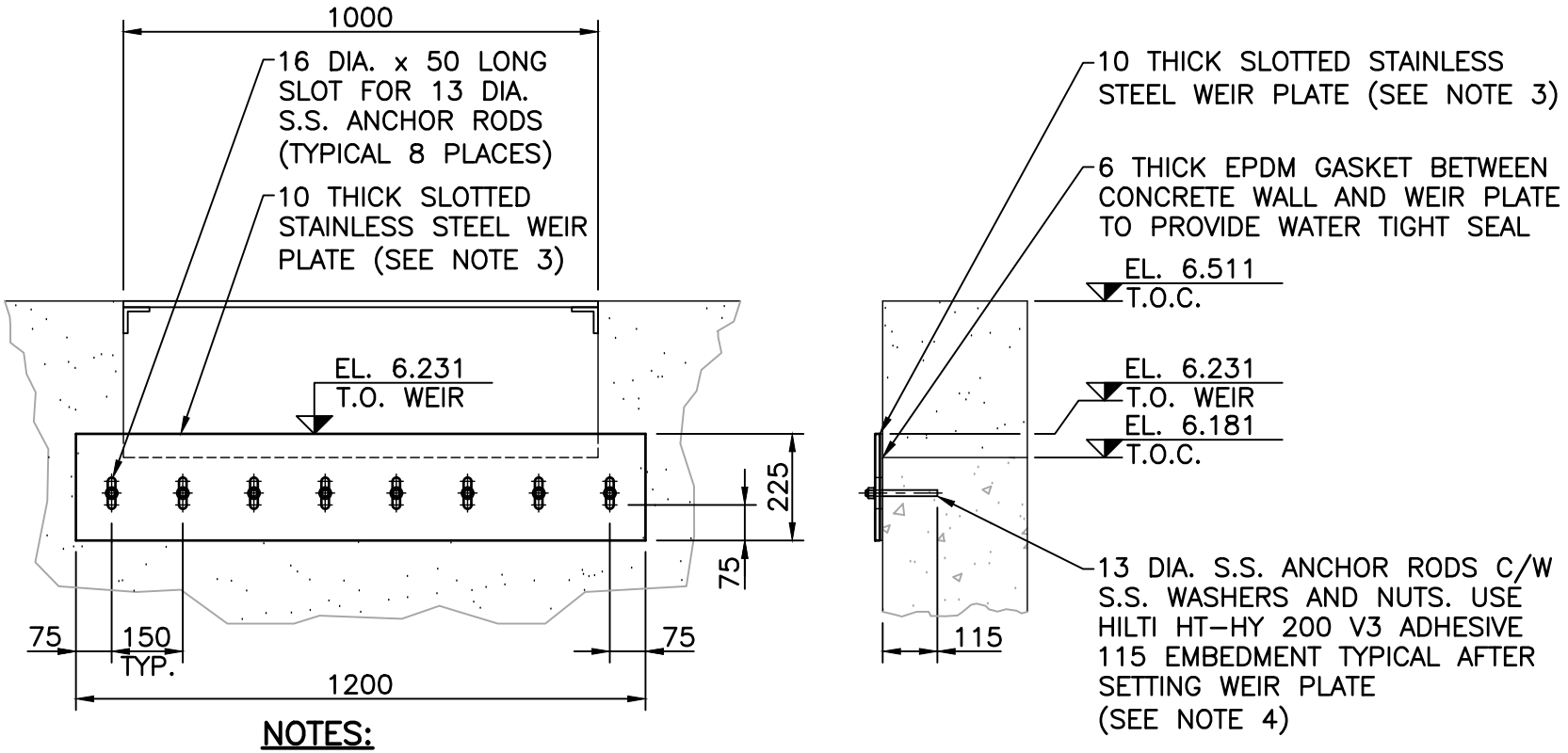
CBCL

Date FEB. 13, 2025
Scale 1:15
Designed SHE
Drawn MAA
Checked DAT
Approved SHE
CBCL No. 240800.00
Contract -

WASTEWATER TREATMENT PLANT
UPGRADES & EXPANSION

S.S. WEIR PLATE DETAIL - REFERENCE DRAWING P15

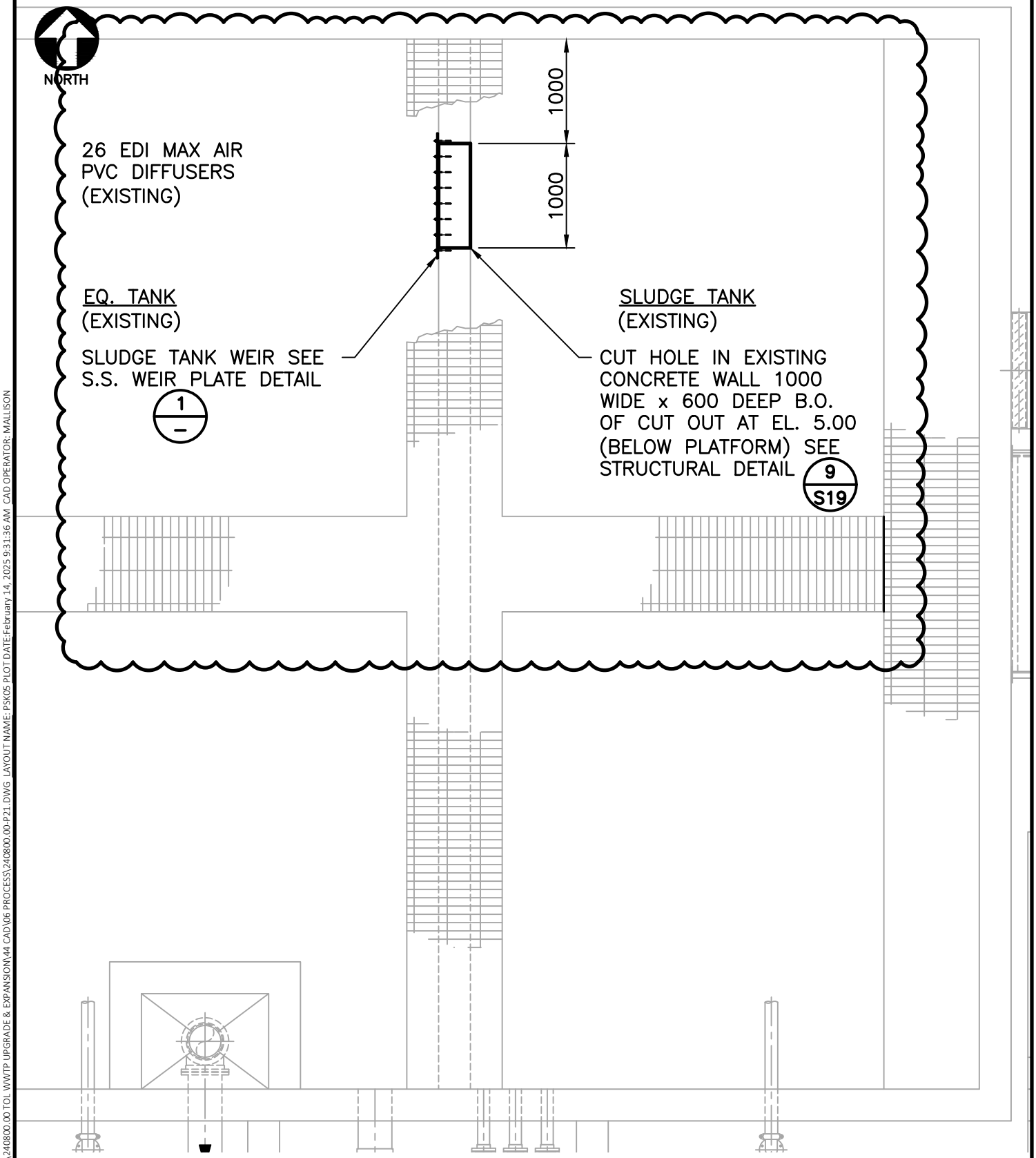
Drawing
PSK04



NOTES:

1. CONTRACTOR TO VERIFY FINISHED TANK DIMENSIONS PRIOR TO FABRICATION.
2. FABRICATE WEIR PLATE FROM 10 THICK STAINLESS PLATE.
3. INSTALL WEIR PLATE DEAD LEVEL AND AT PRECISE ELEVATION SHOWN.
4. APPLY ANTI-SEIZE COMPOUND TO ALL FASTENERS.

2 / – DETAIL – S.S. WEIR PLATE
1:15 EMERGENCY BYPASS WEIR



Date	Scale	Designed	Drawn	Checked	Approved	CBCL No.	Contract
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CBCL

WASTEWATER TREATMENT PLANT
UPGRADES & EXPANSION

PARTIAL PLAN - REFERENCE DRAWING P21

Drawing

PSK05

CBCL

S.S. WEIR PLATE DETAIL - REFERENCE DRAWING P21

WASTEWATER TREATMENT PLANT
UPGRADES & EXPANSION

Date	Scale	Designed	Drawn	Checked	Approved	CBCL No.	Contract
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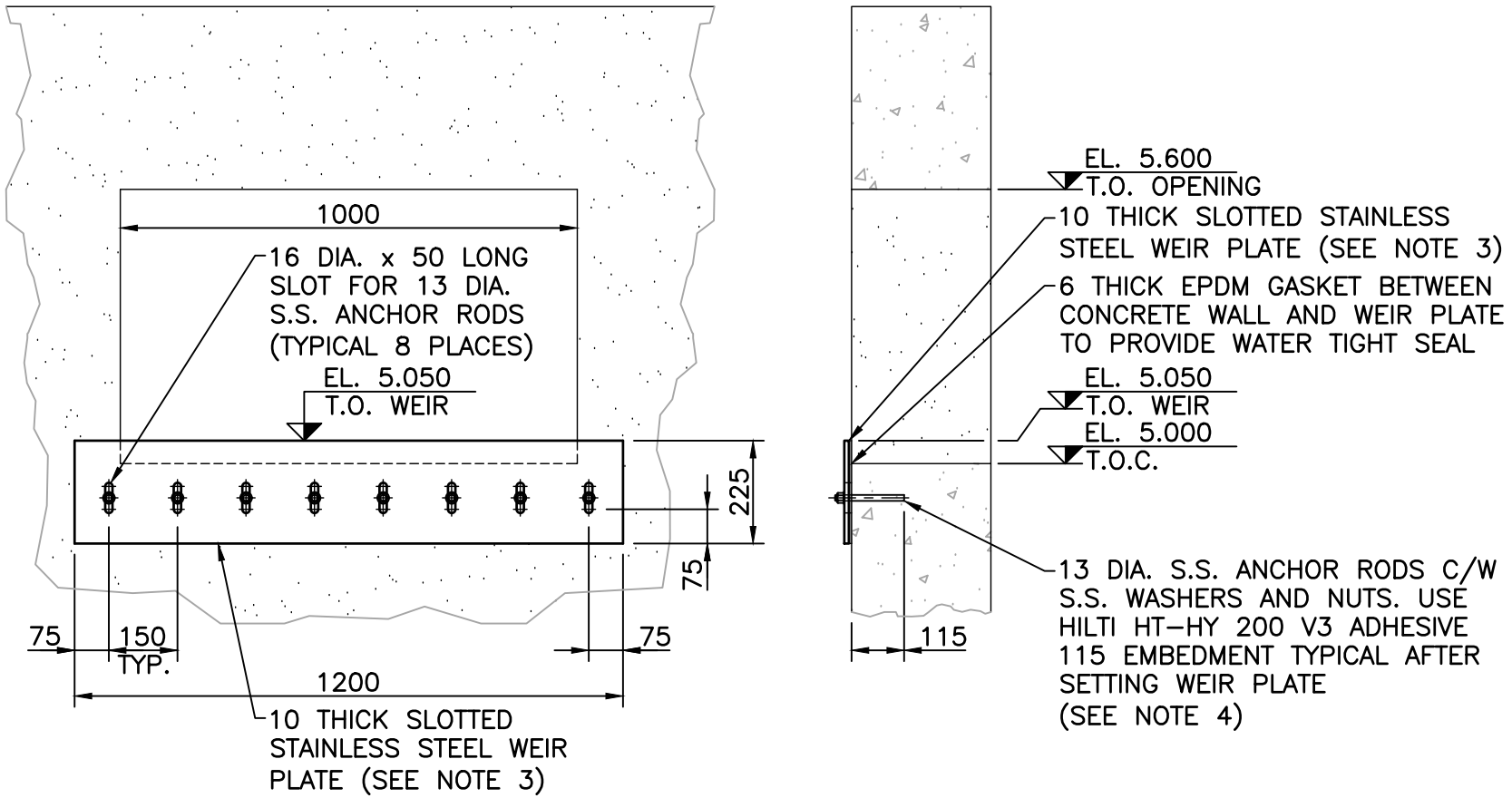
Drawing **PSK06**



NOTES:

1. CONTRACTOR TO VERIFY FINISHED TANK DIMENSIONS PRIOR TO FABRICATION.
2. FABRICATE WEIR PLATE FROM 10 THICK STAINLESS PLATE.
3. INSTALL WEIR PLATE DEAD LEVEL AND AT PRECISE ELEVATION SHOWN.
4. APPLY ANTI-SEIZE COMPOUND TO ALL FASTENERS.

1 / – DETAIL– S.S. WEIR PLATE
1:15 SLUDGE TANK WEIR