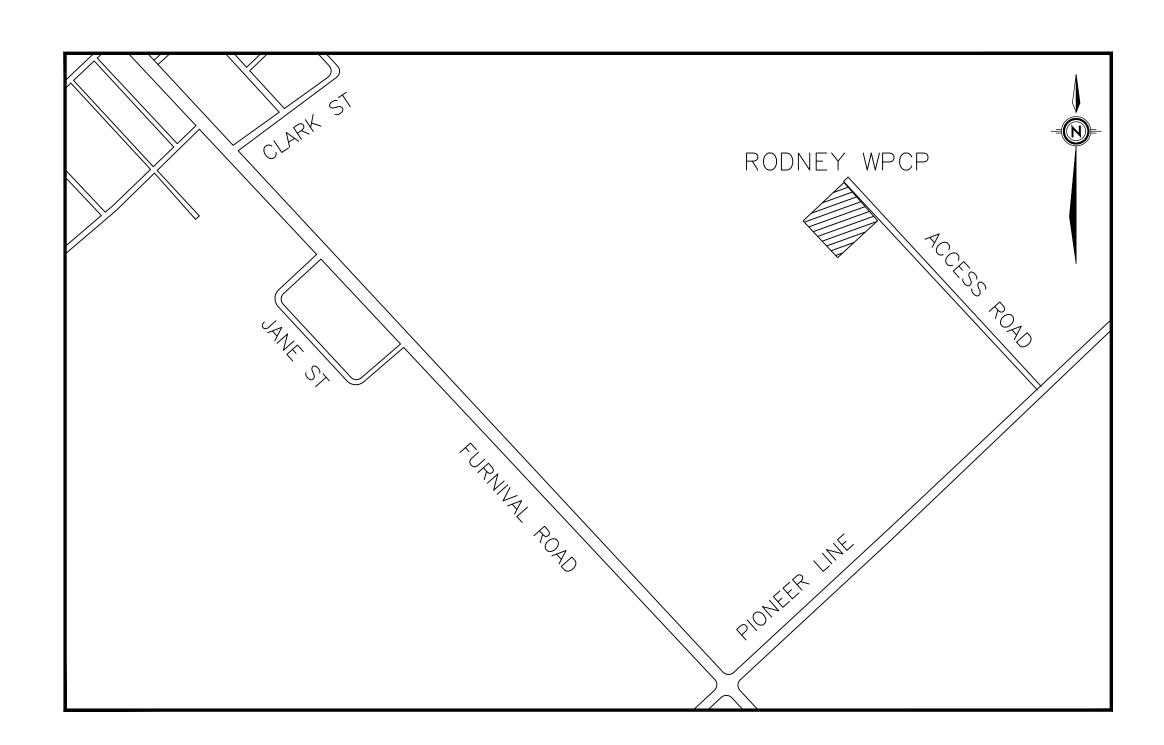


MUNICIPALITY OF WEST ELGIN RODNEY WATER POLLUTION CONTROL PLANT UPGRADES

CONTRACT NO. WE-2024-01

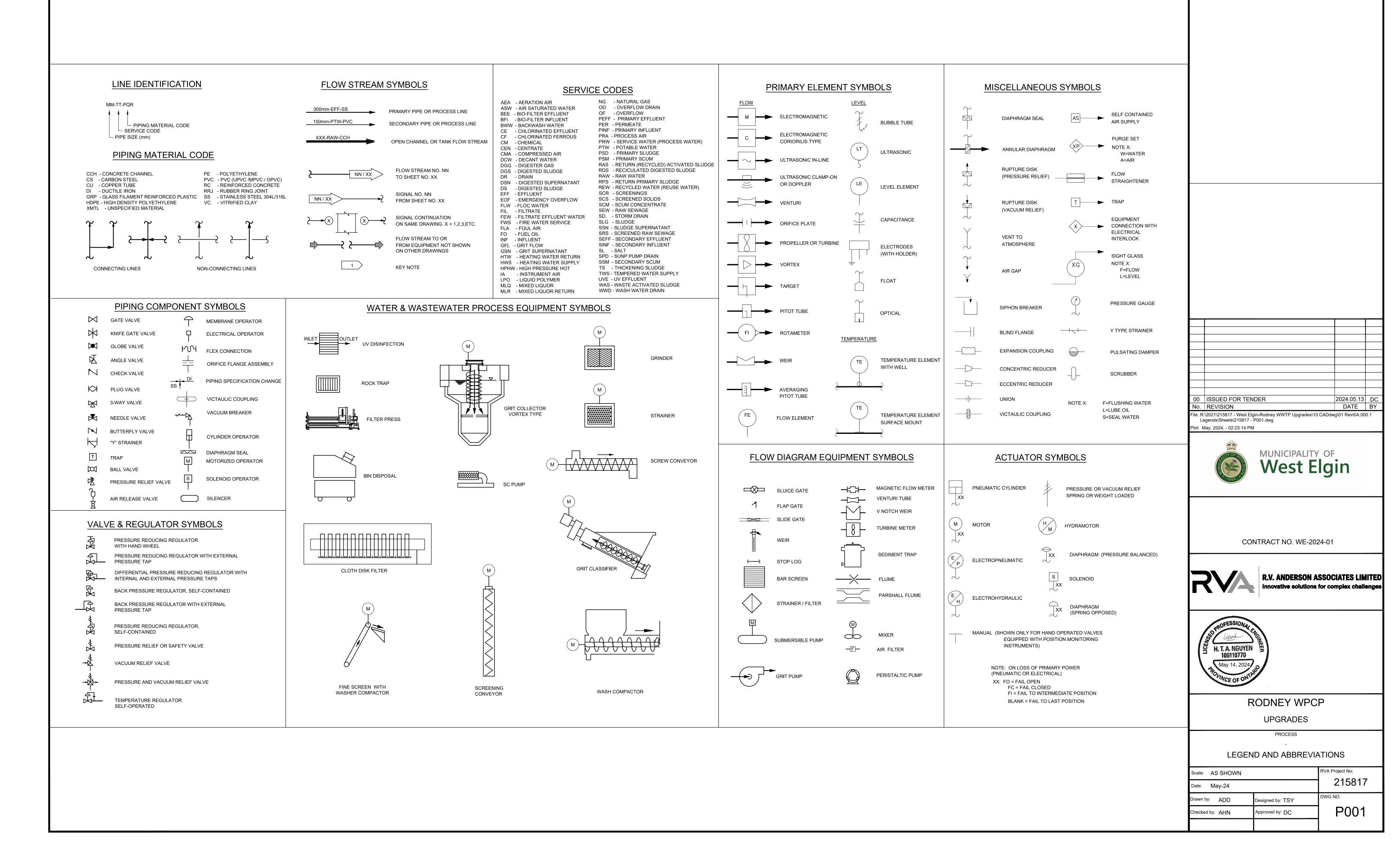
CS &	COVER SHEET AND DRAWING LIST
P001	PROCESS - LEGEND AND ABBREVIATIONS
M001	MECHANICAL - LEGEND AND ABBREVATIONS
E001	ELECTRICAL - LEGEND AND ABBREVIATIONS
1001	I & C - LEGEND AND ABBREVIATIONS (1)
1002	I & C - LEGEND AND ABBREVIATIONS (2)
G101	SITE PLAN
R101	P&ID - REMOVALS
R102	SITE PLAN - REMOVALS
R103	HEADWORKS - REMOVALS
R104	AERATION TANK - REMOVALS
R105	CONTROL BUILDING B - REMOVALS
R106	CLARIFIER - REMOVALS
R107	DECANT PUMP SYSTEM
S001	GENERAL NOTES
S101	HEADWORKS - DEMOLITION PLAN
S102	HEADWORKS - NEW PLATFORM AND STAIR PLAN
S103	HEADWORKS - SECTIONS
S104	HEADWORKS - PLATFORM PLAN AND ELEVATIONS
S105	HEADWORKS - SECTIONS
A201	OBC, LEGENDS AND ABBREVIATIONS
A202	PLANS, DETAILS AND SCHEDULES
S201	CONTROL BUILDING B - FLOOR PLAN
S202	CONTROL BUILDING B - ROOF PLAN
S203	CONTROL BUILDING B - PLANS AND SECTIONS
S301	CLARIFIER - PLAN AND SECTIONS
S1001	TYPICAL DETAILS (1)
51002	TYPICAL DETAILS (2)
S1003	TYPICAL DETAILS (3)
S1004	TYPICAL DETAILS (4)





P100	PROCESS FLOW DIAGRAM
P101	HEADWORKS - PLAN AND SECTION
P102	AERATION TANKS - PLAN AND SECTION
P103	CONTROL BUILDING B - PLAN AND SECTION
P104	CLARIFIER -PLAN AND SECTIONS
P105	P105
M100	CONTROL BUILDING B - PLAN REMOVALS
M101	CONTROL BUILDING B - HVAC AND PLUMBING PLAN
M102	CONTROL BUILDING B - SECTIONS
M103	DETAILS
M104	HEADWORKS - PLAN AND SECTION
M105	SCHEDULE
E101	ELECTRICAL SITE PLAN
E102	DETAILS
E103	REMOVALS AND RELOCATIONS
E104	SINGLE LINE DIAGRAM
E105	POWER LAYOUT
E106	LIGHTING PLAN
E107	CLARIFIER POWER PLAN AND SCHEMATICS
E108	SCREEN ROOM AND AERATION BASIN POWER PLAN
E109	ELECTRICAL DETAILS
E110	BLOWER SCHEMATIC
I101	AERATION AND CLARIFIER - P&ID
l102	FILTERATION AND UV DISINFECTION - P&ID
I103	ALUM DOSING SYSTEM - P&ID
I104	AERATION BLOWER SYSTEM - P&ID
I105	ROD2 CONTROL PANEL MODIFICATIONS
I106	NETWORK ARCHITECTURE

ISSUED FOR TENDER MAY 13, 2024



STANDARD MECHANICAL LEGEND									
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION		
——F0S——	FUEL OIL SUPPLY	—Ф—	LOCK SHIELD VALVE	DIFFUSER GRILLE OR REGISTER TYPE	A 30x15mm SIZE 350L/S AIR QUANTITY	INV	INVERT LEVEL		
FOR	FUEL OIL RETURN		CONTROL VALVE	SL-#	SILENCER WITH NUMBER	MFRs	MANUFACTURERS		
—— RS ——	REFRIGERATION SUCTION		3-WAY CONTROL VALVE	OR FC	FLEXIBLE CONNECTION	M	MOTORIZED DAMPER		
—— RL ——	REFRIGERATION LIQUID		SOLENOID VALVE	□ EUH−#	HOR.(ELECTRIC) UNIT HEATER WITH NUMBER	MD	MOTORIZED DAMPER		
SAN	SANITARY ABOVE GRADE OR FLOOR		THERMOSTATIC MIXING VALVE	☐ UH-#	HOR.(HOT WATER/GLYCOL) UNIT HEATER WITH NUMBER	NG	NATURAL GAS		
SAN	SANITARY BELOW GRADE OR FLOOR		`Y' STRAINER	I →→ EBH	CONVECTION HEATER	NC	NORMALLY CLOSED		
	POTABLE/DOMESTIC COLD WATER(DCW)	——BFP——	BACKFLOW PREVENTER ASSEMBLY	→ F-#	CENTRIFUGAL FAN WITH NUMBER	NO	NORMALLY OPEN		
	POTABLE/DOMESTIC HOT WATER(DHW)	——	PIPE RISING	P-#	PUMP WITH NUMBER	OA	OUTSIDE AIR		
TMP	TEMPERED WATER		PIPE DROPPING	E D	WALL FIN RADIATION	OAT	OUTSIDE AIR THERMOSTAT		
V	PLUMBING VENT	——————————————————————————————————————	TOP RUNOUT CONNECT'N	WALL FIN TYPE \	A 900 LENGTH CAPACITY	RA	RETURN AIR		
D	DRAIN LINE	$\overline{\gamma}$	BOTTOM RUNOUT CONNECT'N		45° RADIUS ELBOW	SA	SUPPLY AIR		
RWL ====	RAIN WATER LEADER	——	DIRECTION OF FLOW		90° RADIUS ELBOW	RWL	RAIN WATER LEADER		
RWL	RAIN WATER LEADER BELOW GRADE OR FLOOR	UP OR DOWN	DIRECTION OF SLOPE	7777	SQUARE ELBOW WITH AIRFOIL TURNING VANES	SP/ESP	STATIC PRESSURE/ EXTERNAL STATIC PRESSURE		
——Ю со	CLEANOUT THROUGH FLOOR	×	PIPE ANCHOR	EHC	DUCT MOUNTED ELECTRIC HEATING COIL	——STM——	STORM		
——II co	CLEANOUT IN CEILING	———	PIPE FLANGE	HWC	DUCT MOUNTED/HOT WATER GLYCOL HEATING COIL	TP	TRAP SEAL PRIMER		
	NON-FREEZE HOSE BIBB)(PIPE GUIDE	SCR	SILICON CONTR'D RECTIFIER	TWMS	TEMPERED WATER MIXING STATION		
—— НВ	HOSE BIBB	<u></u> — ⊢ ⊢—	PIPE UNION	ВРВ	BY-PASS (VAV) BOX	F	FARM-O-STAT		
	RUNNING TRAP	——	CAPPED PIPE	AC	AIR CONDITIONING UNIT	FE	FIRE EXTINGUISHER		
⊕ FD	FLOOR DRAIN	FS	AIR FLOW SWITCH	CU	OUTDOOR CONDENSING UNIT	PS	PRESSURE SWITCH		
⊕ RD	ROOF DRAIN	DP	DIFFERENTIAL PRESSURE SWITCH	AFF	ABOVE FINISHED FLOOR	Tc OR (Tc)	PROGRAMMABLE TEMPERATURE CONTROLLER		
○ EW	EYE WASH	PG 	PRESSURE GAUGE	AHU	AIR HANDLING UNIT	+	25 Pa. MORE THAN ATMOSPHERE		
	HOT WATER TANK	TH	THERMOMETER	BPB	BYPASS BOX	<u> </u>	25 Pa. LESS THAN ATMOSPHERE		
JS	JANITOR SINK	T	THERMOSTAT	Cl	CAST IRON	+ +	50 Pa. MORE THAN ATMOSPHERE		
O WF	WASH FOUNTAIN	Н	HUMIDISTAT	CV	CONTROL VALVE	99	50 Pa. LESS THAN ATMOSPHERE		
⊙ WB	WASHBASIN/LAVATORY	♥ AV	AUTOMATIC AIR VENT	CW	COLD WATER	GM	GAS METER		
₩ UR	URINAL	\beta	VACUUM BREAKER	C/W	COMPLETE WITH	(WM)	WATER METER		
<u>Q</u> wc	WATER CLOSET FLUSH TANK	<u> </u>	DUCT MOUNTED THERMOSTAT	C.T.E.	CONNECT TO EXISTING		PIPE/DUCT WITH INSULATION		
© wc	WATER CLOSET FLUSH VALVE	ES	END SWITCH	DG	DIGESTER GAS		DUCT WITH ACOUSTIC LINING		
	CONCENTRIC REDUCER	FS FS	FIRE STAT	DN	DOWN	(DS)	DUCT THERMOSTAT		
	ECCENTRIC REDUCER	FZ FZ	FREEZE STAT	DPT	DIFFERENTIAL PRESSURE TRANSMITTER	G	GAS SENSOR		
	GATE VALVE	sc	STEP CONTROLLER	EA	EXHAUST AIR	V/D	DIRECTION OF FLOW		
	PRV		RETURN/EXHAUST AIR DUCT	EBH	CONVECTION HEATER	VD	VOLUME DAMPER		
<u>—</u> 5—	BALL VALVE		SUPPLY/FRESH AIR DUCT	EF	EXHAUST FAN	SD	SMOKE DETECTOR		
<u> </u>	BUTTERFLY VALVE	- F/D	FIRE DAMPER	ELEV / EL	ELEVATION	H	HEAT DETECTOR		
	ANGLE VALVE	MD	MOTORIZED CONTROL DAMPER	ET	EXPANSION TANK	FFD	FUNNEL FLOOR DRAIN		
<u> </u>	CHECK VALVE	₽BD	BALANCING DAMPER	FC	FLEXIBLE UNIT CONNECTION	FFL	FINISHED FLOOR LEVEL		
C.B.V.	CIRCUIT BALANCING VALVE	− <u>‡</u> BDD	BACKDRAFT DAMPER	₩.	HEAT TRACING	HW	HOT WATER		
——\ <u>\</u>	PLUG VALVE	(OR) — <-\-	RETURN AIR GRILLE OR REGISTER	NPW	NON-POTABLE WATER	HRV	HEAT RECOVERY UNIT		
HR	HOSE REEL	\bigcirc (OR) \longrightarrow	SUPPLY AIR GRILLE						

<u> </u>			
3	ISSUED FOR TENDER	2024.05.13	DC
2	ISSUED FOR 100% CLIENT REVIEW 2023	2023.08.30	DC
1	ISSUED FOR DESIGN REVIEW	2023.06.30	DC
No.	REVISION	DATE	BY

File: R:\2021\215817 - West Elgin-Rodney WWTP Upgrades\10 CADdwg\01 Revit\A.100 Building 01\Sheets\M001 Legends.dwg

Plot: May. 2024, - 10:11:28 AM



CONTRACT NO. WE-2024-01



R.V. ANDERSON ASSOCIATES LIMITE



RODNEY WPCP

UPGRADES

MECHAN

LEGEND & ABBREVIATIONS

Scale: AS SHOWN		RVA Project No:
Date: May-24		215817
Drawn by: BAQ	Designed by: PHP	DWG NO.
Checked by: BJM	Approved by: DC	M001

					1	1	I	I	1			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	A AMPERE	MCB MINIATURE CIRCUIT BREAKER	
50 E	FUSE, 50A, E-RATING	•		-(CR)	RELAY/STARTER/ CONTACTOR COIL (WITH TAG CR-101)	POWER, L	IGHTING, COMMUNICATION AN	ID SECURITY	<u>′</u>	A/C AIR CONDITIONING AFFL ABOVE FINISHED FLOOR LE	MCC MOTOR CONTROL CENTRE /EL MH MANHOLE	
_o	FUSED SWITCH, 100A RATING	\	COMBINATION MAGNETIC STARTER, REDUCED	MD	FRACTIONAL HP MOTOR OR	LP-1	LINEAR LIGHTING FIXTURE, TYPE-A,		CAMERA SHOT	AF AMPERE FRAME	mA MILLIAMPERE	
	1 USED SWITCH, TOOK NATING		VOLTAGE, DRAWOUT, AUTOTRANSFORMER	1	MOTORIZED OPERATOR INSTRUMENT DEVICES	b A	LTG. PANEL-LP, CCT # 1 b - CONTROL SWITCH 'b'			AHF ACTIVE HARMONIC FILTER AHU AIR HANDLING UNIT	mm MILLIMETER mm ² MILLIMETER SQUARED	
	DISCONNECT SWITCH, 100A RATING	T 5°	TYPE EEMAC SIZE 5		XX REFER TO INSTRUMENTATION DRAWINGS FOR DESCRIPTION	B	LIGHTING FIXTURE, TYPE-B	\$ 08	WALL SWITCH WITH OCCUPANCY SENSOR	AT AMPERE TRIP	MOCP MAXIMUM OVERCURRENT PROTECTION	
100A	LOAD INTERRUPTER SWITCH, 100A	380			NORMALLY OPEN CONTACT		LIGHTING FIXTURE, WALL MOUNTED,	(os)	OCCUPANCY SENSOR, CEILING	ATS AUTOMATIC TRANSFER SWI		
	RATING	8		,,	NORWALLY OF EN CONTACT		E.G TYPE C		MOUNTED OCCUPANCY SENSOR, WALL	AWG AMERICAN WIRE GAUGE C CORE/CONDUIT	MTS MANUAL TRANSFER SWITCH MV MEDIUM VOLTAGE	
—° \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	DOUBLE BREAK INTERRUPTER SWITCH, 100A RATING	•		→	NORMALLY CLOSED CONTACT	X	FLOOD LIGHT		MOUNTED OR WALL SWITCH WITH PIR	CP CONTROL PANEL	N.C. NORMALLY CLOSED	
	AIR OR MOLDED CASE CIRCUIT	(ه الله	SOFT STARTER	ه آه	MUSHROOM HEAD BUTTON, NORMALLY CLOSED, MAINTAINED	4 E	EMERGENCY LIGHTING UNIT, WITH INTEGRAL BATTERY, PLUG-IN	■ CAC	CARD READER ACCESS CONTROL	CR CONTROL RELAY CT CURRENT TRANSFORMER	NO. NUMBER N.O. NORMALLY OPEN	
 	BREAKER AT - AMP TRIP SIZE AF - AMP FRAME SIZE			Φ	CONTACT MUSHROOM HEAD BUTTON,		CONNECTION, 2-MOUNTING HEADS EMERGENCY LIGHTING UNIT, WITH		CINIT	DIA DIAMETER	NTS NOT TO SCALE	
AT AF	L - LONG DELAY S - SHORT DELAY	' \		<u>•</u>	NORMALLY OPEN, MAINTAINED CONTACT	(BU-1)	INTEGRAL BATTERY, PLUG-IN CONNECTION, 2-MOUNTING HEADS(■ CR	PROXIMITY CARD READER	DB DISTRIBUTION BOARD DP DISTRIBUTION PANEL	N NEUTRAL NFPA NATIONAL FIRE PROTECTION ASSOCIATION	
0/	I - INSTANTANEOUS TRIP G - GROUND FAULT TRIP			0 0	PUSH-BUTTON, PUSH TO CLOSE	(50 1)	WITH BATTERY UNIT BU-1)	■ ML	MAGNETIC DOOR LOCK	DPM DIGITAL POWER METER	P/T/Z PAN, TILT AND ZOOM	
	NA - NON AUTOMATIC	(51)	PROTECTIVE RELAYS AND	0.1.0	PUSH-BUTTON, PUSH TO OPEN	Z 22	REMOTE HEAD (1 OR 2 HEAD) WALL MOUNTED UNIT, FOR REMOTE	■ CRM	CONTROL RELAY MODULE	DS DISCONNECT SWITCH	PABX PRIVATE AUTOMATIC BRANCH EXCHANGE	
. Α			DEVICES 21 DISTANCE RELAY			(BU-1)	INSTALLATION (BU-1 - FED FROM BATTERY UNIT-1)	- Oraw	IN SINGLE GANG BOX	DIV DIVISION EF EXHAUST FAN	PCB PRINTED CIRCUIT BOARD PH PHASE	
<u>↑ A</u> MVA	POWER CIRCUIT BREAKER A - CONTINUOUS CURRENT		25 SYNCH. CHECK 27 UNDER VOLTAGE	0 0	PUSH BUTTON MULTI-POLE (1 NO AND 1 NC POLES)	EXIT	EXIT SIGN C-DENOTES CEILING MOUNTED			EM EMERGENCY	PL PILOT LIGHT	
	RATING MVA - INTERRUPTING RATING		30 ANNUNCIATOR 32 REVERSE POWER		INDICATING LIGHT: A AMBER W WHITE	\$	SINGLE POLE LIGHT SWITCH,	FIRE AL	LARM SYSTEM	EMT ELECTRICAL METALLIC TUBI ETM ELAPSED TIME METER	NG PVC POLYVINYL CHLORIDE PTT POST, TELEGRAM AND TELEPHONE	
			38 BEARING TEMP. 46 PHASE REVERSAL/PHASE	R	B BLUE Y YELLOW G GREEN R RED	, T	SINGLE POLE OR MULTI-GANG SINGLE POLE LIGHT SWITCH,		FIDE ALADRA BUILL OTATION	ETD ELECTRONIC TRIPPING DEVICE (ADJUSTABLE)	P.T.T. PUSH TO TEST	
•	COMPINIATION MACHINES CO		BALANCE (CURRENT) 47 PHASE SEQUENCE	P.Ť.T.	P.T.T. = PUSH TO TEST	₃ ¥ ₃ ₩	3-DENOTES NO. OF WAY		FIRE ALARM, PULL STATION	EWH ELECTRIC WATER HEATER	RCCB RESIDUAL CURRENT CIRCUIT BREAKER RCBO RESIDUAL CURRENT CIRCUIT BREAKER	
<u>\(\)</u>	COMBINATION MAGNETIC STARTER FULL VOLTAGE, NON-REVERSING		(VOLTAGE) 49 THERMAL RELAY	~~°	TIMER CONTACT, NORMALLY OPEN, TIME DELAY TO CLOSE WHEN ENERGIZED N.O.T.C.	\$ _{F,K,D,T}	SINGLE POLE SWITCH, F-FAN SW, K-KEY OPERATED, D-DIMMER SW	S	SMOKE DETECTOR	EXP EXPLOSION PROOF	WITH OVERLOAD PROTECTION.	
	(FVNR) FIXED, BREAKER TYPE EEMAC SIZE 1		50 INSTANTANEOUS OVERCURRENT	0-10	TIMER CONTACT, NORMALLY	\$	T-TIMER	s	DUCT SMOKE DETECTOR	FDR FEEDER FFL FINISHED FLOOR LEVEL	RGS RIGID GALVANIZED STEEL RMS ROOT MEAN SQUARE	
\int_{0}^{1}			51 AC TIME OVERCURRENT 51G GROUND OVERCURRENT	",	CLOSED, TIME DELAY TO OPEN WHEN ENERGIZED N.C.T.O.	Ψ _{MA}	MANUAL AUTO SELECTOR SWITCH	DUCT		FCU FAN COIL UNIT	RPU REMOTE PROCESSING UNIT	
()			51N NEUTRAL OVERCURRENT 59 OVERVOLTAGE	0,0	TIMER CONTACT, NORMALLY OPEN, INSTANTLY CLOSED WHEN	\rightarrow	SIMPLEX RECEPTACLE, 15A, 120V	H) (HD)	HEAT DETECTOR	FVNR FULL VOLTAGE NON-REVER		
•			63 LIQID/GAS LEVEL OR PRESSURE 67 AC DIRECTIONAL	, i	ENERGIZED, TIME DELAY TO OPEN WHEN DE-ENERGIZED N.O.T.O.	₩	DUPLEX RECEPTACLE, 15A, 120V		FIRE ALARM HORN/AND OR STROBE LIGHT, E-EXPLOSION PROOF	FVNR FULL VOLTAGE REVERSING GFCI GROUND FAULT CIRCUIT	SCR SILICON CONTROLLED RECTIFIER SPD SURGE PROTECTION DEVICE	
♦ \	COMBINATION MAGNETIC STARTER		OVERCURRENT 81 FREQUENCY RELAY		TIMER CONTACT, NORMALLY CLOSED, INSTANTLY OPEN WHEN		DUPLEX RECEPTACLE, 15A, 120V	WP	WP-WEATHER PROOF	INTERRUPTER	SPN SINGLE POLE AND NEUTRAL	
ر م	FULL VOLTAGE, NON-REVERSING (FVNR) DRAWOUT, BREAKER TYPE		86 LOCKOUT RELAY 87 DIFFERENTIAL OVERCURRENT	oto	ENERGIZED, TIME DELAY TO CLOSE WHEN DE-ENERGIZED, N.C.T.C.	GFCI	w/GROUND FAULT INTERRUPTER		GROUNDING	GND GROUND HDG HOT DIPPED GALVANIZED	SS SELECTOR SWITCH/SOFT STARTER SWA STEEL WIRE ARMOURED	
₹ 1	EEMAC SIZE 1		RELAY 94 AUXILIARY TRIP RELAY	o ∕ ∙o	WHEN DE-ENERGIZED, N.C. I.C. SOLENOID COIL	€ _{RWC}	DUPLEX RECEPTACLE, 15A, 120V w/ RAIN TIGHT WHILE IN USE COVER		GROUND CONDUCTOR	HP HORSE POWER	SYM SYMMETRICAL	
		 	MECHANICAL KEY INTERLOCK	0. 0	LIMIT CAUTOLI MODRALI VI COSTI		120V SINGLE PHASE DIRECT	_·-·+·-	GROUND CONNECTION	HVAC HEATING VENTILATING AND CONDITIONING	AIR TEL TELEPHONE TEMP. TEMPERATURE	
			"K1 DENOTES SEQUENCE K1 CABLE NO. 1	20	LIMIT SWITCH, NORMALLY OPEN	_	CONNECTION		GROUND ROD	HS HAND SWITCH	TPN TRIPLE POLE AND NEUTRAL	
I		(1)	REFER TO CABLE SCHEDULE	0∕√10	LIMIT SWITCH NORMALLY CLOSED		208V, 3 PHASE DIRECT CONNECTION	•	מוסטוח עסח	Hz HERTZ	UHF ULTRA HIGH FREQUENCY	
		RTD	RESISTANCE TEMPERATURE DETECTOR	2	LIMIT SWITCH, HELD CLOSE		600V, 3 PHASE OUTLET FOR DIRECT CONNECTION		GRADIENT GROUND MAT	IP INTERNATIONAL PROTECTION ISR INTRINSICALLY SAFE RELAY		
	COMBINATION MAGNETIC STARTER	DPM			,		240V, 1 PHASE OUTLET FOR DIRECT			KA KILO AMPERE	UH UNIT HEATER	3 ISSUED FOR TENDER 2024.05.13 DC
工 ₂	FULL VOLTAGE, NON-REVERSING (FVNR) DRAW-OUT, FUSIBLE		DIGITAL POWER METER	040	LIMIT SWITCH, HELD OPEN		CONNECTION WELDING RECEPTACLE c/w CAP			KV KILOVOLT KVA KILOVOLT AMPERE	V VOLT VA VOLT AMPERE	2 ISSUED FOR APPROVAL 2023.08.30 DC 1 ISSUED FOR DESIGN REVIEW 2023.06.30 DC
$\mid \hspace{0.1cm} \hspace{0.1cm}$	DISCONNECT TYPE EEMAC SIZE 2	SPD	SURGE PROTECTION DEVICE	HAND AUTO	MULTI POSITION SELECTOR SWITCH		(PLUG), 575V, 3 PHASE	CONDUI	T/WIRING DESIGNATIONS	KW KILOWATT	VAS VISUAL ALARM SIGNAL	No. REVISION DATE BY File: R:\2021\215817 - West Elgin-Rodney WWTP Upgrades\10 CADdwg\01 Revit\A.000.1
•	COMPINIATION MACNIFTIC CTARTER		3 PHASE, 3 WIRE DELTA	× 0 0 00X	HAND - OFF - AUTO (2 POLES SHOWN)		DISCONNECT SWITCH, 3P (UNLESS OTHERWISE NOTED), RATING AS		CONDUIT OR CABLE BURIED OR CONCEALED	KWH KILOWATT HOUR LP LIGHTING PANEL	VFD VARIABLE FREQUENCY DRIVE VHF VERY HIGH FREQUENCY	Legends\Sheets\215817 - West Eigin-Rouney WWYP Opgrades\10 CADdwg\01 Revit\A.000.1 Legends\Sheets\215817 - E001.dwg Plot: May. 2024, - 09:49:52 AM
7	COMBINATION MAGNETIC STARTER FULL VOLTAGE, TWO SPEED DRAWOLT BREAKER TYPE FEMAC		CONNECTION				INDICATED FUSIBLE 3P DISCONNECT SWITCH		CONDUIT OR CABLE EXPOSED	LS LIGHTING STANDARD	W WATT	. 184. maj. 202., 00.40.027 mi
2S2W	DRAWOUT, BREAKER TYPE EEMAC SIZE 1		3 PHASE, 3 WIRE WYE CONNECTION	\otimes	TERMINAL BLOCK IN PLC PANEL		RATING AS INDICATED		SOMBOIT ON CABLE EXPOSED	LTG LIGHTING LV LOW VOLTAGE	WP WEATHERPROOF 3P THREE POLE	MUNICIPALITY OF
T T1	2S1W 2 SPEED, 1 WINDING 2S2W 2 SPEED, 2 WINDING	Y	3 PHASE, 4 WIRE WYE CONNECTION SOLID GROUNDED NEUTRAL		TERMINAL BLOCK IN MCC	⊠ ⊔	LOCAL STARTER WITH DISCONNECT	o	CONDUIT OR CABLE UP	M METER	4W FOUR WIRE	West Elgin
8 8	202VV 2 OI LLD, 2 VVIINDIING		3 PHASE, 4 WIRE WYE CONNECTION		PROXIMITY SWITCH, NORMALLY		LOCAL STARTER		CONDUIT OR CABLE DOWN	MCCB MOLDED CASE CIRCUIT BRE	AKER	7998
		\ <u>\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\</u>	RESISTIVE GROUNDED NEUTRAL	0-70	CLOSED CLOSED							
♣	COMPUNATION	<u> </u>	GROUND CONNECTION		PROXIMITY SWITCH, NORMALLY		LOCAL OPERATOR		WIRING BOX J JUNCTION BOX,			
°)	COMBINATION MAGNETIC STARTER, FULL VOLTAGE, REVERSING (FVR),	•	LOCAL OPERATOR		OPEN OPEN	•	EMERGENCY STOP PUSHBUTTON		P PULL BOX S SPLITTER BOX,			
	DRAW-OUT, BREAKER TYPE EEMAC SIZE 1				LIQUID LEVEL SWITCH, NORMALLY		TELEDHONE OUTLET WALL MOUNTED		T TERMINAL BOX U UTILITY BOX			
1 ± ± ± 1			EMERGENCY STOP PUSHBUTTON	%	OPEN OPEN		TELEPHONE OUTLET WALL MOUNTED					CONTRACT NO. WE-2024-01
S		A	POTHEAD OR TERMINATOR	970	LIQUID LEVEL SWITCH, NORMALLY CLOSED		WALL MOUNTED TELEPHONE SET (FOR INTERCOM SYSTEM)					
-	LIGHTING PANEL	A	STRESS CONE		PRESSURE SWITCH, N.O.		DATA OUTLET					R.V. ANDERSON ASSOCIATES LIMITED
		▼	332	<u>~</u>	CLOSES ON PRESS. INCREASE PRESSURE SWITCH, N.C. OPENS ON							Innovative solutions for complex challenges
600V 120/ 208	TRANSFORMER - 2 WINDING PRIMARY 600V, SECONDARY 120/208	$\downarrow \qquad \qquad \downarrow$	CAPACITOR	oTo	PRESSURE SWITCH, N.C. OPENS ON PRESS. INCREASE	CAM	SECURITY CAMERA					
ķ	THERMAL ELEMENT	→	LIGHTNING ARRESTER	24	TEMPERATURE SWITCH, N.O. CLOSES ON TEMP. RISE	□□□√w	SPEAKER, AUDIBLE ALARM, W WALL, R RECESSED,					eccin.
	ELECTRIC MOTOR		REACTOR	050	TEMPERATURE SWITCH, N.C. OPENS	PC	C CEILING OUTDOOR PHOTO CELL					E P. Jak Ch.
M	LLLOTTIO MOTOR	70000	NEACTOR	<u>5</u>	ON TEMP. RISE							Talder OF
G	GENERATOR		EYS SEAL	~~	FLOW SWITCH, NORMALLY OPEN CLOSES WHEN FLOW DETECTED	CONTRO	OL SCHEMATICS(CONT.)					S. F. HAIDER 99 100087186
1000A	BUS DUCT, CURRENT AND VOLTAGE RATING AS SHOWN	2400-120V	POTENTIAL TRANSFORMER VOLTAGE RATIO: 2400 120V	oTo	FLOW SWITCH, NORMALLY CLOSE		SCREEN/SHIELD	1				May 13 2024 215817 Rodney WPCP
600V - 3W	3W - 3 WIRE	600-5A	QUANTITY: 2 CURRENT TRANSFORMER		OPENS WHEN FLOW DETECTED							TOWNOE OF OWNER!
VFD	VARIABLE FREQUENCY DRIVE	43	CURRENT RATIO: 600-5A QUANTITY: 3	20	FOOT SWITCH, NORMALLY OPEN	ETM	ELAPSED TIME METER					
سس	ELECTRIC UNIT HEATER	50-5A	CURRENT TRANSFORMER ZERO SEQUENCE	70	FOOT SWITCH, NORMALLY CLOSED	ZS	MISCELLANEOUS CONTROL DEVICE (GENERAL CONTACT)					RODNEY WPCP
	ELECTRIC UNIT HEATER WITH	9 #12-G-19C	CABLE DESIGNATION				(52.12.10.12.001111.01)					UPGRADES
7	DISCONNECT		19mm CONDUIT INSIDE DIAMETER		CIRCUIT CONNECTION							ELECTRICAL
_\traver	ELECTRIC UNIT HEATER WITH STARTER DISCONNECT		GROUND CONDUCTOR CONDUCTOR SIZE (AWG OR KCMIL)		NO CIRCUIT CONNECTION							LEGEND AND ABBREVIATIONS
			NUMBER OF CONDUCTORS									
												Scale: AS SHOWN Date: May-24 RVA Project No: 215817
												Date: May-24 Drown by: DK/MOUL DWG NO.

E001

Designed by: FH

Approved by: DC

Drawn by: RK/MSH

Checked by: SQR

	<u>W DIAGRAM</u>		G COMPONENT			INSTRUMENT	
<u>EQUIPM</u>	ENT SYMBOLS	-	<u>SYMBOLS</u>	<u>-</u>	<u>abbreviat</u>	<u>IONS</u>	-
		\bowtie	GATE VALVE	AE		AL ELEMENT	
	SLUICE GATE	\bowtie	KNIFE GATE VALVE	AIT AI		AL INDICATING TRANSMITTER INPUT (PLC)	L
·	FLAP GATE SLIDE PLATE		GLOBE VALVE	AO		OUTPUT (PLC)	
	WEIR		OLOBE VALVE	AS (L/H)		AL SWITCH (L = LOW, H = HIGH)	
	STOP LOG	区	ANGLE VALVE	DE DIT	DENSITY DENSITY 	ELEMENT INDICATING TRANSMITTER	
	BAR SCREEN	R. I		DI		NPUT (PLC)	
			CHECK VALVE	DO FE	DIGITAL CFLOW ELE	OUTPUT (PLC)	
M T		\bowtie	PLUG VALVE	FIT		DICATING TRANSMITTER	
N E	MOTORIZED BAR SCREEN			FS (L/H)		TCH (L = LOW, H= HIGH)	-
	ELECTRIC TRACED AND NSULATED PIPELINE		3-WAY VALVE	LE LIT	LEVEL ELILEVEL INI	EMENT DICATING TRANSMITTER	
	NSULATED PIPELINE	A	NEEDLE VALVE	LSL		MITCH LOW	-
	STRAINER / FILTER		NCEBEL VILVE	LSH NIT		/ITCH HIGH / TRANSMITTER	
	SINAINEN / FIETEN		BUTTERFLY VALVE	PE		E ELEMENT	
	STATIC MIXER		"V" CTDAINED	PIT PSL		E INDICATING TRANSMITTER E SWITCH LOW	
	JEAT EVOLIANOED	\triangleright	"Y" STRAINER	PSH		E SWITCH HIGH	
	HEAT EXCHANGER	T	TRAP	SE	- SPEED EL		
M		_		SIT TE		DICATING TRANSMITTER TURE ELEMENT	(
	SUBMERSIBLE PUMP	M	BALL VALVE	TIT		TURE INDICATING TRANSMITTER	(
		基	DDESCUDE DELIEE VALVE	TSL TSH		TURE SWITCH LOW TURE SWITCH HIGH	
	CENTRIFUGAL PUMP	Δ	PRESSURE RELIEF VALVE	ZS	- POSITION		
		Ä	AIR RELEASE VALVE				
F	ROTARY PUMP						
F F	RECIPROCATING PUMP	T	MEMBRANE OPERATOR		ABBR.	IDENTIFIC	 }A
		9	ELECTRICAL OPERATOR		VFD, VSD	VARIABLE FREQUENCY DRIVE,	
	CENTRIFUGAL BLOWER	' _				VARIABLE SPEED DRIVE	
		M	FLEX CONNECTION		DIS	EQUIPMENT DISCONNECT SWIT	— СН
F	POSITIVE DISPLACEMENT BLOWER	۶	ORIFICE FLANGE ASSEMBLY		CPU	CENTRAL PROCESSING UNIT	
					1/0	INPUT/OUTPUT	
>)	COMPRESSOR	<u>S.S. </u>	PIPING SPECIFICATION CHANGE		1/1	CURRENT TO CURRENT ISOLA	TOF
	POSITIVE DISPLACEMENT PUMP	†			E/S	ELECTRIC SUPPLY	
	JOSHIVE BISI EMELIVERY FORM		VICTAULIC COUPLING		0/S/C	OPEN/STOP/CLOSE HANDSWIT	 CH
, v	VERTICAL TURBINE PUMP	~ ~ \	VACUUM BREAKER		O/S/C/A	OPEN/STOP/CLOSE/AUTO HA	— ND
ĭ		л П			H/O/A, H-O-A	HAND/OFF/AUTO HANDSWITCH	
	SUBMERSIBLE WELL PUMP	甲	CYLINDER OPERATOR		L/R	LOCAL/REMOTE HANDSWITCH	
<u></u>	AAANETIA ELAW METER		DIAPHRAGM SEAL		LOS	LOCKOUT STOP	
	MAGNETIC FLOW METER MENTURI TUBE		DIA TIIONOM SEAE		C/M	COMPUTER/MANUAL HANDSWI	— TCI
	/ NOTCH WEIR	$\overset{M}{\vdash}$	MOTORIZED OPERATOR		NC/NO	NORMALLY CLOSED/NORMALLY	— Y (
	TURBINE METER	S	SOLENOID OPERATOR		SCR	SPEED CONTROLLER	
		l			ST, SP	START PUSHBUTTON, STOP P	— USI
	FLUME	FLC)W DIAGRAM		MCC	MOTOR CONTROL CENTRE	
	PARSHALL FLUME	QUIPMENT	SYMBOLS (CONTD	.)	OL,0/L	THERMAL PROTECTION RELAY	— (C
	PULSATION DAMPER	 -			PLC	PROGRAMMABLE LOGIC CONTR	
	SESTATION DAWN EN	T	DRIP TRAP		MD	MODEM	
M N	MIXER	FD \bigvee	FLOOR DRAIN		01/01T	OPERATOR INTERFACE TERMIN	— IAL
	N IECTOR	\cup			CP	CONTROL PANEL	
	NJECTOR	ĭ			UPS	UNINTERUPTABLE POWER SUP	 РI
	CALIBRATION COLUMN				CB	CIRCUIT BREAKER	
<u></u>	г				FU	FUSE	
	SEDIMENT TRAP		ALL OF THE ABOVE IT		PFR	POWER FAIL RELAY	
X E	EXTERIOR FLAME TRAP		NECESSARILY INCLUDE CONTRACT.	אוו ט	UPS	UPS POWER	
					E/S	NON-UPS POWER	

INSTRUMENT IDENTIFICATION TABLE

ISA-S5.1-1984

	FIRST L	LETTER	SUCCEEDING LETTERS				
LETTER	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER		
А	ANALYSIS (2)		ALARM				
В	BURNER, COMBUSTION			CLOSE, STOP, DECREASE (1)			
С				CONTROL			
D	DENSITY	DIFFERENTIAL		OPEN, START, INCREASE (1)			
Ε	VOLTAGE		SENSOR (PRIMARY ELEMENT)				
F	FLOW RATE	RATIO (FRACTION)			FAIL (1)		
G			GLASS, VIEWING DEVICE				
Н	HAND				HIGH (OPENED)		
1	CURRENT (ELECTRICAL)		INDICATE				
J	POWER	SCAN					
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION			
L	LEVEL		LIGHT		LOW (CLOSED)		
М	MOTOR, MOTION (1)	MOMENTARY		MOTOR (1)	MIDDLE OR INTERMEDIATE		
N					ON OR OPERATE (1)		
0			ORIFICE, RESTRICTION		OVERLOAD (1)		
Р	PRESSURE, VACUUM		POINT (TEST) CONNECTION	PUMP (1)			
Q	QUANTITY (2)	INTEGRATE, TOTALIZE					
R	RADIATION		RECORD				
S	SPEED, FREQUENCY	SAFETY		SWITCH			
Т	TEMPERATURE			TRANSMIT			
U	MULTI-VARIABLE (2)		MULTI-FUNCTION (2)	MULTIFUNCTION (2)	MULTI-FUNCTION (2)		
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER			
W	WEIGHT, FORCE		WELL				
X	UNCLASSIFIED (2)		UNCLASSIFIED (2)	UNCLASSIFIED (2)	UNCLASSIFIED (2)		
Υ	EVENT, STATE, PRESENCE			RELAY, COMPUTE, CONVERT			
Z	POSITION, DIMENSION			DRIVER, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT			

(1) USER'S CHOICE

(2) WHEN USED, SYMBOL OR SIGNAL LINE IS ANNOTATED.

ABBR.	IDENTIFICATION	SYMBOL	IDENTIFICATION	SYMBOL	IDENTIFICATION	
VFD, VSD	VARIABLE FREQUENCY DRIVE, VARIABLE SPEED DRIVE	⟨ AND⟩	LOGIC GATE — AND (INTERLOCK IS EFFECTIVE ONLY IF ALL INPUT ARE ACTIVE)		MOUNTED LOCALLY	S
DIS	EQUIPMENT DISCONNECT SWITCH		LOGIC GATE — OR		MOUNTED ON FACE OF PANEL	SYMBOLS
CPU	CENTRAL PROCESSING UNIT	OR	(INTERLOCK IS EFFECTIVE IF ONE OR MORE INPUT ARE ACTIVE)		MOUNTED ON FACE OF PANEL	⊢
1/0	INPUT/OUTPUT	XOR>	LOGIC GATE — XOR		MOUNTED BEHIND PANEL DOOR	NSTRUMEN
1/1	CURRENT TO CURRENT ISOLATOR	NOR .	(INTERLOCK IS EFFECTIVE IF ONLY ONE INPUT IS ACTIVE)		MOUNTED BEHIND FAMEL DOOK	INSTR
E/S	ELECTRIC SUPPLY		COMPLEX OR UNDEFINED INTERLOCK		LIGHT	
o/s/c	OPEN/STOP/CLOSE HANDSWITCH	+	EQUIPMENT SUPPLIED BY ANOTHER DIVISION		LIGITI	
O/S/C/A	OPEN/STOP/CLOSE/AUTO HANDSWITCH		SUMMATION		SCADA INPUT/OUTPUT	SCADA
H/O/A, H-O-A	HAND/OFF/AUTO HANDSWITCH		PLC INPUT		SCADA INFOT/OUTFOT	SC/ SYM
L/R	LOCAL/REMOTE HANDSWITCH	MS	MOTORIZED, SOLENOID		NOT ACCESSIBLE TO OPERATOR	
LOS	LOCKOUT STOP				NOT ACCESSIBLE TO OFERATOR	CONTROL
C/M	COMPUTER/MANUAL HANDSWITCH				ACCESSIBLE TO OPERATOR	CON
NC/NO	NORMALLY CLOSED/NORMALLY OPEN				(SOFTWARE FUNCTION)	UTED LS OF
SCR	SPEED CONTROLLER				AUXILIARY LOCATION	DISTRIBUTED SYMBOLS OR
ST, SP	START PUSHBUTTON, STOP PUSHBUTTON				AUXILIANT EUGATION	S
мсс	MOTOR CONTROL CENTRE				NOT ACCESSIBLE TO OPERATOR	3LE .R
OL,0/L	THERMAL PROTECTION RELAY (OVERLOAD)				NOT ACCESSIBLE TO OFERATOR	PROGRAMMABLE CONTROLLER
PLC	PROGRAMMABLE LOGIC CONTROLLER				ACCESSIBLE TO OPERATOR	SOGR/
MD	MODEM				CONNECTION TO/FROM PRIMARY OR MAIN PLC	PF.
OI/OIT	OPERATOR INTERFACE TERMINAL			DI	DI —DIGITAL INPUT DO —DIGITAL OUTPUT	
СР	CONTROL PANEL				AI — ANALOG INPUT AO — ANALOG OUTPUT	
UPS	UNINTERUPTABLE POWER SUPPLY				NOTE: ABOVE POINT DESIGNATIONS ARE	USED
СВ	CIRCUIT BREAKER				ON P & ID DETAIL DRAWINGS ONL	
FU	FUSE					

С	ISSUED FOR TENDER	24.05.13	DC						
В	ISSUED FOR APPROVAL	23.08.30	DC						
Α	ISSUED FOR 50% DETAIL DESIGN	22.06.30	DC						
No.	REVISION	DATE	BY						
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Revit\A.000.1 Legends\Sheets\I001 LEGEND AND ABBREVIATIONS (1).dwg

Plot: May. 2024, - 03:47:55 PM



CONTRACT NO. WE-2024-01





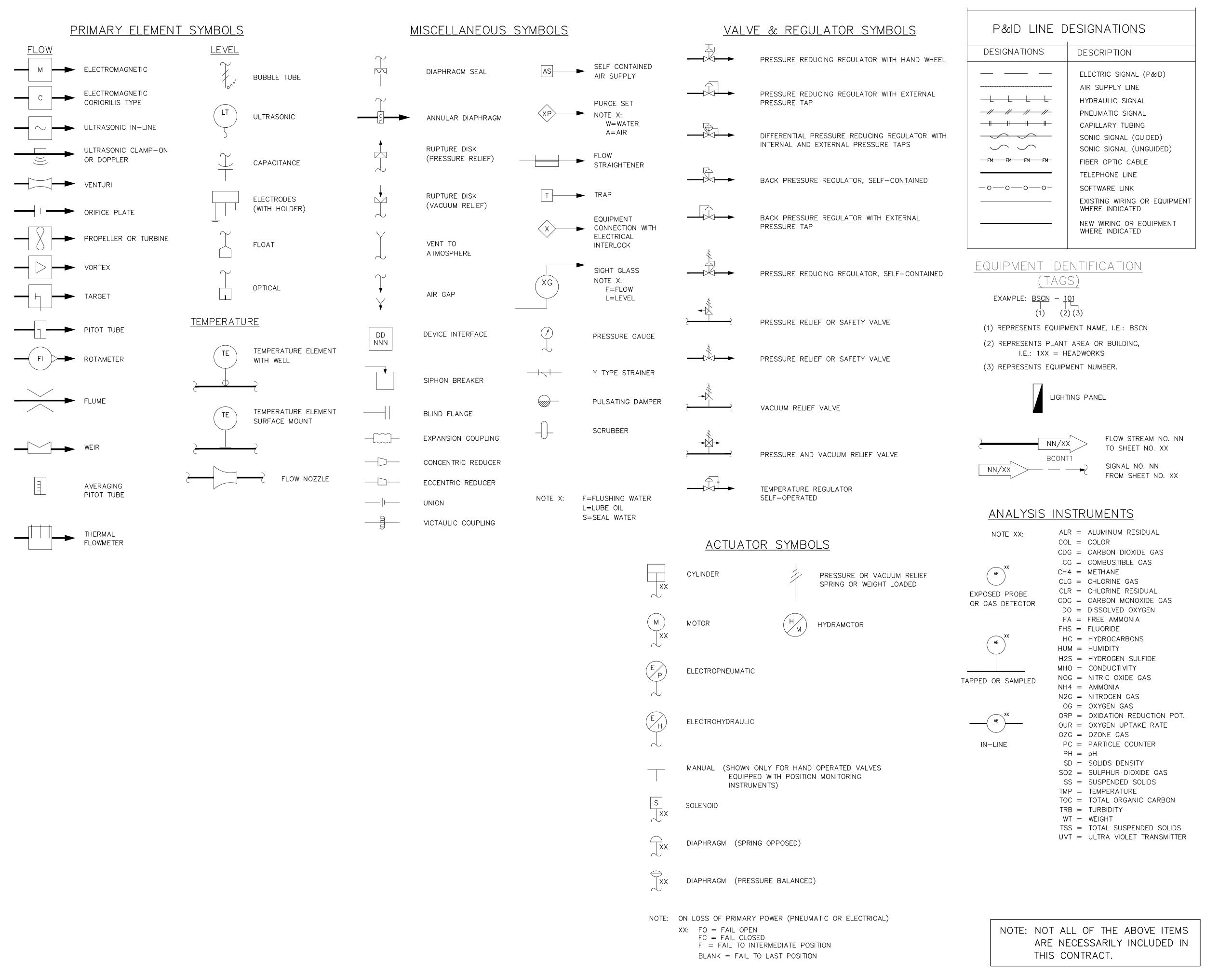
RODNEY WPCP

UPGRADES

INSTRUMENTATION AND CONTROLS

LEGEND AND ABBREVIATIONS (1)

Scale: AS SHOWN		RVA Project No:
D. M. O.		215817
Date: May-24		210011
Drawn by: CO	Designed by: MB	DWG NO.
Checked by: PB	Approved by: DC	I001



С	ISSUED FOR TENDER	24.05.13	DC			
В	ISSUED FOR APPROVAL	23.08.30	DC			
Α	ISSUED FOR 50% DETAIL DESIGN	22.06.30	DC			
No.	REVISION	DATE	BY			
File: \\rvaint.com\rva-data\2021\215817 - West Elgin-rodney Wwtp Upgrades\10 Caddwg\01						

Revit\A.000.1 Legends\Sheets\I002 LEGEND AND ABBREVIATIONS (2).dwg

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CONTRACT NO. WE-2024-01



R.V. ANDERSON ASSOCIATES LIMITED



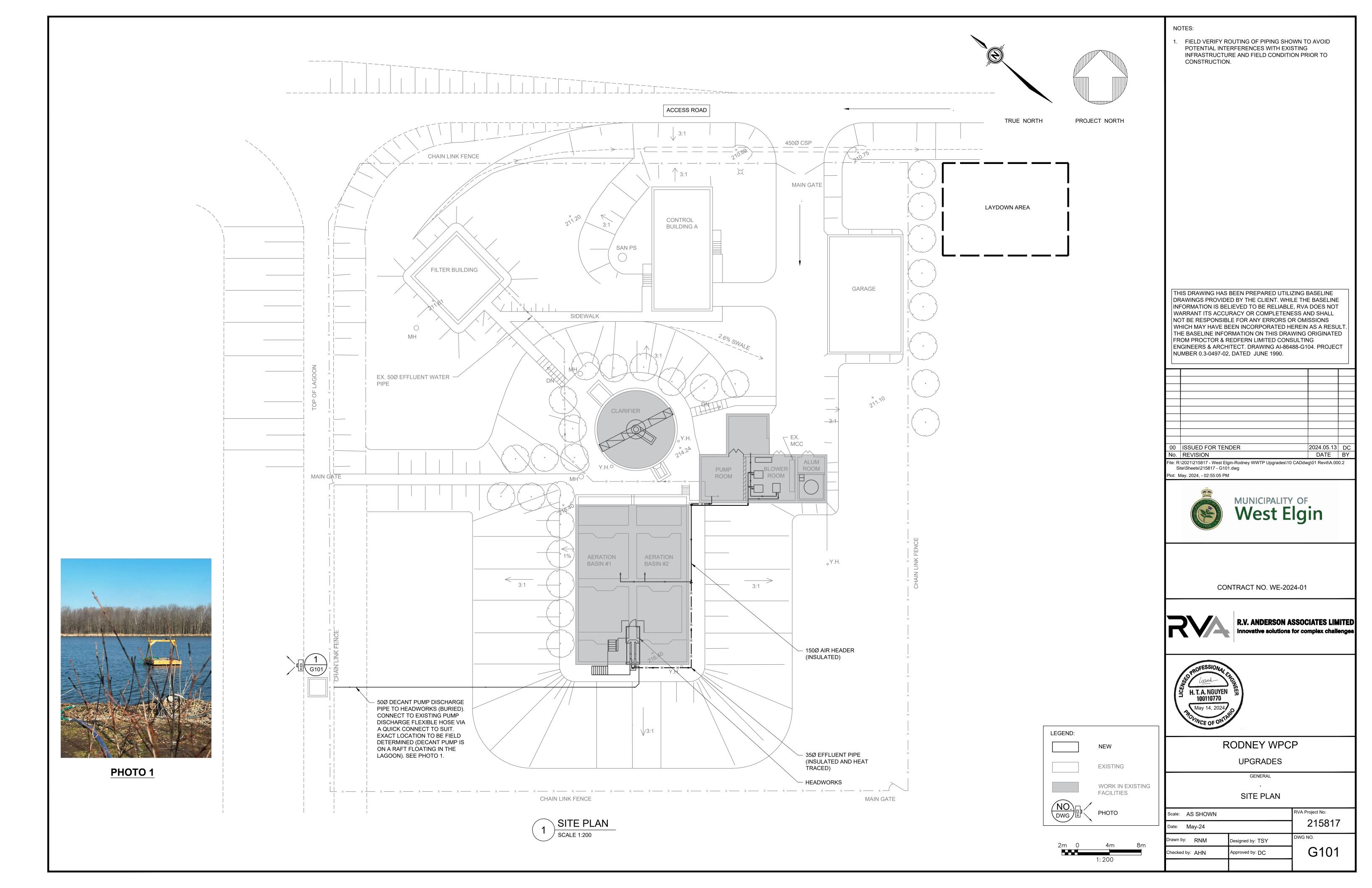
RODNEY WPCP

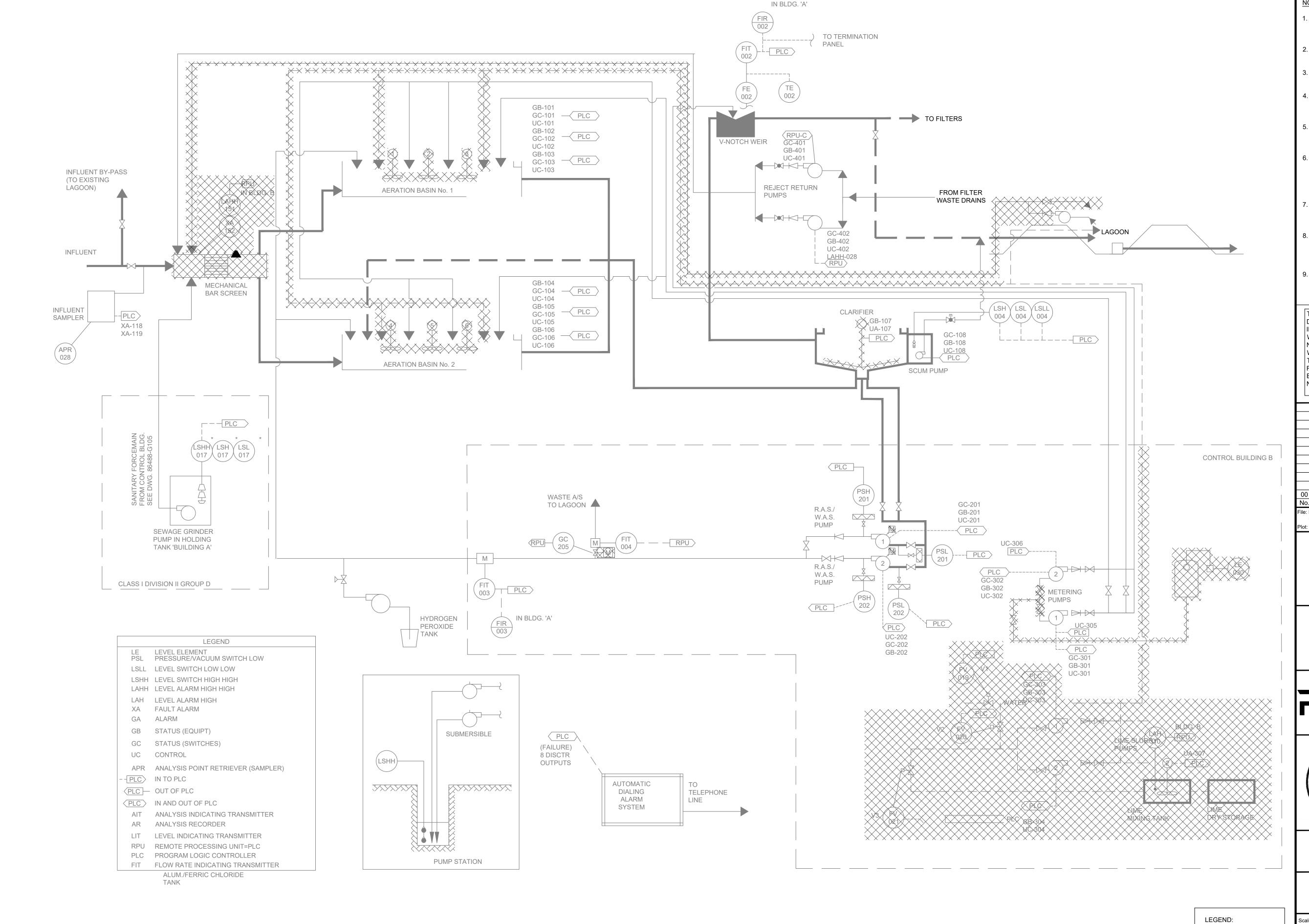
UPGRADES

INSTRUMENTATION AND CONTROLS

	LEGEN	ID AND ABBREVIA	۲۲	TONS (2)
Scale:	AS SHOWN			RVA Project No:

7.0 0.101111		045047
ate: May-24		215817
awn by: CO	Designed by: MB	DWG NO.
ecked by: PB	Approved by: DC	1002





LEGEND:
REMOVALS
EXISTING

NOTES:

ELEVATION.

- REMOVE AND DISPOSE OF ONE (1) EXISTING FRP SCREEN ENCLOSURE AND ALL ASSOCIATED SCREENING EQUIPMENT AND ACCESSORIES.
- REMOVE AND DISPOSE OF SIX (6) EXISTING MECHANICAL AERATORS, ASSOCIATED SUPPORTS AND ACCESSORIES.
- REMOVE AND DISPOSE OF SIX (6) CONCRETE BAFFLES. REPAIR SURFACES TO MATCH EXISTING TANKS.
- 4. REMOVE AND DISPOSE OF EXISTING LIME PUMPS, STORAGE TANK, CONTAINMENT CURBS, INSULATED AND HEAT TRACED PIPING, SUPPORTS, AND ASSOCIATED ACCESSORIES.
- REMOVE AND DISPOSE OF ONE (1) EXISTING STEEL ALUM STORAGE TANK AND ASSOCIATED ACCESSORIES INCLUDING

CONNECTED PIPING, VALVES, LOCAL PANEL, EQUIPMENT PAD.

- REMOVE AND DISPOSE OF ALL ITEMS INSIDE THE SUMP AREA, INCLUDING BUT NOT LIMITED TO, CHEMICAL TOTES, SUMP PUMP, PIPING, SUPPORTS, EQUIPMENT, AND ASSOCIATED EQUIPMENT. FILL SUMP TO MATCH EXISTING FLOOR
- 7. REMOVE AND DISPOSE OF ONE (1) EXISTING CLARIFIER MECHANISM AND ASSOCIATED ACCESSORIES INCLUDING A FRP COVER.
- 8. THIS DRAWING SHOWS THE MAJOR EQUIPMENT REMOVAL SCOPE OF WORK. REFER TO OTHER REMOVAL DRAWINGS FOR FURTHER DETAILS AND COMPLETE SCOPE OF REMOVALS.
- LOCATION AND ROUTING SHOWN IS APPROXIMATE. LOCATE EXACT LOCATION AND ROUTING OF DECANT PIPE AND VERIFY EXISTING UTILITIES IN THE AREA PRIOR TO EXCAVATION AND REMOVAL.

THIS DRAWING HAS BEEN PREPARED UTILIZING BASELINE DRAWINGS PROVIDED BY THE CLIENT. WHILE THE BASELINE INFORMATION IS BELIEVED TO BE RELIABLE, RVA DOES NOT WARRANT ITS ACCURACY OR COMPLETENESS AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY HAVE BEEN INCORPORATED HEREIN AS A RESULT THE BASELINE INFORMATION ON THIS DRAWING ORIGINATED FROM PROCTOR & REDFERN LIMITED CONSULTING ENGINEERS & ARCHITECT. DRAWING AI-86488-G104. PROJECT NUMBER 0.3-0497-02, DATED JUNE 1990.

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CONTRACT NO. WE-2024-01



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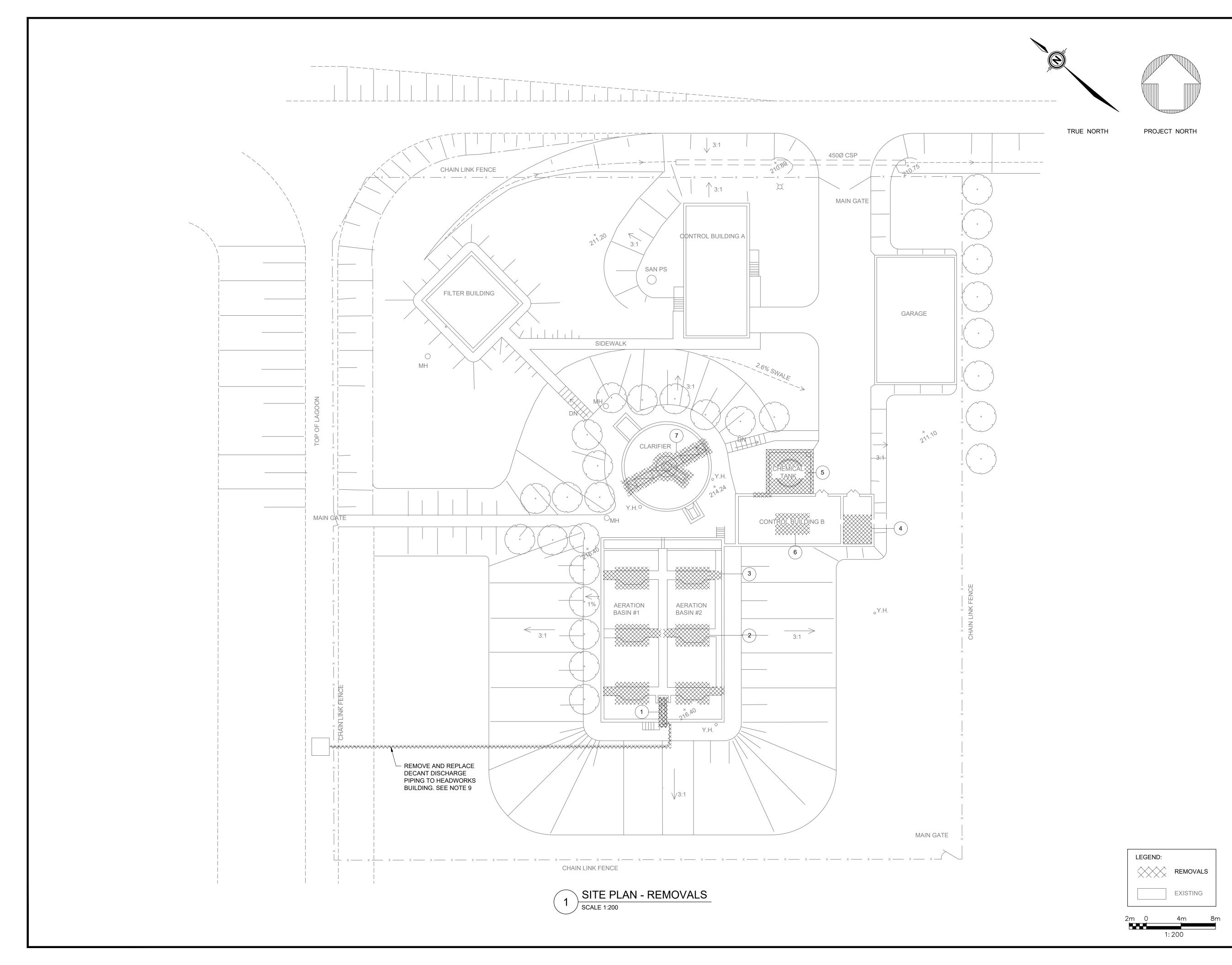
RODNEY WPCP

UPGRADES

PROCESS

P&ID - REMOVALS

Scale: AS SHOWN		RVA Project No:
Date: May-24		215817
Drawn by: ADD	Designed by: TSY	DWG NO.
Checked by: AHN	Approved by: DC	R101



- REMOVE AND DISPOSE OF ONE (1) EXISTING FRP SCREEN ENCLOSURE AND ALL ASSOCIATED SCREENING EQUIPMENT AND ACCESSORIES.
- REMOVE AND DISPOSE OF SIX (6) EXISTING MECHANICAL AERATORS, ASSOCIATED SUPPORTS AND ACCESSORIES.
- REMOVE AND DISPOSE OF SIX (6) CONCRETE BAFFLES. REPAIR SURFACES TO MATCH EXISTING TANKS.
- 4.) REMOVE AND DISPOSE OF EXISTING LIME PUMPS, STORAGE TANK, CONTAINMENT CURBS, INSULATED AND HEAT TRACED PIPING, SUPPORTS, AND ASSOCIATED ACCESSORIES.
 - REMOVE AND DISPOSE OF ONE (1) EXISTING STEEL ALUM STORAGE TANK AND ASSOCIATED ACCESSORIES INCLUDING

CONNECTED PIPING, VALVES, LOCAL PANEL, EQUIPMENT PAD.

- REMOVE AND DISPOSE OF ALL ITEMS INSIDE THE SUMP AREA, INCLUDING BUT NOT LIMITED TO, CHEMICAL TOTES, SUMP PUMP, PIPING, SUPPORTS, EQUIPMENT, AND ASSOCIATED EQUIPMENT. FILL SUMP TO MATCH EXISTING FLOOR ELEVATION.
- REMOVE AND DISPOSE OF ONE (1) EXISTING CLARIFIER MECHANISM AND ASSOCIATED ACCESSORIES INCLUDING A FRP COVER.
- 8.) THIS DRAWING SHOWS THE MAJOR EQUIPMENT REMOVAL SCOPE OF WORK. REFER TO OTHER REMOVAL DRAWINGS FOR FURTHER DETAILS AND COMPLETE SCOPE OF REMOVALS.
- 9.) LOCATION AND ROUTING SHOWN IS APPROXIMATE. LOCATE EXACT LOCATION AND ROUTING OF DECANT PIPE AND VERIFY EXISTING UTILITIES IN THE AREA PRIOR TO EXCAVATION AND REMOVAL.

THIS DRAWING HAS BEEN PREPARED UTILIZING BASELINE DRAWINGS PROVIDED BY THE CLIENT, WHILE THE BASELINE INFORMATION IS BELIEVED TO BE RELIABLE, RVA DOES NOT WARRANT ITS ACCURACY OR COMPLETENESS AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY HAVE BEEN INCORPORATED HEREIN AS A RESULT. THE BASELINE INFORMATION ON THIS DRAWING ORIGINATED FROM PROCTOR & REDFERN LIMITED CONSULTING ENGINEERS & ARCHITECT. DRAWING AI-86488-G104. PROJECT NUMBER 0.3-0497-02, DATED JUNE 1990.

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No.	REVISION	DATE	BY	
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Plot: May. 2024, - 02:24:23 PM



CONTRACT NO. WE-2024-01



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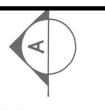
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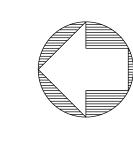
RODNEY WPCP

UPGRADES

SITE PLAN - REMOVALS

AS SHOWN		RVA Project No:
May-24		215817
by: RNM	Designed by: TSY	DWG NO.
ed by: AHN	Approved by: DC	R102

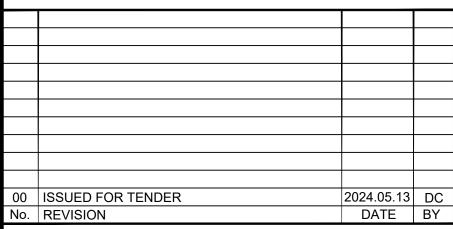






FIELD VERIFY SCOPE OF REMOVAL PRIOR TO CONSTRUCTION.

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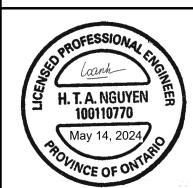
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CONTRACT NO. WE-2024-01



R.V. ANDERSON ASSOCIATES LIMITED Innovative solutions for complex challenges



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UPGRADES

PROCESS HEADWORKS

HEADWORK - REMOVALS

lay-24		215817
ADD	Designed by: TSY	DWG NO.
: AHN	Approved by: DC	R103

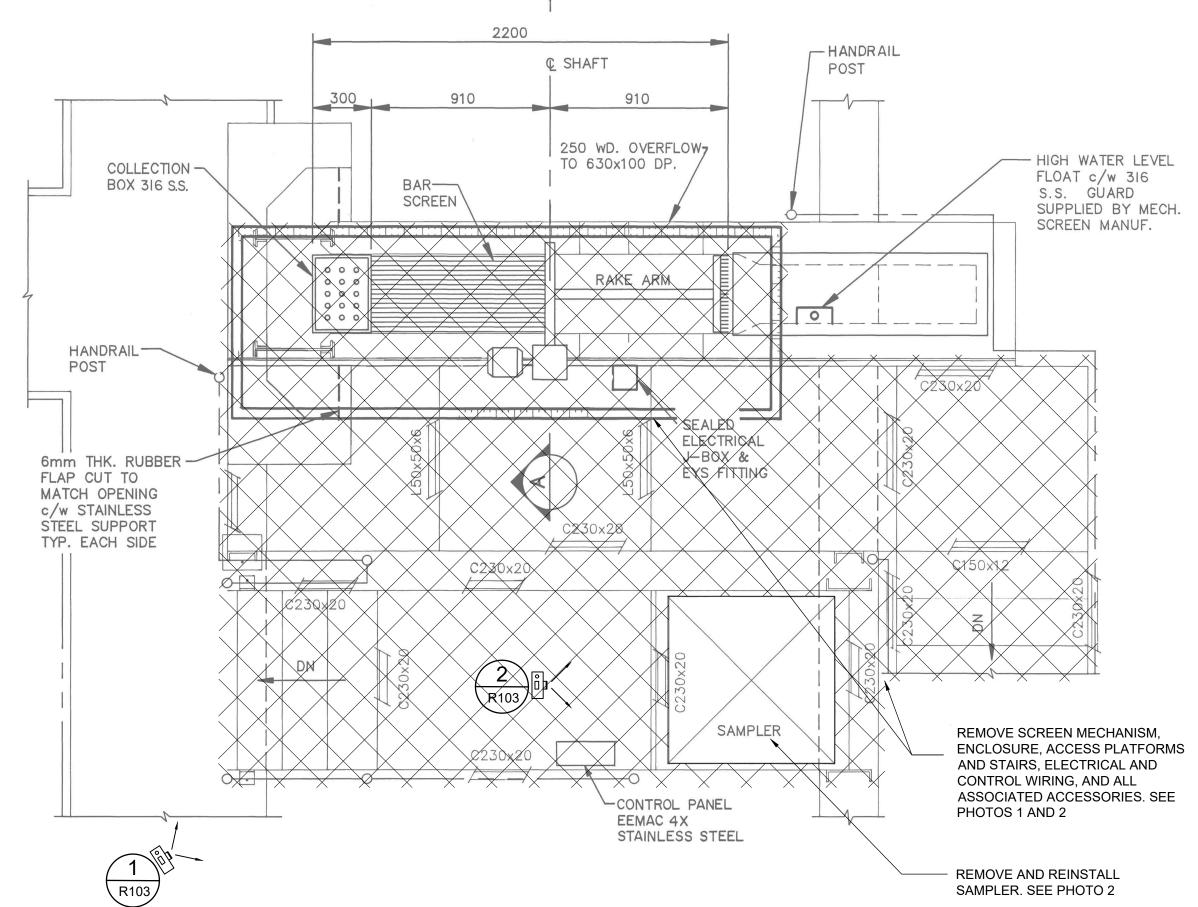
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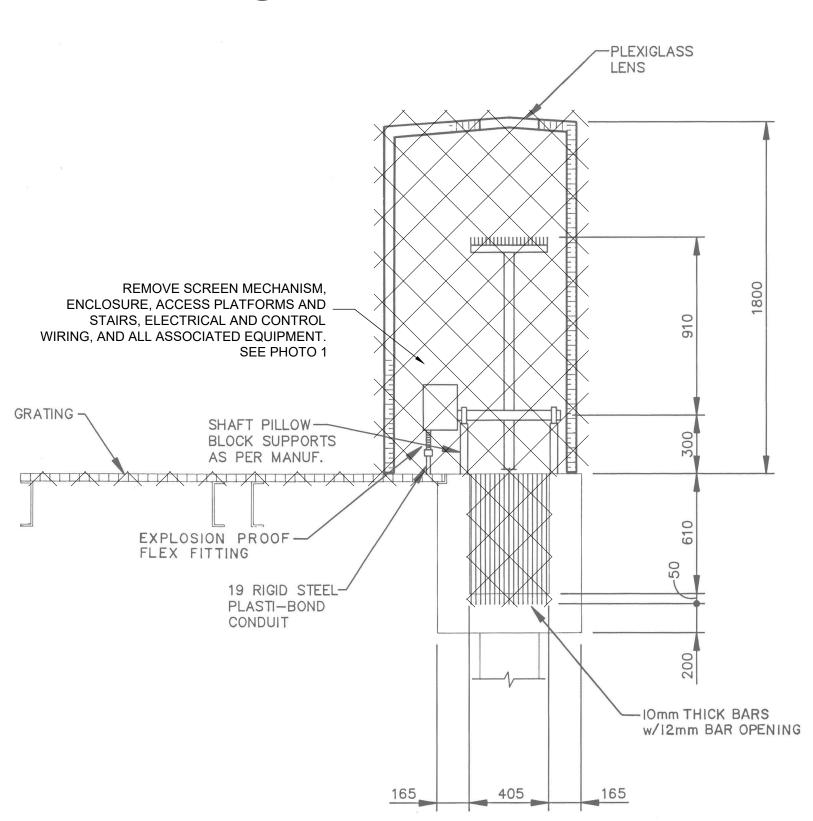
PHOTO 1



PHOTO 2

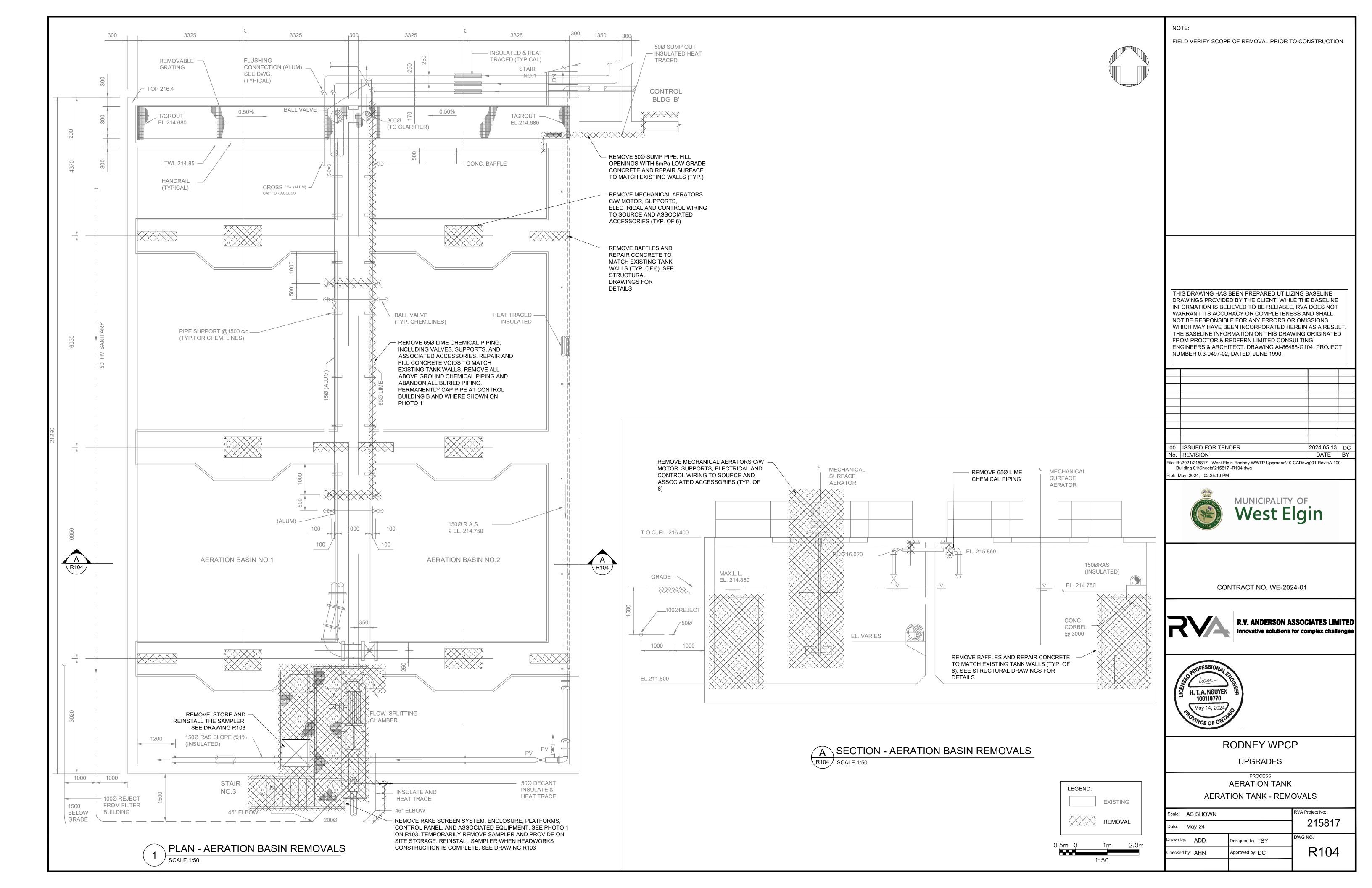












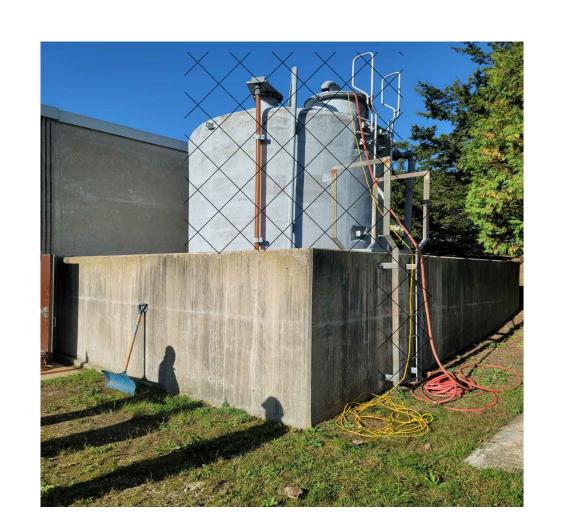


PHOTO 1



EL. 211.46

SAFETY SHOWER

FIN. FL. EL. 211.560

TERMINATION

PANEL

REMOVE LIME PUMPS, CONTROL PANEL,

HANDRAIL/GUARDRAIL, LADDER, PIPING,

WIRING, AND ASSOCIATED EQUIPMENT.

VALVES, ELECTRICAL AND CONTROL

SEE PHOTO 4

& EYE WASH

_ EYE WASH

SUMP

500x500 x600 DP

3260

NON FREEZE

DN

_ 150 THK. BASE

UNDER MCC

FIN. FL. EL. 212.660

GALV. CHAIN

1400

− 800mm REMOVABLE

1700

EL. 211.510

 $\langle 2 \rangle$

1320

DRAWINGS

LADDER — (SEE NOTE)

REMOVABLE_

GALV. CHAIN

RELOCATE EXISTING ALUM

3390

REMOVE HANDRAIL/GUARDRAIL,

LADDER, SUMP PUMP, SUMP PIT, PIPING,

VALVES, AND ASSOCIATED EQUIPMENT. SEE PHOTO 3 AND STRUCTURAL

CHEMICAL METERING PUMPS

AND CONTROL PANELS TO NEW ALUM CHEMICAL STORAGE TANK ROOM. PARTIALLY REMOVE EXTERIOR ALUM PIPES.

SEE PHOTO 2

2 R105

REMOVE SAFETY EYE

WASH AND SHOWER.

PERMANENTLY CAP WATER CONNECTION

WITH BLIND FLANGE

REMOVE LIME FEED

ETC. CAP PIPE WITH

PIPE, SUPPORTS,

BLIND FLANGE



PHOTO 3

100 ARCH. CONC. BLK

6MIL VAPOUR BARRIER

REMOVE SAFETY EYE WASH
- AND EXCESS PIPING NOT

REMOVE LIME TANK COVER, MIXER, PIPING, VALVES, VENTS, AND ASSOCIATED EQUIPMENT.

SEE PHOTO 5 AND 6

REQUIRED FOR NEW EYE WASH AND SHOWER CONNECTION

25 AIR SPACE 50 RIGID INSUL. R10



NOTE:

FIELD VERIFY SCOPE OF REMOVAL PRIOR TO CONSTRUCTION.

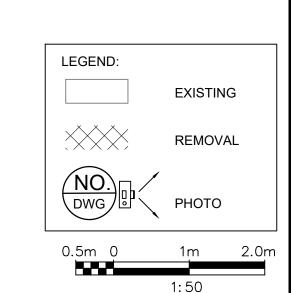
PHOTO 4

16000 3400 5400 7200 REMOVE CHEMICAL TANK, EYE WASH, SUMP PUMP, PIPING, ACCESS LADDERS, HOUSEKEEPING PAD, ELECTRICAL AND CONTROLS, AND ALL ASSOCIATED EQUIPMENT. SEE PHOTO 1. SUMP 500x500x600 DP

PHOTO 5



PHOTO 6



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Building 01\Sheets\215817 - R105.dwg

Plot: May. 2024, - 02:35:58 PM



CONTRACT NO. WE-2024-01



R.V. ANDERSON ASSOCIATES LIMITED



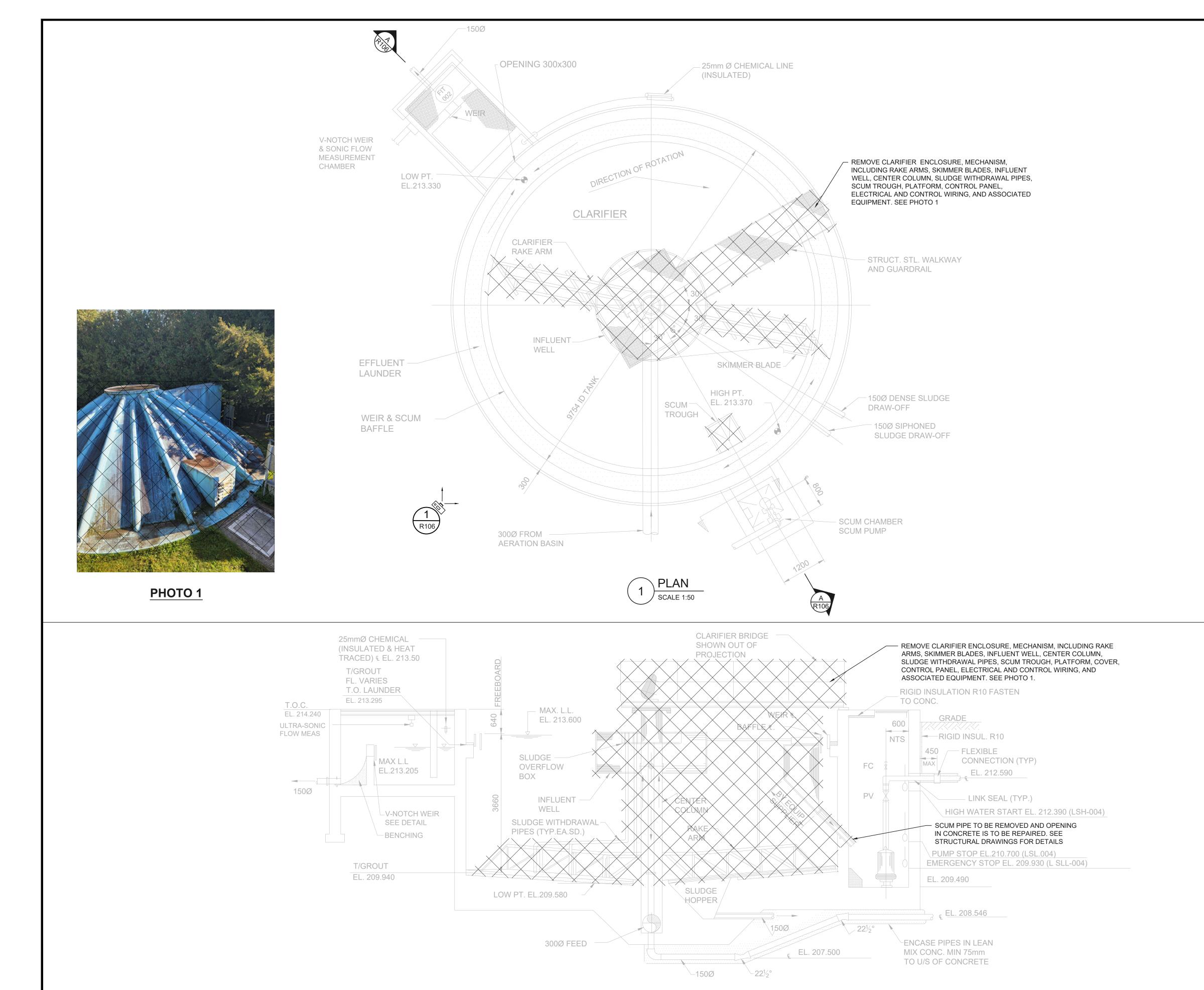
RODNEY WPCP

UPGRADES

CONTROL BUILDING B CONTROL BUILDING B - REMOVALS

RVA Project No: Scale: AS SHOWN 215817 Date: May-24 Drawn by: ADD esigned by: TSY R105 Checked by: AHN pbroved ph: DC





A SECTION R106 SCALE 1:50



FIELD VERIFY SCOPE OF REMOVAL PRIOR TO CONSTRUCTION.

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CONTRACT NO. WE-2024-01



R.V. ANDERSON ASSOCIATES LIMITED



LEGEND:

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REMOVAL

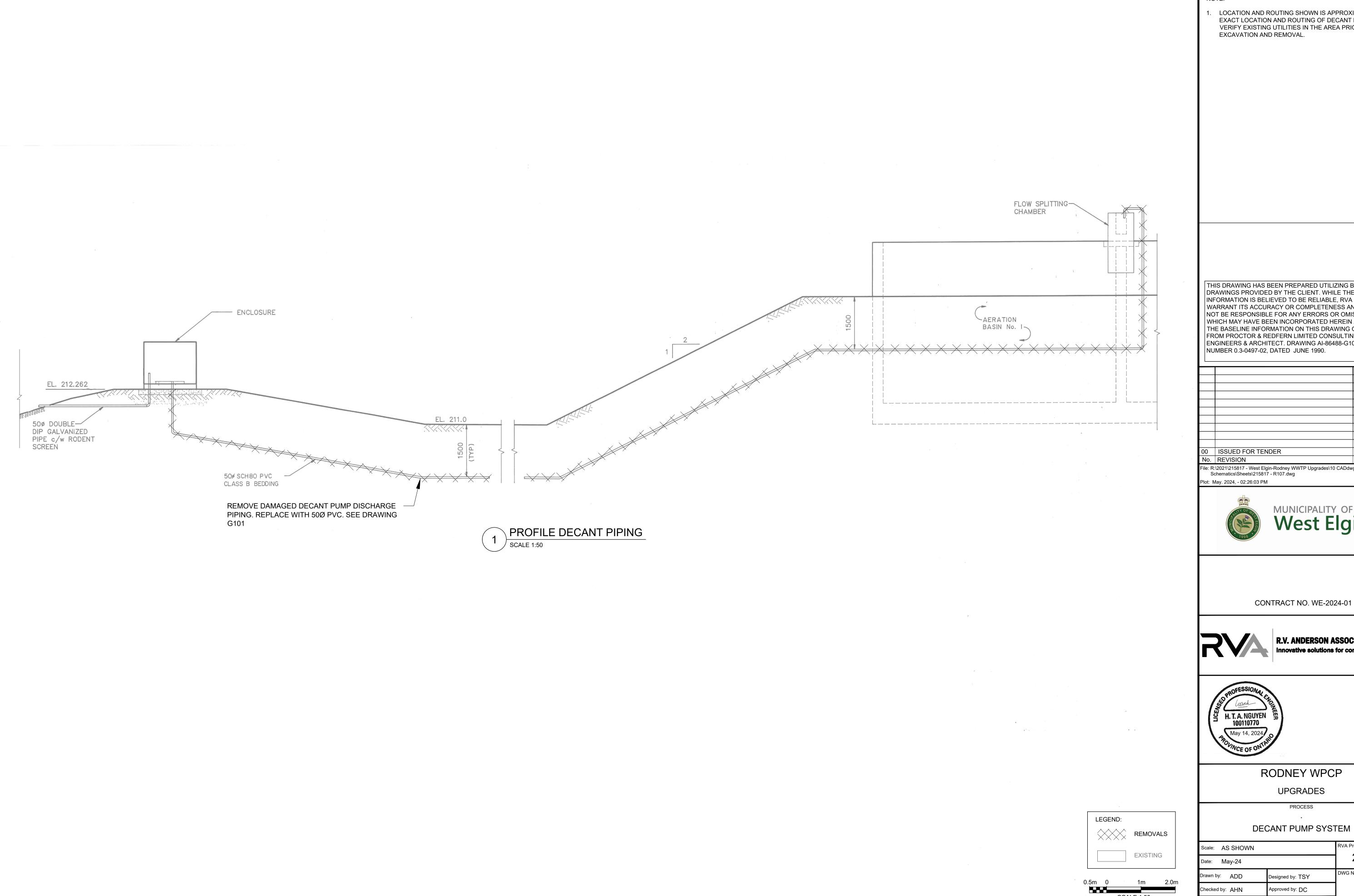
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RODNEY WPCP

UPGRADES

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ale: AS SHOWN		RVA Project No:
e: May-24		215817
wn by: ADD	Designed by: TSY	DWG NO.
cked by: AHN	Approved by: DC	R106



NOTE:

LOCATION AND ROUTING SHOWN IS APPROXIMATE. LOCATE EXACT LOCATION AND ROUTING OF DECANT PIPE AND VERIFY EXISTING UTILITIES IN THE AREA PRIOR TO

THIS DRAWING HAS BEEN PREPARED UTILIZING BASELINE DRAWINGS PROVIDED BY THE CLIENT. WHILE THE BASELINE INFORMATION IS BELIEVED TO BE RELIABLE, RVA DOES NOT WARRANT ITS ACCURACY OR COMPLETENESS AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY HAVE BEEN INCORPORATED HEREIN AS A RESULT. THE BASELINE INFORMATION ON THIS DRAWING ORIGINATED FROM PROCTOR & REDFERN LIMITED CONSULTING ENGINEERS & ARCHITECT. DRAWING AI-86488-G104. PROJECT

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CONTRACT NO. WE-2024-01

RODNEY WPCP

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cale: AS SHOWN		RVA Project No:
ate: May-24		215817
awn by: ADD	Designed by: TSY	DWG NO.
necked by: AHN	Approved by: DC	R107

GENERAL NOTES:

- 1. THE DESIGN AND CONSTRUCTION OF ALL WORK ON THIS PROJECT IS TO CONFORM TO THE FOLLOWING CODES AND STANDARDS:
- A. ONTARIO BUILDING CODE 2012, INCLUDING ALL AMENDMENTS. B. CSA A23.1-19/A23.2-19 - CONCRETE MATERIALS AND METHODS OF CONCRETE
- CONSTRUCTION / TEST METHODS AND STANDARD PRACTICES FOR CONCRETE.
- C. CSA A23.3-19 DESIGN OF CONCRETE STRUCTURES D. CSA S16-19 - DESIGN OF STEEL STRUCTURES
- E. CSA S304-14(R2019) DESIGN OF MASONRY STRUCTURES
- F. CSA S136-16(R2021) DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS
- G. OTHERS AS SPECIFIED.
- 2. PROFESSIONAL ENGINEER, LICENSED ENGINEER, OR ENGINEER MEANS A PROFESSIONAL ENGINEER LICENSED IN THE JURISDICTION OF THIS PROJECT.
- 3. THE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH THE SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS.
- 4. DO NOT SCALE THE DRAWINGS. FIELD CHECK AND VERIFY ALL DIMENSIONS, ELEVATIONS AND RELEVANT DETAILS PRIOR TO CONSTRUCTION OR FABRICATION. REPORT TO THE ENGINEER ANY DISCREPANCIES OR UNSATISFACTORY CONDITIONS WHICH MAY IMPACT THE WORK OF THIS PROJECT.
- 5. ALL OPENINGS MAY NOT BE SHOWN ON THE STRUCTURAL DRAWINGS. REVIEW AND COORDINATE WITH ALL ARCHITECTURAL, MECHANICAL, CIVIL, PROCESS AND ELECTRICAL DRAWINGS TO DETERMINE WHERE OPENINGS ARE REQUIRED IN STRUCTURES. SUBMIT SHOP DRAWINGS DETAILING ADDITIONAL REINFORCEMENT OR FRAMING AROUND OPENINGS AS PER THE TYPICAL DETAILS AND AS SPECIFIED ELSEWHERE ON THE CONTRACT DRAWINGS.
- 6. PROTECT ALL EXISTING INFRASTRUCTURE INCLUDING BUT NOT LIMITED TO ABOVE AND BELOW GRADE STRUCTURES, UNDERGROUND UTILITIES, AND OTHER SERVICES DURING CONSTRUCTION. REPAIR ANY DAMAGE TO EXISTING INFRASTRUCTURE RESULTING FROM THE WORK ON THIS PROJECT TO THE SATISFACTION OF THE OWNER.
- . DESIGN, PROVIDE, MAINTAIN AND TAKE RESPONSIBILITY FOR ALL TEMPORARY BRACING AND SHORING ON THE PROJECT. SUBMIT SHORING, FALSEWORK AND TEMPORARY SUPPORT SHOP DRAWINGS SEALED BY A LICENSED PROFESSIONAL ENGINEER WITH EXPERIENCE IN SIMILAR WORK FOR REVIEW AND INFORMATION.
- 8. ALL STRUCTURES SHOWN HAVE BEEN DESIGNED IN THEIR COMPLETED STATE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL ADDITIONAL SUPPORT AND/OR BRACING NECESSARY TO PROTECT THE STRUCTURE FROM DAMAGE OR LOSS OF STABILITY DURING ALL STAGES OF CONSTRUCTION. ENVIRONMENTAL AND CONSTRUCTION LOADING, CONSTRUCTION SEQUENCING, MEANS AND METHODS, FABRICATING DETAILS, HANDLING, AND ERECTING ALL NEED TO BE CONSIDERED BY THE CONTRACTOR DURING CONSTRUCTION.
- 9. IF DETAILS DIFFER ON OTHER DRAWINGS, SEEK CLARIFICATION FROM THE ENGINEER PRIOR TO PROCEEDING.

EXCAVATIONS, BACKFILL AND FOUNDATION NOTES:

- LOCATE ALL UNDERGROUND PIPING, ELECTRICAL, OR OTHER UTILITIES AND SERVICES WHICH MAY INTERFERE WITH THE WORK ON THIS PROJECT PRIOR TO EXCAVATING OR DRILLING. COORDINATE WITH THE OWNER AND ANY APPLICABLE AUTHORITIES AS REQUIRED TO RELOCATE, REMOVE OR PROVIDE TEMPORARY SUPPORT TO UNDERGROUND UTILITIES AND SERVICES.
- 2. DESIGN AND INSTALL SHORING AS REQUIRED DURING EXCAVATION AND TO SAFEGUARD ALL ADJACENT EXISTING UTILITIES, STRUCTURES, ROADS, RAILWAYS, EMBANKMENTS AND PROPERTY LIMITS. TIE BACK ANCHORS FOR SHORING SHALL NOT EXTEND BEYOND PROPERTY LINES OR INTERFERE WITH ANY BURIED STRUCTURES OR UTILITIES.
- 3. SHORING DESIGN IS THE RESPONSIBILITY OF THE CONTRACTOR. THE DESIGN SHALL BE SEALED BY A PROFESSIONAL ENGINEER HAVING EXPERIENCE WITH SIMILAR DESIGN WORK. SUBMIT SEALED SHORING DRAWINGS FOR REVIEW AND INFORMATION.
- 4. PROVIDE DEWATERING EQUIPMENT AND METHODS DURING CONSTRUCTION TO ENSURE EXCAVATIONS ARE DRY AT ALL TIMES. PLACEMENT OF CONCRETE IS ONLY PERMITTED IN DRY EXCAVATIONS. THE DEWATERING SYSTEM IS TO BE DESIGNED TO PREVENT SETTLEMENT AND DAMAGE TO ADJACENT INFRASTRUCTURE. REFER TO GEOTECHNICAL REPORT FOR GROUND WATER ELEVATIONS AND RECOMMENDATIONS.
- 5. ALL SUBGRADE SOILS MUST BE EVALUATED BY A LICENSED GEOTECHNICAL ENGINEER PRIOR TO PLACING FOOTINGS, FOUNDATIONS AND SLABS TO ENSURE THAT THE BASE IS CONSISTENT WITH THE DESIGN BEARING RESISTANCES AND COMPACTION REQUIREMENTS SPECIFIED WITHIN THE CONTRACT DOCUMENTS.
- 6. PROTECT SOIL FROM FREEZING ADJACENT TO AND BELOW ALL CONCRETE FOOTINGS AND FOUNDATION ELEMENTS SPECIFIED ON THE DRAWINGS.
- 7. DO NOT EXTEND EXCAVATION BELOW A LINE EXTENDING DOWN AND AWAY FROM ANY FOUNDATION EDGE OR CORNER AT A RATIO OF 7 VERTICAL TO 10 HORIZONTAL.
- 8. REMOVE ALL TOPSOIL AND ORGANIC MATERIAL ENCOUNTERED DURING EXCAVATION AND BACKFILL WITH SPECIFIED MATERIALS.
- 9. LOCAL SOFT AREAS OR OTHER DELETERIOUS MATERIALS DISCOVERED AT THE FOUNDING LEVELS OF FOUNDATIONS ARE TO BE OVER EXCAVATED DOWN TO THE APPROVED NATIVE

SOILS AND BACKFILLED WITH A MINIMUM 10MPa LEAN CONCRETE FILL.

- 10. U.N.O. FOUNDATION WALL BACKFILL TO BE OPSS TYPE 1 GRANULAR 'B' OR OTHER FREE-DRAINING MATERIAL APPROVED BY THE GEOTECHNICAL ENGINEER, PLACE BACKFILL EQUALLY ON BOTH SIDES OF FOUNDATION WALLS OR STRUCTURES IN LAYERS NOT EXCEEDING 300mm AND COMPACT TO 98% STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD), DO NOT COMMENCE BACKFILLING OPERATION UNTIL CONCRETE HAS ATTAINED 70% OF ITS SPECIFIED COMPRESSIVE STRENGTH, OR UNTIL OTHERWISE APPROVED BY
- 11. MAINTAIN A MINIMUM OF 1.5m OF EARTH COVER TO THE UNDERSIDE OF EXTERIOR WALL FOUNDATIONS.

SLAB ON GRADE NOTES:

- 1. SEE PLANS AND SECTIONS ON CONTRACT DRAWINGS FOR SLAB ON GRADE AND EXTERIOR EQUIPMENT PAD DETAILS AND THICKNESSES.
- . PLACE SLAB ON GRADE ON OPSS GRANULAR 'A' OR 19mm CRUSHER RUN LIMESTONE COMPACTED TO 100% STANDARD PROCTOR MAXIMUM DRY DENSITY (SPMDD). SUBGRADE THICKNESS TO BE AS INDICATED ON THE STRUCTURAL DRAWINGS AND PLACED IN MAXIMUM 200mm THICK LIFTS. REFER TO GEOTECHNICAL REPORT FOR SUB-BASE INFORMATION AND REQUIREMENTS.
- PROOF-ROLL EXISTING SUB-GRADE TO IDENTIFY SOFT AREAS AND OTHER DELETERIOUS MATERIALS. IMPROVE UNDESIRABLE SOFT AREAS WITH APPROVED BACKFILL AND COMPACT TO THE SATISFACTION OF THE GEOTECHNICAL ENGINEER.
- SUBGRADE MUST BE INSPECTED AND APPROVED BY A LICENSED GEOTECHNICAL ENGINEER PRIOR TO CONCRETE PLACEMENT.
- . VERIFY ALL MECHANICAL, ELECTRICAL AND PROCESS PIPING, CONDUITS AND OTHER EMBEDDED SERVICES HAVE BEEN INSTALLED PRIOR TO CONCRETE PLACEMENT.
- PROVIDE SAWCUT JOINTS, CONSTRUCTION JOINTS, CONTROL JOINTS, AND COLUMN ISOLATION JOINTS AS SHOWN ON THE STRUCTURAL DRAWINGS AND TYPICAL DETAILS. INSTALL JOINTS IN ACCORDANCE WITH THE REQUIREMENTS OF CSA A23.1-19 SECTION 7.3 JOINTING.
- SUBMIT SLAB ON GRADE SHOP DRAWINGS WHICH INCLUDE PLANS, SECTIONS AND DETAILS ON SLAB THICKNESS, STEEL REINFORCEMENT, CONCRETE STRENGTH, SUB-BASE, UNDER SLAB VAPOUR RETARDER, SLOPING, JOINT TYPE AND LOCATION, AND PENETRATION TYPE AND LOCATION.
- 8. SLAB THICKNESSES NOTED ON THE STRUCTURAL DRAWINGS ARE MINIMUM THICKNESSES TO BE MAINTAINED FOR SLOPED SLABS.
- REFER TO SPECIFICATIONS AND DRAWINGS FOR SLAB ON GRADE FLOOR FINISH REQUIREMENTS.

CONCRETE NOTES:

- THE DESIGN AND CONSTRUCTION OF ALL WORK ON THIS PROJECT IS TO CONFORM TO CSA A23.1, CSA A23.2 AND CSA A23.3.
- . SUPPLY ALL CONCRETE AS SPECIFIED. REFER TO SPECIFICATION SECTION 03300 FOR
- PRIOR TO ANY CONCRETE WORK, ORGANIZE A PRE-CONSTRUCTION MEETING TO ESTABLISH A CLEAR UNDERSTANDING OF THE SPECIAL CONCRETE REQUIREMENTS OF THIS PROJECT TO PRODUCE HIGH DURABLE CONCRETE WITH LOW SHRINKAGE CHARACTERISTICS. THE OWNER, CONTRACT ADMINISTRATOR, STRUCTURAL DESIGN ENGINEER, CONTRACTOR, READY MIX CONCRETE SUPPLIER, CONCRETE QUALITY INSPECTOR AND ALL OTHER TRADES INVOLVED IN CONCRETE WORK MUST ATTEND.
- PRIOR TO COMMENCING CONCRETE WORK SUBMIT TO THE ENGINEER FOR REVIEW AND APPROVAL MIX DESIGNS FOR THE VARIOUS TYPES OF CONCRETE SPECIFIED ON THE
- . CURE CONCRETE UNTIL THE CONCRETE HAS ACHIEVED A MINIMUM OF 70% OF ITS SPECIFIED STRENGTH.
- 6. FORM 20x20mm CHAMFERS ON ALL EXPOSED OUTSIDE CORNERS.
- SUBMIT STEEL REINFORCEMENT SHOP DRAWINGS FOR REVIEW AND APPROVAL. SHOP DRAWINGS TO INCLUDE BAR LISTS, BAR BENDS, AND PLACING DETAILS PREPARED BY AN EXPERIENCED AND COMPETENT REBAR DETAILER.
- 8. REBAR DETAILING AND PLACEMENT TO COMPLY WITH THE LATEST RSIC MANUAL OF STANDARD PRACTICE U.N.O.
- U.N.O. IN CONTRACT SPECIFICATIONS OR STRUCTURAL DRAWINGS, THE REQUIRED COVER FOR REINFORCING BARS IS TO BE AS FOLLOWS:

- 75 mm ± 8 mm

 $-60 \text{ mm} \pm 8 \text{ mm}$

- A. CONCRETE PLACED AGAINST GROUND WITHOUT FORMS B. CONCRETE PLACED IN ALL OTHER LOCATIONS
- 10. MINIMUM LAP AND DEVELOPMENT LENGTHS OF REINFORCING STEEL U.N.O. ON DRAWINGS:
- A. 15M 700mm
- B. 20M 850mm C. 25M - 1300mm
- D. 30M 1550mm E. 35M - 1850mm
- 11. SECURE ALL REINFORCEMENT INTO POSITION TO PREVENT MOVEMENT OR DEFORMATION DURING CONCRETE PLACEMENT. DO NOT ORDER CONCRETE UNTIL REBAR PLACEMENT IS REVIEWED AND APPROVED BY THE ENGINEER AND CONDUITS, PIPING AND OTHER EMBEDDED ITEMS HAVE BEEN COORDINATED.
- 12. SECURE ALL WATERSTOPS TO PREVENT MOVEMENT OR DEFORMATION DURING CONCRETE PLACEMENT.
- 13. PROVIDE ADDITIONAL REINFORCEMENT AROUND ALL OPENINGS IN ACCORDANCE WITH THE STRUCTURAL DRAWINGS AND/OR TYPICAL DETAILS.
- 14. ALL STEEL REINFORCEMENT BARS TO CONFORM TO CSA G30.18, GRADE 400W.
- 15. DO NOT PLACE SLEEVES, PIPES, HOLES OR NOTCHES THROUGH CONCRETE EXCEPT AS SHOWN ON THE STRUCTURAL DRAWINGS OR APPROVED BY THE ENGINEER.
- 16. ALL CONSTRUCTION JOINTS SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE INCORPORATED INTO THE STRUCTURE. ADDITIONAL CONSTRUCTION JOINTS REQUIRED TO FACILITATE CONSTRUCTION SHALL BE LOCATED AND DETAILED ON THE SHOP DRAWINGS.
- 17. SHORE ALL SUSPENDED CONCRETE SLABS AND BEAMS UNTIL THE CONCRETE HAS ATTAINED THE SPECIFIED COMPRESSIVE DESIGN STRENGTH.
- 18. DO NOT DAMAGE EXISTING EMBEDDED ITEMS IN CONCRETE DURING ANCHORING ACTIVITIES, ACCURATELY LOCATE EXISTING REINFORCING STEEL, CAST-INS AND OTHER MISCELLANEOUS EMBEDDED ITEMS IN CONCRETE WHERE POST-INSTALLED ANCHORS ARE TO BE USED.

STRUCTURAL STEEL NOTES:

- 1. THE DESIGN AND CONSTRUCTION OF ALL WORK IN THIS PROJECT SHALL CONFORM TO CAN/CSA-S16 AND CAN/CSA S136.
- 2. ALL SHOP CONNECTIONS TO BE WELDED. ALL FIELD CONNECTIONS TO BE BOLTED USING HIGH STRENGTH ASTM A325 BOLTS U.N.O. ON STRUCTURAL DRAWINGS.
- 3. BOLTED CONNECTIONS TO HAVE A MINIMUM OF 2 BOLTS.
- 4. COLUMN BASE PLATE CONNECTIONS TO HAVE A MINIMUM OF 4 ANCHOR RODS.
- 5. ALL CONNECTIONS TO BE DOUBLE ANGLE OR SHEAR TAB (WHERE PRACTICAL) BEAM CONNECTIONS USING A325 BOLTS AND E49XX FILLET WELDS U.N.O. ON DRAWINGS. MINIMUM SIZE OF BOLTS - 20mm DIAMETER. MINIMUM SIZE OF WELDS - 6mm.
- 6. ALL WELDING SHALL BE CARRIED OUT IN ACCORDANCE WITH THE LATEST EDITIONS OF CSA W59, BY A FABRICATOR CERTIFIED BY THE CANADIAN WELDING BUREAU UNDER THE REQUIREMENTS OF CSA W47.1.
- 7. PROVIDE STEEL MATERIAL GRADES AS FOLLOWS:
- A. W, HSS, HP, WT, C AND L SHAPES TO CSA G40.20/G40.21, Fy = 350 MPa B. OTHER SHAPES AND PLATES TO CSA G40.20/G40.21, Fy = 300 MPa
- C. COLD FORMED C AND Z SECTIONS TO ASTM A1011/A1011M, Fy = 340 MPa
- D. HIGH STRENGTH BOLTS TO ASTM A325 E. ANCHOR RODS TO ASTM F1554 GRADE 55
- 8. PROVIDE STEEL CAP PLATES FOR ALL HSS COLUMNS.
- 9. DESIGN BRACING MEMBER CONNECTIONS FOR THE GREATER OF: A. 50% OF THE GROSS TENSION CAPACITY OF THE MEMBER.
- B. FACTORED TENSILE AND/OR COMPRESSIVE FORCES AS SHOWN ON THE STRUCTURAL PLAN, ELEVATION OR SECTION DETAILS.
- 10. SUPPLY, INSTALL AND REMOVE ANY TEMPORARY BRACING REQUIRED DURING
- 11. ALL CONNECTIONS TO CONFORM TO CSA S16 AND TO BE DESIGNED BY A PROFESSIONAL ENGINEER FOR THE DESIGN LOADS NOTED ON THE STRUCTURAL DRAWINGS. AXIAL, SHEAR, MOMENT AND TORSIONAL FORCES SHALL BE CONSIDERED IN COMBINATION AT APPLICABLE CONNECTIONS. REFER TO TYPICAL DETAILS AND SPECIFICATION SECTION 05500 FOR ADDITIONAL CONNECTION DESIGN REQUIREMENTS.
- 12. SUBMIT DETAILED FABRICATION AND ERECTION DRAWINGS. ALL CONNECTION DETAILS TO INDICATE CAPACITIES AND BEAR THE SIGNATURE AND SEAL OF A PROFESSIONAL ENGINEER.
- 13. FORCES NOTED ON STRUCTURAL DRAWINGS ARE DESIGNATED BY (+) FOR TENSION AND (-) FOR COMPRESSION.
- 14. USE THE FOLLOWING PROTECTIVE COATINGS FOR STRUCTURAL STEEL UNLESS NOTED OTHERWISE:
- A. HOT-DIP GALVANIZE ALL STRUCTURAL STEEL / ALL MEMBERS INDICATED ON THE DRAWINGS AFTER FABRICATION:
- a. FABRICATIONS TO HAVE VENT HOLES, DRAIN HOLES, AND WELDING DETAILS IN ACCORDANCE WITH ASTM A385/385M.
- ASTM A123/123M. b. ASSEMBLIES:
- c. HARDWARE AND FASTENERS: ASTM A153/153M
- d. REINFORCING STEEL BARS: ASTM A767/767M
- ASTM A653/653M e. SHEET STEEL: f. REPAIRS: ASTM A780/780M
- B. LEAVE ALL STRUCTURAL STEEL MEMBERS THAT WILL BE TREATED WITH SPRAY APPLIED FIRE PROOFING UN-FINISHED.
- C. PAINT ALL STRUCTURAL STEEL NOT OTHERWISE DESIGNATED TO RECEIVED ANY OTHER COATING WITH A STEEL SHOP PAINT PRIMER TO CISC/CONA STANDARD 2-75 WITH A MINIMUM DRY FILM THICKNESS OF 1.5 MILS. DO NOT APPLY SHOP
- PAINT PRIMER TO: a. CONTACT SURFACES OF SLIP-CRITICAL CONNECTIONS.
- b. PORTIONS OF SURFACES THAT ARE TO RECEIVE FIELD WELDS. c. PORTIONS OF STEEL MEMBERS, WHICH ARE TO BE ENCASED IN OR IN
- CONTACT WITH CAST-IN-PLACE CONCRETE d. MEMBERS WHERE OTHER PAINT SYSTEMS ARE SPECIFIED.
- 15. PROVIDE WELDED WEB STIFFENER PLATES ON BOTH SIDES OF THE WEB OF BEAMS AT POINTS OF CONCENTRATED LOAD. MINIMUM STIFFENER PLATE THICKNESS TO BE 12 mm. SIZE OF WELD TO BE SUFFICIENT TO DEVELOP THE FULL STRENGTH OF THE STIFFENERS, BUT NOT LESS THAN 6mm.
- 16. COORDINATE ROOF AND WALL OPENINGS LOCATIONS AND SIZES WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, PROCESS AND CIVIL DRAWINGS. U.N.O. ON STRUCTURAL DRAWINGS, PROVIDE C200x17 FRAMING MEMBERS AROUND ALL OPENINGS IN ROOF DECK. COMPOSITE DECK OR WALL CLADDING SYSTEMS.
- 17. COORDINATE FINAL LOCATION, ORIENTATION AND SIZE OF ROOFTOP MECHANICAL UNITS WITH MECHANICAL DRAWINGS. U.N.O. ON STRUCTURAL DRAWINGS, PROVIDE C200x17 FRAMING MEMBERS BELOW EACH ROOFTOP UNIT SUPPORT CURB.

STEEL DECK NOTES:

- 1. SUBMIT ERECTION DRAWINGS TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION, INDICATING SHEET LENGTHS, MATERIAL PROPERTIES AND FASTENING METHODS.
- 2. DECK SHALL BE SUPPLIED IN 3-SPAN UNITS MINIMUM. UNLESS NOTED OTHERWISE.
- 3. ERECTION OF STEEL DECK BY WELDING SHALL BE DONE BY COMPANIES CERTIFIED BY THE CANADIAN WELDING BUREAU (CWB) UNDER CSA W47.1 . WELDERS SHALL BE CERTIFIED BY CWB FOR DECK WELDING. PRACTICE WELDS SHALL BE MADE PRIOR TO ACTUAL JOB WELDING TO CHECK THE ADEQUACY OF THE WELDING ROD AMPERAGE AND BURN OFF RATE NECESSARY TO PRODUCE SATISFACTORY FUSION FOR THE VARIOUS WELDS REQUIRED. PRACTICE AND FINAL WELDS SHALL BE INSPECTED BY THE STEEL DECK ERECTOR AS TO SIZE AND SPACING AND PRY TESTED TO DEMONSTRATE METAL TO METAL FUSION.
- 4. WHERE POWER ACTUATED FASTENERS ARE SPECIFIED. WORK MUST BE DONE IN STRICT CONFORMANCE WITH FASTENER MANUFACTURES GUIDELINES.
- 5. ALL AREAS WHERE ZINC COATING HAS BEEN BURNED BY WELDING ARE TO BE TOUCHED UP WITH ZINC RICH PRIMER ACCORDING TO PAINT MANUFACTURER INSTRUCTIONS.
- 6. GENERAL CONSTRUCTION AND SPECIFICATIONS NOT OTHERWISE NOTED TO MEET CANADIAN SHEET STEEL BUILDING INSTITUTE PUBLICATION "STANDARD FOR STEEL ROOF DECK".

MASONRY NOTES:

- THE DESIGN AND CONSTRUCTION OF ALL WORK ON THIS PROJECT IS TO CONFORM TO CSA-S304.1-14, CSA-A371 AND CSA-A179.
- 2. PROVIDE TYPE 'S' MORTAR IN ACCORDANCE WITH CSA-A179.
- 3. PROVIDE STANDARD CONCRETE BLOCK UNITS IN ACCORDANCE WITH CSA A165.1 WITH A MINIMUM COMPRESSIVE STRENGTH OF 15 MPa.
- 4. PROVIDE 1-15M FULL HEIGHT IN TWO CONSECUTIVE CORES AT EACH SIDE OF CONTROL JOINTS, AT CORNERS, INTERSECTIONS, ENDS OF WALLS AND ON EACH SIDE OF ALL OPENINGS OF REINFORCED WALL U.N.O. PROVIDE MATCHING DOWELS TO ANCHOR TO CONCRETE FOR ALL VERTICAL WALL REINFORCEMENT. U.N.O. MINIMUM DOWEL
- A. 150mm TO CONCRETE ELEMENTS < 250mm THK. B. FULL DEVELOPMENT LENGTH, OR STANDARD HOOK FOR ELEMENTS > 250mm THICK.
- . MASONRY GROUT CSA A179 WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 20MPa. GROUT MAY BE EXPANDED WITH 10mm CONCRETE AGGREGATE IN ACCORDANCE WITH CSA A23.1 WHEN USED TO FILL VOIDS.
- 6. VERTICAL REINFORCEMENT BARS HAVE A MINIMUM LAP LENGTH IN ACCORDANCE WITH CSA
- 7. LOCATION, THICKNESS, HEIGHT AND ORIENTATION OF ALL INTERIOR MASONRY PARTITION WALLS MAY NOT BE SHOWN ON STRUCTURAL DRAWINGS. REFER TO ARCHITECTURAL DRAWINGS WHERE APPLICABLE.
- 8. MASONRY JOINT REINFORCEMENT SHALL BE HOT DIPPED GALVANIZED WIRE CONFORMING
- 9. PROVIDE CONTINUOUS, HORIZONTAL JOINT REINFORCEMENT @ 400 mm C/C, IN BOTTOM TWO BED JOINTS, TOP TWO BED JOINTS AND FIRST BED JOINT ABOVE AND BELOW ALL WALL OPENINGS. SPLICE JOINT REINFORCEMENT USING CLASS B TENSION LAP SPLICES IN ACCORDANCE WITH OF CSA-S304.1.
- 10. REINFORCING FOR REINFORCED CONCRETE MASONRY SHALL CONFORM TO CSA G30.18 GRADE 400.
- 11. EMBED DOWELS AND ANCHOR BOLTS A MINIMUM OF 150mm INTO SOLID MASONRY U.N.O. ON DRAWINGS.
- 12. PROVIDE LINTELS AS SPECIFIED IN THE LINTEL SCHEDULE OVER ALL OPENINGS INCLUDING THOSE REQUIRED FOR MECHANICAL, ARCHITECTURAL, PROCESS AND ELECTRICAL NOT SHOWN ON THE STRUCTURAL DRAWINGS.
- 13. ALL LOAD BEARING & NON-LOAD BEARING MASONRY WALLS ARE DESIGNED TO BE LATERALLY SUPPORTED ALONG THE TOP OF THE WALL U.N.O. PROVIDE ANCHORS, REBAR DOWELS, OR OTHER LATER SUPPORTS AS DETAILED ON THE STRUCTURAL DRAWINGS.
- 14. PLACE MASONRY IN RUNNING BOND PATTERN U.N.O.
- 15. MASONRY TIES: STAINLESS STEEL WITH DISCRETE HOLES AT A MAXIMUM SPACING OF 800mm C/C.

DESIGN CRITERIA AND LOADING:

- STRUCTURAL LOADING INFORMATION:
- A. LOCATION: WEST LORNE, ONTARIO
- B. **POST DISASTER** IMPORTANCE STRUCTURE C. HOURLY WIND LOAD: $q_{1/50} = 0.47$ kPa, $q_{1/10} = 0.36$ kPa, $I_W = 1.25$ (ULS)
- D. SNOW LOAD: $S_S = 1.3 \text{ kPa}$, $S_r = 0.4 \text{ kPa}$, $I_S = 1.25 \text{ (ULS)}$ E. EARTHQUAKE LOAD = Sa(0.2) = 0.160, Sa(0.5) = 0.095, Sa(1.0) = 0.054, Sa(2.0) = 0.016, PGA = 0.0054
- $0.088, I_{E} = 1.5 \text{ (ULS)}$
- F. SEISMIC SITE CLASSIFICATION = CLASS **D** G. SEE RELEVANT DRAWINGS FOR SPECIFIC FLOOR AND ROOF LOADS. ALL LOADS SHOWN ON DRAWINGS ARE UNFACTORED U.N.O.
- A ISSUED FOR TENDER

NOTES:

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2024.05.13 DC



CONTRACT NO. WE-2024-01





RODNEY WPCP

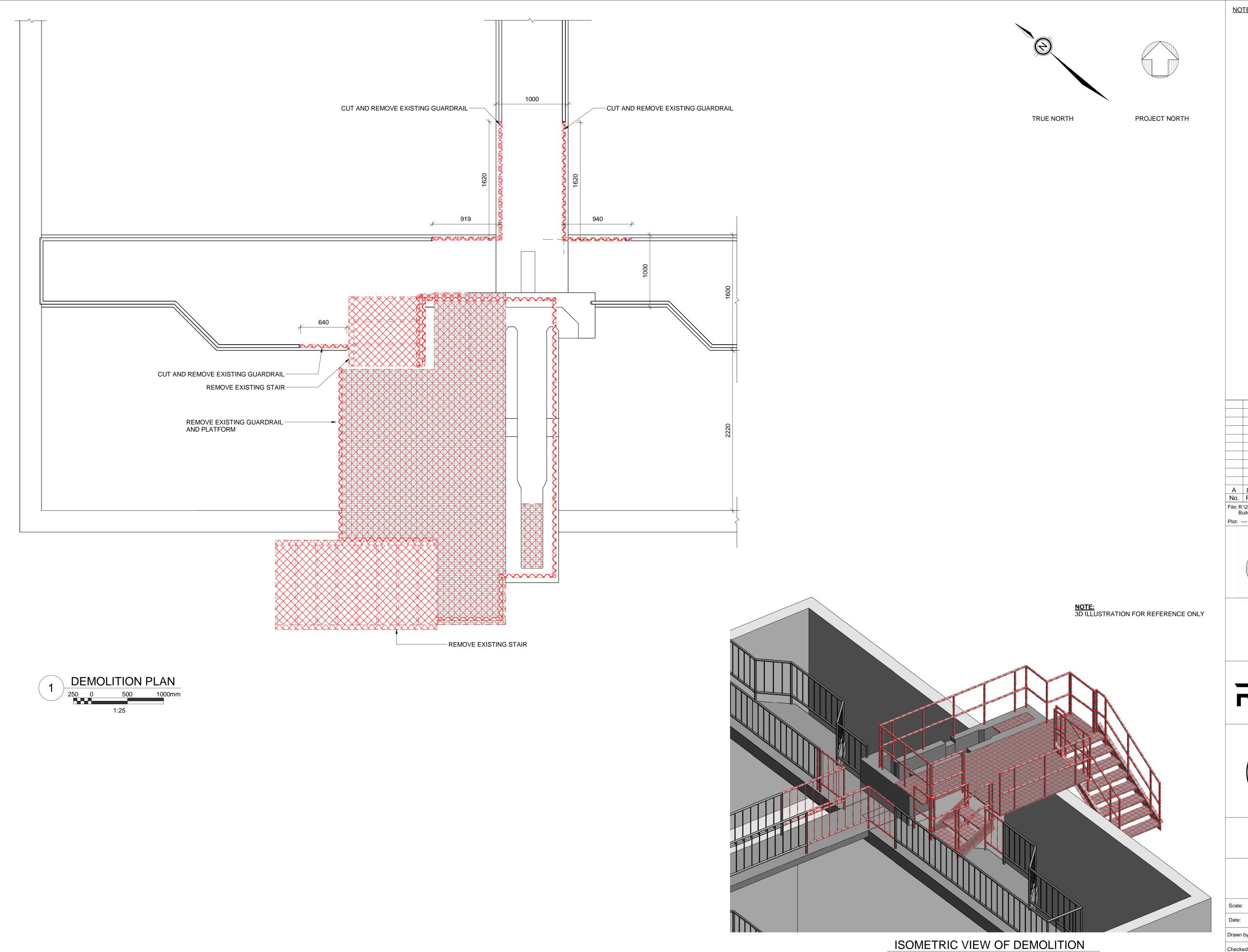
STRUCTURAL

UPGRADES

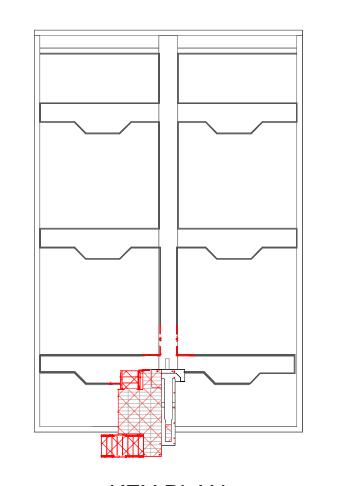
GENERAL NOTES

Scale: AS SHOWN No: 215817 Date: AUG 2023 Drawn by: CCWP Designed by: HOA Checked by: RSM Approved by:

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NOTES:



KEY PLAN

	ISSUED FOR TENDER	2024.05.13	
	REVISION	DATE	
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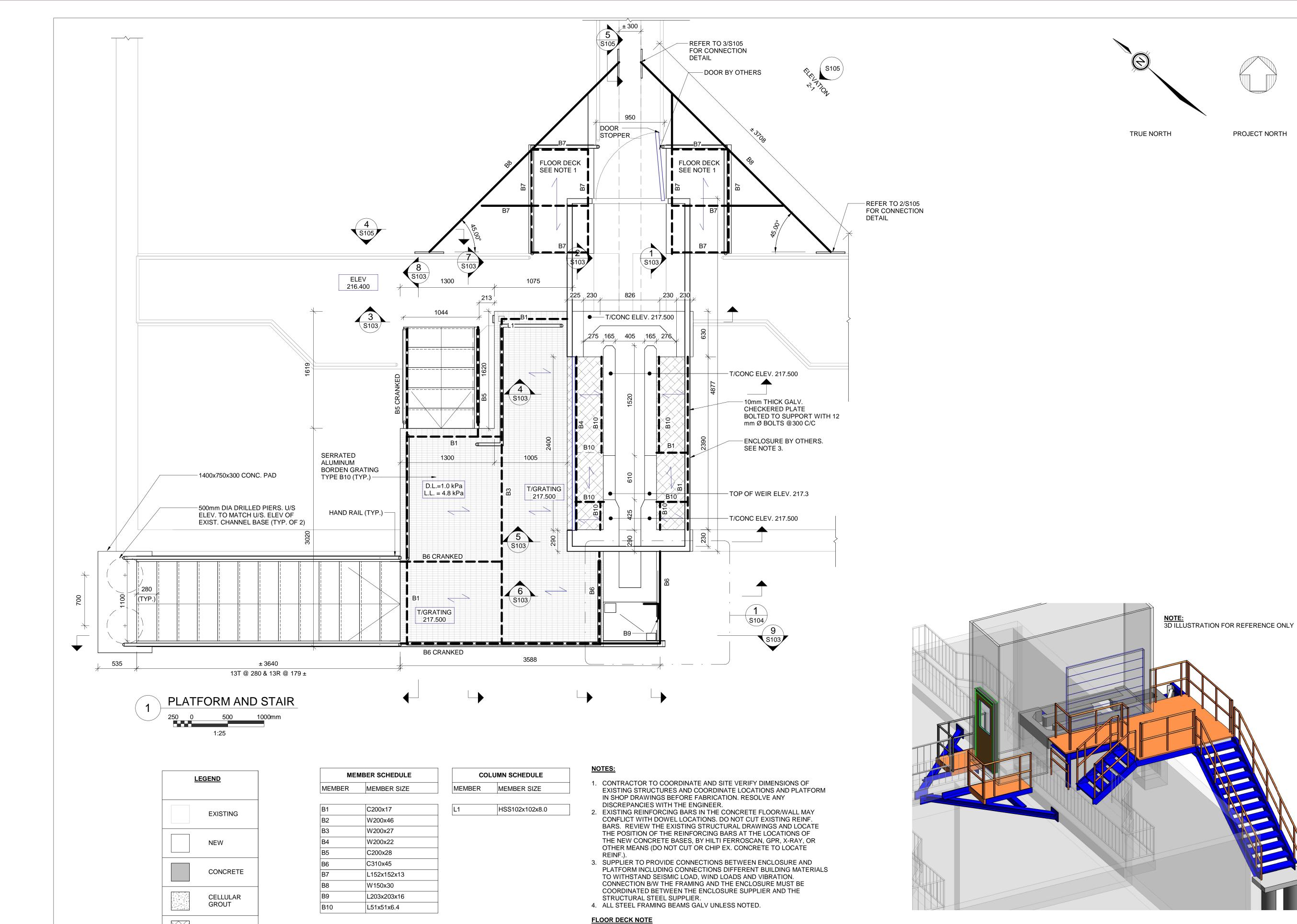
RODNEY WPCP

UPGRADES

STRUCTURAL

HEADWORKS DEMOLITION PLAN

RVA Project No: 215817 Scale: AS SHOWN Date: AUG 2023 DWG NO. Drawn by: CCWP Designed by: HOA S101 Checked by: RSM Approved by:



1. 150mm COMPOSITE FLOOR AS FOLLOW:

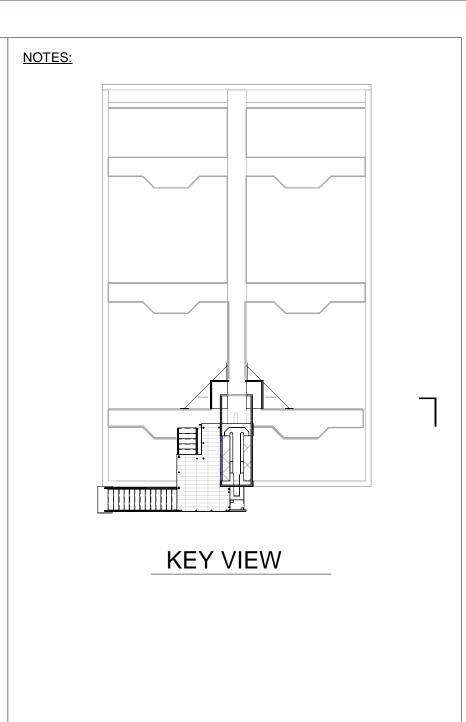
INSTALL MESH @ 25mm BELOW TOP OF SLAB

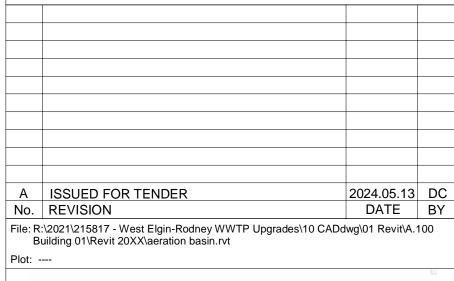
112mm NORMAL DENSITY CONCRETE ON 38 X 0.91 COMPOSITE STEEL DECK (TYP. VICWEST H1-BOND) HB938 OR EQUIVALENT WITH 152 X 152

MW18.7 / W 18.7 (6X6 - 6X6)WELDED WIRE MESH. INSTALL DOUBLE LAYER TOP OVER SUPPORT, AND FOR QUARTER SPAN ON EACH SIDE

STEEL FLOOR

ISOMETRIC VIEW OF PLATFORM AND STAIR







CONTRACT NO. WE-2024-01



R.V. ANDERSON ASSOCIATES LIMITED



Checked by: RSM

RODNEY WPCP

UPGRADES

STRUCTURAL

HEADWORKS NEW PLATFORM AND STAIR PLAN

 NEVV PLATFORIVI AND STAR PLAN

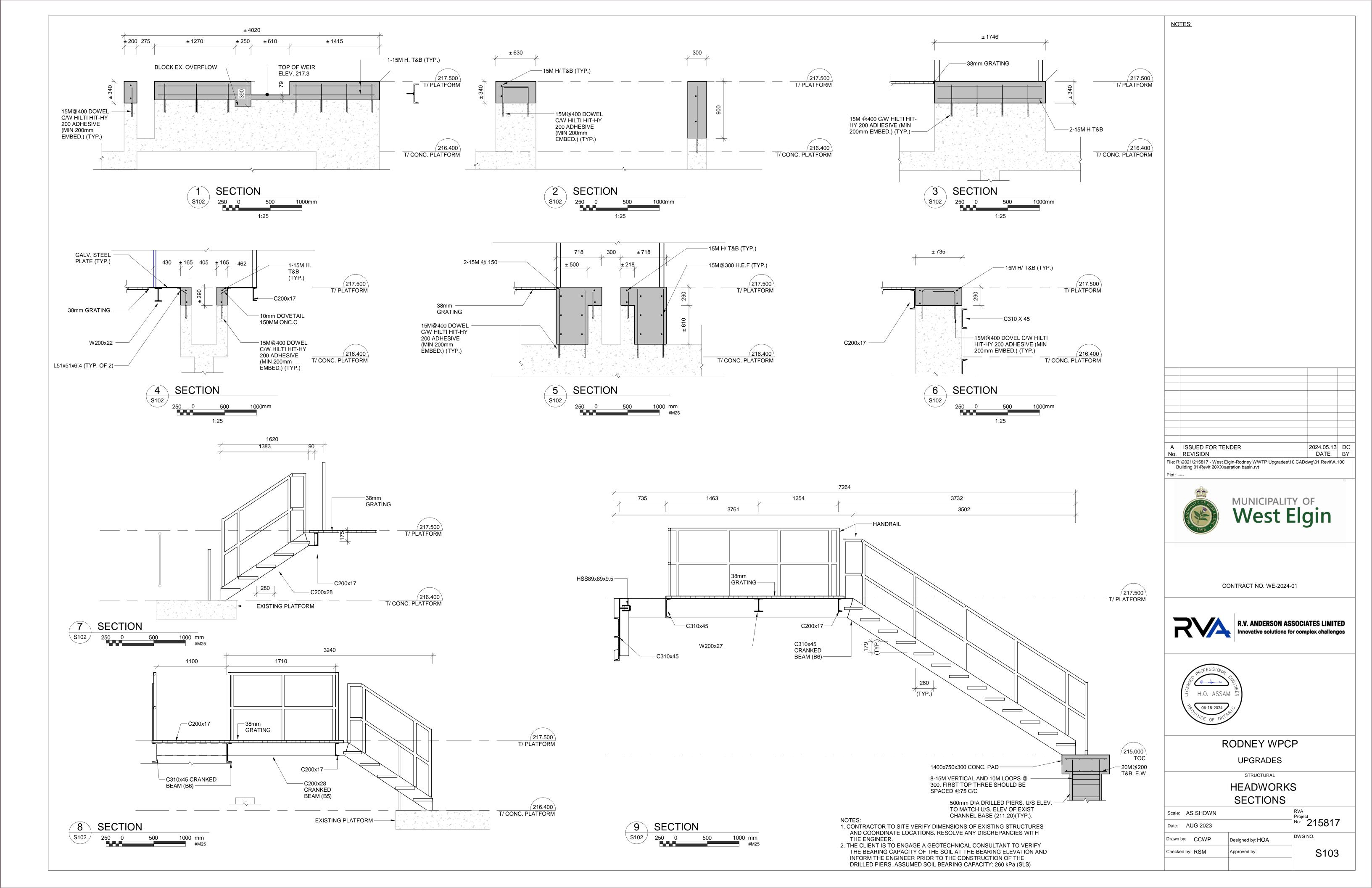
 Scale: AS SHOWN
 RVA Project No: 215817

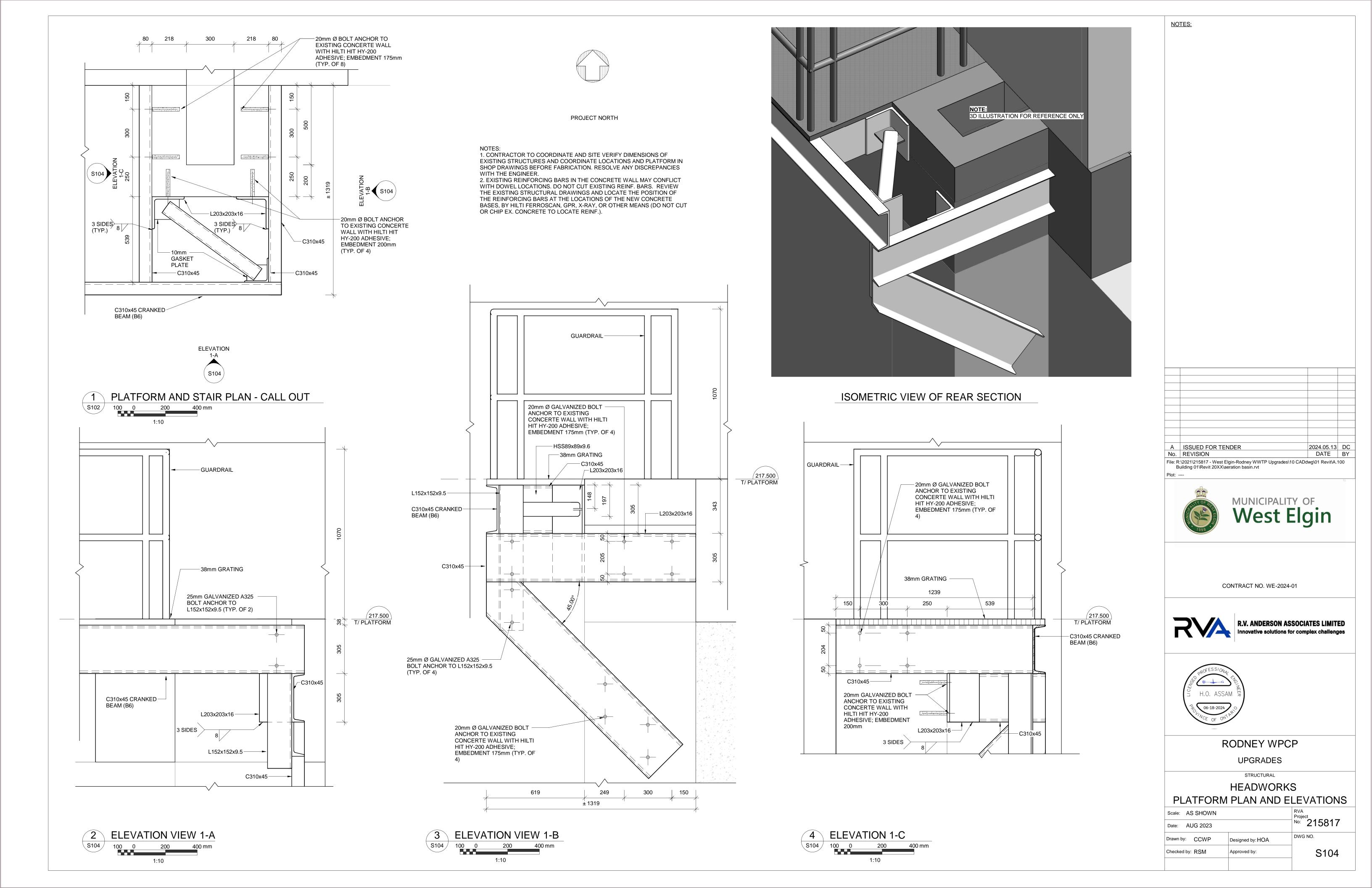
 Date: AUG 2023
 Designed by: HOA

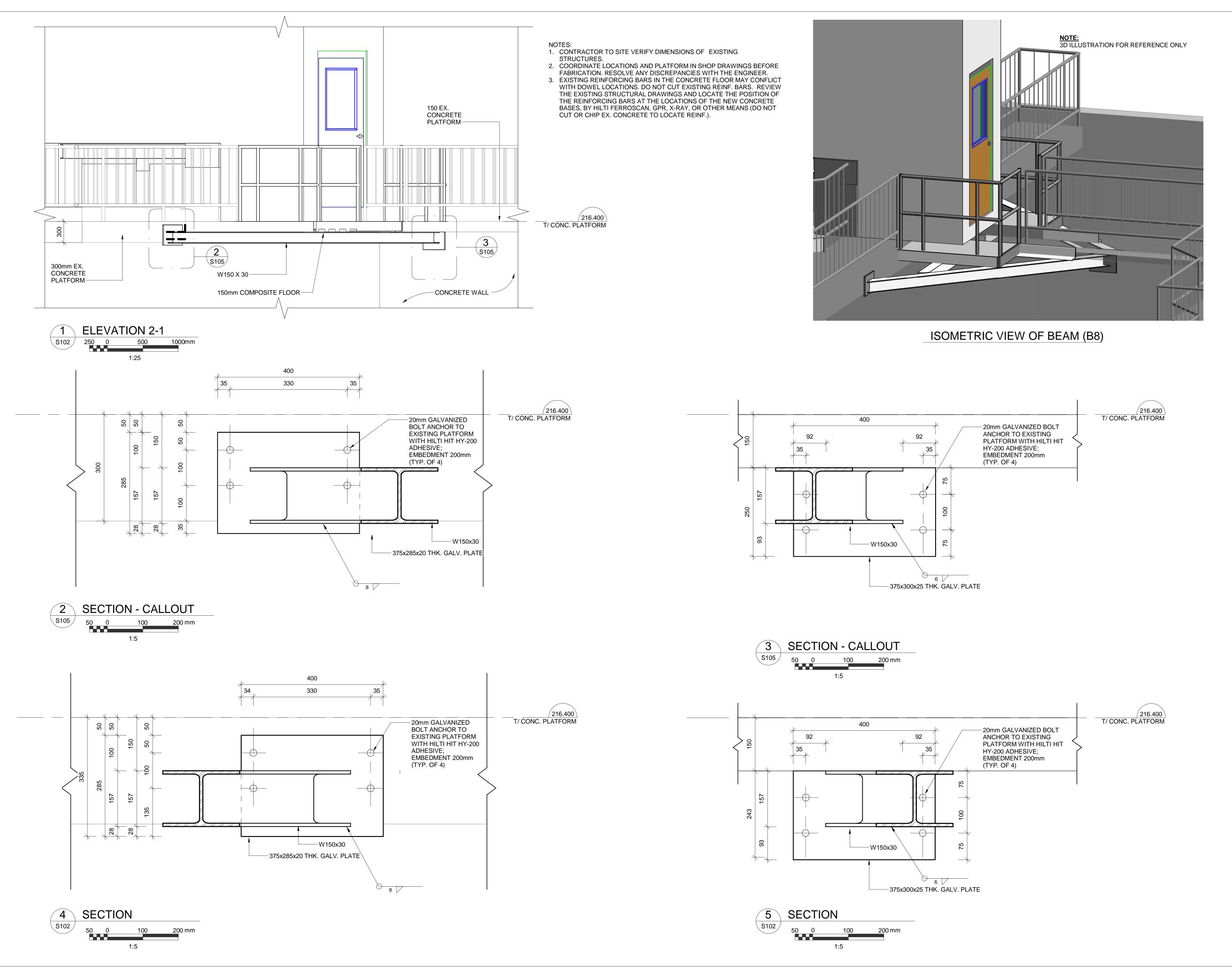
 Drawn by: CCWP
 Designed by: HOA

Approved by:

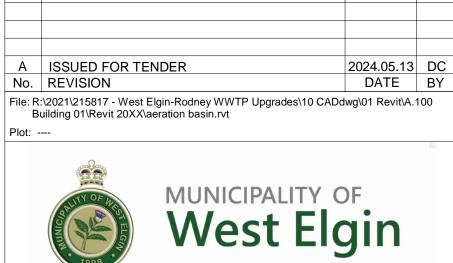
S102





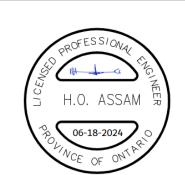


NOTES:



CONTRACT NO. WE-2024-01





RODNEY WPCP

UPGRADES

STRUCTURAL

HEADWORKS SECTIONS

 Scale: AS SHOWN
 RVA Project No: 215817

 Date: AUG 2023
 Designed by: HOA

 Drawn by: CCWP
 Designed by: HOA

 Checked by: RSM
 Approved by:

OBC MATRIX

Name of Practice: Location: R.V. ANDERSON ASSOCIATES LIMITED PIONEER LINE 2001 SHEPPARD AVE. E., SUITE 300 RODNEY, ON TORONTO, ON, M2J 4Z8 N0L 2C0 Name of Project: Date: **RODNEY WPCP UPGRADES**

JAN 2024

		JAN 2024	
		Ontario Building Code Data Matrix Part 11 Renovation of Existing Building	Building Code Reference ¹
11.00	Building Code Version	ŭ Ü	
11.01	Project Type:	□ New □ Addition ☑ Renovation □ Change of use □ Addition and renovation Page visition: Various ungrades in Control Building B at Badrow WBCB	[A] 1.1.2
44.00	Mariano	Description: Various upgrades in Control Building B at Rodney WPCP Occupancy Use	
11.02	Major Occupancy Classification:	As existing - Group F, Division 3 Low hazard industrial occupancy	3.1.2.1.(1) 3.2.2.80
11.03	Superimposed Major Occupancies:	⊠ No □ Yes	3.2.2.7.
	_	Description: -	
11.04	Building Area (m ²)	Description:ExistingNewTotalMain Floor97.6m097.6m	[A] 1.4.1.2.
11.05	Building Height	1 Storeys above grade 5.82 (m) Above grade 0 Storeys bellow grade	[A] 1.4.1.2. & 3.2.1.1.
11.06	Number of Streets Firefighter Access	1 Street(s)	3.2.2.10 & 3.2.5.
11.07	Building Size		T.11.2.1.1.BN.
11.08	Existing Building Classification:	<u>Change in Major Occupancy:</u> ☐ Yes ☐ Not Applicable (no change of major occupancy)	11.2.1.1.
		Construction Index:-Hazard Index:-	T 11.2.1.1A T 11.2.1.1B to N
		Importance Category: □ Low □ Normal □ High ⋈ Post-disaster	4.2.1.(3) 5.2.2.4(2)
11.09	Renovation Type	☐ Basic Renovation ☐ Extensive Renovation	11.3.3.1. 11.3.3.2.
11.10	Occupant Load	Floor / Area: Occupancy Type Based On Occupancy Load (Persons) Main Floor Industrial uses Existing/Design See notes 1	3.1.17.
11.11	Plumbing Fixture Requirements	Ratio: Male:Female = 1/1 Except as noted otherwise Floor Level/Area Occupant OBC Fixtures Required Fixtures Provided Load Reference	3.7.4.
		Main floor See notes 1	
11.12	Barrier-free Design:	☐ Yes <u>Explanation:</u> See notes 1 and 2.☒ No	11.3.3.2.(2)
11.13	Reduction in Performance Level:	Structural: ⋈ No ☐ Yes By Increase in occupant Load: ⋈ No ☐ Yes By chance of major occupancy: ⋈ No ☐ Yes Plumbing: ⋈ No ☐ Yes Sewage-systems: ⋈ No ☐ Yes Extension of combustible construction: ⋈ No ☐ Yes	11.4.2.1. 11.4.2.2. 11.4.2.3. 11.4.2.4. 11.4.2.5. 11.4.2.6.
11.14	Compensating Construction:	⊠ No □ Yes	11.4.3.1,
		Structural: ⋈ No ☐ Yes By Increase in occupant Load: ⋈ No ☐ Yes By chance of major occupancy: ⋈ No ☐ Yes Plumbing: ⋈ No ☐ Yes Sewage-systems: ⋈ No ☐ Yes Extension of combustible construction: ⋈ No ☐ Yes	11.4.3.2, 11.4.3.3, 11.4.3.4, 11.4.3.5, 11.4.3.6, 11.4.3.7.
11.15	Compliance Alternatives Proposed:		11.5.1.
11.16	Notes:	 NORMALLY UNOCCUPIED, EQUIPMENT MAINTENANCE REQUIRES ABLE BODIED STAFF. BARRIER FREE DESIGN IS NOT REQUIRED FOR THIS FACILITY AS PER OBC CLAUSE 3.8.1.1.(C), BARRIER-FREE DESIGN AS THE BUILDING IS NORMALLY UNOCCUPIED "EQUIPMENT MAINTENANCE REQUIRES ABLE BODIED STAFF" AND NORMALLY IS NOT INTENDED TO BE OCCUPIED ON A DAILY OR FULL TIME BASIS. CHEMICAL ROOM CONTAINS 6500L OF ALUMINUM SULFATE IN A CHEMICAL TANK. 	11.5.1.

1 All references are to Division B of the OBC unless preceded by [A] for Division A and [C] for Division C

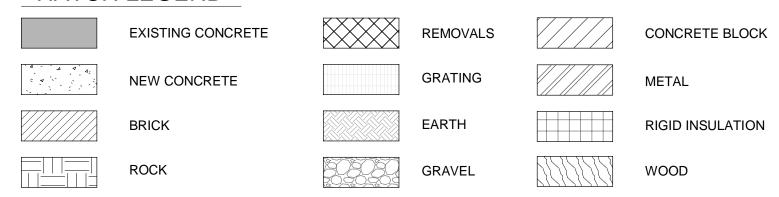
WALL ASSEMBLEY

	WALL CONSTRUCTION TYPES							
NO.	DIAGR.	DESCRIPTION	NOM.	FIRE	STC	R	REMARKS	
W1	OUTSIDE ////////////////////////////////////	EXISTING WALL: 100mm ARCH. BLOCK 25mm AIR SPACE 50mm RIGID INSULATION 6mil VAPOUR BARRIER 200mm CONC. REINF.WALL	375mm			R05	EXISTING WALL ASSEMBLY INCLUDING INSULATION TO BE VERIFY IN FIELD	
W2		EXISTING WALL: • 300mm CONC. REINF.WALL	300mm				VERIFY IN FIELD	
P1	/-/-/-/-/-/-/	• 190mm CONC. UNIT WALL:	190mm	1h				

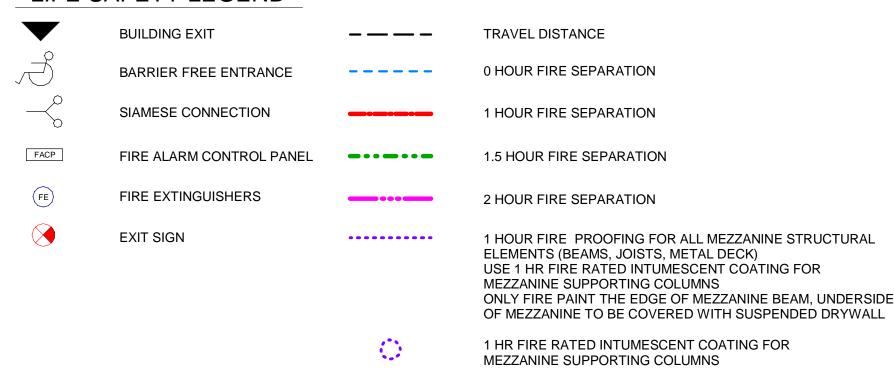
GENERAL NOTES

- 1. ALL EXISTING BUILDING CONDITIONS WERE TAKEN FROM "AS CONSTRUCTED" DRAWINGS BY PROCTOR & REDFERN LIMITED DATED AUG
- 2. ALL DIMENSIONS ARE APPROXIMATE. CONTRACTOR TO VERIFY-IN-FIELD (VIF) ALL DIMENSIONS AND NOTIFY THE CONSULTANT IF THERE
- IS ANY DISCREPANCY. 3. CONTRACTOR TO NOTIFY CONSULTANT IMMEDIATELY SHOULD ANY DISCREPANCIES OCCUR BETWEEN PROPOSED DESIGN AND
- EXISTING CONDITIONS. . VERIFY ALL ROUGH-IN DIMENSIONS FOR EQUIPMENT PROVIDED IN THIS CONTRACT, OR BY OTHERS.
- PROVIDE TEMPORARY HOARDING AND DUST SCREENS AS REQUIRED TO COMPLETE WORK. MAINTAIN FIRE EXITS WHERE REQUIRED.
- PATCH AND MAKE GOOD ALL AFFECTED EXISTING WALLS, ROOF, LANDSCAPE. 7. CONTRACTOR TO REPLACE OR PATCH AND MAKE GOOD ANY ADJACENT OBJECT SUCH AS CMU BLOCK, WALL, ROOF, FLOOR, ETC
- AFFECTED BY WORK.
- 8. CONTRACTOR TO MAKE GOOD ALL FINISHES DISTURBED TO INSTALL ALL COMPONENTS UNDER THIS CONTRACT. REFER TO
- ARCHITECTURAL, MECHANICAL & ELECTRICAL DRAWINGS. 9. CONTRACTOR TO PATCH AND MAKE GOOD ALL FLOORS, WALLS AND CEILINGS AFFECTED BY SELECTIVE DEMOLITION.
- 10. ALL OPENINGS THROUGH EXTERIOR AND INTERIOR NON-RATED WALLS MUST BE PROPERLY SEALED AND CAULKED AND WITH METAL FLASHING WHERE IT IS APPLICABLE WITH APPROVED ASSEMBLIES U.N.O.
- 11. FOR LOCATION OF ADDITIONAL ROOF PENETRATIONS SEE BUILDING MECHANICAL, ELECTRICAL, PROCESS DRAWINGS AND
- SPECIFICATIONS. 12. REFER TO MECHANICAL, ELECTRICAL, AND PROCESS DRAWINGS FOR ADDITIONAL PENETRATIONS IN WALLS. PROVIDE LINTELS OVER ALL
- OPENINGS AS PER STRUCTURAL LINTEL DETAILS. DESIGN LINTELS AS PER REQUIREMENT OF THE MOST RECENT ONTARIO BUILDING
- 13. ALL INTERIOR MASONRY OPENINGS UP TO 3m WIDE ARE TO RECEIVE LINTELS AS PER LINTEL SCHEDULE OR AS DETAILED IN
- STRUCTURAL DRAWINGS. 14. PROVIDE STEEL ANGLE LINTELS OVER ALL NEW MECHANICAL DUCTS, GRILLES AND DOOR OPENINGS THAT PENETRATE EXISTING WALLS.
- 15. INFILL ANY PENETRATIONS LEFT BY THE REMOVAL OF MECHANICAL EQUIPMENT. 16. PROVIDE INSULATED ALUMINUM BLANK OFF PANELS BEHIND UNUSED PORTIONS OF LOUVRES (SEE HVAC AND LOUVRE SCHEDULES FOR
- EXTENT AND LOCATIONS). 17. GENERAL CONTRACTOR SHALL PROTECT ALL NEW AND EXISTING ROOFING SYSTEMS WHILE WORK IS ONGOING, AND TO BE
- RESPONSIBLE FOR REPAIRING ANY DAMAGES CAUSED BY CONSTRUCTION ACTIVITIES.
- 18. GENERAL CONTRACTOR TO REMOVE EXISTING ROOF INSULATION, AND VERIFY ALL EXISTING EQUIPMENT, PADS, HATCHES AND
- PENETRATIONS. 19. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY EXISTING ROOFING SYSTEM ASSEMBLY FOR REMOVALS.
- 20. CONTRACTOR TO MAINTAIN THE SAME SLOPE AS EXISTING ROOF OR ALL ROOF SLOPES TO BE MINIMUM 2%.
- 21. GENERAL CONTRACTOR TO BE RESPONSIBLE FOR REPAIRING ANY DAMAGE CAUSED BY CONSTRUCTION ACTIVITIES. AS A MINIMUM PLACE HALF INCH PLYWOOD BOARDS OVER WORKING AREAS TO PROTECT ROOFING.
- 22. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM THE LOCATION AND REQUIRED AREA TO BE COVERED BY TAPERED INSULATION.
- 23. PROVIDE FLASHING FOR ALL NEW COMPONENTS/EQUIPMENT PENETRATING EXISTING ROOFING. 24. CONTRACTOR TO HOSE-TEST ROOF AFTER INSTALLATION OF NEW ROOFING FOR LEAKS WITH CONSULTANT PRESENT ON SITE.

HATCH LEGEND



LIFE SAFETY LEGEND



REF. DP. Deep Refer DWG REINF Reinforcement Drawing REQD DWL Dowel Required **SECT** EΑ Each Section EF SIM Each Face Similar **EFF** SP Effective Spacing EJ SPEC **Expansion Joint** Specification SQ EL/ELEV Elevation Square **ELECT** SS Electrical Stainless Steel STD EW Each Way Standard STG EX/EXIST Existing Staggered STIR EXP Stirrups Exposed EXT Exterior STL Steel FD STR/STRUCT Structural Floor Drain FDN Foundation SYMM Symmetrical FG Fixed Glass Treads T&B FIN Finish(ed) Top & Bottom FL Floor Top FRR **TEMP** Fire Rating Temperature FTG THK Thick Footing **GALV** Galvanised TLL Top Lower Layer GD TOC Gutter Drain Top of Concrete TOS **GRAN** Granular Top of Steel GRD Ground TUL Top Upper Layer TYP Typical H/HOR Horizontal U/S High Point Underside Hollow Structural Section UNO Unless noted otherwise V&H Inside Face Vertical & Horizontal INCL W/ Including/Inclusive INSUL WL Water Level Insulation WP INV Work Point Invert LG Long

LONG

MASY

MAX

MECH

MEZZ

MH

MIN

MISC

NTS

O/O

OC

OD

OF

OPN'G

OPP

OWSJ

PC

 PL

PVC

RAD

RD

PERF

No./NO.

LP

Longitudinal

Low Point

Maximum

Mechanical

Mezzanine

Manhole

Minimum

Number

Not to scale

Out to Out

On Centre

Opening

Opposite

Precast

Plate

Risers

Radius

Roof Drain

Perforated

Outside Face

Outside Diameter

Open Web Steel Joist

Polyvinyl Chloride

Miscellaneous

Masonry

Alternate

Bottom

Block

Beam

Bearing

Between

Centres

Cantilever

Complete with

Cast in place

Centre Line

Column

Concrete

Connection

Continuous

Control Joint

Down Pipe

Diameter

Ditto

Dimension

Construction

Construction Joint

Architectural

Bottom Lower Layer

Bottom Upper Layer

ARCH

B/BOT

BLK

BLL

BM

BRG

BUL

C/C

C/W

CANT

CIP

CJ

CL

COL.

CONC.

CONN.

CONST.

CONT.

CTL JT.

DIA/Ø/ø

D/P

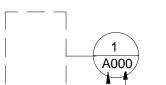
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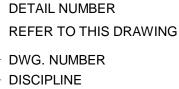
BTWN

REFERENCE SYMBOLS

VIEW REFERENCE DETAIL NO./ ON DRAWING NO.

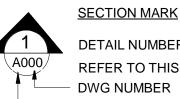


CALLOUT MARK



TITLE MARK **DETAIL NUMBER**

REFER TO THIS DRAWING DWG. NUMBER DISCIPLINE



A000

DETAIL NUMBER REFER TO THIS DRAWING DWG NUMBER DISCIPLINE



000.000 ELEVATION LEVEL ON PLAN



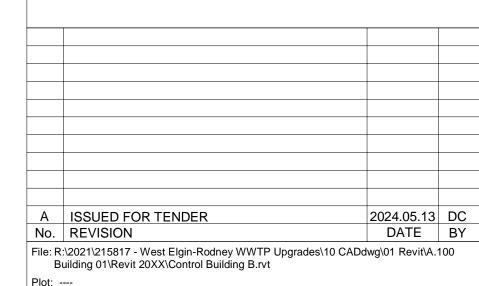
WALL TYPE - REFER TO LEGEND



T/CONC

ROOM ROOM NUMBER - REFER TO ROOM FINISH SCHEDULE

WINDOW TYPE - REFER TO LEGEND





CONTRACT NO. WE-2024-01





RODNEY WPCP

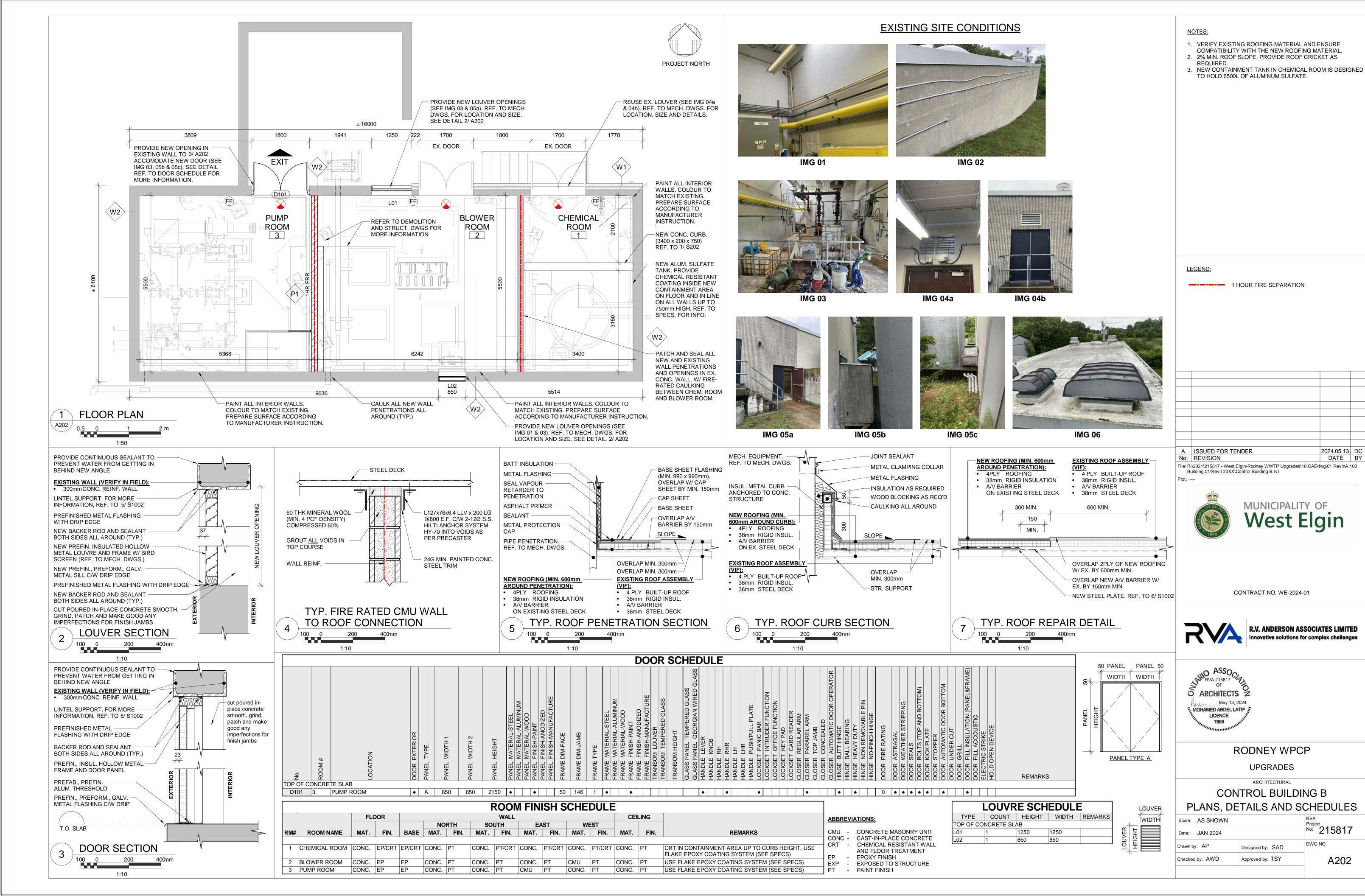
UPGRADES

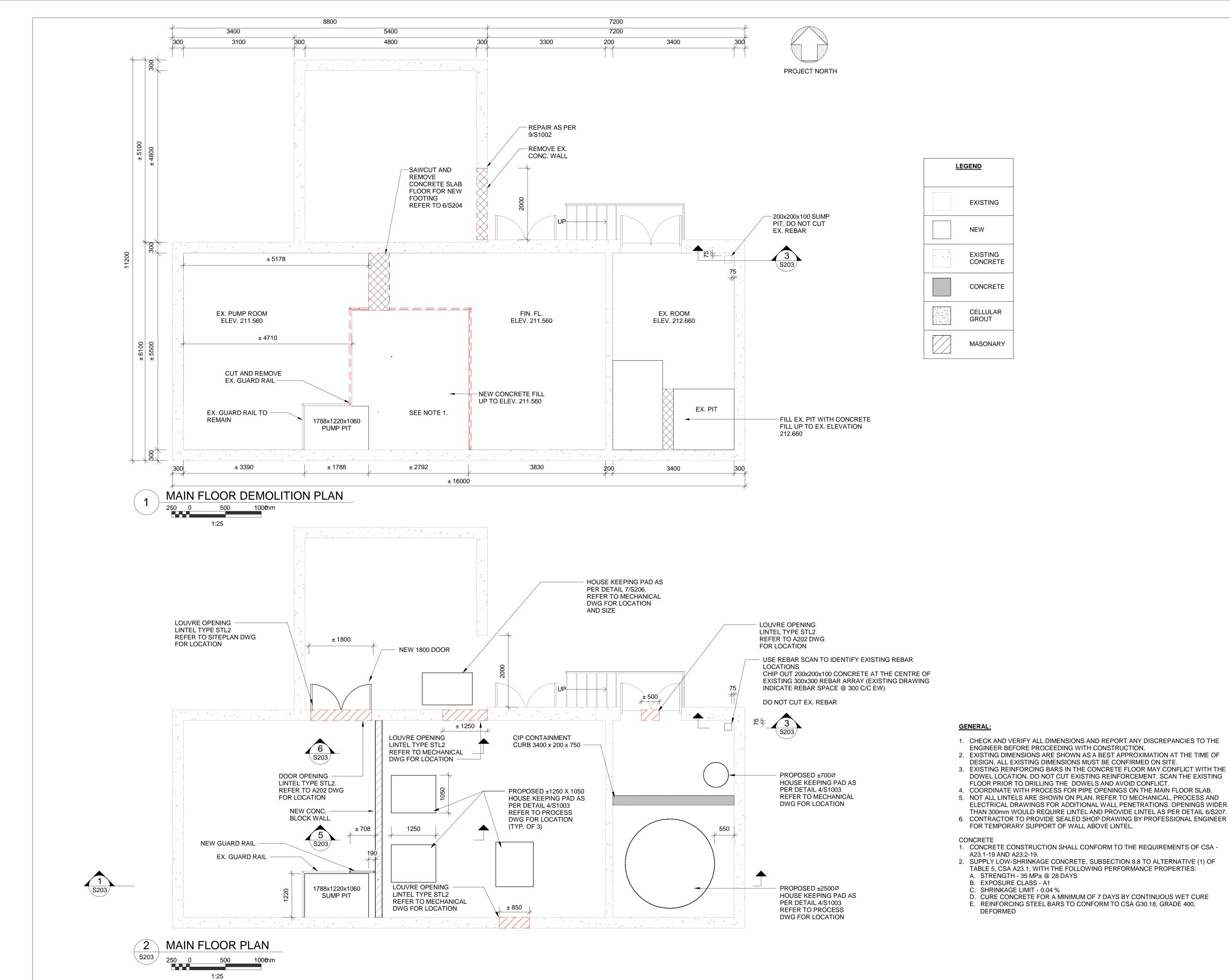
ARCHITECTURAL CONTROL BUILDING B

OBC, LEGENDS AND ABBREVIATIONS Scale: AS SHOWN

No: 215817 Date: APR 2024 Drawn by: AP Designed by: SAD Checked by: AWD Approved by: TSY

A201





NOTES:

A ISSUED FOR TENDER 2024.05.13 DC

No. REVISION DATE BY

File: R:\2021\215817 - West Elgin-Rodney WWTP Upgrades\10 CADdwg\01 Revit\A.100

Building 01\Revit 20XX\Control Building B.rvt



CONTRACT NO. WE-2024-01





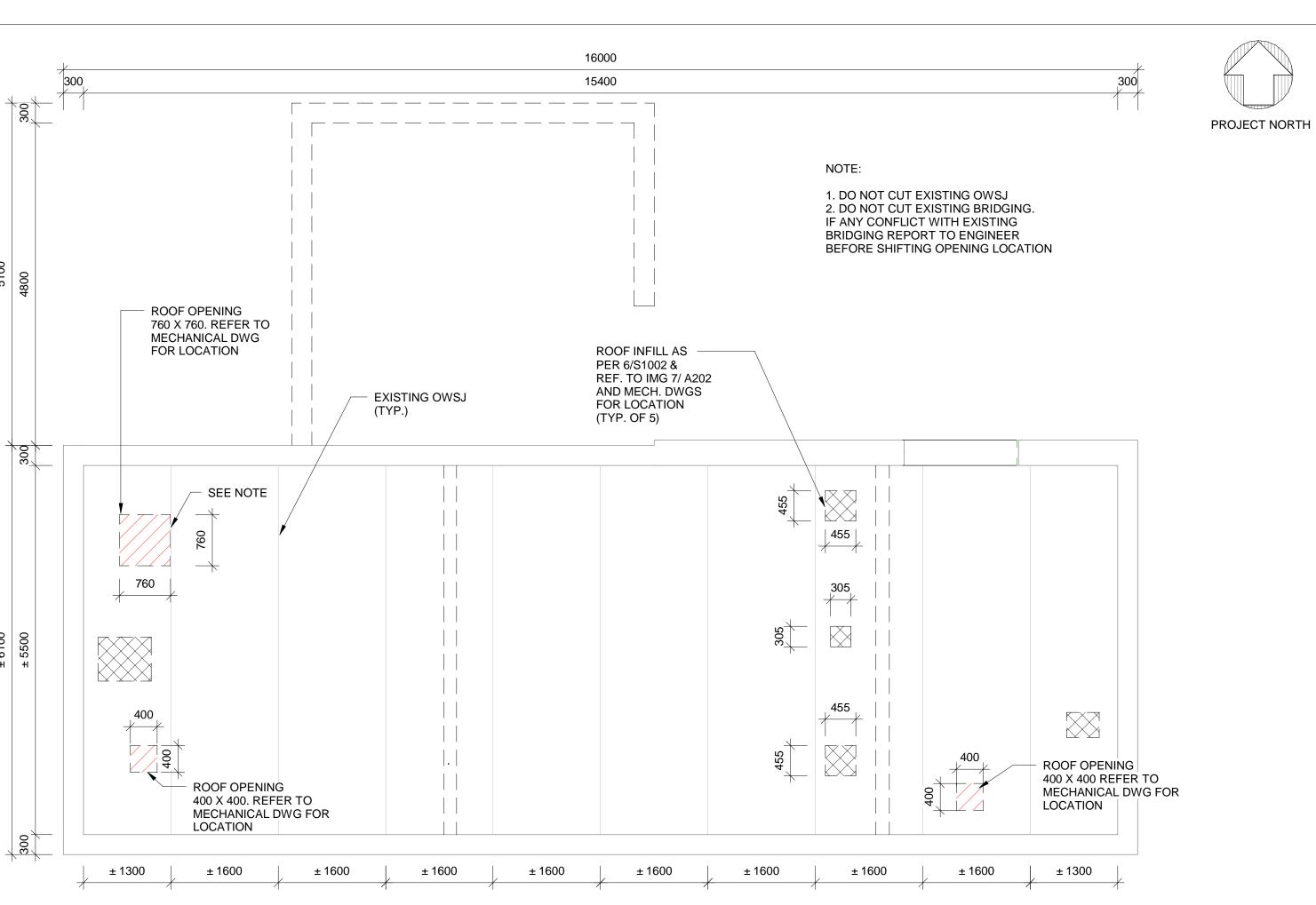
RODNEY WPCP

UPGRADES

STRUCTURAL

CONTROL BUILDING B

	ILOOKILAI	V
Scale: AS SHOWN	RVA Project	
Date: AUG 2023		No: 215817
Drawn by: CCWP	Designed by: HOA	DWG NO.
Checked by: RSM	Approved by:	S201



1 CEILING PLAN
250 0 500 100mm

NOTES:

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No. REVISION

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Building 01\Revit 20XX\Control Building B.rvt

Plot: ----



CONTRACT NO. WE-2024-01





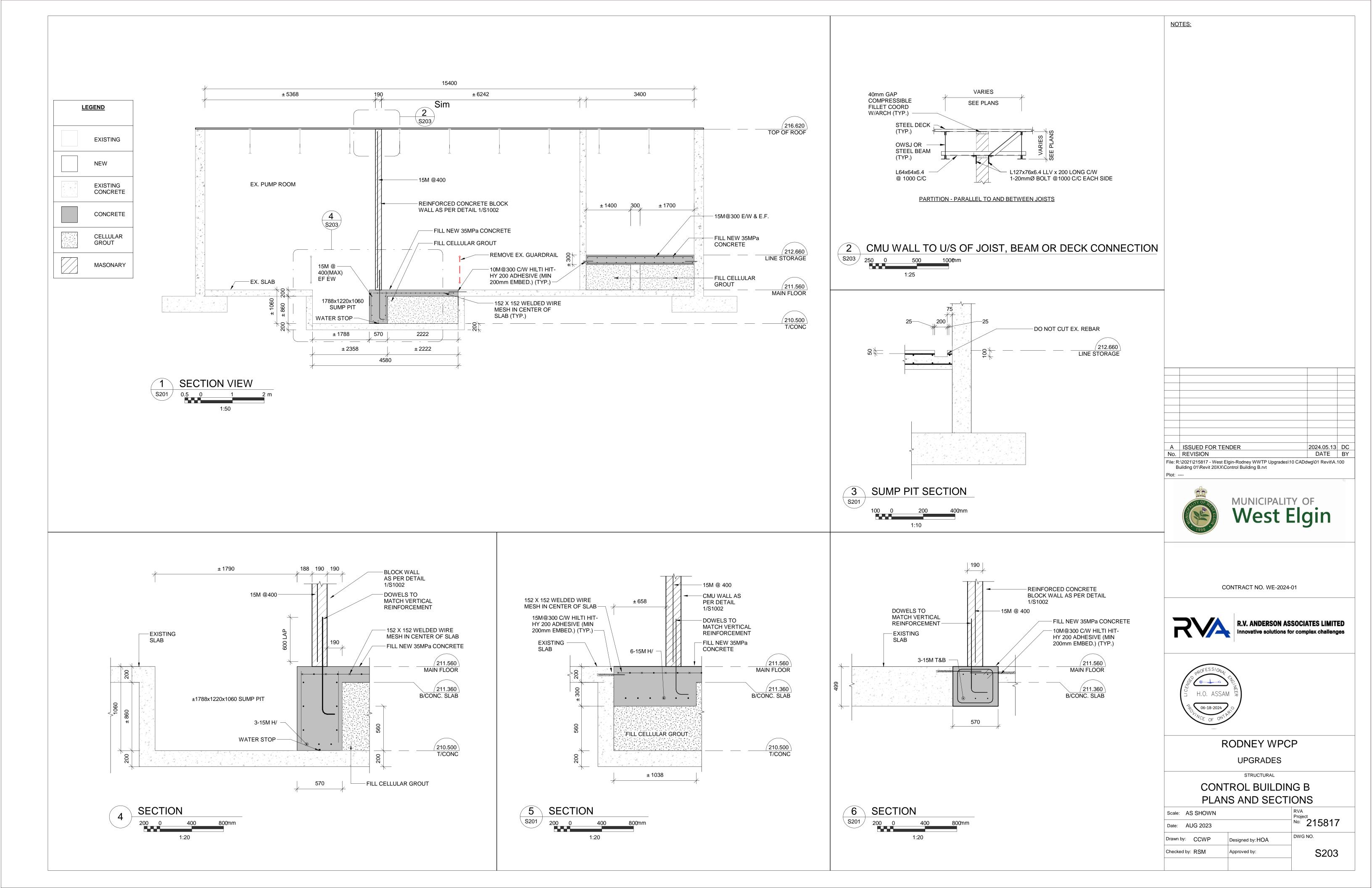
RODNEY WPCP

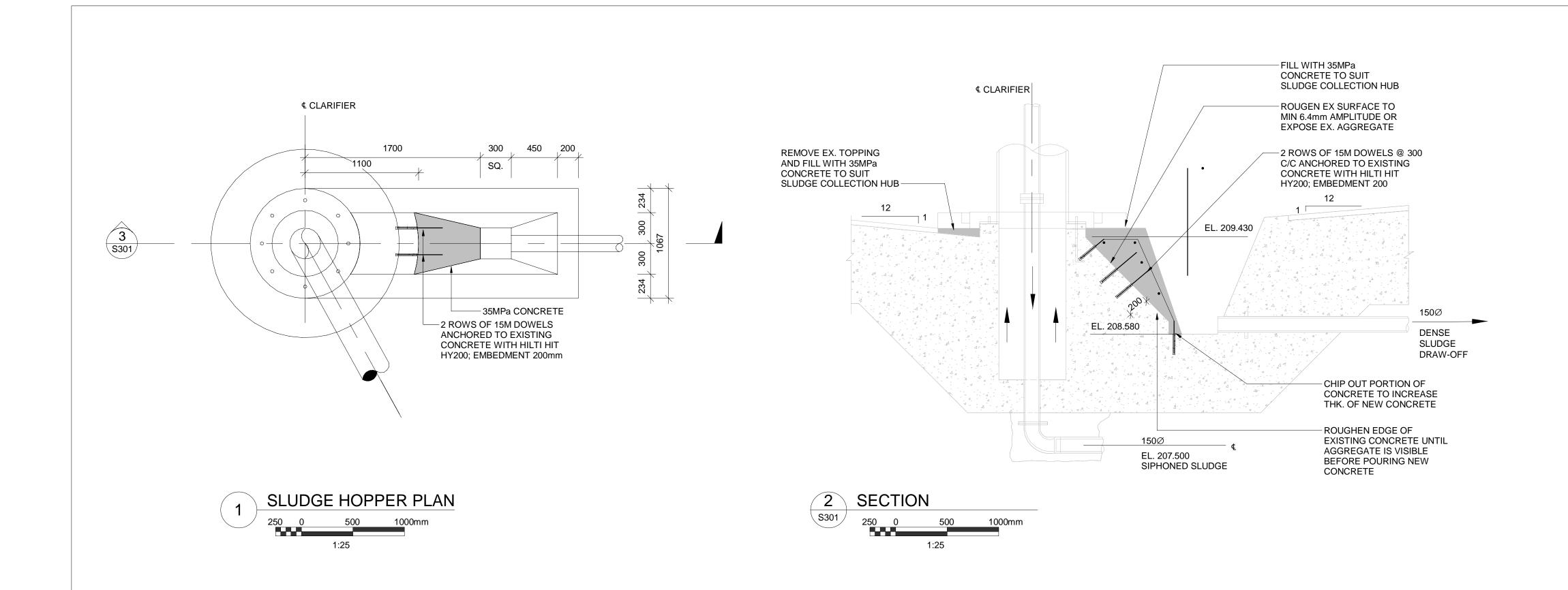
UPGRADES

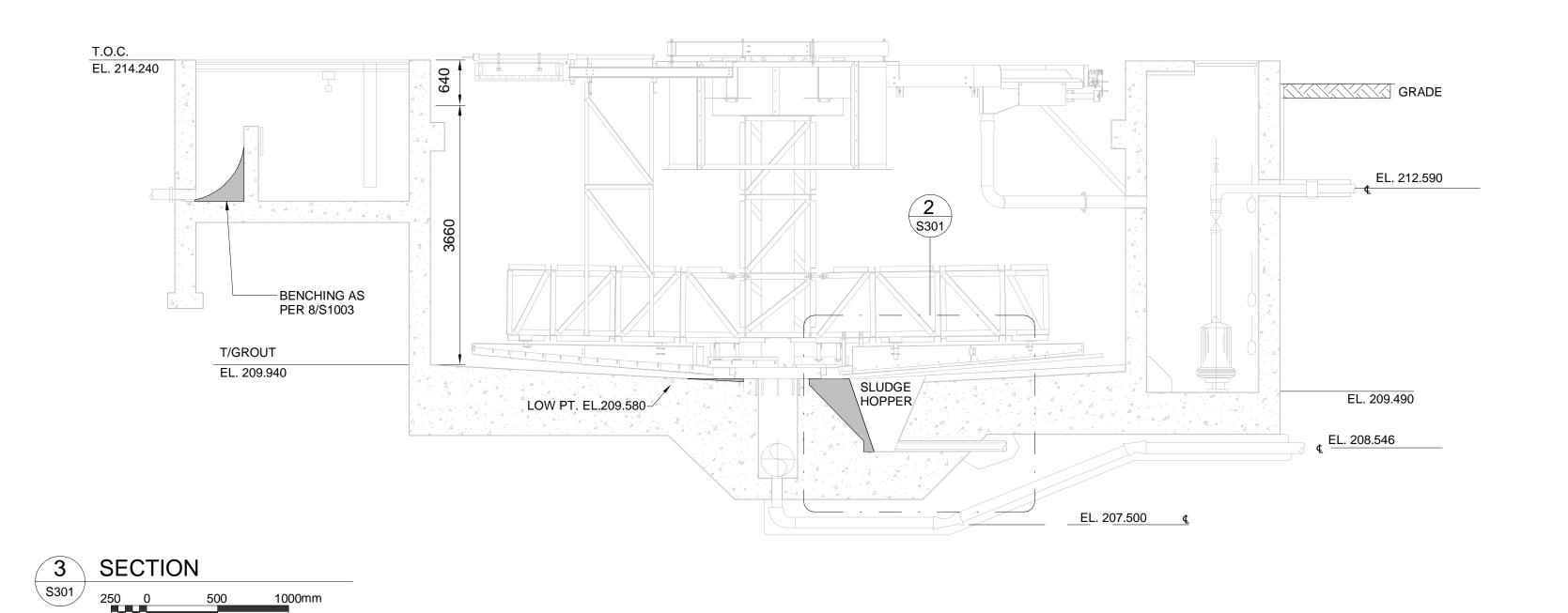
STRUCTURAL

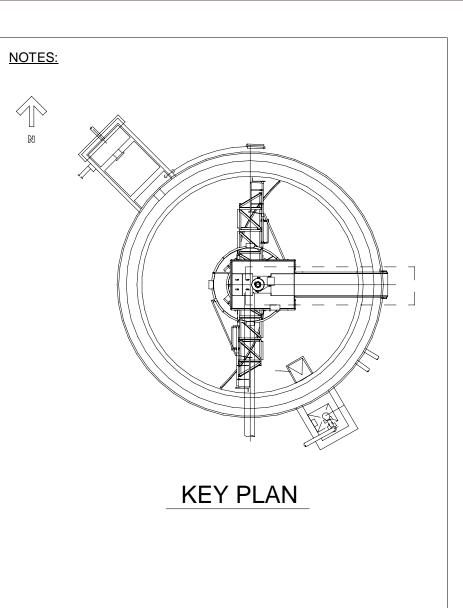
CONTROL BUILDING B ROOF PLAN

		Project
Date: AUG 2023		No: 215817
Drawn by: CCWP	Designed by: HOA	DWG NO.
Checked by: RSM	Approved by:	S202









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CONTRACT NO. WE-2024-01





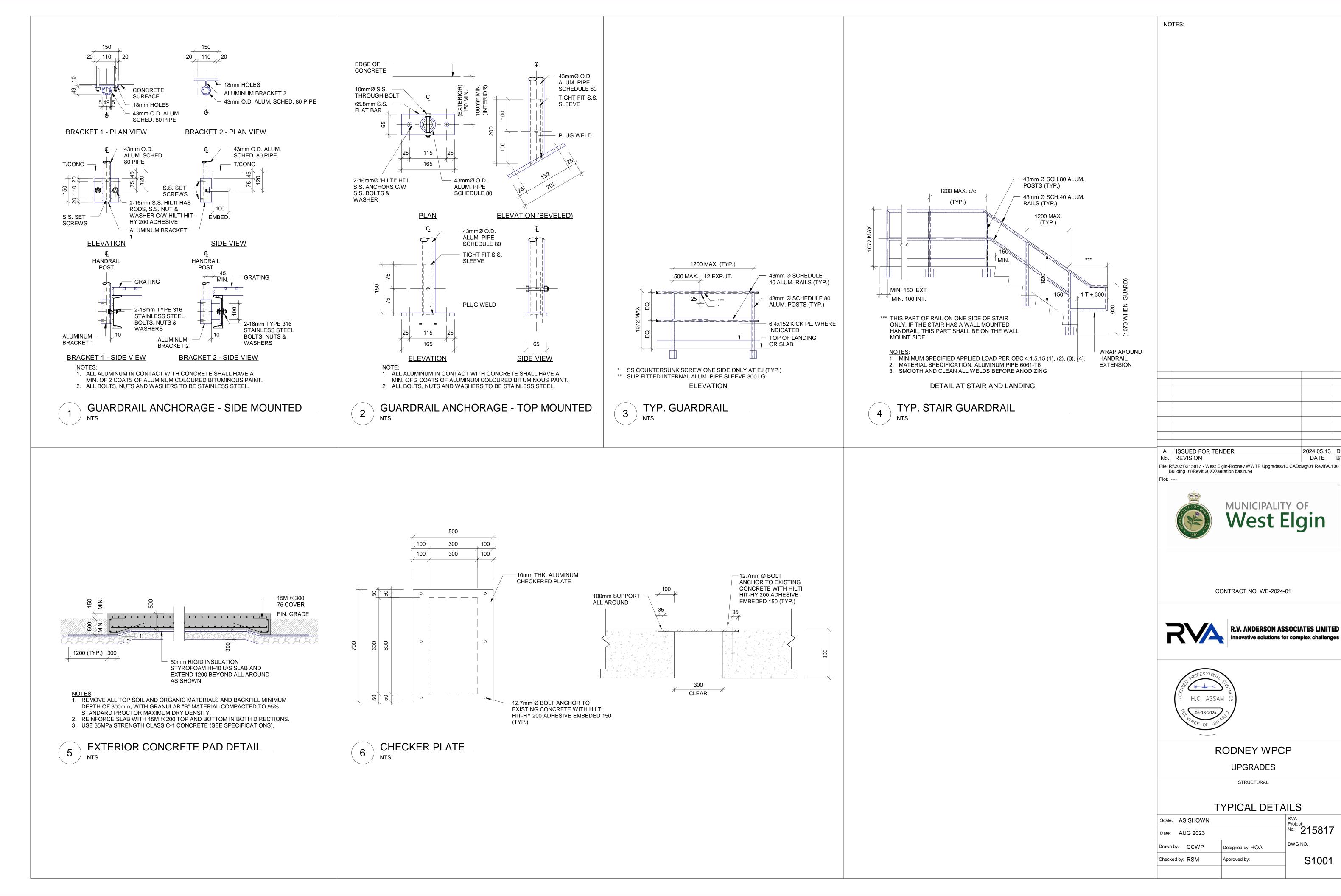
RODNEY WPCP

UPGRADES

STRUCTURAL

CLARIFIER
PLAN AND SECTIONS

· –/ \	171110 02011	0.10
Scale: AS SHOWN		RVA Project
Date: AUG 2023		No: 215817
Drawn by: CCWP	Designed by: HOA	DWG NO.
Checked by: RSM	Approved by:	S301

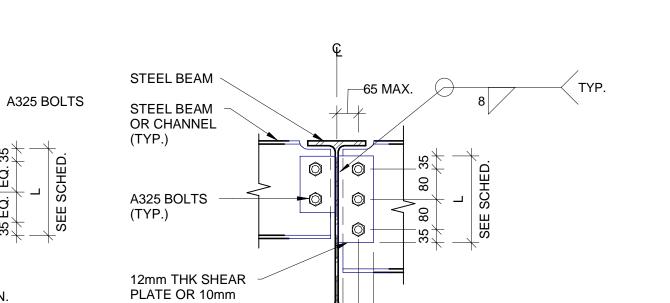


2024.05.13 DC

No: 215817

S1001

DATE BY



THK SINGLE

ANGLE (TYP.)

ELEVATION

TYPE 1 - DOUBLE ANGLE (BOLTED)

-40 MIN.

STEEL BEAM

OR COL.

30 MIN. STD.

GAUGE

SECTION

65 MAX.-

40 MIN.—

BEAM FLANGE

COPED TO SUIT

WHERE REQUIRED

A325 BOLTS (TYP.)

8mm THK BACK

TO BACK STEEL

ANGLES (10mm

THK FOR BEAMS

DEPTH GREATER

WITH NOMINAL

THAN 690mm)

TYPE 2 - DOUBLE ANGLE (WELDED)

40 MIN.-

TYPE 3 - SHEAR PLATE OR SINGLE ANGLE

40 MIN. 40 MIN.

BEAM DEPTH (NOMINAL) [mm]	NO. OF BOLT ROWS	BOLT DIA. [mm]	L - ANGLE OR PLATE LENGTH [mm]	TYPE 1 & 2 SHEAR CAPACITY [kN]	TYPE 3 SHEAR CAPACITY [kN]	MIN. SUPPORTED BEAM WEB THICKNESS [mm]	NOTES
920	10	22	790	2120	N/A	8.9	TYPE 3 CONNECTION NOT PERMITTED
840	9	22	710	1910	N/A	8.9	TYPE 3 CONNECTION NOT PERMITTED
690-760	8	22	630	1700	N/A	8.9	TYPE 3 CONNECTION NOT PERMITTED
610	7	20	550	1230	613	6.0	
530	6	20	470	1050	526	6.0	
460	5	20	390	876	438	6.0	
410	4	20	310	701	350	6.0	
310-360	3	20	230	526	263	6.0	
200-250	2	20	150	350	175	6.0	

STEEL COL.

NOMINAL DEPTH

(TYP.)

8mm THK BACK TO BACK

STEEL ANGLES (10mm

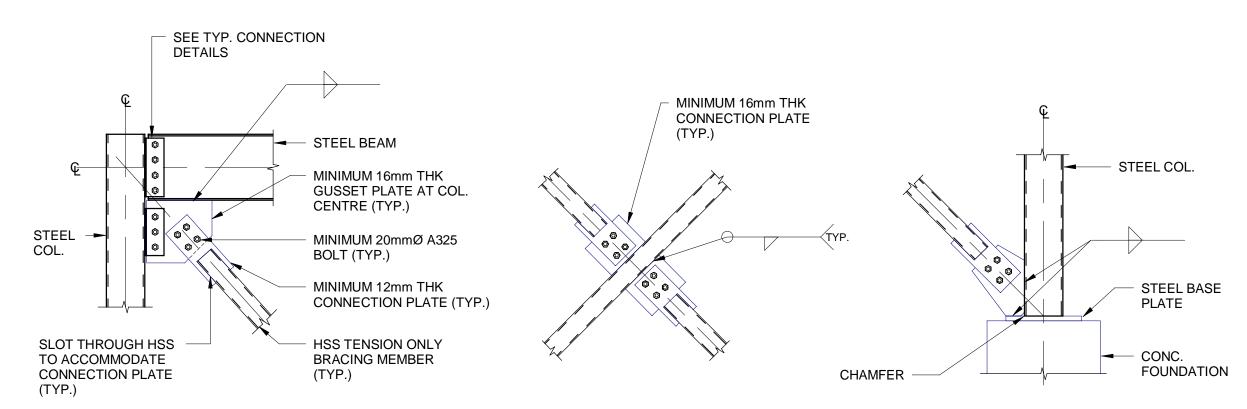
THK FOR BEAMS WITH

GREATER THAN 610mm)

NOTE:

1. PROVIDE TYPE 1 AND/OR TYPE 2
CONNECTIONS UNLESS TYPE 3 IS
SPECIFICALLY REQUIRED TO
ACCOMMODATE STEEL ERECTION.

1 TYP. BEAM CONNECTION DETAILS



AT ROOF OR INTERMEDIATE FLOOR LEVEL

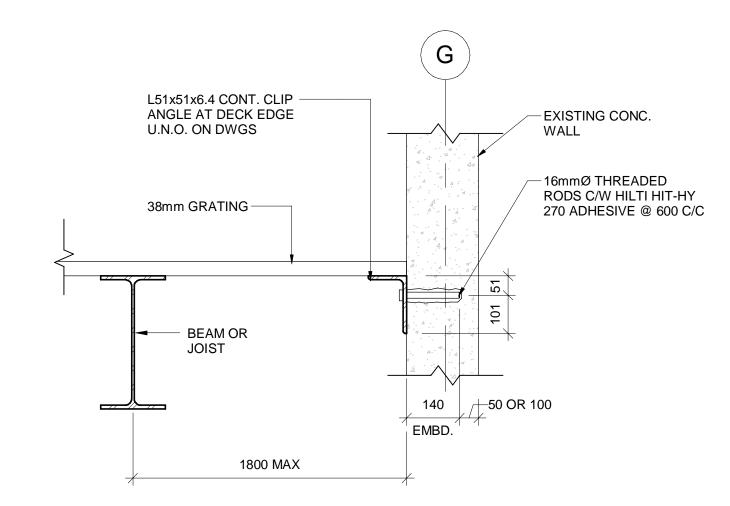
AT BRACE INTERSECTION

AT GROUND LEVEL (BASE)

NOTES

- 1. REFER TO PLANS, ELEVATIONS AND SECTIONS FOR MEMBER SIZE, ORIENTATION AND LOCATION.
- 2. CONNECTIONS TO BE DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE PROVINCE OF ONTARIO. REFER TO ELEVATIONS & SECTIONS FOR DESIGN TENSION FORCES.
- 3. SUBMIT SEALED SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION.
- 4. SEE SECTION 05120 FOR ADDITIONAL CONNECTION DESIGN REQUIREMENTS.





2

DETAIL - DECK SUPPORT ANGLE

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Building 01\Revit 20XX\aeration basin.rvt

MUNICIPALITY OF West Elain



CONTRACT NO. WE-2024-01





NOTES:

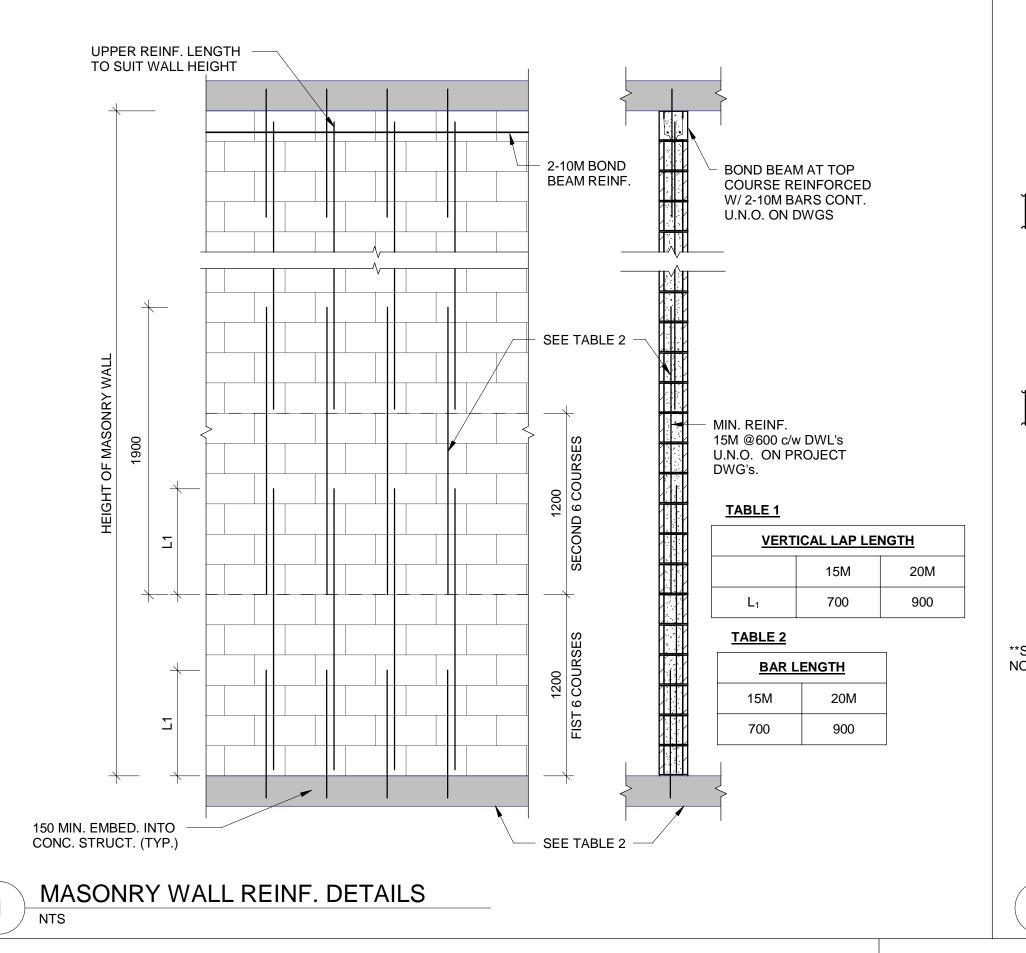
RODNEY WPCP

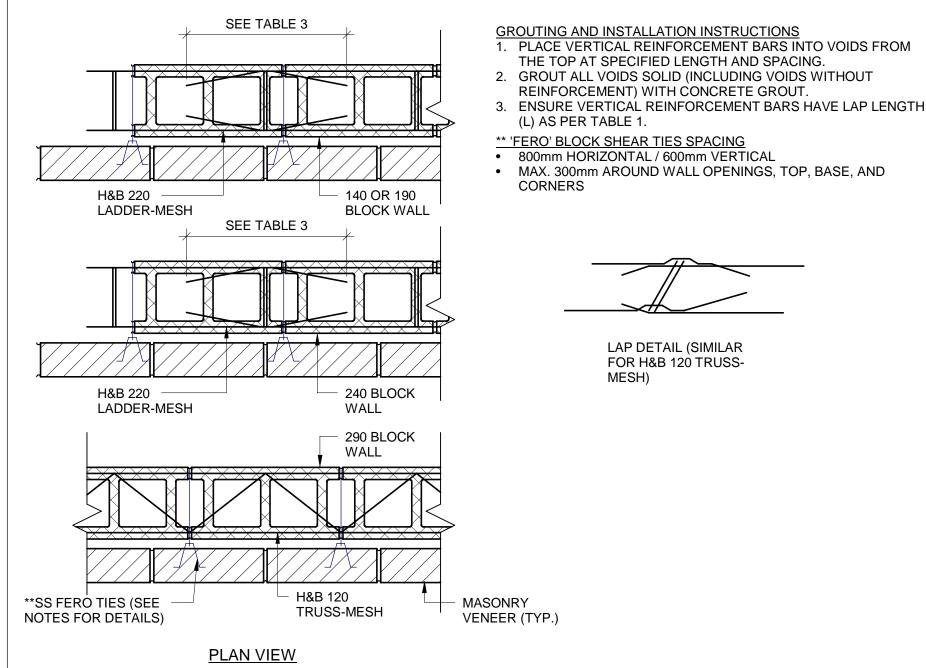
UPGRADES

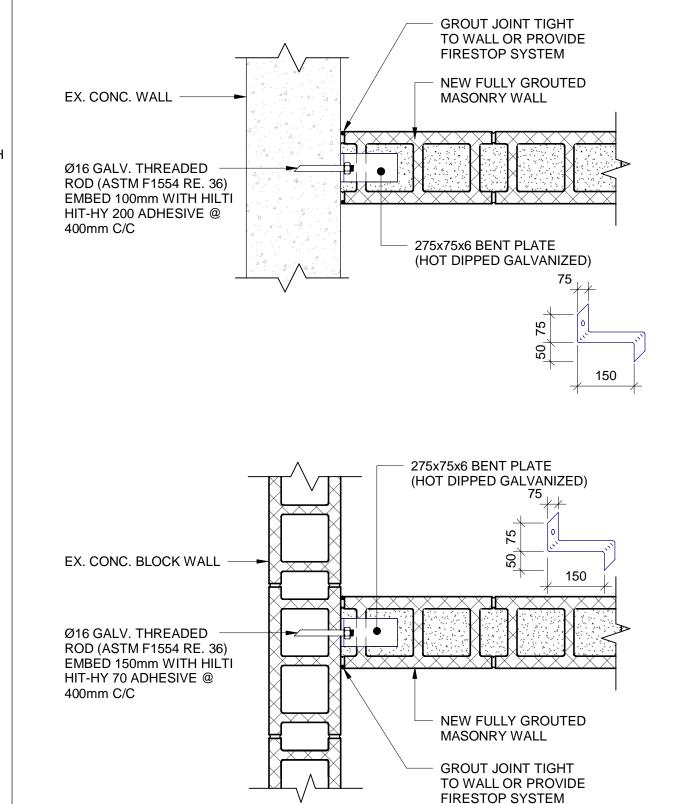
STRUCTURAL

TYPICAL DETAILS

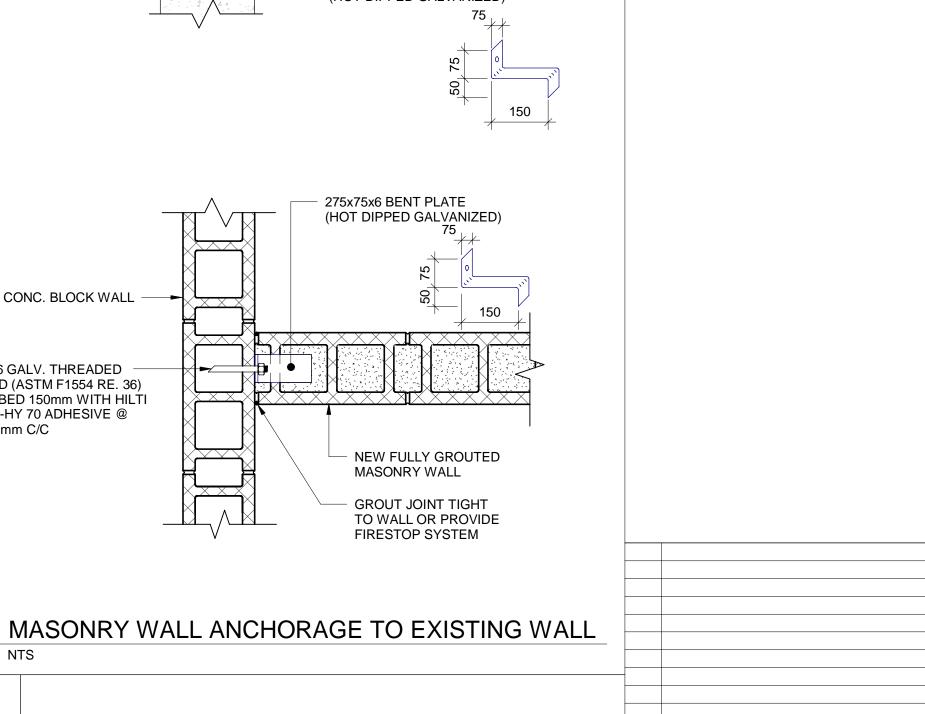
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Scale: AS SHOWN			
	No: 215817		
Designed by: HOA	DWG NO.		
Approved by:	S1002		
	Designed by: HOA		



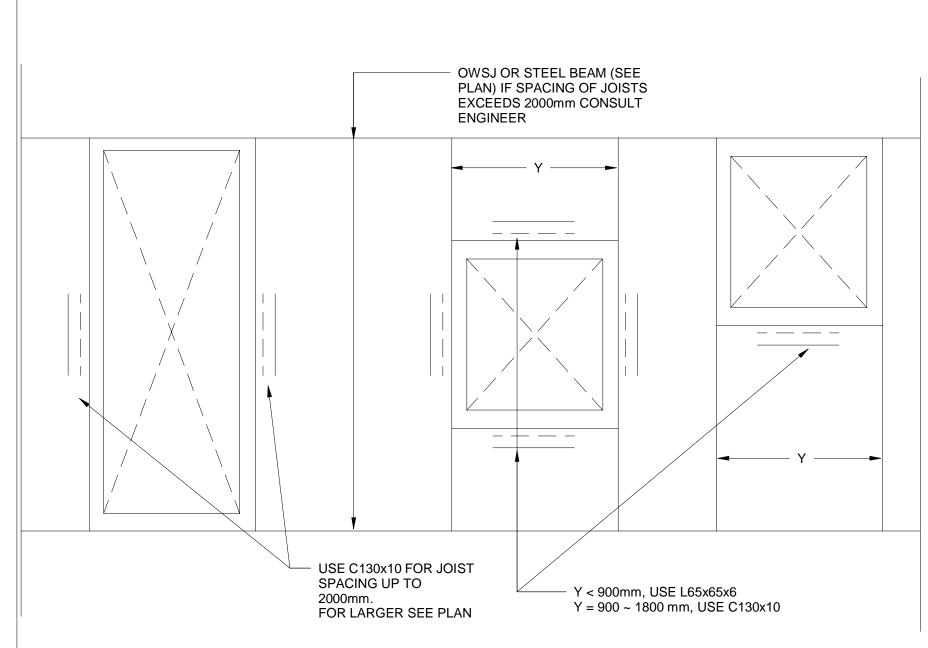


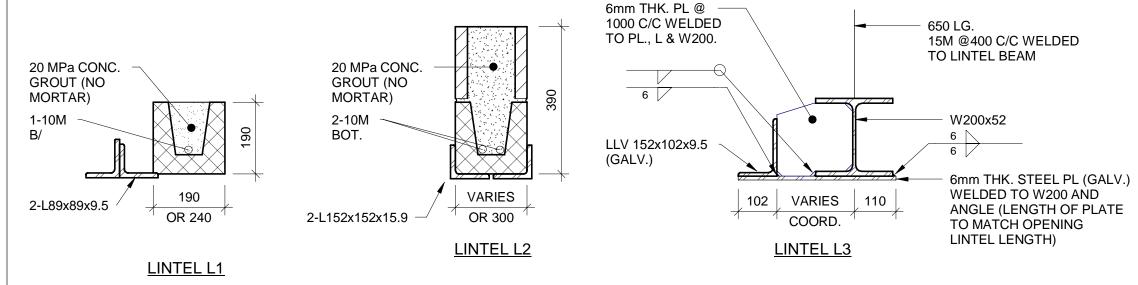


NTS



NOTES:





NOTES FOR LINTELS:

REFER TO ALL DWG. DISCIPLINES FOR LOCATION/SIZE OF ALL

NTS

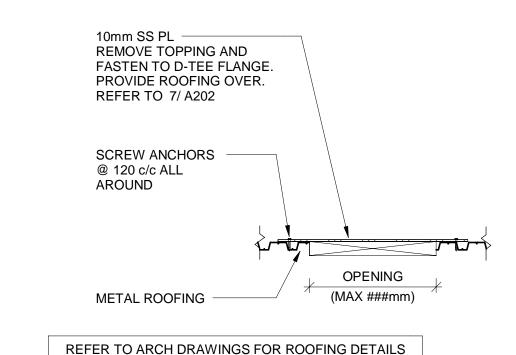
- WALL OPENINGS. 2. ALL STEEL LINTELS SHALL BE GALVANIZED.
- 3. PROVIDE MINIMUM 200mm BEARING AT EACH END. 4. CONCRETE GROUT SHALL BE 20 MPa.
- W FLANGE, ANGLE AND PL. (GALV.) 1-M16 ANCHOR BOLT C/W NUT WASHER MIN. EMBEDMENT 3 BLOCK COURSES (TYP.) 20MPa CONC. GROUT 800 OPENING WIDTH (TYP.)

LINTEL L3 ELEVATION

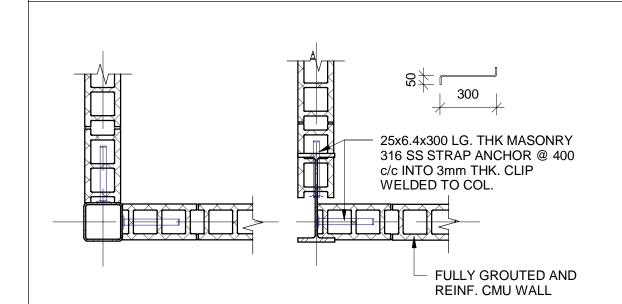
LINTEL SCHEDULE							
TYPE	TYPE DESCRIPTION		OPENING WIDTH				
L1 / L1A	MASONRY, 1 COURSE	190 OR 240 mm	≤ 1200mm				
L2	2 - L152 X 152 X 15.9	300 mm	≤ 2400mm				
L3	STEEL, 200 DEEP	240 mm	≤ 3600mm				

MASONRY WALL REINF. TIE DETAILS

LINTEL DETAILS

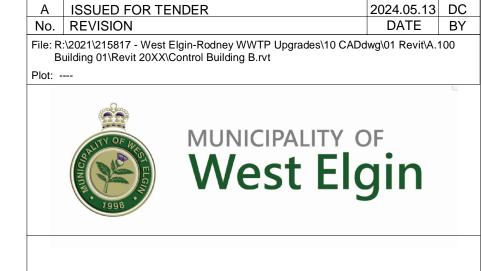






1. SEE DRAWINGS FOR WALL / COLUMN SIZE AND LOCATION LINE. 2. COORDINATE STRAP VERTICAL POSITIONING w/ MASONRY COURSING. ALLOW FOR BASE PL., etc., INSTALLATIONS.

MASONRY ANCHOR TO STEEL COLUMN



2024.05.13 DC

CONTRACT NO. WE-2024-01





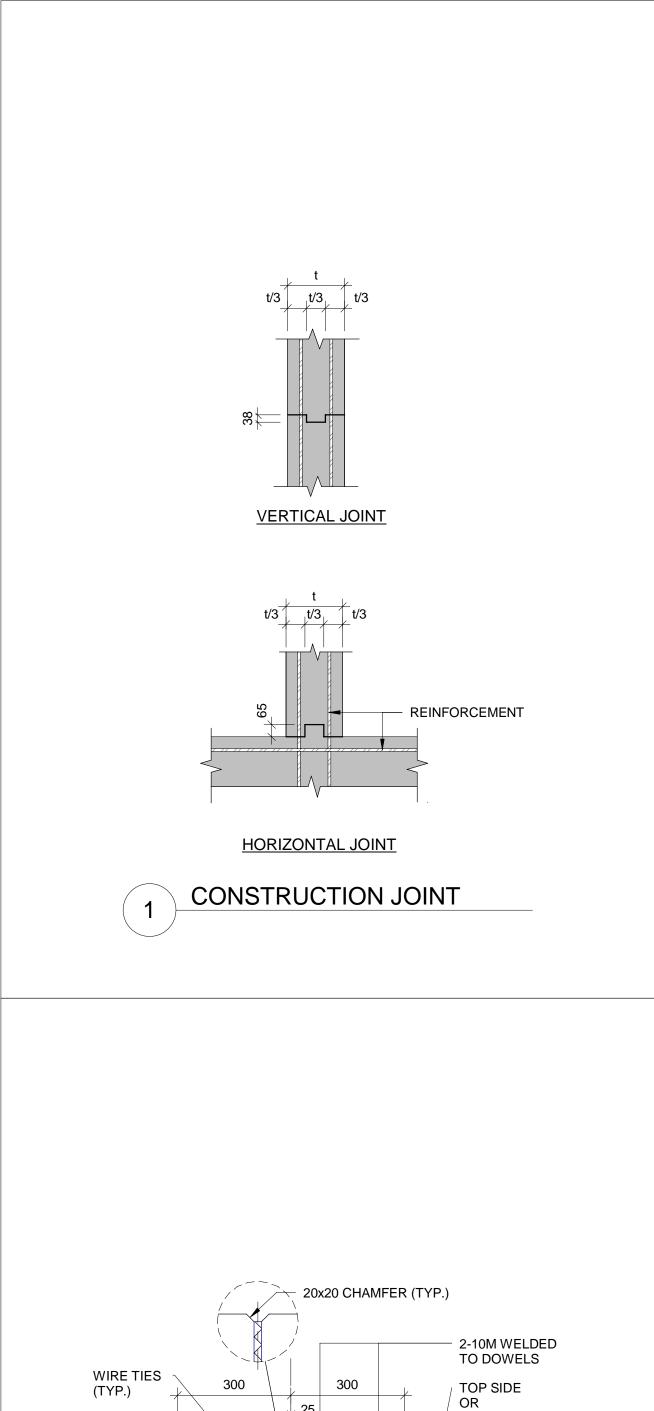
RODNEY WPCP UPGRADES

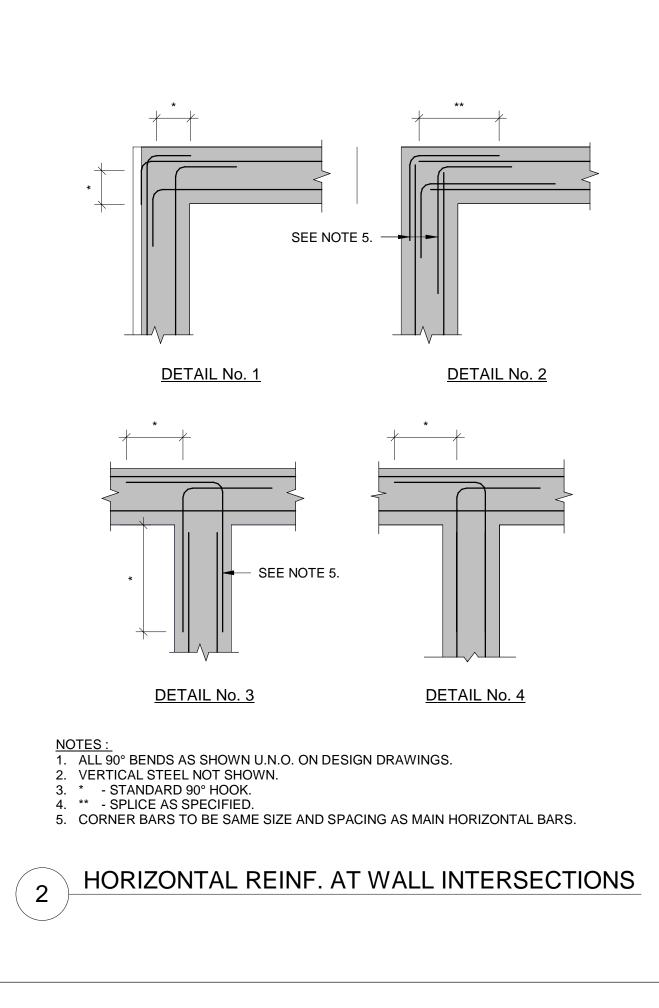
STRUCTURAL

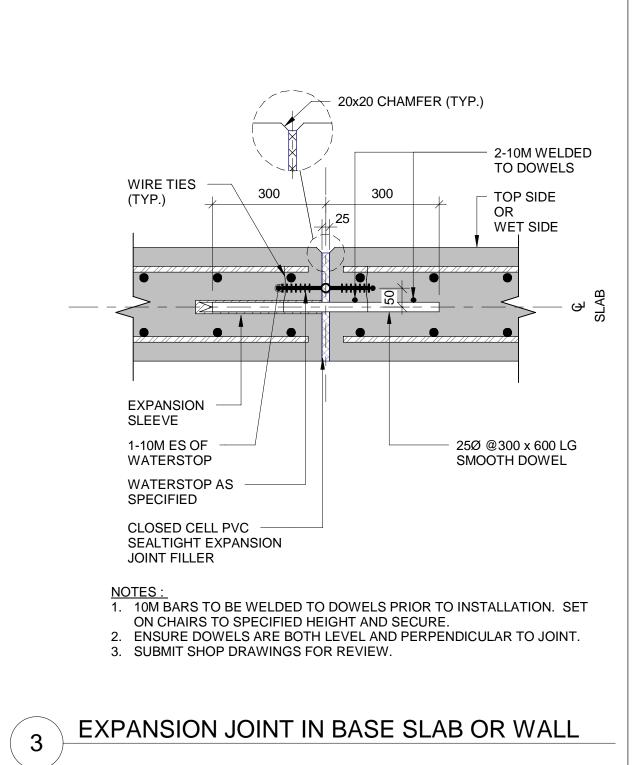
TYPICAL DETAILS

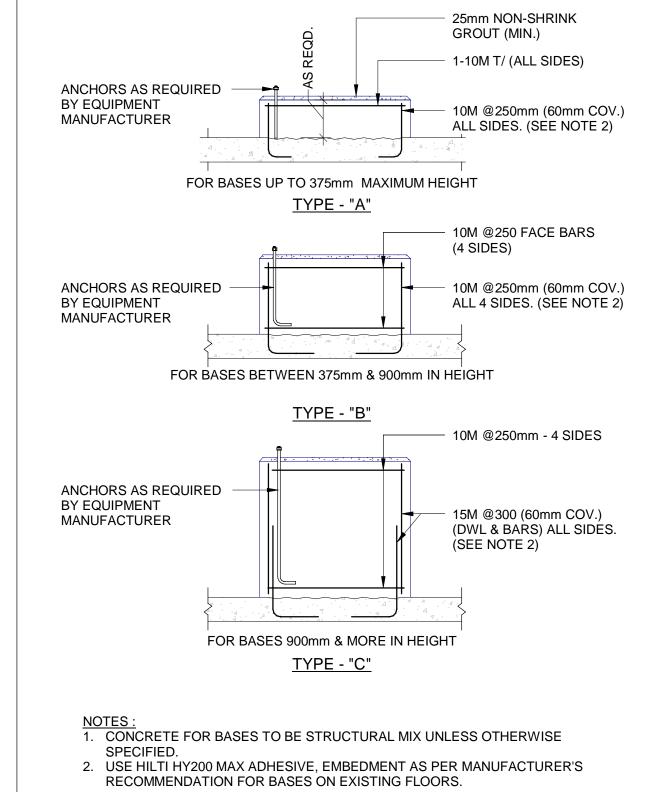
Scale: AS SHOWN No: 215817 Date: AUG 2023 DWG NO. Drawn by: CCWP Designed by: HOA S1003 Checked by: RSM Approved by:

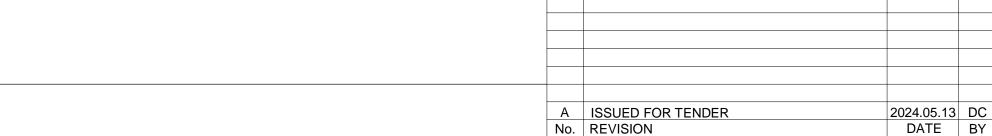




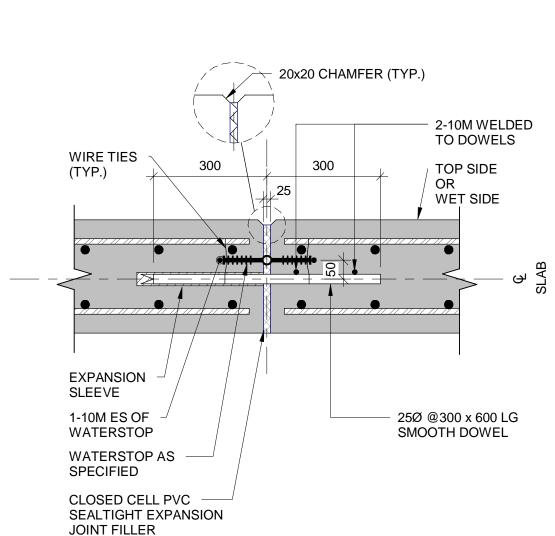








NOTES:



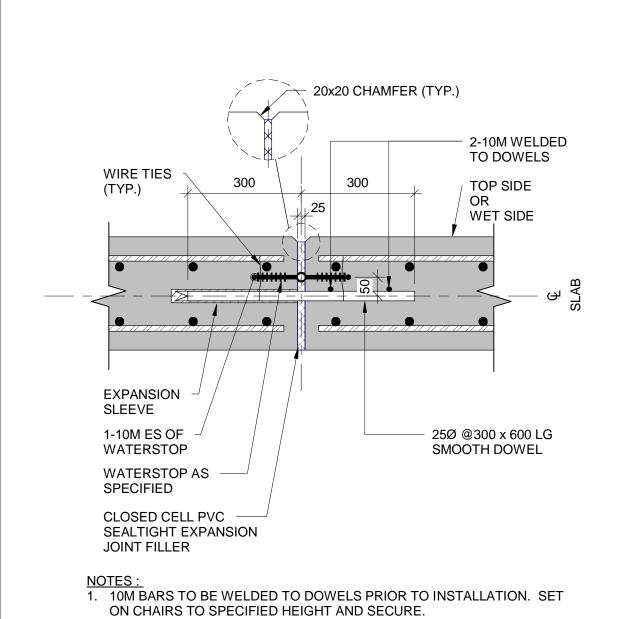
NOTES:

1. 10M BARS TO BE WELDED TO DOWELS PRIOR TO INSTALLATION. SET ON CHAIRS TO SPECIFIED HEIGHT AND SECURE.

2. ENSURE DOWELS ARE BOTH LEVEL AND PERPENDICULAR TO JOINT.

3. SUBMIT SHOP DRAWINGS FOR REVIEW.

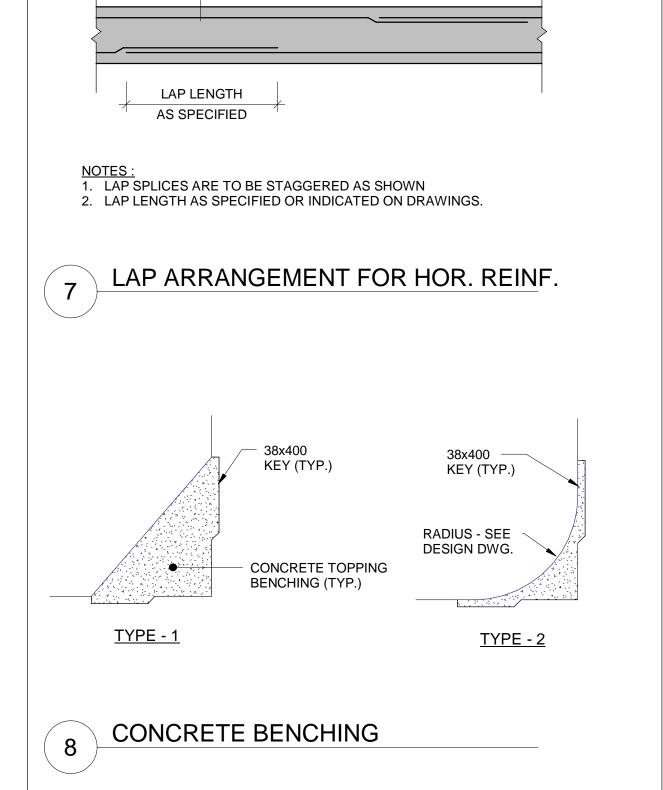
OPENING REINFORCMENT IN WALLS AND SLABS



2. ENSURE DOWELS ARE BOTH LEVEL AND PERPENDICULAR TO JOINT.

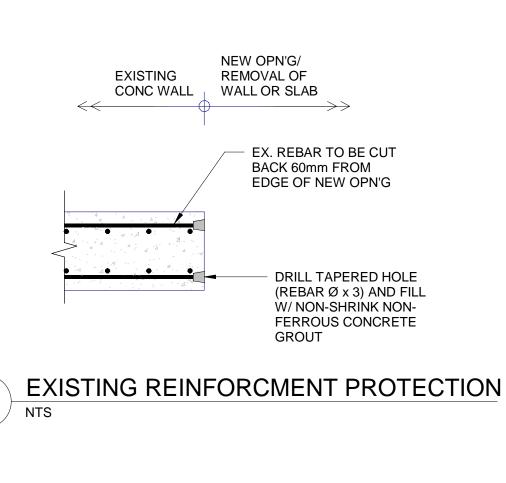
REINF. DETAIL FOR PIPE OPENINGS

3. SUBMIT SHOP DRAWINGS FOR REVIEW.

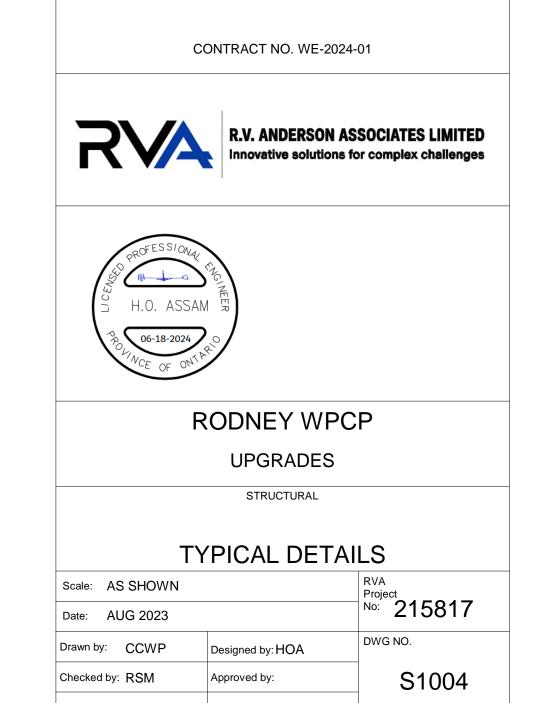


1500 MIN.

BTWN. CL OF LAPS



CONCRETE BASES FOR EQUIPMENT

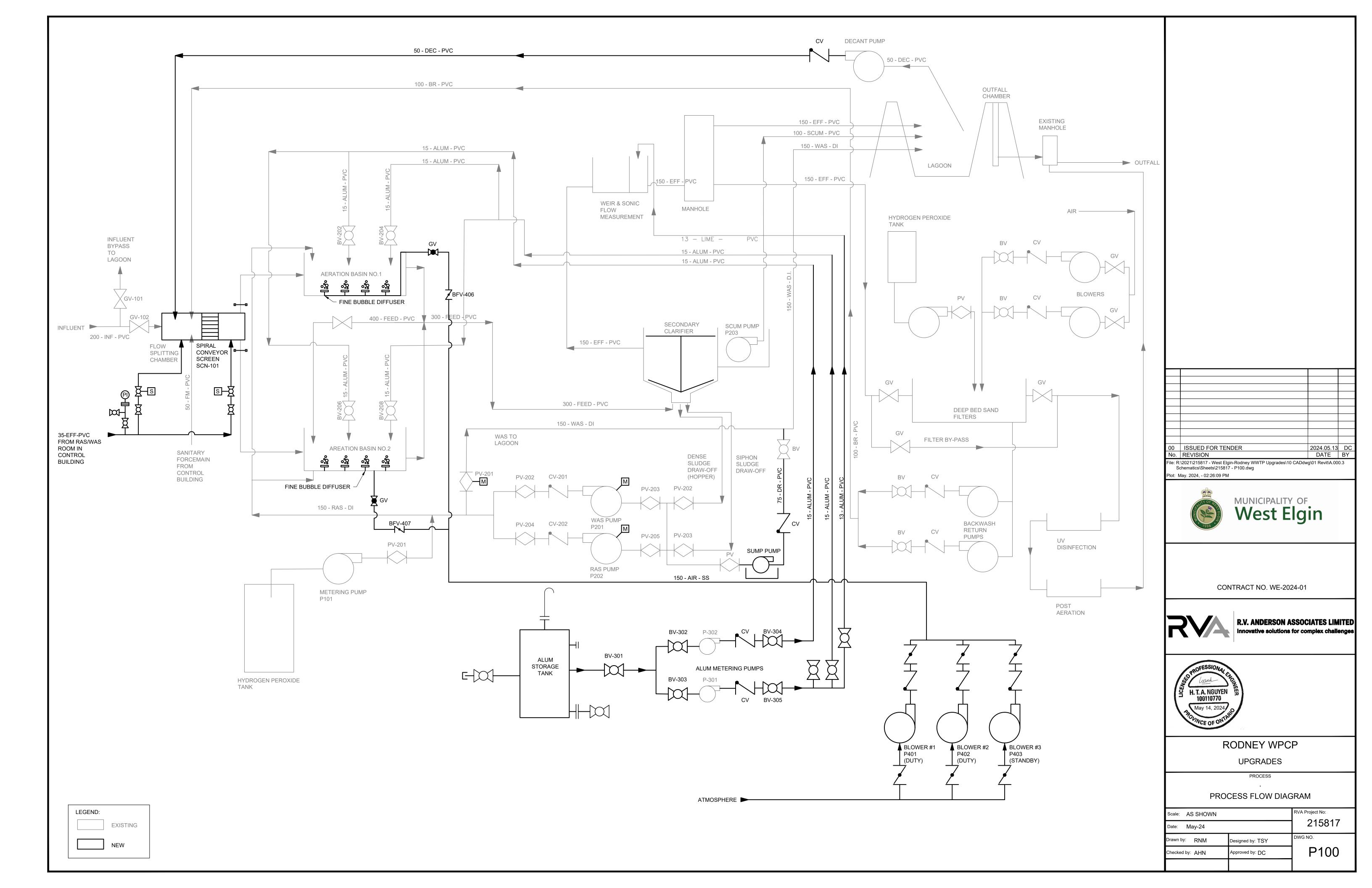


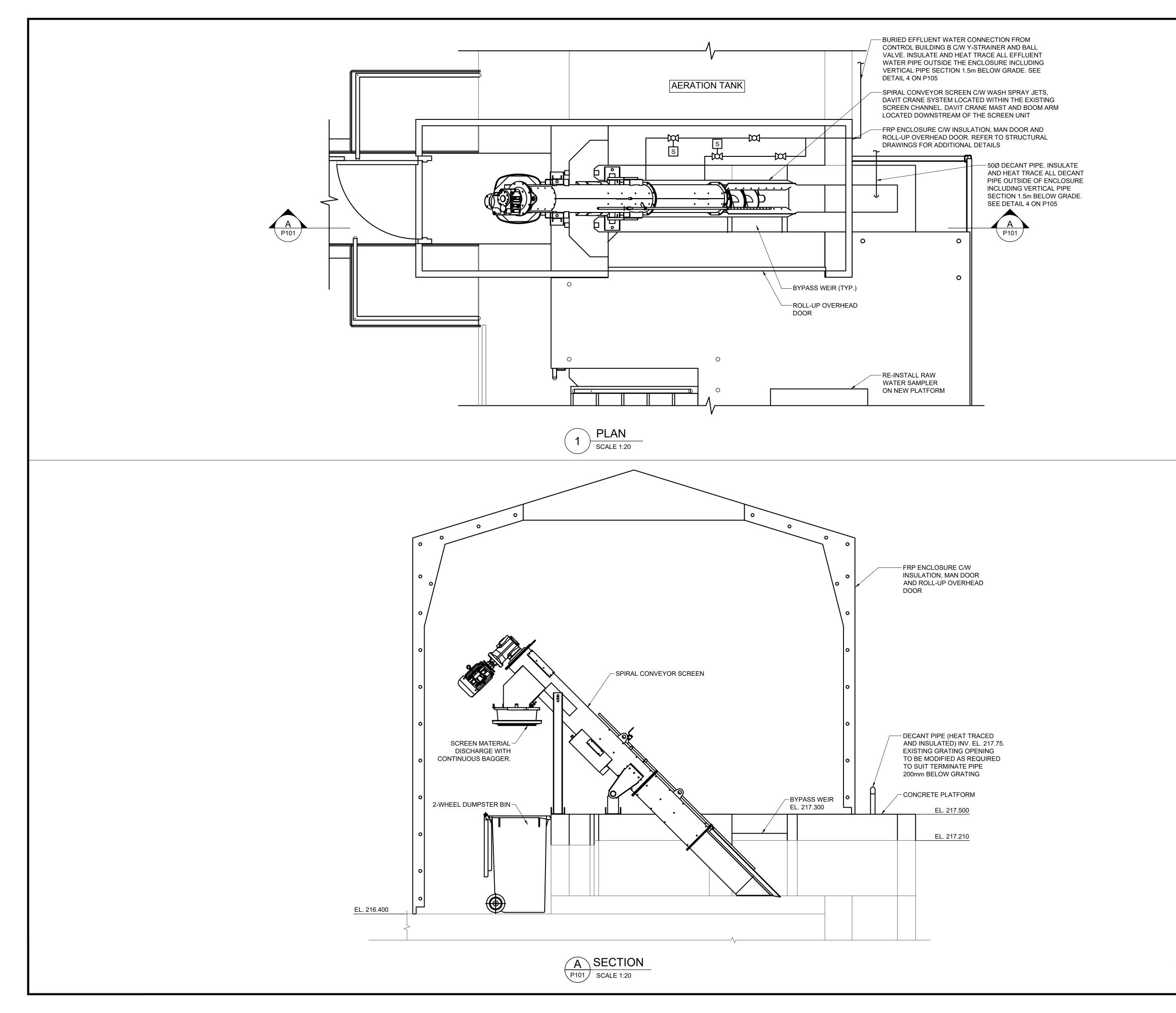
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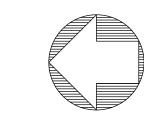
MUNICIPALITY OF

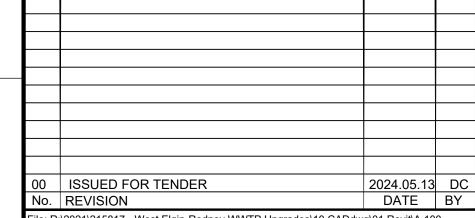
West Elgin

Building 01\Revit 20XX\Control Building B.rvt









File: R:\2021\215817 - West Elgin-Rodney WWTP Upgrades\10 CADdwg\01 Revit\A.100 Building 01\Sheets\215817 - P101.dwg

Plot: May. 2024, - 02:26:23 PM



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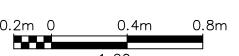


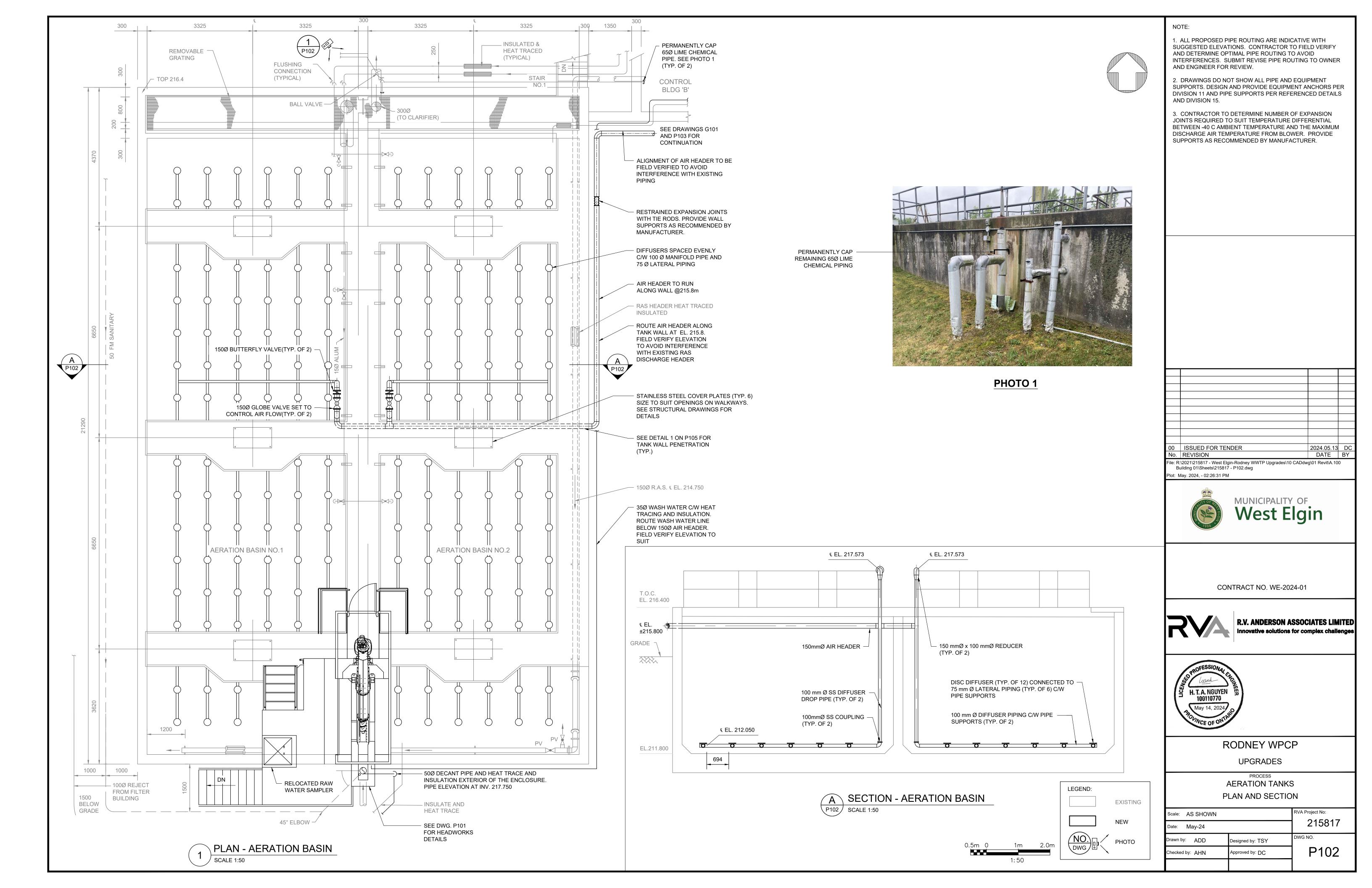
RODNEY WPCP

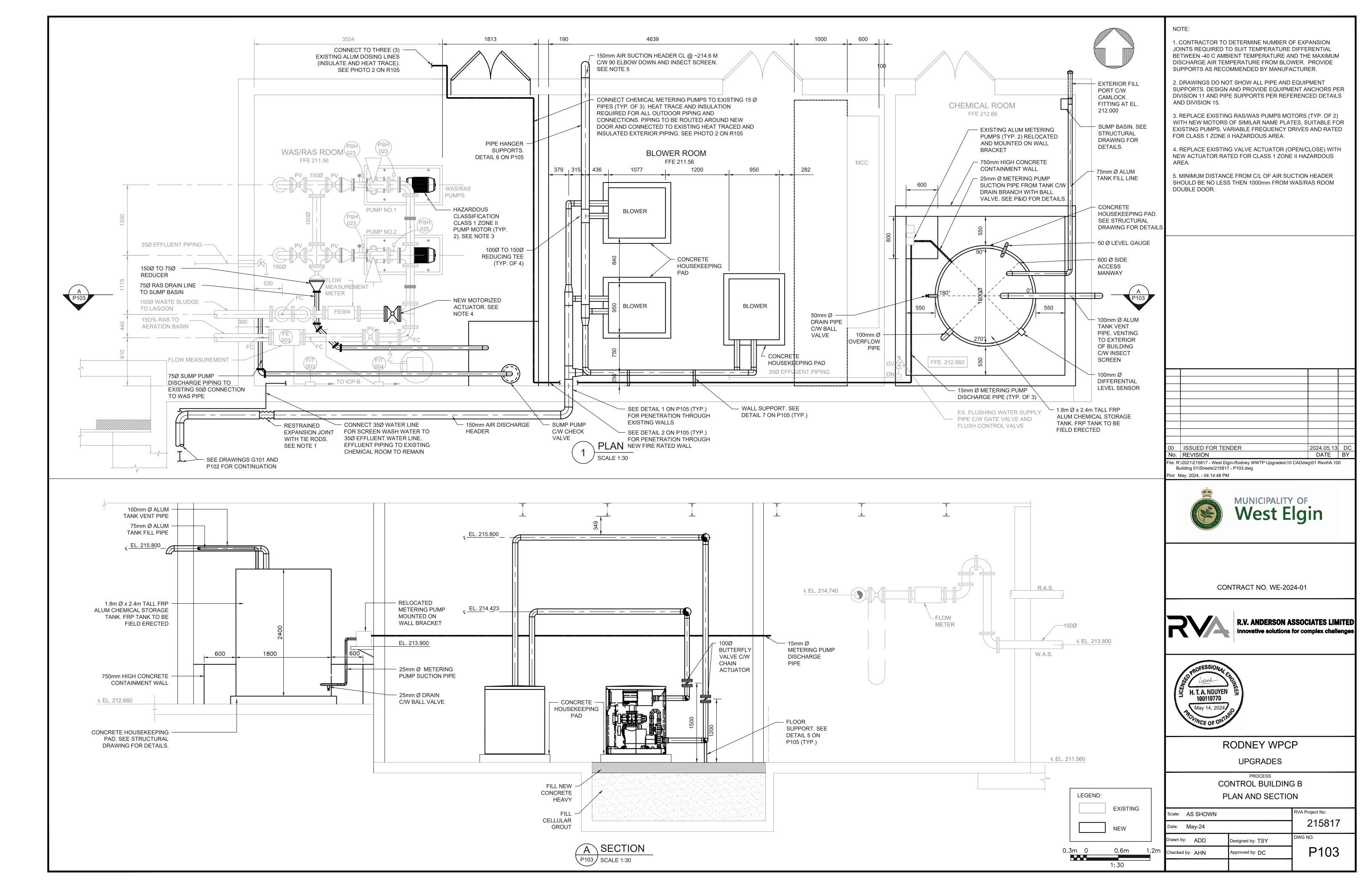
UPGRADES

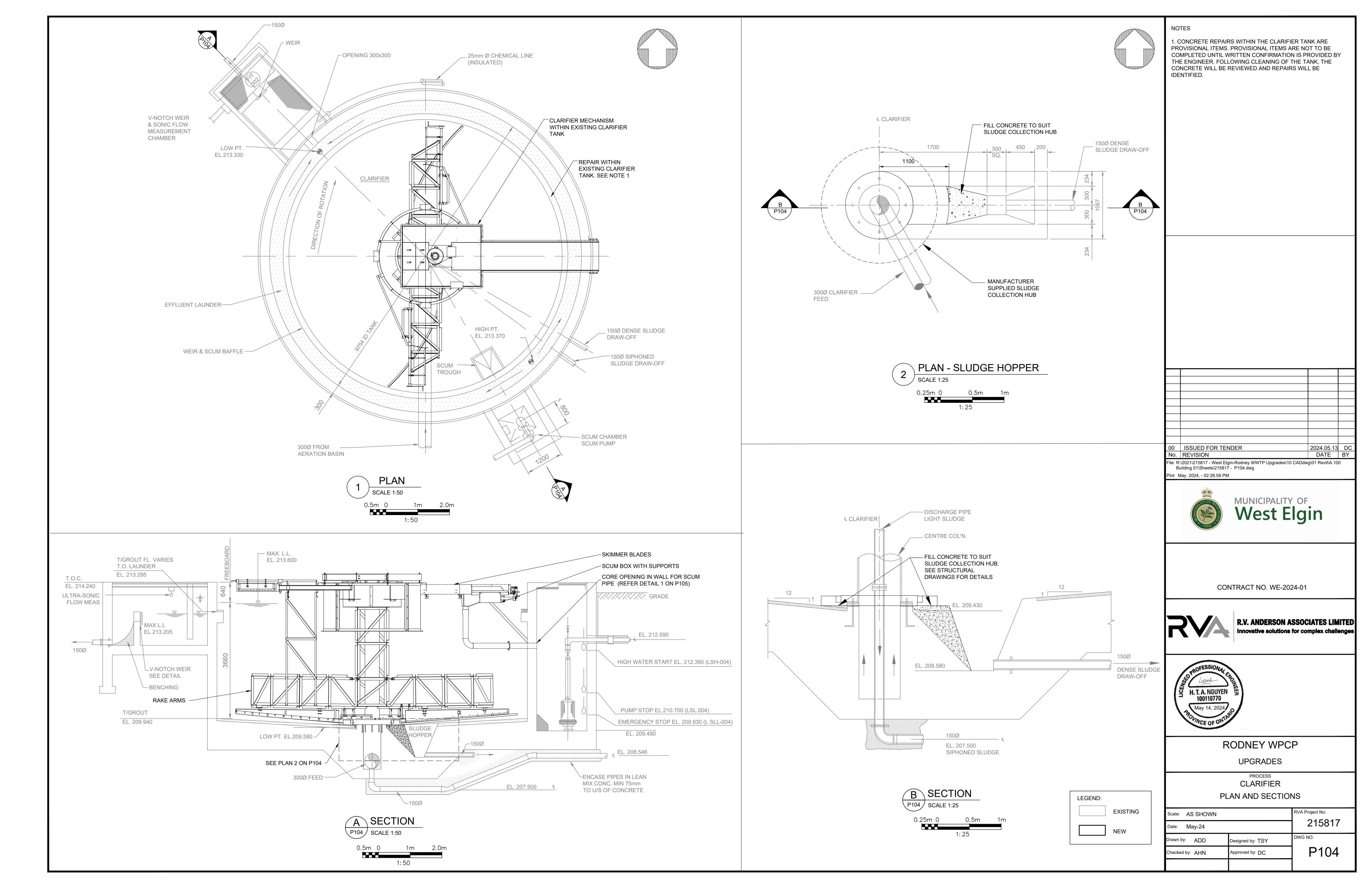
PROCESS
HEADWORKS
PLAN & SECTION

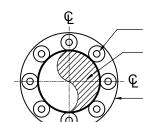
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Date: May-24		215817
Orawn by: ADD	Designed by: TSY	DWG NO.
Checked by: AHN	Approved by: DC	P101









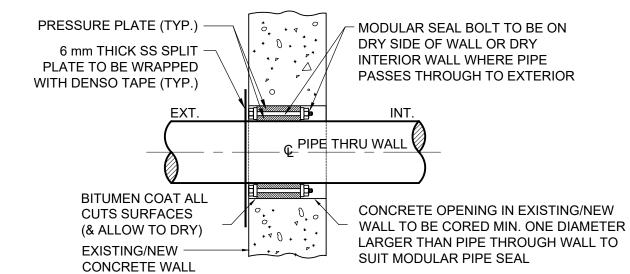


MODULAR SEAL BOLT (TYP.)

STEEL PIPE

- CONCRETE OPENING IN EXISTING WALL TO BE MIN. ONE DIAMETER LARGER THAN PIPE THROUGH WALL

CROSS-SECTION



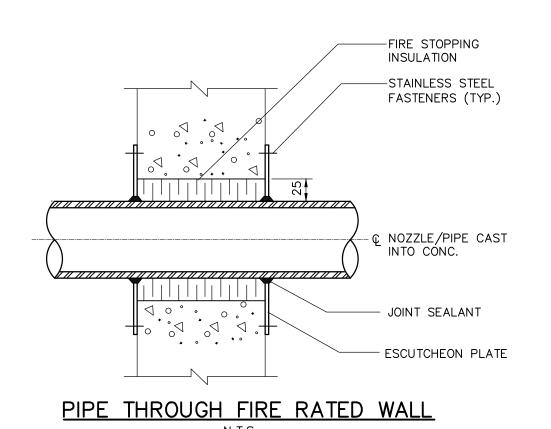
SECTION

MODULAR PIPE SEALS SHALL BE EQUAL TO LINK - SEAL AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURES RECOMMENDATIONS.

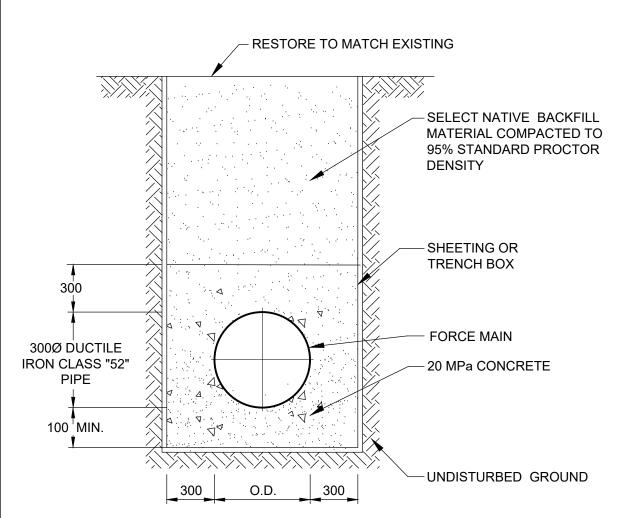
PAINT TIGHTENED SEAL NUTS AND BOLTS WITH ROSS - KOTE MASTIC PAINT ON ALL EXTERNAL AND /OR DRY WALL CONDITIONS. PAINT TIGHTENED SEAL NUTS AND BOLTS WITH CARBOLINE # 191 EPOXY PAINT ON ALL WET WALL CONDITIONS.

SCHEDULE	
WALL CONDITION	LOCATION OF SEAL
INT. DRY TO EXT. WET	DRY
INT. DRY TO EXT. BELOW GRADE	DRY
INT. DRY TO EXT. ABOVE GRADE	EXT.
INT. WET TO EXT. BELOW GRADE	EXT.
IINT. WET TO EXT. ABOVE GRADE	EXT.

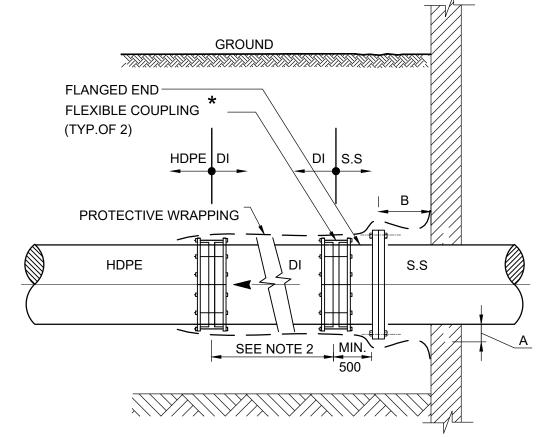
PIPE THROUGH EXISTING CONCRETE WALL W/ PIPE SEAL SCALE : N.T.S.



PIPE THORUGH FIRE RATED WALL SCALE: N.T.S.



TRENCH DETAIL SCALE: N.T.S.

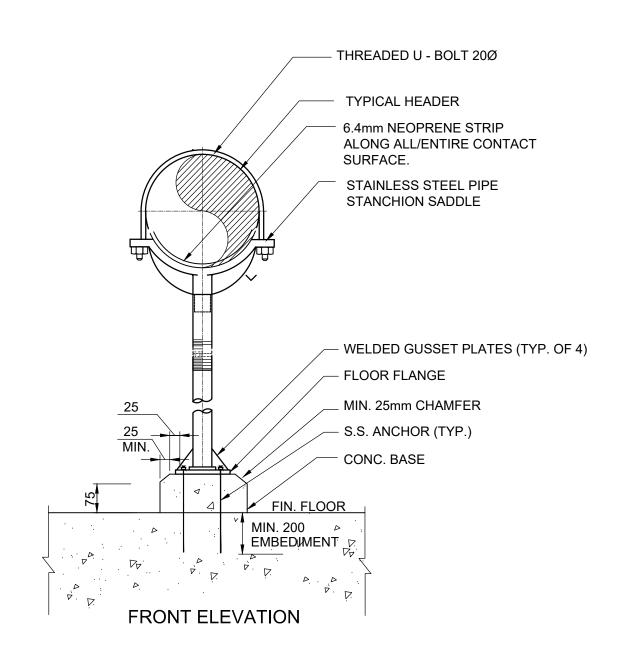


	V			
SCHEDULE				
A (mm)	B (mm)			
150	500			
100	300			
75	200			
	A (mm) 150 100			

1. CONTRACTOR IS RESPONSIBLE TO OBTAIN REQUIREMENTS FOR ASSEMBLY OF COUPLING AND FLANGED JOINTS FROM A MANUFACTURER. TORQUE PROCEDURE HAS TO BE DONE AS PER THE MANUFACTURER REQUIREMENTS.

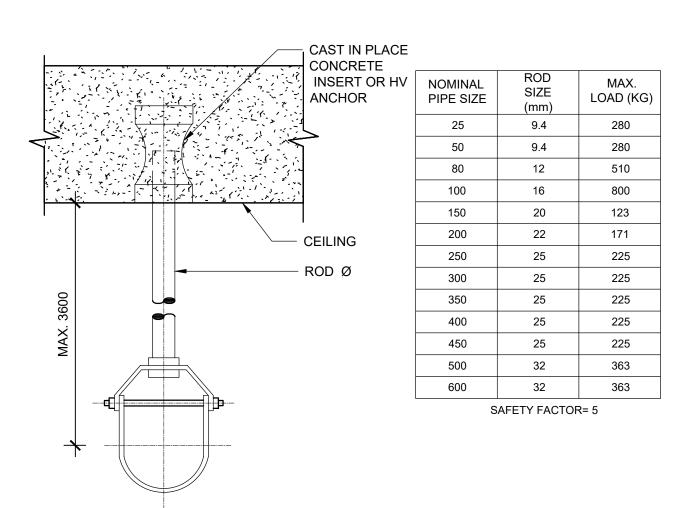
2. TWO (2) RESTRAINED FLEXIBLE COUPLINGS ARE TO BE INSTALLED NO MORE THAN 1000MM APART FROM EACH OTHER EVERY TIME THERE IS A TRANSITION IN PIPE MATERIAL OR WHERE A PIPE THAT IS EMBEDDED INTO A STRUCTURE EXTENDS OUT TO THE EXTERIOR.

PIPE CONNECTION THROUGH WALL DETAILS



NOTES:

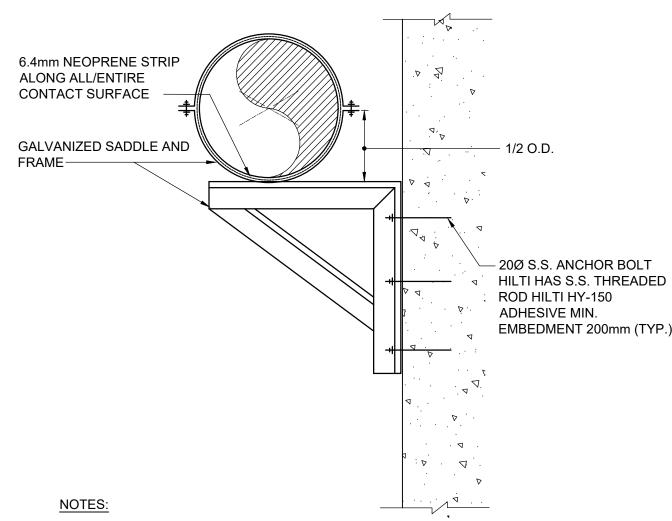
- 1. ALL UNSUBMERGED METALWORK TO BE STAINLESS STEEL.
- 2. SUBMIT SHOP DRAWINGS STAMPED BY PROFESSIONAL ENGINEERS LICENCED
- TO WORK IN ONTARIO. 3. DIAMETER OF PIPE STAND TO SUIT SIZE, WEIGHT AND PRESSURE OF THE PIPE (MIN. 80Ø).
- CONCEPTUAL ELEVATED PIPE SUPPORT DETAIL OFF FLOOR



NOTES:

- 1. ALL UNSUBMERGED METALWORK TO BE STAINLESS STEEL.
- 2. SUBMIT SHOP DRAWINGS STAMPED BY PROFESSIONAL ENGINEERS LICENCED TO WORK IN ONTARIO.

SINGLE PIPE HANGER DETAIL SCALE : N.T.S.



- 1. ALL METALWORK TO BE GALVANIZED STEEL
- 2. SUBMIT SHOP DRAWINGS

ELEVATED PIPE SUPPORT DETAIL OFF WALL SCALE: N.T.S.

)	ISSUED FOR TENDER	2024.05.13	DC
ο.	REVISION	DATE	BY
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File: R:\2021\215817 - West Elgin-Rodney WWTP Upgrades\10 CADdwg\01 Revit\A.100

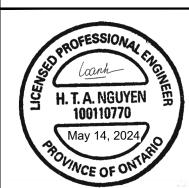
Building 01\Sheets\215817 - P105.dwg Plot: May. 2024, - 03:02:30 PM



CONTRACT NO. WE-2024-01



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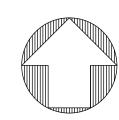
RODNEY WPCP

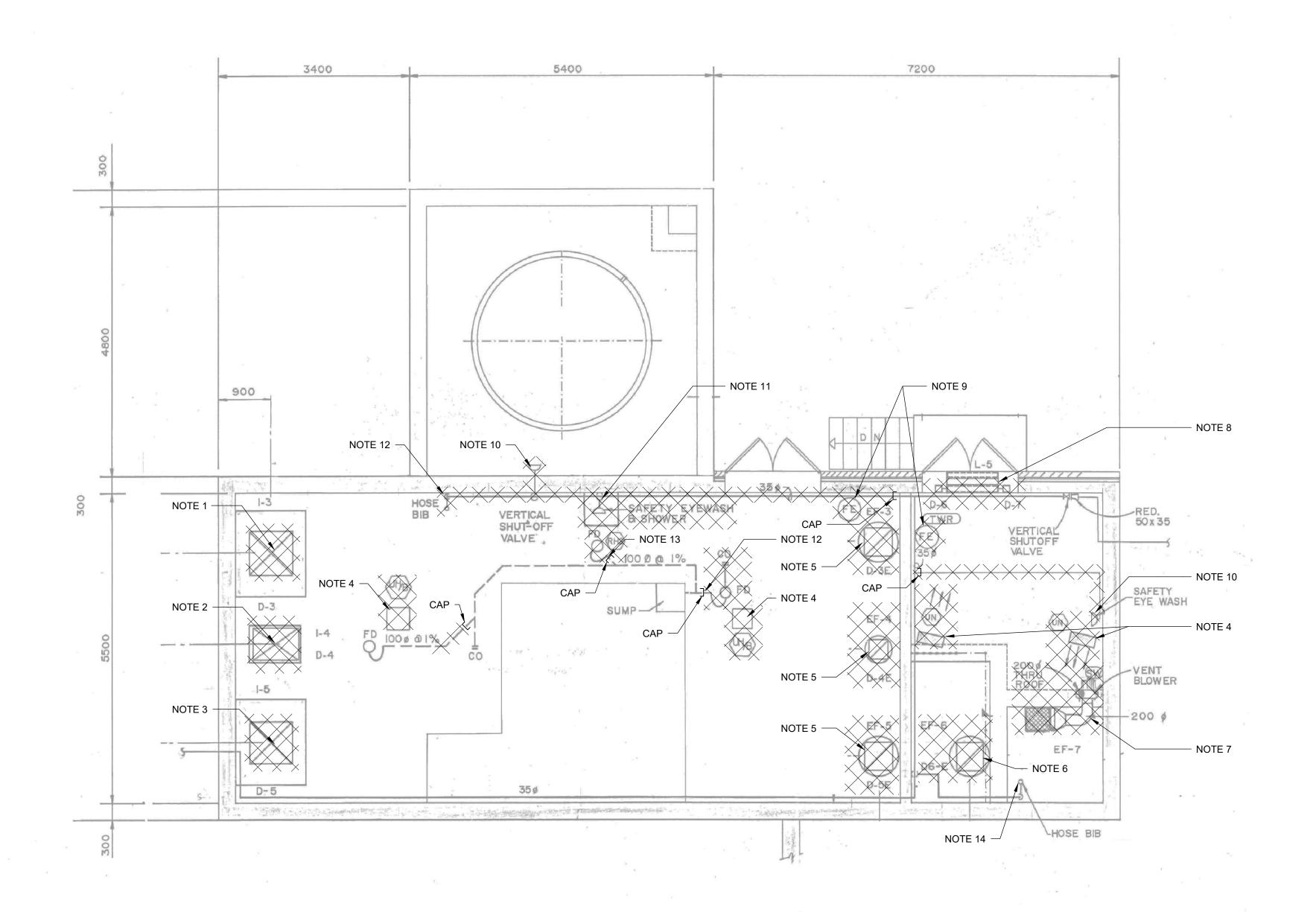
UPGRADES

PROCESS

DETAILS

Scale: AS SHOWN		RVA Project No:
Date: May-24		215817
Drawn by: ADD	Designed by: TSY	DWG NO.
Checked by: AHN	Approved by: DC	P105





PLAN - REMOVALS SCALE: 0.5m 0 1m 2.0m 1:50

DRAWING NOTES:

- REMOVE EXISTING GRAVITY INTAKE VENTILATOR COMPLETE WITH MOTORIZED DAMPER, ROOF CURB, ROOF FLASHINGS, ETC. EXISTING ROOF OPENING TO BE REUSED FOR NEW GRAVITY INTAKE VENTILATOR. REFER TO DRAWING M101 AND STRUCTURAL DRAWINGS FOR DETAILS.
- REMOVE EXISTING GRAVITY INTAKE VENTILATOR COMPLETE WITH MOTORIZED DAMPER, ROOF CURB, ROOF FLASHINGS, ETC. COORDINATE WITH ROOFING CONTRACTOR TO PATCH AND MAKE GOOD EXISTING ROOF OPENING, SEAL WATER TIGHT. REFER TO STRUCTURAL DRAWINGS FOR DETAILS.

3. REMOVE EXISTING GRAVITY INTAKE VENTILATOR COMPLETE

REMOVE EXISTING GRAVITY INTARE VENTILATOR COMPLETE
WITH MOTORIZED DAMPER, ROOF CURB, ROOF FLASHINGS,
ETC. EXISTING ROOF OPENING TO BE REUSED FOR NEW ROOF
MOUNTED EXHAUST FAN. REFER TO DRAWING M101 AND
STRUCTURAL DRAWINGS FOR DETAILS.

4. REMOVE EXISTING UNIT HEATER COMPLETE WITH HANGERS,

SUPPORTS, ETC.

- 5. REMOVE EXISTING ROOF MOUNTED EXHAUST FAN COMPLETE WITH MOTORIZED DAMPER, ROOF CURB, ROOF FLASHINGS, ETC. COORDINATE WITH ROOFING CONTRACTOR TO PATCH AND MAKE GOOD EXISTING ROOF OPENING, SEAL WATER TIGHT. REFER TO STRUCTURAL DRAWINGS FOR DETAILS.
- 6. REMOVE EXISTING ROOF MOUNTED EXHAUST FAN COMPLETE WITH MOTORIZED DAMPER, ROOF CURB, ROOF FLASHINGS, ETC. EXISTING ROOF OPENING TO BE REUSED FOR NEW ROOF MOUNTED EXHAUST FAN. REFER TO DRAWING M101 AND STRUCTURAL DRAWINGS FOR DETAILS.
- 7. REMOVE EXISTING VENT BLOWER COMPLETE WITH ROOF CURB, ROOF FLASHINGS, DUCTS, ETC. COORDINATE WITH ROOFING CONTRACTOR TO PATCH AND MAKE GOOD EXISTING ROOF OPENING, SEAL WATER TIGHT. REFER TO STRUCTURAL DRAWINGS FOR DETAILS.
- 8. REMOVE EXISTING MOTORIZED DAMPERS. EXISTING 760x760 INTAKE LOUVRE TO REMAIN.
- 9. REMOVE EXISTING FIRE EXTINGUISHER.
- REMOVE EXISTING EYEWASH STATION COMPLETE WITH ALL ASSOCIATED APPURTENANCES. CUT AND CAP EXISTING SERVICES AS INDICATED.
- REMOVE EXISTING EYEWASH & SHOWER STATION COMPLETE WITH ALL ASSOCIATED APPURTENANCES. CUT AND CAP EXISTING SERVICES AS INDICATED.
- REMOVE EXISTING HOSE BIB COMPLETE WITH ALL
 ASSOCIATED APPURTENANCES. CUT AND CAP EXISTING
 SERVICES AS INDICATED.
- 13. REMOVE EXISTING FLOOR DRAIN INCLUDING TRAP AND CAP SANITARY DRAINAGE PIPING BELOW SLAB.

LEGEND:

EXISTING

REMOVAL

14. EXISTING HOSE BIB TO REMAIN.

3	ISSUED FOR TENDER	2024.05.13	DC
2	ISSUED FOR 100% CLIENT REVIEW 2023	2023.08.30	DC
1	ISSUED FOR DESIGN REVIEW	2023.06.30	DC
No.	REVISION	DATE	BY
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File: R:\2021\215817 - West Elgin-Rodney WWTP Upgrades\10 CADdwg\01 Revit\A.100 Building 01\Sheets\M100 MECHANICAL DEMO.dwg

Plot: May. 2024, - 10:11:34 AM



CONTRACT NO. WE-2024-01



R.V. ANDERSON ASSOCIATES LIMITE

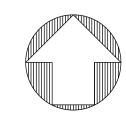


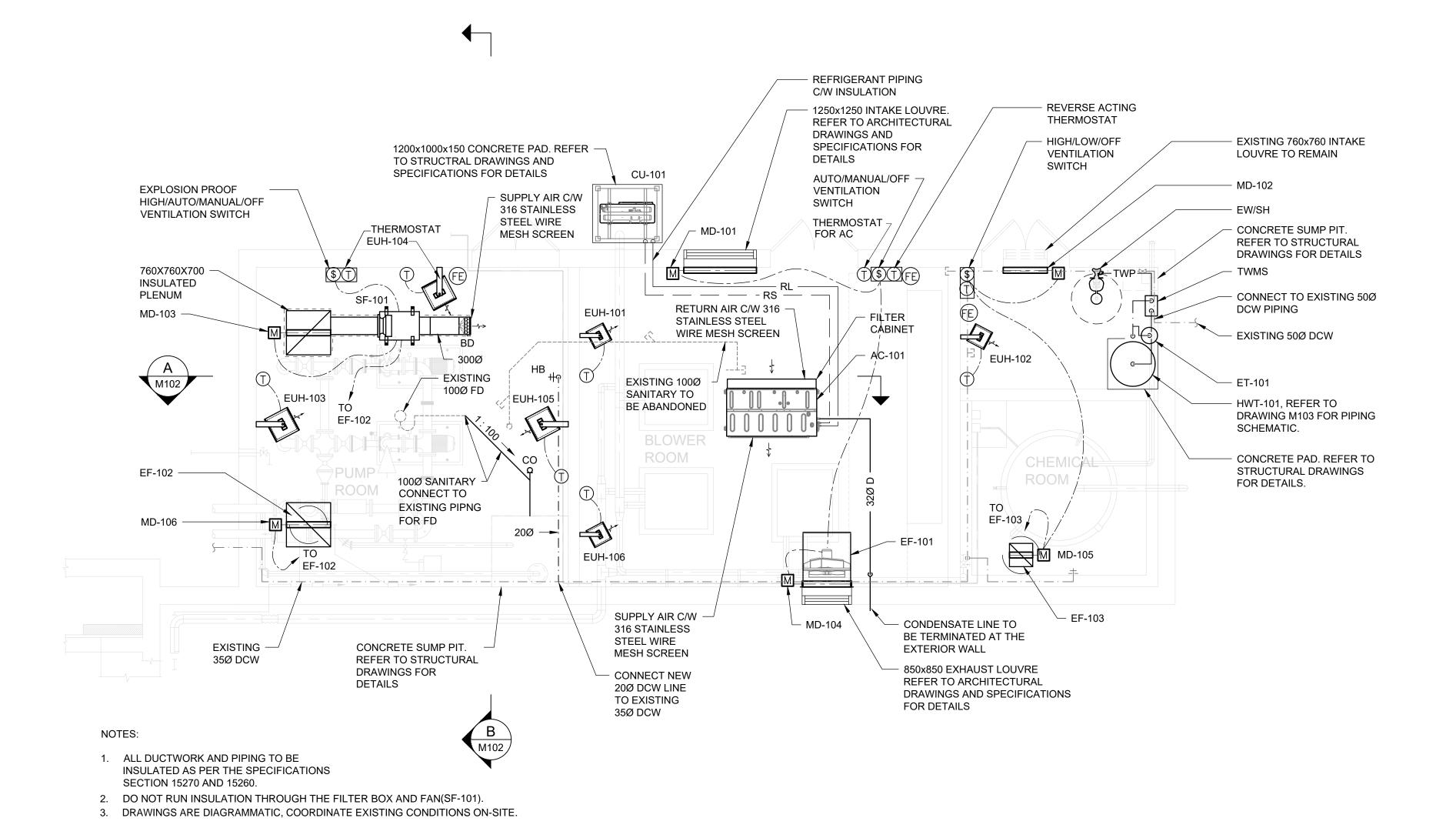
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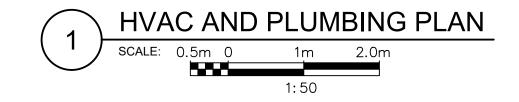
UPGRADES

MECHANICAL
CONTROL BUILDING B
PLAN - REMOVALS

Scale: AS SHOWN		RVA Project No:
Date: May-24		215817
Orawn by: BAQ	Designed by: PHP	DWG NO.
Checked by: BJM	Approved by: DC	M100







3	ISSUED FOR TENDER	2024.05.13	DC
2	ISSUED FOR 100% CLIENT REVIEW 2023	2023.08.30	DC
1	ISSUED FOR DESIGN REVIEW	2023.06.30	DC
No.	REVISION	DATE	BY
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File: R:\2021\215817 - West Elgin-Rodney WWTP Upgrades\10 CADdwg\01 Revit\A.100 Building 01\Sheets\M101 Plan.dwg

Plot: May. 2024, - 10:11:40 AM



CONTRACT NO. WE-2024-01



LEGEND:

EXISTING

NEW

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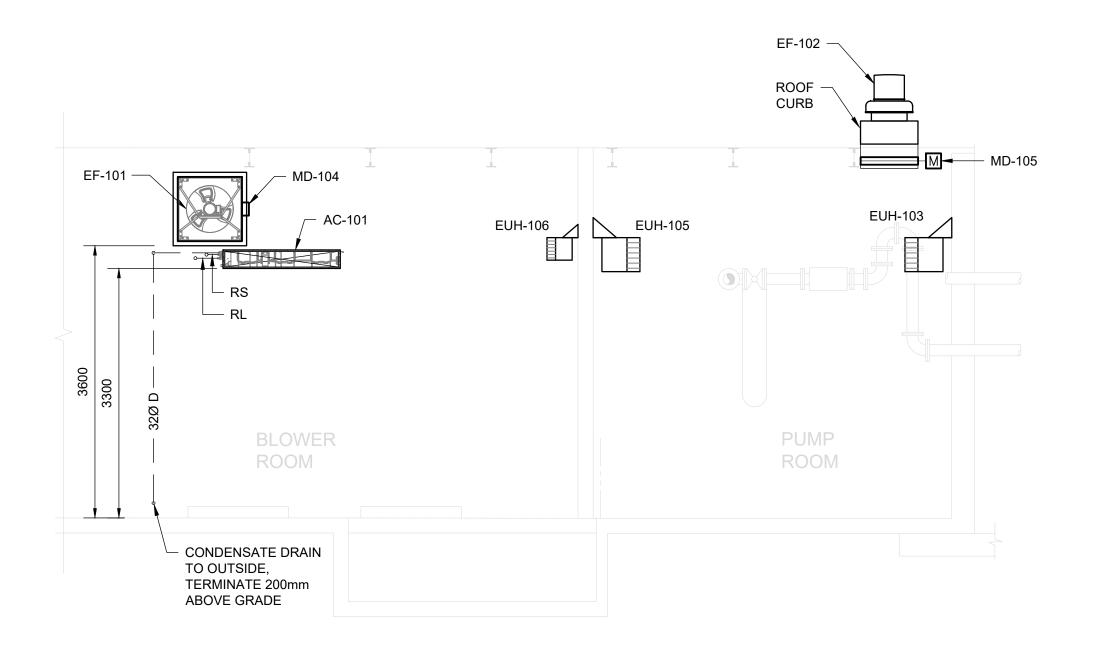


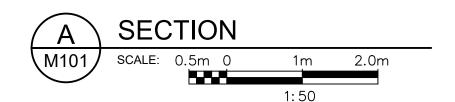
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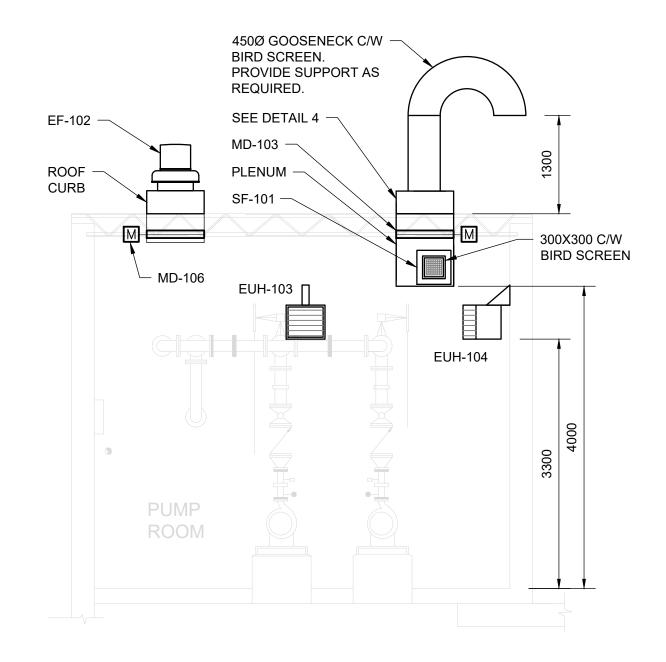
UPGRADES

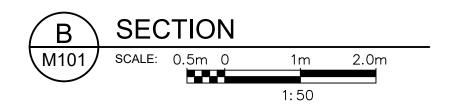
CONTROL BUILDING B
HVAC AND PLUMBING PLAN

Scale: AS SHOWN		RVA Project No:
Date: May-24	215817	
Drawn by: BAQ	Designed by: PHP	DWG NO.
Checked by: BJM	Approved by: DC	M101









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2	ISSUED FOR 100% CLIENT REVIEW 2023	2023.08.30	DC					
1	ISSUED FOR DESIGN REVIEW	2023.06.30	DC					
No.	REVISION	DATE	BY					
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Building 01\Sheets\M102 Sections.dwg
Plot: May. 2024, - 10:11:46 AM



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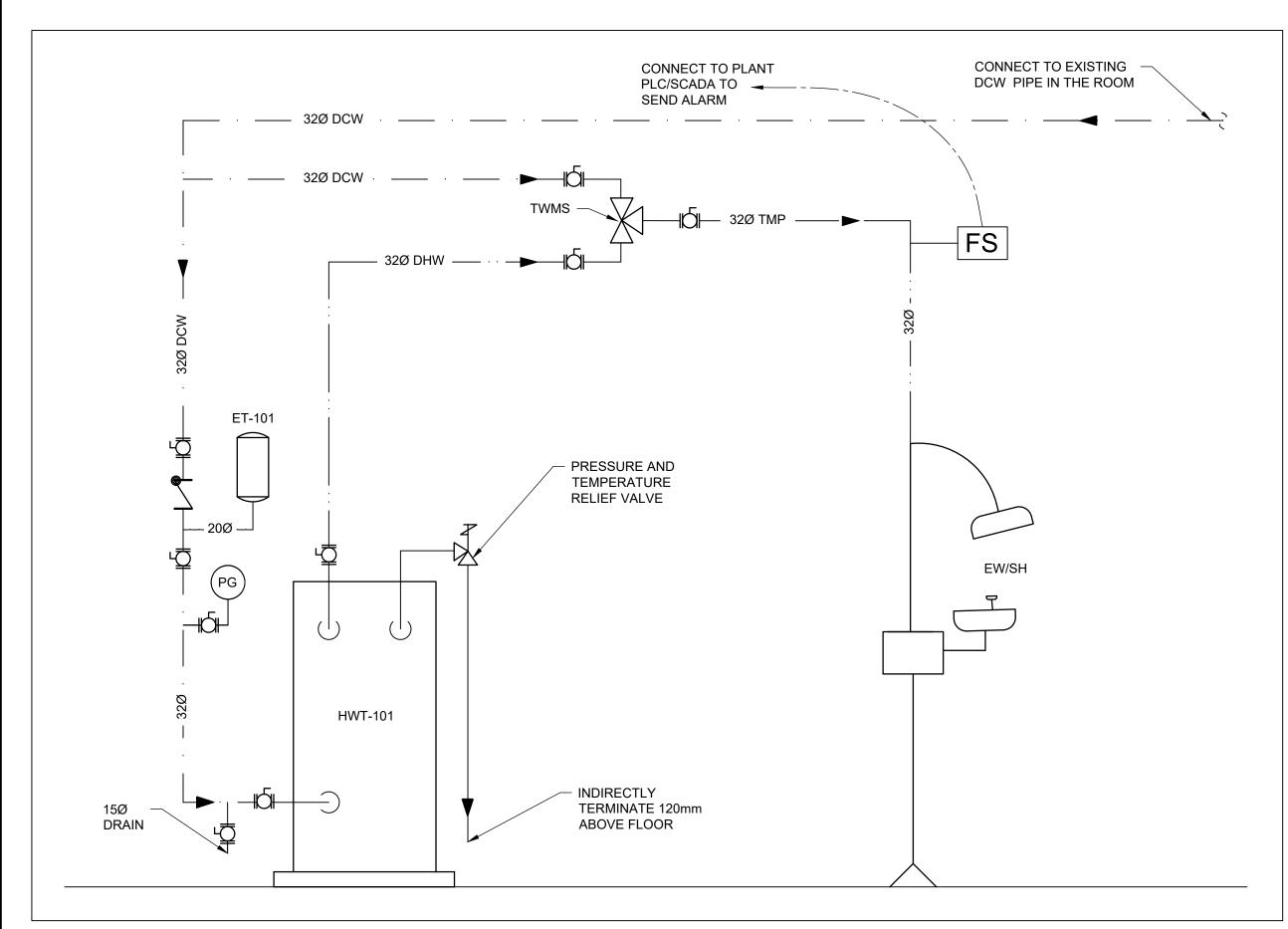


RODNEY WPCP

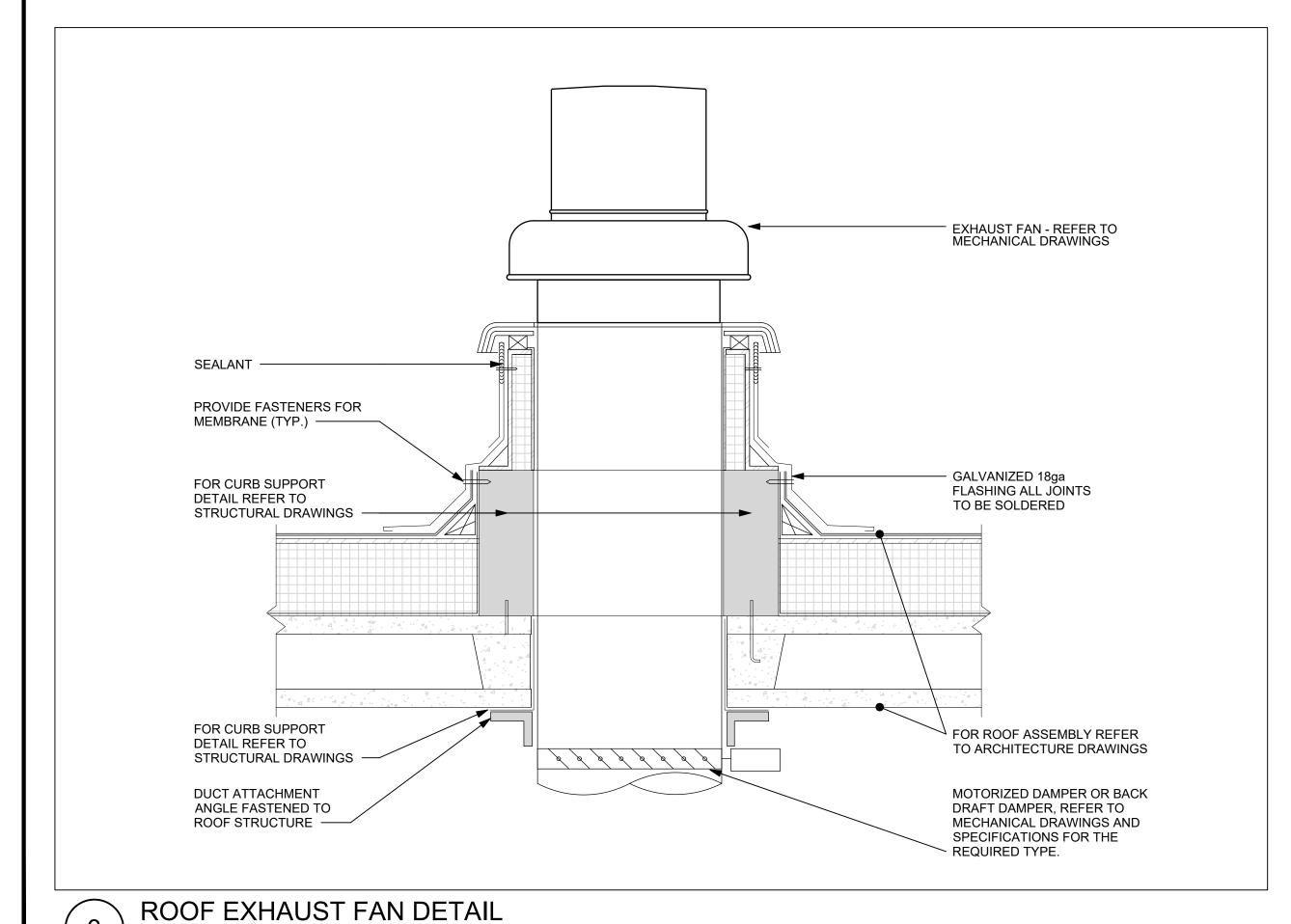
UPGRADES

MECHANICAL
CONTROL BUILDING B
SECTIONS

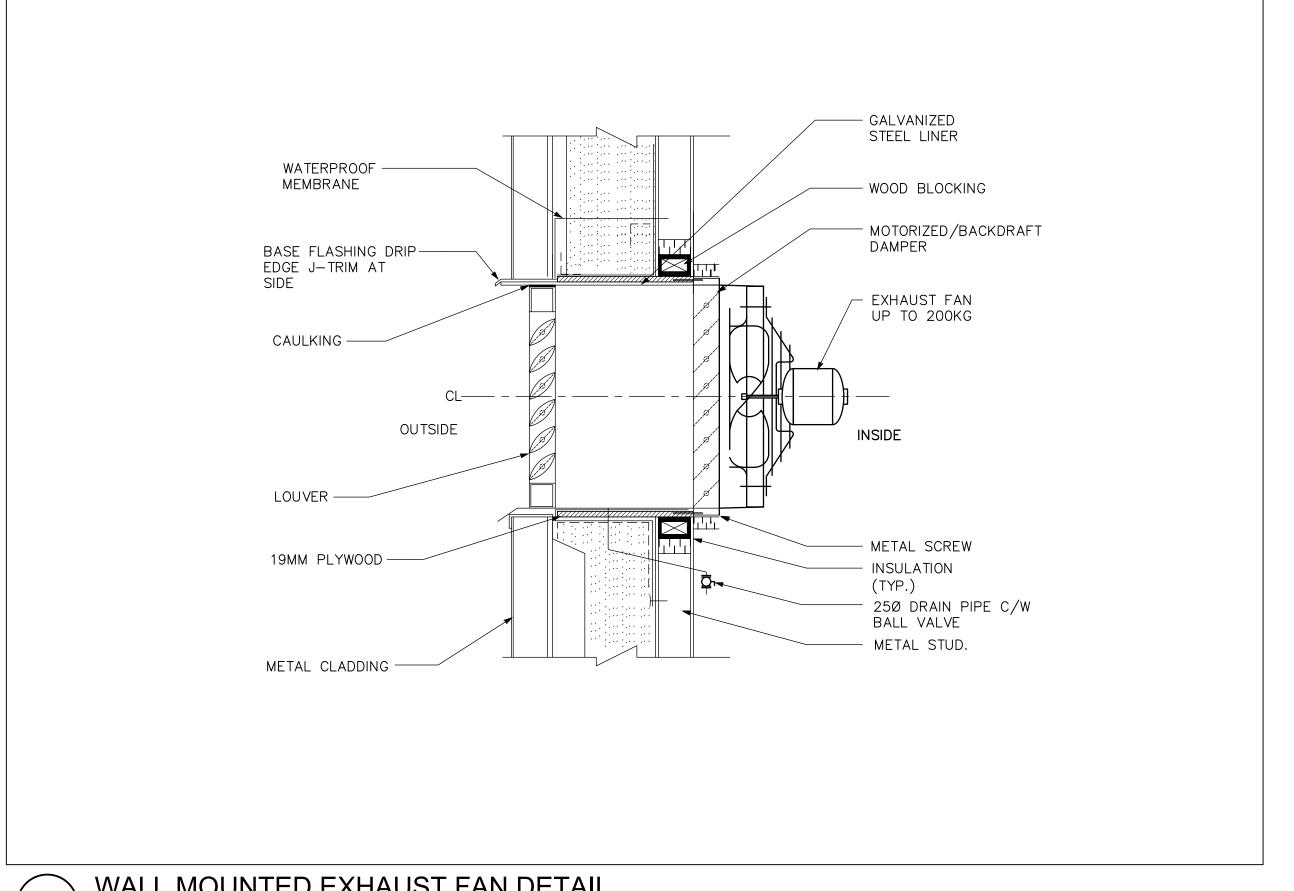
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Date: May-24		215817
Drawn by: BAQ	Designed by: PHP	DWG NO.
Checked by: BJM	Approved by: DC	M102
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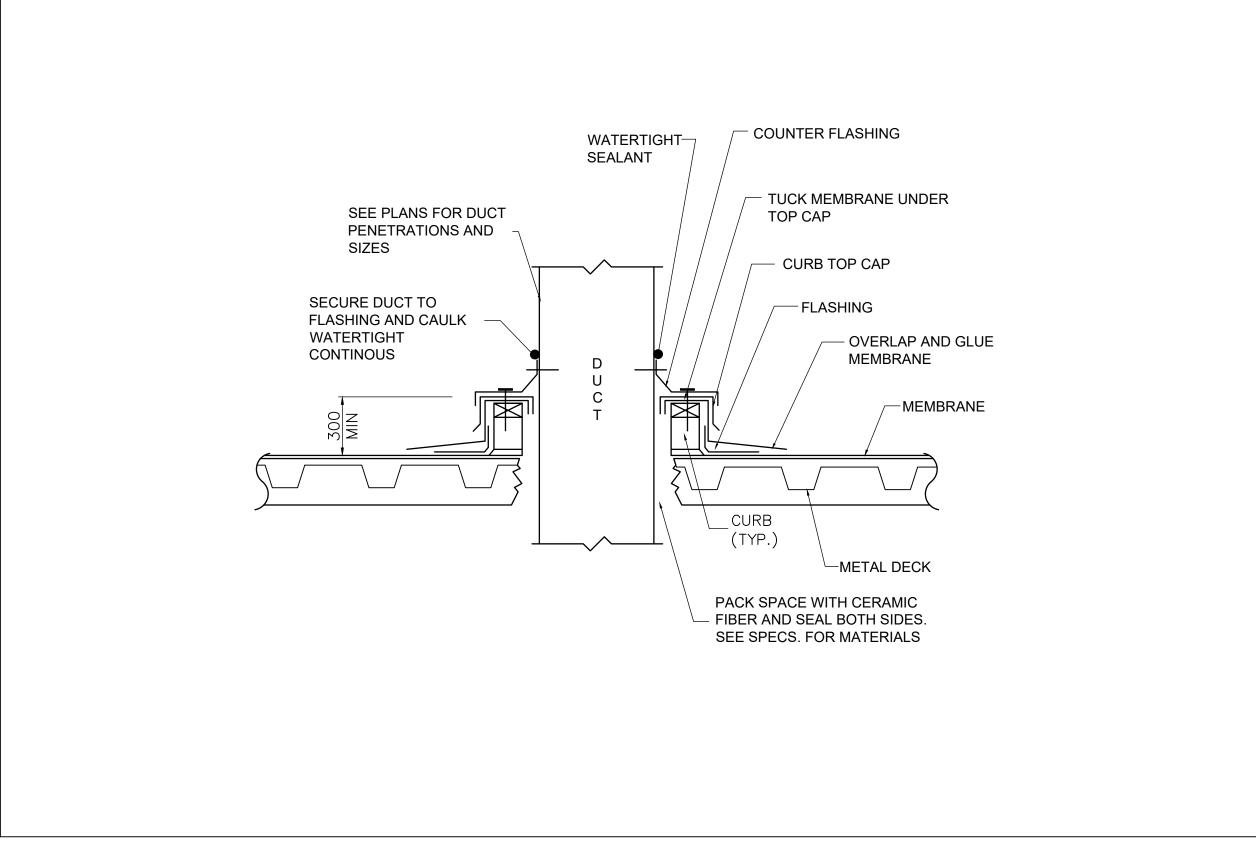
PIPING DETAIL



DUCT THROUGH ROOF DETAIL



WALL MOUNTED EXHAUST FAN DETAIL SCALE: N.T.S



UPGRADES MECHANICAL

N. ROSHANI 100222129

ISSUED FOR TENDER

No. REVISION

Plot: May. 2024, - 10:11:53 AM

ISSUED FOR DESIGN REVIEW

ISSUED FOR 100% CLIENT REVIEW 2023

File: R:\2021\215817 - West Elgin-Rodney WWTP Upgrades\10 CADdwg\01 Revit\A.100 Building 01\Sheets\M103 Details.dwg

MUNICIPALITY OF West Elgin

CONTRACT NO. WE-2024-01

R.V. ANDERSON ASSOCIATES LIMITED

2024.05.13 DC

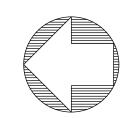
2023.08.30 DC 2023.06.30 DC

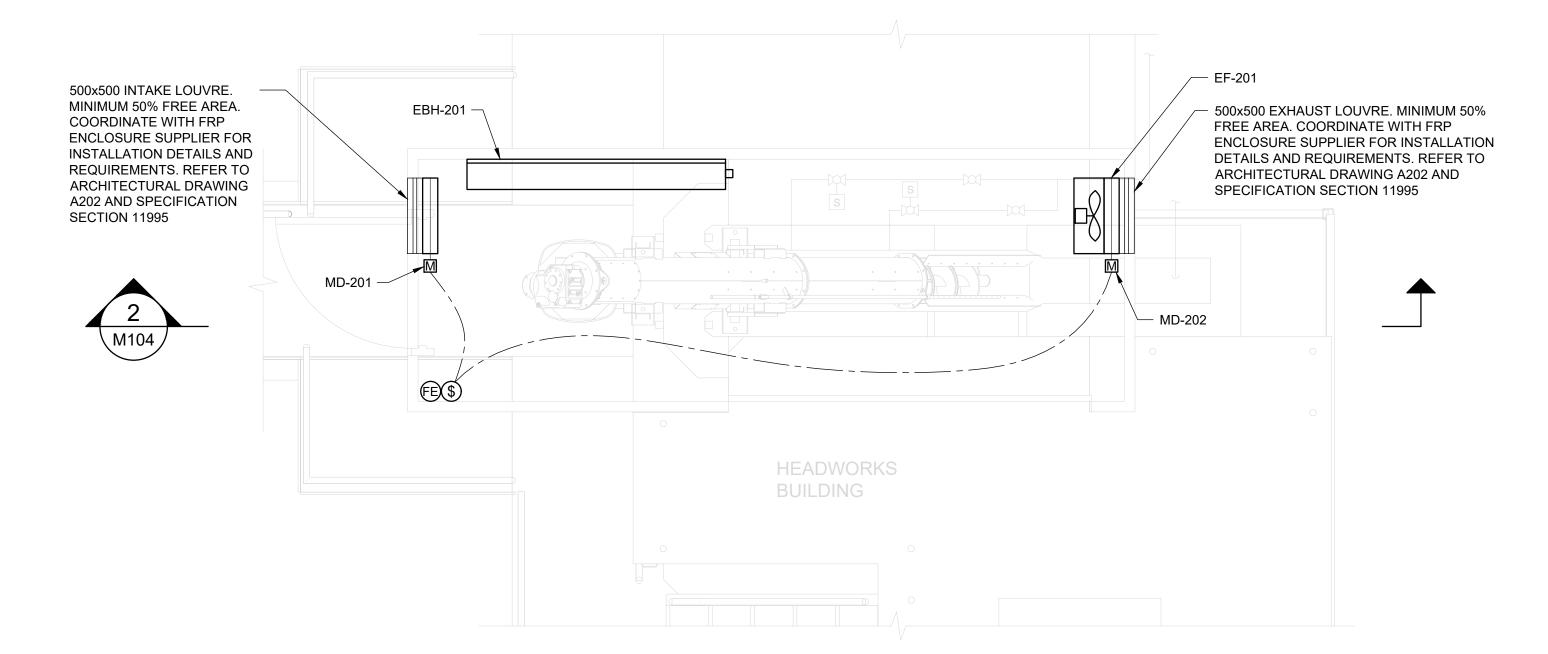
DATE BY

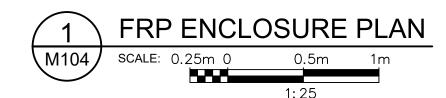
DETAILS

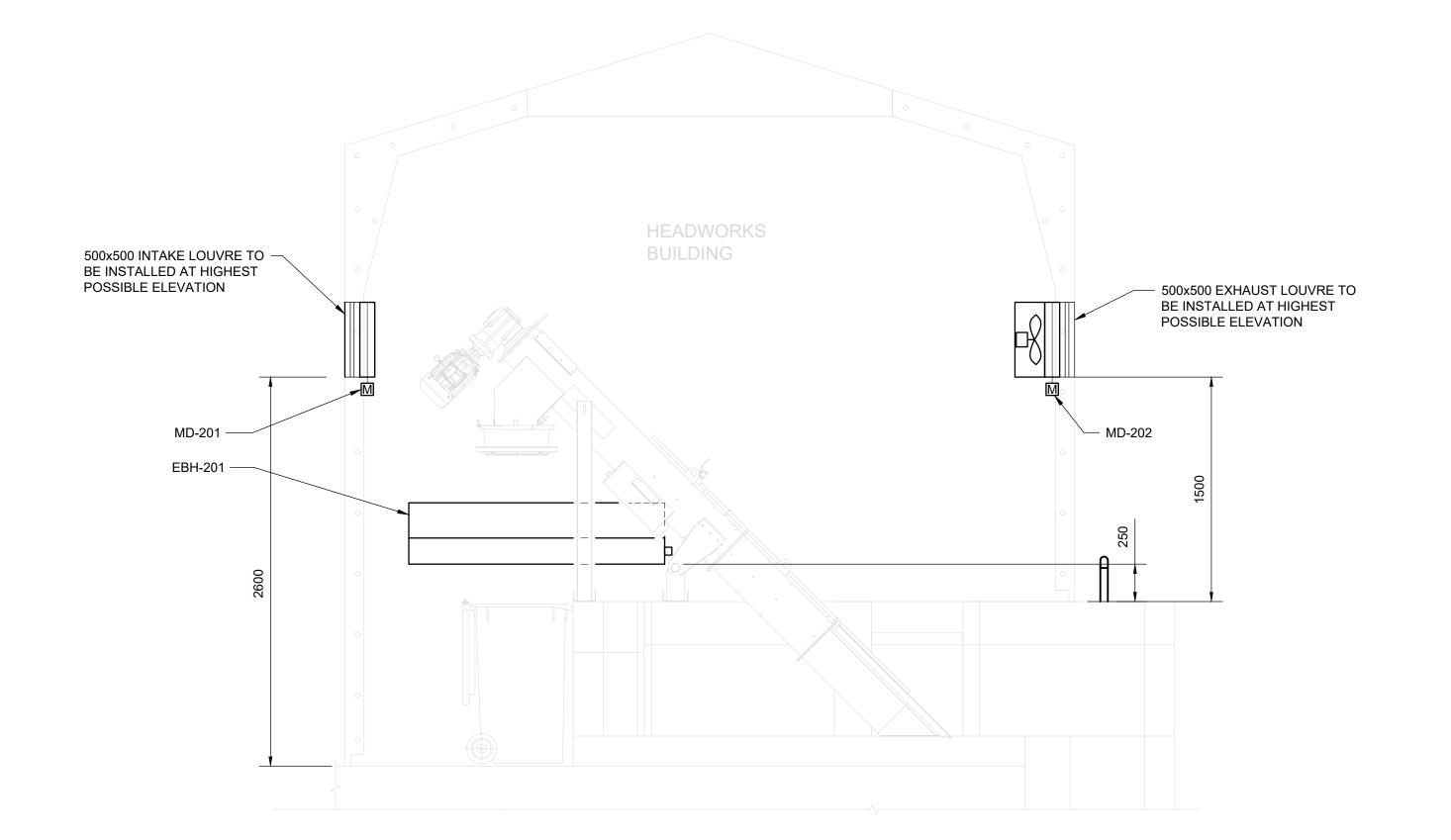
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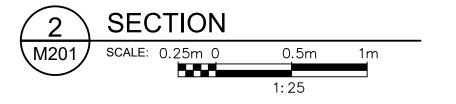
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Date: May-24		215817
may 21		
Drawn by: BAQ	Designed by: PHP	DWG NO.
Checked by: BJM	Approved by: DC	M103











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3	ISSUED FOR TENDER	2024.05.13	DC				
2	ISSUED FOR 100% CLIENT REVIEW 2023	2023.08.30	DC				
1	ISSUED FOR DESIGN REVIEW	2023.06.30	DC				
No.	REVISION	DATE	BY				
File: R:\2021\215817 - West Elgin-Rodney WWTP Upgrades\10 CADdwg\01 Revit\A.100 Building 01\Sheets\M104 PLAN.dwg							

Building 01\Sheets\M104 PLAN.dwg
Plot: May. 2024, - 10:12:00 AM

MUNICIPALITY OF West Elgin

CONTRACT NO. WE-2024-01



R.V. ANDERSON ASSOCIATES LIMITED Innovative solutions for complex challenges



RODNEY WPCP

UPGRADES

MECHANICAL
HEADWORKS
PLAN AND SECTION

Scale: AS SHOWN		RVA Project No:
Date: May-24		215817
Drawn by: BAQ	Designed by: PHP	DWG NO.
Checked by: BJM	Approved by: DC	M104

SCHEDU	LE A - AIR HANDLING AND AC UN	IITS																	
TAG	TYPE	LOCATION	MAKE	MODEL	COOLING (TR)	HEATING OUTPUT kW	FLOW (L/s)	E.S.P. (Pa)	FAN RPM	FAN MOTOR WATTS	MCA (AMPS)	MOP (AMPS)	VOLTS	PHASE	STARTER BY	CONTROL BY	INTERLOCKED WITH	APPROX. UNIT WEIGHT (KG)	NOTES
CU-101	OUTDOOR CONDENSER UNIT	OUTSIDE BLOWER BUILDING	DAIKIN	RXTQ48TBVJUA	4.0	-	-	-	-	-	29.1	35	208-230	1	DIV. 15	-	AC-101	80	C/W LOCAL DISCONNECT SWITCH, LOW AMBIENT KIT, WIND BAFFLES AND CONDENSER MOUNTING STAND. UNIT IS SUITABLE TO PROVIDE LOW AMBIENT COOLING DOWN TO -40°C.
AC-101	INDOOR DUCTED CONCEALED AC UNIT	BLOWER ROOM	1 DAIKIN	FXSQ54TBVJU	4.5	-	716	99	-	-	2.6	15	208-230	1	DIV. 15	REMOTE AC CONTROLLER	CU-101	47	C/W VIBRATION ISOLATOR, FILTER, FILTER CABINET, CONDENSATE PUMP, CONDENSATE DRAIN PAN, AND LOCAL DISCONNECT SWITCH.

SCHEDULE B - FAN SCHEDULE											
			F	AN DATA							
TAG NAME / LOCATION	MAKE / MODEL	FLOW L/s	E.S.P. Pa	FAN RPM	MOTOR kW	R SOUND CHAR V/PH	STARTE BY	R CONTROL BY	INTERLOCKED WITH	EQUIPMENT WEIGHT kg	NOTES
EF-101 EXHAUST FAN / BLOWER ROOM	GREENHECK / AER-24-03-0305	1650	74	1750	0.37	32 SONES 120 / 1	1 DIV. 15	SWITCH	MD-101	106	C/W SPEED CONTROLLER SUITABLE TO CHANGE THE SPEED THROUGH MANUAL SWITCH, LOCAL DISCONNECT SWITCH AND CORROSION RESISTANT COATING.
EF-102 EXHAUST FAN / PUMP ROOM	GREENHECK / G-098-A	118 / 236	87	1725	0.25	11.3 SONES 600 / 3	3 DIV. 15	SWITCH	MD-104	26.3	C/W VFD (LOCATED IN ELECTRICAL ROOM), LOCAL DISCONNECT SWITCH AND CORROSION RESISTANT COATING. ALL ELECTRICAL EQUIPMENT SUITABLE FOR CLASS-I ZONE-2 HAZARDOUS AREA.
EF-103 EXHAUST FAN / CHEMICAL ROOM	GREENHECK / G-097-A	59 / 118	87	1725	0.19	10.5 SONES 120 / 1	1 DIV. 15	SWITCH	MD-103	37.2	C/W SPEED CONTROLLER SUITABLE TO CHANGE THE SPEED THROUGH MANUAL SWITCH, LOCAL DISCONNECT SWITCH AND CORROSION RESISTANT COATING.
SF-101 SUPPLY FAN / PUMP ROOM	GREENHECK / BSQ-90	108.5 / 217	158	1725	0.37	9.4 SONES 600 / 3	3 DIV. 15	SWITCH	MD-105	106	C/W VFD (LOCATED IN ELECTRICAL ROOM), LOCAL DISCONNECT SWITCH AND CORROSION RESISTANT COATING. ALL ELECTRICAL EQUIPMENT SUITABLE FOR CLASS-I ZONE-2 HAZARDOUS AREA. C/W FILTER BOX AND MERV 8 FILTER.
EF-201 FRP PROPELLER EXHAUST FAN / HEADWORKS BUILDING	M.K. PLASTIC / AXPR 12 (25°)	71	75	1725	0.184	7 SONES 120 / 1	1 DIV. 15	SWITCH	MD-201	41	C/W BACKDRAFT DAMPER, WALL BOX, DIRECT DRIVE, S.S. OUTLET BIRD SCREEN, OSHA MOTOR GUARD, 316 SST MOTOR SHAFT, FACTORY MOUNTED EXPLOSION PROOF LOCAL DISCONNECT SWITCH, ALL ELECTRICAL FOUIPMENT SUITABLE FOR CLASS-LZONE-1 HAZARDOUS AREA

SCHEDULE	C - ELECTRIC HEATERS						
TAG	LOCATION	MAKE	MODEL	ELECTRICAL LOAD (kW)	STARTER BY	VOLTAGE/ PHASE	COMMENTS
EUH-101	BLOWER ROOM	OUELLET	OAS05036AM	5	DIV. 15	600 / 3	C/W WALL MOUNT THERMOSTAT, LOCAL DISCONNECT SWITCH, WALL MOUNTING BRACKET AND CORROSION RESISTANT COATING.
EUH-102	CHEMICAL ROOM	OUELLET	OAS07536AM	7.5	DIV. 15	600 / 3	C/W WALL MOUNT THERMOSTAT, LOCAL DISCONNECT SWITCH, WALL MOUNTING BRACKET AND CORROSION RESISTANT COATING.
EUH-103	PUMP ROOM	OUELLET	OHX05036	5	DIV. 15	600 / 3	C/W WALL MOUNT THERMOSTAT, LOCAL DISCONNECT SWITCH, WALL MOUNTING BRACKET AND CORROSION RESISTANT COATING. SUITABLE FOR CLASS-I ZONE-2 HAZARDOUS AREA.
EUH-104	PUMP ROOM	OUELLET	OHX05036	5	DIV. 15	600 / 3	C/W WALL MOUNT THERMOSTAT, LOCAL DISCONNECT SWITCH, WALL MOUNTING BRACKET AND CORROSION RESISTANT COATING. SUITABLE FOR CLASS-I ZONE-2 HAZARDOUS AREA.
EUH-105	PUMP ROOM	OUELLET	OHX05036	5	DIV. 15	600 / 3	C/W WALL MOUNT THERMOSTAT, LOCAL DISCONNECT SWITCH, WALL MOUNTING BRACKET AND CORROSION RESISTANT COATING. SUITABLE FOR CLASS-I ZONE-2 HAZARDOUS AREA.
EUH-106	BLOWER ROOM	OUELLET	OAS05036AM	5	DIV. 15	600 / 3	C/W WALL MOUNT THERMOSTAT, LOCAL DISCONNECT SWITCH, WALL MOUNTING BRACKET AND CORROSION RESISTANT COATING.
EBH-201	FRP ENCLOSURE / HEADWORKS BUILDING	OUELLET	OPX2A6536-CTT	6.5	DIV. 15	600 / 3	C/W WALL MOUNT THERMOSTAT, LOCAL DISCONNECT SWITCH, WALL MOUNTING BRACKET AND CORROSION RESISTANT COATING. SUITABLE FOR CLASS-I ZONE-1 HAZARDOUS AREA.

SCHEDULE	CHEDULE D - MOTORIZED DAMPERS							
TAG	LOCATION	SIZE	DAMPER MAKE/ SERIES			CTUATOR	INTERLOCKED WITH	REMARKS
		WxH		21 00111014	VOLT	FAIL-SAFE		
MD-101	BLOWER ROOM	1250X1250	TAMCO / 9000	2 POSITION MOTORIZED	120	CLOSE	EF-101	-
MD-102	CHEMICAL ROOM	760X760	TAMCO / 9000	2 POSITION MOTORIZED	120	CLOSE	EF-103	CORROSION RESISTANT
MD-103	PUMP ROOM	760X760	TAMCO / 9000	2 POSITION MOTORIZED	120	CLOSE	SF-101	C/W EXPLOSION PROOF ENCLOSURE (BELIMO ZS-260)
MD-104	BLOWER ROOM	850X850	TAMCO / 9000	MODULATING	24	CLOSE	EF-101	-
MD-105	CHEMICAL ROOM	400X400	TAMCO / 9000	2 POSITION MOTORIZED	120	CLOSE	EF-103	CORROSION RESISTANT
MD-106	PUMP ROOM	760X760	TAMCO / 9000	2 POSITION MOTORIZED	120	CLOSE	EF-102	C/W EXPLOSION PROOF ENCLOSURE (BELIMO ZS-260)
MD-201	FRP ENCLOSURE / HEADWORKS BUILDING	500X500	TAMCO / 9000	2 POSITION MOTORIZED	120	CLOSE	EF-201	C/W EXPLOSION PROOF ENCLOSURE (BELIMO ZS-260)
MD-202	FRP ENCLOSURE / HEADWORKS BUILDING	500X500	TAMCO / 9000	2 POSITION MOTORIZED	120	CLOSE	EF-201	C/W EXPLOSION PROOF ENCLOSURE (BELIMO ZS-260)

SCHEDULE	E - WATER HEATER								
TAG	DESCRIPTION/ LOCATION	MAKE	MODEL	TOTAL VOLUME (L)	INPUT KW	V/PH	MCA	WEIGHT (KG)	NOTES
HWT-101	ELECTRIC HOT WATER TANK/ CHEMICAL ROOM	RHEEM	ES120-9	454	9	208/1	44	320	C/W TEMPERATURE AND PRESSURE RELIEF VALVE, ASME APPROVED TANK

SCHEDULE	SCHEDULE F - EXPANSION TANK						
TAG	TYPE	LOCATION	MAKE	MODEL	TOTAL VOLUME (L)	NPT CONNECTION (mm)	NOTES
ET-101	INLINE EXPANSION TANK	CHEMICAL ROOM	A.O. SMITH	PMI-5	17.4	20	PRE CHARGED TO 38 PSI, NSF 61 CERTIFIED AND ASME APPROVED TANK

3	ISSUED FOR TENDER	2024.05.13	DC
2	ISSUED FOR 100% CLIENT REVIEW 2023	2023.07.14	DC
1	ISSUED FOR DESIGN REVIEW	2023.06.30	DC
No.	REVISION	DATE	BY

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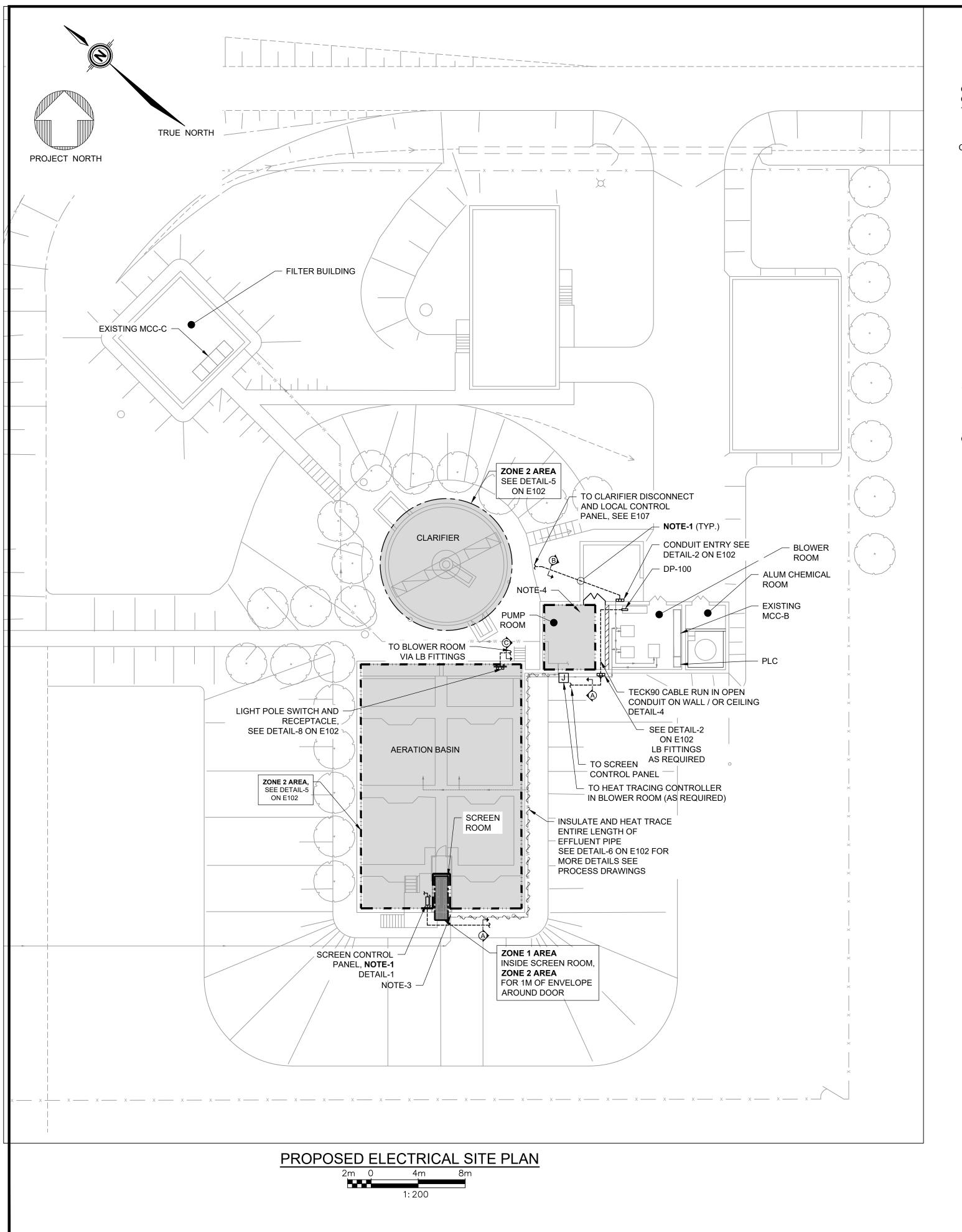
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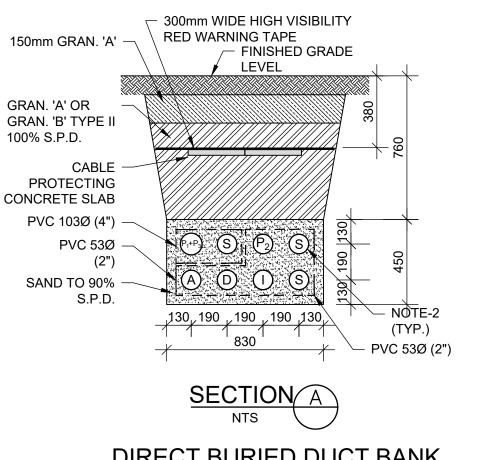
UPGRADES

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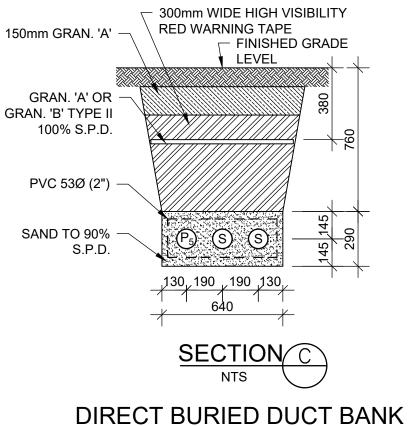
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Date: May-24		215817
Drawn by: BAQ	Designed by: PHP	DWG NO.
Checked by: BJM	Approved by: DC	□ M105





DIRECT BURIED DUCT BANK



NOTES:

- 300mm WIDE HIGH VISIBILITY

LEVEL

DIRECT BURIED DUCT BANK

- FINISHED GRADE

RED WARNING TAPE

150mm GRAN. 'A'

GRAN. 'A' OR

100% S.P.D.

PVC 103Ø (4")

SAND TO 90%

GRAN. 'B' TYPE II

- ROUTING OF THE DUCTBANK IS SHOWN FOR GUIDANCE ONLY CONTRACTOR TO FIELD VERIFY AND MODIFY THE ROUTING BASED ON EXISTING UTILITIES AND IN COORDINATION WITH OTHER DISCIPLINES.
- CLEAN AND CAP AND INSTALL PULLING ROPE IN ALL SPARE CONDUITS.

DETAILS. SEE E103 NOTE-6, FIG-12.

- EXTEND EXISTING HEAT TRACING TO SUIT NEW PIPING NEAR SCREEN ROOM. SEE PROCESS DRAWINGS FORMORE
- EXTEND EXISTING HEAT TRACING TO SUIT NEW PIPING FOR ALUM CHEMICAL LINES. SEE PROCESS DRAWINGS FOR MORE DETAILS.

THIS DRAWING HAS BEEN PREPARED UTILIZING BASELINE DRAWINGS PROVIDED BY THE CLIENT. WHILE THE BASELINE INFORMATION IS BELIEVED TO BE RELIABLE. RVA DOES NOT WARRANT ITS ACCURACY OR COMPLETENESS AND SHALL NOT BE RESPONSIBLE FOR ANY ERRORS OR OMISSIONS WHICH MAY HAVE BEEN INCORPORATED HEREIN AS A RESULT THE BASELINE INFORMATION ON THIS DRAWING ORIGINATED FROM PROCTOR & REDFERN LIMITED CONSULTING ENGINEERS & ARCHITECT. DRAWING AI-86488-G104. PROJECT NUMBER 0.3-0497-02, DATED JUNE 1990.

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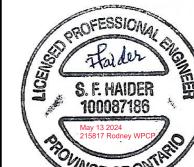
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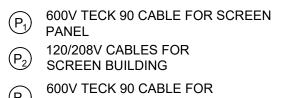
UPGRADES

ELECTRICAL

RODNEY WPCP

ELECTRICAL SITE PLAN

Scale: AS SHOWN 215817 Date: May-24 Drawn by: RK/MSH signed by: FH E101 Checked by: SQR proved by: DC



- 93 SCREEN ROOM HEATER
- 600V TECK 90 CABLE FOR CLARIFIER MOTOR P₅ 120V CABLES FOR NEW LIGHT POLES AND RECEPTACLES
- C COMMUNICATION CABLE
- (C₁) MOTOR SENSOR CABLES
- A AI/AO SIGNAL CABLES INTRINSICALLY SAFE
- D DI/DO SIGNAL CABLES
- S SPARE

LEGEND:

GENERAL NOTES:

A. PROVIDE EQUIPMENT RATED FOR THE HAZARDOUS AREA CLASSIFICATION FOR THE CLASSIFIED AREA SHOWN.

EXISTING INSTALLATION

INSTALLATION/EQUIPMENT TO BE REMOVED

NEW INSTALLATION

ZONE 1 AREA

B. PROVIDE EYS SEAL WHERE CONDUIT PASSES FROM HAZARDOUS TO

LEGEND:

AREA MUST BE ZONE 2 RATED.

NON-HAZARDOUS AREA. C. PROVIDE EYS SEALS WITH IN 450MM OF ENCLOSURES CONTAINING ARCING DEVICES IN CLASSIFIED AREA.

ANY EQUIPMENT WITHIN 0.9 METER OF VENT OR OPENING FROM ZONE 2

D. ANY EQUIPMENT WITHIN 0.9 METER OF A VENT OR OPENING FROM A ZONE 1 AREA MUST BE ZONE 1 RATED, AND BETWEEN 0.9 TO 1.5 METERS MUST BE ZONE 2 RATED.

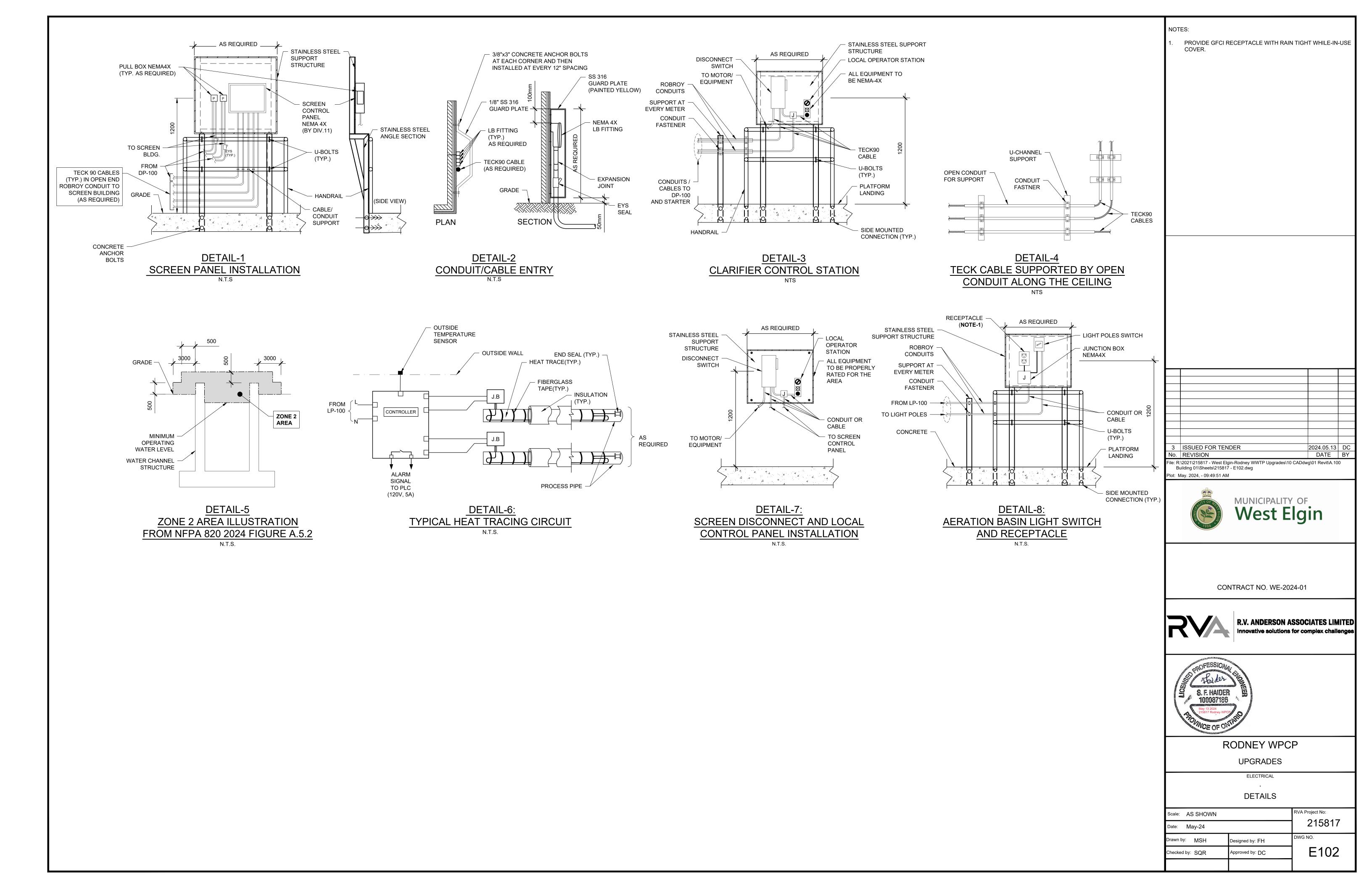




FIG.1 - SCREEN LOCAL CONTROL **PANEL**



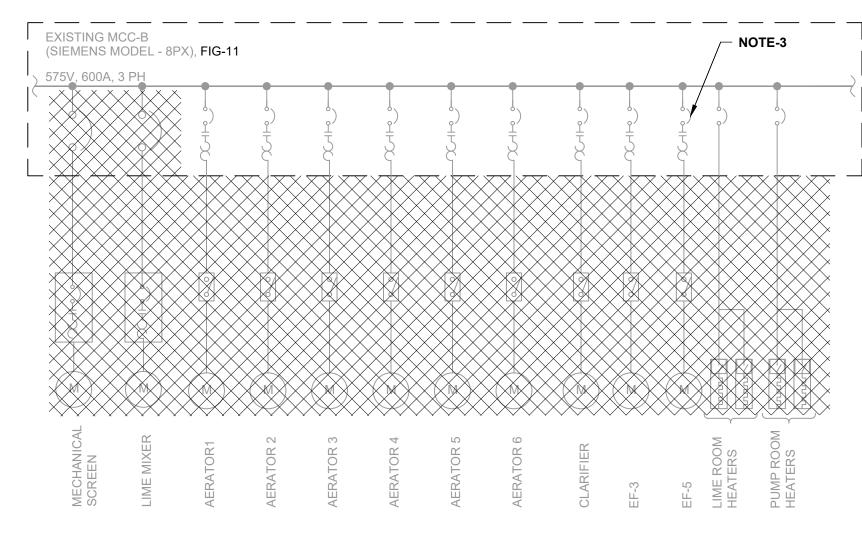
FIG.2 - AERATOR LOCAL CONTROL **PANELS**



FIG.3 - CLARIFIER LOCAL **CONTROL PANEL**



FIG.4 - LIME PUMPS CONTROL PANEL CHEMICAL ROOM



MCC-B REMOVALS **BLOWER ROOM**



FIG.5 - LIME MIXERS CHEMICAL ROOM

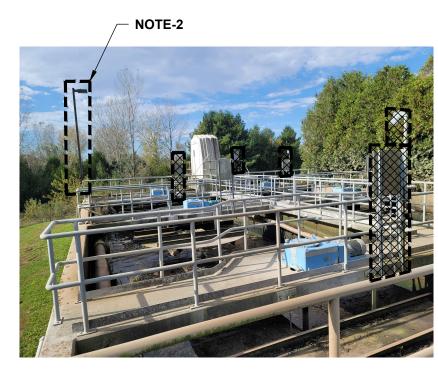


FIG.6 (1) - LIGHTING STANDARD **WIRING AERATION BASIN**



FIG.6 (2) - LIGHTING STANDARD



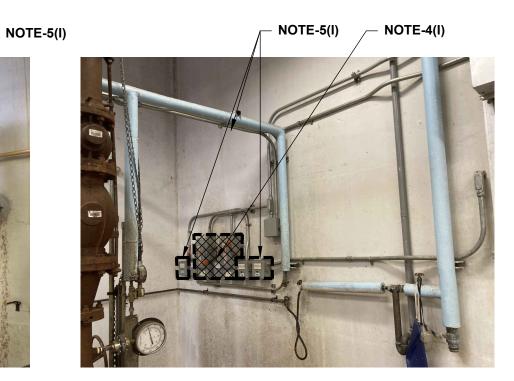


FIG.7 (2) - HEAT TRACING AND CONTROLS PUMP ROOM

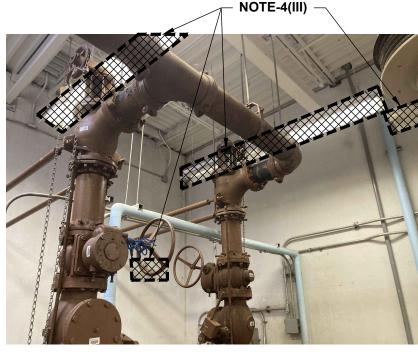


FIG.7 (3) - LIGHTING FIXTURE AND REMOTE HEAD PUMP ROOM

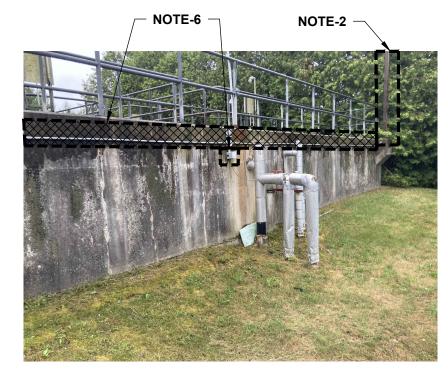


FIG.8 - HEAT TRACING AND LIGHTING STANDARD WIRING AERATION BASIN

- DECOMMISSION AND REMOVE THE FOLLOWING COMPLETE WITH LOCAL CONTROL PANEL. DISCONNECT SWITCHES, POWER AND CONTROL CABLES UP TO THE SOURCE. REFER TO 'R' SERIES DRAWINGS FOR MORE REMOVAL DETAILS. CLEAN THE ASSOCIATED CONDUITS AND CAP THEM FOR FUTURE USE.

NOTES:

- AERATORS 1, 2, 3, 4, 5 AND 6 INCLUDING LOCAL CONTROLS, RECEPTACLES AND LIGHTING POLES
- (III) CLARIFIER MECHANISM INCLUDING INTERIOR LIGHTING FIXTURE, LOCAL CONTROLS AND
- RECEPTACLE, FIG-3. (IV) LIME PUMPS COMPLETE WITH LOCAL CONTROL PANEL WHICH IS FED FROM EXISTING LIGHTING PANEL LP-B CCT 11, FIG-4.
- (V) LIME MIXERS, FIG-5.
- (VI) EXHAUST FANS, HEATERS AND DAMPERS. REFER TO M100 FOR MORE REMOVAL DETAILS.
- (VII) EXISTING LIGHTING FIXTURES FROM ALUM CHEMICAL ROOM.
- RETAIN LIGHTING STANDARDS (QTY = 2) NEAR AERATORS, FIG-6(1), FIG-6(2) AND FIG-8, REMOVE EXISTING PVC CONDUIT COMPLETE WITH CABLES FOR THE LIGHTING STANDARDS AROUND AERATION TANK. PROVIDE NEW JUNCTION BOXES NEAR TANK AND EXTEND EXISTING WIRING WITH NEW SIMILAR SIZED TECK90 CABLES.
- RETAIN STARTERS/ BREAKERS FOR AERATOR 1-6, CLARIFIER, EF-3, EF-5, PUMP/LIME ROOM HEATERS. CLEAN THE MCC BUCKETS AND LABEL BUCKETS AS SPARE, FIG-11.
- REMOVE THE FOLLOWING COMPLETE WITH WIRING UPTO THE SOURCE FROM THE PROPOSED PUMP ROOM WHICH IS DESIGNATED AS ZONE 2 AREA.
- DISCONNECTS AND CONTROL STATION FOR EXISTING RAS / WAS PUMPS 1 AND 2, FIG-7(2).
- RECEPTACLES (x2), FIG-7(1) FIG-10.
- LIGHTING FIXTURES (PUMP AND BLOWER ROOM) AND REMOTE HEAD, FIG-7(3). (IV) REPLACE ANY EXISTING PVC CONDUITS WITH RGS AND BOXES WITH CLASSIFIED AREA RATED.
- REPLACE THE FOLLOWING EXISTING HEAT TRACING END OF LINE LIGHT JUNCTION BOXES WITH CLASSIFIED AREA RATED BOXES WITH PILOT LIGHT. COORDINATE WITH SUPPLIER FOR MORE INFORMATION AND PROVIDE EYS SEAL AS REQUIRED. FIELD VERIFY THE NEW INSTALL LOCATION AND EXTEND CABLING IF REQUIRED.
- FERRIC LINE 1, LINE 2, LINE 3 AND LIME LINE, FIG-7(1) AND FIG-7(2).
- REMOVE EXISTING HEAT TRACING SWITCH, JUNCTION BOXES AND PVC CONDUIT COMPLETE WITH CABLES AROUND AERATION TANK. PROVIDE NEW JUNCTION BOXES AND SWITCH NEAR TANK AND EXTEND EXISTING WIRING WITH NEW SIMILAR SIZED TECK90 CABLES. CORDINATE WITH HEAT TRACING SUPPLIER FOR MORE DETAILS.
- REMOVE WIRING AND JUNCTION BOX ASSOCIATED WITH SUMP PUMP BACK TO THE SOURCE, FIG-9. REMOVE FERRIC CHLORIDE PUMP CONTROL PANELS COMPLETE WITH WIRING UPTO THE SOURCE. THE PANELS ARE FED FROM EXISTING LIGHTING PANEL LP-B CCT 12 AND 14. REMOVE GENERAL PURPOSE DUPLEX RECEPTACLES (QTY = 2) COMPLETE WITH WIRING BACK
- REMOVE EXISTING PVC CONDUIT COMPLETE WITH CABLES FOR INFLUENT SAMPLER. PROVIDE NEW JUNCTION BOXES NEAR TANK AND EXTEND EXISTING WIRING WITH NEW SIMILAR SIZED TECK90



FIG.7 (1) - HEAT TRACING AND

RECEPTACLE PUMP ROOM

FIG.9 - SUMP PUMP **BLOWER ROOM**

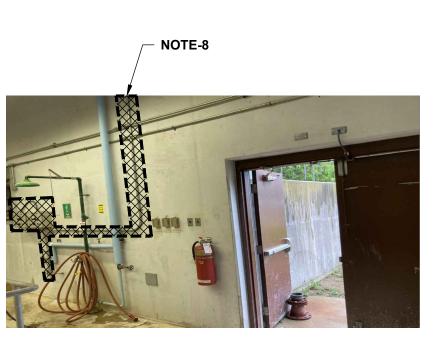


FIG.10 - FERRIC PUMPS METERS **BLOWER ROOM**

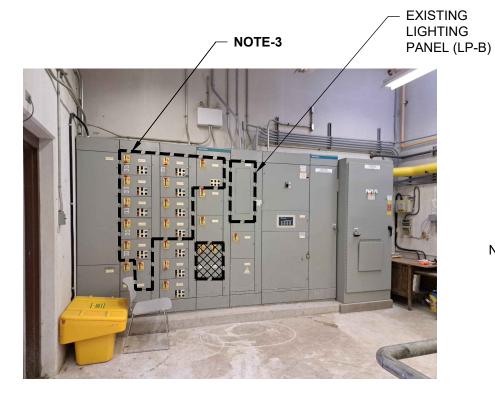


FIG.11 - MCC-B **BLOWER ROOM**

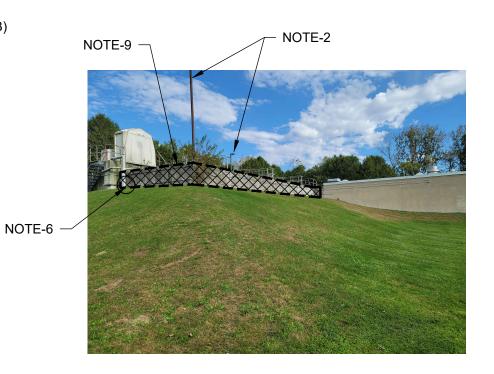
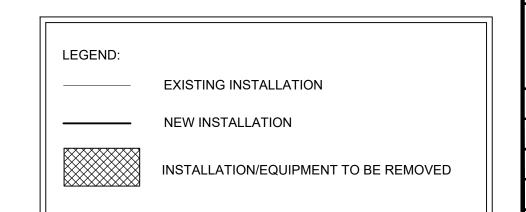


FIG.12 - LIGHTING STANDARD, INFLUENT SAMPLER, HEAT TRACING



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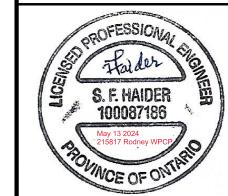
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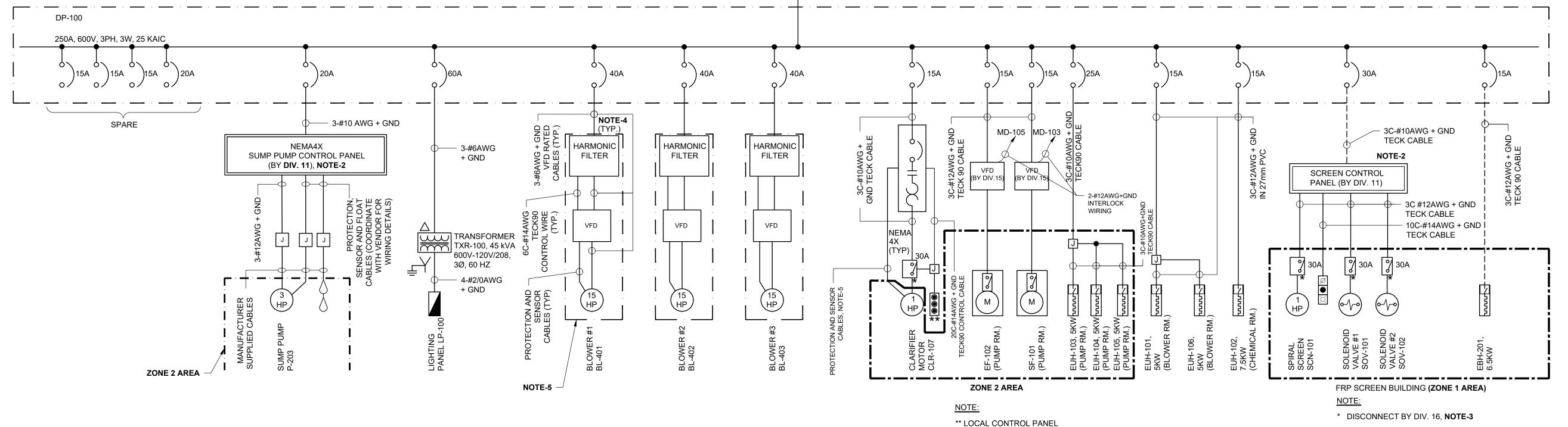
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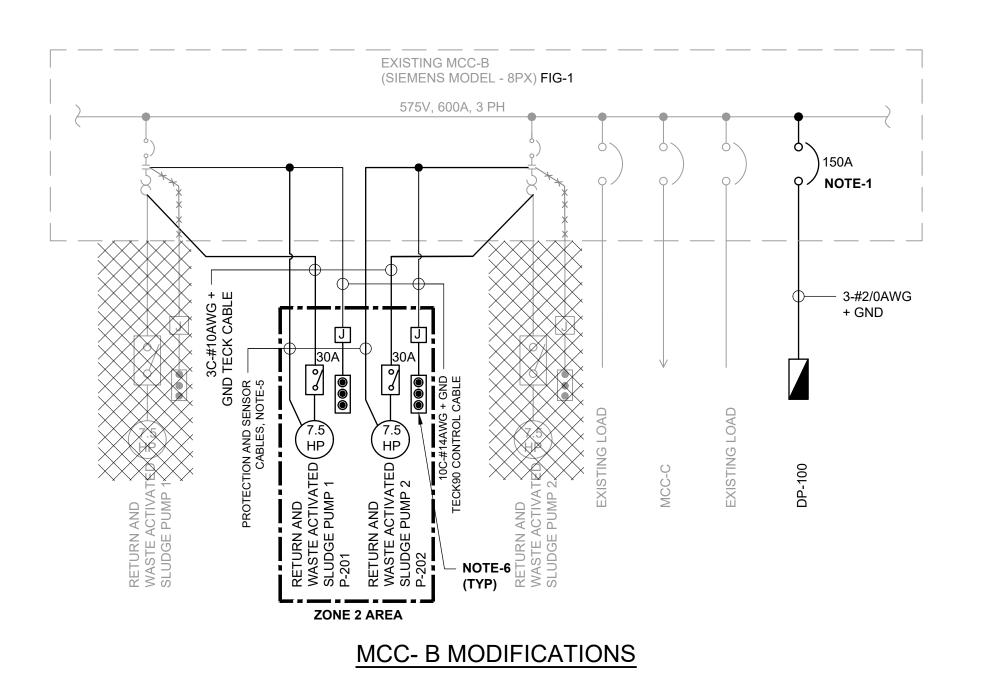
ELECTRICAL

REMOVALS AND MODIFICATIONS

Scale: AS SHOWN		RVA Project No:
Date: May-24		215817
Drawn by: MSH/RK	Designed by: FH	DWG NO.
Checked by: SQR	Approved by: DC	F103

FROM MCC-B







GENERAL NOTES:

- A. PROVIDE EQUIPMENT RATED FOR THE HAZARDOUS AREA CLASSIFICATION FOR THE CLASSIFIED AREA SHOWN.
- B. PROVIDE EYS SEAL WHERE CONDUIT PASSES FROM HAZARDOUS TO
- NON-HAZARDOUS AREA.

 C. PROVIDE EYS SEALS WITH IN 450MM OF ENCLOSURES CONTAINING ARCING
- DEVICES IN CLASSIFIED AREA.

 D. ANY EQUIPMENT WITHIN 0.9 METER OF A VENT OR OPENING FROM A ZONE 1 AREA MUST BE ZONE 1 RATED, AND BETWEEN 0.9 TO 1.5 METERS MUST BE
- AREA MUST BE ZONE 1 RATED, AND BETWEEN 0.9 TO 1.5 METERS MUST BE ZONE 2 RATED.
- E. ANY EQUIPMENT WITHIN 0.9 METER OF VENT OR OPENING FROM ZONE 2 AREA MUST BE ZONE 2 RATED.

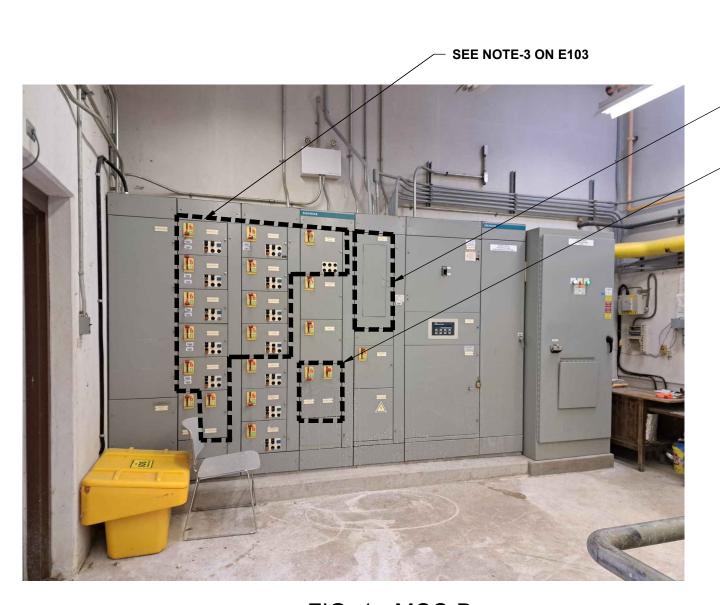


FIG. 1 - MCC-B (BLOWER ROOM)

NOTES:

- 1. INSTALL NEW BREAKER FOR DP-100 IN THE EMPTY BUCKET AFTER THE REMOVAL OF BREAKERS FOR LIME MIXER AND SCREEN.NEW BREAKER TO MATCH THE SHORT CIRCUIT RATING OF THE MCC. BREAKER TO BE INSTALLED AS PER
- THE RECOMMENDATION OF MCC MANUFACTURER.

 2. SCREEN AND SUMP PUMP EQUIPMENT IS PROVIDED AS A PACKAGE UNIT. THE EQUIPMENT IS SHOWN FOR REFERENCE ONLY. ONLY MAJOR EQUIPMENT ARE SHOWN IN THE SINGLE LINE DIAGRAM. COORDINATE WITH

EQUIPMENT SUPPLIER AND PROVIDE WIRING

- ACCORDINGLY.

 3. PROVIDE DISCONNECT SWITCHES WITH AUXILIARY CONTACTS. DISCONNECT SWITCH ENCLOSURE TO INCLUDE KNOCKOUTS FOR SEPARATE POWER AND CONTROL WIRES
- BACK TO THE SCREEN PANEL.

 4. PROVIDE HARMONIC FILTER WITH CONTACTOR TO ISOLATE THE INTERNAL CAPACITORS WHEN VFD IS NOT RUNNING.

 5. BLOWER IS PROVIDED AS A PACKAGED UNIT UNDER DIV 11

AND ONLY MAJOR EQUIPMENT ARE SHOWN IN THE SINGLE LINE DIAGRAM. COORDINATE WITH EQUIPMENT SUPPLIER

AND PROVIDE WIRING ACCORDINGLY.

6. PROVIDE LOCAL OPERATOR TO MATCH THE EXISTING SWITCH CONFIGURATION BUT RATED FOR ZONE 2 AREA.

3	ISSUED FOR TENDER	2024.05.13	DC
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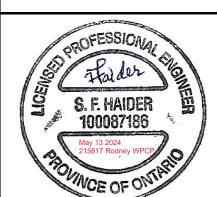


EXISTING

LIGHTING PANEL (LP-B)

NOTE-1

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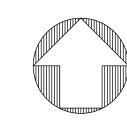
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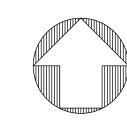
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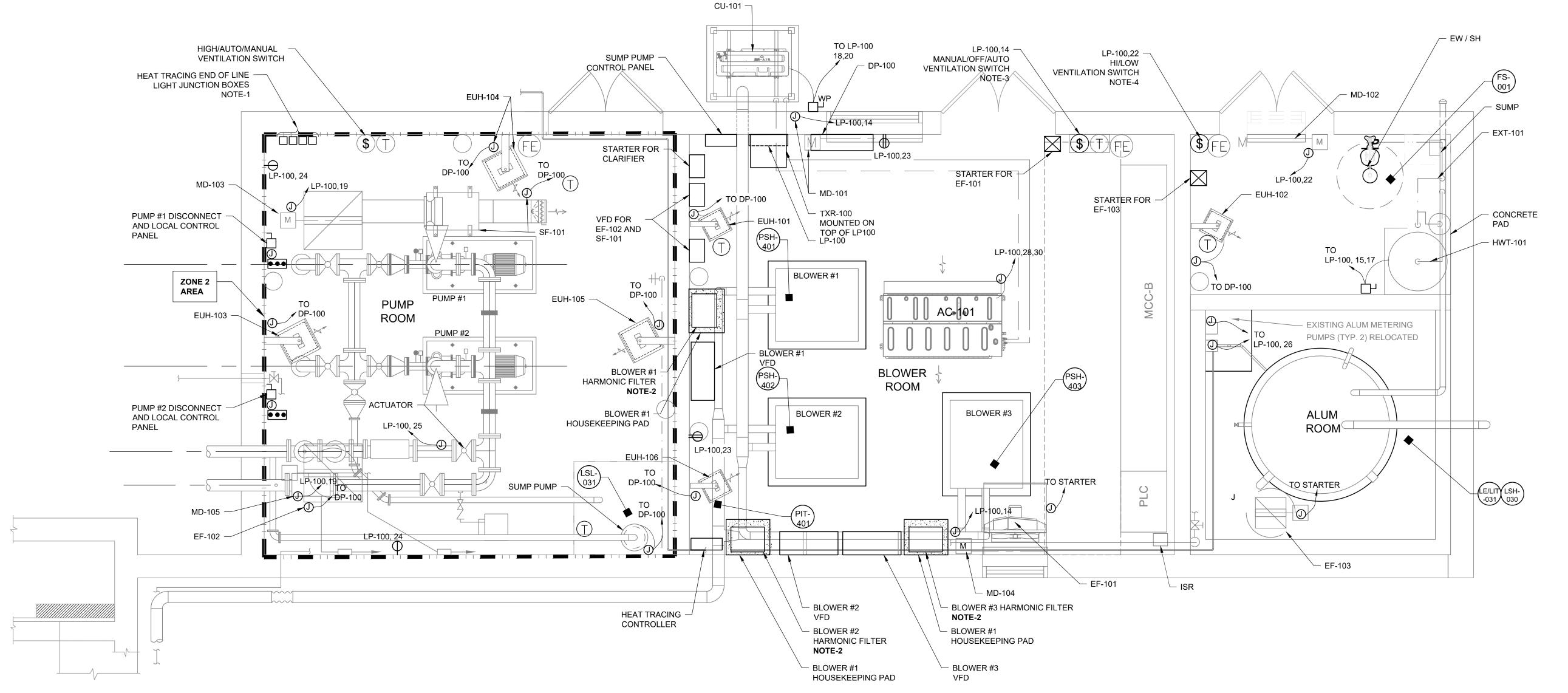
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SINGLE LINE DIAGRAM

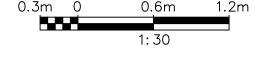
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Date: May-24		215817
Drawn by: MSH/RK	Designed by: FH	DWG NO.
Checked by: SQR	Approved by: DC	E104







POWER PLAN - PUMP ROOM, BLOWER ROOM, ALUM CHEMICAL ROOM



LEGEND: **EXISTING INSTALLATION NEW INSTALLATION ZONE 2 AREA**

GENERAL NOTES:

- A. PROVIDE EQUIPMENT RATED FOR THE HAZARDOUS AREA CLASSIFICATION FOR THE CLASSIFIED AREA SHOWN.
- PROVIDE EYS SEAL WHERE CONDUIT PASSES FROM HAZARDOUS TO
- NON-HAZARDOUS AREA.
- PROVIDE EYS SEALS WITH IN 450MM OF ENCLOSURES CONTAINING ARCING DEVICES IN CLASSIFIED AREA.
- D. ANY EQUIPMENT WITHIN 0.9 METER OF A VENT OR OPENING FROM A ZONE 1 AREA MUST BE ZONE 1 RATED, AND BETWEEN 0.9 TO 1.5 METERS MUST BE ZONE 2 RATED.
- ANY EQUIPMENT WITHIN 0.9 METER OF VENT OR OPENING FROM ZONE 2 AREA MUST BE ZONE 2 RATED.

NOTES:

- SEE E103, NOTE 5(I).
- INSTALL HARMONIC FILTER ON A 100MM HIGH CONCRETE
- PAD. SIZE HOUSEKEEPING PAD AS REQUIRED. SEE DETAIL-4 ON E109 FOR WIRING DETAILS.
- SEE DETAIL-5 ON E109 FOR WIRING DETAILS.

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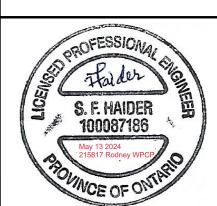
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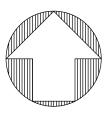
RODNEY WPCP

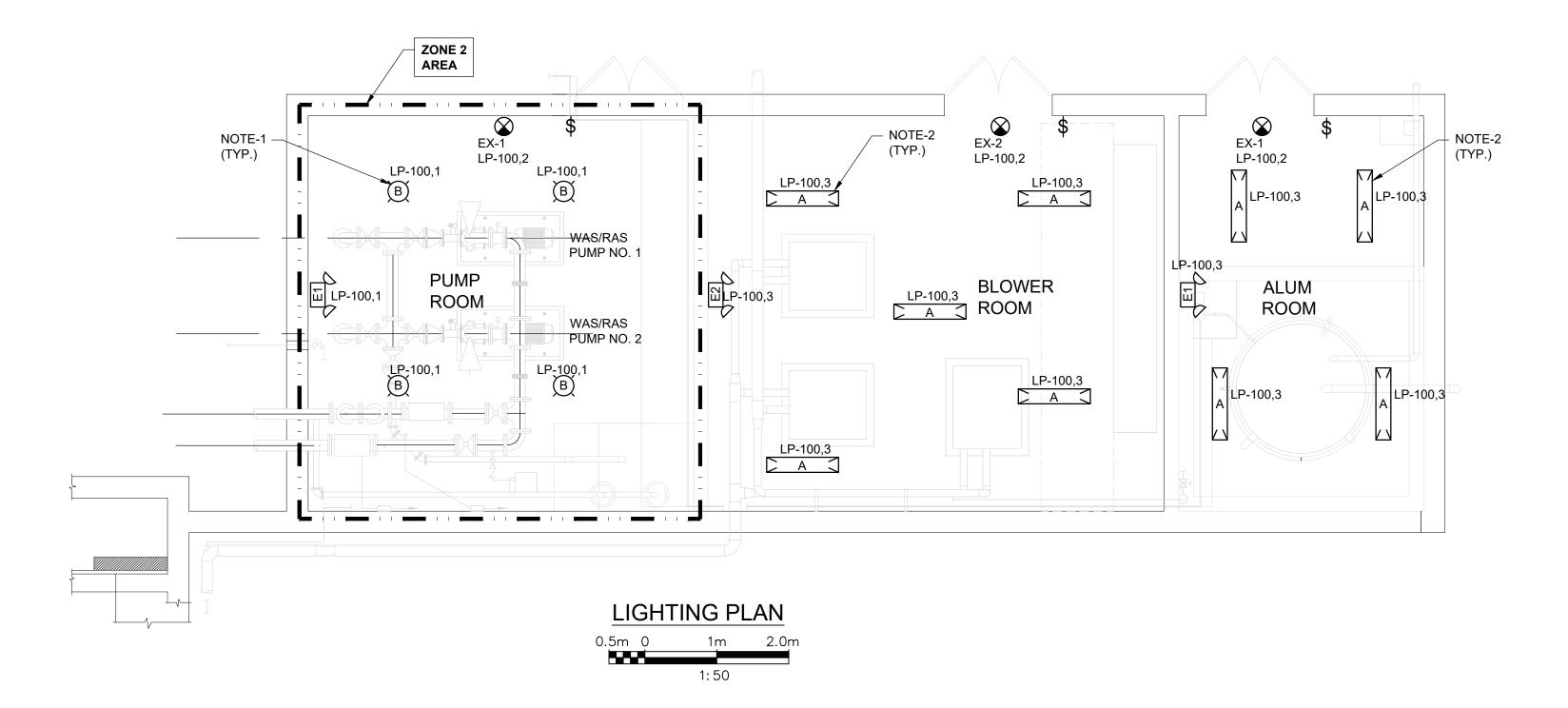
UPGRADES

ELECTRICAL

POWER PLAN

Scale: AS SHOWN		RVA Project No:
Date: May-24	215817	
Drawn by: MSH/RK	Designed by: FH	DWG NO.
Checked by: SQR	Approved by: DC	E105





	LIGHTING FIXTURE SCHEDULE		
FIXTURE TYPE	DESCRIPTION	VOLTAGE	MANUFACTURER NAME & CATALOG REFERENCE
A	PENDANT 4' LONG LED LIGHT FIXTURE, FIBERGLASS BODY, GASKETED, POM LATCHES, C/W LEDs, 4000K, ML (5400 LUMEN) PACKAGE, DFA LENS, DIMMING DRIVER AND MOUNTING ACCESSORIES	120V	CURRENT LIGHTING LXEM SERIES OR APPROVED EQUAL FROM ACUITY AND COOPER OR STANPRO LIGHTING
В	PENDANT MOUNTED LED LIGHT FIXTURE, COPPER FREE ALUMINUM HOUSING, SUITABLE FOR ZONE 2 LOCATION, 4000K c/w HIGH EFFICIENCY 5L LUMEN PACKAGE (5500 LUMEN), TYPE V OPTICS, DIFFUSED GLASS LENS AND MOUNTING ACCESSORIES.	120V	CROUSE-HINDS VMVL SERIES OR APPROVED EQUAL FROM KILLARK, CURRENT LTG. ACUITY OR STANPRO LIGHTING
С	PENDANT/WALL MOUNTED, LED LIGHT FIXTURE 2' LONG ALUMINUM ALLOY HOUSING, SUITABLE FOR ZONE 1 LOCATIONS, 4000K C/W DIFFUSED GLASS LENS, ELECTRONIC DRIVER, GRAY EPOXY POWDER COATED AND MOUNTING ACCESSORIES INCLUDING 45 ° BRACKETS	120V	CROUSE-HIND XPLA SERIES OR APPROVED EQUAL FROM KILLARK, CURRENT, ACUITY OR STANPRO LIGHTING
D	AREA LIGHT FIXTURE, DIECAST ALUMINUM HOUSING, GRAY CORROSION RESISTANT POWDER PAINT SMOOTH FINISH, SIZE 1, 4000K, 160L-50 (7500 LUMEN) PACKAGE, TYPE 4F DISTRIBUTION ND MOUNTING ACCESSORIES. MOUNT THE LIGHT FIXTURE ON 2" GALVANIZED PIPE AT 10 FT FROM TOP OF WALKWAY (NOTE-3)	120V	CURRENT LIGHTING VIPER SERIES OR APPROVED EQUAL FROM ACUITY, COOPER OR STANPRO LIGHTING
E1	CSA CERTIFIED EMERGENCY LIGHTING UNIT SUITABLE FOR ZONE 2 LOCATIONS c/w 12V - 36W INTEGRAL BATTERIES, TWO MR16-5W LED HEADS (340 LUMEN), SELF-DIAGNOSTIC, TEST SWITCH AND MOUNTING ACCESSORIES.	120V	EMERGI-LITE, HZM SERIES OR APPROVED EQUAL FROM BEGHELLI, STANPRO
E1	CSA COMPLIANT EMERGENCY LIGHT, C/W 2-6W LAMP HEADS, 36 W LEAD ACID BATTERY, AUTO DIAGNOSTIC, LAMP TEST SWITCH AND MOUNTING ACCESSORIES.	120V	EMERGI-LITE ESL SERIES, BEGHELLI OR STANPRO LIGHTING
EX-1	CSA COMPLIANT EXIT SIGN (WITH PICTOGRAM) SUITABLE FOR ZONE 2 LOCATIONS c/w SELF POWERED BACKUP FOR 2 HR WITH TEST SWITCH AND PILOT LIGHT, SELF-DIAGNOSTIC AND MOUNTING ACCESSORIES.		EMERGI-LITE EH SERIES OR APPROVED EQUAL FROM BEGHELLI, STANPRO
EX-2	CSA COMPLIANT, UNIVERSAL MOUNTED CSA CERTIFIED PICTOGRAM EXIT SIGN WITH FLAT CANOPY, SELF POWERED, WHITE FINISH, ALUMINUM HOUSING, CLEAR ACRYLIC PANEL WITH PICTOGRAM, SINGLE OR DOUBLE FACE AND MOUNTING HARDWARE	120V	EMERGI-LITE EA SERIES OR APPROVED EQUAL FROM BEGHELLI, STANPRO

GENERAL NOTES:

LEGEND:

— ZONE 2 AREA

- A. PROVIDE EQUIPMENT RATED FOR THE HAZARDOUS AREA CLASSIFICATION FOR THE CLASSIFIED AREA SHOWN.
- B. PROVIDE EYS SEAL WHERE CONDUIT PASSES FROM HAZARDOUS TO
- NON-HAZARDOUS AREA.
- C. PROVIDE EYS SEALS WITH IN 450MM OF ENCLOSURES CONTAINING ARCING DEVICES IN CLASSIFIED AREA.
 D. ANY EQUIPMENT WITHIN 0.9 METER OF A VENT OR OPENING FROM A ZONE 1
- ZONE 2 RATED.

 E. ANY EQUIPMENT WITHIN 0.9 METER OF VENT OR OPENING FROM ZONE 2 AREA MUST BE ZONE 2 RATED.

AREA MUST BE ZONE 1 RATED, AND BETWEEN 0.9 TO 1.5 METERS MUST BE

NOTES:

- 1. INSTALL AT 3500mm FROM FINISHED FLOOR.
- 2. INSTALL AT 3200mm FROM FINISHED FLOOR.
- 3. INSTALL GENERAL AREA LIGHTS ATTACHED TO RAILING. USE RECOGNIZED MOUNTING SYSTEMS LIKE V-SPRING SYSTEM FROM EATON, KILLARK SPARTONPOLE OR SWIVELPOLE. COORDINATE WITH SYSTEM SUPPLIER FOR LIGHT FIXTURE MOUNTING ACCESSORIES.

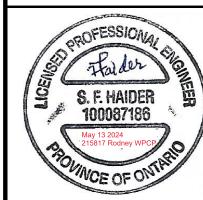
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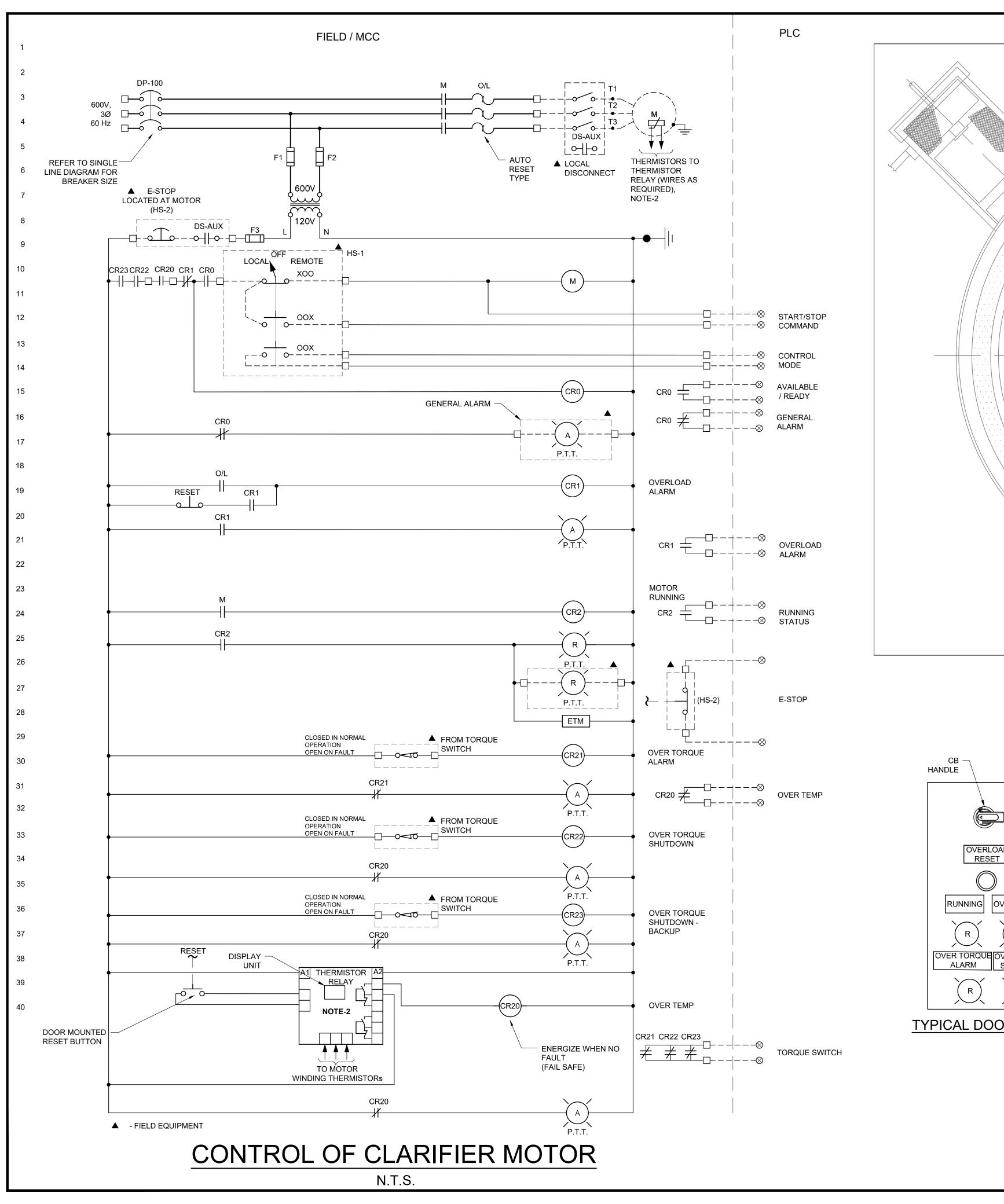
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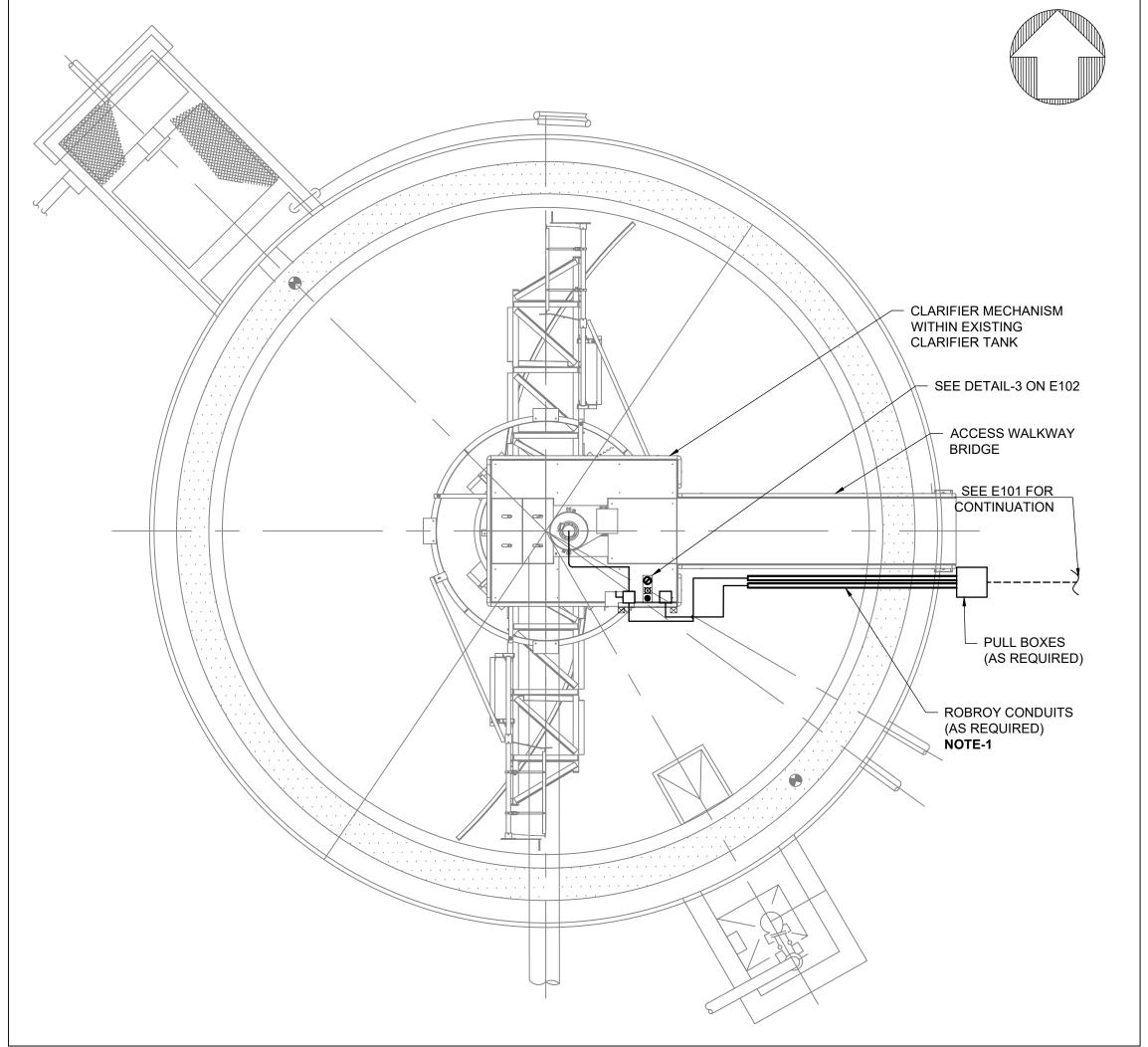
UPGRADES

ELECTRICAL

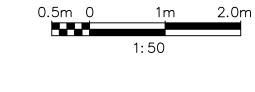
LIGHTING PLAN

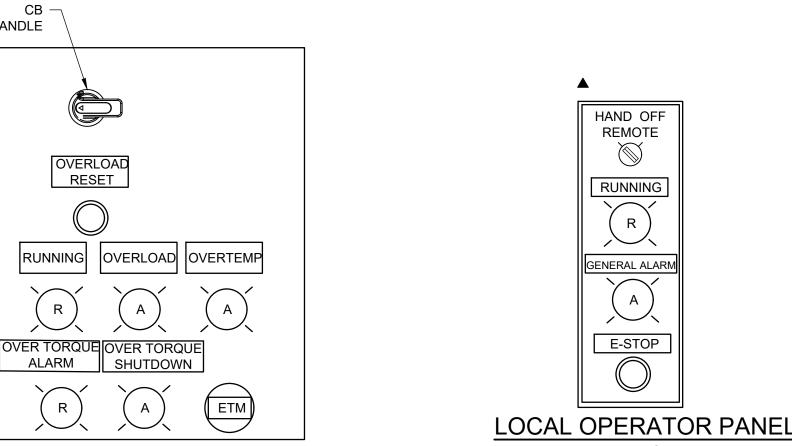
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Date: May-24		215817
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Drawn by: RK	Designed by: FH	DWG NO.
Checked by: SQR	Approved by: DC	E106





CLARIFIER POWER PLAN





TYPICAL DOOR ARRANGEMENT

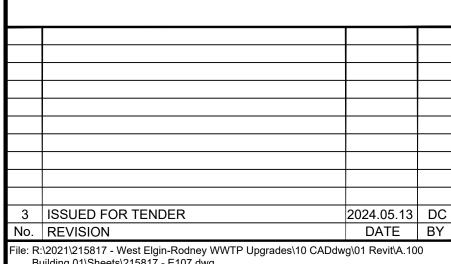
N.T.S.

GENERAL NOTES:

AREA MUST BE ZONE 2 RATED.

- A. PROVIDE EQUIPMENT RATED FOR THE HAZARDOUS AREA CLASSIFICATION FOR THE CLASSIFIED AREA SHOWN.
- B. PROVIDE EYS SEAL WHERE CONDUIT PASSES FROM HAZARDOUS TO NON-HAZARDOUS AREA.
- PROVIDE EYS SEALS WITH IN 450MM OF ENCLOSURES CONTAINING ARCING DEVICES IN CLASSIFIED AREA.
- D. ANY EQUIPMENT WITHIN 0.9 METER OF A VENT OR OPENING FROM A ZONE 1
 AREA MUST BE ZONE 1 RATED, AND BETWEEN 0.9 TO 1.5 METERS MUST BE
 ZONE 2 RATED.
 E. ANY EQUIPMENT WITHIN 0.9 METER OF VENT OR OPENING FROM ZONE 2

- NOTES:
- INSTALL ROBROY CONDUIT ALONG THE SIDE RAIL OF CLARIFIER BRIDGE UP TO THE DISCONNECT / LOCAL CONTROL PANEL.
- 2. THE WIRING IS BASED ON THERMISTORS. REFER TO MOTOR SHOP DRAWING AND PROVIDE PROTECTION RELAY BASED ON THE ACTUAL SENSORS PROVIDED. MODIFY THE WIRING ACCORDINGLY.



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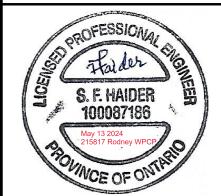
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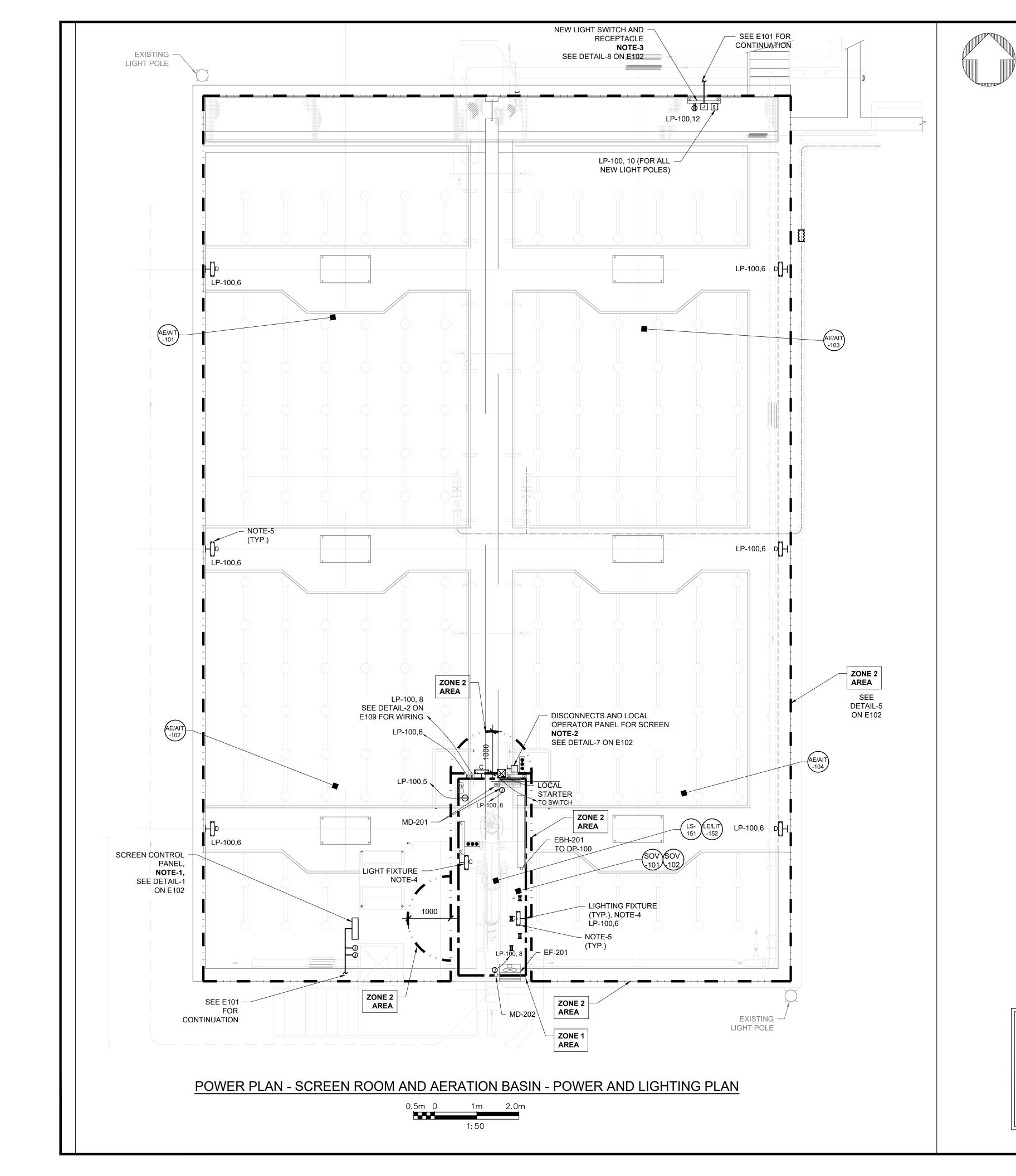
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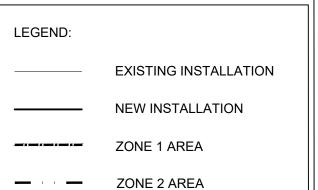
UPGRADES

ELECTRICA

CLARIFIER POWER PLAN AND SCHEMATICS

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Date: May-24		215817
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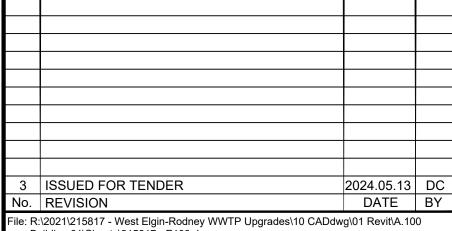


GENERAL NOTES:

- A. PROVIDE EQUIPMENT RATED FOR THE HAZARDOUS AREA CLASSIFICATION FOR THE CLASSIFIED AREA SHOWN.
- PROVIDE EYS SEAL WHERE CONDUIT PASSES FROM HAZARDOUS TO
- NON-HAZARDOUS AREA. PROVIDE EYS SEALS WITH IN 450MM OF ENCLOSURES CONTAINING ARCING
- DEVICES IN CLASSIFIED AREA.
- ANY EQUIPMENT WITHIN 0.9 METER OF A VENT OR OPENING FROM A ZONE 1 AREA MUST BE ZONE 1 RATED, AND BETWEEN 0.9 TO 1.5 METERS MUST BE
- ANY EQUIPMENT WITHIN 0.9 METER OF VENT OR OPENING FROM ZONE 2 AREA MUST BE ZONE 2 RATED.

NOTES:

- INSTALL SCREEN CONTROL PANEL ON THE HAND RAILS AT LEAST 1M AWAY FROM THE FRP SCREEN ENCLOSURE AND
- AT LEAST 1M HIGH FROM FLOOR GRATING. LOCATION OF DISCONNECT AND LOCAL CONTROL PANEL IS SHOWN FOR GUIDANCE ONLY, CONTRACTOR TO MODIFY
- BASED ON THE FINAL LOCATION OF THE EQUIPMENT. BRING THE CONDUIT/CABLE ABOVE THE GROUND AND RUN ALONG THE WALL OF THE AERATION BASIN TANK AND TERMINATE INTO PULL BOXES.
- MOUNT LIGHT FIXTURE 45 DEGREE ANGLE BRACKET SUPPLIED FROM MANUFACTURER AT 2700mm FROM FLOOR
- REFER TO DWG. E106 LIGHT FIXTURE SCHEDULE FOR LIGHTING DETAILS



Building 01\Sheets\215817 - E108.dwg

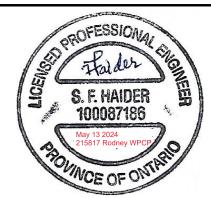
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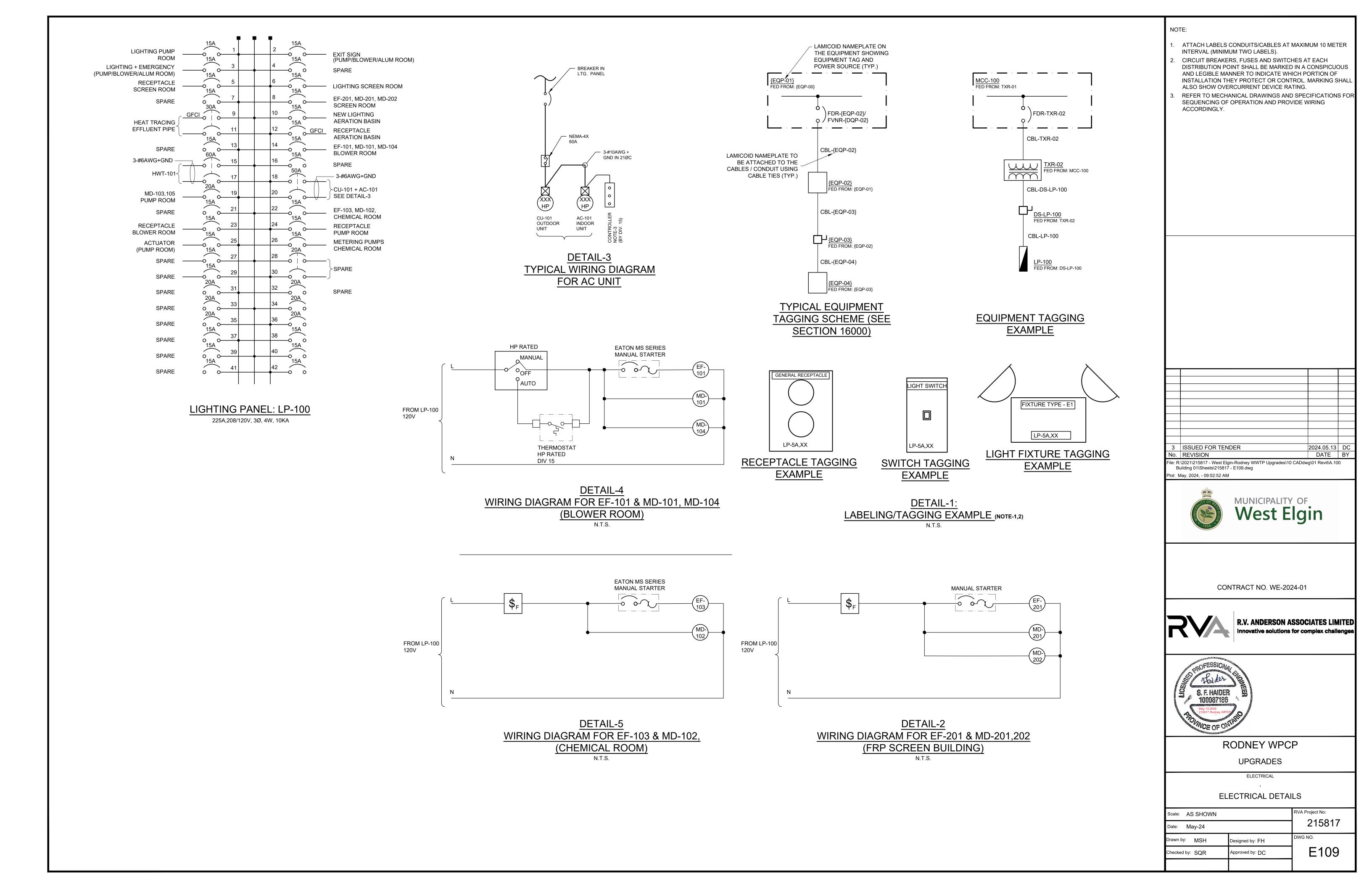
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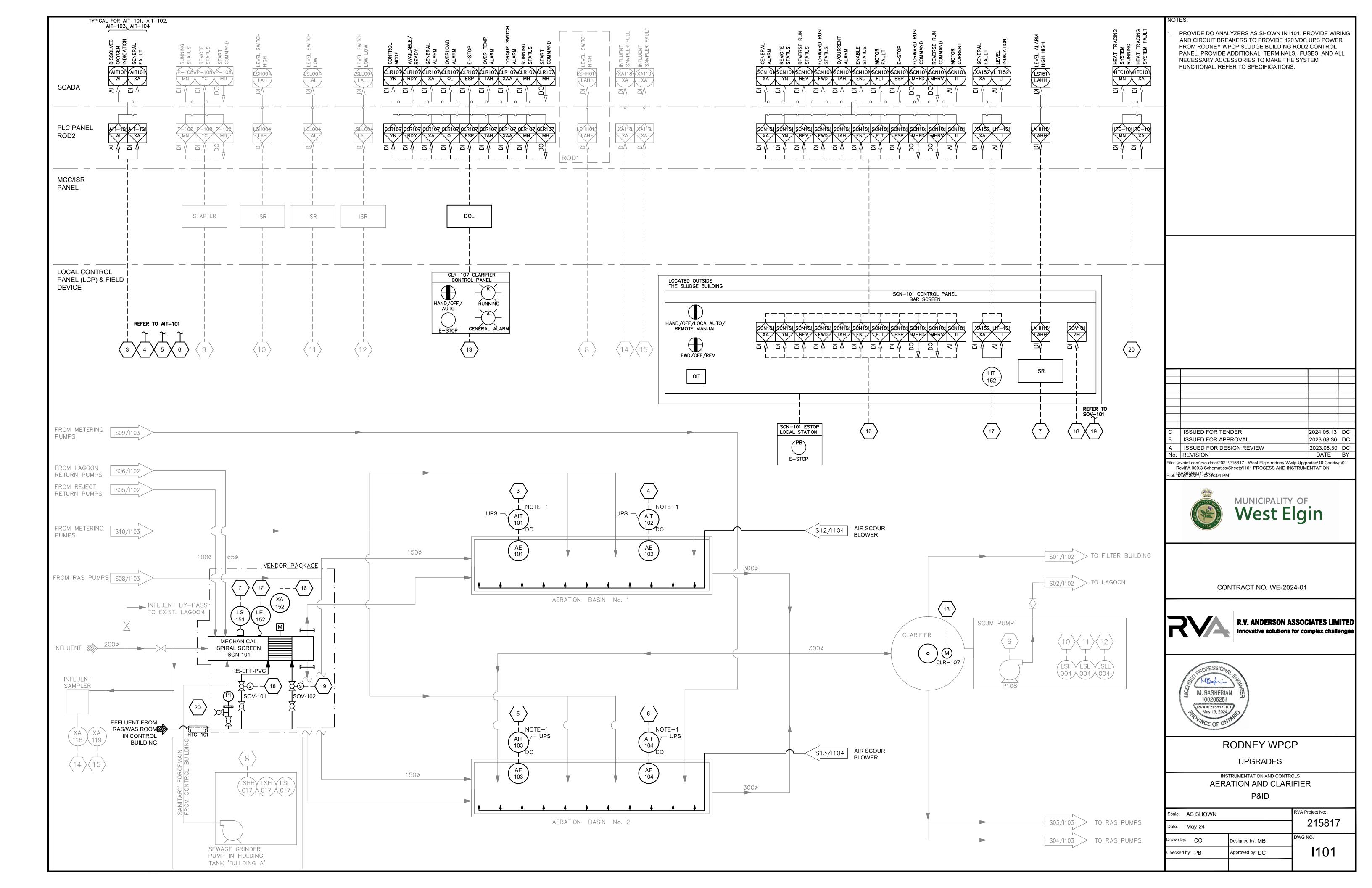
UPGRADES

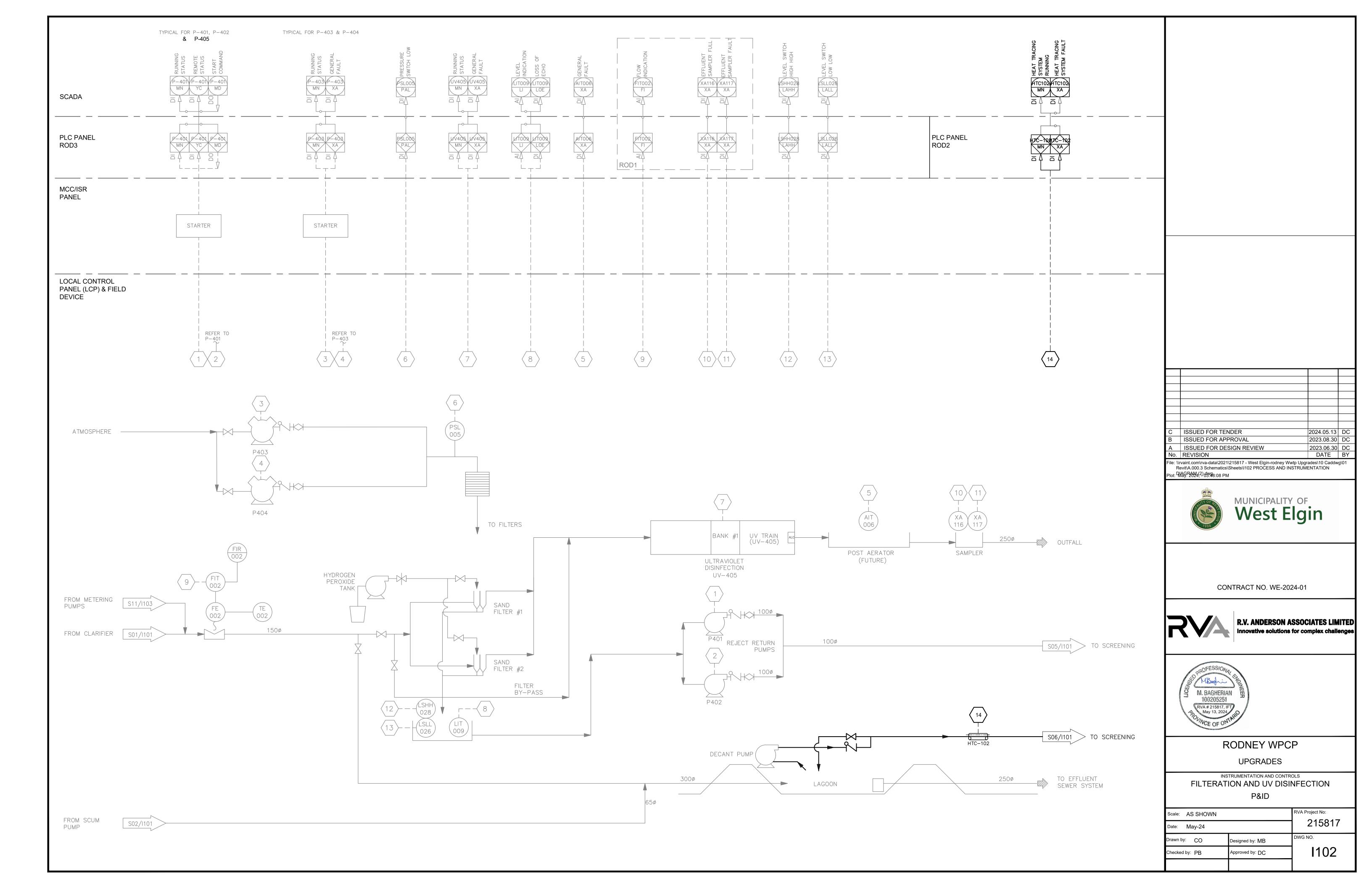
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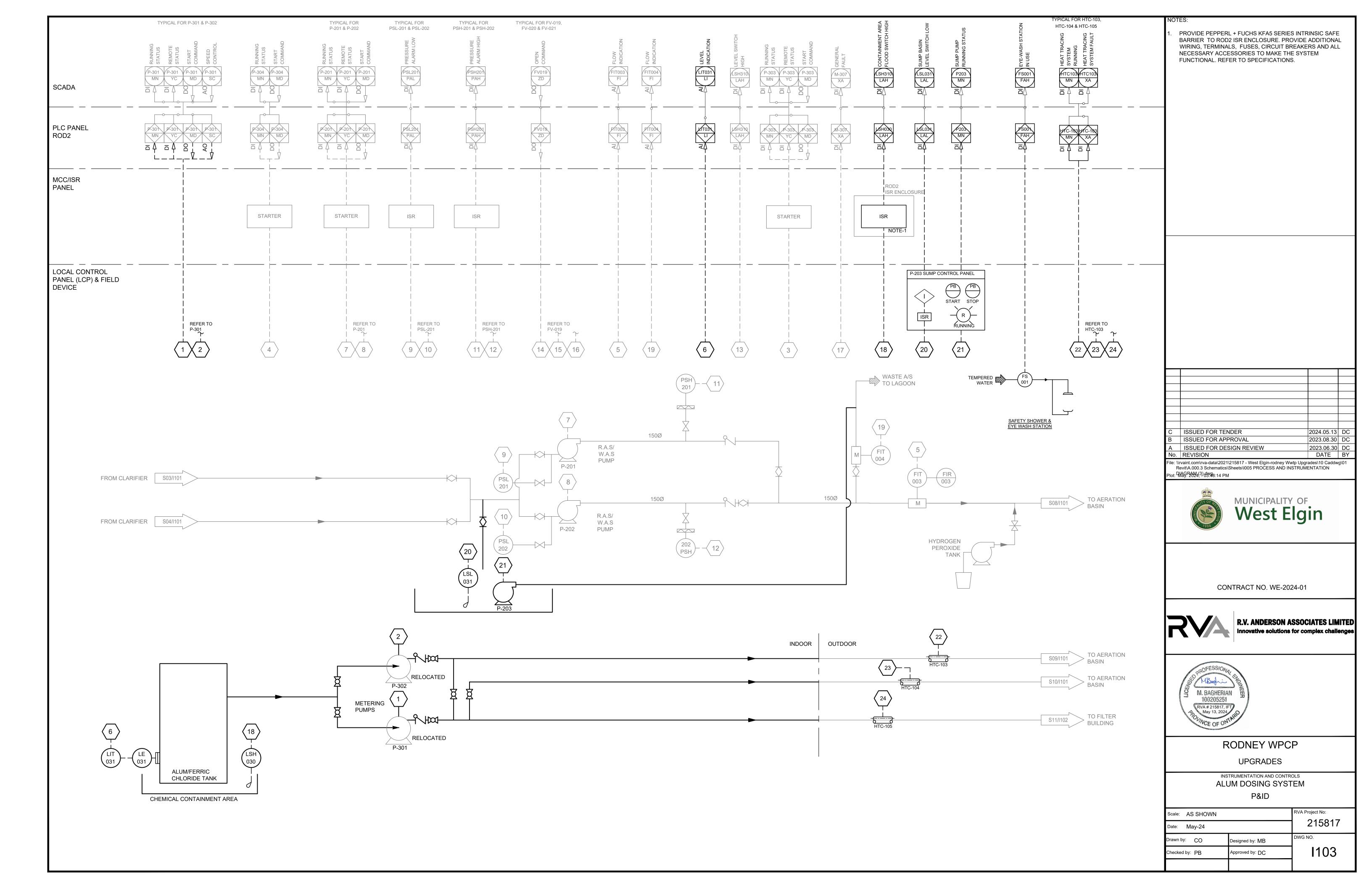
POWER AND LIGHTING PLAN - SCREEN POOM AND AFRATION BASIN

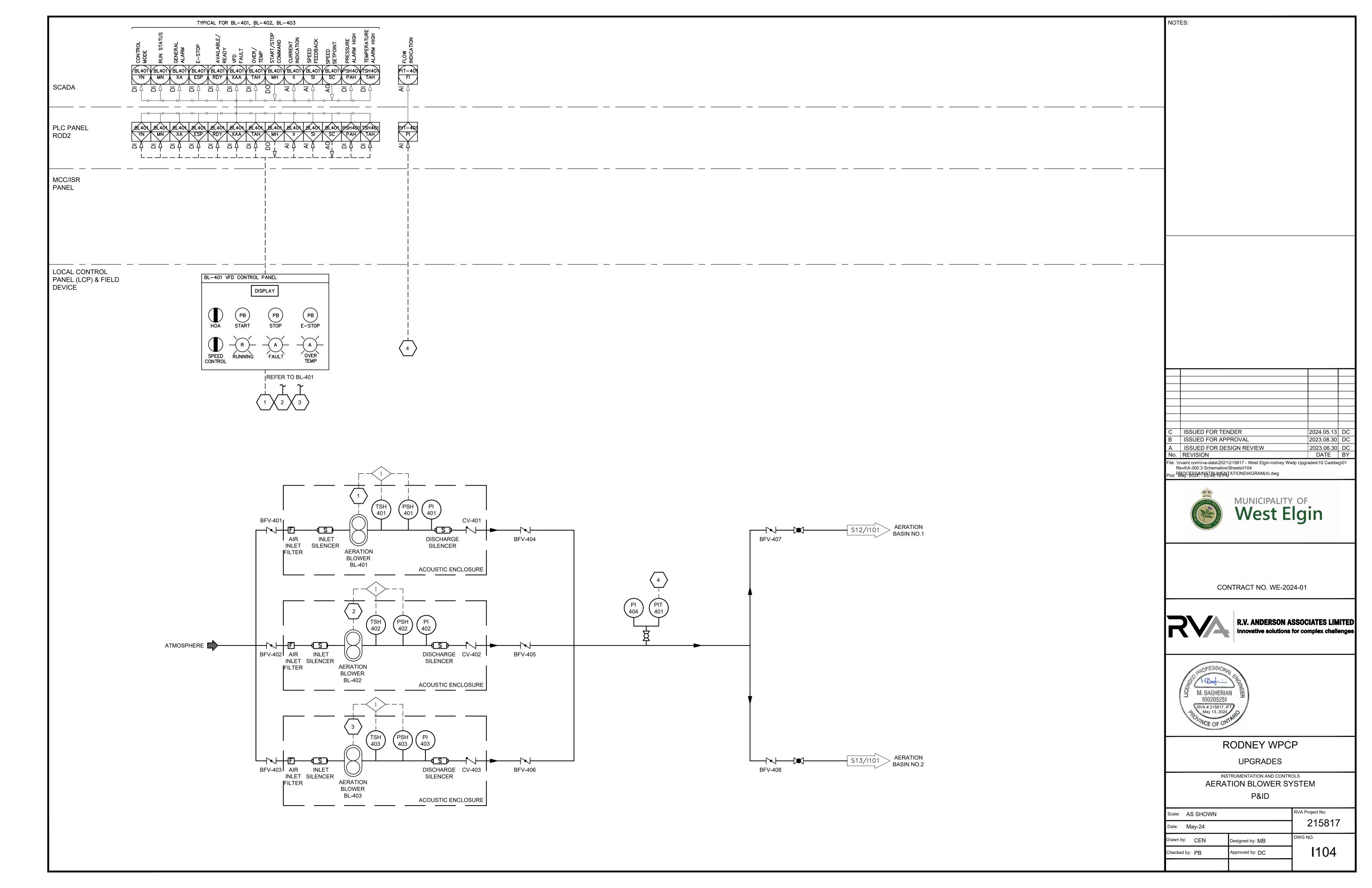
ROOM AND AERATION BASIN		
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Date: May-24		215817
Drawn by: MSH	Designed by: FH	DWG NO.
Checked by: SQR	Approved by: DC	E108

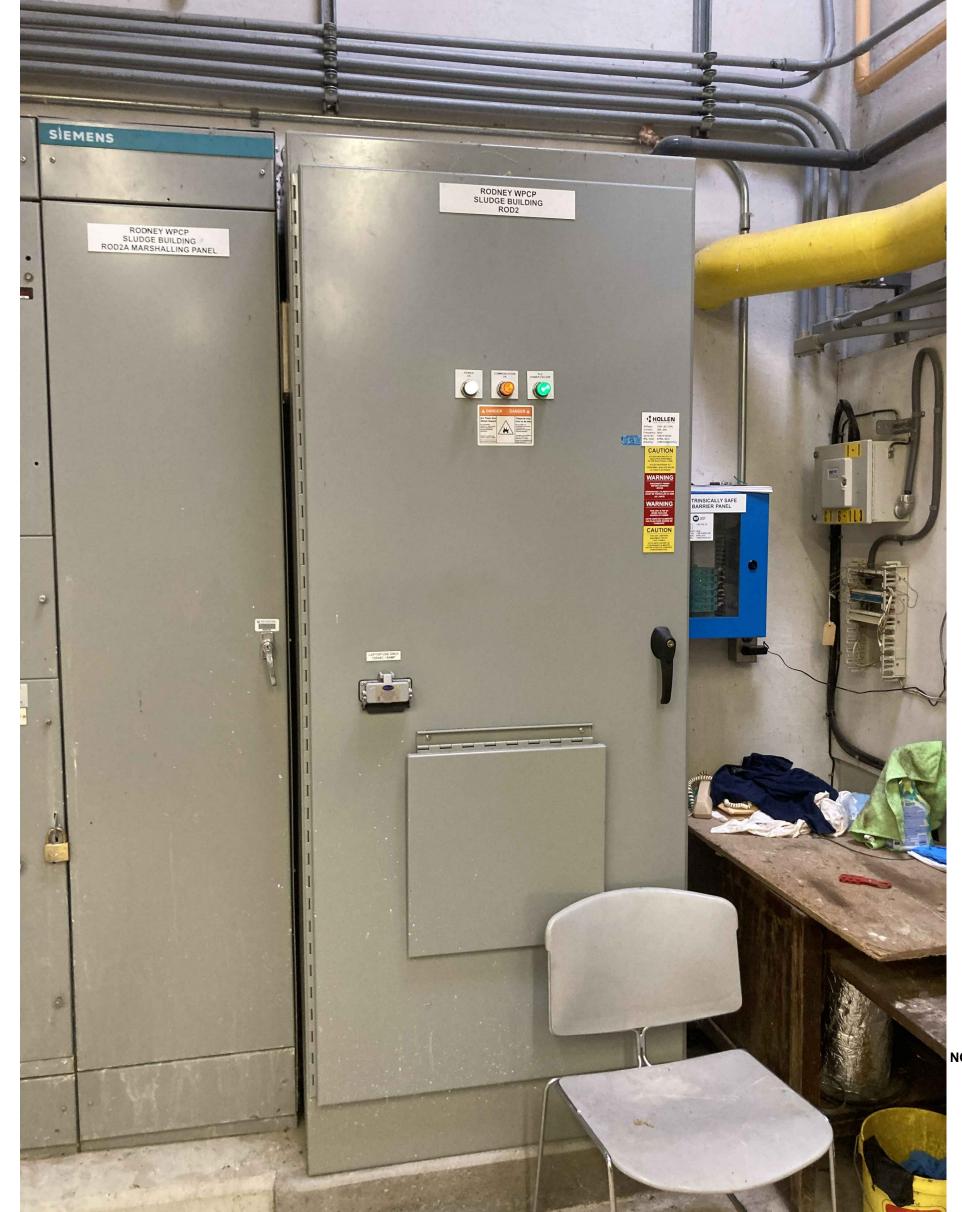






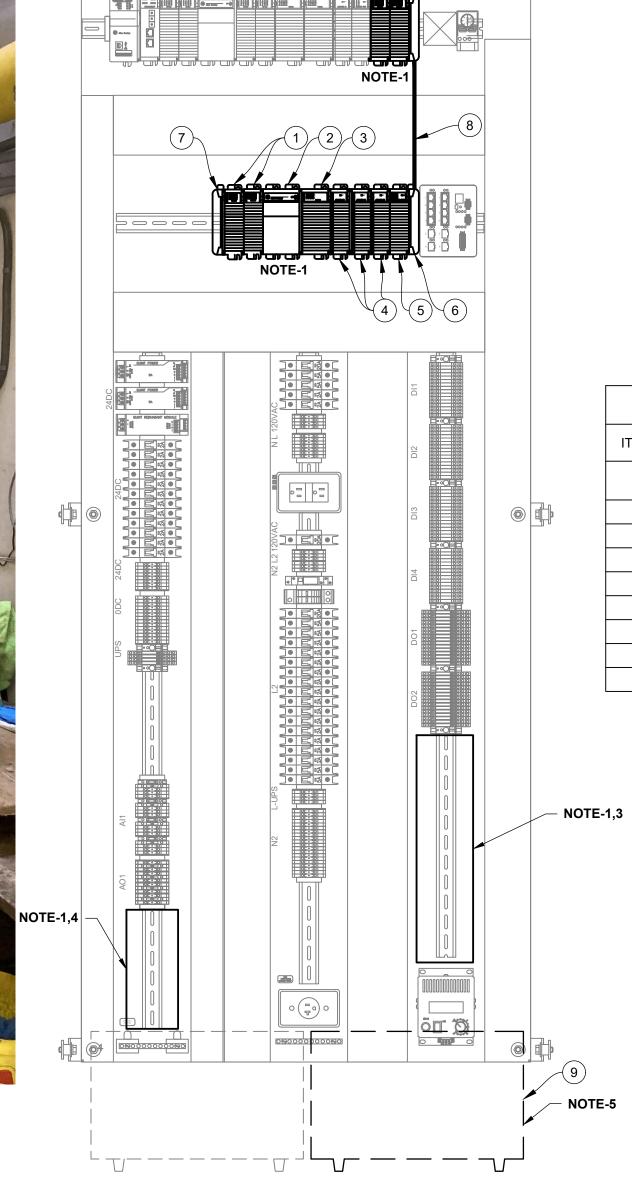






1 FIGURE-1:RODNEY WPCP SLUDGE BUILDING (ROD2)

EXTERIOR LAYOUT



2	FIGURE-2: RODNEY WPCP SLUDGE BUILDING (ROD2)
1105	INTERIOR LAYOUT

BILL OF MATERIALS NOTE-2				
ITEM	DESCRIPTION	PART NUMBERS	QUANTITY	MANUFACTURER'S OR APPROVE EQUAL
1	COMPACTLOGIX, DIGITAL INPUT, 16 CHANNEL, 120VAC	1769-IA16	4	ALLEN BRADLEY
2	COMPACTLOGIX, POWER SUPPLY, 120VAC, 2x2A	1769-PA4	1	ALLEN BRADLEY
3	COMPACTLOGIX, DIGITAL OUTPUT, 16 CHANNEL, 120VAC	1769-OA16	1	ALLEN BRADLEY
4	COMPACTLOGIX, ANALOG INPUT, 8 POINT	1769-IF8	3	ALLEN BRADLEY
5	COMPACTLOGIX, ANALOG OUTPUT, 8 POINT	1769-OF8C	1	ALLEN BRADLEY
6	COMPACTLOGIX, RIGHT END CAP	1769-ECR	2	ALLEN BRADLEY
7	COMPACTLOGIX, LEFT END CAP	1769-ECL	1	ALLEN BRADLEY
8	RIGHT BANK-TO-RIGHT BANK EXPANSION CABLE	1769-CRR3	1	ALLEN BRADLEY
9	9SX EXTENDED BATTERY MOUDULE (EBM)	9SXEBM96	1	EATON

- PROVIDE I/O MODULES TO THE COMPACT LOGIC PLC AS SHOWN IN FIGURE-2. PROVIDE ADDITIONAL TERMINALS, RELAYS, CIRCUIT BREAKERS AND OTHER REQUIRED COMPONENTS TO ACCOMMODATE FOR I/O SIGNALS.
- BILL OF MATERIALS ONLY COVERS MAJOR COMPONENTS. PROVIDE ALL NECESSARY ACCESSORIES TO MAKE THE SYSTEM FUNCTIONAL. REFER TO SPECIFICATIONS.
- DIGITAL OUTPUT SIGNALS AT THIS LOCATION. PROVIDE TERMINALS AND TERMINATE ANALOG INPUT AND
- ANALOG OUTPUT SIGNALS AT THIS LOCATION.
- PROVIDE EXTENDED BATTERY MODULE (EBM) AS SHOWN IN FIGURE-2 AND TERMINATE TO UPS TOWER.

PROVIDE TERMINALS AND TERMINATE DIGITAL INPUT AND

Α	ISSUED FOR TENDER	2024.05.13	DC
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Revit\A.200 Building 02\Sheets\I105 ROD2 CONTROL PANEL MODIFICATIONS.dwg Plot: May. 2024, - 03:48:25 PM



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RODNEY WPCP

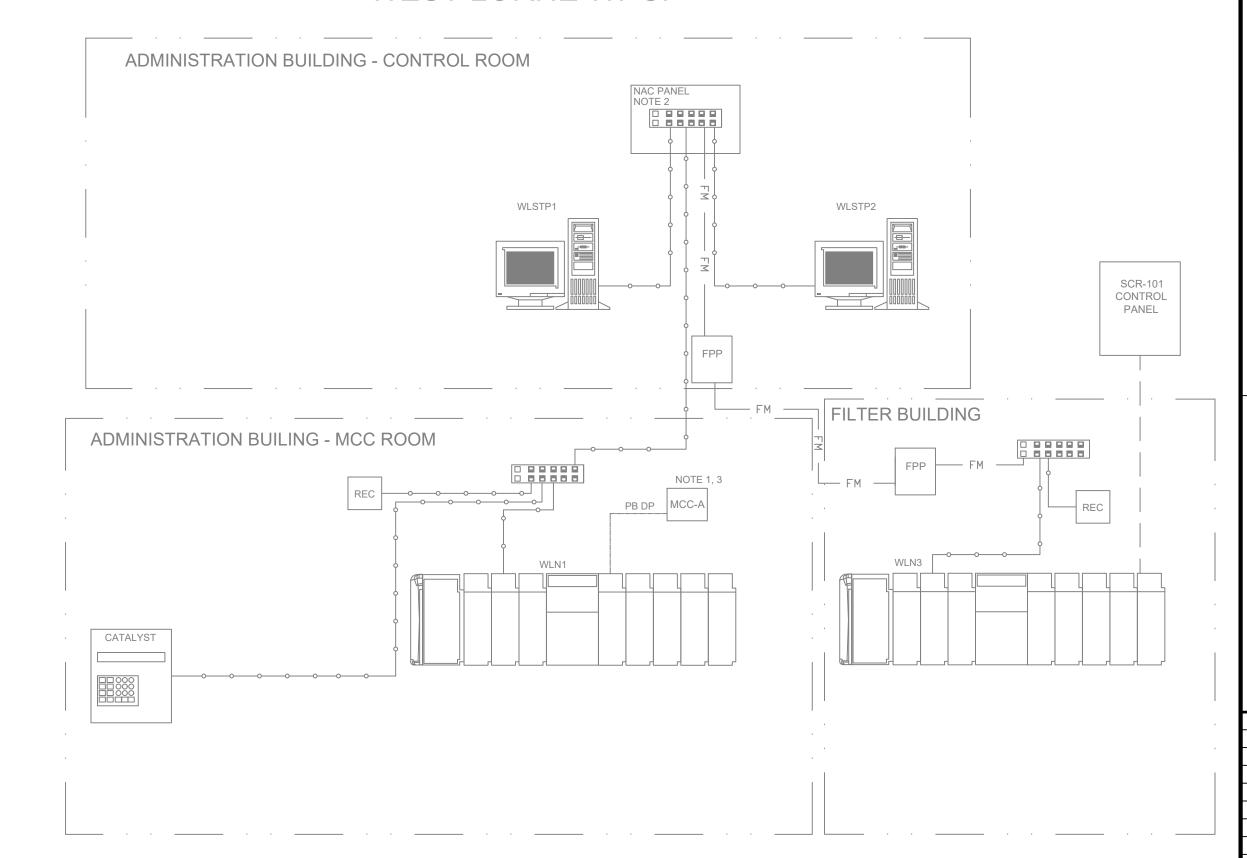
UPGRADES

INSTRUMENTATION AND CONTROLS

ROD2 CONTROL PANEL MODIFICATIONS

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Checked by: PB	Approved by: DC	I105

WEST LORNE WPCP



RODNEY SPS ROD4 OIT CATALYST

CATALYST

OIT

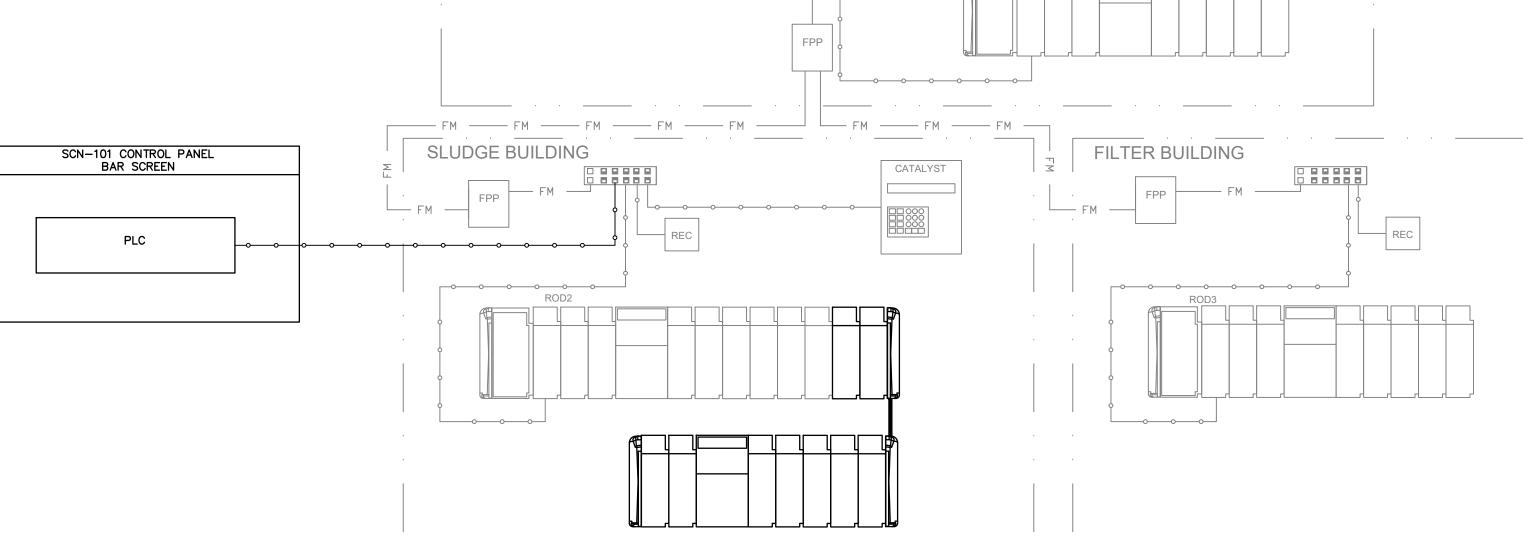
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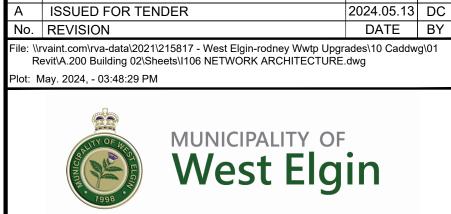


EXISTING EQUIPMENT NEW EQUIPMENT PB DP PROFIBUS DP FM — MULTIMODE FIBER OPTIC CABLE OPTIC CABLE HARD WIRE SIGNAL EXISTING MULTIMODE FIBER OPTIC CABLE EXISTING CAT 6, ETHERNET CABLE FPP FIBRE PATCH PANEL AUTO-DIALER

SWITCH

RECEPTACLE





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RODNEY WPCP

UPGRADES

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NETWORK ARCHITECTURE

INSTRUMENTATION AND CONTROLS

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Checked by: PB	Approved by: DC	l 1106