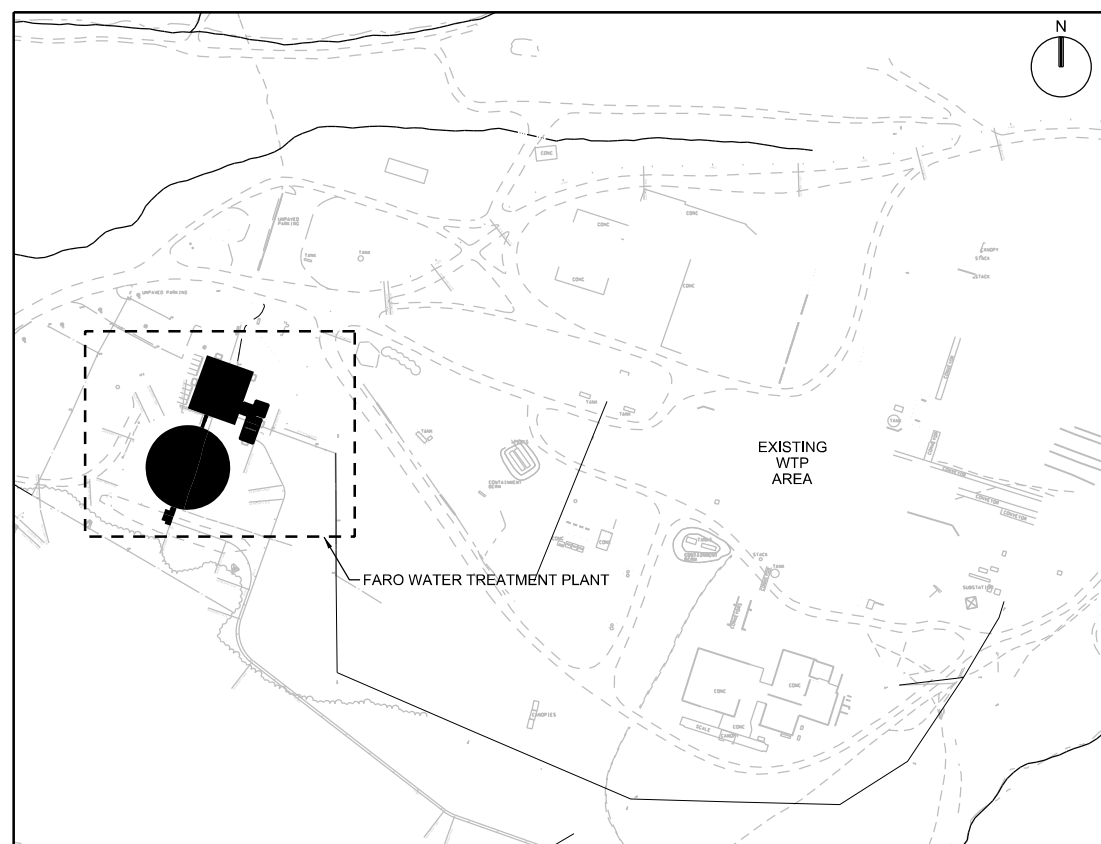
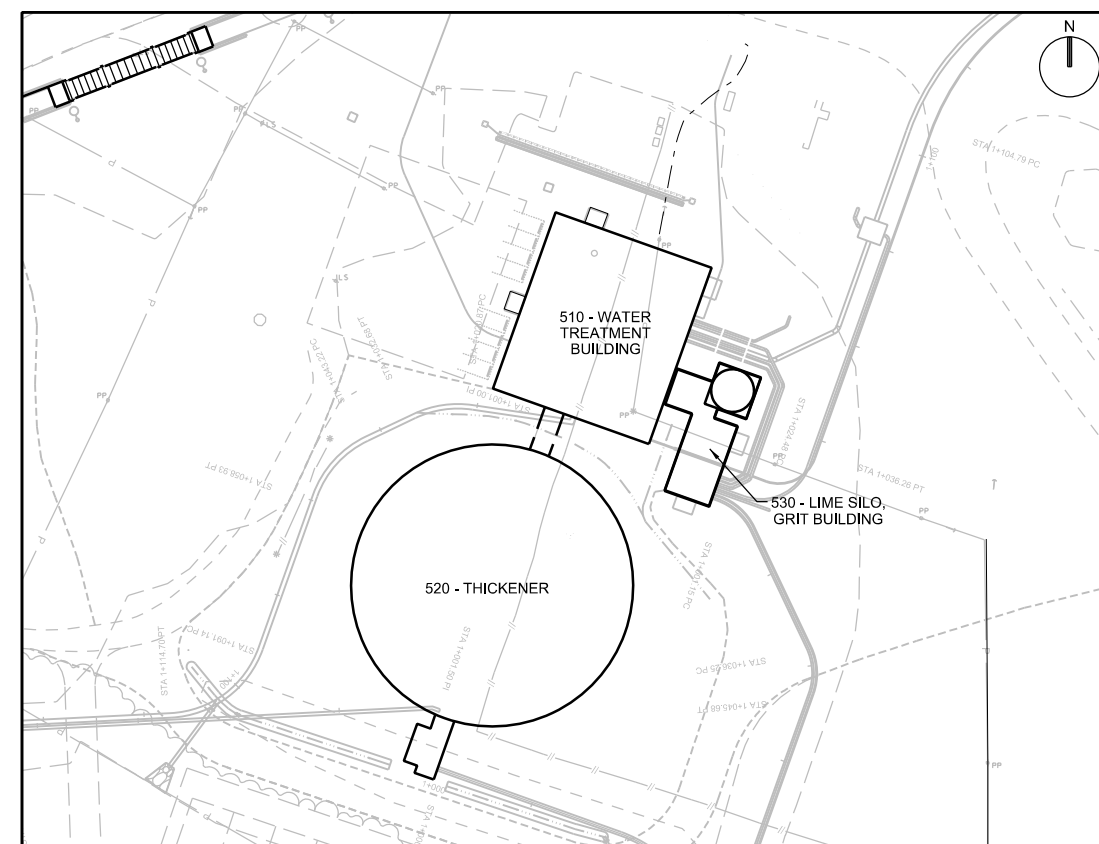


FARO WATER TREATMENT PLANT FARO MINE REMEDIATION PROJECT ISSUED FOR 90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FEBRUARY 2014



LOCATION PLAN



SITE PLAN

PREPARED FOR:

GOVERNMENT OF CANADA
AS REPRESENTED BY
ABORIGINAL AFFAIRS AND
NORTHERN DEVELOPMENT
CANADA AND THE
GOVERNMENT OF YUKON

CH2MHILL®

DRAWING INDEX

SHT. NO.	DWG. NO.	DESCRIPTION	SHT. NO.	DWG. NO.	DESCRIPTION	SHT. NO.	DWG. NO.	DESCRIPTION	SHT. NO.	DWG. NO.	DESCRIPTION
GENERAL			68	520-S-202	PLAN AT EL 1137.000	137	510-A-506	DETAILS (6)	204	590-M-501	STANDARD DETAILS (1)
1	500-G-001	COVER PAGE	69	520-S-203	PLAN AT TROUGH LEVEL	138	510-A-507	DETAILS (7)	205	590-M-502	STANDARD DETAILS (2)
2	500-G-002	DRAWING INDEX	70	520-S-204	ROOF PLAN	139	510-A-504	DETAILS (8)	ELECTRICAL		
3	500-G-003	ABBREVIATIONS (1)	71	520-S-205	PLANS AT STAIR NO. 3	140	510-A-509	DETAILS (9)	206	500-GE-001	ELECTRICAL LEGEND SHEET (1)
4	500-G-004	ABBREVIATIONS (2) AND GENERAL NOTES	72	520-S-311	SECTION A - PART A	141	510-A-510	DETAILS (10)	207	500-GE-002	ELECTRICAL LEGEND SHEET (2)
CIVIL			73	520-S-312	SECTION A - PART B	142	510-A-601	FINISH SCHEDULE	208	500-GE-003	ABBREVIATIONS, CONDUCTOR AND CONDUIT SCHEDULE
5	500-GC-001	CIVIL GENERAL LEGEND, SYMBOLS AND ABBREVIATIONS	74	520-S-313	SECTION B	143	510-A-602	DOOR HARDWARE SCHEDULE	209	500-GE-004	LUMINAIRE SCHEDULE
6	500-C-201	OVERALL EXISTING SITE PLAN	75	520-S-314	SECTION C AND E	144	520-A-201	THICKENER TUNNEL AND GROUND FLOOR PLAN	210	500-E-001	ONE-LINE DIAGRAM (1) - MCC1
7	500-C-202	EXISTING SITE AND REMOVALS PLAN	76	520-S-315	SECTION D - PART A	145	520-A-202	THICKENER WALKWAY AND ROOF PLAN	211	500-E-002	ONE-LINE DIAGRAM (2) - MCC2
8	500-C-203	SITE AND YARD PIPING KEY PLAN	77	520-S-316	SECTION D - PART B	146	520-A-301	THICKENER WEST AND EAST ELEVATIONS	212	500-E-003	DISTRIBUTION PANEL DPH1, DPH2 AND DPH3
9	500-C-204	PROPOSED SITE LAYOUT PLAN	78	520-S-501	DETAILS (1)	147	520-A-311	SECTIONS	213	500-E-004	ONE-LINE DIAGRAM (3) - DPP1, DPP2 AND DPP3
10	500-C-205	EROSION AND SEDIMENTATION CONTROL PLAN	79	530-S-201	FOUNDATION PLAN	148	520-A-501	DETAILS (1)	214	500-E-005	ONE-LINE DIAGRAM (3) - DPP4
11	500-C-206	NORTH LAYOUT AND GRADING PLAN	80	530-S-202	GROUND FLOOR PLAN	149	520-A-601	FINISH AND DOOR HARDWARE SCHEDULES	215	500-E-006	MCC1 - ELEVATION
12	500-C-207	SOUTH LAYOUT AND GRADING PLAN	81	530-S-203	LOWER ROOF PLAN	150	530-A-202	LIME SILO, GRIT BUILDING GROUND FLOOR AND ROOF PLANS	216	500-E-007	MCC2 - ELEVATION
13	500-C-208	WEST LAYOUT AND GRADING PLAN	82	530-S-204	ROOF PLAN	151	530-A-301	LIME SILO, GRIT BUILDING ELEVATIONS	217	500-E-008	PANEL SCHEDULE (1)
14	500-C-210	WEIGH SCALE PLAN AND SECTIONS	83	530-S-311	SECTION A	152	530-A-311	LIME SILO, GRIT BUILDING SECTIONS	218	500-E-009	PANEL SCHEDULE (2)
15	500-C-211	YARD PIPING PLAN	84	530-S-312	SECTION B	153	530-S-312	DETAILS (1)	219	500-E-011	HVAC CONTROL SCHEMATICS (1)
16	500-C-214	150-WS-HDPE, 350 FW-HDPE AND 750 FW-HDPE PLAN AND PROFILES (1)	85	530-S-313	SECTION C	154	530-A-502	SECTION DETAILS (1)	220	500-E-012	HVAC CONTROL SCHEMATICS (2)
17	500-C-215	150-WS-HDPE, 350 FW-HDPE AND 750 FW-HDPE PLAN AND PROFILES (2)	86	530-S-314	SECTION D	155	530-A-601	FINISH AND DOOR HARDWARE SCHEDULES	221	500-E-013	HVAC CONTROL SCHEMATICS (3)
18	500-C-216	150-WS-HDPE, 350 FW-HDPE AND 750 FW-HDPE PLAN AND PROFILES (3)	87	530-S-315	SECTION E	156	590-A-501	STANDARD DETAILS (1)	222	500-E-014	HVAC CONTROL SCHEMATICS (4)
19	500-C-217	150-WS-HDPE, 350 FW-HDPE AND 750 FW-HDPE PLAN AND PROFILES (4)	88	530-S-501	DETAILS (1)	PROCESS			223	500-E-015	PROCESS CONTROL SCHEMATICS (1)
20	500-C-218	150-WS-HDPE, 350 FW-HDPE AND 750 FW-HDPE PLAN AND PROFILES (5)	89	590-S-501	STANDARD DETAILS (1)	157	500-GD-001	GENERAL MECHANICAL NOTES, SYMBOLS AND VALVES	224	500-E-016	PROCESS CONTROL SCHEMATICS (2)
21	500-C-219	150-WS-HDPE, 350 FW-HDPE AND 750 FW-HDPE PLAN AND PROFILES (6)	90	590-S-502	STANDARD DETAILS (2)	158	500-D-001	PROCESS FLOW DIAGRAM AND MASS BALANCE	225	500-E-020	STAIRS, PLANS AND SECTIONS
22	500-C-220	150-WS-HDPE, 350 FW-HDPE AND 750 FW-HDPE PLAN AND PROFILES (7)	91	590-S-503	STANDARD DETAILS (3)	159	500-D-002	HYDRAULIC PROFILE	226	500-E-021	CABLE BLOCK DIAGRAM (1)
23	500-C-221	150-WS-HDPE, 350 FW-HDPE AND 750 FW-HDPE PLAN AND PROFILES (8)	92	590-S-504	STANDARD DETAILS (4)	160	510-D-201	PART PLANS	227	500-E-022	CABLE BLOCK DIAGRAM (2)
24	500-C-222	150-WS-HDPE, 350 FW-HDPE AND 750 FW-HDPE PLAN AND PROFILES (9)	93	590-S-505	STANDARD DETAILS (5)	161	510-D-202	PROCESS AREA DRAINAGE EL1133.70	228	500-E-023	CABLE BLOCK DIAGRAM (3)
25	500-C-223	900 OF-HDPE AND 500 OF-HDPE PLAN AND PROFILE (1)	94	590-S-506	STANDARD DETAILS (6)	162	510-D-203	PROCESS AREA AT EL 1133.70	229	500-E-201	SITE POWER DISTRIBUTION - OVERALL PLAN
26	500-C-224	350-FW-HDPE, 200 FW-HDPE AND 750 EFF-HDPE PLAN AND PROFILE (1)	95	590-S-507	STANDARD DETAILS (7)	163	510-D-204	GROUND FLOOR PLAN	230	500-E-202	SITE POWER DISTRIBUTION - ENLARGED PLANS
27	500-C-225	350-FW-HDPE, 200 FW-HDPE AND 750 EFF-HDPE PLAN AND PROFILE (2)	96	590-S-508	STANDARD DETAILS (8)	164	510-D-205	PLATFORM FLOOR PLAN	231	510-E-201	WTB PUMP ROOM FACILITIES AND PROCESS PLAN AT EL 1128.200
28	500-C-301	SECTIONS	97	590-S-509	STANDARD DETAILS (9)	165	510-D-301	SECTIONS A AND C	232	510-E-202	WTB PROCESS ROOM FACILITIES AND PROCESS PLAN AT EL 1137.700
29	590-C-501	STANDARD DETAILS (1)	98	590-S-510	STANDARD DETAILS (10)	166	510-D-302	SECTION B	233	510-E-203	WTB PROCESS ROOM FACILITIES AND PROCESS PLAN AT EL 1143.700
30	590-C-502	MISCELLANEOUS DETAILS (1)	99	590-S-511	STANDARD DETAILS (11)	167	510-D-303	SECTION D	234	510-EF-202	WTB FACILITIES PLAN AT EL 1137.700
31	590-C-503	MISCELLANEOUS DETAILS (2)	100	590-S-512	STANDARD DETAILS (12)	168	510-D-304	SECTION E	235	510-EF-203	WTB PROCESS ROOM FACILITIES PLAN AT EL 1137.700
32	590-C-504	DIVERSION CHAMBER DETAILS	101	590-S-513	STANDARD DETAILS (13)	169	510-D-305	SECTION F	236	510-EP-202	WTB BLOWER AND POLYMER ROOM PROCESS PLAN AT EL 1137.700
STRUCTURAL			102	590-S-514	STANDARD DETAILS (14)	170	510-D-306	SECTION H	237	510-EP-203	WTB PROCESS ROOM PROCESS PLAN AT EL EL 1133.700
33	500-S-001	STRUCTURAL LEGEND AND GENERAL NOTES	103	590-S-515	STANDARD DETAILS (15)	171	510-D-307	SECTIONS J, K AND L	238	520-E-201	THICKENER TUNNEL FACILITIES AND PROCESS PLAN AT EL 1128.200
34	500-S-201	DIVERSION CHAMBER	104	590-S-516	STANDARD DETAILS (16)	172	510-D-308	SECTION G	239	520-E-202	THICKENER WALKWAY AND VESTIBULE FACILITIES AND PROCESS PLAN AT EL 1141.50
35	500-S-202	WEIGHING SCALE	ARCHITECTURAL			173	510-D-501	DETAILS (1)	240	520-E-203	THICKENER AND METERING ROOM FACILITIES AND PROCESS PLAN
36	510-S-201	PLAN AT 1128.200	105	500-GA-001	ARCHITECTURAL LEGEND, SYMBOLS AND ABBREVIATIONS	174	520-D-201	THICKENER OVERALL PLAN	241	530-EF-202	LIME SILO, GRIT BUILDING GROUND FLOOR FACILITIES PLAN AT EL 1137.700
37	510-S-202	PLAN AT 1133.700	106	500-GA-002	OVERALL BUILDING CODE MATRIX	175	520-D-202	THICKENER PART PLANS	242	530-EP-202	LIME SILO, GRIT BUILDING GROUND FLOOR PROCESS PLAN AT EL 1137.700
38	510-S-203	PLAN AT 1137.700	107	500-A-202	OVERALL PIPE TUNNEL AND PROCESS PLAN	176	520-D-203	THICKENER PART PLANS	243	590-E-501	DETAILS (1)
39	510-S-204	LOWER ROOF PLAN	108	500-A-203	OVERALL GROUND FLOOR PLAN	177	520-D-301	THICKENER SECTION A	244	590-E-502	DETAILS (2)
40	510-S-205	ROOF PLAN	109	500-A-204	OVERALL PLATFORM PLAN	178	520-D-302	THICKENER SECTIONS B, C AND D	245	590-E-503	DETAILS (3)
41	510-S-311	SECTION A - PART A	110	500-A-205	OVERALL ROOF PLAN	179	520-D-501	DETAILS (1)	246	590-E-504	DETAILS (4)
42	510-S-312	SECTION A - PART B	111	500-A-301	OVERALL ELEVATIONS	180	530-D-201	LIME SILO, GRIT BUILDING PLANS	247	590-E-505	DETAILS (5)
43	510-S-313	SECTION B - PART A	112	510-A-201	TREATMENT BUILDING TUNNEL AND PROCESS PLAN - PART A	181	530-D-301	LIME SILO, GRIT BUILDING SECTIONS	INSTRUMENTATION		
44	510-S-314	SECTION B - PART B	113	510-A-202	TREATMENT BUILDING PROCESS PLAN - PART B	182	530-D-302	LIME SILO, GRIT BUILDING SECTIONS	248	500-GN-001	I&C LEGEND AND GENERAL SHEET (1)
45	510-S-315	SECTION C - PART A	114	510-A-203	TREATMENT BUILDING GROUND FLOOR PLAN - PART A	183	530-D-501	DETAILS (1)	249	500-GN-002	I&C LEGEND AND GENERAL SHEET (2)
46	510-S-316	SECTION C - PART B	115	510-A-204	TREATMENT BUILDING GROUND FLOOR PLAN - CEILING	184	590-D-501	STANDARD DETAILS (1)	250	500-N-001	INFLUENT FLOW TO REACTORS B1 AND B2 P&ID
47	510-S-317	SECTION D - PART A	116	510-A-205	TREATMENT BUILDING ENLARGED PLANS AND ELEVATIONS	185	590-D-502	STANDARD DETAILS (2)	251	500-N-002	EQUALIZATION TANK AND BOOSTER PUMP P&ID
48	510-S-318	SECTION D - PART B	117	510-A-206	TREATMENT BUILDING GROUND FLOOR PLAN - PART A	PLUMBING			252	500-N-003	REACTOR B1 P&ID
49	510-S-319	SECTION E	118	510-A-207	TREATMENT BUILDING GROUND FLOOR PLAN - PART B	186	500-GP-001	PLUMBING LEGEND, SYMBOLS AND NOTES	253	500-N-004	REACTOR B2 P&ID
50	510-S-320	SECTION F	119	510-A-208	TREATMENT BUILDING PLATFORM PLAN - PART A	187	500-P-601	SERVICE WATER SYSTEM SCHEMATIC	254	500-N-005	REACTOR A P&ID
51	510-S-321	SECTION G	120	510-A-209	TREATMENT BUILDING PLATFORM PLAN - PART B	188	510-P-202	PLAN AT 1133.700	255	500-N-006	THICKENER AND SLUDGE RECYCLING P&ID
52	510-S-322	SECTION H	121	510-A-210	TREATMENT BUILDING ROOF PLAN - PART A	189	510-P-203	PLAN AT 1137.700	256	500-N-007	THICKENER SLUDGE WASTING PUMPS P&ID
53	510-S-323	NORTH ELEVATION	122	510-A-211	TREATMENT BUILDING ROOF PLAN - PART B	190	590-P-501	STANDARD DETAILS (1)	257	500-N-008	LIME SYSTEM P&ID
54	510-S-324	SOUTH ELEVATION	123	510-A-301	TREATMENT BUILDING EAST AND WEST ELEVATIONS	191	590-P-502	STANDARD DETAILS (2)	258	500-N-009	AIR BLOWERS P&ID
55	510-S-325	EAST ELEVATION	124	510-A-302	TREATMENT BUILDING NORTH AND SOUTH ELEVATIONS	HVAC			259	500-N-010	POLYMER SYSTEM AND FEED PUMPS P&ID
56	510-S-326	WEST ELEVATION	125	510-A-311	TREATMENT BUILDING SECTIONS A AND B	192	500-GM-001	GENERAL LEGEND, SYMBOLS AND ABBREVIATIONS	260	500-N-011	PLANT SERVICE WATER PUMPS P&ID
57	510-S-501	DETAILS (1)	126	510-A-312	TREATMENT BUILDING SECTION C	193	500-M-601	CONTROL NARRATIVES (1)	261	500-N-012	PLANT PROCESS WATER P&ID
58	510-S-502	DETAILS (2)	127	510-A-313	TREATMENT BUILDING SECTION D	194	500-M-602	CONTROL NARRATIVES (2)	262	500-N-013	PROCESS SUMPS - MISCELLANEOUS P&ID
59	510-S-503	DETAILS (3)	128	510-A-314	TREATMENT BUILDING SECTION E	195	500-M-603	CONTROL NARRATIVES (3)	263	500-N-014	AIR COMPRESSORS P&ID
60	510-S-504	DETAILS (4)	129	510-A-315	TREATMENT BUILDING SECTION F	196	510-M-202	PLAN AT 1133.700	264	500-N-015	UNTI PROCESS MISCELLANEOUS SIGNALS
61	510-S-505	DETAILS (5)	130	510-A-316	TREATMENT BUILDING SECTION G	197	510-M-203	PLAN AT 1137.700 AND SECTIONS	265	500-N-020	SCADA BLOCK DIAGRAM
62	510-S-506	DETAILS (6)	131	510-A-317	TREATMENT BUILDING SECTION H	198	510-M-204	PLAN AT 1143.700	266	590-N-501	INSTALLATION DETAILS (1)
63	510-S-507	DETAILS (7)	132	510-A-501	DETAILS (1)	199	510-M-311	SECTION A	267	590-N-502	INSTALLATION DETAILS (2)
64	510-S-508	DETAILS (8)	133	510-A-502	DETAILS (2)	200	510-M-312	SECTION B	268	590-N-503	INSTALLATION DETAILS (3)
65	510-S-601	BEAM AND COLUMN SCHEDULE	134	510-A-503	DETAILS (3)	201	520-M-201	PLAN AT 1128.200	269	590-N-504	INSTALLATION DETAILS (4)
66	510-S-602	STEEL COLUMN SCHEDULE	135	510-A-504	DETAILS (4)	202	520-M-202	PLAN AND SECTION	270	590-N-505	INSTALLATION DETAILS (5)
67	520-S-201	PLAN AT EL 1128.200	136	510-A-505	DETAILS (5)	203	530-M-201	PLAN AT 1137.700			

1		2		3		4		5		6	
A	AMMETER, AMPERES, AWNINGS	CLSF	CONTROLLED LOW STRENGTH FILL	EQL	EQUAL	HGT	HEIGHT	MDO	MEDIUM DENSITY OVERLAY	PEP	POLYETHYLENE PIPE
AB	ANCHOR BOLT, ABOVE	CLG	CEILING	EQL SP	EQUALLY SPACED	HH	HANDHOLE	MECH	MECHANICAL	PEN.	PENETRATION
ABDN	ABANDON	CLR	CLEAR, CLEARANCE	EQPT	EQUIPMENT	HID	HIGH INTENSITY DISCHARGE	MFD	MANUFACTURED	PFC	POUNDS PER CUBIC FOOT
AC	ACOUSTICAL, ACOUSTICAL CEILING	CLSM	CONTROLLED LOW STRENGTH MATERIAL	ESC	EROSION AND SEDIMENT CONTROL	HK	HOOK	MFR	MANUFACTURER	PH	PENTHOUSE
AC	ALTERNATING CURRENT	CMP	CENTRAL MONITORING PANEL	ETM	ELAPSED TIME METER	HM	HOLLOW METAL	MGD	MILLION GALLONS PER DAY	pH	HYDROGEN ION CONCENTRATION
AC	ASPHALTIC CONCRETE	CMU	CORRUGATED METAL PIPE	EVC	END OF VERTICAL CURVE	HOA	HAND-OFF-AUTO	MH	MANHOLE, MOUNTING HEIGHT	PH	PHASE
ACFL	ACCESS FLOORING	CNTR	COUNTER	EW	EACH WAY	HOR	HAND-OFF-REMOTE	MIN	MINIMUM	PI	POINT OF INTERSECTION
ACI	AMERICAN CONCRETE INSTITUTE	CO	CLEANOUT, CARBON MONOXIDE	EWC	ELECTRIC WATER COOLER	HORIZ	HORIZONTAL	MISC	MISCELLANEOUS	PIT	PILOT TUBE TEST STATION
ACMU	ACOUSTICAL CONCRETE MASONRY UNIT, ACOUSTICAL CMU	COL	COLUMN, COLOR	EXH	EXHAUST	HP	HORSEPOWER	MJ	MECHANICAL JOINT	PJF	PREMOULDED JOINT FILLER
ACP	ACOUSTICAL PANELS	CONC	CONCRETE	EXP	EXPANSION, EXPOSED	HPT	HIGH POINT	ML	MAIN LUGS ONLY	PL	PLATE (STEEL)
ACST	ACOUSTICAL	COND	CONDENSATE	EXP AB	EXPANSION ANCHOR BOLT	HPU	HYDRAULIC POWER UNIT	MMDW	DRY WEATHER MAXIMUM MONTH	PL	PROPERTY LINE
ACT	ACOUSTICAL TILE	COND TN	CONDITIONED	EXP JT	EXPANSION JOINT	HR	HOSE RACK, HANDRAIL	MMP	MECHANICAL MOUNTING PANEL	PLAM	PLASTIC LAMINATE
AD	AREA DRAIN	CONN	CONNECTION	EXST, EXIST	EXISTING	HV	HOSE VALVE	MMWW	WET WEATHER MAXIMUM MONTH	PLAS	PLASTER, PLASTIC
ADDL	ADDITIONAL	CONSTR	CONSTRUCTION	EXT	EXTERIOR	HVAC	HEATING, VENTILATING AND AIR CONDITIONING	MO	MANUAL OPERABLE, MASONRY OPENING	PLC	PROGRAMMABLE LOGIC CONTROLLER
ADJ	ADJACENT	CONT	CONTINUED, CONTINUOUS, CONTINUATION	Q°	DEGREE FAHRENHEIT	HWL	HIGH WATER LEVEL	MP	METAL PANEL	PLYWD	PLYWOOD
ADW	DRY WEATHER AVERAGE	CONTR	CONTRACTOR	FB	FLAT BAR	ID	INTERRUPTING CAPACITY	MPU	MULTIPURPOSE UNIT	PNL	PANEL
AFD	ADJUSTABLE FREQUENCY DRIVE	COORD	COORDINATE	F, FU	FUSE	IC	INDUCED DRAFT, INSIDE DIAMETER	MS	MANUFACTURER'S STANDARD	PP	POWER POLE
AFF	ABOVE FINISHED FLOOR	COP	COPPER	F, FX	FIXED	ID	INDUCED DRAFT, INSIDE DIAMETER	MSC	MANUFACTURER SUPPLIED CABLE	P-P	PUSH-PULL
AFG	ABOVE FINISHED GRADE	CP	CENTER PIVOT	FAP	FIRE ALARM PANEL	IE	INVERT ELEVATION	MSR	GROUPED MOTOR CONTROL MOUNT	PPL	POLYPROPYLENE LINED
AG	ACOUSTICAL, ACOUSTICAL GLASS	CP-X	CONTROL PANEL NO. X	FC	FLEXIBLE CONDUIT	I.F.	INSIDE FACE	MT	MOUNTED	PR	PAIR
AGGR	AGGREGATE	CPLG	COUPLING	FCA	FLANGED COUPLING ADAPTER	IG	INSULATING, INSULATING GLASS	MTD	MOUNTING	PRC	POINT OF REVERSE CURVE
AHR	ANCHOR	CPRSR	COMPRESSOR	FCL2	FREE CHLORINE RESIDUAL	IN	INCH	MTG	MOUNTING	PRECST	PRECAST
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	CPT	CONTROL POWER TRANSFORMER, CARPET	FCO	FLOOR CLEANOUT	INCAND	INCANDESCENT	MTS	MILL TYPE STEEL PIPE	PREFAB	PREFABRICATION
		CPVC	CHLORINATED PVC	FCTY	FACTORY	INFL	INFLUENT	MTS	MILL TYPE STEEL PIPE	PRES	PRESSURE
AJ	ADJUSTABLE	CR	CONTROL RELAY	FD	FLOOR DRAIN	INJS	INJECTIONS	MU	MULCHING	PRI	PRIMARY
AL	ALUMINUM	CRS	COLD ROLLED STEEL	FDN	FOUNDATION	MV	INSTANTANEOUS	MV	MERCURY VAPOR	PRM	PERMANENT REFERENCED MARKER
ALKY	ALKALINITY	CRS	CONSTRUCTION ROAD STABILIZATION	FDR	FEEDER	MWS	MAXIMUM WATER SURFACE			PROP	PROPERTY
ALTN	ALTERNATE	CT	CERAMIC TILE	FEXT	FIRE EXTINGUISHER	INSUL	INSULATION	N	NORTH, NEUTRAL	PS	PLASTIC SHEET, POLYCARBONATE SHEET
AM	AUTO-MANUAL	CTC	COMPUTER TERMINAL CABINET	FF	FINISHED FLOOR	INVT	INVERT	NA	NOT APPLICABLE	PS	PAINT SYSTEM
AMRD	ACOUSTICAL METAL ROOF DECKING	CTR	CENTER	FG	FINISH GRADE, FLOAT GLASS	IP	INLET PROTECTION, INSTRUMENTATION PANEL	NA	NON-AUTOMATIC	PSF	POUNDS PER SQUARE FOOT
ANDZ	ANODIZE	CTRD	CENTERED	FH	FLAT HEAD	IRRI	IRRIGATION	NC	NORMALLY CLOSED	PSI	POUNDS PER SQUARE INCH
APPROX	APPROXIMATE	CTSK	COUNTERSUNK	FHY	FIRE HYDRANT	ITG	INSULATED TEMPERED GLASS	NEUT	NEUTRAL	PT	POINT OF TANGENCY
APVD	APPROVED	CU	CUBIC	FIG	FIGURE	ITX	ISOLATION TRANSFORMER	NG	NATURAL GAS	PT	POTENTIAL TRANSFORMER
ARCH	ARCHITECTURAL	CU FT	CUBIC FOOT	FL	FLOW LINE	IU	INTAKE UNIT	NGVD	NATIONAL GEODETIC VERTICAL DATUM	PT	PRESSURE TREATED
AR	ANALOG RELAY	CU IN	CUBIC INCH	FLG	FLANGE	IW	IRRIGATION WELL	NIC	NOT IN CONTRACT	PTD	PAPER TOWEL DISPENSER
AS	AS SELECTED	CUH	COPPER TUBING, HARD DRAWN	FL	FLOOR	J	JALOUSIE	N.O.	NORMALLY OPEN	PTN	PARTITION
ATS	AUTOMATIC TRANSFER SWITCH	CV	CHECK VALVE	FLEX	FLEXIBLE	JA	JAL-AWNING	NO., #	NUMBER	PV	PLUG VALVE
AUTO	AUTOMATIC	CWR	CABINET DOOR MOUNTED WASTE RECEPTACLE	FLH	FLAT HEAD	JB	JUNCTION BOX	NOM	NOMINAL	PVC	POLYVINYL CHLORIDE
AUX	AUXILIARY			FLTR	FILTER	JAN	JANITOR	NP	NON-PROTECTED	PVT	POINT OF VERTICAL INTERSECTION
AVG	AVERAGE	CY, CU YD	CUBIC YARD	FLUOR	FLUORESCENT	JCT	JUNCTION	NPT	NATIONAL PIPE THREADS	PVMT	PAVEMENT
AWW	WET WEATHER AVERAGE	CWS	CLEAN WATER SERVICES	FNSH	FINISH	JT	JOINT	NS	NON-SHRINK	PVT	POINT OF VERTICAL TANGENCY
@	AT			FOB	FLAT ON BOTTOM	K	KEY GROUP, KEY INTERLOCK	NTS	NOT TO SCALE		
		D	DEEP, DRAIN	FOT	FLAT ON TOP	KIP	THOUSAND POUNDS	O2	OXYGEN	QAA	AVERAGE FLOW
B	BELL	d	PENNY NAIL SIZE	FP	FIELD PANEL	KIT	KITCHEN	O TO O	OUT TO OUT	QMM	MAXIMUM 30 DAY FLOW
BAL	BALANCE	DA	DUAL ACTION	FPM	FEET PER MINUTE	KIT	KITCHEN	OA	OVERALL, ODOROUS AIR	QPI	PEAK INSTANTANEOUS FLOW
BETW	BETWEEN	DAS	DATA ACQUISITION SYSTEM	FR	FORWARD REVERSE	K-PL	KICKPLATE	OC	ON CENTER	QPP	PEAK PUMPING FLOW
BF	BLIND FLANGE, BOTTOM FACE	DBA	DEFORMED BAR ANCHOR	FRP	FIBERGLASS REINFORCED PLASTIC	KV	KILOVOLTS	OC	OPEN-CLOSE (O)	QT	QUARRY TILE
BFV	BUTTERFLY VALVE	DBL	DOUBLE	FSHS	FOLDING SHOWER SEAT	KVA	KILOVOLT AMPERES	OCA	OPEN-CLOSE-AUTO		
BL	BASELINE	DC	DIRECT CURRENT	FT	FOOT OR FEET	KVAR	KILOVOLT AMPERES REACTIVE	OCR	OPEN-CLOSE-REMOTE	R	RISER
BFP	BACKFLOW PREVENTER	DEG	DEGREE	FTG	FOOTING	KW	KILOWATT	OD	OUTSIDE DIAMETER, OVERFLOW DRAIN	R OR RAD	RADIUS
BLDG	BUILDING	DET	DETAIL	FU	FIXTURE UNIT	L	ANGLE, LENGTH	O.F.	OUTSIDE FACE	RA	RETURN AIR
BLK	BLOCK	DF	DOUGLAS FIR, DRINKING FOUNTAIN	FVNR	FULL VOLTAGE NON-REVERSING	LA	LIGHTNING ARRESTER	OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED	RC	REINFORCED CONCRETE
BM	BEAM, BENCHMARK	DDI	DROP INLET	FVR	FULL VOLTAGE REVERSING	LAB	LABORATORY	OFOI	OWNER FURNISHED, OWNER INSTALLED	RCP	REINFORCED CONCRETE PIPE
BO	BOTTOM OF	DH	DOUBLE HUNG	FWD	FORWARD	LAM	LAMINATE	OL	OVERLOAD RELAY	RCPT	RECEPTACLE
B.O.B.	BOTTOM OF BEAM	DI	DUCTILE IRON			LAT	LATITUDE	OO	ON-OFF		
		DIA	DIAMETER	G, GND	GROUND	LB	POUND	OOA	ON-OFF-AUTO	RD	ROAD, ROOF DRAIN
BOD	BOTTOM OF DUCT	DIAG	DIAGONAL	GA	GAUGE	LC	LIGHTING CONTACTOR	OOR	ON-OFF-REMOTE	RDCR	REDUCER
BOP	BOTTOM OF PIPE	DIP	DUCTILE IRON PIPE	GAL	GALLON	LD	COMBINATION LOUVER/DAMPER	OP	OPAQUE PANEL, OUTLET PROTECTION	RDW	REDWOOD
BOT	BOTTOM	DIR	DIRECTION	GALV	GALVANIZED	LDG	LOADING DOCK	OPER	OPERATOR	RECIR	RECIRCULATION
BRG	BEARING	DISCH	DISCHARGE	GB	GYPSUM BOARD	LEL	LOWER EXPLOSIVE LIMIT	OPNG	OPENING	REF	REFER OR REFERENCE
BRK	BRICK	DN	DOWN	GC	GROOVED COUPLING	LEL	LOWER EXPLOSIVE LIMIT	OPP	OPPOSITE		
BRKR	BREAKER	DO	DISSOLVED OXYGEN	GCMU	GLAZED CONCRETE MASONRY UNITS	LF	LINEAR FEET	OSA	OUTSIDE AIR	REFR	REFRIGERATE, REFRIGERANT
BSP	BLACK STEEL PIPE	DO	DISSOLVED OXYGEN	GFA	GROOVED FLANGE ADAPTER	LG	LONG	OSC	OPEN-STOP-CLOSE	REINF	REINFORCED, REINFORCING, REINFORCE
BV	BALL VALVE, BLOCK VENT	DOL	DIRECT-ON-LINE	GFI	GROUND FAULT INTERRUPTER	LH	LEFT HAND	OSD	OPEN SITE DRAIN	REQD	REQUIRED
BVC	BEGINNING OF VERTICAL CURVE	DP, DPNL	DISTRIBUTION PANEL	GFR	GROUND FAULT RELAY	LHR	LEFT HAND REVERSE	OWSJ	OPEN WEB STEEL JOIST	RESIL	RESILIENT
		DR	DOOR	GH	GREENHOUSE	LLH	LONG LEG HORIZONTAL	OZ	OUNCE	RFS	ROLL-UP FIRE SHUTTER
C	CONDUIT, CASEMENT	DS	DOWNSPOUT	GL	GLASS	LLV	LONG LEG VERTICAL			RH	RIGHT HAND
°C	DEGREE CELSIUS	DWG	DRAWING	GPD	GALLONS PER DAY	LNTL	LINTEL	P	PROJECTED	RH	ROD HOLE
C TO C	CENTER TO CENTER	DWL	DOWEL	GPH	GALLONS PER HOUR	LONG	LONGITUDINAL	PAVT	PAVER TILE	RHR	RIGHT HAND REVERSE
CAB	CABINET	Δ	DELTA	GPM	GALLONS PER MINUTE	LOS	LOCK-OUT STOP PUSHBUTTON	PB	PUSHBUTTON SWITCH	RL	RAIN LEADER
CB	CATCH BASIN, CIRCUIT BREAKER			GPS	GLOBAL POSITION SYSTEM	LP	LIGHT POLE, LIGHTING PANEL, LOCAL PANEL	PC	POINT OF CURVE, PHOTOCCELL	RLS	RUBBER LINED STEEL
CC	CENTER OF CIRCLE	E	EAST, EMPTY	GRTG	GRATING	LPT	LOW POINT	PC	PRECAST CONCRETE PANEL	RM	ROOM
CC	CONTROL CABLE	EA	EACH, EXHAUST AIR	GSP	GYPSUM SOFFIT BOARD	LR	LATCHING RELAY	PCCP	PRECAST CONCRETE CYLINDER PIPE	RO	ROUGH OPENING
CCP	CENTRAL CONTROL PANEL	EB, EBCT	EMPTY BED CONTACT TIME	GV	GATE VALVE	LR	LOCAL-REMOTE	PCV	PRESSURE CONTROL VALVE	ROL	RAISE-OFF-LOWER
CCS	CENTRAL CONTROL SYSTEM	ECC	ECCENTRIC	GVL	GRAVEL	LS	LONG RADIUS	PE	PLAIN END	RPM	REVOLUTIONS PER MINUTE
CDF	CONTROLLED DENSITY FILL	EE	EMERGENCY EYEWASH	GWB	GYPSUM WALLBOARD	LS	LABORATORY SINK	PED	PEDESTAL, PEDESTRIAN	RR	RIPRAP
CE	CONSTRUCTION ENTRANCE	EDF	EGG-SHAPED DIGESTER FACILITY	GYP	GYPSUM	LT	LEFT				
CFM	CUBIC FEET PER MINUTE	EDF	EGG-SHAPED DIGESTER FACILITY			LTG, LTS	LIGHTS OR LIGHTING				
CFS	CUBIC FEET PER SECOND	EF	EACH FACE, EXHAUST FAN	H	HIGH, HORN OR HOWLER	LTX	LIGHTING TRANSFORMER				
CHEM	CHEMICAL	EFF	EFFICIENCY, EFFICIENT	H2S	HYDROGEN SULFIDE	LWL	LOW WATER LEVEL				
CHKD	CHECKERED	EFL	EFFLUENT	H.A.S.	HEADED ANCHOR STUD	MA	MANUAL-AUTO				
CI	CAST IRON	EIFS	EXTERIOR INSULATION AND FINISH SYSTEM	HC	HOLLOW CORE WOOD	MAS	MASONRY				
CIP	CAST IRON PIPE, CAST IN PLACE	EL	ELEVATION	HCL	HYDROCHLORIC ACID	MATL	MATERIAL				
CIP	CULVERT INLET PROTECTION	ELB	ELBOW	HDNR	HARDENER	MAX	MAXIMUM				
CISP	CAST IRON SOIL PIPE	ELC	ELECTRICAL LOAD CENTER	HDNS	HARDNESS	MB	MACHINE BOLT				
CJ	CONSTRUCTION JOINT	ELEC	ELECTRIC, ELECTRICAL	HDR	HEADER	MC	MASONRY CLEARANCE				
CKT	CIRCUIT	ENGR	ENGINEER	HDW	HARDWARE	MC	MODULATE-CLOSE				
CL	CENTERLINE	EOP	EDGE OF PAVEMENT	HGL	HYDRAULIC GRADE LINE	MCC	MOTOR CONTROL CENTER				
CLDI	CEMENT LINED DUCTILE IRON	ESC	EROSION AND SEDIMENT CONTROL	HK	HOOK	MCJ	MASONRY CONTROL JOINT				
		EP	EXPLOSION PROOF, EDGE OF PAVING								

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ABBREVIATIONS (1)

GENERAL	
FARO MINE REMEDIATION	
WATER TREATMENT PLANT DESIGN	
GOVERNMENT OF YUKON DESIGN	
NTS	
VERIFY SCALE	
BAR IS 25mm ON ORIGINAL DRAWING, 0 25mm	
DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	500-G-004
SHEET	

NOTES:
1. CONTACT ENGINEER FOR ABBREVIATIONS USED BUT NOT SHOWN ON THIS DRAWING.

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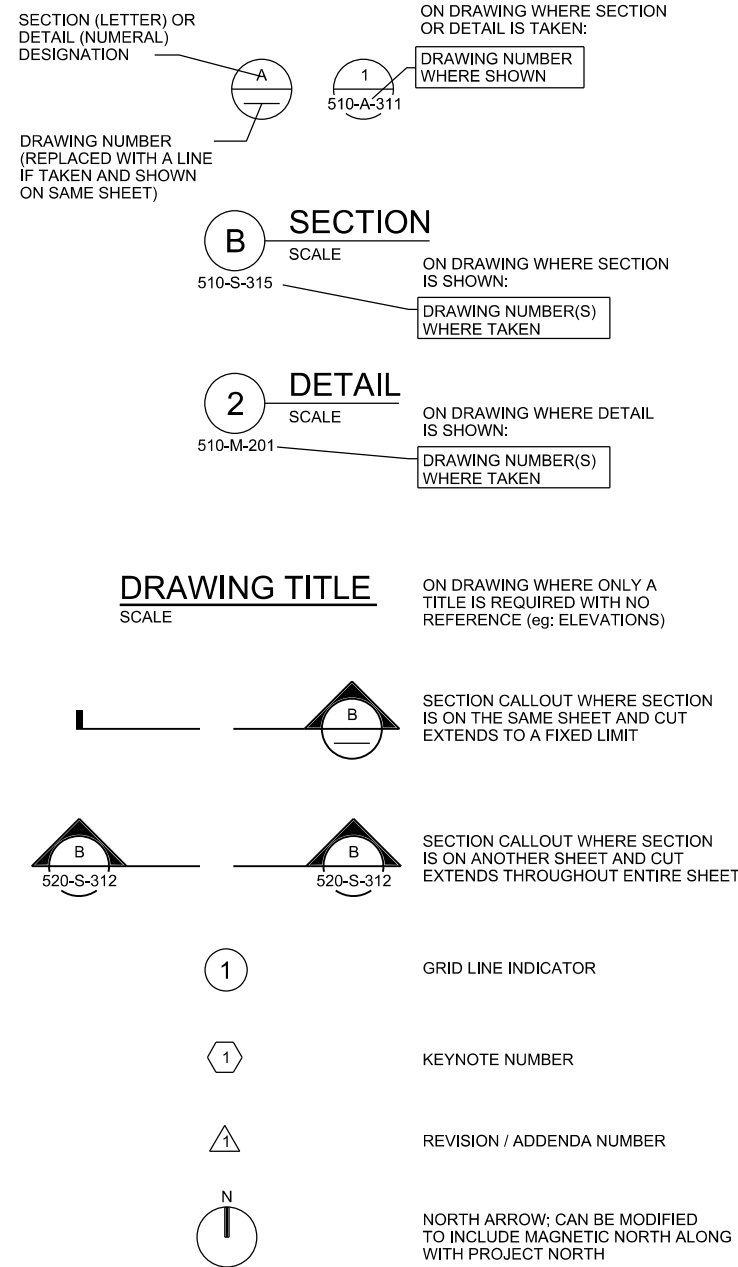
	ISSUED FOR DETAIL DESIGN REVIEW	GG	GN	APVD
	ISSUED FOR ADVANCED DESIGN REVIEW	GG	GN	APVD
	REVISION	BY	CHK	APVD
			G. GERMAN	G. NG
			DR	
	02/2014			
	09/2013			
	NO. DATE			
	D/SGN			

ABBREVIATIONS

RRUB	RADIAL RUBBER	TG	TEMPERED
RS	RIGID STEEL	TH	TOP-HINGED
RST	REINFORCING STEEL	THD	THREAD
RT	RIGHT	THK	THICKNESS
RTN	RETURN	THRU	THROUGH
RTO	REGENERATIVE THERMAL OXIDIZER	TJB	TERMINAL JUNCTION BOX
RUB	RUBBER	TL	TEFLON LINED PIPE
RUBC	RUBBER CUSHIONED FLOORING	TO	TIME TO OPEN, TOP OF
RUBS	RUBBER ESD CONTROL FLOORING	TOAE	TIME OPEN AFTER ENERGIZATION
R/W	RIGHT OF WAY	TOC	TOP OF CONCRETE
		TOC	TOP OF CURB
		TOD	TIME ON DELAY, TOP OF DUCT
S	I-BEAM		TOTAL OXYGEN DEMAND
S	SLOPE, SOUTH, SWITCH	TOF	TOP OF FOOTING
SA	SUPPLY AIR	TOG	TOP OF GROUT, TOP OF GRATE
SATC	SUSPENDED ACCUSTICAL TILE CEILING	T.O.P.	TOP OF PARAPET
SB	SEDIMENT BASIN	TOS	TOP OF SLAB
SC	SHOWER CURTAIN, SOLID CORE WOOD	TOW	TOP OF WALL
SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION	TP	TURNING POINT
SCC	SOLID CORE	TR	TRANSOM, TRUSS
SCFM	STANDARD CUBIC FEED PER MINUTE	TRANS	TRANSFORMER, TRANSITION
SCHED	SCHEDULE	TRANSV	TRANSVERSE
SCU	SPEED CONTROL UNIT	TRD	TREAD
SDP	SUB-DISTRIBUTION PANEL	TS	TEMPORARY SEEDING, TUBE STEEL
SDWK	SIDEWALK	TSHT	THRESHOLD
SEC	SECONDARY	TSS	TOTAL SUSPENSION SOLIDS
SECT	SECTION	TST	TOP OF STEEL
SED	SEDIMENTATION	TTC	TELEPHONE TERMINAL CABINET
SEW	SEWAGE	TTD	TOILET TISSUE DISPENSER
SG	LAMINATED SAFETY GLASS, SAFETY	TU-X	TREATMENT UNIT NO. X
SGWB	SUSPENDED GYPSUM WALL BOARD	TURB	TURBIDITY
SH	SHEET	TWP	TRANSLUCENT WALL PANEL
SHA	SURFACE HARDENING AGENT	TX	TRANSFORMER
SHS	SOLIDS HANDLING SYSTEM	TYP	TYPICAL
SIM	SIMILAR		
SK	SINK	UON	UNLESS OTHERWISE NOTED
SLR	SEALER	UNO	UNLESS NOTED OTHERWISE
SMLS	SEAMLESS EPOXY	UPS	UNINTERRUPTIBLE POWER SUPPLY
SOI	SPRAY- ON INSULATION	USB	UNIT SUBSTATION
SOLN	SOLUTION	UVR	UNDER VOLTAGE RELAY
SP	SPACE OR SPACES,	V	VENT, VALVE
	SPANDREL PANEL, STORMPROOF	V	VOLTMETER, VOLTS
SPEC, SPECS	SPECIFICATIONS	VB	VAPOR BARRIER (RETARDER)
SPD	SUMP PUMP DISCHARGE	VC	VERTICAL CURVE
SPG	SPACING	VCP	VITRIFIED CLAY PIPE
SPLY	SUPPLY	VCT	VINYL COMPOSITION TILE
SQ	SQUARE	VEL	VELOCITY
SQ FT	SQUARE FOOT, FEET	VERT	VERTICAL
SQ IN	SQUARE INCH	VHC	VOLATILE HYDROCARBONS
SR	SHORT RADIUS	VIB	VIBRATION
SS	START-STOP	VIF	VERIFY IN FIELD
SST	STAINLESS STEEL	VIN	VINYL
SSC	SUPERVISORY SET POINT CONTROL	VINT, VT	VINYL TILE
ST	STORM DRAIN	VP	VERTICAL PIVOTED
ST	STRAIGHT	VPS	VENEER PLASTER SYSTEM
STA	STATUS, STATION	VPC	POINT OF VERTICAL CURVATURE
STD	STANDARD	VPI	POINT OF VERTICAL INTERSECTION
STIF	STIFFENER	VPT	POINT OF VERTICAL TANGENT
STIRR	STIRRUP	VS	VERTICAL SLIDE
STL	STEEL	VTR	VENT THRU ROOF
STRL	STRUCTUAL	VWC	VINYL WALL COVERING
STRUCT	STRUCTURE		
SUBFL	SUBFLOOR	W	WEST
SUSP	SUSPENDED	W	WITH
SV	SOLENOID VALVE	WC	WATER COLUMN
SVIN	SHEET VINYL	WEASTRIP	WEATHERSTRIP
SWBD	SWITCHBOARD	WG	WIRE, WIRE GLASS
SWGR	SWITCHGEAR	WH	WATTHOUR METER
SYMM	SYMMETRICAL	WHD	WATTHOUR DEMAND METER
		WP	WATERPROOF, WEATHERPROOF, WORKPOINT
T	THERMOSTAT, TREAD	WR	WASTE RECEPTACLE
T&B	TOP AND BOTTOM	WRB	WATER RESISTANT GWB
T&G	TONGUE AND GROOVE	WS	WATER SURFACE, WATERSTOP, WELDED STEEL
TA	TRANSFER AIR	WWF	WELDED WIRE FABRIC
TAN	TANGENT	WWPH	WET WEATHER PEAK HOUR
TB	TERMINAL BOARD		
TBG	TUBING		
TC	TIME TO CLOSE		
TC	TURBIDITY CURTAIN		
TCAD	TIME CLOSE AFTER DE-ENERGIZATION		
TCAE	TIME CLOSE AFTER ENERGIZATION		
TDH	TOTAL DYNAMIC HEAD		
TDR	TIME DELAY RELAY		
TECH	TECHNICAL		
TEL	TELEPHONE		
TEMP	TEMPORARY, TEMPERATURE		
TF	TOP FACE		
TFG	TEMPERED FLOAT GLASS		

NOTE:
1. CONTACT ENGINEER FOR ABBREVIATIONS USED BUT NOT SHOWN ON THIS DRAWING.

SECTION / DETAIL DESIGNATIONS



DESIGN DETAIL DESIGNATION

DESIGN DETAIL DESIGNATION (NUMERAL) SHOWN ON DESIGN DETAIL DRAWING(S) (1234-567)

- NOTES:**
- ALL DESIGN DETAILS ARE TYPICAL AND MUST BE USED IF DESIGN DETAIL DESIGNATION IS NOT SHOWN
 - THE TERM STANDARD DETAIL, OR A FORM OF IT, IS SYNONOMOUS WITH DESIGN DETAIL. THE DESIGN DETAILS REPRESENT THE CHARACTER AND NATURE OF THE WORK REQUIRED THROUGHOUT THE PROJECT. ALL ASSOCIATED WORK SHALL BE IN ACCORDANCE WITH THE DESIGN DETAILS SHOWN WHETHER THE DETAILS ARE SPECIFICALLY REFERENCED OR NOT.

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FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN GOVERNMENT OF YUKON DESIGN

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GENERAL ABBREVIATIONS (2)

GENERAL NOTE:
1. THIS IS A STANDARD LEGEND SHEET. THEREFORE, NOT ALL OF THE INFORMATION SHOWN MAY BE USED ON THIS PROJECT.

NTS	
VERIFY SCALE	
BAR IS 25mm ON ORIGINAL DRAWINGS.	
DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	500-G-005
SHEET	

GENERAL SITE NOTES:

- CONTOURS SHOWN ON DRAWINGS WERE PREPARED BY CRITIGEN CORPORATION FROM LIDAR DATED OCT. 2011. PLANIMETRIC MAPPING PREPARED BY CRITIGEN CORPORATION FROM AERIAL PHOTOS DATED AUGUST 2012.
- EXISTING TOPOGRAPHY, STRUCTURES, AND SITE FEATURES ARE SHOWN SCREENED AND/OR LIGHT-LINED. NEW FINISH GRADE, STRUCTURES, AND SITE FEATURES ARE SHOWN HEAVY-LINED.
- HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83), CANADIAN SPATIAL REFERENCE SYSTEM (CSRS) EPOCH 2002, UNIVERSAL TRANSVERSE MERCATOR ZONE 8 NORTH (UTM ZONE 8N)
- VERTICAL DATUM: CANADIAN GEODETIC VERTICAL DATUM OF 1928 HEIGHT TRANSFORMATION VERSION 2.0 (CGVD28 HT VERSION 2.0)
- PROJECT CONTROL POINTS:
 - 2010-CP4 (SEE DWG 500-C-201 FOR LOCATION)
N 6914202.677
E 582192.825
ELEV 1118.245
 - 2010-CP5
N 6914557.921
E 580635.174
ELEV 1060.480
 - 2010-CP7
N 6915185.357
E 583895.571
ELEV 1255.613
- MAINTAIN, RELOCATE, OR REPLACE EXISTING SURVEY MONUMENTS, CONTROL POINTS, AND STAKES WHICH ARE DISTURBED OR DESTROYED. PERFORM THE WORK TO PRODUCE THE SAME LEVEL OF ACCURACY AS THE ORIGINAL MONUMENT(S) IN A TIMELY MANNER, AND AT THE CONTRACTOR'S EXPENSE.
- FOR LOCATION OF CONTROL POINT ON STRUCTURES, SEE STRUCTURAL DRAWINGS.
- STAGING AREA (TO BE CONFIRMED ON SITE) SHALL BE FOR CONTRACTOR'S EMPLOYEE PARKING, CONTRACTOR'S TRAILERS AND ON-SITE STORAGE OF MATERIALS.
- PROVIDE TEMPORARY FENCING AS NECESSARY TO MAINTAIN SECURITY AT ALL TIMES.
- ELEVATIONS GIVEN ARE TO FINISH GRADE UNLESS OTHERWISE SHOWN.
- SLOPE UNIFORMLY BETWEEN CONTOURS AND SPOT ELEVATIONS SHOWN.
- CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING EROSION CONTROL DEVICES DURING CONSTRUCTION. ALL EROSION CONTROL DEVICES REQUIRED ARE SHOWN ON DWG 500-C-205 (SEDIMENTATION AND EROSION CONTROL PLAN).
- CONTRACTOR SHALL TAKE ALL OTHER MEASURES TO POSITIVELY PRECLUDE EROSION MATERIALS FROM LEAVING THE SITE. CONTRACTOR TO SUBMIT EROSION CONTROL PLAN.

GENERAL YARD PIPING AND UTILITIES NOTES:

- EXISTING AVAILABLE UNDERGROUND UTILITIES OBTAINED FROM FIELD SURVEY DATED JUNE 28, 2013. CONTRACTOR SHALL FIELD VERIFY DEPTH AND LOCATION PRIOR TO EXCAVATION. PROTECT ALL EXISTING UTILITIES DURING CONSTRUCTION.
- FOR PIPING FLOW STREAM IDENTIFICATION, SEE DRAWING 500-GN-002.
- EXISTING PIPING AND EQUIPMENT ARE SHOWN SCREENED AND/OR LIGHT-LINED. NEW PIPING AND EQUIPMENT ARE SHOWN HEAVY-LINED.
- UNLESS OTHERWISE SHOWN ALL UNDERGROUND PIPING SHALL HAVE A MINIMUM OF 3.5m COVER.
- ALL PIPES SHALL HAVE A CONSTANT SLOPE BETWEEN INVERT ELEVATIONS UNLESS A FITTING IS SHOWN.
- ALL NEW WATER PIPES MUST BE PROPERLY FLUSHED, PRESSURE TESTED AND POTABLE WATER PIPELINES CHLORINATED AND BACTERIOLOGICALLY TESTED, AS SPECIFIED.
- FOR TRENCHING AND BACKFILL, SEE DWG 590-C-501.
- FOR GRAVEL ROADS AND GRAVEL SURFACE PROTECTION SEE DWG 590-C-501.
- MINIMUM ALLOWABLE CLEARANCE BETWEEN PIPES AT CROSSINGS SHALL BE 75mm. CONTROLLED DENSITY FILL SUPPORT IS REQUIRED AS SHOWN ON DWG 590-C-502.

GENERAL NOTE:

- THIS IS A STANDARD LEGEND SHEET. THEREFORE, NOT ALL OF THE INFORMATION SHOWN MAY BE USED ON THIS PROJECT.

CIVIL LEGEND

EXISTING	THIS CONTRACT	
		SPOT ELEVATION
		CONTOUR LINE
		EMBANKMENT AND SLOPE
		DRAINAGEWAY OR DITCH
		CATCH BASIN OR INLET
		TRENCH DRAIN
		SIGN
		MANHOLE
		ELECTRICAL MANHOLE
		ELECTRIC HANDHOLE
		POST OR GUARD POST
		GUY ANCHOR
		FIRE HYDRANT
		UTILITY POLE
		LIGHT POLE
		BENCH MARK
		SURVEY CONTROL POINT OR POINT OF INTERSECTION
		BRUSH/TREE LINE
		TREE
		PROPERTY LINE
		CENTER LINE, BUILDING, ROAD, ETC.
		STAGING OR WORK AREA LIMITS
		STRUCTURE, BUILDING OR FACILITY LOCATION POINT - COORDINATES
		BORING LOCATION AND NUMBER
		SEEP SAMPLE LOCATION AND IDENTIFICATION NUMBER
		PIEZOMETER LOCATION AND NUMBER
		DEMOLITION/REMOVAL
		STRUCTURE, BUILDING OR FACILITY
		ASPHALT CONCRETE PAVEMENT
		GRAVEL SURFACING
		CONCRETE PAVEMENT
		CURB
		CURB AND GUTTER
		SINGLE SWING GATE
		DOUBLE SWING GATE
		SLIDING GATE
		GUARD RAIL
		CHAIN LINK FENCE
		ARCHITECTURAL FENCE
		WIRE FENCE
		CULVERT

YARD PIPING LEGEND

EXISTING	THIS CONTRACT	
		NOMINAL PIPE DIAMETER
		PIPE USE IDENTIFICATION
		PIPING < 100mm DIAMETER
		PIPING ≥ 100mm DIAMETER
		EXISTING PIPE TO BE ABANDONED
		EXISTING PIPE TO BE REMOVED
		NON-FREEZE HOSE VALVE (V-X) X = NO. IN SPECIFICATIONS
		NON-FREEZE HOSE VALVE WITH HOSE RACK (V-X) X = NO. IN SPECIFICATIONS
		INDICATOR POST VALVE
		GATE VALVE AND VALVE BOX
		BUTTERFLY VALVE AND VALVE BOX
		PLUG VALVE AND VALVE BOX
		FLEXIBLE COUPLING
		90° ELBOW UP
		90° ELBOW DOWN
		BEND < 90° UP
		BEND < 90° DOWN
		CONCENTRIC REDUCER
		CAP OR PLUG
		CLEANOUT
		FIRE HYDRANT

EROSION CONTROL LEGEND

COVER PRACTICES	SYMBOL
TEMPORARY SEEDING	
MULCHING AND MATTING	
CLEAR PLASTIC COVERING	
BUFFER ZONES	
PERMANENT SEEDING AND PLANTING	
CONSTRUCTION ENTRANCE	
INTERCEPTOR DIKE	
INTERCEPTOR SWALE	
CHECK DAMS	
OUTLET PROTECTION / RIPRAP	
SILT FENCE	
STRAW BALE BARRIER (BIOFILTER)	
SEDIMENT TRAP (OR SUMP)	
SEDIMENT POND OR BASIN	



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ISSUED FOR DETAIL DESIGN REVIEW	B	02/2014	AR	GN
ISSUED FOR ADVANCED DESIGN REVIEW	A	09/2013	AR	GN

REVISION: _____
 NO. DATE BY APVD
 DSGN A. PONIEDZIALEK G. LANCASTER
 DR A. RIOLO CHK G. LANCASTER

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FARO MINE REMEDIATION
 WATER TREATMENT PLANT DESIGN
 GOVERNMENT OF YUKON
 DESIGN

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CIVIL
GENERAL LEGEND, SYMBOLS AND ABBREVIATIONS

NTS
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 0 25mm

DATE FEBRUARY 2014
 PROJ TA013-427716
 DWG 500-GC-001
 SHEET



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ISSUED FOR ADVANCED DESIGN REVIEW	GN	AR	GN	BY	APVD
NO.	DATE	REVISION	CHK	DR	APVD
B	02/2014		A. RIOLO	G. LANCASTER	
A	09/2013		A. PONIEDZIALEK		

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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CIVIL
OVERALL EXISTING SITE PLAN

1:3000
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
25mm

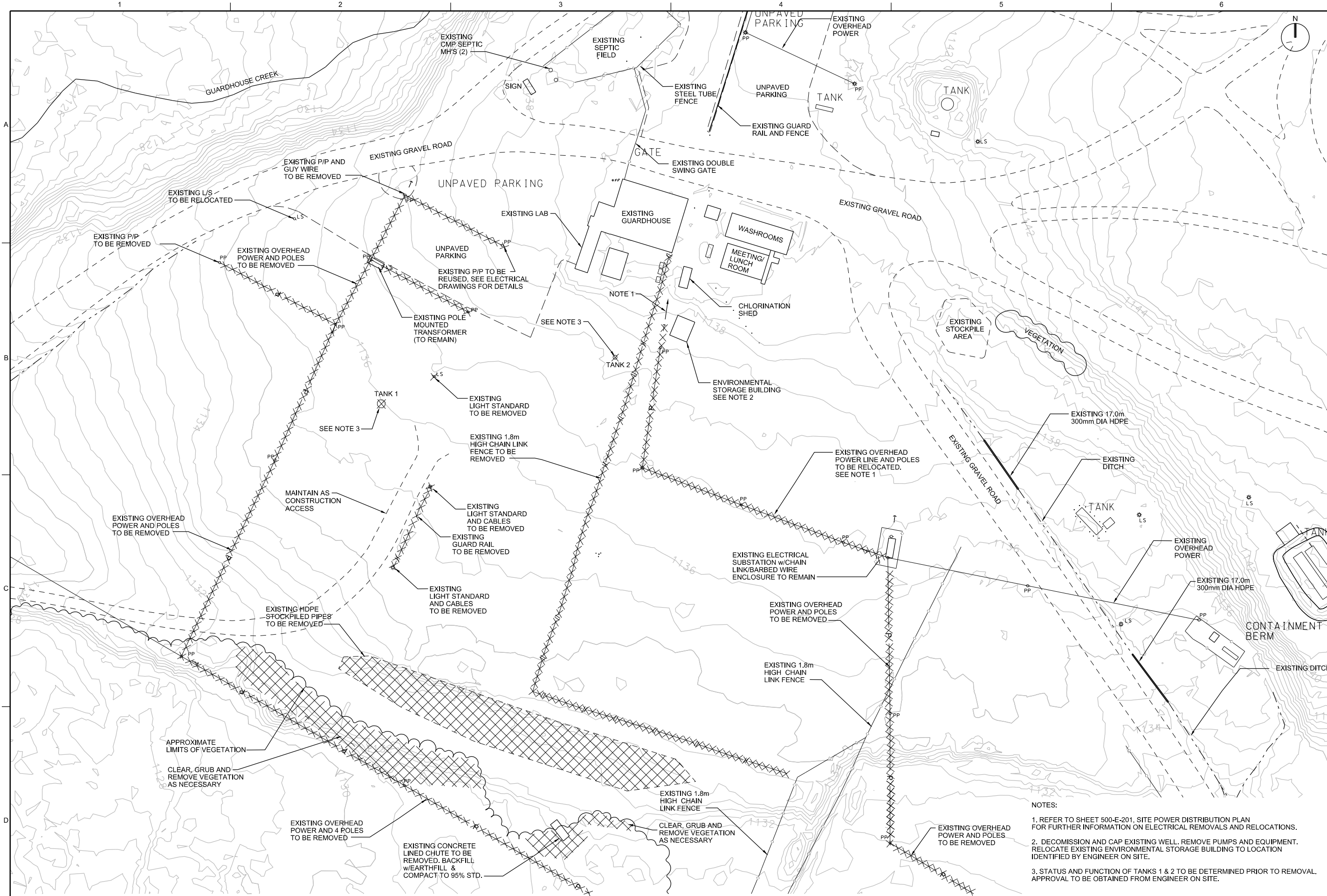
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 500-C-201
SHEET

1:3000

0 50 100 150m

FILENAME: 500-013-G-000_Border.dgn PLOT DATE: 2014/02/17 PLOT TIME: 10:16:47 AM

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REVISION	NO.	DATE	DGN
DR	CHK		APVD
A. POMEJZALEK	A. RILOLO		G. LANCASTER

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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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CIVIL

EXISTING SITE AND REMOVALS PLAN

1:500
VERIFY SCALE
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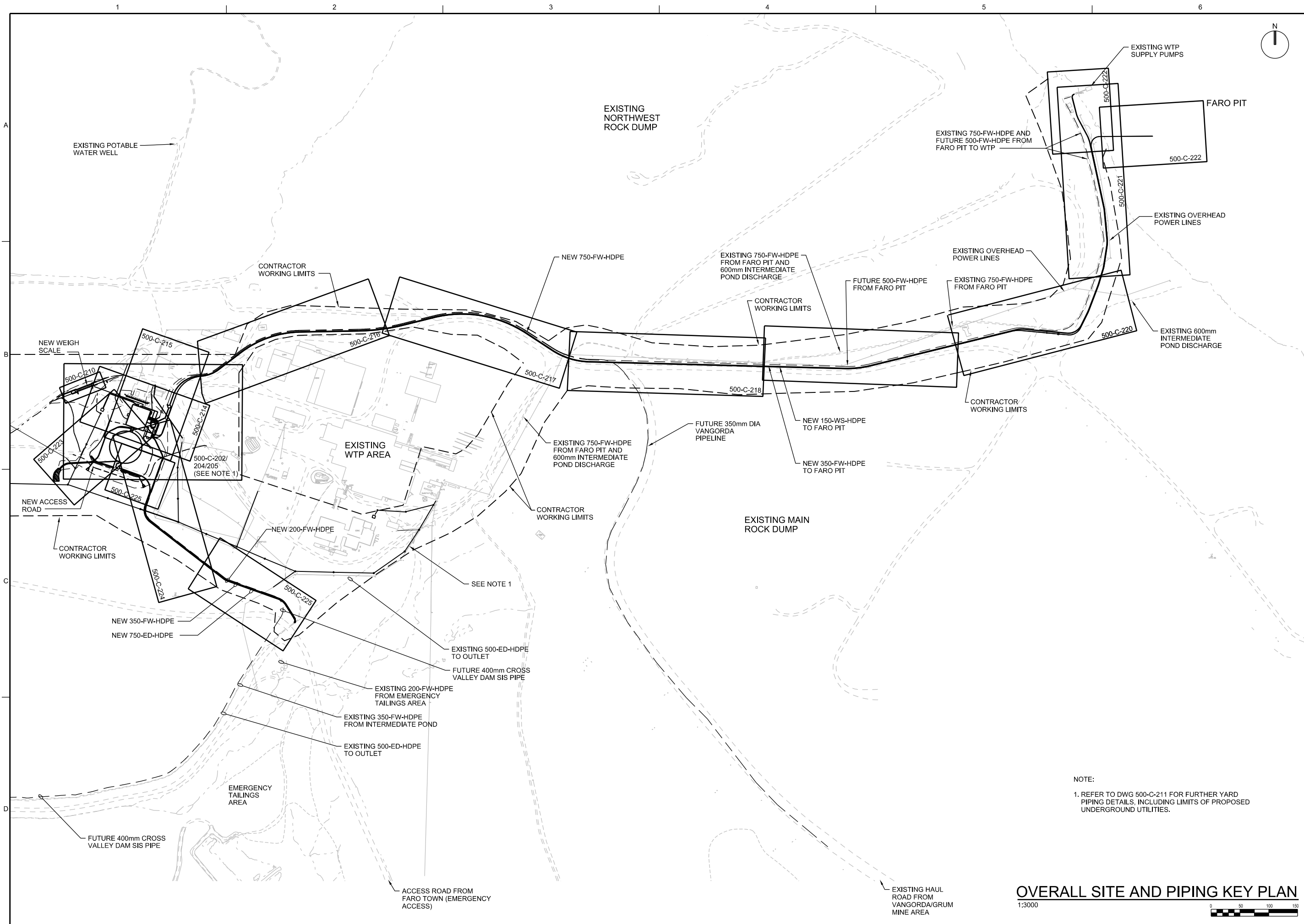
DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	500-C-202
SHEET	

- NOTES:
- REFER TO SHEET 500-E-201, SITE POWER DISTRIBUTION PLAN FOR FURTHER INFORMATION ON ELECTRICAL REMOVALS AND RELOCATIONS.
 - DECOMMISSION AND CAP EXISTING WELL. REMOVE PUMPS AND EQUIPMENT. RELOCATE EXISTING ENVIRONMENTAL STORAGE BUILDING TO LOCATION IDENTIFIED BY ENGINEER ON SITE.
 - STATUS AND FUNCTION OF TANKS 1 & 2 TO BE DETERMINED PRIOR TO REMOVAL. APPROVAL TO BE OBTAINED FROM ENGINEER ON SITE.

EXISTING SITE AND REMOVALS PLAN

1:500





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A. PONIEDZIALEK	A. RILOLO	G. LANCASTER	

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®

CIVIL

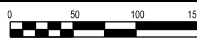
OVERALL SITE AND PIPING KEY PLAN

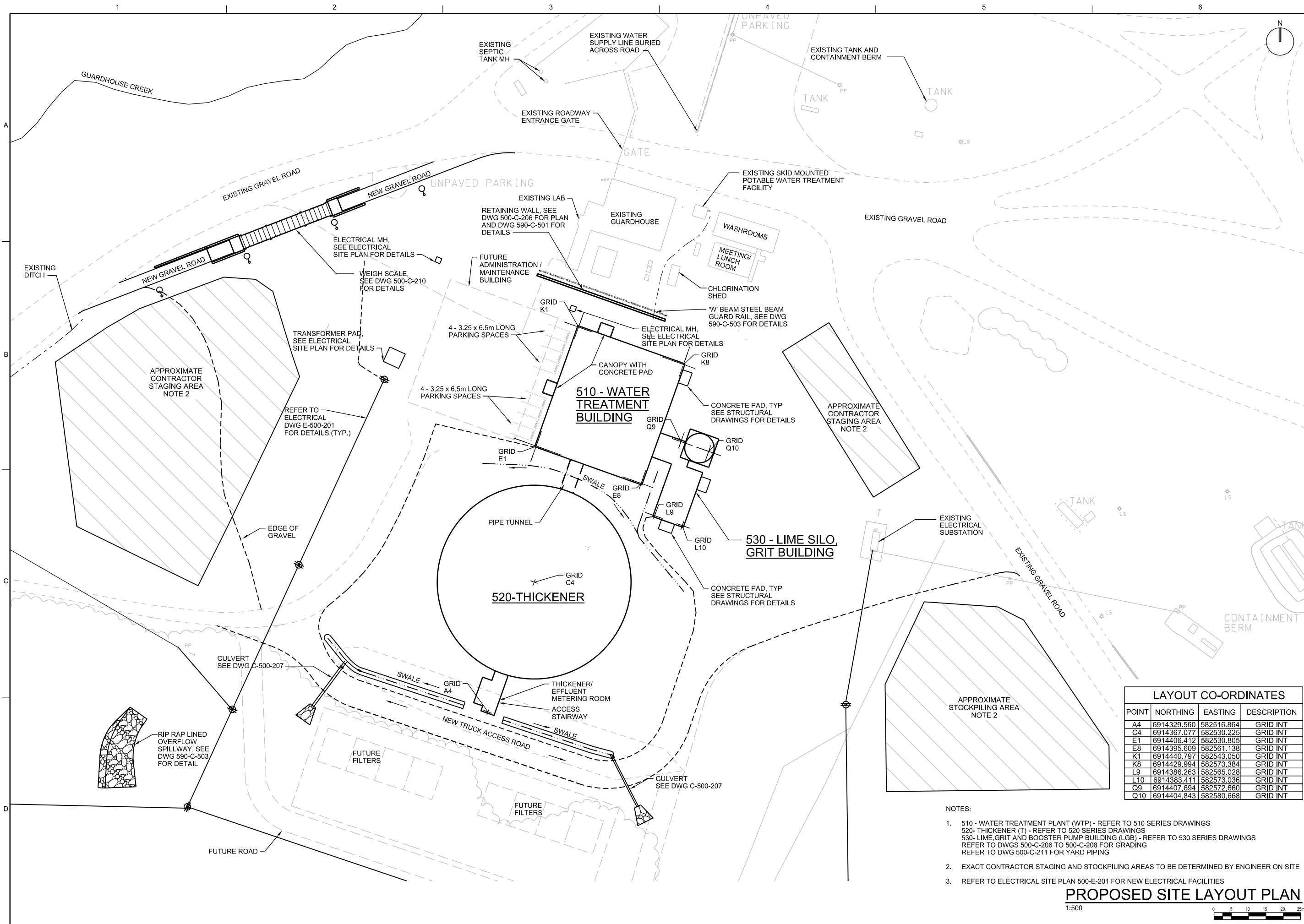
1:3000
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWINGS.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 500-C-203
SHEET

NOTE:
1. REFER TO DWG 500-C-211 FOR FURTHER YARD PIPING DETAILS, INCLUDING LIMITS OF PROPOSED UNDERGROUND UTILITIES.

OVERALL SITE AND PIPING KEY PLAN

1:3000





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DSGN	A. PONIEDZIALEK	DR	A. RIOLO	G. LANCASTER	

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WATER TREATMENT PLANT DESIGN
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PROPOSED SITE LAYOUT PLAN

LAYOUT CO-ORDINATES			
POINT	NORTHING	EASTING	DESCRIPTION
A4	6914329.560	582516.864	GRID INT
C4	6914367.077	582530.225	GRID INT
E1	6914406.412	582530.805	GRID INT
E8	6914395.609	582561.138	GRID INT
K1	6914440.797	582543.050	GRID INT
K8	6914429.994	582573.384	GRID INT
L9	6914386.263	582565.028	GRID INT
L10	6914383.411	582573.036	GRID INT
Q9	6914407.694	582572.660	GRID INT
Q10	6914404.843	582580.668	GRID INT

- NOTES:
- 510 - WATER TREATMENT PLANT (WTP) - REFER TO 510 SERIES DRAWINGS
520- THICKENER (T) - REFER TO 520 SERIES DRAWINGS
530- LIME GRIT AND BOOSTER PUMP BUILDING (LGB) - REFER TO 530 SERIES DRAWINGS
REFER TO DWGS 500-C-206 TO 500-C-208 FOR GRADING
REFER TO DWG 500-C-211 FOR YARD PIPING
 - EXACT CONTRACTOR STAGING AND STOCKPILING AREAS TO BE DETERMINED BY ENGINEER ON SITE
 - REFER TO ELECTRICAL SITE PLAN 500-E-201 FOR NEW ELECTRICAL FACILITIES

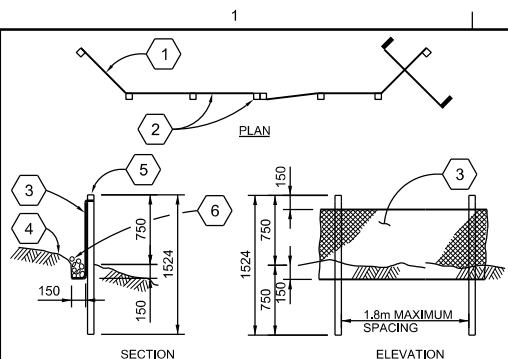
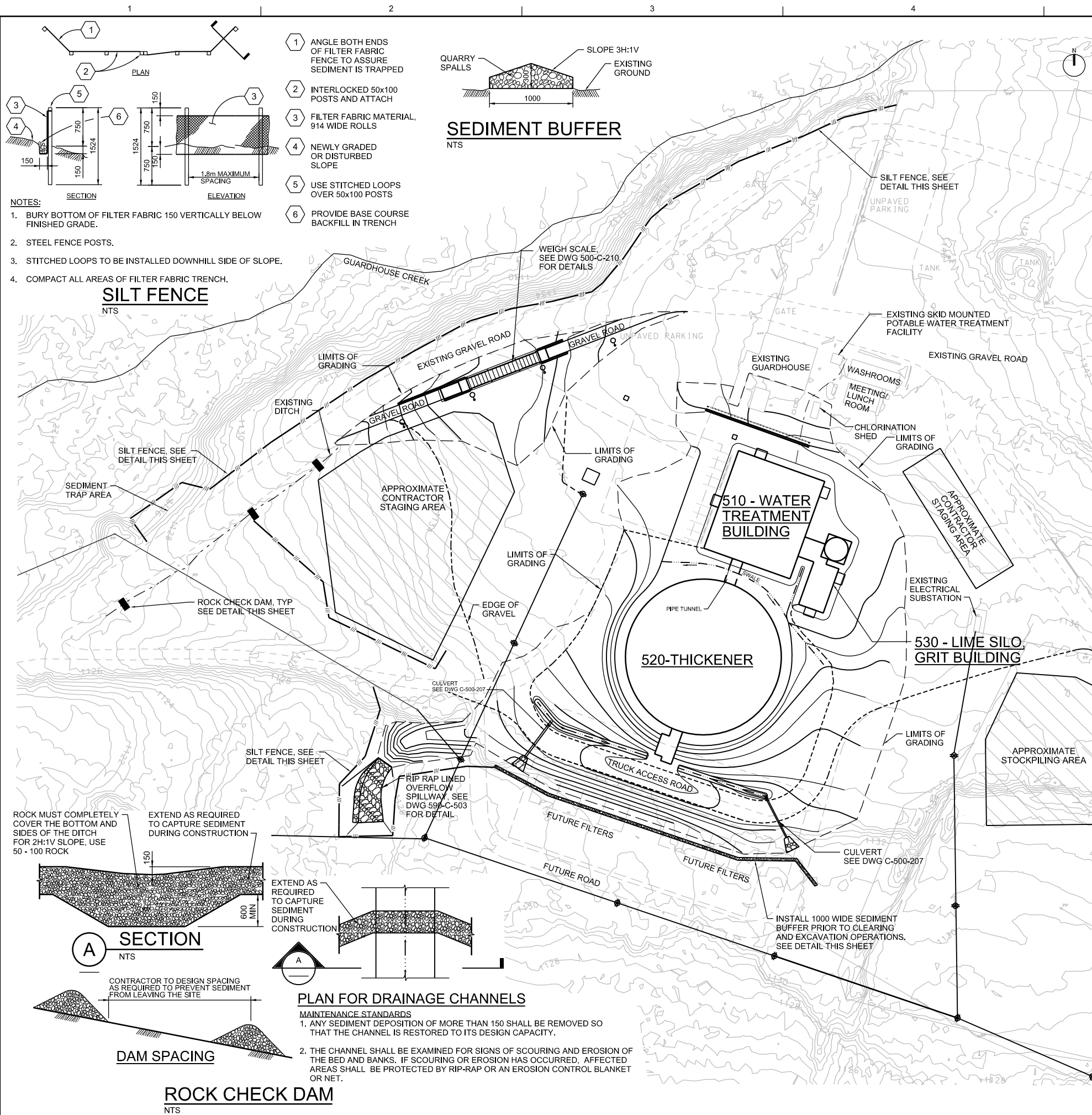
PROPOSED SITE LAYOUT PLAN

1:500

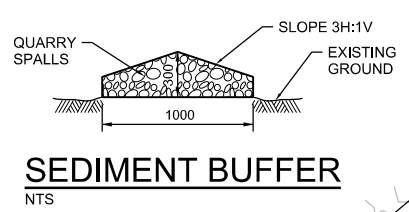
VERIFY SCALE

BAR IS 25mm ON ORIGINAL DRAWINGS.

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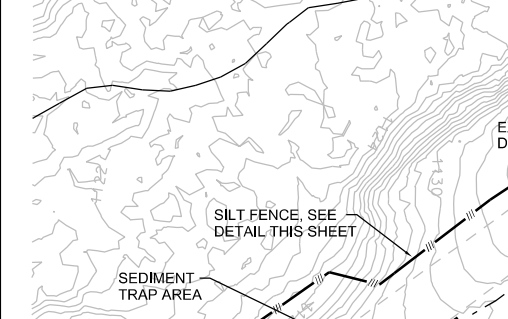


- 1 ANGLE BOTH ENDS OF FILTER FABRIC FENCE TO ASSURE SEDIMENT IS TRAPPED
- 2 INTERLOCKED 50x100 POSTS AND ATTACH
- 3 FILTER FABRIC MATERIAL, 914 WIDE ROLLS
- 4 NEWLY GRADED OR DISTURBED SLOPE
- 5 USE STITCHED LOOPS OVER 50x100 POSTS
- 6 PROVIDE BASE COURSE BACKFILL IN TRENCH

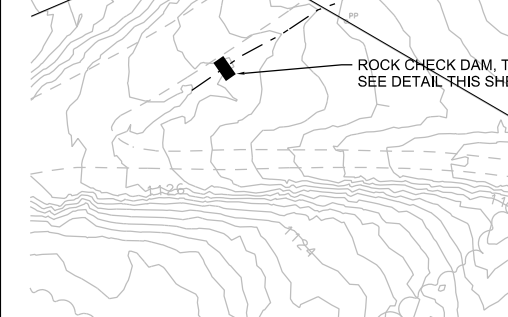


- NOTES:**
- BURY BOTTOM OF FILTER FABRIC 150 VERTICALLY BELOW FINISHED GRADE.
 - STEEL FENCE POSTS.
 - STITCHED LOOPS TO BE INSTALLED DOWNHILL SIDE OF SLOPE.
 - COMPACT ALL AREAS OF FILTER FABRIC TRENCH.

SILT FENCE
NTS



ROCK CHECK DAM
NTS



PLAN FOR DRAINAGE CHANNELS
MAINTENANCE STANDARDS

- ANY SEDIMENT DEPOSITION OF MORE THAN 150 SHALL BE REMOVED SO THAT THE CHANNEL IS RESTORED TO ITS DESIGN CAPACITY.
- THE CHANNEL SHALL BE EXAMINED FOR SIGNS OF SCOURING AND EROSION OF THE BED AND BANKS. IF SCOURING OR EROSION HAS OCCURRED, AFFECTED AREAS SHALL BE PROTECTED BY RIP-RAP OR AN EROSION CONTROL BLANKET OR NET.

NOTES FOR EROSION AND SEDIMENT CONTROL APPLY TO ALL STAGES OF WORK:

- ALL EROSION AND SEDIMENT CONTROLS SHALL ADHERE TO THE KEY PRINCIPLES AND PRESCRIBED WORK PRACTICES AS OUTLINED IN THE "BEST MANAGEMENT PRACTICES FOR WORKS AFFECTING WATER IN YUKON", YUKON ENVIRONMENT, GOVERNMENT OF YUKON, 2011.
- ALL SILT FENCING TO BE INSTALLED PRIOR TO COMMENCEMENT OF ANY AREA GRADING, EXCAVATING OR REMOVALS. SEDIMENTATION AND EROSION CONTROLS INCLUDING SILT FENCES ARE TO BE IN PLACE PRIOR TO INITIATION OF CLEARING OR PRE-GRADING OPERATIONS AND SHALL BE LOCATED TO PREVENT SURFACE RUNOFF FROM LEAVING THE SITE UNTREATED.
- EROSION/SEDIMENT PROTECTION TO BE PROVIDED ON AND AROUND ALL ROAD DITCHES, AS SHOWN.
- ADDITIONAL EROSION/SEDIMENT CONTROL MEASURES MAY BE REQUIRED AS SITE DEVELOPMENT PROGRESSES. PROVIDE ALL ADDITIONAL EROSION/SEDIMENT CONTROL STRUCTURES AS DIRECTED ON SITE BY ENGINEER.
- CONSTRUCT TEMPORARY FACILITIES AS REQUIRED TO CONTROL STORM WATER RUNOFF AND PREVENT EROSION AND SEDIMENT FROM LEAVING THE SITE. CLEAN OUT AND DISPOSE OF SEDIMENT AND CONSTRUCT PERMANENT RESTORATION IMMEDIATELY FOLLOWING EXCAVATION AND CONSTRUCTION OF THE UPSTREAM WORKS.
- MONITOR EROSION/SEDIMENT CONTROL STRUCTURES REGULARLY CHECK AFTER EVERY STORM EVENT AND REPAIR ANY DAMAGE IMMEDIATELY COMPLYING WITH THE ENGINEER'S INSTRUCTIONS TO INSTALL, MODIFY OR MAINTAIN EROSION CONTROL WORKS. SEDIMENTS TO BE REMOVED WHEN ACCUMULATIONS REACH A MAXIMUM OF ONE THIRD (1/3) THE HEIGHT OF THE SILT FENCE.
- ALL EROSION/SEDIMENT CONTROL STRUCTURES TO REMAIN IN PLACE UNTIL ALL DISTURBED GROUND SURFACES HAVE BEEN RE-STABILIZED TO THE SATISFACTION OF THE ENGINEER, EITHER BY GRANULAR SURFACING OR RESTORATION OF VEGETATIVE GROUND COVER.
- PROPOSED METHODS OF EROSION/SEDIMENT CONTROL PROTECTION SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
- CONTROL DUST AT ALL TIMES AND REMOVE MUD AND SEDIMENTS FROM THE SITE ROADWAYS AND ALL ROADWAYS AND DITCHES AT THE END OF EACH WORK DAY.
- MUD MATS TO BE PROVIDED ON SITE AT ALL LOCATIONS WHERE CONSTRUCTION VEHICLES ENTER AND EXIT THE SITE IN ORDER TO ENSURE THE MAIN HAUL ROUTE IS KEPT CLEAR OF CONSTRUCTION DEBRIS. MUD MATS SHALL BE A MINIMUM OF 3m WIDE, 15m LONG (LENGTH MAY VARY DEPENDING ON SITE LAYOUT) AND 300mm DEEP AND SHALL CONSIST OF 25-50mm CLEAR STONE MATERIAL OR APPROVED EQUIVALENT. ENSURE ALL VEHICLES LEAVE THE SITE VIA THE MUD MATS AND THAT THE MAT IS MAINTAINED IN A MANNER TO MAXIMIZE ITS EFFECTIVENESS AT ALL TIMES.
- DO NOT CLEAR AREAS LARGER THAN SPECIFIED.
- RESTORE ALL DAMAGED AND/OR DISTURBED AREAS WITHIN THE SITE.
- TREES/VEGETATION NOT DESIGNATED FOR REMOVAL SHALL BE PROTECTED.
- DISPOSE OF ALL BRUSH AND DEBRIS (DESIGNED FOR REMOVAL), BY RUNNING HEAVY MACHINERY OVER THE TREES AND BRUSH UNTIL THEY ARE CRUSHED TO LIE FLAT ON THE GROUND.
- SAVE THE ORGANIC SOIL STRIPPED FROM THE EXCAVATED AREA.
- PLACE THE ORGANIC SOIL OVER THE DISTURBED AREA PRIOR TO REESTABLISHING VEGETATION.
- CONTROL ALL CONSTRUCTION ACTIVITIES INCLUDING MAINTENANCE PROCEDURES TO PREVENT ENTRY OF PETROLEUM PRODUCTS, DEBRIS, CONCRETE OR OTHER DELETERIOUS SUBSTANCES INTO THE NEARBY SWALES AND DITCHES. VEHICLE REFUELING AND MAINTENANCE MUST BE CONDUCTED IN DESIGNATED AREAS (MINIMUM 30m OF THE NORMAL HIGH WATER MARK OF THESE WATER BODIES OR WATERCOURSES).
- UPON COMPLETION OF CONSTRUCTION, REMOVE ALL TEMPORARY GRANULAR WORKING SURFACES AND STOCK PILE AREAS, REGRADE AND RESTORE WITH PERMANENT GRANULAR SURFACE UNLESS SHOWN OTHERWISE.
- DISPOSAL OF ALL COMBUSTIBLE WASTE PETROLEUM PRODUCTS TO BE AS PER THE SPECIAL WASTE REGULATIONS OF THE YUKON ENVIRONMENT ACT. CONTRACTOR SHALL, AT ALL TIMES, HAVE ON SITE SUFFICIENT OIL SPILL CLEANUP EQUIPMENT AND MATERIAL READINESS TO CLEAN UP ALL PETROLEUM WHICH MAY BE SPILLED.
- REMOVE ALL TEMPORARY FENCING, TEMPORARY EROSION CONTROL MEASURES, BARRIERS AND OTHER TEMPORARY WORKS, REGRADE AND RESTORE ALL AREAS AS DIRECTED BY THE ENGINEER ON COMPLETION OF THE WORK.

WATERCOURSES, WILDLIFE AND FISH HABITAT

- TAKE EVERY PRECAUTION TO ENSURE THAT WILDLIFE HABITAT IS NOT DAMAGED.
- DO NOT UNNECESSARILY INTERFERE WITH CRITICAL WILDLIFE ACTIVITY. ALL ENCOUNTERS WITH WILDLIFE ARE TO BE REPORTED TO THE ENGINEER AND THE LOCAL CONSERVATION OFFICER.
- RESTORE ANY TRAILS USED BY HUNTERS OR TRAPPERS ALONG ALL ACCESS ROUTES BY SLASHING ANY AND ALL TREES THAT MAY FALL ACROSS THESE PATHS OR TRAILS OR BY REMOVING ANY OTHER OBSTRUCTIONS SUCH AS SNOW PILES OR DEBRIS THAT MAY BE PUSHED ACROSS THE TRAILS.
- REMOVE ANY OBSTRUCTION TO NATURAL DRAINAGE.
- DO NOT, IN ANY CIRCUMSTANCE, ALLOW THE DEPOSIT OF ANY UNAUTHORIZED SOILS OR DEBRIS IN ANY WATERCOURSE OR IN ANY LOCATION WHERE THESE MATERIALS COULD BE DEPOSITED INTO ANY WATERCOURSE.
- DO NOT, IN ANY CIRCUMSTANCE, DEPOSIT, OR ALLOW THE DEPOSIT OF, ANY DELETERIOUS SUBSTANCES (INCLUDING BUT NOT LIMITED TO FUELS, LUBRICANTS, HYDRAULICS AND COOLANTS) OF ANY TYPE INTO ANY WATERS, OR IN ANY PLACE UNDER ANY CONDITIONS WHERE THE DELETERIOUS SUBSTANCES MAY ENTER ANY WATERS.
- DO NOT EXCAVATE THE BANKS OF ANY STREAM UNLESS AUTHORIZED BY THE ENGINEER.
- DO NOT USE THE BED OF STREAMS FOR ACCESS ROUTES, UNLESS AUTHORIZED, IN WRITING, BY THE ENGINEER, OR THEIR DELEGATED AUTHORITY.
- DESIGN, INSTALL AND MAINTAIN CULVERTS ON ALL STREAMS, IN SUCH A MANNER THAT THERE IS NO INCREASED DOWNSTREAM EROSION AND SUBSEQUENT DEPOSIT OF SEDIMENT INTO FISH BEARING WATERS.
- DESIGN, CONSTRUCT, MAINTAIN AND DECOMMISSION ALL TEMPORARY AND PERMANENT STRUCTURES PLACED IN STREAMS WHICH MAY BE FREQUENTED BY FISH IN SUCH A MANNER THAT THE UP OR DOWNSTREAM PASSAGE OF FISH IS NOT OBSTRUCTED EITHER ENTIRELY OR IN PART DURING HIGH AND LOW FLOW CONDITIONS.

ENVIRONMENTAL MANAGEMENT

- REFER TO SPECIFICATIONS SECTION 01 35 13, SPECIAL PROJECT PROCEDURES FOR ALL ENVIRONMENTAL REQUIREMENTS AND CONSIDERATIONS DURING CONSTRUCTION.
- SUBMIT ENVIRONMENTAL PROTECTION PLAN IN ACCORDANCE WITH SPECIFICATION SECTION 01 35 13, INCLUDING ENVIRONMENTAL PROCEDURES FOR CLEARING AND GRUBBING, EXCAVATION, DEWATERING, RIP RAP INSTALLATION AND COMMISSIONING.

EROSION AND SEDIMENTATION CONTROL PLAN
1:750



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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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EROSION AND SEDIMENTATION CONTROL PLAN

1:750
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
0 25mm

DATE FEBRUARY 2014
PROJ TA013-427716
DWG 500-C-205
SHEET

- NOTES:
1. GRAVEL ACCESS AND ROADWAY SEE TYPICAL DETAIL, DWG 590-C-501.
 2. GRAVEL SURFACING PROTECTION, SEE DETAIL, DWG 590-C-501.
 3. REFER TO DWG 500-C-202 FOR SITE REMOVALS AND DETAILS.
 4. REFER TO DWG 500-C-205 FOR SEDIMENTATION AND EROSION CONTROL NOTES AND DETAILS.
 5. INSTALL LOCAL AREAS SILT FENCE AND OTHER MEASURES AS REQUIRED DURING CONSTRUCTION TO PREVENT SEDIMENT LEAVING THE SITE.
 6. REFER TO DWG 500-E-201 FOR ELECTRICAL DUCT BANKS AND DETAILS.



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DSGN			A. POMEZIALEK	

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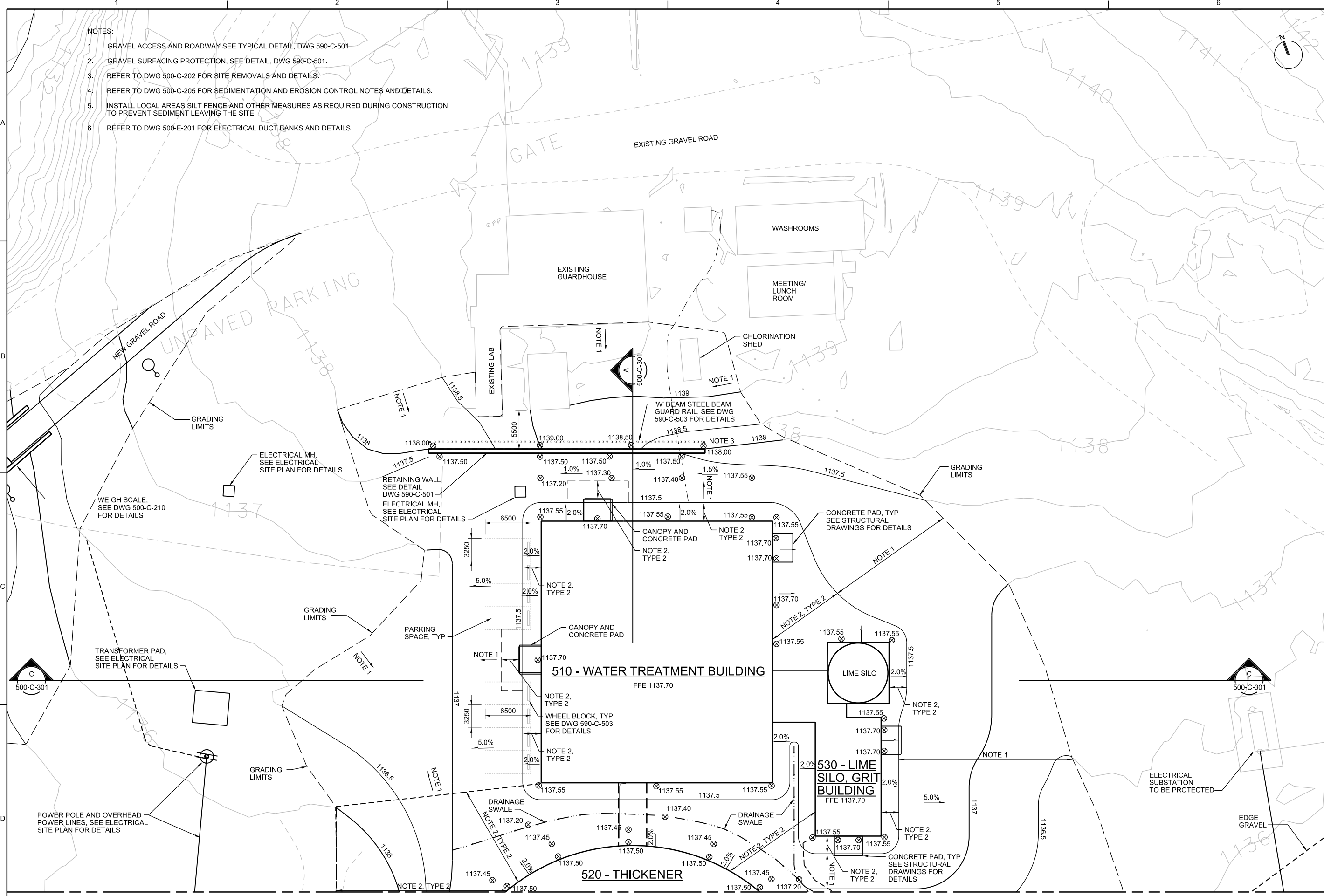
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®

CIVIL
NORTH LAYOUT AND
GRADING PLAN

1:250
VERIFY SCALE
BAR IS 25mm ON
ORIGINAL DRAWING.
0 25mm

DATE FEBRUARY 2014
PROJ TA013-427716
DWG 500-C-206
SHEET

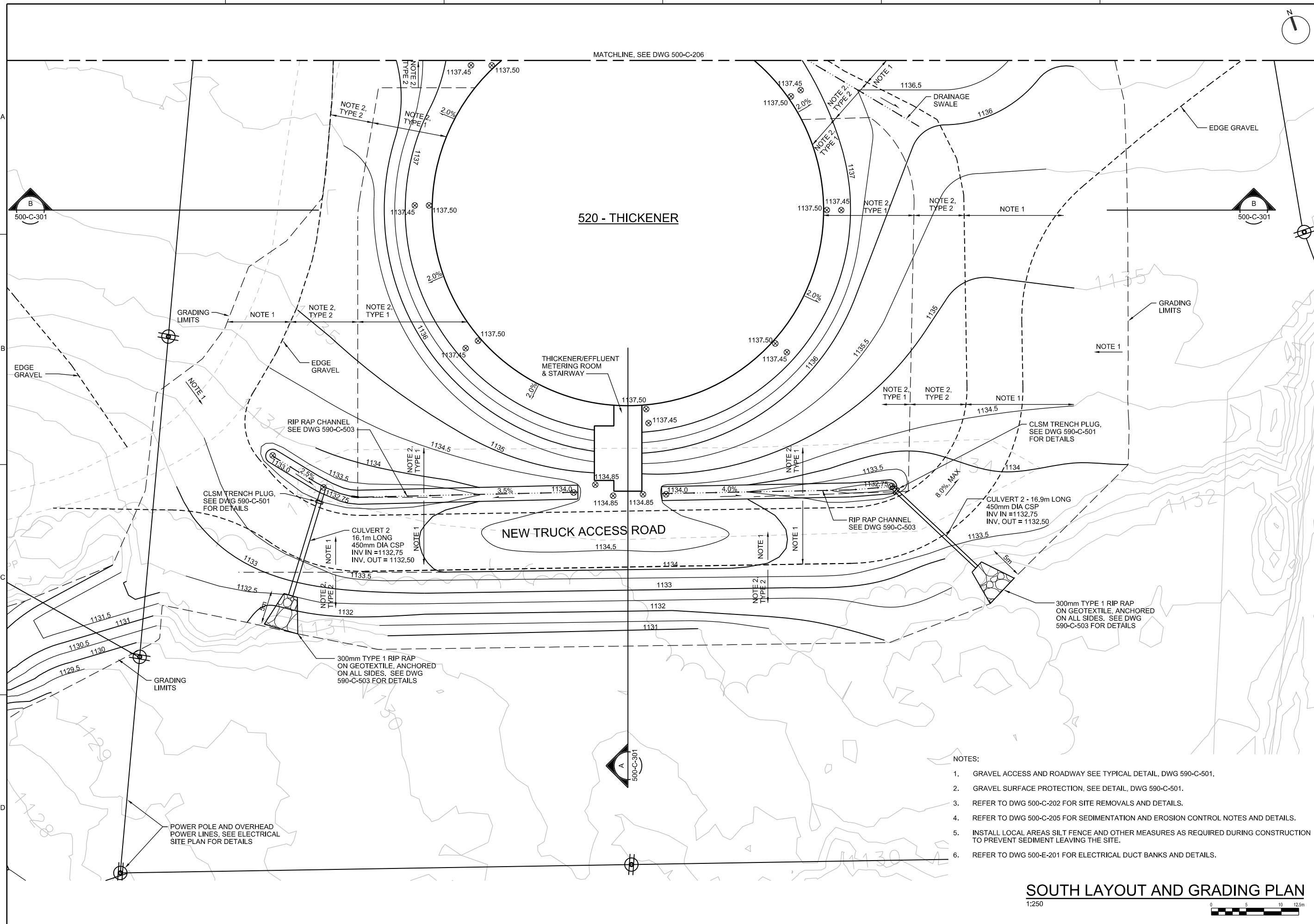


NORTH LAYOUT AND GRADING PLAN
1:250

MATCHLINE, SEE DWG 500-C-206



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			DR
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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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CIVIL
SOUTH LAYOUT AND GRADING PLAN

1:250
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
0 25mm

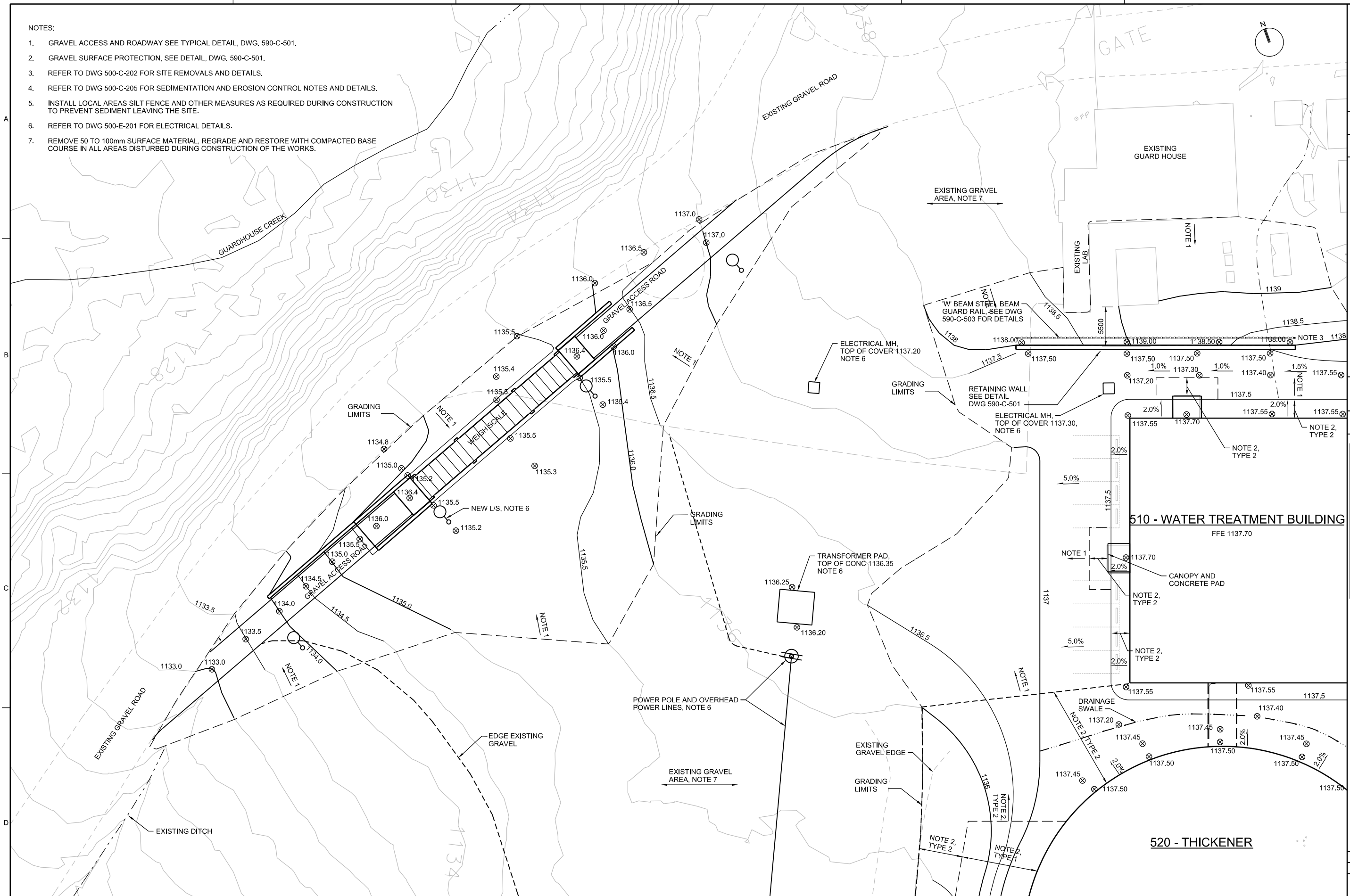
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 500-C-207
SHEET

- NOTES:
- GRAVEL ACCESS AND ROADWAY SEE TYPICAL DETAIL, DWG 590-C-501.
 - GRAVEL SURFACE PROTECTION, SEE DETAIL, DWG 590-C-501.
 - REFER TO DWG 500-C-202 FOR SITE REMOVALS AND DETAILS.
 - REFER TO DWG 500-C-205 FOR SEDIMENTATION AND EROSION CONTROL NOTES AND DETAILS.
 - INSTALL LOCAL AREAS SILT FENCE AND OTHER MEASURES AS REQUIRED DURING CONSTRUCTION TO PREVENT SEDIMENT LEAVING THE SITE.
 - REFER TO DWG 500-E-201 FOR ELECTRICAL DUCT BANKS AND DETAILS.

SOUTH LAYOUT AND GRADING PLAN
1:250



- NOTES:
1. GRAVEL ACCESS AND ROADWAY SEE TYPICAL DETAIL, DWG. 590-C-501.
 2. GRAVEL SURFACE PROTECTION, SEE DETAIL, DWG. 590-C-501.
 3. REFER TO DWG 500-C-202 FOR SITE REMOVALS AND DETAILS.
 4. REFER TO DWG 500-C-205 FOR SEDIMENTATION AND EROSION CONTROL NOTES AND DETAILS.
 5. INSTALL LOCAL AREAS SILT FENCE AND OTHER MEASURES AS REQUIRED DURING CONSTRUCTION TO PREVENT SEDIMENT LEAVING THE SITE.
 6. REFER TO DWG 500-E-201 FOR ELECTRICAL DETAILS.
 7. REMOVE 50 TO 100mm SURFACE MATERIAL, REGRADE AND RESTORE WITH COMPACTED BASE COURSE IN ALL AREAS DISTURBED DURING CONSTRUCTION OF THE WORKS.



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A. PONIEDZIALEK	A. RILOLO	G. LANCASTER			

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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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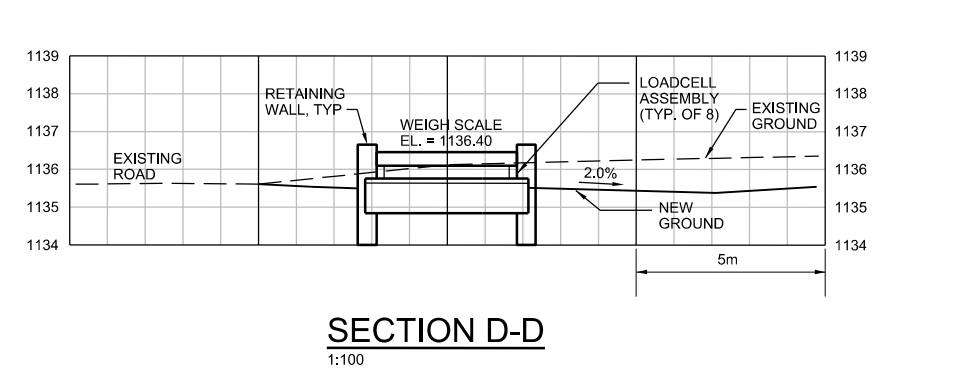
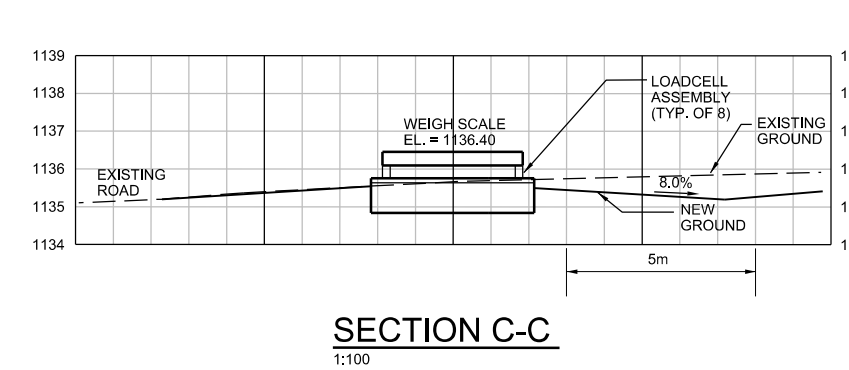
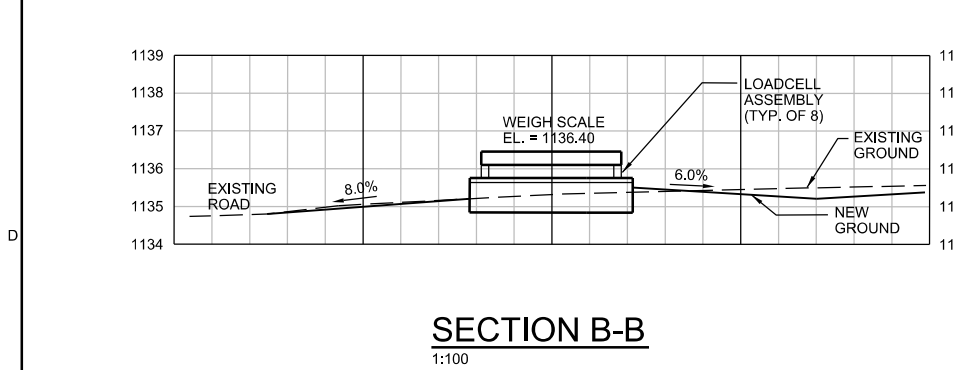
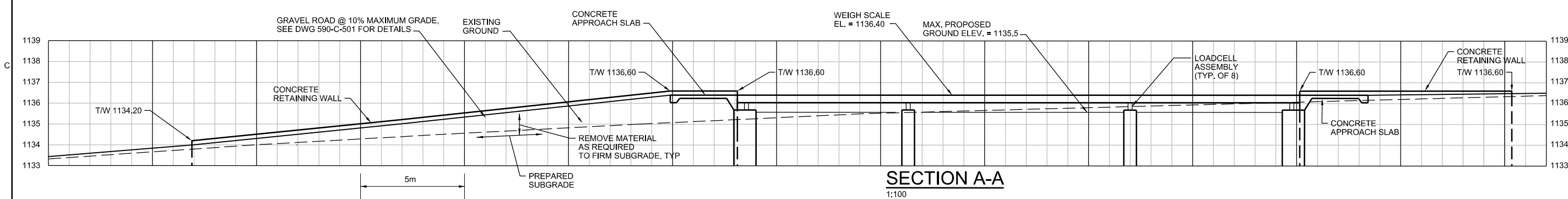
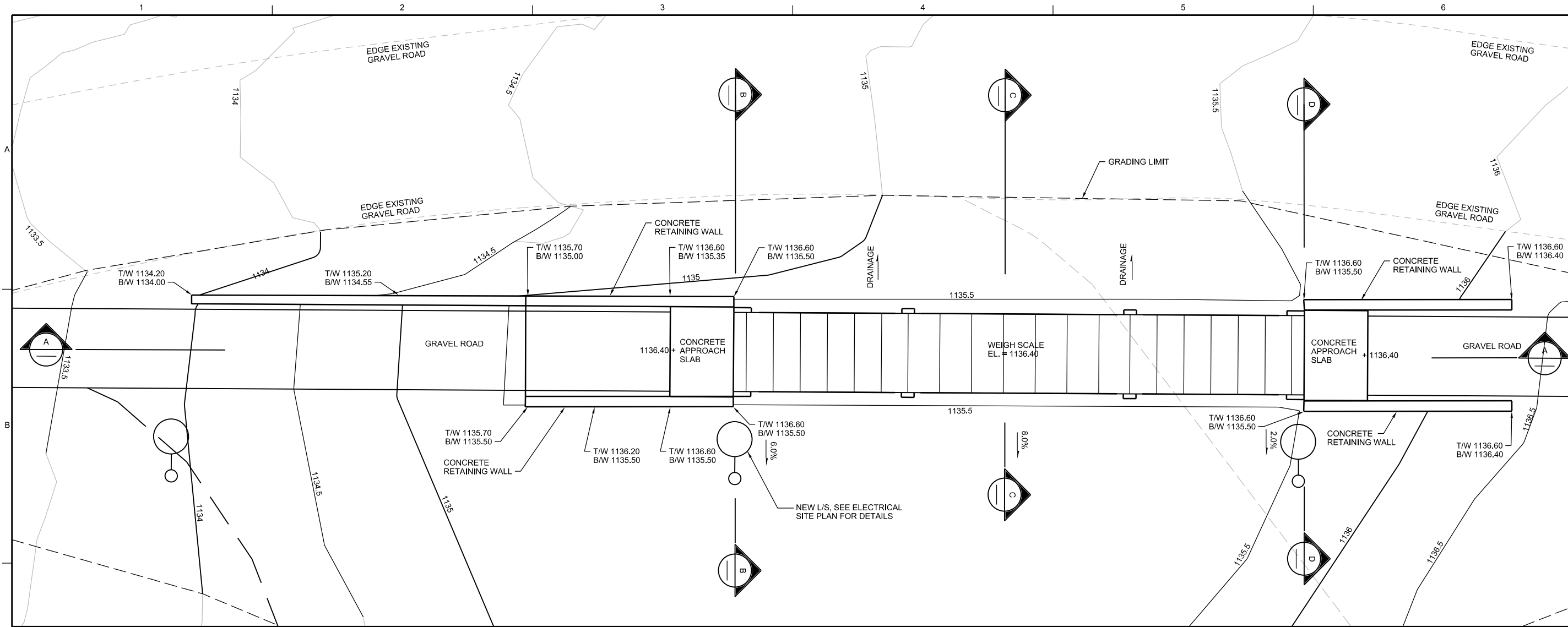
CIVIL
WEST LAYOUT AND GRADING PLAN

1:250
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
0 25mm

DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	500-C-208
SHEET	

WEST LAYOUT AND GRADING PLAN

1:250



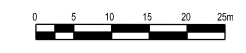
SECTION B-B
1:100

SECTION C-C
1:100

SECTION D-D
1:100

TRUCK SCALE LAYOUT & SECTIONS
1:100

NOTE:
REFER TO DWG 500-S-202 FOR STRUCTURAL DETAILS.



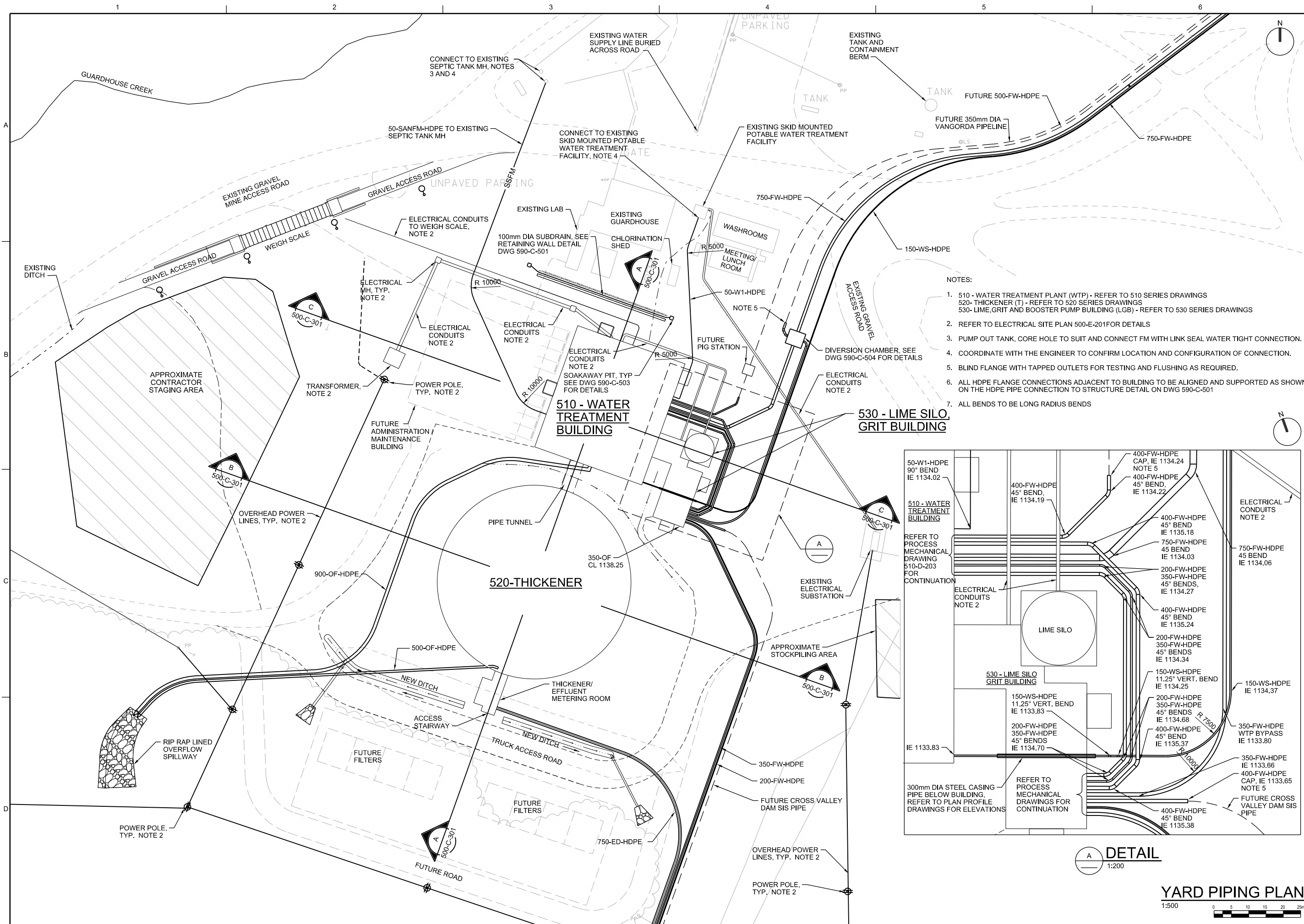
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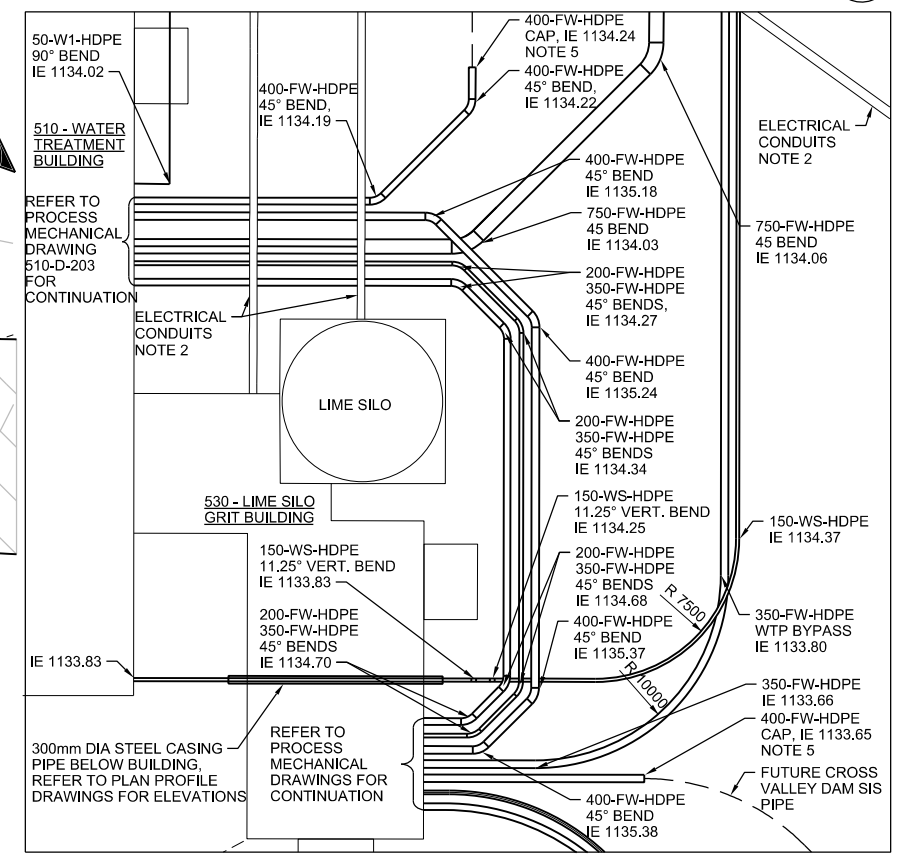
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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CIVIL
WEIGH SCALE
PLAN AND SECTIONS

1:100
VERIFY SCALE
BAR IS 25mm ON
ORIGINAL DRAWING.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 500-C-210
SHEET

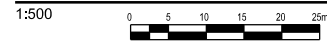


- NOTES:
1. 510 - WATER TREATMENT PLANT (WTP) - REFER TO 510 SERIES DRAWINGS
 2. 520- THICKENER (T) - REFER TO 520 SERIES DRAWINGS
 3. 530- LIME, GRIT AND BOOSTER PUMP BUILDING (LGB) - REFER TO 530 SERIES DRAWINGS
 2. REFER TO ELECTRICAL SITE PLAN 500-E-201 FOR DETAILS
 3. PUMP OUT TANK, CORE HOLE TO SUIT AND CONNECT FM WITH LINK SEAL WATER TIGHT CONNECTION.
 4. COORDINATE WITH THE ENGINEER TO CONFIRM LOCATION AND CONFIGURATION OF CONNECTION.
 5. BLIND FLANGE WITH TAPPED OUTLETS FOR TESTING AND FLUSHING AS REQUIRED.
 6. ALL HDPE FLANGE CONNECTIONS ADJACENT TO BUILDING TO BE ALIGNED AND SUPPORTED AS SHOWN ON THE HDPE PIPE CONNECTION TO STRUCTURE DETAIL ON DWG 590-C-501
 7. ALL BENDS TO BE LONG RADIUS BENDS



DETAIL A
1:200

YARD PIPING PLAN
1:500



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DR	A. POMEZIALEK		CHK	G. LANCASTER	

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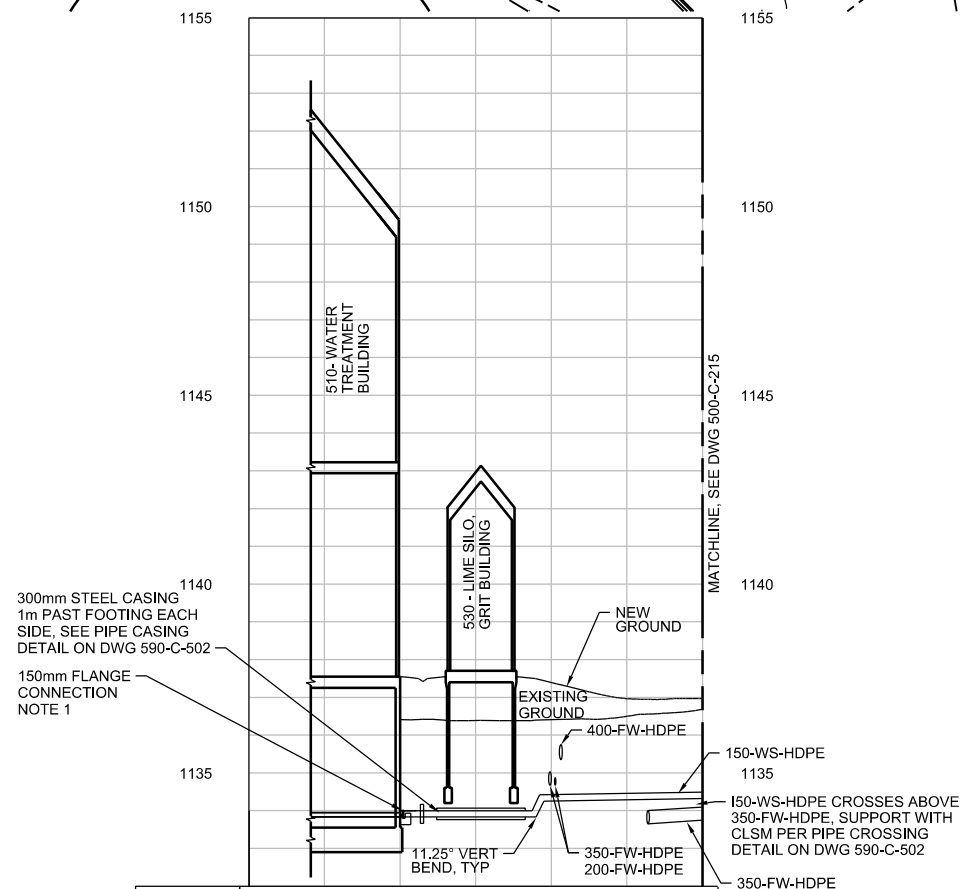
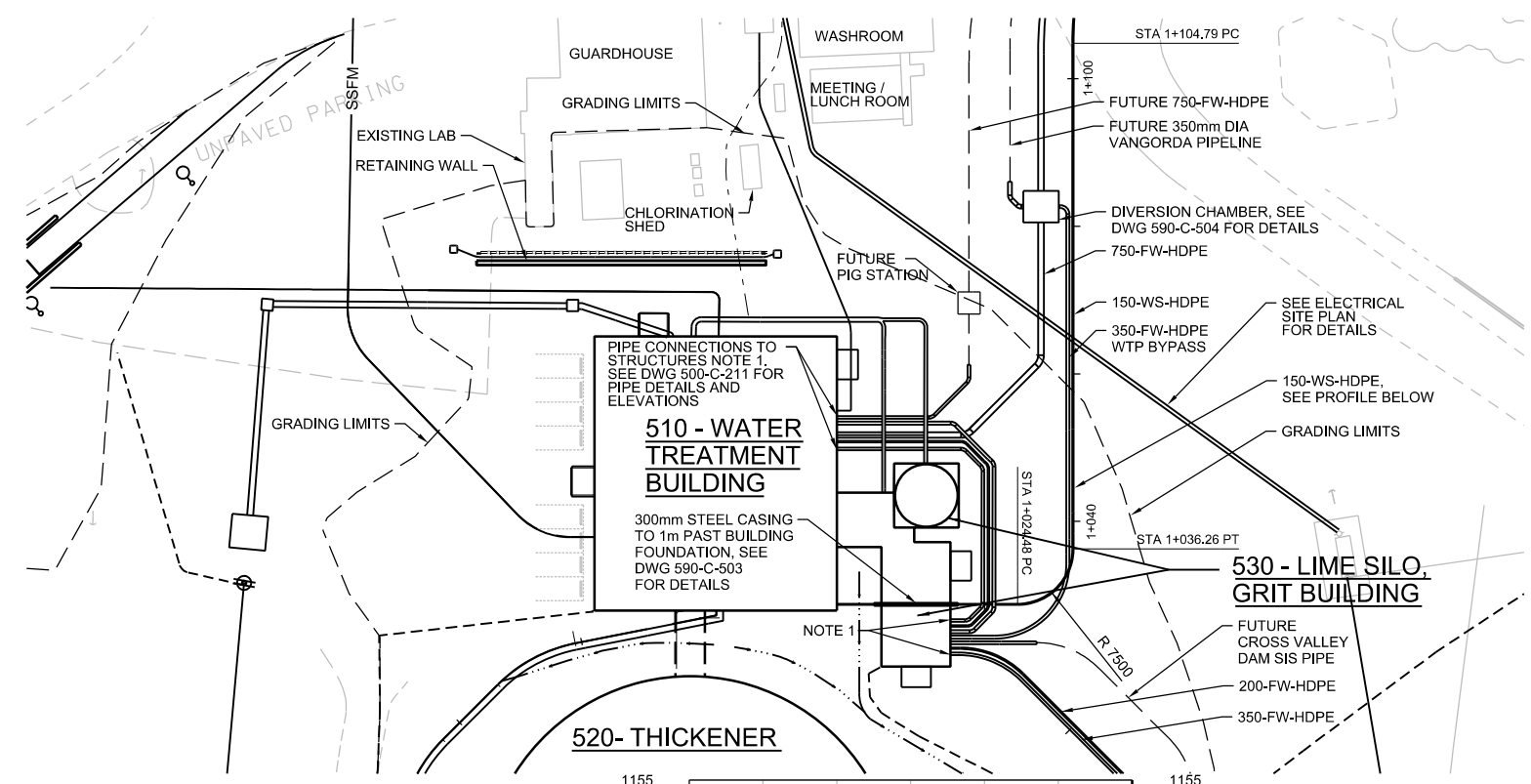
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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CIVIL
YARD PIPING PLAN

DATE	FEBRUARY 2014
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DWG	500-C-211
SHEET	





STATION	0+980.00	0+990.00	1+000.00	1+010.00	1+018.00	1+019.00	1+020.00	1+030.00	1+040.00
EXISTING GRADE			1136.41	1136.39	1136.39	1136.40	1136.41	1136.50	1136.69
INVERT ELEVATION (150mm)			1133.83	1133.83	1133.83	1134.25	1134.25	1134.29	1134.32
LENGTH AND GRADE				LENGTH = 18.00m SLOPE = 0.00%				LENGTH = 91.00m SLOPE = 0.34%	LENGTH = 1.00m SLOPE = 50.00%

- NOTES:
- REFER TO NOTE 6 ON DWG 500-C-211
 - COORDINATE PIPE CONNECTION ELEVATIONS WITH PROCESS DWGS 510-D-203 AND 530-D-201.

150-WS-HDPE, 350-FW-HDPE AND 750-FW-HDPE PLAN AND PROFILE (1)

1:500H:1:100V



NO.	DATE	REVISION	BY	APVD
B	02/2014	ISSUED FOR DETAIL DESIGN REVIEW	AR	GN
A	09/2013	ISSUED FOR ADVANCED DESIGN REVIEW	AR	GN
DSGN				APVD
			DR	
			CHK	
				G. LANCASTER

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

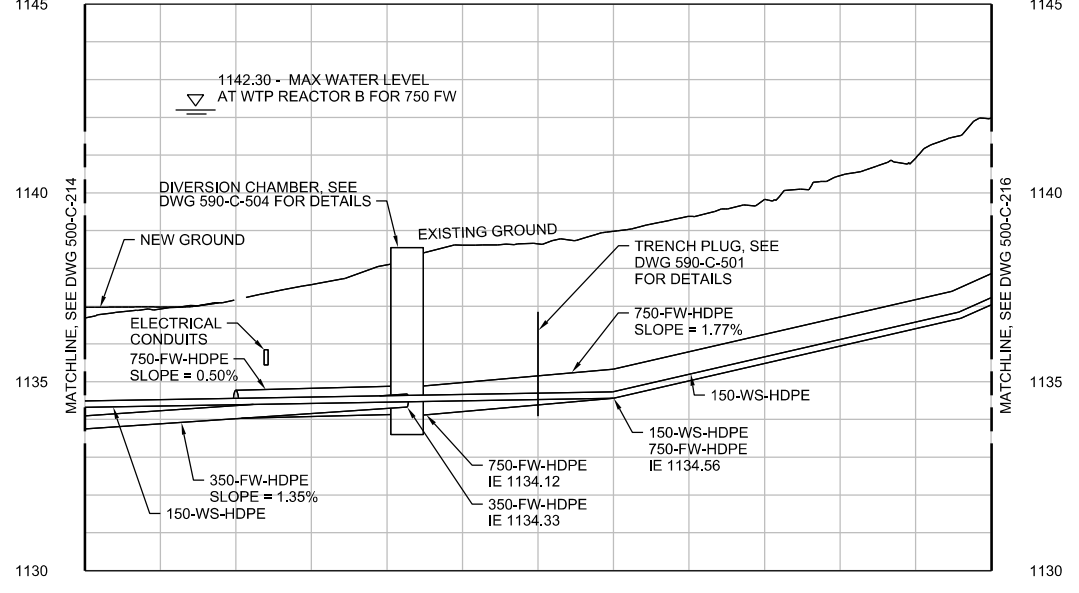
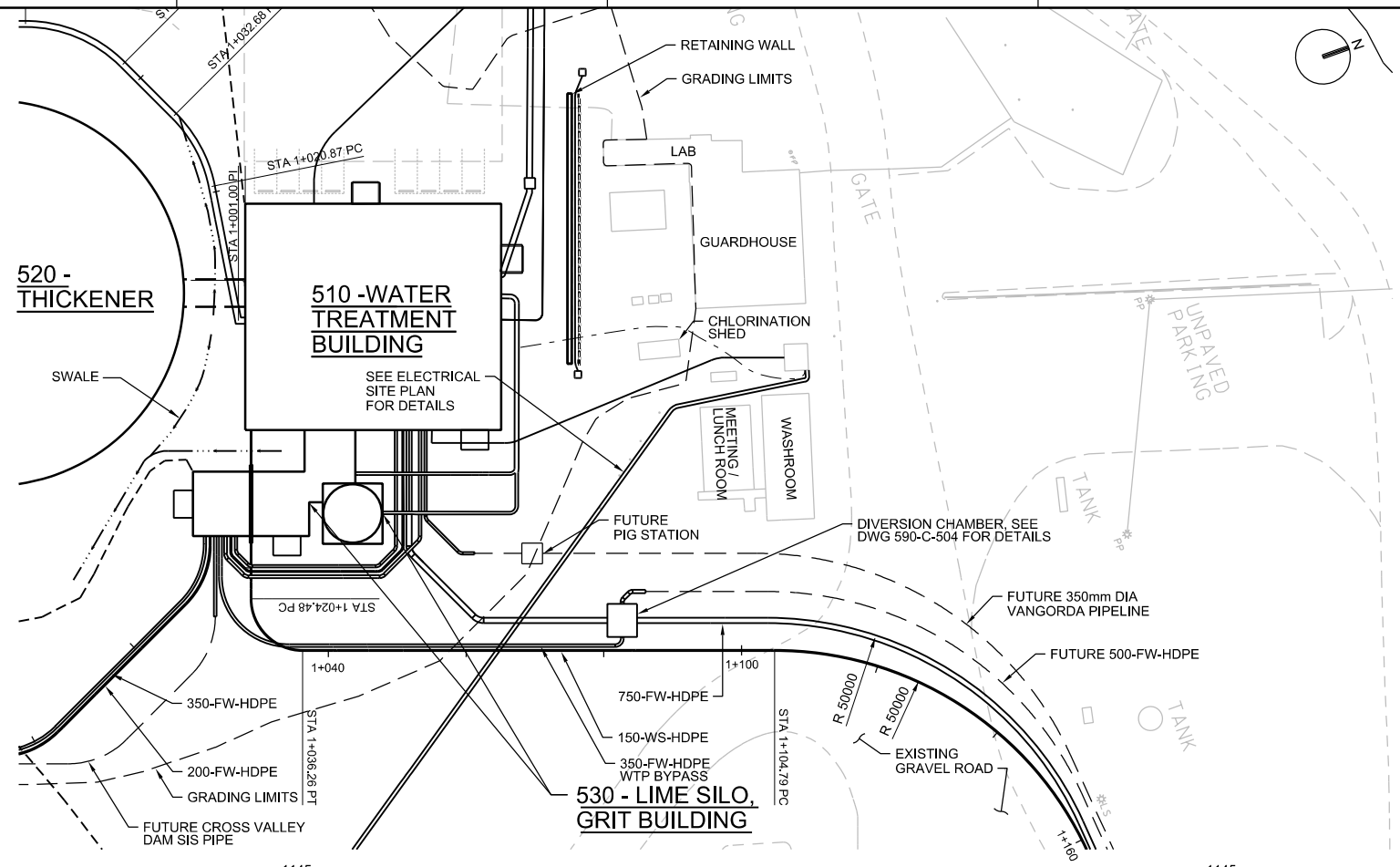
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®

CIVIL

150-WS-HDPE, 350-FW-HDPE AND 750-FW-HDPE PLAN AND PROFILE (1)

1:500
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 500-C-214
SHEET



STATION	1+040.00	1+050.00	1+060.00	1+070.00	1+080.00	1+090.00	1+100.00	1+110.00	1+120.00	1+130.00	1+140.00	1+150.00	1+156.00	1+160.00
EXISTING GRADE	1136.69	1136.92	1137.17	1137.57	1138.10	1138.62	1138.65	1138.98	1139.38	1139.83	1140.46	1140.92	1141.52	1141.99
INVERT ELEVATION (150mm)	1134.32	1134.36	1134.39	1134.43	1134.46	1134.49	1134.53	1134.56	1135.02	1135.48	1135.94	1136.40	1136.68	1137.04
LENGTH AND GRADE	LENGTH = 91.00m SLOPE = 0.34%						LENGTH = 46.00m SLOPE = 4.60%			LENGTH = 47.00m SLOPE = 8.88%				

150-WS-HDPE, 350-FW-HDPE AND 750-FW-HDPE PLAN AND PROFILE (2)

1:500H:1:100V
 0 5 10 15 20 25m



ISSUED FOR DETAIL DESIGN REVIEW	GN	AR	GN
ISSUED FOR ADVANCED DESIGN REVIEW	AR	AR	GN
REVISION	NO.	DATE	BY
DR	A. PONIEDZIALEK		APVD
CHK	A. RIOLO		APVD
DGN	G. LANCASTER		APVD

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

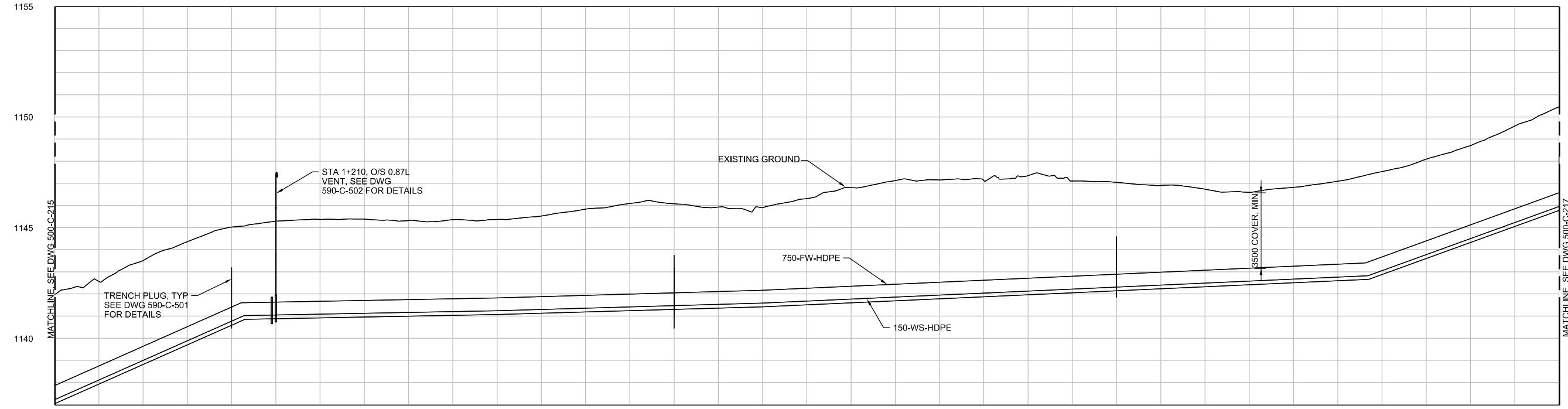
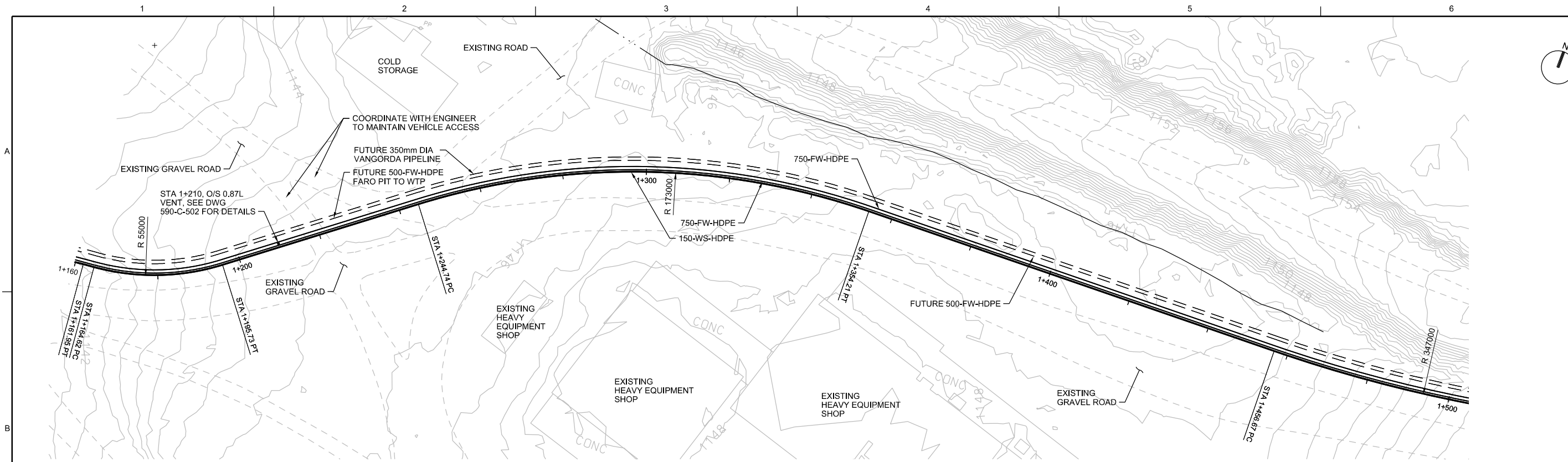
FARO MINE REMEDIATION
 WATER TREATMENT PLANT DESIGN
 GOVERNMENT OF YUKON
 DESIGN

CH2MHILL®

CIVIL

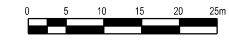
150-WS-HDPE, 350-FW-HDPE AND 750-FW-HDPE PLAN AND PROFILE (2)

DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	500-C-215
SHEET	



STATION	1+160.00	1+170.00	1+180.00	1+190.00	1+200.00	1+203.00	1+210.00	1+220.00	1+230.00	1+240.00	1+250.00	1+260.00	1+270.00	1+280.00	1+290.00	1+300.00	1+310.00	1+320.00	1+330.00	1+340.00	1+350.00	1+360.00	1+370.00	1+380.00	1+390.00	1+400.00	1+410.00	1+420.00	1+430.00	1+440.00	1+450.00	1+457.00	1+460.00	1+470.00	1+480.00	1+490.00	1+500.00
EXISTING GRADE	1141.99	1142.57	1143.51	1144.36	1145.02	1145.08	1145.29	1145.37	1145.38	1145.32	1145.37	1145.36	1145.52	1145.83	1146.09	1146.08	1145.92	1145.90	1146.30	1146.80	1147.12	1147.15	1147.13	1147.35	1147.10	1147.04	1146.90	1146.73	1146.59	1146.82	1147.09	1147.40	1147.53	1148.09	1148.71	1149.59	1150.46
INVERT ELEVATION (150mm AND 750mm)	1137.04	1137.92	1138.81	1139.70	1140.59	1140.86	1140.88	1140.92	1140.96	1140.99	1141.03	1141.07	1141.13	1141.19	1141.24	1141.30	1141.36	1141.42	1141.51	1141.60	1141.69	1141.78	1141.87	1141.96	1142.05	1142.14	1142.23	1142.32	1142.41	1142.50	1142.59	1142.66	1142.88	1143.60	1144.32	1145.05	1145.77
LENGTH AND GRADE	LENGTH = 47.00m SLOPE = 8.88%						LENGTH = 57.00m SLOPE = 0.38%						LENGTH = 60.00m SLOPE = 0.58%						LENGTH = 137.00m SLOPE = 0.90%						LENGTH = 138.00m SLOPE = 7.25%												

150-WS-HDPE AND 750-FW-HDPE PLAN AND PROFILE (3)
1:500H:1:100V



NO.	DATE	REVISION	BY	APVD
B	02/2014	ISSUED FOR DETAIL DESIGN REVIEW	AR	GN
A	09/2013	ISSUED FOR ADVANCED DESIGN REVIEW	AR	GN

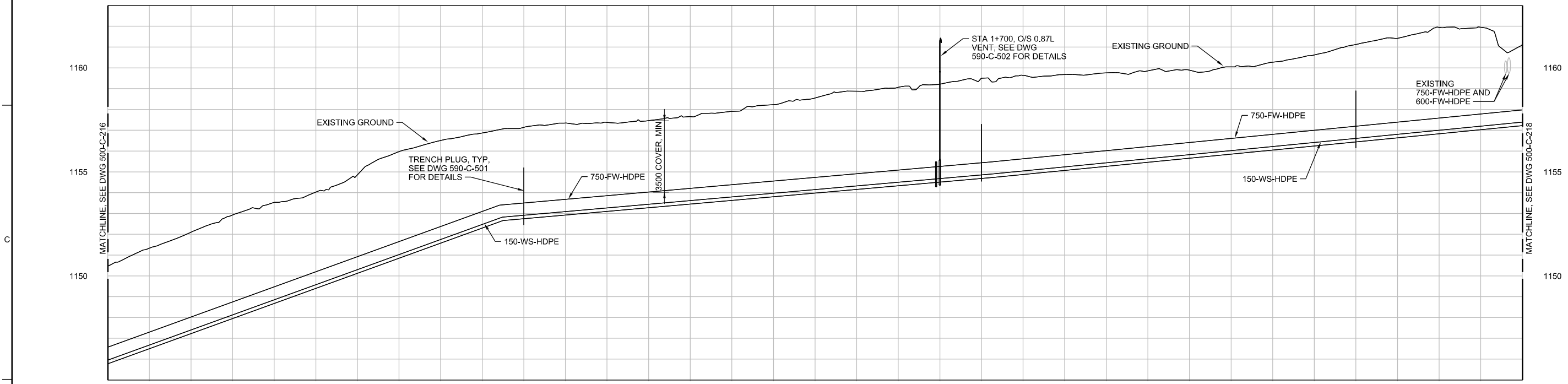
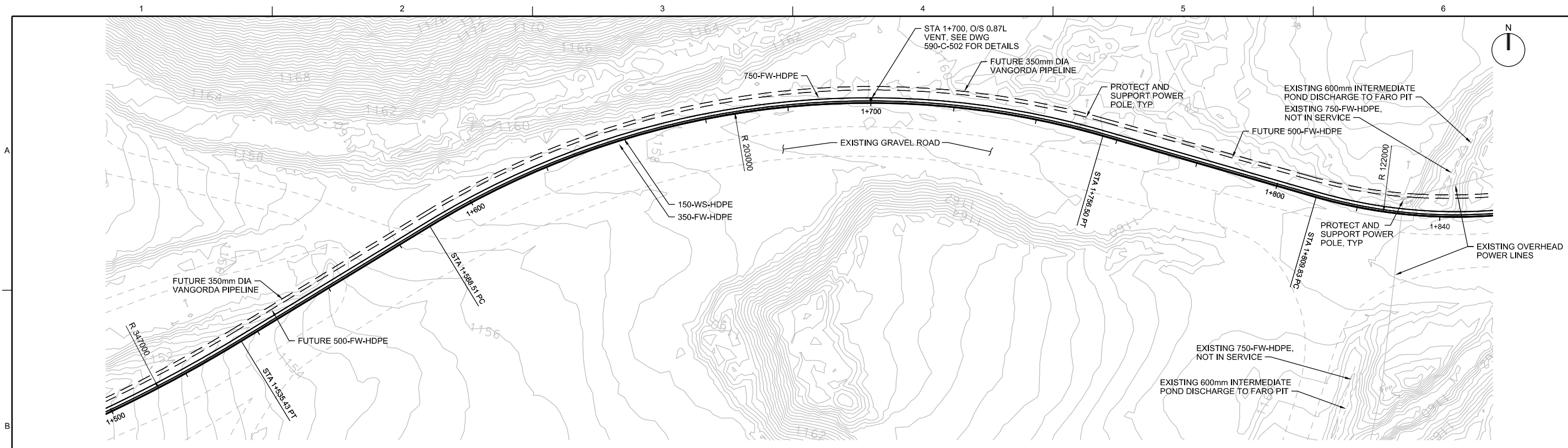
DR	CHK	APVD
A. POMEJZIALEK	A. RIOLO	G. LANCASTER

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®
CIVIL
150-WS-HDPE AND 750-FW-HDPE PLAN AND PROFILE (3)

DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	500-C-216
SHEET	



STATION	EXISTING GRADE	INVERT ELEVATION (150mm AND 750mm)	LENGTH AND GRADE
1+500.00	1150.46	1145.77	LENGTH = 138.00m SLOPE = 7.25%
1+510.00	1151.33	1146.50	
1+520.00	1152.10	1147.22	
1+530.00	1152.93	1147.95	
1+540.00	1153.54	1148.67	
1+550.00	1154.02	1149.40	
1+560.00	1154.86	1150.12	
1+570.00	1155.97	1150.85	
1+580.00	1156.51	1151.57	
1+590.00	1156.87	1152.30	
1+595.00	1157.07	1152.66	
1+600.00	1157.14	1152.75	
1+610.00	1157.35	1152.92	
1+620.00	1157.38	1153.10	
1+630.00	1157.46	1153.28	
1+640.00	1157.66	1153.45	
1+650.00	1157.91	1153.63	
1+660.00	1158.23	1153.80	
1+670.00	1158.55	1153.98	LENGTH = 152.00m SLOPE = 1.96%
1+680.00	1158.88	1154.16	
1+690.00	1159.07	1154.33	
1+700.00	1159.22	1154.51	
1+710.00	1159.50	1154.69	
1+713.00	1159.33	1154.74	
1+720.00	1159.64	1154.88	
1+730.00	1159.68	1155.07	
1+740.00	1159.76	1155.27	
1+750.00	1159.85	1155.46	
1+760.00	1159.89	1155.66	
1+770.00	1160.04	1155.85	
1+780.00	1160.27	1156.05	
1+790.00	1160.62	1156.25	
1+800.00	1161.12	1156.44	
1+810.00	1161.42	1156.64	
1+820.00	1161.94	1156.83	
1+830.00	1161.95	1157.03	
1+840.00	1161.13	1157.22	



ISSUED FOR DETAIL DESIGN REVIEW	AR	GN
ISSUED FOR ADVANCED DESIGN REVIEW	AR	GN
REVISION	BY	APVD
NO.	DATE	APVD
DSGN	CHK	DR
A. PONIEDZIALEK	A. RIOLO	G. LANCASTER

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

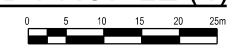
CH2MHILL

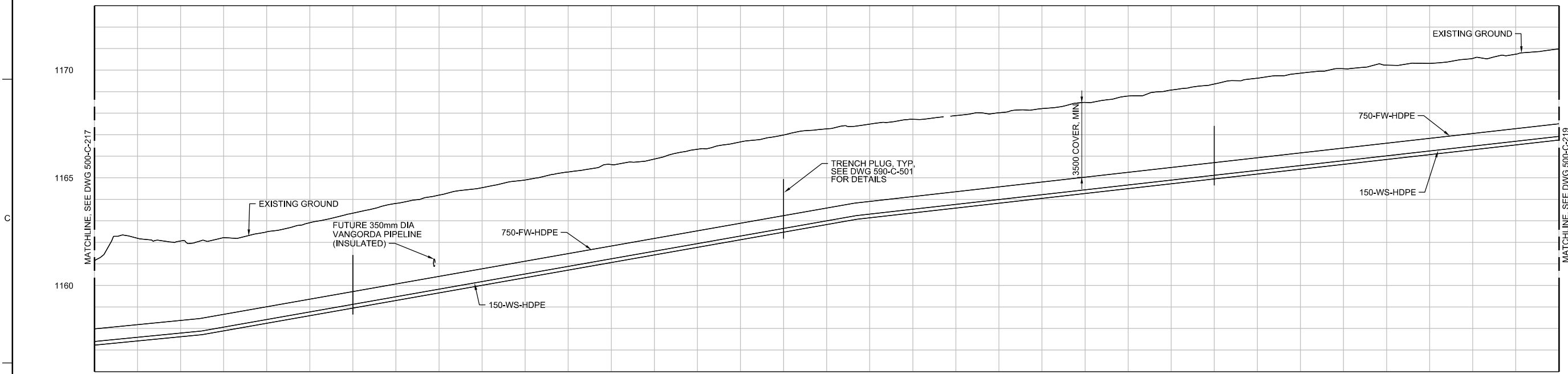
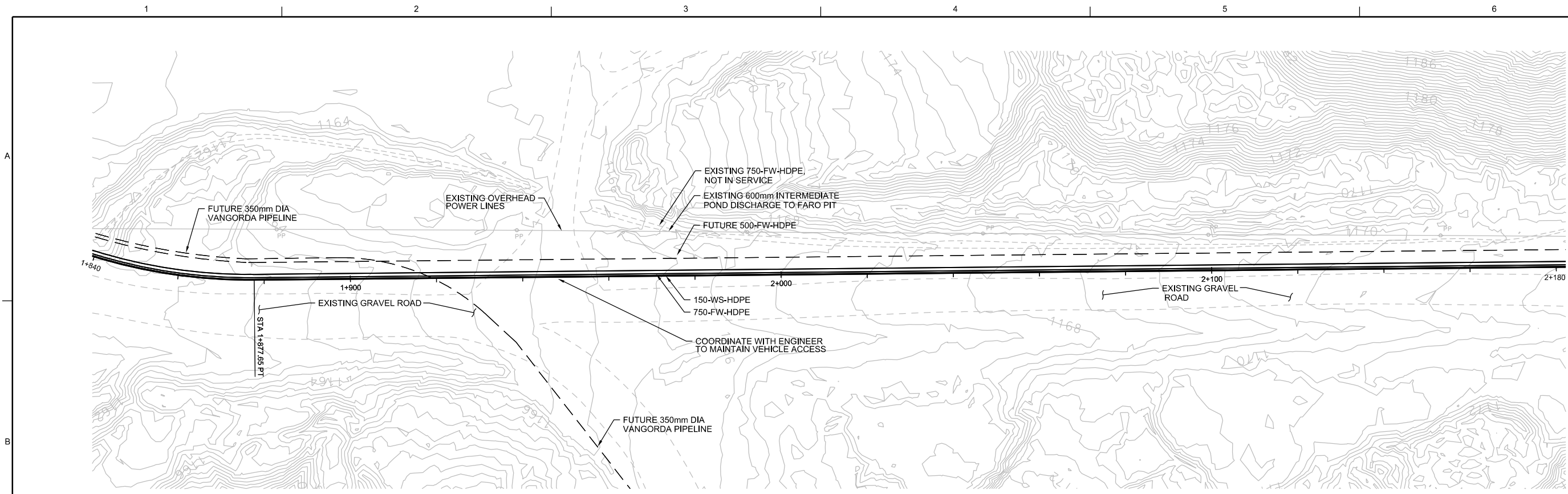
CIVIL

150-WS-HDPE AND 750-FW-HDPE
PLAN AND PROFILE (4)

1:500
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 500-C-217
SHEET

150-WS-HDPE AND 750-FW-HDPE PLAN AND PROFILE (4)
1:500H:1:100V





STATION	1+840.00	1+850.00	1+860.00	1+865.00	1+870.00	1+880.00	1+890.00	1+900.00	1+910.00	1+920.00	1+930.00	1+940.00	1+950.00	1+960.00	1+970.00	1+980.00	1+990.00	2+000.00	2+010.00	2+017.00	2+020.00	2+030.00	2+040.00	2+050.00	2+060.00	2+070.00	2+080.00	2+090.00	2+100.00	2+110.00	2+120.00	2+130.00	2+140.00	2+150.00	2+160.00	2+170.00	2+180.00
EXISTING GRADE	1161.13	1162.19	1162.06	1162.09	1162.22	1162.49	1162.91	1163.36	1163.81	1164.19	1164.54	1164.90	1165.26	1165.61	1165.87	1166.32	1166.66	1166.99	1167.27	1167.40	1167.49	1167.71	1167.89	1168.02	1168.22	1168.50	1168.80	1169.07	1169.36	1169.63	1169.86	1170.07	1170.23	1170.31	1170.55	1170.74	1170.98
INVERT ELEVATION (150mm AND 750mm)	1157.22	1157.42	1157.62	1157.71	1157.89	1158.24	1158.60	1158.95	1159.30	1159.65	1160.01	1160.36	1160.71	1161.06	1161.42	1161.77	1162.12	1162.48	1162.83	1163.08	1163.14	1163.37	1163.59	1163.82	1164.05	1164.27	1164.50	1164.72	1164.95	1165.17	1165.40	1165.62	1165.85	1166.08	1166.30	1166.53	1166.75
LENGTH AND GRADE	LENGTH = 152.00m SLOPE = 1.96%					LENGTH = 152.00m SLOPE = 3.53%										LENGTH = 196.00m SLOPE = 2.26%																					



ISSUED FOR DETAIL DESIGN REVIEW	AR	GN
ISSUED FOR ADVANCED DESIGN REVIEW	AR	GN
NO. DATE	BY	APVD
DSGN	CHK	APVD
A. POMEZIALEK	A. RIOLO	G. LANCASTER

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL

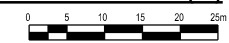
CIVIL

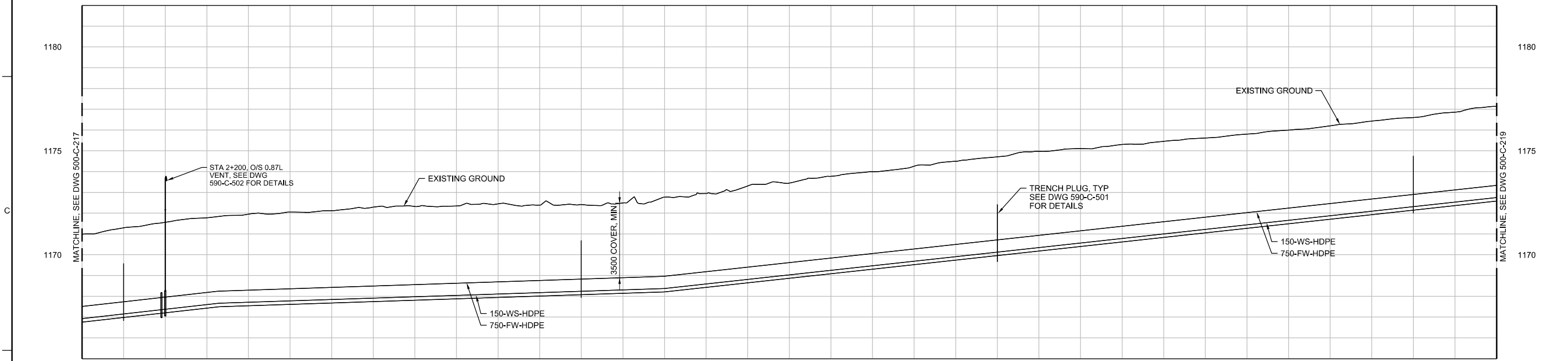
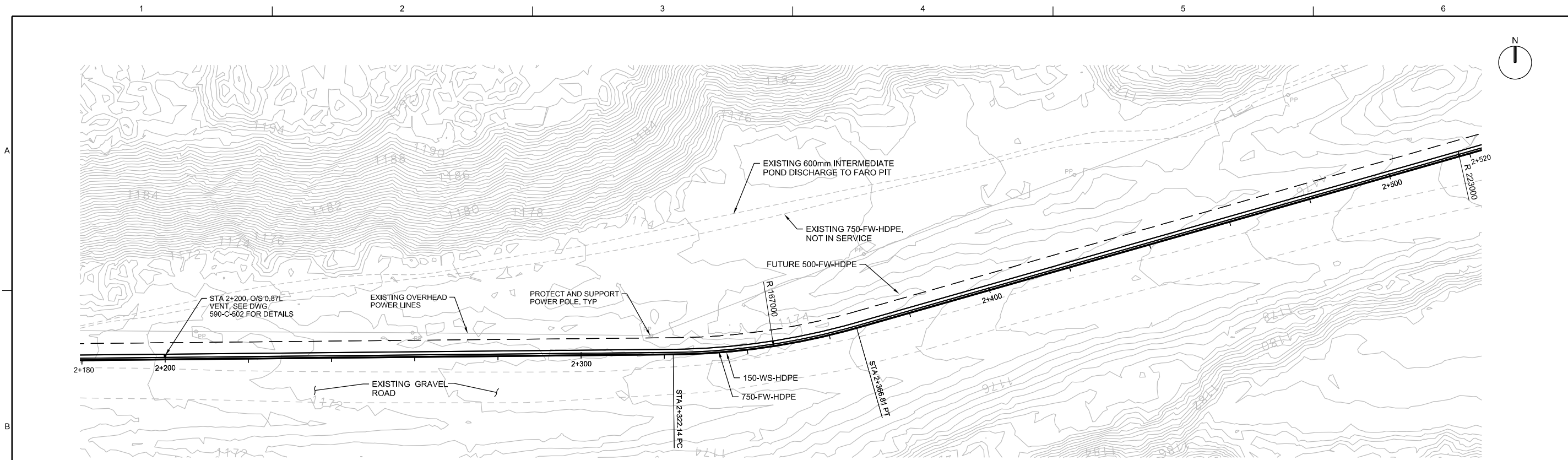
150-WS-HDPE AND 750-FW-HDPE
PLAN AND PROFILE (5)

1:500
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWINGS.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 500-C-218
SHEET

150-WS-HDPE AND 750-FW-HDPE PLAN AND PROFILE (5)

1:500H:1:100V





STATION	2+180.00	2+190.00	2+200.00	2+210.00	2+215.00	2+220.00	2+230.00	2+240.00	2+250.00	2+260.00	2+270.00	2+280.00	2+290.00	2+300.00	2+310.00	2+320.00	2+330.00	2+340.00	2+350.00	2+360.00	2+370.00	2+380.00	2+390.00	2+400.00	2+410.00	2+420.00	2+430.00	2+440.00	2+450.00	2+460.00	2+470.00	2+480.00	2+490.00	2+500.00	2+510.00	2+520.00
EXISTING GRADE	1170.98	1171.29	1171.56	1171.78	1171.84	1171.95	1172.05	1172.12	1172.29	1172.32	1172.34	1172.44	1172.39	1172.42	1172.49	1172.77	1172.95	1173.31	1173.45	1173.78	1173.99	1174.26	1174.49	1174.71	1174.97	1175.11	1175.31	1175.46	1175.62	1175.80	1175.99	1176.20	1176.43	1176.60	1176.86	1177.13
INVERT ELEVATION (150mm AND 750mm)	1166.75	1166.98	1167.20	1167.43	1167.50	1167.54	1167.61	1167.68	1167.74	1167.81	1167.88	1167.94	1168.01	1168.07	1168.14	1168.21	1168.43	1168.64	1168.86	1169.08	1169.30	1169.52	1169.74	1169.96	1170.18	1170.40	1170.61	1170.83	1171.05	1171.27	1171.49	1171.71	1171.93	1172.15	1172.36	1172.58
LENGTH AND GRADE	LENGTH = 196.00m SLOPE = 2.26%			LENGTH = 107.00m SLOPE = 0.66%												LENGTH = 263.00m SLOPE = 2.19%																				



ISSUED FOR DETAIL DESIGN REVIEW	AR	GN
ISSUED FOR ADVANCED DESIGN REVIEW	AR	GN
REVISION	BY	APVD
DSGN	DR	CHK
A. POMEZIALEK	A. RIOLO	G. LANCASTER

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

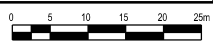
CH2MHILL

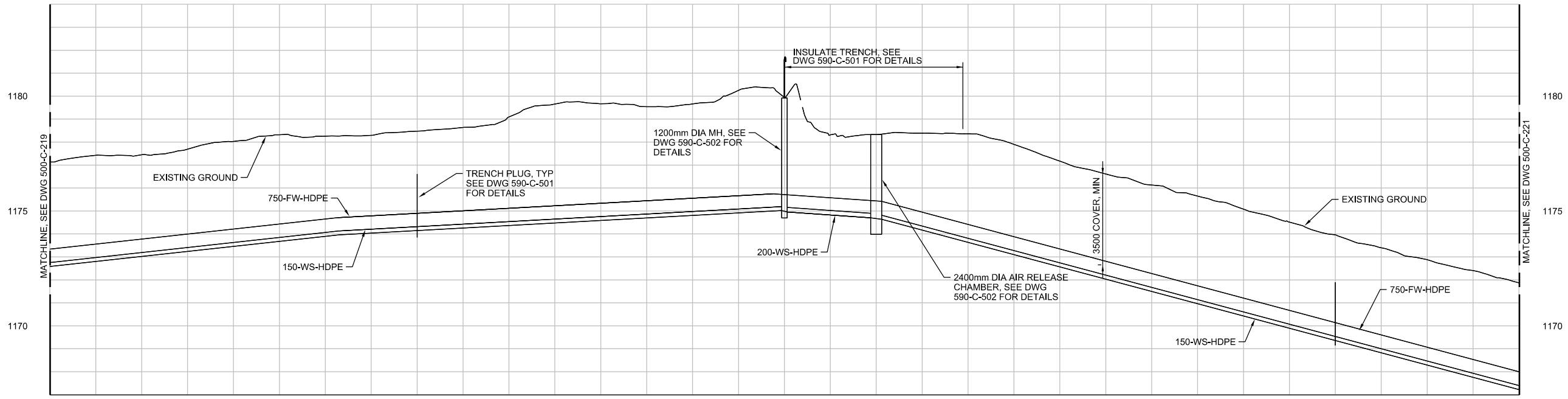
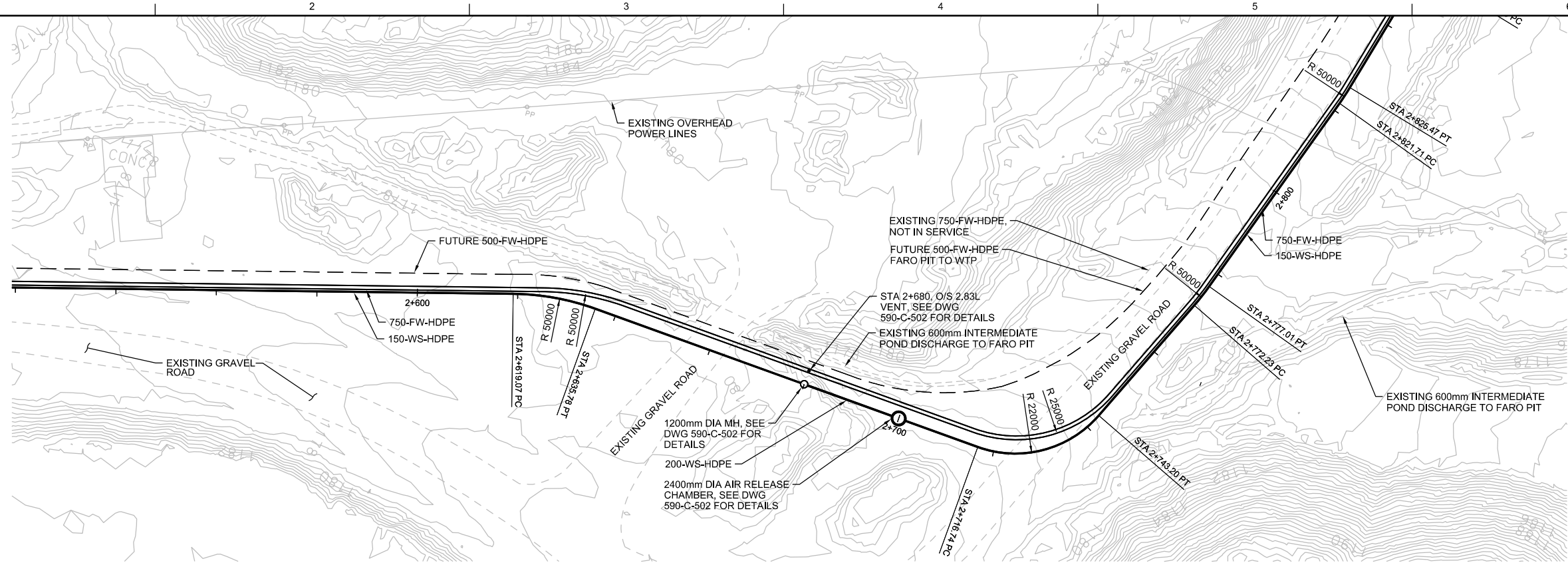
CIVIL

150-WS-HDPE AND 750-FW-HDPE
PLAN AND PROFILE (6)

DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	500-C-219
SHEET	

150-WS-HDPE AND 750-FW-HDPE PLAN AND PROFILE (6)
1:500H:1:100V





STATION	2+520.00	2+530.00	2+540.00	2+550.00	2+560.00	2+570.00	2+580.00	2+583.00	2+590.00	2+600.00	2+610.00	2+620.00	2+630.00	2+640.00	2+650.00	2+660.00	2+670.00	2+679.40 2+680.80 2+680.80	2+690.00	2+698.80 2+701.20 2+701.20	2+710.00	2+720.00	2+730.00	2+740.00	2+750.00	2+760.00	2+770.00	2+780.00	2+790.00	2+800.00	2+810.00	2+820.00	2+830.00	2+840.00
EXISTING GRADE	1177.13	1177.42	1177.45	1177.69	1178.03	1178.32	1178.26	1178.26	1178.29	1178.48	1178.64	1179.09	1179.66	1179.67	1179.54	1179.66	1180.25	1180.04 1180.05 1180.05	1178.32	1178.32 1178.34 1178.34	1178.39	1178.36	1177.90	1177.17	1175.65	1175.08	1174.51	1173.96	1173.40	1172.88	1172.40	1171.87		
INVERT ELEVATION (150mm AND 750mm)	1172.88	1172.80	1173.02	1173.24	1173.46	1173.68	1173.90	1173.96	1174.04	1174.15	1174.26	1174.37	1174.48	1174.59	1174.70	1174.81	1174.92	1175.02 1174.95 1174.95	1174.82	1174.70 1174.64 1174.64	1174.17	1173.64	1173.10	1172.57	1172.03	1171.50	1170.97	1170.43	1169.90	1169.36	1168.83	1168.29	1167.76	1167.23
LENGTH AND GRADE	LENGTH = 263.00m SLOPE = 2.19%					LENGTH = 96.40m SLOPE = 1.10%					LENGTH = 1.20m SLOPE = -5.42%		LENGTH = 18.20m SLOPE = -1.40%		LENGTH = 2.40m SLOPE = -2.50%		LENGTH = 162.80m SLOPE = -5.34%																	



ISSUED FOR DETAIL DESIGN REVIEW	AR	GN
ISSUED FOR ADVANCED DESIGN REVIEW	AR	GN
NO. DATE	A	09/2013
DR	A. RIOLO	CHK
APVD	G. LANCASTER	BY

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

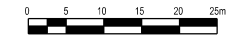
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

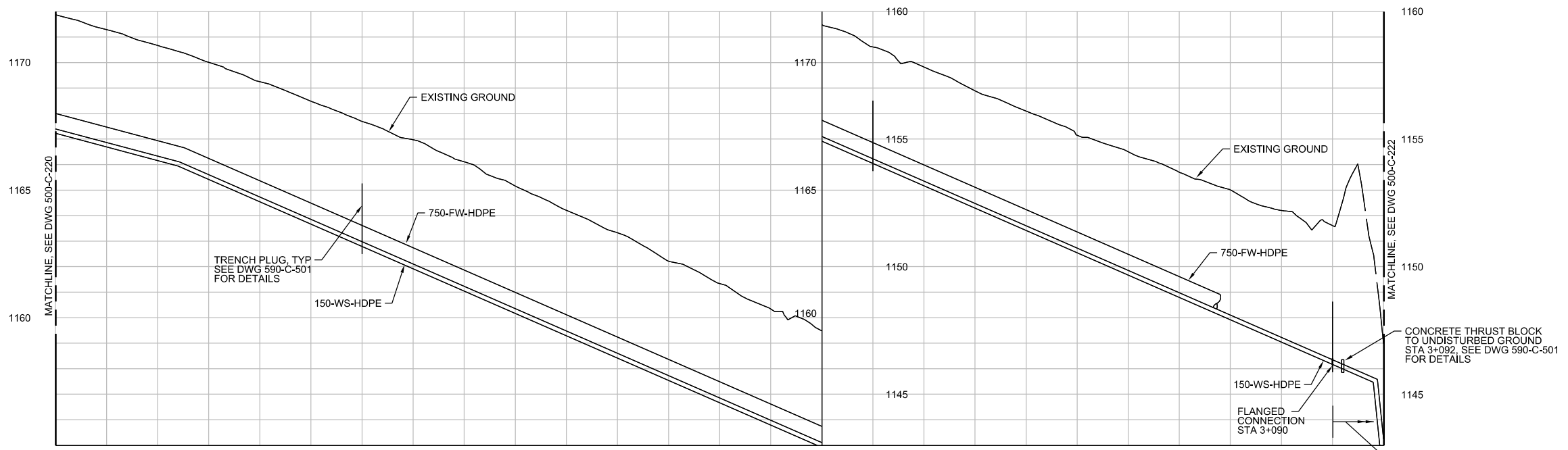
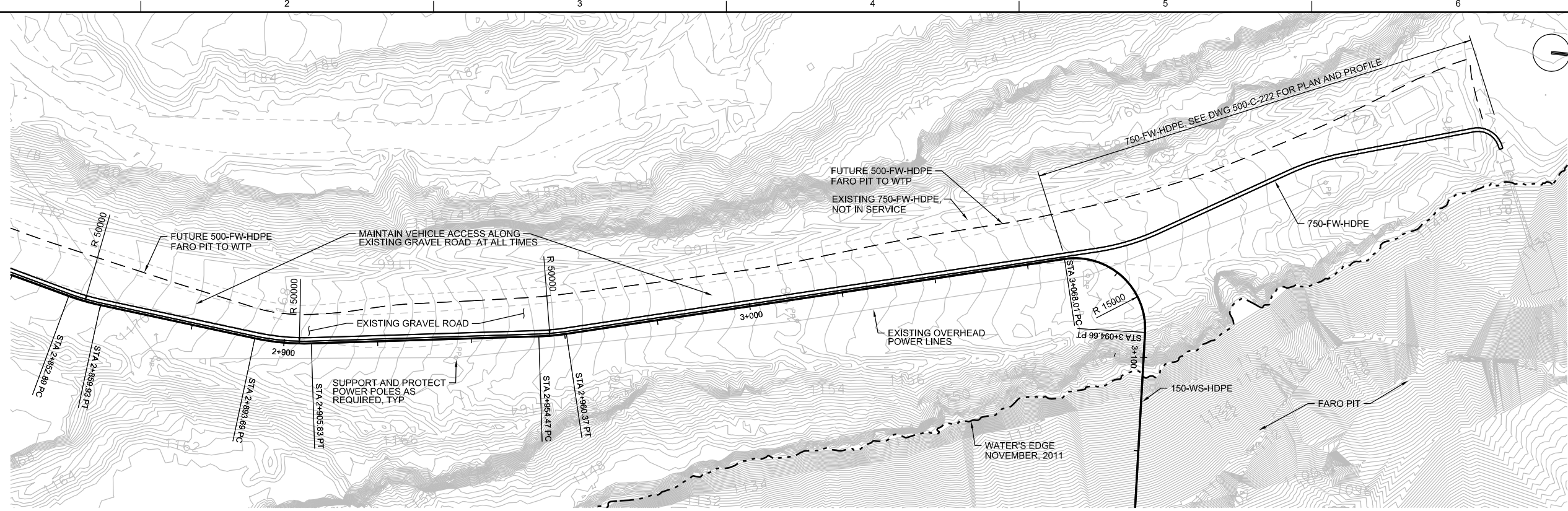
CH2MHILL

CIVIL
150-WS-HDPE AND 750-FW-HDPE PLAN AND PROFILE (7)

1:500
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 500-C-220
SHEET

150-WS-HDPE AND 750-FW-HDPE PLAN AND PROFILE (7)
1:500H:1:100V





STATION	2+840.00	2+850.00	2+860.00	2+864.00	2+870.00	2+880.00	2+890.00	2+900.00	2+910.00	2+920.00	2+930.00	2+940.00	2+950.00	2+960.00	2+970.00	2+980.00	2+990.00	3+000.00	3+010.00	3+020.00	3+030.00	3+040.00	3+050.00	3+060.00	3+070.00	3+080.00	3+090.00	3+098.00	3+100.00
EXISTING GRADE	1171.87	1171.29	1170.67	1170.44	1170.01	1169.25	1168.48	1167.69	1166.97	1166.11	1165.16	1164.21	1163.33	1162.21	1161.34	1160.34	1159.48	1158.61	1157.82	1156.89	1155.10	1155.15	1154.50	1153.70	1147.92	1152.20	1145.60	1146.88	
INVERT ELEVATION (150mm AND 750mm)	1167.23	1166.69	1166.16	1165.94	1165.42	1164.54	1163.67	1162.79	1161.92	1161.04	1160.17	1159.29	1158.42	1157.54	1156.67	1155.79	1154.92	1154.04	1153.17	1152.29	1151.42	1150.54	1149.67	1148.79	1147.92	1147.04	1146.17	1145.47	1144.80
LENGTH AND GRADE	LENGTH = 162.80m SLOPE = -5.34%					LENGTH = 234.00m SLOPE = -8.75%												LENGTH = 4.00m SLOPE = -193.44%											

CONTRACTOR TO SUBMIT DETAILED EXCAVATION WORKPLAN FOR WORK ALONG FARO PIT EMBANKMENT AND SUBMERGED PORTION OF PIPELINE. CONTRACTOR TO UNDERTAKE ADDITIONAL FIELD INVESTIGATIONS TO CONFIRM EXISTING GEOTECHNICAL CONDITIONS ALONG PIT EMBANKMENT FROM 3+090 TO 3+110

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

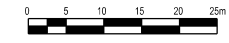
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

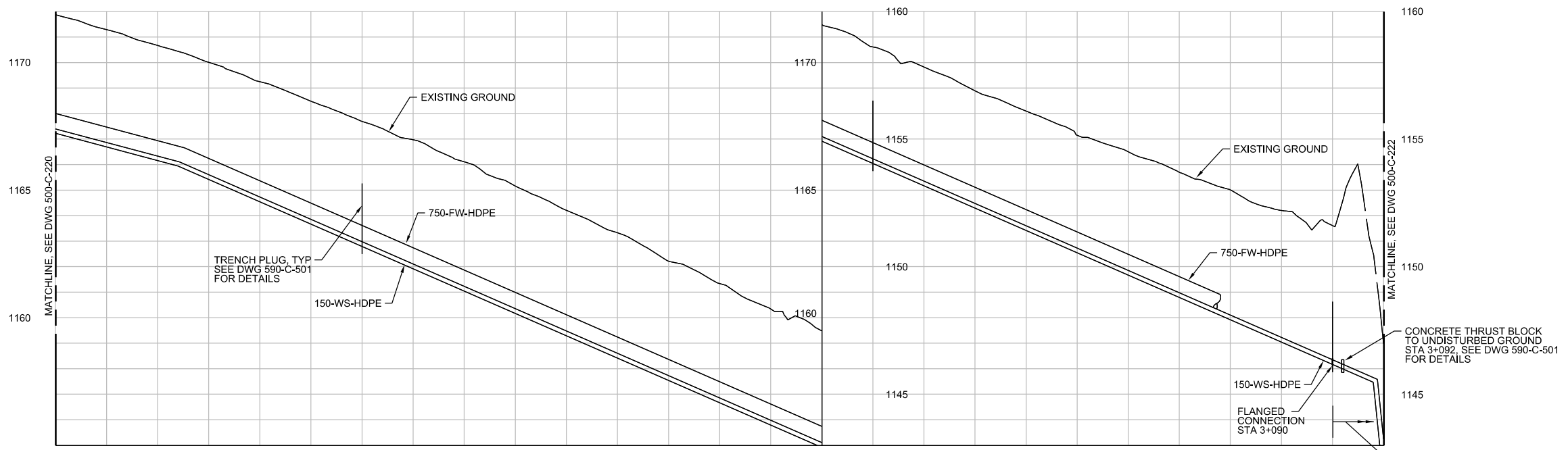
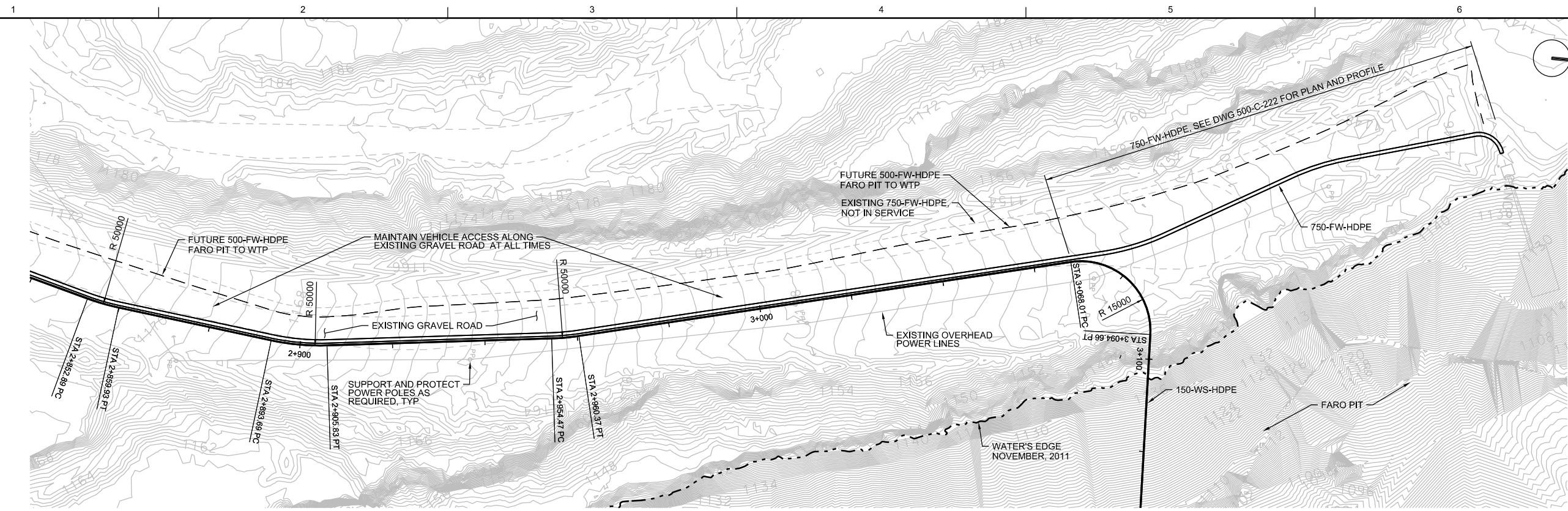
1:500
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 500-C-221
SHEET

NO.	DATE	REVISION	BY	APVD
A	09/2013	ISSUED FOR ADVANCED DESIGN REVIEW	AR	GN
		ISSUED FOR DETAIL DESIGN REVIEW	AR	GN
DSGN			CHK	APVD
			A. RIOLO	G. LANCASTER

CH2MHILL®
CIVIL
150-WS-HDPE AND 750-FW-HDPE PLAN AND PROFILE (8)

150-WS-HDPE AND 750-FW-HDPE PLAN AND PROFILE (8)
1:500H:1:100V





STATION	2+840.00	2+850.00	2+860.00	2+864.00	2+870.00	2+880.00	2+890.00	2+900.00	2+910.00	2+920.00	2+930.00	2+940.00	2+950.00	2+960.00	2+970.00	2+980.00	2+990.00	3+000.00	3+010.00	3+020.00	3+030.00	3+040.00	3+050.00	3+060.00	3+070.00	3+080.00	3+090.00	3+098.00	3+100.00
EXISTING GRADE	1171.87	1171.29	1170.67	1170.44	1170.01	1169.25	1168.48	1167.69	1166.97	1166.11	1165.16	1164.21	1163.33	1162.21	1161.34	1160.34	1159.48	1158.61	1157.82	1156.89	1155.10	1155.15	1154.50	1153.70	1147.92	1153.01	1146.17	1145.60	1146.88
INVERT ELEVATION (150mm AND 750mm)	1167.23	1166.69	1166.16	1165.94	1165.42	1164.54	1163.67	1162.79	1161.92	1161.04	1160.17	1159.29	1158.42	1157.54	1156.67	1155.79	1154.92	1154.04	1153.17	1152.29	1151.42	1150.54	1149.67	1148.79	1147.92	1147.04	1146.17	1145.47	1146.98
LENGTH AND GRADE	LENGTH = 162.80m SLOPE = -5.34%					LENGTH = 234.00m SLOPE = -8.75%										LENGTH = 4.00m SLOPE = -193.44%													

CONTRACTOR TO SUBMIT DETAILED EXCAVATION WORKPLAN FOR WORK ALONG FARO PIT EMBANKMENT AND SUBMERGED PORTION OF PIPELINE. CONTRACTOR TO UNDERTAKE ADDITIONAL FIELD INVESTIGATIONS TO CONFIRM EXISTING GEOTECHNICAL CONDITIONS ALONG PIT EMBANKMENT FROM 3+090 TO 3+110

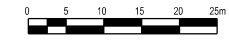
90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

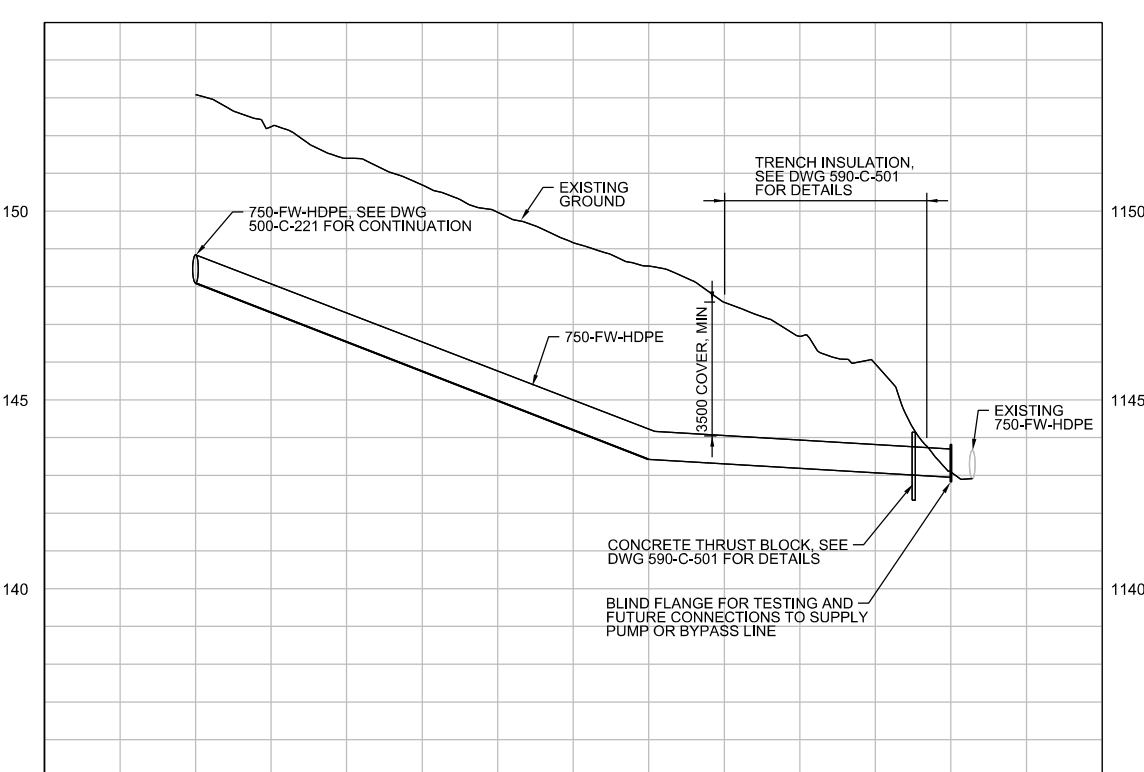
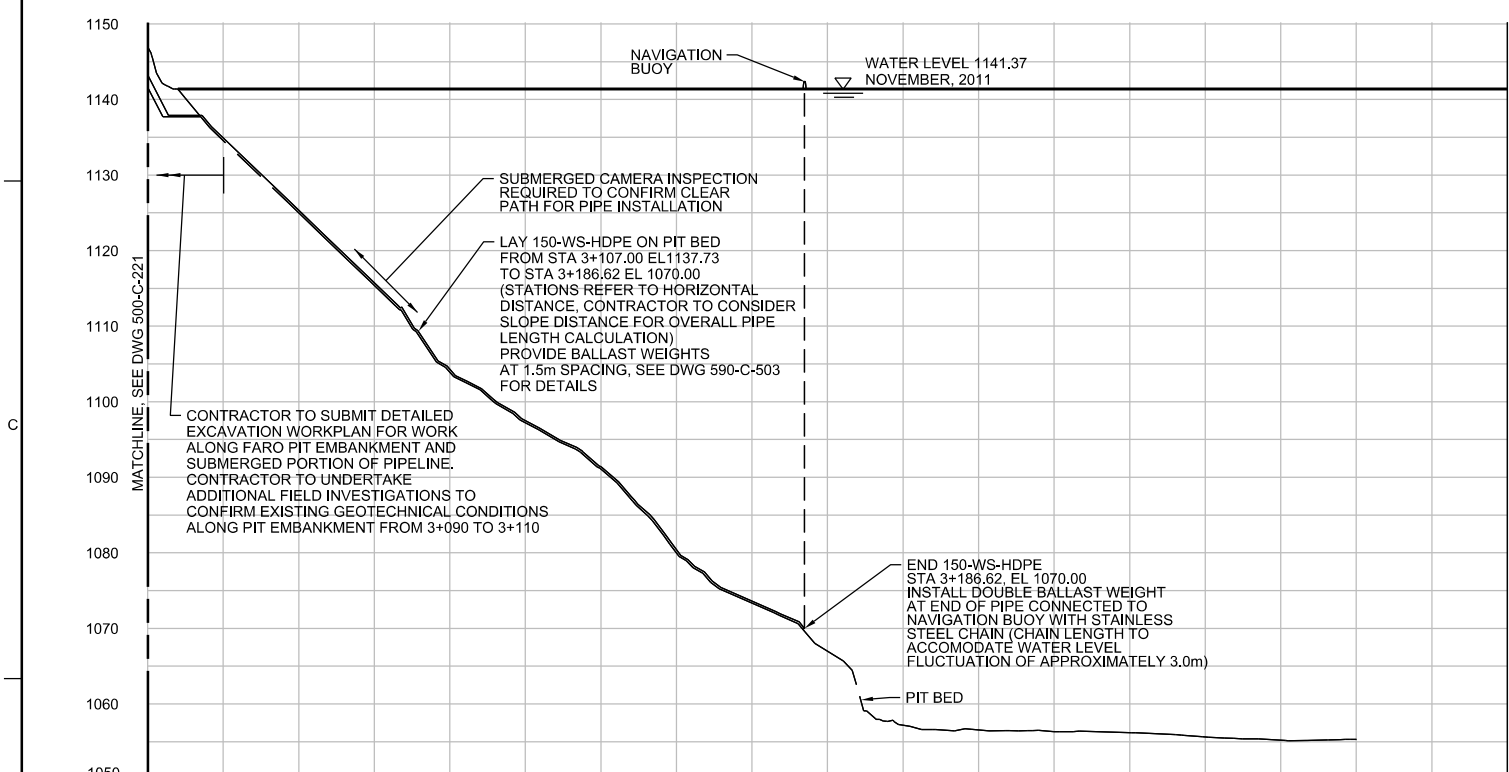
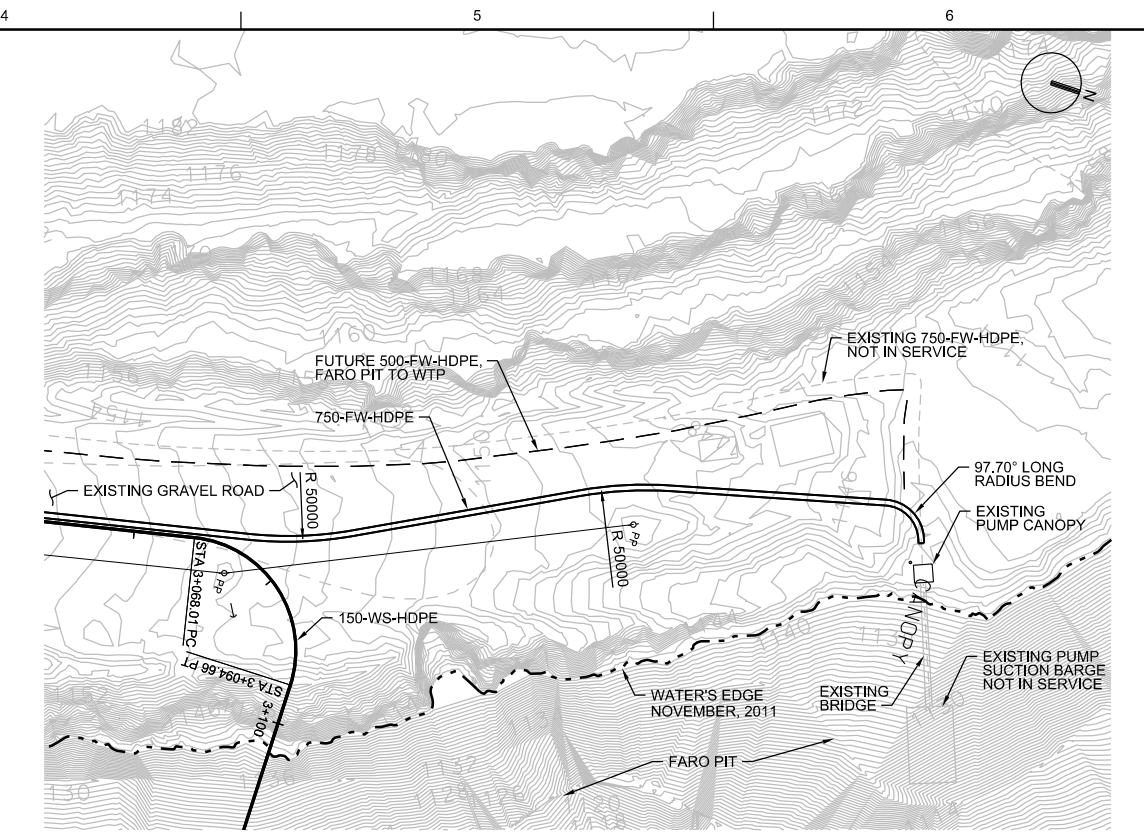
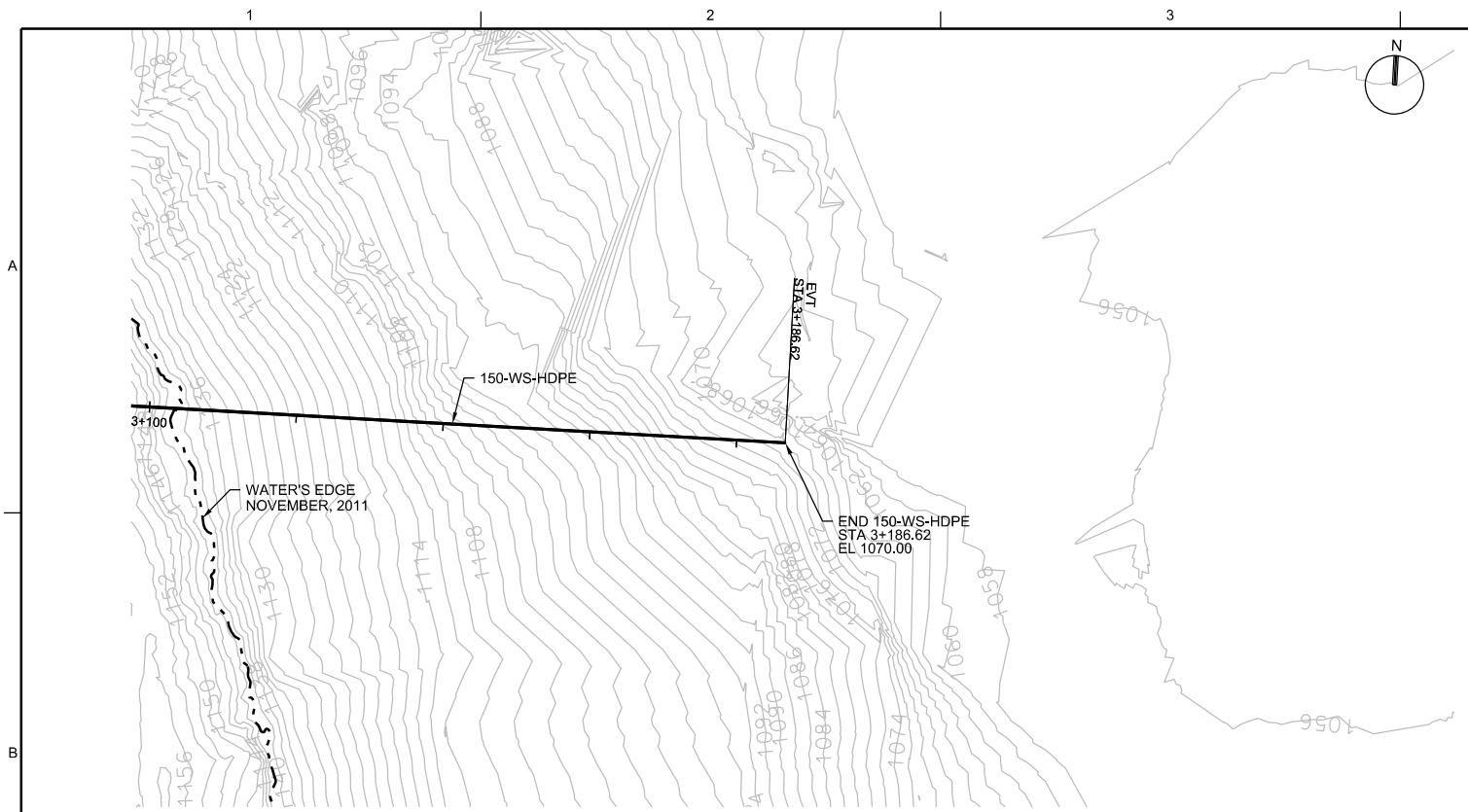
FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN GOVERNMENT OF YUKON DESIGN

1:500
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 500-C-221
SHEET

ISSUED FOR DETAIL DESIGN REVIEW	GN	BY	APVD
ISSUED FOR ADVANCED DESIGN REVIEW	GN	BY	APVD
NO. DATE	DR	CHK	APVD
A 09/2013	A. PONIEDZIALEK	A. RIOLO	G. LANCASTER

150-WS-HDPE AND 750-FW-HDPE PLAN AND PROFILE (8)
1:500H:1:100V





STATION	EXISTING GRADE	INVERT ELEVATION (150mm)	LENGTH AND GRADE
3+100.00	1146.98	1141.50	LENGTH = 5.00m SLOPE = 0.00%
3+102.00	1142.10	1137.73	
3+107.00	1137.71	1137.73	LAY 150-WS-HDPE ON PIT BED TO EL 1070.00
3+110.00	1134.55		
3+120.00	1124.98		LENGTH = 4.00m SLOPE = -193.44%
3+130.00	1115.40		
3+140.00	1103.88		
3+150.00	1097.21		
3+160.00	1091.08		
3+170.00	1079.96		
3+180.00	1073.96		
3+190.00	1066.98		
3+200.00	1057.20		
3+210.00	1056.57		
3+220.00	1056.32		
3+230.00	1056.20		
3+240.00	1055.61		
3+250.00	1055.19		
3+260.00	1055.30		
3+270.00			
3+280.00			

STATION	EXISTING GRADE	INVERT ELEVATION (750mm)	LENGTH AND GRADE
0+980.00			LENGTH = 60.00m SLOPE = -7.78%
0+990.00			
1+000.00	1153.09	1148.09	LENGTH = 42.84m SLOPE = -1.18%
1+010.00	1152.24	1147.31	
1+020.00	1151.40	1146.53	
1+030.00	1150.69	1145.76	
1+040.00	1149.97	1144.98	
1+050.00	1149.16	1144.20	
1+060.00	1148.54	1143.42	
1+070.00	1147.68	1143.30	
1+080.00	1146.68	1143.19	
1+090.00	1145.95	1143.07	
1+100.00	1143.09	1142.95	
1+102.84	1142.92	1142.92	
1+110.00			

150-WS-HDPE PLAN AND PROFILE
1:500 (NO VERTICAL EXAGGERATION)

750-FW-HDPE PLAN AND PROFILE
1:500H, 1:100V

NO.	DATE	BY	APVD
A	02/2014	AR	GN
DGN		DR	APVD
A. PONIEDZIALEK		G. LANCASTER	
A. RIOLO		CHK	
ISSUED FOR DETAIL DESIGN REVIEW			

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

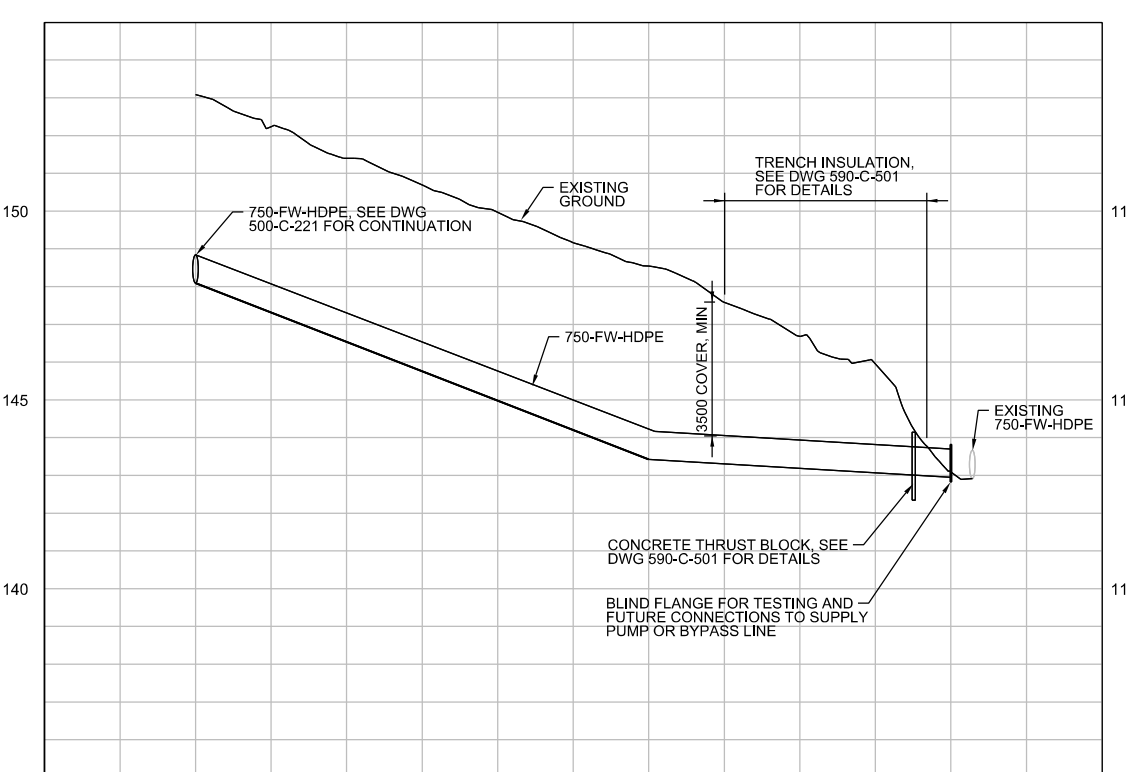
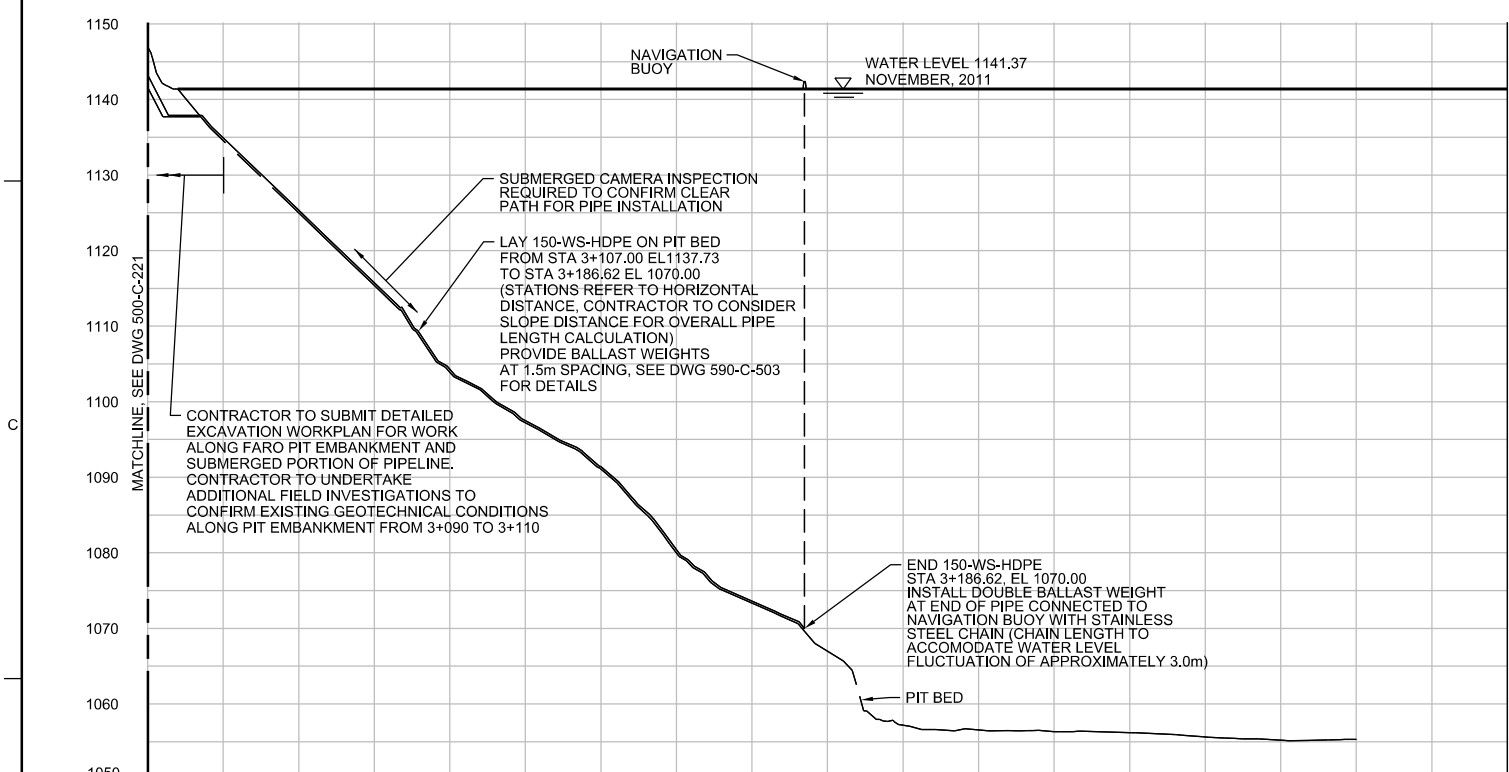
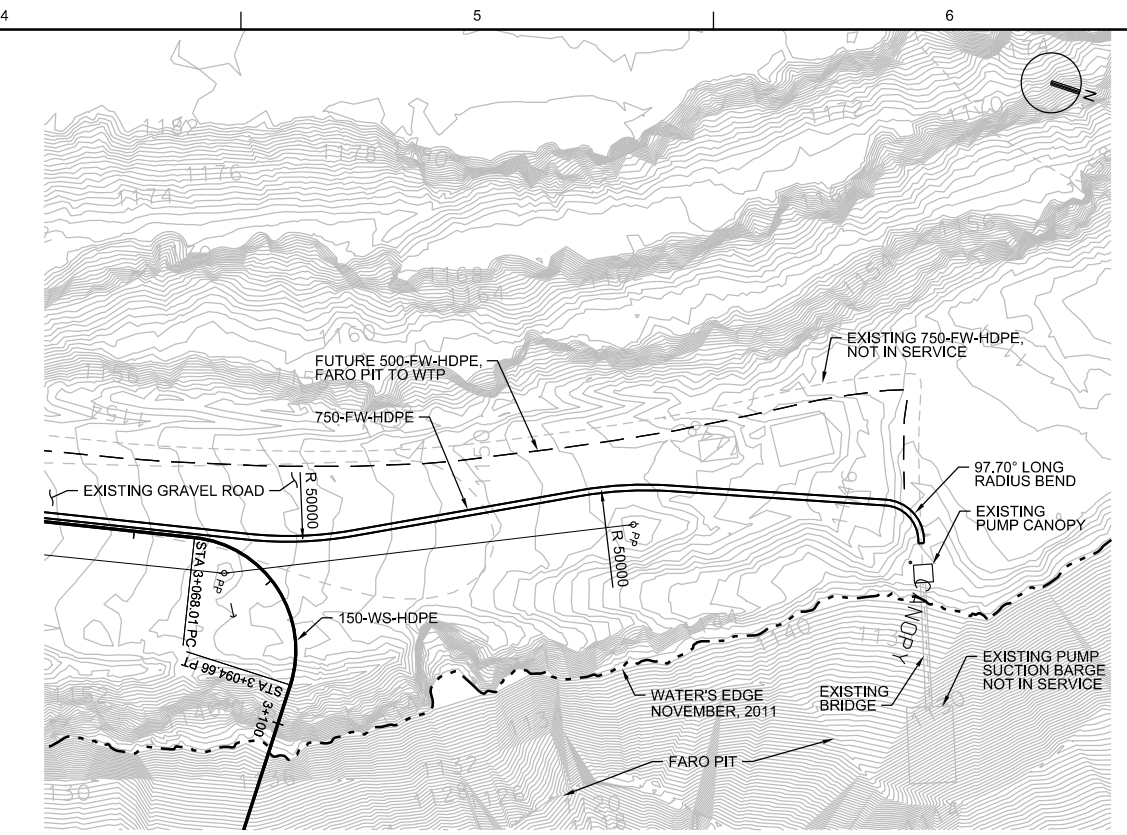
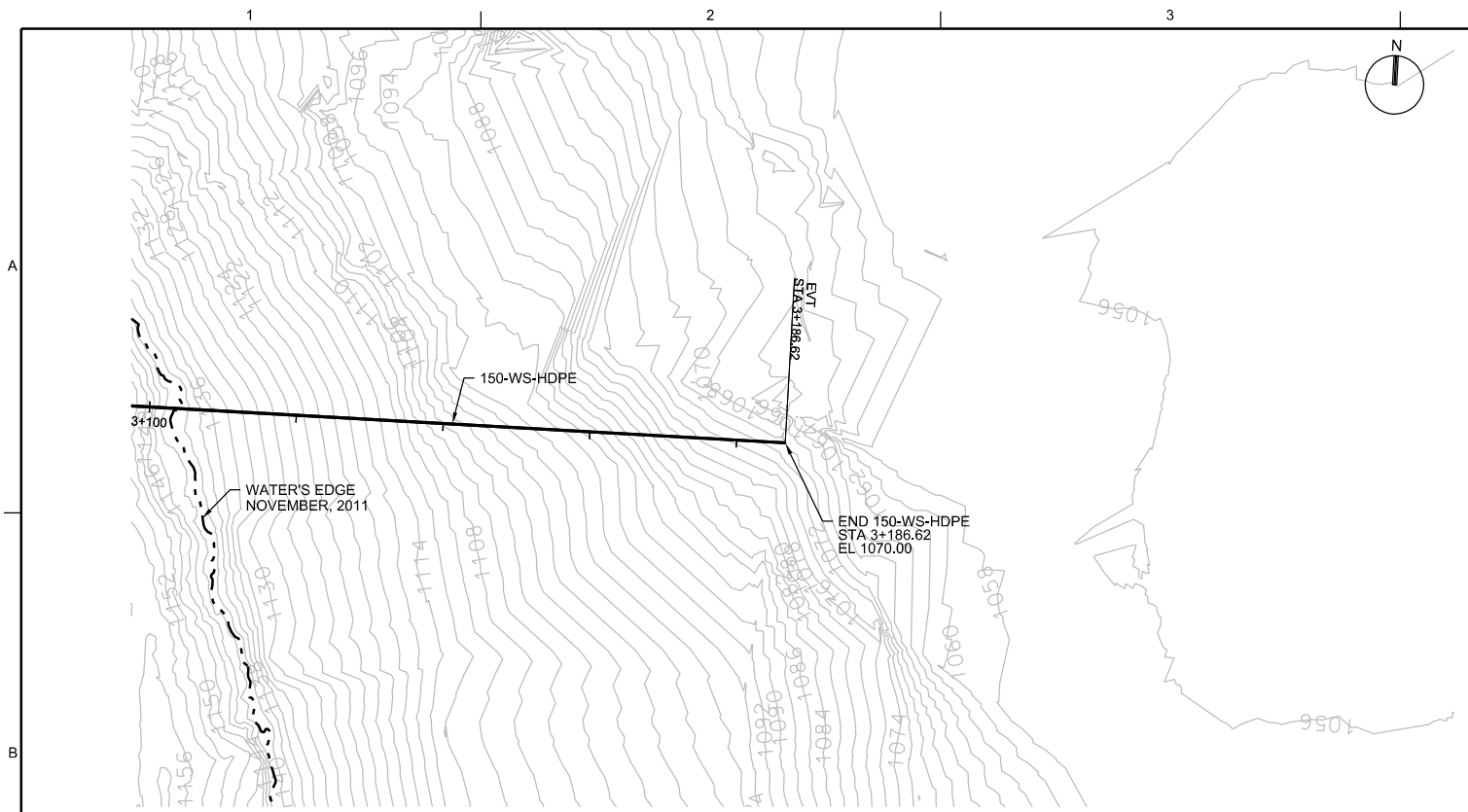
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL
CIVIL

150-WS-HDPE AND 750-FW-HDPE PLAN AND PROFILE (9)

1:500
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 500-C-222
SHEET

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STATION	EXISTING GRADE	INVERT ELEVATION (150mm)	LENGTH AND GRADE
3+100.00	1146.98	1141.50	LENGTH = 5.00m SLOPE = 0.00%
3+102.00	1142.10	1137.73	
3+107.00	1137.71	1137.73	LAY 150-WS-HDPE ON PIT BED TO EL 1070.00
3+110.00	1134.55		
3+120.00	1124.98		LENGTH = 4.00m SLOPE = -193.44%
3+130.00	1115.40		
3+140.00	1103.88		
3+150.00	1097.21		
3+160.00	1091.08		
3+170.00	1079.96		
3+180.00	1073.96		
3+190.00	1066.98		
3+200.00	1057.20		
3+210.00	1056.57		
3+220.00	1056.32		
3+230.00	1056.20		
3+240.00	1055.61		
3+250.00	1055.19		
3+260.00	1055.30		
3+270.00			
3+280.00			

STATION	EXISTING GRADE	INVERT ELEVATION (750mm)	LENGTH AND GRADE
0+980.00			LENGTH = 60.00m SLOPE = -7.78%
0+990.00			
1+000.00	1153.09	1148.09	LENGTH = 42.84m SLOPE = -1.18%
1+010.00	1152.24	1147.31	
1+020.00	1151.40	1146.53	
1+030.00	1150.69	1145.76	
1+040.00	1149.97	1144.98	
1+050.00	1149.16	1144.20	
1+060.00	1148.54	1143.42	
1+070.00	1147.68	1143.30	
1+080.00	1146.68	1143.19	
1+090.00	1145.95	1143.07	
1+100.00	1143.09	1142.95	
1+102.84	1142.92	1142.92	
1+110.00			

150-WS-HDPE PLAN AND PROFILE
1:500 (NO VERTICAL EXAGGERATION)

750-FW-HDPE PLAN AND PROFILE
1:500H, 1:100V

NO.	DATE	BY	APVD
A	02/2014	AR	GN
DR		CHK	APVD
DGN		DR	APVD

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL

CIVIL

150-WS-HDPE AND 750-FW-HDPE PLAN AND PROFILE (9)

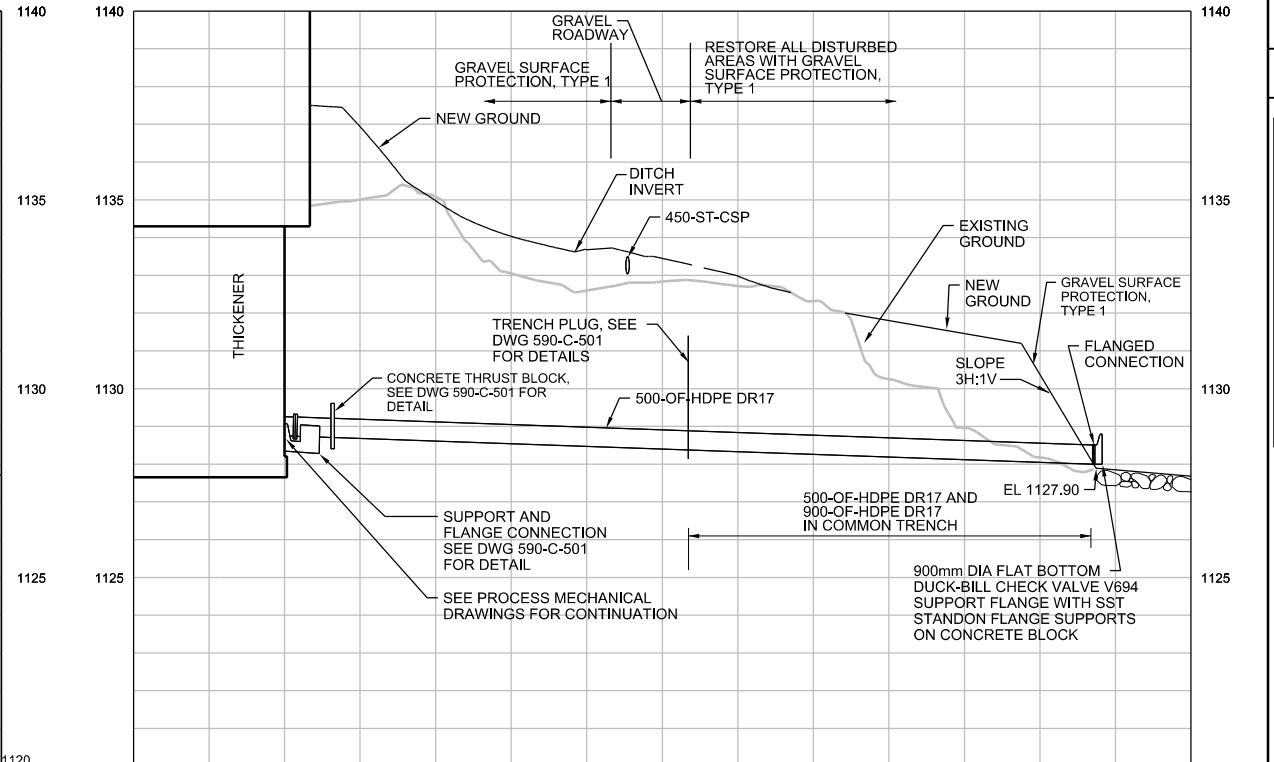
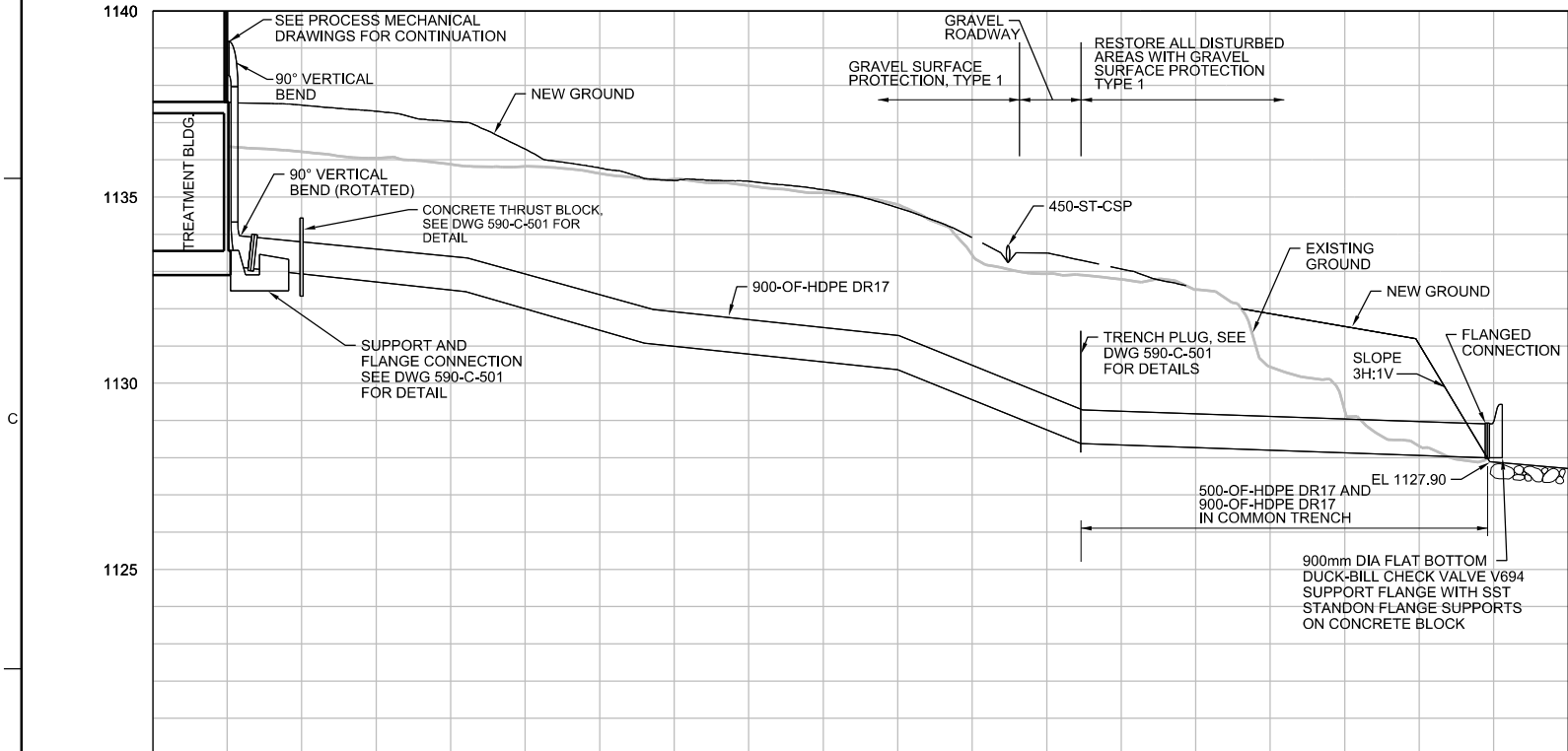
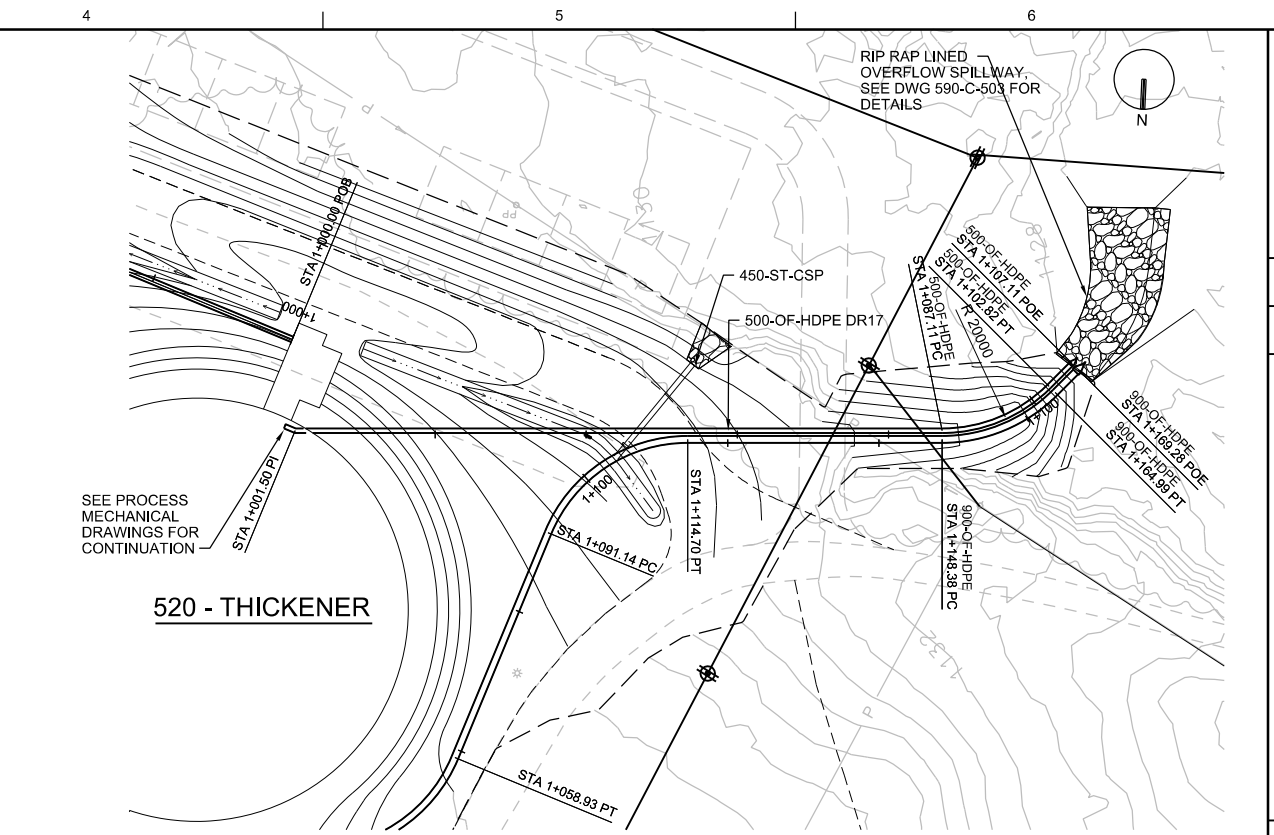
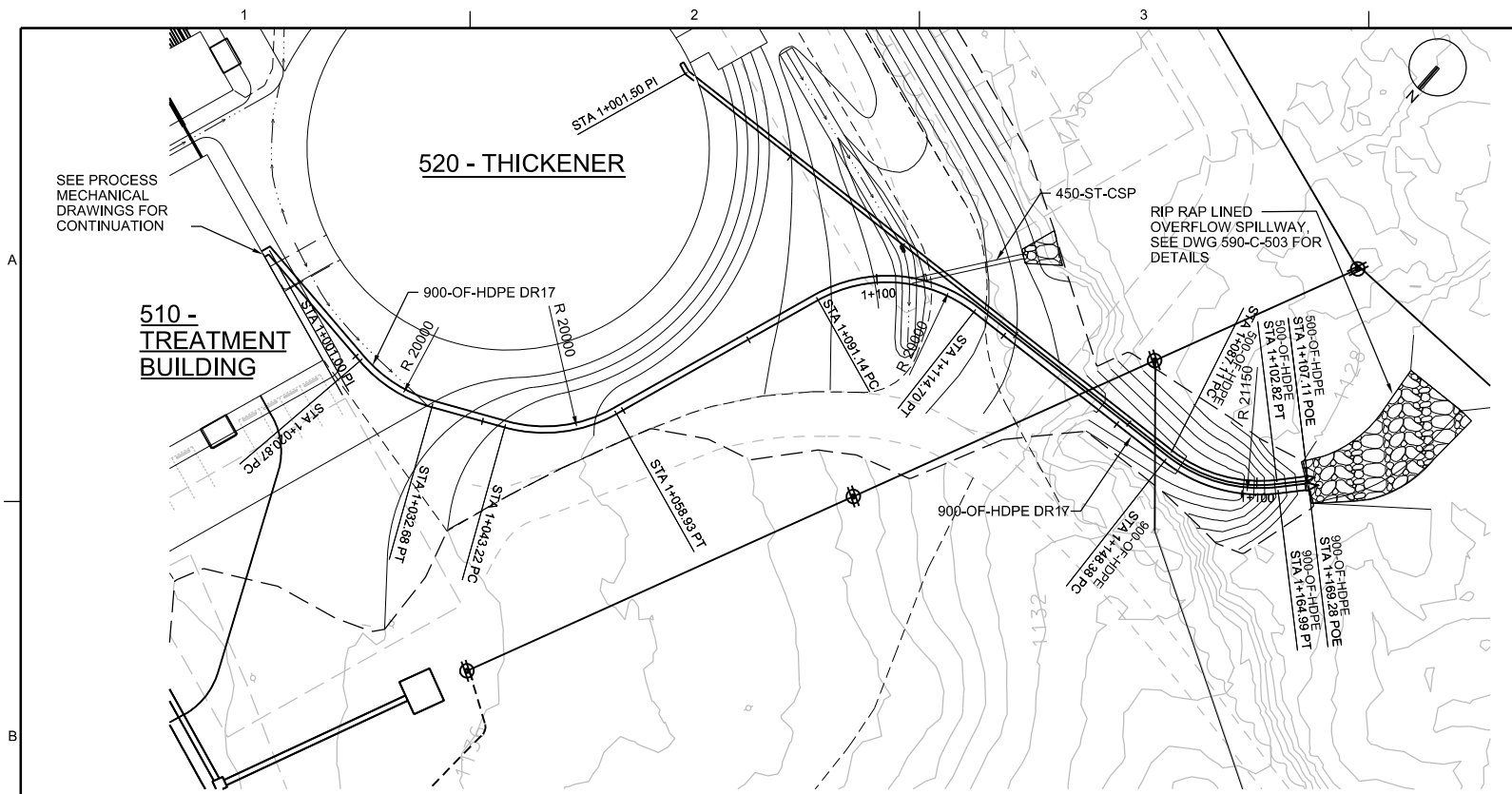
1:500

VERIFY SCALE

BAR IS 25mm ON ORIGINAL DRAWING.

DATE FEBRUARY 2014
PROJ TA013-427716
DWG 500-C-222
SHEET

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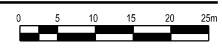


STATION	1+000.00	1+010.00	1+020.00	1+030.00	1+040.00	1+050.00	1+056.00	1+060.00	1+070.00	1+080.00	1+090.00	1+100.00	1+110.00	1+114.60	1+120.00	1+130.00	1+140.00	1+150.00	1+160.00	1+169.13
EXISTING GRADE	1138.36	1136.22	1136.04	1135.88	1135.83	1135.83	1135.49	1135.48	1135.31	1135.11	1134.80	1133.44	1132.94	1132.91	1132.79	1132.51	1130.44	1129.26	1128.31	1127.99
INVERT ELEVATION	1138.63	1132.94	1132.72	1132.50	1132.46	1132.00	1131.42	1130.99	1130.78	1130.57	1130.36	1129.56	1128.75	1128.38	1128.34	1128.27	1128.20	1128.13	1128.06	1127.99
LENGTH AND GRADE	LENGTH = 31.45m SLOPE = -2.16%		LENGTH = 24.00m SLOPE = -5.76%		LENGTH = 34.00m SLOPE = -2.10%		LENGTH = 24.80m SLOPE = -8.08%		LENGTH = 54.53m SLOPE = -0.70%											

STATION	1+000.00	1+010.00	1+020.00	1+030.00	1+040.00	1+050.00	1+060.00	1+070.00	1+080.00	1+090.00	1+100.00	1+107.11	1+110.00	1+120.00
EXISTING GRADE	1134.85	1135.01	1135.07	1133.05	1132.60	1132.84	1132.72	1132.32	1130.25	1128.96	1128.18	1128.00	1128.00	
INVERT ELEVATION	1128.75	1128.68	1128.61	1128.54	1128.47	1128.40	1128.33	1128.26	1128.19	1128.12	1128.05	1128.00	1128.00	
LENGTH AND GRADE	LENGTH = 107.11m SLOPE = -0.70%													

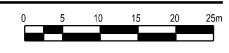
900-OF-HDPE PLAN AND PROFILE

1:500H:1:100V



500-OF-HDPE PLAN AND PROFILE

1:500H:1:100V



NO.	DATE	BY	APVD
A	02/20/14	AR	GN
ISSUED FOR DETAIL DESIGN REVIEW			
REVISION			
DR	CHK		APVD
A. POMEZIALEK			G. LANCASTER

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

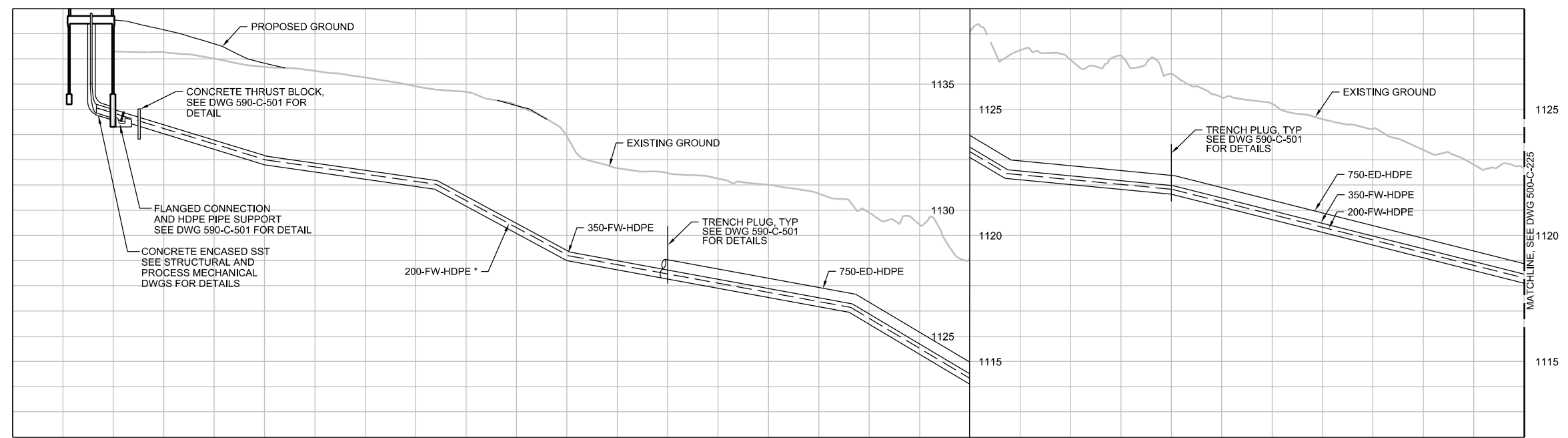
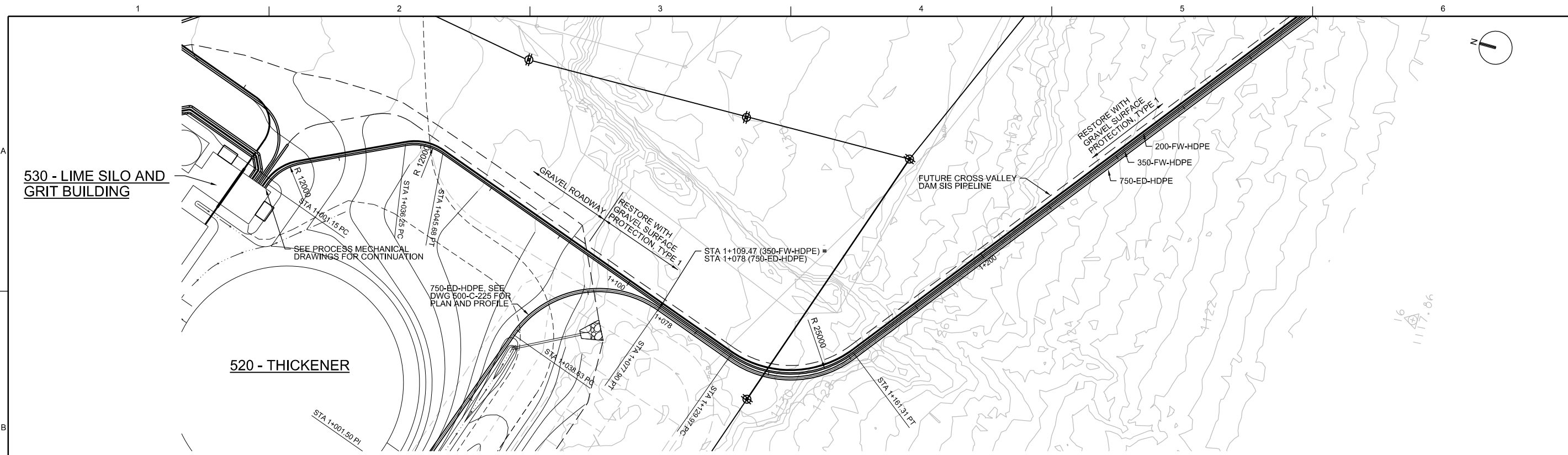
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL

CIVIL

900-OF-HDPE AND 500-OF-HDPE PLAN AND PROFILE

1:500
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 500-C-223
SHEET

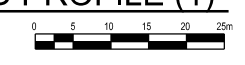


* NOTE: ALL PIPES ARE DR17

STATION 350 FW	0+980.00	0+990.00	1+000.00	1+010.00	1+020.00	1+030.00	1+040.00	1+050.00	1+060.00	1+063.75	1+070.00	1+080.00	1+090.00	1+100.00	1+110.00	1+120.00	1+130.00	1+140.00	1+146.00	1+150.00	1+160.00	1+170.00	1+177.00	1+180.00	1+190.00	1+200.00	1+210.00	1+220.00	1+230.00	1+240.00	1+250.00	1+260.00	1+270.00	1+280.00
EXISTING GRADE			1136.30	1136.27	1136.01	1135.68	1135.52	1135.26	1134.91	1134.79	1134.69	1134.17	1132.92	1131.67	1131.47	1131.25	1131.01	1130.65	1130.39	1129.89	1129.43	1128.09	1127.04	1127.34	1126.96	1127.14	1126.42	1125.48	1125.22	1124.61	1124.24	1123.39	1122.81	1122.68
INVERT ELEVATION			1133.64	1133.03	1132.41	1131.80	1131.51	1131.23	1130.94	1130.63	1130.16	1129.08	1128.00	1127.63	1127.27	1126.90	1126.54	1126.17	1125.95	1125.47	1124.28	1123.09	1122.26	1122.20	1122.01	1121.82	1121.63	1121.13	1120.62	1120.12	1119.61	1119.11	1118.61	1118.10
LENGTH AND GRADE			LENGTH = 30.00m SLOPE = -6.15%			LENGTH = 33.75m SLOPE = -2.87%			LENGTH = 26.25m SLOPE = -10.78%			LENGTH = 56.00m SLOPE = -3.66%				LENGTH = 31.00m SLOPE = -11.90%		LENGTH = 33.00m SLOPE = -1.91%		LENGTH = 131.00m SLOPE = -5.04%														

350-FW-HDPE, 200-FW-HDPE AND 750-ED-HDPE PLAN AND PROFILE (1)

1:500H:1:100V



NO.	02/2014	DATE	ISSUED FOR DETAIL DESIGN REVIEW
DR	A. RIOLO	CHK	G. LANCASTER
DGN	A. PONIEMZIALEK	DR	G. LANCASTER
BY	AR	GN	APVD
REVISION			

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

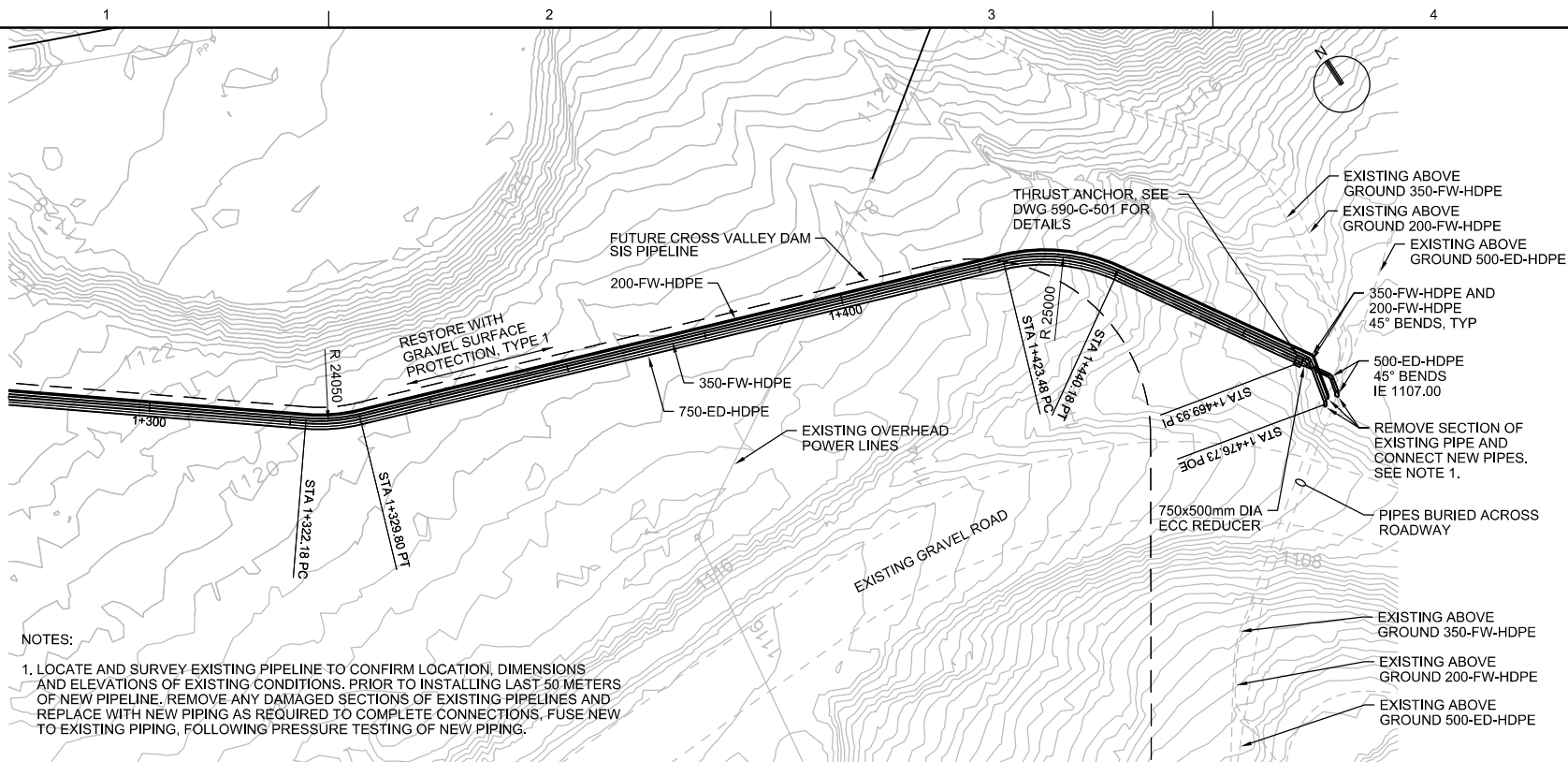
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®

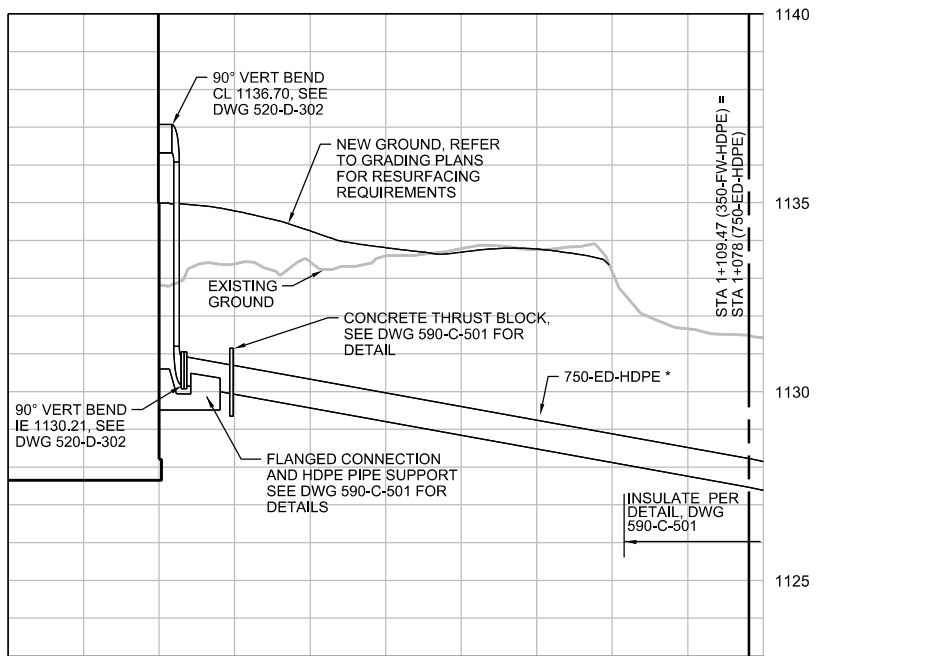
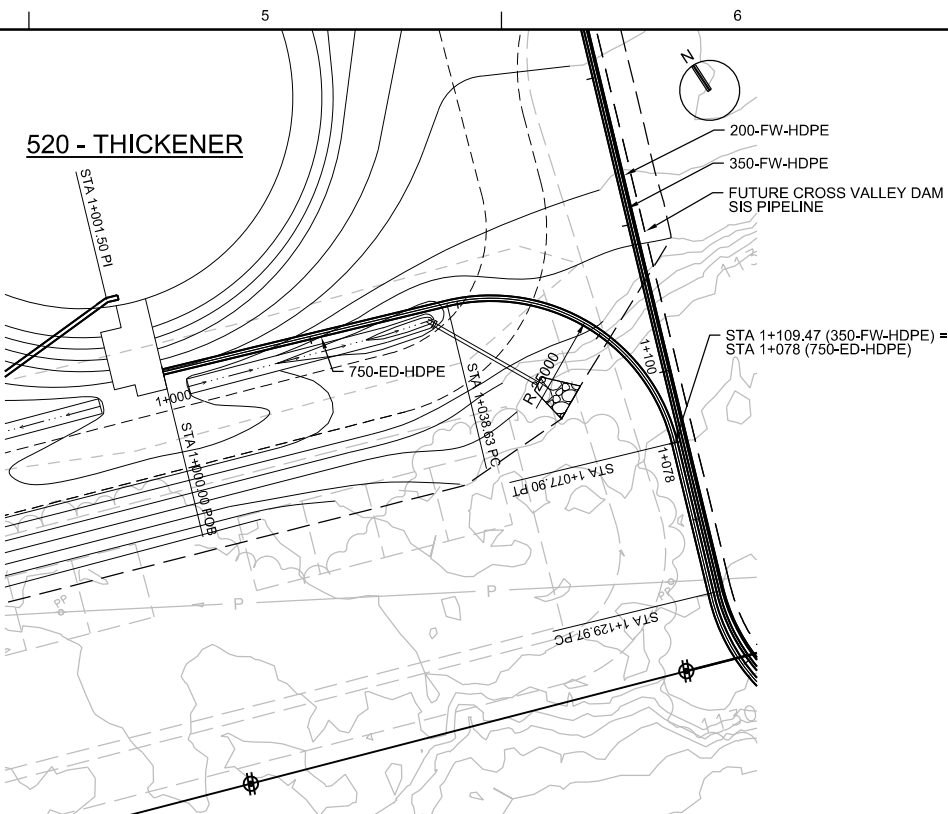
CIVIL

350-FW-HDPE, 200-FW-HDPE AND 750-ED-HDPE PLAN AND PROFILE (1)

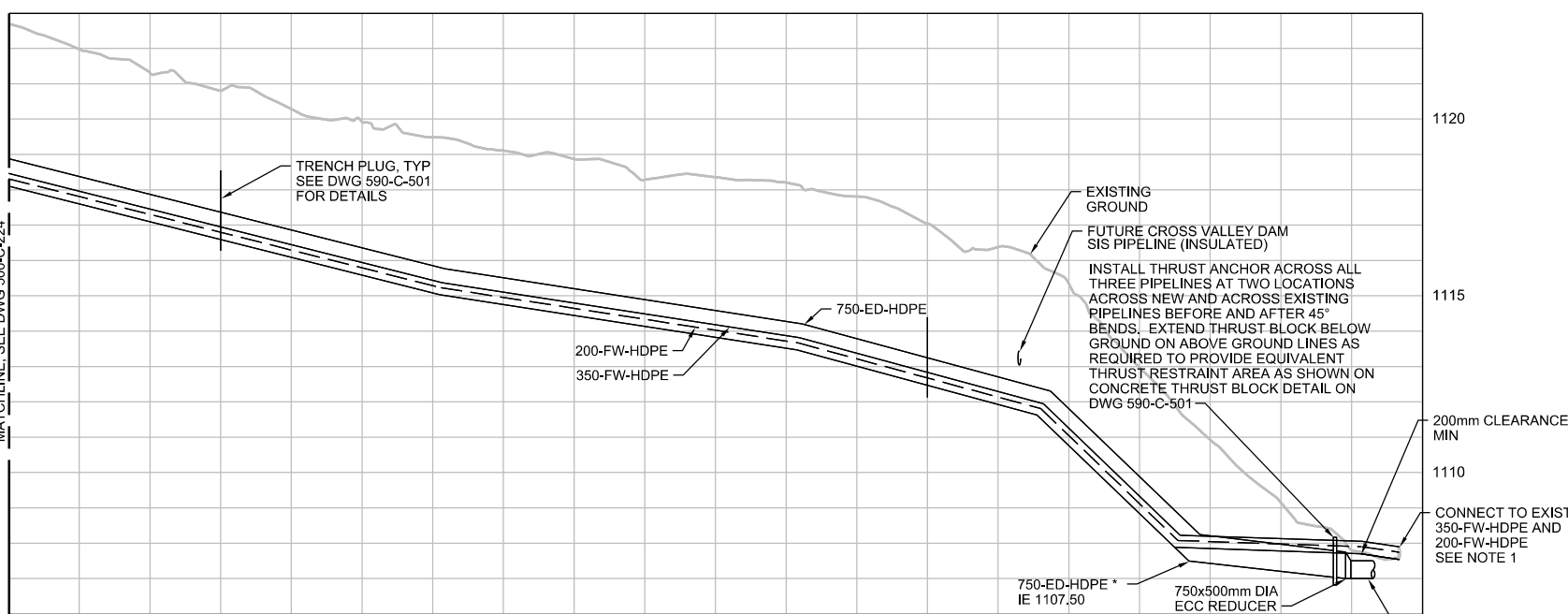
1:500
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 500-C-224
SHEET



NOTES:
 1. LOCATE AND SURVEY EXISTING PIPELINE TO CONFIRM LOCATION, DIMENSIONS AND ELEVATIONS OF EXISTING CONDITIONS. PRIOR TO INSTALLING LAST 50 METERS OF NEW PIPELINE, REMOVE ANY DAMAGED SECTIONS OF EXISTING PIPELINES AND REPLACE WITH NEW PIPING AS REQUIRED TO COMPLETE CONNECTIONS, FUSE NEW TO EXISTING PIPING, FOLLOWING PRESSURE TESTING OF NEW PIPING.



* NOTE: ALL HDPE PIPES ARE DR17



* NOTE: ALL HDPE PIPES ARE DR17

STATION	350 FW	200 FW	750 ED
1+280.00	1+280.00	1+280.00	1+280.00
1+300.00	1+300.00	1+300.00	1+300.00
1+310.00	1+310.00	1+310.00	1+310.00
1+320.00	1+320.00	1+320.00	1+320.00
1+330.00	1+330.00	1+330.00	1+330.00
1+340.00	1+340.00	1+340.00	1+340.00
1+350.00	1+350.00	1+350.00	1+350.00
1+360.00	1+360.00	1+360.00	1+360.00
1+370.00	1+370.00	1+370.00	1+370.00
1+380.00	1+380.00	1+380.00	1+380.00
1+390.00	1+390.00	1+390.00	1+390.00
1+400.00	1+400.00	1+400.00	1+400.00
1+410.00	1+410.00	1+410.00	1+410.00
1+420.00	1+420.00	1+420.00	1+420.00
1+425.50	1+425.50	1+425.50	1+425.50
1+430.00	1+430.00	1+430.00	1+430.00
1+440.00	1+440.00	1+440.00	1+440.00
1+445.00	1+445.00	1+445.00	1+445.00
1+450.00	1+450.00	1+450.00	1+450.00
1+460.00	1+460.00	1+460.00	1+460.00
1+470.00	1+470.00	1+470.00	1+470.00
1+471.31	1+471.31	1+471.31	1+471.31
1+476.73	1+476.73	1+476.73	1+476.73
1+480.00	1+480.00	1+480.00	1+480.00

350-FW-HDPE, 200-FW-HDPE AND 750ED-HDPE PLAN AND PROFILE (2)

1:500H:1:100V



STATION	750 ED
0+980.00	0+980.00
0+990.00	0+990.00
1+000.00	1+000.00
1+001.79	1+001.79
1+010.00	1+010.00
1+020.00	1+020.00
1+030.00	1+030.00
1+040.00	1+040.00
1+050.00	1+050.00
1+060.00	1+060.00
1+070.00	1+070.00
1+078.00	1+078.00
1+080.00	1+080.00

750-ED-HDPE PLAN AND PROFILE

1:500H:1:100V

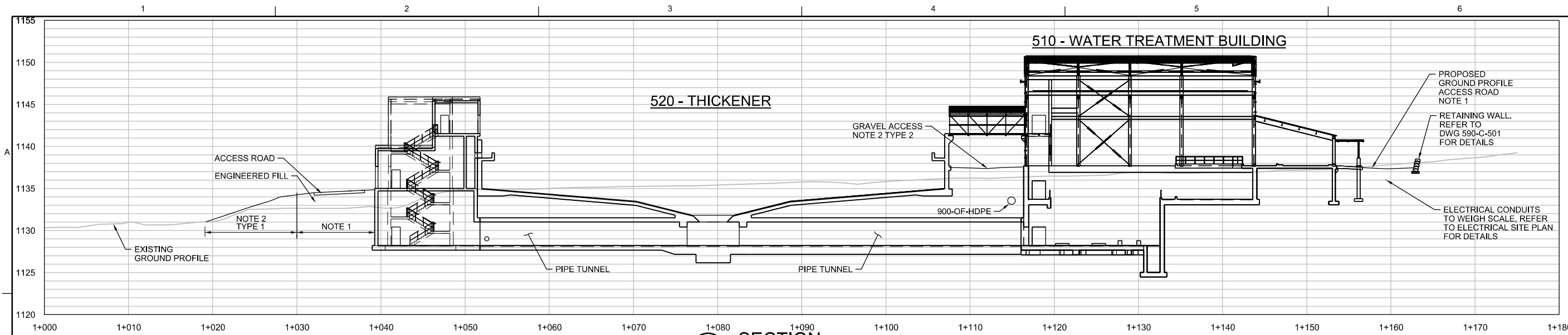


NO.	02/2014	DATE
DR	A. RIOLO	CHK
APVD	G. LANCASTER	BY
REVISION	ISSUED FOR DETAIL DESIGN REVIEW	GN

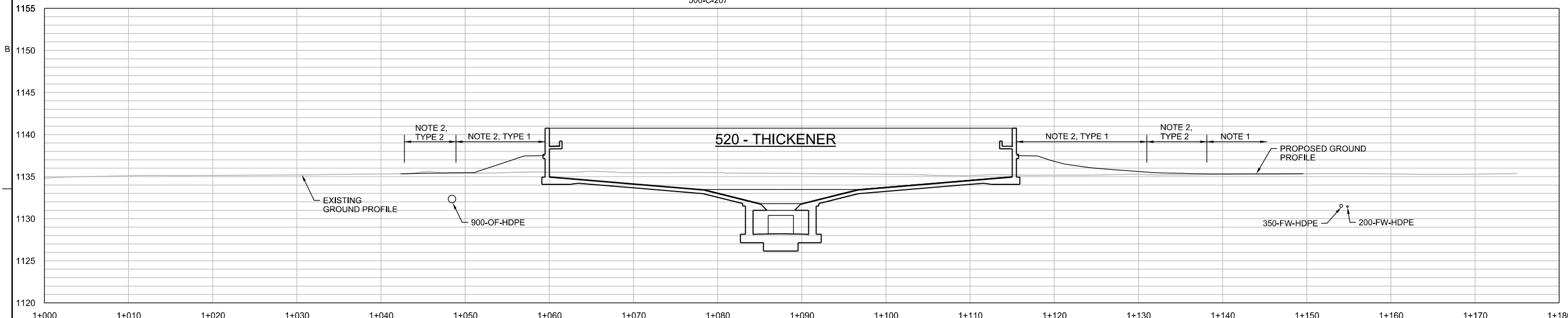
90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION
 FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN
 GOVERNMENT OF YUKON DESIGN

CH2MHILL
 CIVIL
350-FW-HDPE, 200-FW-HDPE AND 750-ED-HDPE PLAN AND PROFILE (2)

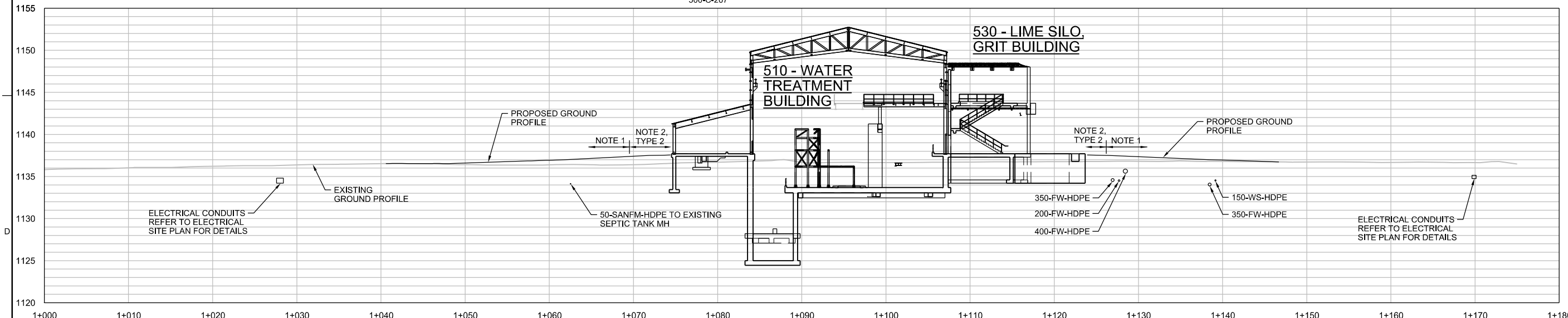
DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	500-C-225
SHEET	



A-A SECTION
1:250
500-C-204, 500-C-206
500-C-207



B-B SECTION
1:250
500-C-204, 500-C-206
500-C-207



C-C SECTION
1:250
500-C-204, 500-C-206
500-C-207

NOTE:
1. REFER TO NOTES 1, 2 AND 6 ON DWG 500-C-206.

SECTIONS
1:250



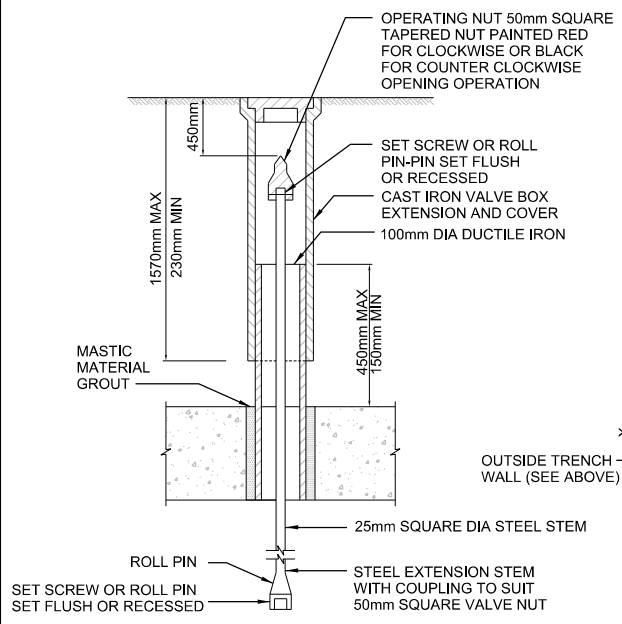
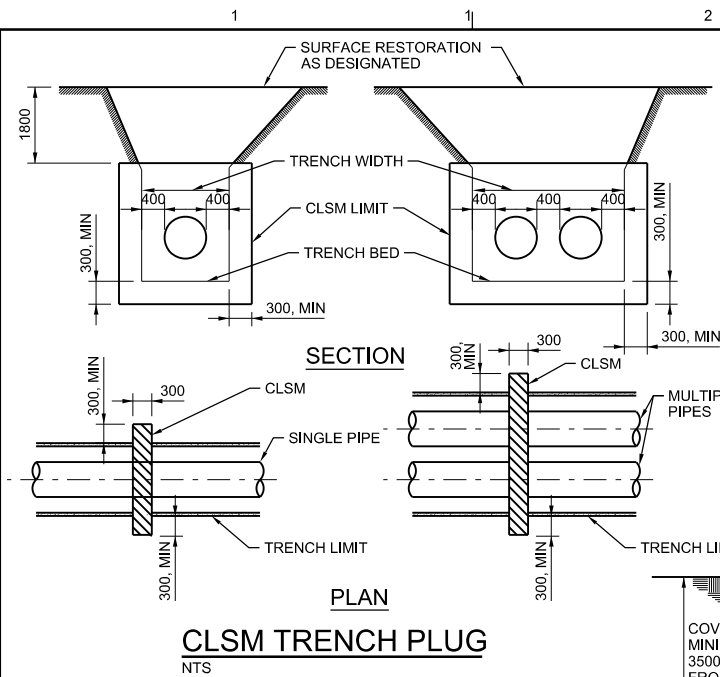
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ISSUED FOR ADVANCED DESIGN REVIEW	GN	AR	GN	BY	APVD
REVISION	NO.	DATE	DR	CHK	APVD
			A. PONIEDZIALEK	A. RILOLO	G. LANCASTER

90% DETAIL DESIGN REVIEW
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CONSTRUCTION

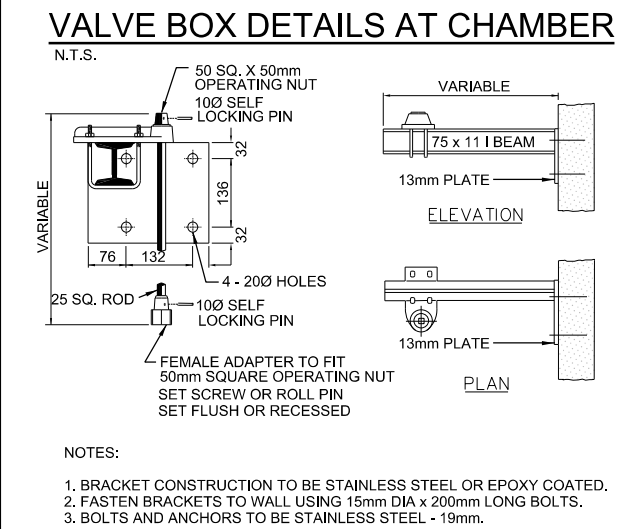
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL	CIVIL SECTIONS	
	VERIFY SCALE	
	BAR IS 25mm ON ORIGINAL DRAWING. 0 25mm	
	DATE	FEBRUARY 2014
PROJ	TA013-427716	
DWG	500-C-301	
SHEET		

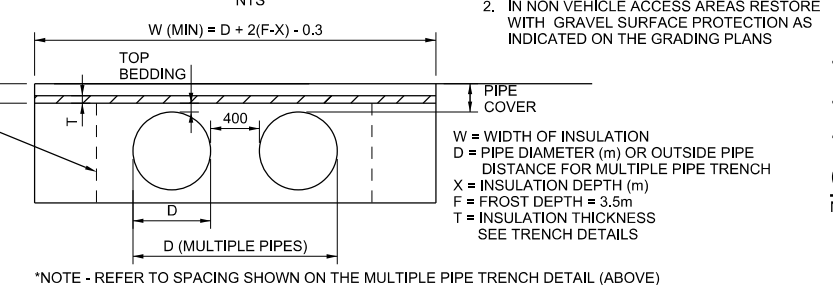
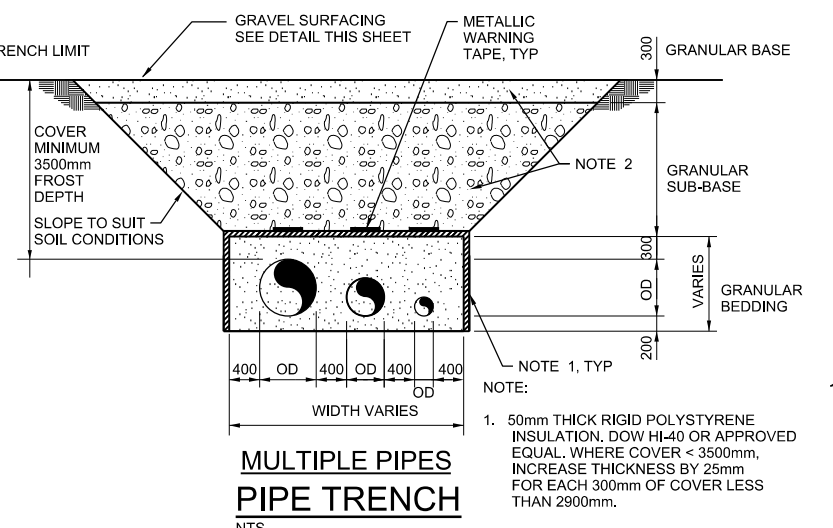
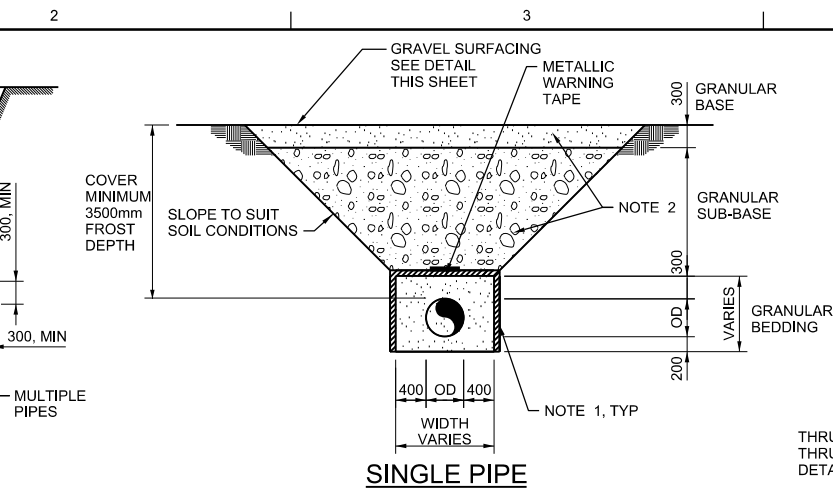
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NOTES:
 1. IF STEM IS GREATER THAN 4m OR CONTAIN COUPLINGS, STEM GUIDES AND SUPPORT ARE REQUIRED. SEE DETAIL THIS SHEET.
 2. ALL CARBON STEEL TO BE EPOXY COATED.



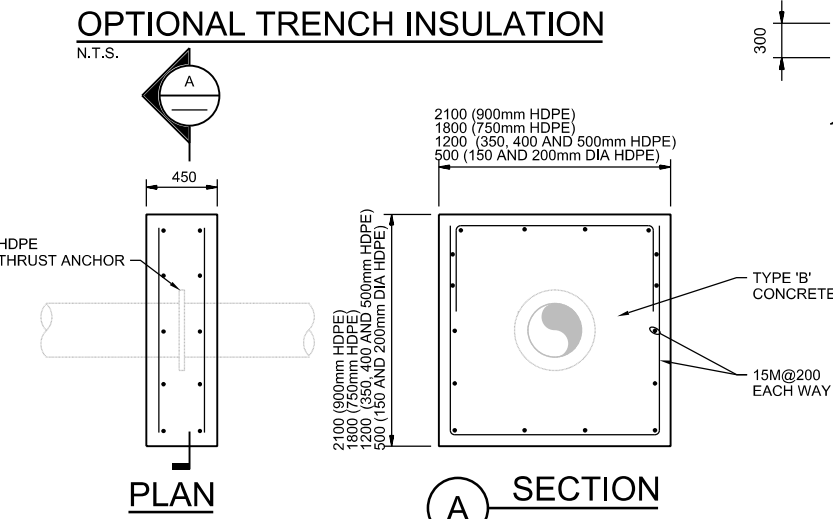
NOTES:
 1. BRACKET CONSTRUCTION TO BE STAINLESS STEEL OR EPOXY COATED.
 2. FASTEN BRACKETS TO WALL USING 15mm DIA x 200mm LONG BOLTS.
 3. BOLTS AND ANCHORS TO BE STAINLESS STEEL - 19mm.



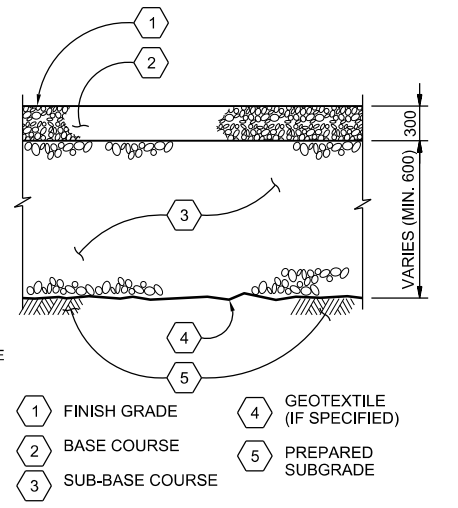
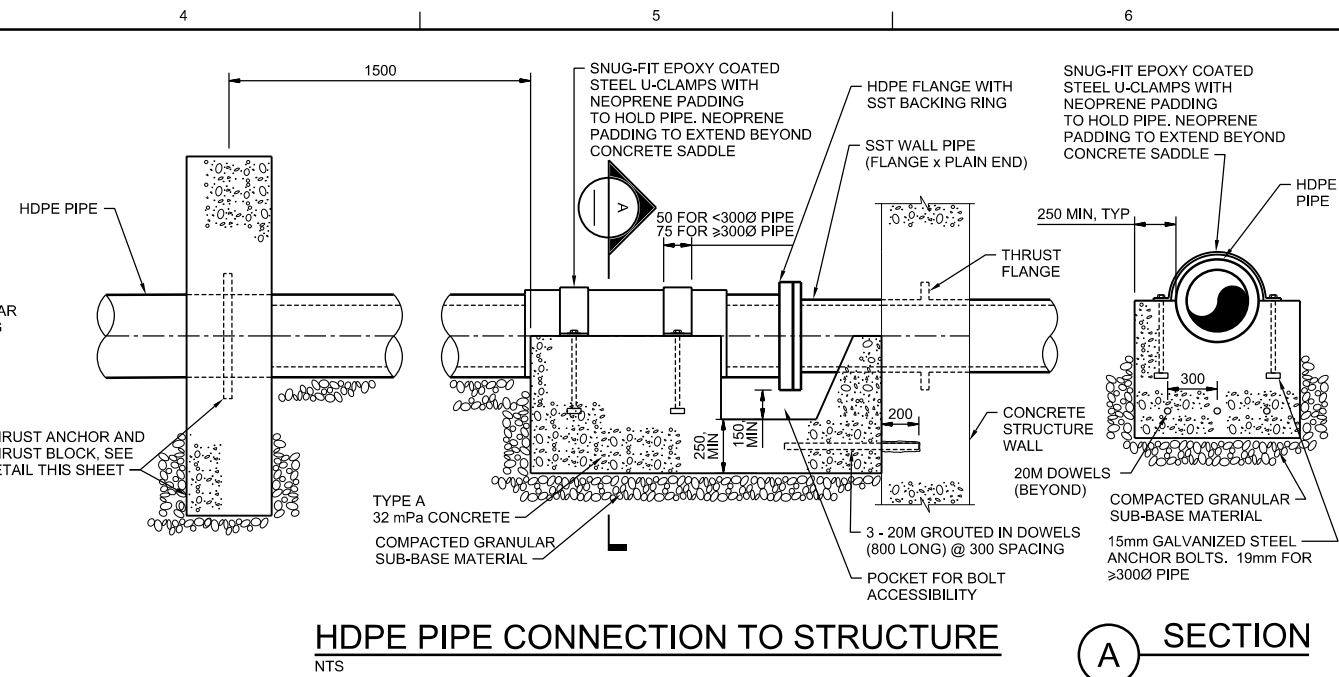
*NOTE - REFER TO SPACING SHOWN ON THE MULTIPLE PIPE TRENCH DETAIL (ABOVE) FOR OPTIONAL TRENCH INSULATION FOR TRENCHES WITH MULTIPLE PIPES

INSULATION WIDTH REQUIREMENTS

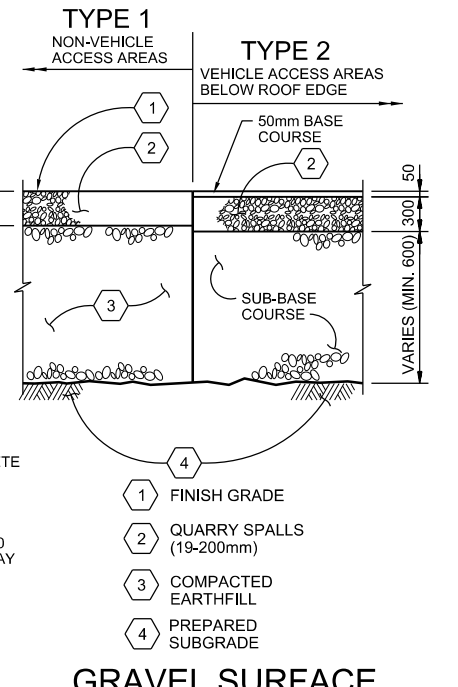
D (m)	PIPE COVER (m)	INSULATION TOP BEDDING (m)	X (m)	F (m)	MIN W (m)	MIN W (m)
VARIES	1.5	0.15	0.15	1.35	3.5	4.406
						4.5



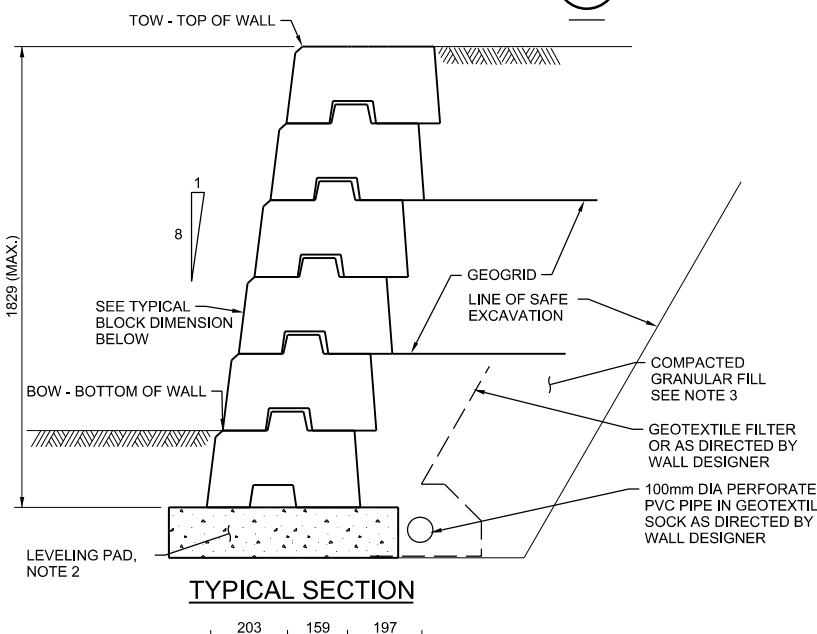
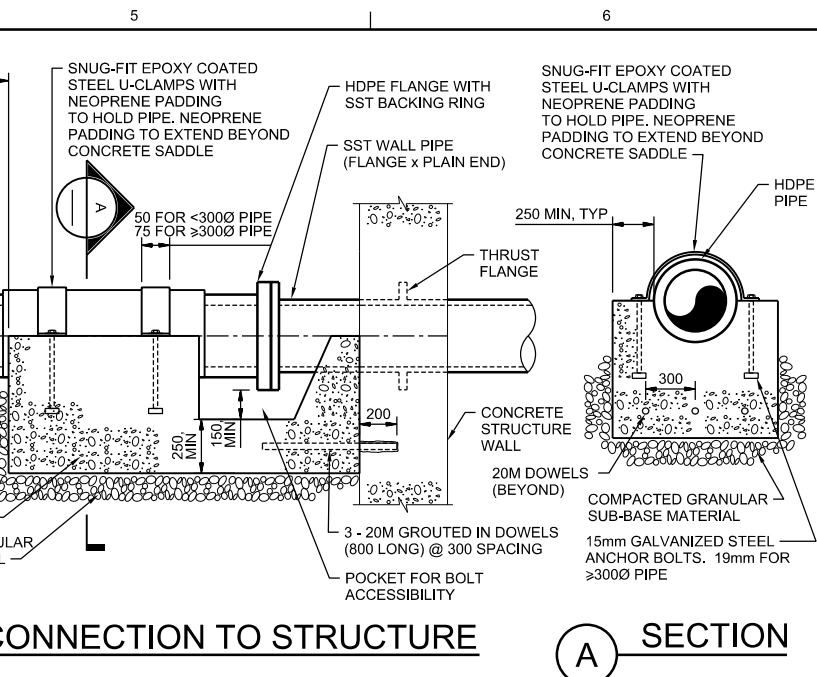
NTS



GRAVEL ROADWAY NTS




GRAVEL SURFACE PROTECTION NTS



NOTES:
 1. DETAILED DESIGN AND CONFIGURATION OF PRECAST MODULAR BLOCK WALL TO BE DESIGN BY CONTRACTOR'S WALL DESIGNER IN ACCORDANCE WITH THE SPECIFICATIONS. PRELIMINARY CONFIGURATION AND DETAILS ARE TO BE CONSIDERED MINIMUM REQUIREMENTS.
 2. LEVELING PAD TO BE TYPE B CONCRETE. PAD TO BE 610mm MINIMUM WIDTH. DEPTH AND WIDTH TO BE DETERMINED BY WALL DESIGNER.
 3. BACKFILL MATERIAL TO BE COMPACTED TO 95% STANDARD PROCTOR DENSITY. ALL BACKFILL SHALL BE FREE DRAINING, NON-FROST SUSCEPTIBLE GRANULAR MATERIAL WITH NO MORE THAN 5% PASSING THE #200 SIEVE.
 4. TYPICAL PRECAST BLOCKS ARE 610 WIDE x 300 HIGH x 1829mm LONG WEIGHT = 1700 POUNDS EACH.
 5. PROVIDE GEO-GRID DUE TO TRUCK LOADING AND GUARD RAIL BEHIND WALL.

PRECAST BLOCK RETAINING WALL NTS



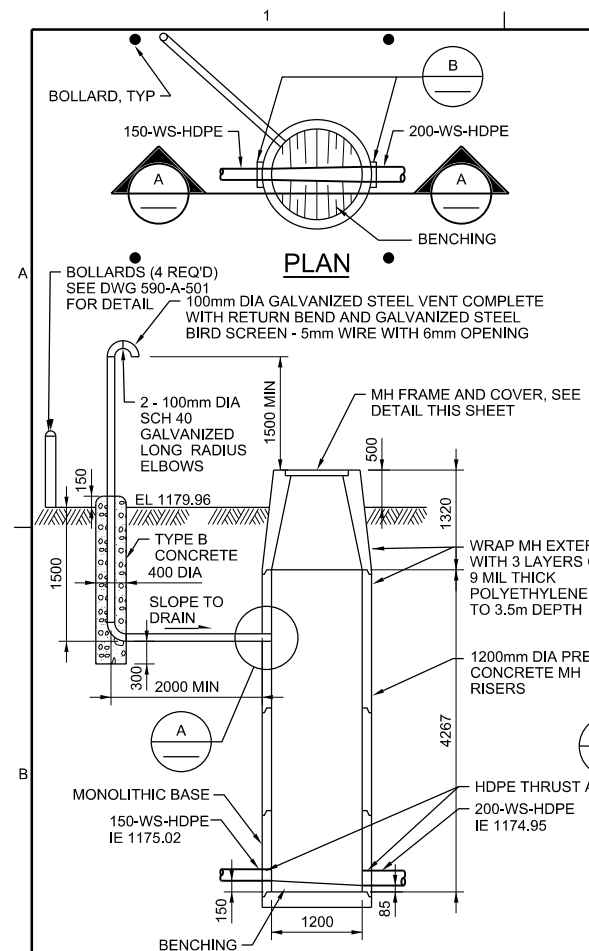
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ISSUED FOR ADVANCED DESIGN REVIEW	AR	GN	GN	GN	GN	GN	GN	GN	GN
REVISION	BY	APVD	BY	APVD	BY	APVD	BY	APVD	BY
DR	A. RILOLO	G. LANCASTER	CHK	A. PONIEMZIALEK	DR	A. RILOLO	G. LANCASTER	CHK	A. PONIEMZIALEK

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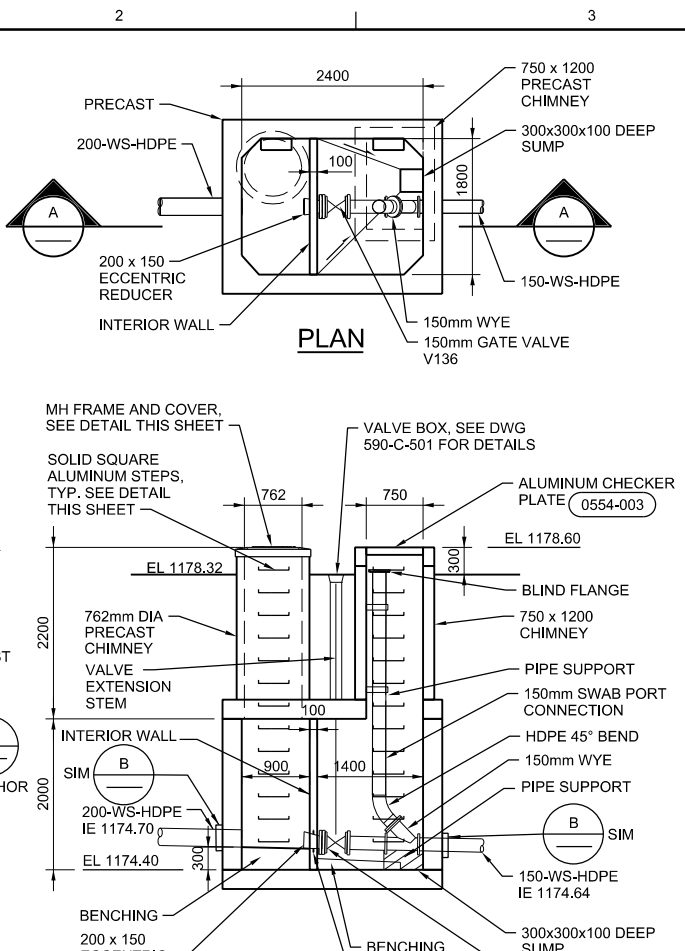
FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN GOVERNMENT OF YUKON DESIGN

STANDARD DETAILS (1)

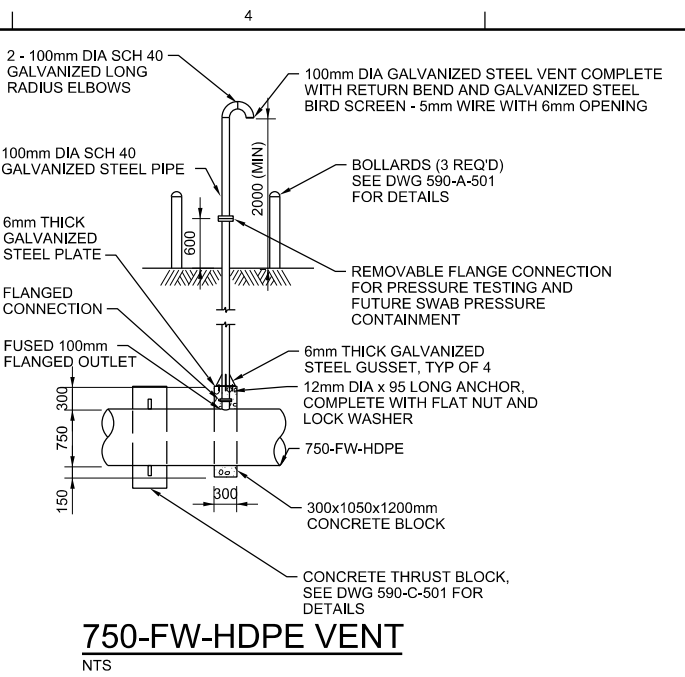
AS SHOWN
 VERIFY SCALE
 BAR IS 25mm ON ORIGINAL DRAWING.
 DATE FEBRUARY 2014
 PROJ TA013-427716
 DWG 590-C-501
 SHEET



SECTION A



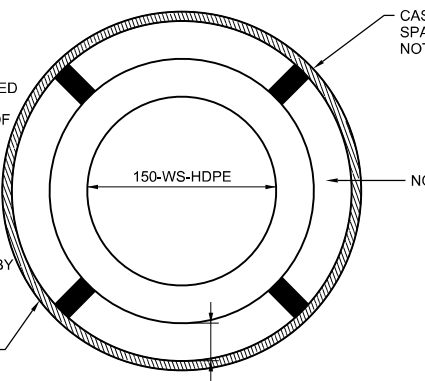
SECTION A



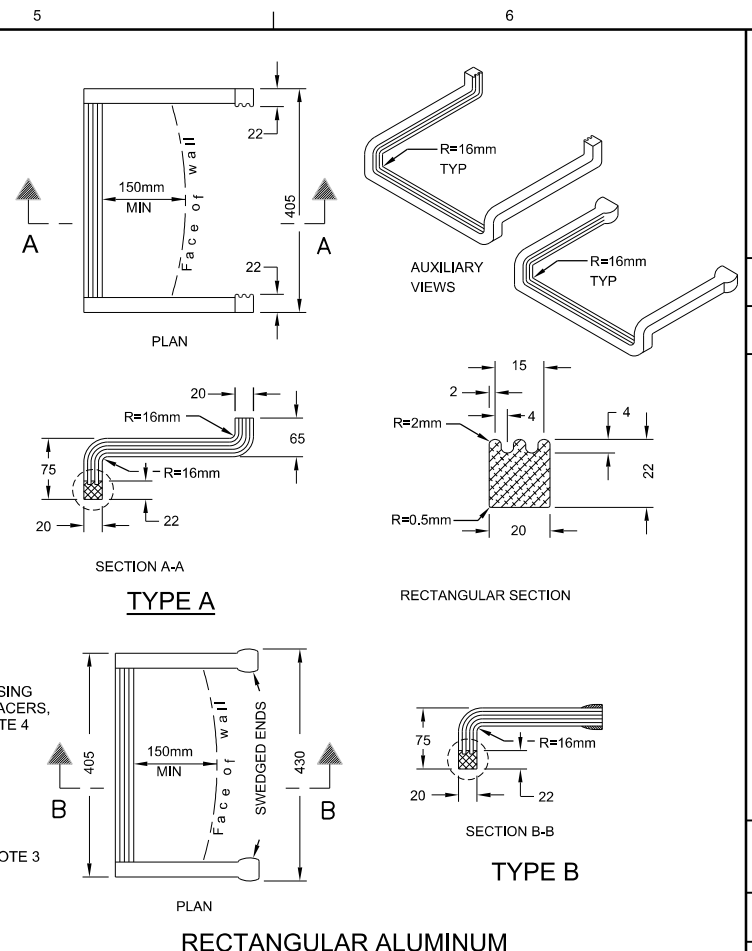
750-FW-HDPE VENT
NTS

NOTES:

1. STEEL CASING PIPE TO CONFORM TO REQUIREMENTS OF GRADE 2 STEEL AS SPECIFIED IN ASTM STANDARD A252. PIPE ENDS SHALL BE BEVEL EDGED ON THE OUTSIDE TO AN ANGLE OF 30 DEGREES FOR BUTT WELD SPACING.
2. BLOCKING OR CASING SPACERS SHALL BE SIZED TO PREVENT FLOATING.
3. INSTALL LINK-SEAL BOTH ENDS OF CASING BETWEEN PIPE WALL AND STEEL CASING.
4. POLYETHYLENE CASING SPACERS - MODEL CI, BY APS OR APPROVED EQUAL, 12mm THICK



PIPE CASING
NTS

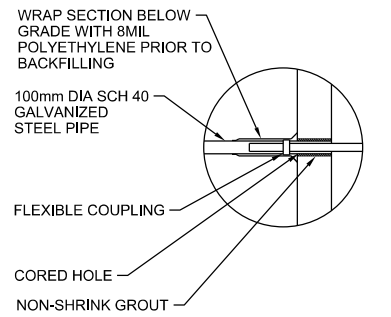


RECTANGULAR ALUMINUM

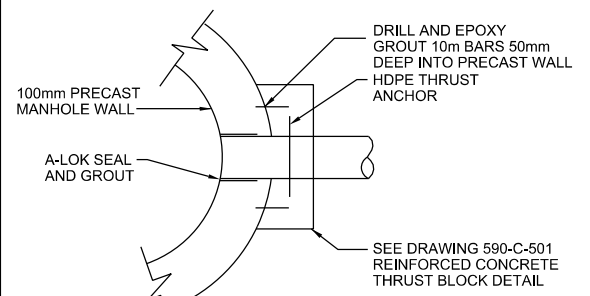
NOTES:

1. MUST MAINTAIN 300mm BETWEEN STEPS AND STEP AND BENCHING.
2. NO STEPS TO BE PACED IN MODULOCK.

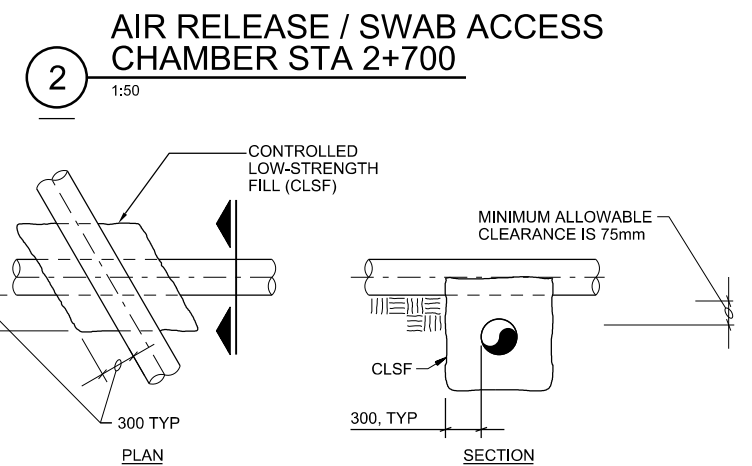
ALUMINUM STEP DETAIL
NTS



DETAIL A
NTS



DETAIL B
NTS



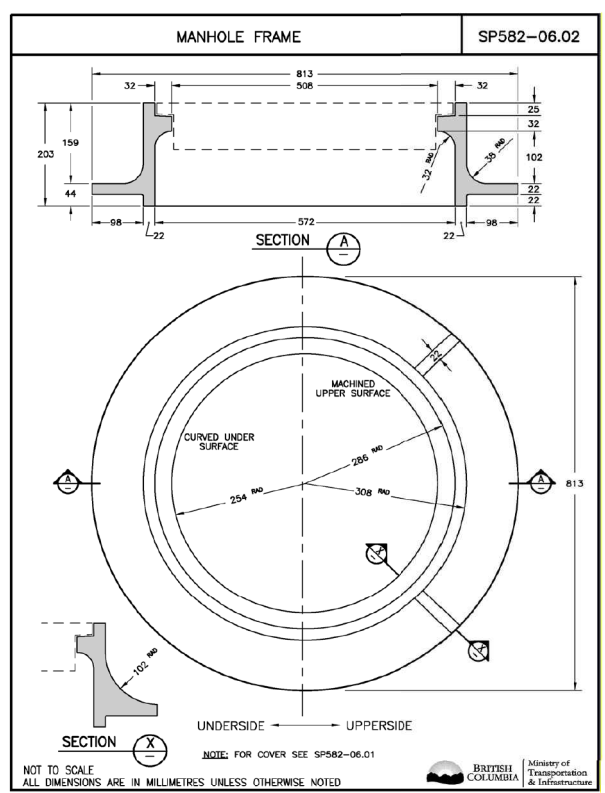
PIPE CROSSING
NTS

NOTES:

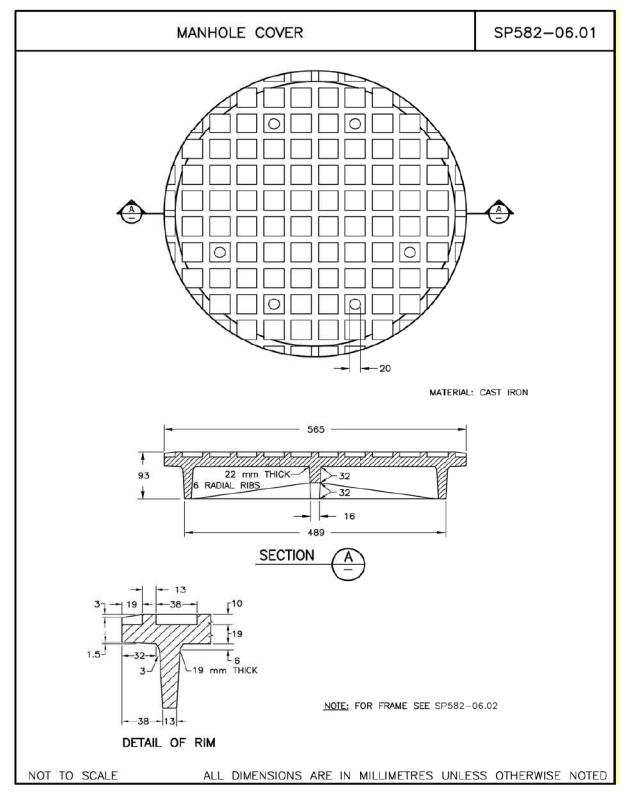
1. WHEN BOTH PIPELINES ARE NEW AND CLEARANCE BETWEEN THEM IS LESS THAN 300.
2. WHEN A NEW PIPELINE IS CROSSING OVER AN EXISTING PIPELINE AND THE CLEARANCE BETWEEN THEM IS LESS THAN 300.
3. AT ALL PIPE CROSSINGS WHERE A NEW PIPELINE IS CROSSING UNDER AN EXISTING PIPELINE.
4. REFER TO SPECIFICATION SECTIONS FOR CLSF REQUIREMENTS.

1
1:50
MH STA 2+680

2
1:50
AIR RELEASE / SWAB ACCESS CHAMBER STA 2+700



MANHOLE FRAME
N.T.S.



MANHOLE COVER
N.T.S.



ISSUED FOR DETAIL DESIGN REVIEW	AR	GN	GN	BY	APVD
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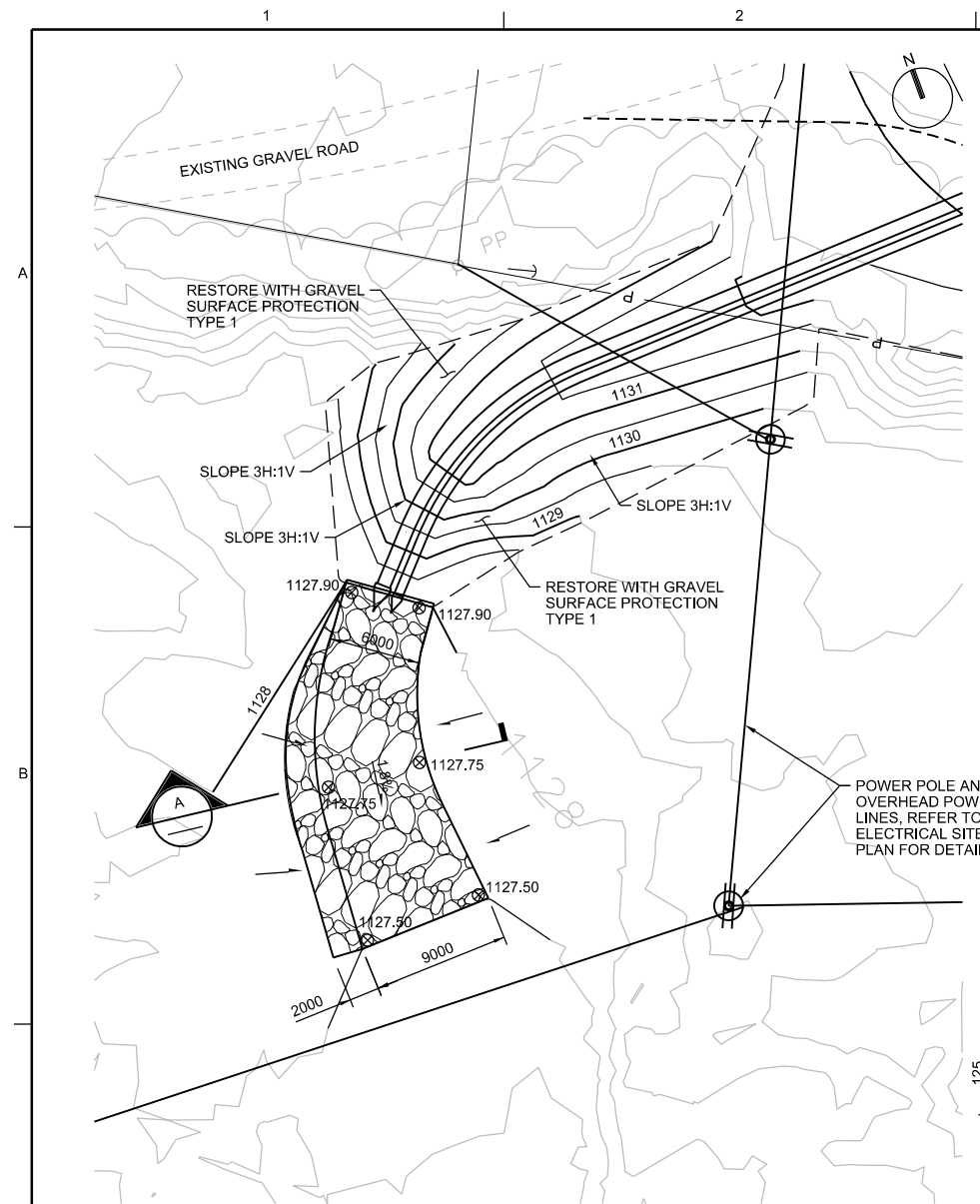
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®

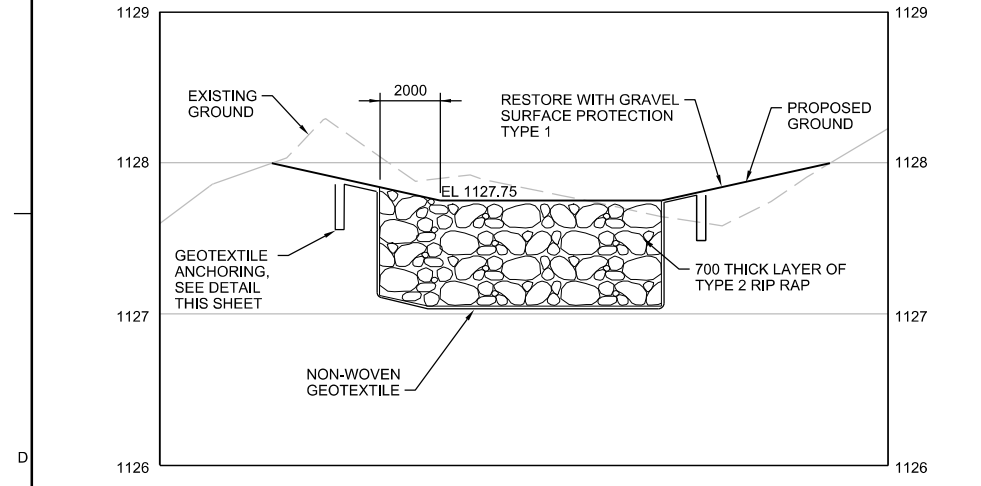
CIVIL

MISCELLANEOUS DETAILS (1)

AS SHOWN
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 590-C-502
SHEET

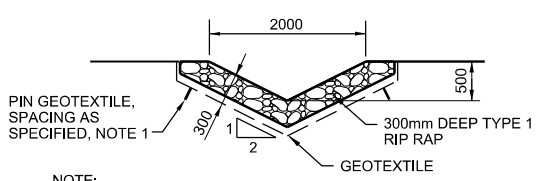


PLAN
1:250



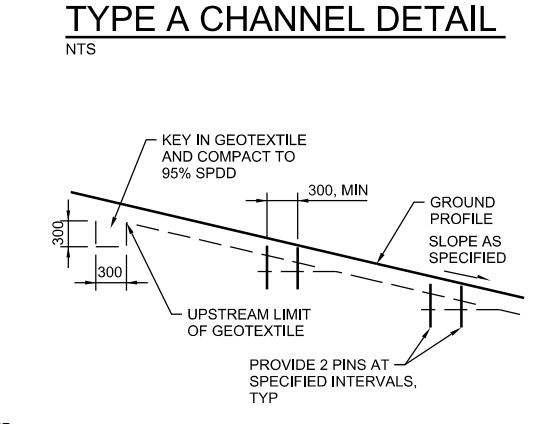
SECTION 'A'
1:100H, 1:20V

OVERFLOW SPILLWAY DETAIL
SCALE AS SHOWN

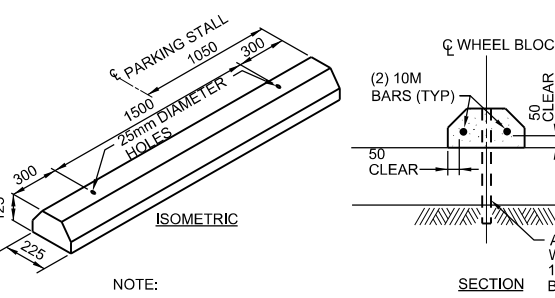


TYPE A CHANNEL DETAIL
NTS

NOTE:
1. PROVIDE PINS TO BOTH SIDES TO THE SPECIFIED SPACINGS AND AT THE OVERLAPPED SECTIONS. KEY IN ALONG TOP OF BOTH SIDES AND AT UPSTREAM LIMIT. SEE GEOTEXTILE ANCHORING DETAIL THIS SHEET.



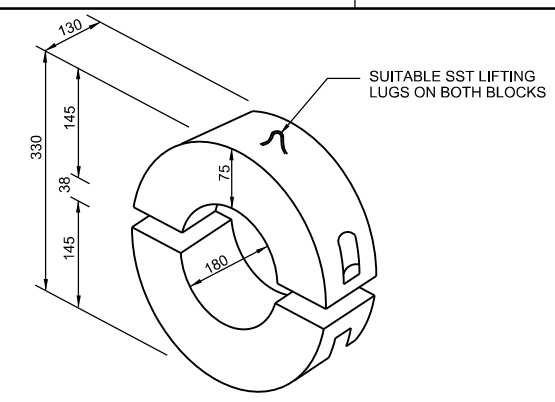
GEOTEXTILE ANCHORING
NTS



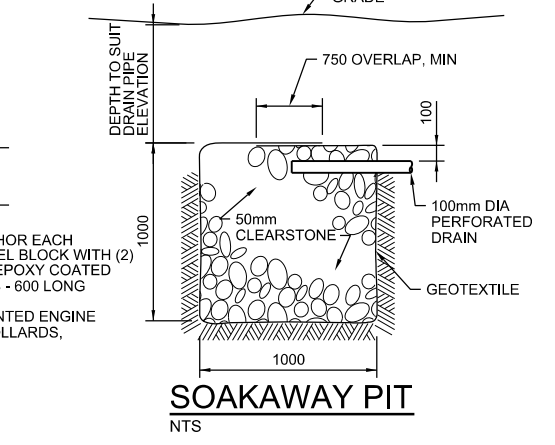
WHEEL BLOCK
NTS

NOTE:
LOCATE WHEEL BLOCKS EITHER SIDE OF BOLLARDS WITH MOUNTED ENGINE BLOCK HEATER RECEPTACLES. ALIGN WHEEL BLOCKS WITH BOLLARDS, SEE ELECTRICAL SITE PLAN 500-C-202 FOR DETAILS

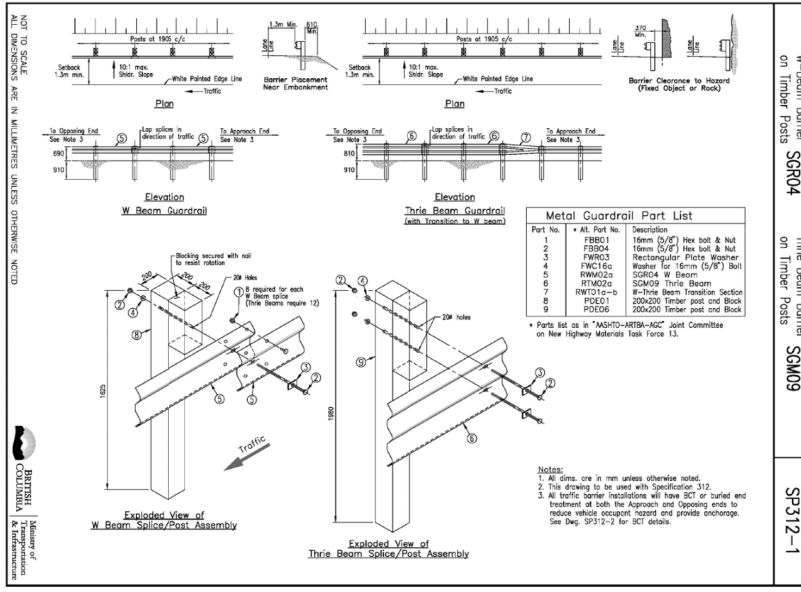
WHEEL BLOCK
NTS



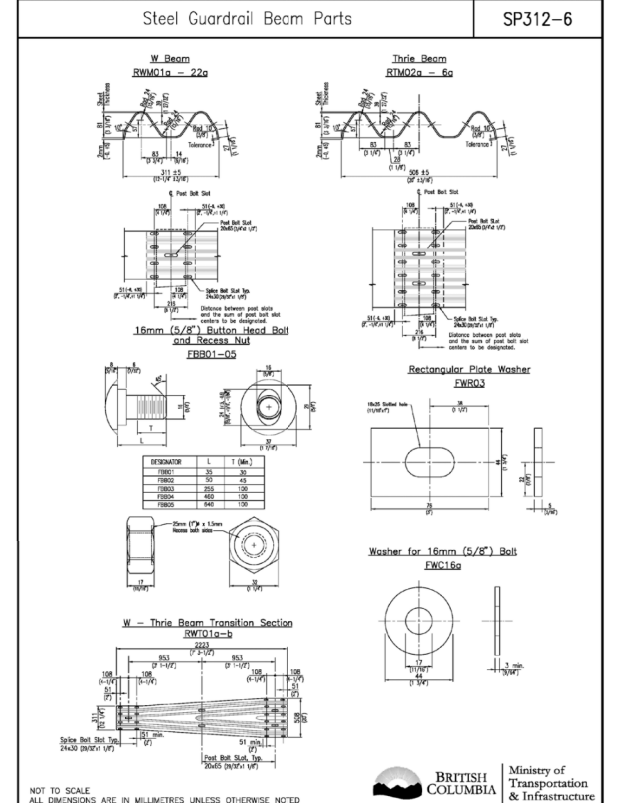
BALLAST WEIGHT
NTS



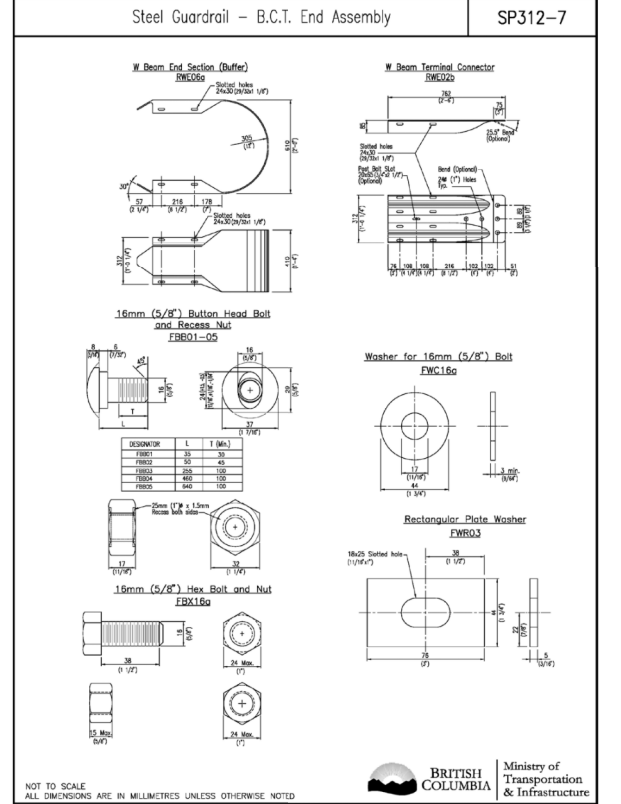
SOAKAWAY PIT
NTS



THRIE BEAM BARRIER ON TIMBER POSTS
NTS



STEEL GUARDRAIL BEAM PARTS
NTS



STEEL GUARDRAIL - B.C.T. END ASSEMBLY
NTS

MISCELLANEOUS DETAILS
SCALE AS SHOWN



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ISSUED FOR ADVANCED DESIGN REVIEW	REVISION	REVISION	REVISION	REVISION	APVD
NO. DATE	DR	CHK	DR	CHK	APVD
DSGN	A. POMEZIALEK	A. RIOLO	G. LANCASTER		

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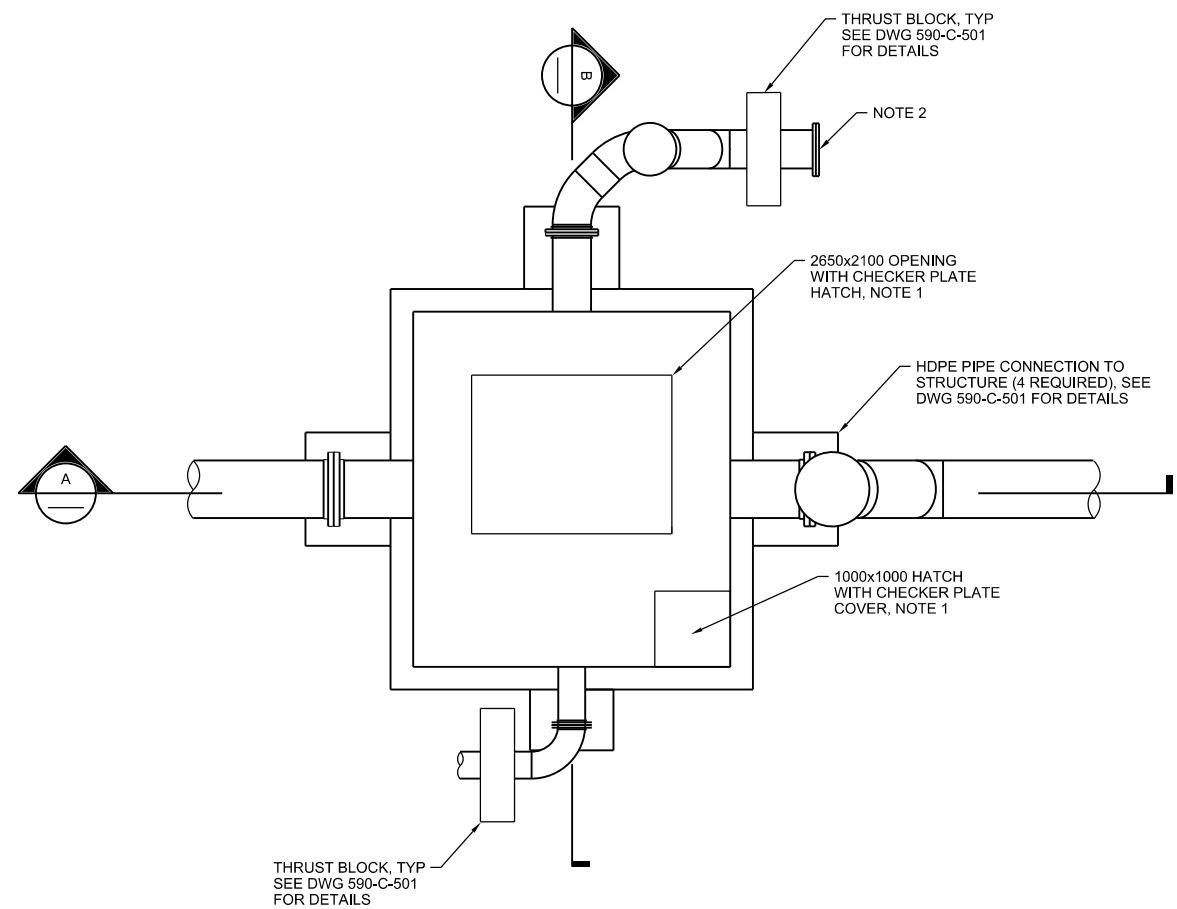
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL

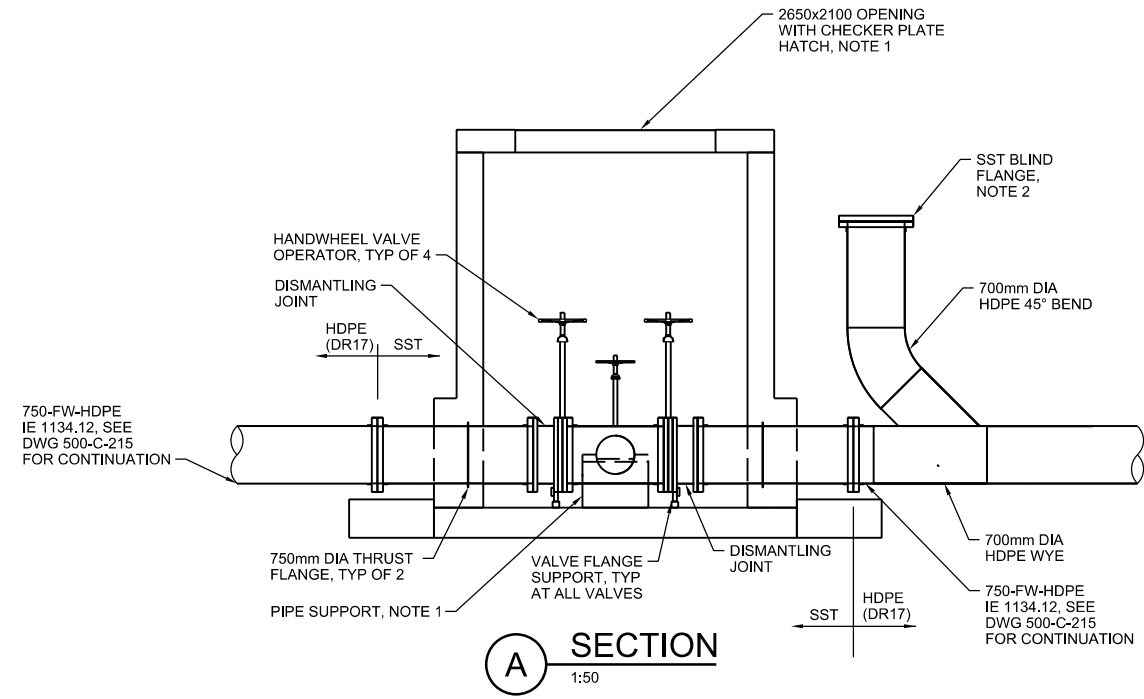
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MISCELLANEOUS DETAILS (2)

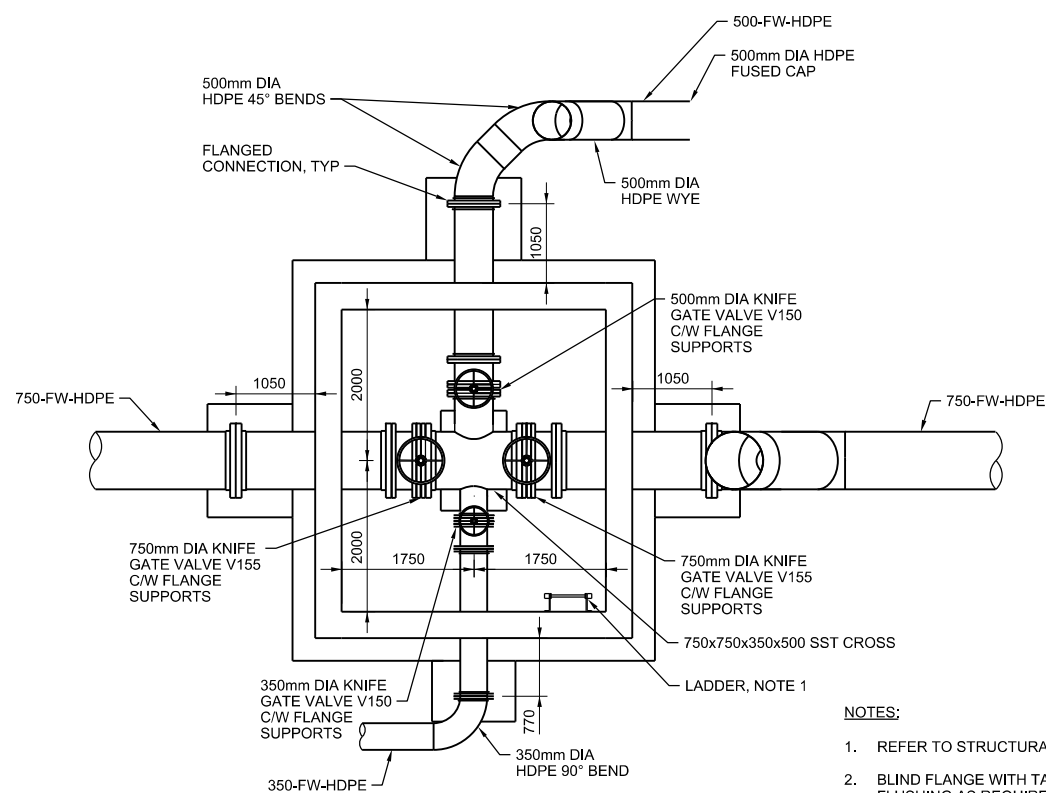
AS SHOWN	VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWINGS.	25mm
DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	590-C-503
SHEET	



ROOF PLAN
1:50



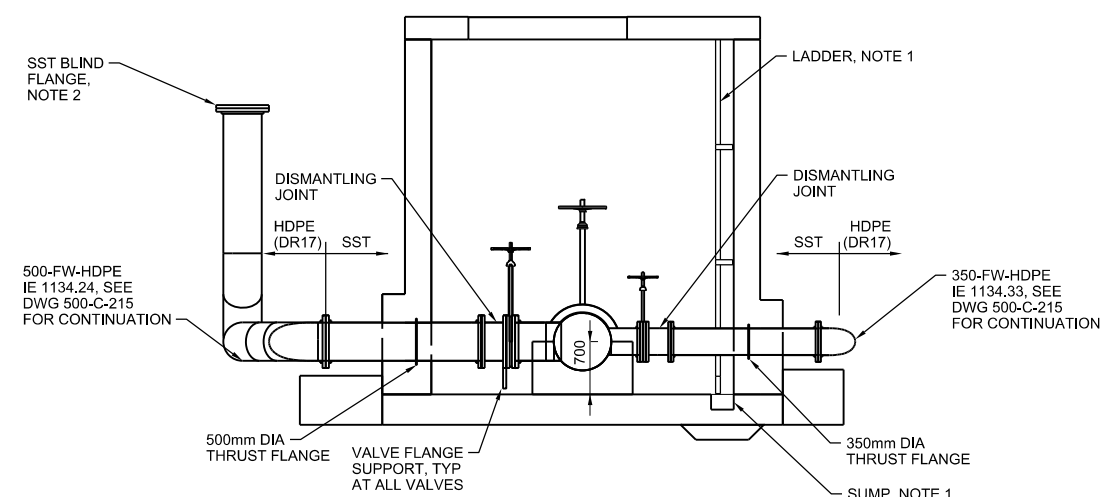
A SECTION
1:50



PLAN
1:50

NOTES:

1. REFER TO STRUCTURAL DWG 500-S-201 FOR DETAILS
2. BLIND FLANGE WITH TAPPED OUTLETS FOR TESTING AND FLUSHING AS REQUIRED
3. PIPE/VALVE FLANGE SUPPORTS - STANDON MODEL S8930 OR EQUAL, ALL SST 316 WITH SST HARDWARE
4. CALCULATE AND FABRICATE PIPE CROSS ACCORDING TO ASME B31.3. REFER TO PROCESS MECHANICAL SPECIFICATIONS FOR PIPING INFORMATION.



B SECTION
1:50

DIVERSION CHAMBER DETAILS
1:50

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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®
CIVIL
DIVERSION CHAMBER DETAILS

1:50
VERIFY SCALE
BAR IS 25mm ON
ORIGINAL DRAWING.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 590-C-504
SHEET

NO.	DATE	REVISION	BY	APVD
B	02/2014	ISSUED FOR DETAIL DESIGN REVIEW	AR	GN
A	09/2013	ISSUED FOR ADVANCED DESIGN REVIEW	AR	GN
DR				APVD
DSGN				APVD
				CHK
				DR
				APVD



1 2 3 4 5 6



NO.	DATE	BY	CHK	DR	APVD
A	02/2014	R. RANA	A. THAKKAR		
ISSUED FOR DETAIL DESIGN REVIEW			REVISION	APVD	

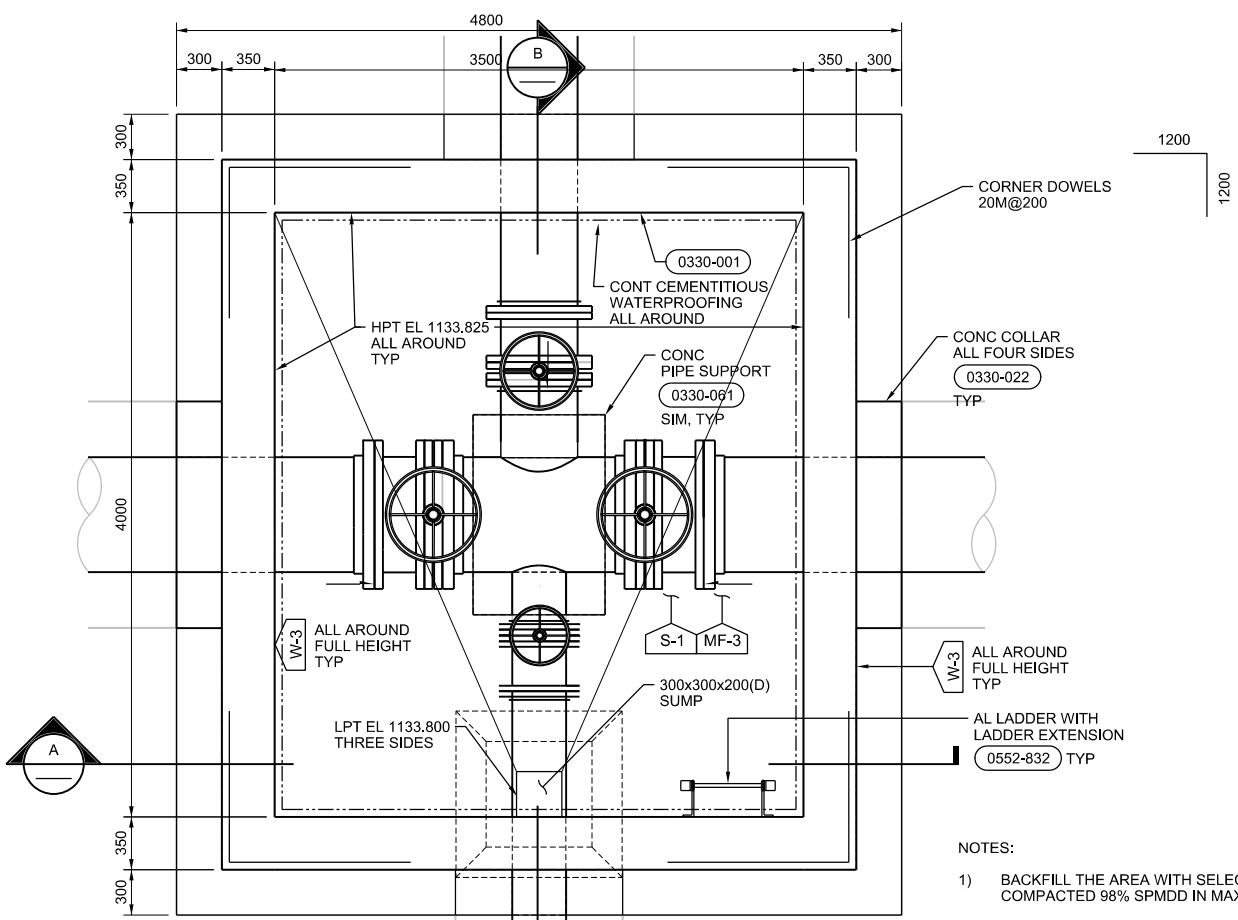
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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

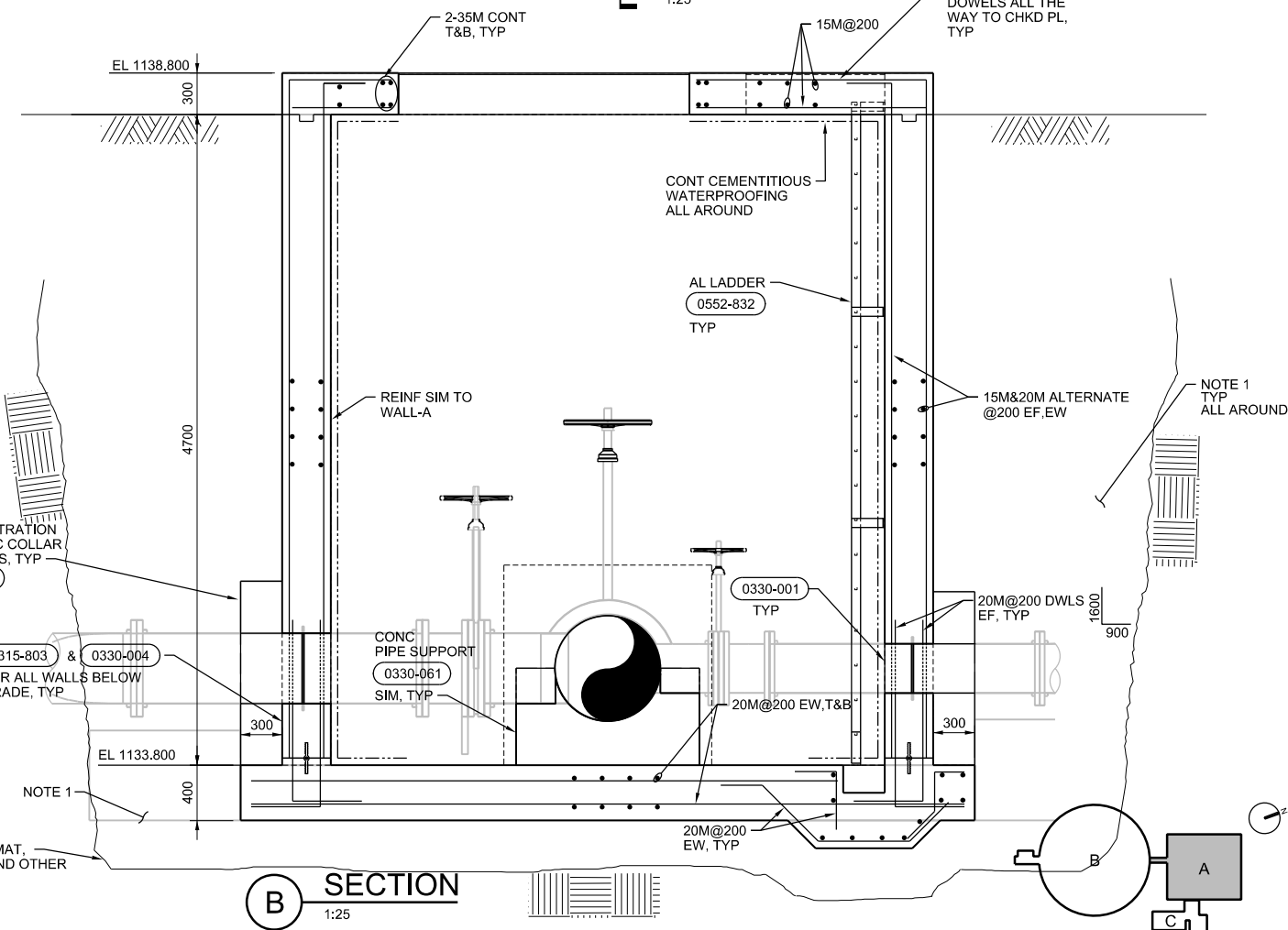
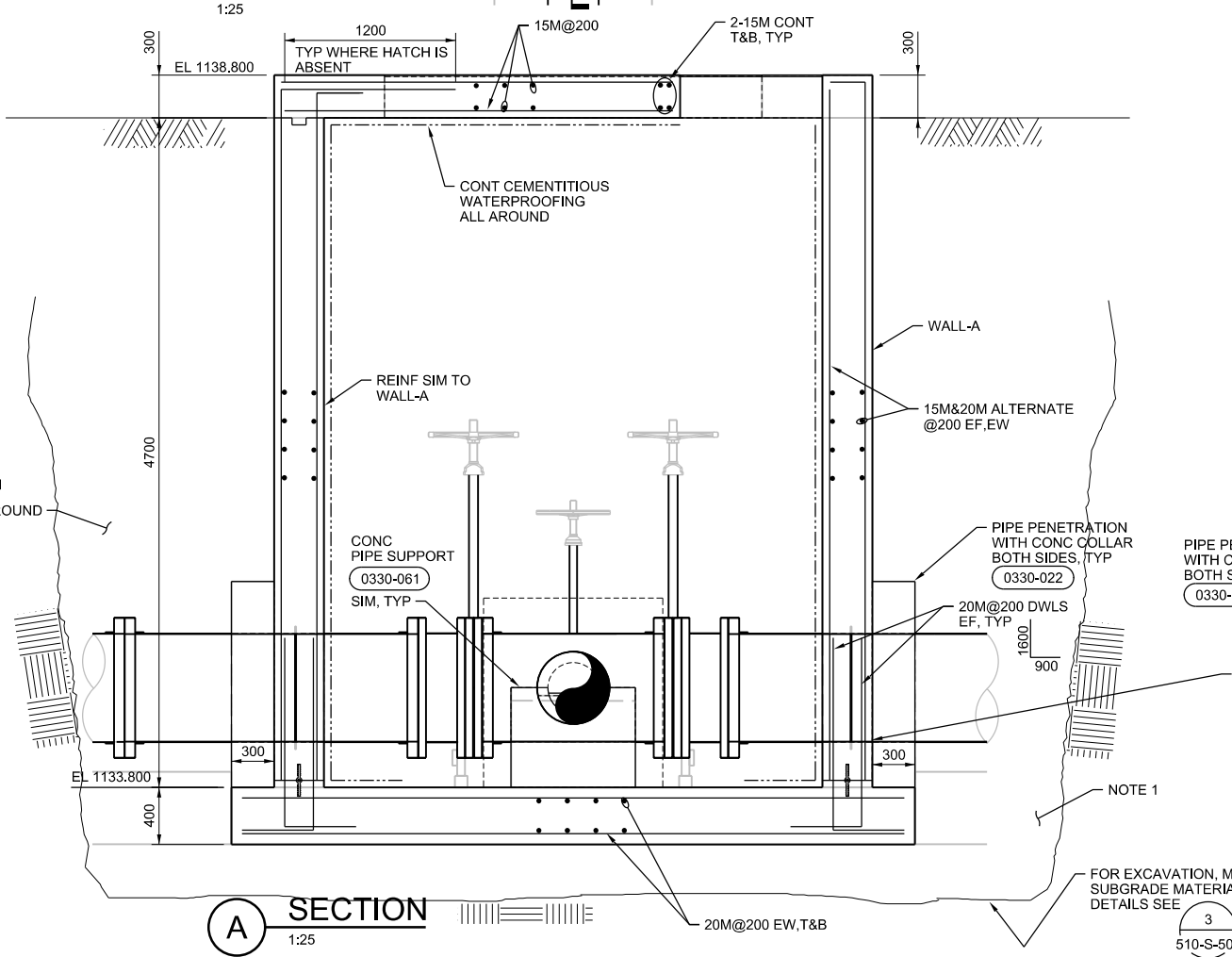
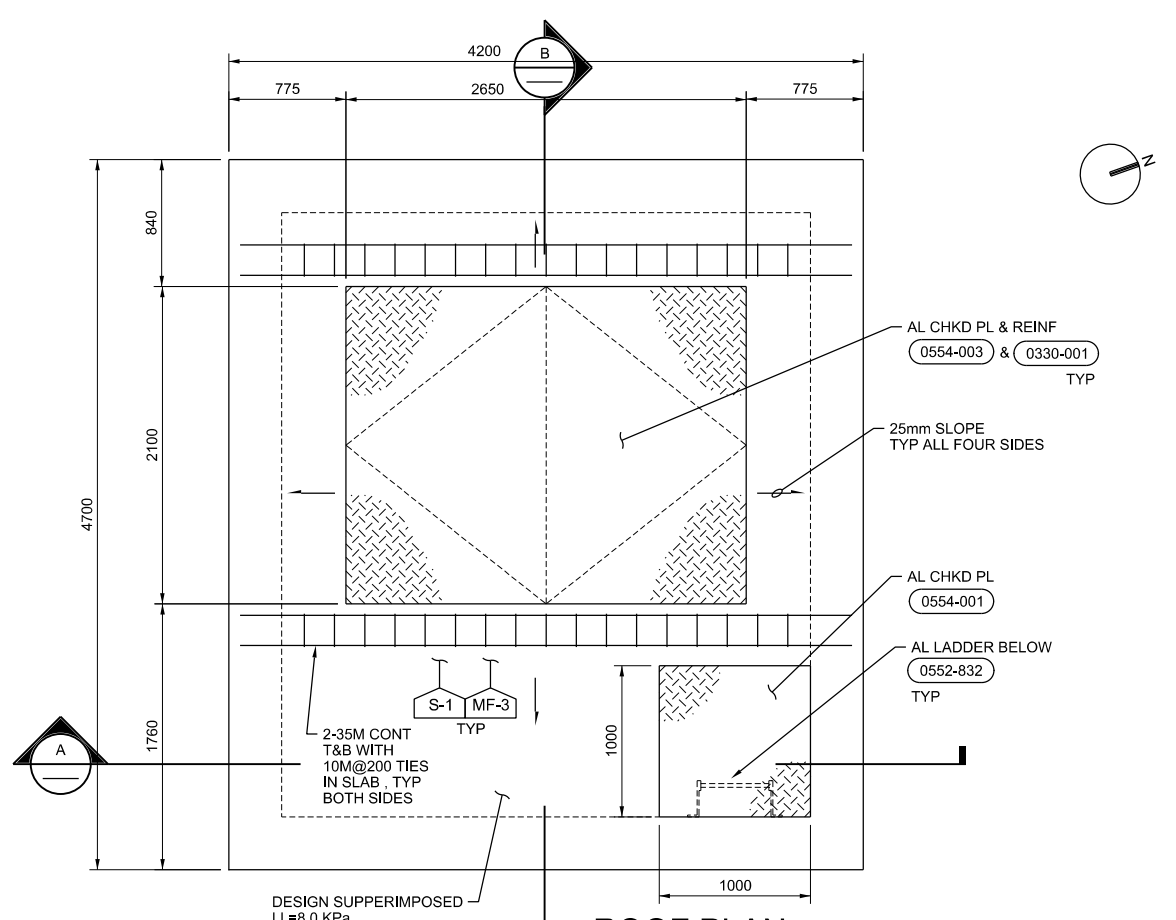
CH2MHILL®

STRUCTURAL
**WATER TREATMENT BUILDING
DIVERSION CHAMBER**

1:25
VERIFY SCALE
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DATE FEBRUARY 2014
PROJ TA013-427716
DWG 500-S-201
SHEET

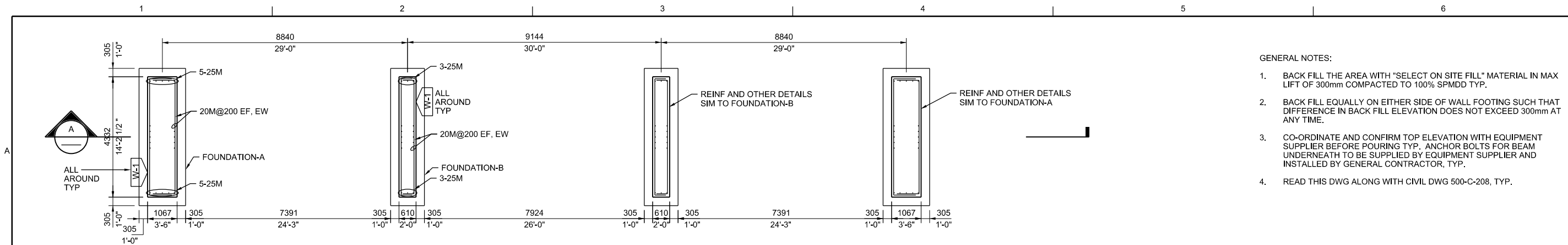


- NOTES:
- BACKFILL THE AREA WITH SELECT ON SITE FILL COMPACTED 98% SPMD IN MAX LIFT OF 300mm, TYP.
 - SEE CIVIL DRAWING 500-C-211 FOR LOCATION OF VALVE CHAMBER, TYP.



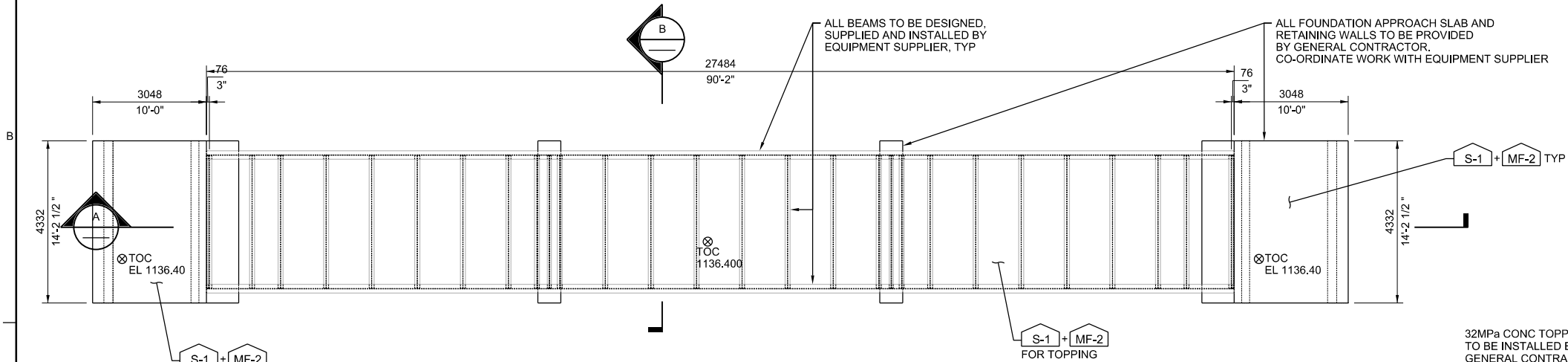
NOTE 1
TYP ALL AROUND

FOR EXCAVATION, MUDMAT, SUBGRADE MATERIAL AND OTHER DETAILS SEE 510-S-502

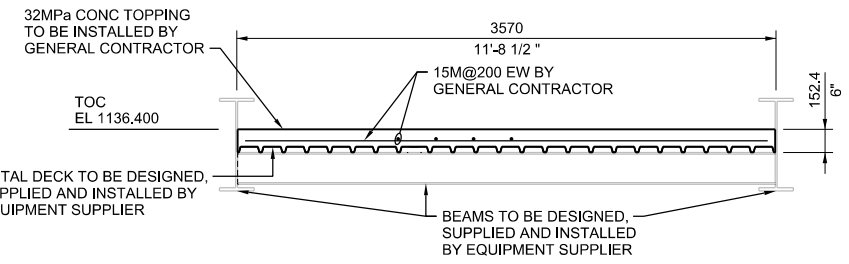


1 FOUNDATION PLAN
1:75

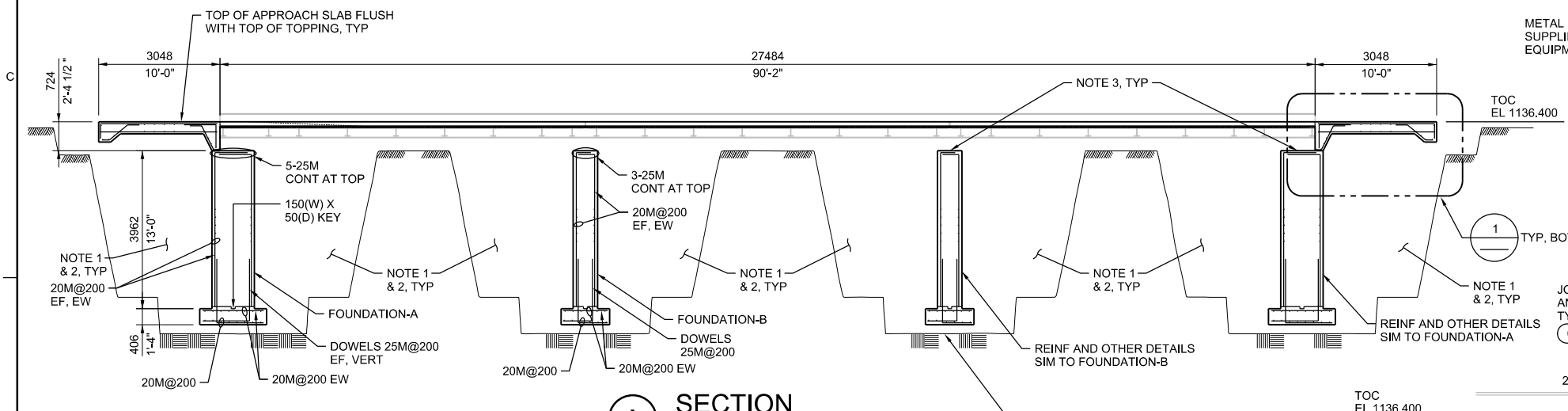
- GENERAL NOTES:
- BACK FILL THE AREA WITH "SELECT ON SITE FILL" MATERIAL IN MAX LIFT OF 300mm COMPACTED TO 100% SPMD TYP.
 - BACK FILL EQUALLY ON EITHER SIDE OF WALL FOOTING SUCH THAT DIFFERENCE IN BACK FILL ELEVATION DOES NOT EXCEED 300mm AT ANY TIME.
 - CO-ORDINATE AND CONFIRM TOP ELEVATION WITH EQUIPMENT SUPPLIER BEFORE POURING TYP. ANCHOR BOLTS FOR BEAM UNDERNEATH TO BE SUPPLIED BY EQUIPMENT SUPPLIER AND INSTALLED BY GENERAL CONTRACTOR, TYP.
 - READ THIS DWG ALONG WITH CIVIL DWG 500-C-208, TYP.



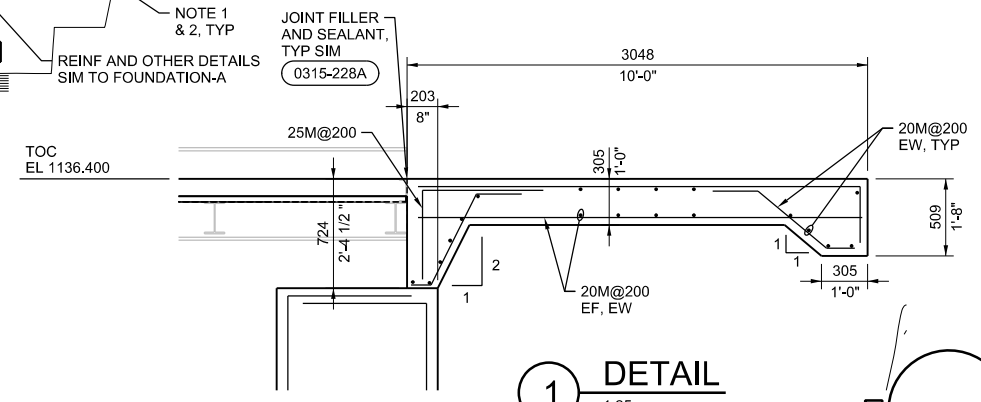
2 WEIGH SCALE PLAN
1:75



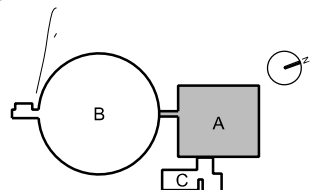
B SECTION
1:25



A SECTION
1:75



1 DETAIL
1:25



ISSUED FOR DETAIL DESIGN REVIEW	RR	GN	BY	APVD
REVISION	NO.	DATE	DR	APVD
	A	02/2014	R. RANA	A. THAKKAR
			CHK	

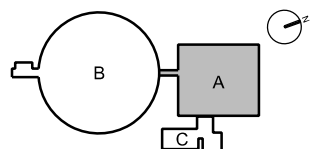
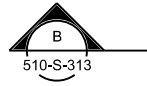
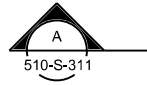
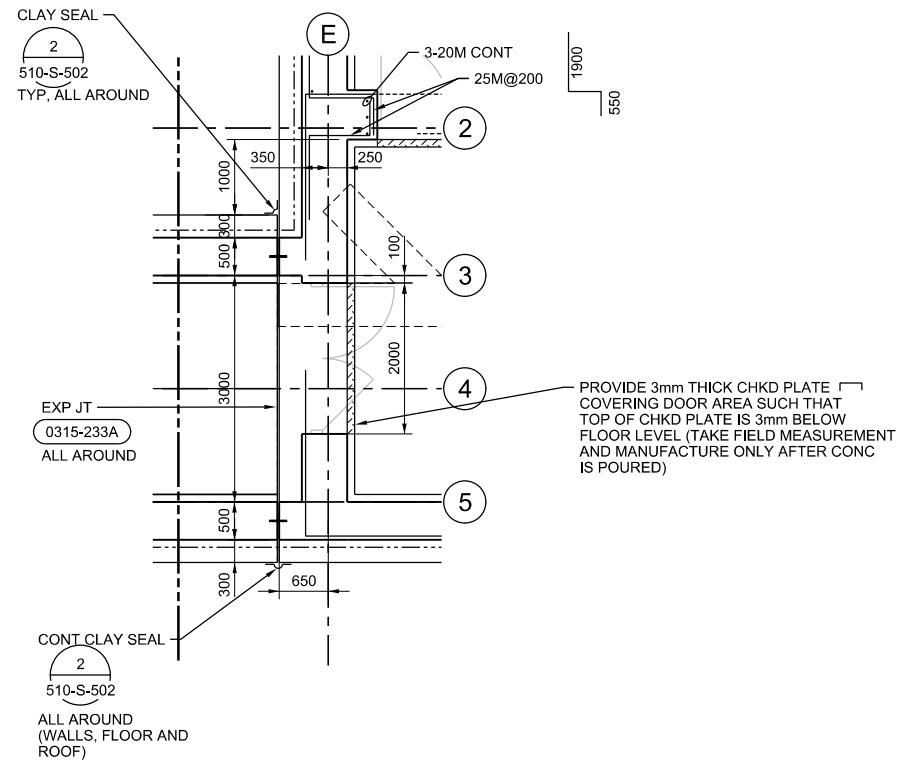
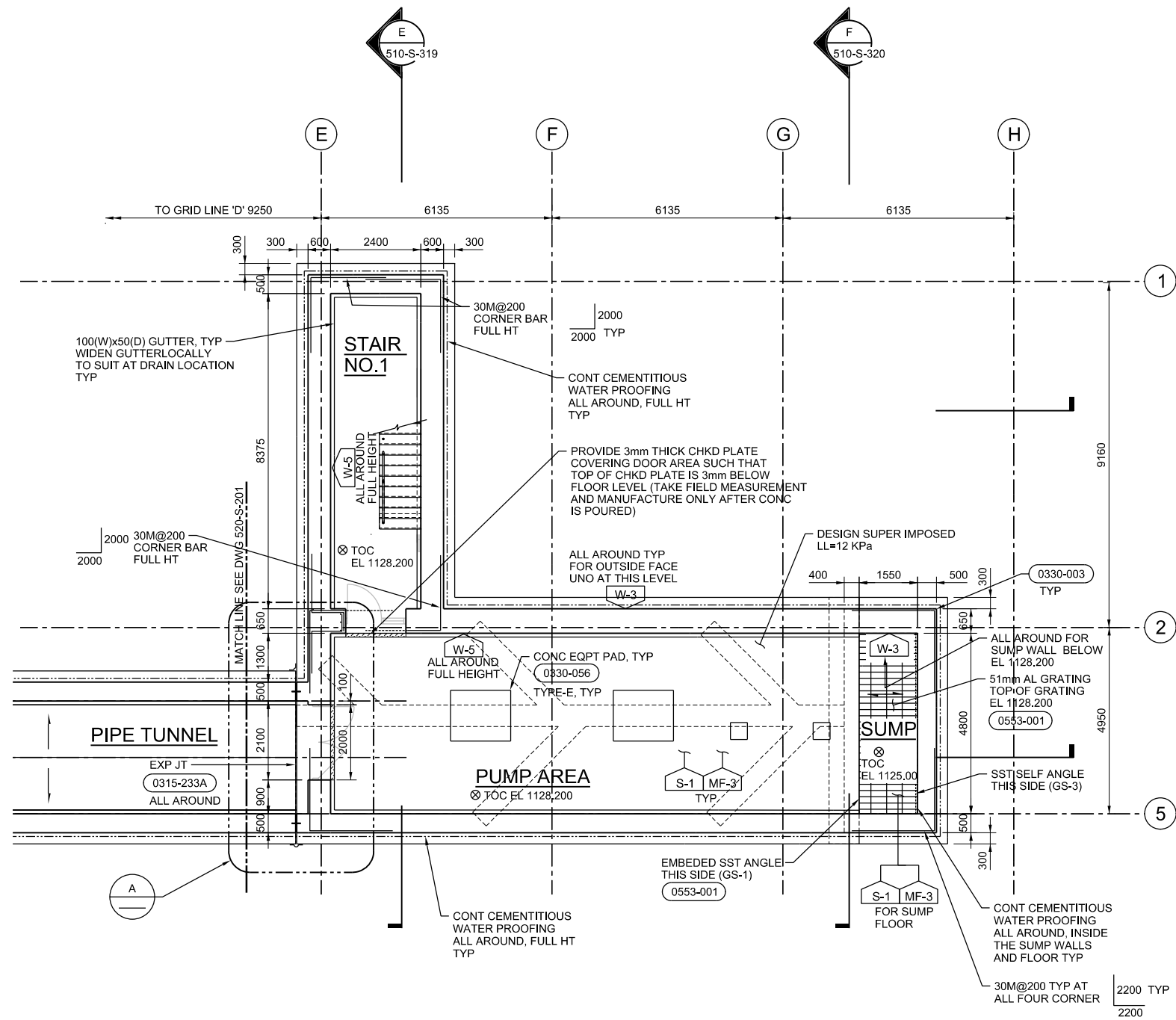
90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®

STRUCTURAL
WATER TREATMENT BUILDING WEIGH SCALE

AS SHOWN
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 500-S-202
SHEET



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NO. DATE	DGNS	DR	CHK	APVD
	A. THAKKAR	R. RANA	A. THAKKAR	

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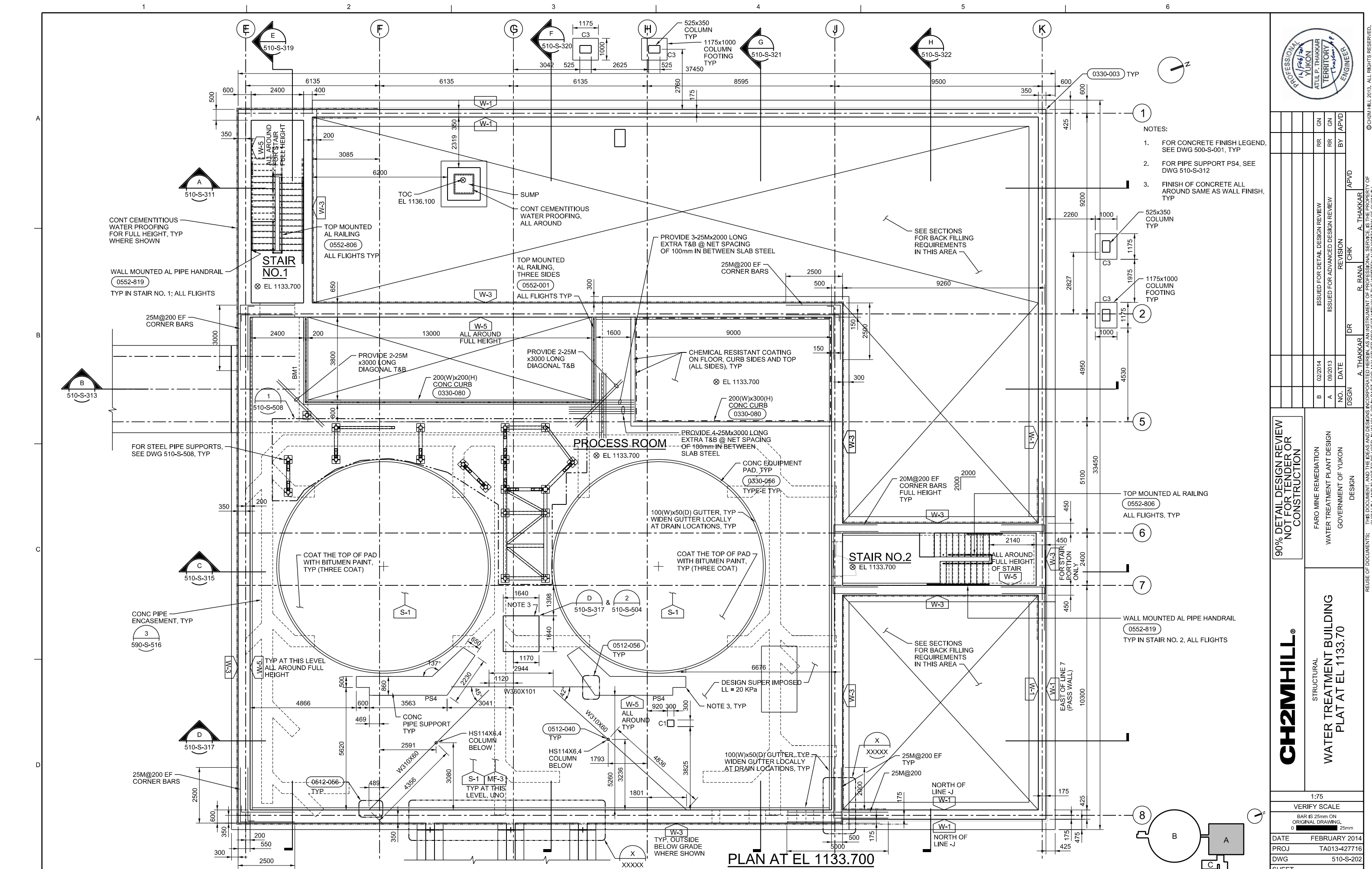
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON

CH2MHILL®

STRUCTURAL
WATER TREATMENT BUILDING
PLAT AT EL 1128.200

1:75
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
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DWG 510-S-201
SHEET

1 2 3 4 5 6



- NOTES:
- FOR CONCRETE FINISH LEGEND, SEE DWG 500-S-001, TYP
 - FOR PIPE SUPPORT PS4, SEE DWG 510-S-312
 - FINISH OF CONCRETE ALL AROUND SAME AS WALL FINISH, TYP



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A	09/2013	ISSUED FOR ADVANCED DESIGN REVIEW	RR

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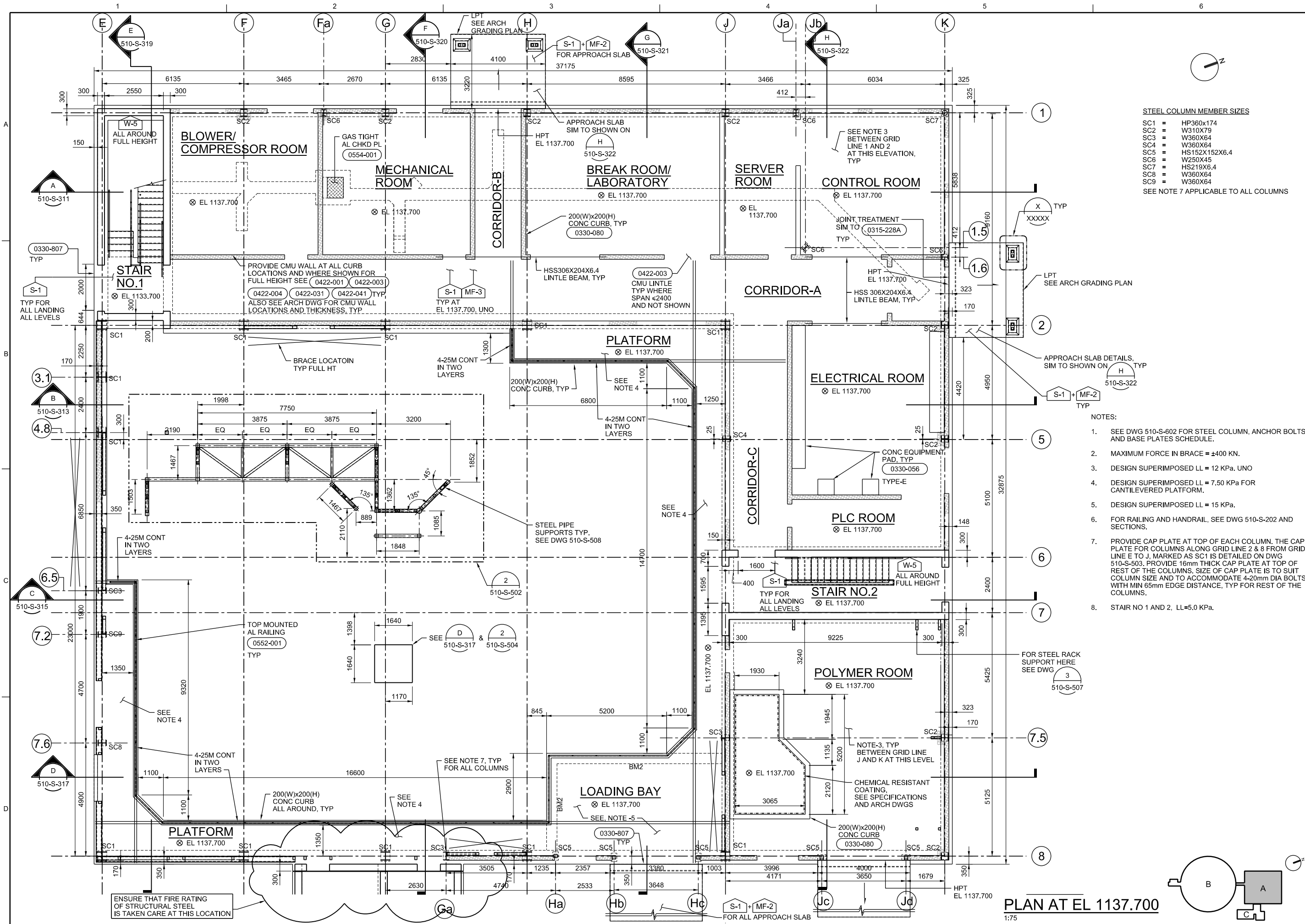
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON

CH2MHILL

STRUCTURAL
**WATER TREATMENT BUILDING
PLAT AT EL 1133.70**

1:75
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 510-S-202
SHEET

PLAN AT EL 1133.700
1:75



STEEL COLUMN MEMBER SIZES

SC1	HP360x174
SC2	W310X79
SC3	W360X64
SC4	W360X64
SC5	HS152X152X6.4
SC6	W250X45
SC7	HS219X6.4
SC8	W360X64
SC9	W360X64

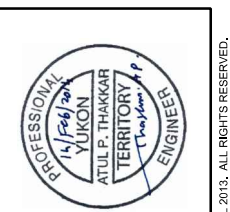
SEE NOTE 7 APPLICABLE TO ALL COLUMNS

- NOTES:**
- SEE DWG 510-S-602 FOR STEEL COLUMN, ANCHOR BOLTS AND BASE PLATES SCHEDULE.
 - MAXIMUM FORCE IN BRACE = ±400 KN.
 - DESIGN SUPERIMPOSED LL = 12 KPa. UNO
 - DESIGN SUPERIMPOSED LL = 7.50 KPa FOR CANTILEVERED PLATFORM.
 - DESIGN SUPERIMPOSED LL = 15 KPa.
 - FOR RAILING AND HANDRAIL. SEE DWG 510-S-202 AND SECTIONS.
 - PROVIDE CAP PLATE AT TOP OF EACH COLUMN. THE CAP PLATE FOR COLUMNS ALONG GRID LINE 2 & 8 FROM GRID LINE E TO J, MARKED AS SC1 IS DETAILED ON DWG 510-S-503. PROVIDE 16mm THICK CAP PLATE AT TOP OF REST OF THE COLUMNS. SIZE OF CAP PLATE IS TO SUIT COLUMN SIZE AND TO ACCOMMODATE 4-20mm DIA BOLTS WITH MIN 65mm EDGE DISTANCE, TYP FOR REST OF THE COLUMNS.
 - STAIR NO 1 AND 2, LL=5.0 KPa.

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STRUCTURAL
WATER TREATMENT BUILDING
PLAT AT EL 1137.700

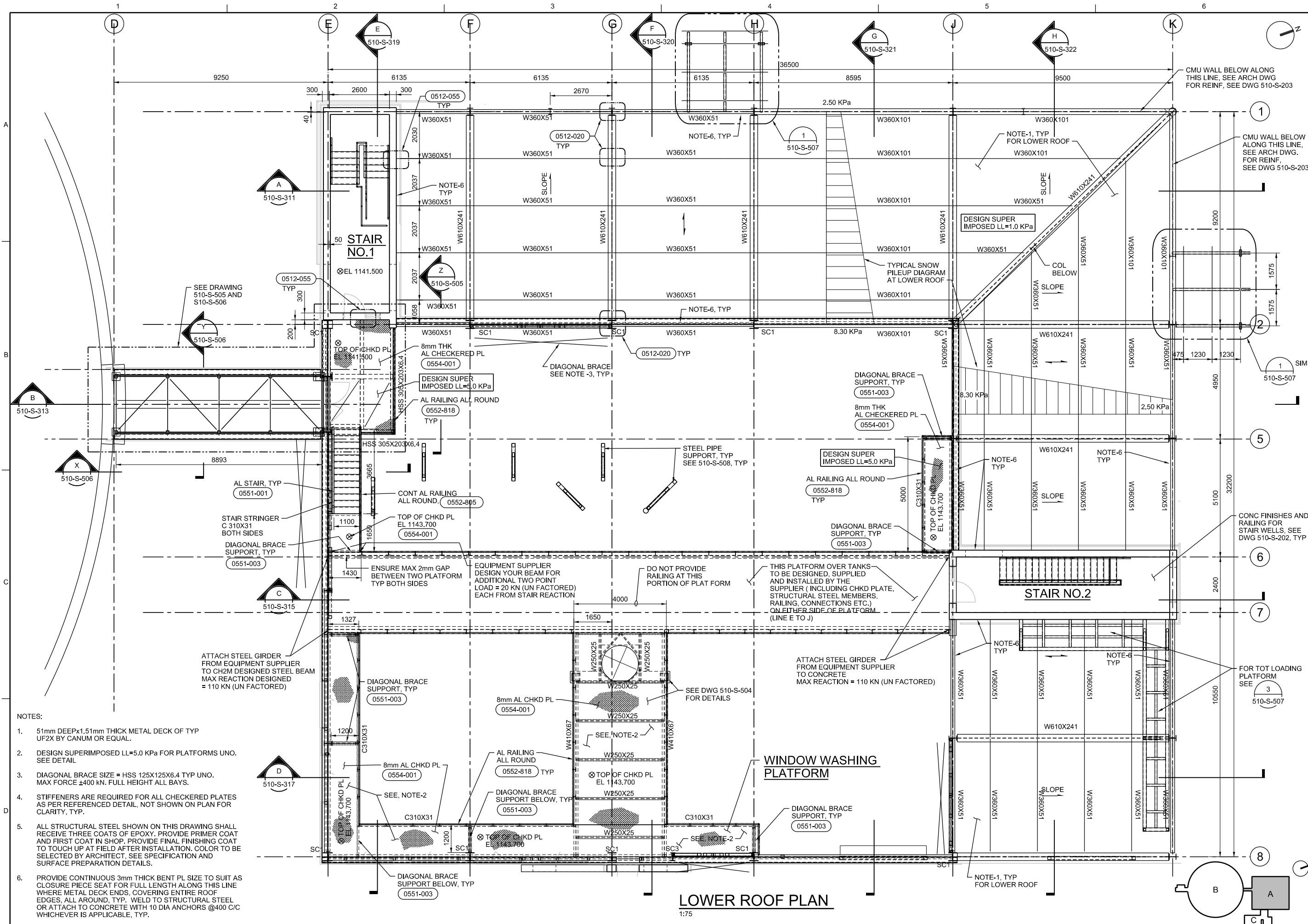
1:75	
VERIFY SCALE	
BAR IS 25mm ON ORIGINAL DRAWINGS.	
DATE	FEBRUARY 2014
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DWG	510-S-203
SHEET	



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NO.	DATE	NO.	DATE	NO.
DR	A. THAKKAR	CHK	R. RANA	APVD
DR	A. THAKKAR	CHK	R. RANA	APVD

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PLAN AT EL 1137.700
1:75



- NOTES:**
- 51mm DEEPx1.51mm THICK METAL DECK OF TYP UF2X BY CANUM OR EQUAL.
 - DESIGN SUPERIMPOSED LL=5.0 KPa FOR PLATFORMS UNO. SEE DETAIL
 - DIAGONAL BRACE SIZE = HSS 125X125X6.4 TYP UNO. MAX FORCE ±400 kN. FULL HEIGHT ALL BAYS.
 - STIFFENERS ARE REQUIRED FOR ALL CHECKERED PLATES AS PER REFERENCED DETAIL, NOT SHOWN ON PLAN FOR CLARITY, TYP.
 - ALL STRUCTURAL STEEL SHOWN ON THIS DRAWING SHALL RECEIVE THREE COATS OF EPOXY. PROVIDE PRIMER COAT AND FIRST COAT IN SHOP. PROVIDE FINAL FINISHING COAT TO TOUCH UP AT FIELD AFTER INSTALLATION. COLOR TO BE SELECTED BY ARCHITECT, SEE SPECIFICATION AND SURFACE PREPARATION DETAILS.
 - PROVIDE CONTINUOUS 3mm THICK BENT PL SIZE TO SUIT AS CLOSURE PIECE SEAT FOR FULL LENGTH ALONG THIS LINE WHERE METAL DECK ENDS, COVERING ENTIRE ROOF EDGES, ALL AROUND, TYP. WELD TO STRUCTURAL STEEL OR ATTACH TO CONCRETE WITH 10 DIA ANCHORS @400 C/C WHICHEVER IS APPLICABLE, TYP.

LOWER ROOF PLAN
1:75



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ISSUED FOR ADVANCED DESIGN REVIEW	NO.	DATE	REVISION	CHK	APVD
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	A. THAKKAR			R. RANA	A. THAKKAR

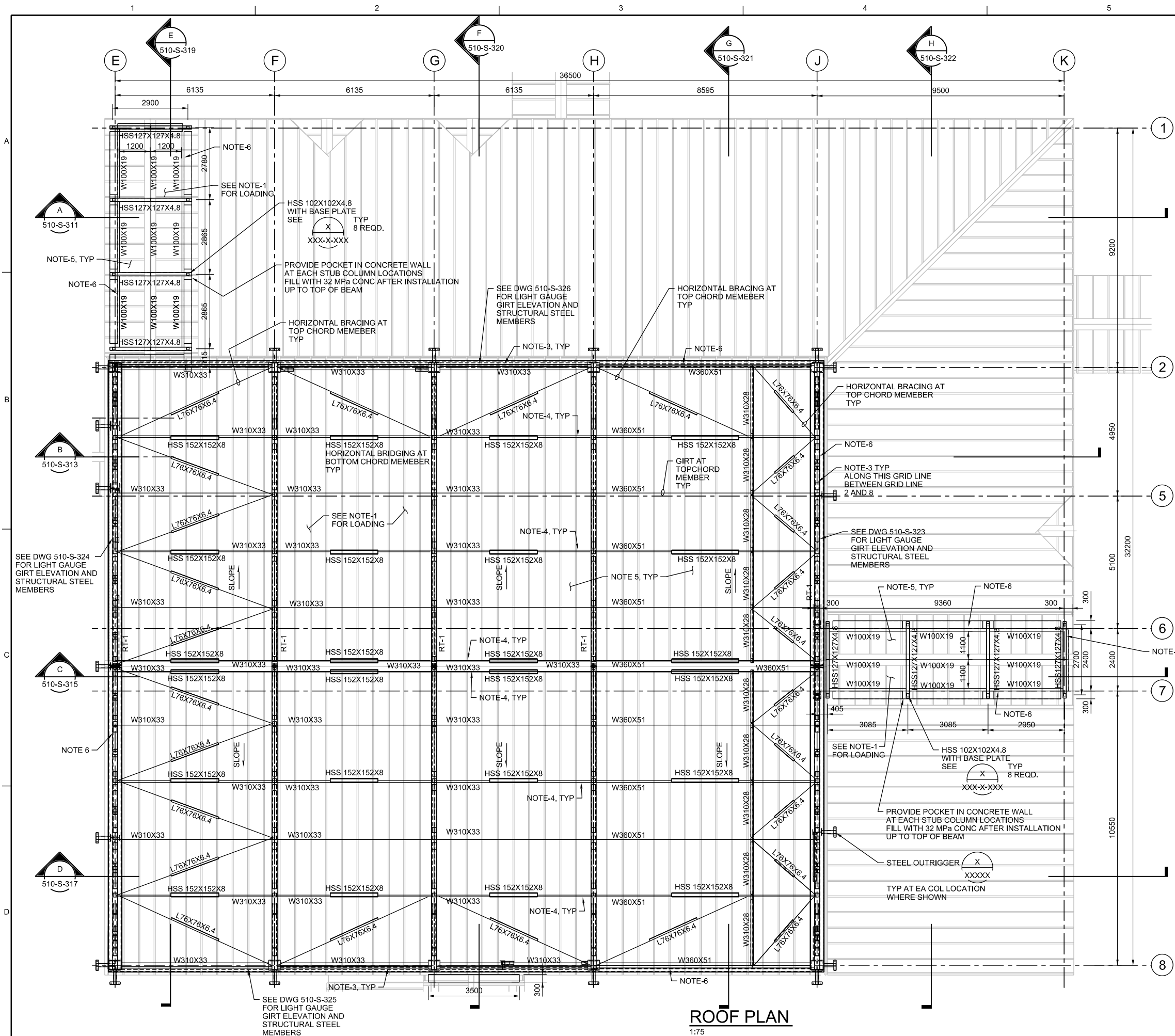
90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON

CH2MHILL®

STRUCTURAL
WATER TREATMENT BUILDING LOWER ROOF PLAN

1:75
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING, 0 25mm
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 510-S-204
SHEET



- NOTES:
- SNOW LOAD = 2.50 KPa
SUPER IMPOSED LL = 1.0 KPa
PIPE SUPPORT + OTHER HANGING LOAD ALLOWANCE = 0.50 KPa
SUPER IMPOSED DEAD LOAD (METAL DECK + METAL ROOFING + GIRTS + ROOFING MEMBRANE + INSULATION) = 1.0 KPa
 - SEE DWG 510-S-503 FOR ROOF TRUSS RT-1 TYP, 5 REQUIRED
 - THERE ARE CROSS BRACING AND BEAMS RUNNING AT INTERMEDIATE LEVELS, SEE SECTIONS AND ELEVATIONS FOR THEIR SIZES AND LOCATIONS, TYP.
 - CONTINUOUS BRACING RUN ALONG THIS LINE CONNECTING BOTTOM CHORD OF ROOF TRUSSES (RT-1) FROM LINE E TO J SEE SECTIONS FOR EXACT LOCATION AND SIZES.
 - 38mm DEEPx1.51mm THICK ROOF DECK OF "TYPE-B" BY "CANAM" OR EQUAL.
 - PROVIDE CONTINUOUS L38x38x3.2 AS A CLOSURE PIECE FOR FULL LENGTH ALONG THIS LINE WHERE METAL DECK IS ENDING COVERING ENTIRE ROOF EDGES, ALL AROUND TYP.
 - ALL STRUCTURAL STEEL SHOWN ON THIS DRAWING SHALL RECEIVE THREE COATS OF EPOXY. PROVIDE PRIMER COAT AND FIRST COAT IN SHOP. PROVIDE FINAL FINISHING COAT TO TOUCH UP AT FIELD AFTER INSTALLATION. COLOR TO BE SELECTED BY ARCHITECT. SEE SPECIFICATION AND SURFACE PREPARATION DETAILS.

ROOF PLAN
1:75



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			CHK

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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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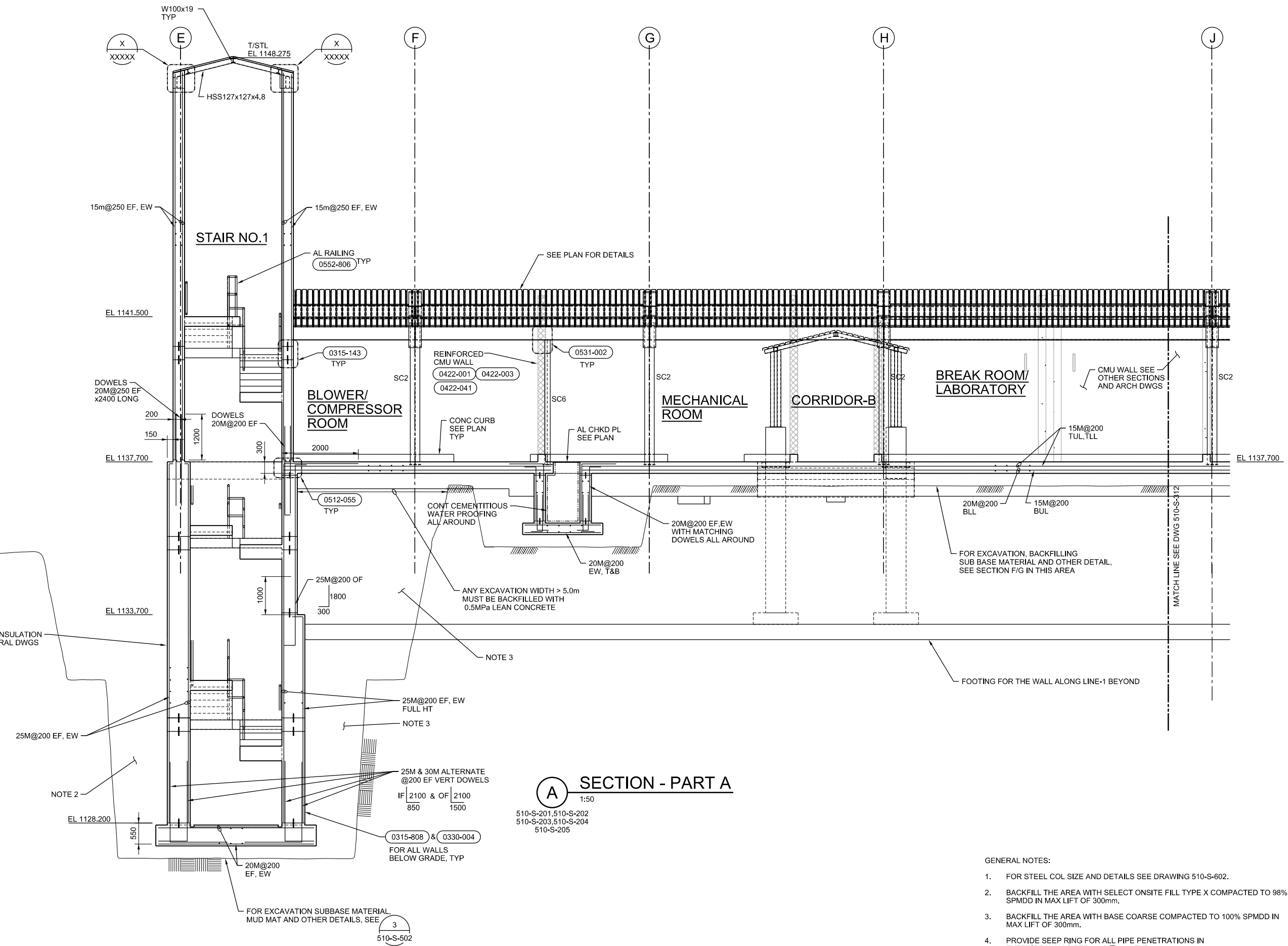
STRUCTURAL
**WATER TREATMENT BUILDING
ROOF PLAN**

1:75
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
0 25mm

DATE FEBRUARY 2014
PROJ TA013-427716
DWG 510-S-205
SHEET

1 2 3 4 5 6

A
B
C
D



A SECTION - PART A
1:50
510-S-201, 510-S-202
510-S-203, 510-S-204
510-S-205

- GENERAL NOTES:
- FOR STEEL COL SIZE AND DETAILS SEE DRAWING 510-S-602.
 - BACKFILL THE AREA WITH SELECT ONSITE FILL TYPE X COMPACTED TO 98% SPMD IN MAX LIFT OF 300mm.
 - BACKFILL THE AREA WITH BASE COARSE COMPACTED TO 100% SPMD IN MAX LIFT OF 300mm.
 - PROVIDE SEEP RING FOR ALL PIPE PENETRATIONS IN EXTERIOR WALLS PER 4 TYP
590-S-516



ISSUED FOR DETAIL DESIGN REVIEW	GN	RR	GN
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REVISION	BY	CHK	APVD
NO.	DATE	DGSR	DR
		A. THAKKAR	A. THAKKAR
		R. RANA	A. THAKKAR

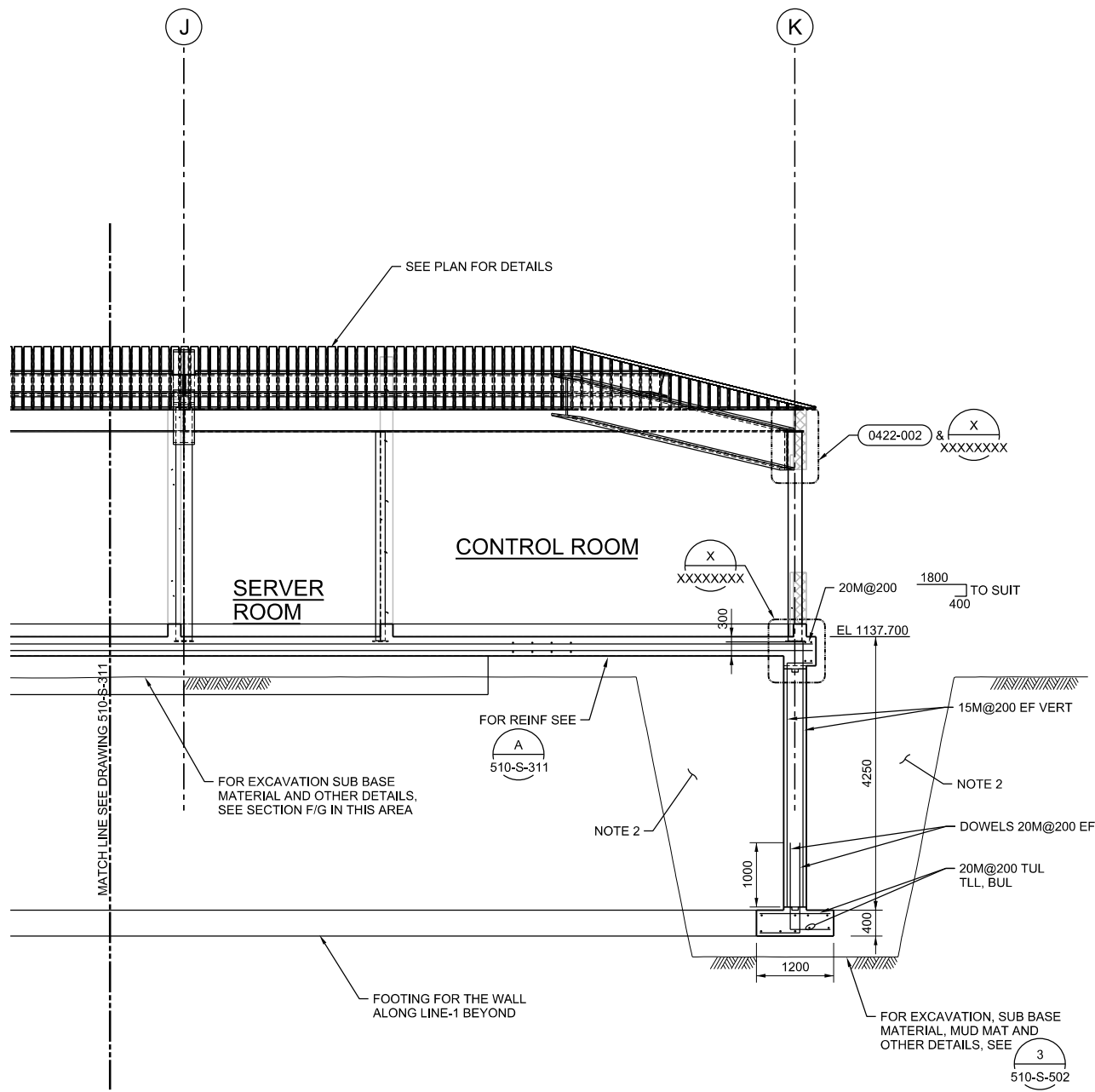
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WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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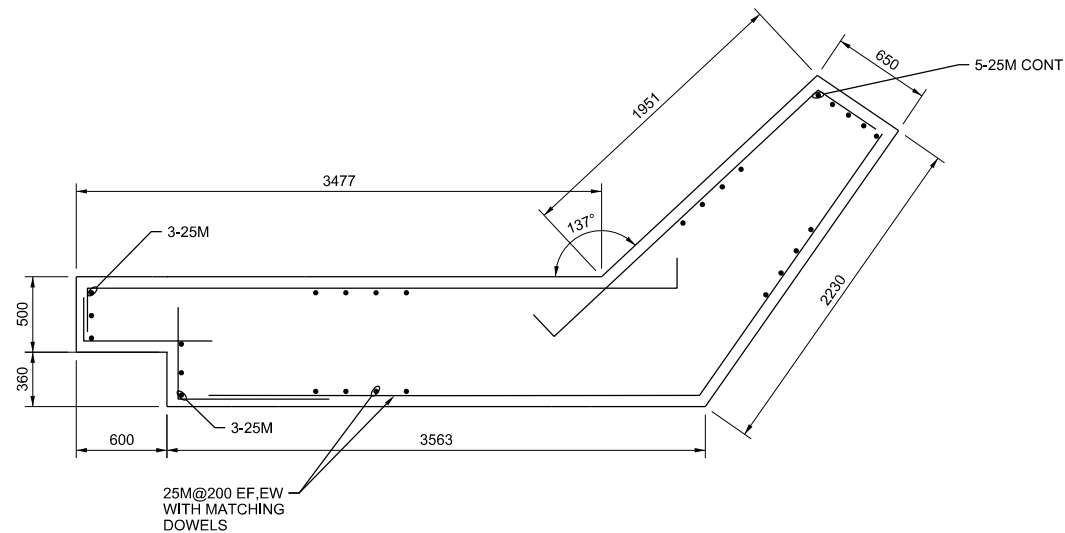
STRUCTURAL
WATER TREATMENT BUILDING SECTION-A (PART A)

1:75
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 510-S-311
SHEET



A SECTION - PART B
1:50

510-S201,510-S-202
510-S-203,510-S-204
510-S-205



1 PIPE SUPPORT PS4 (2 REQD)
1:25
510-S-202

GENERAL NOTES:

- FOR STEEL COL SIZE AND DETAILS SEE DRAWING 510-S-602
- BACKFILL THE AREA WITH SELECT ONSITE FILL TYPE X COMPACTED TO 98% SPMDD IN MAX LIFT OF 300mm.

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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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STRUCTURAL
WATER TREATMENT BUILDING
SECTION-A (PART B)

1:75

VERIFY SCALE

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DATE FEBRUARY 2014

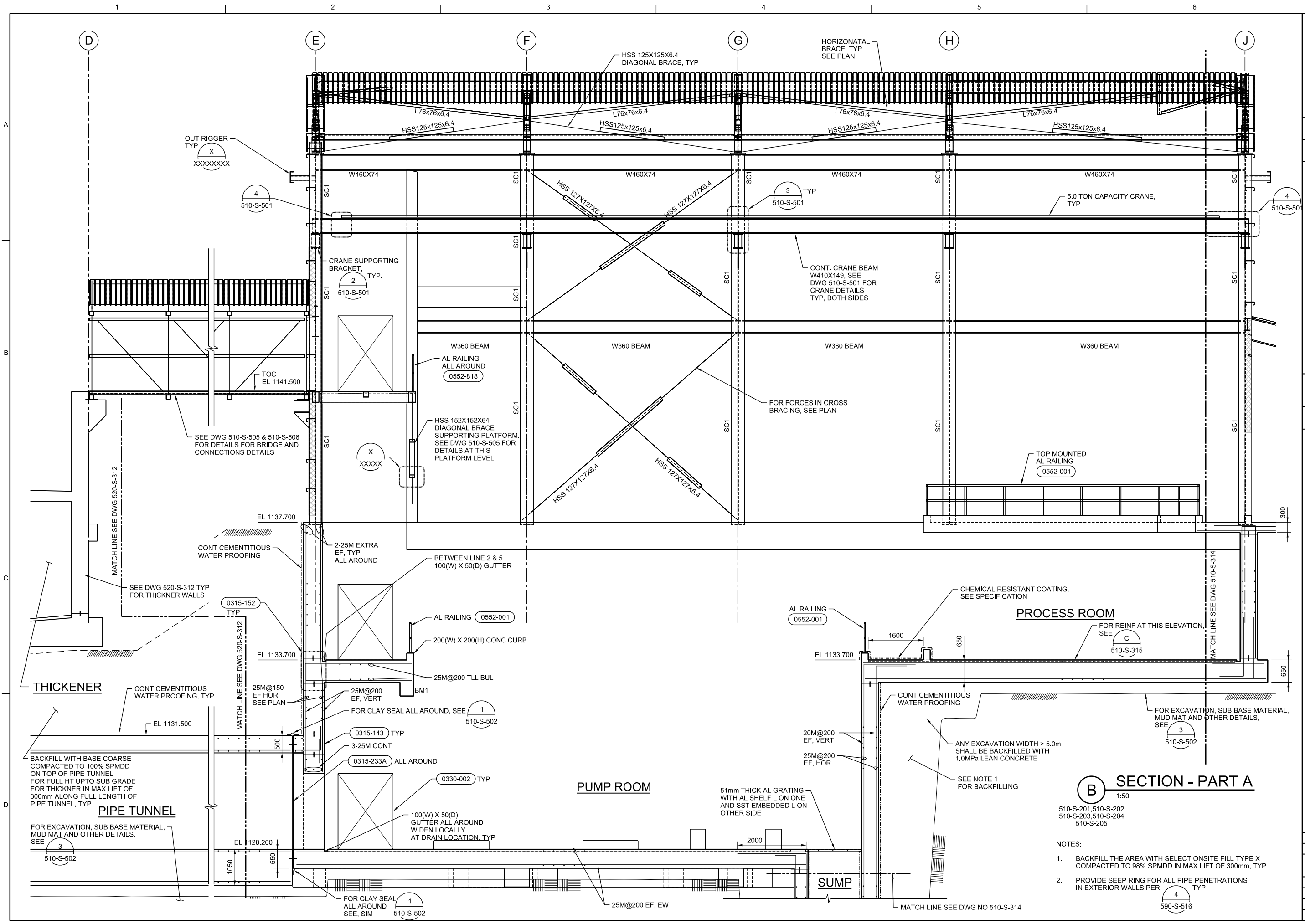
PROJ TA013-427716

DWG 510-S-312

SHEET

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			DR	
			A. THAKKAR	





B SECTION - PART A
1:50

510-S-201, 510-S-202
510-S-203, 510-S-204
510-S-205

- NOTES:
- BACKFILL THE AREA WITH SELECT ONSITE FILL TYPE X COMPACTED TO 98% SPMDD IN MAX LIFT OF 300mm, TYP.
 - PROVIDE SEEP RING FOR ALL PIPE PENETRATIONS IN EXTERIOR WALLS PER TYP

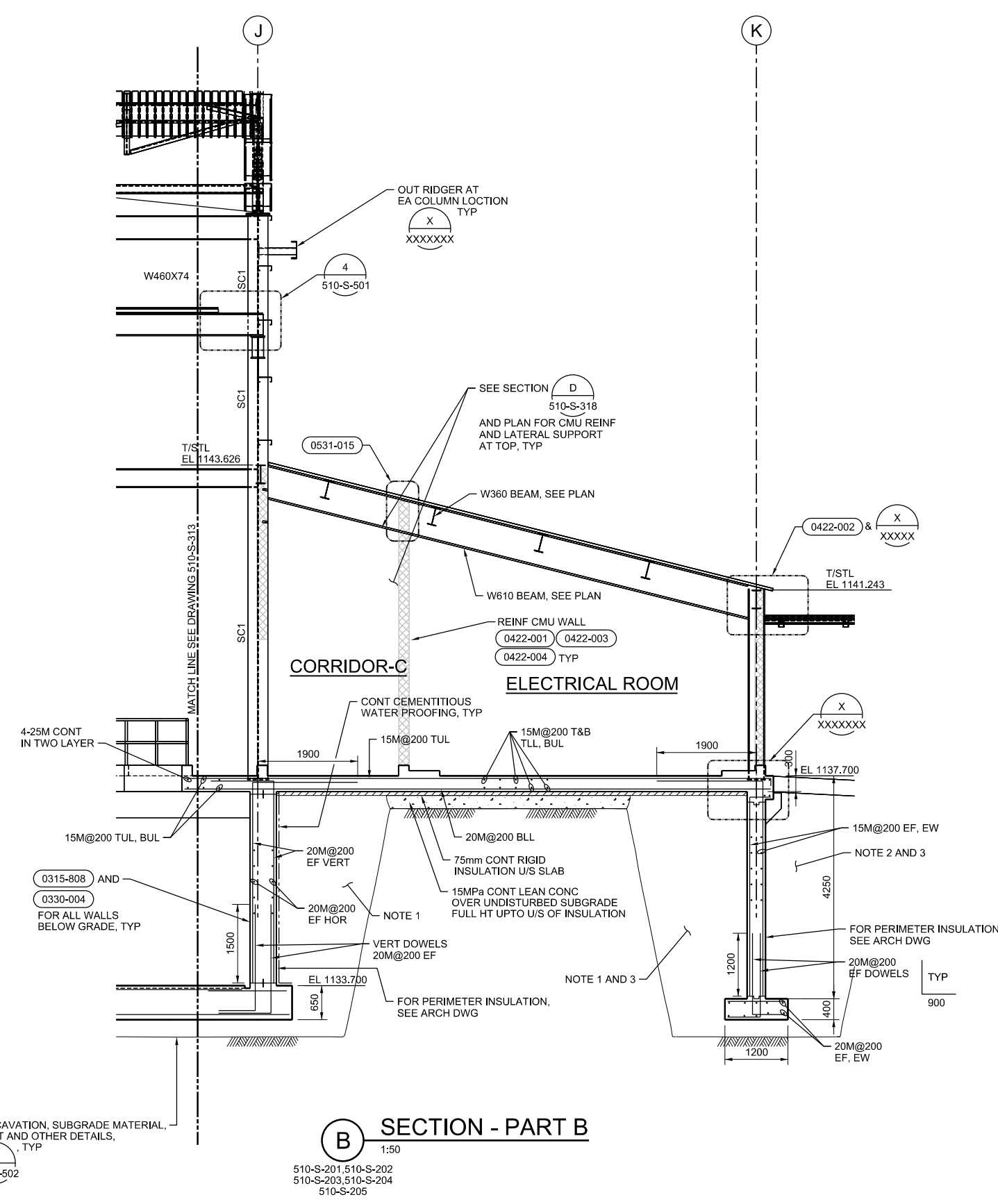
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STRUCTURAL
WATER TREATMENT BUILDING
SECTION-B (PART A)

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DWG	510-S-313
SHEET	

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B 02/2014		ISSUED FOR DETAIL DESIGN REVIEW		RR GN	
A 09/2013		ISSUED FOR ADVANCED DESIGN REVIEW		RR GN	

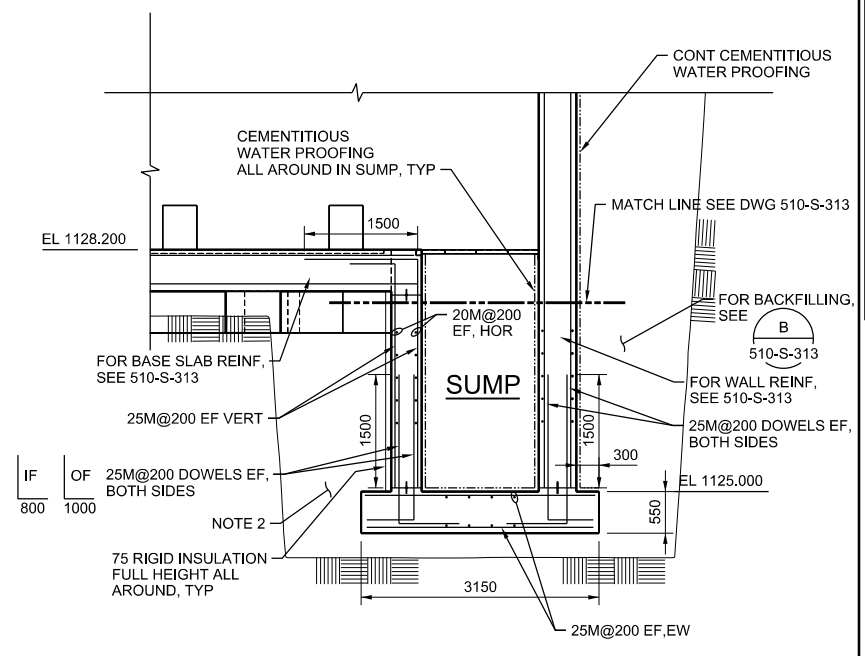




FOR EXCAVATION, SUBGRADE MATERIAL, MUD MAT AND OTHER DETAILS, SEE 3, TYP
510-S-502

B SECTION - PART B
1:50
510-S-201, 510-S-202
510-S-203, 510-S-204
510-S-205

- GENERAL NOTES:
- BACKFILL THE AREA WITH SELECT ONSITE FILL MATERIAL IN MAX LIFT OF 300mm AND COMPACT TO 98% SPMD.
 - BACKFILL THE AREA WITH BASE COARSE MATERIAL COMPACTED TO 100% SPMD IN MAX LIFT OF 300mm.
 - BACKFILL EQUALLY ON EITHER SIDE OF WALL FOOTING SUCH THAT MAX DIFFERENCE IN BACKFILLING ELEVATION DOES NOT EXCEED 300mm AT ANY TIME.



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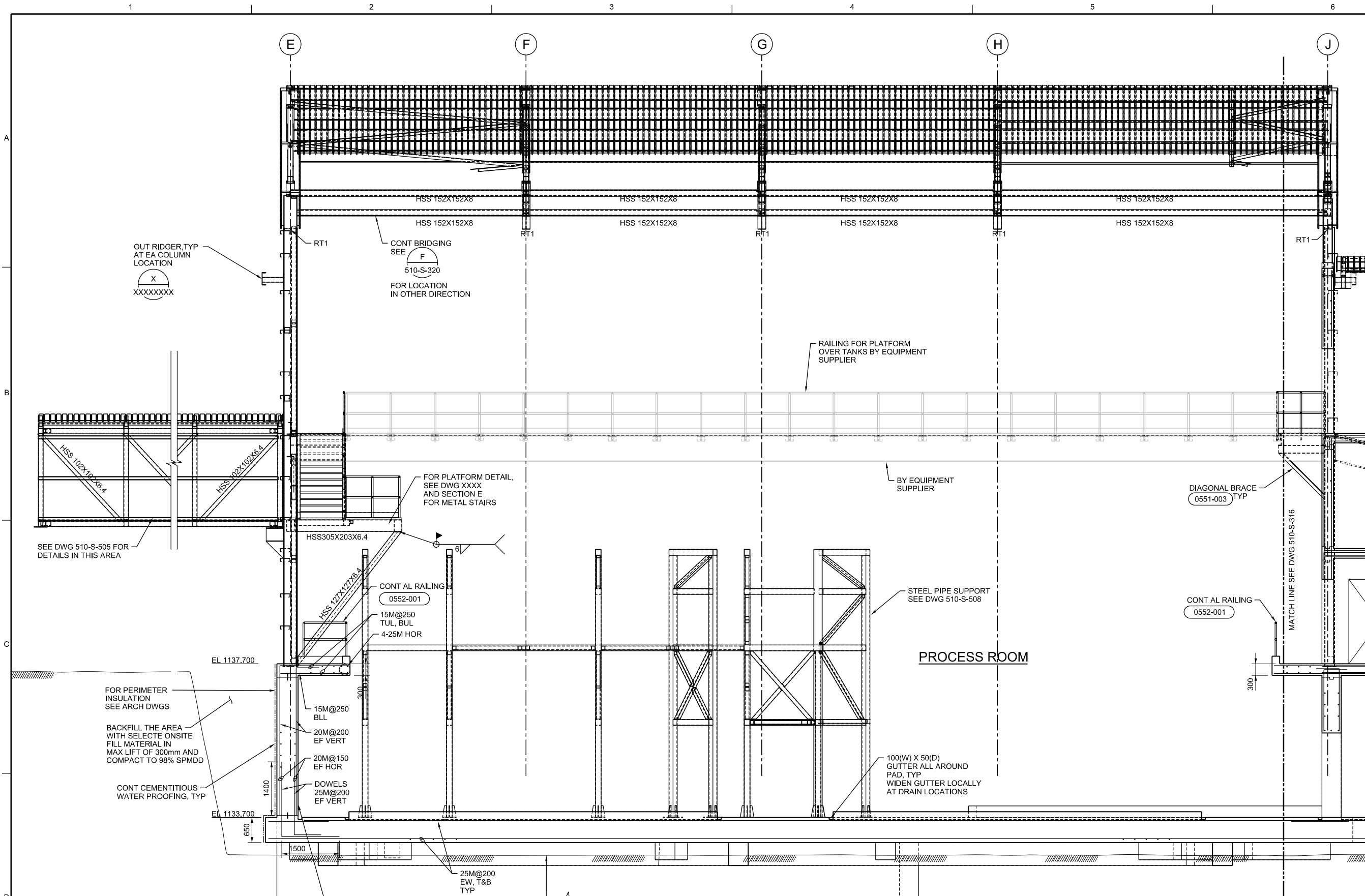
STRUCTURAL
WATER TREATMENT BUILDING SECTION-B (PART B)

DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	510-S-314
SHEET	



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C SECTION - PART A
1:50

510-S-202, 510-S-203
510-S-204, 510-S-205

- NOTES:
- PROVIDE SEEP RING FOR ALL PIPE PENETRATIONS IN EXTERIOR WALLS PER 4 TYP



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A	09/2013	RR	GN
NO. DATE		REVISION	APVD
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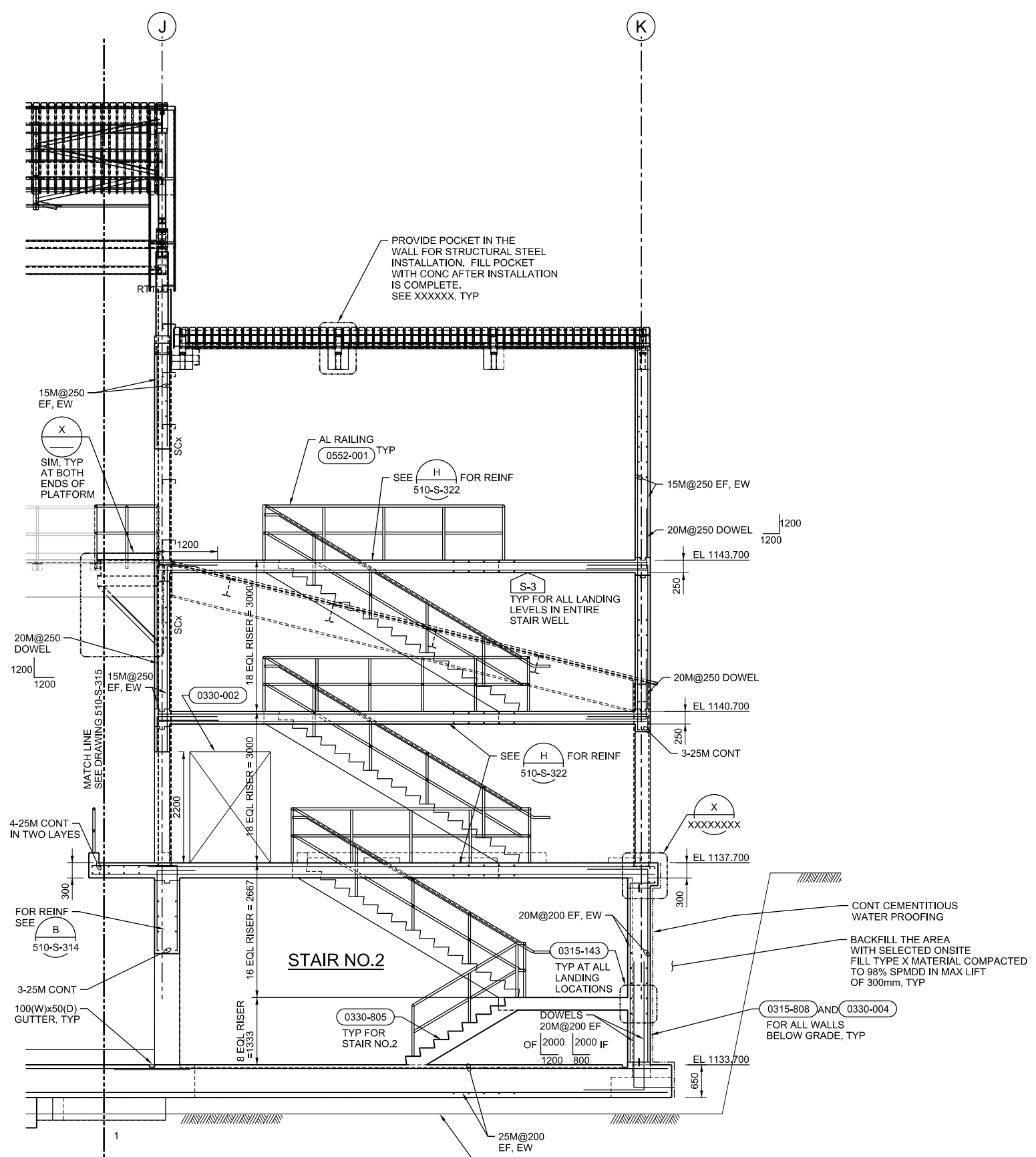
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WATER TREATMENT PLANT DESIGN
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DESIGN

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STRUCTURAL
WATER TREATMENT BUILDING SECTION-C (PART A)

1:75
VERIFY SCALE
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0 25mm
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C SECTION - PART B
1:50

510-S-202, 510-S-203
510-S-204, 510-S-205

510-S-502



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B	02/2014	ISSUED FOR DETAIL DESIGN REVIEW	RR	GN
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			DR	APVD
			CHK	APVD
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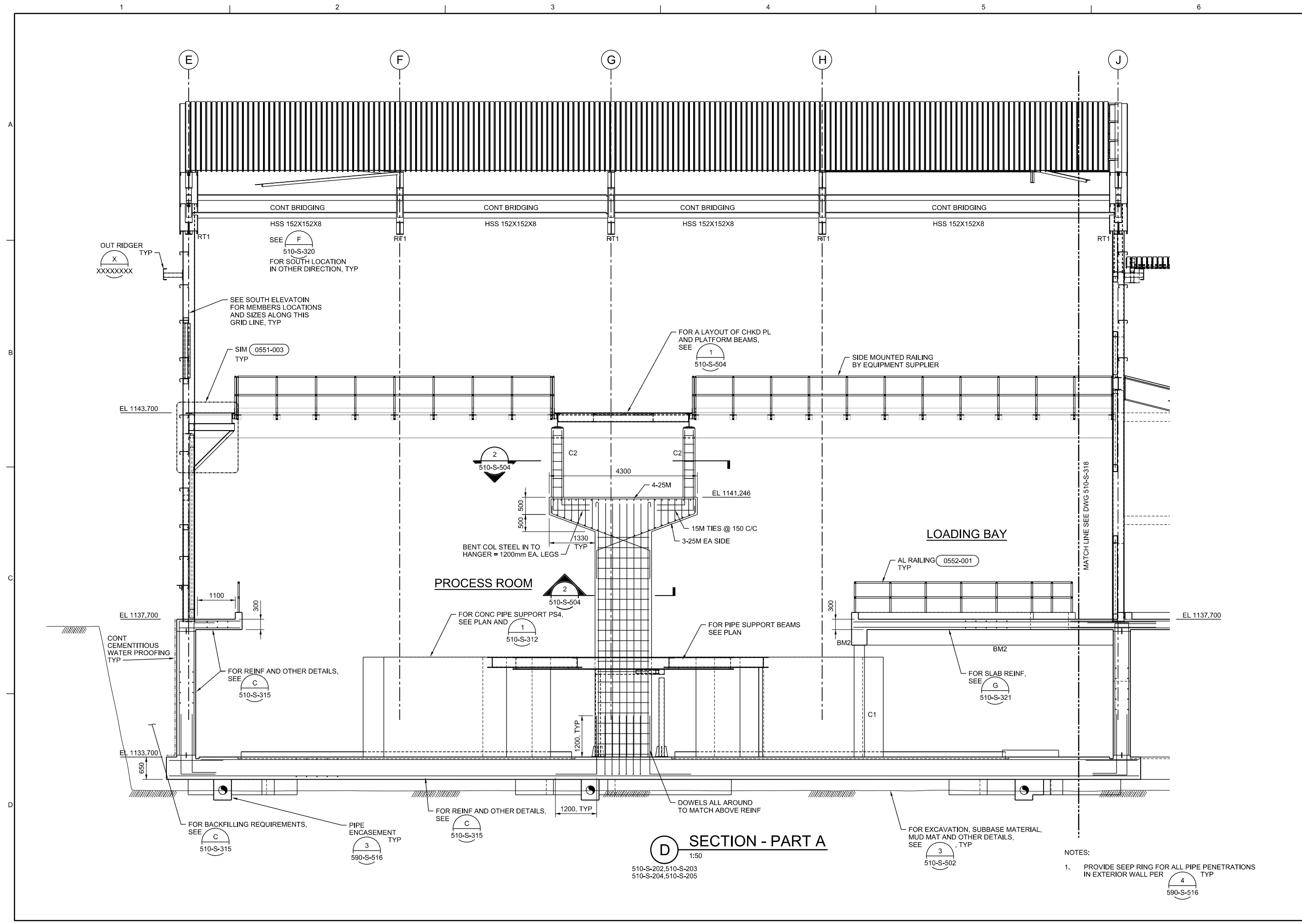
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STRUCTURAL

WATER TREATMENT BUILDING
SECTION-C (PART B)

SCALE	1:75
VERIFY SCALE	
BAR IS 25mm ON ORIGINAL DRAWING.	
DATE	FEBRUARY 2014
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DWG	510-S-316
SHEET	



D SECTION - PART A
1:50

510-S-202, 510-S-203
510-S-204, 510-S-205

- NOTES:
1. PROVIDE SEEP RING FOR ALL PIPE PENETRATIONS IN EXTERIOR WALL PER TYP



NO.	DATE	BY	CHK	APVD
A	09/2013	RR	RR	GN
B	02/2014	RR	RR	GN
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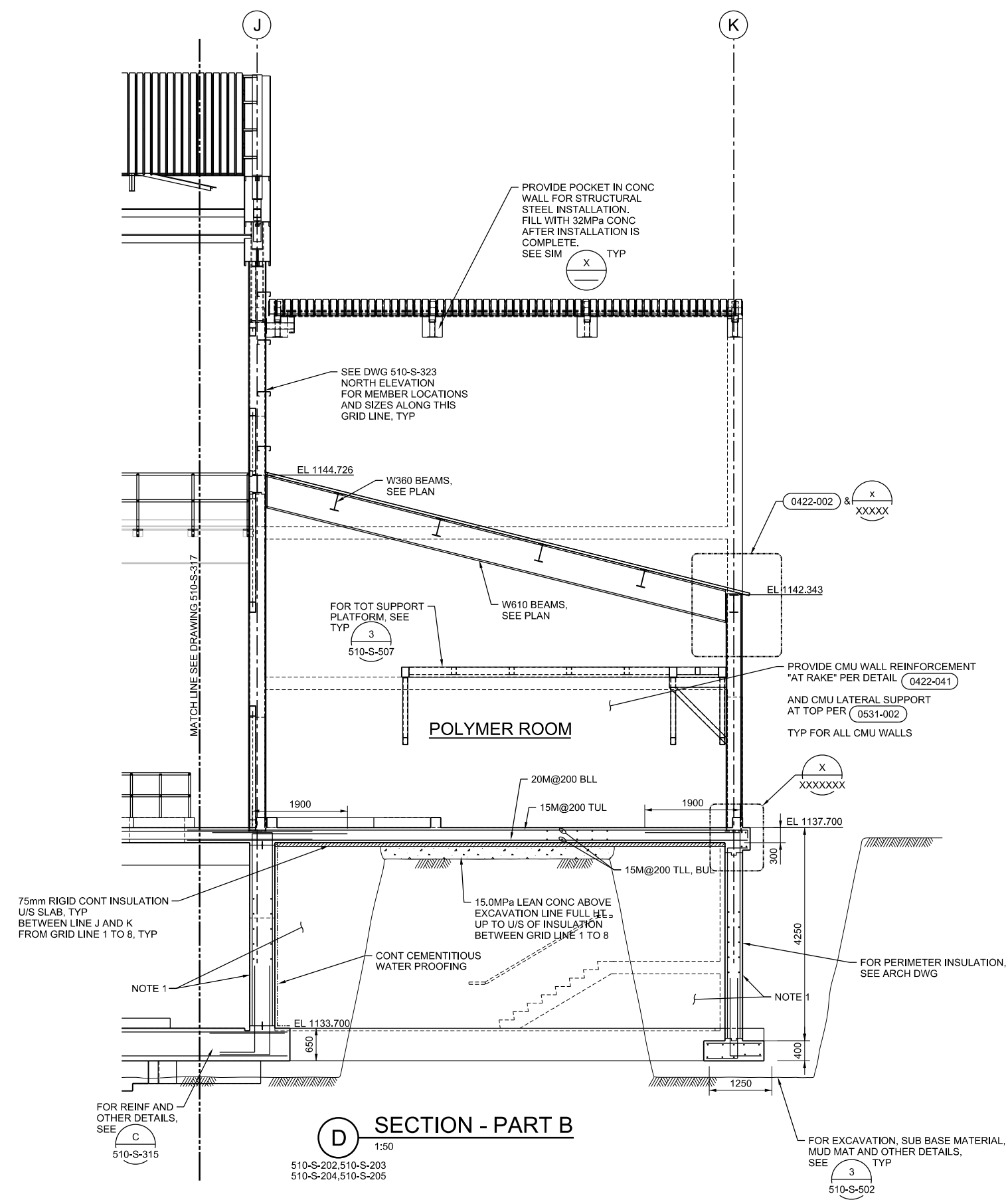
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WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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STRUCTURAL
WATER TREATMENT BUILDING SECTION-D (PART A)

1:75
VERIFY SCALE
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0 25mm
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DWG 510-S-317
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NOTE:
1. FOR DETAILS FOR CMU, LEAN CONCRETE, INSULATION, REINF; BACKFILLING AND OTHER DETAILS SEE SIM TO SHOWN ON SECTION B, TYP.
510-S-314



NO.	DATE	BY	APVD
B	02/2014	RR	GN
A	09/2013	RR	GN
NO. DATE		REVISION	BY
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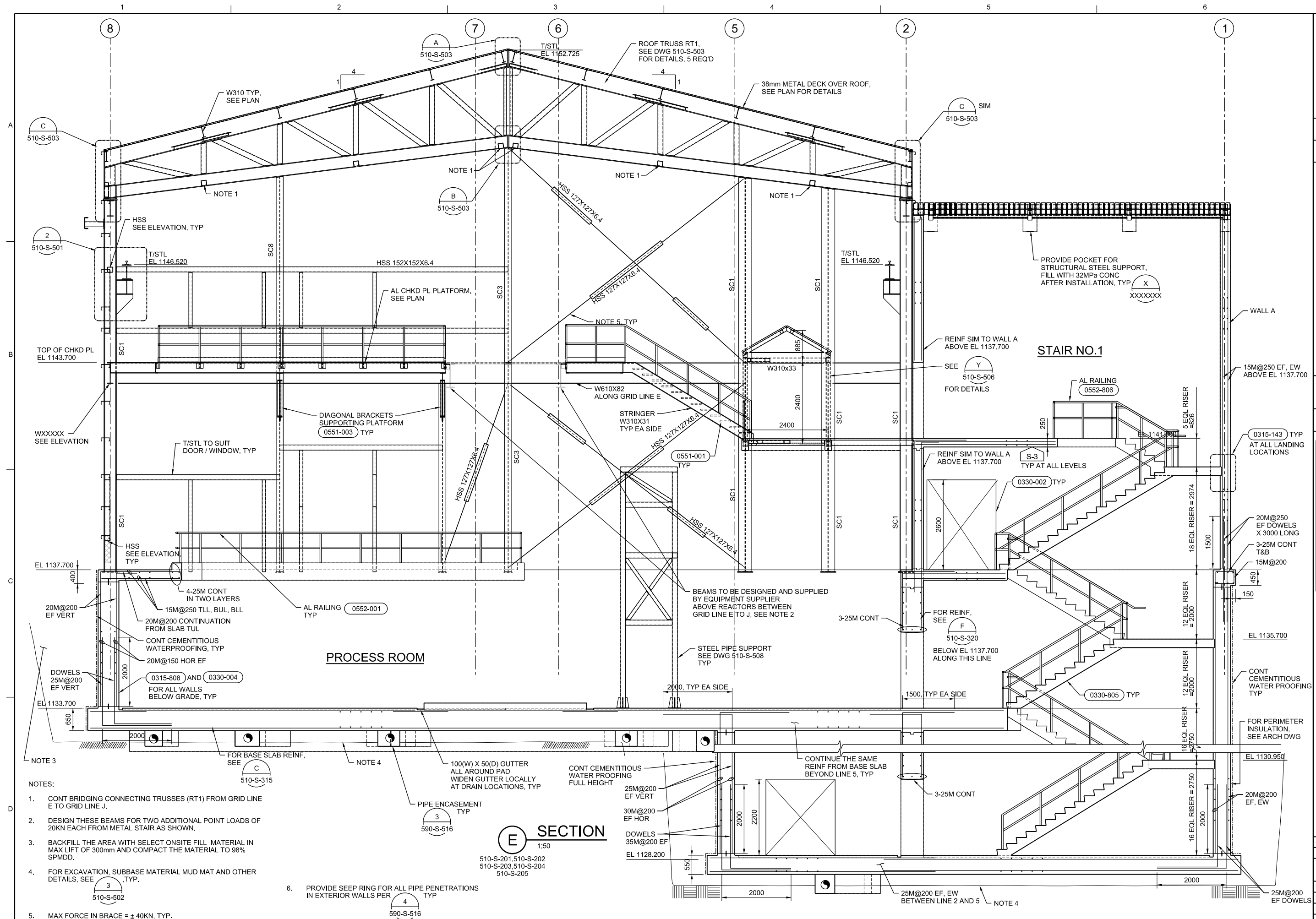
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WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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STRUCTURAL
WATER TREATMENT BUILDING SECTION-D (PART B)

1:75
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 510-S-318
SHEET

D SECTION - PART B
1:50
510-S-202, 510-S-203
510-S-204, 510-S-205



E SECTION
1:50

- NOTES:
- CONT BRIDGING CONNECTING TRUSSES (RT1) FROM GRID LINE E TO GRID LINE J.
 - DESIGN THESE BEAMS FOR TWO ADDITIONAL POINT LOADS OF 20KN EACH FROM METAL STAIR AS SHOWN.
 - BACKFILL THE AREA WITH SELECT ONSITE FILL MATERIAL IN MAX LIFT OF 300mm AND COMPACT THE MATERIAL TO 98% SPMDD.
 - FOR EXCAVATION, SUBBASE MATERIAL MUD MAT AND OTHER DETAILS, SEE 3 TYP.
 - MAX FORCE IN BRACE = ± 40KN, TYP.

- PROVIDE SEEP RING FOR ALL PIPE PENETRATIONS IN EXTERIOR WALLS PER 4 TYP



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ISSUED FOR ADVANCED DESIGN REVIEW	GN	RR	GN	BY	APVD
NO. DATE	A	09/2013			
DR	A. THAKKAR				
CHK	R. RANA				

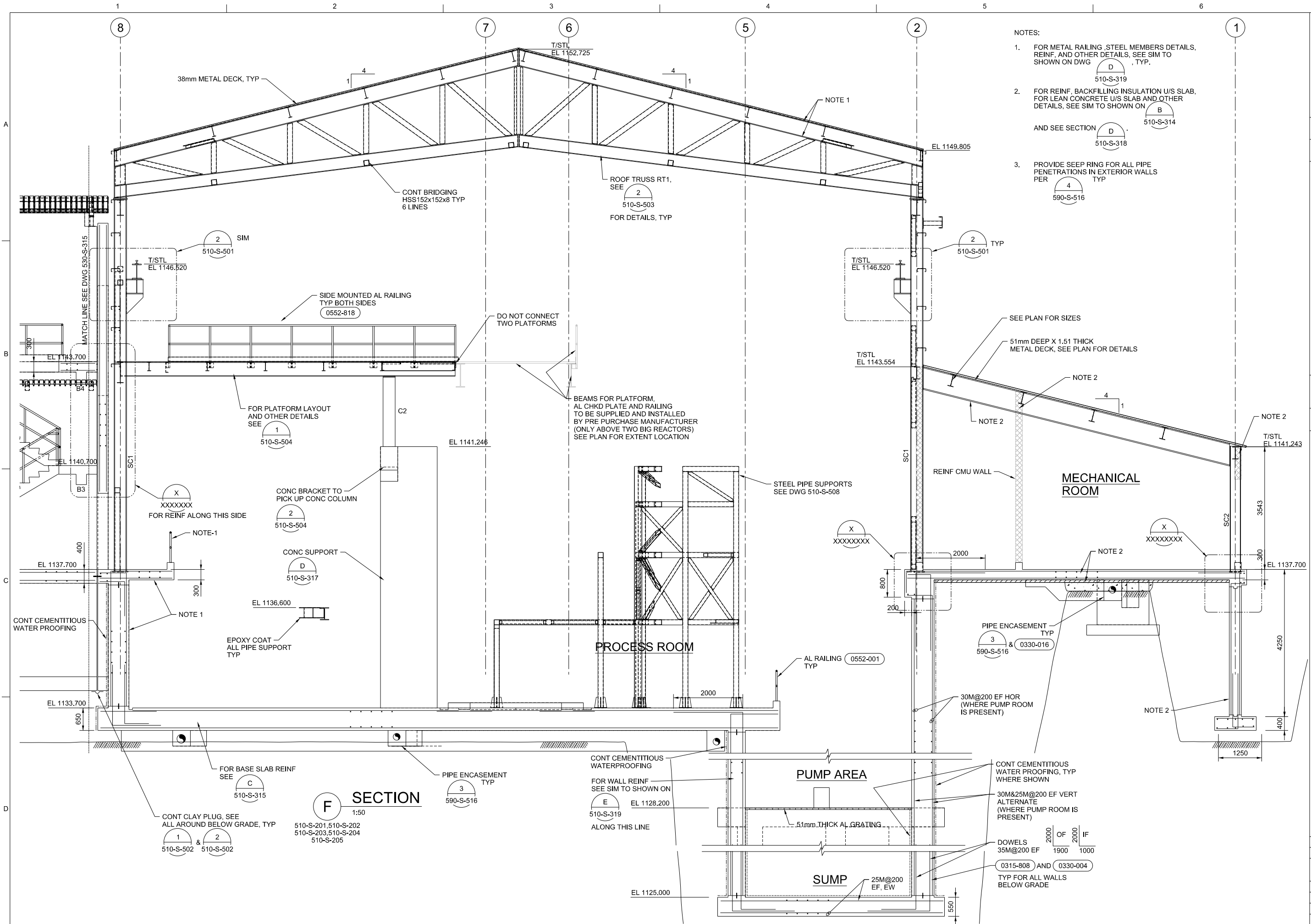
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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL

STRUCTURAL
WATER TREATMENT BUILDING SECTION E

1:75
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 510-S-319
SHEET



NOTES:

- 1. FOR METAL RAILING, STEEL MEMBERS DETAILS, REINF. AND OTHER DETAILS, SEE SIM TO SHOWN ON DWG (D) 510-S-319 TYP.
- 2. FOR REINF. BACKFILLING INSULATION U/S SLAB, FOR LEAN CONCRETE U/S SLAB AND OTHER DETAILS, SEE SIM TO SHOWN ON (B) 510-S-314 TYP.
AND SEE SECTION (D) 510-S-318
- 3. PROVIDE SEEP RING FOR ALL PIPE PENETRATIONS IN EXTERIOR WALLS TYP (4) 590-S-516



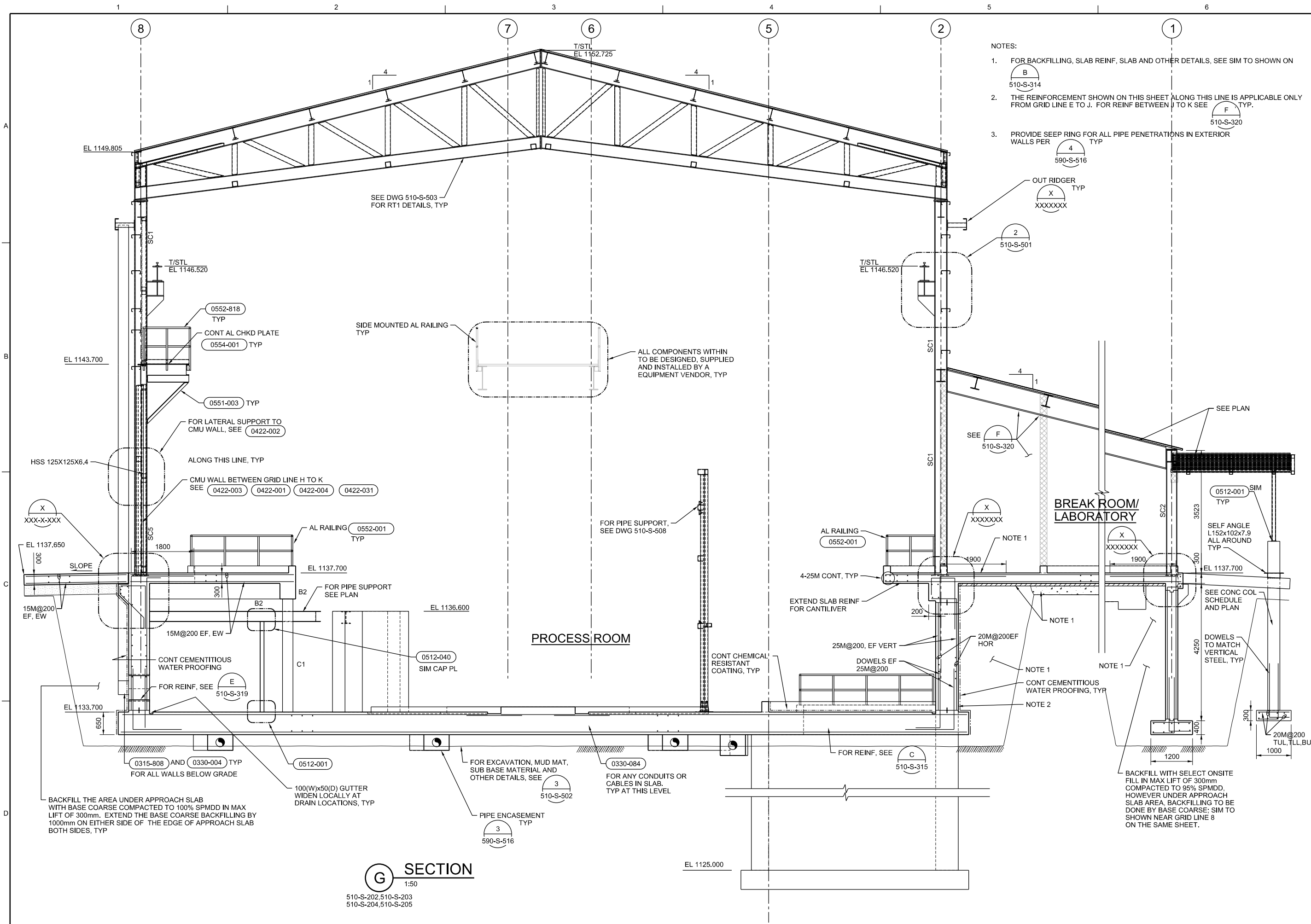
NO.	DATE	BY	APVD
B	02/2014	R. RANA	A. THAKKAR
A	09/2013	R. RANA	A. THAKKAR

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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL
STRUCTURAL
WATER TREATMENT BUILDING SECTION-F

1:75
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 510-S-320
SHEET



- NOTES:
- FOR BACKFILLING, SLAB REINF, SLAB AND OTHER DETAILS, SEE SIM TO SHOWN ON (B) 510-S-314
 - THE REINFORCEMENT SHOWN ON THIS SHEET ALONG THIS LINE IS APPLICABLE ONLY FROM GRID LINE E TO J. FOR REINF BETWEEN J TO K SEE (F) 510-S-320
 - PROVIDE SEEP RING FOR ALL PIPE PENETRATIONS IN EXTERIOR WALLS PER (4) 590-S-516



NO.	DATE	BY	APVD
B	02/2014	GN	GN
A	09/2013	RR	RR
NO. DATE		REVISION	CHK
		DR	APVD
		R. RANA	A. THAKKAR
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		ISSUED FOR ADVANCED DESIGN REVIEW	

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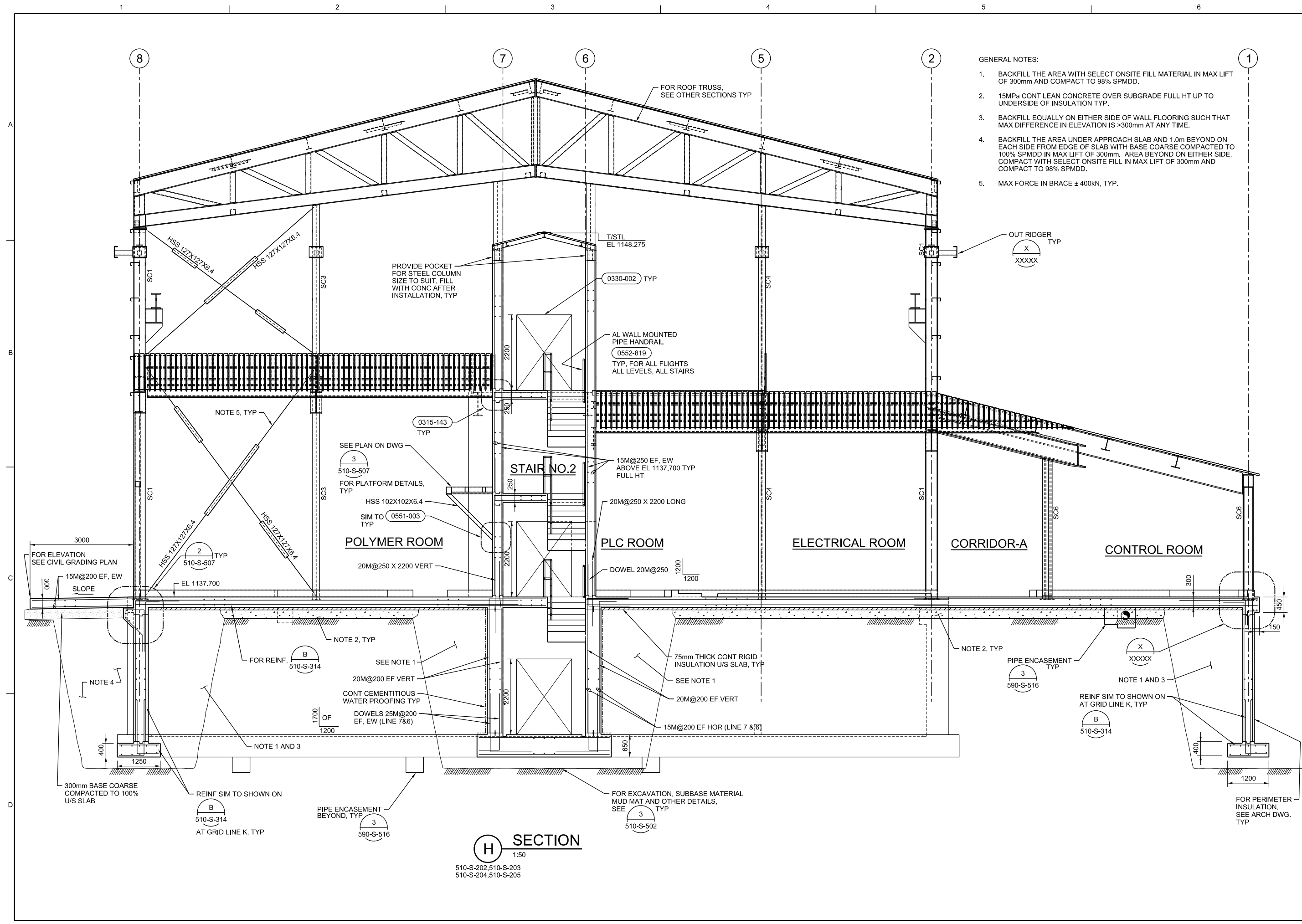
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®

STRUCTURAL
WATER TREATMENT BUILDING SECTION-G

1:75
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWINGS.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 510-S-321
SHEET

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- GENERAL NOTES:
- BACKFILL THE AREA WITH SELECT ONSITE FILL MATERIAL IN MAX LIFT OF 300mm AND COMPACT TO 98% SPMD.
 - 15MPa CONT LEAN CONCRETE OVER SUBGRADE FULL HT UP TO UNDERSIDE OF INSULATION TYP.
 - BACKFILL EQUALLY ON EITHER SIDE OF WALL FLOORING SUCH THAT MAX DIFFERENCE IN ELEVATION IS >300mm AT ANY TIME.
 - BACKFILL THE AREA UNDER APPROACH SLAB AND 1.0m BEYOND ON EACH SIDE FROM EDGE OF SLAB WITH BASE COARSE COMPACTED TO 100% SPMD IN MAX LIFT OF 300mm. AREA BEYOND ON EITHER SIDE, COMPACT WITH SELECT ONSITE FILL IN MAX LIFT OF 300mm AND COMPACT TO 98% SPMD.
 - MAX FORCE IN BRACE ± 400kN, TYP.

H SECTION
1:50
510-S-202,510-S-203
510-S-204,510-S-205



ISSUED FOR DETAIL DESIGN REVIEW	GN	RR	GN	BY	APVD
ISSUED FOR ADVANCED DESIGN REVIEW	GN	RR	GN	BY	APVD
NO.	DATE	DR	CHK	APVD	
		A. THAKKAR	R. RANA	A. THAKKAR	

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

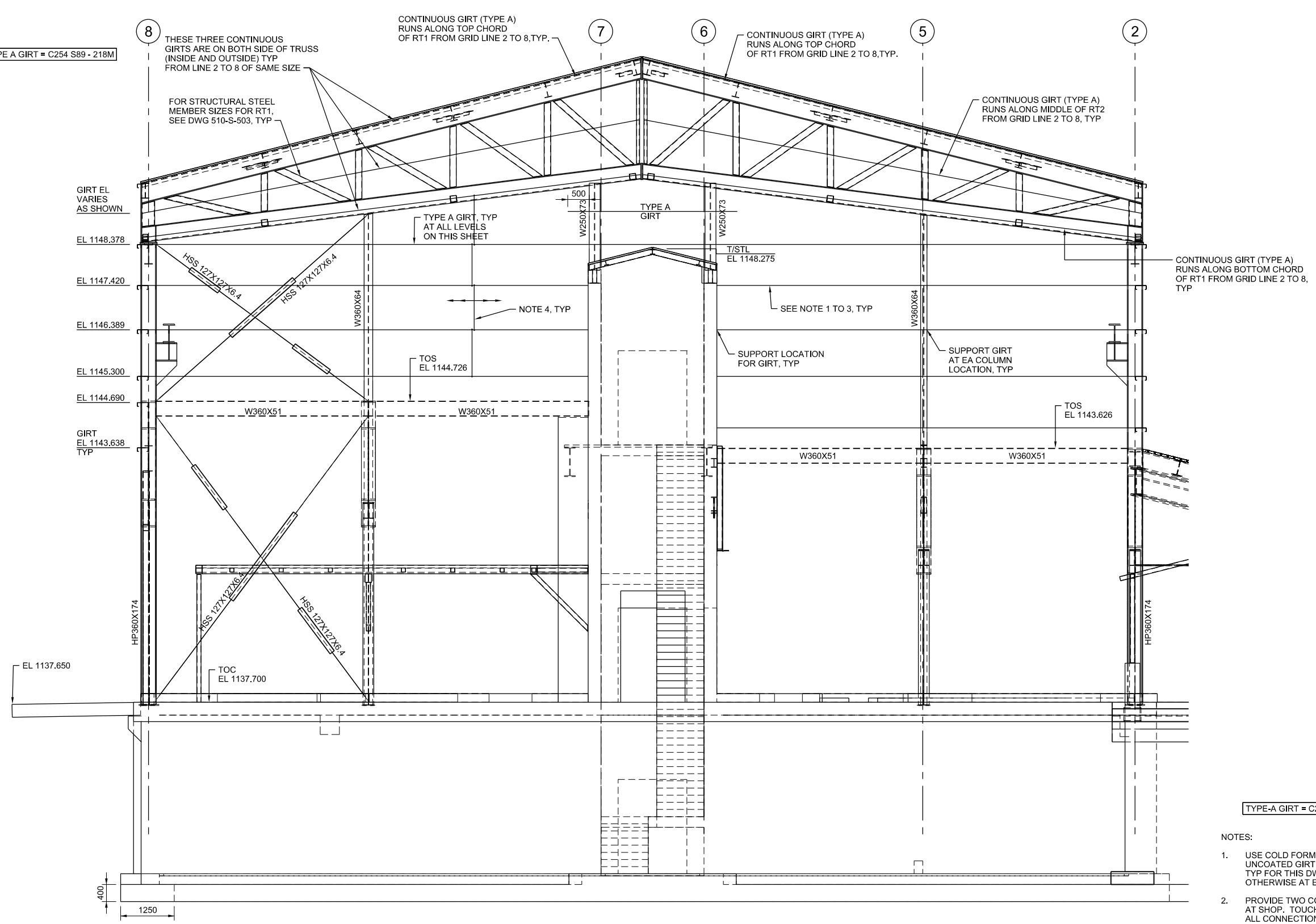
CH2MHILL

STRUCTURAL
WATER TREATMENT BUILDING SECTION-H

1:75
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
0 25mm

DATE FEBRUARY 2014
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TYPE A GIRT = C254 S89 - 218M

THESE THREE CONTINUOUS GIRTS ARE ON BOTH SIDE OF TRUSS (INSIDE AND OUTSIDE) TYP FROM LINE 2 TO 8 OF SAME SIZE

FOR STRUCTURAL STEEL MEMBER SIZES FOR RT1, SEE DWG 510-S-503, TYP

CONTINUOUS GIRT (TYPE A) RUNS ALONG TOP CHORD OF RT1 FROM GRID LINE 2 TO 8, TYP.

CONTINUOUS GIRT (TYPE A) RUNS ALONG TOP CHORD OF RT1 FROM GRID LINE 2 TO 8, TYP.

CONTINUOUS GIRT (TYPE A) RUNS ALONG MIDDLE OF RT2 FROM GRID LINE 2 TO 8, TYP

CONTINUOUS GIRT (TYPE A) RUNS ALONG BOTTOM CHORD OF RT1 FROM GRID LINE 2 TO 8, TYP

TYPE A GIRT, TYP AT ALL LEVELS ON THIS SHEET

NOTE 4, TYP

SEE NOTE 1 TO 3, TYP

SUPPORT LOCATION FOR GIRT, TYP

SUPPORT GIRT AT EA COLUMN LOCATION, TYP

TOS EL 1144.726

TOS EL 1143.626

EL 1137.650

TOC EL 1137.700

TYPE-A GIRT = C254 S89 - 218M

NOTES:

- USE COLD FORMED C SECTION UNCOATED GIRT TYPE A = 254S89-218M TYP FOR THIS DWG UNLESS NOTED OTHERWISE AT ELEVATION SHOWN.
- PROVIDE TWO COATS OF EPOXY PAINT AT SHOP. TOUCH UP ALL DAMAGE AND ALL CONNECTIONS AT SITE AFTER INSTALLATION. CONNECTION DESIGN OF GIRT TO STRUCTURAL STEEL MEMBER TO BE DESIGNED BY CONTRACTOR'S PROFESSIONAL ENGINEER, TYP. (TYPE A AND TYPE B BOTH GIRT TYPES)
- CO-ORDINATE INSTALLATION WITH WORK AS SHOWN ON ARCH DWGS TYP.
- PROVIDE 16mmØ EPOXY COATED VERTICAL SAG ROD CONNECTING EACH GIRT AT MAX SPACING OF 1900 C/C ALL AROUND FROM TOP TO BOTTOM WITH A WASHER AND NUTS, TYP. FULL HEIGHT FROM GRID LINE 2 TO 8.

GIRT AND STRUCTURAL STEEL NORTH ELEVATION ALONG GRID LINE J

1:50



NO.	DATE	REVISION	BY	APVD
B	02/2014	ISSUED FOR DETAIL DESIGN REVIEW	RR	GN
A	09/2013	ISSUED FOR ADVANCED DESIGN REVIEW	RR	GN
			CHK	APVD
			DR	APVD
			R. RANA	A. THAKKAR

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FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN GOVERNMENT OF YUKON DESIGN

CH2MHILL®
STRUCTURAL
WATER TREATMENT BUILDING NORTH ELEVATION

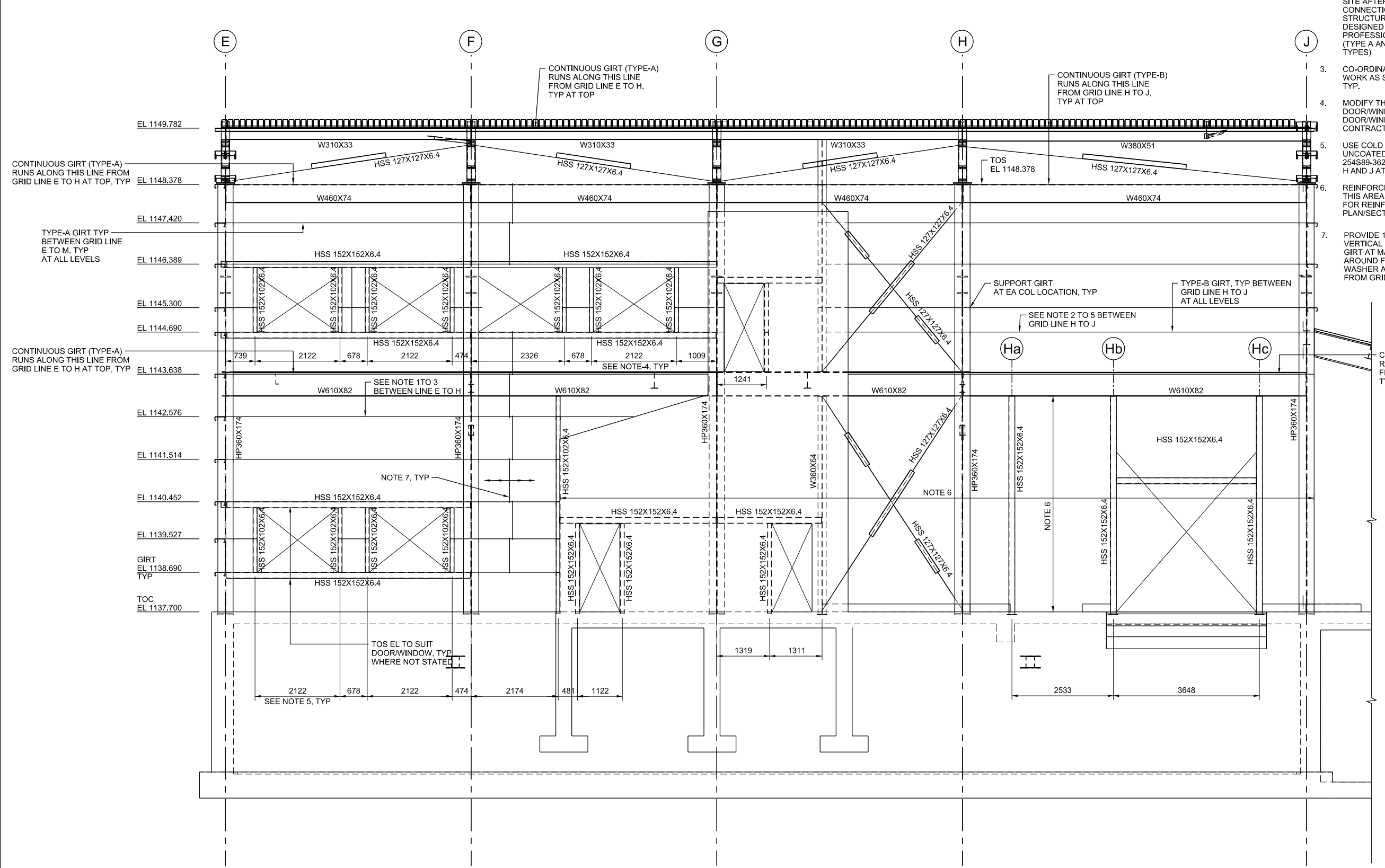
1:50
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWINGS.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 510-S-323
SHEET

TYPE-A GIRT = C254 S89 - 218M
 TYPE-B GIRT = C254 S89 - 362M

- NOTES:
- USE COLD FORMED C SECTION UNCOATED GIRT TYPE A = 254S89-218m TYP FOR THIS DWG UNLESS NOTED OTHERWISE AT ELEVATION SHOWN.
 - PROVIDE TWO COATS OF EPOXY PAINT AT SHOP. TOUCH UP ALL DAMAGE AND ALL CONNECTIONS AT SITE AFTER INSTALLATION. CONNECTION DESIGN OF GIRT TO STRUCTURAL STEEL MEMBER TO BE DESIGNED BY CONTRACTOR'S PROFESSIONAL ENGINEER, TYP. (TYPE A AND TYPE B BOTH GIRT TYPES)
 - CO-ORDINATE INSTALLATION WITH WORK AS SHOWN ON ARCH DWGS TYP.
 - MODIFY THE DIMENSION TO SUIT DOOR/WINDOW. CO-ORDINATE WITH DOOR/WINDOW SUPPLIER. GENERAL CONTRACTOR TO CO-ORDINATE.
 - USE COLD FORMED C SECTION UNCOATED GIRT (TYPE-B) 254S89-362M TYP BETWEEN GRID LINE H AND J AT ALL LEVELS, TYP.
 - REINFORCED CMU WALL PRESENTS IN THIS AREA ENCLOSED. FOR REINFORCEMENT SEE PLAN/SECTIONS, TYP.
 - PROVIDE 16mmØ EPOXY COATED VERTICAL SAG ROD CONNECTING EACH GIRT AT MAX SPACING OF 1900 C/C ALL AROUND FROM TOP TO BOTTOM WITH A WASHER AND NUTS, TYP. FULL HEIGHT FROM GRID LINE E TO J.



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ISSUED FOR ADVANCED DESIGN REVIEW	GN	RR	GN	BY	APVD
NO.	DATE	DR	CHK	APVD	
B	02/2014		R. RANA	A. THAKKAR	
A	09/2013				



GIRT AND STRUCTURAL STEEL EAST ELEVATION ALONG GRID LINE 8

1:50

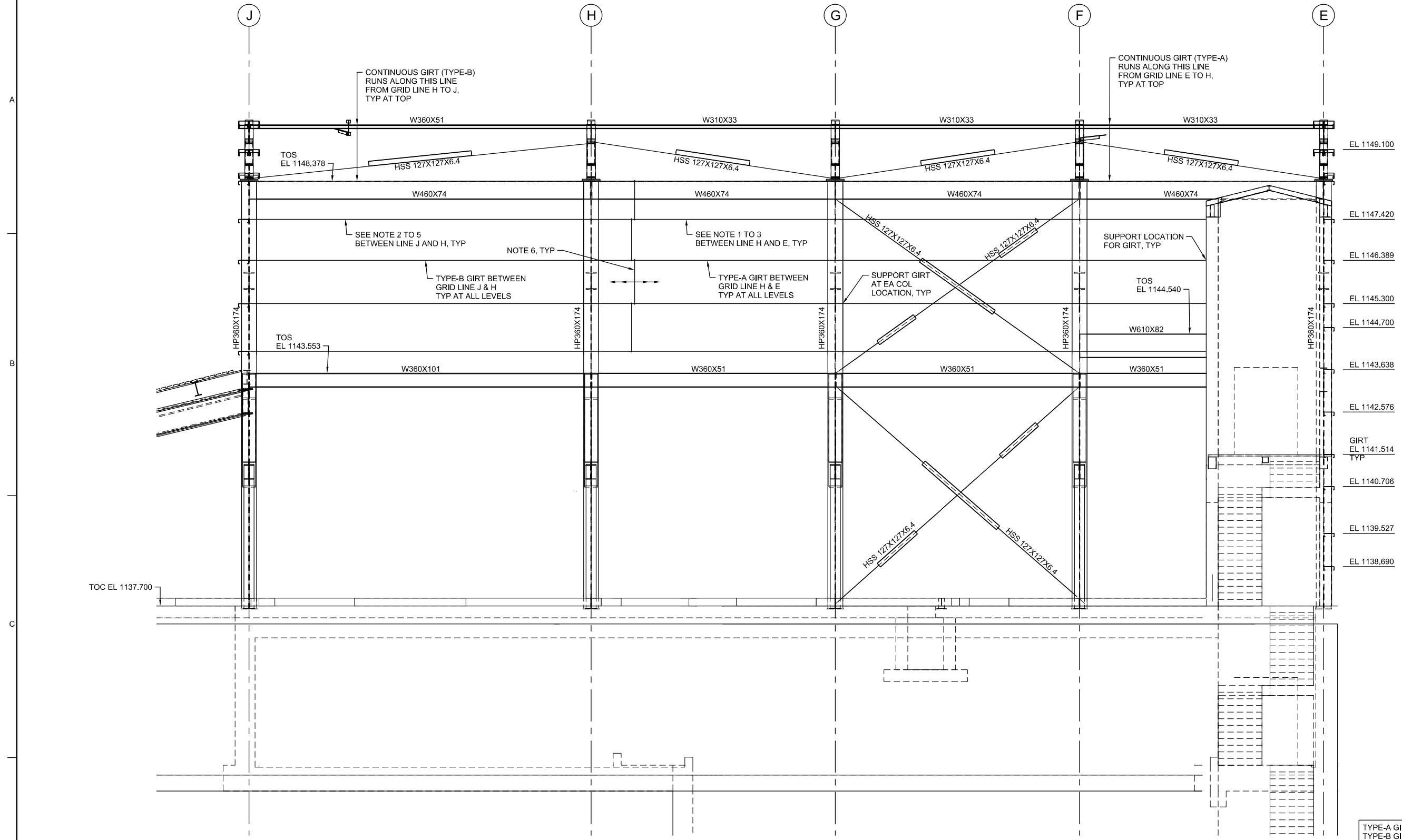
90% DETAIL DESIGN REVIEW
 NOT FOR TENDER OR
 CONSTRUCTION

STRUCTURAL
**WATER TREATMENT BUILDING
 EAST ELEVATION**

1:50
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 510-S-325
SHEET

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1 2 3 4 5 6



GIRT AND STRUCTURAL STEEL WEST ELEVATION ALONG GRID LINE 2

1:50

NOTES:

- USE COLD FORMED C SECTION UNCOATED GIRT TYPE A = 254S89-218M TYP FOR THIS DWG UNLESS NOTED OTHERWISE AT ELEVATION SHOWN.
- PROVIDE TWO COATS OF EPOXY PAINT AT SHOP. TOUCH UP ALL DAMAGE AND ALL CONNECTIONS AT SITE AFTER INSTALLATION. CONNECTION DESIGN OF GIRT TO STRUCTURAL STEEL MEMBER TO BE DESIGNED BY CONTRACTOR'S PROFESSIONAL ENGINEER, TYP. (TYPE A AND TYPE B BOTH GIRT TYPES)
- CO-ORDINATE INSTALLATION WITH WORK AS SHOWN ON ARCH DWGS TYP.
- MODIFY THE DIMENSION TO SUIT DOOR/WINDOW. CO-ORDINATE WITH DOOR/WINDOW SUPPLIER. GENERAL CONTRACTOR TO CO-ORDINATE.
- USE COLD FORMED C SECTION UNCOATED GIRT (TYPE-B) 254S89-362M TYP BETWEEN GRID LINE H AND J AT ALL LEVELS, TYP.
- PROVIDE 16mmØ EPOXY COATED VERTICAL SAG ROD CONNECTING EACH GIRT AT MAX SPACING OF 1900 C/C ALL AROUND FROM TOP TO BOTTOM WITH A WASHER AND NUTS, TYP. FULL HEIGHT FROM GRID LINE E TO J.

TYPE-A GIRT = C254 S89 - 218M
TYPE-B GIRT = C254 S89 - 362M



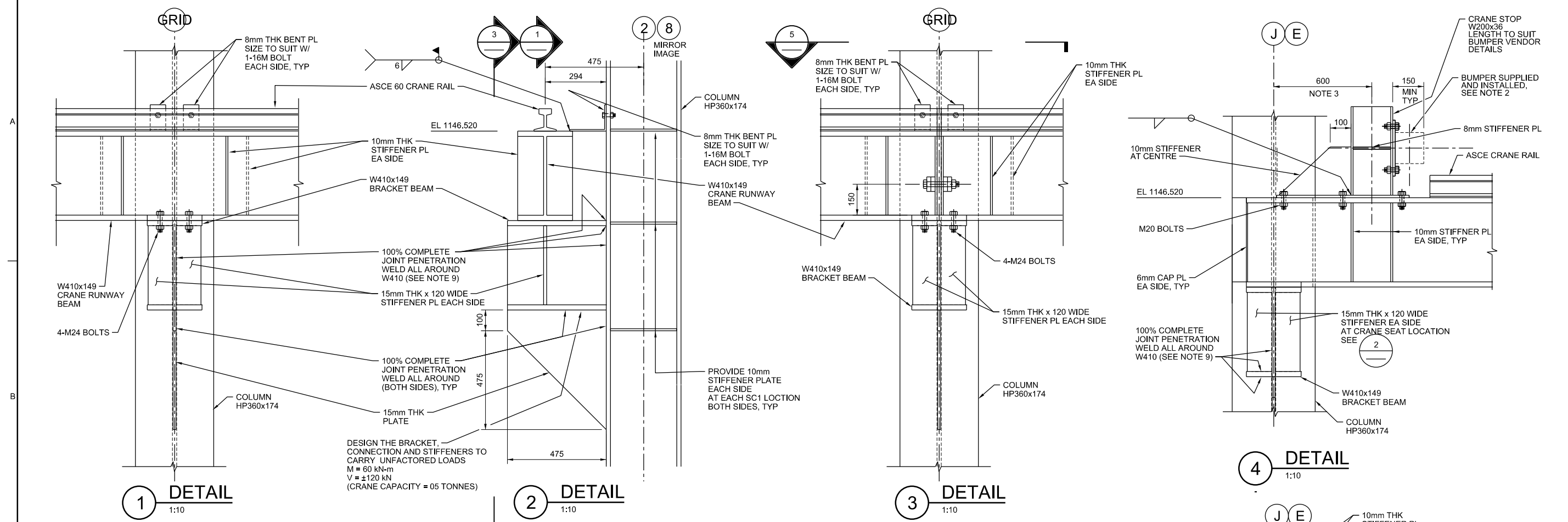
ISSUED FOR DETAIL DESIGN REVIEW	GN	RR	GN	BY	APVD
ISSUED FOR ADVANCED DESIGN REVIEW	GN	RR	GN	BY	APVD
NO. DATE	D	NO.	DATE	DR	APVD
D	02/2014	A	09/2013	A. THAKKAR	A. THAKKAR
D				R. RANA	A. THAKKAR
D					CHK

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

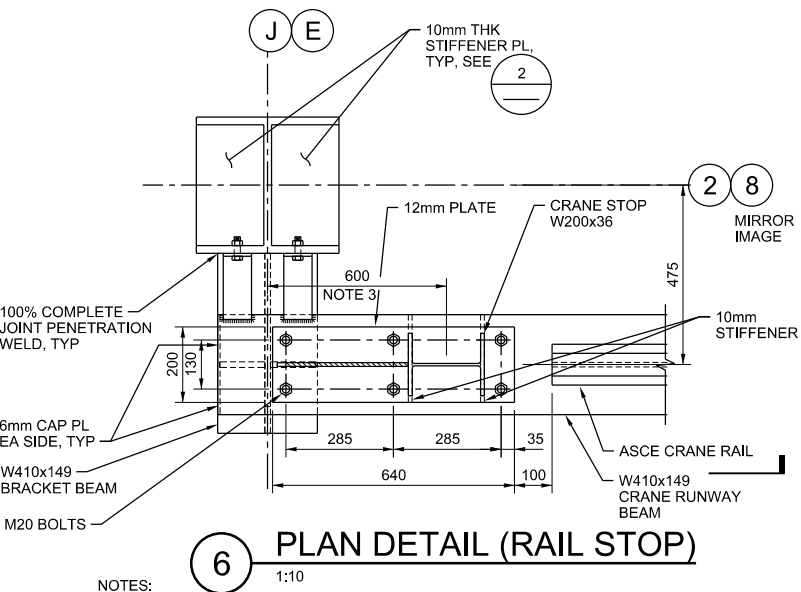
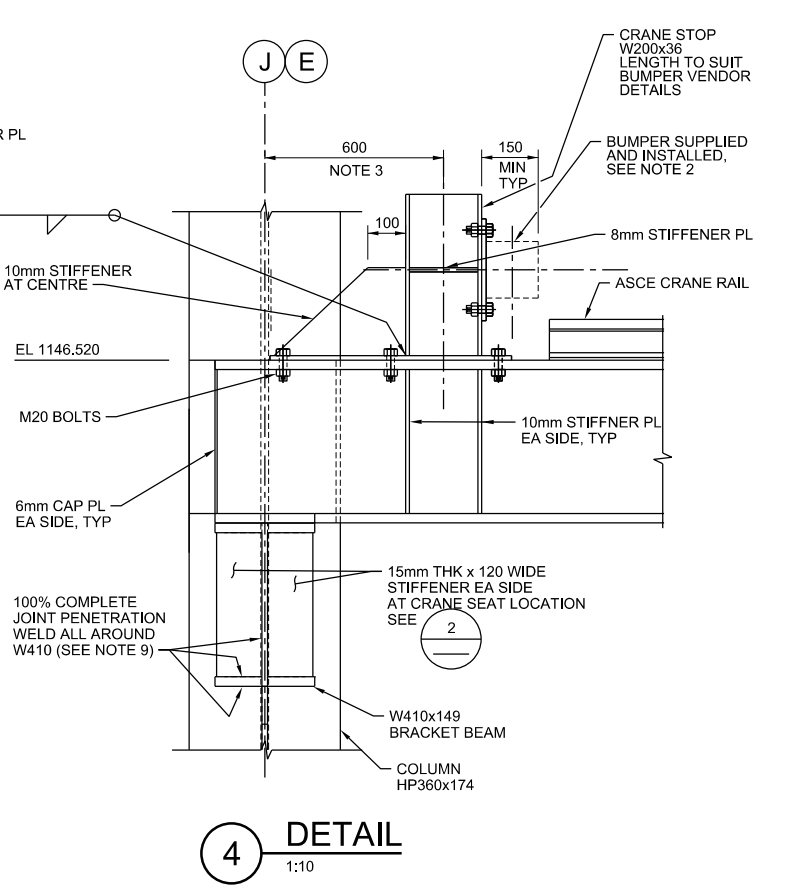
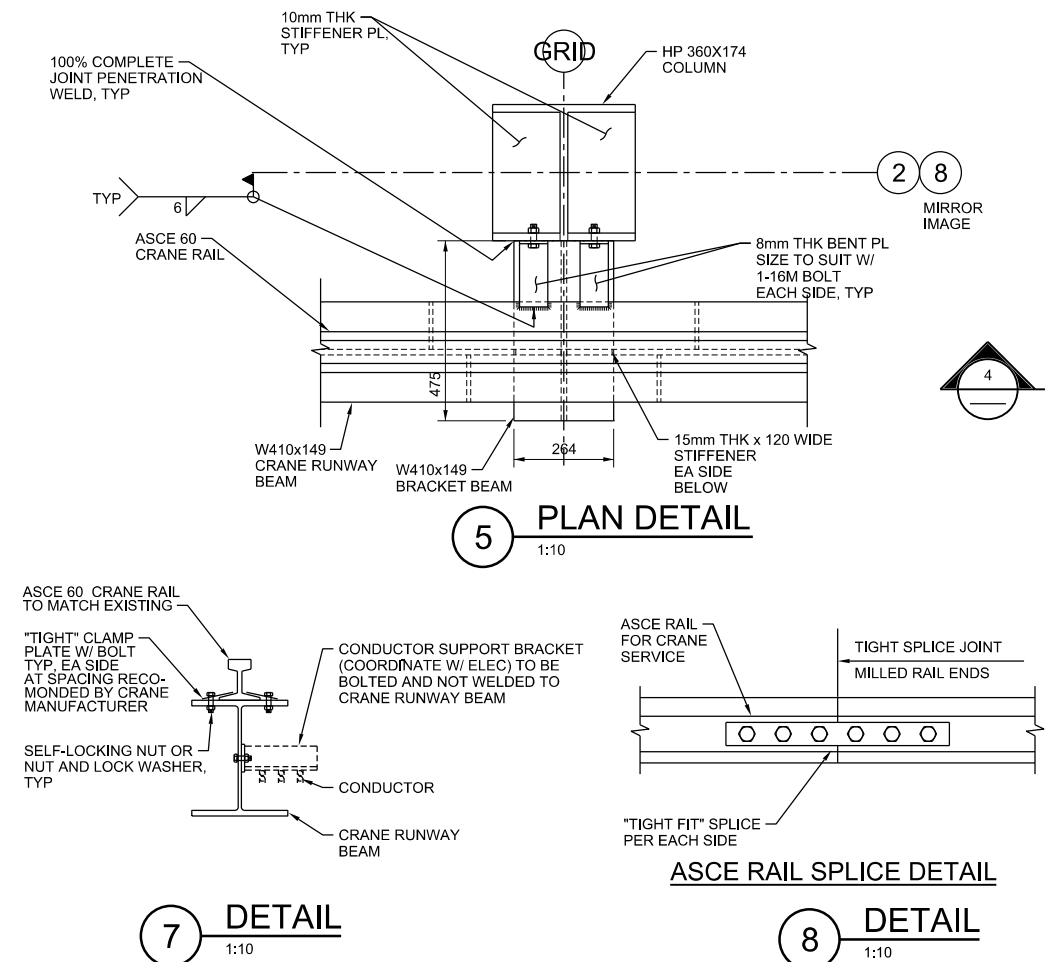
CH2MHILL®
STRUCTURAL
**WATER TREATMENT BUILDING
WEST ELEVATION**

1:50
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
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DWG 510-S-326
SHEET



CRANE RAIL ERECTION TOLERANCES

ITEM		TOLERANCE (mm)	MAX RATE OF CHANGE
DISTANCE BETWEEN CL ON RUNWAY BEAMS		A=3	1mm IN 1.0m
STRAIGHTNESS		B=3	1mm IN 1.0m
ELEVATION		C=1	1mm IN 1.0m
TOP OF RAIL		D=3	1mm IN 1.0m
RAILS AT A SPLICE		F=1 MAX	N/A
TILT OUT OF RAIL		$\alpha < 1^\circ$	N/A



- NOTES:**
- 1 READ THIS DRAWING IN CONJUNCTION WITH DWG 510-S-320.
 - 2 LOCATION AND HEIGHT OF CRANE STOP TO SUIT BUMPER DETAILS.
 - 3 TO SUIT VENDOR DETAILS. KEEP AS MINIMUM AS POSSIBLE. SUGGEST = 600mm
 - 4 DESIGN LOADS:
CRANE WEIGHT = 23025 kg
UNFACTORED VERTICAL MAXIMUM:
STATIC WHEEL LOAD = 68 kN (NOT INCLUDING IMPACT)
MAXIMUM WHEEL BASE DISTANCE = 4320 mm
 - 5 CRANE CAPACITY = 05 TONNE
 - 6 SHIM LEVEL AS REQUIRED.
 - 7 ALL CONNECTIONS TO BE DESIGNED BY A PROFESSIONAL ENGINEER. SEE SPECIFICATIONS.
 - 8 ASCE RAIL SHALL MATCH EXISTING RAIL AND PROVIDED BY THE CRANE SUPPLIER.
 - 9 ALL MOMENT CONNECTIONS SHALL BE FULL PENETRATION WELD AND 100% OF ALL CONNECTIONS SHALL BE VISUALLY INSPECTED AND 30% OF WELDS SHALL BE TESTED ULTRA SONICALLY.



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ISSUED FOR ADVANCED DESIGN REVIEW	NO.	DATE	DR	CHK	APVD
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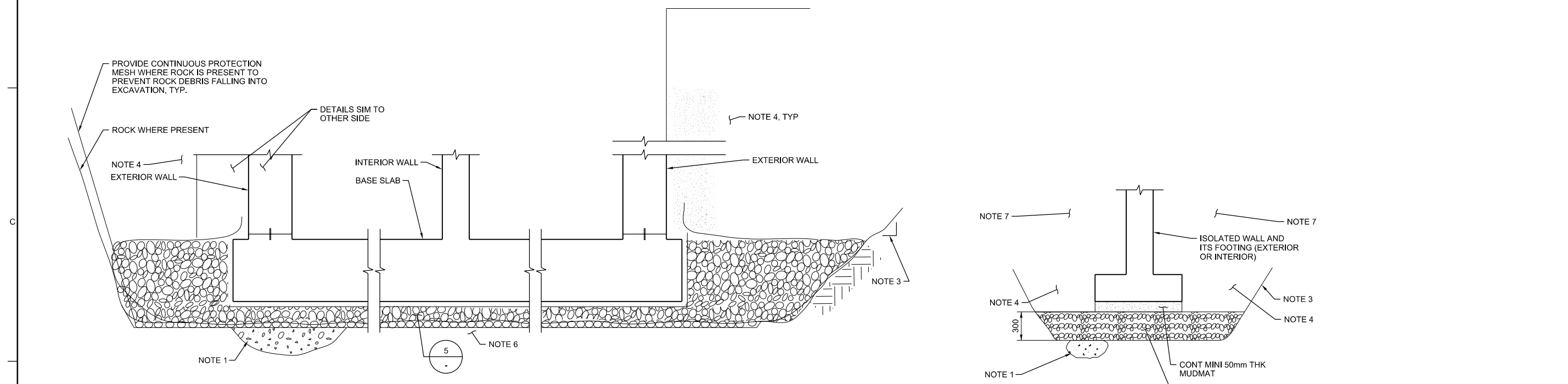
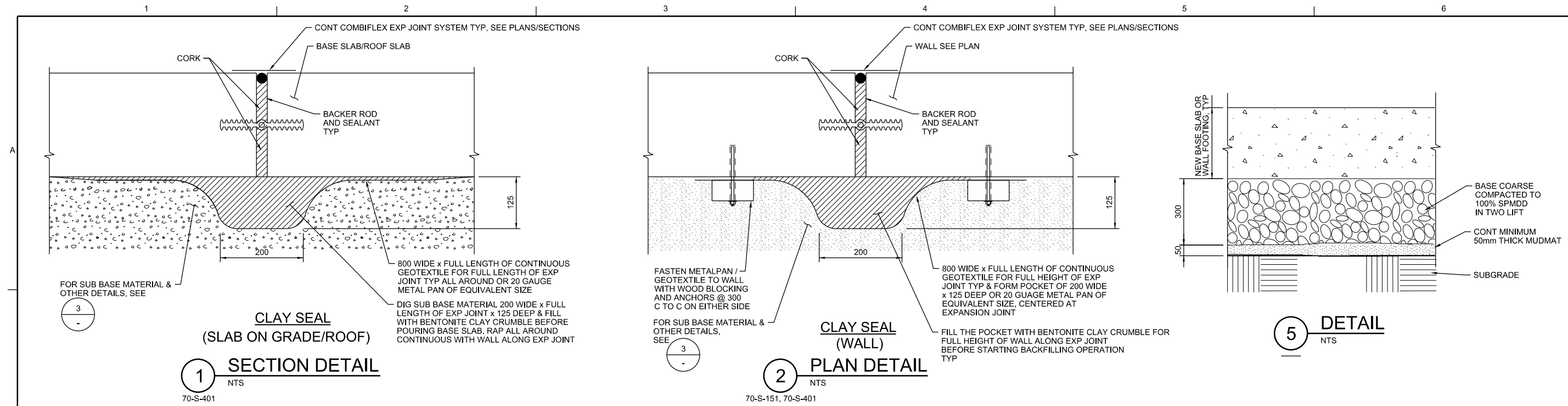
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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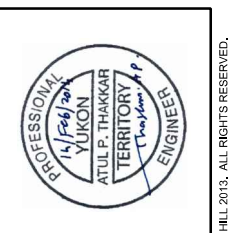
STRUCTURAL
WATER TREATMENT BUILDING DETAILS (1)

NTS
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
0 25mm

DATE FEBRUARY 2014
PROJ TA013-427716
DWG 510-S-501
SHEET



- NOTES:**
- ANY UNAUTHORIZED ADDITIONAL EXCAVATION TO BE REPLACED BY FILL CONCRETE WHERE ROCK IS PRESENT AND ELSE WHERE WITH BASE COARSE. AT NO ADDITIONAL COST TO OWNER, SEE SPECIFICATION.
 - THIS DETAIL IS APPLICABLE TO ALL EXTERIOR WALLS, BASE SLABS, SUMPS AND PIPE ENCASMENT TRENCHES BELOW FINISHED GRADE, TYP UNO.
 - OPEN CUT EXCAVATION SLOPE TO SUIT SITE CONDITIONS AND PER APPLICABLE LAWS.
 - FOR BACK FILLING OF WALLS TRENCHES, SEE STRUCTURAL DRAWINGS AND SPECIFICATIONS FOR DETAILS.
 - NO BACK FILLING SHALL BE PERMITTED UNTIL LATERAL SUPPORT IS IN PLACE, AND CONCRETE HAS ATTAINED IT'S 28-DAY SPECIFIED STRENGTH.
 - SUBGRADE SHALL BE INSPECTED AND APPROVED BY GEOTECHNICAL ENGINEER TO LEVEL INDICATED IN CONTRACT DOCUMENTS BEFORE PROCEEDING FURTHER. GET WRITTEN APPROVAL IF ADDITIONAL EXCAVATION IS NECESSARY.
 - BACKFILL EQUALLY ON EITHER SIDE OF WALL FOOTING SUCH THAT MAX DIFFERENCE IN ELVATION DOEW NOT EXCEED 300mm AT ANY POINT, TYP.



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ISSUED FOR ADVANCED DESIGN REVIEW	GN	RR	GN	BY	APVD
NO. DATE	A	09/2013	DR	R. RANA	CHK
NO. DATE	B	02/2014	DR	A. THAKKAR	APVD

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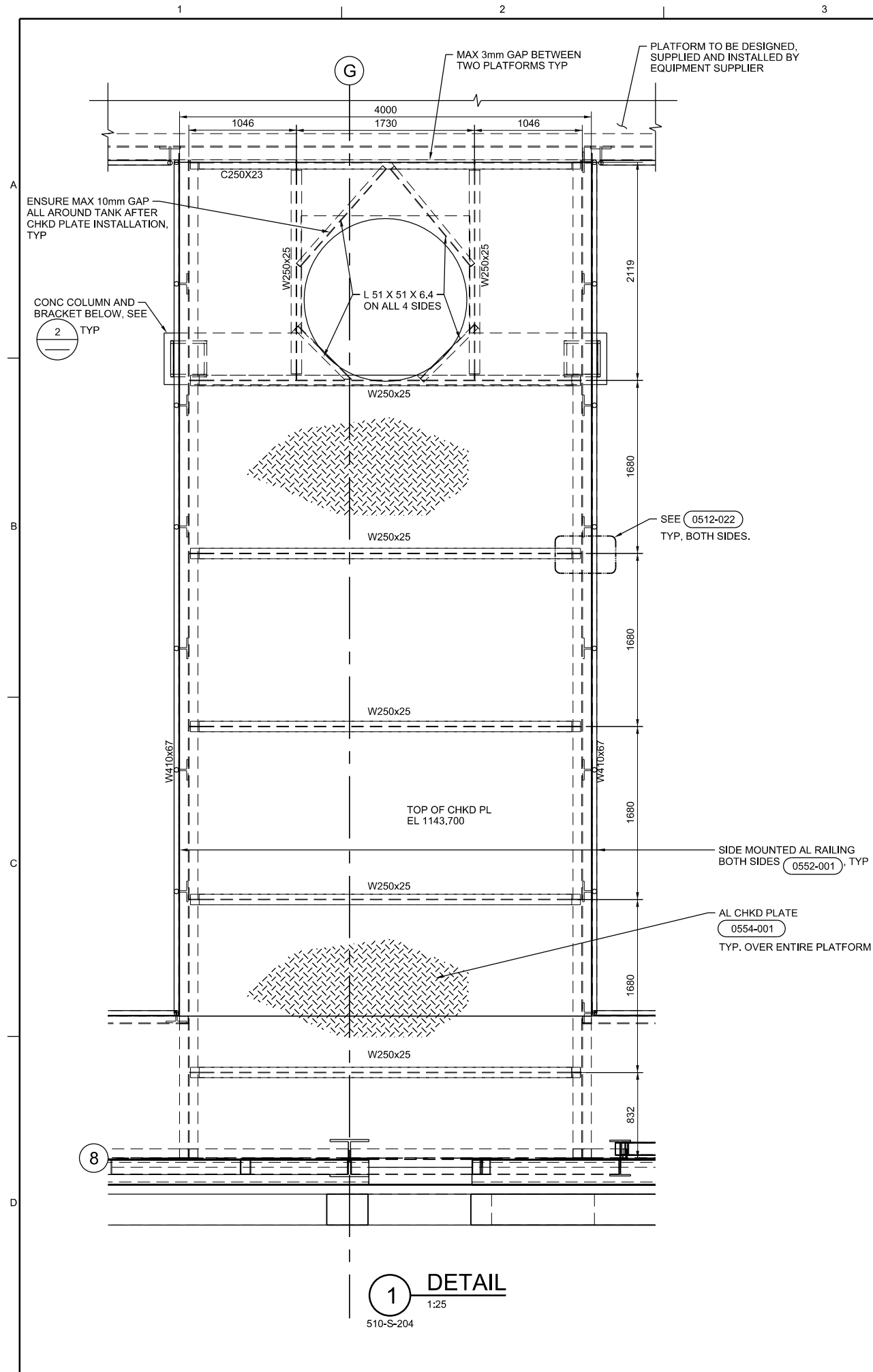
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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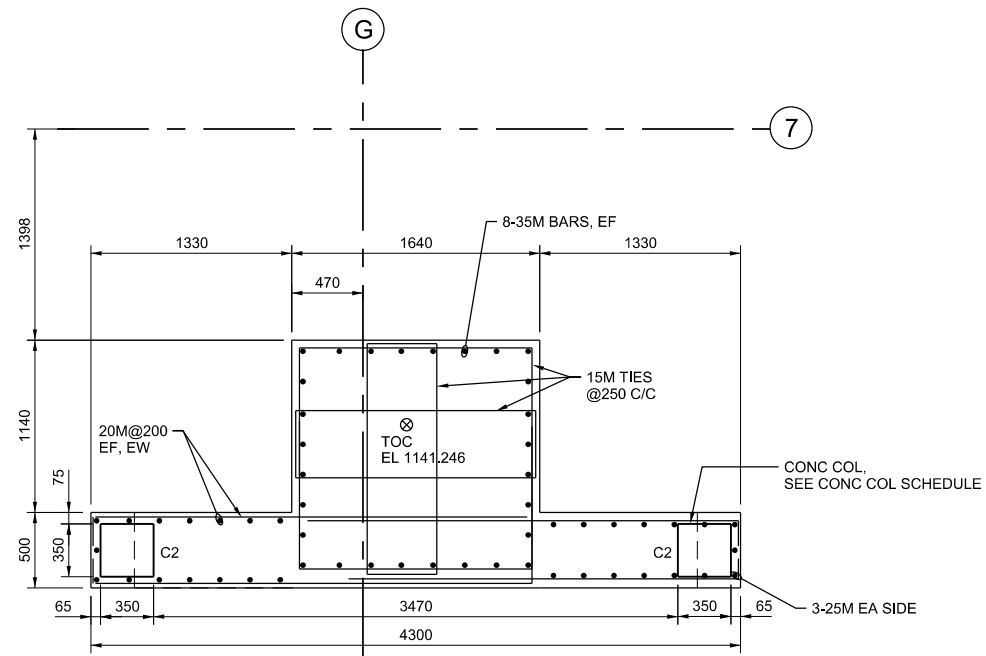
STRUCTURAL
WATER TREATMENT BUILDING DETAILS (2)

AS SHOWN
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
0 25mm

DATE FEBRUARY 2014
PROJ TA013-427716
DWG 510-S-502
SHEET



1 DETAIL
1:25
510-S-204



NOTE:
READ THIS PLAN ALONG WITH
SECTION SHOWN ON **D** TYP
510-S-317

2 DETAIL- PLAN
1:25
510-S-317



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B	02/2014	RR	GN
A	09/2013	RR	GN
DR		CHK	APVD
DSGN		R. RANA	A. THAKKAR

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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

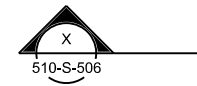
CH2MHILL®

STRUCTURAL
WATER TREATMENT BUILDING
DETAILS (4)

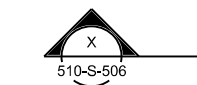
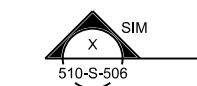
NTS	
VERIFY SCALE	
BAR IS 25mm ON ORIGINAL DRAWING.	
DATE	FEBRUARY 2014
PROJ	TA013-427716
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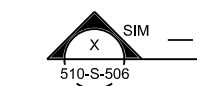
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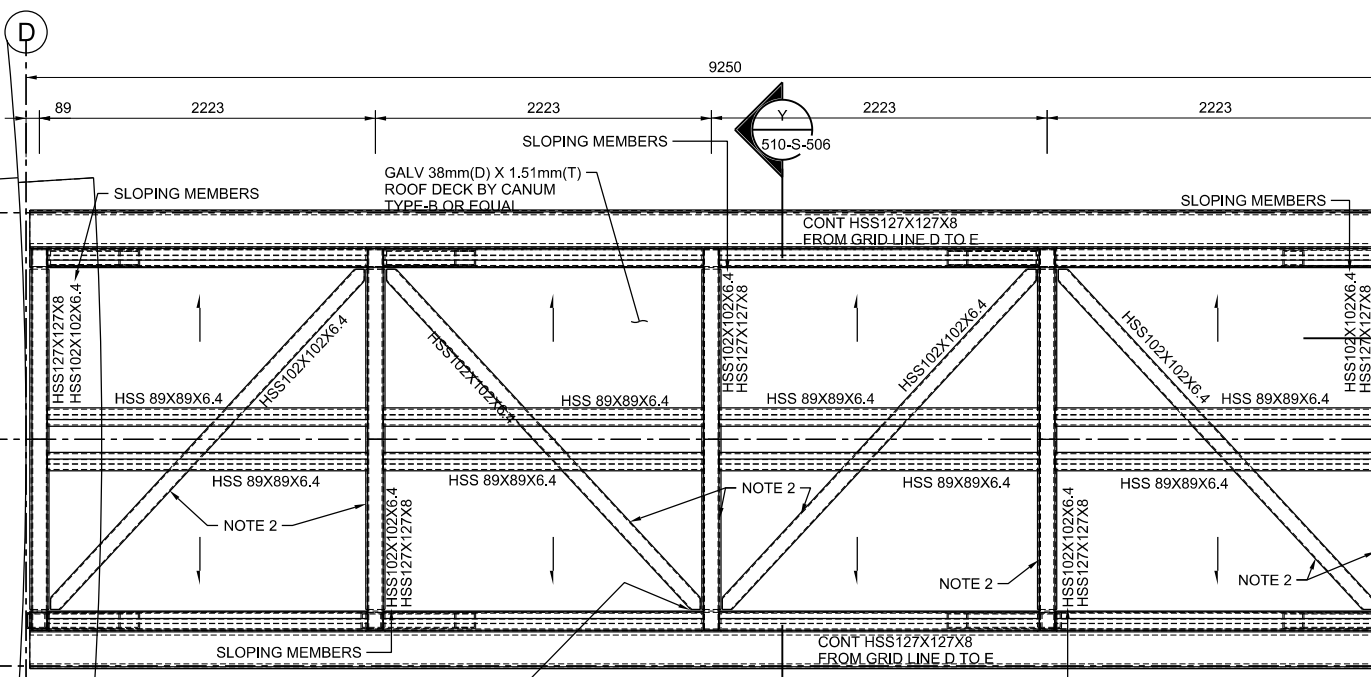
THICKENER



THICKENER



CO-ORDINATE CONNECTION WITH THE DORMER AND BRIDGE WHICH IS SUPPLIED AND INSTALLED BY EQUIPMENT SUPPLIER, TYP



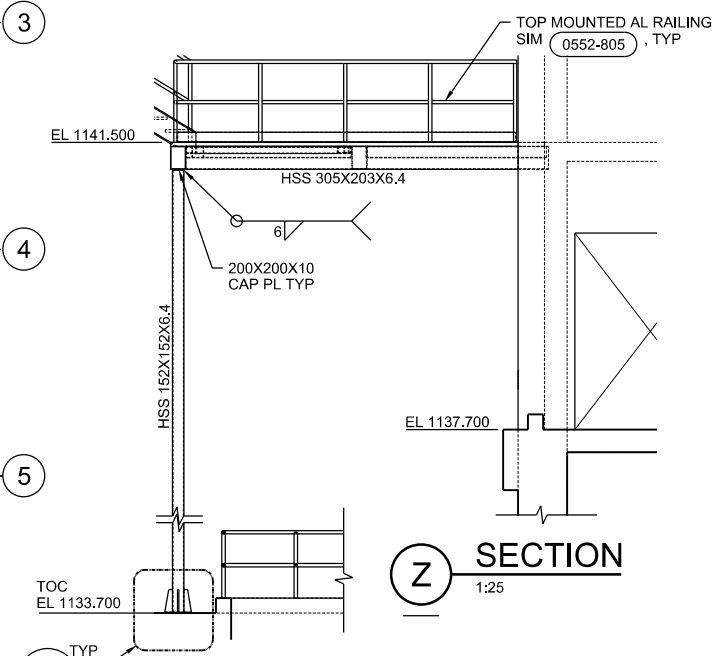
ROOF LEVEL PLAN

NOTES:

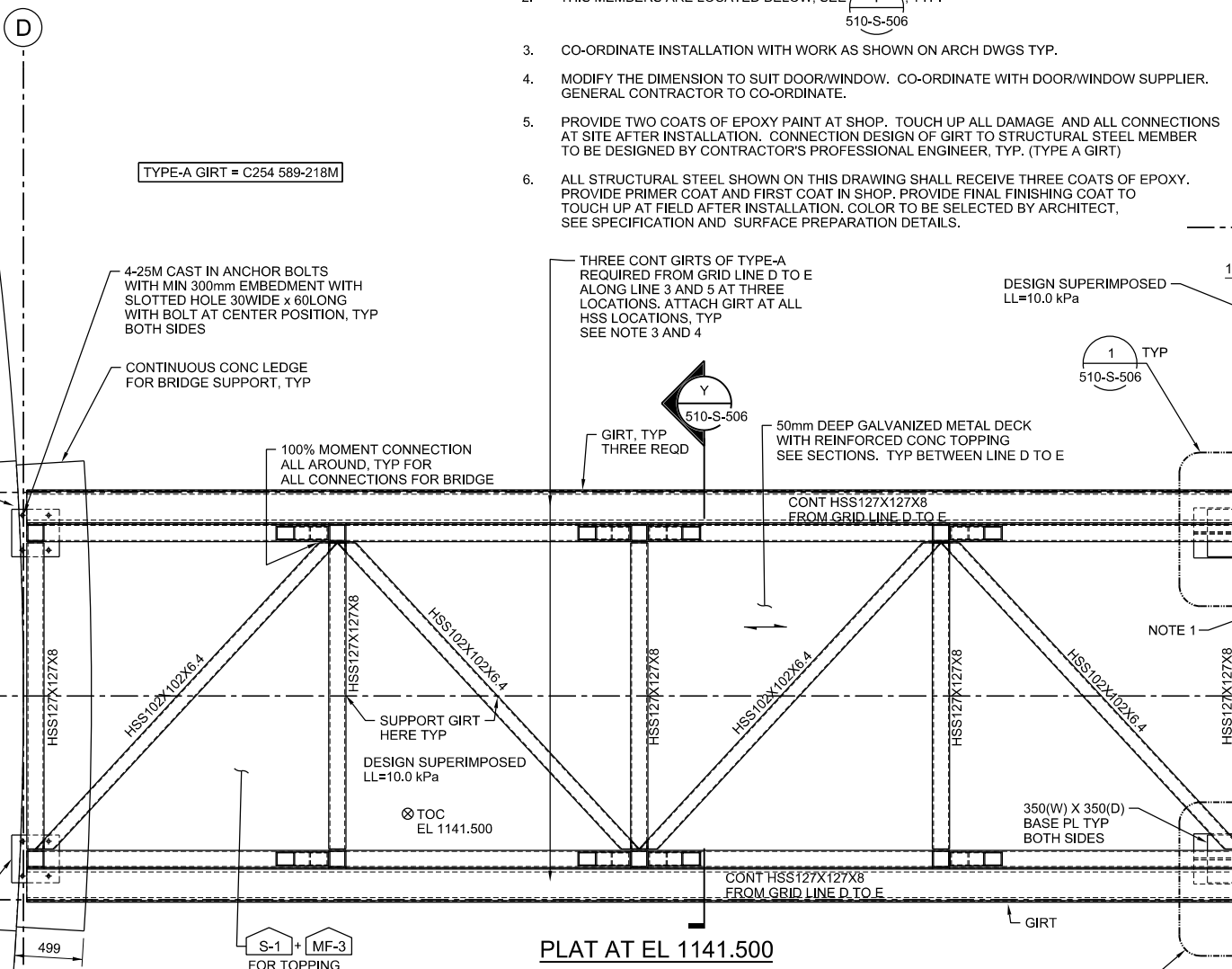
- 15mm GAP BETWEEN FACE OF METAL DECK (WITH CONCRETE) AND FACE OF CHKD PLATE, TYP.
- THIS MEMBERS ARE LOCATED BELOW, SEE Y TYP.
- CO-ORDINATE INSTALLATION WITH WORK AS SHOWN ON ARCH DWGS TYP.
- MODIFY THE DIMENSION TO SUIT DOOR/WINDOW. CO-ORDINATE WITH DOOR/WINDOW SUPPLIER. GENERAL CONTRACTOR TO CO-ORDINATE.
- PROVIDE TWO COATS OF EPOXY PAINT AT SHOP. TOUCH UP ALL DAMAGE AND ALL CONNECTIONS AT SITE AFTER INSTALLATION. CONNECTION DESIGN OF GIRT TO STRUCTURAL STEEL MEMBER TO BE DESIGNED BY CONTRACTOR'S PROFESSIONAL ENGINEER, TYP. (TYPE A GIRT)
- ALL STRUCTURAL STEEL SHOWN ON THIS DRAWING SHALL RECEIVE THREE COATS OF EPOXY. PROVIDE PRIMER COAT AND FIRST COAT IN SHOP. PROVIDE FINAL FINISHING COAT TO TOUCH UP AT FIELD AFTER INSTALLATION. COLOR TO BE SELECTED BY ARCHITECT, SEE SPECIFICATION AND SURFACE PREPARATION DETAILS.

TREATMENT BUILDING

SECTION 1:25



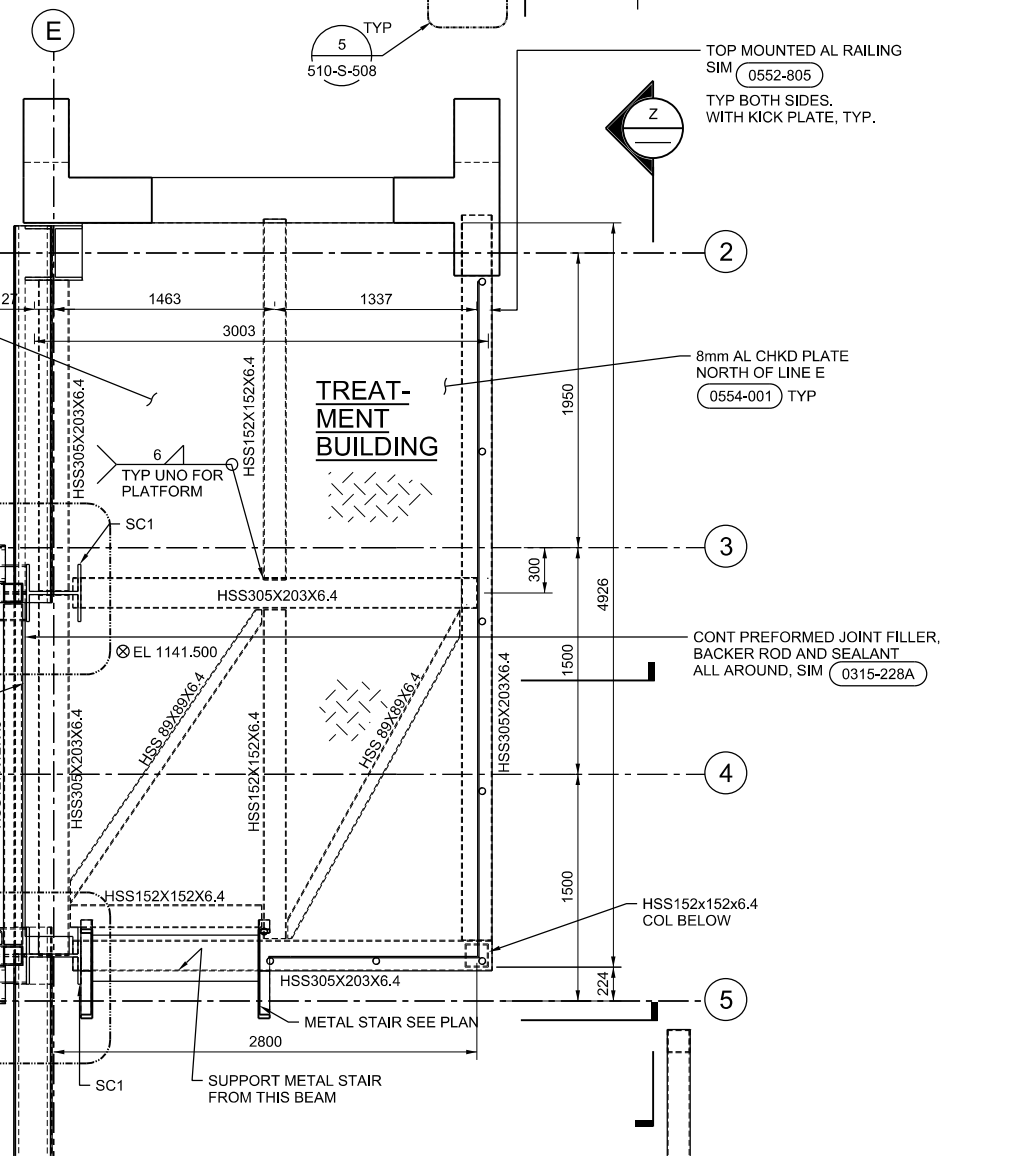
TYPE-A GIRT = C254 589-218M



1:25 DETAIL - WALKWAY BRIDGE FLOOR

TREATMENT BUILDING

SECTION 1:25



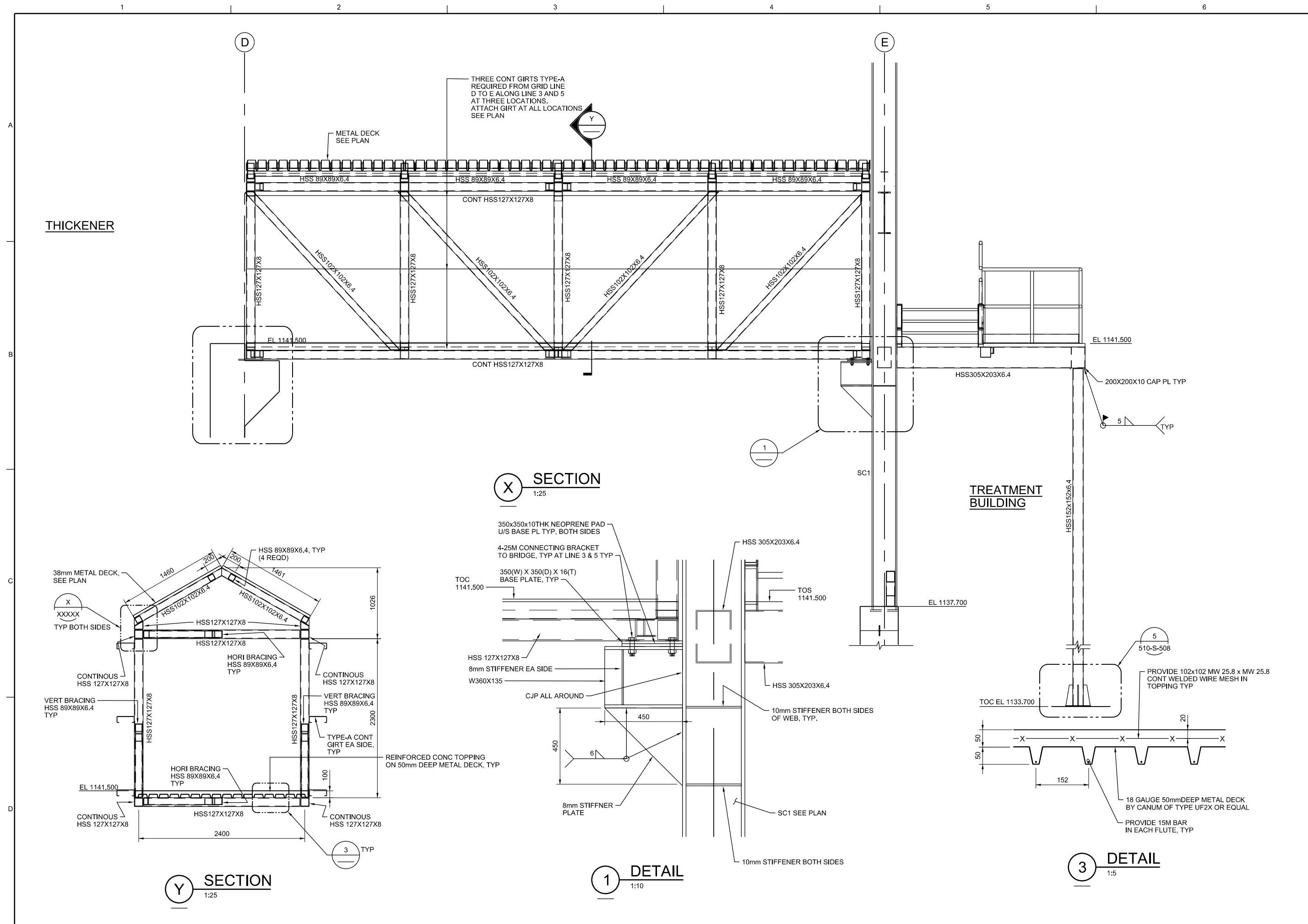
NO.	DATE	BY	APVD
A	02/2014	RR	GN
ISSUED FOR DETAIL DESIGN REVIEW		REVISION	CHK
DR		APVD	APVD
A. THAKKAR		CHK	A. THAKKAR
R. RANA		CHK	R. RANA

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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

STRUCTURAL
WATER TREATMENT BUILDING
DETAILS (5)

1:25
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
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THICKENER

TREATMENT BUILDING

X SECTION
1:25

1 DETAIL
1:10

3 DETAIL
1:5

Y SECTION
1:25

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CONSTRUCTION

CH2MHILL®
STRUCTURAL
WATER TREATMENT BUILDING
DETAILS (6)

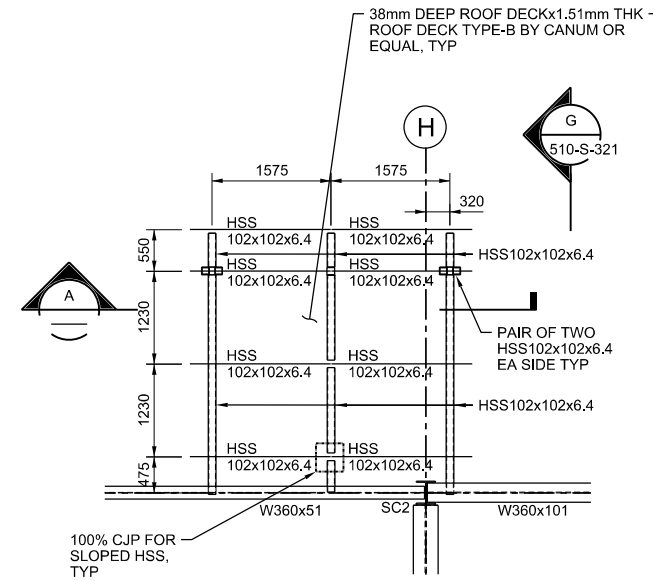
DATE	FEBRUARY 2014
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DWG	510-S-506
SHEET	

NO.	02/2014	DATE	
DR	A. THAKKAR	CHK	R. RANA
REVISION	ISSUED FOR DETAIL DESIGN REVIEW	BY	RR
APVD		APVD	

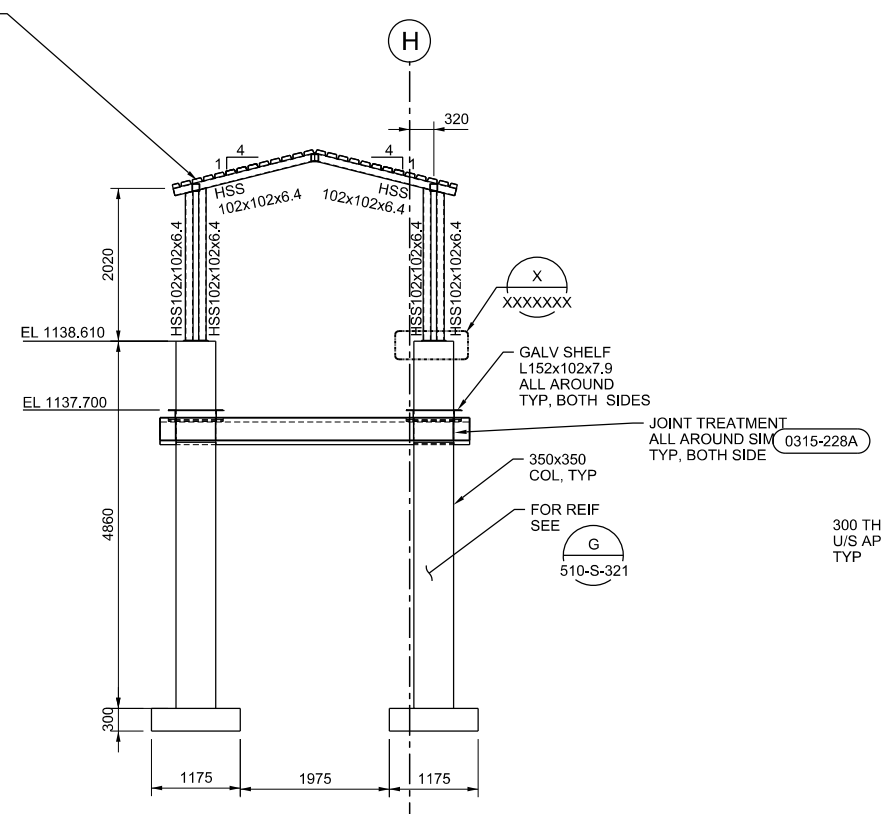
NO.		DATE	
DR	A. THAKKAR	CHK	R. RANA
REVISION	ISSUED FOR DETAIL DESIGN REVIEW	BY	RR
APVD		APVD	



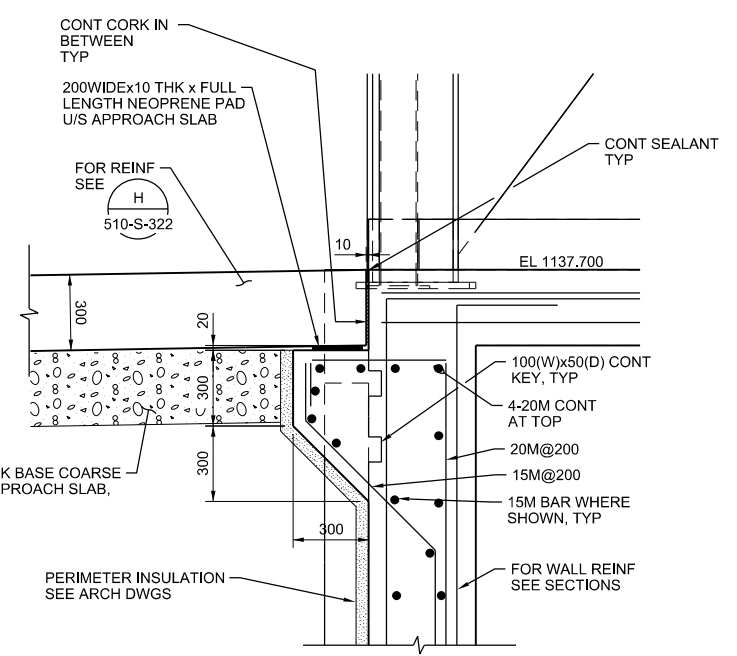
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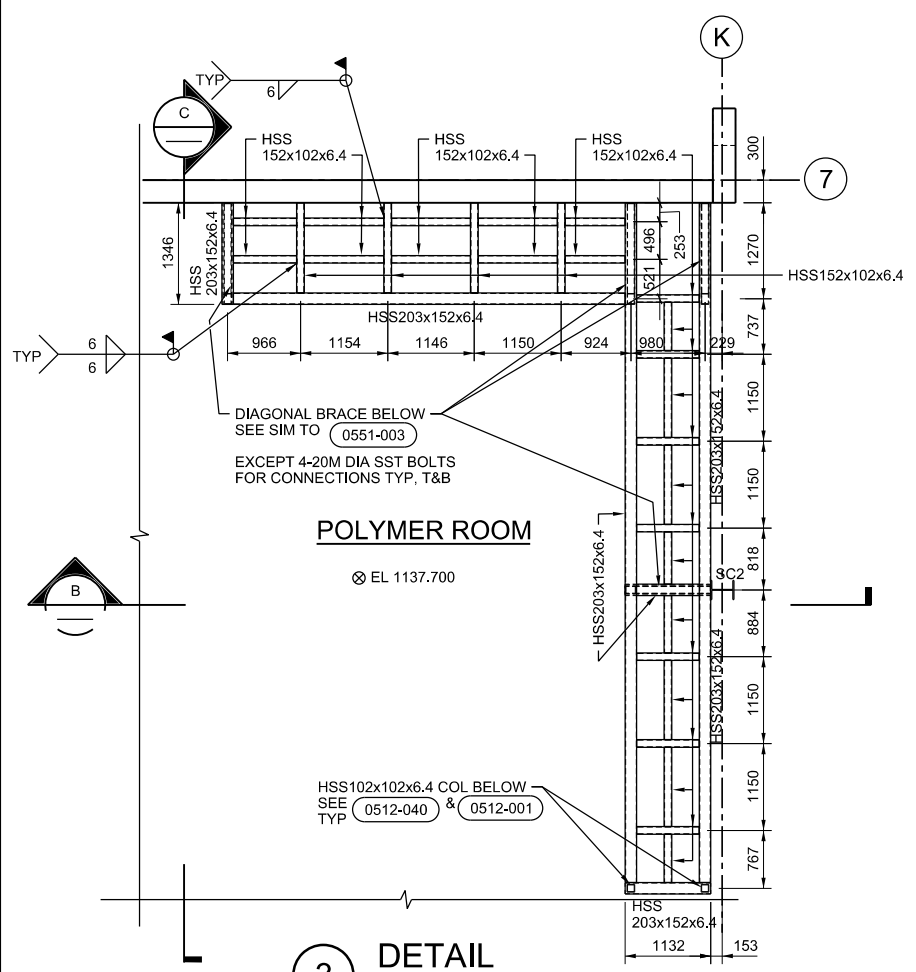
1 DETAIL
1:50



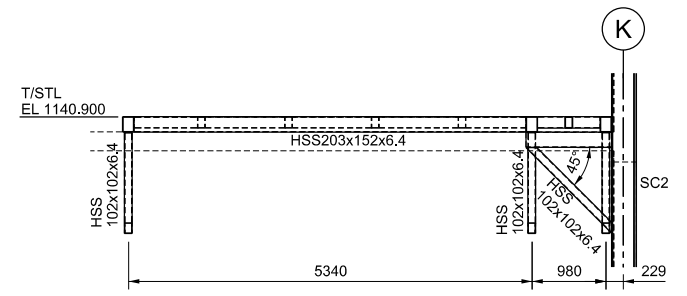
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1:50



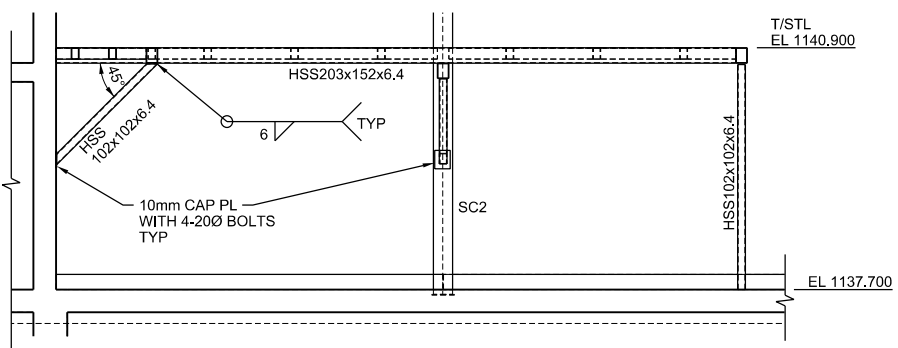
2 DETAIL
1:15



3 DETAIL
1:50
510-S-204



B SECTION
1:50



C SECTION
1:50

NOTE:
1. PROVIDE TWO COATS OF EPOXY PAINT AT SHOP. TOUCH UP ALL DAMAGES AND CONNECTIONS AT SITE AFTER INSTALLATION, TYP



NO.	DATE	DR	CHK	APVD
A	02/2014	A. THAKKAR	R. RANA	A. THAKKAR
ISSUED FOR DETAIL DESIGN REVIEW		REVISION	BY	APVD
RR	GN	RR	GN	RR

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

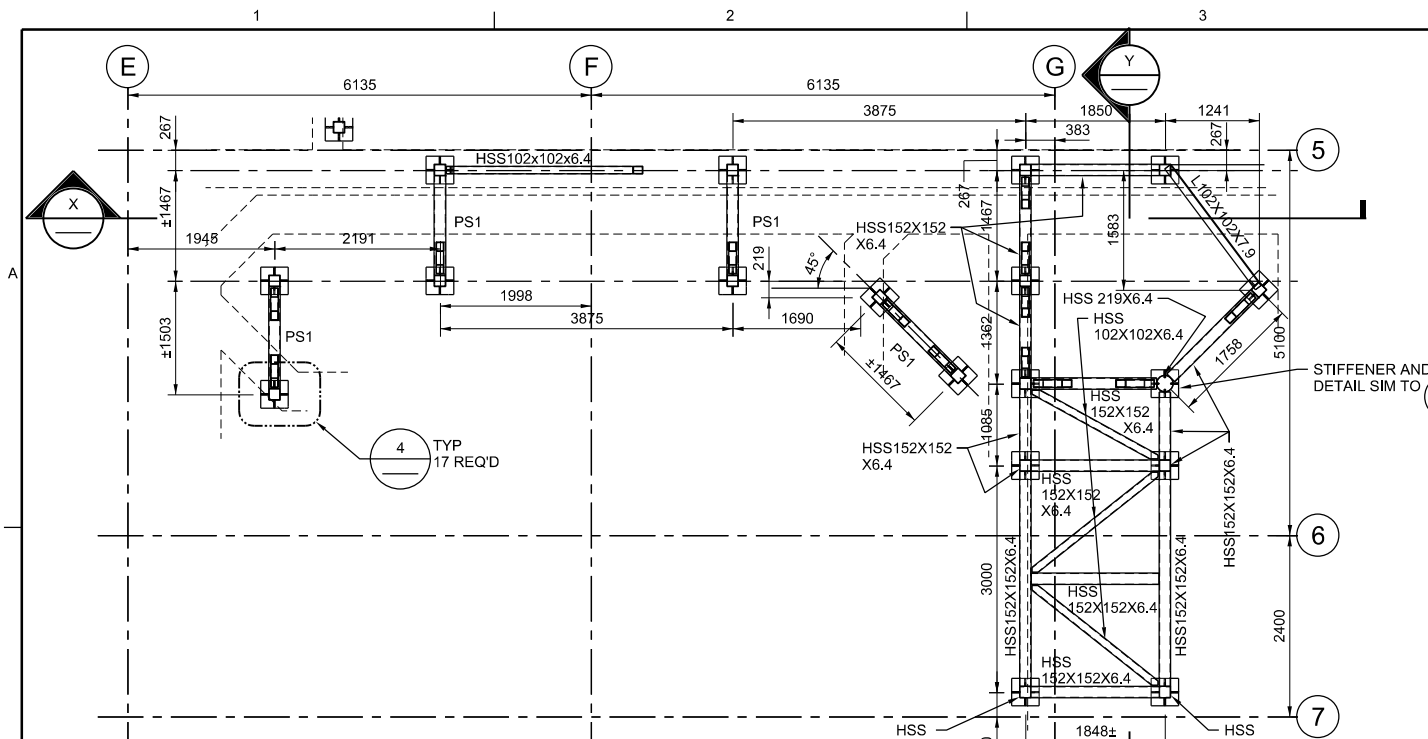
CH2MHILL®

STRUCTURAL
WATER TREATMENT BUILDING DETAILS (7)

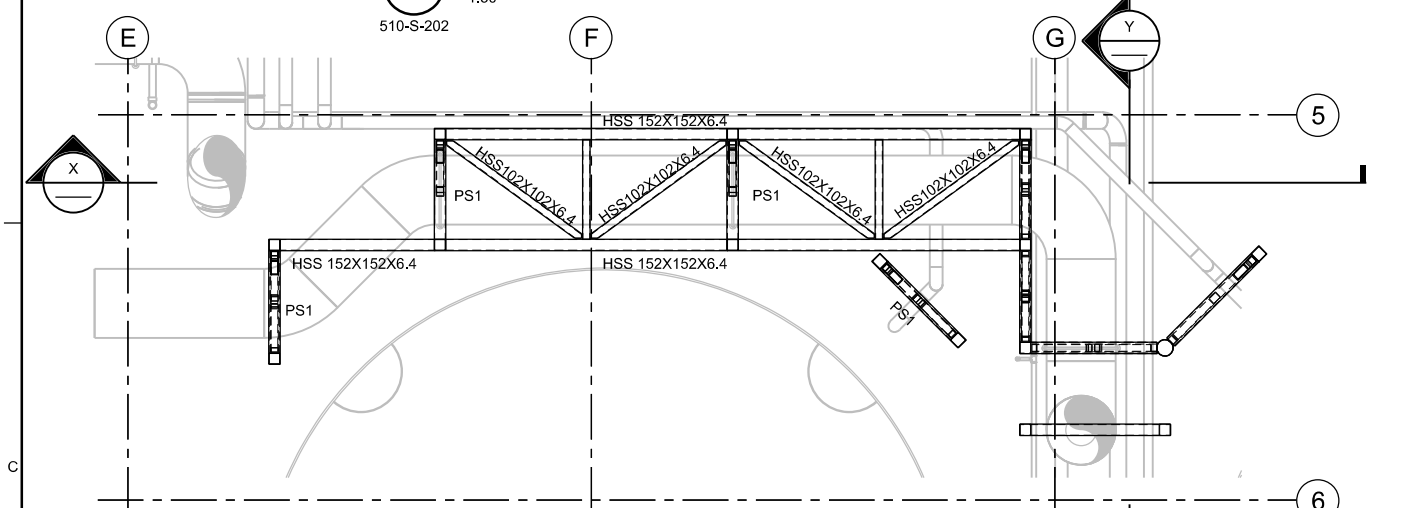
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VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
0 25mm

DATE FEBRUARY 2014
PROJ TA013-427716
DWG 510-S-507
SHEET

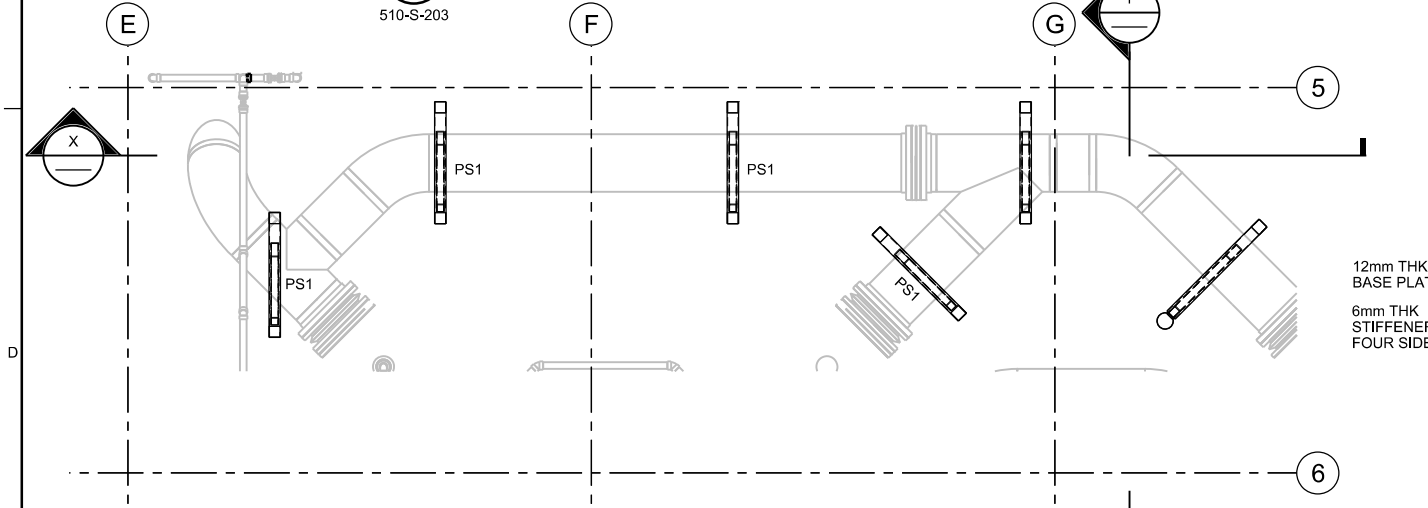
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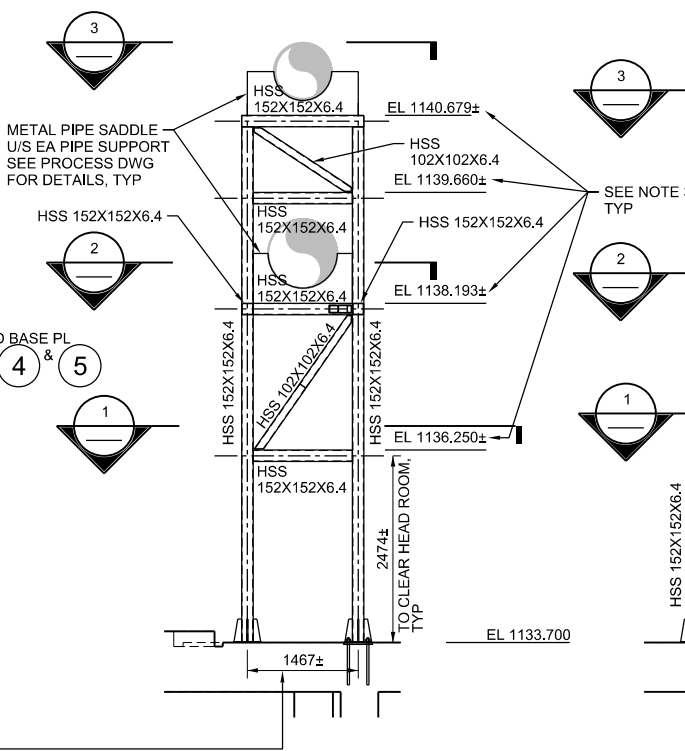
1 PLAN ABOVE EL 1136.250
1:50
510-S-202



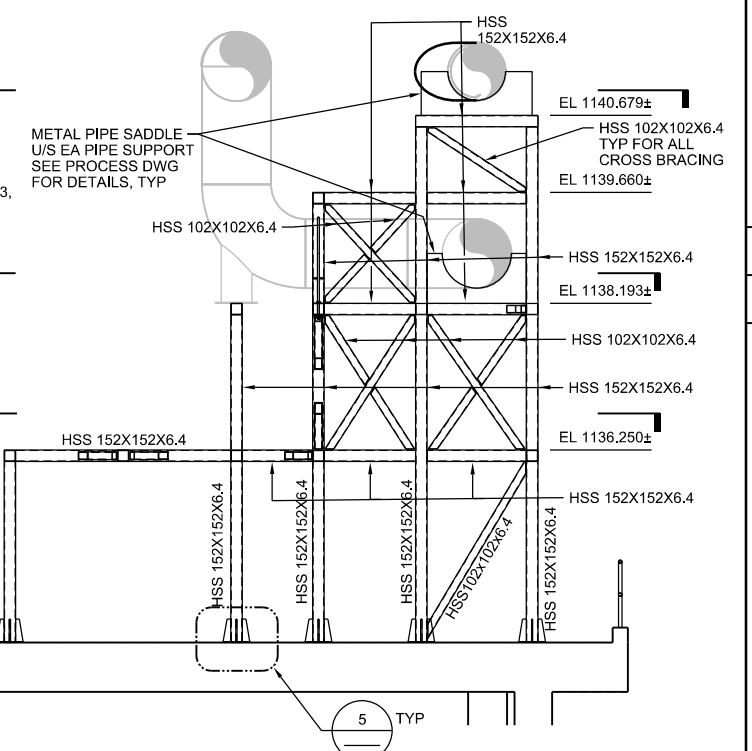
2 PLAN ABOVE EL 1138.200
1:50
510-S-203



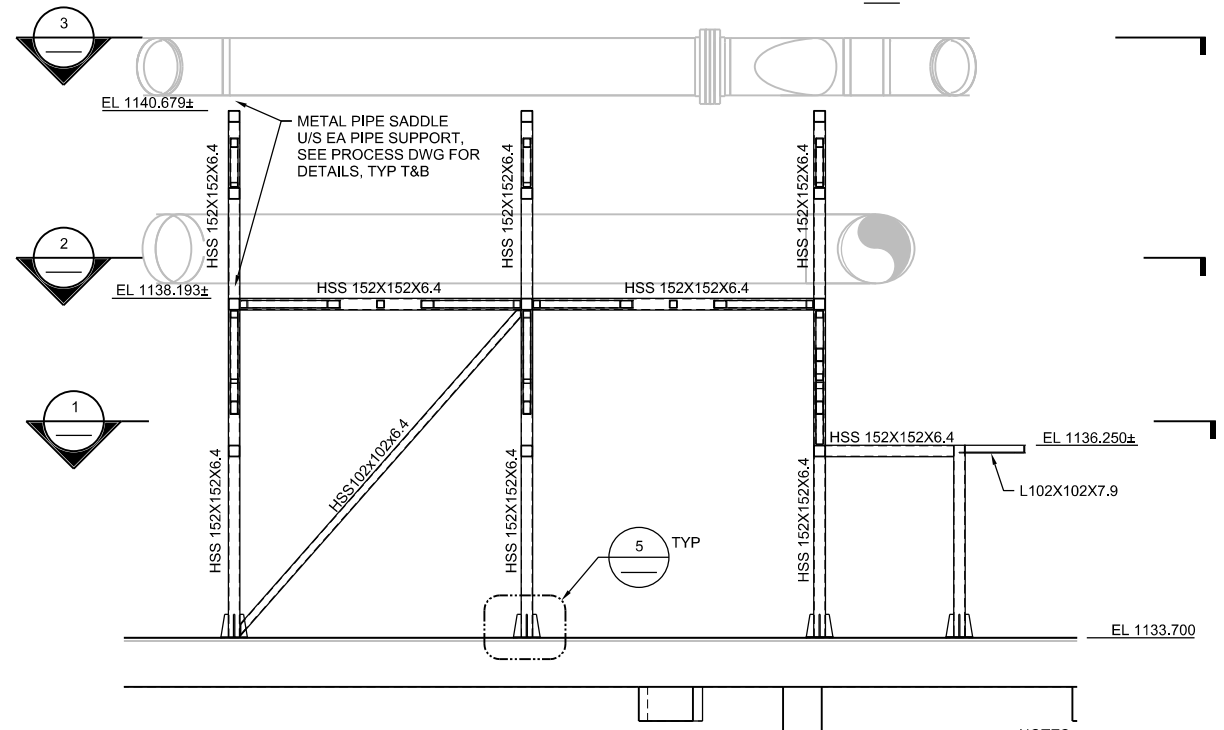
3 PLAN ABOVE EL 1140.680
1:50
510-S-204



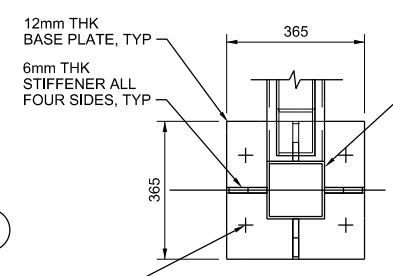
TYPICAL PIPE SUPPORT - PS1
1:50



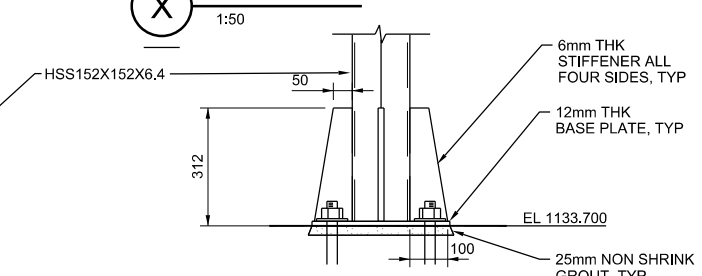
SECTION Y
1:50



SECTION X
1:50

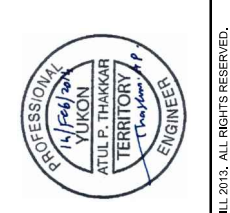


4 DETAIL
1:10



5 DETAIL
1:10

- NOTES:**
- ALL STRUCTURAL STEEL MEMBER SHALL RECEIVE PRIME COAT AT SHOP.
 - ALL STRUCTURAL STEEL SHALL RECEIVE TWO EPOXY COATS AT SHOP AND PROVIDE TOUCH UP AT FIELD AFTER INSTALLATION.
 - ALL HSS TO HSS CONNECTION SHALL BE WITH 5mm WELD (FIELD WELD OR SHOP WELD) ALL AROUND TYP, UNLESS NOTED OTHERWISE.
 - ALL THE ELEVATIONS AND DIMENSIONS NOTED ON THIS SHEET WITH ± SIGN SHOWN ARE APPROXIMATE. THE EXACT DIMENSIONS AND ELEVATIONS SHALL BE TO SUIT SADDLE, CLEARANCE REQUIREMENT AROUND PIPE AND TO SUIT PIPE CENTRE LINE. COORDINATE BEFORE ACTUAL FABRICATION, TYP FOR ALL SUPPORTS.
 - ADJUST, FIELD MEASURE AND CONFIRM ALL DIMENSIONS AND ELEVATIONS TO SUIT ACTUAL PIPE LAYOUT, TYP.



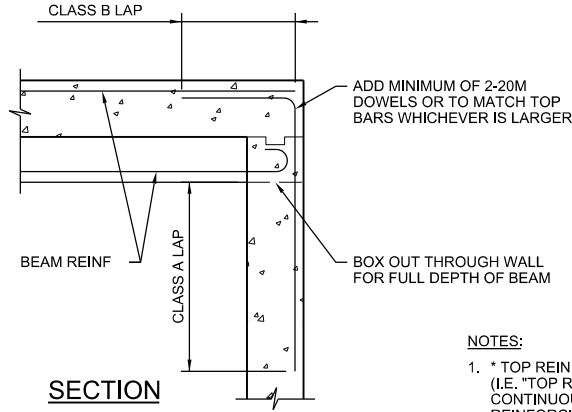
NO.	DATE	BY	APVD
B	02/2014	RR	GN
A	09/2013	RR	GN
NO. DATE		REVISION	APVD
DSGN		CHK	DR
A. THAKKAR		R. RANA	A. THAKKAR
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ISSUED FOR TENDER OR CONSTRUCTION		REVISION	

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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

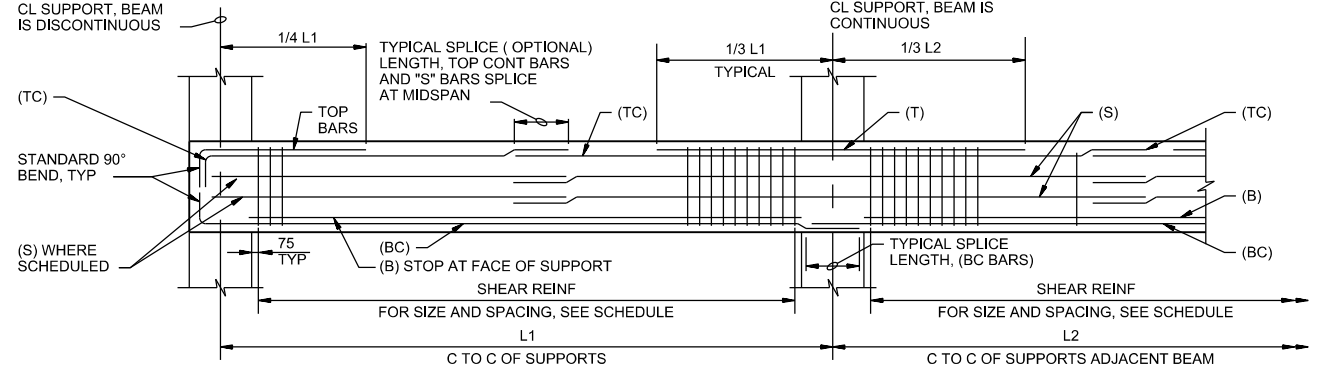
CH2MHILL®	
STRUCTURAL	WATER TREATMENT BUILDING DETAILS (8)
AS SHOWN	
VERIFY SCALE	
BAR IS 25mm ON ORIGINAL DRAWING, 0 25mm	
DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	510-S-508
SHEET	

BEAM NO. (SEE PLANS)	SIZE		TOP REINF AT LEFT SUPPORT		BOTTOM REINF		* TOP REINF AT RIGHT SUPPORT		S BARS	SHEAR REINF (mm)		REMARKS
	W	D	T	TC	B	BC	T	TC		NO. SIZE	SPACING FROM LEFT SUPPORT	
WATER TREATMENT BUILDING												
BM1	400	1050	-	3-25	-	4-30	-	3-25	4-20	15	200	TWO LEGGED
BM2	450	750	-	3-20	-	2-30 +2-35	-	3-20	4-20	15	250	FOUR LEGGED
LIME SILO GRIT BUILDING												
BM3	300	550	-	3-15	-	3-25	-	3-15	2-20	10	200	TWO LEGGED
BM4	300	600	-	3-15	-	3-25	-	3-15	2-20	10	200	TWO LEGGED
BM5	300	600	-	3-15	-	3-25	-	3-15	2-20	10	200	TWO LEGGED

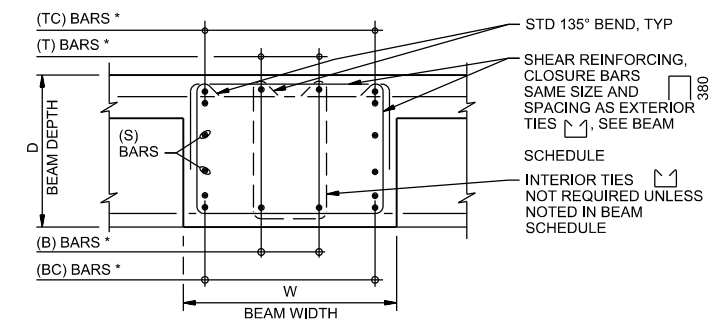


- NOTES:**
- * TOP REINFORCING MAY BE CALLED-OUT TWICE IN SCHEDULE. (I.E. "TOP REINFORCING AT RIGHT SUPPORT" OF BEAM THAT IS CONTINUOUS OVER THE RIGHT SUPPORT IS CALLED-OUT AS "TOP REINFORCING AT LEFT SUPPORT" OF ADJACENT BEAM.)
 - LEFT SUPPORT IS DESIGNATED AS THE SUPPORT CLOSEST TO THE LEFT SIDE OR TOP OF SHEET ON WHICH FRAMING PLAN IS DRAWN, UNLESS NOTED OTHERWISE ON PLAN.
 - FOR CONCRETE BEAM END REINFORCING, SEE DETAIL 2, TYP UNO.
 - DO NOT PROVIDE MORE THAN 3 BARS IN ONE LAYER. UNO

2 **DETAIL**
NTS



BEAM REINFORCING
NTS

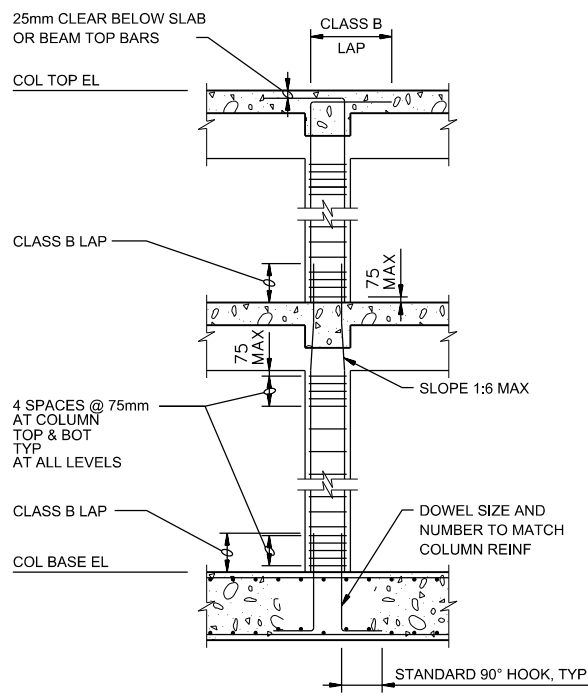


TYPICAL SECTION

BEAM CAMBER
UNLESS SHOWN OTHERWISE IN SCHEDULE MIDSPAN BEAM CAMBER SHALL BE AS FOLLOWS:

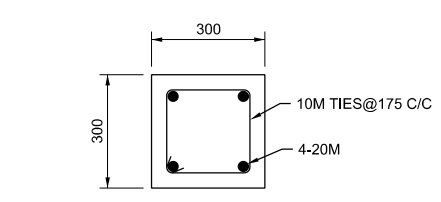
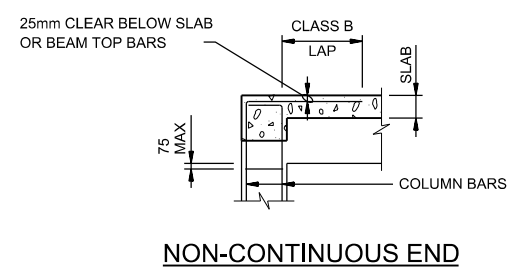
BM SPAN	CAMBER
4500mm OR LESS	NONE
4500mm TO 7500mm	13mm
7500mm TO 10500mm	25mm
10500mm TO 13500mm	40mm

- NOTES:**
- PROVIDE MINIMUM 1-15M x CONT AT EACH CORNER OF ALL TIES, LAP SPLICE WITH LONGITUDINAL REINFORCING.
 - * INDICATES LOCATION FOR BARS AT SINGLE ROW. WHERE MORE THAN ONE ROW OF TOP OR BOTTOM BARS OCCUR, PROVIDE 25mm CLEAR BETWEEN ROWS. SEE SCHEDULES FOR MAXIMUM NUMBER OF BARS PER LAYER.

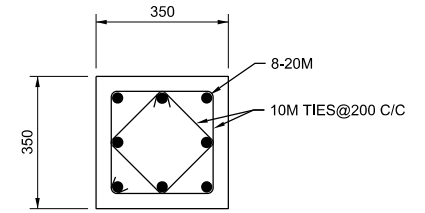


COLUMN REINFORCING
NTS

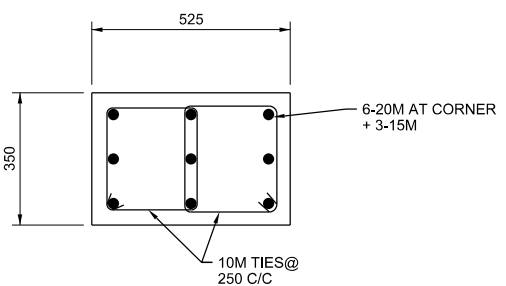
- NOTE:**
- FOR DIMENSIONS AND REINFORCEMENT SEE COLUMN SCHEDULE.



COLUMN C1
1:10



COLUMN C2
1:10



COLUMN C3
1:10



ISSUED FOR DETAIL DESIGN REVIEW	RR	GN	APVD
REVISION	BY	CHK	APVD
NO. DATE	DGNS	DR	APVD
A 02/2014			

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WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®

STRUCTURAL
WATER TREATMENT BUILDING BEAM AND COLUMN SCHEDULE

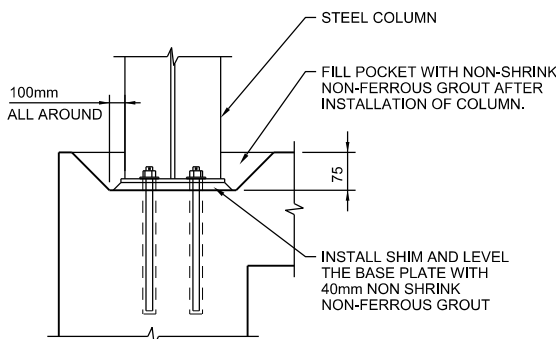
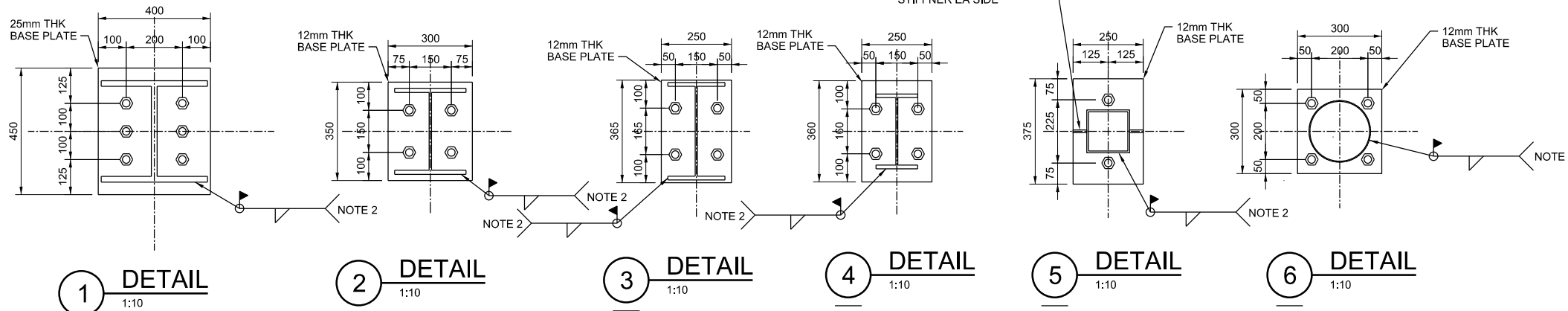
NTS
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWINGS.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 510-S-601
SHEET

STEEL COLUMN SCHEDULE

COLUMN MARK	LETTER	E								F				Fa	G				Ga	H				Ha	Hb	Hc	J				Ja	Jb	Jc	Jd	K			
		NUMBER	2	3.1	4.8	6.5	7.2	7.6	8	1	2	8	1	1	2	8	8	1	2	8	8	8	8	1	2	5	7.5	8	1	1.5	8	8	1	1.6	2	5	7.5	8
TOP OF CAP PLATE * EL 1148.403				EL 1149.895		EL 1149.058									EL 1149.497									EL 1149.071±	EL 1149.096±													
TOP OF CAP PLATE * EL 1143.089																																						
TOP OF CAP PLATE * EL 1141.262																																						
TOP OF CONCRETE SLAB EL 1137.700																																						
NUMBER		2	3.1	4.8	6.5	7.2	7.6	8	1	2	8	1	1	2	8	8	1	2	8	8	8	8	1	2	5	7.5	8	1	1.5	8	8	1	1.6	2	5	7.5	8	
BASE PLATE SIZE (SEE DETAIL)		①	①	①	③	③	③	①	②	①	①	④	②	①	①	③	②	①	①	⑤	⑤	⑤	②	①	③	③	①	④	④	⑤	⑤	⑥	④	②	②	②	②	
NO. OF ANCHOR BOLTS		6	6	6	4	4	4	6	4	6	6	4	4	6	6	4	4	6	6	2	2	2	4	6	4	4	6	4	4	2	2	4	4	4	4	4	4	
ANCHOR BOLT DIA <small>A=400 B=75</small>		25mm	25mm	25mm	25mm	25mm	25mm	25mm	25mm	25mm	25mm	25mm	25mm	25mm	25mm	25mm	25mm	25mm	25mm	20mm	20mm	20mm	25mm	25mm	25mm	25mm	25mm	25mm	25mm	25mm	25mm	25mm	25mm	25mm	25mm	25mm		
UNDERSIDE BASE PLATE ELEVATION		1137.665	1137.665	1137.665	1137.665	1137.665	1137.665	1137.665	1137.665	1137.665	1137.665	1137.665	1137.665	1137.665	1137.665	1137.665	1137.665	1137.665	1137.665	1137.665	1137.665	1137.665	1137.665	1137.665	1137.665	1137.665	1137.665	1137.665	1137.665	1137.665	1137.665	1137.665	1137.665	1137.665	1137.665	1137.665		

* ALL ELEVATIONS NOTED ARE TOP OF CAP PLATE. CAP PLATE SIZE TO SUIT AND SHALL BE MATCHING THICKNESS OF BASE PLATE, TYP UNO. CONNECT TO UNDER SIDE OF BEAM WITH 4-20mmØ BOLTS WITH MIN 60mm EDGE DISTANCE TYP., CONTRACTORS OPTION TO PROVIDE 6mm WELDED CONNECTION ALL AROUND.

- NOTES:**
- BASE PLATE SHALL BE CENTERED ON COLUMN, UNO.
 - WELD SIZE SHALL BE DETERMINED BY THICKEST MEMBER JOINED. MINIMUM WELD SIZE SHALL BE 6mm FILLET WELD FOR MATERIAL THICKNESS UP TO & INCLUDING 15mm AND 8mm FILLET WELD FOR MATERIAL THICKNESS OVER 16mm.
 - PROVIDE 40mm NON SHRINK GROUT U/S BASE PLATE TYP.
 - PROVIDE 100mm DEEP POCKET FOR ALL COLUMNS AND FILL WITH NON-SHRINK, NON-FERROUS GROUT AFTER COLUMNS HAVE BEEN INSTALLED. SEE DETAIL 7.
 - FOR BASE PLATE THICKNESS SEE DETAILS ① TO ⑥.
 - SEE DRAWING 510-S-203, 510-S-204 FOR COLUMN LOCATIONS.
 - ALL STRUCTURAL STEEL SHOWN ON THIS DWG SHALL RECEIVE THREE COATS OF EPOXY. PROVIDE PRIMER COAT AND FINISH COAT IN SHOP. PROVIDE FINAL FINISHING COAT TO TOUCH UP AT FIELD AFTER INSTALLATION. COLOR TO BE SELECTED BY ARCHITECT. SEE SPECIFICATION FOR MATERIALS AND INSTALLATION AND SURFACE PREPARATION DETAILS.



7 DETAIL
NTS

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

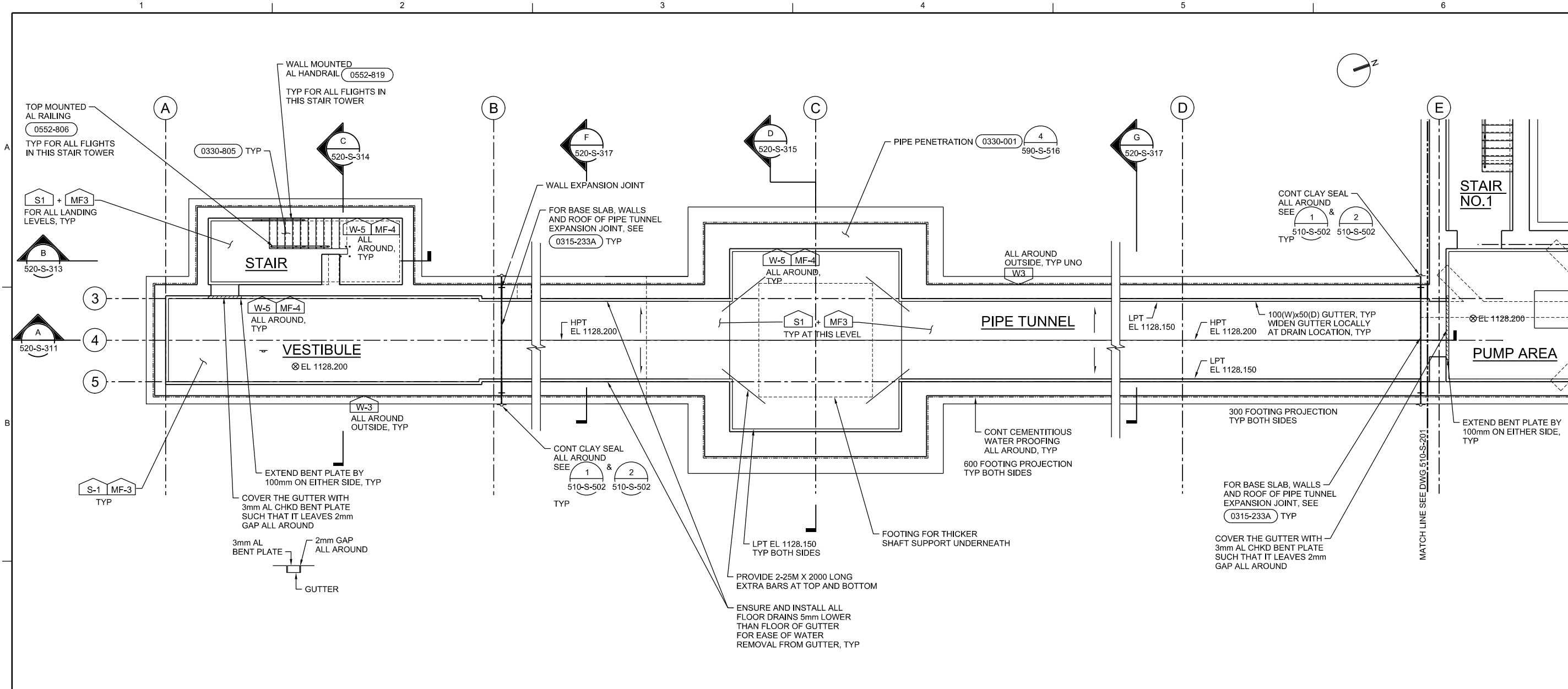
CH2MHILL®	
STRUCTURAL WATER TREATMENT BUILDING STEEL COLUMN SCHEDULE	
NTS	
VERIFY SCALE	
BAR IS 25mm ON ORIGINAL DRAWINGS. Ø 25mm	
DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	510-S-602
SHEET	



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A. THAKKAR
CHK
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BY
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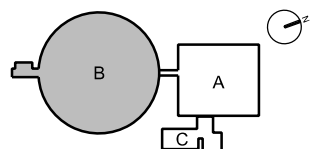
PLAN AT EL 1128.200
 1:75

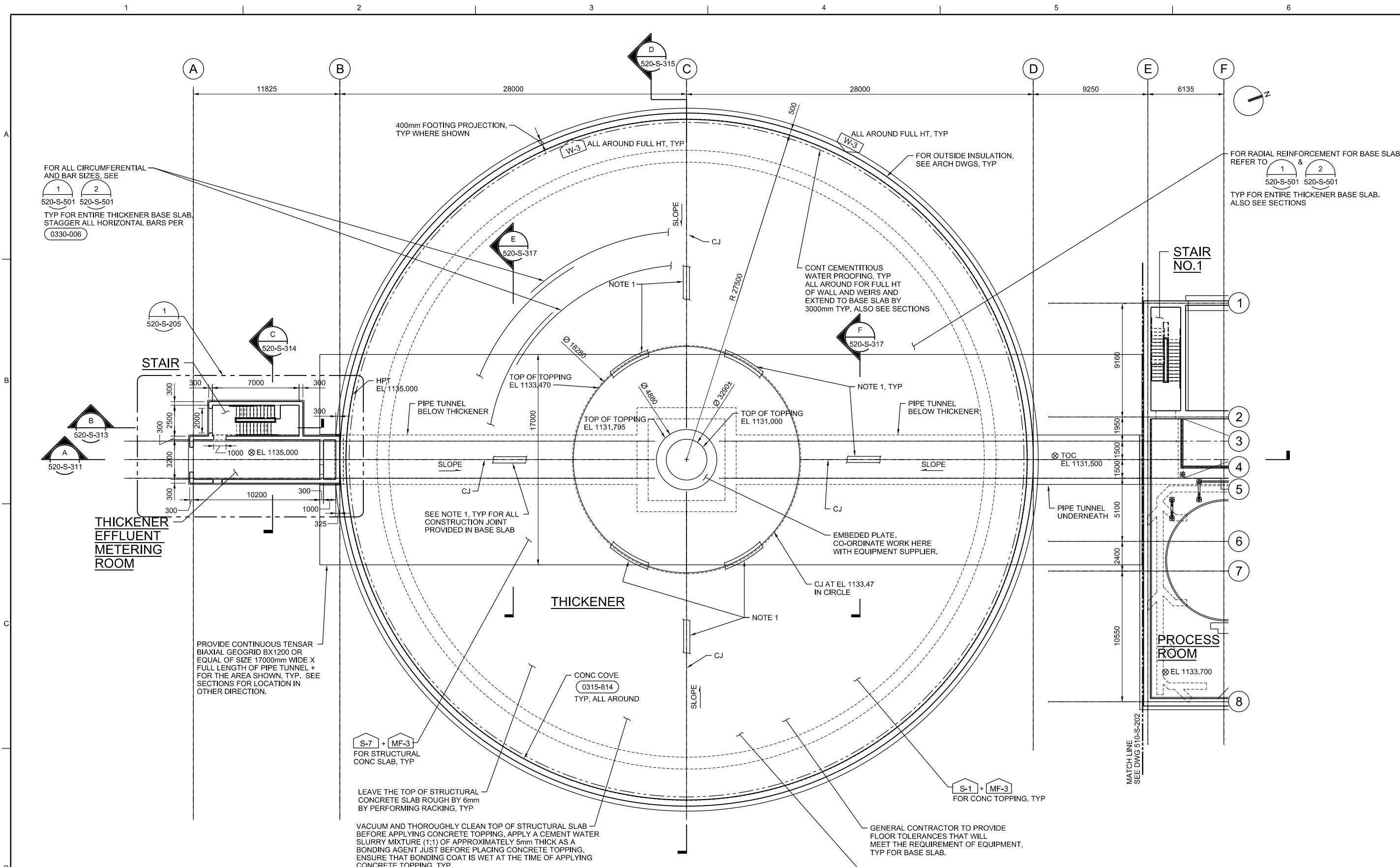


ISSUED FOR DETAIL DESIGN REVIEW	GN	RR	GN	BY	APVD
ISSUED FOR ADVANCED DESIGN REVIEW	GN	RR	GN	BY	APVD
NO.	DATE	NO.	DATE	DR	APVD
B	02/2014	A	09/2013	R. RANA	A. THAKKAR
DSGN		CHK		APVD	

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 FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN
 GOVERNMENT OF YUKON DESIGN

CH2MHILL® STRUCTURAL THICKENER PLAN AT EL 1128.200	
1:75	VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.	
DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	520-S-201
SHEET	





PLAN AT EL 1137.000
1:150

- NOTE:
1. PROVIDE CEMENTITIOUS WATER PROOFING OVER ALL CONSTRUCTION JOINT IN THICKENER BASE SLABS. THE STRIP WIDTH OF WATER PROOFING = 500mm CENTERED OVER JOINT, TYP. IF CONTRACTOR OPT TO PROVIDE MORE NUMBERS OF CJ THAN SHOWN, SAME DETAIL ALSO APPLIES TO ALL THESE CJS, TYP. SEE NOTE-3
 2. COORDINATE AND CONFIRM DIAMETERS AT CENTRAL CONE LOCATION WITH EQUIPMENT SUPPLIER.
 3. ALL CJ SHOWN ON THIS DRAWING ARE IN STRUCTURAL SLAB, TYP. PROVIDE CJ IN CONCRETE TOPPING TO SUIT EQUIPMENT SUPPLIER.

LEAVE THE TOP OF STRUCTURAL CONCRETE SLAB ROUGH BY 6mm BY PERFORMING RACKING, TYP

VACUUM AND THOROUGHLY CLEAN TOP OF STRUCTURAL SLAB BEFORE APPLYING CONCRETE TOPPING. APPLY A CEMENT WATER SLURRY MIXTURE (1:1) OF APPROXIMATELY 5mm THICK AS A BONDING AGENT JUST BEFORE PLACING CONCRETE TOPPING. ENSURE THAT BONDING COAT IS WET AT THE TIME OF APPLYING CONCRETE TOPPING, TYP.

GENERAL CONTRACTOR TO PROVIDE FLOOR TOLERANCES THAT WILL MEET THE REQUIREMENT OF EQUIPMENT, TYP FOR BASE SLAB.

PROVIDE 75mm THICK REINFORCED CONCRETE TOPPING WITH 152x152 MW 34.9x MW 34.9, TYP COORDINATE INSTALLATION WITH EQUIPMENT SUPPLIER

FOR ALL CIRCUMFERENTIAL AND BAR SIZES, SEE

1 2
520-S-501 520-S-501

TYP FOR ENTIRE THICKENER BASE SLAB. STAGGER ALL HORIZONTAL BARS PER 0330-006

PROVIDE CONTINUOUS TENSAR BIAXIAL GEOGRID BX1200 OR EQUAL OF SIZE 17000mm WIDE X FULL LENGTH OF PIPE TUNNEL + FOR THE AREA SHOWN, TYP. SEE SECTIONS FOR LOCATION IN OTHER DIRECTION.

S-7 + MF-3
FOR STRUCTURAL CONC SLAB, TYP

S-1 + MF-3
FOR CONC TOPPING, TYP

FOR RADIAL REINFORCEMENT FOR BASE SLAB. REFER TO 1 & 2
520-S-501 520-S-501
TYP FOR ENTIRE THICKENER BASE SLAB. ALSO SEE SECTIONS

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CH2MHILL®

STRUCTURAL
THICKENER
PLAN AT EL 1137.000

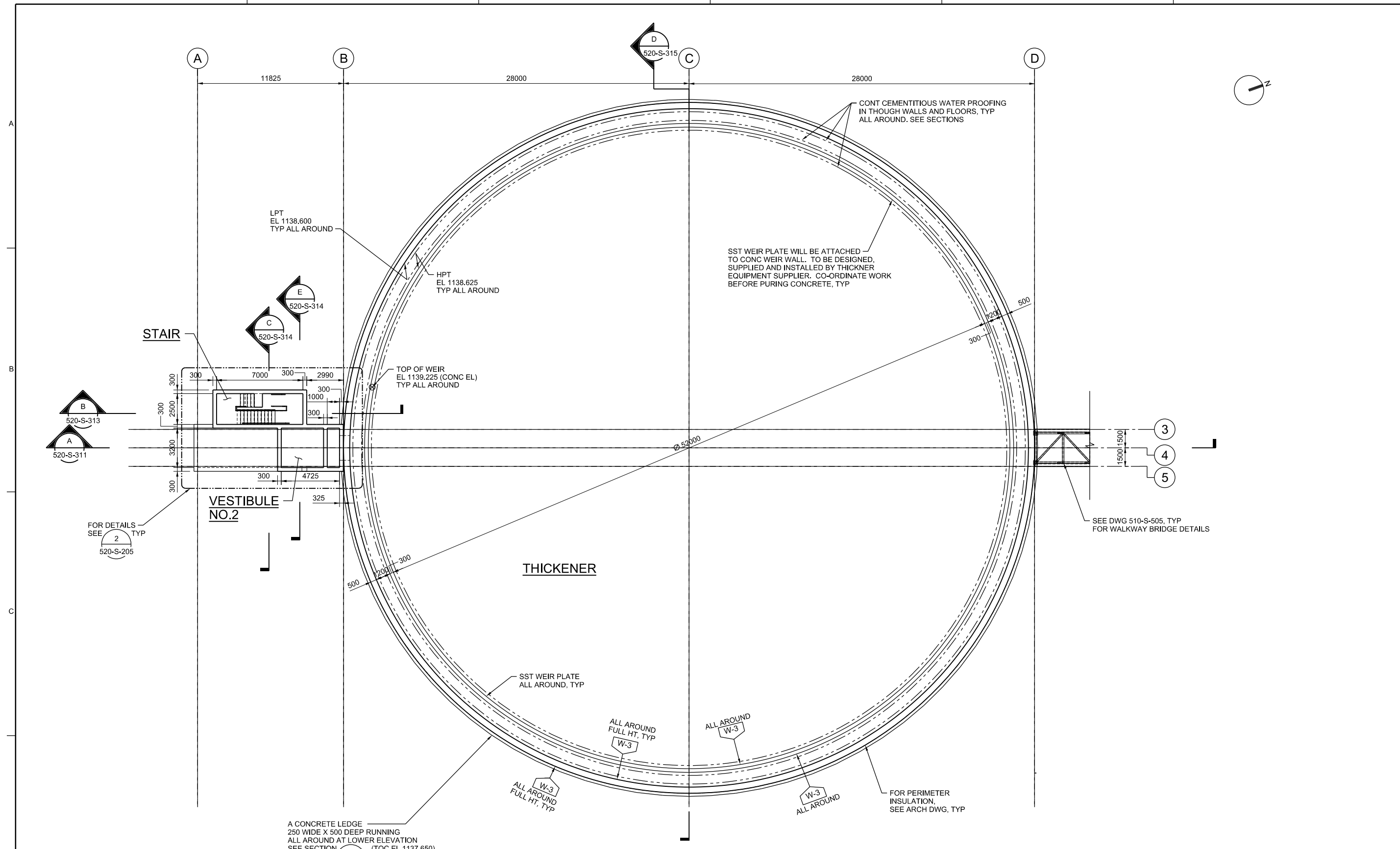
1:75	
VERIFY SCALE	
BAR IS 25mm ON ORIGINAL DRAWINGS.	
DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	520-S-202
SHEET	

ISSUED FOR DETAIL DESIGN REVIEW	GN	RR	GN	BY	APVD
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A. THAKKAR	A. THAKKAR	R. RANA	A. THAKKAR		



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1 2 3 4 5 6



PLAN AT TROUGH LEVEL
1:150



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NO. DATE	DR	CHK	APVD	
A. THAKKAR	R. RANA	A. THAKKAR		

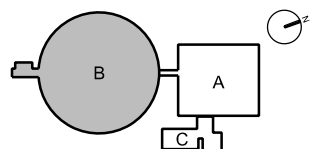
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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
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DESIGN

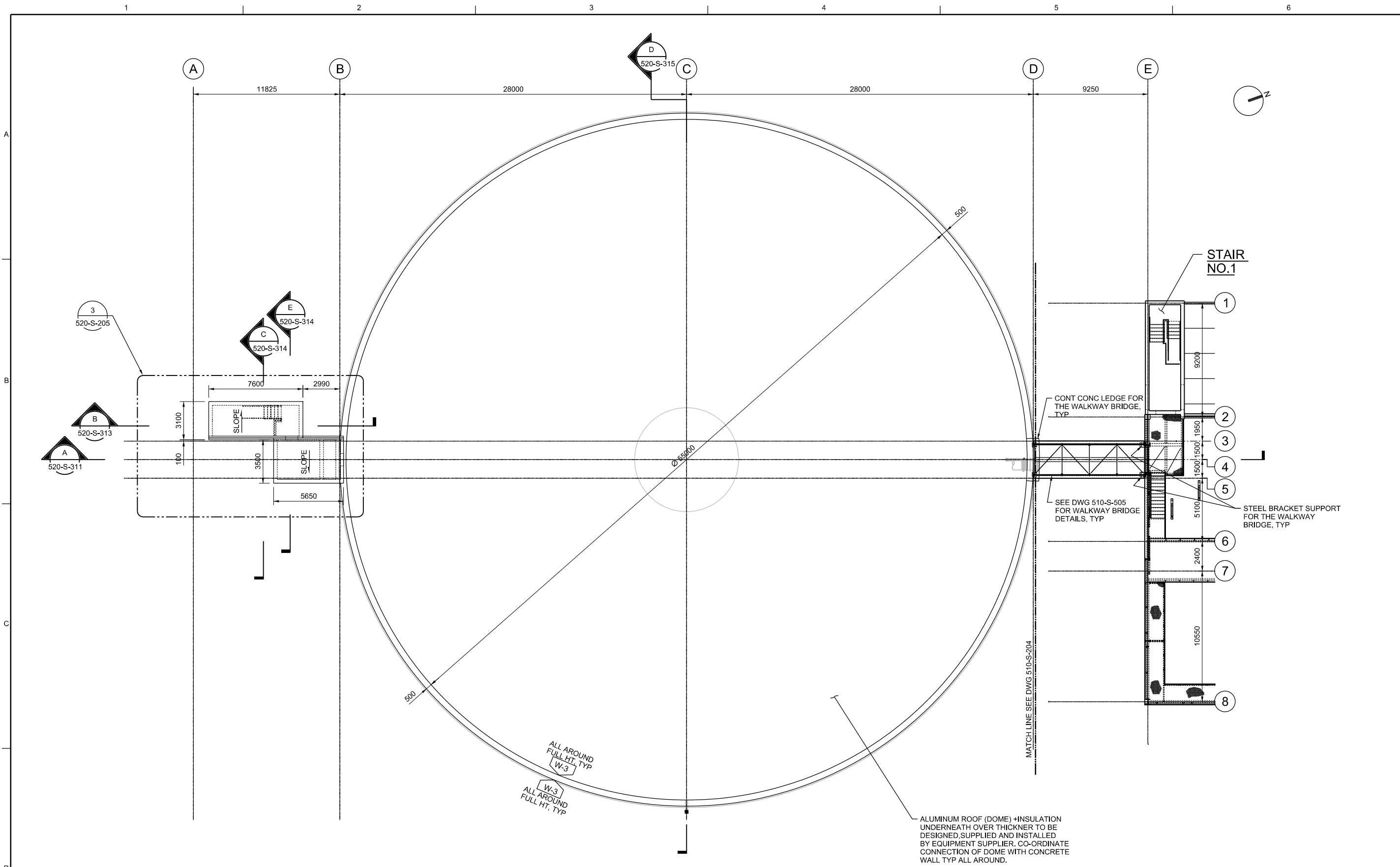
CH2MHILL®

STRUCTURAL
THICKENER
PLAN AT TROUGH LEVEL

1:75
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
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DWG 520-S-203
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ROOF PLAN
1:150

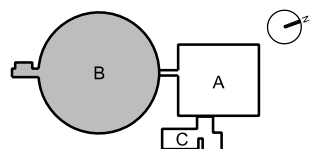


ISSUED FOR DETAIL DESIGN REVIEW	RR	GN
ISSUED FOR ADVANCED DESIGN REVIEW	RR	GN
REVISION	BY	APVD
1	R. RANA	CHK
2	A. THAKKAR	DR
3	A. THAKKAR	APVD

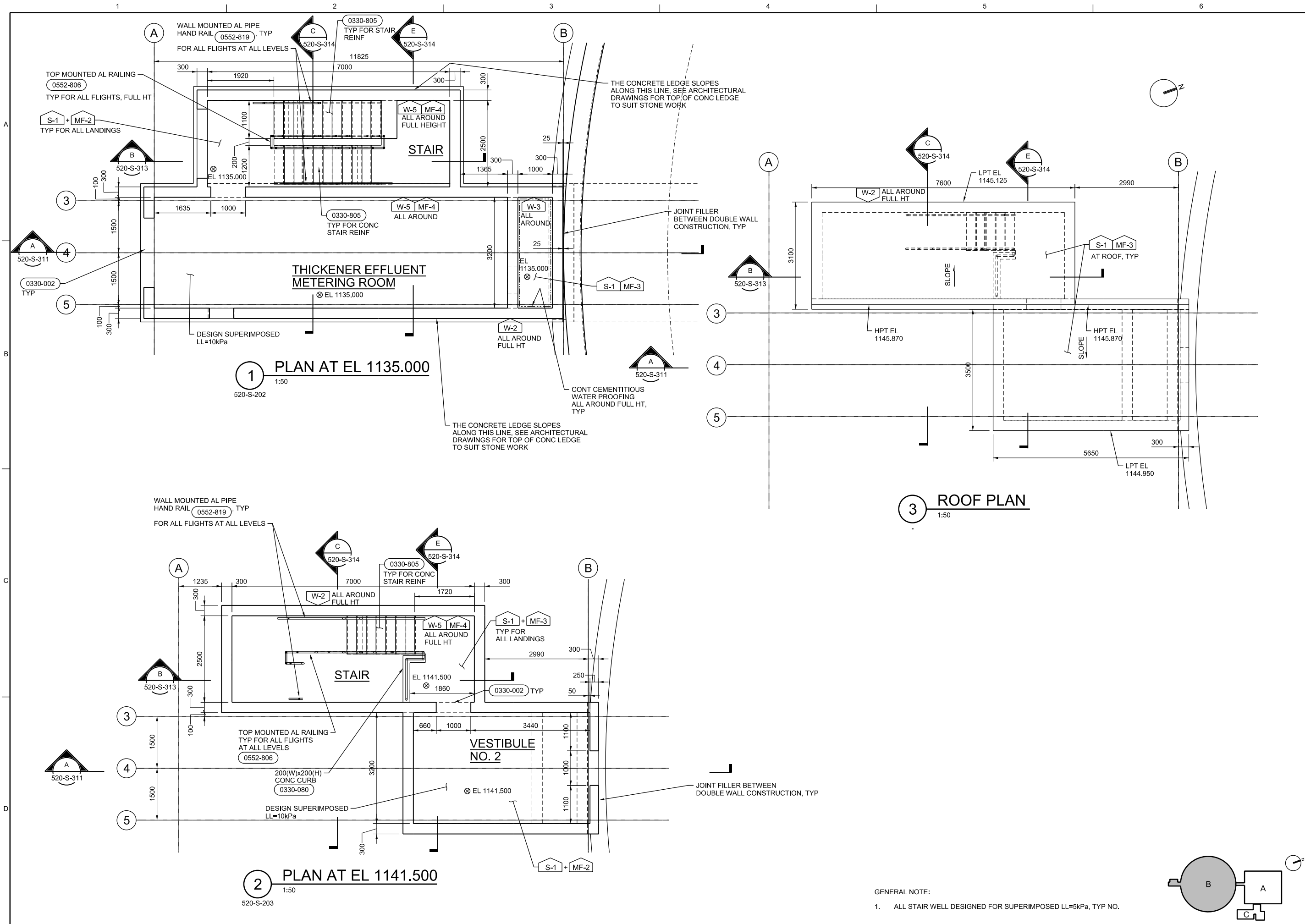
90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION	FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN GOVERNMENT OF YUKON DESIGN	
B	02/2014	ISSUED FOR DETAIL DESIGN REVIEW
A	09/2013	ISSUED FOR ADVANCED DESIGN REVIEW
NO.	DATE	REVISION

CH2MHILL®
STRUCTURAL
THICKENER ROOF PLAN

1:75
VERIFY SCALE
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PROJ TA013-427716
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NO.	DATE	DR	CHK	BY	APVD
A	02/2014	A. THAKKAR	R. RANA	A. THAKKAR	A. THAKKAR
ISSUED FOR DETAIL DESIGN REVIEW					
REVISION					

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

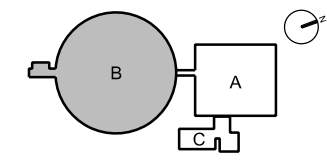
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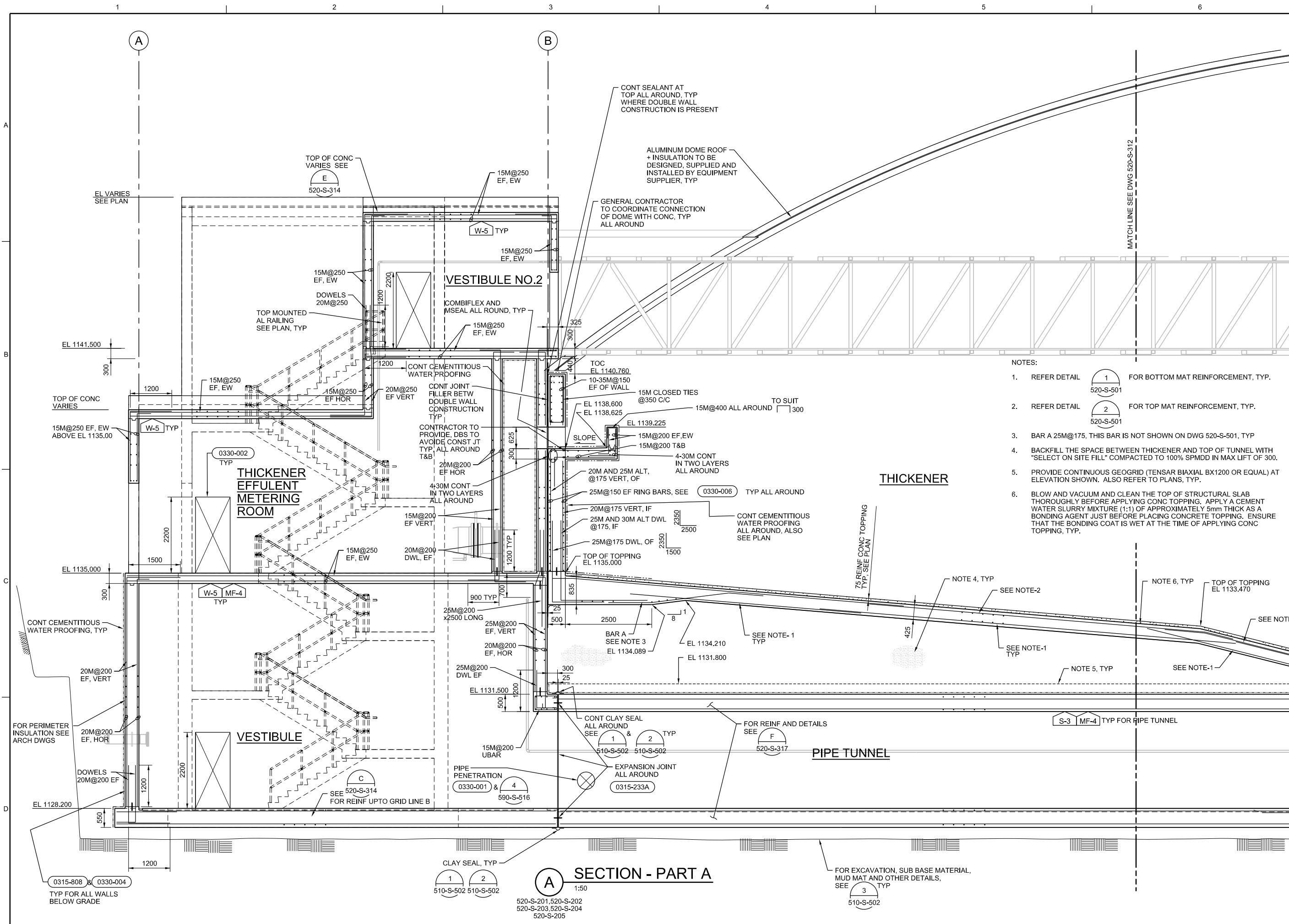
STRUCTURAL
**THICKENER
PLANS - STAIR NO. 3**



1:75
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
0 25mm

DATE FEBRUARY 2014
PROJ TA013-427716
DWG 520-S-205
SHEET

GENERAL NOTE:
1. ALL STAIR WELL DESIGNED FOR SUPERIMPOSED LL=5kPa, TYP NO.

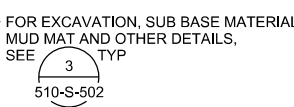
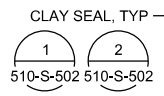




- NOTES:
- REFER DETAIL  FOR BOTTOM MAT REINFORCEMENT, TYP.
520-S-501
 - REFER DETAIL  FOR TOP MAT REINFORCEMENT, TYP.
520-S-501
 - BAR A 25M@175, THIS BAR IS NOT SHOWN ON DWG 520-S-501, TYP
 - BACKFILL THE SPACE BETWEEN THICKENER AND TOP OF TUNNEL WITH "SELECT ON SITE FILL" COMPACTED TO 100% SPMD IN MAX LIFT OF 300.
 - PROVIDE CONTINUOUS GEOGRID (TENSAR BIAXIAL BX1200 OR EQUAL) AT ELEVATION SHOWN. ALSO REFER TO PLANS, TYP.
 - BLOW AND VACUUM AND CLEAN THE TOP OF STRUCTURAL SLAB THOROUGHLY BEFORE APPLYING CONC TOPPING. APPLY A CEMENT WATER SLURRY MIXTURE (1:1) OF APPROXIMATELY 5mm THICK AS A BONDING AGENT JUST BEFORE PLACING CONCRETE TOPPING. ENSURE THAT THE BONDING COAT IS WET AT THE TIME OF APPLYING CONC TOPPING, TYP.

SECTION - PART A

1:50



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ISSUED FOR ADVANCED DESIGN REVIEW	RR	RR	RR	BY	APVD
REVISION	NO.	DATE	DR	CHK	APVD
			A. THAKKAR	R. RANA	A. THAKKAR

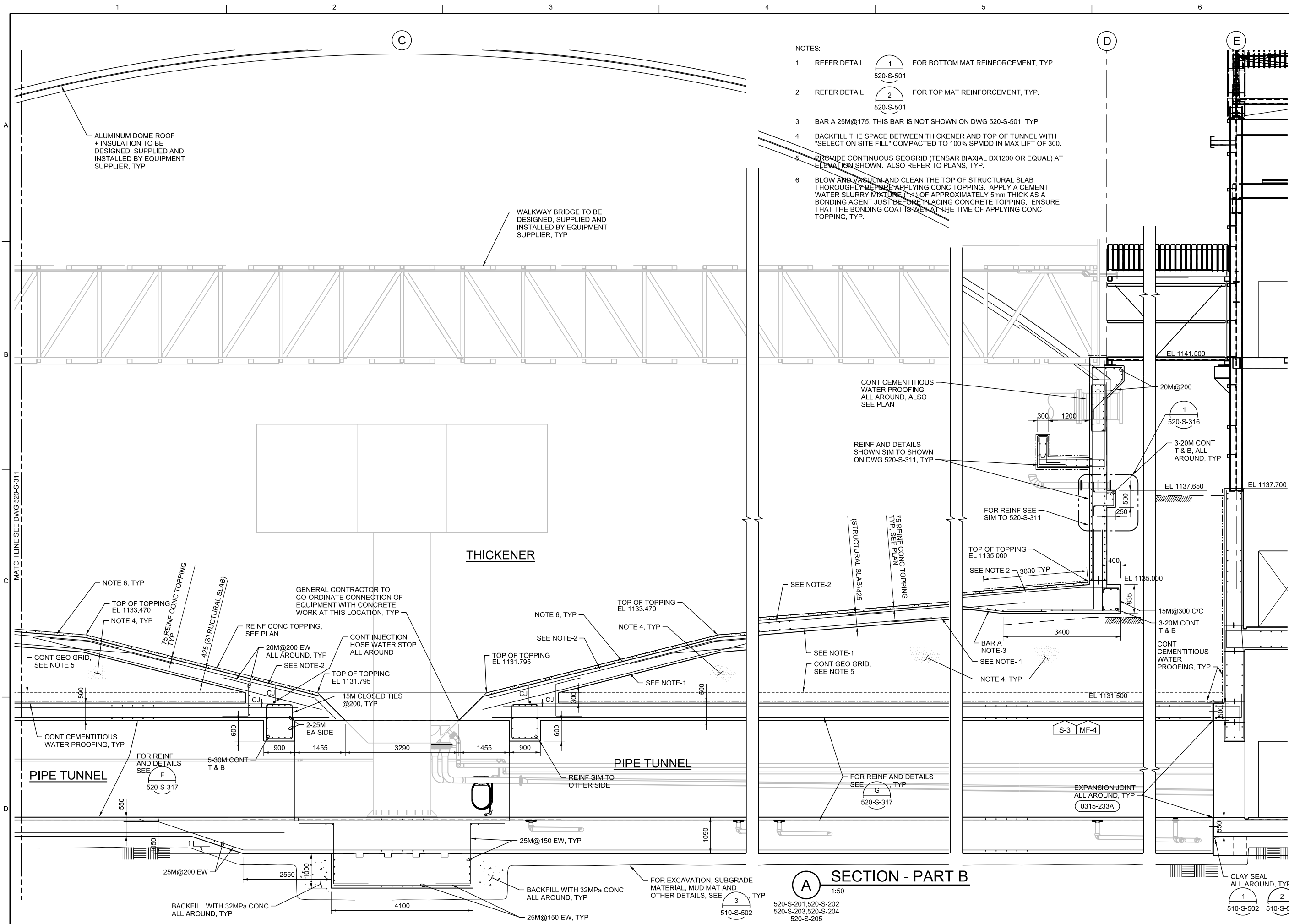
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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®
STRUCTURAL
THICKENER SECTION-A (PART A)

1:75
VERIFY SCALE
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- NOTES:
- REFER DETAIL 1 FOR BOTTOM MAT REINFORCEMENT, TYP.
 - REFER DETAIL 2 FOR TOP MAT REINFORCEMENT, TYP.
 - BAR A 25M@175, THIS BAR IS NOT SHOWN ON DWG 520-S-501, TYP
 - BACKFILL THE SPACE BETWEEN THICKENER AND TOP OF TUNNEL WITH "SELECT ON SITE FILL" COMPACTED TO 100% SPMD IN MAX LIFT OF 300.
 - PROVIDE CONTINUOUS GEOGRID (TENSAR BIAXIAL BX1200 OR EQUAL) AT ELEVATION SHOWN. ALSO REFER TO PLANS, TYP.
 - BLOW AND VACUUM AND CLEAN THE TOP OF STRUCTURAL SLAB THOROUGHLY BEFORE APPLYING CONC TOPPING. APPLY A CEMENT WATER SLURRY MIXTURE (1:1) OF APPROXIMATELY 5mm THICK AS A BONDING AGENT JUST BEFORE PLACING CONCRETE TOPPING. ENSURE THAT THE BONDING COAT IS WET AT THE TIME OF APPLYING CONC TOPPING, TYP.

A SECTION - PART B
1:50



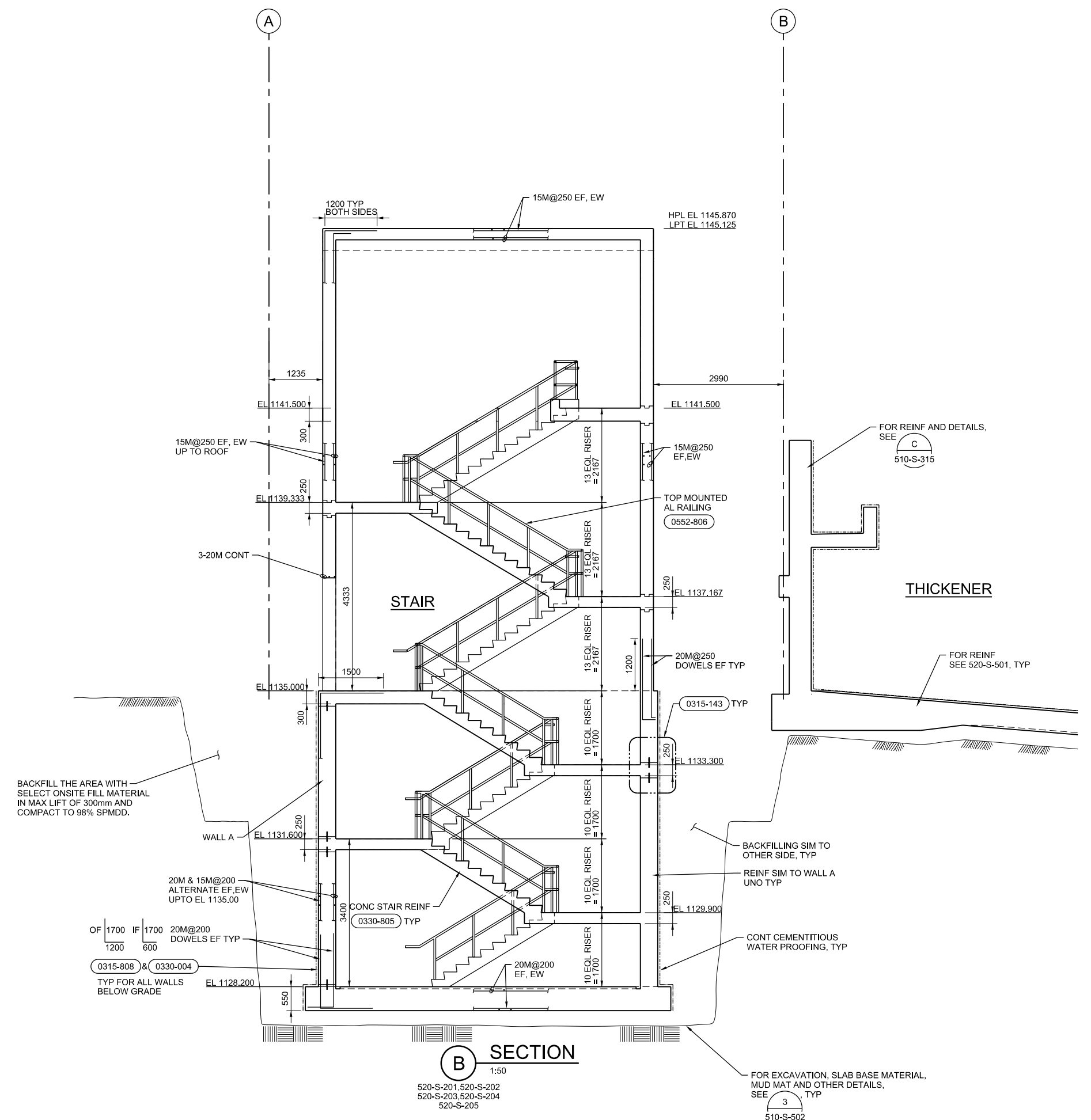
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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®	
STRUCTURAL	THICKENER SECTION-A (PART B)
1:75	VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWINGS, 0 25mm	
DATE	FEBRUARY 2014
PROJ	TA013-427716
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B SECTION
1:50
520-S-201, 520-S-202
520-S-203, 520-S-204
520-S-205



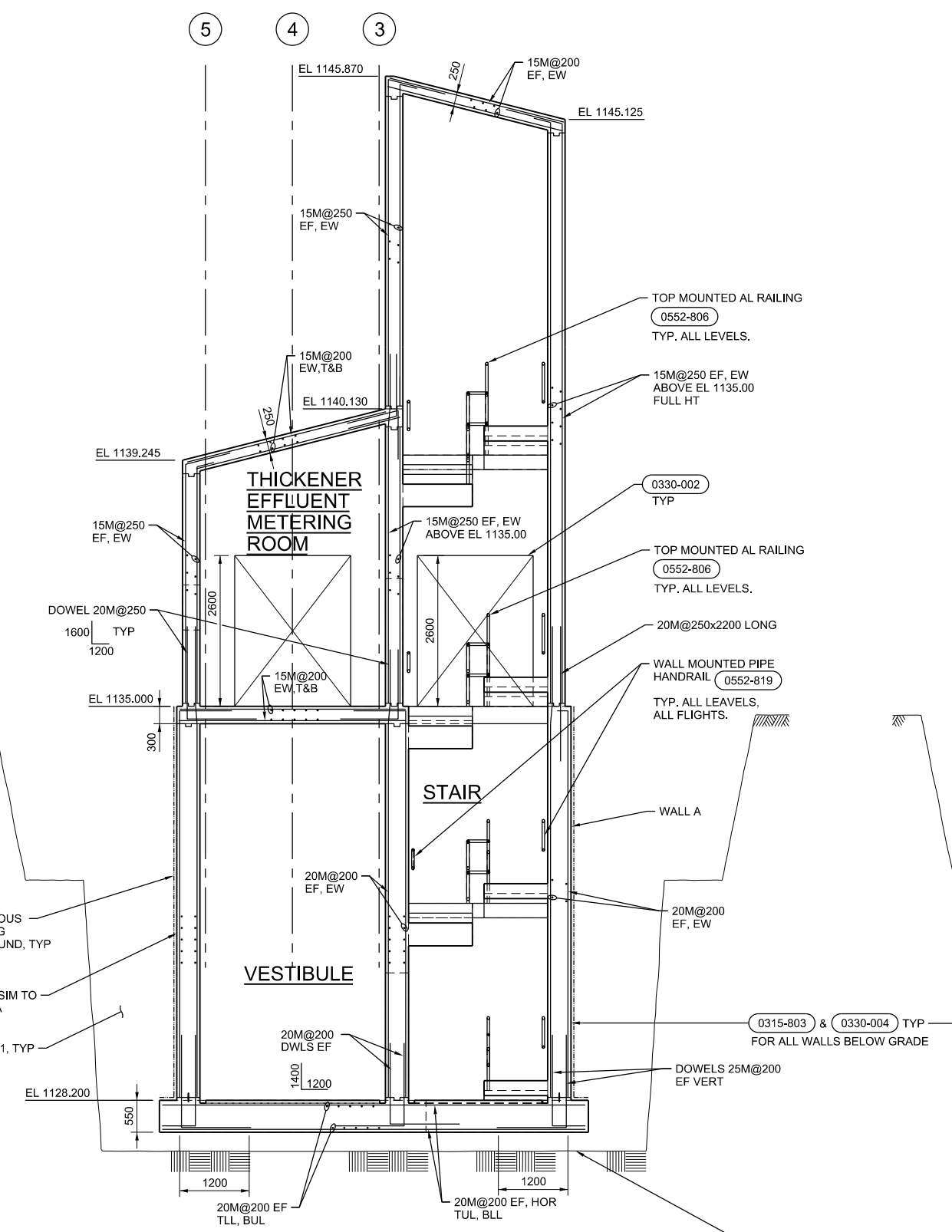
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B	02/2014	RR	GN
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		REVISION	
		CHK	APVD
		DR	
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GOVERNMENT OF YUKON
DESIGN

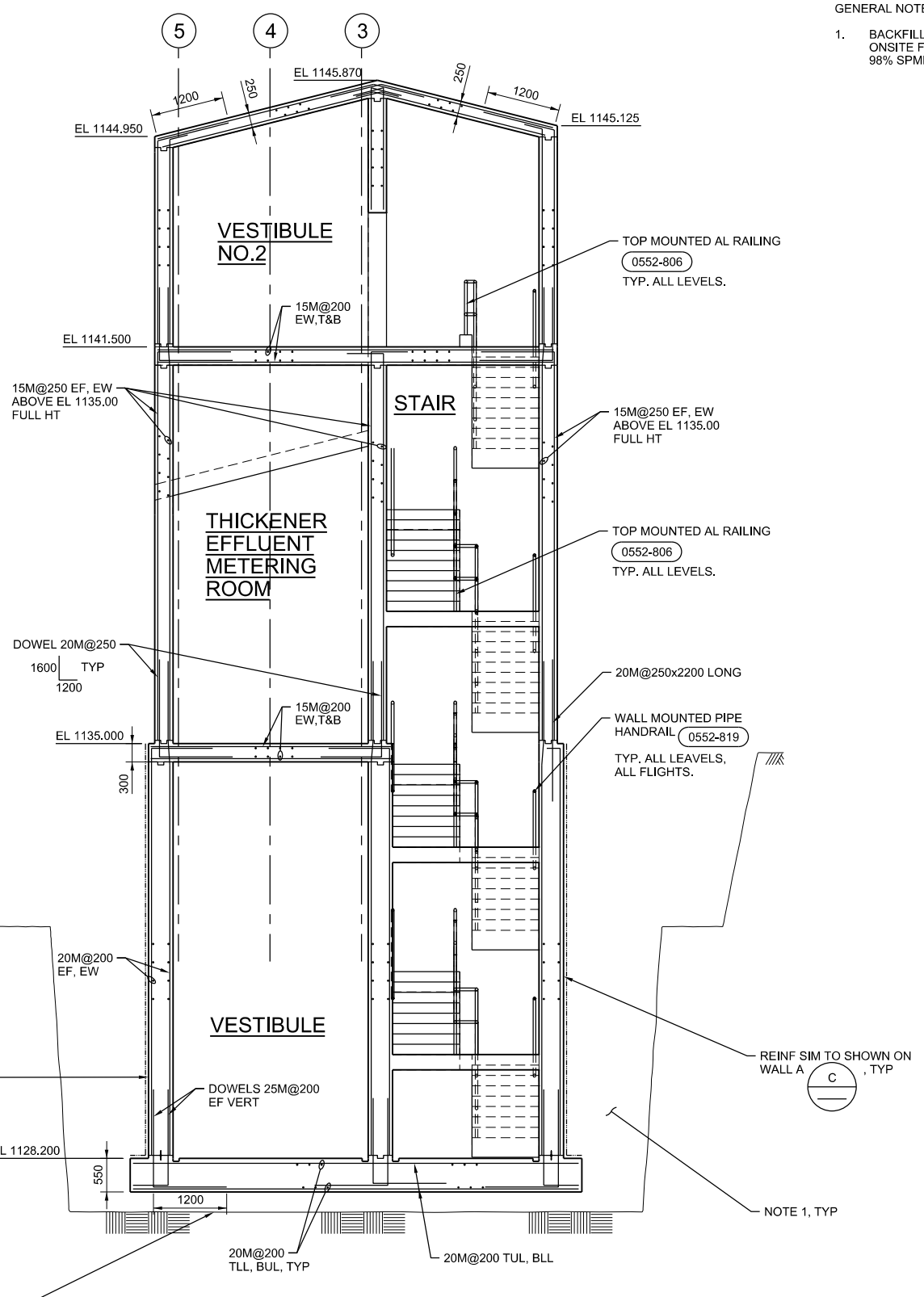
CH2MHILL®
STRUCTURAL
THICKENER SECTION-B

DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	520-S-313
SHEET	

A
B
C
D



C SECTION
1:50
520-S-201, 520-S-202
520-S-203, 520-S-204
520-S-205



E SECTION
1:75
520-S-203, 520-S-204
520-S-205

FOR EXCAVATION, MUDMAT,
SUB BASE MATERIAL AND
OTHER DETAILS, SEE
3 TYP
510-S-502

GENERAL NOTE:
1. BACKFILL THE AREA WITH SELECT
ON-SITE FILL MATERIAL COMPACTED TO
98% SPMD IN MAX LIFT OF 300mm TYP.



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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®

STRUCTURAL
**THICKENER
SECTION-C AND E**

1:75
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WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

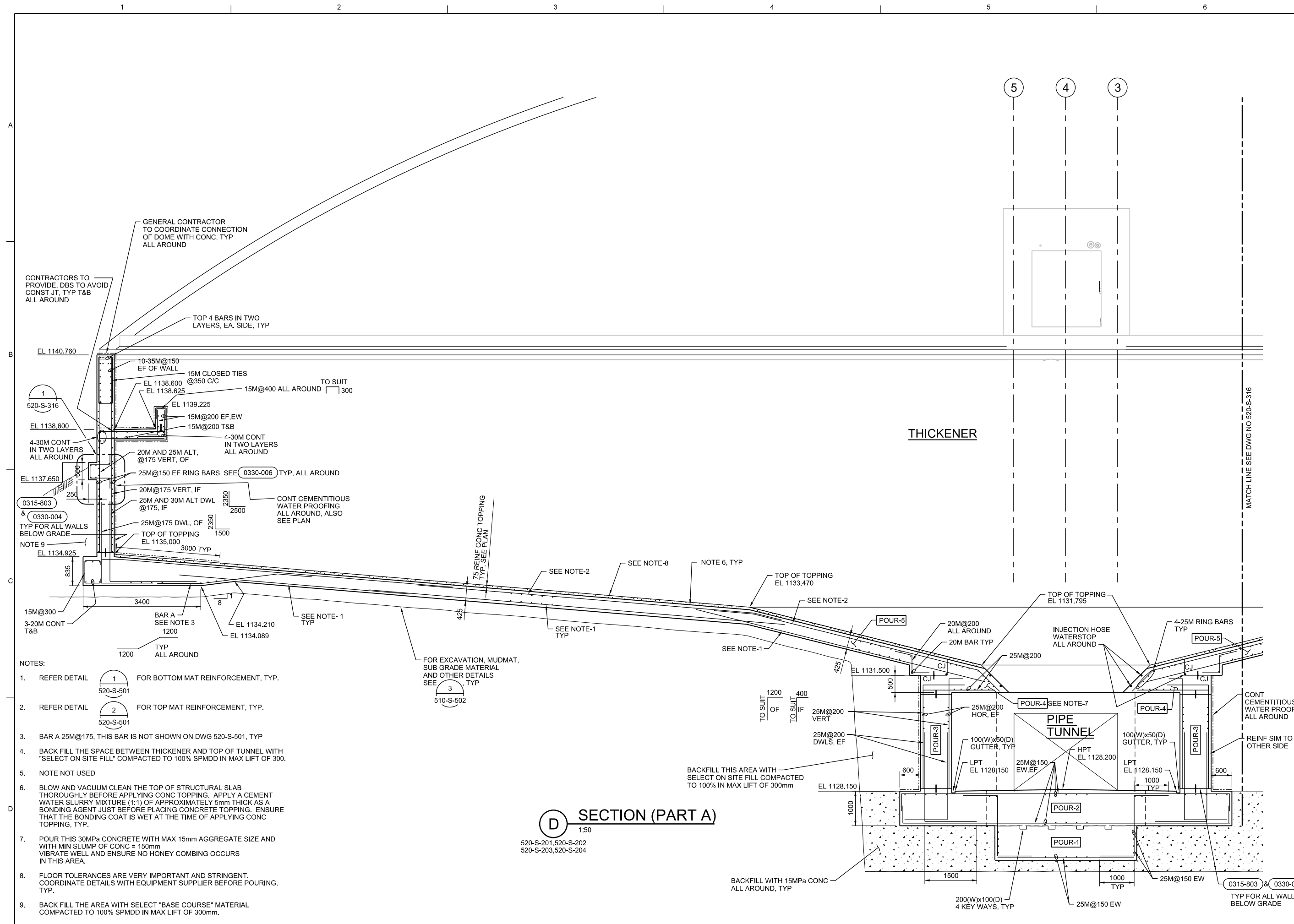
CH2MHILL®

STRUCTURAL
THICKENER SECTION-D (PART A)

1:75
VERIFY SCALE
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DATE FEBRUARY 2014
PROJ TA013-427716
DWG 520-S-315
SHEET

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D SECTION (PART A)
1:50

520-S-201, 520-S-202
520-S-203, 520-S-204

CONTRACTORS TO PROVIDE DBS TO AVOID CONST JT, TYP T&B ALL AROUND

GENERAL CONTRACTOR TO COORDINATE CONNECTION OF DOME WITH CONC, TYP ALL AROUND

TOP 4 BARS IN TWO LAYERS, EA. SIDE, TYP

EL 1140.760

10-35M@150 EF OF WALL

15M CLOSED TIES @350 C/C

EL 1138.600

EL 1138.625

15M@400 ALL AROUND

TO SUIT

EL 1139.225

15M@200 EF, EW

15M@200 T&B

4-30M CONT IN TWO LAYERS ALL AROUND

20M AND 25M ALT, @175 VERT, OF

25M@150 EF RING BARS, SEE (0330-006) TYP, ALL AROUND

20M@175 VERT, IF

25M AND 30M ALT DWL @175, IF

CONT CEMENTITIOUS WATER PROOFING ALL AROUND, ALSO SEE PLAN

25M@175 DWL, OF

TOP OF TOPPING EL 1135.000

3000 TYP

0315-803 & 0330-004 TYP FOR ALL WALLS BELOW GRADE

NOTE 9

EL 1134.925

835

15M@300

3-20M CONT T&B

1200

BAR A SEE NOTE 3

EL 1134.210

EL 1134.089

SEE NOTE-1 TYP

75 REINF CONC TOPPING TYP. SEE PLAN

SEE NOTE-2

SEE NOTE-8

NOTE 6, TYP

TOP OF TOPPING EL 1133.470

SEE NOTE-2

TOP OF TOPPING EL 1131.795

POUR-5

20M@200 ALL AROUND

20M BAR TYP

25M@200

INJECTION HOSE WATERSTOP ALL AROUND

4-25M RING BARS TYP

POUR-5

CONT CEMENTITIOUS WATER PROOFING ALL AROUND

REINF SIM TO OTHER SIDE

- NOTES:
- REFER DETAIL 1 FOR BOTTOM MAT REINFORCEMENT, TYP.
 - REFER DETAIL 2 FOR TOP MAT REINFORCEMENT, TYP.
 - BAR A 25M@175, THIS BAR IS NOT SHOWN ON DWG 520-S-501, TYP
 - BACK FILL THE SPACE BETWEEN THICKENER AND TOP OF TUNNEL WITH "SELECT ON SITE FILL" COMPACTED TO 100% SPMD IN MAX LIFT OF 300.
 - NOTE NOT USED
 - BLOW AND VACUUM CLEAN THE TOP OF STRUCTURAL SLAB THOROUGHLY BEFORE APPLYING CONC TOPPING. APPLY A CEMENT WATER SLURRY MIXTURE (1:1) OF APPROXIMATELY 5mm THICK AS A BONDING AGENT JUST BEFORE PLACING CONCRETE TOPPING. ENSURE THAT THE BONDING COAT IS WET AT THE TIME OF APPLYING CONC TOPPING, TYP.
 - POUR THIS 30MPa CONCRETE WITH MAX 15mm AGGREGATE SIZE AND WITH MIN SLUMP OF CONC = 150mm VIBRATE WELL AND ENSURE NO HONEY COMBING OCCURS IN THIS AREA.
 - FLOOR TOLERANCES ARE VERY IMPORTANT AND STRINGENT. COORDINATE DETAILS WITH EQUIPMENT SUPPLIER BEFORE POURING, TYP.
 - BACK FILL THE AREA WITH SELECT "BASE COURSE" MATERIAL COMPACTED TO 100% SPMD IN MAX LIFT OF 300mm.

FOR EXCAVATION, MUDMAT, SUB GRADE MATERIAL AND OTHER DETAILS SEE 3

3

510-S-502

TO SUIT 1200 OF TO SUIT 400 IF

25M@200 VERT

25M@200 DWLS, EF

BACKFILL THIS AREA WITH SELECT ON SITE FILL COMPACTED TO 100% IN MAX LIFT OF 300mm

EL 1128.150

1000

600

1500

1000 TYP

25M@150 EW

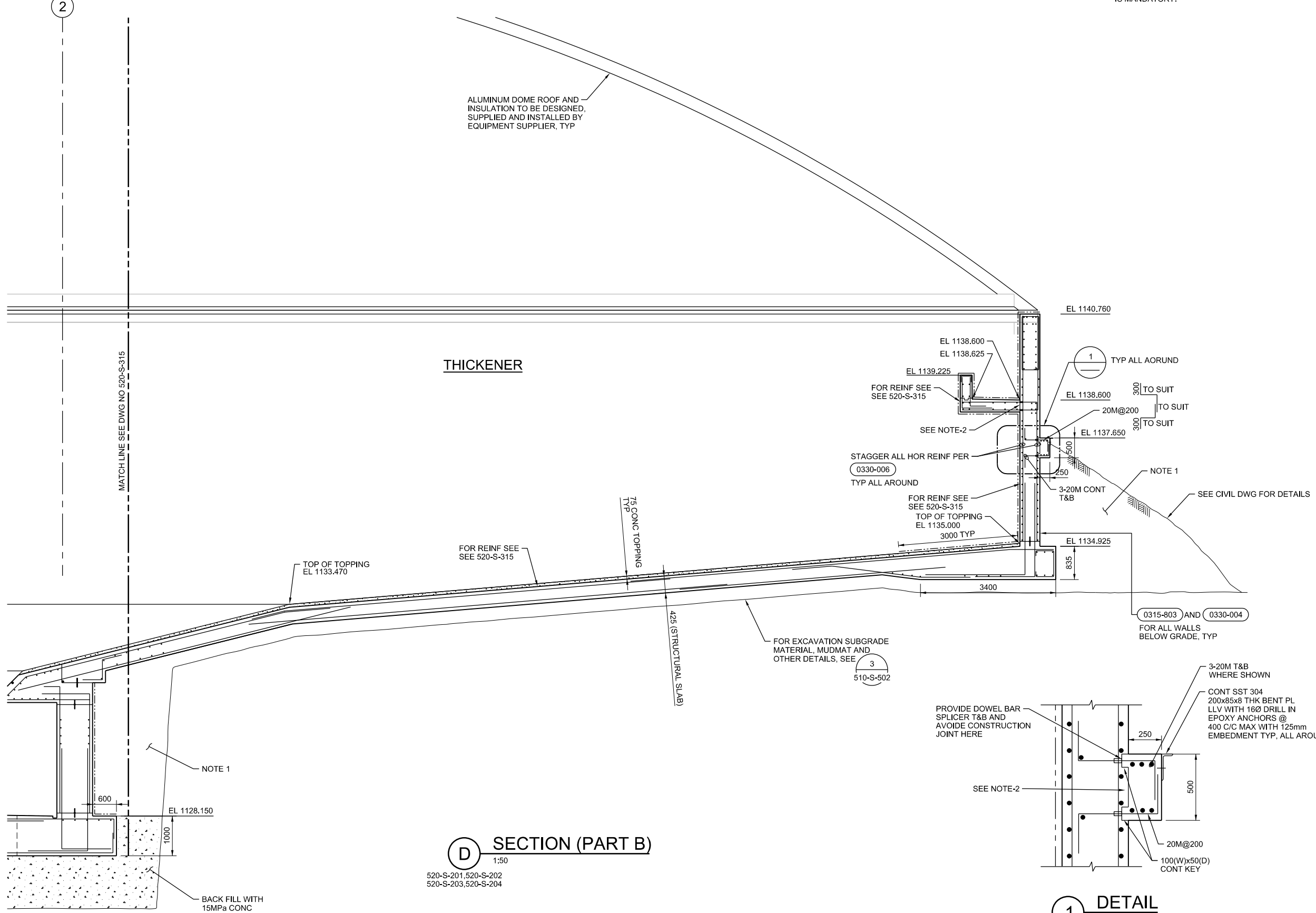
200(W)x100(D) 4 KEY WAYS, TYP

25M@150 EW

0315-803 & 0330-004 TYP FOR ALL WALLS BELOW GRADE

1 2 3 4 5 6

A
B
C
D



D SECTION (PART B)
1:50

520-S-201, 520-S-202
520-S-203, 520-S-204

1 DETAIL
1:15

- GENERAL NOTE:
- BACK FILL THE AREA WITH "BASE COURSE" MATERIAL COMPACTED TO 100% SPMDD IN MAX LIFT OF 300mm.
 - NO CONSTRUCTION JOINT ALLOWED HERE, DBS IS MANDATORY.

ALUMINUM DOME ROOF AND INSULATION TO BE DESIGNED, SUPPLIED AND INSTALLED BY EQUIPMENT SUPPLIER, TYP

THICKENER

MATCH LINE SEE DWG NO 520-S-315



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		R. RANA	A. THAKKAR
		DR	

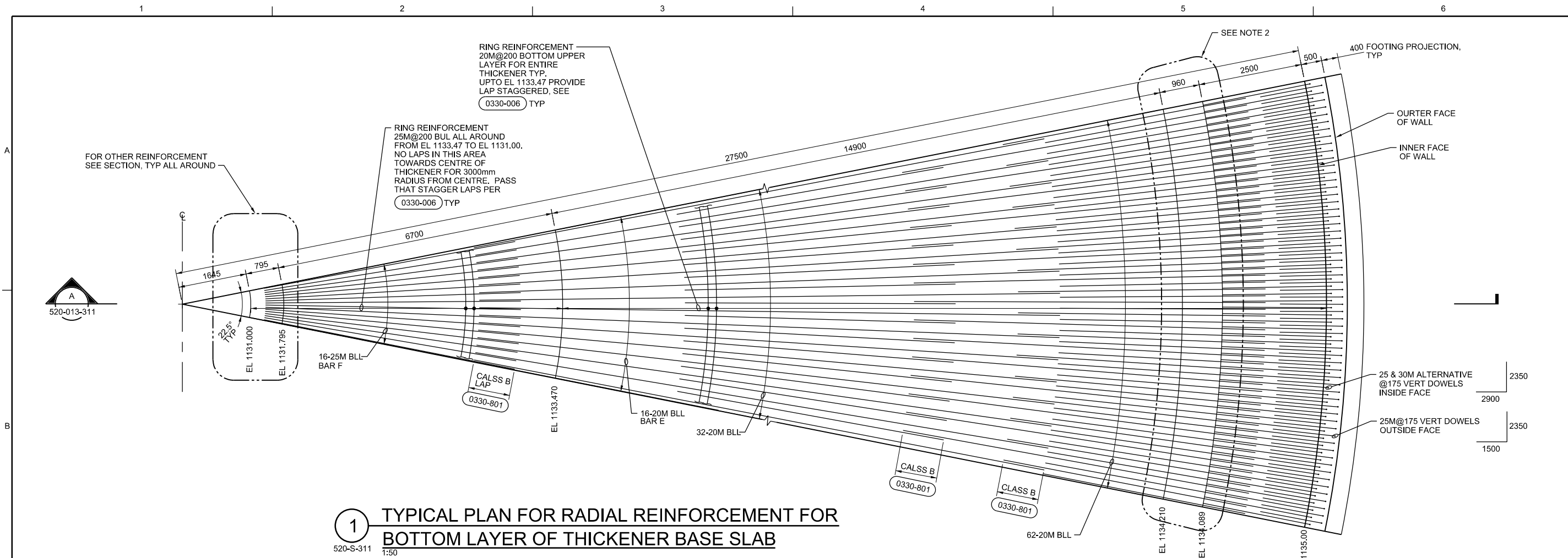
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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®

STRUCTURAL
THICKENER SECTION-D (PART B)

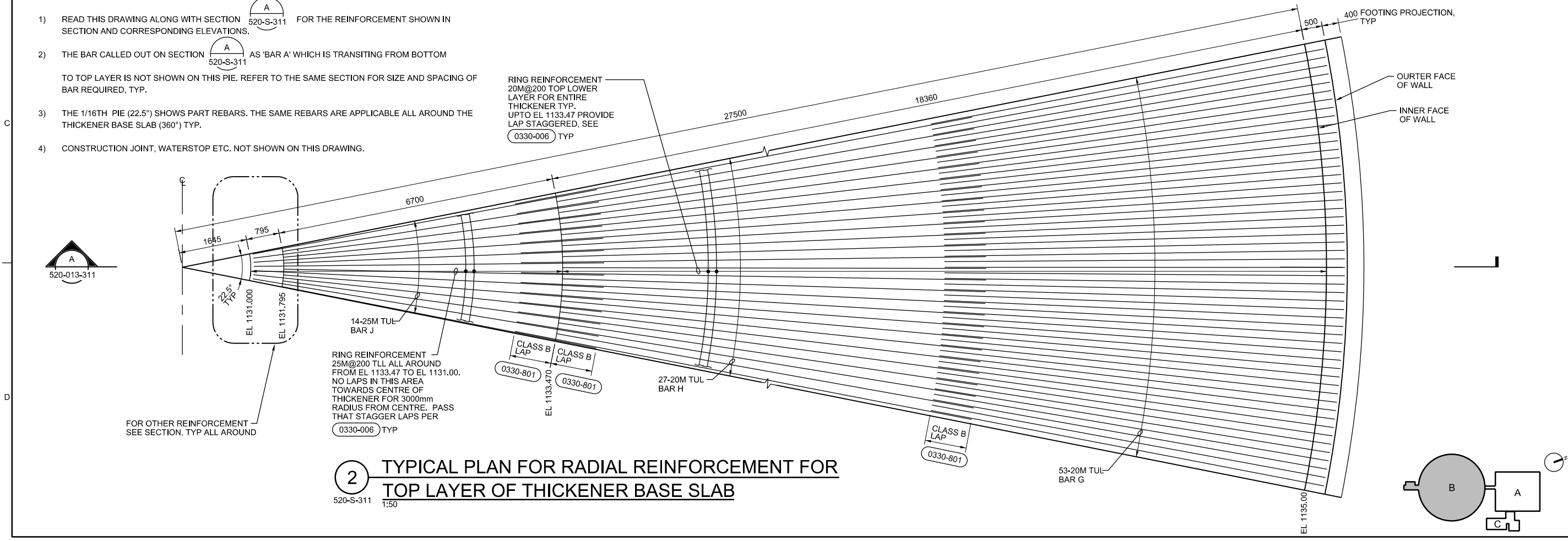
1:75
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 520-S-316
SHEET



1 TYPICAL PLAN FOR RADIAL REINFORCEMENT FOR
BOTTOM LAYER OF THICKENER BASE SLAB
520-S-311 1:50

GENERAL NOTES:

- 1) READ THIS DRAWING ALONG WITH SECTION **A** 520-S-311 FOR THE REINFORCEMENT SHOWN IN SECTION AND CORRESPONDING ELEVATIONS.
- 2) THE BAR CALLED OUT ON SECTION **A** 520-S-311 AS 'BAR A' WHICH IS TRANSITING FROM BOTTOM TO TOP LAYER IS NOT SHOWN ON THIS PIE. REFER TO THE SAME SECTION FOR SIZE AND SPACING OF BAR REQUIRED, TYP.
- 3) THE 1/16TH PIE (22.5°) SHOWS PART REBARS. THE SAME REBARS ARE APPLICABLE ALL AROUND THE THICKENER BASE SLAB (360°) TYP.
- 4) CONSTRUCTION JOINT, WATERSTOP ETC. NOT SHOWN ON THIS DRAWING.



2 TYPICAL PLAN FOR RADIAL REINFORCEMENT FOR
TOP LAYER OF THICKENER BASE SLAB
520-S-311 1:50



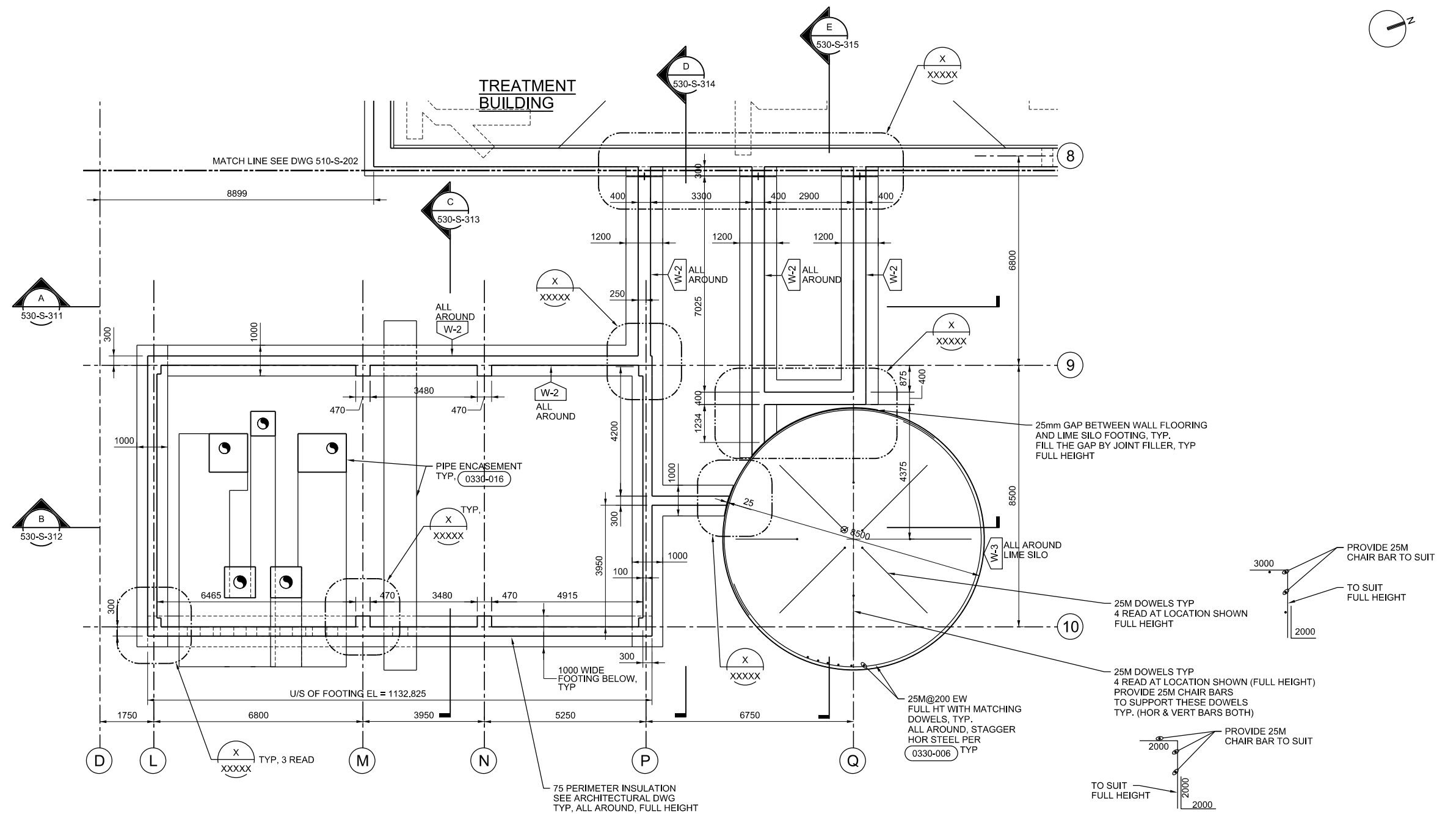
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STRUCTURAL
THICKENER
DETAILS (1)

1:75
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FOUNDATION PLAN
1:75



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NO. DATE	NO.	DATE	NO.	DATE	APVD
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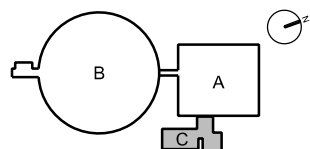
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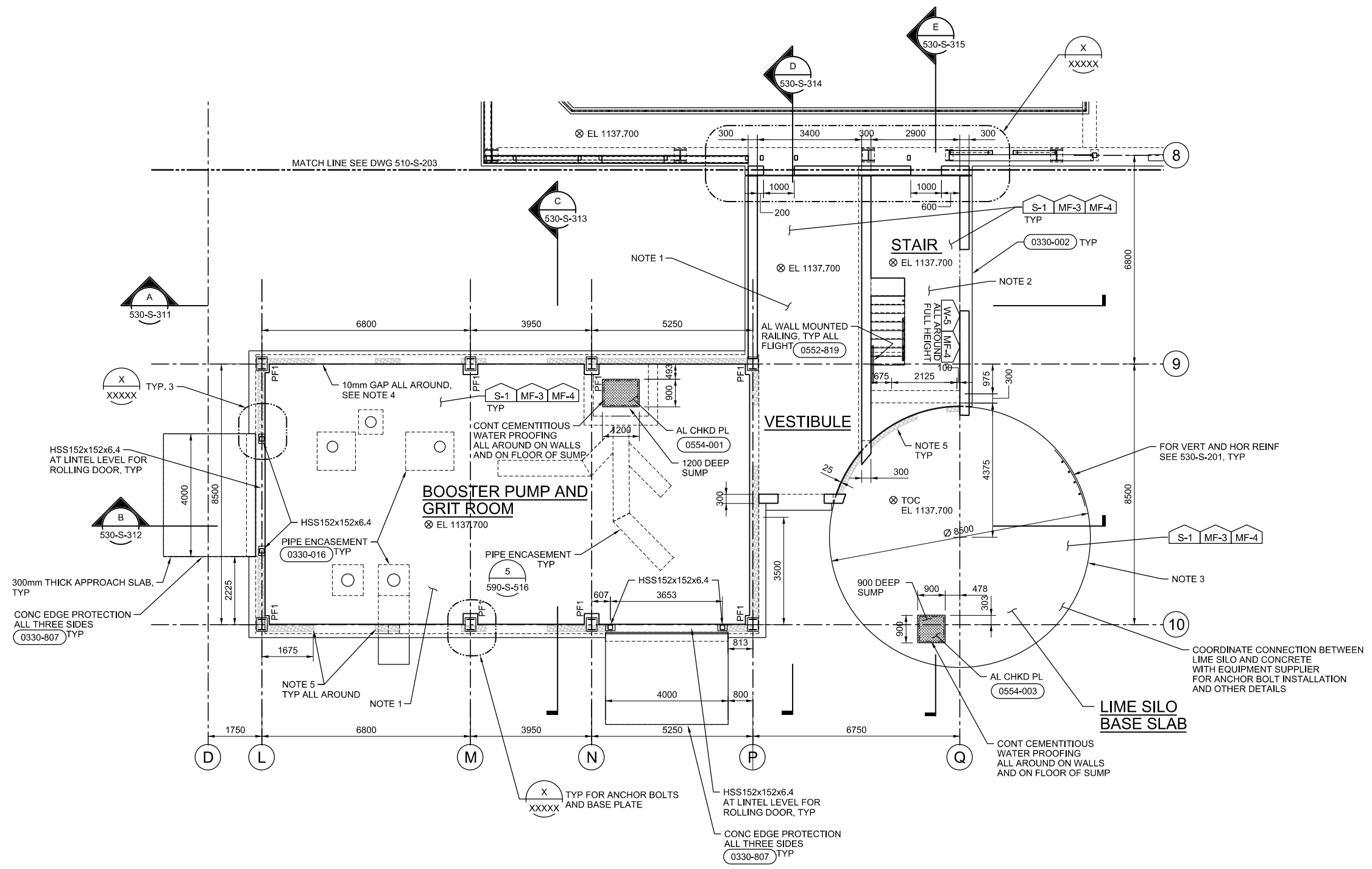
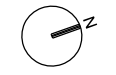
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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STRUCTURAL
LIME SILO, GRIT BUILDING FOUNDATION PLAN

1:75
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWINGS.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 530-S-201
SHEET



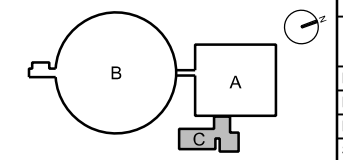


GROUND FLOOR PLAN
1:75

NOTES:

1. DESIGN SUPERIMPOSED
LL=12kPa
2. DESIGN SUPERIMPOSED
LL=5.0kPa
3. CONFIRM EXACT DIA OF LIME SILO WITH EQUIPMENT SUPPLIER,
BEFORE POURING.
4. FILL THE GAP BETWEEN SLAB AND FOOTING WALL WITH JOINT
FILLER, BACKER ROD AND SEALANT ALL AROUND. SEE (0315-228A)
5. CMU WALL ALL AROUND FULL HT. SEE DETAILS
(0422-001) (0422-003) (0422-004) (0422-031) (0422-002) TYP

PF1 = PORTAL FRAME WITH MEMBER W360x91
SEE (1) FOR DETAILS.
530-S-501



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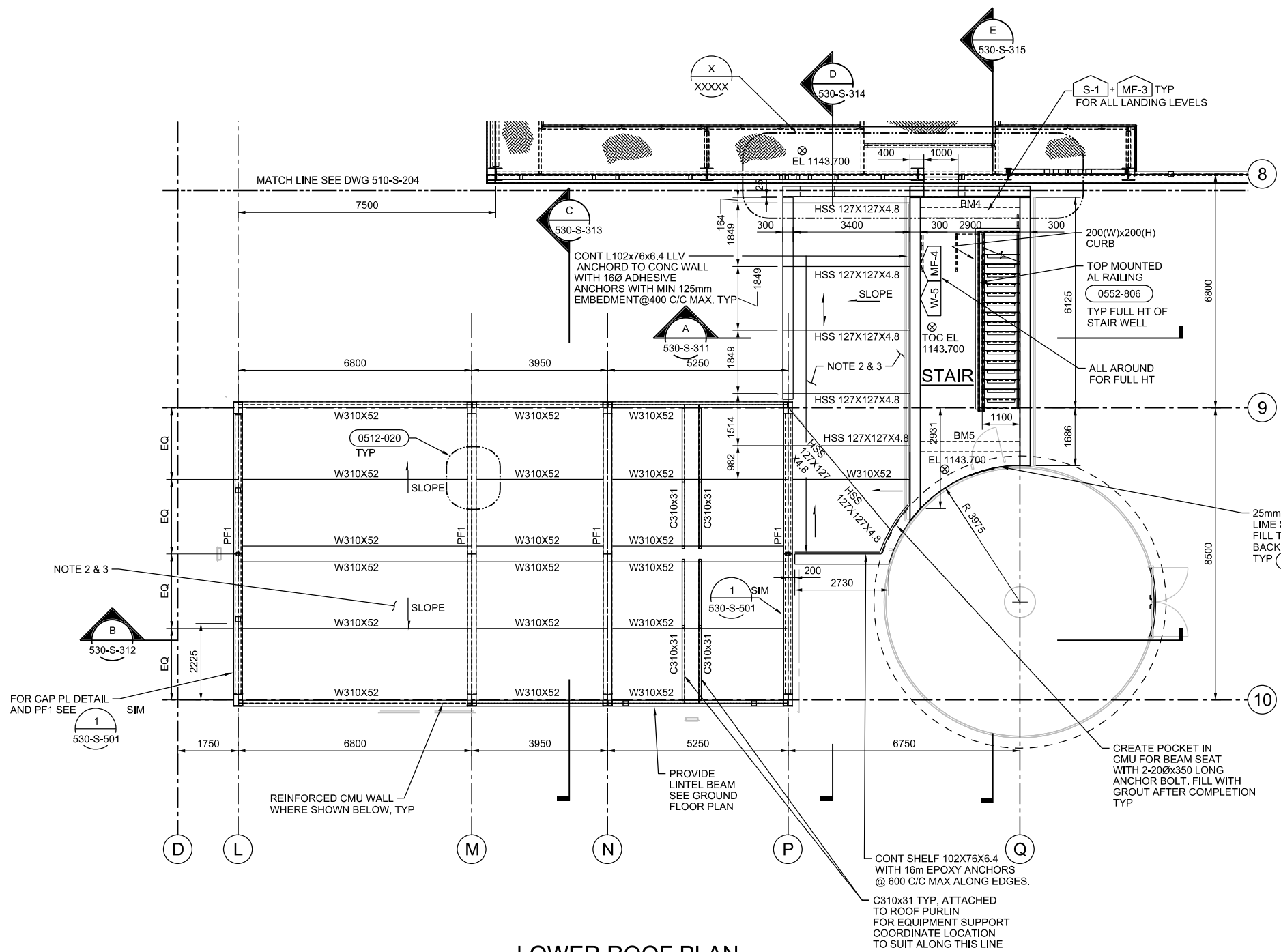
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STRUCTURAL
**LIME SILO, GRIT BUILDING
GROUND FLOOR PLAN**

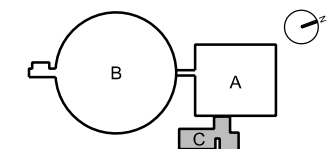
1:75
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
25mm
DATE FEBRUARY 2014
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DWG 530-S-202
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LOWER ROOF PLAN
1:75

NOTES:

- FOR PF1 (PORTAL FRAME) DETAIL, SEE DWG 530-S-501, TYP
- DESIGN LOADS
SNOW LOAD = 8.0kPa
SUPER IMPOSED LL = 0.5kPa
PIPE SUPPORT/HANGER = 0.5kPa
SUPER IMPOSED DL = 1.0kPa
(METAL DECK + METAL ROOFING + GIRTS + ROOFING MEMBRANE + INSULATION.)
- 51mm DEEP X 1.51mm THICK METAL DECK OF TYPE UF2X BY CANUM OR EQUAL TYP
- FOR CMU WALL LOCATION, SEE ARCHITECTURAL DRAWINGS
FOR REINF SEE SIM TO GROUND FLOOR PLAN

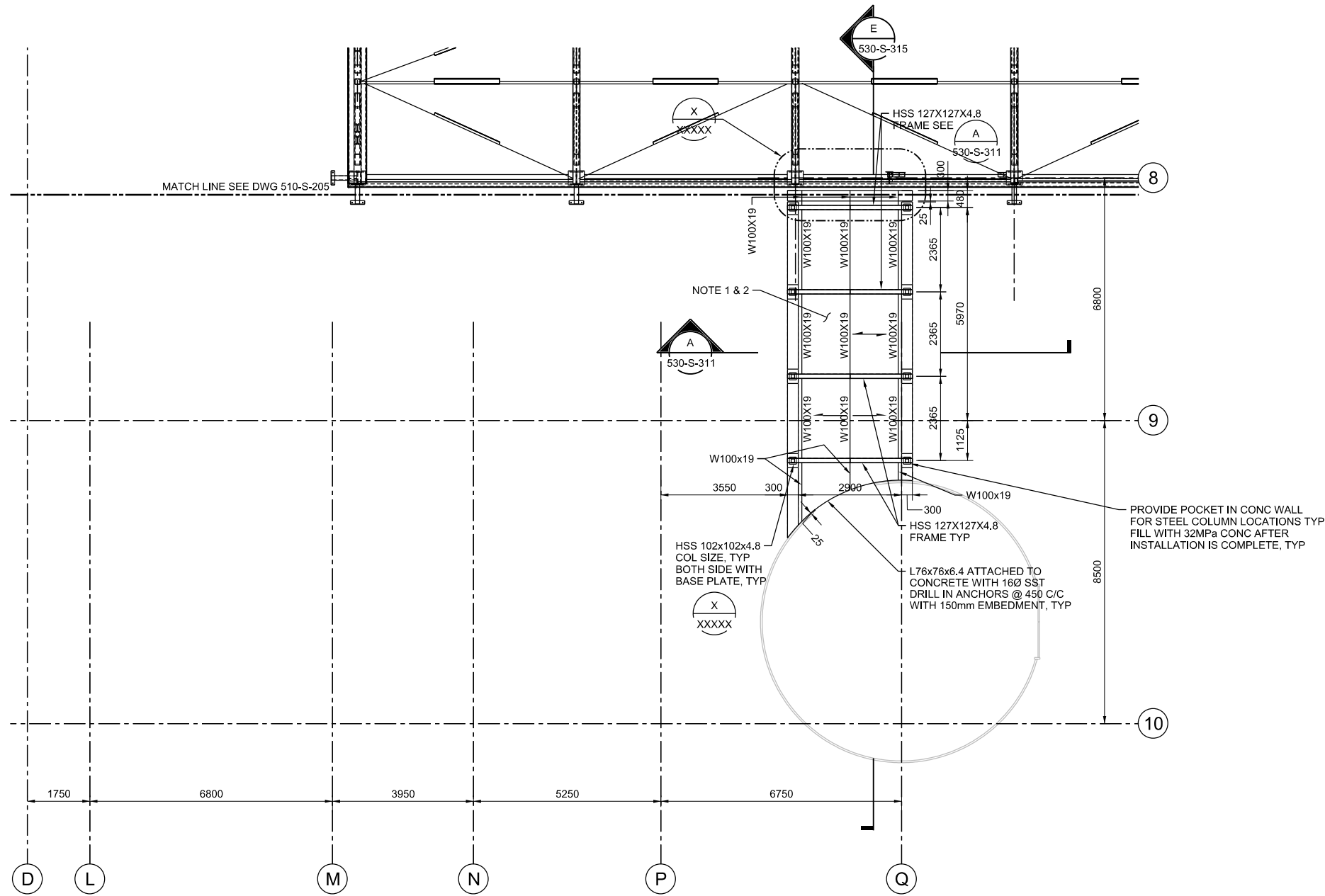


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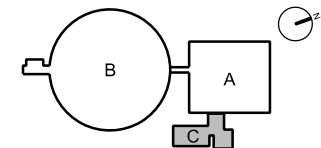
CH2MHILL®	STRUCTURAL
LIME SILO, GRIT BUILDING LOWER ROOF PLAN	
1:75	VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWINGS.	25mm
DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	530-S-203
SHEET	



ROOF PLAN
1:75

NOTES:

- DESIGN LOADS:
SNOW LOAD = 2.50kPa
SUPER IMPOSED LL = 1.0kPa
PIPE SUPPORT + HANGER AND ALLOWANCE = 0.5kPa
SUPER IMPOSED DEAD LOAD = 1.0kPa
(METAL DECK + ROOFING + GIRTS + INSULATION ETC)
- 38mm DEEP X 1.51mm THICK ROOF DECK OF "TYPE B" BY CUNYM OR EQUAL TYP.



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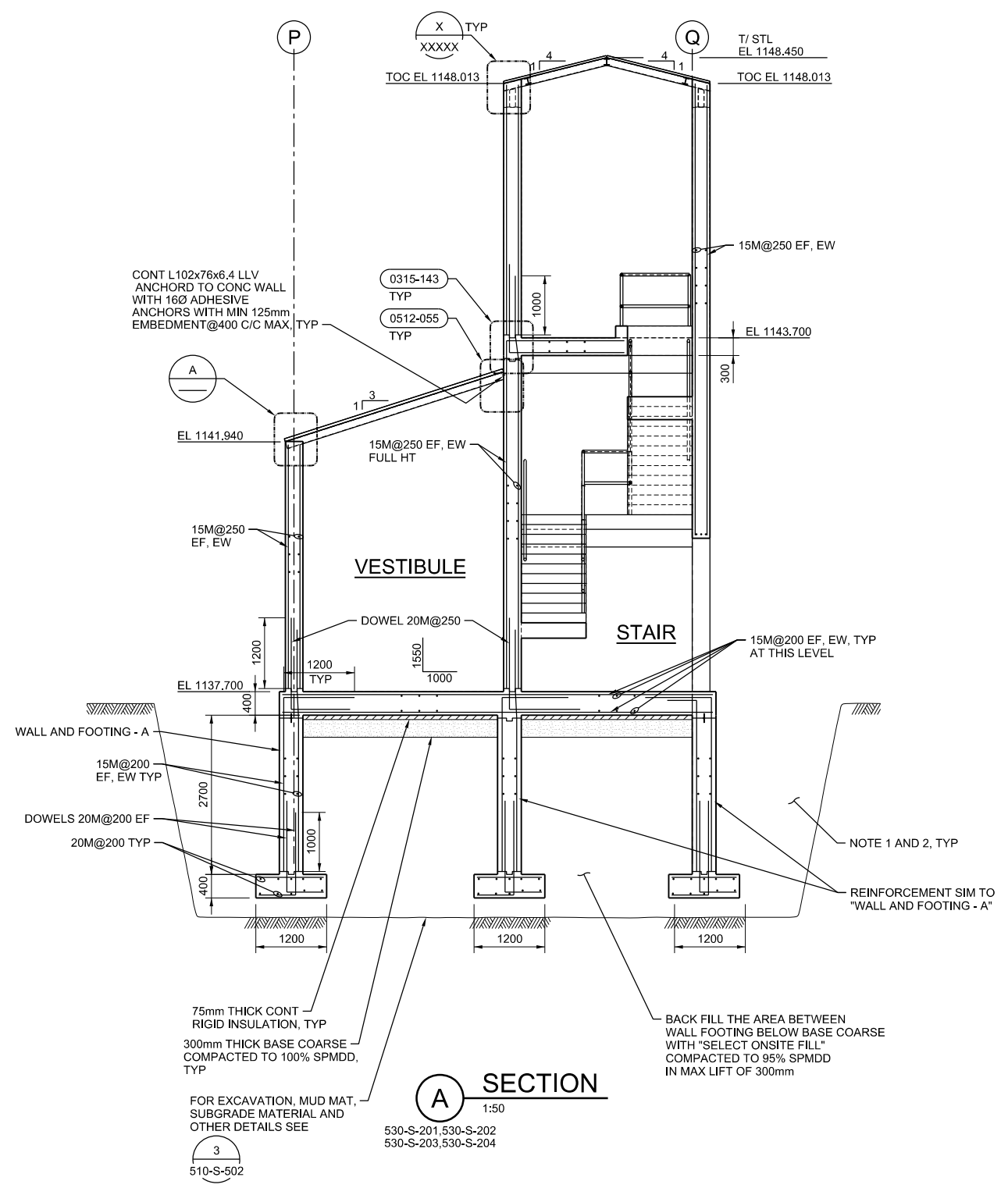
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®
STRUCTURAL
LIME SILO, GRIT BUILDING
ROOF PLAN

1:75
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWINGS.
DATE FEBRUARY 2014
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DWG 530-S-204
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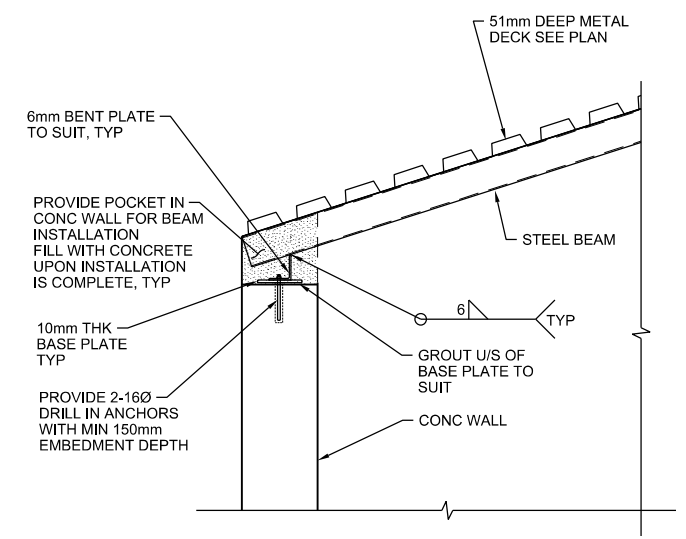




A SECTION
1:50
530-S-201,530-S-202
530-S-203,530-S-204

3
510-S-502

- NOTES:
- BACKFILL THE AREA WITH "SELECT ONSITE FILL" COMPACTED TO 98% SPMD IN MAX LIFT OF 300mm TYP.
 - BACKFILL EQUALLY ON EITHER SIDE OF WALL FOOTING SUCH THAT MAX DIFFERENCE IN BACKFILL ELEVATION DOES NOT EXCEED 300mm AT ANY TIME.



A DETAIL
1:15



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REVISION	NO.	DATE	DR	CHK	APVD
			A. THAKKAR	R. RANA	A. THAKKAR

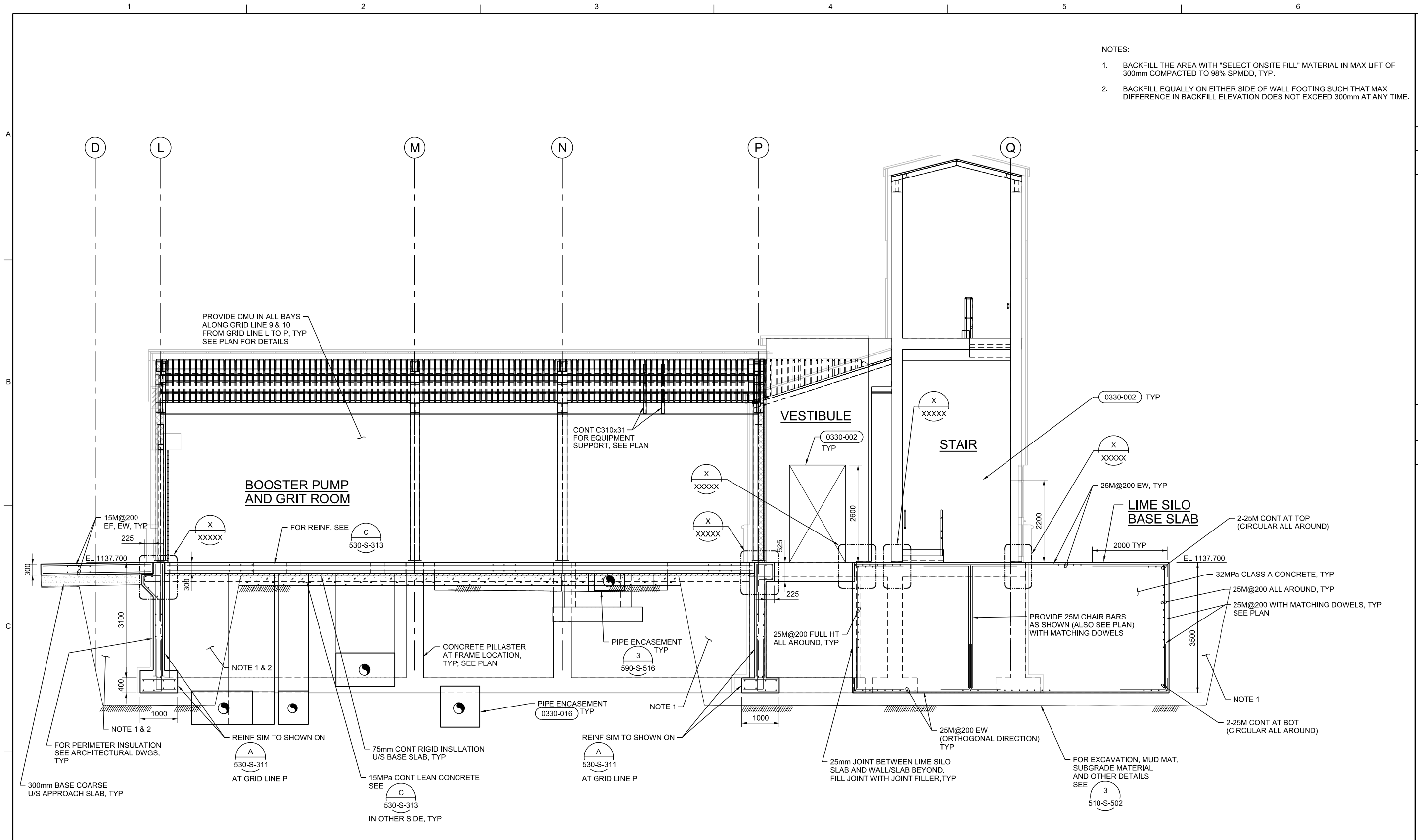
90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®

STRUCTURAL
LIME SILO, GRIT BUILDING SECTION-A

1:75
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 530-S-311
SHEET



- NOTES:
- BACKFILL THE AREA WITH "SELECT ONSITE FILL" MATERIAL IN MAX LIFT OF 300mm COMPACTED TO 98% SPMD, TYP.
 - BACKFILL EQUALLY ON EITHER SIDE OF WALL FOOTING SUCH THAT MAX DIFFERENCE IN BACKFILL ELEVATION DOES NOT EXCEED 300mm AT ANY TIME.



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ISSUED FOR ADVANCED DESIGN REVIEW	RR	RR	GN	BY	APVD
NO. DATE	DSGN	CHK	DR	APVD	
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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

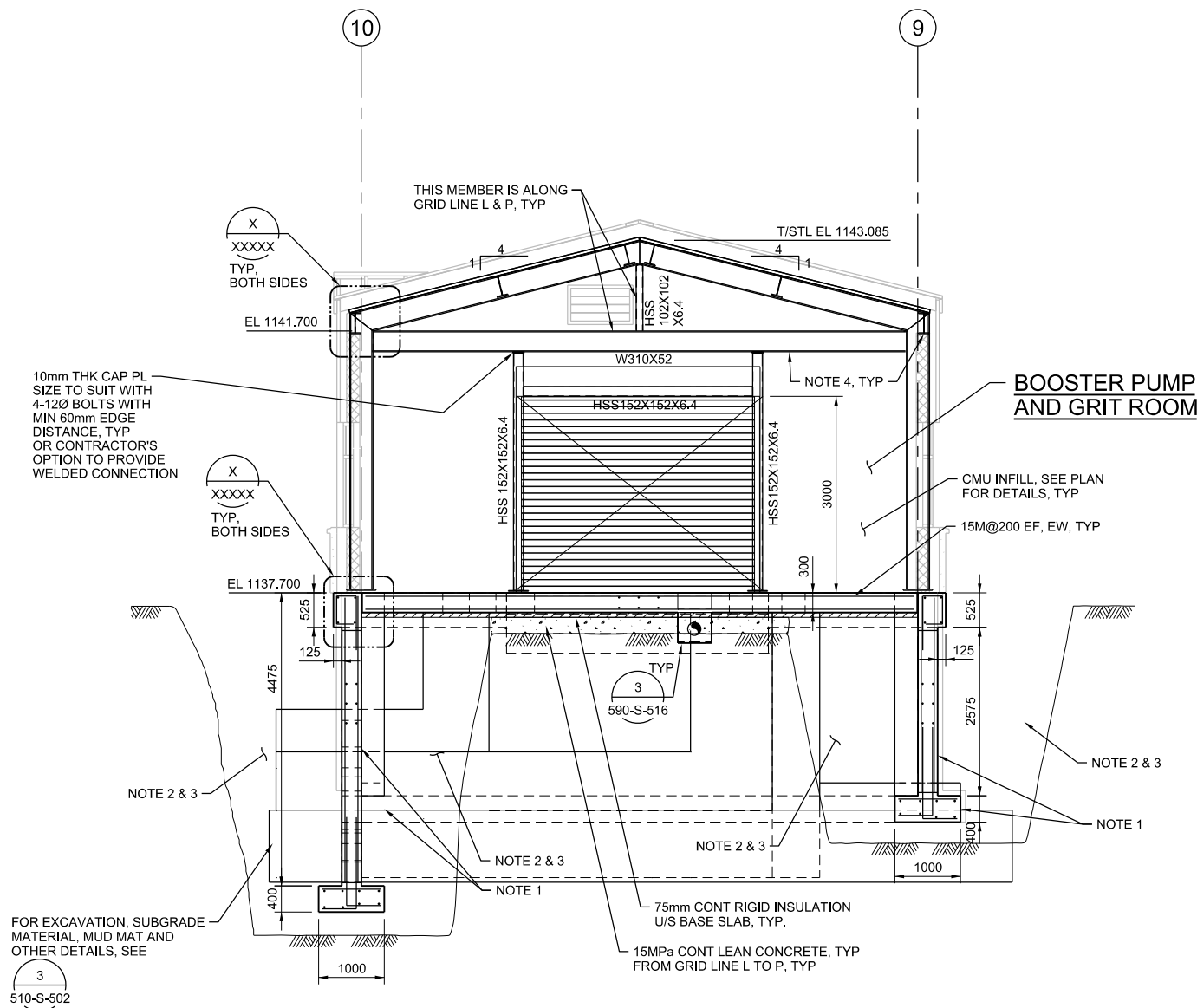
CH2MHILL®

STRUCTURAL
LIME SILO, GRIT BUILDING SECTION-B

B SECTION
1:50

530-S-201, 530-S-202
530-S-203

1:75
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 530-S-312
SHEET



C SECTION
1:50

530-S-201, 530-S-202
530-S-203

NOTES:

- FOR REINFORCEMENT, SEE SIM TO SHOWN ON 530-S-311 ON GRID LINE P, TYP.
- BACKFILL THE AREA WITH "SELECT ONSITE FILL" COMPACTED TO 98% SPMD IN MAX LIFT OF 300mm, TYP.
- BACKFILL EQUALLY ON EITHER SIDE OF WALL FOOTING SUCH THAT MAXIMUM DIFFERENCE IN BACKFILL ELEVATION DOES NOT EXCEED 300mm AT ANY TIME, TYP.
- PROVIDE LATERAL SUPPORT TO CMU WALL AT THE TOP WITH 10Ø STUDS x 300 LONG AT ALTERNATE JOINT LOCATION TYP



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	R. RANA	

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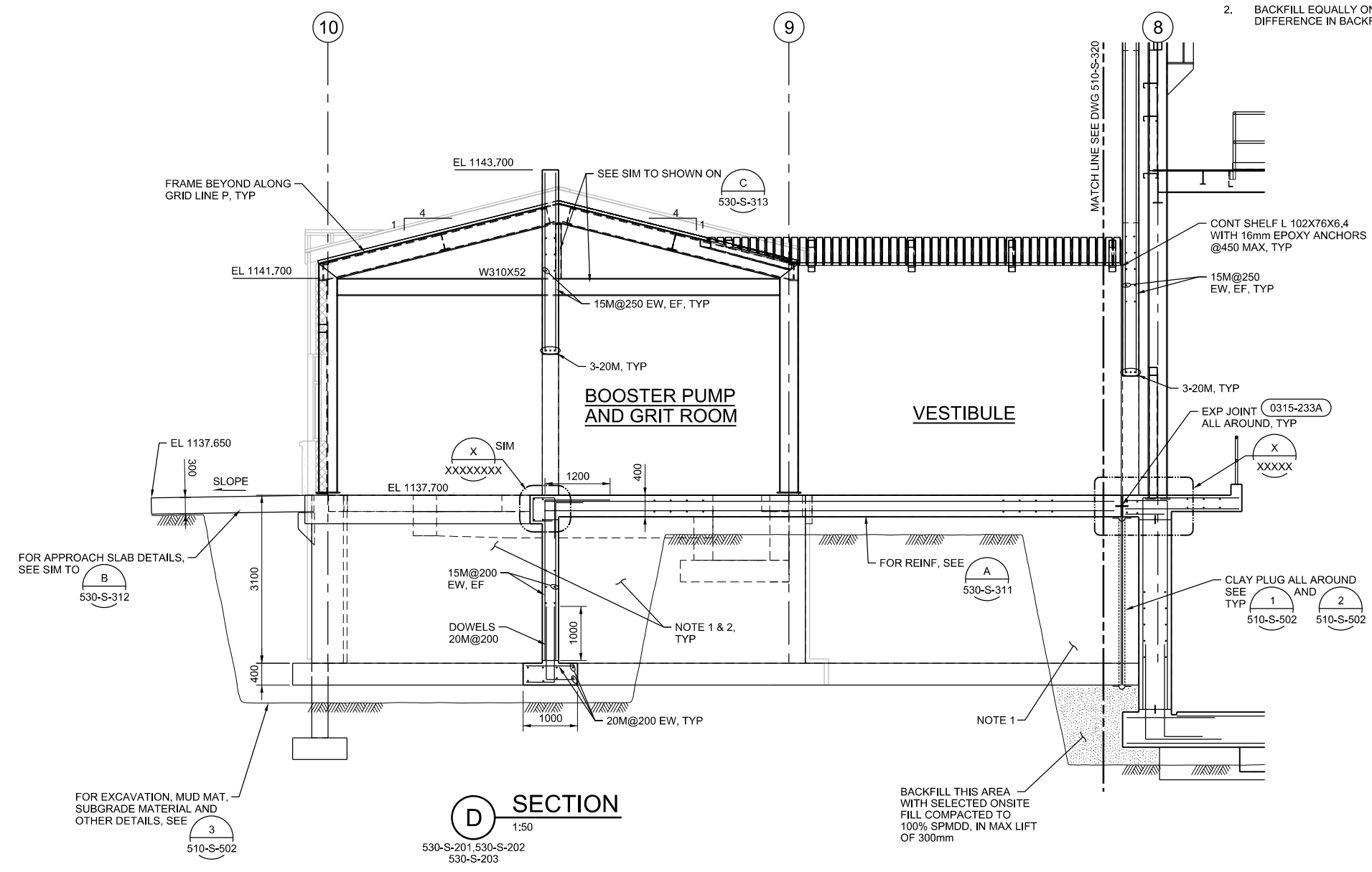
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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STRUCTURAL
LIME SILO, GRIT BUILDING SECTION-C

1:75
VERIFY SCALE
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DWG 530-S-313
SHEET

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- NOTES:
- BACKFILL THE AREA WITH "SELECT ONSITE FILL" COMPACTED TO 98% SPMDD IN MAX LIFT OF 300mm TYP.
 - BACKFILL EQUALLY ON EITHER SIDE OF WALL FOOTING SUCH THAT MAX DIFFERENCE IN BACKFILL ELEVATION DOES NOT EXCEED 300mm AT ANY TIME.

D SECTION
1:50
530-S-201, 530-S-202
530-S-203



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B	02/2014	ISSUED FOR DETAIL DESIGN REVIEW	RR	GN
A	09/2013	ISSUED FOR ADVANCED DESIGN REVIEW	RR	GN
DSGN		REVISION	DR	APVD
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			R. RANA	

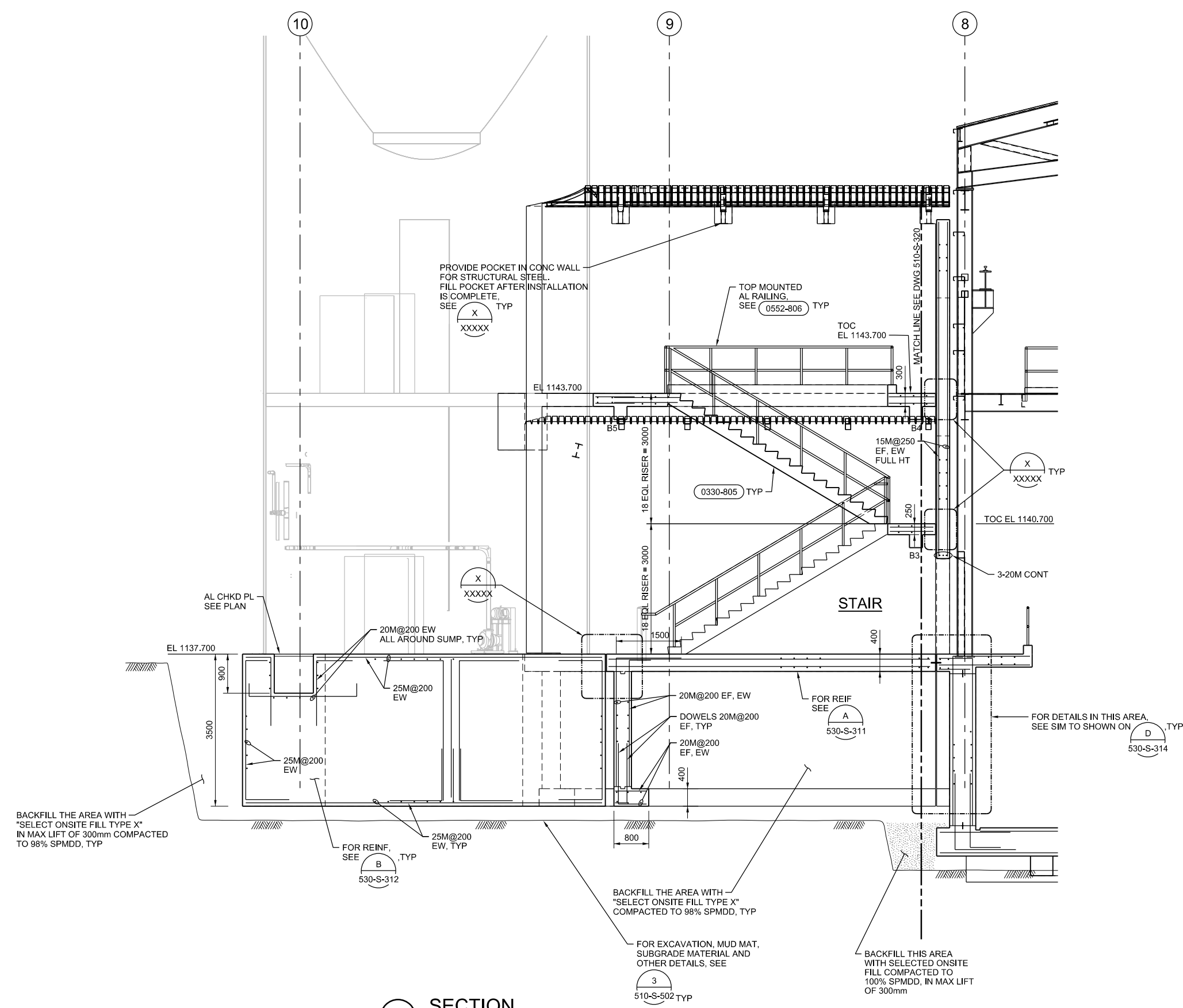
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WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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STRUCTURAL
LIME SILO, GRIT BUILDING SECTION-D

1:75
VERIFY SCALE
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E SECTION
1:50
530-S-201, 530-S-202
530-S-203, 530-S-204



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WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
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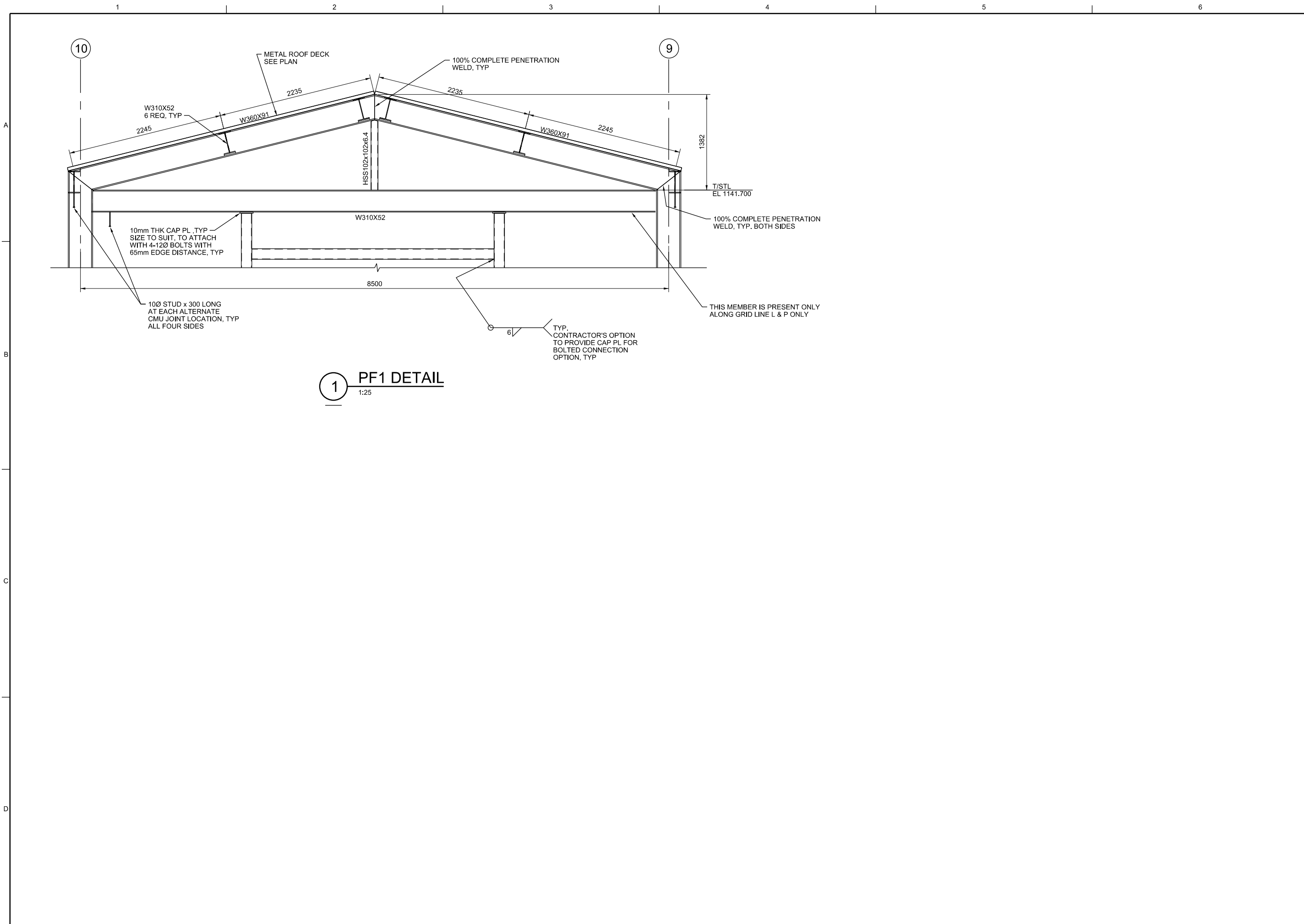
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STRUCTURAL
LIME SILO, GRIT BUILDING SECTION-E

1:75
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING, 25mm

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1 PF1 DETAIL
1:25



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A	ISSUED FOR ADVANCED DESIGN REVIEW	RR
NO.	DATE	GN
02/2014		
09/2013		

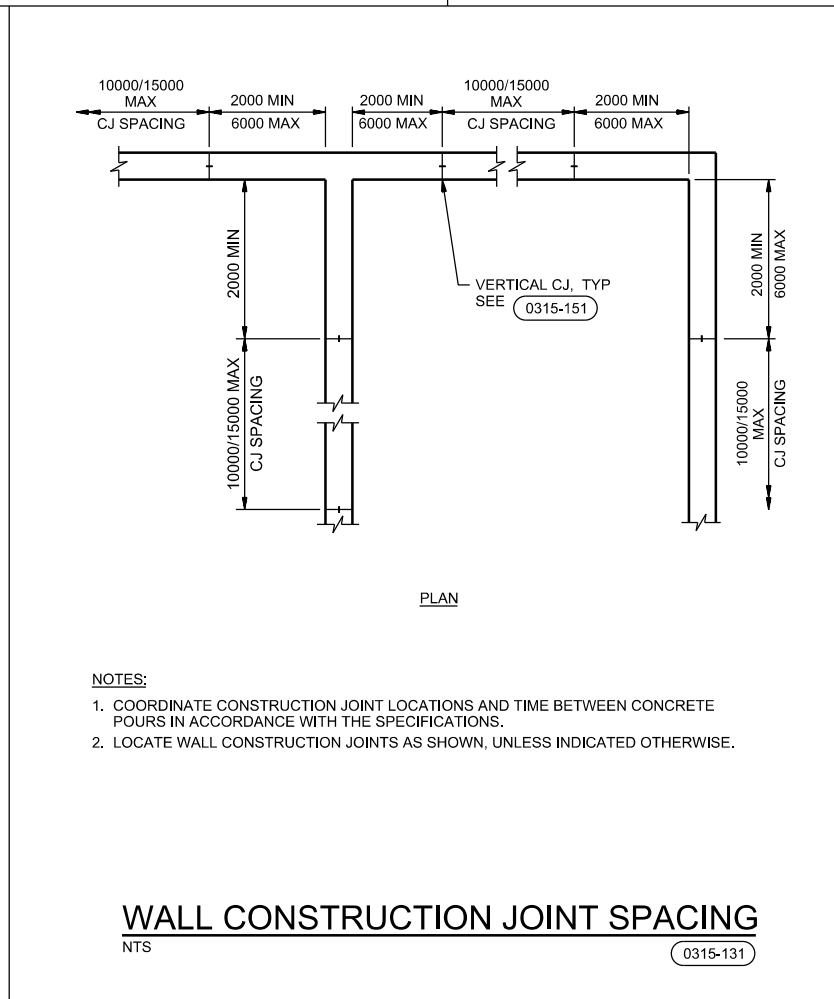
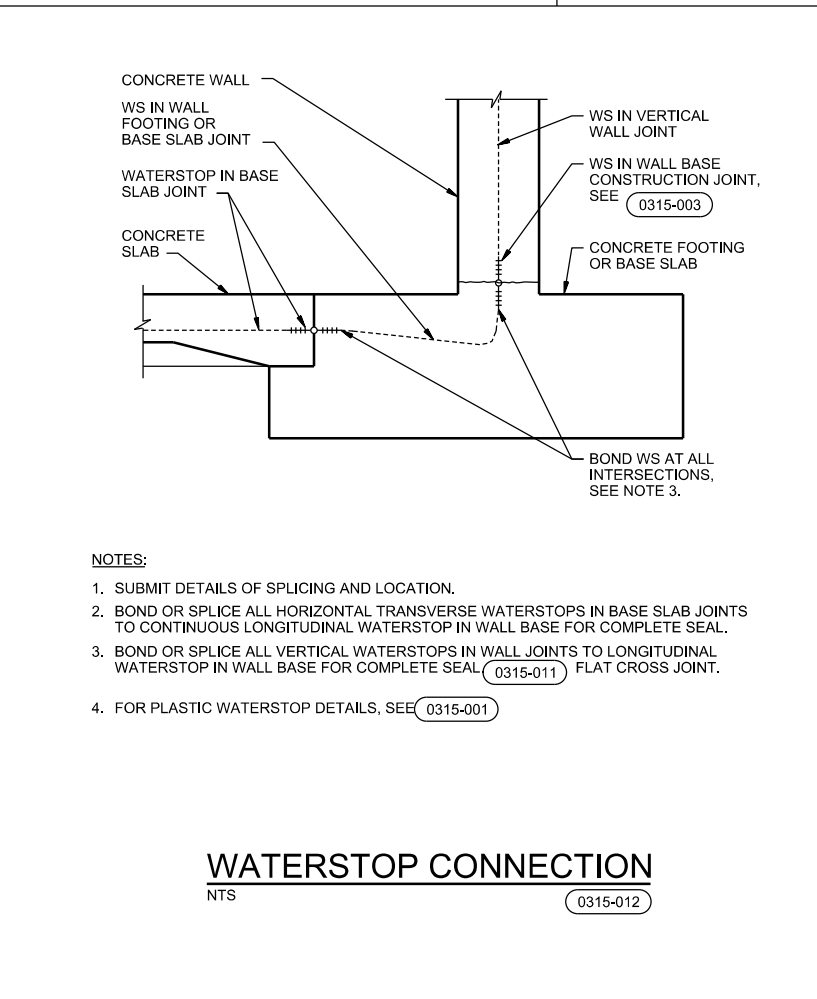
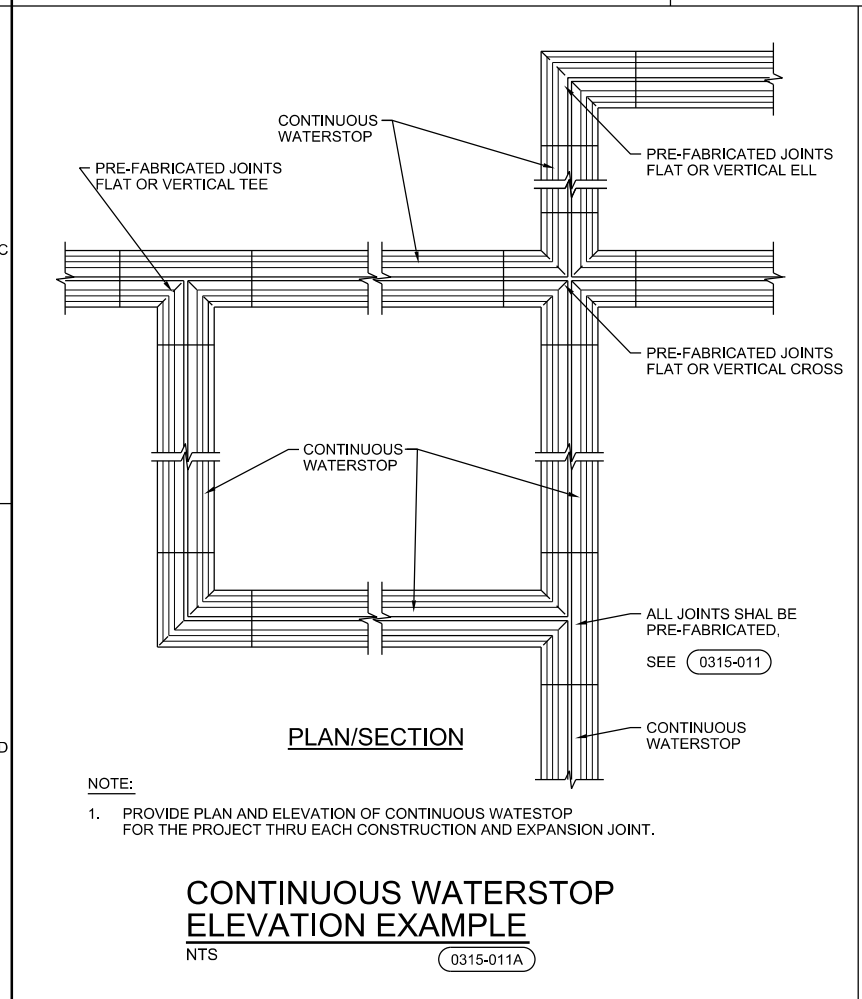
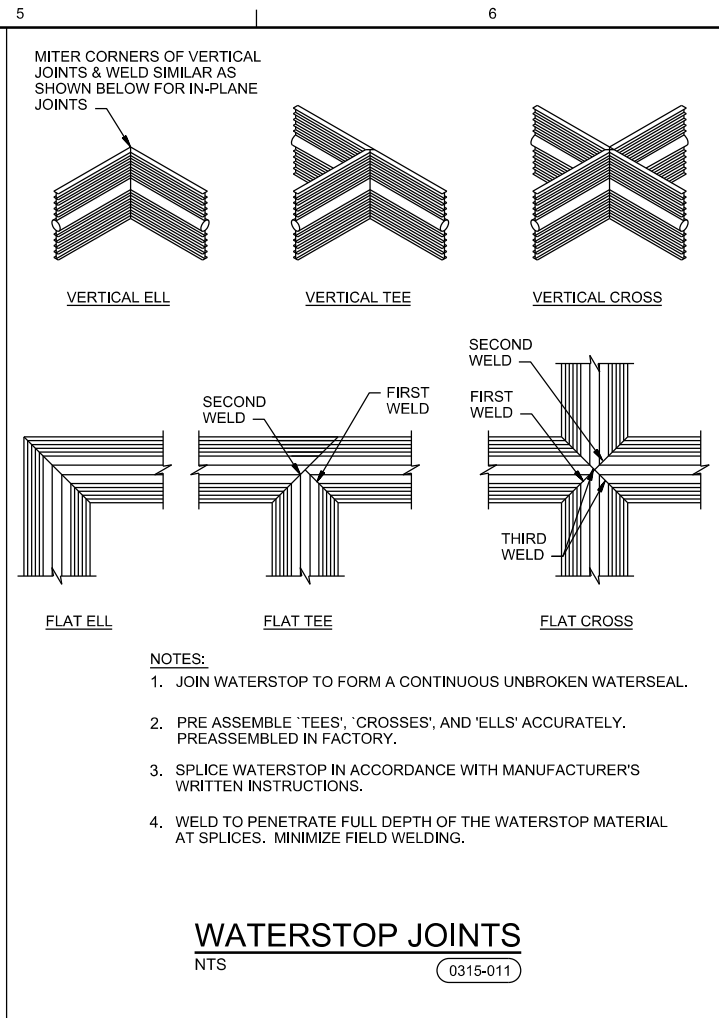
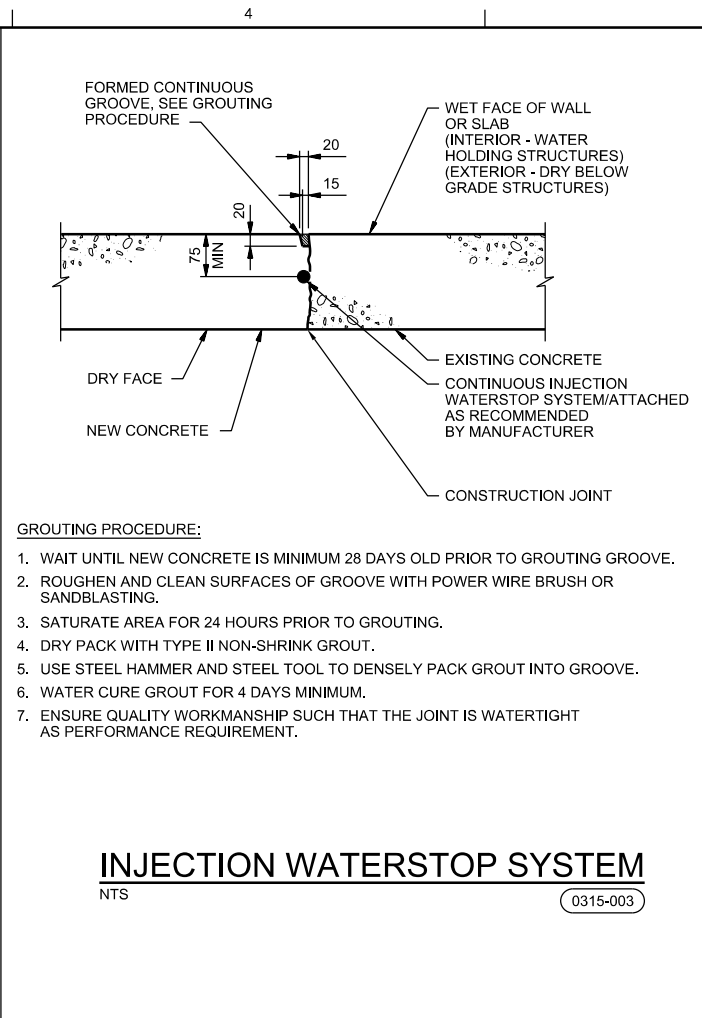
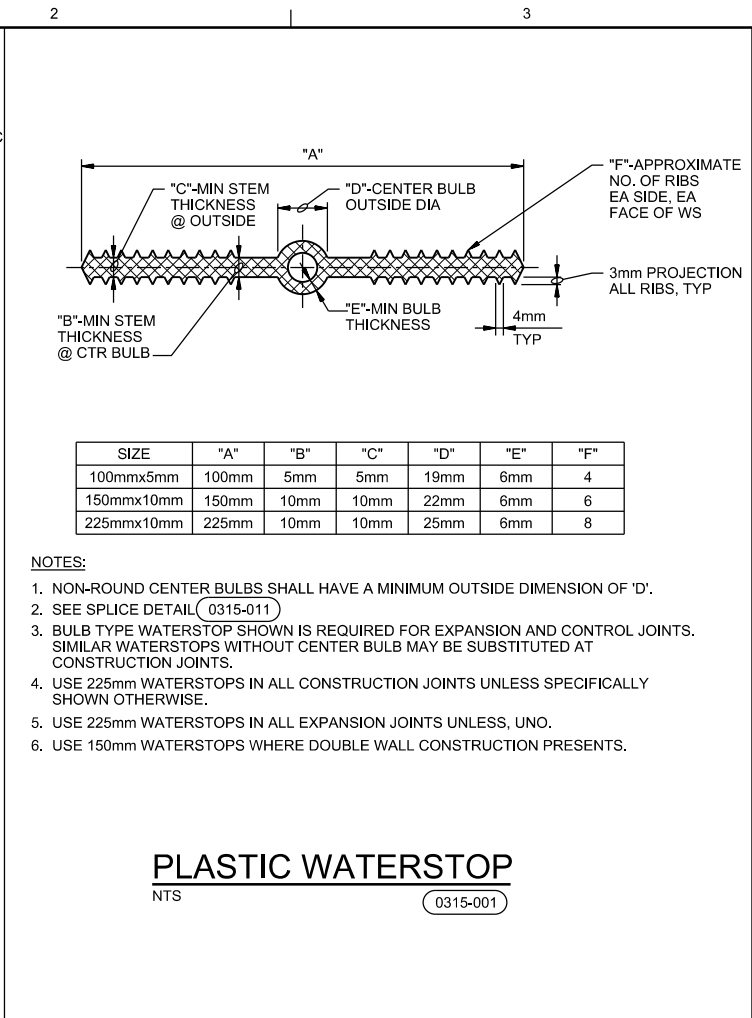
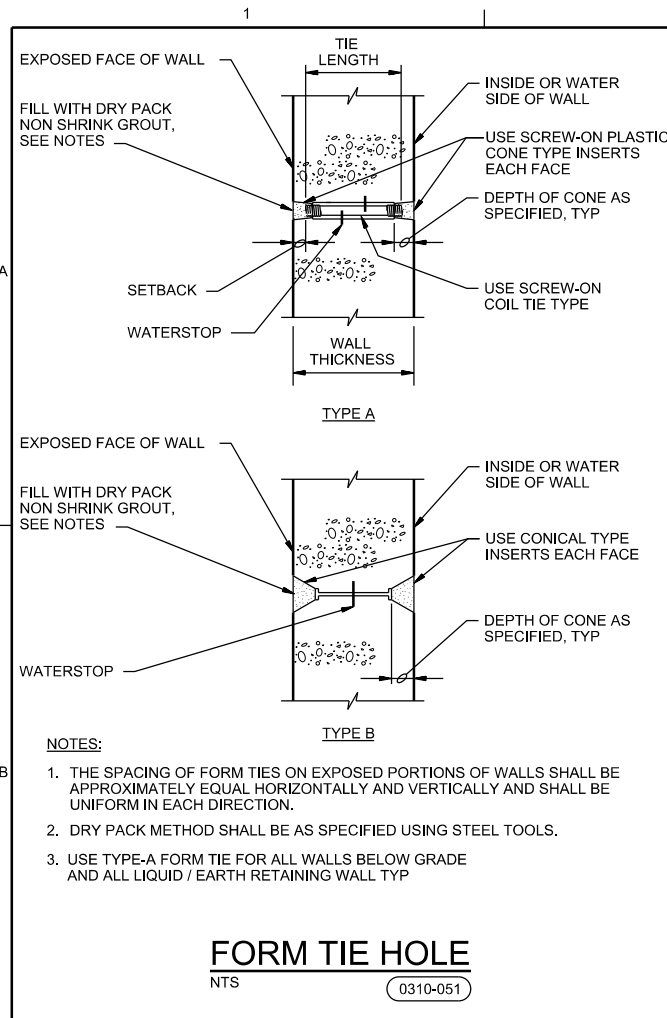
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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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**LIME SILO, GRIT BUILDING
DETAILS (1)**

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STANDARD DETAILS (1)

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WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

AS SHOWN
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
0 25mm

DATE FEBRUARY 2014
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DWG 590-S-501
SHEET

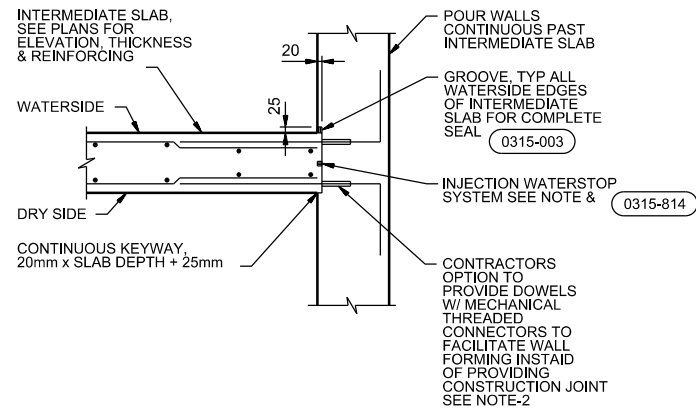
PROFESSIONAL ENGINEER
ATUL P. THAKKAR
YUKON TERRITORY

ISSUED FOR DETAIL DESIGN REVIEW
ISSUED FOR ADVANCED DESIGN REVIEW
REVISION

NO. DATE
B 02/2014
A 09/2013

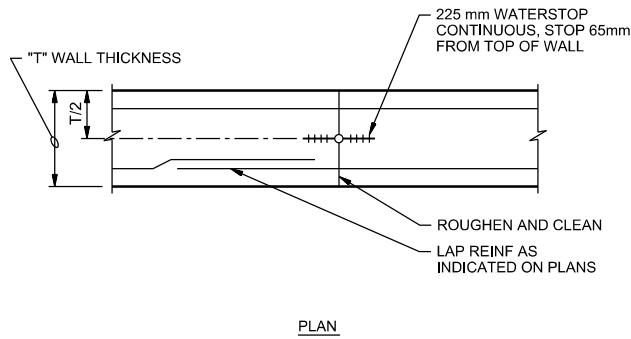
DSGN DR CHK APVD
A. THAKKAR
R. RANA
A. THAKKAR

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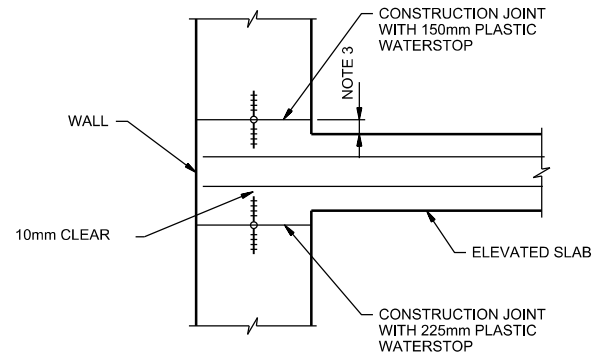
- NOTES:**
1. PROVIDE CONTINUOUS INJECTION WATERSTOP SYSTEM ONLY FOR WATER RETAINING STRUCTURES AND STRUCTURES BELOW GRADE.
 2. THIS DETAIL CAN BE REPLACED BY (0315-152) UPON ENGINEER'S APPROVAL.

SLAB CONSTRUCTION JOINT AT WALL
NTS (0315-143)



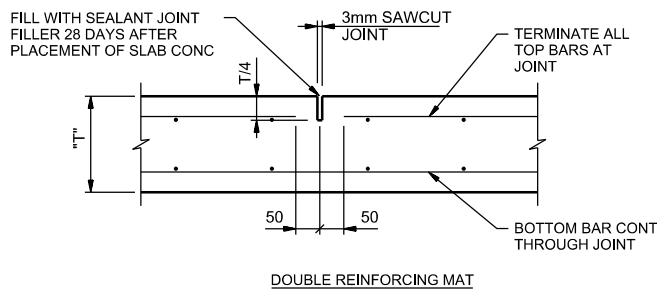
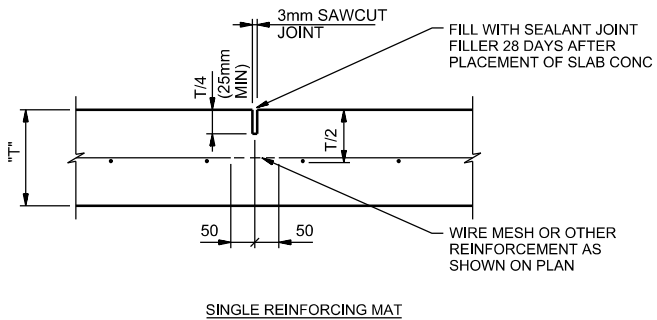
- NOTES:**
1. ALL REINFORCING CONTINUOUS ACROSS JOINT.
 2. FOR LOCATIONS, SEE (0315-131).
 3. FOR SIZE/PROPERTIES OF WATERSTOPS, SEE (0315-001).
 4. ENSURE PROPER QUALITY CONTROL DURING CONCRETE PLACEMENT. VIBRATE SURROUNDING WATERSTOP THOROUGHLY.
 5. PROVIDE WATERTIGHT CONSTRUCTION JOINT AS PERFORMANCE REQUIREMENT.

WALL VERTICAL CONSTRUCTION JOINT
NTS (0315-151)



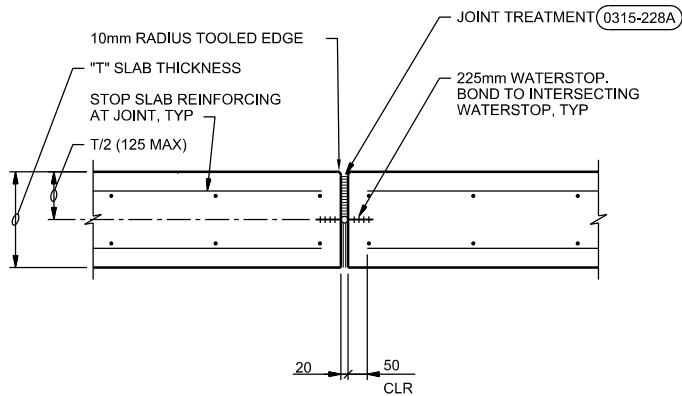
- NOTES:**
1. FOR SLAB CONCRETE COVER, SEE (0330-817).
 2. FOR SIZE/PROPERTIES OF WATERSTOPS, SEE (0315-001).
 3. PROVIDE HEIGHT SUCH THAT 10mm CLEARANCE IS MAINTAINED BETWEEN REBAR & EDGE OF WS, TYP.

WALL CONSTRUCTION JOINT AT ELEVATED SLAB
NTS (0315-152)



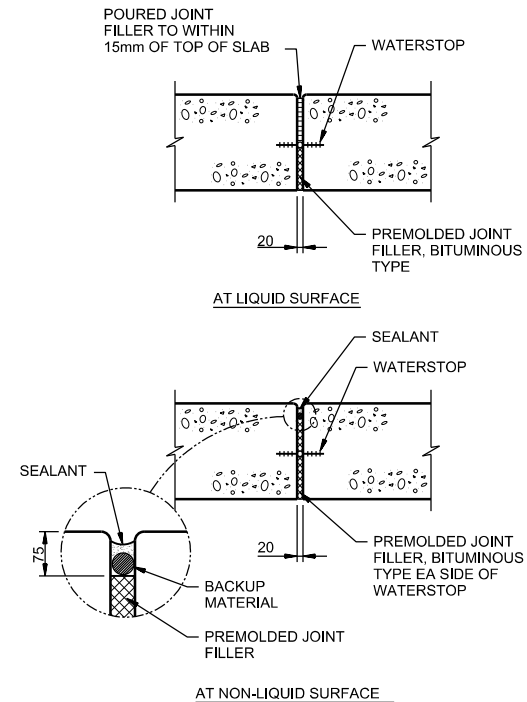
- NOTES:**
1. CONTRACTOR SHALL USE STRING LINE OR OTHER POSITIVE MEANS TO PLACE REINFORCING AND LOCATE SAWCUT.
 2. MAX SPACING OF SAW CUT= 3000 IN ANY DIRECTION UNLESS NOTED OTHERWISE.

BUILDING SLAB ON GRADE SAW CONTROL JOINT
NTS (0315-192)



- NOTES:**
1. FOR SIZE/PROPERTIES OF WATERSTOPS, SEE (0315-001).
 2. ATTACH PREMOLDED JOINT FILLER WITH 65mm GALVANIZED NAILS @ 300mm SPACING EMBEDDED IN FIRST SLAB POUR.

SLAB EXPANSION JOINT (NO DOWELS)
NTS (0315-212A)



- NOTE:**
1. ATTACH PREMOLDED JOINT FILLER WITH 65mm GALVANIZED NAILS @ 300mm SPACING EMBEDDED IN FIRST SLAB POUR.

SLAB EXPANSION JOINT TREATMENT
NTS (0315-228A)



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NO.	DATE	BY	APVD
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		DR	
		R. RANA	A. THAKKAR

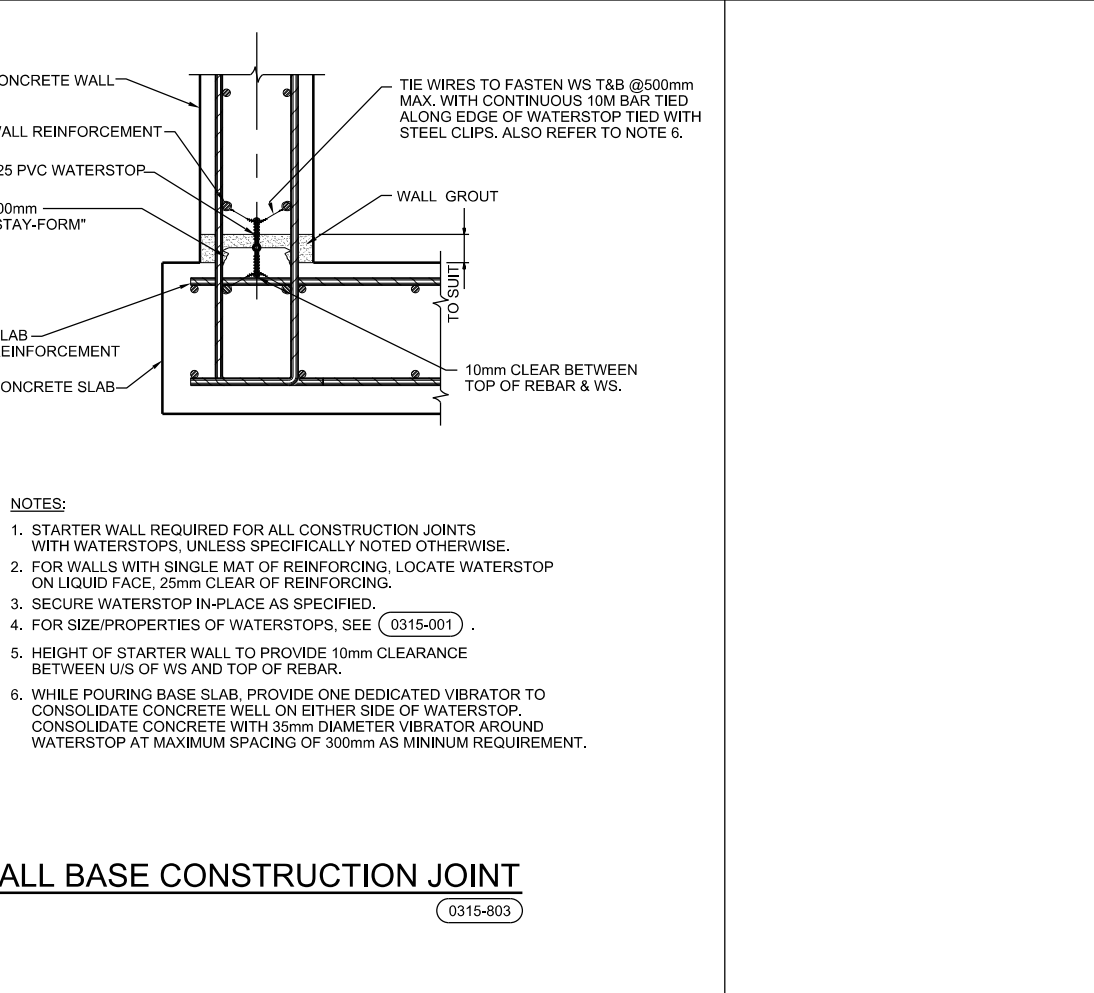
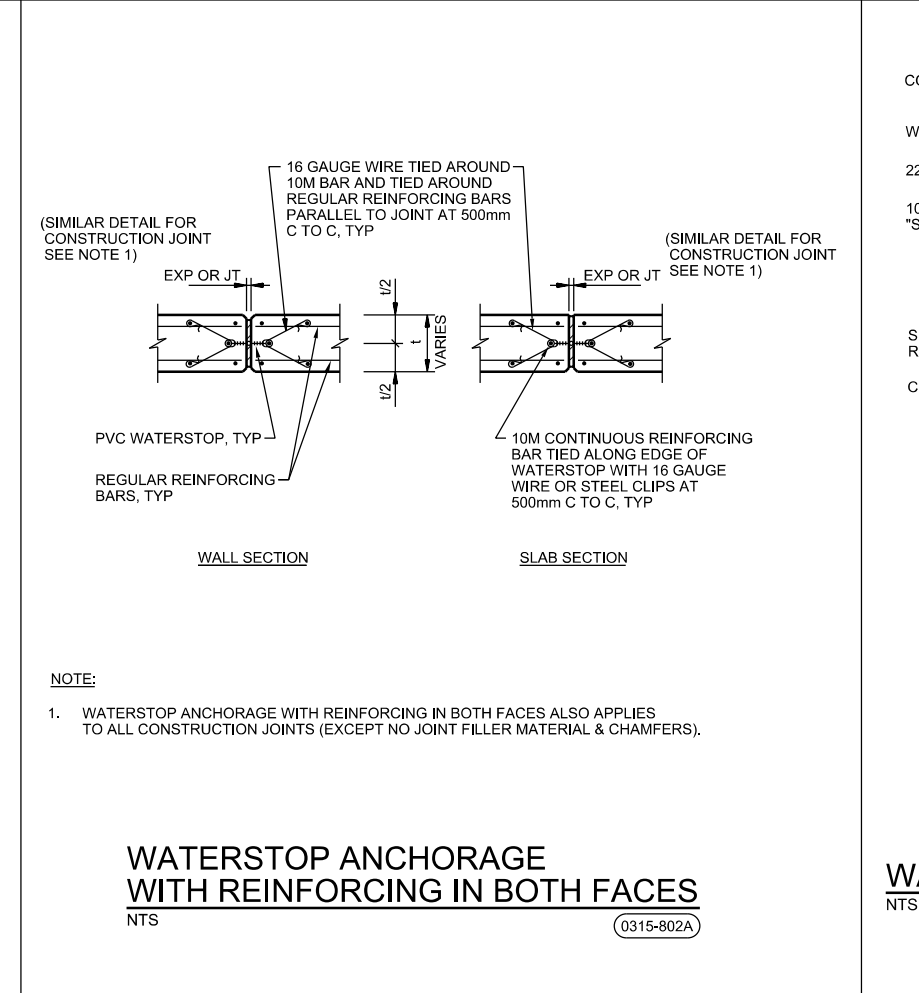
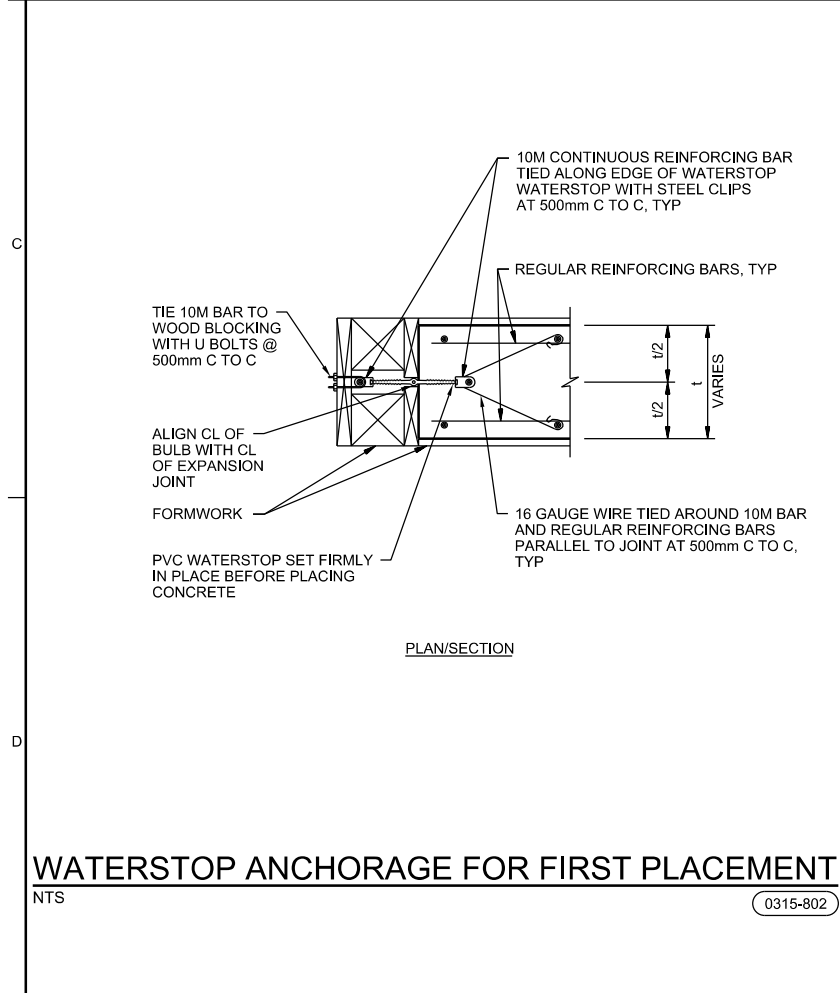
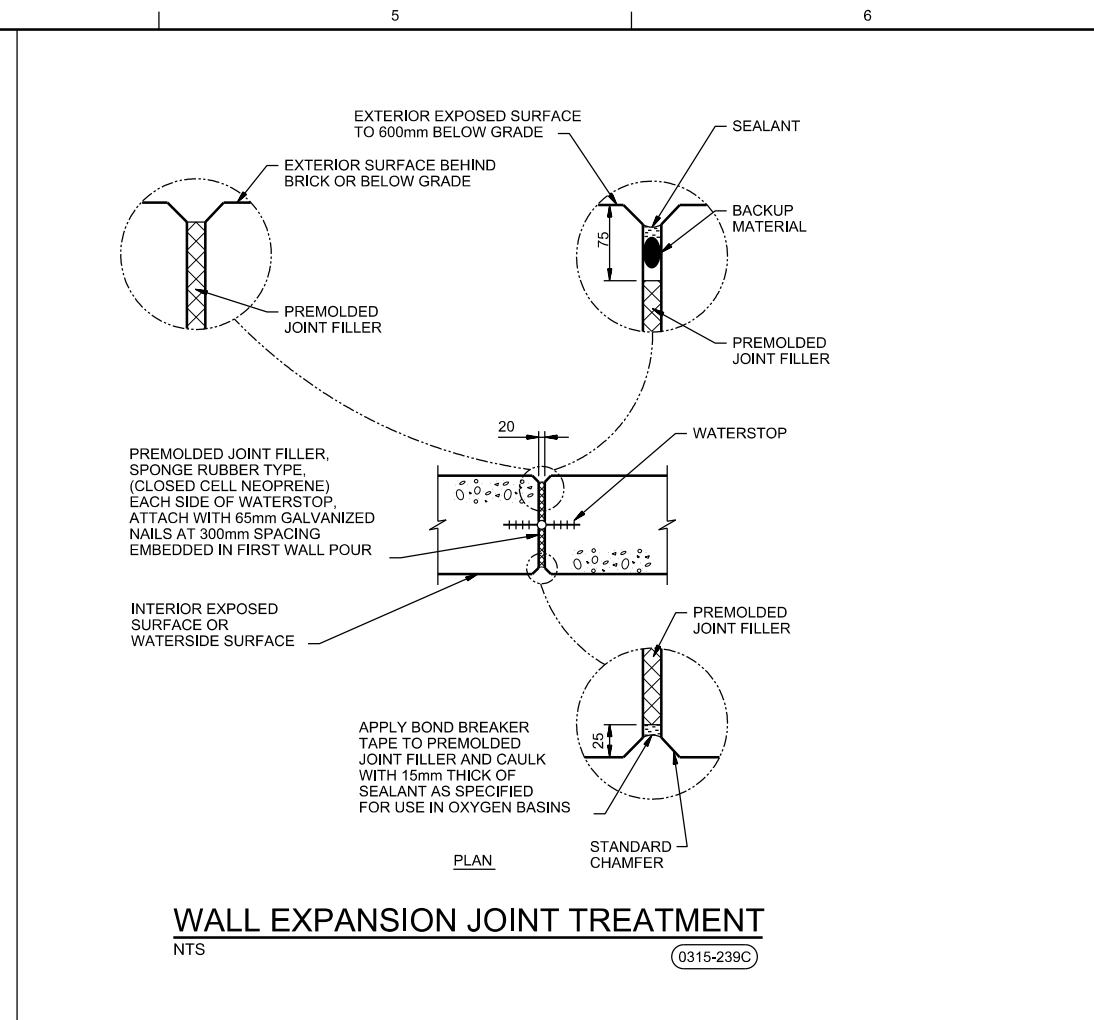
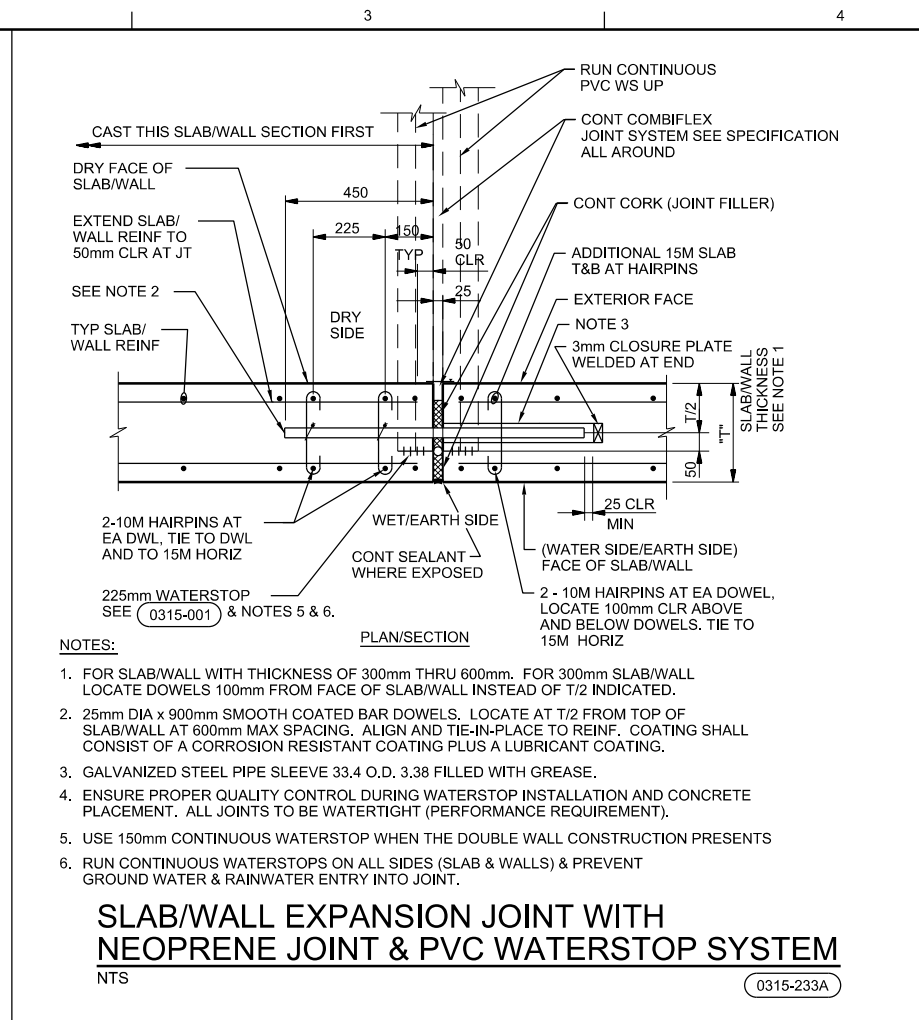
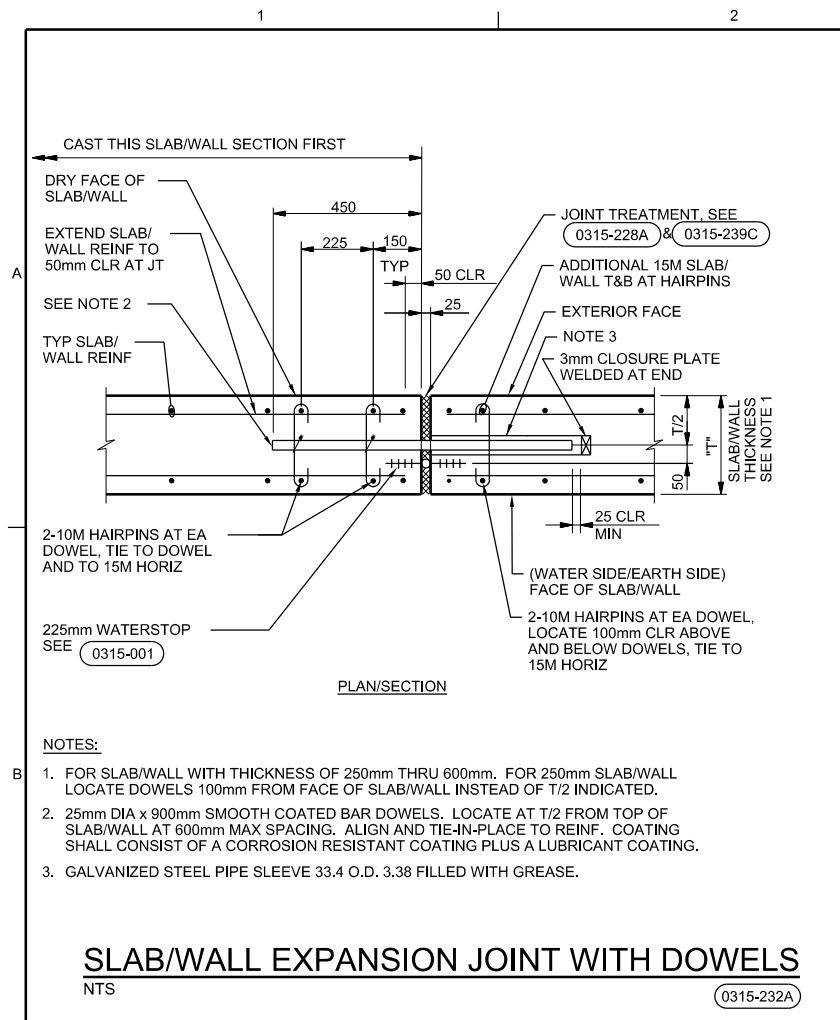
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FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN GOVERNMENT OF YUKON DESIGN

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STRUCTURAL STANDARD DETAILS (2)

AS SHOWN
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STRUCTURAL
STANDARD DETAILS (3)

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GOVERNMENT OF YUKON
DESIGN

AS SHOWN
VERIFY SCALE
BAR IS 25mm ON
ORIGINAL DRAWING.
0 25mm

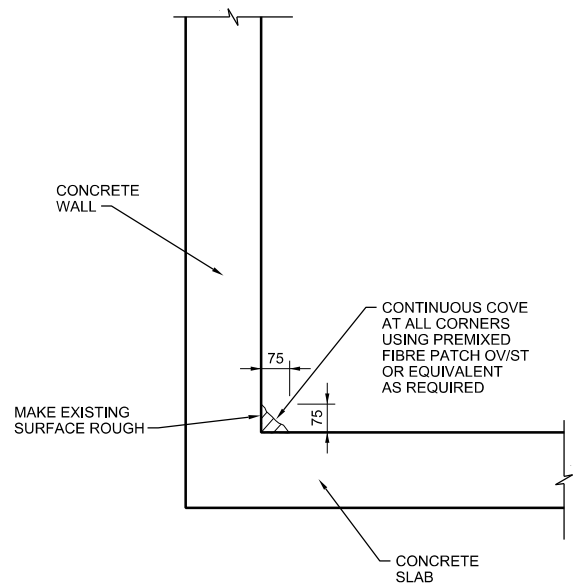
DATE: FEBRUARY 2014
PROJ: TA013-427716
DWG: 590-S-503
SHEET

A. THAKKAR
DR
R. RANA
CHK
APVD

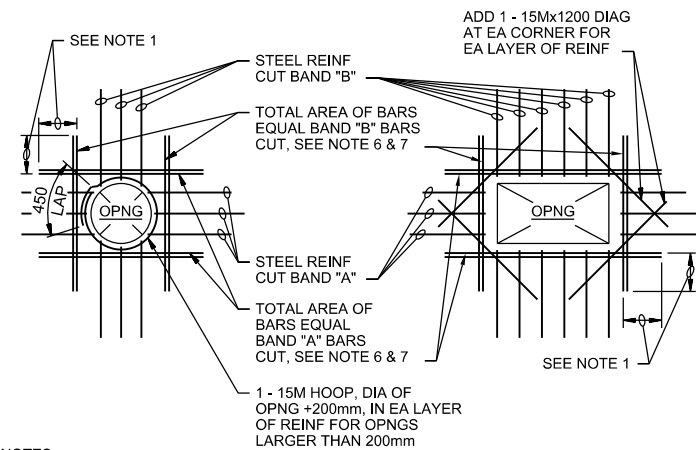
ISSUED FOR DETAIL DESIGN REVIEW
ISSUED FOR ADVANCED DESIGN REVIEW
NO. DATE
A 09/2013
B 02/2014

RR GN
RR GN
BY APVD

PROFESSIONAL
YUKON
ATUL P. THAKKAR
TERRITORY
ENGINEER

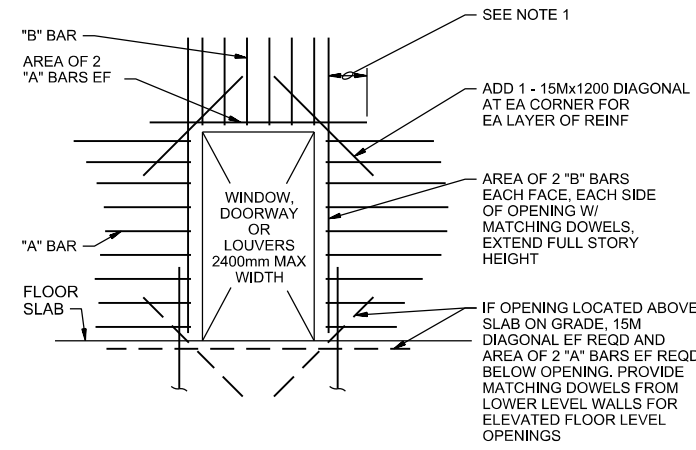


CONCRETE COVE
NTS (0315-814)



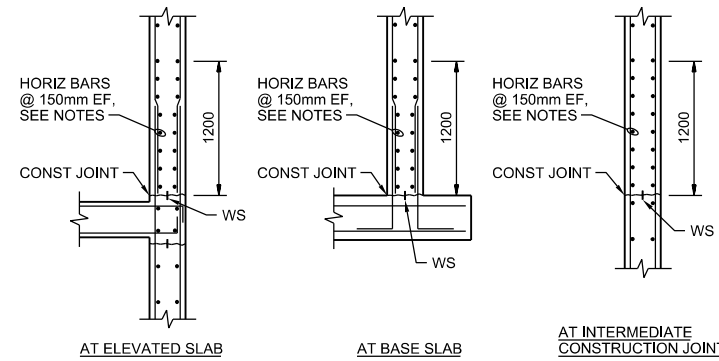
- NOTES:**
1. PROVIDE MINIMUM LAP, SEE GENERAL STRUCTURAL NOTES.
 2. TYPICAL FOR ALL OPENINGS IN CONCRETE WALLS OF BELOW GRADE AND HYDRAULIC STRUCTURES AND ALL STRUCTURAL CONCRETE SLABS UNLESS INDICATED OTHERWISE ON PLANS.
 3. DO NOT WELD REINFORCEMENT TO PIPE SLEEVES AND INSERTS.
 4. PROVIDE A MINIMUM OF 2 "A" BARS AND 2 "B" BARS EACH SIDE OF OPENING (1 EACH FACE), INCLUDING DOWELS AND CORNER BARS, TYPICAL.
 5. FOR OPENINGS LARGER THAN 2400mm, REINFORCE SAME AS FOR 2400mm OPENINGS.
 6. SPACE AT 3 BAR DIAMETERS (OR 75mm MINIMUM) ON CENTER. LOCATE HALF OF TOTAL AREA ON EACH SIDE OF OPENING.
 7. AT OPENINGS WITHIN 300mm OF AN INTERSECTING WALL OR SLAB, PROVIDE ONLY THE EXTRA REINFORCEMENT WHICH WILL FIT, AT THE BAR SPACING IN NOTE 6.

OPENING REINFORCING
NTS (0330-001)



- NOTES:**
1. PROVIDE MINIMUM LAP, SEE GENERAL STRUCTURAL NOTES.
 2. TYPICAL FOR ALL OPENINGS IN ABOVE GROUND BUILDING CONCRETE WALLS UNLESS INDICATED OTHERWISE ON PLANS.
 3. DO NOT WELD REINFORCEMENT TO PIPE SLEEVES AND INSERTS.

OPENING REINFORCING
NTS (0330-002)



- NOTES:**
1. PROVIDE HORIZONTAL BARS AT 150mm SPACING EACH FACE IN THE FIRST 1200mm ABOVE ALL HORIZONTAL WALL CONSTRUCTION JOINTS IN LIQUID CONTAINING AND BELOW-GRADE STRUCTURES. WHERE TYPICAL WALL HORIZONTAL BARS ARE AT 300mm SPACING, PROVIDE ADDITIONAL BARS FOR 150mm SPACING.
 2. HORIZONTAL BAR SIZE FOR THE 1200mm ZONE SHALL BE THE TYPICAL WALL HORIZONTAL BAR SIZE SHOWN ON THE DRAWINGS
 3. PROVIDE CORNER BARS AT 150mm SPACING EACH FACE TO LAP WITH THE BARS SHOWN ABOVE, SEE (0330-003).

REINFORCING AT HORIZ CONSTRUCTION JOINT
NTS (0330-004)



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			R. RANA	A. THAKKAR
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			D	

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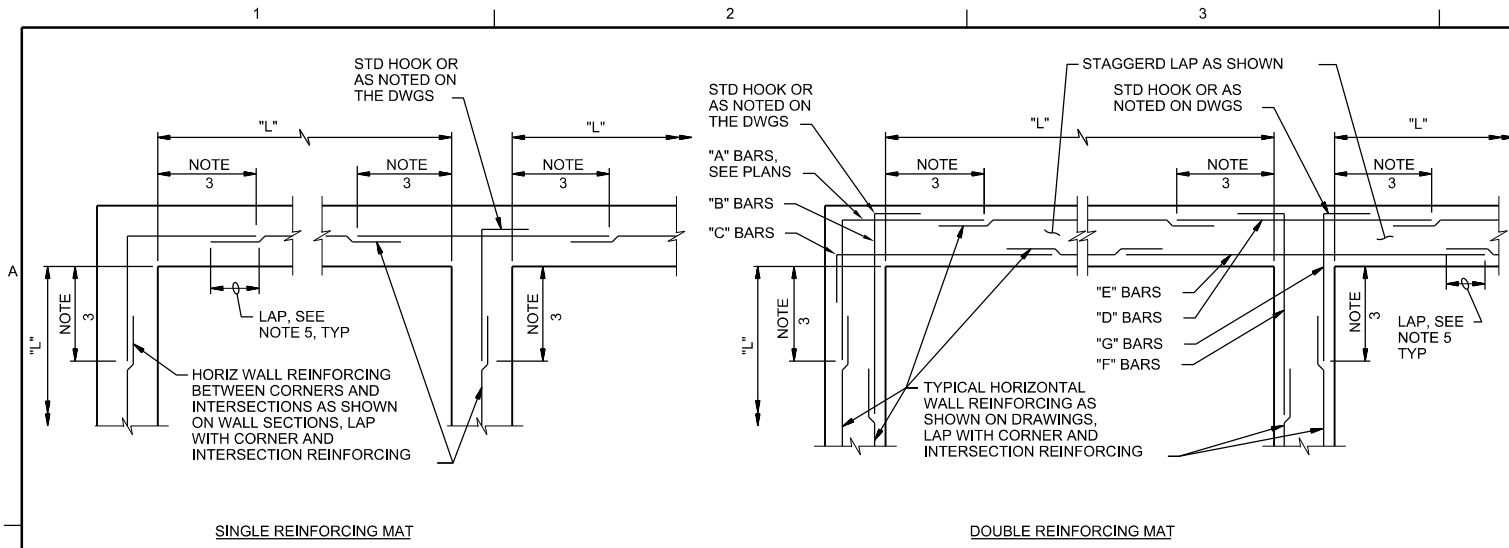
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DESIGN

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STANDARD DETAILS (4)

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SINGLE REINFORCING MAT

DOUBLE REINFORCING MAT

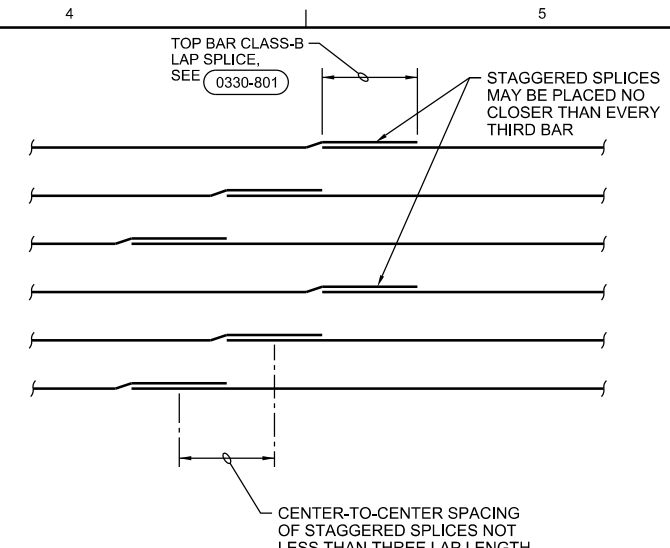
NOTES:

1. TYPICAL HORIZONTAL WALL CORNER AND INTERSECTION REINFORCING LAYOUT IS SHOWN TO AVOID CONGESTION AND PERMIT PROPER PLACEMENT, FOR SIZE AND SPACING SEE PLANS. ALL HORIZONTAL REINFORCING AT CORNERS AND INTERSECTIONS SHALL BE FABRICATED AND INSTALLED WITH SPLICES LOCATED WHERE SHOWN REGARDLESS OF BAR SIZE AND SPACING.
2. WHERE THE CORNER OR INTERSECTION REINFORCING SIZE AND SPACING IS NOT SHOWN, NOTED OR TABULATED ON THE PLANS, THE SIZE AND SPACING SHALL BE THE SAME AS THE WALL HORIZONTAL REINFORCING SHOWN ON THE WALL SECTIONS OR AS NOTED FOR THE REINFORCING BETWEEN THE CORNERS OR INTERSECTIONS.
3. EXCEPT WHERE OTHERWISE SHOWN ON THE DRAWINGS, THE LENGTH INDICATED AS "NOTE 3" SHALL BE THE LESSER OF L/4, 3000mm, OR 1.0 TIMES THE HEIGHT OF THE WALL, EXCEPT THAT IN NO CASE SHALL IT BE LESS THAN 600mm.
4. L = LENGTH OF WALL PARALLEL TO THE BAR LENGTH IN QUESTION.
5. EXCEPT WHERE OTHERWISE SHOWN ON THE DRAWINGS, THE LENGTH INDICATED AS "NOTE 5" SHALL BE EQUAL TO ONE "LAP LENGTH" AS REQUIRED BY THE GENERAL STRUCTURAL NOTES. USE THE LAP LENGTH AS REQUIRED FOR THE SMALLER OF THE TWO REINFORCING BARS BEING SPLICED.
6. UNLESS OTHERWISE NOTED, "B" AND "C" BARS ARE THE SAME SIZE AND SPACING AND "F" AND "G" BARS ARE THE SAME SIZE AND SPACING.

TYPICAL WALL CORNER AND INTERSECTION REINFORCING

NTS

0330-003



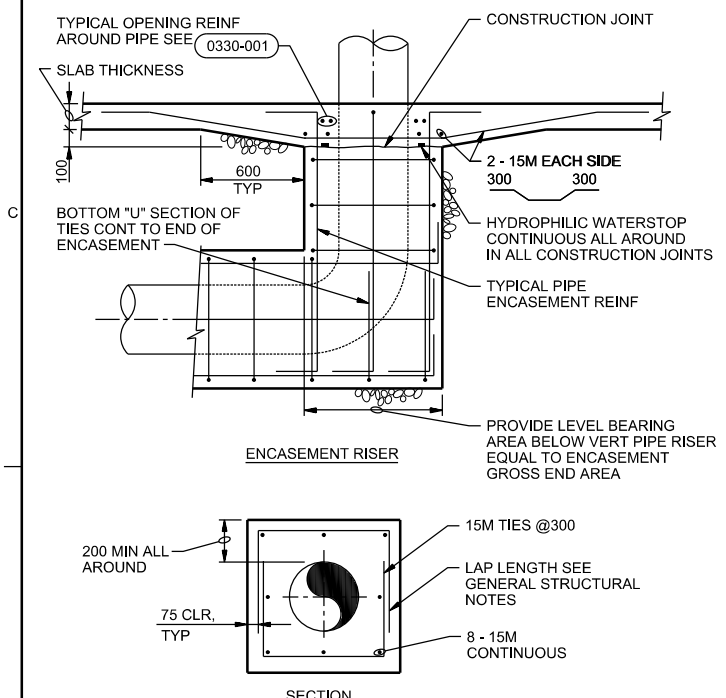
NOTE:

1. VERTICAL BARS NOT SHOWN FOR CLARITY.
2. SPLICES AT EACH FACE OF WALL MAY OCCUR AT SAME LOCATION.

CIRCULAR TANK HORIZONTAL WALL REINFORCING STAGGERED SPLICES

NTS

0330-006



NOTES:

1. SECTION APPLIES TO PIPES W/ DIAMETERS 450mm AND SMALLER. FOR 500mm DIAMETER PIPES AND LARGER, SEE 0330-017
2. WHEN PIPE ENCASEMENT IS CLOSER THAN 100mm TO SLAB ABOVE, TIE SLAB & ENCASEMENT TOGETHER. SEE 0330-018 & NOTE 3.
3. TIE SLAB AND PIPE ENCASEMENT WHERE SHOWN ON CONTRACT DRAWINGS, TYP.

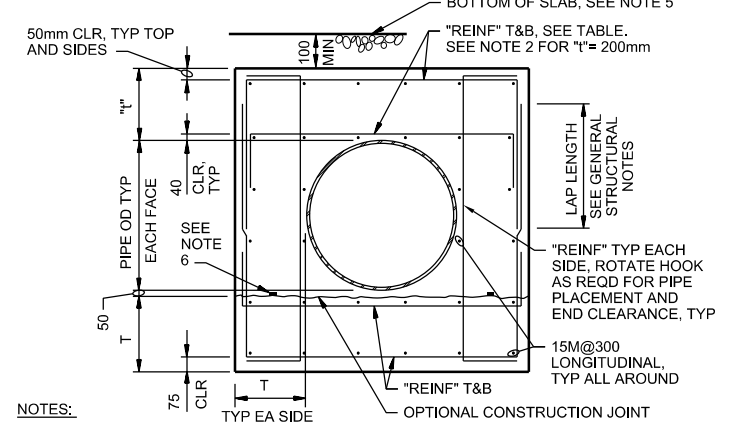
PIPE ENCASEMENT

NTS

0330-016

PIPE DIA (mm)	H=3000mm		H=6000mm		H=9000mm		H=12000mm	
	T (mm)	REINF	T (mm)	REINF	T (mm)	REINF	T (mm)	REINF
500 THRU 750	200	15M@300	250	15M@300	250	15M@300	250	20M@300
900 THRU 1050	250	15M@300	250	20M@300	250	25M@300	250	20M@150
1200 THRU 1400	250	20M@300	250	25M@300	250	25M@150	300	25M@150
UP TO 1500	250	20M@300	250	20M@150	250	25M@150	350	25M@150

HEAVY DARK LINE INDICATES BREAK BETWEEN ONE LAYER OF REINFORCING AND TWO. SEE NOTE 2.



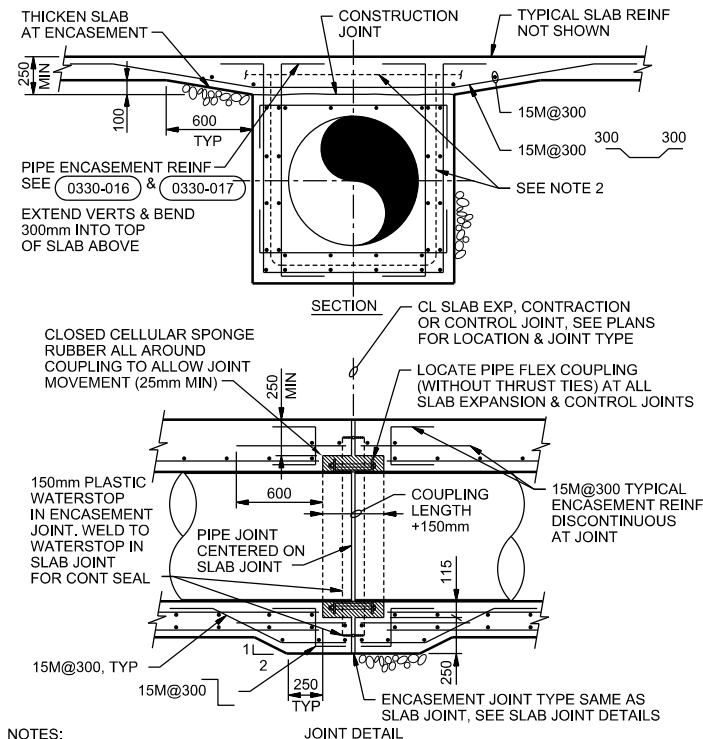
NOTES:

1. THIS DETAIL APPLIES TO PIPE DIAMETER OF 500mm AND LARGER. FOR SMALLER THAN 500mm, SEE DETAIL 0330-016
2. FOR "L"=200mm REINFORCING SHALL BE ONE LAYER AND CENTERED IN SLABS OR WALLS. SIM 0330-016
3. FOR ENCASEMENT AT PIPE RISER, SEE 0330-016
4. "H" IS FILL HEIGHT OR WATER DEPTH OR COMBINATION ABOVE PIPE.
5. WHEN PIPE ENCASEMENT CLOSER THAN 100mm TO SLAB ABOVE, TIE SLAB & ENCASEMENT TOGETHER. SEE 0330-018
6. HYDROPHILIC WATERSTOP CONTINUOUS ALL AROUND IN ALL CONSTRUCTION JOINTS.

PIPE ENCASEMENT

NTS

0330-017



NOTES:

1. TIE PIPE ENCASEMENT TO SLAB AS SHOWN WHEN DISTANCE BETWEEN PIPE ENCASEMENT AND BOTTOM OF SLAB IS LESS THAN 100mm.
2. 150mm PLASTIC WS IN ENCASEMENT JOINTS. WELD TO WS IN SLAB JOINTS.

PIPE ENCASEMENT AT SLAB

NTS

0330-018



ISSUED FOR DETAIL DESIGN REVIEW	GN	RR	GN	RR	GN
ISSUED FOR ADVANCED DESIGN REVIEW	RR	RR	RR	RR	RR
REVISION	BY	CHK	DR	APVD	APVD
NO.	DATE				
DSGN		R. RANA	A. THAKKAR		

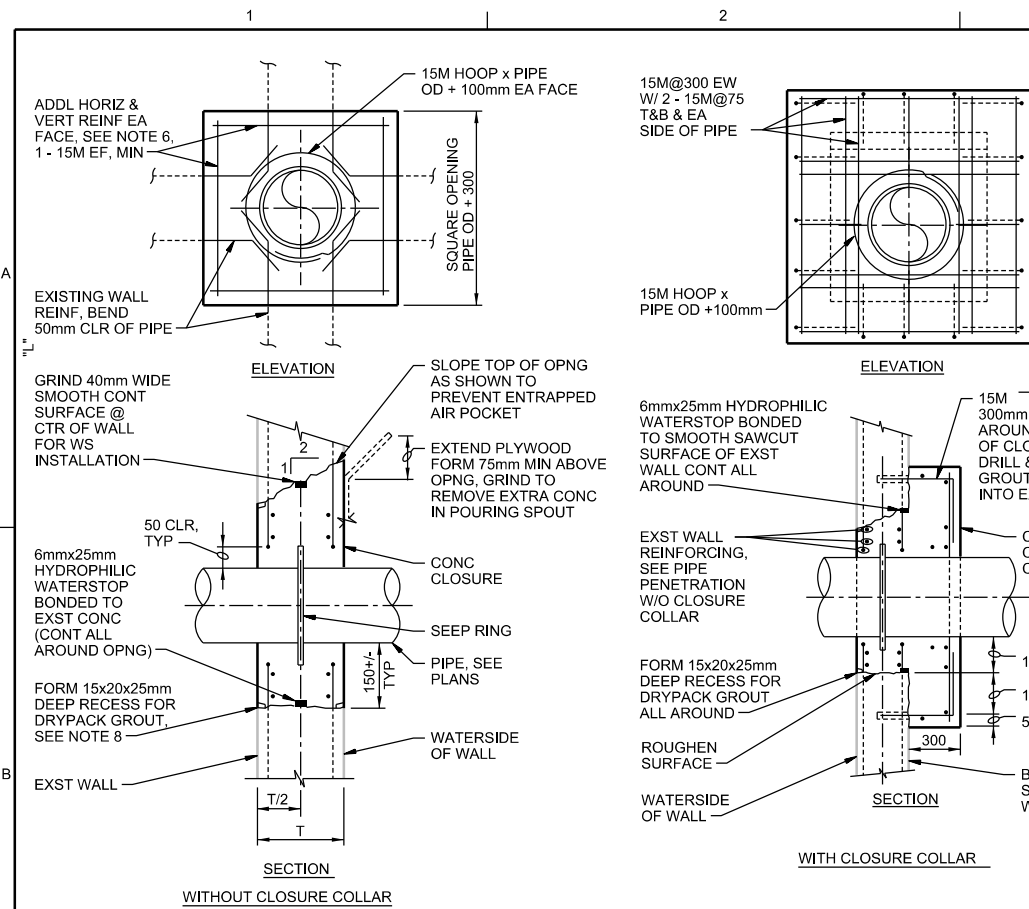
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FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN GOVERNMENT OF YUKON DESIGN

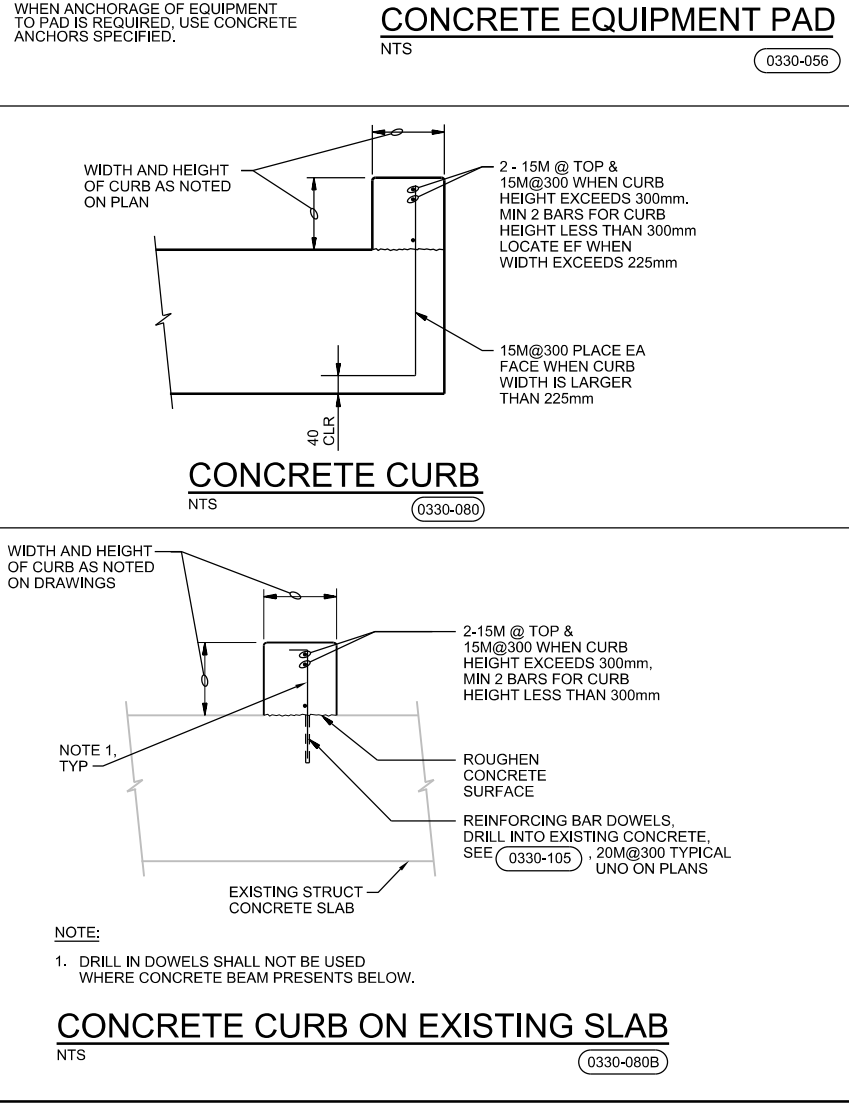
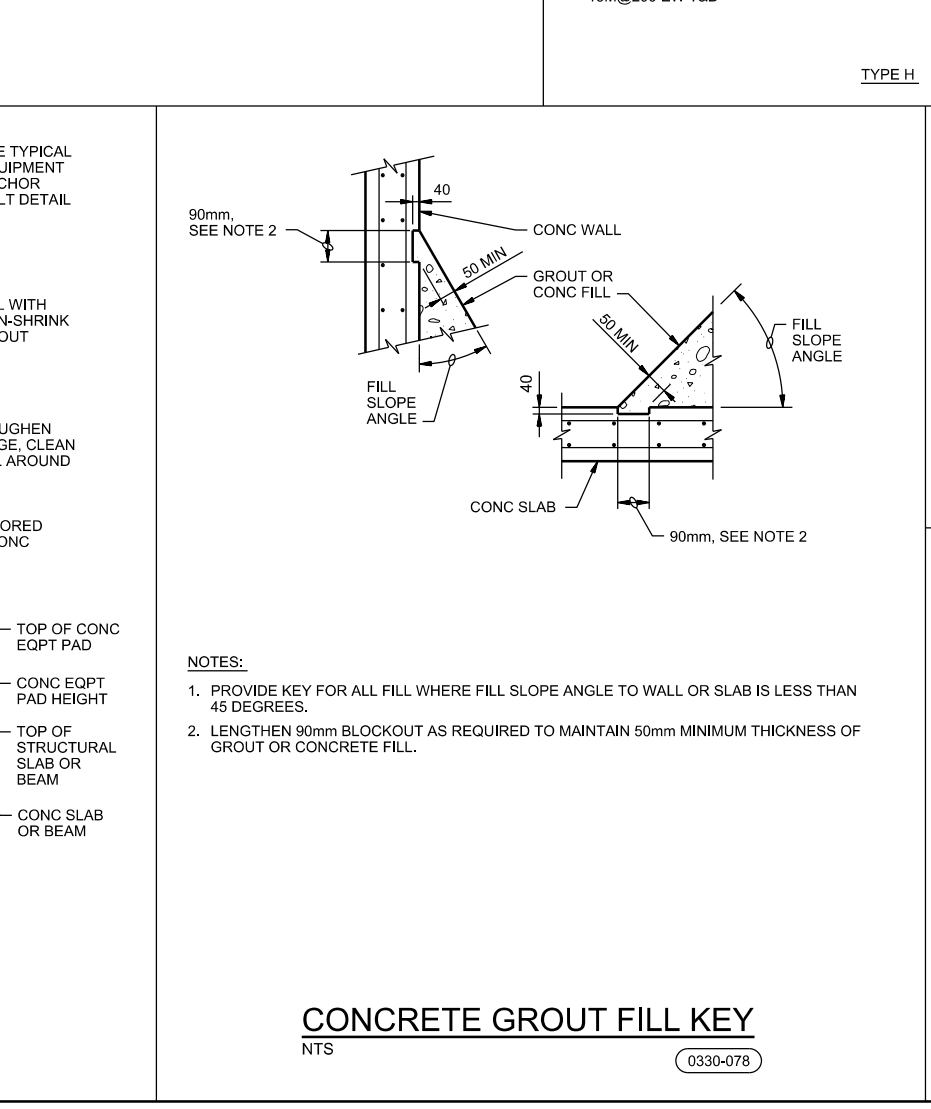
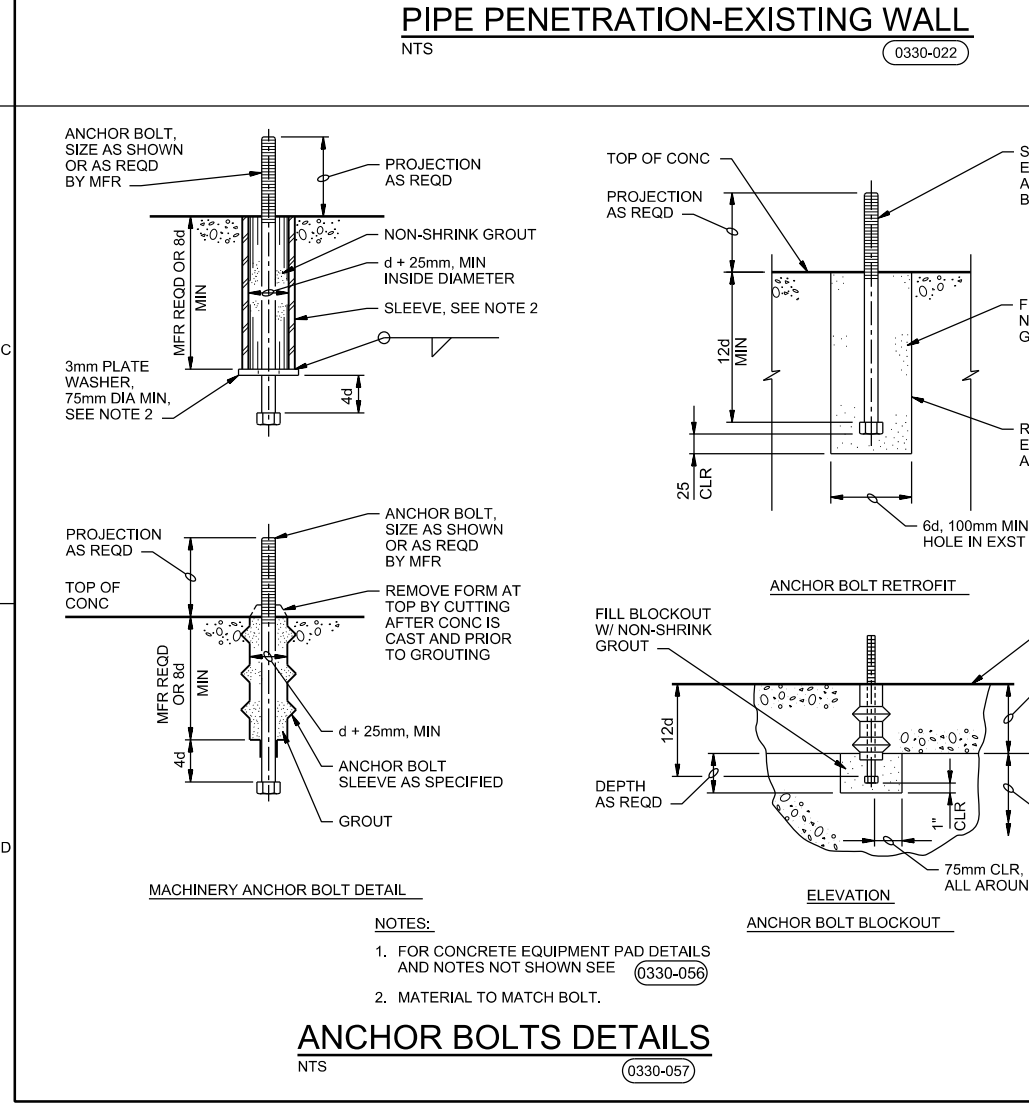
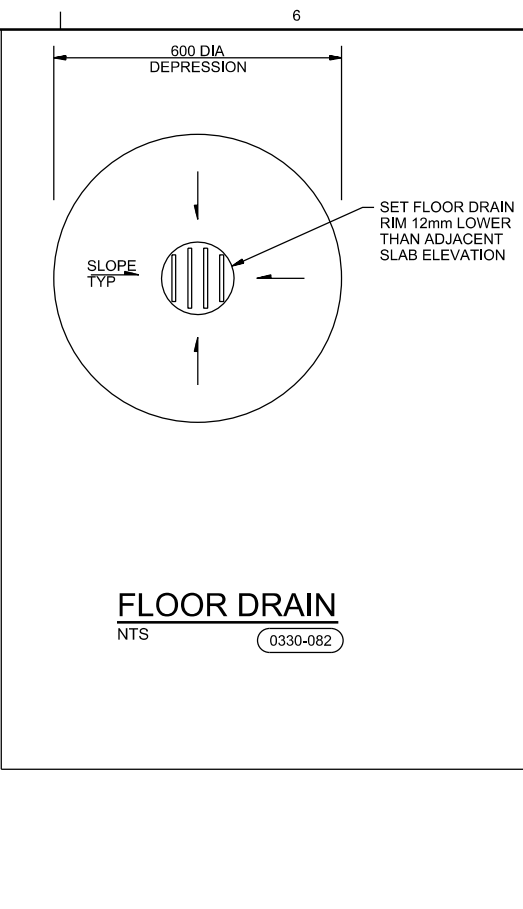
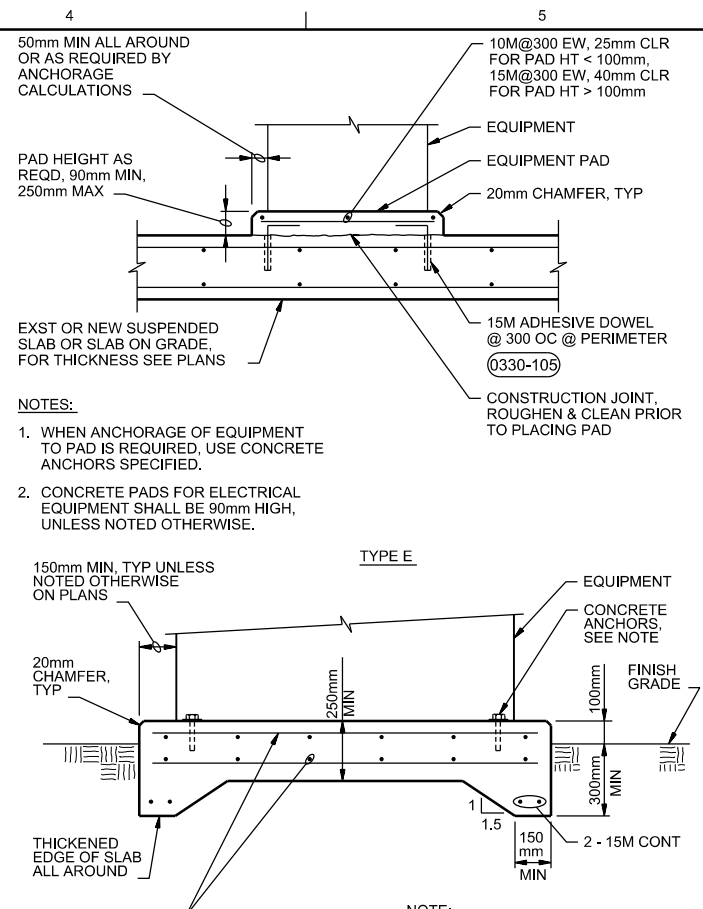
CH2MHILL®

STRUCTURAL STANDARD DETAILS (5)

AS SHOWN	VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWINGS.	
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DWG	590-S-505
SHEET	



- NOTES:**
- SAW-CUT 25mm DEEP x PIPE OD + 300mm SQUARE SCORE LINE ON EACH FACE OF WALL. (VERIFY DEPTH OF CUT TO CLEAR REINFORCING.) (INCREASE HEIGHT AS NOTED AT TOP ON WATERSIDE FACE FOR POURING.)
 - CHIP TO REMOVE THE CONCRETE WITHIN THE SCORE LINE, WHILE PRESERVING THE EXISTING WALL REINFORCING.
 - CUT EXISTING REINFORCING AT CENTER OF OPENING AND BEND TO CLEAR PIPE.
 - GRIND 40mm WIDE x CONT SMOOTH SURFACE ALL AROUND THE OPENING AT CENTER OF WALL. CLEAN SURFACES AND BOND CONTINUOUS HYDROPHILIC WATERSTOP IN PLACE.
 - INSTALL PIPE THROUGH NEW OPENING. (COAT CONCRETE ENCASED PORTION OF PIPE WITH SPECIFIED COATING SYSTEM.)
 - INSTALL ADDITIONAL REINFORCING EACH FACE, EACH SIDE, ABOVE AND BELOW PIPE. HORIZONTAL REINFORCING TO HAVE COMBINED AREA EQUAL TO AREA OF HORIZONTAL REINFORCING CUT. VERTICAL REINFORCING TO HAVE COMBINED AREA EQUAL TO AREA OF VERTICAL REINFORCING CUT.
 - SOAK CONCRETE SURFACES AND WITHIN 15-MINUTES CAST CONCRETE CLOSURE. (CONCRETE CLOSURE MUST BE CAST BEFORE HYDROPHILIC WATERSTOP EXPANDS.) FORM GROOVE ON ALL SIDES OF OPENING EXCEPT AT TOP ON THE POUR SIDE.
 - CLEAN SURFACES OF FORMED GROOVE WITH POWER WIRE BRUSH OR SANDBLASTING AND DRY-PACK WITH NON-SHRINK GROUT AFTER NEW CONCRETE MIN 28-DAYS OLD.
 - INSTALLATION SHALL BE WATERTIGHT. REPAIR LEAKS AS REQUIRED.



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STRUCTURAL
STANDARD DETAILS (6)

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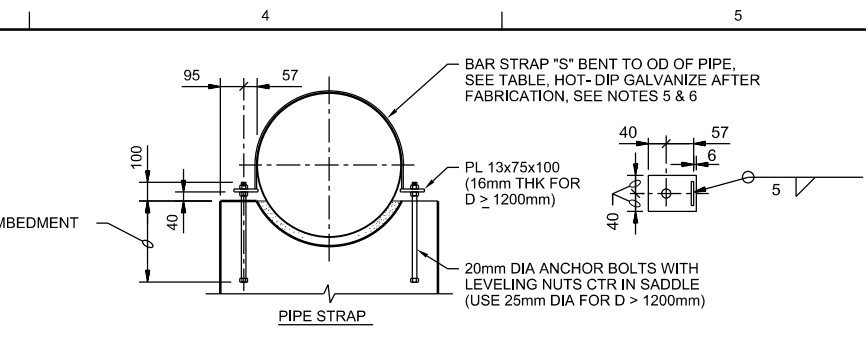
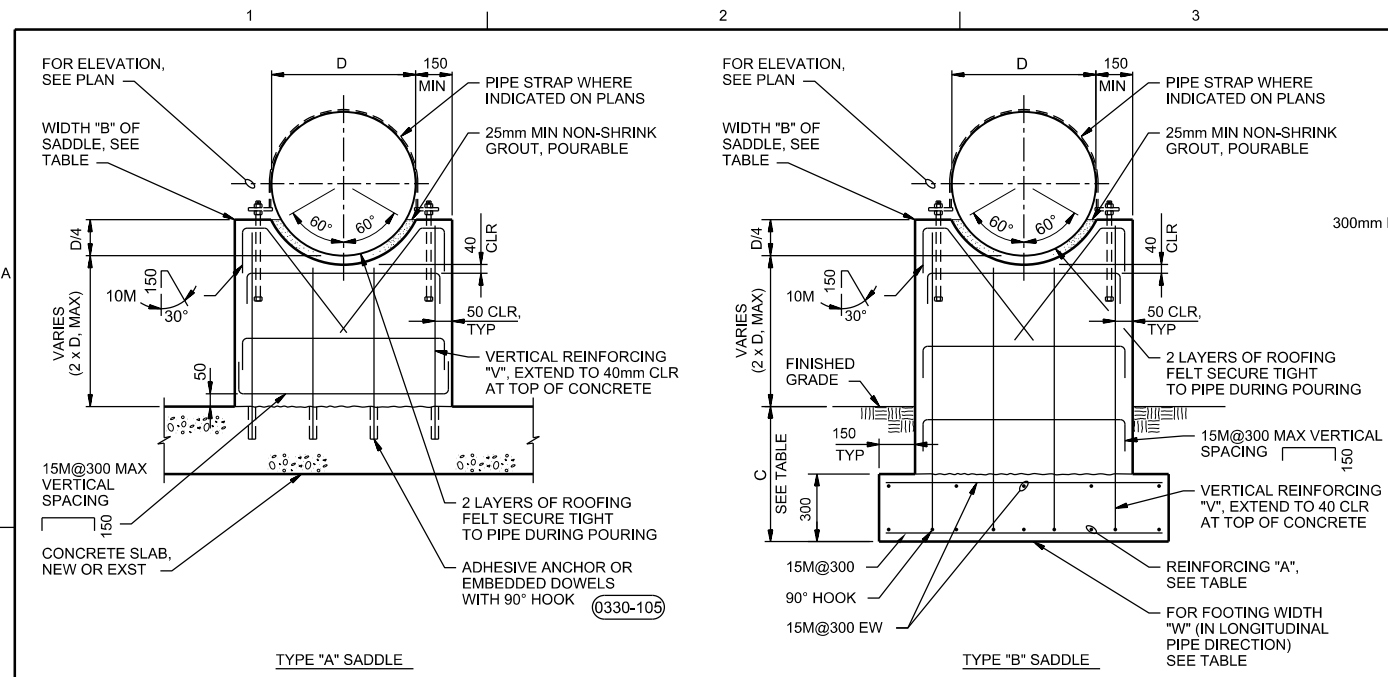
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WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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BAR IS 25mm ON ORIGINAL DRAWING.
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PROJ TA013-427716
DWG 590-S-506
SHEET

ISSUED FOR DETAIL DESIGN REVIEW
ISSUED FOR ADVANCED DESIGN REVIEW
NO. DATE
DGN DR CHK BY APVD
A. THAKKAR R. RANA A. THAKKAR
REVISION

PROFESSIONAL ENGINEER
YUKON TERRITORY
ATUL P. THAKKAR
14 Feb 2014

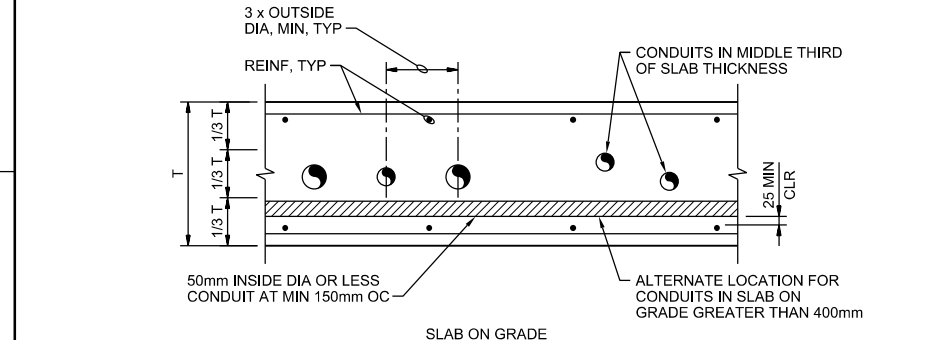
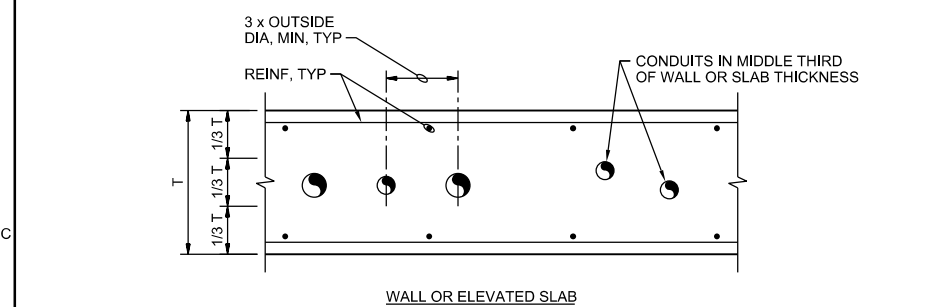
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- NOTES:**
- FOR "B"=250mm OR THICKER, USE 2 LAYERS OF REINFORCING. TURN HORIZONTAL BARS 90° TO HOOK AROUND VERTICALS, 40mm CLEAR OF CONCRETE
 - FORM 20mm BEVEL ON ALL EXPOSED CORNERS OF SUPPORT.
 - USE TYPE 'A' SADDLE IN ALL LOCATIONS WHERE A SLAB (NEW OR EXISTING) OCCURS. USE TYPE 'B' IN OTHER LOCATIONS.
 - FOR LOCATIONS WHERE PIPE STRAP IS REQUIRED, SEE DRAWINGS. UNLESS INDICATED OTHERWISE A STRAP IS NOT REQUIRED.
 - AT SUBMERGED CONDITIONS, STRAP SHALL BE STAINLESS STEEL.
 - PROVIDE 20mm BY STRAP WIDTH PLUS 25mm WIDE NEOPRENE PAD BELOW STRAP.

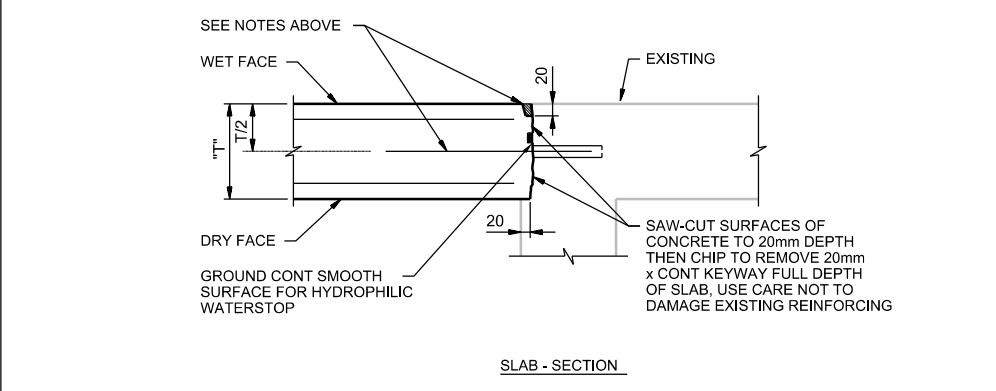
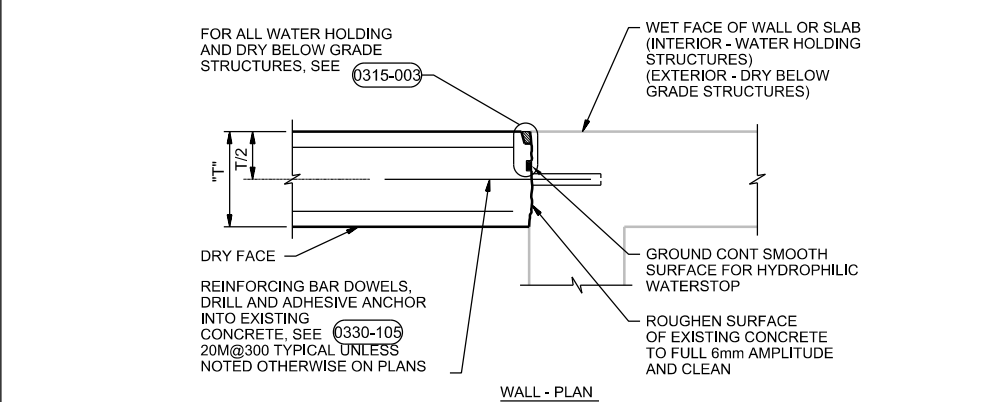
PIPE SADDLE TABLE								
PIPE DIAMETER D	SADDLE WIDTH B	LAYERS OF REINFORCING	VERTICAL REINFORCING V	PIPE STRAP SIZE S	NO. OF STRAPS	FOOTING WIDTH W	REINFORCING A	FOOTING DEPTH C
D<25mm	150mm	1 (CTRD)	15M@300	5mmx50mm	1	450mm	15M@300	600mm
25mm<D<600mm	200mm	1 (CTRD)	15M@300	5mmx65mm	1	600mm	15M@300	600mm
600mm<D<900mm	250mm	2 (EF)	15M@300	6mmx50mm	1	900mm	15M@300	600mm
900mm<D<1200mm	300mm	2 (EF)	15M@300	6mmx75mm	1	1200mm	15M@300	600mm
1200mm<D<1500mm	400mm	2 (EF)	20M@300	10mmx75mm	2	1800mm	15M@150	600mm
1500mm<D<1800mm	500mm	2 (EF)	20M@300	10mmx75mm	2	2400mm	15M@150	600mm

PIPE SUPPORT - CONCRETE SADDLE
NTS (0330-061)

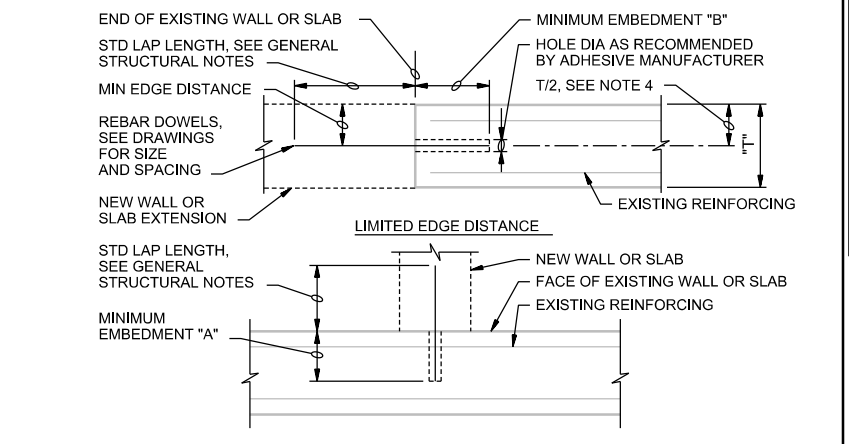


- NOTES:**
- AT EXIT OR ENTRY TO SLAB, REINFORCE OPENINGS CREATED BY MULTIPLE CONDUITS PER (0330-001)
 - FOR SHORT SECTIONS OF ELEMENTS, SUCH AS WALL PIERS, PLACE CONDUITS AS DIRECTED BY ENGINEER.

CONDUIT IN STRUCTURAL CONCRETE
NTS (0330-084)



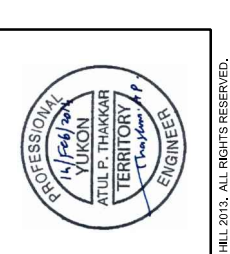
CONNECTION OF NEW CONCRETE TO EXISTING
NTS (0330-101)



DOWEL SIZE	MINIMUM EDGE DIST	MINIMUM EMBEDMENT A	MINIMUM EMBEDMENT B
10M	65mm	125mm	200mm
15M	100mm	200mm	330mm
20M	125mm	265mm	400mm
25M	175mm	355mm	560mm
30M	190mm	380mm	600mm

- NOTES:**
- CONFORM TO THE REQUIREMENTS OF SPECIFICATION SECTION 03 63 00, CONCRETE DOWELING.
 - FOLLOW ADHESIVE MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION.
 - USE MINIMUM EMBEDMENTS SHOWN, EXCEPT USE MANUFACTURER'S MINIMUM RECOMMENDED EMBEDMENT IF GREATER.
 - LOCATE DOWELS CENTERED IN WALL OR SLAB UNLESS OTHERWISE NOTED ON DRAWINGS. WHERE 2 ROWS OF DOWELS INDICATED, STAGGER SPACING & LOCATE ALTERNATING DOWELS AT MINIMUM EDGE DISTANCE FROM OPPOSITE FACES.

ADHESIVE DOWEL/ANCHOR
NTS (0330-105)



DR	A. THAKKAR
CHK	R. RANA
APVD	A. THAKKAR
BY	RR
GN	RR
REVISION	ISSUED FOR ADVANCED DESIGN REVIEW
REVISION	ISSUED FOR DETAIL DESIGN REVIEW
NO. DATE	02/2014
NO. DATE	09/2013
DGSN	

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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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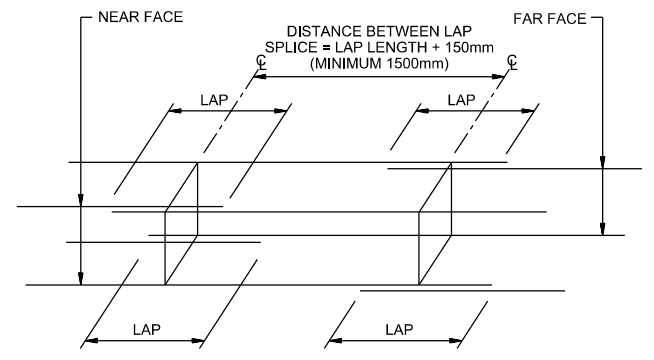
STRUCTURAL
STANDARD DETAILS (7)

AS SHOWN
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWINGS.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 590-S-507
SHEET

F _y =400MPa REINFORCING BAR	LAP TYPE	BAR SIZE						
		10M	15M	20M	25M	30M	35M	
F _c =20MPa	TOP	CLASS A	450	650	850	1350	1600	2000
	CLASS B	550	850	1100	1750	2050	2600	
OTHER	CLASS A	350	500	650	1050	1250	1550	
	CLASS B	450	650	850	1350	1600	2000	
F _c =25MPa	TOP	CLASS A	400	600	750	1200	1450	1800
	CLASS B	500	750	1000	1550	1850	2300	
OTHER	CLASS A	300	450	600	900	1100	1400	
	CLASS B	400	600	750	1200	1450	1800	
F _c =30MPa 32MPa	TOP	CLASS A	350	550	700	1100	1300	1650
	CLASS B	450	700	900	1400	1700	2100	
OTHER	CLASS A	300	400	550	850	1000	1250	
	CLASS B	350	550	700	1100	1300	1650	
F _c =35MPa	TOP	CLASS A	350	500	650	1000	1200	1500
	CLASS B	450	650	850	1300	1550	1950	
OTHER	CLASS A	300	400	500	800	950	1150	
	CLASS B	350	500	650	1000	1200	1500	
F _c =40MPa	TOP	CLASS A	300	450	600	950	1150	1400
	CLASS B	400	600	800	1250	1450	1850	
OTHER	CLASS A	300	350	500	750	900	1100	
	CLASS B	300	450	600	950	1150	1400	

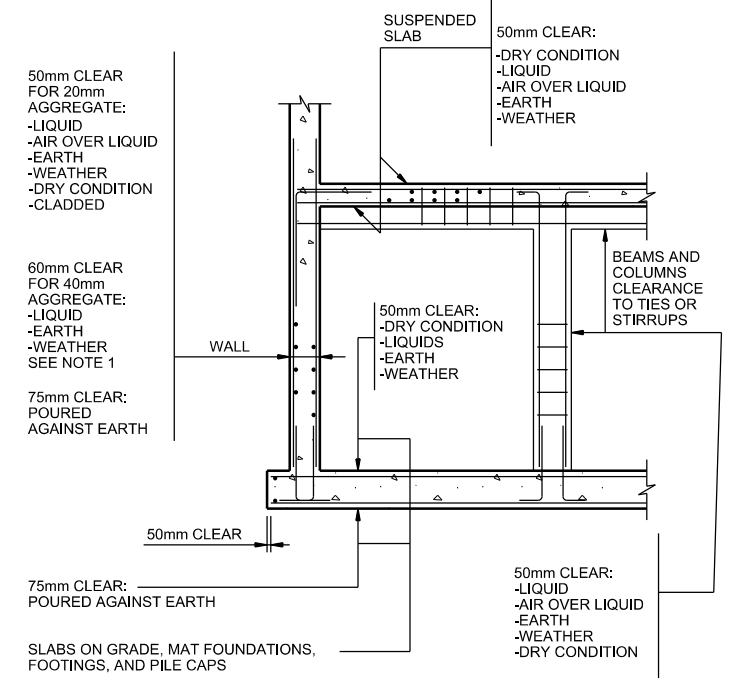
- NOTES:**
- TOP BARS ARE:
 - ALL BARS IN CONCRETE WITH MORE THAN 300mm CONCRETE BELOW.
 - ALL HORIZONTAL BARS IN WALLS.
 - PROVIDE CLASS B LAP UNLESS NOTED OTHERWISE.
 - LAP SPLICE LENGTHS SHOWN IN THE TABLE ARE BASED ON HEAVIER CONFINED BARS.
 - TABLE APPLIES UNLESS SHOWN OTHERWISE.
 - DEVELOPMENT LENGTHS ARE EQUAL TO CLASS A LAP SPLICES.

**REINFORCING BAR
TENSION LAP SPLICE TABLE**
NTS (0330-80)



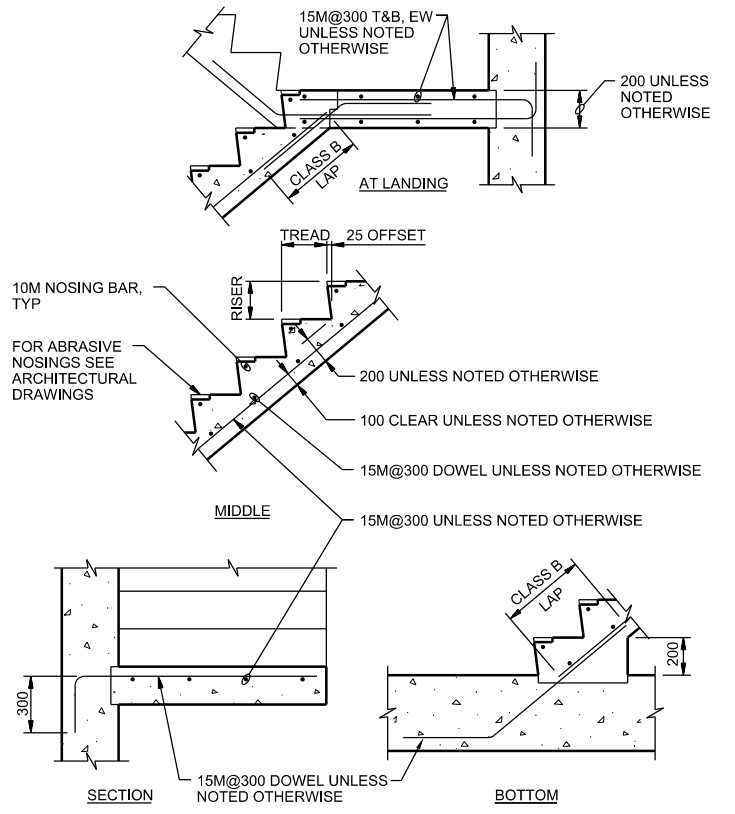
- NOTE:**
- PROVIDE CLASS B LAP AS INDICATED IN LAP SPLICE TABLE UNLESS NOTED OTHERWISE. (0330-801)
 - LAP FOR CIRCULAR TANK WALLS = 1.3 x CLASS B LAP LENGTH.

LAP ARRANGEMENT FOR HORIZONTAL REINFORCING
NTS (0330-802)

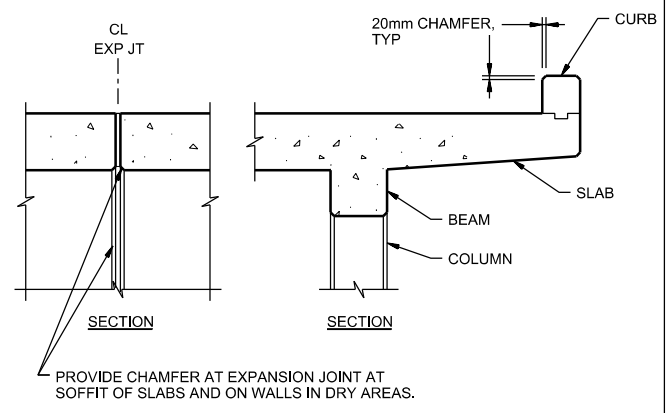


- NOTES:**
- PROVIDE 50mm CLEARANCE ON FACE EXPOSED TO DRY CONDITION.
 - SPECIFIED COVER WILL PROVIDE MINIMUM 2 HOUR FIRE RATING.

CONCRETE COVER TO REINFORCING
NTS (0330-803)

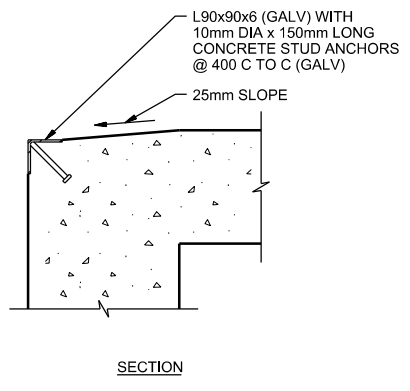


TYPICAL CONCRETE STAIR REINFORCING
NTS (0330-805)

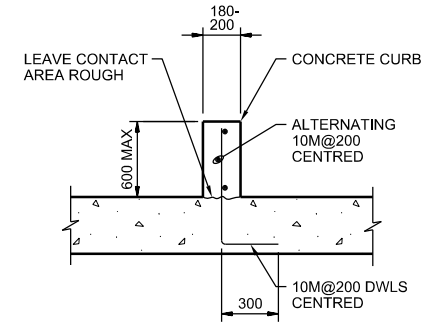


NOTE:
PROVIDE CHAMFER ALONG EXPOSED EDGES ON CONCRETE SLABS, BEAMS, CURBS, COLUMNS, WALL OPENINGS AND SIMILAR ITEMS UNLESS OTHERWISE NOTED OR DIRECTED.

CHAMFERS
NTS (0330-806)



CONCRETE EDGE PROTECTOR
NTS (0330-807)



CONCRETE CONTAINMENT CURB
NTS (0330-810)

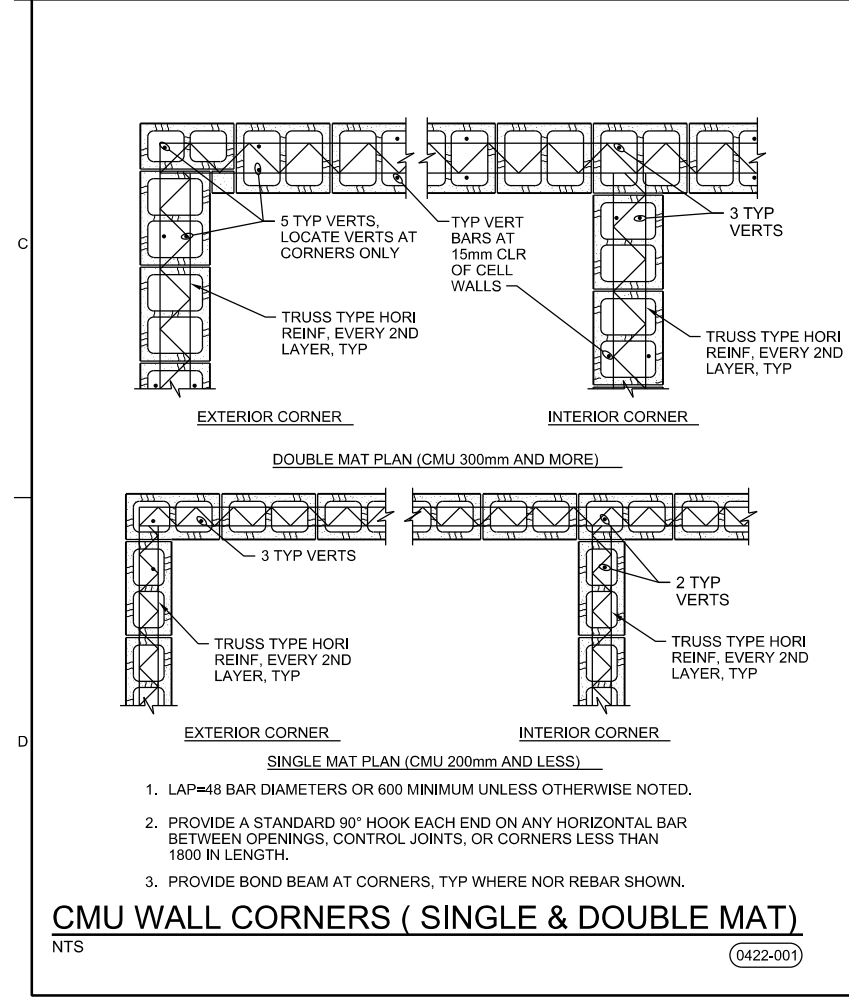
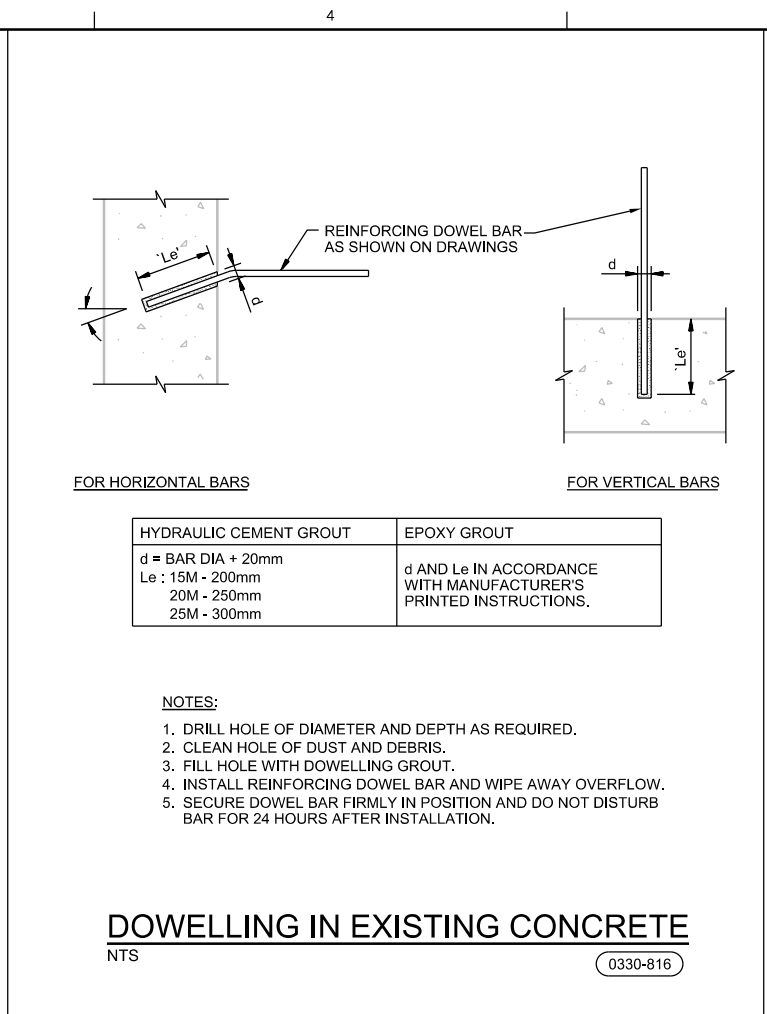
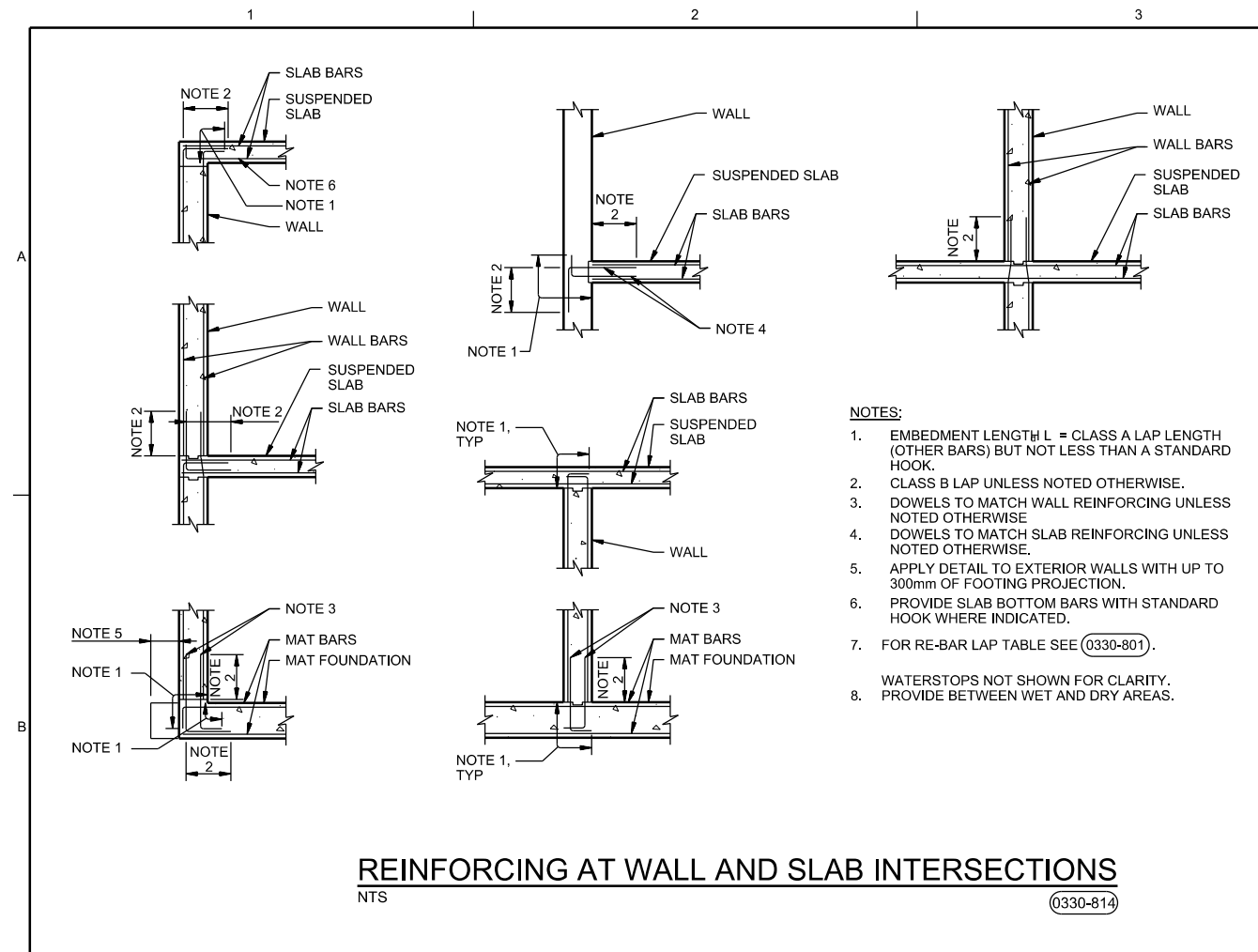
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STRUCTURAL
STANDARD DETAILS (8)

AS SHOWN
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
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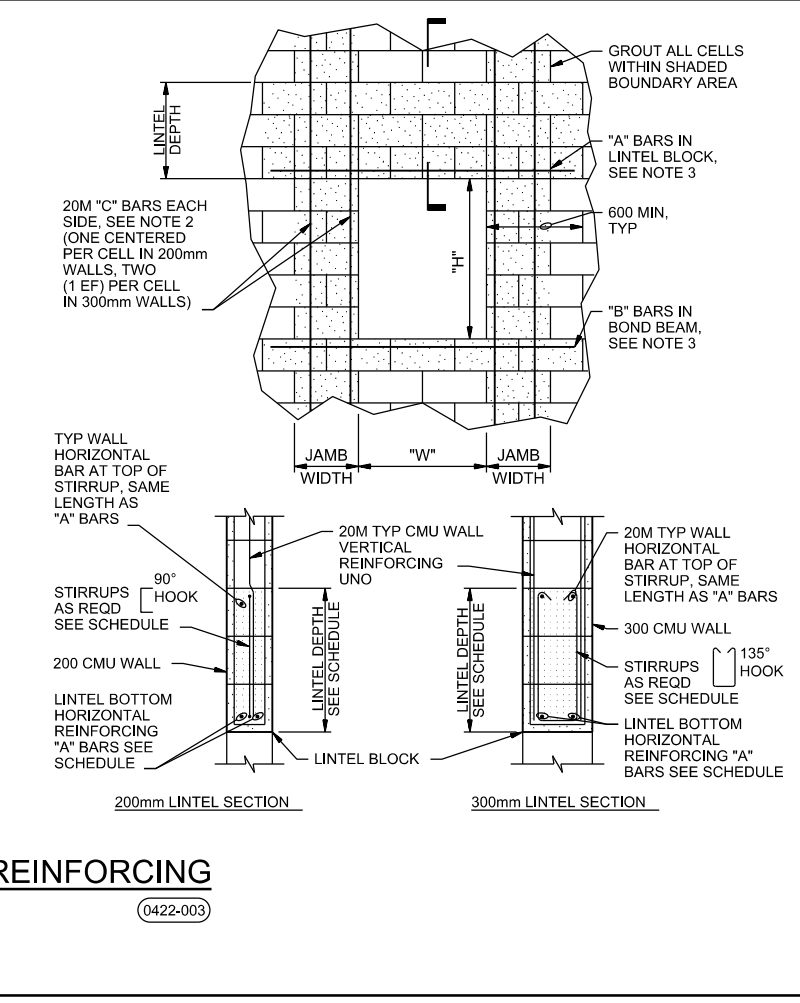
CMU OPENING REINF SCHEDULE

200mm WALLS						
W	LINTEL DEPTH	STIRRUP SIZE, SPG	"A" BARS	"B" BARS	"C" BARS	JAMB WIDTH
≤800	200mm	-	1	1	1	200mm
>800≤1200	400mm	-	2	1	1	200mm
>1200≤1800	600mm	10M@200	2	1	2	400mm
>1800≤2400	800mm	10M@400	2	2	3	600mm
>2400≤3000	1200mm	10M@600	2	2	3	600mm

300mm WALLS						
W	LINTEL DEPTH	STIRRUP SIZE, SPG	"A" BARS	"B" BARS	"C" BARS	JAMB WIDTH
≤800	200mm	-	2	2	2	200mm
>800≤1200	400mm	-	2	2	2	200mm
>1200≤1800	600mm	10M@200	2	2	4	400mm
>1800≤2400	800mm	10M@400	2	2	6	600mm
>2400≤3000	1200mm	10M@600	2	2	6	600mm

NOTES:

- USE BAR QUANTITIES AND SIZES GIVEN IN LINTEL SCHEDULE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- EXTEND "C" BARS 48 BAR DIAMETERS OR 600mm MINIMUM BEYOND TOP AND BOTTOM OF OPENING EXCEPT THAT WHEN "H" OR "W" EXCEEDS 600mm, "C" BARS SHALL EXTEND FULL HEIGHT. WHERE THERE IS LESS THAN 2400mm BETWEEN ADJACENT OPENINGS, EXTEND REINFORCING CONTINUOUS TO 800mm BEYOND FURTHEST OPENING.
- "A" AND "B" BARS SHALL EXTEND 48 BAR DIAMETERS OR 600mm MINIMUM EACH SIDE OF THE OPENINGS.
- BAR A,B,C = 20M UNO



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ISSUED FOR ADVANCED DESIGN REVIEW	BY	APVD	CHK	DR	APVD	CHK	APVD
NO. DATE	DSGN	A. THAKKAR	R. RANA	A. THAKKAR	A. THAKKAR	A. THAKKAR	A. THAKKAR

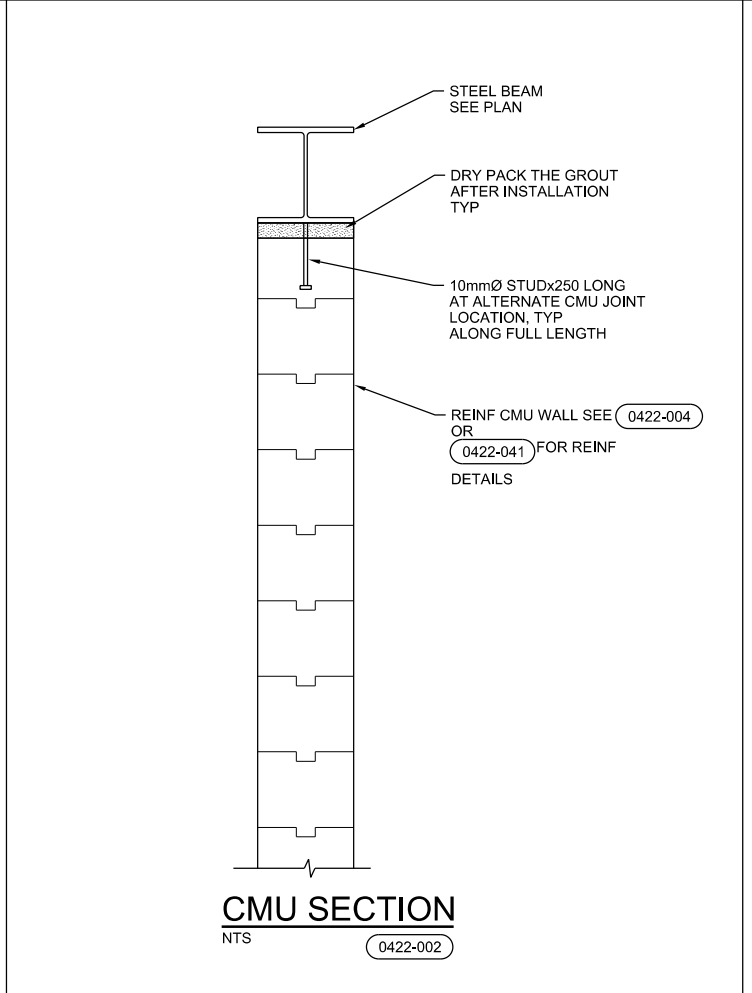
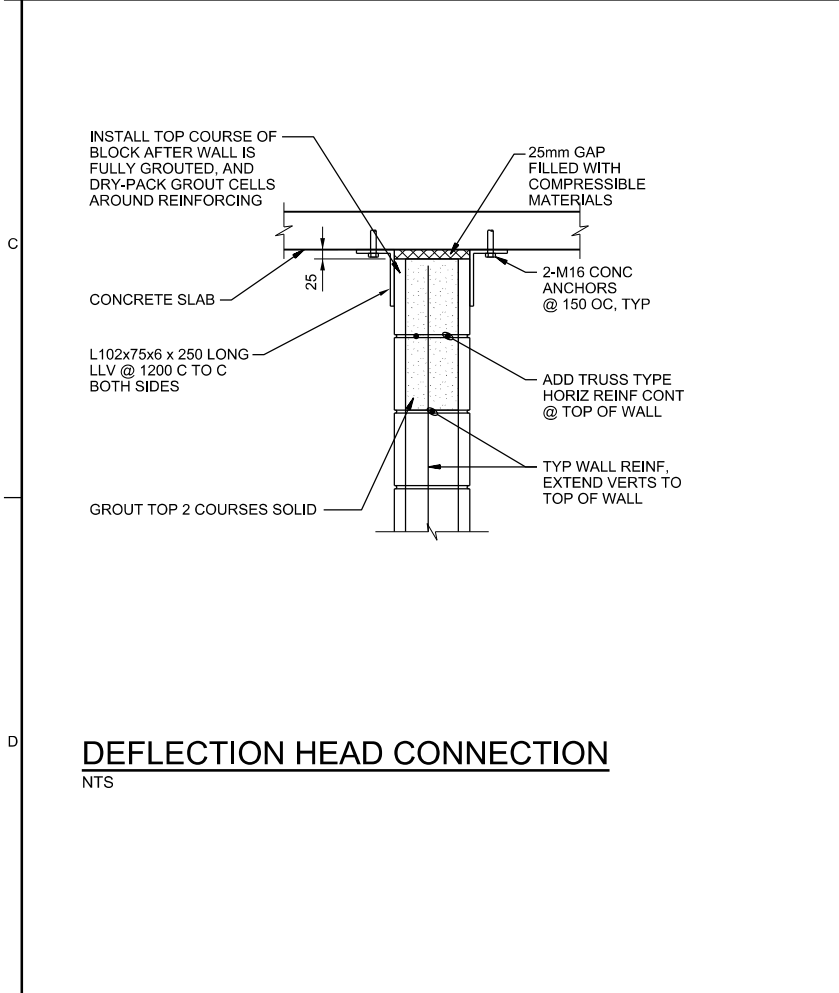
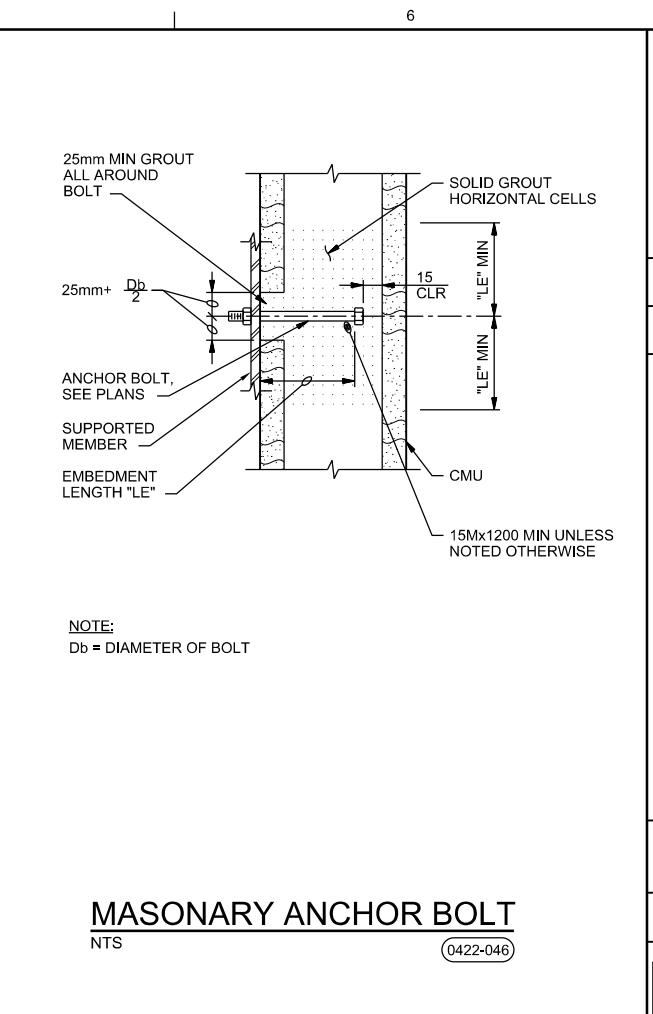
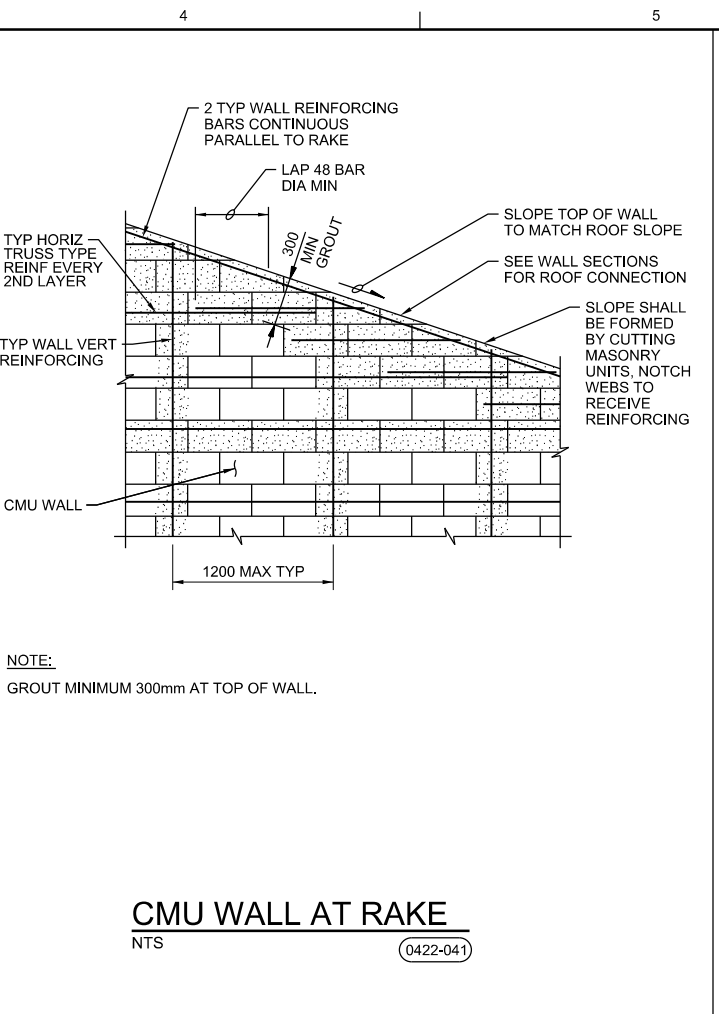
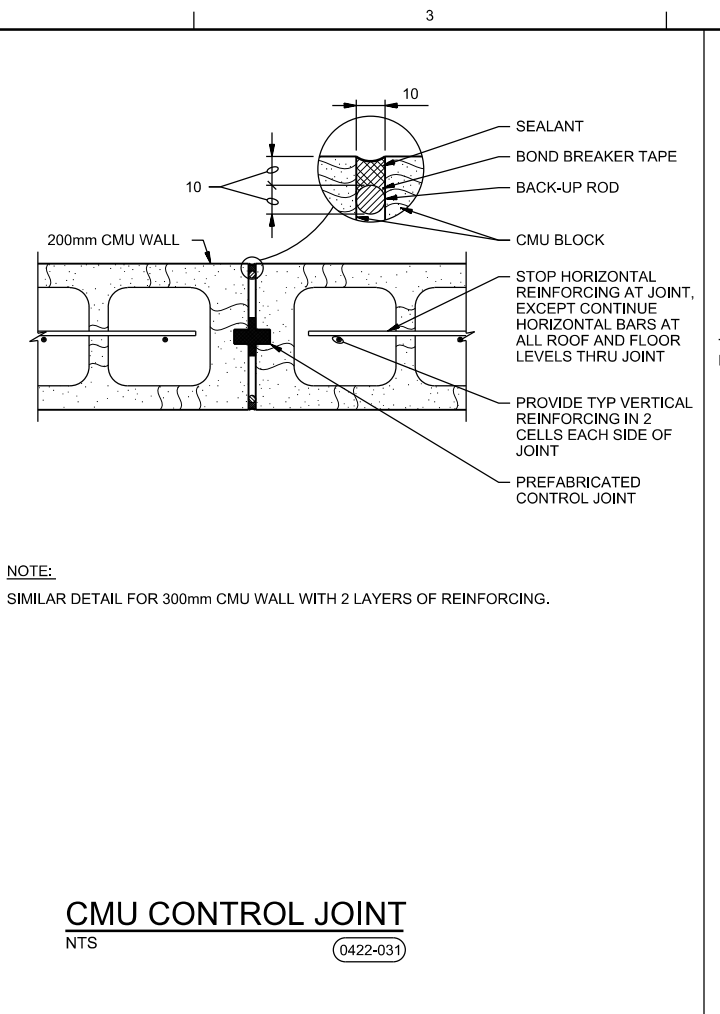
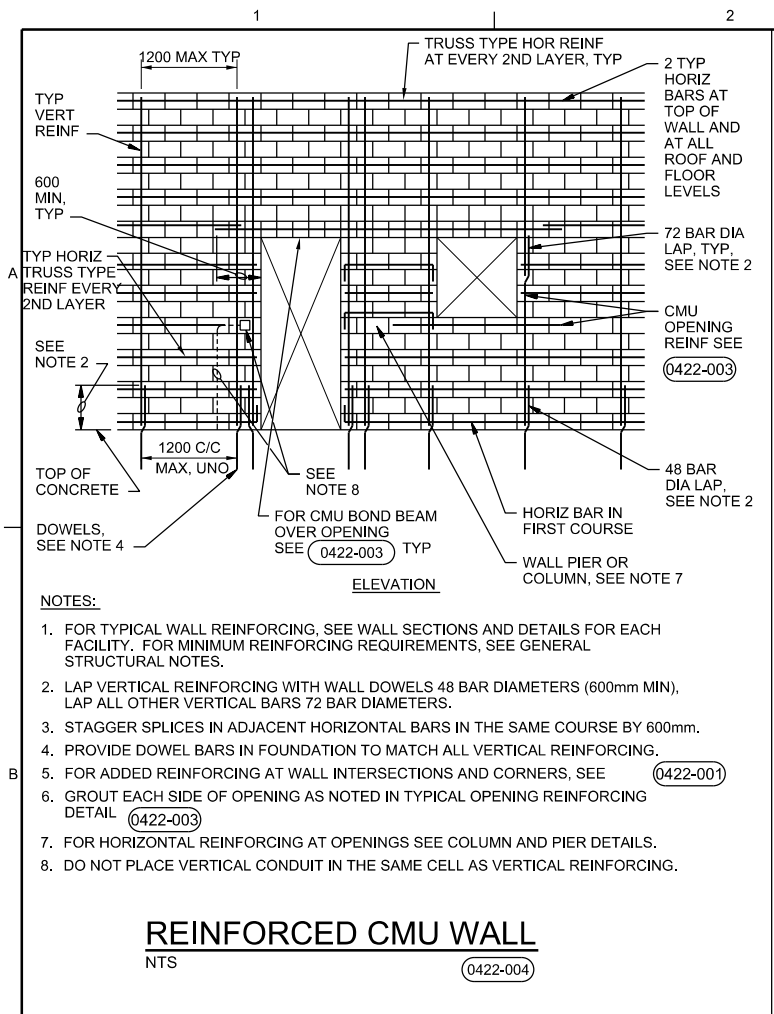
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STRUCTURAL
STANDARD DETAILS (9)

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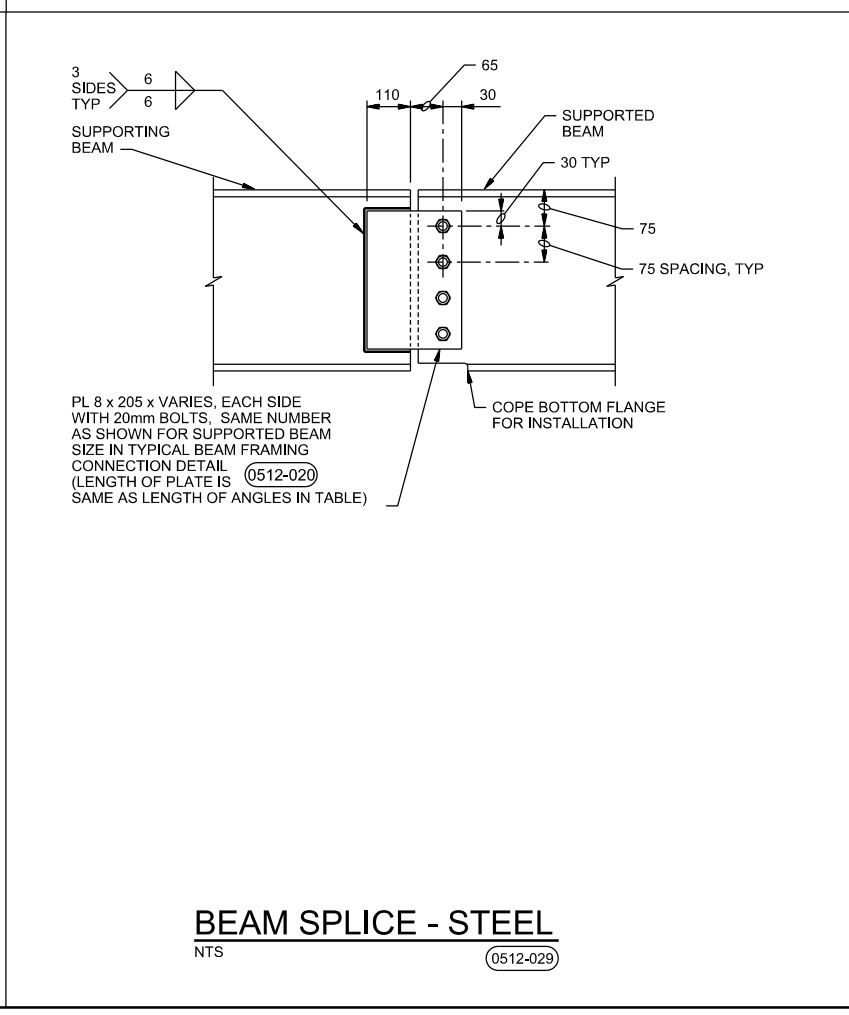
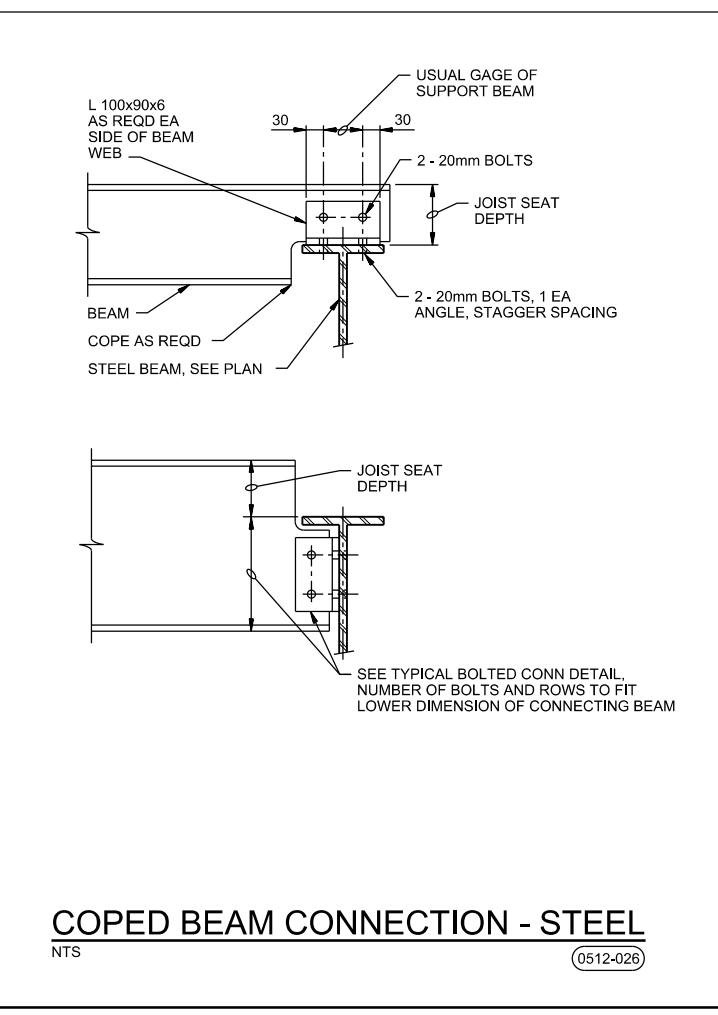
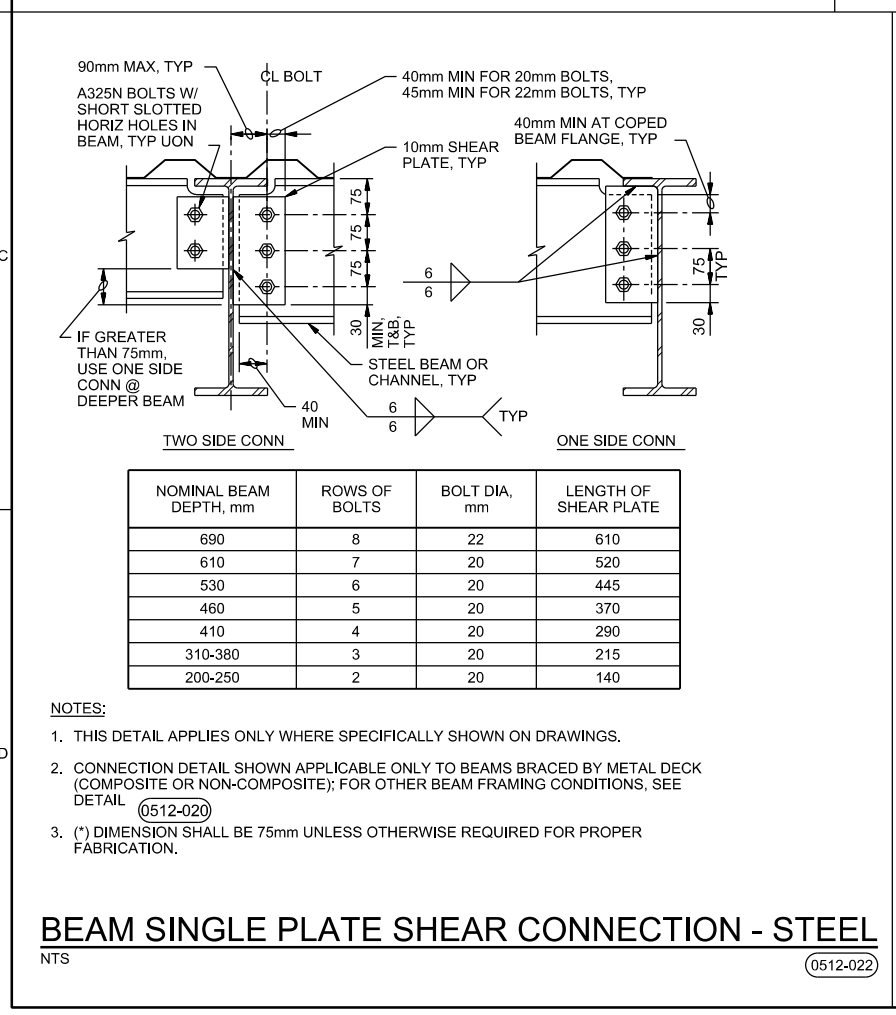
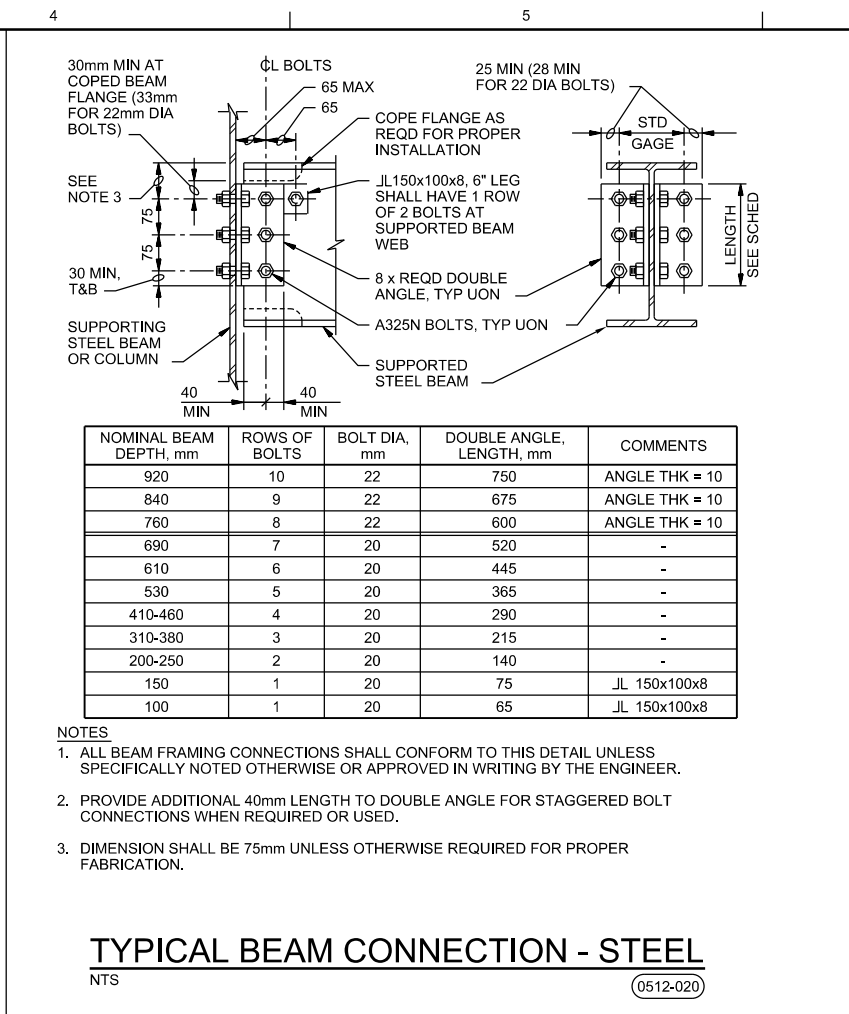
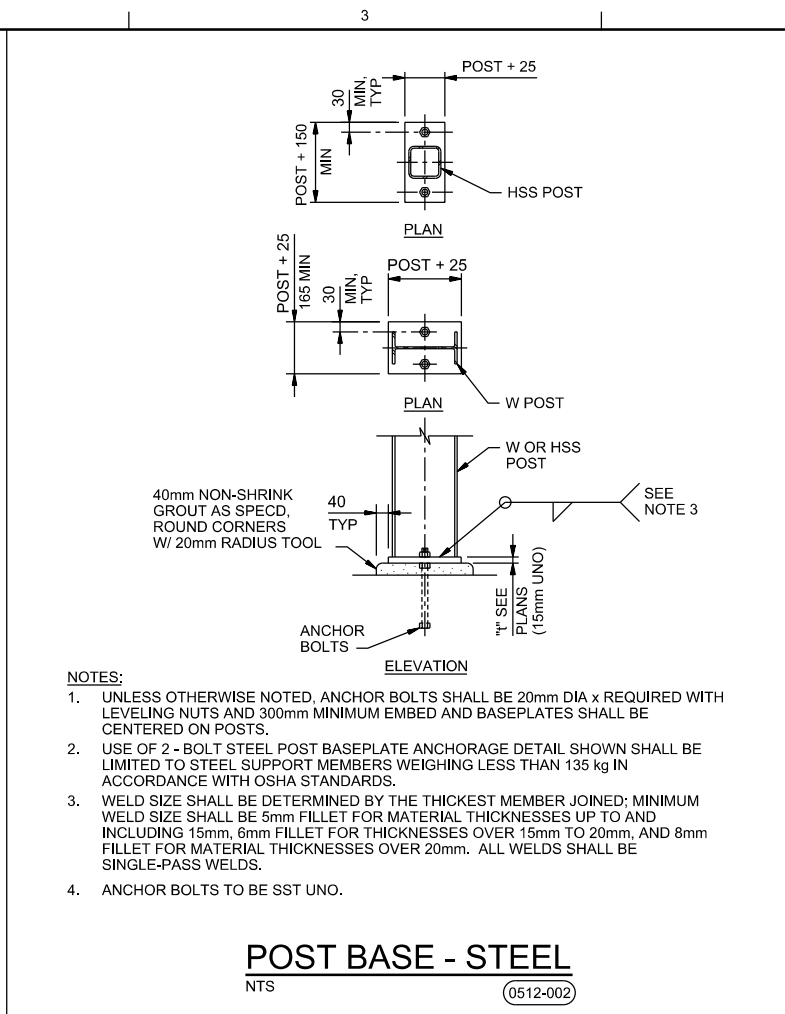
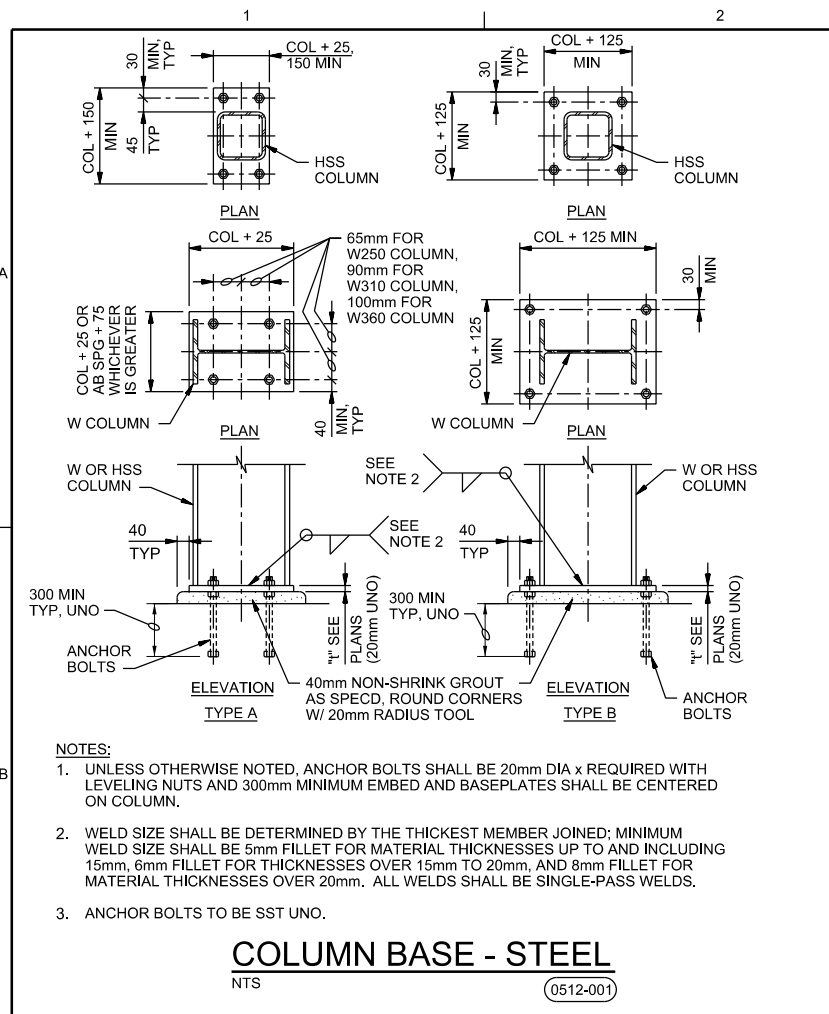
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ISSUED FOR ADVANCED DESIGN REVIEW	RR	GN	BY	APVD	R. RANA
NO. DATE	A	09/2013	REVISION	CHK	A. THAKKAR
DSGN	B	02/2014	DR	CHK	A. THAKKAR

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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

STRUCTURAL
STANDARD DETAILS (10)

AS SHOWN	
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ISSUED FOR ADVANCED DESIGN REVIEW	RR	GN	BY
REVISION	CHK	APVD	
DSGN	DR		

A. THAKKAR
 R. RANA
 A. THAKKAR

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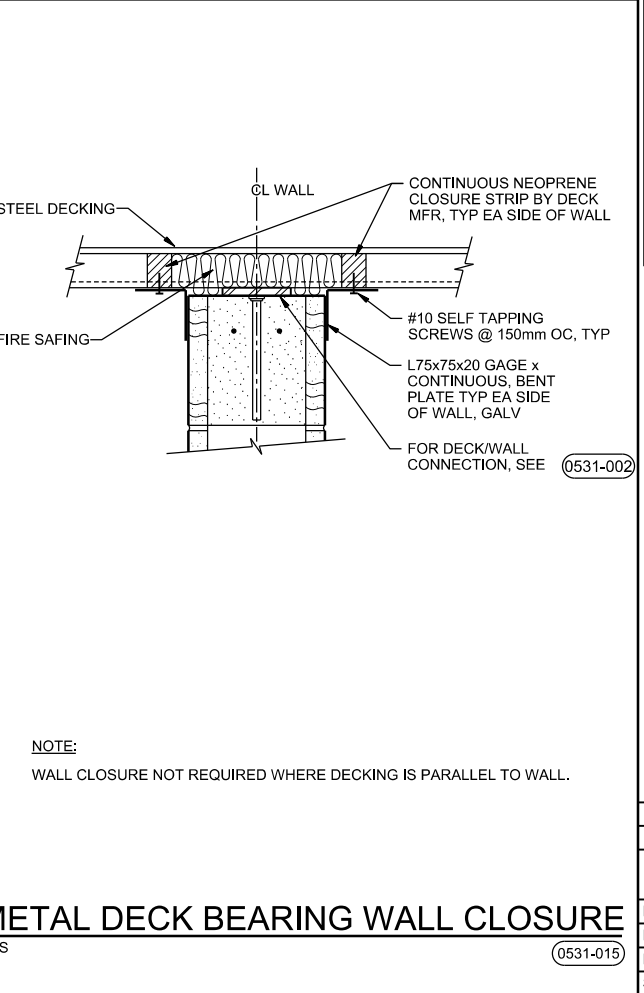
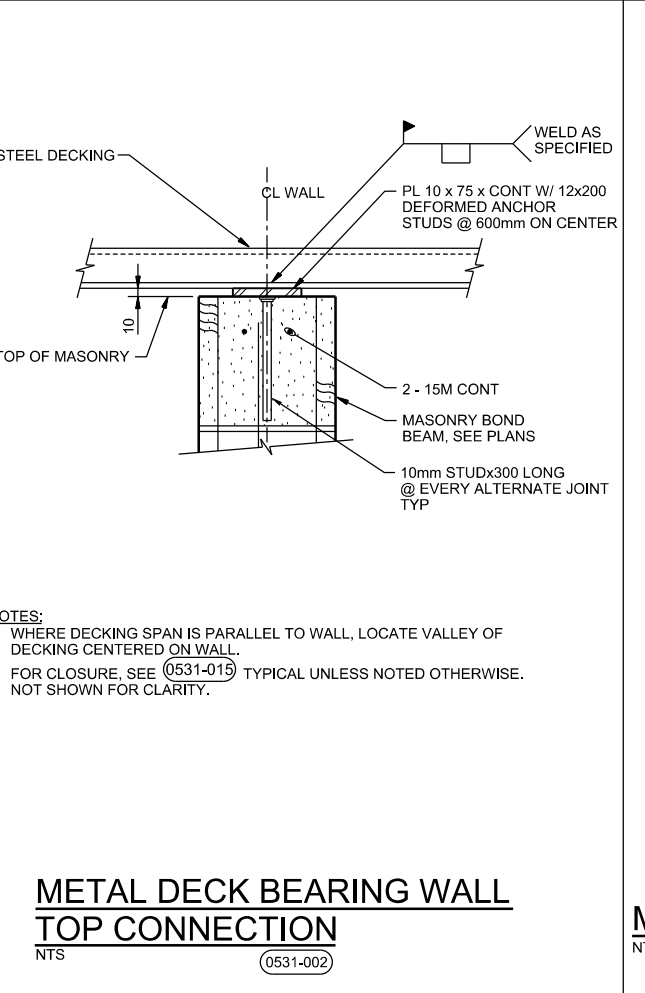
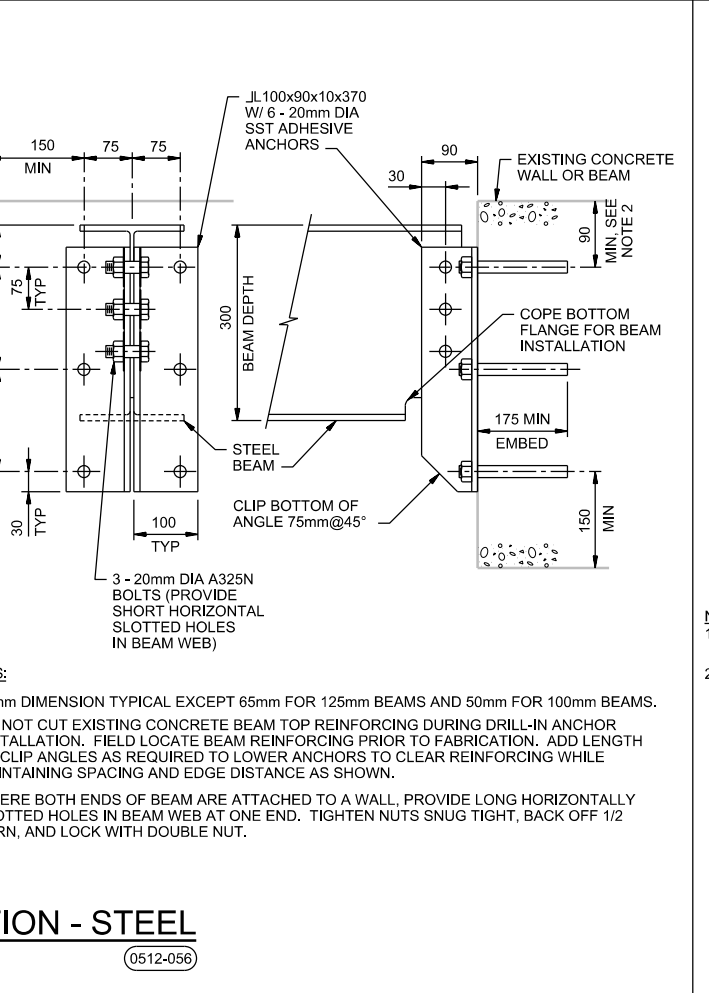
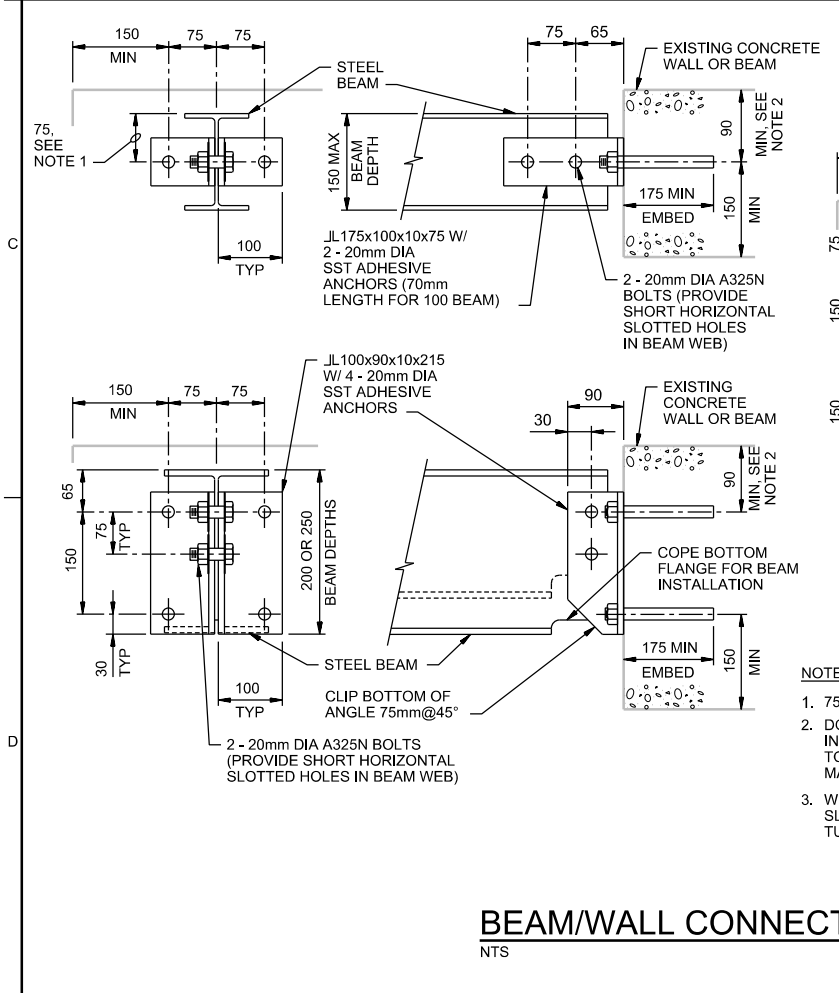
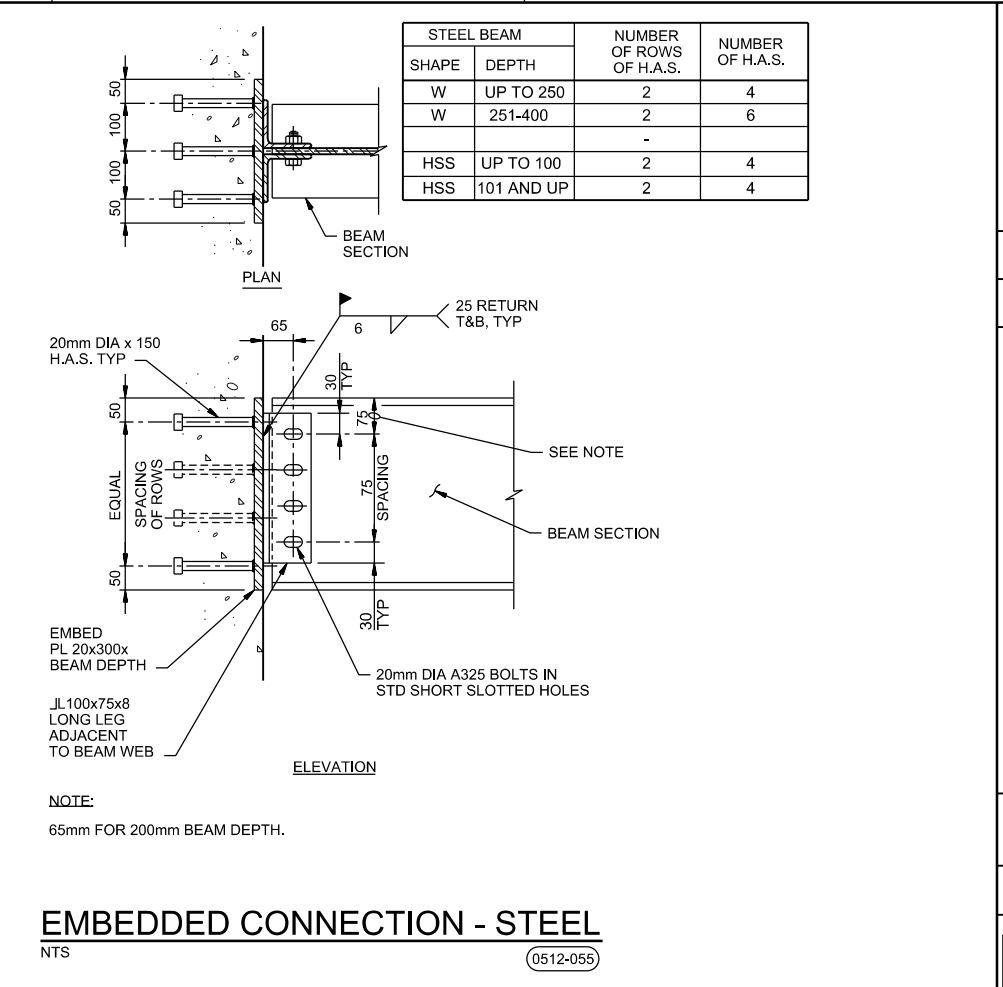
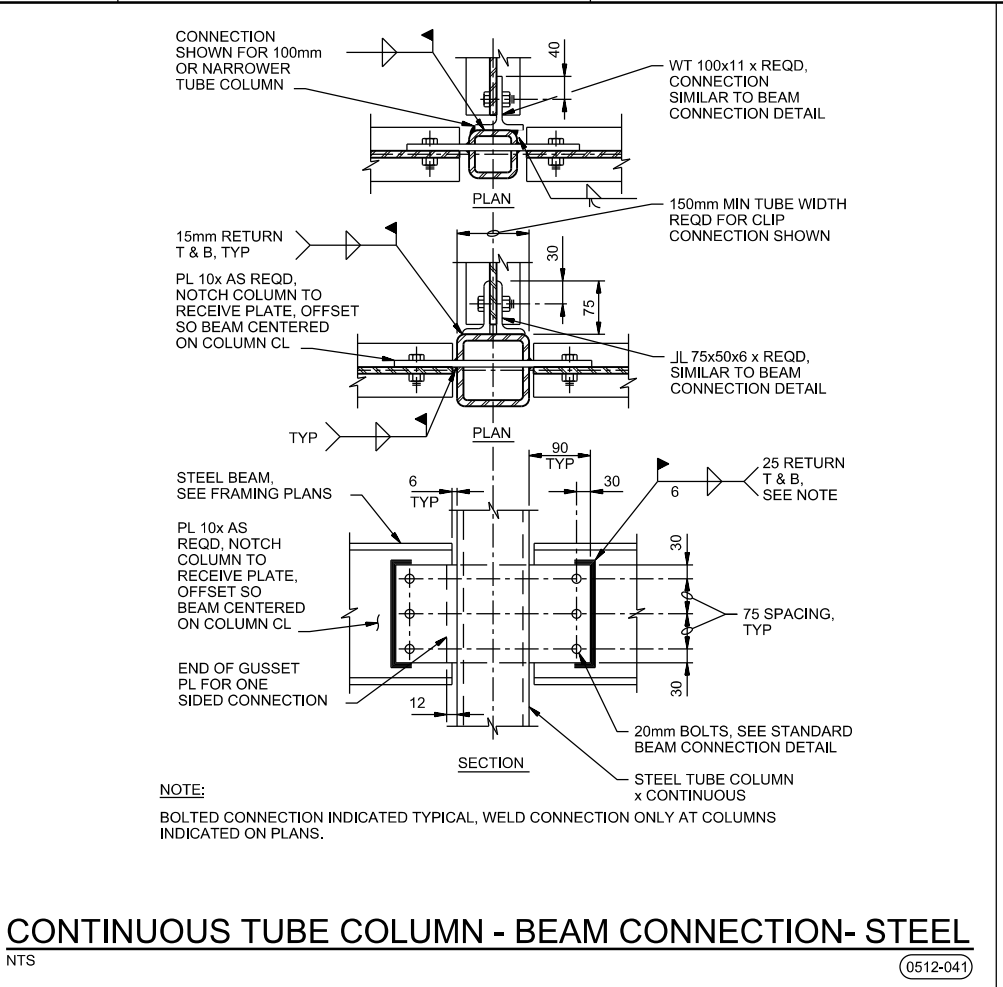
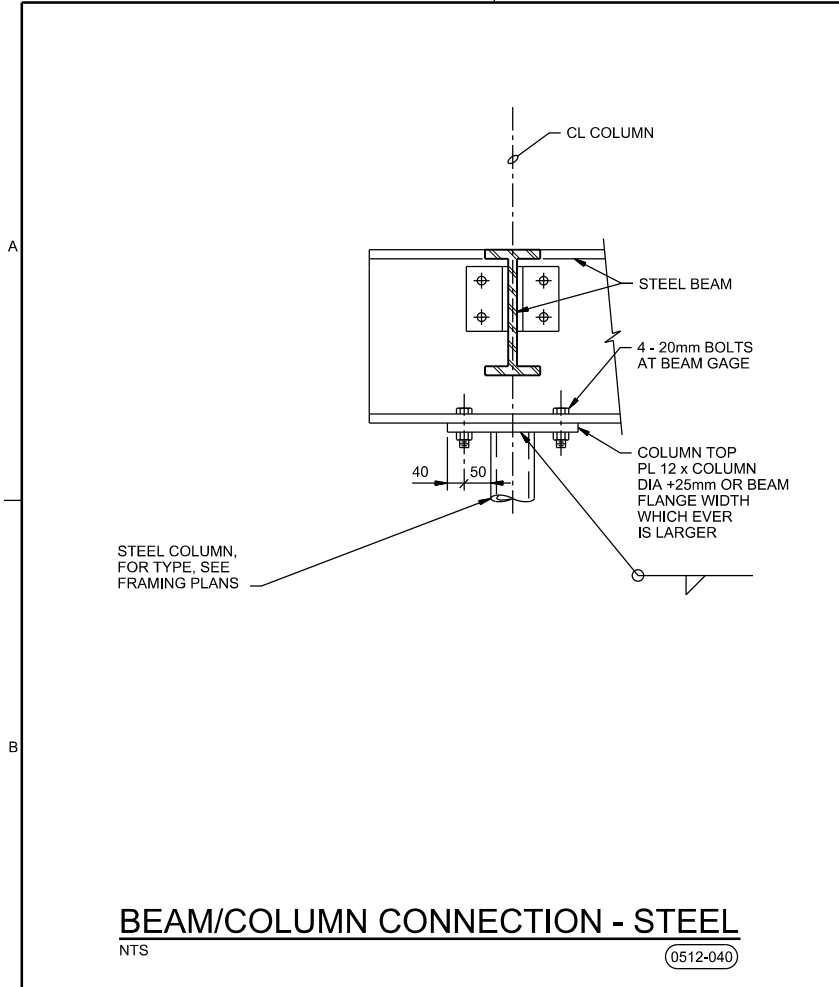
FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN GOVERNMENT OF YUKON DESIGN

CH2MHILL

STRUCTURAL

STANDARD DETAILS (11)

AS SHOWN
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 590-S-511
SHEET



PROFESSIONAL ENGINEER
ATUL P. THAKKAR
YUKON TERRITORY

ISSUED FOR DETAIL DESIGN REVIEW
ISSUED FOR ADVANCED DESIGN REVIEW

NO. DATE DSGN

DR A. THAKKAR
CHK R. RANA
BY APVD A. THAKKAR

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN GOVERNMENT OF YUKON DESIGN

STRUCTURAL STANDARD DETAILS (12)

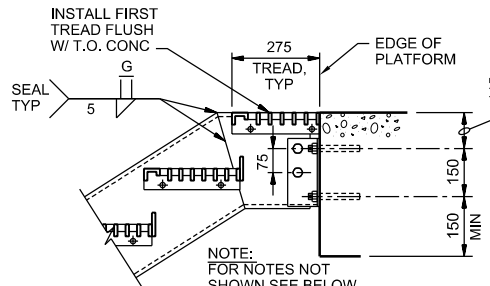
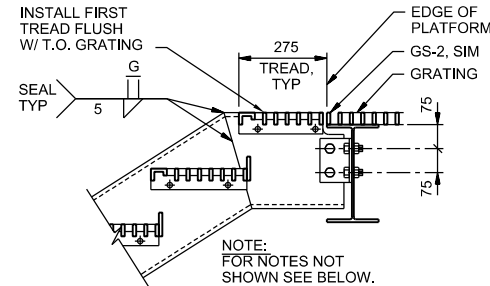
AS SHOWN VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWINGS. 25mm

DATE FEBRUARY 2014
PROJ TA013-427716
DWG 590-S-512
SHEET

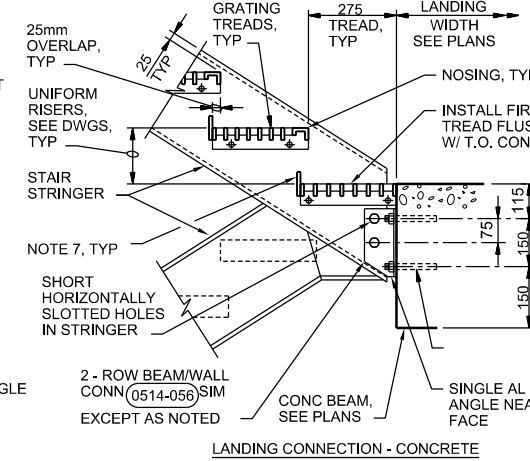
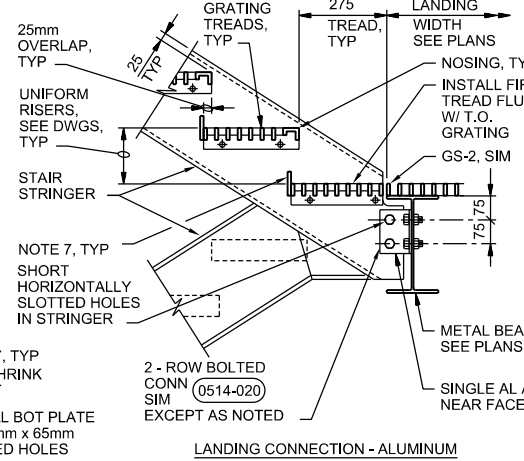
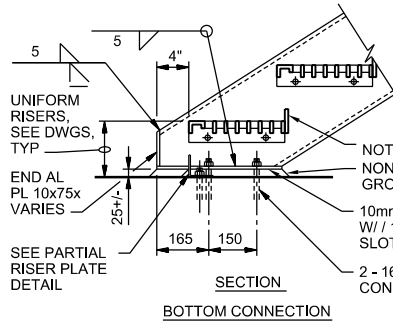
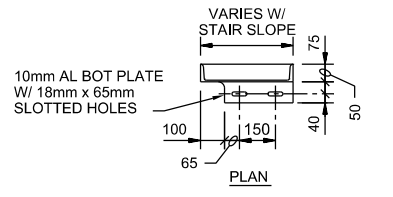
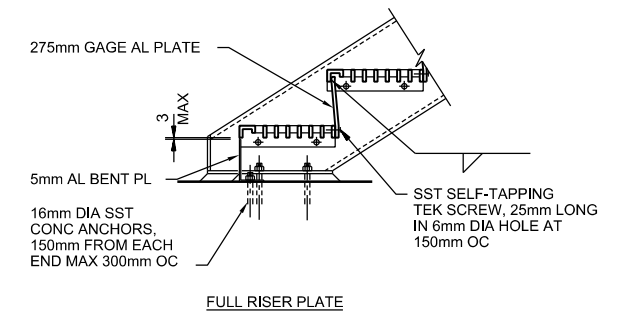
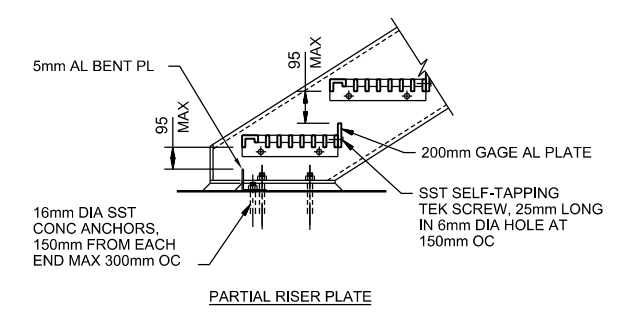
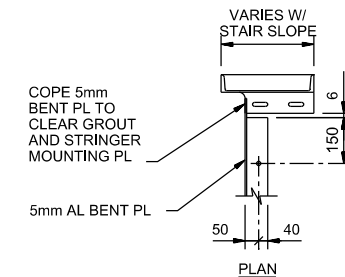
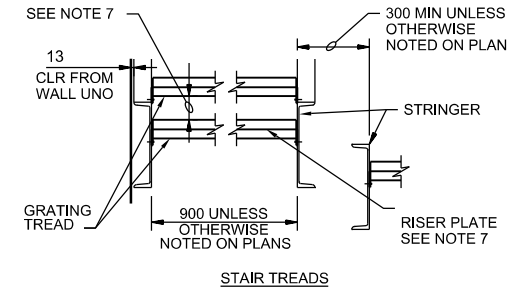
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FILENAME: 590-013-S-512_427716.dwg PLOT DATE: 2014/02/17 PLOT TIME: 1:40:01 PM

- NOTES:**
1. PROVIDE PROTECTION FOR DISSIMILAR METALS AND CONCRETE AS SPECIFIED.
 2. AMERICAN STANDARD C310x11.03 ALUMINUM STRINGERS TYPICAL EXCEPT WHERE OTHERWISE NOTED ON PLANS.
 3. STAIR HANDRAIL NOT SHOWN.
 4. STAIR MANUFACTURER TO COORDINATE BOLTED TREADS AND HANDRAIL CONNECTIONS.
 5. ALL FASTENERS SHALL BE STAINLESS STEEL.
 6. FIELD VERIFY DIMENSIONS AND ELEVATIONS PRIOR TO FABRICATION.
 7. FOR RISER PLATE SEE PARTIAL RISER PLATE DETAIL UNLESS NOTED OTHERWISE. CLEARANCE BETWEEN TOP OF RISER PLATE AND BOTTOM OF TREAD TO BE 95mm MAX. FOR STAIRS WITH PICKET HANDRAIL EXTEND RISER PLATE PER FULL RISER PLATE DETAIL.

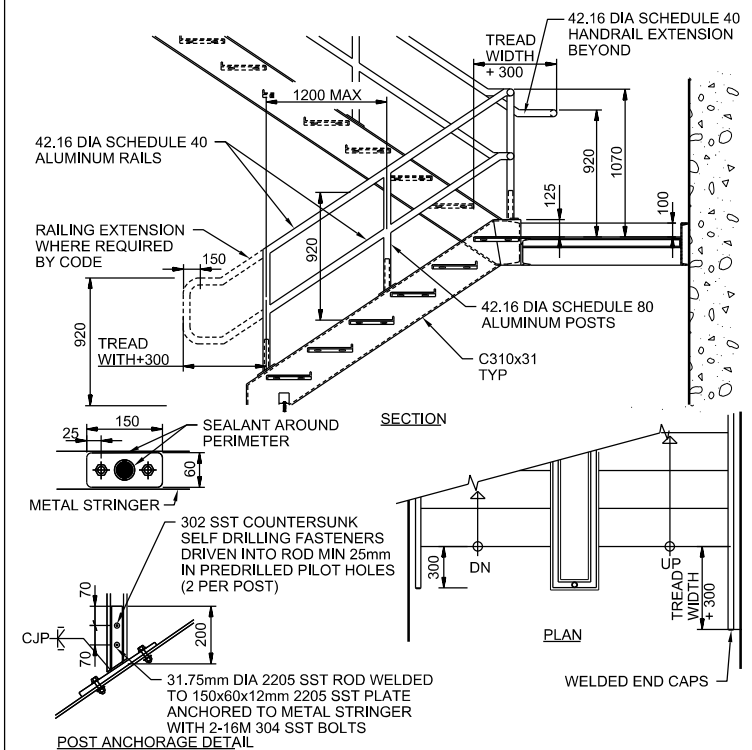
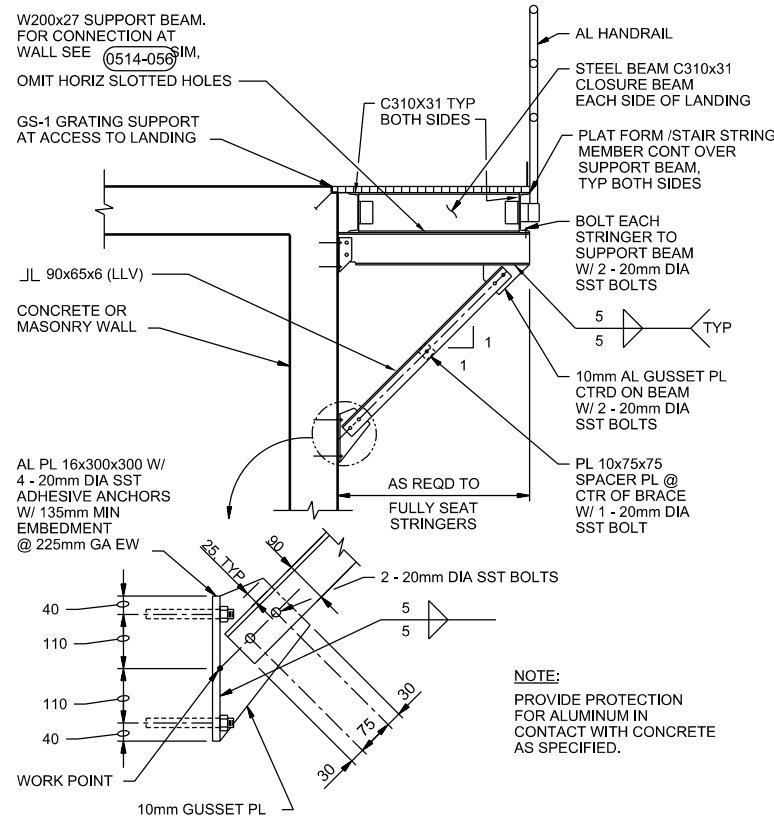


STAIRWAY WIDTH	TREAD BEARING BARS
	ALUMINUM TREAD
675mm OR LESS	25mm x 5mm
825mm OR LESS	30mm x 5mm
975mm OR LESS	40mm x 5mm
1375mm OR LESS	45mm x 5mm



STAIR DETAILS - ALUMINUM

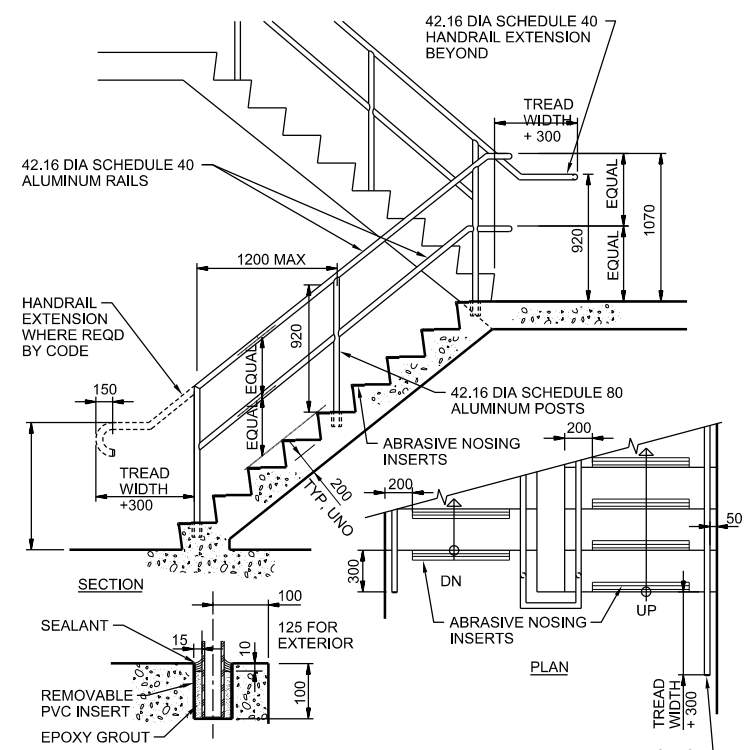
NTS 0551-001



NOTE:
MINIMUM YIELD STRENGTH OF SST ROD AND PLATE TO BE 450 KPa. WELD ROD AND PLATE WITH A FILLER METAL OF MATCHING OR GREATER YIELD STRENGTH.

POST ANCHORAGE - METAL CHEKERED PLATE STAIRS WITH TUBE RAILING

NTS 0552-805



POST EMBEDMENT AND PIPE RAILING ON CONCRETE STAIRS

NTS 0552-806

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FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN GOVERNMENT OF YUKON DESIGN

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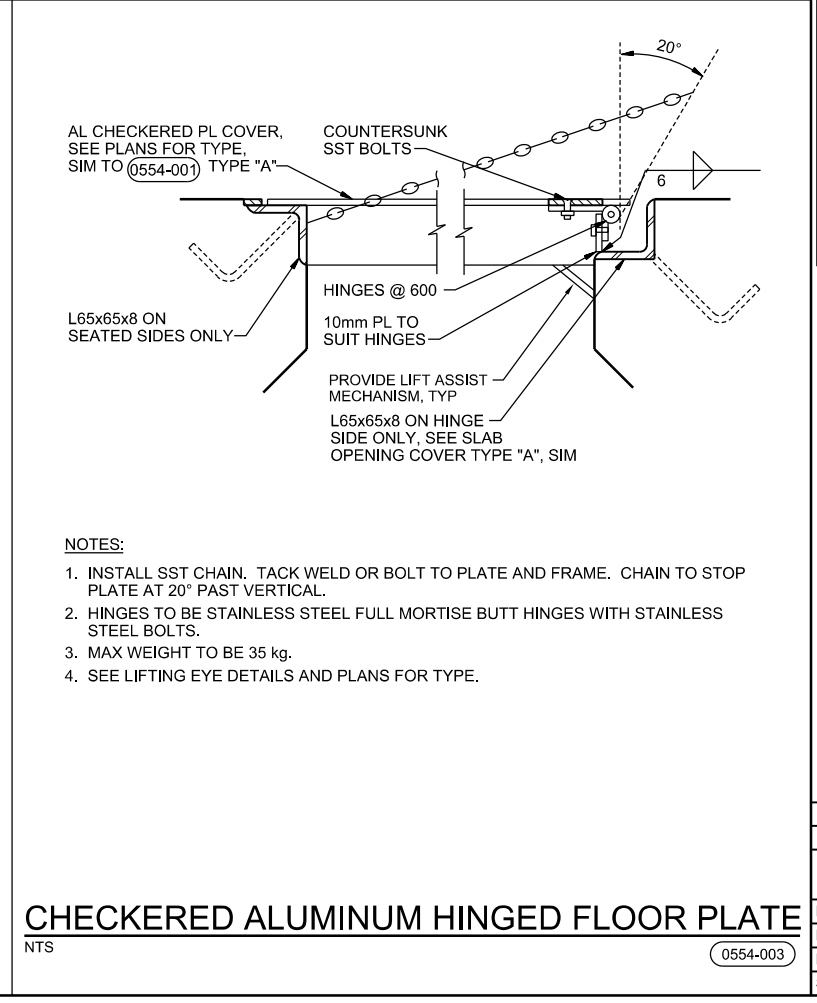
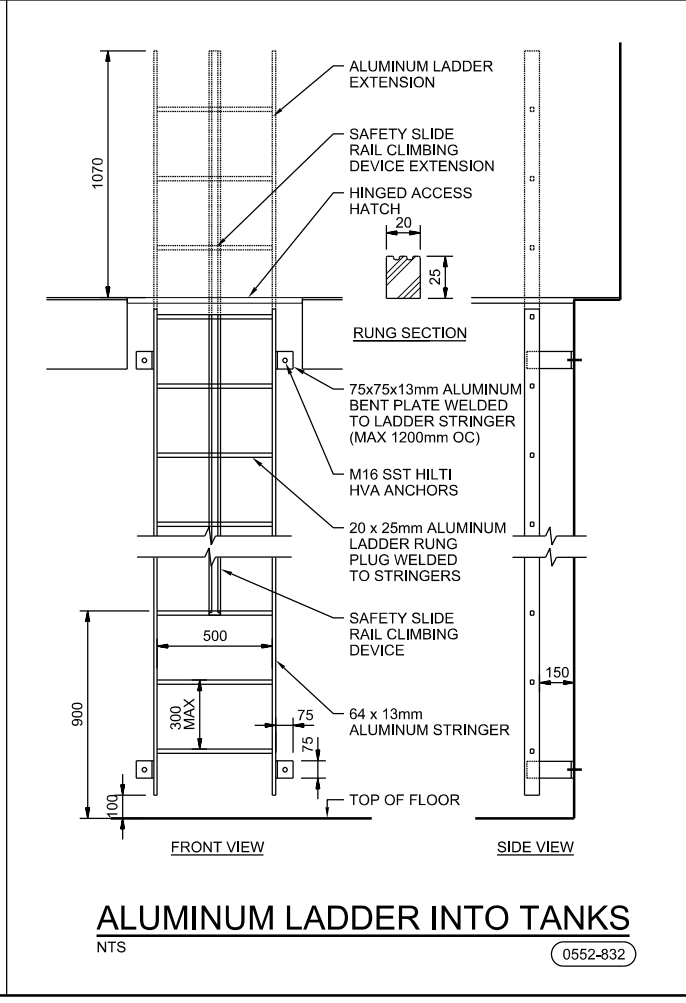
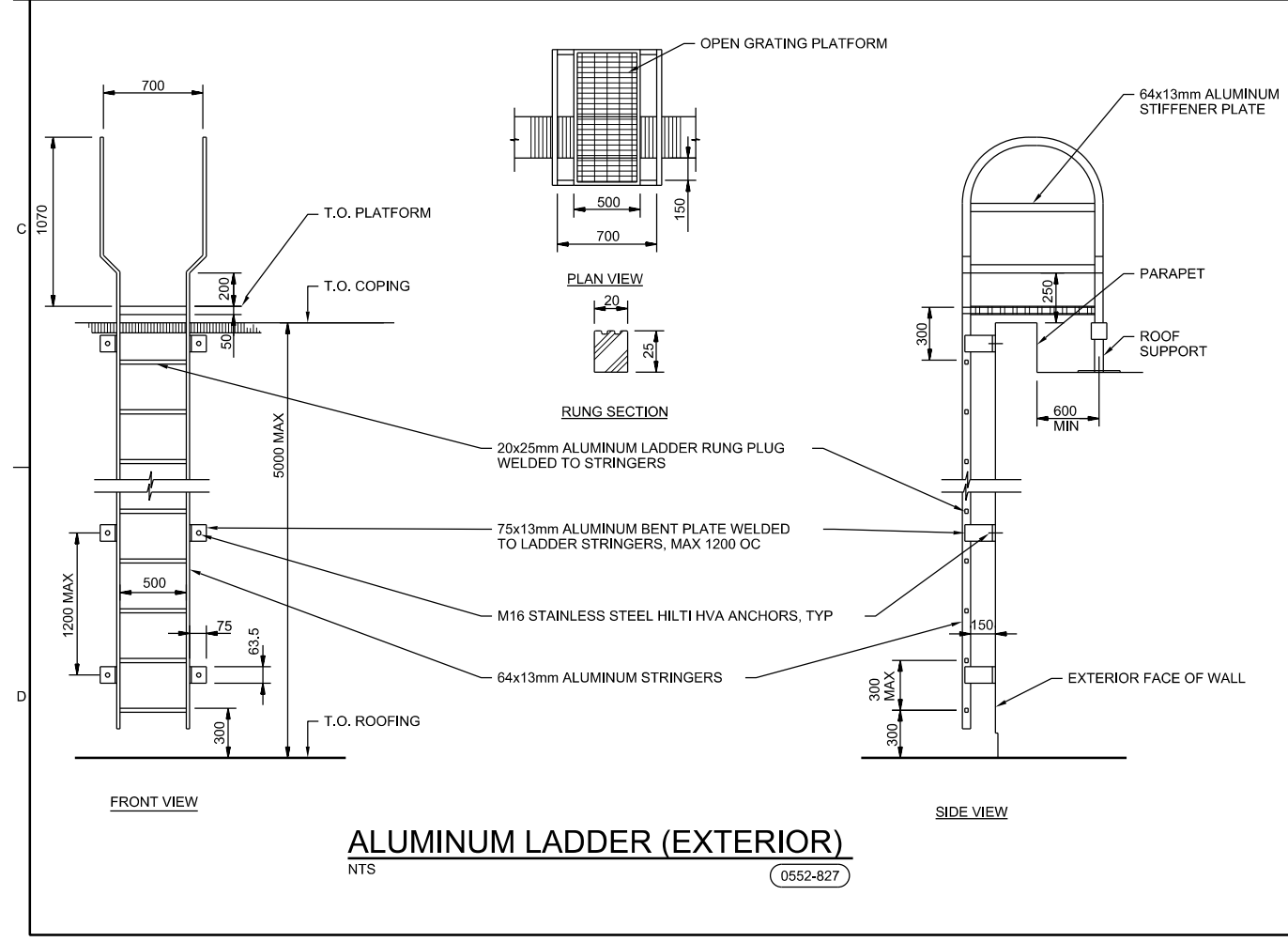
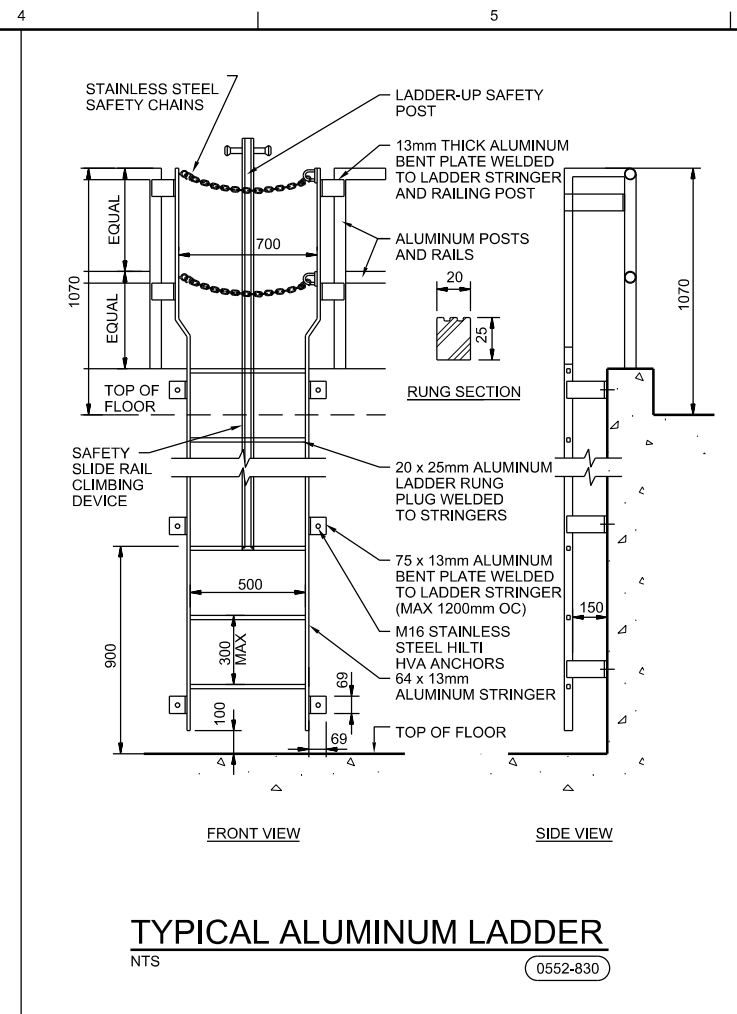
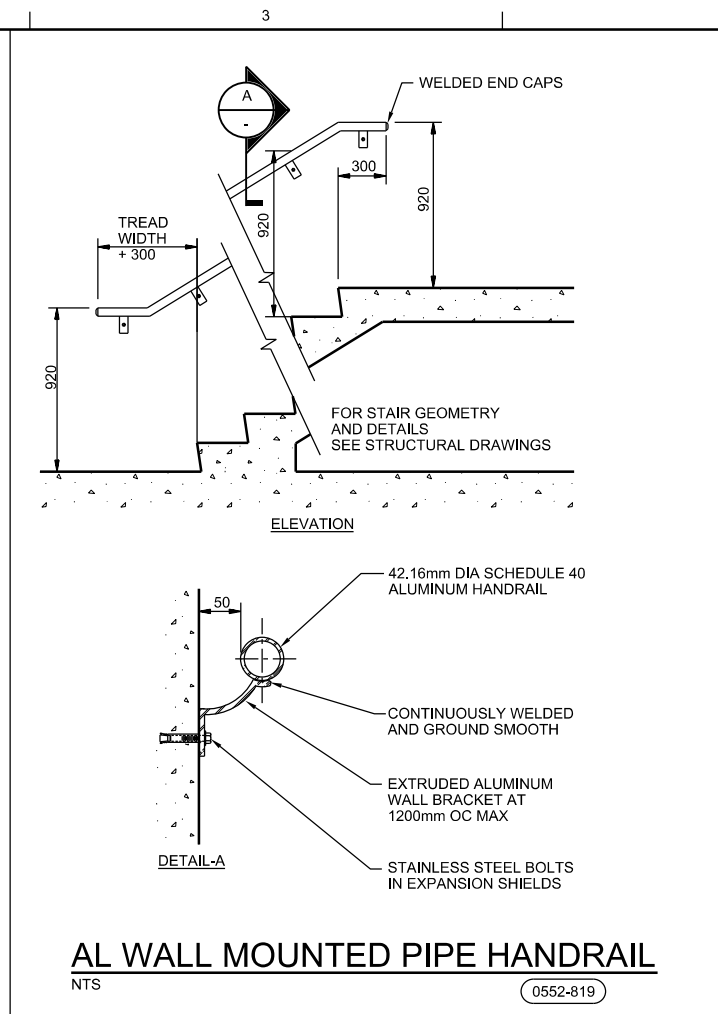
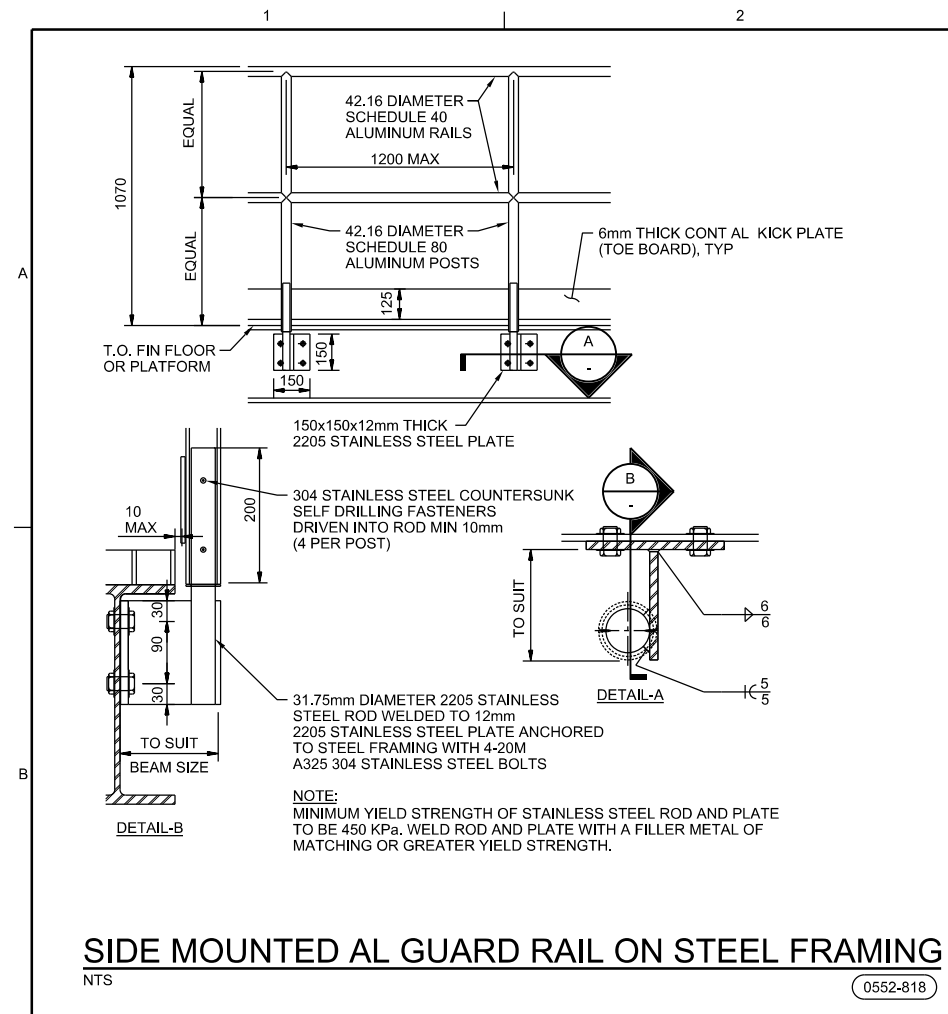
STRUCTURAL STANDARD DETAILS (13)

AS SHOWN VERIFY SCALE BAR IS 25mm ON ORIGINAL DRAWING. DATE FEBRUARY 2014 PROJ TA013-427716 DWG 590-S-513 SHEET



ISSUED FOR DETAIL DESIGN REVIEW	GN	GN	BY	APVD
ISSUED FOR ADVANCED DESIGN REVIEW	RR	RR	BY	APVD
REVISION	CHK	CHK	APVD	APVD
DR	DR	DR	APVD	APVD

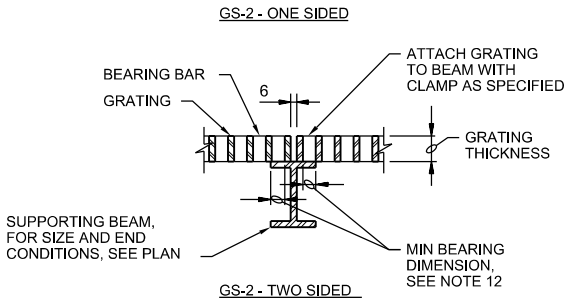
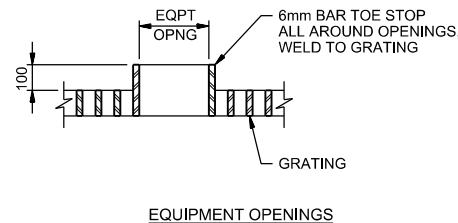
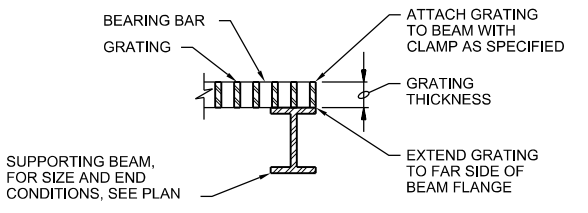
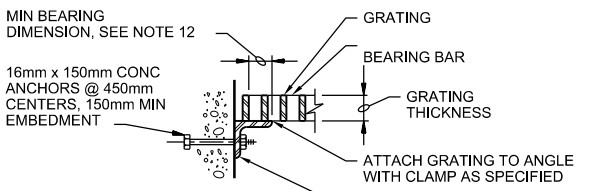
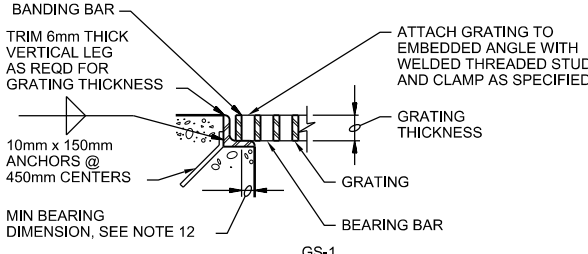
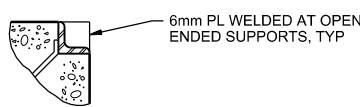
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STRUCTURAL

STANDARD DETAILS (14)

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION	FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN GOVERNMENT OF YUKON DESIGN	NO. DATE A 02/2014	REVISION CHK	APVD A. THAKKAR R. RANA A. THAKKAR
AS SHOWN				
VERIFY SCALE				
BAR IS 25mm ON ORIGINAL DRAWING.				
DATE	FEBRUARY 2014			
PROJ	TA013-427716			
DWG	590-S-514			
SHEET				



LIGHT DUTY GRATING
TYPE 'A'
(100 PSF)

MAXIMUM SPAN	GRATING THICKNESS TABLE	
	STEEL	ALUMINUM
1050	25	32
1200	25	38
1350	25	44
1500	32	44
1650	32	51
1800	38	57
1950	38	57
2100	44	64

HEAVY DUTY GRATING
TYPE 'C'
(H 20 WHEEL LOAD)

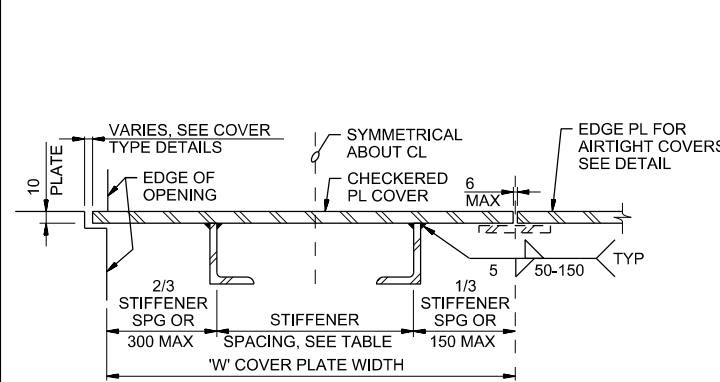
MAXIMUM SPAN	GRATING THICKNESS TABLE	
	STEEL	ALUMINUM
300	51x4.8	DO NOT USE ALUMINUM GRATING
500	64x6.4	
600	64x9.5 OR 76x6.4	
750	76x9.5 OR 102x6.4	
1000	89x9.5	
1200	102x9.5	
1500	114x9.5	

MEDIUM DUTY GRATING
TYPE 'B'
(500 PSF)

MAXIMUM SPAN	GRATING THICKNESS TABLE	
	STEEL	ALUMINUM
< 600	25	25
750	25	32
900	32	38
1050	32	44
1200	38	51
1350	44	57
1500	44	64
1650	51	DO NOT USE ALUMINUM GRATING
1800	57	
1950	64	

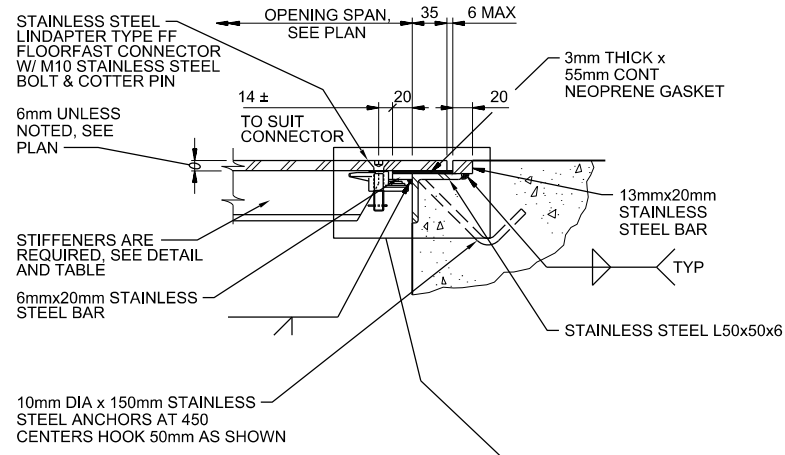
- GENERAL NOTES:**
- GRATING SHALL BE LIGHT DUTY GRATING UNLESS OTHERWISE NOTED ON DRAWINGS.
 - GRATING SPAN - SEE PLAN.
 - INDIVIDUAL GRATING SECTIONS SHALL NOT EXCEED 900mm IN WIDTH OR WEIGH MORE THAN 150 POUNDS, UNLESS INDICATED OTHERWISE. FOR TYPES 'A' & 'B' GRATING, TYPE 'C' GRATING SHALL HAVE A MINIMUM WIDTH OF 600mm REGARDLESS OF WEIGHT.
 - SHOP DRAWINGS BASED ON FIELD DIMENSIONS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO FABRICATION.
 - MATERIAL FOR SUPPORTS OF STEEL AND ALUMINUM GRATING TO BE SAME AS GRATING, EXCEPT METAL SUPPORTS THAT ARE TO BE EMBEDDED IN CONCRETE SHALL BE TYPE 316 STAINLESS STEEL.
 - UNLESS NOTED OTHERWISE ON PLANS, GRATING THICKNESS SHALL BE AS TABULATED IN "GRATING THICKNESS TABLE" FOR APPLICABLE GRATING TYPE.
 - FOR SERRATED BEARING BARS, INCREASE GRATING THICKNESSES SHOWN IN TABLES BY 6mm.
 - BEARING BAR THICKNESS FOR GRATING TO BE 5mm MINIMUM. SEE SPECIFICATIONS FOR SPACING OF BEARING AND CROSS BARS.
 - BAND ALL EDGES. MATCH DEPTH OF BEARING BAR.
 - TYPE OF MATERIAL USED SHALL BE AS SHOWN ON PLANS OR AS SPECIFIED. THIS STANDARD DETAIL INCLUDES 2 TYPES, ALTHOUGH BOTH MAY NOT BE INCLUDED IN PROJECT.
 - THE HORIZONTAL CLEARANCE BETWEEN THE GRATING AND GRATING SUPPORTS SHALL NOT BE LESS THAN 6mm NOR GREATER THAN 13mm AND AS SPECIFIED.
 - FOR TYPE A & B MIN BEARING HORIZONTAL DIMENSION = 25mm FOR GRATING DEPTH 57mm OR LESS, MIN BEARING HORIZONTAL = 50mm FOR GRATING DEPTH GREATER THAN 57mm.
 - MATERIAL FOR GRATING TO BE ALUMINUM UNO, TYP. USE TYPE-A,B, OR C BASED ON LOADING.
 - USE GRATING THICKNESS AS NOTED ON DRAWINGS UNO.

STANDARD AL GRATING
NTS (0553-001)



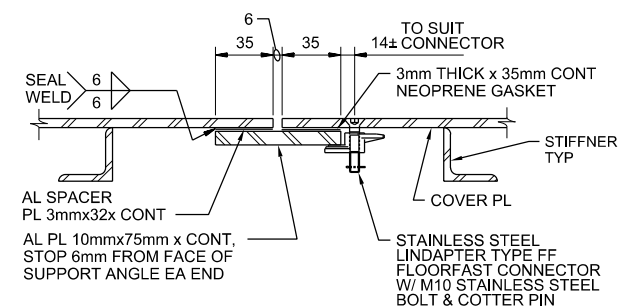
COVER STIFFENERS TABLE

OPENING SPAN LENGTH 'L'	STIFFENER SIZE	MAX STIFFENER SPACING	MAX PLATE WIDTH 'W'
L<750	NONE	-	1500
750<L<1050	L51x38x6.4	450	1200
1050<L<1200	L64x38x6.4	450	1200
1200<L<1350	L64x38x6.4	375	1200
1350<L<1500	L76x51x6.4	450	1200
1500<L<1650	L76x51x6.4	375	900
1650<L<1800	L89x64x6.4	450	900
1800<L<1950	L89x64x6.4	375	750
1950<L<2100	L102x76x6.4	375	750
2100<L<2250	L102x76x6.4	300	600
2250<L<2500	L152x90x8	250	450

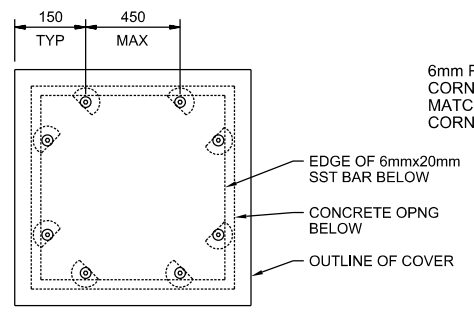


- NOTES:**
- STIFFENERS TO BE PLACED LONG LEG VERTICAL.
 - SPAN DIRECTION OF PLATE TO BE PARALLEL TO STIFFENERS, AND SHALL BE SHORT DIMENSION OF OPENING UNLESS NOTED OTHERWISE ON PLANS.
 - THE ABOVE TABLE APPLIES FOR A MAXIMUM ALLOWABLE UNIFORM DESIGN LOAD=15kPa. THE CONTRACTOR IS TO DESIGN PLATE THICKNESS AND STIFFENER DETAILS FOR OTHER LOAD CONDITIONS.
 - MAXIMUM WEIGHT OF COVER PLATE TO BE 55kg.
 - COVER PLATES AND STIFFENERS ARE ALUMINUM PLATES AND ANGLES.
 - ALL COVER PLATES TO HAVE A MINIMUM OF TWO EYES AS SHOWN IN LIFTING EYE DETAILS.
 - ALL CHECKERED FLOOR PLATE TO BE AIR TIGHT UNO.
 - PROVIDE OPENING(S) IN CHECKERED PLATE FOR PROCESS/MECHANICAL EQUIPMENT AS REQUIRED. COORDINATE WITH EQUIPMENT SUPPLIER AND PROCESS/MECHANICAL DRAWINGS FOR SIZE AND LOCATION.
 - WHERE AL CHECKERED ALUMINUM FLOOR PLATE IS SITTING ON STRUCTURAL STEEL MEMBERS, PROVIDE 55mm WIDE x 3mm THICK CONT NEOPRENE PAD, TYP.

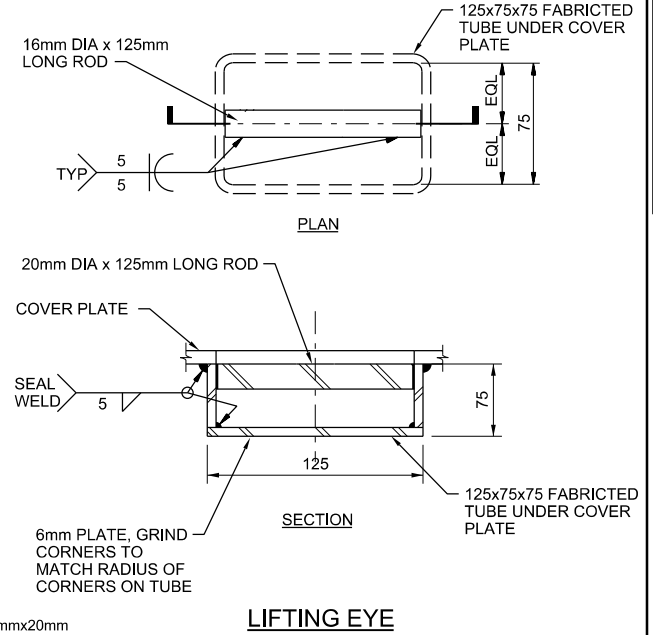
CHECKERED ALUMINUM FLOOR PLATE
NTS (0554-001)



EDGE PLATE DETAIL



CONNECTOR SPACING



LIFTING EYE

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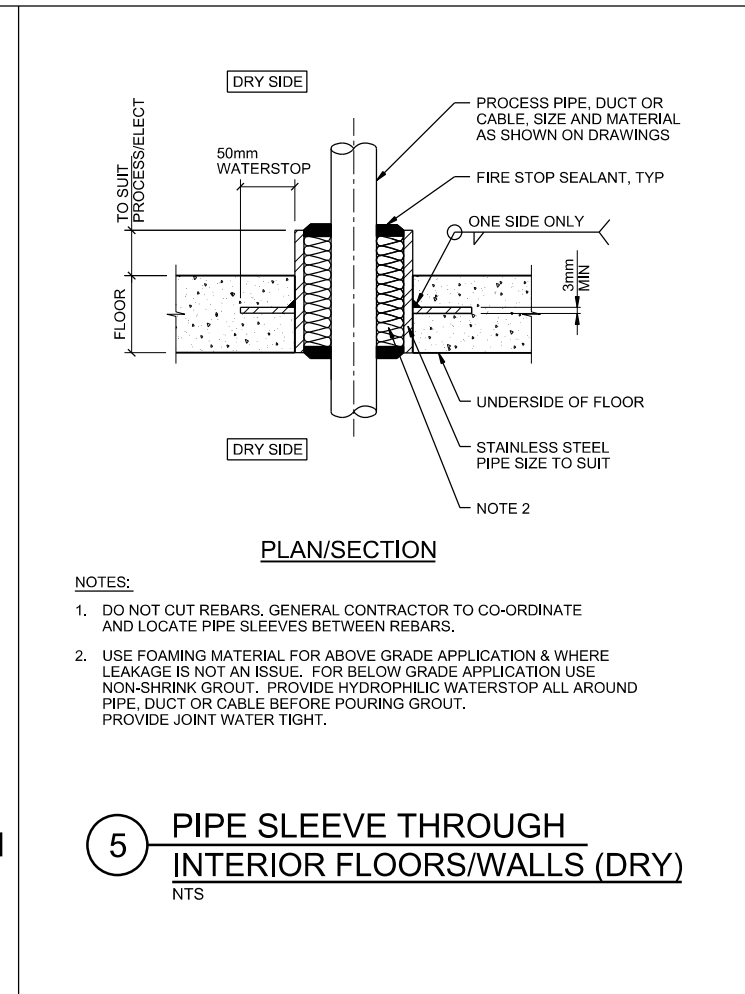
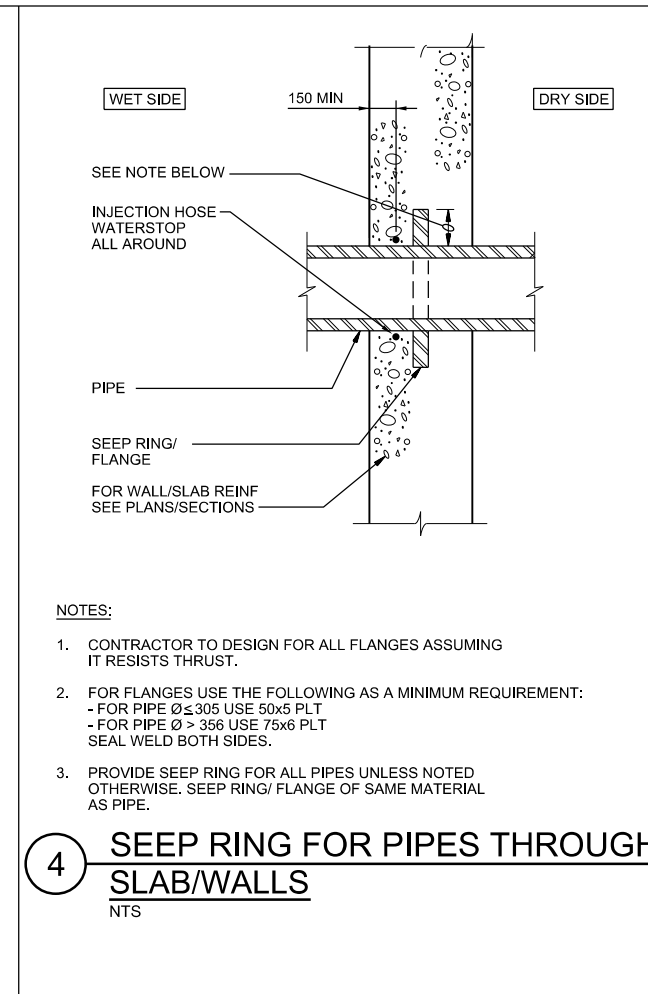
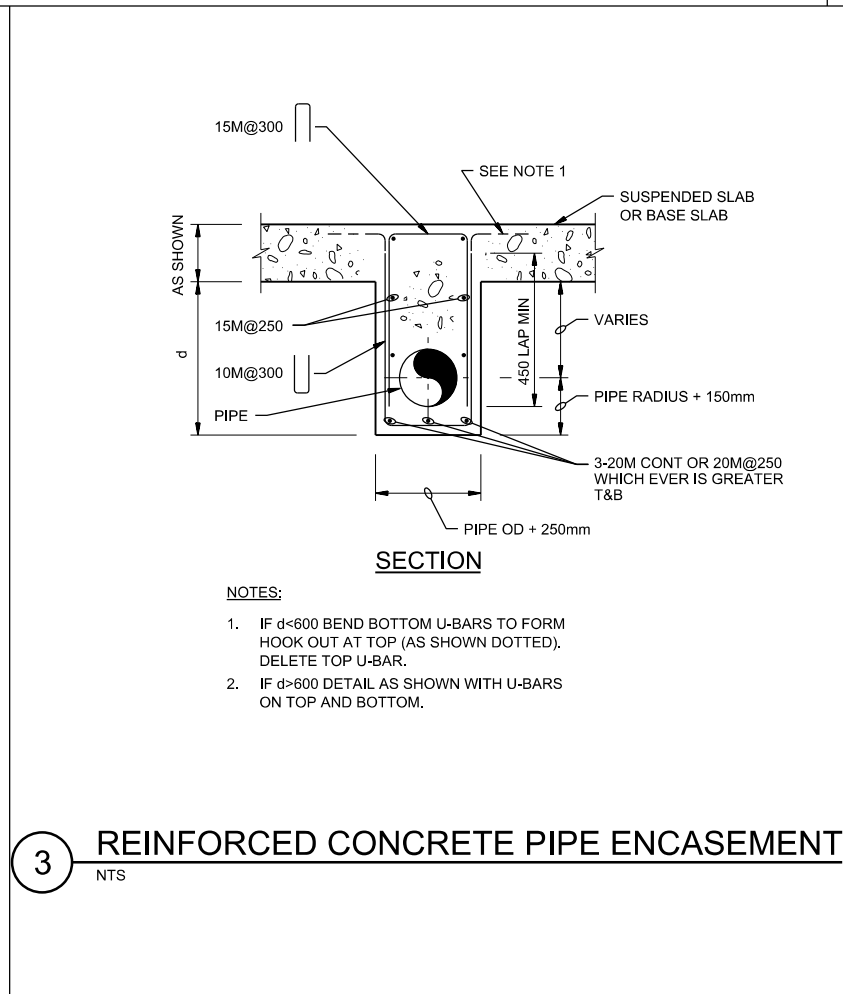
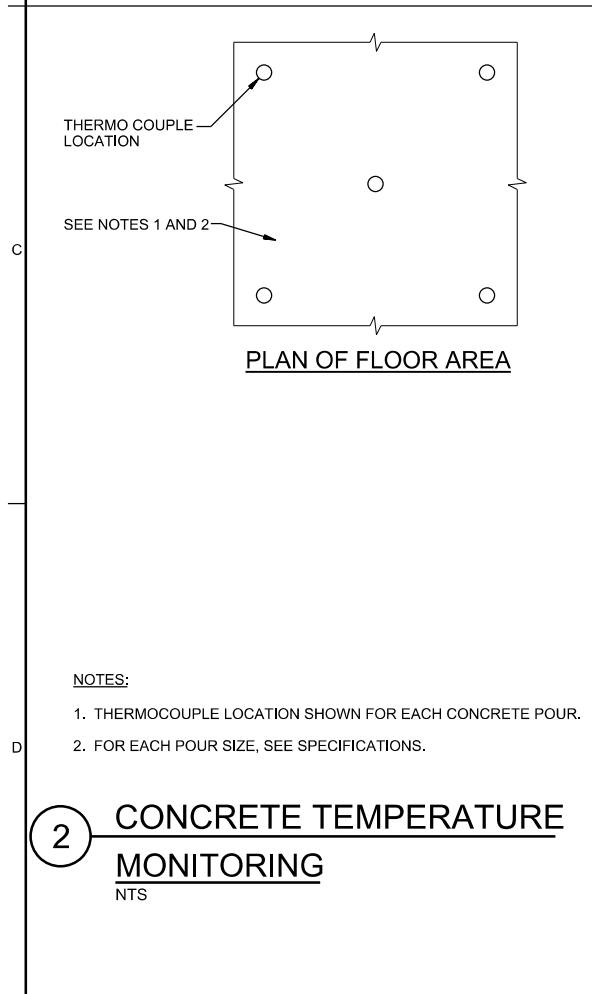
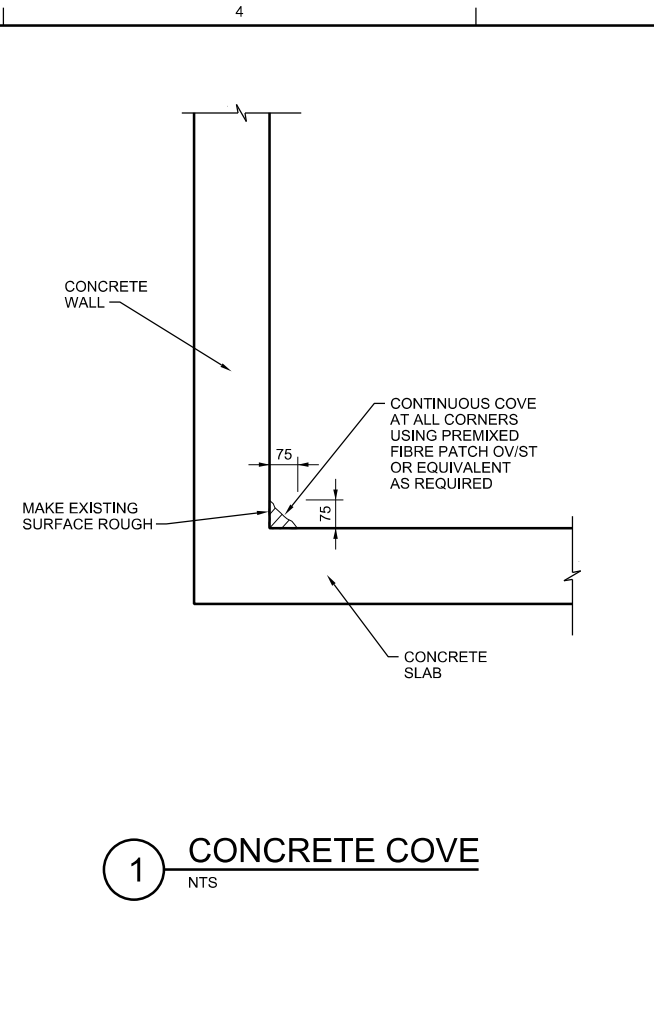
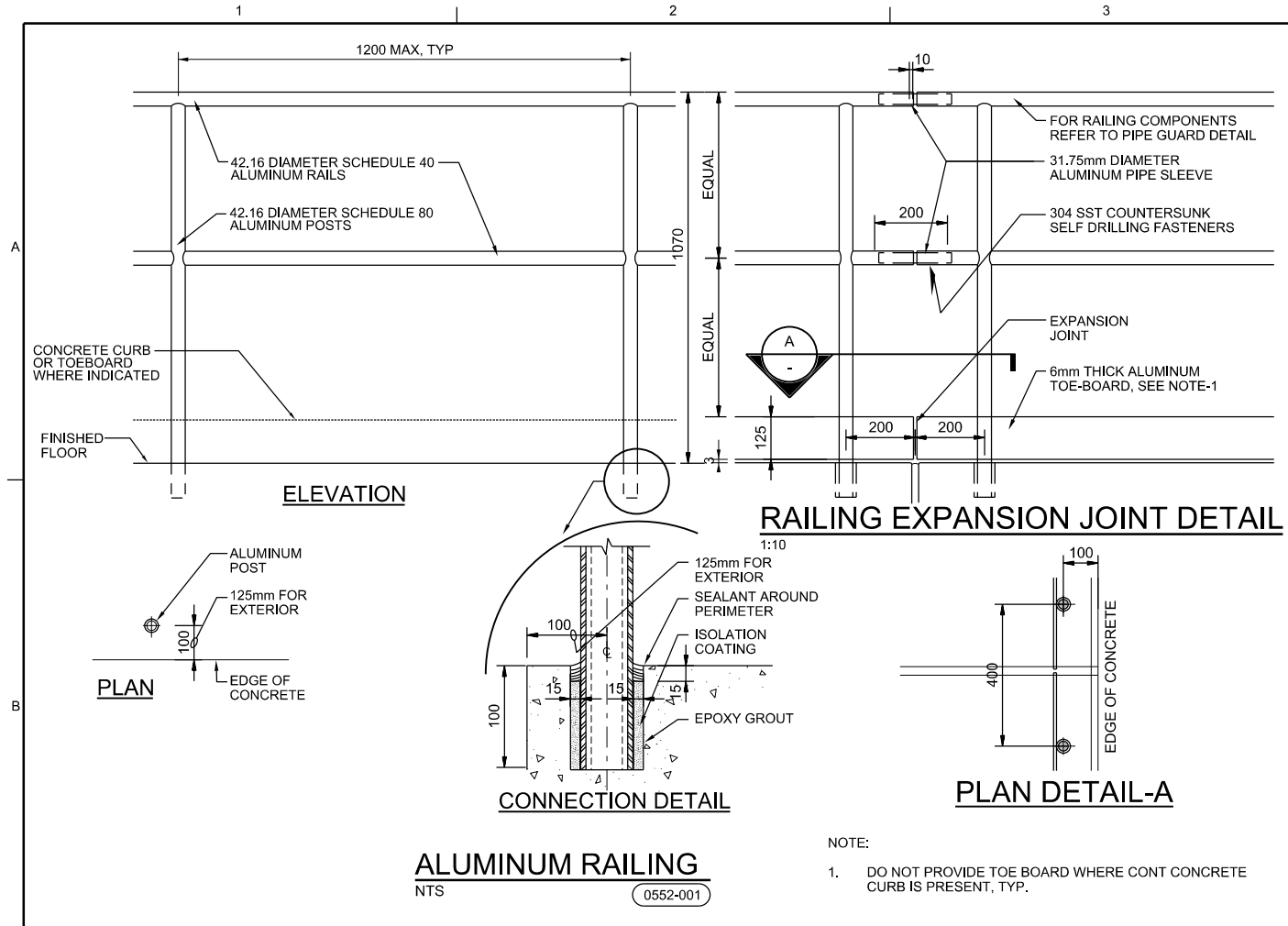
FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN GOVERNMENT OF YUKON DESIGN

CH2MHILL® STRUCTURAL STANDARD DETAILS (15)

AS SHOWN
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWINGS, 25mm
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 590-S-515
SHEET



ISSUED FOR DETAIL DESIGN REVIEW	BY	APVD
REVISION	RR	GN
CHK	R. RANA	A. THAKKAR
DGN	A. THAKKAR	DR



STRUCTURAL

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

NO.	DATE	BY	APVD
A	02/2014	RR	GN

A. THAKKAR
CHK
R. RANA
DR
A. THAKKAR
APVD

ISSUED FOR DETAIL DESIGN REVIEW

AS SHOWN
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
0 25mm

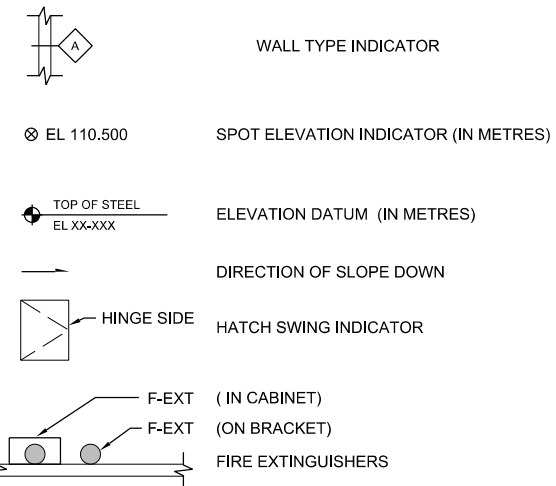
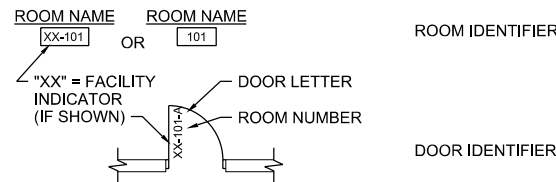
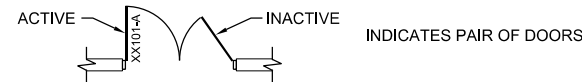
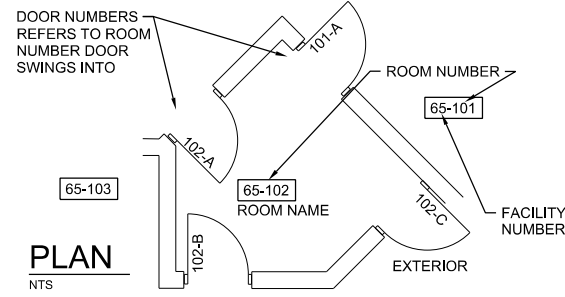
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 590-S-516
SHEET

GENERAL ARCHITECTURAL NOTES

- FOR LOCATION OF EQUIPMENT BASES, SEE BUILDING SERVICES, ELECTRICAL, PROCESS AND STRUCTURAL DRAWINGS. CARRY FLOOR FINISHES UP AND OVER EQUIPMENT BASES TO SUIT EQUIPMENT SUPPLIED.
- FOR LOCATION OF ADDITIONAL ROOF PENETRATIONS (SUCH AS VENTS CONDUITS ETC.) SEE BUILDING SERVICES, ELECTRICAL, PROCESS DRAWINGS AND SPECIFICATIONS.
- PROVIDE CONTROL JOINTS IN CERAMIC TILES AT MAXIMUM 5 METRES OC., AROUND COLUMNS, EQUIPMENT BASES, AND AROUND PERIMETER OF ROOMS.
- REFER TO BUILDING SERVICES, ELECTRICAL AND PROCESS DRAWINGS FOR ADDITIONAL PENETRATIONS IN MASONRY WALLS. PROVIDE LINTELS OVER ALL OPENINGS AS PER DETAILS. DESIGN LINTELS AS PER REQUIREMENT OF THE NATIONAL BUILDING CODE (2010).
- ALL LOOSE STEEL LINTELS ARE TO BE HOT DIPPED GALVANIZED, UNLESS NOTED OTHERWISE, WITH MINIMUM 200 mm BEARING AT EACH END. PROVIDE BOND BREAKER ON FULL BEARING SURFACE UNDER LOOSE LINTELS. LINTELS THAT ARE NOT INDICATED OR DETAILED, ARE TO BE DESIGNED AS PER REQUIREMENTS OF N.B.C. 2010
- ALL MASONRY OPENINGS UP TO 3 METRE WIDE ARE TO RECEIVE LINTEL BLOCKS AS DETAILED IN STRUCTURAL DRAWINGS.
- REINFORCE ALL MASONRY AS PER DETAILS ON STRUCTURAL DRAWINGS
- PROVIDE CONTROL JOINTS AT LOCATIONS INDICATED ON DRAWINGS AND AT 6000mm MAXIMUM
- PROVIDE INSULATED ALUMINUM BLANK OFF PANELS BEHIND UNUSED PORTIONS OF LOUVERS (SEE HVAC AND LOUVER SCHEDULES FOR EXTENT AND LOCATION)
- UNLESS OTHERWISE INDICATED, PLAN DIMENSIONS ARE TO COLUMN GRID ON CENTERLINES, NOMINAL SURFACE OF MASONRY, FACE OF STUDS AND FACE OF CONCRETE WALLS.
- "FLOOR ELEVATION" REFERS TO TOP OF CONCRETE SLABS. FINISH FLOORING IS INSTALLED ABOVE THE FLOOR LINE. FOR DEPRESSED FLOORS AND CURBS, SEE STRUCTURAL DRAWINGS.
- REPETITIVE FEATURES ARE NOT DRAWN IN THEIR ENTIRETY AND SHALL BE COMPLETELY PROVIDED AS IF DRAWN IN FULL.
- LINE OF EXISTING GRADES, AS SHOWN ON THE BUILDING ELEVATIONS AND SECTIONS ARE APPROXIMATE. THEY ARE AT THE BUILDING FACE, OR ON THE SECTION END EXCEPT AS NOTED.
- VERIFY ALL ROUGH-IN DIMENSIONS FOR EQUIPMENT PROVIDED IN THIS CONTRACT, OR BY OTHERS.
- FOR EXTENT OF CHEMICAL RESISTANT COATINGS (CRC) REFER TO ARCHITECTURAL DRAWINGS
- CARRY CHEMICAL RESISTANT COATING UP AND OVER CONTAINMENT WALLS AND EQUIPMENT BASES PRIOR TO INSTALLATION OF CHEMICAL HOLDING TANKS AND ANCILLARY EQUIPMENT
- DIMENSIONS, ELEVATIONS AND DETAILS OF EXISTING STRUCTURES ARE BASED ON PREVIOUS CONTRACT DOCUMENTS. VERIFY ALL INFORMATION ON SITE PRIOR TO COMMENCEMENT OF CONSTRUCTION
- FOR EXTENT OF CEMENTITIOUS WATERPROOFING REFER TO STRUCTURAL AND ARCHITECTURAL DRAWINGS
- FOR GLAZING TYPES, REFER TO SPECIFICATION SECTION 08800
- FOR ABBREVIATIONS, SEE GENERAL ABBREVIATION DRAWINGS

ARCHITECTURAL LEGEND

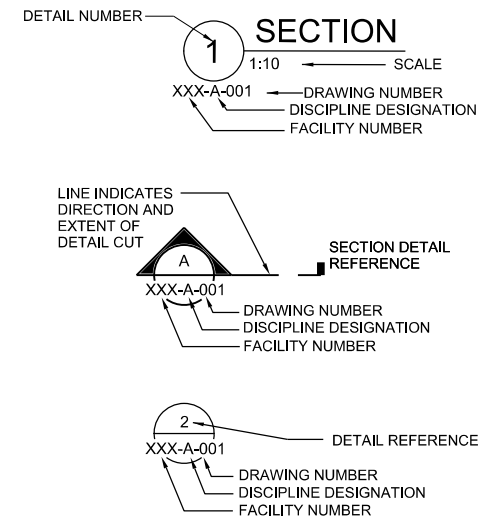
ROOM NAME & NUMBER



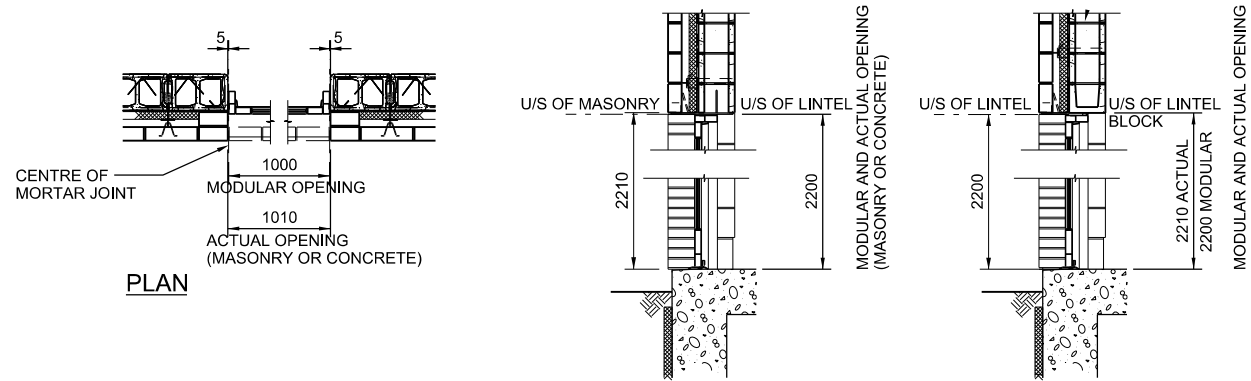
ARCHITECTURAL MATERIAL SYMBOLS

SYMBOL	LEGEND
[Symbol]	GRATING
[Symbol]	CHECKERED PLATE
[Symbol]	GROUT
[Symbol]	GRANULAR FILL
[Symbol]	EARTH OR FINISH GRADE
[Symbol]	CONCRETE
[Symbol]	CMU WALL (PLAN)
[Symbol]	CMU WALL (SECTION)
[Symbol]	FACE BRICK
[Symbol]	STONE
[Symbol]	METAL STUD WALL (PLAN)
[Symbol]	CMU WALL (SECTION)
[Symbol]	FACE BRICK
[Symbol]	STONE
[Symbol]	METAL STUD WALL (PLAN)
[Symbol]	WOOD STUD WALL (PLAN)
[Symbol]	RIGID INSULATION CAVITY WALL INSULATION OR PERIMETER INSULATION
[Symbol]	BATT INSULATION (MINERAL WOOL OR FIBREGLOSS)
[Symbol]	STEEL
[Symbol]	ALUMINUM
[Symbol]	PLYWOOD
[Symbol]	GYPSUM WALLBOARD
[Symbol]	ACOUSTICAL TILE
[Symbol]	WOOD BLOCKING
[Symbol]	FINISHED LUMBER

SECTION/DETAIL MARKS



MODULAR MASONRY DIMENSIONING



MODULAR DIMENSIONING PHILOSOPHY

UNLESS OTHERWISE NOTED:
ALL DIMENSIONS ON DRAWINGS ARE INDICATED AS MODULAR.

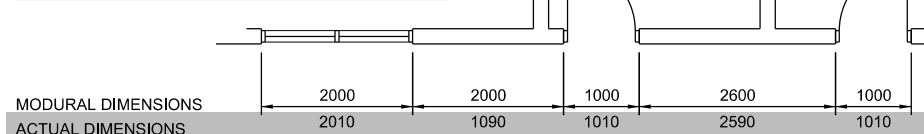
EXAMPLE:

FOR HORIZONTAL OPENINGS, IF AN OPENING IS DIMENSIONED AS 1000, THE ACTUAL OPENING IS 1010, TO COMPENSATE FOR ADDITIONAL 10mm MORTAR JOINT. THE CONCRETE OPENING WOULD ALSO NEED BE 1010.

VERTICAL OPENINGS FOR EXTERIOR CMU OR CONCRETE (MODULAR AND ACTUAL) ARE SIMILAR, THAT IS, A MODULAR OPENING OF 2200 IS ACTUALLY 2210.

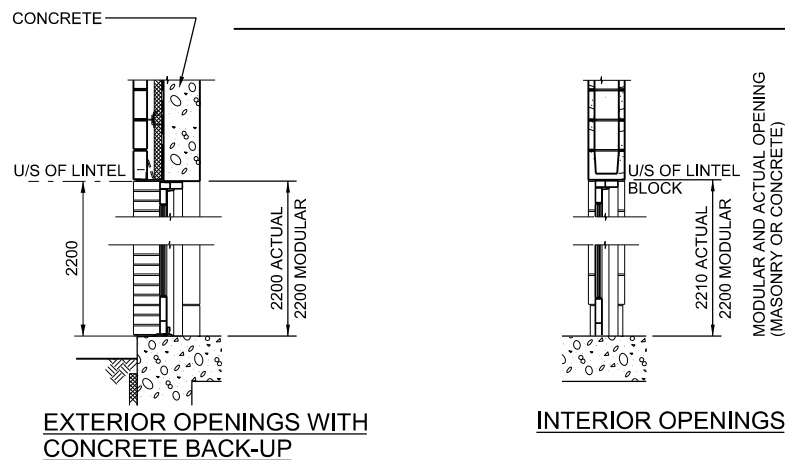
VERTICAL OPENINGS FOR INTERIOR CMU LINTEL BLOCKS OR CONCRETE (MODULAR AND ACTUAL) ARE SIMILAR, THAT IS, A MODULAR OPENING DIMENSIONED AS 2200 IS ACTUALLY 2210. WHEN USING STEEL LINTELS FOR BOTH WYTHES, THEN THE ACTUAL OPENING WILL BE 2200

EXAMPLE FOR MASONRY OPENINGS



EXTERIOR OPENINGS WITH STEEL LINTEL

EXTERIOR OPENINGS WITH CMU LINTEL BLOCK



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ISSUED FOR ADVANCED DESIGN REVIEW	VK	VK	BY	APVD
REVISION	CHK	CHK	BY	APVD
DR	D. IANNETTA	V. KUSLIKIS	R. ZAKKO	

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL CANADA
Architects Inc.

ARCHITECTURAL
GENERAL LEGEND, SYMBOLS
AND ABBREVIATIONS

NTS
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 500-GA-001
SHEET

NATIONAL BUILDING CODE MATRIX (2010)
WATER TREATMENT BUILDING AND GRIT BUILDING

NBC REFERENCE
 (REFERENCES ARE TO
 DIVISION B UNLESS NOTED
 [A] FOR DIVISION A OR
 [C] FOR DIVISION C

ITEM	NEW	ALTERATION	PART 3, 1.1 [A]	NBC REFERENCE
1. PROJECT DESCRIPTION:	<input checked="" type="checkbox"/> NEW	<input type="checkbox"/> ALTERATION	<input type="checkbox"/> PART 3, 1.1 [A]	
	<input type="checkbox"/> ADDITION	<input type="checkbox"/> CHANGE OF USE		
2. MAJOR OCCUPANCY(S):	F3 LOW HAZARD INDUSTRIAL			3.1.2.1.(1)
3. BUILDING AREA:	EXISTING	NEW	TOTAL	1.4.1.2 [A]
	--	1335	1335 SQ.M.	
4. GROSS AREA:	EXISTING	NEW	TOTAL	1.4.1.2 [A]
	--	1335	1335 SQ.M.	
5. NUMBER OF STOREYS:	ABOVE GRADE 1	BELOW GRADE 0		1.4.1.2 [A] & 3.2.1.1
6. NUMBER OF STREETS/FIRE FIGHTER ACCESS:	1			3.2.2.10 & 3.2.5
7. BUILDING CLASSIFICATION:	F3			3.2.2.20-88
8. SPRINKLER SYSTEM PROPOSED:	<input type="checkbox"/> ENTIRE BUILDING <input type="checkbox"/> SELECTED COMPARTMENTS <input type="checkbox"/> SELECTED FLOOR AREAS <input type="checkbox"/> BASEMENT <input checked="" type="checkbox"/> NOT REQUIRED			3.2.2.20-88 3.2.1.5 INDEX
9. STANDPIPE REQUIRED:	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			3.2.5.8
10. FIRE ALARM REQUIRED:	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO NOT REQUIRED, BUT PROVIDED			3.2.4
10A. FIRE EXTINGUISHERS:	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			3.2.5.16
11. WATER SERVICE/SUPPLY IS ADEQUATE:	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO CO-ORDINATE WITH CIVIL DRAWINGS			3.2.5.7
12. HIGH BUILDING	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			3.2.6
13. CONSTRUCTION RESTRICTIONS:	<input type="checkbox"/> COMBUSTIBLE <input type="checkbox"/> NON-COMBUSTIBLE <input checked="" type="checkbox"/> BOTH			3.2.2.20-88
ACTUAL CONSTRUCTION:	<input type="checkbox"/> COMBUSTIBLE <input type="checkbox"/> NON-COMBUSTIBLE <input checked="" type="checkbox"/> BOTH			
14. MEZZANINE(S) AREA:	NOT REQUIRED	SQ.M.		3.2.1.1(3)-(7)
15. OCCUPANT LOAD BASED ON:	<input checked="" type="checkbox"/> SQ.M./PERSON <input checked="" type="checkbox"/> BUILDING DESIGN OCCUPANCY LOAD (IN PERSONS) GROUND FLOOR MAXIMUM 4 4,60 SQ M			3.1.17

16. BARRIER-FREE DESIGN:	<input type="checkbox"/> YES <input checked="" type="checkbox"/> THIS BUILDING IS DESIGNED AS INDUSTRIAL OCCUPANCY WITH NO PUBLIC ACCESS	3.8
17. HAZARDOUS SUBSTANCES:	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	3.3.1.2 & 3.3.1.20

HORIZONTAL ASSEMBLIES	FRR (HRS)		LISTED DESIGN NO./DESCRIP.	FRR (HRS)	LISTED DESIGN NO./DESCRIP.
	FLOORS	ROOF			
SUPPORTING ASSEMBLIES	--	--		--	--
	--	--		--	--
	--	--		--	--

DIRECTION	EBF AREA (SQ.M.)	L/D OR H/L	PERMITTED MAX % OF OPNGS	PROPOSED % OF OPNGS	FRR (HRS)	3.2.3		
						LISTED DESIGN/DESCRIP.	COMB. CONSTR.	NONCOMB. CONSTR.
NORTH	--	--	--	--	--		X	X
SOUTH	--	--	--	--	--		X	X
EAST	--	--	--	--	--		X	X
WEST	--	--	--	--	--		X	X
-	--	--	--	--	--		X	X

20. FIRE RATED SEPARATIONS:	FIRE SEPARATION REQUIRED (HRS)	FIRE SEPARATION REQUIRED (HRS)
EXIT STAIRS	1 HR	

NATIONAL BUILDING CODE MATRIX (2010)
THICKENER EFFLUENT METERING FACILITY

NBC REFERENCE
 (REFERENCES ARE TO
 DIVISION B UNLESS NOTED
 [A] FOR DIVISION A OR
 [C] FOR DIVISION C

ITEM	NEW	ALTERATION	PART 3, 1.1 [A]	NBC REFERENCE
1. PROJECT DESCRIPTION:	<input checked="" type="checkbox"/> NEW	<input type="checkbox"/> ALTERATION	<input type="checkbox"/> PART 3, 1.1 [A]	
	<input type="checkbox"/> ADDITION	<input type="checkbox"/> CHANGE OF USE		
2. MAJOR OCCUPANCY(S):	F3 LOW HAZARD INDUSTRIAL			3.1.2.1.(1)
3. BUILDING AREA:	EXISTING	NEW	TOTAL	1.4.1.2 [A]
	--	130	130 SQ.M.	
4. GROSS AREA:	EXISTING	NEW	TOTAL	1.4.1.2 [A]
	--	130	130 SQ.M.	
5. NUMBER OF STOREYS:	ABOVE GRADE 1	BELOW GRADE 0		1.4.1.2 [A] & 3.2.1.1
6. NUMBER OF STREETS/FIRE FIGHTER ACCESS:	1			3.2.2.10 & 3.2.5
7. BUILDING CLASSIFICATION:	F3			3.2.2.20-88
8. SPRINKLER SYSTEM PROPOSED:	<input type="checkbox"/> ENTIRE BUILDING <input type="checkbox"/> SELECTED COMPARTMENTS <input type="checkbox"/> SELECTED FLOOR AREAS <input type="checkbox"/> BASEMENT <input checked="" type="checkbox"/> NOT REQUIRED			3.2.2.20-88 3.2.1.5 INDEX
9. STANDPIPE REQUIRED:	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			3.2.5.8
10. FIRE ALARM REQUIRED:	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO NOT REQUIRED, BUT PROVIDED			3.2.4
10A. FIRE EXTINGUISHERS:	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			3.2.5.16
11. WATER SERVICE/SUPPLY IS ADEQUATE:	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			3.2.5.7
12. HIGH BUILDING	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			3.2.6
13. CONSTRUCTION RESTRICTIONS:	<input type="checkbox"/> COMBUSTIBLE <input type="checkbox"/> NON-COMBUSTIBLE <input checked="" type="checkbox"/> BOTH			3.2.2.20-88
ACTUAL CONSTRUCTION:	<input type="checkbox"/> COMBUSTIBLE <input type="checkbox"/> NON-COMBUSTIBLE <input checked="" type="checkbox"/> BOTH			
14. MEZZANINE(S) AREA:	NOT REQUIRED	SQ.M.		3.2.1.1(3)-(7)
15. OCCUPANT LOAD BASED ON:	<input checked="" type="checkbox"/> SQ.M./PERSON <input checked="" type="checkbox"/> BUILDING DESIGN OCCUPANCY LOAD (IN PERSONS) GROUND FLOOR MAX 4 4,60 SQ M			3.1.17

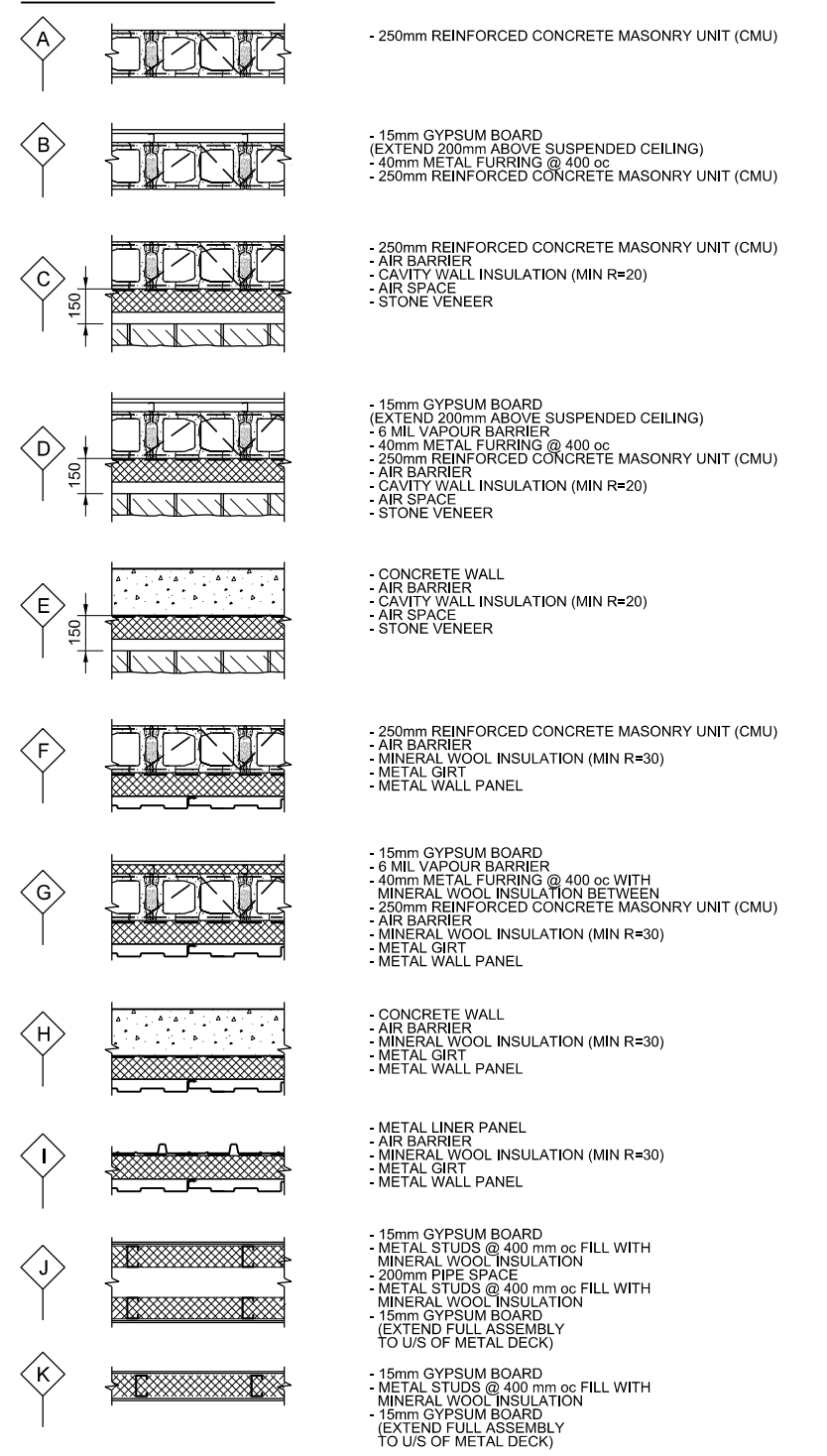
16. BARRIER-FREE DESIGN:	<input type="checkbox"/> YES <input checked="" type="checkbox"/> THIS BUILDING IS DESIGNED AS INDUSTRIAL OCCUPANCY WITH NO PUBLIC ACCESS	3.8
17. HAZARDOUS SUBSTANCES:	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	3.3.1.2 & 3.3.1.20

HORIZONTAL ASSEMBLIES	FRR (HRS)		LISTED DESIGN NO./DESCRIP.	FRR (HRS)	LISTED DESIGN NO./DESCRIP.
	FLOORS	ROOF			
SUPPORTING ASSEMBLIES	--	--		--	--
	--	--		--	--
	--	--		--	--

DIRECTION	EBF AREA (SQ.M.)	L/D OR H/L	PERMITTED MAX % OF OPNGS	PROPOSED % OF OPNGS	FRR (HRS)	3.2.3		
						LISTED DESIGN/DESCRIP.	COMB. CONSTR.	NONCOMB. CONSTR.
NORTH	--	--	--	--	--		X	X
SOUTH	--	--	--	--	--		X	X
EAST	--	--	--	--	--		X	X
WEST	--	--	--	--	--		X	X
-	--	--	--	--	--		X	X

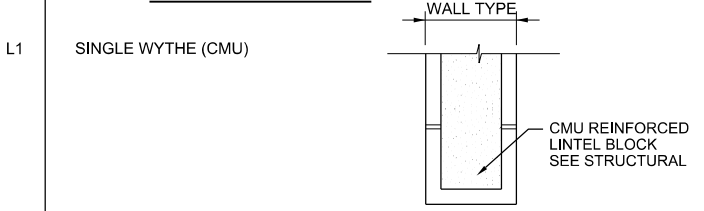
20. FIRE RATED SEPARATIONS:	FIRE SEPARATION REQUIRED (HRS)	FIRE SEPARATION REQUIRED (HRS)
STAIR	1 HR	
VESTIBULE 530-302	1 HR	

WALL TYPES LEGEND



NOTE:
 FOR EXTENT OF CMU REINFORCING
 SEE STRUCTURAL DRAWINGS AND SPECS.

LINTEL TYPES



NOTE:
 USED AT ALL OPENINGS IN
 CMU WALL (REFER TO
 STRUCTURAL DRAWINGS FOR
 DETAILS)



ISSUED FOR DETAIL DESIGN REVIEW	GN
ISSUED FOR ADVANCED DESIGN REVIEW	GN
REVISION	BY APVD
CHK	APVD
DR	APVD
D. LIANNETTA	R. ZAKKO
V. KUSLIKIS	

90% DETAIL DESIGN REVIEW
 NOT FOR TENDER OR
 CONSTRUCTION

FARO MINE REMEDIATION
 WATER TREATMENT PLANT DESIGN
 GOVERNMENT OF YUKON

DESIGN

CH2MHILL CANADA
 Architects Inc.

ARCHITECTURAL
 OVERALL
 BUILDING CODE MATRIX

NTS

VERIFY SCALE

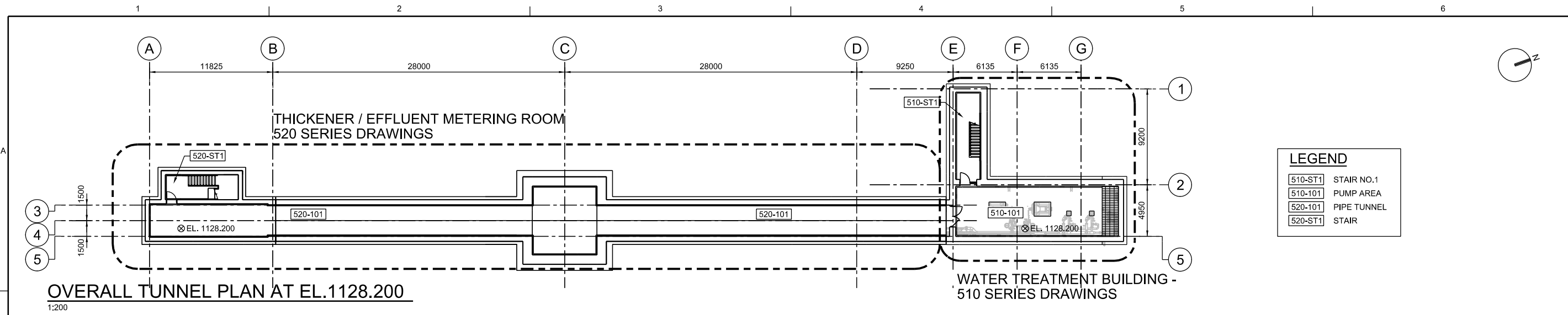
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DATE FEBRUARY 2014

PROJ TA013-427716

DWG 500-GA-002

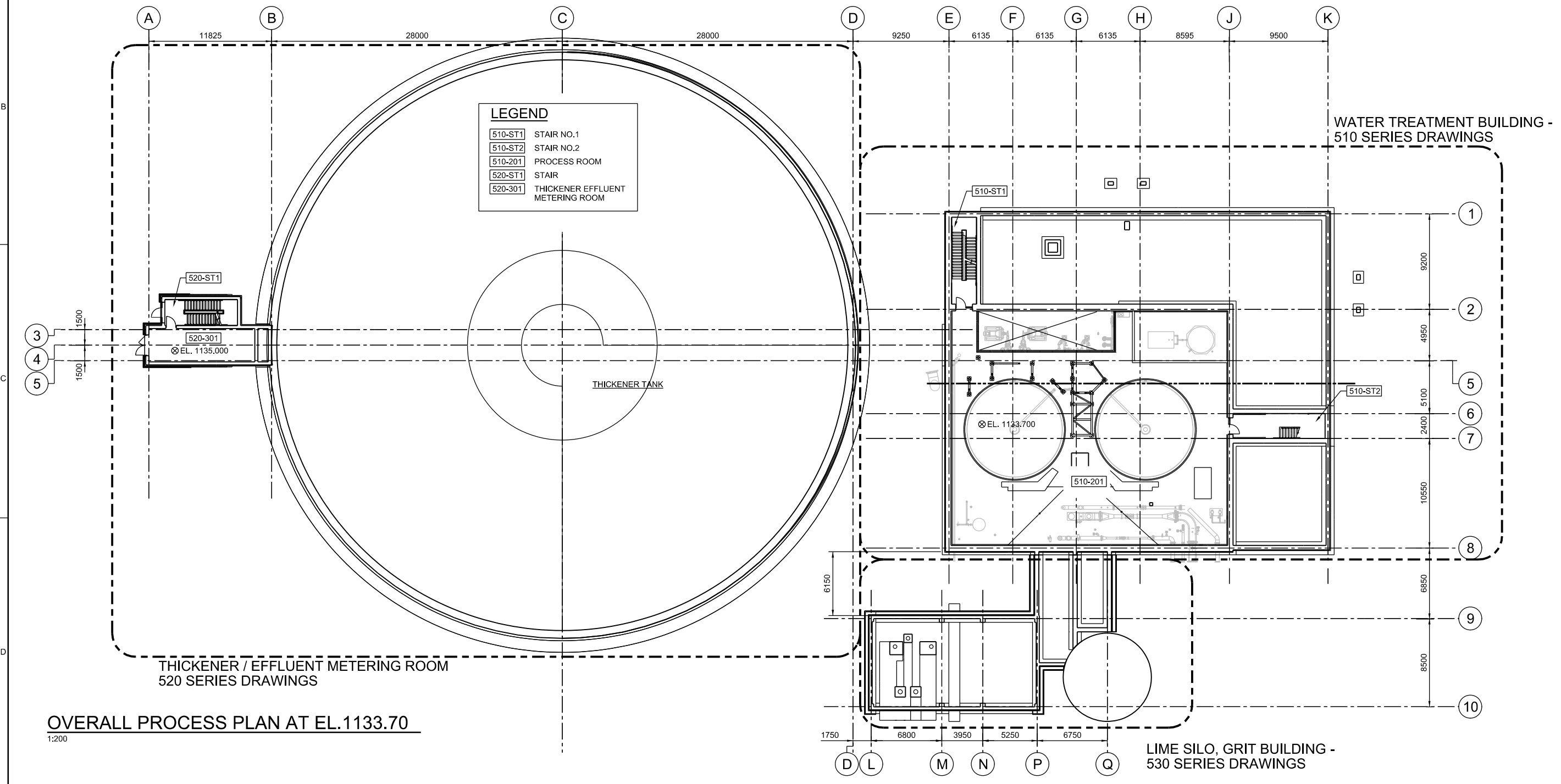
SHEET



OVERALL TUNNEL PLAN AT EL. 1128.200
1:200

LEGEND

510-ST1	STAIR NO.1
510-101	PUMP AREA
520-101	PIPE TUNNEL
520-ST1	STAIR



OVERALL PROCESS PLAN AT EL. 1133.70
1:200

LEGEND

510-ST1	STAIR NO.1
510-ST2	STAIR NO.2
510-201	PROCESS ROOM
520-ST1	STAIR
520-301	THICKENER EFFLUENT METERING ROOM



NO.	DATE	REVISION	BY	APVD
B	02/2014	ISSUED FOR DETAIL DESIGN REVIEW	VK	GN
A	09/2013	ISSUED FOR ADVANCED DESIGN REVIEW	VK	GN
DR		CHK		APVD
			V. KUSLIKIS	R. ZAKKO

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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

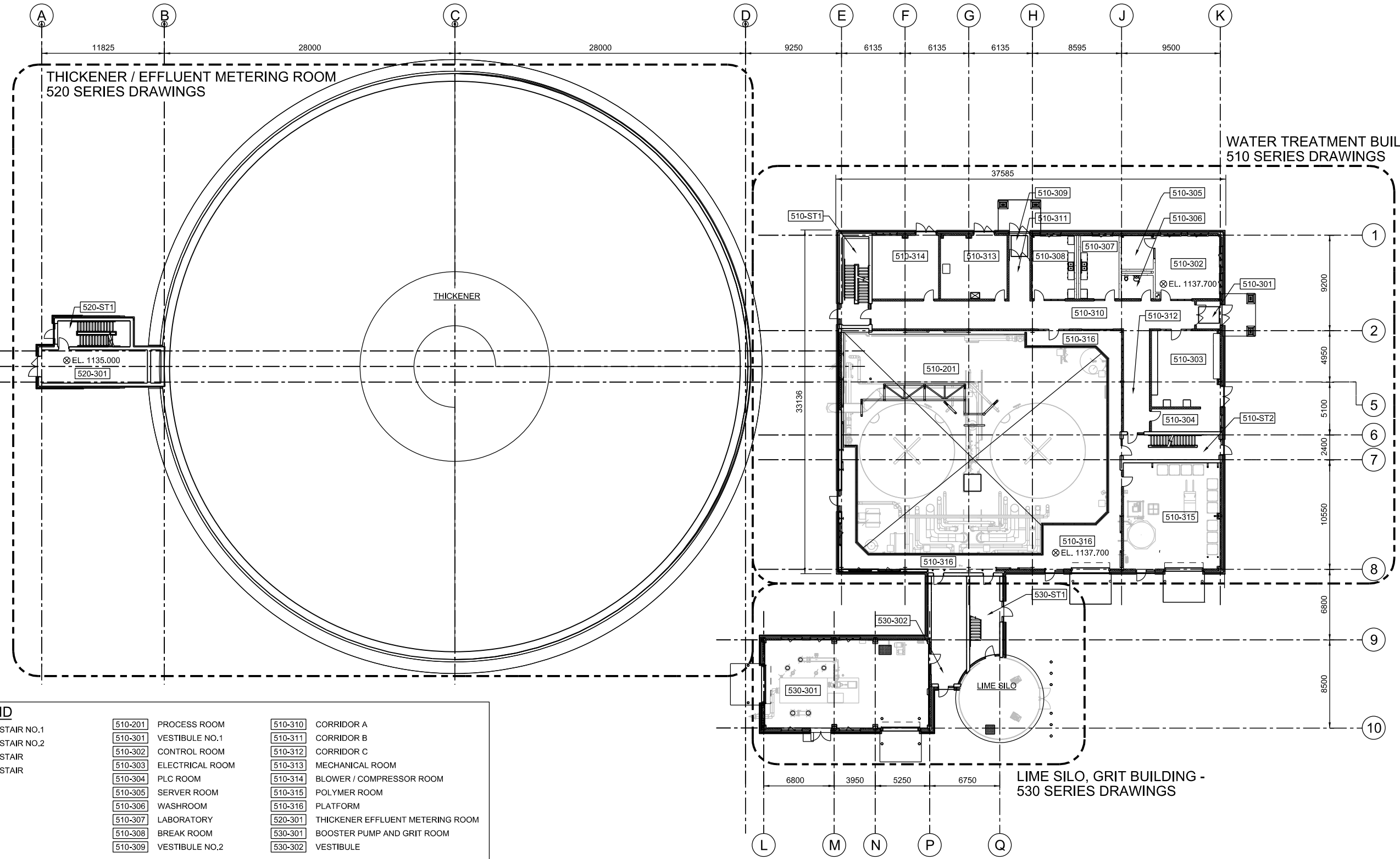
CH2MHILL CANADA Architects Inc.

ARCHITECTURAL
OVERALL PIPE TUNNEL AND PROCESS PLAN

NTS
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWINGS.
25mm

DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	500-A-202
SHEET	

1 2 3 4 5 6



THICKENER / EFFLUENT METERING ROOM
520 SERIES DRAWINGS

WATER TREATMENT BUILDING -
510 SERIES DRAWINGS

LIME SILO, GRIT BUILDING -
530 SERIES DRAWINGS

LEGEND					
510-ST1	STAIR NO.1	510-201	PROCESS ROOM	510-310	CORRIDOR A
510-ST2	STAIR NO.2	510-301	VESTIBULE NO.1	510-311	CORRIDOR B
520-ST1	STAIR	510-302	CONTROL ROOM	510-312	CORRIDOR C
530-ST1	STAIR	510-303	ELECTRICAL ROOM	510-313	MECHANICAL ROOM
		510-304	PLC ROOM	510-314	BLOWER / COMPRESSOR ROOM
		510-305	SERVER ROOM	510-315	POLYMER ROOM
		510-306	WASHROOM	510-316	PLATFORM
		510-307	LABORATORY	520-301	THICKENER EFFLUENT METERING ROOM
		510-308	BREAK ROOM	530-301	BOOSTER PUMP AND GRIT ROOM
		510-309	VESTIBULE NO.2	530-302	VESTIBULE

OVERALL GROUND FLOOR PLAN
1:200

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ARCHITECTURAL
OVERALL GROUND FLOOR
PLAN

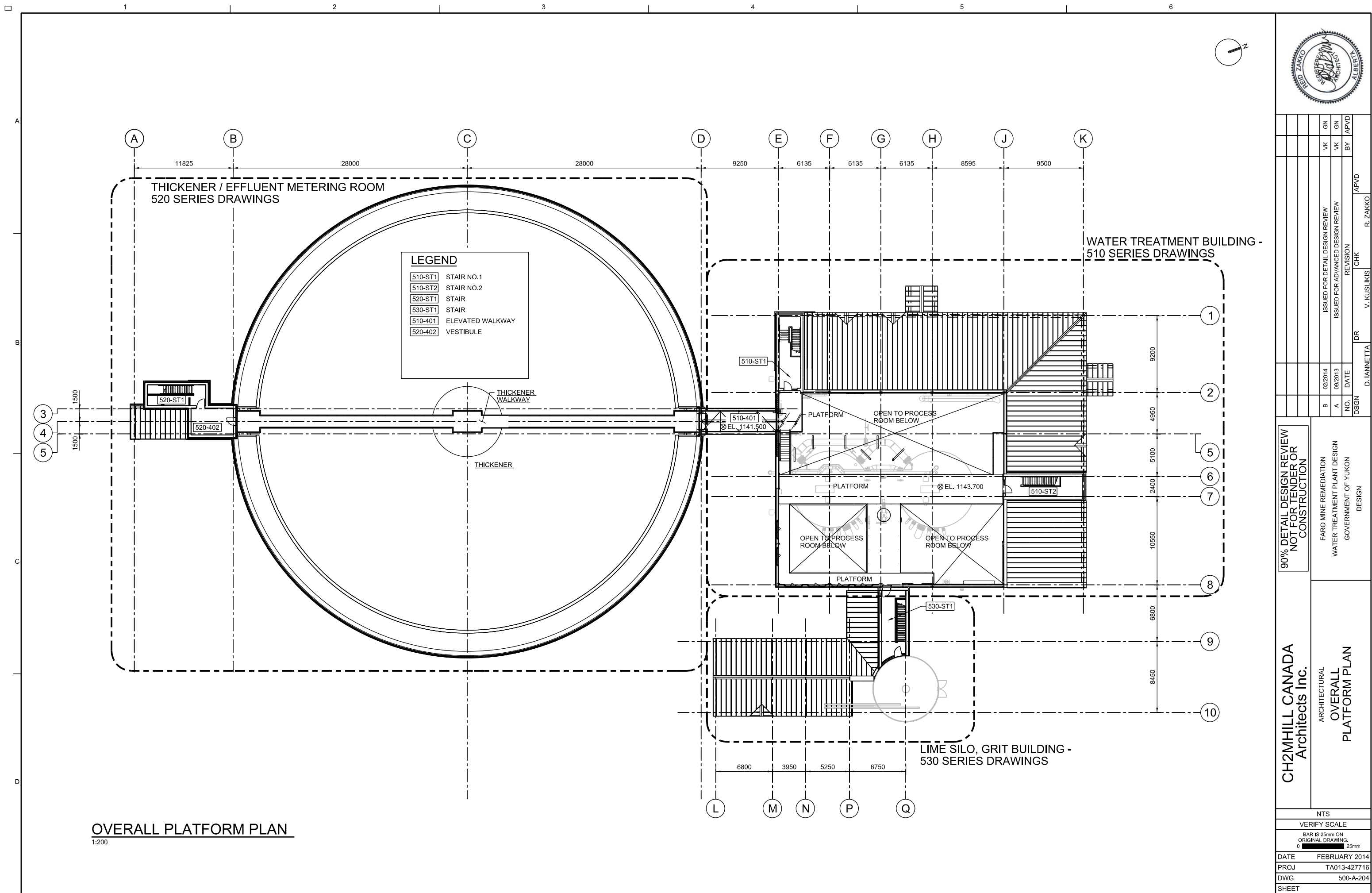
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

NTS
VERIFY SCALE
BAR IS 25mm ON
ORIGINAL DRAWING.
0 25mm

DATE FEBRUARY 2014
PROJ TA013-427716
DWG 500-A-203
SHEET

ISSUED FOR DETAIL DESIGN REVIEW	GN	GN	APVD
ISSUED FOR ADVANCED DESIGN REVIEW	VK	VK	BY
REVISION	NO.	DATE	DR
	DJANNETTA		
	V. KUSLIKIS		
	CHK		
	R. ZAKKO		APVD

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ISSUED FOR ADVANCED DESIGN REVIEW	VK	GN
REVISION	BY	APVD
DR	CHK	APVD
D. IANNETTA	V. KUSLIKIS	R. ZAKKO

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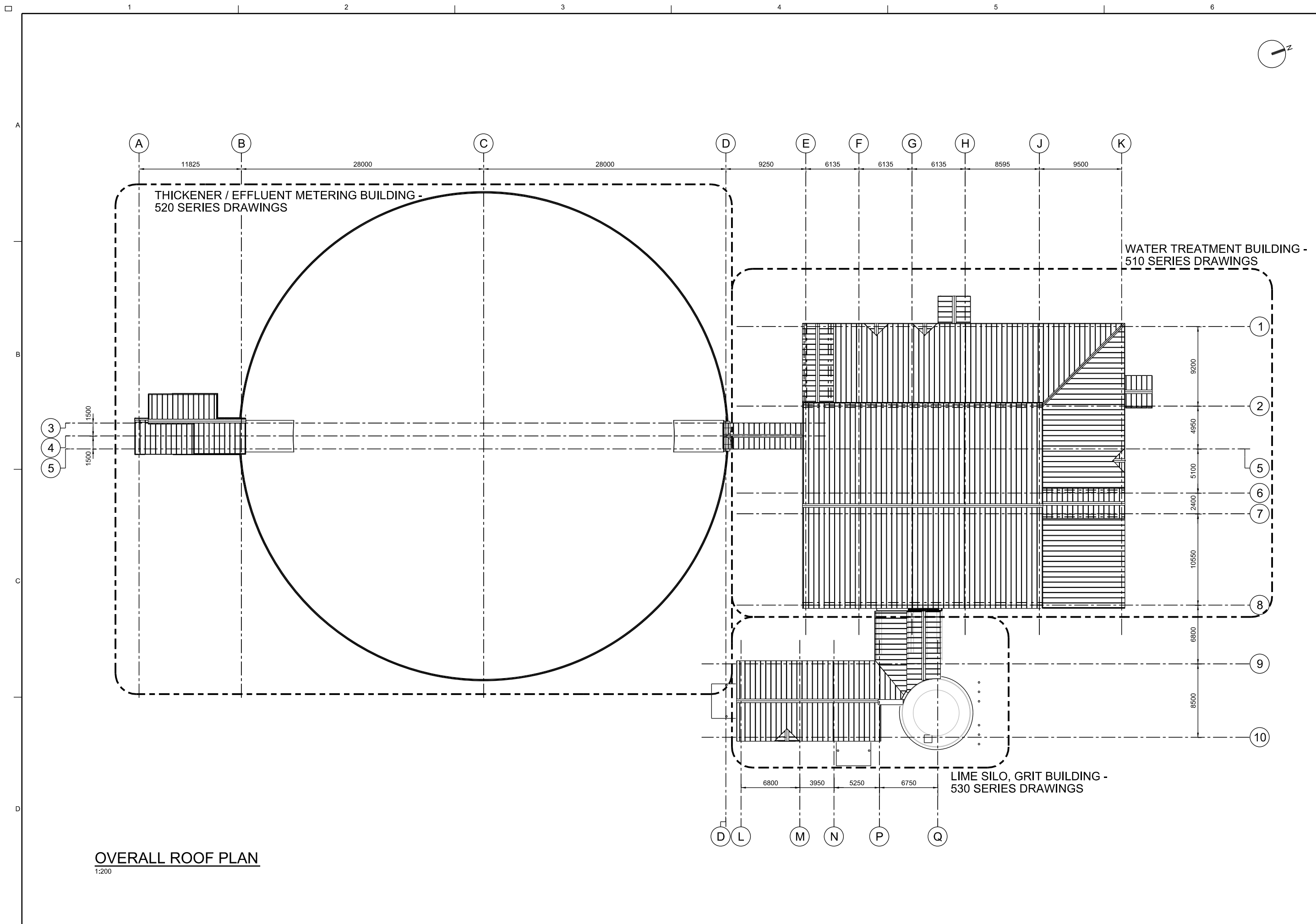
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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ARCHITECTURAL
OVERALL PLATFORM PLAN

NTS
VERIFY SCALE
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DATE FEBRUARY 2014
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DWG 500-A-204
SHEET

OVERALL PLATFORM PLAN
1:200



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B	02/2014	ISSUED FOR DETAIL DESIGN REVIEW	V. KUSLIKIS	R. ZAKKO
A	09/2013	ISSUED FOR ADVANCED DESIGN REVIEW	D. IANNETTA	
			DR	
			CHK	
			BY	
			APVD	

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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL CANADA Architects Inc.

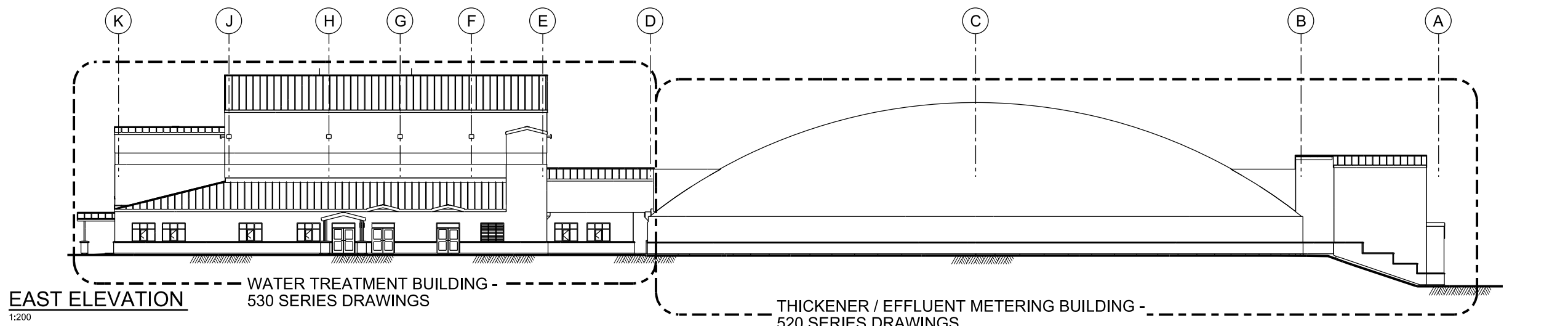
ARCHITECTURAL
OVERALL ROOF PLAN

NTS	
VERIFY SCALE	
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DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	500-A-205
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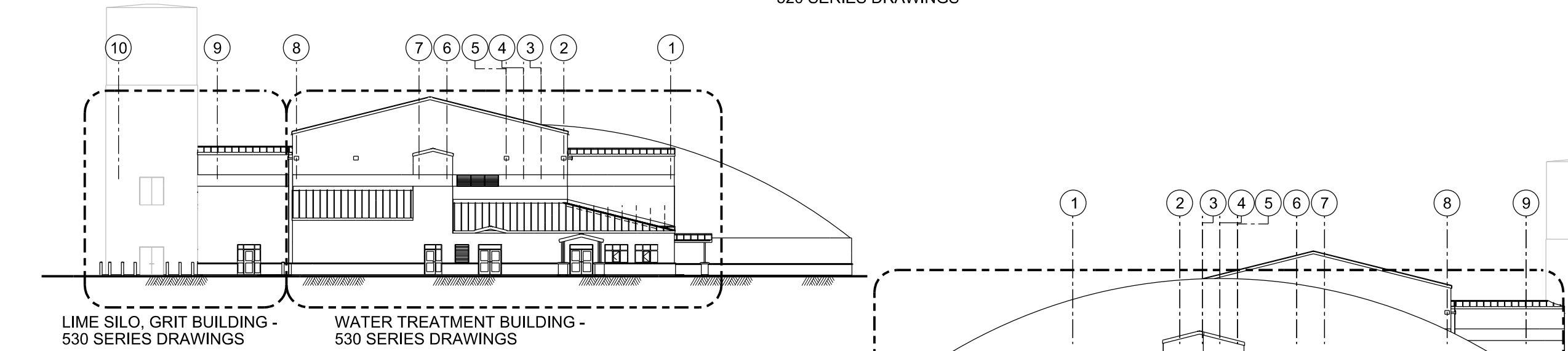
WEST ELEVATION

1:200



EAST ELEVATION

1:200



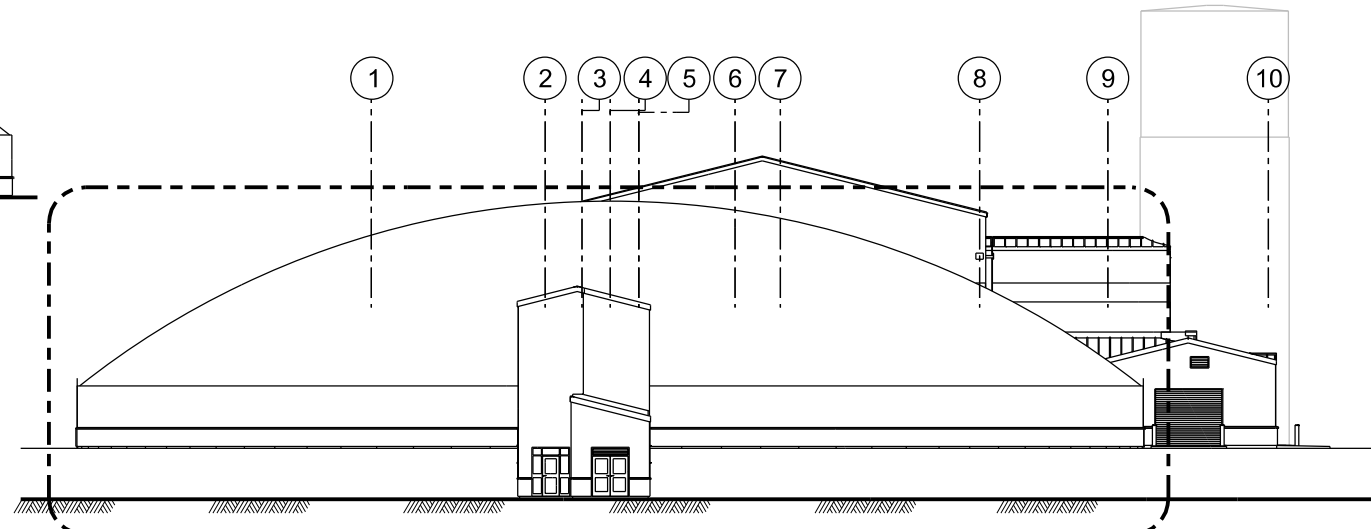
NORTH ELEVATION

1:200



SOUTH ELEVATION

1:200



NO.	DATE	NO.	DATE	NO.	DATE	NO.	DATE
B	02/2014	A	09/2013				
ISSUED FOR DETAIL DESIGN REVIEW				ISSUED FOR ADVANCED DESIGN REVIEW			
REVISION				REVISION			
CHK				CHK			
DR				DR			
D. IANNETTA				V. KUSLIKIS			
				R. ZAKKO			

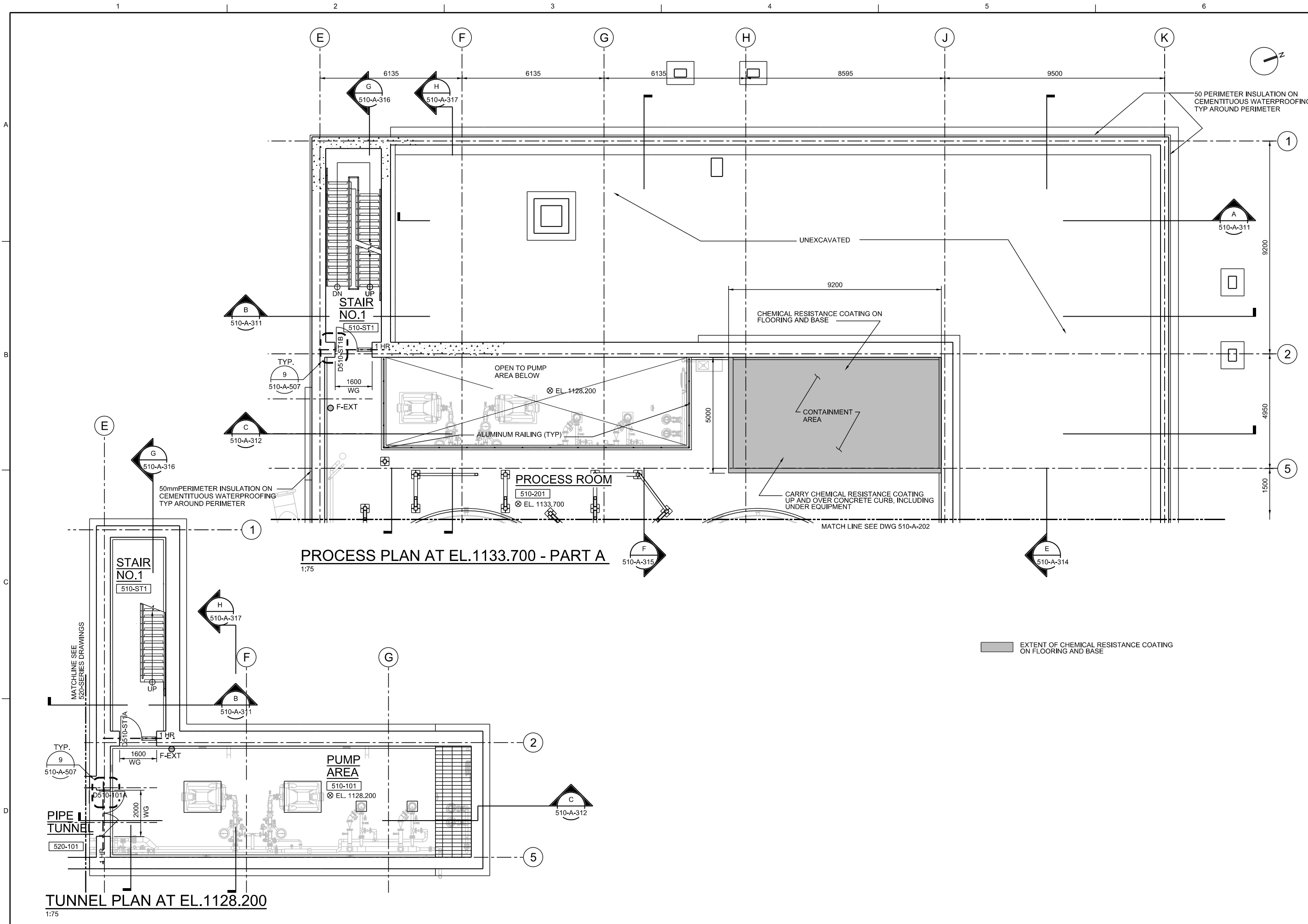
90% DETAIL DESIGN REVIEW
NOT FOR TENDER OR
CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL CANADA
Architects Inc.

ARCHITECTURAL
**OVERALL
ELEVATIONS**

NTS	
VERIFY SCALE	
BAR IS 25mm ON ORIGINAL DRAWING.	
DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	500-A-301
SHEET	



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ISSUED FOR ADVANCED DESIGN REVIEW	GN	BY	APVD
REVISION	NO.	DATE	DGNS
DR	D. IANNETTA	CHK	V. KUSLIKIS
DR	R. ZAKKO	CHK	R. ZAKKO

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

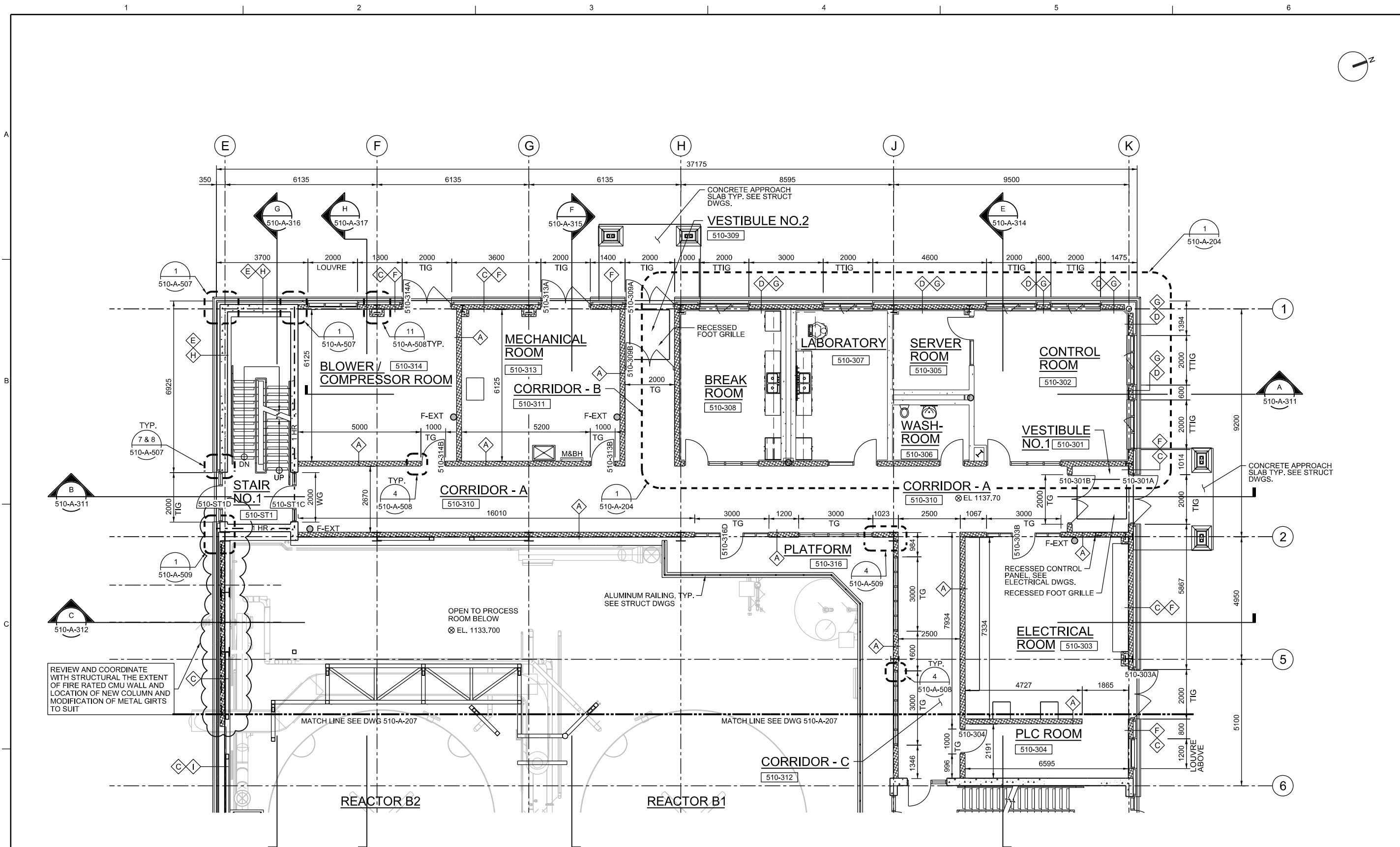
CH2MHILL CANADA Architects Inc.

ARCHITECTURAL
WATER TREATMENT BUILDING TUNNEL AND PROCESS PLAN - PART A

NTS
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
0 25mm

DATE FEBRUARY 2014
PROJ TA013-427716
DWG 510-A-201
SHEET

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GROUND FLOOR - AREA A
1:75



ISSUED FOR DETAIL DESIGN REVIEW	VK	GN
ISSUED FOR ADVANCED DESIGN REVIEW	VK	GN
REVISION	BY	APVD
1		
DR	V. KUSLIKIS	R. ZAKKO
CHK		

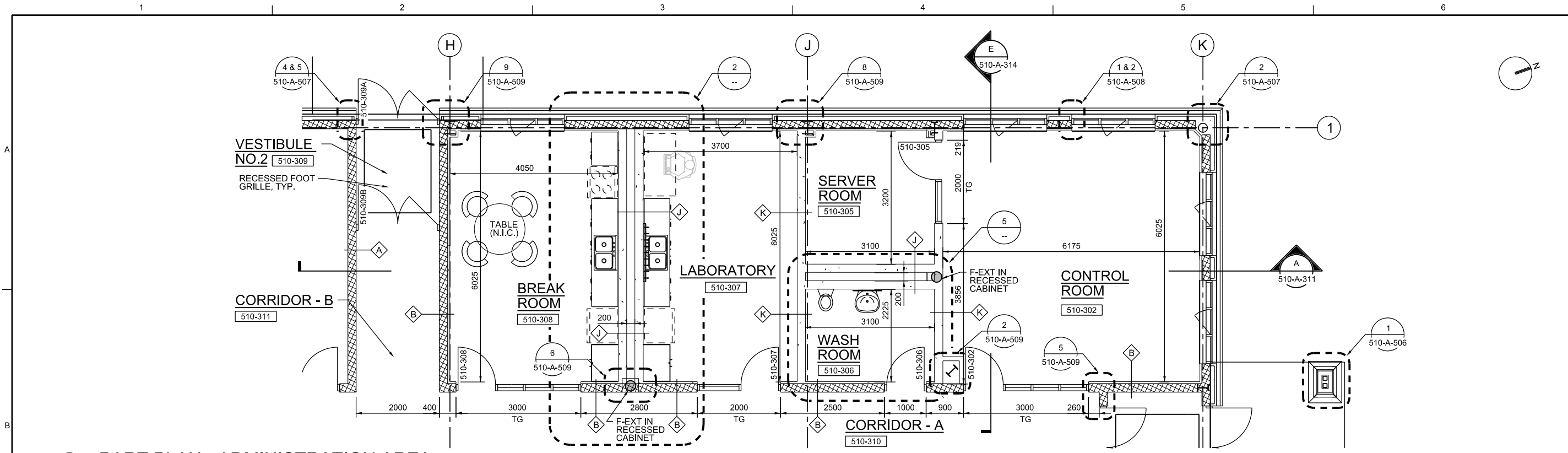
90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

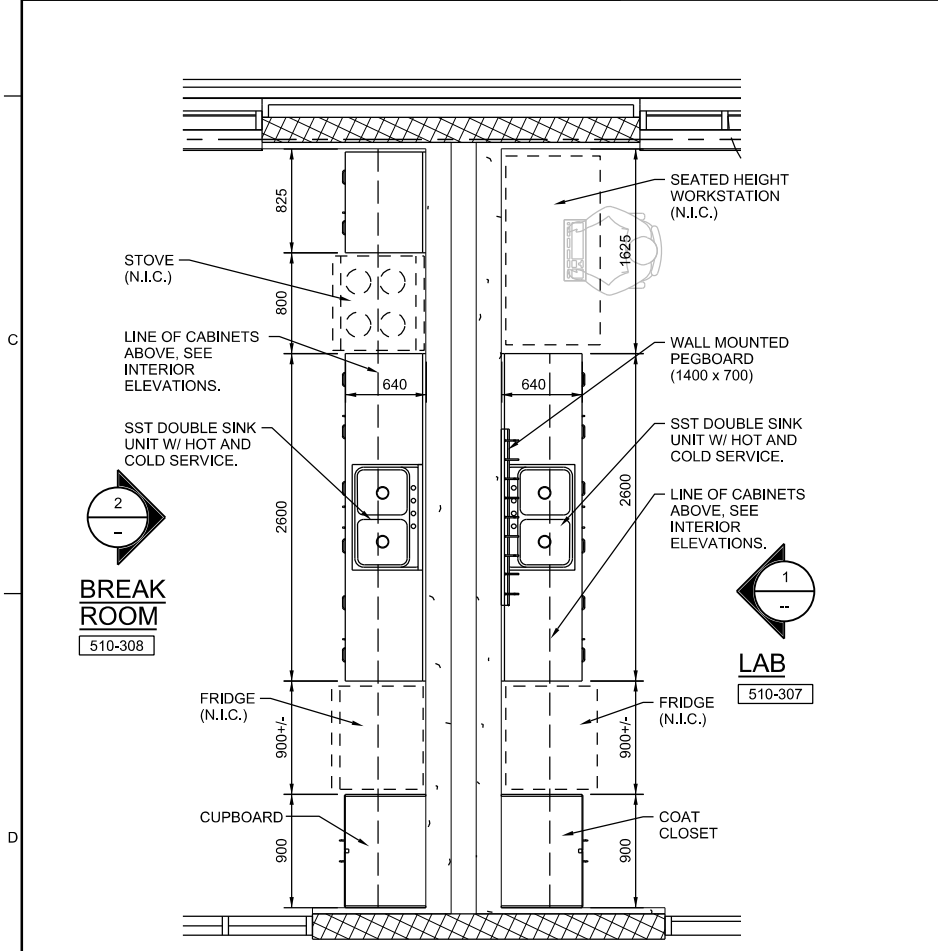
CH2MHILL CANADA Architects Inc.

ARCHITECTURAL
**WATER TREATMENT BUILDING
GROUND FLOOR PLAN - PART A**

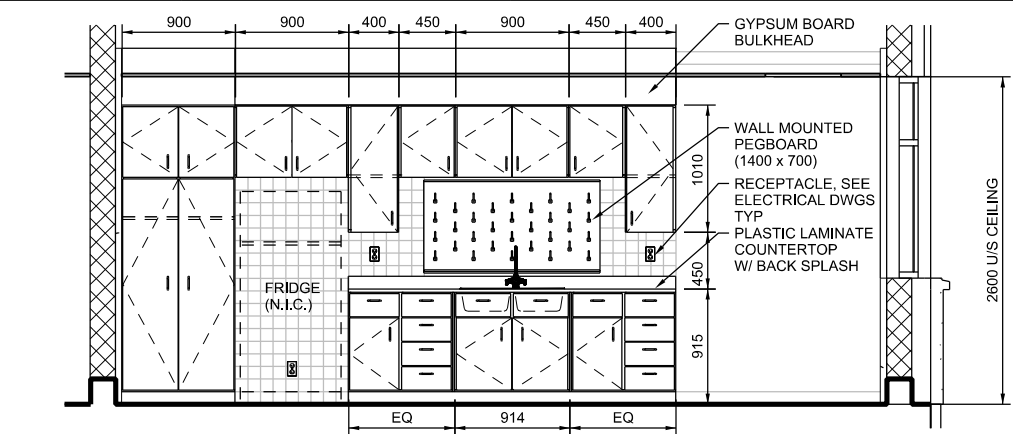
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VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 510-A-203
SHEET



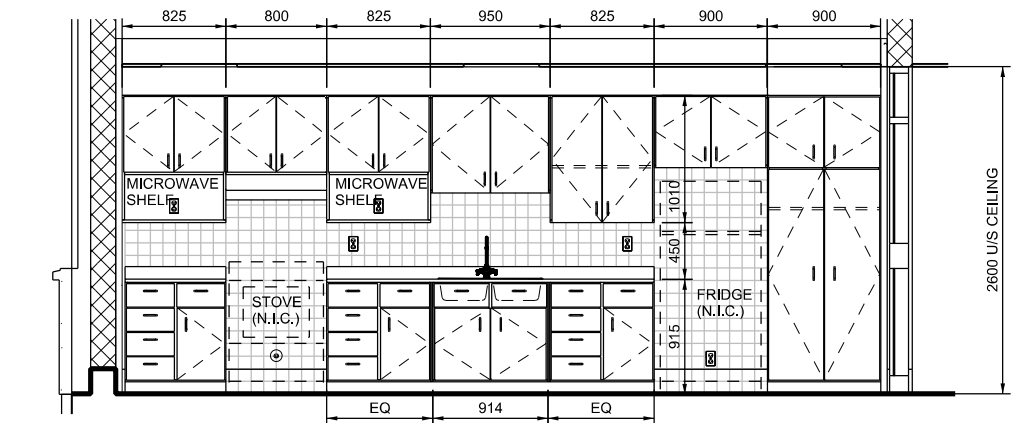
1 PART PLAN - ADMINISTRATION AREA
1:50



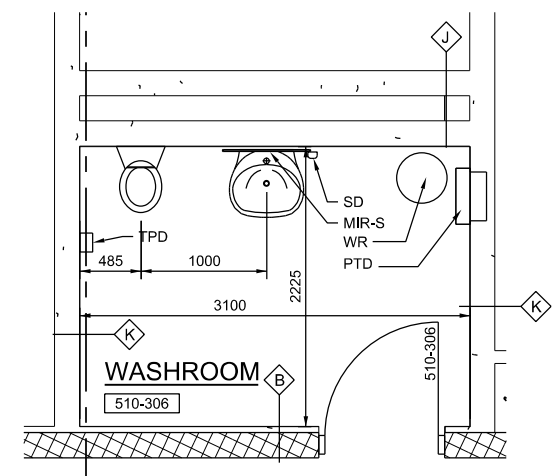
2 PART PLAN - LAB + BREAK ROOM
1:30



3 INTERIOR ELEVATION - LAB
1:30



4 INTERIOR ELEVATION - BREAK ROOM
1:30



5 PART PLAN - WASHROOM
1:30

- LEGEND**
- TPD SURFACE MOUNTED TOILET PAPER DISPENSER
 - SD WALL MOUNTED LIQUID SOAP DISPENSER
 - MIR-S MIRROR AND SHELF (400W x 800H)
 - PTD SURFACE MOUNTED PAPER TOWEL DISPENSER
 - WR FLOOR MOUNTED WASTE RECEPTACLE



NO.	DATE	BY	CHK	APVD
A	02/2014	VK	V. KUSLIKIS	R. ZAKKO
DGN		DR		APVD
D. IANNETTA		V. KUSLIKIS		R. ZAKKO
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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL CANADA Architects Inc.

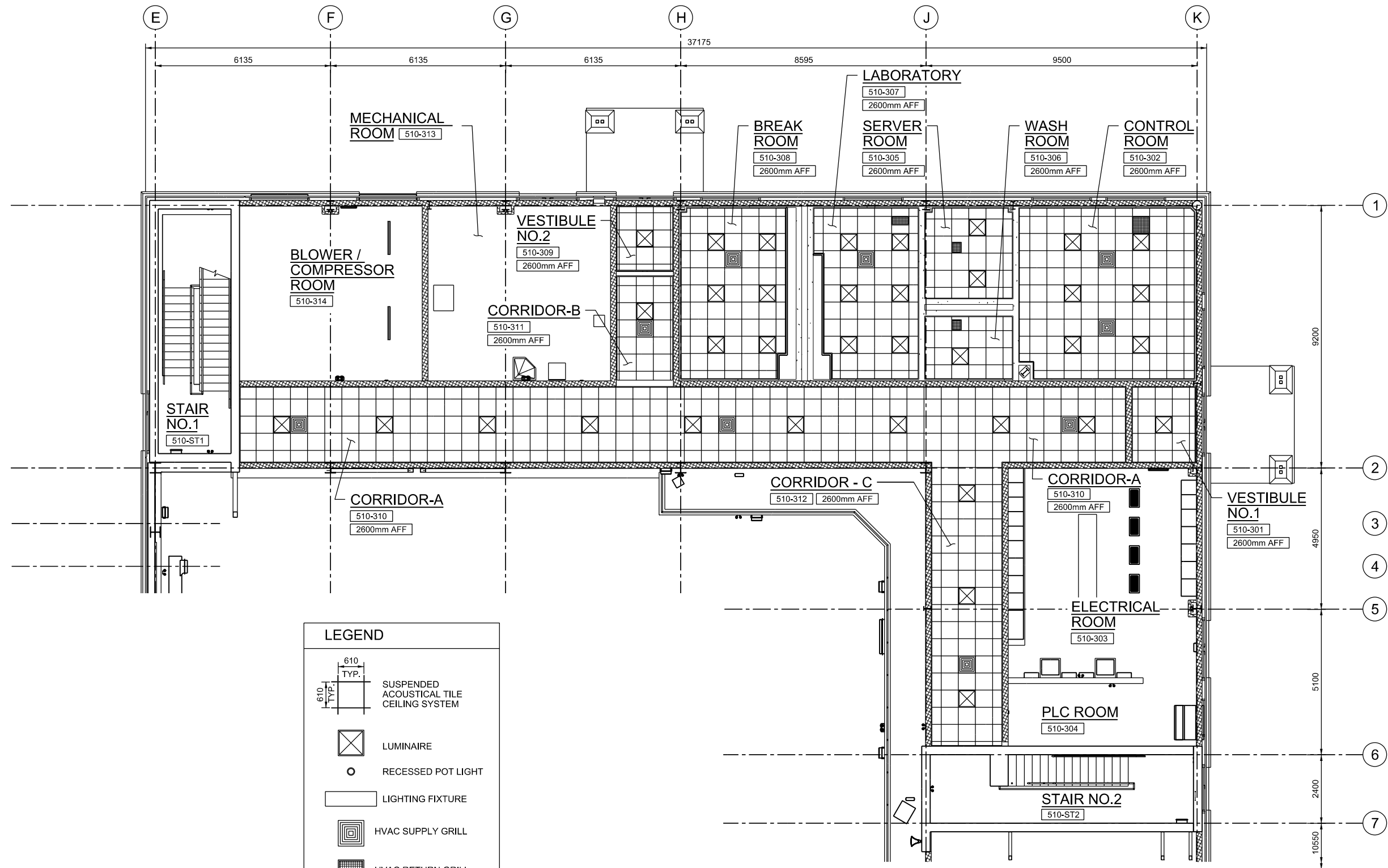
ARCHITECTURAL
WATER TREATMENT BUILDING ENLARGED GROUND FLOOR PART PLANS + INTERIOR ELEVATIONS

NTS

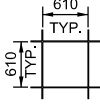





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LEGEND

-  610 TYP. SUSPENDED ACOUSTICAL TILE CEILING SYSTEM
-  LUMINAIRE
-  RECESSED POT LIGHT
-  LIGHTING FIXTURE
-  HVAC SUPPLY GRILL
-  HVAC RETURN GRILL

GROUND FLOOR - REFLECTED CEILING PLAN
1:75



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D. IANNETTA			V. KUSLIKIS	R. ZAKKO

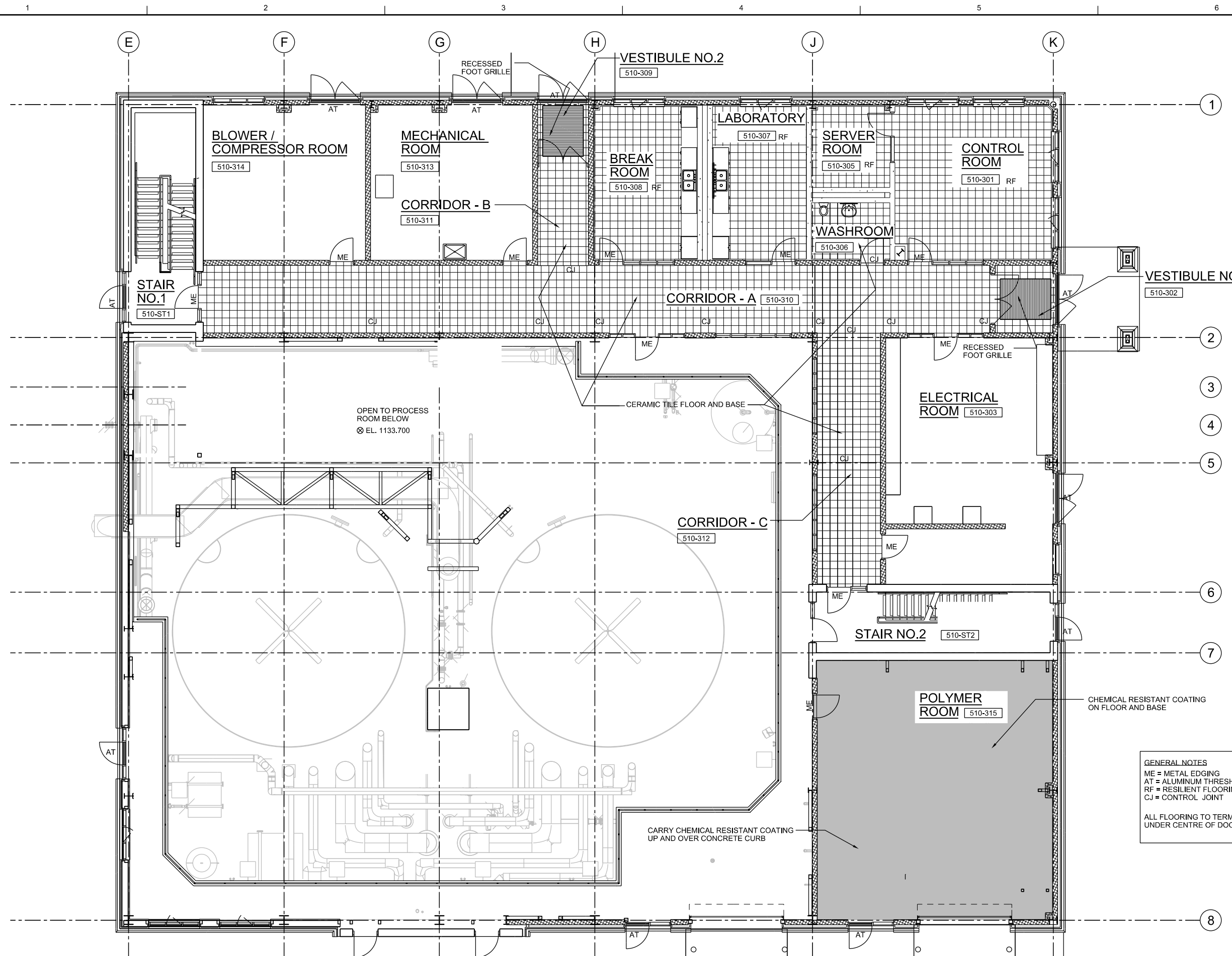
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GOVERNMENT OF YUKON
DESIGN

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ARCHITECTURAL
WATER TREATMENT BUILDING GROUND FLOOR PLAN - CEILING

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DWG	510-A-204
SHEET	



GROUND FLOOR - AREA A
1:75

GENERAL NOTES
 ME = METAL EDGING
 AT = ALUMINUM THRESHOLD
 RF = RESILIENT FLOORING
 CJ = CONTROL JOINT
 ALL FLOORING TO TERMINATE UNDER CENTRE OF DOOR



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NO. DATE	DSGN	CHK	APVD
02/2014	D. IANNETTA	V. KUSLIKIS	R. ZAKKO
09/2013			

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 FARO MINE REMEDIATION
 WATER TREATMENT PLANT DESIGN
 GOVERNMENT OF YUKON
 DESIGN

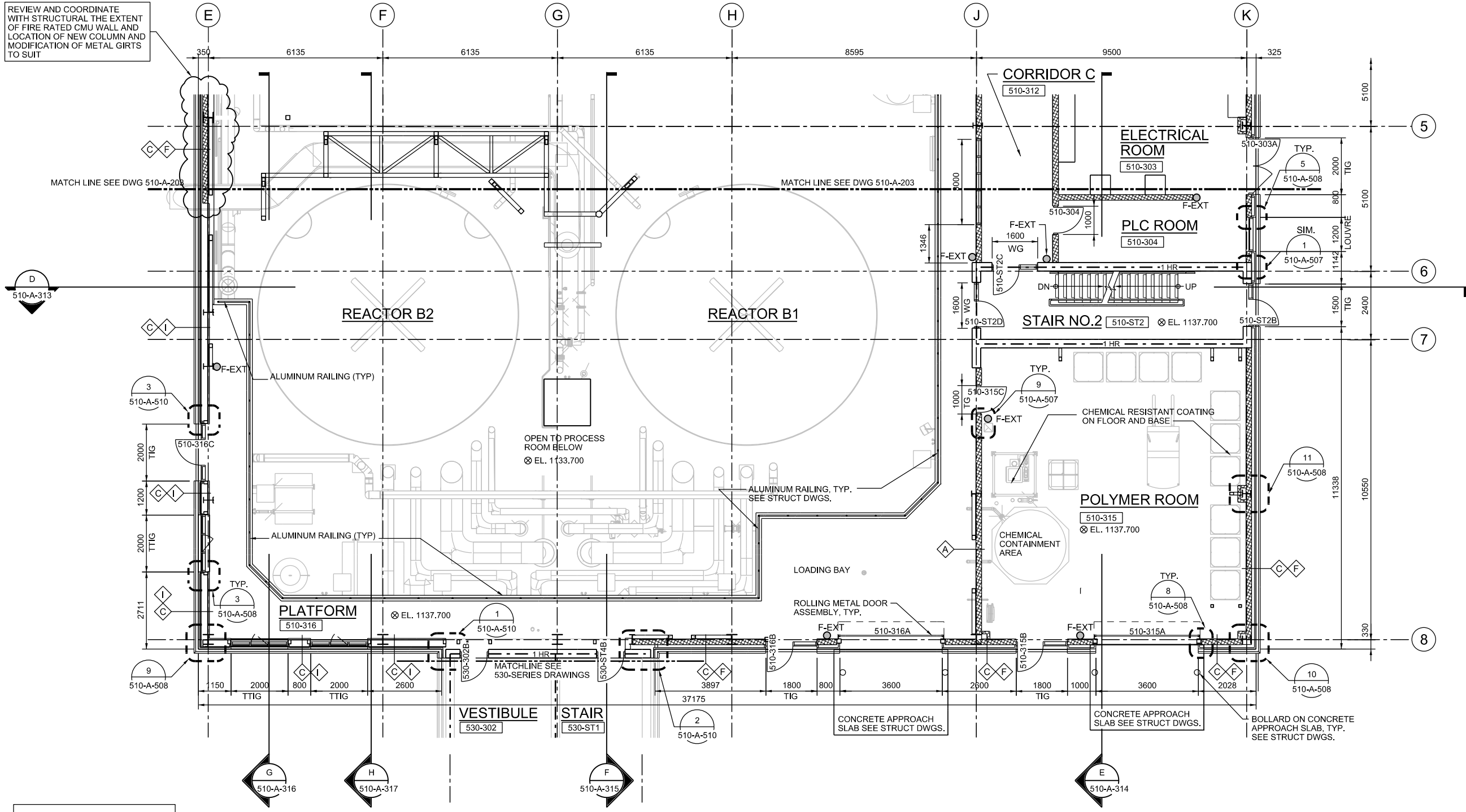
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 ARCHITECTURAL
WATER TREATMENT BUILDING
GROUND FLOOR PLAN - ROOM FINISHES

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REVIEW AND COORDINATE WITH STRUCTURAL THE EXTENT OF FIRE RATED CMU WALL AND LOCATION OF NEW COLUMN AND MODIFICATION OF METAL GIRTS TO SUIT



NOTE:
FOR DOORS IN SCREENS
DOORS ARE TO BE TIG
ALL OTHER GLAZING TO BE TTIG

GROUND FLOOR - AREA B
1:75



NO.	DATE	DR	CHK	APVD
1	09/2013	D. IANNETTA	V. KUSLIKIS	R. ZAKKO
2	02/2014			
3				
4				
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GOVERNMENT OF YUKON
DESIGN

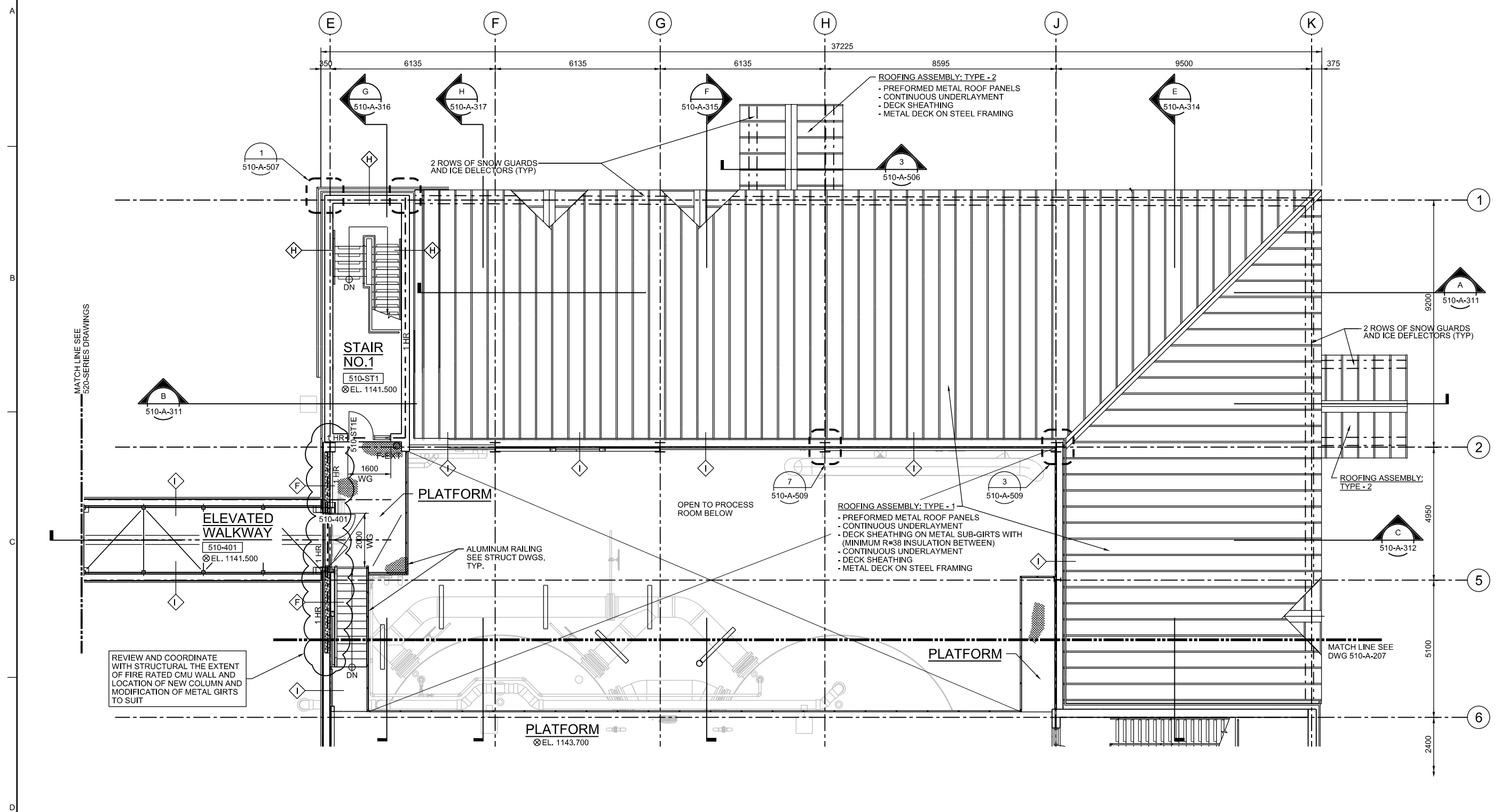
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ARCHITECTURAL
WATER TREATMENT BUILDING GROUND FLOOR PLAN - PART B

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1 2 3 4 5 6



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ARCHITECTURAL
WATER TREATMENT BUILDING
PLATFORM PLAN - PART A

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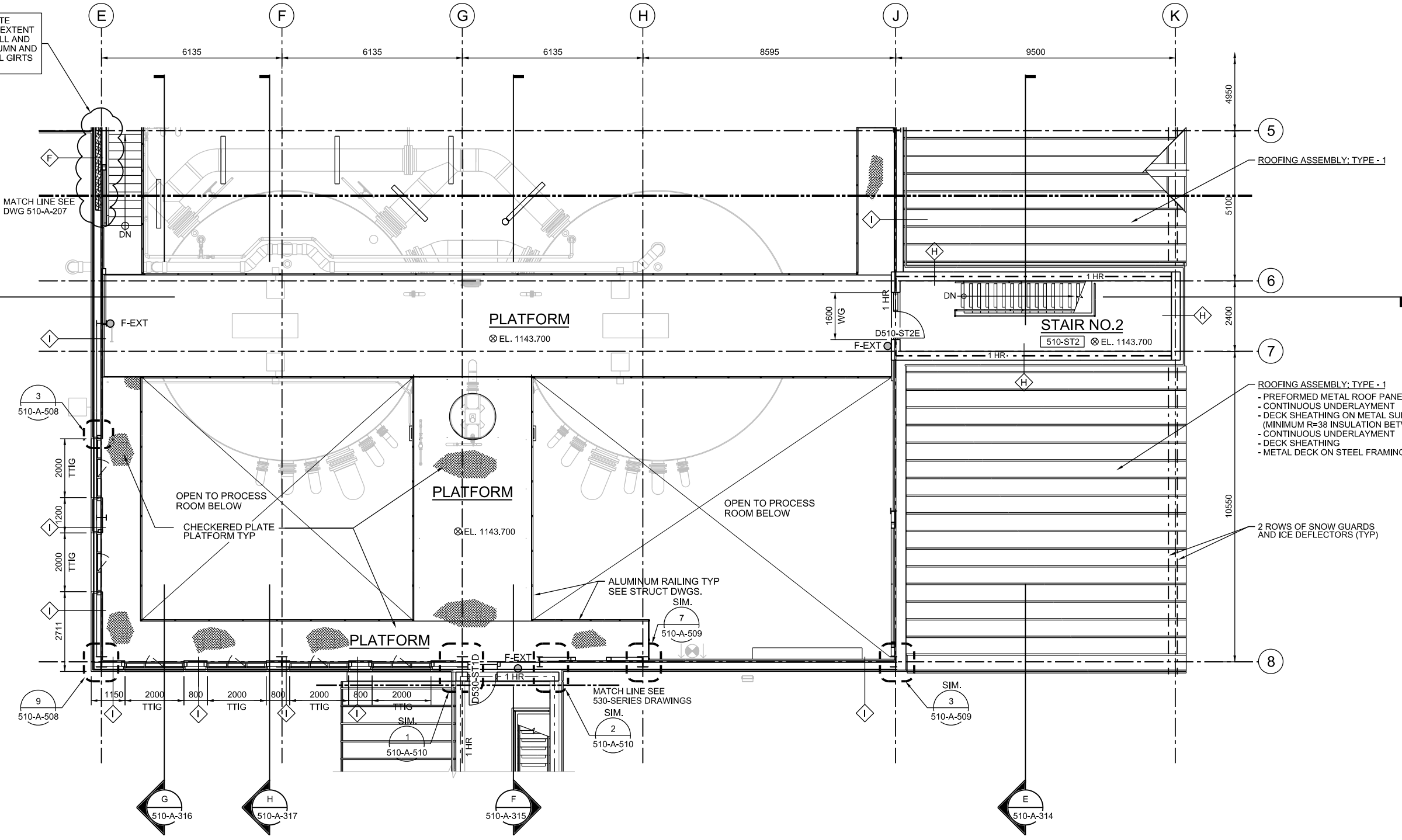
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DRAWN	DR	CHK	APVD
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PLATFORM PLAN - AREA A
1:75

1 2 3 4 5 6



REVIEW AND COORDINATE WITH STRUCTURAL THE EXTENT OF FIRE RATED CMU WALL AND LOCATION OF NEW COLUMN AND MODIFICATION OF METAL GIRTS TO SUIT



ROOFING ASSEMBLY: TYPE - 1

ROOFING ASSEMBLY: TYPE - 1
 - PREFORMED METAL ROOF PANELS
 - CONTINUOUS UNDERLAYMENT
 - DECK SHEATHING ON METAL SUB-GIRTS WITH (MINIMUM R=38 INSULATION BETWEEN)
 - CONTINUOUS UNDERLAYMENT
 - DECK SHEATHING
 - METAL DECK ON STEEL FRAMING

2 ROWS OF SNOW GUARDS AND ICE DEFLECTORS (TYP)

510-A-313

510-A-508

510-A-508

510-A-316

510-A-317

510-A-315

510-A-314

PLATFORM PLAN - AREA B
 1:75

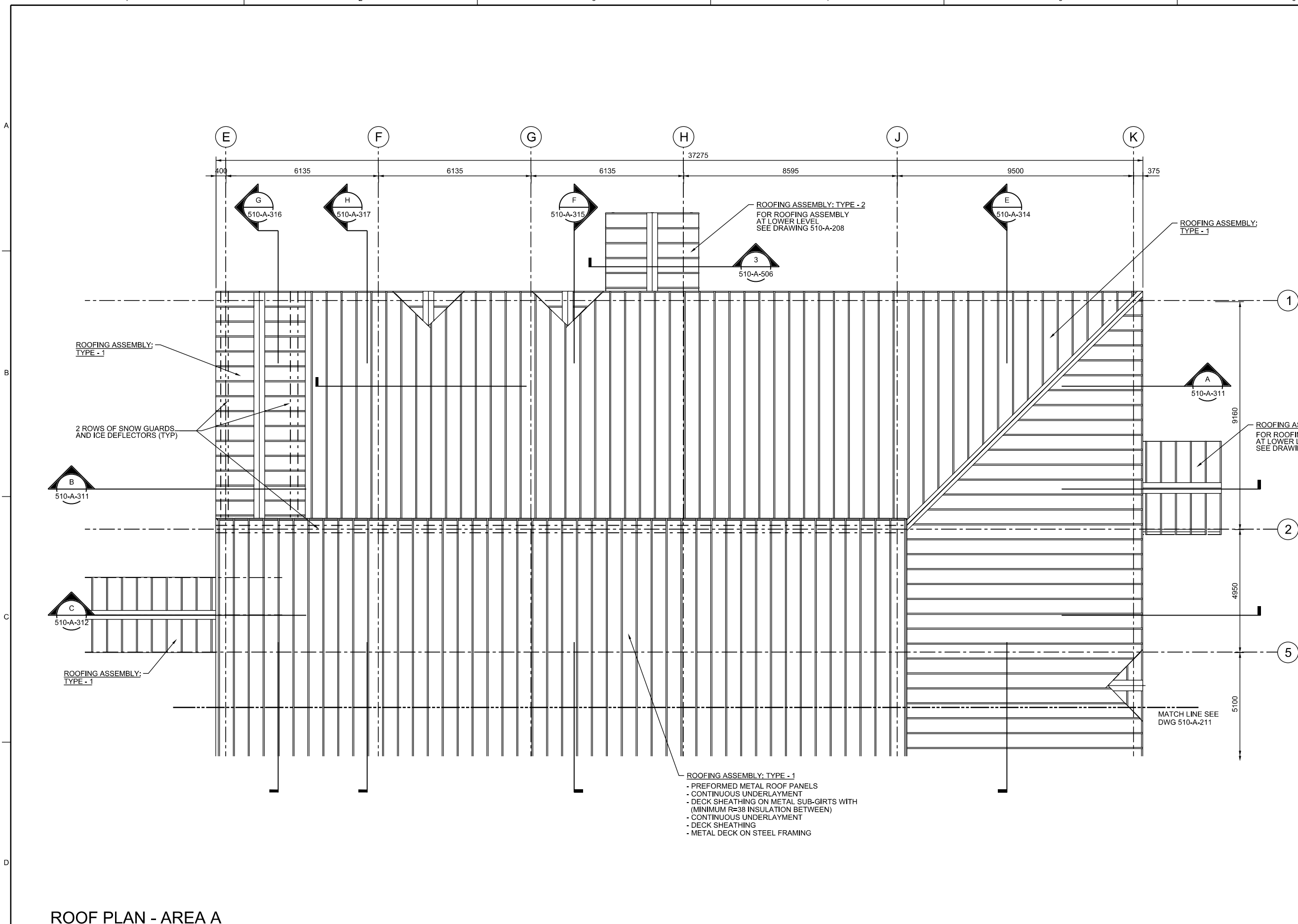


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 ARCHITECTURAL
 WATER TREATMENT BUILDING
 PROCESS PLAN - PART B

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GOVERNMENT OF YUKON
DESIGN

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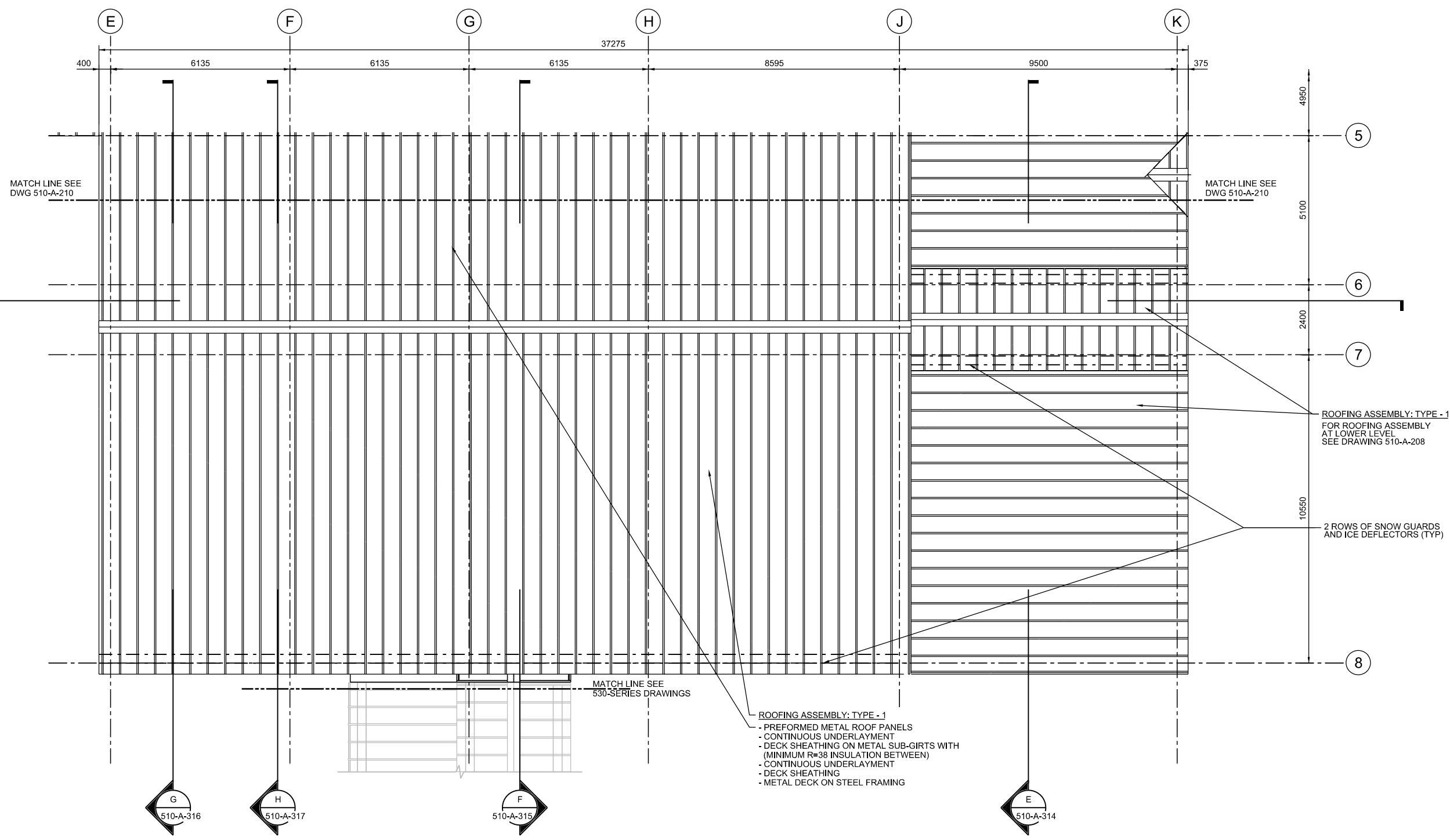
ARCHITECTURAL
**WATER TREATMENT BUILDING
ROOF PLAN - PART A**

NTS
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DWG 510-A-210
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ROOF PLAN - AREA A
1:75

1 2 3 4 5 6

A
B
C
D



ROOF PLAN - AREA B
1:75



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			APVD	GN

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WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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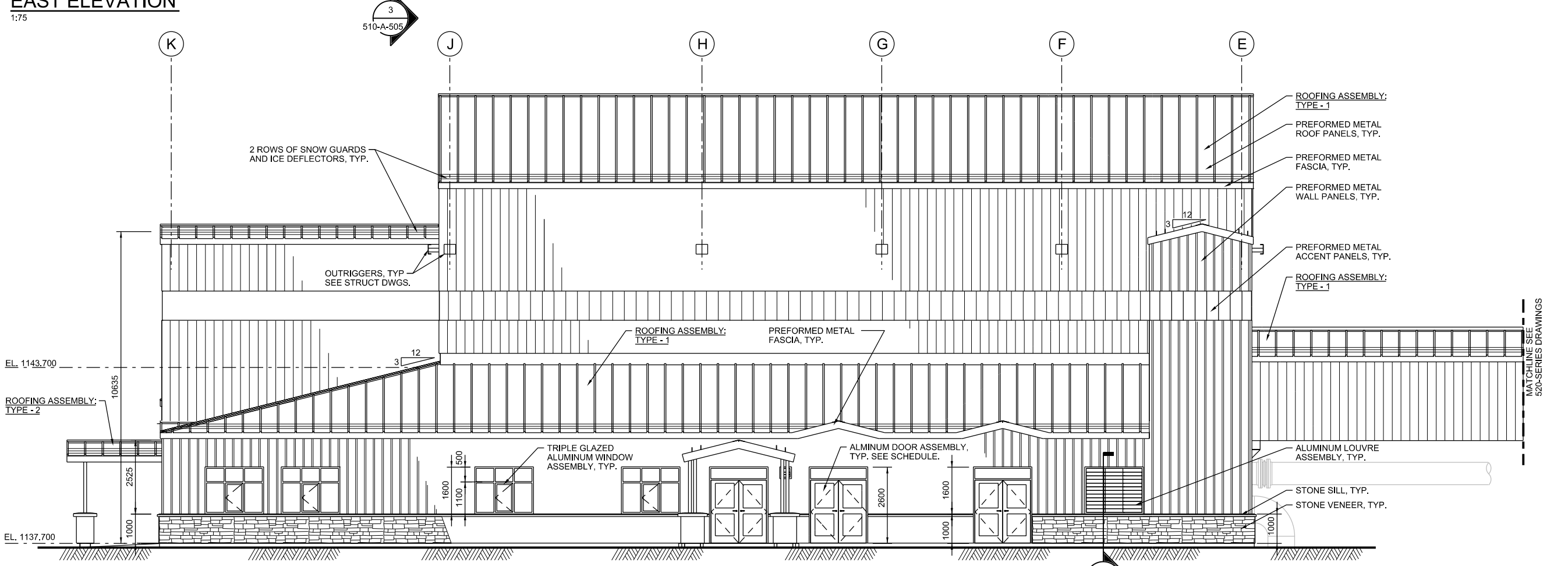
ARCHITECTURAL
**WATER TREATMENT BUILDING
ROOF PLAN - PART B**

NTS	
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EAST ELEVATION
1:75

WEST ELEVATION
1:75



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A	09/2013			VK	GN
					APVD
		D. IANNETTA	V. KUSLIKIS	R. ZAKKO	

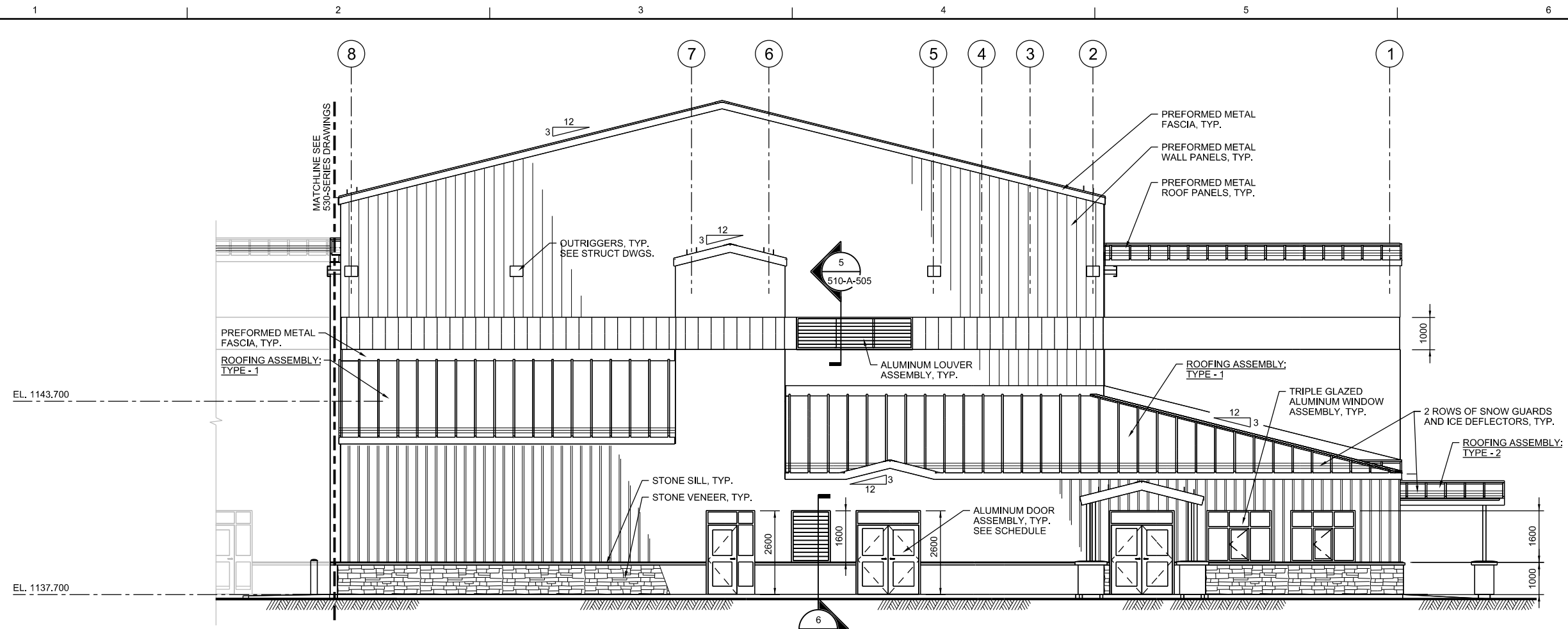
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GOVERNMENT OF YUKON
DESIGN

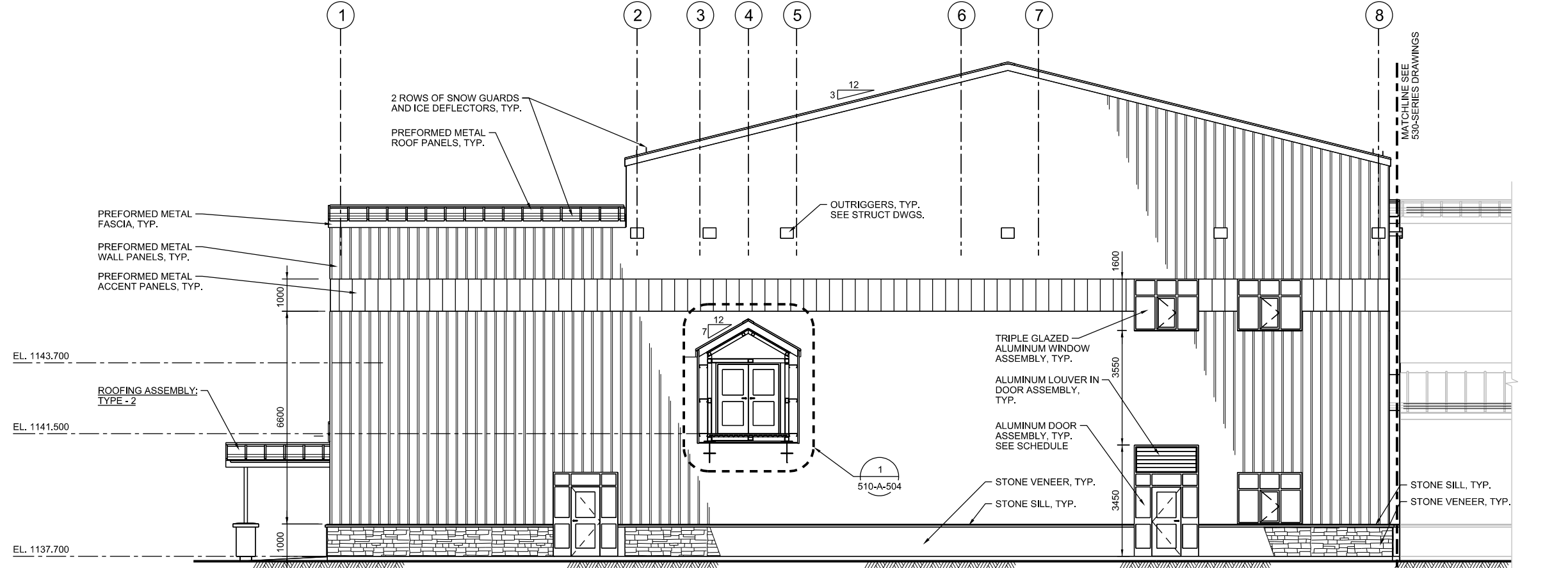
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ARCHITECTURAL
WATER TREATMENT BUILDING
EAST AND WEST ELEVATIONS

NTS
VERIFY SCALE
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SHEET



NORTH ELEVATION
1:75



SOUTH ELEVATION
1:75



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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

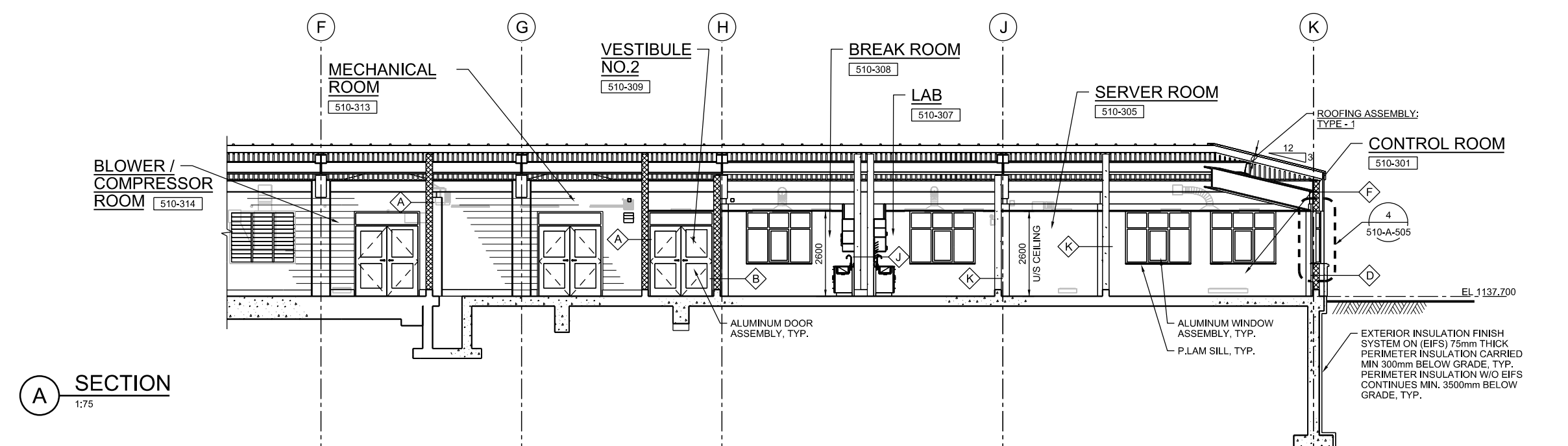
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ARCHITECTURAL
WATER TREATMENT BUILDING
NORTH AND SOUTH ELEVATIONS

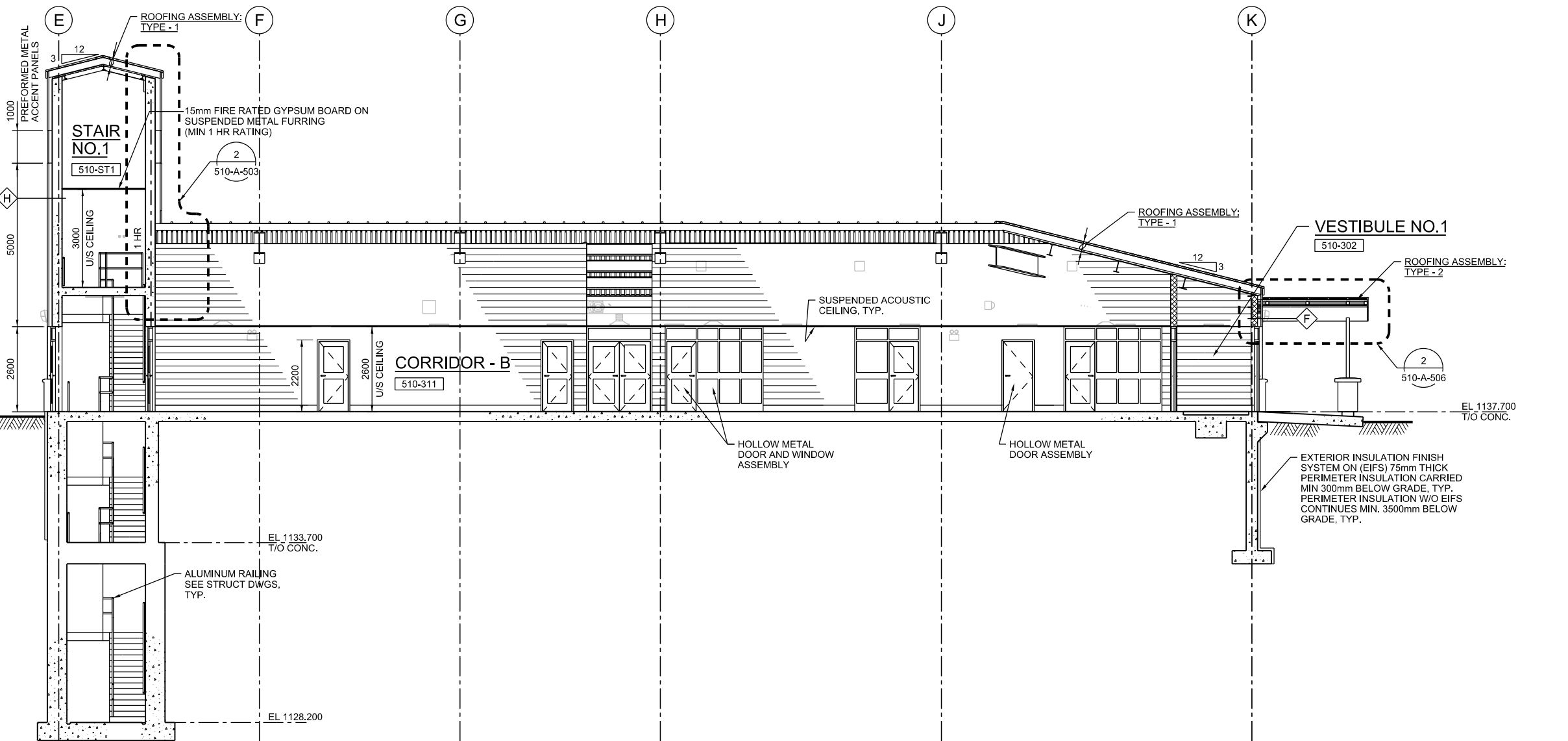
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1 2 3 4 5 6



A SECTION
1:75



B SECTION
1:75



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DR	CHK	APVD
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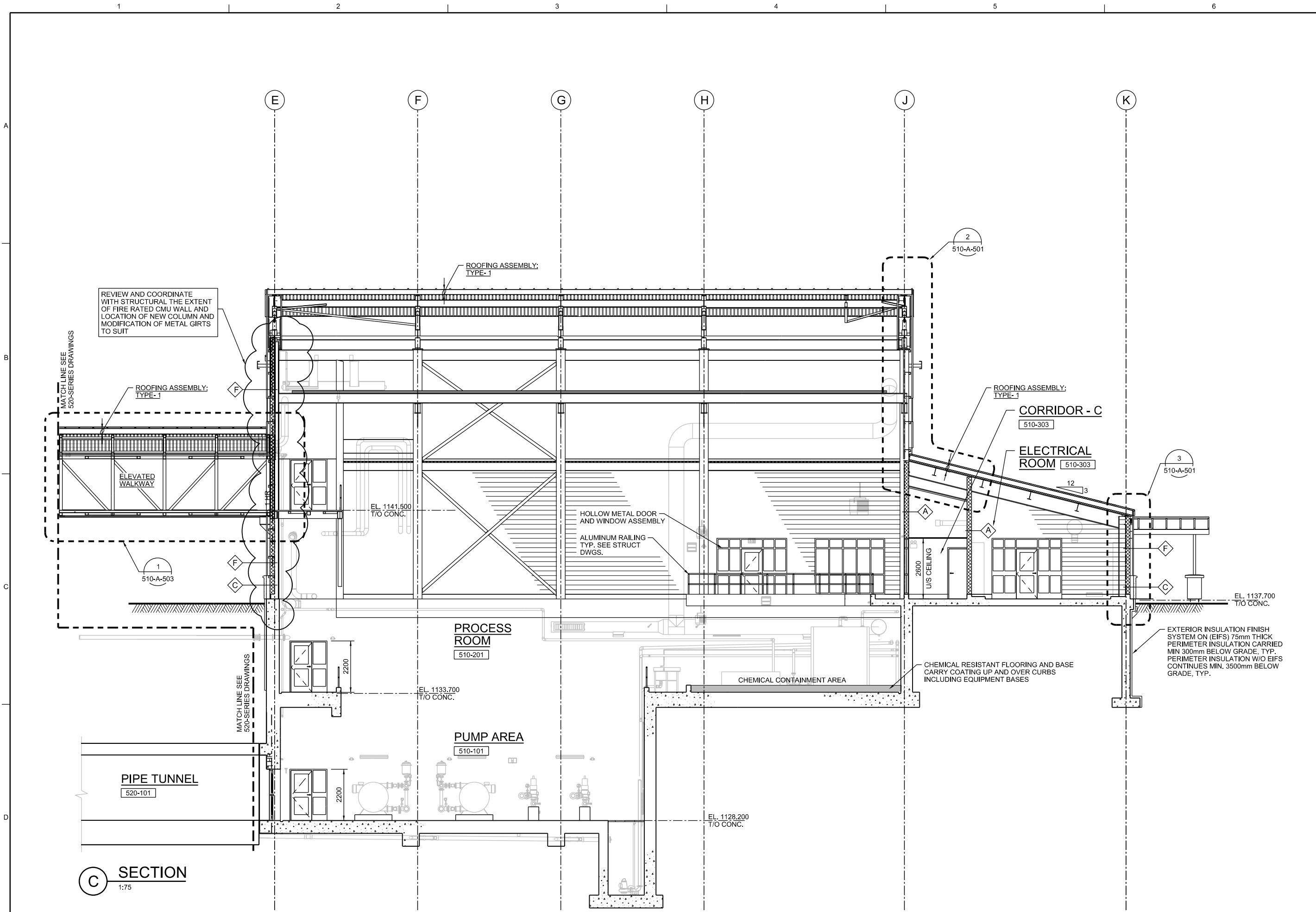
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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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ARCHITECTURAL
WATER TREATMENT BUILDING SECTIONS A & B

NTS	
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DGN			CHK	APVD
DR			V. KUSLIKIS	
DSGN			DIANNETTA	

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WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

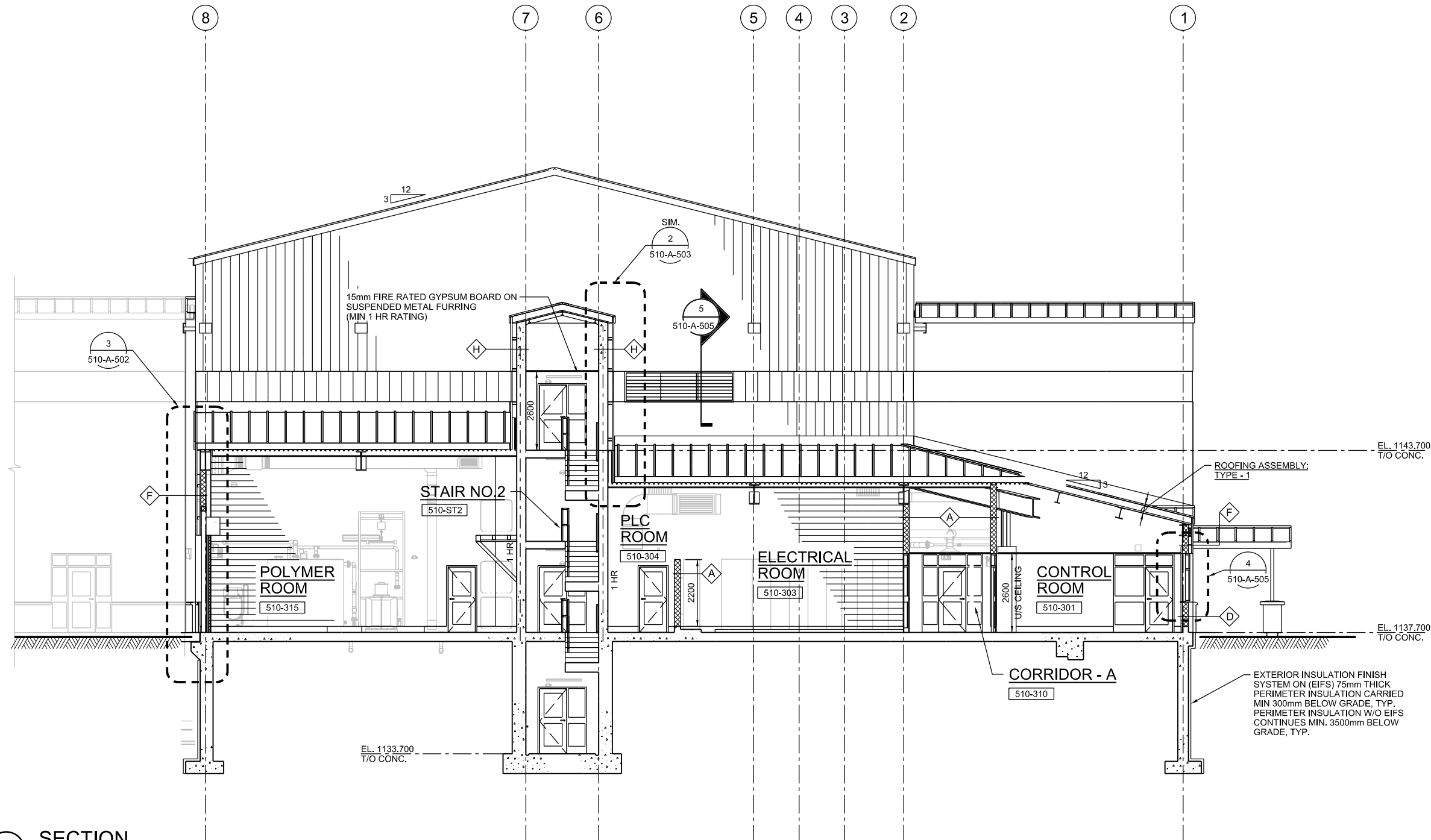
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ARCHITECTURAL
WATER TREATMENT BUILDING
SECTION C

NTS
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25mm

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(E) SECTION
1:75



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DSGN: D. IANNETTA
 DR: V. KUSLIKIS
 CHK: R. ZAKKO

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 WATER TREATMENT PLANT DESIGN
 GOVERNMENT OF YUKON
 DESIGN

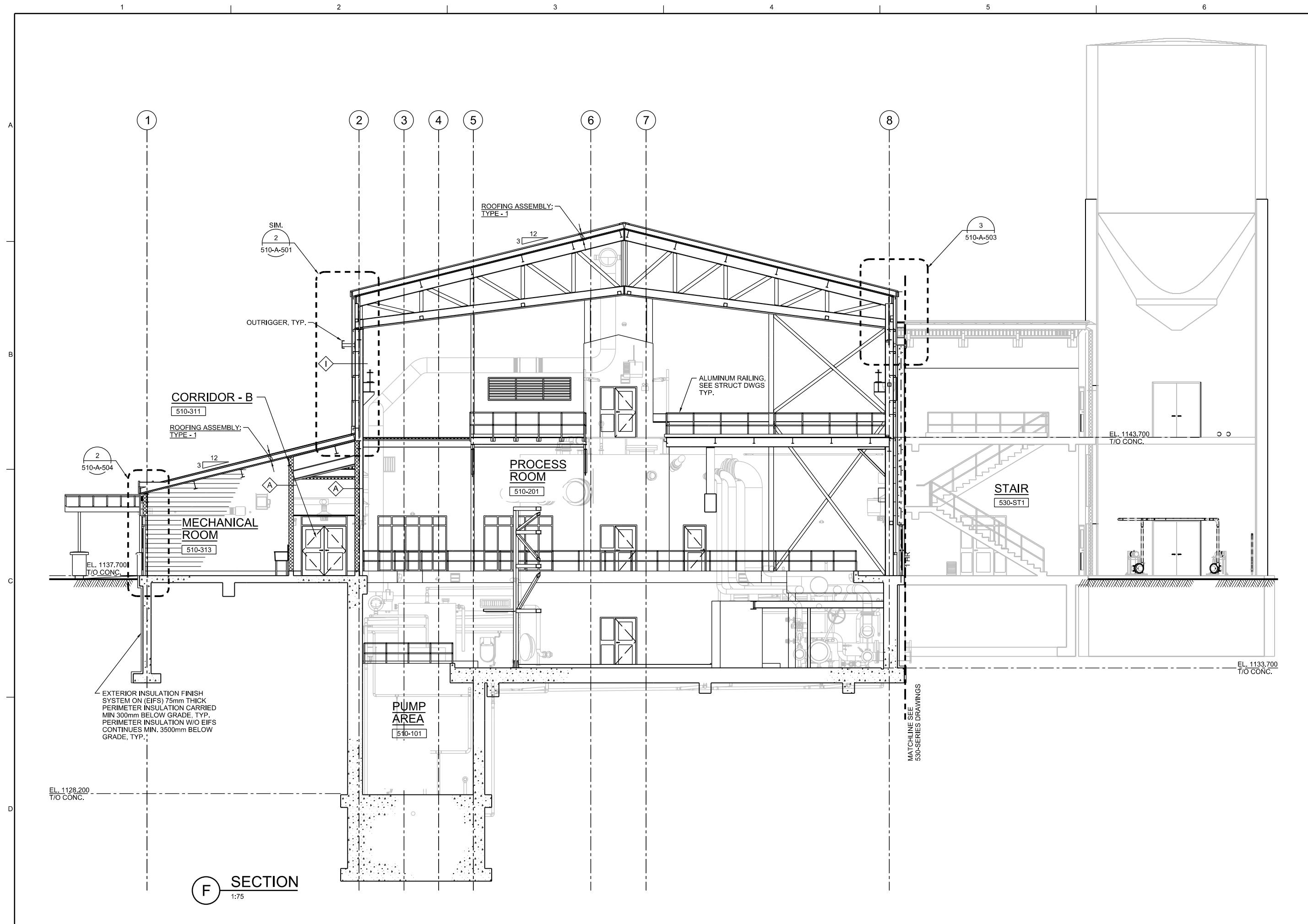
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ARCHITECTURAL
WATER TREATMENT BUILDING
SECTION E

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F SECTION
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				R. ZAKKO

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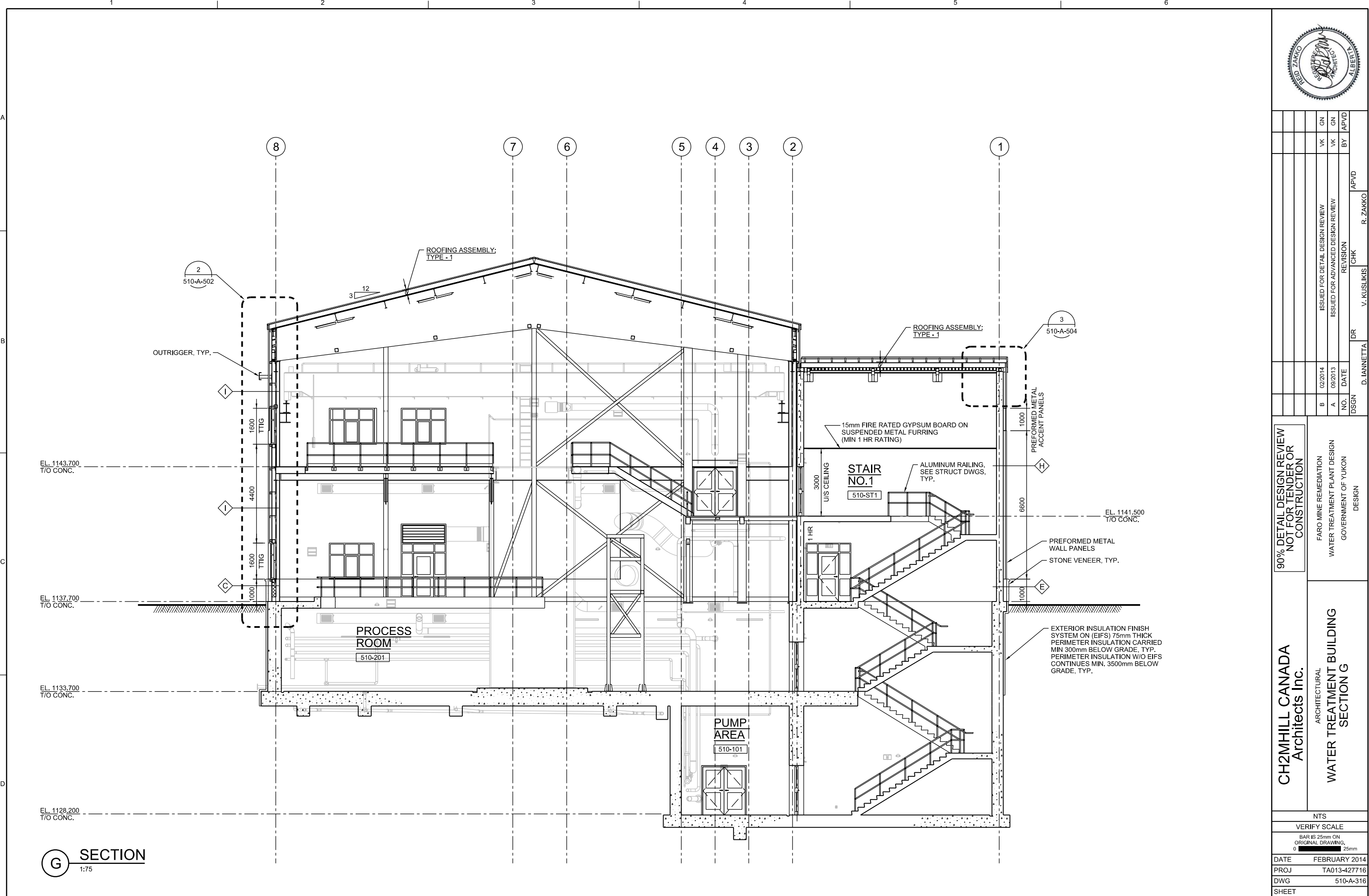
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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ARCHITECTURAL
WATER TREATMENT BUILDING
SECTION F

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G SECTION
1:75



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		CHK		APVD
		DR		APVD
		D. IANNETTA		R. ZAKKO
		V. KUSLIKIS		

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WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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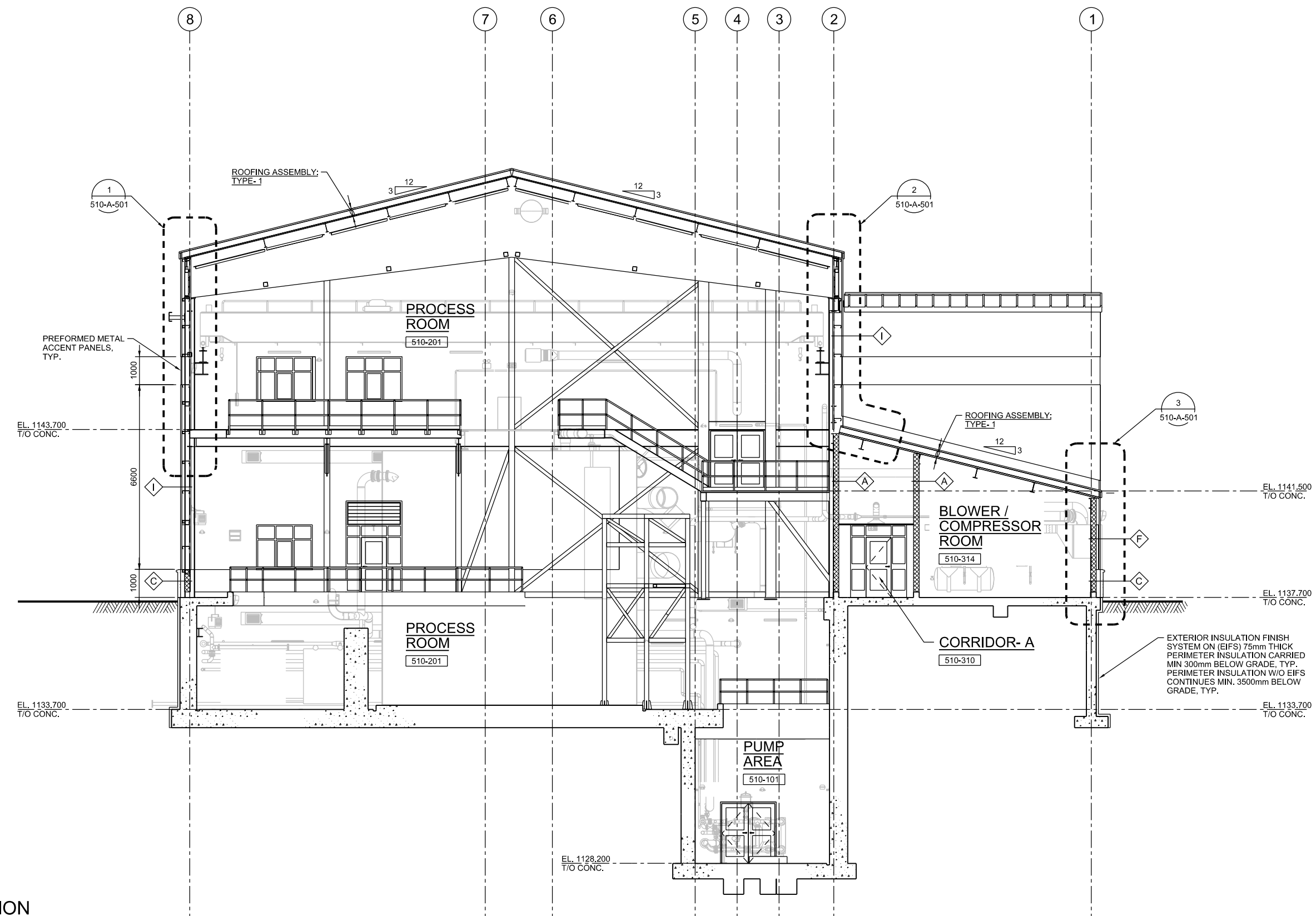
ARCHITECTURAL
**WATER TREATMENT BUILDING
SECTION G**

NTS	
VERIFY SCALE	
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1 2 3 4 5 6

A
B
C
D



H SECTION
1:75
510-A-XXX



NO.	DATE	NO.	DATE	NO.	DATE
A	09/2013	B	02/2014		
BY	VK	BY	VK	BY	GN
CHK	V. KUSLIKIS	CHK	R. ZAKKO	CHK	APVD
DR	D. IANNETTA	DR		DR	
DGN		DGN		DGN	
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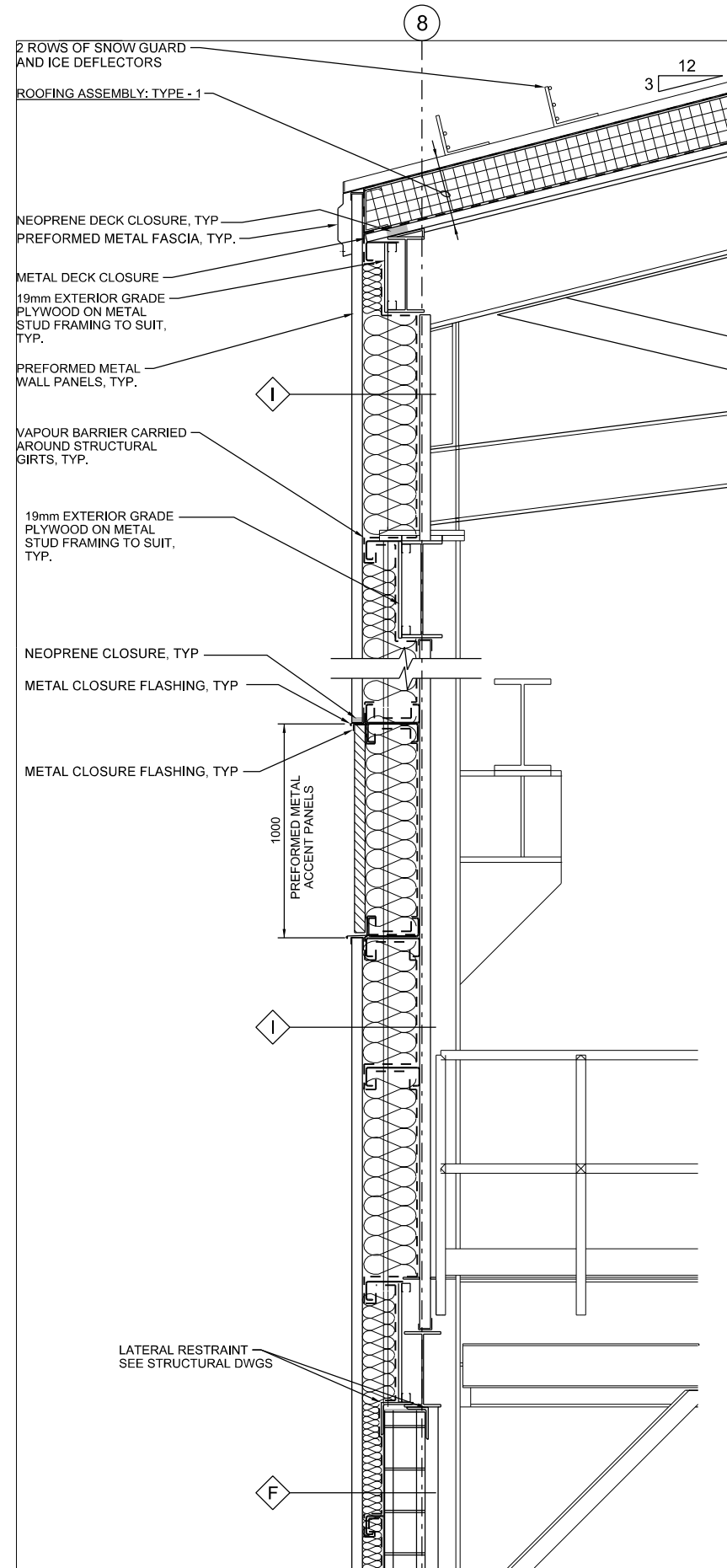
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GOVERNMENT OF YUKON
DESIGN

**CH2MHILL CANADA
Architects Inc.**

ARCHITECTURAL
**WATER TREATMENT BUILDING
SECTION H**

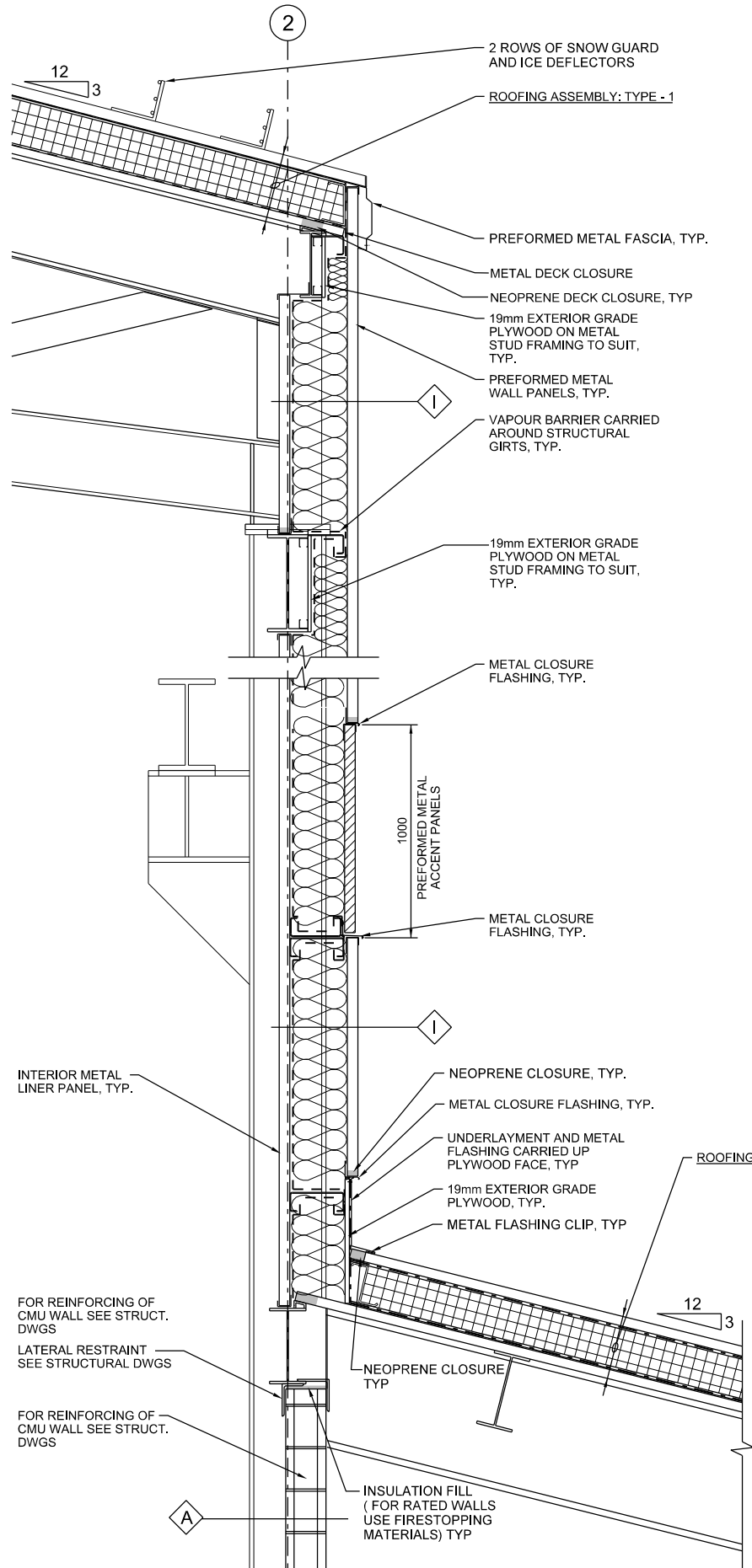
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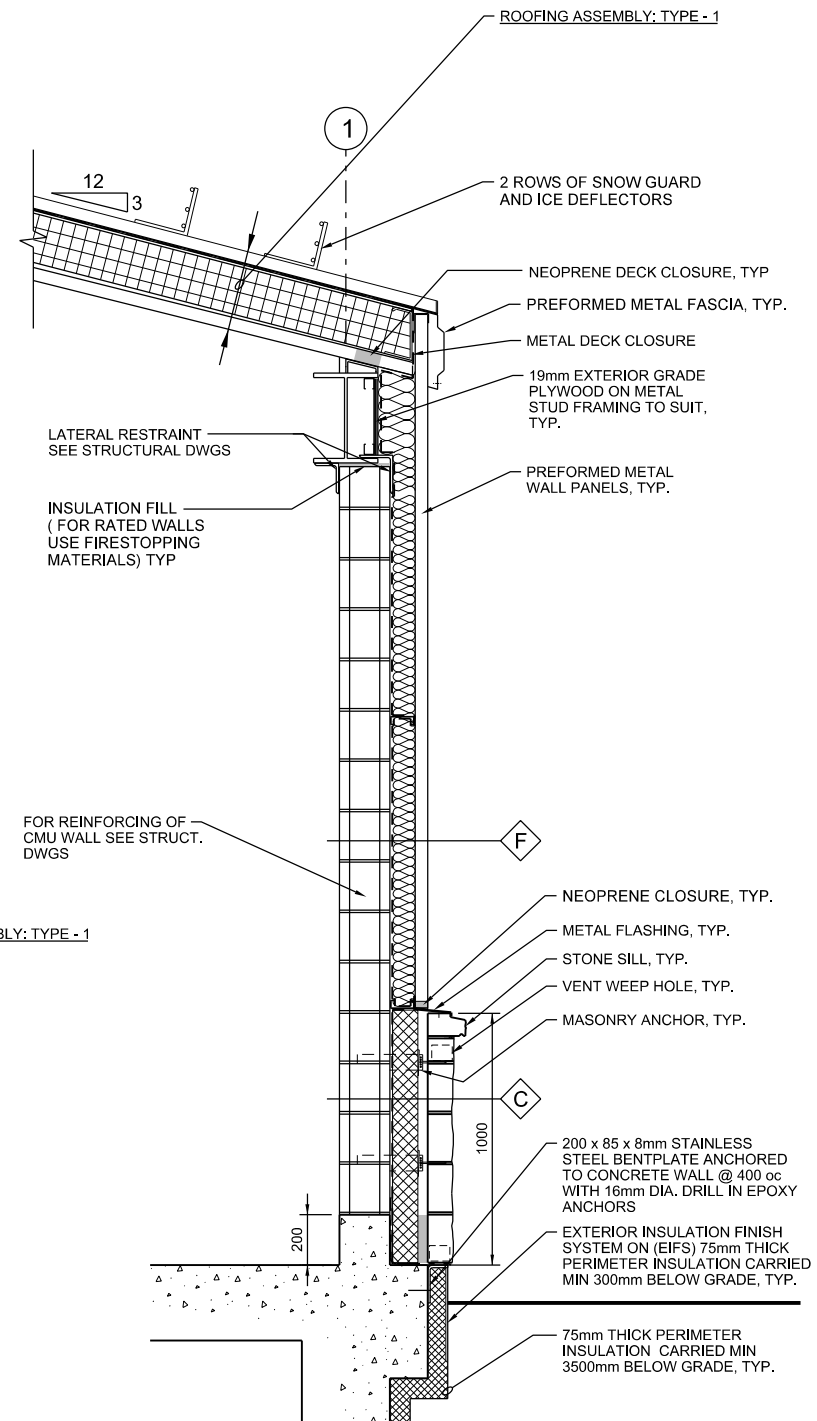
1 SECTION DETAIL
1:15

510-A-317



2 SECTION DETAIL
1:15

510-A-312, 315, 317



3 SECTION DETAIL
1:15

510-A-312, 317



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A	02/2014	ISSUED FOR DETAIL DESIGN REVIEW	VK	GN
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			DR	APVD
			V. KUSLIKIS	R. ZAKKO

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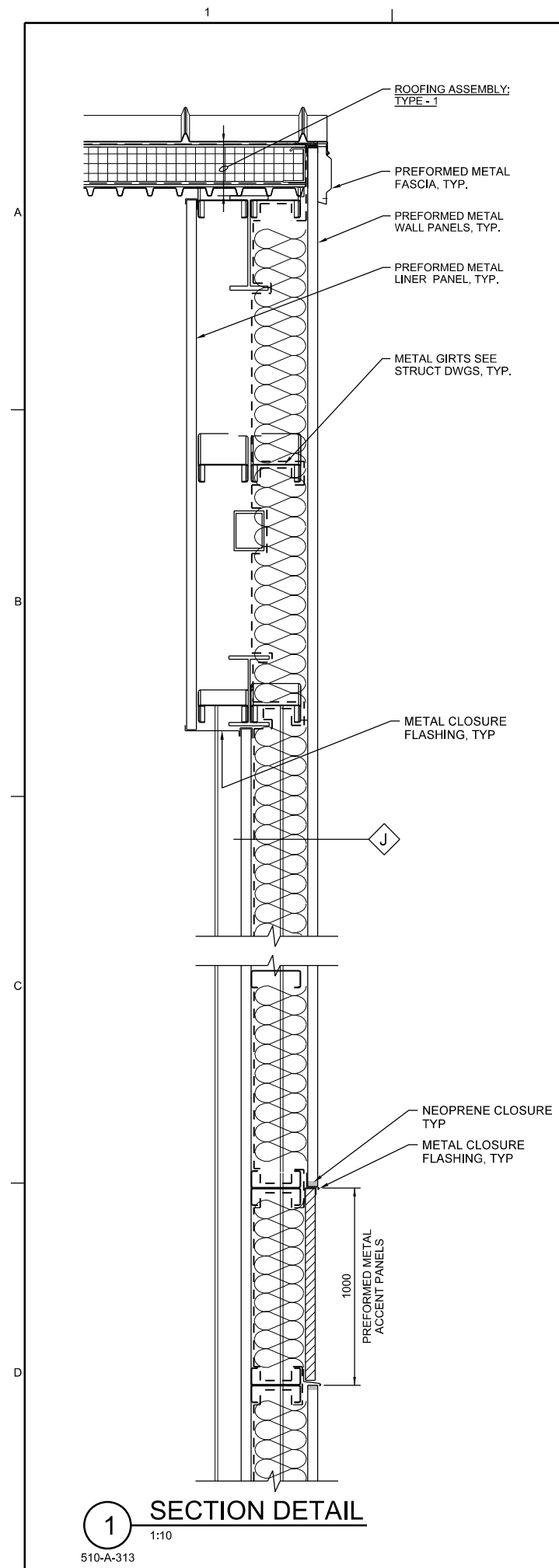
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL CANADA
Architects Inc.

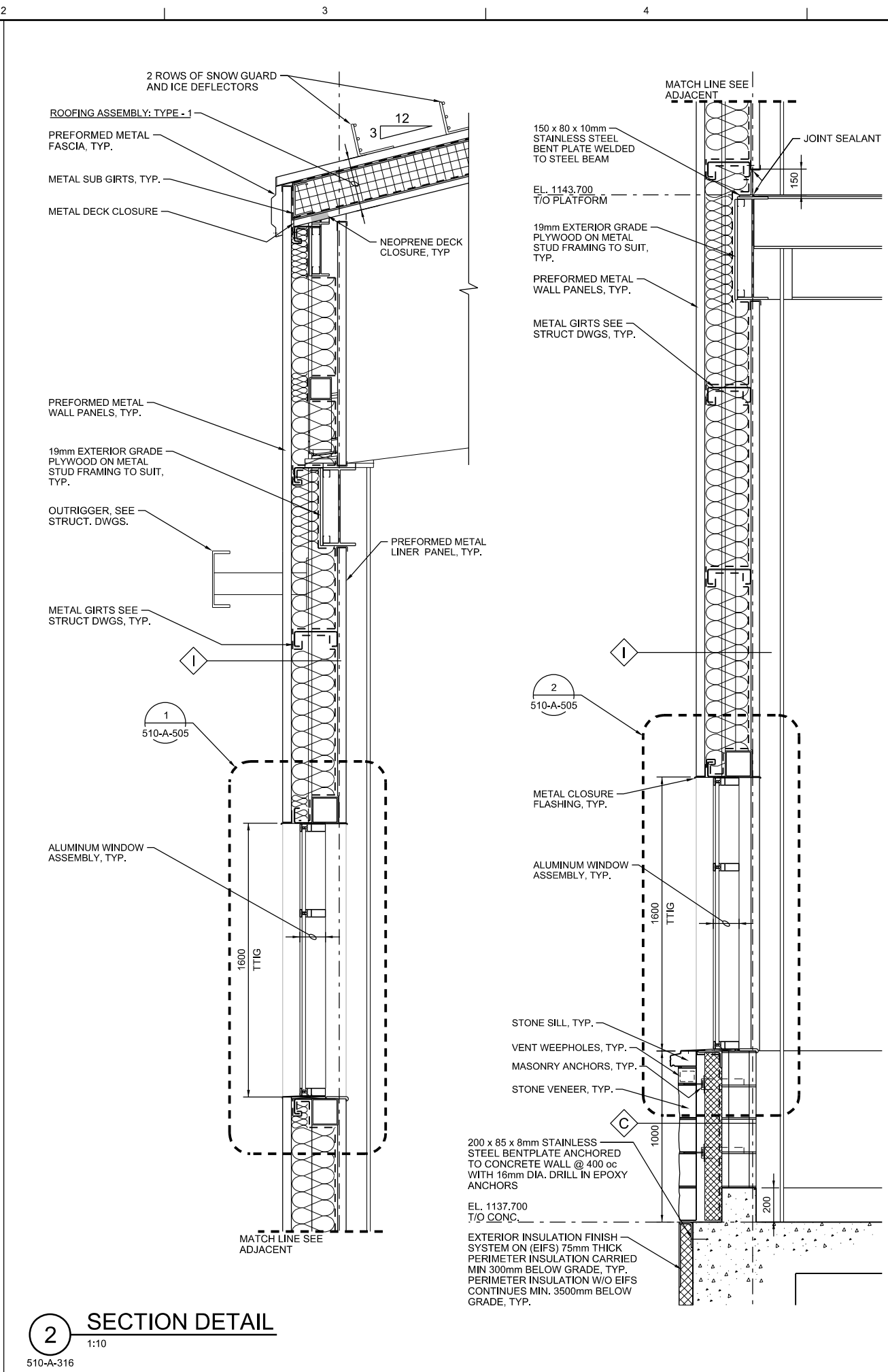
ARCHITECTURAL
WATER TREATMENT BUILDING
DETAILS (1)

NTS
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BAR IS 25mm ON ORIGINAL DRAWING, 25mm
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 510-A-501
SHEET

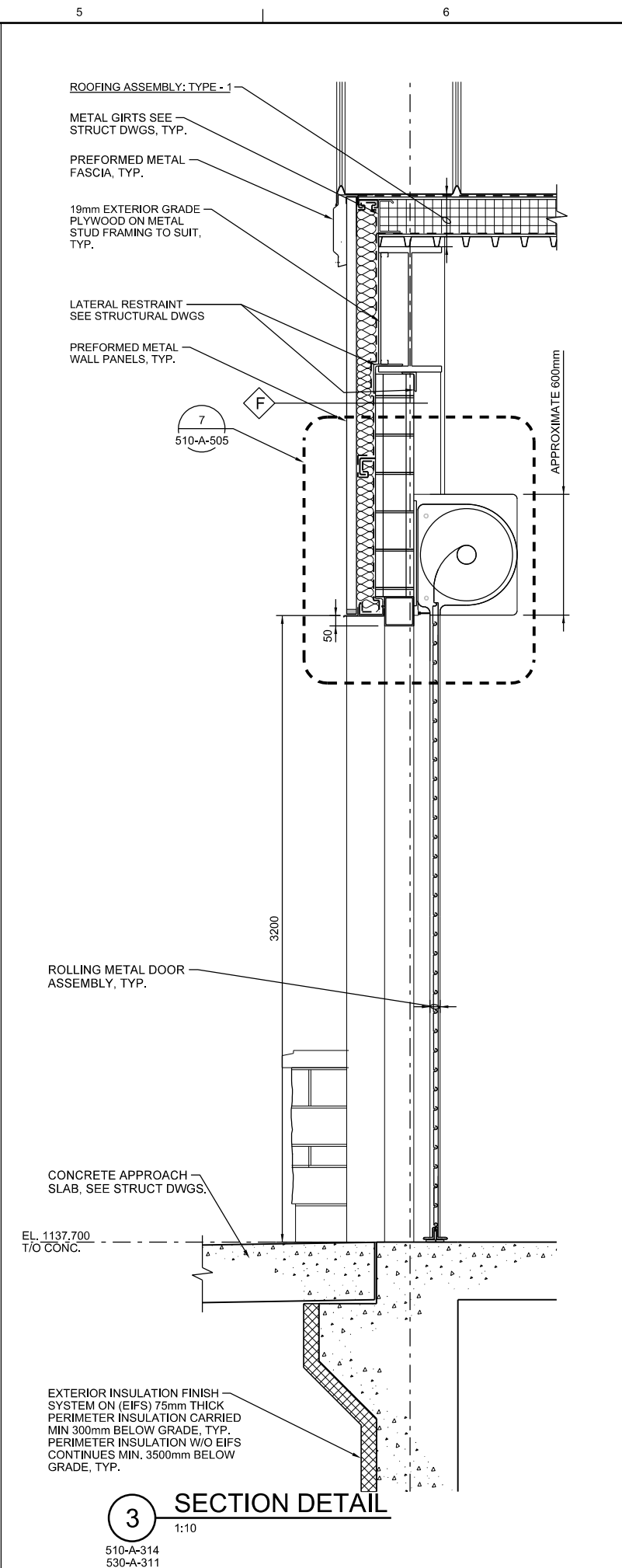
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1 SECTION DETAIL
1:10
510-A-313



2 SECTION DETAIL
1:10
510-A-316



3 SECTION DETAIL
1:10
510-A-314
530-A-311



NO.	DATE	DR	CHK	APVD
A	02/2014		V. KUSLIKIS	R. ZAKKO
ISSUED FOR DETAIL DESIGN REVIEW				BY
REVISION				APVD

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WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL CANADA Architects Inc.

ARCHITECTURAL
WATER TREATMENT BUILDING DETAILS (2)

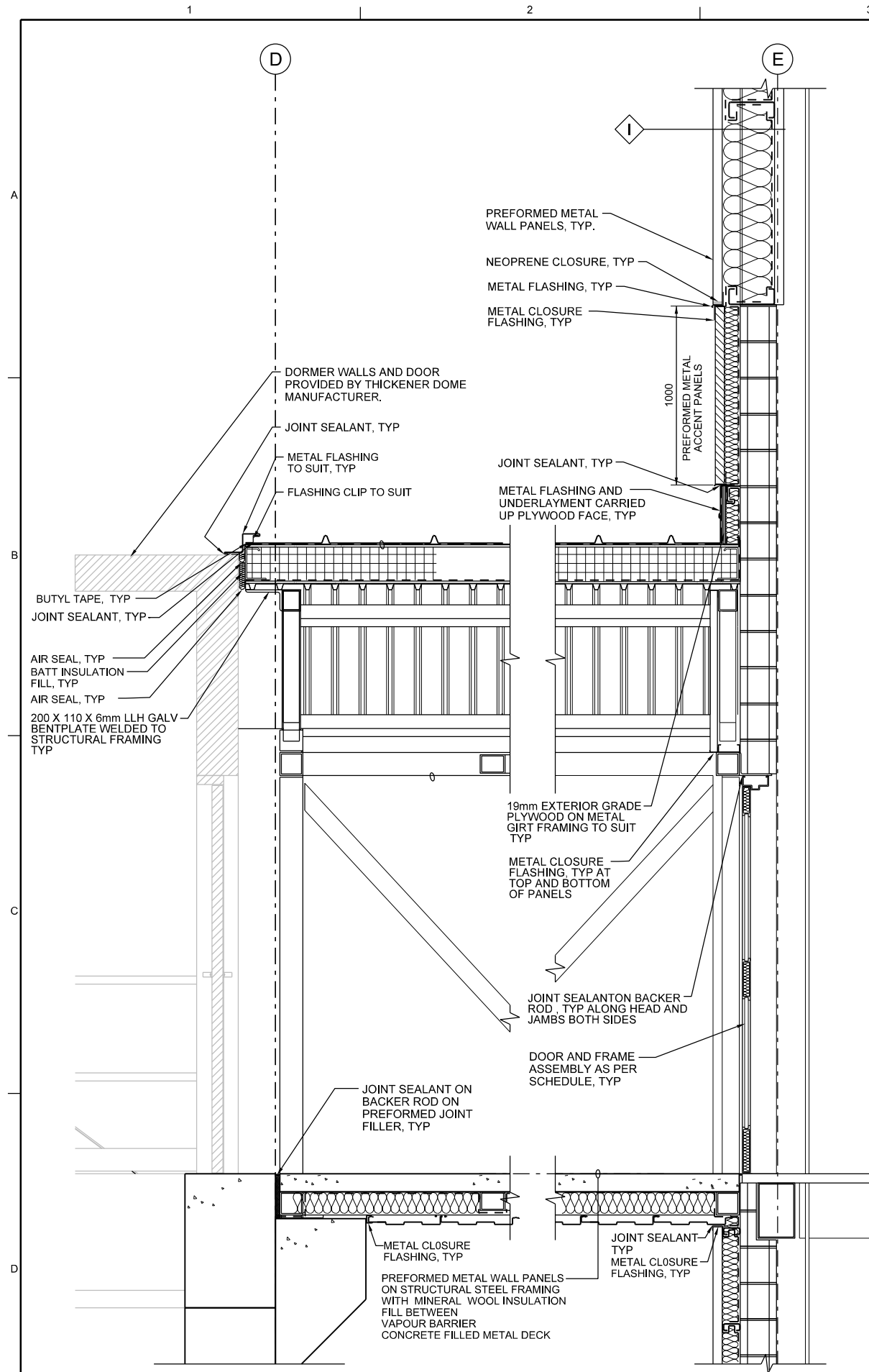
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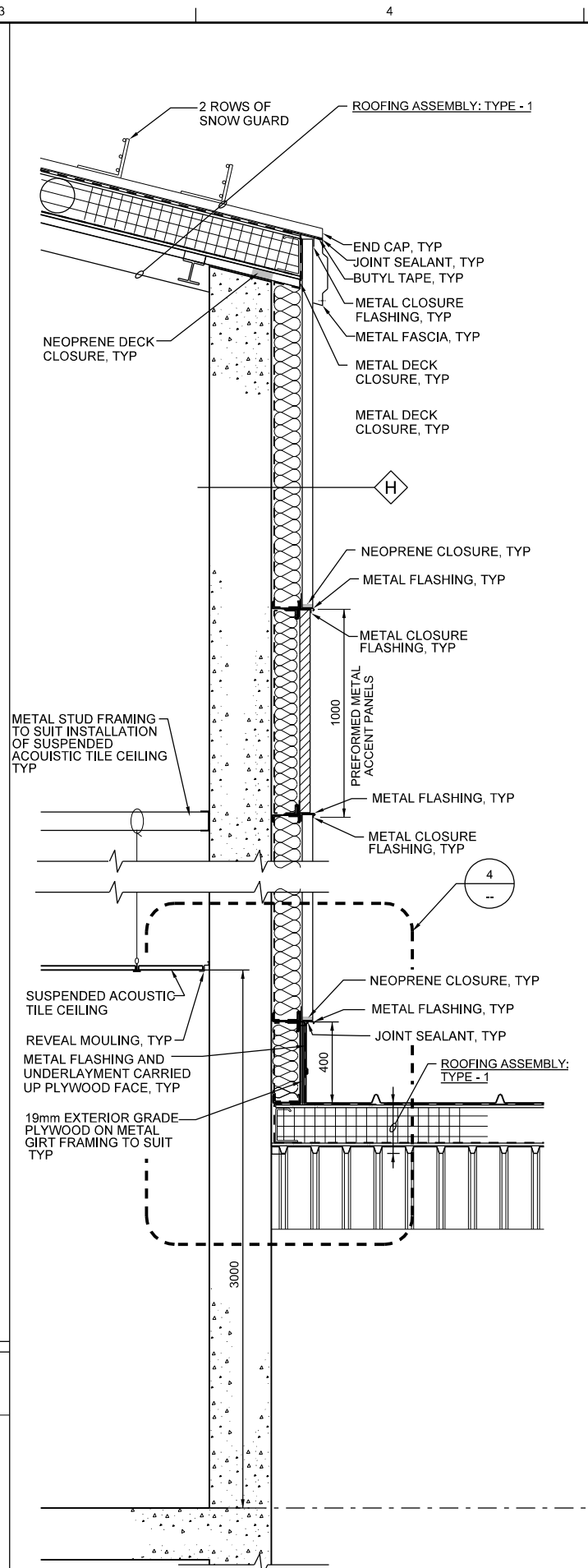
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 510-A-502
SHEET

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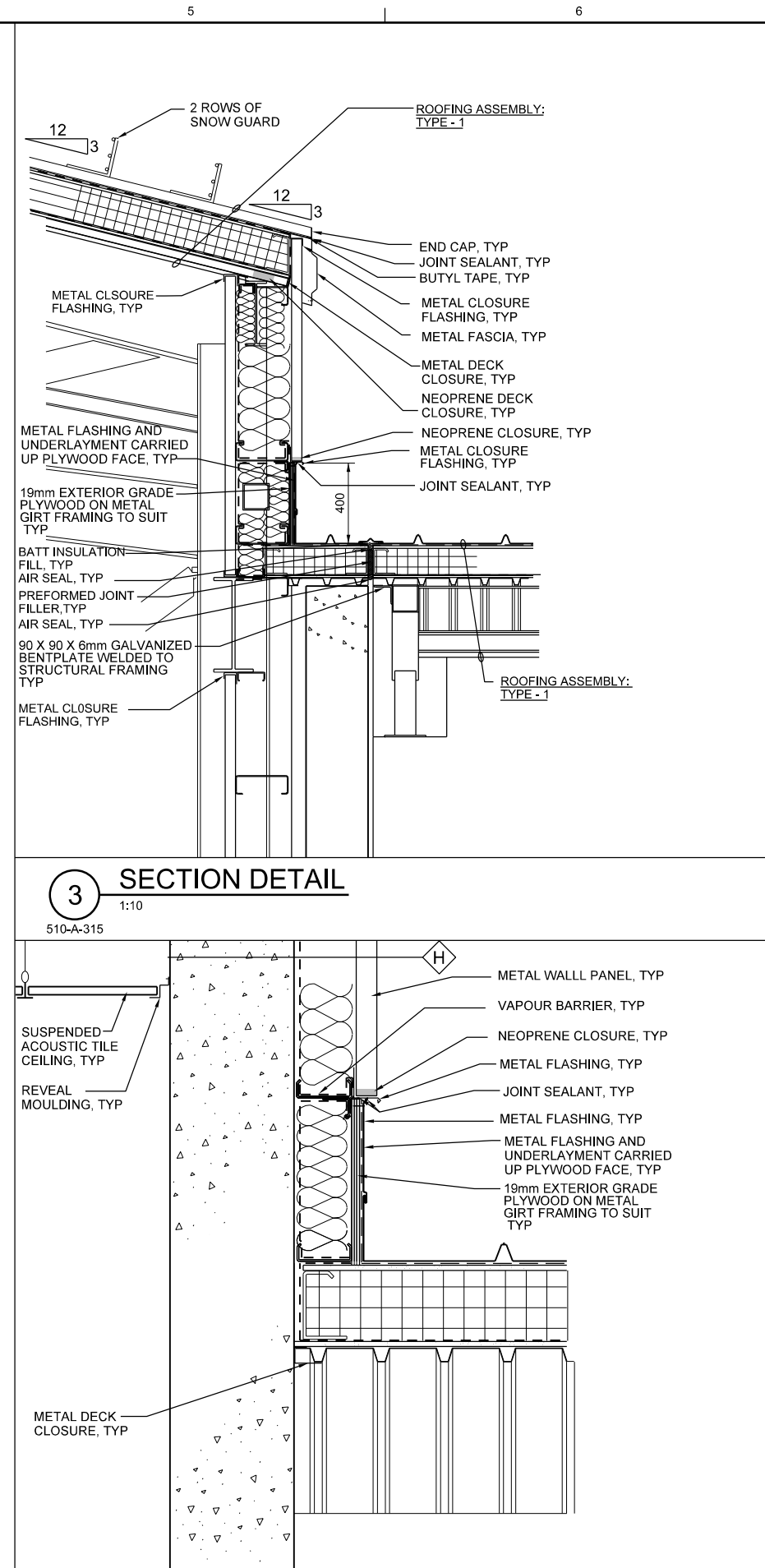
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510-A-312



2 SECTION DETAIL
1:10

510-A-311, 314



3 SECTION DETAIL
1:10

510-A-315

4 SECTION DETAIL
1:5

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NO.	DATE	DR	CHK	APVD
A	02/2014		V. KUSLIKIS	R. ZAKKO
ISSUED FOR DETAIL DESIGN REVIEW				BY
REVISION				APVD
				GN
				VK

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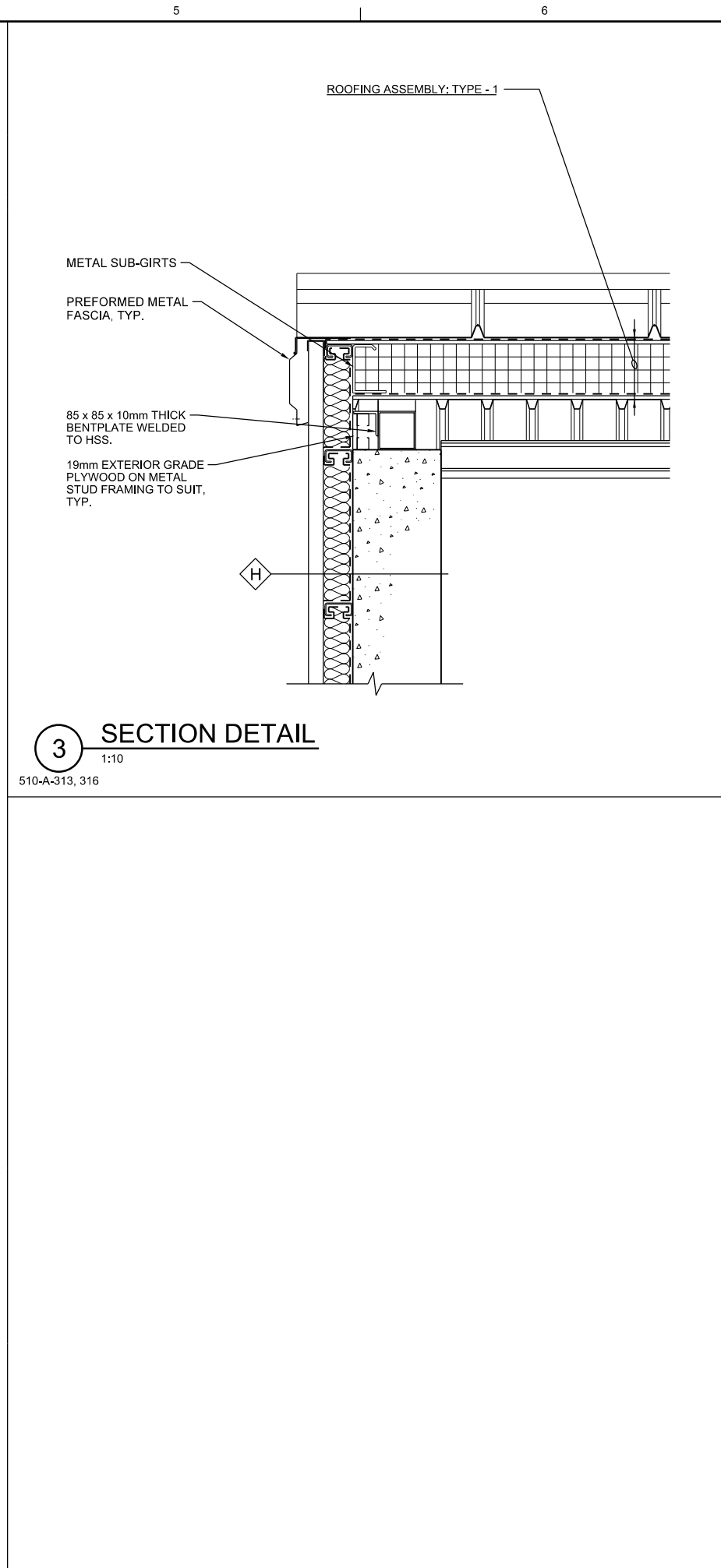
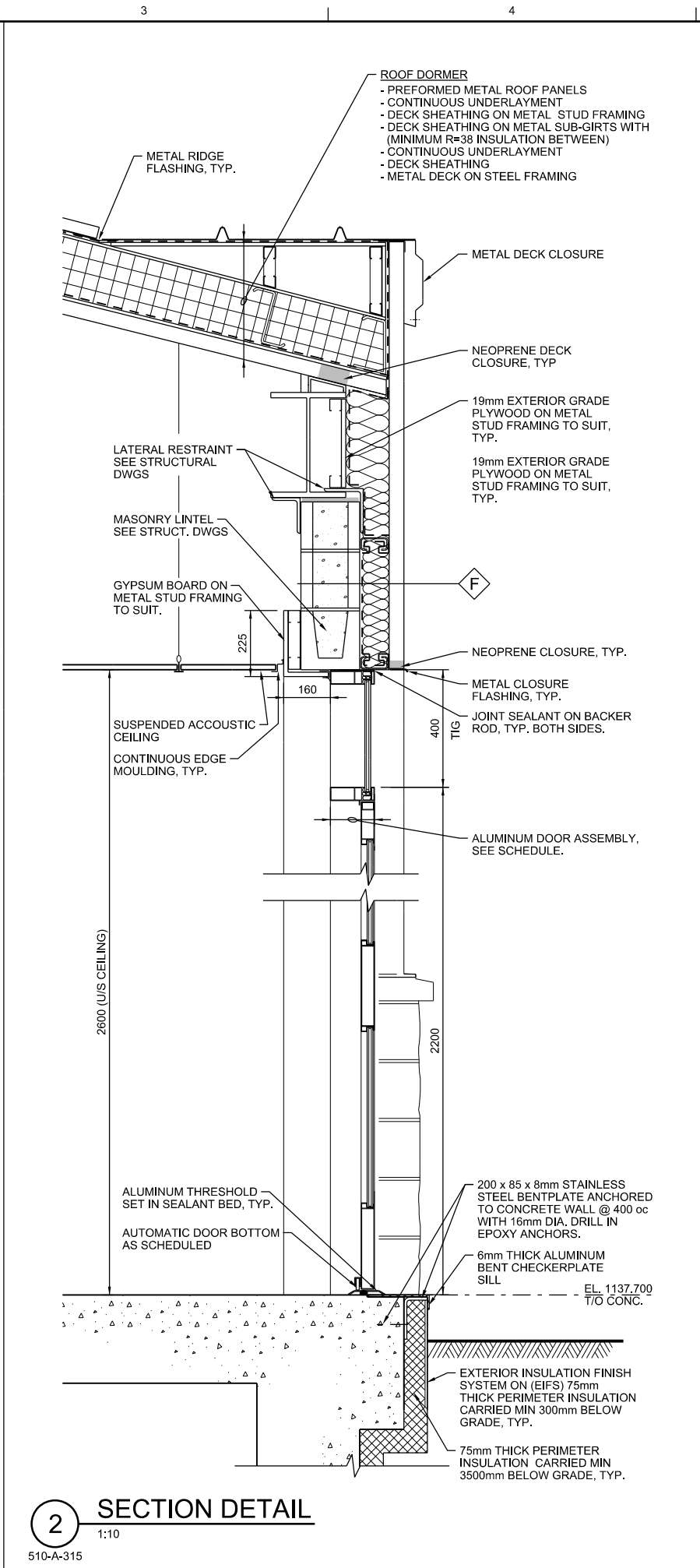
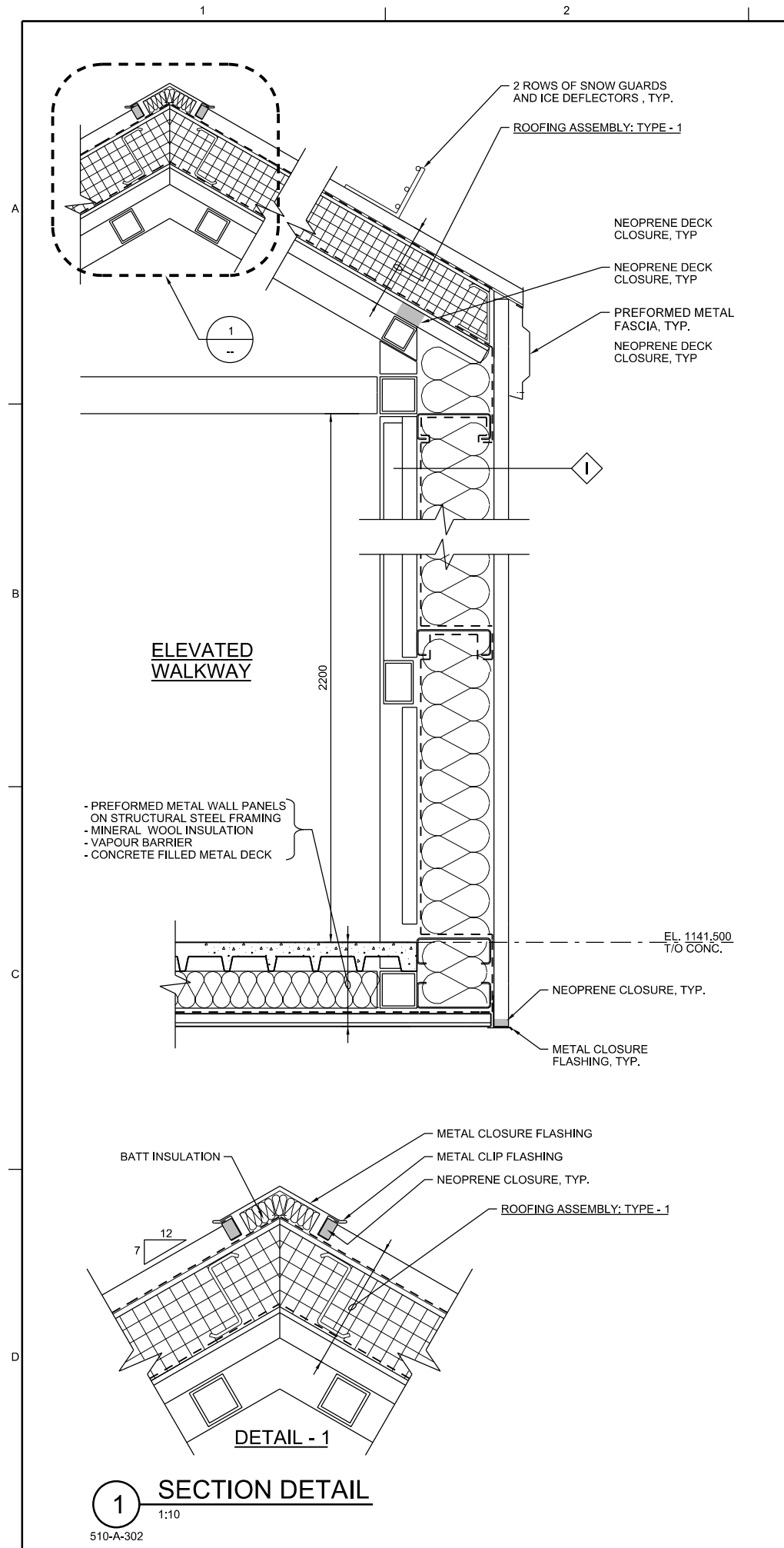
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL CANADA
Architects Inc.

ARCHITECTURAL
**WATER TREATMENT BUILDING
DETAILS (3)**

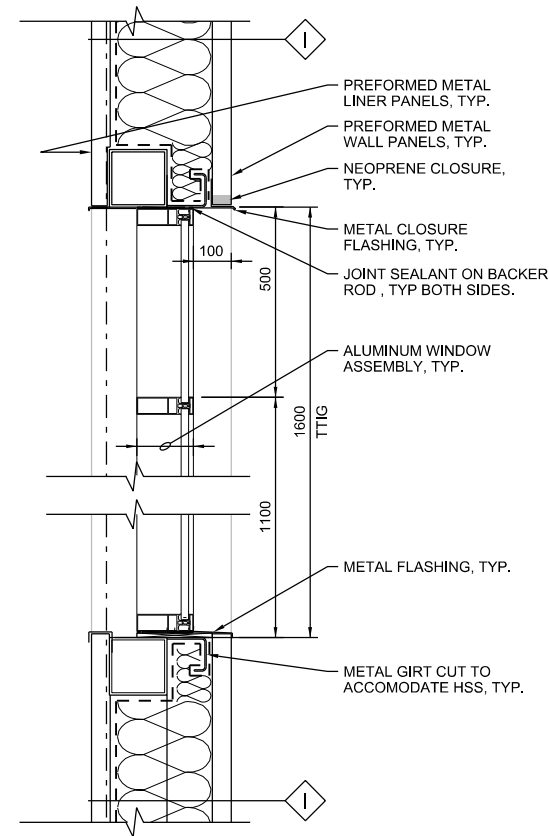
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DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	510-A-503
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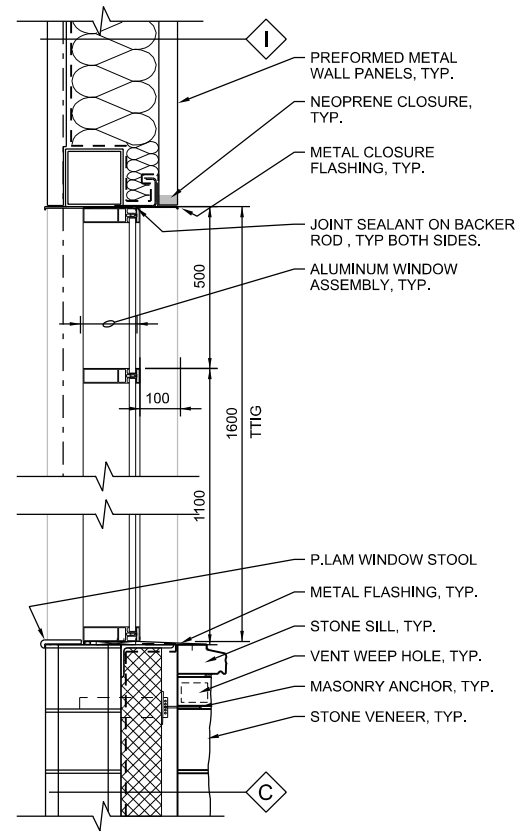


		ISSUED FOR DETAIL DESIGN REVIEW		GN
		BY	APVD	APVD
90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION		NO. DATE		DR
FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN GOVERNMENT OF YUKON DESIGN		D. IANNETTA		V. KUSLIKIS
ARCHITECTURAL WATER TREATMENT BUILDING DETAILS (4)		R. ZAKKO		
NTS				
VERIFY SCALE				
BAR IS 25mm ON ORIGINAL DRAWING.				
DATE FEBRUARY 2014				
PROJ TA013-427716				
DWG 510-A-504				
SHEET				

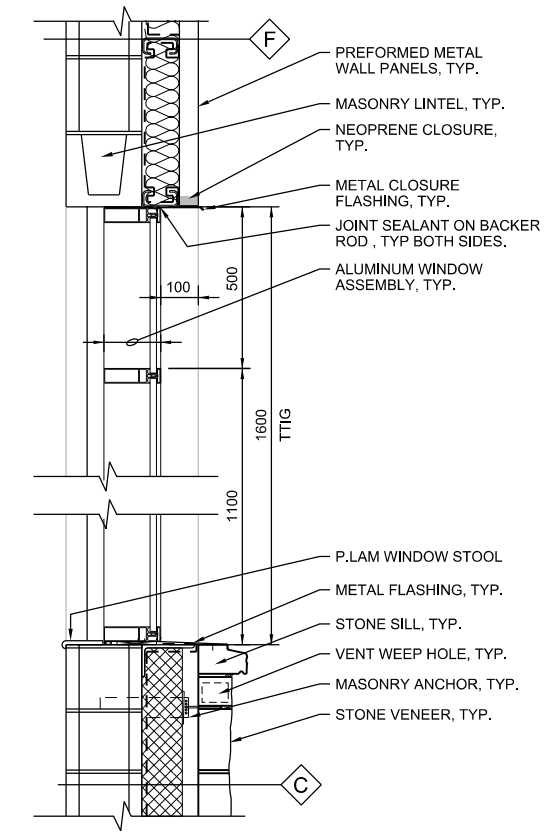
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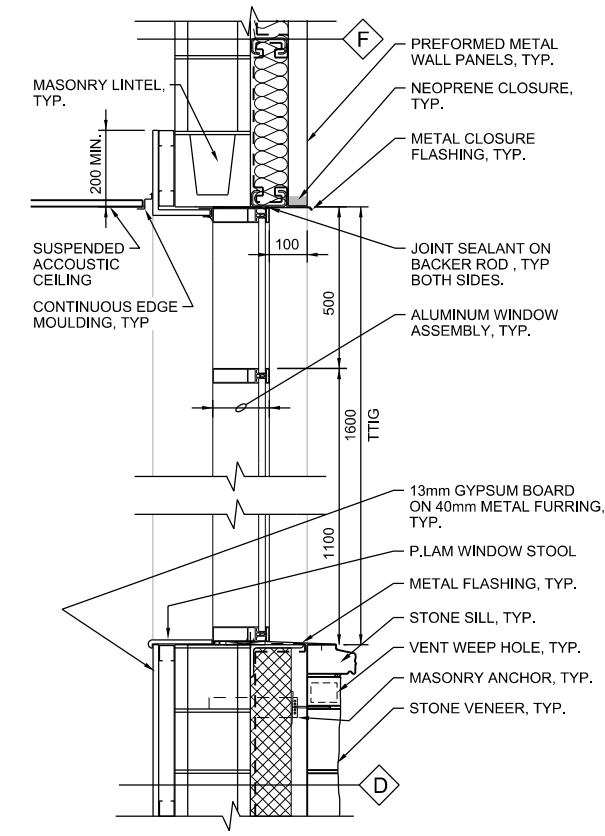
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510-A-502



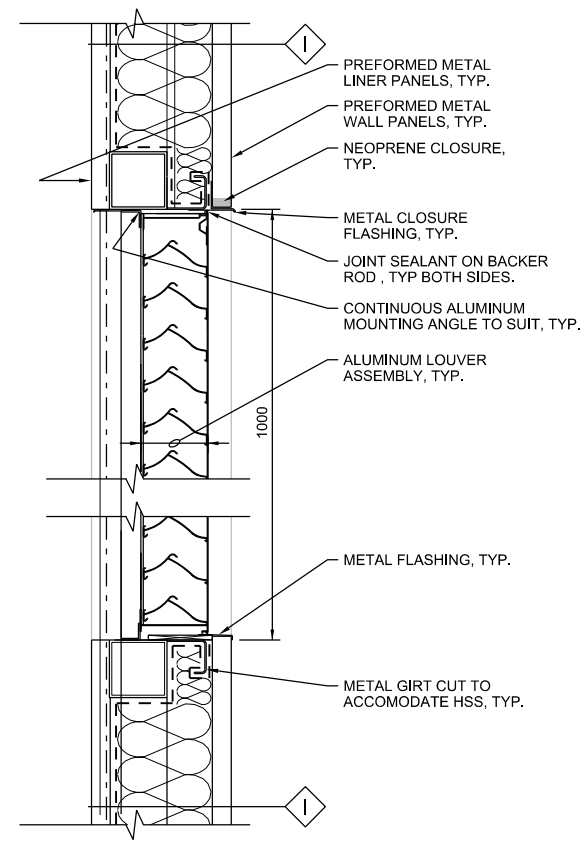
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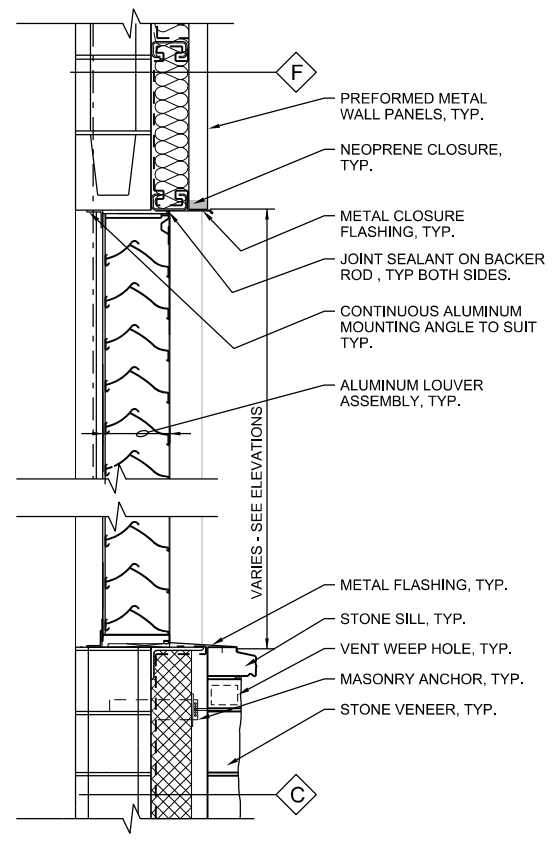
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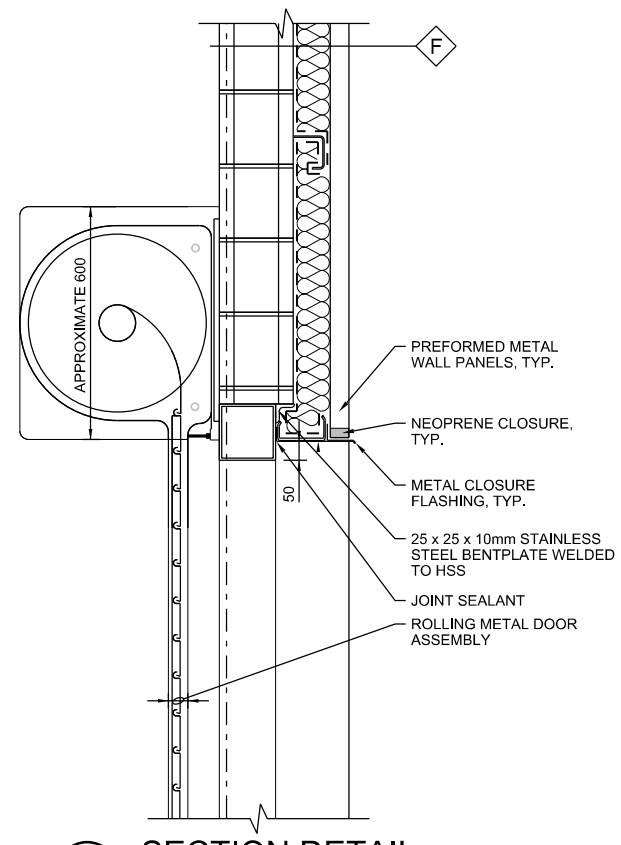
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510-A-311, 314



5 SECTION DETAIL
1:10
510-A-302, 314



6 SECTION DETAIL
1:10
510-A-301, 302



7 SECTION DETAIL
1:10
510-A-502
530-A-311



NO.	DATE	REVISION	BY	APVD
A	02/2014	ISSUED FOR DETAIL DESIGN REVIEW	VK	GN
		DR	V. KUSLIKIS	R. ZAKKO
DSGN		CHK		APVD

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

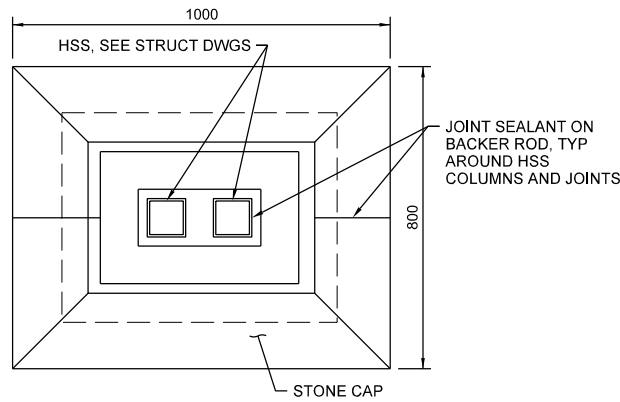
CH2MHILL CANADA Architects Inc.

ARCHITECTURAL
WATER TREATMENT BUILDING DETAILS (5)

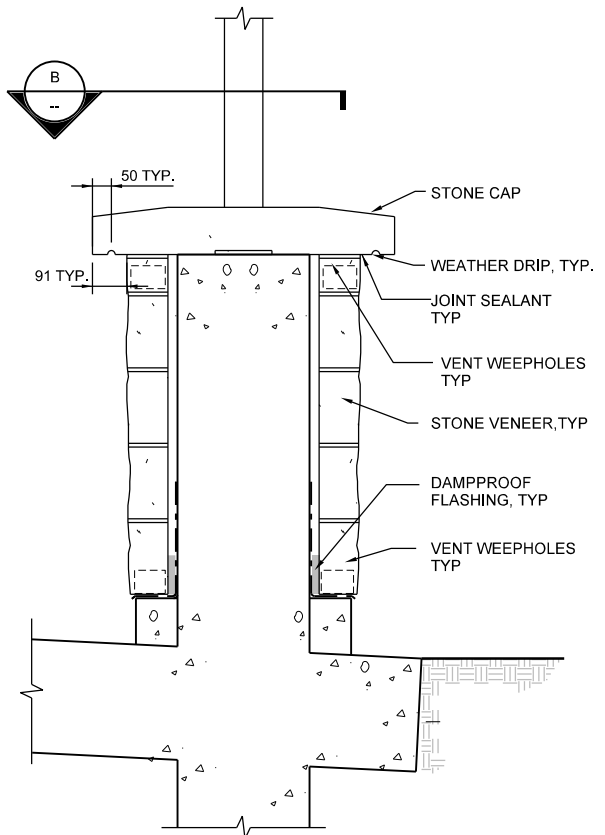
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VERIFY SCALE
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0 25mm

DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	510-A-505
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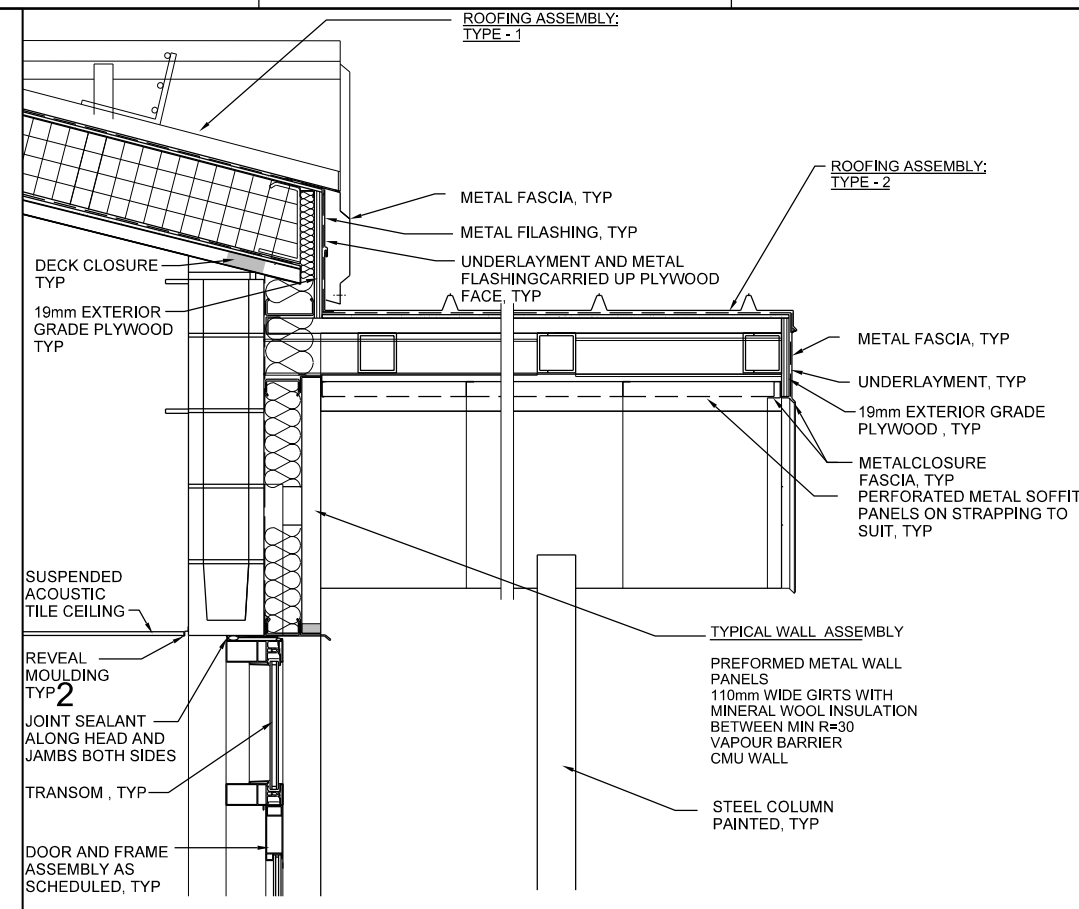


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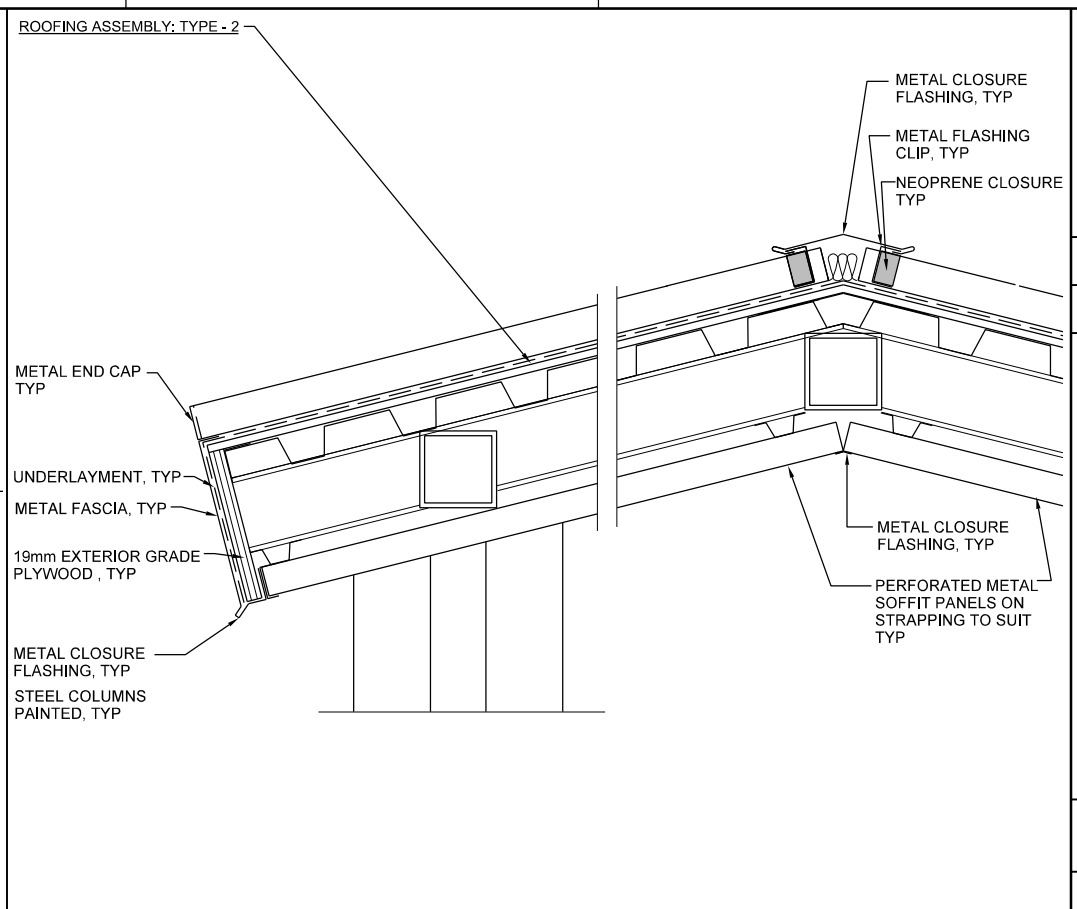
1 SECTION DETAIL

510-A-205
1:10



SECTION DETAIL

510-A-311
1:10



3 SECTION DETAIL

510-A-208, 210
1:10



NO.	DATE	BY	CHK	APVD
A	02/2014	VK	V. KUSLIKIS	R. ZAKKO
ISSUED FOR DETAIL DESIGN REVIEW				APVD
REVISION				CHK
DIGN				DR
D. IANNETTA				

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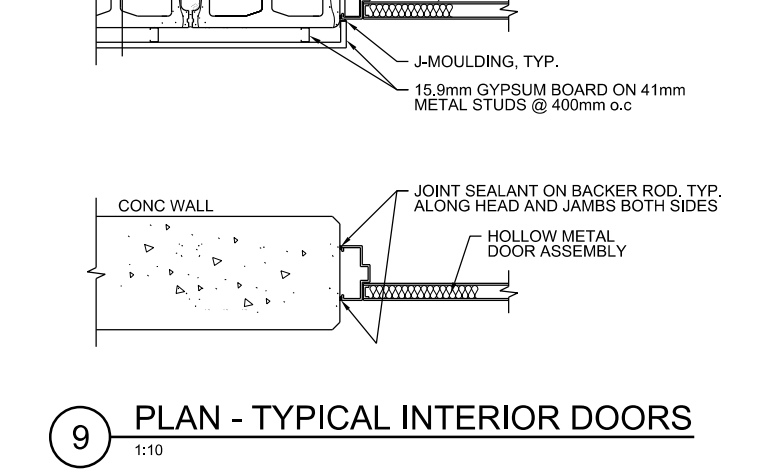
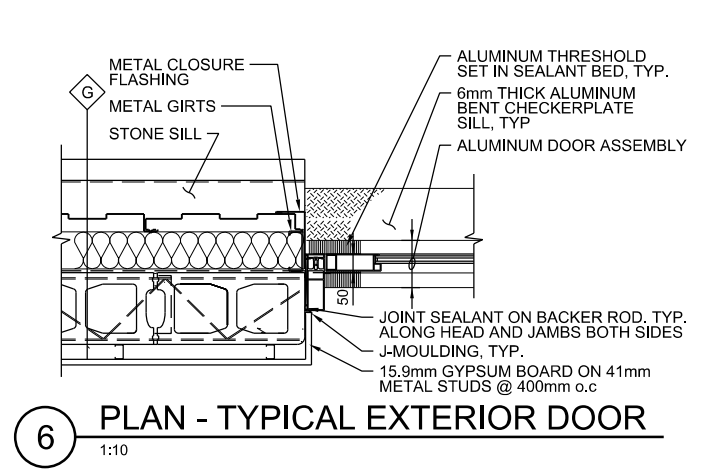
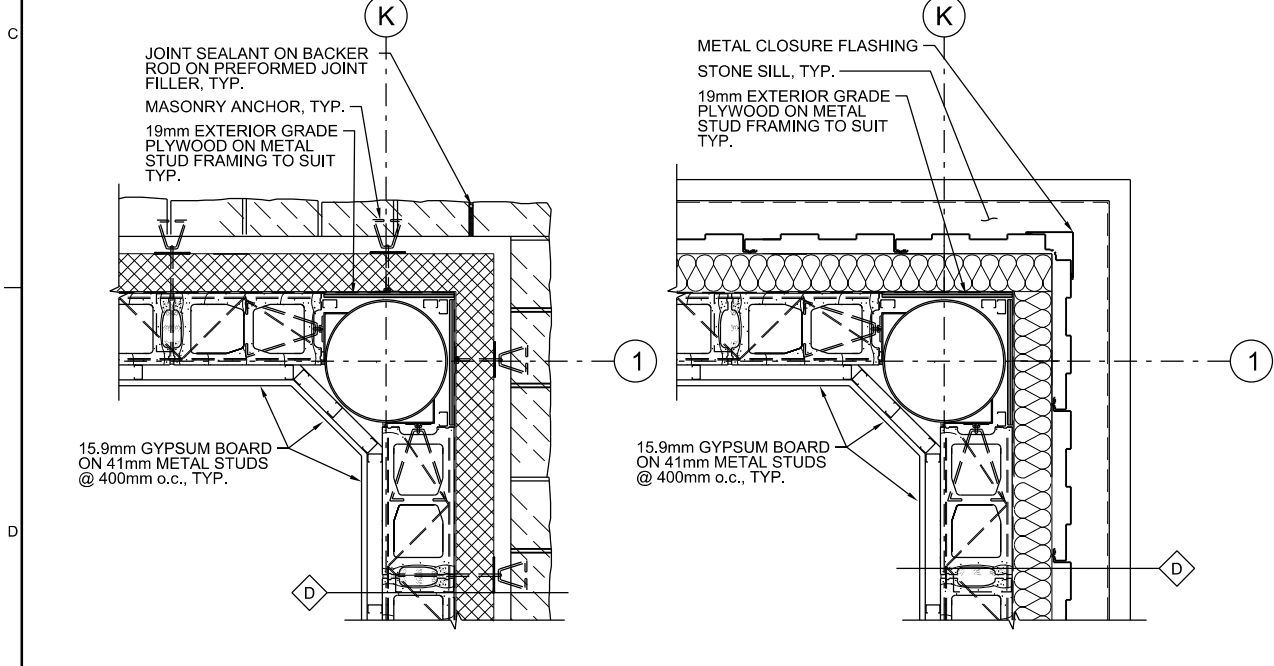
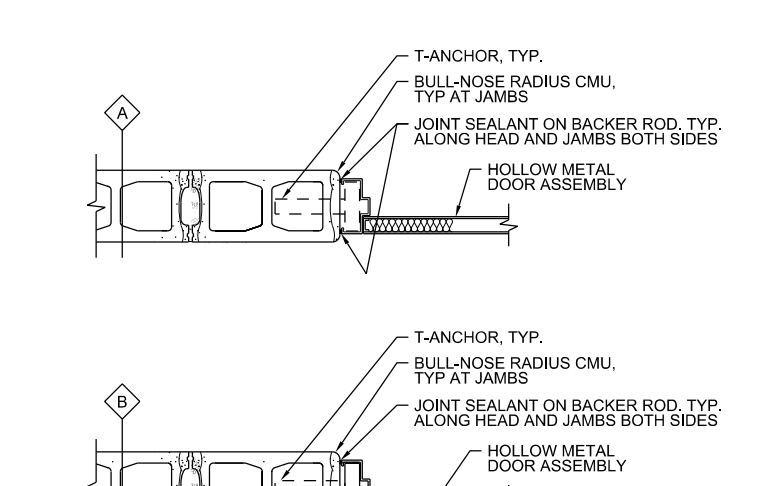
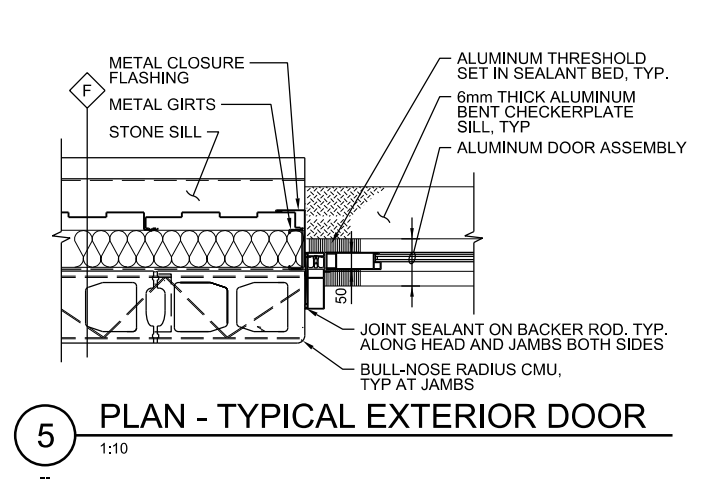
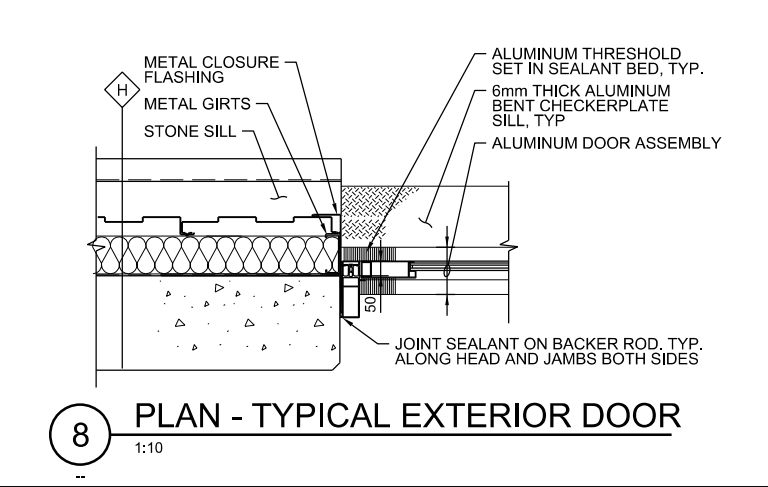
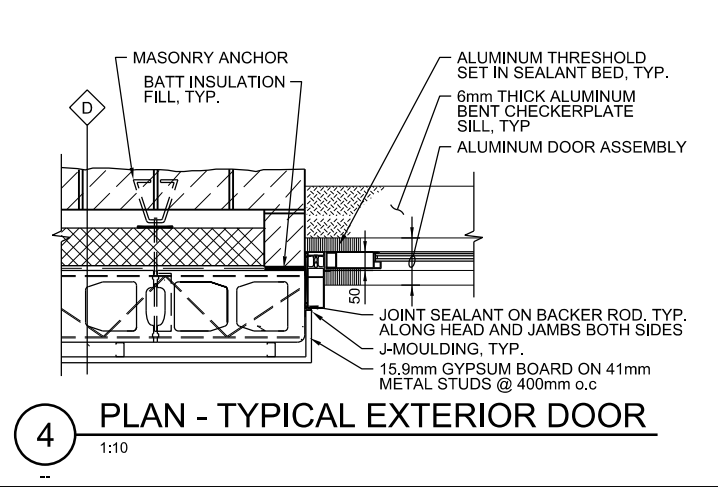
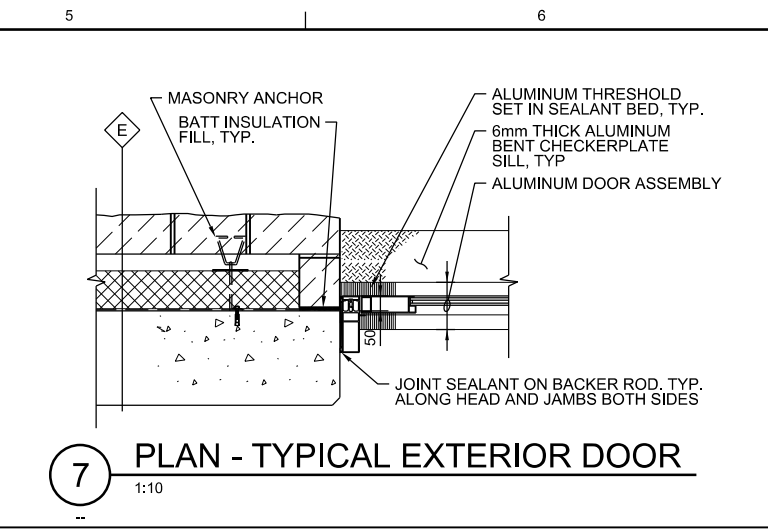
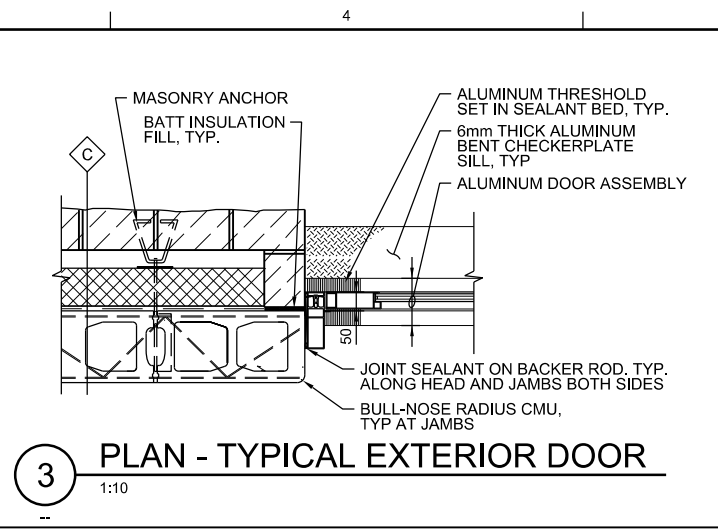
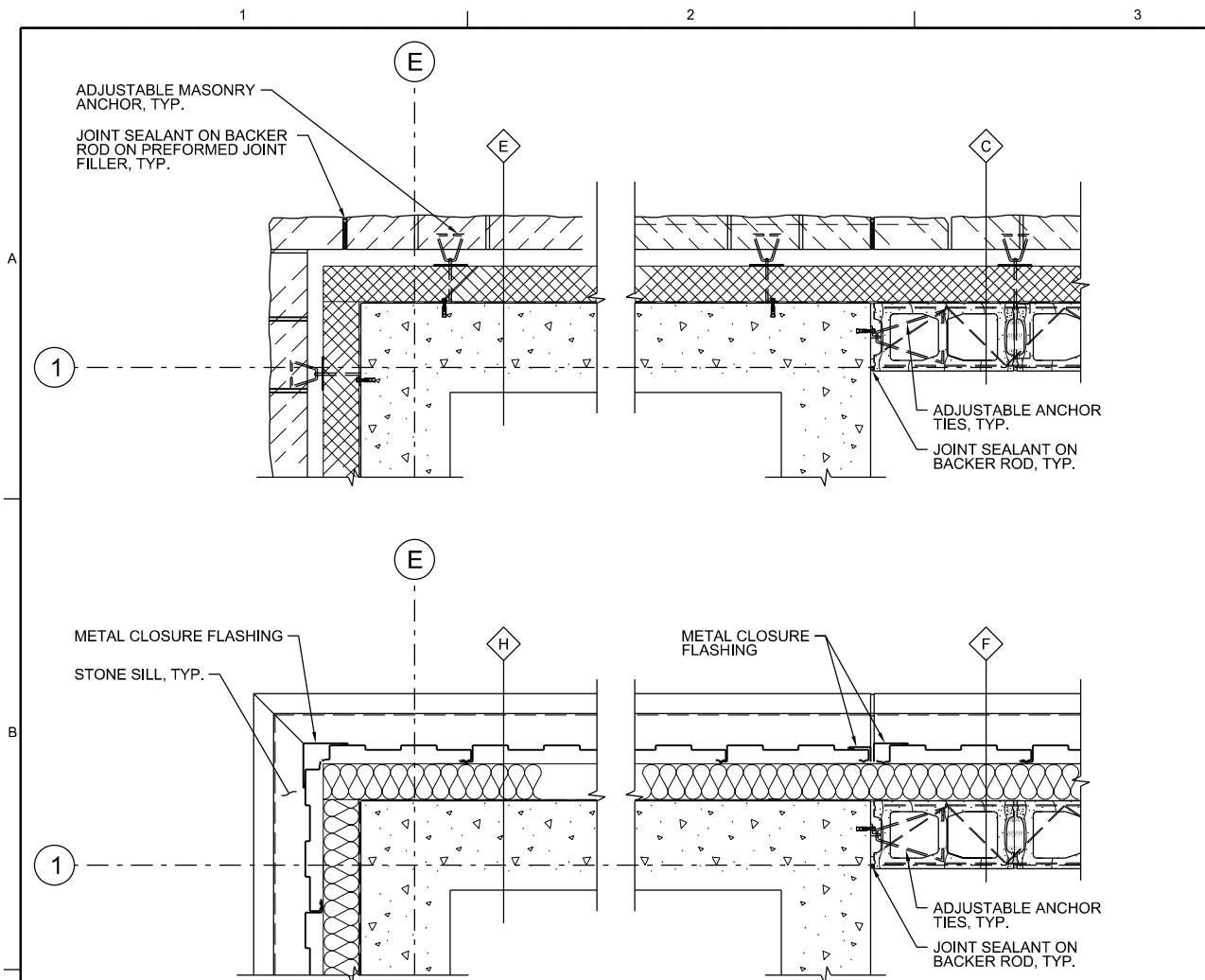
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN


CH2MHILL CANADA Architects Inc.

ARCHITECTURAL
WATER TREATMENT BUILDING DETAILS (6)

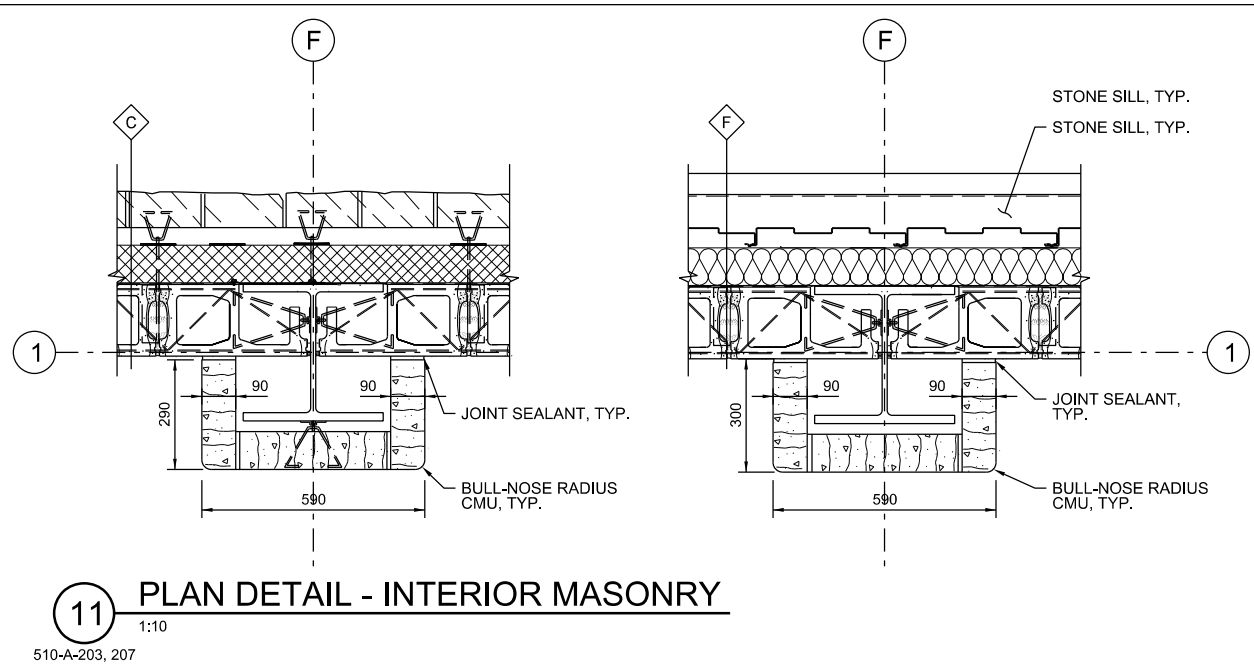
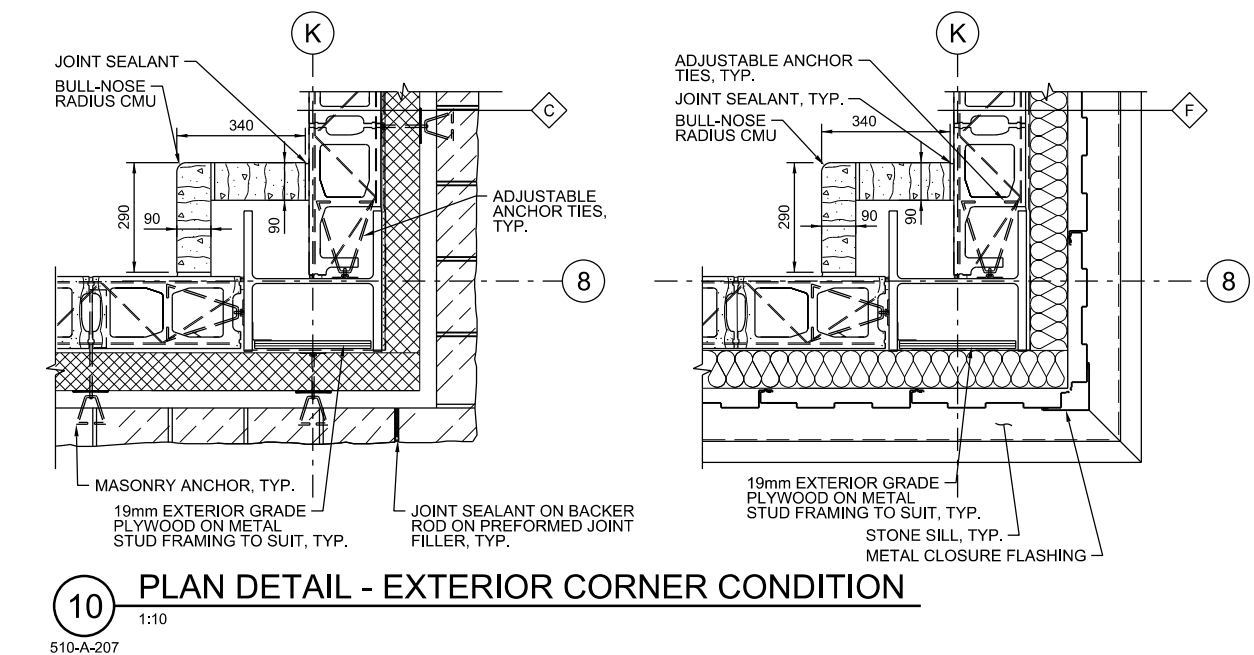
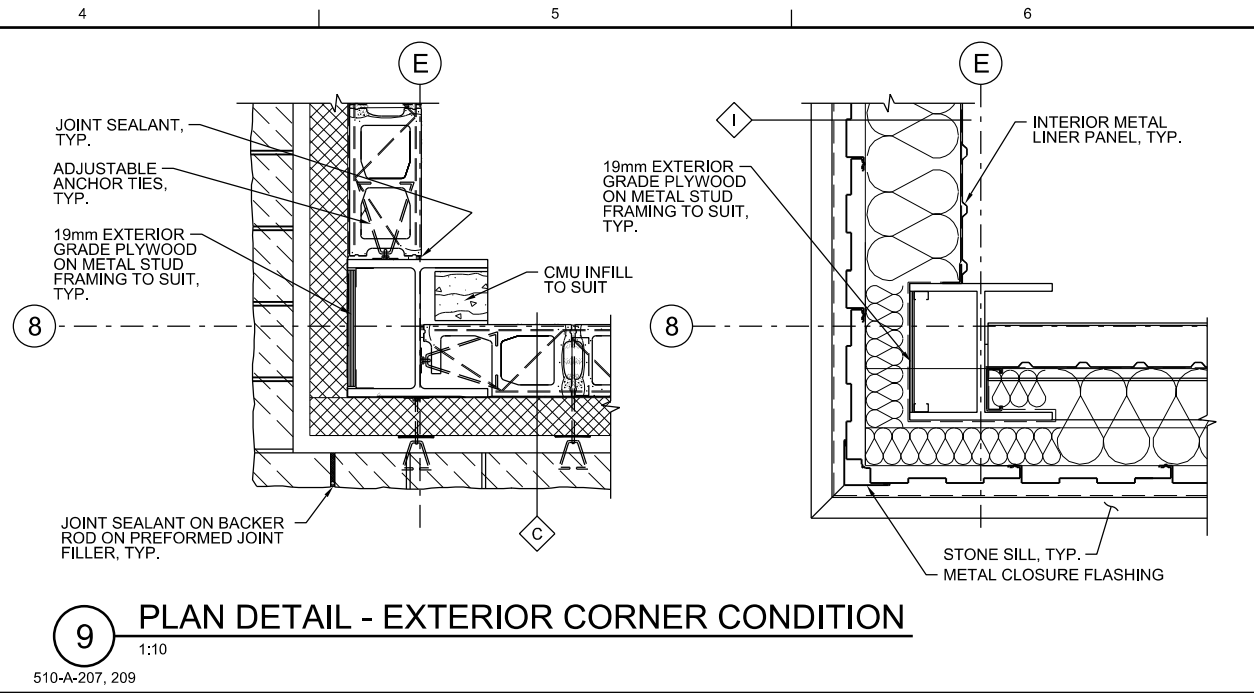
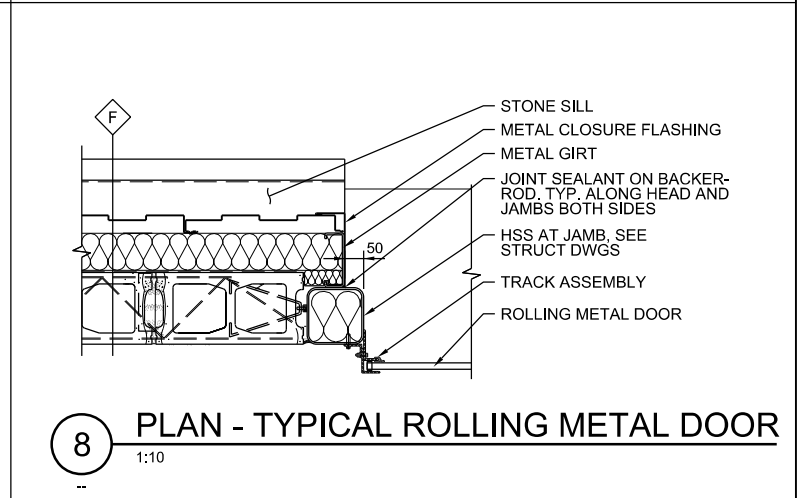
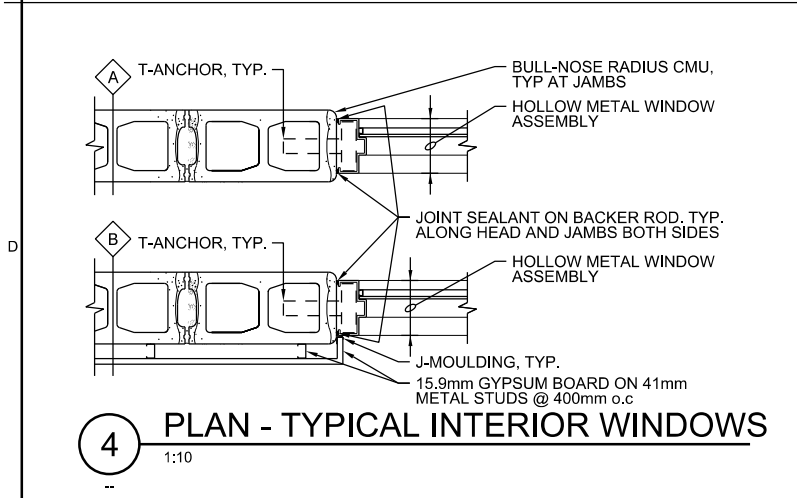
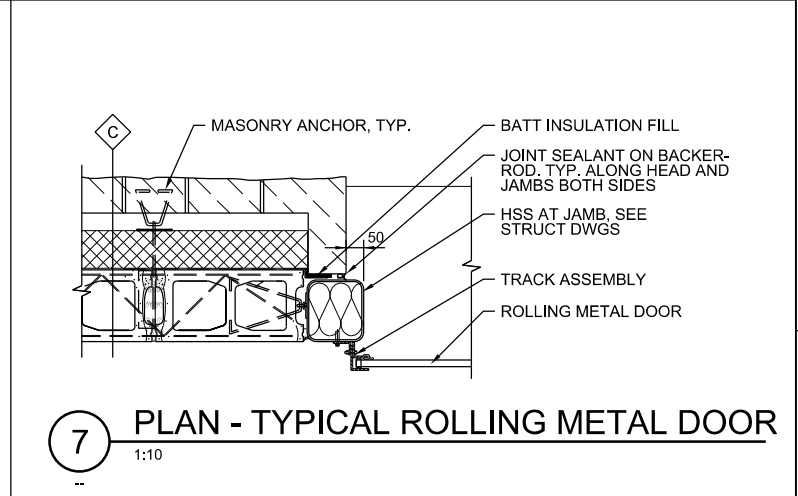
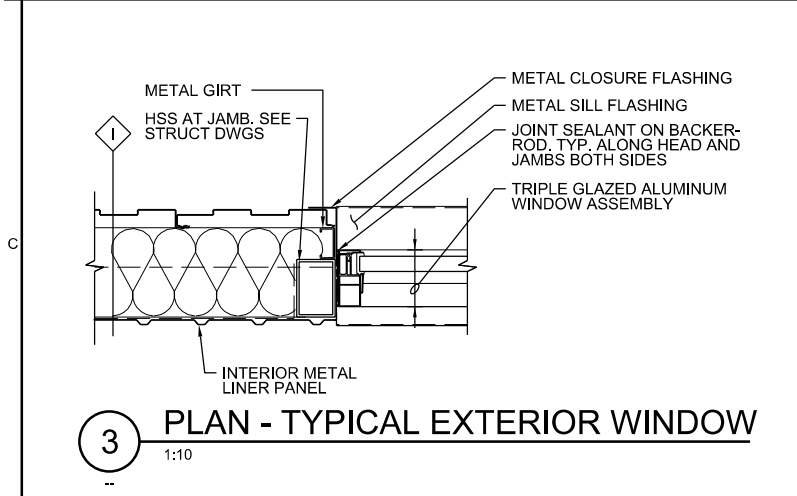
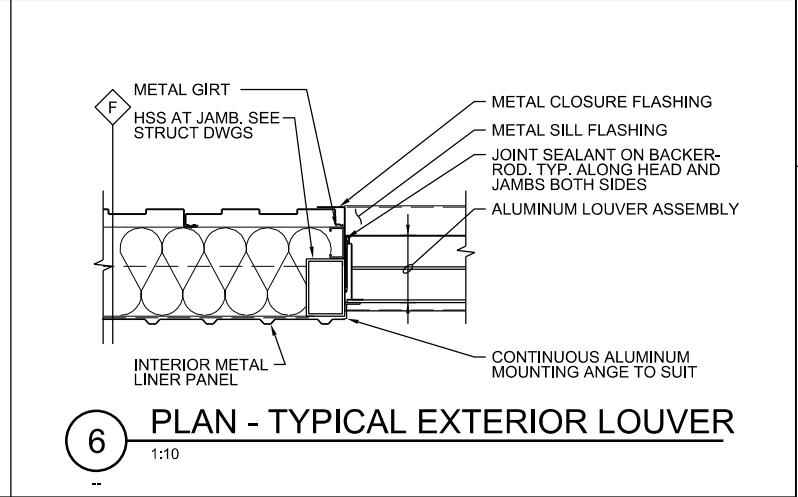
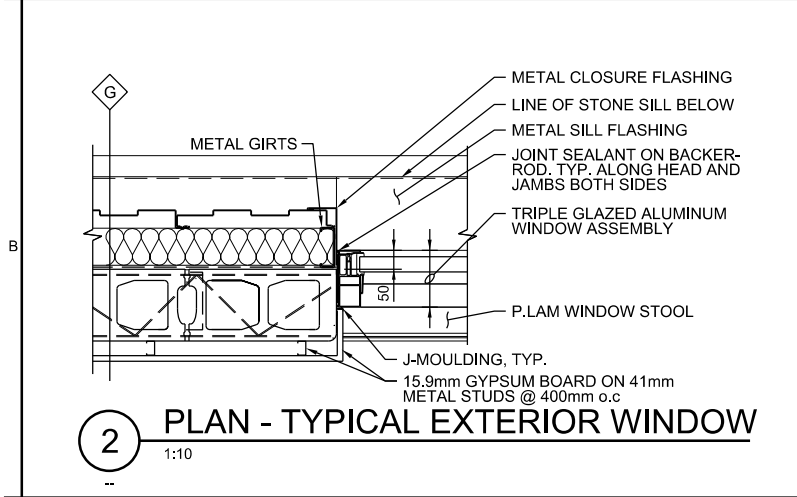
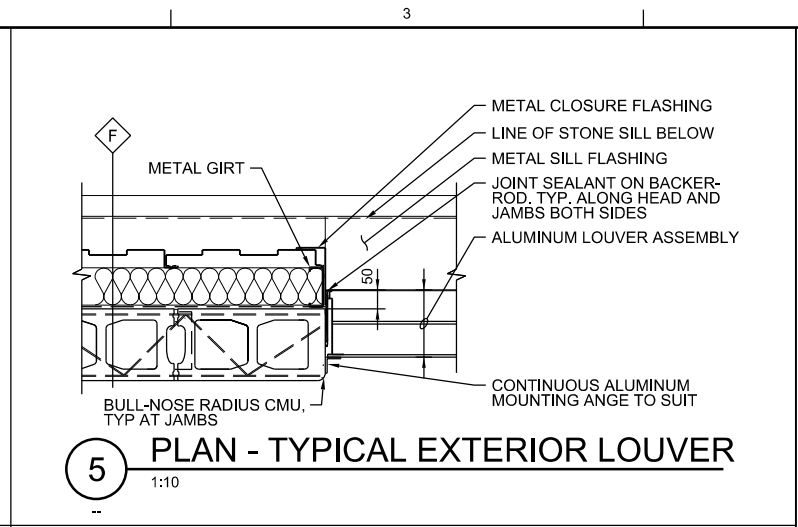
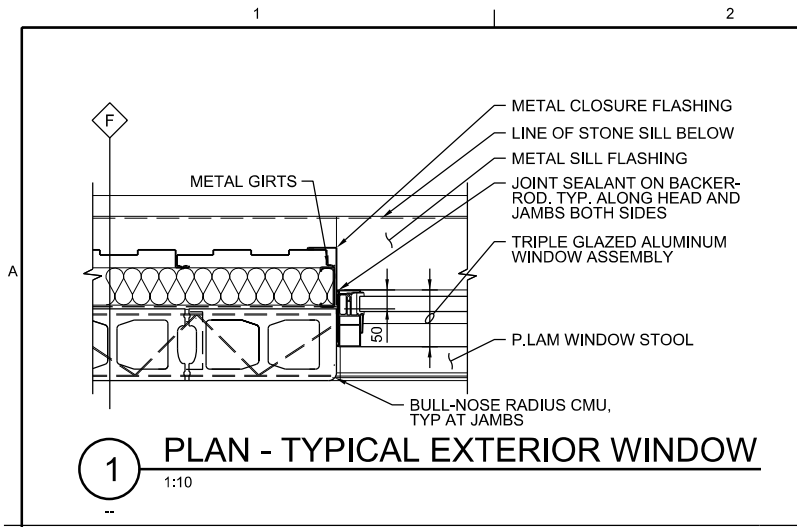
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BAR IS 25mm ON ORIGINAL DRAWING.	
DATE	FEBRUARY 2014
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DWG	510-A-506
SHEET	

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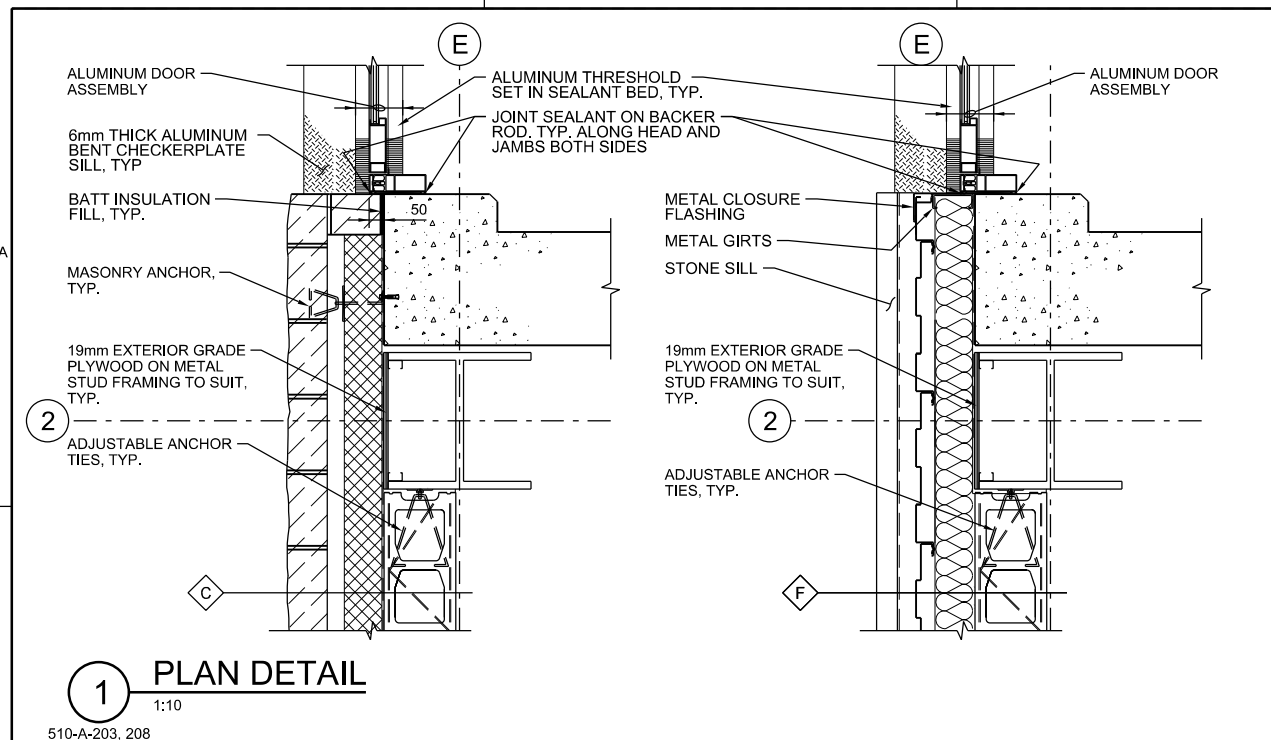




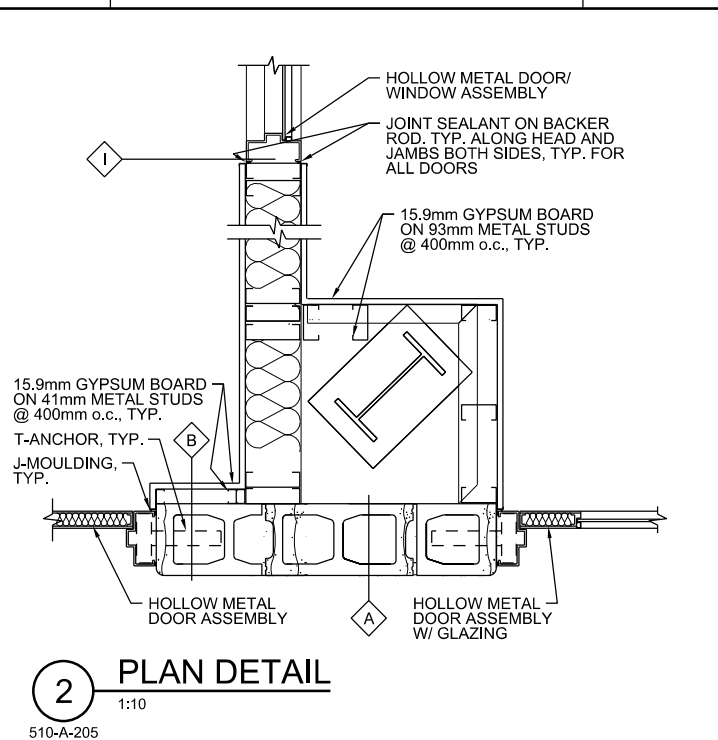
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A	02/2014			V. KUSLIKIS	R. ZAKKO		R. ZAKKO
ISSUED FOR DETAIL DESIGN REVIEW				REVISION			
FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN GOVERNMENT OF YUKON DESIGN							
CH2MHILL CANADA Architects Inc. ARCHITECTURAL WATER TREATMENT BUILDING DETAILS (7)							
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NTS VERIFY SCALE BAR IS 25mm ON ORIGINAL DRAWING. 25mm							
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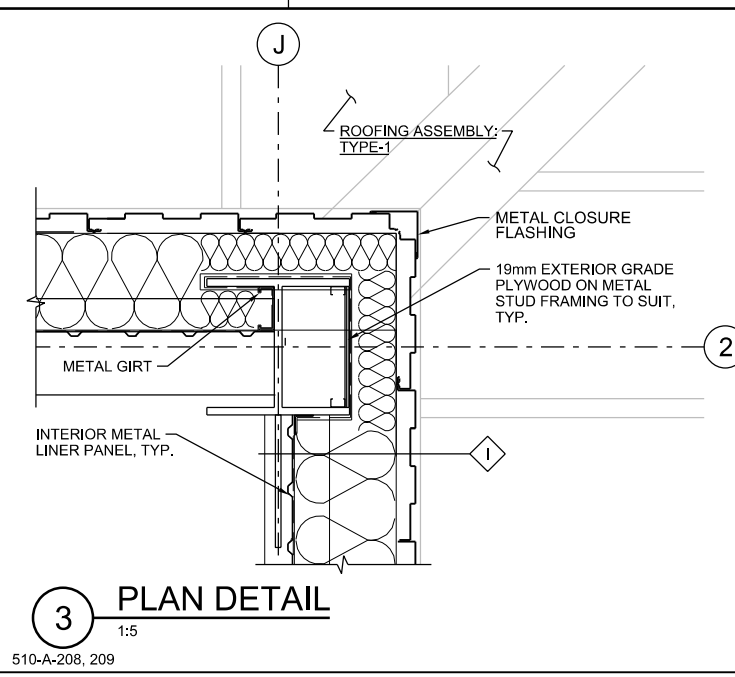
		ISSUED FOR DETAIL DESIGN REVIEW	VK	GN
		REVISION	BY	APVD
D. IANNETTA DR		NO.	DATE	APVD
V. KUSLIKIS CHK		R. ZAKKO APVD		
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FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN GOVERNMENT OF YUKON DESIGN				
CH2MHILL CANADA Architects Inc.		ARCHITECTURAL WATER TREATMENT BUILDING DETAILS (8)		
NTS VERIFY SCALE BAR IS 25mm ON ORIGINAL DRAWING.				
DATE: FEBRUARY 2014 PROJ: TA013-427716 DWG: 510-A-508 SHEET				



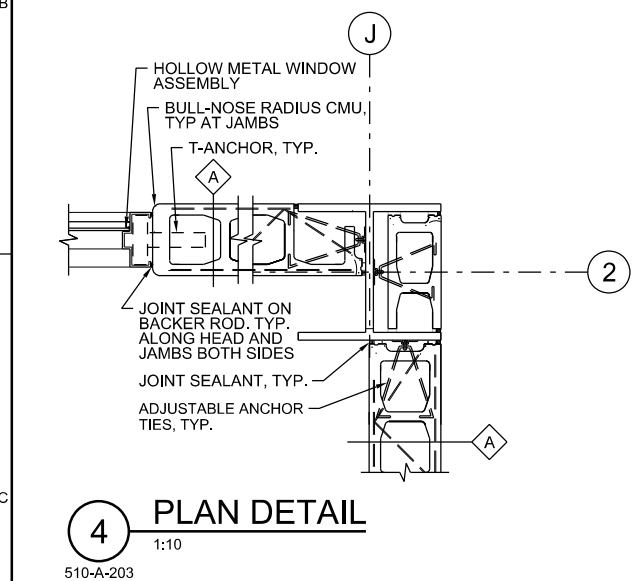
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510-A-203, 208



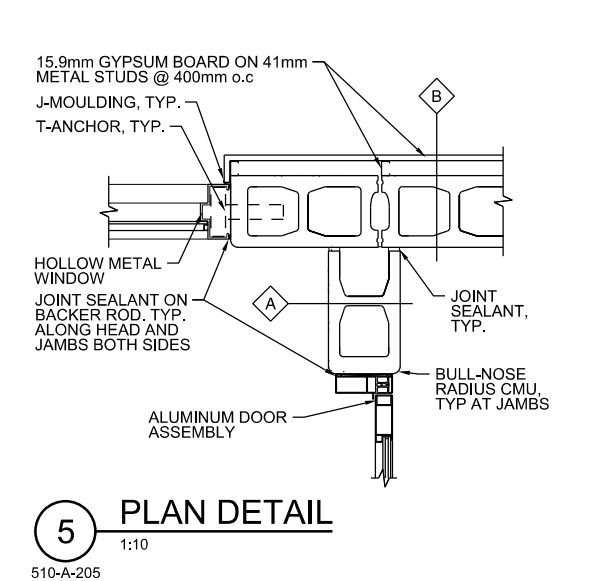
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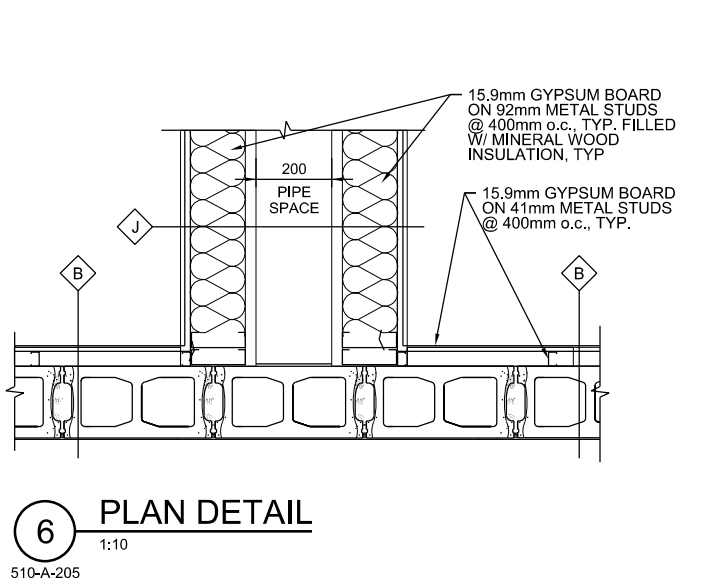
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510-A-208, 209



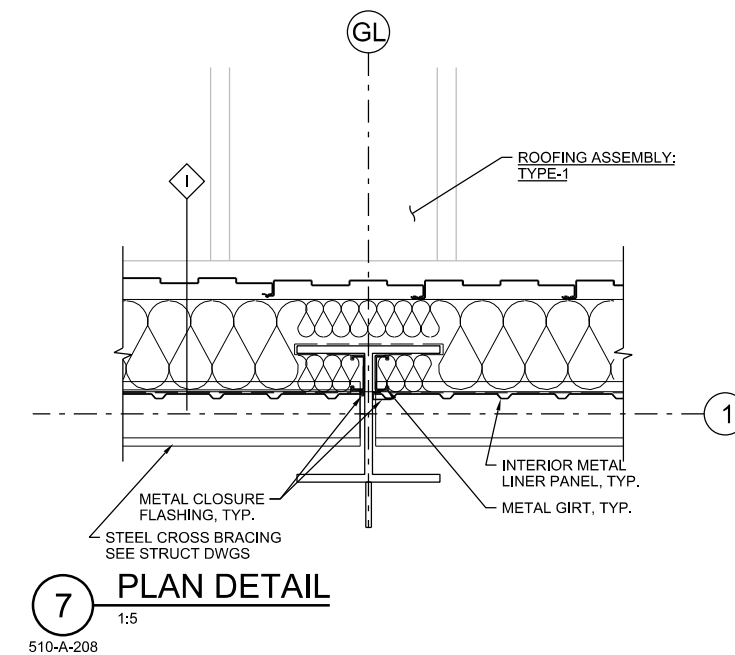
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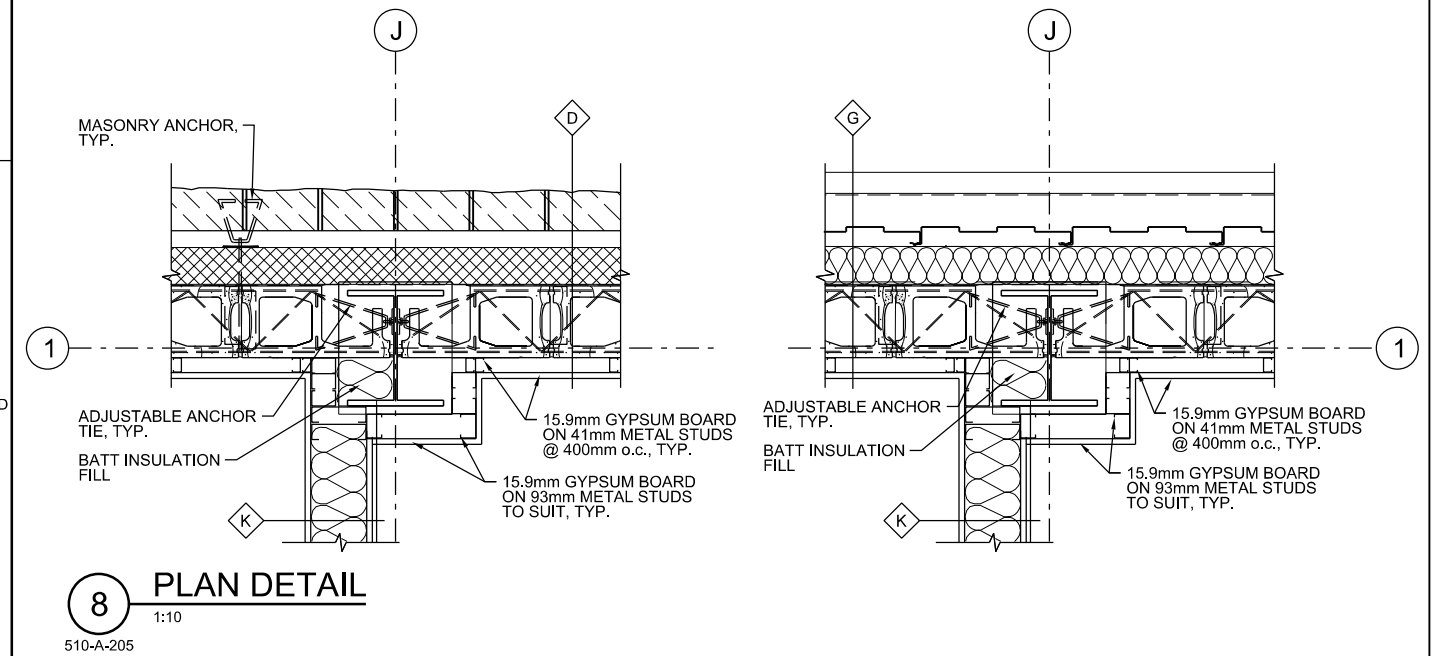
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510-A-205



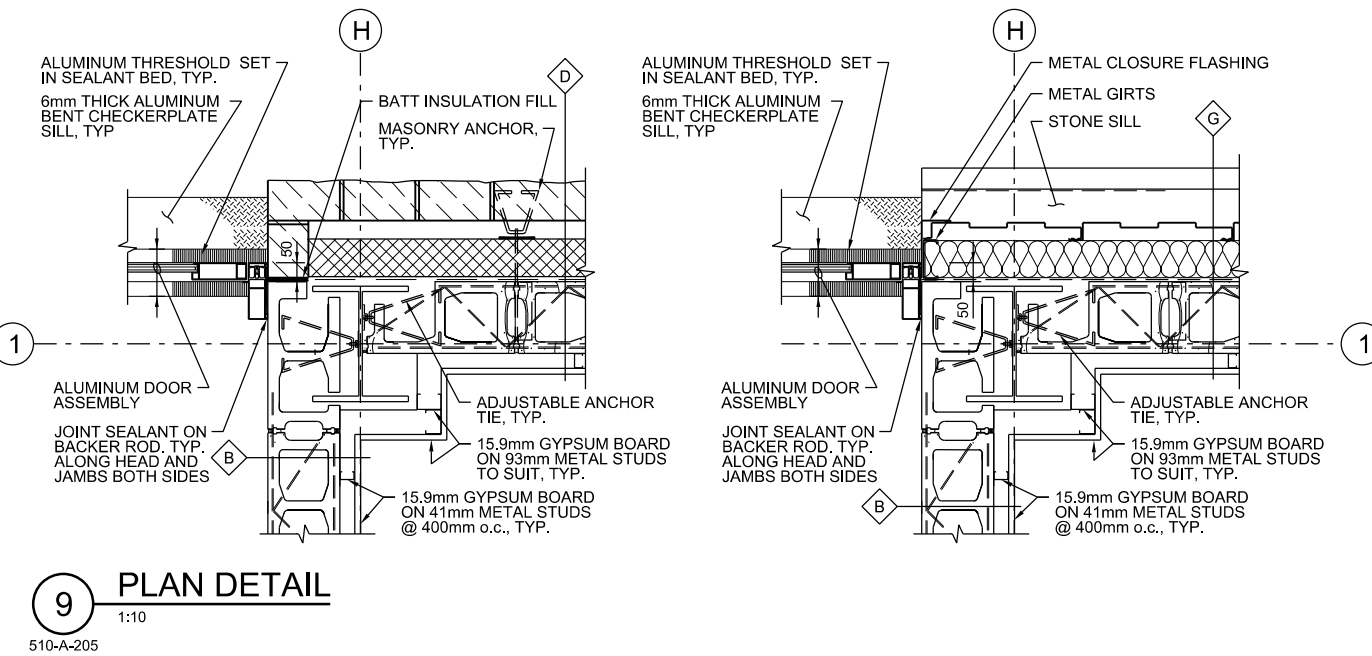
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510-A-205



7 PLAN DETAIL
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510-A-208



8 PLAN DETAIL
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510-A-205



9 PLAN DETAIL
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510-A-205



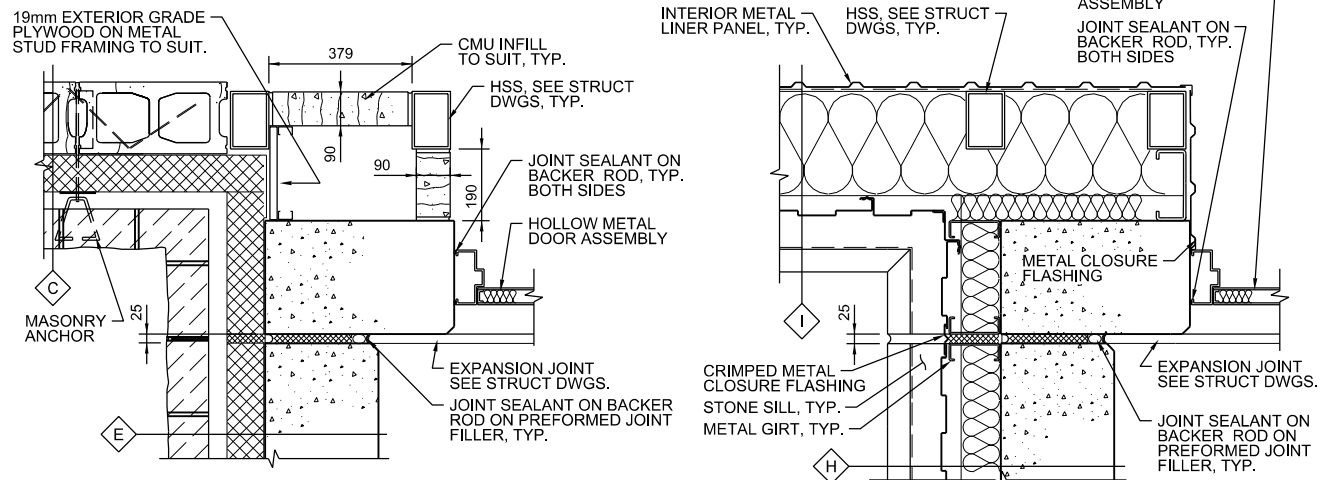
NO.	DATE	REVISION	CHK	APVD
A	02/2014	ISSUED FOR DETAIL DESIGN REVIEW	VK	GN
				APVD
				CHK
				DR
				DIANNETTA

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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

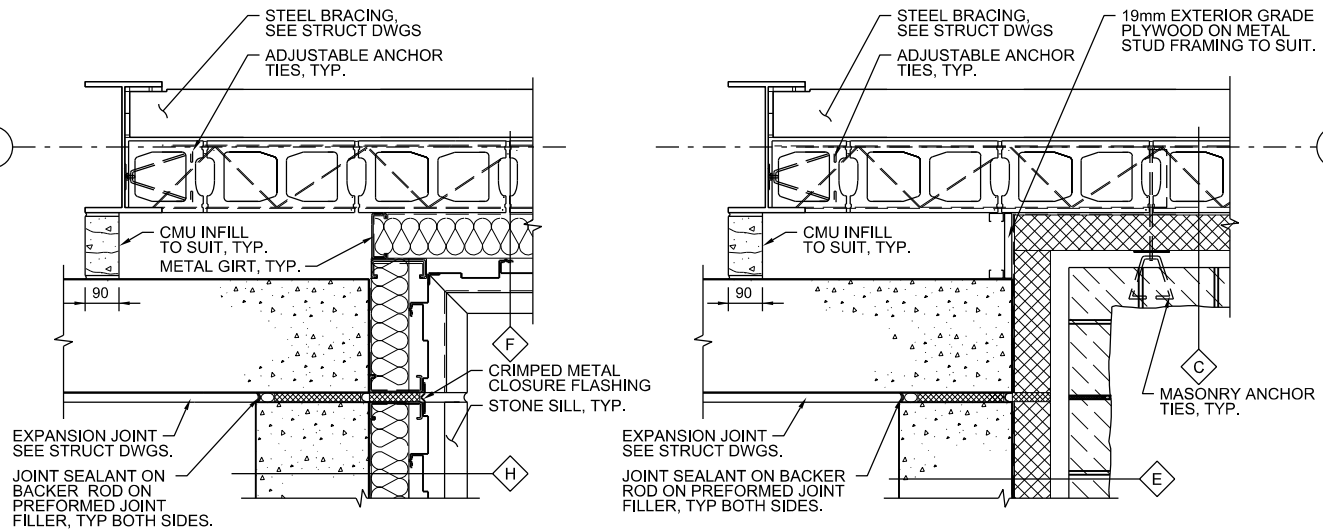
CH2MHILL CANADA Architects Inc.	
ARCHITECTURAL WATER TREATMENT BUILDING DETAILS (9)	
NTS	
VERIFY SCALE BAR IS 25mm ON ORIGINAL DRAWING. 0 25mm	
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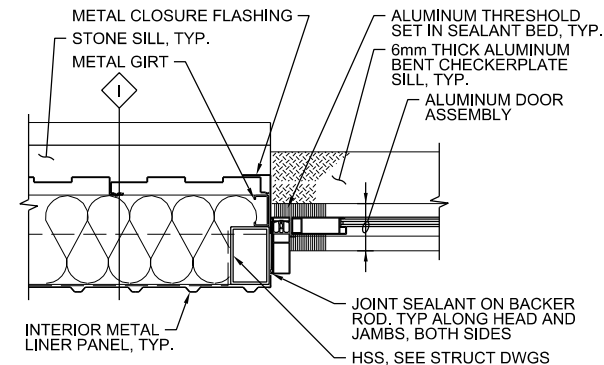
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510-A-207, 209
530-A-202



2 PLAN DETAIL
1:10

510-A-207, 209
530-A-202



3 PLAN - TYPICAL EXTERIOR DOOR
1:10



NO.	DATE	DR	CHK	APVD
A	02/2014	D. IANNETTA	V. KUSLIKIS	R. ZAKKO
ISSUED FOR DETAIL DESIGN REVIEW		REVISION		
BY		BY		
GN		GN		

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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL CANADA Architects Inc.
ARCHITECTURAL
WATER TREATMENT BUILDING DETAILS (10)

NTS	
VERIFY SCALE	
BAR IS 25mm ON ORIGINAL DRAWINGS.	
DATE	FEBRUARY 2014
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DWG	510-A-510
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LEGEND , NOTES AND ABBREVIATIONS

AC ACOUSTICAL CEILING	CRC CERAMIC TILE	HGT HEIGHT	RBASE RUBBER BASE
ACFL ACCESS FLOORING	CT CERAMIC TILE	HDNR HARDENER	RRUB RADIAL RUBBER FLOORING
ACMU ACOUSTICAL CMU	EIFS EXTERIOR INSULATION FINISH SYSTEM	MATL MATERIAL	RSF RUBBER SHEET FLOORING SEALER
ACT ACOUSTIC TILE CEILING	EXP EXPOSED STRUCTURE	MDO MEDIUM DENSITY OVERLAY	SF SPECIAL (SEAMLESS) FLOORING SEALER
AFP ALUMINUM FACED PLYWOOD PANEL	FCTY FACTORY	METAL METAL	SMLS SEAMLESS EXPOXY
AI ALUMINUM	FRP FIBERGLASS REINFORCED PLASTIC	PLAS PLASTER	SOI SPRAYED - ON INSULATION
BRK BRICK	FWC FABRIC WALL COVERING FINISH	PLWD PLYWOOD	SVIN SHEET VINYL
CLR CLEAR	FNSH FINISH	PNL PANELING	TCTG TRAFFIC COATING
CEMBD CEMENT BOARD	GMU GLASS MASONRY UNITS	PTD PAINTED	TO LATER SELECTION
CMU CONCRETE MASONRY UNITS	GWC GLAZED CONCRETE MASONRY	PTN PARTITION	VCT VINYL COMPOSITION TILE
COL COLOR	GWB GYPSUM BOARD	QT QUARRY TILE	VT VINYL TILE
CONC CONCRETE	GSB GYPSUM SOFFIT BOARD	RESIL RESILIENT	VVW VINYL WALL COVERING
CNTR COUNTER	GLZ GLAZING		X OPEN
CPT CARPET			
CSLR COLORED SEALER			

GENERAL NOTES:

1. PROVIDE ABRASIVE NOSING INSERTS ON ALL STAIRS AND LANDINGS
2. PAINT ALL EXPOSED STEEL STRUCTURE WHICH HAS NOT BEEN GALVANIZED.
3. PAINT U/S OF STAIRS, LANDINGS AND ALL EXPOSED METAL COMPONENTS.
4. EXTENT OF CT ON WALLS MIN. 200mm ABOVE CEILING.
5. COLOUR OF ALL FINISHES: TLS
6. PAINT WALLS BEHIND LOCKERS AND GWB BULKHEAD ABOVE LOCKERS



ROOM FINISH SCHEDULE

LOCATION	SPACE		FLOOR		BASE			TYPICAL WALL		OTHER WALLS		CEILING			MISCELLANEOUS			OTHER REQUIREMENTS
	RM NO.	NAME	SUB FLOOR	FIN	HGT	MATL	FIN	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	HEIGHT	ITEM	MATL	FIN	
STAIRS	510-ST1	STAIR NO.1	CONC	HDNR*	200	CONC	SLR	CONC	CSLR	-	-	FIRE RATED GYP BD	PAINTED	3000	-	-	-	*ABRASIVE NOSING INSERTS ON ALL TREADS
	510-ST2	STAIR NO.2	CONC	HDNR*	200	CONC	SLR	CONC	CSLR	-	-	FIRE RATED GYP BD	PAINTED	3000	-	-	-	*ABRASIVE NOSING INSERTS ON ALL TREADS
TUNNEL AREA	510-101	PUMP AREA	CONC	HDNR	200	CONC	SLR	CONC	CSLR	-	-	-	-	-	-	-	-	OPEN TO PUMP ROOM ABOVE. SEE DRAWING 510-A-201 FOR EXTENT OF CHEMICAL RESISTANT COATING
	510-201	PROCESS ROOM	CONC	HDNR	200	CONC	SLR	CONC	CSLR	CMU / METAL	SMLS/FCTY	EXPOSED STEEL	PAINTED	VARIES	-	-	-	SEE DRAWINGS FOR LOCATION
GROUND FLOOR AT EL. 1133.700	510-301	VESTIBULE NO.1	CONC	CT*	200	CT	TLS	CMU	PAINTED	-	-	ACT	FCTY	2600				*FOOT GRILLE
	510-302	CONTROL ROOM	CONC	RESIL	100	RBASE	TLS	GWB	PAINTED	-	-	ACT	FCTY	2600				
	510-303	ELECTRICAL ROOM	CONC	HDNR	200	CONC	SLR	CMU	SMLS	-	-	ACT	FCTY	2600				
	510-304	PLC ROOM	CONC	HDNR	200	CONC	SLR	CMU	SMLS	-	-	ACT	FCTY	2600				
	510-305	SERVER ROOM	CONC	RESIL	100	RBASE	TLS	GWB	PAINTED	-	-	ACT	FCTY	2600				
	510-306	WASH ROOM	CONC	CT	200	CT	TLS	GWB	PAINTED	-	-	ACT	FCTY	2600				
	510-307	LABORATORY	CONC	RESIL	100	RBASE	TLS	GWB	PAINTED	-	-	ACT	FCTY	2600				
	510-308	BREAK ROOM	CONC	RESIL	100	RBASE	TLS	GWB	PAINTED	-	-	ACT	FCTY	2600				
	510-309	VESTIBULE NO.2	CONC	CT*	200	CT	TLS	CMU	PAINTED	-	-	ACT	FCTY	2600				*FOOT GRILLE
	510-310	CORRIDOR A	CONC	CT	200	CT	TLS	CMU/CONC	PAINTED	-	-	ACT	FCTY	2600				
	510-311	CORRIDOR B	CONC	CT	200	CT	TLS	CMU	PAINTED	-	-	ACT	FCTY	2600				
	510-312	CORRIDOR C	CONC	CT	200	CT	TLS	CMU/CONC	PAINTED	-	-	ACT	FCTY	2600				
	510-313	MECHANICAL ROOM	CONC	HDNR	200	CONC	SLR	CMU	SMLS	-	-	EXPOSED STEEL	PAINTED	VARIES				
	510-314	BLOWER / COMPRESSOR ROOM	CONC	HDNR	200	CONC	SLR	CMU	SMLS	-	-	EXPOSED STEEL	PAINTED	VARIES				
	510-315	POLYMER ROOM	CONC	TCTG	200	CONC	TCTG	CMU	SMLS	-	-	EXPOSED STEEL	PAINTED	VARIES				SEE DRAWING 510-A-203 FOR LOCATION
	510-316	PLATFORM	CONC	HDNR	200	CONC	SLR	CONC	SMLS	CMU / METAL	SMLS/FCTY	EXPOSED STEEL	PAINTED	VARIES				SEE DRAWINGS 510-A-203 AND 510-A-204 FOR LOCATION

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN GOVERNMENT OF YUKON DESIGN

CH2MHILL CANADA Architects Inc.

ARCHITECTURAL WATER TREATMENT BUILDING ROOM FINISH SCHEDULE

NTS
 VERIFY SCALE
 BAR IS 25mm ON ORIGINAL DRAWING.
 DATE FEBRUARY 2014
 PROJ TA013-427716
 DWG 510-A-601
 SHEET

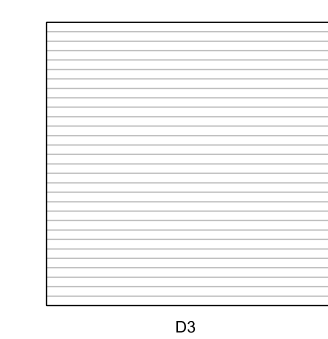
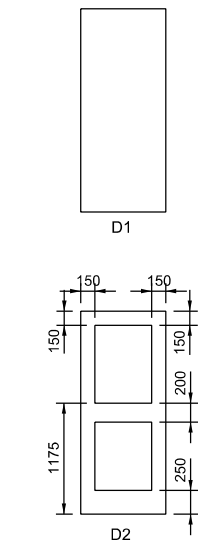
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ISSUED FOR DETAIL DESIGN REVIEW	CHK	APVD
REVISION	CHK	APVD
NO.	DATE	DR
A	02/2014	D. IANNETTA
		V. KUSLIKIS
		R. ZAKKO

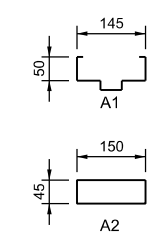
DOOR AND HARDWARE SCHEDULE

ABBREVIATIONS:	COL	COLOUR	IP	INSULATED PANEL	MET	METAL	STL	STEEL
AFPP	ALUMINUM FACED PLYWOOD PANEL	CONSTR	IAP	INSULATED ALUMINUM PANEL	OHD	OVERHEAD COILING DOOR	SST	STAINLESS STEEL
AL	ALUMINUM	FCTY	KEY	PANEL GROUP	P-P	PUSH - PULL	TSHD	THRESHOLD
AS	AS SELECTED	FNSH	K-PL	KICKPLATE (BOTH SIDES)	PTD	PAINTED	TLS	TO LATER SELECTION
CA	CLEAR ANNOZIZED	FRP	MATL	MATERIAL	RFS	ROLL-UP FIRE SHUTTER	W-S	WEATHERSTRIPPING
CLSR	CLOSER	HM			SC	SOLID CORE WOOD		

DOOR TYPES



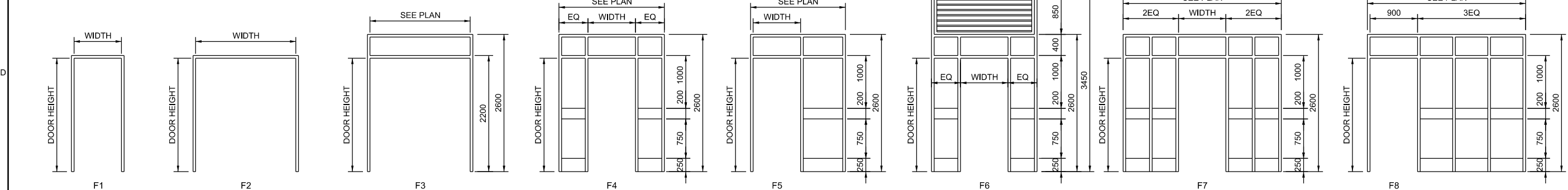
FRAME SECTION



DOOR SCHEDULE

LOCATION	DOOR NO.	FROM ROOM NO.	TO ROOM NO.	DOOR DATA				FRAME DATA						NOTES/REMARKS	
				DOOR SIZE	ULC LABEL (MINUTES)	DOOR TYPE	MATERIAL	FINISH	GLASS	FRAME TYPE (ELEVATION)	MATERIAL	FINISH	FRAME TYPE (SECTION)		HARDWARE PACKAGE
TUNNEL PLAN AT EL. 1128.200	D510-ST1A	510-101	510-ST1	900 x 2150	45	D2	STL	PTD	WG	F5	STL	PTD	A1	HDW-3	NAMEPLATE: STAIR NO 1
	D510-101A	520-101	510-101	2(950 x 2150)	45	D2	STL	PTD	WG	F2	STL	PTD	A1	HDW-9	NAMEPLATE: PIPE TUNNEL
PROCESS PLAN AT EL. 1133.700	D510-ST1B	510-201	510-ST1	900 x 2150	45	D2	STL	PTD	WG	F5	STL	PTD	A1	HDW-3	NAMEPLATE: STAIR NO 1
	D510-ST2A	510-201	510-ST2	900 x 2150	45	D2	STL	PTD	WG	F5	STL	PTD	A1	HDW-3	NAMEPLATE: STAIR NO 2
GROUND FLOOR PLAN AT EL. 1137.700	D510-ST1C	510-311	510-ST1	900 x 2150	45	D2	STL	PTD	WG	F4	STL	PTD	A1	HDW-3	NAMEPLATE: STAIR NO 1
	D510-ST1D	510-ST1	EXT	900 x 2150	--	D2	AL	FCTY	TIG	F4	AL	FCTY	A2	HDW-2	NAMEPLATE: STAIR NO 1
	D510-ST2B	510-ST2	EXT	900 x 2150	--	D2	AL	FCTY	TIG	F5	AL	FCTY	A2	HDW-2	NAMEPLATE: STAIR NO 2
	D510-ST2C	510-312	510-ST2	900 x 2150	45	D2	STL	PTD	WG	F5	STL	PTD	A1	HDW-3	NAMEPLATE: STAIR NO 2
	D510-ST2D	510-316	510-ST2	900 x 2150	45	D2	STL	PTD	WG	F5	STL	PTD	A1	HDW-3	NAMEPLATE: STAIR NO 2
	D510-301A	510-301	EXT	2(950 x 2150)	--	D2	AL	FCTY	TIG	F3	AL	FCTY	A2	HDW-1	
	D510-301B	510-310	510-301	2(950 x 2150)	--	D2	AL	FCTY	TG	F3	AL	FCTY	A2	HDW-8	
	D510-302	510-310	510-302	900 x 2150	--	D2	AL	FCTY	TG	F8	AL	FCTY	A2	HDW-7	NAMEPLATE: CONTROL ROOM
	D510-303A	510-303	EXT	2(950 x 2150)	--	D2	AL	FCTY	TIG	F3	AL	FCTY	A2	HDW-1	
	D510-303B	510-310	510-303	900 x 2150	--	D2	AL	FCTY	TG	F7	AL	FCTY	A2	HDW-6	NAMEPLATE: ELECTRICAL ROOM
	D510-304	510-312	510-304	900 x 2150	--	D2	AL	FCTY	TG	F1	AL	FCTY	A2	HDW-6	NAMEPLATE: PLC ROOM
	D510-305	510-302	510-305	900 x 2150	--	D2	AL	FCTY	TG	F5	AL	FCTY	A2	HDW-6	NAMEPLATE: SERVER ROOM
	D510-306	510-310	510-306	900 x 2150	--	D1	STL	PTD	--	F1	STL	PTD	A1	HDW-5	NAMEPLATE: WASHROOM
	D510-307	510-310	510-307	900 x 2150	--	D2	AL	FCTY	TG	F5	AL	FCTY	A2	HDW-6	NAMEPLATE: LABORATORY
	D510-308	510-310	510-308	900 x 2150	--	D2	AL	FCTY	TG	F8	AL	FCTY	A2	HDW-6	NAMEPLATE: BREAK ROOM
	D510-309A	510-309	EXT	2(950 x 2150)	--	D2	AL	FCTY	TIG	F3	AL	FCTY	A2	HDW-1	
	D510-309B	510-311	510-309	2(950 x 2150)	--	D2	AL	FCTY	TG	F3	AL	FCTY	A2	HDW-8	
	D510-313A	510-313	EXT	2(950 x 2150)	--	D2	AL	FCTY	TIG	F3	AL	FCTY	A2	HDW-1	
	D510-313B	510-310	510-313	900 x 2150	--	D2	STL	PTD	WG	F1	STL	PTD	A1	HDW-3	NAMEPLATE: MECHANICAL ROOM
	D510-314A	510-314	EXT	2(950 x 2150)	--	D2	AL	FCTY	TIG	F3	AL	FCTY	A2	HDW-1	
	D510-314B	510-310	510-314	900 x 2150	--	D2	AL	FCTY	TG	F1	AL	FCTY	A2	HDW-6	NAMEPLATE: BLOWER / COMPRESSOR ROOM
	D510-315A	510-315	EXT	3500 x 4000	--	D3	AL	FCTY	--	--	AL	FCTY	--	--	
	D510-315B	510-315	EXT	900 x 2150	--	D2	AL	FCTY	TIG	F5	AL	FCTY	A2	HDW-1	
D510-315C	510-316	510-315	900 x 2150	--	D2	AL	FCTY	TIG	F1	AL	FCTY	A2	HDW-6	NAMEPLATE: POLYMER ROOM	
D510-316A	510-316	EXT	3500 x 4000	--	D3	AL	FCTY	--	--	AL	FCTY	--	--		
D510-316B	510-316	EXT	900 x 2150	--	D2	AL	FCTY	TIG	F5	AL	FCTY	A2	HDW-2		
D510-316C	510-316	EXT	900 x 2150	--	D2	AL	FCTY	TIG	F6	AL	FCTY	A2	HDW-2		
D510-316D	510-310	510-316	900 x 2150	--	D2	AL	FCTY	TIG	F7	AL	FCTY	A2	HDW-6		
PLATFORM PLAN AT EL. 1141.500 / 1143.700	D510-ST1E	510-401	510-ST1	900 x 2150	45	D2	STL	PTD	WG	F5	STL	PTD	A1	HDW-3	NAMEPLATE: STAIR NO 1
	D510-ST2E	WALKWAY	510-ST2	900 x 2150	45	D2	STL	PTD	WG	F5	STL	PTD	A1	HDW-3	NAMEPLATE: STAIR NO 2
	D510-401	510-403	510-401	2(950 x 2150)	45	D2	STL	PTD	WG	F5	STL	PTD	A1	HDW-9	NAMEPLATE: WALKWAY TO THICKENER

FRAME TYPES ELEVATIONS



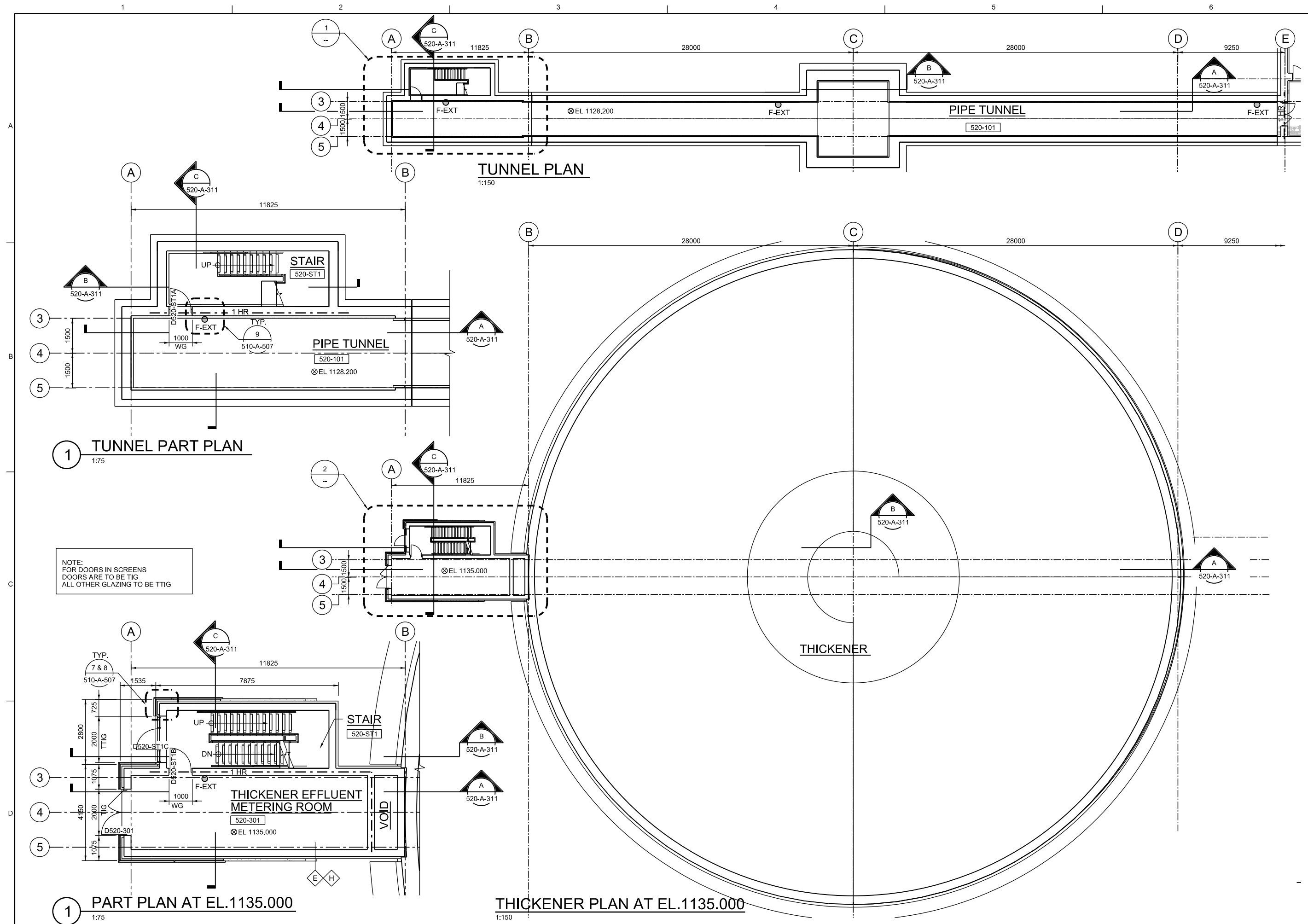
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ARCHITECTURAL WATER TREATMENT BUILDING DOOR SCHEDULE

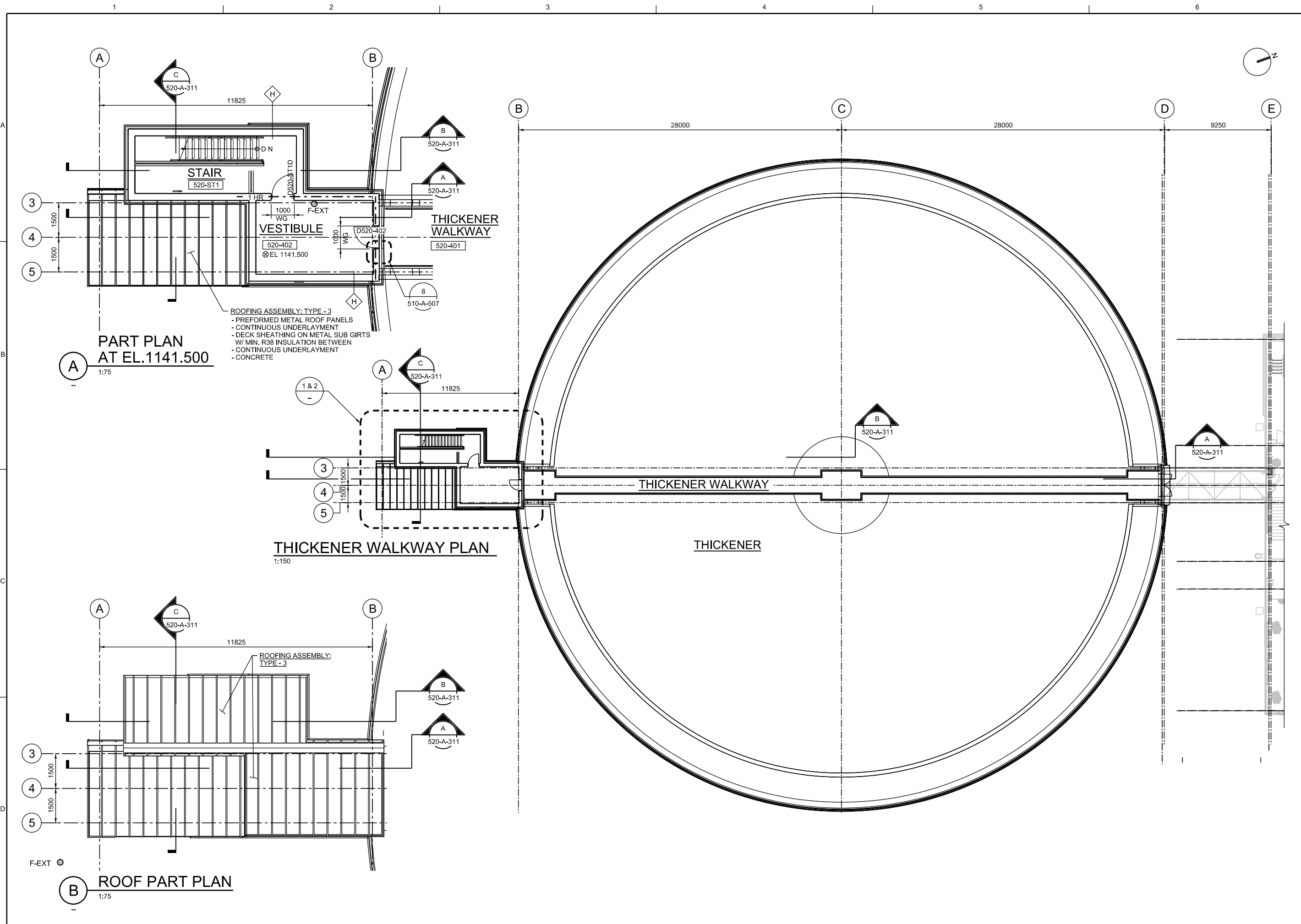


NO.	02/2014	DATE
DR	D. IANNETTA	
CHK	V. KUSLIKIS	
APVD	R. ZAKKO	
BY	APVD	
GN	GN	
REVISION	ISSUED FOR DETAIL DESIGN REVIEW	



NOTE:
FOR DOORS IN SCREENS
DOORS ARE TO BE TIG
ALL OTHER GLAZING TO BE TTIG

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		FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN GOVERNMENT OF YUKON DESIGN	
CH2MHILL CANADA Architects Inc. ARCHITECTURAL		THICKENER TUNNEL AND GROUND FLOOR PLAN	
NTS VERIFY SCALE BAR IS 25mm ON ORIGINAL DRAWING. 25mm			
DATE FEBRUARY 2014 PROJ TA013-427716 DWG 520-A-201 SHEET		REVISION NO. DATE A 09/2013 B 02/2014 D. IANNETTA V. KUSLIKIS R. ZAKKO CHK DR APVD	



**PART PLAN
AT EL.1141.500**

1:75

THICKENER WALKWAY PLAN

1:150

ROOF PART PLAN

1:75

ROOFING ASSEMBLY: TYPE - 3
 - PREFORMED METAL ROOF PANELS
 - CONTINUOUS UNDERLAYMENT
 - DECK SHEATHING ON METAL SUB GIRTS
 W/ MIN. R38 INSULATION BETWEEN
 - CONTINUOUS UNDERLAYMENT
 - CONCRETE

90% DETAIL DESIGN REVIEW
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CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

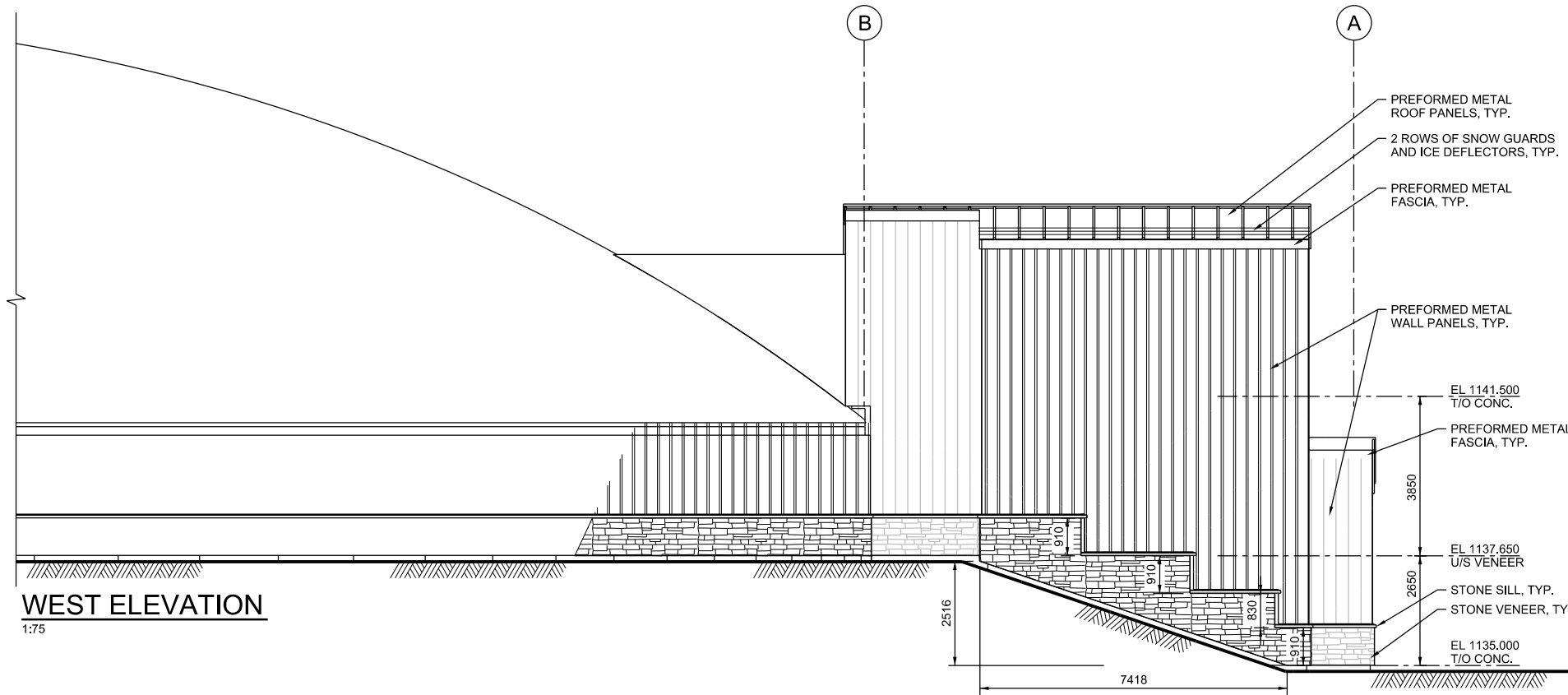
CH2MHILL CANADA
Architects Inc.

ARCHITECTURAL
**THICKENER
WALKWAY AND ROOF PLAN**

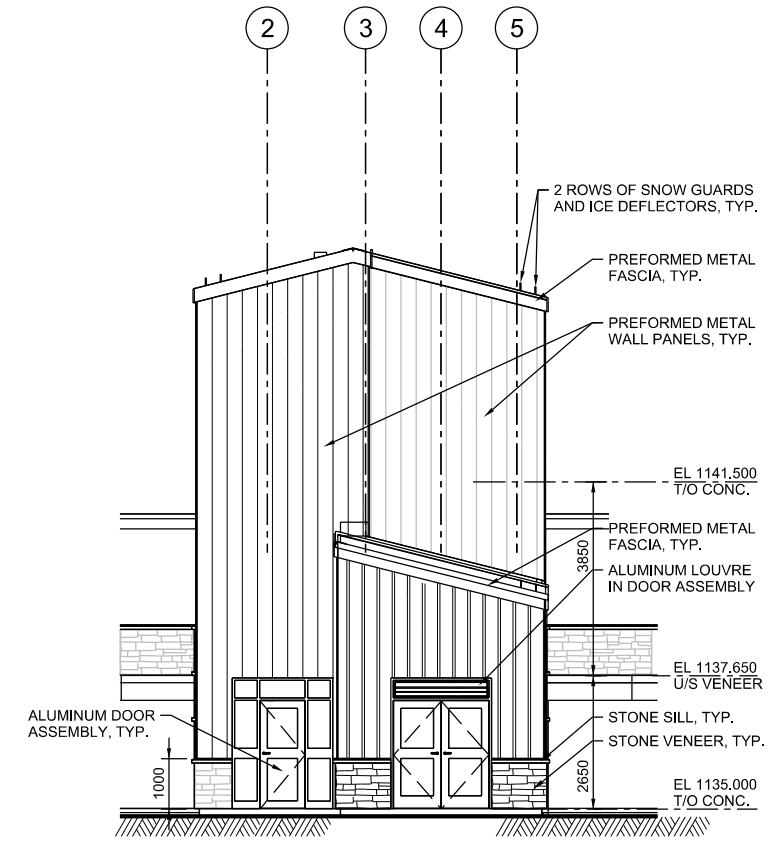
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DATE FEBRUARY 2014	
PROJ TA013-427716	
DWG 520-A-202	
SHEET	

NO.	DATE	DSGN	REVISION	CHK	APVD
B	02/2014		ISSUED FOR DETAIL DESIGN REVIEW	VK	GN
A	09/2013		ISSUED FOR ADVANCED DESIGN REVIEW	VK	GN
				BY	APVD
D. IANNETTA			R. ZAKKO		
V. KUSLIKIS			APVD		

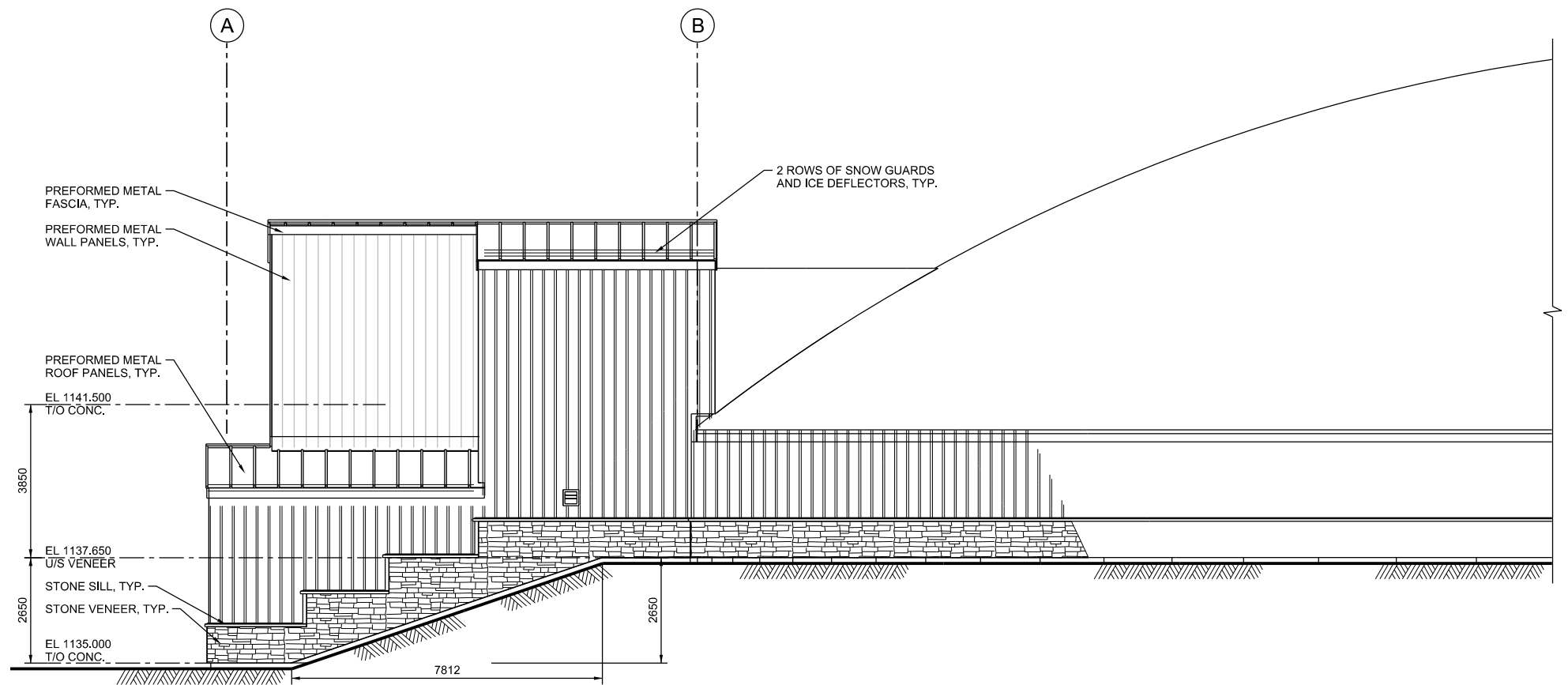




WEST ELEVATION
1:75



EAST ELEVATION
1:75



EAST ELEVATION
1:75

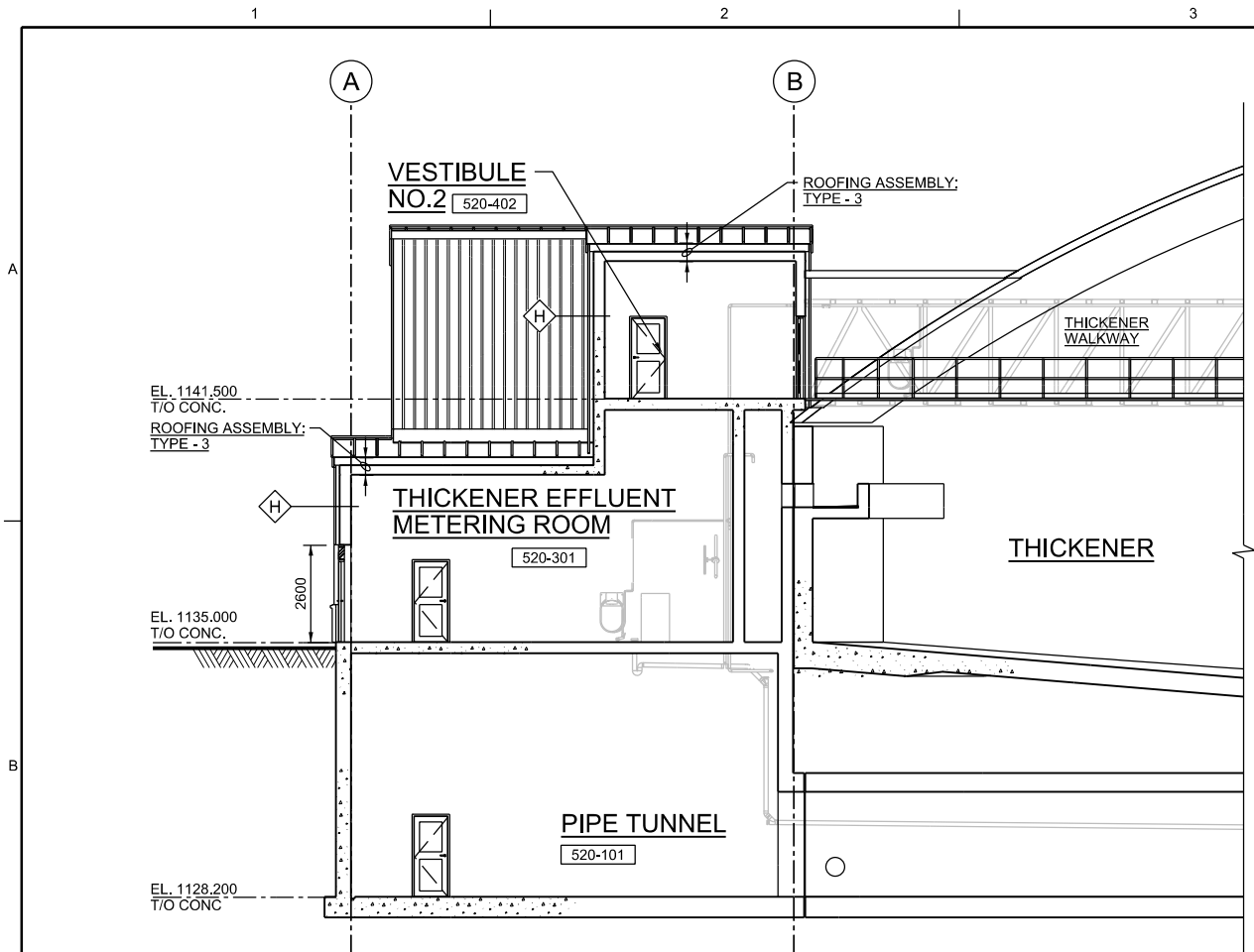


NO.	DATE	REVISION	CHK	APVD
B	02/2014	ISSUED FOR DETAIL DESIGN REVIEW	VK	GN
A	09/2013	ISSUED FOR ADVANCED DESIGN REVIEW	VK	GN
DSGN			D. IANNETTA	DR
			V. KUSLIKIS	CHK
			R. ZAKKO	APVD

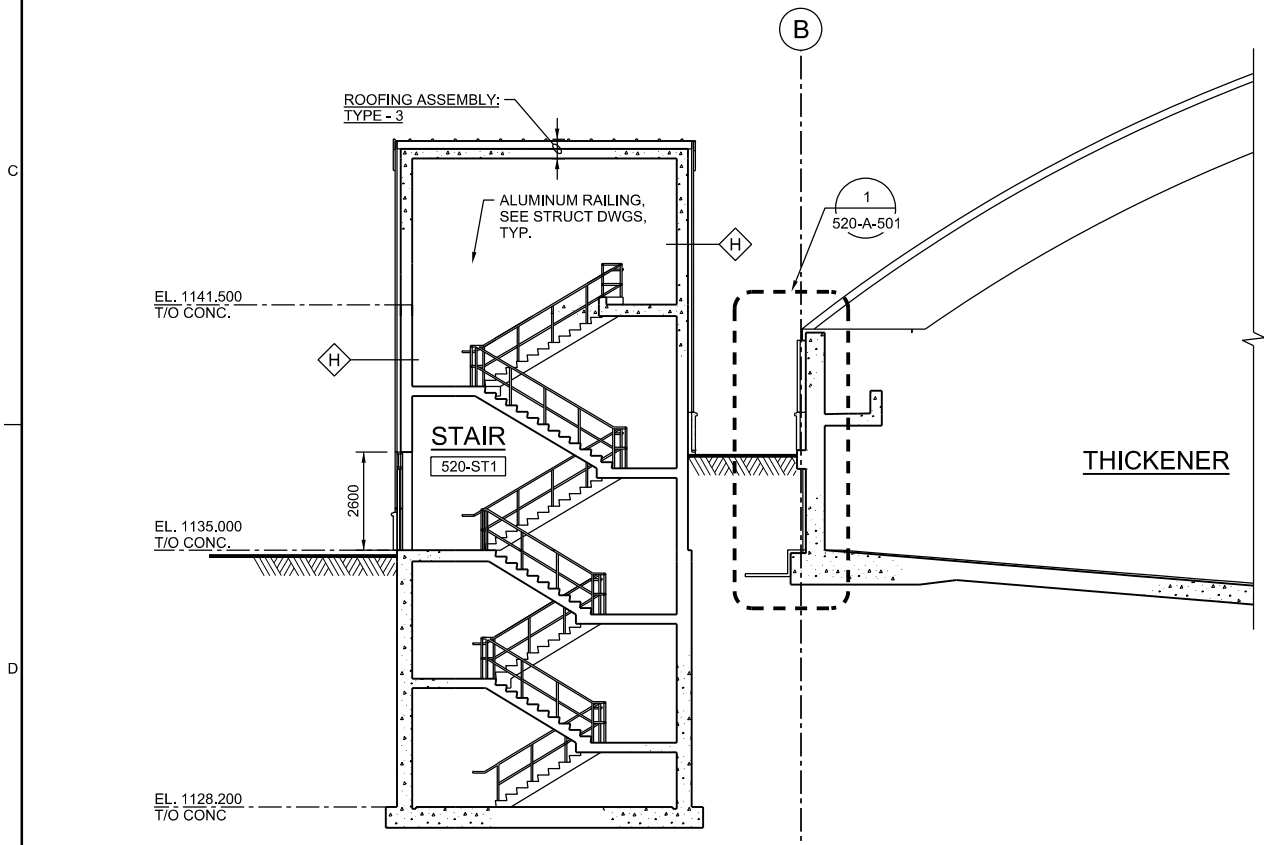
90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION	FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN GOVERNMENT OF YUKON DESIGN
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CH2MHILL CANADA Architects Inc.
ARCHITECTURAL
THICKENER WEST AND EAST ELEVATIONS

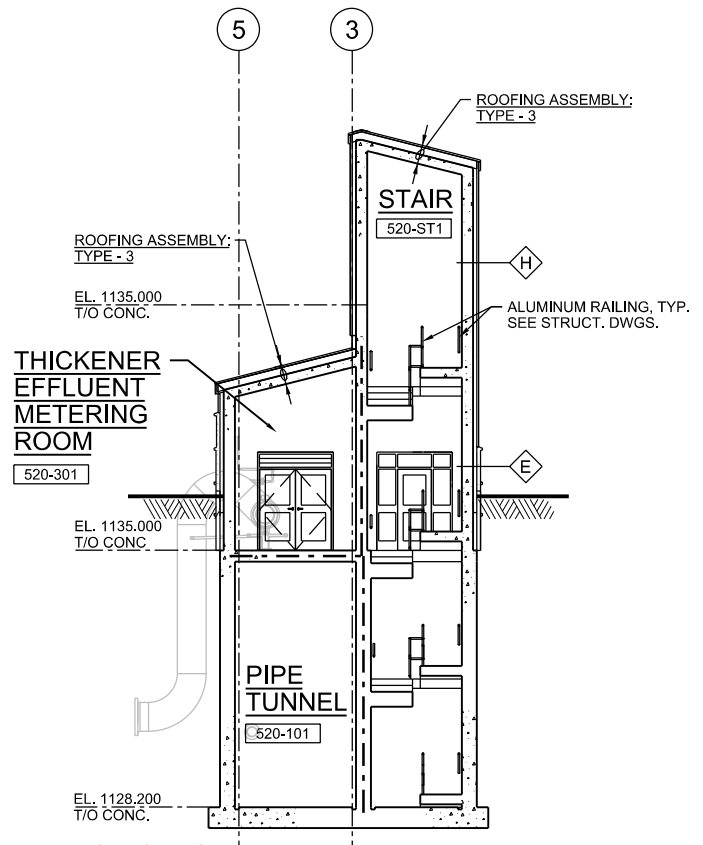
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DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	520-A-301
SHEET	



A SECTION
1:100



B SECTION
1:100



C SECTION
1:100



NO.	DATE	DR	CHK	APVD
A	02/2014	D. IANNETTA	V. KUSLIKIS	R. ZAKKO
ISSUED FOR DETAIL DESIGN REVIEW				
REVISION				
BY				
GN				
APVD				

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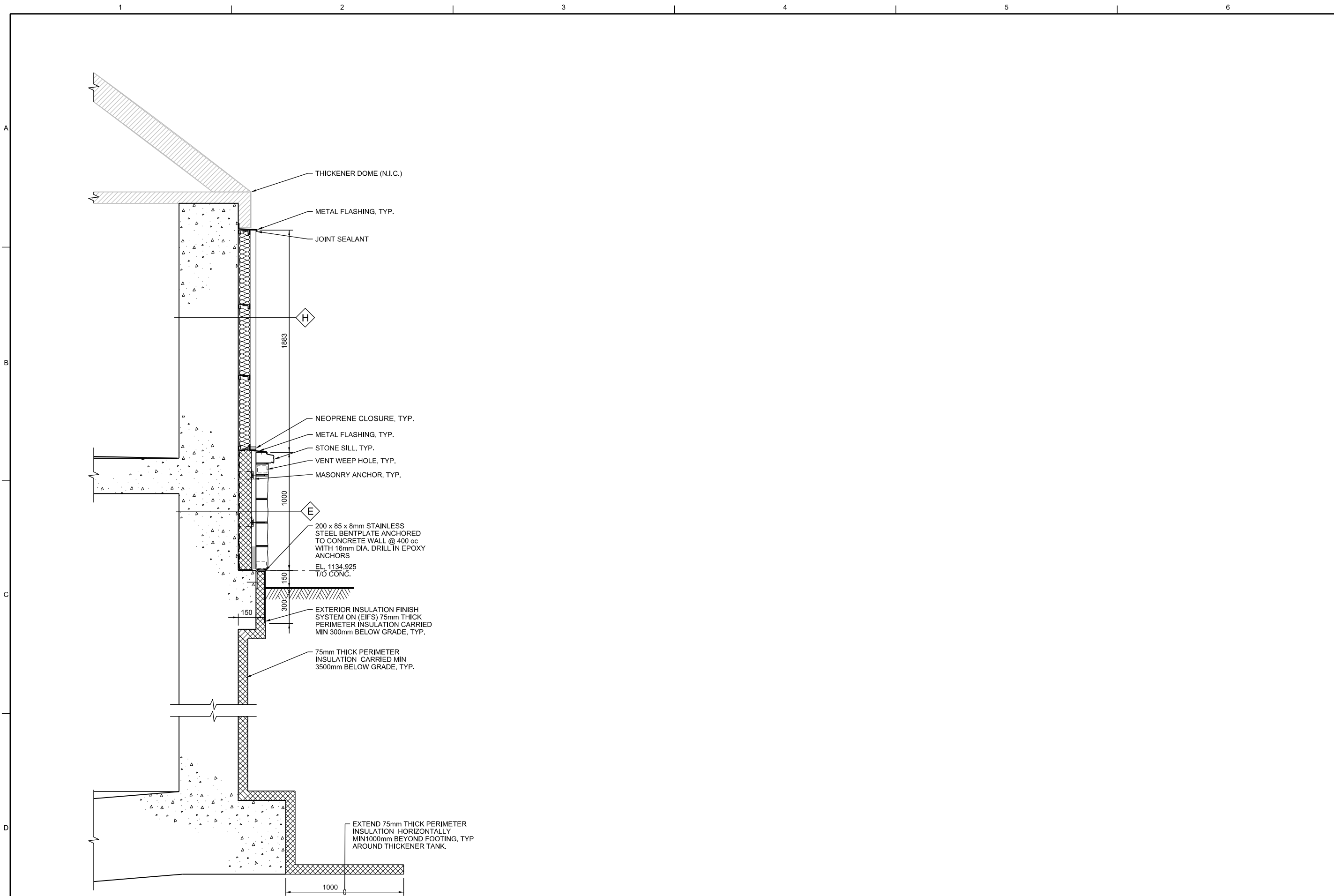
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL CANADA Architects Inc.

ARCHITECTURAL
THICKENER SECTIONS

NTS	
VERIFY SCALE	
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DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	520-A-311
SHEET	

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1 WALL SECTION
1:15
520-A-XXX



NO.	DATE	DR	CHK	BY	APVD
A	02/2014	D. IANNETTA	V. KUSLIKIS	R. ZAKKO	
ISSUED FOR DETAIL DESIGN REVIEW				VK	GN
REVISION				BY	APVD

90% DETAIL DESIGN REVIEW
NOT FOR TENDER OR
CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL CANADA
Architects Inc.

ARCHITECTURAL
THICKENER
DETAILS (1)

NTS	
VERIFY SCALE	
BAR IS 25mm ON ORIGINAL DRAWING.	
DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	520-A-501
SHEET	

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LEGEND , NOTES AND ABBREVIATIONS

AC	ACOUSTICAL CEILING	CRC	CHEMICAL RESISTANT COATING	HGT	HEIGHT	RBASE	RUBBER BASE
ACFL	ACCESS FLOORING	CT	CERAMIC TILE	HDNR	HARDENER MATERIAL	RRUB	RADIAL RUBBER FLOORING
ACMU	ACOUSTICAL CMU	EIFS	EXTERIOR INSULATION FINISH SYSTEM	MATL	MATERIAL	RSF	RUBBER SHEET FLOORING SEALER
ACT	ACOUSTIC TILE CEILING	EXP	EXPOSED STRUCTURE	MDO	MEDIUM DENSITY OVERLAY	SF	SPECIAL (SEAMLESS) FLOORING SEALER
AFPP	ALUMINUM FACED PLYWOOD PANEL	FCTY	FACTORY	METAL	METAL	SMLS	SEAMLESS EXPOXY
AL	ALUMINUM	FRP	FIBERGLASS REINFORCED PLASTIC	PLAM	PLASTIC LAMINATE	SOI	SPRAYED - ON INSULATION
BRK	BRICK	FWC	FABRIC WALL COVERING	PLAS	PLASTER	SVIN	SHEET VINYL
CLR	CLEAR	FNSH	FINISH	PLWD	PLYWOOD	TCTG	TRAFFIC COATING
CEMBD	CEMENT BOARD	GMU	GLASS MASONRY UNITS	PNL	PANELING	TLS	TO LATER SELECTION
CMU	CONCRETE MASONRY UNITS	GCMU	GLAZED CONCRETE MASONRY	PTD	PANELLING	VCT	VINYL COMPOSITION TILE
COL	COLOR	GWB	GYPSTUM BOARD	PTN	PARTITION	VT	VINYL TILE
CONC	CONCRETE	GSB	GYPSTUM SOFFIT BOARD	QT	QUARRY TILE	VWC	VINYL WALL COVERING
CNTR	COUNTER	GLZ	GLAZING	RESIL	RESILIENT	VWV	WINDOW WALL
CPT	CARPET					X	OPEN
CSLR	COLORLED SEALER						

GENERAL NOTES:

- PROVIDE ABRASIVE NOSING INSERTS ON ALL STAIRS AND LANDINGS
- PAINT ALL EXPOSED STEEL STRUCTURE WHICH HAS NOT BEEN GALVANIZED.
- PAINT U/S OF STAIRS, LANDINGS AND ALL EXPOSED METAL COMPONENTS.
- EXTENT OF CT ON WALLS MIN. 200mm ABOVE CEILING.
- COLOUR OF ALL FINISHES: TLS
- PAINT WALLS BEHIND LOCKERS AND GWB BULKHEAD ABOVE LOCKERS

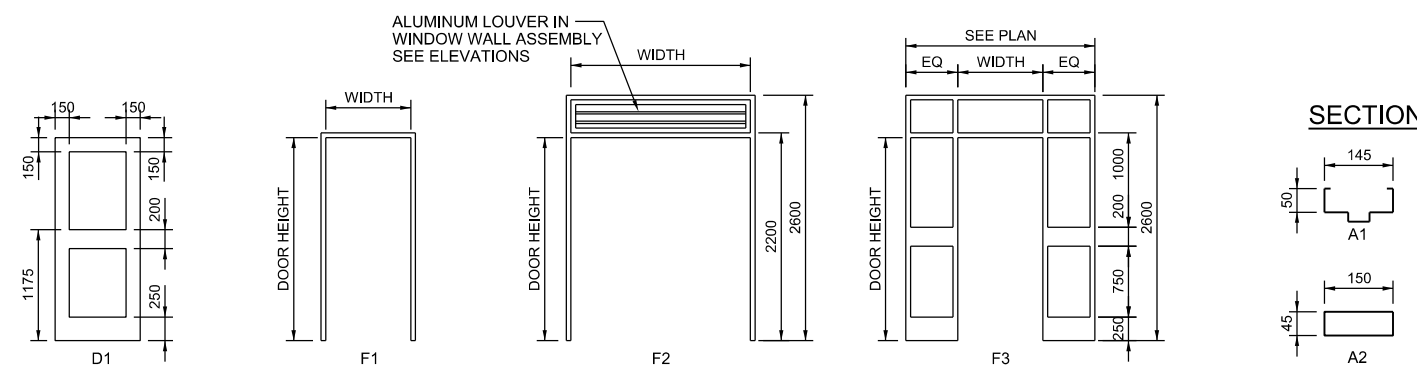


ROOM FINISH SCHEDULE

LOCATION	SPACE		FLOOR		BASE			TYPICAL WALL		OTHER WALLS		CEILING		OTHER REQUIREMENTS	
	RM NO.	NAME	SUB FLOOR	FIN	HGT	MATL	FIN	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH	HEIGHT	
THICKENER FACILITY	520-ST1	STAIR	CONC	HDNR*	200	CONC	SLR	CONC	CSLR	--	--	CONC	SLR	SEE DRAWINGS	*ABRASIVE NOSING INSERTS ON ALL TREADS
TUNNEL AREA	520-101	PIPE TUNNEL	CONC	HDNR	200	CONC	SLR	CONC	SLR	--	--	CONC	SLR	SEE DRAWINGS	
PROCESS AREA	520-301	THICKENER EFFLUENT METERING ROOM	CONC	HDNR	200	CONC	SLR	CONC	CSLR	--	--	CONC	PAINTED	SEE DRAWINGS	
	520-402	VESTIBULE	CONC	HDNR	200	CONC	SLR	CONC	CSLR	--	--	CONC	PAINTED	SEE DRAWINGS	

DOOR SCHEDULE

LOCATION	DOOR NO.	FROM ROOM NO.	TO ROOM NO.	DOOR DATA						FRAME DATA					NOTES/ REMARKS
				DOOR SIZE	U.L.C. LABEL (MINUTES)	DOOR TYPE	MATERIAL	FINISH	GLASS	FRAME TYPE (ELEVATION)	MATERIAL	FINISH	FRAME TYPE (SECTION)	HARDWARE PACKAGE	
	D520-ST1A	520-102	520-ST1	900 x 2150	45	D1	STL	PTD	WG	F1	STL	PTD	A1	HDW-3	GENERAL NOTES: 1. PROVIDE DOOR HARDWARE ON BOTH LEAFS IN PAIRS OF DOORS, UNLESS NOTED OTHERWISE. 2. PROVIDE KICKPLATES ON BOTH SIDES OF DOORS UNLESS NOTED OTHERWISE. 3. ALL EXTERIOR METAL ROLLING DOORS ARE TO BE INSULATED. 4. SEE SPECIFICATION SECTION 08800 FOR TYPES OF GLASS.
	D520-ST1B	520-301	520-ST1	900 x 2150	45	D1	STL	PTD	WG	F1	STL	PTD	A1	HDW-3	
	D520-ST1C	520-ST1	EXT	900 x 2150	-	D1	AL	FCTY	TIG	F3	AL	FCTY	A2	HDW-2	
	D520-ST1D	520-402	520-ST1	900 x 2150	45	D1	STL	PTD	WG	F1	STL	PTD	A1	HDW-3	
	D520-301	520-301	EXT	2(900 x 2150)	-	D1	AL	FCTY	TIG	F2	AL	FCTY	A2	HDW-1	
	D520-402	520-401	520-402	900 x 2150	45	D1	STL	PTD	WG	F1	STL	PTD	A1	HDW-3	



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FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN GOVERNMENT OF YUKON DESIGN

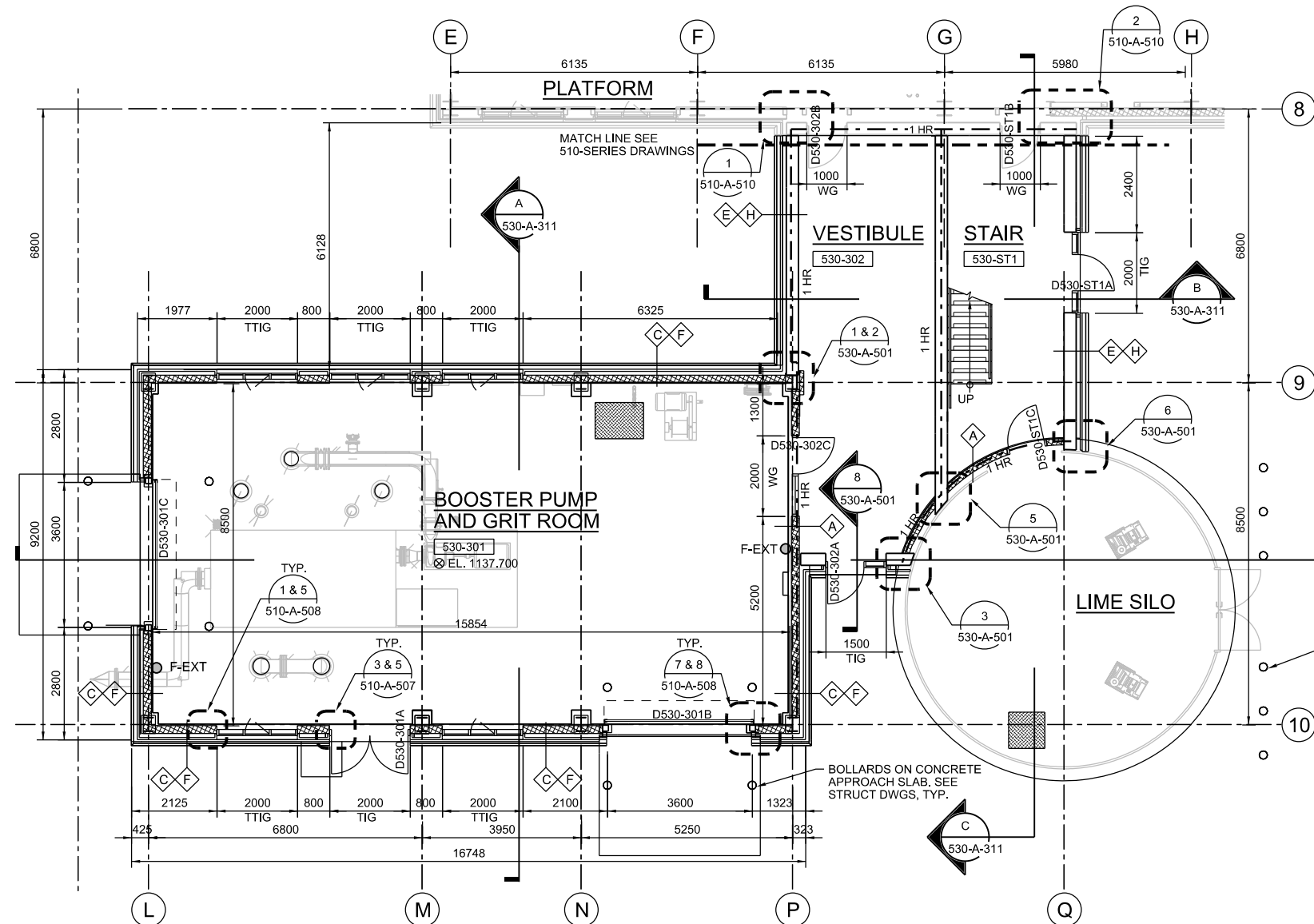
CH2MHILL CANADA Architects Inc.

ARCHITECTURAL THICKENER FINISH AND DOOR SCHEDULES

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PROJ	TA013-427716
DWG	520-A-601
SHEET	

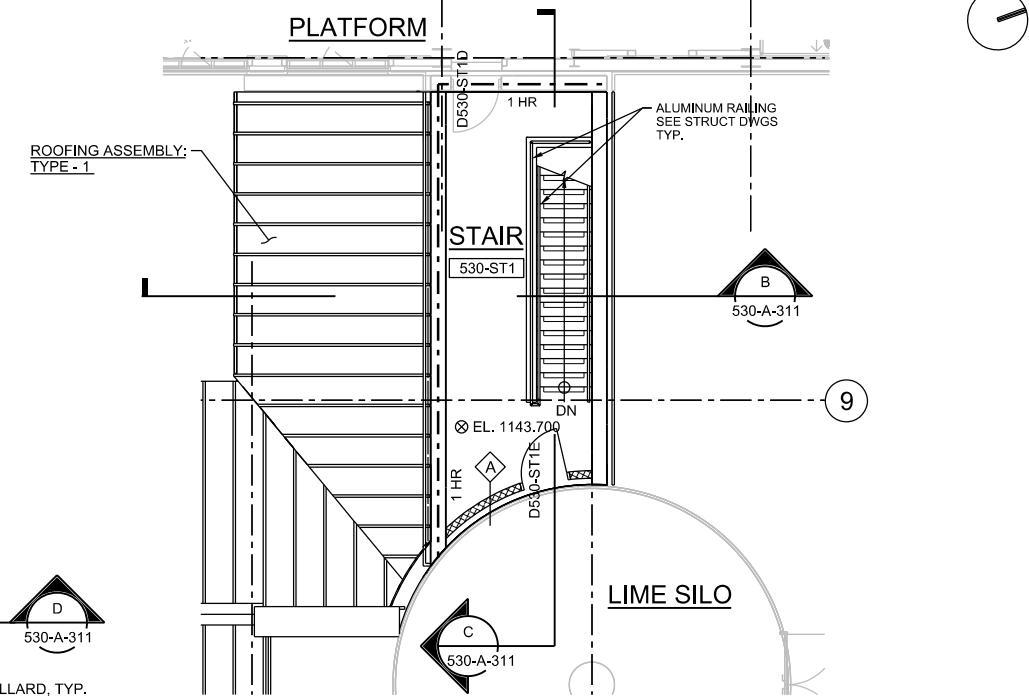
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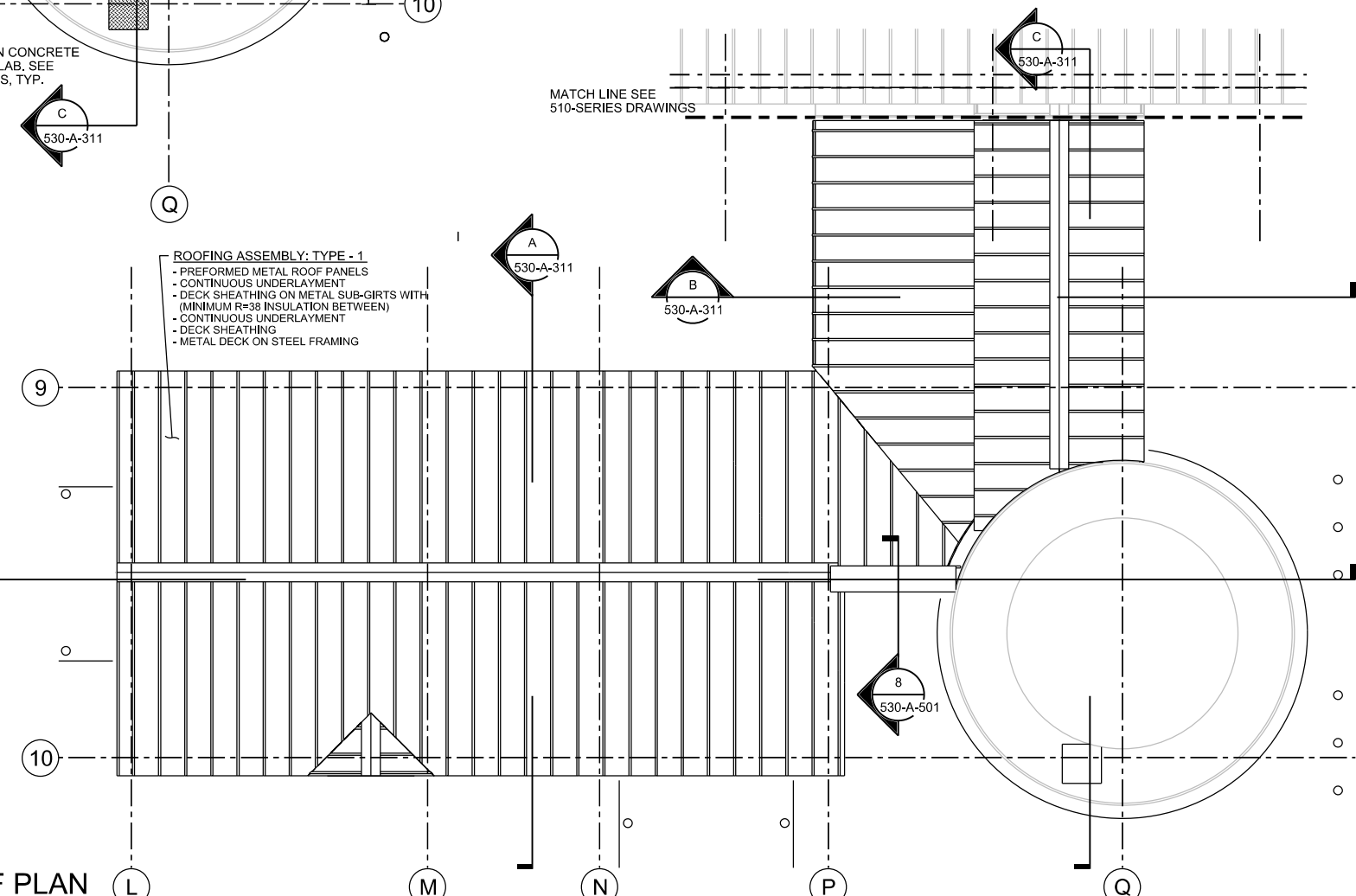


GROUND FLOOR PLAN
1:75

NOTE:
FOR DOORS IN SCREENS
DOORS ARE TO BE TIG
ALL OTHER GLAZING TO BE TTIG



PART PLAN AT EL.1143.700
1:75



ROOF PLAN
1:75



NO.	DATE	REVISION	BY	APVD
B	02/2014	ISSUED FOR DETAIL DESIGN REVIEW	VK	GN
A	09/2013	ISSUED FOR ADVANCED DESIGN REVIEW	VK	GN

DR: D. IANNETTA
CHK: V. KUSLIKIS
APVD: R. ZAKKO

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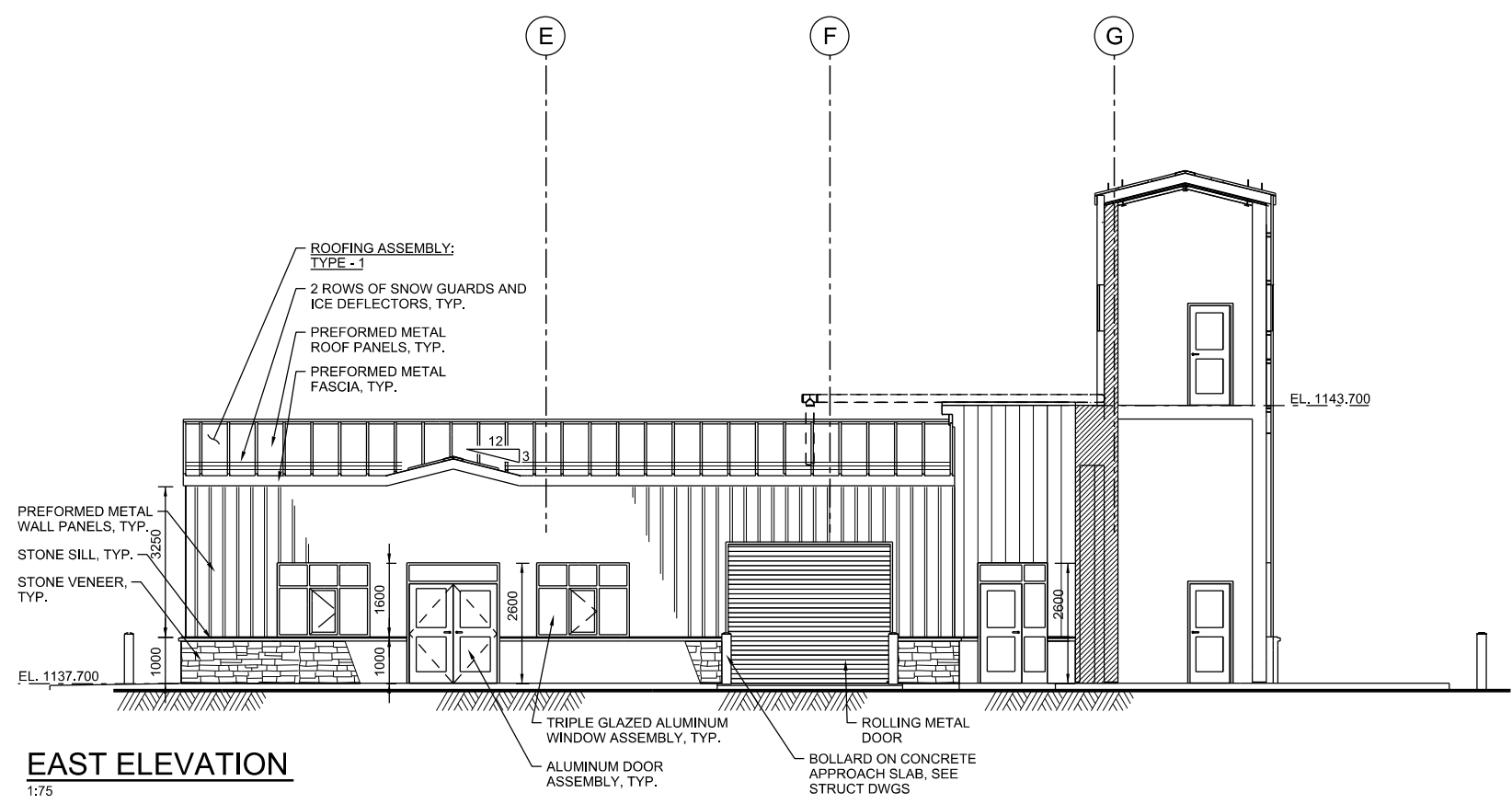
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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ARCHITECTURAL
LIME SILO, GRIT BUILDING GROUND FLOOR AND ROOF PLAN

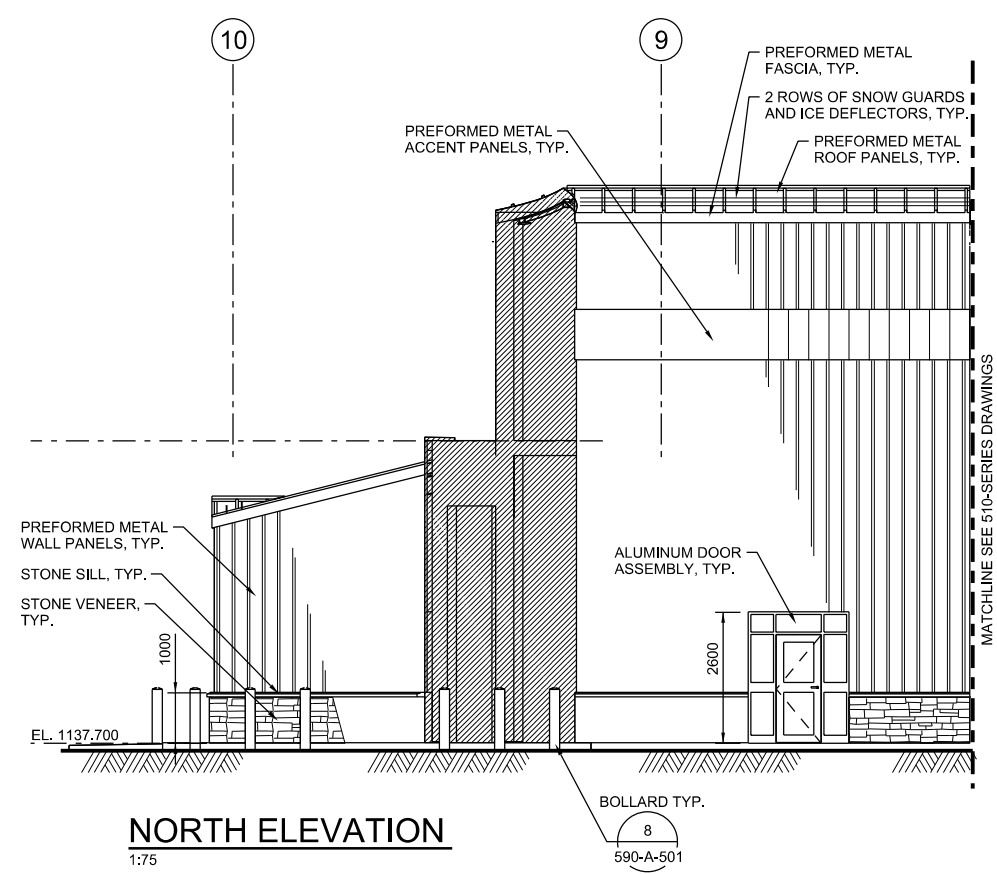
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DWG: 530-A-202
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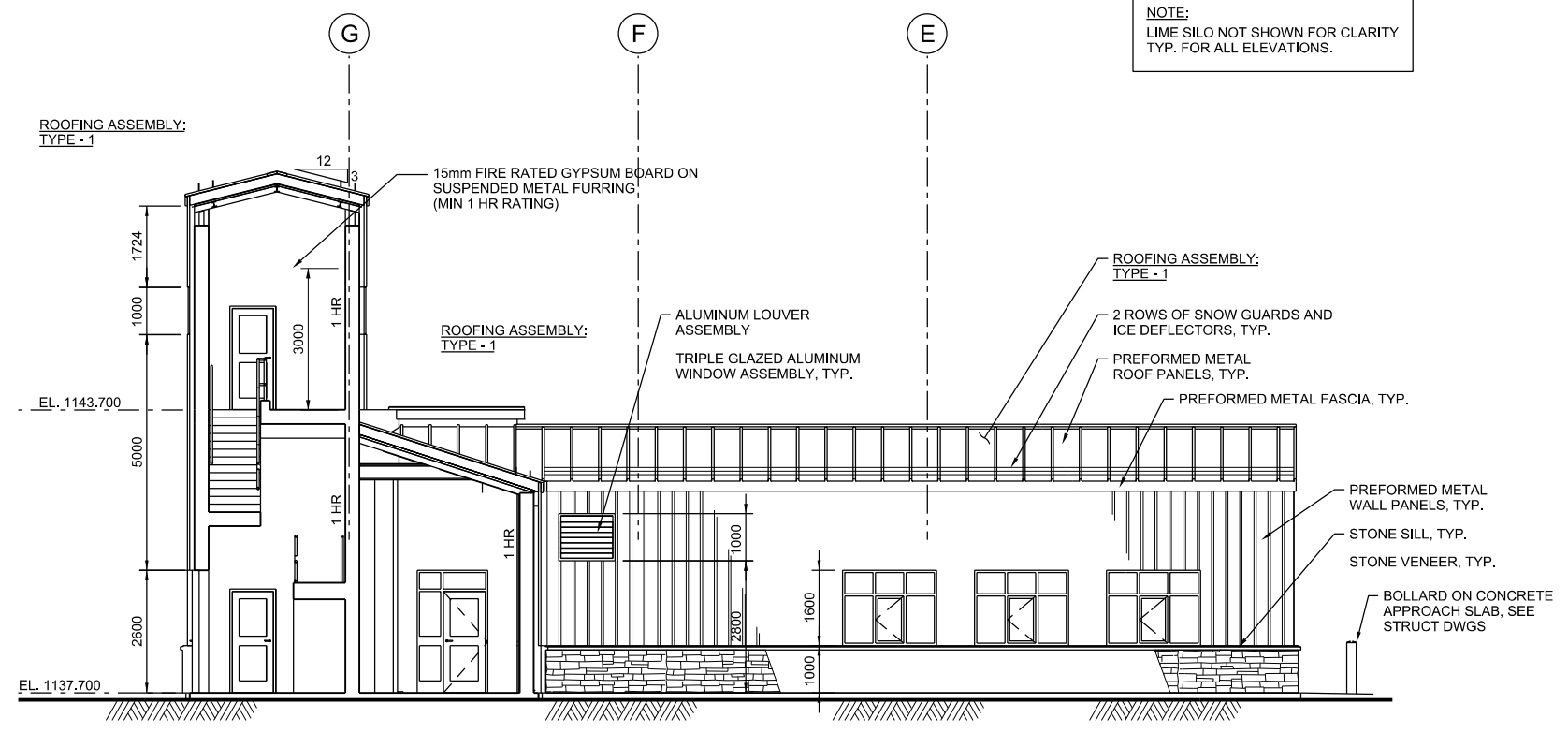
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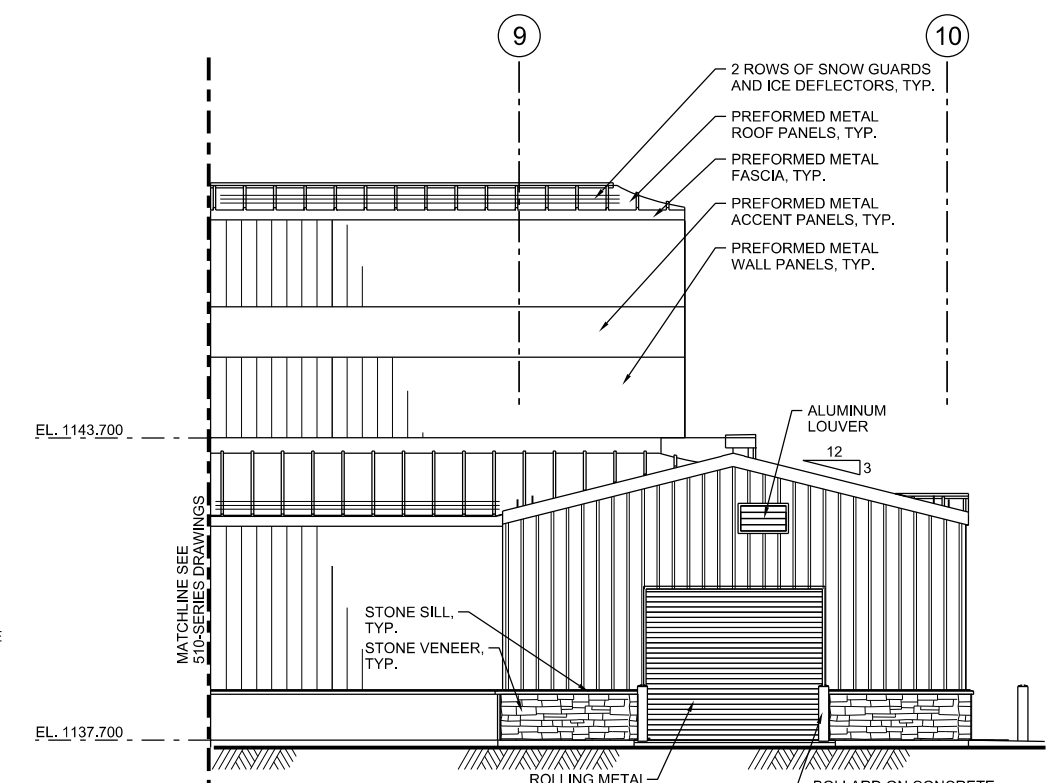
EAST ELEVATION
1:75



NORTH ELEVATION
1:75



WEST ELEVATION
1:75



SOUTH ELEVATION
1:75

NOTE:
LIME SILO NOT SHOWN FOR CLARITY
TYP. FOR ALL ELEVATIONS.



ISSUED FOR DETAIL DESIGN REVIEW	GN	GN	APVD
ISSUED FOR ADVANCED DESIGN REVIEW	VK	VK	BY
REVISION	NO.	DATE	DR
	D. IANNETTA	V. KUSLIKIS	R. ZAKKO
	CHK	CHK	APVD

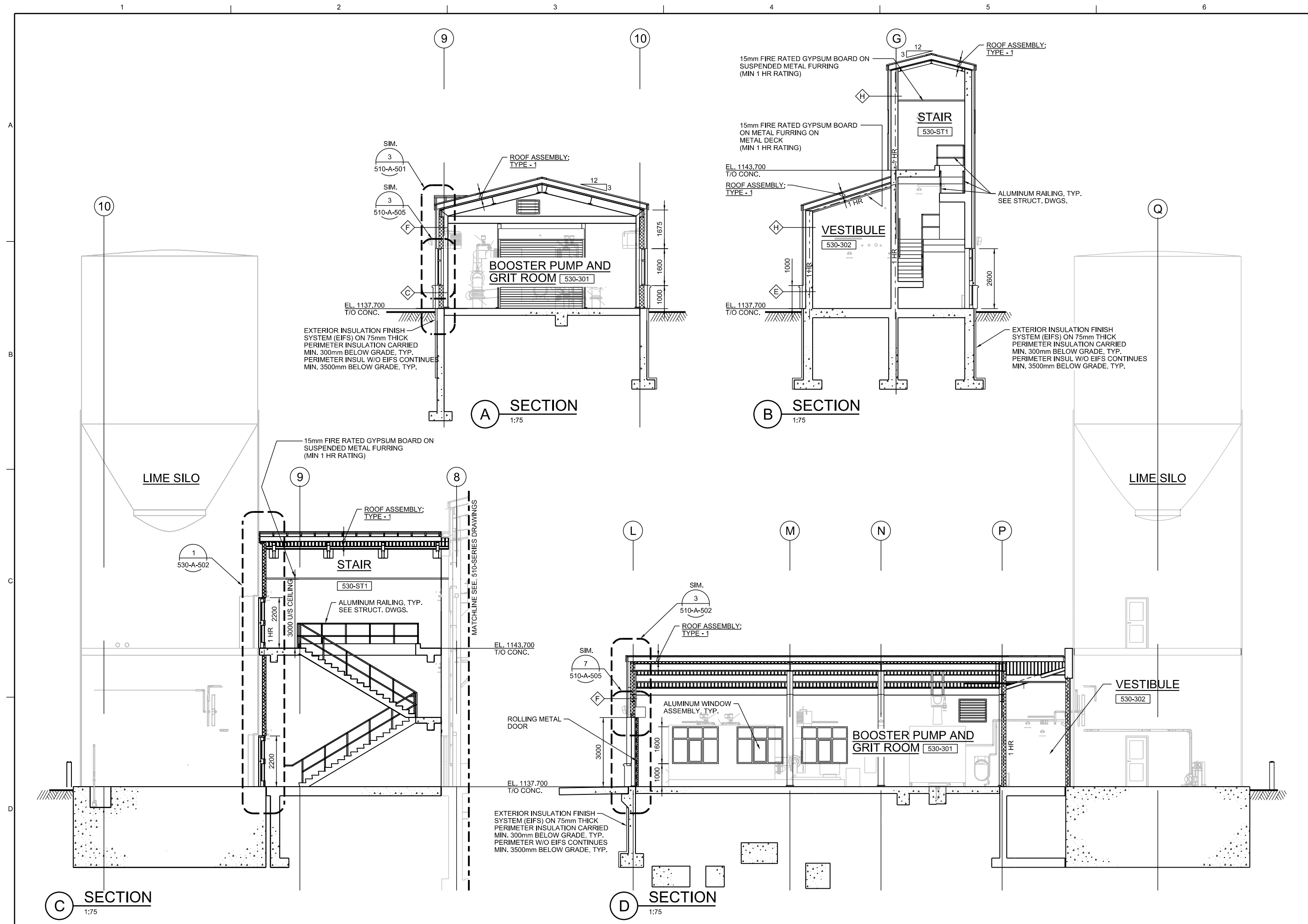
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GOVERNMENT OF YUKON
DESIGN

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Architects Inc.
ARCHITECTURAL
LIME SILO, GRIT BUILDING
ELEVATIONS

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A	09/2013	ISSUED FOR ADVANCED DESIGN REVIEW	VK	GN
D.SGN		DR	CHK	APVD
D. IANNETTA		V. KUSLIKIS		R. ZAKKO

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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

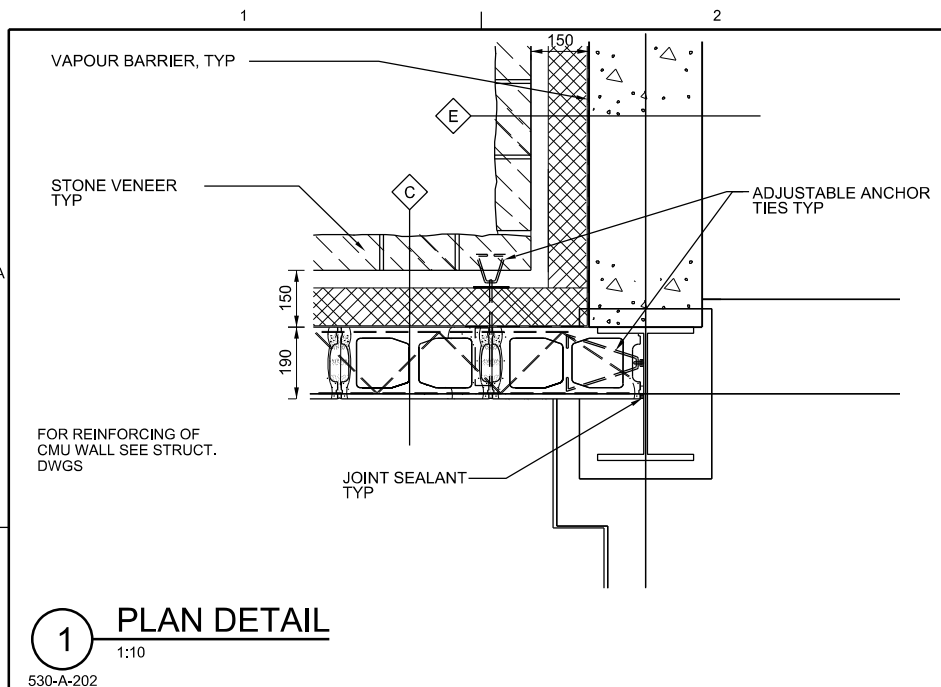
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Architects Inc.

ARCHITECTURAL
LIME SILO, GRIT BUILDING
SECTIONS

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25mm

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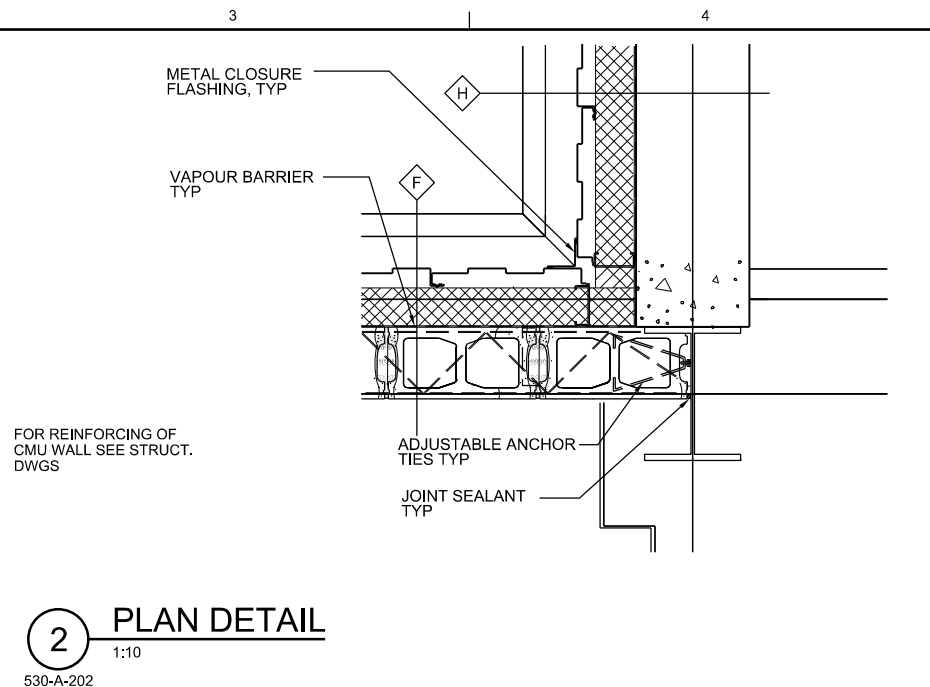
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1 PLAN DETAIL

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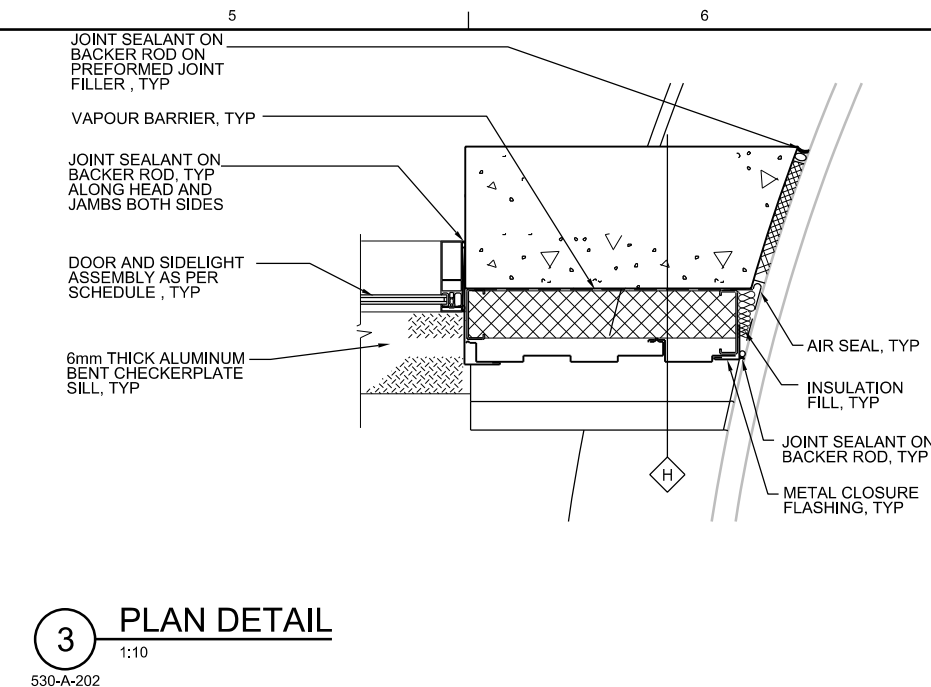
530-A-202



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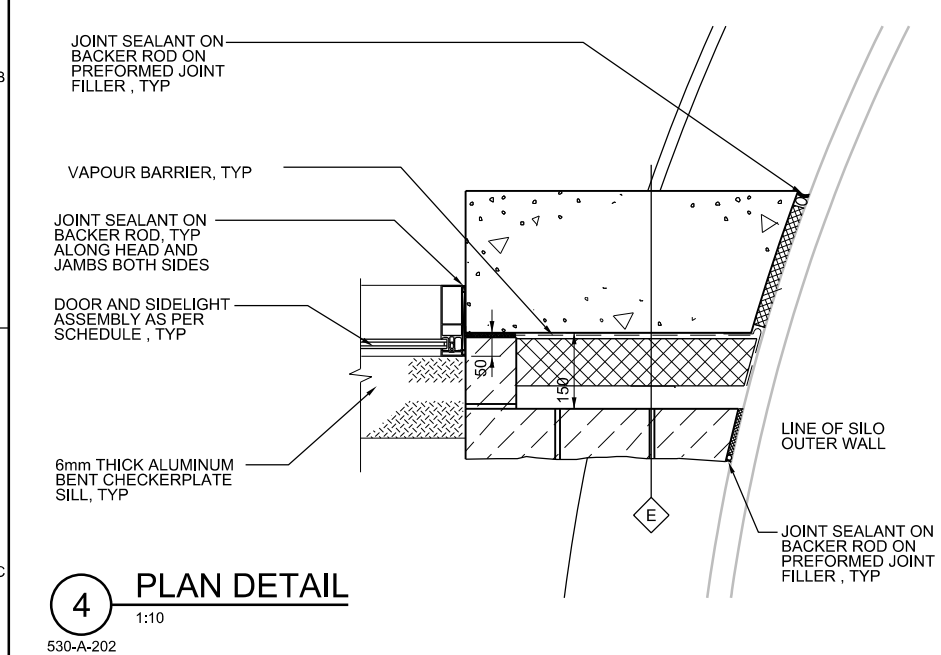
530-A-202



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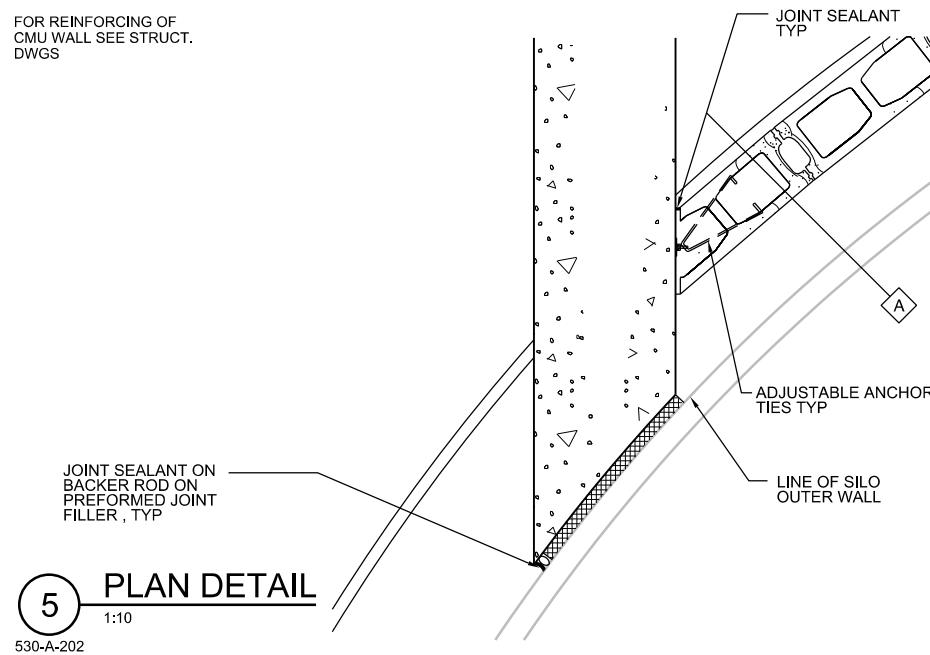
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4 PLAN DETAIL

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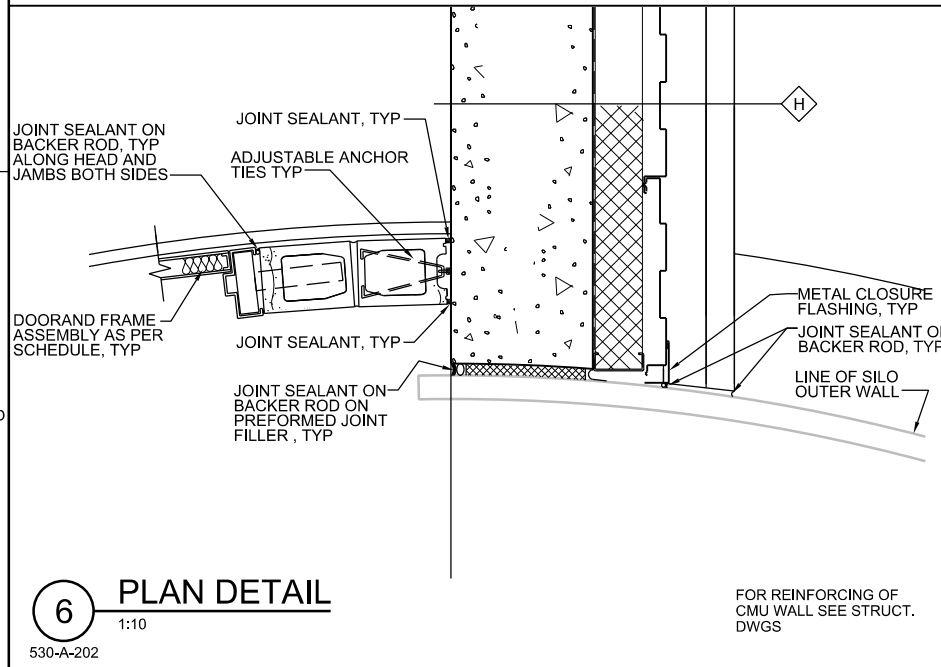
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5 PLAN DETAIL

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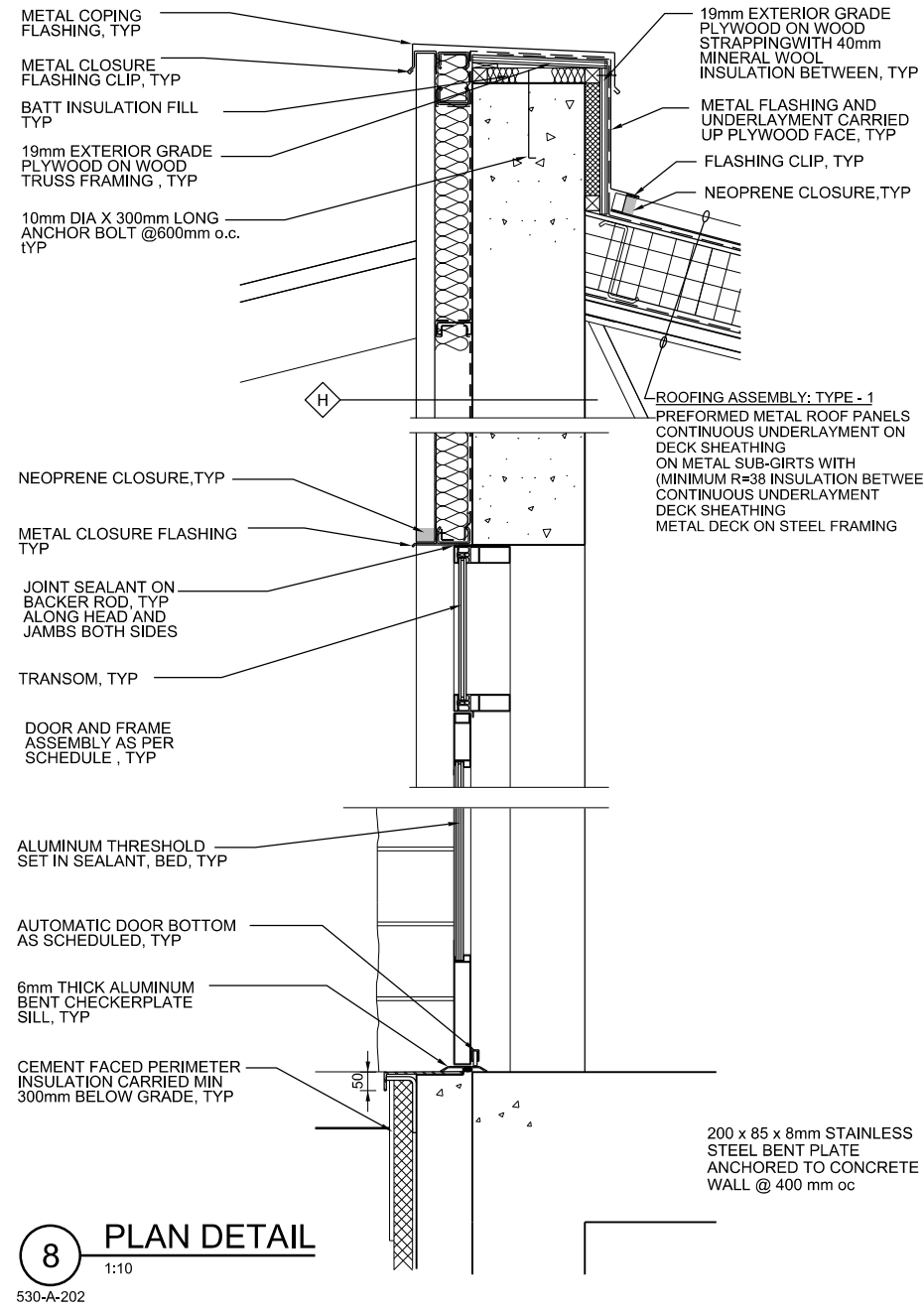
530-A-202



6 PLAN DETAIL

1:10

530-A-202



8 PLAN DETAIL

1:10

530-A-202

NO.	DATE	DR	CHK	APVD
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FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN GOVERNMENT OF YUKON DESIGN

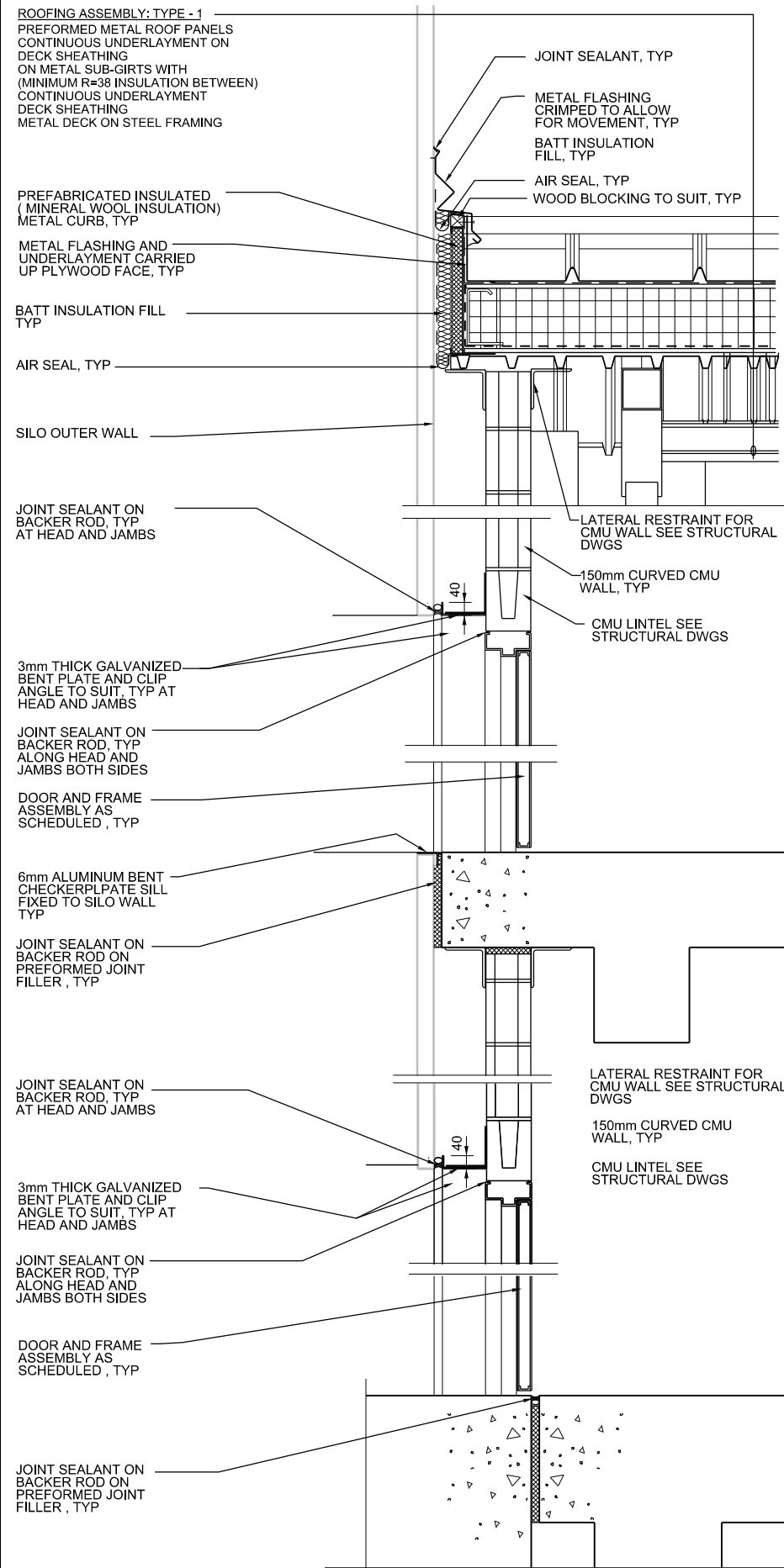
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Architects Inc.

ARCHITECTURAL
LIME SILO, GRIT BUILDING
DETAILS (1)

NTS
VERIFY SCALE
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25mm

DATE FEBRUARY 2014
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1 SECTION DETAIL

1:10
530-A-311



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FARO MINE REMEDIATION
 WATER TREATMENT PLANT DESIGN
 GOVERNMENT OF YUKON
 DESIGN

CH2MHILL CANADA
 Architects Inc.

ARCHITECTURAL
LIME SILO, GRIT BUILDING
 SECTION DETAILS (1)

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VERIFY SCALE	
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LEGEND , NOTES AND ABBREVIATIONS

AC	ACOUSTICAL CEILING	CRC	CHEMICAL RESISTANT COATING	HGT	HEIGHT	RBASE	RUBBER BASE
ACFL	ACCESS FLOORING	CT	CERAMIC TILE	HDNR	HARDENER	RRUB	RADIAL RUBBER FLOORING
ACMU	ACOUSTICAL CMU	EIFS	EXTERIOR INSULATION FINISH SYSTEM	MATL	MATERIAL	RSF	RUBBER SHEET FLOORING SEALER
ACT	ACOUSTIC TILE CEILING	EXP	EXPOSED STRUCTURE	MDO	MEDIUM DENSITY OVERLAY	SF	SPECIAL (SEAMLESS) FLOORING SEALER
AFPP	ALUMINUM FACED PLYWOOD PANEL	FCTY	FACTORY	METAL	METAL	SLR	SEALER
AL	ALUMINUM	FRP	FIBERGLASS REINFORCED PLASTIC	PLAM	PLASTIC LAMINATE	SMLS	SEAMLESS EXPOXY
BRK	BRICK	FWC	FABRIC WALL COVERING	PLAS	PLASTER	SOI	SPRAYED - ON INSULATION
CLR	CLEAR SEALER	FNSH	FINISH	PAVT	PAVER TILE	SVIN	SHEET VINYL
CEMBD	CEMENT BOARD	GMU	GLASS MASONRY UNITS	PLWD	PLYWOOD	TCTG	TRAFFIC COATING
CMU	CONCRETE MASONRY UNITS	GWB	GLAZED CONCRETE MASONRY	PNL	PANELING	TLS	TO LATER SELECTION
COL	COLOR	GCMU	GLAZED CONCRETE MASONRY	PTD	PAINTED	VCT	VINYL COMPOSITION TILE
CONC	CONCRETE	GWB	GYPSON BOARD	PTN	PARTITION	VT	VINYL TILE
CNTR	COUNTER	GSB	GYPSON SOFFIT BOARD	QT	QUARRY TILE	VWC	VINYL WALL COVERING
CPT	CARPET	GLZ	GLAZING	RESIL	RESILIENT	VWV	WINDOW WALL
CSLR	COLORS SEALER					X	OPEN

GENERAL NOTES:

1. PROVIDE ABRASIVE NOSING INSERTS ON ALL STAIRS AND LANDINGS
2. PAINT ALL EXPOSED STEEL STRUCTURE WHICH HAS NOT BEEN GALVANIZED.
3. PAINT U/S OF STAIRS, LANDINGS AND ALL EXPOSED METAL COMPONENTS.
4. EXTENT OF CT ON WALLS MIN. 200mm ABOVE CEILING.
5. COLOUR OF ALL FINISHES: TLS
6. PAINT WALLS BEHIND LOCKERS AND GWB BULKHEAD ABOVE LOCKERS

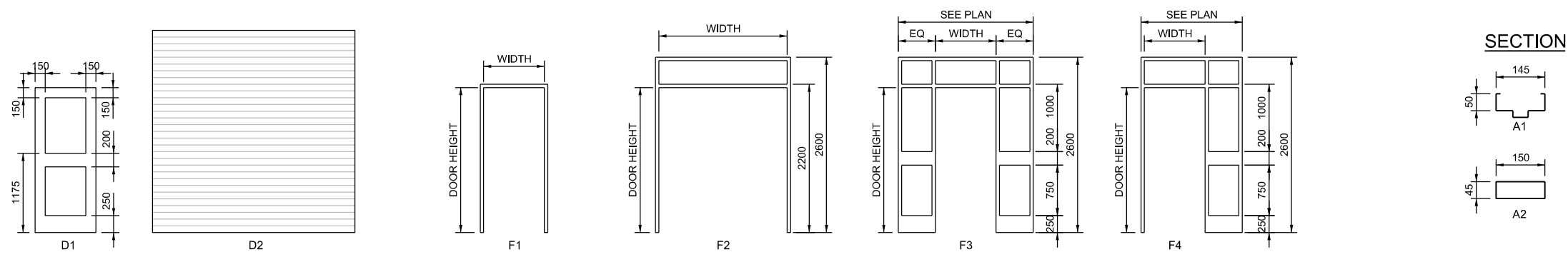


ROOM FINISH SCHEDULE

LOCATION	SPACE		FLOOR		BASE		TYPICAL WALL		OTHER WALLS		CEILING			OTHER REQUIREMENTS	
	RM NO.	NAME	SUB FLOOR	FIN	HGT	MATL	FIN	MATERIAL	FINISH	MATERIAL	FINISH	MATERIAL	FINISH		HEIGHT
GRIT BUILDING STAIRS	530-ST4	STAIR NO.1	CONC	HDNR*	200	CONC	SLR	CONC	CLSR	CMU	CLSR	FIRE RATED GYP BD	PAINTED	3000	* ABRASIVE NOSING INSERTS ON ALL TREADS
	530-301	BOOSTER PUMP AND GRIT ROOM	CONC	HDNR	200	CONC	SLR	CMU	CLSR	--	--	EXPOSED STEEL	PAINTED	VARIES	
	530-302	VESTIBULE	CONC	HDNR	200	CONC	SLR	CONC	CLSR	CMU	CLSR	EXPOSED STEEL	PAINTED	VARIES	

DOOR AND HARDWARE SCHEDULE

LOCATION	DOOR NO.	FROM ROOM NO.	TO ROOM NO.	DOOR DATA				FRAME DATA						NOTES/ REMARKS	
				DOOR SIZE	ULC LABEL (MINUTES)	DOOR TYPE	MATERIAL	FINISH	GLASS	FRAME TYPE (ELEVATION)	MATERIAL	FINISH	FRAME TYPE (SECTION)		HARDWARE PACKAGE
CIRCULATION	D530-ST1A	530-ST1	EXT	900 x 2150	--	D1	AL	FCTY	TIG	F3	AL	FCTY	A2	HDW-2	GENERAL NOTES: 1. PROVIDE DOOR HARDWARE ON BOTH LEAFS IN PAIRS OF DOORS, UNLESS NOTED OTHERWISE. 2. PROVIDE KICKPLATES ON BOTH SIDES OF DOORS UNLESS NOTED OTHERWISE. 3. ALL EXTERIOR METAL ROLLING DOORS ARE TO BE INSULATED. 4. SEE SPECIFICATION SECTION 08800 FOR TYPES OF GLASS.
	D530-ST1B	510-316	530-ST1	900 x 2150	45	D1	STL	PTD	WG	F1	STL	PTD	A1	HDW-3	
	D530-ST1C	530-303	530-ST1	900 x 2150	45	D1	STL	PTD	WG	F1	STL	PTD	A1	HDW-3	
	D530-ST1D	510-402	530-ST1	900 x 2150	45	D1	STL	PTD	WG	F1	STL	PTD	A1	HDW-3	
	D530-ST1E	530-303	530-ST1	900 x 2150	45	D1	STL	PTD	WG	F1	STL	PTD	A1	HDW-3	
GROUND FLOOR	D530-301A	530-301	EXT	2(950 x 2150)	--	D1	AL	FCTY	TIG	F2	AL	FCTY	A2	HDW-1	
	D530-301B	530-301	EXT	3600 X 3000	--	D2								--	
	D530-301C	530-301	EXT	3600 x 3000	--	D2								--	
	D530-302A	530-302	EXT	900 x 2150	--	D1	AL	FCTY	TIG	F4	AL	FCTY	A2	HDW-2	
	D530-302B	510-316	530-302	900 x 2150	45	D1	STL	PTD	WG	F1	STL	PTD	A1	HDW-3	
D530-302C	530-301	530-302	900 x 2150	45	D1	STL	PTD	WG	F2	STL	PTD	A1	HDW-3		



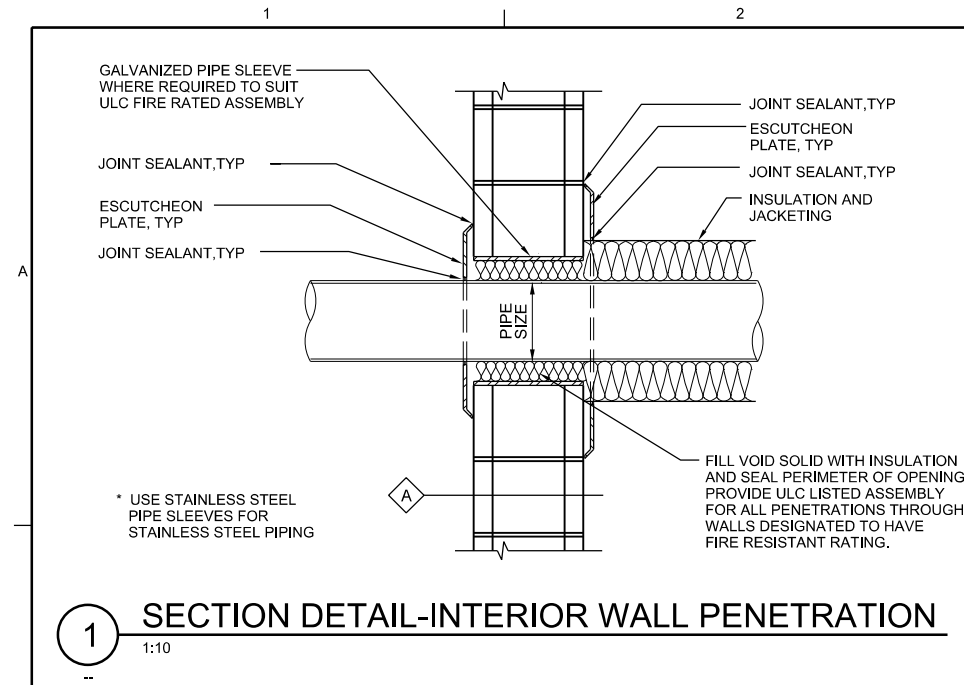
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FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN GOVERNMENT OF YUKON DESIGN

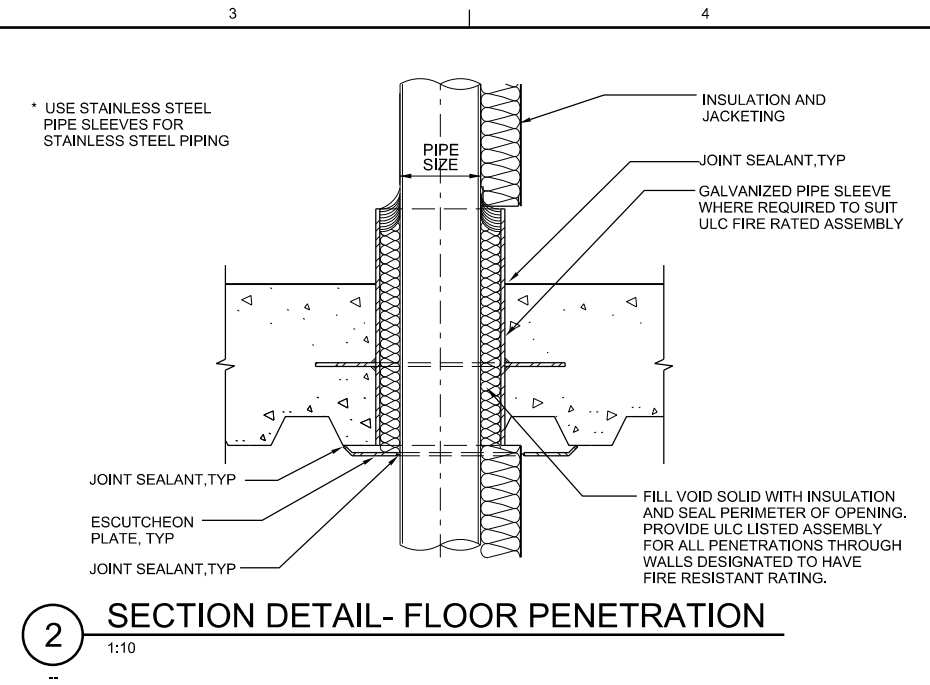
CH2MHILL CANADA Architects Inc. ARCHITECTURAL LIME SILO, GRIT BUILDING FINISH AND DOOR SCHEDULES

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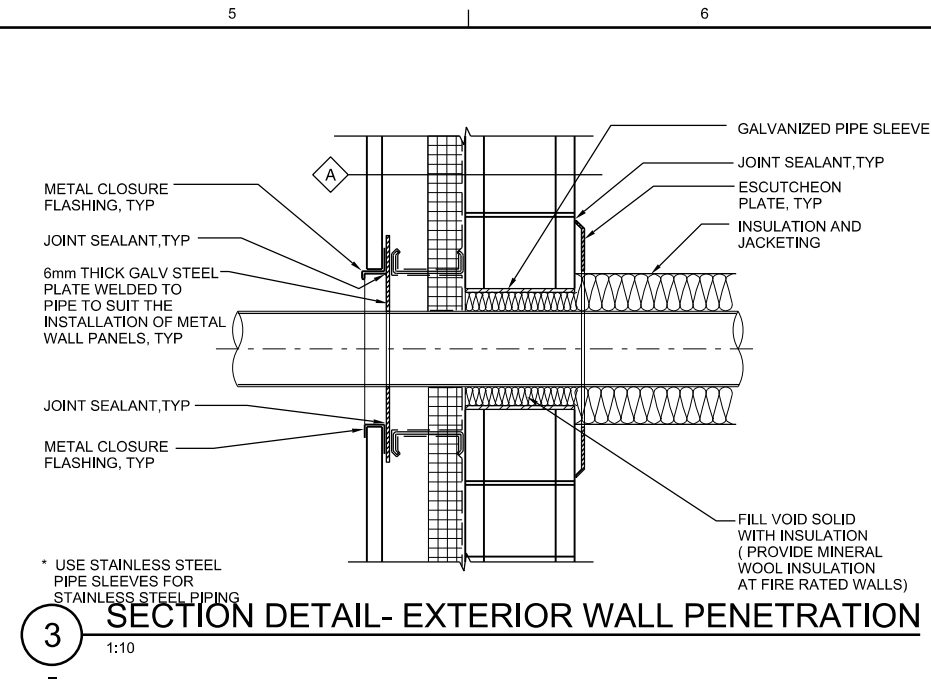
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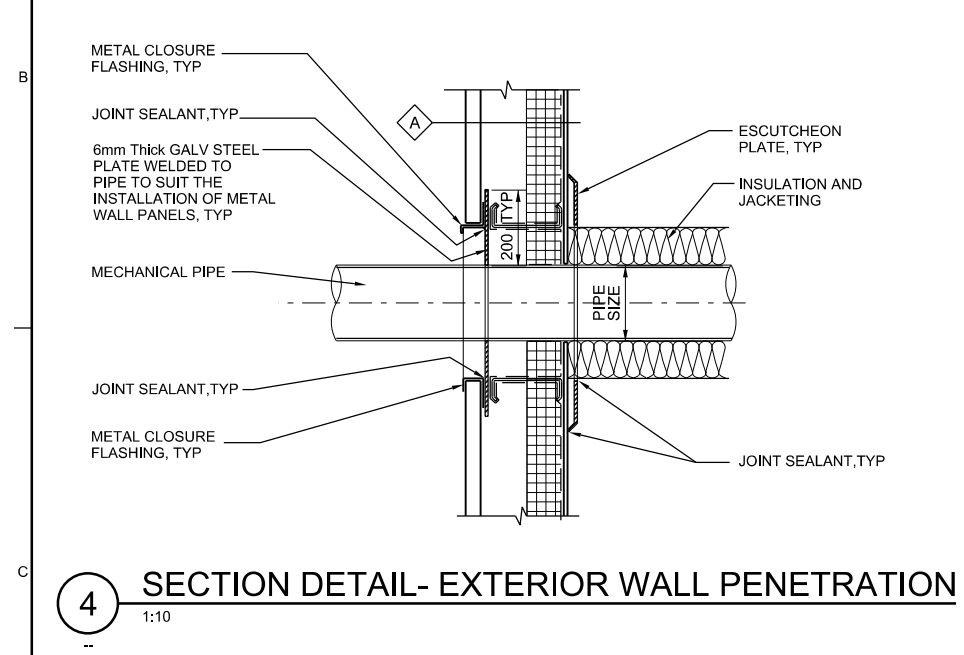
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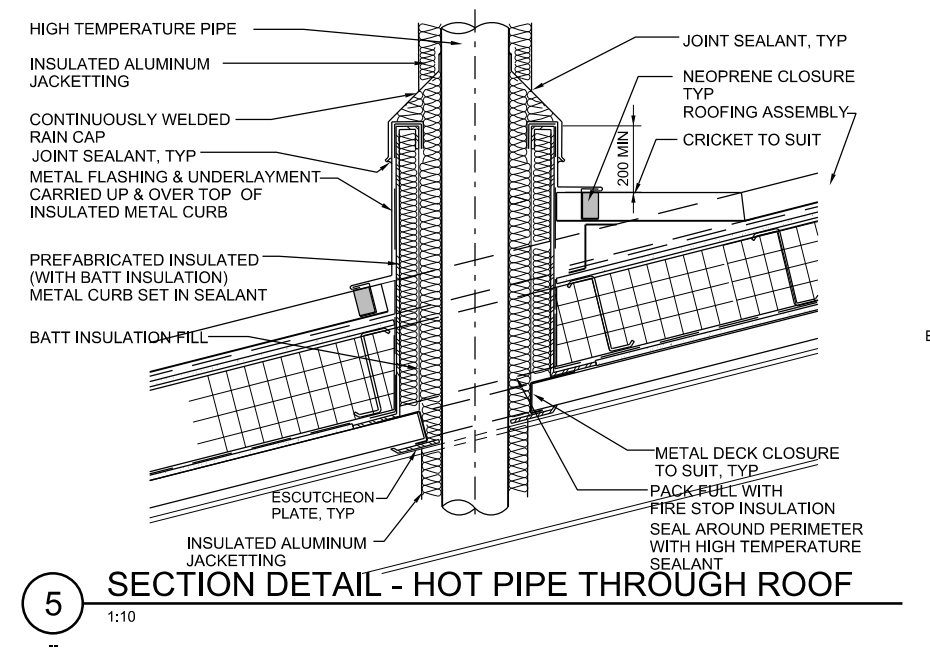
2 SECTION DETAIL- FLOOR PENETRATION
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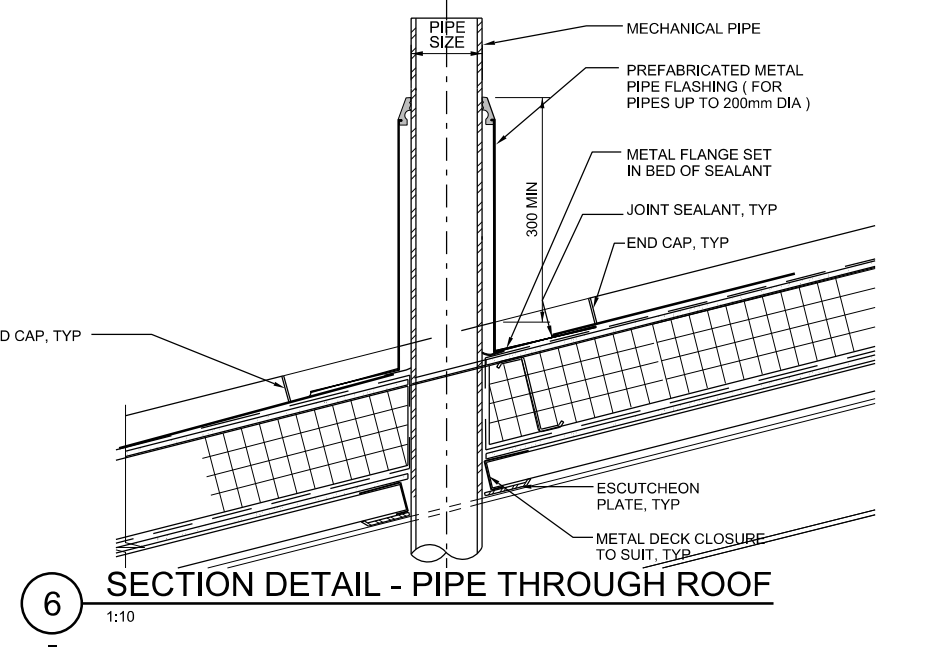
3 SECTION DETAIL- EXTERIOR WALL PENETRATION
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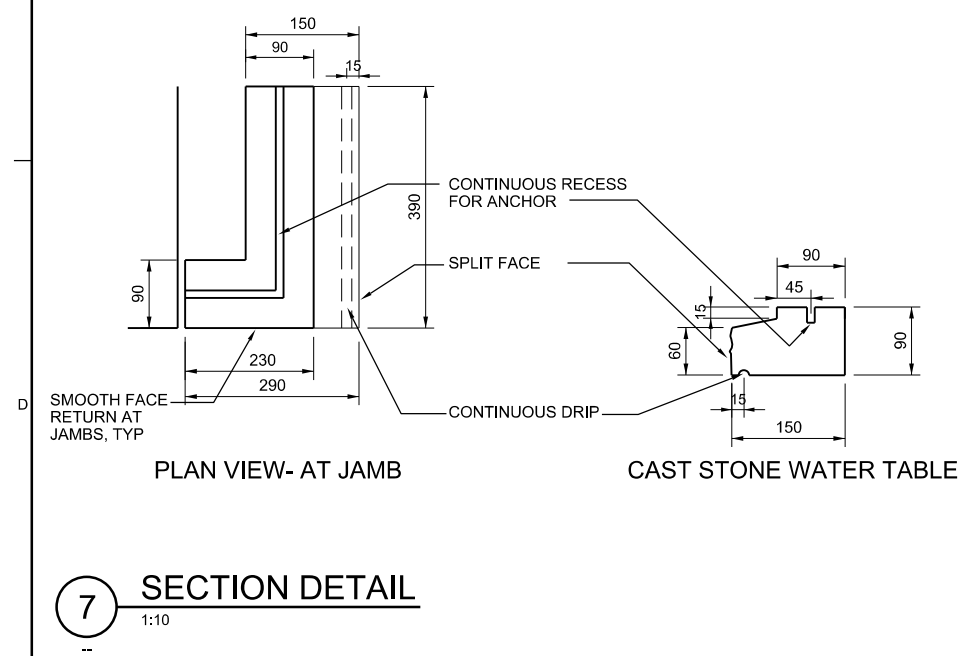
4 SECTION DETAIL- EXTERIOR WALL PENETRATION
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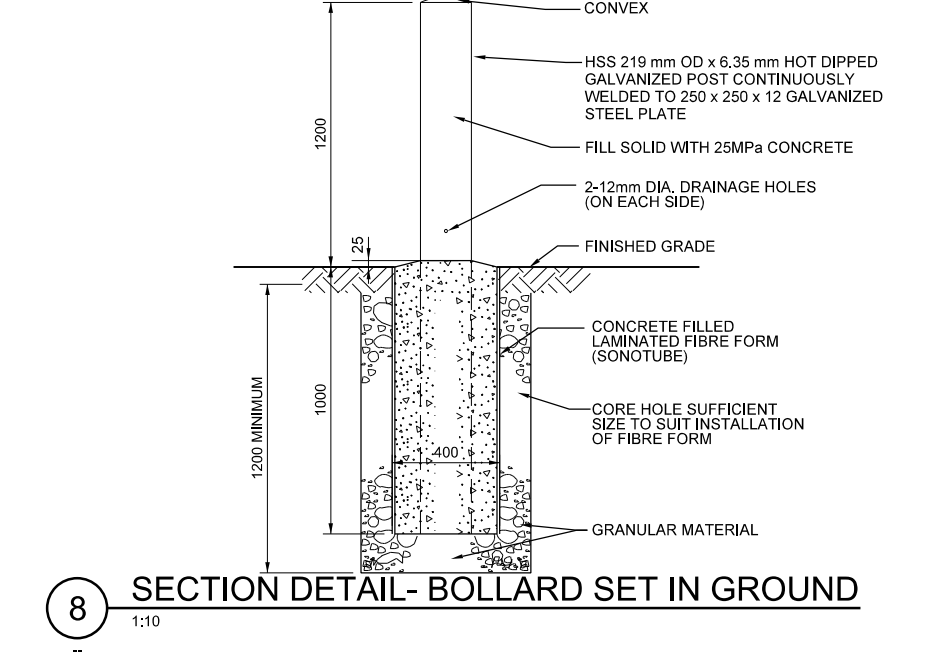
5 SECTION DETAIL - HOT PIPE THROUGH ROOF
1:10



6 SECTION DETAIL - PIPE THROUGH ROOF
1:10



7 SECTION DETAIL
1:10



8 SECTION DETAIL- BOLLARD SET IN GROUND
1:10

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REVISION	BY	CHK
NO.	DATE	DR
02/2014	A	V. KUSLIKIS
D. IANNETTA		R. ZAKKO
DESIGN		DESIGN
GOVERNMENT OF YUKON		DESIGN
WATER TREATMENT PLANT DESIGN		DESIGN
FARO MINE REMEDIATION		DESIGN

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CH2MHILL CANADA Architects Inc.
 ARCHITECTURAL
OVERALL PLATFORM PLAN
 NTS
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 DATE FEBRUARY 2014
 PROJ TA013-427716
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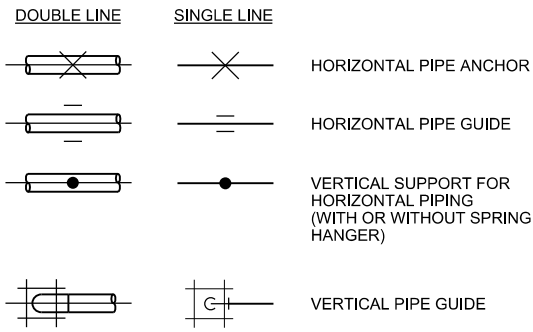
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MECHANICAL LEGEND AND NOTES

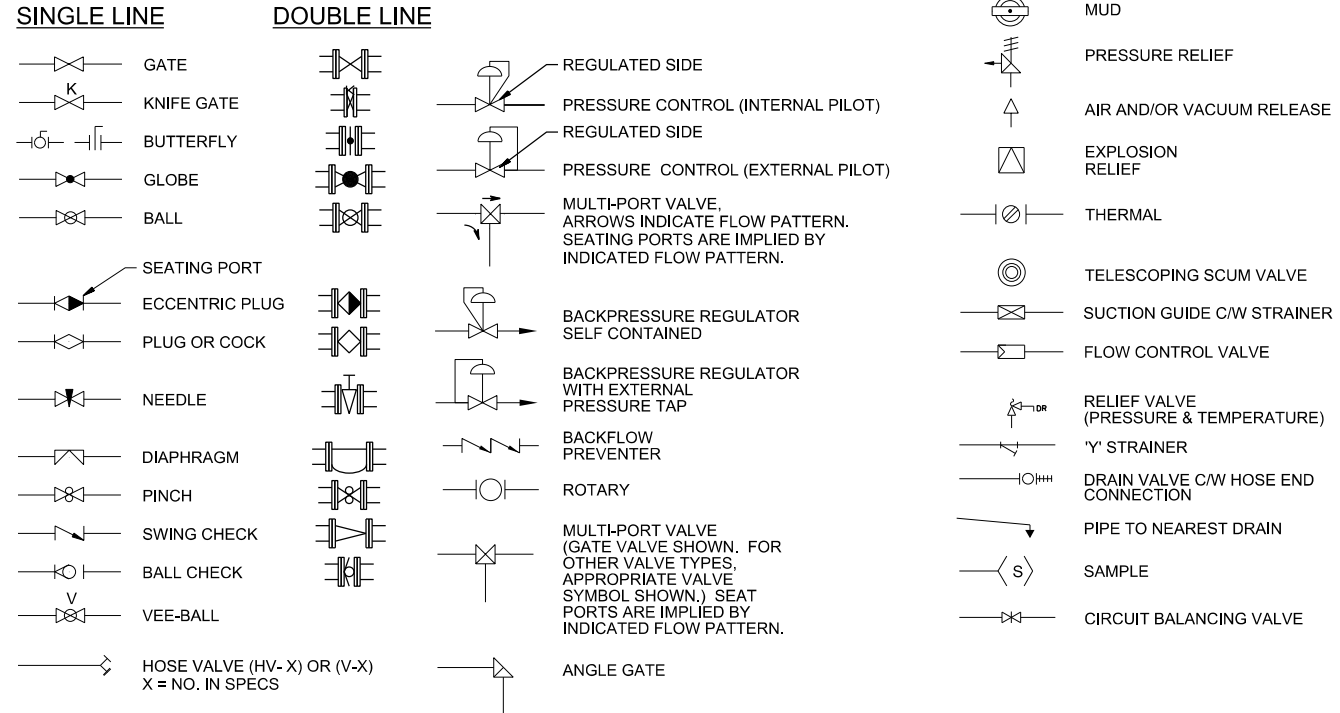
GENERIC PIPING NOTES

- 1. LAY PIPE TO UNIFORM GRADE BETWEEN INDICATED ELEVATION POINTS.
- 2. SIZE OF FITTINGS SHOWN ON DRAWINGS SHALL CORRESPOND TO ADJACENT STRAIGHT RUN OF PIPE, UNLESS OTHERWISE INDICATED. TYPE OF JOINT AND FITTING MATERIAL SHALL BE THE SAME AS SHOWN FOR ADJACENT STRAIGHT RUN OF PIPE.
- 3. LOCATION AND NUMBER OF PIPE HANGERS AND PIPE SUPPORTS SHOWN IS ONLY APPROXIMATE. CONTRACTOR SHALL DESIGN SUPPORTS AS SPECIFIED.
- 4. ALL JOINTS SHALL BE WATERTIGHT. WALL PIPES SHALL BE USED WHEREVER PIPING PASSES FROM A STRUCTURE TO BACKFILL.
- 5. ALL FLEXIBLE CONNECTORS AND COUPLING ADAPTERS SHALL BE PROVIDED WITH THRUST PROTECTION AS SPECIFIED, UNLESS OTHERWISE NOTED. THRUST PROTECTION SHALL BE ADEQUATE FOR TEST PRESSURES SPECIFIED.
- 6. SYMBOLS, LEGENDS, AND PIPE USE IDENTIFICATIONS SHOWN SHALL BE FOLLOWED THROUGHOUT THE DRAWINGS, WHEREVER APPLICABLE. NOT ALL OF THE VARIOUS PIPING COMPONENTS ARE NECESSARILY USED IN THE PROJECT.
- 7. ALL BURIED PIPING SPECIFIED TO BE PRESSURE TESTED, EXCEPT FLANGED, WELDED, OR SCREWED PIPING, SHALL BE PROVIDED WITH THRUST PROTECTION AS SPECIFIED, UNLESS OTHERWISE NOTED.
- 8. NUMBER AND LOCATION OF UNIONS SHOWN ON DRAWINGS IS ONLY APPROXIMATE. PROVIDE ALL UNIONS NECESSARY TO FACILITATE CONVENIENT REMOVAL OF VALVES AND MECHANICAL EQUIPMENT.
- 9. WHERE A GROOVED END COUPLING IS SHOWN, IT SHALL BE THE RIGID JOINT TYPE, UNLESS OTHERWISE SPECIFIED. WHERE A FLANGED COUPLING ADAPTER IS SHOWN, A STANDARD FLANGE SHALL BE JOINED TO THE COUPLING ADAPTER.

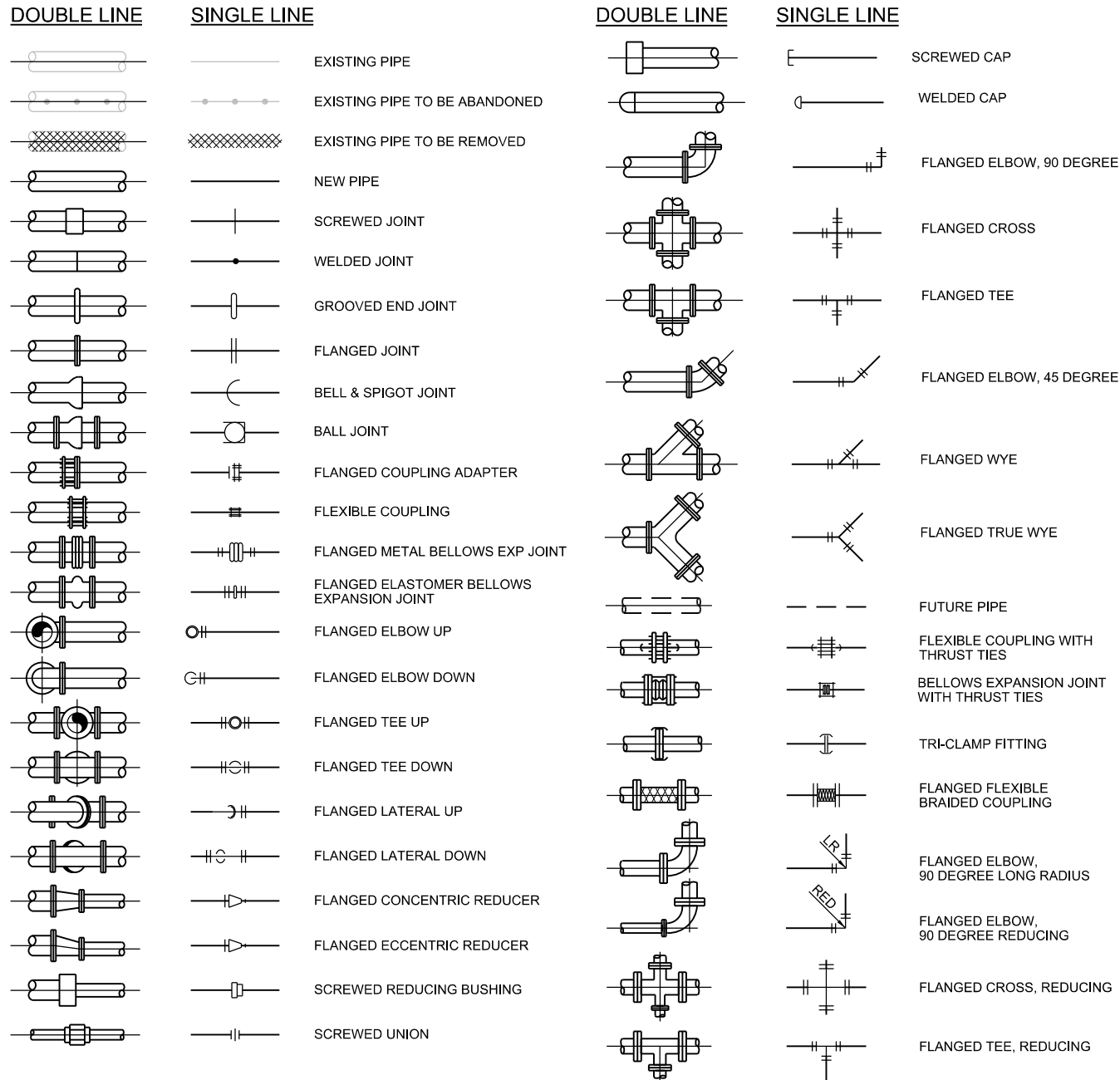
PIPE SUPPORT SYMBOLS



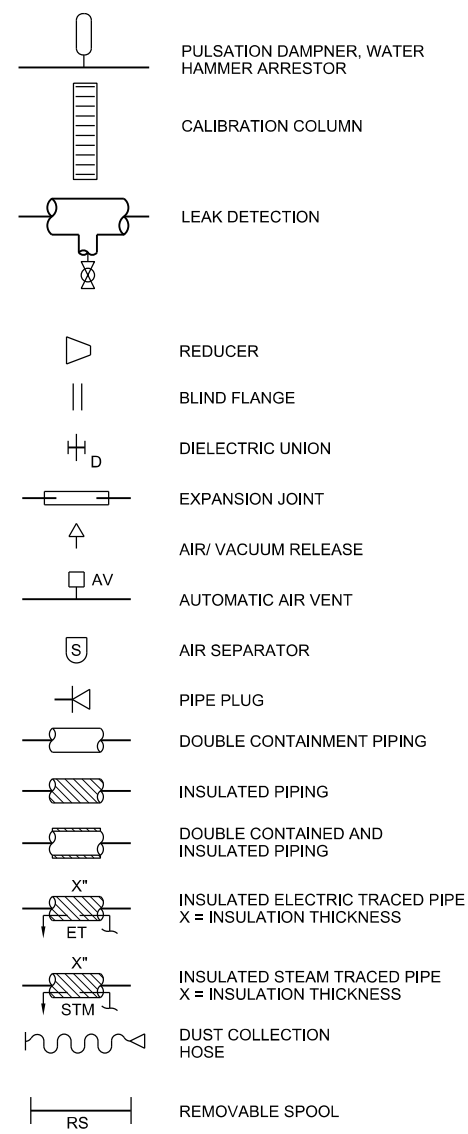
VALVE SYMBOLS



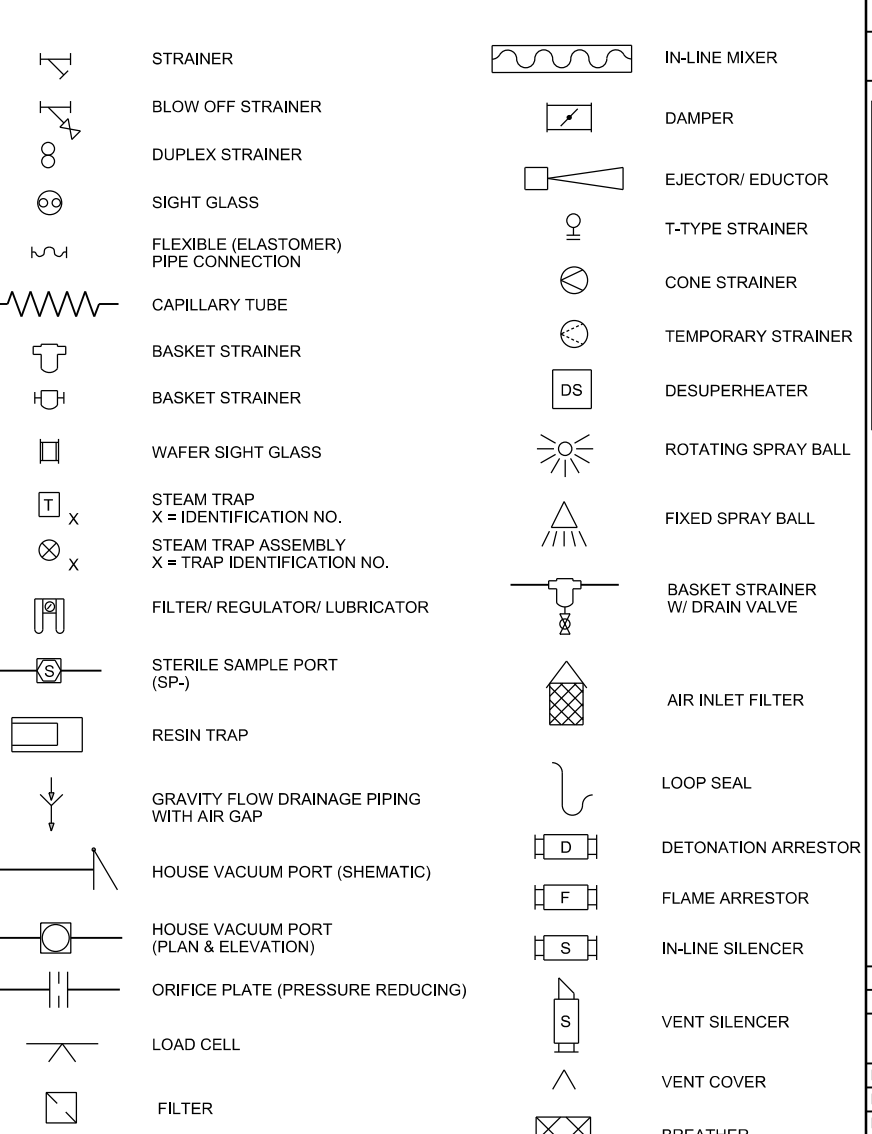
PIPE AND FITTING SYMBOLS



PIPING SYMBOLS



IN LINE DEVICE SYMBOLS



90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN GOVERNMENT OF YUKON DESIGN

CH2MHILL PROCESS MECHANICAL GENERAL STANDARD NOTES LEGEND & ABBREVIATION

NTS

VERIFY SCALE

BAR IS 25mm ON ORIGINAL DRAWINGS, 0 25mm

DATE FEBRUARY 2014

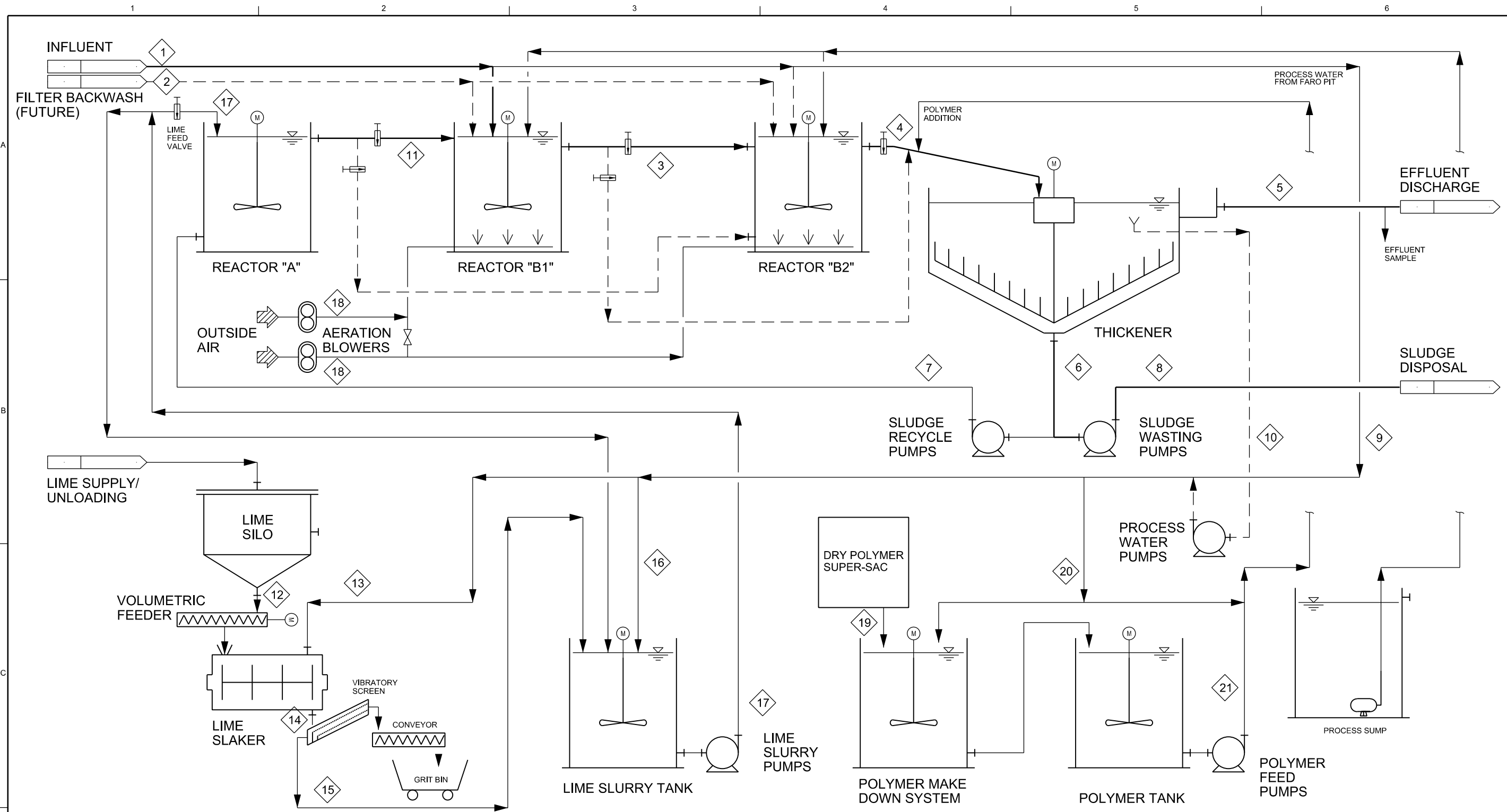
PROJ TA013-427716

DWG 500-GD-001

SHEET



NO.	DATE	BY	APVD	CHK	DR
B	02/2014	J.P. NYWENNING	J.P. NYWENNING		
A	09/2013	J.P. NYWENNING	J.P. NYWENNING		



MASS BALANCE TABLE			STREAM No. AND DESCRIPTION																				
FLOW CONDITION	DESCRIPTION	UNITS	1 TOTAL INFLUENT	2 FILTER BACKWASH	3 REACTOR B1 DISCHARGE	4 REACTOR B2 DISCHARGE	5 THICKENER EFFLUENT	6 THICKENER UNDER FLOW	7 SLUDGE RECYCLE	8 SLUDGE WASTING (1)	9 PRIMARY PROCESS WATER	10 ALTERNATE PROCESS WATER	11 REACTOR A EFFLUENT	12 BULK LIME (2)	13 SLAKER WATER	14 SLAKED LIME TO CLASSIFIER	15 SLAKED LIME (3)	16 LIME SLURRY DILUTION WATER	17 LIME SLURRY FEED (4)	18 BLOWERS (EACH)	19 DRY POLYMER	20 DILUTION WATER	21 POLYMER SOLUTION (5)
HYDRAULIC MAX	FLOW	m3/day	54,500	4,870	63,750	63,750	60,140	5,140	3,950	1,180	938	0	4,370	35	146	154	152	269	421	18,000	0.78	523	524
	SOLIDS CONC	mg/L	-	-	20,400	20,400	15	317,000	317,000	317,000	15	15	297,000	-	15	292,000	273,000	15	106,000	-	-	15	1,000
	SPECIFIC GRAVITY		1.00	1.00	1.01	1.01	1.00	1.22	1.22	1.22	1.00	1.00	1.21	0.96	1.00	1.17	1.17	1.00	1.06	-	0.69	1.00	1.00
NORMAL MAX	FLOW	m3/day	44,100	3,350	51,870	51,870	48,250	5,140	3,950	1,180	938	0	4,370	35	146	154	152	269	421	18,000	0.76	523	524
	SOLIDS CONC	mg/L	-	-	25,100	25,100	15	317,000	317,000	317,000	15	15	297,000	-	15	292,000	273,000	15	106,000	-	-	15	1,000
	SPECIFIC GRAVITY		1.00	1.00	1.02	1.02	1.00	1.22	1.22	1.22	1.00	1.00	1.21	0.96	1.00	1.17	1.17	1.00	1.06	-	0.69	1.00	1.00
AVERAGE AT START UP (FIRST 20-25 YRS OF OPERATION)	FLOW	m3/day	23,400	1,760	26,170	26,170	25,290	1,070	930	140	117	0	970	3.3	13	14	14	25	39	1,500	0.11	79	79
	SOLIDS CONC	mg/L	-	-	8,500	8,500	15	233,000	233,000	233,000	15	15	228,000	-	15	292,000	273,000	15	106,000	-	-	15	1,000
	SPECIFIC GRAVITY		1.00	1.00	1.01	1.01	1.00	1.17	1.17	1.17	1.00	1.00	1.16	0.96	1.00	1.17	1.17	1.00	1.06	-	0.69	1.00	1.00
NORMAL MIN	FLOW	m3/day	11,700	1,370	13,570	13,570	13,140	540	470	70	60	0	490	1.6	6.7	7.1	7.0	12	19	800	0.06	41	41
	SOLIDS CONC	mg/L	-	-	8,200	8,200	15	233,000	233,000	233,000	15	15	228,000	-	15	292,000	273,000	15	106,000	-	-	15	1,000
	SPECIFIC GRAVITY		1.00	1.00	1.01	1.01	1.00	1.17	1.17	1.17	1.00	1.00	1.16	0.96	1.00	1.17	1.17	1.00	1.06	-	0.69	1.00	1.00

NOTES : (1) @ 4 HOURS/DAY (3) @ 25 WEIGHT % (5) @ 0.1 WEIGHT %
 (2) ASSUMING 95% ACTIVE CaO (4) @ 10 WEIGHT %

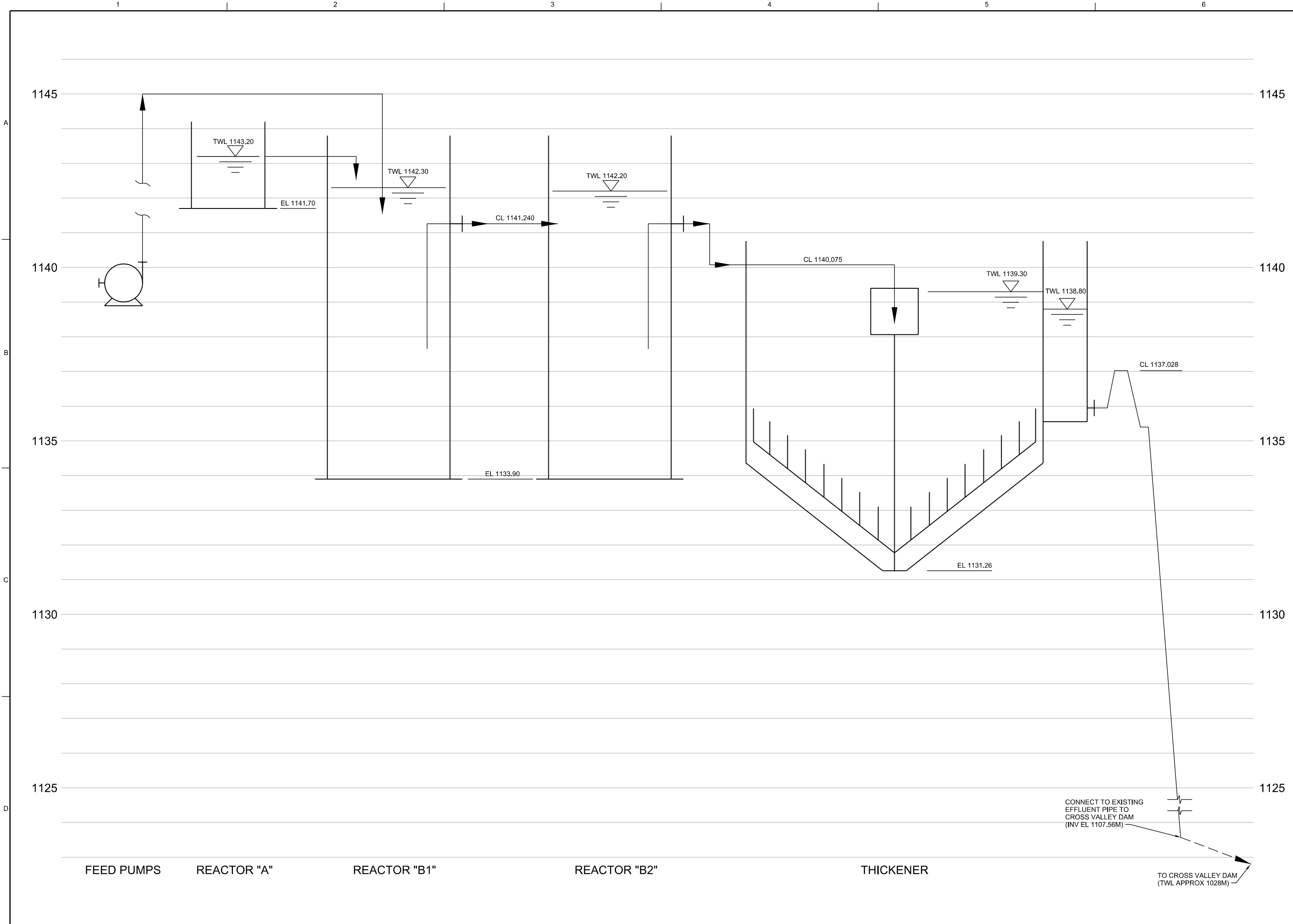
PROCESS MECHANICAL
PROCESS FLOW DIAGRAM AND MASS BALANCE

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION				FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN GOVERNMENT OF YUKON DESIGN			
NO.	DATE	BY	APVD	NO.	DATE	BY	APVD
B	02/2014	J.P. NYWENING	J.P. NYWENING	A	09/2013	R. THORLEY	R. THORLEY
DR				CHK			
J.P. NYWENING				J.P. NYWENING			
DR				CHK			

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DATE FEBRUARY 2014
 PROJ TA013-427716
 DWG 500-D-001
 SHEET

FILENAME: 500-013-D-001_427716.dgn PLOT DATE: 2014/02/17 PLOT TIME: 12:26:34 PM



NO.	DATE	REVISION	BY	APVD
B	02/2014	ISSUED FOR DETAIL DESIGN REVIEW	RT	GN
A	09/2013	ISSUED FOR ADVANCED DESIGN REVIEW	RT	GN
DSGN		J.P. NYWENING	DR	APVD
CHK		R. THORLEY	CHK	APVD

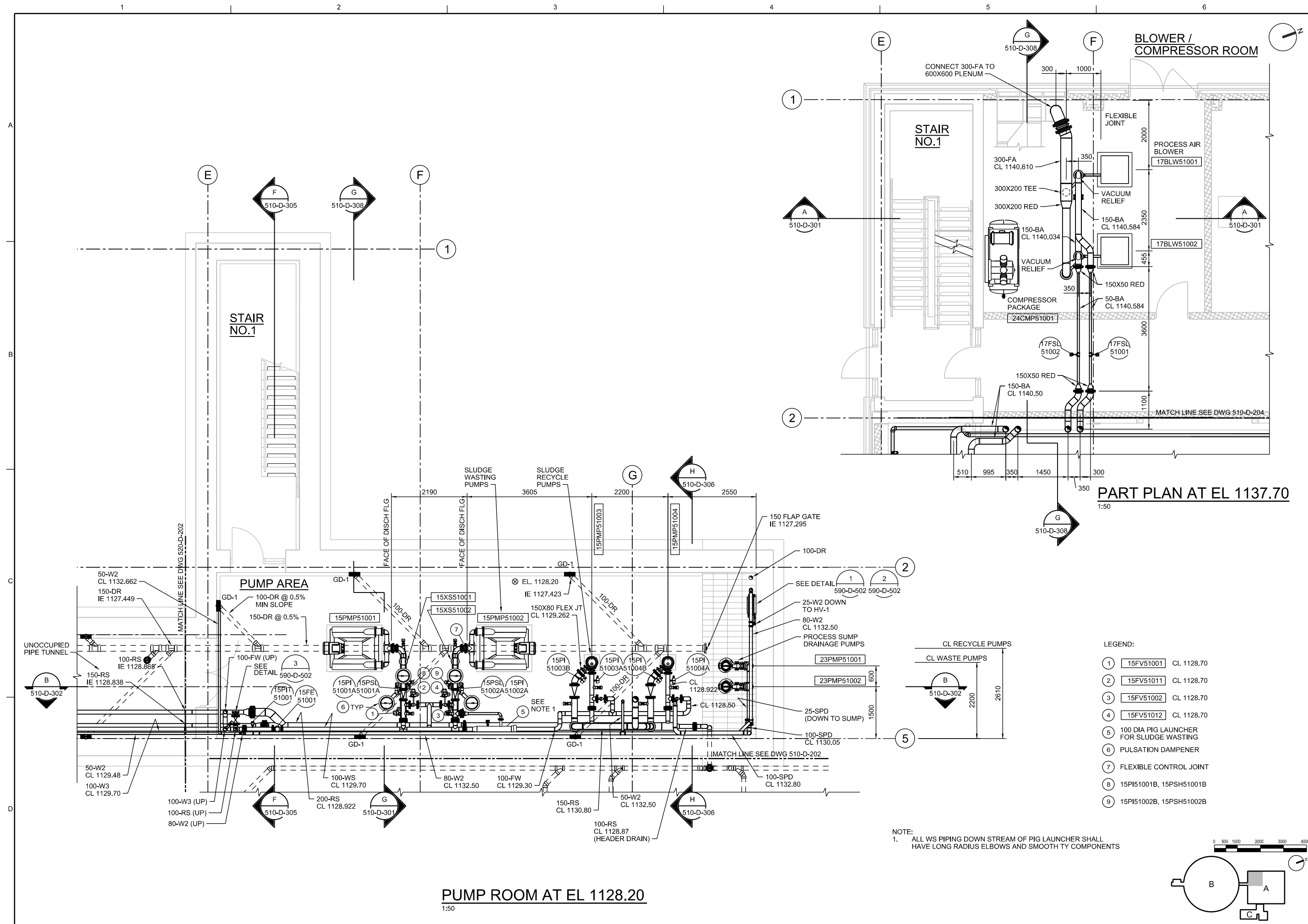
**90% DETAIL DESIGN REVIEW
NOT FOR TENDER OR
CONSTRUCTION**

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®
PROCESS MECHANICAL
HYDRAULIC PROFILE

NTS
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWINGS.
0 25mm

DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	500-D-002
SHEET	

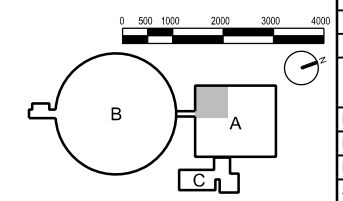



PUMP ROOM AT EL 1128.20
1:50

PART PLAN AT EL 1137.70
1:50

- LEGEND:
- 1 15FV51001 CL 1128.70
 - 2 15FV51011 CL 1128.70
 - 3 15FV51002 CL 1128.70
 - 4 15FV51012 CL 1128.70
 - 5 100 DIA PIG LAUNCHER FOR SLUDGE WASTING
 - 6 PULSATION DAMPENERS
 - 7 FLEXIBLE CONTROL JOINT
 - 8 15PI51001B, 15PSH51001B
 - 9 15PI51002B, 15PSH51002B

NOTE:
1. ALL WS PIPING DOWN STREAM OF PIG LAUNCHER SHALL HAVE LONG RADIUS ELBOWS AND SMOOTH TY COMPONENTS





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ISSUED FOR DETAIL DESIGN REVIEW	RT	GN	BY	APVD	
ISSUED FOR ADVANCED DESIGN REVIEW	RT	GN	BY	APVD	
NO. DATE	NO.	DATE	REVISION	CHK	APVD
DGSN	J.P. NYWENING	R. THORLEY	J.P. NYWENING	DR	APVD

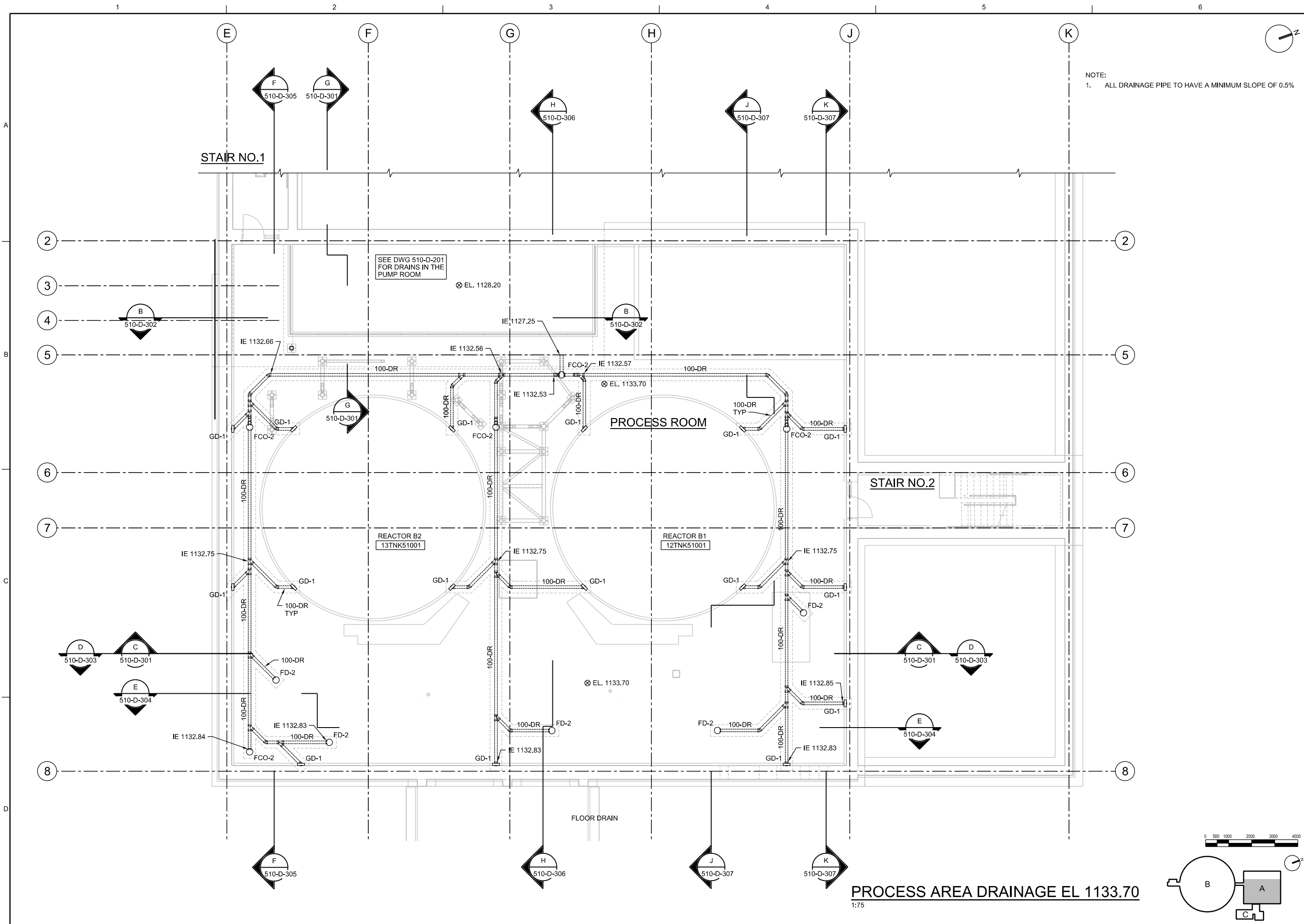
90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®

PROCESS MECHANICAL
WATER TREATMENT BUILDING PART PLANS

1:50
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 510-D-201
SHEET



NOTE:
1. ALL DRAINAGE PIPE TO HAVE A MINIMUM SLOPE OF 0.5%



NO.	DATE	DR	CHK	BY
A	02/2014	J.P. NYWENNING	R. THORLEY	J.P. NYWENNING
ISSUED FOR DETAIL DESIGN REVIEW				
REVISION				

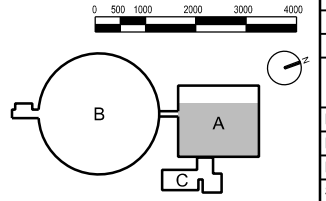
90% DETAIL DESIGN REVIEW
NOT FOR TENDER OR
CONSTRUCTION

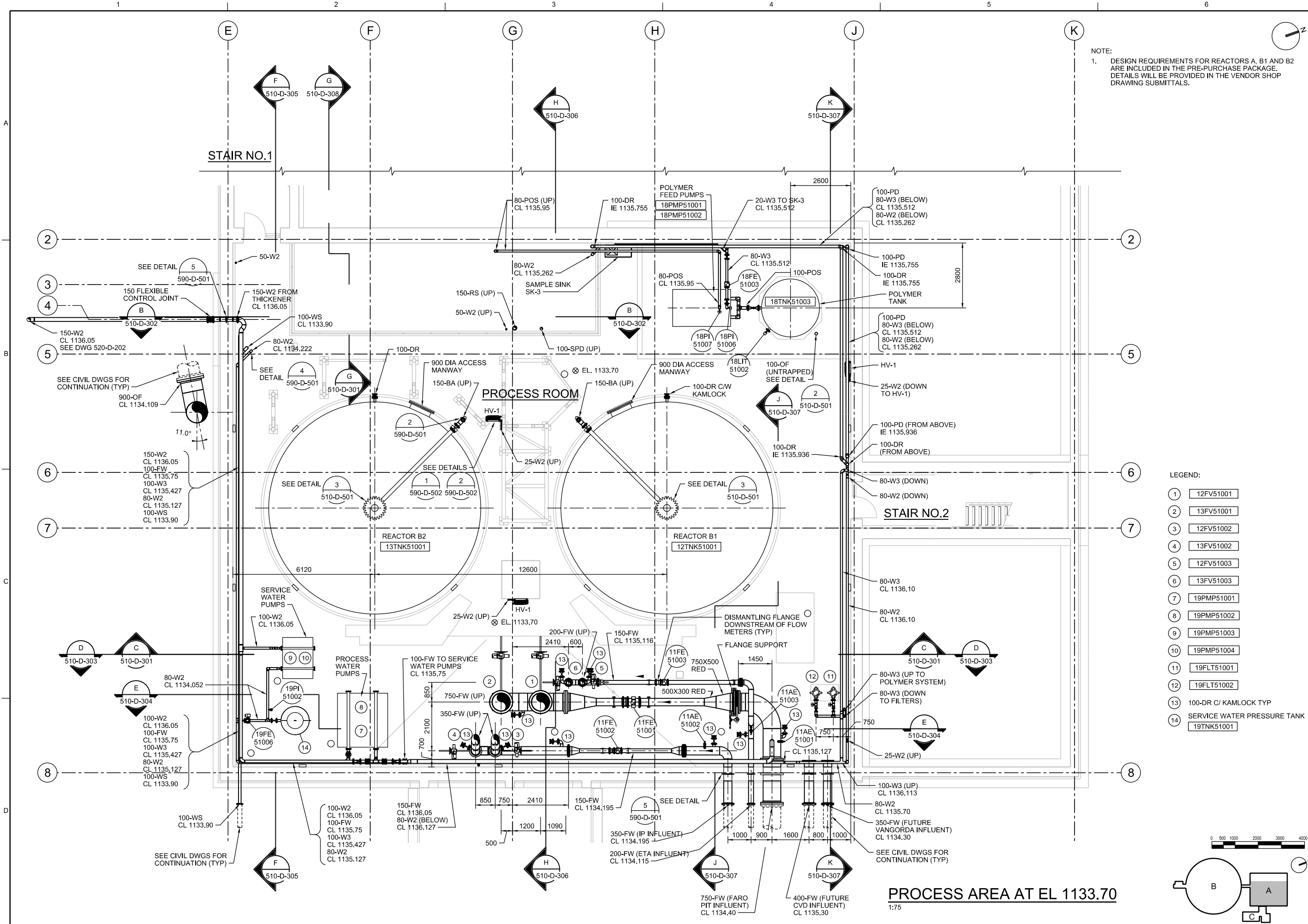
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®
PROCESS MECHANICAL
WATER TREATMENT BUILDING
PROCESS AREA DRAINAGE EL 1133.70

DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	510-D-202
SHEET	

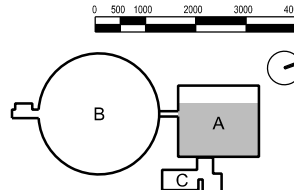
PROCESS AREA DRAINAGE EL 1133.70
1:75





NOTE:
 1. DESIGN REQUIREMENTS FOR REACTORS A, B1 AND B2 ARE INCLUDED IN THE PRE-PURCHASE PACKAGE. DETAILS WILL BE PROVIDED IN THE VENDOR SHOP DRAWING SUBMITTALS.

- LEGEND:
- ① 12FV51001
 - ② 13FV51001
 - ③ 12FV51002
 - ④ 13FV51002
 - ⑤ 12FV51003
 - ⑥ 13FV51003
 - ⑦ 19PMP51001
 - ⑧ 19PMP51002
 - ⑨ 19PMP51003
 - ⑩ 19PMP51004
 - ⑪ 19FLT51001
 - ⑫ 19FLT51002
 - ⑬ 100-DR C/ KAMLOCK TYP
 - ⑭ SERVICE WATER PRESSURE TANK 19TNK51001



PROCESS AREA AT EL 1133.70
 1:75



NO.	DATE	BY	CHK	APVD
B	02/2014	J.P. NYWENNING	R. THORLEY	J.P. NYWENNING
A	09/2013	J.P. NYWENNING	R. THORLEY	J.P. NYWENNING

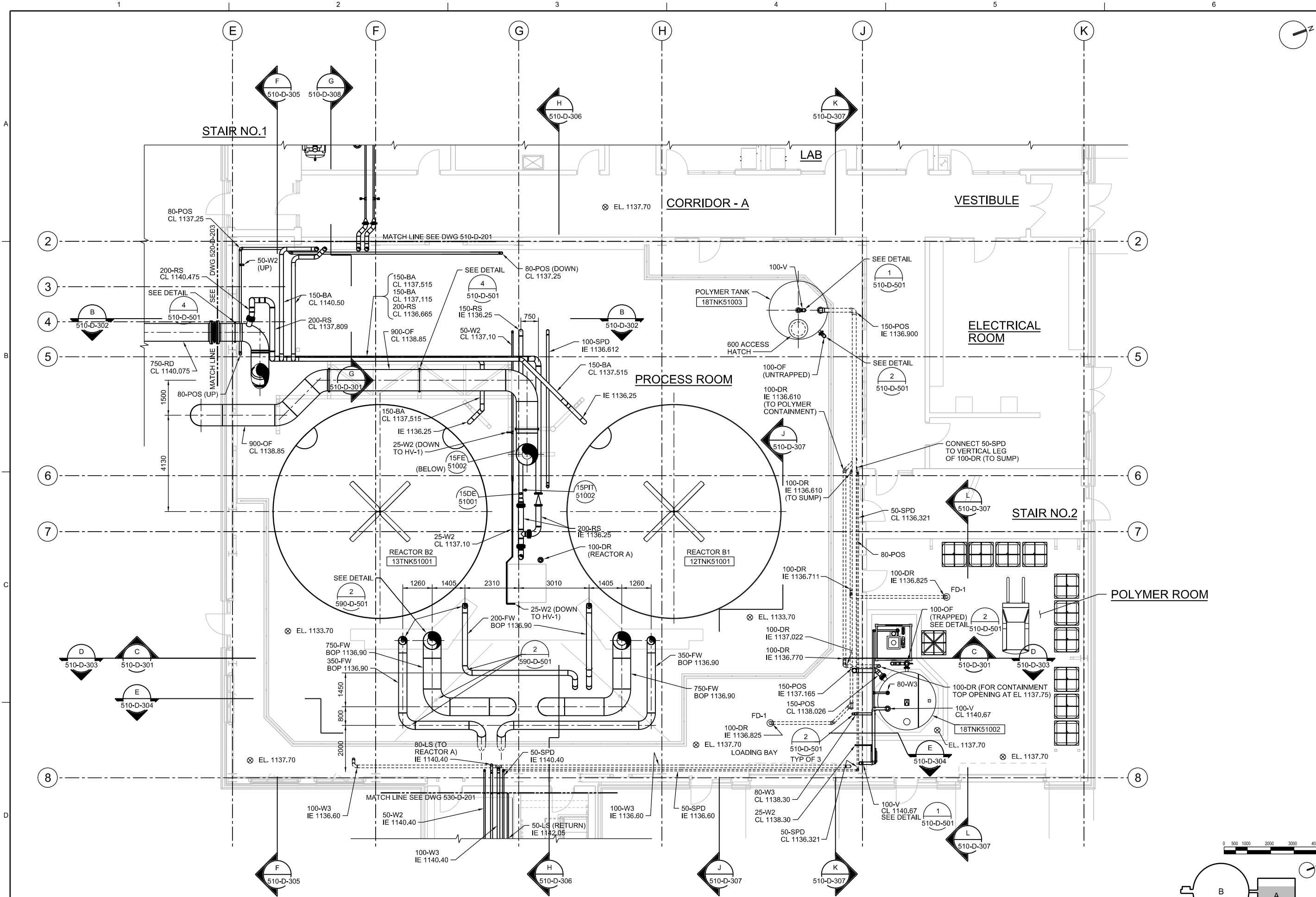
90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION
 WATER TREATMENT PLANT DESIGN
 GOVERNMENT OF YUKON

CH2MHILL

PROCESS MECHANICAL
WATER TREATMENT BUILDING
 PROCESS AREA AT EL 1133.70

DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	510-D-203
SHEET	



GROUND FLOOR PLAN
1:75



ISSUED FOR DETAIL DESIGN REVIEW	GN	RT	GN	BY	APVD
ISSUED FOR ADVANCED DESIGN REVIEW	GN	RT	GN	BY	APVD
REVISION	NO.	DATE	DR	CHK	APVD
			J.P. NYWENNING	R. THORLEY	J.P. NYWENNING

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

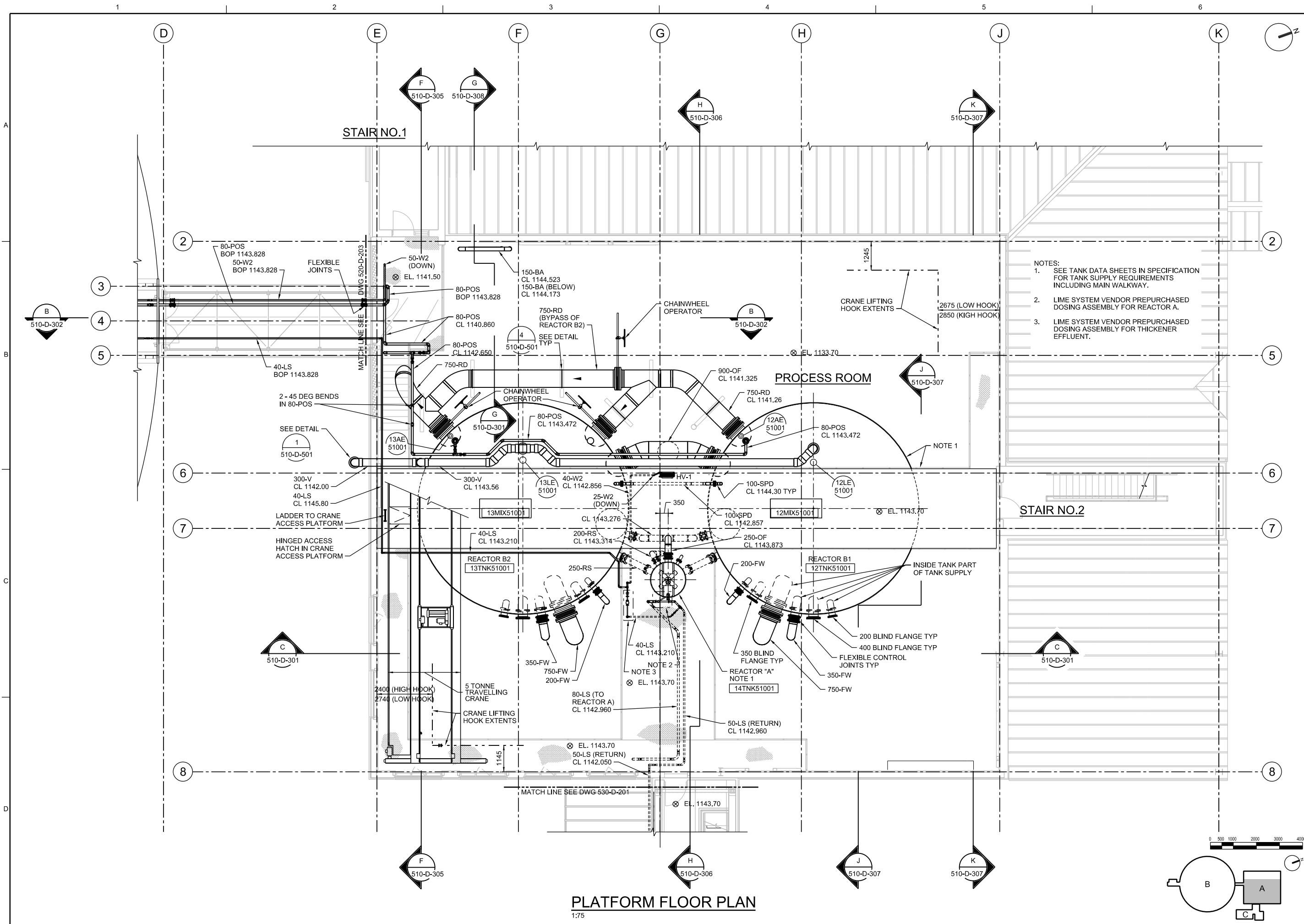
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®

PROCESS MECHANICAL
WATER TREATMENT BUILDING GROUND FLOOR PLAN

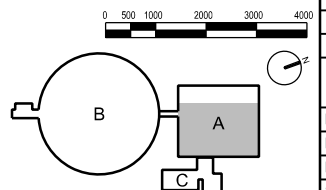
DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	510-D-204
SHEET	


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NOTES:
 1. SEE TANK DATA SHEETS IN SPECIFICATION FOR TANK SUPPLY REQUIREMENTS INCLUDING MAIN WALKWAY.
 2. LIME SYSTEM VENDOR PREPURCHASED DOSING ASSEMBLY FOR REACTOR A.
 3. LIME SYSTEM VENDOR PREPURCHASED DOSING ASSEMBLY FOR THICKENER EFFLUENT.

PLATFORM FLOOR PLAN
 1:75





PROCESS MECHANICAL
**WATER TREATMENT BUILDING
 PLATFORM FLOOR PLAN**

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION		FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN GOVERNMENT OF YUKON DESIGN	
NO. DATE	A 02/2014	REVISION	BY APVD
DSGN	J.P. NYWENING	CHK	R. THORLEY
DR	J.P. NYWENING	APVD	J.P. NYWENING

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NO.	DATE	REVISION	BY
B	02/2014	ISSUED FOR DETAIL DESIGN REVIEW	GN
A	09/2013	ISSUED FOR ADVANCED DESIGN REVIEW	RT

NO.	DATE	REVISION	BY
			APVD
			CHK
			DR
			J.P. NYWENNING
			R. THORLEY

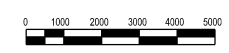
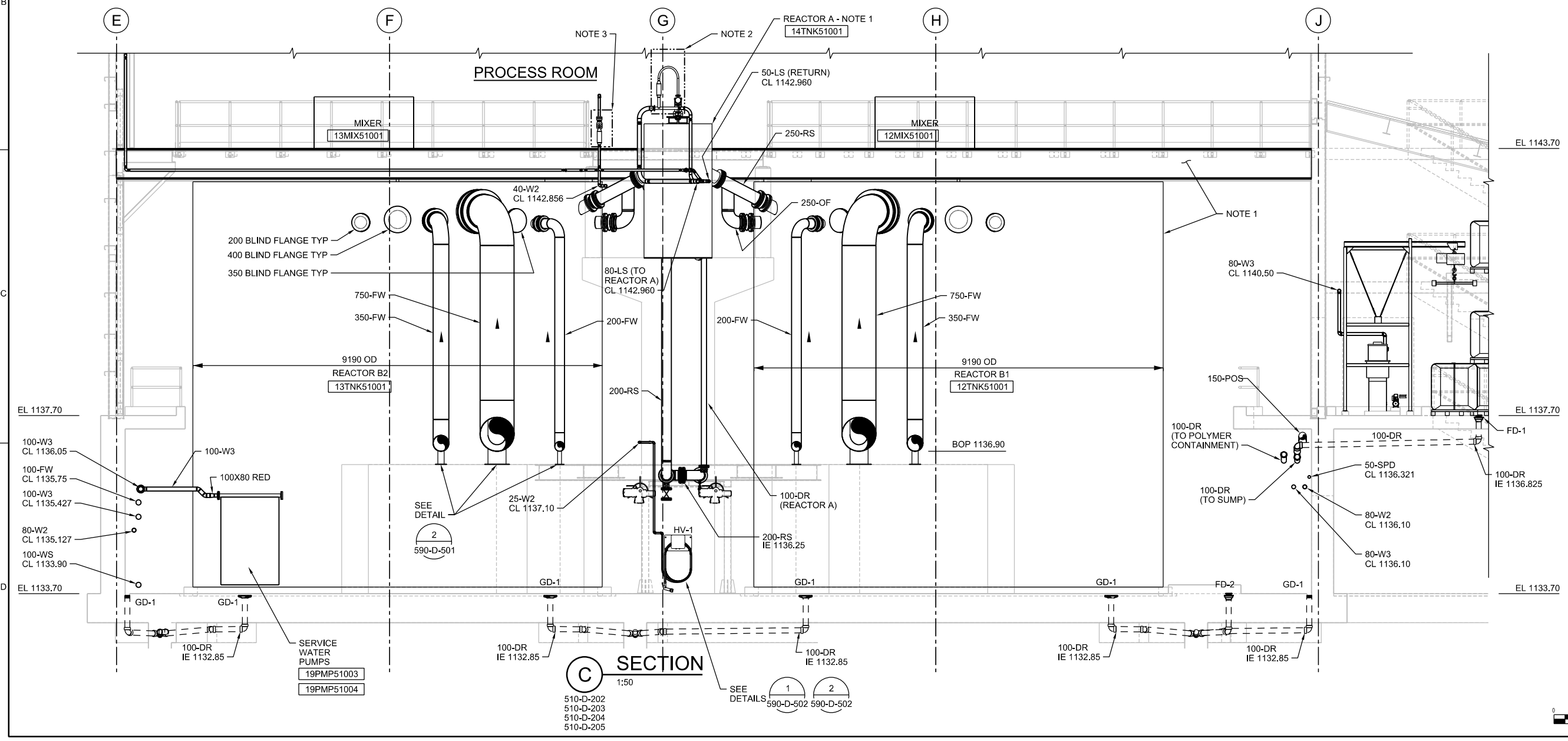
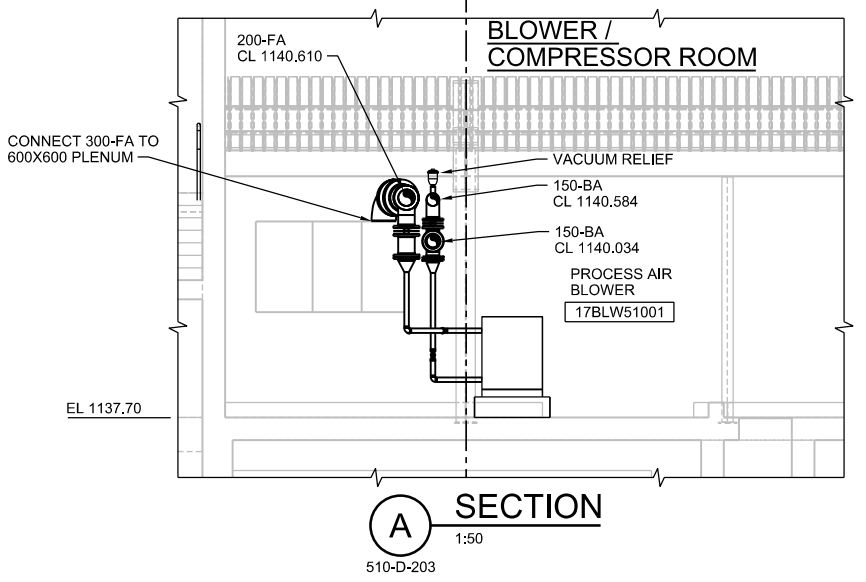
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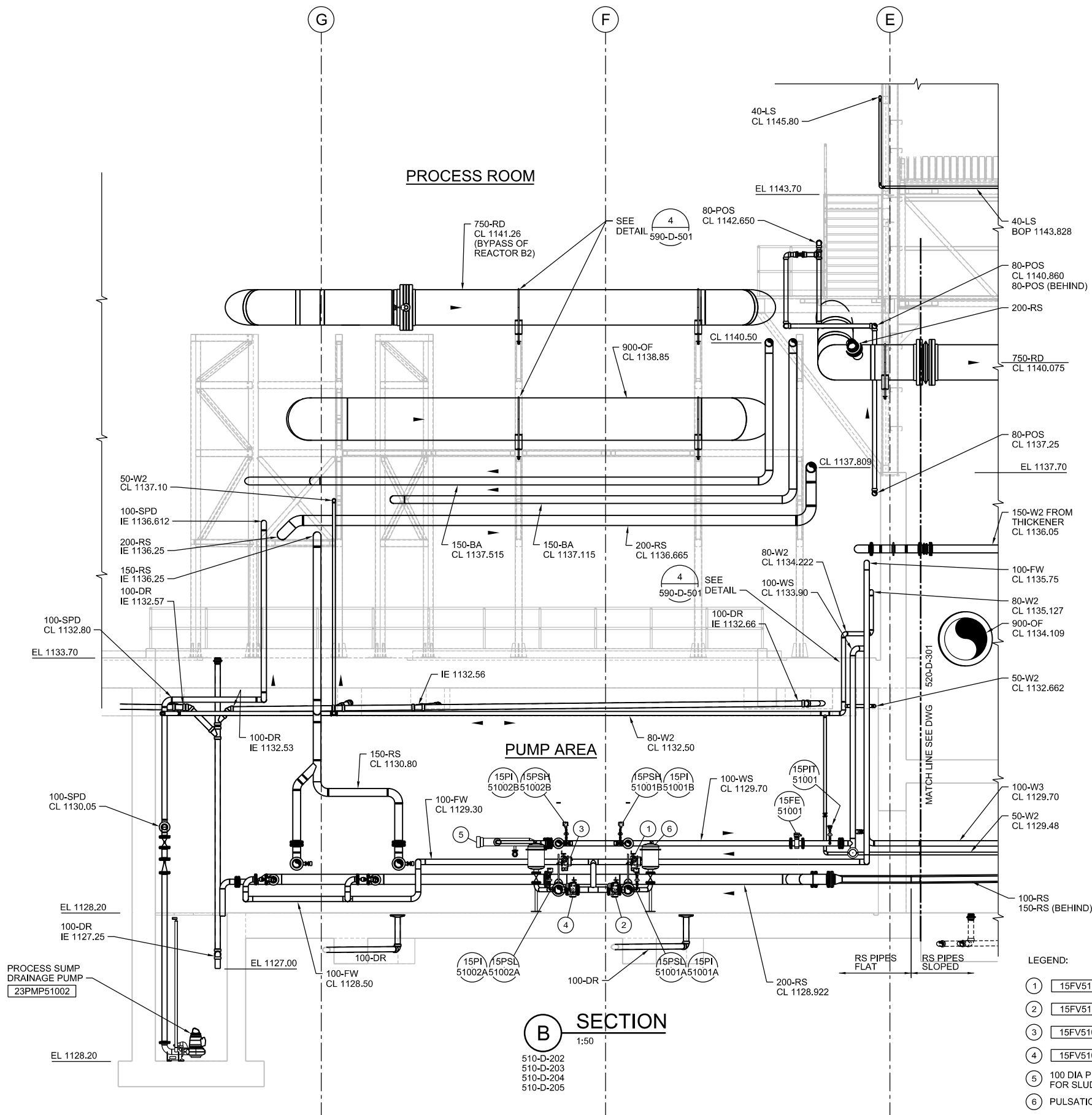
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®
PROCESS MECHANICAL
WATER TREATMENT BUILDING
SECTIONS A AND C
FLOOR DRAIN

DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	510-D-301
SHEET	

- NOTES:
- SEE TANK DATA SHEETS IN SPECIFICATION FOR TANK SUPPLY REQUIREMENTS INCLUDING MAIN WALKWAY.
 - LIME SYSTEM VENDOR PREPURCHASED DOSING ASSEMBLY FOR REACTOR A.
 - LIME SYSTEM VENDOR PREPURCHASED DOSING ASSEMBLY FOR THICKENER EFFLUENT.





B SECTION
1:50
510-D-202
510-D-203
510-D-204
510-D-205

- LEGEND:
- ① 15FV51001 CL 1128.70
 - ② 15FV51011 CL 1128.70
 - ③ 15FV51002 CL 1128.70
 - ④ 15FV51012 CL 1128.70
 - ⑤ 100 DIA PIG LAUNCHER FOR SLUDGE WASTING
 - ⑥ PULSATION DAMPENNER



NO.	DATE	REVISION	CHK	APVD
B	02/2014	ISSUED FOR DETAIL DESIGN REVIEW	R. THORLEY	J.P. NYWENNING
A	09/2013	ISSUED FOR ADVANCED DESIGN REVIEW		

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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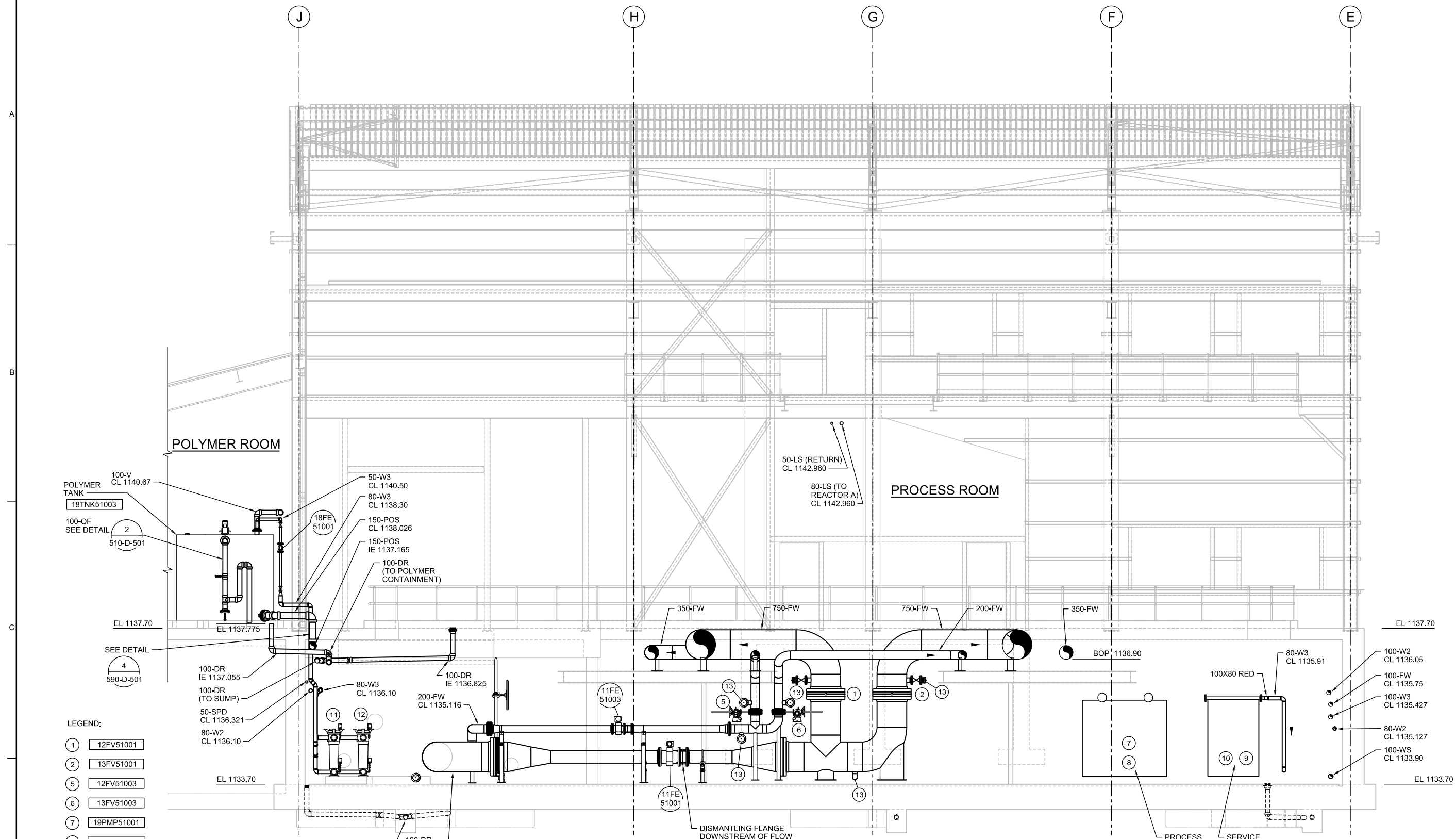
PROCESS MECHANICAL
WATER TREATMENT BUILDING SECTION B

1:50
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWINGS.
0 25mm

DATE FEBRUARY 2014
PROJ TA013-427716
DWG 510-D-302
SHEET

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1 2 3 4 5 6



- LEGEND:
- ① 12FV51001
 - ② 13FV51001
 - ⑤ 12FV51003
 - ⑥ 13FV51003
 - ⑦ 19PMP51001
 - ⑧ 19PMP51002
 - ⑨ 19PMP51003
 - ⑩ 19PMP51004
 - ⑪ 19FLT51001
 - ⑫ 19FLT51002
 - ⑬ 100-DR C/ KAMLOCK TYP

D SECTION
1:50
510-D-202
510-D-203
510-D-204
510-D-205



NO.	DATE	REVISION	CHK	DR	APVD
B	02/2014	ISSUED FOR DETAIL DESIGN REVIEW	RT	GN	GN
A	09/2013	ISSUED FOR ADVANCED DESIGN REVIEW	RT	GN	GN
J.P. NYWENING			R. THORLEY	J.P. NYWENING	APVD

90% DETAIL DESIGN REVIEW
NOT FOR TENDER OR
CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®

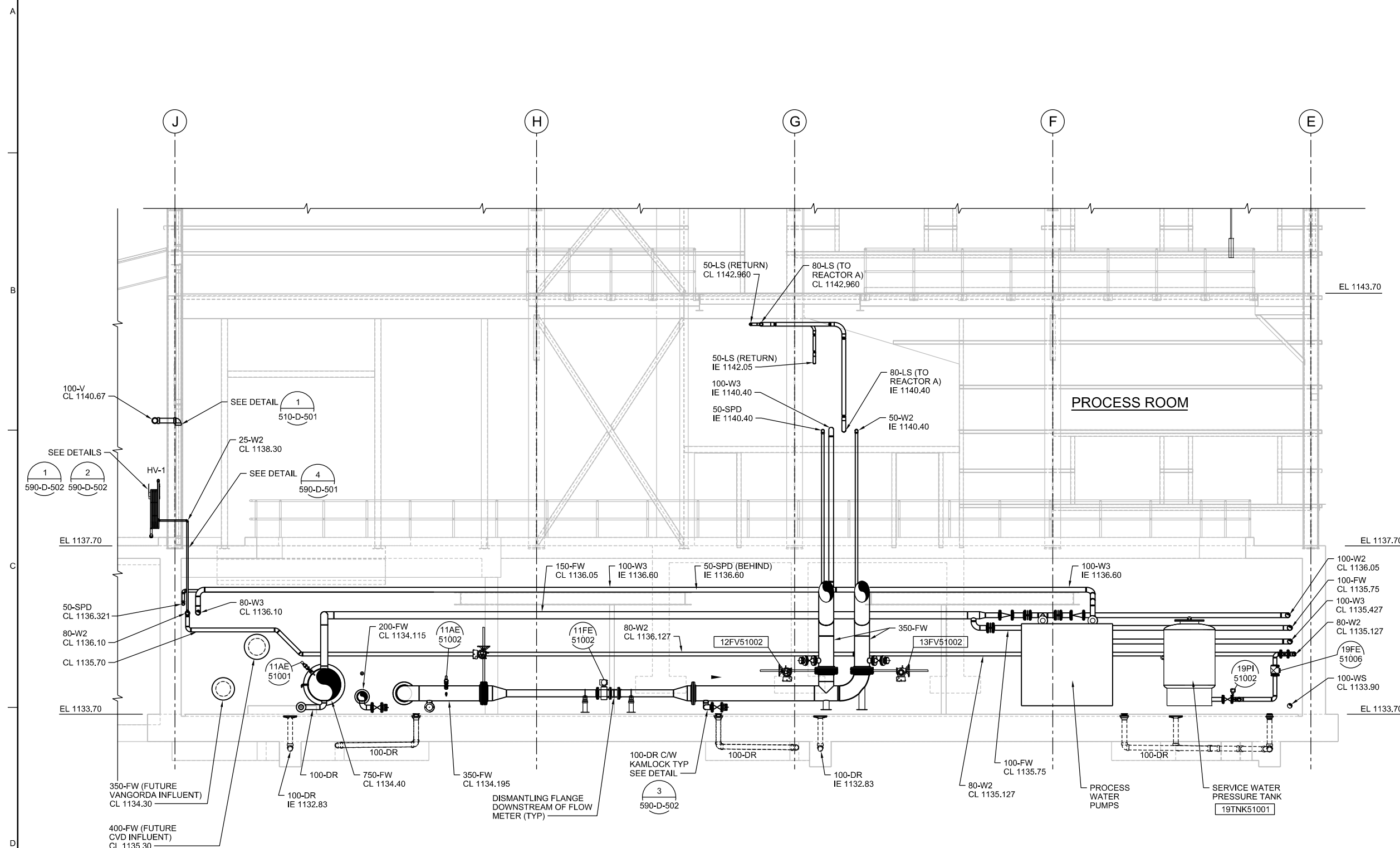
PROCESS MECHANICAL
**WATER TREATMENT BUILDING
SECTION D**

1:50
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
0 25mm

DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	510-D-303
SHEET	



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E SECTION
1:50
510-D-202
510-D-203
510-D-204
510-D-205



NO.	DATE	REVISION	BY
B	02/2014	ISSUED FOR DETAIL DESIGN REVIEW	GN
A	09/2013	ISSUED FOR ADVANCED DESIGN REVIEW	GN

DR	CHK	BY
J.P. NYWENNING	R. THORLEY	APVD

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®

PROCESS MECHANICAL
WATER TREATMENT BUILDING SECTION E

DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	510-D-304
SHEET	



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ISSUED FOR DETAIL DESIGN REVIEW	BY	APVD
ISSUED FOR ADVANCED DESIGN REVIEW	BY	APVD
REVISION	CHK	APVD
NO.	DATE	DR
D	02/2014	J.P. NYWENNING
A	09/2013	R. THORLEY

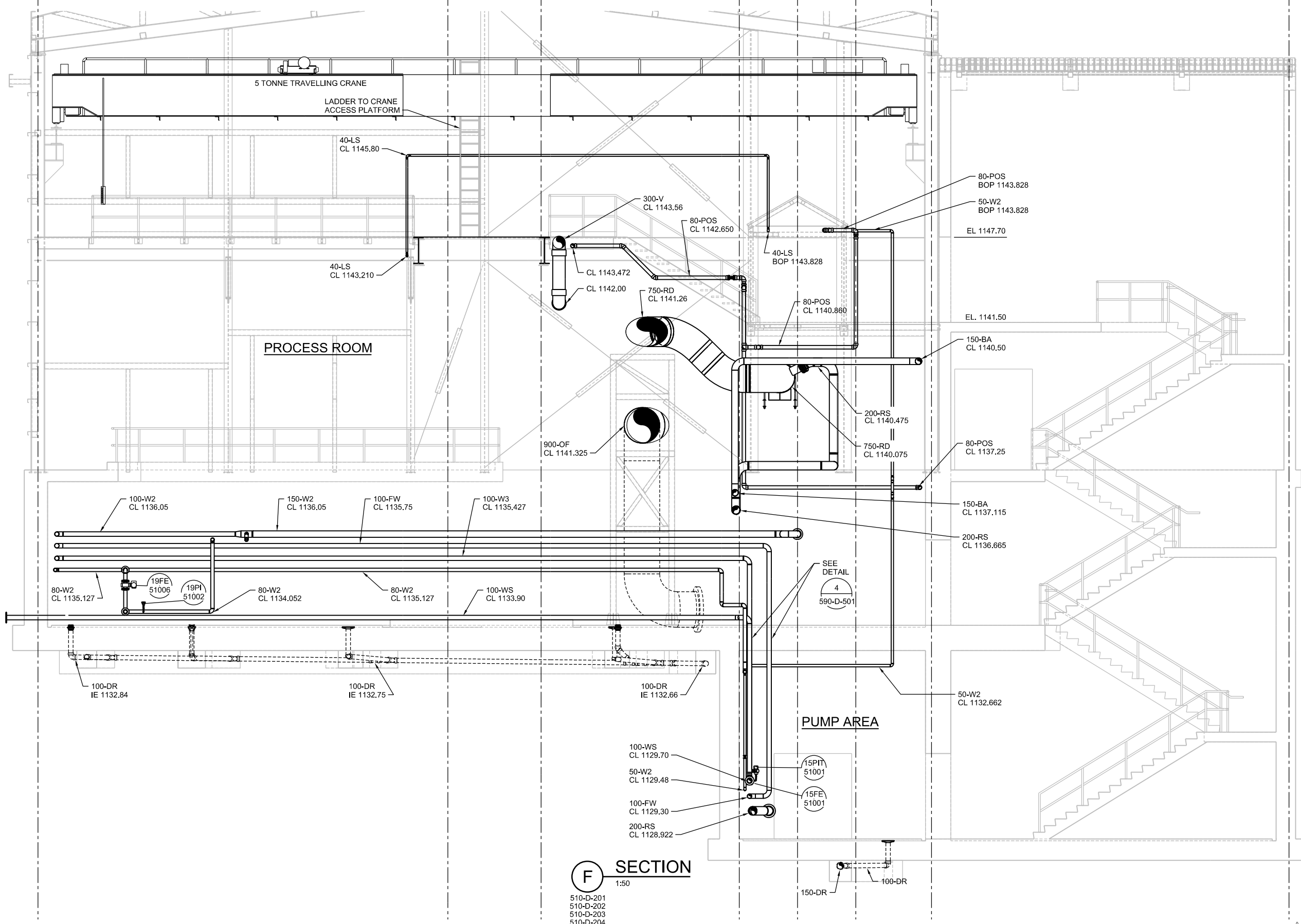
**90% DETAIL DESIGN REVIEW
NOT FOR TENDER OR
CONSTRUCTION**

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®

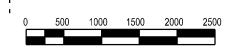
PROCESS MECHANICAL
**WATER TREATMENT BUILDING
SECTION F**

1:50
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 510-D-305
SHEET



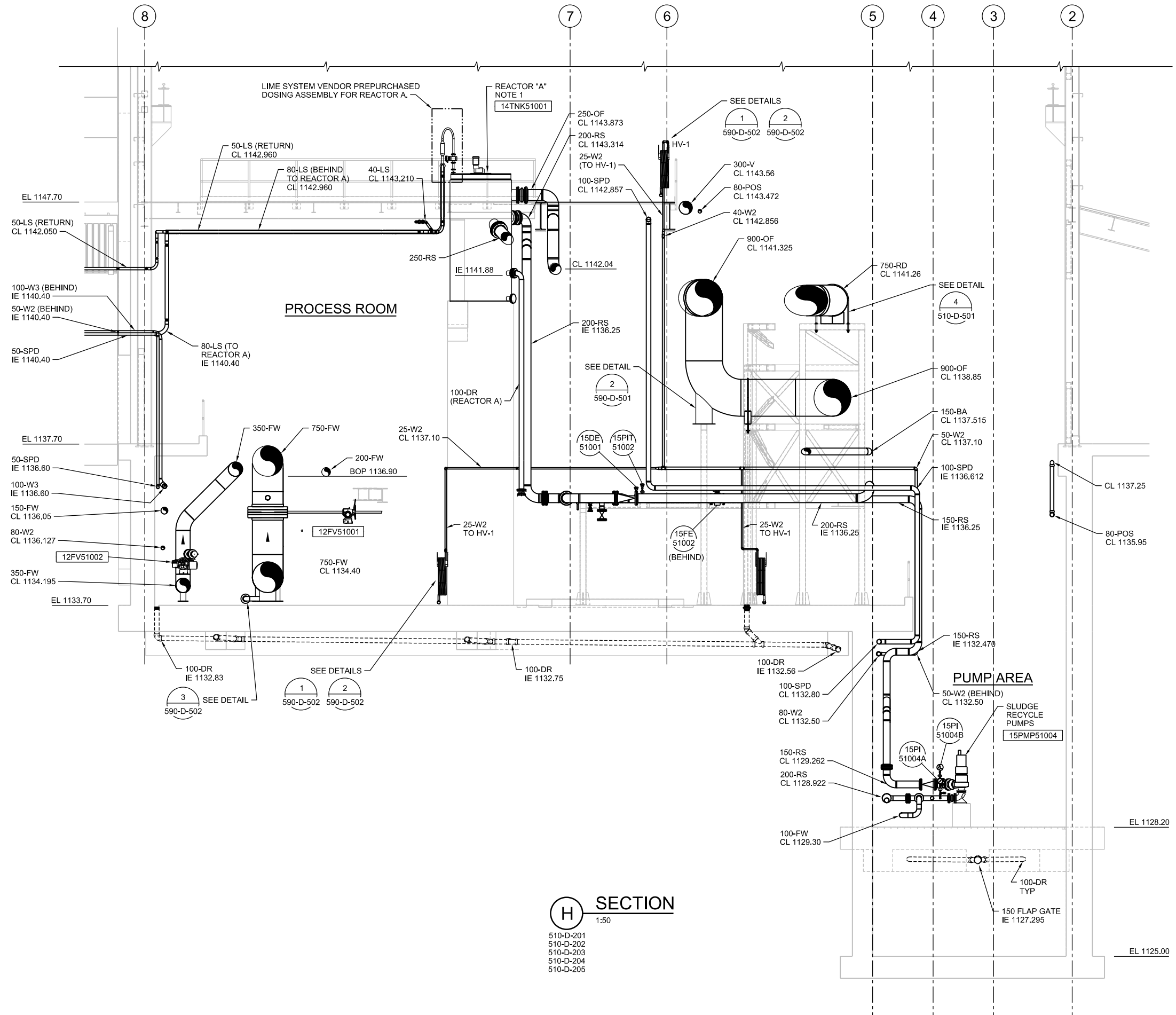
F SECTION
1:50

510-D-201
510-D-202
510-D-203
510-D-204
510-D-205



1 2 3 4 5 6

A
B
C
D



H SECTION
1:50

510-D-201
510-D-202
510-D-203
510-D-204
510-D-205



ISSUED FOR DETAIL DESIGN REVIEW	02/2014	B	J.P. NYWENNING	DR	APVD
ISSUED FOR ADVANCED DESIGN REVIEW	09/2013	A	R. THORLEY	CHK	APVD
REVISION	NO.	DATE	DESIGN	BY	APVD

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON DESIGN

CH2MHILL

PROCESS MECHANICAL
WATER TREATMENT BUILDING SECTION H

1:50
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWINGS.
0 25mm

DATE FEBRUARY 2014
PROJ TA013-427716
DWG 510-D-306
SHEET

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1 2 3 4 5 6



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A	09/2013	ISSUED FOR ADVANCED DESIGN REVIEW		
DGNSN	J.P. NYWENNING	CHK	R. THORLEY	APVD
	J.P. NYWENNING	DR	J.P. NYWENNING	APVD

**90% DETAIL DESIGN REVIEW
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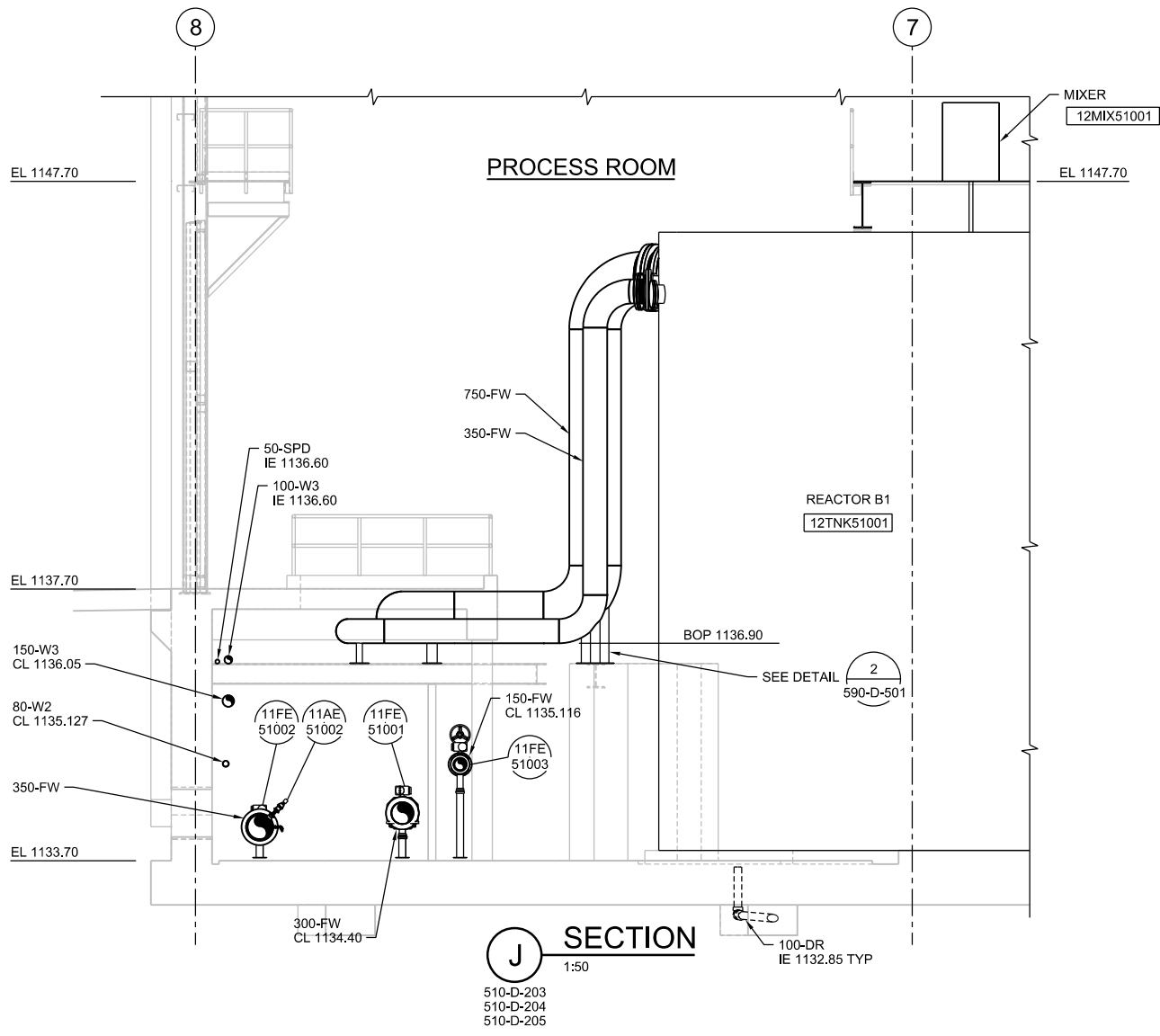
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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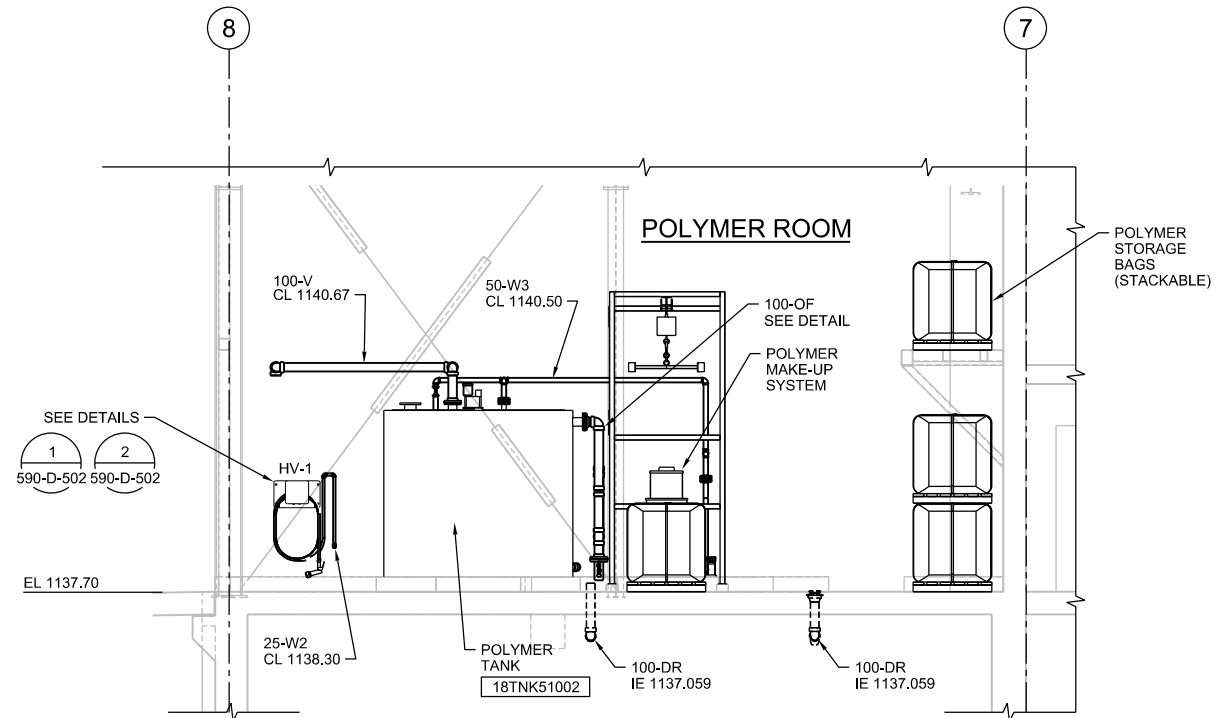
PROCESS MECHANICAL
WATER TREATMENT BUILDING
SECTION J, K AND L

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BAR IS 25mm ON ORIGINAL DRAWINGS.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 510-D-307
SHEET

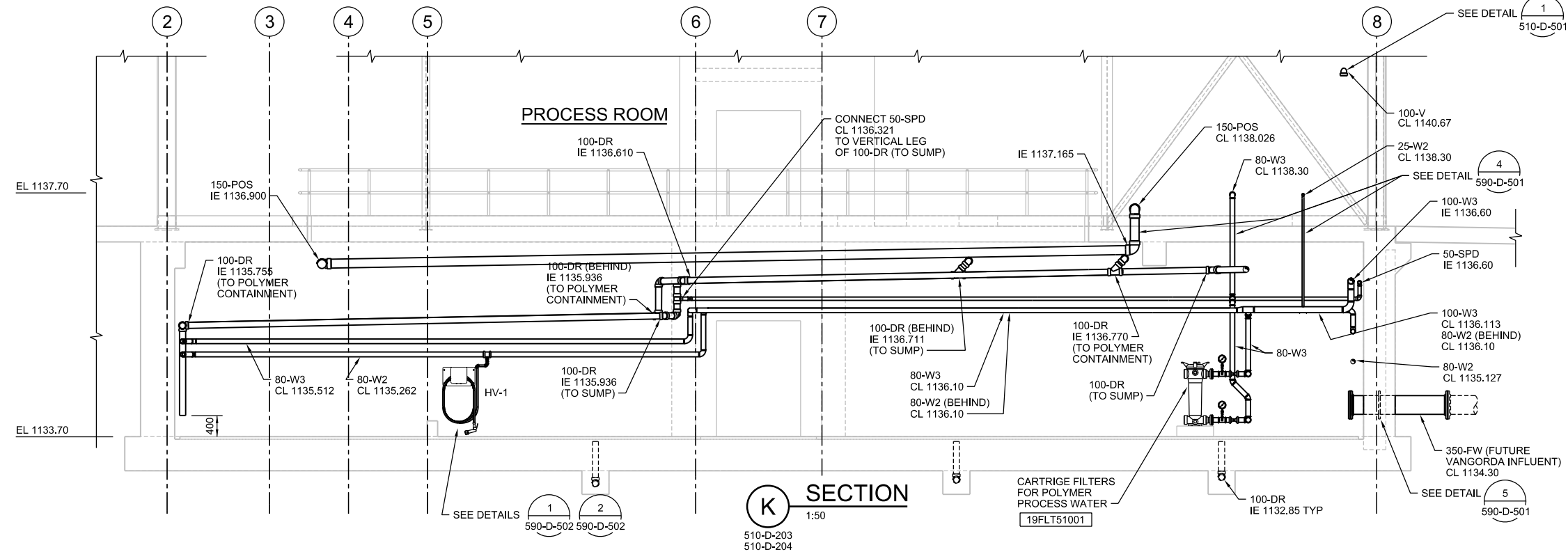
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J SECTION
1:50
510-D-203
510-D-204
510-D-205

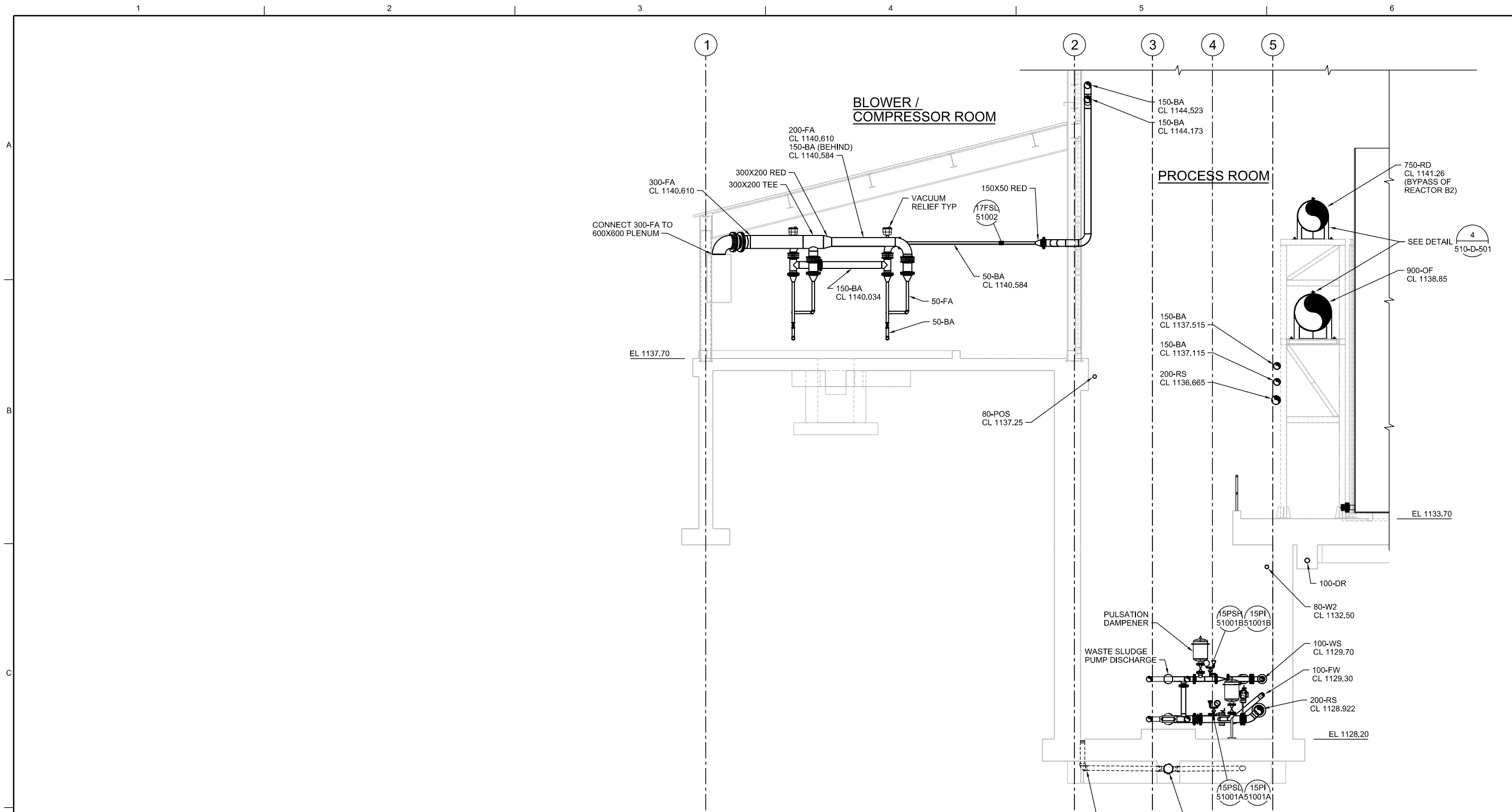


L SECTION
1:50
510-D-203



K SECTION
1:50
510-D-203
510-D-204





G SECTION
1:50

- 510-D-201
- 510-D-202
- 510-D-203
- 510-D-204
- 510-D-205



NO.	DATE	BY	CHK	APVD
A	02/2014	R. THORLEY	J.P. NYWENNING	J.P. NYWENNING
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DR		CHK		APVD

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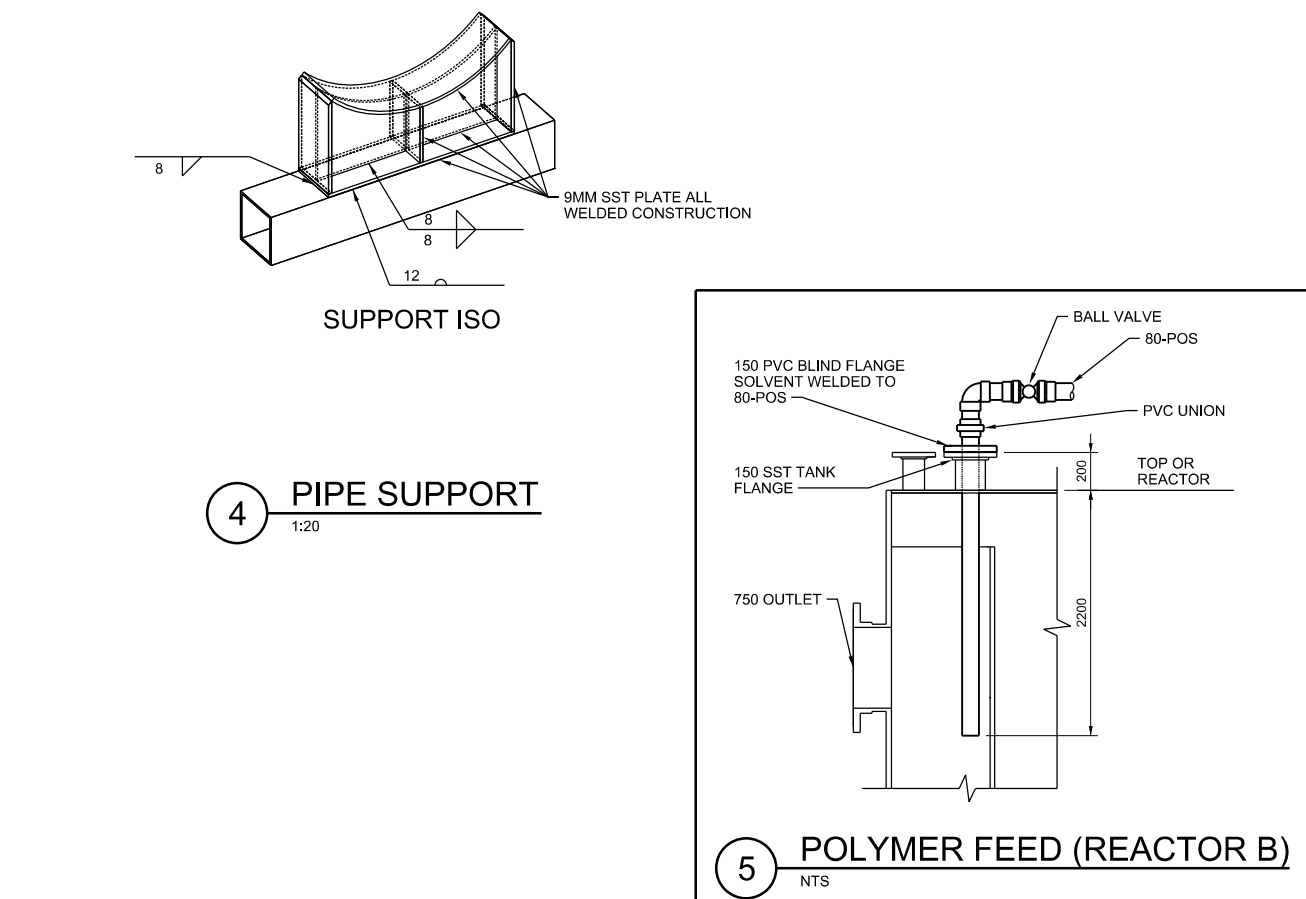
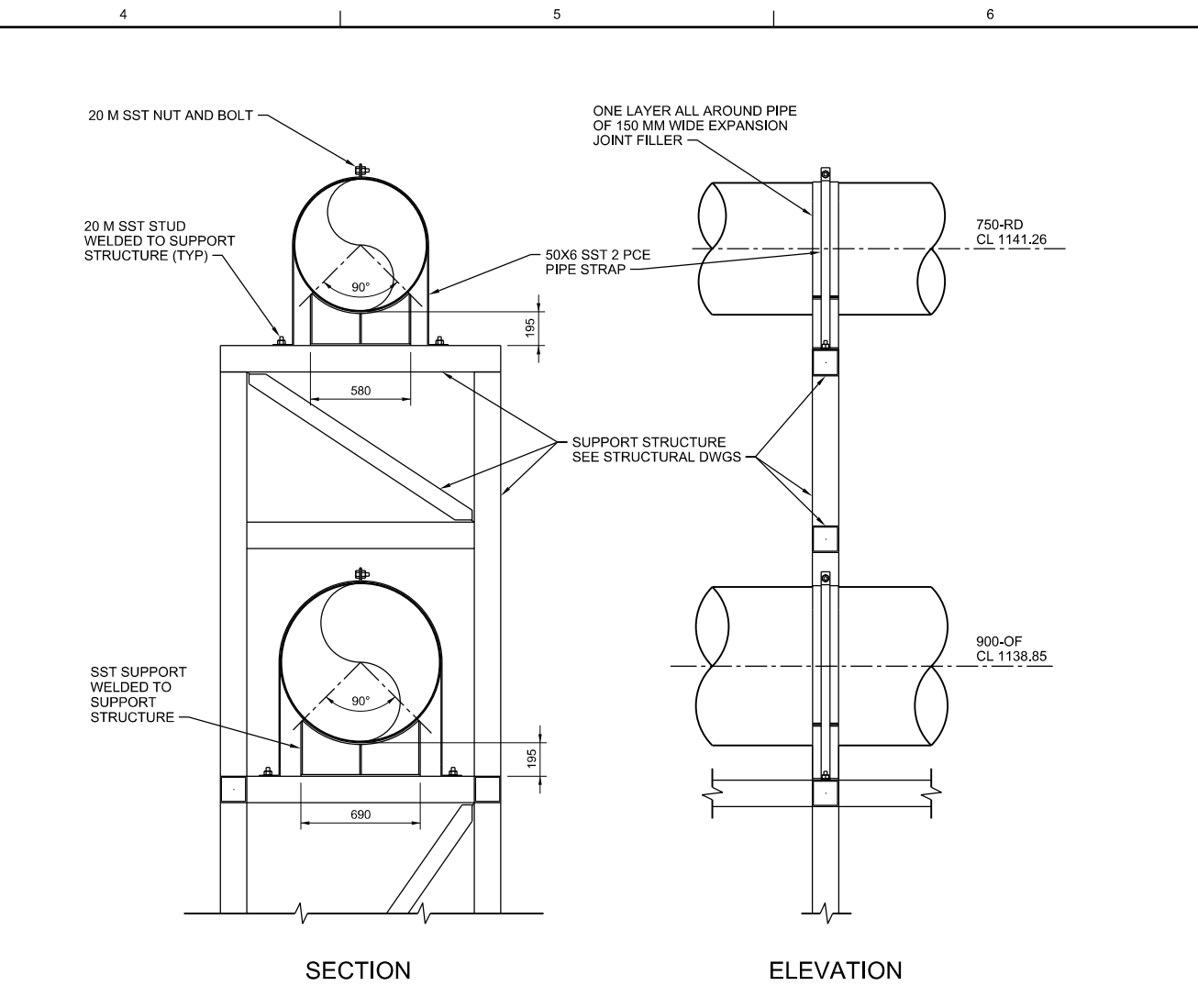
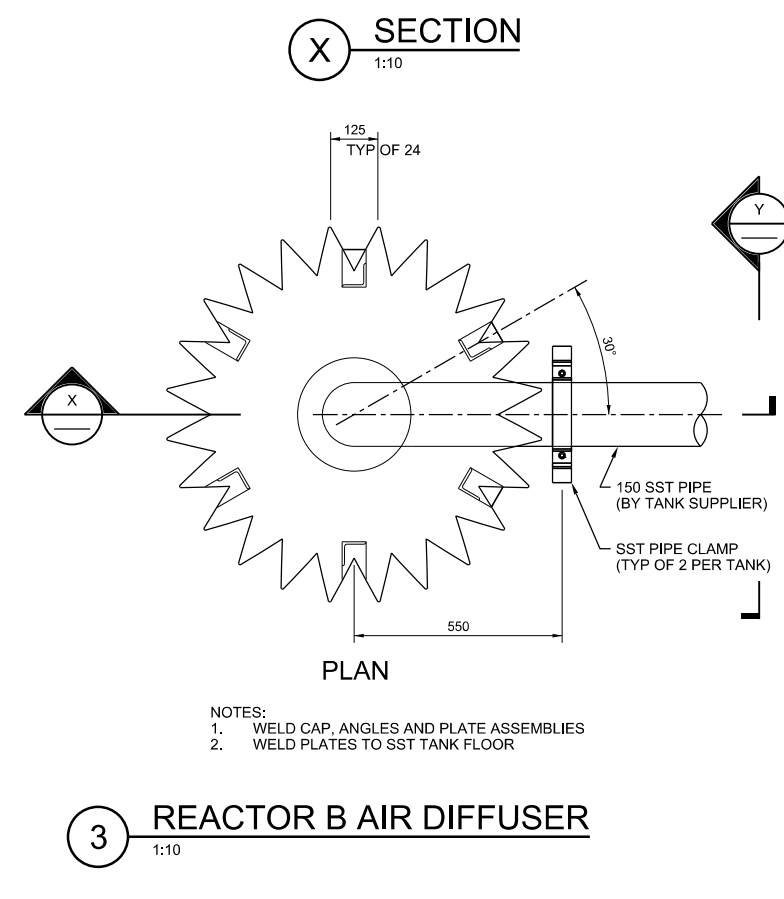
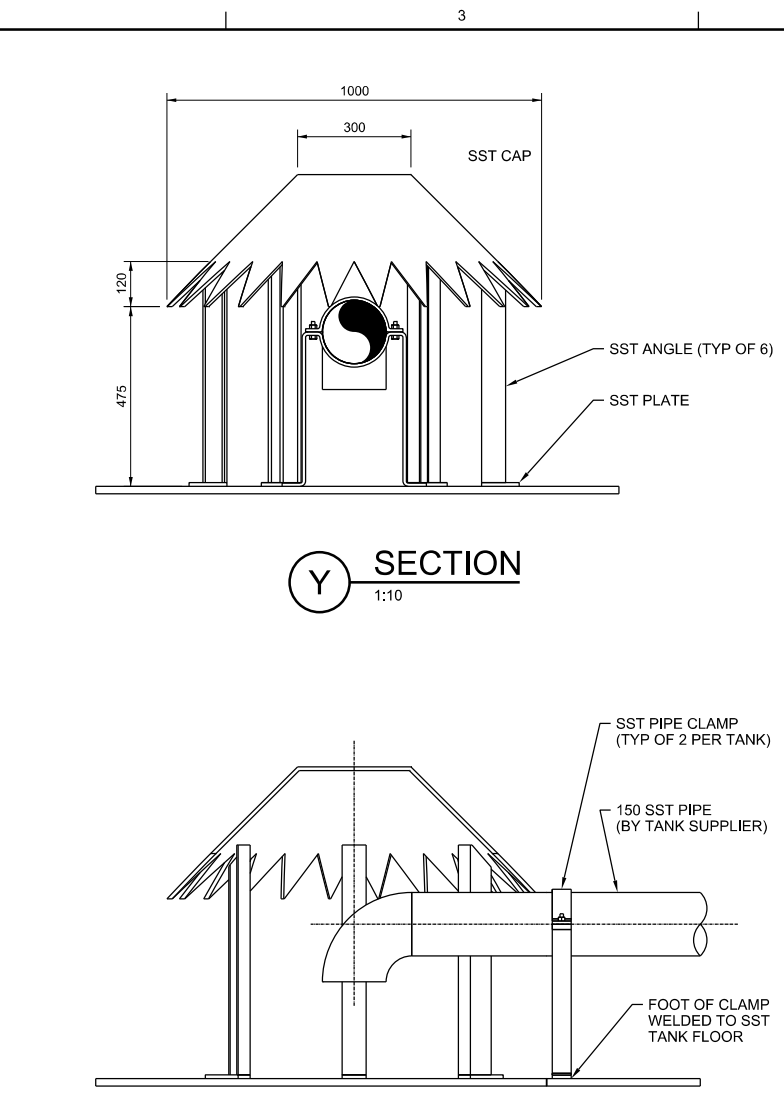
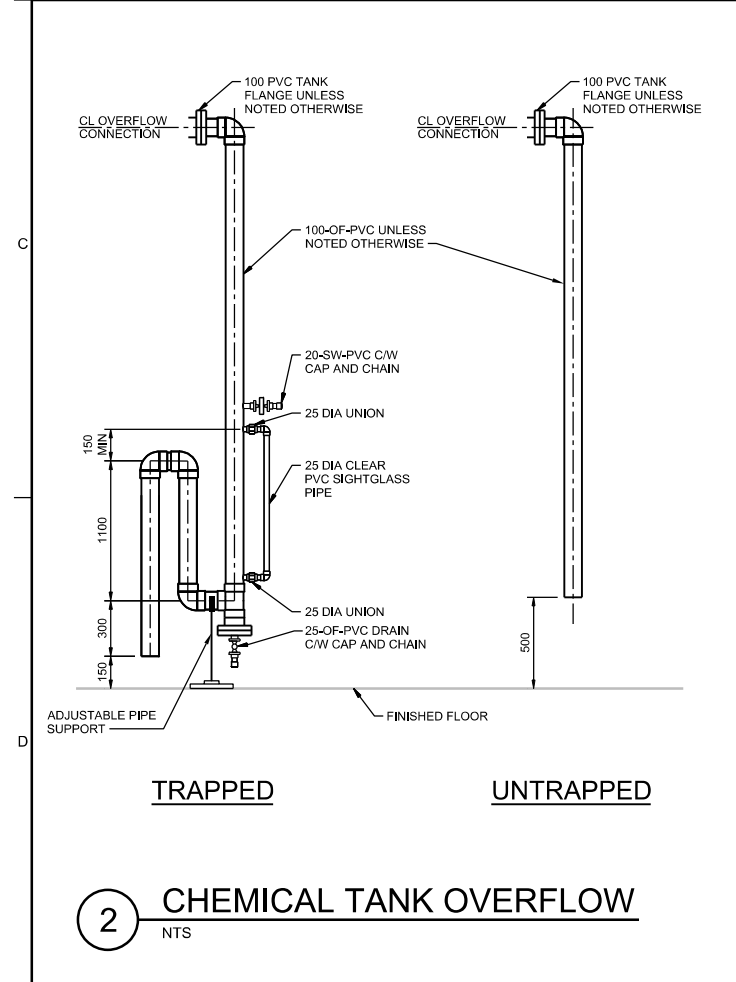
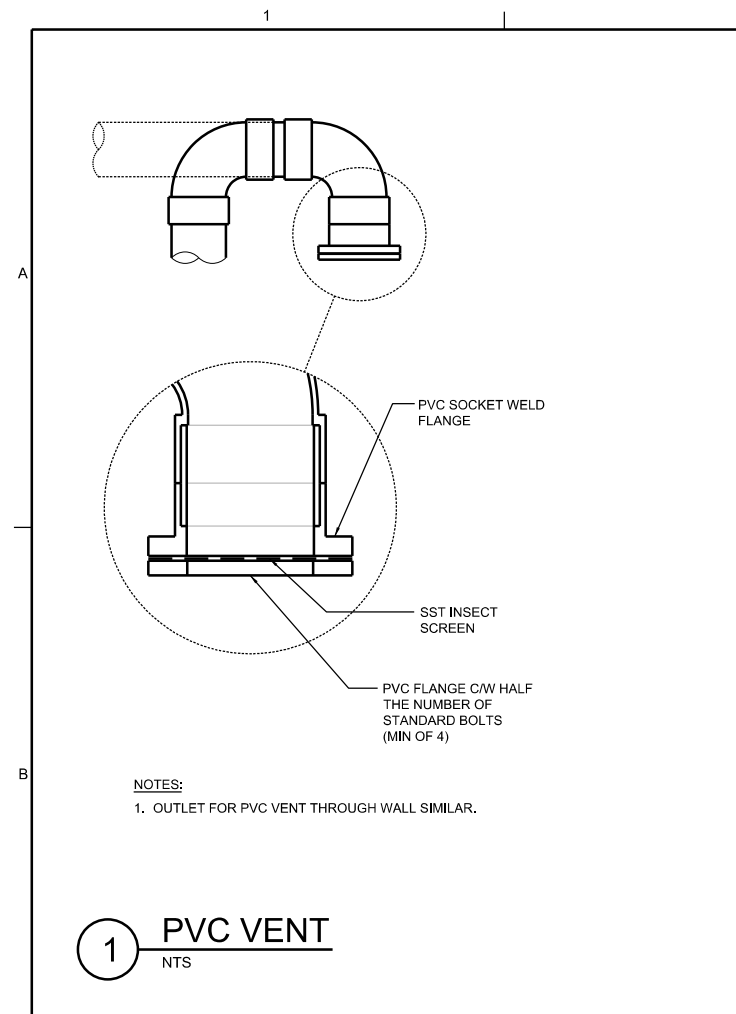
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®

PROCESS MECHANICAL
WATER TREATMENT BUILDING SECTION G

1:50	
VERIFY SCALE	
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PROFESSIONAL ENGINEER
JOHN PAUL NYWENING
YUKON TERRITORY

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DR		DR	APVD
DGN		CHK	J.P. NYWENING
DESIGN		DR	R. THORLEY

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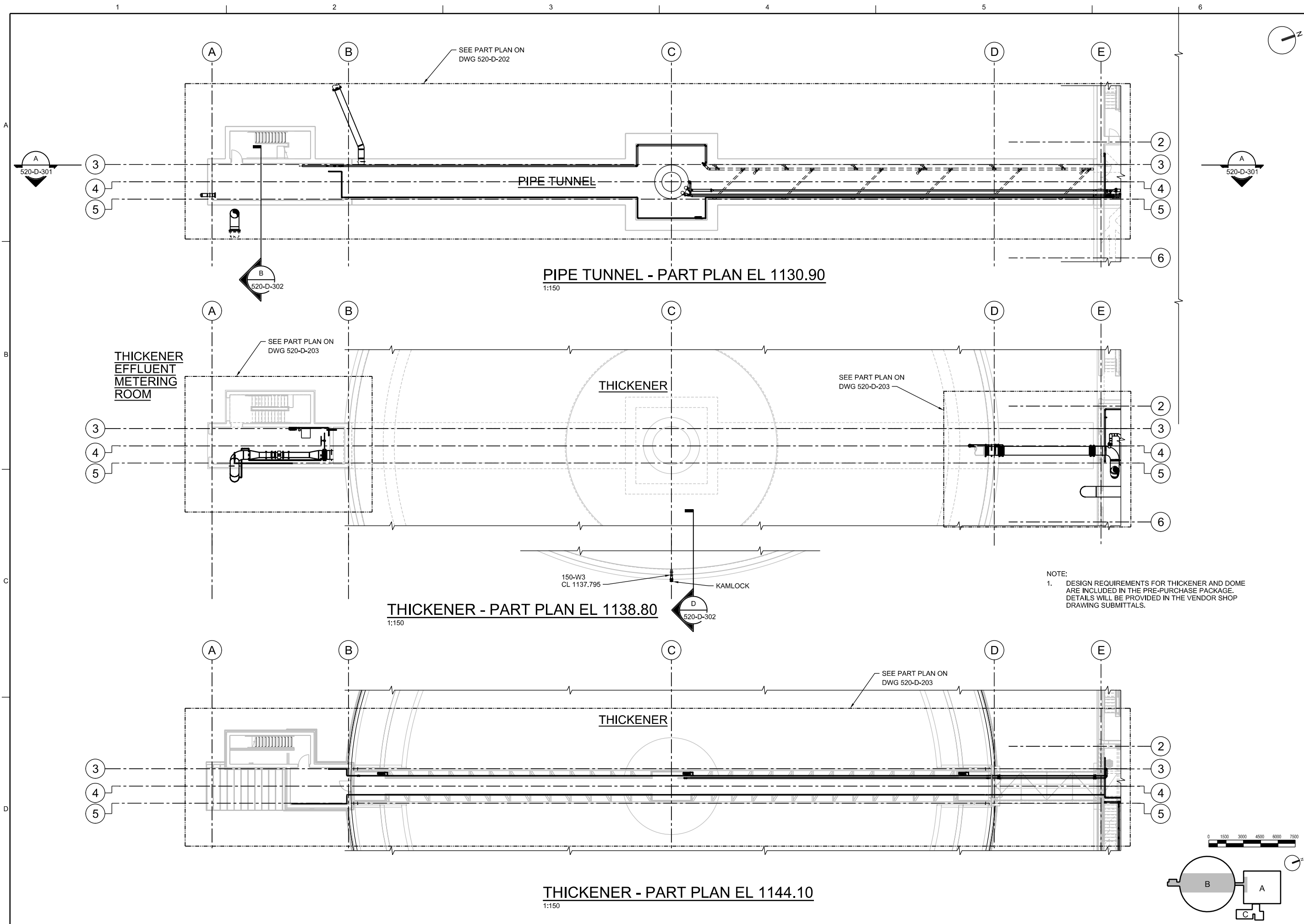
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®
PROCESS MECHANICAL
WATER TREATMENT BUILDING
DETAILS (1)

NTS
VERIFY SCALE
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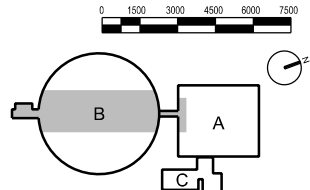


PIPE TUNNEL - PART PLAN EL 1130.90
1:150

THICKENER - PART PLAN EL 1138.80
1:150

THICKENER - PART PLAN EL 1144.10
1:150

NOTE:
1. DESIGN REQUIREMENTS FOR THICKENER AND DOME ARE INCLUDED IN THE PRE-PURCHASE PACKAGE. DETAILS WILL BE PROVIDED IN THE VENDOR SHOP DRAWING SUBMITTALS.



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			R. THORLEY
			CHK

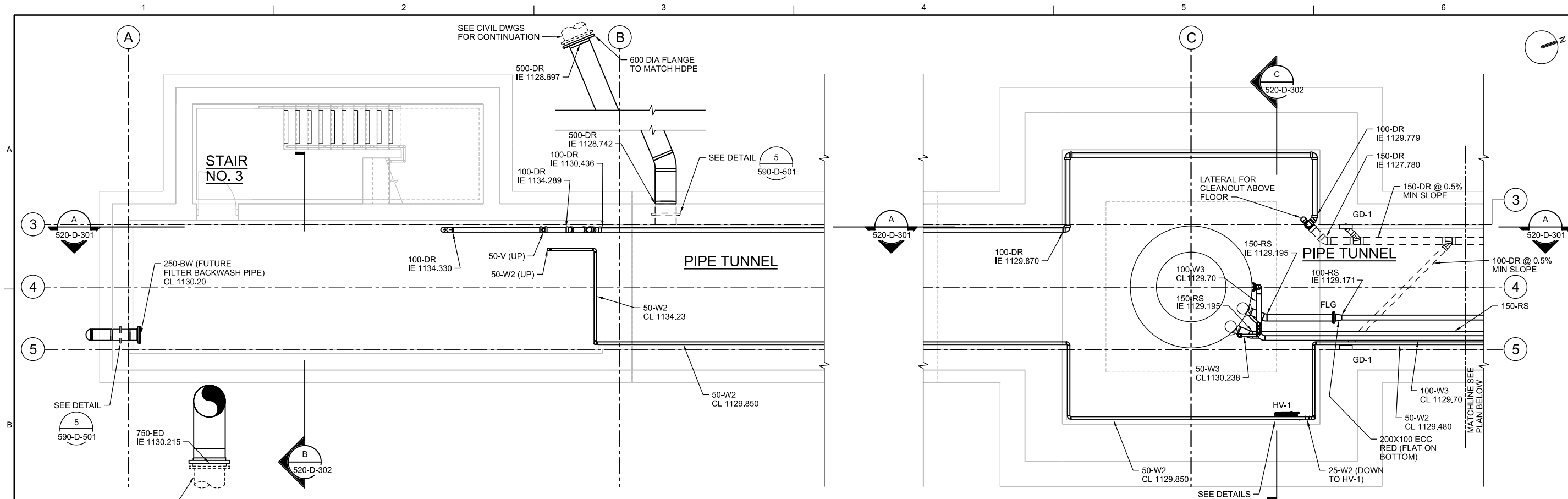
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WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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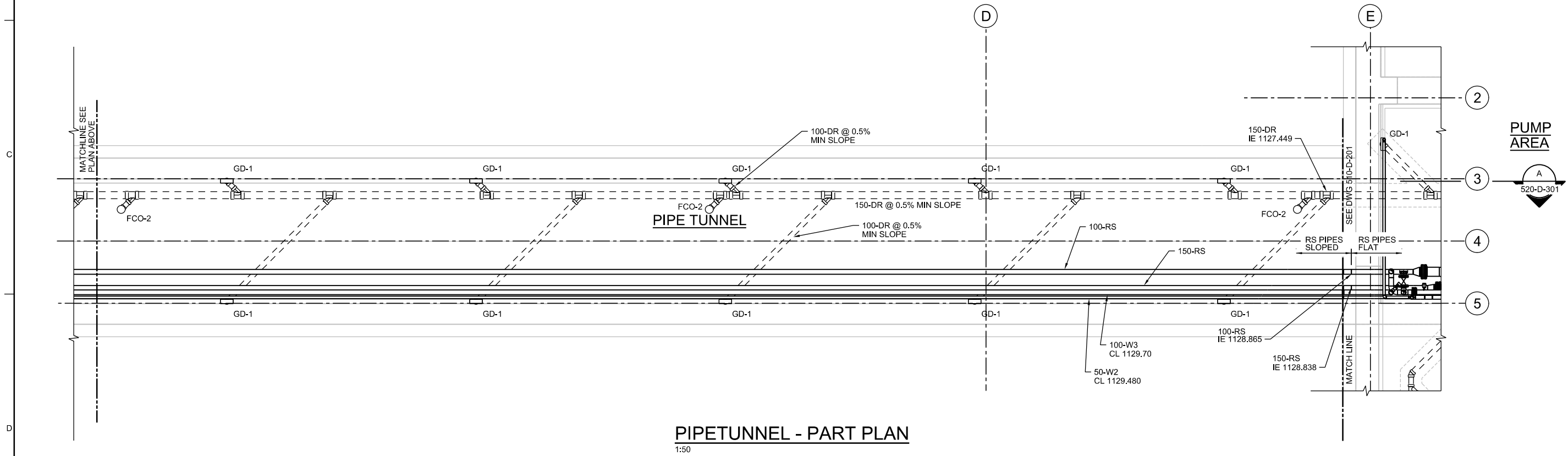
PROCESS MECHANICAL
THICKENER OVERALL PLAN

1:150
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 520-D-201
SHEET X

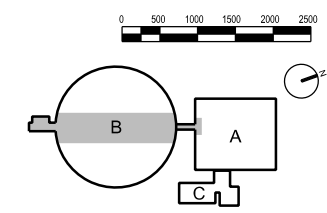


PIPE TUNNEL - PART PLAN
1:50

SEE DETAILS
1 2
590-D-502 590-D-502



PIPETUNNEL - PART PLAN
1:50



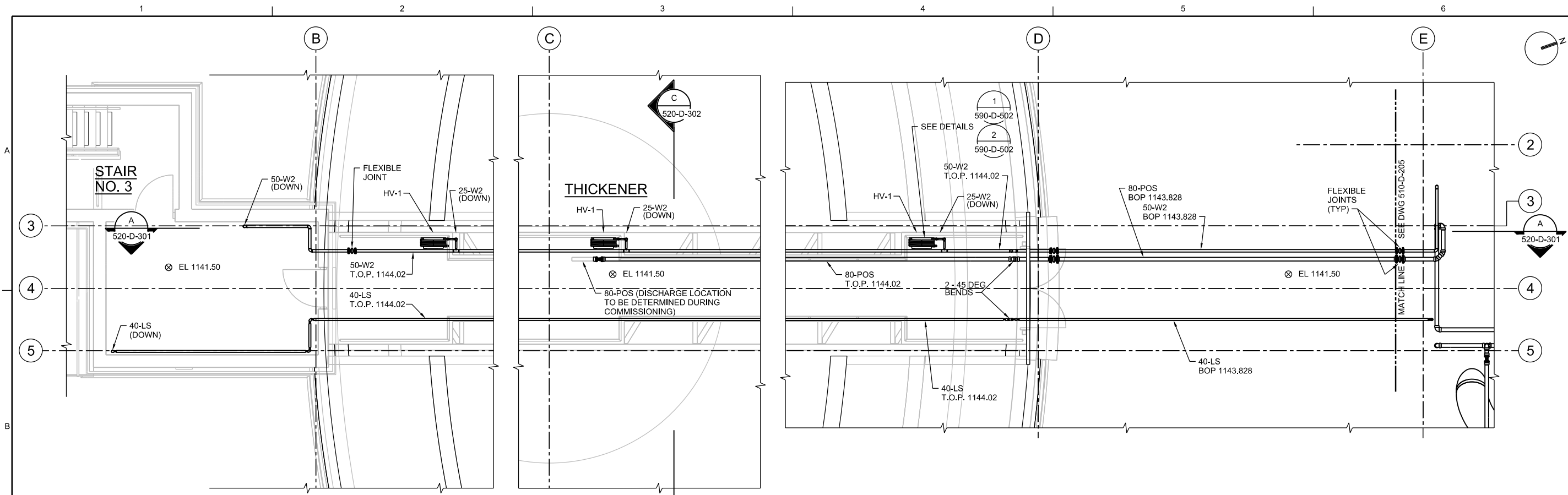
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NO.	DATE	DR	CHK
B	02/2014	J.P. NYWENNING	R. THORLEY
A	09/2013	J.P. NYWENNING	J.P. NYWENNING

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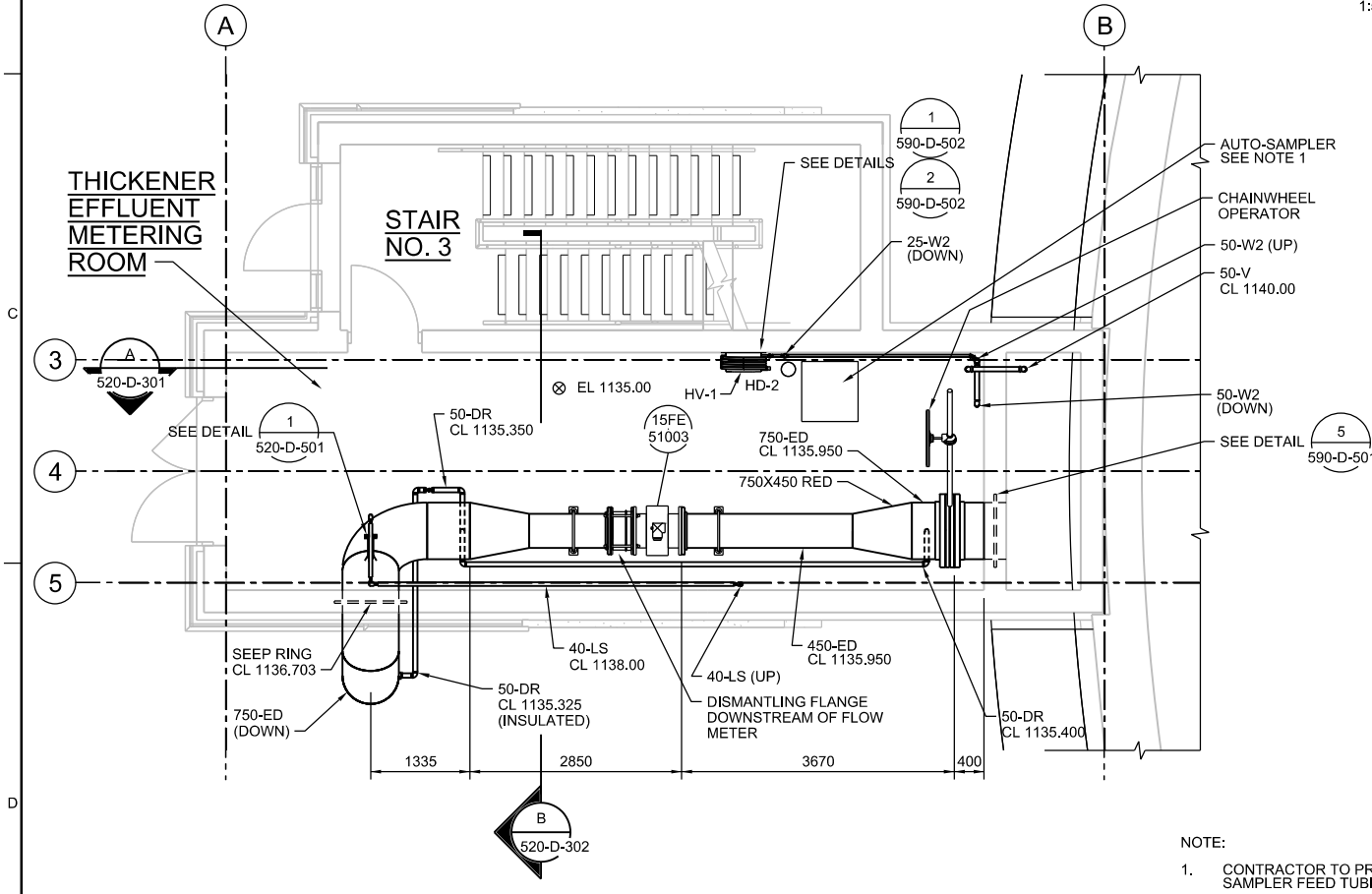
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
DESIGN
GOVERNMENT OF YUKON

PROCESS MECHANICAL
THICKENER
PART PLANS

DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	520-D-202
SHEET	x

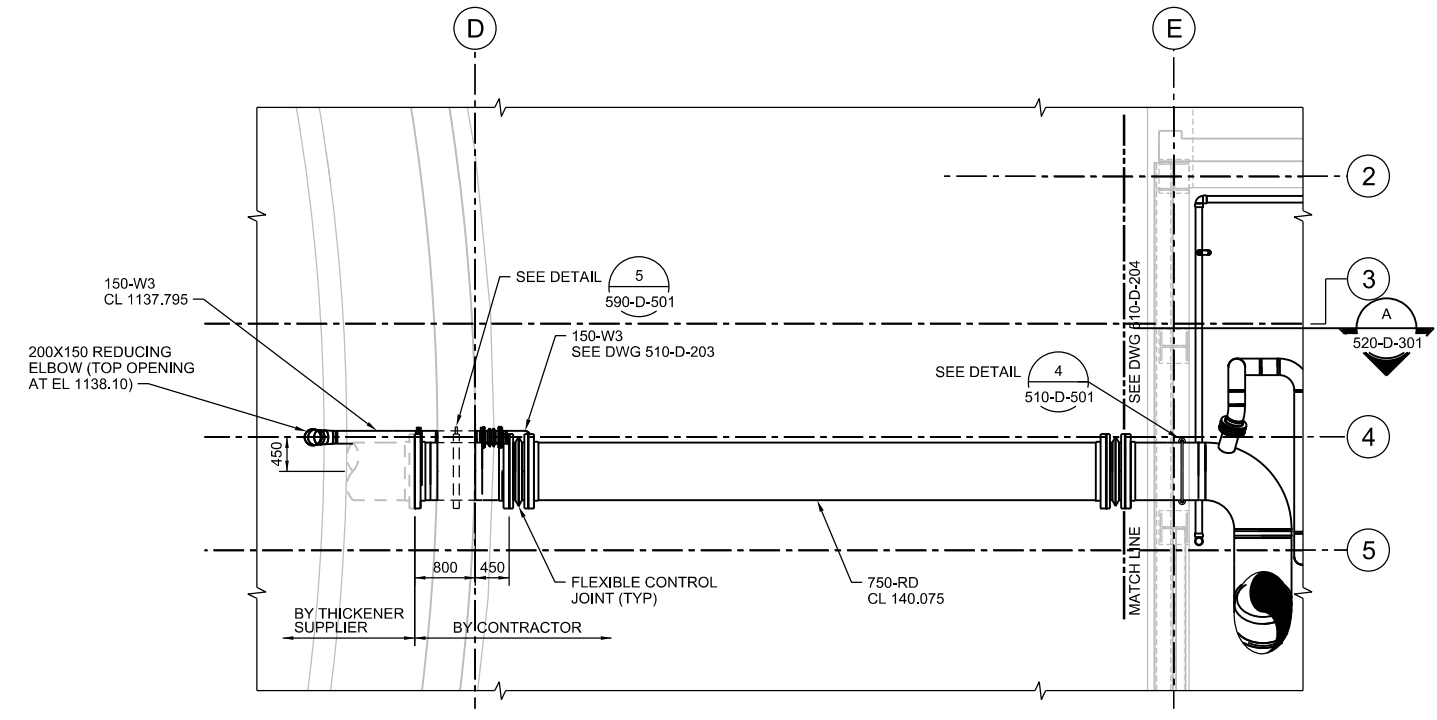


THICKENER - PART PLAN (BRIDGE)
1:50

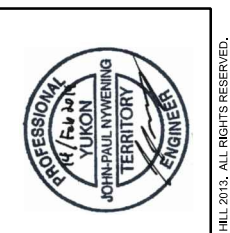
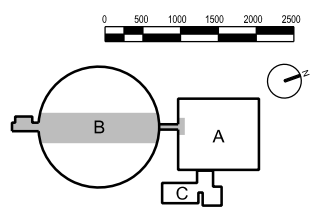


EFFLUENT METER ROOM - PART PLAN
1:50

NOTE:
1. CONTRACTOR TO PROVIDE AND INSTALL 15MM POLYETHYLENE SAMPLER FEED TUBING ALONG WALL FROM EFFLUENT PIPE 50-DR LINE.



THICKENER - PART PLAN EL 1138.80
1:50



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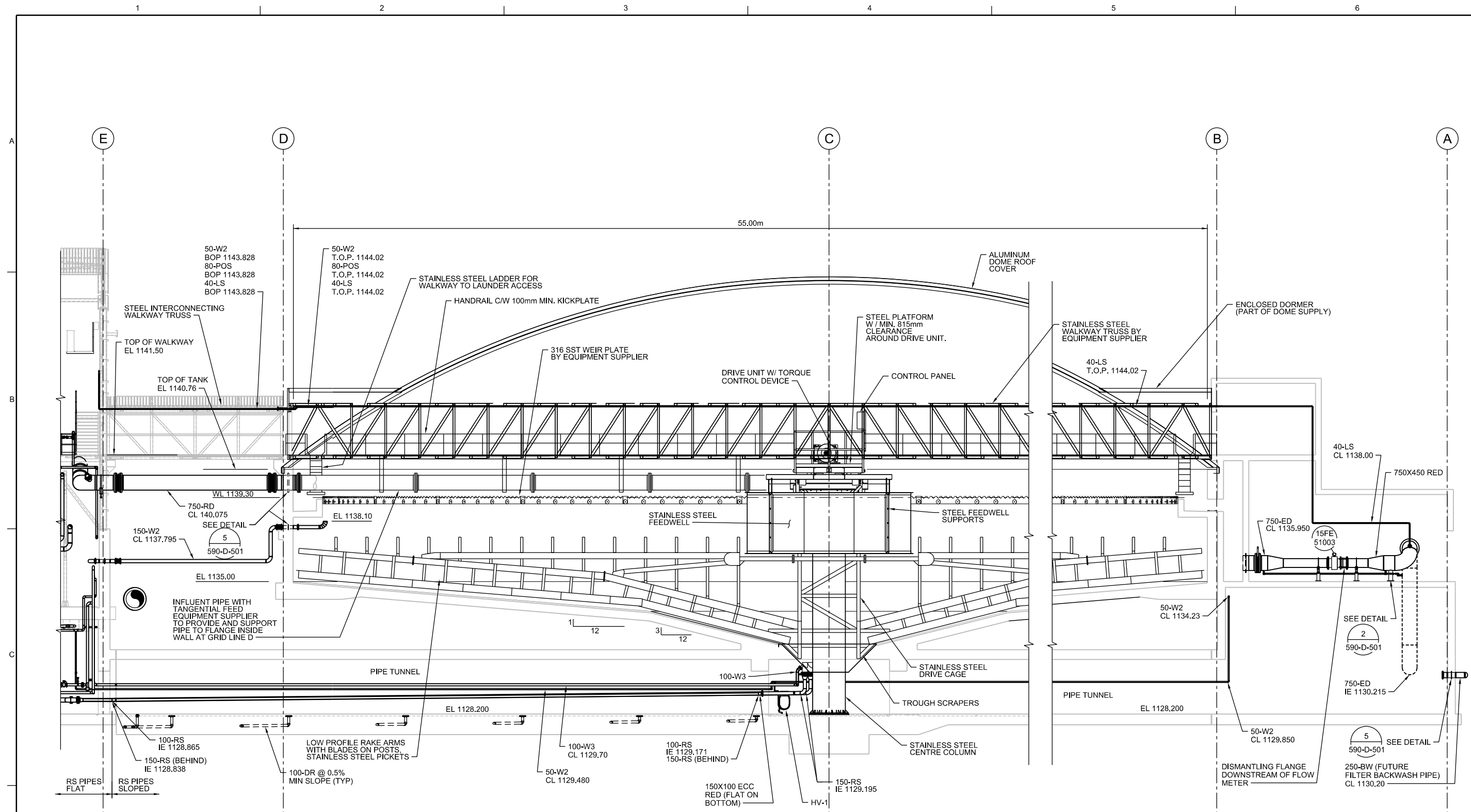
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL

PROCESS MECHANICAL
THICKENER
PART PLANS

1:50
VERIFY SCALE
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0 25mm

DATE FEBRUARY 2014
PROJ TA013-427716
DWG 520-D-203
SHEET x



A SECTION
1:100
520-D-201
520-D-202



NO.	DATE	BY	CHK	APVD
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WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

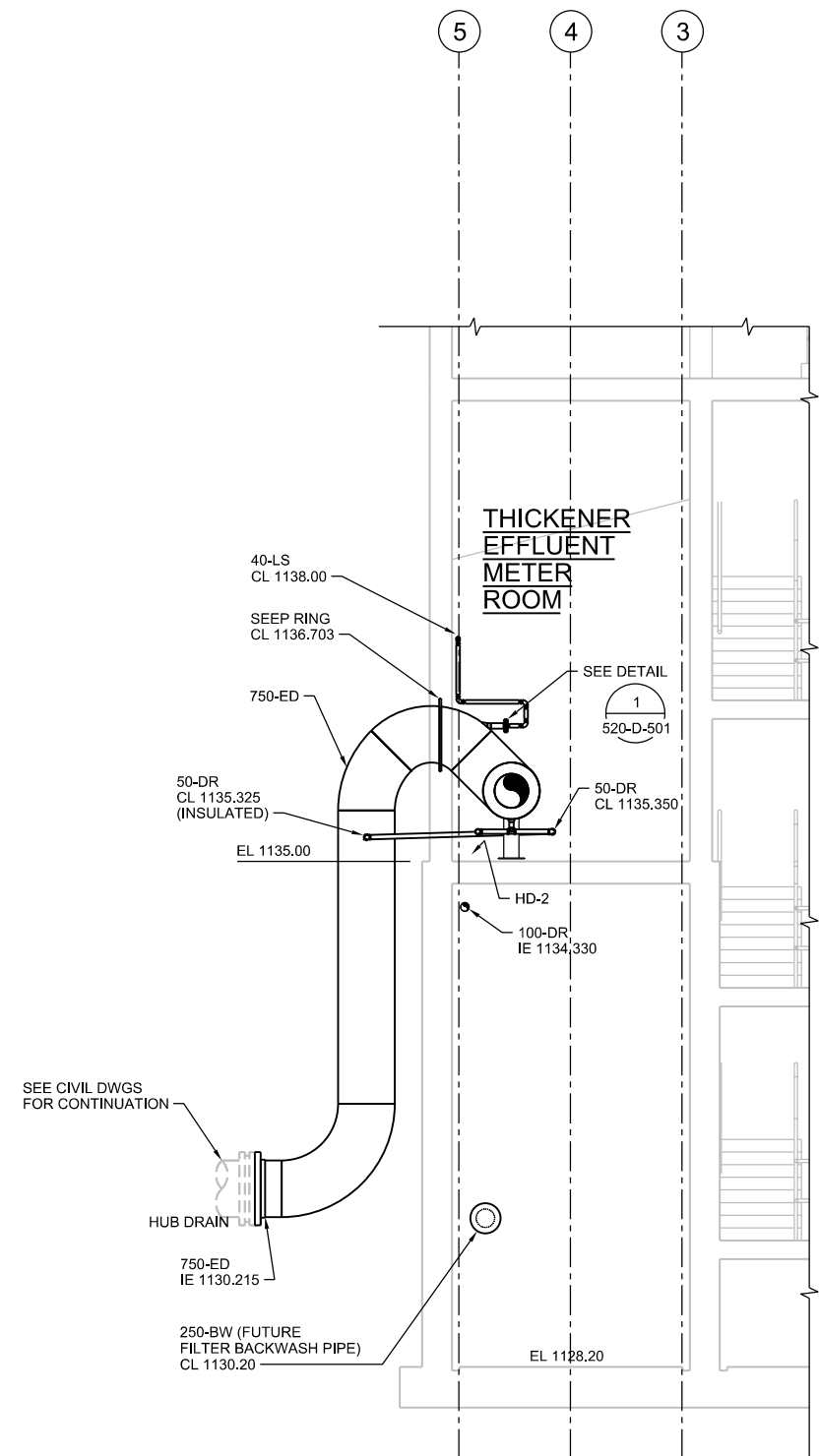
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PROCESS MECHANICAL
THICKENER SECTION A

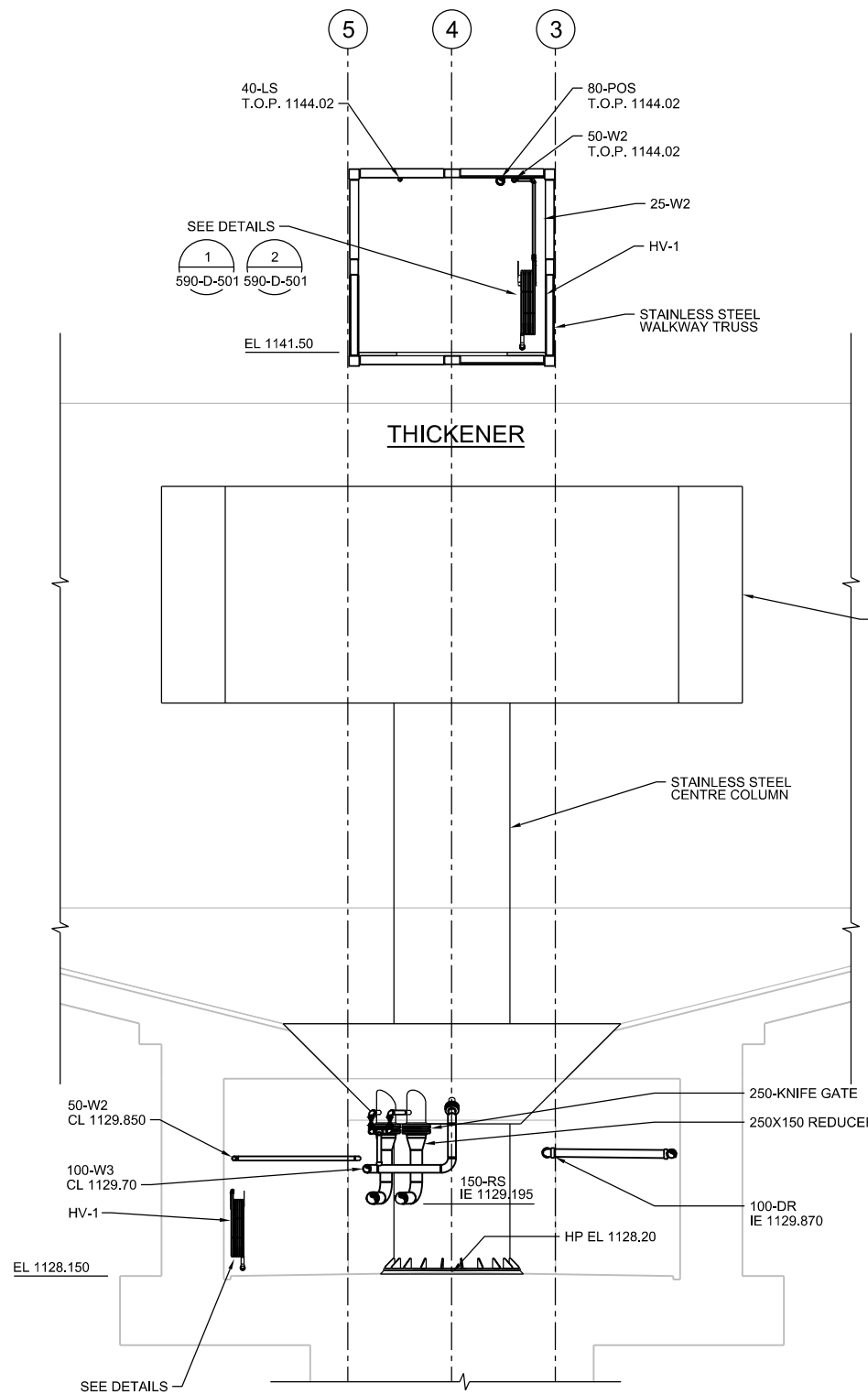
1:100
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWINGS.
0 1000 2000 3000 4000 5000 25mm

DATE	FEBRUARY 2014
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SHEET	x

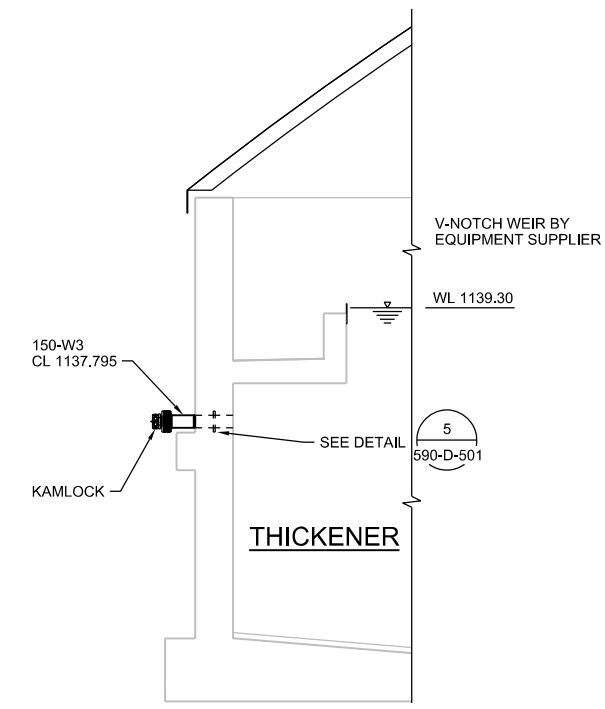
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B SECTION
1:50
520-D-201
520-D-202



C SECTION
1:50
520-D-201
520-D-202



D SECTION
1:50
520-D-201

SEE DETAILS
1 2
590-D-501 590-D-501



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			CHK	APVD

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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

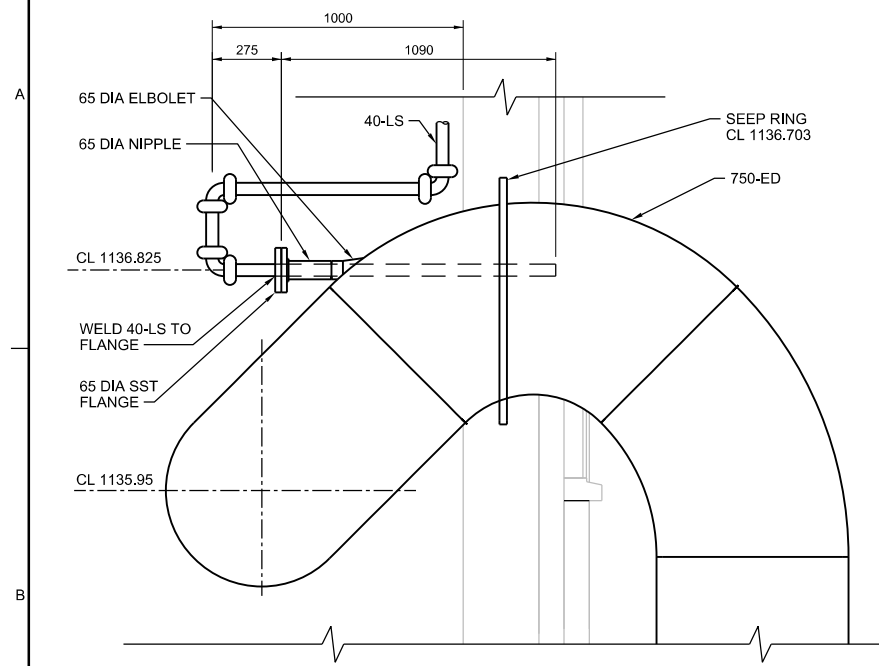
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PROCESS MECHANICAL
THICKENER
SECTIONS B, C AND D

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1 CHEMICAL DOSING CONNECTION
NTS



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			CHK	APVD
			DR	APVD
			J.P. NYWENING	J.P. NYWENING
			R. THORLEY	

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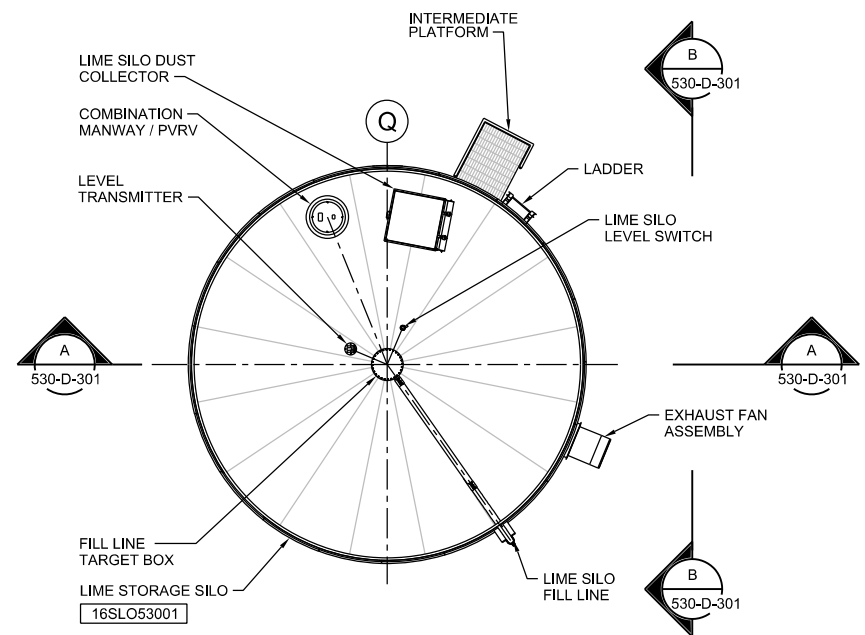
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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THICKENER
DETAILS (1)

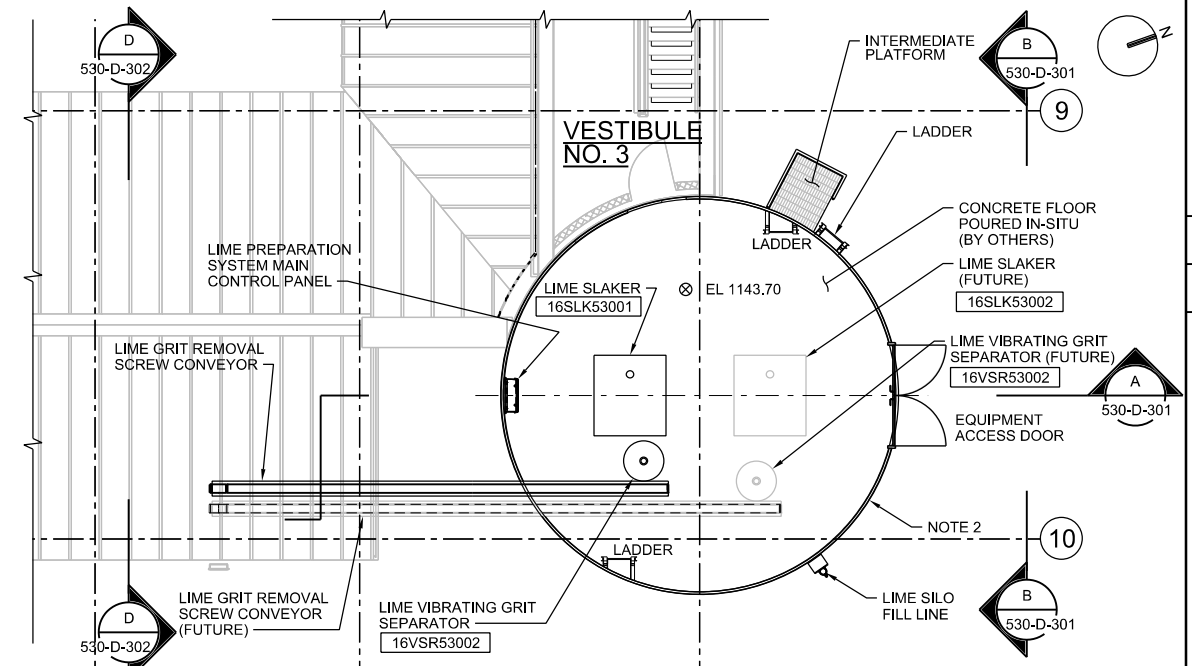
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VERIFY SCALE
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0 25mm
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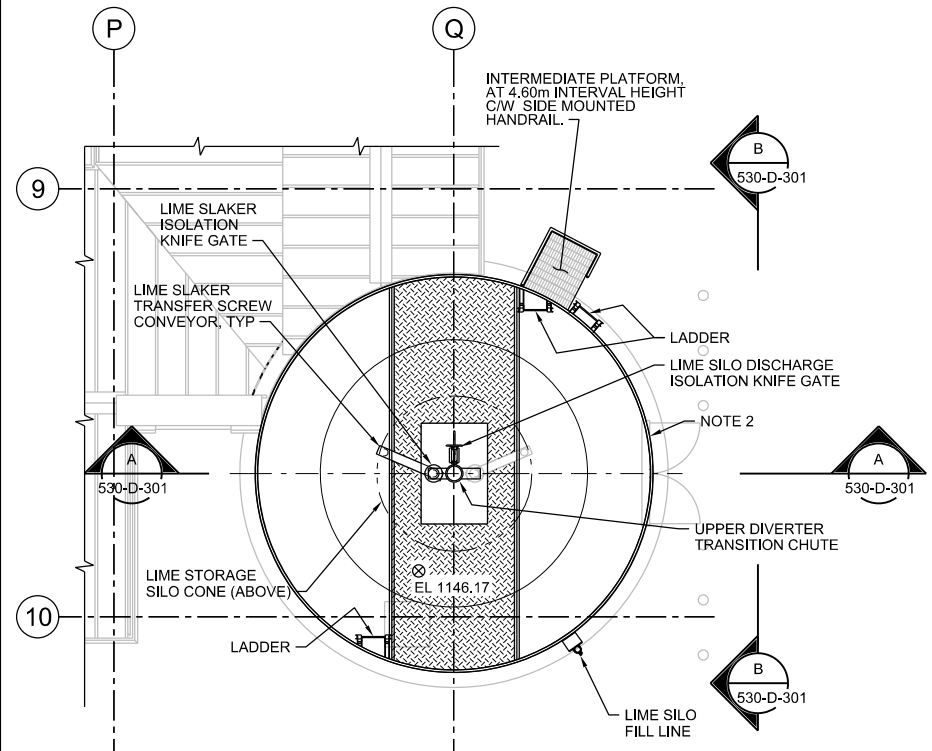


TOP LEVEL PLAN
1:75

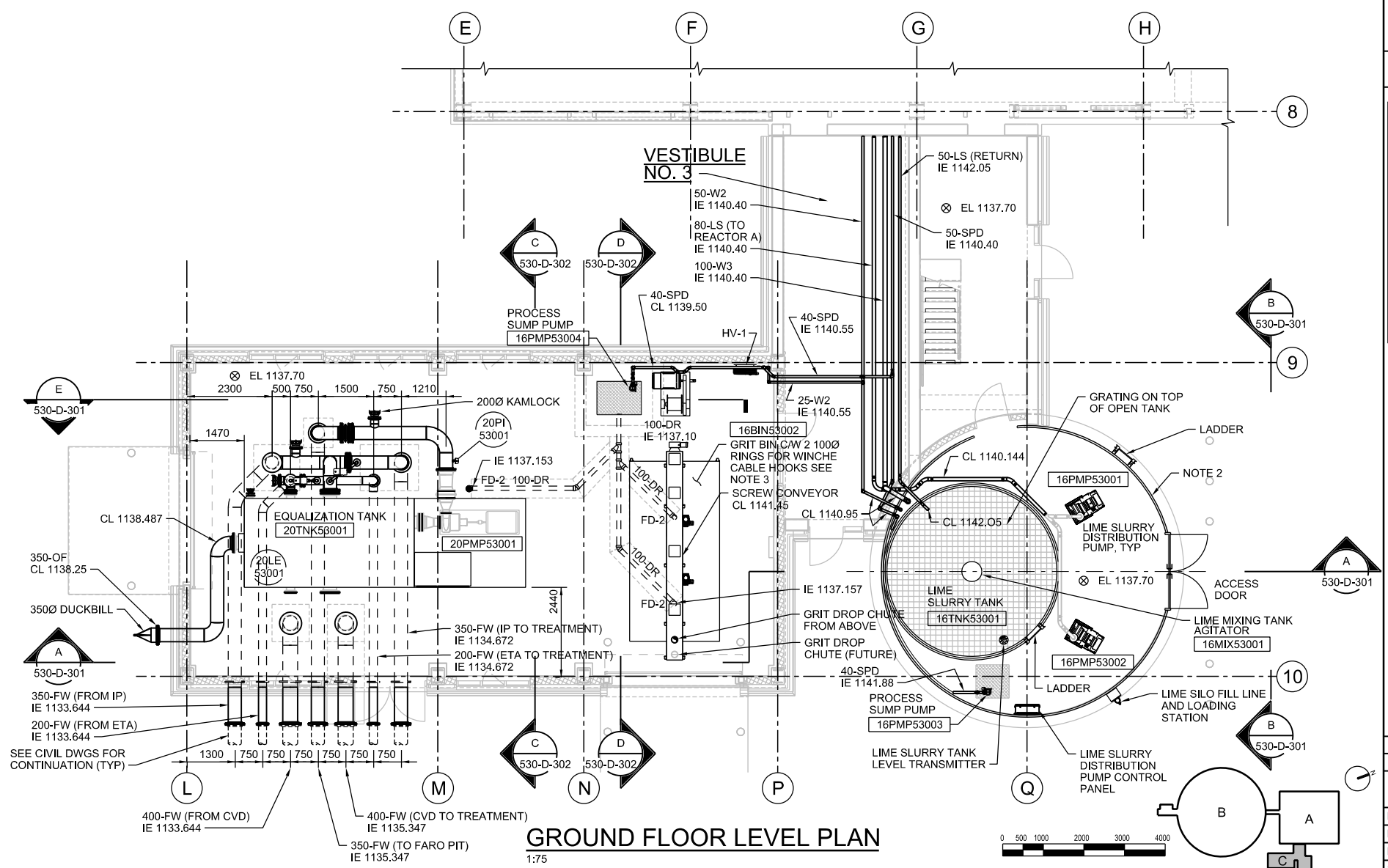
- NOTE:
- DESIGN REQUIREMENTS FOR LIME SLAKER ARE INCLUDED IN THE PRE-PURCHASE PACKAGE. DETAILS WILL BE PROVIDED IN THE VENDOR SHOP DRAWING SUBMITTALS.
 - LIME EQUIPMENT SUPPLIER IS RESPONSIBLE FOR ALL EQUIPMENT, TANKS, PIPING AND WIRING INSIDE AND ATTACHED TO THE OUTSIDE THAT PART OF THE SYSTEM. CONTRACTOR TO CONNECT TO PIPES WHICH ARE SHOWN AT SUGGESTED LOCATIONS AND ELEVATIONS. ALL SHOULD BE VERIFIED ON THE SHOP DRAWING SUBMITTALS.
 - PROVIDE STEEL PLATE/GUIDES IN FLOOR FOR BIN ROLLERS.



SLAKER FLOOR LEVEL PLAN
1:75



SILO CONE ACCESS LEVEL PLAN
1:75



GROUND FLOOR LEVEL PLAN
1:75



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			DR
			DGNS

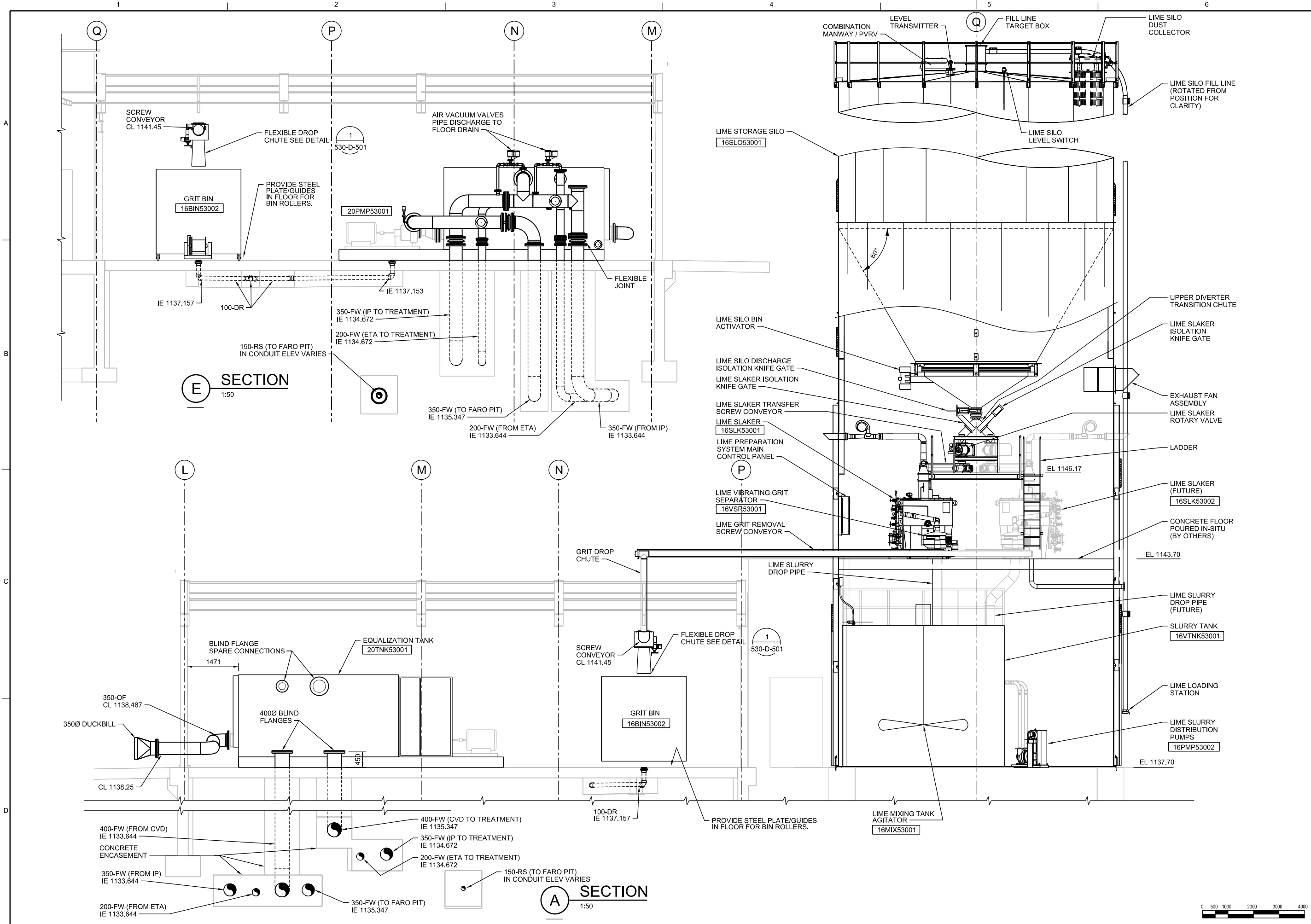
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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL

PROCESS MECHANICAL
LIME SILO, GRIT BUILDING PLANS

1:75
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CHK	R. THORLEY	J.P. NYWENNING	APVD

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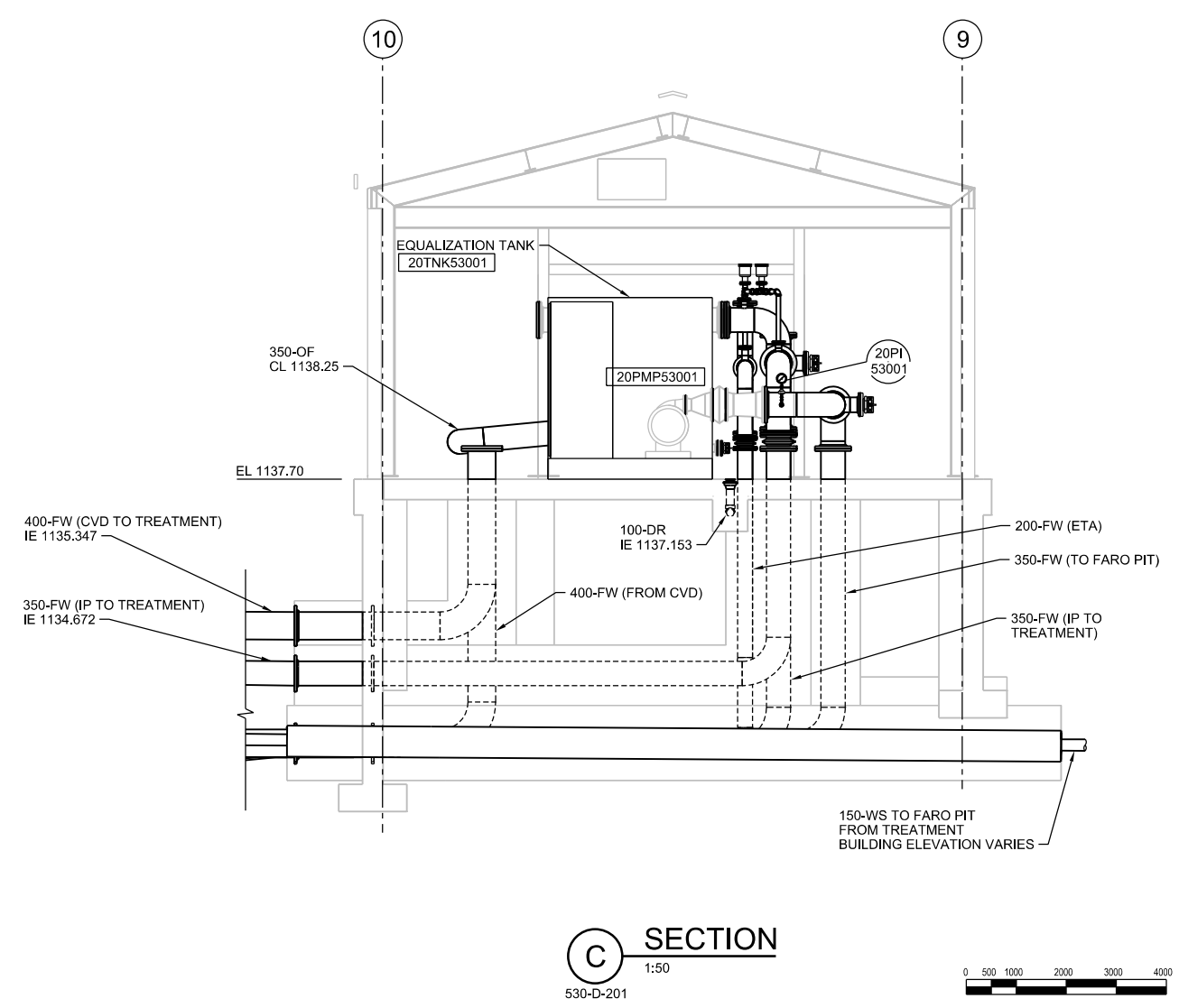
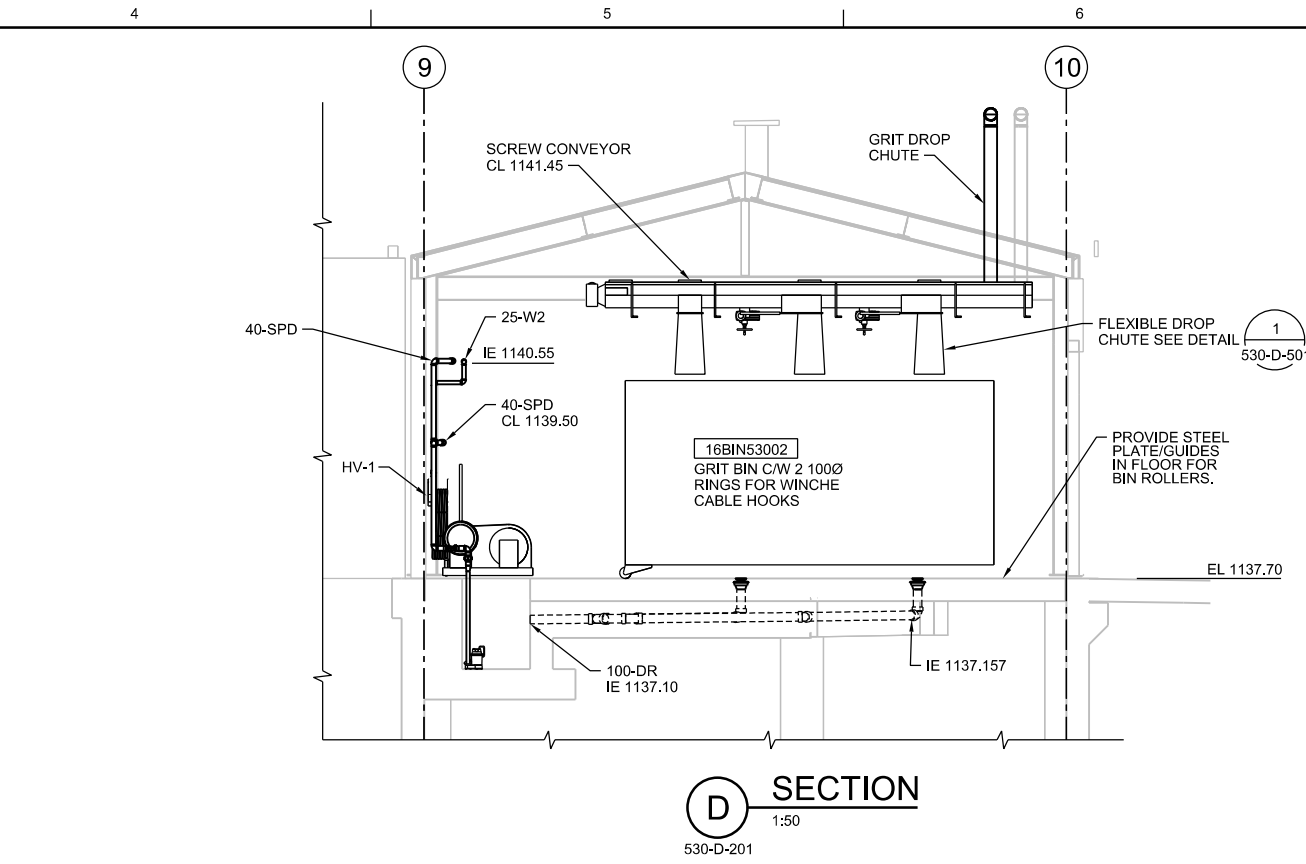
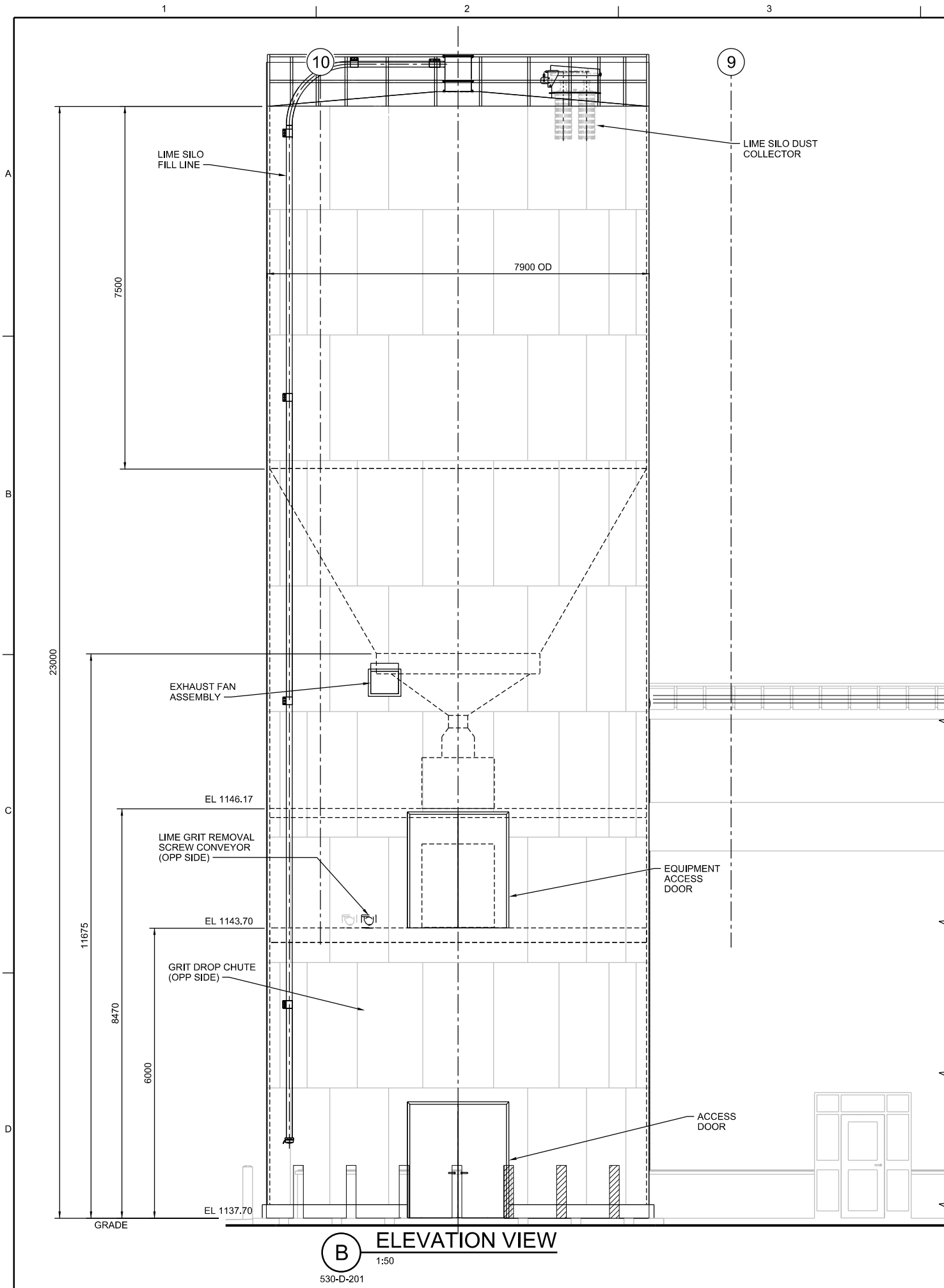
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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PROCESS MECHANICAL
LIME SILO, GRIT BUILDING
SECTIONS

1 : 50
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BY			BY			CHK		APVD	
R. THORLEY			J.P. NYWENNING			DR		APVD	
NO.			NO.			NO.		NO.	
DATE			DATE			DATE		DATE	
02/2014			09/2013			09/2013		09/2013	
DGSN			DGSN			DGSN		DGSN	
J.P. NYWENNING			J.P. NYWENNING			J.P. NYWENNING		J.P. NYWENNING	

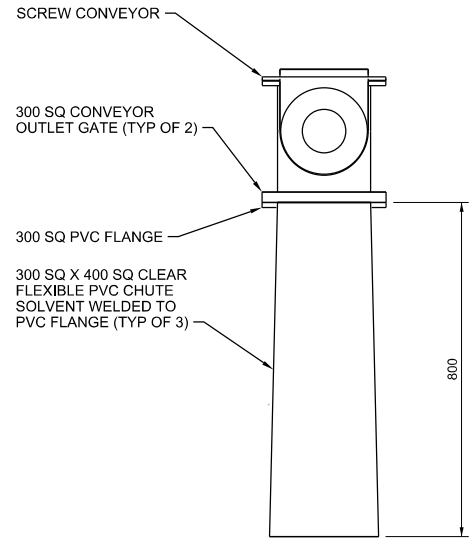
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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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PROCESS MECHANICAL
LIME SILO, GRIT BUILDING
SECTIONS

1 : 50
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWINGS.
0 25mm

DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	530-D-302
SHEET	



- NOTES:
1. SEE DRAWING 530-S-501 FOR DETAILS OF STRUCTURAL SUPPORT OF SCREW CONVEYOR
 2. CONVEYOR GATE SIZE TO BE CONFIRMED BY CONVEYOR SUPPLIER

1 CHUTE DETAIL
NTS



DR	R. THORLEY	J.P. NYWENING
CHK	J.P. NYWENING	APVD
BY	RT	GN
REVISION	ISSUED FOR DETAIL DESIGN REVIEW	
NO.	02/2014	DATE
DSGN	J.P. NYWENING	DR

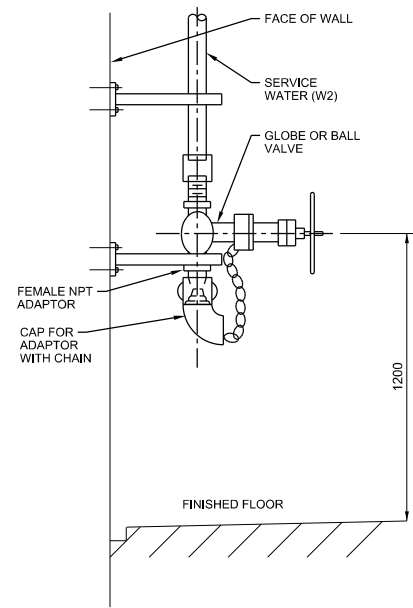
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WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
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LIME SILO, GRIT BUILDING
DETAILS (1)

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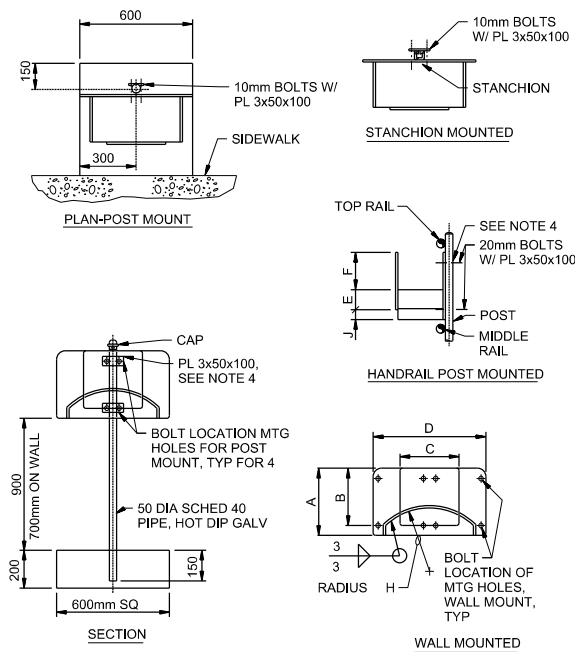
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NOTE:

- REFER TO CONTRACT DRAWINGS FOR VALVE AND PIPING SIZES
- PROVIDE HOSE RACK FOR EACH HOSE DOWN STATION AS SHOWN ON DRAWING.

1 HOSE DOWN STATION
NTS



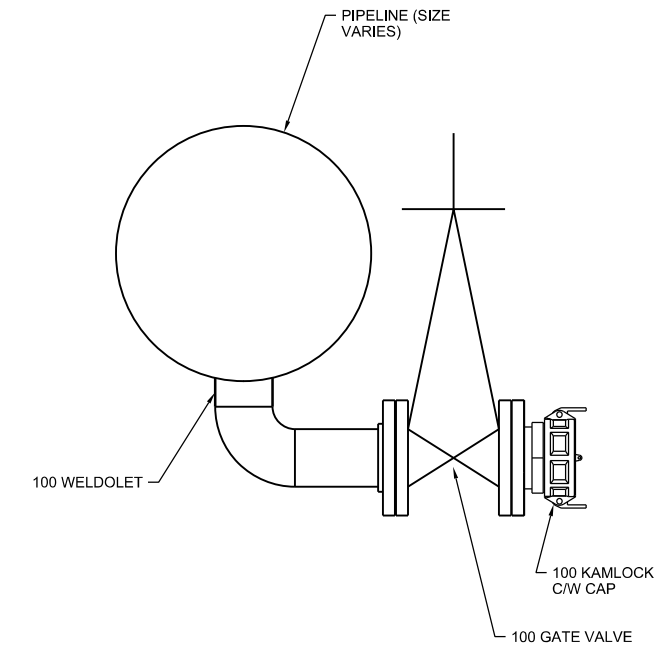
DIMENSION IN MILLIMETERS

RACK TYPE	A	B	C	D	E	F	G	H	J
TYPE A-20 & 25 HOSE	265	175	175	450	75	150	190	245	40
TYPE B-40 HOSE	350	300	300	600	100	200	250	325	40

NOTES:

- INTERIOR UNITS SHALL BE FABRICATED FROM 3mm A-36 STEEL PLATE AND ENTIRE UNIT SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.
- EXTERIOR UNITS SHALL BE FABRICATED FROM 5mm 6061-T6 ALUMINUM ALLOY PLATE.
- ATTACH TO CONCRETE WALL WITH (4) - 20mm STAINLESS STEEL STUD TYPE WEDGE ANCHORS.
- ATTACH TO VERTICAL HANDRAIL OR INDIVIDUAL POST WITH PLATES AND (4) - 20mm STAINLESS STEEL BOLTS.
- ATTACH TO STEEL COLUMN WITH (4) - 20mm ROUND HEAD BOLTS, ONE IN EACH CORNER. INSERT DOUBLE SPACER NUTS BETWEEN COLUMN AND HOSE RACK.

2 HOSE RACKS
NTS



NOTE:
1. SEE DRAWINGS FOR ORIENTATION

3 100 DIA DRAIN DETAIL
NTS



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DR		R. THORLEY	J.P. NYWENNING
DSGN		J.P. NYWENNING	

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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®
PROCESS MECHANICAL

WATER TREATMENT BUILDING
DETAILS (2)

NTS
VERIFY SCALE
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DATE FEBRUARY 2014
PROJ TA013-427716
DWG 590-D-502
SHEET

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PLUMBING SYMBOLS

	EXISTING PIPE (SCREENED)
	NEW PIPE
	EXISTING PIPE TO BE ABANDONED
	EXISTING PIPE TO BE REMOVED
	ANCHOR
	CAP
	ELBOW, 90 DEGREE
	ELBOW UP
	ELBOW DOWN
	CROSS
	TEE
	TEE UP
	TEE DOWN
	ELBOW, 45 DEGREE
	LATERAL
	LATERAL UP
	LATERAL DOWN
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	UNION
	GROOVED END JOINT
	FLEXIBLE (ELASTOMER) PIPE CONNECTION
	STEEL BELLOWS EXPANSION JOINT
	STRAINER
	SIGHT GLASS
	PRESSURE SWITCH
	FLOW SWITCH
	PRESSURE GAUGE WITH COCK
	THERMOMETER
	ROTAMETER
	HOSE RACK (TYPE AS INDICATED)
	EMERGENCY EYEWASH
	EMERGENCY SAFETY SHOWER
	COMBINED EMERGENCY SHOWER AND EYE WASH
	FE-X X = NO. IN SPECS
	X = F - FLOOR CLEANOUT D - DECK CLEANOUT W - WALL CLEANOUT
	HD-XY X = NO. IN SPECS T - WITH TRAP P - WITH PRIMED TRAP

	FD-XY X = NO. IN SPECS Y = T - WITH TRAP P - WITH PRIMED TRAP
	AD-XY X = NO. IN SPECS Y = T - WITH TRAP P - WITH PRIMED TRAP
	OD-X X = NO. IN SPECS
	RD-X X = NO. IN SPECS

SEE PROCESS LEGEND SHEET FOR ADDITIONAL SYMBOLS

PLUMBING FIXTURE IDENTIFICATION

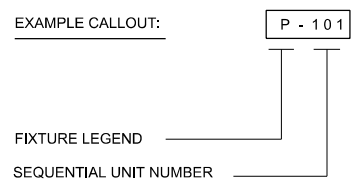
LEGEND	FIXTURE
AD	AREA DRAIN
BFP	BACKFLOW PREVENTER
CO	CLEANOUT
DF	DRINKING FOUNTAIN
EEW	EMERGENCY EYE WASH
ES	EMERGENCY SAFETY SHOWER
EWC	ELECTRIC WATER COOLER
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
GD	GUTTER DRAIN
HD	HUB DRAIN
HDS	HOSE DOWN STATION
HV	HOSE VALVE
LAV	LAVATORY
MS	MOP SINK
OD	OVERFLOW ROOF DRAIN
ON	OVERFLOW NOZZLE
RD	ROOF DRAIN
SK	SINK
SH	SHOWER
SPD	SUMP PUMP DISCHARGE
SSH	COMBINED EMERG. SHOWER & EYEWASH
SSK	SERVICE SINK
LSK	LABORATORY DOUBLE SINK
TP	TRAP PRIMER (PRESSURE ACTUATED)
TV	TEMPERING VALVE
UR	URINAL
WC	WATER CLOSET
WF	WASH FOUNTAIN

EXAMPLE CALLOUT: SSH - X
FIXTURE LEGEND
NO. IN SPECIFICATIONS

ITEM NO	DESCRIPTION	DRAIN	V	W1	HW
LAV-1	LAVATORY	50mm	40mm	15mm	15mm
MS-1	MOP SINK	80mm	40mm	15mm	15mm
SK-1	LAB SINK	50mm	40mm	15mm	15mm
SK-2	SINK	50mm	40mm	15mm	15mm
WC-1	WATER CLOSET, FLUSH VALVE	100mm	50mm	25mm	--

PLUMBING EQUIPMENT IDENTIFICATION

IDENTIFICATION	EQUIPMENT NAME
AC	AIR COMPRESSOR
D	SANITARY DRAIN
ANT	ACID NEUTRALIZATION TANK
BFP	BACK FLOW PREVENTER
BP	BOOSTER PUMP
CP	CIRCULATION PUMP
ET	EXPANSION TANK
ETP	TRAP PRIMER ASSEMBLY (ELECTRICALLY ACTUATED)
EW	ELECTRIC WATER HEATER
HE	HEAT EXCHANGER
OVS	OIL/WATER SEPERATOR
P	PUMP
SP	SUMP PUMP
ST	STORAGE TANK
TV	TEMPERING VALVE
WT	WATER STORAGE TANK



VALVE SYMBOLS

	HOSE VALVE
	REGULATED SIDE PRESSURE CONTROL
	DOUBLE CHECK VALVE
	REDUCED PRESSURE BACKFLOW PREVENTER
	NON FREEZE HOSE VALVE
	NON FREEZE HOSE VALVE WITH HOSE RACK
	SOLENOID VALVE
	TO TEMPERATURE SENSOR TEMPERATURE SENSING VALVE
	DRY VALVE WITH COMPRESSOR AND PRESSURE SWITCH
	PRE-ACTION VALVE DOUBLE INTERLOCKED W/COMPRESSOR AND PRESSURE SWITCH
	ALARM CHECK VALVE

PLUMBING GENERAL NOTES

- THIS IS A STANDARD LEGEND, THEREFORE, SOME SYMBOLS AND ABBREVIATIONS MAY APPEAR ON THIS SHEET AND NOT ON THE DRAWINGS. REFER TO STANDARD DETAILS FOR EQUIPMENT, HOSE VALVE AND PIPING INSTALLATION DETAILS.
- FIXTURES LOCATED IN SLABS ON GRADE SHALL HAVE THEIR TRAPS AND HORIZONTAL TRAP ARMS CAST INTO THE FLOOR SLAB UNLESS INDICATED OTHERWISE.
- INSTALL BURIED AND CONCRETE ENCASED COPPER PIPING WITH A PROTECTIVE SLEEVE OR WRAP FOR IT'S ENTIRE LENGTH. SLEEVE OR WRAP SHALL BE FLEXIBLE POLYETHYLENE MANUFACTURED FOR CONTINUOUS PIPE COVER APPLICATION. EXTEND SLEEVE OR WRAP 50mm ABOVE FINISHED FLOOR.
- PIPING ELEVATIONS SHOWN ARE APPROXIMATE, FIELD VERIFY PIPING ELEVATIONS WITH EXISTING CONDITIONS PRIOR TO INSTALLATION.
- THE CONTRACTOR SHALL PROVIDE OFFSETS IN THE PIPING RUNS WHERE REQUIRED TO CLEAR EXISTING AND NEW DUCT, STRUCTURE AND OTHER PIPING SYSTEMS.
- PLUMBING VENTS THROUGH ROOF SHALL BE OFFSET AT ROOF TO PROVIDE MINIMUM DISTANCE OF 1m FROM EXTERIOR WALL.
- REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF PLUMBING FIXTURES AND ROOF DRAINS.
- CLEANOUT TO GRADE FITTINGS, WHERE SANITARY DRAIN EXITS THE BUILDING, SHALL ALLOW FOR RODDING BOTH WAYS.
- COORDINATE FINAL LOCATIONS OF FLOOR AND HUB DRAINS THAT RECEIVE CONDENSATE DRAINAGE FROM HVAC AND PROCESS EQUIPMENT.
- PROVIDE CLEANOUTS IN ROOF DRAIN PIPING, ROOF OVERFLOW DRAIN PIPING AND SANITARY WASTE PIPING AS SHOWN ON THE DRAWINGS. FURNISH AND INSTALL ADDITIONAL CLEANOUTS AS REQUIRED BY CODE.
- SLOPE SANITARY, ROOF, AND OVERFLOW PIPING AT 2% UNLESS OTHERWISE INDICATED ON FLOOR PLANS. WHERE FIELD CONDITIONS DO NOT ALLOW A 2% SLOPE, PROVIDE MINIMUM 1% SLOPE.
- IN SOME CASES, SANITARY SEWER LATERALS IN THE YARD ARE LARGER THAN THE PIPE SIZES SHOWN INSIDE A BUILDING. TRANSITION WITHIN 1.5m OF THE BUILDING WALL WHERE THAT OCCURS.

SERVICE DESIGNATIONS

HW	POTABLE HOT WATER
RD	ROOF DRAIN
RWL	RAIN WATER LEADER
SPD	SUMP PUMP DISCHARGE
TWS	TEMPER WATER SUPPLY
TWR	TEMPER WATER RETURN
V	VENT
VTR	VENT THROUGH ROOF
W1	POTABLE COLD WATER



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A	02/2014	KF	CHK	APVD
NO. IN SPECIFICATIONS		DR	CHK	APVD
DSGN		T. TRAN	CHK	APVD
K. FONG		T. TRAN	CHK	APVD

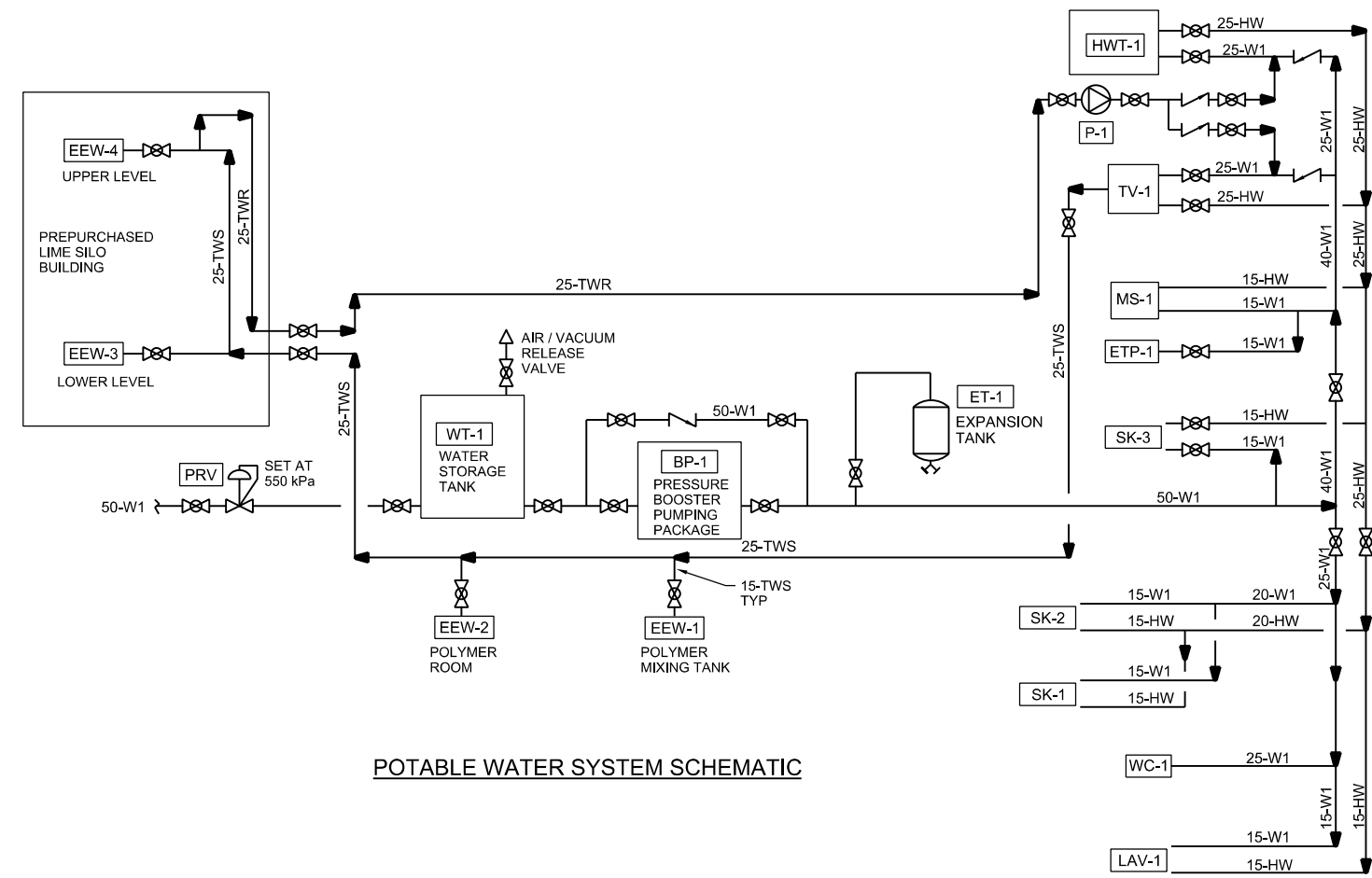
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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL

PLUMBING
GENERAL LEGEND, SYMBOLS AND ABBREVIATIONS

NTS		
VERIFY SCALE		
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SHEET	SHEET-NO	TOTAL



POTABLE WATER SYSTEM SCHEMATIC



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A	02/2014	KF	GN	APVD
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DGN		DR	CHK	APVD
T. TRAN		K. FONG		
T. TRAN		T. TRAN		

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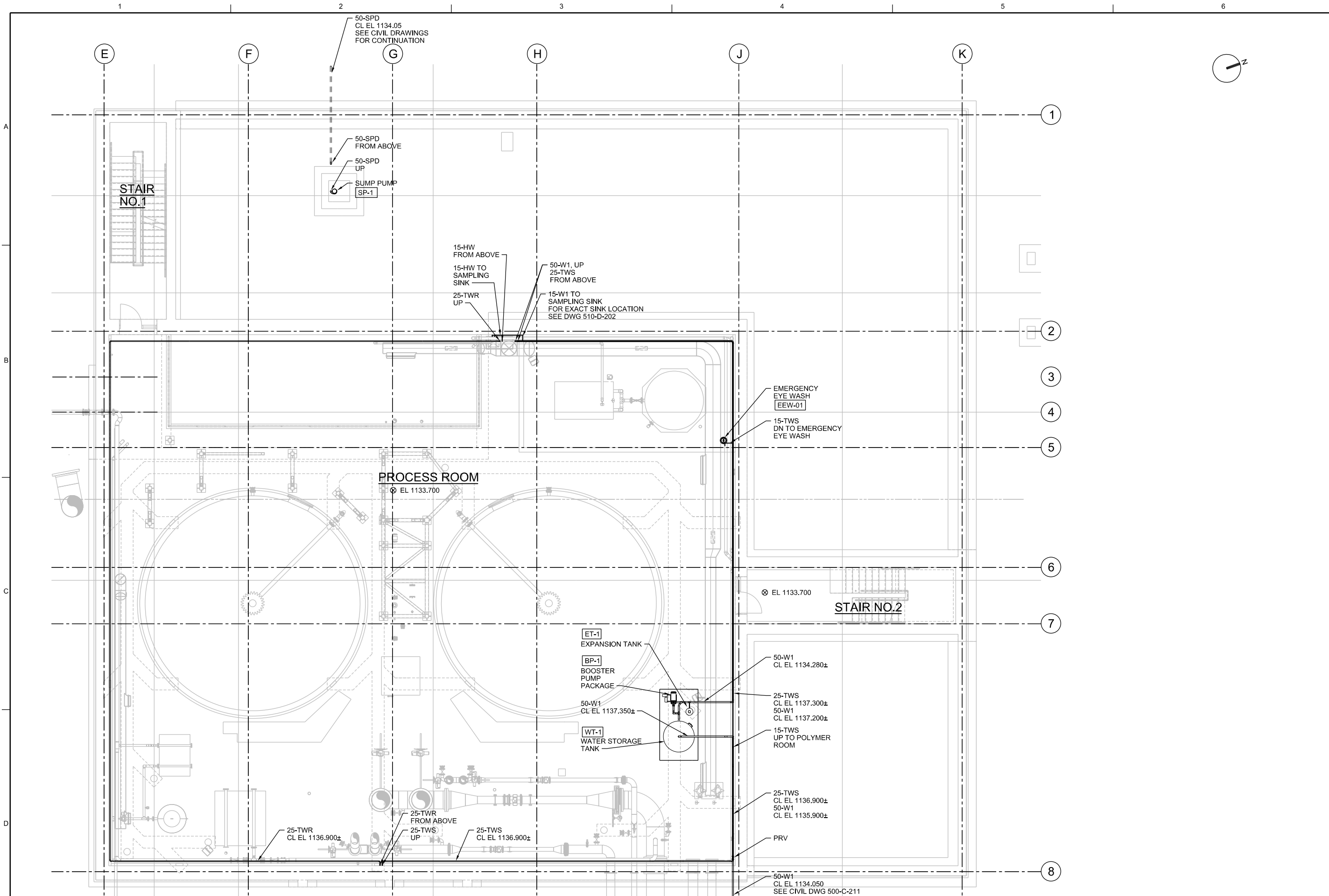
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®
PLUMBING

SERVICE WATER SYSTEM SCHEMATIC

NTS	
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DWG	500-P-601
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PLAN AT EL 1133.700
1:75



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B	02/2014	KF	GN
A	09/2013	KF	GN
DSGN		CHK	APVD
T. TRAN		K. FONG	T. TRAN
DR		CHK	APVD

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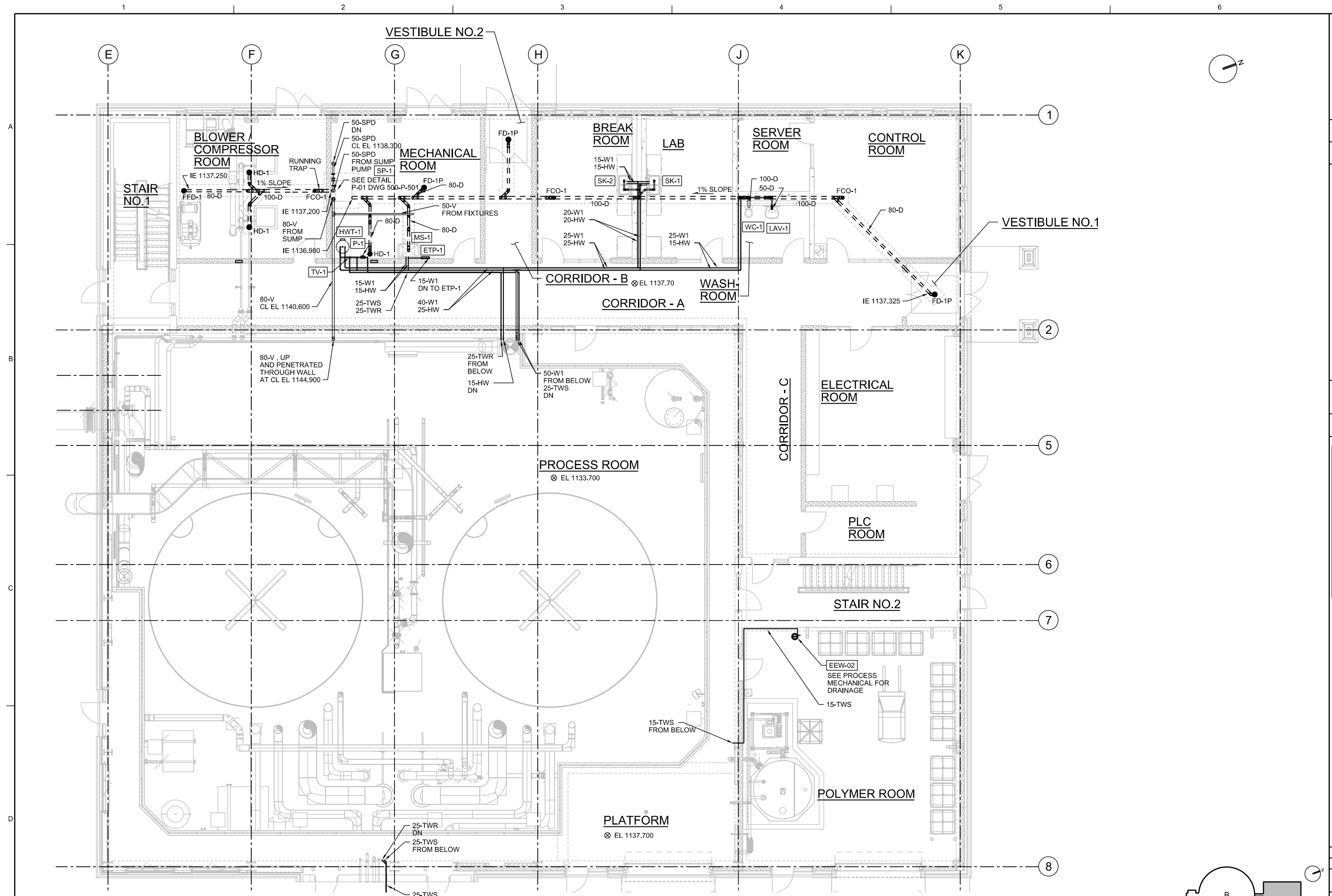
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®
PLUMBING
**WATER TREATMENT BUILDING
PLAN AT EL 1133.700**

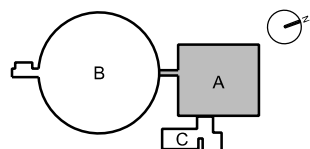
DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	510-P-202
SHEET	SHEET_NO.

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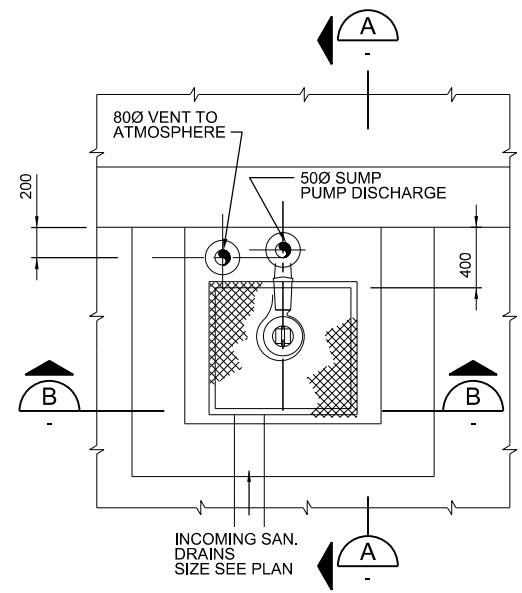


PLAN AT EL 1137.700
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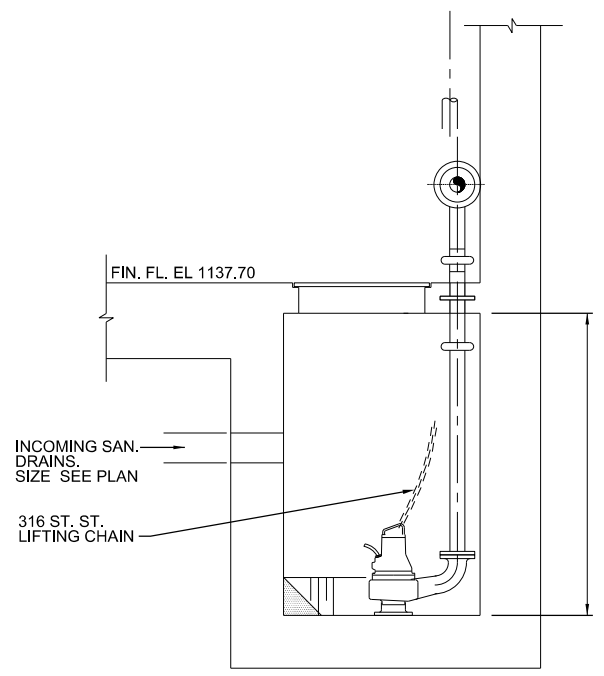


		ISSUED FOR DETAIL DESIGN REVIEW KF GN	
		ISSUED FOR ADVANCED DESIGN REVIEW KF GN	
90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION	FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN GOVERNMENT OF YUKON DESIGN	T. TRAN DR	T. TRAN APVD
		K. FONG CHK	T. TRAN APVD
CH2MHILL® PLUMBING WATER TREATMENT BUILDING PLAN AT EL 1137.700		DATE FEBRUARY 2014	PROJ TA013-427716
1:75 VERIFY SCALE BAR IS 25mm ON ORIGINAL DRAWINGS. 0 25mm		DWG 510-P-203	SHEET SHEET_NO.

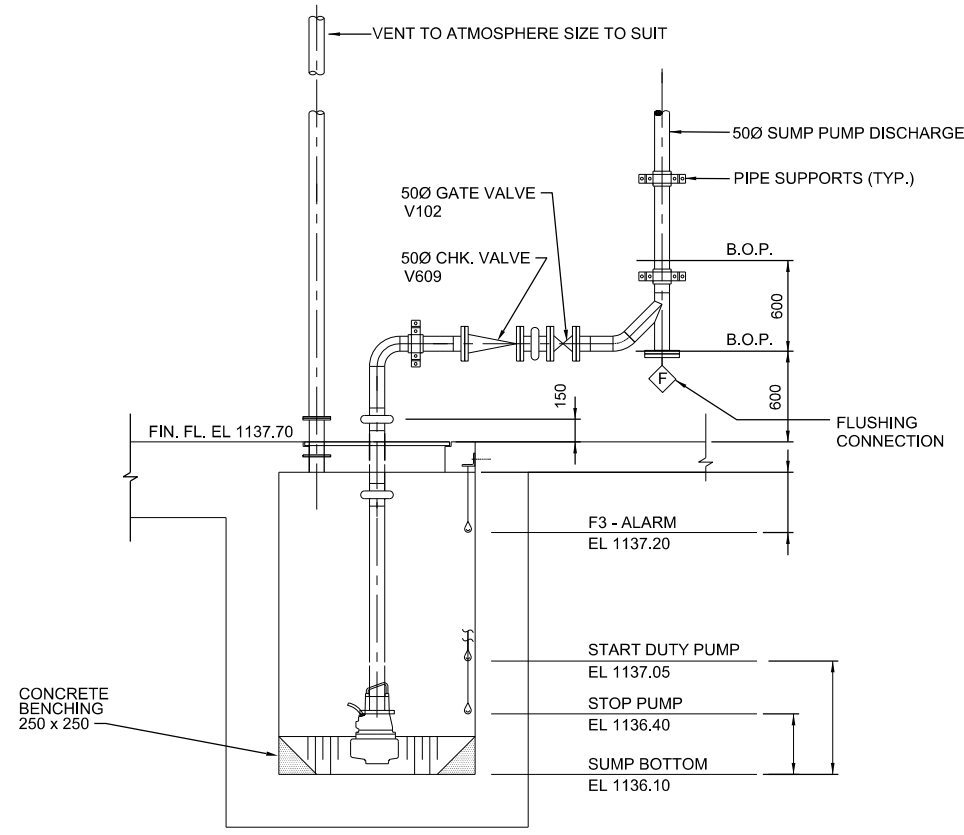
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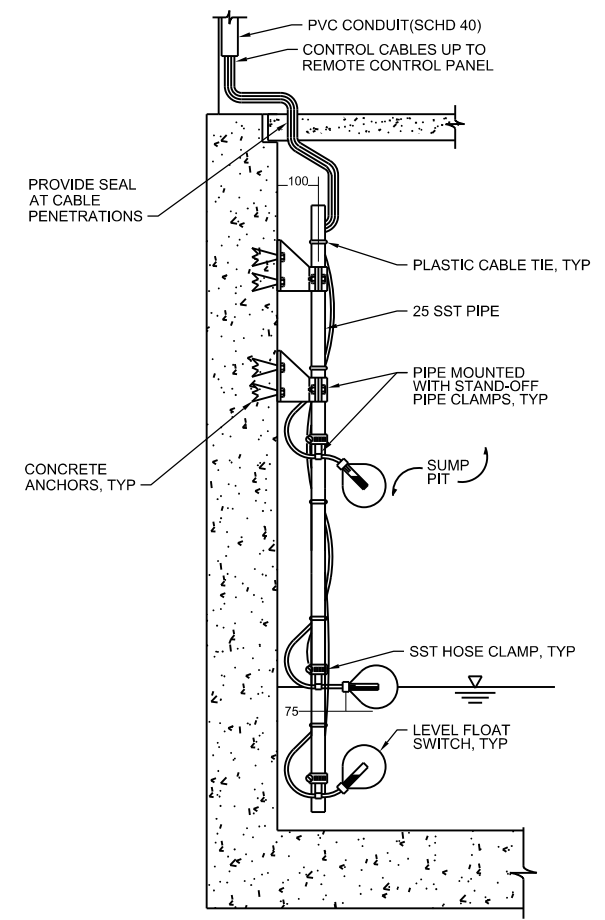
SANITARY SUMP PUMP PLAN VIEW
NTS



SECTION A
NTS



SECTION B
NTS



LEVEL SWITCH DETAIL
NTS



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CHK	K. FONG	CHK
APVD	T. TRAN	APVD

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WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®

PLUMBING

STANDARD DETAILS (1)

NTS	
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(P-01)

(P-02)

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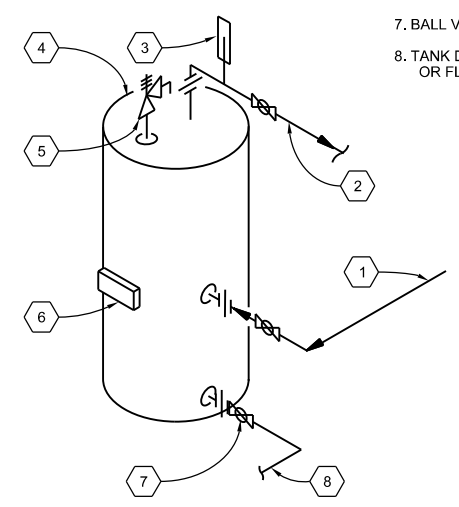
A

B

C

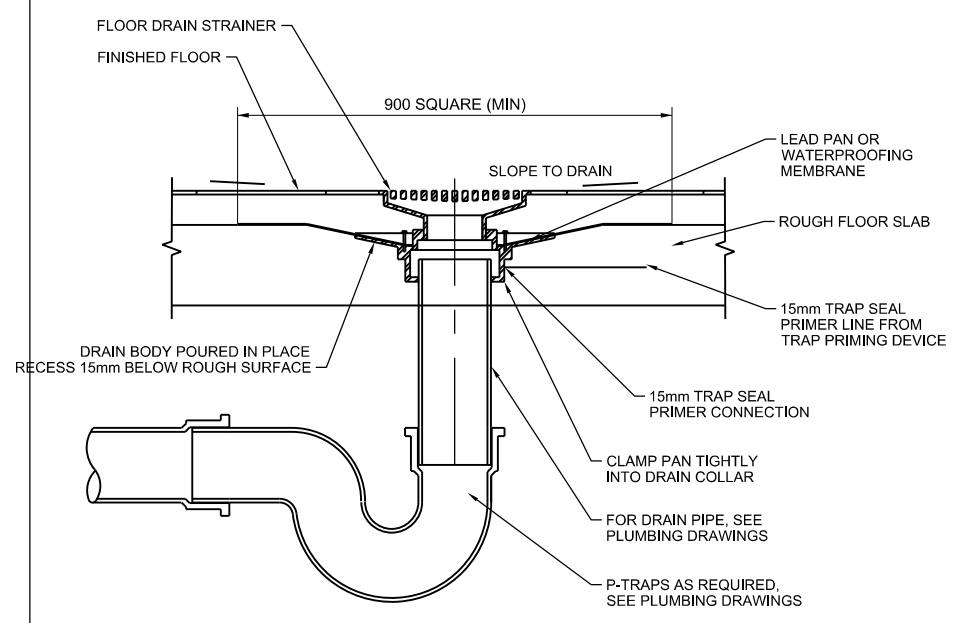
D

1. CW SUPPLY
2. HW TO SYSTEM
3. TEMPERATURE GAUGE (TYP)
4. HOT WATER TANK
5. T & P RELIEF VALVE (PIPE TO NEARBY FLOOR SINK)
6. AQUASTAT
7. BALL VALVE (TYP)
8. TANK DRAIN PIPED TO HUB OR FLOOR DRAIN



HOT WATER TANK
NTS

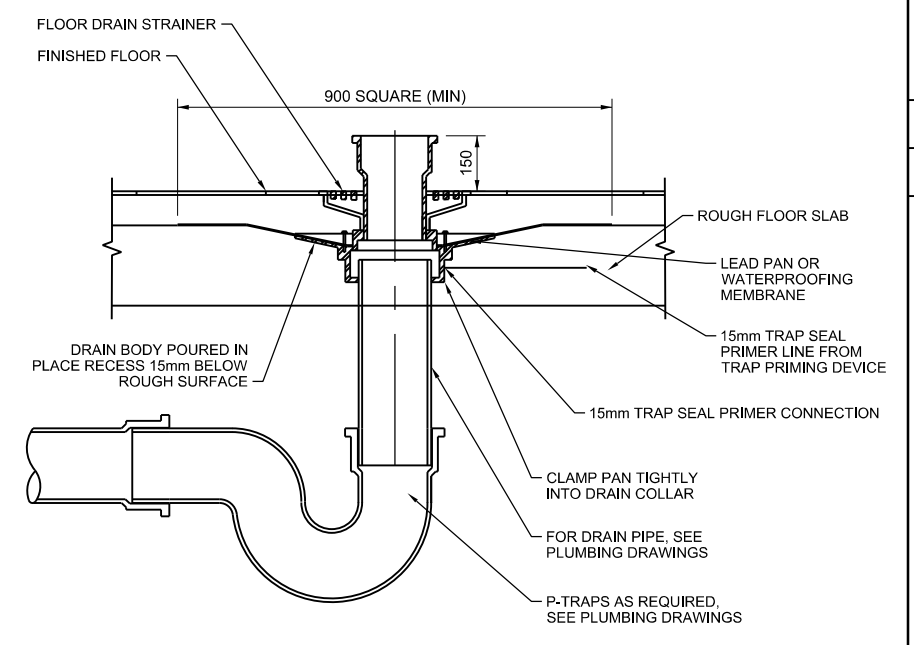
P-03



NOTE:
1. LEAD PAN OR MEMBRANE APPLIES TO ALL SHOWER ROOMS & DRAINS ABOVE FIRST FLOOR

FLOOR DRAIN
NTS

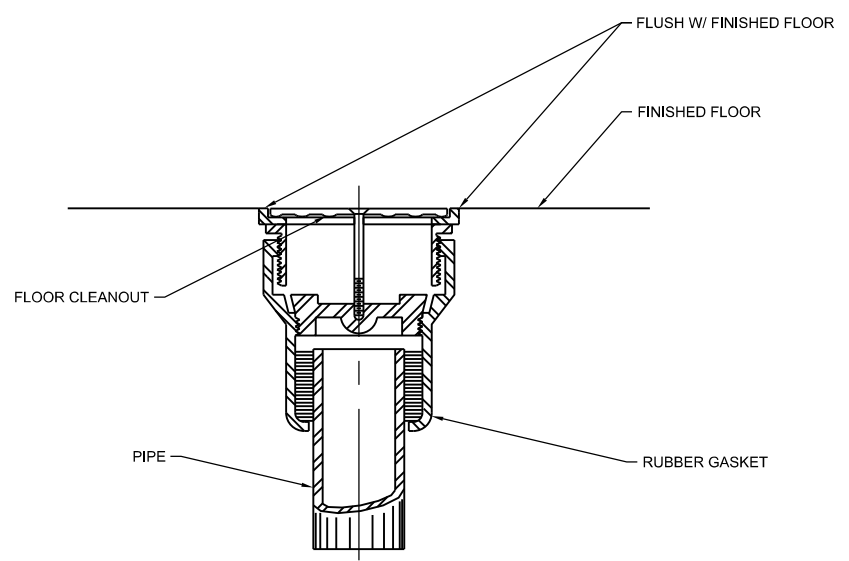
P-04



NOTE:
1. LEAD PAN OR MEMBRANE APPLIES TO ALL SHOWER ROOMS & DRAINS ABOVE FIRST FLOOR

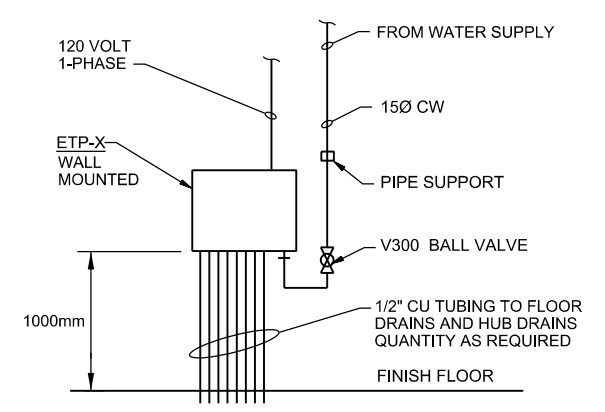
FUNNEL FLOOR DRAIN
NTS

P-05



FLOOR CLEANOUT
NTS

P-06



ELEVATION

ELECTRONIC TRAP PRIMER

P-07



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		DR	APVD
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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

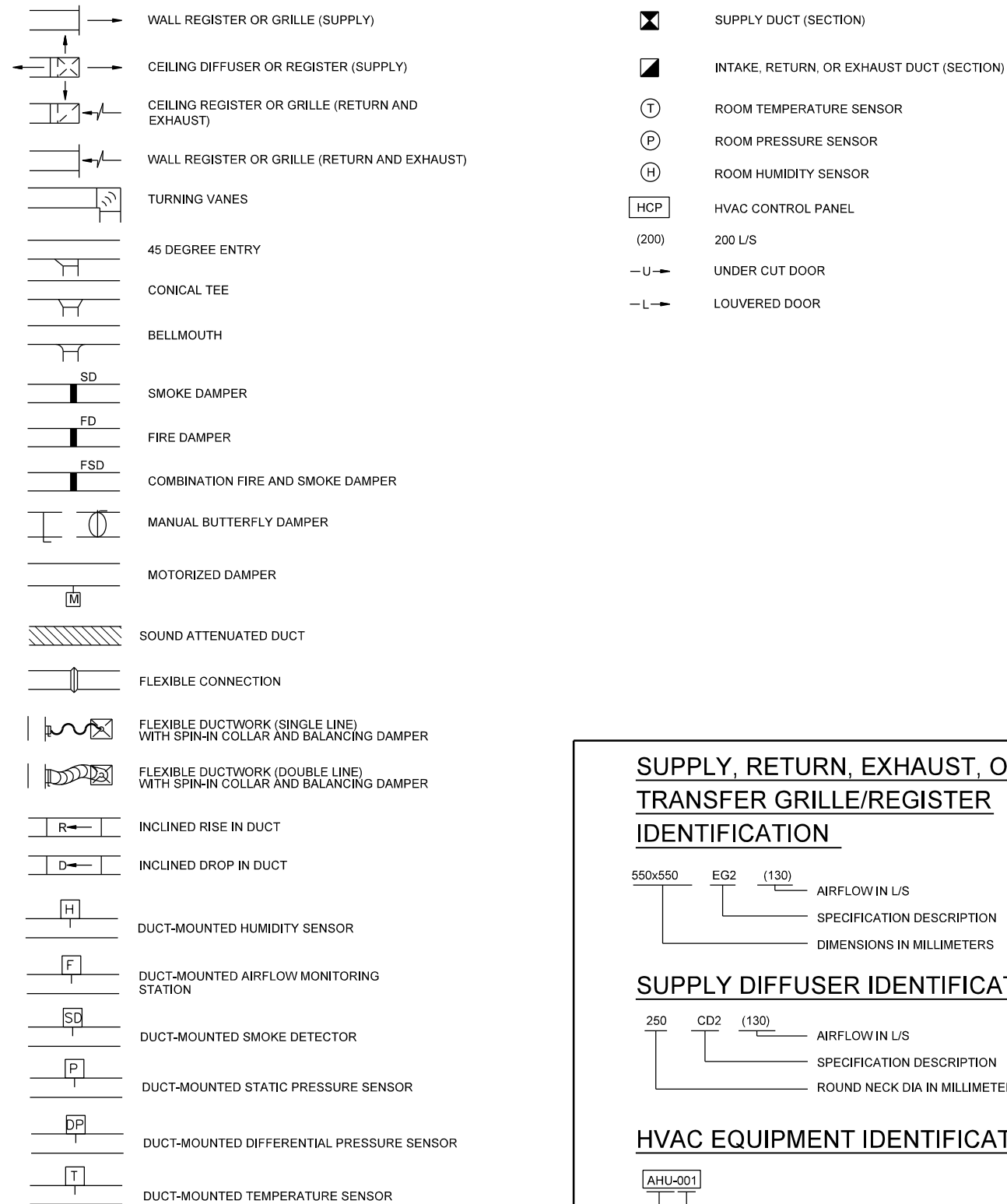
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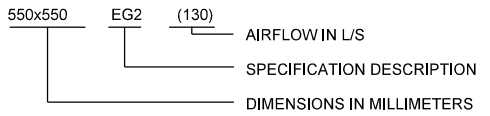
STANDARD DETAILS (2)

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VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 590-P-502
SHEET

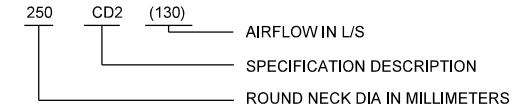
**HEATING, VENTILATING, AND
AIR CONDITIONING SYMBOLS**



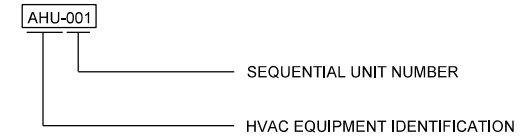
**SUPPLY, RETURN, EXHAUST, OR
TRANSFER GRILLE/REGISTER
IDENTIFICATION**



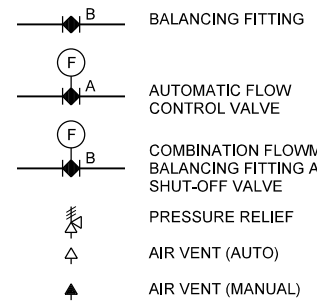
SUPPLY DIFFUSER IDENTIFICATION



HVAC EQUIPMENT IDENTIFICATION

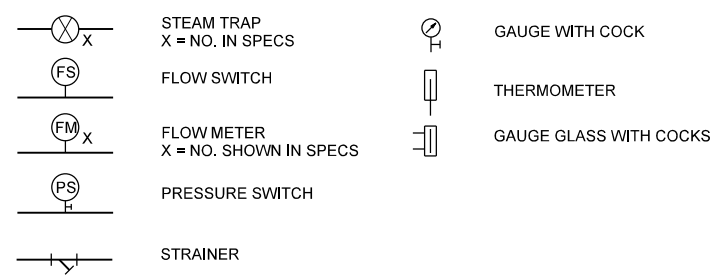


VALVE SYMBOLS



SEE PROCESS LEGEND SHEET FOR ADDITIONAL SYMBOLS

MISCELLANEOUS PIPING SYMBOLS



VALVE DESIGNATIONS

SEE PROCESS LEGEND SHEET

HVAC GENERAL NOTES:

- THIS IS A STANDARD LEGEND THEREFORE, SOME SYMBOLS AND ABBREVIATIONS MAY APPEAR ON THIS SHEET AND NOT ON THE DRAWINGS.
- DUCT AND PIPING ELEVATIONS SHOWN ARE APPROXIMATE, FIELD VERIFY ELEVATIONS PRIOR TO INSTALLATION. EXCEPT WHERE DIMENSIONS ARE SPECIFICALLY INDICATED, MECHANICAL DRAWINGS ARE GENERALLY DIAGRAMMATIC AND SHALL NOT BE SCALED. SIZE AND LOCATION OF EQUIPMENT IS SHOWN TO SCALE WHERE POSSIBLE. DRAWINGS INDICATE THE REQUIRED SIZE AND ROUTES OF SYSTEM ELEMENTS. IT IS NOT INTENDED TO INDICATE ALL OFFSETS, RISERS, OR FITTINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSTALL SYSTEM ELEMENTS IN A MANNER TO CONFORM TO BUILDING STRUCTURE AND TO AVOID OBSTRUCTIONS.
- THE CONTRACTOR SHALL PROVIDE OFFSETS IN THE PIPING AND DUCT RUNS WHERE REQUIRED TO CLEAR EXISTING AND NEW DUCT, STRUCTURE AND OTHER PIPING SYSTEMS.
- REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF LOUVERS AND ROOF OPENINGS.
- COORDINATE FINAL LOCATIONS OF FLOOR AND HUB DRAINS THAT RECEIVE CONDENSATE DRAINAGE FROM HVAC EQUIPMENT.
- TRANSITIONS TO ALL EQUIPMENT SHALL BE VERIFIED AND PROVIDED FOR EQUIPMENT FURNISHED.
- ARRANGE EQUIPMENT INTO THE AVAILABLE SPACE IN A MANNER TO MAKE ALL WORKING PARTS ACCESSIBLE FOR MAINTENANCE AND SERVICE.

HVAC ABBREVIATIONS

AC	AIR CONDITIONING UNIT
ACCU	AIR-COOLED CONDENSING UNIT
ACD	ACCESS DOOR
ACV	AUTOMATIC CONTROL VALVE
AHU	AIR HANDLING UNIT
AS	AIR SEPARATOR
BD	BUTTERFLY DAMPER
BDD	BACKDRAFT DAMPER
BO	BOILER
BOD	BOTTOM OF DUCT
BOG	BOTTOM OF GRILLE
BOP	BOTTOM OF PLENUM
CA	COMBUSTION AIR
CD	CEILING DIFFUSER
CF	CEILING FAN
CG	CEILING GRILLE
CHWP	CHILLED WATER PUMP
CRP	CONDENSATE RETURN PUMP
CRU	CONDENSATE RETURN UNIT
CT	COOLING TOWER
CTP	COOLING TOWER PUMP
CUH	CABINET UNIT HEATER
CV	CONTROL VALVE
CWP	CONDENSER WATER PUMP
DG	DOOR GRILLE
DN	DOWN
EA	EXHAUST AIR
EC	ELECTRIC CONVECTOR
EDH	ELECTRIC DUCT HEATER
EF	EXHAUST FAN
ERH	ELECTRIC RADIANT HEATER
ET	EXPANSION TANK
EUH	ELECTRIC UNIT HEATER
EWH	ELECTRIC WATER HEATER
FC	FAIL IN CLOSED POSITION
FD	FIRE DAMPER
FO	FAIL IN OPEN POSITION
FOB	FLAT ON BOTTOM
FOT	FLAT ON TOP
FSD	COMBINATION FIRE AND SMOKE DAMPER
FT	FINNED TUBE CONVECTOR OR RADIATOR
GIV	GRAVITY INTAKE VENTILATOR
GRV	GRAVITY RELIEF VENTILATOR
GUH	GAS FIRED UNIT HEATER
HCG	HIGH CAPACITY GRILLE
HCP	HVAC CONTROL PANEL
HRU	HEAT RECOVERY UNIT
HTP	HEAT PUMP
HU	HUMIDIFIER
HWH	HOT WATER HEATER
HWP	HEATING WATER PUMP
HX	HEAT EXCHANGER
LD	LINEAR DIFFUSER
MAU	MAKE-UP AIR UNIT
MD	MOTORIZED DAMPER
OB	OPPOSED BLADE DAMPER
OED	OPEN END DUCT
OSA	OUTSIDE AIR
PCG	PERFORATED CEILING GRILLE
PCD	PERFORATED CEILING DIFFUSER
PEF	PORTABLE EXHAUST FAN
RA	RETURN AIR
RAC	ROOM AIR CONDITIONER
SA	SUPPLY AIR
SF	SUPPLY FAN
SD	SLOT DIFFUSER
TAC	TERMINAL AIR CONDITIONER
TCU	TERMINAL CONTROL UNIT
TCV	TEMPERATURE CONTROL VALVE
TG	TRANSFER GRILLE
UH	UNIT HEATER
VD	VOLUME DAMPER
WC	WATER CHILLER
WG	WALL RETURN GRILLE
WGB	WASTE GAS BURNER
WR	WALL RETURN REGISTER
WSG	WALL SUPPLY GRILLE
WSR	WALL SUPPLY REGISTER



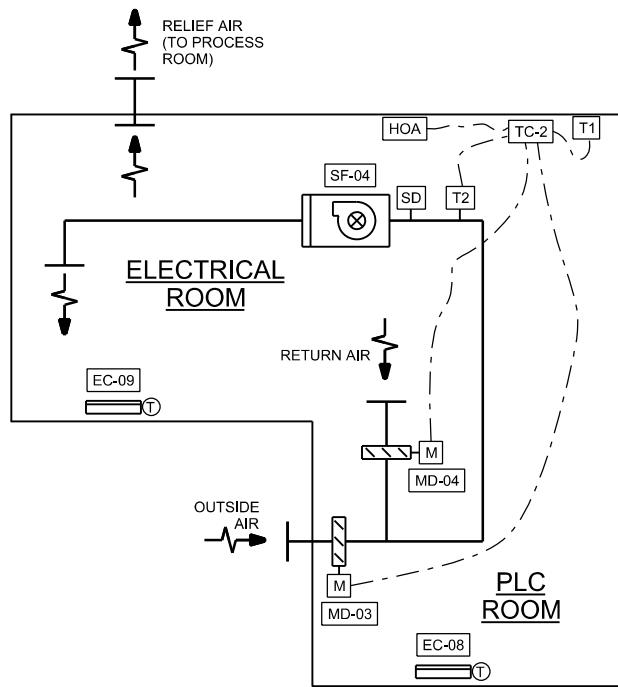
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A	09/2013	GN	GN
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DSGN		CHK	APVD
DESIGN		DR	APVD
DESIGN		CHK	APVD
DESIGN		DR	APVD

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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®
BUILDING MECHANICAL
GENERAL LEGEND, SYMBOLS
AND ABBREVIATIONS

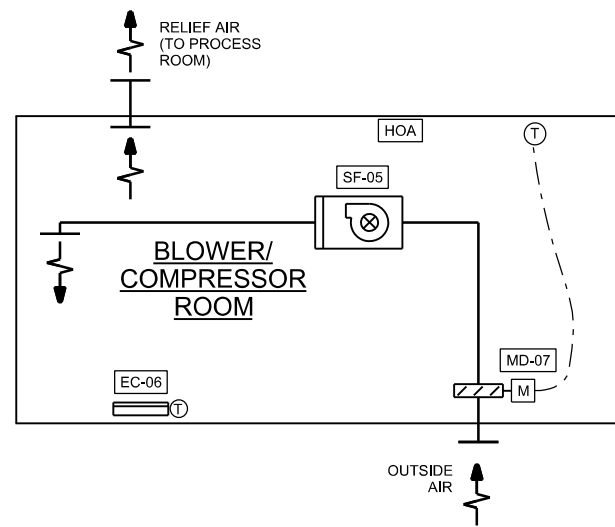
NTS	
VERIFY SCALE	
BAR IS 25mm ON ORIGINAL DRAWING.	
DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	500-GM-001
SHEET	SHEET-NO



HVAC SYSTEM - CONTROL LOGIC TABLE FARO MINE WATER TREATMENT PLANT ELECTRICAL ROOM VENTILATION SYSTEM							
CONTROLLERS				EQUIPMENT			REMARKS
SWITCH	STATUS	DEVICE	STATUS	SF-04	MD-03	MD-04	
HOA	OFF	---	---	OFF	CLOSED	OPEN	(1)
	HAND	---	---	ON	---	---	(1)
	AUTO	TC-2: T1	< 20 C	OFF	CLOSED	OPEN	(2)
			≥ 20 C	ON	---	---	(2)
			≥ 40 C	ON	---	---	(4)
TC-2: T2	< 10 C	---	MINIMUM	MAXIMUM	(3)		
	> 15 C	---	MAXIMUM	MINIMUM	(3)		
	NO SMOKE	---	---	---	(5)		
SD	NO SMOKE	---	---	---	---	(5)	
	SMOKE	OFF	CLOSED	OPEN	(5)		

REMARKS:

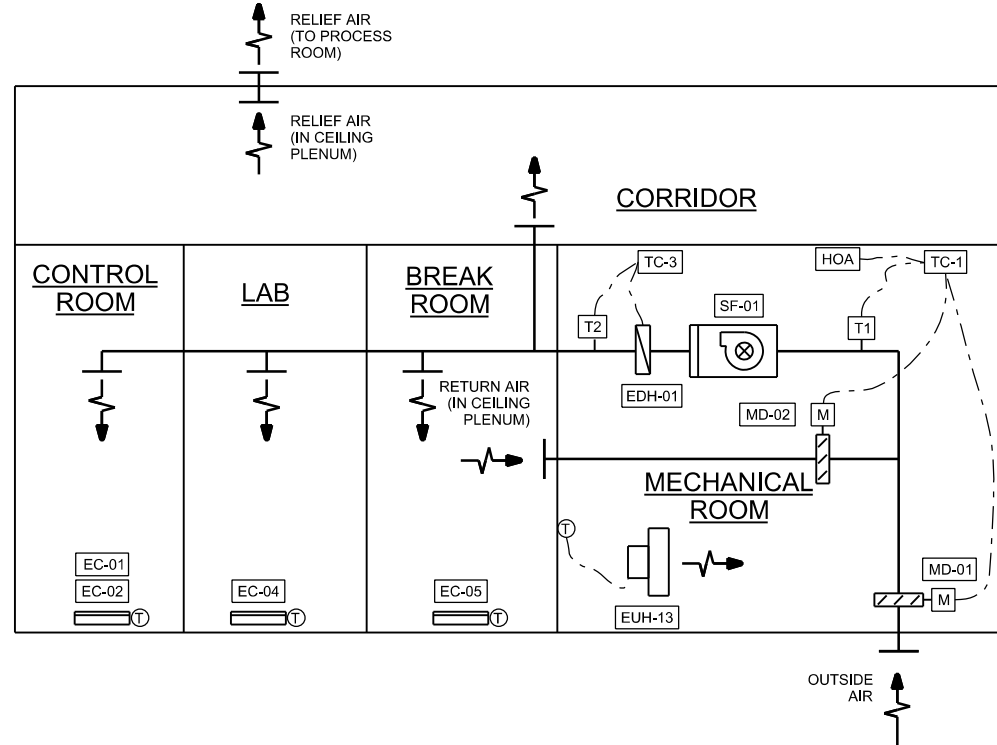
- HOA SWITCH PROVIDED BY ELECTRICAL DIVISION COMPLETE WITH HARDWIRED CONTROL AND POWER SUPPLY FOR FAN AND DAMPERS. MECHANICAL DIVISION PROVIDES 24 VAC TRANSFORMER FOR THE DAMPERS AS WELL AS CONTROL SIGNALS FROM TEMPERATURE CONTROLLER (TC-2). DAMPERS SHALL BE FIELD INSTALLED WITH NORMAL POSITIONS AS SHOWN.
- ELECTRICAL DIVISION PROVIDES RELAY CONTACT IN AUTO POSITION TO BE USED BY MECHANICAL DIVISION TO PROVIDE DIGITAL INPUT TO TC-2 TO BRING DAMPERS UNDER CONTROL. MECHANICAL DIVISION TO PROGRAM TC-2 TO ENERGIZE THE SUPPLY FAN BASED ON TEMPERATURE INPUT SIGNAL OF T1.
- MECHANICAL DIVISION TO PROVIDE ALL CONTROL WIRINGS AND PROGRAM TC-2 TO MODULATE DAMPERS TO MAINTAIN MIXED-AIR TEMPERATURE AT 12.5C WITH THROTTLING RANGE OF 5C.
- MECHANICAL DIVISION TO PROGRAM TC-2 TO CLOSE A RELAY CONTACT TO INDICATE HIGH TEMPERATURE ALARM CONDITION. ELECTRICAL DIVISION TO PROVIDE HIGH TEMPERATURE ALARM INDICATOR AND WIRINGS AT THE LOCAL PANEL AND A REMOTE ALARM RELAY TO ANNUNCIATE AT THE DESIGNATED PLC PANEL.
- ELECTRICAL DIVISION TO PROVIDE HARDWIRED CONTROLS TO SHUT DOWN THE SYSTEM UPON DETECTION OF SMOKE, AND PROVIDE SMOKE ALARMS AT LOCAL CONTROL PANEL AS WELL AS AT DESIGNATED PLC PANEL.



HVAC SYSTEM - CONTROL LOGIC TABLE FARO MINE WATER TREATMENT PLANT BLOWER / COMPRESSOR ROOM VENTILATION SYSTEM							
CONTROLLERS				EQUIPMENT		REMARKS	
SWITCH	STATUS	DEVICE	STATUS	SF-05	MD-07		
HOA	OFF	---	---	OFF	CLOSED	(1)	
	HAND	---	---	ON	OPEN	(1)	
	AUTO	T	< 20 C	OFF	CLOSED		
≥ 20 C			ON	OPEN			

REMARKS:

- HOA SWITCH PROVIDED BY ELECTRICAL DIVISION COMPLETE WITH HARDWIRED CONTROL AND POWER SUPPLY FOR FAN AND MOTORIZED DAMPERS.



HVAC SYSTEM - CONTROL LOGIC TABLE FARO MINE WATER TREATMENT PLANT ADMINISTRATION AREA HEATING AND VENTILATION SYSTEM									
CONTROLLERS				EQUIPMENT				REMARKS	
SWITCH	STATUS	DEVICE	STATUS	SF-01	MD-01	MD-02	EDH-01		
HOA	OFF	---	---	OFF	CLOSED	OPEN	---	(1)	
	HAND	---	---	ON	---	---	---	(1)	
	AUTO	TC-1: SCHEDULE	ON	ON	---	---	---	---	(2)
			OFF	OFF	CLOSED	OPEN	---	---	(2)
			< 18 C	---	MINIMUM	MAXIMUM	---	---	(3)
TC-1: T1	> 23 C	---	MAXIMUM	MINIMUM	---	---	---	(3)	
	< SETPOINT	---	---	---	---	---	ON	(4)	
TC-3	---	T2	> SETPOINT	---	---	---	OFF	(4)	

REMARKS:

- HOA SWITCH PROVIDED BY ELECTRICAL DIVISION COMPLETE WITH HARDWIRED CONTROL AND POWER SUPPLY FOR FAN AND DAMPERS. MECHANICAL DIVISION PROVIDES 24 VAC TRANSFORMER FOR THE DAMPER AS WELL AS CONTROL SIGNALS FROM TC-1. DAMPERS SHALL BE FIELD INSTALLED WITH NORMAL POSITIONS AS SHOWN.
- ELECTRICAL DIVISION PROVIDES RELAY CONTACT IN AUTO POSITION TO BE USED BY MECHANICAL DIVISION TO PROVIDE DIGITAL INPUT TO TEMPERATURE CONTROLLER (TC-1) TO BRING DAMPERS UNDER CONTROL. MECHANICAL DIVISION TO PROGRAM TC-1 TO PROVIDE OPERATING SCHEDULE TO ENERGIZE THE SYSTEM FROM 7:00 TO 18:00 AND SHUTDOWN THE SYSTEM FROM 18:01 TO 6:59 EVERY DAY OF THE WEEK.
- MECHANICAL DIVISION TO PROVIDE ALL CONTROL WIRINGS AND PROGRAM TC-1 TO MODULATE DAMPERS TO MAINTAIN MIXED-AIR TEMPERATURE AT 20.5C WITH THROTTLING RANGE OF 5C. MINIMUM DAMPER POSITION SHALL BE FIELD ADJUSTED TO PROVIDE MINIMUM 94 L/S OUTSIDE VENTILATION AIR.
- ELECTRIC DUCT HEATER COMPLETE WITH INTERNAL SAFETY CONTROLS, REMOTE TEMPERATURE CONTROLLER (TC-3) AND REMOTE DUCT TEMPERATURE SENSOR. MECHANICAL DIVISION TO PROVIDE ALL CONTROL WIRINGS BETWEEN EDH-01 AND TC-3 AND REMOTE TEMPERATURE SENSOR. DISCHARGE AIR TEMPERATURE (T2) SET-POINT IS ADJUSTABLE, INITIALLY SET AT 15C.



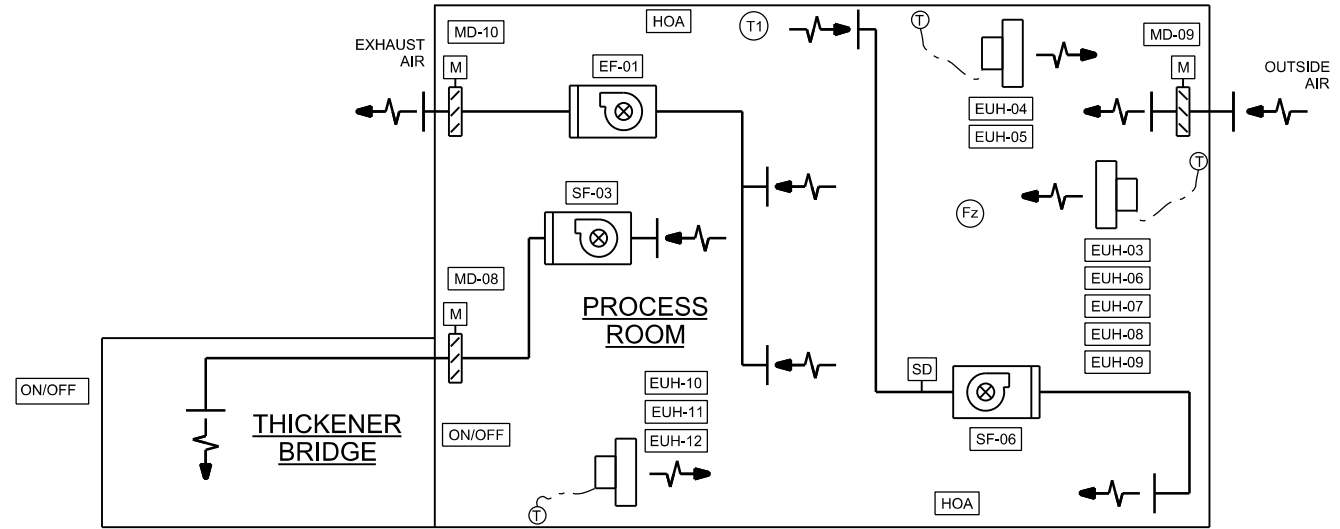
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ISSUED FOR ADVANCED DESIGN REVIEW	KF	KF	BY	APVD
NO. DATE	NO.	DATE	NO.	DATE
D/SGN	T. TRAN	CHK	K. FONG	APVD

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FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN GOVERNMENT OF YUKON DESIGN

CH2MHILL® BUILDING MECHANICAL HVAC CONTROL NARRATIVE (1)

NTS
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 500-M-601
SHEET



HVAC SYSTEM - CONTROL LOGIC TABLE
FARO MINE WATER TREATMENT PLANT
PROCESS ROOM VENTILATION SYSTEM

CONTROLLERS				EQUIPMENT						REMARKS	
SWITCH	STATUS	DEVICE	STATUS	EF-01	SF-03	MD-08	MD-09	MD-10	SF-06		
EF-01: HOA	OFF	---	---	OFF	---	---	CLOSED	CLOSED	---	(1)	
	HAND	---	---	ON	---	---	OPEN	OPEN	---	(2)	
		AUTO	TIMER	OFF	OFF	---	---	CLOSED	CLOSED		---
SF-06: HOA	OFF	---	---	---	---	---	---	---	OFF	(5)	
	HAND	---	---	---	---	---	---	---	ON		
		AUTO	T1	< 20	---	---	---	---	---		OFF
	SD	---	---	NO SMOKE	---	---	---	---	---		---
		---	---	SMOKE	OFF	OFF	---	CLOSED	CLOSED		OFF
SF-03: ON-OFF	OFF	---	---	---	OFF	CLOSED	---	---	---	(3)	
	ON	---	---	---	ON	OPEN	---	---	---	(4)	
---	---	Fz	< 2 C	OFF	---	---	CLOSED	CLOSED	---	(4)	

REMARKS:

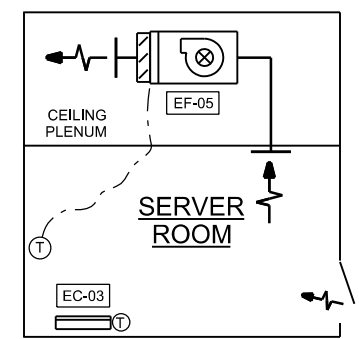
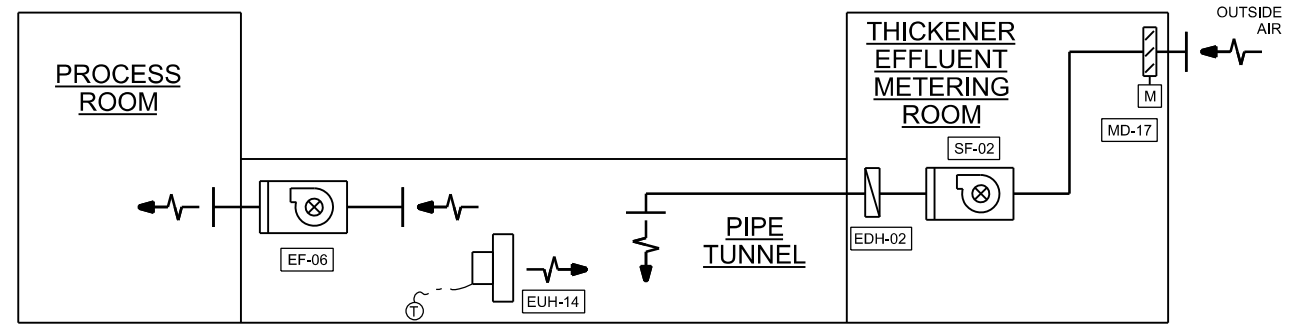
- HOA SWITCH PROVIDED BY ELECTRICAL DIVISION COMPLETE WITH HARDWIRE CONTROL AND POWER SUPPLY FOR FAN AND MOTORIZED DAMPERS. DAMPERS AND ACTUATOR SHALL BE FIELD INSTALLED WITH NORMAL POSITIONS AS SHOWN.
- ELECTRICAL DIVISION PROVIDES ADJUSTABLE ELECTRIC TIMER RELAY AND WIRING, INITIALLY SET FOR FAN TO OPERATE 30 MINUTES AT EVER 15 MINUTES INTERVAL.
- ELECTRICAL DIVISION PROVIDES THREE-WAY ON-OFF SWITCHES, ONE AT EACH ENTRY TO THE BRIDGE, COMPLETE WITH INDICATOR LIGHT TO ALERT OPERATORS THAT THE FAN IS IN OPERATION.
- LOW LIMIT THERMOSTAT PROVIDED BY MECHANICAL DIVISION. ELECTRICAL DIVISION PROVIDES CONTROL WIRINGS TO SHUTDOWN BOTH FANS AND CLOSE BOTH DAMPERS WHEN ROOM TEMPERATURE IS AT OR BELOW SET POINT, AND PROVIDE LOCAL AND REMOTE ALARM AT DESIGNATED PLC PANEL.
- ELECTRICAL DIVISION TO PROVIDE HARDWIRED CONTROLS TO SHUT DOWN THE SYSTEM UPON DETECTION OF SMOKE, AND PROVIDE SMOKE ALARMS AT LOCAL CONTROL PANEL AS WELL AS AT DESIGNATED PLC PANEL.

HVAC SYSTEM - CONTROL LOGIC TABLE
FARO MINE WATER TREATMENT PLANT
PIPE TUNNEL VENTILATION SYSTEM

CONTROLLERS				EQUIPMENT				REMARKS
SWITCH	STATUS	DEVICE	STATUS	SF-02	EF-06	MD-17	EDH-02	
ON-OFF	OFF	---	---	OFF	OFF	CLOSE	---	(1)
	ON	---	---	ON	ON	OPEN	---	(2)
		T	< SETPOINT	---	---	---	ON	
---	---	---	> SETPOINT	---	---	---	OFF	

REMARKS:

- ELECTRICAL DIVISION PROVIDES THREE-WAY ON-OFF SWITCHES, ONE AT EACH ENTRY TO THE TUNNEL, COMPLETE WITH INDICATOR LIGHT TO ALERT OPERATORS THAT THE FANS ARE IN OPERATION.
- ELECTRIC DUCT HEATER COMPLETE WITH INTERNAL SAFETY CONTROLS AND TEMPERATURE SENSOR. DISCHARGE AIR TEMPERATURE SENSOR (T) SETPOINT IS ADJUSTABLE, INITIALLY SET AT 5C



HVAC SYSTEM - CONTROL LOGIC TABLE
FARO MINE WATER TREATMENT PLANT
SERVER ROOM VENTILATION SYSTEM

CONTROLLERS				EQUIPMENT		REMARKS
SWITCH	STATUS	DEVICE	STATUS	EF-05		
HOA	OFF	---	---	OFF		
	HAND	---	---	ON		
		ROOM THERMOSTAT	≤ 25 C	OFF		
---	---	> 25 C	ON			

REMARKS:



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REVISION	NO.	DATE	CHK
			DR
			APVD

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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®

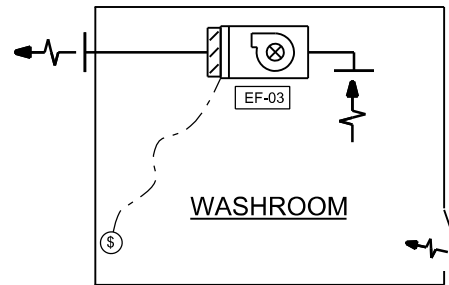
BUILDING MECHANICAL
HVAC CONTROL NARRATIVE (2)

NTS

VERIFY SCALE

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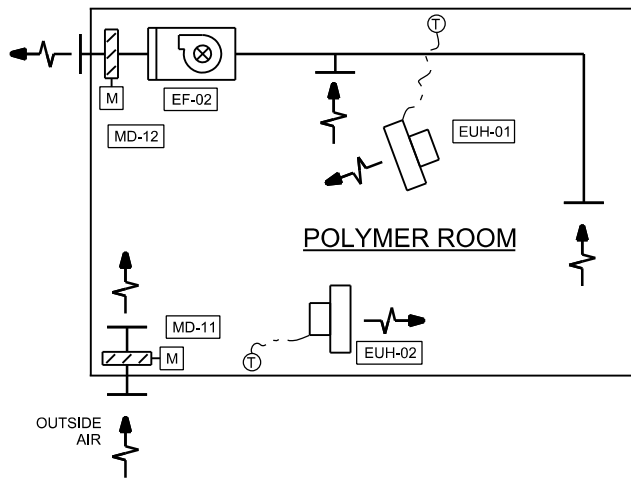
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DWG 500-M-602
SHEET



**HVAC SYSTEM - CONTROL LOGIC TABLE
FARO MINE WATER TREATMENT PLANT
WASHROOM VENTILATION SYSTEM**

CONTROLLERS				EQUIPMENT		REMARKS
SWITCH	STATUS	DEVICE	STATUS	EF-03		
TIMER SWTCH	OFF	---	---	OFF		(1)
	ON	---	---	ON		

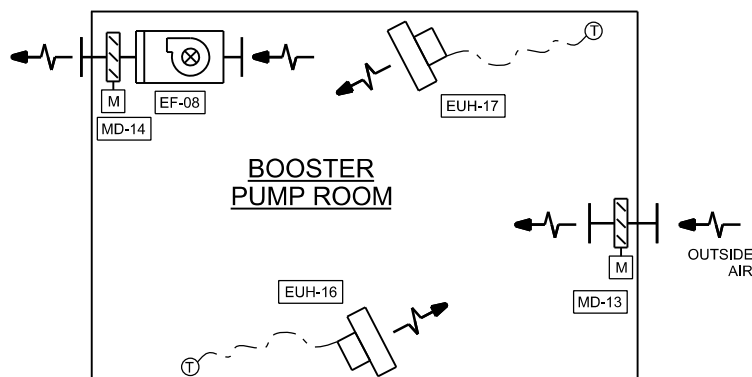
REMARKS:
1 MANUAL TIMER SWITCH PROVIDED BY ELECTRICAL DIVISION COMPLETE WITH HARDWIRE CONTROL AND POWER SUPPLY FOR EXHAUST FAN.



**HVAC SYSTEM - CONTROL LOGIC TABLE
FARO MINE WATER TREATMENT PLANT
POLYMER ROOM VENTILATION SYSTEM**

CONTROLLERS				EQUIPMENT			REMARKS
SWITCH	STATUS	DEVICE	STATUS	EF-02	MD-11	MD-12	
HOA	OFF	---	---	OFF	CLOSED	CLOSED	(1)
	HAND	---	---	ON	OPEN	OPEN	
	AUTO	TIMER		OFF	CLOSED	CLOSED	(2)
			ON	ON	OPEN	OPEN	
---	---	Fz	< 2 C	OFF	CLOSED	CLOSED	(3)

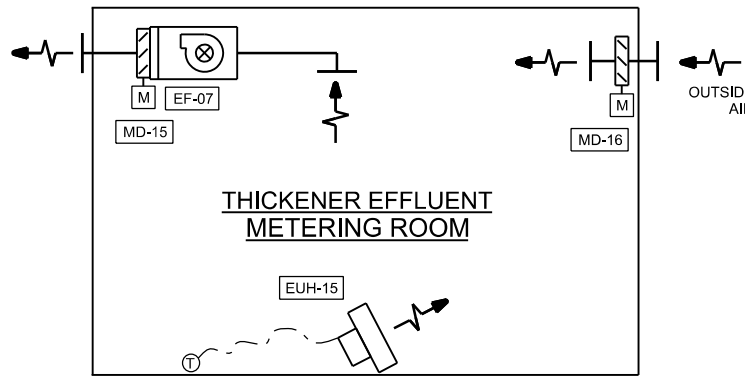
REMARKS:
1 HOA SWITCH PROVIDED BY ELECTRICAL DIVISION COMPLETE WITH HARDWIRE CONTROL AND POWER SUPPLY FOR FAN AND MOTORIZED DAMPERS. DAMPERS AND ACTUATOR SHALL BE FIELD INSTALLED WITH NORMAL POSITIONS AS SHOWN.
2 ELECTRICAL DIVISION PROVIDES ADJUSTABLE ELECTRIC TIMER RELAY AND WRING, INITIALLY SET FOR FAN TO OPERATE 30 MINUTES AT EVER 15 MINUTES INTERVAL.
3 LOW LIMIT THERMOSTAT PROVIDED BY MECHANICAL DIVISION. ELECTRICAL DIVISION PROVIDES CONTROL WRINGS TO SHUTDOWN BOTH FANS AND CLOSE BOTH DAMPERS WHEN ROOM TEMPERATURE IS AT OR BELOW SET POINT, AND PROVIDE LOCAL AND REMOTE ALARM AT DESIGNATED PLC PANEL.



**HVAC SYSTEM - CONTROL LOGIC TABLE
FARO MINE WATER TREATMENT PLANT
BOOSTER PUMP AND GRIT ROOM VENTILATION SYSTEM**

CONTROLLERS				EQUIPMENT			REMARKS
SWITCH	STATUS	DEVICE	STATUS	EF-08	MD-13	MD-14	
HOA	OFF	---	---	OFF	CLOSED	CLOSED	(1)
	HAND	---	---	ON	OPEN	OPEN	
	AUTO	T1		< 25 C	OFF	CLOSED	CLOSED
			> 25 C	ON	OPEN	OPEN	

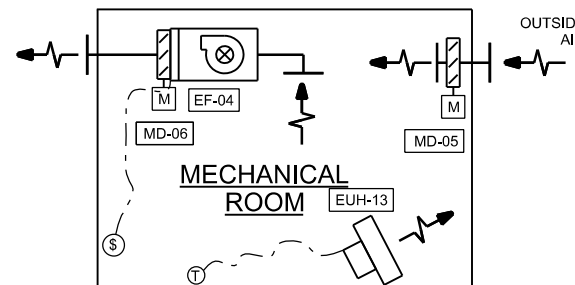
REMARKS:
1 HOA SWITCH PROVIDED BY ELECTRICAL DIVISION COMPLETE WITH HARDWIRED CONTROL AND POWER SUPPLY FOR FAN AND MOTORIZED DAMPERS. DAMPERS AND ACTUATOR SHALL BE FIELD INSTALLED WITH NORMAL POSITIONS AS SHOWN.
2 CONTROL THERMOSTAT WITH ADJUSTABLE TEMPERAURE SETTING, INITIALLY SET AT 25C



**HVAC SYSTEM - CONTROL LOGIC TABLE
FARO MINE WATER TREATMENT PLANT
THICKENER EFFLUENT METERING ROOM VENTILATION SYSTEM**

CONTROLLERS				EQUIPMENT			REMARKS
SWITCH	STATUS	DEVICE	STATUS	EF-07	MD-15	MD-16	
HOA	OFF	---	---	OFF	CLOSED	CLOSED	(1)
	HAND	---	---	ON	OPEN	OPEN	
	AUTO	TIMER		OFF	CLOSED	CLOSED	(2)
			ON	ON	OPEN	OPEN	
---	---	Fz	< 2 C	OFF	CLOSED	CLOSED	(3)

REMARKS:
1 HOA SWITCH PROVIDED BY ELECTRICAL DIVISION COMPLETE WITH HARDWIRE CONTROL AND POWER SUPPLY FOR FAN AND MOTORIZED DAMPERS. DAMPERS AND ACTUATOR SHALL BE FIELD INSTALLED WITH NORMAL POSITIONS AS SHOWN.
2 ELECTRICAL DIVISION PROVIDES ADJUSTABLE ELECTRIC TIMER RELAY AND WRING, INITIALLY SET FOR FAN TO OPERATE 30 MINUTES AT EVERY 15 MINUTES INTERVAL.
3 LOW LIMIT THERMOSTAT PROVIDED BY MECHANICAL DIVISION. ELECTRICAL DIVISION PROVIDES CONTROL WRINGS TO SHUTDOWN BOTH FANS AND CLOSE BOTH DAMPERS WHEN ROOM TEMPERATURE IS AT OR BELOW SET POINT, AND PROVIDE LOCAL AND REMOTE ALARMS AT DESIGNATED PLC PANEL.



**HVAC SYSTEM - CONTROL LOGIC TABLE
FARO MINE WATER TREATMENT PLANT
MECHANICAL ROOM VENTILATION SYSTEM**

CONTROLLERS				EQUIPMENT			REMARKS
SWITCH	STATUS	DEVICE	STATUS	EF-04	MD-05	MD-06	
ON-OFF	OFF	---	---	OFF	CLOSED	CLOSED	
	ON	---	---	ON	OPEN	OPEN	

REMARKS:



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REVISION	CHK	DR	APVD
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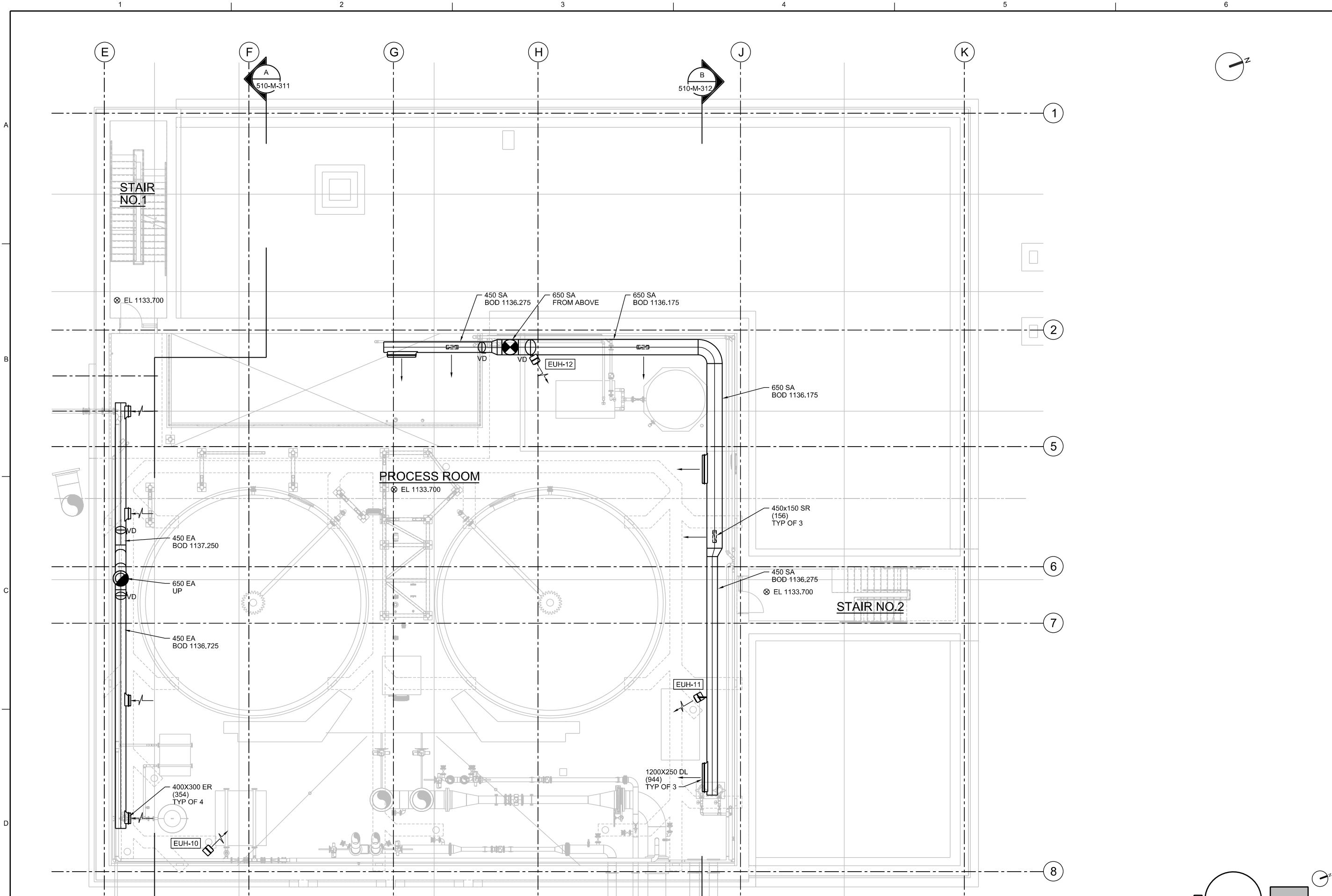
FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN GOVERNMENT OF YUKON DESIGN

CH2MHILL®

BUILDING MECHANICAL

HVAC CONTROL NARRATIVE (3)

NTS
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PLAN AT EL 1133.700
1:75



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A	09/2013	ISSUED FOR ADVANCED DESIGN REVIEW	KF	GN
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				CHK
				DR
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				T. TRAN

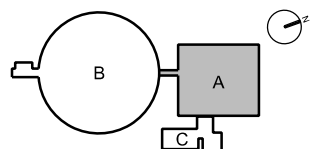
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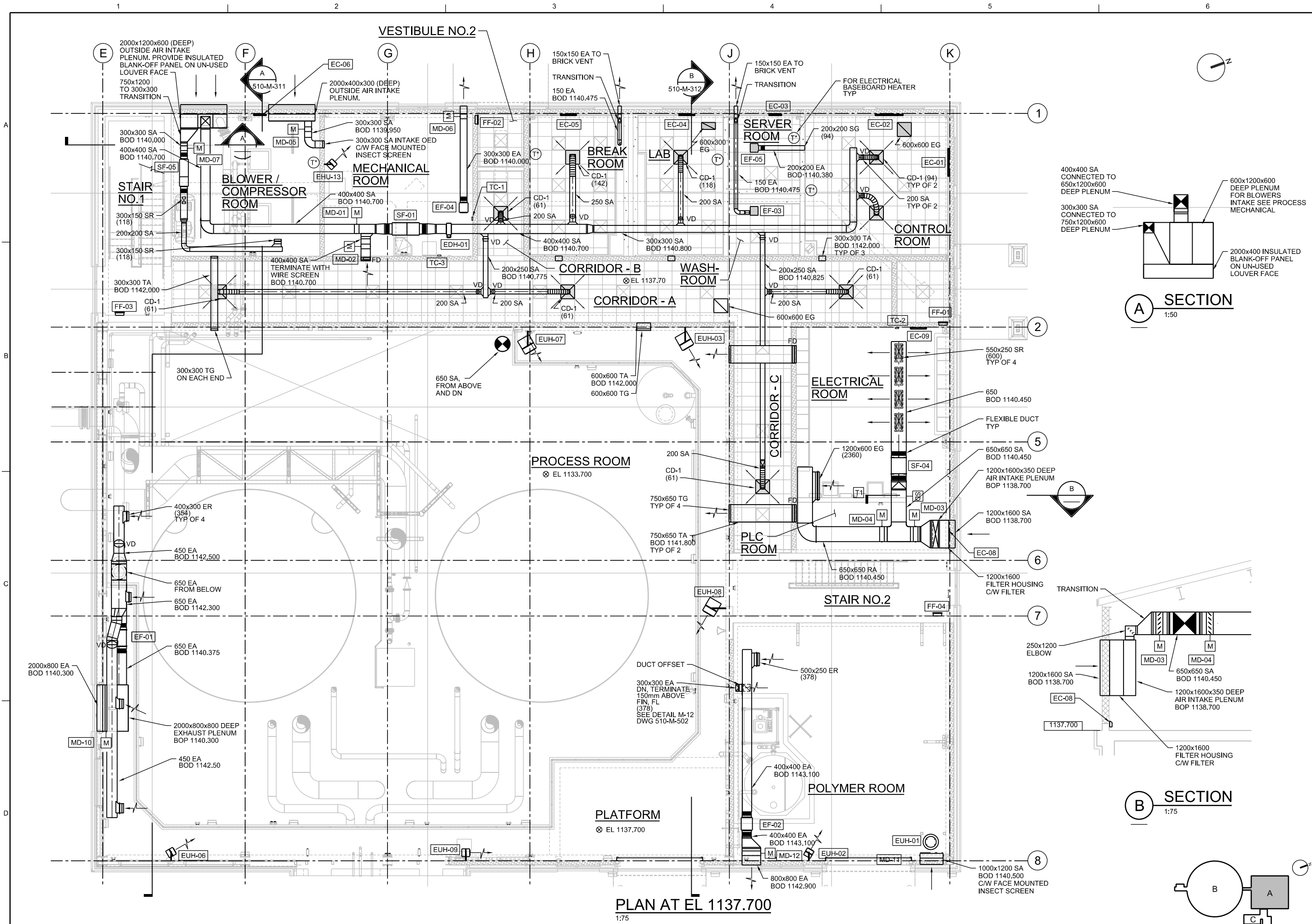
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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BUILDING MECHANICAL
**WATER TREATMENT BUILDING
PLAN AT EL 1133.700**

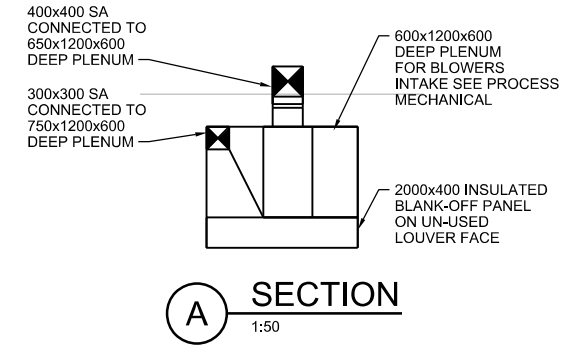
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DATE FEBRUARY 2014
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DWG 510-M-202
SHEET SHEET_NO.

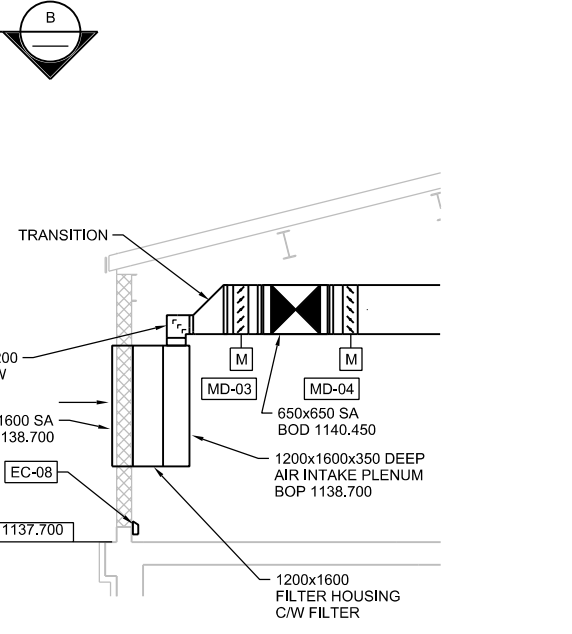




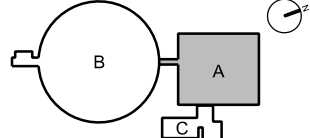
PLAN AT EL 1137.700
1:75



A SECTION
1:50



B SECTION
1:75



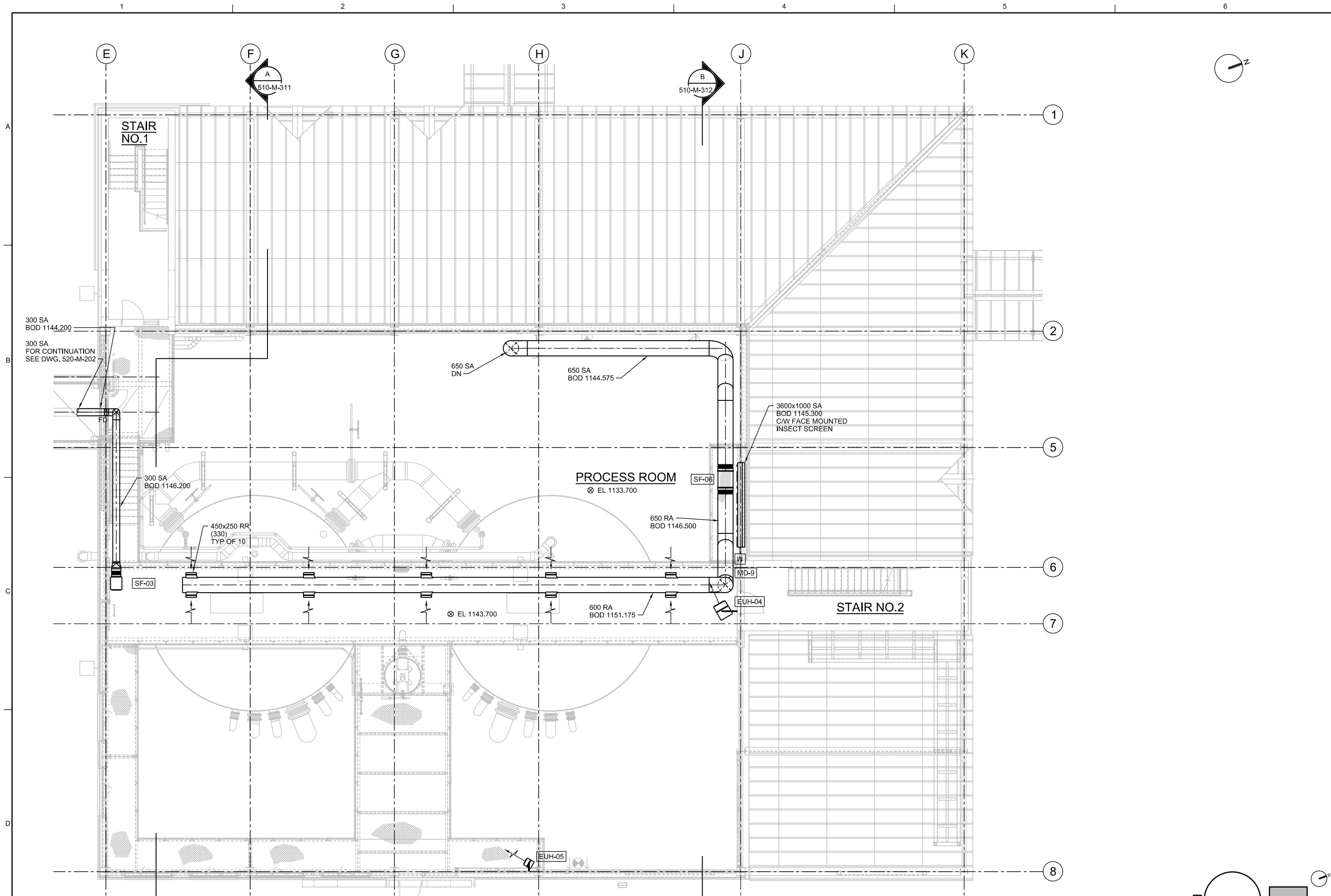
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REVISION	CHK	DR	APVD
DSGN	T. TRAN	K. FONG	T. TRAN
NO.	DATE	DATE	DATE
A	09/2013	B	02/2014

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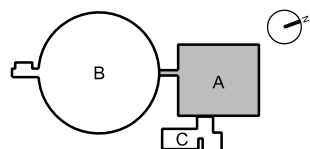
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®
BUILDING MECHANICAL
**WATER TREATMENT BUILDING
PLAN AT EL 1137.700 AND SECTIONS**

1:75
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DATE FEBRUARY 2014
PROJ TA013-427716
DWG 510-M-203
SHEET SHEET_NO.3



PLAN AT EL 1143.700
1:75



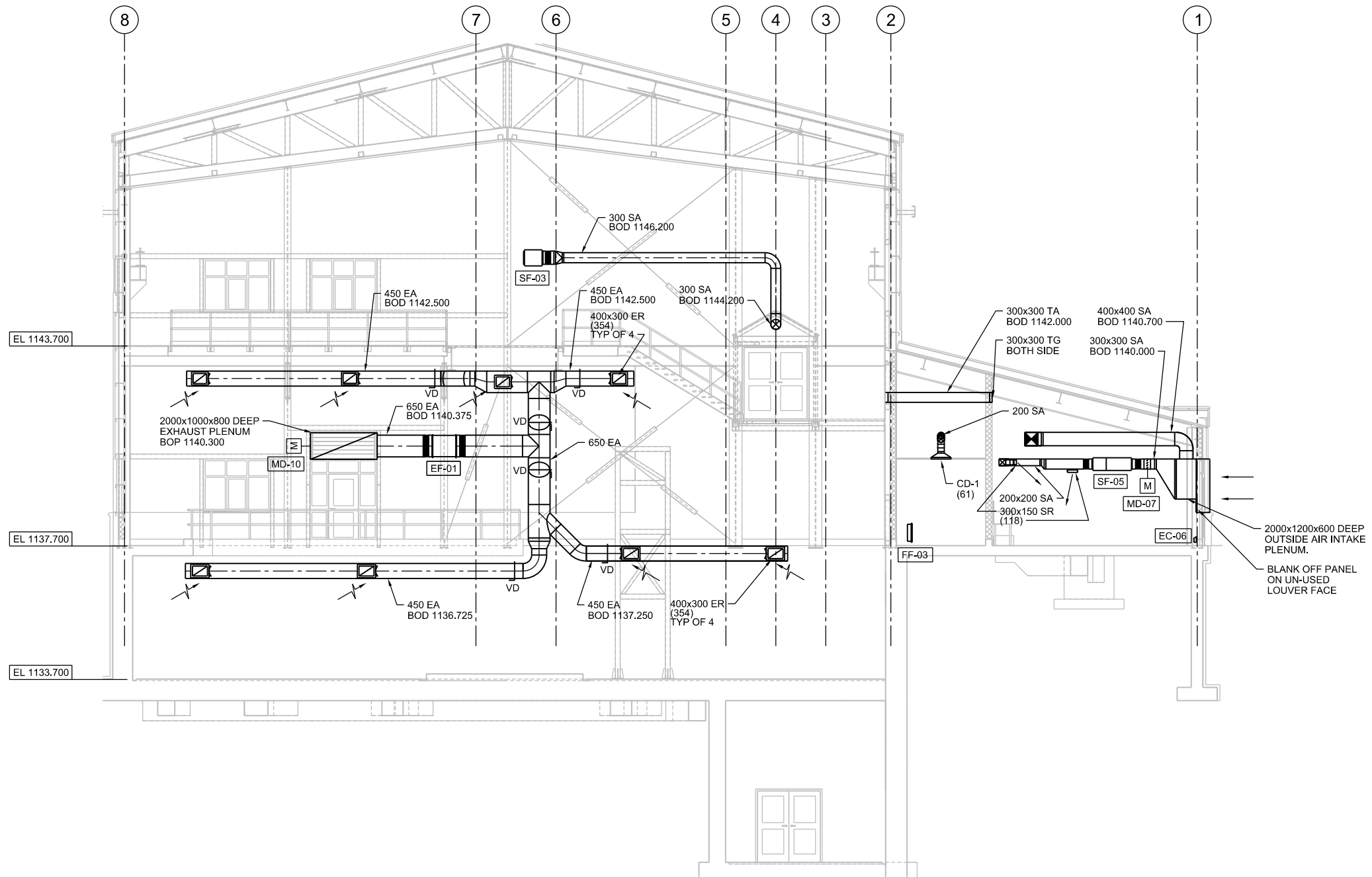
NO.	DATE	REVISION	BY	APVD
B	02/2014	ISSUED FOR DETAIL DESIGN REVIEW	KF	GN
A	09/2013	ISSUED FOR ADVANCED DESIGN REVIEW	KF	GN
				APVD
				CHK
				DR
				T. TRAN
				K. FONG
				T. TRAN

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NOT FOR TENDER OR
CONSTRUCTION**

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®	
BUILDING MECHANICAL	
WATER TREATMENT BUILDING PLAN AT EL 1143.700	
1:75	
VERIFY SCALE	
BAR IS 25mm ON ORIGINAL DRAWING.	
0 25mm	
DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	510-M-204
SHEET	SHEET_NO.

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A SECTION
1:75
510-M0202
510-M0203
510-M0204



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ISSUED FOR ADVANCED DESIGN REVIEW	GN	BY	APVD
REVISION	CHK	DR	APVD
NO.	DATE	NO.	DATE
B	02/2014	T. TRAN	T. TRAN
A	09/2013	K. FONG	K. FONG

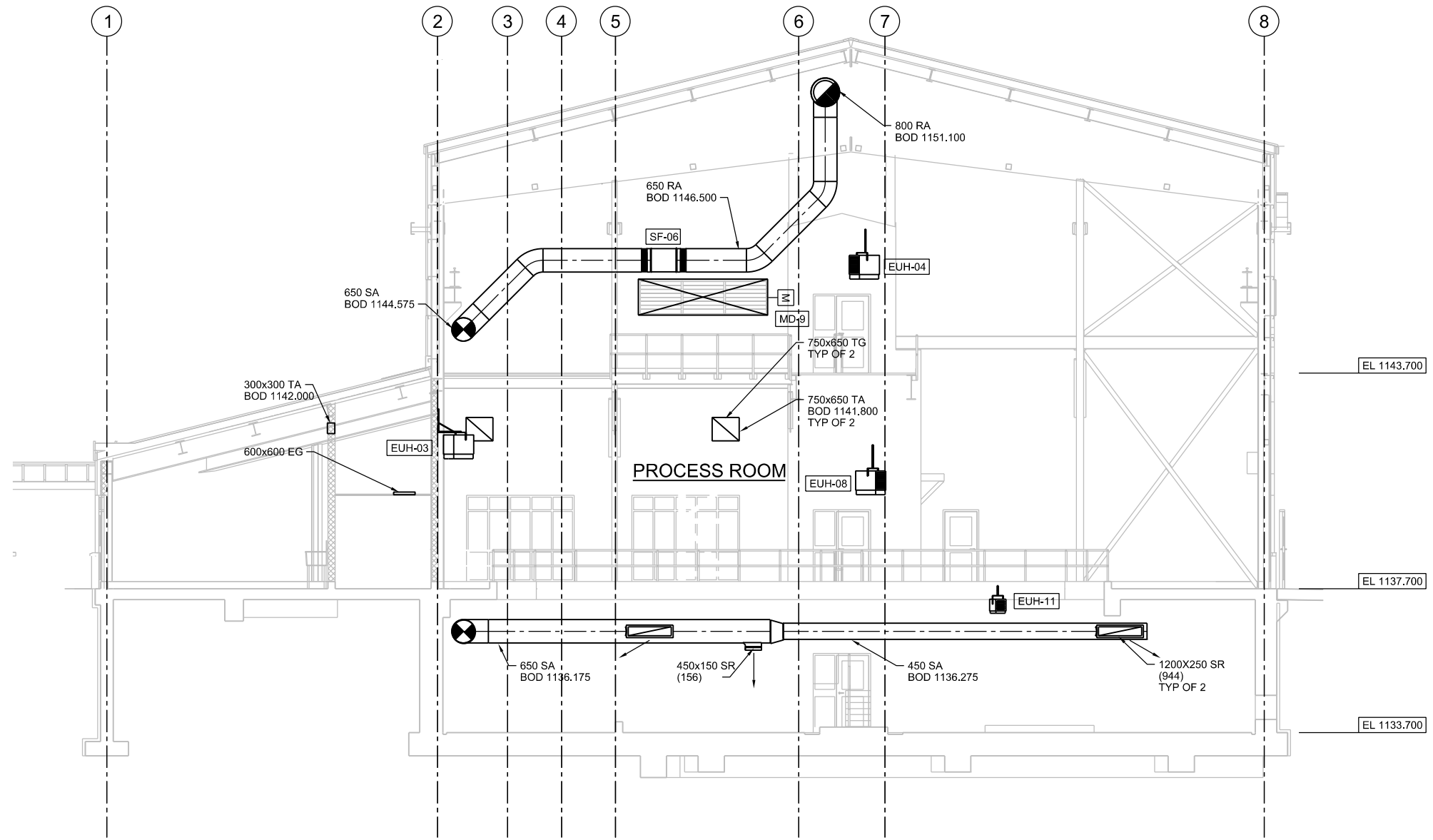
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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®
BUILDING MECHANICAL
WATER TREATMENT BUILDING SECTION - A

NTS
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
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DWG 510-M-311
SHEET

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B SECTION
 1:75
 510-M0202
 510-M0203
 510-M0204



NO.	DATE	NO.	DATE	NO.	DATE
B	02/2014	A	09/2013		
ISSUED FOR DETAIL DESIGN REVIEW		ISSUED FOR ADVANCED DESIGN REVIEW		REVISION	
KF		KF		BY	
GN		GN		APVD	
T. TRAN		K. FONG		T. TRAN	
DR		CHK		APVD	

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 NOT FOR TENDER OR
 CONSTRUCTION**

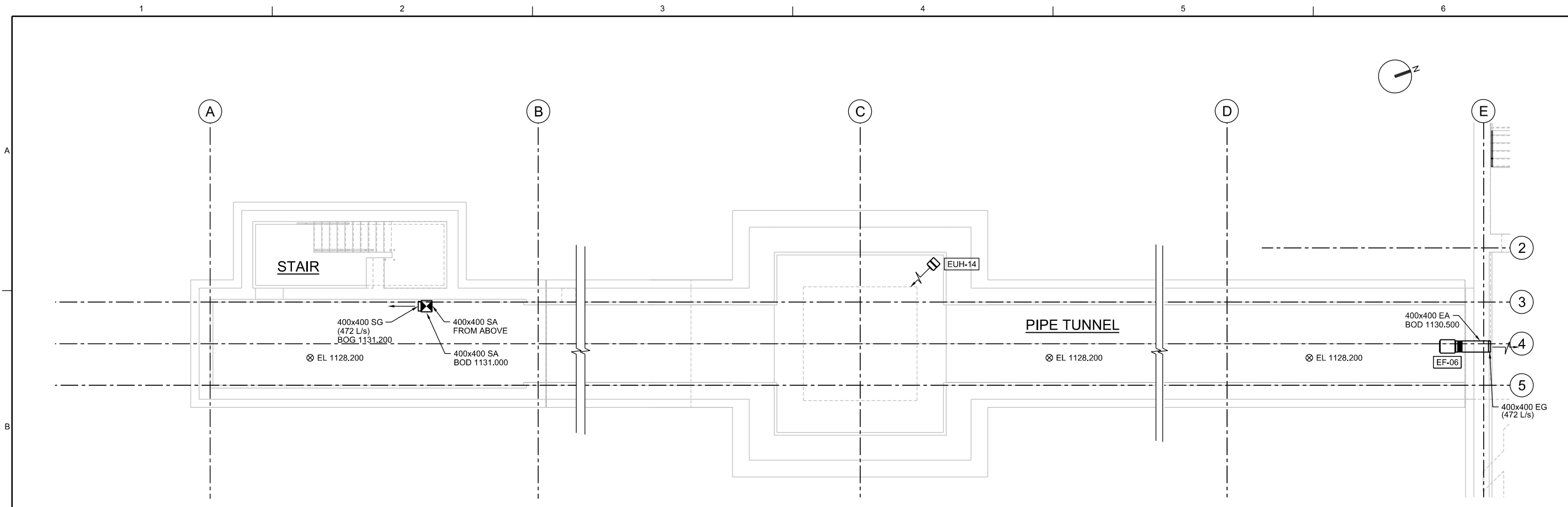
FARO MINE REMEDIATION
 WATER TREATMENT PLANT DESIGN
 GOVERNMENT OF YUKON
 DESIGN

CH2MHILL®
 BUILDING MECHANICAL
**WATER TREATMENT BUILDING
 SECTION - B**

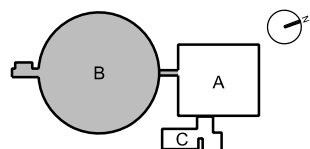
NTS
 VERIFY SCALE
 BAR IS 25mm ON
 ORIGINAL DRAWINGS.
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DATE FEBRUARY 2014
 PROJ TA013-427716
 DWG 510-M-312
 SHEET

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PLAN AT EL 1128.200
1:75



NO.	DATE	REVISION	BY	APVD
B	02/2014	ISSUED FOR DETAIL DESIGN REVIEW	KF	GN
A	09/2013	ISSUED FOR ADVANCED DESIGN REVIEW	KF	GN
DSGN		CHK	DR	APVD
T. TRAN		K. FONG	T. TRAN	APVD

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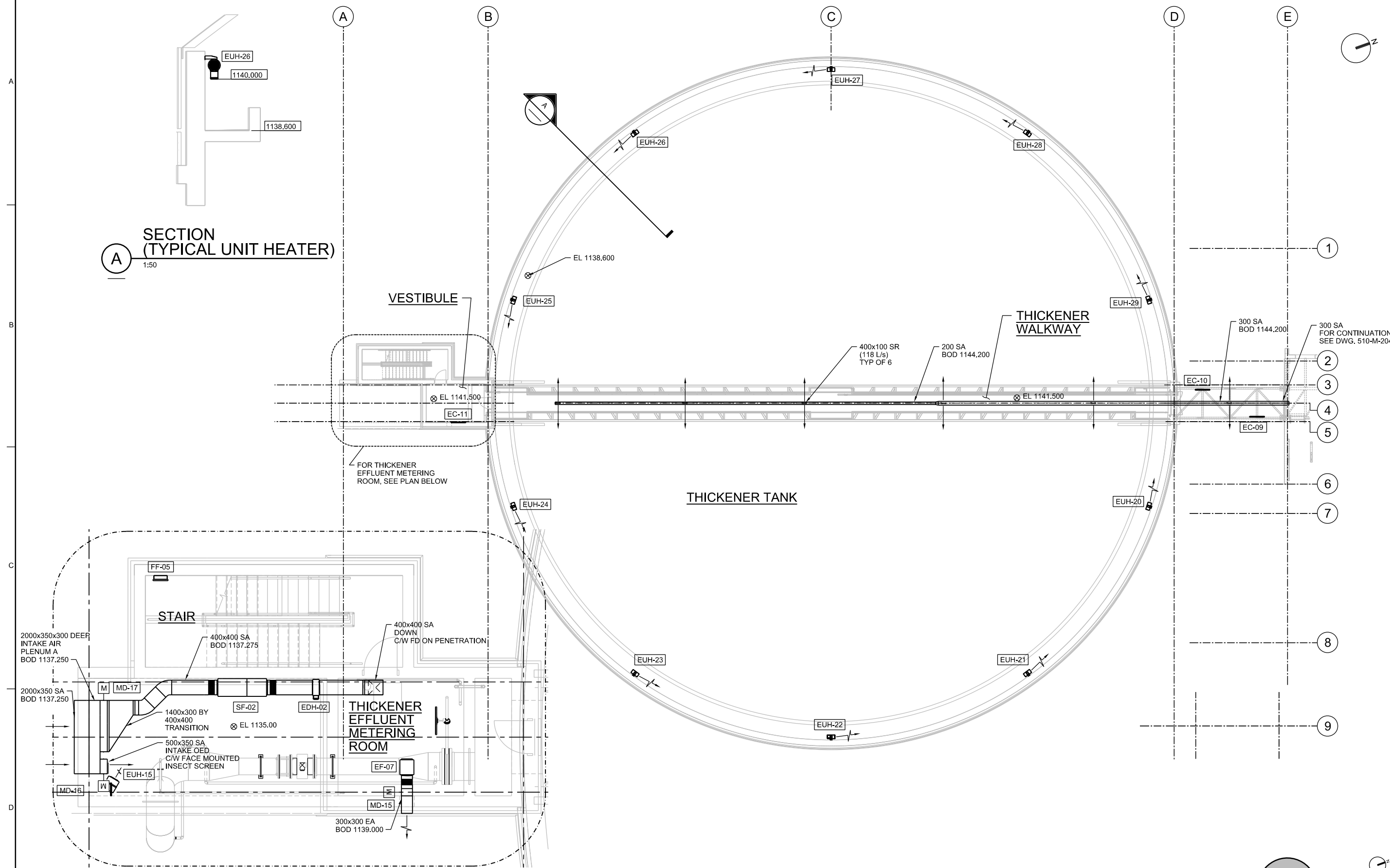
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®
BUILDING MECHANICAL
THICKENER
PLAN AT EL 1128.200

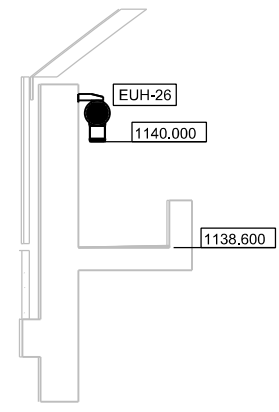
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VERIFY SCALE	
BAR IS 25mm ON ORIGINAL DRAWINGS.	
DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	520-M-201
SHEET	SHEET_NO.

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1 2 3 4 5 6



SECTION (TYPICAL UNIT HEATER)
1:50



PART PLAN
1:50



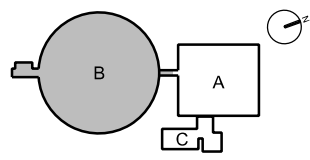
ISSUED FOR DETAIL DESIGN REVIEW	GN	GN	APVD
ISSUED FOR ADVANCED DESIGN REVIEW	KF	KF	BY
REVISION	NO.	DATE	DR
			T. TRAN
			K. FONG
			CHK
			APVD
			T. TRAN

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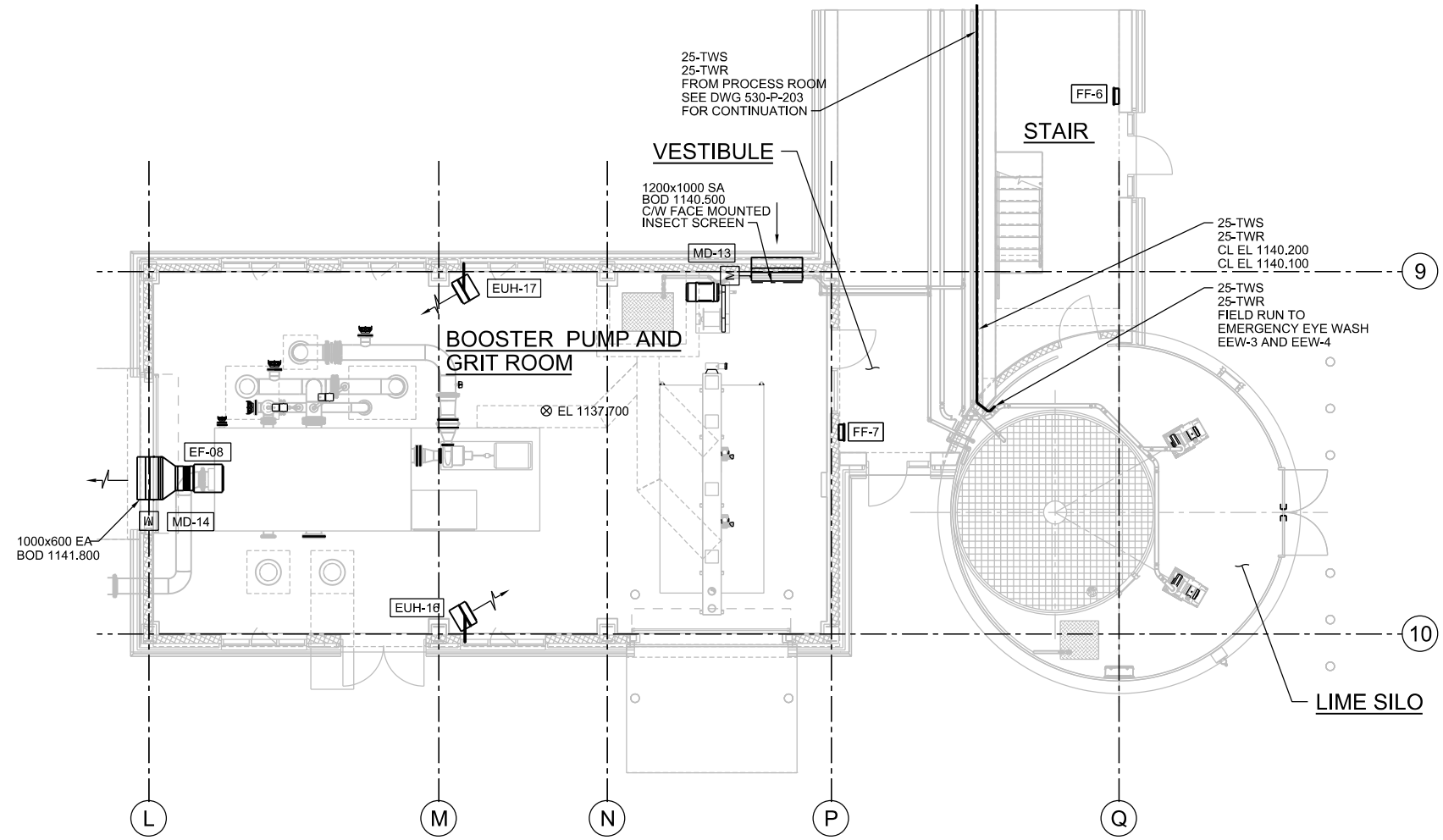
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®
BUILDING MECHANICAL
THICKENER
PLANS AND SECTION

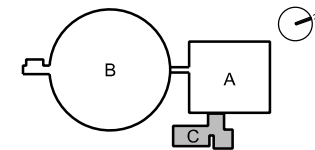
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GROUND FLOOR PLAN
1:75



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A	09/2013				KF	GN

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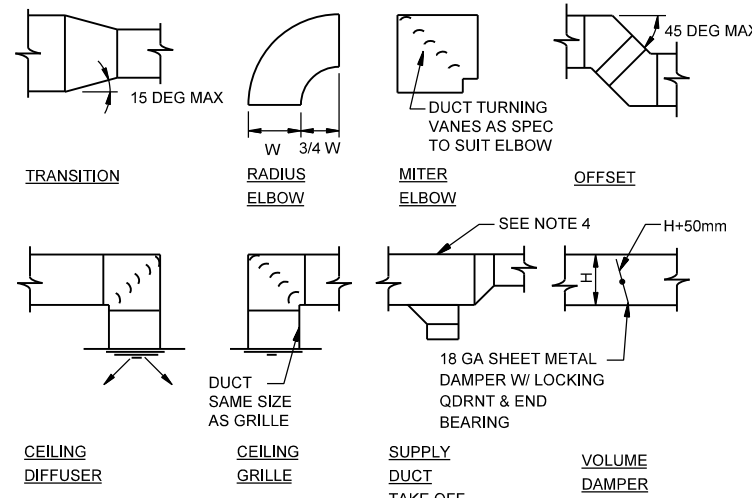
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®
BUILDING MECHANICAL
LIME SILO, GRIT BUILDING
PLAN AT EL 1137.700

1:75
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWINGS, 0 25mm
DATE FEBRUARY 2014
PROJ TA013-427716
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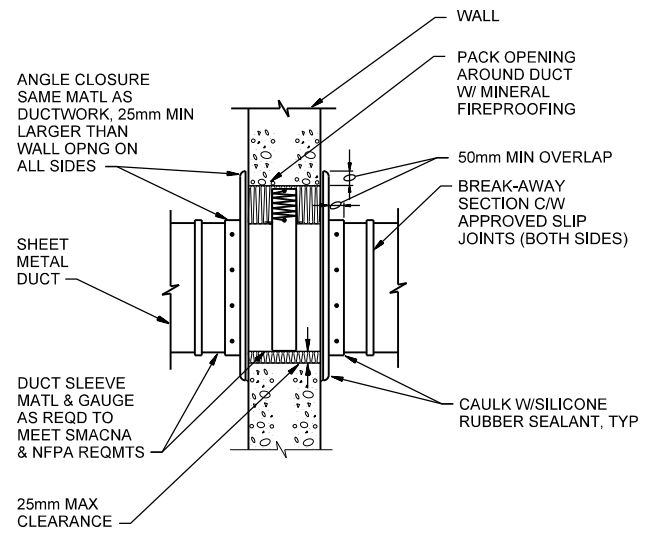
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- NOTES:**
1. CEILING DIFFUSERS AND GRILLES ARE TO BE LOCATED IN THE PANELS BETWEEN THE T-BAR GRIDS IN ALL SUSPENDED CEILING SYSTEMS. WHERE REFLECTED CEILING PLANS ARE PROVIDED, LOCATE DIFFUSERS AND GRILLES AS INDICATED.
 2. SPLITTER DAMPERS ARE NOT ALLOWED.
 3. PROVIDE VOLUME DAMPERS FOR EACH GRILLE AT EACH RETURN CONNECTION AND ANY OTHER LOCATIONS INDICATED ON THE DRAWINGS, IN ACCORDANCE WITH TYPICAL DUCT CONSTRUCTION DETAILS ABOVE. DAMPERS TO BE INSTALLED MINIMUM 1.5m FROM GRILLE, EXCEPT AS NOTED.
 4. 45° WYE OR CONICAL TEE LOW LOSS SUPPLY DUCT TAKE OFF.

DUCT CONSTRUCTION DETAILS
NTS

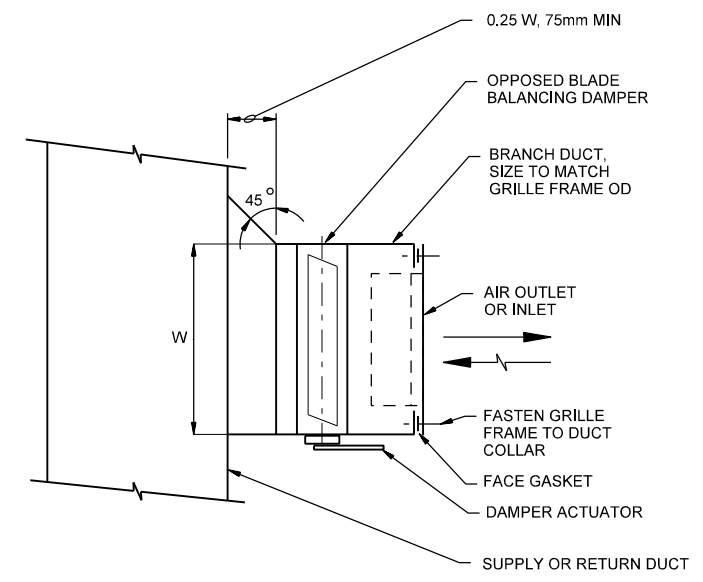
(M-01)



- NOTES:**
1. FLOOR PENETRATION SIMILAR.

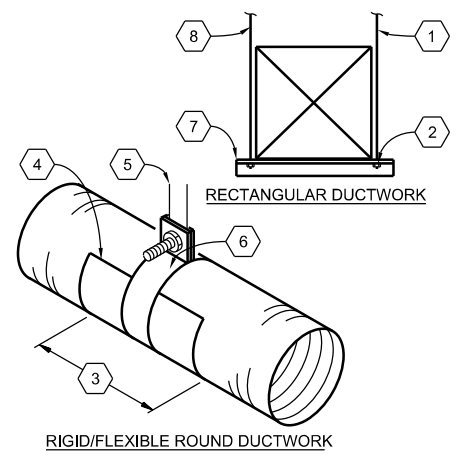
DUCT WALL PENETRATION, FIRE-DAMPENED OPENING
NTS

(M-02)



DUCT MOUNTED AIR OUTLET OR INLET
NTS

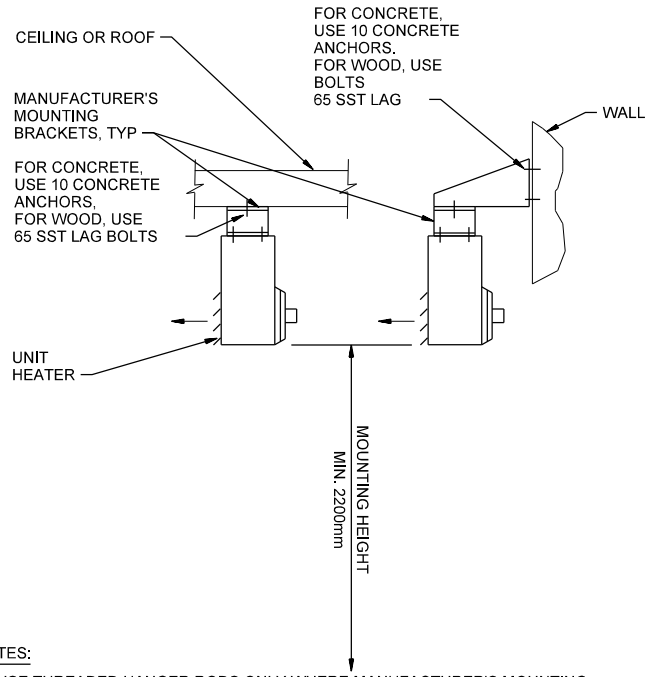
(M-03)



- GENERAL NOTES**
- DO NOT USE POWDER POWERED FASTENING SYSTEMS TO ATTACH SUPPORTS TO STRUCTURE.
 - SUPPORT SYSTEM MUST NOT DAMAGE DUCT, INSULATION, OR CAUSE DUCT SHAPE DEFORMATION.
 - HANGER SIZES SHALL BE IN ACCORDANCE WITH SMACNA, LATEST EDITION.

DUCTWORK SUPPORT
NTS

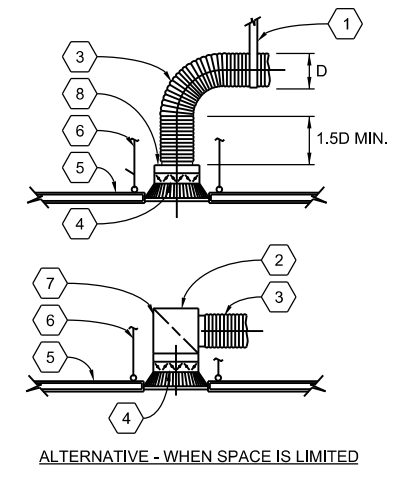
(M-04)



- NOTES:**
1. USE THREADED HANGER RODS ONLY WHERE MANUFACTURER'S MOUNTING BRACKETS ARE NOT PRACTICAL.

UNIT HEATER MOUNTING
NTS

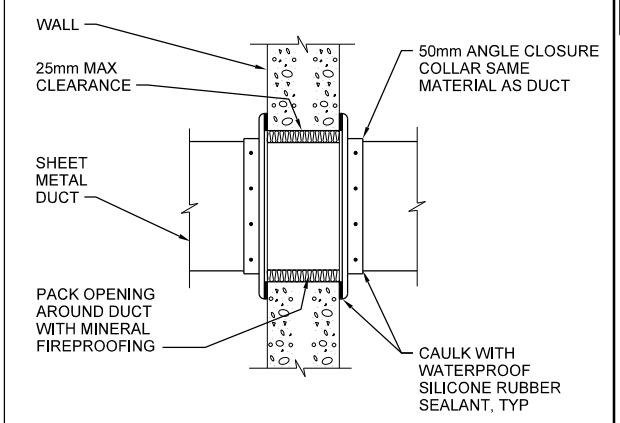
(M-05)



ALTERNATIVE - WHEN SPACE IS LIMITED

CEILING DIFFUSER TAKE-OFFS
NTS

(M-06)



DUCT WALL PENETRATION
NTS

(M-07)



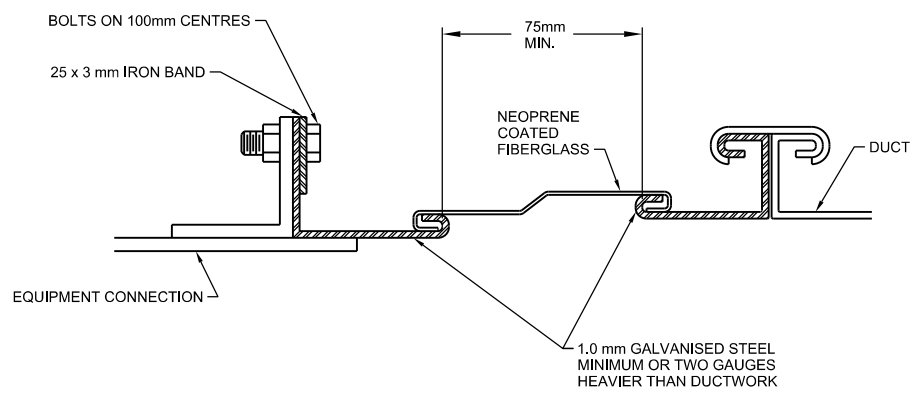
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A	02/2014	KF	GN
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FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON DESIGN

CH2MHILL®
BUILDING MECHANICAL
STANDARD DETAILS (1)

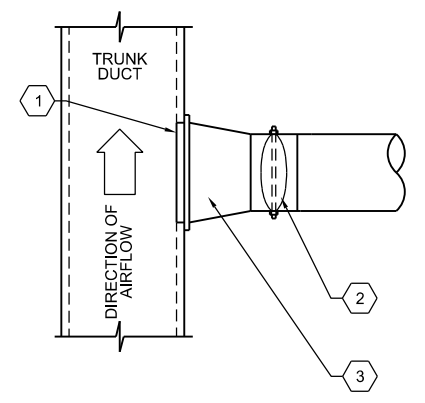
DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	590-M-501
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A
B
C
D



FLEXIBLE DUCT FAN CONNECTION DETAIL
NTS

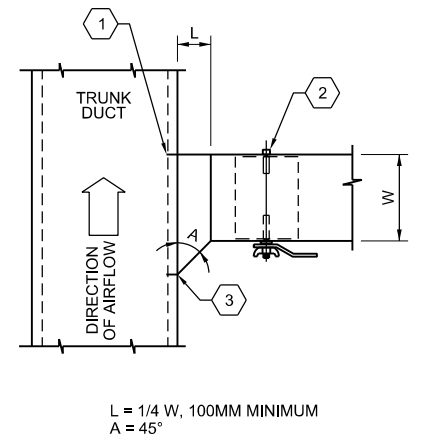
M-08



ROUND DUCT SPIN-IN TAKEOFF
NTS

M-09

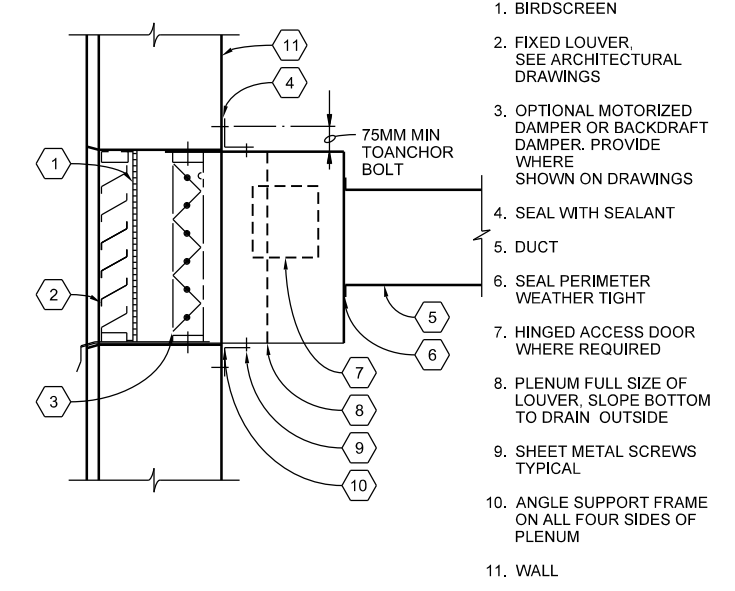
- 1. INSULATION GUARD WHERE REQUIRED
- 2. MANUAL DAMPER WITH LOCKING QUADRANT
- 3. SPIN-IN DUCT FITTING



RECTANGULAR DUCT TAKEOFF
NTS

M-10

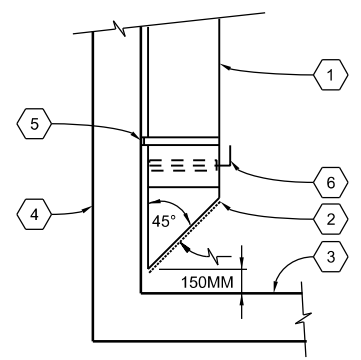
- 1. 25MM INSULATION GUARD WHERE REQUIRED FOR INTERNALLY LINED DUCTWORK.
- 2. MANUAL DAMPER W/ LOCKING QUADRANT
- 3. CLOSE OPENINGS AT CORNERS



LOUVER/PLENUM CONNECTION
NTS

M-11

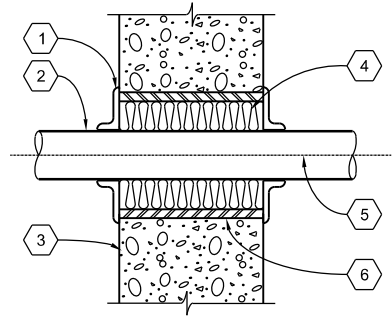
- 1. BIRDSCREEN
- 2. FIXED LOUVER, SEE ARCHITECTURAL DRAWINGS
- 3. OPTIONAL MOTORIZED DAMPER OR BACKDRAFT DAMPER. PROVIDE WHERE SHOWN ON DRAWINGS
- 4. SEAL WITH SEALANT
- 5. DUCT
- 6. SEAL PERIMETER WEATHER TIGHT
- 7. HINGED ACCESS DOOR WHERE REQUIRED
- 8. PLENUM FULL SIZE OF LOUVER. SLOPE BOTTOM TO DRAIN OUTSIDE
- 9. SHEET METAL SCREWS TYPICAL
- 10. ANGLE SUPPORT FRAME ON ALL FOUR SIDES OF PLENUM
- 11. WALL



FLOOR EXHAUST
NTS

M-12

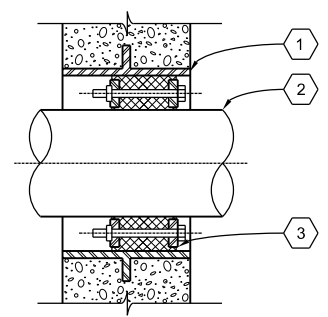
- 1. SEE PLAN FOR SIZE OF DUCT
- 2. 13MM GRID SST SCREEN
- 3. FINISHED FLOOR
- 4. WALL
- 5. DUCT SUPPORT PER SMACNA "HVAC DUCT CONSTRUCTION STANDARDS"
- 6. BALANCING DAMPER



INTERIOR PIPE SLEEVE
NTS

M-13

- 1. ESCUTCHEONS, TYPICAL
- 2. SERVICE PIPE
- 3. CMU WALL
- 4. PACKED MINERAL FIREPROOFING & SAFEING
- 5. CENTER PIPE THRU SLEEVE
- 6. STEEL PIPE SLEEVE, 50MM LARGER THAN SERVICE PIPE. EXAMPLE: 25MM PIPE REQUIRES 75MM SLEEVE SIZES NOMINAL.



WALL PIPE PENETRATION SEAL
NTS

M-14

- 1. PIPE SLEEVE
- 2. PASSING PIPE
- 3. MODULAR MECHANICAL SEAL ASSEMBLY WITH SST BOLTS AND NUTS, AS SPECIFIED



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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL
BUILDING MECHANICAL
STANDARD DETAILS (2)

NTS
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SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION																
	CIRCUIT BREAKER, THERMAL MAGNETIC TRIP SHOWN, 3 POLE, UNO		SWITCH - LOAD BREAK, GROUP OPERATED, MEDIUM VOLTAGE		PUSH-BUTTON SWITCH, MOMENTARY CONTACT, NORMALLY OPEN		CAPACITOR																
	CIRCUIT BREAKER, STATIC TRIP UNIT, SENSOR AMP TRIP AND FRAME RATINGS SHOWN, 3 POLE, UNO		DISCONNECTING FUSE - SOLID MATERIAL, MEDIUM VOLTAGE		PUSH-BUTTON SWITCH, MOMENTARY CONTACT, NORMALLY CLOSED		BATTERY																
	CIRCUIT BREAKER, MAGNETIC TRIP ONLY, TRIP RATING SHOWN, 3 POLE, UNO		SWITCH - HOOK STICK OPERATED, SINGLE POLE, MEDIUM VOLTAGE (ONE PER PHASE)		PUSH BUTTON SWITCH, MAINTAINED CONTACTS WITH MECHANICAL INTERLOCK		LIMIT SWITCH, NORMALLY OPEN, CLOSES AT END OF TRAVEL																
	CIRCUIT BREAKER WITH CURRENT LIMITING FUSES, TRIP AND FUSE RATING INDICATED, 3 POLE, UNO		TERMINAL BLOCK LUG		3 POSITION SELECTOR SWITCH MAINTAINED CONTACT		LIMIT SWITCH, NORMALLY CLOSED, OPENS AT END OF TRAVEL																
	FUSED SWITCH, SWITCH AND FUSE CURRENT RATING INDICATED, 3 POLE, UNO		DELTA CONNECTION		SELECTOR SWITCH - MAINTAINED CONTACT - CHART IDENTIFIES OPERATION WHEN NEEDED FOR CLARITY:		TEMPERATURE SWITCH, OPENS ON TEMPERATURE RISE																
	SWITCH, CURRENT RATING INDICATED, 3 POLE, UNO		WYE GROUNDED CONNECTION, SOLID GROUND	<table border="1"> <thead> <tr> <th colspan="4">POSITION</th> </tr> <tr> <th>CKT</th> <th>HAND</th> <th>OFF</th> <th>REMOTE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>X</td> <td>O</td> <td>O</td> </tr> <tr> <td>2</td> <td>O</td> <td>O</td> <td>X</td> </tr> </tbody> </table>	POSITION				CKT	HAND	OFF	REMOTE	1	X	O	O	2	O	O	X	X - CLOSED CONTACT O - OPEN CONTACT		TEMPERATURE SWITCH, CLOSES ON TEMPERATURE RISE
POSITION																							
CKT	HAND	OFF	REMOTE																				
1	X	O	O																				
2	O	O	X																				
	FUSE, CURRENT RATING AND QUANTITY INDICATED		RELAY OR DEVICE, FUNCTION NUMBER AS INDICATED		TOGGLE SWITCH, ON-OFF TYPE		FLOAT SWITCH, NORMALLY OPEN, CLOSES ON RISING LEVEL																
	MAGNETIC STARTER WITH OVERLOAD, NEMA SIZE INDICATED, FVNR UNO		CURRENT TRANSFORMER, ZERO SEQUENCE, RATIO AND QUANTITY INDICATED		SELECTOR SWITCH, ON-OFF TYPE		PRESSURE SWITCH, NORMALLY CLOSED, OPENS ON RISING PRESSURE																
	ELECTRONIC STARTER/SPEED CONTROL RVSS = REDUCED VOLTAGE SOFT STARTER AFD = AC ADJUSTABLE FREQUENCY DRIVE		ENERGY MONITORING UNIT		MUSHROOM HEAD PUSHBUTTON SWITCH		PRESSURE SWITCH, NORMALLY OPEN, CLOSES ON RISING PRESSURE																
	CABLE OR BUS CONNECTION POINT		MOTOR PROTECTION RELAY		INDICATING LIGHT, PUSH-TO-TEST, LETTER INDICATES COLOR		FLOW SWITCH, CLOSES ON INCREASED FLOW																
	SURGE ARRESTER (GAP TYPE)		GROUND FAULT SENSOR		INDICATING LIGHT - LETTER INDICATES COLOR A - AMBER G - GREEN S - STROBE B - BLUE R - RED C - CLEAR W - WHITE		FLOW SWITCH, OPENS ON INCREASED FLOW																
	CAPACITOR - KVAR INDICATED, 3 PHASE		FLASHER		ELAPSED TIME METER		TIME DELAY RELAY CONTACT, NORMALLY OPEN, CLOSES WHEN ENERGIZED AND TIMED OUT																
	AC MOTOR, SQUIRREL CAGE INDUCTION - HORSEPOWER INDICATED				SPEED INDICATOR		TIME DELAY RELAY CONTACT, NORMALLY CLOSED, OPENS WHEN ENERGIZED AND TIMED OUT																
	DIGITAL POWER METER (MULTIFUNCTION)				MOTOR STARTER CONTACTOR COIL		TIME DELAY RELAY CONTACT, OPENS WHEN ENERGIZED AND TIMED OUT																
	GROUND				CONTROL RELAY, X INDICATES NUMERICAL ORDER IN CIRCUIT		SEALED CONTACT																
	TRANSFORMER, SIZE, VOLTAGE RATINGS, AND PHASE INDICATED				TIME DELAY RELAY, X INDICATES NUMERICAL ORDER IN CIRCUIT		BUZZER																
	POTENTIAL TRANSFORMER, VOLTAGE RATING AND QUANTITY INDICATED				SOLENOID VALVE, X INDICATES NUMERICAL ORDER IN CIRCUIT		RESISTOR																
	CURRENT TRANSFORMER, RATIO(100:5) AND QUANTITY INDICATED (3)				CONTACT - NORMALLY OPEN		RELAY, WITH MECHANICAL LATCH																
	CONNECTION POINT TO EQUIPMENT. EQUIPMENT SPECIFIED IN OTHER DIVISIONS. RACEWAY, CONDUCTOR AND CONNECTION TO BE PROVIDED UNDER THIS DIVISION				CONTACT - NORMALLY CLOSED																		
	TRANSIENT VOLTAGE SURGE SUPPRESSOR				REMOTE DEVICE																		
			TERMINAL BLOCK, FOR REMOTE DEVICE CONNECTION.		TERMINAL BLOCK, INTERNAL																		
			FUSED TERMINAL BLOCK		FUSE, RATING INDICATED																		
			TRANSFORMER, CONTROL POWER		THERMOCOUPLE																		



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REVISION	CHK	DR	APVD
NO. DATE	J. ZAHIR	J. ZAHIR	J. ZAHIR
DSGN	B	A	NO. DATE
	02/2014	09/2013	

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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®

ELECTRICAL
ELECTRICAL LEGEND (1)

NTS
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
25mm

DATE FEBRUARY 2014
PROJ TA013-427716
DWG 500-GE-001
SHEET

- NOTES:
- THESE ARE STANDARD LEGEND SHEETS. SOME SYMBOLS AND ABBREVIATIONS MAY APPEAR ON THE LEGEND AND NOT ON THE DRAWINGS.
 - FOR ADDITIONAL ABBREVIATIONS OF OTHER DIVISIONS (HVAC, MECHANICAL, AND STRUCTURAL/ARCHITECTURAL) SEE OTHER LEGENDS.

SYMBOL	DESCRIPTION
POWER SYSTEM PLAN	
	CONNECTION POINT TO EQUIPMENT PROVIDED BY OTHERS, RACEWAY, CONDUCTOR, TERMINATION AND CONNECTION IN THIS DIVISION.
	MAJOR ELECTRICAL COMPONENT OR DEVICE - NAME OR IDENTIFYING SYMBOL AS SHOWN.
	PANELBOARD - SURFACE MOUNTED
	PANELBOARD LETTER OR NUMBER
	LPP - LOW VOLTAGE PANEL
	DPP - DISTRIBUTION PANEL
	PANELBOARD - FLUSH MOUNTED
	TERMINAL JUNCTION BOX
	MOTOR, SQUIRREL CAGE INDUCTION
	HOME RUN - DESTINATION SHOWN
	EXPOSED CONDUIT AND CONDUCTORS*
	CONCEALED CONDUIT AND CONDUCTORS*
NOTE:	
* ALL UNMARKED CONDUIT RUNS CONSIST OF 2#12 AND 1#12 GROUND CONDUCTORS IN 3/4" CONDUIT. RUNS MARKED WITH CROSSHATCHES INDICATE NUMBER OF #12 CONDUCTORS. CROSSHATCH WITH SUBSCRIPT "G" INDICATES GROUND WIRE.	
	CROSSHATCHES WITH BAR INDICATE NO.10 CONDUCTOR, SIZE CONDUIT ACCORDING TO SPECIFICATIONS AND APPLICABLE CODE.
	CONDUIT AND CONDUCTOR CALLOUT, SEE LEGEND.
	CONDUIT DOWN
	CONDUIT UP
	CONDUIT, STUBBED AND CAPPED
	CONDUIT TERMINATION AT CABLE TRAY
	EXISTING CONDUIT/ DUCT BANK
	CONCRETE ENCASED CONDUIT
	DIRECT BURIED CONDUIT
	CONCEALED CONDUIT ROUTING AREA
	CONDUIT ROUTING AREA
	CABLE TRAY
	'X' INDICATES OVERHEAD LINES, CONDUCTORS OR EQUIPMENT TO BE DEMOLISHED.

SYMBOL	DESCRIPTION
POWER SYSTEM PLAN-(CONTINUED)	
	BREAKER, SEPARATELY MOUNTED, CURRENT RATING INDICATED (100/40, 100 = FRAME SIZE; 40 = TRIP RATING) 3 POLE
	CONTACTOR, MAGNETIC, NEMA SIZE INDICATED
	STARTER, MAGNETIC NEMA SIZE INDICATED
	COMBINATION CIRCUIT BREAKER AND MAGNETIC STARTER, NEMA SIZE INDICATED
	TRANSFORMER
	GENERAL CONTROL OR WIRING DEVICE, LETTER SYMBOLS OR ABBREVIATIONS INDICATE TYPE OF DEVICE
	CONTROL STATION, SEE CONTROL DIAGRAMS FOR CONTROL DEVICE(S) REQUIRED.
	NONFUSED DISCONNECT SWITCH, CURRENT RATING INDICATED, 3 POLE
	FUSED DISCONNECT SWITCH, CURRENT RATING INDICATED (60/40, 60=SWITCH RATING / 40=FUSE RATING) 3 POLE
	CONVENIENCE RECEPTACLE - DUPLEX UNLESS NOTED OTHERWISE WP - WEATHERPROOF C - CLOCK HANGER TL - TWIST LOCK CRE - CORROSION RESISTANT GFCI - GROUND FAULT CIRCUIT INTERRUPTER SUBSCRIPT NUMBER AT RECEPTACLE INDICATES CIRCUIT
	20A, 120V SPLIT WIRED DUPLEX RECEPTACLE WP - WEATHERPROOF GFCI - GROUND FAULT CIRCUIT INTERRUPTER SUBSCRIPT NUMBER AT RECEPTACLE INDICATES CIRCUIT
	RECEPTACLE, SPECIAL PURPOSE-NEMA CONFIGURATION AND AMPERAGE INDICATED
	THERMOSTAT
GROUND SYSTEM PLAN	
	GROUND ROD
	GROUND ROD IN TEST WELL
	GROUNDING CONDUCTOR, SIZE AS INDICATED
	PIGTAIL FOR CONNECTION TO EQUIPMENT CABINET OR FRAME
	EQUIPMENT GROUND BUS
	EQUIPMENT NEUTRAL BUS

SYMBOL	DESCRIPTION
LIGHTING SYSTEM PLAN	
	LUMINAIRE, SEE SCHEDULE
	LUMINAIRE, SEE SCHEDULE
	LUMINAIRE AND POLE, SEE SCHEDULE
	WALL MOUNTED LUMINAIRE, SEE SCHEDULE
	STANDBY LIGHTING UNIT, SURFACE MOUNTED, SEE SCHEDULE. SMALL CAP LETTER INDICATES THE ASSOCIATED REMOTE HEADS, THE NUMBER INDICATES THE UNSWITCHED CIRCUIT.
	STANDBY LIGHTING UNIT, REMOTE HEADS, SURFACE MOUNTED, SEE SCHEDULE. THE SMALL CAP LETTER INDICATES THE ASSOCIATED BATTERY UNIT
	EXIT LIGHTS - FILLED SECTION INDICATES LIGHTED FACE, ARROW INDICATES EGRESS DIRECTIONAL INDICATORS, XX = FIXTURE NUMBER, SEE SCHEDULE. THE NUMBER INDICATES UNSWITCHED CIRCUIT.
	SMALL LETTER SUBSCRIPT AT LUMINAIRE INDICATES SWITCHING, SUBSCRIPT NUMBER AT LUMINAIRE INDICATES CIRCUIT.
	WALL SWITCH: CAPITAL LETTER OR NUMBER SUBSCRIPT AT SWITCH INDICATES TYPE OF SWITCH. SMALL LETTER SUBSCRIPT AT SWITCH INDICATES SWITCHING.
	3- THREE WAY
	4- FOUR WAY
	WP- WEATHERPROOF
	M- MOTOR RATED
	MS- MANUAL STARTER WITH OVERLOADS
	OCCUPANCY SENSOR C - ULTRASONIC AND PASSIVE, CEILING MOUNTED L - ULTRASONIC AND PASSIVE, LONG RANGE, WALL MOUNTED U - ULTRASONIC ONLY, CEILING MOUNTED W - ULTRASONIC AND PASSIVE, WALL MOUNTED
	LIGHTING CONTACTOR, CURRENT RATING INDICATED
	MOTION DETECTOR
	PHOTOCELL

SYMBOL	DESCRIPTION
FIRE ALARM SYSTEM	
	FIRE ALARM SYSTEM STATION, MANUAL
	FIRE ALARM SYSTEM, SMOKE DETECTOR
	FIRE ALARM SYSTEM, HEAT DETECTOR
	FIRE ALARM SYSTEM, BELL
	FIRE ALARM SYSTEM, HORN
	FIRE ALARM SYSTEM, HORN/STROBE LIGHT
	FIRE ALARM SYSTEM, STROBE LIGHT
	FIRE ALARM SYSTEM, SMOKE DUCT DETECTOR
COMMUNICATION SYSTEM	
	FIBER OPTIC CONDUIT

ISSUED FOR DETAILED DESIGN REVIEW	ISSUED FOR ADVANCED DESIGN REVIEW	REVISION	CHK	APVD
B	A	NO.	DATE	BY
02/2014	09/2013	J. ZAHIR	J. ZAHIR	J. ZAHIR
D/SGN	DR	CHK	APVD	APVD

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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®

ELECTRICAL
ELECTRICAL LEGEND
(2)

NTS
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 500-GE-002
SHEET

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
A	AMPERE, AUTOMATIC	G	GROUND	O	OPEN
AB SW	AIR-BREAK SWITCH	GALV	GALVANIZED	OCA	OPEN-CLOSE-AUTO
ABV	ABOVE	GEN	GENERATOR	OCB	OIL CIRCUIT BREAKER
AC	ALTERNATING CURRENT	GFCI	GROUND FAULT CIRCUIT INTERRUPTER	OCR	OVERCURRENT RELAY
ACB	AIR-CIRCUIT BREAKER	GFR	GROUND FAULT RELAY	OHM	OHMMETER
ACSR	ALUMINUM CONDUCTOR STEEL-REINFORCED	GND	GROUND	OH	OVERHEAD
		GPR	GENERATOR PROTECTOR RELAY	OL	OVERLOAD RELAY
ADJ	ADJUSTABLE	GRS	GALVANIZED RIGID STEEL CONDUIT	OO	ON-OFF
AF	AMPERE FRAME			OOA	ON-OFF-AUTO
AFD	ADJUSTABLE FREQUENCY DRIVE	H	HIGH SPEED	OOR	ON-OFF-REMOTE
AFF	ABOVE FINISHED FLOOR	HGT	HEIGHT	OS	OCCUPANCY SENSOR
AFG	ABOVE FINISHED GRADE	HH	HANDHOLE		
AHM	AMPERE-HOUR METER	HID	HIGH INTENSITY DISCHARGE	PB	PULL BOX
AHU	AIR HANDLING UNIT	HMI	HUMAN-MACHINE INTERFACE	PC	PHOTOCELL
AL	ALUMINUM	HOA	HAND-OFF-AUTO	PCC	POINT OF COMMON COUPLING
AM	AMMETER	HOR	HAND-OFF-REMOTE	PCB	POWER CIRCUIT BREAKER
AMPL	AMPLIFIER	HP	HORSEPOWER	PF	POWER FACTOR
ANN	ANNUNCIATOR	HPS	HIGH PRESSURE SODIUM	PH	PHASE
ANT	ANTENNA	HS	HAND SWITCH	PLC	PROGRAMMABLE LOGIC CONTROLLER
APPROX	APPROXIMATE	HV	HIGH VOLTAGE	PNL	PANEL
AS	AMMETER SWITCH, AMPERE SENSOR	HVAC	HEATING, VENTILATING & AIR CONDITIONING	POT	POTENTIOMETER
ASC	AUXILIARY SWITCH NORMALLY CLOSED			PP	POWER PACK
ASO	AUXILIARY SWITCH NORMALLY OPEN	HZ	HERTZ	PS	PRESSURE SWITCH
ASU	AIR SUPPLY UNIT			PT	POTENTIAL TRANSFORMER
ATC	AUTOMATIC TRANSFER CONTROL	IAW	IN ACCORDANCE WITH	PVC	POLYVINYL CHLORIDE
AT	AMPERE TRIP	IC	INTERRUPTING CAPACITY	PWR	POWER
ATS	AUTOMATIC TRANSFER SWITCH	I & C	INSTRUMENTATION AND CONTROL		
AUTO	AUTOMATIC	IMC	INTERMEDIATE METALLIC CONDUIT	R	RELAY, REVERSE, RUN, RAISE
AUX	AUXILIARY	INCAND	INCANDESCENT	RCPT	RECEPTACLE
AWG	AMERICAN WIRE GAGE	INST	INSTANTANEOUS	REF	REFERENCE
		INT	INTERRUPTING	REM	REMOTE
BAT	BATTERY	ISR	INTRINSICALLY SAFE RELAY	RGS	RIGID GALVANIZED STEEL CONDUIT
BC	BARE COPPER			RIO	REMOTE INPUT/OUTPUT
BIL	BASIC IMPULSE LEVEL	JJB	JUNCTION BOX	RMS	ROOT MEAN SQUARE
BKR	BREAKER			RPM	REVOLUTIONS PER MINUTE
BLDG	BUILDING	K	KEY INTERLOCK	RTU	REMOTE TELEMETRY UNIT
BOT	BOTTOM	KA	KILOAMPERES	RTD	RESISTANCE TEMPERATURE DETECTOR
		KAIC	KILOAMPERES INTERRUPTING CAPACITY	RVNR	REDUCED VOLTAGE NON-REVERSING
C	CONDUIT, CONTACTOR, CONDUCTOR, CLOSE, CENTIGRADE	KCM	THOUSAND CIRCULAR MILS	RVR	REDUCED VOLTAGE REVERSING
CB	CIRCUIT BREAKER	KV	KILOVOLTS	SA	SURGE ARRESTER
CC	CONTROL CABLE	KVA	KILOVOLT AMPERES	SC	SPEED CONTROL
CCS	CENTRAL CONTROL SYSTEM	KW	KILOWATTS	SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION SYSTEM
CKT	CIRCUIT	KWH	KILOWATT HOURS	SCU	SPEED CONTROL UNIT
CLF	CURRENT LIMITING FUSE	KWHD	KILOWATT HOURS DEMAND	SF	SUPPLY FAN
CLG	CEILING			SH	SPACE HEATER
COM	COMMUNICATIONS	L	LIGHTING CONTACTOR, LOW SPEED, LOWER	S/N	SOLID NEUTRAL
CONN DIAG	CONNECTION DIAGRAM	LC	LIGHTING CONTROLLER, LATCH COIL	SOL	SOLENOID
CONT	CONTINUE	LCP	LOCAL CONTROL PANEL	SP	SPARE
CP	CONTROL PANEL	LE	LEVEL ELEMENT	SPD	SPEED
CPT	CONTROL POWER TRANSFORMER	LED	LIGHT EMITTING DIODE	SS	START STOP
CPU	CENTRAL PROCESSING UNIT	LIT	LIGHT INDICATING TRANSMITTER	SST	STAINLESS STEEL
CR	CONTROL RELAY	LOR	LOCAL-OFF-REMOTE	ST	SHUNT TRIP
CS	CONTROL STATION-C=CLOSE, T=TRIP	LP	LIGHTING PANEL	SUB	SUBSTATION
CT	CURRENT TRANSFORMER, CABLE TRAY	LPS	LOW PRESSURE SODIUM	SV	SOLENOID VALVE
CU	COPPER	LR	LOCAL/REMOTE	SW	SWITCH
CW	COMPLETE WITH	LS	LIMIT SWITCH, LEVEL SWITCH	SWBD	SWITCHBOARD
		LT	LEVEL TRANSMITTER	SWGR	SWITCHGEAR
DC	DIRECT CURRENT	LT FLEX	LIQUID-TIGHT FLEX CONDUIT	SYMM	SYMMETRICAL
DIV	DIVISION			T	THERMOSTAT, TRANSFORMER
DN	DOWN	M	MAGNETIC CONTACTOR COIL, MOTOR, MANUAL	TB	TERMINAL BOARD, TEST BLOCK
DP	DISTRIBUTION PANEL	MA	MILLIAMPERE	TD	TEMPERATURE DETECTOR, TIME DELAY
DPDT	DOUBLE-POLE DOUBLE-THROW	MAN	MANUAL	TDC	TIME-DELAY CLOSING
DPST	DOUBLE-POLE SINGLE-THROW	MAU	MAKE-UP AIR UNIT	TDO	TIME-DELAY OPENING
DS	DISCONNECT SWITCH	MAX	MAXIMUM	TDR	TIME DELAY RELAY
		MCC	MOTOR CONTROL CENTER	TEL	TELEPHONE
E	EMPTY	MD	MOTORIZED DAMPER	TEMP	TEMPERATURE
EA	EACH	MECH	MECHANICAL	TJB	TERMINAL JUNCTION BOX
EDH	ELECTRIC DUCT HEATER	MFR	MANUFACTURER	TSP	TWISTED SHIELDED PAIR
EF	EXHAUST FAN	MH	MANHOLE, METAL HALIDE, MOUNTING HEIGHT	TST	TWISTED SHIELDED TRIAD
EL	ELEVATION			TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
ELEC	ELECTRIC	MIN	MINIMUM	TYP	TYPICAL
ELEM	ELEMENTARY	MO	MOTOR OPERATOR	UC	UNLATCH COIL
EMER	EMERGENCY	MOP	MOTOR OPERATED POTENTIOMETER	UH	UNIT HEATER
EMS	ENERGY MONITORING SYSTEM	MOV	METAL OXIDE VARIATOR, MOTOR OPERATED VALVE	UNO	UNLESS NOTED OTHERWISE
EMT	ELECTRICAL METALLIC TUBING	MPR	MOTOR PROTECTION RELAY	UPS	UNINTERRUPTIBLE POWER SUPPLY
EMU	ENERGY MONITORING UNIT	MS	MOTOR STARTER	UVR	UNDER VOLTAGE RELAY
ENCL	ENCLOSURE	MSC	MANUFACTURER SUPPLIED CABLE		
EO	ELECTRIC OPERATED, ELECTRIC OPERATOR	MT	MOUNT	V	VOLTAGE, VOLTS
EQPT	EQUIPMENT	MTD	MOUNTED	VCB	VACUUM CIRCUIT BREAKER
ETM	ELAPSED TIME METER	MTS	MANUAL TRANSFER SWITCH	VFD	VARIABLE FREQUENCY DRIVE
EUH	ELECTRIC UNIT HEATER	MV	MEDIUM VOLTAGE	VIB	VIBRATION
EXH	EXHAUST	MVA	MEGA-VOLT AMPERES	VM	VOLTMETER
EXST	EXISTING	N	NEUTRAL, NORMAL	VR	VOLTAGE REGULATOR
		NA	NON-AUTOMATIC	VS	VOLTMETER SWITCH
F	FORWARD, FREQ	NC	NORMALLY CLOSED	W	WATTS
FA	FIRE ALARM	NEC	NATIONAL ELECTRICAL CODE	WHD	WATT HOUR DEMAND METER
FAFP	FIRE ALARM CONTROL PANEL	NESC	NATIONAL ELECTRICAL SAFETY CODE	WM	WATTMETER
FDR	FEEDER	NEUT	NEUTRAL	WP	WEATHERPROOF
FF	FINISHED FLOOR	NIC	NOT IN CONTRACT		
FI	FLOW INDICATOR	N.O.	NORMALLY OPEN	XD	TRANSDUCER
FLEX	FLEXIBLE CONDUIT	NP	NAMEPLATE	XFMR	TRANSFORMER
FLR	FLOOR	NTS	NOT TO SCALE	XPDR	TRANSPONDER
FPR	FEEDER PROTECTOR RELAY			Z	IMPEDANCE
FO	FIBER OPTIC			ZS	POSITION SWITCH
FP	FIELD PANEL				
FREQ	FREQUENCY				
FS	FLOAT SWITCH				
FT	FLOW TRANSMITTER				
FU	FUSE				
FVNR	FULL VOLTAGE NON-REVERSING				
FWD	FORWARD				

GENERAL CIRCUIT CONDUCTOR AND CONDUIT IDENTIFICATION

POWER CIRCUIT CALLOUTS		MULTICONDUCTOR POWER CABLE CIRCUIT CALLOUTS	
[P202] : [3/4", 2#12, 1#12G]	[P2003] : [2", 3#3/0, 1#4G]	[PC1] : [3/4", 1 (3C#12, 1#12G) TYPE 2]	[PC2] : [3/4", 1 (3C#10, 1#10G) TYPE 2]
[P203] : [3/4", 3#12, 1#12G]	[P2253] : [2", 3#4/0, 1#4G]	[PC3] : [1", 1 (3C#8, 1#10G) TYPE 2]	[PC4] : [1 1/4", 2 (3C#12, 1#12G) TYPE 2]
[P302] : [3/4", 2#10, 1#10G]	[P2254] : [2 1/2", 4#4/0, 1#4G]	[PC5] : [1 1/2", 2 (3C#10, 1#10G) TYPE 2]	[PC1A] : [3/4", 1 (2C#12, 1#12G) TYPE 2]
[P303] : [3/4", 3#10, 1#10G]	[P2553] : [2 1/2", 3#250 KCMIL, 1#4G]	[PC2A] : [3/4", 1 (2C#10, 1#10G) TYPE 2]	
[P403] : [1", 3#8, 1#10G]	[P2853] : [2 1/2", 3#300 KCMIL, 1#4G]		
[P404] : [1", 4#8, 1#10G]	[P3103] : [3", 3#350 KCMIL, 1#4G]		
[P553] : [1", 3#6, 1#10G]	[P3353] : [3", 3#400 KCMIL, 1#2G]		
[P554] : [1", 4#6, 1#10G]	[P3803] : [3", 3#500 KCMIL, 1#2G]		
[P703] : [1 1/4", 3#4, 1#8G]	[P4003] : (2) [2", 3#3/0, 1#1/0G]		
[P953] : [1 1/4", 3#2, 1#6G]	[P4004] : (2) [2 1/2", 4#3/0, 1#1/0G]		
[P1153] : [2", 3#1, 1#6G]	[P6203] : (2) [3", 3#350 KCMIL, 1#4G]		
[P1154] : [2", 4#1, 1#6G]	[P8403] : (2) [3 1/2", 3#600 KCMIL, 1#1/0G]		
[P1503] : [1 1/2", 3#1/0, 1#6G]	[P12404] : (4) [3", 4#350 KCMIL, 1#3/0G]		
[P1753] : [1 1/2", 3#2/0, 1#6G]	[P16803] : (4) [4", 3#600 KCMIL, 1#3/0G]		
[P1754] : [1 1/2", 4#2/0, 1#6G]	[P20005] : (5) [4", 3#600 KCMIL, 1#3/0G]		
TYPE 8: SAME AS ABOVE EXCEPT RATED FOR ADJUSTABLE FREQUENCY DRIVES.			
ANALOG CIRCUIT CALLOUTS		CONTROL CIRCUIT CALLOUTS	
[A1] : [3/4", 1 TYPE 3]	[A2] : [1", 2 TYPE 3]	[C1] : [3/4", MSC]	[C2] : [3/4", 2#14, 1#14G]
[A3] : [1", 3 TYPE 3]	[A4] : [1", 4 TYPE 3]	[C3] : [3/4", 3#14, 1#14G]	[C4] : [3/4", 4#14, 1#14G]
[A5] : [1 1/4", 5 TYPE 3]	[A6] : [1 1/4", 6 TYPE 3]	[C5] : [3/4", 5#14, 1#14G]	[C6] : [3/4", 6#14, 1#14G]
[A7] : [1 1/2", 7 TYPE 3]	[A8] : [1 1/2", 8 TYPE 3]	[C7] : [3/4", 7#14, 1#14G]	[C8] : [3/4", 8#14, 1#14G]
[A9] : [1 1/2", 9 TYPE 3]	[A10] : [2", 10 TYPE 3]	[C9] : [3/4", 9#14, 1#14G]	[C10] : [3/4", 10#14, 1#14G]
[A11] : [2", 11 TYPE 3]	[A12] : [2", 12 TYPE 3]	[C11] : [3/4", 11#14, 1#14G]	[C12] : [3/4", 12#14, 1#14G]
[A13] : [2", 13 TYPE 3]	[A14] : [2", 14 TYPE 3]	[C13] : [3/4", 13#14, 1#14G]	[C14] : [3/4", 14#14, 1#14G]
[A15] : [2", 15 TYPE 3]	[A16] : [2", 16 TYPE 3]	[C15] : [3/4", 15#14, 1#14G]	[C16] : [3/4", 16#14, 1#14G]
[A17] : [2", 17 TYPE 3]	[A18] : [2", 18 TYPE 3]	[C17] : [3/4", 17#14, 1#14G]	[C18] : [3/4", 18#14, 1#14G]
[A19] : [2", 19 TYPE 3]	[A20] : [2", 20 TYPE 3]	[C19] : [3/4", 19#14, 1#14G]	[C20] : [1", 20#14, 1#14G]
[A21] : [3/4", 1 TYPE 4]	[A22] : [3/4", 2 TYPE 4]	[C21] : [1", 21#14, 1#14G]	[C22] : [1", 22#14, 1#14G]
[A23] : [1", 3 TYPE 4]	[A24] : [1 1/4", 4 TYPE 4]	[C23] : [1", 23#14, 1#14G]	[C24] : [1", 24#14, 1#14G]
[A25] : [1 1/4", 5 TYPE 4]	[A26] : [1 1/4", 6 TYPE 4]	[C25] : [1", 25#14, 1#14G]	
[A27] : [1 1/2", 7 TYPE 4]	[A28] : [1 1/2", 8 TYPE 4]		
[A29] : [2", 9 TYPE 4]			
[AP1] : [3/4", 1-4 pr. TYPE 5]	[AP2] : [1", 2-4 pr. TYPE 5]		

3 CONDUCTOR POWER CABLE TECK 90, 600V, #14 IN CABLE TRAY		MULTI CONDUCTOR CONTROL CABLE TECK 90, 600V, #14 IN CABLE TRAY		ANALOG CABLE, TWISTED SHIELDED PAIR/TRIAD TECK CONSTRUCTION IN CABLE TRAY	
[TP202] : [1-2C #12]	[TP1303] : [1-3C #1]	[TC2] : [1-2C #14]	[TC10] : [1-10C #14]	[TA1] : [1 TYPE 3]	[TA10] : [10 TYPE 3]
[TP203] : [1-3C #12]	[TP1304] : [1-4C #1]	[TC3] : [1-3C #14]	[TC11] : [1-11C #14]	[TA2] : [2 TYPE 3]	[TA11] : [11 TYPE 3]
[TP303] : [1-3C #10]	[TP1503] : [1-3C #1/0]	[TC4] : [1-4C #14]	[TC12] : [1-12C #14]	[TA3] : [3 TYPE 3]	[TA12] : [12 TYPE 3]
[TP453] : [1-3C #8]	[TP1753] : [1-3C #2/0]	[TC5] : [1-5C #14]	[TC15] : [1-15C #14]	[TA4] : [4 TYPE 3]	[TA13] : [13 TYPE 3]
[TP653] : [1-3C #6]	[TP2003] : [1-3C #3/0]	[TC6] : [1-6C #14]	[TC20] : [1-20C #14]	[TA5] : [5 TYPE 3]	[TA14] : [14 TYPE 3]
[TP654] : [1-4C #6]	[TP2303] : [1-3C #4/0]	[TC7] : [1-7C #14]	[TC25] : [1-25C #14]	[TA6] : [6 TYPE 3]	
[TP853] : [1-3C #4]	[TP2553] : [1-3C #250kcmil]	[TC8] : [1-8C #14]	[TC30] : [1-30C #14]	[TA7] : [7 TYPE 3]	
[TP1003] : [1-3C #3]	[TP3103] : [1-3C #350kcmil]	[TC9] : [1-9C #14]	[TC40] : [1-40C #14]	[TA8] : [8 TYPE 3]	
[TP1153] : [1-3C #2]	[TP3803] : [1-3C #500kcmil]			[TA9] : [9 TYPE 3]	

NOTES:

- FOR CABLE TYPES, SEE SPECIFICATIONS.
- WHERE CIRCUITS ARE UNDERGROUND, DIRECT BURIED OR CONCRETE ENCASED, MINIMUM CONDUIT SIZE SHALL BE 27mm.
- TYPE 1 CABLE IS 600 VOLT, MULTI-CONDUCTOR POWER/CONTROL CABLE TYPE TC FOR POWER AND DISCRETE CONTROL SIGNALS. GROUND CONDUCTOR IS INCLUDED IN THE CONDUCTOR COUNT AND MUST BE FIELD MARKED WITH GREEN INSULATING TAPE OR HEAT SHRINK.
- TYPE 3 CABLE IS 600 VOLT, SINGLE, TWISTED SHIELDED PAIR INSTRUMENTATION CABLE, TYPE TC FOR ANALOG SIGNALS.
- TYPE 4 CABLE IS 600 VOLT, SINGLE, TWISTED SHIELDED TRIAD INSTRUMENTATION CABLE, TYPE TC FOR ANALOG SIGNALS.
- TYPE 5 CABLE IS 600 VOLT, MULTI-TWISTED SHIELDED PAIR, TYPE TC INSTRUMENTATION CABLE WITH OVERALL SHIELD FOR ANALOG SIGNALS. USE ONLY 4, 8, 12, 16, 24, 36, 50 PAIRS.

FOR METRIC CONDUIT SIZES
USE THE FOLLOWING
CONVERSION:

3/4" = 21 mm
1" = 27 mm

1 1/4" = 35 mm
1 1/2" = 41 mm
2" = 53 mm



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ISSUED FOR ADVANCED DESIGN REVIEW	IZ	BY
REVISION	IZ	BY
CHK	J. ZAHIR	APVD
DR	J. ZAHIR	APVD
DSGN	J. ZAHIR	APVD
NO.	DATE	
B	02/2014	
A	09/2013	

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LUMINAIRE SCHEDULE

LIGHT FIXTURE TYPE	LAMP TYPE	VOLTAGE	INPUT WATTS	DESCRIPTION	MANUFACTURER AND CATALOG NO.	MOUNTING
A	LED	120	59	178mm X 1200mm, ENCLOSED AND GASKETED INDUSTRIAL, REINFORCED FIBERGLASS HOUSING, HIGH IMPACT POLYCARBONATE DIFFUSER WITH RUBBER POLYMERS FOR FLEXIBILITY. DUAL CONCAVE PARABOLIC HIGH OUTPUT, MIRROR LIKE FINISH REFLECTOR, STAINLESS STEEL LATCHES, "HOT BONDED" LIQUID SILICONE GASKET, UL LISTED FOR WET LOCATIONS WITH IP65 RATING.	PHILIPS SEALATRON SERIES CAT # ST74WA51A40UPHA	SURFACE OR PENDANT
B	LED	120	31	60mm X 60mm X 1200mm, LED LIGHT FIXTURE, HEAVY GAUGE COLD ROLLED STEEL HOUSING, ABS MOULDED END CAPS, BAKED WHITE HIGH REFLECTANCE FINISH, CONTOURED FROSTED ENCLOSED LENS, UL LISTED FOR DAMP LOCATIONS.	PHILIPS FLUXSTREAM SERIES CAT # LF4FR3140ULAG	SURFACE OR PENDANT
C	LED	120	50W	LOW PROFILE WALL PACK DESIGN, DIECAST ALUMINUM HOUSING WITH EXTERNAL FINS FOR HEAT DISSIPATION, REFRACTIVE MOLDED LENS, DIECAST ALUMINUM BACK BOX, HINGED DOOR, TGIC POWDER COAT COPPER BRONZE FINISH, CUL LISTED FOR WET LOCATION (IP66 RATED).	LUMARK (COOPER) CROSSTOUR MAXX SERIES CAT# XTOR 5ARL	WALL
D	LED	120	85W	LOW PROFILE WALL PACK DESIGN, DIECAST ALUMINUM HOUSING WITH EXTERNAL FINS FOR HEAT DISSIPATION, REFRACTIVE MOLDED LENS, DIECAST ALUMINUM BACK BOX, HINGED DOOR, COMPLETE WITH LED BOARD AND COMPATIBLE DRIVERS, TGIC POWDER COAT COPPER BRONZE FINISH, CUL LISTED FOR WET LOCATION (IP66 RATED).	LUMARK (COOPER) CROSSTOUR MAXX SERIES CAT# XTOR 9ARL	WALL
E	LED	120	50W	LOW PROFILE WALL PACK DESIGN, DIECAST ALUMINUM HOUSING WITH EXTERNAL FINS FOR HEAT DISSIPATION, REFRACTIVE MOLDED FULL CUT OFF LENS, DIECAST ALUMINUM BACK BOX, HINGED DOOR, TGIC POWDER COAT COPPER BRONZE FINISH, OPERATING TEMPERATURE -40°C TO +40°C. MOTION SENSOR WITH INTEGRAL PHOTO SENSOR. CUL LISTED FOR WET LOCATION (IP66 RATED)	LUMARK (COOPER) CROSSTOUR MAXX SERIES CAT# XTOR 5A-MS-L20	WALL
F	LED	120	39	600mm X 600mm X 83MM DEEP, RECESSED, DIRECT-INDIRECT, LED LIGHT FIXTURE, MINIMUM EFFICACY 86 LPW, DIE FORMED CODE GAUGE HOUSING, HIGH REFLECTANCE BAKED MATTE WHITE ENAMEL FINISH REFLECTORS, FROSTED ACRYLIC LENS, DRIVERS TO BE ACCESSIBLE FROM BELOW	METALUX (COOPER) ACCORD SERIES CAT# 2AC-LD2-33-120-L835-5LTD-1	CEILING
G	LED	120	80	LED LIGHT FIXTURE, RIGID CONSTRUCTION, HEAVY DUTY HOUSING WITH EXTRUDED ALUMINUM RAILS AND DIE CAST END CAPS, STAINLESS STEEL FASTENERS, ONE PIECE EXTRUDED UV STABILISED POLYCARBONATE LENS, 20GA CRS WITH HIGH REFLECTANCE POLYESTER POWDEER COAT FINISH. ETL LISTED FOR WET LOCATION.	FAILSAFE (COOPER) HVL8-42-STD-40UNV-CEDS	SURFACE OR PENDANT
EB1	LED	120	80W	24V EMERGENCY BATTERY UNIT, LONG LIFE LEAD ACID BATTERY WITH 180 WATTS CAPACITY FOR 90 MINUTES, AC POWER PLUG-CONNECTOR TYPE LUMINAIRE QUICK DISCONNECT, AC-DC TERMINAL BLOCKS, COMPLETE WITH TWO (2) LED HEADS, CSA CERTIFIED	LUMACELL RGS SERIES CAT# RG24S432-2-LD13-TMBB	SURFACE
ER1	LED	24	24W	24V, 4W, ONE (1) MR16 REMOTE LED HEADS	LUMACELL MQM1LD13	SURFACE
ER2	LED	24	24W	24V, 4W, TWO (2) MR16 REMOTE LED HEADS	LUMACELL MQM2LD13	SURFACE
X	LED	120	4W	EXTRUDED ALUMINUM, EDGE LIT EXIT SIGN WITH PICTOGRAM AND DIRECTIONAL ARROW, C/W NI/CAD BATTERY (MINIMUM 2 HOURS), PROVIDE NUMBER OF FACES (**) AND DIRECTIONAL ARROWS AS SHOWN ON THE PLANS.	LUMACELL LAE**TASP	SURFACE/WALL

- NOTES:
1. PROVIDE LIGHT FIXTURES COMPLETE WITH LED BOARD AND COMPATIBLE DRIVERS.
 2. PROVIDE AIRCRAFT CABLE KIT (FOR PENDANT MOUNTING) OR SWIVEL PIPE STEM HANGERS AS REQUIRED.
 3. PROVIDE STRUCTURAL SUPPORT, UNISTRUT MEMBERS ETC AS REQUIRED.



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REVISION	CHK	DR	APVD
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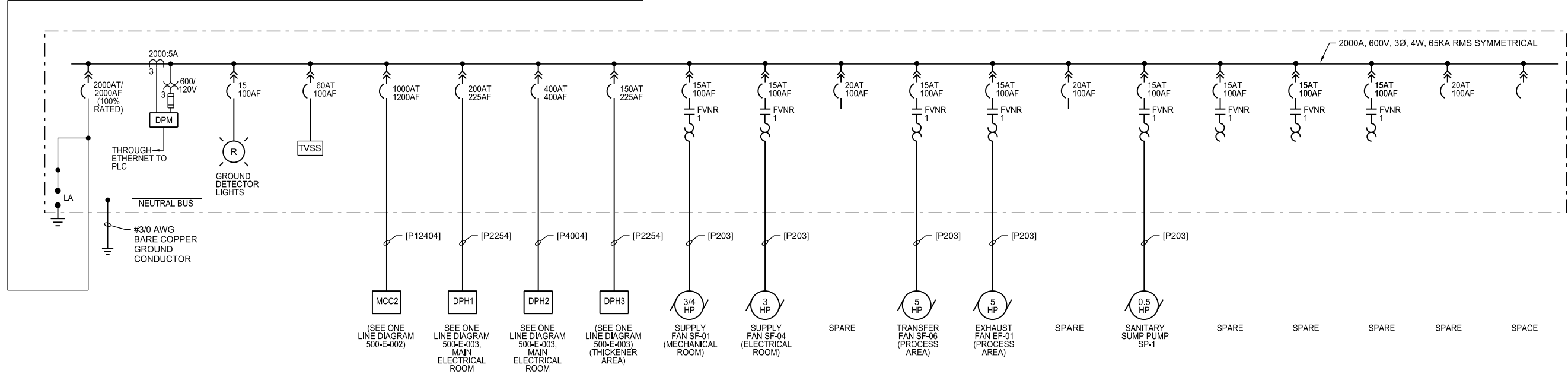
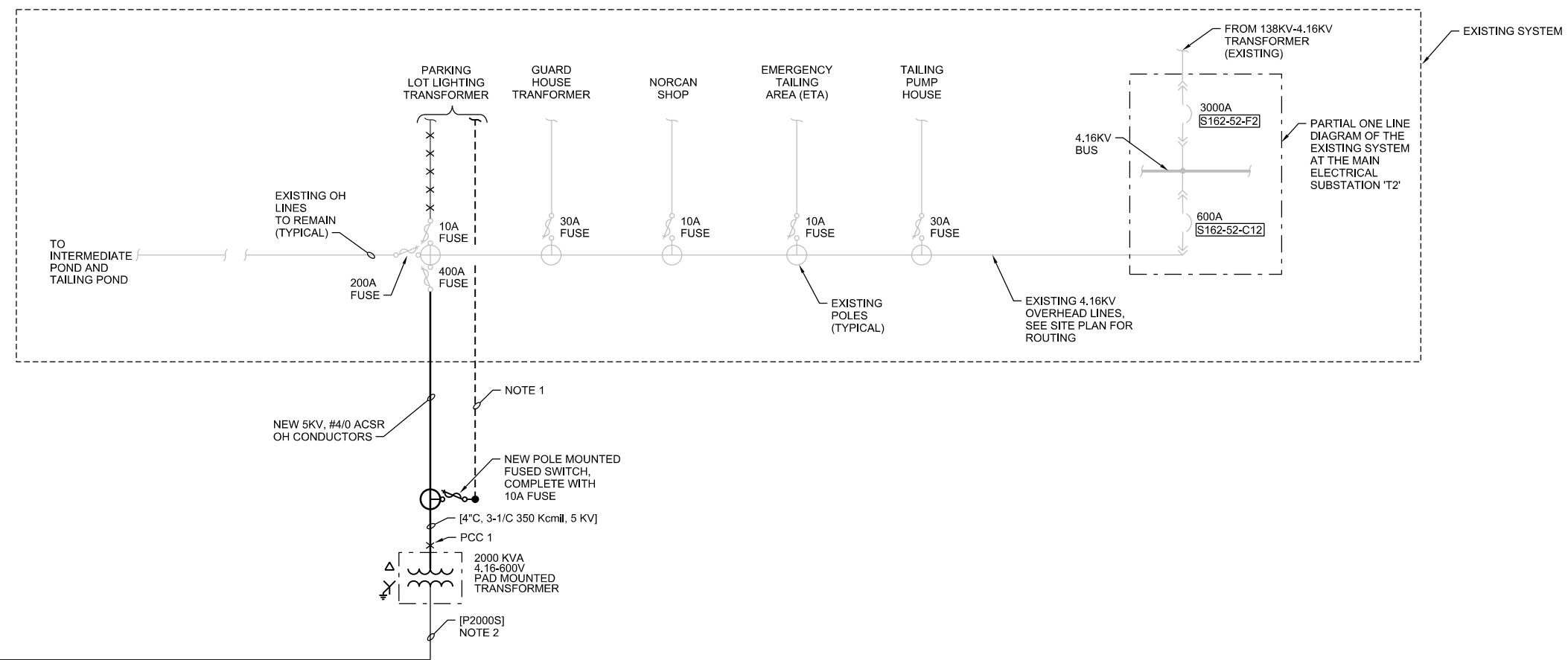
FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN GOVERNMENT OF YUKON DESIGN

CH2MHILL®

ELECTRICAL LUMINAIRE SCHEDULE

NTS	
VERIFY SCALE	
BAR IS 25mm ON ORIGINAL DRAWING.	
DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	500-GE-004
SHEET	

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GENERAL NOTES:
G1. FOR POWER CIRCUIT CALL OUTS REFER TO DRAWING 500-GE-003.

NOTES:
1. PROVIDE NEW UNDERGROUND 5KV, 3/C 3#2+G FEEDER AND CONNECT TO THE EXISTING POLE MOUNTED TRANSFORMER.
2. CONDUCTORS TO BE RWU90 RATED FOR MINIMUM 90 DEGREES CELCIUS.

ONE LINE DIAGRAM - 'MCC1'



NO.	DATE	REVISION	BY	APVD
B	02/2014	ISSUED FOR DETAIL DESIGN REVIEW	JZ	GN
A	09/2013	ISSUED FOR ADVANCED DESIGN REVIEW	JZ	GN
NO. DATE		REVISION	BY	APVD
DSGN		J. ZAHIR	CHK	APVD
DR		J. ZAHIR	CHK	APVD

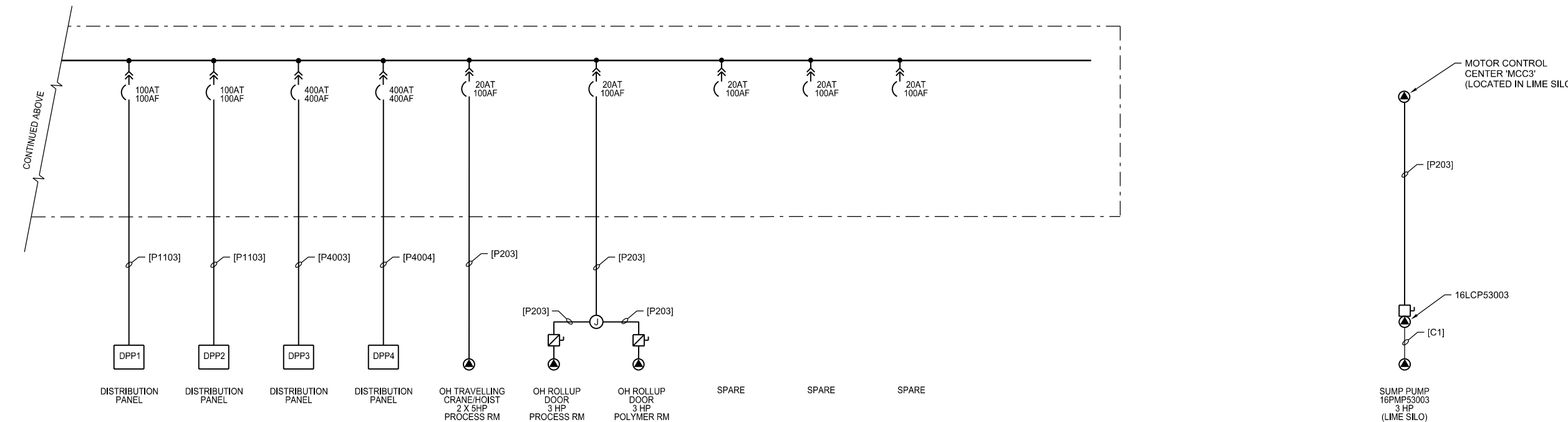
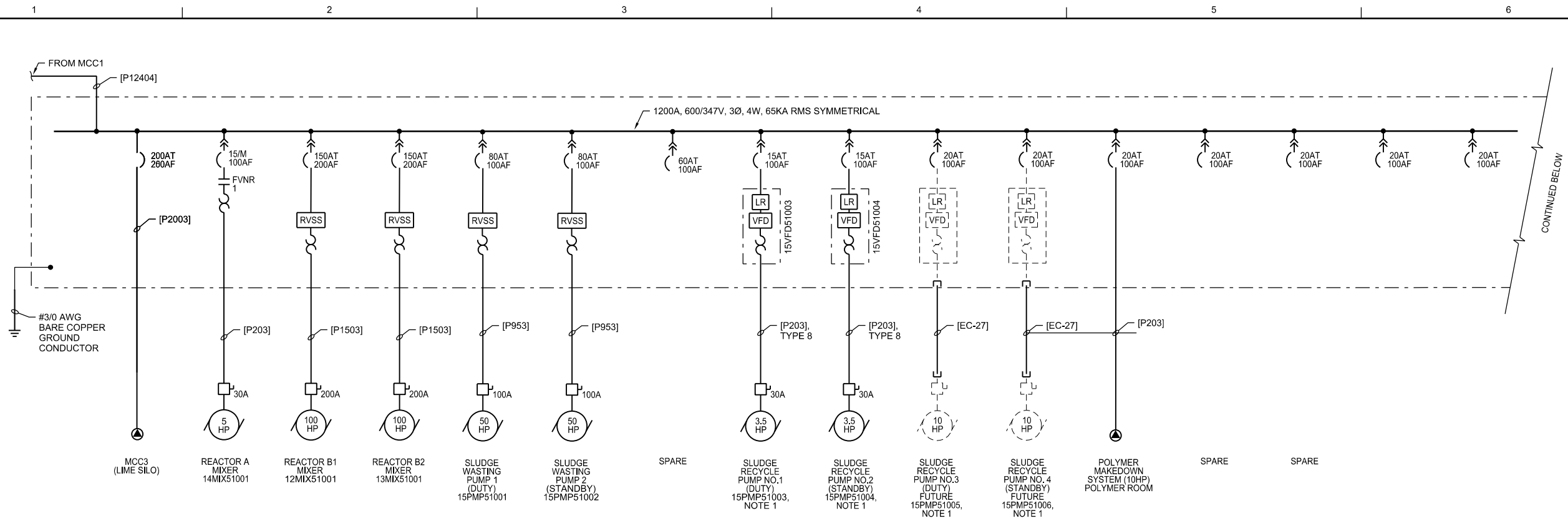
90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®

ELECTRICAL
**ONE LINE DIAGRAM
MOTOR CONTROL CENTER
'MCC1'**

NTS	
VERIFY SCALE	
BAR IS 25mm ON ORIGINAL DRAWING.	
DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	500-E-001
SHEET	



ONE LINE DIAGRAM - 'MCC2'

- NOTES**
- LOCATE THE BREAKERS AND THE ASSOCIATED CONDUITS IN THE SAME CELL THAT WOULD BE USED FOR FUTURE (10HP) SLUDGE RECYCLE PUMPS.



ISSUED FOR DETAIL DESIGN REVIEW	GN	JZ	BY	APVD
ISSUED FOR ADVANCED DESIGN REVIEW	GN	JZ	BY	APVD
REVISION	NO.	DATE	DR	APVD
			J. ZAHIR	CHK
			J. ZAHIR	DR

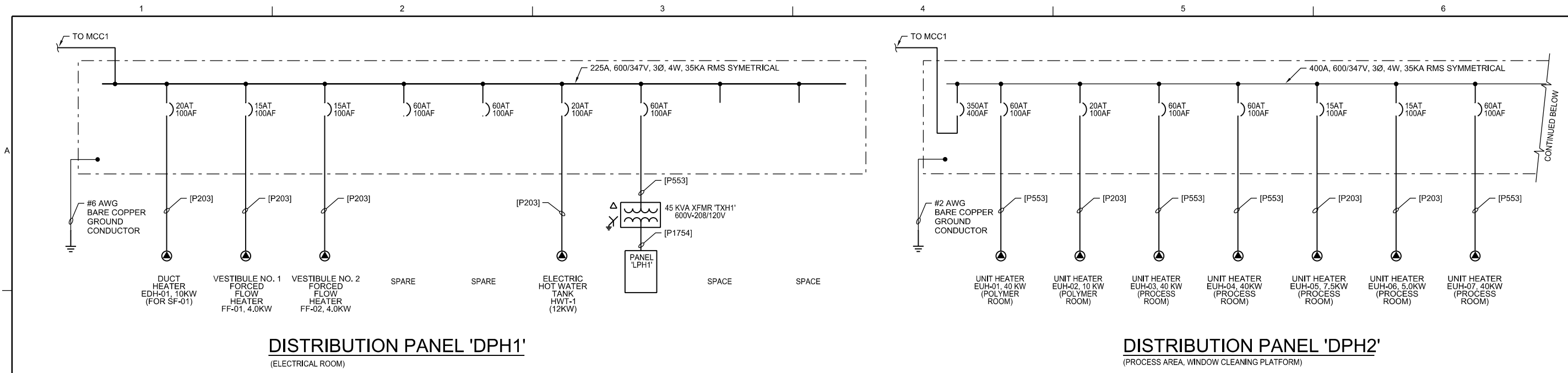
90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON DESIGN

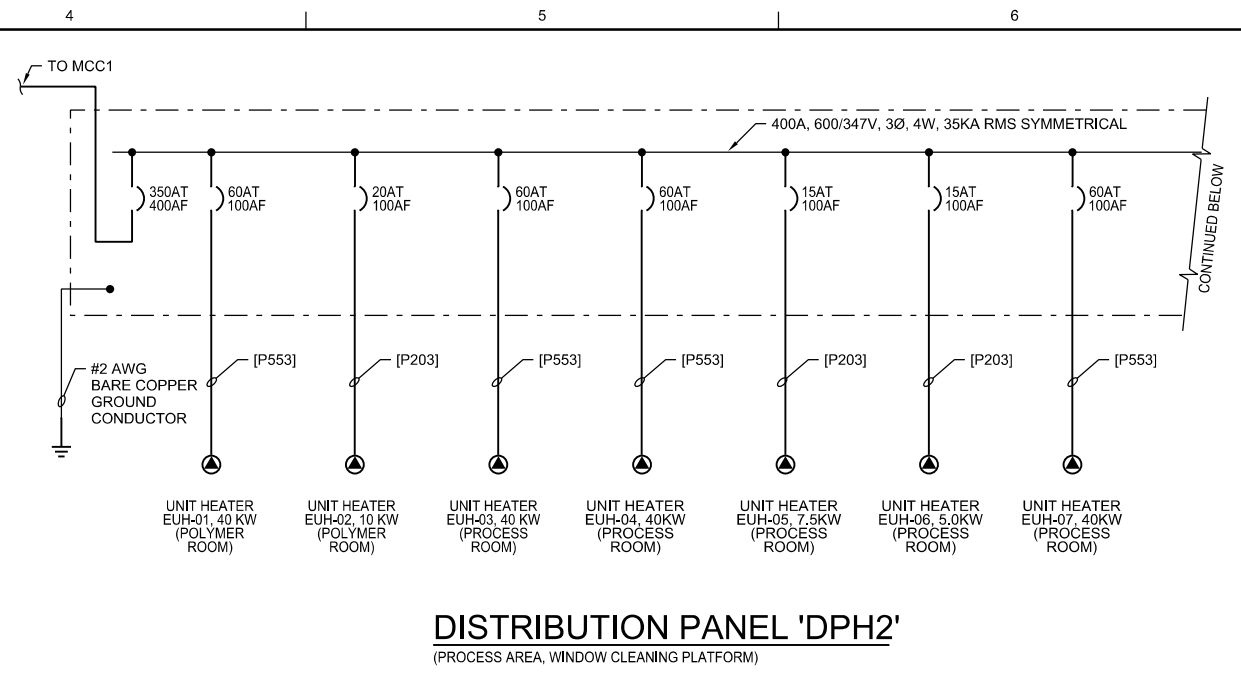
CH2MHILL®

ELECTRICAL
ONE LINE DIAGRAM
MOTOR CONTROL CENTER 'MCC2'

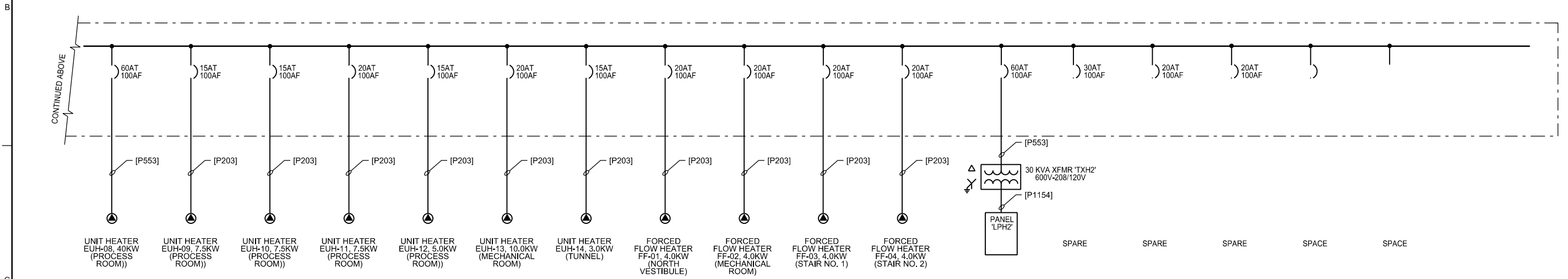
VERIFY SCALE	BAR IS 25mm ON ORIGINAL DRAWINGS.
DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	500-E-002
SHEET	



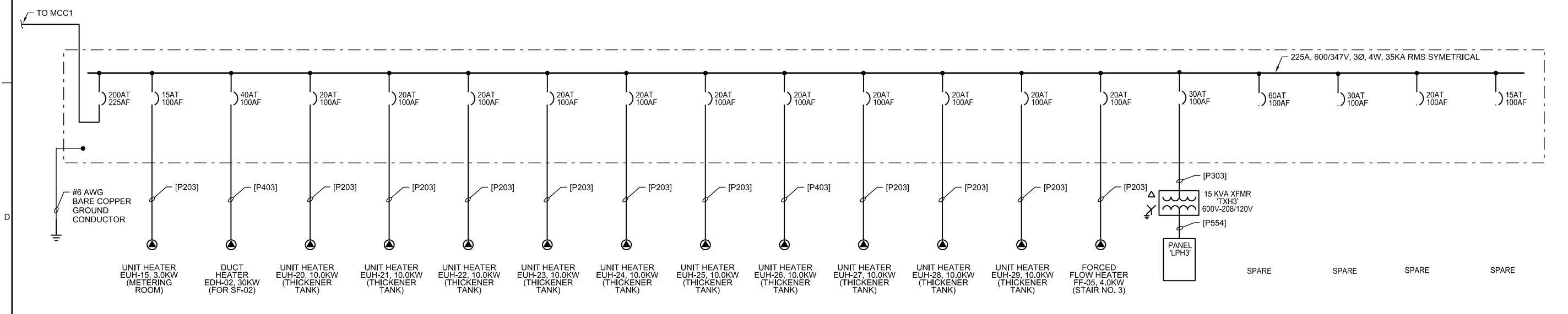
DISTRIBUTION PANEL 'DPH1'
(ELECTRICAL ROOM)



DISTRIBUTION PANEL 'DPH2'
(PROCESS AREA, WINDOW CLEANING PLATFORM)



DISTRIBUTION PANEL 'DPH2' (CONTINUED)
(PROCESS AREA, WINDOW CLEANING PLATFORM)



DISTRIBUTION PANEL 'DPH3'
(THICKENER BRIDGE)



NO.	DATE	BY	CHK	APVD
B	02/2014	JZ	JZ	JZ
A	09/2013	JZ	JZ	JZ
DR	J. ZAHHR	CHK	J. ZAHHR	APVD

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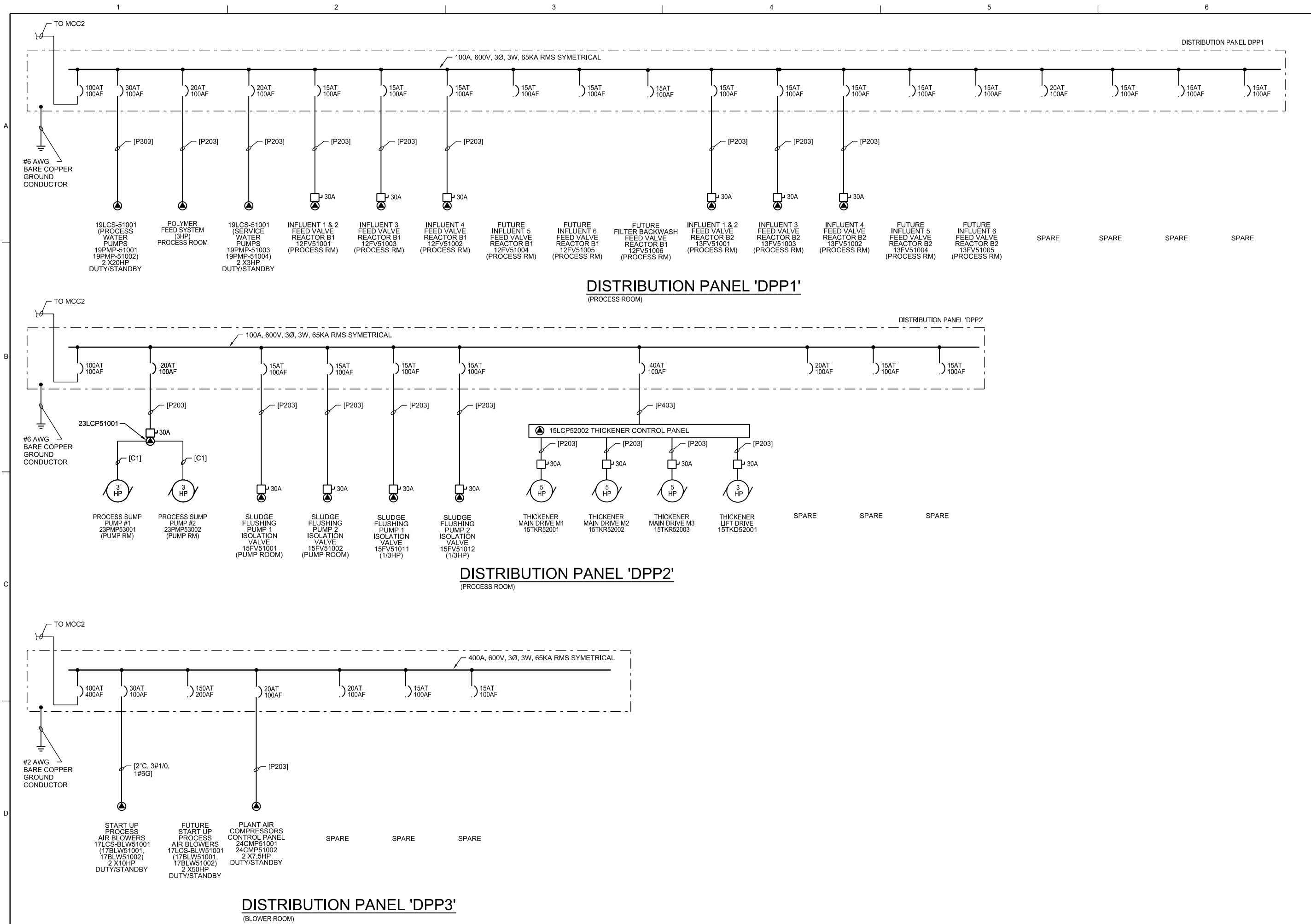
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®

ELECTRICAL
**ONE LINE DIAGRAMS
DISTRIBUTION PANELS
'DPH1', 'DPH2' & 'DPH3'**

VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
0 25mm

DATE FEBRUARY 2014
PROJ TA013-427716
DWG 500-E-003
SHEET



DISTRIBUTION PANEL 'DPP1'
(PROCESS ROOM)

DISTRIBUTION PANEL 'DPP2'
(PROCESS ROOM)

DISTRIBUTION PANEL 'DPP3'
(BLOWER ROOM)



NO.	DATE	BY	CHK	APVD
B	02/2014	JZ	JZ	JZ
A	09/2013	JZ	JZ	JZ
DR		J. ZAHIR	J. ZAHIR	J. ZAHIR

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CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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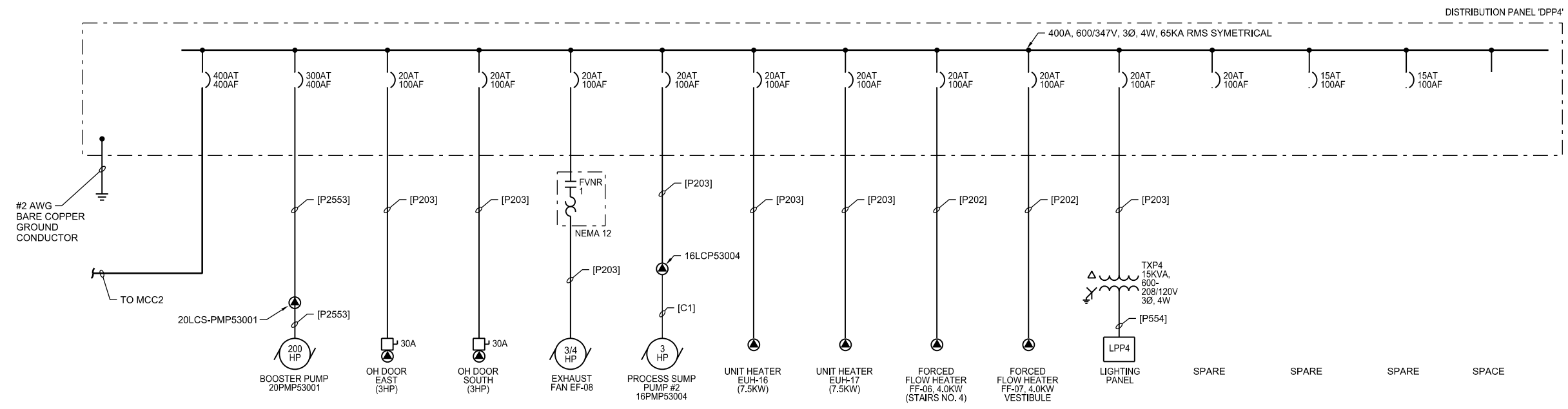
ELECTRICAL
ONE LINE DIAGRAM
DISTRIBUTION PANELS
'DPP1', 'DPP2' AND 'DPP3'

NTS
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
0 25mm

DATE FEBRUARY 2014
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DWG 500-E-004
SHEET

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A
B
C
D



DISTRIBUTION PANEL 'DPP4'
BOOSTER PUMP & GRIT BUILDING



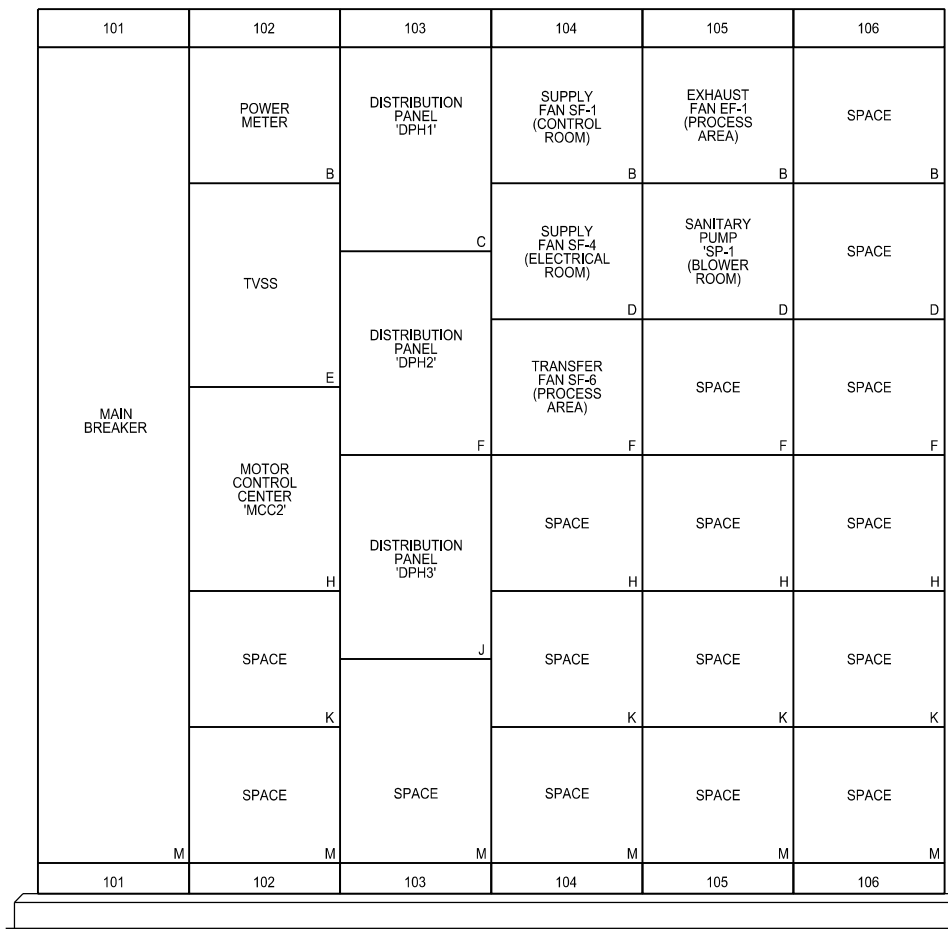
NO.	DATE	BY	REVISION
B	02/2014	JZ	ISSUED FOR DETAIL DESIGN REVIEW
A	09/2013	JZ	ISSUED FOR ADVANCED DESIGN REVIEW
DSGN		J. ZAHIR	CHK
DR		J. ZAHIR	APVD
APVD		J. ZAHIR	J. ZAHIR

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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®
ELECTRICAL
ONE LINE DIAGRAM
DISTRIBUTION PANEL - 'DPP4'

NTS
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DATE FEBRUARY 2014
PROJ TA013-427716
DWG 500-E-005
SHEET



100mm THICK CONCRETE PAD,
REFER PLAN FOR THE EXTENT
OF THE PAD

MCC-1 - FRONT ELEVATION
NTS



ISSUED FOR DETAIL DESIGN REVIEW	JZ	GN
ISSUED FOR ADVANCED DESIGN REVIEW	JZ	GN
REVISION	BY	APVD
DR	J. ZAHIR	APVD
CHK	J. ZAHIR	APVD
DSGN	J. ZAHIR	APVD
NO.	DATE	
A	09/2013	
B	02/2014	

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CONSTRUCTION**

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

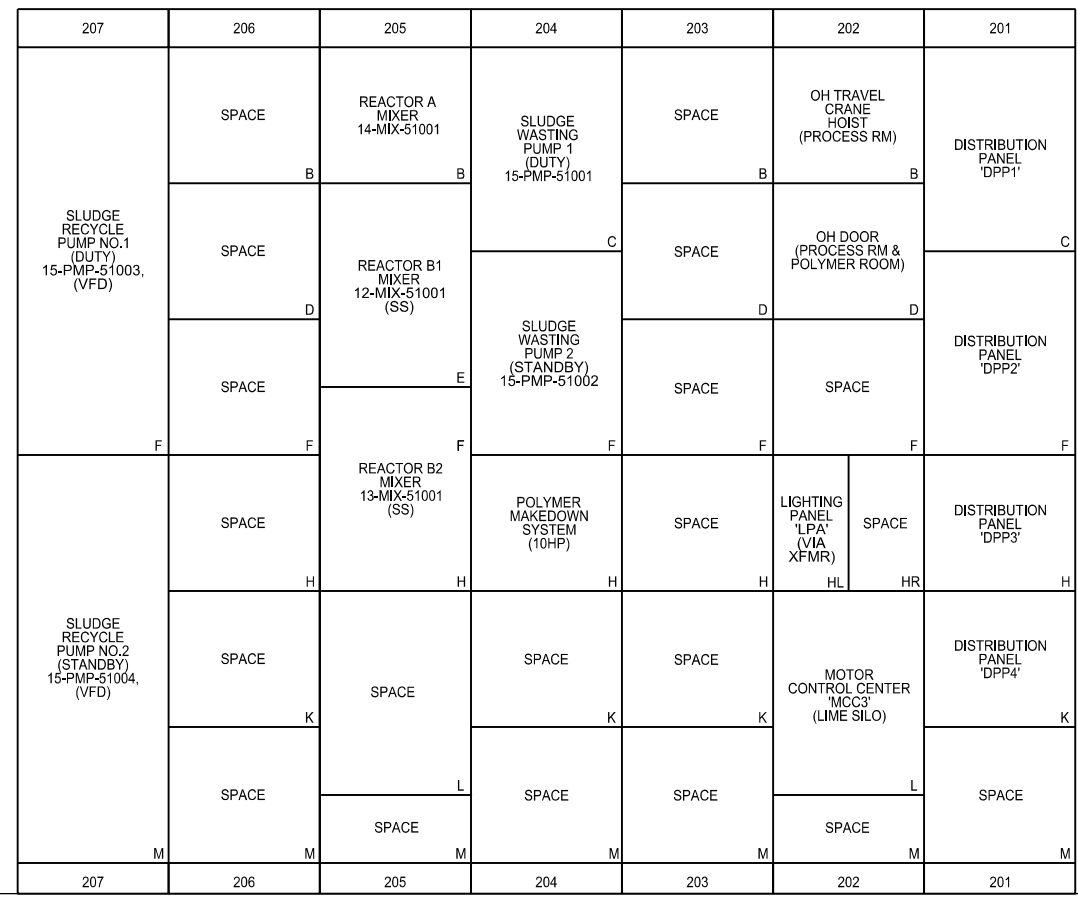
CH2MHILL®

ELECTRICAL
**FRONT ELEVATION
MOTOR CONTROL CENTER
'MCC1'**

NTS	
VERIFY SCALE	
BAR IS 25mm ON ORIGINAL DRAWING.	
DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	500-E-006
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100mm THICK CONCRETE PAD, NOTE 1

MCC-2 - FRONT ELEVATION
NTS

- NOTES**
- EXTEND THE SLAB UPTO 150mm FROM THE DOOR.



NO.	DATE	REVISION	BY	APVD
B	02/2014	ISSUED FOR DETAIL DESIGN REVIEW	JZ	GN
A	09/2013	ISSUED FOR ADVANCED DESIGN REVIEW	JZ	GN
DSGN			J. ZAHIR	CHK
			J. ZAHIR	DR
			J. ZAHIR	APVD

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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®

ELECTRICAL
**FRONT ELEVATION
MOTOR CONTROL CENTER 'MCC2'**

NTS

VERIFY SCALE

BAR IS 25mm ON ORIGINAL DRAWING.

DATE FEBRUARY 2014
PROJ TA013-427716
DWG 500-E-007
SHEET

ELECTRICAL PANELBOARD SCHEDULE

PANEL: LPH1 (NEW)
VOLTAGE: 208/120V, 3Ph, 4W.
BUS SIZE: 225A
MAINS: 150A Main Breaker
Isc: 18 KA

LOCATION: BUILDING'S MAIN ELECTRICAL ROOM
MOUNTING: WALL MOUNTED (SURFACE)
FED FROM: DISTRIBUTION PANEL 'DPH1' VIA 'TXH1'
ENCLOSURE: NEMA 1

Table with columns: CIRCUIT TITLE, BREAKER (CKT NO, AMP, POLE), LOAD, VA (PHASE A, B, C), LOAD TYPE, LOAD TYPE, LOAD, VA (PHASE A, B, C), BREAKER (POLE, AMP, CKT NO), CIRCUIT TITLE. Includes items like Lighting, Polymer Room, Electrical Room, Corridors, etc.

Summary table for LPH1: TOTAL LOAD (5080, 2347, 3423), PHASE A LOAD (13,400), PHASE B LOAD (7,787), PHASE C LOAD (11,063), TOTAL LOAD (VA)= 32,250 Demand Load 104% 33.5 KVA 93 AMPS

- NOTES: 1. CONNECT WITH [P503] 2. CONNECT WITH [1"C, 2#10, 1#12G]

ELECTRICAL PANELBOARD SCHEDULE

PANEL: LPH3 (NEW)
VOLTAGE: 208/120V, 3Ph, 4W.
BUS SIZE: 100A
MAINS: 60A Main Breaker
Isc: 18 KA

LOCATION: THICKENER BRIDGE VESTIBULE
MOUNTING: WALL MOUNTED (SURFACE)
FED FROM: DISTRIBUTION PANEL 'DPH3' VIA 'TXH3'
ENCLOSURE: NEMA 12

Table with columns: CIRCUIT TITLE, BREAKER (CKT NO, AMP, POLE), LOAD, VA (PHASE A, B, C), LOAD TYPE, LOAD TYPE, LOAD, VA (PHASE A, B, C), BREAKER (POLE, AMP, CKT NO), CIRCUIT TITLE. Includes items like Lighting Stairs, Tunnel, Thickenner Bridge, etc.

Summary table for LPH3: TOTAL LOAD (923, 1203, 790), PHASE A LOAD (3,043), PHASE B LOAD (2,923), PHASE C LOAD (2,550), TOTAL LOAD (VA)= 8,516 Demand Load 110% 9.3 KVA 26 AMPS

NOTES:



Revision table with columns: NO., DATE, DSGN, DR, CHK, REVISION, J. ZAHIR, APVD, BY, GN.

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN GOVERNMENT OF YUKON DESIGN



ELECTRICAL PANEL SCHEDULES 'LPH1' AND 'LPH2'

VERIFY SCALE: BAR IS 25mm ON ORIGINAL DRAWING. DATE: FEBRUARY 2014, PROJ: TA013-427716, DWG: 500-E-008, SHEET

ELECTRICAL PANELBOARD SCHEDULE

PANEL: LPH3 (NEW)
VOLTAGE: 208/120V, 3Ph, 4W.
BUS SIZE: 100A
MAINS: 60A Main Breaker
Isc: 18 KA

LOCATION: THICKENER BRIDGE VESTIBULE
MOUNTING: WALL MOUNTED (SURFACE)
FED FROM: DISTRIBUTION PANEL 'DPH3' VIA 'TXH3'
ENCLOSURE: NEMA 12

Table with columns: CIRCUIT TITLE, BREAKER (CKT NO, AMP, POLE), LOAD, VA PHASE (A, B, C), LOAD TYPE, LOAD VA PHASE (A, B, C), BREAKER (POLE, AMP, CKT NO), CIRCUIT TITLE. Includes items like Lighting Stairs, Tunnel, Thickener Bridge, Metering Room.

NOTES: TOTAL LOAD 923 1203 790 1940 1540 2536

PHASE A LOAD (VA) 2,863
PHASE B LOAD (VA) 2,743
PHASE C LOAD (VA) 3,326
TOTAL LOAD (VA)= 8,932 Demand Load 111% 10.0 KVA 28 AMPS

ELECTRICAL PANELBOARD SCHEDULE

PANEL: LPP4 (NEW)
VOLTAGE: 208/120V, 3Ph, 4W.
BUS SIZE: 100A
MAINS: 60A Main Breaker
Isc: 18 KA

LOCATION: BOOSTER PUMP & GRIT BUILDING
MOUNTING: WALL MOUNTED (SURFACE)
FED FROM: DISTRIBUTION PANEL 'DPP4' VIA 'TXP4'
ENCLOSURE: NEMA 12

Table with columns: CIRCUIT TITLE, BREAKER (CKT NO, AMP, POLE), LOAD, VA PHASE (A, B, C), LOAD TYPE, LOAD VA PHASE (A, B, C), BREAKER (POLE, AMP, CKT NO), CIRCUIT TITLE. Includes items like Lighting (Grit Room), Vestibule & Stairs, Receptacles, S.P.A.C.E.

NOTES: TOTAL LOAD 820 200 491 540 720 0
PHASE A LOAD (VA) 1,360
PHASE B LOAD (VA) 920
PHASE C LOAD (VA) 491
TOTAL LOAD (VA)= 2,771 Demand Load 114% 3.1 KVA 9 AMPS



Revision table with columns: NO., DATE, DSGN, DR, CHK, REVISION, APVD. Includes entries for J. ZAHIR.

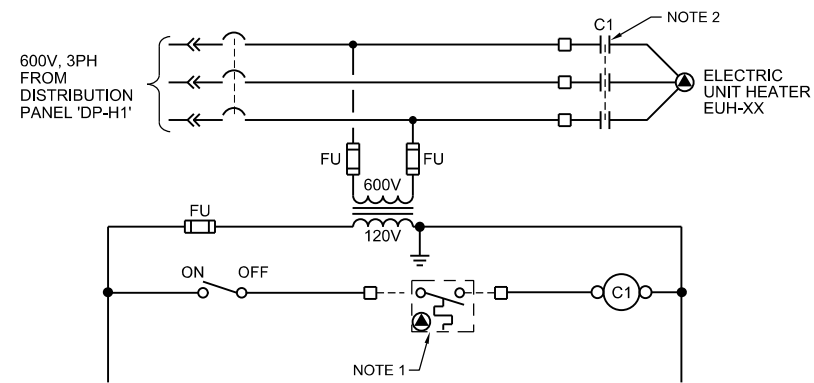
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FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN GOVERNMENT OF YUKON DESIGN

CH2MHILL®

ELECTRICAL PANEL SCHEDULES 'LPH3' AND 'LPP4'

VERIFY SCALE BAR IS 25mm ON ORIGINAL DRAWING. DATE FEBRUARY 2014 PROJ TA013-427716 DWG 500-E-009 SHEET

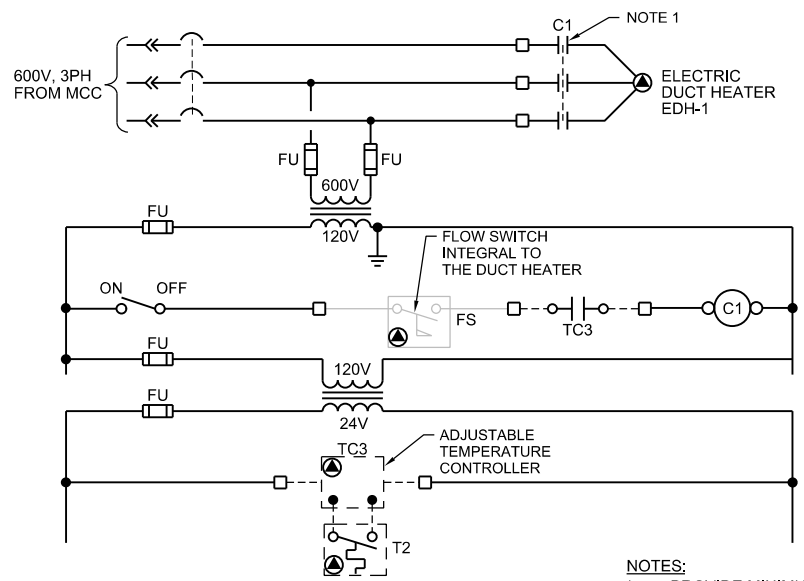


UNIT HEATERS EUH-XX - TYPICAL DIAGRAM

FOR LOCATIONS, REFER TO PLANS

NOTES:

1. PROVIDE MINIMUM 600V, 30A CONTACTS
2. FOR ONE LINE DIAGRAM REFER TO DWG. 500-E-003.

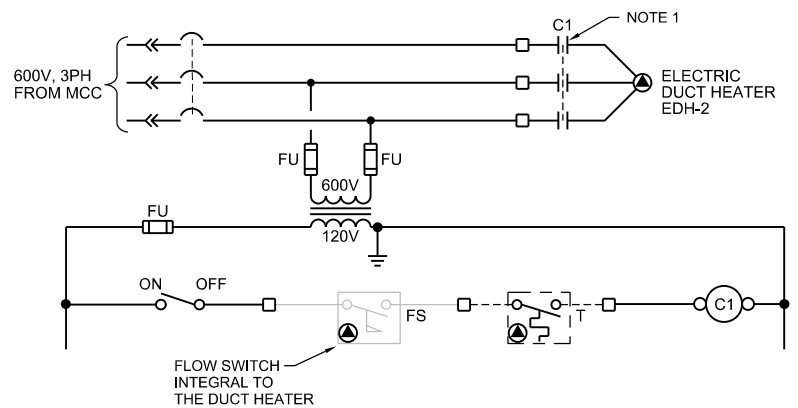


ELECTRIC DUCT HEATER EDH-1

MECHANICAL ROOM

NOTES:

1. PROVIDE MINIMUM 600V, 30A CONTACTS

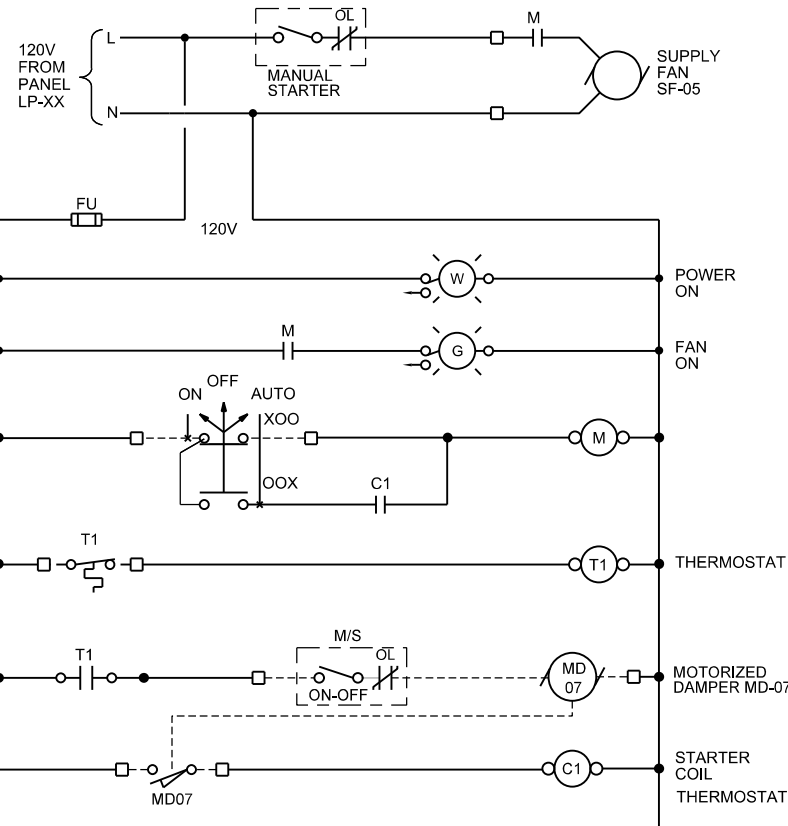


ELECTRIC DUCT HEATER EDH-2

METERING ROOM

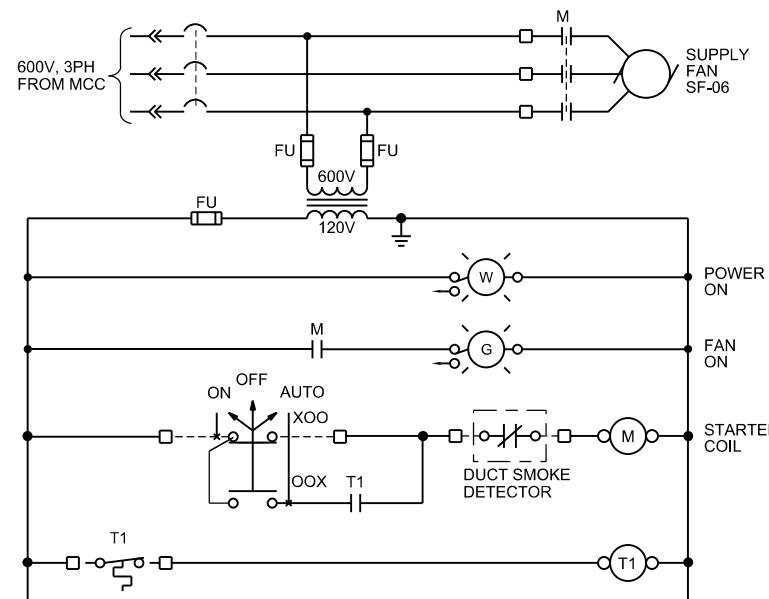
NOTES:

1. PROVIDE MINIMUM 600V, 30A CONTACTS



SUPPLY FAN SF-05

BLOWER/COMPRESSOR ROOM



SUPPLY FAN SF-06

BLOWER/COMPRESSOR ROOM



NO.	DATE	REVISION	BY	APVD
B	02/2014	ISSUED FOR DETAIL DESIGN REVIEW	JZ	GN
A	09/2013	ISSUED FOR ADVANCED DESIGN REVIEW	JZ	GN
DSGN			J. ZAHIR	CHK
			J. ZAHIR	DR
			J. ZAHIR	APVD

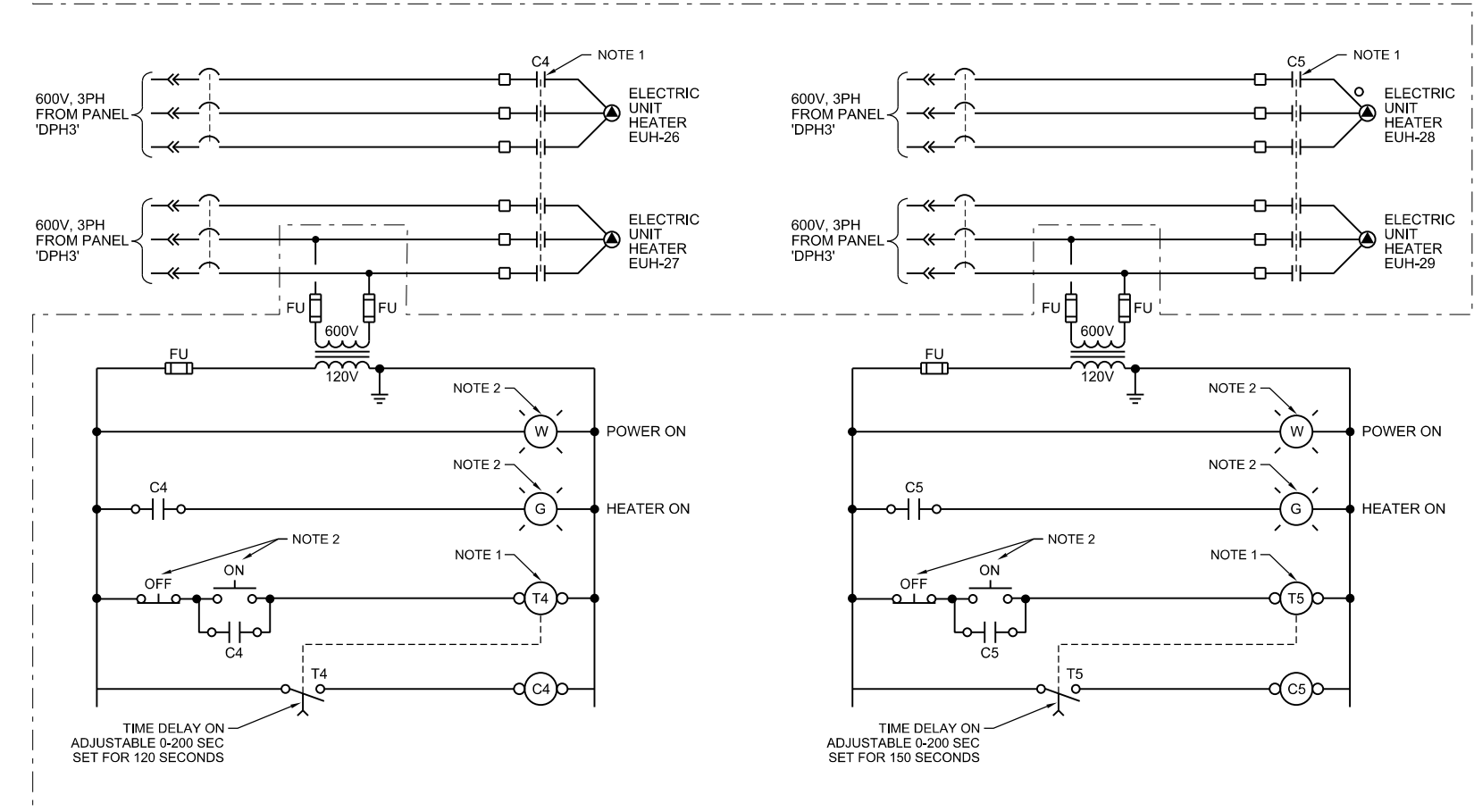
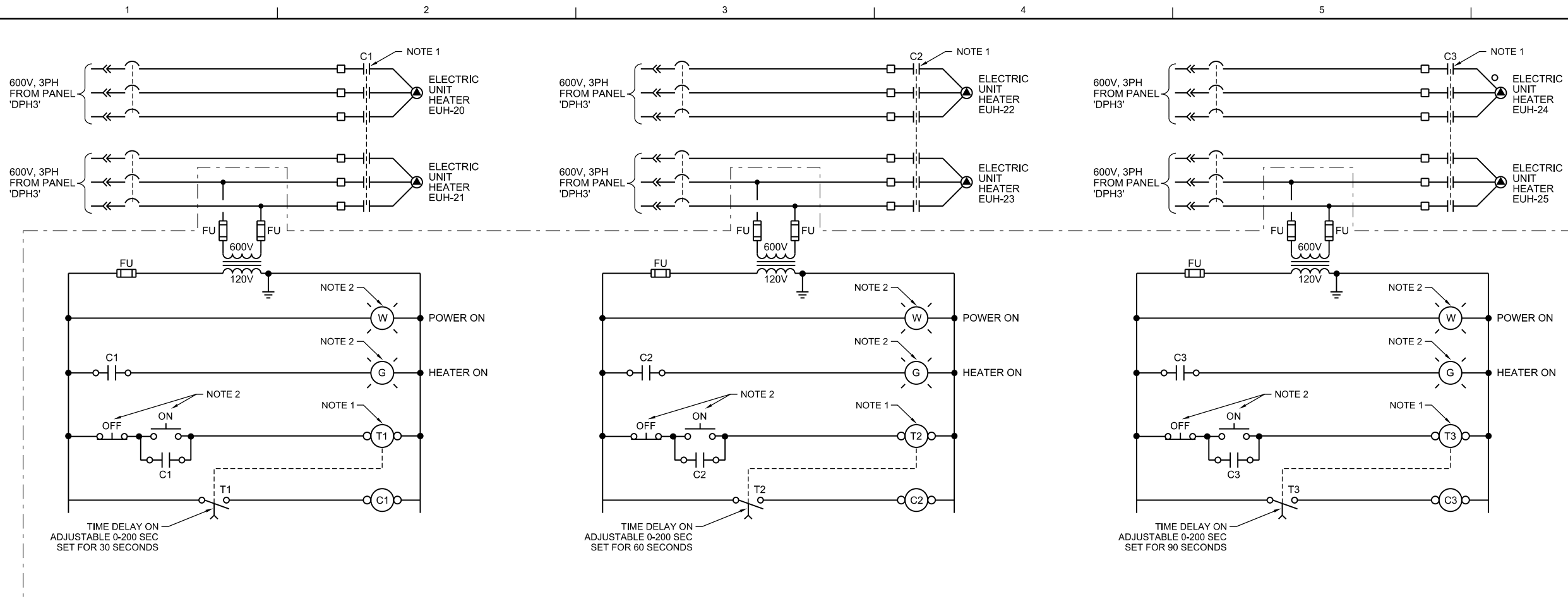
90% DETAIL DESIGN REVIEW
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CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®
ELECTRICAL
HVAC CONTROL SCHEMATICS
EUH-1 TO EUH-17, EDH-1 & EDH-2
SUPPLY FANS SF-05 & SF-06

NTS	
VERIFY SCALE	
BAR IS 25mm ON ORIGINAL DRAWINGS.	
DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	500-E-011
SHEET	

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CONTROL PANEL 'BHCP'

NOTES

1. PROVIDE 6-POLE CONTACTOR IN THE CONTACTOR PANEL 'BHCP' WITH MINIMUM 600V, 30A RATED CONTACTS.
2. INSTALL THE MOMENTARY 'ON-OFF' SWITCH AND INSTALL THE 'POWER ON' INDICATORY LIGHT ON THE CONTACTOR PANEL'S DOOR. LABEL EACH ITEM ON THE DOOR AND IN THE CONTACTOR PANEL.

ELECTRIC UNIT HEATERS CONTROL PANEL 'BHCP'
THICKENER DOME, UNIT HEATERS EUH-20 TO EUH-29



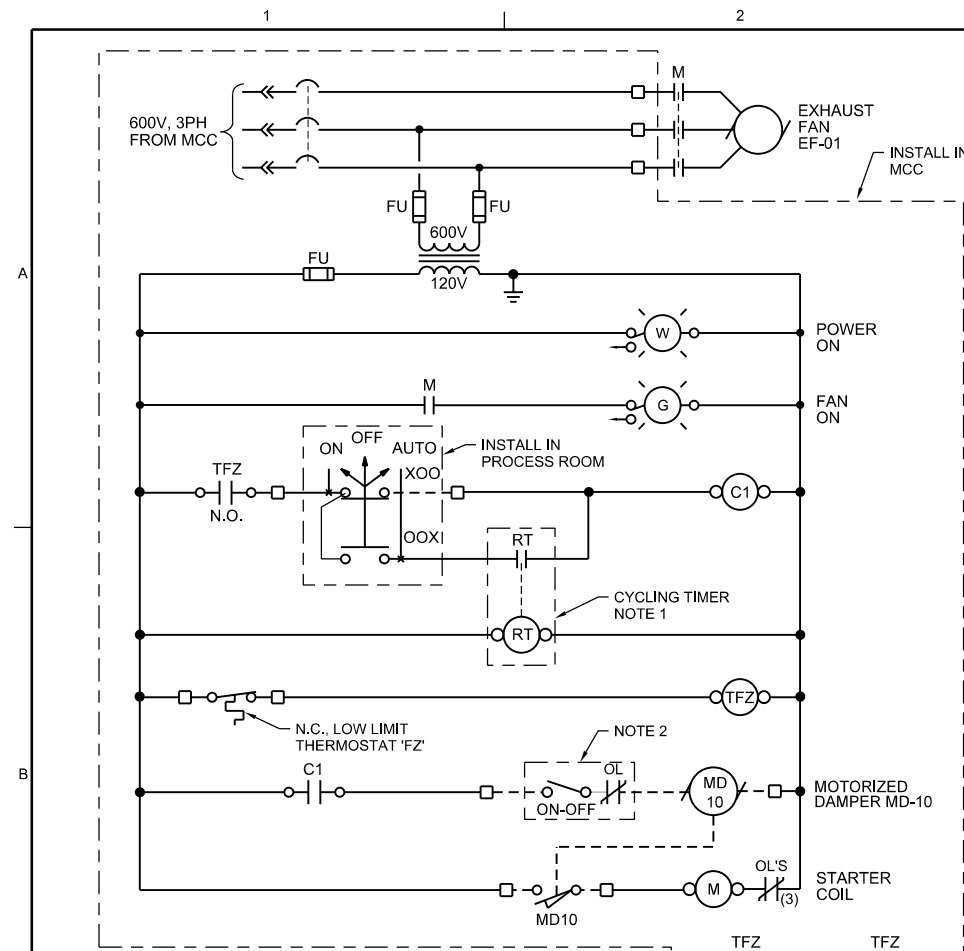
NO.	DATE	REVISION	BY	APVD
B	02/2014	ISSUED FOR DETAIL DESIGN REVIEW	JZ	GN
A	09/2013	ISSUED FOR ADVANCED DESIGN REVIEW	JZ	GN
DR		CHK	J. ZAHIR	APVD
DSGN			J. ZAHIR	APVD

90% DETAIL DESIGN REVIEW
NOT FOR TENDER OR
CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

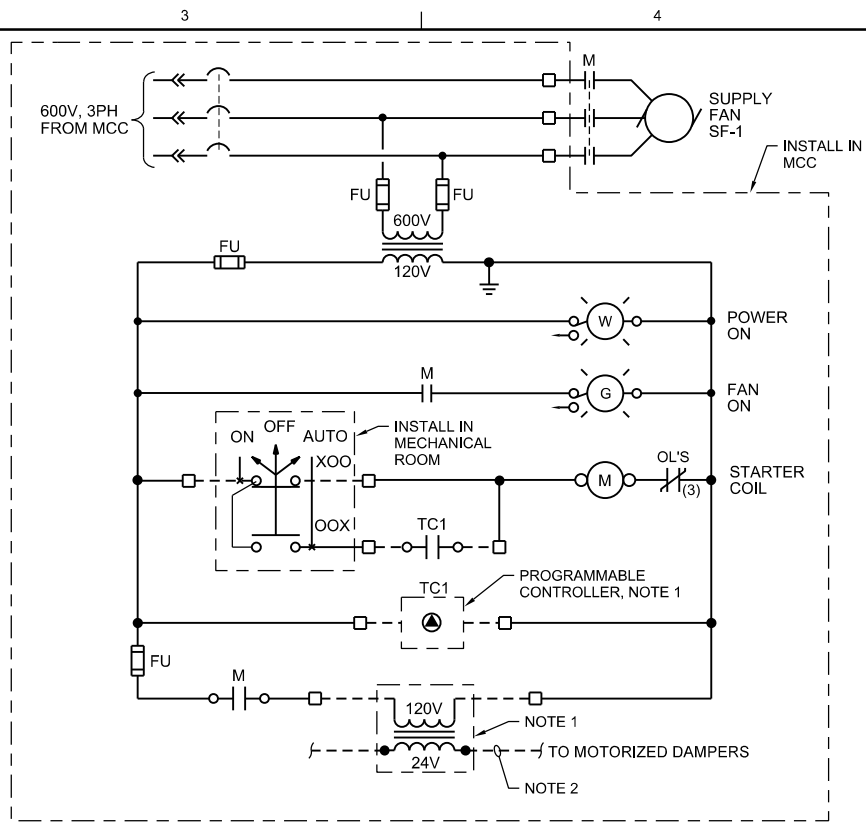
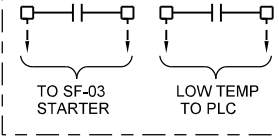
CH2MHILL®
ELECTRICAL
HVAC CONTROL SCHEMATICS
ELECTRIC HEATERS EUH-20 TO 29
THICKENER DOME

NTS	
VERIFY SCALE	
BAR IS 25mm ON ORIGINAL DRAWING.	
DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	500-E-012
SHEET	



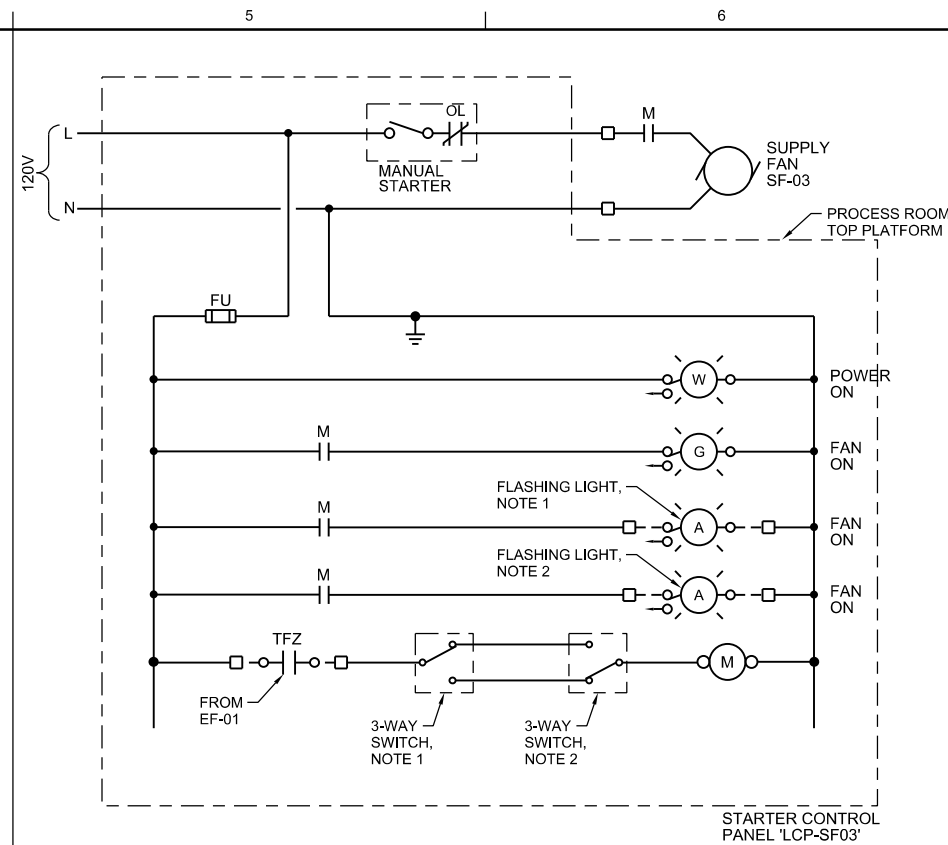
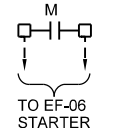
EXHAUST FAN EF-01
PROCESS ROOM

- NOTES:
1. CYCLING TIMER (ADJUSTABLE) 30 MINUTES ON, 15 MINUTES OFF.
 2. INSTALL NEAR DAMPER.



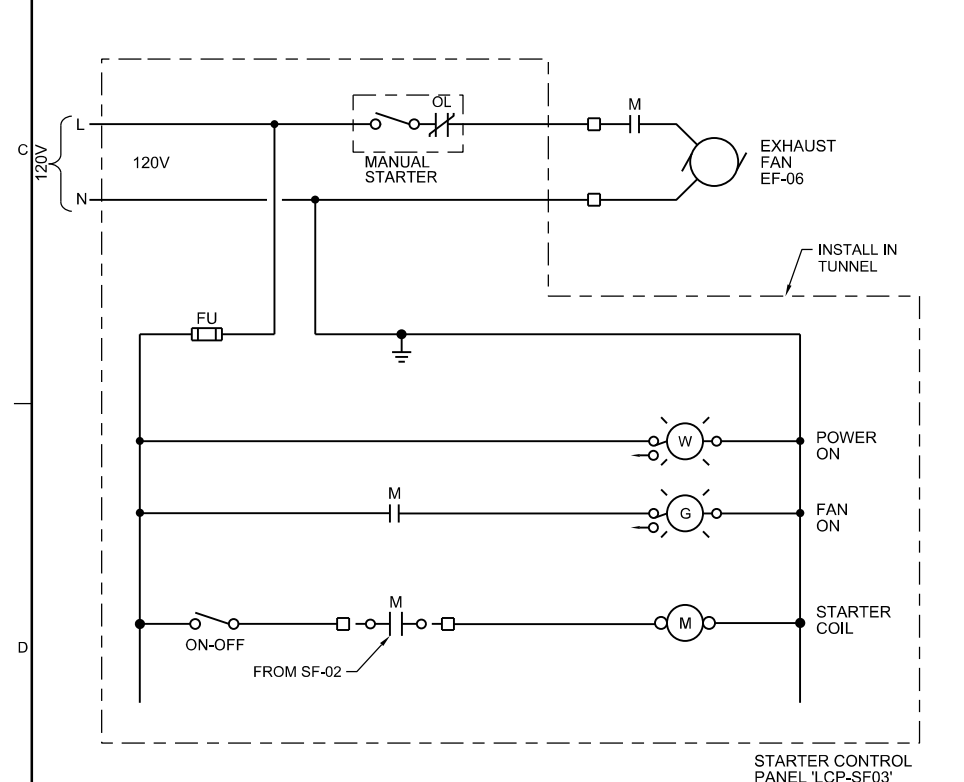
SUPPLY FAN SF-01
ADMINISTRATION AREA

- NOTES:
1. ITEMS PROVIDED AND INSTALLED BY MECHANICAL DIVISION.
 2. 24V WIRING PROVIDED AND INSTALLED BY MECHANICAL DIVISION.

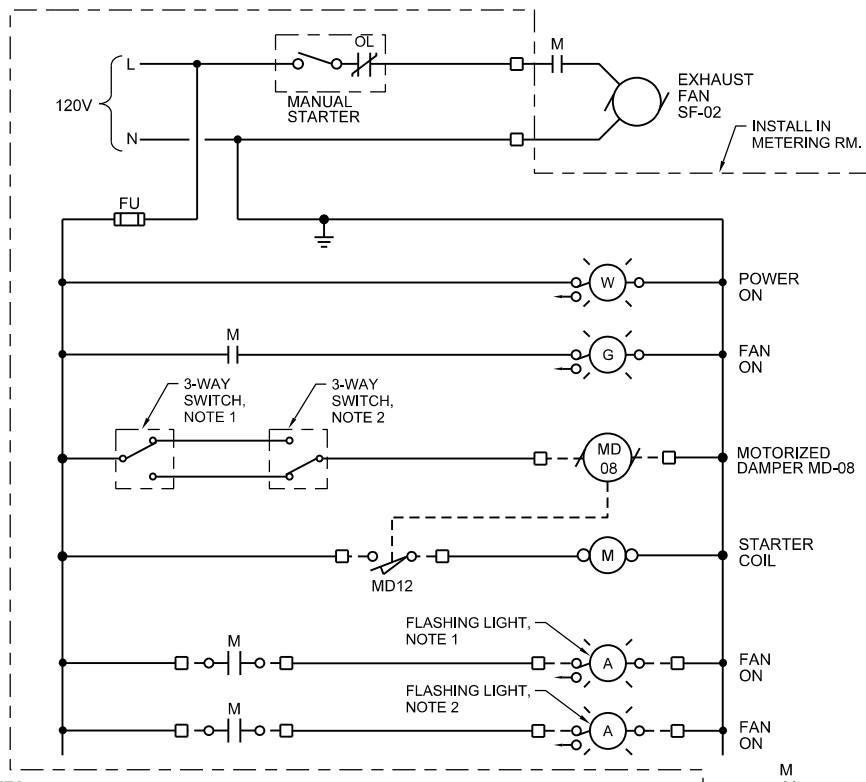


SUPPLY FAN SF-03
PROCESS ROOM, TOP PLATFORM

- NOTES:
1. INSTALL AT EAST END OF WALKWAY.
 2. INSTALL AT WEST END OF WALKWAY.

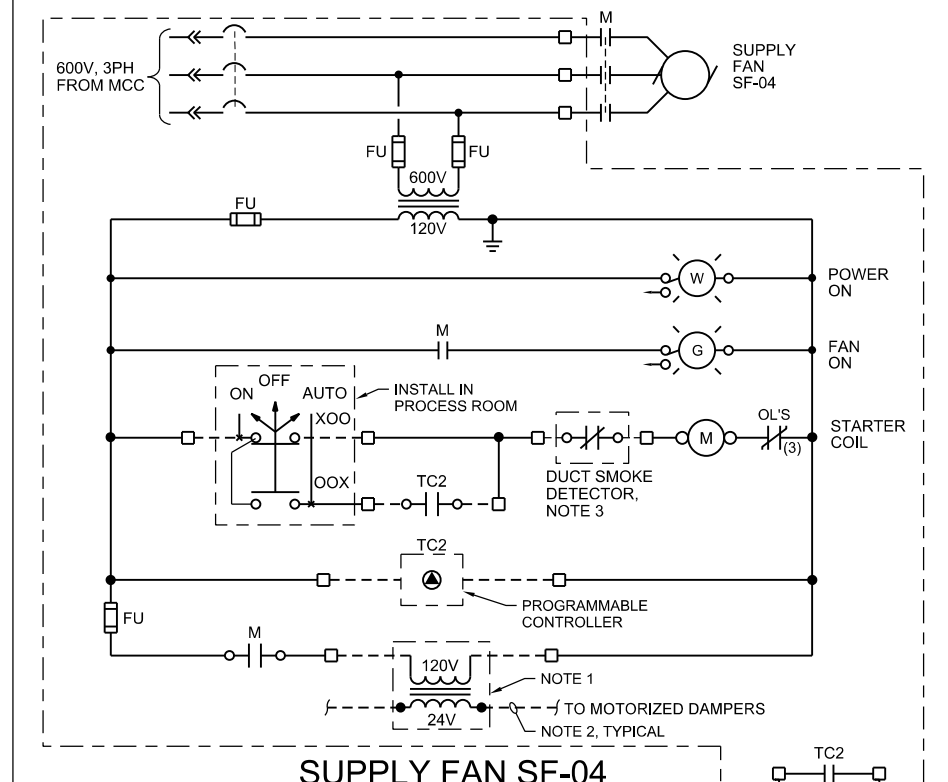


EXHAUST FAN EF-06
TUNNEL



SUPPLY FAN SF-02
METERING ROOM

- NOTES:
1. INSTALL AT EAST END OF TUNNEL.
 2. INSTALL AT WEST END OF TUNNEL.



SUPPLY FAN SF-04
ELECTRICAL ROOM

- NOTES:
1. LOCATED IN HVAC CONTROL PANEL.
 2. LOW VOLTAGE WIRING BY HVAC CONTRACTOR.
 3. PROVIDED AND INSTALLED BY HVAC CONTRACTOR, WIRING BY ELECTRICAL CONTRACTOR



ISSUED FOR DETAIL DESIGN REVIEW	GN	BY	APVD
ISSUED FOR ADVANCED DESIGN REVIEW	JZ	JZ	BY
REVISION	NO.	DATE	APVD
DR	J. ZAHIR	CHK	J. ZAHIR

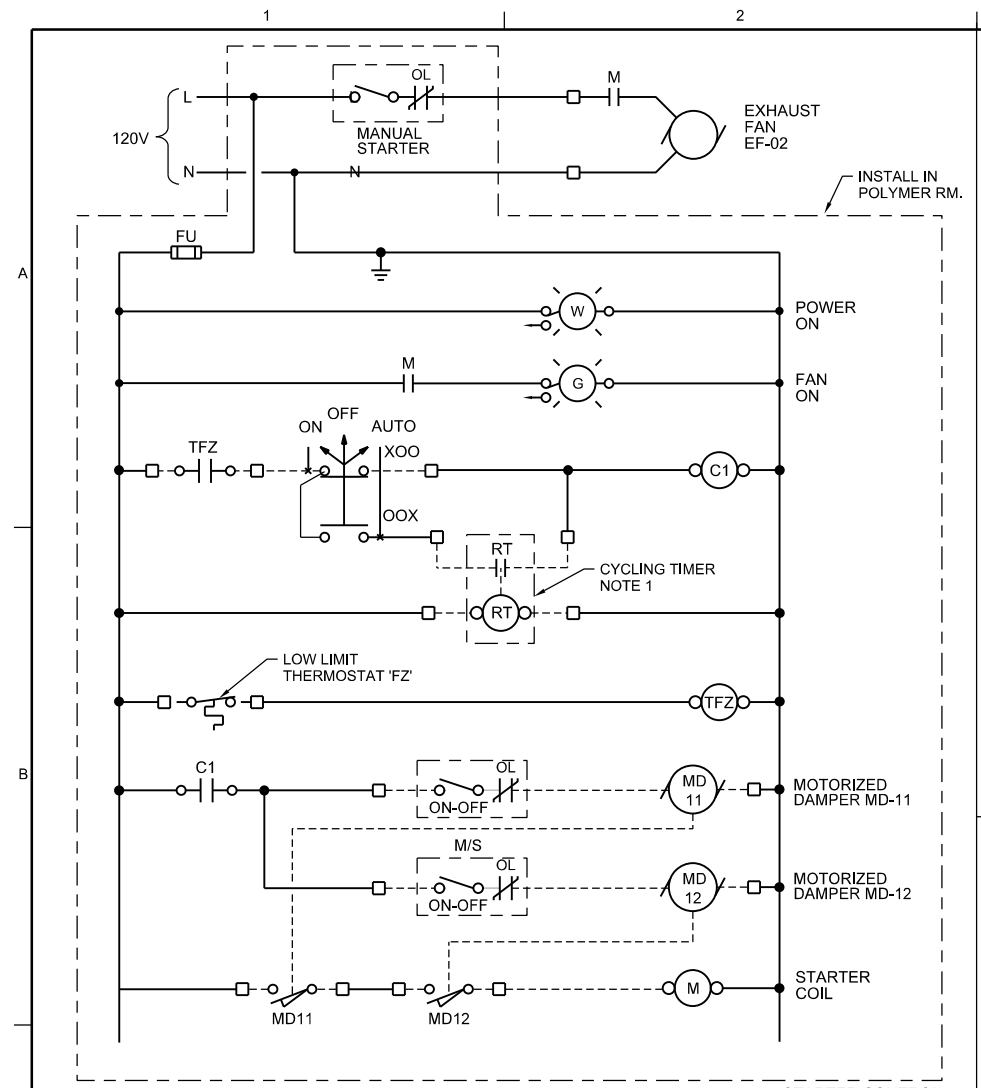
90% DETAIL DESIGN REVIEW
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CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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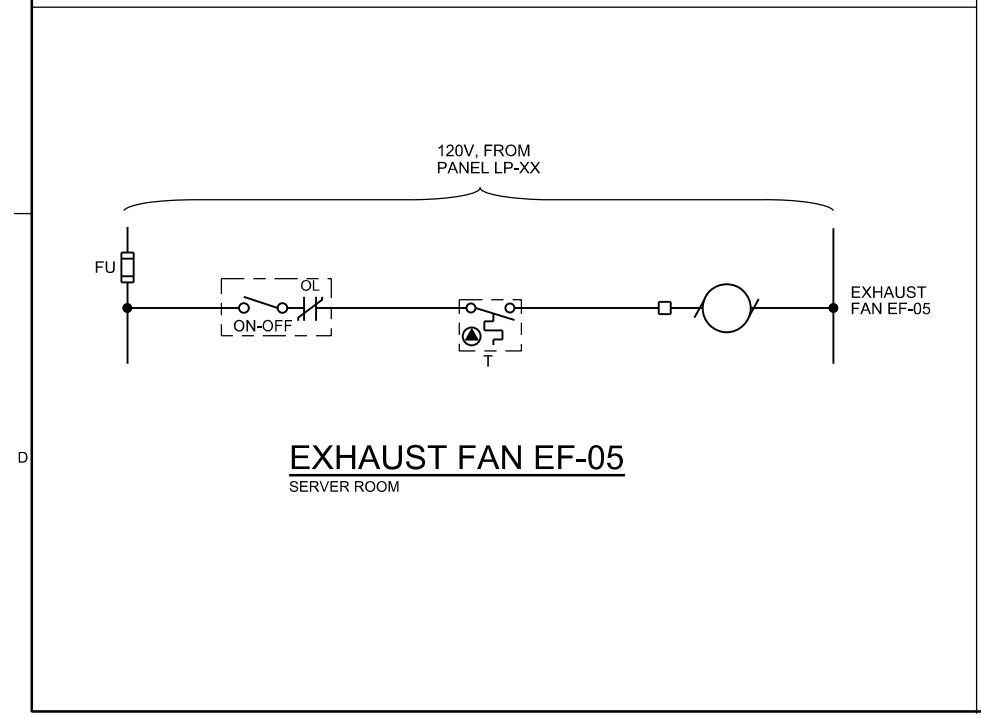
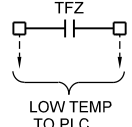
ELECTRICAL
HVAC CONTROL SCHEMATICS
SUPPLY FANS SF-01 TO SF-04,
EXHAUST FANS EF-01 & EF-06

NTS
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
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DWG 500-E-013
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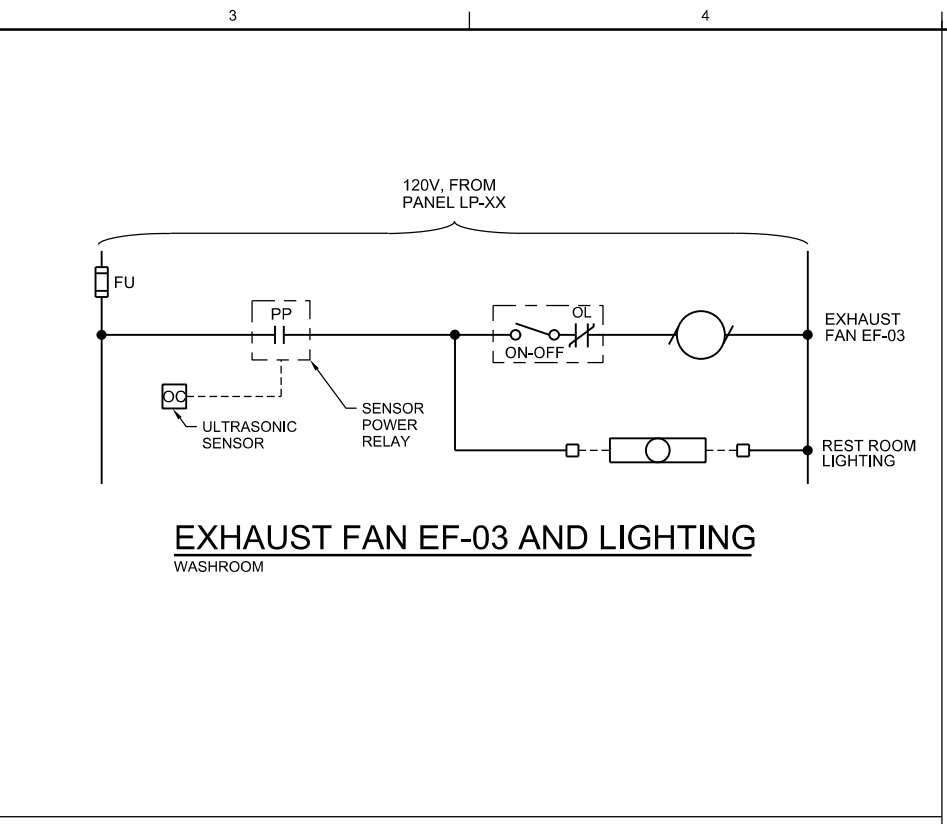


EXHAUST FAN EF-02
POLYMER ROOM

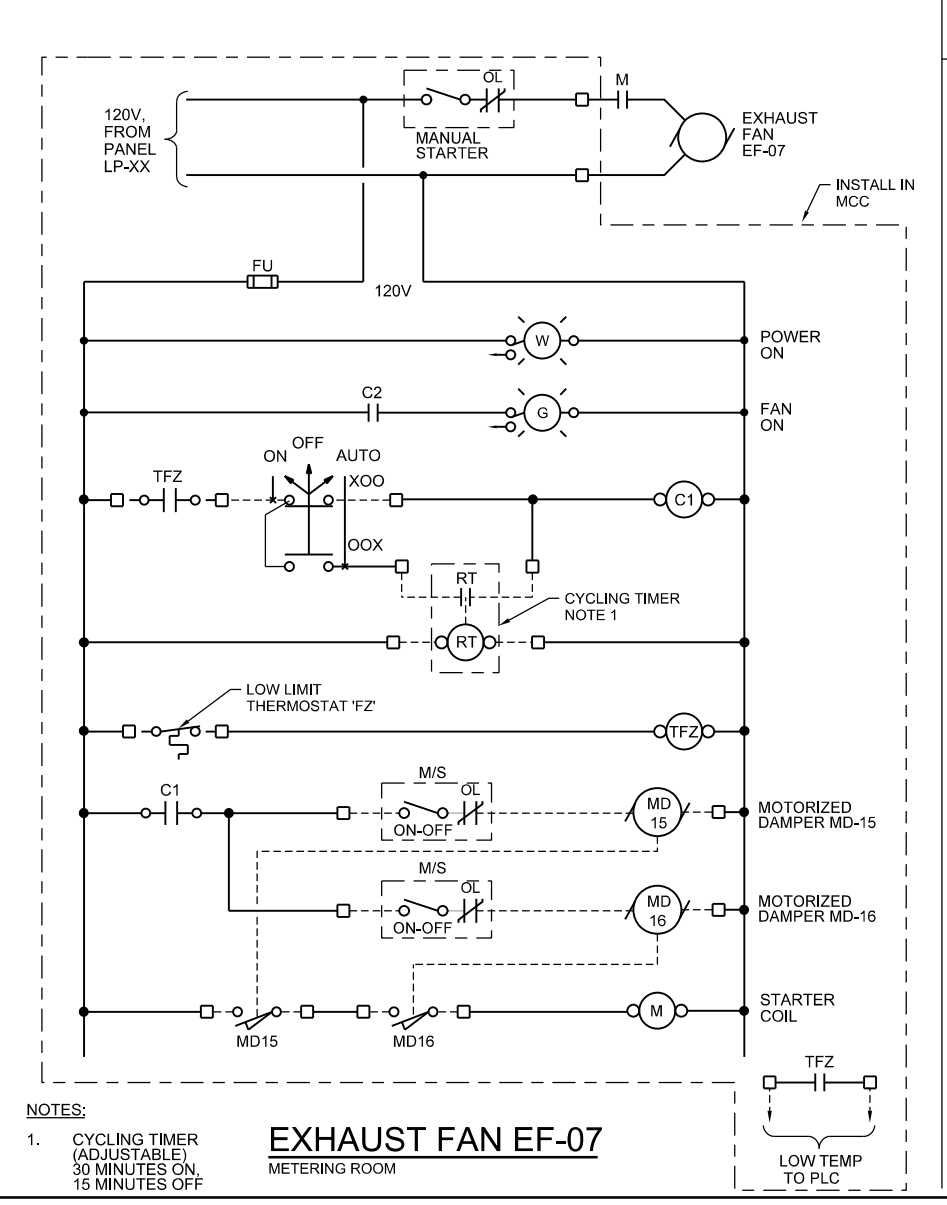
- NOTES:
1. CYCLING TIMER (ADJUSTABLE) 30 MINUTES ON, 15 MINUTES OFF



EXHAUST FAN EF-05
SERVER ROOM

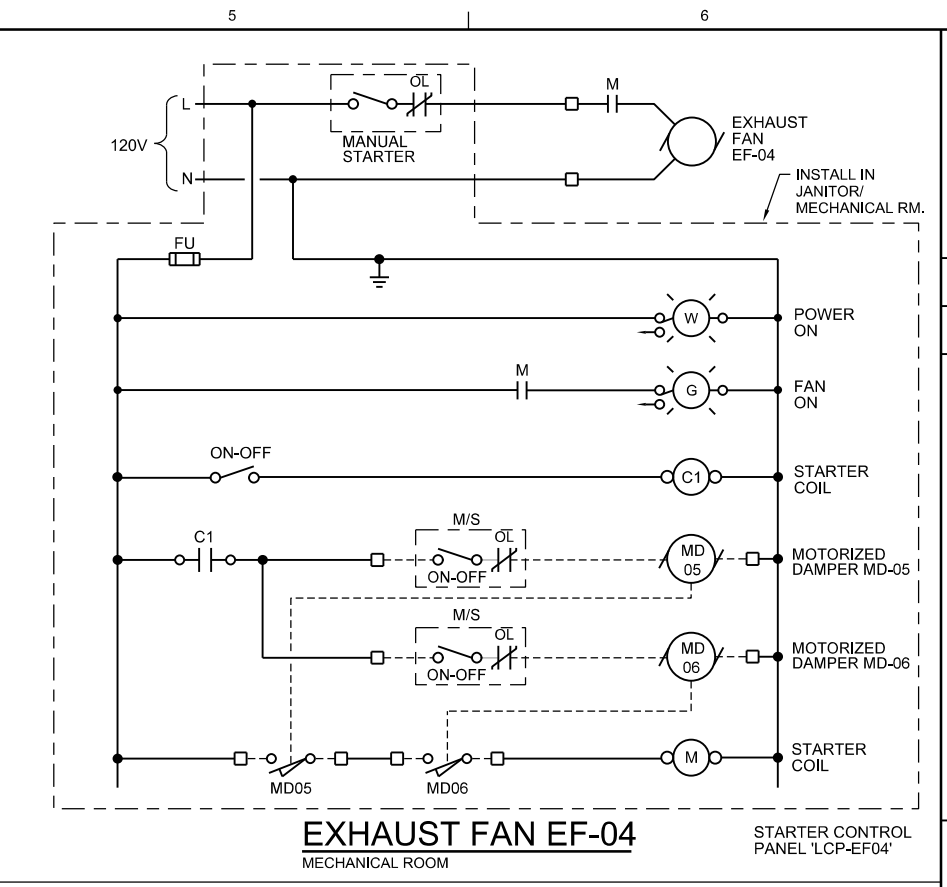
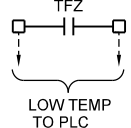


EXHAUST FAN EF-03 AND LIGHTING
WASHROOM

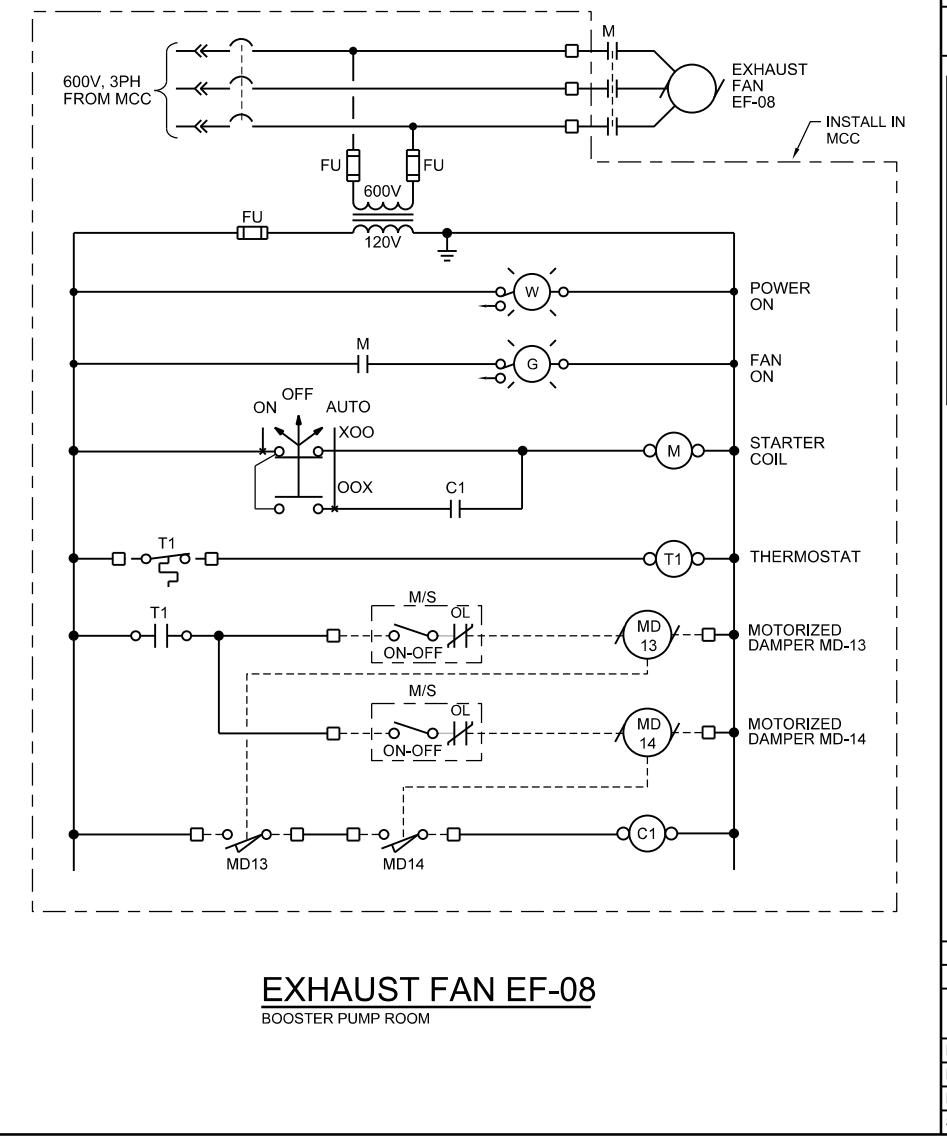


EXHAUST FAN EF-07
METERING ROOM

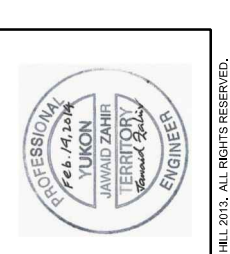
- NOTES:
1. CYCLING TIMER (ADJUSTABLE) 30 MINUTES ON, 15 MINUTES OFF



EXHAUST FAN EF-04
MECHANICAL ROOM



EXHAUST FAN EF-08
BOOSTER PUMP ROOM



NO.	DATE	REVISION	BY	APVD
B	02/2014	ISSUED FOR DETAIL DESIGN REVIEW	JZ	GN
A	09/2013	ISSUED FOR ADVANCED DESIGN REVIEW	JZ	GN
DGSN		CHK	J. ZAHIR	APVD
DR		CHK	J. ZAHIR	APVD

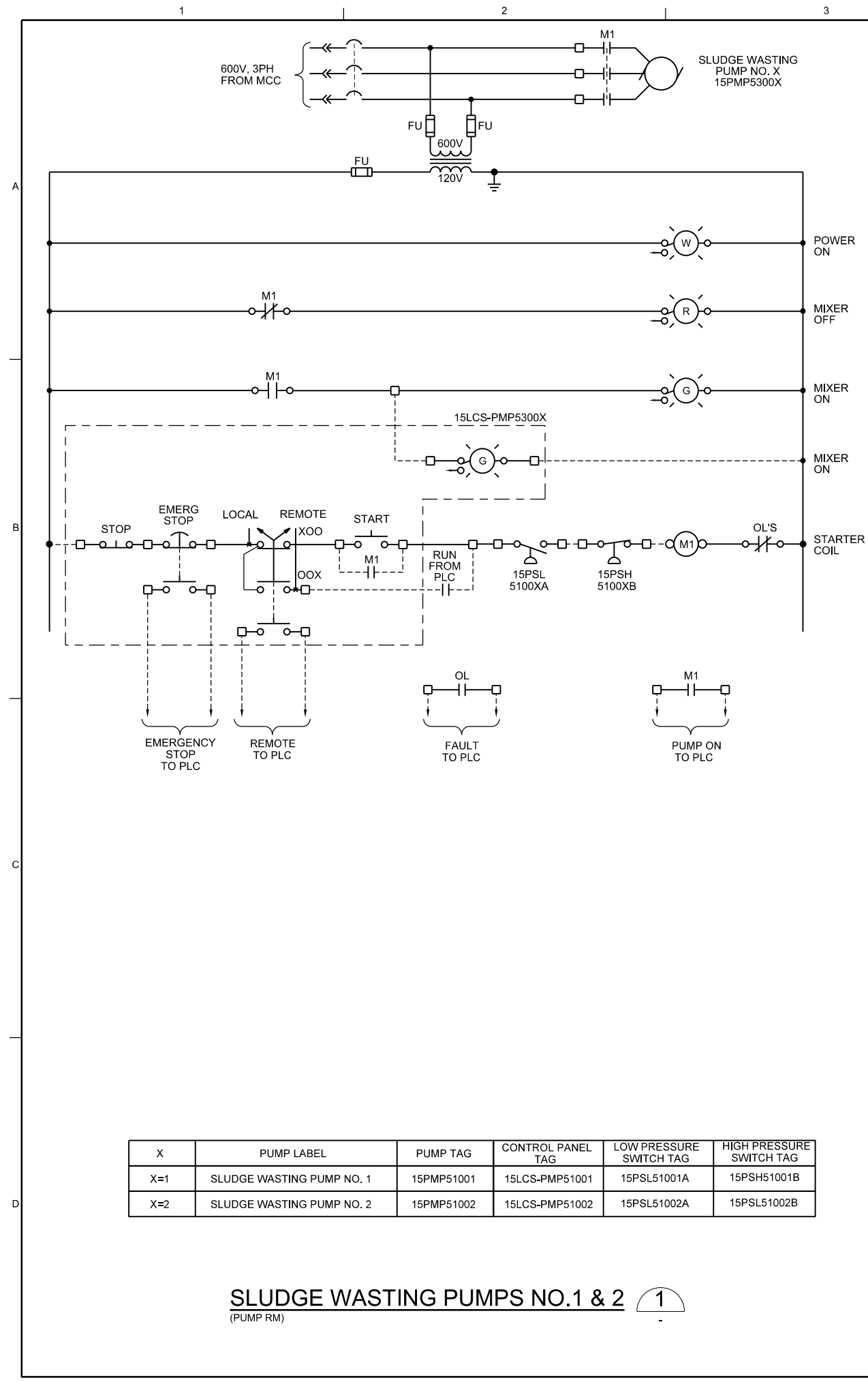
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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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ELECTRICAL
HVAC CONTROL SCHEMATICS
EXHAUST FANS
EF-02 TO EF-05, EF-07 AND EF-08

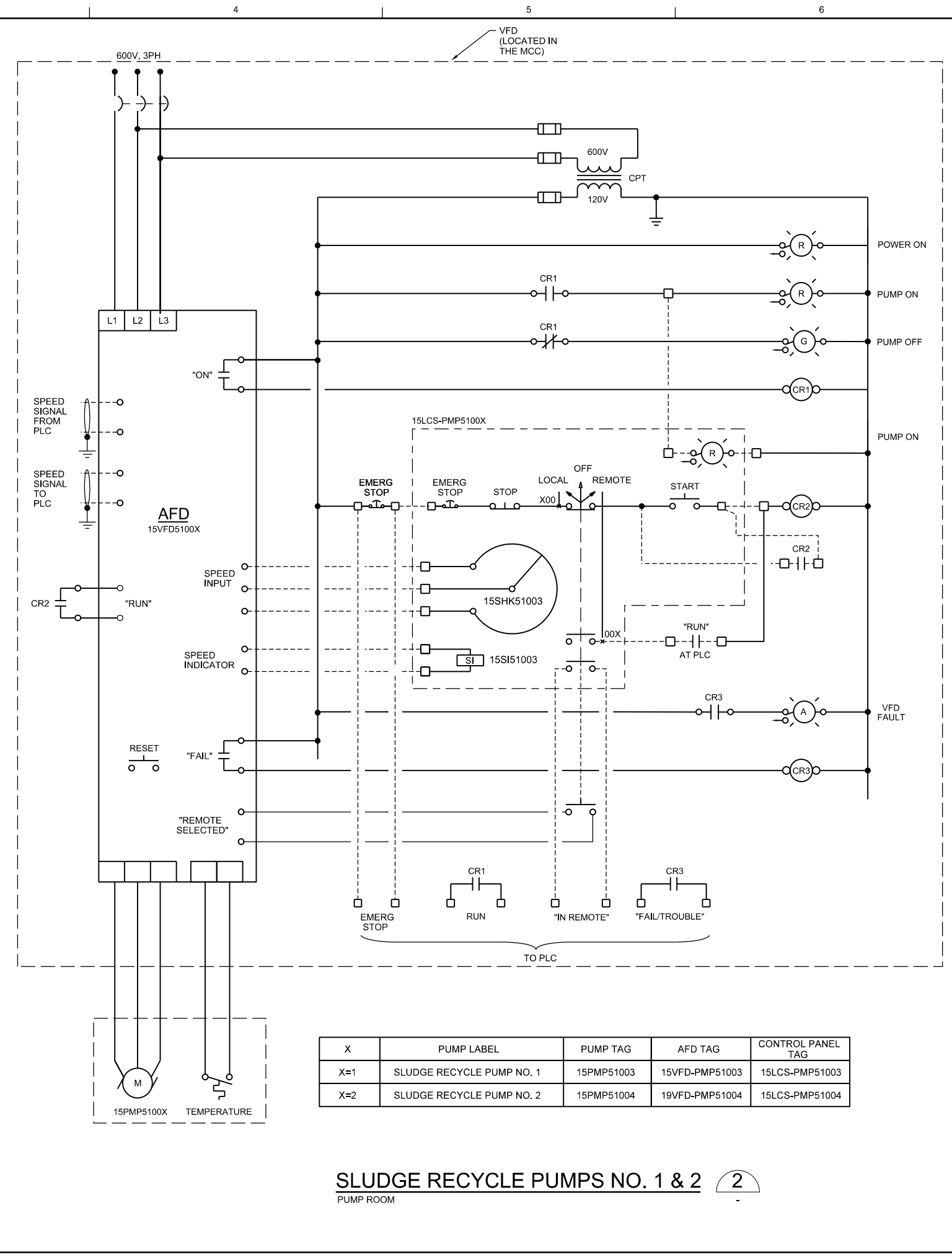
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0 25mm

DATE FEBRUARY 2014
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DWG 500-E-014
SHEET



X	PUMP LABEL	PUMP TAG	CONTROL PANEL TAG	LOW PRESSURE SWITCH TAG	HIGH PRESSURE SWITCH TAG
X=1	SLUDGE WASTING PUMP NO. 1	15PMP51001	15LCS-PMP51001	15PSL51001A	15PSH51001B
X=2	SLUDGE WASTING PUMP NO. 2	15PMP51002	15LCS-PMP51002	15PSL51002A	15PSH51002B

SLUDGE WASTING PUMPS NO.1 & 2 1
(PUMP RM)



X	PUMP LABEL	PUMP TAG	AFD TAG	CONTROL PANEL TAG
X=1	SLUDGE RECYCLE PUMP NO. 1	15PMP51003	15VFD-PMP51003	15LCS-PMP51003
X=2	SLUDGE RECYCLE PUMP NO. 2	15PMP51004	19VFD-PMP51004	15LCS-PMP51004

SLUDGE RECYCLE PUMPS NO. 1 & 2 2
PUMP ROOM



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ISSUED FOR DETAIL DESIGN REVIEW		JZ	BY
REVISION		J. ZAHIR	APVD
CHK		J. ZAHIR	DR
DSGN		J. ZAHIR	CHK

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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®
ELECTRICAL
**PROCESS CONTROL SCHEMATICS
SLUDGE WASTING AND
SLUDGE RECYCLE PUMPS**

NTS	
VERIFY SCALE	
BAR IS 25mm ON ORIGINAL DRAWING.	
DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	500-E-015
SHEET	

1

2

3

4

5

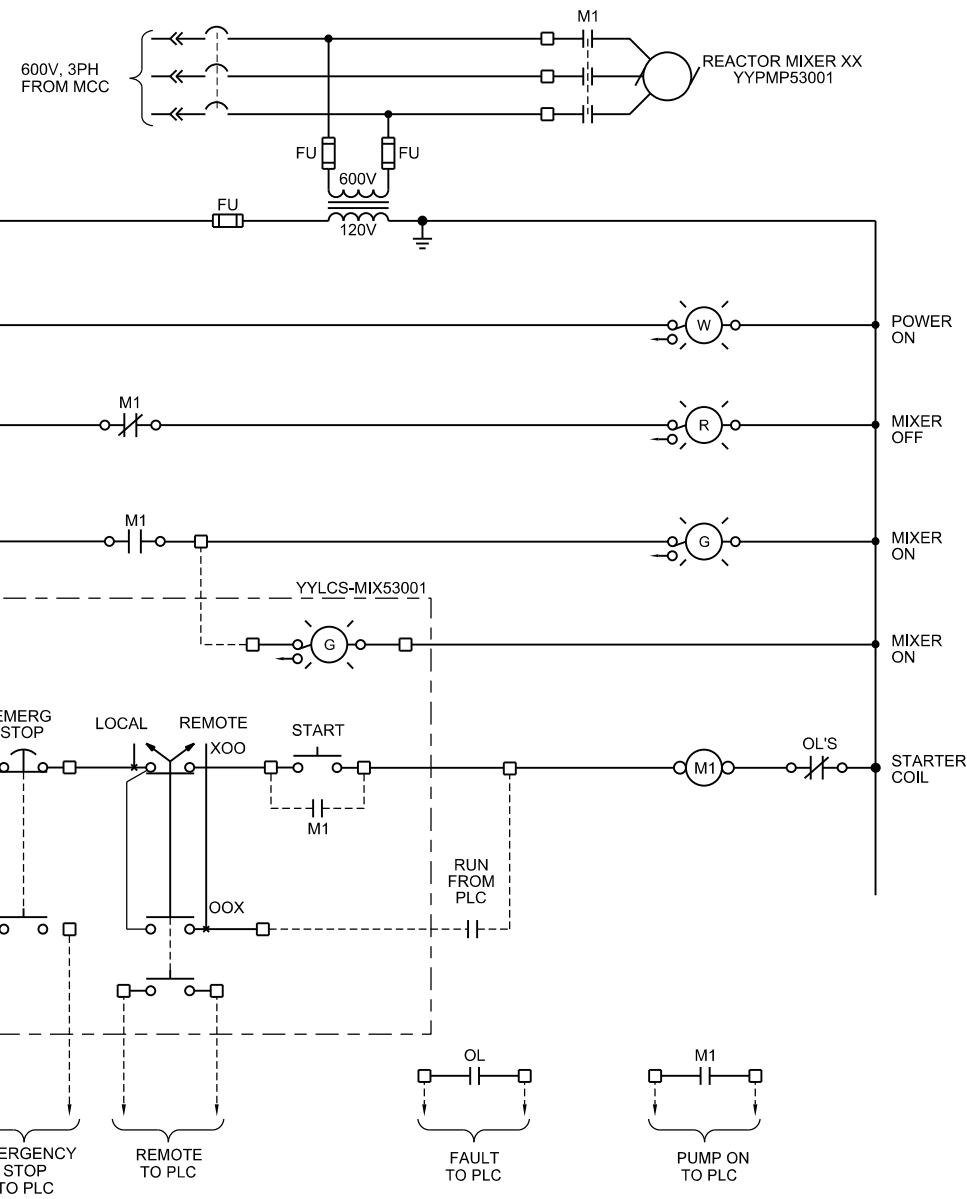
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A

B

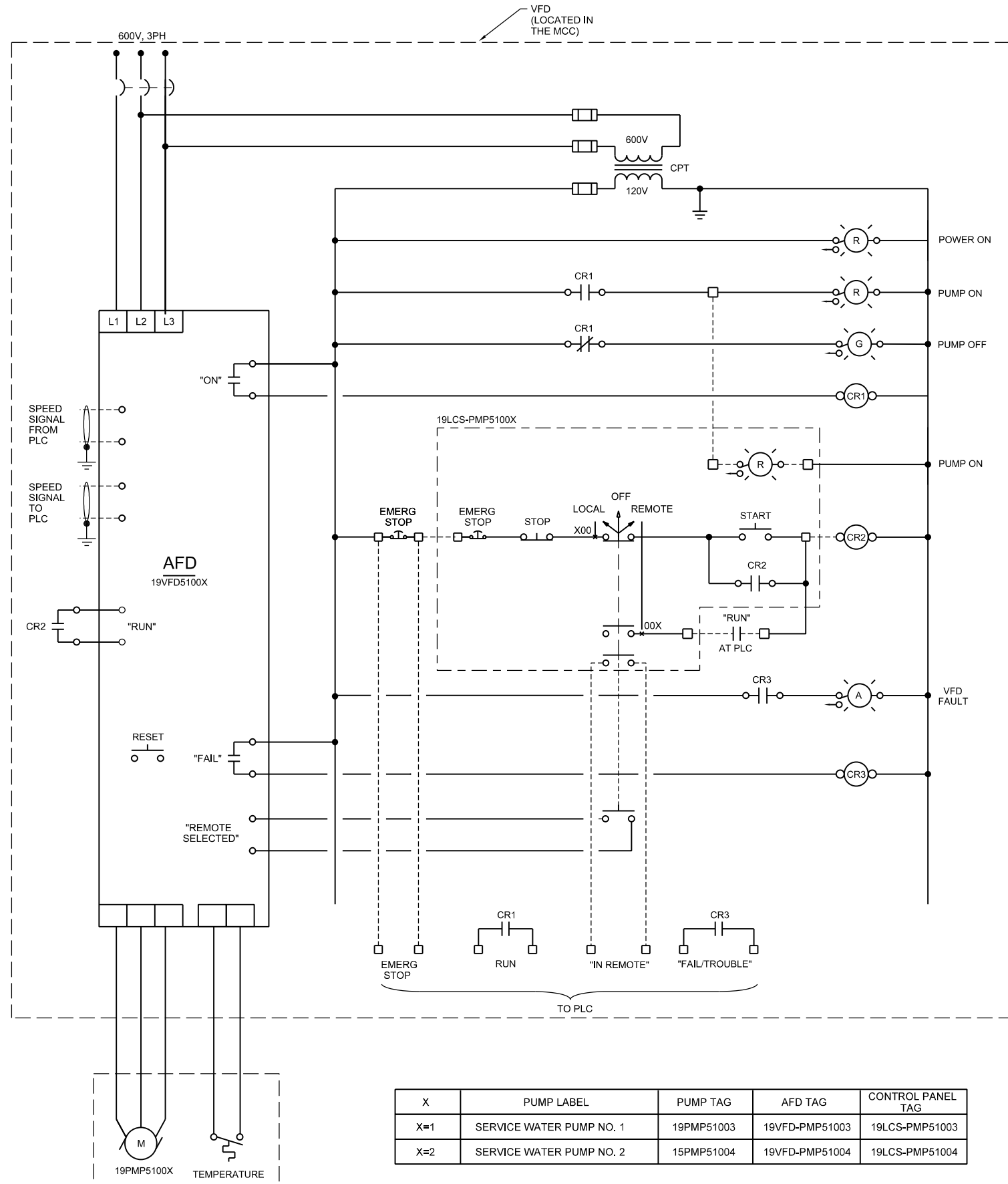
C

D



XX	REACTOR LABEL	YY	REACTOR MIXER TAG	CONTROL PANEL TAG
XX=B1	REACTOR B1	YY=12	12MIX51001	12LCS-MIX53001
XX=B2	REACTOR B2	YY=13	13MIX51001	13LCS-MIX53001
XX= A	REACTOR A	YY=14	14MIX51001	14LCS-MIX53001

REACTORS A, B1 & B2 1
(PROCESS RM)



X	PUMP LABEL	PUMP TAG	AFD TAG	CONTROL PANEL TAG
X=1	SERVICE WATER PUMP NO. 1	19PMP51003	19VFD-PMP51003	19LCS-PMP51003
X=2	SERVICE WATER PUMP NO. 2	15PMP51004	19VFD-PMP51004	19LCS-PMP51004

SERVICE WATER PUMPS NO. 1 & 2 2
(PUMP ROOM)



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ISSUED FOR DETAIL DESIGN REVIEW		JZ	GN
REVISION		JZ	GN
CHK		JZ	GN
DR		JZ	GN
DSGN		JZ	GN

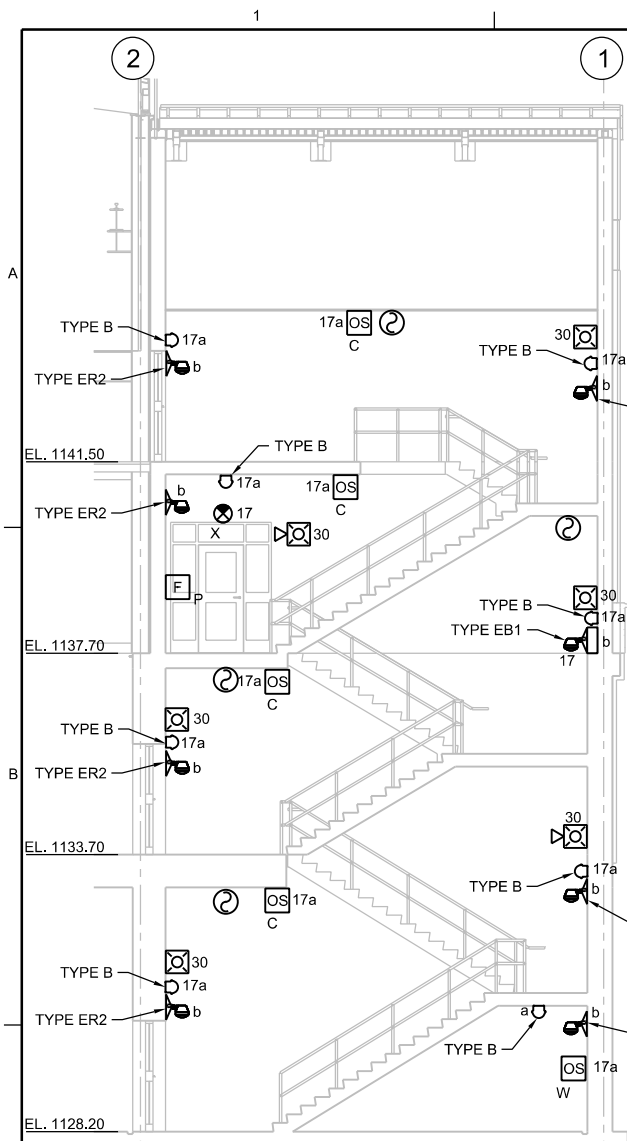
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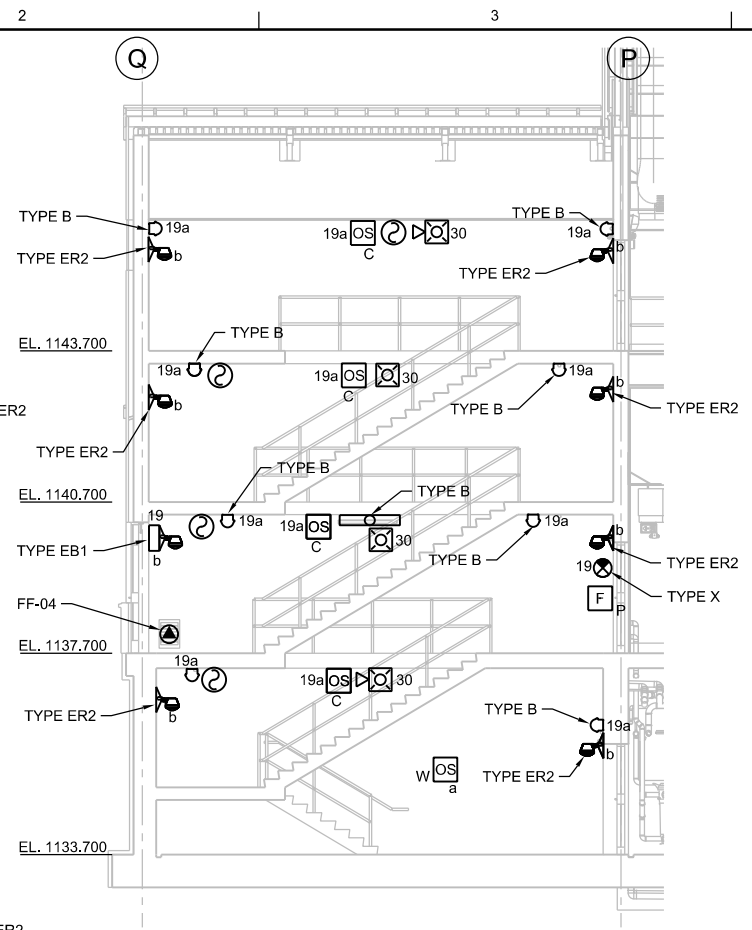
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ELECTRICAL
**PROCESS CONTROL SCHEMATICS
REACTORS AND
SERVICE WATER PUMPS**

VERIFY SCALE	
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DWG	500-E-016
SHEET	

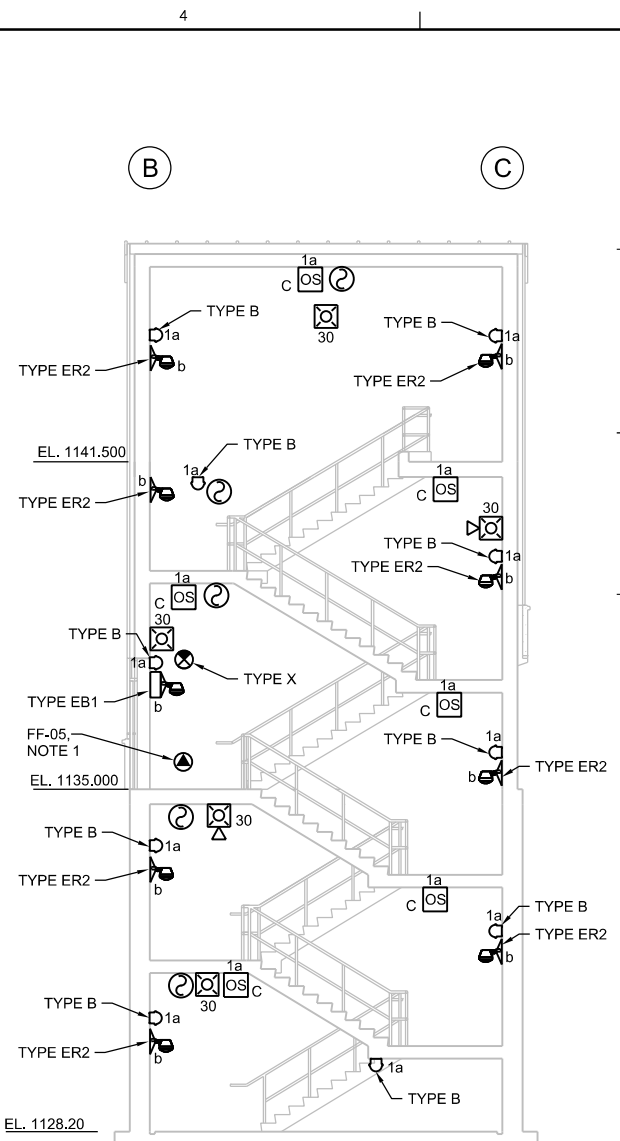
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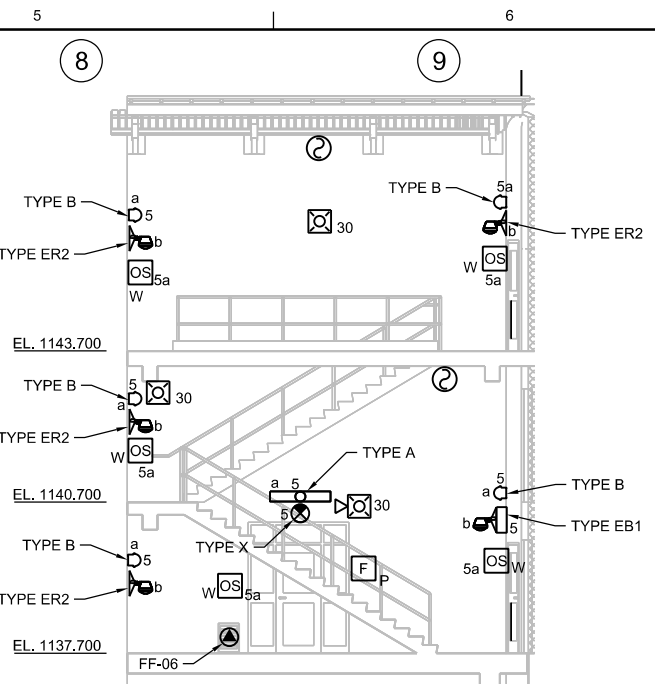
SECTION A-A
1:75 NOTES 2 & 5



SECTION B-B
1:75 NOTES 2 & 5

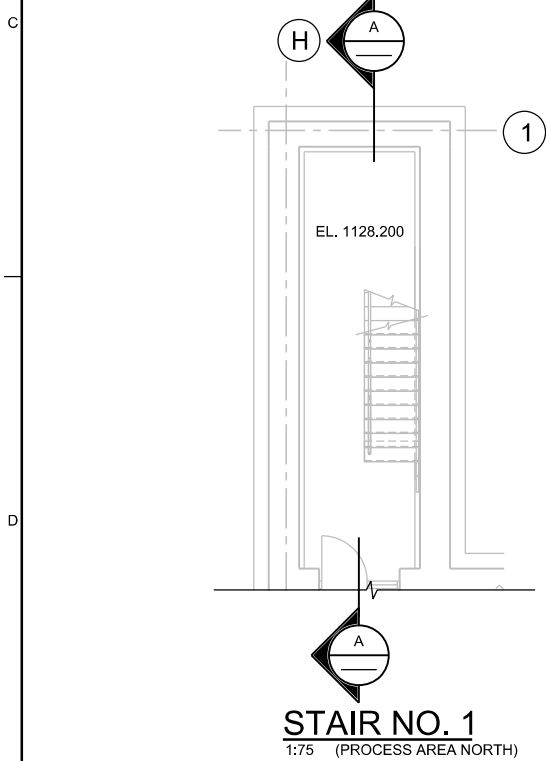


SECTION C-C
1:75 NOTES 3 & 5

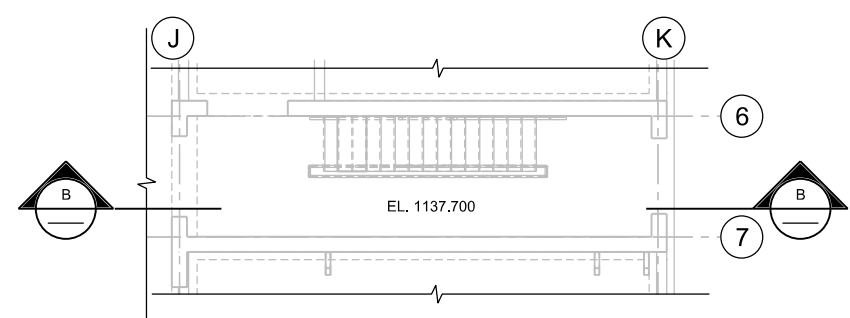


SECTION D-D
1:75 NOTES 4 & 5

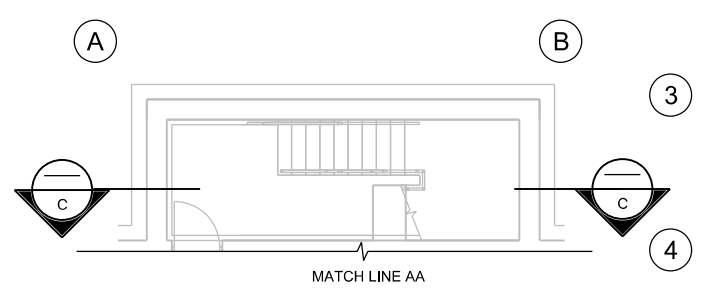
- GENERAL NOTES:**
- G1. INSTALL EXIT SIGNS 300mm ABOVE DOORS.
 - G2. SOME ITEMS MAY BE OFFSET VERTICALLY FOR CLARITY. INSTALL ITEMS ADJACENT TO EACH OTHER AT THE SAME HEIGHT
 - G3. INSTALL FIRE ALARM STROBES BETWEEN 2000mm AND 2400mm AFF.
 - G4. EXIT SIGN AND EMERGENCY BATTERY LIGHT SHALL BE DIRECTLY CONNECTED TO BREAKER IN THE PANEL (UNSWITCHED CIRCUIT).
- NOTES:**
1. INSTALL ON THE OPPOSITE WALL.
 2. HOMERUN LIGHTING CIRCUIT TO PANEL 'LPH1'.
 3. HOMERUN LIGHTING CIRCUIT TO PANEL 'LPH3'.
 4. HOMERUN LIGHTING CIRCUIT TO PANEL 'LPP4'.
 5. PROVIDE POWERPACKS OF CAPACITY SUFFICIENT TO OPERATE MULTIPLE OCCUPANCY SENSORS. SUPPLEMENT THE MASTER POWER PACKS WITH SLAVE POWERPACKS AS REQUIRED.



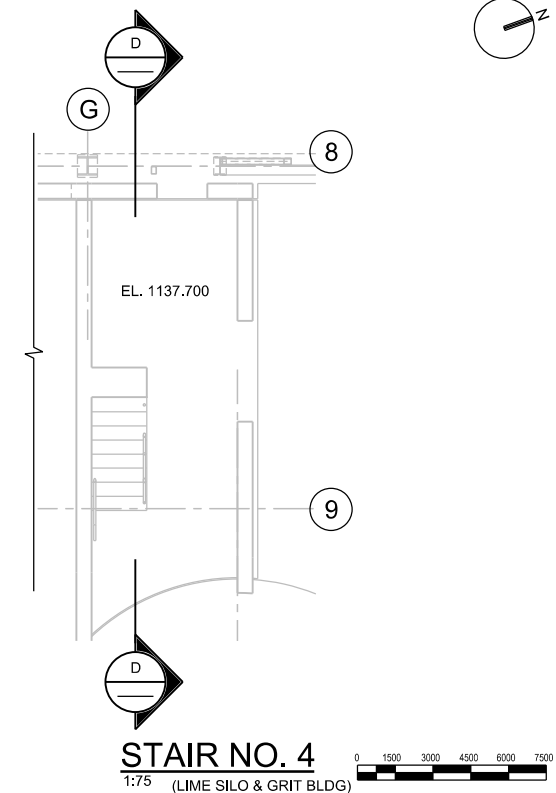
STAIR NO. 1
1:75 (PROCESS AREA NORTH)



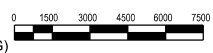
STAIR NO. 2
1:75 (PROCESS AREA EAST)



STAIR NO. 3
1:75 (METERING ROOM)



STAIR NO. 4
1:75 (LIME SILO & GRIT BLDG)



ISSUED FOR DETAIL DESIGN REVIEW	GN	BY	APVD
ISSUED FOR ADVANCED DESIGN REVIEW	JZ	JZ	JZ
REVISION	NO.	DATE	DR
			J. ZAHIR
			J. ZAHIR
			J. ZAHIR

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

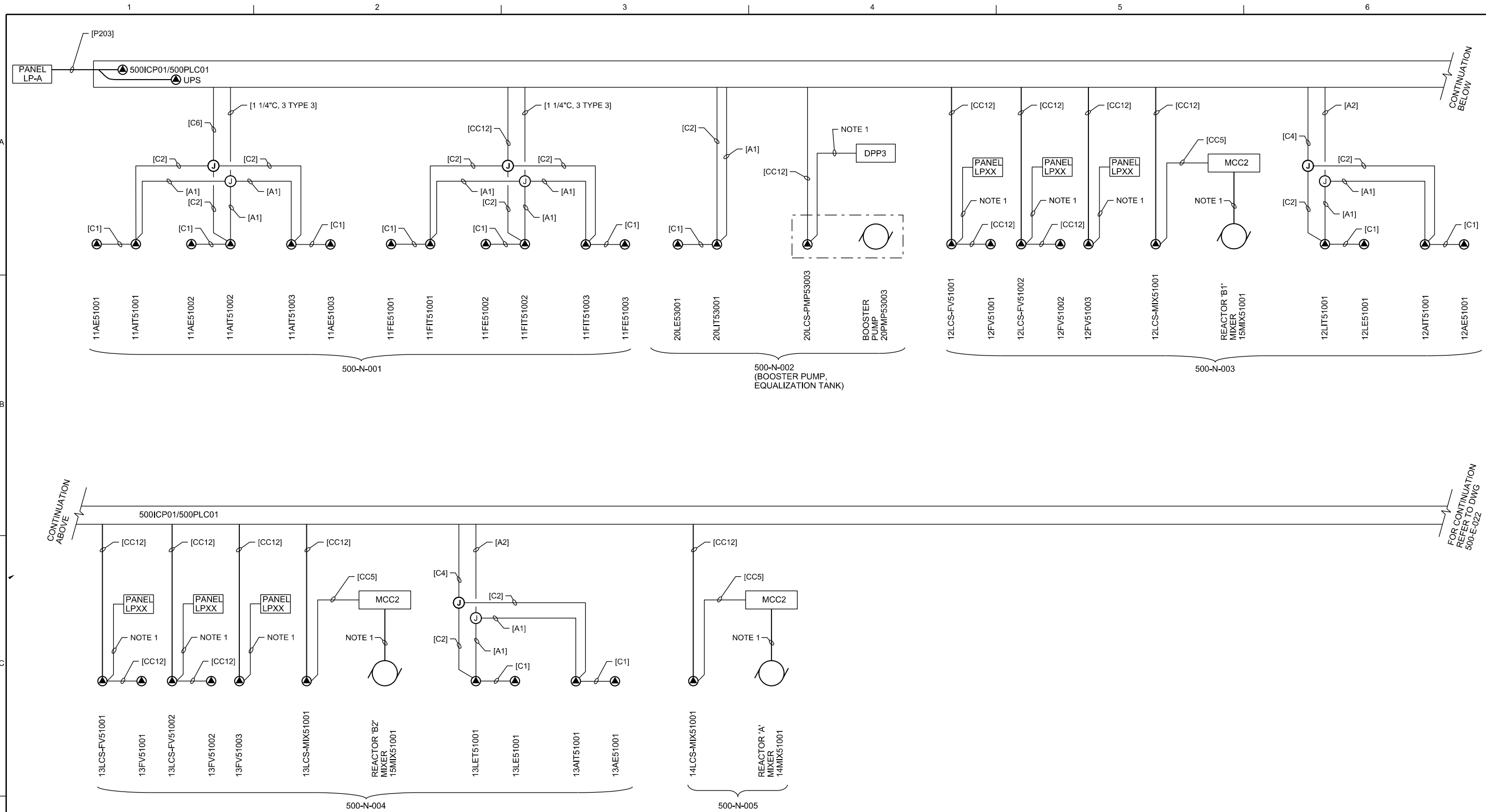
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®

ELECTRICAL
STAIRS AND SECTIONS

NTS
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
0 25mm

DATE	FEBRUARY 2014
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DWG	500-E-020
SHEET	



CABLE BLOCK DIAGRAM

- NOTES:**
- FOR CONDUCTOR AND CONDUIT SIZES REFER TO ONE LINE DIAGRAM ON DWG 500-E-002
 - FOR CIRCUIT INFORMATION REFER TO PANEL SCHEDULES ON DRAWING 500-E-XXX.
 - CONTRACTOR TO COORDINATE THE LOCATION OF DEVICES IN THE FIELD.
 - ALL CONDUITS FROM SENSOR ELEMENTS 'LE-' AND 'FE-' TO THEIR RESPECTIVE TRANSMITTERS SHALL BE PVC COATED RGS (TYPICAL).



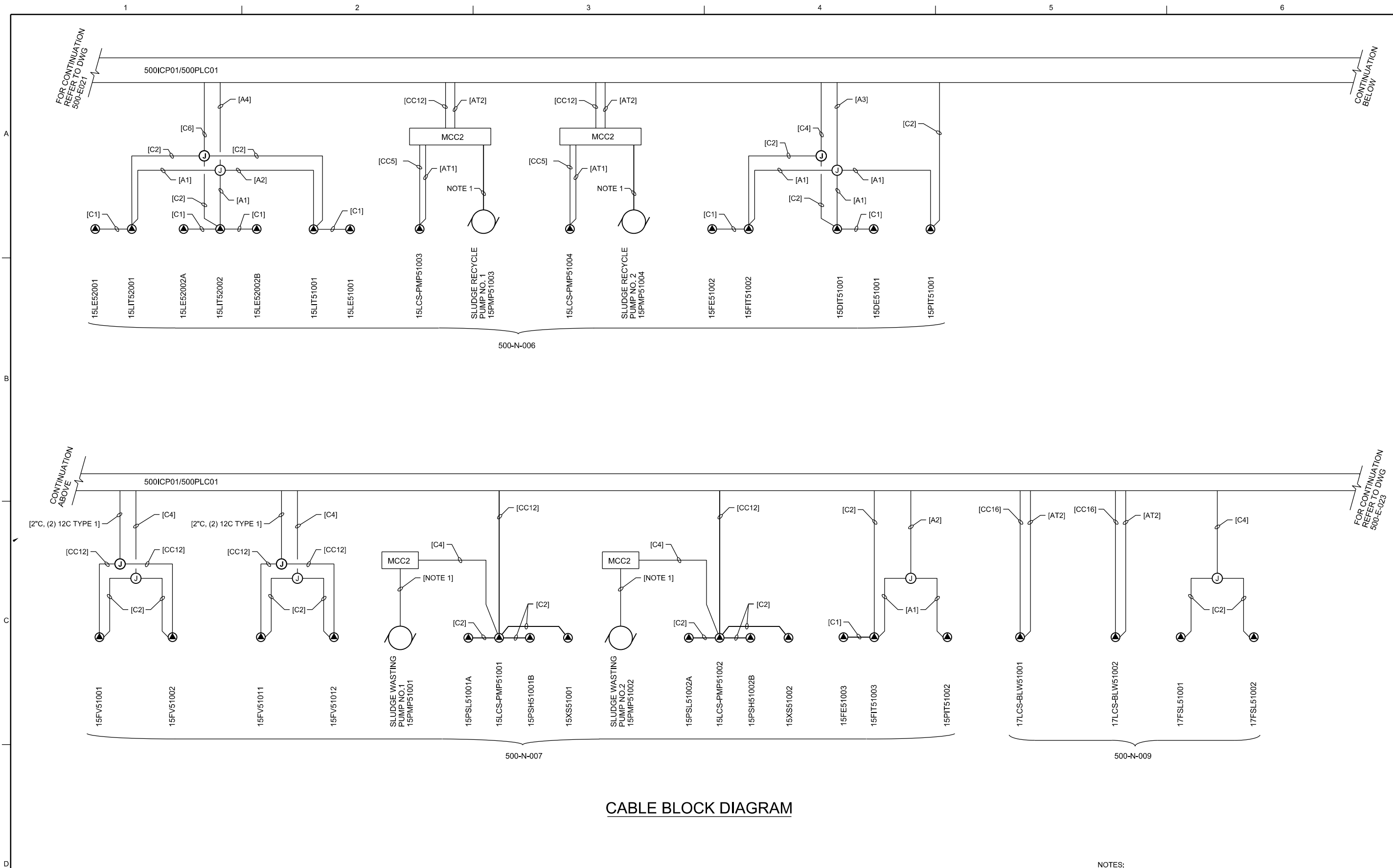
NO.	DATE	BY	CHK	APVD
A	02/2014	JZ	JZ	JZ
DGN		DR	CHK	APVD
J. ZAHIR		J. ZAHIR	J. ZAHIR	J. ZAHIR

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®
ELECTRICAL
CABLE BLOCK DIAGRAM SHEET - 1

VERIFY SCALE	
BAR IS 25mm ON ORIGINAL DRAWING.	
DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	500-E-021
SHEET	



CABLE BLOCK DIAGRAM

- NOTES:**
- REFER TO ONE LINE DIAGRAM ON DRAWING 500-E-XXX & 500-E-XXX.
 - FOR CONDUCTOR AND CONDUIT SIZES REFER TO ONE LINE DIAGRAM ON DWG 500-E-002.
 - CONTRACTOR TO COORDINATE THE LOCATION OF DEVICES IN THE FIELD.
 - ALL CONDUITS FROM SENSOR ELEMENTS 'LE-' AND 'FE-' TO THEIR RESPECTIVE TRANSMITTERS SHALL BE PVC COATED RGS (TYPICAL).



NO.	DATE	BY	CHK	APVD
A	02/2014	JZ	JZ	JZ
NO. I		DR		APVD
DSGN		CHK		APVD
J. ZAHIR		J. ZAHIR		J. ZAHIR
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REVISION				

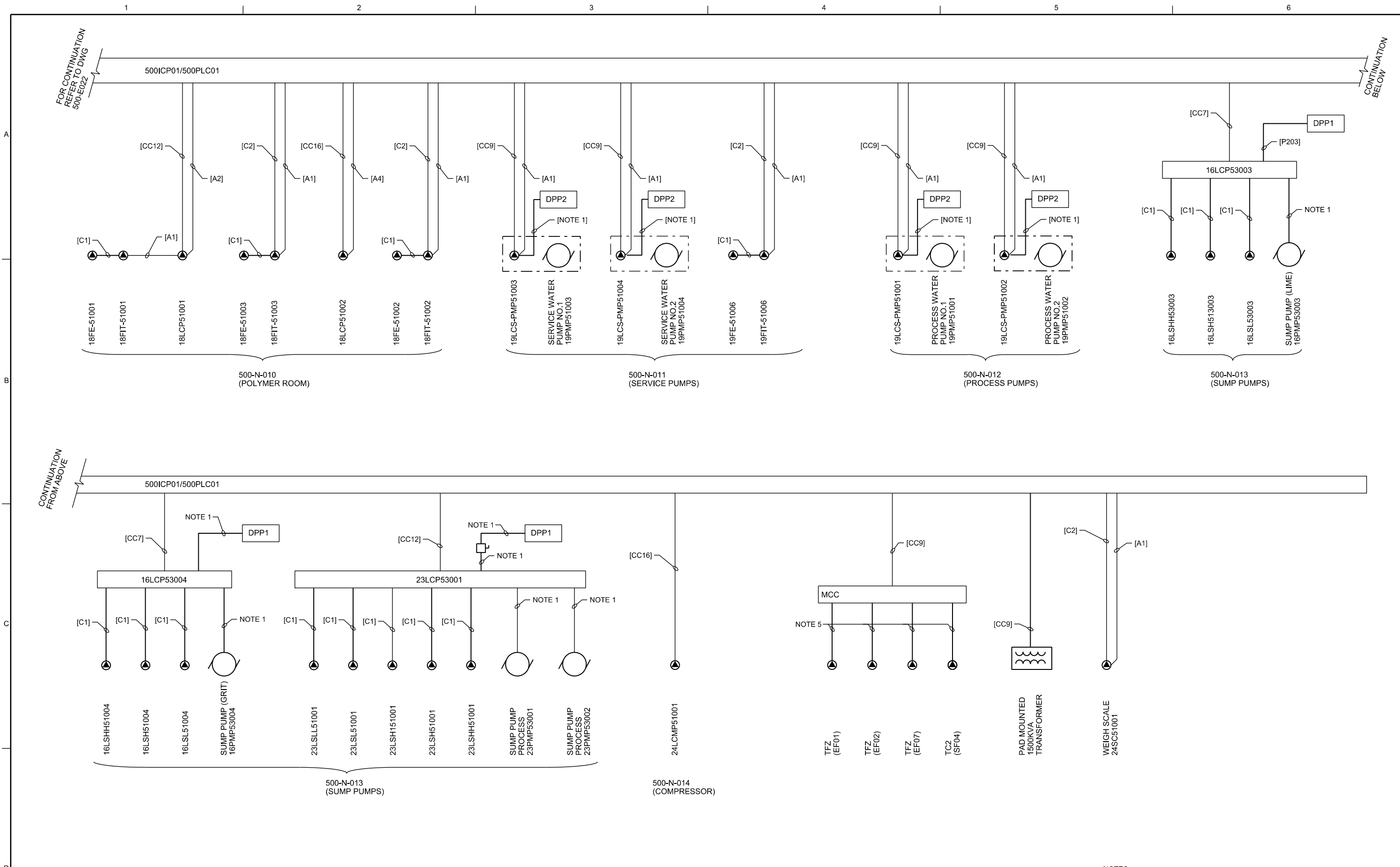
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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®

ELECTRICAL
CABLE BLOCK DIAGRAM SHEET - 2

VERIFY SCALE	
BAR IS 25mm ON ORIGINAL DRAWING.	
DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	500-E-022
SHEET	



CABLE BLOCK DIAGRAM

- NOTES:**
- REFER TO ONE LINE DIAGRAM ON DRAWING 500-E-XXX & 500-E-XXX.
 - FOR CONDUCTOR AND CONDUIT SIZES REFER TO ONE LINE DIAGRAM ON DWG 500-E-002.
 - CONTRACTOR TO COORDINATE THE LOCATION OF DEVICES IN THE FIELD.
 - ALL CONDUITS FROM SENSOR ELEMENTS 'LE-' AND 'FE-' TO THEIR RESPECTIVE TRANSMITTERS SHALL BE PVC COATED RGS (TYPICAL).
 - FOR WIRING REFER TO CONTROL SCHEMATICS ON DWGS 500-E-13 & 500-E-14.



NO.	DATE	BY	CHK	APVD
A	02/2014	J. ZAHIR	J. ZAHIR	J. ZAHIR
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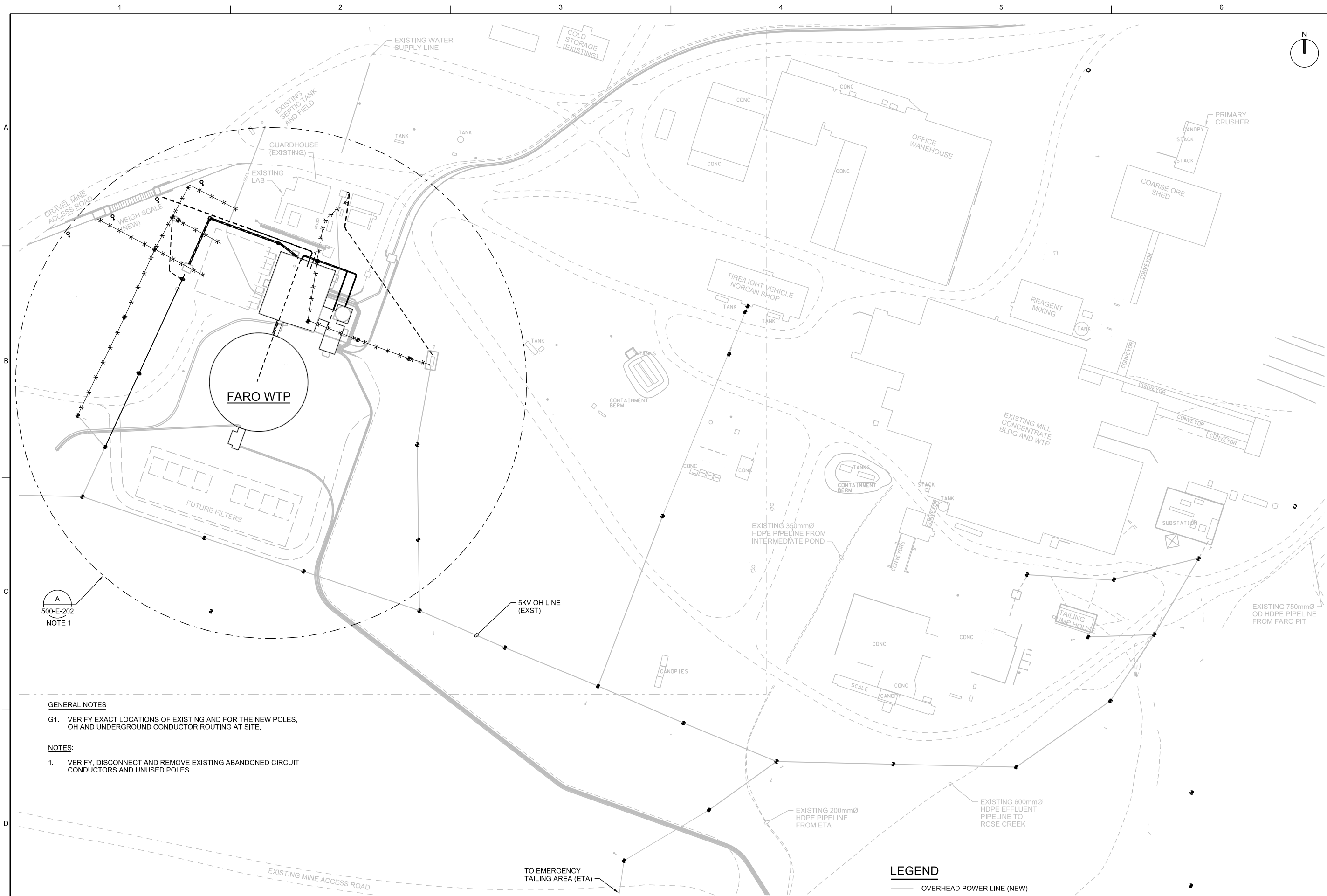
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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON

CH2MHILL®

ELECTRICAL
CABLE BLOCK DIAGRAM SHEET (3)

NTS	
VERIFY SCALE	
BAR IS 25mm ON ORIGINAL DRAWING.	
DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	500-E-023
SHEET	



500-E-202
NOTE 1

GENERAL NOTES
G1. VERIFY EXACT LOCATIONS OF EXISTING AND FOR THE NEW POLES, OH AND UNDERGROUND CONDUCTOR ROUTING AT SITE.

NOTES:
1. VERIFY, DISCONNECT AND REMOVE EXISTING ABANDONED CIRCUIT CONDUCTORS AND UNUSED POLES.

LEGEND
 — OVERHEAD POWER LINE (NEW)
 — OVERHEAD POWER LINE (EXISTING)
 ● POWER POLE (NEW)
 ◆ POWER POLE (EXISTING)

ELECTRICAL SITE PLAN
1:1000



NO.	DATE	REVISION	BY	APVD
B	02/2014	ISSUED FOR DETAIL DESIGN REVIEW	JZ	GN
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DR		REVISION	J. ZAHIR	APVD
DGNS			J. ZAHIR	CHK

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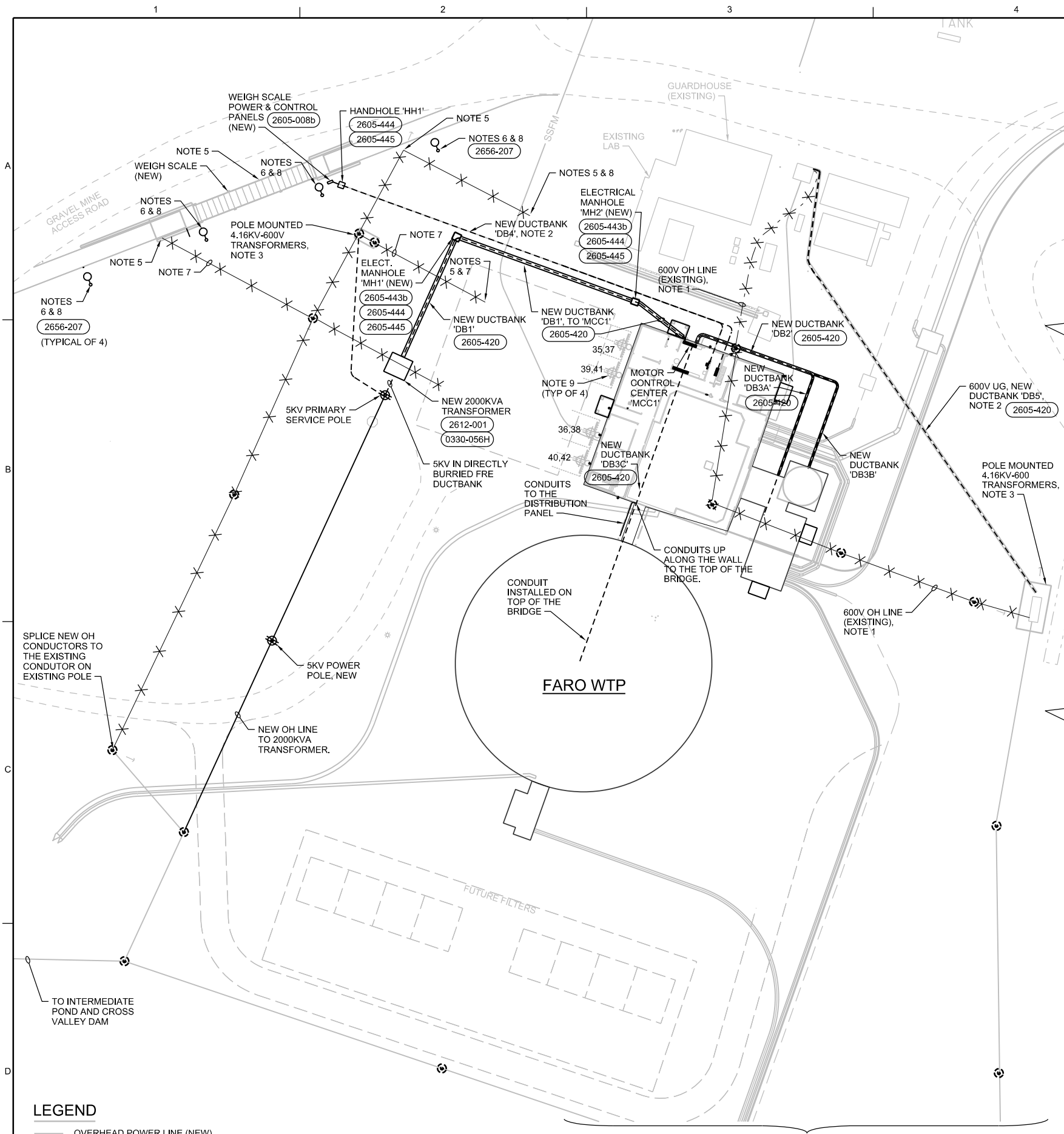
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®

ELECTRICAL
SITE POWER DISTRIBUTION OVERALL PLAN

DATE	FEBRUARY 2014
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GENERAL NOTES

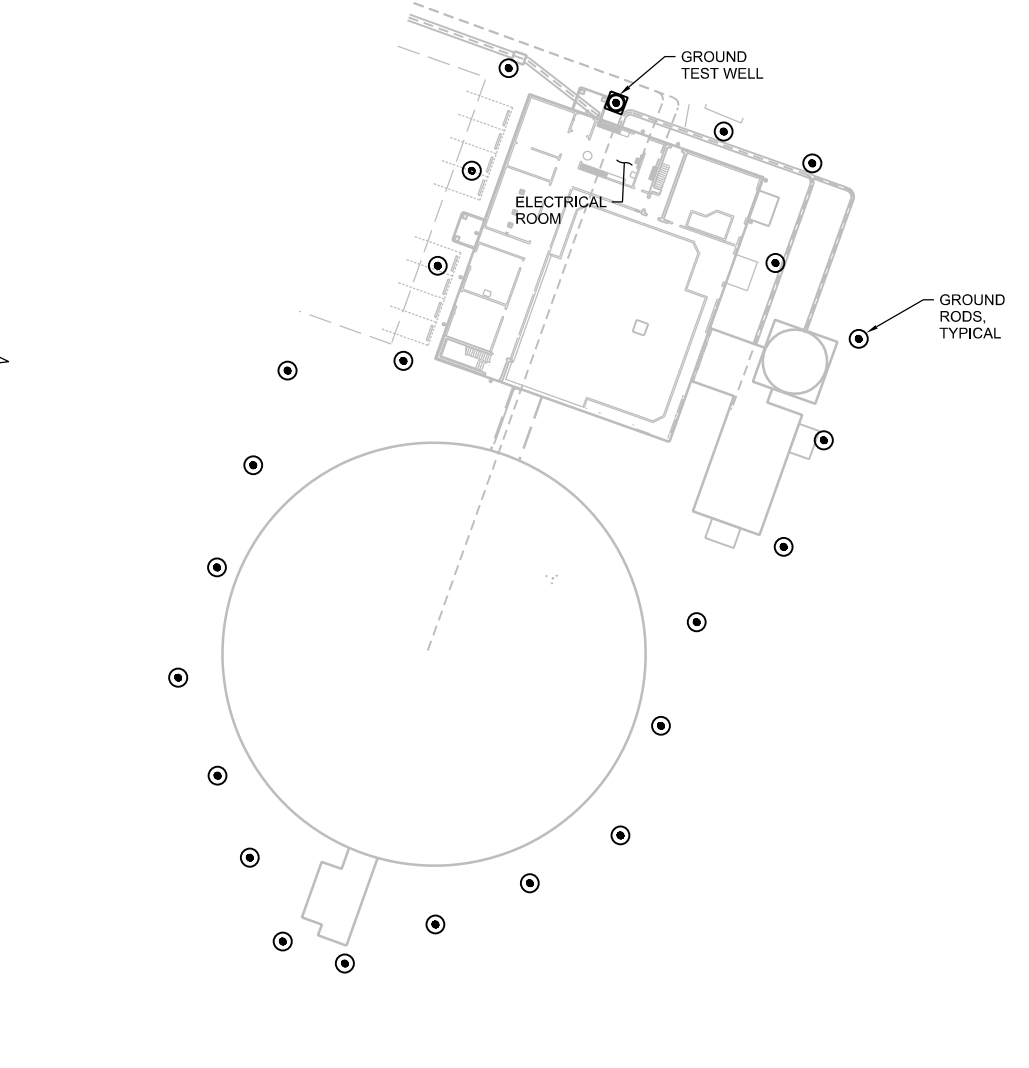
- VERIFY EXACT LOCATIONS OF EXISTING AND FOR THE NEW POLES, OH AND UNDERGROUND CONDUCTOR ROUTING AT SITE.
- FOR OVER ALL SITE PLAN, REFER TO DRAWING 500-E-201.

NOTES

- DISCONNECT AND DEMOLISH EXISTING 600V SERVICE.
- INSTALL NEW UNDERGROUND SERVICE IN FRE CONDUIT DUCTBANK TO REPLACE THE OH SERVICE. INSTALL THE CONDUIT AND CONDUCTORS READY FOR CONNECTION PRIOR TO DEMOLISHING THE EXISTING OH SERVICE TO MINIMIZE DOWNTIME.
- EXISTING POLE MOUNTED TRANSFORMER TO REMAIN. DISCONNECT AND REMOVE ALL EXISTING PRIMARY AND SECONDARY CONDUCTORS AND ASSOCIATED EQUIPMENT AT THE TRANSFORMER THAT ARE NO LONGER IN SERVICE.
- VERIFY, DISCONNECT AND REMOVE EXISTING ABANDONED CIRCUIT CONDUCTORS AND UNUSED POLES.
- RELOCATE EXISTING POLES AND RECONNECT TO EXISTING CIRCUIT. ALL NEW WIRING FOR THE POLE MOUNTED LIGHT FIXTURES SHALL BE UNDERGROUND. SEE NOTE 6 FOR RELOCATED POSITION OF POLES.
- NEW LOCATION OF EXISTING RELOCATED POLES.
- EXISTING OVERHEAD LINE AND POLE TO BE DEMOLISHED. FOR SCOPE OF WORK REFER TO CIVIL DWG 500-C-202.
- RE-ESTABLISH POWER CONNECTION TO THE EXISTING AND NEW POLES AND ANY OTHER EXISTING POLE EFFECTED BY THE EXISTING POLES RELOCATION.
- PROVIDE 'WP' & 'GFCI' DUPLEX RECEPTACLES 900mm AFG, SPLIT WIRED, EACH WITH DEDICATED CIRCUITS FOR CAR ENGINE BLOCK HEATERS. INSTALL THE RECEPTACLES ON THE BOLLARDS. SEE DETAIL ON ARCHITECTURAL DRAWING.

NOTES (CONTINUED)

- PROVIDE AND INSTALL GROUND RODS AROUND THE ENTIRE PERIMETER AS SHOWN.
- BOND (THERMOWELD) ALL GROUND RODS WITH #3/0 BARE COPPER CONDUCTOR.
- BOND (THERMOWELD) EACH GROUND ROD TO BUILDING STEEL WITH #3/0 BARE COPPER CONDUCTOR.
- CONNECT (THERMOWELD) ONE (1) GROUND ROD AND ONE (1) GROUND ROD IN TEST WELL TO GROUND BUS IN THE ELECTRICAL RM WITH #3/0 BARE COPPER CONDUCTOR EACH.
- BOND ALL TRANSFORMERS (OUTDOOR & INTERIOR) DIRECTLY TO THE GROUND GRID.
- PROVIDE AND INSTALL COPPER GROUND BUS 6mm X 100mm IN ELECTRICAL ROOM ON ALL FOUR (4) WALLS. INTERCONNECT THE GROUND BUS WITH #3/0 GROUND COPPER CONDUCTOR. ROUTE THE GROUND CONDUCTOR UNDERGROUND.
- CONNECT (THERMOWELD) GROUND ROD IN THE MANHOLES TO THE BUILDING PERIMETER GROUND GRID.



LEGEND

- OVERHEAD POWER LINE (NEW)
- - - OVERHEAD POWER LINE (EXISTING)
- X X EXISTING OVERHEAD POWER LINE TO BE DEMOLISHED
- POWER POLE (NEW)
- ⊙ POWER POLE (EXISTING)

ELECTRICAL SITE ENLARGED PARTIAL PLAN (A)
1:500
500-E-201

WTP SITE - GROUNDING PLAN (B)
1:500
NOTES 10, 11, 12, 13 14, 15 & 16

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WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

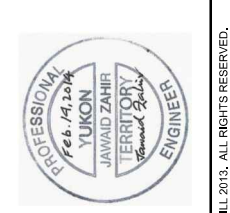
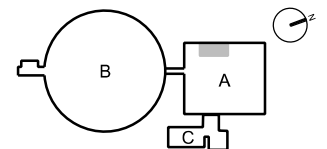
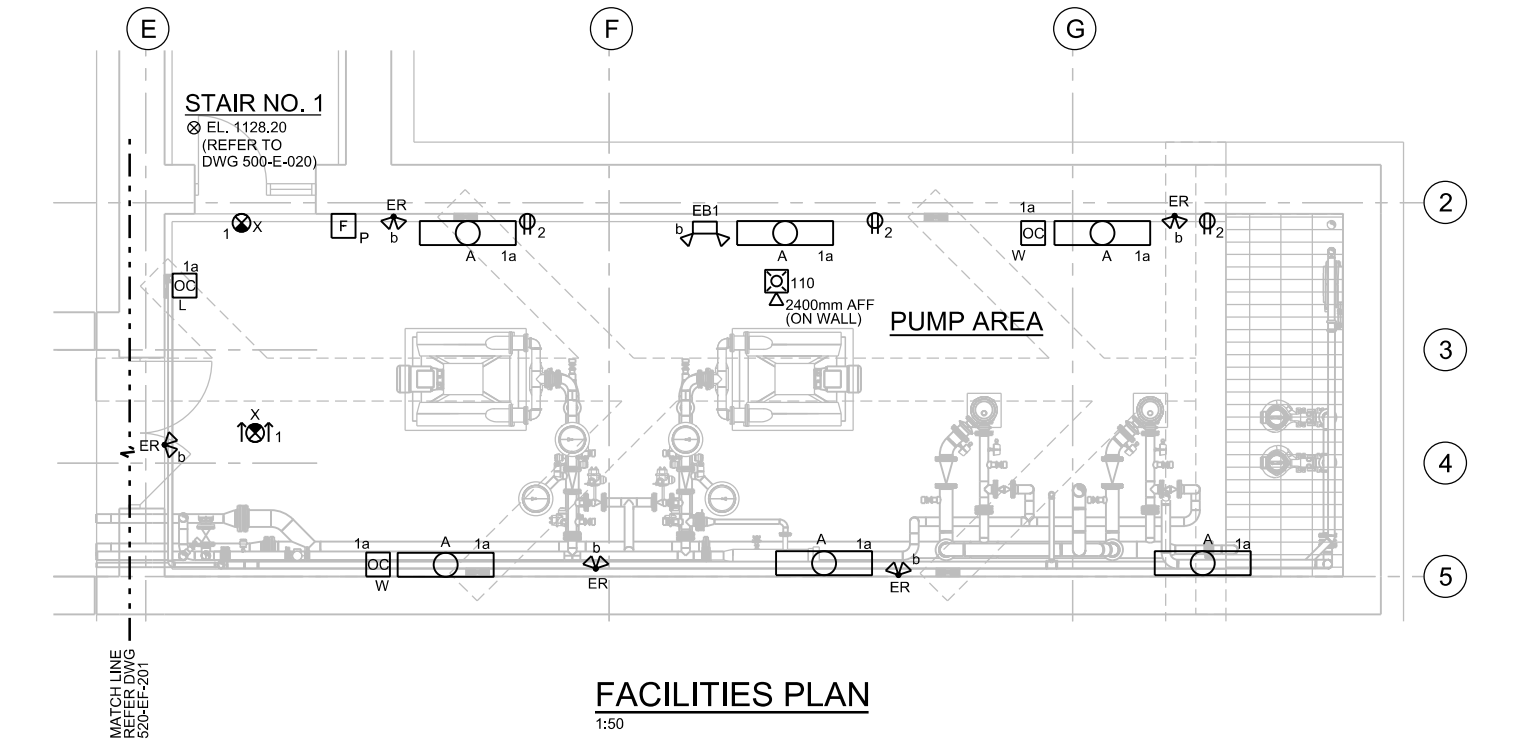
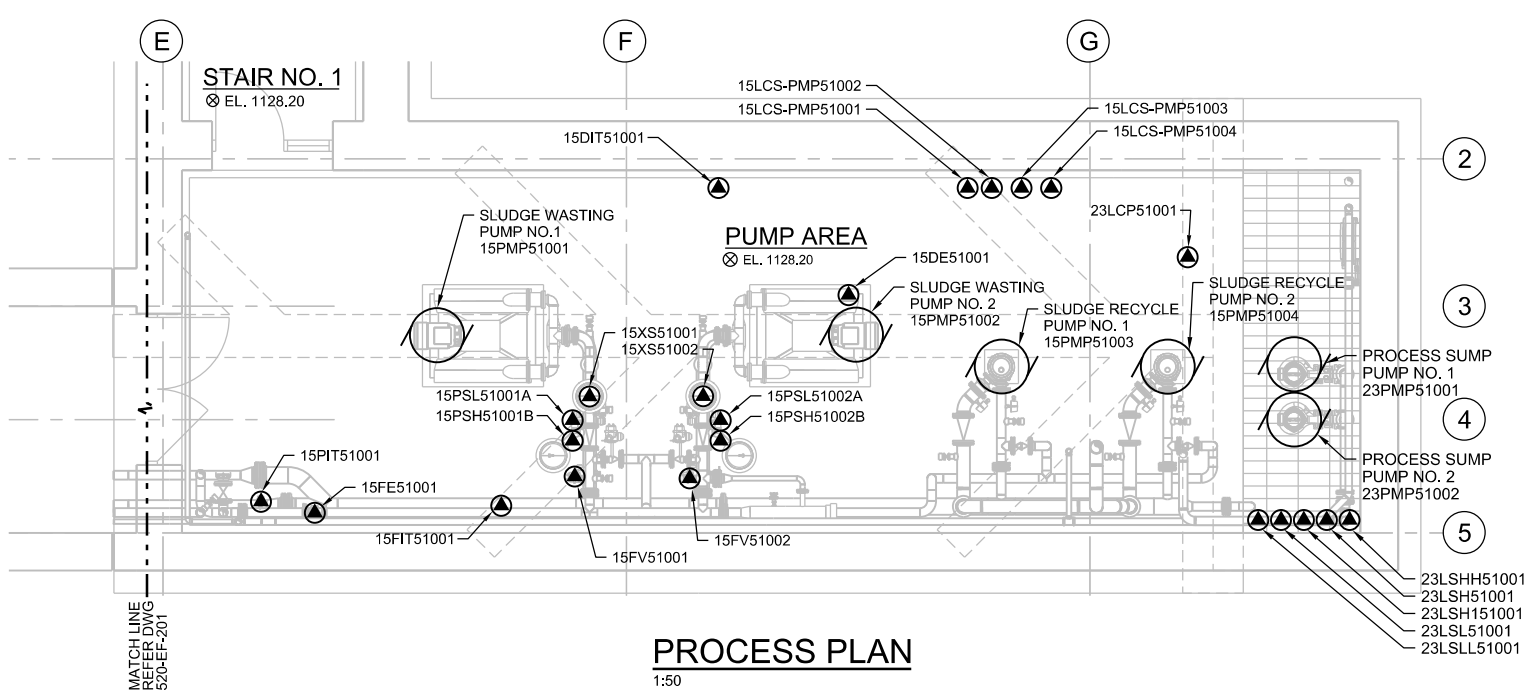
CH2MHILL®
ELECTRICAL
SITE POWER DISTRIBUTION
ENLARGED PLAN

1:500	
VERIFY SCALE	
BAR IS 25mm ON ORIGINAL DRAWING.	
DATE	FEBRUARY 2014
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ISSUED FOR ADVANCED DESIGN REVIEW	GN	JZ	BY	APVD
REVISION	CHK	J. ZAHIR	DR	J. ZAHIR
NO.	DATE	NO.	DATE	NO.
B	02/2014	A	09/2013	



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A	02/2014	JZ	JZ	GN
NO. I		NO. II		NO. III
DSGN		DR		APVD
J. ZAHIR		J. ZAHIR		J. ZAHIR

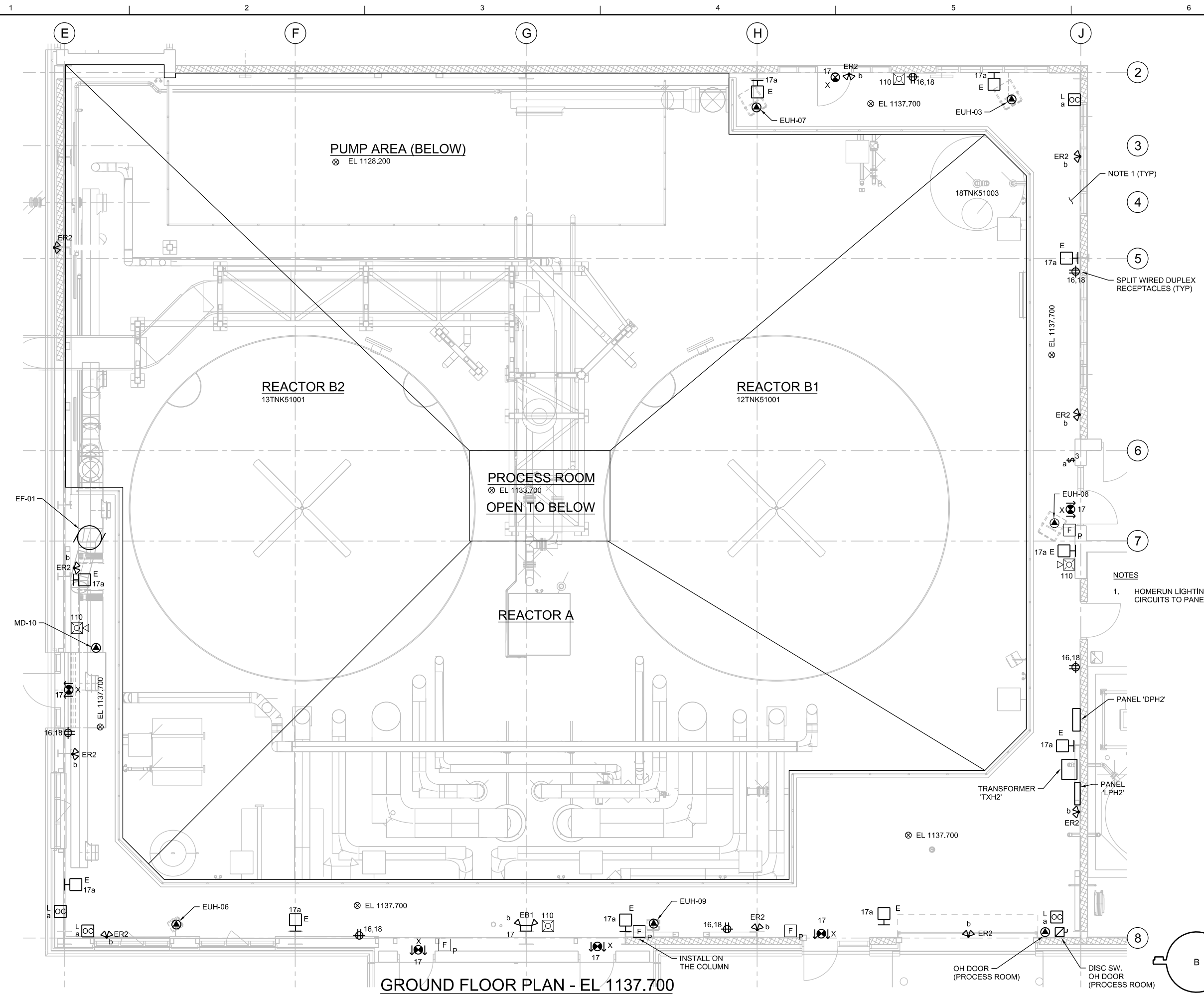
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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®
ELECTRICAL
WATER TREATMENT BUILDING FACILITIES AND PROCESS PLAN PUMP ROOM EL 1128.200

1:50
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
0 25mm

DATE FEBRUARY 2014
PROJ TA013-427716
DWG 510-E 201
SHEET



GROUND FLOOR PLAN - EL 1137.700
1:50

- NOTES**
- HOMERUN LIGHTING AND RECEPTACLES CIRCUITS TO PANEL 'LPH2'.



NO.	DATE	BY	CHK	DR	APVD
A	02/2014	JZ	JZ	JZ	JZ
ISSUED FOR DETAIL DESIGN REVIEW					
REVISION					

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

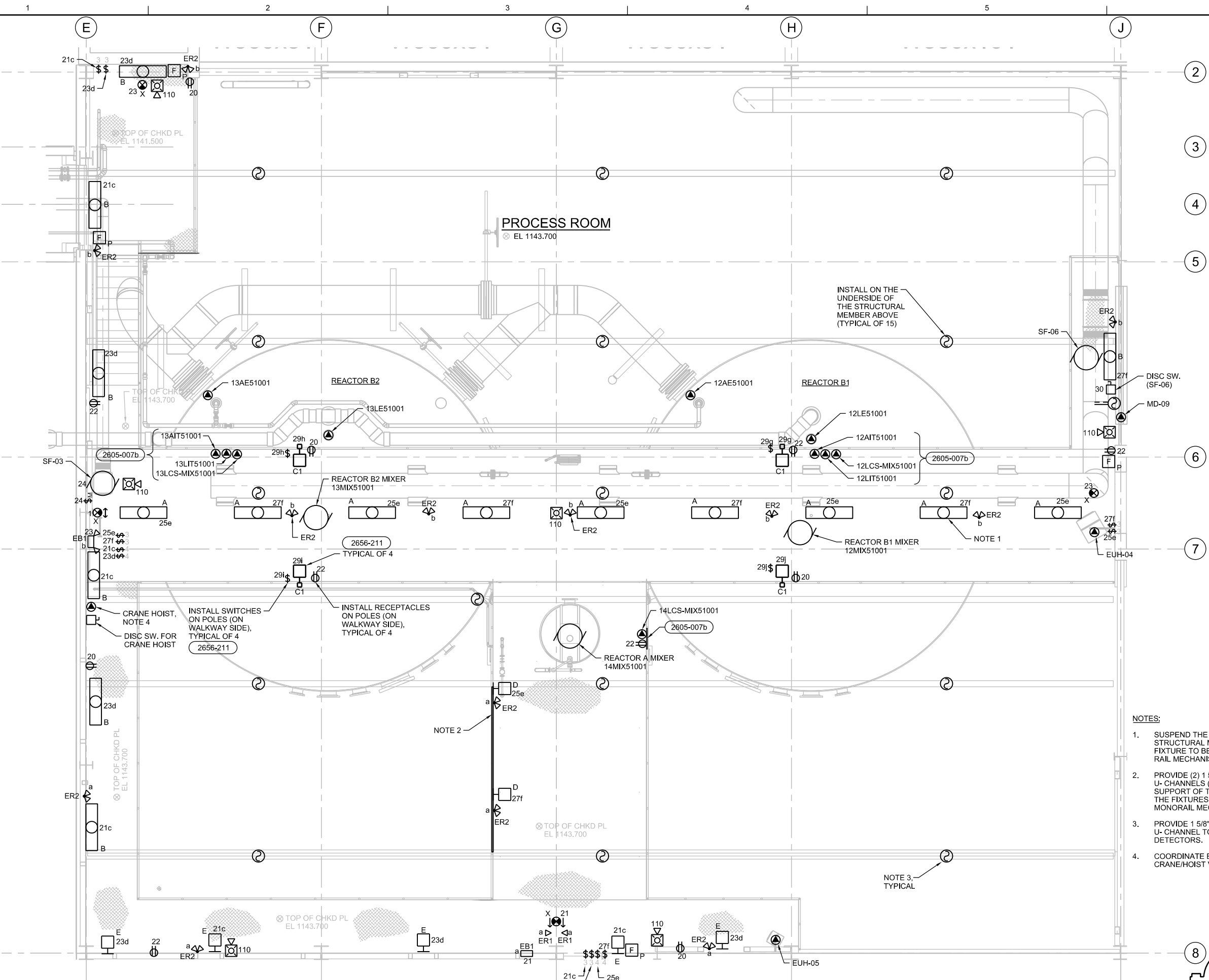
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®

ELECTRICAL
WATER TREATMENT BUILDING FACILITIES AND PROCESS PLAN PROCESS ROOM EL 1137.700

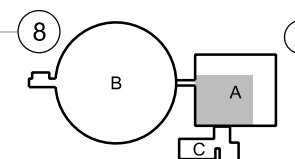
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DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	510-E-202
SHEET	

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PLAN AT EL 1143.700
1:50

- NOTES:**
- SUSPEND THE LIGHT FIXTURE FROM THE STRUCTURAL MEMBER. THE BOTTOM OF LIGHT FIXTURE TO BE 100mm ABOVE THE TOP OF MONORAIL MECHANISM.
 - PROVIDE (2) 1 5/8" X 1 5/8" 12 GAUGE UNI-STRUT U-CHANNELS (BACK TO BACK) FOR STRUCTURAL SUPPORT OF THE LIGHT FIXTURES. BOTTOM OF THE FIXTURES TO BE 100mm ABOVE THE TOP OF MONORAIL MECHANISM (TYPICAL).
 - PROVIDE 1 5/8" X 1 5/8" 12 GAUGE UNI-STRUT U-CHANNEL TO SURFACE MOUNT THE SMOKE DETECTORS.
 - COORDINATE EXACT LOCATION AT SITE WITH THE CRANE/HOIST VENDOR.



NO.	DATE	BY	CHK	DR	APVD
A	02/20/14	JZ	JZ	JZ	JZ
ISSUED FOR DETAIL DESIGN REVIEW					
REVISION					
J. ZAHIR					

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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

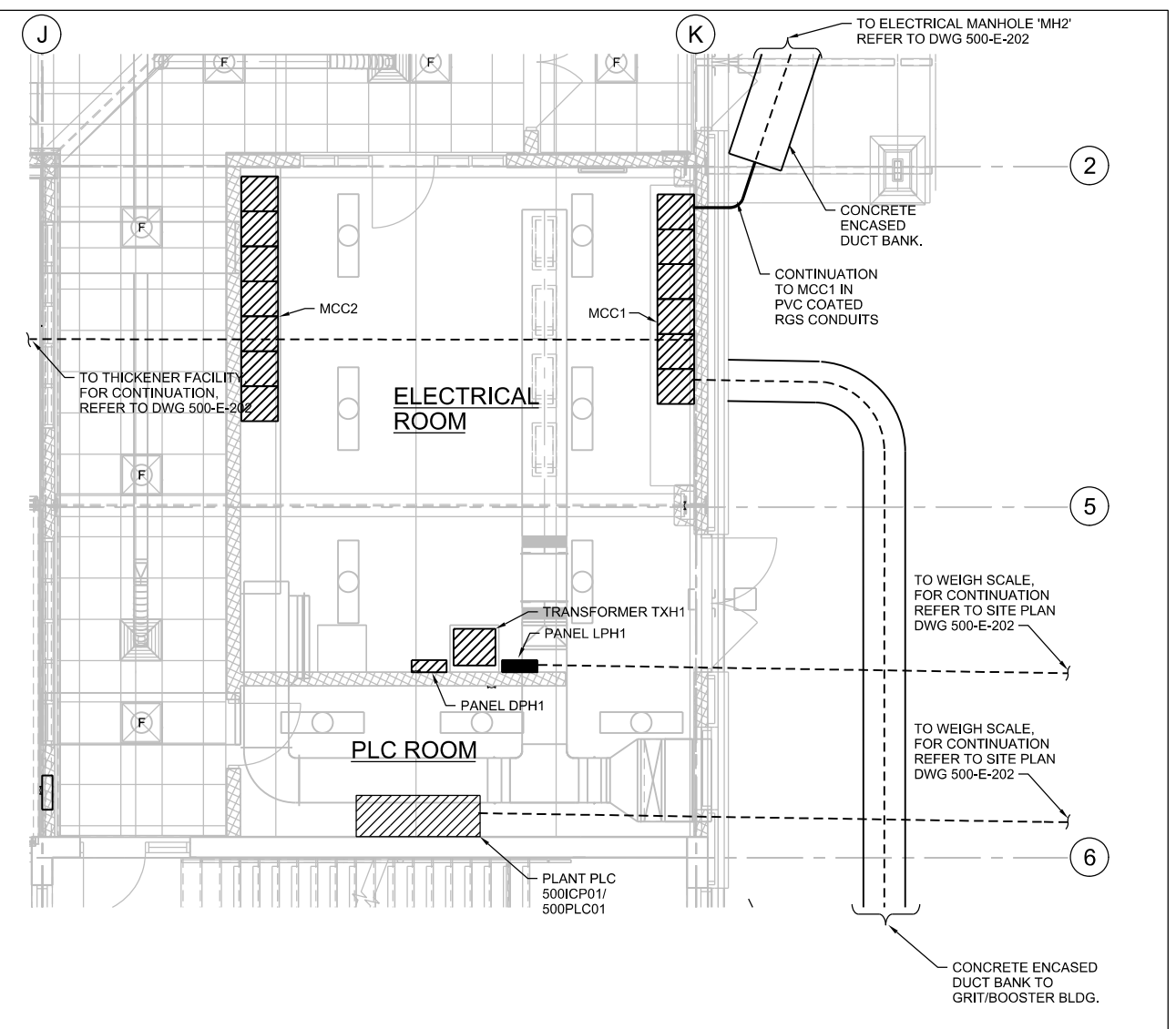
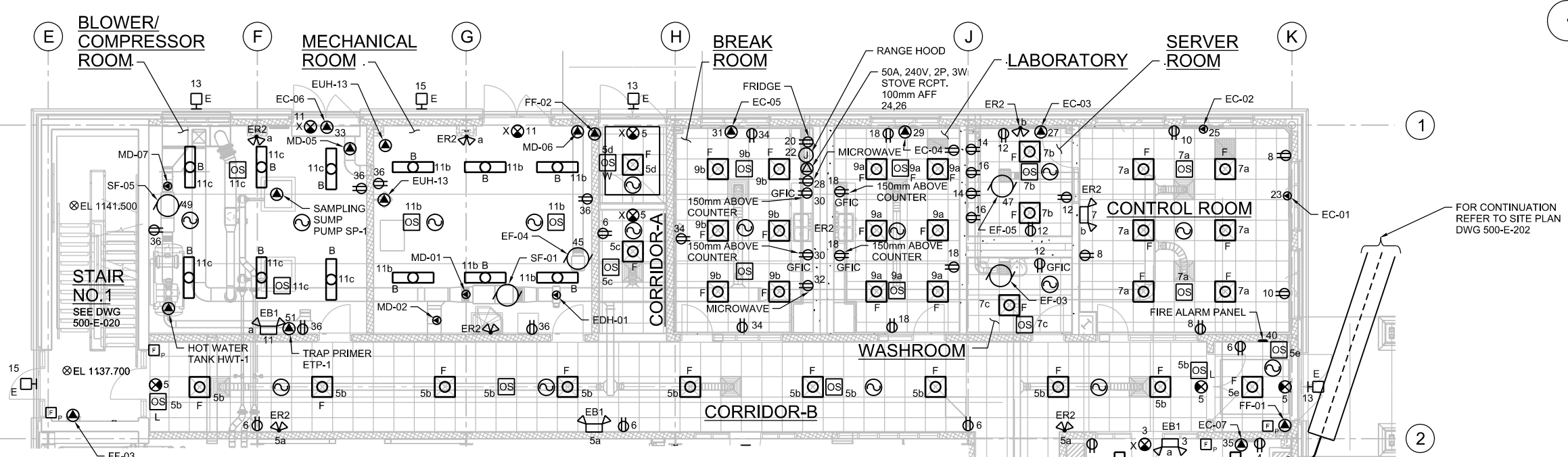
CH2MHILL®
ELECTRICAL

WATER TREATMENT BUILDING FACILITIES AND PROCESS PLAN PROCESS ROOM EL 1143.700

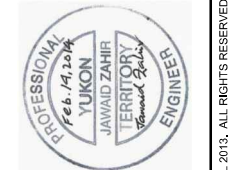
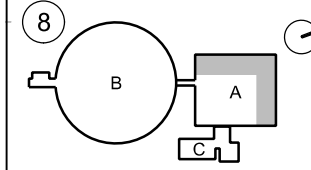
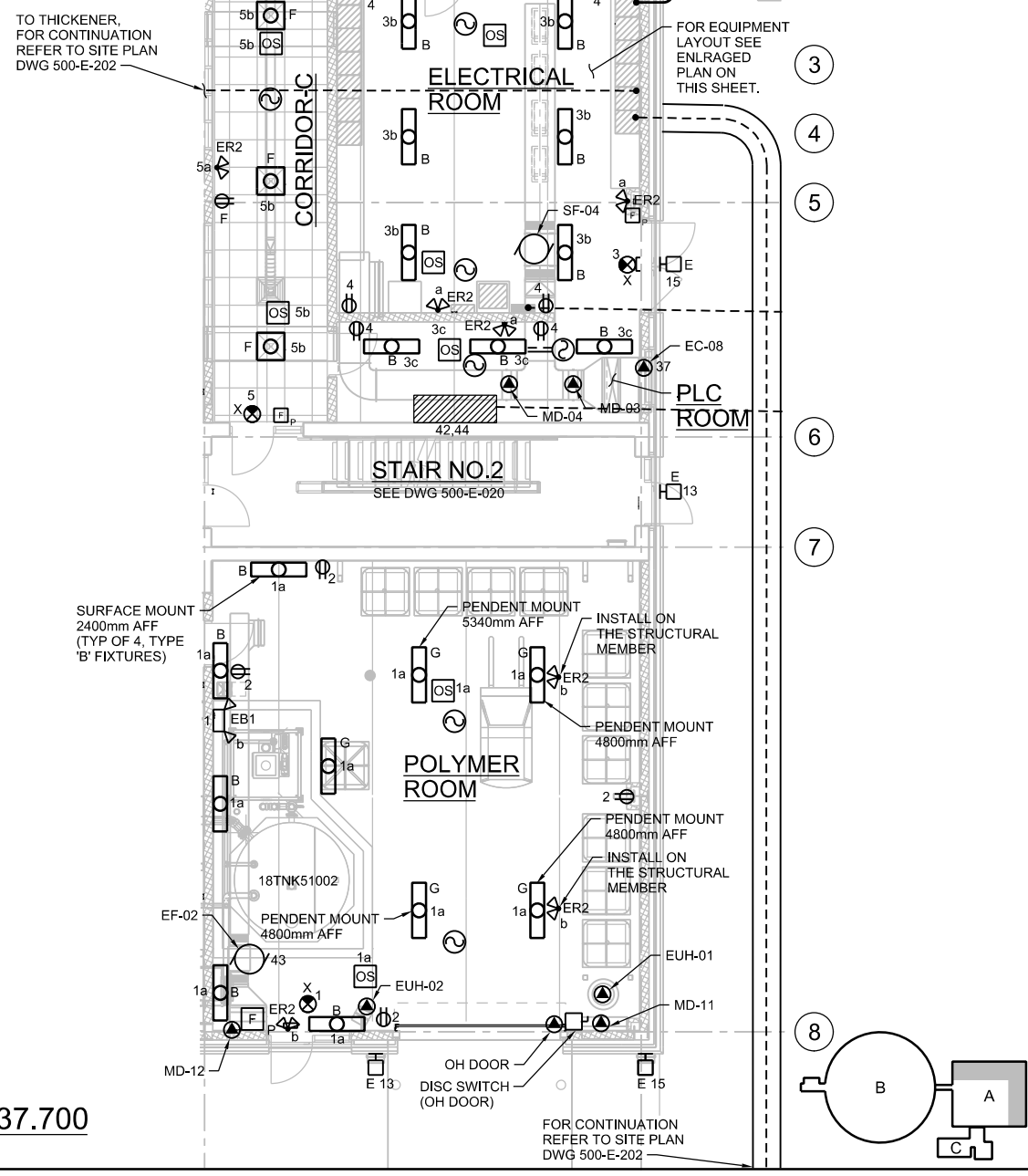
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VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 510-E-203
SHEET

1 2 3 4 5 6

GENERAL NOTES:
 G1: HOMERUN ALL 120V CIRCUIT TO PANEL 'LPH1' UNLESS OTHERWISE NOTED.



PLAN AT EL 1137.700
 1:75



ISSUED FOR DETAIL DESIGN REVIEW	GN	BY	APVD
ISSUED FOR ADVANCED DESIGN REVIEW	JZ	JZ	BY
REVISION	NO.	DATE	DR
			J. ZAHIR
			J. ZAHIR
			J. ZAHIR

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION
 WATER TREATMENT PLANT DESIGN
 GOVERNMENT OF YUKON
 DESIGN

CH2MHILL®

ELECTRICAL
WATER TREATMENT BUILDING FACILITIES PLAN EL 1137.700
PROCESS BLDG - PARTIAL PLAN

1:75
 VERIFY SCALE
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 DATE FEBRUARY 2014
 PROJ TA013-427716
 DWG 510-EF-202
 SHEET

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STAIRS NO. 1
SEE DWG 500-E-020

PUMP AREA (BELOW)
SEE DWG 510-E-201

STAIRS NO. 2
SEE DWG 500-E-020

PLAN AT EL 1133.700
1:50



NO.	DATE	BY	APVD
1	02/2014	JZ	GN
2	09/2013	AM	GN
3			
4			
5			
6			
7			
8			

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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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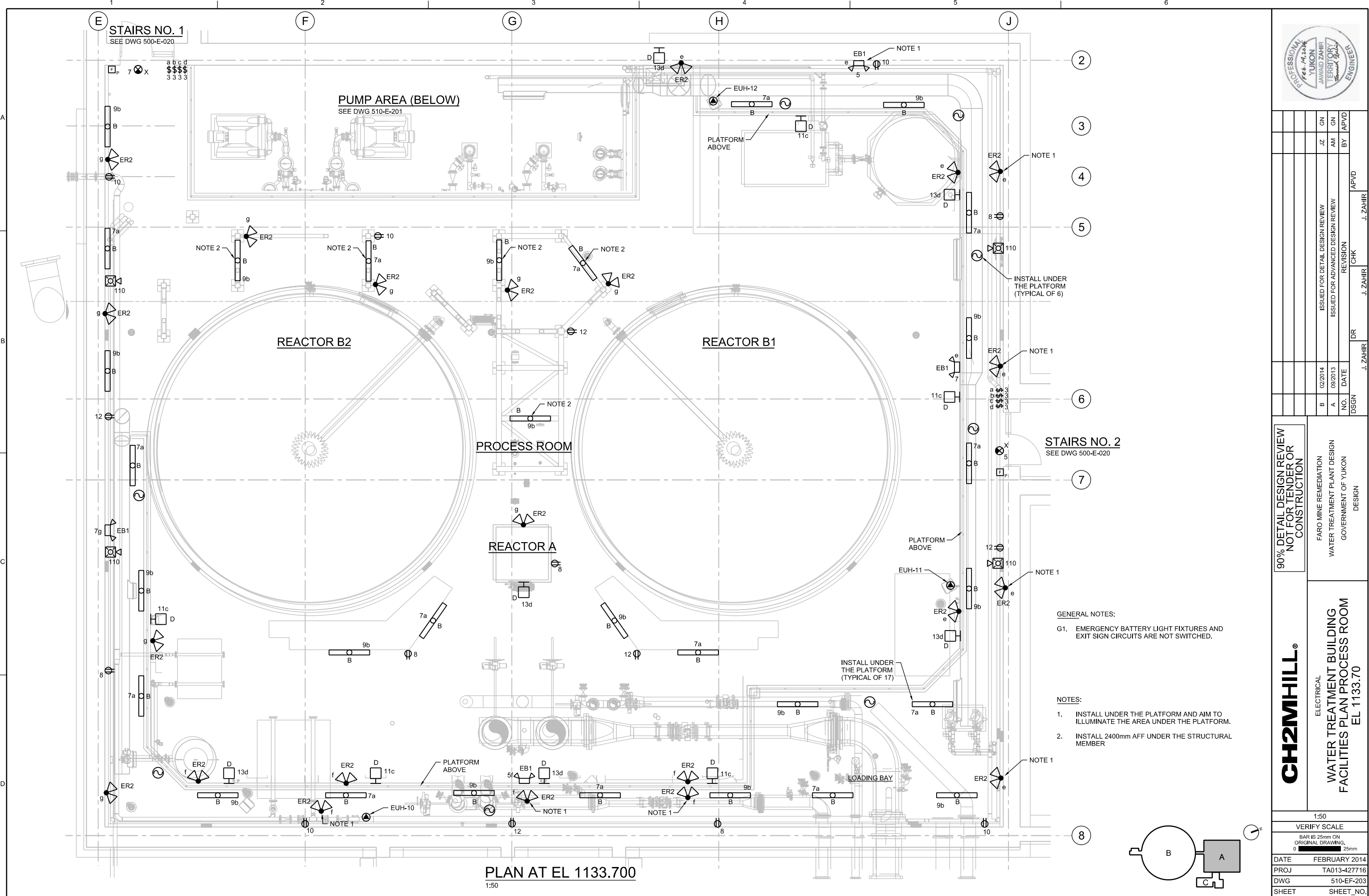
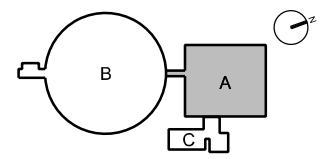
ELECTRICAL
WATER TREATMENT BUILDING FACILITIES PLAN PROCESS ROOM EL 1133.70

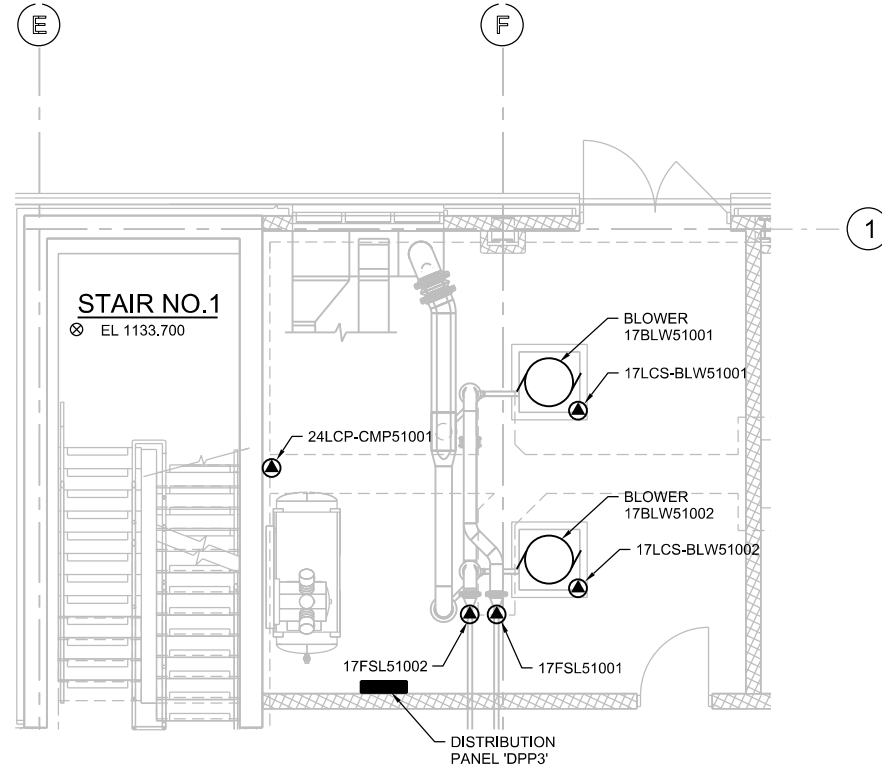
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DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	510-EF-203
SHEET	SHEET_NO.

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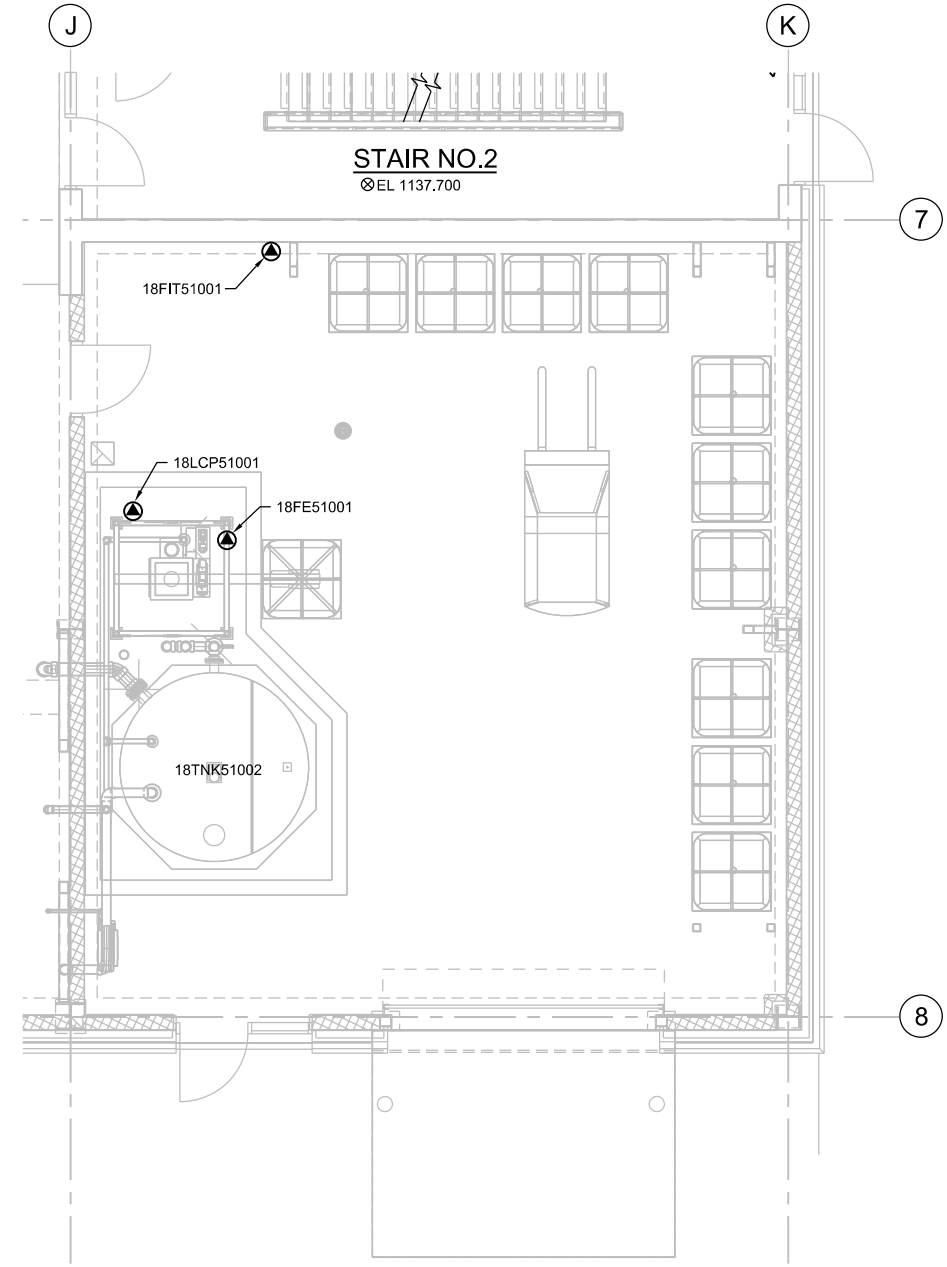
GENERAL NOTES:
G1. EMERGENCY BATTERY LIGHT FIXTURES AND EXIT SIGN CIRCUITS ARE NOT SWITCHED.

NOTES:
1. INSTALL UNDER THE PLATFORM AND AIM TO ILLUMINATE THE AREA UNDER THE PLATFORM.
2. INSTALL 2400mm AFF UNDER THE STRUCTURAL MEMBER

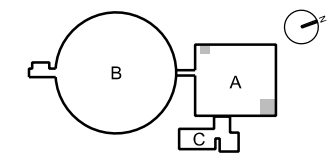




BLOWER ROOM PROCESS PLAN - EL 1137.700
1:50



POLYMER ROOM PROCESS PLAN - EL 1137.700
1:50



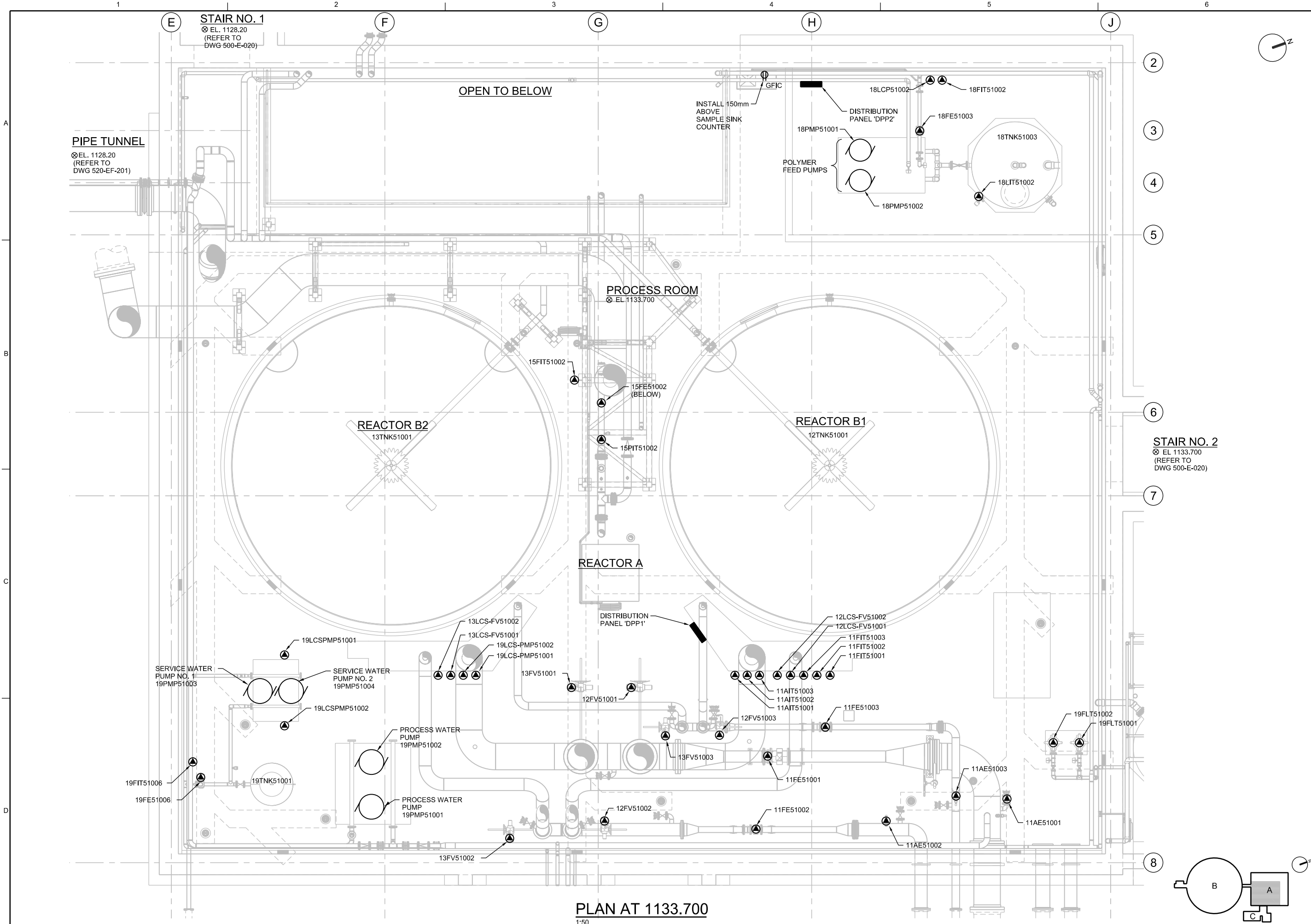
NO.	DATE	BY	APVD
B	02/2014	JZ	GN
A	09/2013	JZ	GN
NO. DATE		REVISION	BY
DGSN		CHK	APVD
DGSN		DR	APVD
DGSN		CHK	APVD
DGSN		CHK	APVD

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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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ELECTRICAL
**WATER TREATMENT BUILDING
PROCESS PLAN BLOWER AND
POLYMER ROOM EL 1137.700**

1:50
VERIFY SCALE
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DATE FEBRUARY 2014
PROJ TA013-427716
DWG 510-EP-202
SHEET



PLAN AT 1133.700
1:50



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ISSUED FOR ADVANCED DESIGN REVIEW	GN	JZ	BY	APVD
REVISION	NO.	DATE	CHK	APVD
DR	J. ZAHIR			J. ZAHIR
DSGN	J. ZAHIR			J. ZAHIR

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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

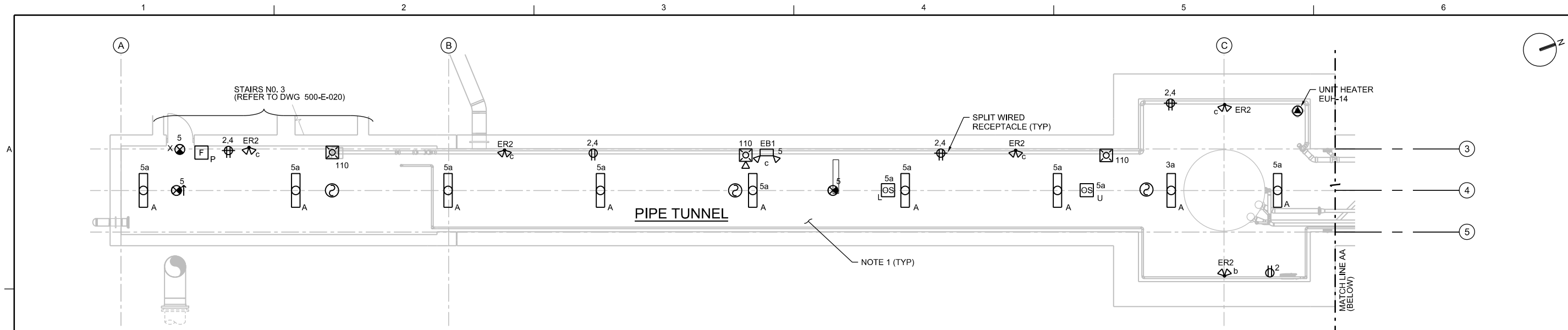
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ELECTRICAL
**WATER TREATMENT BUILDING
PROCESS PLAN PROCESS ROOM
EL 1133.700**

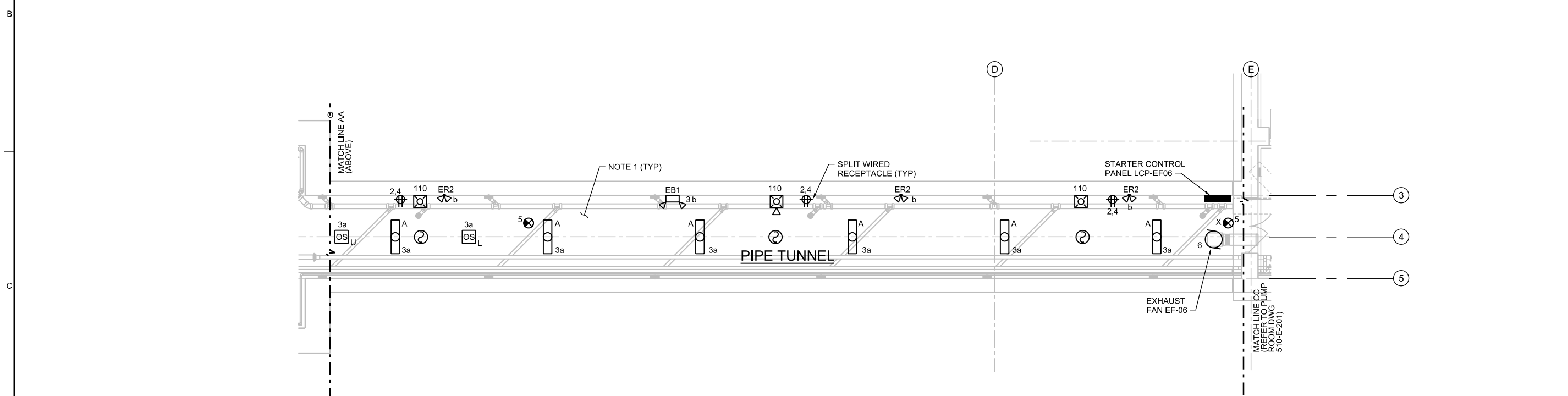
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25mm

DATE FEBRUARY 2014
PROJ TA013-427716
DWG 510-EP-203
SHEET

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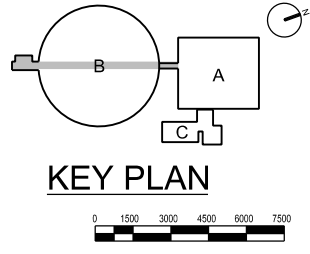


PIPE TUNNEL (SOUTH), EL 1128.20
1:75



PIPE TUNNEL (NORTH), EL 1128.20
1:75

- NOTES:**
- HOMERUN LIGHTING AND RECEPTACLES CIRCUITS TO PANEL 'LPH3'.



NO.	DATE	REVISION	BY	APVD
B	02/2014	ISSUED FOR DETAIL DESIGN REVIEW	JZ	GN
A	09/2013	ISSUED FOR ADVANCED DESIGN REVIEW	JZ	GN
		REVISION	BY	APVD
		DR	J. ZAHIR	J. ZAHIR
		CHK	J. ZAHIR	APVD

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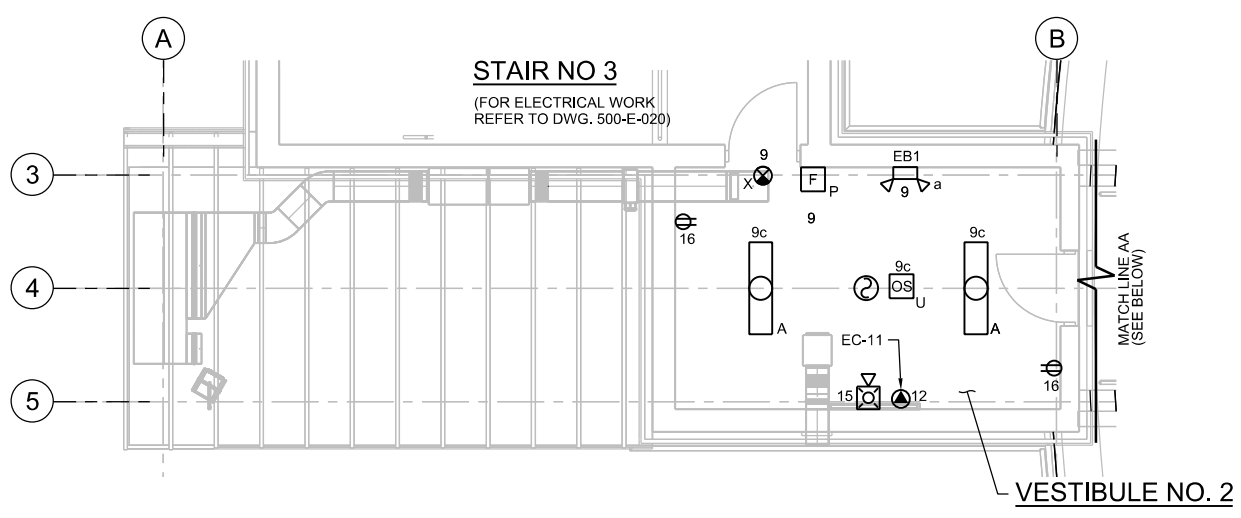
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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ELECTRICAL
THICKENER
FACILITIES AND PROCESS PLANS
PIPE TUNNEL EL 1128.20

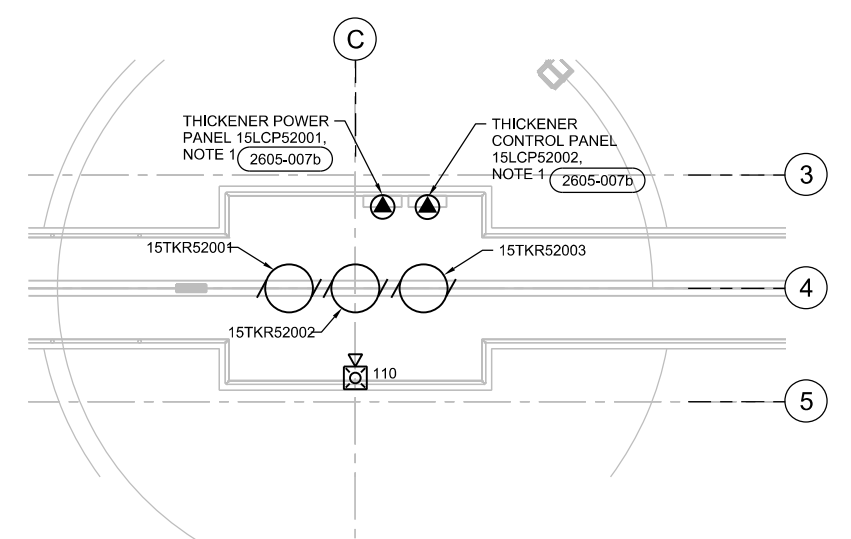
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VERIFY SCALE	
BAR IS 25mm ON ORIGINAL DRAWING.	
0 25mm	
DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	520-E-201
SHEET	

1 2 3 4 5 6

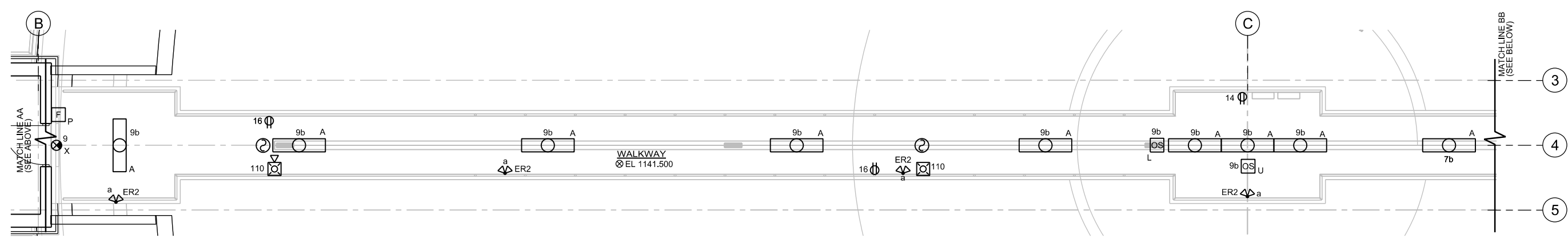


VESTIBULE & STAIRS - FACILITIES PLAN
1:50

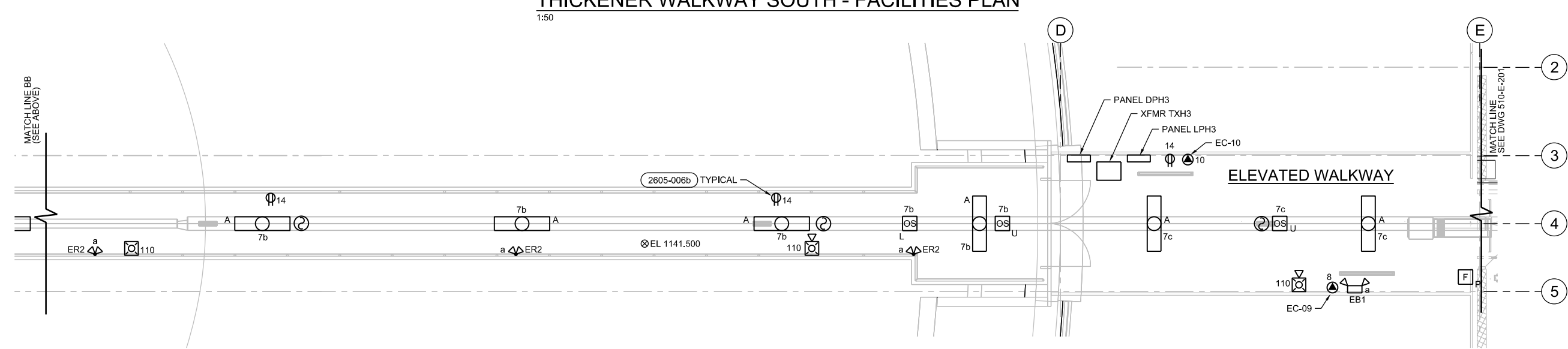
NOTES:
1. EQUIPMENT PROVIDED BY THE VENDOR, INSTALLED AND CONNECTED BY THE ELECTRICAL CONTRACTOR



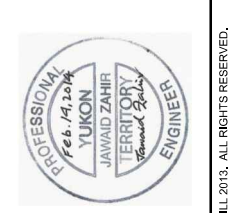
THICKENER WALKWAY - PROCESS PLAN
1:50



THICKENER WALKWAY SOUTH - FACILITIES PLAN
1:50



THICKENER WALKWAY NORTH - FACILITIES PLAN
1:50



NO.	DATE	REVISION	BY	APVD
B	02/2014	ISSUED FOR DETAIL DESIGN REVIEW	JZ	GN
A	09/2013	ISSUED FOR ADVANCED DESIGN REVIEW	AM	GN

DR	CHK	APVD
J. ZAHIR	A. MIRANDA	J. ZAHIR

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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
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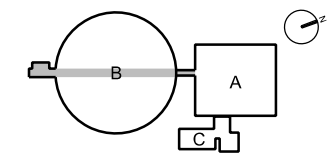
ELECTRICAL
THICKENER FACILITIES AND PROCESS PLAN WALKWAY AND VESTIBULE EL1141.50

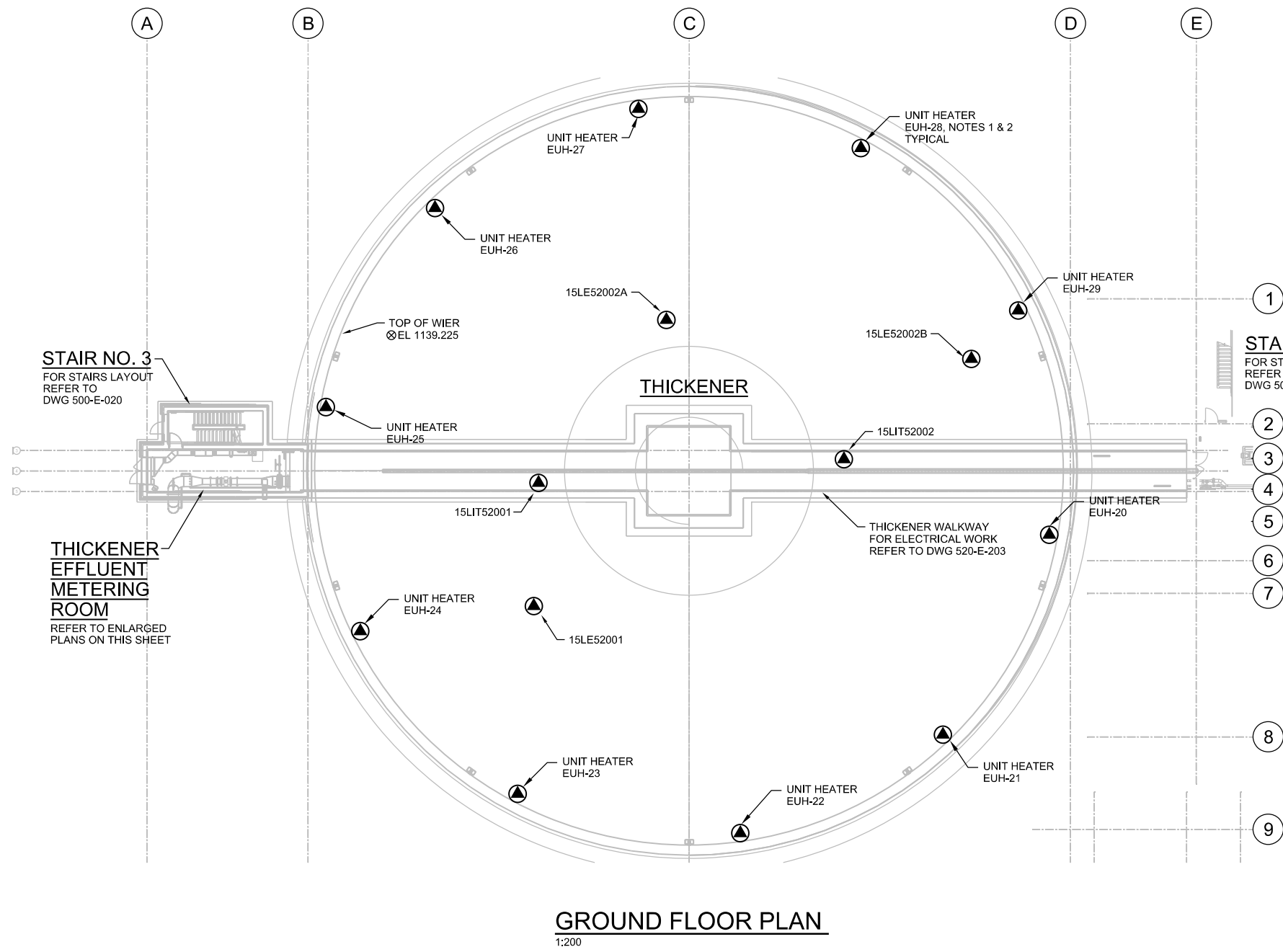
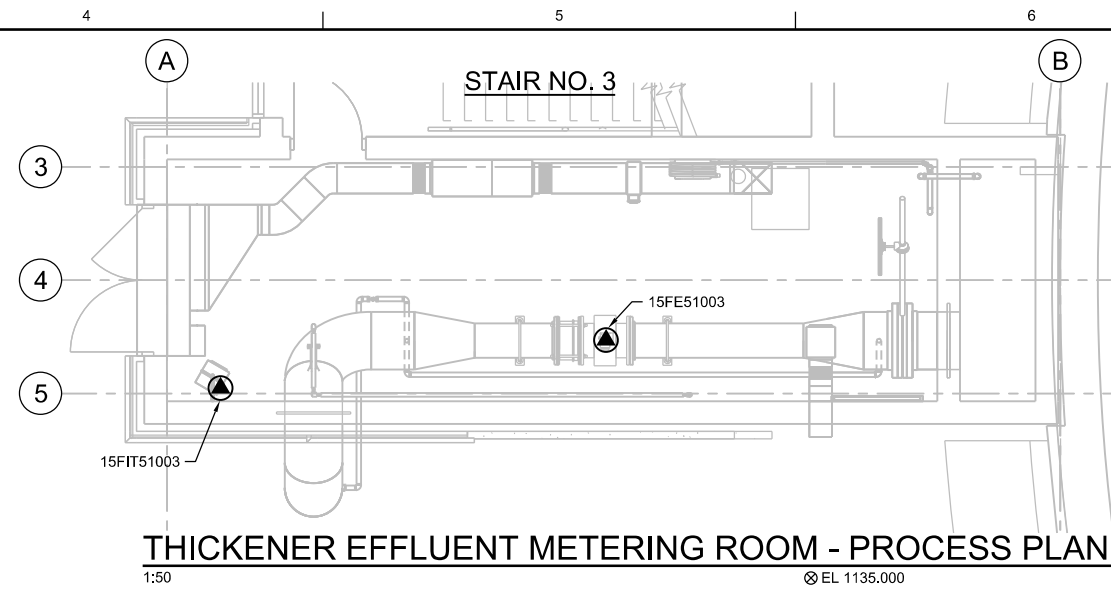
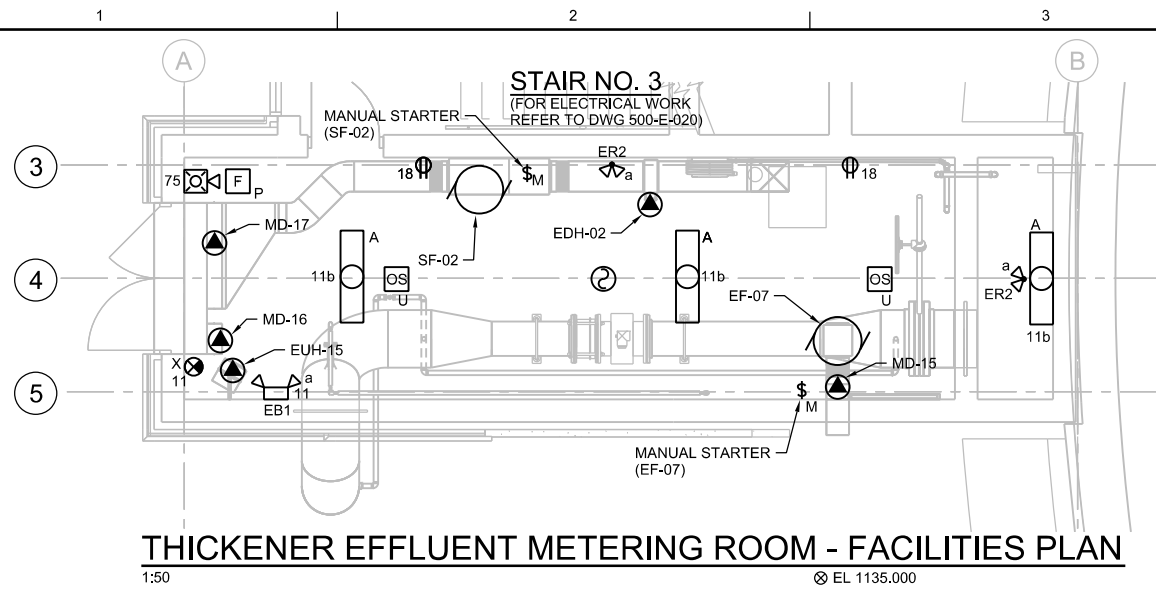
NTS

VERIFY SCALE

BAR IS 25mm ON ORIGINAL DRAWING.

DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	520-E-202
SHEET	





- NOTES**
- FOR WIRING REFER TO ONE LINE DIAGRAM ON DRAWING 500-E-E003.
 - FOR CONTROLS SCHEMATICS REFER TO DRAWING 500-E-012.



NO.	DATE	BY	APVD
B	02/2014	JZ	GN
A	09/2013	AM	GN
NO. I		REVISION	CHK
NO. II		REVISION	CHK
NO. III		REVISION	CHK
NO. IV		REVISION	CHK
NO. V		REVISION	CHK
NO. VI		REVISION	CHK
NO. VII		REVISION	CHK
NO. VIII		REVISION	CHK
NO. IX		REVISION	CHK
NO. X		REVISION	CHK
NO. XI		REVISION	CHK
NO. XII		REVISION	CHK
NO. XIII		REVISION	CHK
NO. XIV		REVISION	CHK
NO. XV		REVISION	CHK
NO. XVI		REVISION	CHK
NO. XVII		REVISION	CHK
NO. XVIII		REVISION	CHK
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NO. XX		REVISION	CHK
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NO. XXIV		REVISION	CHK
NO. XXV		REVISION	CHK
NO. XXVI		REVISION	CHK
NO. XXVII		REVISION	CHK
NO. XXVIII		REVISION	CHK
NO. XXIX		REVISION	CHK
NO. XXX		REVISION	CHK
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NO. XXXII		REVISION	CHK
NO. XXXIII		REVISION	CHK
NO. XXXIV		REVISION	CHK
NO. XXXV		REVISION	CHK
NO. XXXVI		REVISION	CHK
NO. XXXVII		REVISION	CHK
NO. XXXVIII		REVISION	CHK
NO. XXXIX		REVISION	CHK
NO. XL		REVISION	CHK
NO. XLI		REVISION	CHK
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NO. XLIII		REVISION	CHK
NO. XLIV		REVISION	CHK
NO. XLV		REVISION	CHK
NO. XLVI		REVISION	CHK
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NO. L		REVISION	CHK

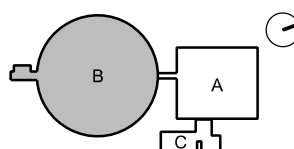
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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

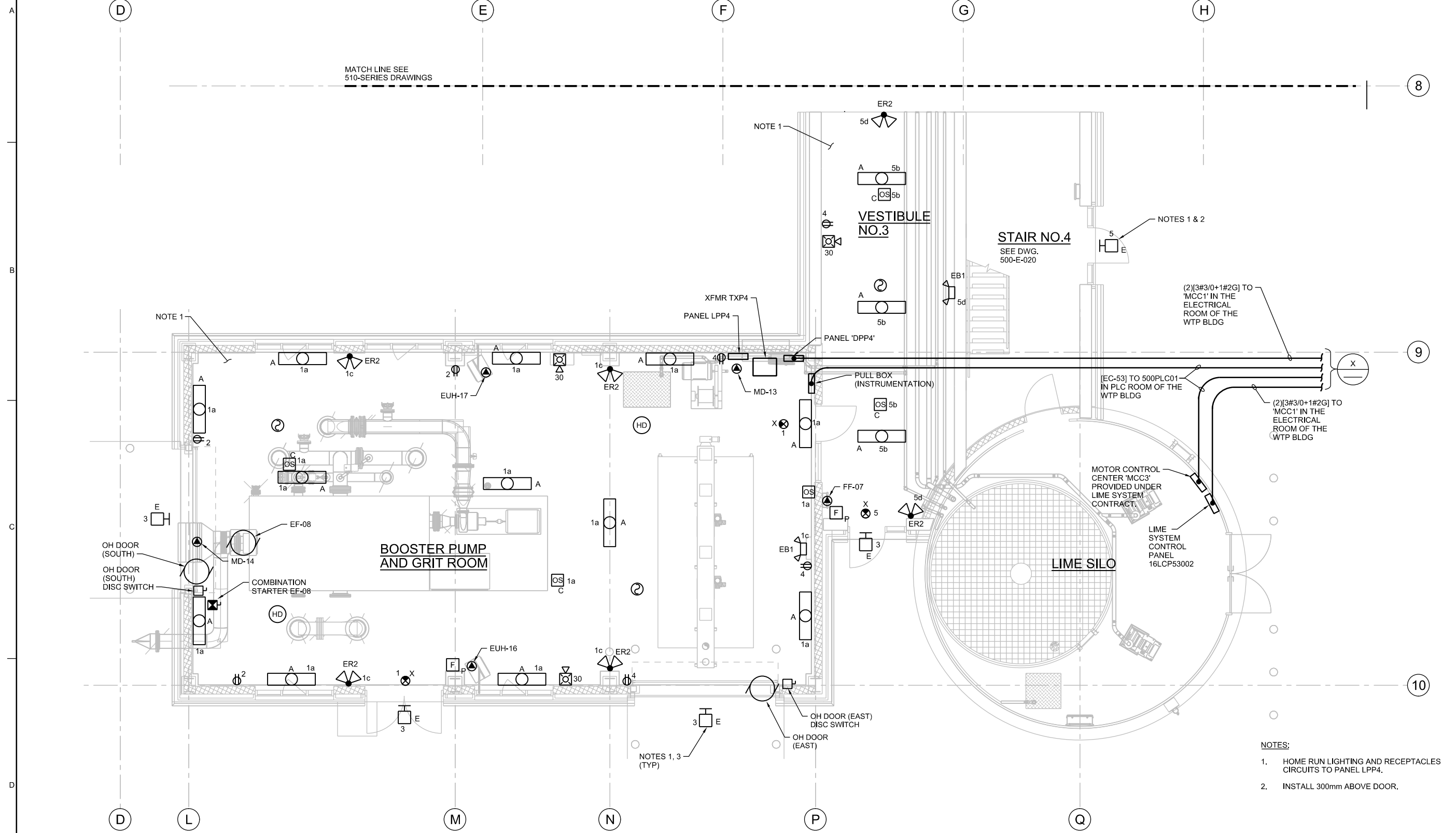
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ELECTRICAL
**THICKENER
THICKENER & METERING ROOM
FACILITIES AND PROCESS PLANS**

NTS	
VERIFY SCALE	
BAR IS 25mm ON ORIGINAL DRAWINGS. 0 25mm	
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PROJ	TA013-427716
DWG	520-E-203
SHEET	



1 2 3 4 5 6



MATCH LINE SEE 510-SERIES DRAWINGS

NOTE 1

VESTIBULE NO.3

STAIR NO.4
SEE DWG. 500-E-020

NOTES 1 & 2

NOTE 1

PANEL LPP4

PANEL 'DPP4'

MOTOR CONTROL CENTER 'MCC3' PROVIDED UNDER LIME SYSTEM CONTRACT.

LIME SILO

BOOSTER PUMP AND GRIT ROOM

OH DOOR (SOUTH)
OH DOOR (SOUTH)
DISC SWITCH

COMBINATION STARTER EF-08

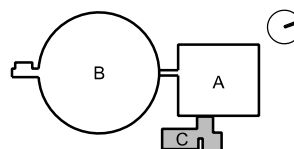
NOTES 1, 3 (TYP)

OH DOOR (EAST)
DISC SWITCH
OH DOOR (EAST)

NOTES:

- HOME RUN LIGHTING AND RECEPTACLES CIRCUITS TO PANEL LPP4.
- INSTALL 300mm ABOVE DOOR.

GROUND FLOOR PLAN
1:50



NO.	DATE	BY	APVD
B	02/2014	AM	GN
A	09/2013	AM	GN
NO. DATE		REVISION	APVD
		CHK	J. ZAHIR
		DR	A. MIRANDA

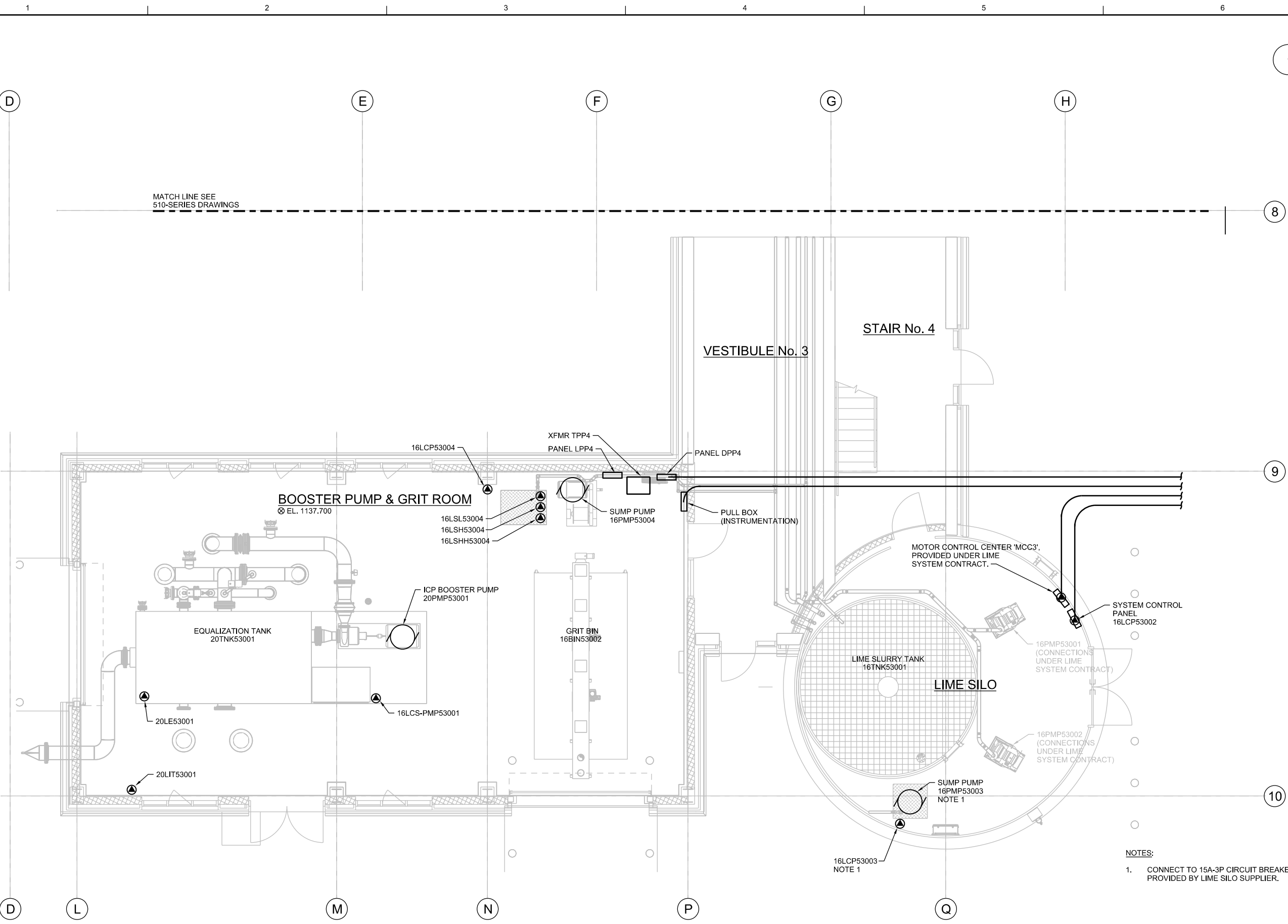
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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®
ELECTRICAL
LIME SILO, GRIT BUILDING FACILITIES PLAN
GROUND FLOOR EL 1137.700

NTS	
VERIFY SCALE	
BAR IS 25mm ON ORIGINAL DRAWINGS.	
DATE	FEBRUARY 2014
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MATCH LINE SEE
510-SERIES DRAWINGS

BOOSTER PUMP & GRIT ROOM
⊗ EL. 1137.700

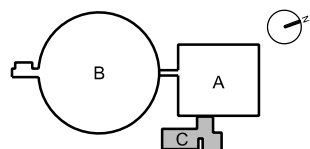
VESTIBULE No. 3

STAIR No. 4

LIME SILO

GROUND FLOOR PLAN
1:50

- NOTES:**
- CONNECT TO 15A-3P CIRCUIT BREAKER IN 'MCC3' PROVIDED BY LIME SILO SUPPLIER.



NO.	DATE	BY	APVD
B	02/2014	AM	GN
A	09/2013	AM	GN
NO. DATE		REVISION	CHK
DSGN		DR	APVD
J. ZAHIR		A. MIRANDA	J. ZAHIR

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CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

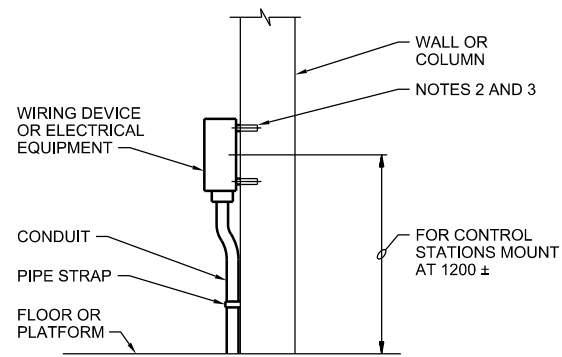
CH2MHILL®
ELECTRICAL
**LIME SILO, GRIT BUILDING
PROCESS PLAN
GROUND FLOOR**

NTS	
VERIFY SCALE	
BAR IS 25mm ON ORIGINAL DRAWING.	
DATE	FEBRUARY 2014
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1

2



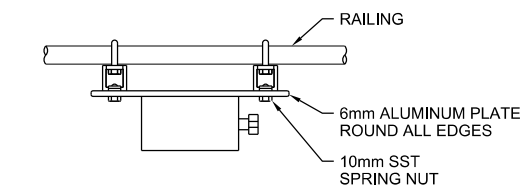
NOTES:

1. ALL MOUNTING HARDWARE SHALL BE STAINLESS STEEL. USE WASHER AND SPLIT-LOCK WASHERS UNDER ALL NUTS.
2. ON CONCRETE WALLS USE STAINLESS STEEL CONCRETE ANCHORS. MOUNT ENCLOSURE ON 13mm SPACERS OF 13mm SCHEDULE 80 PVC CONDUIT.
3. BOXES 6 INCHES SQUARE AND LESS SHALL BE SUPPORTED BY TWO ANCHORS. LARGER BOXES SHALL BE SUPPORTED BY AT LEAST FOUR.

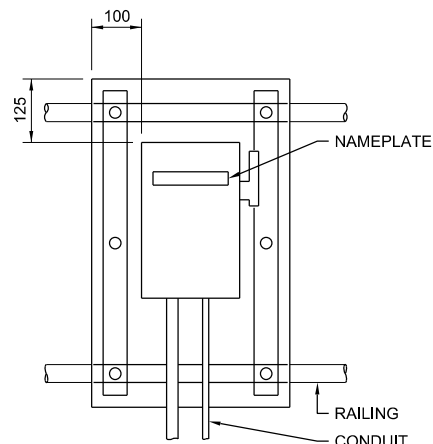
DEVICE MOUNTING, WALL OR COLUMN (2605-002)

3

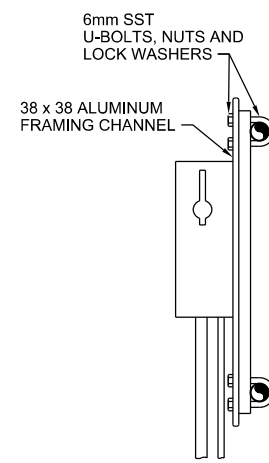
4



TOP



FRONT



SIDE

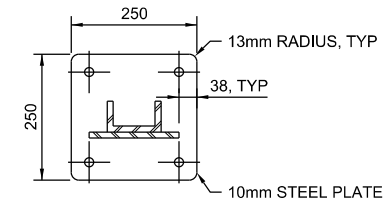
NOTES:

1. AT ALUMINUM RAILING, PROVIDE PROTECTION FOR ALUMINUM IN CONTACT WITH STEEL MEMBERS AND CONNECTIONS PER SPECIFICATIONS.

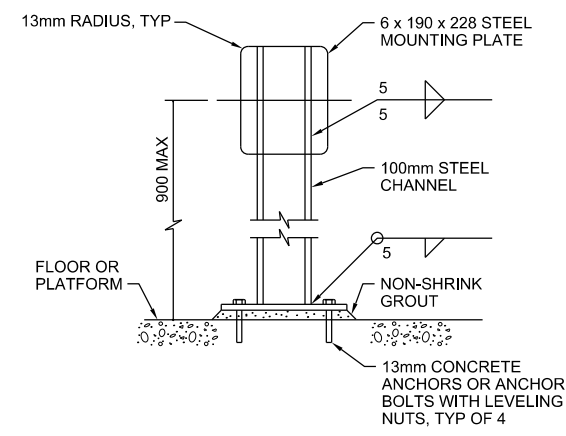
DEVICE MOUNTING, NONFUSED DISCONNECT SWITCH (2605-003a)

5

6



PLAN



ELEVATION

NOTES:

1. HOT-DIP GALVANIZE ASSEMBLY AFTER FABRICATION.
2. USE GALVANIZED MOUNTING HARDWARE. USE WASHERS AND SPLIT-LOCK WASHERS UNDER ALL NUTS AND BOLTS.

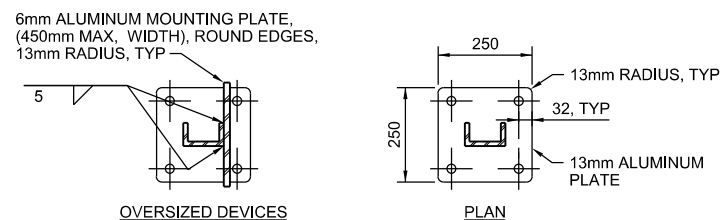
DEVICE MOUNTING, CONTROL STATION PEDESTAL (2605-005a)

A

B

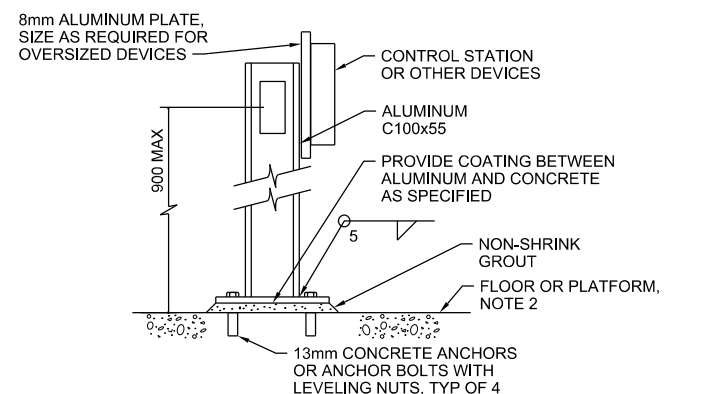
C

D



OVERSIZED DEVICES

PLAN

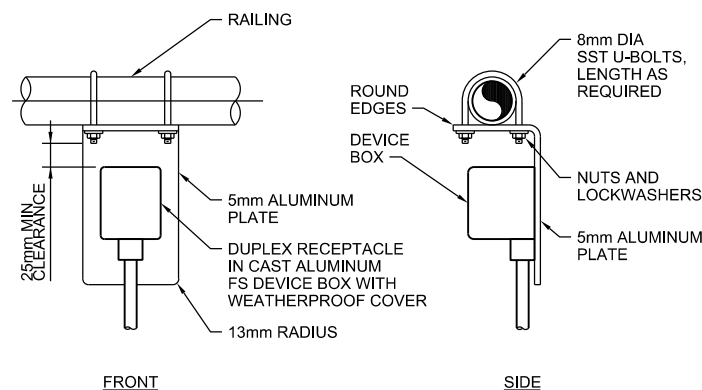


ELEVATION

NOTES:

1. USE STAINLESS STEEL MOUNTING HARDWARE. USE WASHERS AND SPLIT-LOCK WASHERS UNDER ALL NUTS.
2. FOR YARD LOCATIONS, PROVIDE 600mm SQUARE x 150mm THICK CONCRETE PAD AT GRADE WITH 3#4 REBAR EACH WAY, CENTERED.
3. CONTROL STATIONS DEVICES AND EQUIPMENT HAVING A FRONTAL AREA NOT GREATER THAN 600mm SQ SHALL BE PEDESTAL MOUNTED UNLESS OTHERWISE INDICATED.

DEVICE MOUNTING, MOTOR CONTROL STATION (2605-005b)



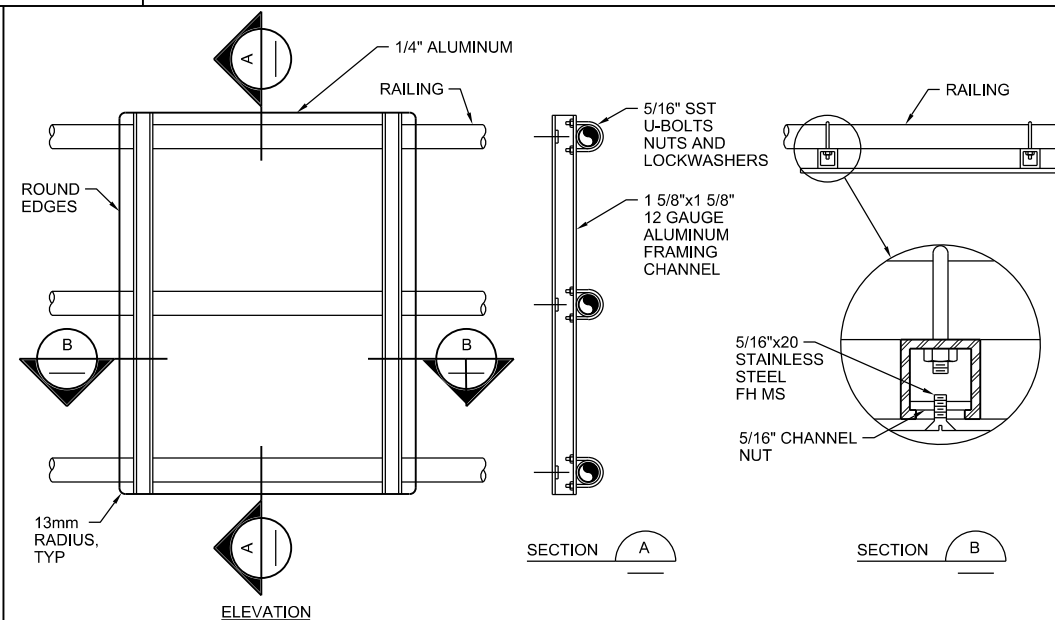
FRONT

SIDE

NOTES:

1. THIS DETAIL SHALL BE USED FOR MOUNTING OF ALL WIRING DEVICES AND JUNCTION BOXES 100mm SQUARE AND LESS ON RAILING WHETHER DETAIL IS CALLED OUT OR NOT.
2. ALL HARDWARE TO BE STAINLESS STEEL. USE WASHER AND SPLIT LOCKWASHERS WITH ALL NUTS.
3. ALL EDGES AND THE ENDS OF ALL U-BOLTS WHICH HAVE BEEN CUT SHALL BE FILED SMOOTH.

DEVICE MOUNTING, ON RAILING (2605-006b)



ELEVATION

SECTION A

SECTION B

NOTES:

1. ALL HARDWARE SHALL BE STAINLESS STEEL. USE WASHERS AND SPLIT-LOCK WASHERS ON ALL NUTS AND BOLTS.
2. DIMENSIONS SHALL BE AS REQUIRED FOR EQUIPMENT TO BE MOUNTED. EDGE OF MOUNTING PLATE SHALL EXTEND A MINIMUM OF 2 INCHES EACH SIDE OF THE MOUNTED EQUIPMENT.
3. THIS DETAIL SHALL BE USED FOR MOUNTING EQUIPMENT AND JUNCTION BOXES WEIGHING LESS THAN 50 LBS ON RAILING WHETHER DETAIL IS CALLED OUT OR NOT. EQUIPMENT MOUNTING SHALL NOT REDUCE THE WIDTH OF A WALKWAY TO LESS THAN 3'-0".

DEVICE MOUNTING, RAILING MOUNTED EQUIPMENT SUPPORT (2605-007b)



NO.	DATE	BY	APVD
A	02/2014	JZ	JZ
NO. DATE		CHK	APVD
DSGN		J. ZAHIR	J. ZAHIR
DR		J. ZAHIR	J. ZAHIR
ISSUED FOR DETAIL DESIGN REVIEW		REVISION	APVD

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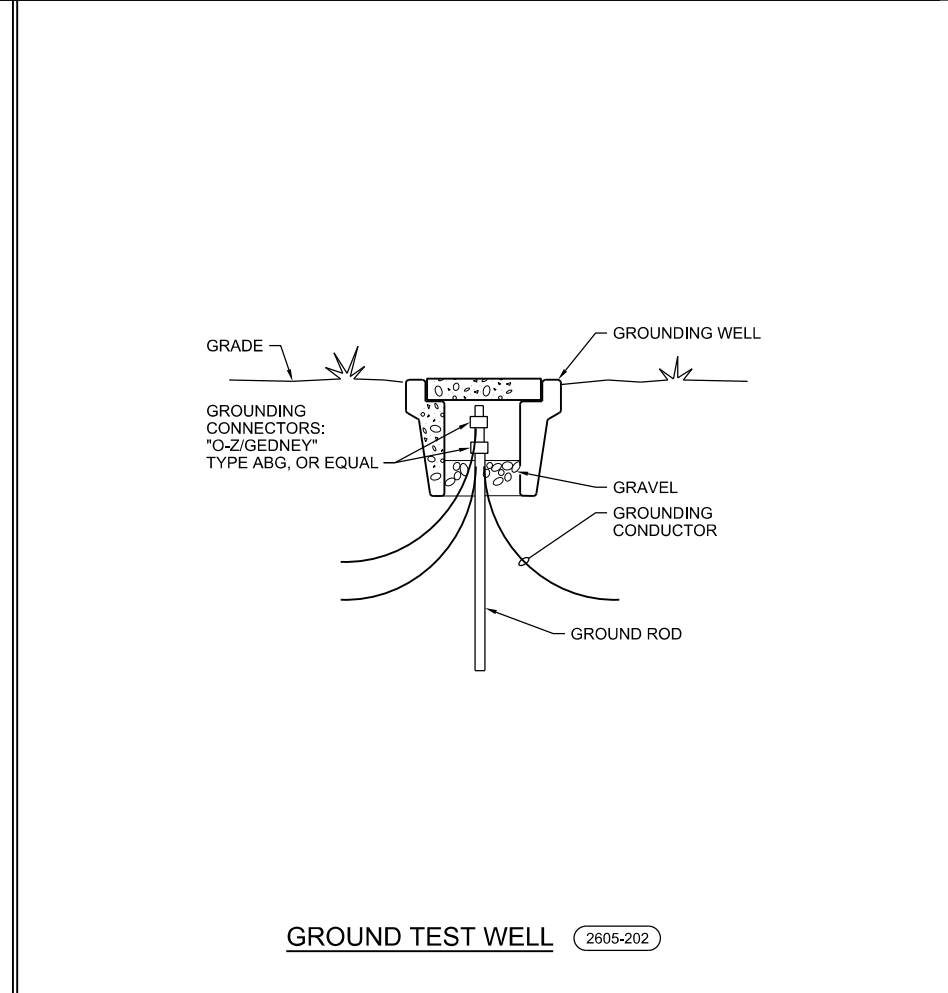
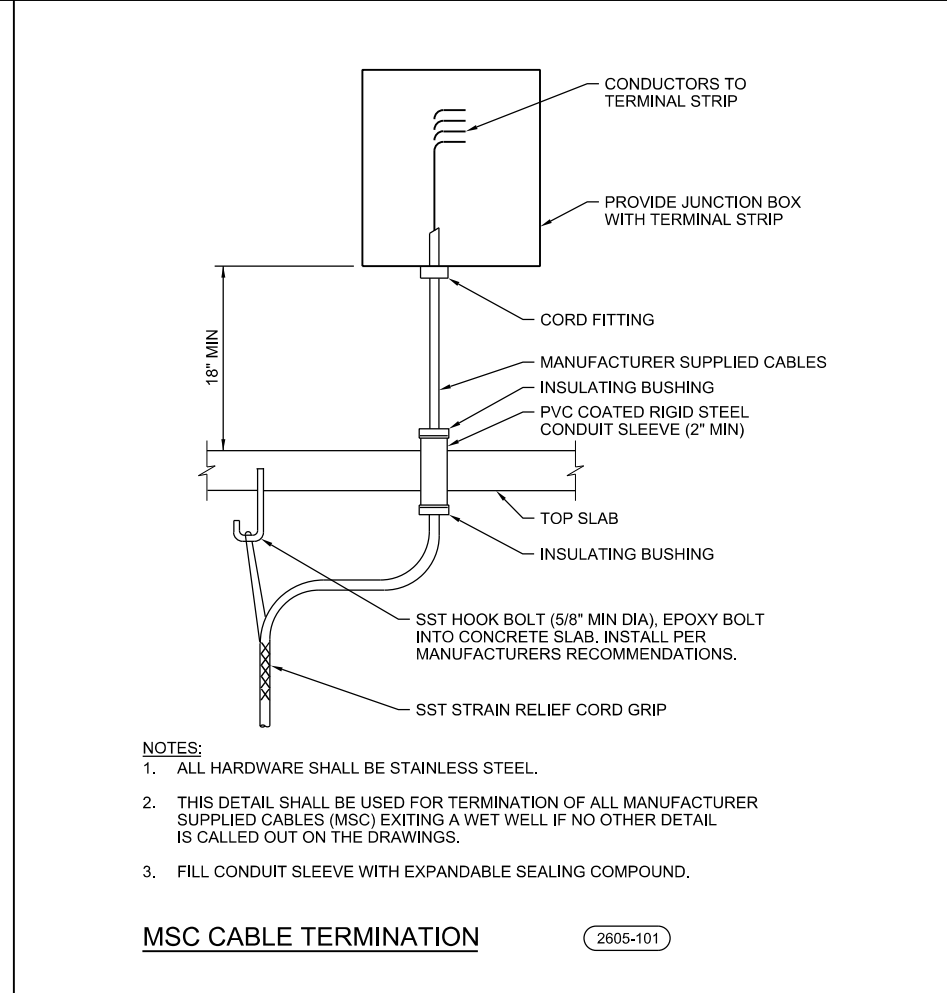
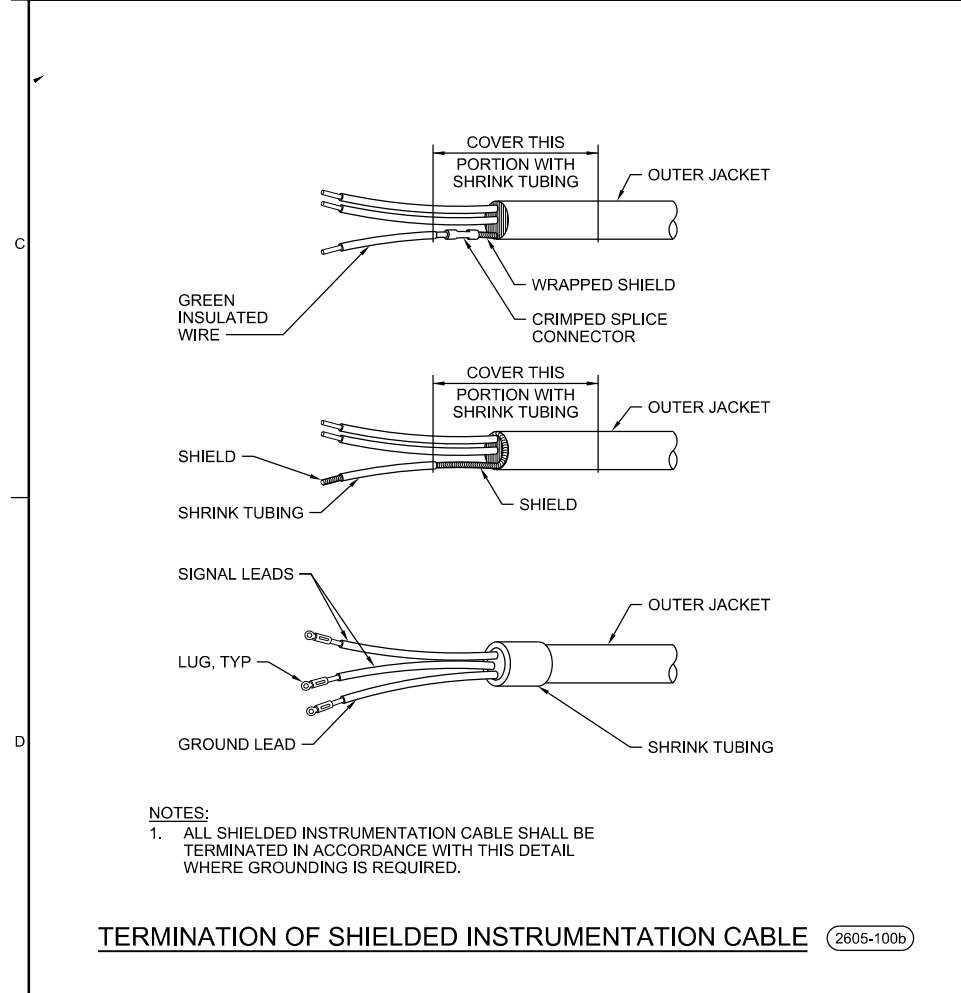
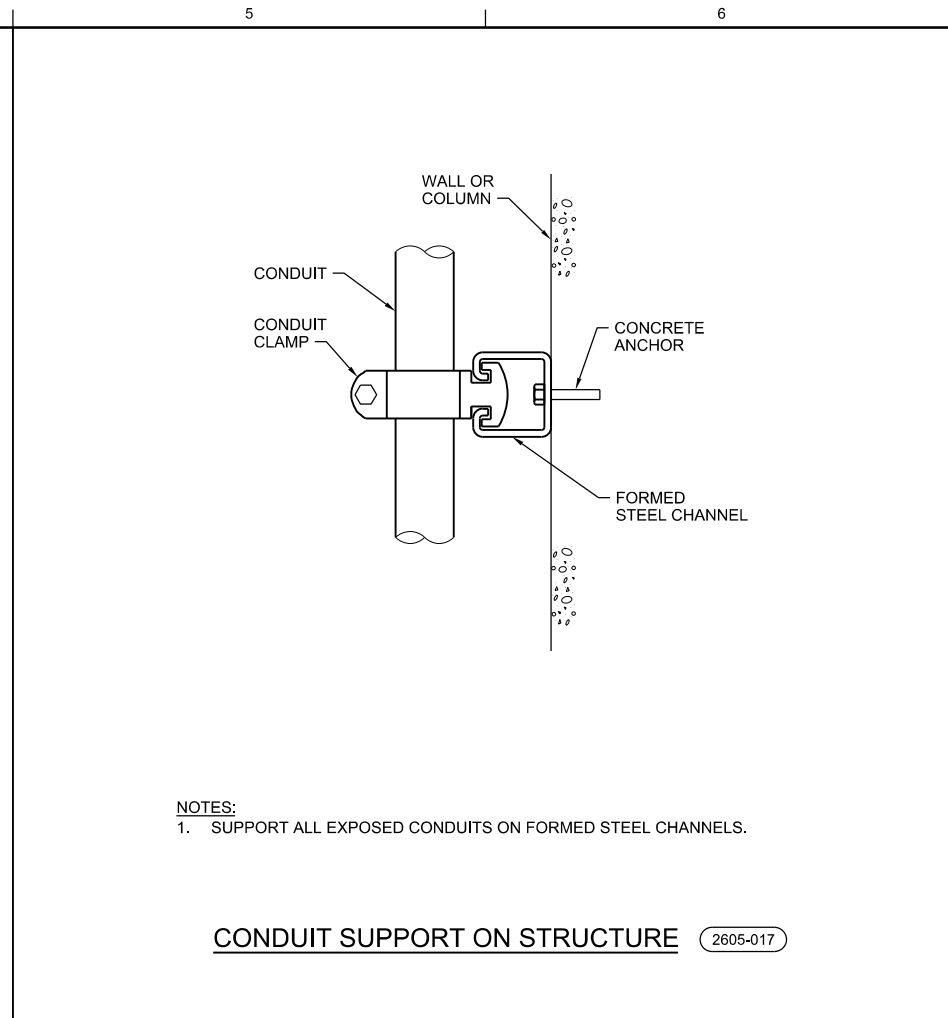
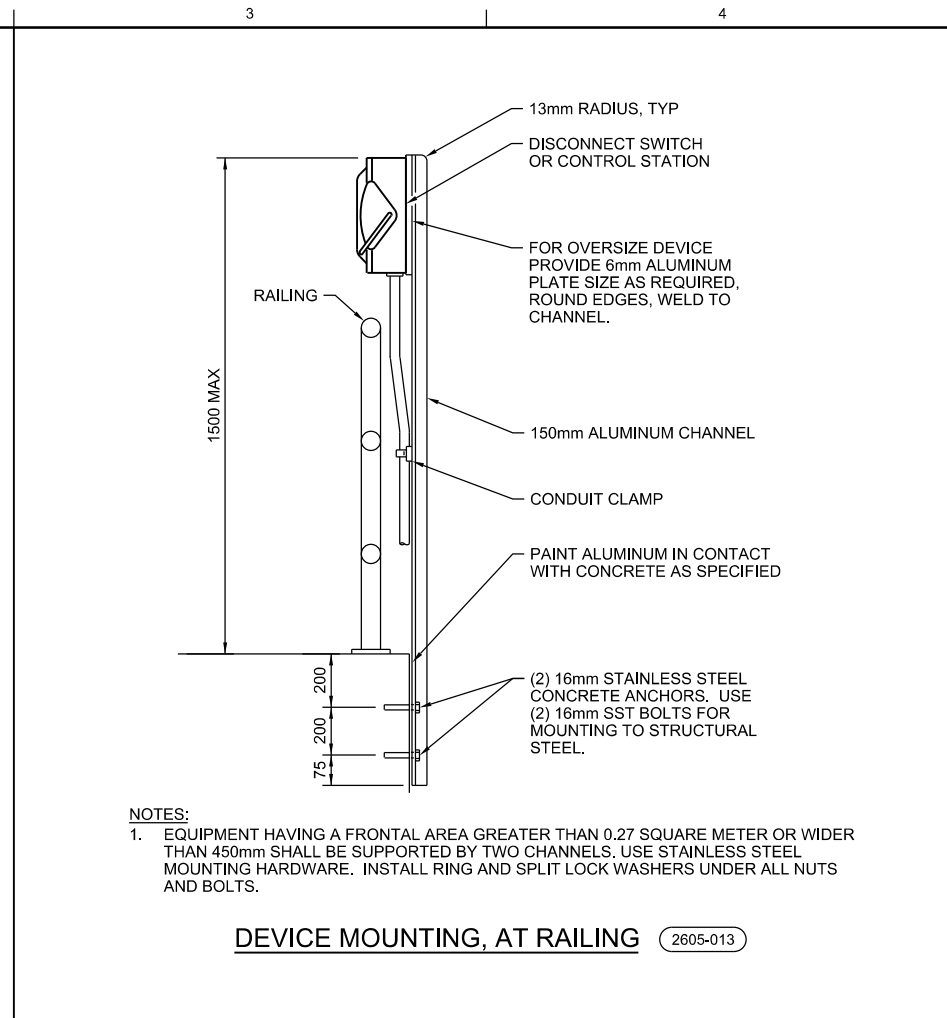
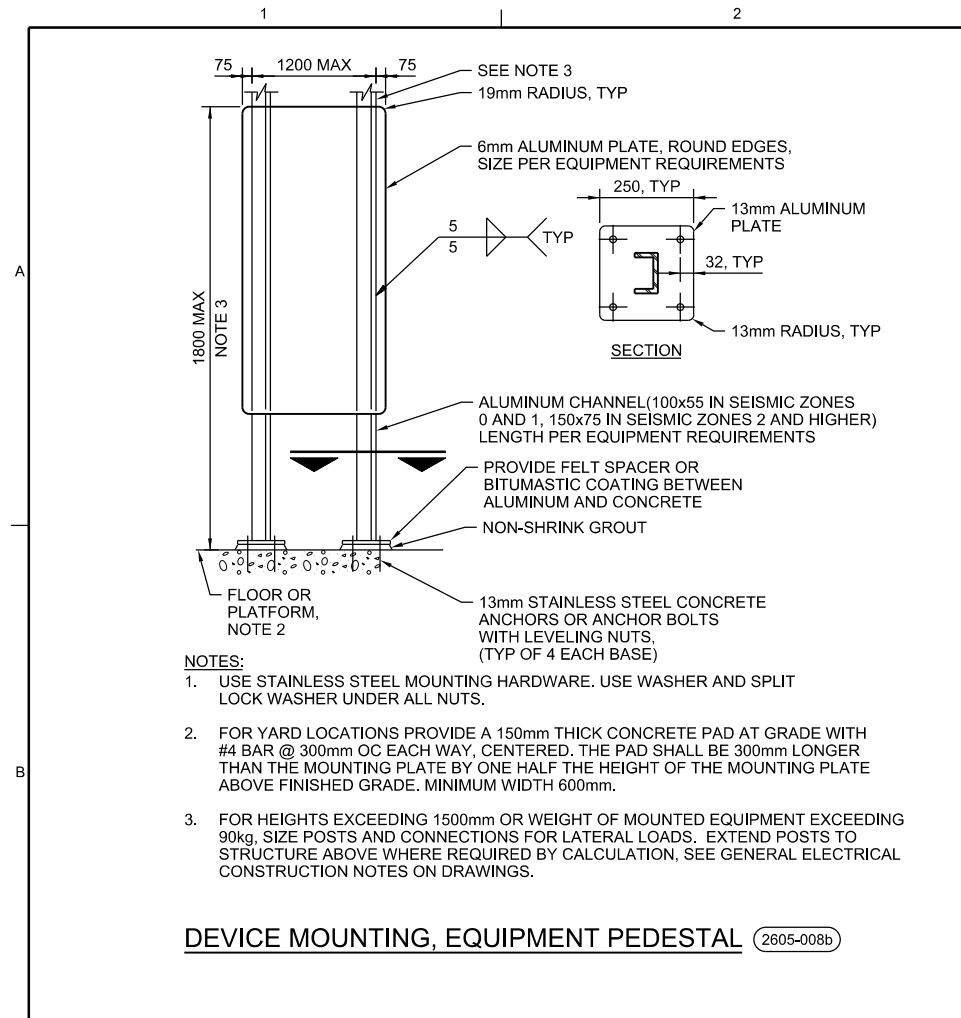
FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN GOVERNMENT OF YUKON DESIGN

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ELECTRICAL STANDARD DETAILS (1)

NTS	
VERIFY SCALE	
BAR IS 25mm ON ORIGINAL DRAWING.	
DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	590-E-001
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PROFESSIONAL ENGINEER
JAWAID ZAHIR
TERRITORY OF YUKON
Feb. 14, 2014

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A	02/2014	JZ	GN
ISSUED FOR DETAIL DESIGN REVIEW		CHK	APVD
REVISION		DR	APVD
NO.		DATE	BY
DSGN		J. ZAHIR	CHK
DSGN		J. ZAHIR	DR
DSGN		J. ZAHIR	APVD

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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

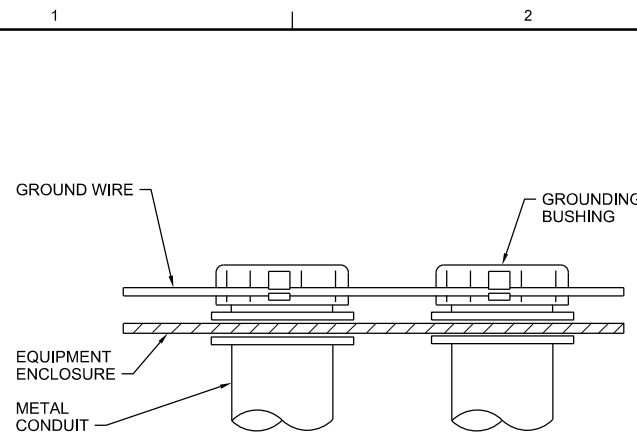
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ELECTRICAL
STANDARD DETAILS
(2)

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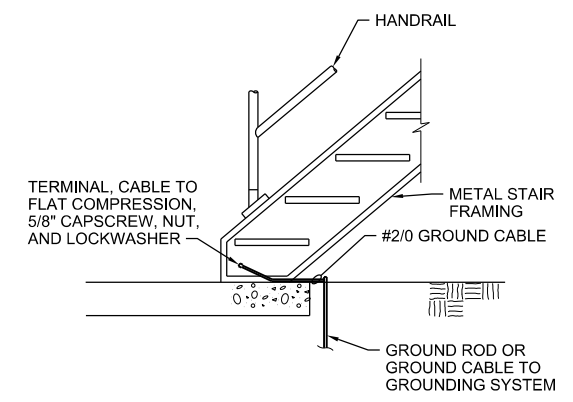
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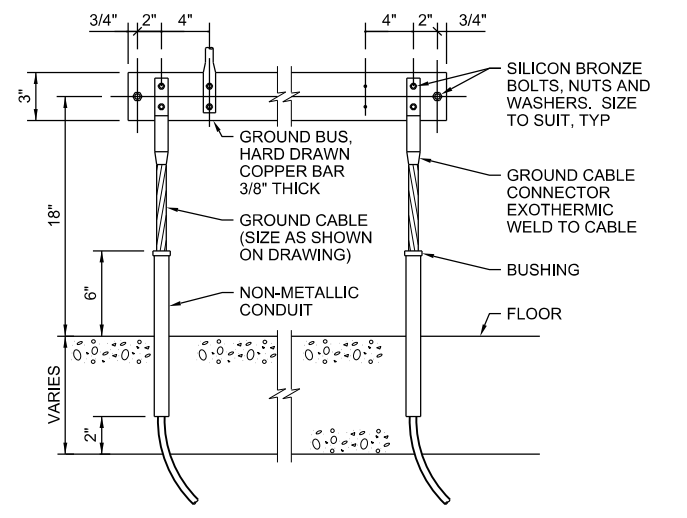
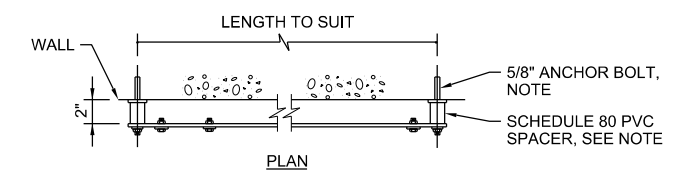


NOTES:
 1. THE ENDS OF ALL CONDUITS REQUIRED TO BE GROUNDED BY THE SPECIFICATIONS SHALL BE GROUNDED IN ACCORDANCE WITH THIS DETAIL.

CONDUIT GROUNDING 2605-203

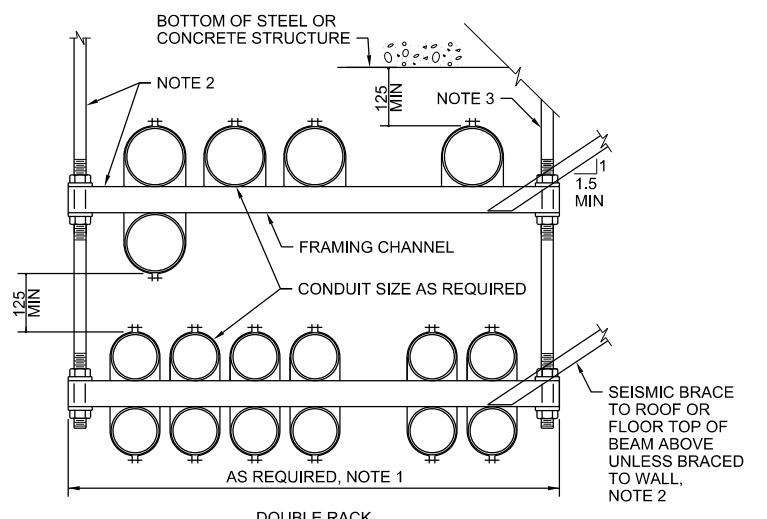


GROUNDING, GENERAL STAIRWAY 2605-207



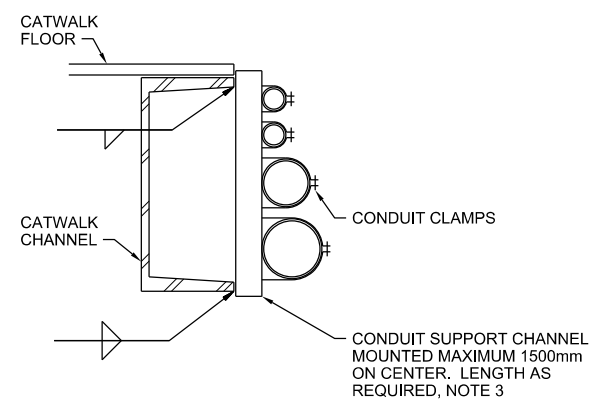
NOTES:
 1. MAXIMUM SPAN BETWEEN SUPPORTS NOT TO EXCEED 24".

GROUND BUS 2605-208



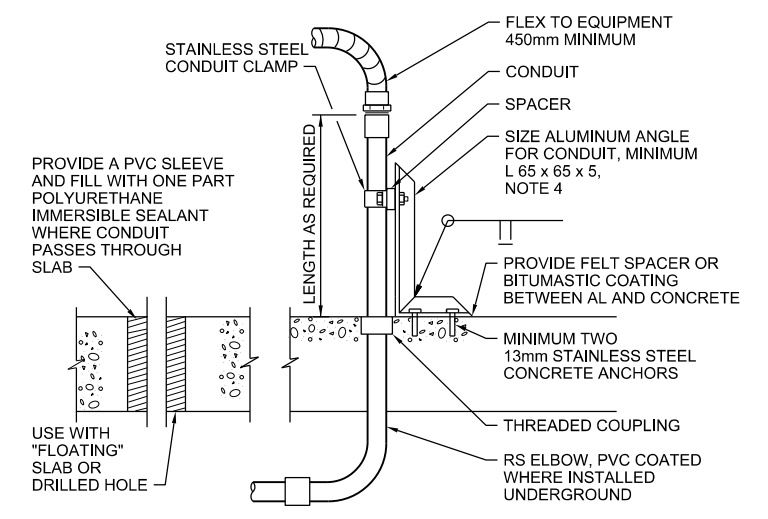
NOTES:
 1. LENGTH VARIES WITH NUMBER OF CONDUITS TO BE SUPPORTED AND SPACING BETWEEN CONDUITS.
 2. DETERMINE SPAN AND TYPE OF SUPPORTS, LOCATE SUPPORTS, AND SIZE SUPPORT RODS, CONNECTIONS AND BRACES PER MANUFACTURER'S RECOMMENDATIONS AND SEISMIC REQUIREMENTS.
 3. AT STEEL STRUCTURE, USE MALLEABLE BEAM CLAMP. AT CONCRETE STRUCTURE, USE UNIVERSAL CONCRETE INSERT, FRAMING CHANNEL WITH #15m x 900mm BELOW, TYPE AND SIZE AS REQUIRED BY TOTAL LOADS.
 4. USE STAINLESS STEEL HARDWARE IN WET AND/OR CORROSIVE AREAS.
 5. SPACE CONDUIT SUFFICIENTLY TO ALLOW REMOVAL OF ONE CONDUIT WITHOUT DISTURBING ADJACENT CONDUITS.

CONDUIT RACKING SYSTEM 2605-301



NOTES:
 1. EXPOSED CONDUIT AND CONDUIT CLAMPS IN AREAS SUBJECT TO ACCELERATED CORROSION SHALL BE PVC COATED RIGID STEEL.
 2. MOUNTING HARDWARE SHALL BE STAINLESS STEEL.
 3. LOCATE AND SIZE SUPPORTS FOR VERTICAL AND LATERAL LOADS.

CONDUIT RACKING SYSTEM, VERTICAL 2605-302



NOTES:
 1. PROVIDE SUPPORT FOR ALL METAL CONDUITS WHICH EXTEND MORE THAN 450mm OUT OF THE SLAB WITHIN 75mm OF THE END OF THE CONDUIT.
 2. PROVIDE SUPPORT FOR ALL PVC CONDUIT WITHIN 75mm OF THE END OF THE CONDUIT.
 3. THIS DETAIL SHALL BE USED FOR SUPPORT OF ALL CONDUITS WHICH ARE NOT OTHERWISE SUPPORTED IN A RIGID MANNER SUCH AS AGAINST AN EQUIPMENT BASE, WALL, COLUMN, ETC, AS REQUIRED ABOVE.
 4. FOR ANY ANGLE GREATER THAN 65mm TALL, SIZE ANGLE SUPPORT AND ANCHORS FOR SEISMIC LOADS.

CONDUIT TRANSITION AND SUPPORT 2605-305



NO.	DATE	DR	CHK	APVD
A	02/2014	J. ZAHIR	J. ZAHIR	J. ZAHIR
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GN	BY	APVD		

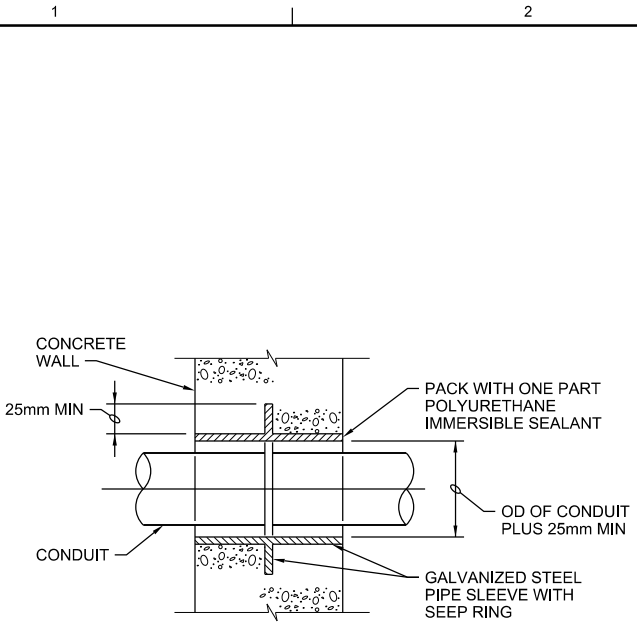
DESIGN	DESIGN
GOVERNMENT OF YUKON	FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN	

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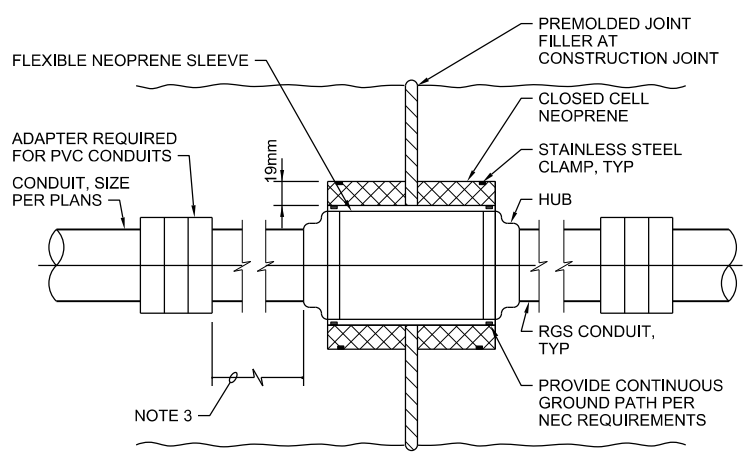
NTS
 VERIFY SCALE
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 25mm

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 PROJ TA013-427716
 DWG 590-E-003
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CONDUIT UNDERGROUND ENTRANCE

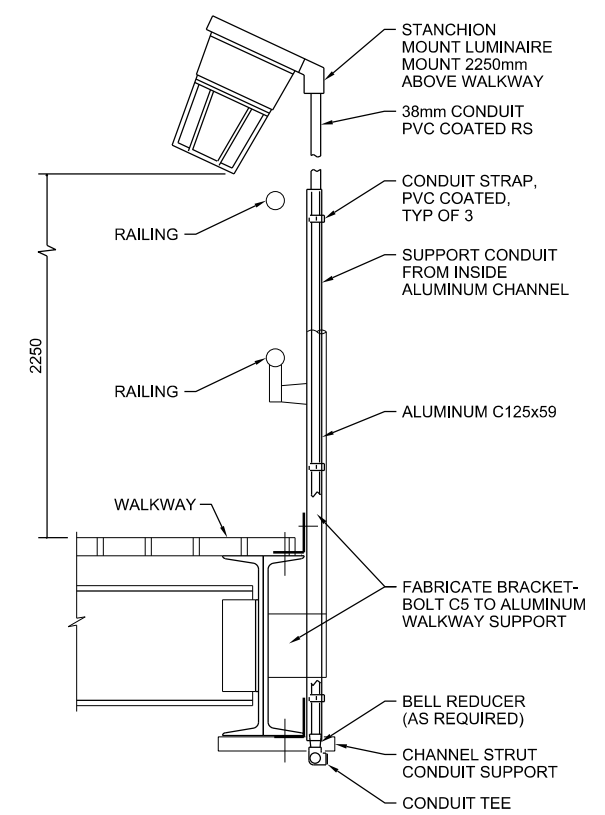
2605-307



- NOTES:**
1. DETAIL APPLIES TO CONDUIT EMBEDDED IN STRUCTURAL CONCRETE AT BUILDING INTERFACES AND AT STRUCTURAL EXPANSION JOINTS.
 2. DETAIL APPLIES TO ALL EXPANSION JOINTS FOR THE UNDERGROUND CONCRETE ENCASED CONDUITS.
 3. PVC CONDUIT INSTALLATIONS SHALL HAVE 450mm MIN LENGTH OF RGS CONDUIT EACH SIDE OF FITTING.

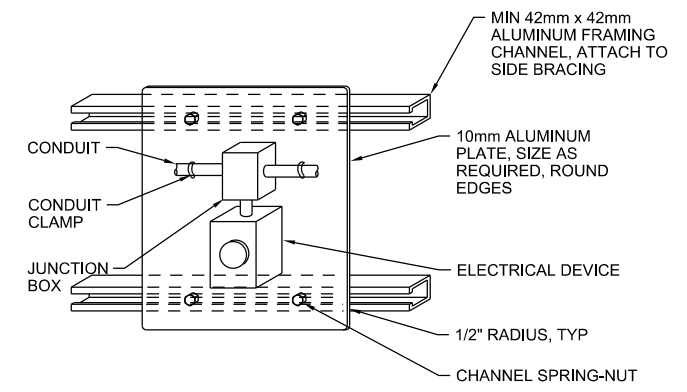
EXPANSION/DEFLECTION COUPLING

2605-315



STANCHION MOUNTED LUMINAIRE

2656-211



DEVICE SUPPORTED BY SIDE BRACINGS

2605-009c



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A	02/2014	JZ	GN
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DGN		J. ZAHIR	APVD

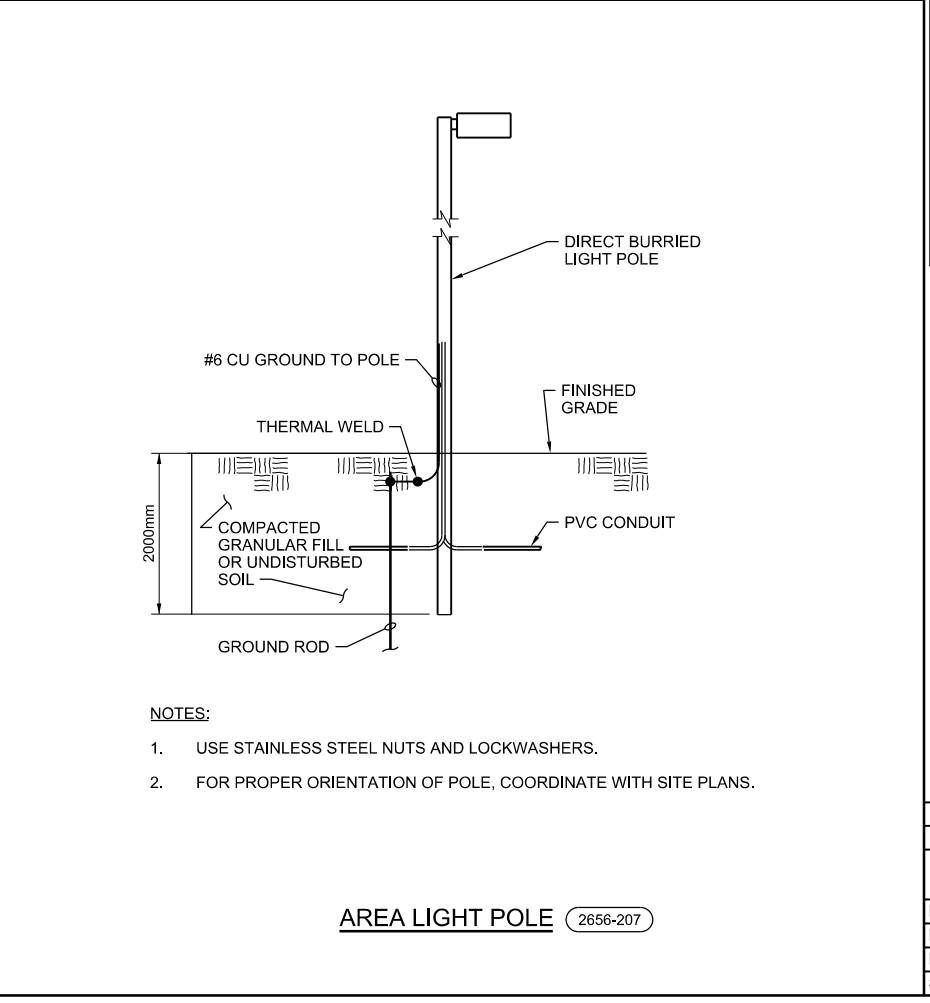
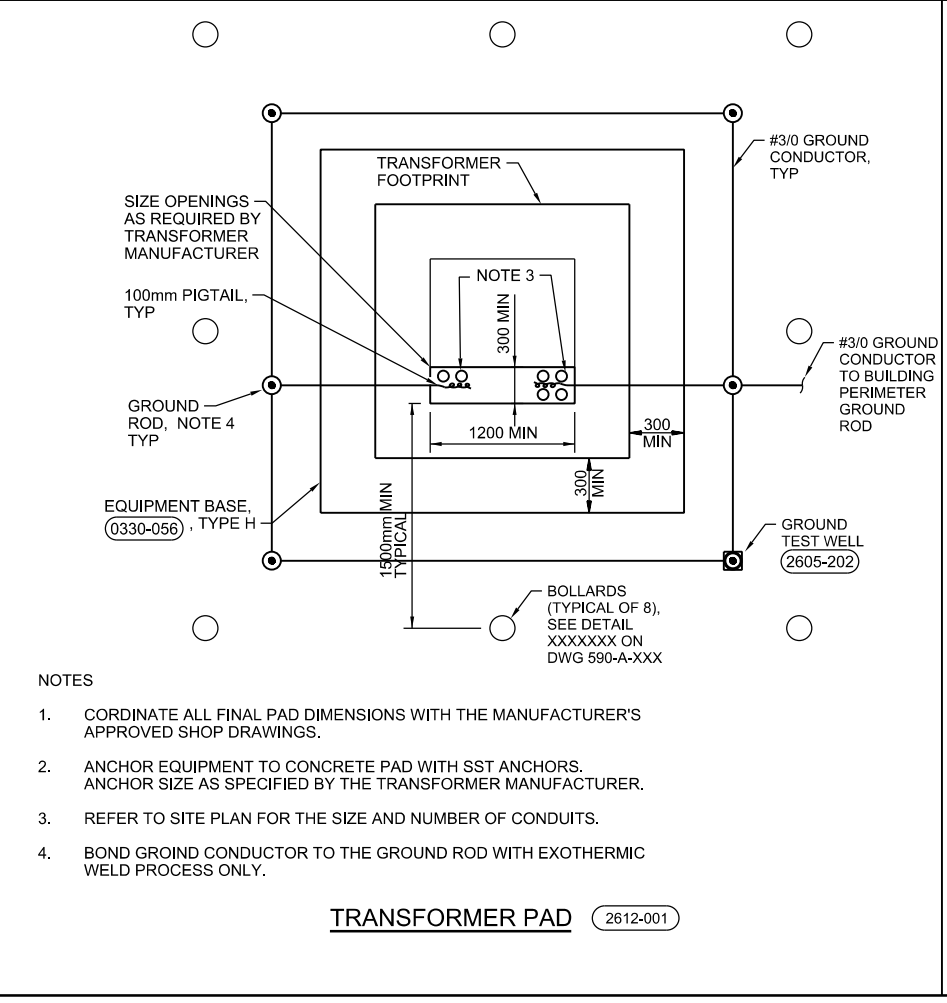
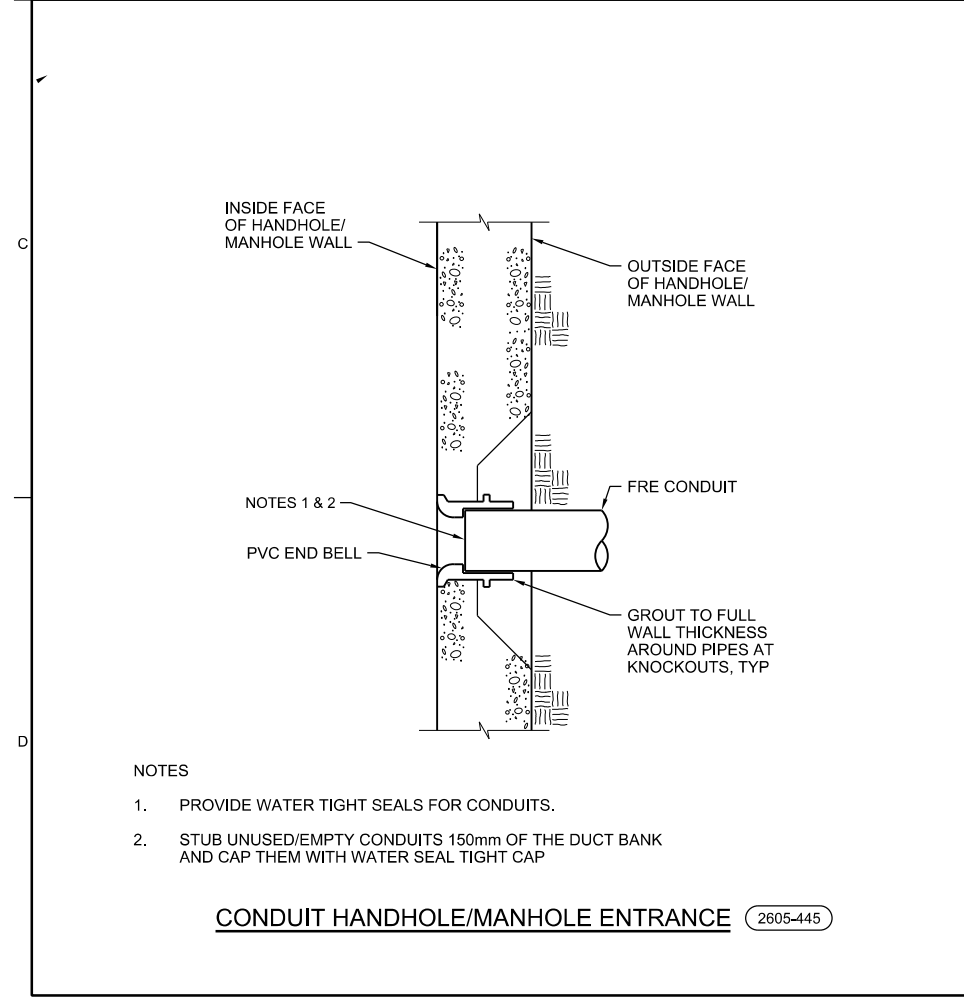
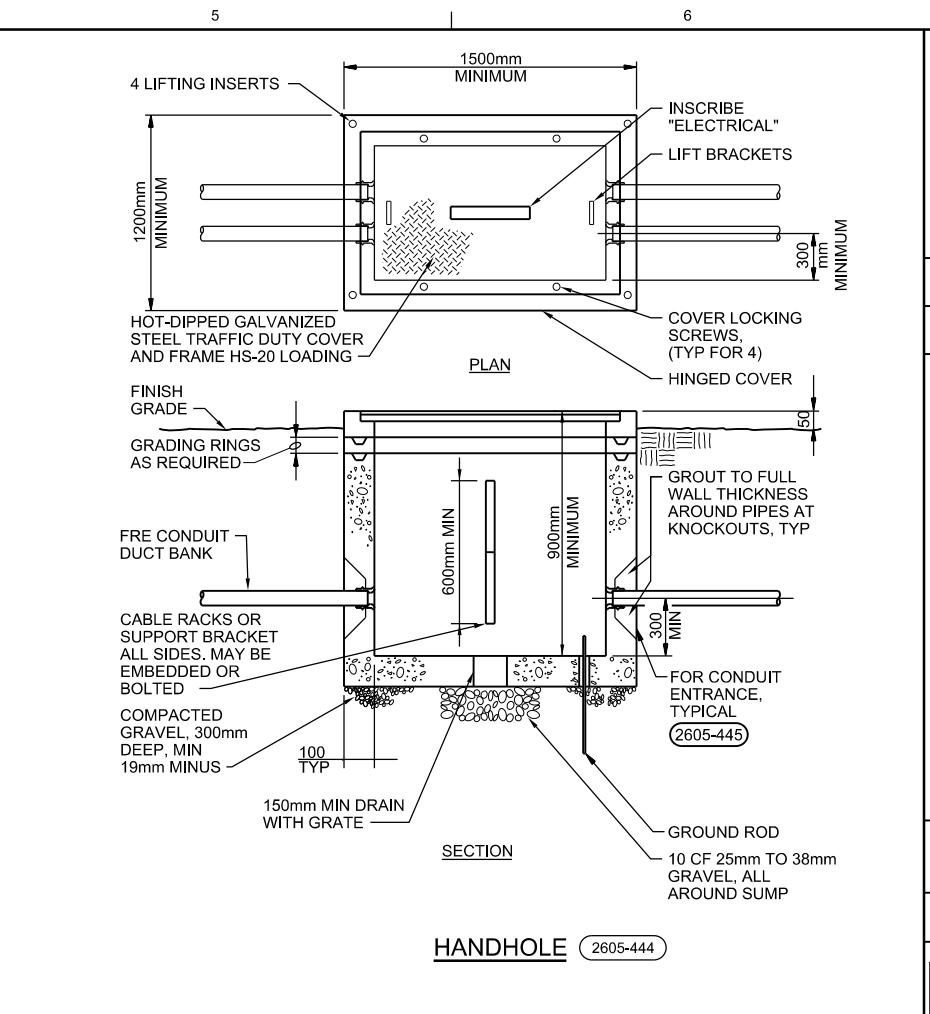
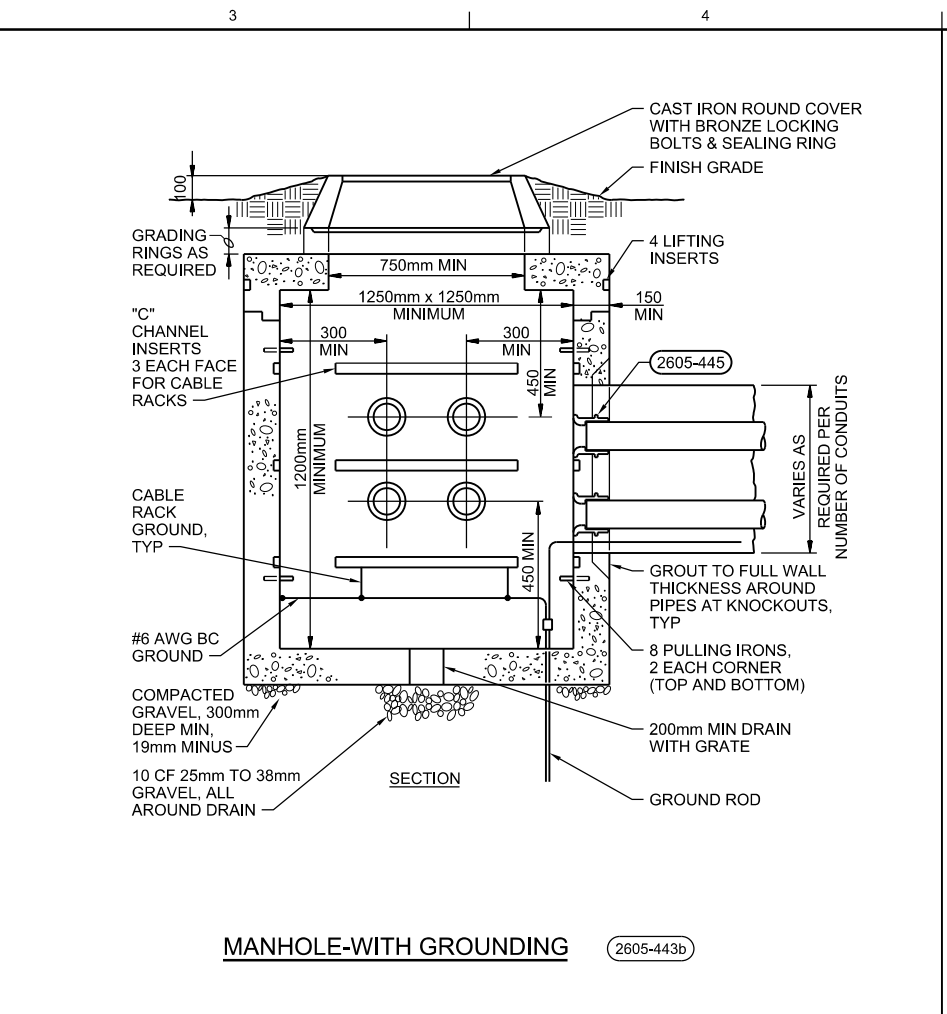
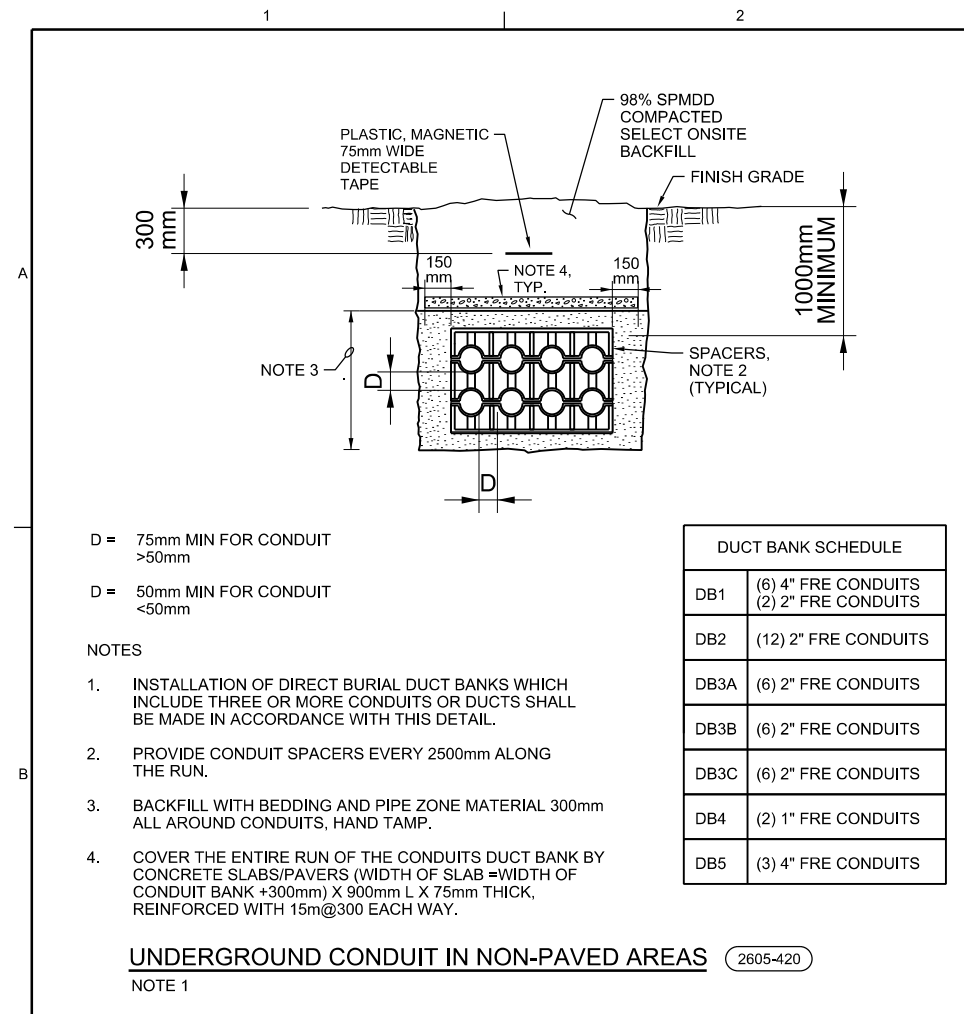
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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

NTS
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BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 590-E-005
SHEET

PROFESSIONAL ENGINEER
YUKON TERRITORY
JAWAID ZAHIR
P.E. 141,204

ISSUED FOR DETAIL DESIGN REVIEW
REVISION
NO. DATE
A 02/2014

DR J. ZAHIR
CHK J. ZAHIR
BY J. ZAHIR
APVD J. ZAHIR

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INSTRUMENT IDENTIFICATION

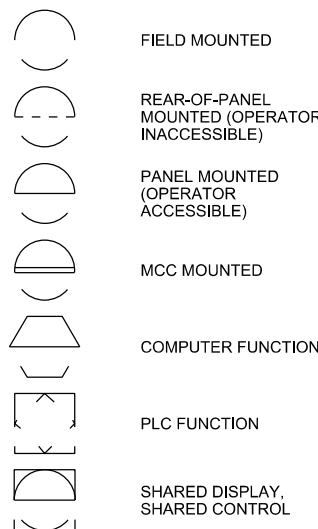
INSTRUMENT IDENTIFICATION LETTERS TABLE

LETTER	FIRST-LETTER		SUCCEEDING-LETTERS		
	PROCESS OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	READOUT OR PASSIVE FUNCTION	READOUT OR PASSIVE FUNCTION
A	ANALYSIS (+)		ALARM		
B	BURNER, COMBUSTION		USER'S CHOICE (*)	USER'S CHOICE (*)	USER'S CHOICE (*)
C	USER'S CHOICE (*)			CONTROL	
D	DENSITY (S.G.)	DIFFERENTIAL			
E	VOLTAGE		PRIMARY ELEMENT, SENSOR		
	FLOW RATE	RATIO (FRACTION)			
G	USER'S CHOICE (*)		GLASS, GAUGE VIEWING DEVICE	GATE	
H	HAND (MANUAL)				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW
M	MOTION	MOMENTARY			MIDDLE, INTERMEDIATE
N	TORQUE		USER'S CHOICE (*)	USER'S CHOICE (*)	USER'S CHOICE (*)
O	USER'S CHOICE (*)		ORIFICE, RESTRICTION		
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY	INTEGRATE, TOTALIZE			
R	RADIATION		RECORD OR PRINT		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTI VARIABLE		MULTI FUNCTION	MULTI FUNCTION	MULTI FUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL		
X	UNCLASSIFIED (*)	X AXIS	UNCLASSIFIED (*)	UNCLASSIFIED (*)	UNCLASSIFIED (*)
Y	EVENT, STATE OR PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT	
Z	POSITION	Z AXIS		DRIVE, ACTUATOR, UNCLASSIFIED FINAL CONTROL ELEMENT	

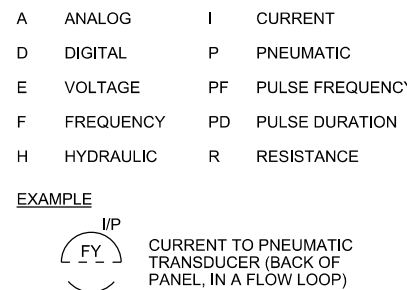
TABLE BASED ON THE INSTRUMENTATION, SYSTEMS, AND AUTOMATION SOCIETY (ISA) STANDARD.

(+) WHEN USED, EXPLANATION IS SHOWN ADJACENT TO INSTRUMENT SYMBOL. SEE ABBREVIATIONS AND LETTER SYMBOLS.
 (*) WHEN USED, DEFINE THE MEANING HERE FOR THE PROJECT.

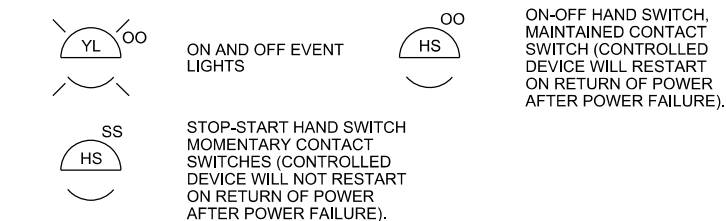
GENERAL INSTRUMENT OR FUNCTIONAL SYMBOLS



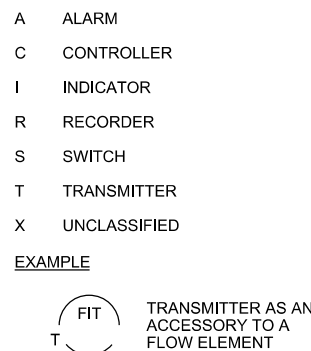
TRANSDUCERS



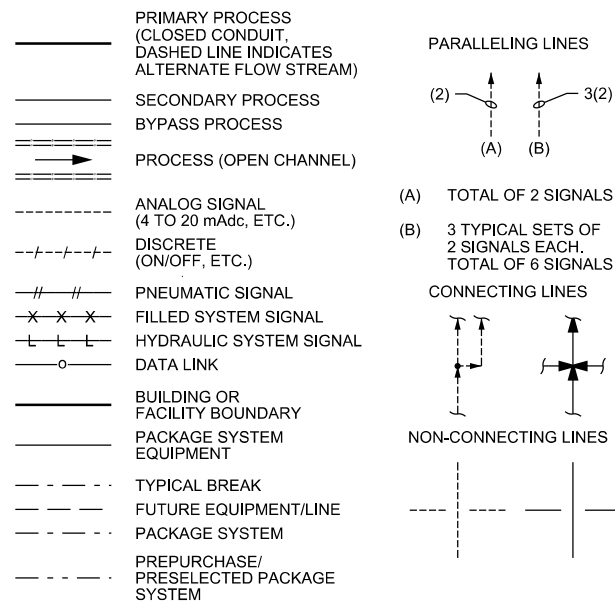
SPECIAL CASES



ACCESSORY DEVICES



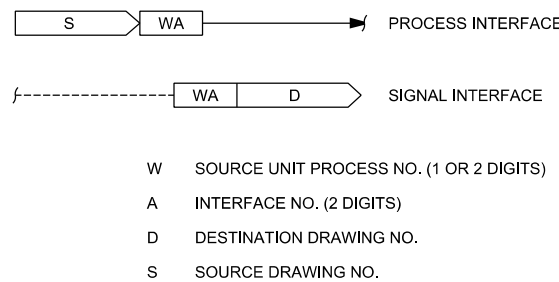
LINE LEGEND



ABBREVIATIONS & LETTER SYMBOLS

AC ALTERNATING CURRENT	OO ON-OFF	OOA ON-OFF-AUTO
AM AUTO-MANUAL	OOR ON-OFF-REMOTE	ORP OXIDATION REDUCTION POTENTIAL
CAM COMPUTER-AUTO-MANUAL	OSC OPEN-STOP-CLOSE	pH HYDROGEN ION CONCENTRATION
CCS CENTRAL CONTROL SYSTEM	PLC PROGRAMMABLE LOGIC CONTROLLER	RIO REMOTE I/O UNIT
CL ₂ etc. CHLORINE (TYPICAL: USE STANDARD CHEMICAL ELEMENT ABBREVIATIONS)	RM-X REMOTE MULTIPLEXING MODULE NO. X	RTU-X REMOTE TELEMETRY UNIT NO. X
CM COMPUTER-MANUAL	SF SLOWER-FASTER	SS START-STOP
COD CHEMICAL OXYGEN DEMAND	SSC SUPERVISORY SET POINT CONTROL	TCL ₂ TOTAL CHLORINE RESIDUAL
COND CONDUCTIVITY	TOD TOTAL ORGANIC CARBON	TOD TOTAL OXYGEN DEMAND
CP-X CONTROL PANEL NO. X	TURB TURBIDITY	VHC VOLATILE HYDROCARBONS
DC DIRECT CURRENT	VIB VIBRATION	WSC WEIGH SCALE
DCS DISTRIBUTED CONTROL SYSTEM	Δ DIFFERENCE	Σ SUM
DCU DISTRIBUTED CONTROL UNIT	x MULTIPLY	/ DIVIDE
DO DISSOLVED OXYGEN	F(X) CHARACTERIZED	X ⁿ RAISED TO THE Nth POWER
FCL ₂ FREE CHLORINE RESIDUAL	√ SQUARE ROOT	AVG AVERAGE
FAST-OFF-SLOW FAST-OFF-SLOW-AUTO	> 1:1 REPEAT OR BOOST	< SELECT HIGHEST SIGNAL
FAST-OFF-SLOW-REMOTE FAST-OFF-SLOW-REMOTE	> SELECT LOWEST SIGNAL	< BIAS
FP-W-X FIELD PANEL NO. WX (W=UNIT PROCESS NUMBER X=PROCESS NUMBER)	% GAIN OR ATTENUATE	
FR FORWARD-REVERSE		
HOA HAND-OFF-AUTO		
HOR HAND-OFF-REMOTE		
ISR INTRINSICALLY SAFE RELAY		
LEL LOWER EXPLOSIVE LIMIT		
LOS LOCKOUT STOP		
LR LOCAL-REMOTE		
MA MANUAL-AUTO		
MC MODULATE-CLOSE		
MCC-X MOTOR CONTROL CENTER NO. X		
MSC MANUFACTURER SUPPLIED CABLE		
OC OPEN-CLOSE(D)		
OCA OPEN-CLOSE-AUTO		
OCR OPEN-CLOSE-REMOTE		

INTERFACE SYMBOLS

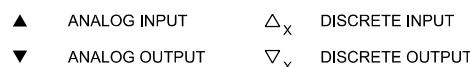


GENERAL NOTES

- COMPONENTS AND PANELS SHOWN WITH A SINGLE ASTERISK (*) ARE TO BE PROVIDED AS PART OF A PACKAGE SYSTEM.
- COMPONENTS AND PANELS SHOWN WITH A DOUBLE ASTERISK (**) ARE TO BE PROVIDED UNDER DIVISION 16, ELECTRICAL.
- THIS IS A STANDARD LEGEND. THEREFORE, NOT ALL OF THIS INFORMATION MAY BE USED ON THE PROJECT.
- EQUIPMENT SHOWN ON THE P&ID IS PRELIMINARY AND MAY CHANGE BASED ON DESIGN PARAMETERS DURING DETAILED DESIGN.
- THE NOTATION "SAME AS ABOVE" OR "SAME AS XXXX" DENOTE SIMILARITY OF EQUIPMENT AND/OR QUANTITY OF I/O SIGNALS WIRED TO PLC.
- THE FOLLOWING PROJECT-SPECIFIC ACRONYMS USED IN THE P&IDS ARE DEFINED AS:

ETA EMERGENCY TAILINGS AREA	CVD SIS CROSS VALLEY DAM SUBSURFACE INTERCEPTION SYSTEM
-----------------------------	---

DIGITAL SYSTEM INTERFACES



EQUIPMENT NUMBERING

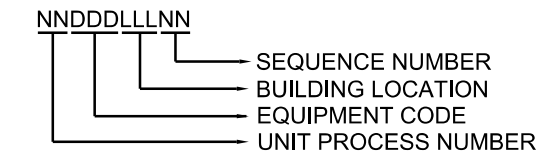


TABLE A:

NN	UNIT PROCESS NUMBERS
11	INFLUENT FLOW TO REACTORS B1 & B2
12	REACTOR B1
13	REACTOR B2
14	REACTOR A
15	THICKENER AND SLUDGE PUMPS
16	LIME SYSTEM WITH SLURRY PUMPS
17	AIR BLOWERS
18	POLYMER SYSTEM AND FEED PUMPS
19	PLANT PROCESS WATER PUMPS
19	PLANT SERVICE WATER PUMPS
20	MISCELLANEOUS
21	INFLUENT BOOSTER PUMPS IN PIT
22	AUX BOOSTER PUMPS FROM DAM TO PIT
23	PROCESS SUMP AND PUMPS
24	AIR COMPRESSORS
30	FILTER (FUTURE)

TABLE C:

LLL	PROCESS BUILDINGS
500	OVERALL TREATMENT FACILITY
510	WTP BUILDING
520	THICKENER BUILDING
530	LIME, GRIT, BOOSTER PUMP BUILDING
540	MAINTENANCE BUILDING

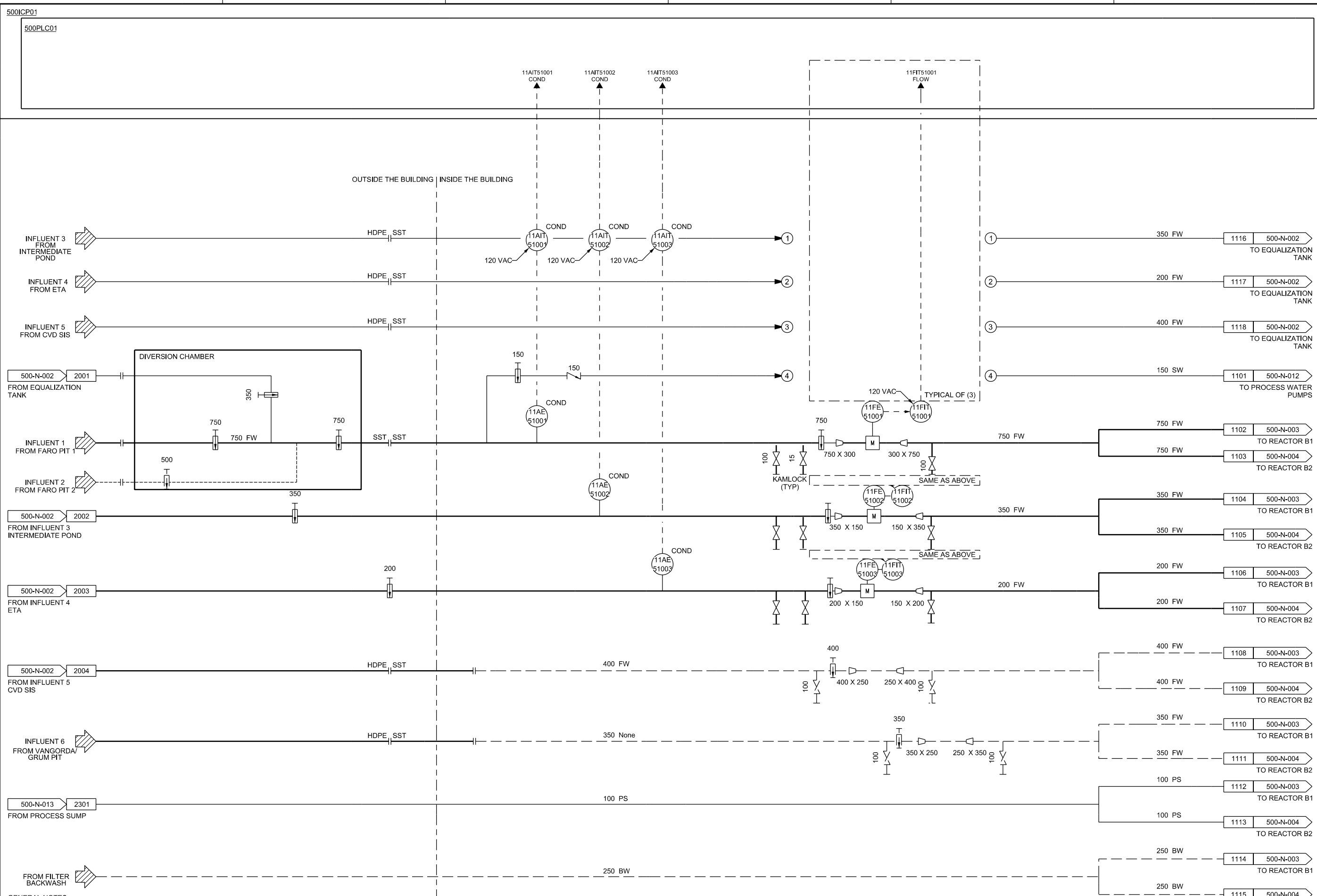
TABLE B:

DDD	EQUIPMENT CODE
ASD	ADJUSTABLE SPEED DEVICE
BLW	BLOWER
BIN	BIN
CMP	COMPRESSOR
CNV	CONVEYOR
CSD	CONSTANT SPEED DEVICE
DAR	DRY AIR RECEIVER
DRR	DRYER
FAN	FAN
FG	FEED GATE
FV	FLOW VALVE
FLT	FILTER
ICP	INSTRUMENT CONTROL PANEL
LCP	LOCAL CONTROL PANEL
MIX	MIXER
PLC	PROGRAMMABLE LOGIC CONTROLLER
PMP	PUMP
SCR	SCREEN
SLK	SLAKER
SOV	SOLENOID VALVE
SMP	SUMP
TKD	THICKENER DRIVE
TKR	THICKENER RAKE
TNK	TANK
UPS	UNINTERRUPTIBLE POWER SUPPLY
VFD	VARIABLE FREQUENCY DRIVE
VIB	VIBRATOR
VSR	VIBRATORY SCREEN

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 INSTRUMENTATION AND CONTROLS
 INSTRUMENTATION LEGEND
 AND GENERAL NOTES (1)

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DWG 500-GN-001
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GENERAL NOTES:
 1. PROVIDE 120 VAC UPS POWER TO ALL 4-WIRE INSTRUMENTS FROM PLC PANEL.



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B	02/2014	ISSUED FOR DETAIL DESIGN REVIEW	RA	GN
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DSGN			R. NATARAJAN	APVD
G NG			J. BOGDANIC	CHK

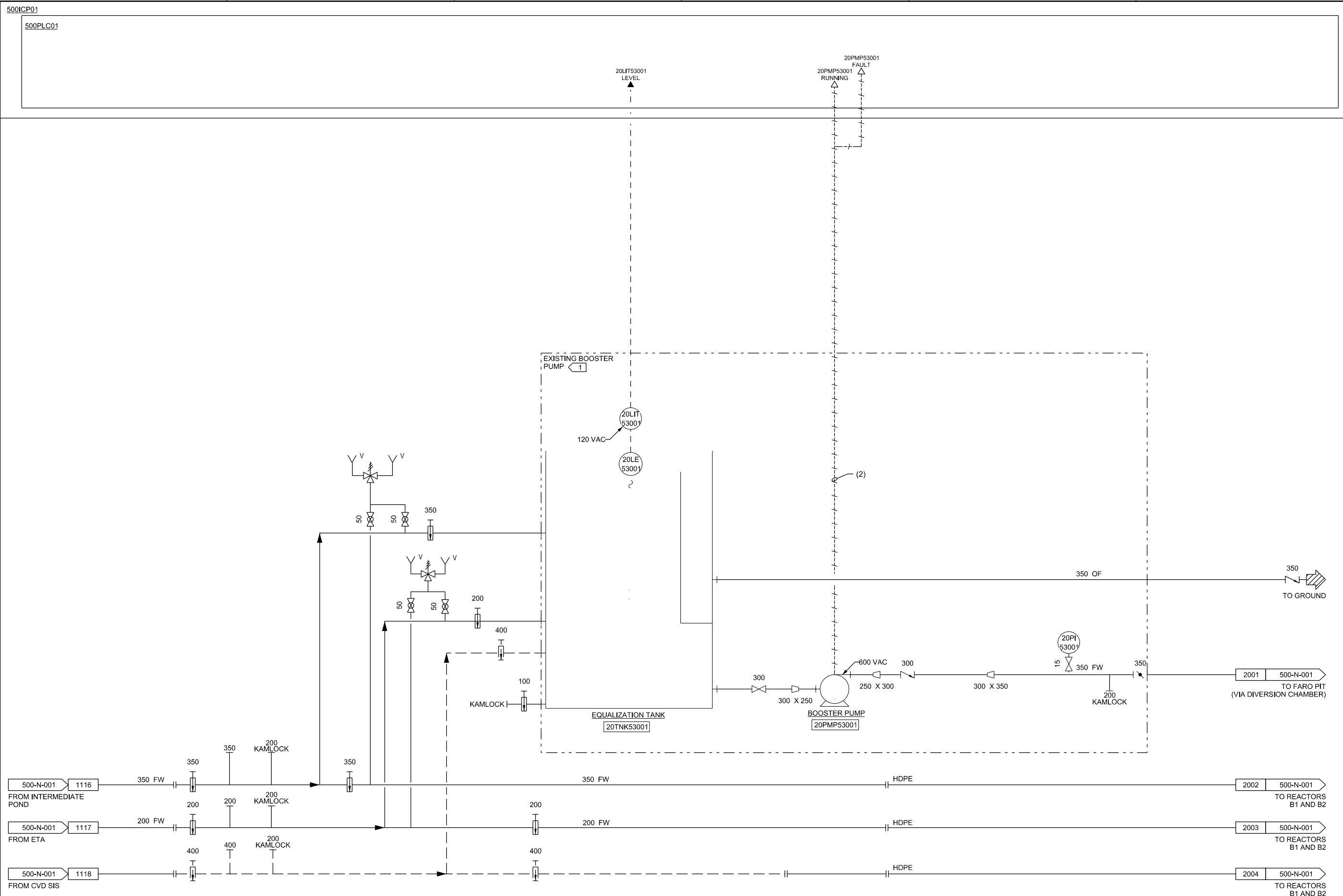
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FARO MINE REMEDIATION
 WATER TREATMENT PLANT DESIGN
 GOVERNMENT OF YUKON
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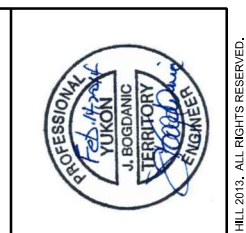
INSTRUMENTATION AND CONTROLS
UNIT PROCESS 11
INFLUENT TO REACTORS B1 AND B2
P&ID

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PROJ	TA013-427716
DWG	500-N-001
SHEET	SHEET_NO.



GENERAL NOTES:
 1. PROVIDE 120 VAC UPS POWER TO ALL 4-WIRE INSTRUMENTS FROM PLC PANEL.

KEY NOTES:
 1. BOOSTER PUMP IS A VENDOR PACKAGE WITH LOCAL OPERATION AND MONITORING AT PLC/SCADA.



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DSGN			R. NATARAJAN	CHK
			J. BOGDANIC	APVD
				GN

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 GOVERNMENT OF YUKON
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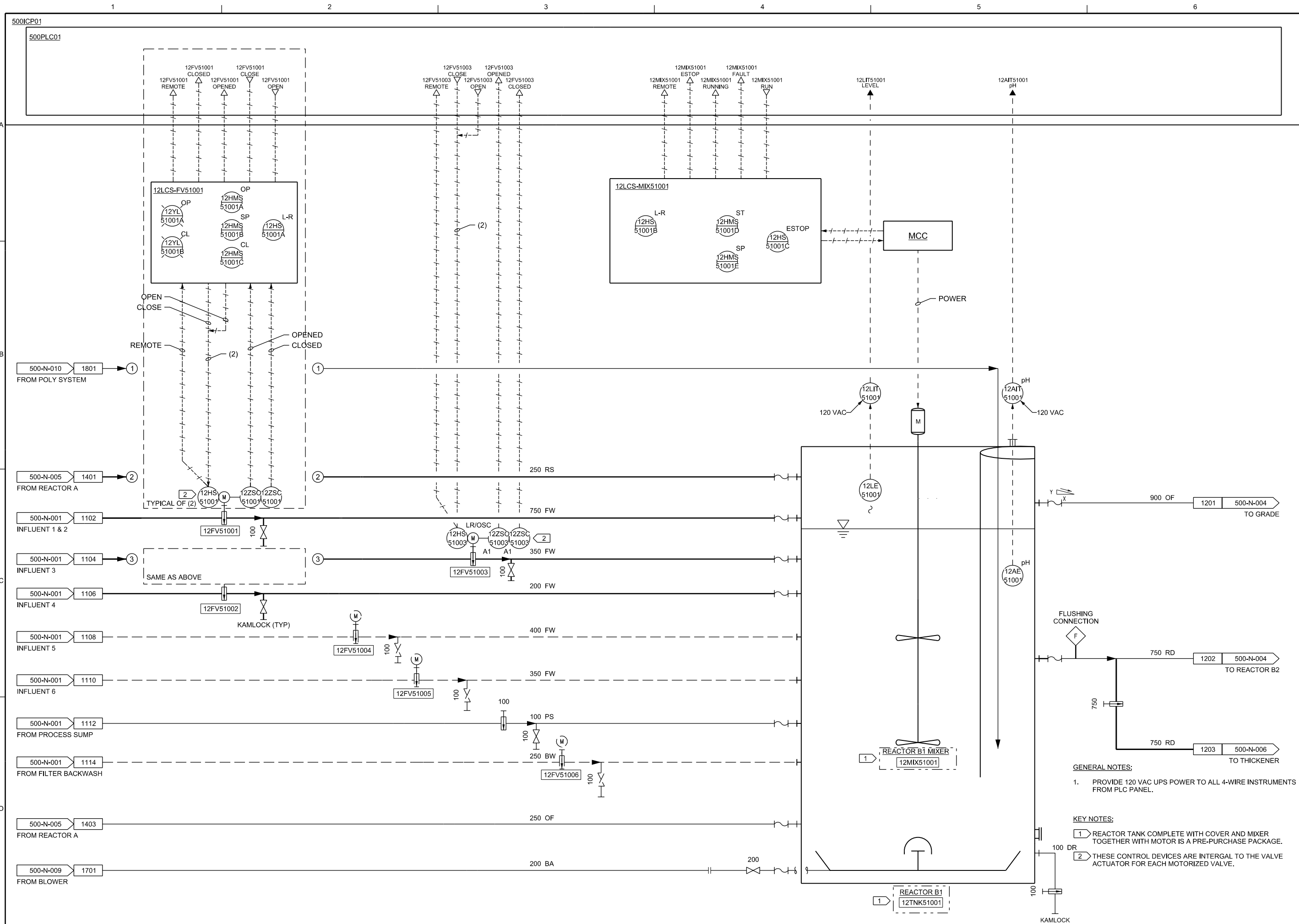
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INSTRUMENTATION AND CONTROLS
UNIT PROCESS 20
EQUALIZATION TANK & BOOSTER PUMP
 P&ID

NTS
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PROJ	TA013-427716
DWG	500-N-002
SHEET	

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A	09/2013				
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				JM	GN

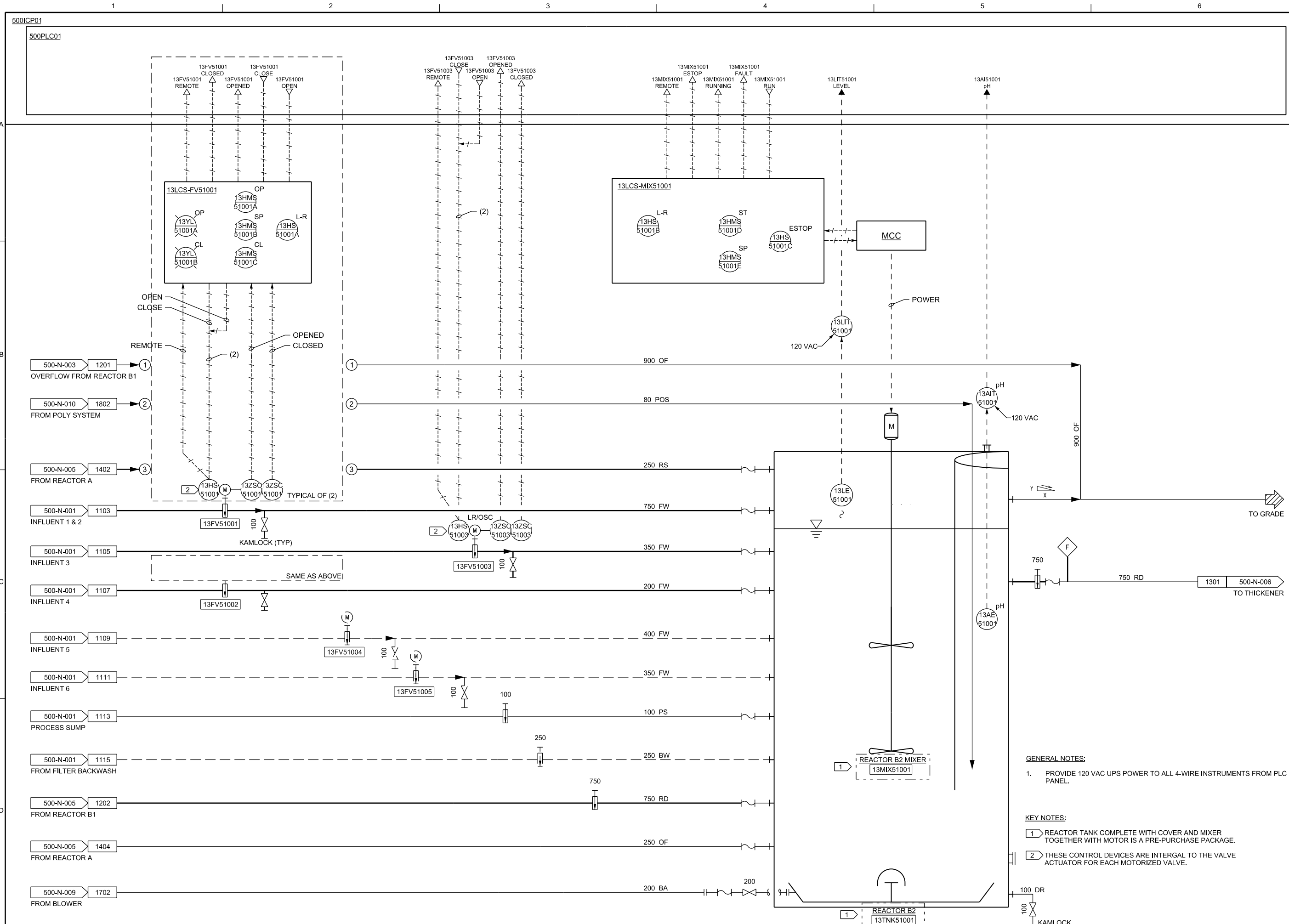
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DESIGN

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**UNIT PROCESS 12
REACTOR B1
P&ID**

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PROJ	TA013-427716
DWG	500-N-003
SHEET	SHEET_NO.



GENERAL NOTES:
 1. PROVIDE 120 VAC UPS POWER TO ALL 4-WIRE INSTRUMENTS FROM PLC PANEL.

KEY NOTES:
 1 REACTOR TANK COMPLETE WITH COVER AND MIXER TOGETHER WITH MOTOR IS A PRE-PURCHASE PACKAGE.
 2 THESE CONTROL DEVICES ARE INTERGAL TO THE VALVE ACTUATOR FOR EACH MOTORIZED VALVE.



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DR	J. A. MENDOZA	CHK	J. BOGDANIC	APVD	GN
DSGN	R. NATARAJAN	CHK	J. BOGDANIC	APVD	GN

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FARO MINE REMEDIATION
 WATER TREATMENT PLANT DESIGN
 GOVERNMENT OF YUKON
 DESIGN

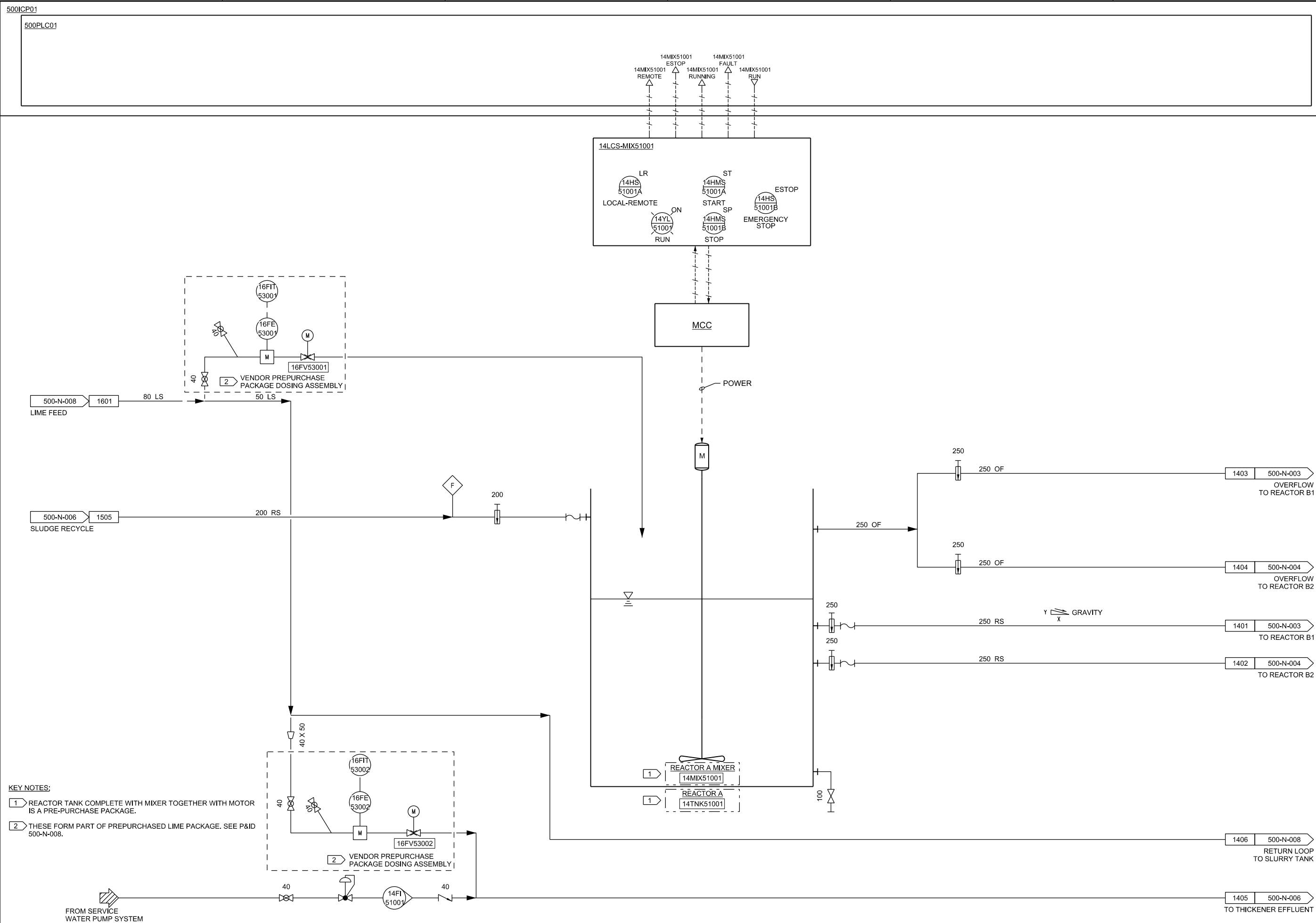
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 UNIT PROCESS 13
 REACTOR B2
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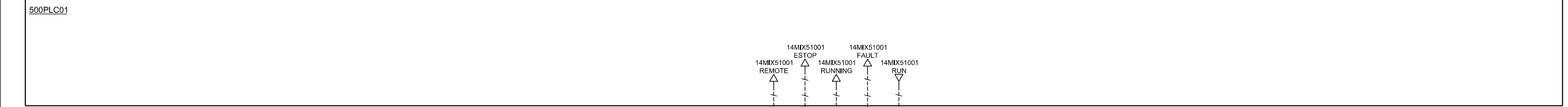
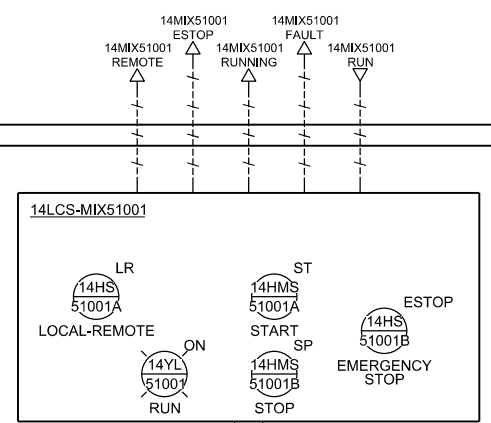
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KEY NOTES:

1 REACTOR TANK COMPLETE WITH MIXER TOGETHER WITH MOTOR IS A PRE-PURCHASE PACKAGE.

2 THESE FORM PART OF PREPURCHASED LIME PACKAGE. SEE P&ID 500-N-008.



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DSGN		CHK	R. NATARAJAN	APVD
GN			J. BOGDANIC	GN

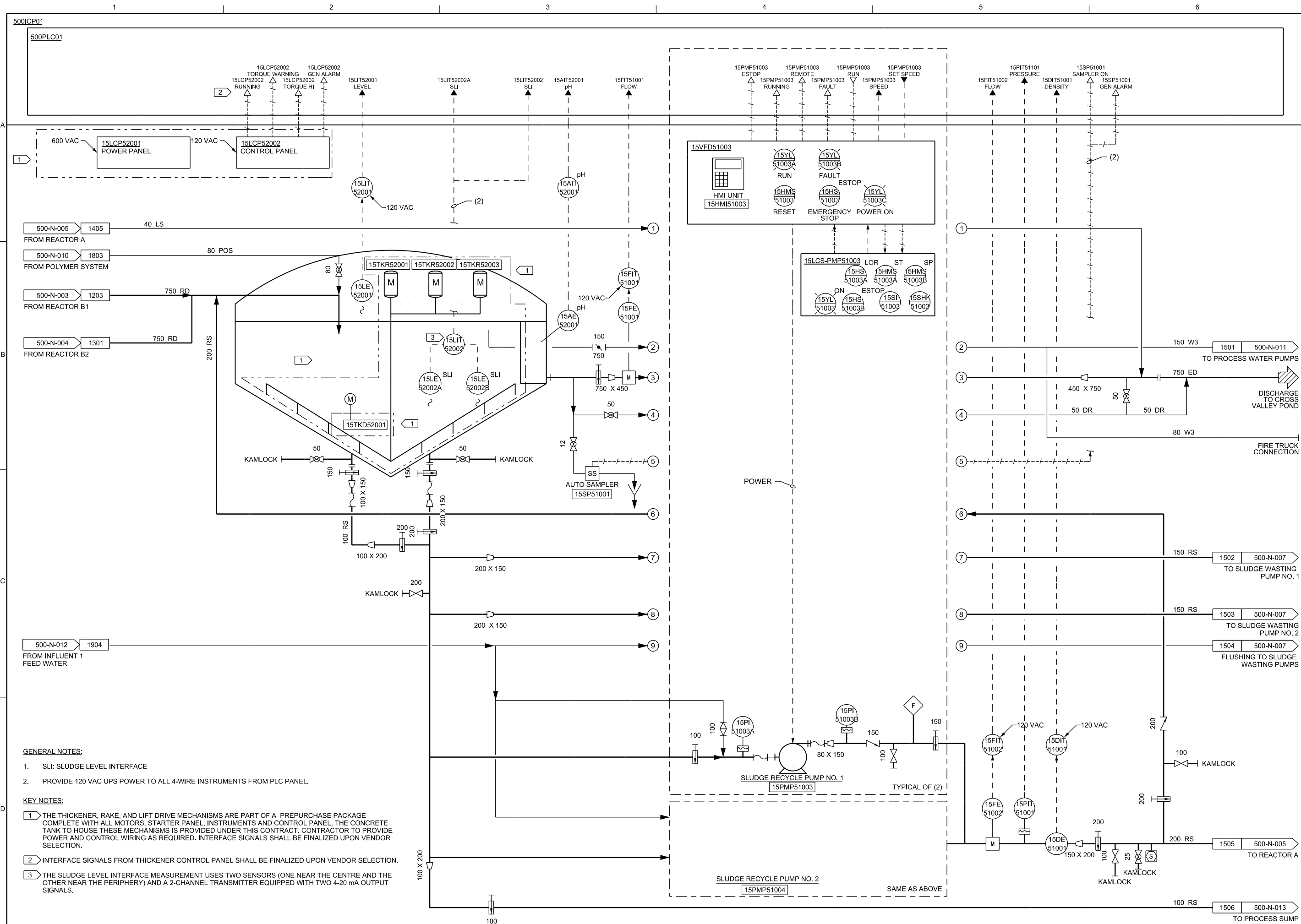
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INSTRUMENTATION AND CONTROLS
**UNIT PROCESS 14
REACTOR A
P&ID**

NTS	
VERIFY SCALE	
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DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	500-N-005
SHEET	SHEET_NO.



GENERAL NOTES:

1. SLI: SLUDGE LEVEL INTERFACE
2. PROVIDE 120 VAC UPS POWER TO ALL 4-WIRE INSTRUMENTS FROM PLC PANEL.

KEY NOTES:

- 1 THE THICKENER, RAKE, AND LIFT DRIVE MECHANISMS ARE PART OF A PREPURCHASE PACKAGE COMPLETE WITH ALL MOTORS, STARTER PANEL, INSTRUMENTS AND CONTROL PANEL. THE CONCRETE TANK TO HOUSE THESE MECHANISMS IS PROVIDED UNDER THIS CONTRACT. CONTRACTOR TO PROVIDE POWER AND CONTROL WIRING AS REQUIRED. INTERFACE SIGNALS SHALL BE FINALIZED UPON VENDOR SELECTION.
- 2 INTERFACE SIGNALS FROM THICKENER CONTROL PANEL SHALL BE FINALIZED UPON VENDOR SELECTION.
- 3 THE SLUDGE LEVEL INTERFACE MEASUREMENT USES TWO SENSORS (ONE NEAR THE CENTRE AND THE OTHER NEAR THE PERIPHERY) AND A 2-CHANNEL TRANSMITTER EQUIPPED WITH TWO 4-20 mA OUTPUT SIGNALS.



ISSUED FOR DETAIL DESIGN REVIEW	GN	J. BOGDANIC	CHK	J.A. MENDOZA	DR	R. NATARAJAN	DGN
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NO. DATE	NO.	DATE	NO.	DATE	NO.	DATE	NO.
B 02/2014	A	09/2013					

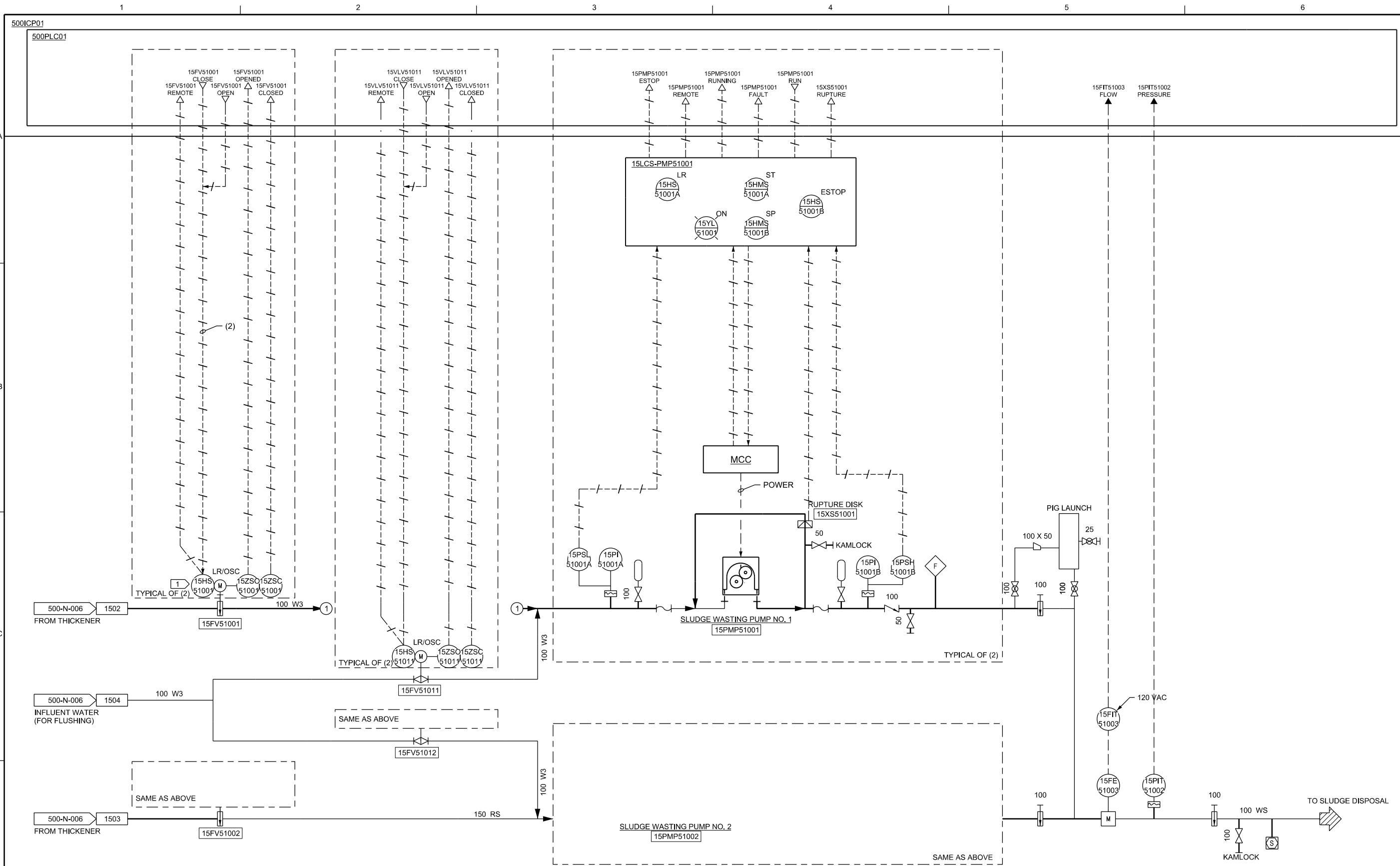
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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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INSTRUMENTATION AND CONTROLS
UNIT PROCESS 15
THICKENER AND SLUDGE RECYCLING
P&ID

NTS	VERIFY SCALE
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DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	500-N-006
SHEET	SHEET_NO.



- GENERAL NOTES:**
- PROVIDE 120 VAC UPS POWER TO ALL 4-WIRE INSTRUMENTS FROM PLC PANEL.
- KEY NOTES:**
- THESE CONTROL DEVICES ARE INTERGAL TO THE VALVE ACTUATOR FOR EACH MOTORIZED VALVE.



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DSGN		DR	R. NATARAJAN	APVD
				GN

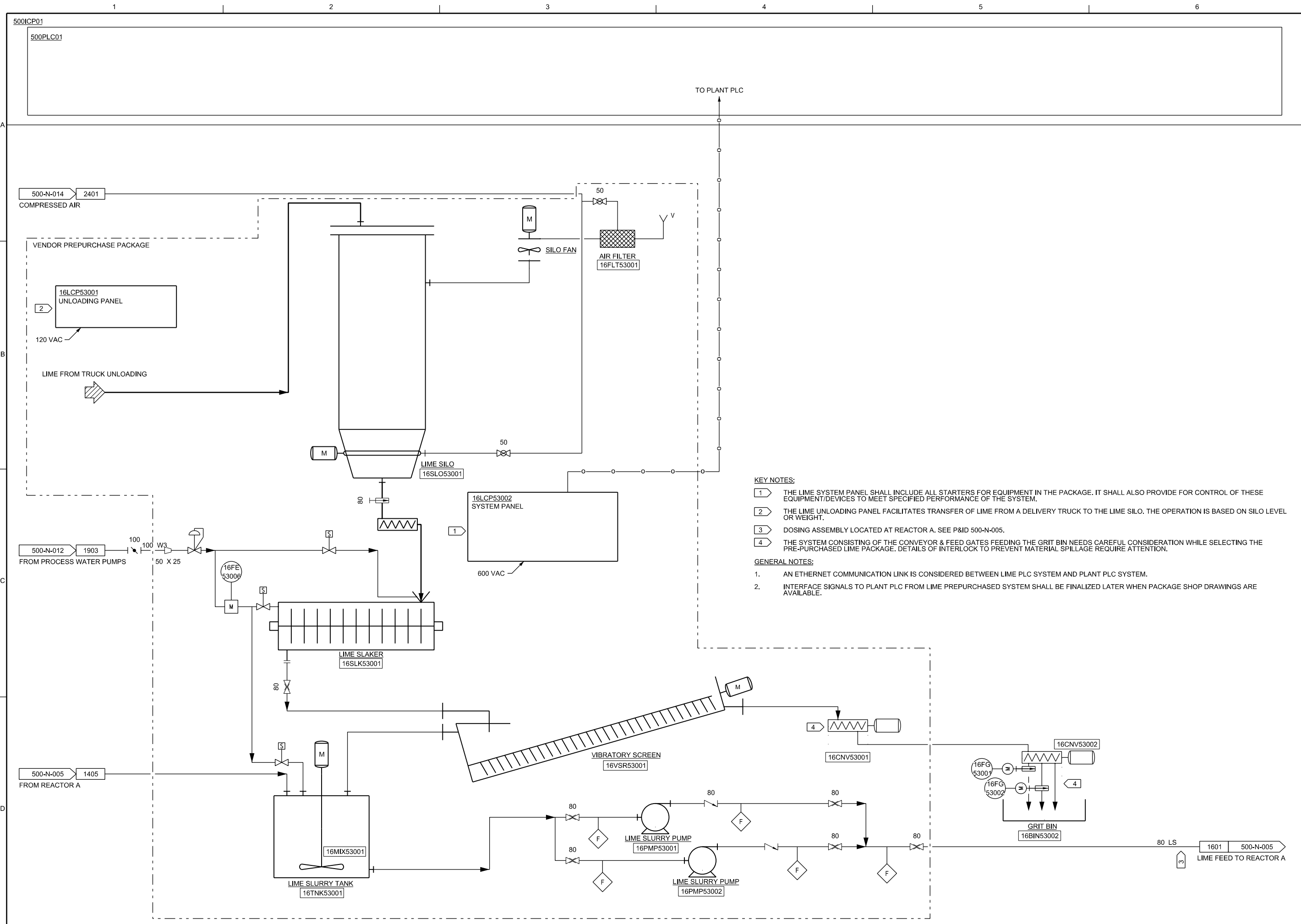
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INSTRUMENTATION AND CONTROLS
UNIT PROCESS 15
THICKENER SLUDGE WASTING PUMPS
P&ID

NTS	
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DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	500-N-007
SHEET	SHEET_NO.



- KEY NOTES:**
- 1 THE LIME SYSTEM PANEL SHALL INCLUDE ALL STARTERS FOR EQUIPMENT IN THE PACKAGE. IT SHALL ALSO PROVIDE FOR CONTROL OF THESE EQUIPMENT/DEVICES TO MEET SPECIFIED PERFORMANCE OF THE SYSTEM.
 - 2 THE LIME UNLOADING PANEL FACILITATES TRANSFER OF LIME FROM A DELIVERY TRUCK TO THE LIME SILO. THE OPERATION IS BASED ON SILO LEVEL OR WEIGHT.
 - 3 DOSING ASSEMBLY LOCATED AT REACTOR A. SEE P&ID 500-N-005.
 - 4 THE SYSTEM CONSISTING OF THE CONVEYOR & FEED GATES FEEDING THE GRIT BIN NEEDS CAREFUL CONSIDERATION WHILE SELECTING THE PRE-PURCHASED LIME PACKAGE. DETAILS OF INTERLOCK TO PREVENT MATERIAL SPILLAGE REQUIRE ATTENTION.
- GENERAL NOTES:**
- 1. AN ETHERNET COMMUNICATION LINK IS CONSIDERED BETWEEN LIME PLC SYSTEM AND PLANT PLC SYSTEM.
 - 2. INTERFACE SIGNALS TO PLANT PLC FROM LIME PREPURCHASED SYSTEM SHALL BE FINALIZED LATER WHEN PACKAGE SHOP DRAWINGS ARE AVAILABLE.



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DSGN			R. NATARAJAN	APVD

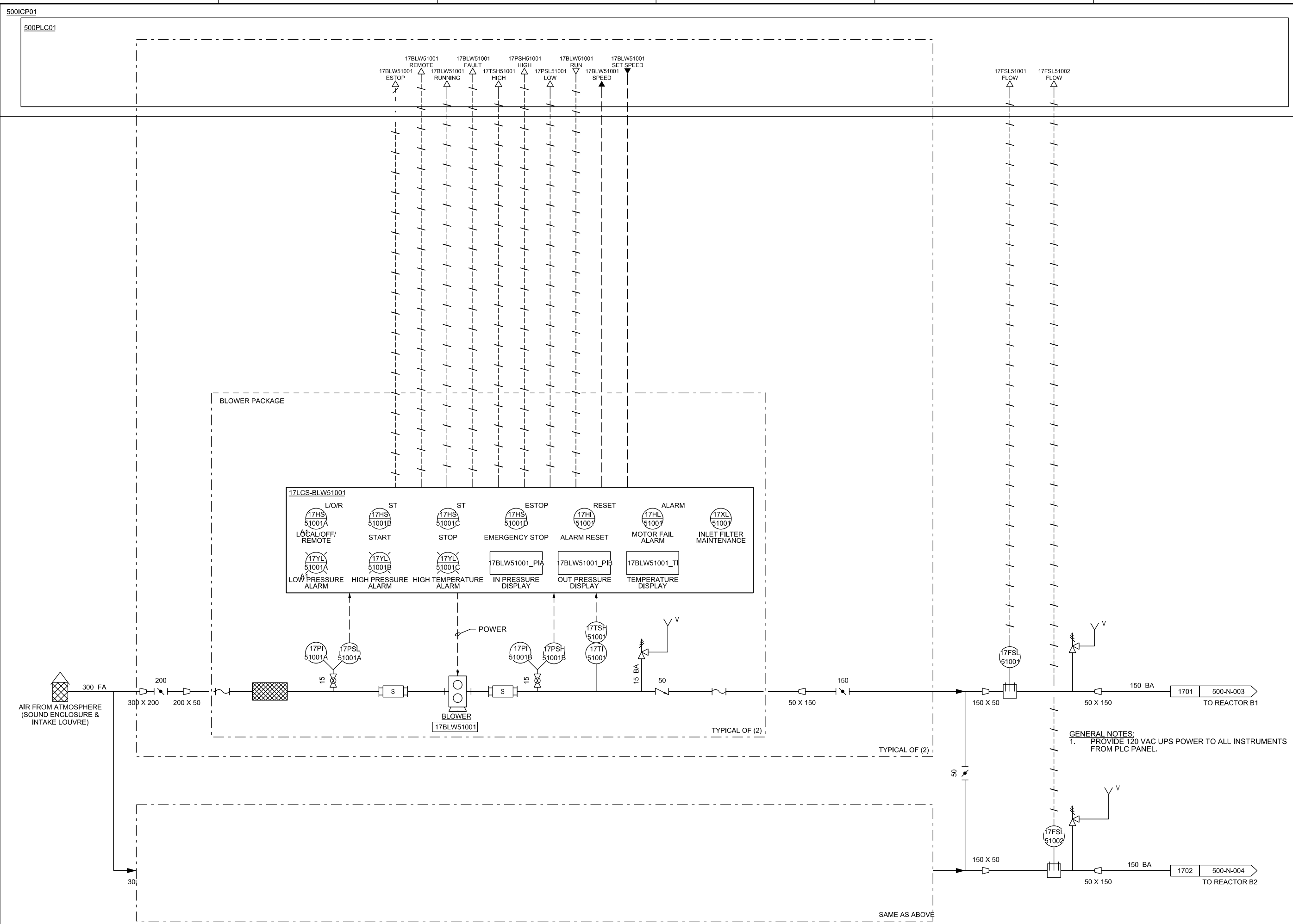
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FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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INSTRUMENTATION AND CONTROLS
**UNIT PROCESS 16
LIME SYSTEM
P&ID**

NTS	
VERIFY SCALE	
BAR IS 25mm ON ORIGINAL DRAWING.	
DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	500-N-008
SHEET	SHEET_NO.



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B	01/2014	ISSUED FOR DETAIL DESIGN REVIEW	RA	GN
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DR		REVISION	BY	APVD
DSGN		CHK	J.A. MENDOZA	J. BOGDANIC
		DR	R. NATARAJAN	
				GN

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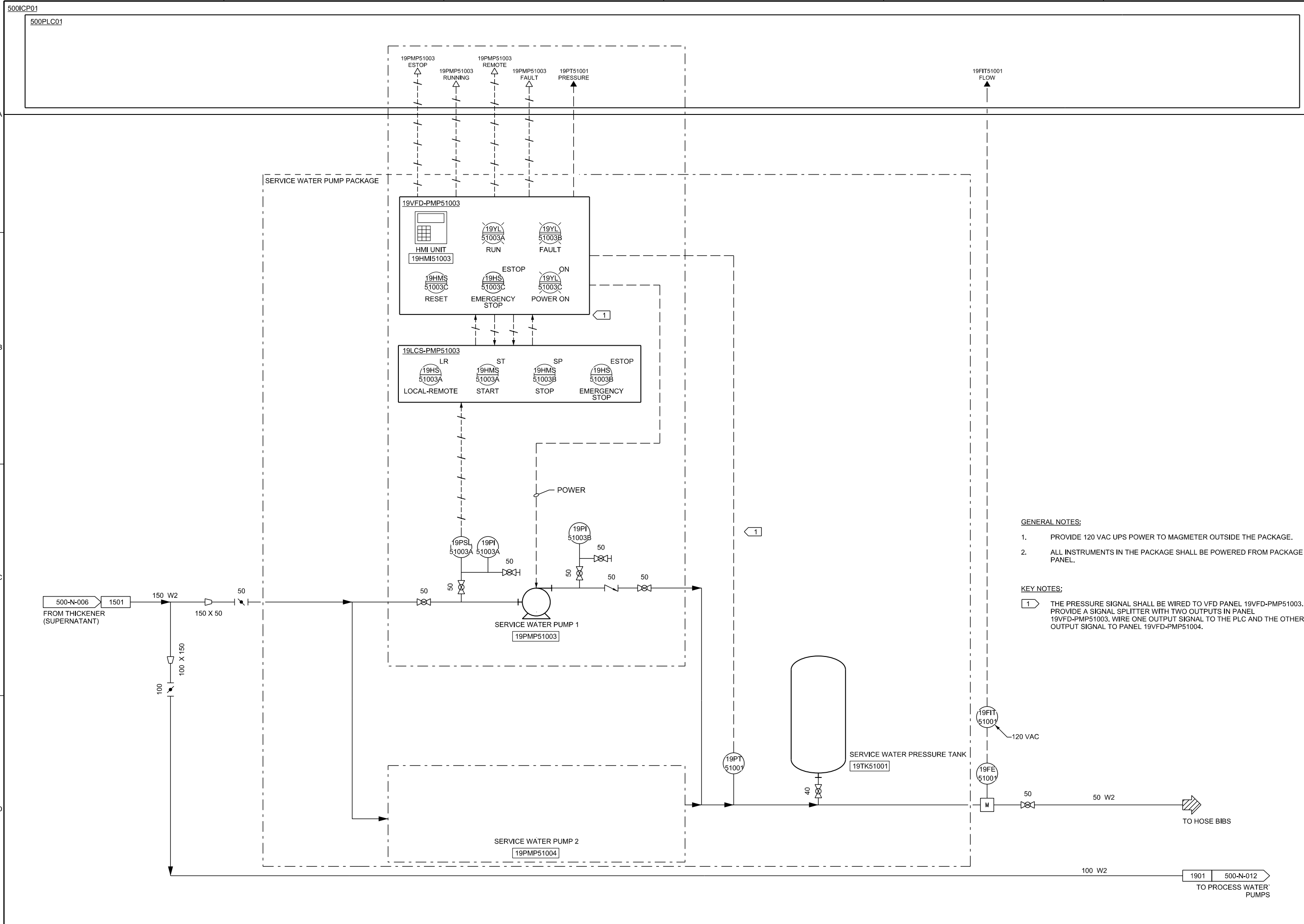
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WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
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**UNIT PROCESS 17
AIR BLOWERS
P&ID**

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PROJ	TA013-427716
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- GENERAL NOTES:**
1. PROVIDE 120 VAC UPS POWER TO MAGMETER OUTSIDE THE PACKAGE.
 2. ALL INSTRUMENTS IN THE PACKAGE SHALL BE POWERED FROM PACKAGE PANEL.
- KEY NOTES:**
- 1 THE PRESSURE SIGNAL SHALL BE WIRED TO VFD PANEL 19VFD-PMP51003. PROVIDE A SIGNAL SPLITTER WITH TWO OUTPUTS IN PANEL 19VFD-PMP51003. WIRE ONE OUTPUT SIGNAL TO THE PLC AND THE OTHER OUTPUT SIGNAL TO PANEL 19VFD-PMP51004.



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DSGN			R. NATARAJAN	APVD
			J. BOGDANIC	CHK
				GN

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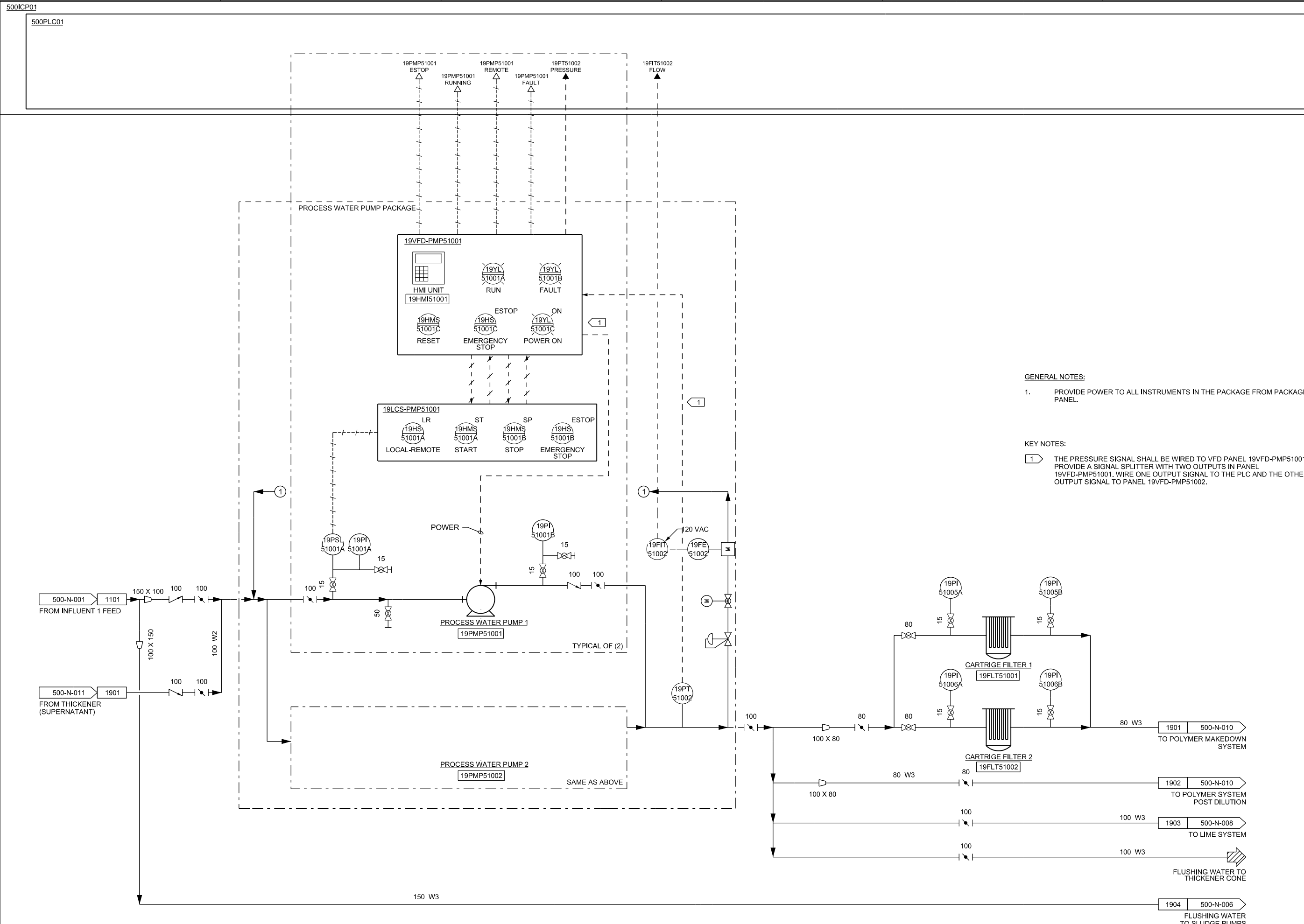
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WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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UNIT PROCESS 19
PLANT SERVICE WATER PUMPS
P&ID

NTS
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25mm

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DWG 500-N-011
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- GENERAL NOTES:**
- PROVIDE POWER TO ALL INSTRUMENTS IN THE PACKAGE FROM PACKAGE PANEL.
- KEY NOTES:**
- THE PRESSURE SIGNAL SHALL BE WIRED TO VFD PANEL 19VFD-PMP51001. PROVIDE A SIGNAL SPLITTER WITH TWO OUTPUTS IN PANEL 19VFD-PMP51001. WIRE ONE OUTPUT SIGNAL TO THE PLC AND THE OTHER OUTPUT SIGNAL TO PANEL 19VFD-PMP51002.



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B	02/2014	RA	GN		
A	09/2013	JM	GN		
NO.	DATE	BY	CHK	APVD	GN
D		R. NATARAJAN	J.A. MENDOZA	J. BOGDANIC	
DR					
DSGN					

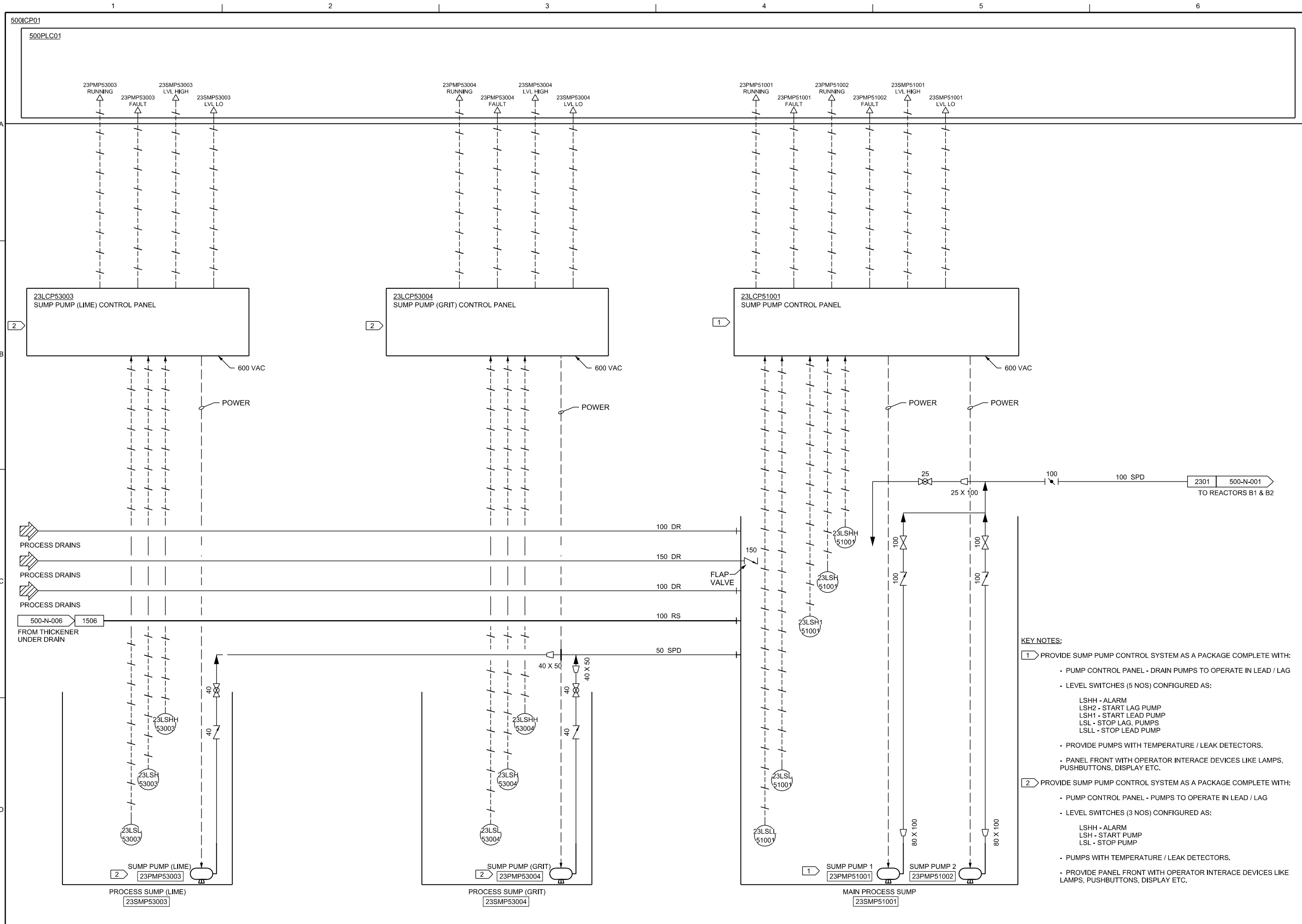
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WATER TREATMENT PLANT DESIGN
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INSTRUMENTATION AND CONTROLS
UNIT PROCESS 19
PLANT PROCESS WATER
P&ID

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SHEET	SHEET_NO.



- KEY NOTES:**
- 1) PROVIDE SUMP PUMP CONTROL SYSTEM AS A PACKAGE COMPLETE WITH:
 - PUMP CONTROL PANEL - DRAIN PUMPS TO OPERATE IN LEAD / LAG
 - LEVEL SWITCHES (5 NOS) CONFIGURED AS:
 - LSHH - ALARM
 - LSH2 - START LAG PUMP
 - LSH1 - START LEAD PUMP
 - LSL - STOP LAG, PUMPS
 - LSLL - STOP LEAD PUMP
 - PROVIDE PUMPS WITH TEMPERATURE / LEAK DETECTORS.
 - PANEL FRONT WITH OPERATOR INTERACE DEVICES LIKE LAMPS, PUSHBUTTONS, DISPLAY ETC.
 - 2) PROVIDE SUMP PUMP CONTROL SYSTEM AS A PACKAGE COMPLETE WITH:
 - PUMP CONTROL PANEL - PUMPS TO OPERATE IN LEAD / LAG
 - LEVEL SWITCHES (3 NOS) CONFIGURED AS:
 - LSHH - ALARM
 - LSH - START PUMP
 - LSL - STOP PUMP
 - PUMPS WITH TEMPERATURE / LEAK DETECTORS.
 - PROVIDE PANEL FRONT WITH OPERATOR INTERACE DEVICES LIKE LAMPS, PUSHBUTTONS, DISPLAY ETC.

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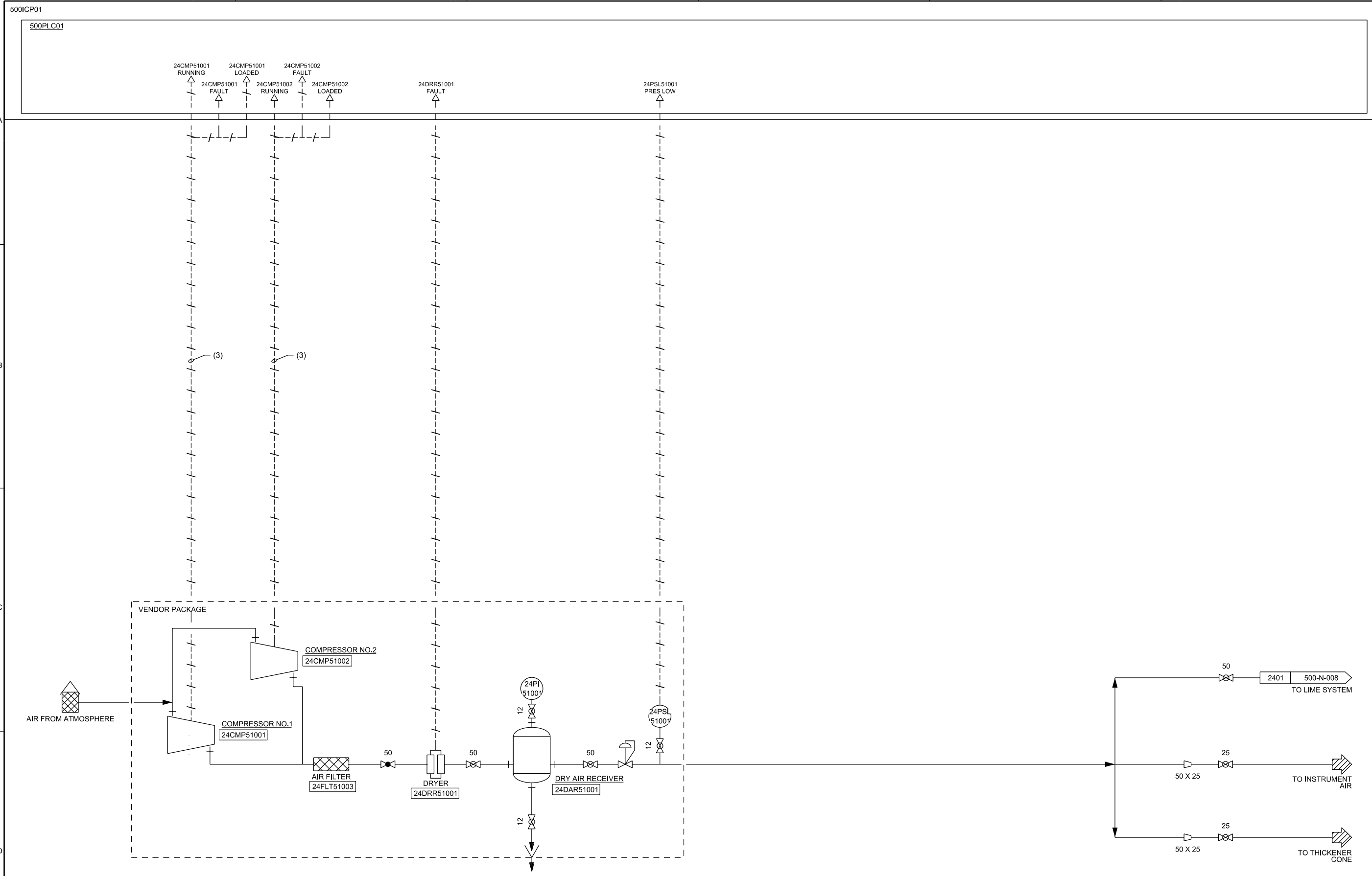
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WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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INSTRUMENTATION AND CONTROL
UNIT PROCESS 23
PROCESS SUMP - MISCELLANEOUS
P&ID

NTS	
VERIFY SCALE	
BAR IS 25mm ON ORIGINAL DRAWING.	
25mm	
DATE	FEBRUARY 2014
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DWG	500-N-013
SHEET	SHEET_NO.

R. NATARAJAN		J. A. MENDOZA		J. BOGDANIC		G. NG	
DR	CHK	APVD					
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DGSN		NO.		DATE		BY	
				APVD		G. NG	





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				GN

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WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

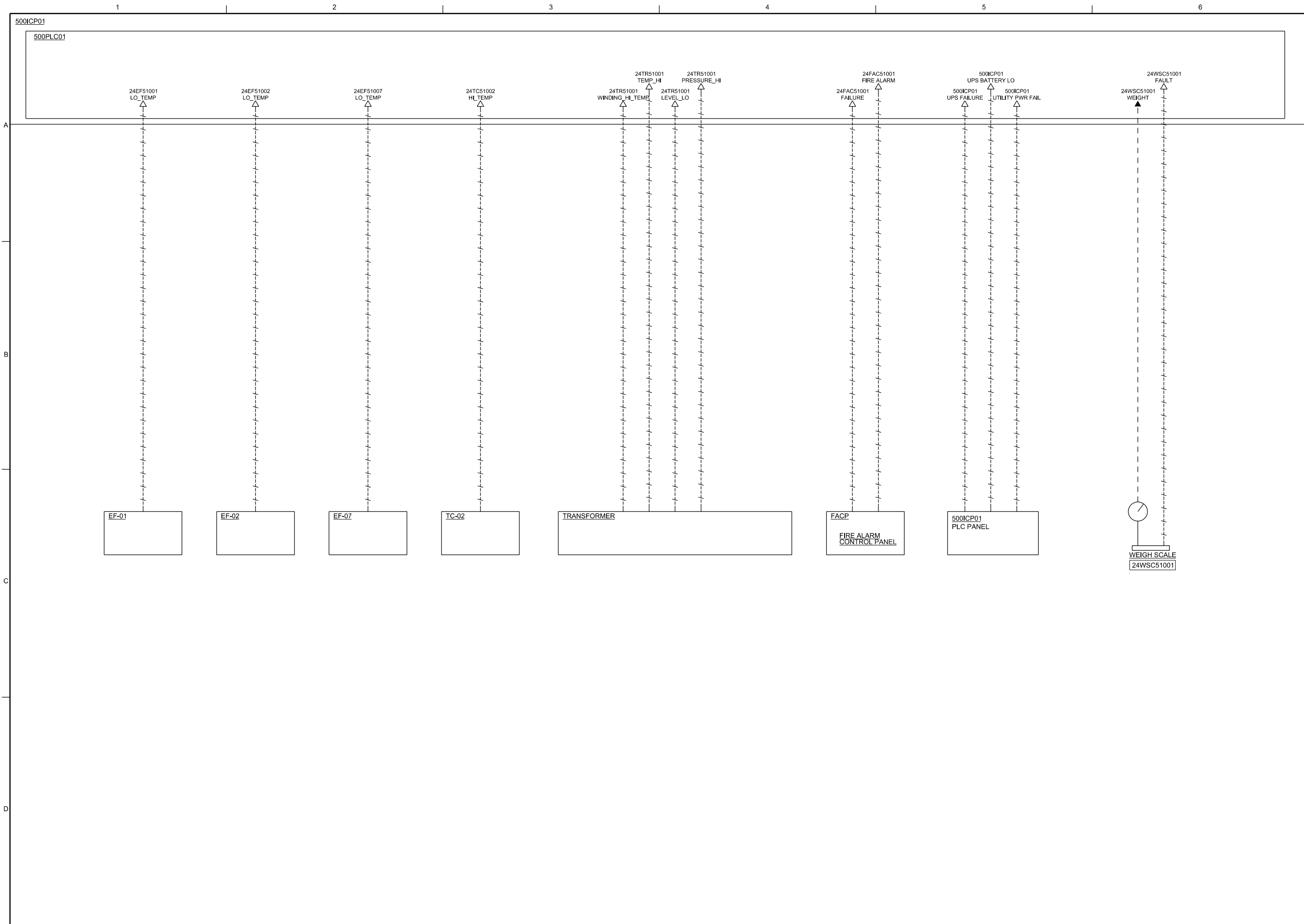
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UNIT PROCESS 24
AIR COMPRESSORS
P&ID

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NO.		REVISION		BY
DGN		R. NATARAJAN		J.A. MENDOZA
		DR		J. BOGDANIC
				CHK
				APVD
				GN
				GN
				BY
				APVD
				GN

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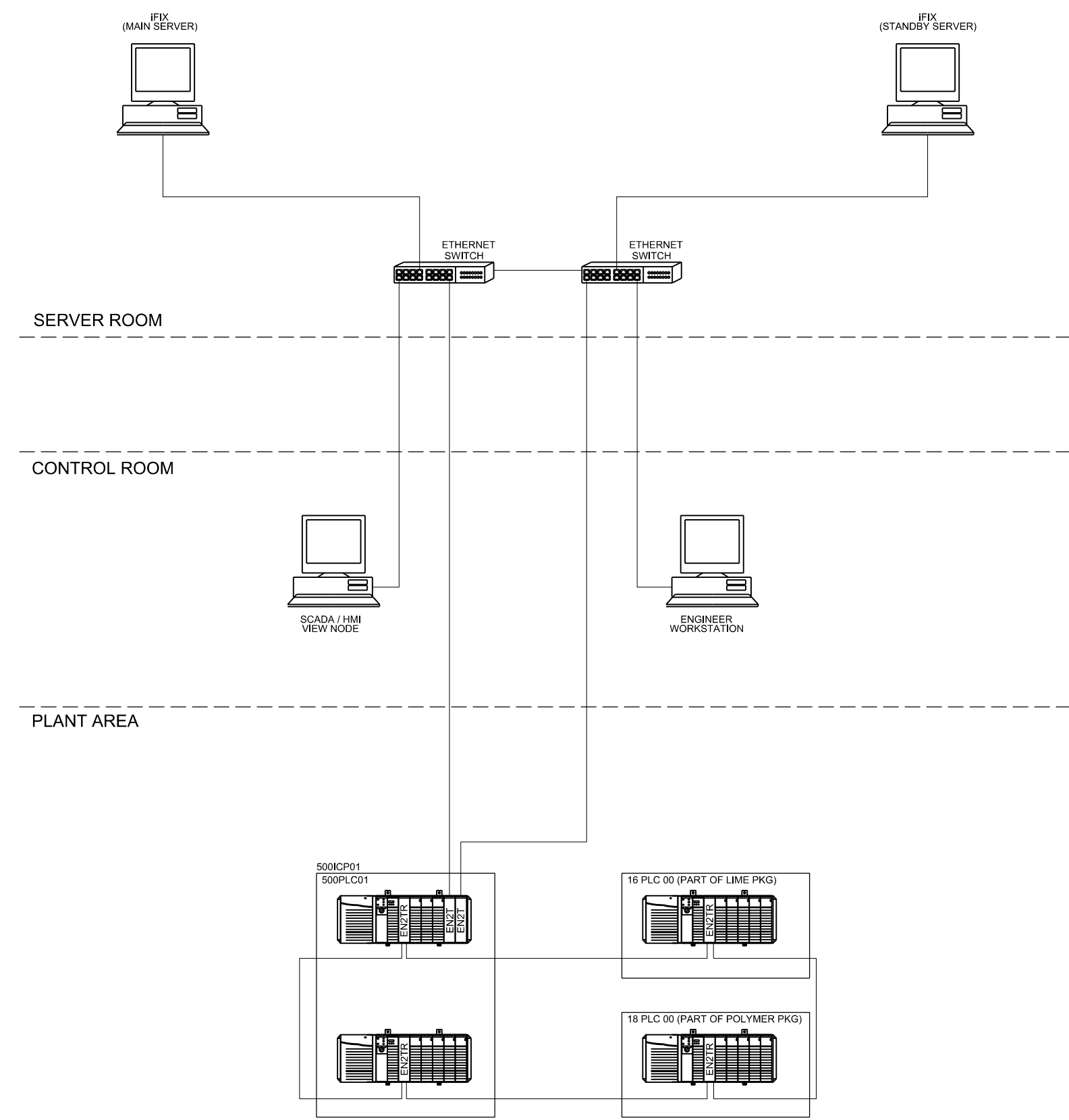
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WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

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INSTRUMENTATION AND CONTROLS
MISCELLANEOUS SIGNALS P&ID

NTS
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0 25mm

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DWG 500-N-015
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GENERAL NOTES:

1. SCADA SYSTEM SHALL BE BASED ON THE IFIX PLATFORM COMPRISING OF A PRIMARY IFIX SERVER AND A SECONDARY HOT STANBY SERVER, WITH AUTO FAILOVER FEATURE.
2. THE TWO SERVERS SHALL HAVE HISTORIAN ON THEM.
3. SERVER HARDWARE WITH THE HISTORIAN WILL BE PLACED IN THE SERVER ROOM WITH SUITABLE UPS BACK UP.
4. THE CONTROL ROOM SHALL HOUSE THE IFIX CLIENT NODES WITH ONE ACTING AS A VIEW NODE FOR RUN TIME APPLICATIONS AND THE OTHER TO ACT AS EWS FOR DEVELOPMENT APPLICATIONS AND A VIEW NODE.
5. ALL THE FOUR IFIX WORKSTATIONS SHALL BE DELL OPTIPLEX 780 SERIES (LATEST MODEL), ALL WORKSTATIONS SHALL BE PRELOADED WITH IFIX SOFTWARE IN ITS LATEST VERSION.
6. THE SCADA SERVERS AND THE VIEW NODES SHALL BE NETWORKED OVER ETHERNET AND THE PLANT LEVEL PLCs AND THE REMOTE I/O SHALL BE NETWORKED OVER DLR-ETHERNET AND BRIDGED INTO THE ETHERNET.
7. PROVIDE MICROSOFT OFFICE PROFESSIONAL (LATEST VERSION) AND ASSOCIATED SOFTWARE LICENSES ON SCADA/HMI VIEW NODES AND ENGINEERING WORKSTATION.
8. PROVIDE ANTIVIRUS SOFTWARE ON ALL FOUR WORKSTATIONS.
9. BASED ON CURRENT LAYOUT/DISTANCE CRITERIA, COPPER IS CHOSEN AS THE MEDIUM FOR COMMUNICATIONS CABLE.
10. REFER SECTION 40 91 00, 40 99 00 FOR MORE DETAILS ON PLC PANELS, WORK STATION MOUNTING FURNITURE IN CONTROL ROOM/SERVER ROOM.



ISSUED FOR DETAIL DESIGN REVIEW	RA	GN
ISSUED FOR ADVANCED DESIGN REVIEW	JM	GN
REVISION	BY	APVD
NO.	DATE	DR
DSGN	R. NATARAJAN	J.A. MENDOZA
		J. BOGDANIC
		CHK
		APVD
		GN

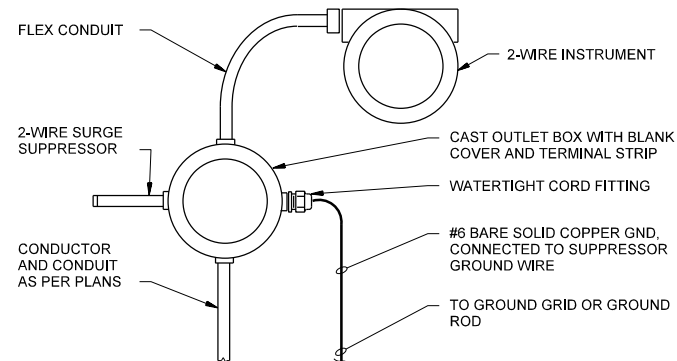
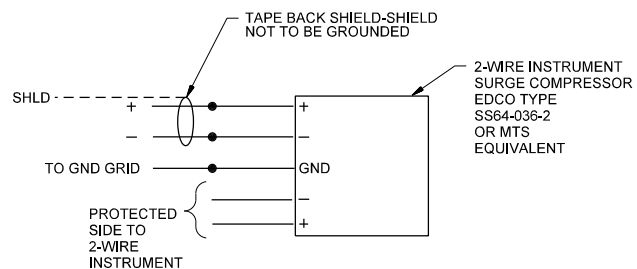
90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®

INSTRUMENTATION AND CONTROLS
SCADA BLOCK DIAGRAM

NTS	
VERIFY SCALE	
BAR IS 25mm ON ORIGINAL DRAWINGS.	
DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	500-N-020
SHEET	SHEET_NO.

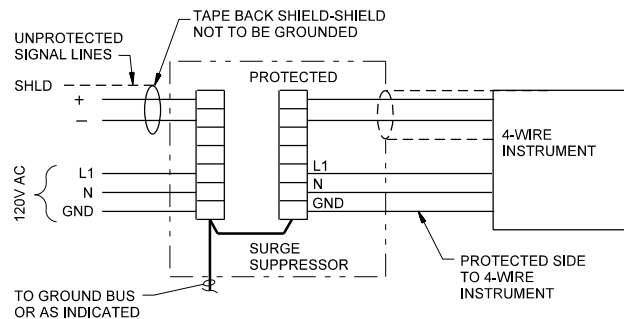


NOTES:

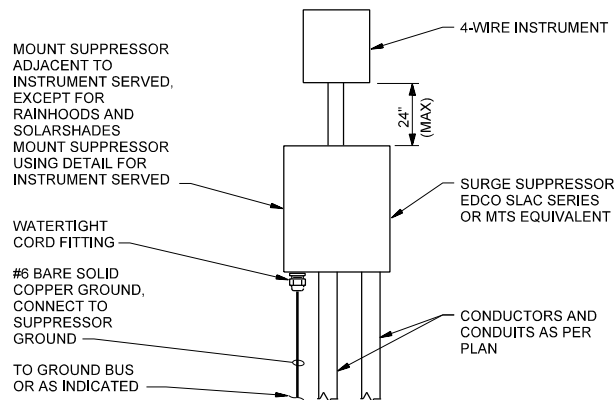
1. PROVIDE SURGE ARRESTOR AT FIELD SIDE AND IN PANEL IF SPECIFIED IN THE DEVICE LIST.
2. PROVIDE SIGNAL ISOLATORS FOR ANALOG INPUT, AS REQUIRED.

TYPE "A" SURGE SUPPRESSOR INSTALLATION 4-WIRE INSTRUMENT

1 NTS



WIRING DIAGRAM

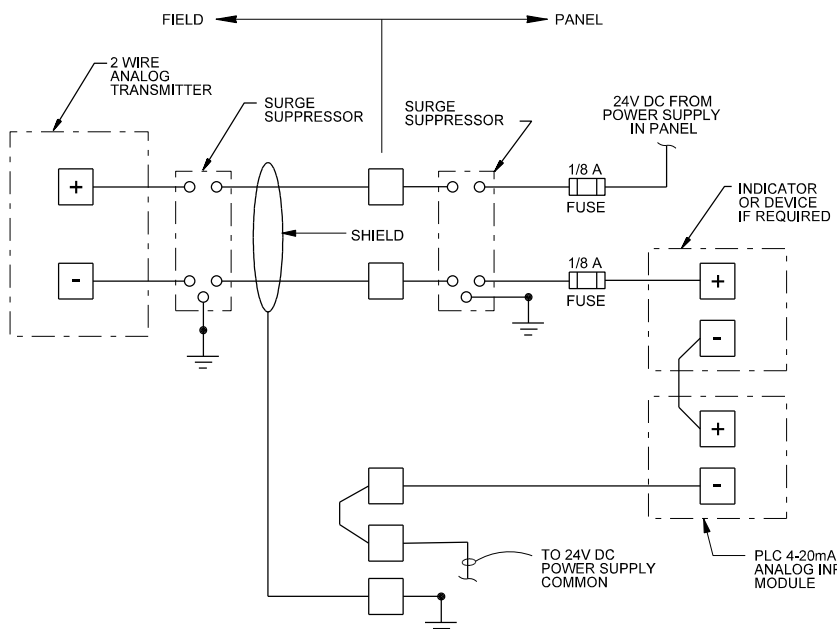


NOTES:

1. PROVIDE SURGE ARRESTOR AT FIELD SIDE AND IN PANEL IF SPECIFIED IN THE DEVICE LIST.
2. PROVIDE SIGNAL ISOLATORS FOR ANALOG INPUT, AS REQUIRED.

TYPE "B" SURGE SUPPRESSOR INSTALLATION 4-WIRE INSTRUMENT

2 NTS

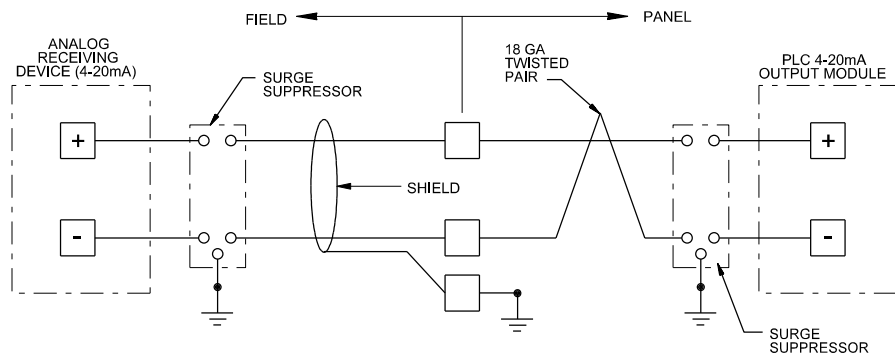


NOTES:

1. PROVIDE SURGE ARRESTOR AT FIELD SIDE AND IN PANEL IF SPECIFIED IN THE DEVICE LIST.
2. PROVIDE SIGNAL ISOLATORS FOR ANALOG INPUT, AS REQUIRED.

4 TYPICAL 2 WIRE ANALOG TRANSMITTER

NTS

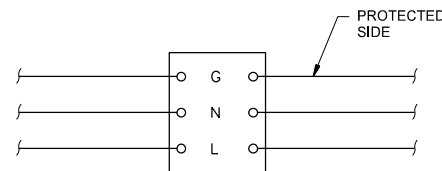


NOTES:

1. PROVIDE SURGE ARRESTOR AT FIELD SIDE AND IN PANEL IF SPECIFIED IN THE DEVICE LIST.
2. PROVIDE SIGNAL ISOLATORS FOR ANALOG INPUT, AS REQUIRED.

5 TYPICAL ANALOG OUTPUT

NTS



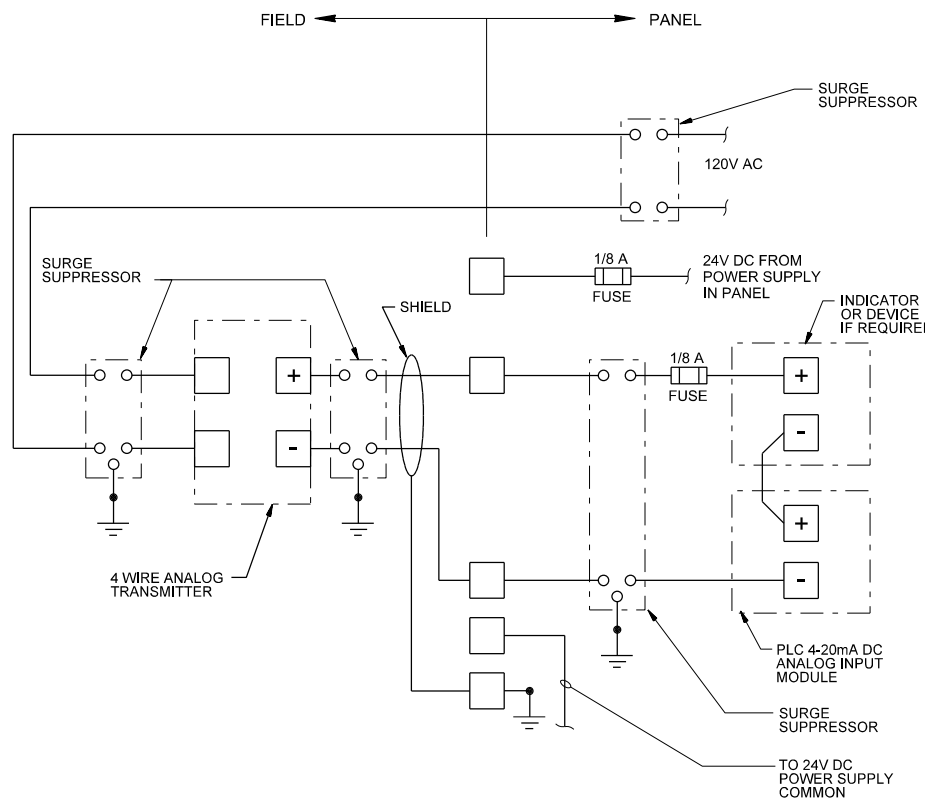
FOR 120V AC LINES, USE EDCO MODEL HSP-121, M-SYSTEM TECHNOLOGY MDP-100, MDP-200, OR MTS EQUIVALENT

NOTES:

1. PROVIDE SURGE ARRESTOR AT FIELD SIDE AND IN PANEL IF SPECIFIED IN THE DEVICE LIST.
2. PROVIDE SIGNAL ISOLATORS FOR ANALOG INPUT, AS REQUIRED.

3 TYPE "3" SURGE SUPPRESSING INSTALLATION

NTS



NOTES:

1. PROVIDE SURGE ARRESTOR AT FIELD SIDE AND IN PANEL IF SPECIFIED IN THE DEVICE LIST.
2. PROVIDE SIGNAL ISOLATORS FOR ANALOG INPUT, AS REQUIRED.

6 TYPICAL 4 WIRE ANALOG TRANSMITTER

NTS



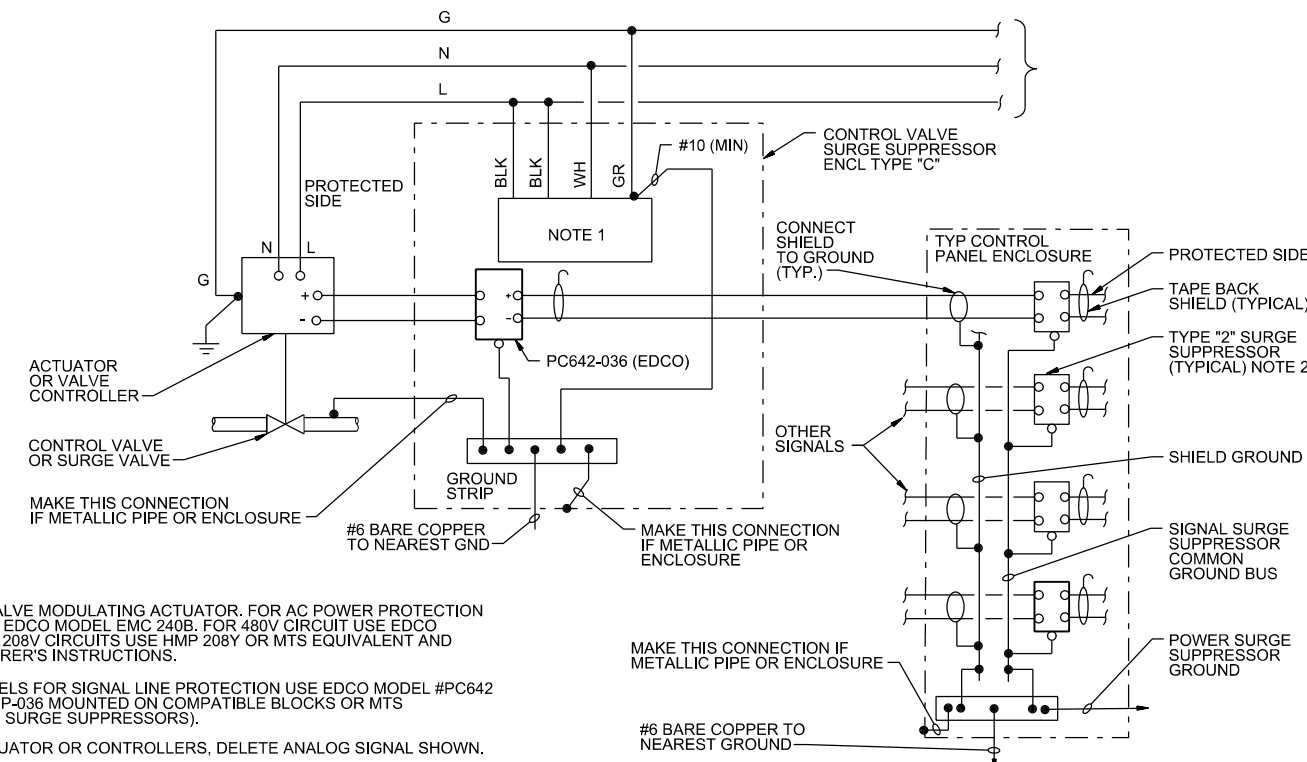
ISSUED FOR DETAIL DESIGN (80%)	GN	PM
ISSUED FOR ADVANCED DESIGN REVIEW	RA	
REVISION	JM	
BY	BY	
APVD	APVD	
CHK	J. BOGDANIC	
DR	J.A. MENDOZA	
DSGN	R. NATARAJAN	
NO.	DATE	
A	09/2013	
B	02/2014	

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

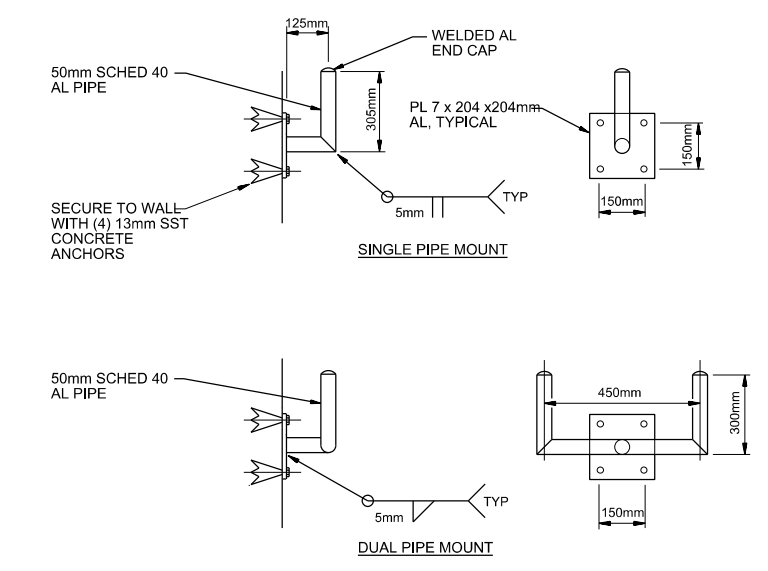
INSTRUMENTATION AND CONTROLS
INSTALLATION DETAILS (1)

DATE	FEBRUARY 2014
PROJ	TA013-427716
DWG	590-N-501
SHEET	SHEET_NO.



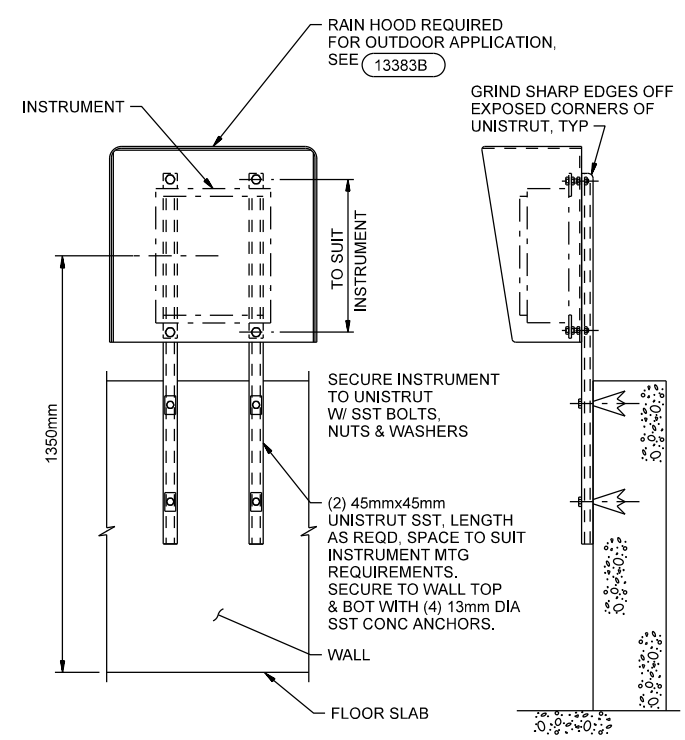
- NOTES:**
- THIS DETAIL SHOWS VALVE MODULATING ACTUATOR. FOR AC POWER PROTECTION ON 120V CIRCUITS USE EDCO MODEL EMC 240B. FOR 480V CIRCUIT USE EDCO MODEL HMP 480D, FOR 208V CIRCUITS USE HMP 208Y OR MTS EQUIVALENT AND WIRE PER MANUFACTURER'S INSTRUCTIONS.
 - WITH-IN CONTROL PANELS FOR SIGNAL LINE PROTECTION USE EDCO MODEL #PC642 OR EDCO MODEL #COHP-036 MOUNTED ON COMPATIBLE BLOCKS OR MTS EQUIVALENT. (TYPE "C" SURGE SUPPRESSORS).
 - FOR ON/OFF TYPE ACTUATOR OR CONTROLLERS, DELETE ANALOG SIGNAL SHOWN.
 - FOLLOW PRINCIPLE OR SINGLE POINT GROUNDINGS AS SHOWN.

1 TYPE "2" AND TYPE "C" SURGE SUPPRESSOR INSTALLATION
NTS (VALVES AND PANELS)

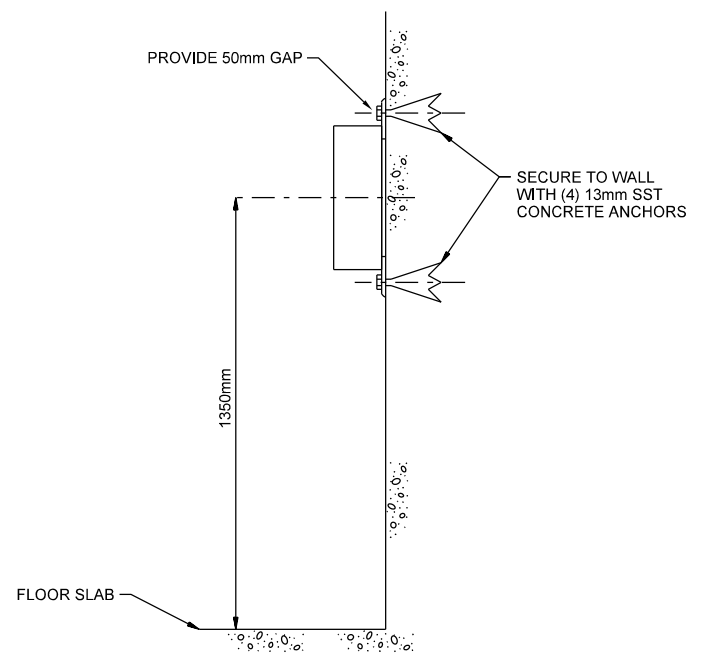


- NOTES:**
- ALTERNATIVELY, SINGLE PIPE WALL MOUNT BRACKET SHALL BE O'BRIEN MODEL WE16M WITH 9 MIL ARC SPRAY ZINC METALLIZED COATING; OR EQUAL.
 - ALTERNATIVELY, DUAL PIPE WALL BRACKET SHALL BE O'BRIEN MODEL WTM-AT3M WALL BRACKET WITH MODEL S24M AND A8M (2) ACCESSORIES, ALL WITH 9 MIL ARC SPRAY ZINC METALLIZED COATING; OR EQUAL.
 - INSTALL MOUNTING BRACKET SUCH THAT CENTERLINE OF INSTRUMENT OR DEVICE SUPPORTED IS APPROXIMATELY 1350mm ABOVE FLOOR.
 - PAINT ALUMINUM IN CONTACT WITH CONCRETE ACCORDING TO SPECIFICATIONS FOR PAINTING.

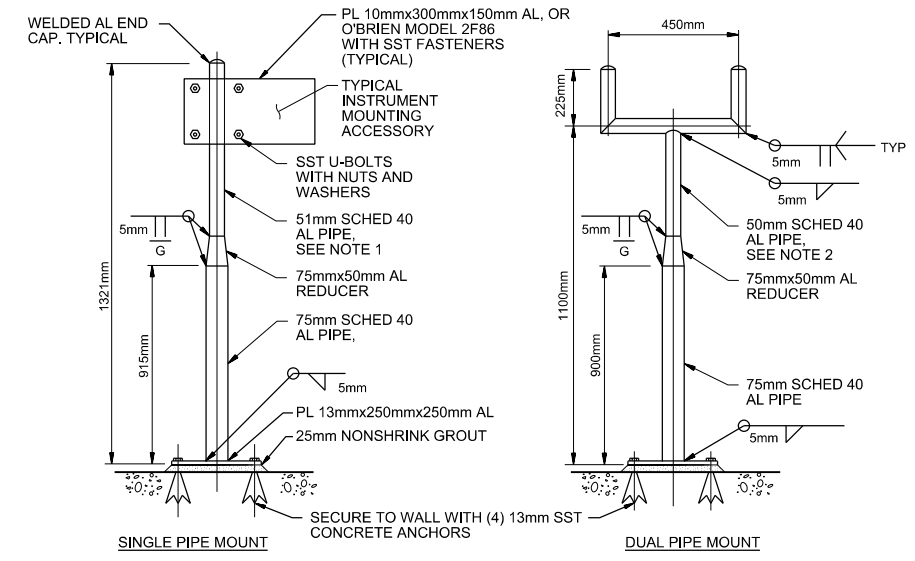
2 WALL MOUNTED INSTRUMENT PIPE STANDS
NTS



3 SHORT WALL MOUNTED PANEL INSTRUMENT INSTALLATION
NTS



4 WALL MOUNTED PANEL OR INSTRUMENT INSTALLATION
NTS



- NOTES:**
- ALTERNATIVELY, STANCHION SUPPORT SHALL BE O'BRIEN MODEL FP52 WITH 9 MIL ARC SPRAY ZINC METALLIZED COATING; OR EQUAL.
 - ALTERNATIVELY, DUAL SUPPORT SHALL BE O'BRIEN MODEL FP40 STANCHION WITH MODEL AFM, S24M AND A8M (2) ACCESSORIES, ALL WITH 9 MIL ARC SPRAY ZINC METALLIZED COATING; OR EQUAL.
 - PAINT ALUMINUM IN CONTACT WITH CONCRETE ACCORDING TO SPECIFICATIONS FOR PAINTING.

5 FLOOR MOUNTED INSTRUMENT PIPE STANDS
NTS



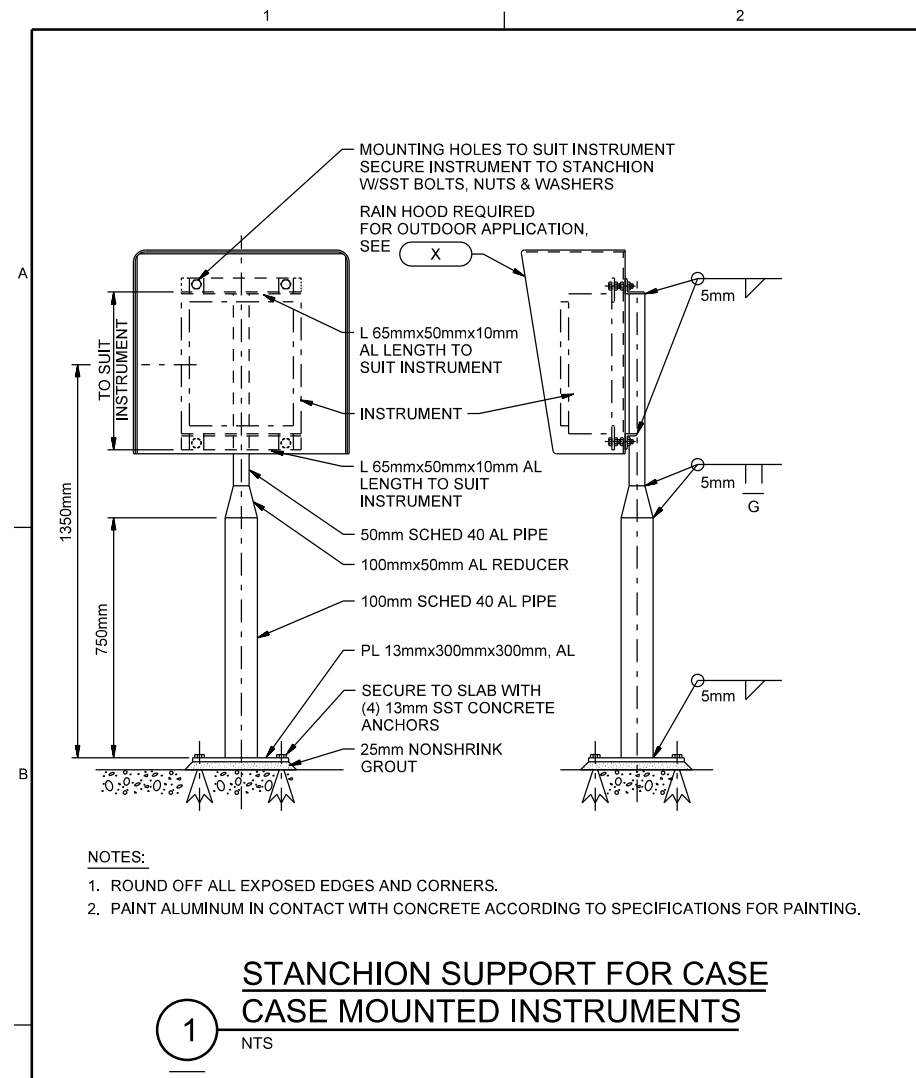
PM	J. BOGDANIC
APVD	J.A. MENDOZA
CHK	R. NATARAJAN
DR	
NO.	02/2014
DATE	09/2013
REVISION	ISSUED FOR ADVANCED DESIGN REVIEW
BY	JM
GN	RA
GN	GN

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN GOVERNMENT OF YUKON DESIGN

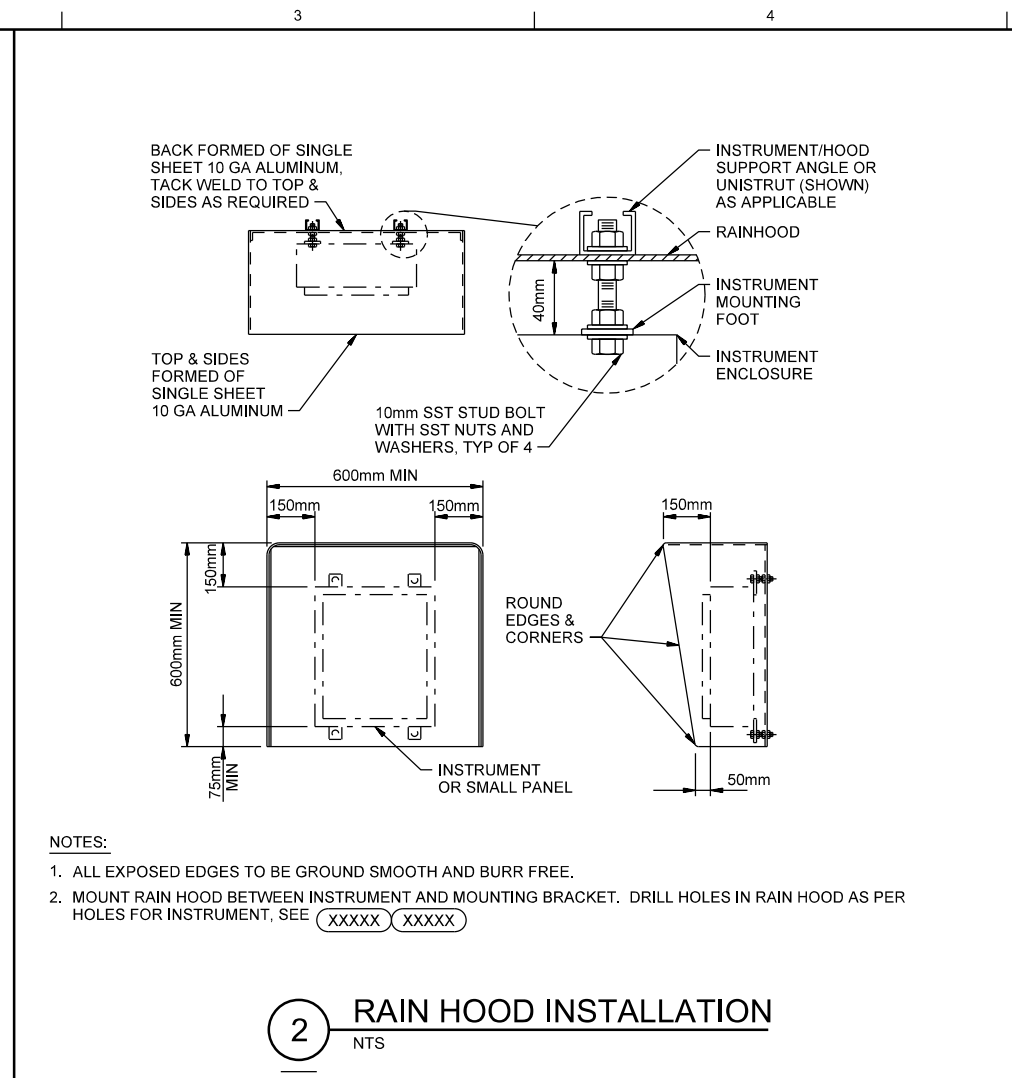
INSTRUMENTATION AND CONTROLS INSTALLATION DETAILS (2)

NTS
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 590-N-502
SHEET SHEET_NO.



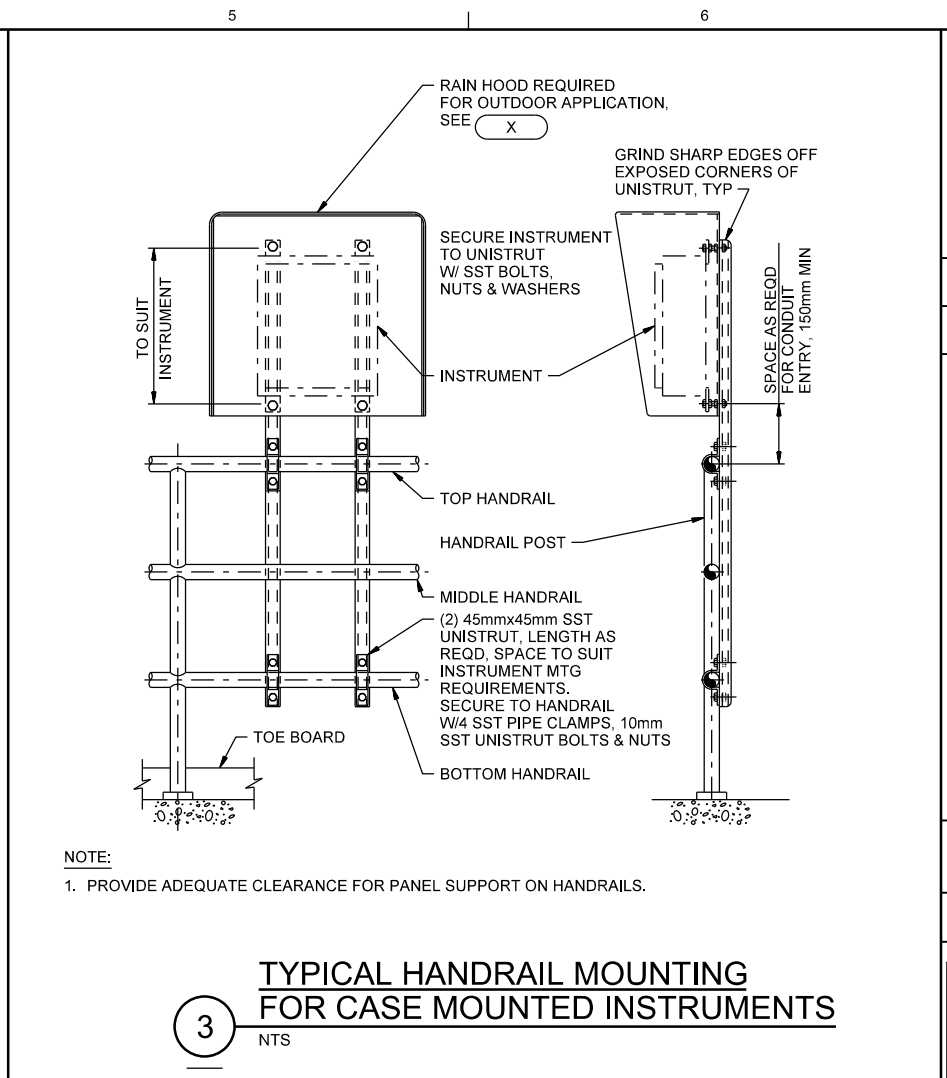
- NOTES:**
1. ROUND OFF ALL EXPOSED EDGES AND CORNERS.
 2. PAINT ALUMINUM IN CONTACT WITH CONCRETE ACCORDING TO SPECIFICATIONS FOR PAINTING.

1 STANCHION SUPPORT FOR CASE MOUNTED INSTRUMENTS
NTS



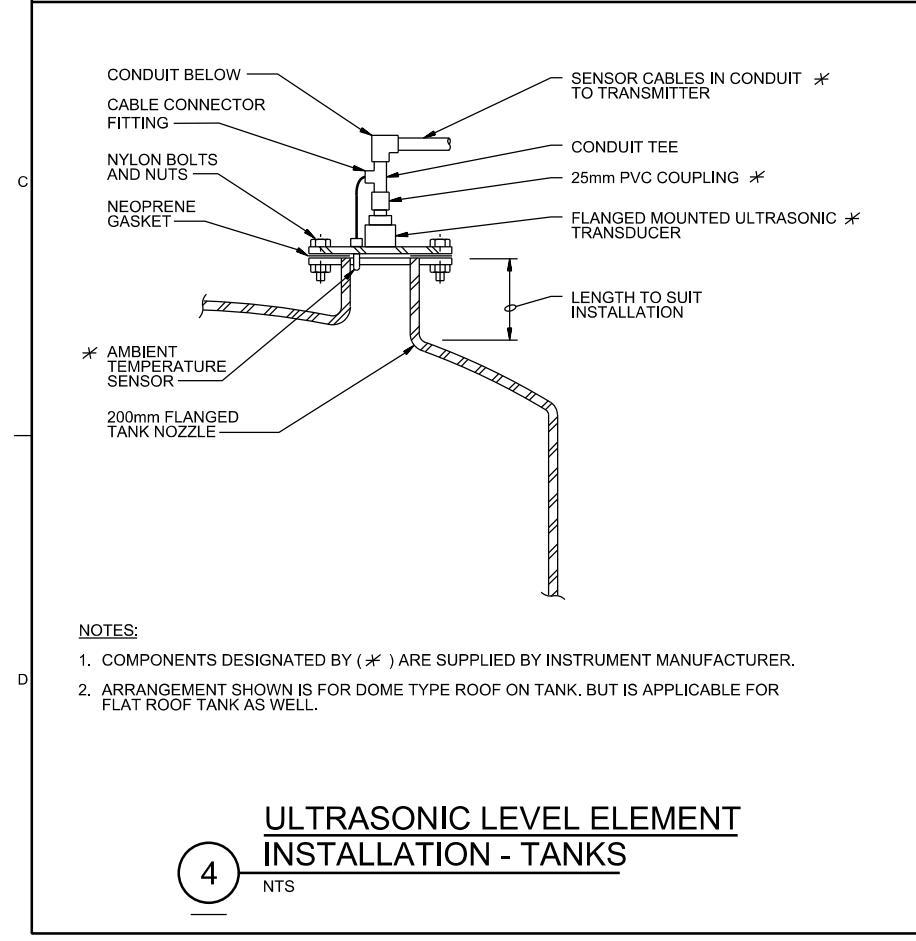
- NOTES:**
1. ALL EXPOSED EDGES TO BE GROUND SMOOTH AND BURR FREE.
 2. MOUNT RAIN HOOD BETWEEN INSTRUMENT AND MOUNTING BRACKET. DRILL HOLES IN RAIN HOOD AS PER HOLES FOR INSTRUMENT, SEE (XXXXX) (XXXXX)

2 RAIN HOOD INSTALLATION
NTS



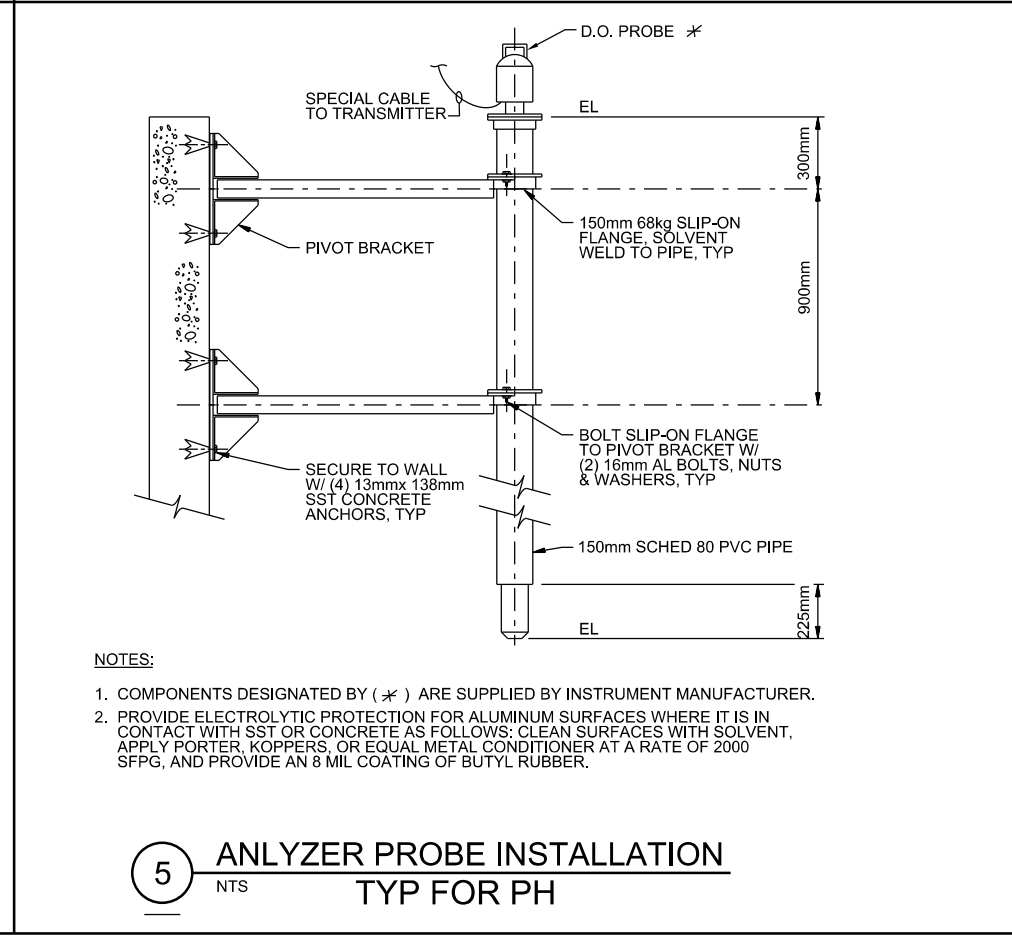
- NOTE:**
1. PROVIDE ADEQUATE CLEARANCE FOR PANEL SUPPORT ON HANDRAILS.

3 TYPICAL HANDRAIL MOUNTING FOR CASE MOUNTED INSTRUMENTS
NTS



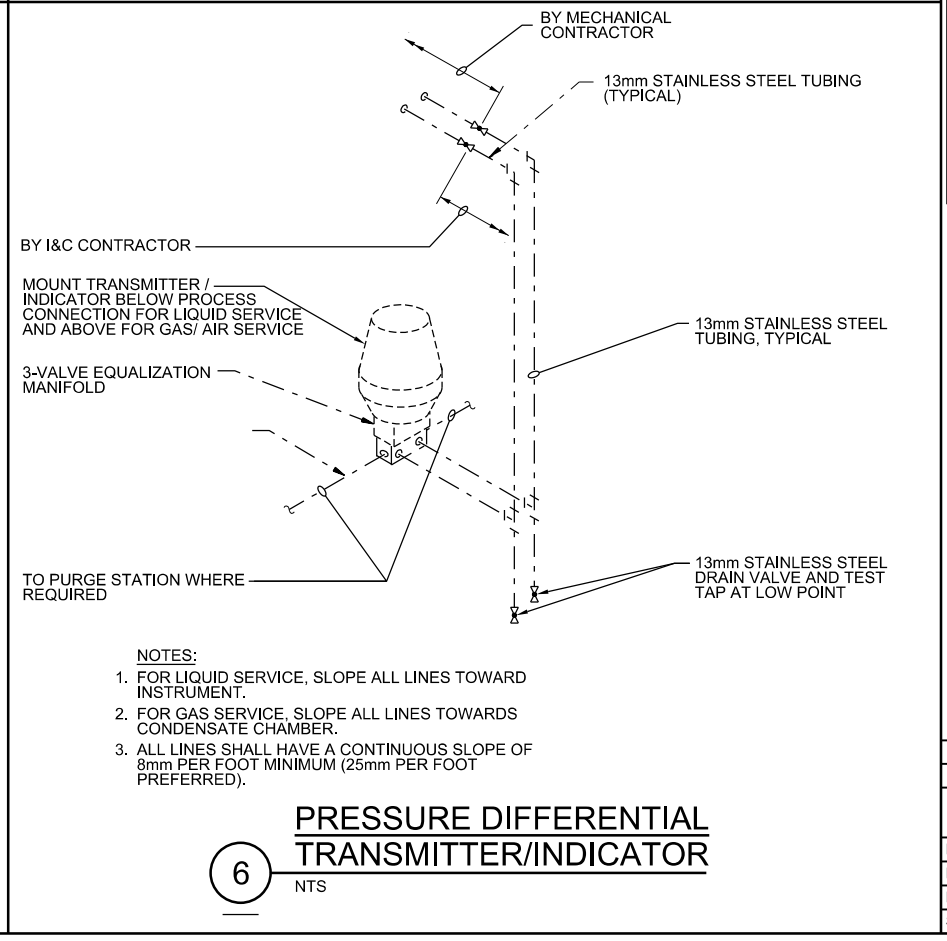
- NOTES:**
1. COMPONENTS DESIGNATED BY (✱) ARE SUPPLIED BY INSTRUMENT MANUFACTURER.
 2. ARRANGEMENT SHOWN IS FOR DOME TYPE ROOF ON TANK, BUT IS APPLICABLE FOR FLAT ROOF TANK AS WELL.

4 ULTRASONIC LEVEL ELEMENT INSTALLATION - TANKS
NTS



- NOTES:**
1. COMPONENTS DESIGNATED BY (✱) ARE SUPPLIED BY INSTRUMENT MANUFACTURER.
 2. PROVIDE ELECTROLYTIC PROTECTION FOR ALUMINUM SURFACES WHERE IT IS IN CONTACT WITH SST OR CONCRETE AS FOLLOWS: CLEAN SURFACES WITH SOLVENT, APPLY PORTER, KOPPERS, OR EQUAL METAL CONDITIONER AT A RATE OF 2000 SPPG, AND PROVIDE AN 8 MIL COATING OF BUTYL RUBBER.

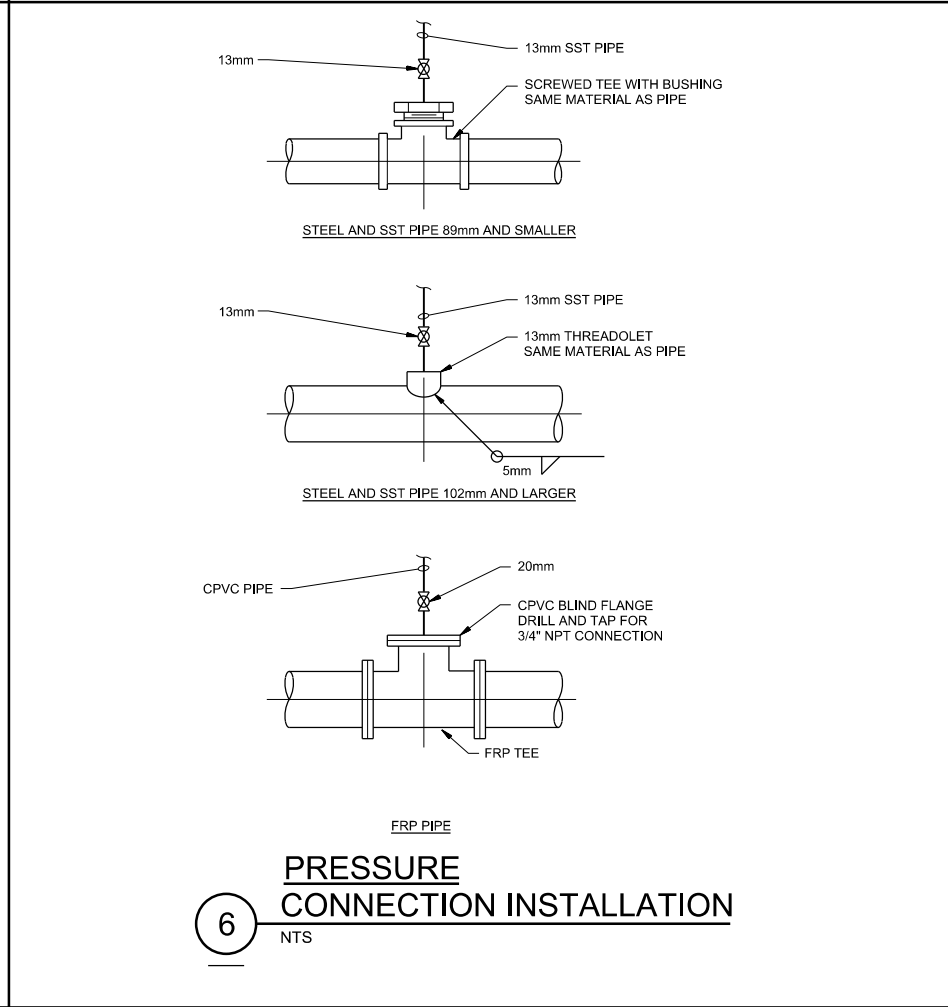
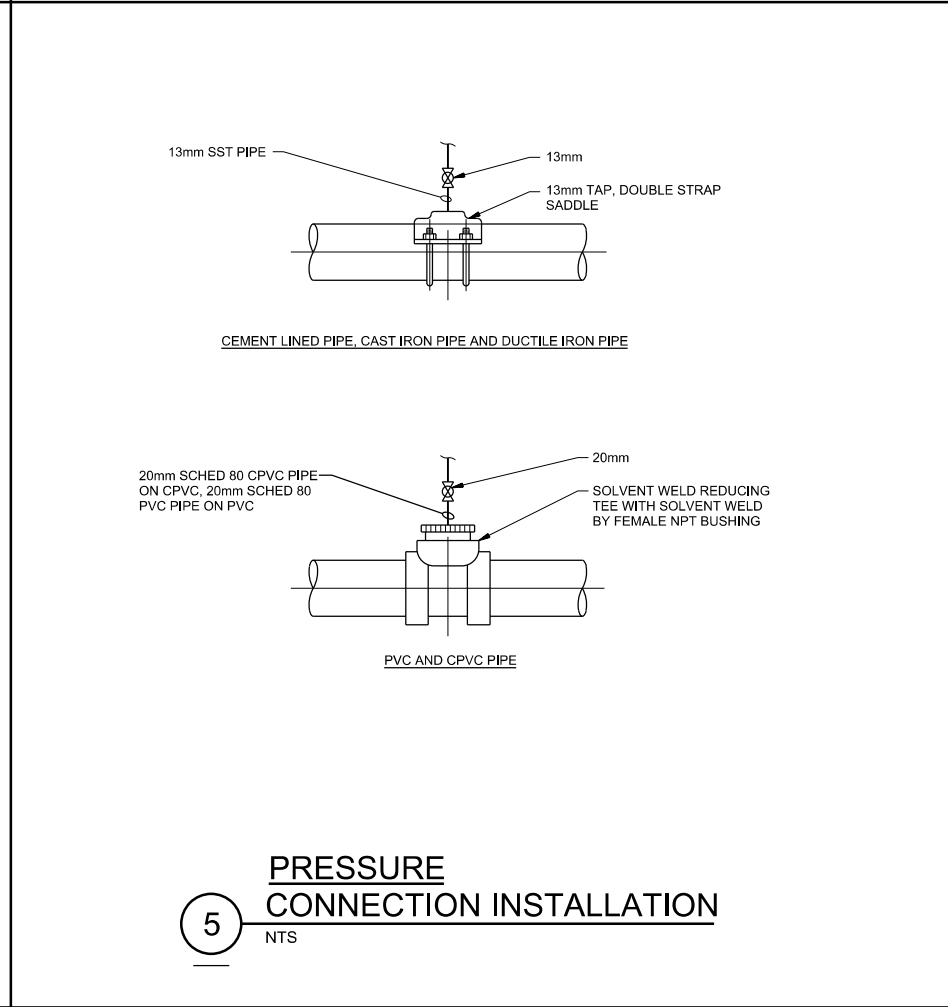
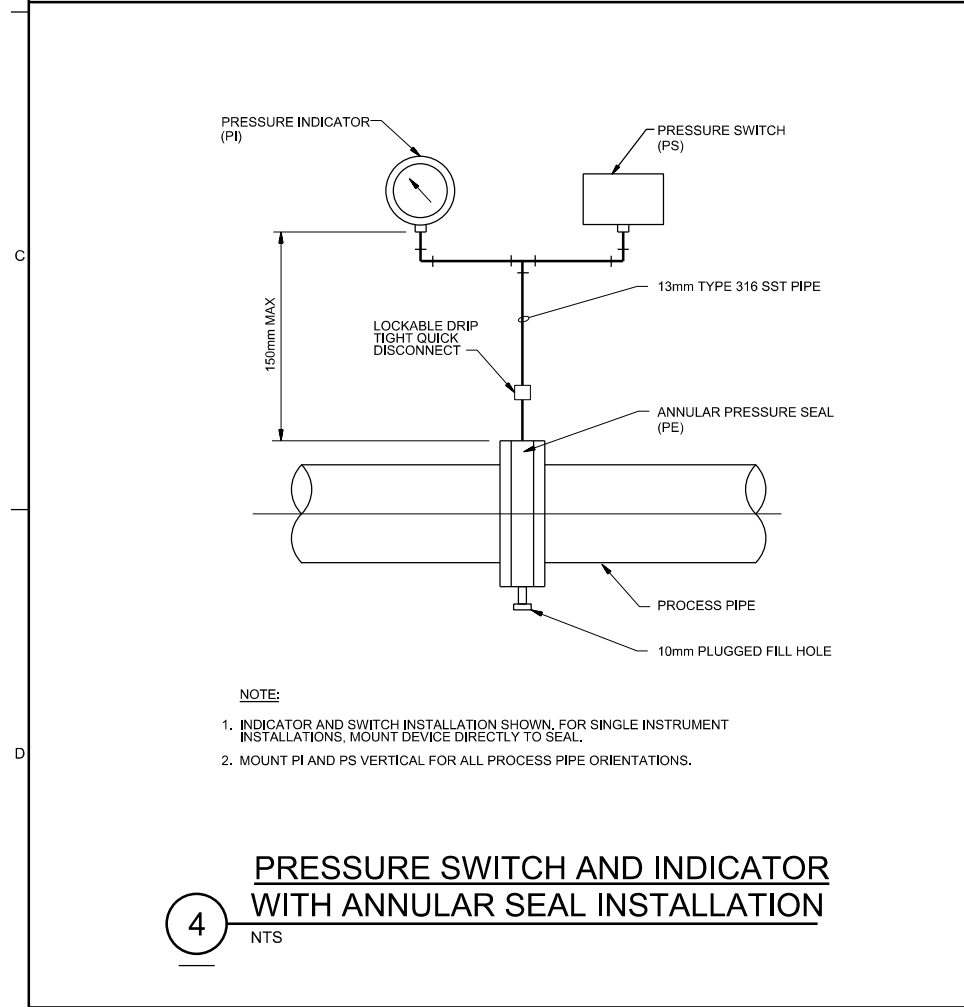
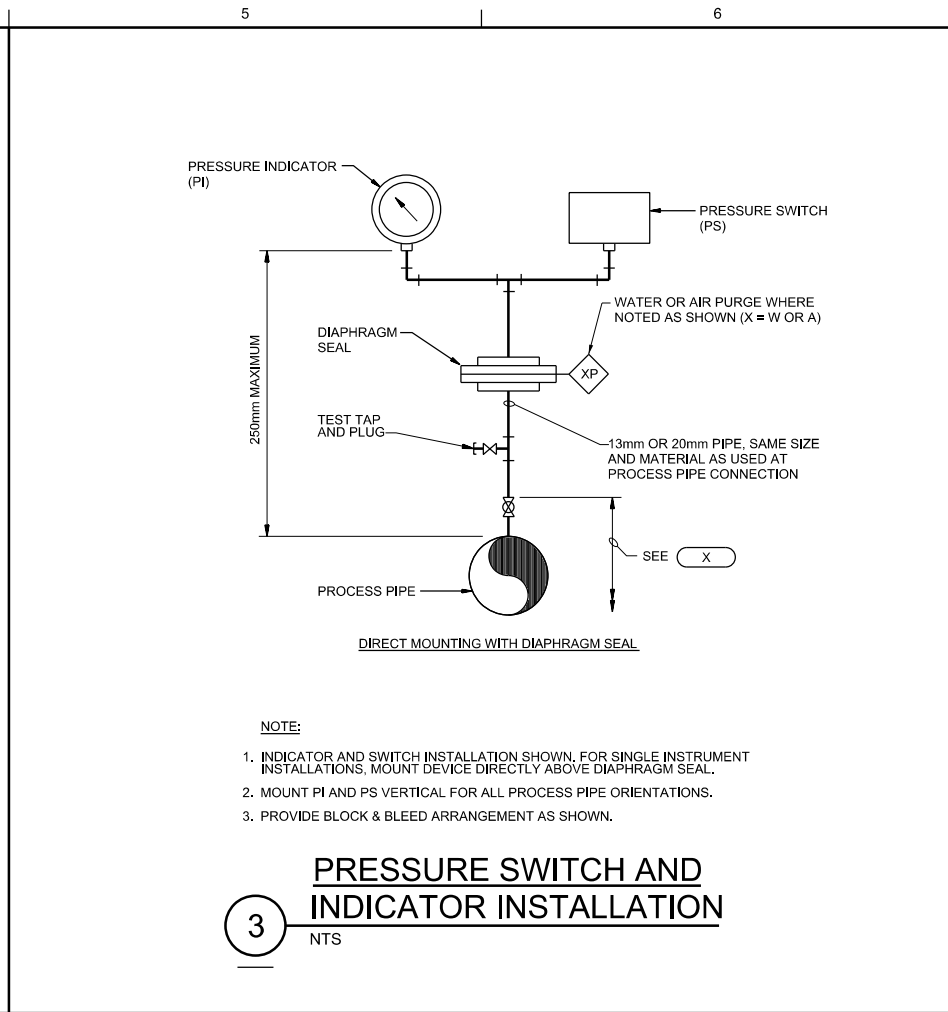
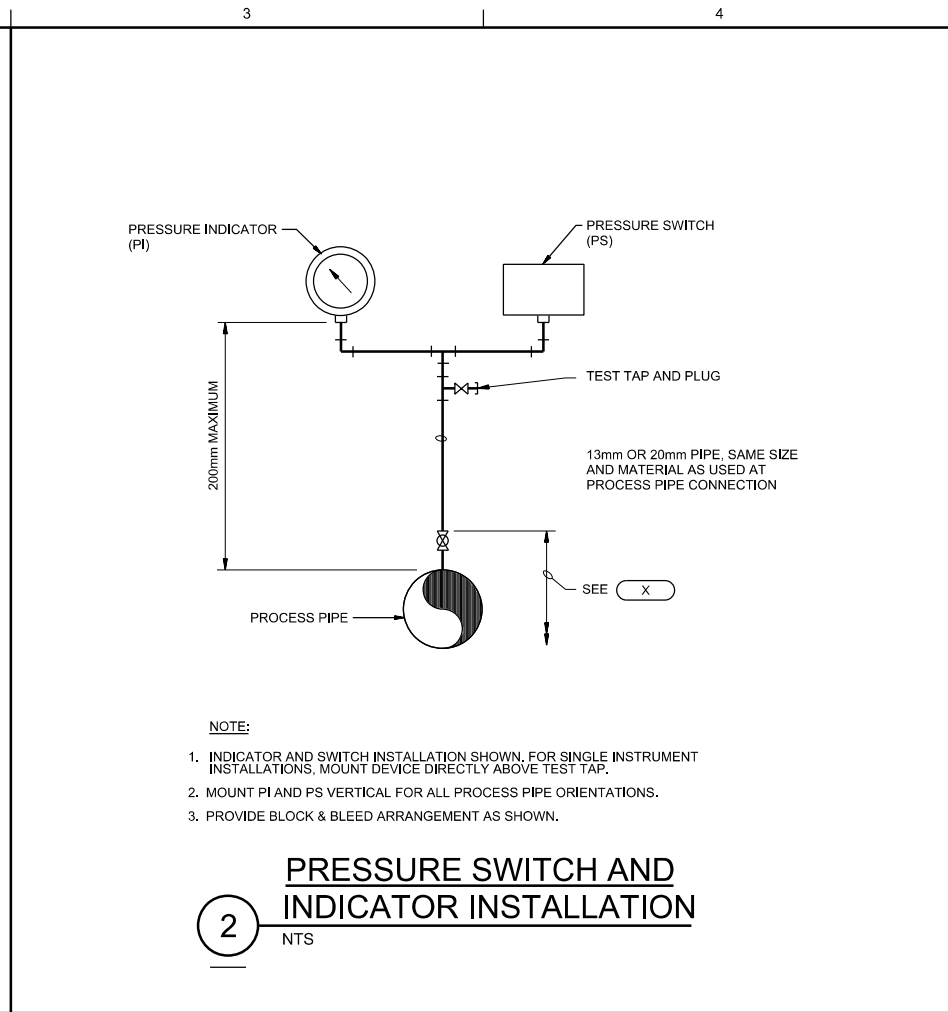
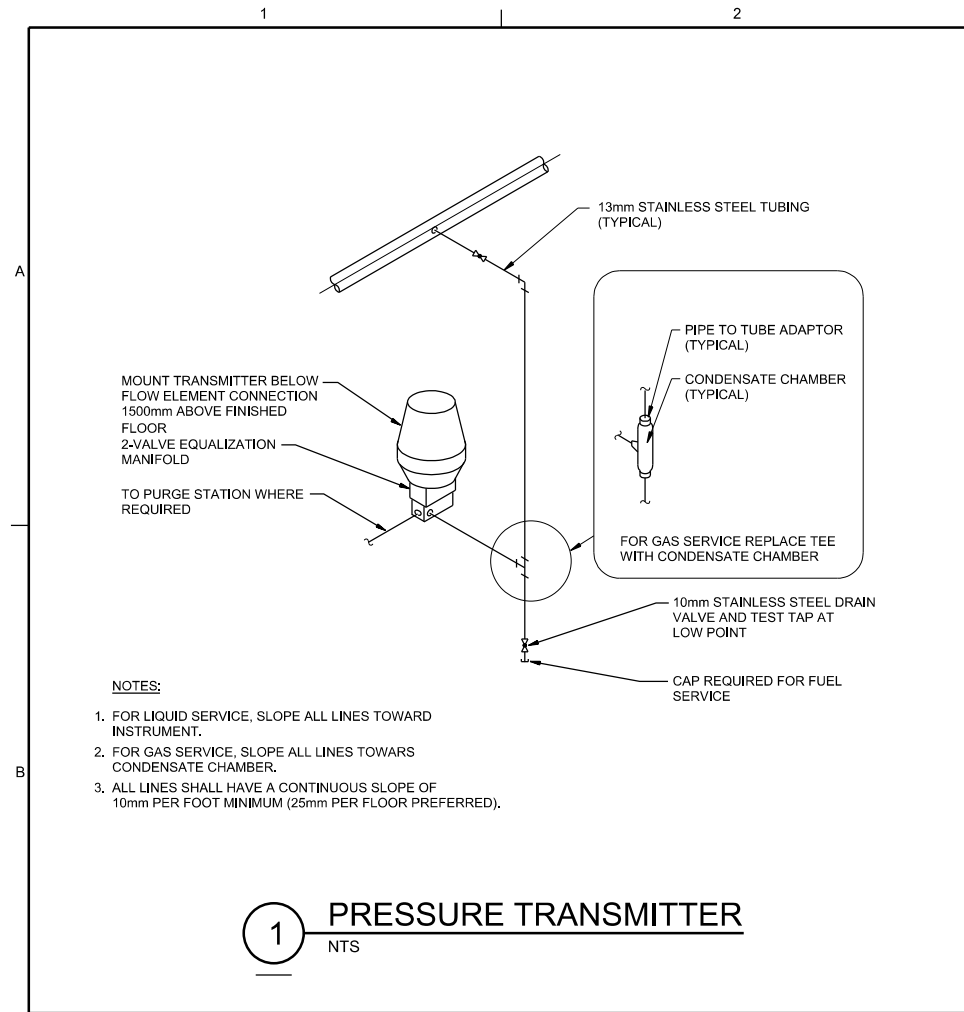
5 ANALYZER PROBE INSTALLATION TYP FOR PH
NTS



- NOTES:**
1. FOR LIQUID SERVICE, SLOPE ALL LINES TOWARD INSTRUMENT.
 2. FOR GAS SERVICE, SLOPE ALL LINES TOWARDS CONDENSATE CHAMBER.
 3. ALL LINES SHALL HAVE A CONTINUOUS SLOPE OF 8mm PER FOOT MINIMUM (25mm PER FOOT PREFERRED).

6 PRESSURE DIFFERENTIAL TRANSMITTER/INDICATOR
NTS

B	02/2014	ISSUED FOR DETAIL DESIGN (80%)	GN	PM
A	09/2013	ISSUED FOR ADVANCED DESIGN REVIEW	JM	GN
NO.	DATE	REVISION	BY	APVD
DSGN		CHK	APVD	
R. NATARAJAN	J.A. MENDOZA	J. BOGDANIC		
90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION				
FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN GOVERNMENT OF YUKON DESIGN				
CH2MHILL® INSTRUMENTATION AND CONTROLS INSTALLATION DETAILS (3)				
NTS				
VERIFY SCALE				
BAR IS 25mm ON ORIGINAL DRAWING.				
DATE FEBRUARY 2014				
PROJ TA013-427716				
DWG 590-N-503				
SHEET SHEET_NO.				



		PM
		DR
ISSUED FOR DETAIL DESIGN (90%)	GN	BY
ISSUED FOR ADVANCED DESIGN REVIEW	JM	APVD
NO. DATE	REVISION	CHK
B 02/2014		J. MENDOZA
A 09/2013		R. NATARAJAN
DSGN		

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION

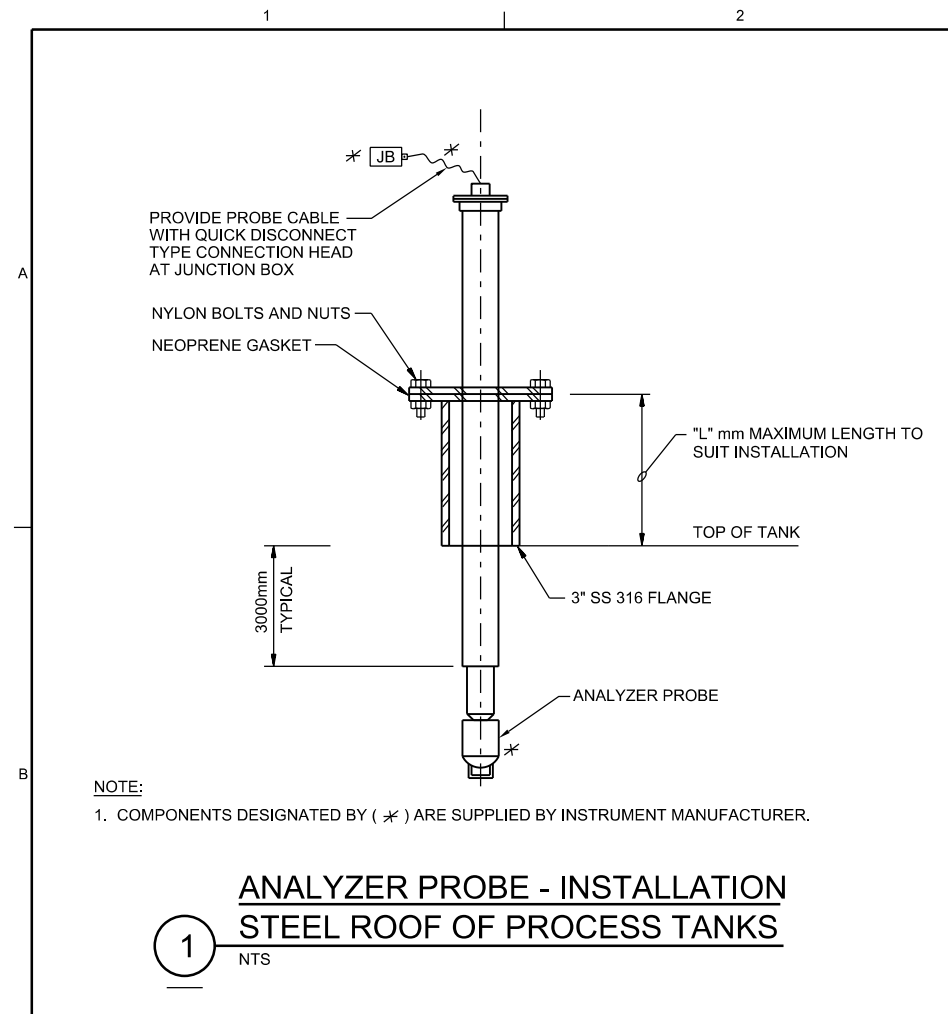
FARO MINE REMEDIATION
WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON
DESIGN

CH2MHILL®

INSTRUMENTATION AND CONTROLS
INSTALLATION DETAILS (4)

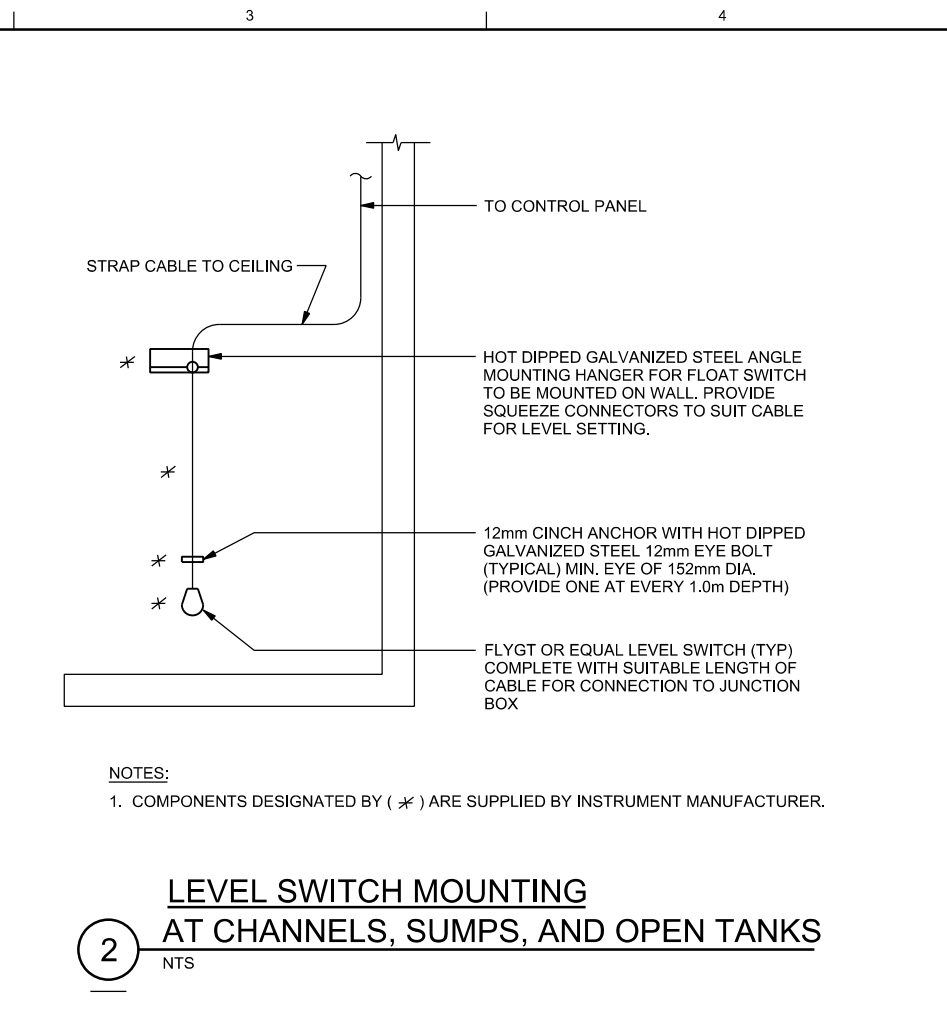
NTS
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
0 25mm

DATE FEBRUARY 2014
PROJ TA013-427716
DWG 590-N-504
SHEET SHEET_NO.



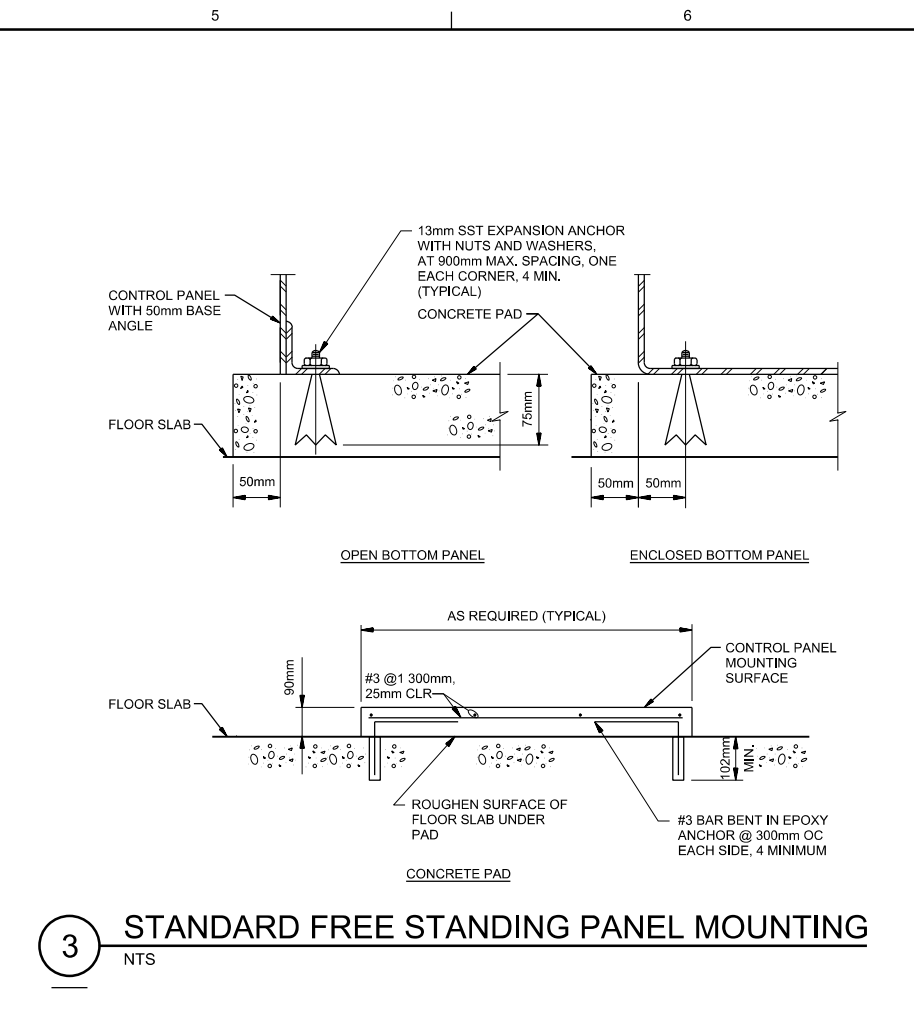
NOTE:
1. COMPONENTS DESIGNATED BY (✳) ARE SUPPLIED BY INSTRUMENT MANUFACTURER.

1 ANALYZER PROBE - INSTALLATION
STEEL ROOF OF PROCESS TANKS
NTS

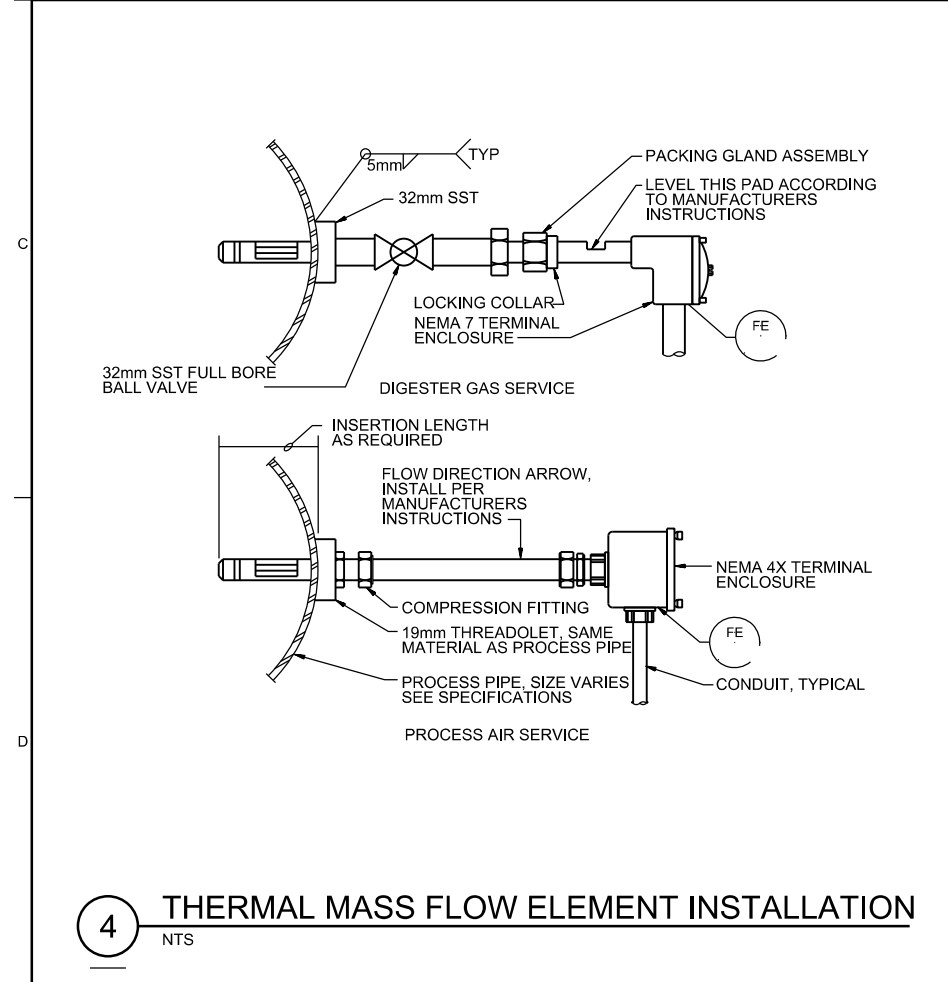


NOTES:
1. COMPONENTS DESIGNATED BY (✳) ARE SUPPLIED BY INSTRUMENT MANUFACTURER.

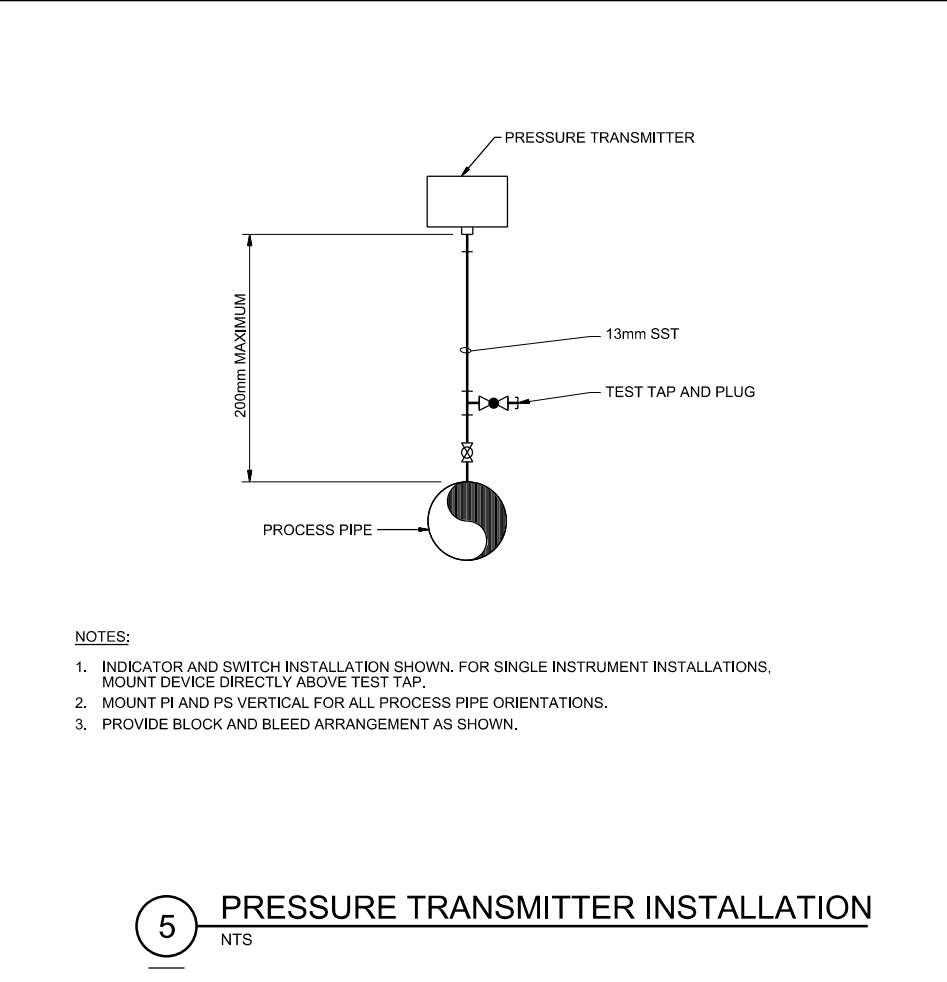
2 LEVEL SWITCH MOUNTING
AT CHANNELS, SUMPS, AND OPEN TANKS
NTS



3 STANDARD FREE STANDING PANEL MOUNTING
NTS

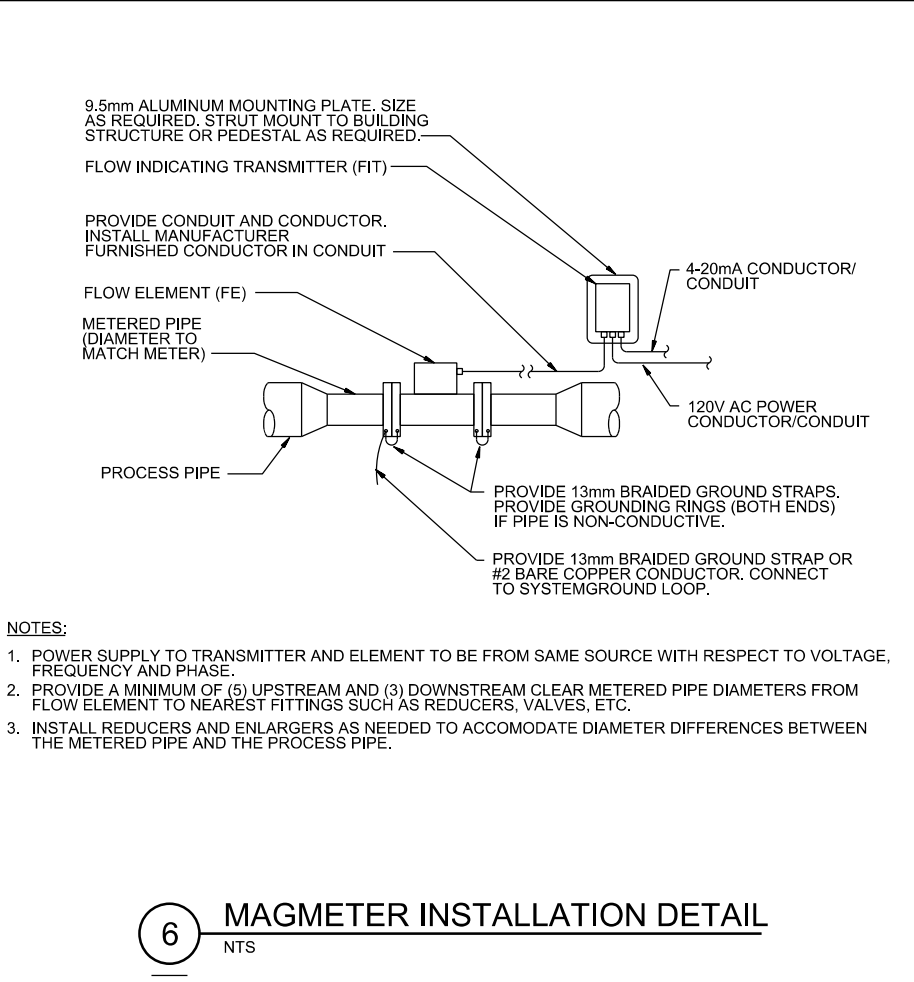


4 THERMAL MASS FLOW ELEMENT INSTALLATION
NTS



NOTES:
1. INDICATOR AND SWITCH INSTALLATION SHOWN. FOR SINGLE INSTRUMENT INSTALLATIONS, MOUNT DEVICE DIRECTLY ABOVE TEST TAP.
2. MOUNT PI AND PS VERTICAL FOR ALL PROCESS PIPE ORIENTATIONS.
3. PROVIDE BLOCK AND BLEED ARRANGEMENT AS SHOWN.

5 PRESSURE TRANSMITTER INSTALLATION
NTS



NOTES:
1. POWER SUPPLY TO TRANSMITTER AND ELEMENT TO BE FROM SAME SOURCE WITH RESPECT TO VOLTAGE, FREQUENCY AND PHASE.
2. PROVIDE A MINIMUM OF (5) UPSTREAM AND (3) DOWNSTREAM CLEAR METERED PIPE DIAMETERS FROM FLOW ELEMENT TO NEAREST FITTINGS SUCH AS REDUCERS, VALVES, ETC.
3. INSTALL REDUCERS AND ENLARGERS AS NEEDED TO ACCOMMODATE DIAMETER DIFFERENCES BETWEEN THE METERED PIPE AND THE PROCESS PIPE.

6 MAGMETER INSTALLATION DETAIL
NTS



PM	J. BOGDANIC
BY	J. BOGDANIC
CHK	J. BOGDANIC
DR	R. NATARAJAN
DSGN	R. NATARAJAN
NO.	02/2014
DATE	09/2013
ISSUED FOR	ISSUED FOR ADVANCED DESIGN REVIEW
REVISION	ISSUED FOR DETAIL DESIGN (90%)

90% DETAIL DESIGN REVIEW NOT FOR TENDER OR CONSTRUCTION
FARO MINE REMEDIATION WATER TREATMENT PLANT DESIGN
GOVERNMENT OF YUKON DESIGN

INSTRUMENTATION AND CONTROLS
INSTALLATION DETAILS (5)

NTS
VERIFY SCALE
BAR IS 25mm ON ORIGINAL DRAWING.
DATE FEBRUARY 2014
PROJ TA013-427716
DWG 590-N-505
SHEET SHEET_NO.