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WWTP 2
Expansion and Upgrade

Volume 7

Drawings

prepared for

City of Coos Bay

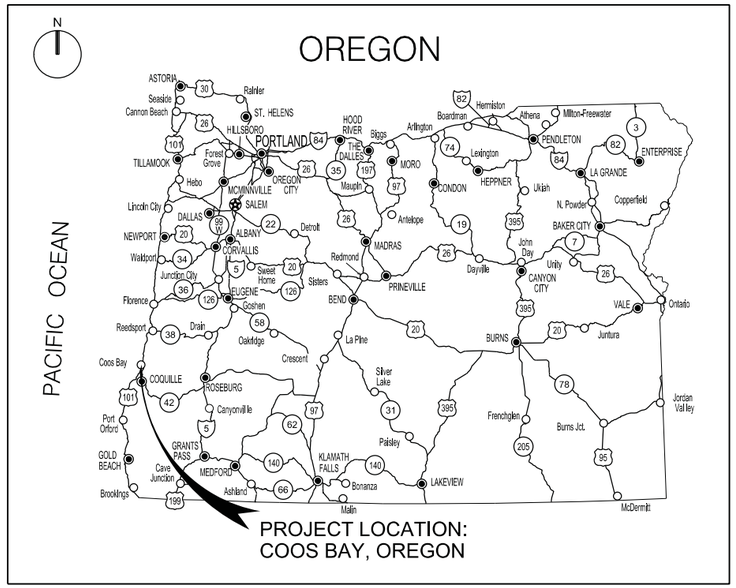
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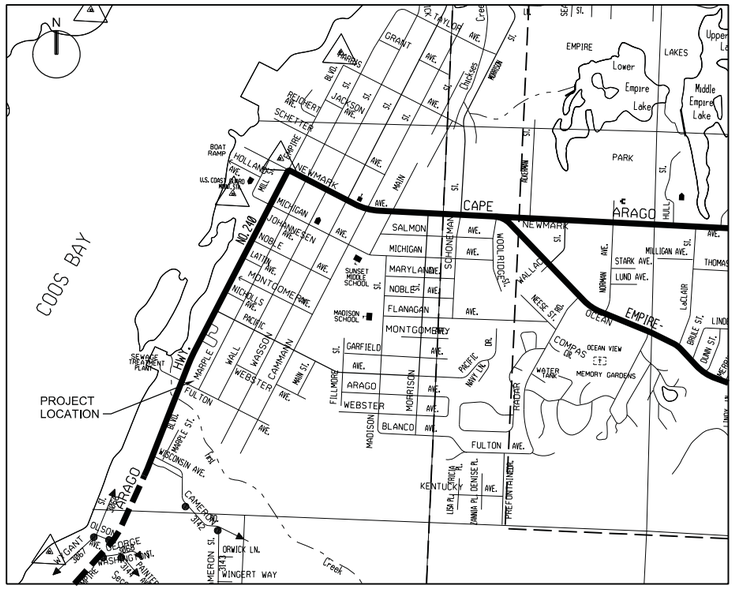
December 2014

CITY OF COOS BAY
WASTEWATER TREATMENT PLANT 2
EXPANSION AND UPGRADE

CONSTRUCTION DOCUMENTS
DRAWINGS
DECEMBER 2014



LOCATION MAP
NTS



VICINITY MAP
NTS

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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
GENERAL
TITLE, LOCATION AND VICINITY MAPS

REGISTERED PROFESSIONAL ENGINEER
7467PE
Digital Signature
OREGON
JANUARY 11, 2005
ALAN G. CHANG
EXP. 12-31-15

SHEET 01-G-0001
SEQ 1
DATE 12/2014
PROJ. NO. 490515

01-G-0001_469556.dgn

INDEX TO DRAWINGS

SHT NO.	DRAWING NO.	SHEET TITLE / DESCRIPTION
		01 - GENERAL
1	01 - G - 0001	TITLE, LOCATION AND VICINITY MAPS
2	01 - G - 0002	INDEX TO DRAWINGS - 1
3	01 - G - 0003	INDEX TO DRAWINGS - 2
4	01 - G - 0004	ABBREVIATIONS SHEET 1
5	01 - G - 0005	ABBREVIATIONS SHEET 2 AND GENERAL LEGEND
6	01 - G - 0010	CIVIL LEGEND
7	01 - G - 0011	INSTRUMENTATION AND CONTROL LEGEND - 1
8	01 - G - 0012	INSTRUMENTATION AND CONTROL LEGEND - 2
9	01 - G - 0014	ARCHITECTURAL GENERAL NOTES, SYMBOLS, LEGEND, AND WALL TYPES
10	01 - G - 0015	ARCHITECTURAL CODE DATA AND LIFE SAFETY PLAN - HEADWORKS
11	01 - G - 0016	ARCHITECTURAL CODE DATA AND LIFE SAFETY PLAN - CONTROL BLDG
12	01 - G - 0017	ARCHITECTURAL CODE DATA AND LIFE SAFETY PLAN - SHOP / ELECT BLDG
13	01 - G - 0020	STRUCTURAL GENERAL NOTES - 1
14	01 - G - 0021	STRUCTURAL GENERAL NOTES - 2
15	01 - G - 0022	STRUCTURAL STATEMENT OF SPECIAL INSPECTIONS PLAN - 1
16	01 - G - 0023	STRUCTURAL STATEMENT OF SPECIAL INSPECTIONS PLAN - 2
17	01 - G - 0024	STRUCTURAL STATEMENT OF SPECIAL INSPECTIONS PLAN - 3
18	01 - G - 0025	STRUCTURAL STATEMENT OF SPECIAL INSPECTIONS PLAN - 4
19	01 - G - 0026	STRUCTURAL STATEMENT OF SPECIAL INSPECTIONS PLAN - 5
20	01 - G - 0030	MECHANICAL LEGEND
21	01 - G - 0031	HVAC LEGEND
22	01 - G - 0032	PLUMBING LEGEND
23	01 - G - 0035	ELECTRICAL LEGEND - 1
24	01 - G - 0036	ELECTRICAL LEGEND - 2
25	01 - G - 0040	DESIGN DATA SUMMARY
26	01 - G - 0041	PROCESS FLOW DIAGRAM
27	01 - G - 0042	HYDRAULIC PROFILE
28	01 - G - 0043	MATERIAL AND AREA CLASSIFICATION SCHEDULE
29	01 - G - 0045	PIPE SCHEDULE
		06 - CIVIL
30	06 - D - 2001	EXISTING WATER TREATMENT PLANT NO. 2 - DEMOLITION
31	06 - C - 2000	OVERALL SITE MAP
32	06 - C - 2001	SITE PLAN
33	06 - C - 2002	EXISTING CONDITIONS & DEMOLITION PLAN
34	06 - C - 2003	FUTURE EMPIRE BLVD REALIGNMENT BY ODOT
35	06 - C - 2004	EROSION & SEDIMENT CONTROL PLAN
36	06 - C - 2005	30" RS (PLANT INFLUENT) PLAN & PROFILE
37	06 - C - 2006	24" RS (PLANT INFLUENT) PLAN & PROFILE
38	06 - C - 2007	30" PLE TO OUTFALL PLAN & PROFILE
39	06 - C - 2008	30" PLE TO OUTFALL PLAN & PROFILE
40	06 - C - 2009	SEWER DETAILS
41	06 - C - 2010	SOUTH YARD PIPING PLAN
42	06 - C - 2011	NORTH YARD PIPING PLAN
43	06 - C - 2012	YARD PIPING TABLES
44	06 - C - 2013	YARD PIPING TABLES
45	06 - C - 2014	FULTON AVENUE CURB & GUTTER LINE
46	06 - C - 2015	NORTH SITE GRADING PLAN
47	06 - C - 2016	SOUTH SITE GRADING PLAN
48	06 - C - 2017	GRADING DETAILS
49	06 - C - 2018	GRADING DETAILS
50	06 - C - 2019	LANDSCAPE PLAN
51	06 - E - 2000	ELECTRICAL - OVERALL SITE PLAN
52	06 - E - 3001	ELECTRICAL - DUCTBANK SECTIONS
52A	06 - E - 3002	ELECTRICAL - DUCTBANK SECTIONS

SHT NO.	DRAWING NO.	SHEET TITLE / DESCRIPTION
		09 - INSTRUMENTATION AND CONTROL
53	09 - I - 0001	INFLUENT PUMP STATION
54	09 - I - 0002	HEADWORKS - INFLUENT SCREENS UPSTREAM SECTION
55	09 - I - 0003	HEADWORKS - INFLUENT SCREENS
56	09 - I - 0004	HEADWORKS - GRIT SEPARATORS
57	09 - I - 0005	HEADWORKS - GRIT WASHING AND DEWATERING
58	09 - I - 0006	HEADWORKS - SCREENINGS
59	09 - I - 0007	SCREENINGS DISPOSAL
60	09 - I - 0009	SEQUENCING BATCH REACTORS LIQUIDS
61	09 - I - 0010	WAS PUMP STATION
62	09 - I - 0011	PROCESS AIR BLOWERS
63	09 - I - 0012	SEQUENCING BATCH REACTORS PROCESS AIR
64	09 - I - 0013	EQUALIZATION BASIN
65	09 - I - 0014	UV DISINFECTION
66	09 - I - 0015	W3 PUMPS
67	09 - I - 0016	ODOR CONTROL BIOFILTER
68	09 - I - 0017	MISCELLANEOUS P&ID
69	09 - I - 0101	NETWORK BLOCK DIAGRAM
70	09 - I - 0102	FIBER TERMINATION DIAGRAM
71	09 - I - 0103	INTRINSICALLY SAFE RELAY PANEL LAYOUT
72	09 - I - 0104	INTRINSICALLY SAFE RELAY CONTROL DIAGRAMS
73	09 - I - 0105	W3 WETWELL LEVEL SWITCH CONTROL DIAGRAM
74	09 - I - 0106	CONTROL PANEL LAYOUT
75	09 - I - 0107	CONTROL BUILDING NETWORK INTERFACE PANEL ELEVATION
76	09 - I - 0108	FIELD NETWORK INTERFACE PANEL TYPICAL
77	09 - I - 0110	TYPICAL LOOP DIAGRAM
78	09 - I - 0111	CONTROL PANEL POWER DISTRIBUTION
79	09 - I - 0112	PANEL UTILITY POWER
80	09 - I - 0113	WIRING DIAGRAM TEMPLATE ANALOG MODULE
81	09 - I - 0114	WIRING DIAGRAM TEMPLATE DISCRETE INPUT MODULE
82	09 - I - 0115	WIRING DIAGRAM TEMPLATE DISCRETE OUTPUT MODULE
		10 - INFLUENT PUMP STATION
83	10 - S - 2200	BELOW GRADE AND GROUND LEVEL PLANS
84	10 - S - 3001	SECTION
85	10 - S - 3002	SECTION AND DETAILS
86	10 - M - 2000	GROUND LEVEL PLAN
87	10 - M - 3000	SECTIONS
88	10 - H - 2000	GROUND LEVEL PLAN
89	10 - E - 2000	GROUND LEVEL PLAN

SHT NO.	DRAWING NO.	SHEET TITLE / DESCRIPTION
		20 - HEADWORKS
90	20 - A - 2001	GROUND LEVEL PLAN
91	20 - A - 2002	UPPER LEVEL PLAN
92	20 - A - 2003	ROOF PLAN
93	20 - A - 3000	ELEVATIONS
94	20 - A - 3001	ELEVATION
95	20 - A - 3500	SECTION
96	20 - A - 6001	SCHEDULES
97	20 - S - 2200	FOUNDATION PLAN
98	20 - S - 2300	MID LEVEL AT EL 33.50 PLAN
99	20 - S - 2400	UPPER LEVEL PLAN
100	20 - S - 2500	ROOF FRAMING PLAN
101	20 - S - 3001	SECTION
102	20 - S - 3002	SECTION
103	20 - S - 3003	SECTION
104	20 - S - 3004	SECTION
105	20 - S - 5001	DETAILS
106	20 - S - 5002	DETAILS
107	20 - S - 5003	DETAILS
108	20 - S - 5004	DETAIL
109	20 - M - 2001	GROUND LEVEL PLAN
110	20 - M - 2002	UPPER LEVEL PLAN
111	20 - M - 3001	SECTION
112	20 - M - 3002	SECTION
113	20 - M - 3003	SECTIONS
114	20 - M - 3004	SECTION
115	20 - M - 5001	DETAILS
116	20 - H - 2001	GROUND LEVEL PLAN
117	20 - H - 2002	UPPER LEVEL PLAN
118	20 - H - 3001	SECTIONS
119	20 - H - 6001	AIR FLOW AND CONTROL SCHEMATIC
120	20 - P - 2001	GROUND LEVEL PIPING PLAN
121	20 - P - 2002	UPPER LEVEL PIPING PLAN
122	20 - P - 2003	GROUND LEVEL WASTE AND VENT PLAN
123	20 - P - 2004	UPPER LEVEL WASTE AND VENT PLAN
124	20 - P - 5001	SERVICE WATER PIPING ISOMETRIC
125	20 - P - 5002	DRAIN, WASTE, AND VENT ISOMETRIC
126	20 - EP - 2000	GROUND LEVEL POWER PLAN
127	20 - EP - 2001	UPPER LEVEL POWER PLAN
128	20 - EF - 2000	GROUND LEVEL FACILITY PLAN
129	20 - EF - 2001	UPPER LEVEL FACILITY PLAN
		30 - SEQUENCING BATCH REACTORS
130	30 - A - 2001	WAS PUMPS FLOOR PLAN, ROOF PLAN AND SECTION
131	30 - A - 3000	WEST ELEVATION
132	30 - S - 2200	FOUNDATION PLAN
133	30 - S - 2300	UPPER LEVEL PLAN
134	30 - S - 3001	SECTIONS
135	30 - S - 3002	SECTIONS
136	30 - S - 3003	SECTION
137	30 - S - 4001	ENLARGED PLANS
138	30 - S - 5001	DETAIL
139	30 - S - 5002	DETAIL
140	30 - S - 5003	DETAILS
141	30 - S - 5004	DETAILS
142	30 - M - 2000	GROUND LEVEL PLAN
143	30 - M - 2001	UPPER LEVEL PLAN
144	30 - M - 3000	SECTIONS
145	30 - M - 3001	SECTION, ENLARGED PLAN AND DETAIL
146	30 - M - 4001	WAS PUMP STATION ENLARGED PLAN AND SECTION
147	30 - P - 2001	GROUND LEVEL PLAN
148	30 - EP - 2000	LOWER LEVEL PROCESS PLAN
149	30 - EP - 2001	UPPER LEVEL PROCESS PLAN
150	30 - EF - 2001	UPPER LEVEL FACILITY PLAN

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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
GENERAL

INDEX TO DRAWINGS – 1

SHEET 01-G-0002
SEQ 2
DATE 12/2014
PROJ. NO. 490515

INDEX TO DRAWINGS

SHT NO.	DRAWING NO.	SHEET TITLE / DESCRIPTION
		40 - ULTRAVIOLET DISINFECTION
151	40 - A - 2001	FLOOR PLAN AND ROOF PLAN
152	40 - A - 3000	ELEVATIONS AND SECTION
153	40 - S - 2200	FOUNDATION PLAN
154	40 - S - 2300	FLOOR PLAN
155	40 - S - 2400	ROOF FRAMING PLAN
156	40 - S - 3001	SECTION
157	40 - S - 3002	SECTION
158	40 - S - 5001	DETAILS
159	40 - M - 2000	PLAN AND SECTION
160	40 - M - 3000	SECTIONS AND DETAIL
161	40 - EP - 2000	PROCESS PLAN
162	40 - EF - 2000	FACILITY PLAN
		60 - CONTROL BUILDING
163	60 - A - 2000	FLOOR PLAN
164	60 - A - 2100	REFLECTED CEILING PLAN AND ROOF PLAN
165	60 - A - 3000	ELEVATIONS
166	60 - A - 3500	SECTIONS
167	60 - A - 3700	INTERIOR ELEVATIONS
168	60 - A - 4000	ENLARGED PLANS
169	60 - A - 6001	SCHEDULES
170	60 - A - 6002	SCHEDULES
171	60 - S - 2200	FOUNDATION PLAN
172	60 - S - 2300	ROOF FRAMING PLAN
173	60 - S - 3001	SECTIONS
174	60 - S - 3002	SECTION
175	60 - S - 5001	DETAILS
176	60 - S - 5002	DETAILS
177	60 - H - 2000	FLOOR PLAN
178	60 - H - 3001	SECTIONS
179	60 - H - 6001	AIR FLOW AND CONTROL SCHEMATIC
180	60 - P - 2000	DRAIN, WASTE AND VENT PLAN
181	60 - P - 2001	PIPING PLAN
182	60 - P - 5001	PIPING ISOMETRIC
183	60 - P - 5002	DRAIN, WASTE, AND VENT PIPING ISOMETRIC
184	60 - EF - 2001	FLOOR PLAN
185	60 - E - 6001	PANELBOARD SCHEDULES
		70 - ODOR CONTROL
186	70 - H - 2000	PLAN AND SECTION
187	70 - E - 4001	ENLARGED PLAN

SHT NO.	DRAWING NO.	SHEET TITLE / DESCRIPTION
		80 - SHOP / ELECTRICAL BUILDING
188	80 - A - 2000	FLOOR AND ROOF PLANS
189	80 - A - 3000	ELEVATIONS
190	80 - A - 3500	SECTION
191	80 - A - 6001	SCHEDULES
192	80 - S - 2200	FOUNDATION PLAN
193	80 - S - 2300	ROOF FRAMING PLAN
194	80 - S - 3001	SECTION
195	80 - S - 3002	SECTION
196	80 - S - 5001	DETAILS
197	80 - H - 2000	FLOOR PLAN
198	80 - H - 6001	AIR FLOW AND CONTROL SCHEMATICS
199	80 - P - 2000	FLOOR PLANS
200	80 - P - 3001	DRAIN, WASTE, AND VENT ISOMETRIC
201	80 - P - 3002	SERVICE WATER ISOMETRIC
202	80 - EP - 2001	POWER FLOOR PLAN
203	80 - EF - 2001	FACILITY FLOOR PLAN
204	80 - E - 6001	PANELBOARD SCHEDULES
		90 - ELECTRICAL
205	90 - E - 6000	ONE-LINE DIAGRAM
206	90 - E - 6001	CABLE BLOCK DIAGRAMS
207	90 - E - 6002	CABLE BLOCK DIAGRAMS
208	90 - E - 6003	CABLE BLOCK DIAGRAMS
209	90 - E - 6004	CABLE BLOCK DIAGRAMS
210	90 - E - 6005	CABLE BLOCK DIAGRAMS
211	90 - E - 6006	CABLE BLOCK DIAGRAMS
212	90 - E - 6007	CABLE BLOCK DIAGRAMS
213	90 - E - 6010	CONTROL DIAGRAMS
214	90 - E - 6011	CONTROL DIAGRAMS
215	90 - E - 6012	CONTROL DIAGRAMS
216	90 - E - 6013	CONTROL DIAGRAMS
217	90 - E - 6014	CONTROL DIAGRAMS
218	90 - E - 6020	TYPICAL GROUNDING DIAGRAM
219	90 - E - 6021	LUMINAIRE SCHEDULE
		99 - SCHEDULES
220	99 - H - 6001	EQUIPMENT SCHEDULES SHEET 1
221	99 - H - 6002	EQUIPMENT SCHEDULES SHEET 2
222	99 - H - 6003	EQUIPMENT SCHEDULES SHEET 3
223	99 - H - 6004	EQUIPMENT SCHEDULES SHEET 4

REFERENCE DRAWINGS - 1990 WWTP NO. 2 IMPROVEMENT PROJECT (SEPARATE VOLUME)

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INDEX TO DRAWINGS - 2

SHEET 01-G-0003
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DATE 12/2014
PROJ. NO. 490515

ABBREVIATIONS

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

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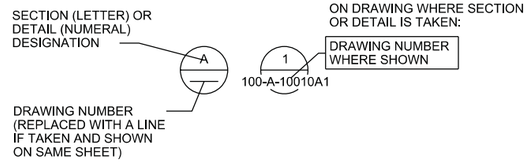
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
GENERAL
ABBREVIATIONS SHEET 1

SHEET 01-G-0004
SEQ 4
DATE 12/2014
PROJ. NO. 490515

ABBREVIATIONS

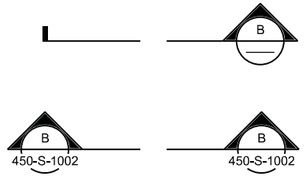
RRUB	RADIAL RUBBER
RS	RIGID STEEL
RST	REINFORCING STEEL
RT	RIGHT
RTN	RETURN
RTO	REGENERATIVE THERMAL OXIDIZER
RUB	RUBBER
RUBC	RUBBER CUSHIONED FLOORING
RUBS	RUBBER ESD CONTROL FLOORING
R/W	RIGHT OF WAY
S	I-BEAM
S	SLOPE, SOUTH, SWITCH
SA	SUPPLY AIR
SATC	SUSPENDED ACCUSTICAL TILE CEILING
SB	SEDIMENT BASIN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

SECTION / DETAIL DESIGNATIONS

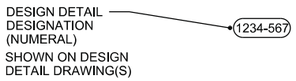


DRAWING TITLE
SCALE

ON DRAWING WHERE ONLY A TITLE IS REQUIRED WITH NO REFERENCE (eg: ELEVATIONS)



DESIGN DETAIL DESIGNATION



NOTES:

1. ALL DESIGN DETAILS ARE TYPICAL AND MUST BE USED IF DESIGN DETAIL DESIGNATION IS NOT SHOWN
2. THE TERM STANDARD DETAIL, OR A FORM OF IT, IS SYNOMONOUS 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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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
GENERAL

ABBREVIATIONS SHEET 2
AND GENERAL LEGEND

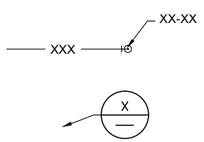
SHEET 01-G-0005
SEQ 5
DATE 12/2014
PROJ. NO. 490515

GENERAL SITE NOTES:

1. SOURCE OF TOPOGRAPHY SHOWN ON THE CIVIL PLANS ARE BASE MAPS PROVIDED BY SHN CONSULTING ENGINEERS AND GEOLOGISTS, Inc. ADDITIONAL MAPPING HAS BEEN ADDED FROM AS-BUILT DATA. EXISTING CONDITIONS MAY VARY FROM THOSE SHOWN ON THESE PLANS. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND ADJUST WORK PLAN ACCORDINGLY PRIOR TO BEGINNING CONSTRUCTION.
2. EXISTING TOPOGRAPHY, STRUCTURES, AND SITE FEATURES ARE SHOWN SCREENED AND/OR LIGHT-LINED. NEW FINISH GRADE, STRUCTURES, AND SITE FEATURES ARE SHOWN HEAVY-LINED. (SEE THE CIVIL LEGEND ON THIS SHEET FOR REFERENCE)
3. HORIZONTAL DATUM: THE BASIS OF BEARING IS PER COOS COUNTY SURVEY 51A492.
4. VERTICAL DATUM: THIS SURVEY HAS BEEN ADJUSTED VERTICALLY TO NAVD88 USING COOS BAY VERTICAL CONTROL POINT "STATION #4" WHICH IS A 2-1/2" ALUMINUM CAP LOCATED AT THE CENTERLINE INTERSECTION OF MARPLE STREET AND FULTON AVENUE. STATION #4 ELEVATION IS 19.22 .
5. CONTROL POINTS ARE SHOWN ON THE SITE PLAN DRAWING 06-C-2001. 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.
6. FOR LOCATION OF CONTROL POINT ON STRUCTURES, SEE STRUCTURAL DRAWINGS.
7. COORDINATES AND DIMENSIONS SHOWN FOR ROADWAY IMPROVEMENTS ARE TO FACE OF CURB OR EDGE OF PAVEMENT.
8. STAGING AREA SHALL BE FOR CONTRACTOR'S EMPLOYEE PARKING, CONTRACTOR'S TRAILERS AND ON-SITE STORAGE OF MATERIALS.
9. PROVIDE TEMPORARY FENCING AS NECESSARY TO MAINTAIN SECURITY AT ALL TIMES.
10. ELEVATIONS GIVEN ARE TO FINISH GRADE UNLESS OTHERWISE SHOWN.
11. SLOPE UNIFORMLY BETWEEN CONTOURS AND SPOT ELEVATIONS SHOWN.
12. UNLESS SHOWN ON THE LANDSCAPING PLANS, ALL DISTURBED AREAS NOT RECEIVING A HARD SURFACE SHALL BE COVERED WITH GRASS.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING EROSION CONTROL DEVICES DURING CONSTRUCTION ACCORDING TO BEST MANAGEMENT PRACTICES. EROSION CONTROL DEVICES SHOWN ON THE EROSION & SEDIMENT CONTROL PLAN 06-C-2004, AND STANDARD DETAILS, ARE THE MINIMUM REQUIRED.
14. CONTRACTOR SHALL TAKE ALL OTHER MEASURES TO POSITIVELY PRECLUDE EROSION MATERIALS FROM LEAVING THE SITE. CONTRACTOR TO SUBMIT EROSION CONTROL PLAN FOR APPROVAL.

GENERAL YARD PIPING AND UTILITIES NOTES:

1. EXISTING UNDERGROUND UTILITIES OBTAINED FROM AS-BUILTS AND FROM FIELD SURVEY. CONTRACTOR SHALL FIELD VERIFY DEPTH AND LOCATION PRIOR TO EXCAVATION. PROTECT ALL EXISTING UTILITIES DURING CONSTRUCTION.
2. FOR PIPING FLOW STREAM IDENTIFICATION, SEE DRAWING 01-G-0045.
3. EXISTING PIPING AND EQUIPMENT ARE SHOWN SCREENED AND/OR LIGHT-LINED. NEW PIPING AND EQUIPMENT ARE SHOWN HEAVY-LINED.
4. UNLESS OTHERWISE SHOWN ALL PIPING SHALL HAVE A MINIMUM OF 30-INCHES COVER.
5. ALL PIPES SHALL HAVE A CONSTANT SLOPE BETWEEN INVERT ELEVATIONS UNLESS INDICATED OTHERWISE.
6. ALL NEW WATER PIPES MUST BE PROPERLY FLUSHED, PRESSURE TESTED, CHLORINATED AND BACTERIOLOGICALLY TESTED, AS SPECIFIED.
7. FOR TRENCHING AND BACKFILL, SEE (300).
8. FOR SURFACE RESTORATION OF ASPHALT CONCRETE, SEE 06-C-2015 AND STANDARD DRAWINGS. (302)
9. MINIMUM ALLOWABLE CLEARANCE BETWEEN PIPES AT CROSSINGS SHALL BE 3".



PIPE SEGMENT OR FITTING DESIGNATION ON YARD PIPING PLAN (06-C-2010 AND 06-C-2011) CORRESPONDS TO YARD PIPING TABLES (06-C-2012 AND 06-C-2013)

X = DETAIL NUMBER
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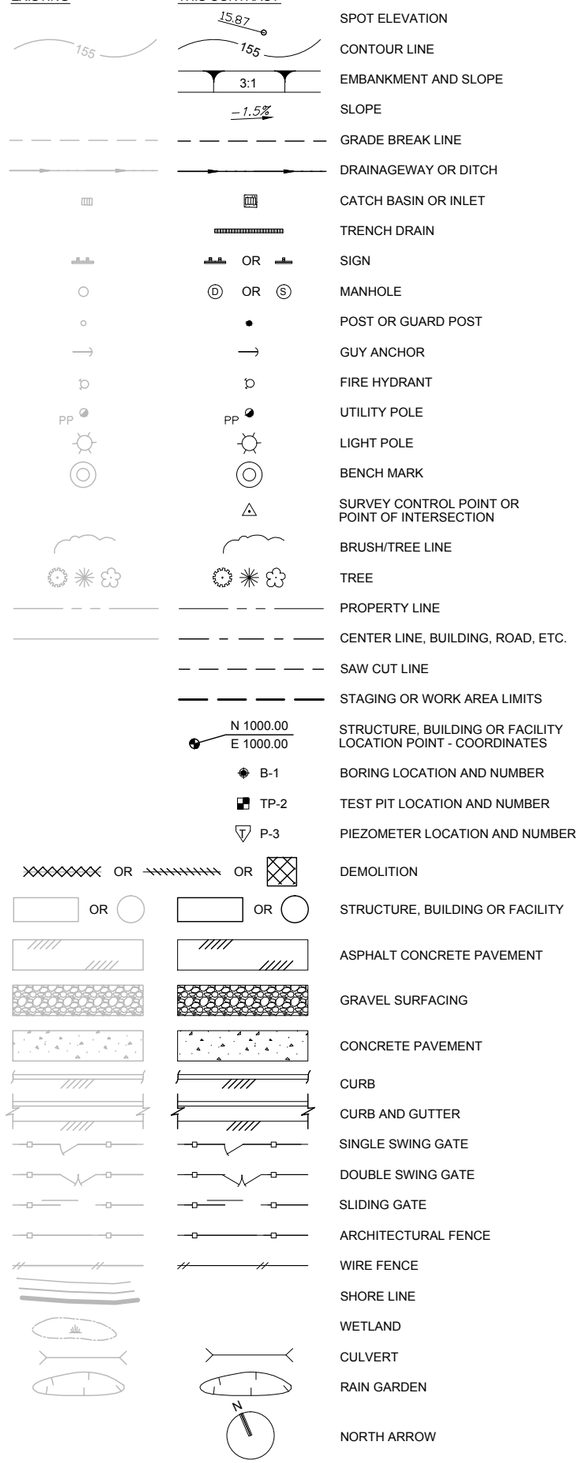
X = STANDARD DETAIL

TBM — TEMPORARY BENCH MARK

GENERAL NOTE:

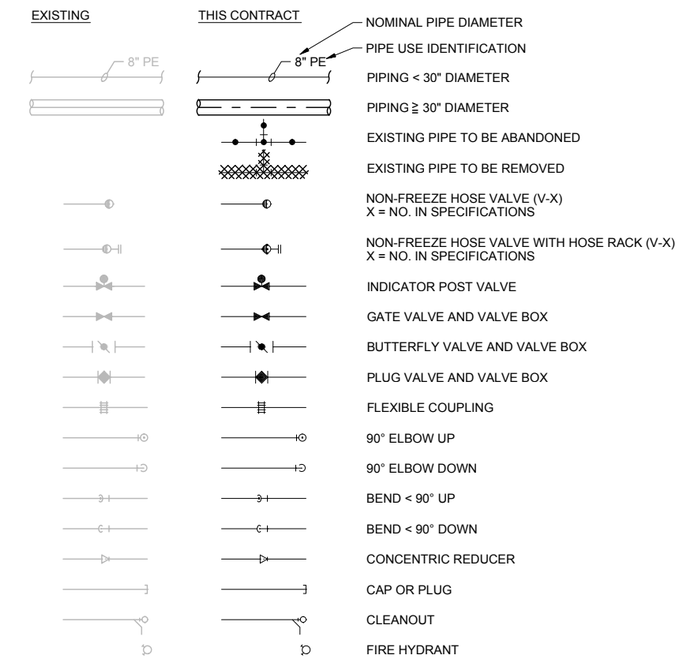
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CIVIL LEGEND



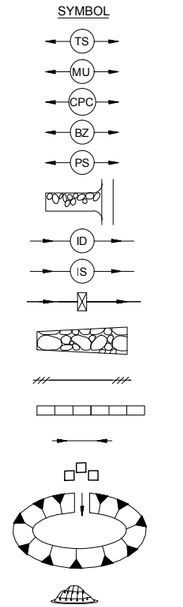
SPOT ELEVATION
CONTOUR LINE
EMBANKMENT AND SLOPE
SLOPE
GRADE BREAK LINE
DRAINAGEWAY OR DITCH
CATCH BASIN OR INLET
TRENCH DRAIN
SIGN
MANHOLE
POST OR GUARD POST
GUY ANCHOR
FIRE HYDRANT
UTILITY POLE
LIGHT POLE
BENCH MARK
SURVEY CONTROL POINT OR POINT OF INTERSECTION
BRUSH/TREE LINE
TREE
PROPERTY LINE
CENTER LINE, BUILDING, ROAD, ETC.
SAW CUT LINE
STAGING OR WORK AREA LIMITS
STRUCTURE, BUILDING OR FACILITY LOCATION POINT - COORDINATES
BORING LOCATION AND NUMBER
TEST PIT LOCATION AND NUMBER
PIEZOMETER LOCATION AND NUMBER
DEMOLITION
STRUCTURE, BUILDING OR FACILITY
ASPHALT CONCRETE PAVEMENT
GRAVEL SURFACING
CONCRETE PAVEMENT
CURB
CURB AND GUTTER
SINGLE SWING GATE
DOUBLE SWING GATE
SLIDING GATE
ARCHITECTURAL FENCE
WIRE FENCE
SHORE LINE
WETLAND
CULVERT
RAIN GARDEN
NORTH ARROW

YARD PIPING LEGEND



NOMINAL PIPE DIAMETER
PIPE USE IDENTIFICATION
PIPING < 30" DIAMETER
PIPING ≥ 30" 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



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
FILTER FENCE
STRAW BALE BARRIER (BIOFILTER)
SEDIMENT TRAP (OR SUMP)
INLET PROTECTION BIOFILTER BAGS
SEDIMENT POND OR BASIN
STOCKPILE COVER

REGISTERED PROFESSIONAL ENGINEER
15,479
Daniel P. Graber
OREGON
JULY 25, 1981
DANIEL P. GRABER
EXPIRES 6/30/15

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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
GENERAL
CIVIL LEGEND

SHEET 01-G-0010
SEQ 6
DATE 12/2014
PROJ. NO. 490515

SAVED: 12/11/2014 7:22 PM DORABER, PLOTTED: 12/12/2014 11:00 AM NICK REID
\\COOSBAYSVR1\Projects\2014\614018-WWTP2-Final\200-Dsgn-Dev-Phas\Dwgs\614018-LEGEND.dwg

INSTRUMENT IDENTIFICATION

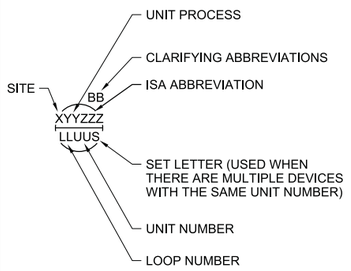
INSTRUMENT IDENTIFICATION LETTERS TABLE

LETTER	FIRST-LETTER: PROCESS OR INITIATING VARIABLE	FIRST-LETTER: MODIFIER	SUCCEEDING-LETTERS: READOUT OR PASSIVE FUNCTION	SUCCEEDING-LETTERS: READOUT OR PASSIVE FUNCTION	SUCCEEDING-LETTERS: 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		
F	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.

EXAMPLE SYMBOLS



DIGITAL SYSTEM INTERFACES

- ▲ ANALOG INPUT
- ▼ ANALOG OUTPUT
- $\triangle_X$ DISCRETE INPUT
- ∇_X DISCRETE OUTPUT

GENERAL INSTRUMENT OR FUNCTIONAL SYMBOLS

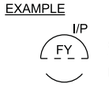


- FIELD MOUNTED
- REAR-OF-PANEL MOUNTED (OPERATOR INACCESSIBLE)
- PANEL MOUNTED (OPERATOR ACCESSIBLE)
- MCC MOUNTED
- COMPUTER FUNCTION
- PLC FUNCTION
- SHARED DISPLAY, SHARED CONTROL

TRANSDUCERS

A	ANALOG	I	CURRENT
D	DIGITAL	P	PNEUMATIC
E	VOLTAGE	PF	PULSE FREQUENCY
F	FREQUENCY	PD	PULSE DURATION
H	HYDRAULIC	R	RESISTANCE

EXAMPLE



CURRENT TO PNEUMATIC TRANSDUCER (BACK OF PANEL, IN A FLOW LOOP)

ACCESSORY DEVICES

A1	ACCESSORY 1
A2	ACCESSORY 2
A3	ACCESSORY 3

EXAMPLE



TRANSMITTER AS AN ACCESSORY TO A FLOW ELEMENT

SPECIAL CASES



ON AND OFF EVENT LIGHTS



ON-OFF HAND SWITCH, MAINTAINED CONTACT SWITCH (CONTROLLED DEVICE WILL RESTART ON RETURN OF POWER AFTER POWER FAILURE).

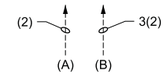


STOP-START HAND SWITCH MOMENTARY CONTACT SWITCHES (CONTROLLED DEVICE WILL NOT RESTART ON RETURN OF POWER AFTER POWER FAILURE).

LINE LEGEND

- PRIMARY PROCESS (CLOSED CONDUIT, DASHED LINE INDICATES ALTERNATE FLOW STREAM)
- SECONDARY PROCESS
- BYPASS PROCESS
- PROCESS (OPEN CHANNEL)
- ANALOG SIGNAL (4 TO 20 mAdc, ETC.)
- DISCRETE (ON/OFF, ETC.)
- PNEUMATIC SIGNAL
- FILLED SYSTEM SIGNAL
- HYDRAULIC SYSTEM SIGNAL
- DATA LINK
- BUILDING OR FACILITY BOUNDARY
- PACKAGE SYSTEM EQUIPMENT
- TYPICAL BREAK

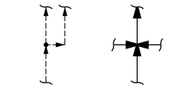
PARALLELING LINES



(A) TOTAL OF 2 SIGNALS

(B) 3 TYPICAL SETS OF 2 SIGNALS EACH. TOTAL OF 6 SIGNALS.

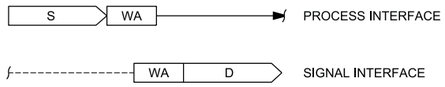
CONNECTING LINES



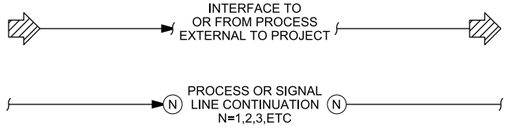
NON-CONNECTING LINES



INTERFACE SYMBOLS



- W SOURCE DRAWING (1 OR 2 DIGITS)
- A INTERFACE NO. (2 DIGITS)
- D DESTINATION DRAWING NO.
- S SOURCE DRAWING NO.



SELF CONTAINED VALVE & EQUIPMENT TAG NUMBERS

XYYZZZLLUU

X = SITE

YY = UNIT PROCESS

ZZZ = EQUIPMENT OR ISA ABBREVIATION
- ARV AIR RELEASE VALVE
- E EJECTOR
- FCV POWERED MODULATING VALVE
- FG POWERED GATE
- FV POWERED OPEN/CLOSE VALVE
- G MANUAL GATE
- M MECHANICAL EQUIPMENT
- P PUMP
- PRV PRESSURE RELIEF VALVE

LL = LOOP NUMBER

UU = UNIT NUMBER

ABBREVIATIONS & LETTER SYMBOLS

AC	ALTERNATING CURRENT
AM	AUTO-MANUAL
CAM	COMPUTER-AUTO-MANUAL
CCS	CENTRAL CONTROL SYSTEM
CL_2 etc.	CHLORINE (TYPICAL: USE STANDARD CHEMICAL ELEMENT ABBREVIATIONS)
CM	COMPUTER-MANUAL
COD	CHEMICAL OXYGEN DEMAND
CP-X	CONTROL PANEL NO. X
DC	DIRECT CURRENT
DCS	DISTRIBUTED CONTROL SYSTEM
DCU	DISTRIBUTED CONTROL UNIT
DO	DISSOLVED OXYGEN
FCL_2	FREE CHLORINE RESIDUAL
FOS	FAST-OFF-SLOW
FOSA	FAST-OFF-SLOW-AUTO
FOSR	FAST-OFF-SLOW-REMOTE
FP-W-X	FIELD PANEL NO. WX (W=UNIT PROCESS NUMBER X=PANEL NUMBER)
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
OO	ON-OFF
OOA	ON-OFF-AUTO
OOR	ON-OFF-REMOTE
ORP	OXIDATION REDUCTION POTENTIAL
OSC	OPEN-STOP-CLOSE
pH	HYDROGEN ION CONCENTRATION
PLC	PROGRAMMABLE LOGIC CONTROLLER
RIO	REMOTE I/O UNIT
RM-X	REMOTE MULTIPLEXING MODULE NO. X
RTU-X	REMOTE TELEMETRY UNIT NO. X
SF	SLOWER-FASTER
SS	START-STOP
SSC	SUPERVISORY SET POINT CONTROL
TCL_2	TOTAL CHLORINE RESIDUAL
TOC	TOTAL ORGANIC CARBON
TOD	TOTAL OXYGEN DEMAND
TURB	TURBIDITY
VHC	VOLATILE HYDROCARBONS
VIB	VIBRATION
Δ	DIFFERENCE
Σ	SUM
×	MULTIPLY
÷	DIVIDE
F(X)	CHARACTERIZED
X^n	RAISED TO THE Nth POWER
$\sqrt{}$	SQUARE ROOT
AVG	AVERAGE
1:1	REPEAT OR BOOST
>	SELECT HIGHEST SIGNAL
<	SELECT LOWEST SIGNAL
}	BIAS
%	GAIN OR ATTENUATE

GENERAL NOTES

1. COMPONENTS AND PANELS SHOWN WITH A SINGLE ASTERISK (*) ARE TO BE PROVIDED AS PART OF A PACKAGE SYSTEM.
2. COMPONENTS AND PANELS SHOWN WITH A DOUBLE ASTERISK (**) ARE TO BE PROVIDED UNDER DIVISION 26, ELECTRICAL.
3. THIS IS A STANDARD LEGEND. THEREFORE, NOT ALL OF THIS INFORMATION MAY BE USED ON THE PROJECT.

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EXP. 06-30-2016

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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
GENERAL
INSTRUMENTATION AND CONTROL LEGEND 1

SHEET 01-G-0011
SEQ 7
DATE 12/2014
PROJ. NO. 490515

01-G-0011_469556.dgn

VALVE SYMBOLS

GATE
KNIFE GATE
BUTTERFLY
GLOBE
BALL
V
VEE-BALL
PLUG
SEAT PORT ECCENTRIC PLUG
DIAPHRAGM
PINCH
NEEDLE
SWING CHECK
BALL CHECK
BACKFLOW PREVENTER
ROTARY
TELESCOPE
S
SAMPLE
MUD
PRESSURE RELIEF
AIR AND/OR VACUUM RELEASE
REGULATED SIDE
PRESSURE CONTROL
PRESSURE REGULATION (CLAY-TYPE)
MULTI-PORT VALVE (GATE VALVE SHOWN. FOR OTHER VALVE TYPES, APPROPRIATE VALVE SYMBOL SHOWN.) SEAT PORTS ARE IMPLIED BY INDICATED FLOW PATTERN.
ANGLE GATE

GATE SYMBOLS

SLUICE
BUTTERFLY
FABRICATED SLIDE
FLAP
STOP LOG
SHEAR

ACTUATOR SYMBOLS

PNEUMATIC DIAPHRAGM SPRING-OPPOSED, SINGLE OR DOUBLE ACTING
PNEUMATIC CYLINDER SINGLE OR DOUBLE ACTING ACTUATED BY ONE INPUT
M
ELECTRIC MOTOR
S
SOLENOID
VALVE POSITIONER
MANUAL
H
HYDRAULIC
DIAPHRAGM, DIFFERENTIAL PRESSURE
E/H
ELECTROHYDRAULIC

NOTE:
ON LOSS OF PRIMARY POWER (PNEUMATIC, ELECTRICAL, OR HYDRAULIC)

XX: FO FAIL OPEN
FC FAIL CLOSED
FLP FAIL TO LAST POSITION

PRIMARY ELEMENT SYMBOLS

PARSHALL FLUME
WEIR
ORFICE PLATE
FLOW TUBE
PITOT-STATIC
VORTEX METER
ULTRASONIC FLOWMETER
M
ELECTROMAGNETIC FLOWMETER
PROPELLER OR TURBINE METER
THERMAL FLOWMETER
LEVEL (BUBBLER TUBE)
LS
LEVEL (FLOAT)
FI
ROTAMETER
DE
DENSITY METER
XX
GENERIC
LE
LEVEL

MISCELLANEOUS SYMBOLS

V
VENT TO ATMOSPHERE
AIR GAP
T
DRIP TRAP
PIG INSERT POINT
PIG CATCH POINT
A
SELF CONTAINED AIR SUPPLY
AP
AIR PURGE SET
F
FLUSHING CONNECTION
S
SEAL WATER SET
WP
WATER PURGE SET
FLEXIBLE CONNECTION
AERATOR
DIAPHRAGM SEAL
ANNULAR DIAPHRAGM SEAL
SS
COMPOSITE SAMPLER
FLAME TRAP
CALIBRATION COLUMN
S
INLINE SILENCER
BLIND FLANGE
PIPE CAP
STRAINER
BASKET STRAINER
FILTER
PULSATION DAMPENER
EXPANSION CHAMBER

FFLCPLLLX
PANEL CONTINUED ON SAME OR OTHER DRAWING
PANEL OUTLINE
PANEL NAME
120V — 120 VOLT, 60 HZ POWER
120V UPS — 120 VOLT, UPS POWER
480V — 480 VOLT, 60 HZ POWER
XX — AIR SET XX = SUPPLY PRESSURE IN PSIG.
PLUG
RECEPTACLE
RUPTURE DISK (VACUUM)
RUPTURE DISK (PRESSURE)
TV
TV MONITOR
TV
TV CAMERA
RADIO ANTENNA
I
OR
I
INTERLOCK, SEE CONTROL DIAGRAMS
ISR
OR
ISR
INTRINSICALLY SAFE RELAY, SEE CONTROL DIAGRAMS
SKIMMING MECHANISM
SCREW CONVEYOR
MIXER OR AXIAL FLOW PUMP
CHEMICAL INJECTOR

PUMP AND COMPRESSOR SYMBOLS

CENTRIFUGAL PUMP (DRY PIT)
CENTRIFUGAL WET PIT PUMP OR TURBINE PUMP
RECIPROCATING OR METERING PUMP (POSITIVE DISPLACEMENT)
DIAPHRAGM PUMP
GEAR PUMP OR BLOWER (POSITIVE DISPLACEMENT)
PROGESSING CAVITY PUMP
COMPRESSOR (CENTRIFUGAL)
COMPRESSOR (PISTON)
BLOWER OR FAN (CENTRIFUGAL)
EJECTOR
PISTON PUMP
SUBMERSIBLE SUMP PUMP
ROTARY PUMP
VACUUM PUMP
SCREW PUMP

XX: AS ADJUSTABLE SPEED
CS-1 CONSTANT SPEED (SINGLE SPEED)
CS-2 CONSTANT SPEED (TWO SPEED)

FLOW STREAM IDENTIFICATION

ALP	AIR, LOW PRESSURE
FA	FOUL AIR
GR	GRIT
GS	GRIT SLURRY
PD	PLANT DRAIN
PLE	PLANT EFFLUENT
RL/RS	REFRIGERANT LIQUID/SUCTION
RS	RAW SEWAGE
SCR	SCREENINGS
SE	SECONDARY EFFLUENT
SHC	SODIUM HYPOCHLORITE
SRS	SCREENED RAW SEWAGE
WAS	WASTE ACTIVATED SLUDGE
W1	NO. 1 (POTABLE) WATER
W2	NO. 2 (NON-POTABLE) WATER
W3	NO. 3 (PLANT) WATER
XX/DR	DRAIN (PROCESS)

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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
GENERAL
INSTRUMENTATION AND CONTROL
LEGEND 2

SHEET 01-G-0012
SEQ 8
DATE 12/2014
PROJ. NO. 490515

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EXP. 06-30-2016

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GENERAL ARCHITECTURAL NOTES

1. UNLESS OTHERWISE INDICATED, PLAN DIMENSIONS ARE TO COLUMN GRID ON CENTERLINES, NOMINAL SURFACE OF MASONRY, FACE OF STUDS AND FACE OF CONCRETE WALLS.
2. "FLOOR LINE" REFERS TO TOP OF CONCRETE SLABS. FINISH FLOORING IS INSTALLED ABOVE THE FLOOR LINE. FOR DEPRESSED FLOORS AND CURBS, SEE STRUCTURAL DRAWINGS.
3. REPETITIVE FEATURES ARE NOT DRAWN IN THEIR ENTIRETY AND SHALL BE COMPLETELY PROVIDED AS IF DRAWN IN FULL.
4. WHERE DOOR IS LOCATED NEAR CORNER OF ROOM AND IS NOT LOCATED BY DIMENSION ON PLAN OR DETAILS, DIMENSION SHALL BE 3-INCHES FROM FACE OF STUD (WALL) TO FACE OF ROUGH OPENING. DIMENSION SHALL BE 6 INCHES FROM FACE OF WALL TO EDGE OF ROUGH OPENING AT CONCRETE WALLS, 8 INCHES AT CMU WALLS.
5. 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.
6. VERIFY ALL ROUGH-IN DIMENSIONS FOR EQUIPMENT PROVIDED IN THIS CONTRACT, OR BY OTHERS.
7. VERIFY SIZE AND LOCATION OF, AND PROVIDE: REQUIRED OPENINGS THROUGH FLOORS AND WALLS, ACCESS DOORS, FURRING, CURBS, ANCHORS AND INSERTS. PROVIDE ALL BASES AND BLOCKING REQUIRED FOR ACCESSORIES, MECHANICAL, ELECTRICAL AND OTHER EQUIPMENT.
8. FOR APPLICABLE CODES AND LIFE SAFETY PLANS, SEE DRAWINGS 01-G-0015, 01-G-0016, AND 01-G-0017.

ARCHITECTURAL MATERIAL SYMBOLS

SYMBOL	LEGEND
	GRANULAR FILL
	CHECKERED PLATE
	EARTH OR FINISH GRADE
	CONCRETE
	CMU WALL (PLAN)
	CMU WALL (SECTION)
	METAL STUD WALL (PLAN)
	RIGID INSULATION
	BATT INSULATION
	STEEL
	GYPSUM WALLBOARD
	ACOUSTICAL TILE
	WOOD, ROUGH CONTINUOUS
	WOOD, ROUGH NON-CONTINUOUS

ARCHITECTURAL LEGEND

SYMBOL	LEGEND
A	GRID / COLUMN INDICATOR
ROOM NAME, XX101	ROOM IDENTIFIER
"XX" = FACILITY INDICATOR (IF SHOWN), DOOR LETTER, ROOM NUMBER, XX101A	DOOR IDENTIFIER
ACTIVE, INACTIVE, XX101A	INDICATES PAIR OF DOORS (DOOR # ON ACTIVE)
XXW-1	WINDOW IDENTIFIER
XXL-1	LOUVER IDENTIFIER
A	WALL TYPE INDICATOR
S-1	SIGNAGE IDENTIFIER
QUANTITY AND DIRECTION OF POINTERS AS REQUIRED; A, B, C, D, E; 1, XX-A-3001	INTERIOR ELEVATION INDICATOR
⊗ 110.50	SPOT ELEVATION INDICATOR (IN FEET)
	DIRECTION OF SLOPE DOWN
HINGE SIDE	HATCH SWING INDICATOR
F.EXT-X SEMI RECESSED (IN CABINET); F.EXT-X (ON BRACKET)	FIRE EXTINGUISHER "X" = NUMBER IN SPECIFICATIONS
	FIRST AID CABINET

WALL TYPES

A — WIDTH, SEE STRUCT
- CONCRETE WALL, SMOOTH FINISH

B
- 8" CMU, SEE STRUCTURAL FOR REINFORCING
- FOAM-IN-PLACE INSULATION

B1
- 8" CMU
- 2 1/2" RIGID INSULATION
- VAPOR RETARDER
- 3-5/8" GALV STEEL STUDS @ 16" OC
- 5/8" GWB

B2
- 8" CMU
- 2 1/2" RIGID INSULATION
- VAPOR RETARDER
- 7/8" HAT CHANNEL
- 5/8" WRB

C
- 5/8" GWB
- 3 5/8"" GALV STEEL STUDS @ 16" OC
- SOUND ATTENUATION BLANKETS
- 5/8" WRB

C1
- 5/8" GWB
- 3 5/8"" GALV STEEL STUDS @ 16" OC
- SOUND ATTENUATION BLANKETS (AT SERVER ROOM WALLS ONLY)
- 5/8" GWB

C2
- CERAMIC TILE AS SCHEDULED
- 5/8" GMMU
- SOUND ATTENUATION BLANKETS
- 3 5/8" GALV STEEL STUDS @ 16" OC
- 5/8" GWB

C3
- 5/8" WRB
- SOUND ATTENUATION BLANKETS
- 3 5/8 GALV STEEL STUDS @ 16" OC
- 5/8" WRB

C4 — SHOWER ROOM
- CERAMIC TILE AS SCHEDULED
- 5/8" GMMU
- 3 5/8" GALV STEEL STUDS @ 16" OC
- 5/8" GMMU
- CERAMIC TILE AS SCHEDULED

C5 — RESTROOM, 14"
- CERAMIC TILE AS SCHEDULED
- 5/8" GMMU
- 3-5/8" GALV STEEL STUDS @ 16" OC
- SOUND ATTENUATION BLANKETS
- 3-5/8" GALV STEEL STUDS @ 16" OC
- SOUND ATTENUATION BLANKETS
- 5/8" GMMU
- CERAMIC TILE AS SCHEDULED

REGISTERED ARCHITECT
ROBERT P. TAVERNA
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ALBANY, OREGON
5797
STATE OF OREGON

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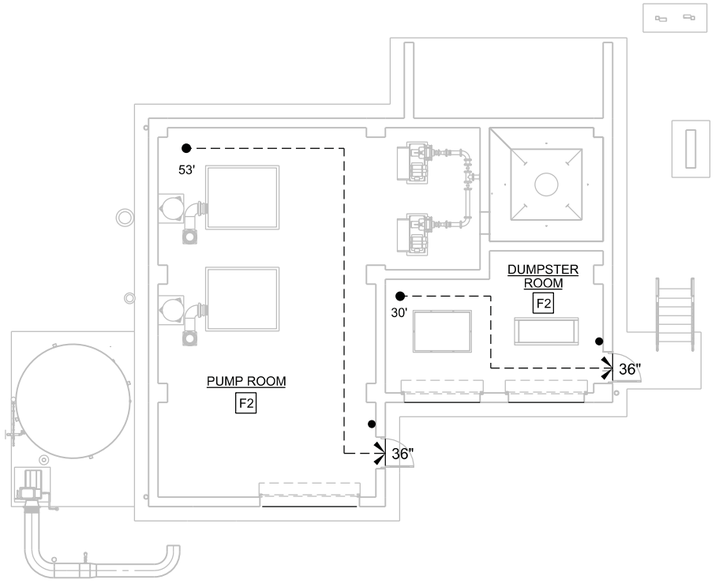
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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
GENERAL
ARCHITECTURAL
GENERAL NOTES, SYMBOLS, LEGEND, AND WALL TYPES

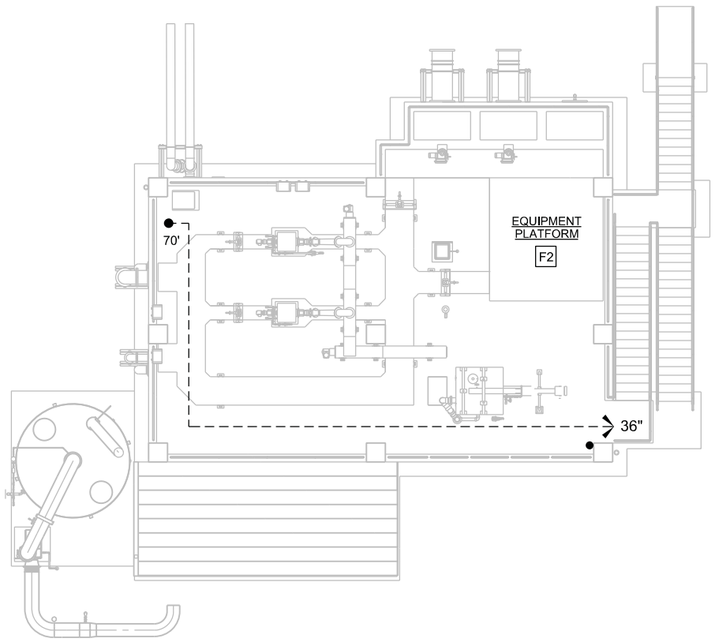
SHEET 01-G-0014
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20-HEADWORKS : GROUND LEVEL LIFE SAFETY PLAN

1/8" = 1'-0"



20-HEADWORKS : UPPER LEVEL LIFE SAFETY PLAN

1/8" = 1'-0"

BUILDING CODE DATA TABLE

Oregon Structural Specialty Code 2014 (Based on the 2012 IBC)		
FACILITY NAME: HEADWORKS - 20		
PROJECT DESCRIPTION		
CAST-IN-PLACE CONCRETE STRUCTURE		
OCCUPANCY GROUP [IBC, SEC. 306.3, 311.3]	**OCCUPANCY**	
	PUMP ROOM	F-2
	DUMPSTER ROOM	F-2
	EQUIPMENT PLATFORM	F-2
HAZARDOUS MATERIALS		NA
ALLOWABLE AMOUNT		NA
ACTUAL AMOUNT		NA
INCIDENTAL ACCESSORY USE SEPARATIONS		NONE REQUIRED
OCCUPANCY SEPARATION/FIRE RATING		NA

CONSTRUCTION TYPE [IBC, SEC. 602.2]		TYPE II-B
GENERAL BUILDING LIMITATIONS [IBC, TABLE 503]		
MAXIMUM STORIES/HEIGHT ALLOWED		
	F-2	3 STORIES/55 FT
ACTUAL NUMBER OF STORIES/HEIGHT ABOVE GROUND PLANE		
	F-2	1 STORY/30 FEET
MAXIMUM AREA ALLOWED PER FLOOR		
	F-2	23,000 SF
ACTUAL AREA PER FLOOR		
	F-2	XXX SF
RATIO OF ACTUAL TO ALLOWABLE		N/A

FIRE RESISTANCE OF BUILDING ELEMENTS [IBC, TABLE 601]		
REQUIRED RATINGS	UNRATED FOR CONSTRUCTION TYPE II-B	
EXTERIOR WALL FIRE RESISTANCE [IBC, TABLE 602]		
ACTUAL FIRE SEPARATION DISTANCE	ALL SIDES: 10+FT	
REQUIRED WALL RATING	UNRATED WHEN OVER 10 FEET FIRE SEPARATION	
ACTUAL WALL RATING	UNRATED	
EXTERIOR OPENING PROTECTION [IBC TABLE 705.8]		
ACTUAL FIRE SEPARATION DISTANCE	NORTH SIDE: 10+FT EAST, WEST, SOUTH SIDES: 30+FT	
REQUIRED OPENING PROTECTION	NORTH SIDE: UNPROTECTED 15% ALLOWABEL AREA EAST, SOUTH WEST SIDES: UNPROTECTED/UNLIMITED OVER 30 FT	
ACTUAL OPENING PROTECTION		UNPROTECTED
FIRE PROTECTION SYSTEMS [IBC, CHAPTER 9]		
AUTOMATIC SPRINKLER SYSTEMS [IBC, SEC. 903]		NOT PROVIDED
FIRE EXTINGUISHERS [IBC, SEC 906.1]	HAND HELD, MULTIPURPOSE FIRE EXTINGUISHERS AT EACH EXTERIOR EXIT DOOR.	
FIRE ALARM SYSTEM [IBC, CHAPTER 9]		NOT REQUIRED
MEANS OF EGRESS [IBC, CHAPTER 10]		
OCCUPANT LOAD FACTOR [IBC, TABLE 1004.1.1]		
	XXX	100 SF (GROSS)
	TOTAL OCCUPANT LOAD : XXX / 100 = X	NOT NORMALLY OCCUPIED
ALLOWABLE TRAVEL DISTANCE [IBC, TABLE 1016.1]		
	F-2	300 FEET
ACTUAL TRAVEL DISTANCE		SEE LIFE SAFETY PLAN
EXITS REQUIRED		EXITS PROVIDED
PUMP ROOM	990 SF (GROSS) / 100 = 10 < 49: 1 EXIT REQUIRED	1 TO EXTERIOR
DUMPER ROOM	261 SF (GROSS) / 100 = 3 < 49: 1 EXIT REQUIRED	1 TO EXTERIOR
OPEN UPPER LEVEL	1,380 SF (GROSS) / 100 = 14 < 49: 1 EXIT REQUIRED	1

LIFE SAFETY LEGEND

- X' — TRAVEL DISTANCE (X = TOTAL DISTANCE TO EXIT IN FEET)
- X" — EGRESS WIDTH
- FIRE EXTINGUISHER, SEE FLOOR PLANS FOR TYPE
- F2 — OCCUPANCY GROUP

GENERAL NOTES:

1. FOR SIGN INFORMATION AND TYPE DESCRIPTIONS SEE SPECIFICATIONS SECTION 10 14 00.
2. FOR ARCHITECTURAL LEGEND SEE SHEET 01-G-0014.
3. FOR ABBREVIATIONS SEE SHEET 01-G-0004 AND 01-G-0005.
4. FOR FIRE EXTINGUISHER INFORMATION SEE FLOOR PLANS ANDSPECIFICATIONS SECTION 10 44 00.

REGISTERED ARCHITECT
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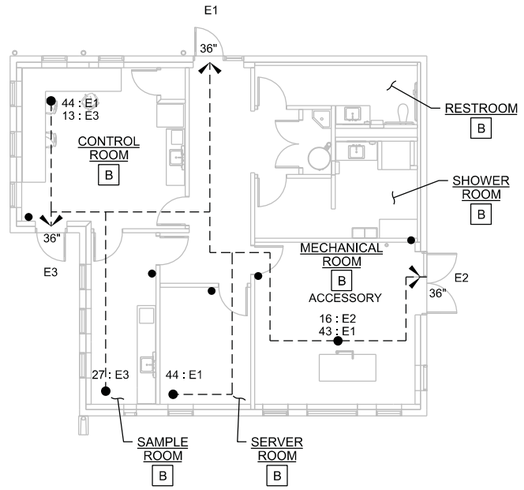
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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
GENERAL
ARCHITECTURAL
CODE DATA AND LIFE SAFETY PLAN – HEADWORKS

SHEET 01-G-0015
SEQ 10
DATE 12/2014
PROJ. NO. 490515



N

60-CONTROL BUILDING : LIFE SAFETY PLAN

1/8" = 1'-0"

BUILDING CODE DATA TABLE

Oregon Structural Specialty Code (OSSC 2014): Based on the 2012 IBC		
FACILITY NAME: CONTROL BUILDING- 60		
PROJECT DESCRIPTION CMU STRUCTURE HOUSING CONTROL ROOM, SERVER ROOM, SAMPLE ROOM, ELECTRICAL/MECHANICAL ROOM, RESTROOM AND SHOWER ROOM.		
OCCUPANCY GROUP [IBC, SEC. 306.3, 311.3]	**OCCUPANCY**	
	CONTROL ROOM	B
	SERVER ROOM	B
	SAMPLE ROOM	B
	ELECTRICAL/MECHANICAL ROOM	B Accessory Space
	RESTROOM	B
	SHOWER ROOM	B
HAZARDOUS MATERIALS		NA
ALLOWABLE AMOUNT		NA
ACTUAL AMOUNT		NA
INCIDENTAL ACCESSORY USE SEPARATIONS		NONE REQUIRED
OCCUPANCY SEPARATION/FIRE RATING		NA

CONSTRUCTION TYPE [IBC, SEC. 602.2]		TYPE II-B
GENERAL BUILDING LIMITATIONS [IBC, TABLE 503]		
MAXIMUM STORIES/HEIGHT		
	B	3 STORIES/55 FT
ACTUAL NUMBER OF		
	B	1 STORY/16 FEET
MAXIMUM AREA ALLOWED PER		
	B	23,000 SF
ACTUAL AREA PER FLOOR		
	B	1422 SF
RATIO OF ACTUAL TO ALLOWABLE		N/A

FIRE RESISTANCE OF BUILDING ELEMENTS [IBC, TABLE 601]		
REQUIRED RATINGS	UNRATED FOR CONSTRUCTION TYPE II-B	
EXTERIOR WALL FIRE RESISTANCE [IBC, TABLE 602]		
ACTUAL FIRE SEPARATION	ALL SIDES: 10+FT	
REQUIRED WALL RATING	UNRATED WHEN OVER 10 FEET FIRE SEPARATION	
ACTUAL WALL RATING	UNRATED	
EXTERIOR OPENING PROTECTION [IBC TABLE 705.8]		
ACTUAL FIRE SEPARATION	ALL SIDES 30+FT	
REQUIRED OPENING PROTECTION	ALL SIDES UNPROTECTED 30-FEET OR GREATER	
ACTUAL OPENING PROTECTION		UNPROTECTED
FIRE PROTECTION SYSTEMS [IBC, CHAPTER 9]		
AUTOMATIC SPRINKLER SYSTEMS [IBC, SEC. 903]		NOT PROVIDED
FIRE EXTINGUISHERS [IBC,	HAND HELD, MULTIPURPOSE FIRE	
FIRE ALARM SYSTEM [IBC, CHAPTER 9]		NOT REQUIRED
MEANS OF EGRESS [IBC, CHAPTER 10]		
OCCUPANT LOAD FACTOR [IBC, TABLE 1004.1.1]		
	CONTROL BUILDING	100 SF (GROSS)
	TOTAL OCCUPANT LOAD : 1,422/ 100 = 15	
ALLOWABLE TRAVEL DISTANCE [IBC, TABLE 1016.1]		
	B	200 FEET
ACTUAL TRAVEL DISTANCE		SEE LIFE SAFETY PLAN
EXITS REQUIRED		EXITS PROVIDED
CONTROL BUILDING	1,422 SF (GROSS) / 100 = 15 < 49: 1 EXIT REQUIRED	2

LIFE SAFETY LEGEND

- X : Y — TRAVEL DISTANCE (X = TOTAL DISTANCE IN FEET TO EXIT 'Y')
- X" — EGRESS WIDTH
- ● — FIRE EXTINGUISHER, SEE FLOOR PLANS FOR TYPE
- [X] — OCCUPANCY GROUP

GENERAL NOTES:

1. FOR SIGN INFORMATION AND TYPE DESCRIPTIONS SEE SPECIFICATIONS SECTION 10 14 00.
2. FOR ARCHITECTURAL LEGEND SEE SHEET 01-G-0014.
3. FOR ABBREVIATIONS SEE SHEET 01-G-0004 AND 01-G-0005.
4. FOR FIRE EXTINGUISHER INFORMATION SEE FLOOR PLANS ANDSPECIFICATIONS SECTION 10 44 00.

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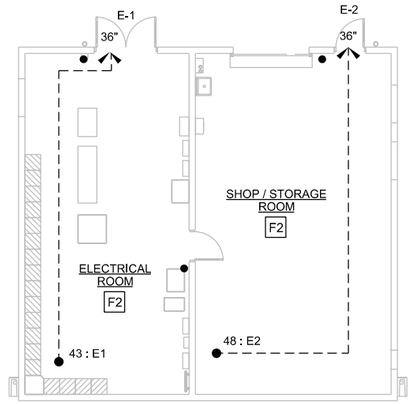
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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
GENERAL
ARCHITECTURAL
CODE DATA AND LIFE SAFETY PLAN – CONTROL BUILDING

SHEET 01-G-0016
SEQ 11
DATE 12/2014
PROJ. NO. 490515



N

80 - SHOP / ELECTRICAL BUILDING : LIFE SAFETY PLAN

1/8" = 1'-0"

BUILDING CODE DATA TABLE		
Oregon Structural Specialty Code (OSSC 2014): Based on the 2012 IBC		
SHOP / ELECTRICAL BUILDING - 80		
PROJECT DESCRIPTION		
CMU STRUCTURE HOUSING GARAGE, SHOP, ELECTRICAL ROOM AND IPS		
OCCUPANCY GROUP [IBC, SEC. 306.3, 311.3]	**OCCUPANCY**	
	ELECTRICAL ROOM	F-2
	SHOP	F-2
HAZARDOUS MATERIALS		NA
ALLOWABLE AMOUNT		NA
ACTUAL AMOUNT		NA
INCIDENTAL ACCESSORY USE SEPARATIONS		NONE REQUIRED
OCCUPANCY SEPARATION/FIRE RATING		NA

CONSTRUCTION TYPE [IBC, SEC. 602.2]		TYPE II-B
GENERAL BUILDING LIMITATIONS [IBC, TABLE 503]		
MAXIMUM STORIES/HEIGHT ALLOWED		
	F-2	3 STORIES/55 FT
ACTUAL NUMBER OF STORIES/HEIGHT ABOVE GROUND PLANE		
	F-2	1 STORY/18 FEET
MAXIMUM AREA ALLOWED PER FLOOR		
	F-2	23,000 SF
ACTUAL AREA PER FLOOR		
	F-2	1,392 SF
RATIO OF ACTUAL TO ALLOWABLE		N/A

FIRE RESISTANCE OF BUILDING ELEMENTS [IBC, TABLE 601]		
REQUIRED RATINGS	UNRATED FOR CONSTRUCTION TYPE II-B	
EXTERIOR WALL FIRE RESISTANCE [IBC, TABLE 602]		
ACTUAL FIRE SEPARATION DISTANCE	ALL SIDES: 30+FT	
REQUIRED WALL RATING	UNRATED WHEN OVER 30 FEET FIRE SEPARATION	
ACTUAL WALL RATING	UNRATED	
EXTERIOR OPENING PROTECTION [IBC TABLE 705.8]		
ACTUAL FIRE SEPARATION DISTANCE	ALL SIDES: 30+FT	
REQUIRED OPENING PROTECTION	ALL SIDES UNPROTECTED 30-FEET OR GREATER	
ACTUAL OPENING PROTECTION		UNPROTECTED
FIRE PROTECTION SYSTEMS [IBC, CHAPTER 9]		
AUTOMATIC SPRINKLER SYSTEMS [IBC, SEC. 903]		NOT PROVIDED
FIRE EXTINGUISHERS [IBC, SEC 906.1]	HAND HELD, FIRE EXTINGUISHERS AT EACH EXTERIOR EXIT DOOR.	
FIRE ALARM SYSTEM [IBC, CHAPTER 9]		NOT REQUIRED
MEANS OF EGRESS [IBC, CHAPTER 10]		
OCCUPANT LOAD FACTOR [IBC, TABLE 1004.1.1]		
	MAINTENANCE FACILITY	100 SF (GROSS)
	TOTAL OCCUPANT LOAD : 1,392 / 100 = 14	NOT NORMALLY OCCUPIED
ALLOWABLE TRAVEL DISTANCE [IBC, TABLE 1016.1]		
	F-2	300 FEET
ACTUAL TRAVEL DISTANCE		SEE LIFE SAFETY PLAN
EXITS REQUIRED		EXITS PROVIDED
SHOP	744 SF (GROSS) / 100 = 8 < 49: 1 EXIT REQUIRED	1 TO EXTERIOR
ELECTRICAL ROOM	480 SF (GROSS) / 100 = 5 < 49: 1 EXIT REQUIRED	2

LIFE SAFETY LEGEND

- X : Y — TRAVEL DISTANCE (X = TOTAL DISTANCE IN FEET TO EXIT 'Y')
- X" — EGRESS WIDTH
- ● — FIRE EXTINGUISHER, SEE FLOOR PLANS FOR TYPE
- [X] — OCCUPANCY GROUP

GENERAL NOTES:

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CODE DATA AND LIFE SAFETY PLAN – SHOP/ELECT BLDG

SHEET 01-G-0017
SEQ 12
DATE 12/2014
PROJ. NO. 490515

01-G-0017_469556.dgn

DESIGN CRITERIA

1. APPLICABLE CODE: 2012 INTERNATIONAL BUILDING CODE (IBC), AS AMENDED BY THE STATE OF OREGON AND LOCAL AGENCIES.

2. REFER TO THE DRAWINGS FOR ADDITIONAL AND SPECIFIC STRUCTURE LOADINGS AND REQUIREMENTS.

3. ALL LOADS SHOWN ARE SERVICE LEVEL (UNFACTORED) UNLESS SPECIFICALLY NOTED OTHERWISE.

4. DEAD LOADS:
   SELF WEIGHT

5. ROOF LOADS:

GROUND SNOW LOAD, Pg	= 1 PSF
TERRAIN CATEGORY	= C
SNOW EXPOSURE FACTOR, Ce	= 1.0
THERMAL FACTOR, Ct	= 1.2
SLOPE FACTOR, Cs	= 1.0
SNOW IMPORTANCE FACTOR, I	= 1.1
MINIMUM FLAT ROOF SNOW LOAD, Pf	= 25 PSF
LIVE LOAD	= 20 PSF
MISCELLANEOUS MECHANICAL AND ELECTRICAL LOADS	= 5 PSF

   DEFLECTION CRITERIA FOR FRAMING MEMBERS:

TOTAL LOAD	L/240
LIVE LOAD	L/360
SNOW LOAD	L/240

   WHERE L IS THE MEMBER SPAN LENGTH

6. FLOOR LIVE LOADS:

MECHANICAL ROOM	200 PSF
CORRIDORS, EXITS, STAIRS	100 PSF
WALKWAYS AND ELEVATED PLATFORMS	100 PSF

7. WIND LOADS:

ULTIMATE WIND SPEED (3-SECOND GUST), V:	
RISK CATEGORY II STRUCTURE	= 120 MPH
RISK CATEGORY III STRUCTURE	= 130 MPH
EXPOSURE CATEGORY	= C
INTERNAL PRESSURE COEFFICIENT, GCpi	= +/- 0.18
RISK CATEGORY ALL FACILITIES EXCEPT FACILITY 60-CONTROL BUILDING	= III
RISK CATEGORY FACILITY 60-CONTROL BUILDING	= II
IMPORTANCE FACTOR, Iw	= 1.0
ASCE 7 METHOD	= DIRECTIONAL PROCEDURE
COMPONENT AND CLADDING WALL ELEMENTS (WINDOWS, DOORS, LOUVERS, SIDING ETC FOR STRUCTURES)	= 40 PSF
WITHIN 5'-0" 0F BUILDING CORNERS	= 72 PSF

8. SEISMIC LOADS:

MAPPED SPECTRAL RESPONSE ACCELERATIONS	
S_S	= 1.48g
S_1	= 0.73g
DESIGN SPECTRAL RESPONSE ACCELERATIONS	
S_{DS}	= 0.99g
S_{D1}	= 0.63g
SITE CLASS	= C
RISK CATEGORY	= SEE WIND
SEISMIC DESIGN CATEGORY	= D
IMPORTANCE FACTOR, Ie ALL FACILITIES EXCEPT FACILITY 60-CONTROL BUILDING	= 1.25
IMPORTANCE FACTOR,Ie FACILITY 60-CONTROL BUILDING	= 1.0

   STRUCTURES HAVE BEEN ANALYZED USING THE EQUIVALENT LATERAL FORCE PROCEDURES OF ASCE 7, EXCEPT FOR THE WATER HOLDING FACILITIES WHICH HAVE BEEN DESIGNED USING THE SEISMIC DESIGN OF LIQUID-CONTAINING CONCRETE STRUCTURES OF ACI 350.3

9. LATERAL FORCE-RESISTING SYSTEMS:
   SEE FACILITY SPECIFIC DRAWING

10. SOIL DESIGN PARAMETERS:

A.	NET ALLOWABLE SOIL BEARING PRESSURES:	2,500 PSF
B.	EQUIVALENT DRAINED/UNDRAINED FLUID PRESSURES-FLAT BACKFILL:	
	ACTIVE:	36/81 PCF
	AT REST:	60/95 PCF
	PASSIVE:	300/250 PCF
C.	DYNAMIC FLUID PRESSURES:	
	DYNAMIC PRESSURE AT WALL TOP:	13H PSF
	DYNAMIC PRESSURE AT WALL BASE:	0H PSF
	WHERE H IS HEIGHT OF SOIL ADJACENT TO THE WALL	
D.	VERTICAL SURCHARGE:	100 PSF FOR TOP 10'-0" OF WALL WHEN ADJACENT TO TRAFFIC AREAS.
E.	COEFFICIENT OF FRICTION:	0.35
F.	MODULUS OF SUBGRADE REACTION:	200 PCI
G.	NATIVE SOIL UNIT WEIGHT:	120 PCF
H.	GROUND WATER (GW) ELEVATION:	ASSUMED AT FINISH GRADE

11. FROST DEPTH: 12 IN

GENERAL INFORMATION

1. FOR ABBREVIATIONS NOT LISTED, SEE ASME Y14.38 "ABBREVIATIONS AND ACRONYMS: PUBLICATION AS DISTRIBUTED BY THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME).

2. DESIGN DETAILS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS OCCURRING THROUGHOUT THE PROJECT, WHETHER OR NOT THEY ARE INDIVIDUALLY CALLED OUT.

3. VERIFY FINAL OPENING DIMENSIONS IN WALLS, SLABS, AND DECKS WITH OTHER DISCIPLINE DRAWINGS PRIOR TO CONSTRUCTION OF THESE ELEMENTS.

4. FOR NUMBER, TYPE, SIZE, ARRANGEMENT, AND/OR LOCATION OF EQUIPMENT PADS, SEE OTHER DISCIPLINE DRAWINGS. COORDINATE WITH EQUIPMENT SUPPLIER PRIOR TO PLACING SLABS, WALLS AND FOUNDATIONS. COORDINATE PIPING OPENINGS WITH OTHER DISCIPLINE DRAWINGS.

5. DO NOT CUT OR MODIFY STRUCTURAL MEMBERS FOR PIPES, DUCTS, ETC, UNLESS SPECIFICALLY DETAILED OR APPROVED IN WRITING BY THE ENGINEER.

6. VISITS TO THE JOB SITE BY THE ENGINEER TO OBSERVE THE CONSTRUCTION DO NOT IN ANY WAY MEAN THAT ENGINEER IS GUARANTOR OF CONSTRUCTOR'S WORK, NOR RESPONSIBLE FOR THE COMPREHENSIVE OR SPECIAL INSPECTIONS, COORDINATION, SUPERVISION, OR SAFETY AT THE JOB SITE.

7. INFORMATION (DETAILING, DIMENSIONS, CONFIGURATIONS, AND ELEVATIONS, ETC.) OF EXISTING CONSTRUCTION SHOWN REFLECTS AVAILABLE EXISTING DESIGN DOCUMENTS, AND DOES NOT NECESSARILY REPRESENT THE AS-CONSTRUCTED CONDITIONS. THE CONTRACTOR SHALL FIELD VERIFY DIMENSIONS, ELEVATIONS AND DETAILING OF THE EXISTING STRUCTURES PRIOR TO UNDERTAKING ANY WORK THAT IS AFFECTED BY THE EXISTING STRUCTURE.

INSPECTION AND TESTING

1. SPECIAL INSPECTION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR INSPECTIONS REQUIRED BY THE BUILDING OFFICIAL. THE CONTRACTOR SHALL SCHEDULE BOTH INSPECTIONS.

2. SPECIFIED CONCRETE AND MASONRY AND OTHER MATERIAL TESTING RELATED TO SPECIAL INSPECTION DURING CONSTRUCTION WILL BE OWNER FURNISHED.

3. SPECIFIED LABORATORY TEST MIXES AND SIMILAR TEST RESULTS TO VERIFY MATERIAL QUALITY AND CONFORMANCE TO SPECIFICATIONS, AND SUBMITTED FOR REVIEW PRIOR TO ACCEPTANCE FOR USE ON THE PROJECT, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

4. SPECIAL INSPECTION, TESTING AND OBSERVATION (OWNER FURNISHED) IS REQUIRED IN ACCORDANCE WITH IBC SECTIONS 110 AND 1704 AS INDICATED IN THE STATEMENT OF SPECIAL INSPECTION.

5. THE CONTRACTOR SHALL SCHEDULE THE SPECIAL INSPECTION VISITS, PROVIDE 48 HOURS NOTICE TO THE INSPECTOR, AND PROVIDE SAFE ACCESS TO ITEMS TO BE INSPECTED. THE SPECIAL INSPECTOR WILL OBSERVE THE INDICATED WORK FOR COMPLIANCE WITH THE APPROVED CONTRACT DOCUMENTS AND SUBMIT RECORDS OF INSPECTION. DISCREPANCIES WILL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES.

6. SPECIAL INSPECTION AND ASSOCIATED TESTING REPORTS WILL BE SUBMITTED TO THE ENGINEER, CONTRACTOR, BUILDING OFFICIAL, AND OWNER WITHIN ONE WEEK OF INSPECTION OR WITHIN ONE WEEK OF TEST COMPLETION. AT THE CONCLUSION OF CONSTRUCTION, A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF PREVIOUSLY NOTED DISCREPANCIES WILL BE SUBMITTED.

GEOTECHNICAL OBSERVATION

1. SPECIAL INSPECTION (OWNER FURNISHED) IS REQUIRED IN ACCORDANCE WITH IBC SECTIONS 110 AND 1701 ON THE FOLLOWING PORTIONS OF THE WORK:
   A. SOILS
   B. REINFORCED SOIL SLOPES
   C. GRAVITY BLOCK WALL / EARTH RETENTION SYSTEM
   D. SHORING

FOUNDATIONS

1. REFER TO "GEOTECHNICAL INVESTIGATION, COOS BAY WASTEWATER TREATMENT PLANT #2 CAPE ARAGO HIGHWAY COOS BAY, OREGON BY SHN CONSULTING ENGINEERS & GEOLOGISTS, INC DATED AUGUST 2013"

2. EXCAVATIONS SHALL BE SHORED TO PREVENT SUBSIDENCE OR DAMAGE TO ADJACENT EXISTING STRUCTURES, ROADS, UTILITIES, ETC.

3. FOUNDATION SLABS, SLABS-ON-GRADE AND WALL AND COLUMN FOUNDATIONS SHALL BEAR ON 6 INCHES MIN OF COMPACTED GRANULAR FILL.

4. FOUNDATION BEARING SURFACES SHALL BE OBSERVED BY THE GEOTECHNICAL ENGINEER OR QUALIFIED DESIGNEE PRIOR TO PLACEMENT OF FORMWORK OR REINFORCING STEEL. THE OBSERVATION SHALL VERIFY IF THE ACTUAL EXPOSED SUBGRADE IS AS ANTICIPATED BY THE SITE SPECIFIC BORINGS, LABORATORY TESTS, AND GEOTECHNICAL REPORTS.

5. NO BACKFILL SHALL BE PLACED BEHIND WALLS UNTIL THE WALLS HAVE ATTAINED 100 PERCENT OF THEIR SPECIFIED 28 DAY COMPRESSIVE STRENGTH.

FORMWORK, SHORING, AND BRACING

1. STRUCTURES SHOWN ON THE DRAWINGS HAVE BEEN DESIGNED FOR STABILITY UNDER FINAL CONDITIONS ONLY. DESIGN SHOWN DOES NOT INCLUDE NECESSARY COMPONENTS OR EQUIPMENT FOR STABILITY OF THE STRUCTURES DURING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR WORK RELATING TO CONSTRUCTION ERECTION METHODS, BRACING, SHORING, RIGGING, GUYS, SCAFFOLDING, FORMWORK, AND OTHER WORK AIDS REQUIRED TO SAFELY PERFORM THE WORK SHOWN.

2. TEMPORARY SHORING SHALL REMAIN IN PLACE UNTIL ELEVATED CONCRETE FLOOR OR SLABS HAVE REACHED 80 PERCENT OF THE 28 DAY COMPRESSIVE STRENGTH AS DETERMINED BY FIELD CYLINDER BREAKS.

CONCRETE REINFORCING

1. REINFORCING STEEL:
   TYPICAL: ASTM A615, GRADE 60
   WELDED: ASTM A706, GRADE 60 (WELDING IS ONLY PERMITTED WITH WRITTEN PERMISSION FROM ENGINEER)

2. FABRICATION AND PLACEMENT OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH CRSI MSP-1 "MANUAL OF STANDARD PRACTICE"AND ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE".

3. FOR CONCRETE SHEAR WALL STRUCTURES, REINFORCING STEEL SHALL MEET THE FOLLOWING REQUIREMENTS:
   A. ACTUAL YIELD STRENGTH BASED ON MILL TESTS SHALL NOT EXCEED SPECIFIED YIELD STRENGTH BY MORE THAN 18,000 PSI. (RETESTS SHALL NOT EXCEED THIS VALUE BY MORE THAN AN ADDITIONAL 3000 PSI.)
   B. RATIO OF THE ACTUAL ULTIMATE TENSILE STRESS TO ACTUAL TENSILE YIELD STRENGTH SHALL NOT BE LESS THAN 1.25.

4. MINIMUM REINFORCING FOR CONCRETE WALLS AND SLABS SHALL BE AS FOLLOWS:

THICKNESS	REINF EACH WAY	LOCATION
8"	#5@12"	CENTERED
10"	#4@12"	EACH FACE
12"	#5@12"	EACH FACE

   PROVIDE LARGER SIZES AND MORE REINFORCING IN SECTIONS OF CONCRETE WHERE REQUIRED BY THE DETAILS ON THE DRAWINGS OR BY THE SPECIFICATIONS.

5. CONCRETE COVER FOR REINFORCING, UNLESS SHOWN OTHERWISE, SHALL BE:

WHEN PLACED ON GROUND:	3"
INTERIOR, FINISHED, HUMIDITY CONTROLLED AREAS:	
WALLS AND SLABS	1 1/2"
BEAM STIRRUPS AND COLUMN TIES	1 1/2"
OTHER CONCRETE SURFACES	2"
WATER HOLDING STRUCTURES AND EXTERIOR AREAS	2"

6. TYPICAL HORIZONTAL WALL REINFORCING SHALL LAP WITH THE CORNER HORIZONTAL REINFORCING.

7. 90 DEGREE BENDS, UNLESS OTHERWISE SHOWN, SHALL BE ACI 318 STANDARD HOOKS.

8. WALL CORNER AND WALL INTERSECTION REINFORCEMENT BARS SHALL BE CONTINUOUS AROUND CORNERS AND THROUGH COLUMNS OR PILASTERS. REINFORCEMENT SHALL BE EXTENDED INTO CONNECTING WALLS AND LAPPED ON THE OPPOSITE FACE OF THE CONNECTING WALLS.

9. WALL FOOTING CORNER AND INTERSECTION REINFORCEMENT BARS SHALL BE EXTENDED INTO CONNECTING FOOTINGS AND LAPPED ON THE OPPOSITE FACE OF THE CONNECTING FOOTING. OUTSIDE FACE WALL FOOTING REINFORCEMENT SHALL BE LAPPED WITH CORNER BARS. ALL WALL FOOTING REINFORCEMENT SHALL BE CONTINUOUS THROUGH COLUMNS OR PILASTERS FOOTINGS.

10. LAP VERTICAL WALL BARS WITH DOWELS FROM BASE SLABS AND EXTEND INTO TOP FACE OF ROOF SLABS AND LAP WITH TOP SLAB REINFORCEMENT.

11. REINFORCING STEEL FOR FOOTINGS AND SLABS ON GRADE SHALL BE ADEQUATELY SUPPORTED ON BAR SUPPORTS WITH SPACERS TO KEEP REINFORCING ABOVE THE PREPARED GRADE. LIFTING REINFORCING OFF GRADE DURING CONCRETE PLACEMENT IS NOT PERMITTED.

12. "BURY" BARS OR "CARRIER" BARS ARE NOT ALLOWED FOR THE BOTTOM MATS OF REINFORCING IN ALL ELEVATED SLABS AND ARE NOT ALLOWED FOR THE TOP MATS OF REINFORCING IN ELEVATED SLABS LESS THAN 12 INCHES THICK.

13. REFER TO OPENING REINFORCING DETAIL 0330-001.

14. REINFORCEMENT BENDS AND LAPS, UNLESS OTHERWISE NOTED, SHALL SATISFY THE FOLLOWING MINIMUM REQUIREMENTS:

CONCRETE DESIGN STRENGTH = 4,000 PSI AT 28 DAYS[3]		GRADE 60 REINFORCING STEEL								
BAR SIZE		#3	#4	#5	#6	#7	#8	#9	#10	#11
LAP SPLICE LENGTH										
SPACING = 3"	TOP BAR [2]	1'-4"	1'-8"	2'-1"	3'-0"	5'-2"	6'-8"	8'-6"	10'-10"	13'-4"
	OTHER BAR	1'-4"	1'-4"	1'-8"	2'-4"	4'-0"	5'-2"	6'-7"	8'-4"	10'-3"
SPACING = 4"	TOP BAR [2]	1'-4"	1'-8"	2'-0"	2'-5"	3'-10"	5'-0"	6'-5"	8'-1"	10'-0"
	OTHER BAR	1'-4"	1'-4"	1'-7"	1'-10"	3'-0"	3'-11"	4'-11"	6'-3"	7'-8"
SPACING ≥ 6"	TOP BAR [2]	1'-4"	1'-8"	2'-0"	2'-5"	3'-6"	4'-0"	5'-0"	6'-2"	7'-5"
	OTHER BAR	1'-4"	1'-4"	1'-7"	1'-10"	2'-9"	3'-1"	3'-10"	4'-9"	5'-8"
EMBEDMENT LENGTH										
SPACING = 3"	TOP BAR [2]	1'-0"	1'-3"	1'-8"	2'-4"	4'-0"	5'-2"	6'-7"	8'-4"	10'-3"
	OTHER BAR	1'-0"	1'-0"	1'-3"	1'-10"	3'-1"	4'-0"	5'-1"	6'-5"	7'-11"
SPACING = 4"	TOP BAR [2]	1'-0"	1'-3"	1'-7"	1'-10"	3'-0"	3'-11"	4'-11"	6'-3"	7'-8"
	OTHER BAR	1'-0"	1'-0"	1'-3"	1'-5"	2'-4"	3'-0"	3'-10"	4'-10"	5'-11"
SPACING ≥ 6"	TOP BAR [2]	1'-0"	1'-3"	1'-7"	1'-10"	2'-9"	3'-1"	3'-10"	4'-9"	5'-8"
	OTHER BAR	1'-0"	1'-0"	1'-3"	1'-5"	2'-1"	2'-5"	3'-0"	3'-8"	4'-5"

TABLE NOTES:
1. LAP LENGTHS ARE BASED ON MINIMUM CONCRETE COVER OF 2". LONGER LENGTHS ARE REQUIRED FOR CONCRETE COVER LESS THAN 2".
2. TOP BARS SHALL BE DEFINED AS ANY HORIZONTAL BARS PLACED SUCH THAT MORE THAN 12 INCHES OF CONCRETE IS CAST IN THE MEMBER BELOW THE BAR IN ANY SINGLE POUR. HORIZONTAL WALL BARS ARE CONSIDERED TOP BARS.
3. WHERE 3000 PSI CONCRETE IS USED, INCREASE ABOVE LENGTHS BY 16 PERCENT. WHERE 3500 PSI CONCRETE IS USED, INCREASE ABOVE LENGTHS BY 7 PERCENT.

STRUCTURAL REGISTERED PROFESSIONAL ENGINEER 81069PE Digital Signature OREGON JUNE 6, 2013 C. STERLING KEITH ROSE

EXP. 12-31-14

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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SHN CONSULTING ENGINEERS & GEOLOGISTS, INC.

NO.	REVISION	BY	DATE

DSGN SKR
DR HFJ
CHK ALF
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
GENERAL
STRUCTURAL
GENERAL NOTES – 1

SHEET 01-G-0020
SEQ 13
DATE 12/2014
PROJ. NO. 490515

CAST IN PLACE CONCRETE

1. 28-DAY COMPRESSIVE STRENGTHS:
   - HYDRAULIC STRUCTURES: 4000 PSI
   - BUILDING STRUCTURES: 4000 PSI
   - CONCRETE FILL: 2000 PSI
   - CURBS, SIDEWALKS, DUCT BANKS AND PIPE ENCASEMENTS NOT INTEGRAL WITH FOUNDATIONS: 3500 PSI
2. 56-DAY COMPRESSIVE STRENGTHS:
   - HYDRAULIC STRUCTURES: 5000 PSI
   - BUILDING STRUCTURES: 4500 PSI
   - CURBS, SIDEWALKS, DUCT BANKS AND PIPE ENCASEMENTS NOT INTEGRAL WITH FOUNDATIONS: 4500 PSI
3. DESIGN STRENGTHS ARE SAME AS 28-DAY COMPRESSIVE STRENGTHS.
4. CONTINUOUS WATERSTOP AS SPECIFIED SHALL BE INSTALLED IN CONSTRUCTION JOINTS OF WATER HOLDING BASINS, CHANNELS, AND BELOW GRADE STRUCTURES, EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE.
5. LAYOUT SHOWING ALL CONSTRUCTION JOINT LOCATIONS SHALL BE SUBMITTED FOR REVIEW BY ENGINEER.
6. ROUGHEN AND CLEAN CONSTRUCTION JOINTS IN WALLS AND SLABS AS SPECIFIED PRIOR TO PLACING ADJACENT CONCRETE.
7. COORDINATE PLACEMENT OF OPENINGS, CURBS, DOWELS, SLEEVES, CONDUITS, BOLTS AND INSERTS PRIOR TO PLACEMENT OF CONCRETE.
8. NO ALUMINUM CONDUIT OR PRODUCTS CONTAINING ALUMINUM OR ANY OTHER MATERIAL INJURIOUS TO THE CONCRETE SHALL BE EMBEDDED IN THE CONCRETE.
9. DO NOT PLACE CONDUIT PARALLEL TO BEAM OR COLUMN REINFORCEMENT UNLESS SPECIFICALLY INDICATED IN DRAWINGS.
10. PATCH FORM TIE HOLES IN ACCORDANCE WITH DETAILS 0310-051 AND/OR 0310-052.

WELDING

1. WELDS SHALL CONFORM TO AMERICAN WELDING SOCIETY (AWS):
   - D1.1, STRUCTURAL WELDING CODE STEEL
   - D1.3, STRUCTURAL WELDING CODE SHEET STEEL
   - D1.4, STRUCTURAL WELDING CODE REINFORCING STEEL
   - D1.6, STRUCTURAL WELDING CODE STAINLESS STEEL
2. REPAIR WELDS FOUND DEFECTIVE IN ACCORDANCE WITH AWS D1.1 SECTION 5.26.
3. USE INTERMITTENT WELDS AT FIELD WELDS OF EMBED PLATES AND ANGLES TO AVOID SPALLING OR CRACKING OF THE EXISTING CONCRETE.
4. BUTT JOINT WELDS SHALL BE COMPLETE JOINT PENETRATION (CJP) UNLESS INDICATED OTHERWISE.

STRUCTURAL STEEL AND METAL FABRICATIONS

1. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:
   - W-SHAPES A992
   - MISCELLANEOUS SHAPES INCLUDING ANGLES, CHANNELS, PLATES, ETC. A36
   - MOMENT CONNECTION CONTINUITY PLATES A572, GRADE 50
   - HOLLOW STRUCTURAL SECTIONS (HSS) A500, GRADE B
   - STEEL PIPE A53, GRADE B
   - STAINLESS STEEL SHAPES A276
2. ALUMINUM SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:
   - STRUCTURAL SHAPES B308
   - PLATES B209
3. STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN CONFORMANCE WITH THE AISC MANUAL OF STEEL CONSTRUCTION, CURRENT EDITION, AND CURRENT OSHA STANDARDS.
4. FASTENERS SHALL BE HIGH STRENGTH BOLTS CONFORMING TO THE FOLLOWING ASTM STANDARDS EXCEPT WHERE SPECIFICALLY INDICATED OTHERWISE:
   - UNLESS SHOWN OTHERWISE A325-N
   - ANCHOR BOLTS (AB)
     - STAINLESS STEEL F593, AISI TYPE 316, CONDITION CW
     - STEEL OR GALVANIZED STEEL F1554, GR 55 WITH WELDABILITY SUPPLEMENT S1
   - MACHINE BOLTS (MB)
     - STEEL A307
     - STAINLESS STEEL F593, AISI TYPE 316, CONDITION CW
5. ITEMS TO BE EMBEDDED IN CONCRETE SHALL BE CLEAN AND FREE OF OIL, DIRT AND PAINT.
6. NO HOLES OTHER THAN THOSE SPECIFICALLY DETAILED SHALL BE ALLOWED THROUGH STRUCTURAL STEEL MEMBERS. NO CUTTING OR BURNING OF STRUCTURAL STEEL IS PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER.

STEEL DECKING

1. FOR DECK SIZE, GAGE, AND FASTENING CONFIGURATIONS, SEE FACILITY SPECIFIC DRAWINGS. FASTENING CONFIGURATIONS SHOWN ARE SPECIFIC TO THE DECK PRODUCT USED AS BASIS OF DESIGN. CONTRACTOR SHALL FASTEN THE DECKING IN ACCORDANCE WITH INSTALLED DECK MANUFACTURER'S RECOMMENDATIONS TO MEET SPECIFIED CAPACITY REQUIREMENTS.
2. DECKING SHALL HAVE A MINIMUM 1 1/2 INCHES BEARING ON SUPPORTS.
3. DECKING SHALL BE CONTINUOUS OVER THREE SPANS MINIMUM, EXCEPT WHERE SHOWN OTHERWISE.

DEFERRED SUBMITTALS

1. DEFERRED SUBMITTALS ARE THOSE PORTIONS OF THE DESIGN WHICH ARE NOT SUBMITTED AT THE TIME OF PERMIT APPLICATION AND WHICH ARE TO BE SUBMITTED TO THE PERMITTING AGENCY FOR ACCEPTANCE PRIOR TO INSTALLATION OF THAT PORTION OF THE WORK OR ARE REQUIRED TO BE SUBMITTED FOR REVIEW ONLY BY THE ENGINEER.
2. WHERE DEFERRED SUBMITTALS INCLUDE ADDITIONAL MATERIALS, INSTALLATION, ANCHORAGE, OR CERTIFICATION OF COMPONENTS THAT REQUIRE SPECIAL INSPECTION AND/OR STRUCTURAL OBSERVATION TO MEET CODE REQUIREMENTS, THE DEFERRED SUBMITTAL SHALL INCLUDE SPECIFIC LINE ITEMS TO BE ADDED TO THE APPROPRIATE TABLES IN THE PROJECT'S STATEMENT OF SPECIAL INSPECTIONS PLAN IF THEY ARE NOT ALREADY IDENTIFIED.
3. THE FOLLOWING IS A LIST OF DEFERRED SUBMITTALS PER IBC SECTION 106.3.4.2 THAT ARE EXPECTED TO CONTAIN STRUCTURAL CALCULATIONS OR SAFETY RELATED SYSTEM INFORMATION FOR REVIEW TO MEET BUILDING PERMITTING REQUIREMENTS FOR DESIGNED SYSTEMS. PRIOR TO INSTALLATION OF THE INDICATED STRUCTURAL ELEMENT, EQUIPMENT, DISTRIBUTION SYSTEM, OR COMPONENT OR ITS ANCHORAGE, THE CONTRACTOR SHALL SUBMIT THE REQUIRED CALCULATIONS AND SUPPORTING DATA AND DRAWINGS FOR REVIEW AND ACCEPTANCE BY THE ENGINEER. ADDITIONALLY, ACCEPTANCE INDICATED ON THE ENGINEER'S COMMENT FORM, ALONG WITH THE COMPLETED, FINAL SUBMITTAL SHALL THEN BE FILED BY THE CONTRACTOR AND ACKNOWLEDGED AS ACCEPTED BY THE PERMITTING AGENCY PRIOR TO INSTALLATION OF THESE ITEMS.

SPECIFICATION SECTION	CODE REQUIRED DEFERRED SUBMITTALS FOR REVIEW BY PERMITTING AGENCY
01 88 15	ANCHORAGE AND BRACING
05 21 19	OPEN WEB STEEL JOIST FRAMING
05 52 00	METAL RAILINGS
07 42 00	PREFABRICATED METAL CANOPIES
40 05 15	PIPING SUPPORT SYSTEMS
OTHER	ANY EQUIPMENT OR COMPONENT IN WHICH A TECHNICAL SPECIFICATION REQUIRES SUBMITTAL OF EQUIPMENT OR ANCHORAGE SYSTEM CALCULATIONS

OPEN WEB STEEL JOIST FRAMING

1. JOISTS SHALL BE DESIGNED, FABRICATED AND ERECTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE AISC AND THE STEEL JOIST INSTITUTE (SJI).
2. SEE ROOF FRAMING PLANS FOR DESIGN LOADS.
3. LOADS INDICATED ON THE DRAWINGS ARE MINIMUM DESIGN LOADS AND SHALL NOT BE CONSTRUED TO BE ALL LOADS APPLICABLE TO THE DESIGN OF THE JOISTS. DEAD LOADS INFERRED BY THE DRAWINGS WHICH WOULD BE INCLUDED IN COMMON PRACTICE, INCLUDING EQUIPMENT LOADS AND CONSTRUCTION LOADS, SHALL BE INCLUDED IN THE DESIGN.
4. VERIFY AND COORDINATE EQUIPMENT WEIGHTS, LOCATIONS, AND ATTACHMENT REQUIREMENTS PRIOR TO JOIST FABRICATION. CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF THE VERTICAL AND LATERAL SUPPORT OF EQUIPMENT AS SPECIFIED IN SECTION 01 88 15, ANCHORAGE AND BRACING. JOIST MANUFACTURER SHALL COORDINATE AND SUPPLY ADDITIONAL DIAGONAL WEB MEMBERS AT CONCENTRATED LOAD LOCATIONS.
5. JOIST SIZES AND CHORD SIZES INDICATED ON THE PLANS ARE MINIMUM ONLY. DESIGN BY THE JOIST MANUFACTURER MAY RESULT IN A LARGER SIZE. JOISTS SHALL HAVE DOUBLE ANGLE CHORDS.
6. DESIGN JOIST TOP CHORD AT END OF ROOF SUB-DIAPHRAGMS AND JOISTS DESIGNATED AS DRAG STRUTS FOR ADDITIONAL AXIAL LOAD (BOTH TENSION AND COMPRESSION) AS INDICATED ON THE ROOF FRAMING PLANS.
7. PROVIDE CALCULATIONS, PRODUCT DATA, MATERIAL PROPERTIES, CONNECTION DETAILS, ETC FOR ALL TYPES OF JOISTS. CALCULATIONS SHALL BE STAMPED AND SIGNED BY AN ENGINEER REGISTERED IN THE STATE OF OREGON.
8. JOIST BRIDGING, BOTTOM CHORD BRACING, AND OTHER ACCESSORIES SHALL BE PER THE MANUFACTURER'S STANDARDS AND AS INDICATED ON THE DRAWINGS. BRACING SHALL EXTEND TO WALLS, SEE DETAIL 0521-022.
9. JOISTS SHALL BE CAMBERED FOR DEAD LOAD AS REQUIRED BY SJI. PROVIDE STANDARD SJI CAMBER UNLESS NOTED OTHERWISE. JOIST CAMBER SHALL BE SHOWN ON SHOP DRAWINGS.

CONCRETE UNIT MASONRY

1. DESIGN COMPRESSIVE STRENGTH, f'm, OF THE FINISHED ASSEMBLY AND MATERIAL PROPERTIES SHALL BE PER THE TABLE BELOW.
2. MORTAR: ASTM C270, TYPE S, HYDRATED. DO NOT USE MASONRY CEMENT.
3. GROUT: ASTM C476 COARSE GROUT. USE OF WATER REDUCERS OR SUPERPLASTICIZERS IS NOT PERMITTED.
4. CONCRETE MASONRY UNITS: ASTM C90, MEDIUM WEIGHT, LINEAR SHRINKAGE SHALL NOT EXCEED 0.065 PERCENT.
5.

DESIGN COMPRESSIVE STRENGTH f'm (PSI)	UNIT STRENGTH (PSI)	GROUT STRENGTH (PSI) MIN	MORTAR PROPERTIES
2,000	2,800	2,000	TYPE S

6. PLACE COURSES IN WALLS, COLUMNS, AND PILASTERS IN RUNNING BOND PATTERN
7. PROVIDE MATCHING FOUNDATION DOWELS FOR ALL TYPICAL AND ADDITIONAL VERTICAL BARS.
8. LAP VERTICAL REINFORCING BARS 48 BAR DIAMETERS WITH FOUNDATION DOWELS, EXCEPT BARS PLACED EACH FACE IN CMU SHALL BE LAPPED 60 BAR DIAMETERS. LAP ALL OTHER VERTICAL BARS 72 BAR DIAMETERS.
9. LAP ALL VERTICAL BARS IN CANTILEVER WALLS, INCLUDING FOUNDATION DOWELS, 72 BAR DIAMETERS.
10. STAGGER ADJACENT LAP SPLICES BY 24 INCHES WHEN SEPARATED BY 3 INCHES OR LESS.
11. PROVIDE NUMBER OF FULL HEIGHT VERTICAL BARS AT EDGES OF OPENINGS AS SHOWN IN DETAIL 0422-004.
12. PROVIDE FULL HEIGHT VERTICAL BARS IN 3 CELLS AT WALL CORNERS AND INTERSECTIONS AS SHOWN IN DETAIL 0422-001.
13. PROVIDE HORIZONTAL CORNER AND INTERSECTION BARS WITH LAP LENGTHS AS SHOWN IN DETAIL 0422-001.
14. PROVIDE JOINT REINFORCING AT CORNER AND INTERSECTIONS WITH LAP LENGTHS AS SHOWN IN DETAIL 0422-001.
15. PROVIDE REINFORCED LINTELS ABOVE AND REINFORCED BOND BEAMS BELOW OPENINGS AS SHOWN IN DETAIL 0422-002.
16. PROVIDE FULL HEIGHT VERTICAL BARS WITH MATCHING DOWELS IN CELLS ADJACENT TO OPENINGS AS SHOWN IN DETAIL 0422-002.
17. GROUTING: PARTIALLY GROUT WALLS
18. MASONRY UNIT AND GROUT TESTING SHALL BE IN CONFORMANCE WITH 2012 IBC "UNIT STRENGTH METHOD". TESTING WILL BE OWNER FURNISHED AS INDICATED ON THE STATEMENT OF SPECIAL INSPECTION PLAN PROVIDED ON THE DRAWINGS. PRISM TEST METHOD MAY BE SUBMITTED AS AN ALTERNATIVE OR MAY BE REQUIRED BY OWNER'S REPRESENTATIVE TO VERIFY WORK.
19. THE MINIMUM REINFORCING FOR SPECIAL REINFORCED CONCRETE BLOCK WALLS SHALL BE AS FOLLOWS. PROVIDE LARGER SIZES AND MORE REINFORCING IN SECTIONS OF WALLS WHERE REQUIRED BY THE DETAILS ON THE DRAWINGS OR BY THE SPECIFICATIONS.

WALL THICKNESS	VERTICAL REINFORCING	HORIZONTAL REINFORCING	LOCATION
8"	#6@48"	#5@48"	CENTERED
12"	#6@48"	#5@48"	EACH FACE

20. DO NOT PLACE CONDUIT IN CELLS CONTAINING PARALLEL REINFORCEMENT.

STRUCTURAL REGISTERED PROFESSIONAL ENGINEER 81069PE Digital Signature OREGON JUNE 19, 2012 STERLING KEITH ROSE

EXP. 12-31-14

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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NO.	REVISION	BY	DATE

DSGN	SKR	CHK	ALF
DR	HFJ	APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
GENERAL
STRUCTURAL
GENERAL NOTES – 2

SHEET 01-G-0021
SEQ 14
DATE 12/2014
PROJ. NO. 490515

STATEMENT OF SPECIAL INSPECTIONS

GENERAL NOTES:

1. THE STATEMENT OF SPECIAL INSPECTIONS DRAWINGS PROVIDE PROJECT COMPLIANCE WITH THE PROVISIONS OF THE INTERNATIONAL BUILDING CODE (IBC) CHAPTER 17 FOR SPECIAL INSPECTION, STRUCTURAL OBSERVATION, AND TESTING FOR WIND AND SEISMIC RESISTANCE AS APPLICABLE. EXCEPT WHERE OTHERWISE NOTED, THIS INSPECTION IS OWNER FURNISHED.
2. STANDARD SPECIAL INSPECTION REQUIREMENTS FOR NONSTRUCTURAL COMPONENTS ARE CONTAINED IN TABLE 1.
3. STANDARD SPECIAL INSPECTION REQUIREMENTS FOR STRUCTURAL COMPONENTS, REGARDLESS OF WIND OR SEISMIC DESIGN CATEGORIES, ARE CONTAINED IN TABLE 2. STANDARD TESTING REQUIREMENTS FOR STRUCTURAL COMPONENTS ARE CONTAINED IN TABLE 3.
4. PROJECT SPECIFIC REQUIREMENTS FOR STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORIES C, D, E, OR F ARE CONTAINED IN TABLE 4. ADDITIONAL TESTING REQUIREMENTS FOR STRUCTURAL RESISTANCE ARE CONTAINED IN TABLE 6.
5. PROJECT SPECIFIC REQUIREMENTS FOR STRUCTURES SUBJECT TO NOMINAL DESIGN WIND SPEEDS IN EXCESS OF 100 MPH ARE CONTAINED IN TABLE 5.
6. FOR ADDITIONAL REQUIREMENTS, REFER TO SPECIFICATION SECTION 01 45 33, SPECIAL INSPECTION, OBSERVATION AND TESTING. THESE INCLUDE:
   A. CONTRACTOR'S REQUIREMENTS TO PROVIDE ACCESS TO THE WORK FOR REQUIRED INSPECTIONS, AND TO PROVIDE NOTICE OF REQUIRED INSPECTIONS AND STRUCTURAL OBSERVATION.
   B. CONTRACTOR'S STATEMENT OF RESPONSIBILITY FOR WORK TO BE PERFORMED ON SYSTEMS DESIGNATED UNDER THE STATEMENT OF SPECIAL INSPECTIONS PLAN FOR WIND OR SEISMIC RESISTANCE.
   C. DEFINITIONS AND TERMINOLOGY USED IN THIS STATEMENT OF SPECIAL INSPECTIONS.

SPECIAL INSPECTION

1. SPECIAL INSPECTION WILL BE IN ACCORDANCE WITH IBC SECTIONS 1704 AND 1705 TOGETHER WITH LOCAL AND STATE AMENDMENTS. REFER TO THE TABLES CONTAINED ON THESE GENERAL SHEETS FOR PROJECT SPECIFIC INSPECTION TYPES AND FREQUENCIES.
2. SPECIAL INSPECTIONS WILL BE PROVIDED BY A CERTIFIED OR QUALIFIED INSPECTOR AND ASSOCIATED TESTING WILL BE PERFORMED BY AN APPROVED ACCREDITED INDEPENDENT AGENCY. THE OWNER WILL SECURE AND PAY FOR THE SERVICES OF THE AGENCY TO PERFORM ALL SPECIAL INSPECTION AND ASSOCIATED TESTS. INSPECTORS FOR EACH SYSTEM AND MATERIAL WILL BE INTERNATIONAL CODE COUNCIL (ICC) CERTIFIED OR OTHERWISE APPROVED BY THE BUILDING OFFICIAL.
3. THE SPECIAL INSPECTOR WILL OBSERVE THE INDICATED WORK FOR COMPLIANCE WITH THE APPROVED CONTRACT DOCUMENTS AND SUBMIT RECORDS OF INSPECTION. ALL DISCREPANCIES WILL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION.
4. SPECIAL INSPECTION AND ASSOCIATED TESTING REPORTS WILL BE SUBMITTED TO THE ENGINEER, CONTRACTOR, BUILDING OFFICIAL, AND OWNER WITHIN ONE WEEK OF INSPECTION OR WITHIN ONE WEEK OF TEST COMPLETION. INSPECTIONS FOR WHICH REPORTING WILL BE REQUIRED ARE NOTED IN THE TABLES CONTAINED ON THIS STATEMENT OF SPECIAL INSPECTIONS.
5. AT THE CONCLUSION OF CONSTRUCTION, A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF PREVIOUSLY NOTED DISCREPANCIES WILL BE SUBMITTED.

GEOTECHNICAL OBSERVATION

1. ALL FOUNDATION BEARING SURFACES SHALL BE INSPECTED BY GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF REINFORCING STEEL. ADDITIONAL SPECIAL INSPECTION REQUIREMENTS ARE LISTED IN TABLE 1.
2. GEOTECHNICAL TESTING REQUIREMENTS ARE LISTED IN TABLE 3.

STRUCTURAL OBSERVATION

1. STRUCTURAL OBSERVATION WILL BE IN ACCORDANCE WITH IBC SECTION 1704.5 TOGETHER WITH LOCAL AND STATE AMENDMENTS. REFER TO PROJECT SPECIFIC NOTES ON THIS SHEET.
2. ONSITE STRUCTURAL OBSERVATION WILL BE PERFORMED FOR EACH IDENTIFIED SEISMIC FORCE- OR WIND FORCE-RESISTING SYSTEM, INCLUDING FOUNDATIONS AND CONNECTIONS. REFER TO THE INDIVIDUAL STRUCTURAL DRAWINGS FOR THE BASIC SEISMIC AND WIND FORCE-RESISTING SYSTEMS FOR THE STRUCTURES INCLUDED IN THE WORK.
3. STRUCTURAL OBSERVATION WILL BE PERFORMED BY A REGISTERED PROJECT DESIGN PROFESSIONAL FOR GENERAL CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS. STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR ANY REQUIRED SPECIAL INSPECTIONS OR INSPECTIONS BY THE BUILDING OFFICIAL.
4. STRUCTURAL OBSERVATION REPORTS, NOTING ANY DEFICIENCIES IN OBSERVED CONSTRUCTION, WILL BE DELIVERED TO THE CONTRACTOR, BUILDING OFFICIAL, AND OWNER FOLLOWING EACH OBSERVATION. THE CONTRACTOR WILL BE NOTIFIED ON-SITE OR BY PHONE OR EMAIL WITHIN 24 HOURS UPON FINDING DEFICIENCIES.
5. AT THE CONCLUSION OF CONSTRUCTION, A WRITTEN STATEMENT WILL BE PROVIDED TO VERIFY THAT THE STRUCTURAL OBSERVATION SITE VISITS WERE MADE AND WHETHER THERE REMAIN ANY STRUCTURAL DEFICIENCIES THAT HAVE NOT BEEN RESOLVED.
6. STRUCTURAL OBSERVATION WILL INCLUDE VISUAL OBSERVATION OF THE STRUCTURAL SYSTEM AT SIGNIFICANT CONSTRUCTION STAGES AND AT COMPLETION OF THE STRUCTURAL SYSTEM FOR EACH STRUCTURE CONTAINED IN THE WORK. THE CONTRACTOR SHALL SCHEDULE AND FACILITATE STRUCTURAL OBSERVATION INCLUDING THE FOLLOWING:

	SYSTEM	STAGE	ITEMS	COMMENTS
1.	CONCRETE STRUCTURES	PRIOR TO FIRST CONCRETE PLACEMENT ON FIRST PRIMARY LIQUID CONTAINING STRUCTURE WHEN ITEMS CAN STILL BE REVISED	REINFORCING STEEL, WALL DOWELS, WATERSTOPS, EMBEDS, AND SIMILAR ITEMS	NOTE 1
2.	CONCRETE STRUCTURES	AT COMPLETION OF PLACEMENT OF ALL CONCRETE COMPONENTS FOR THE FIRST PRIMARY LIQUID CONTAINING STRUCTURE	CONCRETE TOLERANCES, FINISHING, LIQUID TIGHTNESS, AND SIMILAR ITEMS	NOTE 1
3.	MASONRY WALL, BEAM, PIER, AND COLUMN REINFORCING STEEL	DURING THE INITIAL CONSTRUCTION OF THE FIRST MASONRY STRUCTURE WHEN ITEMS CAN STILL BE REVISED	REINFORCING STEEL, GROUTED CELLS, EMBEDS, COURSE PREPARATION AND SIMILAR ITEMS	NOTE 1
4.	STRUCTURAL STEEL FRAMING	DURING INITIAL CONSTRUCTION OF STEEL FRAMING AT FIRST STEEL FRAMED BUILDING PRIOR TO ENCLOSURE OF FRAMING BEHIND FINAL FINISHES	MEMBER LOCATIONS AND CONFIGURATIONS, BOLTED AND WELDED CONNECTIONS, AND SIMILAR ITEMS	NOTE 1
5.	AT ADDITIONAL TIMES DURING CONSTRUCTION AT WHICH THE ENGINEER OF RECORD OR OWNER DEEM THE NEED FOR ADDITIONAL STRUCTURAL OBSERVATION			NOTE 1
6.	AT SUBSTANTIAL COMPLETION OF PRIMARY STRUCTURAL FEATURES--FOR DETERMINATION OF FINAL CONDITION OF STRUCTURE			NOTE 1

NOTES:
1. STRUCTURAL OBSERVER TO DISCUSS ITEMS AND SITE SPECIFIC CONDITIONS WITH SPECIAL INSPECTOR AND FIELD INSPECTION STAFF DURING OBSERVATION.

SPECIAL INSPECTIONS FOR WIND RESISTANCE

1. SPECIAL INSPECTIONS REQUIREMENTS FOR WIND RESISTANCE IN ACCORDANCE WITH IBC SECTION 1705.10 ARE NOT APPLICABLE TO THIS PROJECT.

SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE

1. SPECIAL INSPECTIONS REQUIREMENTS FOR SEISMIC RESISTANCE WILL BE IN ACCORDANCE WITH IBC SECTION 1705.11 TOGETHER WITH LOCAL AND STATE AMENDMENTS.
2. SPECIAL INSPECTIONS REQUIREMENTS FOR SEISMIC RESISTANCE SHALL APPLY TO THE SYSTEMS AND COMPONENTS LISTED IN TABLE 4.
3. MAIN SYSTEMS REQUIRED TO BE COVERED UNDER PROJECT SPECIAL INSPECTION REQUIREMENTS INCLUDE THE FOLLOWING TOGETHER WITH THEIR CONNECTIONS. REFER TO SPECIFICATION 01 45 33, SPECIAL INSPECTION, OBSERVATION AND TESTING.

FACILITY	LATERERAL FORCE-RESISTING SYSTEM
10-INFLUENT PUMP STATION	FLAT-BOTTOM, GROUND-SUPPORTED TANK WITH REINFORCED NON-SLIDING BASE
20-HEADWORKS	SPECIAL REINFORCED CONCRETE SHEAR WALLS
30-SEQUENCING BATCH REACTORS	FLAT-BOTTOM, GROUND-SUPPORTED TANK WITH REINFORCED NON-SLIDING BASE
40-ULTRAVIOLET DISINFECTION	FLAT-BOTTOM, GROUND-SUPPORTED TANK WITH REINFORCED NON-SLIDING BASE
60-CONTROL BUILDING	SPECIAL REINFORCED MASONRY SHEAR WALLS
80-SHOP/ELECTRICAL BUILDING	SPECIAL REINFORCED MASONRY SHEAR WALLS

TABLE 1
REQUIRED NON-STRUCTURAL SPECIAL INSPECTION
REFER TO SPECIFICATION SECTION 01 45 33

SYSTEM OR MATERIAL	2012 IBC CODE REFERENCE	REFERENCED STANDARD	PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)	CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION	REQUIRED REPORTING BY SPECIAL INSPECTOR TO DESIGNATED DISTRIBUTION LIST	COMMENTS	TESTING FOR SPECIAL INSPECTION
GEOTECHNICAL							
1. SOILS:							
A. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	1705.6, 1803.5.8, 1803.5.9, 1804.5	SECTION 31 23 13, SUBGRADE PREPARATION	X		X	PROFESSIONAL OBSERVATION BY GEOTECHNICAL ENGINEER	
B. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL	1705.6	SECTION 31 23 16, EXCAVATION	X		X	PROFESSIONAL OBSERVATION BY GEOTECHNICAL ENGINEER	
C. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS	1705.6	SECTION 31 23 23, FILL AND BACKFILL	X		X		SEE TABLE 3 FOR GRADATION TEST REQUIREMENTS
D.VERIFY USE OF PROPER MATERIALS, DENSITIES, AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	1705.6, 1803.5.8	SECTION 31 23 23, FILL AND BACKFILL		X	X		SEE TABLE 3 FOR DENSITY TEST REQUIREMENTS
E. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY	1705.6	SECTION 31 23 13, SUBGRADE PREPARATION	X		X	PROFESSIONAL OBSERVATION BY GEOTECHNICAL ENGINEER	SEE TABLE 3 FOR DENSITY TEST REQUIREMENTS
6. MECHANICALLY STABILIZED EARTH RETAINING WALLS:							
A. VERIFY MODULAR UNIT AND GEOSYNTHETIC REINFORCEMENT PRODUCT NAMES, TYPES, AND DIMENSIONS	1703.4.2, 1705.1.1 ITEM 3	GEOTECHNICAL AND ICC-ES EVALUATION REPORTS	X		X		
B. VERIFY MODULAR UNIT PLACEMENT INCLUDING ALIGNMENT AND INCLINATION	1703.4.2, 1705.1.1 ITEM 3	GEOTECHNICAL AND ICC-ES EVALUATION REPORTS	X		X		
C. VERIFY PLACEMENT OF REINFORCEMENT, BACKFILL PLACEMENT AND COMPACTION, AND DRAINAGE PROVISIONS	1703.4.2, 1705.1.1 ITEM 3	GEOTECHNICAL AND ICC-ES EVALUATION REPORTS		X	X		SEE TABLE 3 FOR DENSITY TEST REQUIREMENTS
ARCHITECTURAL							
5. FIRE-RESISTANT PENETRATIONS AND JOINTS:							
A. PENETRATION FIRESTOPS	1705.16.1	ASTM E2174	X		X		
B. FIRE-RESISTANT JOINT SYSTEMS	1705.16.2	ASTM E2393	X		X		
STRUCTURAL							
SEE TABLE 2.							

STRUCTURAL REGISTERED PROFESSIONAL ENGINEER STERLING KEITH ROSE 81069PE Digital Signature OREGON JUNE 19, 2012
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NO.	REVISION	DATE	BY

DSGN SKR
DR ILT
CHK ALF
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
GENERAL
STRUCTURAL
STATEMENT OF SPECIAL INSPECTIONS PLAN – 1

SHEET 01-G-0022
SEQ 15
DATE 12/2014
PROJ. NO. 490515

TABLE 2
REQUIRED STRUCTURAL SPECIAL INSPECTION
REFER TO SPECIFICATION SECTION 01 45 33

SYSTEM	2012 IBC CODE REFERENCE	REFERENCED STANDARD	PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)	CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION	REQUIRED REPORTING BY SPECIAL INSPECTOR TO DESIGNATED DISTRIBUTION LIST	COMMENTS	TESTING FOR SPECIAL INSPECTION
CONCRETE							
1. INSPECTION OF REINFORCING STEEL AND PLACEMENT	1705.3, 1903.1, 1910.4	ACI 318: 3.5, 7.1-7.7	X		X		
2. INSPECTION OF REINFORCING STEEL WELDING	1705.3, 1903.1	AWS D1.4 ACI 318: 3.5.2				SEE STEEL CONSTRUCTION FOR WELDING INSPECTION REQUIREMENTS	
3. INSPECTION OF ANCHORS CAST IN CONCRETE	1705.3, 1908.5, 1909.1	ACI 318: 8.1.3, 21.2.8	X		X		
4. INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS	1705.3, 1909.1	ACI 318: 3.8.6, 8.1.3, 21.2.8, ICC-ES EVALUATION REPORTS	X		X	PROVIDE CONTINUOUS SPECIAL INSPECTION FOR ADHESIVE ANCHORS DESIGNED TO RESIST SUSTAINED TENSION LOADS AND WHERE REQUIRED BY ICC-ES REPORT	
5. VERIFYING USE OF REQUIRED DESIGN MIX	1705.3, 1904.2, 1910.2, 1910.3	ACI 318: Ch. 4, 5.2-5.4	X		X		
6. AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE	1705.3, 1910.10	ASTM C 172, ASTM C 31, ACI 318: 5.6, 5.8		X	X		SEE TABLE 3 FOR CONCRETE TEST REQUIREMENTS
7. INSPECTION OF CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	1705.3, 1910.6, 1910.7, 1910.8	ACI 318: 5.9, 5.10		X	X		
8. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	1705.3, 1910.9	ACI 318: 5.11-5.13	X		X		
9. VERIFICATION OF IN-SITU CONCRETE STRENGTH PRIOR TO REMOVAL OF SHORING AND FORMS FROM BEAMS AND STRUCTURAL SLABS	1705.3, 1906.2	ACI 318: 6.2	X		X		
10. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED	1705.3, 1906.1	ACI 318: 6.1.1	X		X		
11. INSPECTION OF WATERSTOPS FOR PROPER SHAPE, LOCATION, JOINT QUALITY, AND SURROUNDING CONCRETE PLACEMENT			X		X		
12. VERIFY PROPER INSTALLATION OF MECHANICAL REINFORCING SPLICES AND CONNECTIONS	1705.1.1 ITEM 3, 1705.3	ICC-ES EVALUATION REPORTS	X		X		
MASONRY LEVEL B							
1. FOR SELF-CONSOLIDATING GROUT: VERIFICATION OF SLUMP FLOW AND VSI AS DELIVERED TO THE PROJECT SITE.	1705.4	ACI 530: Sec. 1.19.2 ACI 530.1: Art. 1.5B.1.b.3	X		X		
2. VERIFICATION OF f'_m PRIOR TO CONSTRUCTION EXCEPT WHERE SPECIFICALLY EXEMPTED BY CODE	1705.4	ACI 530: Sec. 1 19.2 ACI 530.1: Art. 1.4B	X		X		
3. VERIFY COMPLIANCE WITH THE APPROVED SUBMITTALS	1705.4	ACI 530: Sec. 1.19.2 ACI 530.1: Art. 1.5	X		X		

NOTES:
1. PERIODIC INSPECTION IS DEFINED AS INSPECTION BY THE SPECIAL INSPECTOR OF ALL MATERIALS AND SYSTEMS, IN SOME CASES PERFORMED DURING THEIR PLACEMENT AND IN ALL CASES PERFORMED UPON COMPLETION OF THEIR PLACEMENT. THE COMPLETION INSPECTION SHALL BE PERFORMED SO THAT WORK CAN BE CORRECTED PRIOR TO OTHER RELATED WORK PROCEEDING
2. INSPECTIONS SHALL BE COMPLETED AT RANDOM FREQUENCY. AT LEAST ONE INSPECTION SHALL BE COMPLETED AND NO FEWER THAN 25% OF EACH ITEM LISTED SHALL BE INSPECTED.
3. P = PERFORM THESE TASKS FOR EACH JOINT OR MEMBER
   O = OBSERVE THESE ITEMS ON A RANDOM BASIS. MINIMUM FREQUENCY PER NOTE 2.
   X = ITEM IS REQUIRED PER TABLE COLUMN AND ROW HEADING.

TABLE 2 (CONTINUED)
REQUIRED STRUCTURAL SPECIAL INSPECTION
REFER TO SPECIFICATION SECTION 01 45 33

SYSTEM	2012 IBC CODE REFERENCE	REFERENCED STANDARD	PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)	CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION	REQUIRED REPORTING BY SPECIAL INSPECTOR TO DESIGNATED DISTRIBUTION LIST	COMMENTS	TESTING FOR SPECIAL INSPECTION
MASONRY LEVEL B CONTINUED							
4. AS MASONRY CONSTRUCTION BEGINS, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:							
A. PROPORTIONS OF SITE-PREPARED MORTAR	1705.4	ACI 530: Sec. 1.19.2 ACI 530.1: Art. 2.6A	X		X		
B. CONSTRUCTION OF MORTAR JOINTS	1705.4	ACI 530: Sec. 1.19.2 ACI 530.1: Art. 3.3B	X		X		
D. LOCATION OF REINFORCEMENT, CONNECTORS, AND ANCHORAGES	1705.4	ACI 530: Sec. 1.19.2 ACI 530.1: Art. 3.4, 3.6A	X		X		
5. PRIOR TO GROUTING, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:							
A. GROUT SPACE	1705.4	ACI 530: Sec. 1.19.2 ACI 530.1: Art. [illegible]	X		X		
B. GRADE, TYPE, AND SIZE OF REINFORCEMENT AND ANCHOR BOLTS, AND ANCHORAGES	1705.4	ACI 530: Sec. 1.16, 1.19.2 ACI 530.1: Art. 2.4, 3.4	X		X		
C. PLACEMENT OF REINFORCEMENT, CONNECTORS, AND ANCHORAGES	1705.4	ACI 530: Sec. 1.16, 1.19.2 ACI 530.1: Art. 3.2E, 3.4, 3.6A	X		X		
D. PROPORTIONS OF SITE-PREPARED GROUT	1705.4	ACI 530: Sec. 1.19.2 ACI 530.1: Art. [illegible]	X		X		
E. CONSTRUCTION OF MORTAR JOINTS	1705.4	ACI 530: Sec. 1.19.2 [illegible]	X		X		
6. VERIFY DURING CONSTRUCTION:							
A. SIZE AND LOCATION OF STRUCTURAL ELEMENTS	1705.4	ACI 530: Sec. 1.19.2 ACI 530.1: Art. 3.3F	X		X		
B. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES, OR OTHER CONSTRUCTION	1705.4	ACI 530: Sec. 1.16.4.3, 1.17.1, 1.19.2	X		X		
C. WELDING OF REINFORCEMENT	1705.4	ACI 530: Sec. 1.19.2, 2.1.7.7.2, 3.3.3.4(c), 8.3.3.4(b)		X	X	SEE STEEL CONSTRUCTION FOR WELDING INSPECTION REQUIREMENTS	
D. PREPARATION, CONSTRUCTION, AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMP. BELOW 40 DEGREES F) OR HOT WEATHER (TEMP. ABOVE 90 DEGREES F)	1705.4, 2104.3, 2104.4	ACI 530: Sec. 1.19.2 ACI 530.1: Art. 1.8C, 1.8D	X		X		
E. PLACEMENT OF GROUT IS IN COMPLIANCE	1705.4	ACI 530: Sec. 1.19.2 ACI 530.1: Art. 3.5, [illegible]		X	X		
7. OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS, AND/OR PRISMS	1705.4, 2105.2.2, 2105.3	ACI 530: Sec. 1.19.2 ACI 530.1: Art. 1.4B.2	X		X		SEE TABLE 3 FOR UNIT STRENGTH TESTS FOR MASONRY

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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
GENERAL
STRUCTURAL
STATEMENT OF SPECIAL INSPECTIONS PLAN – 2

SHEET 01-G-0023
SEQ 16
DATE 12/2014
PROJ. NO. 490515

TABLE 2 (CONTINUED)
REQUIRED STRUCTURAL SPECIAL INSPECTION
REFER TO SPECIFICATION SECTION 01 45 33

SYSTEM	2012 IBC CODE REFERENCE	REFERENCED STANDARD	PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)	CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION	REQUIRED REPORTING BY SPECIAL INSPECTOR TO DESIGNATED DISTRIBUTION LIST	COMMENTS	TESTING FOR SPECIAL INSPECTION
STRUCTURAL STEEL							
1. MATERIAL VERIFICATION OF STRUCTURAL STEEL:							
A. IDENTIFICATION MARKINGS TO CONFORM TO AISC 360	1705.2.1, 2203.1	Applicable ASTM Material Standards	P		X		
B. MANUFACTURER'S CERTIFIED TEST REPORTS	1705.2.1	AISC 360: Sec. N3.2, N5.2	P		X		
2. PRIOR TO BOLTING, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:							
A. MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS	1705.2.1	AISC 360: Sec. N3.2, N5.2, N5.6 RCSC: Sec. 2.1, 9.1	P		X		
B. FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS	1705.2.1	AISC 360: Sec. N3.2, N5.2, N5.6 Applicable ASTM Material Standards	O		X	NOTE 2	
C. PROPER BOLTING PROCEDURE SELECTED FOR JOINT DETAIL	1705.2.1	AISC 360: Sec. N5.6 RCSC: Sec. 4	O		X	NOTE 2	
D. CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS	1705.2.1	AISC 360: Sec. N5.6 RCSC: Sec. 3.2, 4	O		X	NOTE 2	
E. PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED	1705.2.1	AISC 360: Sec. N5.6 RCSC: Sec. 7	O		X	NOTE 2	
F. PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS	1705.2.1	AISC 360: Sec. N5.6 RCSC: Sec. 2.2	O		X	NOTE 2	
3. VERIFY DURING BOLTING:							
A. FASTENER ASSEMBLIES, OF SUITABLE CONDITION, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) ARE POSITIONED AS REQUIRED	1705.2.1	AISC 360: Sec. N5.6	O		X	NOTE 2	
B. JOINT BROUGHT TO SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION	1705.2.1	AISC 360: Sec. N5.6	O		X	NOTE 2	
C. FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING	1705.2.1	AISC 360: Sec. N5.6	O		X	NOTE 2	
D. FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES	1705.2.1	AISC 360: Sec. N5.6	O		X	NOTE 2	
4. PRIOR TO WELDING, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:							
A. APPROVED WELDING PROCEDURE SPECIFICATIONS AVAILABLE	1705.2.1	AISC 360: Sec. N5.4	P		X		
B. MANUFACTURER'S CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	1705.2.1	AISC 360: Sec. N5.4	P		X		
C. MATERIAL IDENTIFICATION (TYPE/GRADE)	1705.2.1	AISC 360: Sec. N5.4	O		X	NOTE 2	
D. WELDER IDENTIFICATION SYSTEM	1705.2.1	AISC 360: Sec. N5.4	O		X	NOTE 2	
E. FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY)	1705.2.1	AISC 360: Sec. N5.4	O		X	NOTE 2	
F. CONFIGURATION AND FINISH OF ACCESS HOLES	1705.2.1	AISC 360: Sec. N5.4	O		X	NOTE 2	
G. FIT-UP OF FILLET WELDS	1705.2.1	AISC 360: Sec. N5.4	O		X	NOTE 2	

TABLE 2 (CONTINUED)
REQUIRED STRUCTURAL SPECIAL INSPECTION
REFER TO SPECIFICATION SECTION 01 45 33

SYSTEM	2012 IBC CODE REFERENCE	REFERENCED STANDARD	PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)	CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION	REQUIRED REPORTING BY SPECIAL INSPECTOR TO DESIGNATED DISTRIBUTION LIST	COMMENTS	TESTING FOR SPECIAL INSPECTION
STRUCTURAL STEEL CONTINUED							
5. VERIFY DURING WELDING:							
A. USE OF QUALIFIED WELDERS	1705.2.1	AISC 360: Sec. N5.4	O		X	NOTE 2	
B. CONTROL AND HANDLING OF WELDING CONSUMABLES	1705.2.1	AISC 360: Sec. N5.4	O		X	NOTE 2	
C. NO WELDING OVER CRACKED TACK WELDS	1705.2.1	AISC 360: Sec. N5.4	O		X	NOTE 2	
D. ENVIRONMENTAL CONDITIONS	1705.2.1	AISC 360: Sec. N5.4	O		X	NOTE 2	
E. WPS FOLLOWED	1705.2.1	AISC 360: Sec. N5.4	O		X	NOTE 2	
F. WELDING TECHNIQUES	1705.2.1	AISC 360: Sec. N5.4	O		X	NOTE 2	
6. AFTER WELDING, VERIFY THE FOLLOWING:							
A. WELDS CLEANED	1705.2.1	AISC 360: Sec. N5.4	O		X	NOTE 2	
B. SIZE, LENGTH AND LOCATION OF WELDS	1705.2.1	AISC 360: Sec. N5.4	P		X		
C. WELDS MEET VISUAL ACCEPTANCE CRITERIA	1705.2.1	AISC 360: Sec. N5.4	P		X		
D. ARC STRIKES	1705.2.1	AISC 360: Sec. N5.4	P		X		
E. K-AREA	1705.2.1	AISC 360: Sec. N5.4	P		X		
F. BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)	1705.2.1	AISC 360: Sec. N5.4	P		X		
G. REPAIR ACTIVITIES	1705.2.1	AISC 360: Sec. N5.4	P		X		
7. INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE:							
A. DETAILS SUCH AS BRACING AND STIFFENING	1705.2.1		P		X		
B. MEMBER LOCATIONS	1705.2.1		P		X		
C. APPLICATION OF JOINT DETAILS AT EACH CONNECTION	1705.2.1		P		X		
8. INSPECTION OF STEEL ELEMENTS OF COMPOSITE CONSTRUCTION PRIOR TO CONCRETE PLACEMENT:							
A. PLACEMENT AND INSTALLATION OF STEEL DECK	1705.2.1	AISC 360: Table N6.1	X		X		
B. PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS	1705.2.1	AISC 360: Table N6.1	X		X		
STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL							
1. MATERIAL VERIFICATION OF COLD-FORMED STEEL DECK:							
A. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS	1705.2.2, 2203.1	Applicable ASTM Material Standards	X		X		
B. MANUFACTURER'S CERTIFIED TEST REPORTS	1705.2.2		X				
2.A. INSPECTION OF WELDING, COLD-FORMED STEEL DECK:							
1. FLOOR AND ROOF DECK WELDS	1705.2.2	AWS D1.3	X		X		

NOTES:
1. PERIODIC INSPECTION IS DEFINED AS INSPECTION BY THE SPECIAL INSPECTOR OF ALL MATERIALS AND SYSTEMS, IN SOME CASES PERFORMED DURING THEIR PLACEMENT AND IN ALL CASES PERFORMED UPON COMPLETION OF THEIR PLACEMENT. THE COMPLETION INSPECTION SHALL BE PERFORMED SO THAT WORK CAN BE CORRECTED PRIOR TO OTHER RELATED WORK PROCEEDING
2. INSPECTIONS SHALL BE COMPLETED AT RANDOM FREQUENCY. AT LEAST ONE INSPECTION SHALL BE COMPLETED AND NO FEWER THAN 25% OF EACH ITEM LISTED SHALL BE INSPECTED.
3. P = PERFORM THESE TASKS FOR EACH JOINT OR MEMBER.
   O = OBSERVE THESE ITEMS ON A RANDOM BASIS. MINIMUM FREQUENCY PER NOTE 2.
   X = ITEM IS REQUIRED PER TABLE COLUMN AND ROW HEADING.

REGISTERED PROFESSIONAL ENGINEER — STRUCTURAL — 81069PE — Digital Signature — OREGON — JUNE 6, 2013 — C. STERLING KEITH ROSE
EXP. 12-31-14

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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
GENERAL
STRUCTURAL
STATEMENT OF SPECIAL INSPECTIONS PLAN – 3

SHEET 01-G-0024
SEQ 17
DATE 12/2014
PROJ. NO. 490515

TABLE 2 (CONTINUED)
REQUIRED STRUCTURAL SPECIAL INSPECTION
REFER TO SPECIFICATION SECTION 01 45 33

SYSTEM	2012 IBC CODE REFERENCE	REFERENCED STANDARD	PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)	CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION	REQUIRED REPORTING BY SPECIAL INSPECTOR TO DESIGNATED DISTRIBUTION LIST	COMMENTS	TESTING FOR SPECIAL INSPECTION
STEEL CONSTRUCTION OTHER THAN STRUCTURAL STEEL CONTINUED							
2.B. INSPECTION OF WELDING, REINFORCING STEEL:							
1. VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A706	1705.2.2, 1903.1	AWS D1.4 ACI 318: 3.5.2	X		X		
2. REINFORCING STEEL RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES, AND BOUNDARY ELEMENTS OF SPECIAL STRUCTURAL WALLS OF CONCRETE AND SHEAR REINFORCEMENT	1705.2.2, 1903.1	AWS D1.4 ACI 318: 3.5.2		X	X		
3. SHEAR REINFORCEMENT	1705.2.2, 1903.1	AWS D1.4 ACI 318: 3.5.2		X	X		
4. OTHER REINFORCING STEEL	1705.2.2, 1903.1	AWS D1.4 ACI 318: 3.5.2	X		X		
3. COLD-FORMED STEEL TRUSSES SPANNING 60 FEET OR MORE, VERIFY TEMPORARY INSTALLATION RESTRAINT/BRACING AND THE PERMANENT INDIVIDUAL TRUSS MEMBER RESTRAINT/BRACING ARE INSTALLED IN ACCORDANCE WITH THE APPROVED TRUSS SUBMITTAL PACKAGE	1705.2.2.2		X		X		
ALUMINUM							
1. MATERIAL VERIFICATION OF ALUMINUM:							
A. IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS	1705.1.1 ITEM 2				X		
B. MANUFACTURERS' CERTIFIED MILL TEST REPORTS	1705.1.1 ITEM 2				X		
2. MATERIAL VERIFICATION OF WELD FILLER MATERIALS:							
A. IDENTIFICATION MARKINGS CONFORM TO AWS SPECIFICATIONS IN THE APPROVED CONSTRUCTION DOCUMENTS	1705.1.1 ITEM 2				X		
B. MANUFACTURER'S CERTIFICATES OF COMPLIANCE REQUIRED	1705.1.1 ITEM 2				X		
3. INSPECTION OF WELDING:							
A. COMPLETE AND PARTIAL PENETRATION GROOVE WELDS	1705.1.1 ITEM 2	AWS D1.2		X	X		
B. MULTI-PASS FILLET WELDS	1705.1.1 ITEM 2	AWS D1.2		X	X		
C. SINGLE-PASS FILLET WELDS	1705.1.1 ITEM 2	AWS D1.2	X		X		
D. WELDED SHEET FOR ALUMINUM MEMBERS	1705.1.1 ITEM 2	AWS D1.2	X		X		

NOTES:
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2. INSPECTIONS SHALL BE COMPLETED AT RANDOM FREQUENCY. AT LEAST ONE INSPECTON SHALL BE COMPLETED AND NO FEWER THAN 25% OF EACH ITEM LISTED SHALL BE INSPECTED.
3. P = PERFORM THESE TASKS FOR EACH JOINT OR MEMBER.
   O = OBSERVE THESE ITEMS ON A RANDOM BASIS. MINIMUM FREQUENCY PER NOTE 2.
   X = ITEM IS REQUIRED PER TABLE COLUMN AND ROW HEADING.

TABLE 3
TESTING FOR REQUIRED SPECIAL INSPECTION
REFER TO SPECIFICATION SECTION 01 45 33

MATERIAL	TYPE OR SCOPE	STANDARD	2012 IBC CODE REFERENCE	FREQUENCY	BY WHOM	REQUIRED REPORTING TO DESIGNATED DISTRIBUTION LIST	COMMENTS
GEOTECHNICAL							
CONTROLLED FILL	GRADATION	ASTM D422	1704.7	SECTION 31 23 23, FILL AND BACKFILL	OWNER'S APPROVED TESTING AGENCY	X	
CONTROLLED FILL	COMPACTION	ASTM D1557	1704.7	SECTION 31 23 23, FILL AND BACKFILL	OWNER'S APPROVED TESTING AGENCY	X	
CONTROLLED FILL	DENSITY	ASTM D1556, D6938	1704.7	SECTION 31 23 23, FILL AND BACKFILL	OWNER'S APPROVED TESTING AGENCY	X	
PREPARED SUBGRADE	DENSITY	ASTM D1556, D6938	1704.7	SECTION 31 23 13, SUBGRADE PREPARATION	OWNER'S APPROVED TESTING AGENCY	X	
CONCRETE							
CONCRETE	STRENGTH	ASTM C39	1704.4, 1905.6	ONCE EACH DAY, BUT NOT LESS THAN ONE SAMPLE FOR EACH 150 CUBIC YARDS OR 5,000 SFT OF WALLS OR SLABS PLACED	OWNER'S TESTING AGENCY	X	
CONCRETE	SLUMP	ASTM C143, C94	1704.4	ONE SAMPLE PER STRENGTH TEST	OWNER'S TESTING AGENCY	X	
CONCRETE	AIR CONTENT	ASTM C231, C94	1704.4	ONE SAMPLE PER STRENGTH TEST	OWNER'S TESTING AGENCY	X	
CONCRETE	TEMPERATURE	ASTM C1064	1704.4	ONE SAMPLE PER STRENGTH TEST	OWNER'S TESTING AGENCY	X	
MASONRY							
CONCRETE MASONRY	UNIT STRENGTH	ASTM C140	2105.2.2.1.2	ONE SAMPLE SET (6 FULL SIZE UNITS) PER 5,000 SQ. FT. DURING CONSTRUCTION	OWNER'S TESTING AGENCY	X	
MASONRY	COMPRESSIVE STRENGTH OF GROUT	ASTM C1019	2105.2.2.1	THREE SAMPLES PRIOR TO CONSTRUCTION	OWNER'S TESTING AGENCY	X	
STEEL							
STEEL STUD WELDING	PRE-PRODUCTION TESTING	AWS D1.1 Sec. 7.7.1	1704.3	PRIOR TO CONSTRUCTION FOR EACH SIZE AND TYPE AND FIRST 2 STUDS EACH SHIFT	CONTRACTOR	X	SPECIAL INSPECTOR SHALL MONITOR PROCEDURES AND RESULTS OF BEND TESTING
HIGH-STRENGTH BOLTING	PRE-INSTALLATION VERIFICATION TESTING OF PRETENSIONED BOLTS	RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS,Sec. 7	1704.3	3 FASTENER ASSEMBLIES OF EACH COMBINATION OF DIAMETER. LENGTH, GRADE AND LOT	OWNER'S TESTING AGENCY	X	
STRUCTURAL STEEL	ULTRASONIC OR RADIOGRAPHIC NONDESTRUCTIVE TESTING	AWS D1.1	1704.3.1	SECTION 05 05 23, WELDING	CONTRACTOR'S APPROVED TESTING AGENCY	X	SPECIAL INSPECTOR SHALL MONITOR PROCEDURES AND RESULTS OF TESTING PERFORMED ON GROOVE AND BUTT JOINT WELDS
REINFORCING STEEL	MAGNETIC PARTICLE NONDESTRUCTIVE TESTING	AWS D1.4	1903.1	SECTION 05 05 23, WELDING	CONTRACTOR'S APPROVED TESTING AGENCY	X	SPECIAL INSPECTOR SHALL MONITOR PROCEDURES AND RESULTS OF TESTING PERFORMED ON WELDED REINFORCING STEEL

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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
GENERAL
STRUCTURAL
STATEMENT OF SPECIAL INSPECTIONS PLAN – 4

SHEET 01-G-0025
SEQ 18
DATE 12/2014
PROJ. NO. 490515

TABLE 4
REQUIRED SPECIAL INSPECTION FOR SEISMIC RESISTANCE FOR STRUCTURAL SYSTEMS
REFER TO TABLE 2 FOR STANDARD STRUCTURAL SPECIAL INSPECTION REQUIREMENTS

The Seismic Design Category (SDC) for this Project is D.

SYSTEM	INSPECTION REQUIRED FOR FOLLOWING SEISMIC DESIGN CATEGORIES	2012 IBC CODE REFERENCE	STANDARD OR CODE	PERIODIC OWNER FURNISHED SPECIAL INSPECTION (SEE NOTE 1)	CONTINUOUS OWNER FURNISHED SPECIAL INSPECTION	REQUIRED REPORTING BY SPECIAL INSPECTOR TO DESIGNATED DISTRIBUTION LIST	COMMENTS FOR DETAILS, REFER TO SPECIFICATION SECTION 01 45 33	TESTING FOR SPECIAL INSPECTION
ARCHITECTURAL								
INSTALLATION AND ANCHORAGE OF SUSPENDED CEILING SYSTEMS	"D" AND ABOVE	1705.11.5		X		X		
ELECTRICAL								
INSTALLATION OF ANCHORAGE OF ELECTRICAL EQUIPMENT FOR EMERGENCY OR STANDBY POWER SYSTEMS	"C" AND ABOVE	1705.11.6		X		X		
INSTALLATION OF PIPING INTENDED TO EQUIPMENT USING COMBUSTIBLE ENERGY SOURCES	"D" AND ABOVE	1705.11.6		X		X		
INSTALLATION OF OTHER SEISMIC SUPPORTS FOR DESIGNATED ELECTRICAL SYSTEMS AND THEIR COMPONENTS	"D" AND ABOVE	1705.11.6		X		X		
PROCESS MECHANICAL								
INSTALLATION OF OTHER SEISMIC SUPPORTS FOR DESIGNATED MECHANICAL SYSTEMS AND THEIR COMPONENTS	"D" AND ABOVE	1705.11.6		X		X		
BUILDING MECHANICAL								
INSTALLATION AND ANCHORAGE OF HVAC DUCTWORK THAT WILL CONTAIN HAZARDOUS MATERIALS	"C" AND ABOVE	1705.11.6		X		X		
INSTALLATION OF EQUIPMENT USING COMBUSTIBLE ENERGY SOURCES	"C" AND ABOVE	1705.11.6		X		X	ENGINE GENERATOR	
STRUCTURAL								
SEISMIC-FORCE-RESISTING SYSTEMS	"C" AND ABOVE	1705.11. ITEM 1			X	X		

NOTES:
1. PERIODIC INSPECTION IS DEFINED AS INSPECTION BY THE SPECIAL INSPECTOR OF ALL MATERIALS AND SYSTEMS, IN SOME CASES PERFORMED DURING THEIR PLACEMENT AND IN ALL CASES PERFORMED UPON COMPLETION OF THEIR PLACEMENT. THE COMPLETION INSPECTION SHALL BE PERFORMED SO THAT WORK CAN BE CORRECTED PRIOR TO OTHER RELATED WORK PROCEEDING AND COVERING THE INSPECTED WORK

TABLE 5
REQUIRED SPECIAL INSPECTION
FOR WIND RESISTANCE FOR STRUCTURAL SYSTEMS

THIS TABLE IS NOT REQUIRED FOR THIS PROJECT

TABLE 6
TESTING FOR SEISMIC RESISTANCE
REFER TO SPECIFICATION SECTION 01 45 33

MATERIAL	TYPE OR SCOPE	STANDARD	2012 IBC CODE REFERENCE	FREQUENCY	BY WHOM	REQUIRED REPORTING TO DESIGNATED DISTRIBUTION LIST	COMMENTS
REINFORCING STEEL							
REINFORCING STEEL MATERIAL IF ASTM A615 REINFORCING STEEL IS TO BE WELDED	CHEMICAL TEST TO DETERMINE WELDABILITY	ACI 318: Sec. 3.5.2	1708.2 1903.1	EACH SHIPMENT	MANUFACTURER	X	
STEEL							
COMPLETE AND PARTIAL PENETRATION GROOVE WELDS	NONDESTRUCTIVE TESTING	AISC 341 AWS D1.1	1708.3	CONTINUOUS	SPECIAL INSPECTOR	X	
MULTI-PASS FILLET WELDS	NONDESTRUCTIVE TESTING	AISC 341 AWS D1.1	1708.3	CONTINUOUS	SPECIAL INSPECTOR	X	
SINGLE-PASS FILLET WELDS > 5/16"	NONDESTRUCTIVE TESTING	AISC 341 AWS D1.1	1708.3	CONTINUOUS	SPECIAL INSPECTOR	X	

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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
GENERAL
STRUCTURAL
STATEMENT OF SPECIAL INSPECTIONS PLAN – 5

SHEET 01-G-0026
SEQ 19
DATE 12/2014
PROJ. NO. 490515

PIPE AND FITTING SYMBOLS

DOUBLE LINE	SINGLE LINE	
		EXISTING PIPE
		NEW PIPE
		EXISTING PIPE TO BE ABANDONED
		EXISTING PIPE TO BE REMOVED
		WELDED JOINT
		GROOVED END JOINT
		FLANGED JOINT
		MECHANICAL JOINT & PROPRIETARY RESTRAINED JOINT
		BELL & SPIGOT JOINT (LEADED)
		HUB & SPIGOT JOINT (RUBBER GASKET)
		BALL JOINT
		ADAPTER SIDE GROOVED END ADAPTER FLANGE
		FLANGED COUPLING ADAPTER
		FLEXIBLE COUPLING
		METAL BELLOWS EXP JOINT
		ELASTOMER BELLOWS EXP JOINT
		ELBOW UP
		ELBOW DOWN
		TEE UP
		TEE DOWN
		LATERAL UP
		LATERAL DOWN
		CONCENTRIC REDUCER
		ECCENTRIC REDUCER

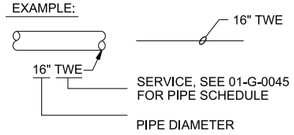
DOUBLE LINE	SINGLE LINE	
		REDUCING BUSHING
		UNION
		CAP
		ANCHOR
		ELBOW, 90 DEGREE
		CROSS
		TEE
		ELBOW, 45 DEGREE
		LATERAL

NOTES:

1. ONLY FLANGED END CONNECTIONS ARE SHOWN HERE FOR DOUBLE LINE FITTINGS. FITTINGS WITH OTHER END PATTERNS ARE SHOWN SIMILARLY ON THE CONSTRUCTION DRAWINGS. ALSO SEE PIPING SPECIFICATIONS.
2. SYMBOLS SHOWN HERE FOR SINGLE LINE FITTINGS ARE GENERIC ONLY. REFER TO PIPING SPECIFICATIONS FOR SPECIFIC END CONNECTIONS FOR SINGLE LINE PIPE AND FITTINGS.
3. EXISTING PIPE AND EQUIPMENT IS SHOWN LIGHT-LINED AND/OR SCREENED AND IS NOTED AS EXISTING. NEW PIPING AND EQUIPMENT IS SHOWN HEAVY-LINED.

PIPING DESIGNATION

EXAMPLE:



VALVE SYMBOLS

SINGLE LINE	DOUBLE LINE
GATE	
KNIFE GATE	OR
BUTTERFLY	OR
GLOBE	OR
BALL	OR
SEATING PORT ECCENTRIC PLUG	OR
PLUG OR COCK	OR
NEEDLE	OR
DIAPHRAGM	OR
PINCH	OR
SWING CHECK	OR
BALL CHECK	OR

HOSE VALVE (HV- X) OR (V-X)
X = NO. IN SPECS

SAMPLE

MUD

PRESSURE RELIEF

AIR AND/OR VACUUM RELEASE

REGULATED SIDE
PRESSURE CONTROL (INTERNAL PILOT)

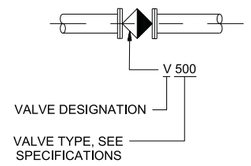
REGULATED SIDE
PRESSURE CONTROL (EXTERNAL PILOT)

MULTI-PORT VALVE,
ARROWS INDICATE FLOW PATTERN.
SEATING PORTS ARE IMPLIED BY INDICATED FLOW PATTERN.

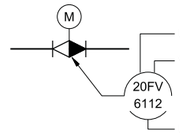
TELESCOPING SCUM VALVE

VALVE DESIGNATIONS

MANUAL VALVES AND CHECK VALVES

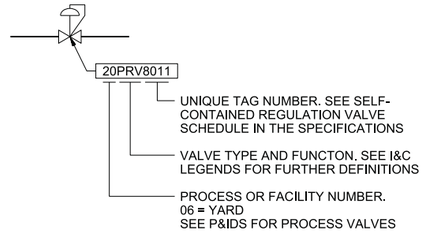


CONTROL VALVES



NOTE:
SEE I&C LEGENDS FOR FURTHER DEFINITIONS AND ACTUATOR TYPES.

SELF-CONTAINED REGULATING VALVES



ACTUATOR SYMBOLS

PNEUMATIC DIAPHRAGM

PNEUMATIC CYLINDER

ELECTRIC MOTOR

HYDRAULIC

MANUAL

SOLENOID

ELECTRO HYDRAULIC

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.

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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
GENERAL
MECHANICAL LEGEND

SHEET 01-G-0030
SEQ 20
DATE 12/2014
PROJ. NO. 490515

HEATING, VENTILATING, AND AIR CONDITIONING PIPE AND FITTING SYMBOLS

DOUBLE LINE	SINGLE LINE	
		EXISTING PIPE (SCREENED)
		NEW PIPE
		EXISTING PIPE TO BE ABANDONED
		EXISTING PIPE TO BE REMOVED
		WELDED JOINT
		GROOVED END JOINT
		FLANGED JOINT
		FLEXIBLE COUPLING
		GROOVED END GROOVED END ADAPTER FLANGE
		STEEL BELLOWS EXP JOINT
		ELBOW UP
		ELBOW DOWN
		TEE UP
		TEE DOWN
		LATERAL UP
		LATERAL DOWN
		CONCENTRIC REDUCER
		ECCENTRIC REDUCER
		UNION
		ANCHOR
		PIPE ALIGNMENT GUIDE
		FLEXIBLE (ELASTOMER) PIPE CONNECTION

NOTES:

1. ONLY FLANGED FITTINGS ARE SHOWN FOR DOUBLE LINE PIPING. FITTINGS WITH OTHER END PATTERNS ARE SIMILAR.

GENERAL DRAWING NOTES

1. THIS IS A STANDARD LEGEND SHEET. SOME SYMBOLS OR ABBREVIATIONS ON THIS SHEET MAY NOT APPEAR ON THE PLANS.
2. FOR ADDITIONAL ABBREVIATIONS OF OTHER DIVISIONS, SEE OTHER LEGENDS SUCH AS GENERAL, HVAC, MECHANICAL, FIRE PROTECTION, STRUCTURAL AND ARCHITECTURAL LEGENDS.
3. FOR ADDITIONAL FLOW STREAM IDENTIFICATIONS OF OTHER DIVISIONS SEE OTHER LEGENDS SUCH AS GENERAL, INSTRUMENTATION AND CONTROL, HVAC, MECHANICAL, FIRE PROTECTION, STRUCTURAL AND ARCHITECTURAL LEGENDS.
4. ALL DIMENSIONS SHOWN ARE IN INCHES UNLESS OTHERWISE NOTED.

VALVE SYMBOLS

SINGLE LINE	DOUBLE LINE
GATE	
BUTTERFLY	OR
GLOBE	OR
BALL	OR
SEATING PORT	
ECCENTRIC PLUG	OR
PLUG OR COCK	OR
NEEDLE	OR
SWING CHECK	OR
BALL CHECK	OR

- B — BALANCING FITTING
- F, B — COMBINATION FLOWMETER AND BALANCING FITTING
- F, B, S.O. — COMBINATION FLOWMETER, BALANCING FITTING AND SHUT-OFF VALVE
- PRESSURE RELIEF
- AIR VENT (AUTO)
- AIR VENT (MANUAL)
- REGULATED SIDE PRESSURE CONTROL
- MULTI-PORT VALVE (GLOBE VALVE SHOWN. FOR OTHER VALVE TYPES, APPROPRIATE VALVE SYMBOL SHOWN). ARROWS INDICATE FLOW PATTERN. SEATING PORTS ARE IMPLIED BY INDICATED FLOW PATTERN.
- S — SOLENOID VALVE
- T — TO TEMPERATURE SENSOR_
- TEMPERATURE SENSING VALVE

MISCELLANEOUS PIPING SYMBOLS

- X — STEAM TRAP X = NO. IN SPECS
- FS — FLOW SWITCH
- FM, X — FLOW METER X = NO. SHOWN IN SPECS
- PS — PRESSURE SWITCH
- STRAINER
- GAUGE WITH COCK
- THERMOMETER
- GAUGE GLASS WITH COCKS

VALVE DESIGNATIONS

MANUAL VALVES AND CHECK VALVES

V 400
- VALVE TYPE, SEE SPECIFICATIONS
- VALVE DESIGNATION

CONTROL VALVES

- ACTUATOR SYMBOL
- FLOW DIRECTION
- VALVE SYMBOL
- FLOW DIRECTION

HVAC EQUIPMENT IDENTIFICATION

ACC	AIR-COOLED CONDENSER
ACCU	AIR-COOLED CONDENSING UNIT
ACU	AIR CONDITIONING UNIT
AHU	AIR HANDLING UNIT
AWC	ABSORPTION WATER CHILLER
BC	BOOSTER HEATING COIL
BD	BUTTERFLY DAMPER
CD	CEILING DIFFUSER
CG	CEILING GRILLE
CR	CEILING REGISTER
CUH	CABINET UNIT HEATER
DG	DOOR GRILLE
EDH	ELECTRIC DUCT HEATER
EF	EXHAUST FAN
EG	EXHAUST GRILLE
EUH	ELECTRIC UNIT HEATER
FG	FLOOR GRILLE
FD	FIRE DAMPER
HRU	HEAT RECOVERY UNIT
HCG	HIGH-CAPACITY GRILLE
HCSG	HIGH-CAPACITY SUPPLY GRILLE
HP	HEAT PUMP
HTR	HIGH THROW REGISTER
HWP	HEATING WATER PUMP
HX	HEAT EXCHANGER
LD	LINEAR DIFFUSER
MD	MOTORIZED DAMPER
ML	MOTORIZED LOUVER
OBD	OPPOSED BLADE DAMPER
PCG	PERFORATED CEILING GRILLE
PCD	PERFORATED CEILING DIFFUSER
PEF	PORTABLE EXHAUST FAN
RG	RETURN GRILLE
SF	SUPPLY FAN
SD	SLOT DIFFUSER
SG	SUPPLY GRILLE
TAC	TERMINAL AIR CONDITIONER
TCU	TERMINAL CONTROL UNIT
TG	TRANSFER GRILLE
UH	UNIT HEATER

NOTE:
ABBREVIATIONS ARE SHOWN ON GENERAL LEGENDS.

HVAC STREAM IDENTIFICATION

IDENTIFICATION	SERVICE
EA	EXHAUST AIR
FA	FOUL AIR
OSA	OUTSIDE AIR
RA	RETURN AIR
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
SA	SUPPLY AIR
TA	TRANSFER AIR

NOTE:
FLOW STREAM IDENTIFICATION ARE SHOWN ON INSTRUMENTATION & CONTROL LEGENDS.

HEATING, VENTILATING, AND AIR CONDITIONING SYMBOLS

- WALL REGISTER OR GRILLE (SUPPLY)
- CEILING DIFFUSER OR REGISTER (SUPPLY)
- CEILING REGISTER OR GRILLE (RETURN AND EXHAUST)
- WALL REGISTER OR GRILLE (RETURN AND EXHAUST)
- TURNING VANES
- 45 DEGREE ENTRY
- CONICAL TEE
- BELLMOUTH
- SD — SMOKE DAMPER
- FD — FIRE DAMPER
- BACKDRAFT DAMPER
- MANUAL OPPOSED-BLADE DAMPER
- MANUAL BALANCING DAMPER
- M — MOTORIZED DAMPER
- INTERNALLY INSULATED DUCT
- SOUND ATTENUATED DUCT
- FLEXIBLE CONNECTION
- FLEXIBLE DUCTWORK
- R — INCLINED RISE IN DUCT
- D — INCLINED DROP IN DUCT
- SUPPLY DUCT (SECTION)
- INTAKE, RETURN, OR EXHAUST DUCT (SECTION)
- M — MOTORIZED VALVE - 3 WAY
- M — MOTORIZED VALVE - 2 WAY
- (200) — 200 CFM
- DDC — DIRECT DIGITAL CONTROL SYSTEM PANEL
- CS# — CURRENT SENSOR
- DP# — DIFFERENTIAL PRESSURE SENSOR
- LD — LEAK DETECTOR SENSOR
- P — ROOM PRESSURE SENSOR
- PFS — POWER FACTOR SENSOR
- T — ROOM TEMPERATURE SENSOR - PROVIDED WITH EQUIPMENT
- T# — ROOM TEMPERATURE THERMOSTAT
- TS# — TEMPERATURE SENSOR
- # — REFER TO SPECIFICATIONS FOR TYPE

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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
GENERAL
HVAC LEGEND

SHEET 01-G-0031
SEQ 21
DATE 12/2014
PROJ. NO. 490515

PLUMBING SYMBOLS

- EXISTING PIPE (SCREENED)
- NEW PIPE
- EXISTING PIPE TO BE ABANDONED
- EXISTING PIPE TO BE REMOVED
- ANCHOR
- CAP
- CLEANOUT PLUG
- 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 PIPE CONNECTION
- STEEL BELLOWS EXPANSION JOINT
- STRAINER
- SIGHT GLASS
- PRESSURE SWITCH (PS)
- PRESSURE GAUGE WITH COCK
- THERMOMETER
- HOSE RACK (TYPE AS INDICATED)
- EYEWASH
- SAFETY SHOWER (S)
- SAFETY SHOWER\EYEWASH COMBINATION UNIT (S)
- HOSE VALVE

Z" YCO-X
- Z = OUTLET SIZE IN INCHES
- Y = F - FLOOR CLEANOUT; W - WALL CLEANOUT
- X = NO. IN SPECIFICATION

Z" HD-XY — HUB DRAIN
- Z = OUTLET SIZE IN INCHES
- X = NO. IN SPECIFICATION
- Y = T WITH TRAP
- Y = P WITH PRIMED TRAP

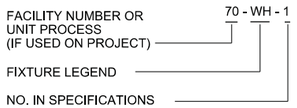
Z" FD-XY — FLOOR DRAIN
- Z = OUTLET SIZE IN INCHES
- X = NO. IN SPECIFICATION
- Y = T WITH TRAP
- Y = P WITH PRIMED TRAP

Z" OD-X — OVERFLOW ROOF DRAIN
- Z = OUTLET SIZE IN INCHES
- X = NO. IN SPECIFICATION

PLUMBING EQUIPMENT IDENTIFICATION

IDENTIFICATION	EQUIPMENT NAME
AD	AREA DRAIN
BFP	BACKFLOW PREVENTER
CP	CIRCULATION PUMP
DB	DOWNSPOUT BOOT
DCBP	DOUBLE CHECK BACKFLOW PREVENTER
DN	DOWNSPOUT NOZZLE
DWT	DOMESTIC WATER STORAGE TANK
ET	EXPANSION TANK
ETP	ELECTRONIC TRAP PRIMER
FD	FLOOR DRAIN
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
TP	TRAP PRIMER ASSEMBLY
TWT	TEMPERED WATER STORAGE TANK
WH	WATER HEATER
WHA	WATER HAMMER ARRESTOR

EXAMPLE CALLOUT:



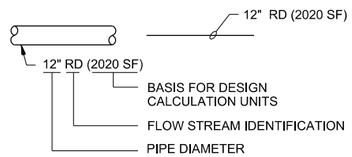
VALVE SYMBOLS

SINGLE LINE	DOUBLE LINE
GATE	
BUTTERFLY	OR
GLOBE	OR
BALL	OR
PLUG OR COCK	OR
SWING CHECK	OR
BALL CHECK	OR

- HOSE VALVE (HV- X) OR (V-X); X = NO. IN SPECS
- PRESSURE RELIEF
- AIR AND/OR VACUUM RELEASE
- REGULATED SIDE
- PRESSURE CONTROL (INTERNAL PILOT)
- BALANCE VALVE (RHW)
- BACKFLOW PREVENTER

PIPING DESIGNATION

EXAMPLE:



PIPE SERVICE IDENTIFICATION	BASIS FOR DESIGN CALCULATION UNITS
RD	DRAINAGE AREA IN SQUARE FOOTAGE - SF
NG	VOLUME OF GAS CUBIC FEET PER HOUR - CFH *
D	DRAINAGE FIXTURE UNIT - DFU
V	DRAINAGE FIXTURE UNIT - DFU
W1	FLOW IN GALLONS PER MINUTE GPM
HW	FLOW IN GALLONS PER MINUTE GPM

NOTE: * GAS FLOW DEMAND BASED ON PROJECT SITE ELEVATION

PLUMBING FIXTURE IDENTIFICATION

LEGEND	FIXTURE
DF	DRINKING FOUNTAIN
EE	EMERGENCY EYE WASH
ES	EMERGENCY SAFETY SHOWER
EWC	ELECTRIC WATER COOLER
LAV	LAVATORY
MS	MOP SINK
SH	SHOWER
S	SINK
SSK	SERVICE SINK
UR	URINAL
WC	WATER CLOSET
HV	HOSE VALVE OR HYDRANT
WS	AUTOMATIC WASHER
YH	YARD HYDRANT

EXAMPLE CALLOUT: SSH - 1
- FIXTURE LEGEND
- NO. IN SPECIFICATIONS

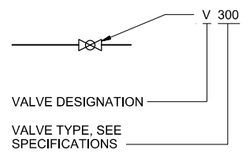
PLUMBING FIXTURE SCHEDULE

ITEM	DESCRIPTION	D	V	ARD	ARV	W1	HW	DIW	W2	A	VAC	COMMENTS
WC-1	WALL MTD WATER CLOSET	4"	2"	-	-	1"	-	-	-			ADA COMPLIANT
LAV-1	LAVATORY	1 1/2"	1 1/2"	-	-	1/2"	1/2"	-	-			ADA COMPLIANT
SK-1	SINK (KITCHEN)	2"	1 1/2"	-	-	1/2"	1/2"	-	-			
SRSK-1	SAMPLE SINK (LAB)	3"	1 1/2"	-	-	-	-	-	1/2"			SINK PROVIDED UNDER LAB CASEWORK
MS-1	MOP SINK	3"	1 1/2"	-	-	1/2"	1/2"	-	-			
SSK-1	SERVICE SINK	3"	1 1/2"	-	-	1/2"	1/2"	-	-			
WS-1	WASHER & DRYER UNIT	2"	1 1/2"	-	-	1/2"	1/2"	-	-			

VALVE DESIGNATIONS

MANUAL VALVES AND CHECK VALVES

EXAMPLE CALLOUT:



GENERAL DRAWING NOTES

1. THIS IS A STANDARD LEGEND SHEET. SOME SYMBOLS OR ABBREVIATIONS ON THIS SHEET MAY NOT APPEAR ON THE PLANS.
2. FOR ADDITIONAL ABBREVIATIONS OF OTHER DIVISIONS, SEE OTHER LEGENDS SUCH AS GENERAL, HVAC, MECHANICAL, FIRE PROTECTION, STRUCTURAL AND ARCHITECTURAL LEGENDS.
3. FOR ADDITIONAL FLOW STREAM IDENTIFICATIONS OF OTHER DIVISIONS SEE OTHER LEGENDS SUCH AS GENERAL, INSTRUMENTATION AND CONTROL, HVAC, MECHANICAL, FIRE PROTECTION, STRUCTURAL AND ARCHITECTURAL LEGENDS.

REGISTERED PROFESSIONAL ENGINEER
80759PE
Digital Signature
OREGON
JANUARY 10, 2012
ADAM T. BOYD
EXP. 12-31-15

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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BY	REVISION	DATE	NO.

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APVD		

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
GENERAL
PLUMBING LEGEND

SHEET 01-G-0032
SEQ 22
DATE 12/2014
PROJ. NO. 490515

ONE-LINE DIAGRAM

SYMBOL	DESCRIPTION
AS/AF or AT/AF	CIRCUIT BREAKER, STATIC TRIP UNIT, SENSOR AMP TRIP AND FRAME RATINGS SHOWN, 3 POLE, UNO
100/M	CIRCUIT BREAKER, MAGNETIC TRIP ONLY, TRIP RATING SHOWN, 3 POLE, UNO
400	CIRCUIT BREAKER, THERMAL MAGNETIC TRIP SHOWN, 3 POLE, UNO
400 225	FUSED SWITCH, SWITCH AND FUSE CURRENT RATING INDICATED, 3 POLE, UNO
100	SWITCH, CURRENT RATING INDICATED, 3 POLE, UNO
60 (3)	FUSE, CURRENT RATING AND QUANTITY INDICATED
1	MAGNETIC STARTER WITH OVERLOAD, NEMA SIZE INDICATED, FVNR UNO
AFD	ELECTRONIC STARTER/SPEED CONTROL RVSS = REDUCED VOLTAGE SOFT STARTER AFD = AC ADJUSTABLE FREQUENCY DRIVE
	CABLE OR BUS CONNECTION POINT
3	AC MOTOR, SQUIRREL CAGE INDUCTION - HORSEPOWER INDICATED
G 500/625	GENERATOR, KW/KVA RATING SHOWN
DPM	DIGITAL POWER METER (MULTIFUNCTION)
	UTILITY REVENUE METER
	GROUND
15 KVA 480-120/240V 1 PH	TRANSFORMER, SIZE, VOLTAGE RATINGS, AND PHASE INDICATED
480-120V (3)	POTENTIAL TRANSFORMER, VOLTAGE RATING AND QUANTITY INDICATED
100:5 (3)	CURRENT TRANSFORMER, RATIO(100:5) AND QUANTITY INDICATED (3)
	CONNECTION POINT TO EQUIPMENT SPECIFIED IN OTHER DIVISIONS. RACEWAY, CONDUCTOR AND CONNECTION IN THIS DIVISION
SPD	SURGE PROTECTION DEVICE
	DELTA CONNECTION
	WYE GROUNDED CONNECTION, SOLID GROUND

CABLE-BLOCK DIAGRAMS

##	DUCTBANK CIRCUIT CALL-OUT

NOTES:

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

CONTROL DIAGRAM-1

SYMBOL	DESCRIPTION
	PUSH-BUTTON SWITCH, MOMENTARY CONTACT, NORMALLY OPEN
	PUSH-BUTTON SWITCH, MOMENTARY CONTACT, NORMALLY CLOSED
HAND OFF REMOTE	SELECTOR SWITCH - MAINTAINED CONTACT - CHART IDENTIFIES OPERATION WHEN NEEDED FOR CLARITY:

	POSITION		
CKT	HAND	OFF	REMOTE
1	X	O	O
2	O	O	X

X - CLOSED CONTACT
O - OPEN CONTACT

SYMBOL	DESCRIPTION
	TOGGLE SWITCH, ON-OFF TYPE
ON OFF	SELECTOR SWITCH, ON-OFF TYPE
	MUSHROOM HEAD PUSHBUTTON SWITCH
A	INDICATING LIGHT, PUSH-TO-TEST, LETTER INDICATES COLOR A - AMBER R - RED G - GREEN W - WHITE
M	MOTOR STARTER CONTACTOR COIL
CRX	CONTROL RELAY, X INDICATES NUMERICAL ORDER IN CIRCUIT
TDR X	TIME DELAY RELAY, X INDICATES NUMERICAL ORDER IN CIRCUIT
SV X	SOLENOID VALVE, X INDICATES NUMERICAL ORDER IN CIRCUIT
	CONTACT - NORMALLY OPEN
	CONTACT - NORMALLY CLOSED
	REMOTE DEVICE
NOTC	TIME DELAY RELAY CONTACT, NORMALLY OPEN, CLOSES WHEN ENERGIZED AND TIMED OUT
NCTO	TIME DELAY RELAY CONTACT, NORMALLY CLOSED, OPENS WHEN ENERGIZED AND TIMED OUT
NOTO	TIME DELAY RELAY CONTACT, CLOSES WHEN ENERGIZED, OPENS WHEN DE-ENERGIZED AND TIMED OUT
NCTC	TIME DELAY RELAY CONTACT, OPENS WHEN ENERGIZED, CLOSES WHEN DE-ENERGIZED AND TIMED OUT
	TERMINAL BLOCK, REMOTE
	TERMINAL BLOCK, INTERNAL
	FUSE, RATING INDICATED
CPT 120V	TRANSFORMER, CONTROL POWER
	LIMIT SWITCH, NORMALLY OPEN, CLOSES AT END OF TRAVEL
	LIMIT SWITCH, NORMALLY CLOSED, OPENS AT END OF TRAVEL
	TEMPERATURE SWITCH, OPENS ON TEMPERATURE RISE
	TEMPERATURE SWITCH, CLOSES ON TEMPERATURE RISE
	FLOAT SWITCH, NORMALLY OPEN, CLOSES ON DESCENDING LEVEL
	FLOAT SWITCH, NORMALLY OPEN, CLOSES ON RISING LEVEL
	PRESSURE SWITCH, NORMALLY CLOSED, OPENS ON RISING PRESSURE
	PRESSURE SWITCH, NORMALLY OPEN, CLOSES ON RISING PRESSURE

CONTROL DIAGRAM-2

SYMBOL	DESCRIPTION
	FLOW SWITCH, CLOSES ON INCREASED FLOW
	FLOW SWITCH, OPENS ON INCREASED FLOW
	MULTICONDUCTOR SHIELDED CABLE

POWER SYSTEM PLAN-1

SYMBOL	DESCRIPTION
	CONNECTION POINT TO EQUIPMENT SPECIFIED. RACEWAY, CONDUCTOR,TERMINATION AND CONNECTION IN THIS DIVISION.
MCC-A	MAJOR ELECTRICAL COMPONENT OR DEVICE - NAME OR IDENTIFYING SYMBOL AS SHOWN.
LPXXA	PANELBOARD - SURFACE MOUNTED PANELBOARD LETTER OR NUMBER FACILITY NUMBER LP - LOW VOLTAGE PANEL DP - DISTRIBUTION PANEL
	PANELBOARD - FLUSH MOUNTED
	TERMINAL JUNCTION BOX
M	MOTOR, SQUIRREL CAGE INDUCTION
G	GENERATOR, VOLTAGE AND SIZE AS INDICATED.
LPXXA	HOME RUN - DESTINATION SHOWN
or G	EXPOSED CONDUIT AND CONDUCTORS*
or G	CONCEALED CONDUIT AND CONDUCTORS*

NOTE:
ALL UNMARKED CONDUIT RUNS CONSIST OF TWO NO. 12, ONE NO. 12 GROUND CONDUCTORS IN 3/4" CONDUIT. RUNS MARKED WITH CROSSHATCHES INDICATE NUMBER OF NO. 12 CONDUCTORS. CROSSHATCH WITH SUBSCRIPT "G" INDICATES GREEN GROUND WIRE.

SYMBOL	DESCRIPTION
G	CROSSHATCHES WITH BAR INDICATE NO.10 CONDUCTOR. SIZE CONDUIT ACCORDING TO SPECIFICATIONS AND APPLICABLE CODE.
[A1]	CONDUIT AND CONDUCTOR CALLOUT, SEE LEGEND.
	CONDUIT DOWN
OH	OVERHEAD LINE
	CONDUIT UP
	CONDUIT, STUBBED AND CAPPED
CE	CONCRETE ENCASED CONDUIT
DB	DIRECT BURIED CONDUIT
	CONCEALED CONDUIT ROUTING AREA
	CONDUIT ROUTING AREA
T	TRANSFORMER
J or HH	GENERAL CONTROL OR WIRING DEVICE. LETTER SYMBOLS OR ABBREVIATIONS INDICATE TYPE OF DEVICE
CS	CONTROL STATION, SEE CONTROL DIAGRAMS FOR CONTROL DEVICE(S) REQUIRED.
HS	HAND STATION, SEE CONTROL DIAGRAMS FOR CONTROL DEVICE(S) REQUIRED.
30	NONFUSED DISCONNECT SWITCH, CURRENT RATING INDICATED, 3 POLE
60/40	FUSED DISCONNECT SWITCH, CURRENT RATING INDICATED (60/40, 60=SWITCH RATING / 40=FUSE RATING) 3 POLE

POWER SYSTEM PLAN-2

SYMBOL	DESCRIPTION
2	COMBINATION CIRCUIT BREAKER AND MAGNETIC STARTER, NEMA SIZE INDICATED
MH	MANHOLE
100/40	BREAKER, SEPARATELY MOUNTED, CURRENT RATING INDICATED (100/40, 100 = FRAME SIZE; 40 = TRIP RATING) 3 POLE
2	STARTER, MAGNETIC NEMA SIZE INDICATED
XX 2	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
	208V RECEPTACLE
L20R 20	RECEPTACLE, SPECIAL PURPOSE-NEMA CONFIGURATION AND AMPERAGE INDICATED
T	THERMOSTAT
	UTILITY REVENUE METERING FACILITY
	UTILITY POLE

LIGHTING SYSTEM PLAN

SYMBOL	DESCRIPTION
1	LUMINAIRE, SEE SCHEDULE
1 or	LUMINAIRE WITH INTERNAL BATTERY BACKUP, SEE SCHEDULE
4 or 4	LUMINAIRE AND POLE, SEE SCHEDULE
5 or 5	WALL MOUNTED LUMINAIRE, SEE SCHEDULE
1	FLOOD LIGHTS - AIM IN THE DIRECTION SHOWN
	STANDBY LIGHTING UNIT, SURFACE MOUNTED, SEE SCHEDULE
XX or	EXIT LIGHTS - FILLED SECTION INDICATES LIGHTED FACE, ARROW INDICATES EGRESS DIRECTIONAL INDICATORS, XX = FIXTURE NUMBER, SEE SCHEDULE
$a or 2a	SMALL LETTER SUBSCRIPT AT SWITCH AND LUMINAIRE INDICATES SWITCHING. SUBSCRIPT NUMBER AT LUMINAIRE INDICATES CIRCUIT
$3	WALL SWITCH: 2- DOUBLE POLE P- PILOT LIGHT 3- THREE WAY K- KEY OPERATED 4- FOUR WAY D- DIMMER WP- WEATHERPROOF CRE- CORROSION RESISTANT EX- EXPLOSIONPROOF L- MOMENTARY 3-WAY M- MOTOR RATED MS- MANUAL STARTER WITH OVERLOADS
LC	LIGHTING CONTACTOR
PC	PHOTOCELL
	ALARM HORN/STROBE LIGHT

REGISTERED PROFESSIONAL ENGINEER
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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
GENERAL
ELECTRICAL LEGEND 1

SHEET 01-G-0035
SEQ 23
DATE 12/2014
PROJ. NO. 490515

SYMBOL	DESCRIPTION

FIRE ALARM SYSTEM PLAN AND RISER

F P	FIRE ALARM STATION, MANUAL
	FIRE ALARM SYSTEM, AUTOMATIC SMOKE DETECTOR
HD	FIRE ALARM SYSTEM, AUTOMATIC, HEAT DETECTOR
F	FIRE ALARM BELL
F	FIRE ALARM HORN
	FIRE ALARM STROBE LIGHT
	AIR DUCT DETECTOR

COMBINED TELEPHONE/COMPUTER SYSTEM PLAN AND RISER

4	COMBINATION TELEPHONE/DATA RECEPTACLE, WALL MOUNTED, NUMBER OF PORTS INDICATED
4	COMBINATION TELEPHONE/DATA RECEPTACLE, FLOOR BOX, NUMBER OF PORTS INDICATED
4	DATA RECEPTACLE, WALL MOUNTED, NUMBER OF PORTS INDICATED.

SECURITY SYSTEM PLAN AND RISER

CS	CONTROL STATION
DS	DOOR SWITCH

GROUND SYSTEM PLAN

	GROUND ROD
	GROUND ROD IN TEST WELL
G	GROUNDING CONDUCTOR, SIZE AS INDICATED
	PIGTAIL FOR CONNECTION TO EQUIPMENT CABINET OR FRAME
G	EQUIPMENT GROUND BUS
N	EQUIPMENT NEUTRAL BUS

ABBREVIATIONS

A	AMPERE, ANALOG
AC	ALTERNATING CURRENT
AF	AMPERE FRAME
AFD	ADJUSTABLE FREQUENCY DRIVE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AL	ALUMINUM
AT	AMPERE TRIP
AWG	AMERICAN WIRE GAUGE
BCC	BARE COPPER CONDUCTOR
BIL	BASIC IMPULSE LEVEL
BKR	BREAKER
BLDG	BUILDING
C	CONDUIT, CONTACTOR, CONTROL CONDUCTOR, CENTIGRADE
CKT	CIRCUIT
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CR	CONTROL RELAY
CS	CONTROL STATION
CT	CURRENT TRANSFORMER
CU	COPPER
DN	DOWN
DP	DISTRIBUTION PANEL
DS	DISCONNECT SWITCH
EF	EXHAUST FAN
EL	ELEVATION
EO	ELECTRIC OPERATED
EMT	ELECTRICAL METALLIC TUBING
EQPT	EQUIPMENT
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FET	FLOW ELEMENT TRANSMITTER
FVNR	FULL VOLTAGE NON-REVERSING
FVR	FULL VOLTAGE REVERSING
G	GROUND
GALV	GALVANIZED
GFCI	GROUND FAULT CIRCUIT INTERRUPTING
GND	GROUND
HH	HANDHOLE
HP	HORSEPOWER
HS	HAND SWITCH
HVAC	HEATING, VENTILATION & AIR CONDITIONING
HZ	HERTZ
IAW	IN ACCORDANCE WITH
IC	INTERRUPTING CAPACITY
I & C	INSTRUMENTATION AND CONTROL
IMC	INTERMEDIATE METALLIC CONDUIT
INCAND	INCANDESCENT
INST	INSTANTANEOUS
INT	INTERRUPTING
ISR	INTRINSICALLY SAFE RELAY
J,JB	JUNCTION BOX
KAIC	KILOAMPERES INTERRUPTING CAPACITY
KV	KILOVOLTS
KVA	KILOVOLT AMPERES
KW	KILOWATTS
LC	LIGHTING CONTACTOR
LCP	LOCAL CONTROL PANEL
LE	LEVEL ELEMENT
LIT	LEVEL INDICATING TRANSMITTER
LP	LIGHTING PANEL
LS	LEVEL SWITCH
LT	LEVEL TRANSMITTER
M	MAGNETIC CONTACTOR COIL, MOTOR, MANUAL
MALL	MALLEABLE
MCC	MOTOR CONTROL CENTER
MH	MANHOLE
MIN	MINIMUM
MOV	MOTOR OPERATED VALVE
MSC	MANUFACTURER SUPPLIED CABLE
N	NEUTRAL
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NESC	NATIONAL ELECTRICAL SAFETY CODE
N.O.	NORMALLY OPEN
NTS	NOT TO SCALE
OL	OVERLOAD RELAY
OOR	ON-OFF-REMOTE
PB	PULL BOX
PC	PHOTOCELL
PH	PHASE
PLC	PROGRAMMABLE LOGIC CONTROLLER
PS	PRESSURE SWITCH
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
RCPT	RECEPTACLE
REM	REMOTE
RGS	RIGID GALVANIZED STEEL CONDUIT
RIO	REMOTE INPUT/OUTPUT
RPM	REVOLUTIONS PER MINUTE
SCADA	SUPERVISORY CONTROL AND DATA ACQUISITION SYSTEM
SF	SUPPLY FAN
SP	SPARE
SPD	SURGE PROTECTIVE DEVICE
SST	STAINLESS STEEL
SV	SOLENOID VALVE
T	THERMOSTAT, TRANSFORMER
TB	TERMINAL BOARD, TEST BLOCK
TD	TIME DELAY, TIME DELAY RELAY
TJB	TERMINAL JUNCTION BOX
TSP	TWISTED SHIELDED PAIR
TYP	TYPICAL
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLTAGE, VOLTS
W	WATTS, WATTAGE
WP	WEATHERPROOF
XFMR	TRANSFORMER
ZS	POSITION SWITCH

GENERAL CIRCUIT CONDUCTOR AND CONDUIT IDENTIFICATION

POWER CIRCUIT CALLOUTS

[P1]	[1/2"FLEX, 2#12,#12G]	[P24]	[1"C,3#8,3#14,1#10G]
[P2]	[3/4"C,2#12,1#12G]	[P25]	[1"C,3#8,4#14,1#10G]
[P3]	[3/4"C,3#12,1#12G]	[P26]	[1"C,3#8,5#14,1#10G]
[P4]	[3/4"C,4#12,1#12G]	[P27]	[1"C,2#6, 1#10G]
[P5]	[3/4"C,5#12,1#12G]	[P28]	[1"C,3#6, 1#8G]
[P6]	[3/4"C,6#12,1#12G]	[P29]	[1"C,3#6, 2#14,1#8G]
[P7]	[3/4"C,7#12,1#12G]	[P30]	[1"C,3#6, 3#14,1#8G]
[P8]	[3/4"C,8#12,1#12G]	[P31]	[1"C,3#6, 4#14,1#8G]
[P9]	[3/4"C,3#12,2#14,1#12G]	[P32]	[1"C,3#6, 5#14,1#8G]
[P10]	[3/4"C,3#12,3#14,1#12G]	[P33]	[1"C,3#4,1#8G]
[P11]	[3/4"C,3#12,4#14,1#12G]	[P34]	[1 1/4"C,3#4,3#14,1#8G]
[P12]	[3/4"C,3#12,5#14,1#12G]	[P35]	[1 1/4"C,3#4,5#14,1#8G]
[P13]	[3/4"C,3#12,6#14,1#12G]	[P36]	[1 1/4"C,3#3, 1#6G]
[P14]	[3/4"C,3#12,7#14,1#12G]	[P37]	[1 1/4"C,3#3, 3#14,1#6G]
[P15]	[3/4"C,2#10,1#10G]	[P38]	[1 1/4"C,3#2, 1#6G]
[P16]	[3/4"C,3#10,1#10G]	[P39]	[1 1/4"C,3#1, 1#6G]
[P17]	[3/4"C,3#10,2#14,1#10G]	[P40]	[1 1/2"C,3#1, 3#14,1#6G]
[P18]	[3/4"C,3#10,3#14,1#10G]	[P41]	[1 1/2"C,3#2/0, 1#4G]
[P19]	[3/4"C,3#10,4#14,1#10G]	[P42]	[2"C,3#3/0, 1#4G]
[P20]	[3/4"C,3#10,5#14,1#10G]	[P43]	[2"C,3#4/0, 1#3G]
[P21]	[1"C,2#8,1#10G]		
[P22]	[1"C,3#8,1#10G]		
[P23]	[1"C,3#8,2#14,1#10G]		

EMPTY CONDUIT

[CE-1]	[3/4"C,WITH PULL STRING]
[CE-2]	[1"C,WITH PULL STRING]
[CE-3]	[1 1/4"C,WITH PULL STRING]
[CE-4]	[1 1/2"C,WITH PULL STRING]
[CE-5]	[2"C,WITH PULL STRING]
[CE-6]	[3"C,WITH PULL STRING]
[CE-7]	[4"C,WITH PULL STRING]
[CE-8]	[5"C,WITH PULL STRING]

COMMUNICATION CIRCUIT CALLOUTS

[F1]	[2"C,12-STRAND FIBEROPTIC CABLE]
[N1]	[1"C,1-TYPE 30]
[N2]	[1 1/2"C,2-TYPE 30]
[N3]	[2"C,3-TYPE 30]
[N4]	[2"C,4-TYPE 30]

ANALOG CIRCUIT CALLOUTS

[A1]	[3/4"C,1 TYPE 3]
[A2]	[1"C,2 TYPE 3]
[A3]	[1"C,3 TYPE 3]
[A4]	[1"C,4 TYPE 3]
[A5]	[1 1/4"C,5 TYPE 3]
[A6]	[1 1/4"C,6 TYPE 3]
[A7]	[1 1/2"C,7 TYPE 3]
[A8]	[1 1/2"C,8 TYPE 3]
[A9]	[1 1/2"C,9 TYPE 3]
[A10]	[2"C,10 TYPE 3]
[A11]	[2"C,11 TYPE 3]
[A12]	[2"C,12 TYPE 3]
[A13]	[2"C,13 TYPE 3]
[A14]	[2"C,14 TYPE 3]

CONTROL CIRCUIT CALLOUTS

[C1]	[3/4"C,MSC]
[C2]	[3/4"C,2#14,1#14G]
[C3]	[3/4"C,3#14,1#14G]
[C4]	[3/4"C,4#14,1#14G]
[C5]	[3/4"C,5#14,1#14G]
[C6]	[3/4"C,6#14,1#14G]
[C7]	[3/4"C,7#14,1#14G]
[C8]	[3/4"C,8#14,1#14G]
[C9]	[3/4"C,9#14,1#14G]
[C10]	[3/4"C,10#14,1#14G]
[C11]	[3/4"C,11#14,1#14G]
[C12]	[3/4"C,12#14,1#14G]
[C13]	[3/4"C,13#14,1#14G]
[C14]	[3/4"C,14#14,1#14G]
[C15]	[3/4"C,15#14,1#14G]
[C16]	[3/4"C,16#14,1#14G]
[C17]	[3/4"C,17#14,1#14G]
[C18]	[3/4"C,18#14,1#14G]
[C19]	[3/4"C,19#14,1#14G]
[C20]	[1"C,20#14,1#14G]
[C21]	[1"C,21#14,1#14G]
[C22]	[1"C,22#14,1#14G]
[C23]	[1"C,23#14,1#14G]
[C24]	[1"C,24#14,1#14G]
[C25]	[1"C,25#14,1#14G]

NOTES:

1. FOR CABLE TYPES, SEE SPECIFICATIONS.
2. CONDUIT SIZES ARE BASE ON THE AREA OF THW CONDUCTORS.
3. SIZING OF CONDUCTORS #1AWG AND SMALLER BASED ON AMPACITIES AT 60 DEGREES C, SIZING OF CONDUCTORS #1/0AWG AND LARGER BASED ON AMPACITIES AT 75 DEGREES C.
4. WHERE CIRCUITS ARE UNDERGROUND, DIRECT BURIED OR CONCRETE ENCASED, MINIMUM CONDUIT SIZE SHALL BE 1".

REGISTERED PROFESSIONAL ENGINEER 85946PE Digital Signature OREGON JAN. 10, 20 12 JASON A. CLIFFORD

EXP. 12-31-15

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NO.	REVISION	BY	DATE

DSGN	JAC
DR	JG
CHK	RSH
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
GENERAL

ELECTRICAL LEGEND 2

SHEET 01-G-0036
SEQ 24
DATE 12/2014
PROJ. NO. 490515

DESIGN DATA SUMMARY

INFLUENT FLOWS AND LOADS	DESIGN VALUES	
YEAR	2010	2037
FLOWS, MGD		
AVERAGE DAILY	1.06	1.24
AVERAGE DRY WEATHER	0.84	0.99
AVERAGE WET WEATHER	1.28	1.50
MAXIMUM MONTH DRY WEATHER	1.29	1.51
MAXIMUM MONTH WET WEATHER	1.79	2.09*
PEAK WEEK	3.05	3.57
PEAK DAILY AVERAGE	5.39	6.31
PEAK INSTANTANEOUS	7.00	8.20
5-DAY BOD LOADINGS, LBS/DAY		
AVERAGE ANNUAL	1,993	2,334
SUMMER AVERAGE	1,993	2,334
WINTER AVERAGE	1,993	2,334
MAXIMUM MONTH	2,830	3,314*
MAXIMUM DAY	3,900	4,567
TSS LOADINGS, LBS/DAY		
AVERAGE ANNUAL	2,499	2,926
SUMMER AVERAGE	2,496	2,923
WINTER AVERAGE	2,501	2,929
MAXIMUM MONTH	3,960	4,638*
MAXIMUM DAY	5,800	6,792
TOTAL KJEDAHL NITROGEN-N LOADINGS, LBS/DAY		
AVERAGE ANNUAL	277	324
SUMMER AVERAGE	276	323
WINTER AVERAGE	277	325
MAXIMUM MONTH	360	421*
MAXIMUM DAY	427	500
AMMONIA-N LOADINGS, LBS/DAY		
AVERAGE ANNUAL	208	243
SUMMER AVERAGE	207	242
WINTER AVERAGE	208	244
MAXIMUM MONTH	270	316*
MAXIMUM DAY	320	375

EFFLUENT REQUIREMENTS	DESIGN VALUES
DRY WEATHER (MAY 1 - OCT 31)	
5-DAY BOD	20 MG/L (MONTHLY)
	30 MG/L (WEEKLY)
	340 LBS/DAY (MONTHLY)
	510 LBS/DAY (WEEKLY)
	570 LBS/DAY (DAILY)
TSS	20 MG/L (MONTHLY)
	30 MG/L (WEEKLY)
	340 LBS/DAY (MONTHLY)
	510 LBS/DAY (WEEKLY)
	570 LBS/DAY (DAILY)
AMMONIA-N (PERMITTED)	20 MG/L (MONTHLY)
	30 MG/L (WEEKLY)
AMMONIA-N (DESIGN)	1 MG/L*
WET WEATHER (NOV 1 - APR 30)	
5-DAY BOD	30 MG/L (MONTHLY)
	45 MG/L (WEEKLY)
	510 LBS/DAY (MONTHLY)
	760 LBS/DAY (WEEKLY)
	1,000 LBS/DAY (DAILY)
TSS	30 MG/L (MONTHLY)
	45 MG/L (WEEKLY)
	510 LBS/DAY (MONTHLY)
	760 LBS/DAY (WEEKLY)
	1,000 LBS/DAY (DAILY)

LIQUID UNIT PROCESS CRITERIA	DESIGN VALUES
INFLUENT PUMP STATION	
LOW FLOW PUMPS	
UNITS	2
TYPE	SUBMERSIBLE, SOLIDS HANDLING
CAPACITY/UNIT, GPM	715
OPERATING HEAD, FT	56
MOTOR (EACH), HP	17 (460 V, 3 PHASE)
DRIVE	ADJUSTABLE
HIGH FLOW PUMPS	
UNITS	3
TYPE	SUBMERSIBLE, SOLIDS HANDLING
CAPACITY/UNIT, GPM	2,420
OPERATING HEAD, FT	53
MOTOR (EACH), HP	45 (460 V, 3 PHASE)
DRIVE	ADJUSTABLE
MISCELLANEOUS	
LEVEL CONTROL TYPE	PRESSURE TRANSDUCER
OVERFLOW POINT	MANHOLE ALONG EMPIRE BLVD
OVERFLOW DISCHARGE	OVERLAND FLOW TO DRAINAGE DITCH FLOWING TO COOS BAY
AVERAGE TIME TO OVERFLOW	23.5 MINUTES
AUXILIARY POWER TYPE	PERMANENT STANDBY GENERATOR
LOCATION OF AUXILIARY POWER	WWTP2
TRANSFER SWITCH	AUTOMATIC
ALARM TELEMETRY TYPE	AUTODIALER
EPA RELIABILITY CLASS	I
FIRM CAPACITY	6,270 GPM
FORCEMAIN	
LENGTH, SIZE (LOW FLOW PUMPS)	65 FEET, 8 INCH
LENGTH, SIZE (HIGH FLOW PUMPS)	60 FEET, 16 INCH
PROFILE	ASCENDING
DISCHARGE POINT	WWTP2 HEADWORKS
MATERIAL	DUCTILE IRON
AIR/VACUUM RELEASE VALVES	5 AT PUMP STATION
SULFIDE CONTROL SYSTEM	NONE
MECHANICAL SCREENS	
UNITS	2
TYPE	PERFORATED PLATE
CAPACITY/UNIT, MGD	6.15
OPENING SIZE, MM	6
MOTOR (EACH), HP	0.5 (SCREEN)
MOTOR (EACH), HP	2.0 (WASHER/COMPACTOR)
DRIVE	MAIN - CONSTANT BRUSH - CONSTANT
MANUAL BAR SCREEN	
UNITS	1
OPENING SIZE, IN	1/2
SCREENINGS WASHER/COMPACTOR	
UNITS	2
CAPACITY/UNIT, CF/HR	50
MOTOR (EACH), HP	2
DRIVE	CONSTANT
SCREENINGS CONVEYORS	
UNITS	2 (TRANSFER AND DISCHARGE)
TYPE	SHAFTLESS
CAPACITY/UNIT, CF/HR	50
MOTOR (EACH), HP	10 (TRANSFER), 5 (DISCHARGE)
DRIVE	CONSTANT

LIQUID UNIT PROCESS CRITERIA	DESIGN VALUES
GRIT REMOVAL	
UNITS	1
TYPE	CONCENTRATOR
CAPACITY/UNIT, MGD	8.2 INITIAL; 12.3 ULTIMATE
DIAMETER, FT	9
NUMBER OF TRAYS	8 INITIAL; 12 ULTIMATE
NON-POTABLE WATER , GPM	11 @ 50 PSI, CONTINUOUS
GRIT PUMPS	
UNITS	2
TYPE	RECESSED IMPELLER
CAPACITY/UNIT, GPM	250
OPERATING HEAD, FT	28
MOTOR (EACH), HP	7.5
DRIVE	BELT
TEA CUP	
UNITS	1
DIAMETER , IN	24
CAPACITY/UNIT, GPM	153 @ 39 IN HEAD LOSS
NON-P 20-30 @ 50 PSI, INTERMITTENT	
GRIT SNAIL	
UNITS	1
CLARIFIER SIZE L X W, IN	60 X 60
CAPACITY/UNIT, CUBIC YARD/HR	1
MOTOR (EACH), HP	0.33
DRIVE	CONSTANT
NON-POTABLE WATER , GPM	5 @ 50 PSI, CONTINUOUS
SEQUENCING BATCH REACTORS (SBR)	
UNITS	2
WORKING VOLUME (EACH), GAL	878,000
NOMINAL L X W X H (EACH), FT	145 X 45 X 21
BOTTOM WATER LEVEL (DEPTH), FT	14
TOP WATER LEVEL (DEPTH), FT	18
PRE-REACT ZONE VOL. (EACH), GAL	127,000
MAIN ZONE VOLUME (EACH), GAL	751,000
DESIGN SRT, DAYS	17
MIN. DESIGN TEMP., CELSIUS	13
CYCLE TIME, HRS	2, 3, or 4
CYCLE DURATION (% OF TOTAL)	
REACT PHASE	50%
SETTLE PHASE	25%
DECANT PHASE	25%
DIFFUSER TYPE	FINE BUBBLE
ANOXIC PHASE MIXERS	
UNITS	4 (2 PER SBR)
TYPE	SUBMERSIBLE
MOTOR (EACH), HP	7
DRIVE	CONSTANT
AERATION BLOWERS	
UNITS	2 (1 DUTY, 1 STANDBY)
TYPE	POSITIVE DISPLACEMENT
CAPACITY/UNIT, SCFM	2,300
MAX. OPERATING PRESSURE, PSI	8.5
MOTOR (EACH), HP	125
SBR DECANTER	
UNITS	2
TYPE	MOTORIZED
MOTOR (EACH), HP	1/2

LIQUID UNIT PROCESS CRITERIA	DESIGN VALUES
FLOW EQUALIZATION BASIN	
UNITS	1
WORKING VOLUME, GAL	240,000
LENGTH X WIDTH, FT	94 X 45.83
AREA, SF	4,308
MINIMUM WATER DEPTH, FT	3.6
DELTA WATER DEPTH AT PDAF, FT	4
BOTTOM DEPTH (6.31 MGD), FT	7
TOP WATER DEPTH (6.31 MGD), FT	11
ULTRAVIOLET DISINFECTION	
TYPE	LOW PRESSURE, HIGH OUTPUT
CHANNELS	1
NO. OF BANKS	3
DOSE (MILLIJOULE/SQUARE CENTIMETER)	46.7 (MINIMUM)
UV TRANSMITTANCE	55%
EFFLUENT FECAL COLIFORM	14
(MONTHLY MEDIAN PER 100 ML)	
ENTEROCOCCUS	35
(MONTHLY GEOMETRIC MEAN PER 100 ML)	
W3 PUMP STATION	
UNITS	2
TYPE	VERTICAL TURBINE
CAPACITY (EACH), GPM	150
MOTOR (EACH), HP	15
DRIVE	ADJUSTABLE

SOLIDS UNIT PROCESS CRITERIA	
WAS PUMPING	
UNITS	2
TYPE	PROGRESSING CAVITY
CAPACITY (EACH), GPM	150
PRESSURE (PSIG)	150
MOTOR (EACH), HP	30
DRIVE	ADJUSTABLE

ODOR CONTROL UNIT PROCESS CRITERIA	
ODOR CONTROL FAN	
UNITS	1
TYPE	FIBERGLASS CENTRIFUGAL
CAPACITY, CFM	1500
TOTAL STATIC PRESSURE (INCH WC)	10
MOTOR, HP	7.5
DRIVE	BELT

* INDICATES SPECIFIC PROCESS DESIGN PARAMETER

REGISTERED PROFESSIONAL ENGINEER 84039PE Digital Signature OREGON JANUARY 6, 2015 SHERYL L. STUART

EXP 6/30/2016

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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
GENERAL
DESIGN DATA SUMMARY

SHEET 01-G-0040
SEQ 25
DATE 12/2014
PROJ. NO. 490515

01-G-0040_469556.dgn

NOTES:

1. WAS CONVEYED TO WWTP #1.
2. FUTURE SLIDE GATE FOR FUTURE SBR #3.
3. TO PLANT W3 DISTRIBUTION SYSTEM.

10-INFLUENT PUMP STATION

RS
1
2
3
4
5
FA
RS
RS

20-HEADWORKS

FLOWMETER, TYP
M
M
SCREENING
SCREEN # 1
SCREEN # 2
MANUAL BAR SCREEN
SCREENINGS
BYPASS (SRS)
GRIT REMOVAL
HEADCELL
SRS
SAMPLE
GS
(2)
SLIDE GATE
NOTE 2
GRIT CYCLONE / CLASSIFIER
SCREENINGS DUMPSTER
GRIT DUMPSTER

30-SEQUENCING BATCH REACTORS

FUTURE SBR 3
MIXER, TYP
SBR 2
SBR 1
SE
SE
FUTURE EQUALIZATION BASIN
EQUALIZATION BASIN
SRS
SRS
ALP
(2)
AERATION BLOWERS
NOTE 1
M
WAS
(2)
WAS PUMPS
DECANTER
SE

70-ODOR CONTROL

FA
FA
TREATED AIR
BIOFILTER
FAN

40-UV DISINFECTION

W3 PUMPS
(2)
W3
NOTE 3
SAMPLE
BYPASS (SE)
TO OUTFALL
PLE
UV CHANNEL
M
FLOWMETER AND FLOW CONTROL VALVES

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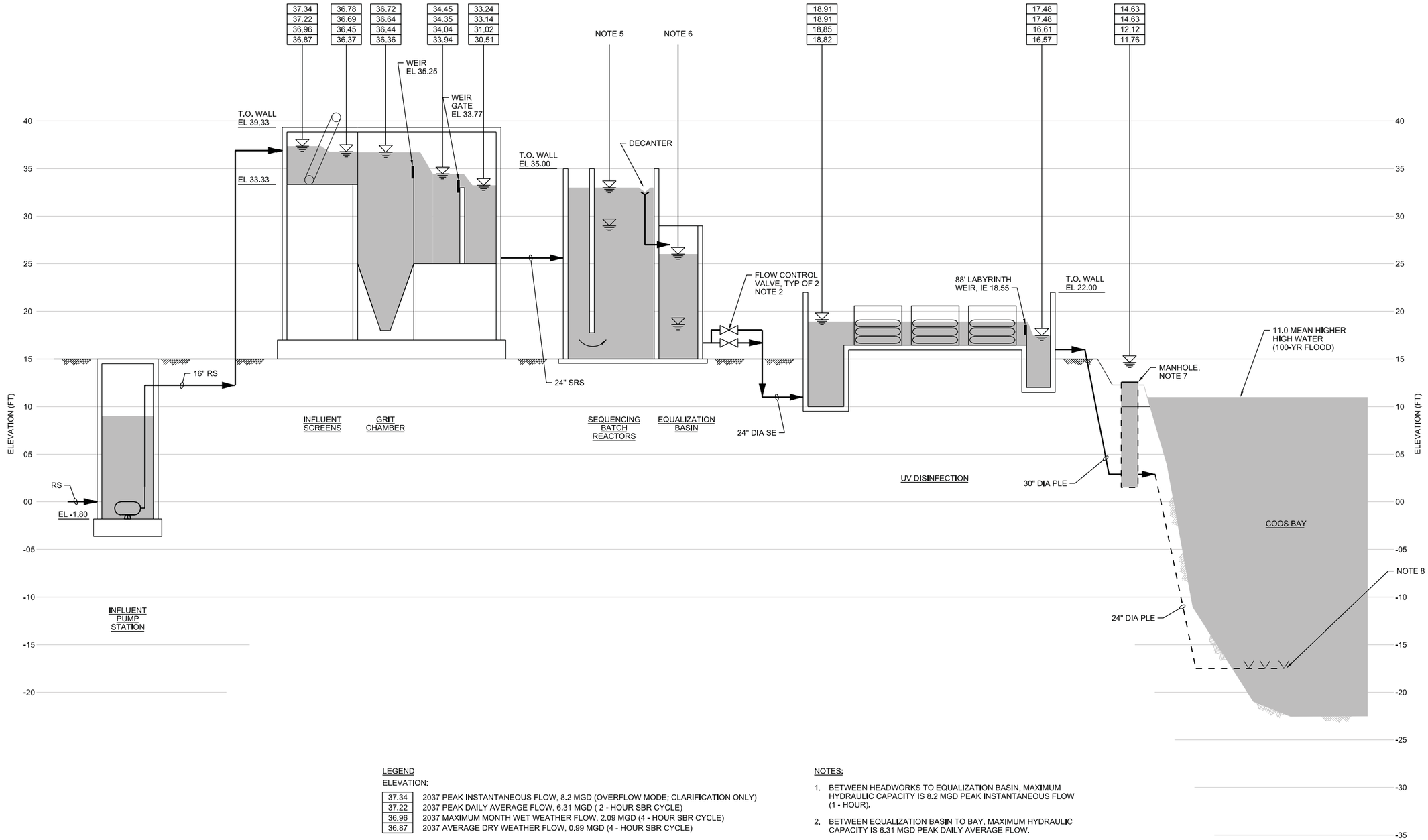
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
GENERAL

PROCESS FLOW DIAGRAM

SHEET 01-G-0041
SEQ 26
DATE 12/2014
PROJ. NO. 490515

REGISTERED PROFESSIONAL ENGINEER
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OREGON
JANUARY 4, 2011
SHERYL L. STUART
EXP 6/30/2016

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LEGEND

ELEVATION:

37.34	2037 PEAK INSTANTANEOUS FLOW, 8.2 MGD (OVERFLOW MODE; CLARIFICATION ONLY)
37.22	2037 PEAK DAILY AVERAGE FLOW, 6.31 MGD (2 - HOUR SBR CYCLE)
36.96	2037 MAXIMUM MONTH WET WEATHER FLOW, 2.09 MGD (4 - HOUR SBR CYCLE)
36.87	2037 AVERAGE DRY WEATHER FLOW, 0.99 MGD (4 - HOUR SBR CYCLE)

NOTES:

1. BETWEEN HEADWORKS TO EQUALIZATION BASIN, MAXIMUM HYDRAULIC CAPACITY IS 8.2 MGD PEAK INSTANTANEOUS FLOW (1 - HOUR).
2. BETWEEN EQUALIZATION BASIN TO BAY, MAXIMUM HYDRAULIC CAPACITY IS 6.31 MGD PEAK DAILY AVERAGE FLOW.
3. WS VALUE FOR EACH FLOW SCENARIO BASED ON SBR CYCLE DURATIONS FOR THAT FLOW.
4. VERTICAL DATUM NAVD88.
5. WATER SURFACE ELEVATION CAN FLUCTUATE BETWEEN 33' AND 29'.
6. WATER SURFACE ELEVATION CAN FLUCTUATE BETWEEN 26' AND 18.6'.
7. MANHOLE COVER TO BE MODIFIED FOR PRESSURIZED OPERATION.
8. BASED ON 2009 DIVE REPORT, OUTFALL HAS THREE 10-IN DIFFUSERS. RECORD DRAWINGS FROM 1975 INDICATE FIVE, 12-IN x 6-IN REDUCING DIFFUSERS. HYDRAULICS PRESENTED HERE ARE BASED ON DIVE REPORT FINDINGS.

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OREGON
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EXP 6/30/2016

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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
GENERAL

HYDRAULIC PROFILE

SHEET 01-G-0042
SEQ 27
DATE 12/2014
PROJ. NO. 490515

01-G-0042_469556.dgn

FACILITY NUMBER	FACILITY	ROOM / AREA	LOCATION DESIGNATION	NEMA 250 ENCLOSURE TYPE	ELECTRICAL CONDUIT MATERIALS	MATERIALS FOR ELECTRICAL OUTLET AND DEVICE BOXES, MOUNTING PLATES AND FITTINGS	MATERIALS FOR ELECTRICAL CONDUIT SUPPORTS	ELECTRICAL FRAMING CHANNEL MATERIALS	DUCTWORK MATERIALS	DUCTWORK SUPPORT MATERIALS	PIPE SUPPORT MATERIALS	MOUNTING HARDWARE FOR ALL TRADES (NUTS, BOLTS, FASTENERS, ETC.)	NFPA 820 ELECTRICAL CLASSIFICATION	NFPA 820 REFERENCE	NOTES
6	SITE	EXTERIOR AREAS NOT COVERED ELSEWHERE	WET, CORROSIVE	4X, 316 SST	PVC-COATED RGS	PVC-COATED GALVANIZED STEEL	316 SST	316 SST	FRP (FOUL AIR)	316 SST OR FRP	316 SST	316 SST	UNCLASSIFIED	-	
10	IPS	INFLUENT PUMP STATION (IPS), BELOW GRADE WET WELL	HAZARDOUS, CORROSIVE	7	PVC-COATED RGS	PVC-COATED GALVANIZED STEEL	316 SST	316 SST	HDPE (FOUL AIR)	316 SST OR FRP	316 SST	316 SST	CLASS 1, DIV 1	TABLE 4.2-16	ENCLOSED - ENTIRE SPACE
		INFLUENT PUMP STATION (IPS), ABOVE GRADE, CLASSIFIED	HAZARDOUS, CORROSIVE	7	PVC-COATED RGS	PVC-COATED GALVANIZED STEEL	316 SST	316 SST	HDPE (FOUL AIR)	316 SST OR FRP	316 SST	316 SST	CLASS 1, DIV 2	FIGURE A.4.2 (c)	18" ABOVE GRADE AND 3' FROM EDGE OF WET WELL HATCH
		INFLUENT PUMP STATION (IPS), ALL OTHER AREAS	CORROSIVE	4X, 316 SST	PVC-COATED RGS	PVC-COATED GALVANIZED STEEL	316 SST	316 SST	HDPE (FOUL AIR)	316 SST OR FRP	316 SST	316 SST	UNCLASSIFIED	-	
		GENERATOR AREA	CORROSIVE	4X, 316 SST	PVC-COATED RGS	PVC-COATED GALVANIZED STEEL	316 SST	316 SST	N/A	N/A	N/A	316 SST	UNCLASSIFIED	-	
20	HEADWORKS	ENCLOSED EQUIPMENT AND CHANNELS, NFPA 820 CLASSIFIED	HAZARDOUS, CORROSIVE	7	PVC-COATED RGS	PVC-COATED GALVANIZED STEEL	316 SST	316 SST	FRP (FOUL AIR)	316 SST OR FRP	316 SST	316 SST	CLASS 1, DIV 1	TABLE 5.2-1a	ENCLOSED - ENTIRE SPACE
		UPPER LEVEL, EXTERIOR, NFPA 820 CLASSIFIED	HAZARDOUS, CORROSIVE	7	PVC-COATED RGS	PVC-COATED GALVANIZED STEEL	316 SST	316 SST	FRP (FOUL AIR)	316 SST OR FRP	316 SST	316 SST	CLASS 1, DIV 2	TABLE 5.2-1b	AREAS WITHIN 3 FT. OF LEAKAGE SOURCES
		UPPER LEVEL, EXTERIOR, NOT CLASSIFIED	CORROSIVE	4X, 316 SST	PVC-COATED RGS	PVC-COATED GALVANIZED STEEL	316 SST	316 SST	FRP (FOUL AIR)	316 SST OR FRP	316 SST	316 SST	UNCLASSIFIED	TABLE 5.2-1c	
		GROUND FLOOR, BLOWER AND DUMPSTER ROOMS	DRY, UNFINISHED, INDUSTRIAL	12	RGS	MALL IRON	HOT DIPPED GALVANIZED STEEL	HOT DIPPED GALVANIZED STEEL	ALUMINUM (HVAC) 316 SST (FOUL AIR)	HOT DIPPED GALVANIZED STEEL	HOT DIPPED GALVANIZED STEEL	HOT DIPPED GALVANIZED STEEL	UNCLASSIFIED		
30	SBR BASINS	UPPER LEVEL, EXTERIOR, NFPA 820 CLASSIFIED	WET, CORROSIVE, HAZARDOUS	4X, 316 SST	PVC-COATED RGS	PVC-COATED GALVANIZED STEEL	316 SST	316 SST	N/A	N/A	316 SST	316 SST	CLASS 1, DIV 2	TABLE 5.2-6c	UP TO 18-INCHES ABOVE THE TOP OF THE TANK AND EXTENDING 18-INCHES BEYOND THE EXTERIOR WALL AND DOWN THE EXTERIOR WALL TO GROUND.
		UPPER LEVEL, EXTERIOR, NOT CLASSIFIED	WET, CORROSIVE	4X, 316 SST	PVC-COATED RGS	PVC-COATED GALVANIZED STEEL	316 SST	316 SST	N/A	N/A	316 SST	316 SST	UNCLASSIFIED	TABLE 5.2-6c	18-INCHES OR MORE ABOVE THE TOP OF THE TANK
		GROUND LEVEL, EXTERIOR, NFPA 820 CLASSIFIED	WET, CORROSIVE, HAZARDOUS	4X, 316 SST	PVC-COATED RGS	PVC-COATED GALVANIZED STEEL	316 SST	316 SST	N/A	N/A	316 SST	316 SST	CLASS 1, DIV 2	TABLE 5.2-6c	UP TO 18-INCHES ABOVE GRADE EXTENDING 10 FT HORIZONTALLY FROM EXTERIOR TANK WALLS
40	UV DISINFECTION	AREA UNDER UV FACILITY CANOPY	WET, CORROSIVE	4X, 316 SST	PVC-COATED RGS	PVC-COATED GALVANIZED STEEL	316 SST	316 SST	N/A	N/A	316 SST	316 SST	UNCLASSIFIED	TABLE 5.2-24	
60	CONTROL BUILDING	MECHANICAL / ELECTRICAL ROOM	DRY, UNFINISHED	1	RGS	MALL IRON	HOT DIPPED GALVANIZED STEEL	HOT DIPPED GALVANIZED STEEL	ALUMINUM	HOT DIPPED GALVANIZED STEEL	HOT DIPPED GALVANIZED STEEL	HOT DIPPED GALVANIZED STEEL	UNCLASSIFIED	-	
		ALL OTHER AREAS	DRY, FINISHED	1	RGS EXPOSED, EMT CONCEALED	MALL IRON	HOT DIPPED GALVANIZED STEEL	HOT DIPPED GALVANIZED STEEL	ALUMINUM	HOT DIPPED GALVANIZED STEEL	HOT DIPPED GALVANIZED STEEL	HOT DIPPED GALVANIZED STEEL	UNCLASSIFIED	-	
70	ODOR CONTROL FACILITY	EXTERIOR, NFPA 820 CLASSIFIED	WET, CORROSIVE, HAZARDOUS	7	PVC-COATED RGS	PVC-COATED GALVANIZED STEEL	316 SST	316 SST	316 SST (FOUL AIR)	316 SST OR FRP	316 SST	316 SST	CLASS 1, DIV 2	TABLE 5.2-26b	AREAS WITHIN 3 FT. OF LEAKAGE SOURCES
		EXTERIOR, NOT CLASSIFIED	WET, CORROSIVE	4X, 316 SST	PVC-COATED RGS	PVC-COATED GALVANIZED STEEL	316 SST	316 SST	316 SST (FOUL AIR)	316 SST OR FRP	316 SST	316 SST	UNCLASSIFIED	TABLE 5.2-26c	
80	SHOP/ELECTRICAL BUILDING	SHOP	DRY, UNFINISHED, INDUSTRIAL	12	RGS	MALL IRON	HOT DIPPED GALVANIZED STEEL	HOT DIPPED GALVANIZED STEEL	ALUMINUM (HVAC)	HOT DIPPED GALVANIZED STEEL	HOT DIPPED GALVANIZED STEEL	HOT DIPPED GALVANIZED STEEL	UNCLASSIFIED	-	
		ELECTRICAL ROOM	DRY, UNFINISHED	1	RGS	MALL IRON	HOT DIPPED GALVANIZED STEEL	HOT DIPPED GALVANIZED STEEL	ALUMINUM (HVAC)	HOT DIPPED GALVANIZED STEEL	HOT DIPPED GALVANIZED STEEL	HOT DIPPED GALVANIZED STEEL	UNCLASSIFIED	-	

REMARKS:

1. SEE SPECIFICATION SECTION 26 05 04, BASIC ELECTRICAL MATERIAL AND METHODS, FOR SUPPORT AND FRAMING CHANNEL SPECIFICATIONS.
2. SEE SPECIFICATION SECTION 26 05 33, RACEWAY AND BOXES, FOR ELECTRICAL MATERIAL SPECIFICATIONS.
3. WHERE MULTIPLE MATERIAL OPTIONS ARE GIVEN, ALL OTHER ASSOCIATED MATERIALS (CONDUIT, BOXES, ETC.) SHALL BE OF LIKE MATERIAL.
4. SEE SPECIFICATION SECTION 09 90 00, PAINTING, FOR SYSTEM REQUIREMENTS.
5. PROVIDE ALL LIGHT SWITCHES AND RECEPTACLES IN CORROSIVE ENVIRONMENTS WITH WEATHERPROOF, CORROSION RESISTANT COVERS AS SPECIFIED IN SECTION 26 27 26, WIRING DEVICES.
6. SEE SPECIFICATION SECTION 23 31 13, METAL DUCTS AND ACCESSORIES, FOR DUCT MATERIAL, SUPPORT AND FRAMING CHANNEL SPECIFICATIONS.
7. SEE SPECIFICATION SECTION 23 31 16.16, THERMOSET FIBERGLASS-REINFORCED PLASTIC DUCTS AND ACCESSORIES, FOR FOUL AIR DUCT MATERIAL, SUPPORT AND FRAMING CHANNEL SPECIFICATIONS.
8. SEE SPECIFICATION SECTION 40 05 15, PIPING SUPPORT SYSTEMS, FOR PIPE SUPPORT AND FRAMING CHANNEL SPECIFICATIONS.
9. THIS TABLE COMPLIMENTS BOUNDARIES SHOWN ON ELECTRICAL PLAN DRAWINGS. REFERENCE INDIVIDUAL FACILITY DRAWINGS FOR FURTHER HAZARDOUS AREA DETAILS.

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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
GENERAL

MATERIAL AND AREA CLASSIFICATION SCHEDULE

REGISTERED PROFESSIONAL ENGINEER
85946PE
Digital Signature
OREGON
JAN. 10, 2012
JASON A. CLIFFORD
EXP. 12-31-15

SHEET 01-G-0043
SEQ 28
DATE 12/2014
PROJ. NO. 490515

PIPING SCHEDULE

Service	Legend	Size(s) (in.) (Note 2)	Installation (Note 4)	Material (Note 3)	Specification Section	Joint Type (Note 5)	Lining/Coating (Note 6)	Test Pressure and Type (Note 7)	Remarks
AIR, LOW PRESSURE	ALP	ALL	EXP	WS	40 27 00.02	F, GR, W	Painted/No.15	15, P	
			SUB	SST	40 27 00.03	F, GR, W	Bare/Bare		Extend to top of wall
DRAIN (SANITARY)	D	ALL	EMB	PVC	22 10 01.02	FL, S, W, RMJ	None	PC	Within 5 feet of building
			EXP				No. 25 on EXP		
			BUR				None		
			EMB	CISP	22 10 01.03	No-Hub	None		
			EXP				Bare/No. 5		
			BUR				Poly		
		ALL	BUR	PVC	33 05 01.12	BS, RMJ	None	G	Greater than 5 feet from building.
CONDENSATE (HVAC)	COND	ALL	ALL	PVC	22 10 01.02	SW	No. 25	PC	
DRAIN (PROCESS)	XXDR								Use primary service for info.
FOUL AIR	FA	ALL	EMB, EXP	FRP	23 31 16.16	FL, S, W	Bare/No. 25	5, P	Outside building
			EMB, EXP	SST	23 31 13		None		Inside building
		<=8	BUR, SUB	HDPE	33 05 01.10		None		
		>=10	BUR, SUB	HDPE	33 05 01.10	HU, W	None		
NATURAL GAS	NG	ALL	EXP	STL	40 27 00.03	S, W, FL	Bare/No.5	25, P	
			BUR	PE	22 10 01.12B	FL, W	None		
GRIT SLURY	GS	>=4	EXP	GLDI	40 27 00.01	FL, GR, PRJ	Glass Lined/No. 5	50, H	
			EMB				Glass Lined/No. 7		
IRRIGATION PIPE	IR	ALL	BUR	HDPE	33 05 01.10	FL, W	None	150, H	
PLANT DRAIN	PD	<= 3	ALL	PVC	40 27 00.10	FL, S, SW	No. 25 on EXP	10, H	
		>= 4	EXP, EMB, CO	CLDI	40 27 00.01	FL, GR	Cement Mortar/No. 4		
			BUR	PVC	33 05 01.09	BS, RG, RJP, RMJ			
PLANT EFFLUENT	PLE	4-30	EXP, EMB, SUB	CLDI	40 27 00.10	FL, GR	Cement Mortar/remarks	10, H	Coat EMB No. 7, SUB end No. 2., EXP Nc. 4
			BUR (Onsite)	PVC	33 05 01.09	BS, RJP	None		Within the physical site of WWTP 2
			BUR (Offsite > 30" cover)	PVC	33 05 01.09	BS, RF	None		Off the physical site of WWTP 2, including station 10 92 to 18 05.
			BUR (Offsite, < 30" cover)	CLDI	40 27 00.10	PRJ	Cement Mortar/remarks		Coat BUR with Asphalt coating per AWWA C151-A21.51
RAW SEWAGE (PUMPED)	RS	4-16	EXP, SUB, EMB	CLDI	40 27 00.01	FL, GR	Cement Mortar/Remarks	10, H	Coat EMB No. 7, EXP No. 4, SUB No. 2
		>=4	BUR	CLDI	40 21 00.01	FL, GR, PRJ	Cement Mortar/remarks		Coat BUR with Asphalt coating per AWWA C151-A21.51
RAW SEWAGE (GRAVITY)	RS	<=3	ALL	PVC	40 27 00.10	FL, S, SW	None	G	No. 25 Coating on EXP
		>=4	BUR	PVC	33 05 01.12	BS, RMJ	None		
STORM DRAIN	SD	4-24	BUR	PVC	33 05 01.12	BS, RMJ	None	G	
SCREENED RAW SEWAGE	SRS	4-12	BUR, EMB	CISP	22 10 01.03	HU, NH	See remarks	20, H	Under concete slabs thicker than 6", extending 5 feet beyond slab. Coat BUR with Asphalt coating per AWWA C151-A21.51. Coat EMB No. 7
		4-24	EXP, SUB	CLDI	40 21 00.01	FL, GR	Cement Mortar / Remarks	50, H	Coat EMB No. 7, except BUR end No. 29 and SUB end No. 2.
SECONDARY EFFLUENT	SE	<=3	EXP	PVC	40 27 00.10	FL, S, SW	Bare/No. 25	10, H	
		>=4	EMB, EXP	CLDI	40 21 00.01	FL, GR, RMJ	Cement Mortar / Remarks		Coat EMB No. 7, EXP No. 4
		>=4	BUR, SUB						Coat BUR with Asphalt coating per AWWA C151-A21.51, SUB No. 2
SODIUM HYPOCHLORITE	SHC	ALL	ALL	PVC	40 27 00.10	FL, S, SW	Bare/No. 25	150, H	
SANITARY VENT	V	ALL	ALL	PVC	22 10 01.02	FL, S, W	No. 25 on EXP	PC	Use CISP wher vent routes through return air plenum (Control Building)
				CISP	22 10 01.03	No-Hub	None	PC	
NO. 1 (POTABLE) WATER	W1	<=3	EXP, SUB,	COP	40 27 00.13	FL, S, W	bare/no. 4	150, H	
			BUR	HDPE	33 05 01.10	S, W	None		
		>=4	BUR	PVC	33 05 01.09	BS, RF	None		Meet Coos Bay North Bend Water Board Requirements, Disinfect per specification 22 10 01, 3.11.
NO. 2 (NON-POTABLE) WATER	W2	<=3	EXP, SUB,	COP	40 27 00.13	FL, S, W	bare/no. 4	150, H	
			BUR	PVC	40 27 00.10	S, W	None		
NO. 3 (PLANT) WATER	W3	<=3	EXP, EMB	COP	40 27 00.13	FL, S, W	bare/no. 4	150, H	
			BUR	HDPE	33 05 01.10	S, W	None		
		>=4	EXP, EMB	CLDI	40 27 00.01	FL / GR	Cement Mortar/Remarks		Coat EMB No 7, EXP No 4, SUB No 2
			BUR			PRJ			Coat BUR with Asphalt coating per AWWA C151-A21.51
			HDPE	33 05 01.10	FL, W	None			
WASTE ACTIVATED SLUDGE	WAS	ALL	SUB	PVC	40 27 00.10	FL, S, W	None	n/a	Holes per drawings and standard detail.
		>=4	EXP, EMB	CLDI	40 27 00.01	FL, GR	Cement Mortar/Remarks	225, H	Coat EMB No. 7, EXP No. 4, SUB No. 2
			BUR			FL, GR, PRJ			Coat BUR with Asphalt coating per AWWA C151-A21.51

NOTES:

1. Where piping carries two or more service designations the piping material shall conform to the requirement for the first service listed, e.g. CGW/OF would require the material used for CGW piping.

2. ">" Greater Than
   "<" Less Than
   "<=" Less Than or Equal To
   ">=" Greater Than or Equal To
   "All" All sizes

3. A20: Alloy 20
   CISP: Cast Iron Soil Pipe
   CLDI: Cement-Lined Ductile Iron
   COP: Copper
   FRP: Fiberglass Reinforced Plastic
   GLDI - Glass Lined Ductile Iron
   HDPE - High Density Polyethylene
   PE: Polyethylene
   PVC: Polyvinyl Chloride
   SST: Stainless Steel
   STL: Mill Type Carbon Steel
   WS: Fabricated Welded Steel

4. Installations
   BUR: Buried
   CO: Clean Out
   EMB: Embedded (in concrete)
   EXP: Exposed (interior or exterior)
   SUB: Submerged

   ALL: All installations

5. Joints as specified in the above sections referenced, and the following: 40 27 00 PROCESS PIPING - GENERAL, 33 05 01 CONVEYANCE PIPING - GENERAL, and 22 10 01 Plumbing Piping and Accessories.

   BS- Bell and Spigot
   FL - Flanged
   GR - Grooved
   HU - Hub and Spigot
   MJ - Mechanical Joint
   PRJ - Proprietary Restrained Joint
   RG- Rieber Gasket
   S - Screwed
   W - Welded
   SW- Solvent Welded
   RJP- restrained joint pipe, all joints restrained
   RF- restrained fittings, restrain all joints withing restraint length required for fitting
   RMJ- PRJ or Mechanical Joint Anchor Gland Follower

6. Coating system number as specified in Section 09 90 00, PAINTING AND COATING, and as specified in Article, PIPE CORROSION PROTECTION.
   Poly: Polyethylene wrap
   Tape: Tape wrap System 8

7. H: Hydrostatic Test
   P: Pneumatic Test
   G: Gravity Pipe - Test pressure is not shown on gravity pipes. Test to highest liquid level that pipe can be subject to.
   PC: Test per Uniform Plumbing Code
   PSIG: Pressure

Remarks:
1) Insulate as specified in Section 40 42 13 PROCESS PIPING INSULATION.
2) All piping to be restrained joint pipe and fittings.

REGISTERED PROFESSIONAL ENGINEER 7467PE Digital Signature OREGON JANUARY 11, 2005 ALAN G. CHANG
EXP. 12-31-15

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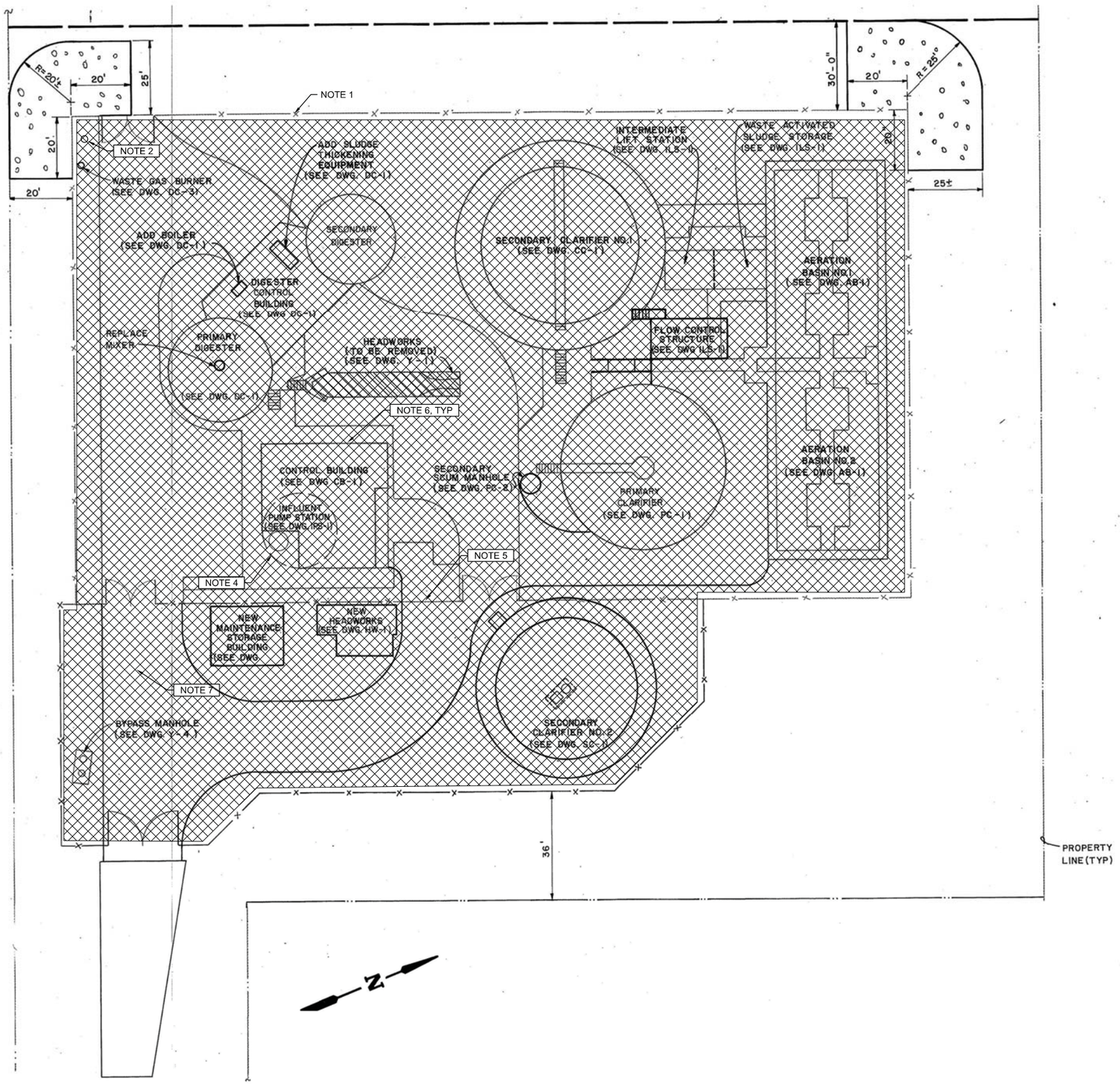
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DSGN SOC
DR ERB
CHK DWB
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
GENERAL
PIPE SCHEDULE

SHEET 01-G-0045
SEQ 29
DATE 12/2014
PROJ. NO. 490515

01-G-0045_469556.dgn



NOTES:

1. PRESERVE FENCE AROUND SITE PERIMETER.
2. PRESERVE MANHOLE CONNECTED TO EXISTING OUTFALL.
3. SALVAGE ITEMS LISTED IN SPECIFICATION 02-41-00B DEMOLITION.
4. PRESERVE INFLUENT PUMP STATION WETWELL AS SPECIFIED FOR SITE STORMWATER COLLECTION UNTIL DEMOLITION OF OTHER STRUCTURES IS COMPLETE.
5. REMOVE FENCE.
6. DEMOLISH ALL STRUCTURES INDICATED, AS SPECIFIED. REFER TO RECORD DRAWINGS FOR DETAILS OF FACILITIES TO BE DEMOLISHED.
7. REMOVE ALL PAVING, GRAVEL, CURBS AND GUTTERS AS SPECIFIED.

EXISTING WASTEWATER TREATMENT PLANT NO. 2

NTS

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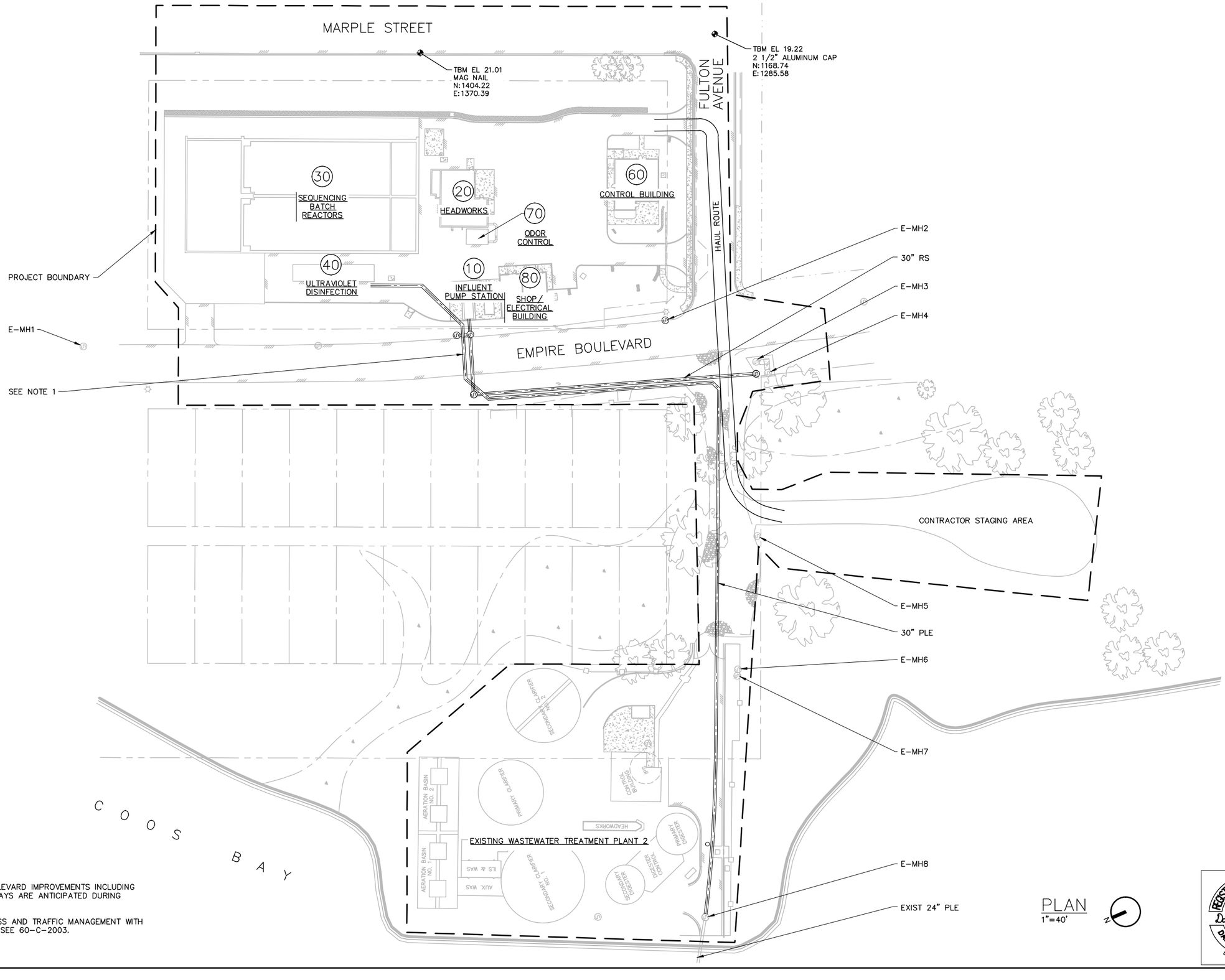
NO.	REVISION	BY	DATE

DSGN	SLS		
DR	GSM	CHK	AGC
APVD	CWM		

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CIVIL
EXISTING WASTEWATER TREATMENT PLANT NO. 2
DEMOLITION

SHEET 06-D-2001
SEQ 30
DATE 12/2014
PROJ. NO. 490515

REGISTERED PROFESSIONAL ENGINEER
84039PE
Digital Signature
OREGON
JANUARY 6, 2011
SHERYL L. STUART
EXP 6/30/2016



PLAN
1"=40'

NOTES:

1. ODOT EMPIRE BOULEVARD IMPROVEMENTS INCLUDING DETOURS AND DELAYS ARE ANTICIPATED DURING CONSTRUCTION.
2. COORDINATE ACCESS AND TRAFFIC MANAGEMENT WITH ODOT ACTIVITIES. SEE 60-C-2003.

REGISTERED PROFESSIONAL ENGINEER
15,479
Daniel P. Grasser
OREGON
JULY 25, 1991
DANIEL P. GRASSER
EXPIRES 6/30/15

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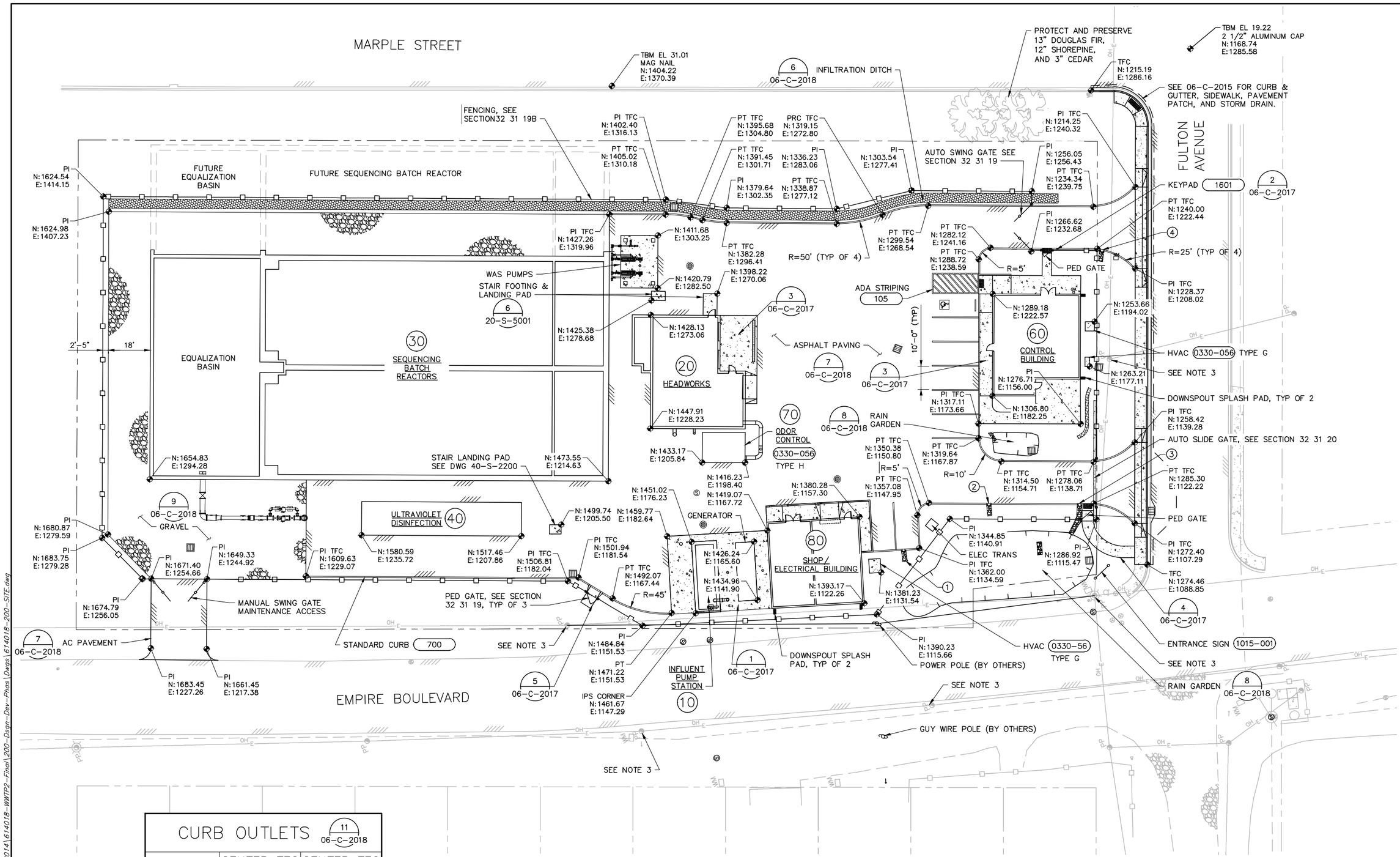
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DSGN DPG
DR NER
CHK JMD
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CIVIL
OVERALL SITE MAP

SHEET 06-C-2000
SEQ 31
DATE 12/2014
PROJ. NO. 490515

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CURB OUTLETS (11, 06-C-2018)		
No.	CENTER TFC NORTHING	CENTER TFC EASTING
1	1368.37	1136.93
2	1326.70	1140.41
3	1290.78	1124.62
4	1238.16	1221.30

PLAN
1"=20'

NOTES:

1. CONTRACTOR TO VERIFY LOCATION AND DEPTH OF UNDERGROUND UTILITIES.
2. FOR CONCRETE DIMENSIONS, DETAILS, AND ELEVATIONS SEE SHEET 06-C-2017.
3. PROTECT & MAINTAIN POWER POLES.

REGISTERED PROFESSIONAL ENGINEER 15,479 Daniel P Grader OREGON JULY 25, 1991 DANIEL P. GRADER EXPIRES 6/30/15

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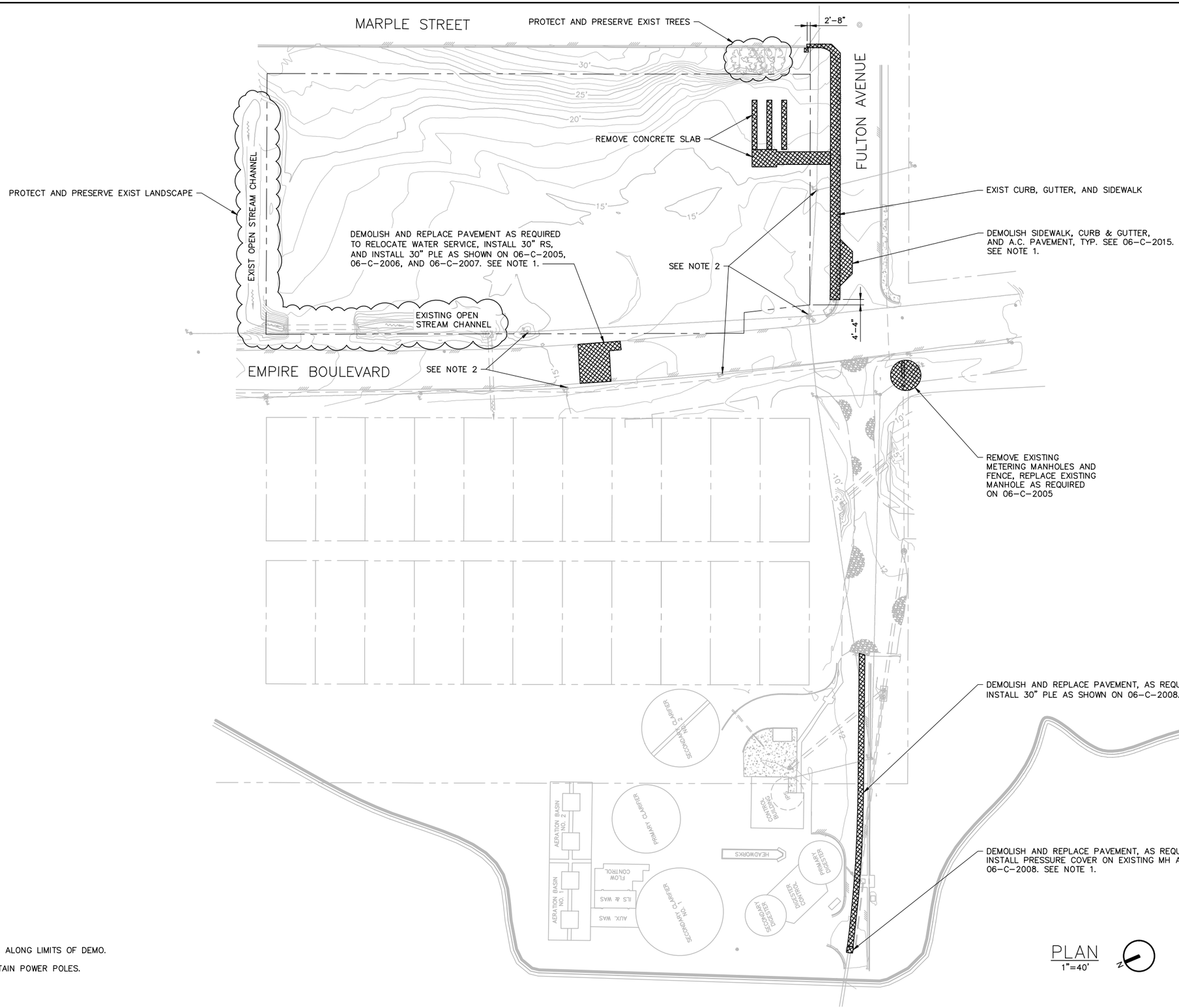
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CHK JMD
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CIVIL
SITE PLAN

SHEET 06-C-2001
SEQ 32
DATE 12/2014
PROJ. NO. 490515

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PLAN
1"=40'

NOTES:

1. SAW CUT NEAT LINE ALONG LIMITS OF DEMO.
2. PROTECT AND MAINTAIN POWER POLES.

REGISTERED PROFESSIONAL ENGINEER
15,479
Daniel P. Graser
OREGON
JULY 25, 1991
DANIEL P. GRASER
EXPIRES 6/30/15

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DSGN	DPG	CHK	JMD
DR	NER	APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE

CIVIL

EXISTING CONDITIONS & DEMOLITION PLAN

SHEET 06-C-2002
SEQ 33
DATE 12/2014
PROJ. NO. 490515

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MARPLE STREET

EQUALIZATION BASIN

30 SEQUENCING BATCH REACTORS

WAS PUMPS

20 HEADWORKS

70 ODOR CONTROL

60 CONTROL BUILDING

FULTON AVENUE

ULTRAVIOLET DISINFECTION 40

10 INFLUENT PUMP STATION

GENERATOR

80 SHOP/ ELECTRICAL BUILDING

338

EMPIRE BOULEVARD

CONCRETE COLLAR, SEE NOTE 1, TYP OF 4

FUTURE SIDEWALK AND ROADWAY REALIGNMENT/RECONSTRUCTION BY ODOT

FUTURE SIDEWALK AND ROADWAY REALIGNMENT/RECONSTRUCTION BY ODOT

PLAN
1"=20'

NOTES:

1. COORDINATE CONSTRUCTION OF CONCRETE COLLAR AFTER COMPLETION OF SIDEWALK BY OTHERS.

REGISTERED PROFESSIONAL ENGINEER 15,479 Daniel P. Graber OREGON JULY 25, 1991 DANIEL P. GRABER EXPIRES 6/30/15

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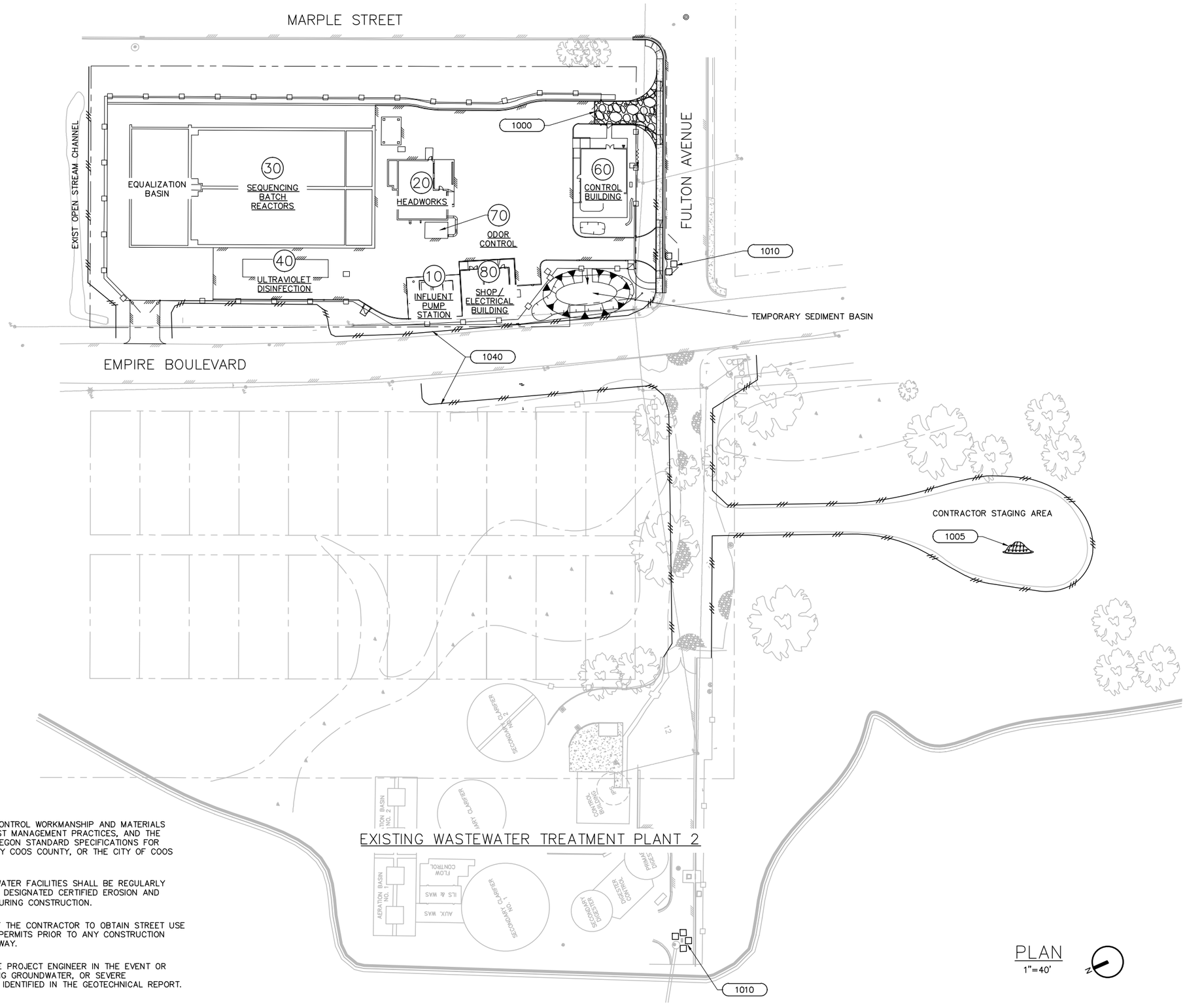
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE

CIVIL

FUTURE EMPIRE BLVD REALIGNMENT BY ODOT

SHEET 06-C-2003
SEQ 34
DATE 12/2014
PROJ. NO. 490515

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PLAN
1"=40'

NOTES:

1. ALL EROSION AND SEDIMENTATION CONTROL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH BEST MANAGEMENT PRACTICES, AND THE MOST CURRENT VERSION OF THE OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION, AND AS AMENDED BY COOS COUNTY, OR THE CITY OF COOS BAY.
2. ALL EROSION CONTROL AND STORMWATER FACILITIES SHALL BE REGULARLY INSPECTED AND MAINTAINED BY THE DESIGNATED CERTIFIED EROSION AND SEDIMENT CONTROL LEAD (CESCL) DURING CONSTRUCTION.
3. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN STREET USE AND OTHER RELATED OR REQUIRED PERMITS PRIOR TO ANY CONSTRUCTION ACTIVITY IN THE PUBLIC RIGHT-OF-WAY.
4. THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IN THE EVENT OR DISCOVERY OF POOR SOILS, STANDING GROUNDWATER, OR SEVERE DISCREPANCIES FROM THE SOILS AS IDENTIFIED IN THE GEOTECHNICAL REPORT.

REGISTERED PROFESSIONAL ENGINEER
15,479
Daniel P. Grauer
OREGON
JULY 25, 1991
DANIEL P. GRAUER
EXPIRES 6/30/15

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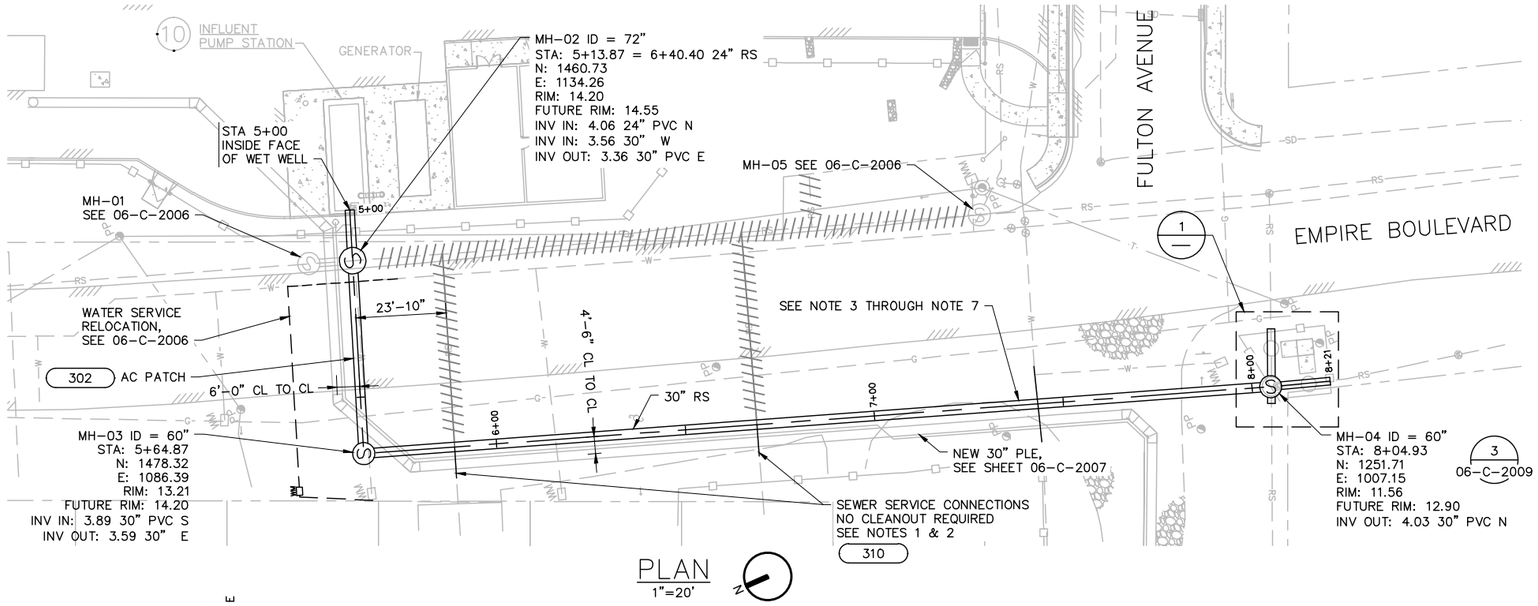
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CHK JMD
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE

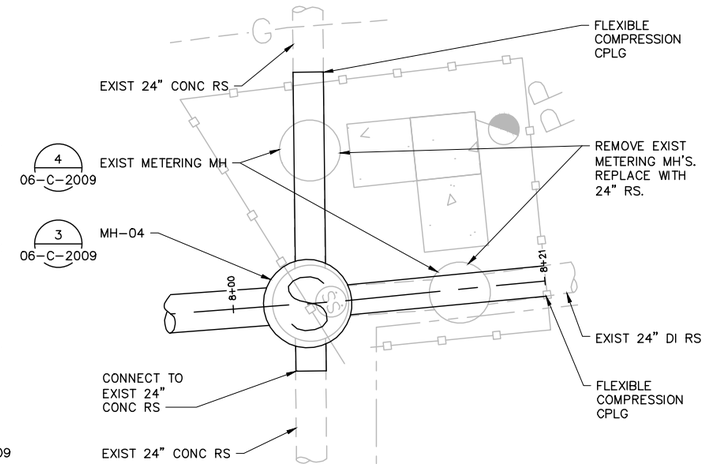
CIVIL
EROSION & SEDIMENT CONTROL PLAN

SHEET 06-C-2004
SEQ 35
DATE 12/2014
PROJ. NO. 490515

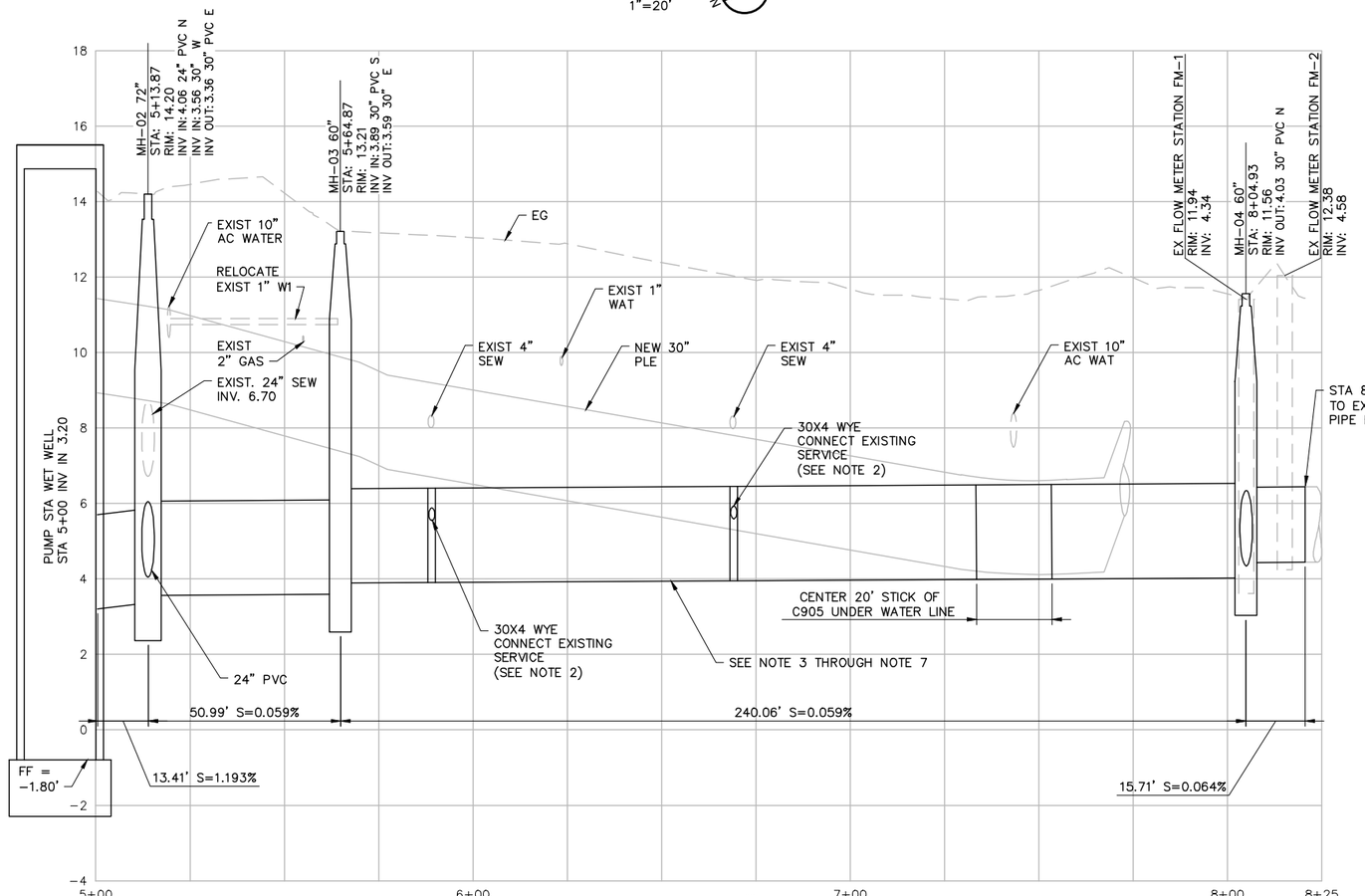
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PLAN
1"=20'



1 MH-04 ENLARGED PLAN
1"=5'-0"



PROFILE – 30" RS
HOR: 1"=20'
VERT: 1"=2'

NOTES:

1. GROUT PLUG PORTALS OF ABANDONED SEWER 1.5 PIPE DIAMETERS. REMOVE EXISTING PIPE TO MAINTAIN 36" SEPARATION FROM NEW PIPE OR STRUCTURES.
2. MAINTAIN EXISTING SERVICE CONNECTION W/ TEMPORARY INVERTED SIPHON, OR OTHER, AS NEEDED (TYP.) POTHOLE TO VERIFY SERVICE ELEVATIONS AND REVIEW FINAL GRADE WITH ENGINEER.
3. 30" RS TO SERVE AS TEMPORARY INVERTED SIPHON W/ REVERSE FLOW.
4. CONTRACTOR TO SUBMIT COMPLETE BYPASS PLAN FOR APPROVAL INCLUDING DETAILS OF COMPLETE BYPASS SYSTEM, TRAFFIC CONTROL, SCHEDULE, HOURS OF OPERATION, PUMP & PIPING SYSTEMS, PROTECTION OF BYPASS PIPING, THRUST RESTRAINT SYSTEMS, ANTICIPATED SURCHARGE DEPTH IN MANHOLES, OR OTHER REQUIREMENTS AS NEEDED. PLAN SHALL PREVENT BACKUP OF SEWER INTO EXISTING SERVICE LATERALS, AND OVERFLOW OF SEWER SYSTEMS.
5. PROVIDE BACKUP PUMP AND BACKUP POWER SUPPLY ON SITE DURING BYPASS OPERATIONS.
6. CONTRACTOR TO PROVIDE PUMPS SUFFICIENT TO HANDLE ANTICIPATED PEAK FLOWS.
7. 30-INCH RS LINE TO BE USED AS TEMP BYPASS FOR CONSTRUCTION OF MH-01 AND ABANDONMENT OF EXISTING 24-INCH RS.

REGISTERED PROFESSIONAL ENGINEER 15,479 OREGON JULY 25, 1991 DANIEL P. GRABER EXPIRES 6/30/15
Daniel P. Graber

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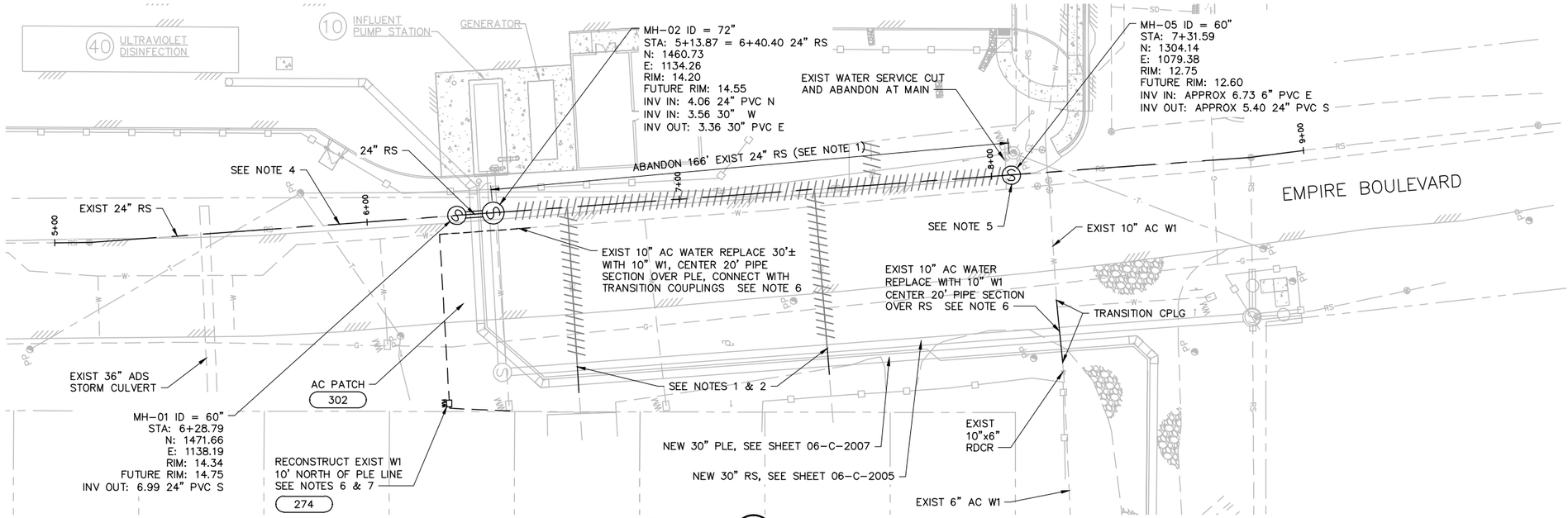
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APVD CWM

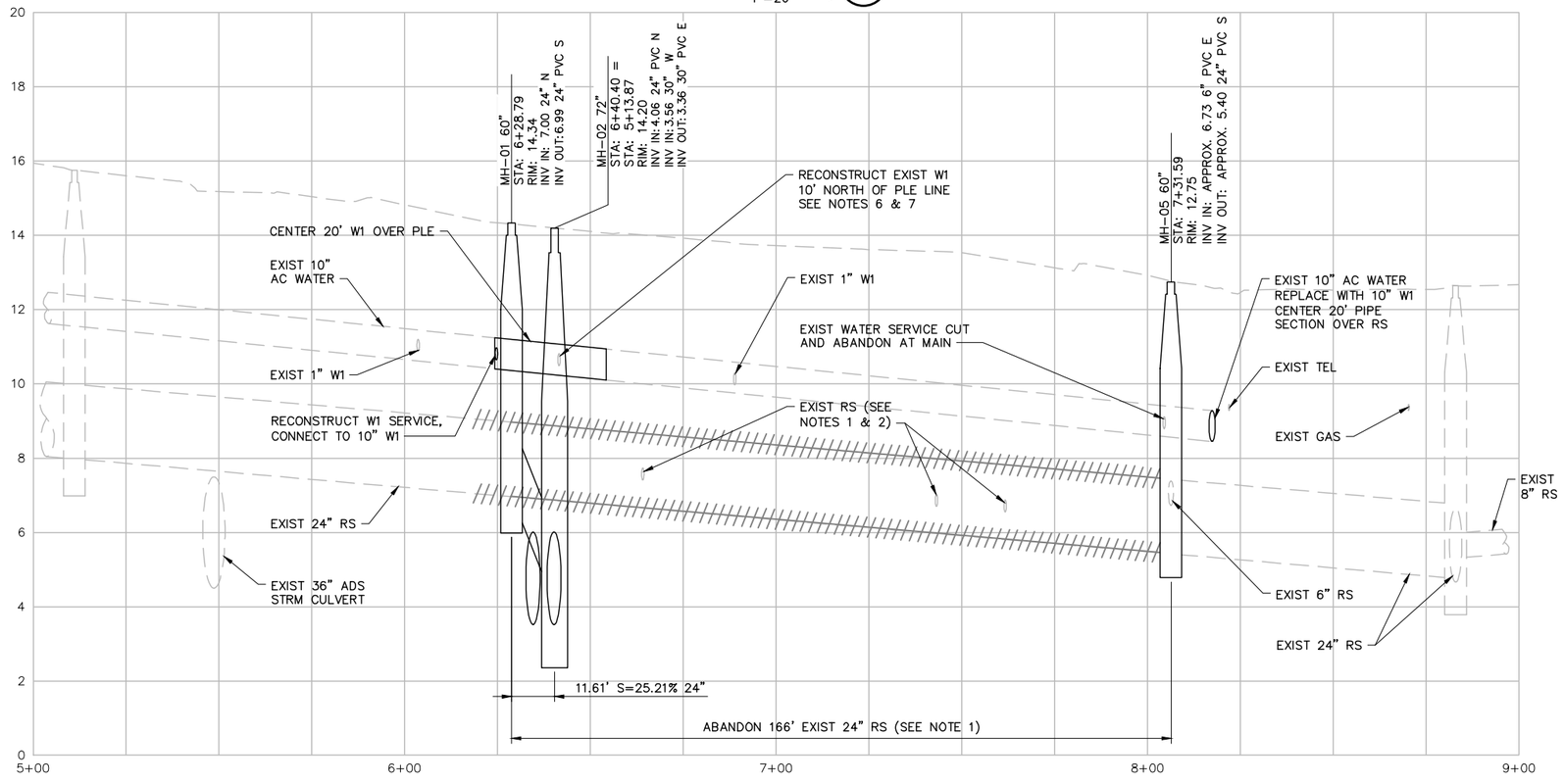
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CIVIL
30" RS (PLANT INFLUENT) PLAN & PROFILE

SHEET 06-C-2005
SEQ 36
DATE 12/2014
PROJ. NO. 490515

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PLAN
1"=20'



PROFILE – 24" RS
HOR: 1"=20'
VERT: 1"=2'

NOTES:

1. GROUT PLUG PORTALS OF ABANDONED SEWER 1.5 PIPE DIAMETERS. REMOVE EXISTING PIPE TO MAINTAIN 36" SEPARATION FROM NEW PIPE OR STRUCTURES.
2. MAINTAIN EXISTING SERVICE CONNECTION W/ TEMPORARY INVERTED SIPHON, OR OTHER, AS NEEDED (TYP.).
3. CONTRACTOR TO SUBMIT BYPASS PUMPING PLAN FOR APPROVAL.
4. CONTRATOR SHALL LOCATE EXISTING 24" RS.
5. INSTALL MH-05 AT EXISTING 24X6 TEE. BYPASS PUMP AS NEEDED. CONTRACTOR TO POT HOLE & LOCATE EXIST CONNECTION POINT.
6. COORDINATE ALL WATER LINE WORK WITH THE CBNB WATER BOARD.
7. INSTALL NEW WATER SERVICE LINE, WATER METER BOX, AND CONNECT TO WATER MAIN. WATER METER TO BE RELOCATED BY WATER BOARD. WATER SERVICE CONNECTION FROM NEW WATER METER BOX TO HOUSE SERVICE SHALL BE COMPLETED BY LICENSED PLUMBER.

REGISTERED PROFESSIONAL ENGINEER
15,479
David P. Graber
OREGON
JULY 25, 1991
DANIEL P. GRABER
EXPIRES 6/30/15

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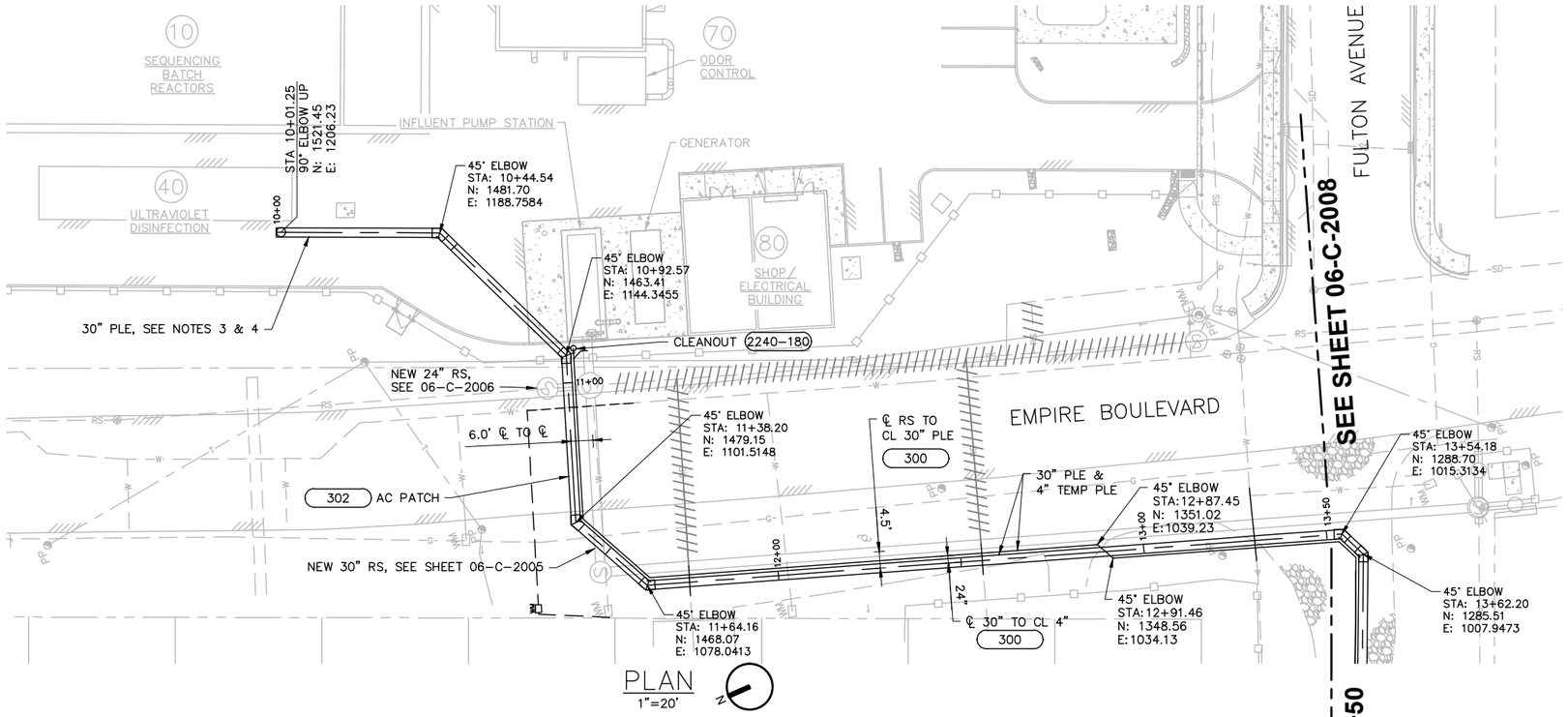
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DR NER
CHK JMD
APVD CWM

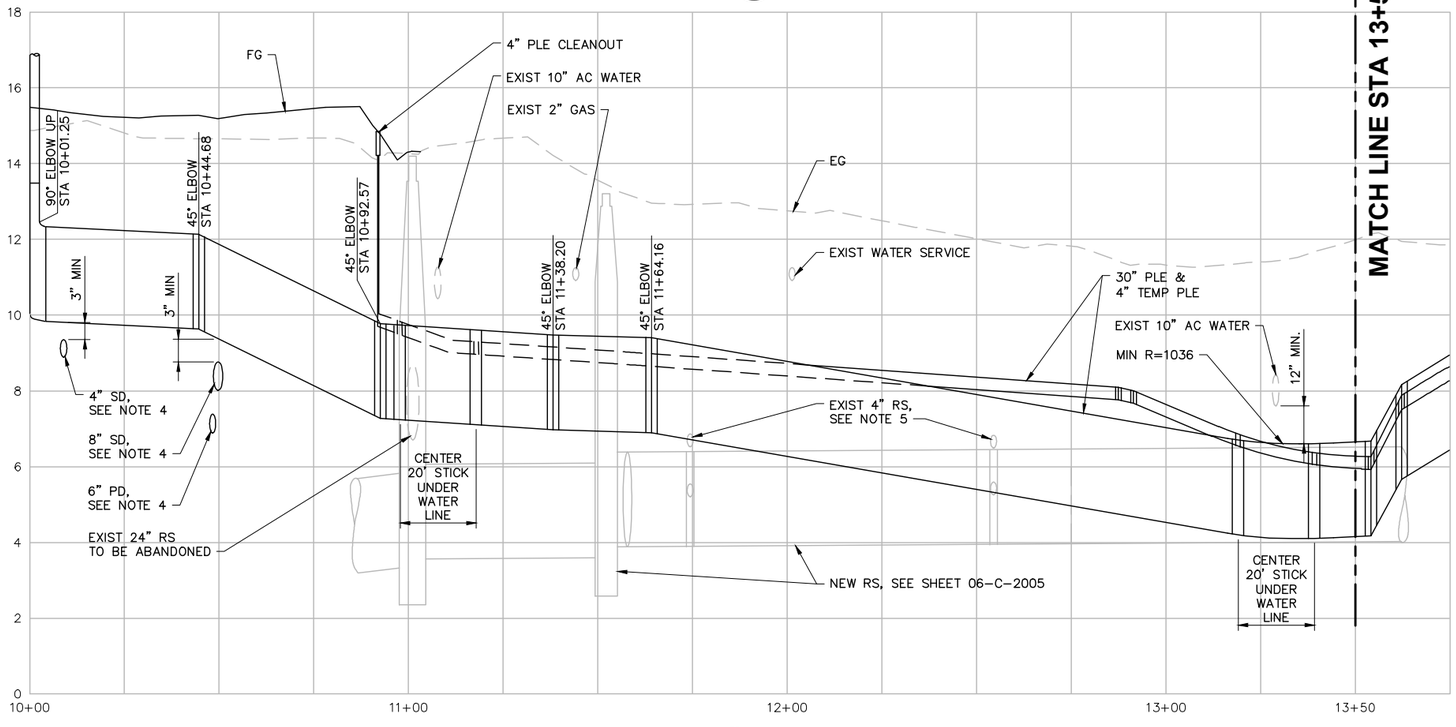
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CIVIL
24" RS (PLANT INFLUENT) PLAN & PROFILE

SHEET 06-C-2006
SEQ 37
DATE 12/2014
PROJ. NO. 490515

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PLAN
1"=20'



PROFILE 30" PLE
HOR: 1"=20'
VERT: 1"=2'

TABLE 1: REQUIRED RESTRAINED JOINT PIPE LENGTH			
	PIPE SIZE		
FITTING	30"	10"	4"
45	10'	20'	3'
90	20'	N/A	5'
WYE	N/A	N/A	3'

NOTES:

1. MAINTAIN R=1000' MIN. OR 6" MAX. DEFLECTION PER 20' PIPE SECTION.
2. GROUT PLUG PORTALS OF ABANDONED SEWER 1.5 PIPE DIAMETERS. REMOVE EXISTING PIPE TO MAINTAIN 36" SEPARATION FROM NEW PIPE OR STRUCTURES.
3. RESTRAIN ALL PLE FITTINGS AND PIPE JOINTS ONSITE. OFFSITE RESTRAIN FITTINGS PER TABLE 1 SHEET 06-C-2006.
4. SEE 06-C-2010 AND 06-C-2011 FOR ONSITE PIPE CROSSINGS.
5. MAINTAIN EXISTING SERVICE CONNECTION W/ TEMPORARY INVERTED SIPHON, OR OTHER, AS NEEDED (TYP.) POTHOLE TO VERIFY SERVICE ELEVATIONS AND REVIEW FINAL GRADE WITH ENGINEER.

REGISTERED PROFESSIONAL ENGINEER
15,479
Daniel P. Graber
OREGON
JULY 25, 1991
DANIEL P. GRABER
EXPIRES 6/30/15

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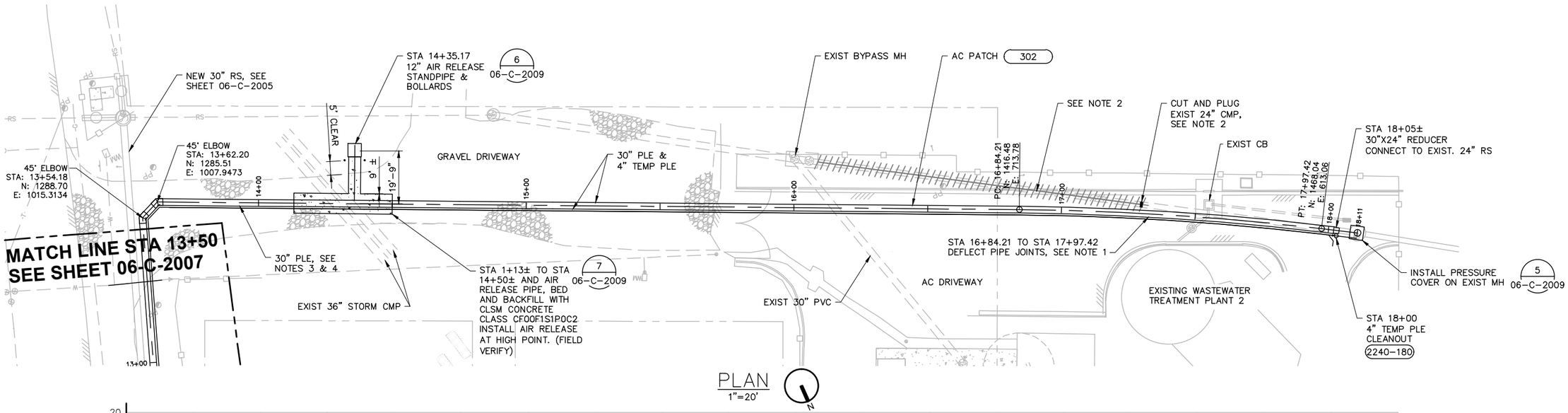
NO.	DATE	REVISION	BY

DSGN DPG
DR NER
CHK JMD
APVD CWM

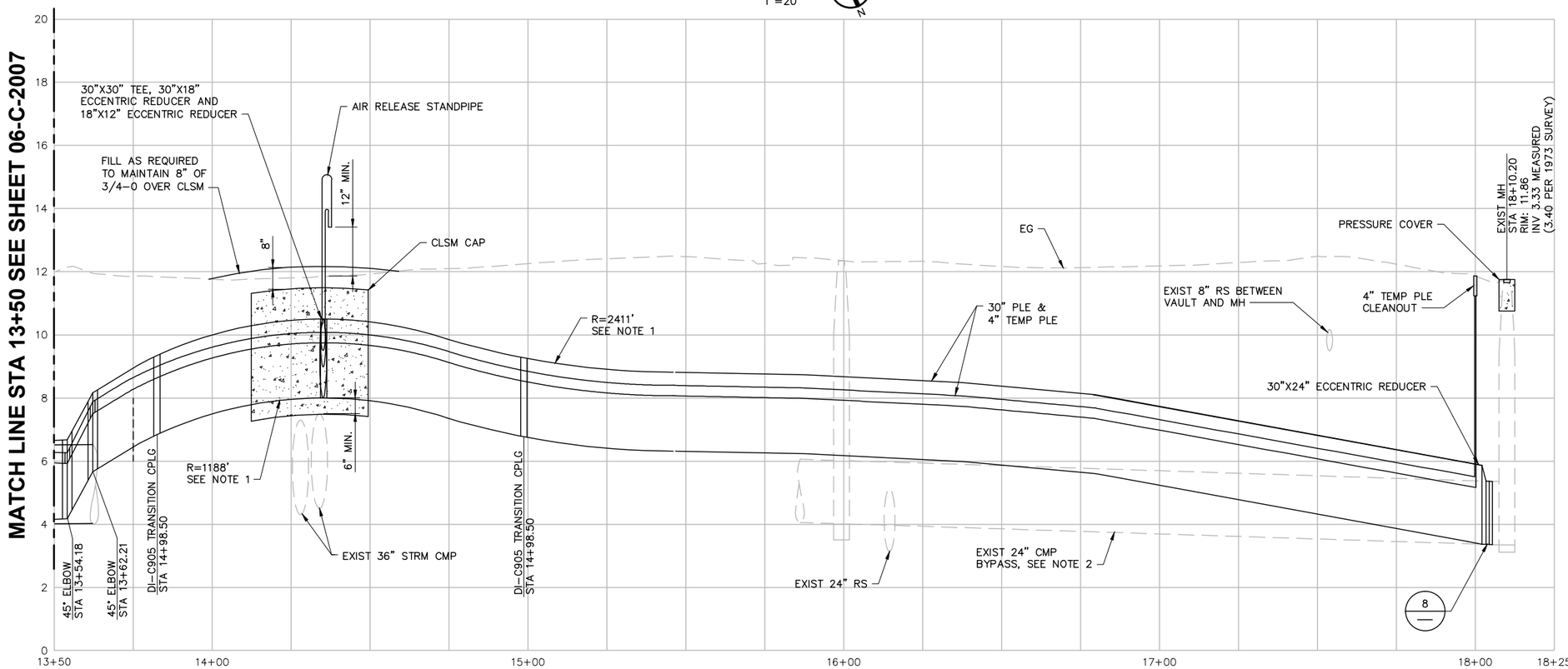
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CIVIL
30" PLE TO OUTFALL
PLAN & PROFILE

SHEET 06-C-2007
SEQ 38
DATE 12/2014
PROJ. NO. 490515

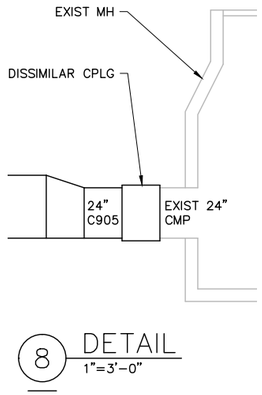
SAVED: 12/11/2014 11:13 PM NREID, PLOTTED: 12/12/2014 11:02 AM NICK REID
\\COOSBAYSVR1\Projects\2014\614018-WWTP2-Final\200-Dsgn-Dev-Phase\Dwgs\614018-200-SSWR.dwg



PLAN
1"=20'



PROFILE 30" PLE
HOR: 1"=20'
VERT: 1"=2'



8 DETAIL
1"=3'-0"

NOTES:

1. MAINTAIN R=1000' MIN. OR 6" MAX. DEFLECTION PER 20' PIPE SECTION.
2. GROUT PLUG PORTALS OF ABANDONED SEWER 1.5 PIPE DIAMETERS. REMOVE EXISTING PIPE TO MAINTAIN 36" SEPARATION FROM NEW PIPE OR STRUCTURES.
3. RESTRAIN ALL OFFSITE PLE FITTINGS AND PIPE JOINTS PER TABLE 1 SHEET 06-C-2006.
4. USE DUCTILE IRON PIPE WHERE LESS THAN 30" COVER FROM FINISH GRADE.

REGISTERED PROFESSIONAL ENGINEER 15,479 OREGON JULY 25, 1991 DANIEL P. GRABER EXPIRES: 6/30/15

VERIFY SCALES
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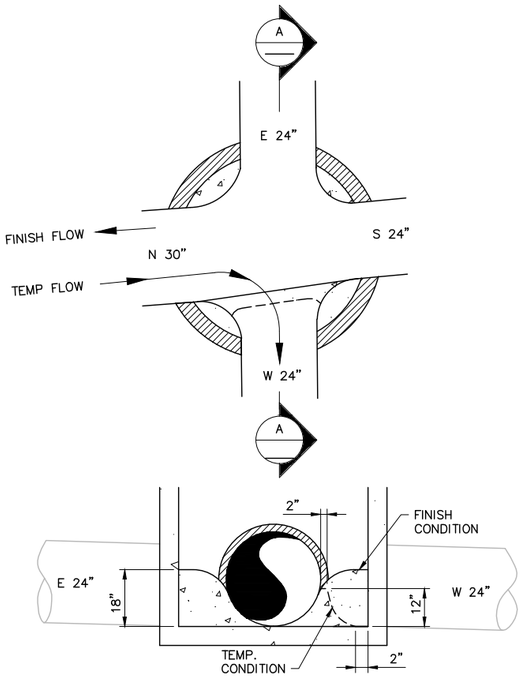
NO.	REVISION	DATE	BY

DSGN DPG
DR NER
CHK JMD
APVD CWM

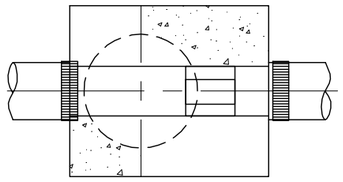
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CIVIL
30" PLE TO OUTFALL PLAN & PROFILE

SHEET 06-C-2008
SEQ 39
DATE 12/2014
PROJ. NO. 490515

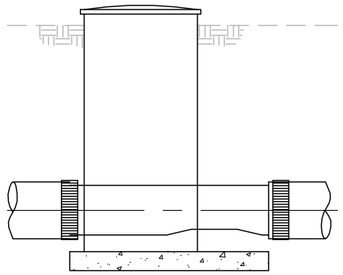
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\\COOSBAYSVR1\Projects\2014\614018-WWTP2-Final\200-Dsgn-Dev-Phas\Dwgs\614018-200-SSWR.dwg



A SECTION
1"=2'-0"

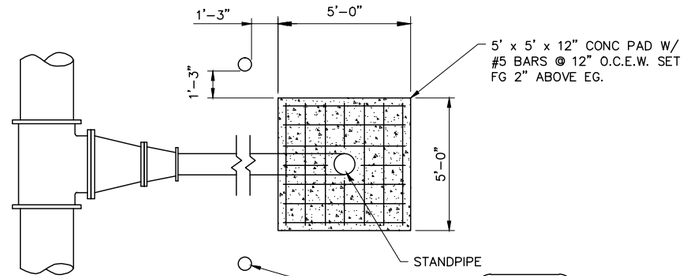


PLAN

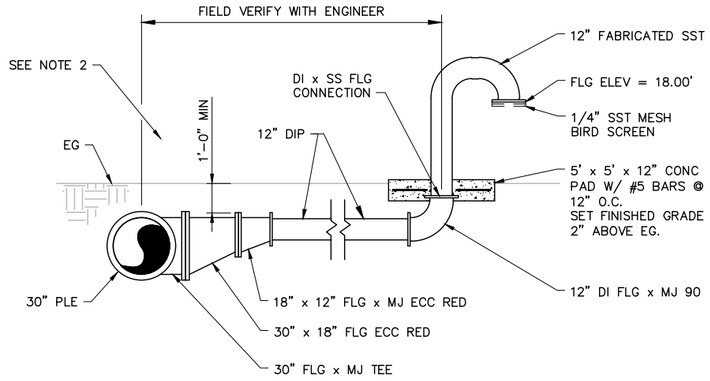


PROFILE

4 EXISTING METERING MANHOLE
1"=5'-0"
06-C-2005



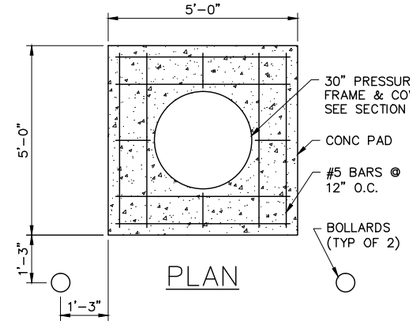
PLAN



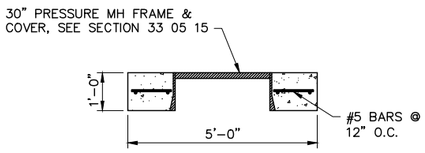
PROFILE

6 AIR RELEASE STANDPIPE & BOLLARD
1"=5'-0"
06-C-2008

3 MH-04 CHANNEL
1"=2'-0"
06-C-2005

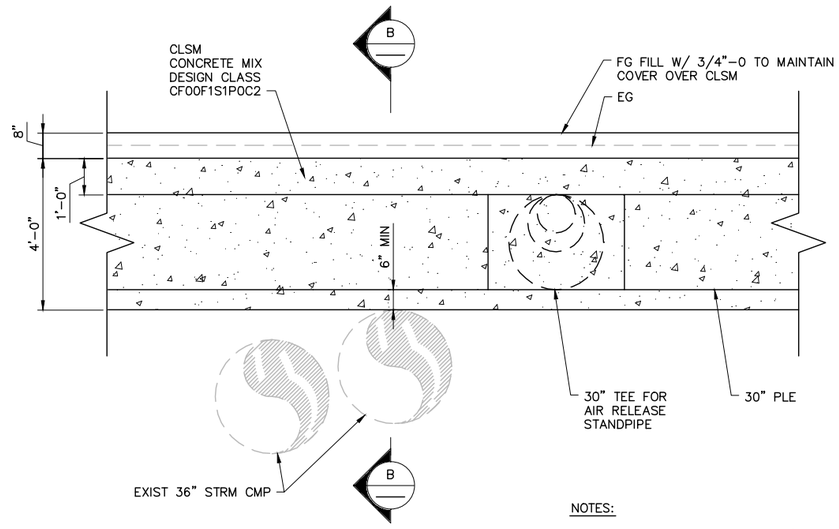


PLAN



SECTION

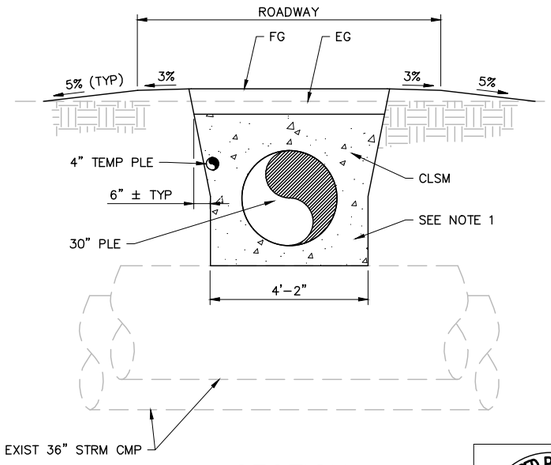
5 PRESSURE MH COVER
1"=2'-0"
06-C-2008



7 CLSM CAP
1"=2'-0"
06-C-2008

NOTES:

1. PIPE BEDDING & BACKFILL W/ CLSM WITHIN 10' OF EACH SIDE OF 36" CMP CROSSING.
2. BED PIPE & BACKFILL W/ CLSM.



B SECTION
1"=2'-0"

REGISTERED PROFESSIONAL ENGINEER 15,479 Daniel P. Graber OREGON JULY 25, 1991 DANIEL P. GRABER EXPIRES 6/30/15

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CONSULTING ENGINEERS & GEOLOGISTS, INC.

NO.	DATE	REVISION	BY

DSGN DPG
DR NER
CHK JMD
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CIVIL
SEWER DETAILS

SHEET 06-C-2009
SEQ 40
DATE 12/2014
PROJ. NO. 490515

SAVED: 12/11/2014 11:13 PM NREID, PLOTTED: 12/12/2014 11:02 AM NICK REID
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MATCH LINE SEE SHEET 06-C-2011

MATCH LINE SEE SHEET 06-C-2009

SD-28

TRENCH DRAIN INV 13.70

TRENCH DRAIN INV 12.70

20 HEADWORKS

10 INFLUENT PUMP STATION

80 SHOP/ ELECTRICAL BUILDING

60 CONTROL BUILDING

WAS PUMPS

SEE NOTE 1

SEE NOTE 2

NEW 30" PLE SEE 06-C-2007

NEW 30" PLE SEE 06-C-2007 FOR CONTINUATION

NEW 30" RS PLANT INFLUENT SEE 06-C-2005

OFFSITE WAS (BY OTHERS)

2" WATER SERVICE (BY OTHERS)

OFFSITE NG (BY OTHERS)

COORDINATE FIELD LOCATION WITH FENCE POST CONSTRUCTION

SEE SHEET 06-C-2015

12 06-C-2018

PLAN 1"=10'

NOTES:

1. SEE SPEC SECTION 22 40 00
2. ROTATE CLEANOUT WYE AND LOCATE CLEANOUT OUT OF DUCT BANK PATH.

REGISTERED PROFESSIONAL ENGINEER 15,479 Daniel P. Graber OREGON JULY 25, 1991 DANIEL P. GRABER EXPIRES 6/30/15

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SAIC CONSULTING ENGINEERS & GEOLOGISTS, INC.

NO.	DATE	REVISION	BY

DSGN DPG | DR NER | CHK JMD | APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE

CIVIL

SOUTH YARD PIPING PLAN

SHEET 06-C-2010

SEQ 41

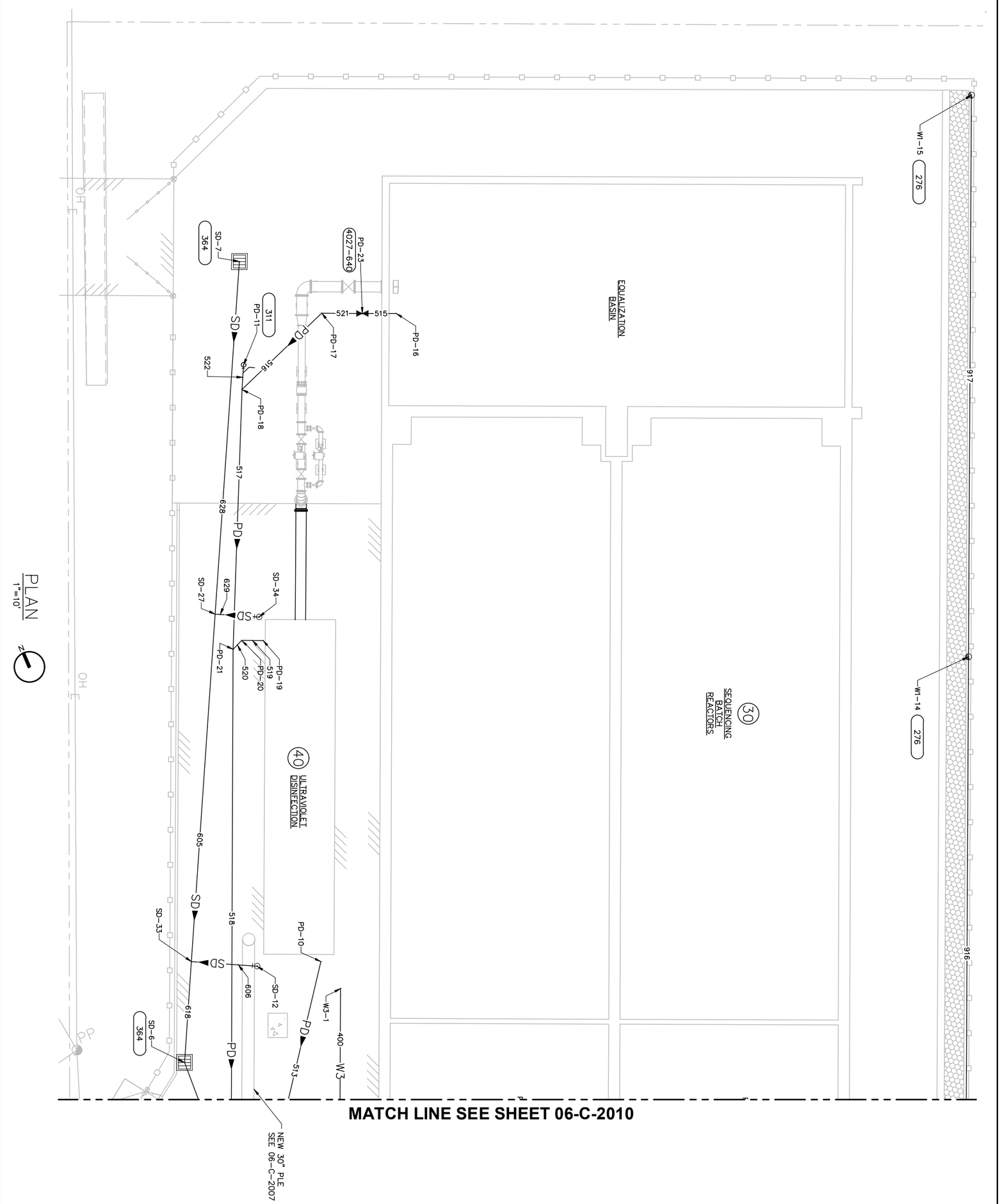
DATE 12/2014

PROJ. NO. 490515

SAVED: 12/12/2014 10:58 AM NREID, PLOTTED: 12/12/2014 11:03 AM NICK REID

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SAVED: 12/12/2014 10:58 AM NREID, PLOTTED: 12/12/2014 11:03 AM NICK REID
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REGISTERED PROFESSIONAL ENGINEER
OREGON
JULY 25, 1997
DANIEL P. GRABER
15,478
Daniel P. Graber
EXPIRES: 6/30/15

PROJ. NO. 490515	DATE 12/2014	SEQ 42.	SHEET 06-C-2011	CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE CIVIL NORTH YARD PIPING PLAN	DSGN DPG DR NER CHK JMD APVD CWM	NO.	DATE	REVISION	BY

SHN CONSULTING ENGINEERS & GEOLOGISTS, INC.

CH2MHILL.

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0 1"
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STORM DRAIN

STRUCTURE NAME	PIPES IN	PIPES OUT	FITTING	NORTHING	EASTING	DETAILS
SD-1		600: 8.00" INV=13.40' S=2.66% L=26.32'	CB	1400.34	1311.78	RIM = 16.71 SUMP = 11.40
SD-2	600: 8.00" INV=12.70' S=2.66% L=26.32' 622: 4.00" INV=12.58' S=2.00% L=12.79' 514: 4.00" INV=13.00' S=3.00% L=21.55'	601: 12.00" INV=12.50' S=2.16% L=19.97'	MH	1404.28	1285.75	42" DIA MH RIM = 16.40 SUMP = 10.50
SD-3	623: 12.00" INV=10.42' S=2.16% L=76.54'	602: 12.00" INV=10.20' S=2.00% L=62.03'	CB	1336.33	1217.23	RIM = 15.20 SUMP = 8.20
SD-4	602: 12.00" INV=8.96' S=2.00% L=62.03' 625: 8.00" INV=9.31' S=5.50% L=39.78' 610: 4.00" INV=9.30' S=2.00% L=17.24'	603: 12.00" INV=8.07' S=2.00% L=27.73'	MH	1382.65	1175.98	42" DIA MH RIM = 15.01 SUMP = 6.07
SD-5	624: 12.00" INV=6.85' S=2.00% L=33.35' 619: 8.00" INV=7.10' S=2.00% L=60.01' 617: 4.00" INV=11.20' S=2.00% L=32.42' 615: 4.00" INV=10.37' S=5.10% L=46.25'	604: 12.00" INV=6.40' S=2.81% L=7.11'	MH	1443.53	1181.05	42" DIA MH RIM = 15.00 SUMP = 3.40
SD-6	618: 8.00" INV=8.41' S=2.00% L=20.85'	619: 8.00" INV=8.30' S=2.00% L=60.01'	CB	1503.47	1184.00	RIM = 14.80 SUMP = 6.47
SD-7		628: 8.00" INV=11.72' S=2.00% L=72.84'	CB	1650.38	1260.24	RIM = 14.94 SUMP = 9.75
SD-8		621: 8.00" INV=13.92' S=5.57% L=46.41'	CB	1259.66	1175.31	RIM = 11.77 SUMP = 11.92
SD-9		614: 8.00" INV=9.68' S=2.00% L=33.94'	CB	1296.36	1100.12	RIM = 12.16 SUMP = 7.68
SD-10	621: 8.00" INV=11.33' S=5.57% L=46.41'	608: 8.00" INV=10.25' S=0.72% L=41.88'	CB	1300.86	1153.94	RIM = 16.18 SUMP = 8.42
SD-12		606: 4.00" INV=9.10' S=2.00% L=13.56'	90 UP	1515.72	1205.65	
SD-13		607: 4.00" INV=13.59' S=10.23% L=14.91'	90 UP	1401.65	1262.01	
SD-16		609: 4.00" INV=15.33' S=0.60% L=9.50'	90 UP	1300.45	1198.30	
SD-17	626: 4.00" INV=15.13' S=0.60% L=16.48'		INV OUT	1313.75	1167.85	
SD-18		616: 4.00" INV=12.17' S=2.00% L=15.17'	FD-2	1442.02	1157.95	
SD-19	616: 4.00" INV=11.87' S=2.00% L=15.17'	617: 4.00" INV=11.85' S=2.00% L=32.42'	FD-2	1427.79	1152.71	
SD-20		615: 4.00" INV=12.73' S=5.10% L=46.25'	90 UP	1447.22	1227.15	
SD-21		612: 4.00" INV=12.49' S=4.86% L=20.44'	90 UP	1410.83	1210.37	
SD-22	608: 8.00" INV=9.95' S=0.72% L=41.88'		INV OUT	1314.19	1114.24	
SD-23	604: 12.00" INV=6.20' S=2.81% L=7.11'		INV OUT	1445.98	1174.37	
SD-24	614: 8.00" INV=9.00' S=2.00% L=33.94'		INV OUT	1263.70	1109.35	
SD-25	603: 12.00" INV=7.52' S=2.00% L=27.73' 611: 4.00" INV=7.85' S=17.97% L=9.05'	624: 12.00" INV=7.52' S=2.00% L=33.35'	TEE	1410.29	1178.28	
SD-26	613: 8.00" INV=11.50' S=5.35% L=22.42' 612: 4.00" INV=11.50' S=4.86% L=20.44'	625: 8.00" INV=11.50' S=5.50% L=39.78'	TEE	1390.90	1214.89	
SD-27	628: 8.00" INV=10.26' S=2.00% L=72.84' 629: 4.00" INV=10.26' S=2.41% L=9.03'	605: 8.00" INV=10.27' S=2.00% L=71.82'	TEE	1585.73	1226.69	
SD-28	601: 12.00" INV=12.07' S=2.16% L=19.97' 607: 4.00" INV=12.07' S=10.23% L=14.91'	623: 12.00" INV=12.07' S=2.16% L=76.54'	TEE	1390.22	1271.57	
SD-30	627: 4.00" INV=15.23' S=0.60% L=7.25'	626: 4.00" INV=15.23' S=0.60% L=16.48'	TEE UP	1307.15	1182.95	
SD-31	609: 4.00" INV=15.28' S=0.60% L=9.50'	627: 4.00" INV=15.28' S=0.60% L=7.25'	TEE UP	1304.25	1189.59	
SD-32		622: 4.00" INV=12.83' S=2.00% L=12.79'	90 UP	1416.26	1281.26	
SD-33	605: 8.00" INV=8.83' S=2.00% L=71.82' 606: 4.00" INV=8.83' S=2.00% L=13.56'	618: 8.00" INV=8.83' S=2.00% L=20.85'	TEE	1521.97	1193.61	
SD-34		629: 4.00" INV=10.48' S=2.41% L=9.03'	90 UP	1581.57	1234.70	
SD-35		613: 8.00" INV=12.70' S=5.35% L=22.42'	INV IN	1395.55	1236.82	
SD-36		611: 4.00" INV=9.48' S=17.97% L=9.05'	90 UP	1411.04	1169.26	
SD-37		610: 4.00" INV=9.65' S=2.00% L=17.24'	90 UP	1382.36	1158.74	

NATURAL GAS

STRUCTURE NAME	PIPES IN	PIPES OUT	FITTING	NORTHING	EASTING
NG-1		801: 1.00" INV=10.70' S=0.00% L=4.58'	90 UP	1258.78	1210.07
NG-2	801: 1.00" INV=10.70' S=0.00% L=4.58'	802: 1.00" INV=10.70' S=0.00% L=36.43'	90	1256.96	1214.27
NG-3	802: 1.00" INV=10.70' S=0.00% L=36.43'	803: 1.00" INV=10.70' S=0.00% L=27.40'	45	1290.37	1228.81
NG-4	803: 1.00" INV=10.70' S=0.00% L=27.40'	804: 1.00" INV=10.70' S=0.71% L=55.95'	45	1315.90	1218.86
NG-5	804: 1.00" INV=10.30' S=0.71% L=55.95'	805: 1.00" INV=10.30' S=5.54% L=59.55'	90	1335.22	1166.35
NG-6	805: 1.00" INV=7.00' S=5.54% L=59.55'	806: 1.00" INV=7.00' S=-2.32% L=21.56'	90	1391.10	1186.92
NG-7	806: 1.00" INV=7.50' S=-2.32% L=21.56'		TRANSITION COUPLING	1398.54	1166.68

FOUL AIR

STRUCTURE NAME	PIPES IN	PIPES OUT	FITTING	NORTHING	EASTING
FA-1		300: 12.00" INV=10.97' S=2.00% L=47.22'	90 UP	1407.71	1201.01
FA-2	300: 12.00" INV=10.03' S=2.00% L=47.22'	301: 12.00" INV=10.03' S=1.96% L=20.36'	22.5	1439.69	1166.28
FA-3	301: 12.00" INV=9.63' S=1.96% L=20.36'		90 UP	1446.81	1147.21

RAW SEWAGE

STRUCTURE NAME	PIPES IN	PIPES OUT	FITTING	NORTHING	EASTING
RS-1		202: 16.00" REINFORCED CONCRETE INV=9.64' S=0.00% L=47.27'	90 UP	1455.63	1177.30
RS-2	202: 16.00" REINFORCED CONCRETE INV=9.64' S=0.00% L=47.27'		90 UP	1439.30	1221.67
RS-3		200: 8.00" INV=9.64' S=0.00% L=43.87'	90 UP	1458.42	1164.40
RS-4	200: 8.00" INV=9.64' S=0.00% L=43.87'	201: 8.00" INV=9.64' S=0.00% L=17.71'	22.5	1443.27	1205.57
RS-5	201: 8.00" INV=9.64' S=0.00% L=17.71'		90 UP	1431.32	1218.65

REGISTERED PROFESSIONAL ENGINEER
15,479
OREGON
JULY 25, 1981
DANIEL P. GRASER
EXPIRES 6/30/15

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

CH2MHILL
CONSULTING ENGINEERS & GEOLOGISTS, INC.

NO.	REVISION	DATE	BY

DSGN DPG
DR NER
CHK JMD
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CIVIL
YARD PIPING TABLES

SHEET 06-C-2012
SEQ 43
DATE 12/2014
PROJ. NO. 490515

SAVED: 12/12/2014 10:58 AM NREID, PLOTTED: 12/12/2014 11:03 AM NICK REID
\\COOSBAYSVR1\Projects\2014\614018-WWTP2-Final\200-Dsgn-Dev-Phas\Dwgs\614018-200-SITE-PIPING.dwg

DRAIN

STRUCTURE NAME	PIPES IN	PIPES OUT	FITTING	NORTHING	EASTING	DETAILS
D-1		709: 4.00" INV=13.29' S=8.26% L=3.50'	INV IN	1299.17	1178.91	
D-2	700: 4.00" INV=12.51' S=8.26% L=5.91'	701: 4.00" INV=12.51' S=2.00% L=37.04'	45	1302.94	1170.29	
D-3	701: 4.00" INV=11.77' S=2.00% L=37.04'	702: 4.00" INV=11.77' S=2.00% L=60.63'	45	1337.43	1156.79	
D-4		705: 4.00" INV=10.86' S=2.10% L=11.74'	CO	1397.20	1164.14	
D-5	705: 4.00" INV=10.62' S=2.10% L=11.74'	708: 4.00" INV=10.61' S=2.00% L=2.83'	45	1393.14	1175.16	
D-6	702: 4.00" INV=10.56' S=2.00% L=60.63' 708: 4.00" INV=10.56' S=2.00% L=2.83'	703: 4.00" INV=10.56' S=3.01% L=49.30'	WYE	1394.33	1177.73	
D-7	703: 4.00" INV=9.08' S=3.01% L=49.30' 707: 8.00" INV=8.83' S=5.15% L=29.63' 706: 8.00" INV=8.83' S=5.69% L=13.82'	704: 6.00" INV=8.83' S=2.38% L=20.98'	MH	1440.59	1194.75	42" DIA MH RIM = 15.55 SUMP = 8.83
D-8	704: 6.00" INV=8.33' S=2.38% L=20.98'		INV OUT	1448.00	1175.12	
D-9		707: 8.00" INV=10.36' S=5.15% L=29.63'	INV IN	1435.84	1224.00	
D-10		706: 8.00" INV=9.62' S=5.69% L=13.82'	INV IN	1431.36	1205.04	
D-11	709: 4.00" INV=13.00' S=8.26% L=3.50'	700: 4.00" INV=13.00' S=8.26% L=5.91'	CO	1300.57	1175.71	

PLANT DRAIN

STRUCTURE NAME	PIPES IN	PIPES OUT	FITTING	NORTHING	EASTING
PD-1		514: 4.00" INV=13.41' S=3.02% L=13.54'	FD-2	1424.00	1294.44
PD-2		507: 4.00" INV=14.25' S=4.73% L=4.58'	INV IN	1446.89	1281.74
PD-3	507: 4.00" INV=14.03' S=4.73% L=4.58'	508: 4.00" INV=14.03' S=84.29% L=4.56'	45	1442.69	1279.89
PD-4	501: 6.00" INV=10.11' S=2.00% L=37.67' 508: 4.00" INV=10.19' S=84.29% L=4.56'	502: 6.00" INV=10.11' S=2.00% L=47.37'	WYE	1439.26	1276.89
PD-5		509: 8.00" INV=14.08' S=9.44% L=4.63'	INV IN	1465.97	1238.43
PD-6	509: 8.00" INV=13.65' S=9.44% L=4.63'	510: 4.00" INV=13.81' S=100.00% L=4.57'	45	1461.73	1236.57
PD-7	502: 6.00" INV=9.16' S=2.00% L=47.37'	503: 6.00" INV=9.16' S=2.00% L=5.86'	WYE	1458.32	1233.52
PD-8	503: 6.00" INV=9.05' S=2.00% L=5.86'	504: 6.00" INV=9.05' S=2.00% L=21.46'	GATE VALVE	1460.68	1228.16
PD-9	504: 6.00" INV=8.62' S=2.00% L=21.46'	511: 6.00" INV=8.62' S=2.00% L=22.10'	CO	1469.32	1208.50
PD-10		513: 4.00" INV=9.43' S=4.58% L=74.15'	INV IN	1511.33	1218.11
PD-11		522: 6.00" INV=11.50' S=4.00% L=5.07'	CO	1630.49	1252.52
PD-12	513: 4.00" INV=6.03' S=4.58% L=74.15'		INV OUT	1451.95	1173.69
PD-13	511: 6.00" INV=8.17' S=2.00% L=22.10'	505: 6.00" INV=8.17' S=26.11% L=6.22'	45	1478.21	1188.27
PD-14	505: 6.00" INV=6.55' S=26.11% L=6.22' 518: 6.00" INV=6.55' S=2.19% L=111.05'	506: 6.00" INV=6.55' S=2.00% L=25.60'	WYE	1475.95	1182.48
PD-15	506: 6.00" INV=6.04' S=2.00% L=25.60'		INV OUT	1452.51	1172.18
PD-16		515: 12.00" INV=13.58' S=2.00% L=6.99'	INV IN	1627.66	1285.62
PD-17		516: 12.00" INV=11.56' S=2.23% L=22.73'	45	1633.84	1271.54
PD-18	516: 12.00" INV=11.05' S=2.23% L=22.73' 522: 6.00" INV=11.30' S=4.00% L=5.07'	517: 6.00" INV=11.30' S=4.33% L=53.58'	45	1625.98	1250.22
PD-19		519: 4.00" INV=10.20' S=4.00% L=4.36'	INV IN	1576.79	1233.55
PD-20	519: 4.00" INV=10.03' S=4.00% L=4.36'	520: 4.00" INV=10.03' S=30.90% L=2.57'	45	1578.54	1229.56
PD-21	517: 6.00" INV=8.98' S=4.33% L=53.58' 520: 4.00" INV=9.23' S=30.90% L=2.57'	518: 6.00" INV=8.98' S=2.19% L=111.05'	WYE	1577.61	1227.16
PD-22		501: 6.00" INV=10.86' S=2.00% L=37.67'	CO	1424.11	1311.38
PD-23	515: 12.00" INV=13.44' S=2.00% L=6.99'	521: 12.00" INV=11.73' S=2.00% L=8.39'	GATE VALVE	1630.47	1279.22

WASTE ACTIVATED SLUDGE

STRUCTURE NAME	PIPES IN	PIPES OUT	FITTING	NORTHING	EASTING
WAS-1		100: 6.00" INV=11.65' S=-0.49% L=122.42'	90 UP	1421.66	1302.65
WAS-2	100: 6.00" INV=12.25' S=-0.49% L=122.42'	101: 6.00" INV=12.25' S=0.00% L=17.36'	45	1309.57	1253.41
WAS-3	101: 6.00" INV=12.25' S=0.00% L=17.36'	102: 6.00" INV=12.25' S=0.00% L=63.82'	45	1293.38	1259.65
WAS-4	102: 6.00" INV=12.25' S=0.00% L=63.82'		INV	1234.95	1233.98

NO. 3 (PLANT) WATER

STRUCTURE NAME	PIPES IN	PIPES OUT	FITTING	NORTHING	EASTING
W3-1	400: 4.00" INV=12.83' S=-2.18% L=30.83'		INV	1504.64	1219.59
W3-2	401: 3.00" INV=12.33' S=0.00% L=7.96'		90 UP	1473.21	1214.48
W3-3	402: 4.00" INV=12.16' S=-1.30% L=19.14'	400: 4.00" INV=12.16' S=-2.18% L=30.83' 401: 3.00" INV=12.33' S=0.00% L=7.96'	TEE	1476.41	1207.20
W3-4		402: 4.00" INV=11.91' S=-1.30% L=19.14'	TEE	1458.88	1199.50
W3-5		403: 3.00" INV=12.08' S=0.00% L=31.65'	90 UP	1446.15	1228.48
W3-6	405: 2.00" INV=12.03' S=-0.08% L=36.86' 406: 0.75" INV=12.03' S=-0.12% L=25.41'	404: 4.00" INV=11.83' S=-0.90% L=8.77'	TEE	1450.86	1195.98
W3-7		405: 2.00" INV=12.00' S=-0.08% L=36.86'	90 UP	1465.65	1162.22
W3-8	407: 0.75" INV=12.00' S=0.00% L=16.14'	406: 0.75" INV=12.00' S=-0.12% L=25.41'	90	1427.60	1185.76
W3-9		407: 0.75" INV=12.00' S=0.00% L=16.14'	90 UP	1421.10	1200.53

NO. 1 (POTABLE) WATER

STRUCTURE NAME	PIPES IN	PIPES OUT	FITTING	NORTHING	EASTING
W1-1	906: 2.00" INV=10.50' S=-2.20% L=13.63'	901: 2.00" INV=10.50' S=0.00% L=41.21'	45	1278.44	1234.74
W1-2	901: 2.00" INV=10.50' S=0.00% L=41.21'	902: 2.00" INV=10.50' S=0.00% L=55.29'	45	1316.84	1219.78
W1-3	902: 2.00" INV=10.50' S=0.00% L=55.29'	903: 2.00" INV=10.50' S=4.63% L=38.89'	90	1335.93	1167.89
W1-4	903: 2.00" INV=8.70' S=4.63% L=38.89'	907: 2.00" INV=8.70' S=0.00% L=35.34' 908: 1.00" INV=8.70' S=0.00% L=26.13'	TEE	1372.43	1181.32
W1-5	907: 2.00" INV=8.70' S=0.00% L=35.34'	909: 2.00" INV=8.70' S=0.00% L=20.80'	90	1405.59	1193.53
W1-6	909: 2.00" INV=8.70' S=0.00% L=20.80'	914: 2.00" INV=8.70' S=0.00% L=11.04'	90	1397.83	1212.83
W1-7	918: 1.00" INV=10.50' S=0.00% L=36.82'	913: 1.00" INV=10.50' S=1.12% L=71.25'	HOSE BIB	1261.73	1187.32
W1-8	914: 2.00" INV=8.70' S=0.00% L=11.04'		INV	1407.98	1217.17
W1-9	908: 1.00" INV=8.70' S=0.00% L=26.13'		90 UP	1381.45	1156.80
W1-10	904: 2.00" INV=10.50' S=0.00% L=14.00'	905: 2.00" INV=10.50' S=1.45% L=20.66' 910: 1.00" INV=10.50' S=-3.52% L=28.43' 918: 1.00" INV=10.50' S=0.00% L=36.82'	TEE	1246.99	1221.06
W1-11	910: 1.00" INV=11.50' S=-3.52% L=28.43'	911: 1.00" INV=11.50' S=-5.74% L=61.01'	90	1235.77	1247.18
W1-12	911: 1.00" INV=15.00' S=-5.74% L=61.01'	912: 1.00" INV=15.00' S=0.00% L=120.67'	HOSE BIB	1291.67	1271.60
W1-13	912: 1.00" INV=15.00' S=0.00% L=120.67'	916: 1.00" INV=15.00' S=0.00% L=122.32'	HOSE BIB	1403.79	1316.23
W1-14	916: 1.00" INV=15.00' S=0.00% L=122.32'	917: 1.00" INV=15.00' S=0.00% L=115.81'	HOSE BIB	1515.72	1365.55
W1-15	917: 1.00" INV=15.00' S=0.00% L=115.81'		HOSE BIB	1621.68	1412.31
W1-16	913: 1.00" INV=9.70' S=1.12% L=71.25'	919: 1.00" INV=9.70' S=0.00% L=56.90'	90	1290.26	1122.03
W1-17	919: 1.00" INV=9.70' S=0.00% L=56.90'	920: 1.00" INV=9.70' S=-0.54% L=55.06'	HOSE BIB	1342.86	1143.72
W1-18	920: 1.00" INV=10.00' S=-0.54% L=55.06'	921: 1.00" INV=10.00' S=-1.51% L=99.17'	HOSE BIB	1390.98	1116.95
W1-19	921: 1.00" INV=11.50' S=-1.51% L=99.17'	922: 1.00" INV=11.50' S=0.00% L=20.04'	22.5	1483.44	1152.79
W1-20	922: 1.00" INV=11.50' S=0.00% L=20.04'		HOSE BIB	1496.22	1168.23
W1-21	905: 2.00" INV=10.20' S=1.45% L=20.66'	906: 2.00" INV=10.20' S=-2.20% L=13.63' 923: 2.00" INV=10.20' S=0.63% L=15.83'	TEE	1265.94	1229.30
W1-22	923: 2.00" INV=10.10' S=0.63% L=15.83'		INV	1272.24	1214.78

REGISTERED PROFESSIONAL ENGINEER
15,479
OREGON
JULY 25, 1981
DANIEL P. GRABER
EXPIRES 6/30/15

VERIFY SCALES
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CONSULTING ENGINEERS & GEOLOGISTS, INC.

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DSGN DPG | DR NER | CHK JMD | APVD CWM

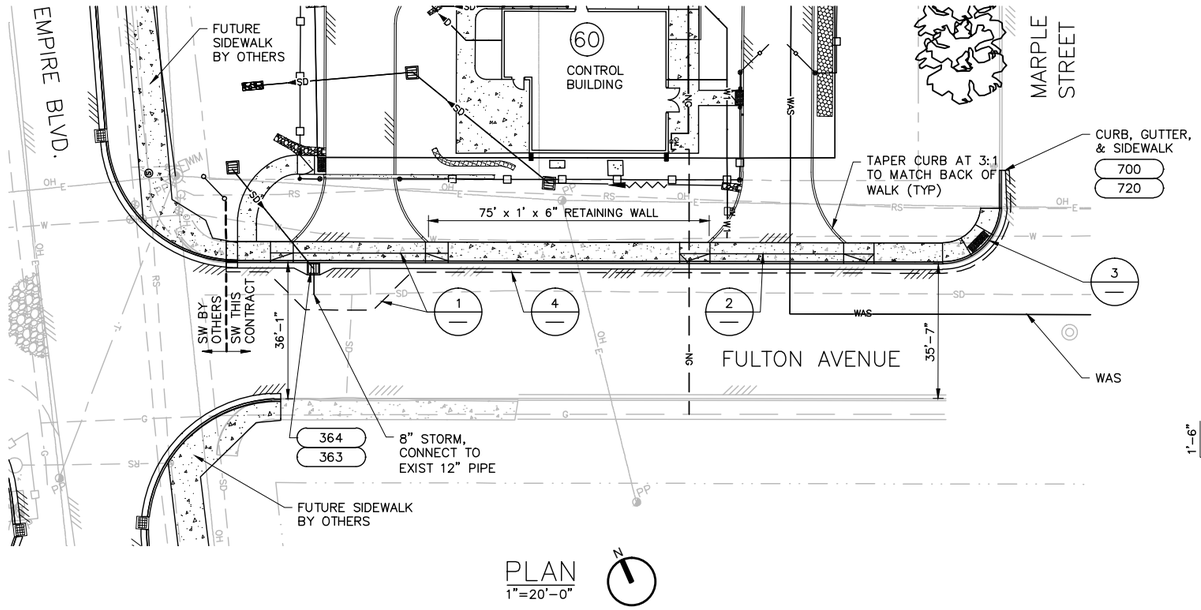
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE

CIVIL

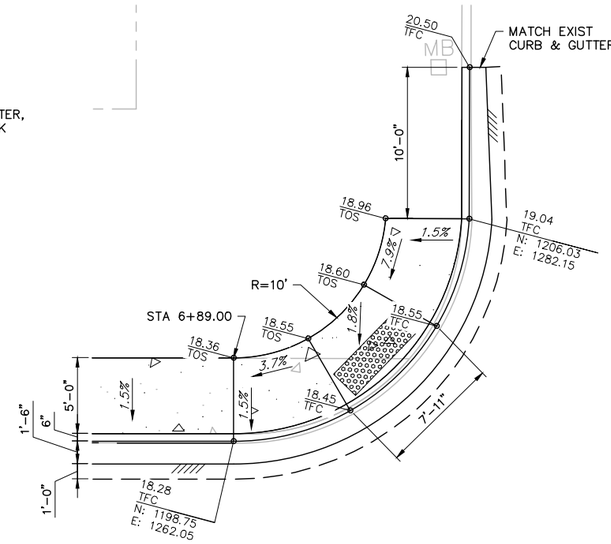
YARD PIPING TABLES

SHEET 06-C-2013
SEQ 44
DATE 12/2014
PROJ. NO. 490515

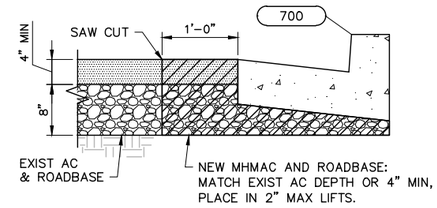
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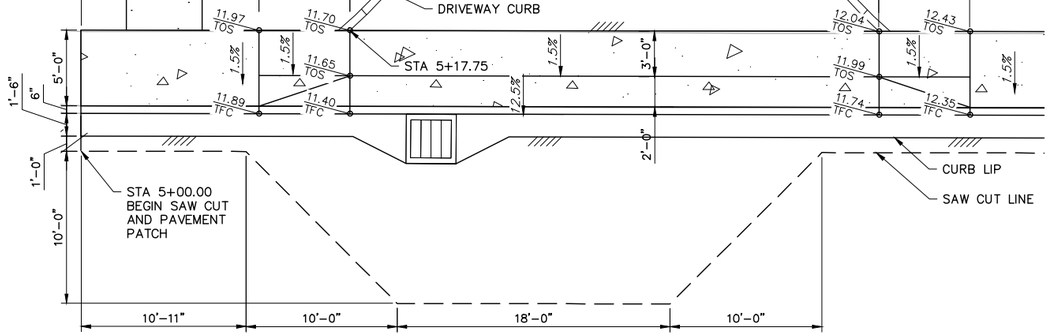
PLAN
1"=20'-0"



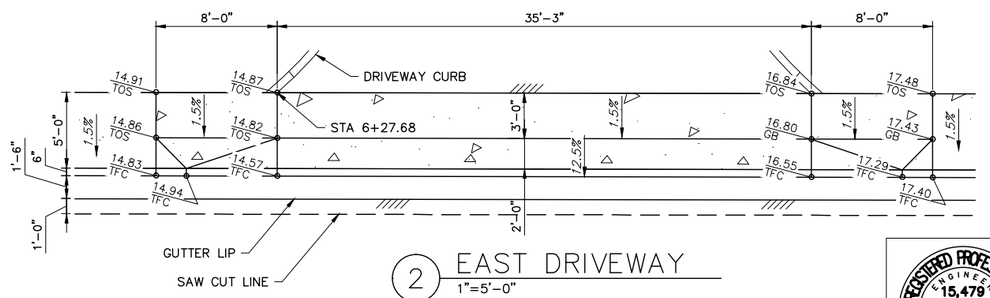
3 SIDEWALK RAMP
1"=5'-0"



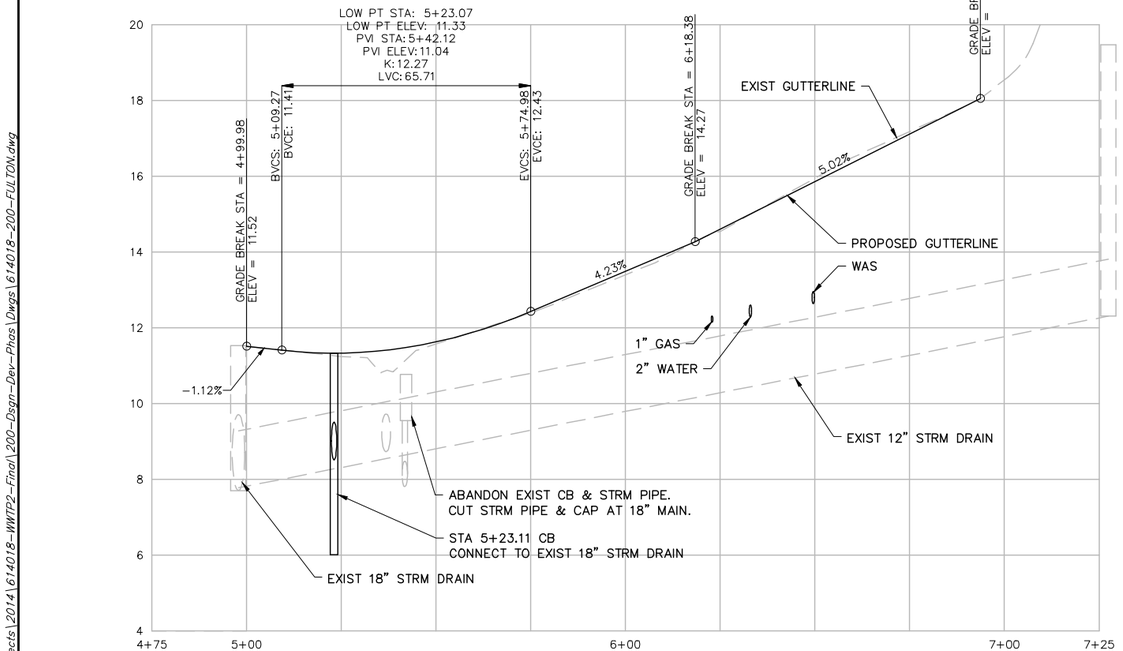
4 PAVEMENT PATCH
NTS



1 WEST DRIVEWAY
1"=5'-0"



2 EAST DRIVEWAY
1"=5'-0"



PROFILE
HOR: 1"=20'-0"
VERT: 1"=2'-0"

REGISTERED PROFESSIONAL ENGINEER
15,479
OREGON
JULY 25, 1997
DANIEL P. GRABER
EXPIRES 6/30/15

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NO.	DATE	REVISION	BY

DSGN DPG
DR NER
CHK JMD
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CIVIL
FULTON AVENUE
CURB & GUTTER LINE

SHEET 06-C-2014
SEQ 45
DATE 12/2014
PROJ. NO. 490515

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\\COOSBAYSVR1\Projects\2014\614018-WWTP2-Final\200-Dsgn-Dev-Phas\Dwgs\614018-200-FULTON.dwg

MARPLE STREET

FULTON AVENUE

EMPIRE BOULEVARD

INFILTRATION DITCH — 6 / 06-C-2018

LIMIT OF GRADING

TBM ELEV. 19.22
2½" ALUMINUM CAP
SURVEY DATUM: NAVD 88

TAPER CURB AT 3:1
TO MATCH TOP OF AC

GRAVEL — 9 / 06-C-2018

ASPHALT PAVING — 7 / 06-C-2018

CURB 700

SEE 06-C-2016

EQUALIZATION BASIN

30 SEQUENCING BATCH REACTORS

TRENCH DRAIN 1375

20 HEADWORKS FF 17.0'

3 / 06-C-2017

60 CONTROL BUILDING FF 16.5'

SEE 06-C-2015 FOR FULTON AVENUE PAVEMENT PATCH, CURB, GUTTER, AND SIDEWALK DETAILS

70 ODOR CONTROL

FF 16.5'

80 GENERATOR FF 15.5'

SHOP/ELECTRIC BUILDING FF 16.0'

4 / 06-C-2017

ENTRANCE SIGN 1015-001

TAPER CURB AT 3:1
TO MATCH TOP OF AC

5 / 06-C-2017

1 / 06-C-2017

10 INFLUENT PUMP STATION

8 / 06-C-2018 RAIN GARDEN
TOP: 12.2'
BOT: 10.0'

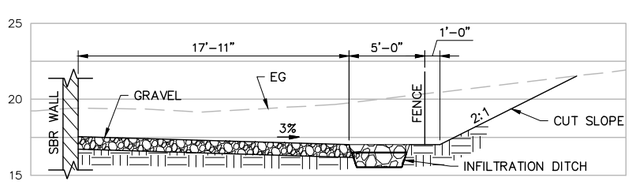
NOTES:

1. ONSITE STORMWATER TO BE DIRECTED TO INFLUENT PUMP STATION VIA CATCH BASINS AND STORM DRAINS.
2. CONTRACTOR TO VERIFY LOCATION AND DEPTH OF UNDERGROUND UTILITIES.

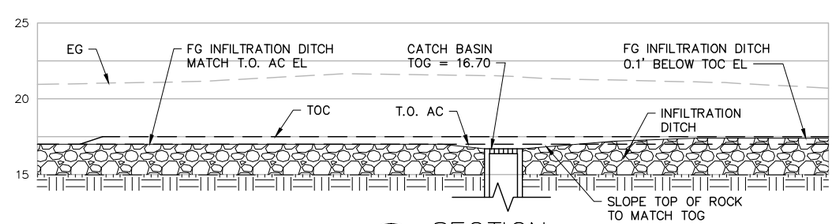
PLAN
1"=20'

LEGEND:

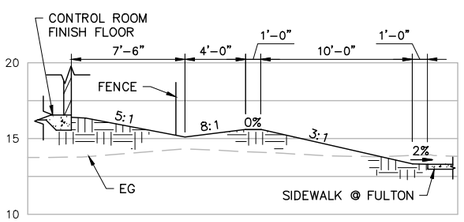
- RIDGE
- VALLEY
- LIMIT OF GRADING



A SECTION
1"=5'-0"



B SECTION
1"=5'-0"



C SECTION
1"=5'-0"

REGISTERED PROFESSIONAL ENGINEER
15,479
Daniel P. Graber
OREGON
JULY 25, 1991
DANIEL P. GRABER
EXPIRES 6/30/15

CH2MHILL

SAIC
CONSULTING ENGINEERS & GEOLOGISTS, INC.

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE

CIVIL

NORTH SITE GRADING PLAN

SHEET 06-C-2015
SEQ 46
DATE 12/2014
PROJ. NO. 490515

DSGN DFG
DR NER
CHK JMD
APVD CWM

NO. | DATE | REVISION | BY

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DETECTOR LOOP, SEE SECTION 31 31 19

4'-0" × 10'-0" + 4'-0"

8 / 06-C-2018

RAIN GARDEN
TOP: 15.0'
BOT: 14.0'

TOG=14.59

11 / 06-C-2018

4 / 06-C-2017

TOC=12.70
AC=12.20

TOC=13.43
AC=12.93

SLIDE GATE V-TRACK

13 / 06-C-2018

TOC=11.70
AC=11.70

TOC=12.04
AC=12.04

TAPER CURB AT 3:1 TO MATCH SIDEWALK, TYP OF 4

SEE 06-C-2015 FOR FULTON AVENUE PAVEMENT PATCH, CURB, GUTTER, AND SIDEWALK DETAILS

TOC=16.50
AC=16.00
N: 1315.47
E: 1177.41

2 / 06-C-2017

60
CONTROL BUILDING
FF 16.5'

CMU WALL, 2'± HIGH

10 / 06-C-2018

SEE 06-C-2010 FOR LOCATION OF EXIST RS, CONTRACTOR TO VERIFY DEPTH

FG=15.36
FG=14.42
FG=16.10
FG=13.67
TOS=14.15
FG=15.79
FG=15.23
TOG=14.80
FG=15.43

2 / 06-C-2017

TOC=16.60
AC=16.10
N: 1282.12
E: 1241.16

CURB MOUNT KEYPAD
N: 1255.88
E: 1229.32

1601

CURB

700

TOC=16.03
AC=15.93

TOC=17.10
AC=16.60

FG=15.31
FG=15.51

TOC=14.87
AC=14.87

TOC=16.84
AC=16.84

-1.6%
-6.6%
-5.0%
-2.9%

15.0'
14.0'
13.0'
16.0'
12.0'
17'
18.0'
16'

8'±
4'±
11'±

OH
E
G
W

FULTON AVENUE

PLAN
1"=5'

N

LEGEND:
- RIDGE
- VALLEY
- LIMIT OF GRADING

REGISTERED PROFESSIONAL ENGINEER
15,479
Daniel P. Graber
OREGON
JULY 25, 1991
DANIEL P. GRABER
EXPIRES 6/30/15

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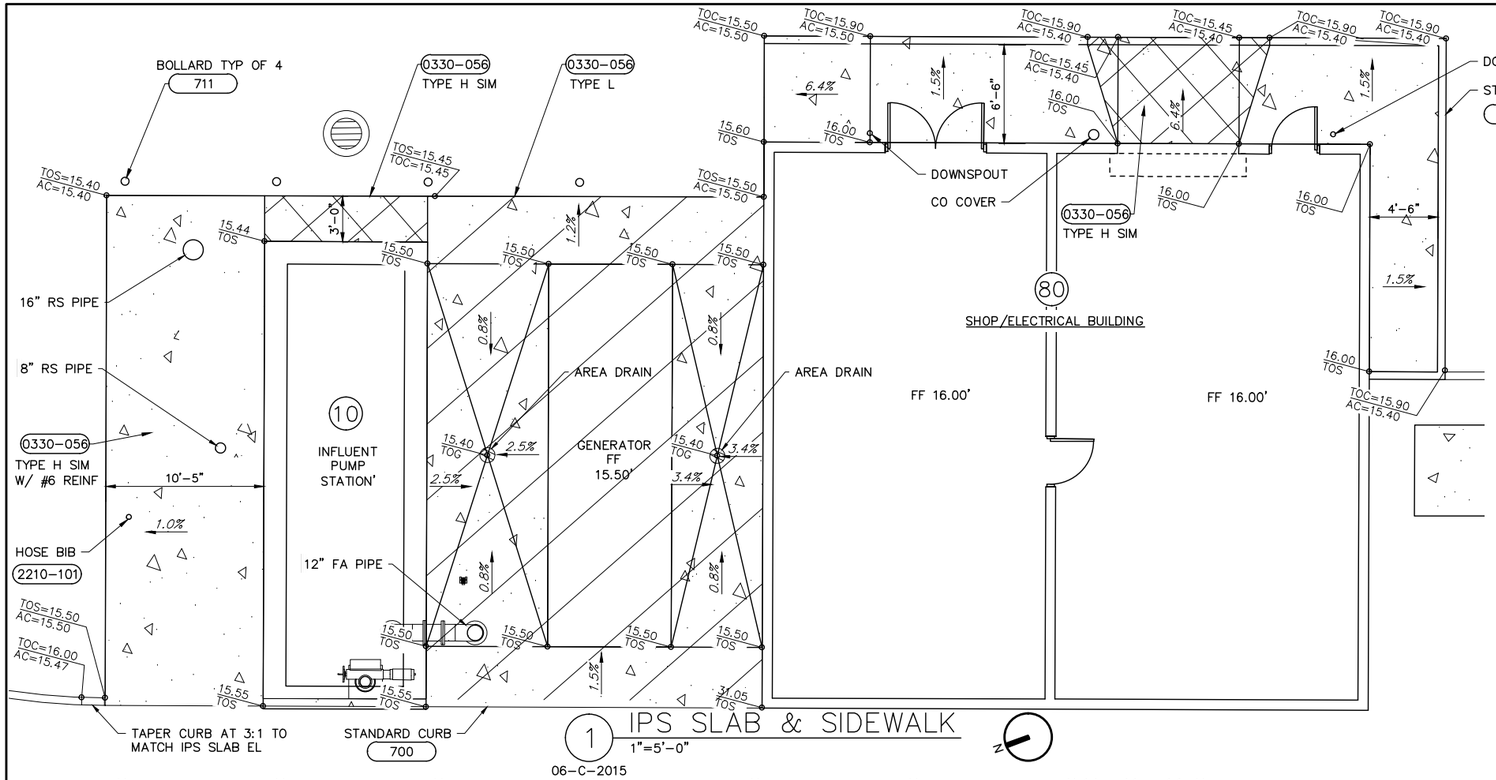
NO.	DATE	REVISION	BY

DSGN DPG
DR NER
CHK JMD
APVD CWM

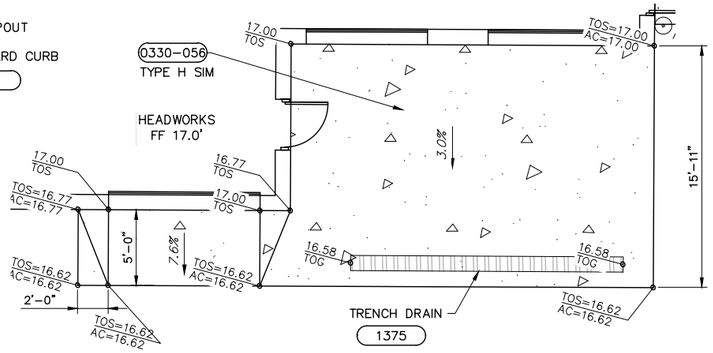
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CIVIL
SOUTH SITE GRADING PLAN

SHEET 06-C-2016
SEQ 47
DATE 12/2014
PROJ. NO. 490515

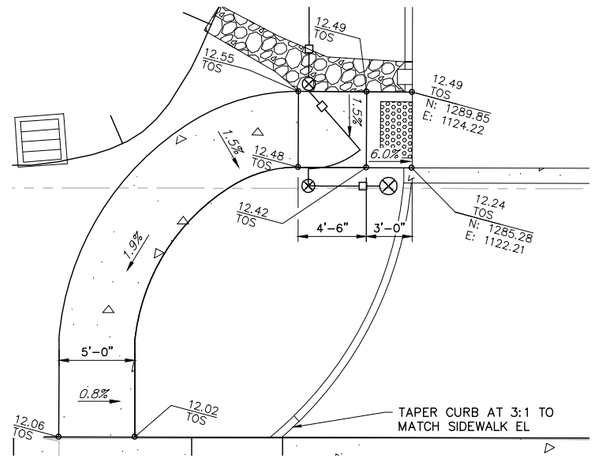
SAVED: 12/12/2014 10:20 AM NREID, PLOTTED: 12/12/2014 11:04 AM NICK REID
\\COOSBAYSVR1\Projects\2014\614018-WWTP2-Final\200-Dsgn-Dev-Phas\Dwgs\614018-200-GRDC-PLAN.dwg



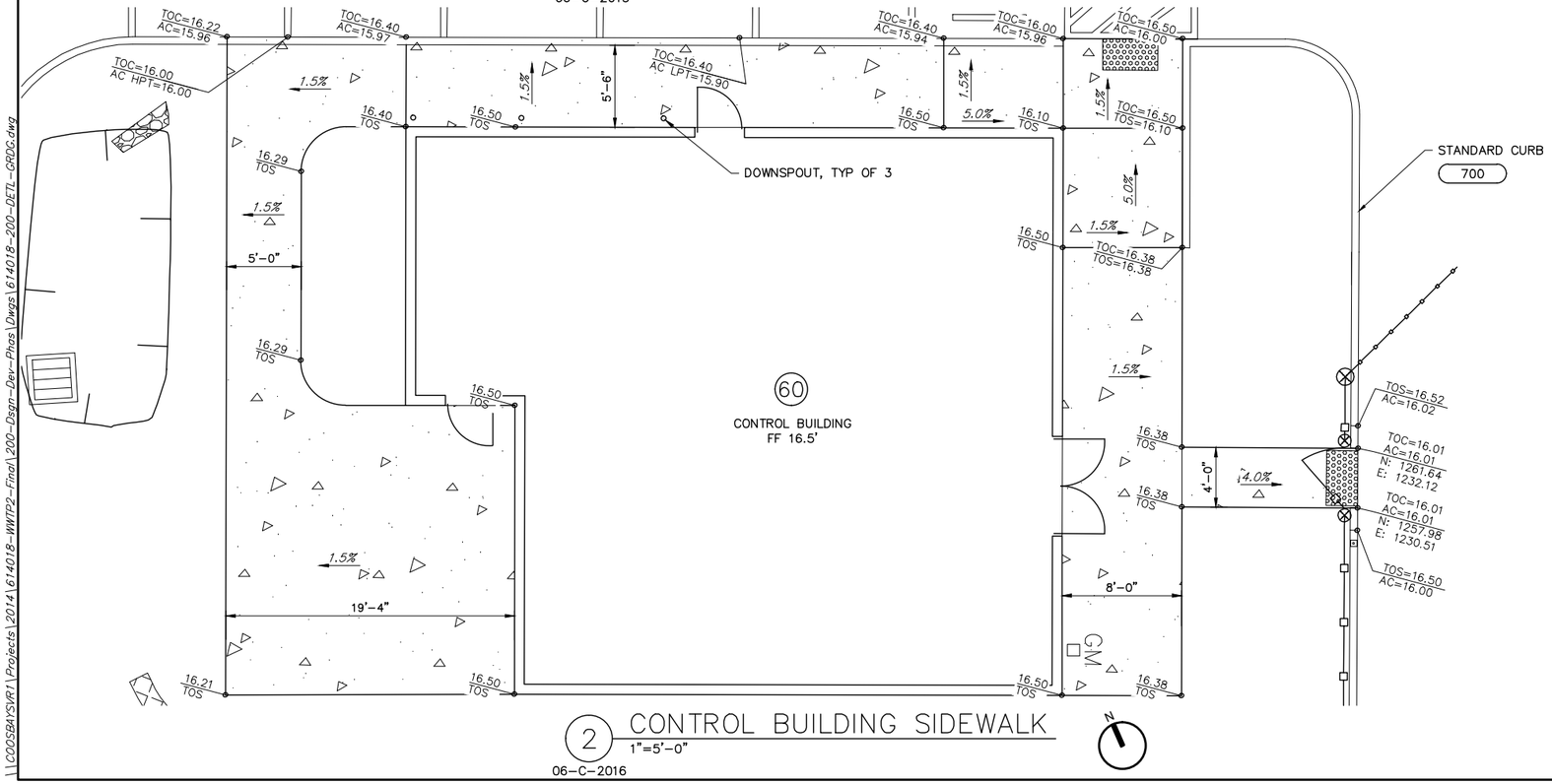
1 IPS SLAB & SIDEWALK
1"=5'-0"
06-C-2015



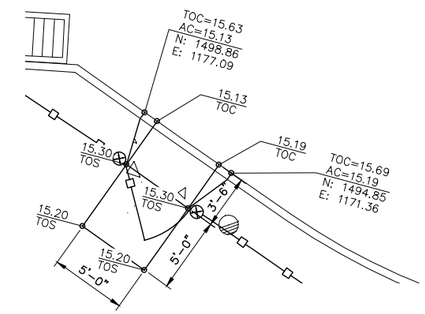
3 HEADWORKS APRON
1"=5'-0"
06-C-2015



4 WEST DRIVEWAY SIDEWALK
1"=5'-0"
06-C-2015



2 CONTROL BUILDING SIDEWALK
1"=5'-0"
06-C-2016



5 WEST PED ACCESS
1"=5'-0"
06-C-2015

REGISTERED PROFESSIONAL ENGINEER
15,479
OREGON
JULY 25, 1981
DANIEL P. GRABER
EXPIRES 6/30/15

VERIFY SCALES
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0 1"
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CH2MHILL

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CONSULTING ENGINEERS & GEOLOGISTS, INC.

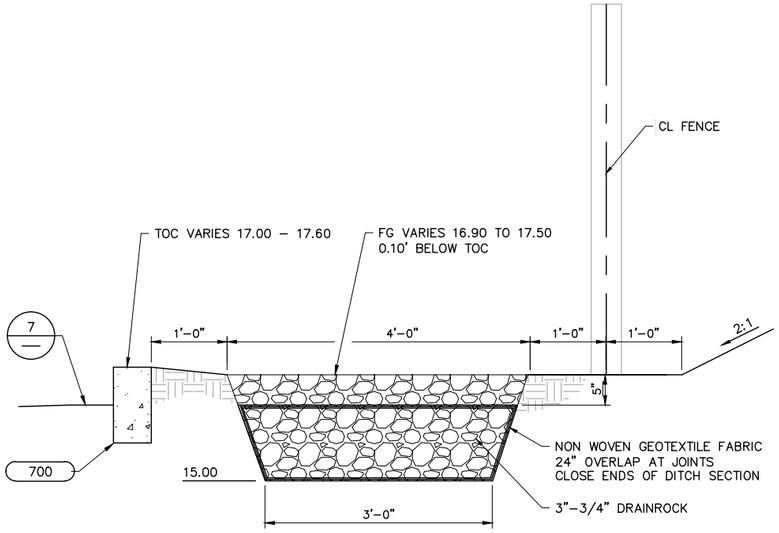
NO.	DATE	REVISION	BY

DSGN	DPG	CHK	JMD
DR	NER	APVD	CWM

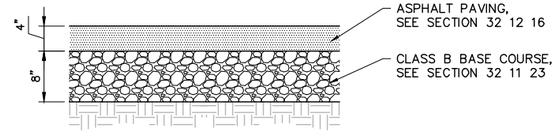
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CIVIL
GRADING DETAILS

SHEET 06-C-2017
SEQ 48
DATE 12/2014
PROJ. NO. 490515

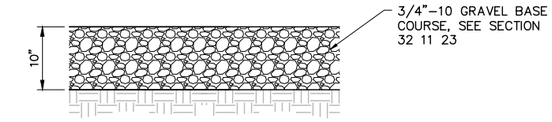
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\\COOSBAYSVR1\Projects\2014\614018-WWTP2-Final\200-Dsgn-Dev-Phas\Dwgs\614018-200-DETL-GRDC.dwg



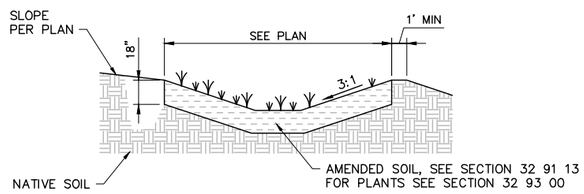
6 INFILTRATION DITCH
1"=1'–0"
06–C–2015



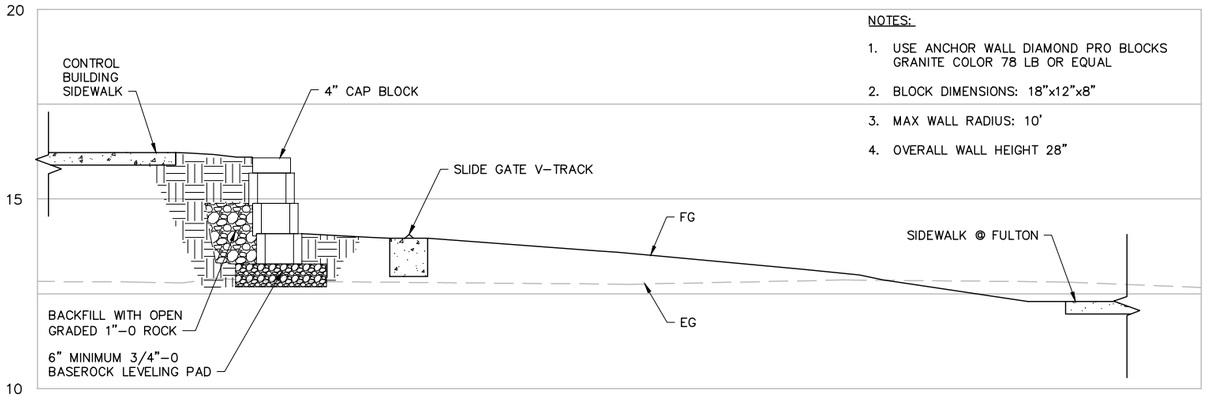
7 PAVEMENT SECTION
NTS
06–C–2015



9 GRAVEL SECTION
NTS
06–C–2015



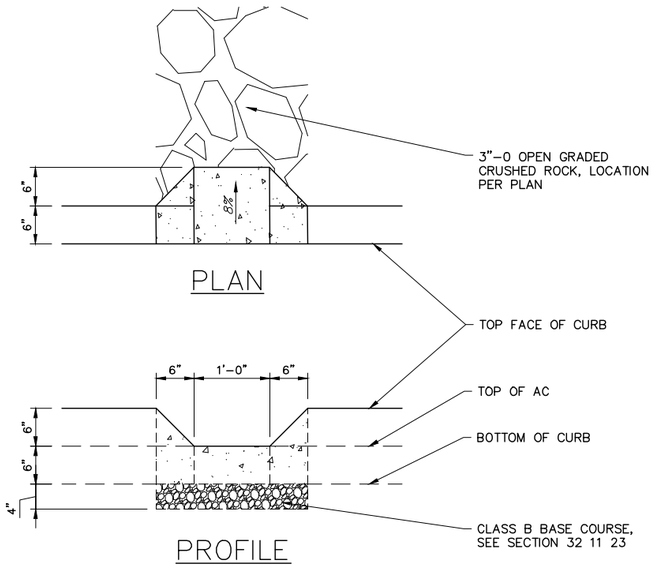
8 RAIN GARDEN
NTS
06–C–2015



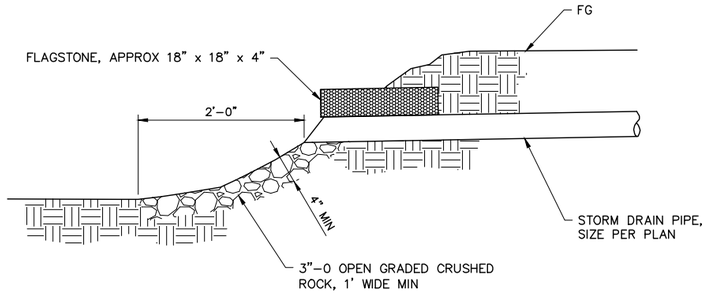
NOTES:

1. USE ANCHOR WALL DIAMOND PRO BLOCKS GRANITE COLOR 78 LB OR EQUAL
2. BLOCK DIMENSIONS: 18"x12"x8"
3. MAX WALL RADIUS: 10'
4. OVERALL WALL HEIGHT 28"

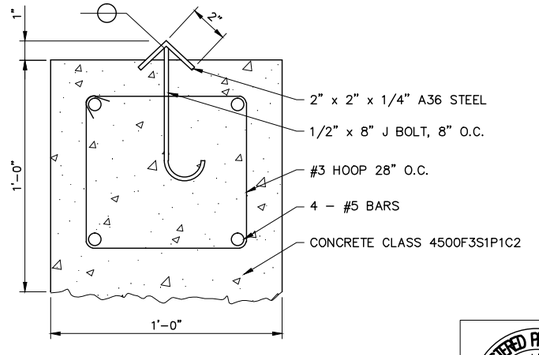
10 BLOCK WALL
1"=2'–0"
06–C–2016



11 CURB OUTLET
1"=1'–0"
06–C–2001



12 STORM DRAIN DAYLIGHT
1"=1'–0"
06–C–2010



13 SLIDE GATE V–TRACK
NTS
06–C–2016

REGISTERED PROFESSIONAL ENGINEER
15,479
Daniel P. Graber
OREGON
JULY 25, 1981
DANIEL P. GRABER
EXPIRES 6/30/15

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NO.	DATE	REVISION	BY

DSGN DPG
DR NER
CHK JMD
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CIVIL
GRADING DETAILS

SHEET 06-C-2018
SEQ 49
DATE 12/2014
PROJ. NO. 490515

SAVED: 12/12/2014 10:23 AM NREID, PLOTTED: 12/12/2014 11:05 AM NICK REID
\\COOSBAYSVR1\Projects\2014\614018-WWTP2-Final\200-Dsgn-Dev-Phas\Dwgs\614018-200-DETL-GRDC.dwg

MARPLE STREET

INFILTRATION DITCH

HOSE BIB, TYP.

WAS PUMP STATION

(30) SEQUENCING BATCH REACTORS

EQUALIZATION BASIN

(20) HEADWORKS

(70) ODOR CONTROL

(60) CONTROL BUILDING

8
06-C-2018

BIOSWALE

(40) ULTRAVIOLET DISINFECTION

(10) INFLUENT PUMP STATION

GENERATOR

(80) SHOP/ ELECTRICAL BUILDING

FULTON AVENUE

EMPIRE BOULEVARD

PLAN
1"=20'

PLANT LIST

- AUSTRIAN PINE, "OREGON GREEN"
- AUSTRIAN PINE, "ARNOLD SENTINAL"
- JAPANESE WHITE PINE, "FUKAZUMI"
- RED OSIER DOGWOOD ("ASANTI"), SLOUGH SEDGE, COMMON RUSH, JAPANESE IRIS
- KINNIKINNICK
- CEANOTHUS, "POINT REYES"
- AMERICAN BEACH GRASS
- EXISTING MIXED CONIFERS TO REMAIN
- HOSE BIB

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CONSULTING ENGINEERS & GEOLOGISTS, INC.

NO.	REVISION	BY	DATE

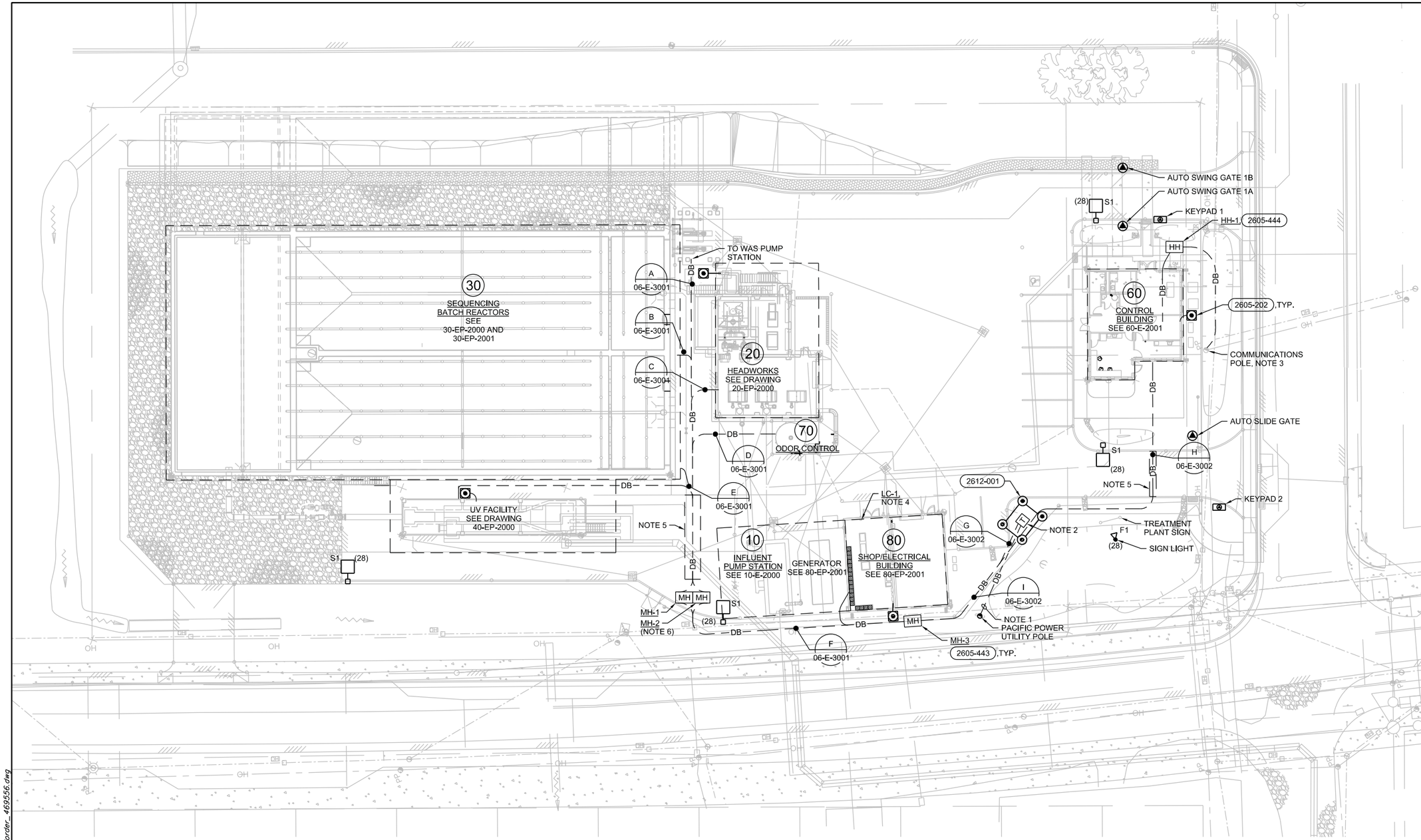
DSGN DPG
DR NER
CHK JMD
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CIVIL
LANDSCAPE PLAN

SHEET 06-C-2019
SEQ 50
DATE 12/2014
PROJ. NO. 490515

REGISTERED PROFESSIONAL ENGINEER
15,479
Daniel P. Graber
OREGON
JULY 25, 1991
DANIEL P. GRABER
EXPIRES 6/30/15

SAVED: 12/11/2014 8:26 PM DGRABER, PLOTTED: 12/12/2014 11:05 AM NICK REID
\\COOSBAYSVR1\Projects\2014\614018-WWTP2-Final\200-Dsgn-Dev-Phas\Dwgs\614018-200-LANDSCAPE.DWG



NOTES:

1. ROUTE 3-2" EMPTY CONDUITS BETWEEN POWER POLE AND UTILITY TRANSFORMER FOR PRIMARY POWER CONDUCTORS BY PACIFIC POWER. COORDINATE EXACT POLE LOCATION WITH PACIFIC POWER.
2. INSTALL CONCRETE VAULT FOR THE UTILITY TRANSFORMER AND UTILITY METER PER PACIFIC POWER'S ELECTRICAL SERVICE REQUIREMENTS.
3. COORDINATE WITH FRONTIER OR CHARTER COMMUNICATIONS ON TELEPHONE AND DATA SERVICE TO SITE, AND ON FINAL POLE LOCATION. PROVIDE AND INSTALL CABLE PER UTILITY SPECIFICATIONS.
4. SITE LIGHTS POWERED AND CONTROLLED FROM LC-1, LIGHTING CONTACTOR.
5. PROVIDE CONCRETE CAP OVER DUCTBANK IN IDENTIFIED AREA.
6. MH-1 SHALL BE USED TO ROUTE ALL POWER AND DISCRETE CONTROL CONDUCTORS. MH-2 SHALL BE USED TO ROUTE ALL COMMUNICATION AND ANALOG CABLES.

MANHOLE/HANDHOLE SCHEDULE	
NUMBER	INNER WIDTH, DEPTH, AND HEIGHT
MH-1	8'-0" x 6'-0" x 5'-0"
MH-2	4'-0" x 4'-0" x 4'-0"
MH-3	4'-0" x 4'-0" x 4'-0"
HH-1	3'-0" x 3'-0" x 3'-0"

OVERALL SITE PLAN

1"=20'

REGISTERED PROFESSIONAL ENGINEER 85946PE Digital Signature OREGON JAN 10, 2012 JASON A. CLIFFORD

EXP. 12-31-15

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SEA CONSULTING ENGINEERS & GEOLOGISTS, INC.

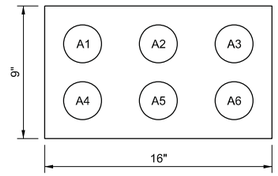
NO.	DATE	REVISION	BY

DSGN JAC
DR JG
CHK RSH
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SITE
ELECTRICAL
OVERALL SITE PLAN

SHEET 06-E-2000
SEQ 51
DATE 12/2014
PROJ. NO. 490515

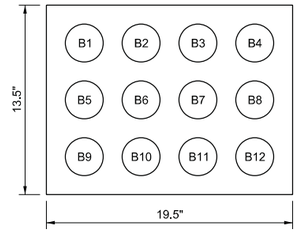
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A DUCTBANK SECTION
NTS

06-E-2000
20-EP-2000

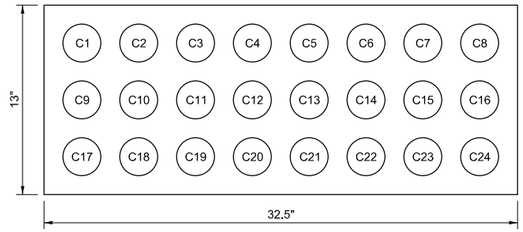
ID	SIZE	ROUTING	FUNCTION
A1	1"	WAS PUMP STATION TO ELECTRICAL ROOM	480V POWER, 120V CONTROL
A2	1"	WAS PUMP STATION TO ELECTRICAL ROOM	480V POWER, 120V CONTROL
A3	1"	WAS PUMP STATION TO ELECTRICAL ROOM	120V UPS POWER
A4	1"	WAS PUMP STATION TO ELECTRICAL ROOM	LIGHTS AND RECEPTACLES
A5	2"	WAS PUMP STATION TO ELECTRICAL ROOM	SPARE CONDUIT
A6	1"	WAS PUMP STATION TO ELECTRICAL ROOM	ANALOG



B DUCTBANK SECTION
NTS

06-E-2000, 20-EP-2000
30-EP-2001

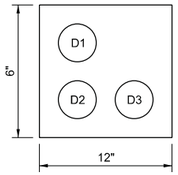
ID	SIZE	ROUTING	FUNCTION
B1	1"	SEQUENCING BATCH REACTORS TO ELECTRICAL ROOM	480V POWER
B2	1"	SEQUENCING BATCH REACTORS TO ELECTRICAL ROOM	480V POWER
B3	1"	SEQUENCING BATCH REACTORS TO ELECTRICAL ROOM	480V POWER, 120V CONTROL
B4	1"	SEQUENCING BATCH REACTORS TO ELECTRICAL ROOM	480V POWER, 120V CONTROL
B5	1 1/2"	SEQUENCING BATCH REACTORS TO ELECTRICAL ROOM	120V CONTROL
B6	1"	SEQUENCING BATCH REACTORS TO ELECTRICAL ROOM	480V POWER
B7	1"	SEQUENCING BATCH REACTORS TO ELECTRICAL ROOM	LIGHTING AND RECEPTACLES
B8	1"	SEQUENCING BATCH REACTORS TO ELECTRICAL ROOM	480V POWER
B9	2"	SEQUENCING BATCH REACTORS TO ELECTRICAL ROOM	SPARE CONDUIT
B10	1"	SEQUENCING BATCH REACTORS TO ELECTRICAL ROOM	ANALOG
B11	1 1/4"	SEQUENCING BATCH REACTORS TO ELECTRICAL ROOM	ANALOG
B12	1 1/4"	SEQUENCING BATCH REACTORS TO ELECTRICAL ROOM	ANALOG



C DUCTBANK SECTION
NTS

06-E-2000
20-EP-2000

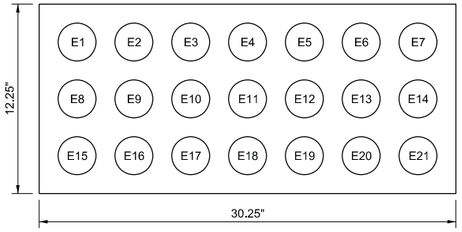
ID	SIZE	ROUTING	FUNCTION
C1	1"	HEADWORKS TO ELECTRICAL ROOM	480V POWER AND 120V CONTROL
C2	1"	HEADWORKS TO ELECTRICAL ROOM	480V POWER
C3	2"	HEADWORKS TO ELECTRICAL ROOM	480V POWER
C4	2"	HEADWORKS TO ELECTRICAL ROOM	SPARE POWER CONDUIIT
C5	1"	HEADWORKS TO ELECTRICAL ROOM	480V POWER
C6	1"	HEADWORKS TO ELECTRICAL ROOM	480V, 120V POWER
C7	1"	HEADWORKS TO ELECTRICAL ROOM	120V POWER
C8	1"	HEADWORKS TO ELECTRICAL ROOM	120V POWER
C9	2"	HEADWORKS TO ELECTRICAL ROOM	SPARE POWER CONDUIIT
C10	1 1/2"	HEADWORKS TO ELECTRICAL ROOM	120V CONTROL
C11	2"	HEADWORKS TO ELECTRICAL ROOM	480V POWER
C12	1"	HEADWORKS TO ELECTRICAL ROOM	480V POWER, AND 120V CONTROL
C13	1"	HEADWORKS TO ELECTRICAL ROOM	480V POWER, AND 120V CONTROL
C14	1"	HEADWORKS TO ELECTRICAL ROOM	480V POWER
C15	1"	HEADWORKS TO ELECTRICAL ROOM	480V POWER
C16	1"	HEADWORKS TO ELECTRICAL ROOM	LIGHTING AND RECEPTACLES
C17	1 1/2"	HEADWORKS TO ELECTRICAL ROOM	120V CONTROL POWER
C18	1"	HEADWORKS TO ELECTRICAL ROOM	LIGHTING AND RECEPTACLES
C19	1"	HEADWORKS TO ELECTRICAL ROOM	120V POWER
C20	2"	HEADWORKS TO ELECTRICAL ROOM	FIBEROPTIC CABLE
C21	1"	HEADWORKS TO ELECTRICAL ROOM	ANALOG
C22	1 1/2"	HEADWORKS TO ELECTRICAL ROOM	ANALOG
C23	1 1/4"	HEADWORKS TO ELECTRICAL ROOM	ANALOG
C24	2"	HEADWORKS TO ELECTRICAL ROOM	SPARE ANALOG CONDUIIT



D DUCTBANK SECTION
NTS

06-E-2000

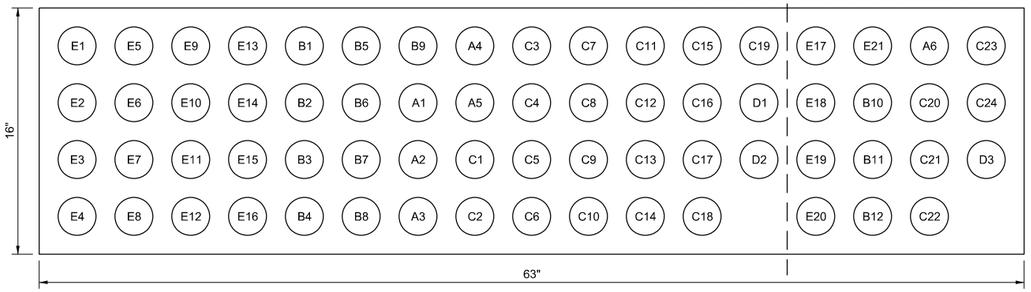
ID	SIZE	ROUTING	FUNCTION
D1	1"	HEADWORKSODOR CONTROL	480V POWER
D2	1"	HEADWORKS TO ELECTRICAL ROOM	120V CONTROL
D3	1"	HEADWORKS TO ELECTRICAL ROOM	ANALOG



E DUCTBANK SECTION
NTS

06-E-2000
30-EP-2001

ID	SIZE	ROUTING	FUNCTION
E1	1"	UV FACILITY TO ELECTRICAL ROOM	480V POWER
E2	1"	UV FACILITY TO ELECTRICAL ROOM	480V POWER, 120V CONTROL
E3	1"	UV FACILITY TO ELECTRICAL ROOM	480V POWER, 120V CONTROL
E4	1"	UV FACILITY TO ELECTRICAL ROOM	120V CONTROL
E5	1"	UV FACILITY TO ELECTRICAL ROOM	120V POWER
E6	2"	UV FACILITY TO ELECTRICAL ROOM	SPARE POWER CONDUIT
E7	1"	UV FACILITY TO ELECTRICAL ROOM	480V POWER
E8	1"	UV FACILITY TO ELECTRICAL ROOM	LIGHTS AND RECEPTACLES
E9	1"	UV FACILITY TO ELECTRICAL ROOM	120V CONTROL
E10	1"	UV FACILITY TO ELECTRICAL ROOM	480V POWER
E11	1"	UV FACILITY TO ELECTRICAL ROOM	120V POWER
E12	1"	UV FACILITY TO ELECTRICAL ROOM	480V POWER
E13	1"	UV FACILITY TO ELECTRICAL ROOM	480V POWER
E14	2"	UV FACILITY TO ELECTRICAL ROOM	SPARE POWER CONDUIT
E15	1"	UV FACILITY TO ELECTRICAL ROOM	480V POWER
E16	1"	UV FACILITY TO ELECTRICAL ROOM	480V POWER
E17	2"	UV FACILITY TO ELECTRICAL ROOM	SPARE ANALOG CONDUIT
E18	1"	UV FACILITY TO ELECTRICAL ROOM	ANALOG
E19	1"	UV FACILITY TO ELECTRICAL ROOM	TYPE 30
E20	1 1/4"	UV FACILITY TO ELECTRICAL ROOM	ANALOG
E21	1"	UV FACILITY TO ELECTRICAL ROOM	ANALOG



F DUCTBANK SECTION
NTS

06-E-2000

ID	SIZE	ROUTING	FUNCTION
E1	1"	UV FACILITY TO ELECTRICAL ROOM	480V POWER
E2	1"	UV FACILITY TO ELECTRICAL ROOM	480V POWER, 120V CONTROL
E3	1"	UV FACILITY TO ELECTRICAL ROOM	480V POWER, 120V CONTROL
E4	1"	UV FACILITY TO ELECTRICAL ROOM	120V CONTROL
E5	1"	UV FACILITY TO ELECTRICAL ROOM	120V POWER
E6	2"	UV FACILITY TO ELECTRICAL ROOM	SPARE POWER CONDUIT
E7	1"	UV FACILITY TO ELECTRICAL ROOM	480V POWER
E8	1"	UV FACILITY TO ELECTRICAL ROOM	LIGHTS AND RECEPTACLES
E9	1"	UV FACILITY TO ELECTRICAL ROOM	120V CONTROL
E10	1"	UV FACILITY TO ELECTRICAL ROOM	480V POWER
E11	1"	UV FACILITY TO ELECTRICAL ROOM	120V POWER
E12	1"	UV FACILITY TO ELECTRICAL ROOM	480V POWER
E13	1"	UV FACILITY TO ELECTRICAL ROOM	480V POWER
E14	2"	UV FACILITY TO ELECTRICAL ROOM	SPARE POWER CONDUIT
E15	1"	UV FACILITY TO ELECTRICAL ROOM	480V POWER
E16	1"	UV FACILITY TO ELECTRICAL ROOM	480V POWER
B1	1"	SEQUENCING BATCH REACTORS TO ELECTRICAL ROOM	480V POWER
B2	1"	SEQUENCING BATCH REACTORS TO ELECTRICAL ROOM	480V POWER
B3	1"	SEQUENCING BATCH REACTORS TO ELECTRICAL ROOM	480V POWER, 120V CONTROL
B4	1"	SEQUENCING BATCH REACTORS TO ELECTRICAL ROOM	480V POWER, 120V CONTROL
B5	1 1/2"	SEQUENCING BATCH REACTORS TO ELECTRICAL ROOM	120V CONTROL
B6	1"	SEQUENCING BATCH REACTORS TO ELECTRICAL ROOM	480V POWER

ID	SIZE	ROUTING	FUNCTION
B7	1"	SEQUENCING BATCH REACTORS TO ELECTRICAL ROOM	LIGHTING AND RECEPTACLES
B8	1"	SEQUENCING BATCH REACTORS TO ELECTRICAL ROOM	480V POWER
B9	2"	SEQUENCING BATCH REACTORS TO ELECTRICAL ROOM	SPARE CONDUIT
A1	1"	WAS PUMP STATION TO ELECTRICAL ROOM	480V POWER, 120V CONTROL
A2	1"	WAS PUMP STATION TO ELECTRICAL ROOM	480V POWER, 120V CONTROL
A3	1"	WAS PUMP STATION TO ELECTRICAL ROOM	120V UPS POWER
A4	1"	WAS PUMP STATION TO ELECTRICAL ROOM	LIGHTS AND RECEPTACLES
A5	2"	WAS PUMP STATION TO ELECTRICAL ROOM	SPARE CONDUIT
C1	1"	HEADWORKS TO ELECTRICAL ROOM	480V POWER AND 120V CONTROL
C2	1"	HEADWORKS TO ELECTRICAL ROOM	480V POWER
C3	2"	HEADWORKS TO ELECTRICAL ROOM	480V POWER
C4	2"	HEADWORKS TO ELECTRICAL ROOM	SPARE CONDUIIT
C5	1"	HEADWORKS TO ELECTRICAL ROOM	480V POWER
C6	1"	HEADWORKS TO ELECTRICAL ROOM	480V, 120V POWER
C7	1"	HEADWORKS TO ELECTRICAL ROOM	120V POWER
C8	1"	HEADWORKS TO ELECTRICAL ROOM	120V POWER
C9	2"	HEADWORKS TO ELECTRICAL ROOM	SPARE CONDUIIT
C10	1 1/2"	HEADWORKS TO ELECTRICAL ROOM	120V CONTROL
C11	2"	HEADWORKS TO ELECTRICAL ROOM	480V POWER
C12	1"	HEADWORKS TO ELECTRICAL ROOM	480V POWER, AND 120V CONTROL
C13	1"	HEADWORKS TO ELECTRICAL ROOM	480V POWER, AND 120V CONTROL
C14	1"	HEADWORKS TO ELECTRICAL ROOM	480V POWER

ID	SIZE	ROUTING	FUNCTION
C15	1"	HEADWORKS TO ELECTRICAL ROOM	480V POWER
C16	1"	HEADWORKS TO ELECTRICAL ROOM	LIGHTING AND RECEPTACLES
C17	1 1/2"	HEADWORKS TO ELECTRICAL ROOM	120V CONTROL POWER
C18	1"	HEADWORKS TO ELECTRICAL ROOM	LIGHTING AND RECEPTACLES
C19	1"	HEADWORKS TO ELECTRICAL ROOM	120V POWER
D1	1"	HEADWORKSODOR CONTROL	480V POWER
D2	1"	HEADWORKS TO ELECTRICAL ROOM	120V CONTROL
E17	2"	UV FACILITY TO ELECTRICAL ROOM	SPARE ANALOG CONDUIT
E18	1"	UV FACILITY TO ELECTRICAL ROOM	ANALOG
E19	1"	UV FACILITY TO ELECTRICAL ROOM	TYPE 30
E20	1 1/4"	UV FACILITY TO ELECTRICAL ROOM	ANALOG
E21	1"	UV FACILITY TO ELECTRICAL ROOM	ANALOG
B10	1"	SEQUENCING BATCH REACTORS TO ELECTRICAL ROOM	ANALOG
B11	1 1/4"	SEQUENCING BATCH REACTORS TO ELECTRICAL ROOM	ANALOG
B12	1 1/4"	SEQUENCING BATCH REACTORS TO ELECTRICAL ROOM	ANALOG
A6	1"	WAS PUMP STATION TO ELECTRICAL ROOM	ANALOG
C20	2"	HEADWORKS TO ELECTRICAL ROOM	FIBEROPTIC CABLE
C21	1"	HEADWORKS TO ELECTRICAL ROOM	ANALOG
C22	1 1/2"	HEADWORKS TO ELECTRICAL ROOM	ANALOG
C23	1 1/4"	HEADWORKS TO ELECTRICAL ROOM	ANALOG
C24	2"	HEADWORKS TO ELECTRICAL ROOM	SPARE ANALOG CONDUIIT
D3	1"	HEADWORKS TO ELECTRICAL ROOM	ANALOG

REGISTERED PROFESSIONAL ENGINEER
85946PE
Digital Signature
OREGON
JAN 10, 2012
JASON A. CLIFFORD
EXP. 12-31-15

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CHK RSH
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SITE
ELECTRICAL
DUCTBANK SECTIONS

SHEET 06-E-3001
SEQ 52
DATE 12/2014
PROJ. NO. 490515

SAVED: 7/1/2013 9:56 AM PHAMLIN, PLOTTED: ---- HAMLIN, PRISCILLA/CVO
C:\pw_workdir\ch2mhill_wbg\phamlin\d02569671\Border_469556.dwg

G DUCTBANK SECTION
NTS
06-E-2000

ID	SIZE	ROUTING	FUNCTION
G1	4"	UTILITY TRANSFORMER TO ELECTRICAL ROOM	480V POWER
G2	4"	UTILITY TRANSFORMER TO ELECTRICAL ROOM	480V POWER
G3	4"	UTILITY TRANSFORMER TO ELECTRICAL ROOM	480V POWER

H DUCTBANK SECTION
NTS
06-E-2000

ID	SIZE	ROUTING	FUNCTION
H1	1"	CONTROL BUILDING TO ELECTRICAL ROOM	480Y POWER
H2	1"	CONTROL BUILDING TO ELECTRICAL ROOM	480Y POWER
H3	2"	CONTROL BUILDING TO ELECTRICAL ROOM	SPARE CONDUIT
H4	2"	CONTROL BUILDING TO ELECTRICAL ROOM	FIBER

I DUCTBANK SECTION
NTS
06-E-2000

ID	SIZE	ROUTING	FUNCTION
G1	4"	UTILITY TRANSFORMER TO ELECTRICAL ROOM	480V POWER
G2	4"	UTILITY TRANSFORMER TO ELECTRICAL ROOM	480V POWER
G3	4"	UTILITY TRANSFORMER TO ELECTRICAL ROOM	480V POWER
H1	1"	CONTROL BUILDING TO ELECTRICAL ROOM	480V POWER
H2	1"	CONTROL BUILDING TO ELECTRICAL ROOM	480V POWER
H3	2"	CONTROL BUILDING TO ELECTRICAL ROOM	SPARE CONDUIT
H4	2"	CONTROL BUILDING TO ELECTRICAL ROOM	FIBER

REGISTERED PROFESSIONAL ENGINEER
85946PE
Digital Signature
OREGON
JAN. 10, 2012
JASON A. CLIFFORD
EXP. 12-31-15

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APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SITE
ELECTRICAL
DUCTBANK SECTIONS

SHEET 06-E-3002
SEQ 52A
DATE 12/2014
PROJ. NO. 490515

SAVED: 7/1/2013 9:56 AM PHAMLIN, PLOTTED: ---- HAMLIN, PRISCILLA/CVO
C:\pw_workdir\ch2mhill_wbg\phamlin\d0256967\Border_469556.dwg

E80CP0101

E80PLC0101
PLANT PLC

E10FG0101 OPND
E10FG0101 CLSD
E10FG0101 REM
E10FG0101 OPN
E10FG0101 CLS
E10LIT0201 LVL
E10LSHH0201 HIHI
E10ISR0201 ON
E10LSLL0201 LOLO
E10P0301 REM
E10P0301 FAIL
E10P0301 ON
E10P0301 MOIST
E10P0301 TEMP
E10P0301 RUN
E10P0301 SPD
E10P0301 SPDFB
E10PIT0401 PRES
E10PIT0601 PRES
E10AET0801 ALM
E10AET0801 LEL
E10AET0801 TROUBLE
E10YA0801 ALM

120V
120V UPS

E10YA 0801 **
E10YL 0801 **

E10PIT 0601
E10PE 0601 A1

RS
0102 09-I-0002
TO INFLUENT SCREENS

E10PIT 0401
E10PE 0401 A1

RS
0101 09-I-0002
TO INFLUENT SCREENS

NETWORK I/O

24VDC
E10CS0201 ISR

(2) (2) (2) (1) (2)

E10AET 0801 LEL

FA
0103 09-I-0016
TO ODOR CONTROL

E10AFD0301 **
RESET
E10HS 0301
E10TY 0301
ON E10YL 0301
MAH E10YA 0301A
TAH E10YA 0301B

480V

E10LI 0201

E10ZS 0101 *
E10HS 0101A *
LR
OSC
E10HS 0101B *
M
480V

E10LSHH 0201

"POWER"
M
E10MSH 0301 *
E10TSH 0301 *
AS
RS

E10ARV0301
F

RS
FROM GRAVITY SYSTEM
E10FG0101 INFLUENT GATE
"MSC"

PD
PLANT DRAIN
E10LT 0201 A1

E10LSLL 0201

E10P0301 INFLUENT PUMP 1
TYPICAL OF (5)

E10P0302 INFLUENT PUMP 2
(SIMILAR TO LEFT)

E10P0303 INFLUENT PUMP 3
(SIMILAR TO LEFT)

E10P0304 INFLUENT PUMP 4
(SIMILAR TO LEFT)

E10P0305 INFLUENT PUMP 5
(SIMILAR TO LEFT)

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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INSTRUMENTATION AND CONTROL

INFLUENT PUMP STATION

REGISTERED PROFESSIONAL ENGINEER
65653PE
Digital Signature
OREGON
JANUARY 14, 2009
DONALD PAUL WATSON
EXP. 06-30-2016

SHEET 09-I-0001
SEQ 53
DATE 12/2014
PROJ. NO. 490515

09-I-0001_469556.dgn

E80CP0101

E80PLC0101
PLANT PLC

E10FIT0701 FLOW
E10FIT0501 FLOW
E20YA0801 ALM
E20AY0801 LO
E20AET0801 ALM
E20AET0801 LEL
E20AET0801 TROUBLE
E20LSHH0201 HIHI
E20LIT0301 LVL

09-I-0005 0503 FA
FROM GRIT SNAIL

09-I-0007 0701 FA
FROM SCREENINGS DISPOSAL

09-I-0004 0404 FA
FROM HEAD CELL

09-I-0001 0102 RS
FROM INFLUENT PUMP STATION

09-I-0001 0101 RS
FROM INFLUENT PUMP STATION

FA 0204 09-I-0016
TO ODOR CONTROL

24VDC
E20CS0201 ISR

E20YA 0801A **
E20YL 0801A **
E20YA 0801B **
E20YL 0801B **
E20AY 0801 A1
FLOW
LEL
E20AET 0801

E20LI 0301
"MSC"
STOP LOG TYP.

E20LSHH 0201
E20LT 0301 A1

120V UPS
E10FIT 0701
"MSC" (2)
M
E10FE 0701 A1

120V UPS
E10FIT 0501
"MSC" (2)
M
E10FE 0501 A1

SCREENINGS CHANNEL
CONTINUED ON NEXT SHEET

E20G1001
INFLUENT SCREEN 1
INFLUENT GATE

RS 0201 09-I-0003
TO INFLUENT SCREEN 1

E20G1002
INFLUENT SCREEN 2
INFLUENT GATE

RS 0202 09-I-0003
TO INFLUENT SCREEN 2

RS 0203 09-I-0003
TO INFLUENT MANUAL BAR SCREEN

RS

REGISTERED PROFESSIONAL ENGINEER
65653PE
Digital Signature
OREGON
JANUARY 14, 2005
DONALD PAUL WATSON
EXP. 06-30-2016

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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INSTRUMENTATION AND CONTROL

HEADWORKS–INFLUENT SCREENS UPSTREAM SECTION

SHEET 09-I-0002
SEQ 54
DATE 12/2014
PROJ. NO. 490515

09-I-0002_469556.dgn

E80CP0101

E80PLC0101
PLANT PLC

E20PSL2201 LOW

E20M1101 REM
E20M1101 ESTOP
E20FV1401 OPN
E20M1101 RUN
E20M1101 ON
E20M1101 HIAMP
E20M1101 SSL
E20M1101 AMPS

E20LIT1301 LVL

E20SAMP0101 FLOW
E20SAMP0101 FAIL
E20SAMP0101 FULL

MCC **
OOR RESET HI AMP ON SSL
E20HS 1101A
E20HS 1101B
E20IT 1101
E20YA 1101A
E20YL 1101
E20YA 1101B

E20SSL 1101 *
"MSC"
"POWER"
E20SE 1101 *
M
CS
ESTOP
E20HS 1101C **

E20LI 1301
"MSC"

SCREENINGS CHANNEL CONTINUED ON NEXT SHEET

SRS 0301 09-I-0004
BYPASS TO SPLITTER BOX

TUBING
120V UPS
E20SAMP0101 * INFLUENT SAMPLER
SS

SCREENINGS CHANNEL CONTINUED FROM PREVIOUS SHEET

09-I-0002 0201 RS
FROM INFLUENT GATE 1

E20M1101 INFLUENT SCREEN 1

E20PI 1101A *
E20PI 1101B *

STOP LOG TYP.

E20LT 1301
A1

SCR 0302 09-I-0006
TO SCREENINGS WASHER/COMPACTOR 1

SRS 0303 09-I-0004
TO HEAD CELL

E20PI 2201A
E20PI 2201B
E20PSL 2201
W3
E20PRV 2201
FC
E20FV 1401 *
W3
W3
0304 09-I-0006
TO SCREENINGS WASHER/COMPACTOR 1

TYPICAL OF (2)

09-I-0002 0202 RS
FROM INFLUENT GATE 2

ESTOP
E20HS 1102C **
E20M1102 INFLUENT SCREEN 2

E20SSL 1102 *

SCR 0305 09-I-0006
TO SCREENINGS WASHER/COMPACTOR 2

E20SE 1102 *
E20FV 1402 *
E20PI 1102A *
E20PI 1102B *
W3
0306 09-I-0006
TO SCREENINGS WASHER/COMPACTOR 2

(SIMILAR TO ABOVE)

PD
PLANT DRAIN FROM GRIT SNAIL AND COMPACTORS

09-I-0002 0203 RS
INFLUENT BYPASS

REGISTERED PROFESSIONAL ENGINEER 65653PE OREGON JANUARY 14, 2000 DONALD PAUL WATSON
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EXP. 06-30-2016

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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INSTRUMENTATION AND CONTROL

HEADWORKS INFLUENT SCREENS

SHEET 09-I-0003
SEQ 55
DATE 12/2014
PROJ. NO. 490515

09-I-0003_469556.dgn

E80CP0101

E80PLC0101
PLANT PLC

E20FG3201 POS
E20FG3201 POSFB
E20FG3201 REM

E20P4001 REM
E20P4001 RUN
E20P4001 ON

BID ALTERNATES, SEE SPEC SECTION 00 05 00, CONSTRUCTION SERVICES AGREEMENT

SCREENINGS CHANNEL CONTINUED FROM PREVIOUS SHEET

STOP LOG, TYP

E20G3101
HEAD CELL
BYPASS GATE

09-I-0003 0301 SRS
FROM
INFLUENT SCREENS

MCC **
OOR
E20HS 4001
E20YL 4001

502 09-I-0005
FROM
GRIT SNAIL ESTOP

FA
FA
0404 09-I-0002
TO
ODOR CONTROL

09-I-0005 0504 W3
FROM GRIT
WASHING

E20FI 3501

HEAD CELL

"POWER"

E20ZIT 3201

OSC LR
E20HS 3201B
E20HS 3201A
M
480V

E20FG3201
HEAD CELL
EFFLUENT GATE 1

FA
SRS
SRS
0401 09-I-0009
TO SBR 1

TYPICAL OF (2)

E20FG3202
HEAD CELL
EFFLUENT GATE 2

(SIMILAR TO ABOVE)

SRS
SRS
0402 09-I-0009
TO SBR 2

09-I-0003 0303 SRS
FROM
INFLUENT SCREENS

E20G3001
HEAD CELL
INFLUENT GATE

F
M
E20PI 4101
F
GS
0403 09-I-0005
TO
SLURRY CUP

GS
CS
E20PE 4101 A1

E20P4001
GRIT PUMP 1

TYPICAL OF (2)

BID ALTERNATES, SEE SPEC SECTION 00 05 00, CONSTRUCTION SERVICES AGREEMENT

GS
504 09-I-0005
FROM
GRIT SNAIL ESTOP

E20P4002
GRIT PUMP 2

(SIMILAR TO ABOVE)

REGISTERED PROFESSIONAL ENGINEER
65653PE
Digital Signature
OREGON
JANUARY 14, 2005
DONALD PAUL WATSON
EXP. 06-30-2016

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CHK	LW
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INSTRUMENTATION AND CONTROL

HEADWORKS
GRIT SEPARATORS

SHEET 09-I-0004
SEQ 56
DATE 12/2014
PROJ. NO. 490515

09-I-0004_469556.dgn

E80CP0101

E80PLC0101
PLANT PLC

E20PSL5201 LOW
E20FV6101 OPN
E20FV5601 OPN
E20FV5301 OPN
E20FV5401 OPEN
E20FV5401 CLOSE
E20FV5401 OPND
E20FV5401 CLSD
E20FV5401 REM
E20M6001 SSL
E20M6001 ESTOP
E20M6001 REM
E20M6001 ON
E20M6001 FAIL
E20M6001 RUN
E20M6001 SPDFB
E20M6001 SPD

NETWORK I/O

E20AFD6001 **
SSL E20YA 6001
RESET E20HS 6001A
ON E20YL 6001
480V

09-I-0004 0502
TO GRIT PUMP 1

09-I-0004 0504
TO GRIT PUMP 2

ESTOP E20HS 6001B **

BID ALTERNATES, SEE SPEC SECTION 00 05 00, CONSTRUCTION SERVICES AGREEMENT

09-I-0004 0403
FROM GRIT PUMPING

GS

E20PE 5011 A1
E20PI 5011
E20PI 5501 *
E20PI 5701 *
E20PI 6201 *
E20PI 5201A
E20PI 5201B
E20PSL 5201
E20PRV 5201

FC E20FV 5301 *
FC E20FV 5601 *
FC E20FV 6101 *

V
E20M5001 * SLURRY CUP

PD

"POWER"
M AS
E20SSL 6001 *
"MSC"
E20SE 6001 *

1 2 3 OSC LR
E20HS 5401B * E20HS 5401A *
480V

GRIT UNDERFLOW VALVE
E20FV 5401 *

E20M6001 * GRIT SNAIL

FA 0503 09-I-0002
TO ODOR CONTROL

GR 0501 09-I-0007
TO DUMPSTER

PLANT DRAIN

W3

0504 09-I-0004
TO HEAD CELL

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APVD CWM

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INSTRUMENTATION AND CONTROL

HEADWORKS
GRIT WASHING AND DEWATERING

REGISTERED PROFESSIONAL ENGINEER 65653PE OREGON JANUARY 14, 2005 DONALD PAUL WATSON
Digital Signature
EXP. 06-30-2016

SHEET 09-I-0005
SEQ 57
DATE 12/2014
PROJ. NO. 490515

09-I-0005_469556.dgn

E80CP0101

E80PLC0101
PLANT PLC

E20M2101 AMPS
E20M2101 HIAMP
E20M2101 REM
E20M2101 RUNFWD
E20M2101 RUNREV
E20M2101 FWD
E20M2101 REV
E20M2101 ESTOP

F

09-I-0003 0302
FROM SCREEN 1
SCR

SCR

W3

W3
0304 09-I-0003
FROM SCREEN 1

MCC **

LR FOR RESET
HI AMP FWD REV

E20IT 2101
E20HS 2101A
E20HS 2101B
E20HS 2101C
E20YAL 2101
E20YF 2101
E20YR 2101

ESTOP
E20HS 2101D *

"POWER"
M
CS-R

E20M2101 *
SCREENINGS
COMPACTOR 1

PD

PD
TO
SCREEN CHANNEL

TYPICAL OF (2)

SCR

SCR
0601 09-I-0007
TO
SCREENINGS TRANSFER

09-I-0003 0305
FROM SCREEN 2
SCR

W3
0306 09-I-0003
SCREEN 2

E20M2102
SCREENINGS
COMPACTOR 2

(SIMILAR TO ABOVE)

SCR

SCR
0602 09-I-0007
TO
SCREENINGS TRANSFER

REGISTERED PROFESSIONAL ENGINEER
65653PE
Digital Signature
OREGON
JANUARY 14, 2005
DONALD PAUL WATSON
EXP. 06-30-2016

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NO.	DATE	REVISION	BY

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DR	MN
CHK	LW
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INSTRUMENTATION AND CONTROL

HEADWORKS
SCREENINGS

SHEET 09-I-0006
SEQ 58
DATE 12/2014
PROJ. NO. 490515

09-I-0006_469556.dgn

E80CP0101

E80PLC0101
PLANT PLC

E20M2701 ESTOP
E20M2701 REM
E20M2701 RUN
E20M2701 ON

E20M2801 ESTOP
E20M2801 REM
E20M2801 RUN
E20M2801 ON

09-I-0006 0601
FROM SCREENINGS COMPACTOR 1
SCR

09-I-0006 0602
FROM SCREENINGS COMPACTOR 2
SCR

MCC **
OOR ON
E20HS 2701A
E20YL 2701

ESTOP
E20HS 2701B *

"POWER"

M
CS

E20M2701
SCREENINGS TRANSFER CONVEYOR

SCR

MCC **
OOR ON
E20HS 2801A
E20YL 2801

ESTOP
E20HS 2801B *

"POWER"

M
CS

E20M2801
SCREENINGS DISCHARGE CONVEYOR

FA
0701 09-I-0002
TO ODOR CONTROL

FLOOR HATCH CHUTE

BID ALTERNATES, SEE SPEC SECTION 00 05 00, CONSTRUCTION SERVICES AGREEMENT

09-I-0005 0501
FROM GRIT SNAIL
GR

GRIT TO LANDFILL DISPOSAL

SCREENINGS TO LANDFILL DISPOSAL

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

CH2MHILL®

SHN
CONSULTING ENGINEERS & GEOLOGISTS, INC.

NO.	REVISION	BY	DATE

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DR MN
CHK LW
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INSTRUMENTATION AND CONTROL

SCREENINGS DISPOSAL

REGISTERED PROFESSIONAL ENGINEER
65653PE
Digital Signature
OREGON
JANUARY 14, 2005
DONALD PAUL WATSON
EXP. 06-30-2016

SHEET 09-I-0007
SEQ 59
DATE 12/2014
PROJ. NO. 490515

09-I-0007_469556.dgn

E30CP1100 ✳

E30PLC1100 ✳
SBR PKG PLC

E30LIT2201 LVL

E30M2001 REM
E30M2001 RUN
E30M2001 ON
E30M2001 LEAK
E30TY2001 TEMP

E30AIT2401 pH
E30AIT2401 DO
E30AIT2401 TSS
E30LSH2301 HI

E30M2101 REM
E30M2101 FAIL
E30M2101 RSFB
E30M2101 LWFB
E30M2101 RS
E30M2101 LWR
E30M2101 SPD
E30M2101 SPDFB

120V
120V UPS

24VDC
E30CS2301 ISR

480V
E30LCP2101 ✳
E30AFD2101

MCC ✳✳
OOR RESET ON MAH TAH
E30HS 2001A
E30HS 2001B
E30YL 2001
E30YA 2001A
E30YA 2001B

E30LI 2201

E30CS2001 ✳
E30TY 2001

E30AIT 2401 ✳
120V UPS
"MSC" (3)

E30AE 2401A ✳ pH
E30AE 2401B ✳ DO
E30AE 2401C ✳ TSS

E30LSH 2301

E30YL 2101A RS
E30YL 2101B LWR
E30HS 2101A LR
E30HS 2101B RS
E30HS 2101C LWR
"POWER"
E30ZSL 2101 ✳
E30ZSR 2101 ✳

"POWER"
M CS
E30MSH 2001 ✳
E30TSH 2001 ✳

M AS

E30M2101 ✳
BASIN 2
DECANTER

TOP WATER LEVEL

09-I-0004 0402
SRS
FROM HEAD CELL
SPLITTER BOX

E30LT 2201 A1

E30M2001 ✳
BASIN 2
MIXER 1

TYPICAL OF (2)

E30M2002 ✳
BASIN 2
MIXER 2

(SIMILAR TO LEFT)

BOTTOM WATER LEVEL

SE
SE
0902 09-I-0013
TO EQUALIZATION BASIN

WAS
0904 09-I-0010
TO WAS PUMPS

PERFORATED PIPE

E30G2601
BASIN 2
DRAIN GATE

PD

PRE-REACT ZONE
MAIN ZONE

SBR 2

TYPICAL OF (2)

E30G1701

09-I-0004 0401
SRS
FROM HEAD CELL
SPLITTER BOX

PD

PLANT
DRAIN

E30G1601
BASIN 1
DRAIN GATE

E30LL 1201
E30LT 1201 A1

E30M1001 ✳
BASIN 1
MIXER 1

E30M1002 ✳
BASIN 1
MIXER 2

E30LSH 1301
E30AIT 1401 ✳
E30AE 1401A ✳ pH
E30AE 1401B ✳ DO
E30AE 1401C ✳ TSS

E30M1101 ✳
BASIN 1
DECANTER

E30LCP1101 ✳

E30ZSL 1101 ✳
E30ZSR 1101 ✳

SE
0901 09-I-0013
TO EQUALIZATION BASIN

WAS
0903 09-I-0010
TO WAS PUMPS

SBR 1

(SIMILAR TO ABOVE)

NOTE:
SEE DRAWING 09-I-0012 FOR PROCESS AIR

REGISTERED PROFESSIONAL ENGINEER
65653PE
Digital Signature
OREGON
JANUARY 14, 2009
DONALD PAUL WATSON
EXP. 06-30-2016

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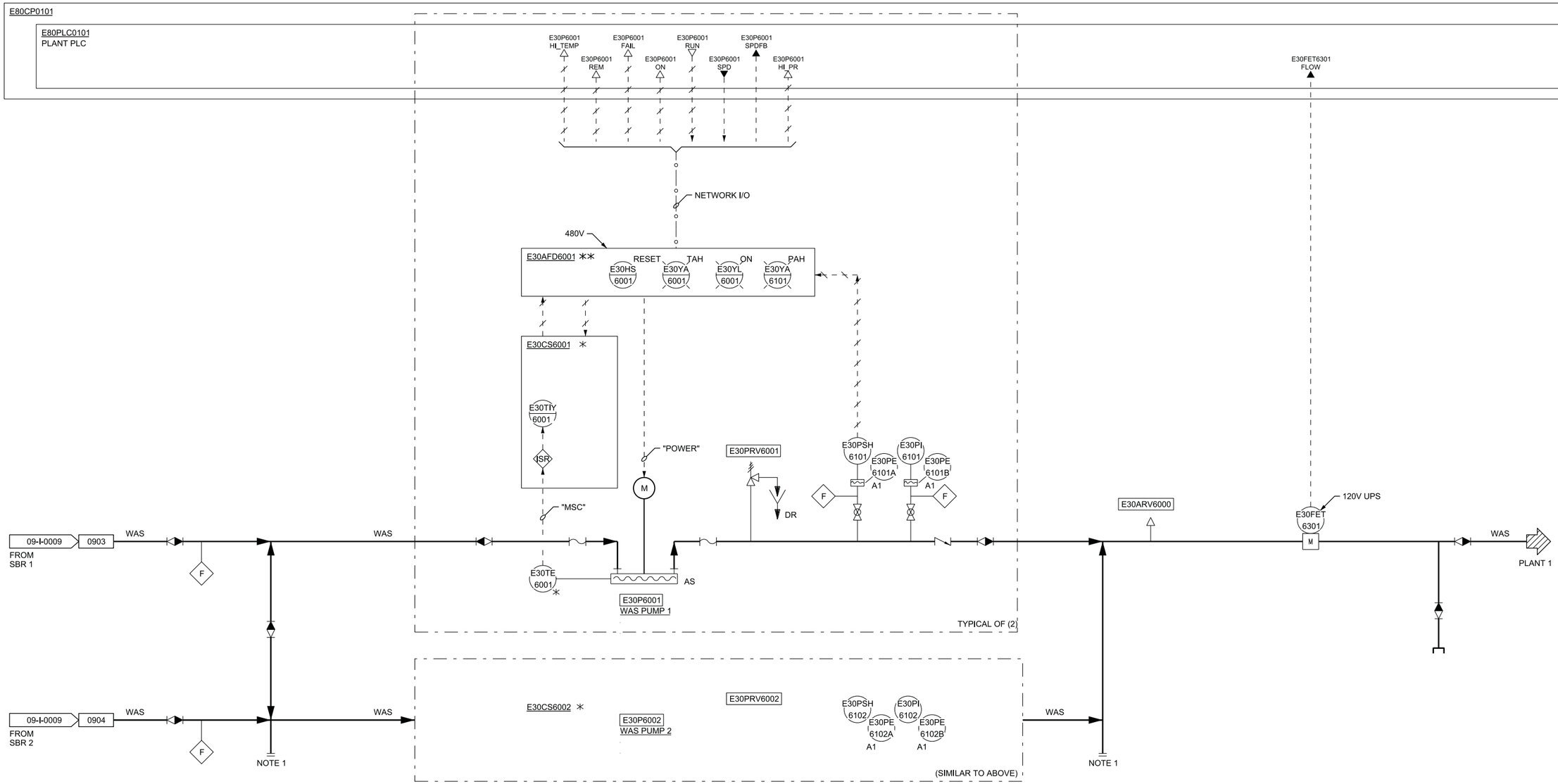
DSGN	DW
DR	MN
CHK	LW
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INSTRUMENTATION AND CONTROL

SEQUENCING BATCH REACTORS LIQUIDS

SHEET 09-I-0009
SEQ 60
DATE 12/2014
PROJ. NO. 490515

09-I-0009_469556.dgn



NOTES:

1. FOR FUTURE WAS PUMP 3.

REGISTERED PROFESSIONAL ENGINEER 65653PE Digital Signature OREGON JANUARY 14, 2009 DONALD PAUL WATSON

EXP. 06-30-2016

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CHK	LW
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INSTRUMENTATION AND CONTROL

WAS PUMP STATION

SHEET 09-I-0010
SEQ 61
DATE 12/2014
PROJ. NO. 490515

09-I-0010_469556.dgn

E30CP1100 ✳

E30PLC1100 ✳
SBR PKG PLC

E32M0101 REM
E32M0101 FAIL
E32M0101 ALARM
E32M0101 READY
E32M0101 RUN
E32M0101 SPDFB
E32M0101 SPEED
E32M0101 ESTOP
E32M0101 AMPS

E32PIT0301 PRESS
E32PIT0302 PRESS

TO PLANT SCADA

120V
120V UPS
E32LCP0101 ✳

480V
E32AFD0101 ✳✳

"POWER"

E32TSH 0101 ✳
M
AS
E32PRV0101 ✳
E32PI 0201 ✳

OUTSIDE AIR
S
S ✳
S ✳
✳
✳
ALP

E32M0101 ✳
PROCESS AIR BLOWER 1

TYPICAL OF (2)

E32PIT 0301

ALP
1101 09-I-0012
TO SBR 1

E32PIT 0302
NOTE 1

ALP
1102 09-I-0012
TO SBR 2

E32LCP0101 ✳

E32TSH 0102 ✳
E32PRV0102 ✳
E32PI 0202 ✳

OUTSIDE AIR
S

E32M0102 ✳
PROCESS AIR BLOWER 2

ALP

(SIMILAR TO ABOVE)

NOTES:
1. FOR FUTURE BUTTERFLY VALVE CONNECTION ASSOCIATED WITH SBR 3.

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Digital Signature
OREGON
JANUARY 14, 2005
DONALD PAUL WATSON
EXP. 06-30-2016

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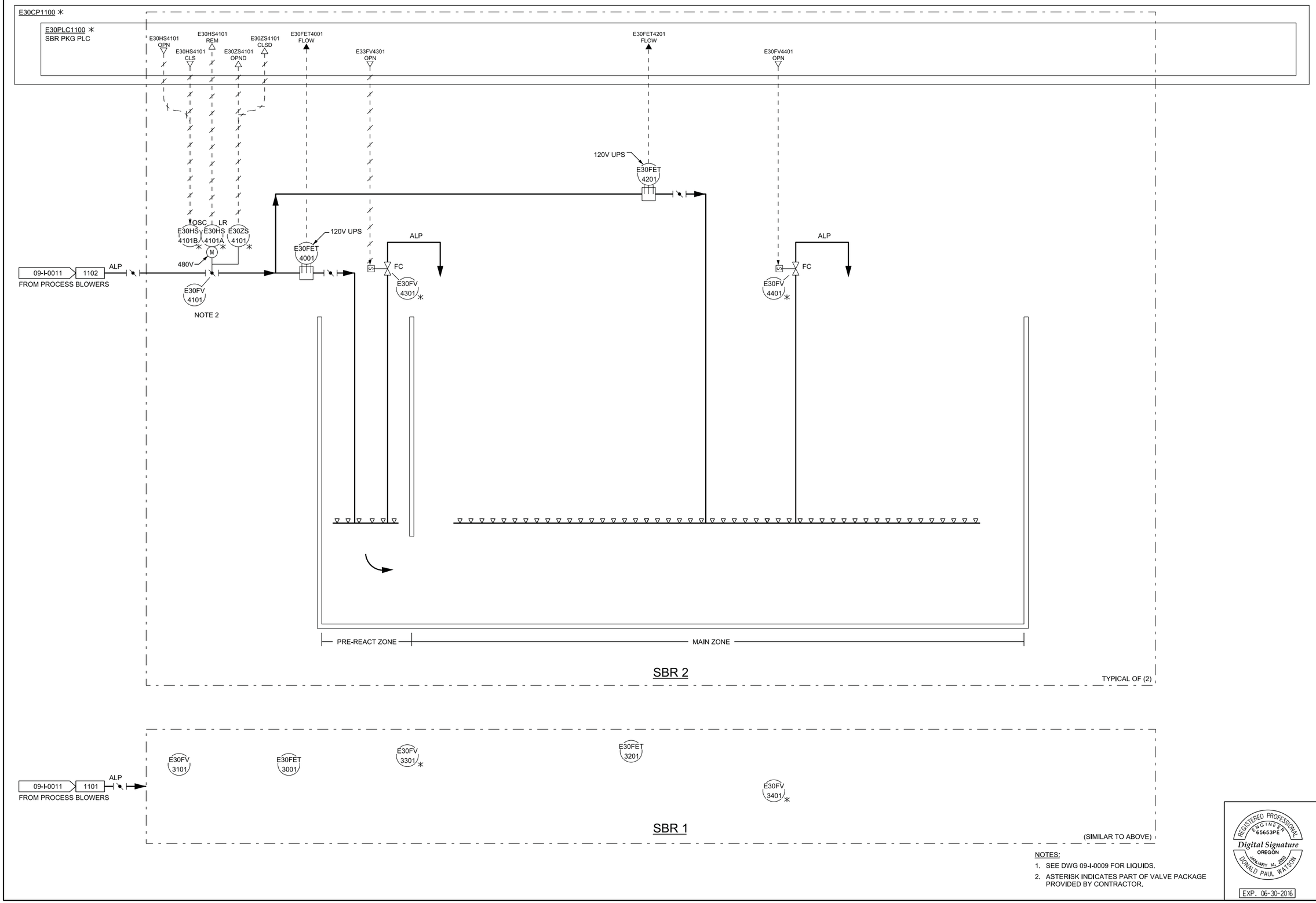
DSGN DW
DR MN
CHK LW
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INSTRUMENTATION AND CONTROL

PROCESS AIR BLOWERS

SHEET 09-I-0011
SEQ 62
DATE 12/2014
PROJ. NO. 490515

09-I-0011_469556.dgn



NOTES:

1. SEE DWG 09-I-0009 FOR LIQUIDS.
2. ASTERISK INDICATES PART OF VALVE PACKAGE PROVIDED BY CONTRACTOR.

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DONALD PAUL WATSON
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DR	MN
CHK	LW
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INSTRUMENTATION AND CONTROL

SEQUENCING BATCH REACTORS PROCESS AIR

SHEET 09-I-0012
SEQ 63
DATE 12/2014
PROJ. NO. 490515

09-I-0012_469556.dgn

E80CP0101

E80PLC0101
PLANT PLC

E30LIT5001
LVL

E30FET5101
FLOW

E30FCV5201
REM

E30FCV5201
POS

E30FCV5201
POSFB

LR
E30HS
5201A

OSC
E30HS
5201B

E30ZIT
5201

M

480V

SE

E30FCV
5201

TYPICAL OF (2)

120V UPS

E30FET
5101

M

SE

E30FCV
5202

(SIMILAR TO ABOVE)

SE

1301 | 09-I-0014
TO UV DISINFECTION

E30LIT
5001

PD

PD

PLANT
DRAIN

CONTINUED
ON 09-I-0009

09-I-0009 | 0901
FROM SBR 2

SE

EQUALIZATION
BASIN

09-I-0009 | 0902
FROM SBR 1

SE

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0 1"
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CHK	LW
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INSTRUMENTATION AND CONTROL

EQUALIZATION BASIN

REGISTERED PROFESSIONAL ENGINEER
65653PE
OREGON
JANUARY 14, 2005
DONALD PAUL WATSON
Digital Signature
EXP. 06-30-2016

SHEET 09-I-0013
SEQ 64
DATE 12/2014
PROJ. NO. 490515

09-I-0013_469556.dgn

E40LCP0400 ✳
UV SYSTEM CONTROL CENTER

E40PLC0400 ✳
UV PKG PLC

E40AIT0301
UVT

120V

120V UPS

E80CP0101

E80PLC0101
PLANT PLC

E40SAMP2001
FLOW

E40SAMP2001
FAIL

E40SAMP2001
FULL

E40HSC0400 ✳

480V

E40PDC0401 ✳

E40LSL
0401

480V

E40PDC0402 ✳

E40LSL
0402

480V

E40PDC0403 ✳

E40LSL
0403

480V

120V UPS

UVT
E40AIT
0301
✳

"MSC"

(2)

INT
E40AE
0401
✳

(2)

INT
E40AE
0402
✳

(2)

INT
E40AE
0403
✳

120V UPS

SS

E40SAMP2001
EFFLUENT
SAMPLER

NOTE 1

TUBING

LABYRINTH WEIR

UVT
E40AE
0301
✳

E40LEX
0401
✳

E40LEL
0401
✳

E40LEX
0402
✳

E40LEL
0402
✳

E40LEX
0403
✳

E40LEL
0403
✳

FLOW CONDITIONER
PLATE ✳

UV BANK 1 ✳

UV BANK 2 ✳

UV BANK 3 ✳

09-I-0013 | 1301
FROM
EQUALIZATION BASIN

SE

PD

PLANT
DRAIN

E40G0601

1401 | 09-I-0015
W3 PUMPS

PD

PLANT
DRAIN

E40G0701

PLE

TO
OUTFALL

NOTES:

1. SAMPLER TO BE REMOVED FROM EXISTING PLANT 2 BY CONTRACTOR AND INSTALLED AT UV DISINFECTION. CONTRACTOR TO FURNISH NEW QUICK DISCONNECT BOX P/N 60-2004-228 AND NEW SIGNAL CABLE P/N 68-4700-020.

REGISTERED PROFESSIONAL ENGINEER
65653PE
Digital Signature
OREGON
JANUARY 14, 2000
DONALD PAUL WATSON
EXP. 06-30-2016

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CHK	LW
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INSTRUMENTATION AND CONTROL

UV DISINFECTION

SHEET 09-I-0014
SEQ 65
DATE 12/2014
PROJ. NO. 490515

09-I-0014_469556.dgn

E80CP0101

E80PLC0101
PLANT PLC

E40LIT0901
LVL

E40P1001
REM

E40P1001
FAIL

E40P1001
ON

E40P1001
LAL

E40P1001
RUN

E40P1001
SPD

E40P1001
SPDFB

E40M1101
FAIL

E40PIT1201
PRES

E40FET1301
FLOW

NETWORK I/O

480V

E40AFD1001 **

E40YL
1001
ON

E40YA
1001
LAL

120V UPS

E40CS0901

E40LSLL
0901

(3)

E40LEX
0901
A1

E40LEH
0901
A2

E40LEL
0901
A3

"POWER"

M
AS

E40PI
1001

E40ARV1001

E40LI
0901

"MSC"

E40LT
0901
A1

E40P1001
W3
PUMP 1

TYPICAL OF (2)

09-I-0014
1401
UV CHANNEL

W3

E40PI
1002

E40P1002
W3
PUMP 2

E40ARV1002

(SIMILAR TO ABOVE)

UV EFFLUENT BOX / W3 WET WELL

480V

E40LCP1101 *

"POWER"

1

E40PDSH
1101
*

E40PI
1101A

M
CS

E40PI
1101B

E40M1101 *
W3 MOTORIZED
STRAINER

E40PRV
1401

1

S
FO

E40FV
1101
*

E40ARV1101

E40PIT
1201

120V UPS

E40FET
1301

M

SHC

CHEMICAL
INJECTOR

W3

W3
DISTRIBUTION

120V

M

SHC

E40PRV
1701

E40P1501
SODIUM
HYPOCHLORITE
PUMP

PORTABLE SODIUM
HYPOCHLORITE
CONTAINER

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SEA
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CHK	LW
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INSTRUMENTATION AND CONTROL

W3 PUMPS

REGISTERED PROFESSIONAL ENGINEER
65653PE
OREGON
JANUARY 14, 2005
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Digital Signature
EXP. 06-30-2016

SHEET 09-I-0015
SEQ 66
DATE 12/2014
PROJ. NO. 490515

09-I-0015_469556.dgn

E80CP0101

E80PLC0101
PLANT PLC

E70M0101 FAIL
E70M0101 ON
E70PDIT0201 PRES
E70FV1301 OPN

PLANT WATER
W3

E70PI 1101
E70PRV 1001

MCC **
ON
OO
E70YL 0101
E70HS 0101

E70FI 1201 *

"POWER"

E70PI 0201A *
E70PI 0201B *
E70PDIT 0201 *

FO
E70FV 1301 *

09-I-0002 0204
FROM HEADWORKS

09-I-0001 0103
FROM INFLUENT PUMP STATION

CS *
E70M0101
BIOFILTER FAN

S *

V
S *

W3

BIOFILTER * VESSEL

PD

PD
PLANT DRAIN

NOTES:

1. ALL EXPOSED W3 LINES SHALL BE INSULATED.
2. ODOR CONTROL SYSTEM INDICATED ON DRAWING IS BASED ON THE LISTED BASIS OF DESIGN SYSTEM SUPPLIER IN SPEC. SECTION 44 45 13-11, PACKAGE BIOFILTER SYSTEM. IF A DIFFERENT SYSTEM SUPPLIER IS PROVIDED, CONTRACTOR SHALL MODIFY CONTROLS AS NECESSARY AND PROVIDE ALL INSTRUMENTATION NECESSARY FOR A COMPLETE OPERATIONAL SYSTEM AT NO COST TO OWNER.

REGISTERED PROFESSIONAL ENGINEER
65653PE
Digital Signature
OREGON
JANUARY 14, 2005
DONALD PAUL WATSON
EXP. 06-30-2016

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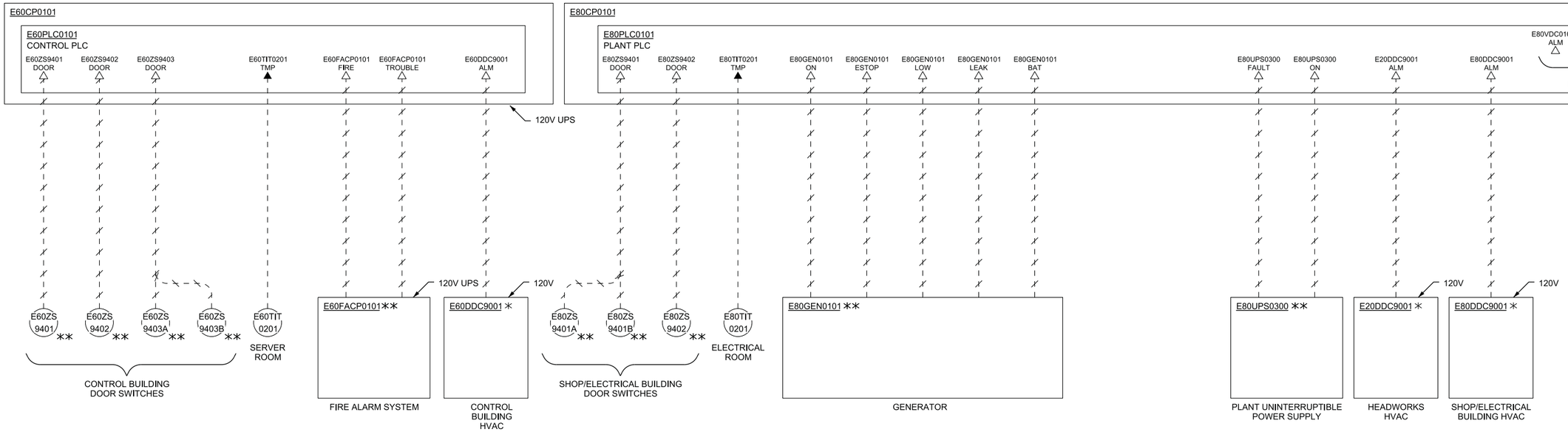
DSGN DW
DR MN
CHK LW
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INSTRUMENTATION AND CONTROL

ODOR CONTROL BIOFILTER

SHEET 09-I-0016
SEQ 67
DATE 12/2014
PROJ. NO. 490515

09-I-0016_469556.dgn



NOTES:

1. 24VDC POWER SUPPLY ALARM STATUS INTERNAL TO PLC PANEL.

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APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INSTRUMENTATION AND CONTROL

MISCELLANEOUS P&ID

SHEET 09-I-0017
SEQ 68
DATE 12/2014
PROJ. NO. 490515

09-I-0017_469556.dgn

CONTROL BUILDING

E60NIP0101

120V UPS

SCADA WORKSTATIONS

E60WKST9601 E60WKST9602

120V UPS

E60SRVR9801

E60SRVR9802

E60SRVR9803

E60PLC0101

120V UPS

E60WN9501

PRINTER

INTERNET DSL PHONE LINE

DSL MODEM

FIREWALL

E60NSW9701

E60NSW9702

120V UPS

E60WN9502

BUSINESS WORKSTATION

E60WKST9603

E60NSW9602

PRINTER

HEADWORKS

120V UPS

HDW

E20WN9501

120V UPS

HDW

E20WN9502

120V UPS

SBR

E20WN9503

NOTE 1

E20NIP0101

E20NSW9701

120V UPS

BLOWER 1
E32LCP0101 *

E32NSW9701

E32PLC0101

120V UPS

BLOWER 2
E32LCP0102 *

E32NSW9702

E32PLC0102

120V UPS

120V UPS

UV

E80WN9502

NOTE 1

SHOP/ELECTRICAL BUILDING

120V UPS

E30CP1100 *

E30PLC1100 E30OIT1100

SBR PACKAGE SYSTEM

E30NSW1100

120V UPS

E80CP0101

120V UPS

E80WKST9601

E80PLC0101

120V UPS

E80WN9501

120V UPS

E80NIP0101

E80NSW9701

E80NSW9702

10

E80MCC0101/ 0102

AFD * E32AFD0101

AFD * E32AFD0102

DPM * E80DPM0101

DPM * E80DPM0102

AFD * TYP OF 10

120V UPS

E40LCP0400 *

E40PLC0400 E40OIT0400

UV PACKAGE SYSTEM

E40NSW0400

LEGEND

- CAT6 CABLE
- FIBER OPTIC CABLE
- SERVER
- WORKSTATION
- PLC
- OPERATOR INTERFACE TERMINAL
- NETWORK SWITCH
- DPM — DIGIAL POWER MONITOR
- AFD — ADJUSTABLE FREQUENCY DRIVE
- WIRELESS NODE

NOTES:

1. FIBER NETWORK IS A LOGICAL REPRESENTATION OF HOW THE FIBER IS INTERCONNECTED AND DOES NOT SHOW PATCH CABLES AND PATCH PANELS. FOR PHYSICAL ROUTING OF CABLES SEE ELECTRICAL SITE PLAN DRAWINGS.

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EXP. 06-30-2016

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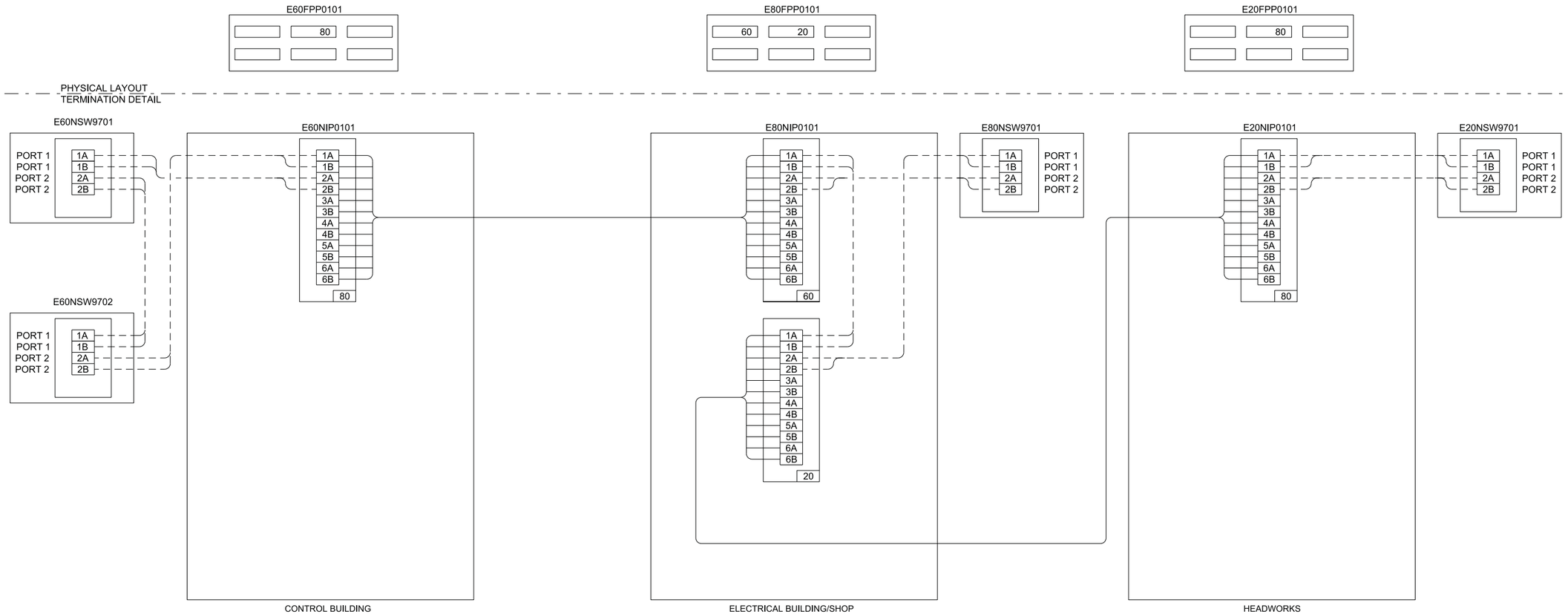
DSGN	DW
DR	DP
CHK	LW
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INSTRUMENTATION AND CONTROL

NETWORK BLOCK DIAGRAM

SHEET 09-I-0101
SEQ 69
DATE 12/2014
PROJ. NO. 490515

09-I-0101_469556.dgn



LEGEND:

——— SINGLE MODE FIBER

– – – – – PATCH CABLE

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DONALD PAUL WATSON
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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INSTRUMENTATION AND CONTROL

FIBER TERMINATION DIAGRAM

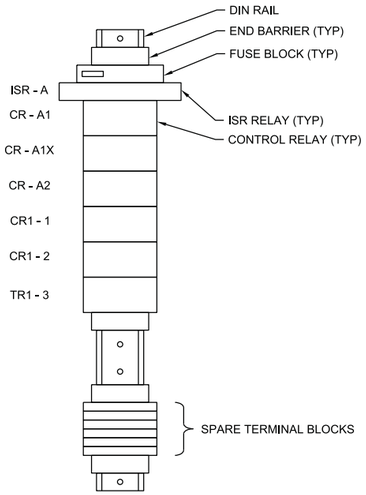
SHEET 09-I-0102

SEQ 70

DATE 12/2014

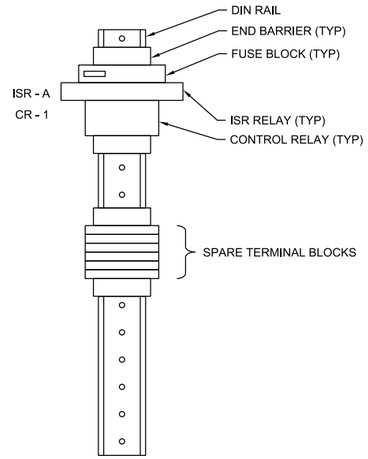
PROJ. NO. 490515

09-I-0102_469556.dgn



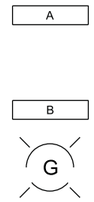
E10CS0201 - INTERNAL LAYOUT

NTS



TYPICAL - INTERNAL LAYOUT

E20CS0201
E30CS1301
E30CS2301



TYPICAL EXTERNAL LAYOUT

NTS

	ITEM	LINE 1	LINE 2
A	E10CS0201	INTRINSIC RELAY PANEL	IPS LEVEL SWITCH
B	N/A		
C	E10YL0201	I.S. RELAY CKT POWER	
D	N/A		

E10CS0201 LEGEND

	ITEM	LINE 1	LINE 2
A	E20CS0201	INTRINSIC RELAY PANEL	INFLUENT SCREEN CHANNEL LEVEL SWITCH
B	E20YL0201	I.S. RELAY CKT POWER	

E20CS0201 LEGEND

	ITEM	LINE 1	LINE 2
A	E30CS"X"301	INTRINSIC RELAY PANEL	SBR "X"
B	E30YL"X"301	I.S. RELAY CKT POWER	

E30CS"X"301 - LEGEND

"X" = 1 FOR SBR 1
2 FOR SBR 2

REGISTERED PROFESSIONAL ENGINEER
65653PE
Digital Signature
OREGON
JANUARY 14, 2005
DONALD PAUL WATSON
EXP. 06-30-2016

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NO.	DATE	REVISION	BY

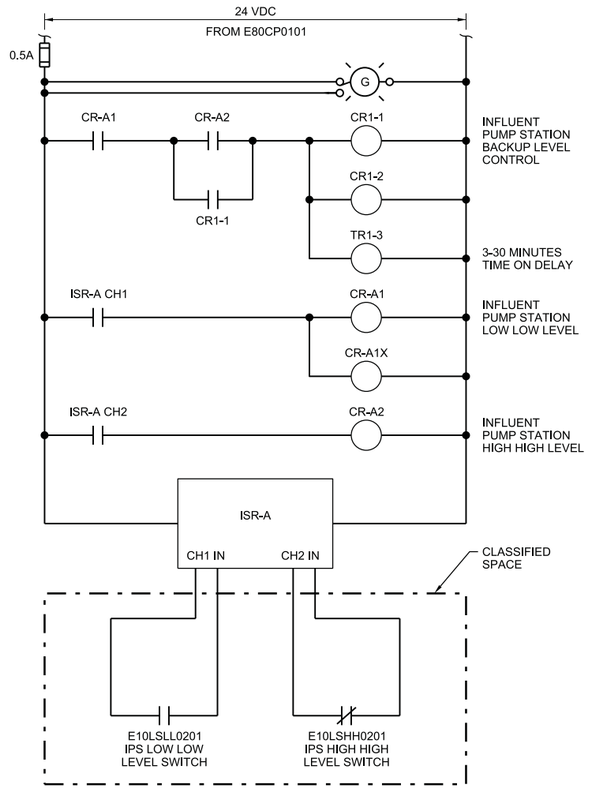
DSGN	DW
DR	KM
CHK	LW
APVD	CWM

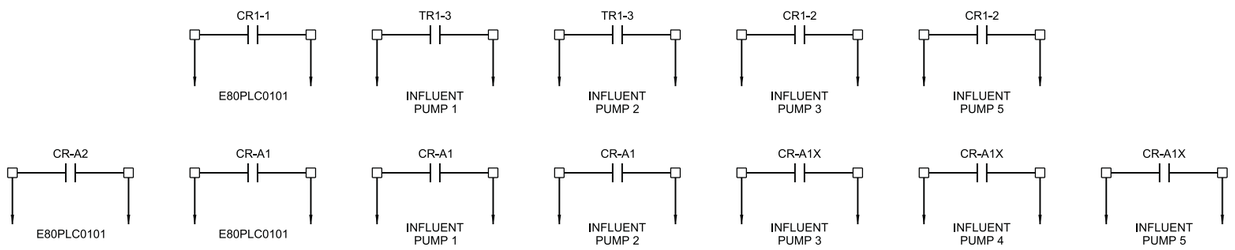
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INSTRUMENTATION AND CONTROL

INTRINSICALLY SAFE RELAY PANEL LAYOUT

SHEET 09-I-0103
SEQ 71
DATE 12/2014
PROJ. NO. 490515

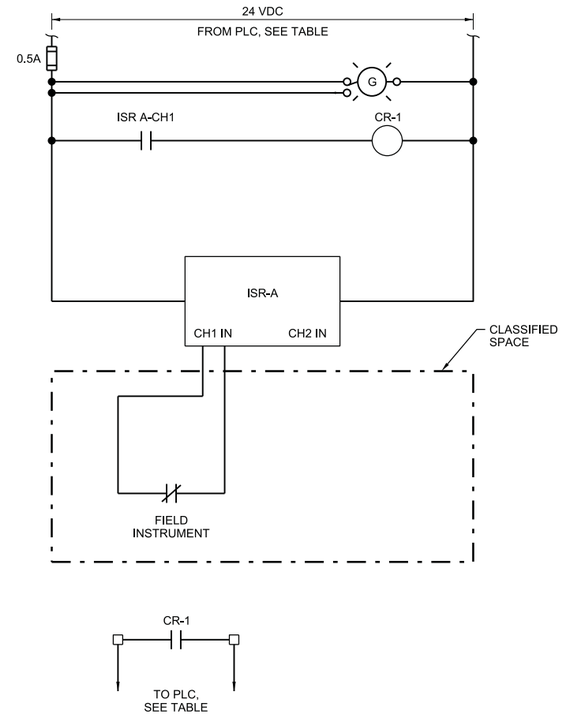
09-I-0103_469556.dgn





INFLUENT PUMP STATION ISR DIAGRAM - E10CS0201

NTS



TYPICAL ISR DIAGRAM

NTS

PANEL	RELAY	FIELD INSTRUMENT	DESCRIPTION	PLC
E20CS0201	ISR-A CH1	E20LSHH0201	INFLUENT SCREEN UPSTREAM HIGH HIGH LEVEL SWITCH	E80PLC0101
E20CS1301	ISR-A CH1	E30LSHH1301	SBR 1 HIGH HIGH LEVEL SWITCH	E30PLC1100
E20CS2301	ISR-A CH1	E20LSHH2301	SBR 2 HIGH HIGH LEVEL SWITCH	E30PLC1100

REGISTERED PROFESSIONAL ENGINEER
65653PE
Digital Signature
OREGON
JANUARY 14, 2005
DONALD PAUL WATSON
EXP. 06-30-2016

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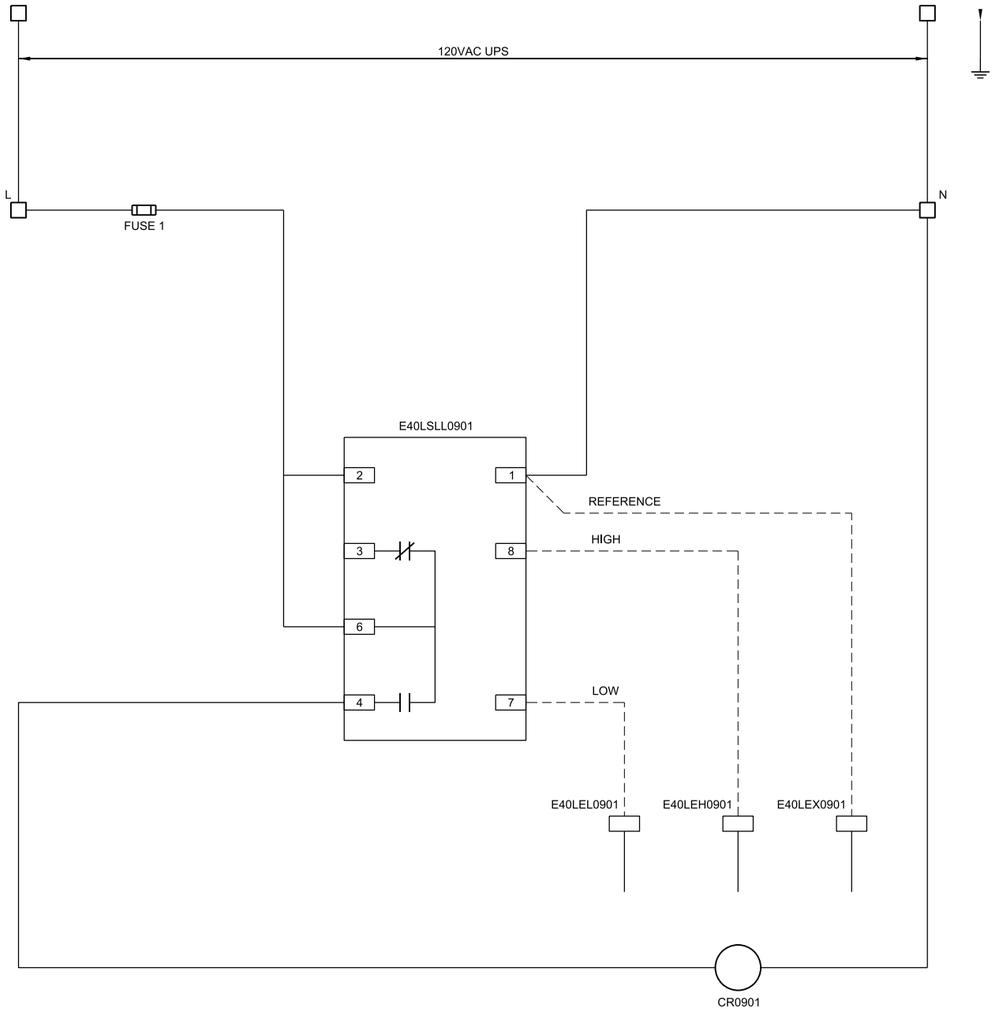
DSGN DW
DR KM
CHK LW
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INSTRUMENTATION AND CONTROL

INTRINSICALLY SAFE RELAY CONTROL DIAGRAMS

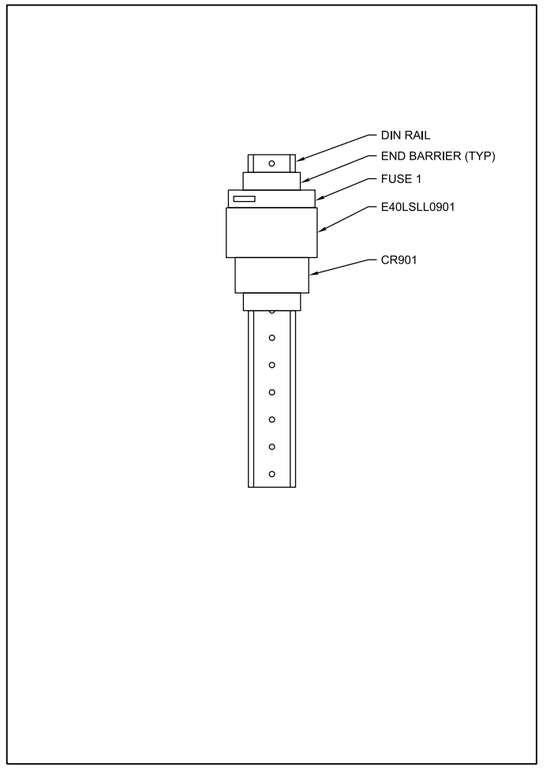
SHEET 09-I-0104
SEQ 72
DATE 12/2014
PROJ. NO. 490515

09-I-0104_469556.dgn





CONTROL DIAGRAM



E40CS0901 - INTERNAL LAYOUT
NTS

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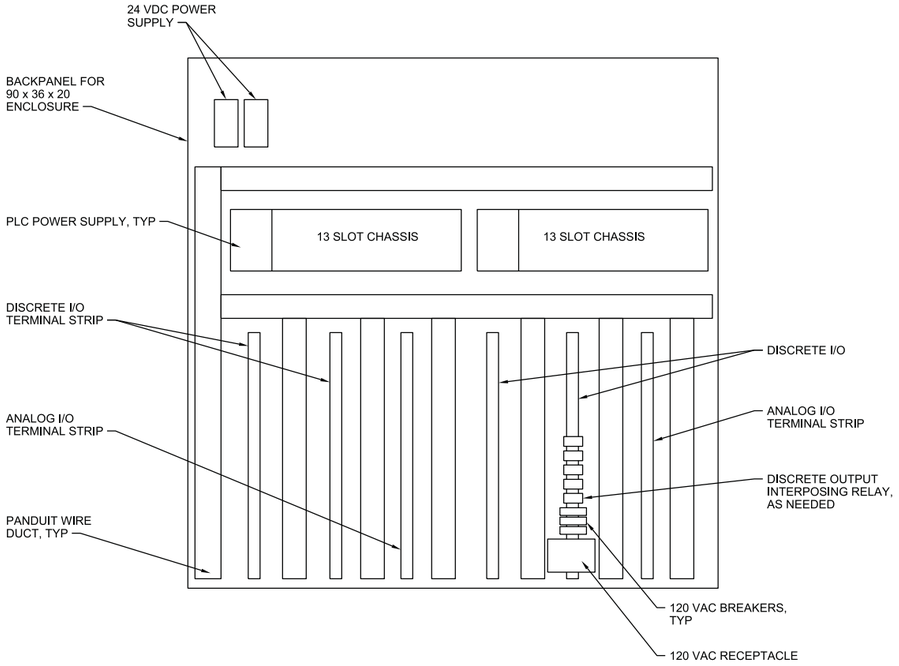
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INSTRUMENTATION AND CONTROL

W3 WETWELL LEVEL SWITCH CONTROL DIAGRAM

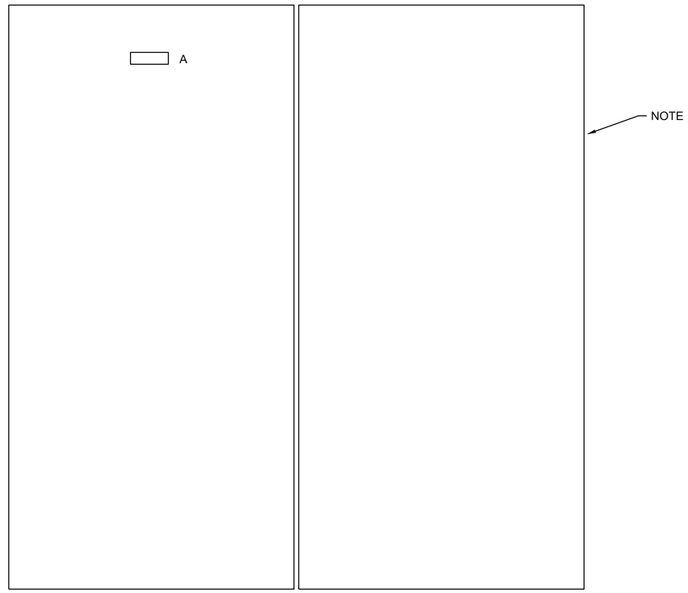
REGISTERED PROFESSIONAL ENGINEER
65653PE
Digital Signature
OREGON
JANUARY 14, 2005
DONALD PAUL WATSON
EXP. 06-30-2016

SHEET 09-I-0105
SEQ 73
DATE 12/2014
PROJ. NO. 490515

09-I-0105_469556.dgn



CONTROL PANEL INTERNAL LAYOUT



CONTROL PANEL DOOR LAYOUT

PANEL NAMEPLATES		
PANEL	ITEM	LINE 1
E80CP0101	A	E80CP0101

NOTES:

1: MAXIMUM EXTERNAL PANEL DIMENSIONS, 90" X 72" X 24".

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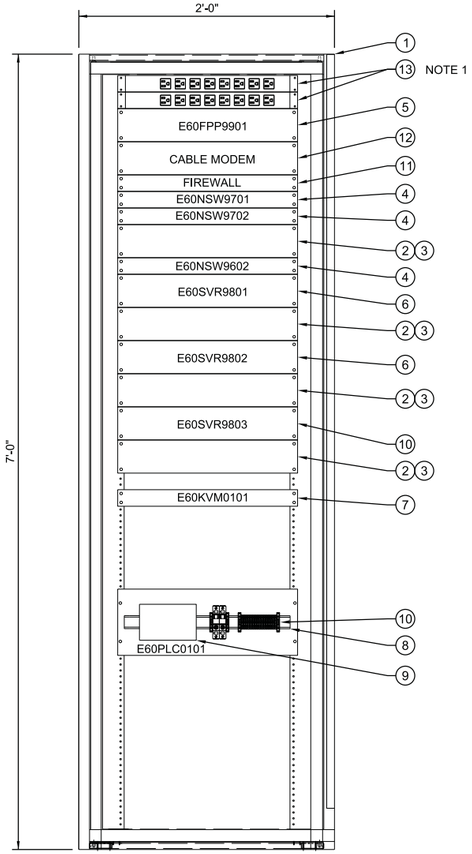
DSGN DW
DR DP
CHK LW
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INSTRUMENTATION AND CONTROL

CONTROL PANEL LAYOUT

SHEET 09-I-0106
SEQ 74
DATE 12/2014
PROJ. NO. 490515

09-I-0106_469556.dgn



NETWORK RACK PARTS LIST	
ITEM	DESCRIPTION
1	ENCLOSED 19" RACK
2	CABLE MANAGER HORIZONTAL
3	CABLE MANAGER COVER HORIZONTAL
4	NETWORK SWITCH
5	FIBER PATCH PANEL
6	SERVER
7	KVM SWITCH MONITOR
8	DIN RAIL RACK MOUNT
9	PLC
10	TERMINAL BLOCKS
11	FIREWALL
12	SHELF
13	120VAC POWER STRIP

E60NIP0101 CONTROL BUILDING NETWORK INTERFACE PANEL

NOTES:
1. POWERED FROM PLANT UPS.

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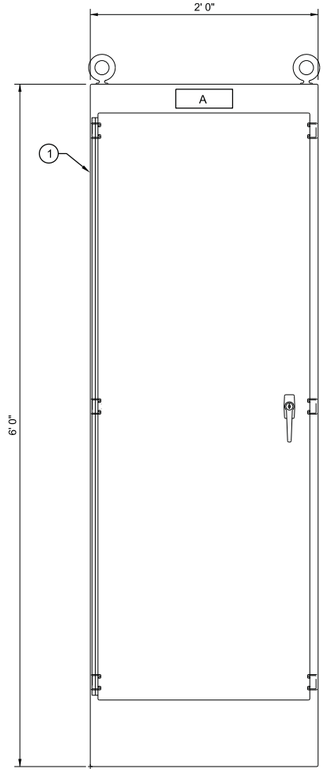
DSGN	DW
DR	PH
CHK	LW
APVD	CWM

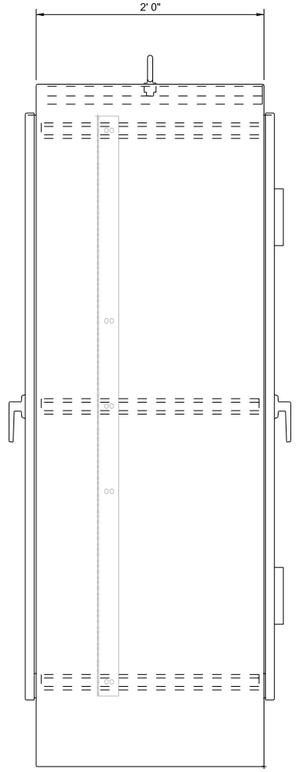
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INSTRUMENTATION AND CONTROL

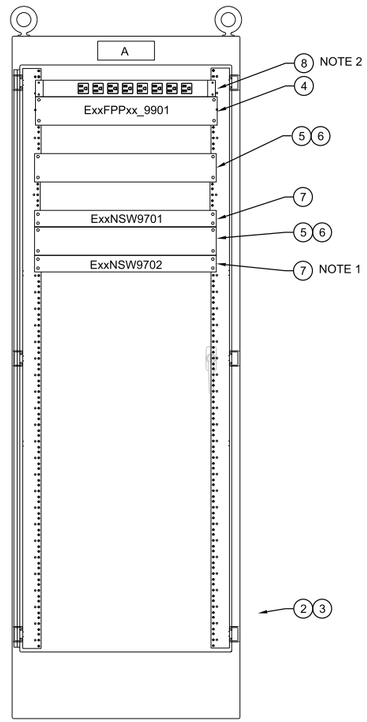
CONTROL BUILDING NETWORK INTERFACE PANEL ELEVATION

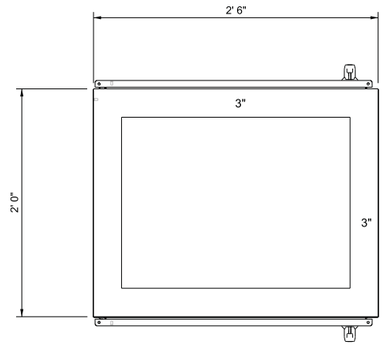
SHEET 09-I-0107
SEQ 75
DATE 12/2014
PROJ. NO. 490515

09-I-0107_469556.dgn









BOTTOM PLAN
[TYPICAL]

HEADWORKS
NETWORK INTERFACE PANEL - E20NIP0101 (xx = 20)

SHOP/ELECTRICAL BUILDING
NETWORK INTERFACE PANEL - E80NIP 0101 (xx = 80)

1 1/2"=1'

NOTES:

1. EXXNSW9702 ONLY APPLIES TO SHOP/ELECTRICAL BUILDING.
2. POWERED FROM PLANT UPS.

NETWORK RACK PARTS LIST	
ITEM	DESCRIPTION
1	ENCLOSURE, NEMA 12
2	19" RACK MOUNTING ANGLE PAIRS
3	RACK PANEL, 19" RACK
4	FIBER PATCH PANEL
5	CABLE MANAGER HORIZONTAL
6	CABLE MANAGER COVER HORIZONTAL
7	NETWORK SWITCH
8	120VAC POWER STRIP

NAMEPLATE SCHDULE			
PANEL	ITEM	SIZE	DESCRIPTION
E20NIP0101	A	2" X 6" X 5/16"	E20NIP0101
E80NIP0101	A	2" X 6" X 5/16"	E80NIP0101

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OREGON
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JANUARY 14, 2005
DONALD PAUL WATSON
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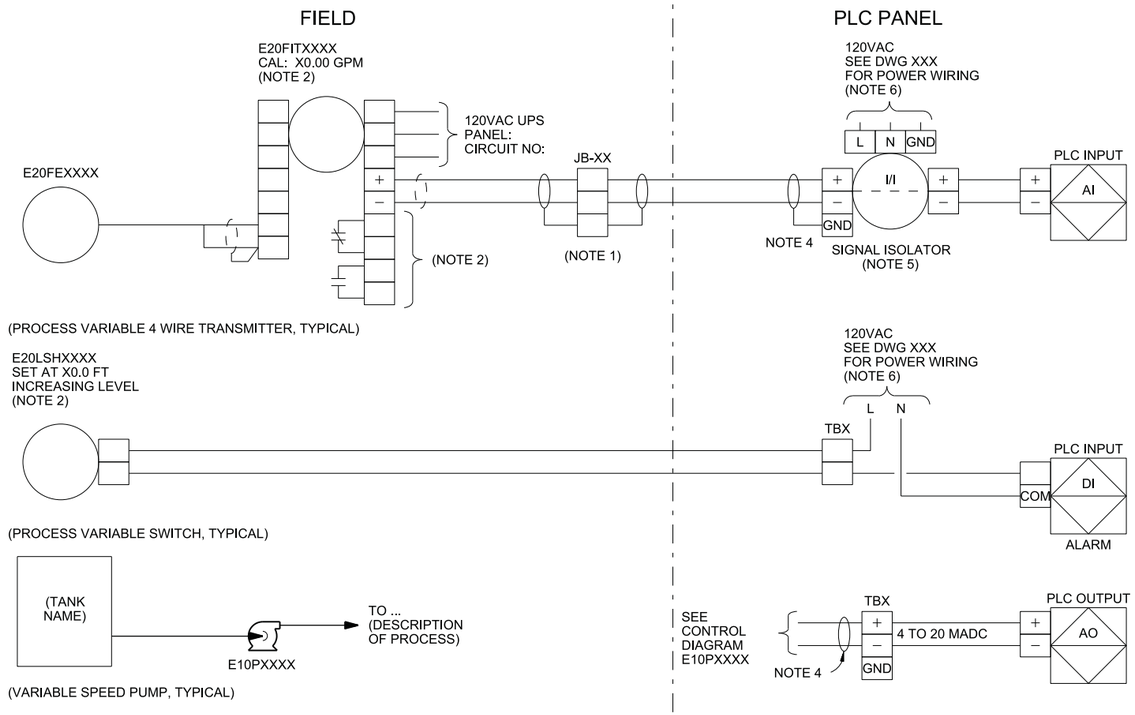
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DR	PH
CHK	LW
APVD	CWM

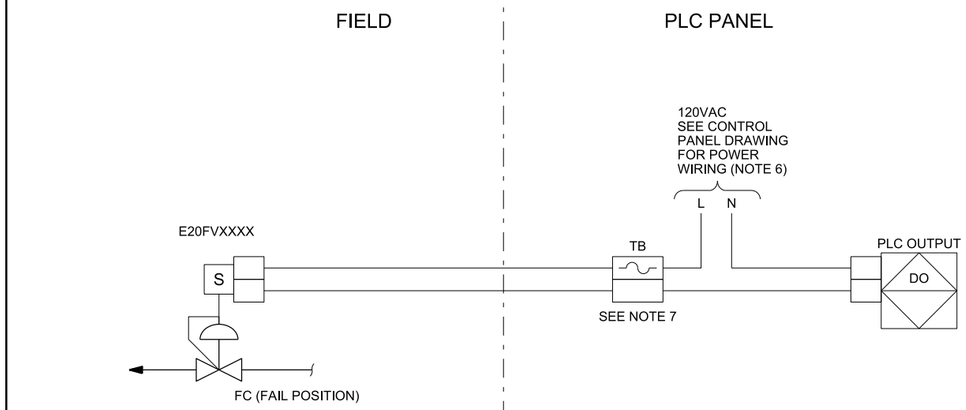
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INSTRUMENTATION AND CONTROL

FIELD NETWORK INTERFACE PANEL TYPICAL

SHEET 09-I-0108
SEQ 76
DATE 12/2014
PROJ. NO. 490515

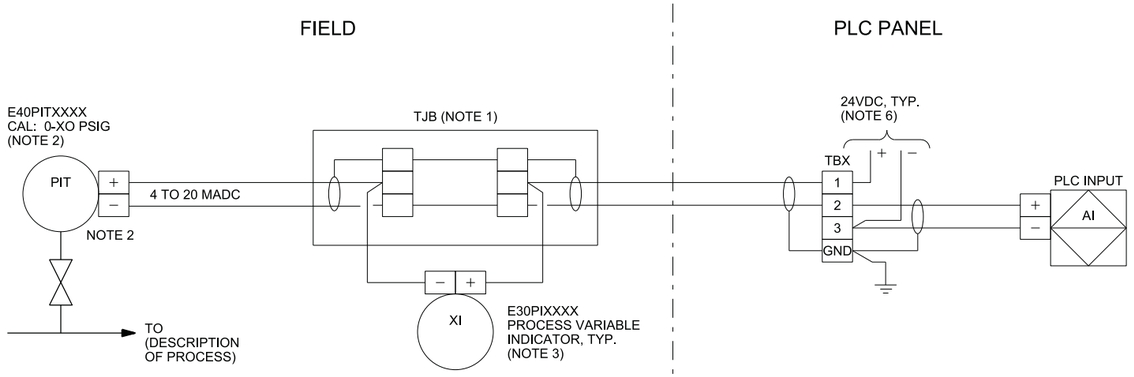
09-I-0108_469556.dgn





NOTES FOR TYPICAL LOOP DIAGRAMS:

1. LOOP DIAGRAMS PREPARED BY THE CONTRACTOR SHALL INCLUDE ALL FIELD TERMINAL JUNCTION BOXES, AND ADDITIONAL INFORMATION REQUIRED FOR LOOP FUNCTIONS.
2. REFER TO INSTRUMENT LIST AND VALVE LISTS FOR LOOP INSTRUMENTS, LOOP TITLES, CALIBRATIONS, AND SETPOINTS.
3. PROVIDE INDICATOR ONLY WHERE SHOWN ON P&IDS.
4. GROUND LOOP SHIELD AT FIELD COMPONENT IF REQUIRED BY MANUFACTURER.
5. PROVIDE SIGNAL ISOLATOR IF INSTRUMENT DOES NOT HAVE AN ISOLATED OUTPUT.
6. 24VDC POWER SUPPLY AND 120VAC POWER LOCATED IN PLC PANEL.
7. CONTRACTOR TO SIZE FUSE.



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DSGN	DW
DR	MN
CHK	LW
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INSTRUMENTATION AND CONTROL

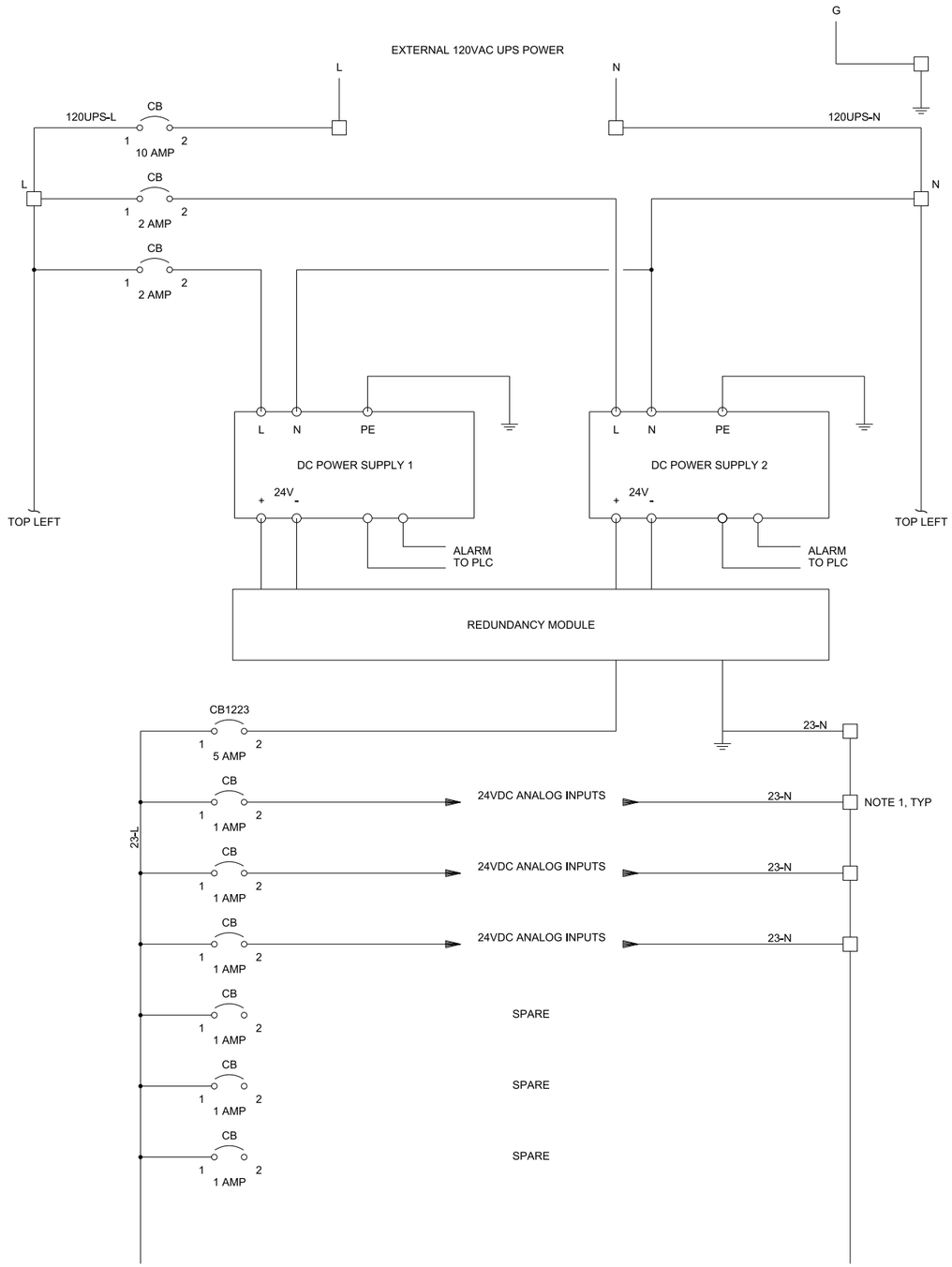
TYPICAL LOOP DIAGRAM

REGISTERED PROFESSIONAL ENGINEER
65653PE
OREGON
JANUARY 14, 2000
DONALD PAUL WATSON
Digital Signature
EXP. 06-30-2016

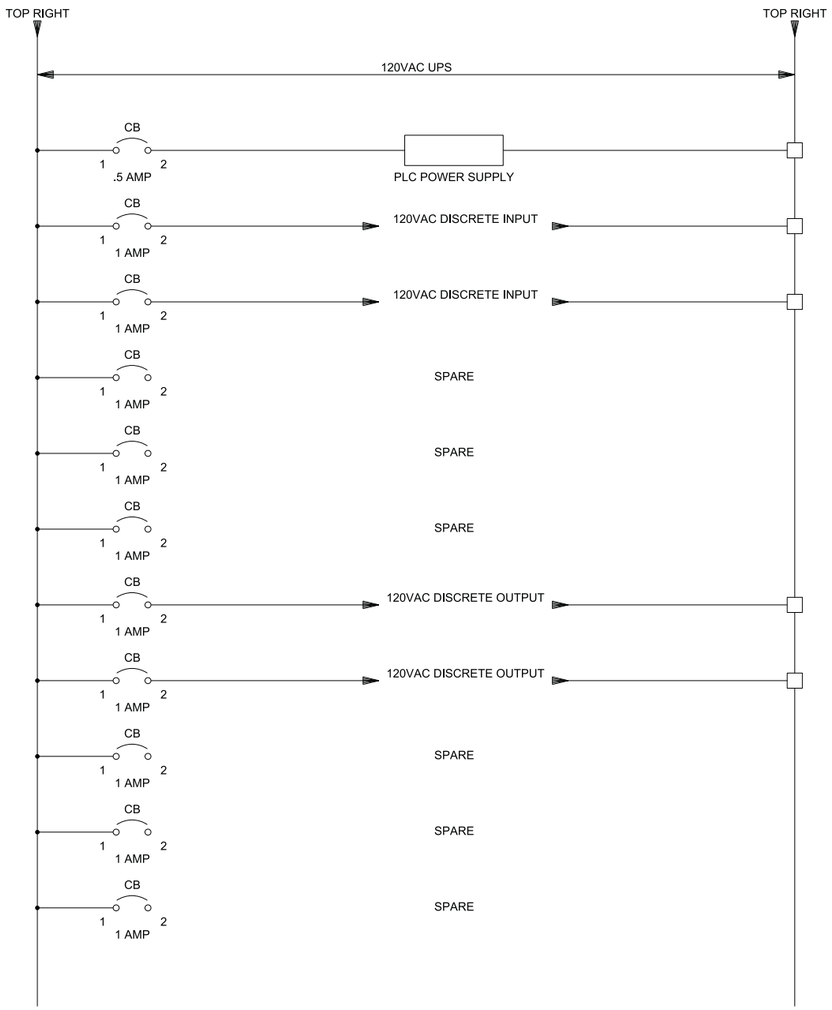
SHEET 09-I-0110
SEQ 77
DATE 12/2014
PROJ. NO. 490515

09-I-0110_469556.dgn

A



B



NOTES;

1. SEPARATE BREAKER FOR EACH I/O MODULE.
2. DRAWING IS A REPRESENTATION OF CONTENT. DETAILED PANEL POWER DISTRIBUTION DRAWING TO BE COMPLETED BY CONTRACTOR.

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DR	PH
CHK	LW
APVD	CWM

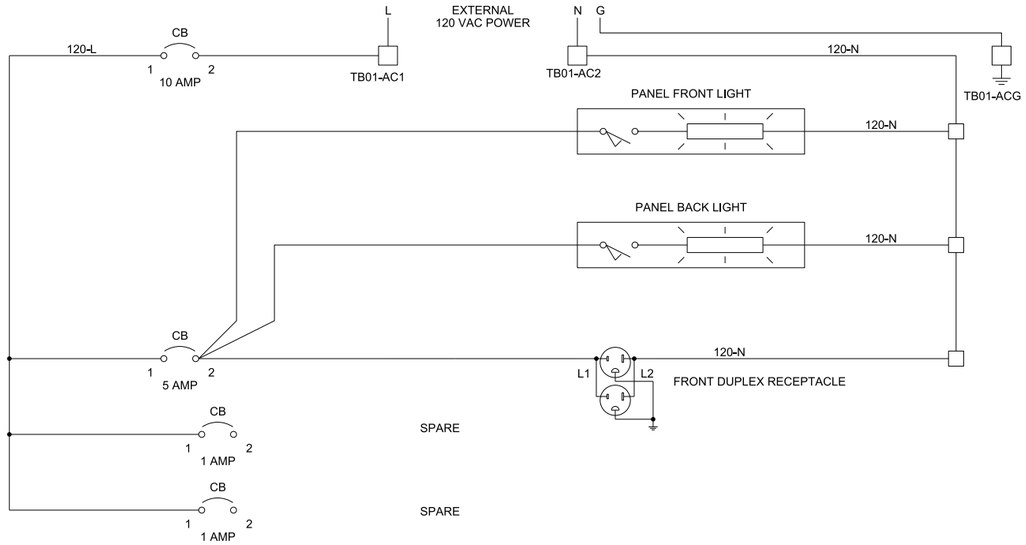
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INSTRUMENTATION AND CONTROL

CONTROL PANEL POWER DISTRIBUTION

REGISTERED PROFESSIONAL ENGINEER
65653PE
OREGON
Digital Signature
JANUARY 14, 2005
DONALD PAUL WATSON
EXP. 06-30-2016

SHEET 09-I-0111
SEQ 78
DATE 12/2014
PROJ. NO. 490515

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DSGN DW
DR PH
CHK LW
APVD CWM

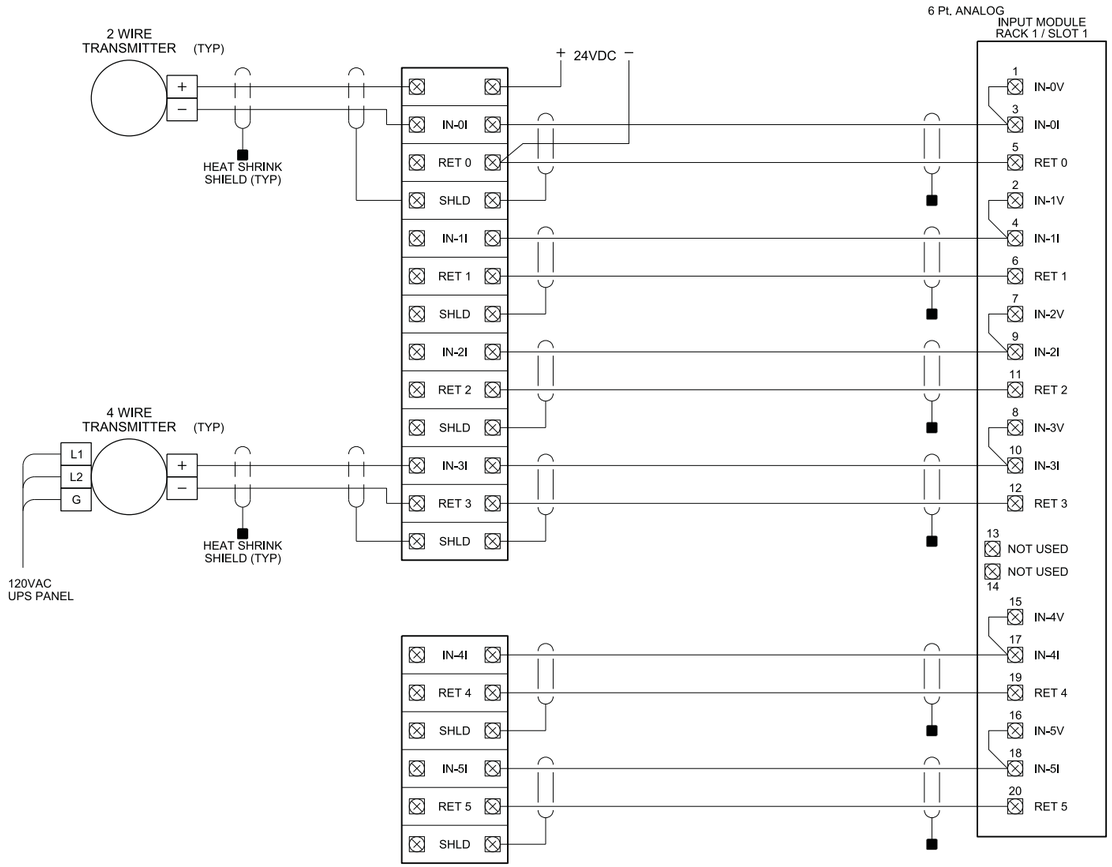
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INSTRUMENTATION AND CONTROL

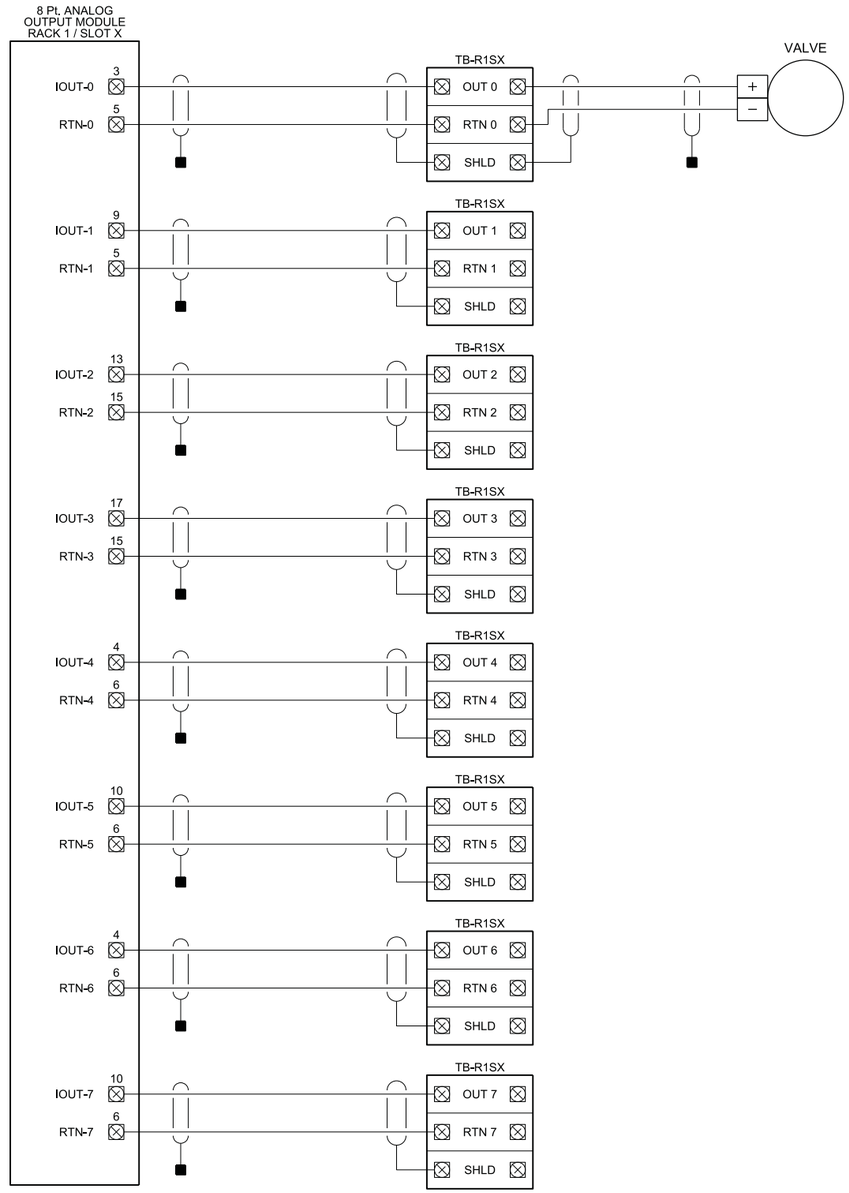
PANEL UTILITY POWER

REGISTERED PROFESSIONAL ENGINEER
65653PE
Digital Signature
OREGON
JANUARY 14, 2003
DONALD PAUL WATSON
EXP. 06-30-2016

SHEET 09-I-0112
SEQ 79
DATE 12/2014
PROJ. NO. 490515

09-I-0112_469556.dgn





NOTES:

I/O CARD TEMPLATE IS SHOWN FOR ILLUSTRATION ONLY. DETAILED I/O CARD WIRED DIAGRAMS WILL BE COMPLETED BY CONTRACTOR.

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65653PE
Digital Signature
OREGON
JANUARY 14, 2000
DONALD PAUL WATSON
EXP: 06-30-2016

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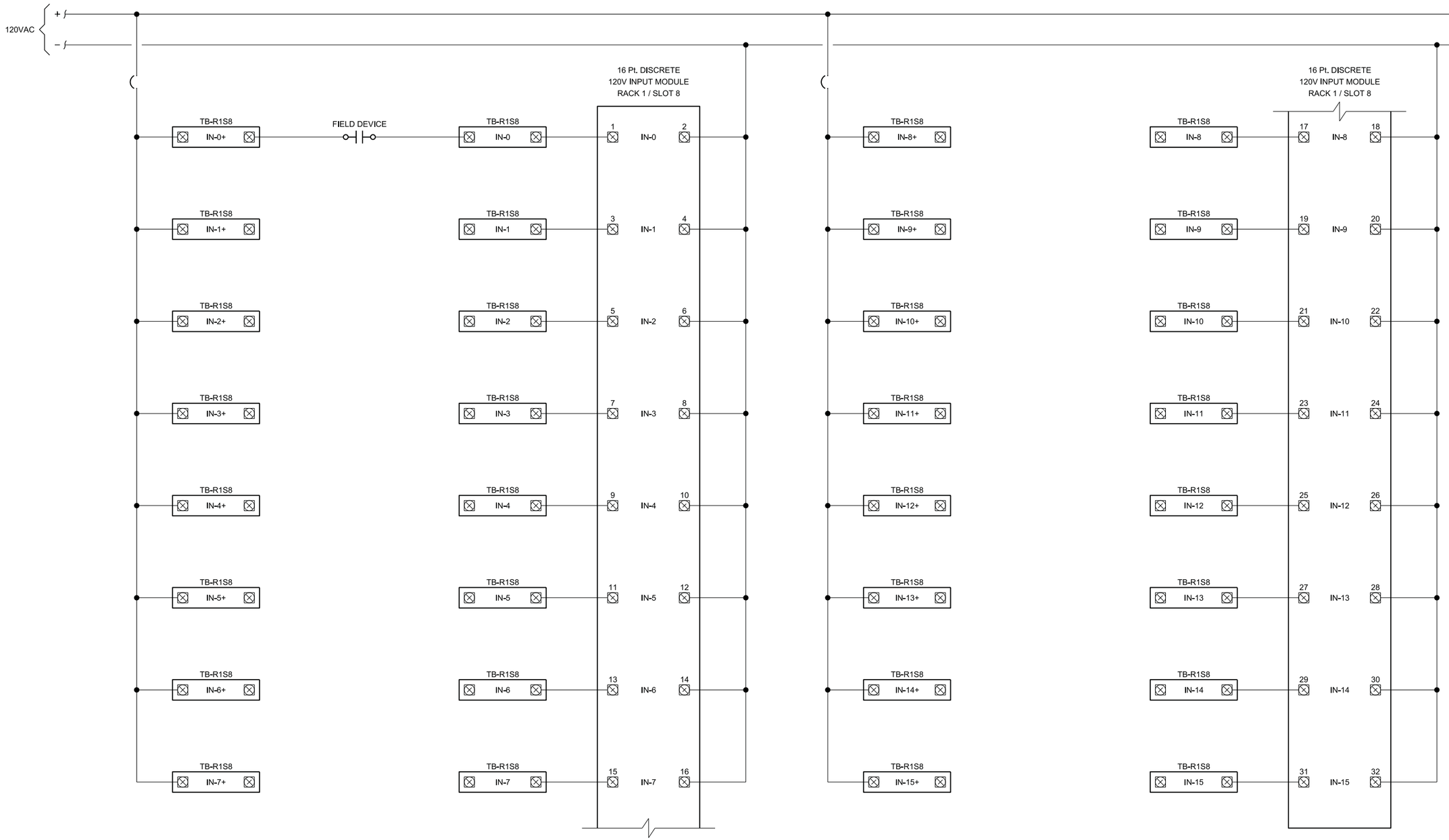
DSGN	DW	CHK	LW
DR	PH	APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INSTRUMENTATION AND CONTROL

WIRING DIAGRAM TEMPLATE ANALOG MODULE

SHEET 09-I-0113
SEQ 80
DATE 12/2014
PROJ. NO. 490515

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NOTES:

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JANUARY 14, 2000
DONALD PAUL WATSON
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EXP. 06-30-2016

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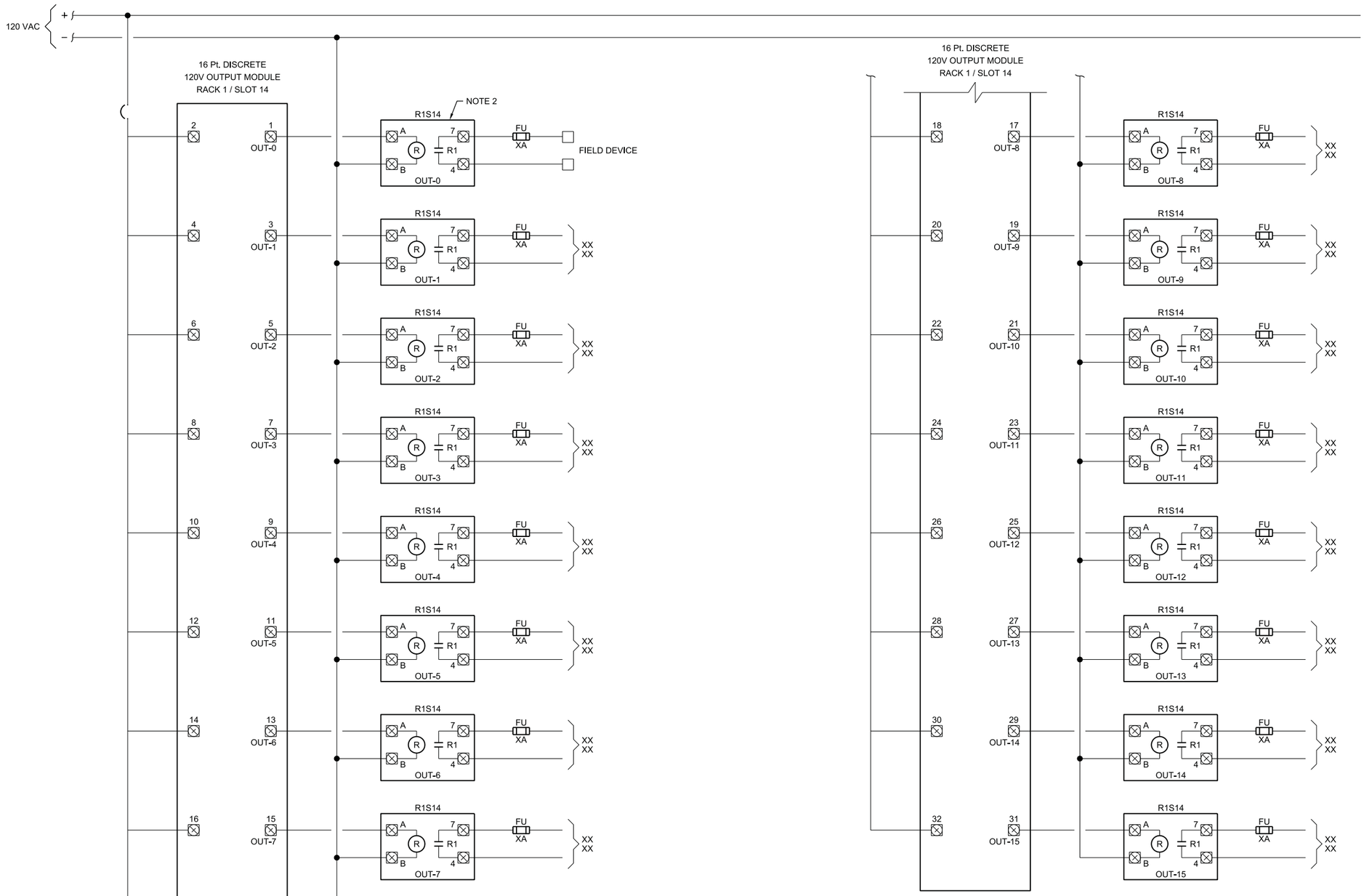
DSGN	DW	CHK	LW
DR	PH	APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INSTRUMENTATION AND CONTROL

WIRING DIAGRAM TEMPLATE DISCRETE INPUT MODULE

SHEET 09-I-0114
SEQ 81
DATE 12/2014
PROJ. NO. 490515

09-I-0114_469556.dgn



NOTES;

1. I/O CARD TEMPLATE IS SHOWN FOR ILLUSTRATION ONLY. DETAILED I/O CARD WIRED DIAGRAMS WILL BE COMPLETED BY CONTRACTOR.
2. INTERPOSING RELAY WHERE NEEDED FOR HIGH AMP LOADS.

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Digital Signature
OREGON
JANUARY 14, 2009
DONALD PAUL WATSON
EXP. 06-30-2016

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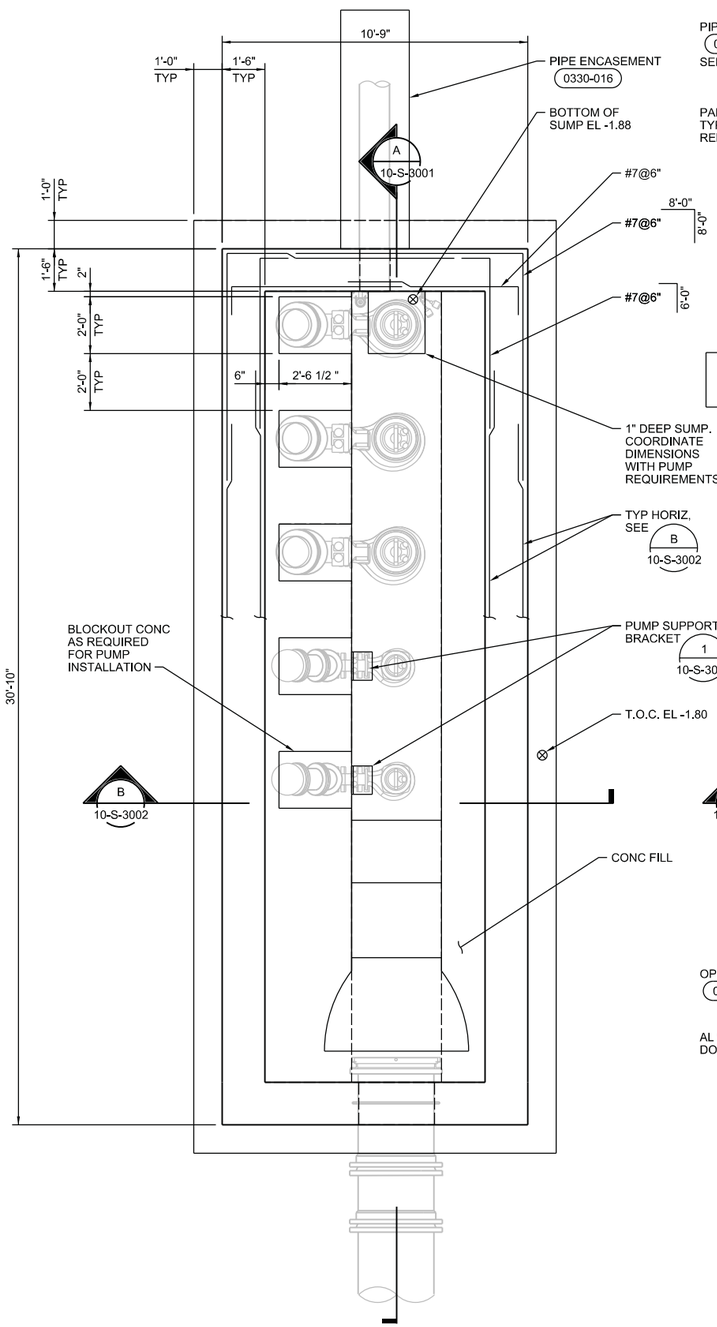
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DR	PH
CHK	LW
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INSTRUMENTATION AND CONTROL

WIRING DIAGRAM TEMPLATE
DISCRETE OUTPUT MODULE

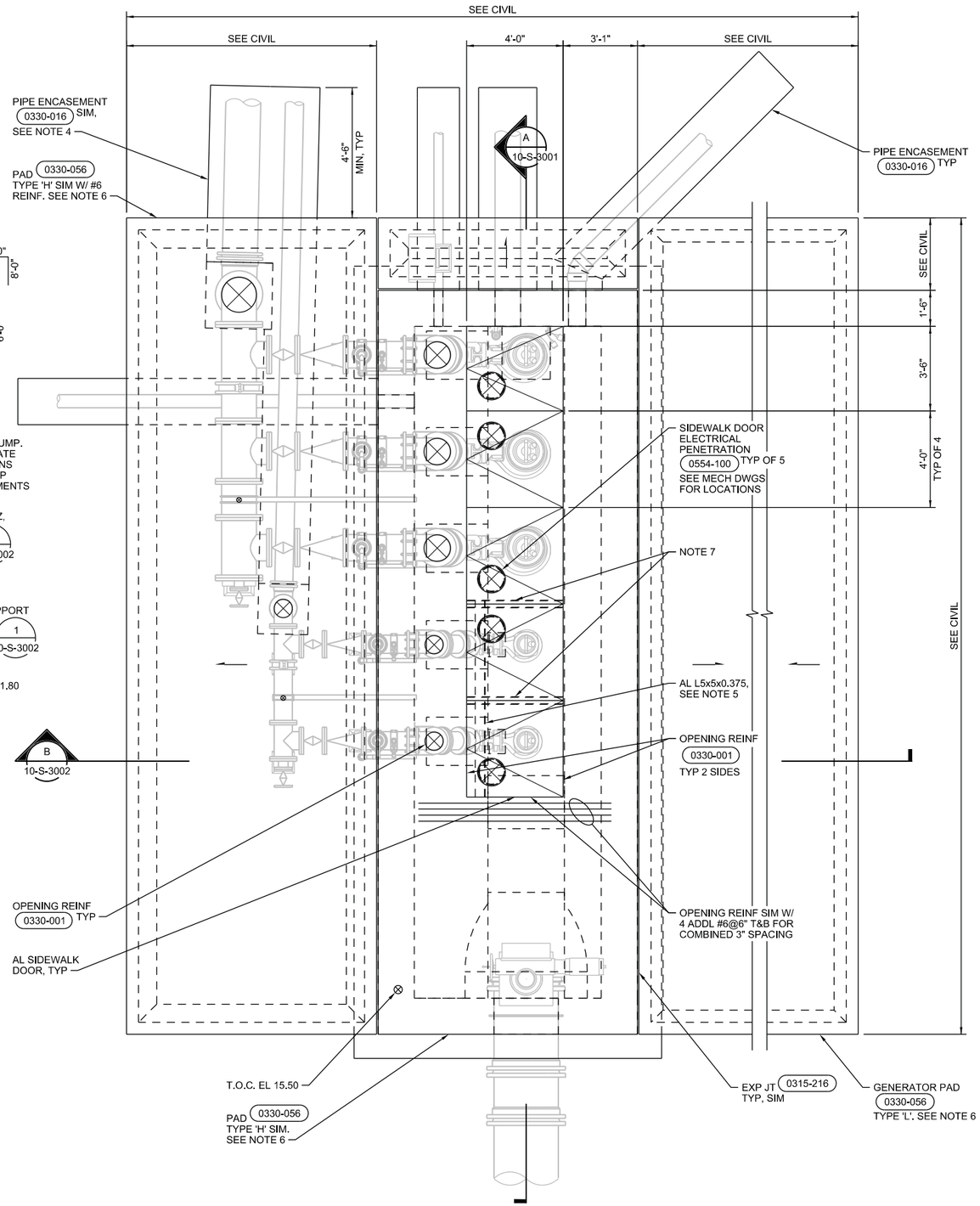
SHEET 09-I-0115
SEQ 82
DATE 12/2014
PROJ. NO. 490515

09-I-0115_469556.dgn



BELOW GRADE PLAN

3/8"=1'-0"



GROUND LEVEL PLAN

3/8"=1'-0"

FACILITY NOTES:

1. FOR GENERAL STRUCTURAL NOTES, SEE DRAWINGS 01-G-0020 AND 01-G-0021.
2. FOR STATEMENT OF SPECIAL INSPECTION PLAN, SEE DRAWINGS 01-G-0022 THROUGH 01-G-0026.
3. SEISMIC DESIGN CRITERIA
   - MAIN LATERAL FORCE RESISTING SYSTEM: FLAT -BOTTOM GROUND SUPPORTED TANK WITH REINFORCED NON -SLIDING BASE
   - RESPONSE MODIFICATION COEFFICIENT: R=2
4. WHERE PIPE ENCASEMENTS OVERLAP, COMBINE PIPE ENCASEMENT AND REINFORCE BASED ON THE LARGE PIPE.
5. COORDINATE ATTACHMENT TO HATCH FRAME WITH HATCH MANUFACTURER AND PUMP GUIDE BRACKET REQUIREMENTS. SEE 2/10-S-3002.
6. FOR PAD DIMENSIONS AND SLOPE REQUIREMENTS, SEE 1/06-C-2017.
7. DOOR SHALL INCLUDE INTERMEDIATE FRAME MEMBERS BETWEEN DOORS THAT SUPPORT L5x5 ANGLE.

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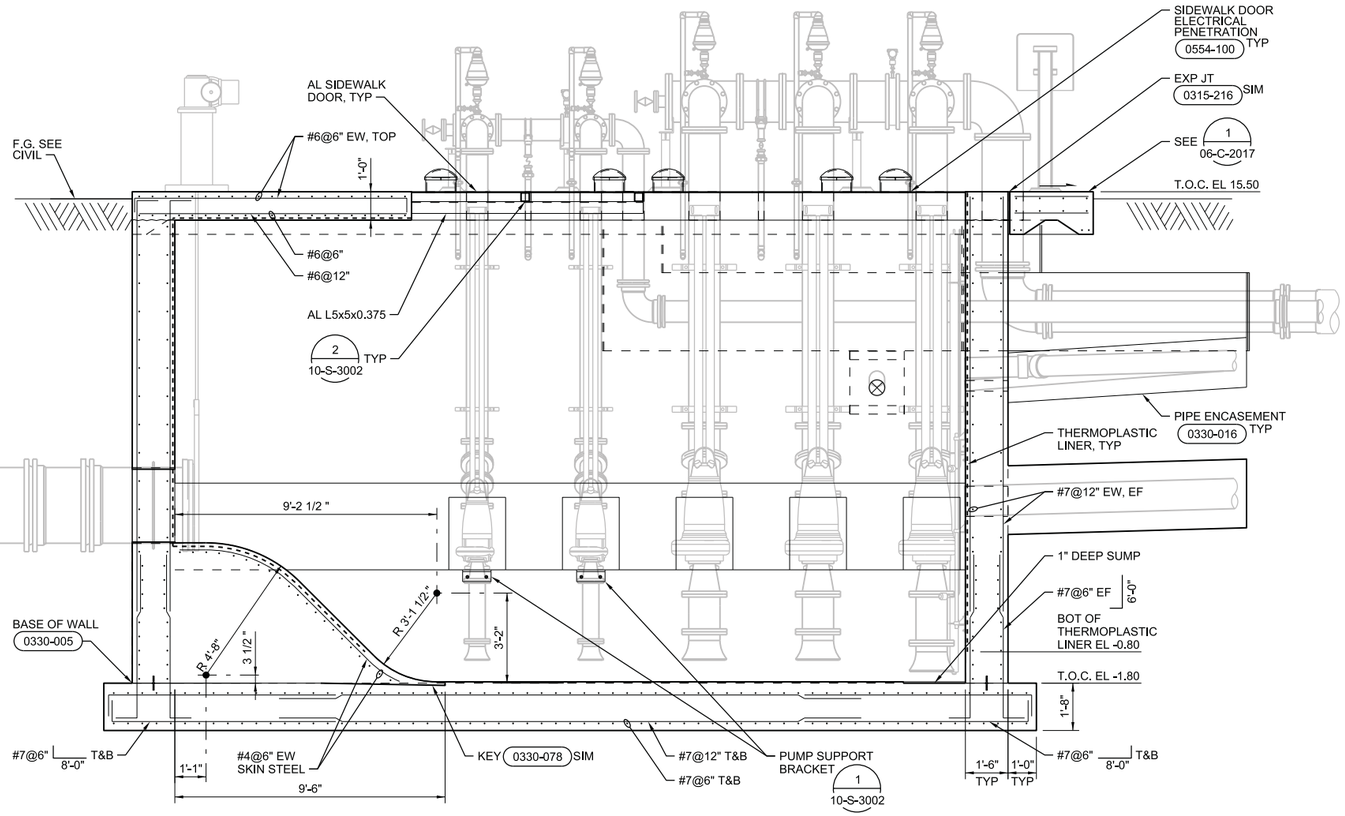
DSGN	SKR	DR	HFJ	CHK	ALF	APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INFLUENT PUMP STATION
STRUCTURAL

BELOW GRADE AND GROUND LEVEL PLANS

SHEET 10-S-2200
SEQ 83
DATE 12/2014
PROJ. NO. 490515

REGISTERED PROFESSIONAL ENGINEER 81069PE
Digital Signature
OREGON
JUNE 6, 2013
C. STERLING KEITH ROSE
EXP. 12-31-14



NOTES:

1. LEAK TEST TO EL 14.50.
2. CONTRACTOR MAY LEAK TEST AND BACKFILL PRIOR TO PLACEMENT OF TOP SLAB.

A SECTION
3/8"=1'-0"
10-S-2200

VERIFY SCALES
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0 1"
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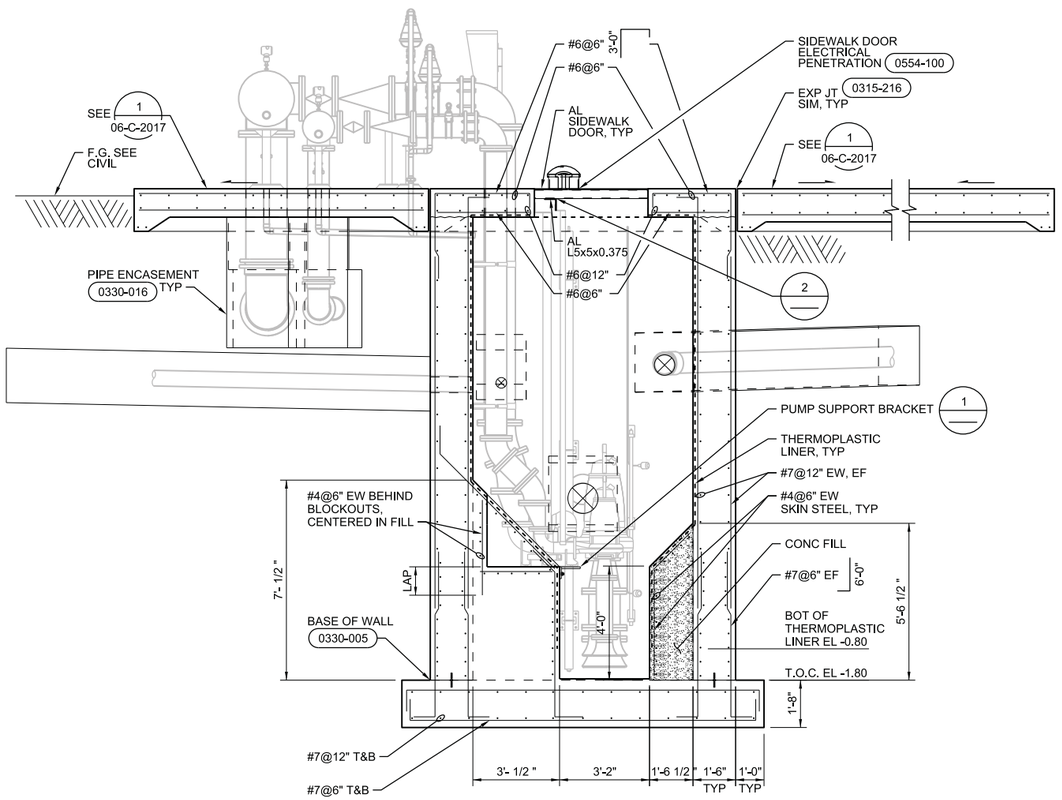
NO.	DATE	REVISION	BY

DSGN SKR
DR HFJ
CHK ALF
APVD CWM

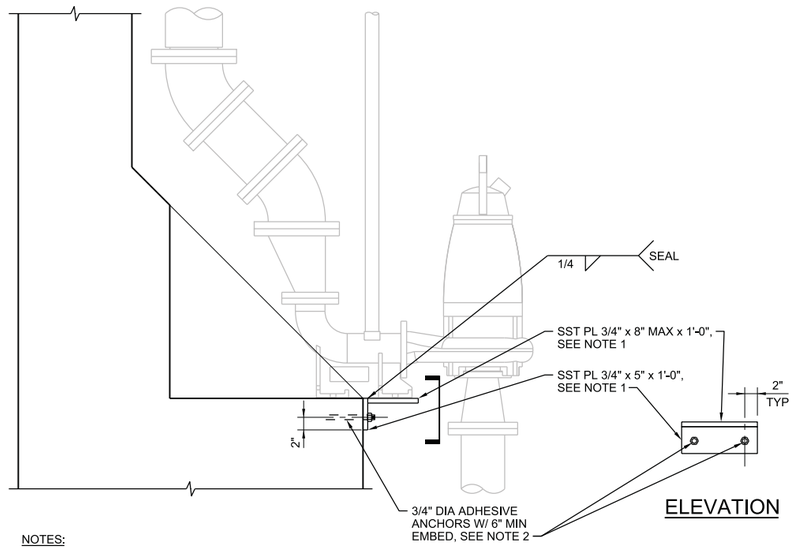
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INFLUENT PUMP STATION
STRUCTURAL
SECTION

SHEET 10-S-3001
SEQ 84
DATE 12/2014
PROJ. NO. 490515

STRUCTURAL REGISTERED PROFESSIONAL ENGINEER 81003PE OREGON Digital Signature JUNE 9, 2010 C. STERLING KEITH ROSE
EXP. 12-31-14



B SECTION
3/8"=1'-0"
10-S-2200

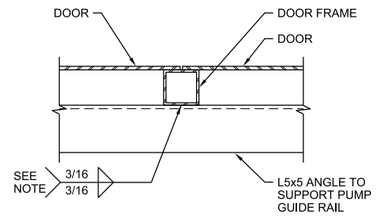


ELEVATION

NOTES:

1. COORDINATE PLATE LENGTH WITH PUMP ANCHORAGE REQUIREMENTS, 1'-0" MINIMUM.
2. UTILIZE MANUFACTURER'S LOW-TORQUE INSTALLATION PROCEDURES FOR LIMITED EDGE DISTANCE.

1 PUMP SUPPORT BRACKET
1"=1'-0"
10-S-2200
10-S-3001



NOTE:

AT CONTRACTOR'S OPTION A BOLTED CONNECTION MAY BE PROPOSED.

2 GUIDE SUPPORT ANGLE CONN
1 1/2"=1'-0"
10-S-2200
10-S-3001

STRUCTURAL
REGISTERED PROFESSIONAL ENGINEER
81069PE
Digital Signature
OREGON
JUNE 6, 2013
C. STERLING KEITH ROSE
EXP. 12-31-14

VERIFY SCALES
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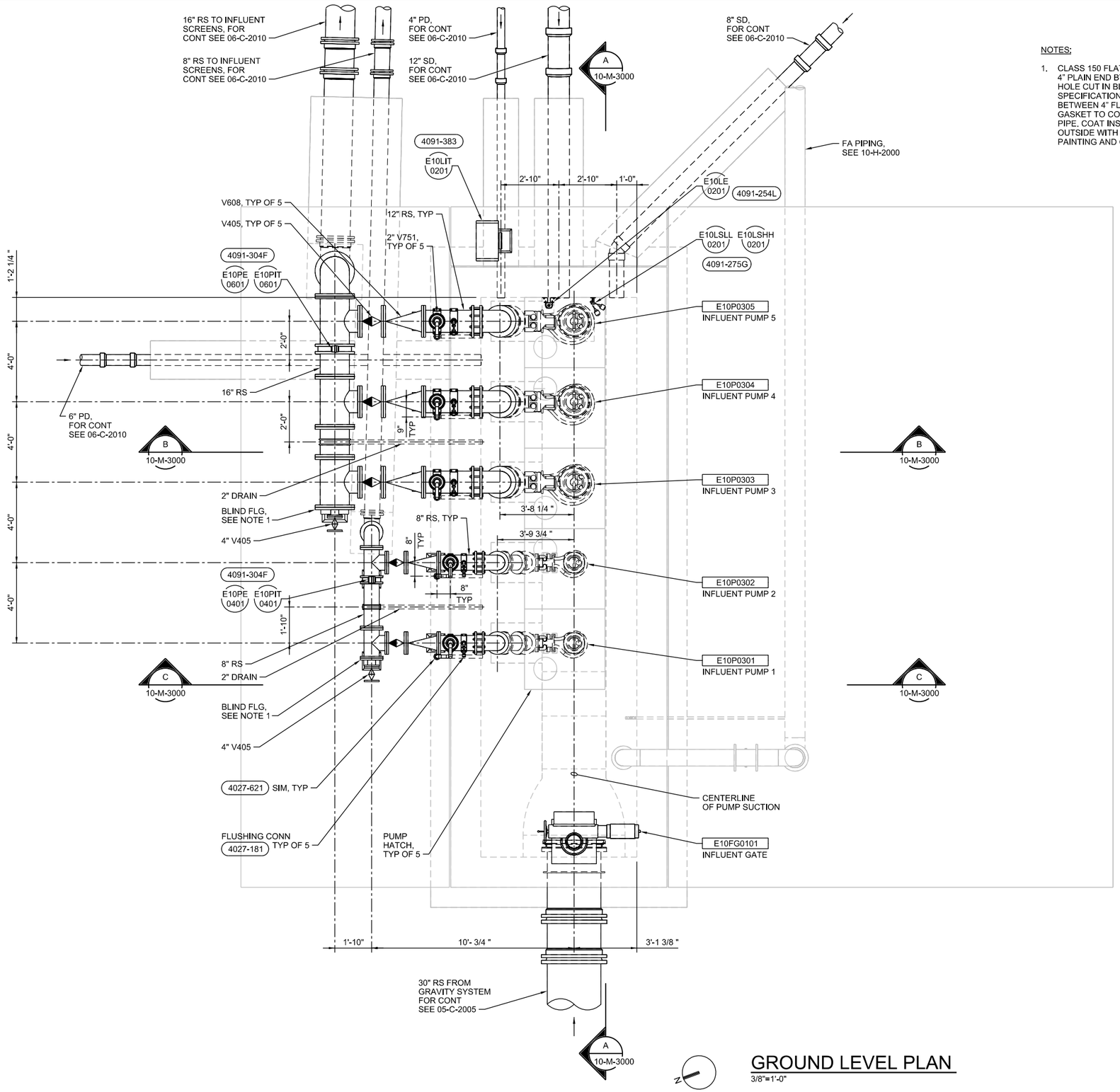
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NO.	DATE	REVISION	BY

DSGN	SKR
DR	HFJ
CHK	ALF
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INFLUENT PUMP STATION
STRUCTURAL
SECTION AND DETAILS

SHEET 10-S-3002
SEQ 85
DATE 12/2014
PROJ. NO. 490515



NOTES:

1. CLASS 150 FLAT FACED CARBON STEEL BLIND FLANGE WITH 4" PLAIN END BY FLANGED END PIPE WELDED TO A MATCHING HOLE CUT IN BLIND FLANGE. 4" PIPE IN ACCORDANCE WITH SPECIFICATION 40 27 00.02. PROVIDE AT LEAST 6" CLEARANCE BETWEEN 4" FLANGE AND LARGER FLANGE. PROVIDE EPDM GASKET TO COVER ENTIRE FLANGE FACE OF ADJOINING CLDI PIPE. COAT INSIDE OF CARBON STEEL WITH SYSTEM NO 2, OUTSIDE WITH SYSTEM NO 4, IN ACCORDANCE WITH 09 90 00 PAINTING AND COATINGS.

GROUND LEVEL PLAN

3/8"=1'-0"

VERIFY SCALES
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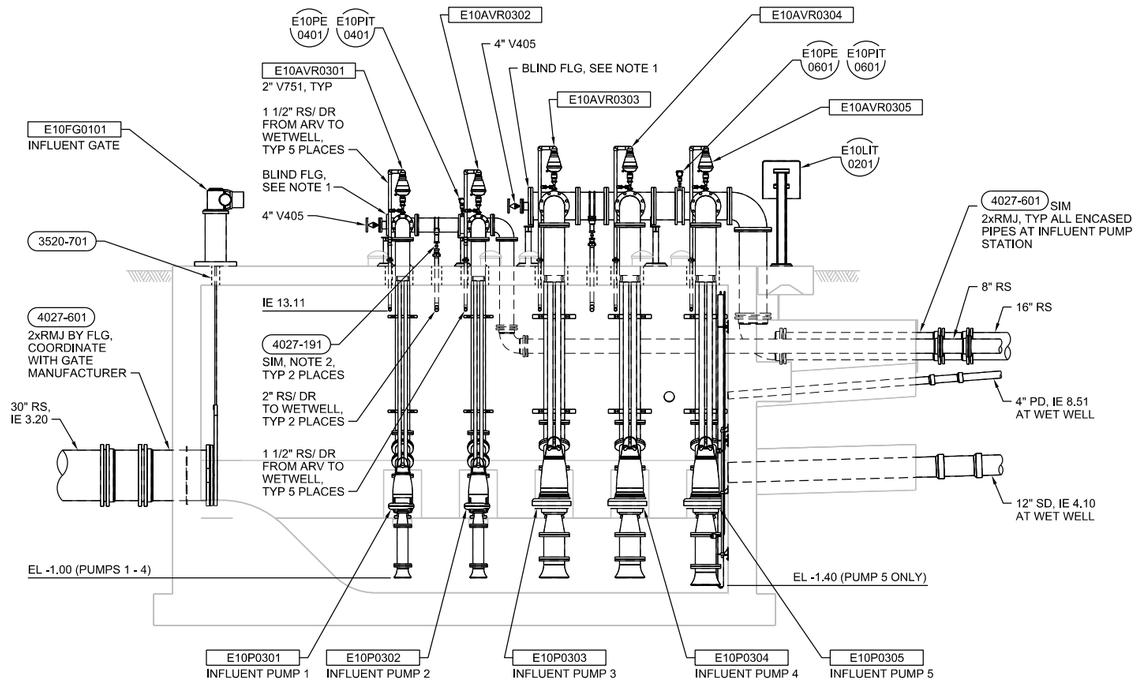
DSGN	MD
DR	ERB
CHK	DWB
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INFLUENT PUMP STATION
MECHANICAL
GROUND LEVEL PLAN

REGISTERED PROFESSIONAL ENGINEER
15,479
Daniel P Graber
OREGON
JULY 25, 1991
DANIEL P. GRABER
EXPIRES 6/30/15

SHEET 10-M-2000
SEQ 86
DATE 12/2014
PROJ. NO. 490515

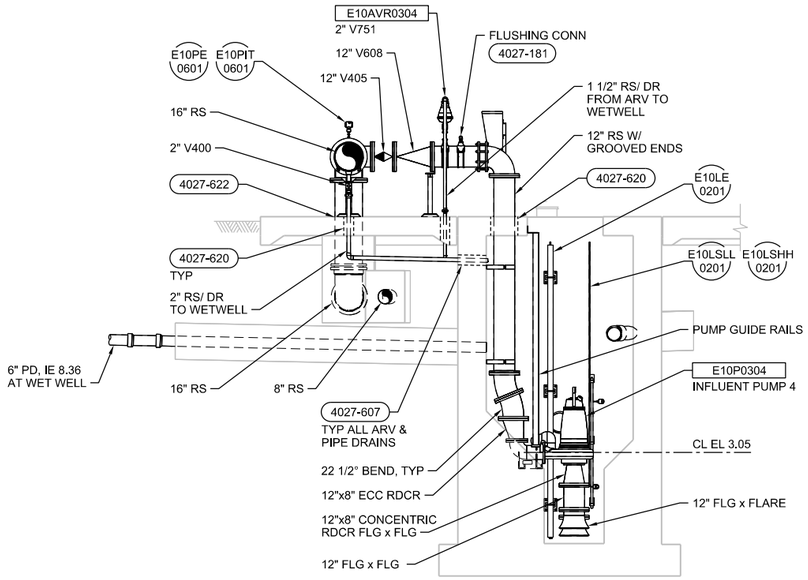
10-M-2000_469556.dgn



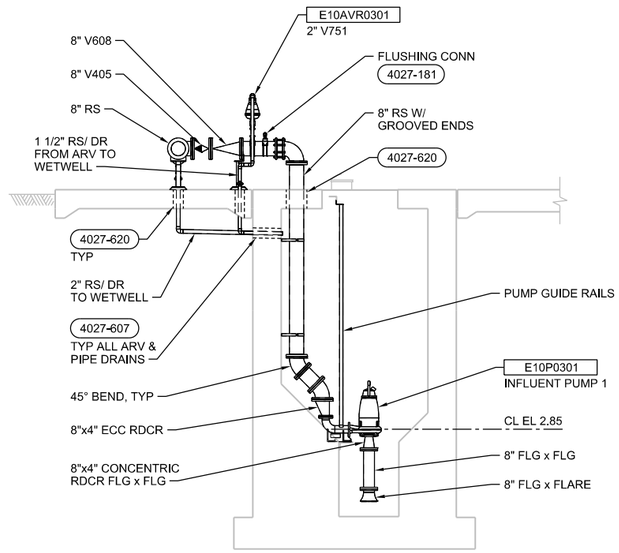
A SECTION
1/4"=1'-0"
10-M-2000

NOTES:

1. CLASS 150 FLAT FACED CARBON STEEL BLIND FLANGE WITH 4" PLAIN END BY FLANGED END PIPE WELDED TO A MATCHING HOLE CUT IN BLIND FLANGE. 4" PIPE IN ACCORDANCE WITH SPECIFICATION 40 27 00.02. PROVIDE AT LEAST 6" CLEARANCE BETWEEN 4" FLANGE AND LARGER FLANGE. PROVIDE EPDM GASKET TO COVER ENTIRE FLANGE FACE OF ADJOINING CLDI PIPE. COAT INSIDE OF CARBON STEEL WITH SYSTEM NO 2, OUTSIDE WITH SYSTEM NO 4, IN ACCORDANCE WITH 09 90 00 PAINTING AND COATINGS.
2. USE 2" V400 INSTEAD OF VALVE TYPE CALLED OUT IN DETAIL FOR THESE LOCATIONS.



B SECTION
1/4"=1'-0"
10-M-2000



C SECTION
1/4"=1'-0"
10-M-2000

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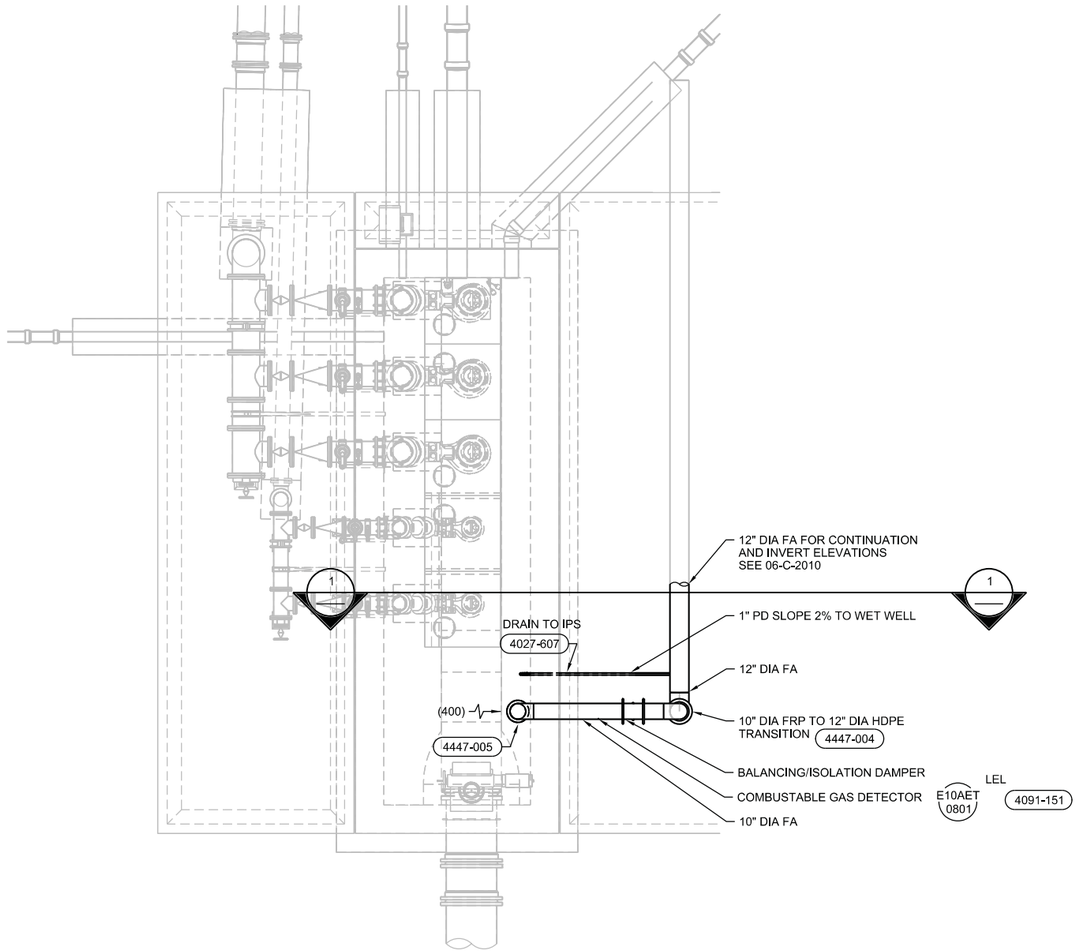
DSGN MD
DR ERB
CHK DWB
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INFLUENT PUMP STATION
MECHANICAL
SECTIONS

REGISTERED PROFESSIONAL ENGINEER
15,479
Daniel P. Graber
OREGON
JULY 25, 1997
DANIEL P. GRABER
EXPIRES 6/30/15

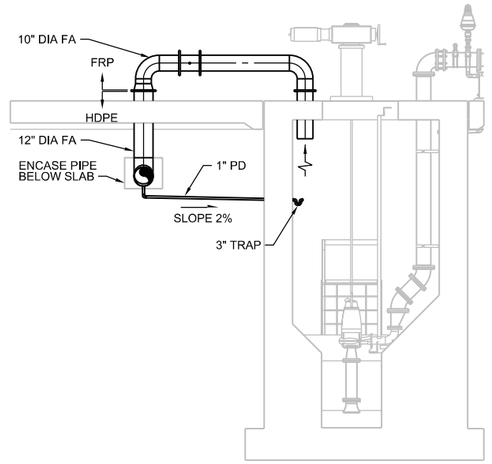
SHEET 10-M-3000
SEQ 87
DATE 12/2014
PROJ. NO. 490515

10-M-3000_469556.dgn



GROUND FLOOR PLAN

1/4"=1'-0"



1 SECTION

1/4"=1'-0"

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DSGN	ATB	DR	SLH	CHK	NRF	APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE

INFLUENT PUMP STATION

HVAC

GROUND LEVEL PLAN

SHEET 10-H-2000

SEQ 88

DATE 12/2014

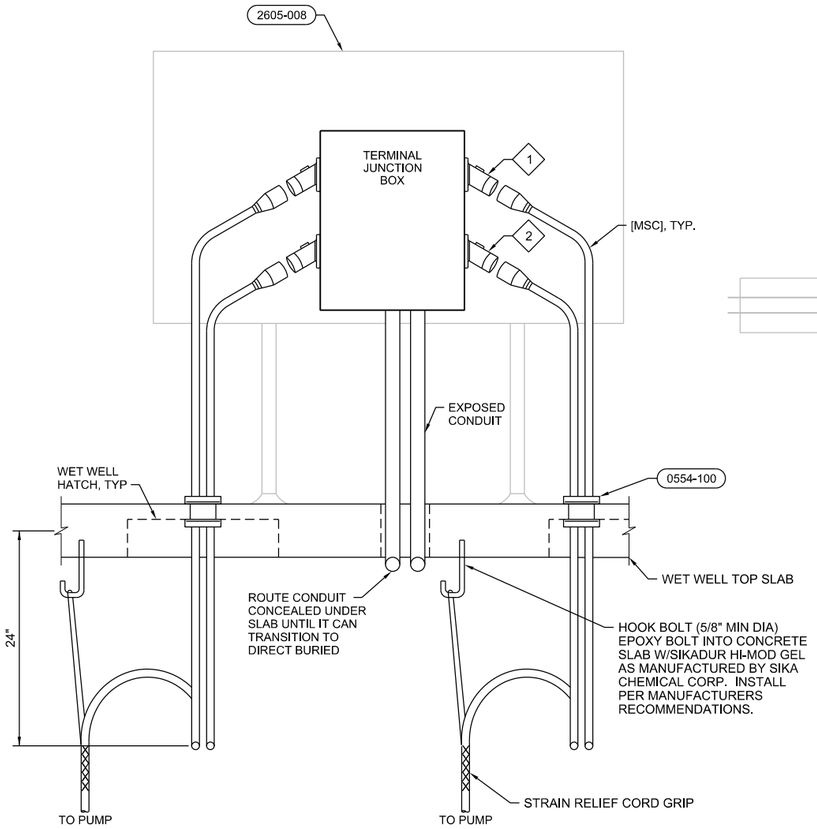
PROJ. NO. 490515

REGISTERED PROFESSIONAL ENGINEER 80759PE OREGON JANUARY 10, 2013 ADAM T. BOYD

Digital Signature

EXP. 12-31-15

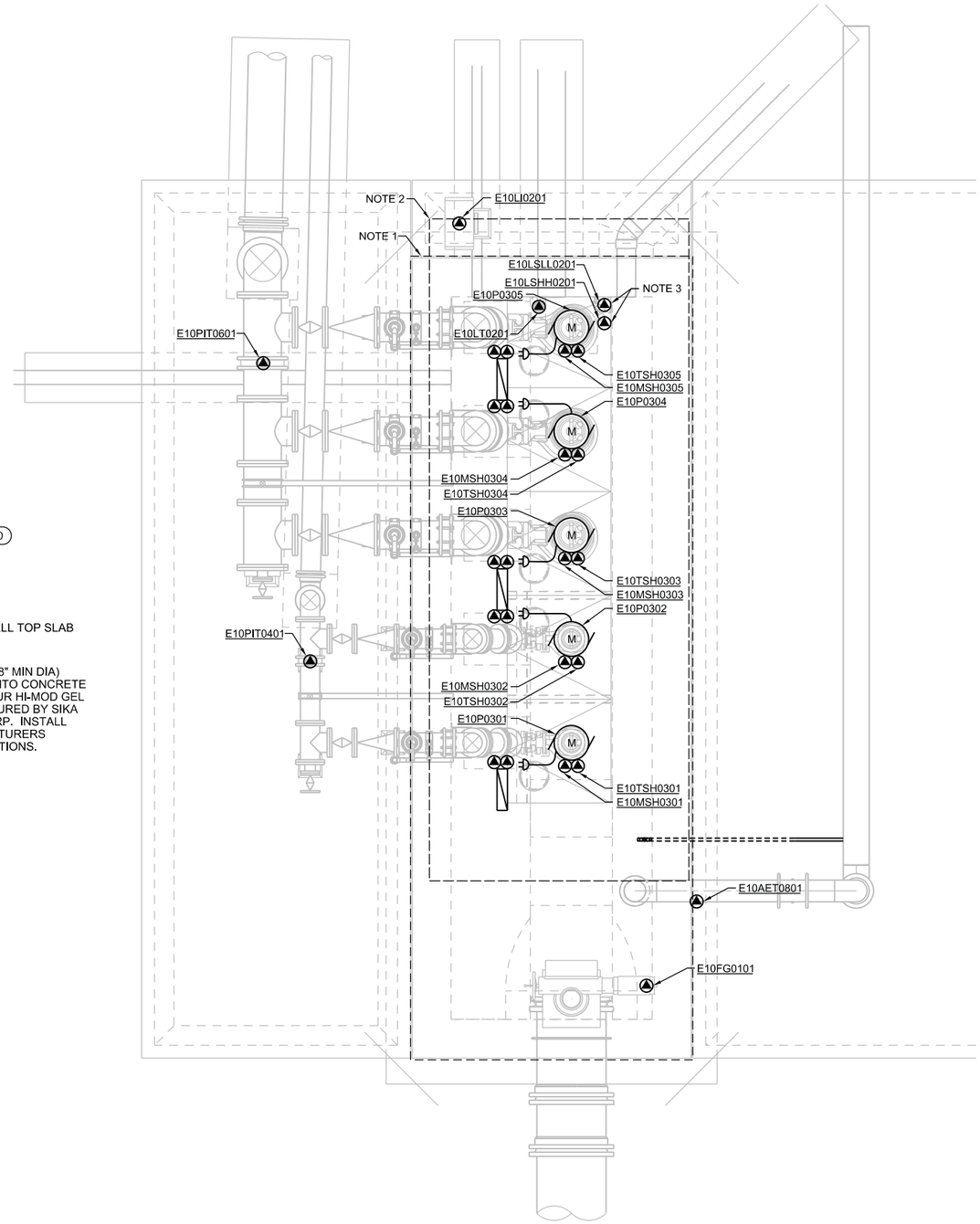
10-H-2000_469556.dgn



1 DETAIL
NTS

NOTES:

1. PROVIDE A MELTRICS DECONTACTOR PLUG AND RECEPTACLE. PROVIDE A P/N DS100 FOR PUMPS 10P03303, 10P0304, AND 10P0305. PROVIDE P/N DNS60 FOR 10P0301 AND 10P0302. RECEPTACLE SHALL INCLUDE A POLY JUNCTION BOX WITH 30 DEGREE NYLON ANGLE ADAPTER. PLUG SHALL INCLUDE A NYLON HANDLE WITH CLAMP AND BUSHING.
2. PROVIDE A MELTRICS DECONTACTOR PLUG AND RECEPTACLE, FOR ALL PUMP CONTROL CABLES, P/N PN7C. RECEPTACLE SHALL INCLUDE POLY JUNCTION BOX WITH 30 DEGREE NYLON ANGLE ADAPTER. PLUG SHALL INCLUDE A NYLON HANDLE WITH CLAMP AND BUSHING.
3. DETAIL IS SHOWN FOR TWO CABLE DESIGN. FOR SUBMERSIBLE PUMPS WITH ONE CABLE PROVIDE ONE PLUG AND RECEPTACLE FOR POWER AND CONTROL. DS100 AND DSN60 PLUG AND RECEPTACLES SHALL INCLUDE SUFFICIENT AUXILIARY PINS TO TERMINATE CONTROL CONDUCTORS



N

GROUND LEVEL PLAN
3/8"=1'-0"

NOTES:

1. HAZARDOUS AREAS: THE FOLLOWING SPACES SHOWN WITHIN DASHED LINES ARE CLASS 1, DIV 1, GROUP D HAZARDOUS AREAS:
   -BELOW GRADE INFLUENT PUMP STATION WET WELL
2. HAZARDOUS AREAS: THE FOLLOWING SPACES WITHIN DASHED LINES ARE CLASS 1, DIV 2, GROUP D HAZARDOUS AREAS:
   -18 INCHES ABOVE HATCH EXTENDING 3 FEET FROM HATCH OPENINGS.
3. E10CS0201 IS LOCATED IN THE ELECTRICAL ROOM, SHOWN ON DRAWING 80-EP-2001. IT CONTAINS THE INTRINSICALLY SAFE RELAY FOR THESE LEVEL SWITCHES.

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CHK BSH
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
INFLUENT PUMP STATION
ELECTRICAL
GROUND LEVEL PLAN

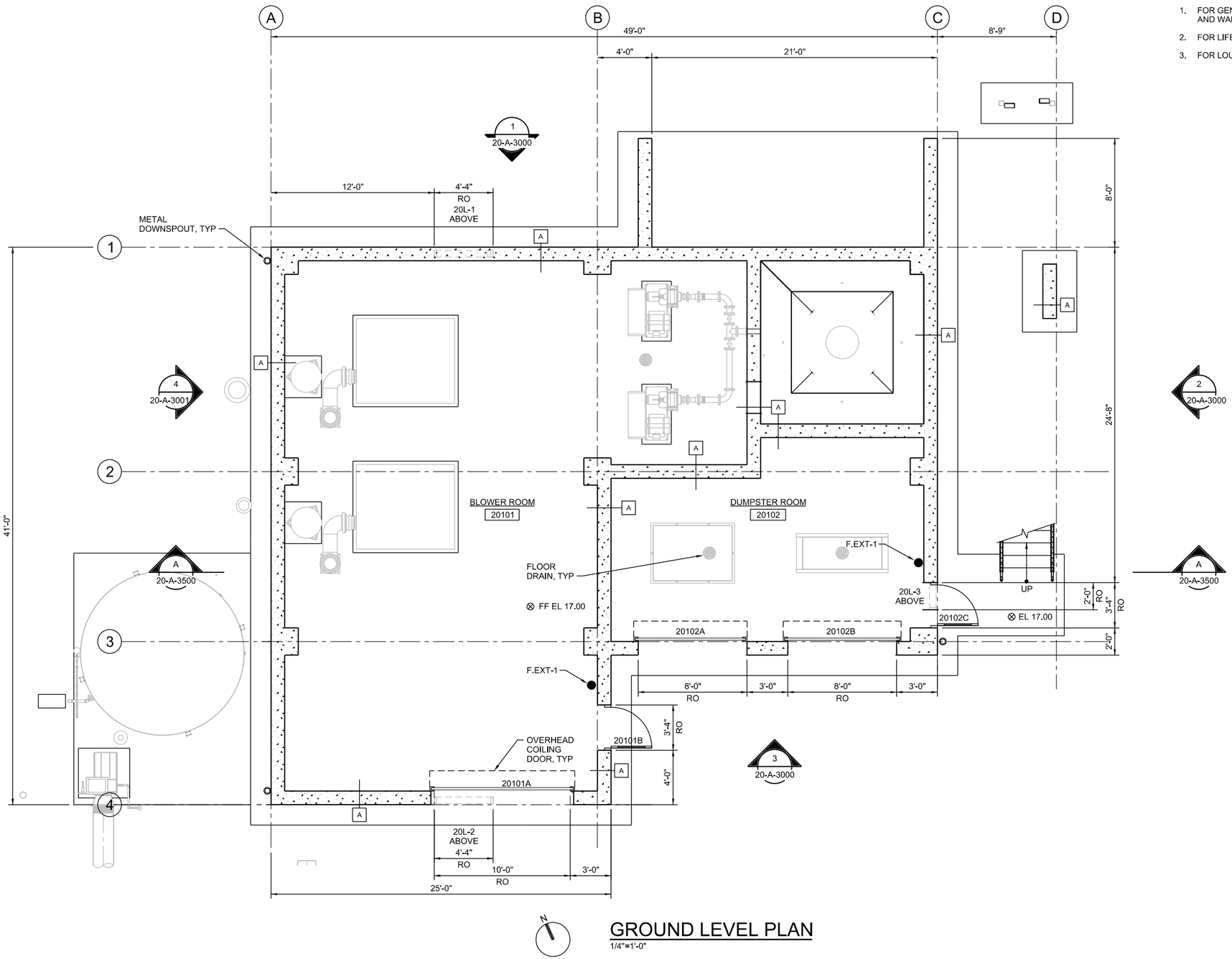
REGISTERED PROFESSIONAL ENGINEER
85946PE
Digital Signature
OREGON
JAN 10, 2012
JASON A. CLIFFORD
EXP. 12-31-15

SHEET 10-E-2000
SEQ 89
DATE 12/2014
PROJ. NO. 490515

SAVED: 7/1/2013 9:56 AM PHAMLIN, PLOTTED: ---- HAMLIN, PRISCILLA/CVO
C:\pw_workdir\ch2mhill_wbg\phamlin\d0256967\Border_469556.dwg

NOTES:

1. FOR GENERAL ARCHITECTURAL NOTES, SYMBOLS, LEGEND AND WALL TYPES, SEE SHEET 01-G-0014.
2. FOR LIFE SAFETY PLANS AND CODE DATA, SEE SHEET 01-G-0015.
3. FOR LOUVER LOCATIONS, SEE SHEET 20-A-3000.



N

GROUND LEVEL PLAN

1/4"=1'-0"

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NO.	DATE	REVISION	BY

DSGN BPT
DR SDB
CHK SJP
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
ARCHITECTURAL
GROUND LEVEL PLAN

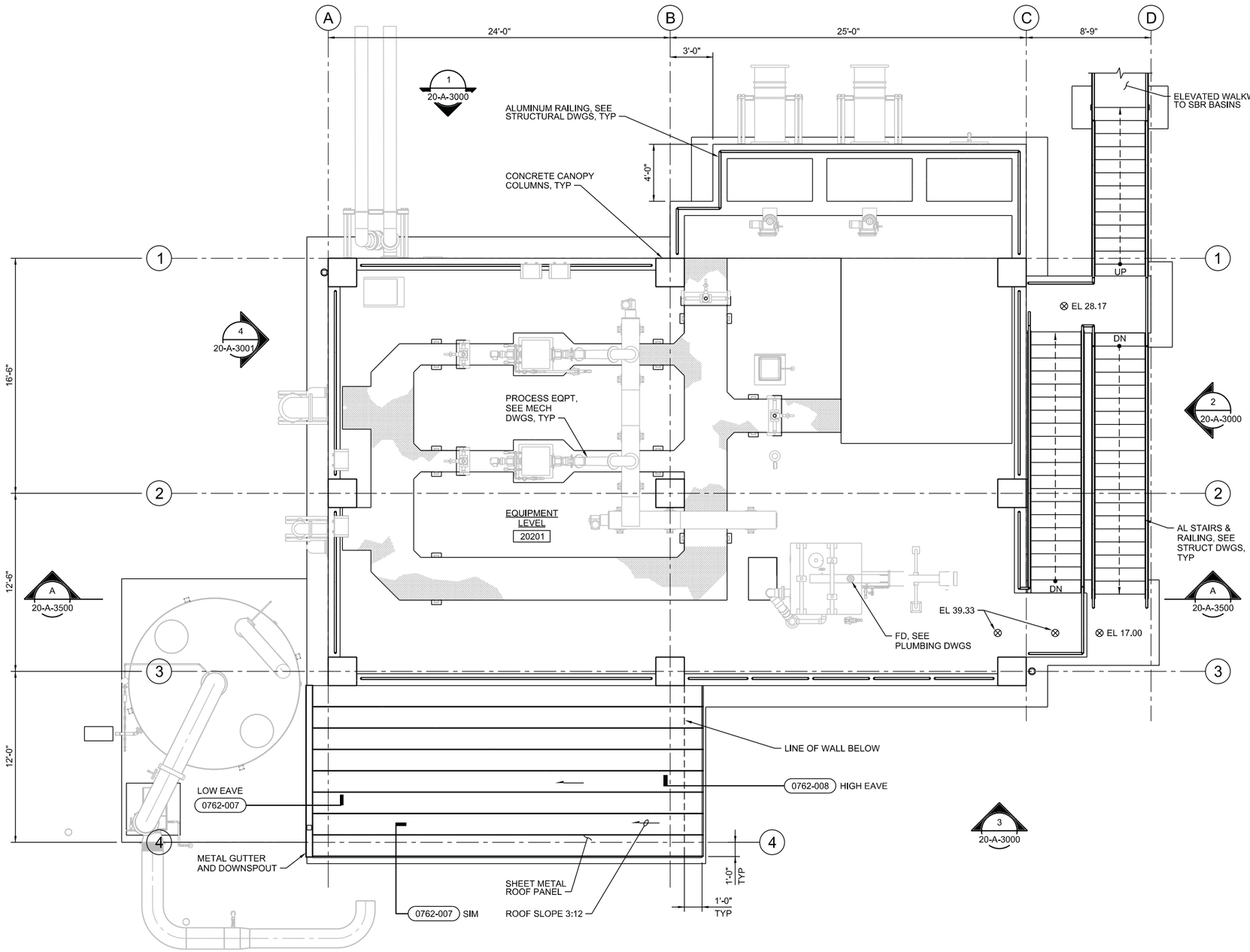
REGISTERED ARCHITECT
ROBERT P. TAVERNA
Digital Signature
ALBANY, OREGON
5797
STATE OF OREGON

SHEET 20-A-2001
SEQ 90
DATE 12/2014
PROJ. NO. 490515

20-A-2001_469556.dgn

NOTES:

1. FOR GENERAL ARCHITECTURAL NOTES, SYMBOLS, LEGEND AND WALL TYPES, SEE SHEET 01-G-0014.
2. FOR LIFE SAFETY PLANS AND CODE DATA, SEE SHEET 01-G-0015.
3. FOR LOUVER LOCATIONS, SEE SHEET 20-A-3000.



N

UPPER LEVEL PLAN

1/4"=1'-0"

VERIFY SCALES
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SAIC
CONSULTING ENGINEERS & GEOLOGISTS, INC.

NO.	REVISION	BY	DATE

DSGN	BPT
DR	SDB
CHK	SJP
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
ARCHITECTURAL
UPPER LEVEL PLAN

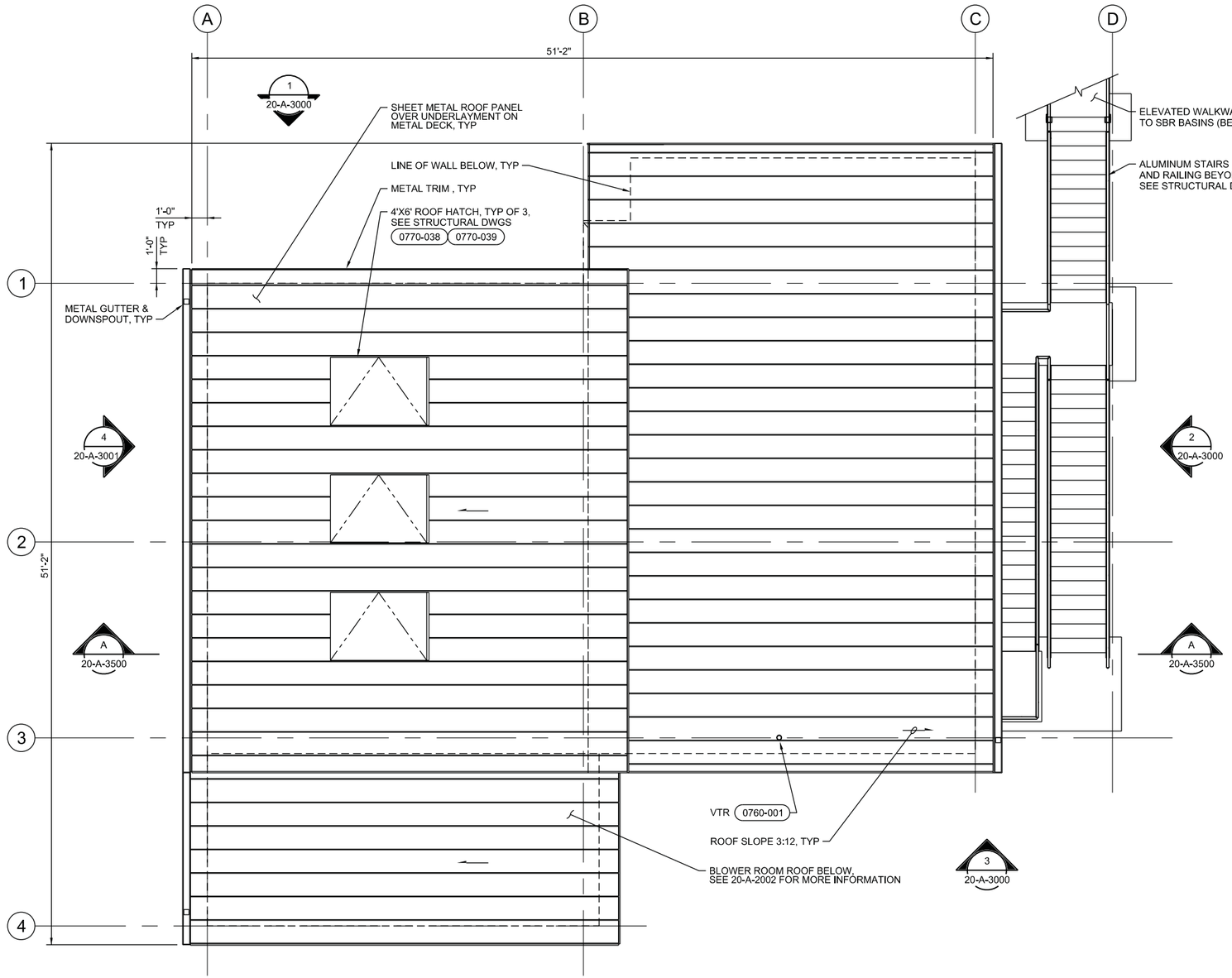
REGISTERED ARCHITECT
ROBERT P. TAVERNA
Digital Signature
ALBANY, OREGON
5797
STATE OF OREGON

SHEET 20-A-2002
SEQ 91
DATE 12/2014
PROJ. NO. 490515

20-A-2002_469556.dgn

NOTES:

1. FOR GENERAL ARCHITECTURAL NOTES, SYMBOLS, LEGEND AND WALL TYPES, SEE SHEET 01-G-0014.
2. FOR LIFE SAFETY PLANS AND CODE DATA, SEE SHEET 01-G-0015.
3. FOR LOUVER LOCATIONS, SEE SHEET 20-A-3000.



N

ROOF PLAN

1/4"=1'-0"

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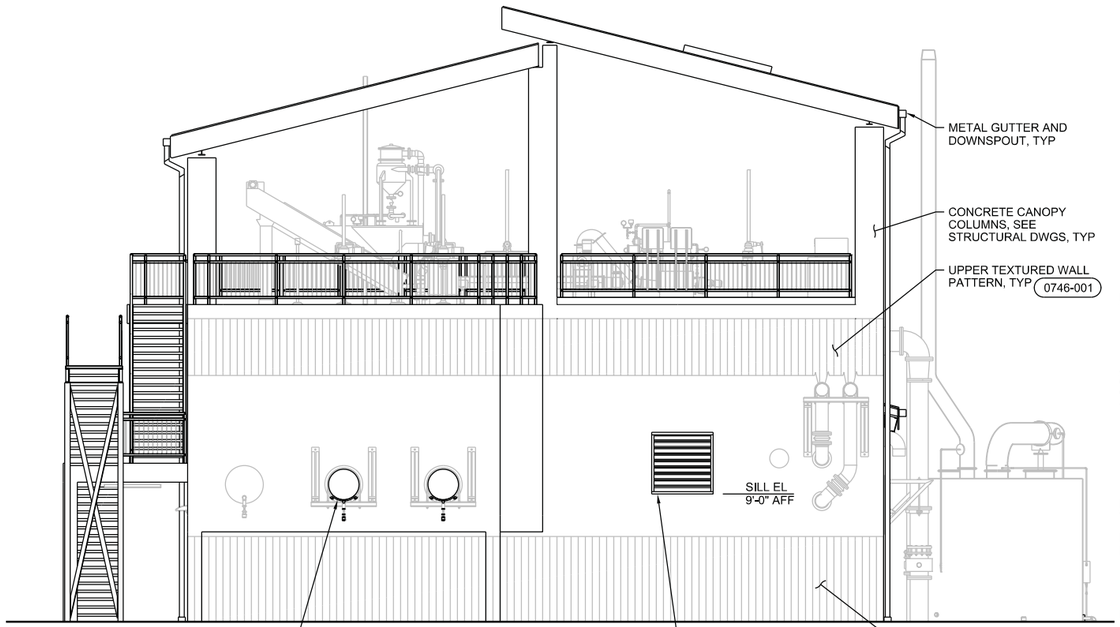
DSGN BPT
DR SDB
CHK SJP
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
ARCHITECTURAL
ROOF PLAN

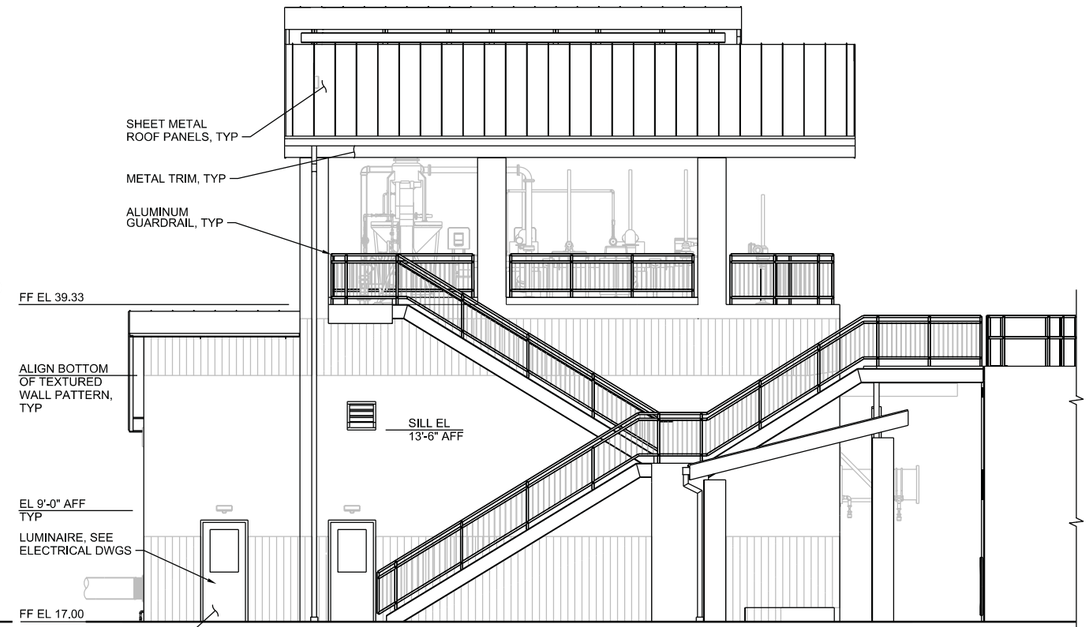
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ROBERT P. TAVERNA
Digital Signature
ALBANY, OREGON
5797
STATE OF OREGON

SHEET 20-A-2003
SEQ 92
DATE 12/2014
PROJ. NO. 490515

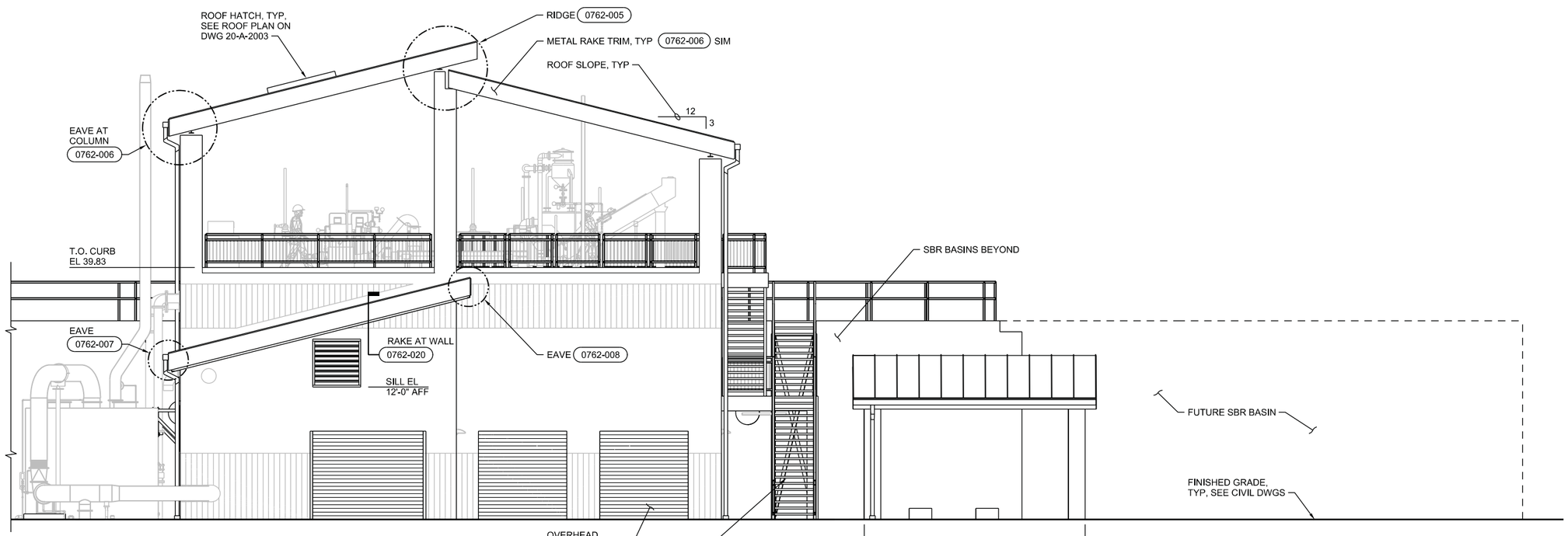
20-A-2003_469556.dgn



1 NORTH ELEVATION
3/16"=1'-0"
20-A-2001
20-A-2002
20-A-2003



2 EAST ELEVATION
3/16"=1'-0"
20-A-2001
20-A-2002
20-A-2003



3 SOUTH ELEVATION
3/16"=1'-0"
20-A-2001 20-A-2002 20-A-2003

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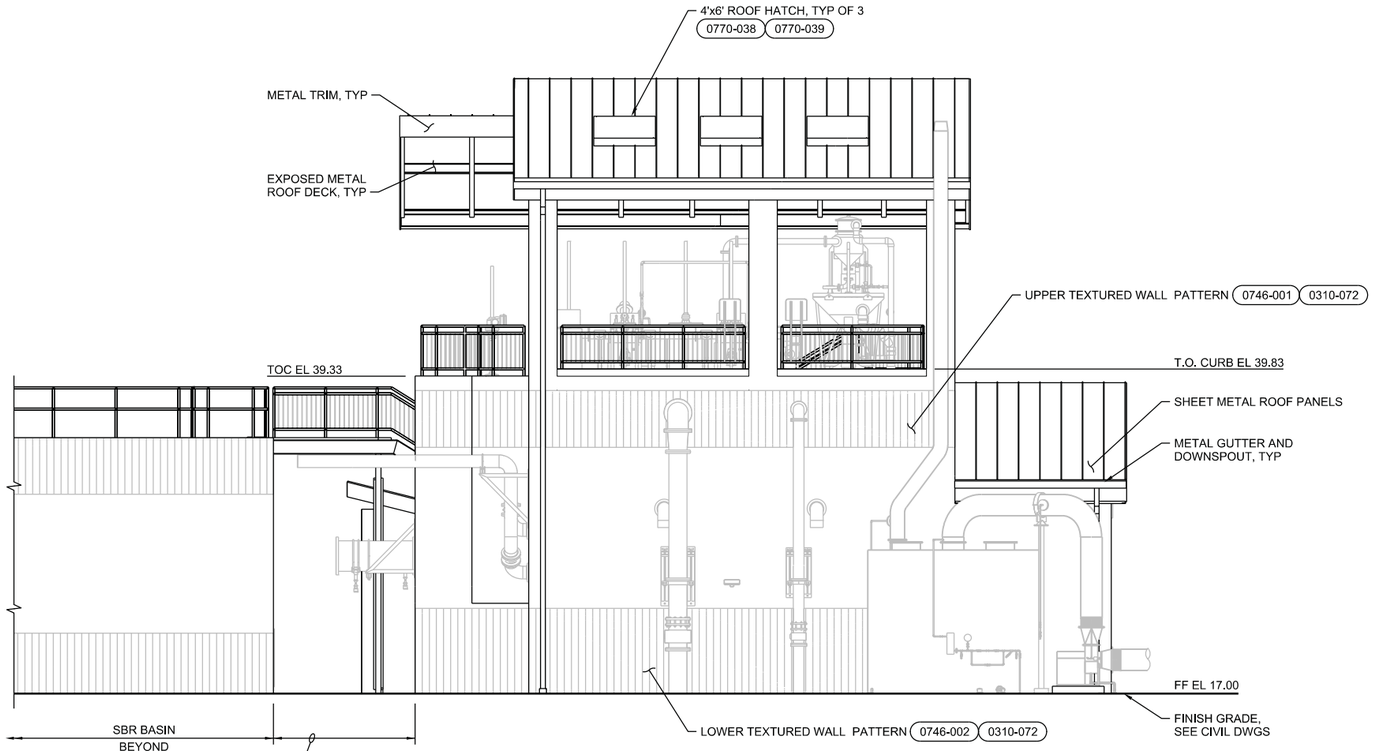
DSGN	BPT
DR	SDB
CHK	SJP
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
ARCHITECTURAL
ELEVATIONS

REGISTERED ARCHITECT
ROBERT P. TAVERNA
Digital Signature
ALBANY, OREGON
5797
STATE OF OREGON

SHEET 20-A-3000
SEQ 93
DATE 12/2014
PROJ. NO. 490515

20-A-3000_469556.dgn



4 WEST ELEVATION

3/16"=1'-0"

20-A-2001
20-A-2002
20-A-2003

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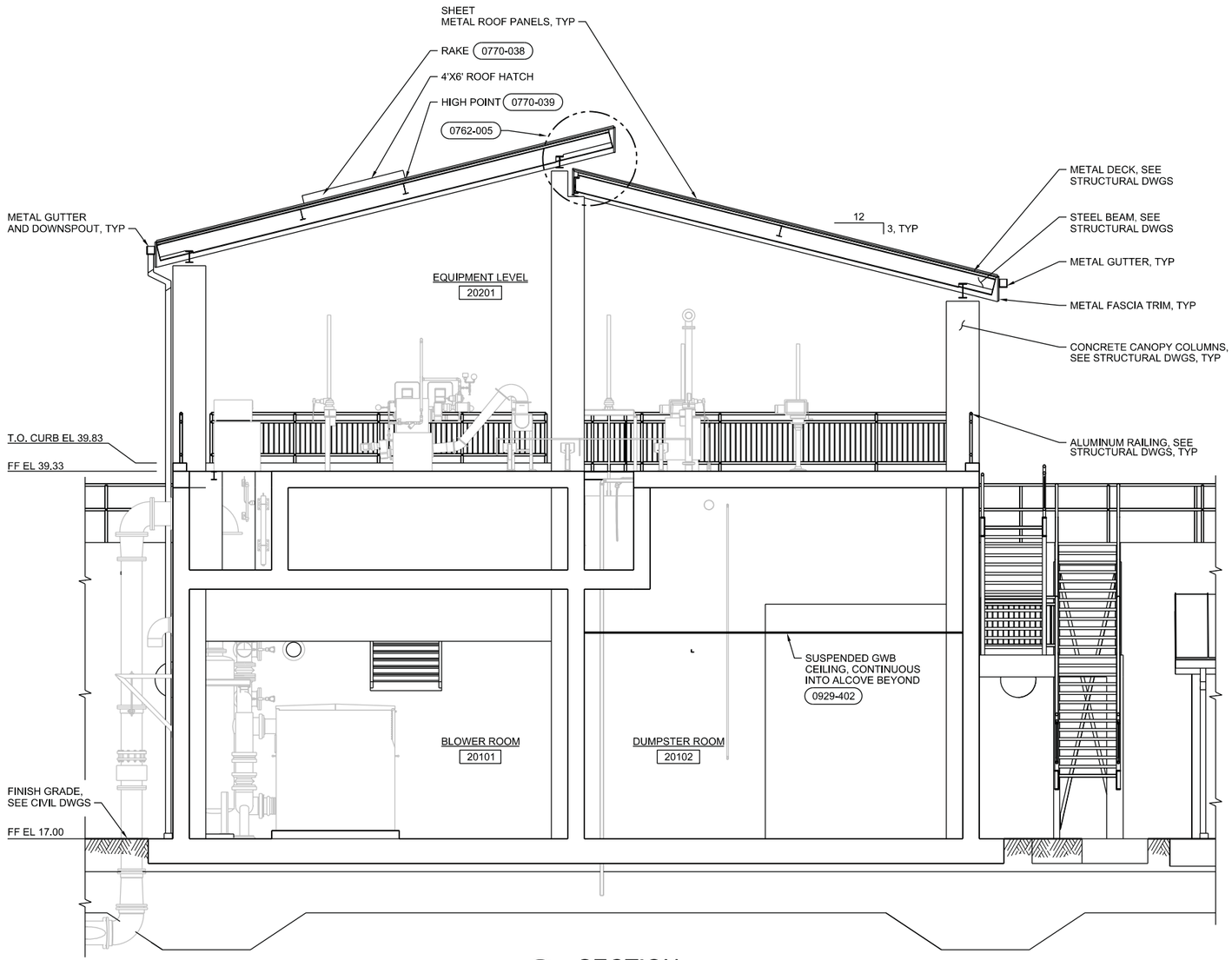
DSGN BPT
DR SDB
CHK SJP
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
ARCHITECTURAL
ELEVATION

REGISTERED ARCHITECT
ROBERT P. TAVERNA
Digital Signature
ALBANY, OREGON
5797
STATE OF OREGON

SHEET 20-A-3001
SEQ 94
DATE 12/2014
PROJ. NO. 490515

20-A-3001_469556.dgn



A SECTION
1/4"=1'-0"

20-A-2001
20-A-2002
20-A-2003

REGISTERED ARCHITECT
ROBERT P. TAVERNA
Digital Signature
ALBANY, OREGON
5797
STATE OF OREGON

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NO.	DATE	REVISION	BY

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DR SDB
CHK SJP
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
ARCHITECTURAL
SECTION

SHEET 20-A-3500
SEQ 95
DATE 12/2014
PROJ. NO. 490515

20-A-3500_469556.dgn

INTERIOR FINISH SCHEDULE

ABBREVIATIONS:

AC	ACOUSTICAL CEILING	EXP	EXPOSED STRUCTURE	MET	METAL
ACFL	ACCESS FLOORING	FCTY	FACTORY	OTS	OPEN TO STRUCTURE
ACMU	ACOUSTICAL CMU	FNSH	FINISH	SLR	CLEAR SEALER
ACT	ACOUSTICAL TILE	GWB	GYPSUM WALL BOARD	SST	STAINLESS STEEL
AS	AS SPECIFIED	HGT	HEIGHT		
CLR	CLEAR	HDNR	CLEAR FLOOR HARDENER		
COL	COLOR	MATL	MATERIAL		
CONC	CONCRETE				

NOTES:
NO. 1 NUMBERS IN THE FNSH COLUMN REFER TO PAINT SYSTEMS IN SPECIFICATION SECTION 09 90 00.
NO. 2 CODES IN COL COLUMN REFER TO COLOR LIST ON THIS SHEET.
NO. 3 FOR EXTERIOR FINISHES AND COLORS, SEE EXTERIOR FINISH SCHEDULE ON THIS SHEET.
NO. 4 FOR DOOR AND FRAME FINISHES, SEE DOOR AND HARDWARE SCHEDULE ON THIS SHEET.
NO. 5 FOR CONCRETE FINISHES SEE SPECIFICATION 03 30 00
NO. 6 FOR SUSPENDED CEILING IN DUMPSTER ROOM SEE SPECIFICATION SECTION 09 29 00

SPACE		FLOOR			BASE AND WAINSCOT					TYPICAL WALL			OTHER WALL			CEILING				MISCELLANEOUS				OTHER REQUIREMENTS
NO.	NAME	SUB FL	FINISH	COL	HGT	MATL	FINISH	COL	WALLS	MATL	FINISH	COL	MATL	FINISH	COL	HGT	MATL	FINISH	COL	ITEM	MATL	FINISH	COL	
20101	BLOWER ROOM	CONC	HDNR	CLR	-	-	-	-	-	CONC	SLR	CLR	-	-	-	OTS	CONC	-	-	-	-	-	-	NOTE 5
20102	DUMPSTER ROOM	CONC	HDNR	CLR	-	-	-	-	-	CONC	SLR	CLR	-	-	-	12'-6"	GWB	115	P-1	-	-	-	-	NOTE 5, 6
20201	EQUIPMENT LEVEL	CONC	SLR	CLR	-	-	-	-	-	-	-	-	-	-	-	OTS	MET	5	P-1	CHECKERED PLATE	AL	FCTY	AS	

EXTERIOR FINISH SCHEDULE

ITEM / MATERIAL	FINISH	COLOR
EXPOSED STRUCTURAL AND MISC. STEEL	PS-5	P-1
EXPOSED METAL DECK	PS-5	P-1
SHEET METAL ROOF PANELS	FCTY	M-1
SHEET METAL TRIM	FCTY	M-2
METAL GUTTERS AND DOWNSPOUTS	FCTY	M-2
ALUMINUM DOORS AND FRAMES	FCTY	O-1
OVERHEAD COILING DOORS	FCTY	O-1
LOUVERS	FCTY	O-2
STAIRS AND RAILINGS	FCTY ANODIZED	AS SPECIFIED
CONCRETE AND FORMLINER	AS SPECIFIED	AS SPECIFIED

LOUVER SCHEDULE

LOUVER TYPE ABBREVIATIONS:
DB DRAINABLE
AL ALUMINUM

OTHER ABBREVIATIONS:
AS AS SELECTED
FCTY FACTORY

NOTES:
NO. 1 FOR LOUVER DETAILS, SEE DESIGN DETAILS.
NO. 2 CODES IN COL COLUMN REFER TO COLOR LIST ON THIS SHEET.

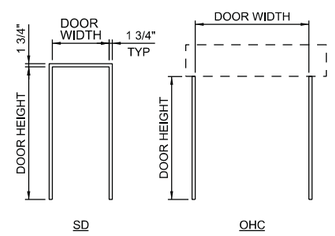
NO.	OPENING		LOUVER				DETAILS			SILLS	FREE AREA	OTHER REQUIREMENTS
	WIDTH	HEIGHT	MATL	TYPE	FINISH	COL	HEAD	JAMB	SILL	HEIGHT AFF		
20-L-1	4'-4"	4'-4"	AL	DB	FCTY	O-2	0890-001	0890-001	0890-001	9'-0"	50%	
20-L-2	4'-4"	4'-4"	AL	DB	FCTY	O-2	0890-001	0890-001	0890-001	13'-0"	50%	
20-L-3	2'-0"	2'-0"	AL	DB	FCTY	O-2	0890-001	0890-001	0890-001	12'-0"	40%	

COLOR LIST

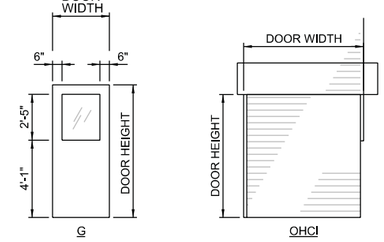
NOTES:
NO. 1 COLOR SELECTIONS FOR THIS PROJECT MAY BE NOTED IN DOOR AND HARDWARE SCHEDULE, WINDOW SCHEDULE, INTERIOR FINISH SCHEDULE, EXTERIOR FINISH SCHEDULE, LOUVER SCHEDULE, PIPING SCHEDULE AND ON THE DRAWINGS BY THE LETTER-NUMBER COMBINATION IN THE MARK COLUMN OF THIS LIST.
NO. 2 SOME COLOR SELECTIONS MAY BE MADE IN VARIOUS SPECIFICATION SECTIONS.
NO. 3 USE ONLY THE COLORS NOTED OR SCHEDULED. IF A COLOR SELECTION IS NOT MADE, REQUEST ONE FROM THE ENGINEER.

MARK	MATERIAL	MANUFACTURER	COLOR
M	METAL PANELS AND TRIM		
M-1	METAL ROOF AND SOFFIT PANELS	AEP	COOL LEAF GREEN
M-2	METAL FASCIA, AND RAKE TRIM	AS SPECIFIED	MATCH WILLAMETTE GRAYSTONE CASTLE WHITE
	METAL GUTTERS AND DOWNSPOUTS	AS SPECIFIED	MATCH WILLAMETTE GRAYSTONE CASTLE WHITE
O	OPENINGS		
O-1	ALUMINUM DOORS AND FRAMES	AS SPECIFIED	MATCH AEP COOL LEAF GREEN
	OVERHEAD COILING DOORS	AS SPECIFIED	MATCH AEP COOL LEAF GREEN
O-2	LOUVERS	AS SPECIFIED	MATCH WILLAMETTE GRAYSTONE CASTLE WHITE
P	PAINTING		
P-1	EXPOSED METAL DECK, STRUCTURAL AND MISC. STEEL	SHERWIN WILLIAMS	SW-7063 NEBULOUS WHITE

DOOR FRAME TYPES



DOOR TYPES



DOOR AND HARDWARE SCHEDULE

ABBREVIATIONS:

AL	ALUMINUM	CONSTR	CONSTRUCTION	MATL	MATERIAL
AS	AS SPECIFIED	FCTY	FACTORY	MET	METAL
CLSR	CLOSER	FNSH	FINISH	OHC	OVERHEAD COILING
COL	COLOR	K-PL	KICK PLATE	OHCI	OVERHEAD COILING INSULATED
SG	SAFETY GLASS				
TSHLD	THRESHOLD				
W-S	WEATHERSTRIPPING				

NOTES:
NO. 1 SEE THIS SHEET FOR DOOR AND FRAME TYPES.
NO. 2 FOR DOOR DETAILS. SEE DESIGN DETAILS
NO. 3 NUMBERS IN "FNSH" COLUMN REFER TO PAINT SYSTEMS IN SPECIFICATION 09 90 00.
NO. 4 CODES IN "COL" COLUMN REFER TO COLOR LIST ON THIS SHEET.
NO. 5 FOR GLASS TYPES, SEE SPECIFICATION SECTION 08 80 00.

NO.	OPENING							FRAME				DETAILS			HARDWARE										FIRE PROTECTION RATING	OTHER REQUIREMENTS
	SIZE		DOOR												HINGE	LOCK	EXIT	CLSR	P-P	STOP	BOLT	K-PL	TSHLD	W-S	MISC	
	WIDTH	HEIGHT	CONSTR.	TYPE	GLASS	FNSH	COL	MATL	TYPE	FNSH	COL	HEAD	JAMB	SILL												
20101A	10'-0"	8'-0"	MET	OHCI	-	FCTY	O-1	MET	OHC	FCTY	O-1	0833-003	0833-004	0833-004	ALL HARDWARE BY DOOR MANUFACTURER											
20101B	3'-0"	7'-0"	AL	G	SG	FCTY	O-1	AL	SD	FCTY	O-1	0811-001	0811-001	0871-010	H1	L1	-	C6	-	-	-	K1	T1	W2	-	-	
20102A	8'-0"	8'-0"	MET	OHCI	-	FCTY	O-1	MET	OHC	FCTY	O-1	0833-003	0833-004	0833-004	ALL HARDWARE BY DOOR MANUFACTURER											
20102B	8'-0"	8'-0"	MET	OHCI	-	FCTY	O-1	MET	OHC	FCTY	O-1	0833-003	0833-004	0833-004	ALL HARDWARE BY DOOR MANUFACTURER											
20102C	3'-0"	7'-0"	AL	G	SG	FCTY	O-1	AL	SD	FCTY	O-1	0811-001	0811-001	0871-010	H1	L1	-	C6	-	-	-	K1	T1	W2	-	-	

REGISTERED ARCHITECT
ROBERT P. TAVERNA
Digital Signature
ALBANY, OREGON
5797
STATE OF OREGON

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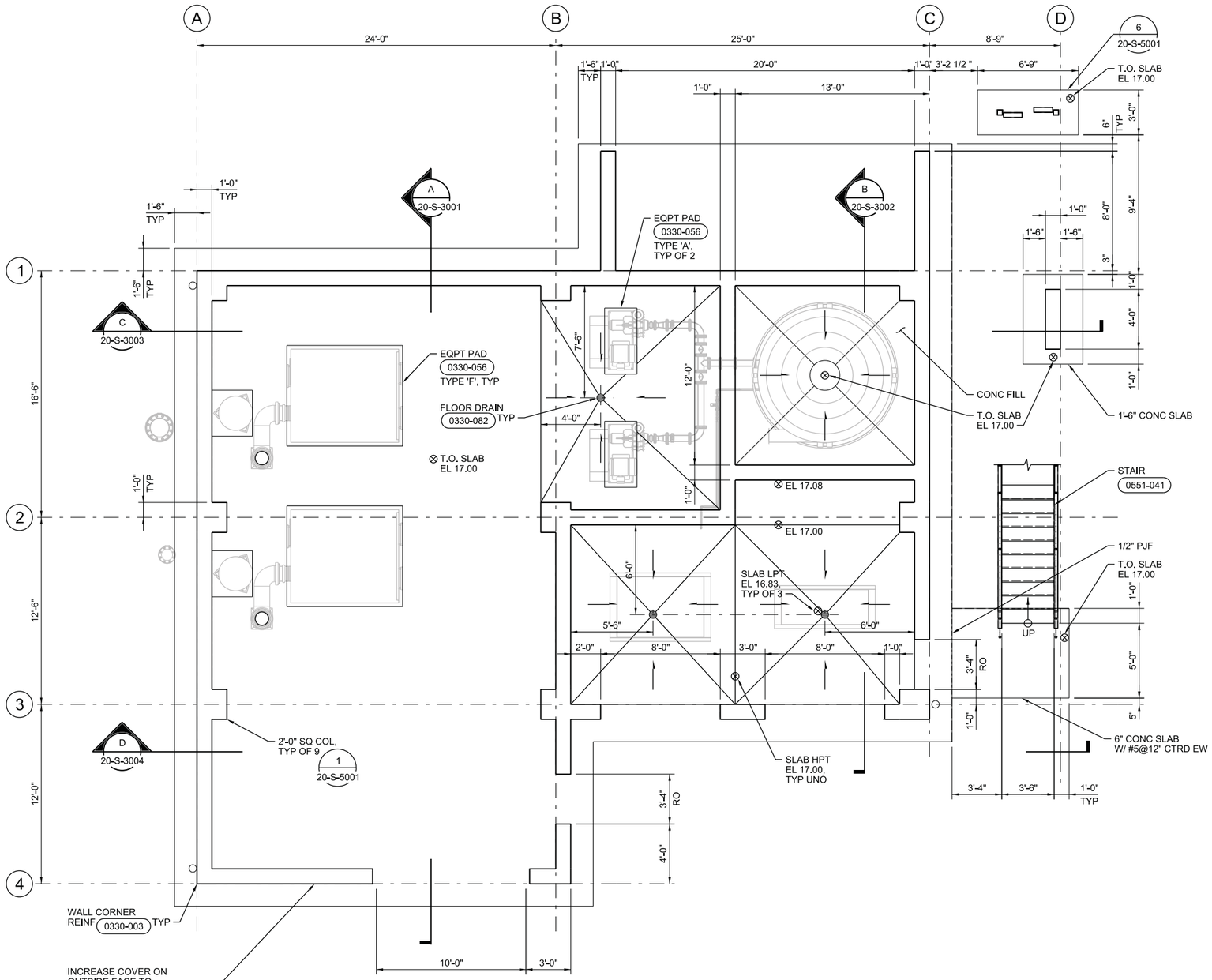
NO.	DATE	REVISION	BY

DSGN BPT
DR SDB
CHK SJP
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
ARCHITECTURAL
SCHEDULES

SHEET 20-A-6001
SEQ 96
DATE 12/2014
PROJ. NO. 490515

20-A-6001_469556.dgn



N

FOUNDATION PLAN

1/4"=1'-0"

FACILITY NOTES:

1. FOR GENERAL STRUCTURAL NOTES, SEE DRAWINGS 01-G-0020 AND 01-G-0021.
2. FOR STATEMENT OF SPECIAL INSPECTION PLAN, SEE DRAWINGS 01-G-0022 THROUGH 01-G-0026.
3. SEISMIC DESIGN CRITERIA:
   MAIN LATERAL FORCE RESISTING SYSTEM:
   SPECIAL REINFORCED MASONRY SHEAR WALLS

   RESPONSE MODIFICATION COEFFICIENT
   R = 6

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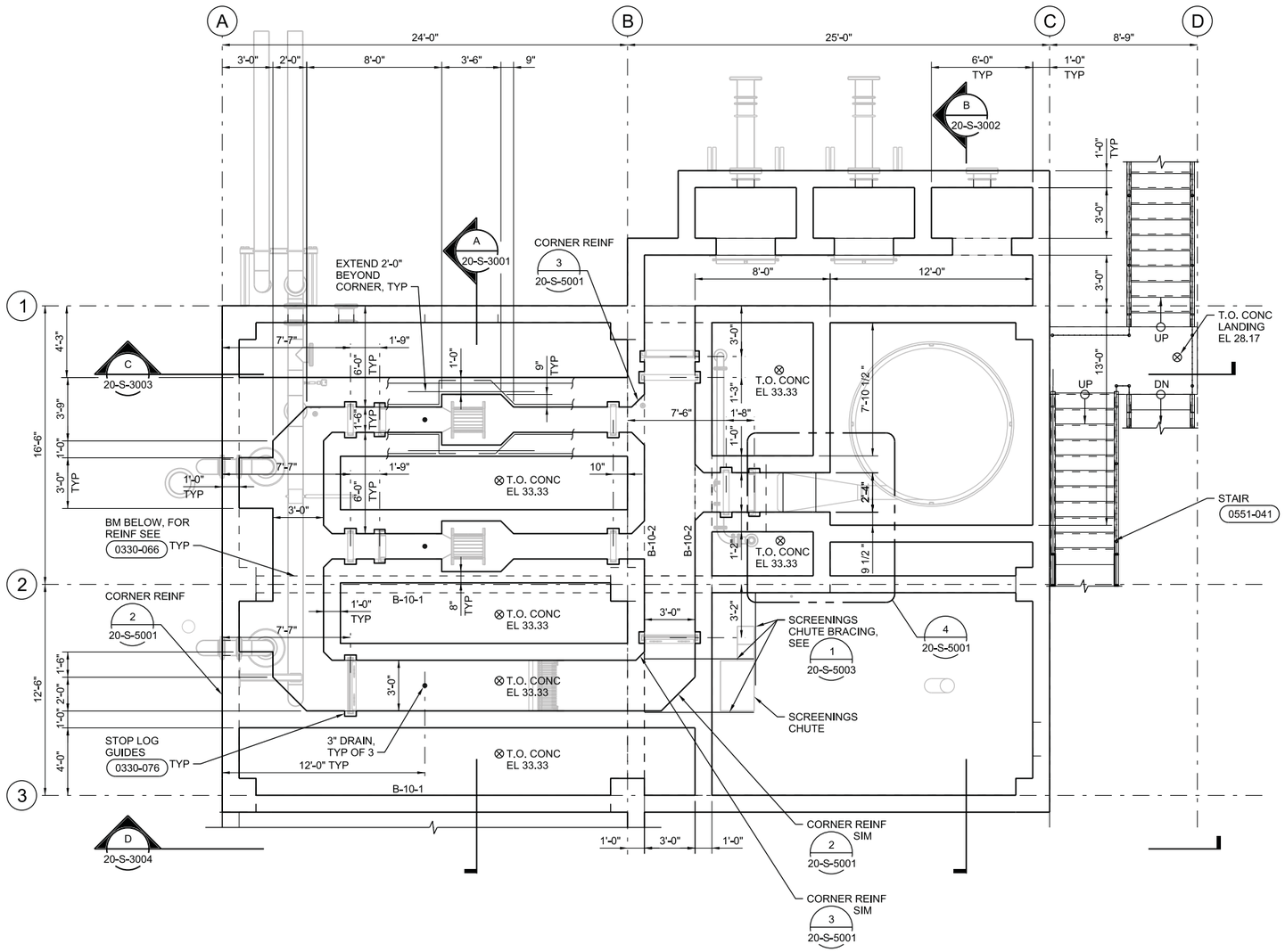
NO.	DATE	REVISION	BY

DSGN LAS
DR HFJ
CHK ALF
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
STRUCTURAL
FOUNDATION PLAN

REGISTERED PROFESSIONAL ENGINEER
76316PE
Digital Signature
OREGON
MAY 10, 2011
LUKE AARON SCOGGINS
EXP. 06-30-16

SHEET 20-S-2200
SEQ 97
DATE 12/2014
PROJ. NO. 490515



N

MID LEVEL PLAN AT EL 33.50

1/4"=1'-0"

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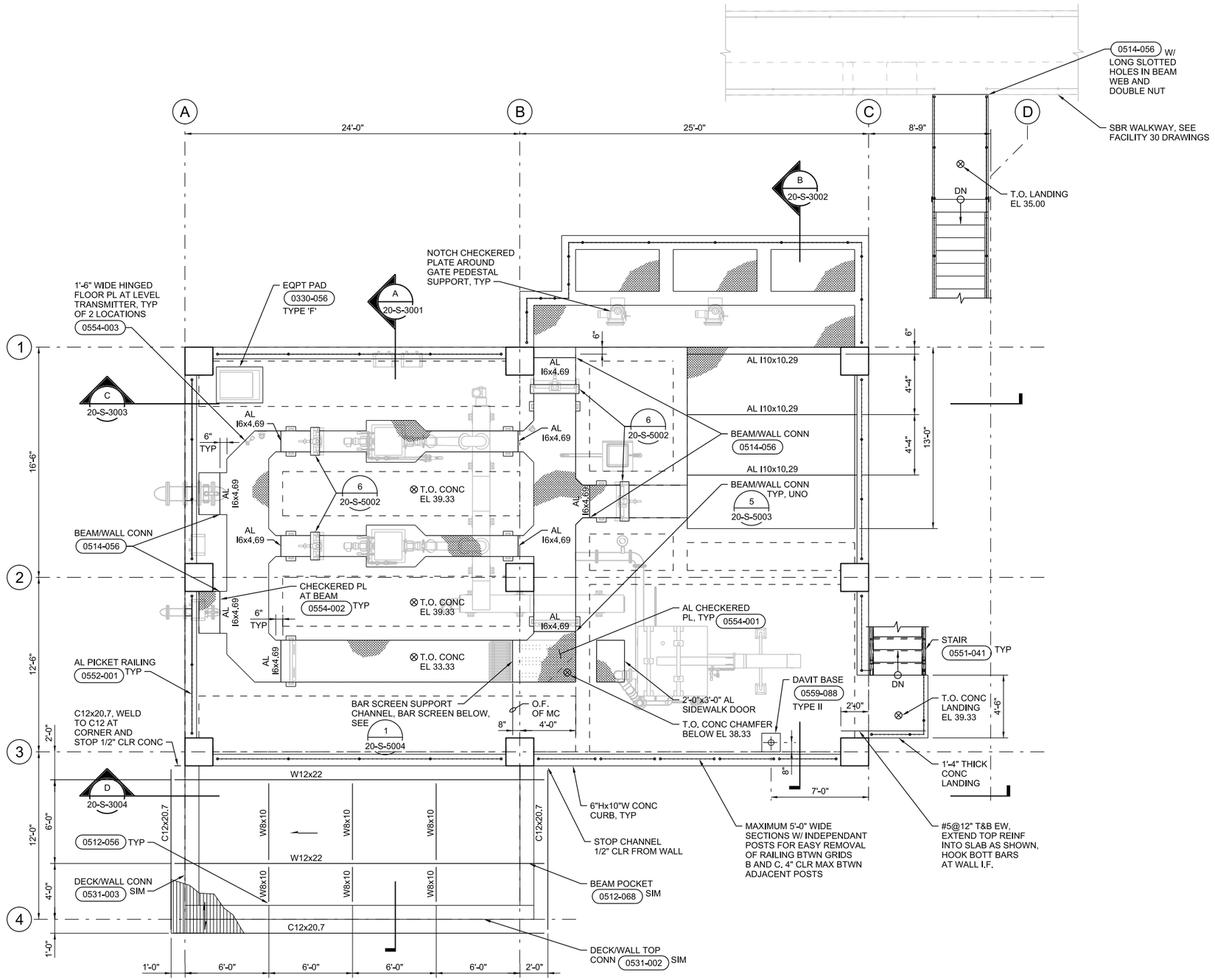
NO.	DATE	REVISION	BY

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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
STRUCTURAL
MID LEVEL AT EL 33.50 PLAN

SHEET 20-S-2300
SEQ 98
DATE 12/2014
PROJ. NO. 490515

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N

UPPER LEVEL PLAN

1/4"=1'-0"

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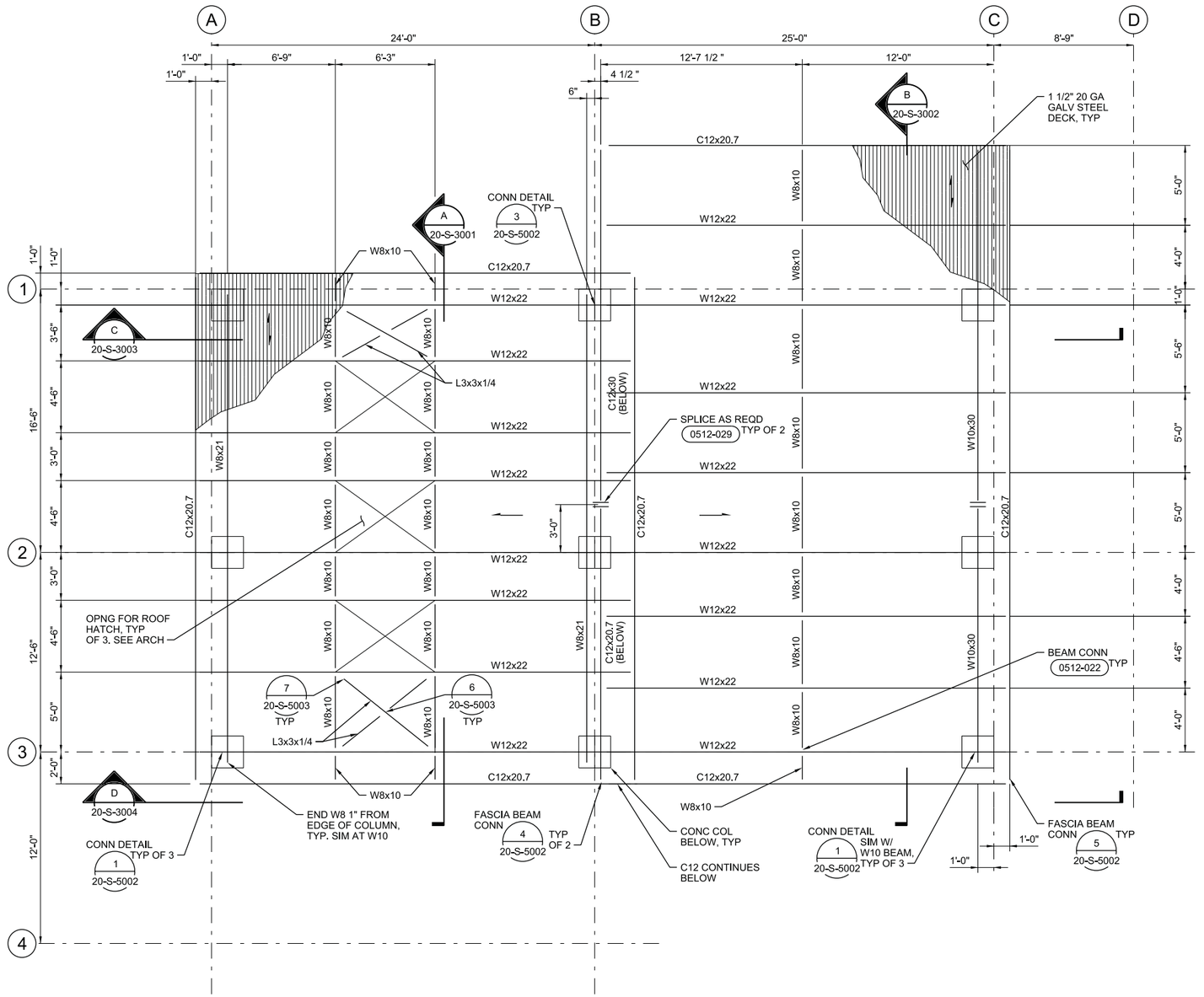
NO.	DATE	REVISION	BY

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CHK	ALF
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
STRUCTURAL
UPPER LEVEL PLAN

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EXP. 06-30-16

SHEET 20-S-2400
SEQ 99
DATE 12/2014
PROJ. NO. 490515



NOTE:

ALL ROOF STEEL AND CONNECTION HARDWARE SHALL BE HOT-DIP GALVANIZED.

STEEL DECK & ATTACHMENT SCHEDULE

TYPE	DEPTH	PANEL WIDTH	DESIGN THICKNESS	MIN YIELD STRENGTH Fy (ksi)	MIN (+) S (in^3/ft)	MIN I (in^4/ft)	MIN DIAPHRAGM SHEAR CAPACITY (lbs/ft)	FINISH	AT PERPENDICULAR SUPPORTS		AT PARALLEL SUPPORTS		AT SIDELAPS	
									TYPE	NO PER SHEET	TYPE	SPACING	TYPE	SPACING
ROOF DECK	1.5"	36"	20 GA	33	0.235	0.248	500	GALV, G-90	5/8" PUDDLE WELD	4	5/8" PUDDLE WELD	24"	VSC	24"

DECK SCHEDULE NOTE:

MANUFACTURER'S STANDARD SIDELAP CONNECTION OR OTHER SIDELAP CONNECTIONS ARE ALLOWED PER APPROVAL OF STRUCTURAL ENGINEER.

N

ROOF FRAMING PLAN

1/4"=1'-0"

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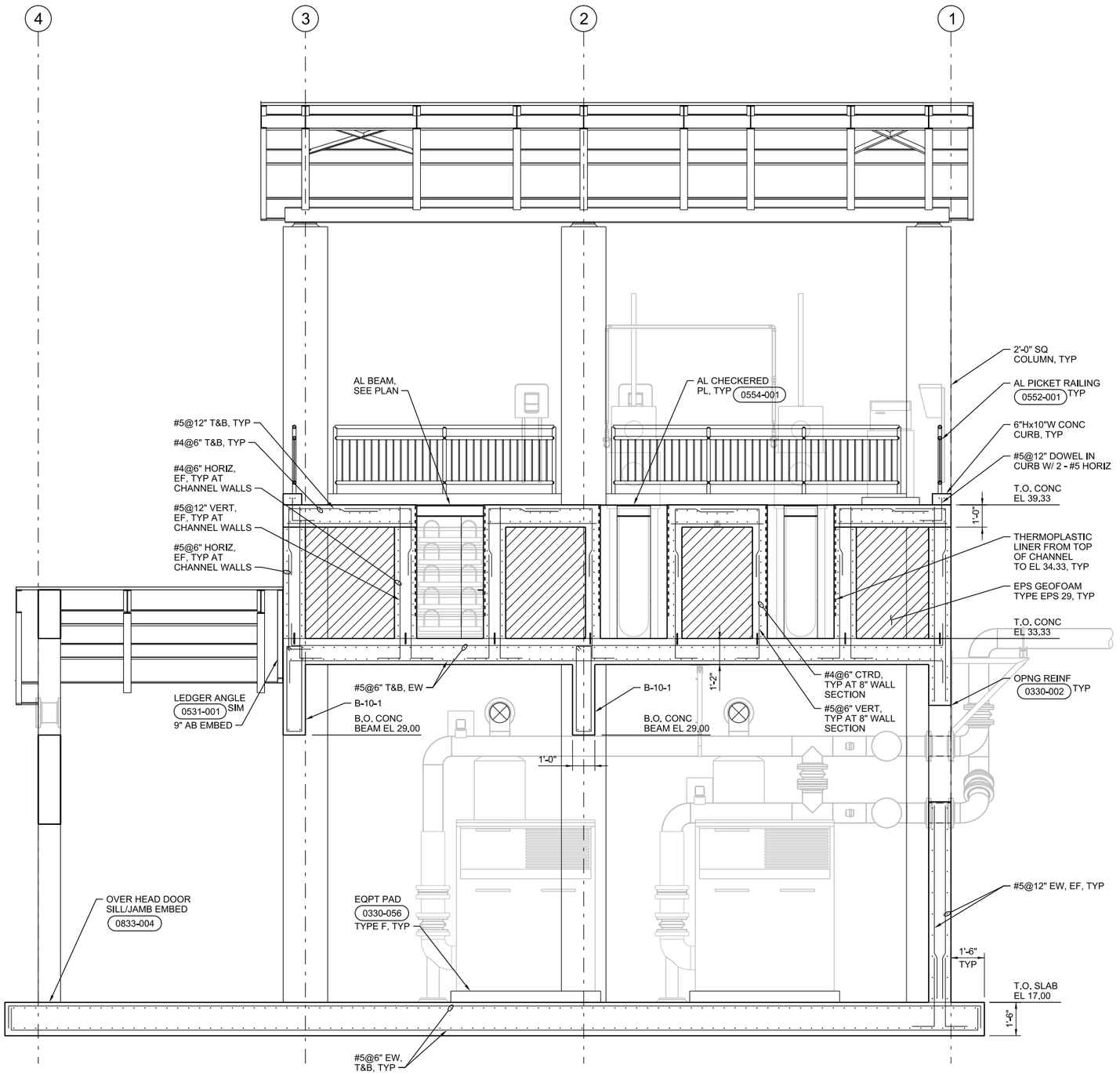
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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
STRUCTURAL
ROOF FRAMING PLAN

SHEET 20-S-2500
SEQ 100
DATE 12/2014
PROJ. NO. 490515



A SECTION
3/8"=1'-0"

20-S-2200, 20-S-2300
20-S-2400, 20-S-2500
20-S-3002, 20-S-3003
20-S-3004

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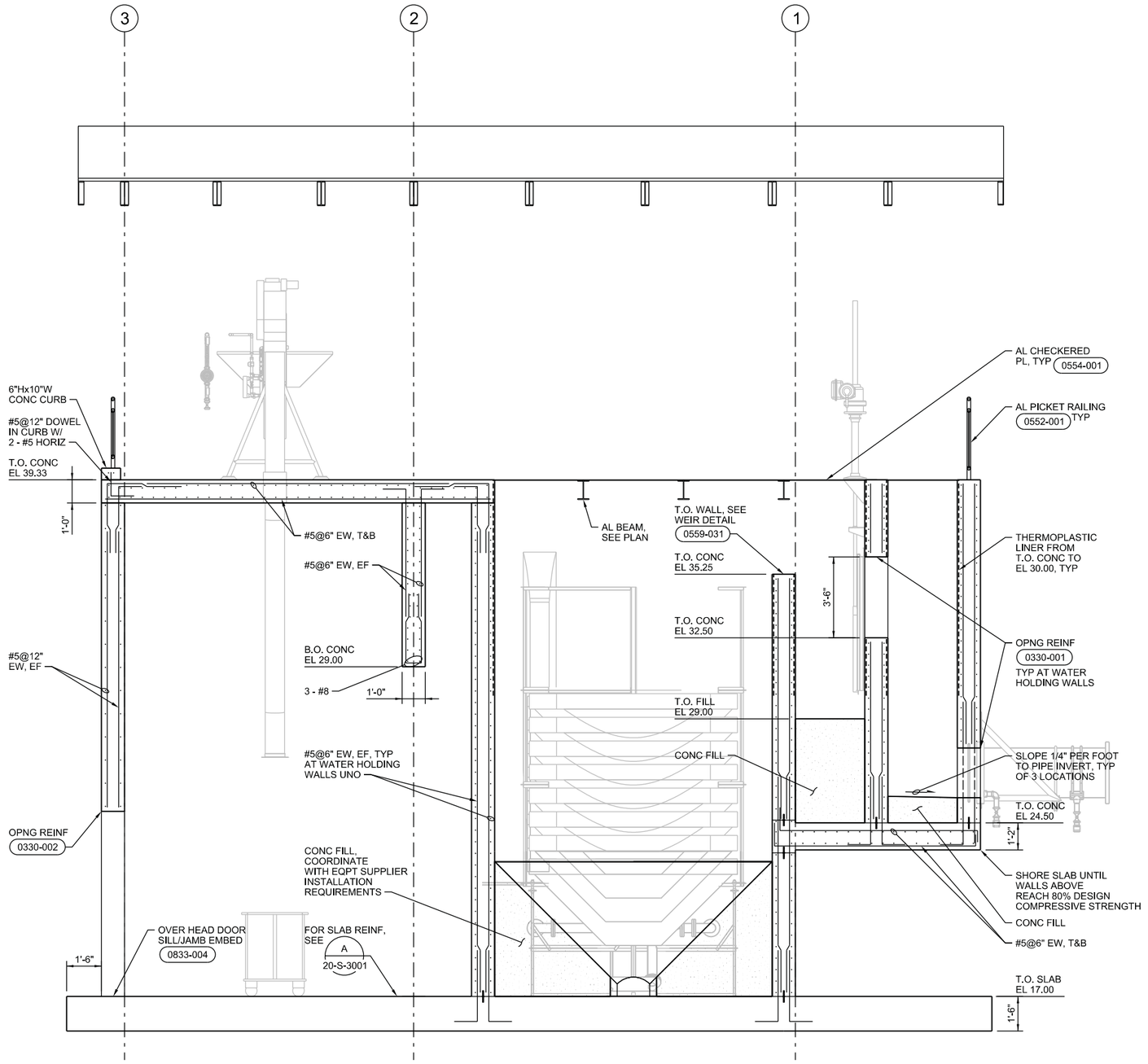
NO.	DATE	REVISION	BY

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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
STRUCTURAL
SECTION

SHEET 20-S-3001
SEQ 101
DATE 12/2014
PROJ. NO. 490515

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MAY 10, 2011
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EXP. 06-30-16



B SECTION

3/8"=1'-0"

20-S-2200
20-S-2300
20-S-2400
20-S-2500
20-S-3003

VERIFY SCALES
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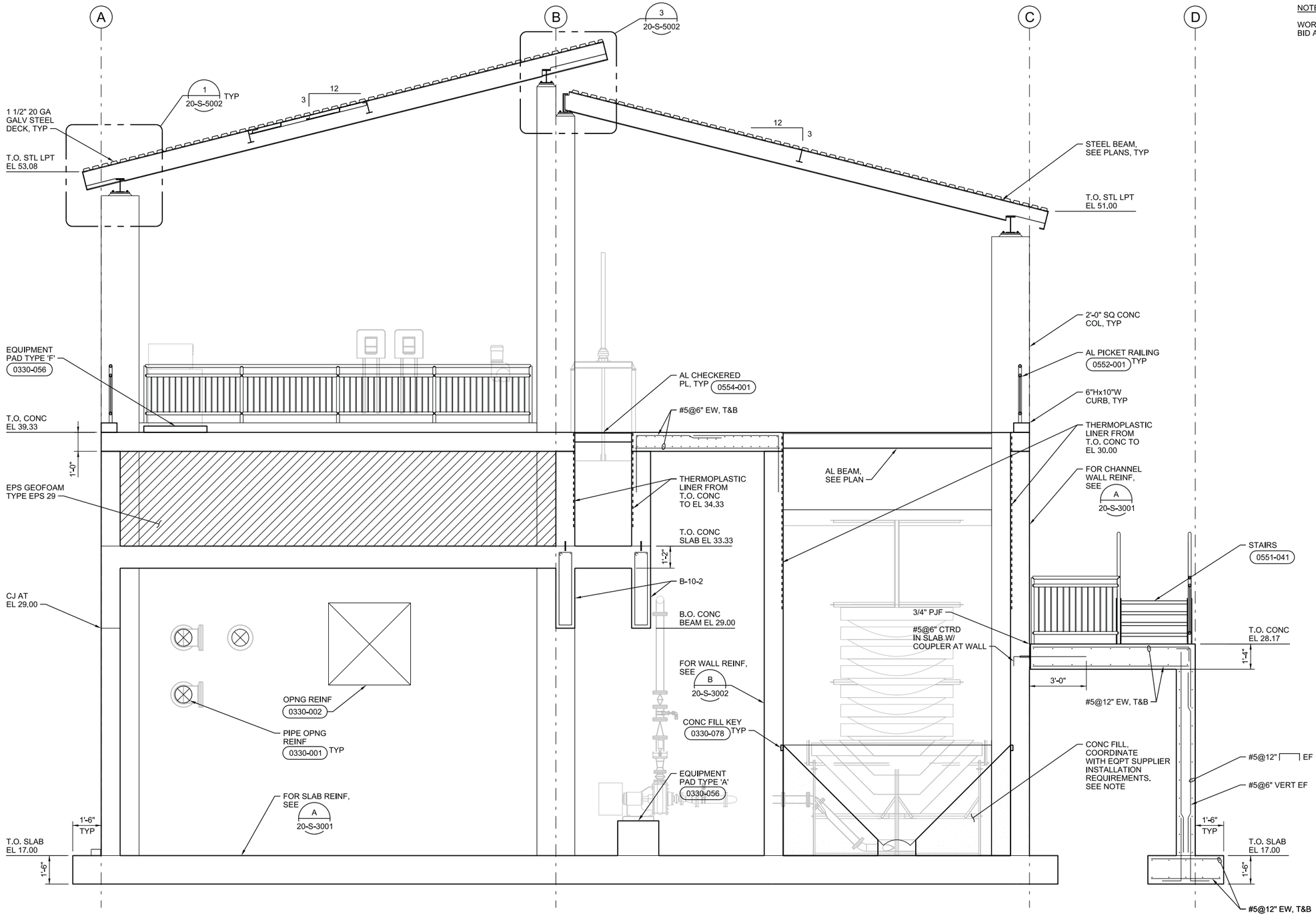
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EXP. 06-30-16

SHEET 20-S-3002
SEQ 102
DATE 12/2014
PROJ. NO. 490515

NOTE:

WORK TO BE PART OF BID ALTERNATE 1.



C SECTION

3/8"=1'-0"

20-S-2200
20-S-2300
20-S-2400
20-S-2500

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0 1"
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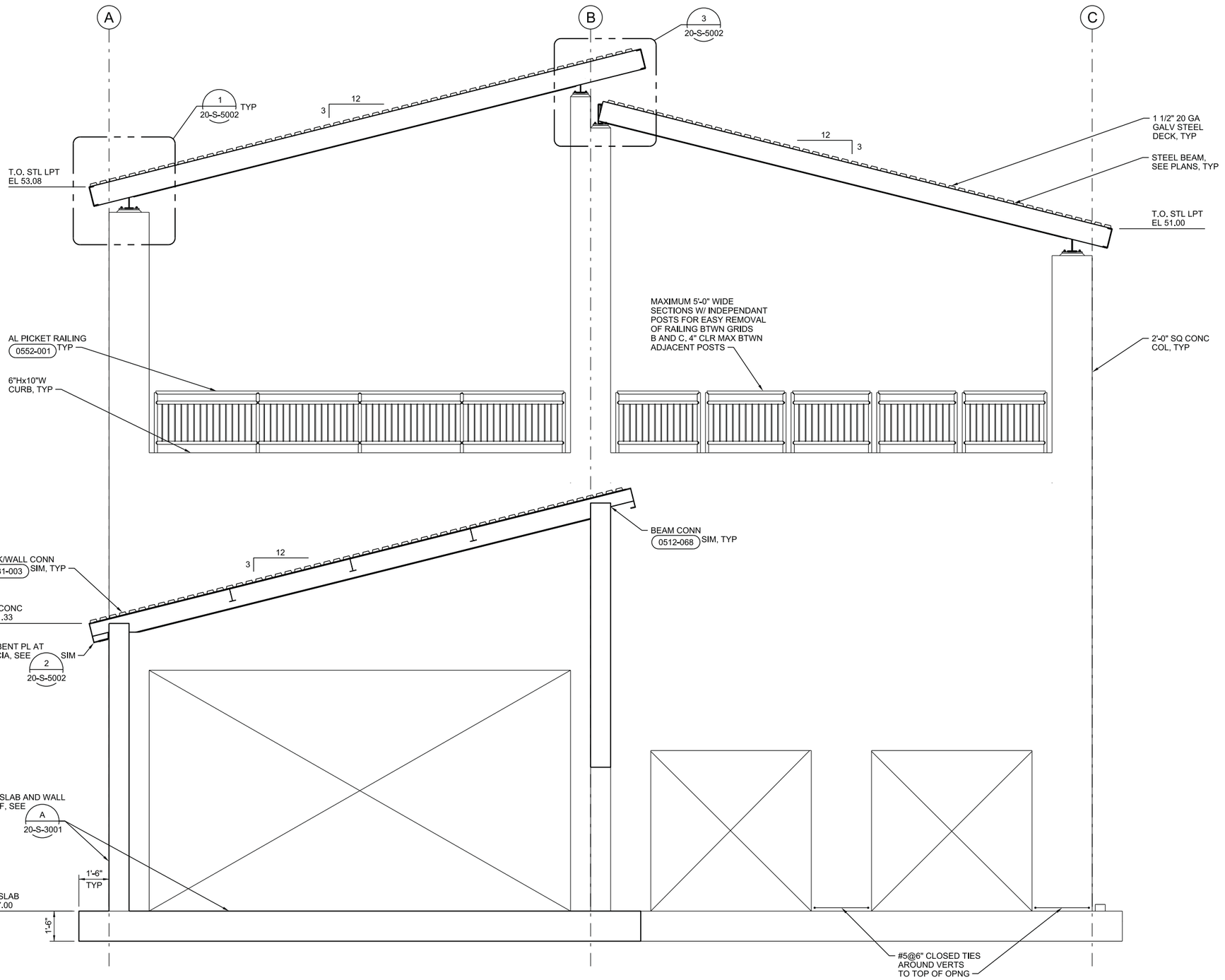
NO.	DATE	REVISION	BY

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DR	HFJ
CHK	ALF
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
STRUCTURAL
SECTION

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SHEET 20-S-3003
SEQ 103
DATE 12/2014
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D SECTION

3/8"=1'-0"

20-S-2200
20-S-2300
20-S-2400
20-S-2500

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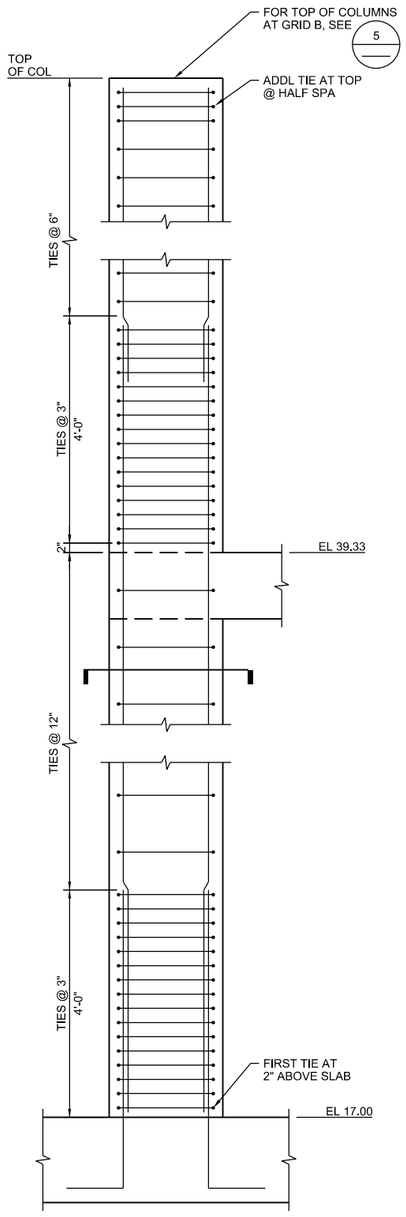
NO.	DATE	REVISION	BY

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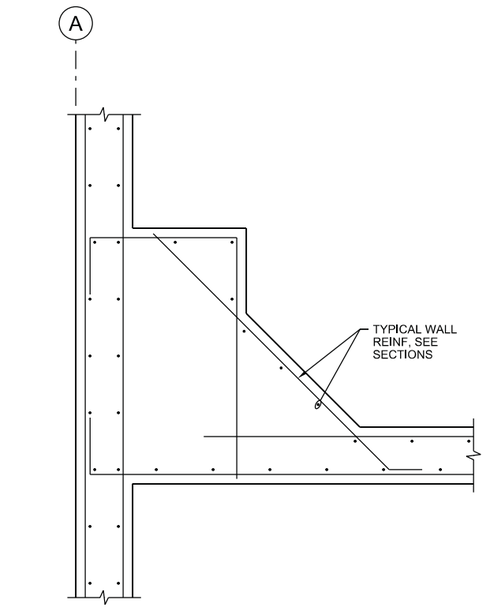
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
STRUCTURAL
SECTION

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SHEET 20-S-3004
SEQ 104
DATE 12/2014
PROJ. NO. 490515

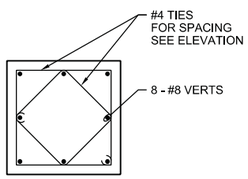


ELEVATION



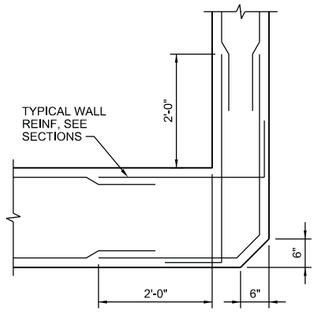
PLAN

2 CORNER REINFORCING DETAIL
3/4"=1'-0"
20-S-2300



SECTION

1 COLUMN DETAIL
3/4"=1'-0"
20-S-2200

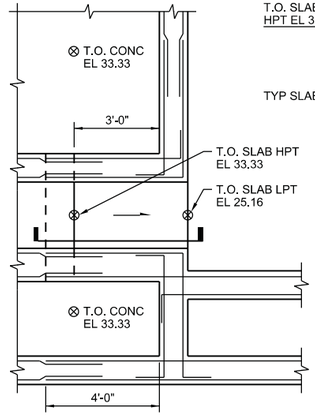


NOTE:

VERTICAL REINFORCING NOT SHOWN.

PLAN

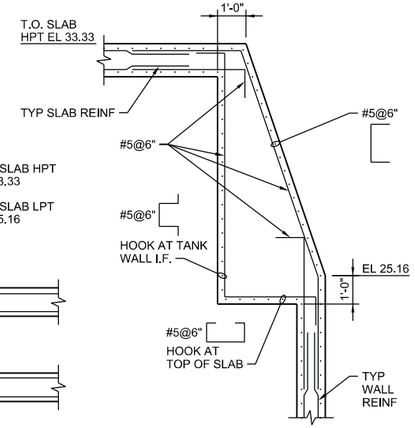
3 CORNER REINFORCING DETAIL
3/4"=1'-0"
20-S-2300



NOTE:

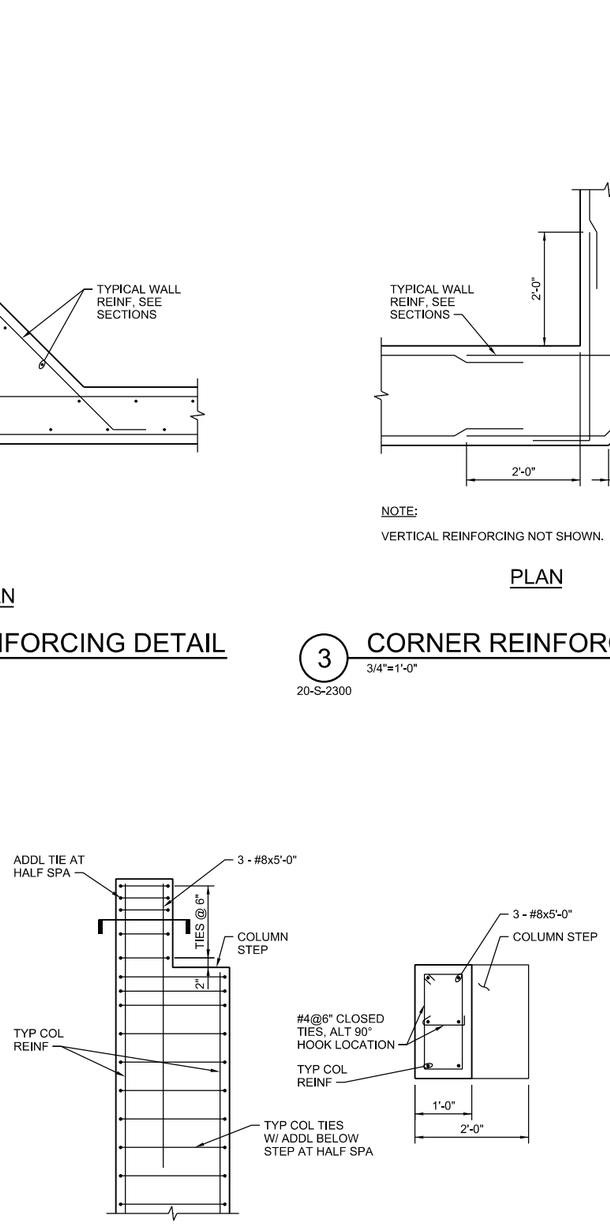
ALL REINFORCING IS #5@6".
VERTICAL REINFORCING NOT SHOWN.

PLAN



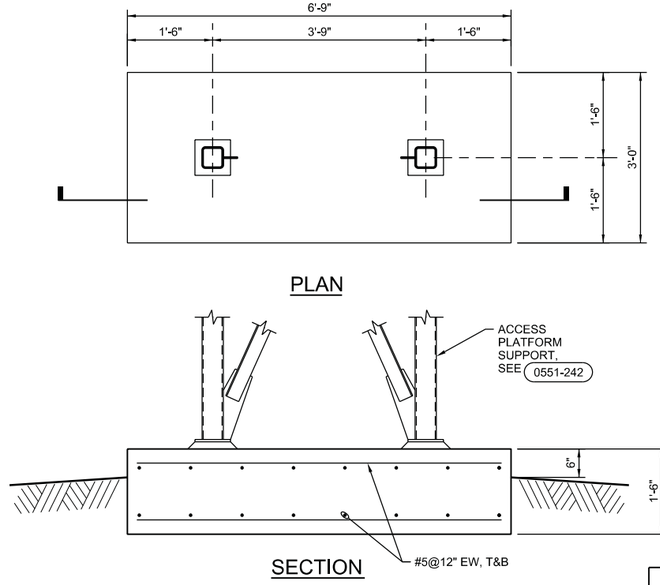
SECTION

4 DETAIL
3/8"=1'-0"
20-S-2300



ELEVATION SECTION

5 TOP OF COLUMN DETAIL
3/4"=1'-0"



6 DETAIL
3/4"=1'-0"
20-S-2200

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MAY 10, 2011
LUKE AARON SCOGGINS
EXP. 06-30-16

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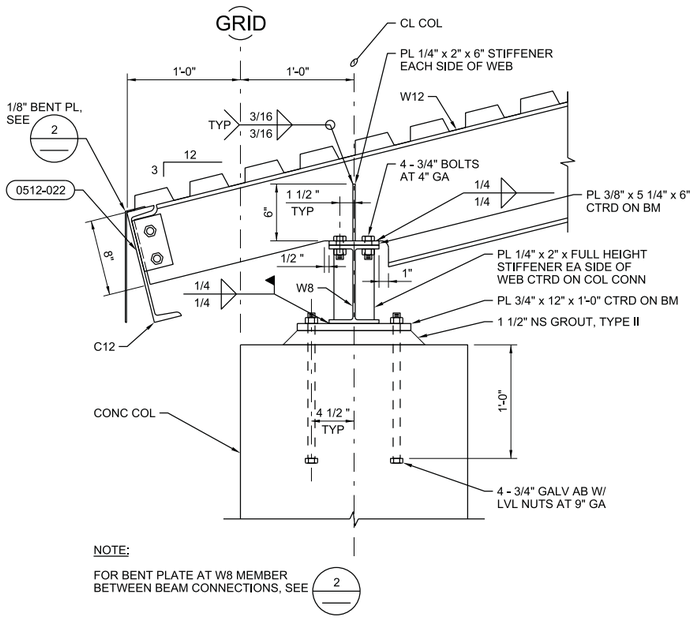
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NO.	REVISION	BY	DATE

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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
STRUCTURAL
DETAILS

SHEET 20-S-5001
SEQ 105
DATE 12/2014
PROJ. NO. 490515



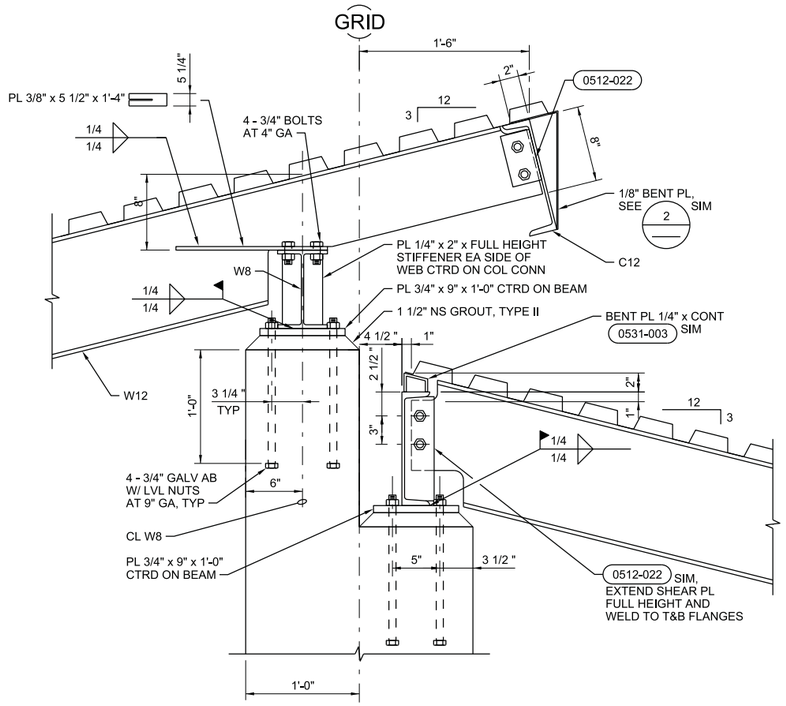
NOTE:

FOR BENT PLATE AT W8 MEMBER BETWEEN BEAM CONNECTIONS, SEE 2

1 DETAIL

1 1/2"=1'-0"

20-S-2500
20-S-3003
20-S-3004



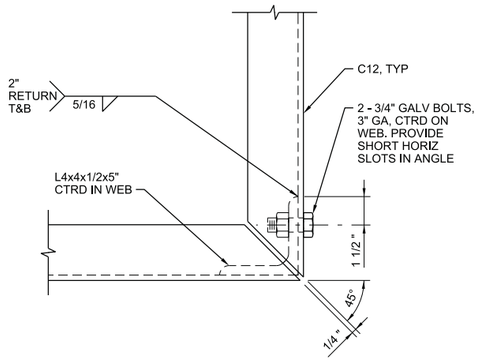
NOTES:

1. FOR BENT PLATE AT W8 MEMBER BETWEEN BEAM CONNECTIONS, SEE 2
2. FOR REINFORCING, SEE 5 (20-S-5001)

3 DETAIL

1 1/2"=1'-0"

20-S-2500
20-S-3003
20-S-3004

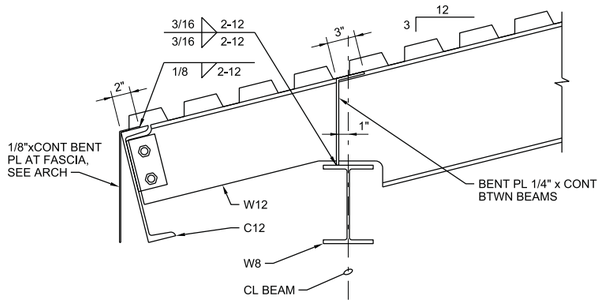


PLAN

5 FASCIA BEAM CONNECTION

3"=1'-0"

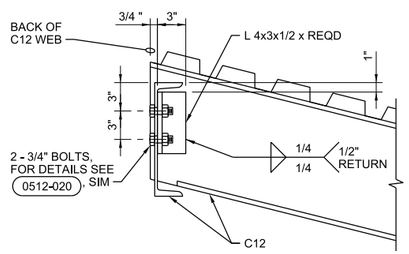
20-S-2500



2 DETAIL

1 1/2"=1'-0"

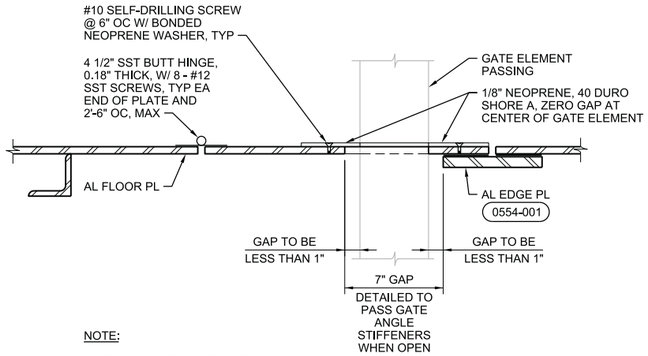
20-S-3004



4 DETAIL

1 1/2"=1'-0"

20-S-2500



NOTE:

INSTALL HINGED PLATE WITH NO GAPS OF 1" OR GREATER IN THE WALKING SURFACE AND SUCH THAT THE HINGED PLATE IS LIFTED AS THE GATE IS RAISED ALONG THE FRAME.

6 HINGED GATE OPENING CLOSURE

NTS

20-S-2400

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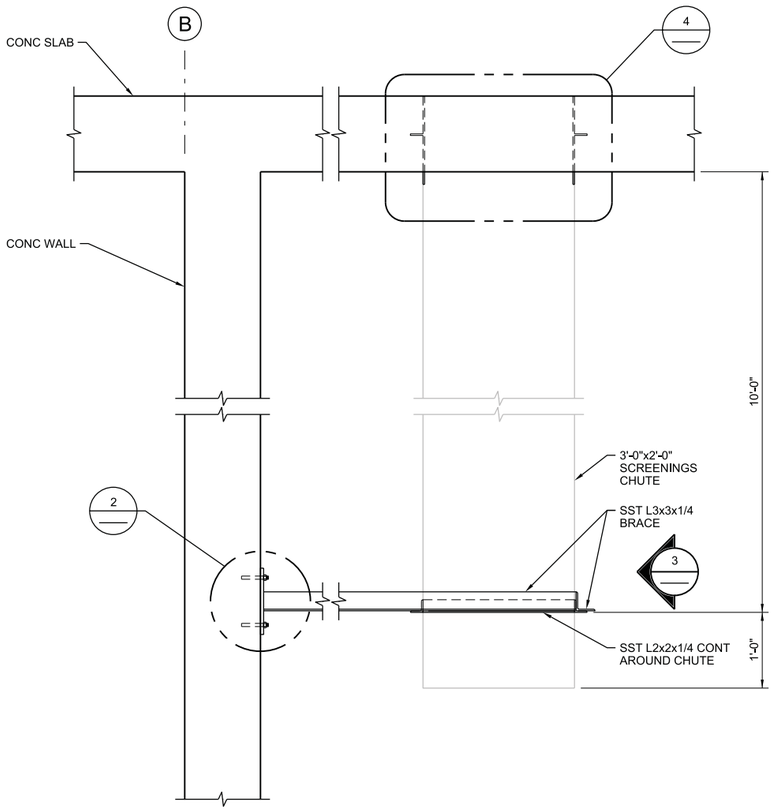
NO.	REVISION	DATE	BY

DSGN	LAS
DR	HFJ
CHK	ALF
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
STRUCTURAL
DETAILS

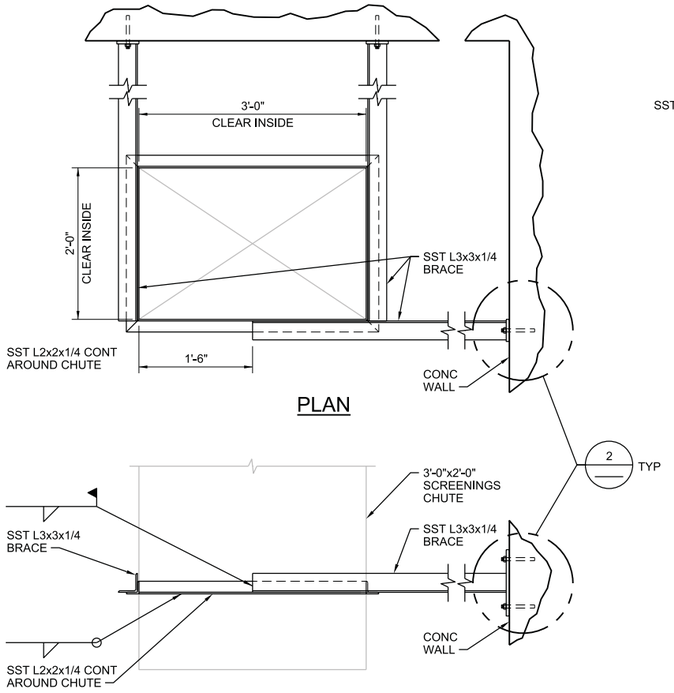
REGISTERED PROFESSIONAL ENGINEER
76316PE
Digital Signature
OREGON
MAY 10, 2011
LUKE AARON SCOGGINS
EXP. 06-30-16

SHEET 20-S-5002
SEQ 106
DATE 12/2014
PROJ. NO. 490515



ELEVATION

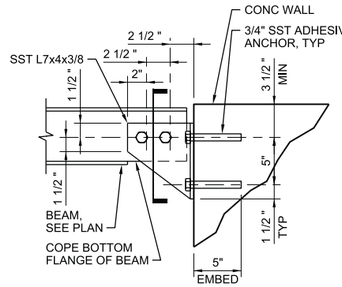
1 CHUTE BRACING
1"=1'-0"
20-S-2300



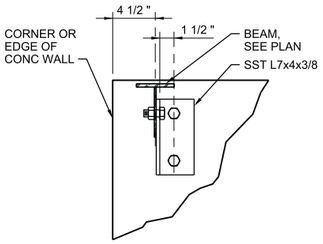
PLAN

ELEVATION

3 CHUTE BRACING
1"=1'-0"

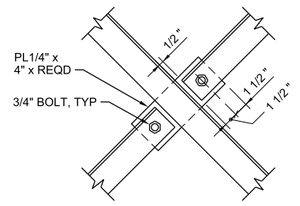


ELEVATION

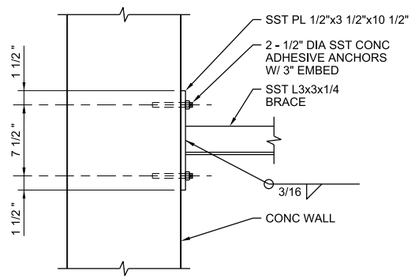


SECTION

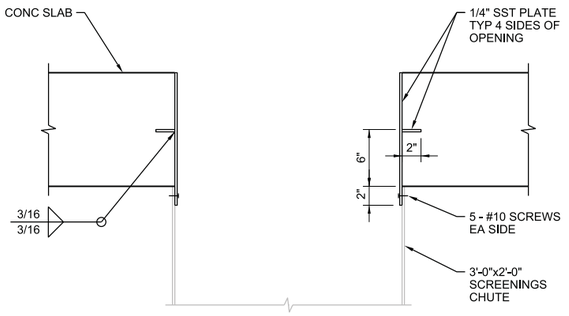
5 CHECKERED PL SUPPORT BEAM
1 1/2"=1'-0"
20-S-2400



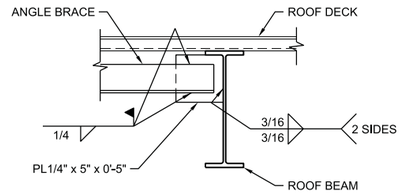
6 BRACE SPLICE
1 1/2"=1'-0"
20-S-2500



2 CHUTE BRACE CONNECTION
1 1/2"=1'-0"



4 CONNECTION AT SLAB
1 1/2"=1'-0"



7 BRACE TO BEAM CONNECTION
1 1/2"=1'-0"
20-S-2500

REGISTERED PROFESSIONAL ENGINEER
76316PE
Digital Signature
OREGON
MAY 10, 2011
LUKE AARON SCOGGINS
EXP. 06-30-16

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

CH2MHILL®

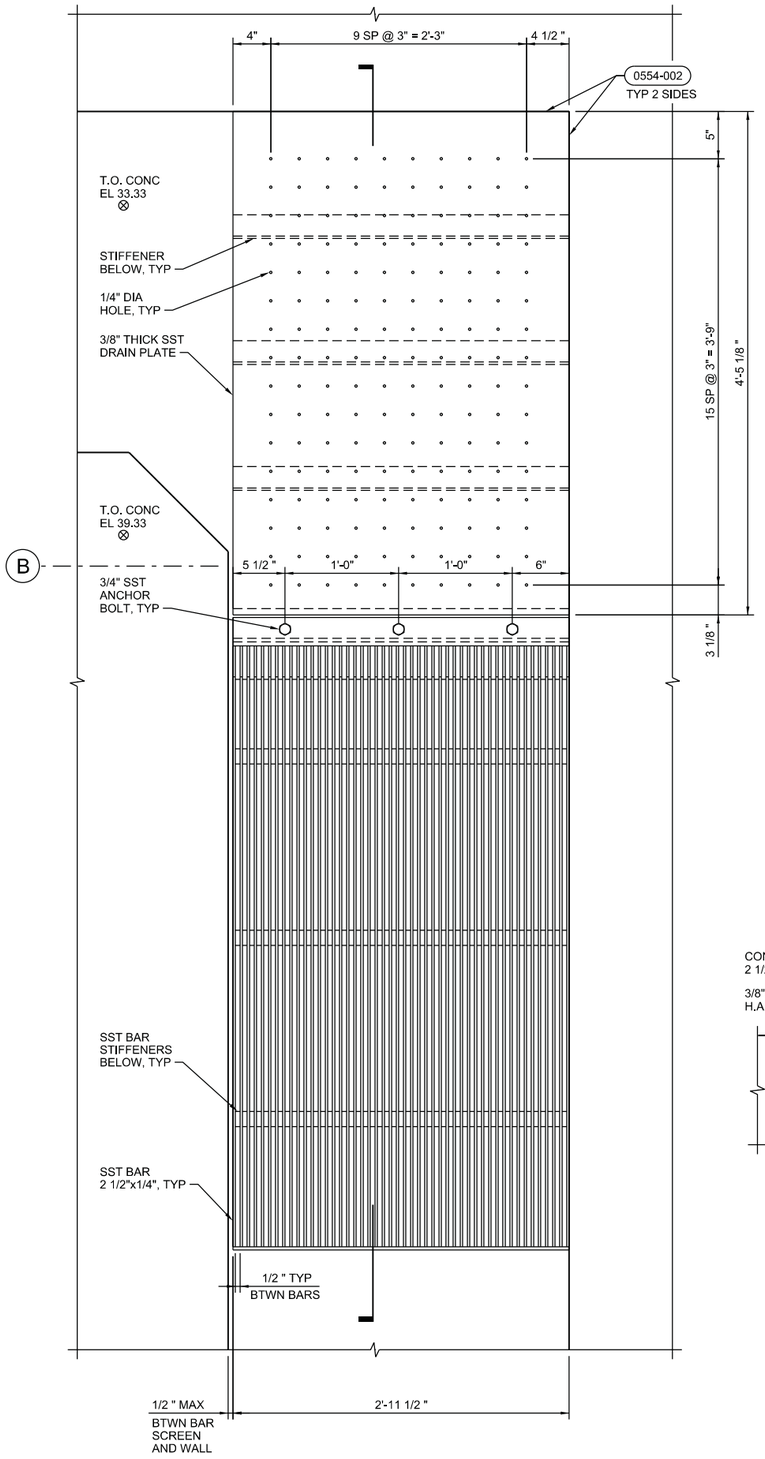
SAIC
CONSULTING ENGINEERS & GEOLOGISTS, INC.

NO.	DATE	REVISION	BY

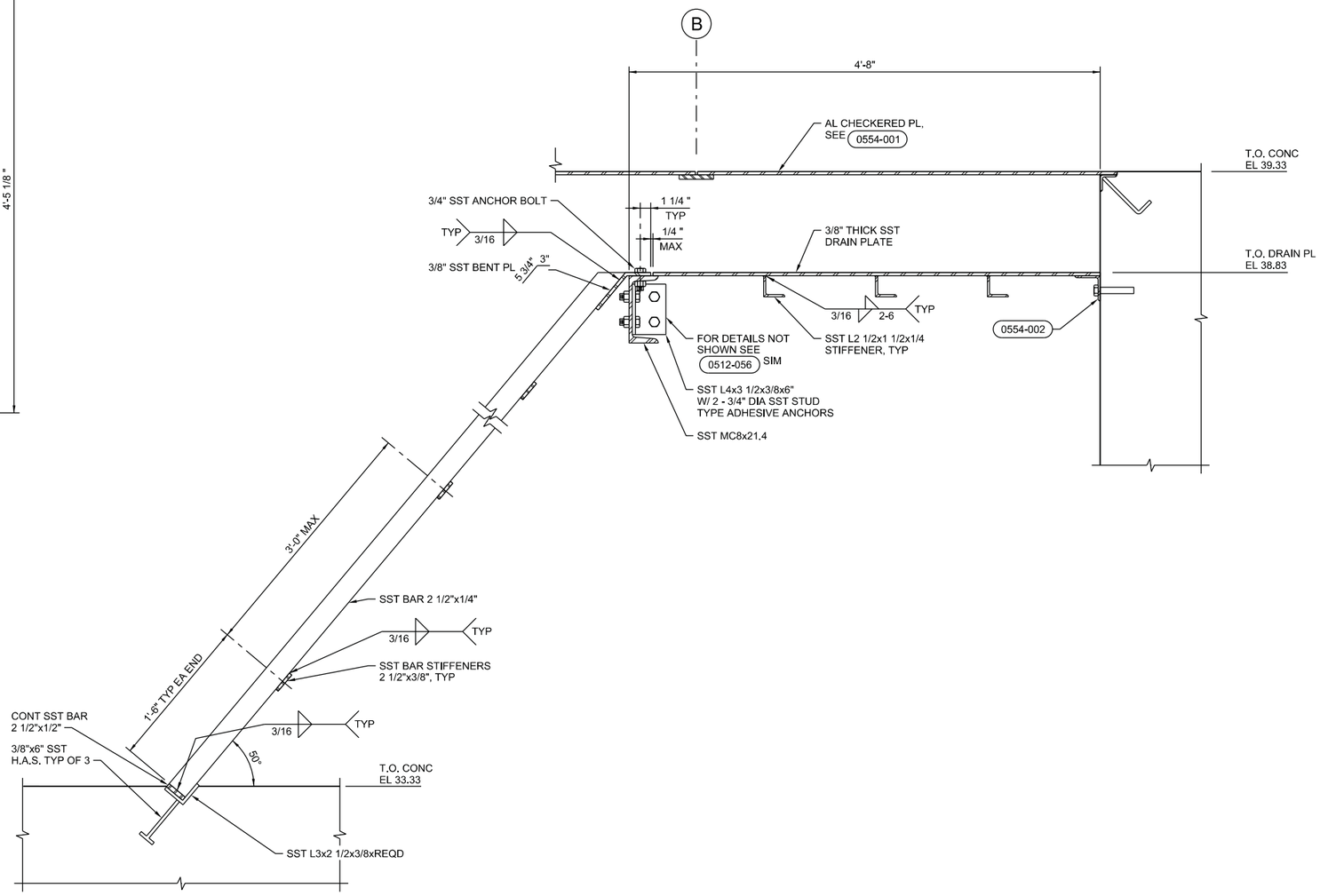
DSGN	LAS
DR	HFJ
CHK	ALF
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
STRUCTURAL
DETAILS

SHEET 20-S-5003
SEQ 107
DATE 12/2014
PROJ. NO. 490515



PLAN



SECTION

1 BAR SCREEN
1 1/2"=1'-0"
20-S-2400

VERIFY SCALES
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0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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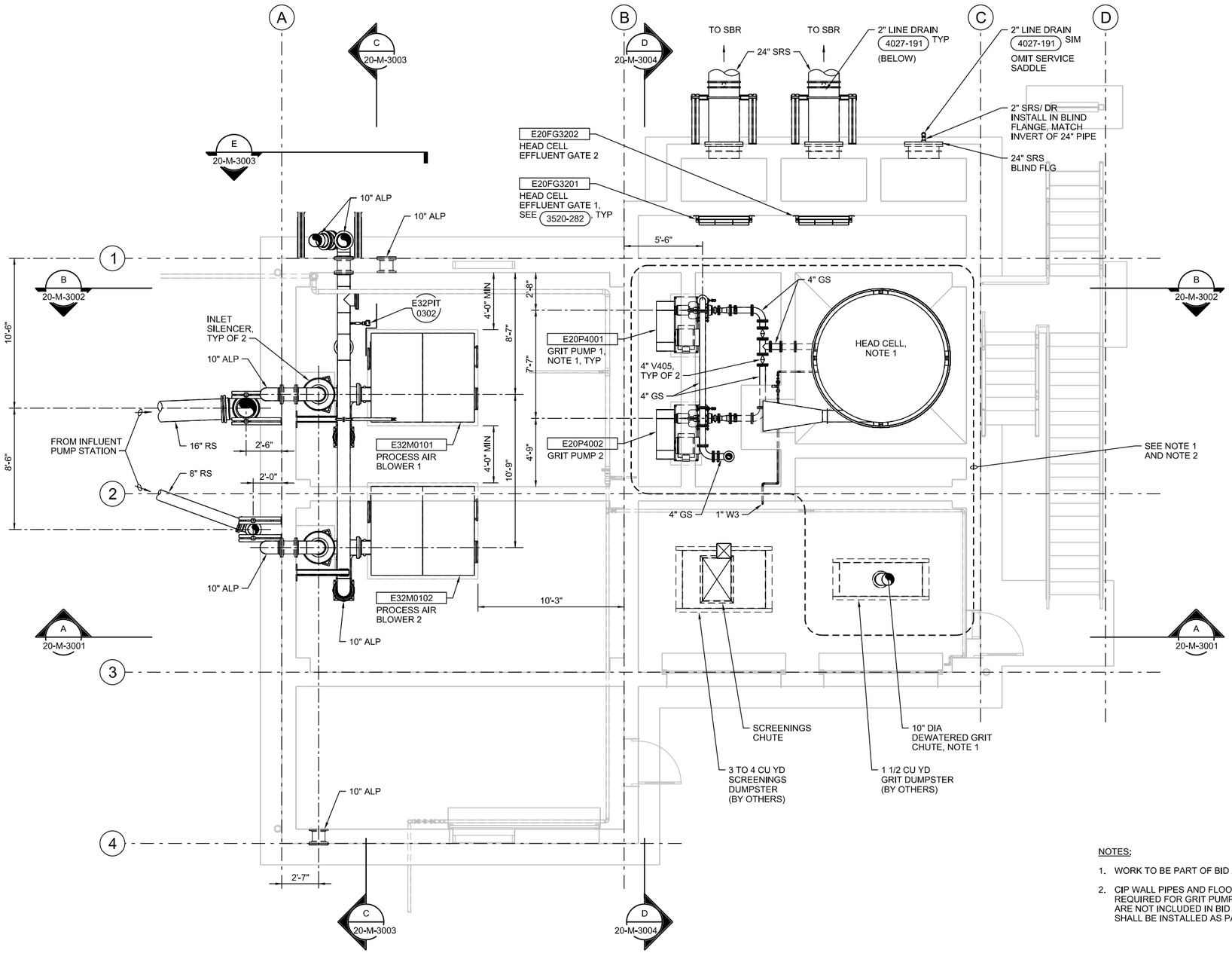
NO.	REVISION	DATE	BY

DSGN	LAS
DR	HFJ
CHK	ALF
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
STRUCTURAL
DETAIL

SHEET 20-S-5004
SEQ 108
DATE 12/2014
PROJ. NO. 490515

REGISTERED PROFESSIONAL ENGINEER
76316PE
Digital Signature
OREGON
MAY 10, 2011
LUKE AARON SCOGGINS
EXP. 06-30-16



NOTES:

1. WORK TO BE PART OF BID ALTERNATE 1.
2. CIP WALL PIPES AND FLOOR SLEEVES REQUIRED FOR GRIT PUMPING AND HANDLING ARE NOT INCLUDED IN BID ALTERNATE 1, AND SHALL BE INSTALLED AS PART OF THE BID.

GROUND LEVEL PLAN

1/4"=1'-0"

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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SHN CONSULTING ENGINEERS & GEOLOGISTS, INC.

NO.	DATE	REVISION	BY

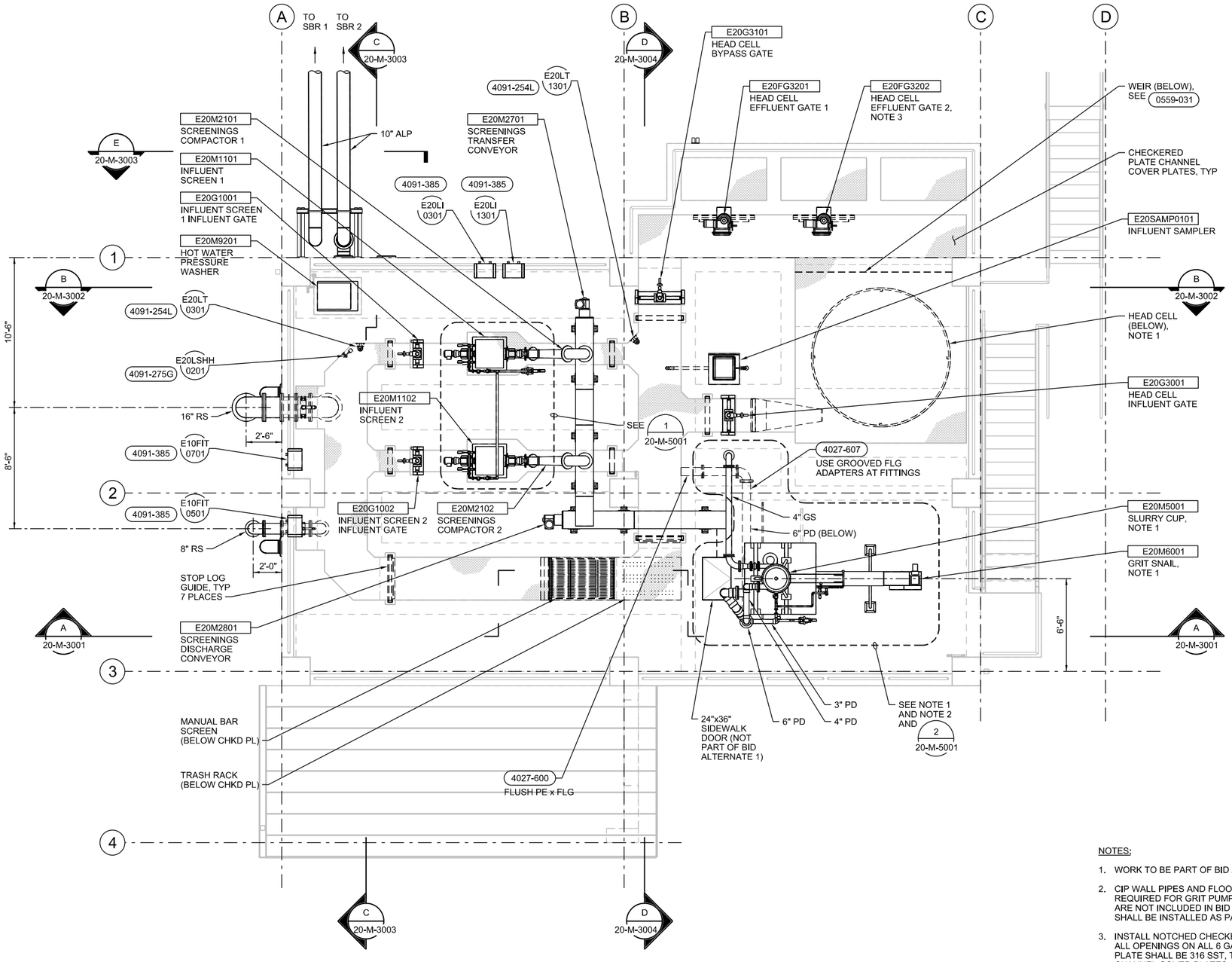
DSGN	MV
DR	ERB
CHK	DWB
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
MECHANICAL
GROUND LEVEL PLAN

SHEET 20-M-2001
SEQ 109
DATE 12/2014
PROJ. NO. 490515

REGISTERED PROFESSIONAL ENGINEER 17302 OREGON JULY 19, 2004 MICHAEL C VEACH
EXP. 06-30-2016

20-M-2001_469556.dgn



UPPER LEVEL PLAN

1/4"=1'-0"

NOTES:

1. WORK TO BE PART OF BID ALTERNATE 1.
2. CIP WALL PIPES AND FLOOR SLEEVES REQUIRED FOR GRIT PUMPING AND HANDLING ARE NOT INCLUDED IN BID ALTERNATE 1, AND SHALL BE INSTALLED AS PART OF THE BID.
3. INSTALL NOTCHED CHECKER PLATES TO COVER ALL OPENINGS ON ALL 6 GATES ON HEADWORKS. PLATE SHALL BE 316 SST, THICKNESS TO MATCH CHANNEL COVER PLATES. PROVIDE EACH PLATE WITH HINGES AND BOLT HINGES TO DECK.

REGISTERED PROFESSIONAL ENGINEER 17302 OREGON JULY 19, 1994 MICHAEL C VEACH
EXP. 06-30-2016

VERIFY SCALES
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

CH2MHILL
SHN
CONSULTING ENGINEERS & GEOLOGISTS, INC.

NO.	DATE	REVISION	BY

DSGN MV
DR ERB
CHK DWB
APVD CWM

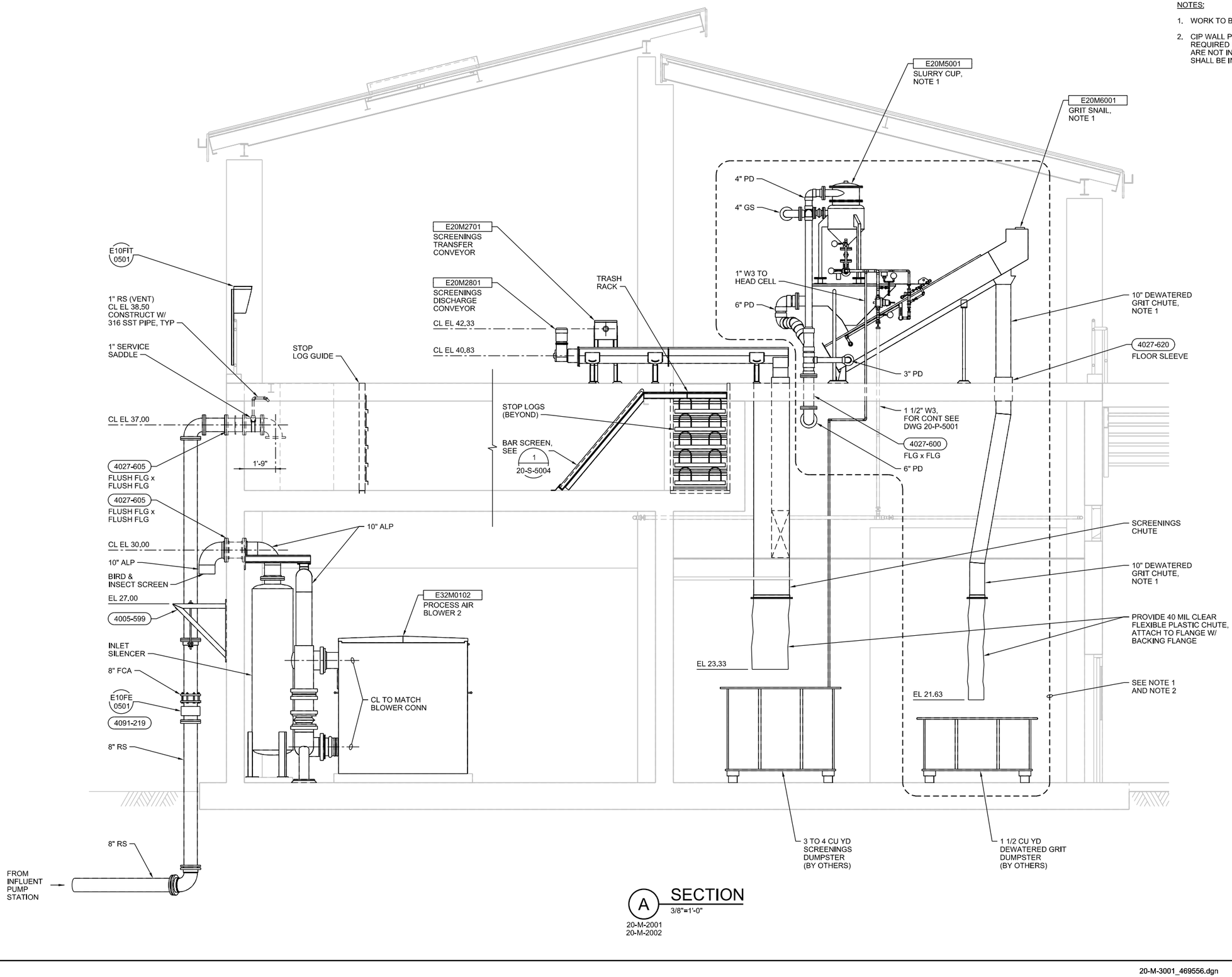
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
MECHANICAL
UPPER LEVEL PLAN

SHEET 20-M-2002
SEQ 110
DATE 12/2014
PROJ. NO. 490515

20-M-2002_469556.dgn

NOTES:

1. WORK TO BE PART OF BID ALTERNATE 1.
2. CIP WALL PIPES AND FLOOR SLEEVES REQUIRED FOR GRIT PUMPING AND HANDLING ARE NOT INCLUDED IN BID ALTERNATE 1, AND SHALL BE INSTALLED AS PART OF THE BID.



A SECTION
3/8"=1'-0"

20-M-2001
20-M-2002

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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NO.	REVISION	DATE	BY

DSGN	MV
DR	ERB
CHK	DWB
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
MECHANICAL
SECTION

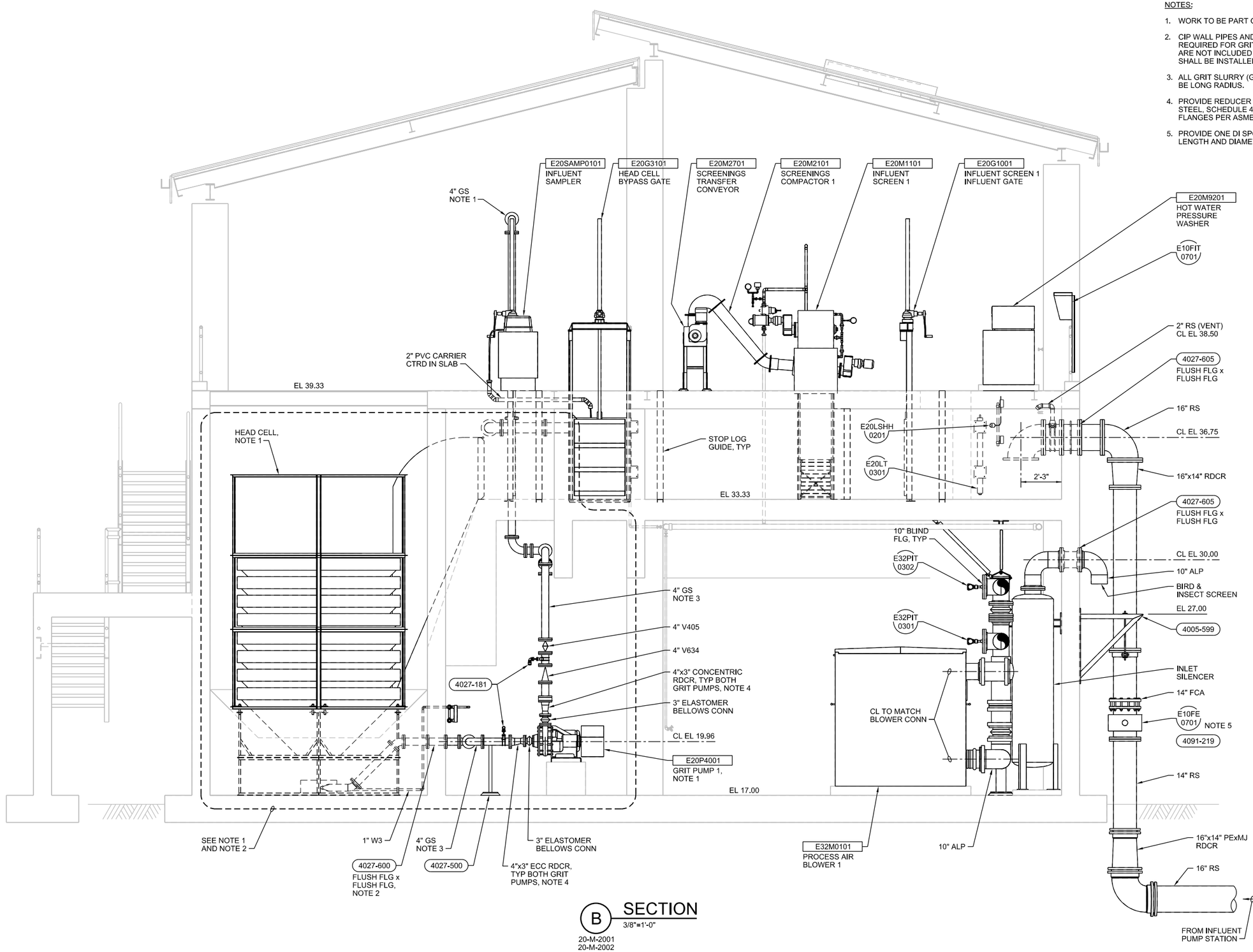
REGISTERED PROFESSIONAL ENGINEER 17302 OREGON JULY 19, 2004 MICHAEL C VEACH
EXP. 06-30-2016

SHEET 20-M-3001
SEQ 111
DATE 12/2014
PROJ. NO. 490515

20-M-3001_469556.dgn

NOTES:

1. WORK TO BE PART OF BID ALTERNATE 1.
2. CIP WALL PIPES AND FLOOR SLEEVES REQUIRED FOR GRIT PUMPING AND HANDLING ARE NOT INCLUDED IN BID ALTERNATE 1, AND SHALL BE INSTALLED AS PART OF THE BID.
3. ALL GRIT SLURRY (GS) PIPING BENDS SHALL BE LONG RADIUS.
4. PROVIDE REDUCER IN TYPE 316 STAINLESS STEEL, SCHEDULE 40, WITH CLASS 150 FLANGES PER ASME B16.5.
5. PROVIDE ONE DI SPOOL PIECE TO MATCH LENGTH AND DIAMETER OF EACH FLOW METER.



B SECTION
3/8"=1'-0"
20-M-2001
20-M-2002

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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SAIC
CONSULTING ENGINEERS & GEOLOGISTS, INC.

NO.	REVISION	DATE	BY

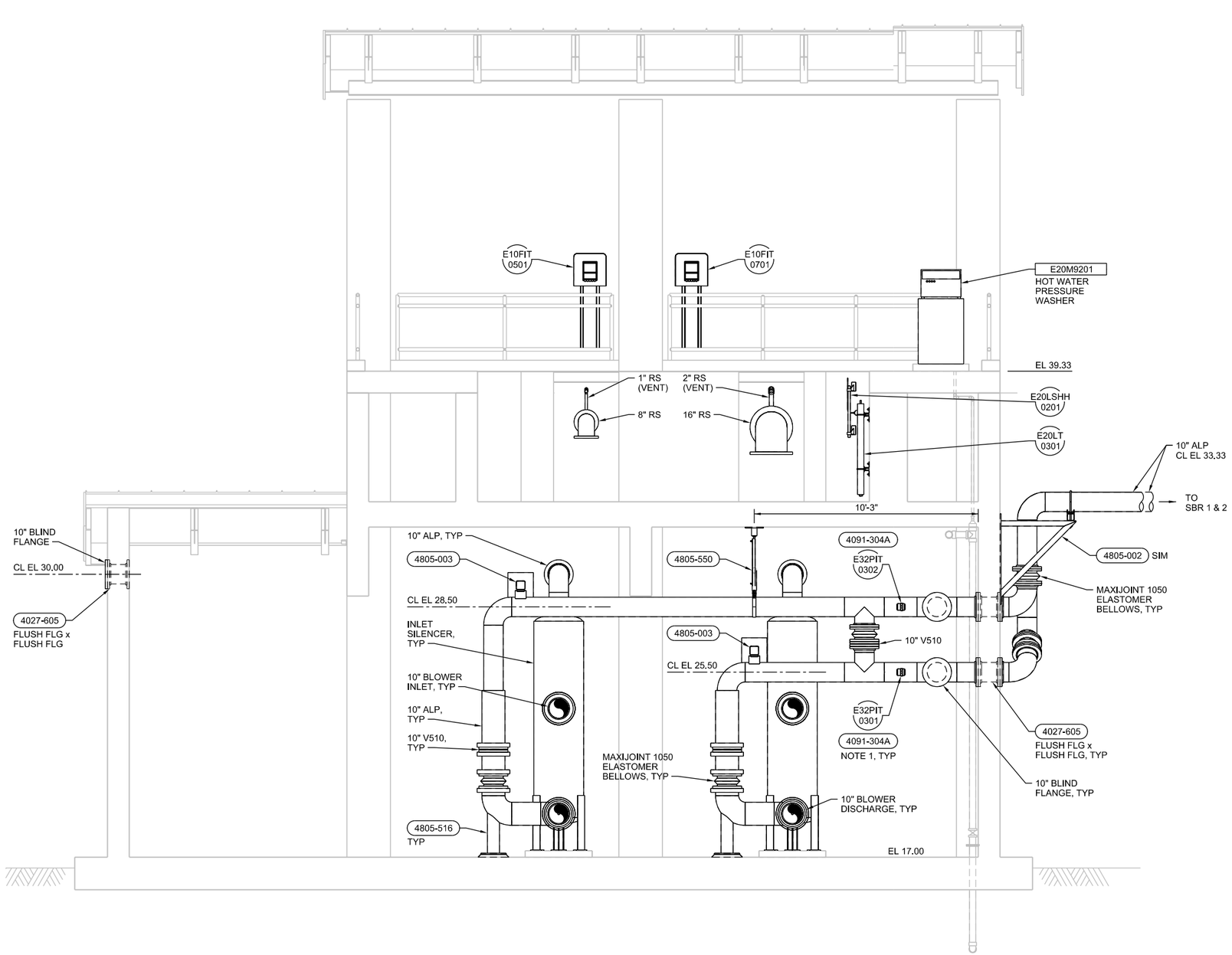
DSGN	MV	DR	ERB	CHK	DWB	APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
MECHANICAL
SECTION

REGISTERED PROFESSIONAL ENGINEER 17302 OREGON JULY 30, 1994 MICHAEL C VEACH
EXP. 06-30-2016

SHEET 20-M-3002
SEQ 112
DATE 12/2014
PROJ. NO. 490515

20-M-3002_469556.dgn



NOTES:

1. MOUNT 45 DEG ABOVE CENTERLINE OF PIPE WITH INSTRUMENT FACING FLOOR.

C SECTION
3/8"=1'-0"
20-M-2001
20-M-2002

E SECTION
3/8"=1'-0"
20-M-2001
20-M-2002

REGISTERED PROFESSIONAL ENGINEER 17302 OREGON JULY 10, 1984 MICHAEL C VEACH
EXP. 06-30-2016

VERIFY SCALES
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0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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SAIC
CONSULTING ENGINEERS & GEOLOGISTS, INC.

NO.	DATE	REVISION	BY

DSGN MV
DR ERB
CHK DWB
APVD CWM

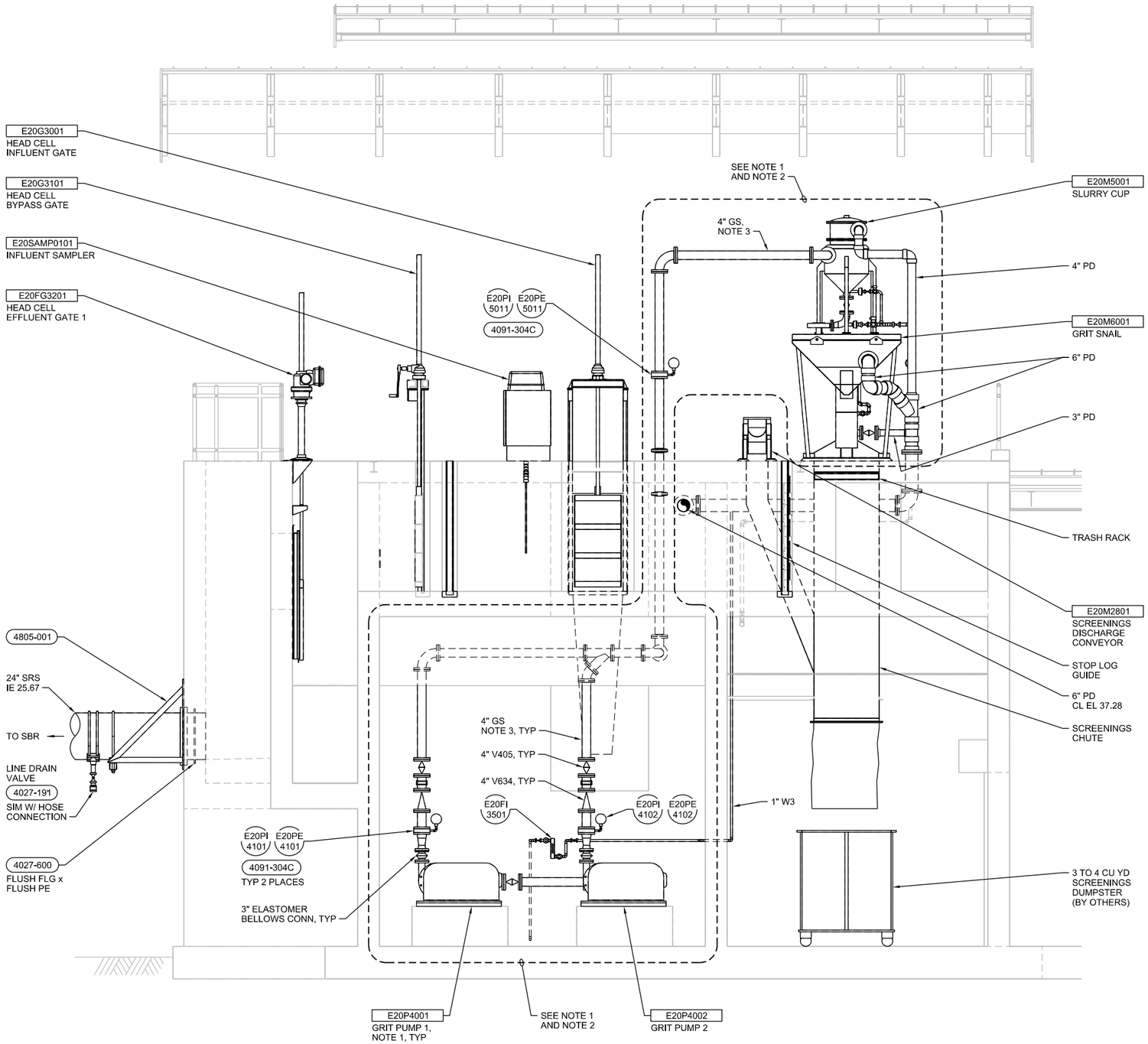
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
MECHANICAL
SECTIONS

SHEET 20-M-3003
SEQ 113
DATE 12/2014
PROJ. NO. 490515

20-M-3003_469556.dgn

NOTES:

1. WORK TO BE PART OF BID ALTERNATE 1.
2. CIP WALL PIPES AND FLOOR SLEEVES REQUIRED FOR GRIT PUMPING AND HANDLING ARE NOT INCLUDED IN BID ALTERNATE 1, AND SHALL BE INSTALLED AS PART OF THE BID.
3. ALL GRIT SLURRY (GS) PIPING BENDS SHALL BE LONG RADIUS.



D SECTION
3/8"=1'-0"

20-M-2001
20-M-2002

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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NO.	REVISION	BY	DATE

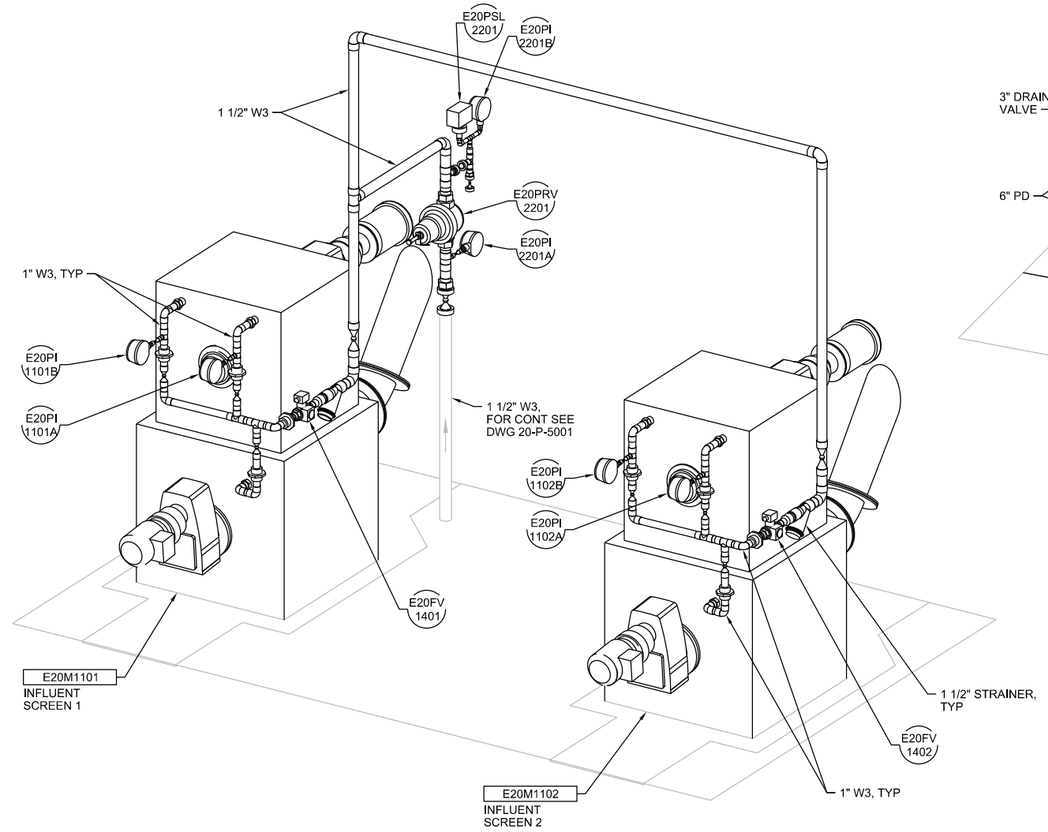
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DR	ERB	APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
MECHANICAL
SECTION

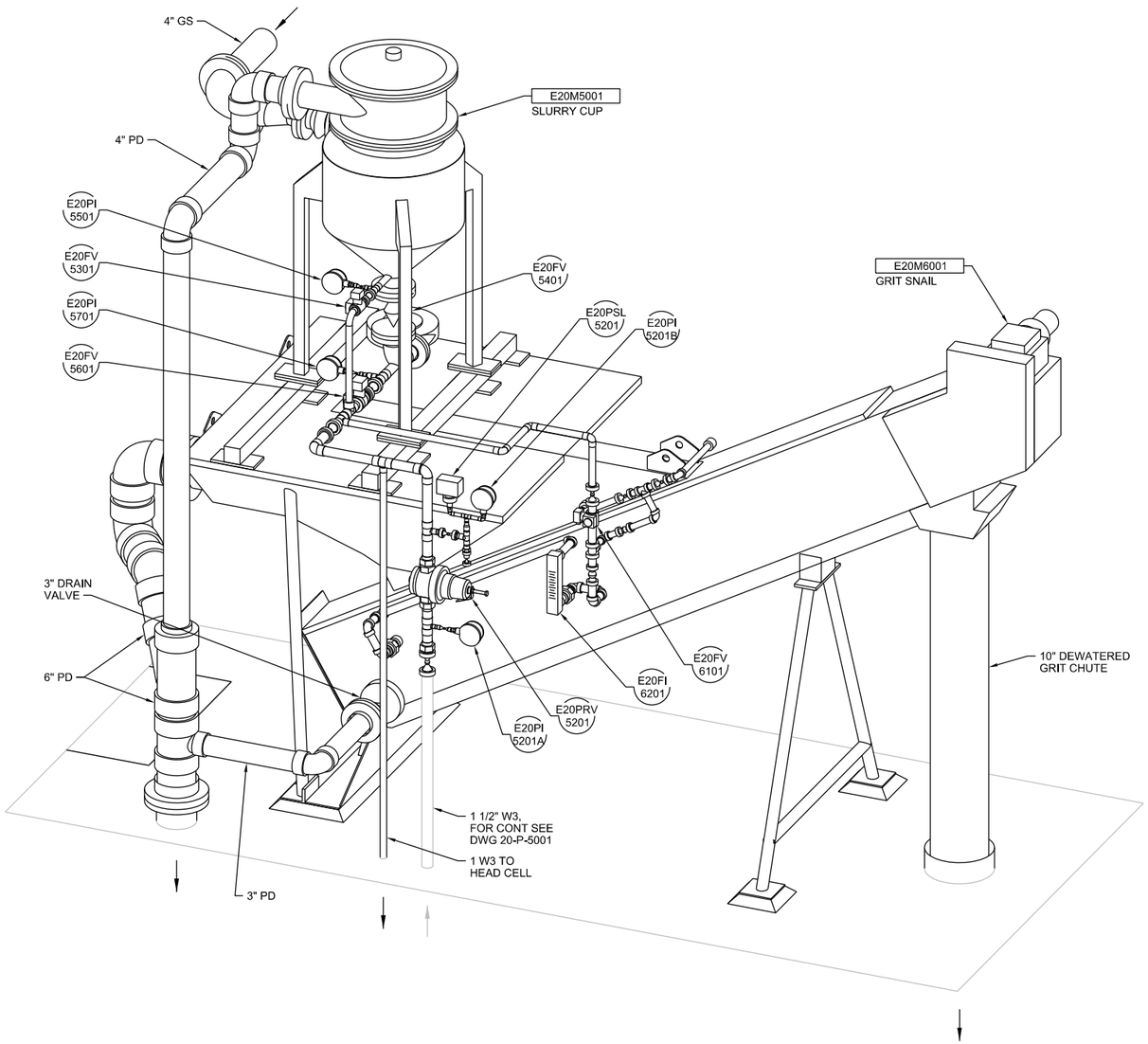
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SEQ 114
DATE 12/2014
PROJ. NO. 490515

REGISTERED PROFESSIONAL ENGINEER
17302
OREGON
JULY 19, 2004
MICHAEL C VEACH
EXP. 06-30-2016

20-M-3004_469556.dgn



1 DETAIL
NTS
20-M-2002



2 DETAIL
NTS
20-M-2002

VERIFY SCALES
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0 1"
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SEA CONSULTING ENGINEERS & GEOLOGISTS, INC.

NO.	DATE	REVISION	BY

DSGN	MV
DR	ERB
CHK	DWB
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
MECHANICAL
DETAILS

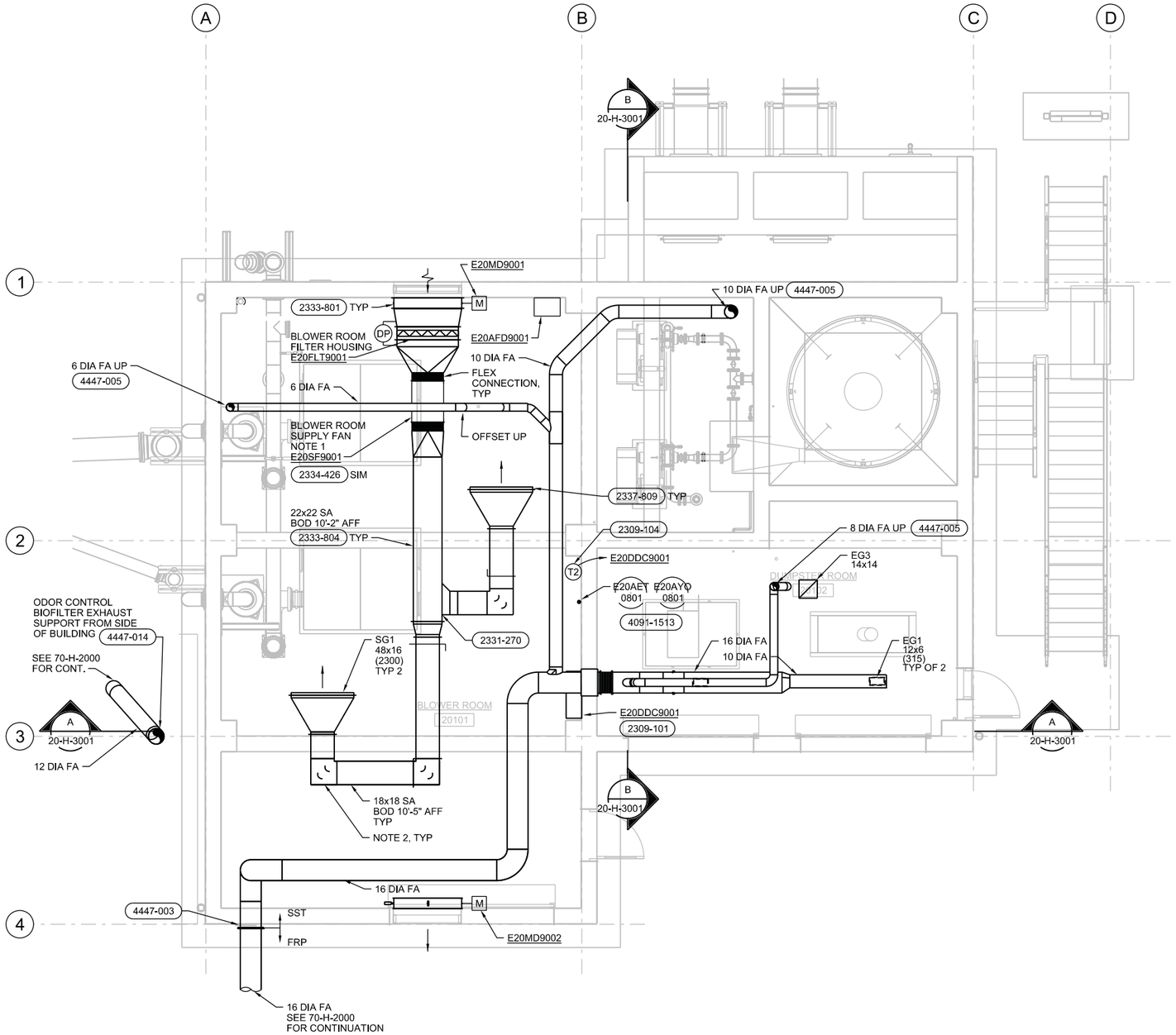
SHEET 20-M-5001
SEQ 115
DATE 12/2014
PROJ. NO. 490515

REGISTERED PROFESSIONAL ENGINEER 17302 OREGON JULY 18, 1994 MICHAEL C. VEACH
EXP. 06-30-2016

20-M-5001_469556.dgn

NOTES:

1. MOUNT EQUIPMENT TO PROVIDE A MINIMUM CLEARANCE OF 8'-0" AFF.
2. PROVIDE ACCESS DOOR UPSTREAM OF TURNING VANES.



N

LOWER LEVEL PLAN

1/4"=1'-0"

VERIFY SCALES
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0 1"
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CONSULTING ENGINEERS & GEOLOGISTS, INC.

NO.	REVISION	BY	DATE

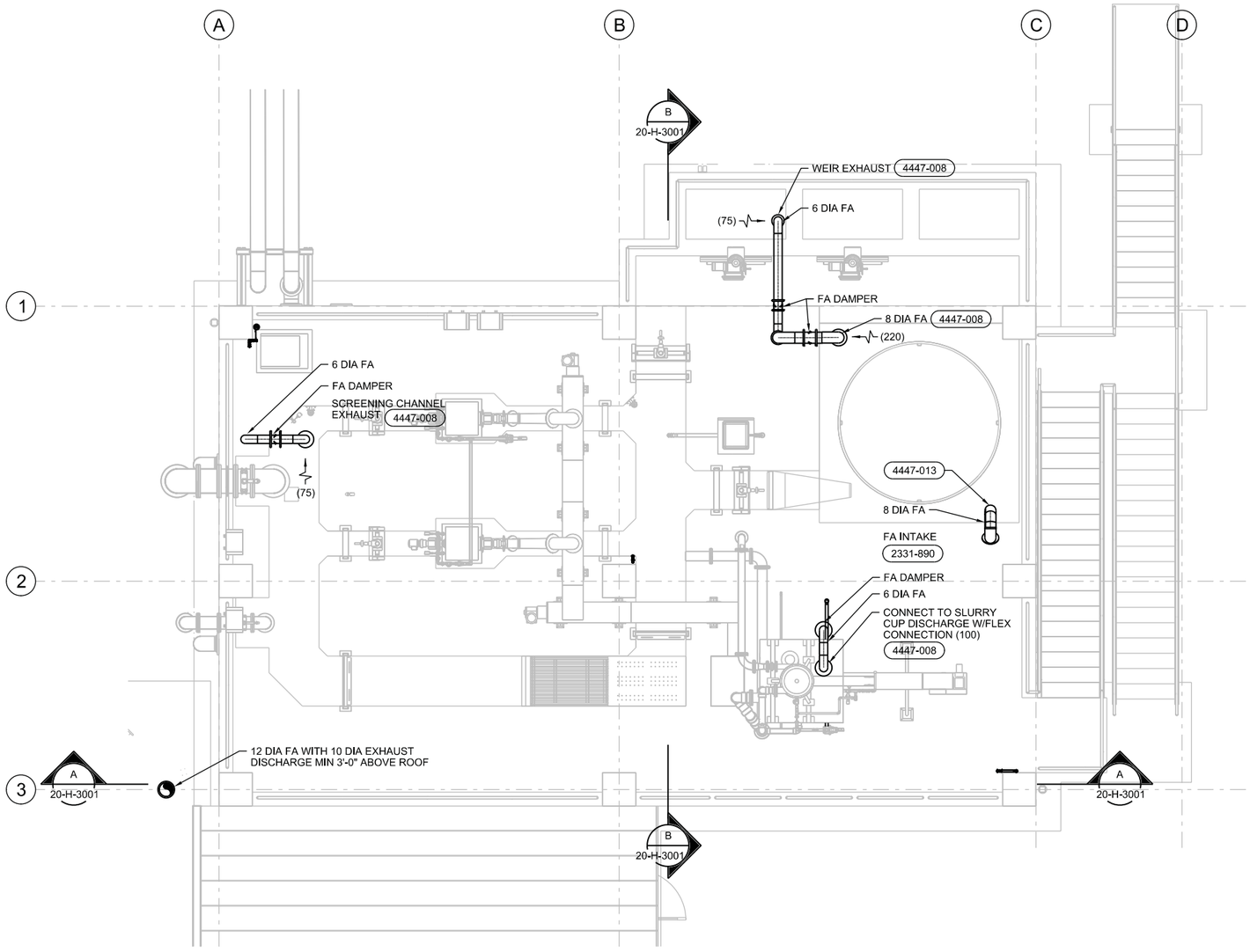
DSGN	CJS	CHK	NRF
DR	SLH	APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
HVAC
GROUND LEVEL PLAN

SHEET 20-H-2001
SEQ 116
DATE 12/2014
PROJ. NO. 490515

REGISTERED PROFESSIONAL ENGINEER
Digital Signature
OREGON
JANUARY 15, 1986
CARL J. SHANK
EXP. 06-30-2016

SAVED: 7/1/2013 9:56 AM PHAMLIN, PLOTTED: ---- HAMLIN, PRISCILLA/CVO
C:\pw_workdir\ch2mhill_wbg\phamlin\d0256967\Border_469556.dwg



N

UPPER LEVEL PLAN

1/4"=1'-0"

VERIFY SCALES
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0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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SHN
CONSULTING ENGINEERS & GEOLOGISTS, INC.

NO.	DATE	REVISION	BY

DSGN	ATB	CHK	NRF
DR	SLH	APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
HVAC
UPPER LEVEL PLAN

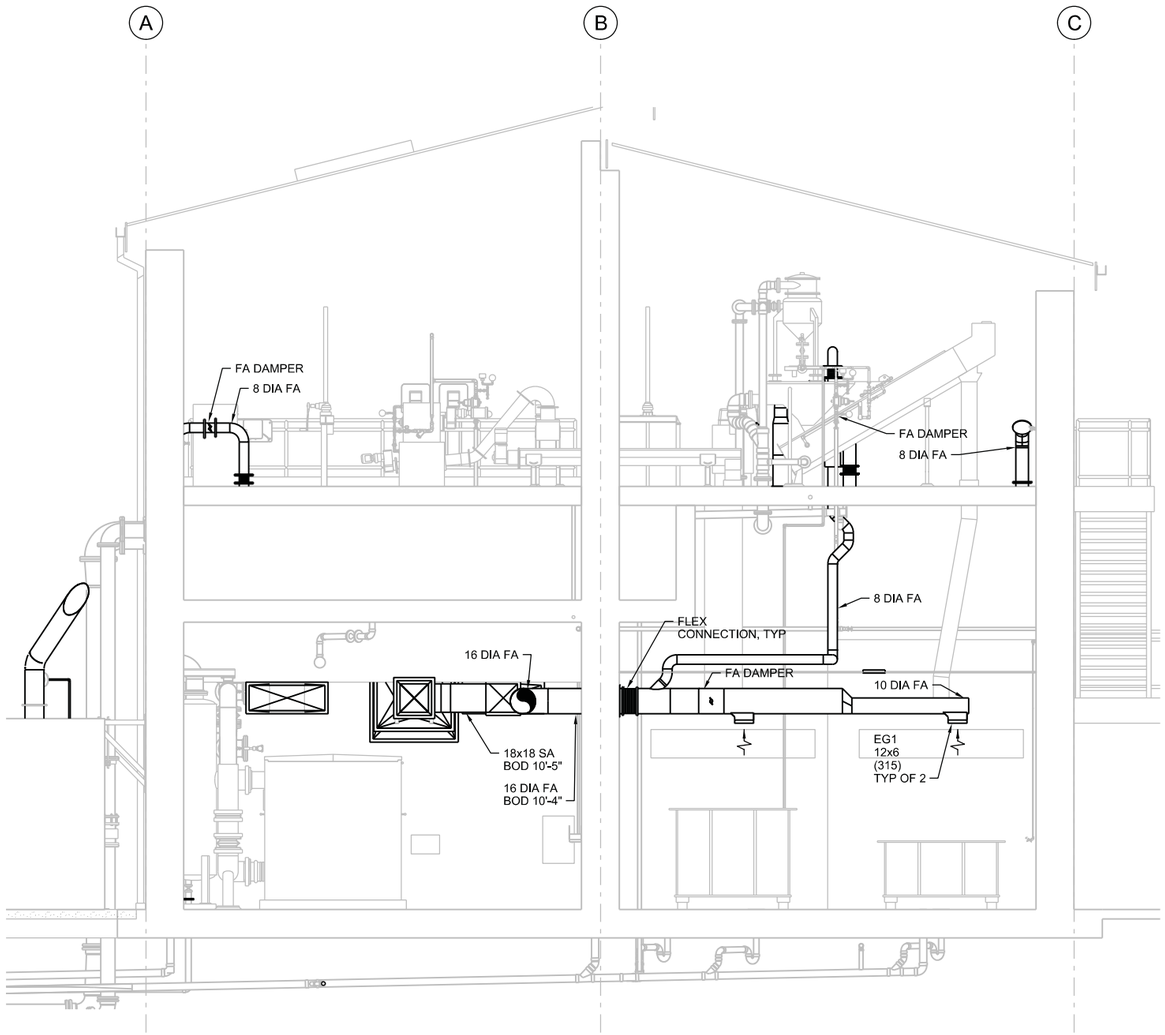
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80759PE
Digital Signature
OREGON
JANUARY 10, 2014
ADAM T. BOYD
EXP. 12-31-15

SHEET 20-H-2002
SEQ 117
DATE 12/2014
PROJ. NO. 490515

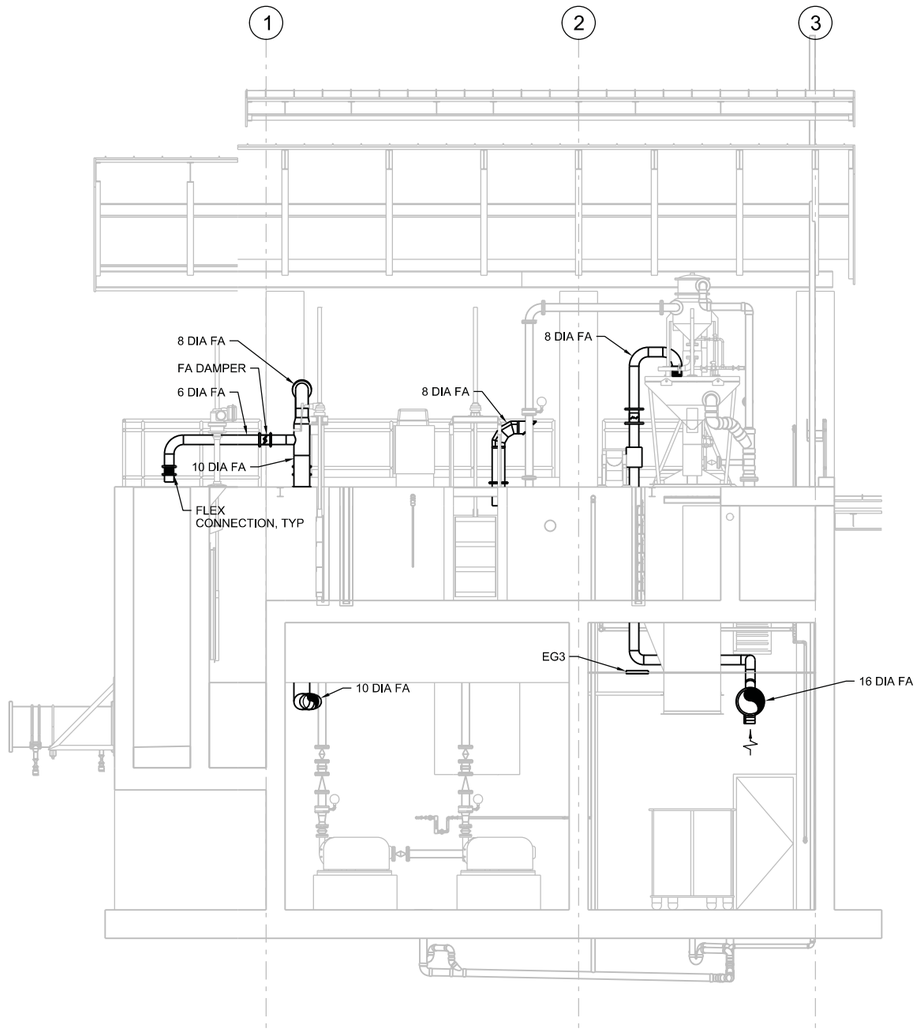
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C:\pw_workdir\ch2mhill_wbg\phamlin\d0256967\Border_469556.dwg

NOTES:

1. 12" DIA FA SUPPORTED FROM COLUMN. PROVIDE FRP COLLAR TO PREVENT DUCT SLIPPING IN SUPPORT WHERE REQUIRED. SEE (4447-014).



A SECTION
1/4"=1'-0"
20-H-2001
20-H-2002



B SECTION
1/4"=1'-0"
20-H-2001
20-H-2002

REGISTERED PROFESSIONAL ENGINEER
80759PE
Digital Signature
OREGON
JANUARY 10, 2012
ADAM T. BOYD
EXP. 12-31-15

VERIFY SCALES
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DR SLH
CHK NRF
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
HVAC
SECTIONS

SHEET 20-H-3001
SEQ 118
DATE 12/2014
PROJ. NO. 490515

AIR FLOW AND CONTROL SCHEMATIC

NTS

VERIFY SCALES

BAR IS ONE INCH ON ORIGINAL DRAWING

0 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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NO.	DATE	REVISION	BY

DSGN	CJS
DR	JLB
CHK	NRF
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
HVAC

AIR FLOW AND CONTROL SCHEMATIC

SHEET 20-H-6001

SEQ 119

DATE 12/2014

PROJ. NO. 490515

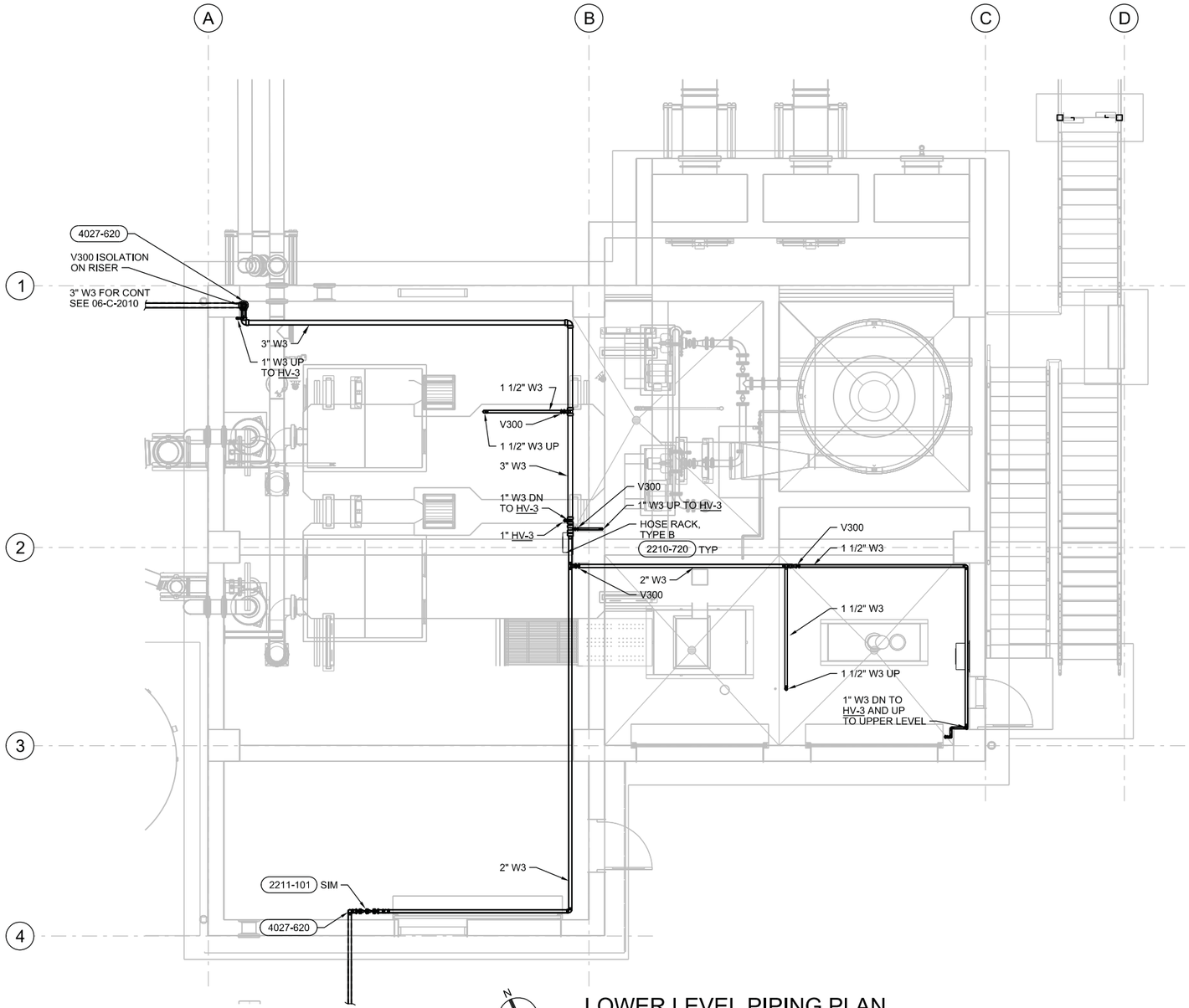
REGISTERED PROFESSIONAL ENGINEER 15279 Digital Signature OREGON JANUARY 6, 1995 CARL J. SHANK

EXP. 06-30-2016

SAVED: 7/1/2013 9:56 AM PHAMLIN, PLOTTED: ---- HAMLIN, PRISCILLA/CVO
C:\pw_workdir\ch2mhill_wbg\phamlin\d0256967\Border_469556.dwg

NOTES:

1. INSULATE ALL EXPOSED W3 PIPING LINES PER SPEC. 40-42-13, TITLED MECHANICAL INSULATION.
2. FOR CONTINUATION OF W3 PIPING SEE MECHANICAL PLAN.



LOWER LEVEL PIPING PLAN

1/4"=1'-0"

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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SHN CONSULTING ENGINEERS & GEOLOGISTS, INC.

NO.	DATE	REVISION	BY

DSGN ATB
DR JLB
CHK NRF
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
PLUMBING

GROUND LEVEL PIPING PLAN

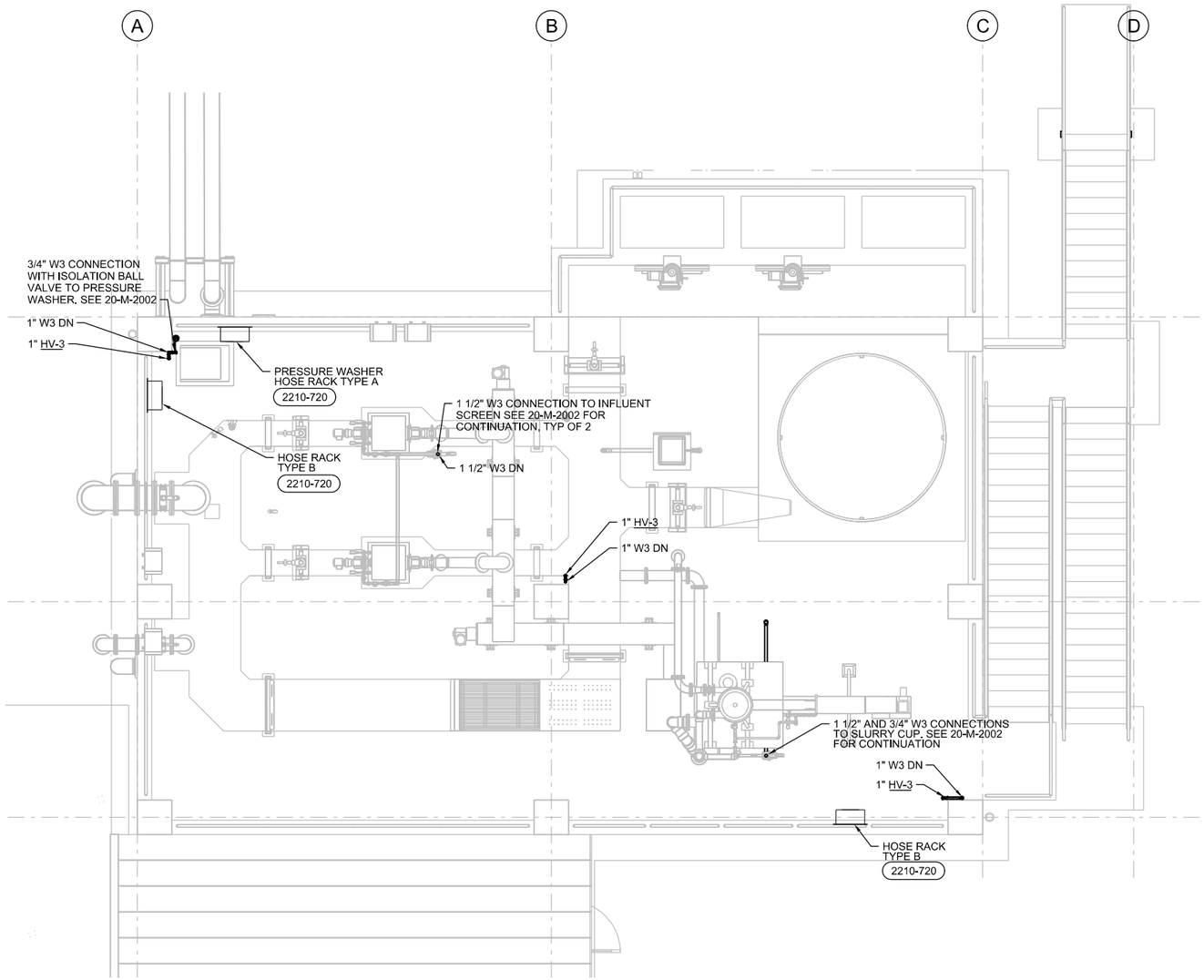
REGISTERED PROFESSIONAL ENGINEER
80759PE
Digital Signature
OREGON
JANUARY 10, 2013
ADAM T. BOYD
EXP. 12-31-15

SHEET 20-P-2001
SEQ 120
DATE 12/2014
PROJ. NO. 490515

20-P-2001_469556.dgn

NOTES:

1. INSULATE ALL EXPOSED W3 PIPING PER SPECIFICATION 40 42 13 MECHANICAL INSULATION.
2. FOR CONTINUATION OF W3 PIPING SEE MECHANICAL PLAN.



N

UPPER LEVEL PIPING PLAN

1/4"=1'-0"

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

CH2MHILL®

SHN CONSULTING ENGINEERS & GEOLOGISTS, INC.

NO.	REVISION	DATE	BY

DSGN	ATB
DR	JLB
CHK	NRF
APVD	CWM

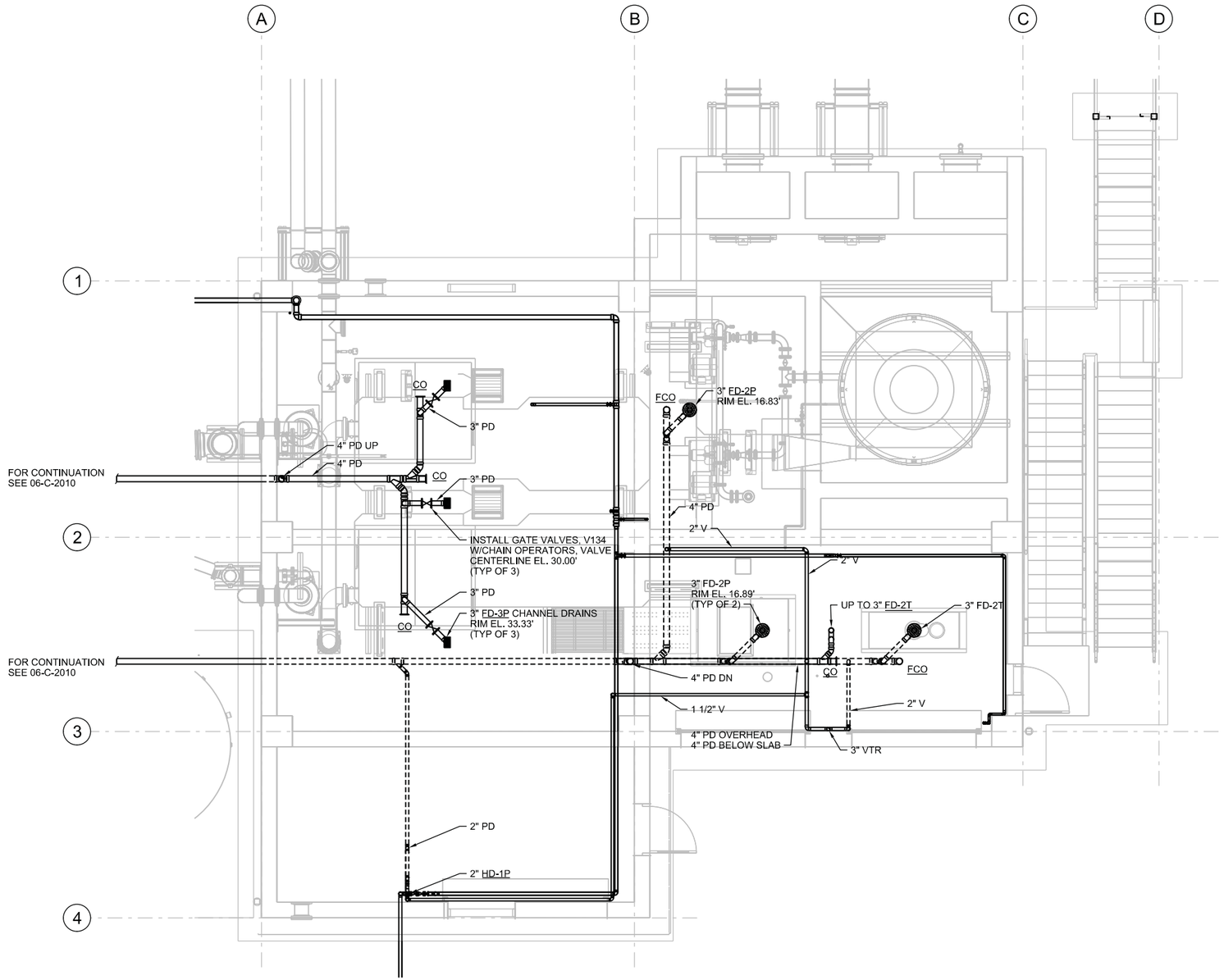
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
PLUMBING

UPPER LEVEL PIPING PLAN

REGISTERED PROFESSIONAL ENGINEER
80759PE
Digital Signature
OREGON
JANUARY 10, 2014
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EXP. 12-31-15

SHEET 20-P-2002
SEQ 121
DATE 12/2014
PROJ. NO. 490515

20-P-2002_469556.dgn



N

LOWER LEVEL PLAN

1/4"=1'-0"

VERIFY SCALES
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0 1"
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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
PLUMBING

GROUND LEVEL WASTE AND VENT PLAN

REGISTERED PROFESSIONAL ENGINEER
80759PE
Digital Signature
OREGON
JANUARY 10, 2007
ADAM T. BOYD
EXP. 12-31-15

SHEET 20-P-2003
SEQ 122
DATE 12/2014
PROJ. NO. 490515

20-P-2003_469556.dgn

N

UPPER LEVEL PLAN

1/4"=1'-0"

VERIFY SCALES

BAR IS ONE INCH ON ORIGINAL DRAWING

0 1"

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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE

HEADWORKS

PLUMBING

UPPER LEVEL WASTE AND VENT PLAN

REGISTERED PROFESSIONAL ENGINEER
80759PE
Digital Signature
OREGON
JANUARY 10, 2012
ADAM T. BOYD
EXP. 12-31-15

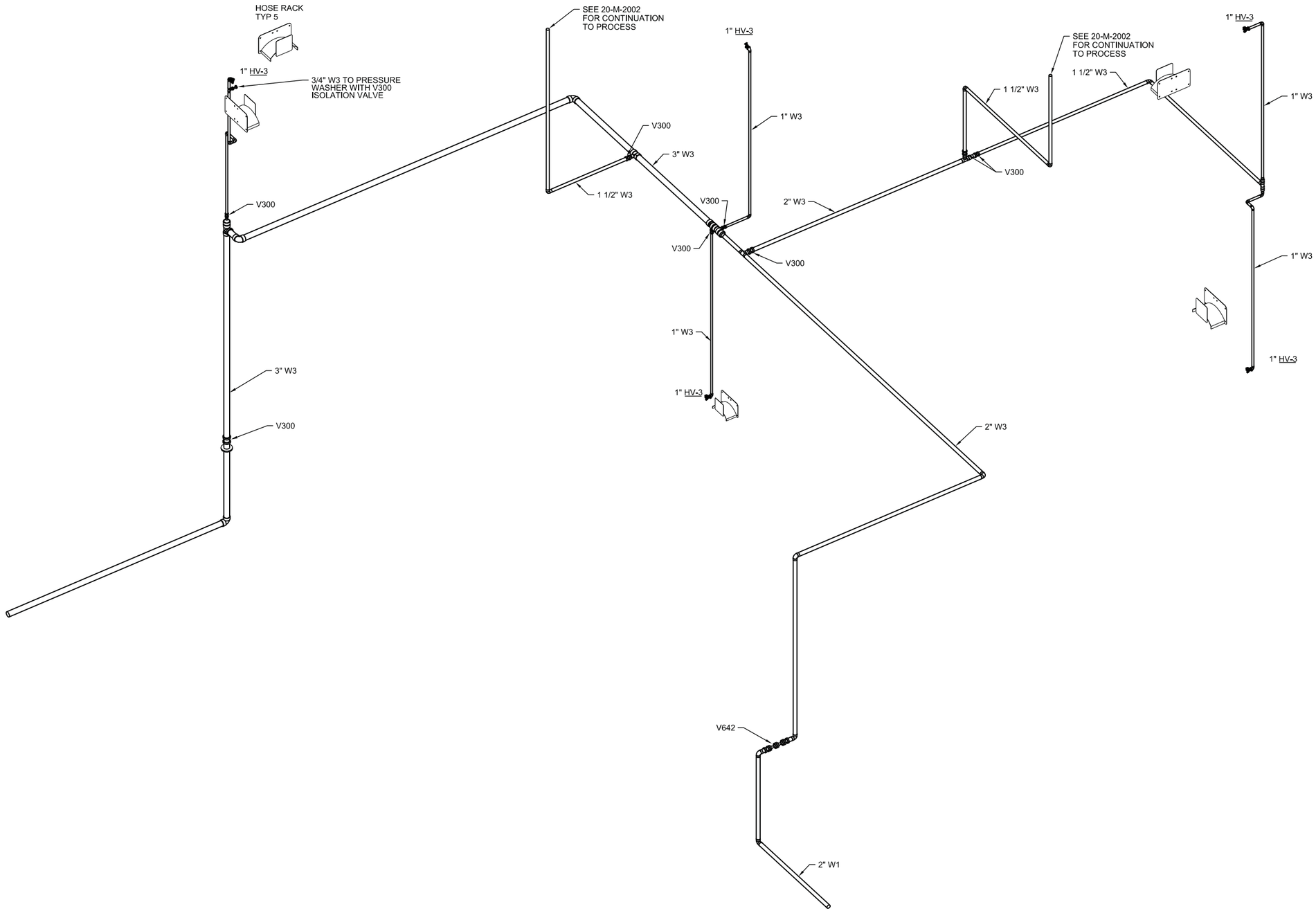
SHEET 20-P-2004

SEQ 123

DATE 12/2014

PROJ. NO. 490515

20-P-2004_469556.dgn



SERVICE WATER
NTS

VERIFY SCALES
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0 1"
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NO.	DATE	REVISION	BY

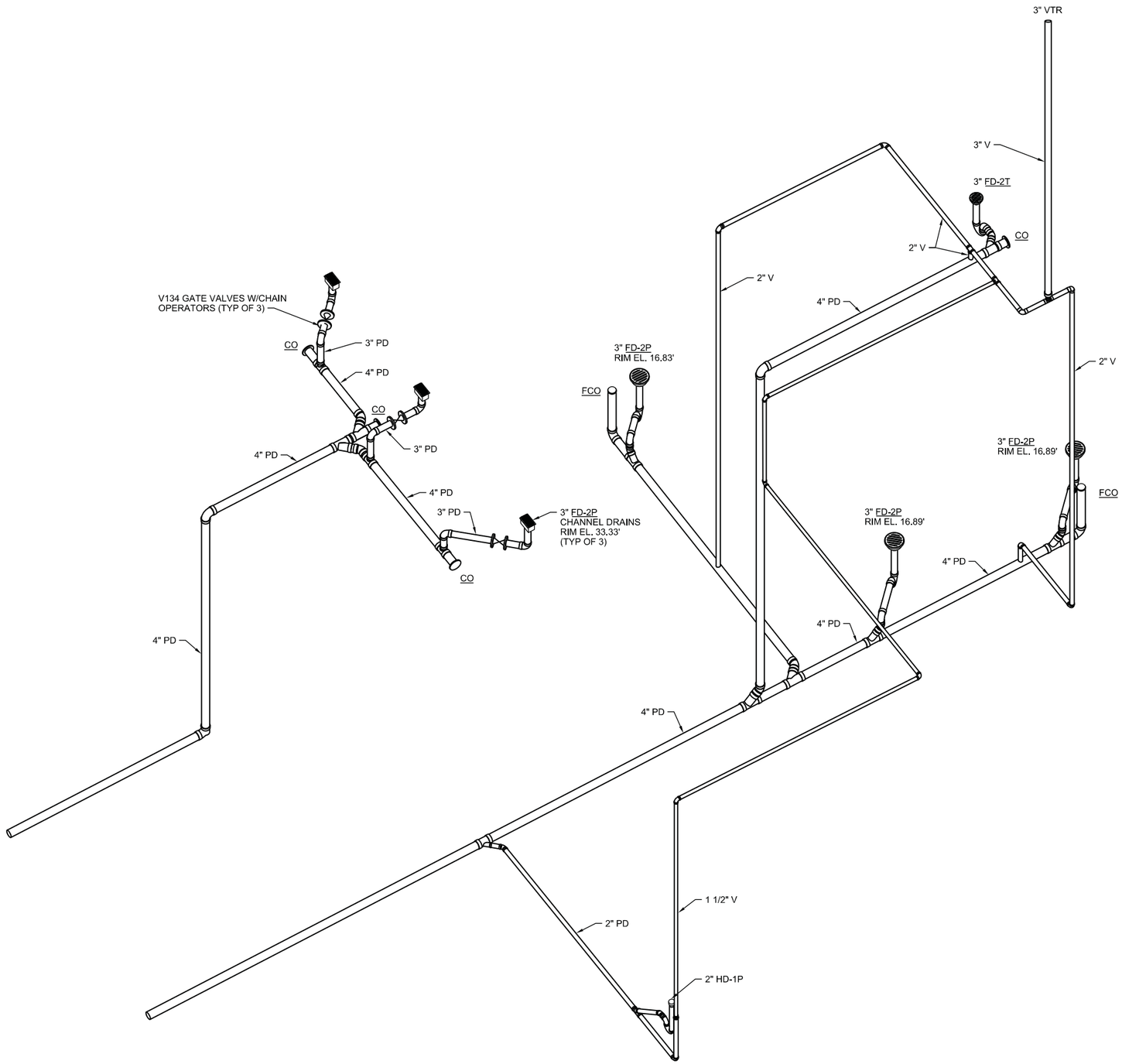
DSGN	ATB	DR	SLH	CHK	NRF	APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
PLUMBING
SERVICE WATER PIPING
ISOMETRIC

REGISTERED PROFESSIONAL ENGINEER
80759PE
Digital Signature
OREGON
JANUARY 10, 2013
ADAM T. BOYD
EXP. 12-31-15

SHEET 20-P-5001
SEQ 124
DATE 12/2014
PROJ. NO. 490515

20-P-5001_469556.dgn



DRAIN, WASTE AND VENT

NTS

VERIFY SCALES
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0 1"
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NO.	REVISION	BY	DATE

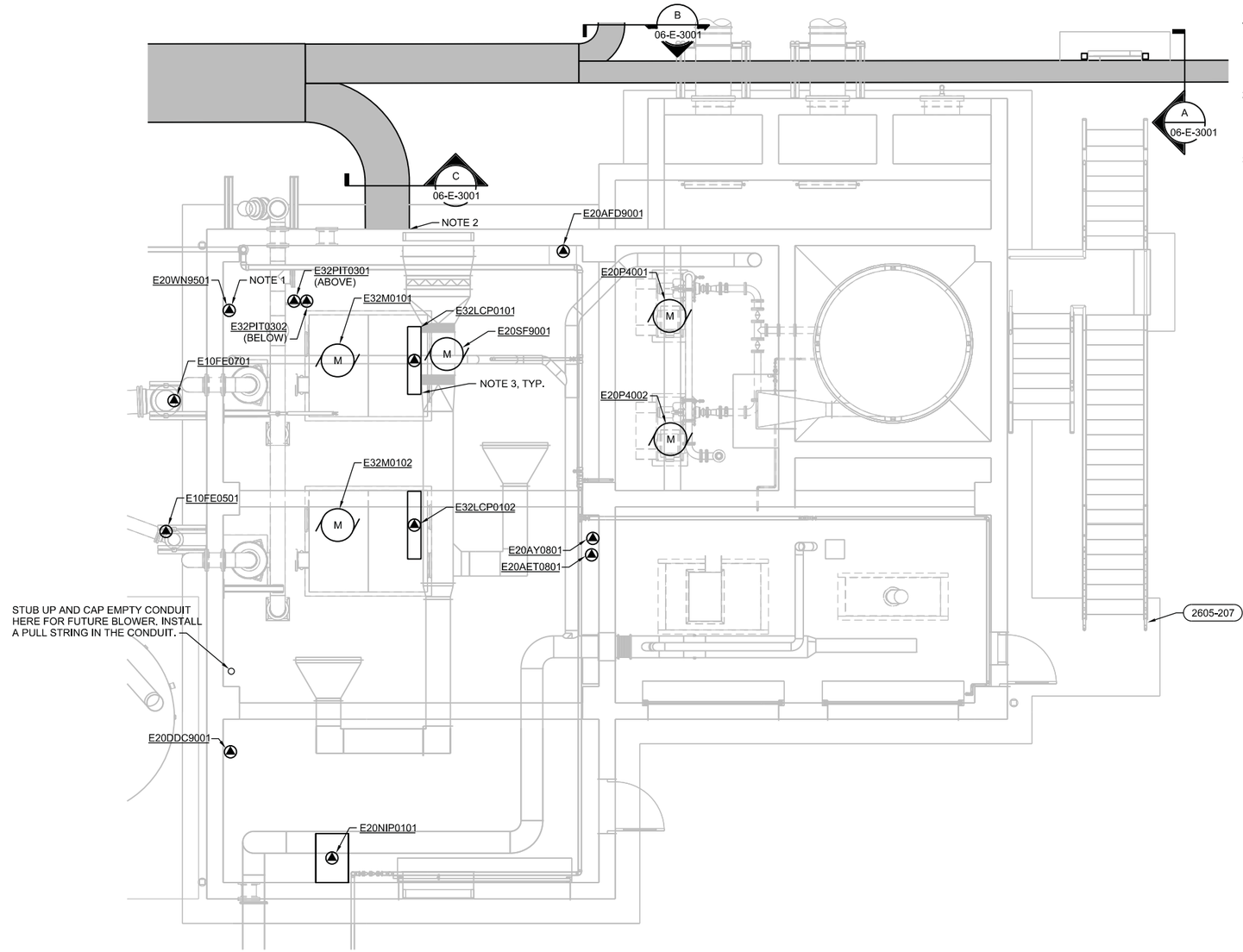
DSGN ATB
DR SLH
CHK NRF
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
PLUMBING
DRAIN, WASTE, AND VENT ISOMETRIC

SHEET 20-P-5002
SEQ 125
DATE 12/2014
PROJ. NO. 490515

REGISTERED PROFESSIONAL ENGINEER
80759PE
Digital Signature
OREGON
JANUARY 10, 2002
ADAM T. BOYD
EXP. 12-31-15

20-P-5002_469556.dgn



NOTES:

1. LOCATION OF WIRELESS NETWORK IS APPROXIMATE. FINAL LOCATION OF TRANSMITTERS SHALL BE BASED ON THE NEWTWORK TRANSMITTERS COMMUNICATION SYSTEM S URVEY IN SPECIFICATION SECTION 40 95 80.
2. ROUTE CONDUITS TO EQUIPMENT AND DEVICES ON THE GROUND LEVEL UNDER THE FLOOR SLAB. ROUTE CONDUITS TO THE EQUIPMENT AND DEVICES ON THE UPPER LEVEL EXPOSED ON THE OUTSIDE OF THE S TRUCTURE OR CONCEALED INSIDE OUTER WALLS.
3. INSTALL A WARNING LABEL ON THE OUTSIDE OF THE B LOWER CONTROL PANEL INDICATING THE FOLLOWING VOLTAGE SOURCES:
   - . MCC BUCKET NUMBER FOR THE 480VAC BLOWER MOTOR POWER.
   - . PANELBOARD AND CIRCUIT NUMBER FOR THE 480VAC, NON-UPS FEED TO THE BLOWER.
   - . PANELBOARD AND CIRCUIT NUMBER FOR THE 120VAC, UPS POWER
   - . SOURCE TO THE BLOWER CONTROL PANEL.

GROUND LEVEL PLAN

1/4"=1'-0"

N

VERIFY SCALES
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0 1"
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SAM CONSULTING ENGINEERS & GEOLOGISTS, INC.

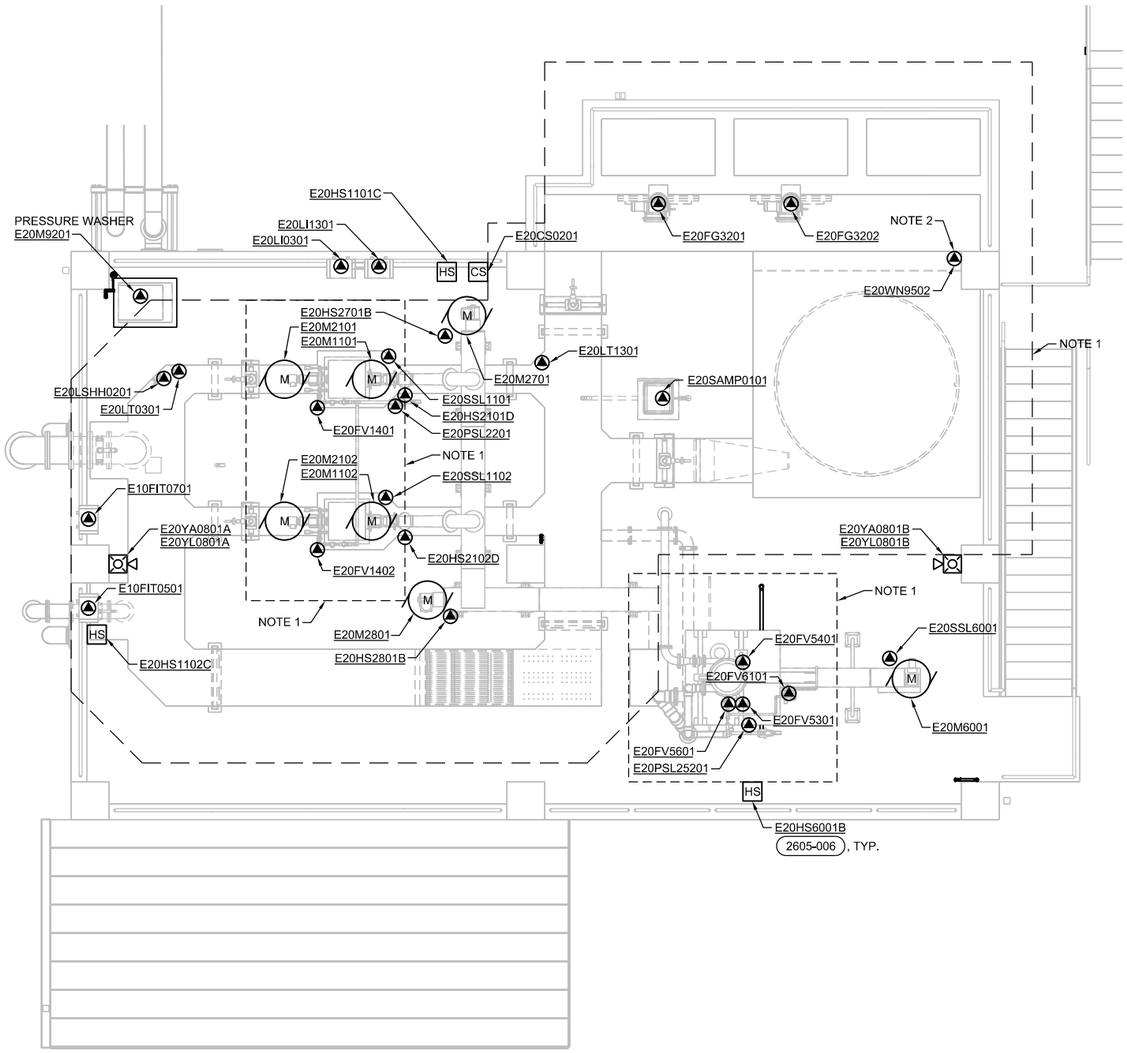
NO.	REVISION	DATE	BY

DSGN JAC
DR JG
CHK RSH
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
ELECTRICAL
GROUND LEVEL POWER PLAN

REGISTERED PROFESSIONAL ENGINEER
85946PE
Digital Signature
OREGON
JAN. 10, 2012
JASON A. CLIFFORD
EXP. 12-31-15

SHEET 20-EP-2000
SEQ 126
DATE 12/2014
PROJ. NO. 490515



UPPER LEVEL PLAN

1/4"=1'-0"

N

NOTES:

1. HAZARDOUS AREAS: THE FOLLOWING SPACES SHOWN WITHIN DASHED LINES ARE CLASS 1, DIV 2 GROUP D HAZARDOUS AREAS:

   – – – – – WITHIN A 3 FOOT RADIUS FROM ENCLOSED SCREENING EQUIPMENT.

   — — — WITHIN AN ENVELOPE 18" ABOVE FINISHED FLOOR, EXTENDING 3' FROM EDGE OF ENCLOSED CHANNELS.

2. LOCATION OF WIRELESS NETWORK IS APPROXIMATE. FINAL LOCATION OF TRANSMITTERS SHALL BE BASED ON THE NEWTWORK TRANSMITTERS COMMUNICATION SYSTEM SURVEY IN SPECIFICATION SECTION 40 95 80.

3. ROUTE CONDUITS CONCEALED IN SLAB WHERE POSSIBLE. DO NOT ROUTE CONDUIT THROUGH CHANNELS. CONDUIT THAT CANNOT BE CONCEALED SHALL BE ROUTED EXPOSED UNDER CANOPY ROOF.

REGISTERED PROFESSIONAL ENGINEER
85946PE
Digital Signature
OREGON
JAN 10, 2012
JASON A. CLIFFORD
EXP. 12-31-15

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0 1"
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SEA CONSULTING ENGINEERS & GEOLOGISTS, INC.

NO.	DATE	REVISION	BY

DSGN	JAC
DR	JG
CHK	RSH
APVD	CWM

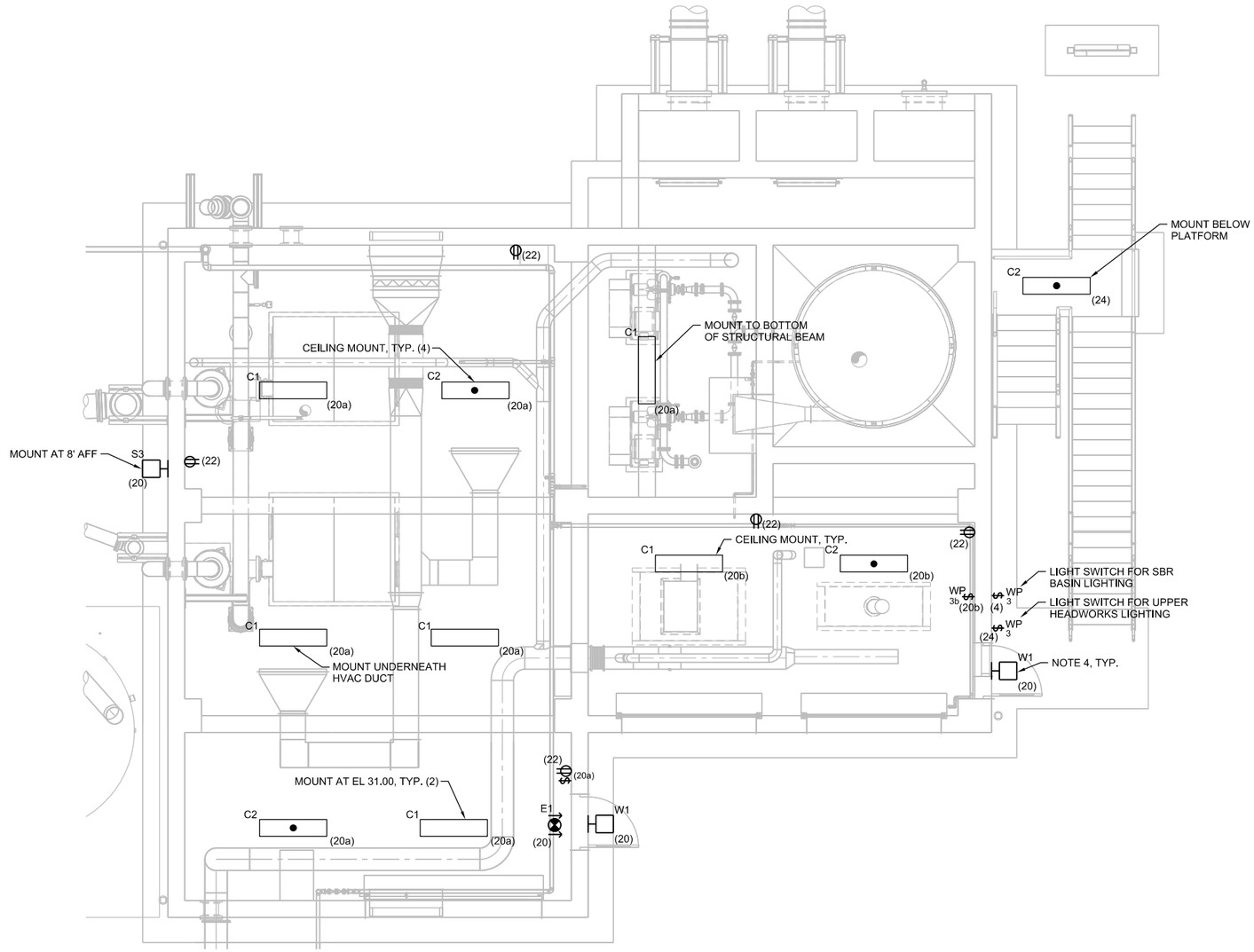
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
ELECTRICAL

UPPER LEVEL POWER PLAN

SHEET 20-EP-2001
SEQ 127
DATE 12/2014
PROJ. NO. 490515

NOTES:

1. NUMBERS SHOWN IN PARANTHESIS, (N), ADJACENT TO LIGHTS AND RECEPTACLES DENOTE CIRCUIT NUMBERS IN FACILITY PANELBOARDS. REFER TO PANELBOARD SCHEDULES FOR CORRECT PANEL. PROVIDE #12 CONDUCTORS FOR 20A OR 15A CIRCUITS LESS THAN 75 FEET. PROVIDE #10 CONDUCTORS FOR CIRCUITS GREATER THAN 75 FEET.
2. COMBINE RECEPTACLE AND LIGHTING CIRCUITS IN A CONDUIT TO MINIMIZE THE AMOUNT OF CONDUIT. CIRCUITS COMBINED INTO A SINGLE CONDUIT SHALL BE SIZED FOR NEC DERATING AND CONDUIT FILL REQUIREMENTS.
3. CONNECT EMERGENCY BALLASTS WITH UNSWITCHED CONDUCTORS. NORMAL BALLASTS, EVEN FOR EMERGENCY FIXTURES, SHALL BE CONTROLLED WITH ROOM SWITCH.
4. REFERENCE ARCHITECTURAL DRAWING 20-A-3000. MOUNT LUMINAIRE 1' ABOVE TOP OF DOOR.



GROUND LEVEL PLAN

1/4"=1'-0"

REGISTERED PROFESSIONAL ENGINEER
85946PE
Digital Signature
OREGON
JAN. 10, 2013
JASON A. CLIFFORD
EXP. 12-31-15

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0 1"
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NO.	DATE	REVISION	BY

DSGN	JAC
DR	JG
CHK	RSH
APVD	CWM

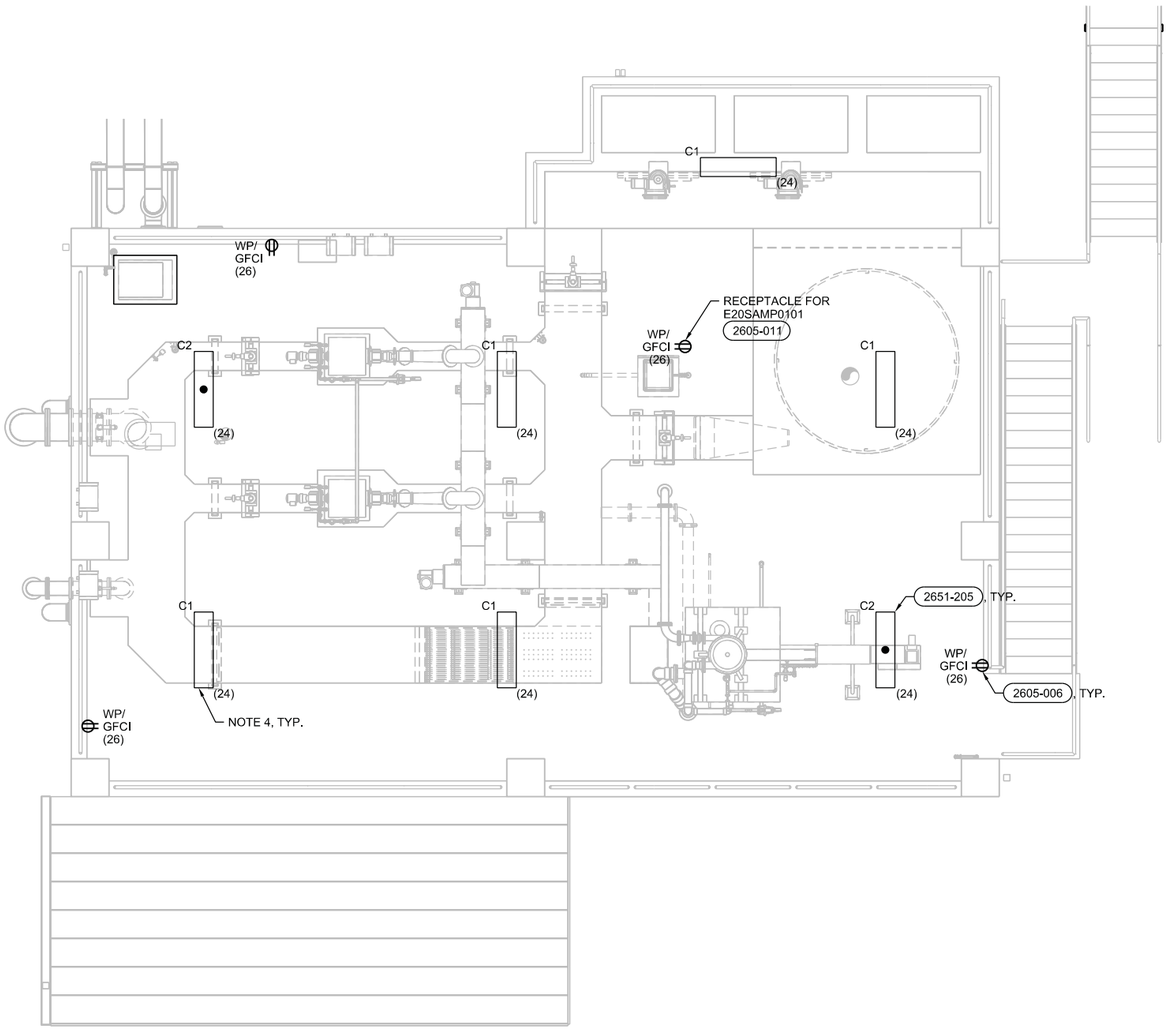
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
ELECTRICAL

GROUND LEVEL FACILITY PLAN

SHEET 20-EF-2000
SEQ 128
DATE 12/2014
PROJ. NO. 490515

NOTES:

1. NUMBERS SHOWN IN PARANTHESIS, (N), ADJACENT TO LIGHTS AND RECEPTACLES DENOTE CIRCUIT NUMBERS IN FACILITY PANELBOARDS. REFER TO PANELBOARD SCHEDULES FOR CORRECT PANEL. PROVIDE #12 CONDUCTORS FOR 20A OR 15A CIRCUITS LESS THAN 75 FEET. PROVIDE #10 CONDUCTORS FOR CIRCUITS GREATER THAN 75 FEET.
2. COMBINE RECEPTACLE AND LIGHTING CIRCUITS IN A CONDUIT TO MINIMIZE THE AMOUNT OF CONDUIT. CIRCUITS COMBINED INTO A SINGLE CONDUIT SHALL BE SIZED FOR NEC DERATING AND CONDUIT FILL REQUIREMENTS.
3. CONNECT EMERGENCY BALLASTS WITH UNSWITCHED CONDUCTORS. NORMAL BALLASTS, EVEN FOR EMERGENCY FIXTURES, SHALL BE CONTROLLED WITH ROOM SWITCH.
4. MOUNT BOTTOM OF LIGHT FIXTURES AT 11' AFF.



UPPER LEVEL PLAN

1/4"=1'-0"

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SHN CONSULTING ENGINEERS & GEOLOGISTS, INC.

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0 1"
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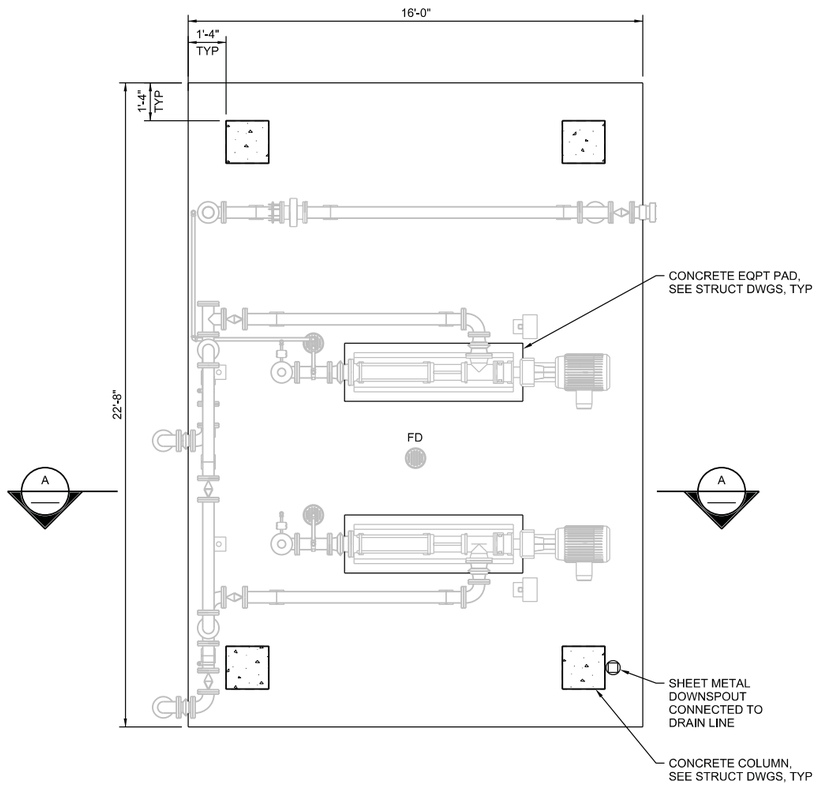
NO.	DATE	REVISION	BY

DSGN JAC
DR JG
CHK RSH
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
HEADWORKS
ELECTRICAL
UPPER LEVEL FACILITY PLAN

REGISTERED PROFESSIONAL ENGINEER
85946PE
Digital Signature
OREGON
JAN. 10, 2012
JASON A. CLIFFORD
EXP. 12-31-15

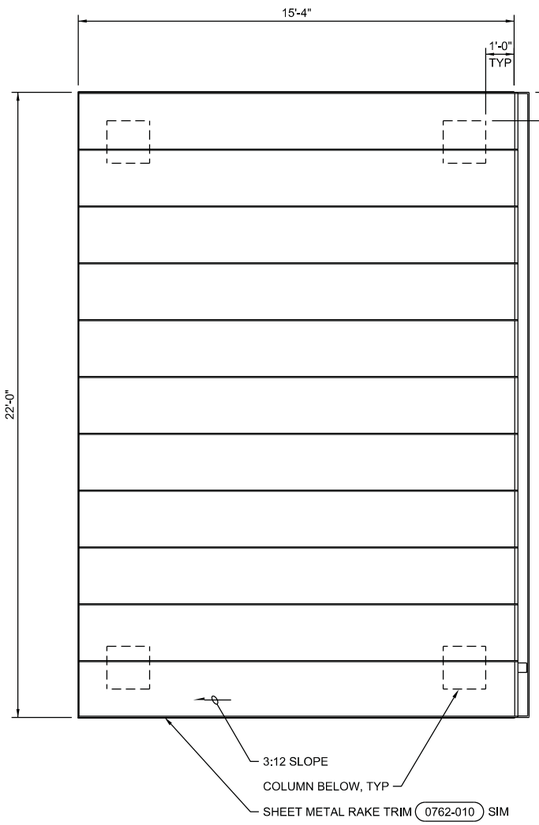
SHEET 20-EF-2001
SEQ 129
DATE 12/2014
PROJ. NO. 490515



N

FLOOR PLAN

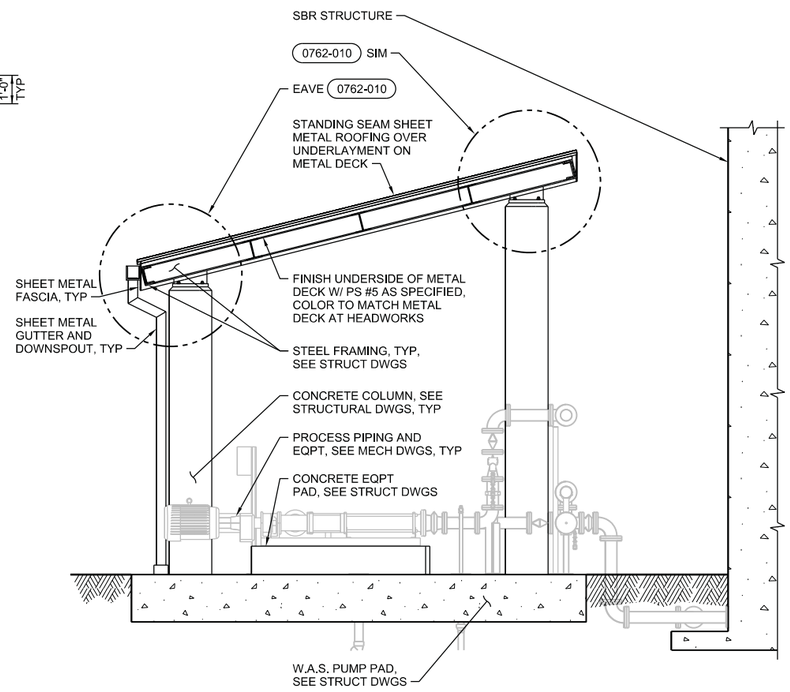
3/8"=1'-0"



N

ROOF PLAN

3/8"=1'-0"



NOTES:

1. SHEET METAL ROOF PANELS AS SPECIFIED, COLOR TO MATCH HEADWORKS CANOPY.
2. SHEET METAL FASCIA AND RAKE TRIM TO MATCH HEADWORKS CANOPY TRIM.

A

SECTION

3/8"=1'-0"

REGISTERED ARCHITECT
ROBERT P. TAVERNA
Digital Signature
ALBANY, OREGON
5797
STATE OF OREGON

VERIFY SCALES
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0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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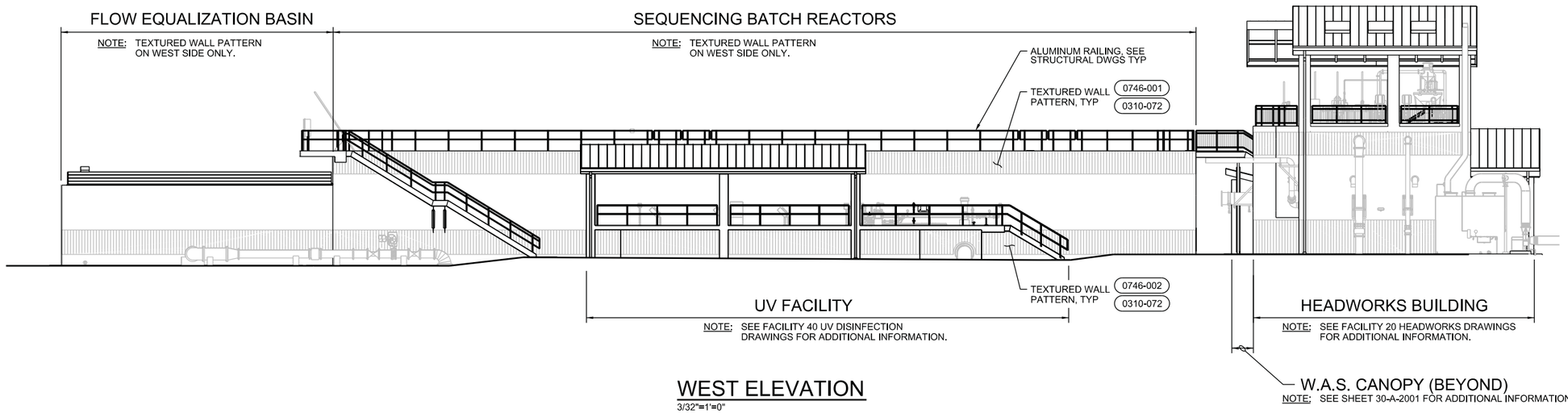
NO.	DATE	REVISION	BY

DSGN BPT
DR SDB
CHK SJP
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SEQUENCING BATCH REACTORS
ARCHITECTURAL

WAS PUMPS FLOOR PLAN, ROOF PLAN AND SECTION

SHEET 30-A-2001
SEQ 130
DATE 12/2014
PROJ. NO. 490515



WEST ELEVATION

3/32"=1'=0"

REGISTERED ARCHITECT
ROBERT P. TAVERNA
Digital Signature
ALBANY, OREGON
5797
STATE OF OREGON

VERIFY SCALES
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0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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NO.	DATE	REVISION	BY

DSGN BPT
DR SDB
CHK SJP
APVD CWM

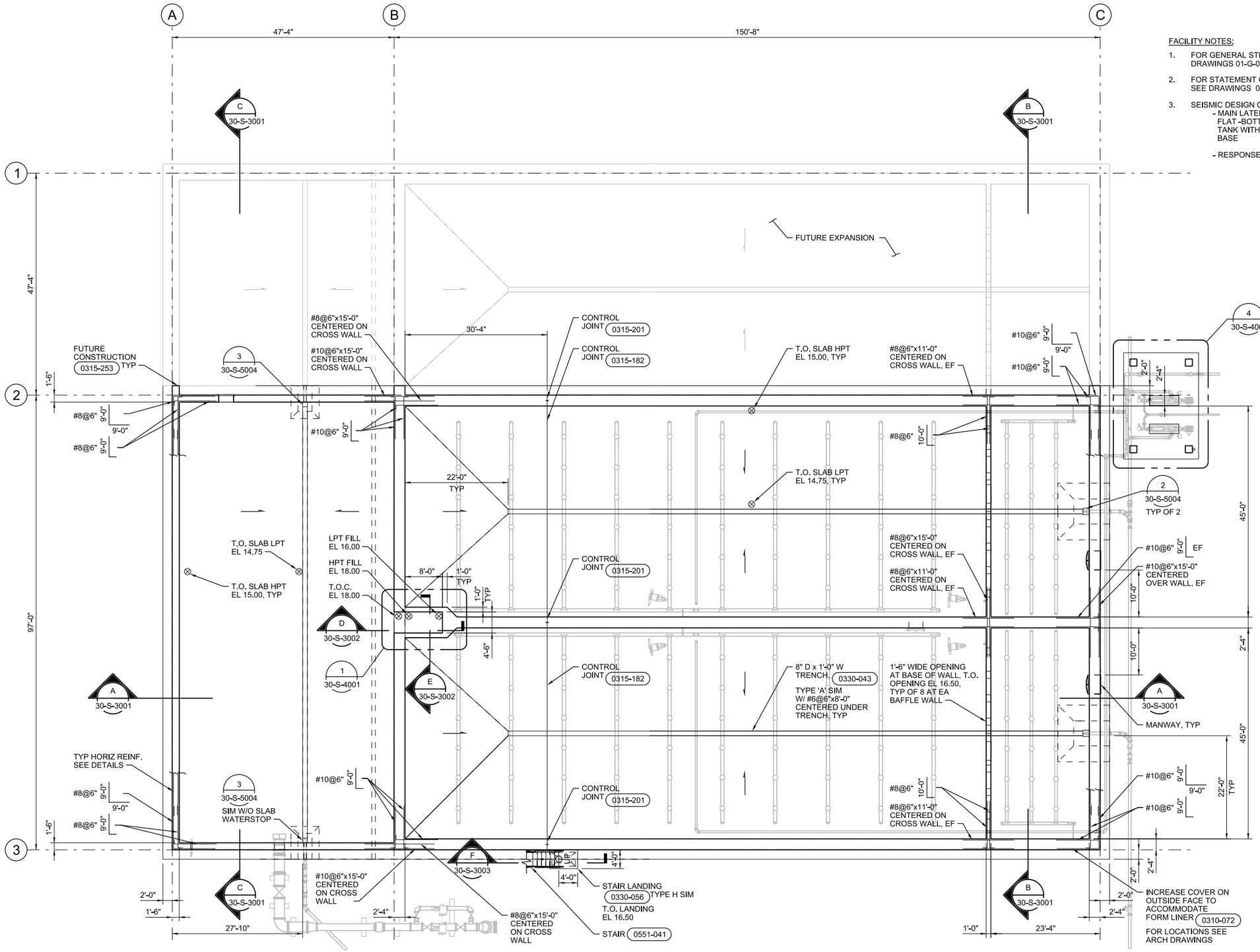
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SEQUENCING BATCH REACTORS
ARCHITECTURAL
WEST ELEVATION

SHEET 30-A-3000
SEQ 131
DATE 12/2014
PROJ. NO. 490515

30-A-3000_469556.dgn

FACILITY NOTES:

1. FOR GENERAL STRUCTURAL NOTES, SEE DRAWINGS 01-G-0020 AND 01-G-0021.
2. FOR STATEMENT OF SPECIAL INSPECTION PLAN, SEE DRAWINGS 01-G-0022 THROUGH 01-G-0026.
3. SEISMIC DESIGN CRITERIA
   - MAIN LATERAL FORCE RESISTING SYSTEM: FLAT -BOTTOM GROUND SUPPORTED TANK WITH REINFORCED NON -SLIDING BASE
   - RESPONSE MODIFICATION COEFFICIENT: R=2



FOUNDATION PLAN

3/32"=1'-0"

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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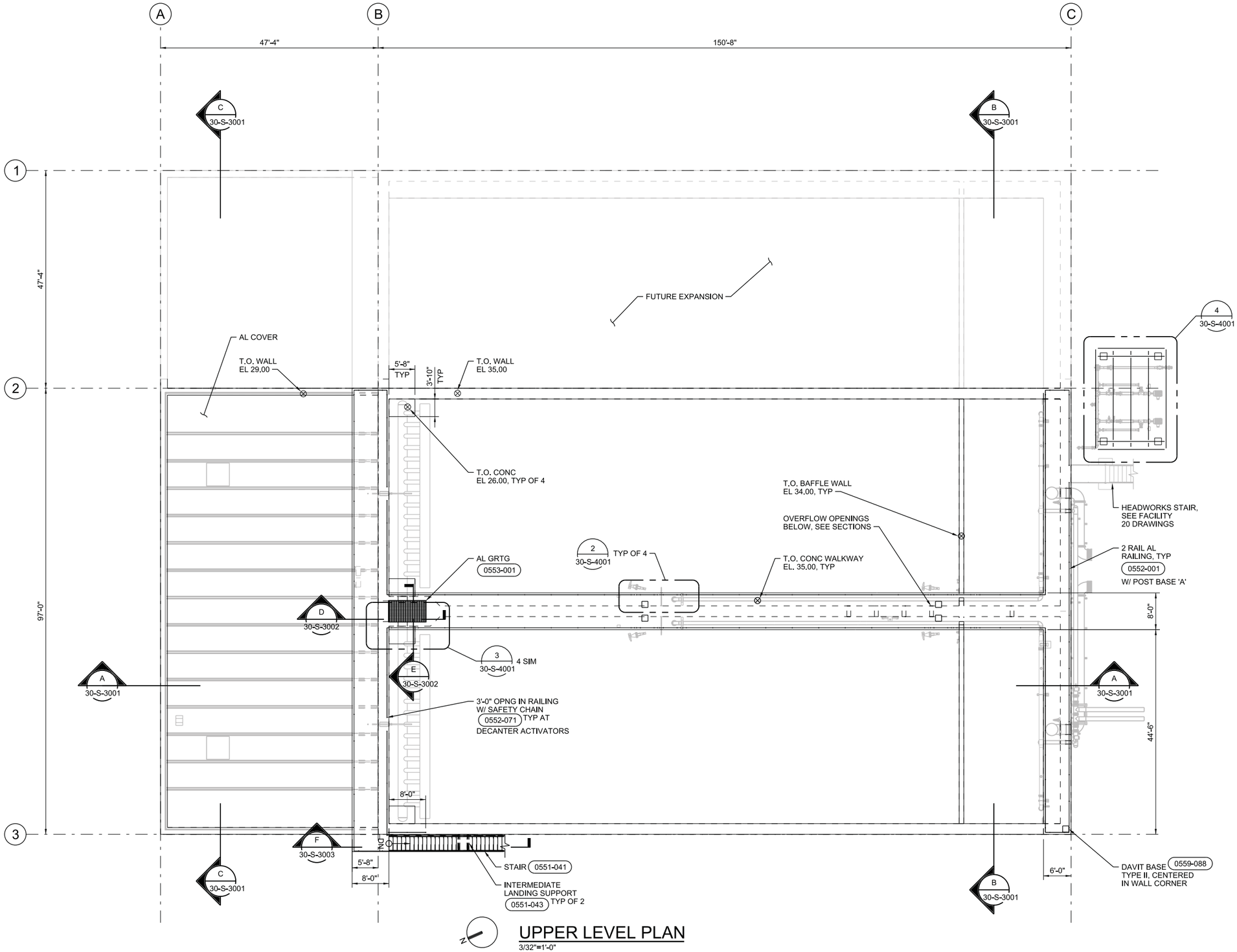
NO.	DATE	REVISION	BY

DSGN SKR
DR HFJ
CHK ALF
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SEQUENCING BATCH REACTORS
STRUCTURAL
FOUNDATION PLAN

STRUCTURAL REGISTERED PROFESSIONAL ENGINEER 81069PE
Digital Signature OREGON
JUNE 6, 2013
C. STERLING KEITH ROSE
EXP. 12-31-14

SHEET 30-S-2200
SEQ 132
DATE 12/2014
PROJ. NO. 490515



UPPER LEVEL PLAN

3/32"=1'-0"

VERIFY SCALES
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0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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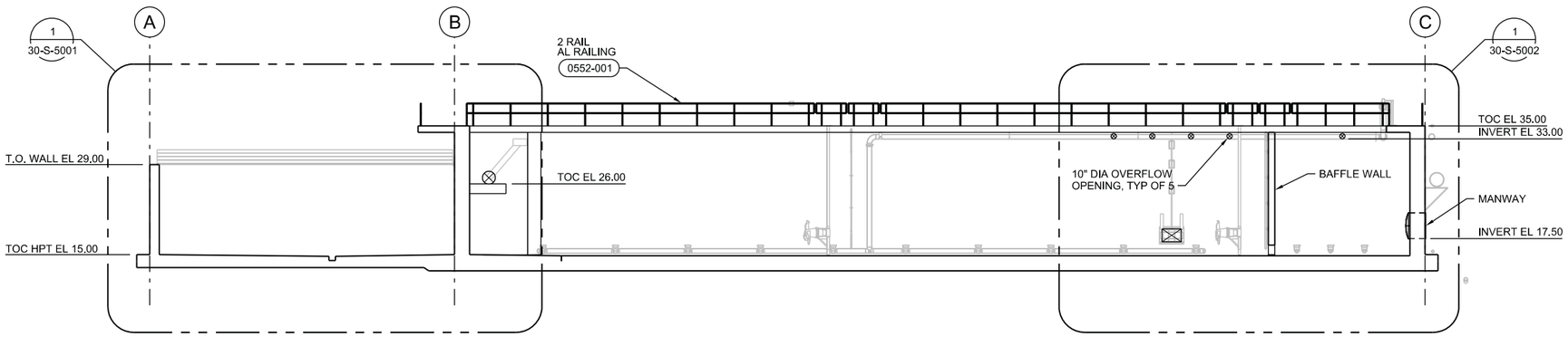
NO.	REVISION	DATE	BY

DSGN	SKR	CHK	ALF
DR	HFJ	APVD	CWM

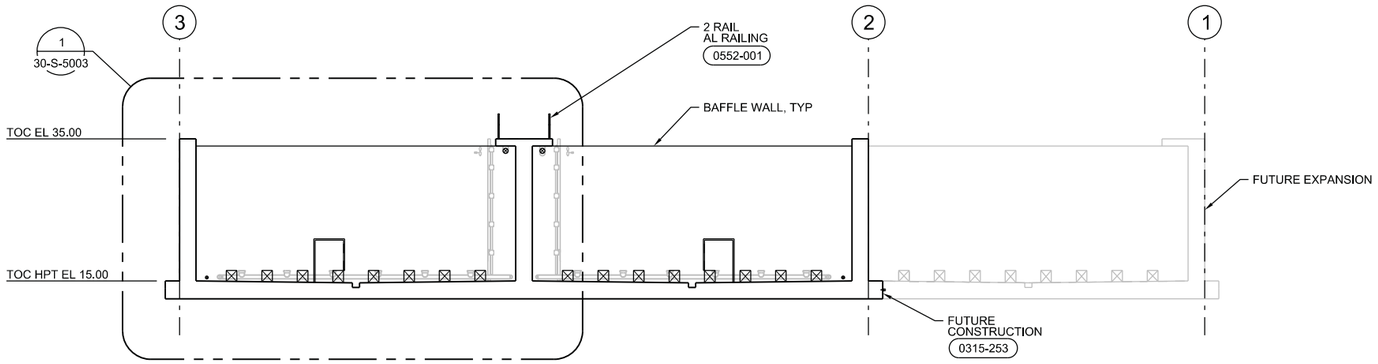
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SEQUENCING BATCH REACTORS
STRUCTURAL
UPPER LEVEL PLAN

REGISTERED PROFESSIONAL ENGINEER
STRUCTURAL
81069PE
Digital Signature
OREGON
JUNE 13, 2013
STERLING KEITH ROSE
EXP. 12-31-14

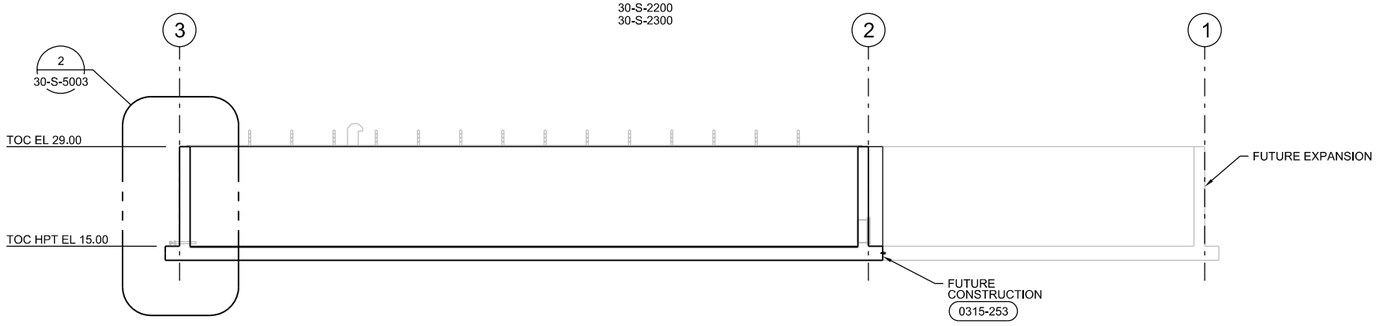
SHEET 30-S-2300
SEQ 133
DATE 12/2014
PROJ. NO. 490515



A SECTION
3/32"=1'-0"
30-S-2200
30-S-2300



B SECTION
3/32"=1'-0"
30-S-2200
30-S-2300



C SECTION
3/32"=1'-0"
30-S-2200
30-S-2300

VERIFY SCALES
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0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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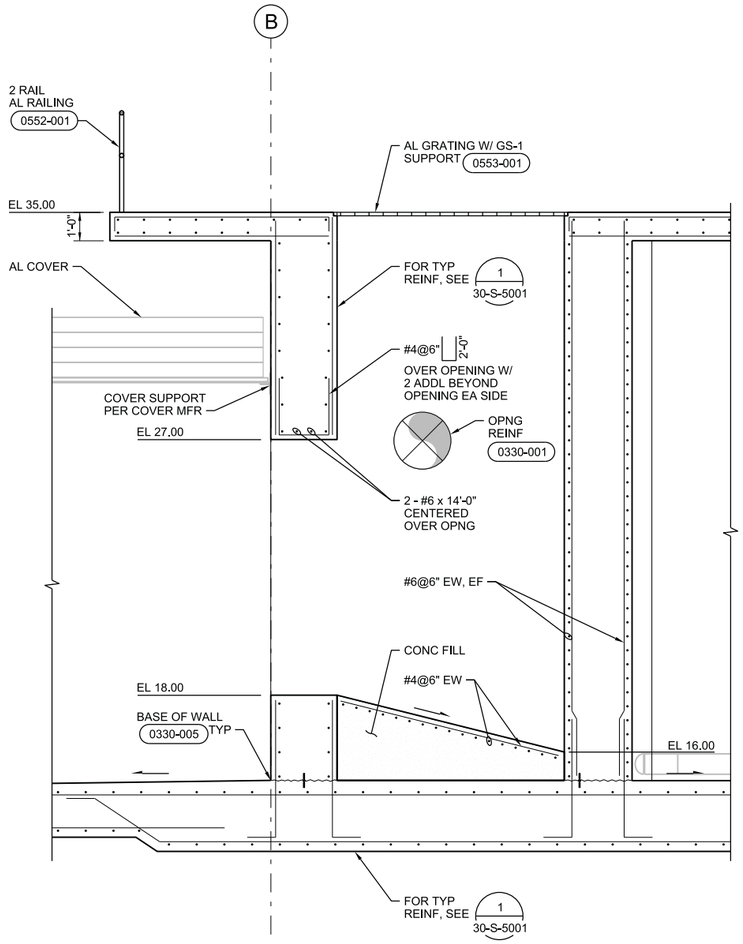
NO.	DATE	REVISION	BY

DSGN	SKR
DR	HFJ
CHK	ALF
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SEQUENCING BATCH REACTORS
STRUCTURAL
SECTIONS

STRUCTURAL
REGISTERED PROFESSIONAL ENGINEER
81005PE
Digital Signature
OREGON
DATE 12, 2012
C. STERLING KEITH ROSE
EXP. 12-31-14

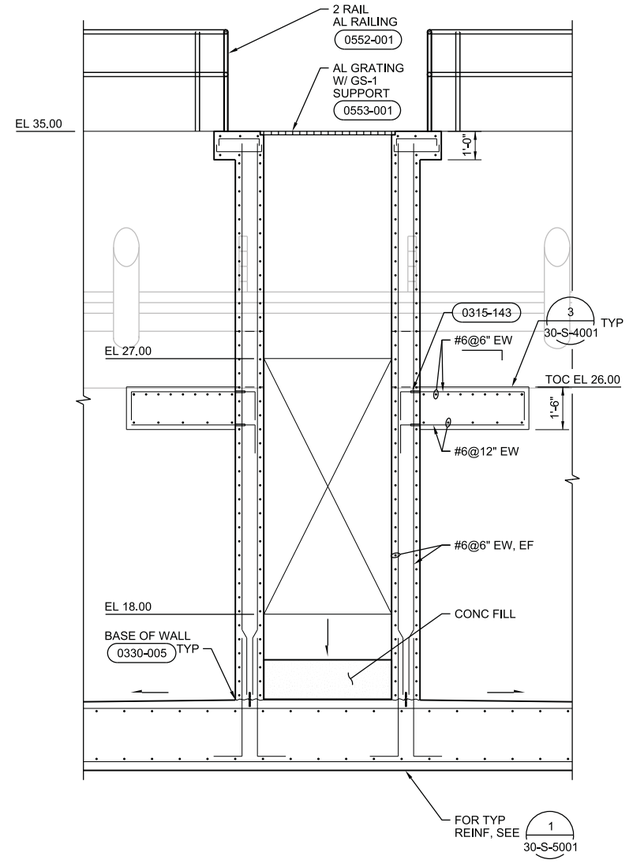
SHEET 30-S-3001
SEQ 134
DATE 12/2014
PROJ. NO. 490515



D SECTION

3/8"=1'-0"

30-S-2200
30-S-2300
30-S-4001



E SECTION

3/8"=1'-0"

30-S-2200
30-S-2300
30-S-4001

VERIFY SCALES
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0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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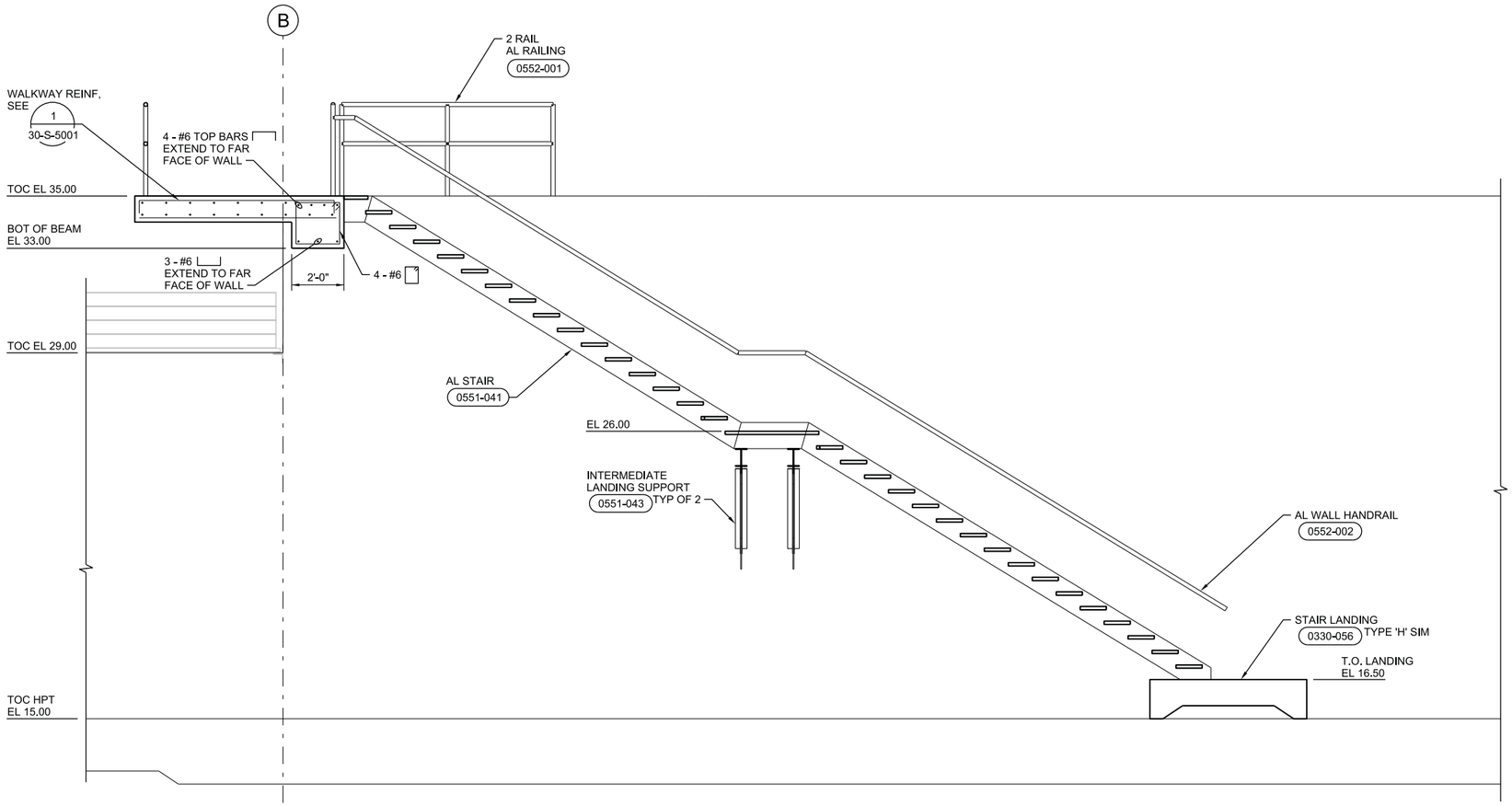
NO.	DATE	REVISION	BY

DSGN	SKR	CHK	ALF
DR	HFJ	APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SEQUENCING BATCH REACTORS
STRUCTURAL
SECTIONS

STRUCTURAL
REGISTERED PROFESSIONAL ENGINEER
81069PE
OREGON
Digital Signature
JUNE 13, 2013
C. STERLING KEITH ROSE
EXP. 12-31-14

SHEET 30-S-3002
SEQ 135
DATE 12/2014
PROJ. NO. 490515



F SECTION

3/8"=1'-0"

30-S-2200
30-S-2300

VERIFY SCALES
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0 1"
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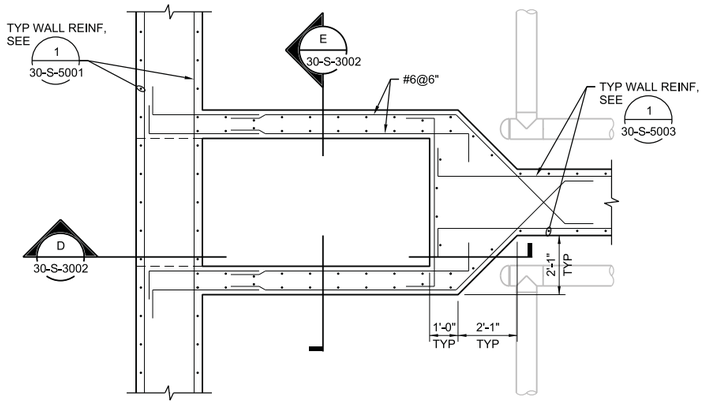
DSGN SKR
DR HFJ
CHK ALF
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SEQUENCING BATCH REACTORS
STRUCTURAL
SECTION

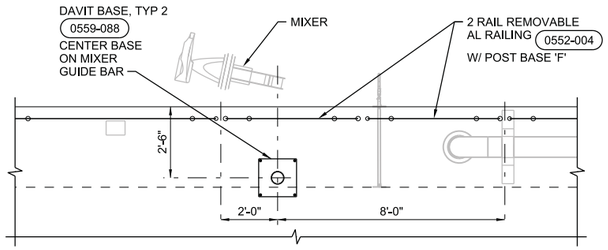
REGISTERED PROFESSIONAL ENGINEER
STRUCTURAL
81069PE
Digital Signature
OREGON
JUNE 19, 2013
C. STERLING KEITH ROSE

EXP. 12-31-14

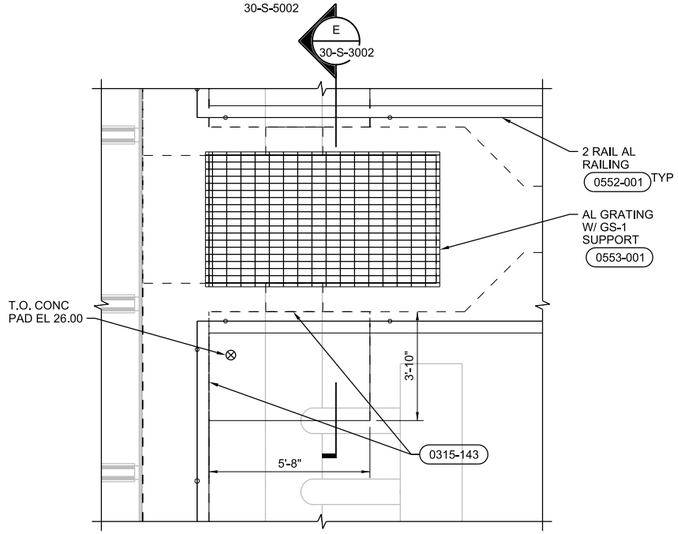
SHEET 30-S-3003
SEQ 136
DATE 12/2014
PROJ. NO. 490515



1 DETAIL
3/8"=1'-0"
30-S-2200



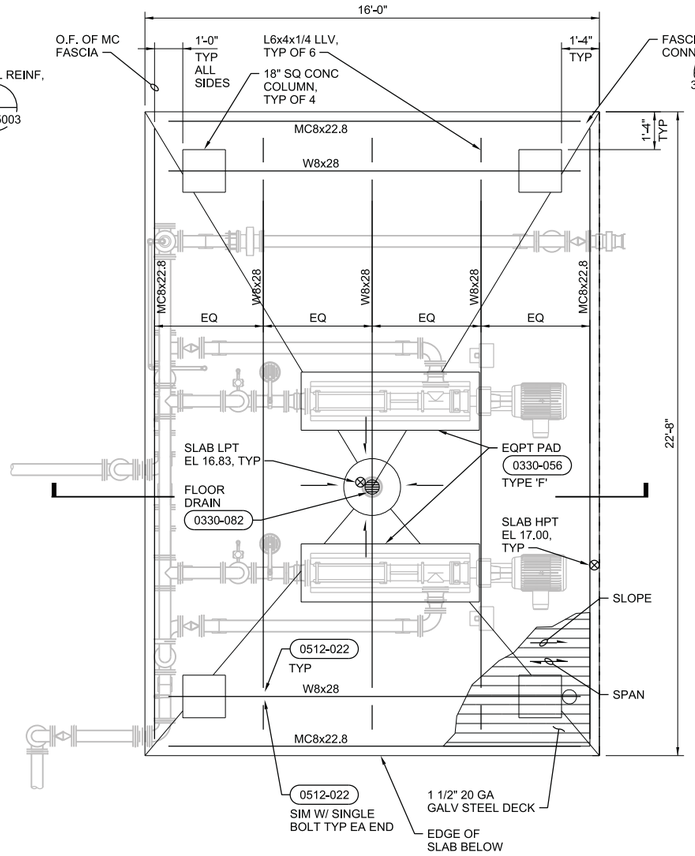
2 DETAIL
3/8"=1'-0"
30-S-2300
30-S-5002



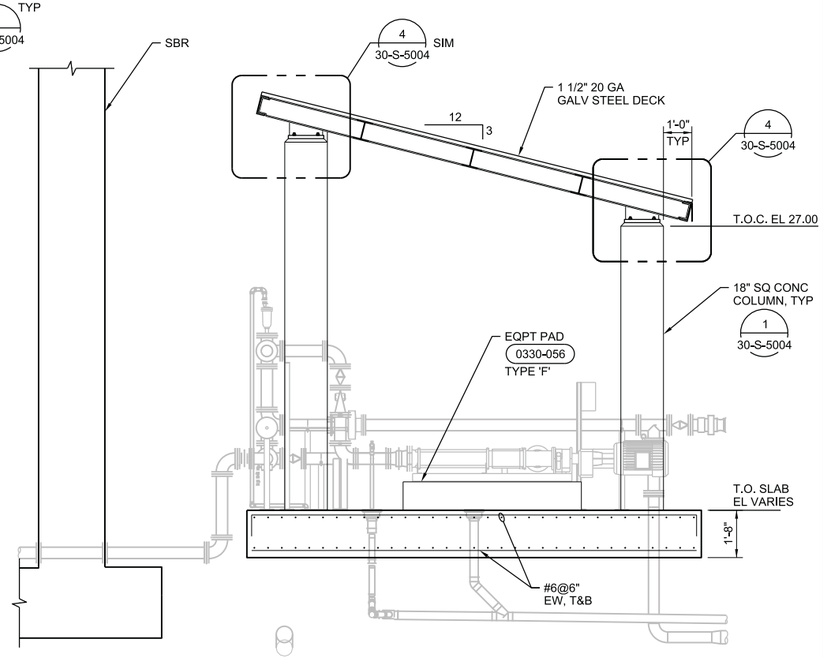
NOTE:

FOR CONCRETE PAD REINFORCING, SEE E/30-S-3002.

3 DETAIL
3/8"=1'-0"
30-S-2300
30-S-3002
30-S-5001



PLAN



SECTION

NOTE:

ALL ROOF STEEL AND CONNECTION HARDWARE SHALL BE HOT-DIP GALVANIZED.

STEEL DECK & ATTACHMENT SCHEDULE

TYPE	DEPTH	PANEL WIDTH	DESIGN THICKNESS	MIN YIELD STRENGTH Fy (ksi)	MIN (+) S (in^3/ft)	MIN I (in^4/ft)	MIN DIAPHRAGM SHEAR CAPACITY (lbs/ft)	FINISH	AT PERPENDICULAR SUPPORTS, NOTE 1		AT PARALLEL SUPPORTS, NOTE 1		AT SIDELAPS	
									TYPE	NO PER SHEET	TYPE	SPACING	TYPE	SPACING
ROOF DECK	1.5"	36"	20 GA	33	0.23	0.231	250	GALV, G-90	5/8" PUDDLE WELD	4	5/8" PUDDLE WELD	12"	NOTE 2	18"

DECK SCHEDULE NOTES:

1. OTHER TYPE OF CONNECTIONS ARE ALLOWED.
2. MANUFACTURER'S STANDARD SIDELAP CONNECTION OR OTHER SIDELAP CONNECTIONS ARE ALLOWED PER APPROVAL OF STRUCTURAL ENGINEER.

4 WAS PUMPS CANOPY
3/8"=1'-0"
30-S-2200
30-S-2300

STRUCTURAL REGISTERED PROFESSIONAL ENGINEER 81069PE Digital Signature OREGON JUNE 6, 2013 C. STERLING KEITH ROSE
EXP. 12-31-14

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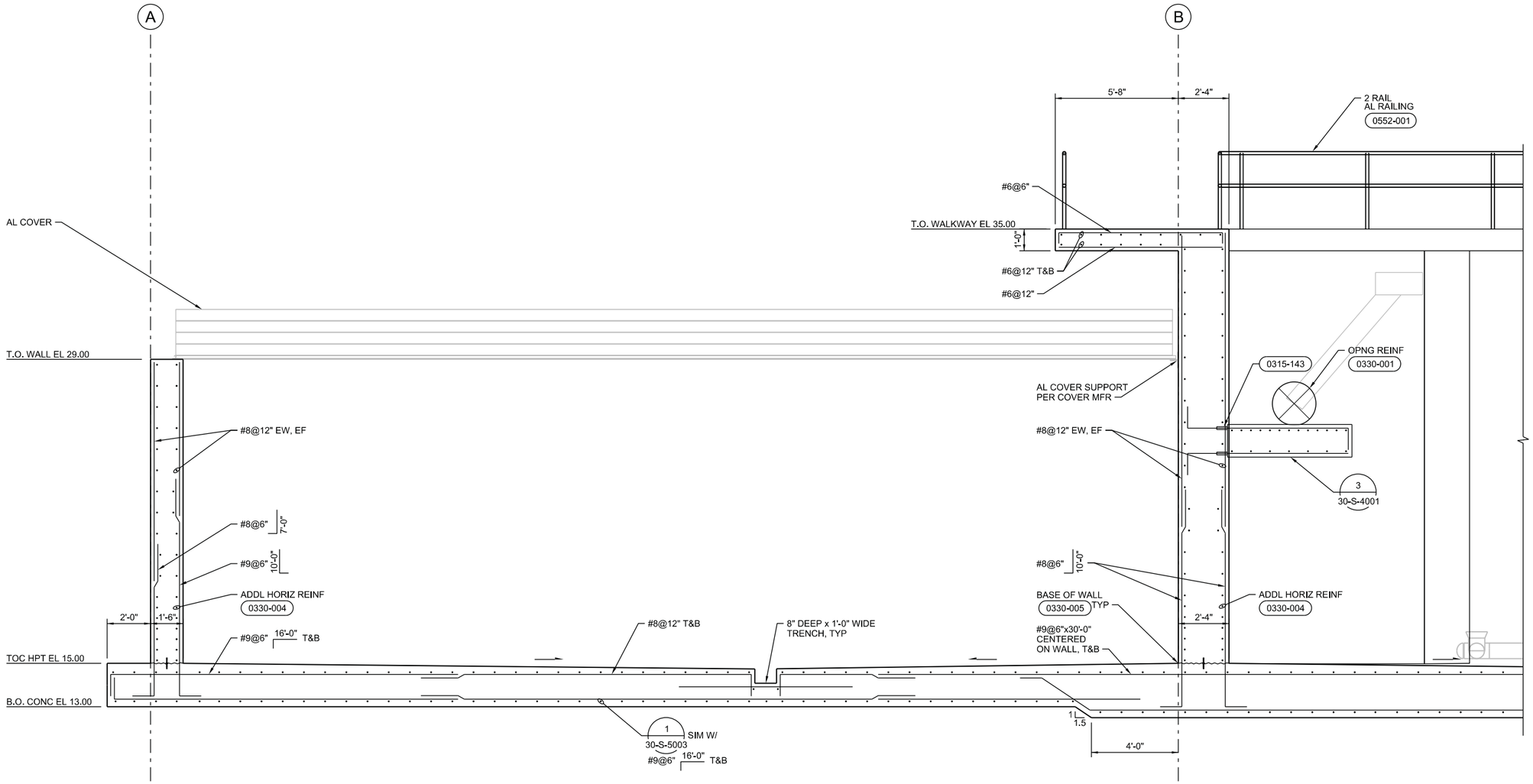
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CONSULTING ENGINEERS & GEOLOGISTS, INC.

NO.	DATE	REVISION	BY

DSGN SKR
DR HFJ
CHK ALF
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SEQUENCING BATCH REACTORS
STRUCTURAL
ENLARGED PLANS

SHEET 30-S-4001
SEQ 137
DATE 12/2014
PROJ. NO. 490515



1 DETAIL

3/8"=1'-0"

30-S-3001
30-S-3002
30-S-3003
30-S-4001
30-S-5003

STRUCTURAL
REGISTERED PROFESSIONAL ENGINEER
81069PE
Digital Signature
OREGON
JUNE 13, 2013
C. STERLING KEITH ROSE

EXP. 12-31-14

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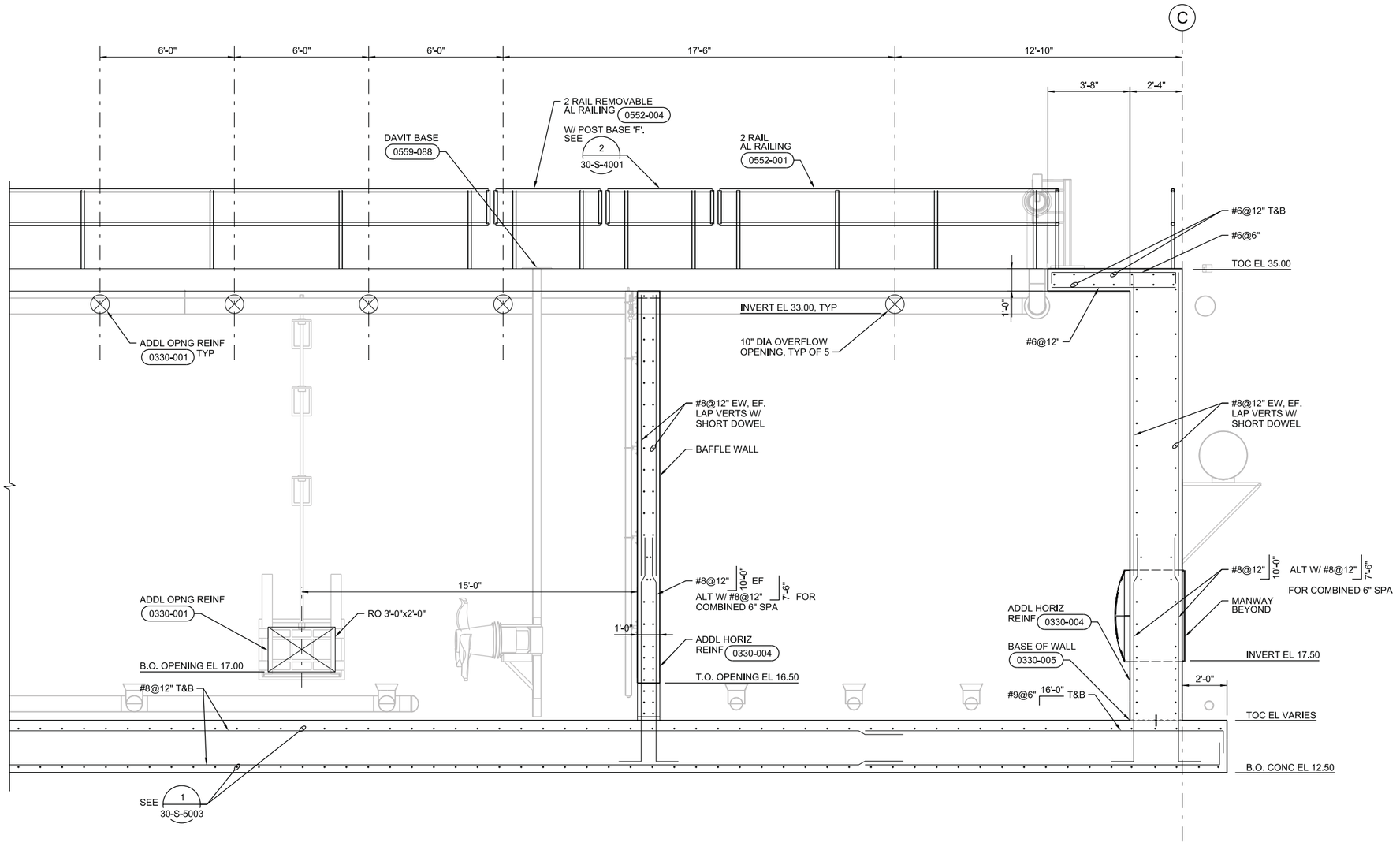
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CONSULTING ENGINEERS & GEOLOGISTS, INC.

NO.	DATE	REVISION	BY

DSGN	SKR
DR	HFJ
CHK	ALF
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SEQUENCING BATCH REACTORS
STRUCTURAL
DETAIL

SHEET 30-S-5001
SEQ 138
DATE 12/2014
PROJ. NO. 490515



1 DETAIL
3/8"=1'-0"
30-S-3001
30-S-5003

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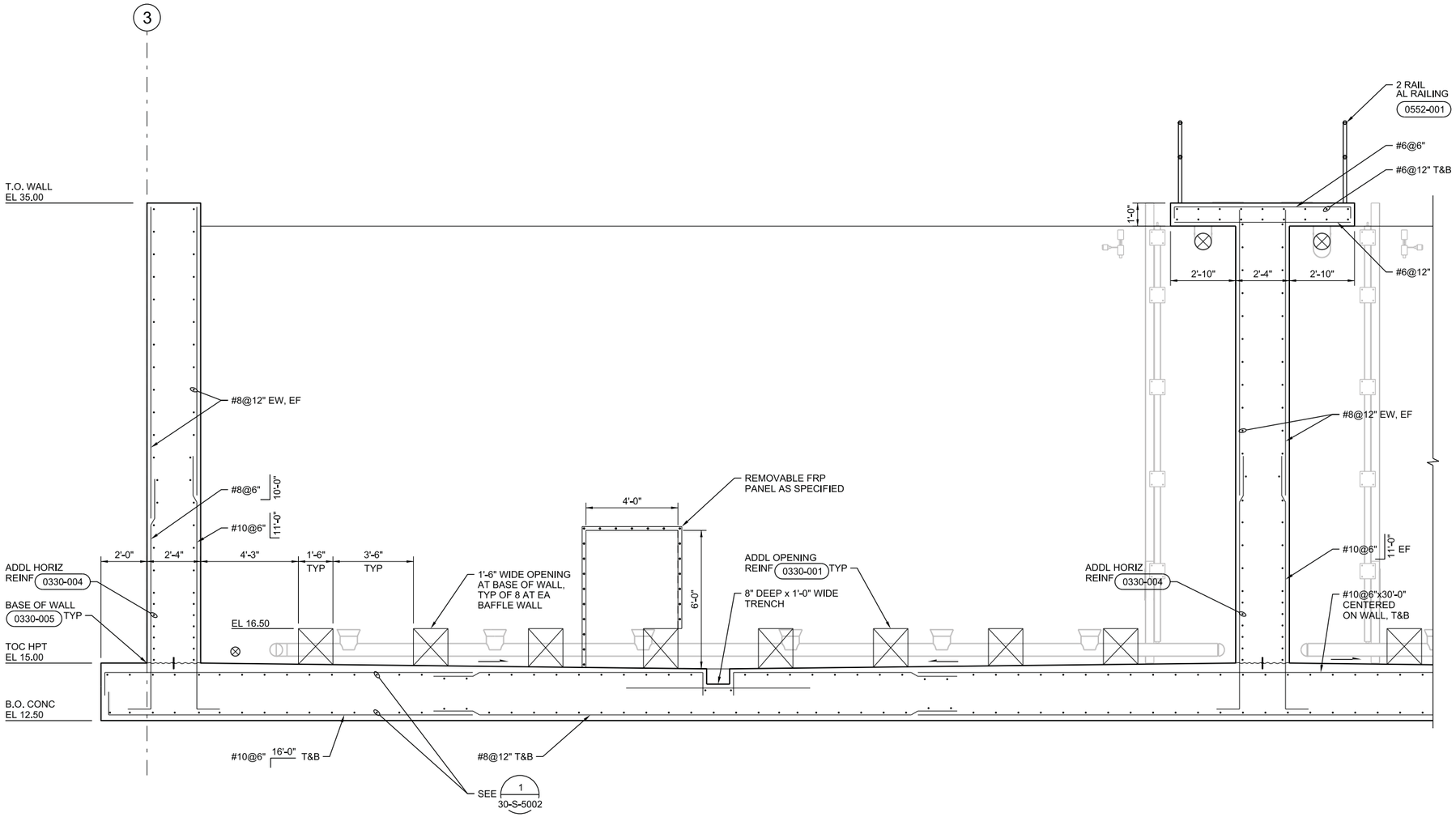
NO.	DATE	REVISION	BY

DSGN SKR
DR HFJ
CHK ALF
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SEQUENCING BATCH REACTORS
STRUCTURAL
DETAIL

STRUCTURAL REGISTERED PROFESSIONAL ENGINEER 81069PE
Digital Signature OREGON JUNE 13, 2013 C. STERLING KEITH ROSE
EXP. 12-31-14

SHEET 30-S-5002
SEQ 139
DATE 12/2014
PROJ. NO. 490515



1 DETAIL
3/8"=1'-0"

30-S-3001
30-S-4001
30-S-5001
30-S-5002

2 DETAIL
3/8"=1'-0"

30-S-3001

STRUCTURAL
REGISTERED PROFESSIONAL ENGINEER
81069PE
Digital Signature
OREGON
JUNE 19, 2012
STERLING KEITH ROSE

EXP. 12-31-14

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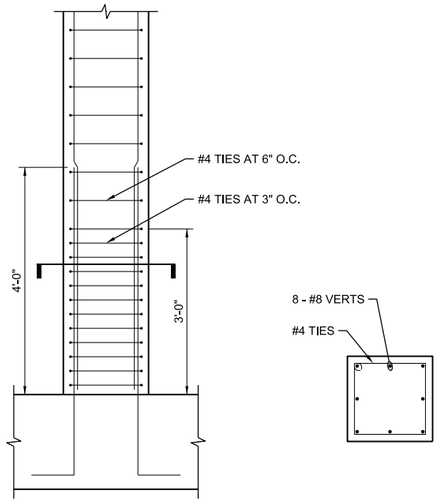
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NO.	DATE	REVISION	BY

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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SEQUENCING BATCH REACTORS
STRUCTURAL
DETAILS

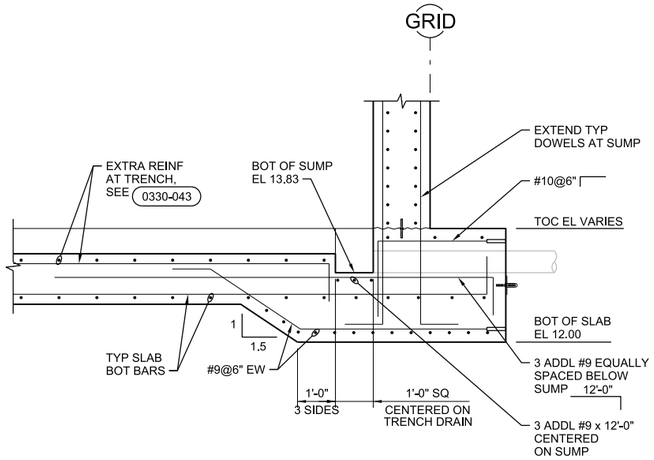
SHEET
30-S-5003
SEQ 140
DATE 12/2014
PROJ. NO.
490515



ELEVATION SECTION

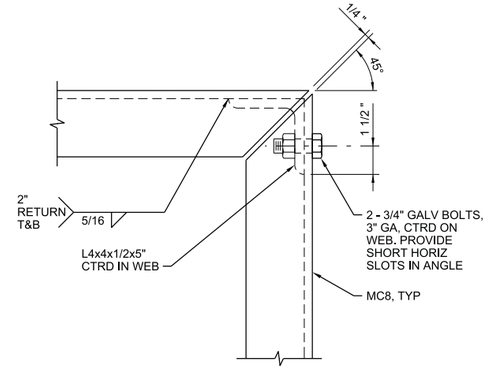
1 COLUMN REINFORCING
3/4"=1'-0"

30-S-4001



3 DETAIL
1/2"=1'-0"

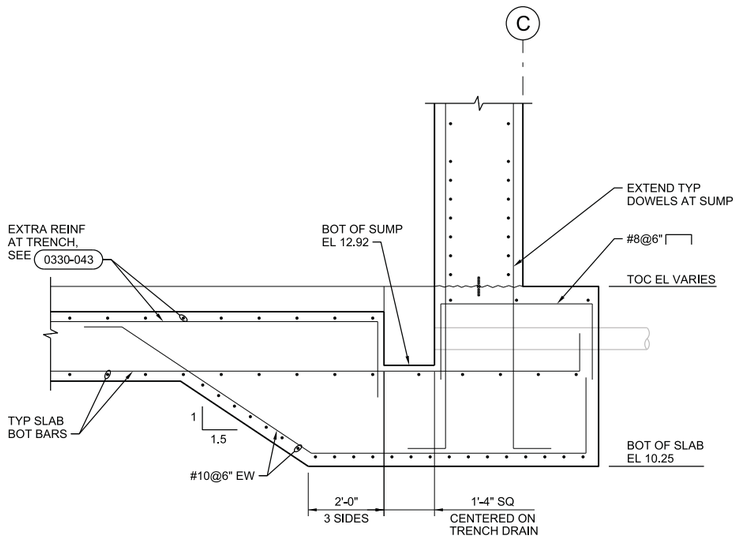
30-S-2200



PLAN

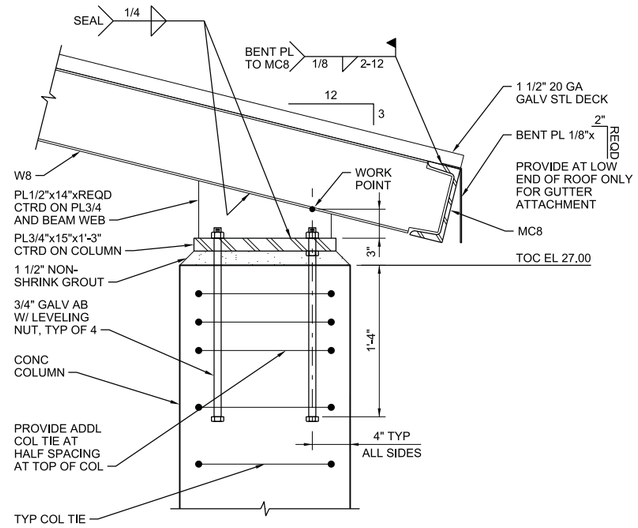
5 FASCIA BEAM CONNECTION
3"=1'-0"

30-S-4001



2 DETAIL
1/2"=1'-0"

30-S-2200



4 BEAM/COLUMN CONNECTION
1 1/2"=1'-0"

30-S-4001

STRUCTURAL REGISTERED PROFESSIONAL ENGINEER STATE OF OREGON Digital Signature STERLING KEITH ROSE LAST UPDATE: 12-31-2013

EXP. 12-31-14

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APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SEQUENCING BATCH REACTORS
STRUCTURAL
DETAILS

SHEET 30-S-5004
SEQ 141
DATE 12/2014
PROJ. NO. 490515

FUTURE EQUALIZATION BASIN

36" BFxPE, INVT 15.50
4027-600

6" BFxPE, INVT 13.83
4027-600

10'-0"

26'-10"

E
30-M-3000

D
30-M-3000

FUTURE SBR (MAIN ZONE AND PRE-REACT ZONE)

F
30-M-3001

6" PD, FOR CONTINUATION SEE 06-C-2010

ENLARGED PLAN, SEE DRAWING 30-M-4001

C
30-M-3000

4" WAS, CL 15.50

NOTE 1

11'-0"

22'-5"

32'-9"

MAIN ZONE 2

E30G2601
3520-300

1'-3"

PRE-REACT ZONE 2

311

6" PD

11'-2"

SBR 2

A
30-M-3000

BASIN 2, MIXER 1
E30M2001

BASIN 2, MIXER 2
E30M2002

12°

5°

EQUALIZATION BASIN

BASIN 1, MIXER 2
E30M1002

BASIN 1, MIXER 1
E30M1001

4" WAS

E30G1601
3520-300

MAIN ZONE 1

PRE-REACT ZONE 1

DIFFUSER, TYP

SBR 1

V135,
4027-640

VORTEX BREAKER
4027-000

FLUSH F x MJ
4027-600

F x PE, INVT 13.83
4027-600

V135
4027-187

24" SE

8" BYPASS SE
4091-219

21'-6"

2'-6"

NOTE 3

E
30-M-3000

D
30-M-3000

F
30-M-3001

C
30-M-3000

NOTE 1

4" WAS

3" FxPE
4027-605

E30LIT
5001

0330-061
TYPE 'C'
PROVIDE PIPE STOP

16'-6"

12'-0"

6'-0"

3'-0"

E30FET
5101
NOTE 2

E30FCV
5202

4'-0"

FCA (BELOW)

E30FCV
5201

FCA

24" SE

0330-061
TYPE 'C'

24" X 16" REDUCER

V134, TYP OF 5

0330-061
TYPE 'C', AT CONTRACTOR'S OPTION COMBINE SADDLES INTO ONE SADDLE

3'-0"
6'-0"
6" PD
12'-0"
15'-4"
7'-2"
7'-11"
7'-7"
11'-8"

B
30-M-3000

B
30-M-3000

311

ULTRAVIOLET DISINFECTION FACILITY, SEE 40-M-2000

6" PD, FOR CONTINUATION SEE 06-C-2010

NOTE:

1. PROVIDE 4"x3" TEES AS SHOWN. LEAVE END OF PIPE OPEN.
2. CONTRACTOR TO PROVIDE PIPE SPOOL FOR REPLACEMENT OF FLOW METER.
3. PROVIDE 2 MECHANICAL JOINTS AT CONNECTION TO WALL. 24" PIPE, SPACE 4'-0" APART.

LOWER LEVEL PLAN

1/8"=1'-0"

N

REGISTERED PROFESSIONAL ENGINEER
84039PE
Digital Signature
OREGON
JANUARY 8, 2015
SHERYL L. STUART
EXP 6/30/2016

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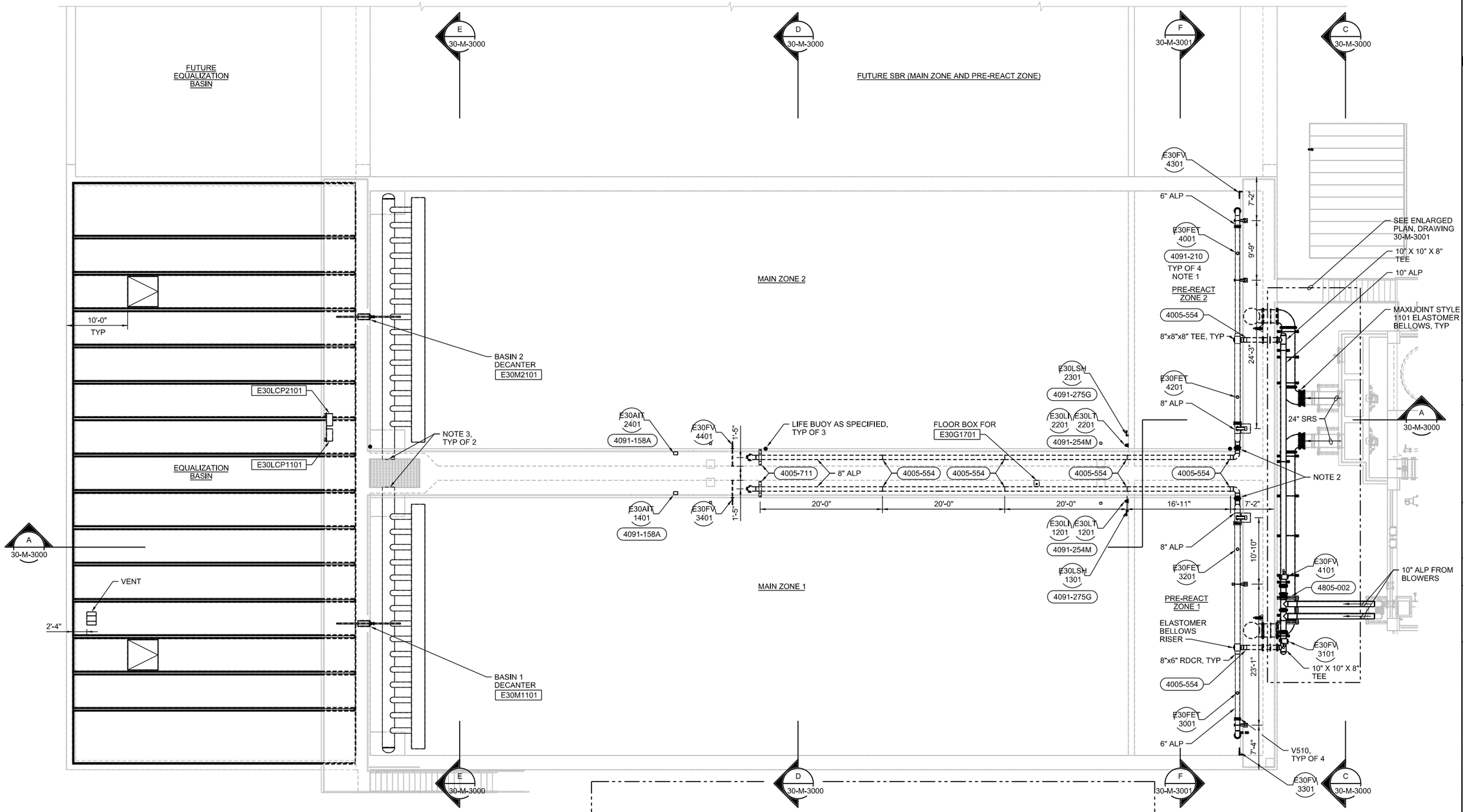
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NO.	DATE	REVISION	BY

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DR GSM
CHK DWB
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SEQUENCING BATCH REACTORS
MECHANICAL
GROUND LEVEL PLAN

SHEET 30-M-2000
SEQ 142
DATE 12/2014
PROJ. NO. 490515



NOTE:

1. INSTALL FLOW METERS/TRANSMITTERS WITH A MINIMUM 10 Ø UPSTREAM AND 5 Ø DOWNSTREAM OF STRAIGHT PIPE.
2. F x W SINGLE EXPANSION JOINT, 316 SST, MANUFACTURED BY U.S. BELLOWS, INC, 25 PSIG RATING, SET TIE RODS AT COOL CONDITIONS SO THAT EXPANSION CANNOT OCCUR.
3. COORDINATE DECANTER MECHANICAL INTERFACE WITH OPENING TO COLLECTION BOX WITH SBR PACKAGE SYSTEM SUPPLIER.

UPPER LEVEL PLAN

1/8"=1'-0"

REGISTERED PROFESSIONAL ENGINEER 84039PE Digital Signature OREGON JANUARY 9, 2001 SHERYL L. STUART

EXP 6/30/2016

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SLS CONSULTING, ENGINEERS & GEOLOGISTS, INC.

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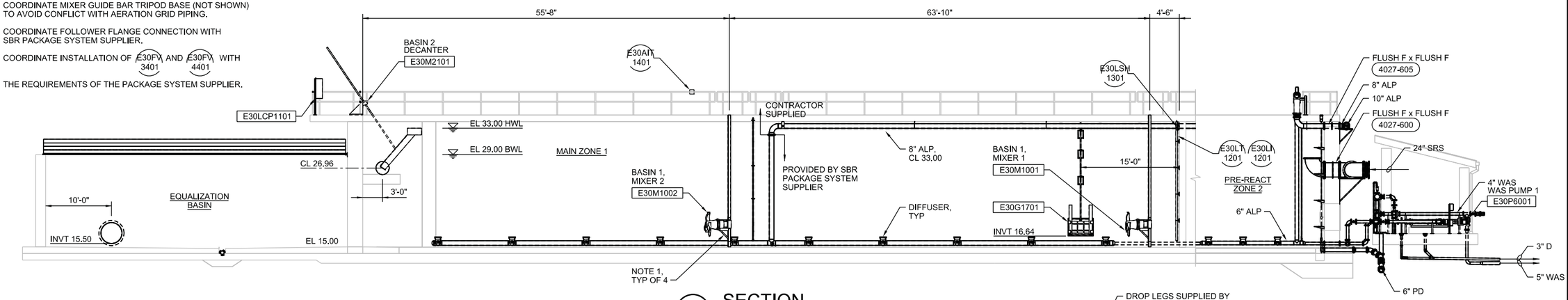
DSGN	SLS	DR	GSM	CHK	DWB	APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SEQUENCING BATCH REACTORS
MECHANICAL
UPPER LEVEL PLAN

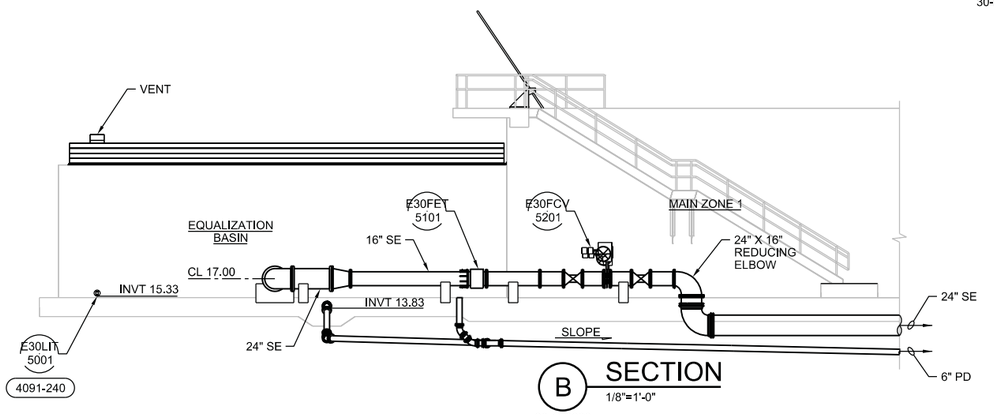
SHEET 30-M-2001
SEQ 143
DATE 12/2014
PROJ. NO. 490515

NOTE:

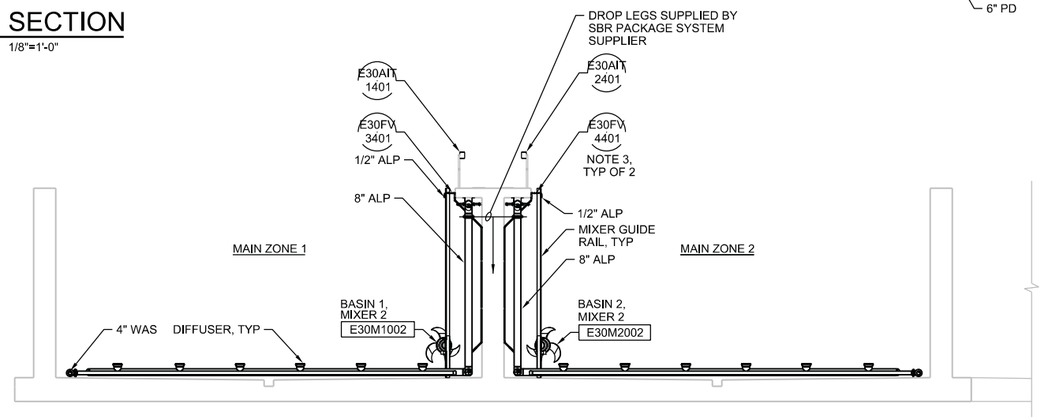
1. COORDINATE MIXER GUIDE BAR TRIPOD BASE (NOT SHOWN) TO AVOID CONFLICT WITH AERATION GRID PIPING.
2. COORDINATE FOLLOWER FLANGE CONNECTION WITH SBR PACKAGE SYSTEM SUPPLIER.
3. COORDINATE INSTALLATION OF E30FV 3401 AND E30FV 4401 WITH THE REQUIREMENTS OF THE PACKAGE SYSTEM SUPPLIER.



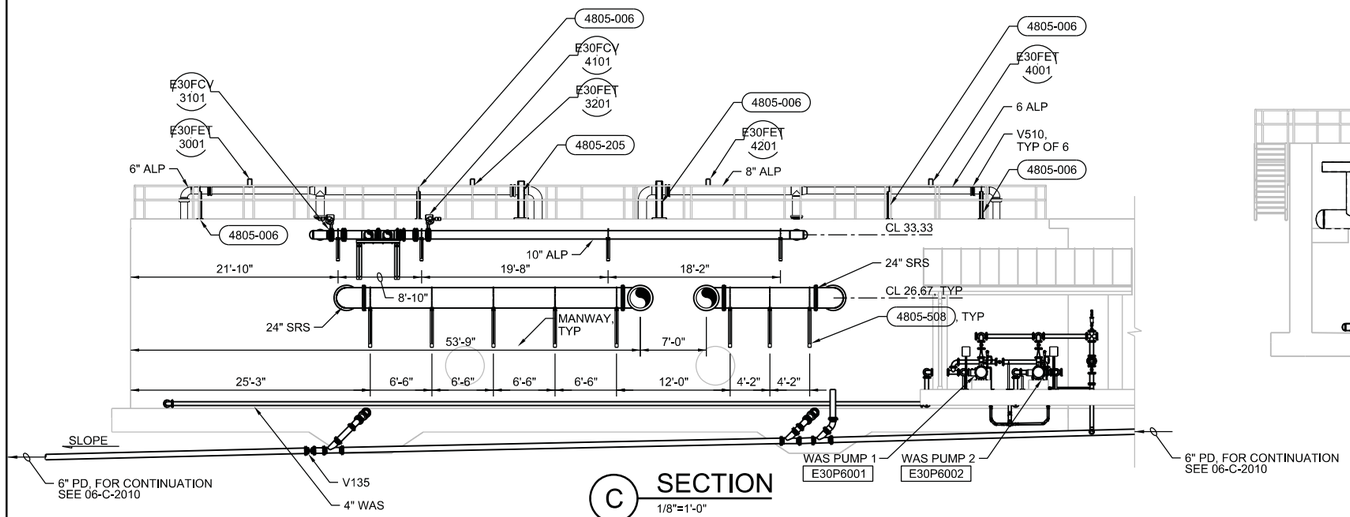
A SECTION
1/8"=1'-0"
30-M-2000
30-M-2001



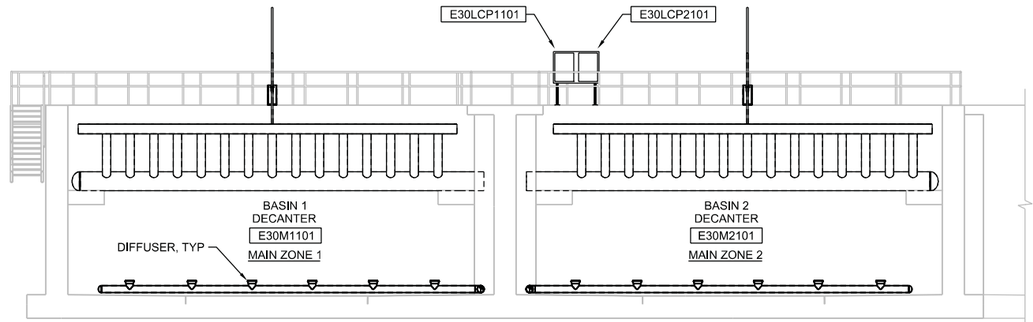
B SECTION
1/8"=1'-0"
30-M-2000



D SECTION
1/8"=1'-0"
30-M-2000
30-M-2001



C SECTION
1/8"=1'-0"
30-M-2000
30-M-2001



E SECTION
1/8"=1'-0"
30-M-2000
30-M-2001

REGISTERED PROFESSIONAL ENGINEER
84039PE
Digital Signature
OREGON
JANUARY 6, 2011
SHERYL L. STUART
EXP 6/30/2016

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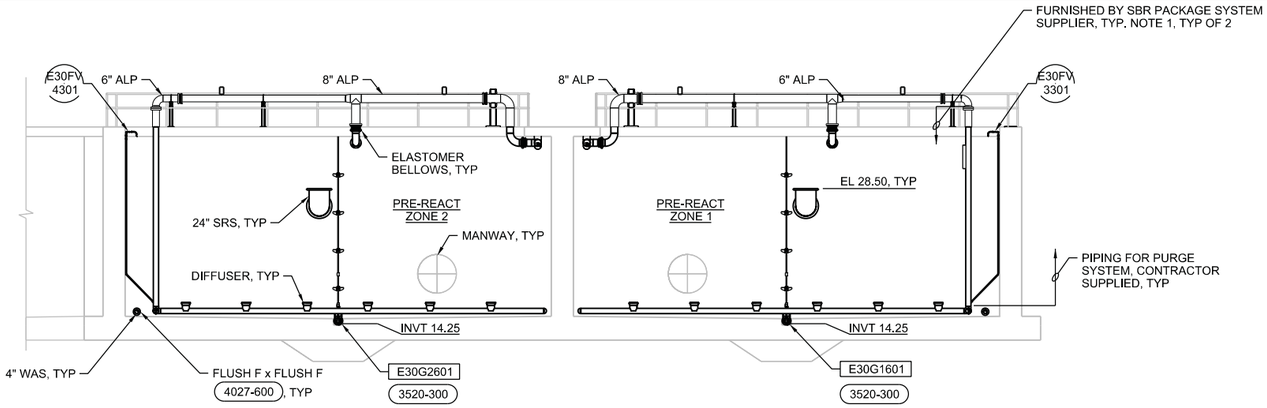
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NO.	REVISION	BY	DATE

DSGN SLS
DR GSM
CHK DWB
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SEQUENCING BATCH REACTORS
MECHANICAL
SECTIONS

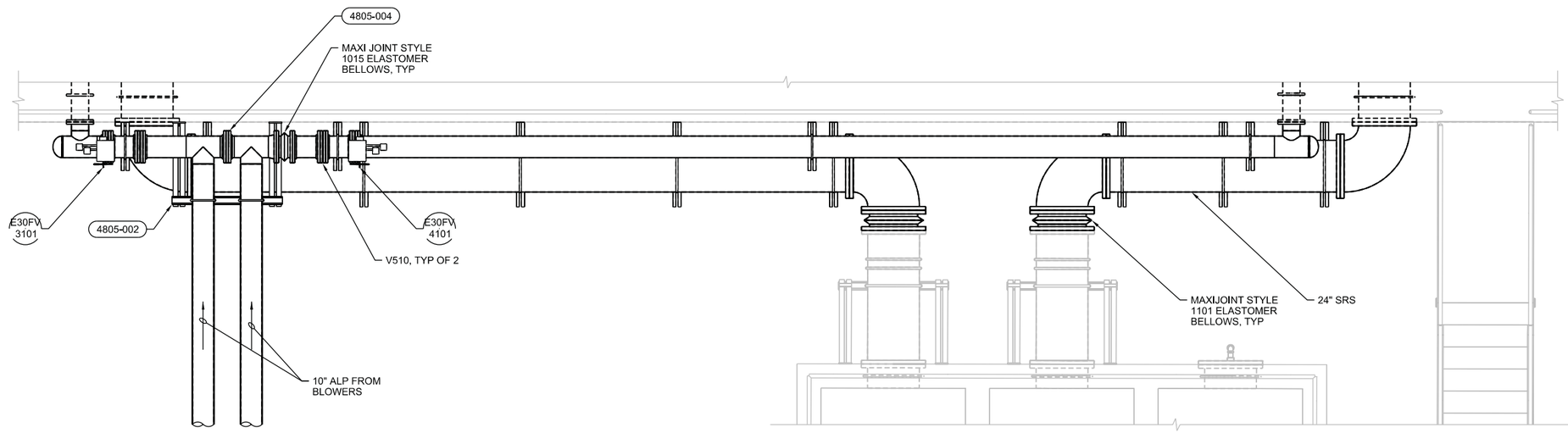
SHEET 30-M-3000
SEQ 144
DATE 12/2014
PROJ. NO. 490515



F SECTION
1/8"=1'-0"
30-M-2000
30-M-2001

NOTES:

1. COORDINATE ALP FOLLOWER FLANGE CONNECTION WITH SBR PACKAGE SYSTEM SUPPLIER.
2. COORDINATE INSTALLATION OF E30FV 3301 AND E30FV 4301 WITH THE REQUIREMENTS OF THE PACKAGE SYSTEM SUPPLIER. PROVIDE COUPLINGS FOR FUTURE REPLACEMENT OF VALVES.



ENLARGED PLAN
3/8"=1'-0"

N

REGISTERED PROFESSIONAL ENGINEER
84039PE
Digital Signature
OREGON
JANUARY 6, 2011
SHERYL L. STUART
EXP 6/30/2016

VERIFY SCALES
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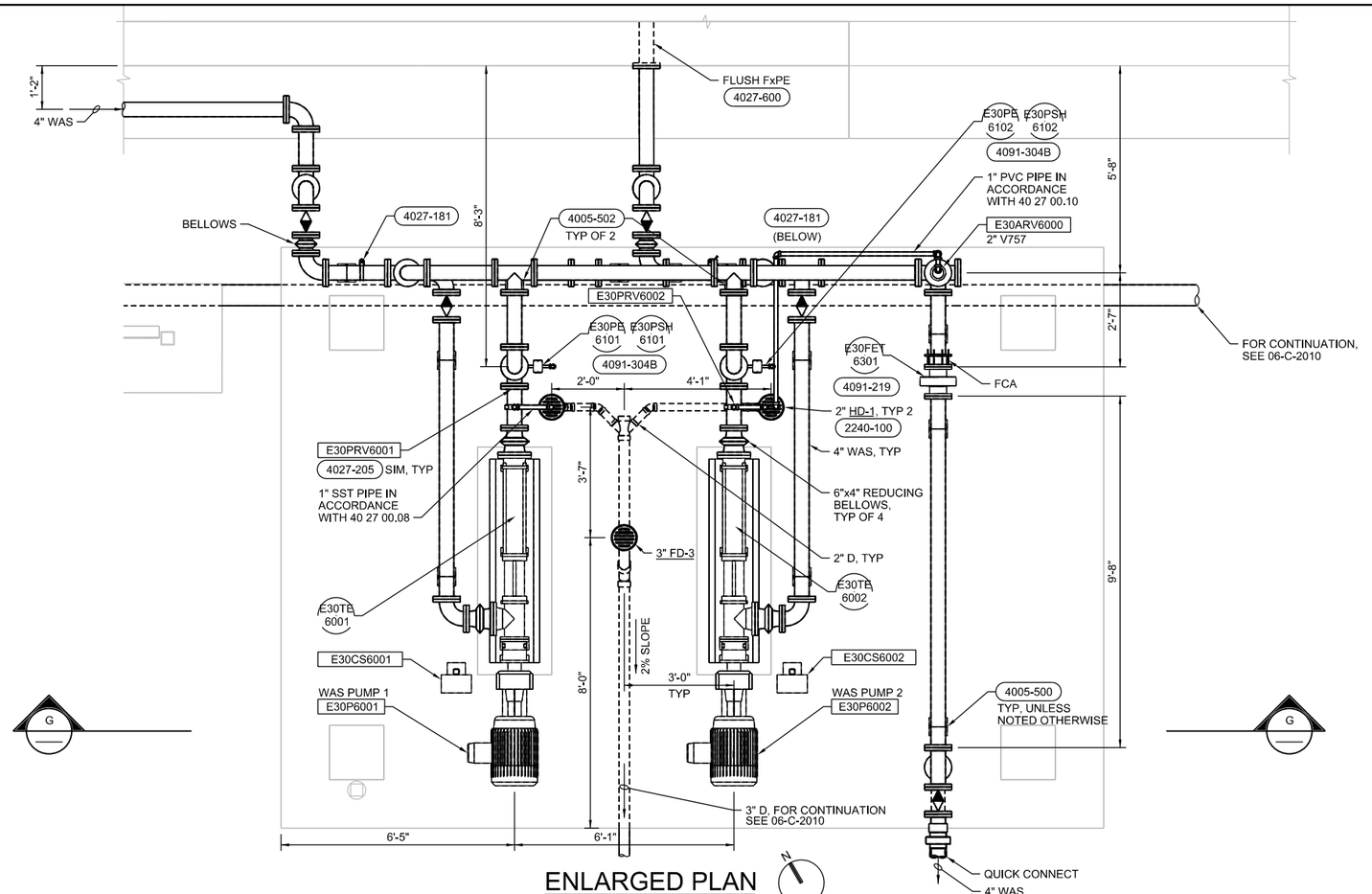
NO.	DATE	REVISION	BY

DSGN SLS
DR GSM
CHK DWB
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SEQUENCING BATCH REACTORS
MECHANICAL

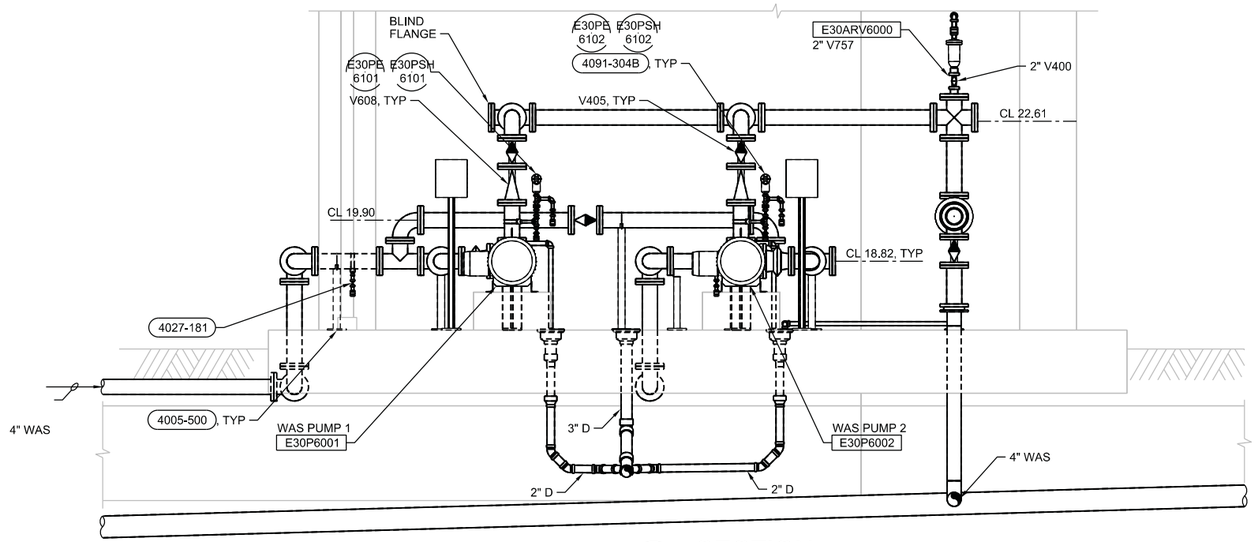
SECTION, ENLARGED PLAN AND DETAIL

SHEET 30-M-3001
SEQ 145
DATE 12/2014
PROJ. NO. 490515



ENLARGED PLAN

1/2"=1'-0"



G SECTION

1/2"=1'-0"

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
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NO.	DATE	REVISION	BY

DSGN SLS
DR GSM
CHK DWB
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SEQUENCING BATCH REACTORS
MECHANICAL

WAS PUMP STATION ENLARGED PLAN AND SECTION

REGISTERED PROFESSIONAL ENGINEER
84039PE
Digital Signature
OREGON
JANUARY 6, 2011
SHERYL L. STUART
EXP 6/30/2016

SHEET 30-M-4001
SEQ 146
DATE 12/2014
PROJ. NO. 490515

A

B

C

2

3

FUTURE EQUALIZATION BASIN

EQUALIZATION BASIN

FUTURE SBR (MAIN ZONE AND PRE-REACT ZONE)

MAIN ZONE 2

MAIN ZONE 1

PRE-REACT ZONE 2

PRE-REACT ZONE 1

SBR 2

SBR 1

1 1/2" W3

1 1/2" W3

1 1/2" W3

1" HV-1 (2210-102)

HOSERACK TYPE A WALL MOUNT (2210-720)

TRANSITION TO COPPER ABOVE GRADE, TYP

2" W3

HOSE RACK, TYPE B RAILING MOUNTING TYP 7, SEE (2210-720)

1 1/2" HV-3, TYP 7, SEE (2210-104)

3" W3

1 1/2" W3

INSTALL VALVE BOX W/3" V300 BALL VALVE & 3/4" DRAIN VALVE

FOR CONTINUATION SEE 06-C-2010

LOWER LEVEL PLAN

1/8"=1'-0"

N

REGISTERED PROFESSIONAL ENGINEER
80759PE
Digital Signature
OREGON
JANUARY 10, 2013
ADAM T. BOYD
EXP. 12-31-15

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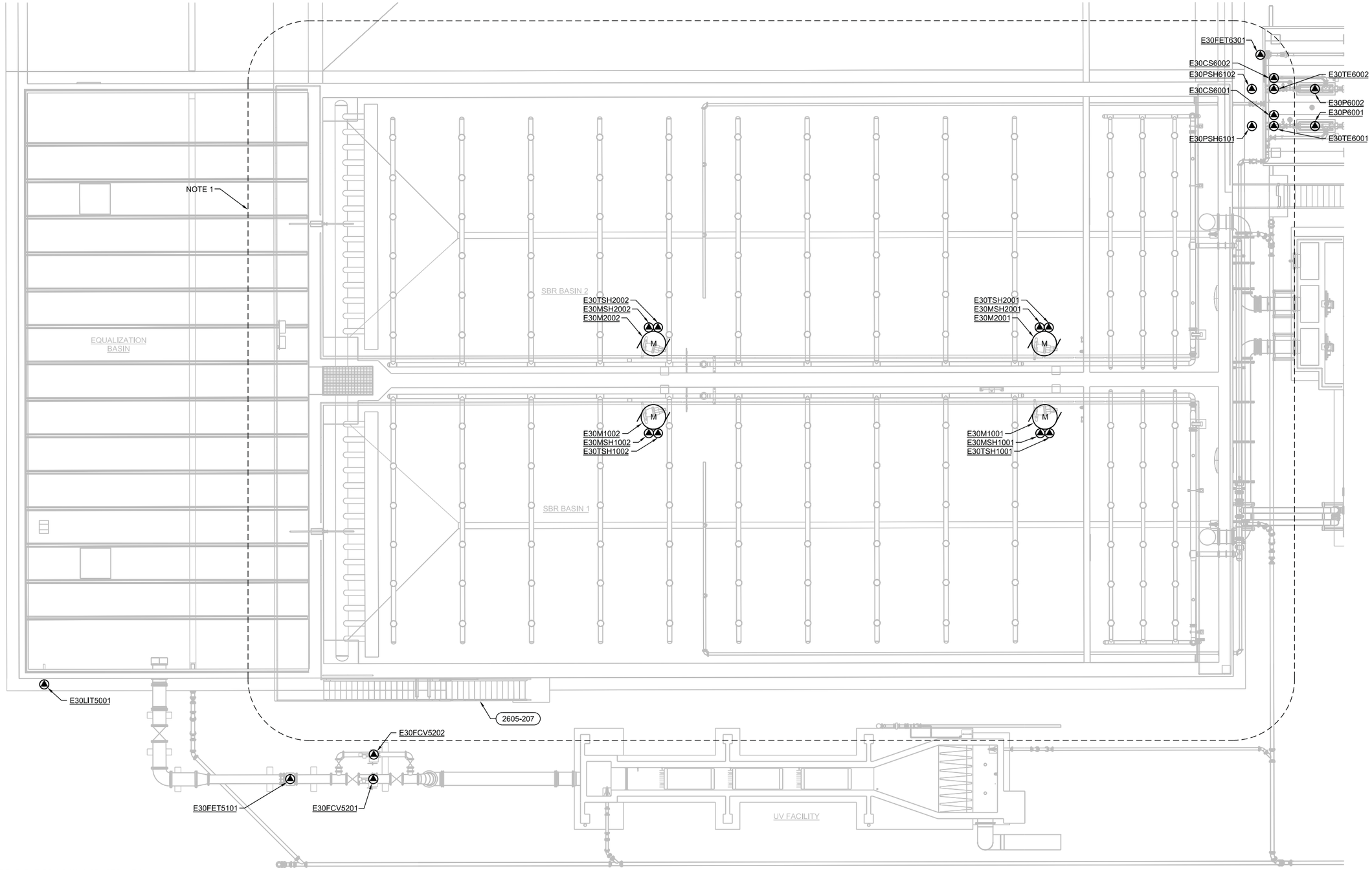
NO.	DATE	REVISION	BY

DSGN	ATB
DR	JLB
CHK	NRF
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SEQUENCING BATCH REACTORS
PLUMBING

GROUND LEVEL PLAN

SHEET 30-P-2001
SEQ 147
DATE 12/2014
PROJ. NO. 490515



NOTES:

1. HAZARDOUS AREAS: THE FOLLOWING SPACES WITHIN DASHED LINE ARE CLASS 1, DIV 2 GROUP D HAZARDOUS AREAS.
   - 18 INCHES ABOVE GRADE EXTENDING HORIZONTALLY 10 FEET FROM EXTERIOR SBR WALLS.
2. FOR ELECTRICAL CONNECTIONS, SEE UPPER LEVEL PLAN.

LOWER LEVEL FLOOR PLAN

1/8"=1'-0"

REGISTERED PROFESSIONAL ENGINEER 85946PE Digital Signature OREGON JAN 10, 2012 JASON A. CLIFFORD

EXP. 12-31-15

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DR	JG
CHK	RSH
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SEQUENCING BATCH REACTORS
ELECTRICAL

LOWER LEVEL PROCESS PLAN

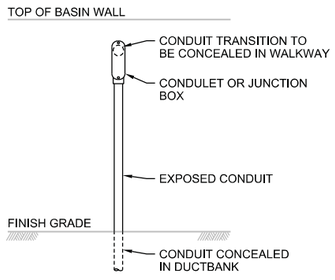
SHEET 30-EP-2000

SEQ 148

DATE 12/2014

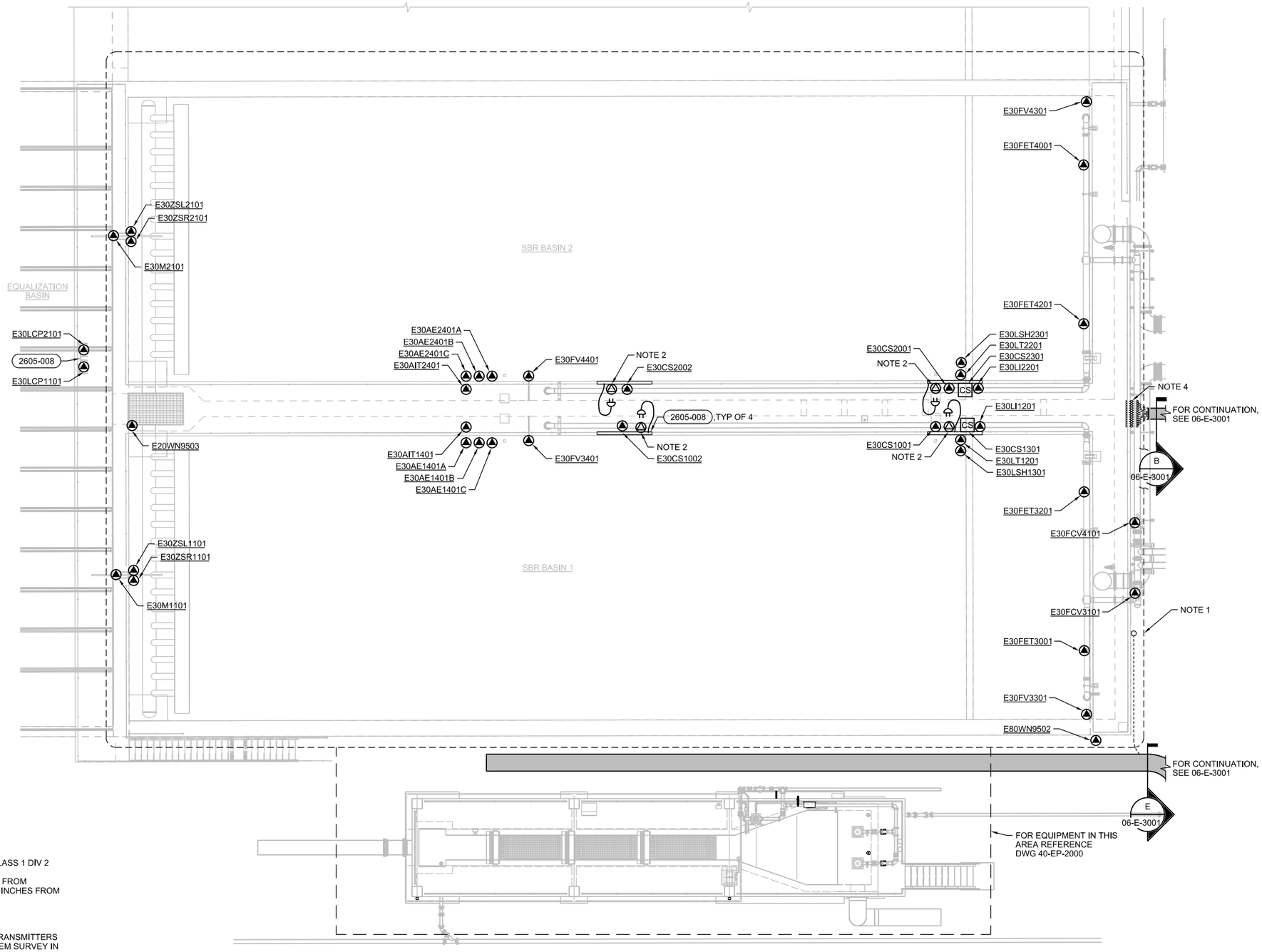
PROJ. NO. 490515

SAVED: 7/1/2013 9:56 AM PHAMLIN, PLOTTED: ---- HAMLIN, PRISCILLA/CVO
C:\pw_workdir\ch2mhill_wbg\phamlin\d0256967\Border_469556.dwg



1 DETAIL
NTS

NOTE: DETAIL IS TYPICAL FOR ALL CONDUITS.



NOTES:

1. HAZARDOUS AREAS: THE FOLLOWING SPACES WITHIN DASHED LINES ARE CLASS 1 DIV 2 GROUP D HAZARDOUS AREAS:
   - - - - 18 INCHES ABOVE TOP OF TANK EXTENDING 18 INCHES HORIZONTALLY FROM EXTERIOR SBR WALLS. HAZARDOUS AREA CONTINUES DOWN WALL, 18 INCHES FROM EXTERIOR SBR BASIN WALL.
2. (2605-020), TYPICAL FOR ALL 4 SUBMERSIBLE MIXERS.
3. LOCATION OF WIRELESS NETWORK IS APPROXIMATE. FINAL LOCATION OF TRANSMITTERS SHALL BE BASED ON THE NETWORK TRANSMITTERS COMMUNICATION SYSTEM SURVEY IN SPECIFICATION SECTION 40 95 80.
4. ROUTE CONDUITS FROM UNDERGROUND TO EXPOSED AND ROUTE UP SIDE OF STRUCTURE WALL. PRIOR TO REACHING THE TOP OF THE WALL PROVIDE A PULL POINT BEFORE TRANSITIONING TO CONCEALED CONDUIT. ROUTE REMAINDER OF CONDUIT RUN IN MIDDLE THIRD OF WALKWAY SLAB BEFORE COMING UP EXPOSED UNDERNEATH DESTINATION JUNCTION BOX OR DEVICE. SEE DETAIL 1 ON THIS DRAWING.

UPPER LEVEL FLOOR PLAN
1/8"=1'-0"

VERIFY SCALES
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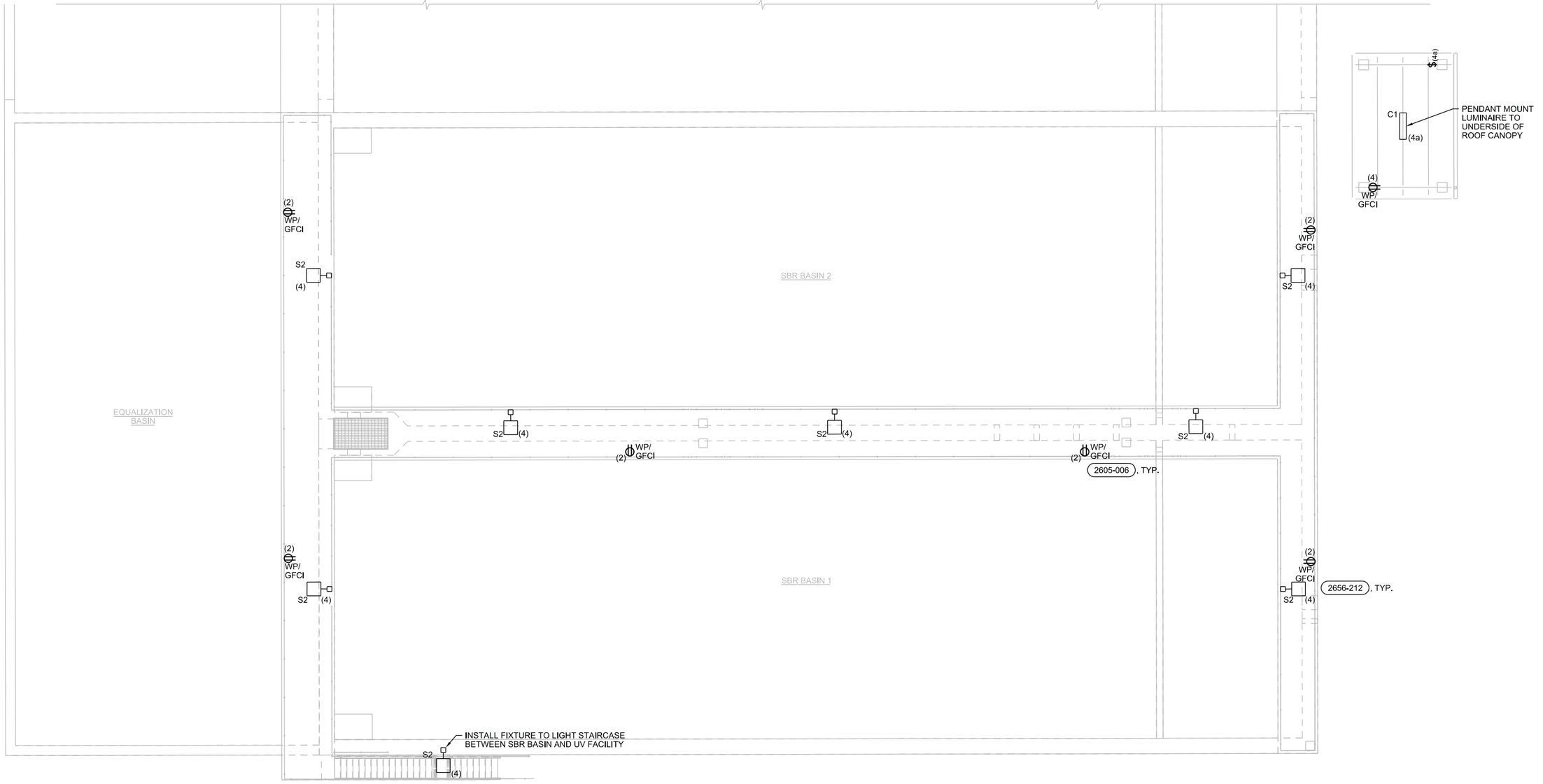
NO.	REVISION	BY	DATE

DSGN JAC
DR JG
CHK RSH
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SEQUENCING BATCH REACTORS
ELECTRICAL
UPPER LEVEL PROCESS PLAN

REGISTERED PROFESSIONAL ENGINEER
85946PE
Digital Signature
OREGON
JAN. 10, 2012
JASON A. CLIFFORD
EXP. 12-31-15

SHEET 30-EP-2001
SEQ 149
DATE 12/2014
PROJ. NO. 490515



NOTES:

1. LIGHTING IN THIS AREA IS POWERED BY PANEL E80LP0200.
2. NUMBERS SHOWN IN PARANTHESES, (N), ADJACENT TO LIGHTS AND RECEPTACLES DENOTE CIRCUIT NUMBERS IN FACILITY PANELBOARDS. REFER TO PANELBOARD SCHEDULES FOR CORRECT PANEL. PROVIDE #12 CONDUCTORS FOR 20A OR 15A CIRCUITS LESS THAN 75 FEET. PROVIDE #10 CONDUCTORS FOR CIRCUITS GREATER THAN 75 FEET.
3. COMBINE RECEPTACLE AND LIGHTING CIRCUITS IN A CONDUIT TO MINIMIZE THE AMOUNT OF CONDUIT. CIRCUITS COMBINED INTO A SINGLE CONDUIT SHALL BE SIZED FOR NEC DERATING AND CONDUIT FILL REQUIREMENTS.

UPPER LEVEL FLOOR PLAN

1/8"=1'-0"

REGISTERED PROFESSIONAL ENGINEER 85946PE Digital Signature OREGON JAN 10, 2012 JASON A. CLIFFORD

EXP. 12-31-15

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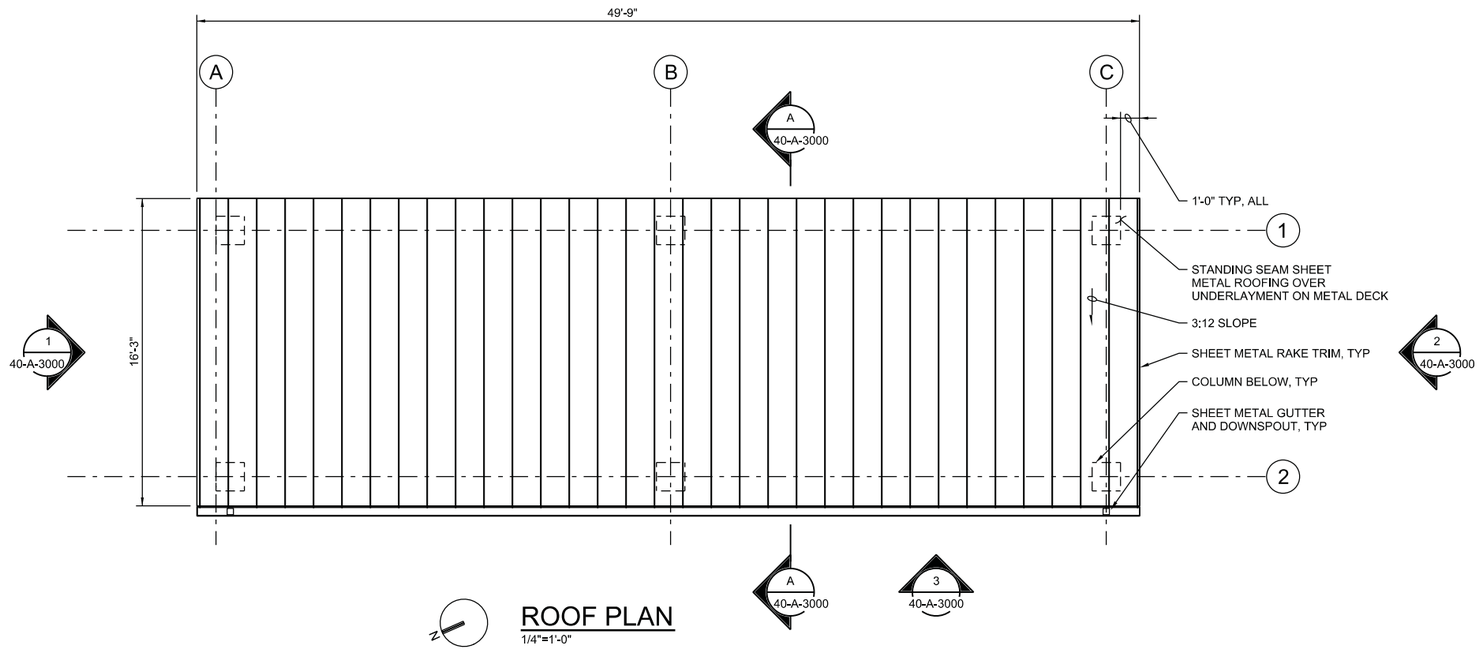
NO.	DATE	REVISION	BY

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DR JG
CHK RSH
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SEQUENCING BATCH REACTORS
ELECTRICAL

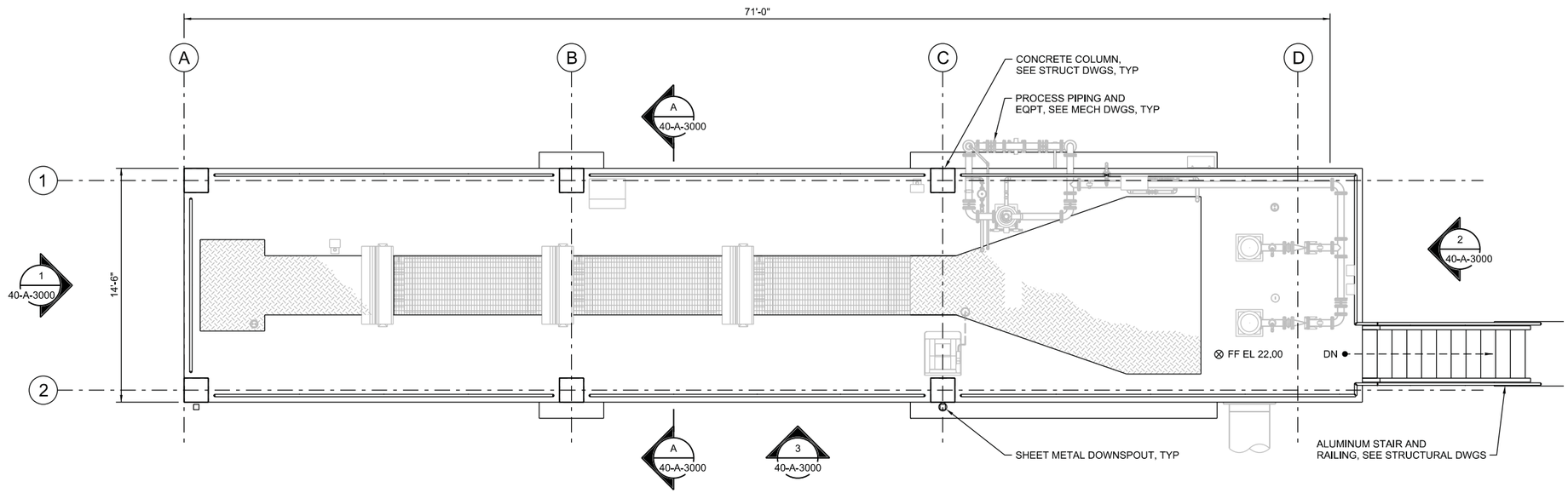
UPPER LEVEL FACILITY PLAN

SHEET 30-EF-2001
SEQ 150
DATE 12/2014
PROJ. NO. 490515



ROOF PLAN

1/4"=1'-0"



FLOOR PLAN

1/4"=1'-0"

VERIFY SCALES
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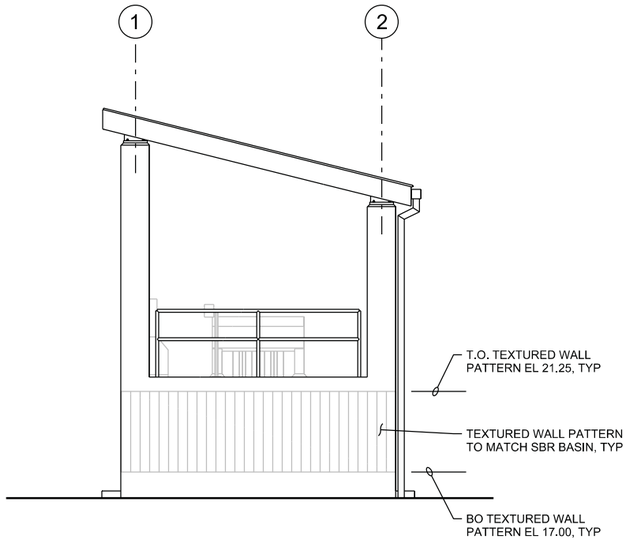
DSGN BPT
DR SDB
CHK SJP
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
ULTRAVIOLET DISINFECTION
ARCHITECTURAL

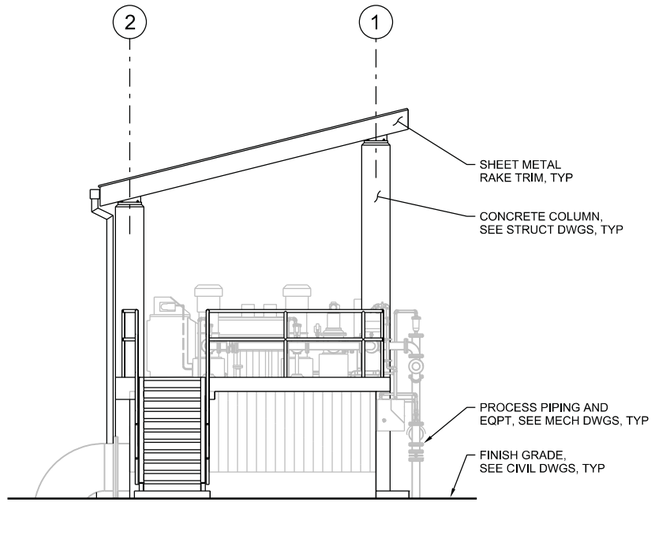
FLOOR PLAN AND ROOF PLAN

REGISTERED ARCHITECT
ROBERT P. TAVERNA
Digital Signature
ALBANY, OREGON
5797
STATE OF OREGON

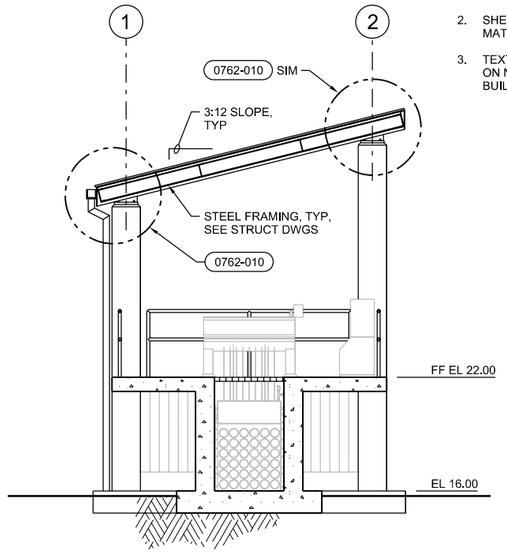
SHEET 40-A-2001
SEQ 151
DATE 12/2014
PROJ. NO. 490515



1 NORTH ELEVATION
1/4"=1'-0"
40-A-2001



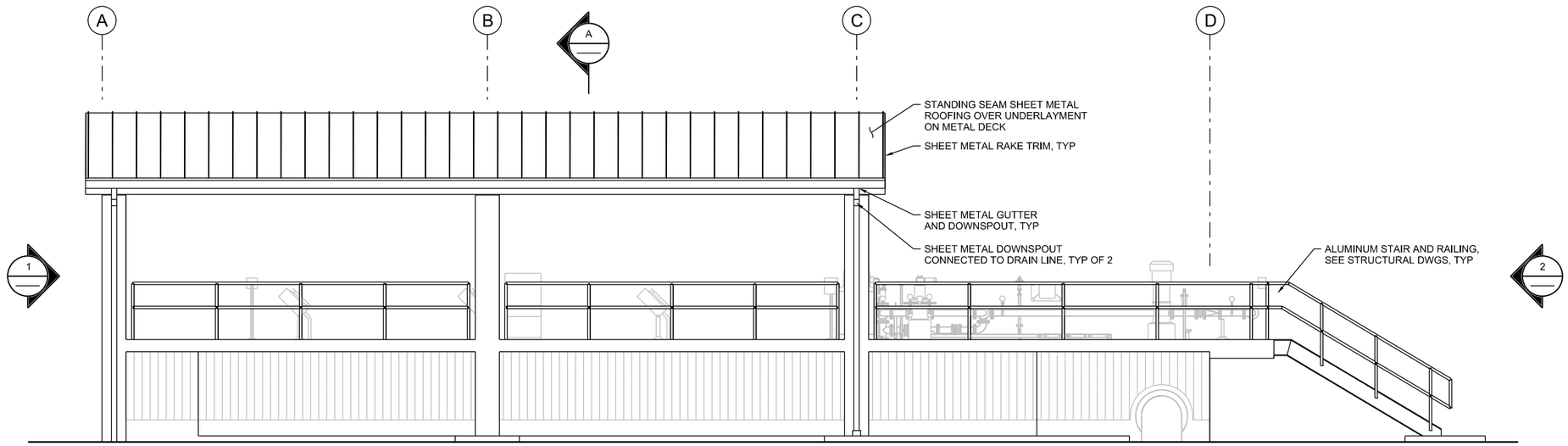
2 SOUTH ELEVATION
1/4"=1'-0"
40-A-2001



A SECTION
1/4"=1'-0"
40-A-2001

NOTES:

1. SHEET METAL ROOF PANELS AS SPECIFIED, COLOR TO MATCH HEADWORKS CANOPY.
2. SHEET METAL FASCIA AND RAKE TRIM TO MATCH HEADWORKS CANOPY TRIM.
3. TEXTURED WALL PATTERN TO BE APPLIED ON NORTH, WEST, AND SOUTH SIDES OF BUILDING ONLY.



3 WEST ELEVATION
1/4"=1'-0"
40-A-2001

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0 1"
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DSGN	BPT	CHK	SJP
DR	SDB	APVD	CWM

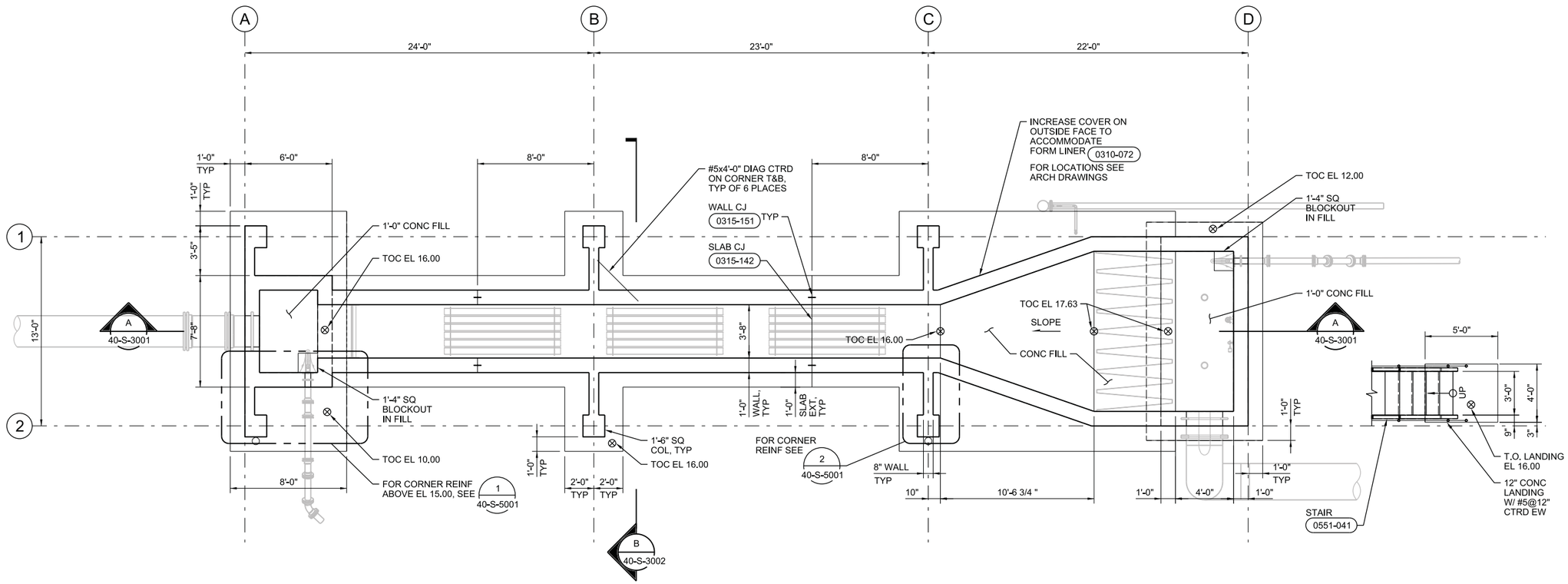
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
ULTRAVIOLET DISINFECTION
ARCHITECTURAL
ELEVATIONS AND SECTION

SHEET 40-A-3000
SEQ 152
DATE 12/2014
PROJ. NO. 490515

REGISTERED ARCHITECT
ROBERT P. TAVERNA
Digital Signature
ALBANY, OREGON
5797
STATE OF OREGON

FACILITY NOTES:

1. FOR GENERAL STRUCTURAL NOTES, SEE DRAWINGS 01-G-0020 AND 01-G-0021.
2. FOR STATEMENT OF SPECIAL INSPECTION PLAN, SEE DRAWINGS 01-G-0022 THROUGH 01-G-0026.
3. SEISMIC DESIGN CRITERIA
   - MAIN LATERAL FORCE RESISTING SYSTEM: FLAT -BOTTOM GROUND SUPPORTED TANK WITH REINFORCED NON -SLIDING BASE
   - RESPONSE MODIFICATION COEFFICIENT: R=2



N

FOUNDATION PLAN

1/4"=1'-0"

REGISTERED PROFESSIONAL ENGINEER
76316PE
Digital Signature
OREGON
MAY 10, 2011
LUKE AARON SCOGGINS
EXP. 06-30-16

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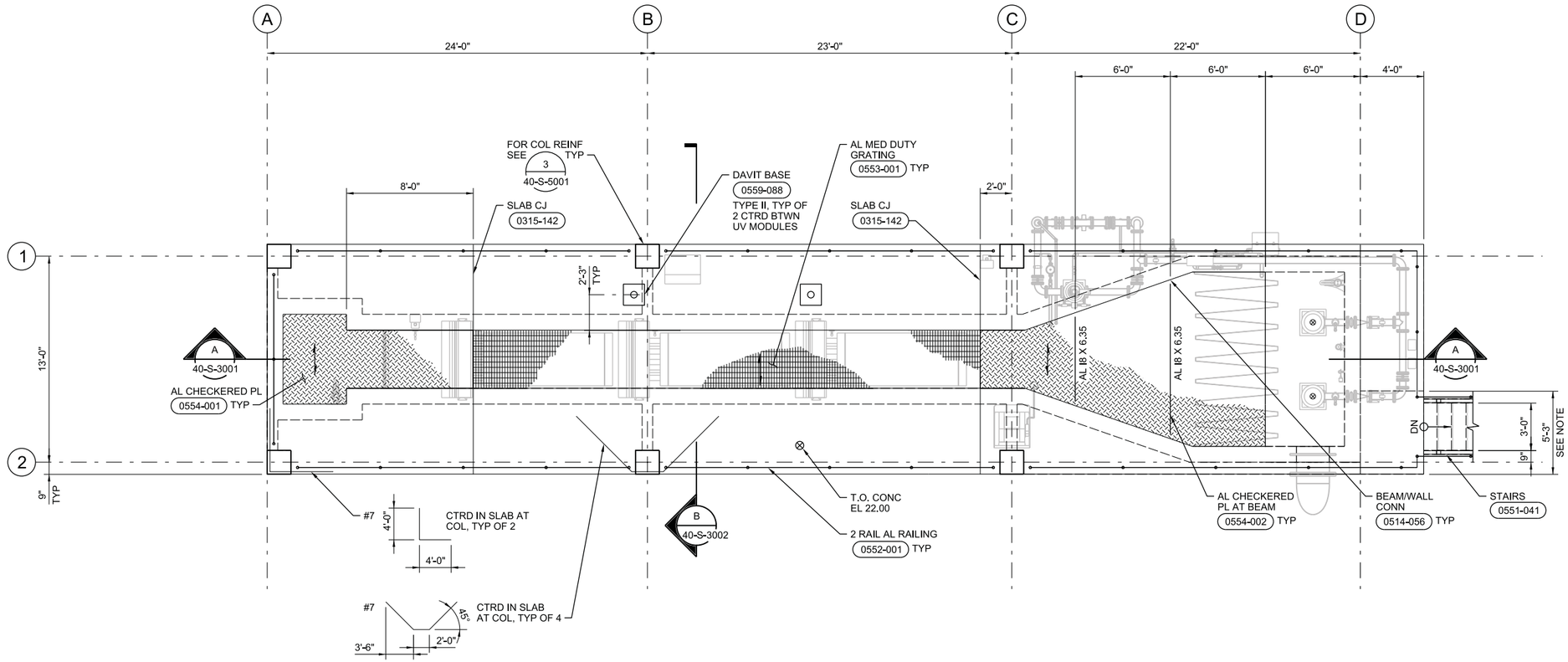
DSGN	LAS	CHK	ALF
DR	HFJ	APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
ULTRAVIOLET DISINFECTION
STRUCTURAL
FOUNDATION PLAN

SHEET 40-S-2200
SEQ 153
DATE 12/2014
PROJ. NO. 490515

NOTE:

THICKEN SLAB TO 1'-2" MINIMUM. PROVIDE #5 EACH WAY BOTTOM AND ADHESIVE DOWEL 4" INTO WALL. TYPICAL SLAB REINFORCING TO BE CONTINUOUS THROUGH THICKENED AREA.



N

FLOOR PLAN

1/4"=1'-0"

VERIFY SCALES
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NO.	DATE	REVISION	BY

DSGN LAS
DR HFJ
CHK ALF
APVD CWM

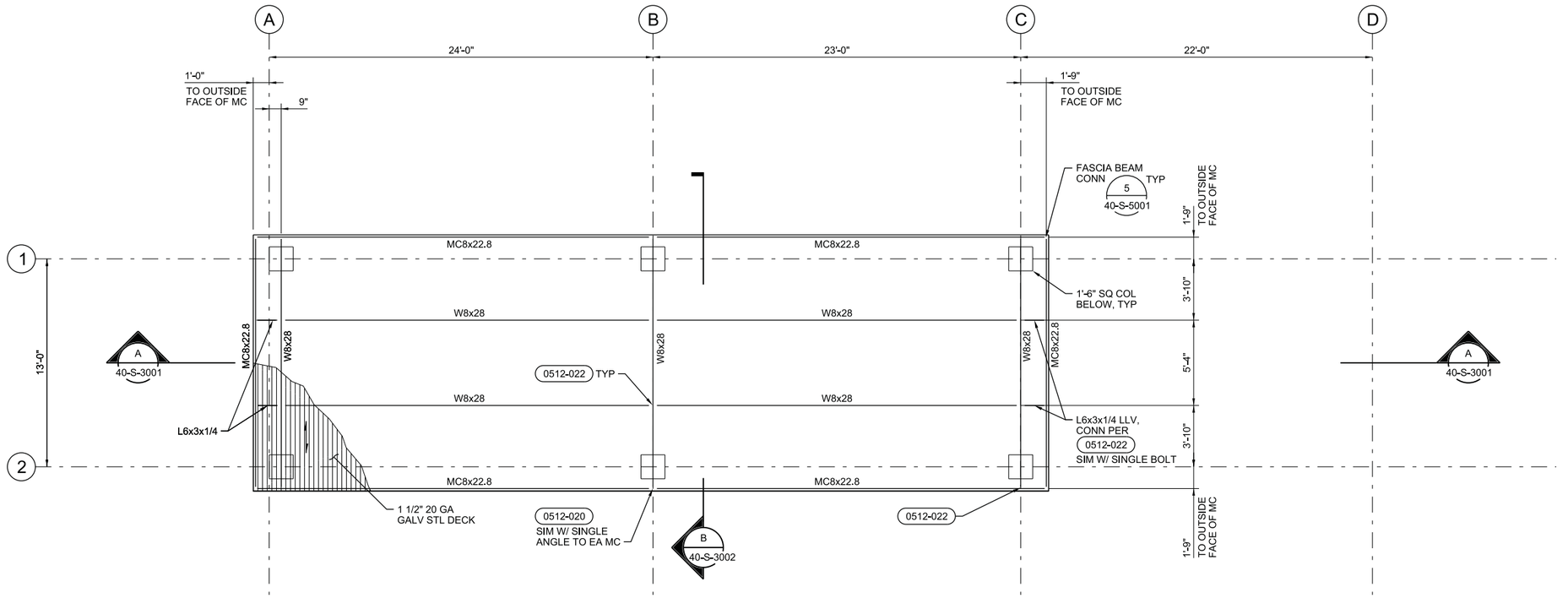
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
ULTRAVIOLET DISINFECTION
STRUCTURAL
FLOOR PLAN

SHEET 40-S-2300
SEQ 154
DATE 12/2014
PROJ. NO. 490515

REGISTERED PROFESSIONAL ENGINEER
76316PE
Digital Signature
OREGON
MAY 10, 2011
LUKE AARON SCOGGINS
EXP. 06-30-16

NOTE:

ALL ROOF FRAMING STEEL TO BE HOT-DIP GALVANIZED FOLLOWING FABRICATION.



STEEL DECK & ATTACHMENT SCHEDULE

TYPE	DEPTH	PANEL WIDTH	DESIGN THICKNESS	MIN YIELD STRENGTH Fy (ksi)	MIN (+) S (in^3/ft)	MIN 1 (in^4/ft)	MIN DIAPHRAGM SHEAR CAPACITY (lbs/ft)	FINISH	AT PERPENDICULAR SUPPORTS		AT PARALLEL SUPPORTS		AT SIDELAPS	
									TYPE	NO PER SHEET	TYPE	SPACING	TYPE	SPACING
ROOF DECK	1.5"	36"	20 GA	33	0.235	0.248	500	GALV, G-90	5/8" PUDDLE WELD	4	5/8" PUDDLE WELD	24"	VSC	24"

DECK SCHEDULE NOTE:

MANUFACTURER'S STANDARD SIDELAP CONNECTION OR OTHER SIDELAP CONNECTIONS ARE ALLOWED PER APPROVAL OF STRUCTURAL ENGINEER.

N

ROOF FRAMING PLAN

1/4"=1'-0"

REGISTERED PROFESSIONAL ENGINEER
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Digital Signature
OREGON
MAY 10, 2011
LUKE AARON SCOGGINS
EXP. 06-30-16

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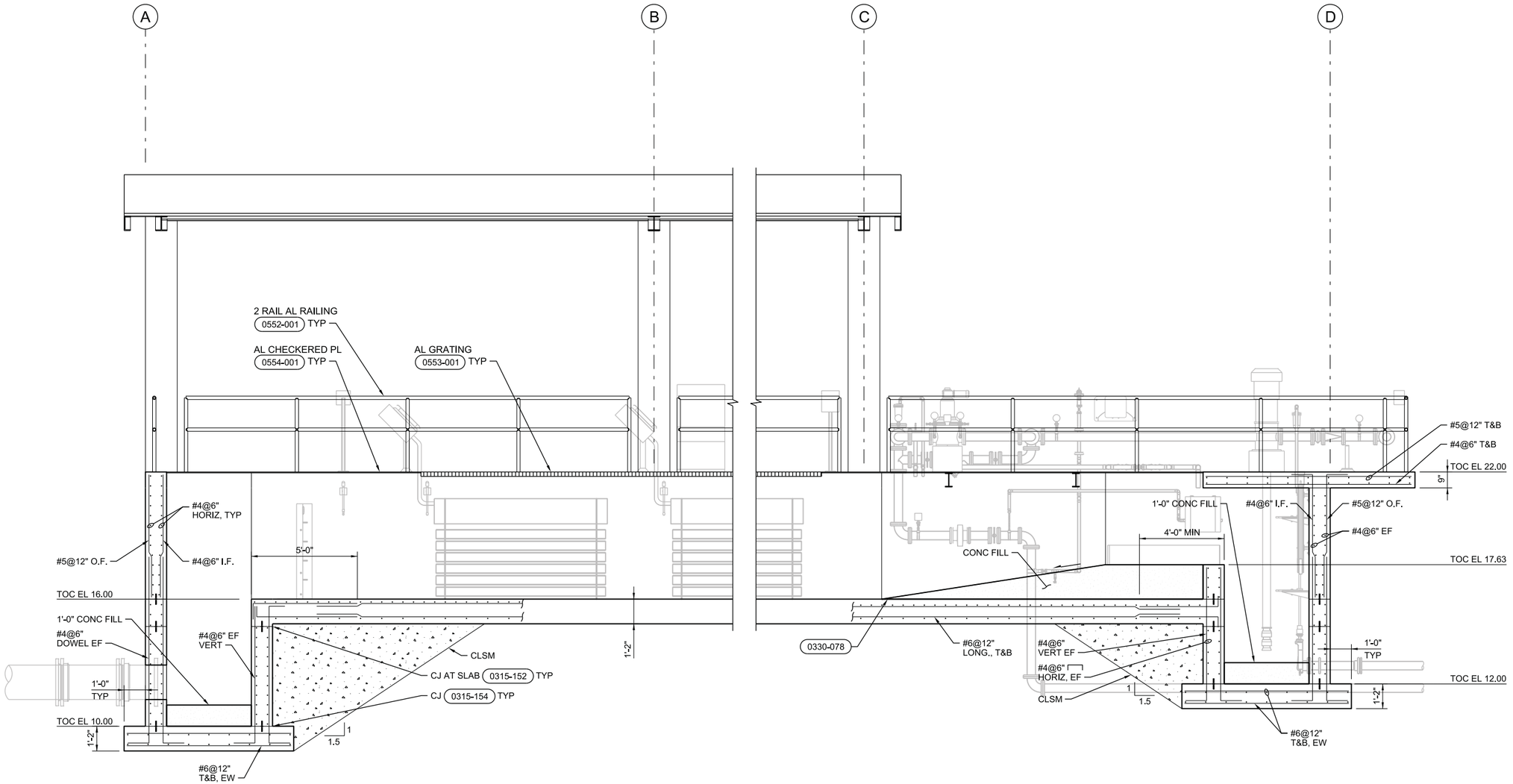
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NO.	DATE	REVISION	BY

DSGN LAS
DR HFJ
CHK ALF
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
ULTRAVIOLET DISINFECTION
STRUCTURAL
ROOF FRAMING PLAN

SHEET 40-S-2400
SEQ 155
DATE 12/2014
PROJ. NO. 490515



A SECTION
3/8"=1'-0"

40-S-2200
40-S-2300
40-S-2400

VERIFY SCALES
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0 1"
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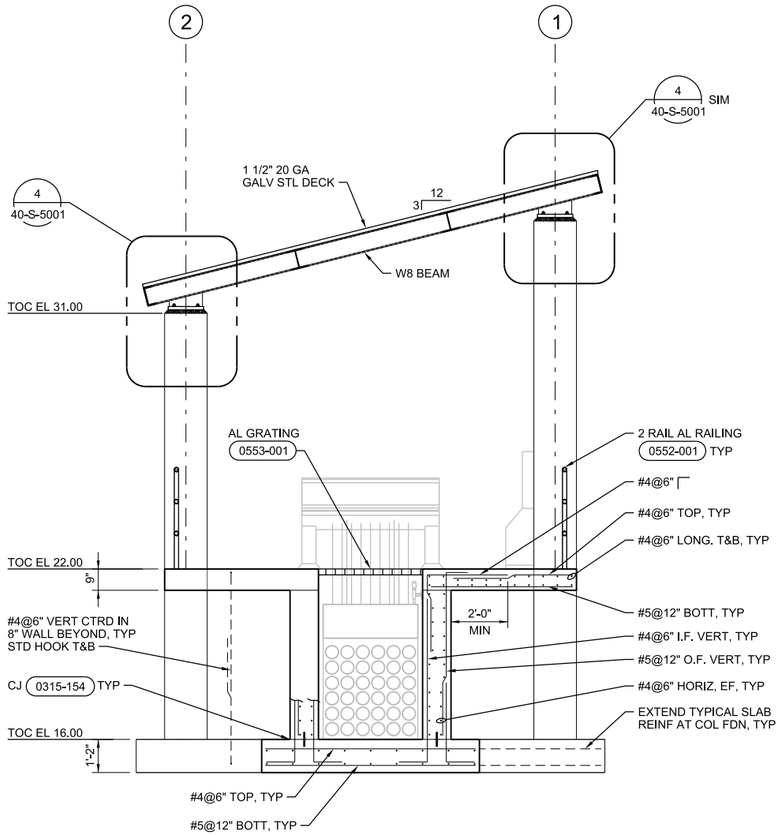
NO.	DATE	REVISION	BY

DSGN	LAS
DR	HFJ
CHK	ALF
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
ULTRAVIOLET DISINFECTION
STRUCTURAL
SECTION

REGISTERED PROFESSIONAL ENGINEER
76316PE
Digital Signature
OREGON
MAY 10, 2011
LUKE AARON SCOGGINS
EXP. 06-30-16

SHEET 40-S-3001
SEQ 156
DATE 12/2014
PROJ. NO. 490515



B SECTION
3/8"=1'-0"

40-S-2200
40-S-2300
40-S-2400

VERIFY SCALES
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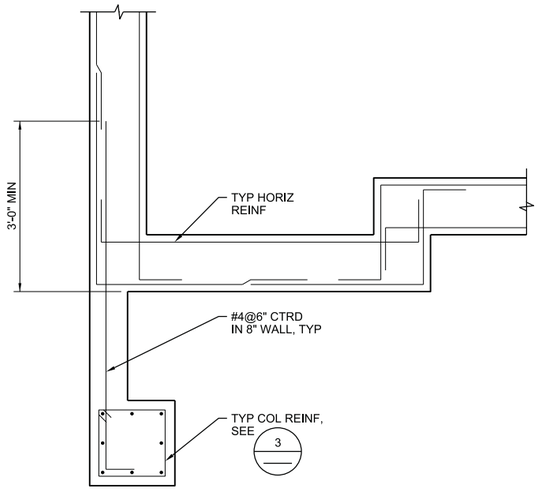
NO.	DATE	REVISION	BY

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DR HFJ
CHK ALF
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
ULTRAVIOLET DISINFECTION
STRUCTURAL
SECTION

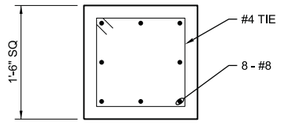
REGISTERED PROFESSIONAL ENGINEER
76316PE
Digital Signature
OREGON
MAY 10, 2011
LUKE AARON SCOGGINS
EXP. 06-30-16

SHEET 40-S-3002
SEQ 157
DATE 12/2014
PROJ. NO. 490515

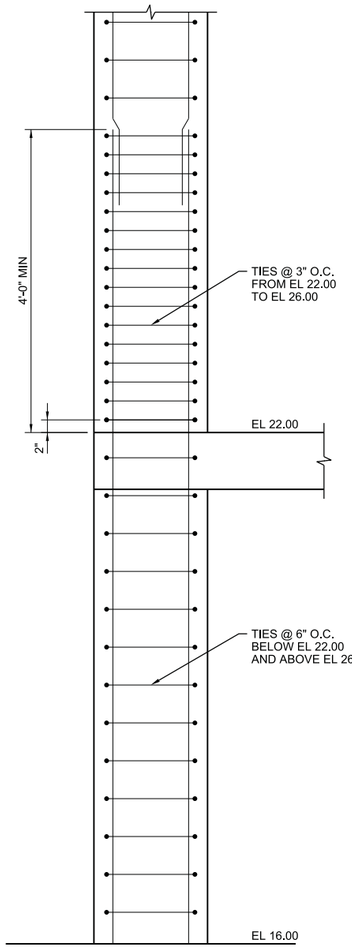


PLAN

1 CORNER REINFORCING
3/4"=1'-0"
40-S-2200

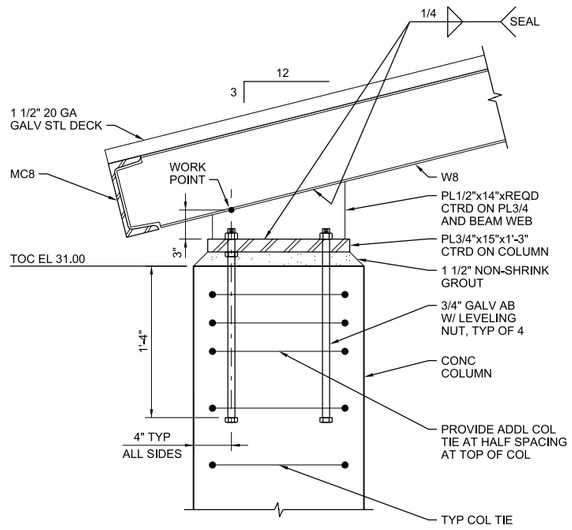


PLAN

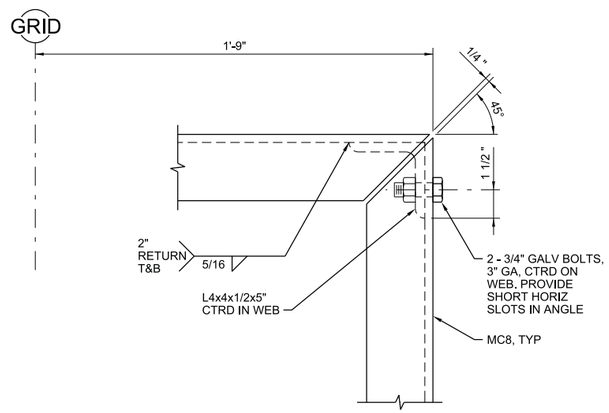


ELEVATION

3 COLUMN REINFORCING
1 1/2"=1'-0"
40-S-2300

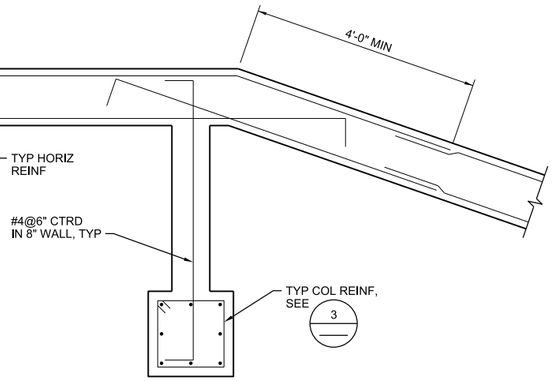


4 BEAM/COLUMN CONNECTION
1 1/2"=1'-0"
40-S-3002



PLAN

5 FASCIA BEAM CONNECTION
3"=1'-0"
40-S-2400



PLAN

2 CORNER REINFORCING
3/4"=1'-0"
40-S-2200

REGISTERED PROFESSIONAL ENGINEER
76316PE
Digital Signature
OREGON
MAY 10, 2011
LUKE AARON SCOGGINS
EXP. 06-30-16

VERIFY SCALES
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

CH2MHILL®
SHN CONSULTING ENGINEERS & GEOLOGISTS, INC.

NO.	DATE	REVISION	BY

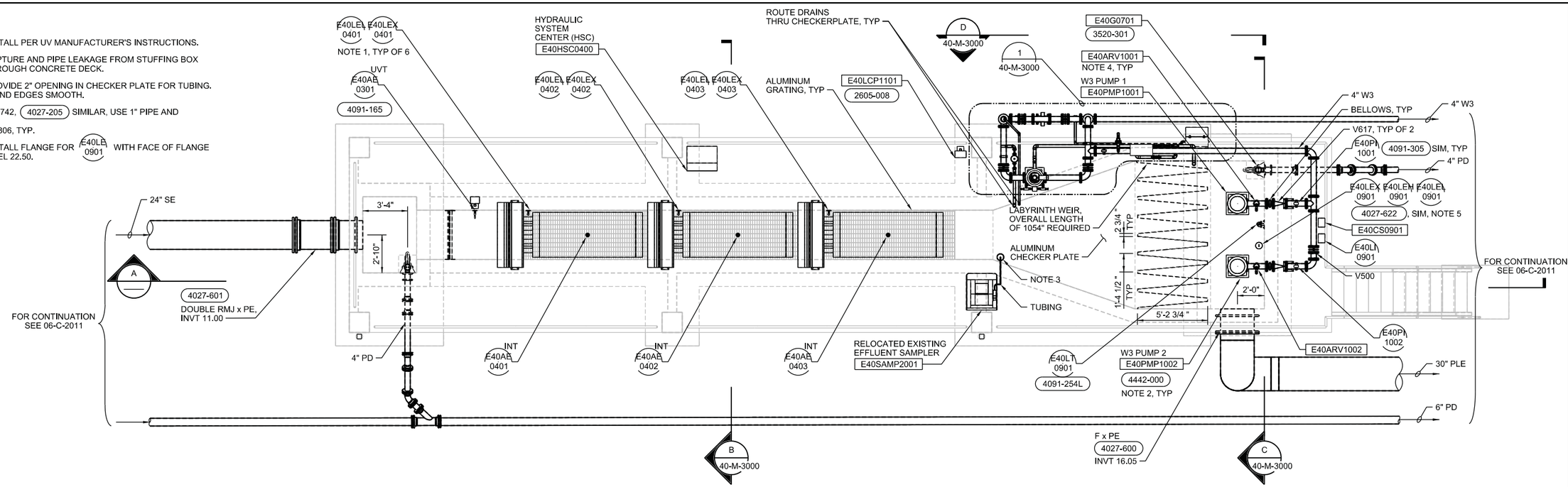
DSGN	LAS
DR	HFJ
CHK	ALF
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
ULTRAVIOLET DISINFECTION
STRUCTURAL
DETAILS

SHEET 40-S-5001
SEQ 158
DATE 12/2014
PROJ. NO. 490515

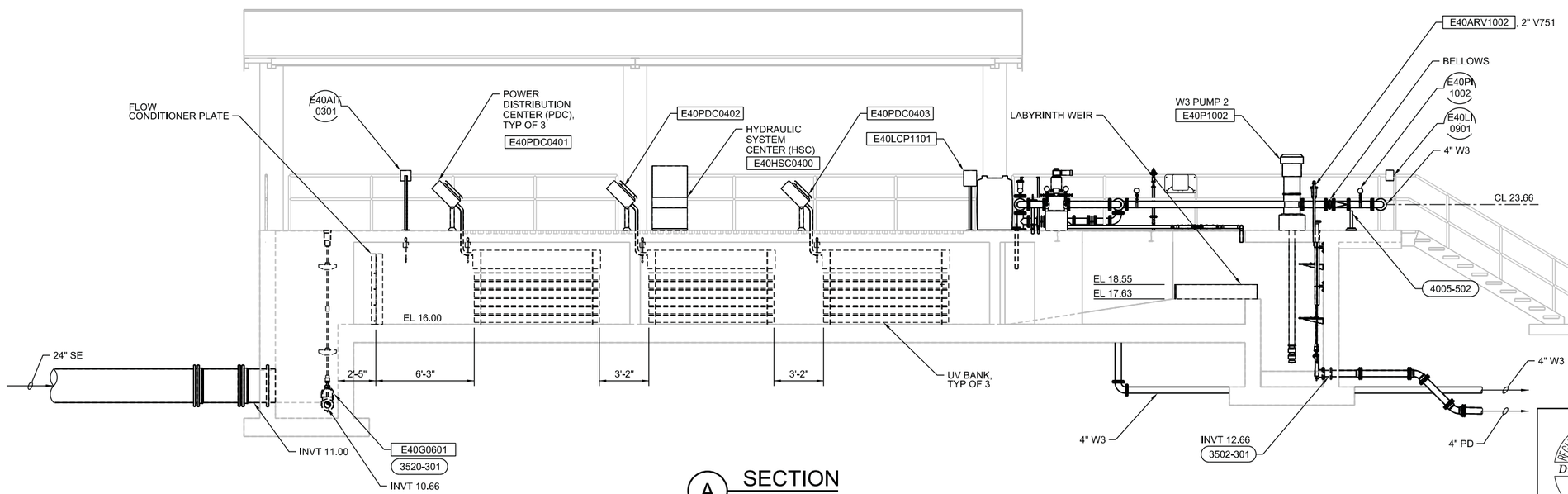
NOTE:

1. INSTALL PER UV MANUFACTURER'S INSTRUCTIONS.
2. CAPTURE AND PIPE LEAKAGE FROM STUFFING BOX THROUGH CONCRETE DECK.
3. PROVIDE 2" OPENING IN CHECKER PLATE FOR TUBING. GRIND EDGES SMOOTH.
4. 1" V742, (4027-205) SIMILAR, USE 1" PIPE AND 1"V306, TYP.
5. INSTALL FLANGE FOR (E40LE 0901) WITH FACE OF FLANGE AT EL 22.50.



GROUND FLOOR PLAN

1/4"=1'-0"



A SECTION

1/4"=1'-0"

VERIFY SCALES
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0 1"
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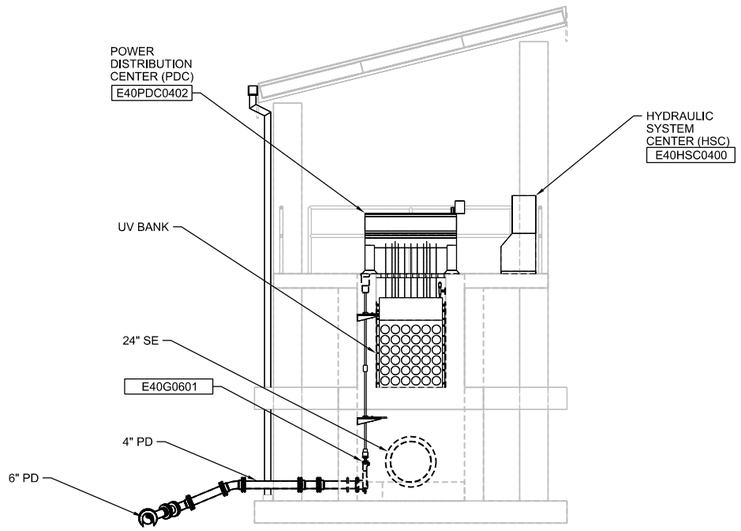
DSGN SLS
DR GSM
CHK DWB
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
ULTRAVIOLET DISINFECTION
MECHANICAL

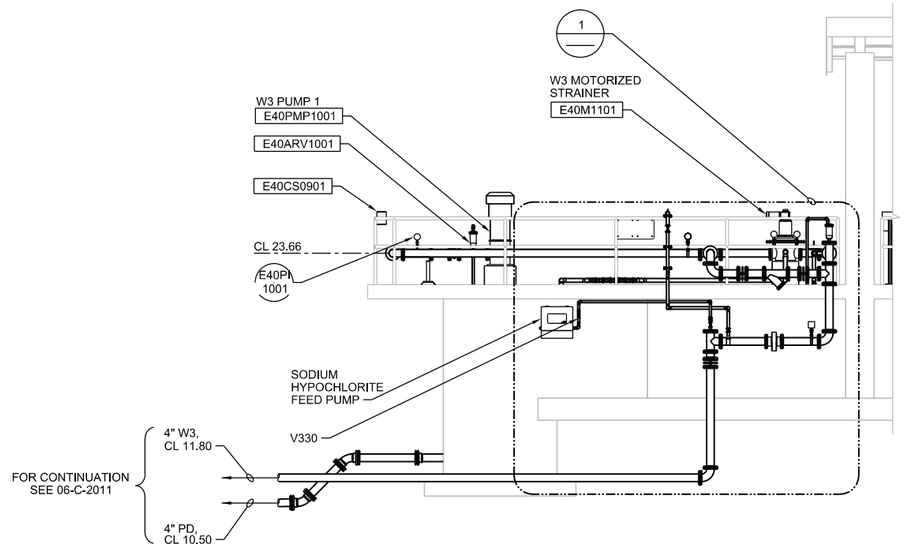
PLAN AND SECTION

REGISTERED PROFESSIONAL ENGINEER
84039PE
OREGON
JANUARY 9, 2001
SHERYL L. STUART
Digital Signature
EXP 6/30/2016

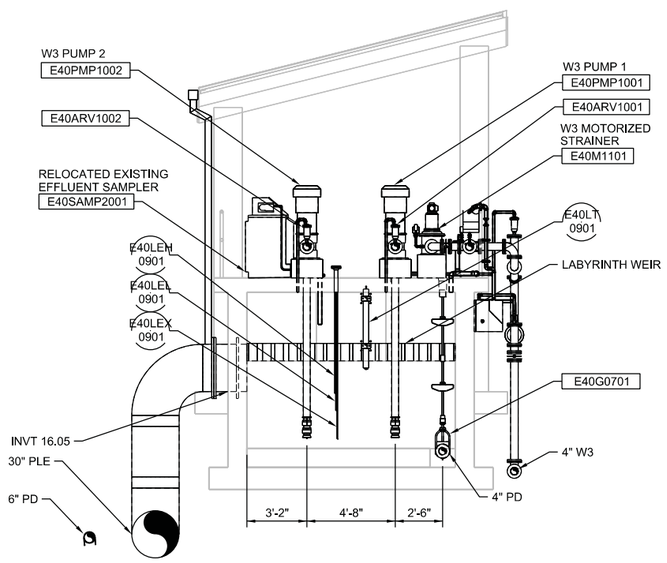
SHEET 40-M-2000
SEQ 159
DATE 12/2014
PROJ. NO. 490515



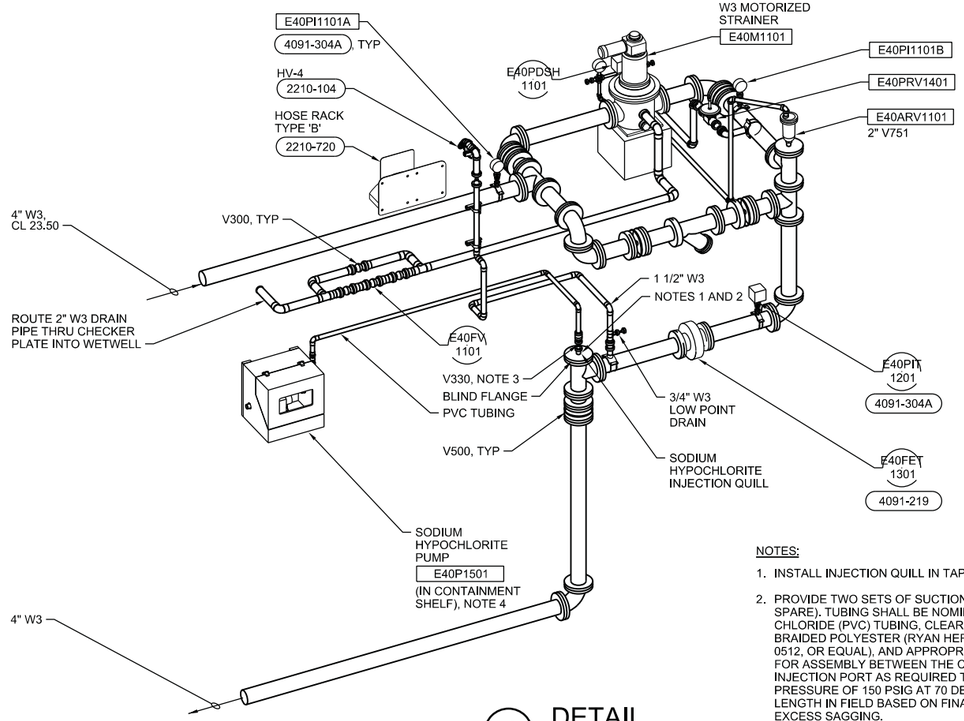
B SECTION
1/4"=1'-0"
40-M-2000



D SECTION
1/4"=1'-0"
40-M-2000



C SECTION
1/4"=1'-0"
40-M-2000



1 DETAIL
NTS
40-M-2000

NOTES:

1. INSTALL INJECTION QUILL IN TAPPED BLIND FLANGE.
2. PROVIDE TWO SETS OF SUCTION AND DISCHARGE TUBING (ONE SPARE). TUBING SHALL BE NOMINAL 1/4-INCH DIAMETER POLYVINYL CHLORIDE (PVC) TUBING, CLEAR TRANSLUCENT REINFORCED WITH BRAIDED POLYESTER (RYAN HERCO FLOW SOLUTIONS, MODEL 0512, OR EQUAL), AND APPROPRIATE BUSHINGS AND CONNECTORS FOR ASSEMBLY BETWEEN THE CHEMICAL METERING PUMP AND INJECTION PORT AS REQUIRED TO WITHSTAND A WORKING PRESSURE OF 150 PSIG AT 70 DEGREES F. DETERMINE TUBING LENGTH IN FIELD BASED ON FINAL GEOMETRY AND TO AVOID EXCESS SAGGING.
3. VALVE TO BE VENTED.
4. MOUNT SHELF TO WALL WITH CONCRETE ANCHORS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND 05 50 00 METAL FABRICATIONS.

REGISTERED PROFESSIONAL ENGINEER
84039PE
Digital Signature
OREGON
JANUARY 4, 2001
SHERYL L. STUART
EXP 6/30/2016

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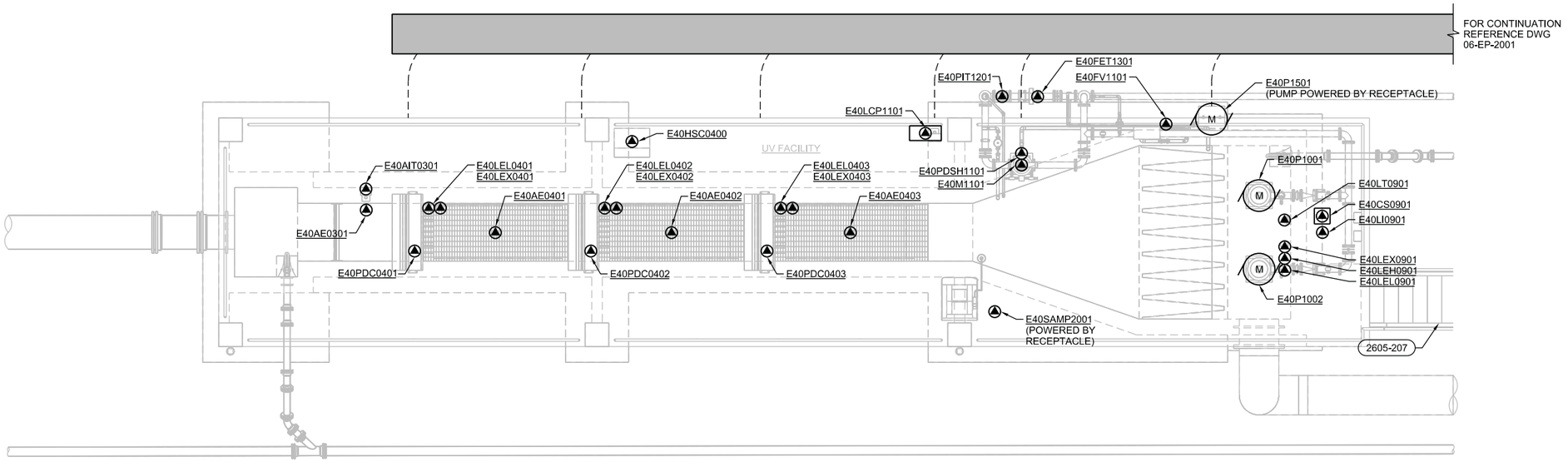
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NO.	DATE	REVISION	BY

DSGN SLS
DR GSM
CHK DWB
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
ULTRAVIOLET DISINFECTION
MECHANICAL
SECTIONS AND DETAIL

SHEET 40-M-3000
SEQ 160
DATE 12/2014
PROJ. NO. 490515



FLOOR PLAN

1/4"=1'-0"

REGISTERED PROFESSIONAL ENGINEER
85946PE
Digital Signature
OREGON
JAN. 10, 20 12
JASON A. CLIFFORD
EXP. 12-31-15

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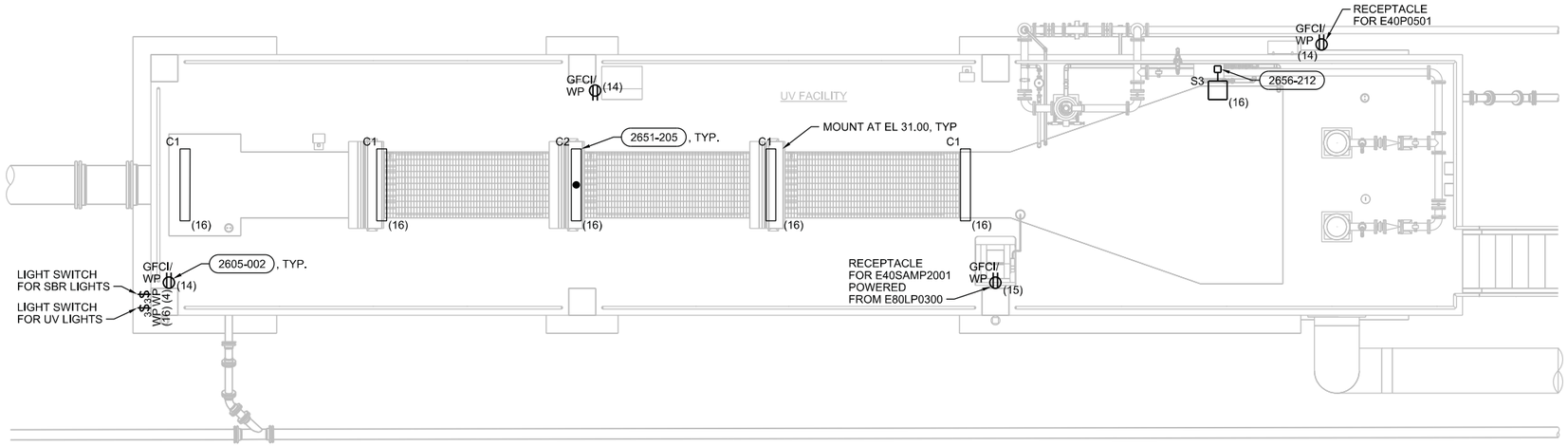
NO.	DATE	REVISION	BY

DSGN JAC
DR JG
CHK RSH
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
ULTRAVIOLET DISINFECTION
ELECTRICAL

PROCESS PLAN

SHEET 40-EP-2000
SEQ 161
DATE 12/2014
PROJ. NO. 490515



FLOOR PLAN

1/4"=1'-0"

NOTES:

1. NUMBERS SHOWN IN PARANTHESIS, (N), ADJACENT TO LIGHTS AND RECEPTACLES DENOTE CIRCUIT NUMBERS IN FACILITY PANELBOARDS. REFER TO PANELBOARD SCHEDULES FOR CORRECT PANEL. PROVIDE #12 CONDUCTORS FOR 20A OR 15A CIRCUITS LESS THAN 75 FEET. PROVIDE #10 CONDUCTORS FOR CIRCUITS GREATER THAN 75 FEET.
2. COMBINE RECEPTACLE AND LIGHTING CIRCUITS IN A CONDUIT TO MINIMIZE THE AMOUNT OF CONDUIT. CIRCUITS COMBINED INTO A SINGLE CONDUIT SHALL BE SIZED FOR NEC DERATING AND CONDUIT FILL REQUIREMENTS.
3. CONNECT EMERGENCY BALLASTS WITH UNSWITCHED CONDUCTORS. NORMAL BALLASTS, EVEN FOR EMERGENCY FIXTURES, SHALL BE CONTROLLED WITH ROOM SWITCH.

REGISTERED PROFESSIONAL ENGINEER
85946PE
Digital Signature
OREGON
JAN. 10, 2012
JASON A. CLIFFORD
EXP. 12-31-15

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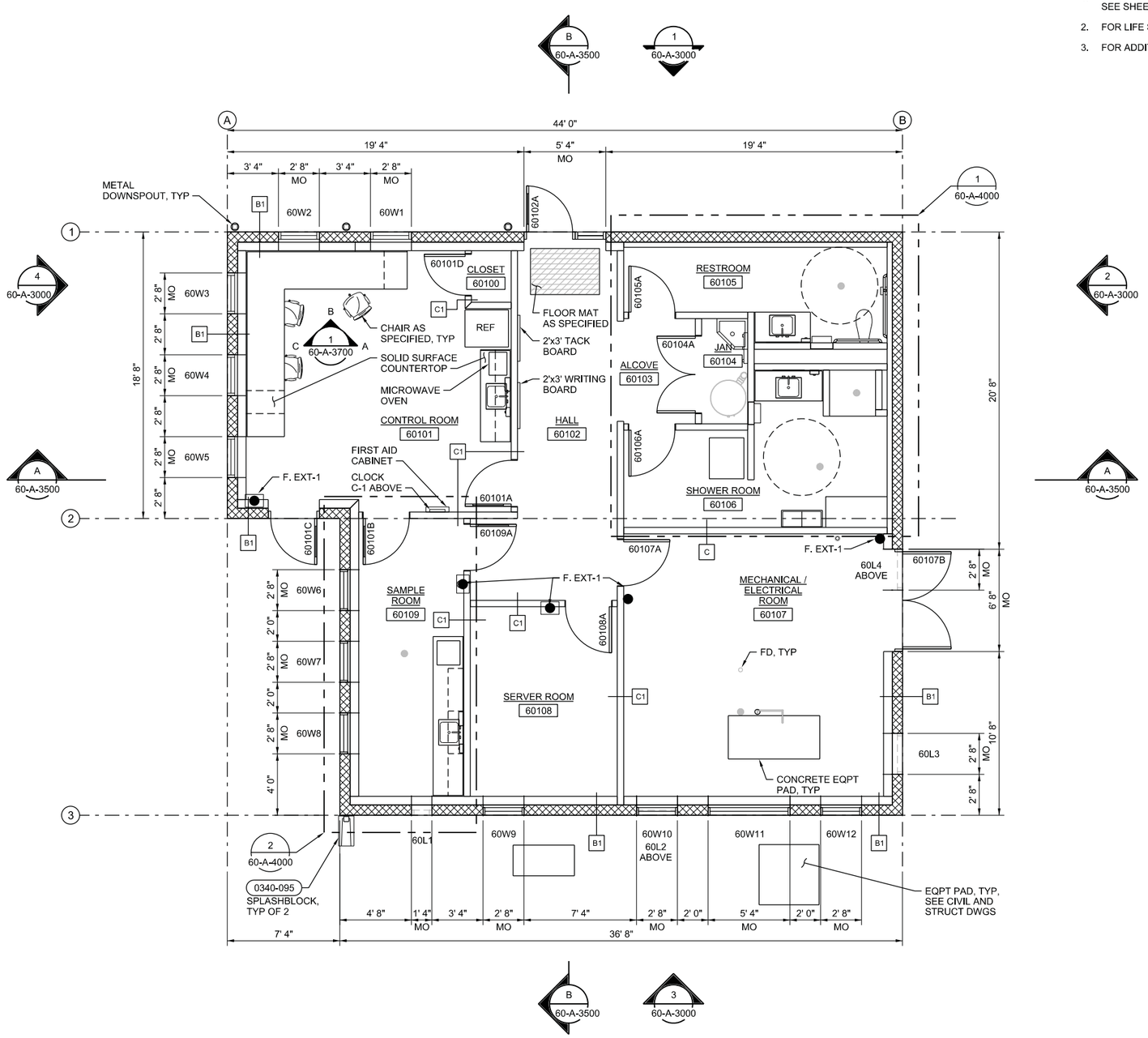
DSGN JAC
DR JG
CHK RSH
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
ULTRAVIOLET DISINFECTION
ELECTRICAL
FACILITY PLAN

SHEET 40-EF-2000
SEQ 162
DATE 12/2014
PROJ. NO. 490515

NOTES:

1. FOR ARCHITECTURAL NOTES, LEGEND, SYMBOLS AND WALL TYPES, SEE SHEET 01-G-0014.
2. FOR LIFE SAFETY PLAN AND CODE DATA, SEE SHEET 01-G-0016.
3. FOR ADDITIONAL WALL TYPES, SEE ENLARGED PLANS.



FLOOR PLAN

1/4"=1'-0"

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NO.	DATE	REVISION	BY

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CHK SJP
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CONTROL BUILDING
ARCHITECTURAL
FLOOR PLAN

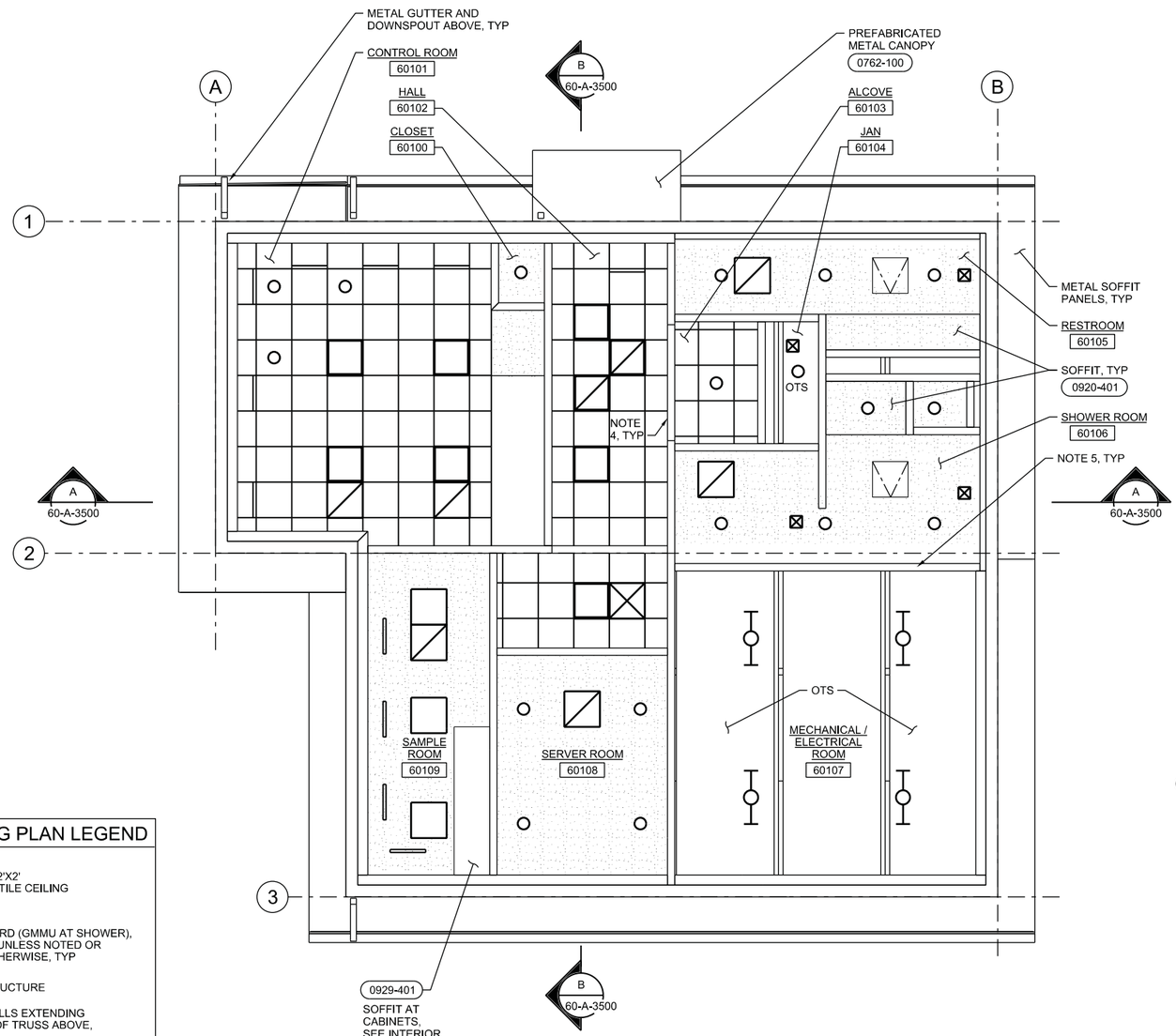
REGISTERED ARCHITECT
ROBERT P. TAVERNA
Digital Signature
ALBANY, OREGON
5797
STATE OF OREGON

SHEET 60-A-2000
SEQ 163
DATE 12/2014
PROJ. NO. 490515

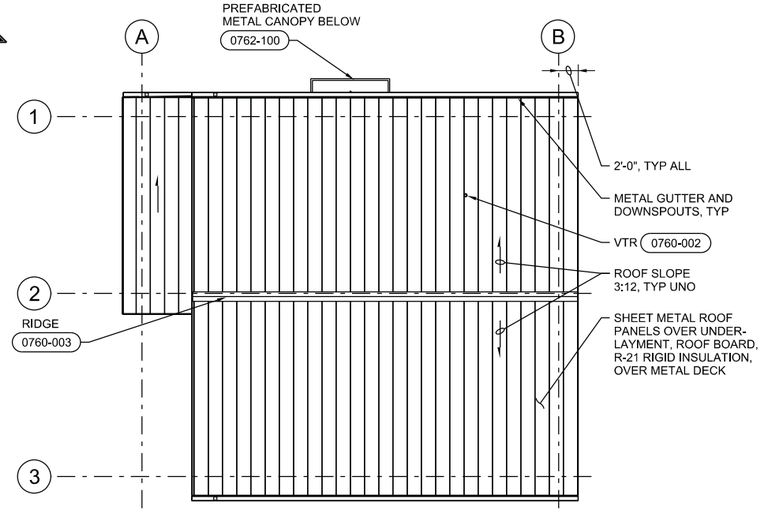
60-A-2000_469556.dgn

NOTES:

1. FOR ARCHITECTURAL GENERAL NOTES, SYMBOLS, LEGEND AND WALL TYPES, SEE DWG 01-G-0014.
2. FOR ARCHITECTURAL CODE DATA AND LIFE SAFETY PLAN, SEE DWG 01-G-0016.
3. FOR CEILING HEIGHTS, SEE INTERIOR FINISH SCHEDULE ON DWG 60-A-6001.
4. CEILING HEADERS AT 8'-0" AFF, TYP
5. FOR BRACING AT TOP OF PARTITION WALLS TO BOTTOM CHORD OF TRUSS, SEE 0929-500



REFLECTED CEILING PLAN
3/16"=1'-0"



ROOF PLAN
1/8"=1'-0"

REFLECTED CEILING PLAN LEGEND

- SUSPENDED 2'X2' ACOUSTICAL TILE CEILING SYSTEM
- GYPSUM BOARD (GMMU AT SHOWER), SUSPENDED UNLESS NOTED OR DETAILED OTHERWISE, TYP
- OTS — OPEN TO STRUCTURE
- INTERIOR WALLS EXTENDING TO BOTTOM OF TRUSS ABOVE, SEE NOTE 5
- 2'x2' RECESSED LUMINAIRE, SEE ELECTRICAL DWGS
- RECESSED DOWNLIGHT, SEE ELECTRICAL DWGS
- SURFACE MOUNTED OR SUSPENDED LUMINAIRE, SEE ELECTRICAL DWGS
- SUPPLY AIR GRILLE AND CEILING DIFFUSER, SEE HVAC DWGS
- RETURN AIR OR TRANSFER GRILLE AND EXHAUST FAN, SEE HVAC DWGS
- LINEAR DIFFUSER, SEE HVAC DWGS
- 24" x 24" ACCESS PANEL AS SPECIFIED

REGISTERED ARCHITECT
ROBERT P. TAVERNA
Digital Signature
ALBANY, OREGON
5797
STATE OF OREGON

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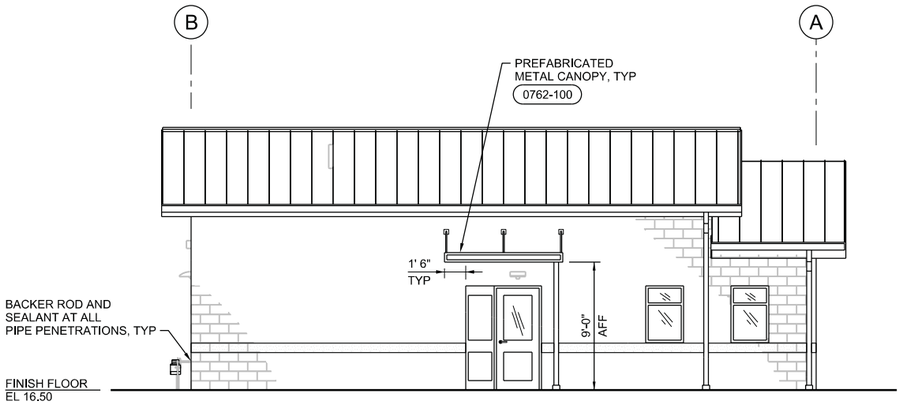
NO.	DATE	REVISION	BY

DSGN BPT
DR SDB
CHK SJP
APVD CWM

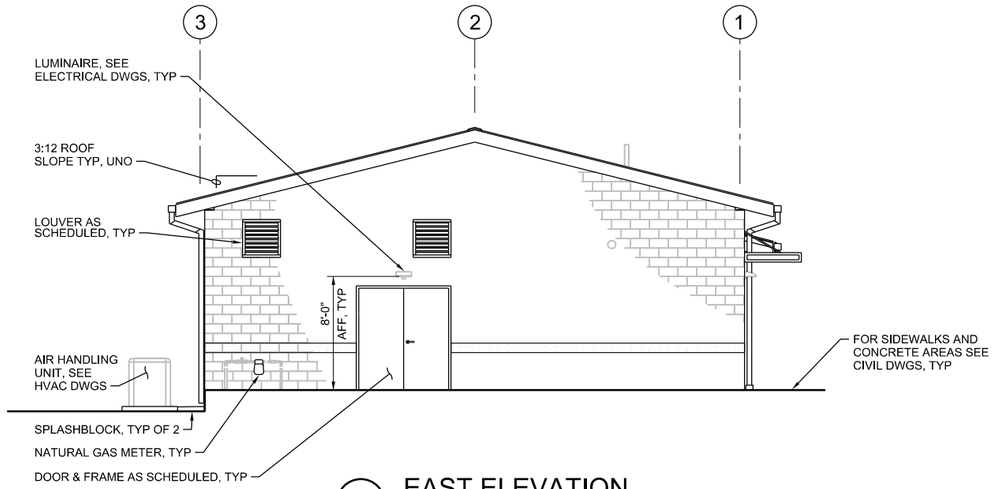
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CONTROL BUILDING
ARCHITECTURAL
REFLECTED CEILING PLAN AND ROOF PLAN

SHEET 60-A-2100
SEQ 164
DATE 12/2014
PROJ. NO. 490515

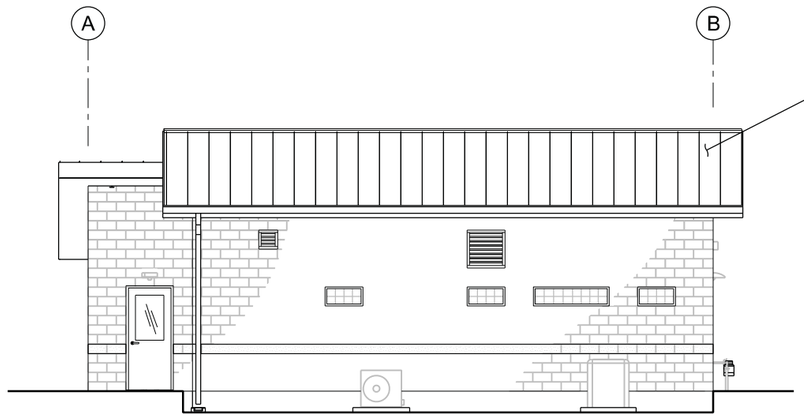
60-A-2100_469556.dgn



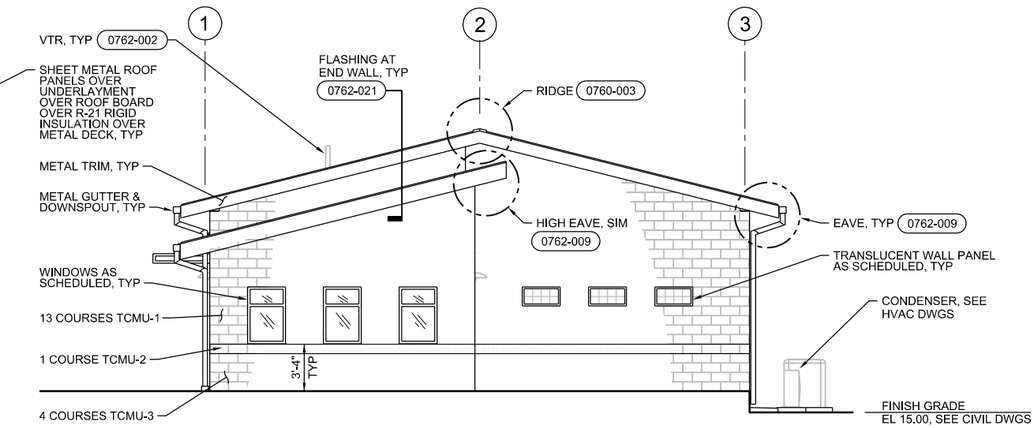
1 NORTH ELEVATION
3/16"=1'-0"
60-A-2000



2 EAST ELEVATION
3/16"=1'-0"
60-A-2000



3 SOUTH ELEVATION
3/16"=1'-0"
60-A-2000



4 WEST ELEVATION
3/16"=1'-0"
60-A-2000

REGISTERED ARCHITECT
ROBERT P. TAVERNA
Digital Signature
ALBANY, OREGON
5797
STATE OF OREGON

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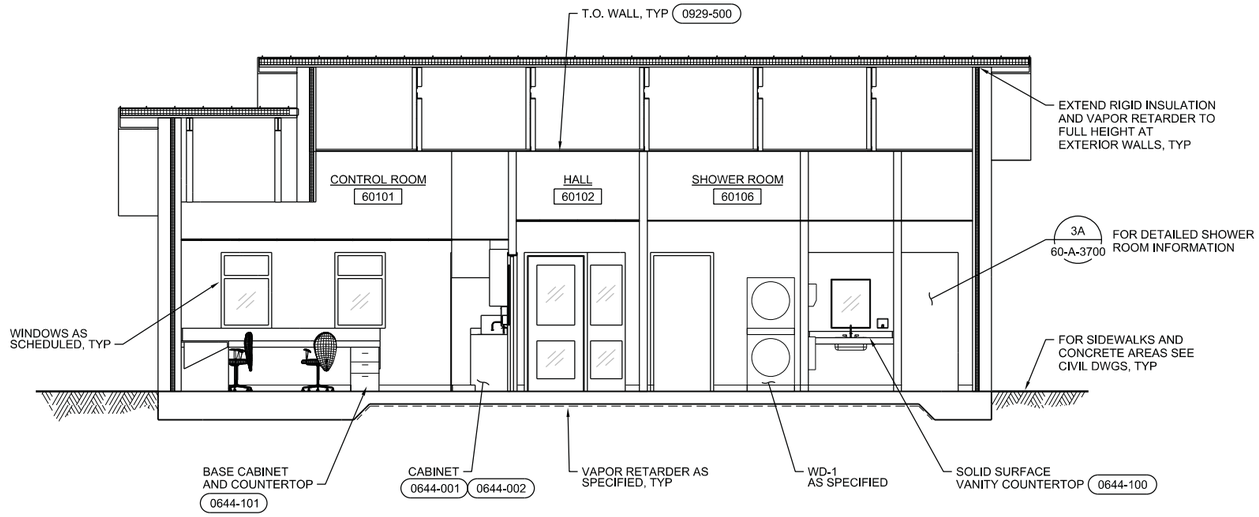
NO.	DATE	REVISION	BY

DSGN BPT
DR SDB
CHK SJP
APVD CWM

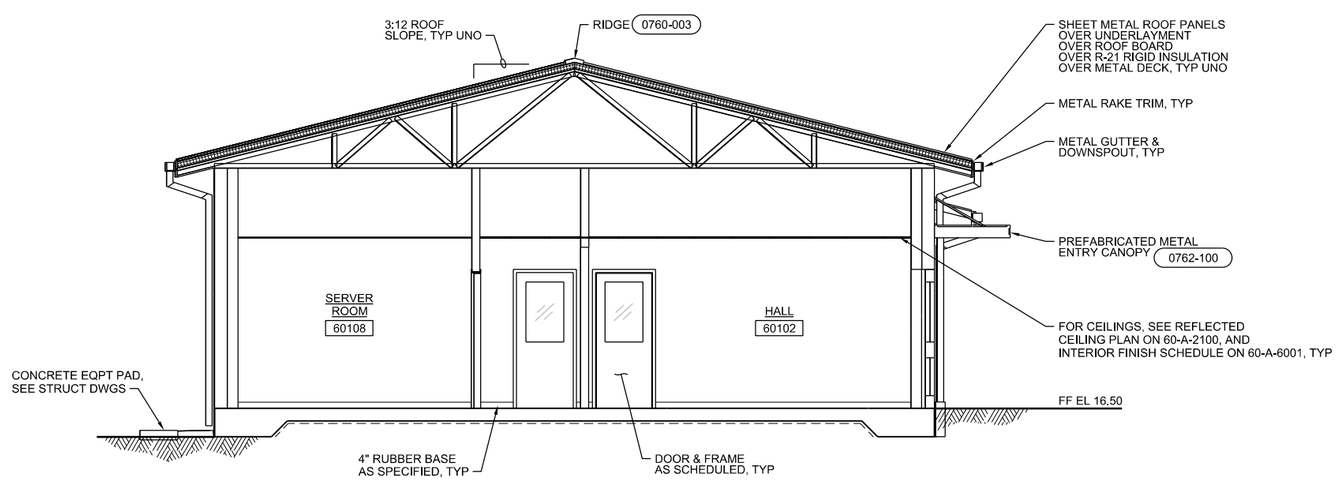
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CONTROL BUILDING
ARCHITECTURAL
ELEVATIONS

SHEET 60-A-3000
SEQ 165
DATE 12/2014
PROJ. NO. 490515

60-A-3000_469556.dgn



A SECTION
1/4"=1'-0"
60-A-2000
60-A-2100



B SECTION
1/4"=1'-0"
60-A-2000
60-A-2100

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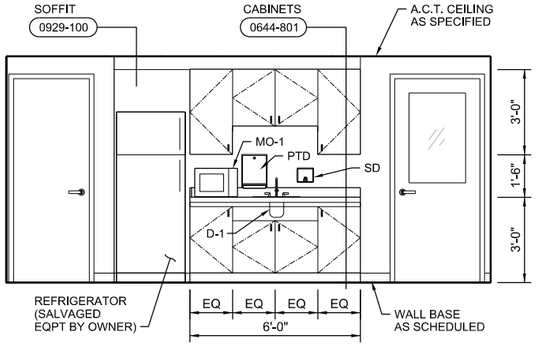
DSGN BPT
DR SDB
CHK SJP
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CONTROL BUILDING
ARCHITECTURAL
SECTIONS

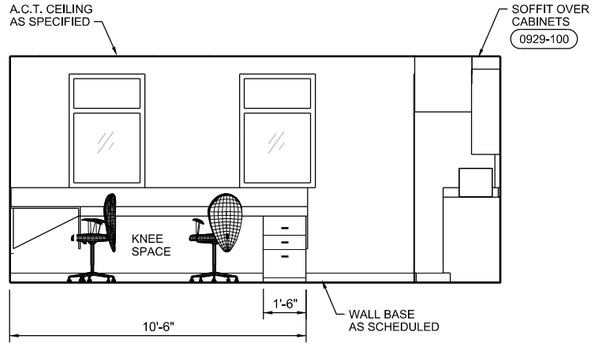
REGISTERED ARCHITECT
ROBERT P. TAVERNA
Digital Signature
ALBANY, OREGON
5797
STATE OF OREGON

SHEET 60-A-3500
SEQ 166
DATE 12/2014
PROJ. NO. 490515

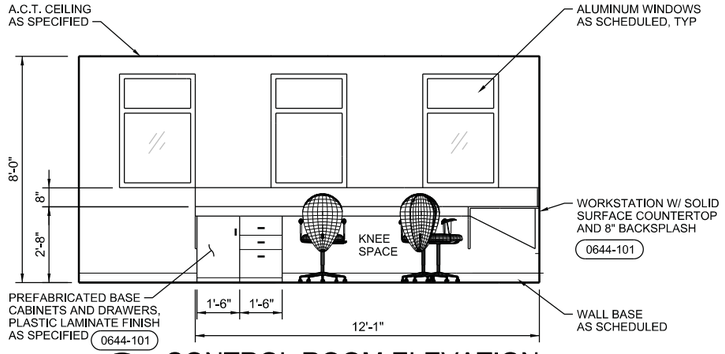
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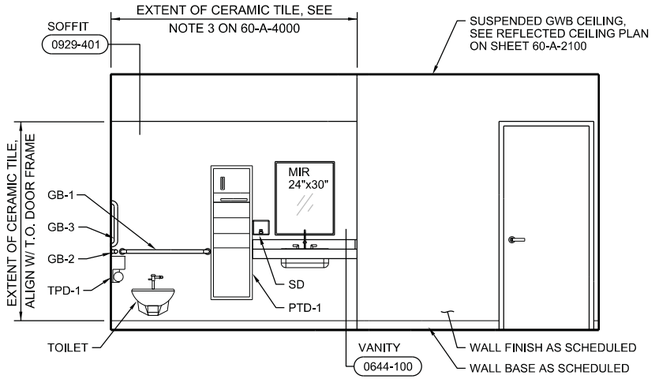
1A CONTROL ROOM ELEVATION
3/8"=1'-0"
60-A-2000



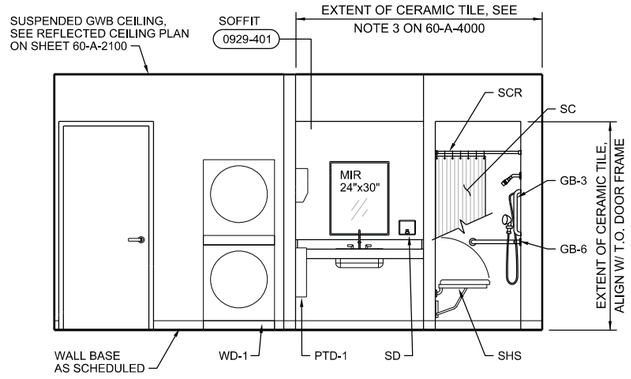
1B CONTROL ROOM ELEVATION
3/8"=1'-0"
60-A-2000



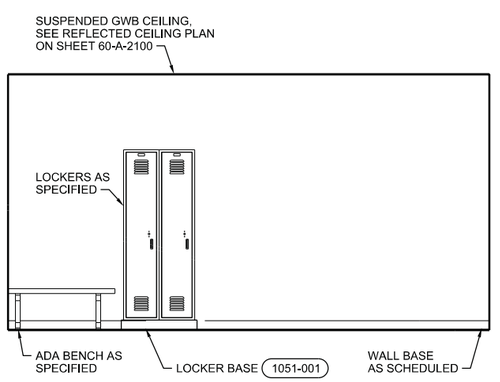
1C CONTROL ROOM ELEVATION
3/8"=1'-0"
60-A-2000



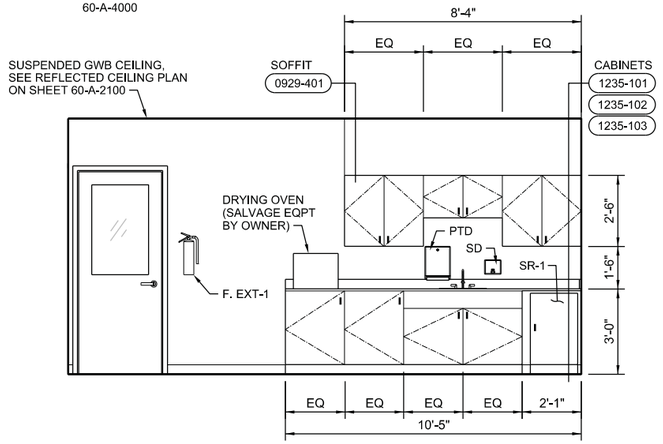
2 RESTROOM ELEVATION
3/8"=1'-0"
60-A-4000



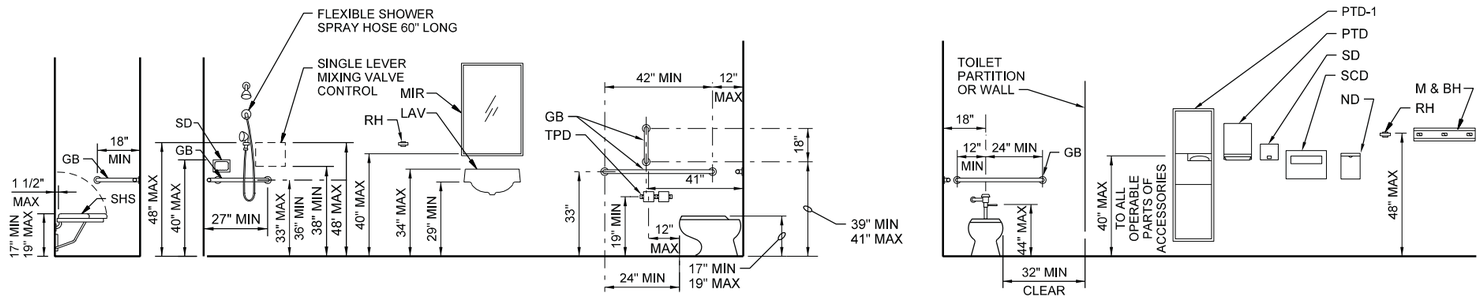
3A SHOWER ROOM ELEVATION
3/8"=1'-0"
60-A-4000



3B SHOWER ROOM ELEVATION
3/8"=1'-0"
60-A-4000



4 SAMPLE ROOM ELEVATION
3/8"=1'-0"
60-A-4000



1 STANDARD ACCESSIBLE FIXTURE MOUNTING LOCATIONS
NTS

60-A-3700_469556.dgn

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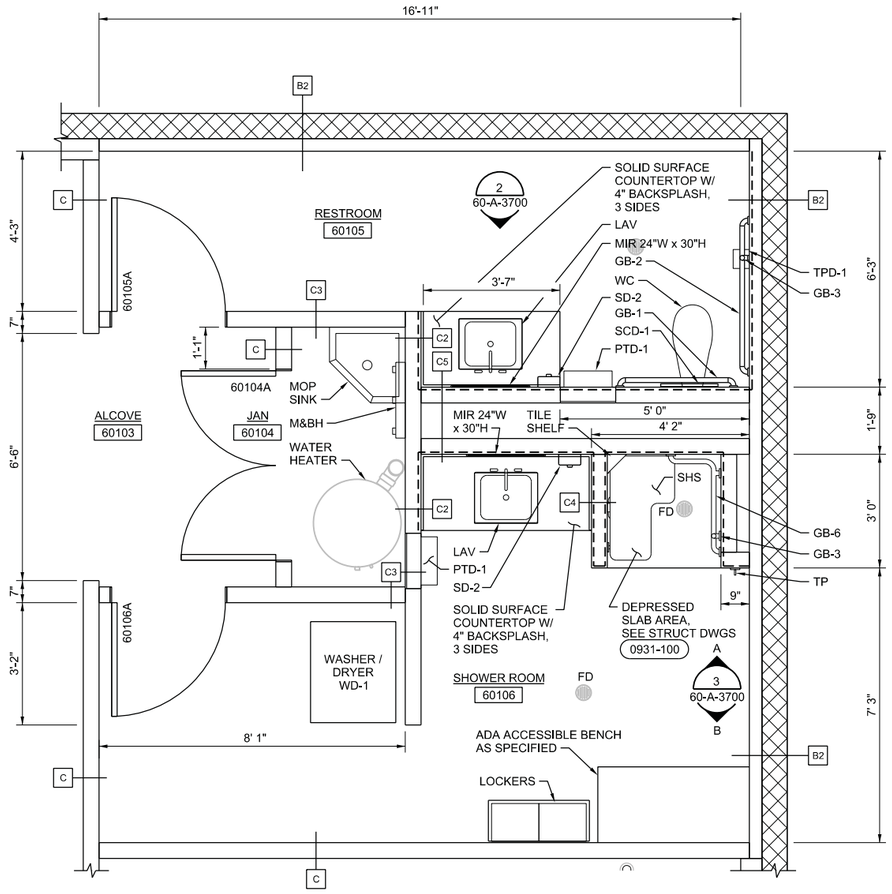
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CONTROL BUILDING
ARCHITECTURAL
INTERIOR ELEVATIONS

REGISTERED ARCHITECT
ROBERT P. TAVERNA
Digital Signature
ALBANY, OREGON
5797
STATE OF OREGON

SHEET 60-A-3700
SEQ 167
DATE 12/2014
PROJ. NO. 490515

NOTES:

1. FOR ARCHITECTURAL NOTES, LEGEND, SYMBOLS AND WALL TYPES, SEE SHEET 01-G-0014.
2. FOR LIFE SAFETY PLAN AND CODE DATA, SEE SHEET 01-G-0016.
3. CERAMIC TILE WHERE INDICATED ON PLAN.

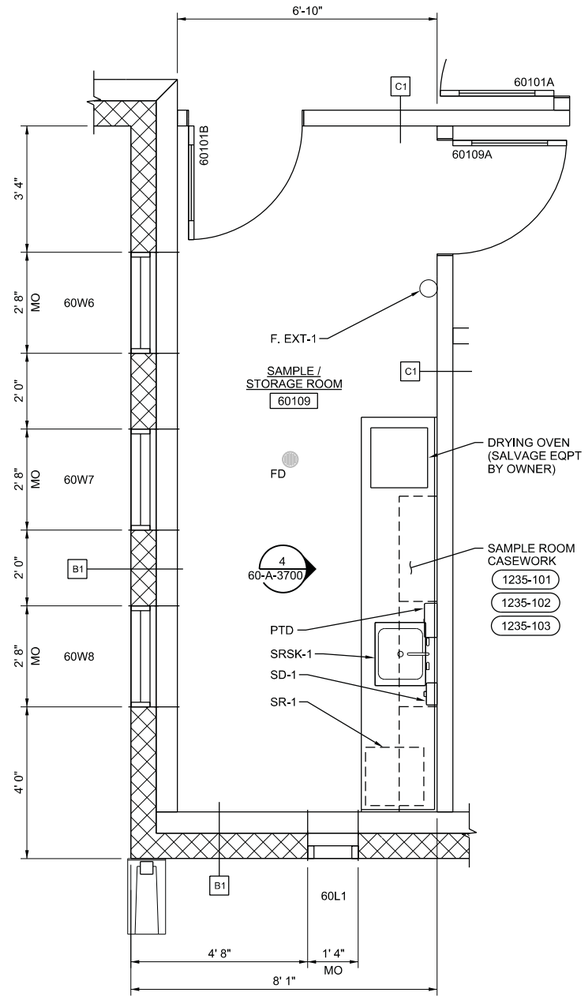


N

1 ENLARGED PLAN
1/2"=1'-0"
60-A-2000

LEGEND

SYMBOL	DESCRIPTION
- - - - - - -	CERAMIC WALL TILE EXTENT



N

2 ENLARGED PLAN
1/2"=1'-0"
60-A-2000

REGISTERED ARCHITECT
ROBERT P. TAVERNA
Digital Signature
ALBANY, OREGON
5797
STATE OF OREGON

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
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SAY
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NO.	DATE	REVISION	BY

DSGN BPT
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CHK SJP
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CONTROL BUILDING
ARCHITECTURAL
ENLARGED PLANS

SHEET 60-A-4000
SEQ 168
DATE 12/2014
PROJ. NO. 490515

60-A-4000_469556.dgn

INTERIOR FINISH SCHEDULE

ABBREVIATIONS:

ACT	ACOUSTICAL CEILING TILE	CT	CERAMIC TILE	MATL	MATERIAL
AL	ALUMINUM	EXP	EXPOSED STRUCTURE	OTS	OPEN TO STRUCTURE
AS	AS SPECIFIED	FAF	FLUID APPLIED FLOORING	RUB	RUBBER
CLR	CLEAR	FCTY	FACTORY	SLR	CLEAR SEALER
CMU	CONCRETE MASONRY UNIT	FNSH	FINISH	SMLS	SEAMLESS EPOXY
COL	COLOR	GWB	GYPSUM WALL BOARD	SS	SOLID SURFACING
CONC	CONCRETE	HGT	HEIGHT	WRB	WATER RESISTANT GWB
				WHT	WHITE

NOTES:
NO. 1 NUMBERS IN THE FNSH COLUMN REFER TO PAINT SYSTEMS IN SPECIFICATION SECTION 09 90 00.
NO. 2 CODES IN COL COLUMN REFER TO COLOR LIST ON THIS SHEET.
NO. 3 WALL SURFACES BEHIND CASEWORK AND OTHER BUILT-IN ITEMS NEED NOT BE PAINTED.
NO. 4 FOR EXTERIOR FINISHES AND COLORS, SEE EXTERIOR FINISH SCHEDULE ON THIS SHEET.
NO. 5 FOR DOOR AND FRAME FINISHES, SEE DOOR AND HARDWARE SCHEDULE ON THIS SHEET.
NO. 6 FOR WINDOW AND TRIM FINISHES, SEE WINDOW SCHEDULE ON THIS SHEET.
NO. 7 SEE PLANS FOR WALL TYPES AND MATERIAL.
NO. 8 SEE REFLECTED CEILING PLANS FOR SOFFIT LOCATIONS.
No. 9 FOR FLUID APPLIED FLOORING SEE SECTION 09 67 00

SPACE		FLOOR			BASE AND WAINSCOT					TYPICAL WALL			OTHER WALL			CEILING				MISCELLANEOUS				OTHER REQUIREMENTS
NO.	NAME	SUB FL	FINISH	COL	HGT	MATL	FINISH	COL	WALLS	MATL	FINISH	COL	MATL	FINISH	COL	HGT	MATL	FINISH	COL	ITEM	MATL	FINISH	COL	
60101	CONTROL ROOM	CONC	FAF	F-1	4"	RUB	FCTY	AS	ALL	GWB	115	P-2	-	-	-	9'-0"	ACT	FCTY	WHT	CASEWORK AND COUNTERTOPS	AS	SS / PLAM	C-3 / C-1	NOTE 8
60102	HALL	CONC	FAF	F-1	4"	RUB	FCTY	AS	ALL	GWB	115	P-2	-	-	-	9'-0"	ACT	FCTY	WHT					
60103	ALCOVE	CONC	FAF	F-1	4"	RUB	FCTY	AS	ALL	GWB	115	P-2	-	-	-	9'-0"	ACT	FCTY	WHT					
60104	JANITOR CLOSET	CONC	FAF	F-1	4"	RUB	FCTY	AS	ALL	GWB	115	P-2	-	-	-	OTS	MET	-	-					
60105	RESTROOM	CONC	CT	F-2	4"	CT	FCTY	F-2	ALL	CT	FCTY	W-3	WRB	115	P-2	9'-0"	WRB	115	P-2	VANITY COUNTERTOP	AS	SS	C-3	NOTE 8
60106	SHOWER ROOM	CONC	CT	F-1	4"	CT	FCTY	F-2	ALL	CT	FCTY	W-3	WRB	115	P-2	9'-0"	WRB	115	P-2	VANITY COUNTERTOP	AS	SS	C-3	NOTE 8
60107	MECHANICAL / ELECTRICAL ROOM	CONC	SLR	CLR	4"	RUB	FCTY	AS	ALL	GWB	115	P-2	-	-	-	OTS	MET	115	P-2					
60108	SERVER ROOM	CONC	FAF	F-1	4"	RUB	FCTY	AS	ALL	GWB	115	P-2	-	-	-	9'-0"	GWB	115	P-2					
60109	SAMPLE ROOM	CONC	FAF	F-1	4"	RUB	FCTY	AS	ALL	GWB	115	P-2	-	-	-	9-0"	GWB	115	P-2	CASEWORK AND COUNTERTOP	AS	SS / PLAM	C-4 / C-2	NOTE 8

EXTERIOR FINISH SCHEDULE

ITEM / MATERIAL	FINISH	COLOR
SHEET METAL ROOF PANELS	FCTY	M-1
SHEET METAL FASCIA AND RAKE TRIM	FCTY	M-2
SHEET METAL GUTTERS AND DOWNSPOUTS	FCTY	M-2
PREFABRICATED METAL CANOPIES	FCTY	M-3
ALUMINUM DOORS AND FRAMES	FCTY	O-1
LOUVERS	FCTY	O-2
ALUMINUM WINDOWS	FCTY	O-1
TRANSLUCENT WALL PANEL FRAMES	FCTY	O-1
CMU FIELD (TCMU-1, TCMU-3)	FCTY	W-2
CMU ACCENT (TCMU-2)	FCTY	W-1

WINDOW SCHEDULE

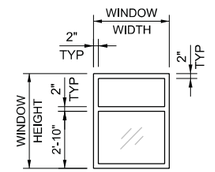
WINDOW TYPE ABBREVIATIONS:
F FIXED
TWP TRANSLUCENT PANEL
AL ALUMINUM
AS AS SELECTED

OTHER ABBREVIATIONS:
CLR CLEAR
FCTY FACTORY
GRY GRAY
IG-T INSULATING GLASS - TINTED

NOTES:
NO. 1 FOR FRAME TYPES, SEE BUILDING ELEVATIONS.
NO. 2 FOR FRAME DETAILS, SEE DESIGN DETAILS.
NO. 3 CODES IN COL COLUMN REFER TO COLOR LIST ON THIS SHEET.
NO. 4 FOR ROLLER SHADES SEE SPECIFICATION 12 49 00

NO.	OPENING				FRAME							BLINDS	SILLS	ROLLER SHADE	OTHER REQUIREMENTS
	SIZE		WINDOW						DETAILS						
	WIDTH	HEIGHT	TYPE	GLASS	MATL	TYPE	FINISH	COL	HEAD	JAMB	SILL	Y / N	HEIGHT AFF		
60W1	2'-8"	4'-0"	F	IG-T	AL	F	FCTY	O-1	0851-003	0851-003	0851-004	N	3'-4"	YES	
60W2	2'-8"	4'-0"	F	IG-T	AL	F	FCTY	O-1	0851-003	0851-003	0851-004	N	3'-4"	YES	
60W3	2'-8"	4'-0"	F	IG-T	AL	F	FCTY	O-1	0851-003	0851-003	0851-004	N	3'-4"	YES	
60W4	2'-8"	4'-0"	F	IG-T	AL	F	FCTY	O-1	0851-003	0851-003	0851-004	N	3'-4"	YES	
60W5	2'-8"	4'-0"	F	IG-T	AL	F	FCTY	O-1	0851-003	0851-003	0851-004	N	3'-4"	YES	
60W6	2'-8"	1'-4"	NOTE 1	TWP	AL	NOTE 1	FCTY	O-1	0845-004	0845-004	0845-004	N	6'-0"	-	
60W7	2'-8"	1'-4"	NOTE 1	TWP	AL	NOTE 1	FCTY	O-1	0845-004	0845-004	0845-004	N	6'-0"	-	
60W8	2'-8"	1'-4"	NOTE 1	TWP	AL	NOTE 1	FCTY	O-1	0845-004	0845-004	0845-004	N	6'-0"	-	
60W9	2'-8"	1'-4"	NOTE 1	TWP	AL	NOTE 1	FCTY	O-1	0845-004	0845-004	0845-004	N	6'-0"	-	
60W10	2'-8"	1'-4"	NOTE 1	TWP	AL	NOTE 1	FCTY	O-1	0845-004	0845-004	0845-004	N	6'-0"	-	
60W11	6'-0"	1'-4"	NOTE 1	TWP	AL	NOTE 1	FCTY	O-1	0845-004	0845-004	0845-004	N	6'-0"	-	
60W12	2'-8"	1'-4"	NOTE 1	TWP	AL	NOTE 1	FCTY	O-1	0845-004	0845-004	0845-004	N	6'-0"	-	

WINDOW TYPES



F

LOUVER SCHEDULE

LOUVER TYPE ABBREVIATIONS:
DB DRAINABLE

OTHER ABBREVIATIONS:
AL ALUMINUM
AS AS SELECTED
FCTY FACTORY

NOTES:
NO. 1 FOR LOUVER DETAILS, SEE DESIGN DETAILS
NO. 2 CODES IN COL COLUMN REFER TO COLOR LIST ON THIS SHEET.

NO.	OPENING		LOUVER				DETAILS			SILLS	FREE AREA	OTHER REQUIREMENTS
	WIDTH	HEIGHT	MATL	TYPE	FINISH	COL	HEAD	JAMB	SILL	HEIGHT		
60L-1	1'-4"	1'-4"	AL	DB	FCTY	O-2	0890-004	0890-004	0890-006	10'-0"	25%	
60L-2	2'-8"	2'-8"	AL	DB	FCTY	O-2	0890-004	0890-004	0890-006	8'-8"	40%	
60L-3	2'-8"	2'-8"	AL	DB	FCTY	O-2	0890-004	0890-004	0890-006	9'-4"	40%	
60L-4	2'-8"	2'-8"	AL	DB	FCTY	O-2	0890-004	0890-004	0890-006	10'-0"	40%	

REGISTERED ARCHITECT
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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CONTROL BUILDING
ARCHITECTURAL
SCHEDULES

SHEET 60-A-6001
SEQ 169
DATE 12/2014
PROJ. NO. 490515

60-A-6001_469556.dgn

DOOR AND HARDWARE SCHEDULE

ABBREVIATIONS:

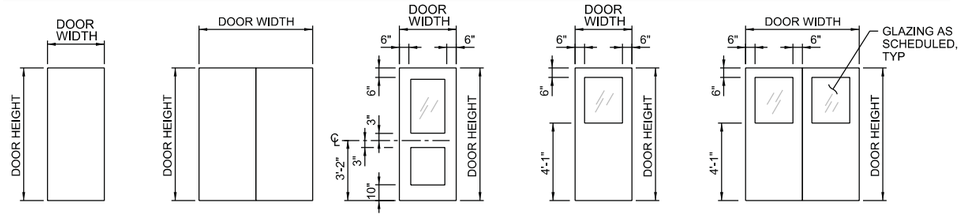
AL	ALUMINUM	HM	HOLLOW METAL	TSHLD	THRESHOLD
ANOD	ANODIZED	K-PL	KICK PLATE	WS	WEATHERSTRIPPING
AS	AS SPECIFIED	MATL	MATERIAL	WD	WOOD
CLSR	CLOSER	MET	METAL		
COL	COLOR	P-P	PUSH-PULL		
CONSTR	CONSTRUCTION	SG	SAFETY GLASS		
FCTY	FACTORY	SIM	SIMILAR		
FNSH	FINISH	SST	STAINLESS STEEL		
FRP	FIBERGLASS REINFORCED PLASTIC	STL	STEEL		

NOTES :

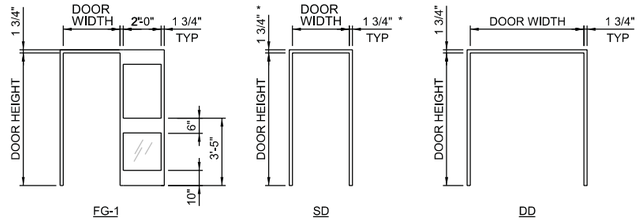
NO. 1 SEE THIS SHEET FOR DOOR AND FRAME TYPES.
NO. 2 FOR DOOR DETAILS. SEE DESIGN DETAILS
NO. 3 NUMBERS IN "FNSH" COLUMN REFER TO PAINT SYSTEMS IN SPECIFICATION SECTION 09 90 00.
NO. 4 CODES IN "COL" COLUMN REFER TO COLOR LIST ON THIS SHEET.
NO. 5 FOR GLASS TYPES, SEE SPECIFICATION SECTION 08 81 00.

	OPENING																												
	SIZE		DOOR					FRAME				DETAILS			HARDWARE													FIRE PROTECTION RATING	NAME PLATE TEXT
NO.	WIDTH	HEIGHT	CONSTR	TYPE	GLASS	FNSH	COL	MATL	TYPE	FNSH	COL	HEAD	JAMB	SILL	HINGE	LOCK	EXIT	CLSR	P-P	STOP	BOLT	K-PL	TSHLD	W-S	MISC		
60101A	3'-0"	7'-0"	WD	G	SG	102	P-1	HM	SD	106	P-1	C811-032	0811-032	0871-012	H1	L1	-	C6	-	S2	-	-	T1	W2	-	-	
60101B	3'-0"	7'-0"	WD	G	SG	102	P-1	HM	SD	106	P-1	C811-032	0811-032	0871-012	H1	L1	-	C6	-	S2	-	-	-	-	-	-	
60101C	3'-0"	7'-2"	AL	G	SG	FCTY	O-1	AL	SD	FCTY	O-1	C811-007	0811-008	0871-010	H1	L2	-	C6	-	-	-	-	T1	W1	M3	-	
60101D	3'-0"	7'-0"	WD	F	-	102	P-1	HM	SD	106	P-1	C811-032	0811-032	0871-012	H1	L1	-	-	-	S2	-	-	-	-	-	-	
60102A	3'-0"	7'-2"	AL	FG	IG-C	FCTY	O-1	AL	FG-1	FCTY	O-1	C811-007	0811-008	0811-009	H1	L2	-	C6	-	-	-	-	-	-	M3	-	
60104A	5'-0"	7'-0"	WD	FF	-	102	P-1	HM	DD	106	P-1	C811-032	0811-032	0871-012	H1	L1	-	-	-	-	B2	-	-	-	M1	-	JANITOR CLOSET
60105A	3'-0"	7'-0"	WD	F	-	102	P-1	HM	SD	106	P-1	C811-032	0811-032	0871-012	H1	L1	-	-	-	S2	-	-	-	-	M1/M2	-	RESTROOM
60106A	3'-0"	7'-0"	WD	F	-	102	P-1	HM	SD	106	P-1	C811-032	0811-032	0871-012	H1	L1	-	-	-	S2	-	-	-	-	M1/M2	-	SHOWER ROOM
60107A	3'-0"	7'-0"	WD	G	SG	102	P-1	HM	SD	106	P-1	C811-032	0811-032	0871-011	H1	L1	-	C6	-	S2	-	-	-	-	-	-	
60107B	6'-4"	7'-2"	AL	FF	-	FCTY	O-1	AL	DD	FCTY	O-1	C811-007	0811-008	0871-010	H1	L2	-	C6	-	-	B2	K1	T1	W1	M1/M3	-	MECHANICAL ROOM
60108A	3'-0"	7'-0"	WD	G	SG	102	P-1	HM	SD	106	P-1	C811-032	0811-032	0871-012	H1	L1	-	C6	-	S2	-	-	-	-	-	-	
60109A	3'-0"	7'-0"	WD	G	SG	102	P-1	HM	SD	106	P-1	C811-032	0811-032	0871-012	H1	L1	-	C6	-	S2	-	-	-	-	-	-	

DOOR TYPES



DOOR FRAME TYPES



* 2" AT HOLLOW METAL FRAMES

COLOR LIST

NOTES:

NO. 1 COLOR SELECTIONS FOR THIS PROJECT MAY BE NOTED IN DOOR AND HARDWARE SCHEDULE, WINDOW SCHEDULE, INTERIOR FINISH SCHEDULE, EXTERIOR FINISH SCHEDULE, LOUVER SCHEDULE, PIPING SCHEDULE AND ON THE DRAWINGS BY THE LETTER-NUMBER COMBINATION IN THE MARK COLUMN OF THIS LIST.
NO. 2 SOME COLOR SELECTIONS MAY BE MADE IN VARIOUS SPECIFICATION SECTIONS.
NO. 3 USE ONLY THE COLORS NOTED OR SCHEDULED. IF A COLOR SELECTION IS NOT MADE, REQUEST ONE FROM THE ENGINEER.

MARK	MATERIAL	MANUFACTURER	COLOR
C	CASEWORK		
C-1	PLASTIC LAMINATE	WILSONART	AMAZON
C-2	PLASTIC LAMINATE	WILSONART	CARBON MESH
C-3	SOLID SURFACE	DUPONT	SILT
C-4	EPOXY RESIN	AS SPECIFIED	DARK GRAY
F	FLOORING		
F-1	FLUID APPLIED FLOORING	AS SPECIFIED	FLAGSTONE
F-2	CERAMIC TILE	AS SPECIFIED	STORM GRAY SPECKLED
M	METAL PANELS, METAL TRIM AND ACCESSORIES		
M-1	METAL ROOF PANELS AND SOFFIT PANELS	AEP	COOL LEAF GREEN
M-2	METAL GUTTERS AND DOWNSPOUTS	AS SPECIFIED	MATCH WILLAMETTE GRAYSTONE CASTLE WHITE
	METAL FASCIA AND RAKE TRIM	AS SPECIFIED	MATCH WILLAMETTE GRAYSTONE CASTLE WHITE
M-3	PREFABRICATED METAL CANOPY	MAPES INC.	MFR'S STD BLACK
O	OPENINGS		
O-1	ALUMINUM DOORS AND FRAMES	AS SPECIFIED	MATCH AEP COOL LEAF GREEN
	OVERHEAD COILING DOORS	AS SPECIFIED	MATCH AEP COOL LEAF GREEN
	TRANSLUCENT WALL PANEL FRAMES	AS SPECIFIED	MATCH AEP COOL LEAF GREEN
	ALUMINUM WINDOW FRAMES	AS SPECIFIED	MATCH AEP COOL LEAF GREEN
O-2	LOUVERS	AS SPECIFIED	MATCH WILLAMETTE GRAYSTONE CASTLE WHITE
P	PAINTING		
P-1	DOORS AND FRAMES	SHERWIN WILLIAMS	SW 7060 ATTITUDEGRAY
P-2	WALLS	SHERWIN WILLIAMS	SW 7056 RESERVED WHITE
W	WALLS		
W-1	CMU ACCENT	WILLAMETTE GRAYSTONE	MALLARD
W-2	CMU FIELD AND WAINSCOT	WILLAMETTE GRAYSTONE	CASTLE WHITE
W-3	CERAMIC TILE	AS SPECIFIED	LIGHT SMOKE SPECKLED

REGISTERED ARCHITECT
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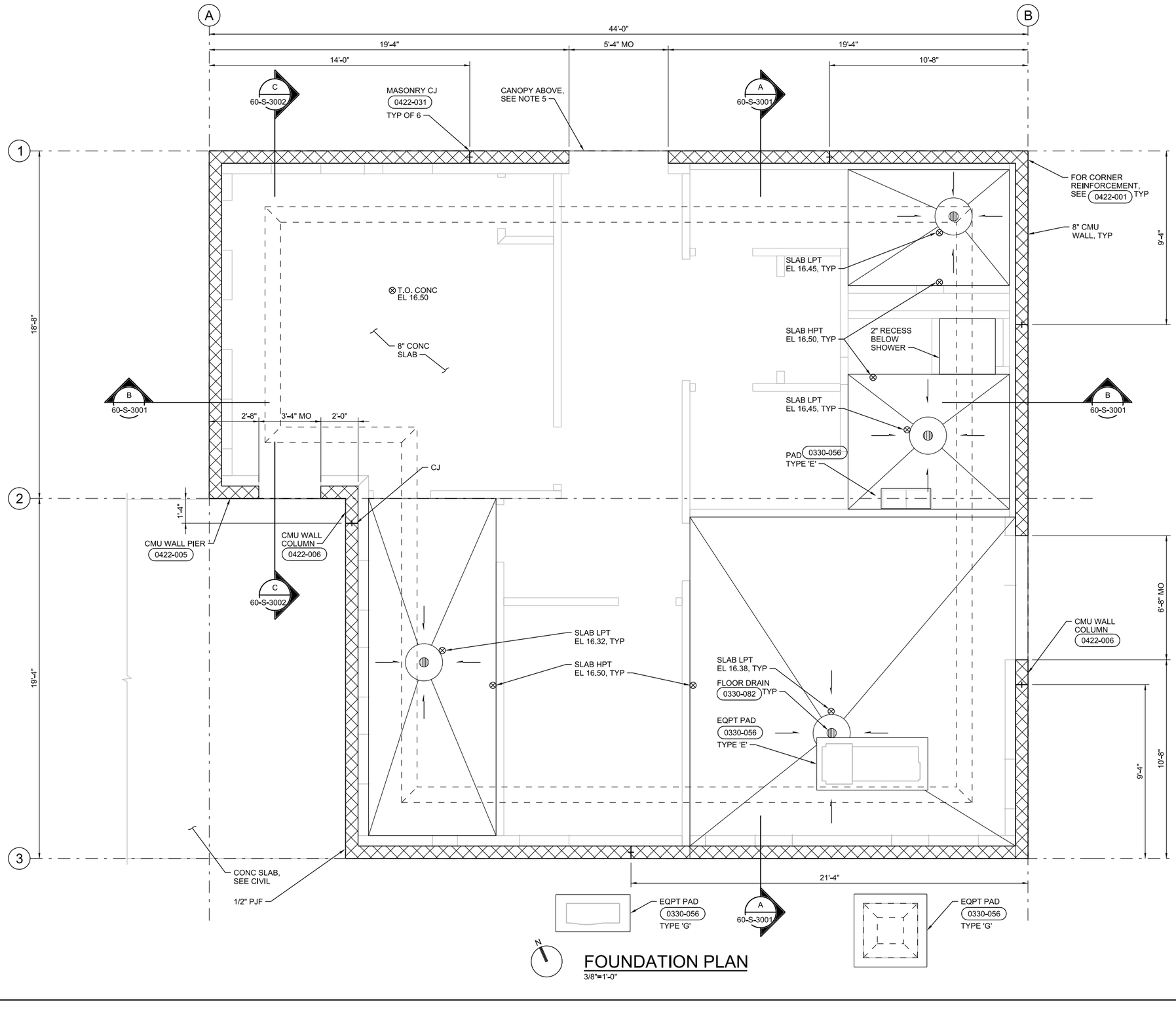
NO.	DATE	REVISION	BY

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CHK SJP
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CONTROL BUILDING
ARCHITECTURAL
SCHEDULES

SHEET 60-A-6002
SEQ 170
DATE 12/2014
PROJ. NO. 490515

60-A-6002_469556.dgn



FOUNDATION PLAN

3/8"=1'-0"

FACILITY NOTES:

1. FOR GENERAL STRUCTURAL NOTES, SEE DRAWINGS 01-G-0020 AND 01-G-0021.
2. FOR STATEMENT OF SPECIAL INSPECTION PLAN, SEE DRAWINGS 01-G-0022 THROUGH 01-G-0026.
3. SEISMIC DESIGN CRITERIA:
   MAIN LATERAL FORCE RESISTING SYSTEM:
   SPECIAL REINFORCED MASONRY SHEAR WALLS

   RESPONSE MODIFICATION COEFFICIENT
   R = 5

   OVER STRENGTH FACTOR
   Ω = 2

   BASE SHEAR
   V = 73k
4. FOR CMU WALL DETAILING, SEE 0422-001, 0422-003, 0422-004, 0422-005 AND 0422-041.
5. PROVIDE 48" DEEP LINTEL PER 0422-003 SIMILAR WITH ADDITIONAL #5@16" HORIZONTAL BARS. EXTEND BARS 4'-0" MINIMUM PAST OPENING.

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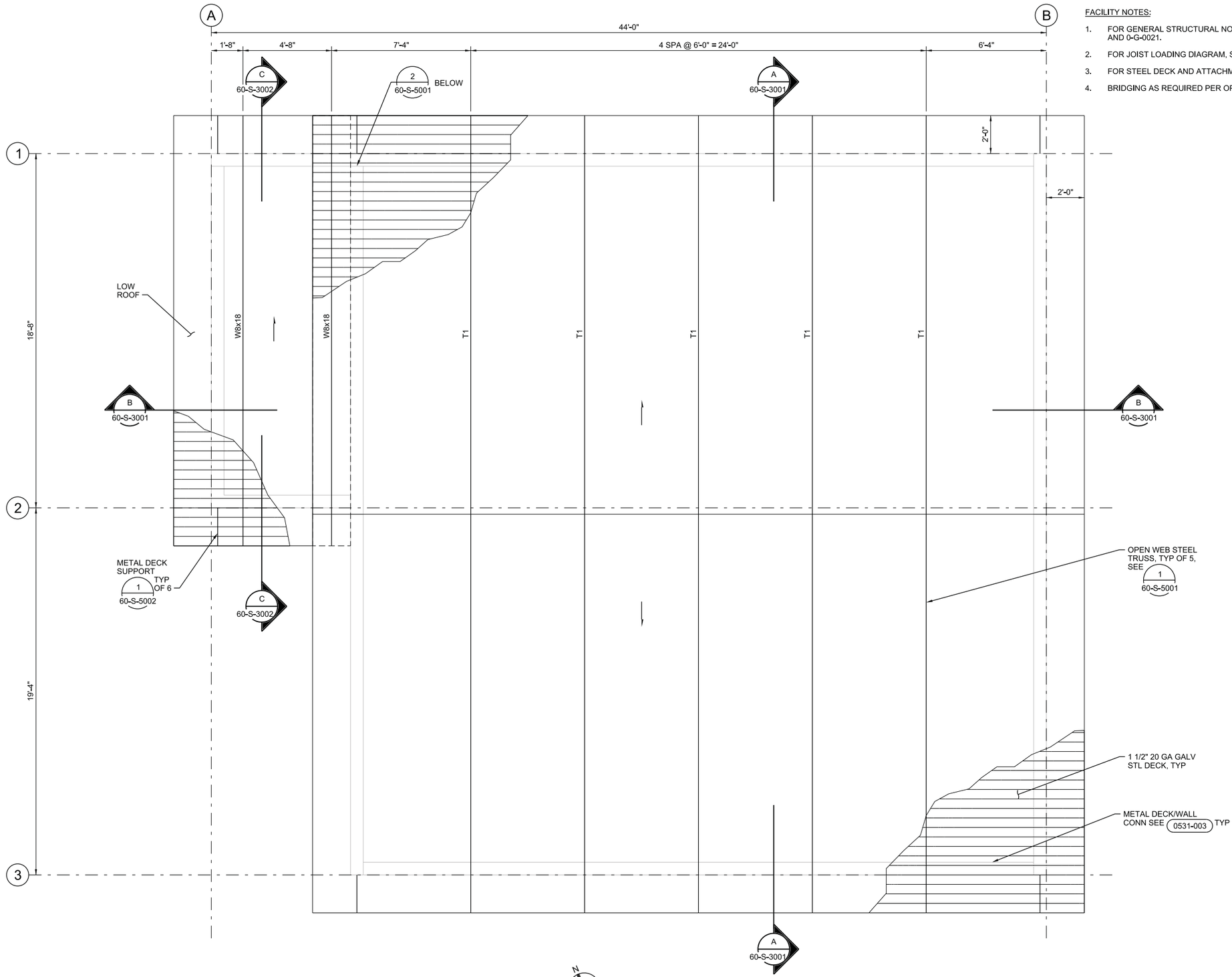
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DSGN CMK/SKR
DR HFJ
CHK ALF
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CONTROL BUILDING
STRUCTURAL
FOUNDATION PLAN

REGISTERED PROFESSIONAL ENGINEER
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JUNE 19, 2014
STERLING KEITH ROSE
EXP. 12-31-14

SHEET 60-S-2200
SEQ 171
DATE 12/2014
PROJ. NO. 490515



ROOF FRAMING PLAN

3/8"=1'-0"

FACILITY NOTES:

1. FOR GENERAL STRUCTURAL NOTES, SEE DRAWINGS 01-G-0020 AND 0-G-0021.
2. FOR JOIST LOADING DIAGRAM, SEE DETAIL 1/60-S-5001.
3. FOR STEEL DECK AND ATTACHMENT SCHEDULE, SEE 4/60-S-5001.
4. BRIDGING AS REQUIRED PER OPEN WEB JOIST MANUFACTURER.

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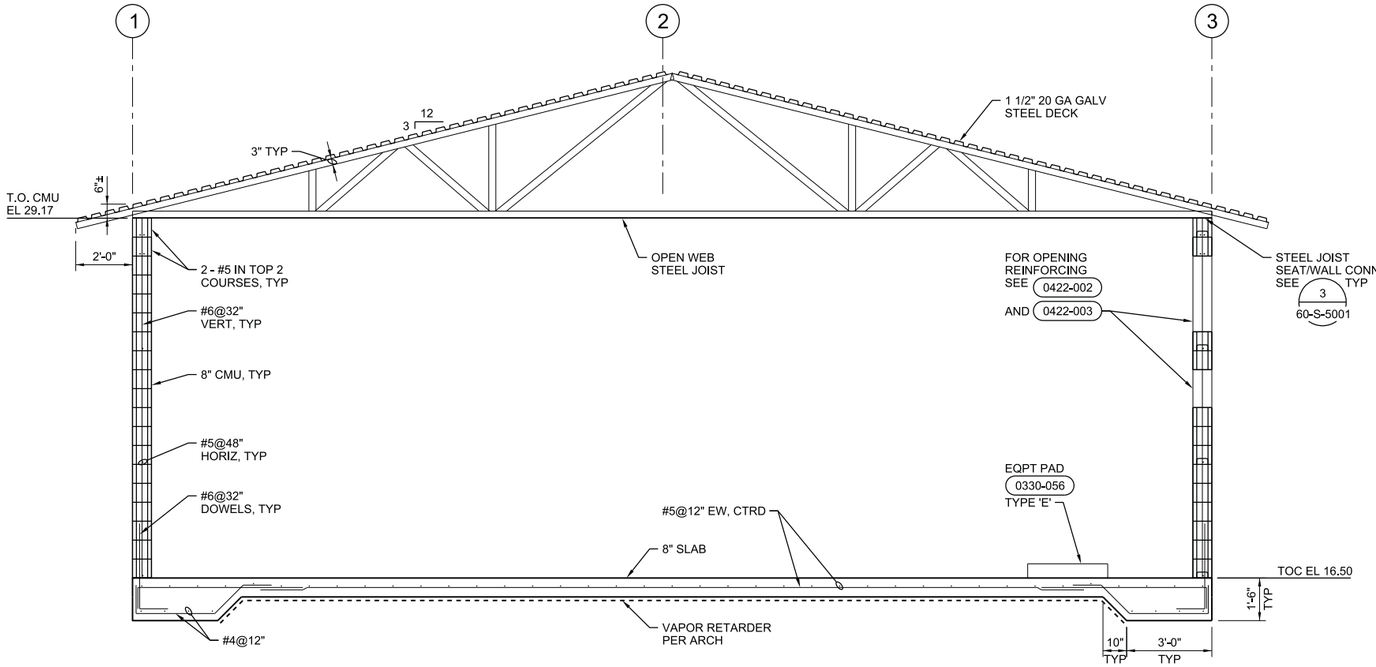
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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CONTROL BUILDING
STRUCTURAL
ROOF FRAMING PLAN

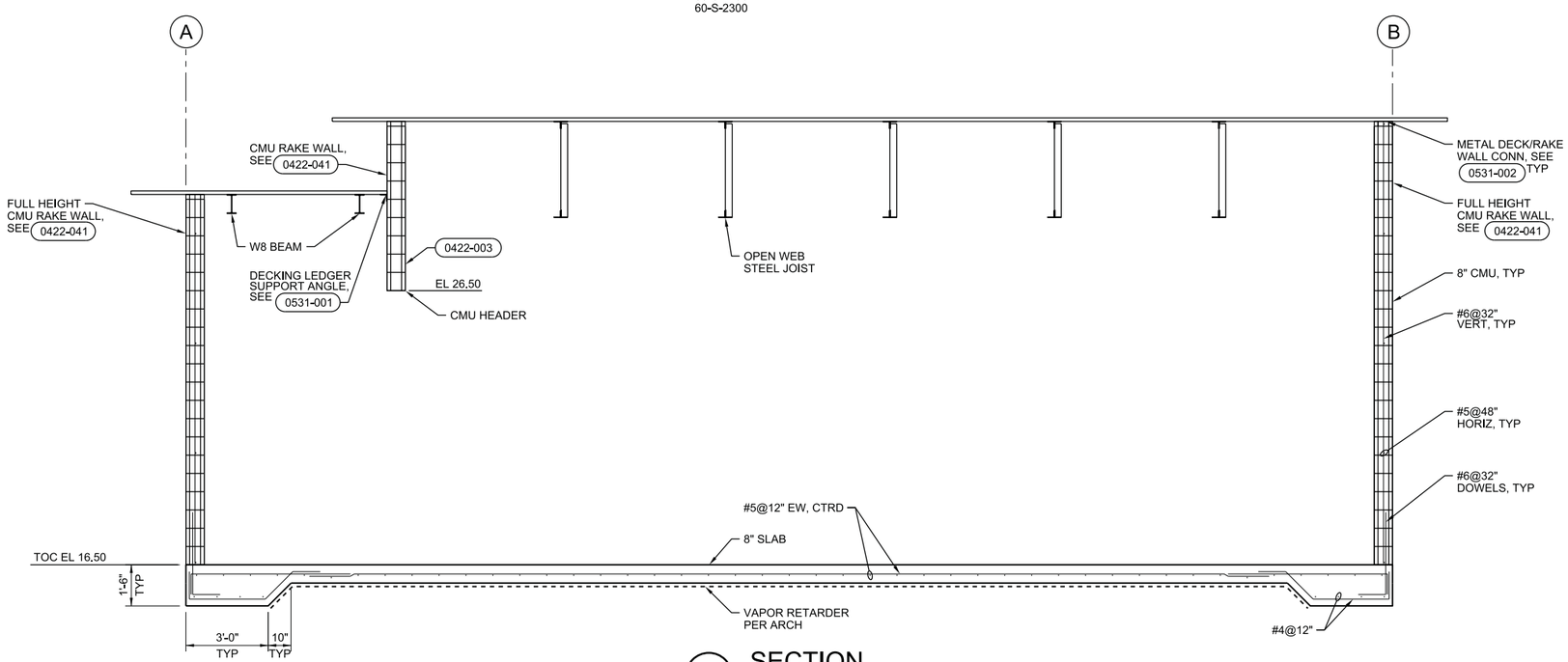
SHEET 60-S-2300
SEQ 172
DATE 12/2014
PROJ. NO. 490515

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OREGON
JUNE 19, 2013

EXP. 12-31-14



A SECTION
3/8" = 1'-0"
60-S-2200
60-S-2300



B SECTION
3/8" = 1'-0"
60-S-2200
60-S-2300

VERIFY SCALES
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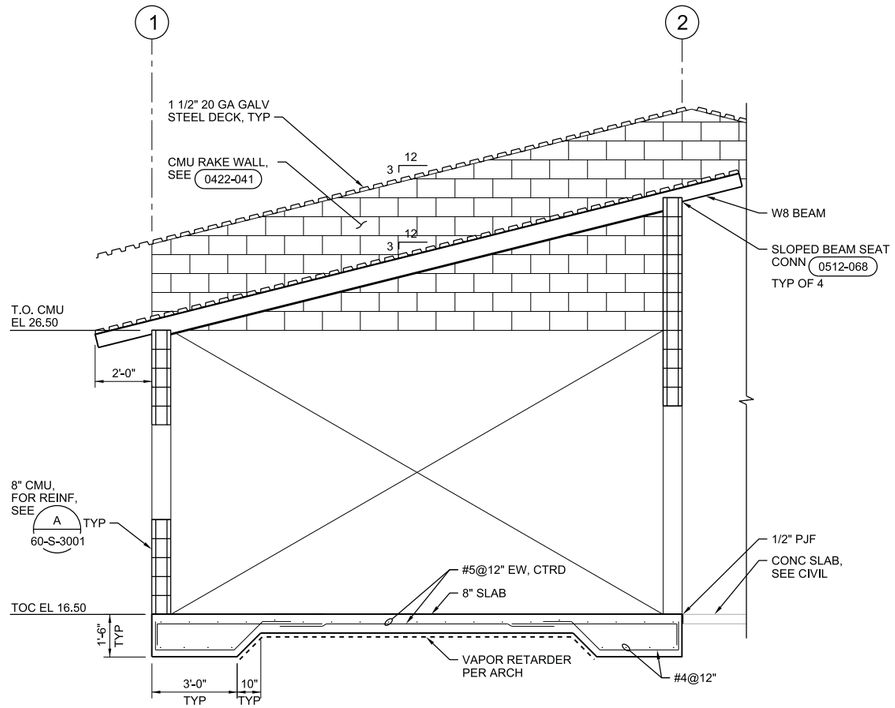
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DSGN	CMK/SKR
DR	HFJ
CHK	ALF
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CONTROL BUILDING
STRUCTURAL
SECTIONS

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STRUCTURAL
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JUNE 13, 2013
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EXP. 12-31-14

SHEET 60-S-3001
SEQ 173
DATE 12/2014
PROJ. NO. 490515



C SECTION

3/8"=1'-0"

60-S-2200
60-S-2300

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

CH2MHILL®

SAY
CONSULTING ENGINEERS & GEOLOGISTS, INC.

NO.	DATE	REVISION	BY

DSGN	CMK/SKR
DR	HFJ
CHK	ALF
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CONTROL BUILDING
STRUCTURAL
SECTION

STRUCTURAL REGISTERED PROFESSIONAL ENGINEER 81069PE Digital Signature OREGON JUNE 13, 2013 C. STERLING KEITH ROSE

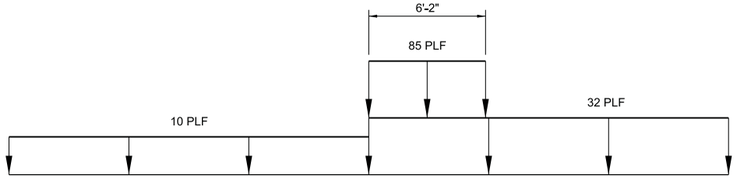
EXP. 12-31-14

SHEET 60-S-3002
SEQ 174
DATE 12/2014
PROJ. NO. 490515

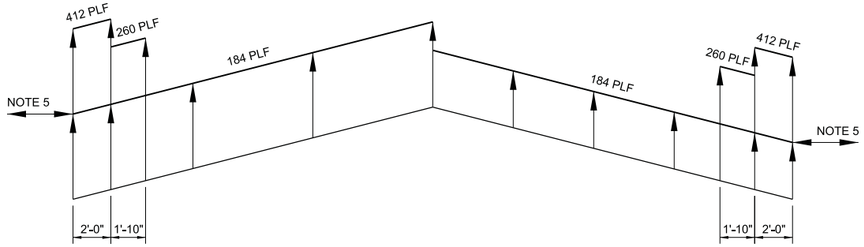
SNOW



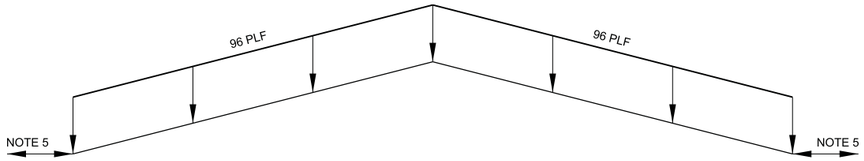
UNBALANCED SNOW

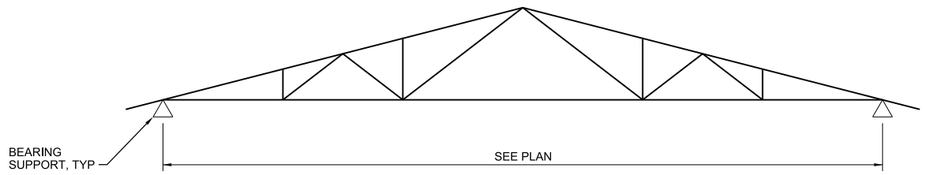


WIND NEGATIVE



WIND POSITIVE

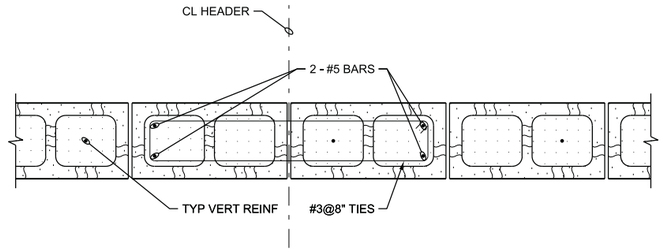




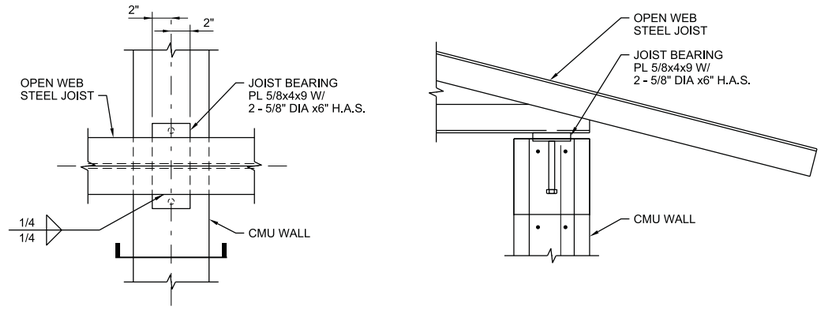
NOTES:

1. TOP CHORD SUPERIMPOSED DEAD LOAD = 86 PLF
2. TOP CHORD ROOF LIVE LOAD = 120 PLF
3. UNBALANCED SNOW LOAD CONDITION IS REVERSIBLE AND SHALL BE APPLIED MIRRORED ABOUT THE RIDGE LINE.
4. BOTTOM CHORD MECHANICAL LOAD = 50 PLF
5. TOP OF WALL REACTION = +/- 1050 LBS (ASD)
6. TOP OF WALL REACTION FOR SEISMIC = +/- 1500 LBS (ASD)
7. TRUSSES SHALL BE DESIGNED FOR A 1000 LB POINT LOAD (LIVE LOAD) APPLIED AT ANY POINT ALONG THE BOTTOM CHORD.
8. CONTRACTOR TO COORDINATE BRACING OF METAL STUD WALLS WITH TRUSS MANUFACTURER.

1 TRUSS - TYPE T1
NTS
60-S-2300



2 DETAIL
NTS
60-S-2300



PLAN SECTION

3 STEEL JOIST SEAT - EXTERIOR WALL
1 1/2"=1'-0"
60-S-3001

STEEL DECK & ATTACHMENT SCHEDULE

TYPE	DEPTH	PANEL WIDTH	DESIGN THICKNESS	MIN YIELD STRENGTH Fy (ksi)	MIN (+) S (in^3/ft)	MIN 1 (in^4/ft)	MIN DIAPHRAGM SHEAR CAPACITY (lbs/ft)	FINISH	AT PERPENDICULAR SUPPORTS		AT PARALLEL SUPPORTS		AT SIDELAPS	
									TYPE	NO PER SHEET	TYPE	SPACING	TYPE	SPACING
ROOF DECK	1.5"	36"	20 GA	33	0.235	0.248	250	GALV, G-90	5/8" PUDDLE WELD	4	5/8" PUDDLE WELD	12"	VSC	18"

DECK SCHEDULE NOTE:

MANUFACTURER'S STANDARD SIDELAP CONNECTION OR OTHER SIDELAP CONNECTIONS ARE ALLOWED PER APPROVAL OF STRUCTURAL ENGINEER.

4 STEEL DECK & ATTACHMENT SCHEDULE
NTS
60-S-2300

STRUCTURAL REGISTERED PROFESSIONAL ENGINEER STATE OF OREGON Digital Signature LANE G. 2013 C. STERLING KEITH ROSE
EXP. 12-31-14

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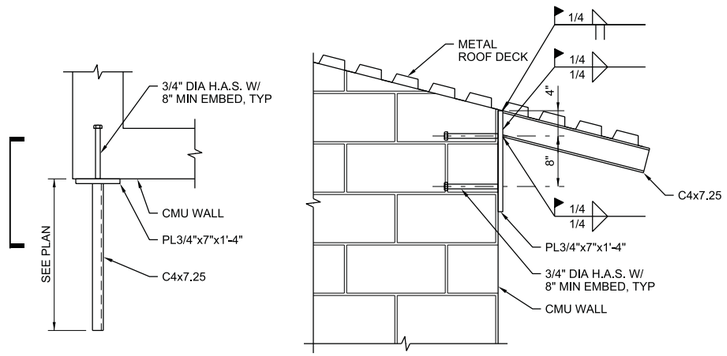
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SAY CONSULTING ENGINEERS & GEOLOGISTS, INC.

NO.	DATE	REVISION	BY

DSGN CMK/SKR
DR HFJ
CHK ALF
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CONTROL BUILDING
STRUCTURAL
DETAILS

SHEET 60-S-5001
SEQ 175
DATE 12/2014
PROJ. NO. 490515



PLAN ELEVATION

1 METAL DECK SUPPORT
1"=1'-0"
60-S-2300

STRUCTURAL
REGISTERED PROFESSIONAL
ENGINEER
61069PE
Digital Signature
OREGON
JUNE 30, 2013
C. STERLING KEITH ROSE
EXP. 12-31-14

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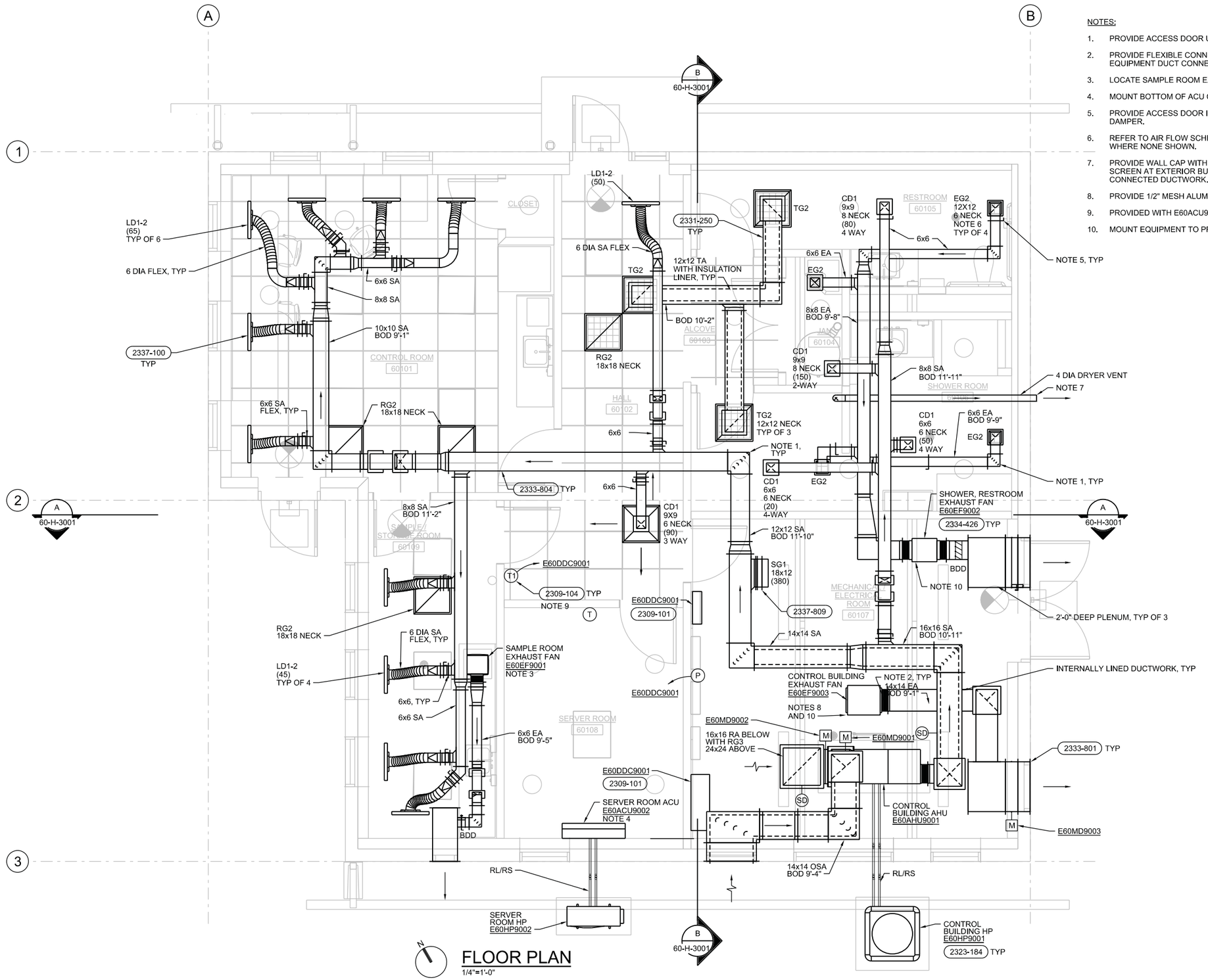
DSGN CMK/SKR
DR HFJ
CHK ALF
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CONTROL BUILDING
STRUCTURAL
DETAILS

SHEET 60-S-5002
SEQ 176
DATE 12/2014
PROJ. NO. 490515

NOTES:

1. PROVIDE ACCESS DOOR UPSTREAM OF TURNING VANES.
2. PROVIDE FLEXIBLE CONNECTION AT AIR HANDLING EQUIPMENT DUCT CONNECTIONS.
3. LOCATE SAMPLE ROOM EXHAUST FAN ABOVE OVEN.
4. MOUNT BOTTOM OF ACU CABINET A MINIMUM OF 8'-0" AFF.
5. PROVIDE ACCESS DOOR IN HARD CEILING NEAR BALANCING DAMPER.
6. REFER TO AIR FLOW SCHEMATIC FOR BRANCH AIR FLOW WHERE NONE SHOWN.
7. PROVIDE WALL CAP WITH BACKDRAFT DAMPER AND 1/2" MESH SCREEN AT EXTERIOR BUILDING WALL. MATERIAL TO MATCH CONNECTED DUCTWORK.
8. PROVIDE 1/2" MESH ALUMINUM SCREEN AT FAN INLET.
9. PROVIDED WITH E60ACU9002/E60HP9002.
10. MOUNT EQUIPMENT TO PROVIDE A MINIMUM CLEARANCE OF 8'-0" AFF.



FLOOR PLAN

1/4"=1'-0"

VERIFY SCALES
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0 1"
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NO.	DATE	REVISION	BY

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DR	RKC	APVD	CWM

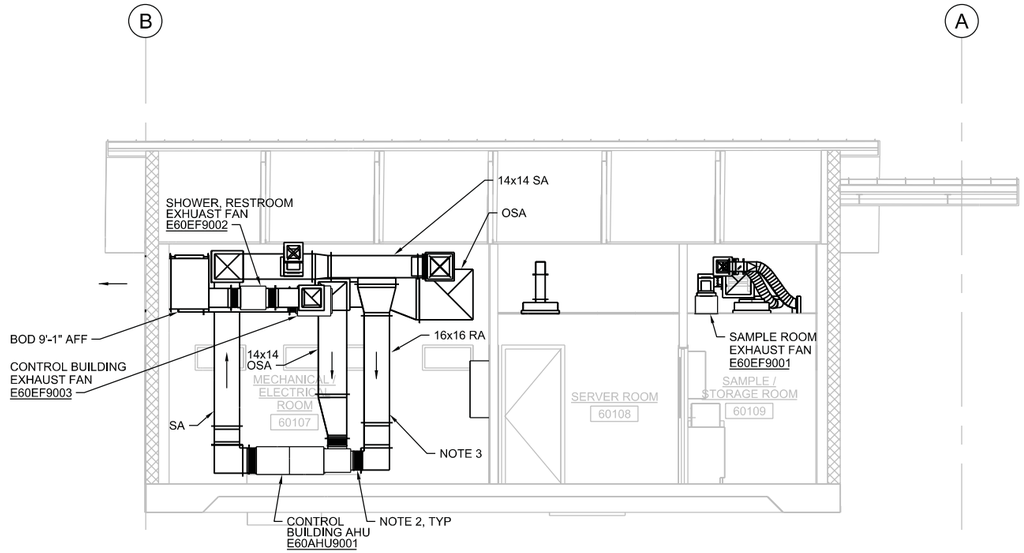
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CONTROL BUILDING
HVAC
FLOOR PLAN

REGISTERED PROFESSIONAL ENGINEER 18279 Digital Signature OREGON JANUARY 16, 1981 CARL J. SHANK
EXP. 06-30-2016

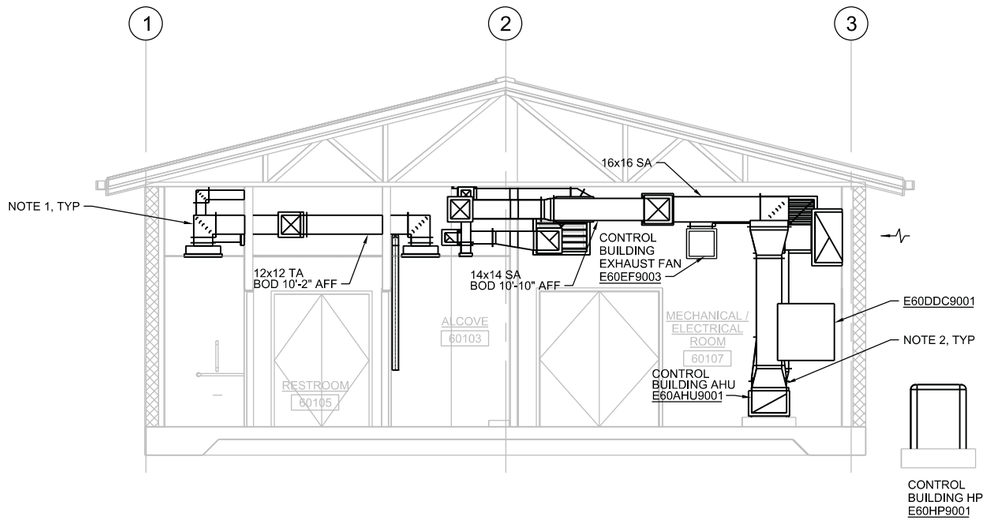
SHEET 60-H-2000
SEQ 177
DATE 12/2014
PROJ. NO. 490515

NOTES:

1. PROVIDE ACCESS DOOR UPSTREAM OF TURNING VANES.
2. PROVIDE FLEXIBLE CONNECTION AT AIR HANDLING EQUIPMENT DUCT CONNECTIONS.
3. EXTEND RA DUCT TO WITHIN 2'-0" BELOW BOTTOM OF ROOF STEEL.



A SECTION
1/4"=1'-0"
60-H-2000



B SECTION
1/4"=1'-0"
60-H-2000

REGISTERED PROFESSIONAL ENGINEER 18279 Digital Signature OREGON JANUARY 6, 1995 CARL J. SHAHN
EXP. 06-30-2016

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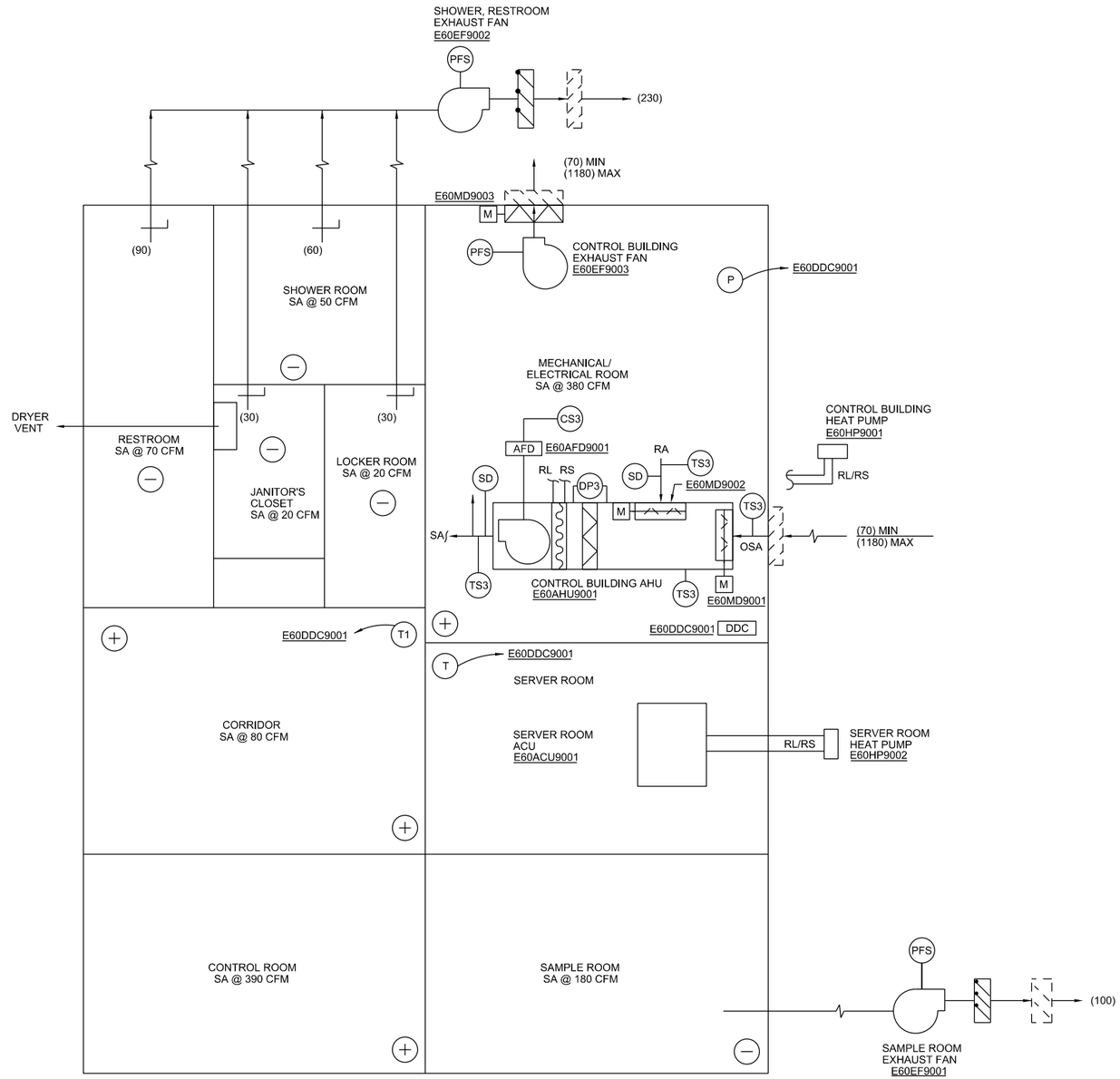
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DSGN CJS
DR RKC
CHK NRF
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CONTROL BUILDING
HVAC
SECTIONS

SHEET 60-H-3001
SEQ 178
DATE 12/2014
PROJ. NO. 490515



AIR FLOW AND CONTROL SCHEMATIC

NTS

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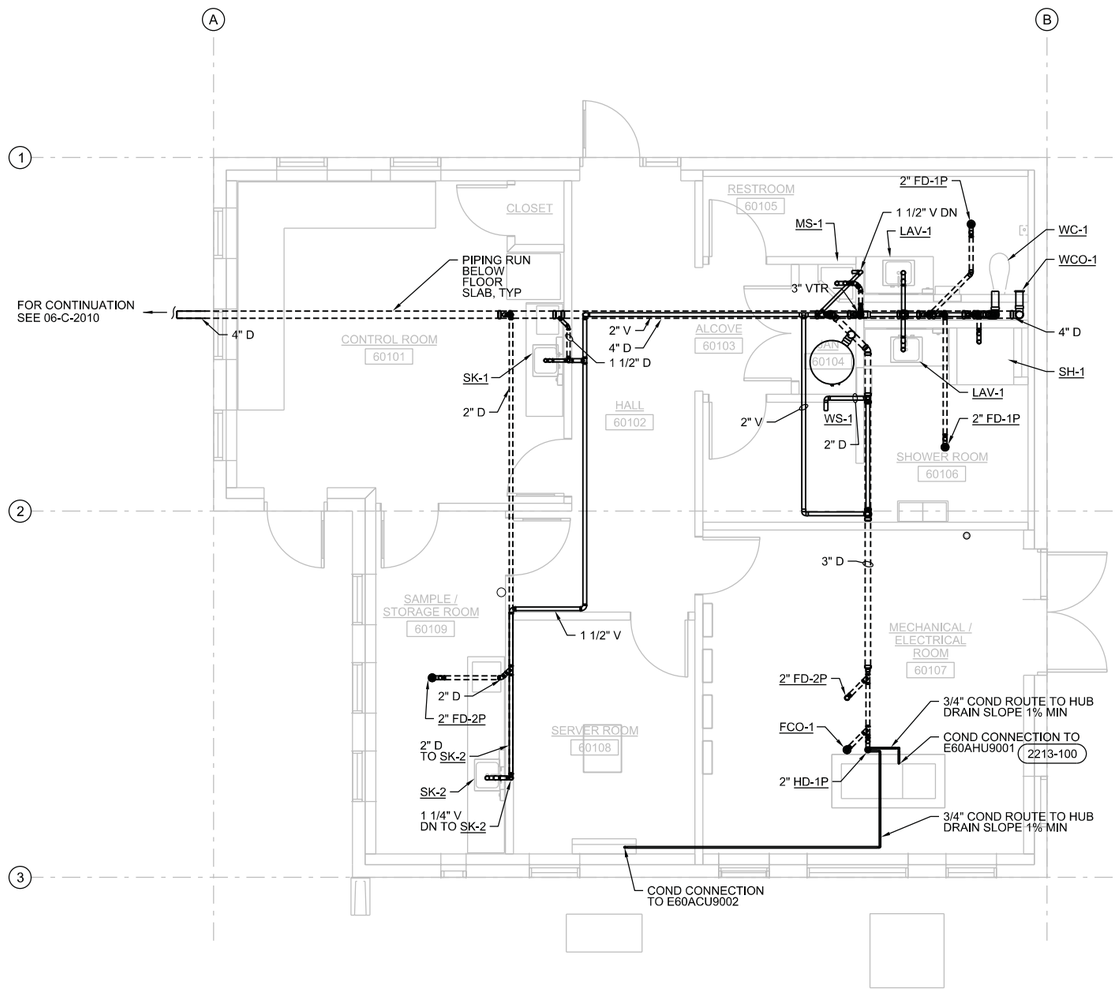
DSGN CJS
DR JLB
CHK NRF
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CONTROL BUILDING
HVAC
AIR FLOW AND CONTROL SCHEMATIC

SHEET 60-H-6001
SEQ 179
DATE 12/2014
PROJ. NO. 490515

REGISTERED PROFESSIONAL ENGINEER
18279
Digital Signature
OREGON
JANUARY 16, 1981
CARL J. SHANK
EXP. 06-30-2016

SAVED: 7/1/2013 9:56 AM PHAMLIN, PLOTTED: ---- HAMLIN, PRISCILLA/CVO
C:\pw_workdir\ch2mhill_wbg\phamlin\d0256967\Border_469556.dwg



WASTE AND VENT PLAN

1/4"=1'-0"

N

REGISTERED PROFESSIONAL ENGINEER
80759PE
Digital Signature
OREGON
JANUARY 10, 2014
ADAM T. BOYD
EXP. 12-31-15

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APVD CWM

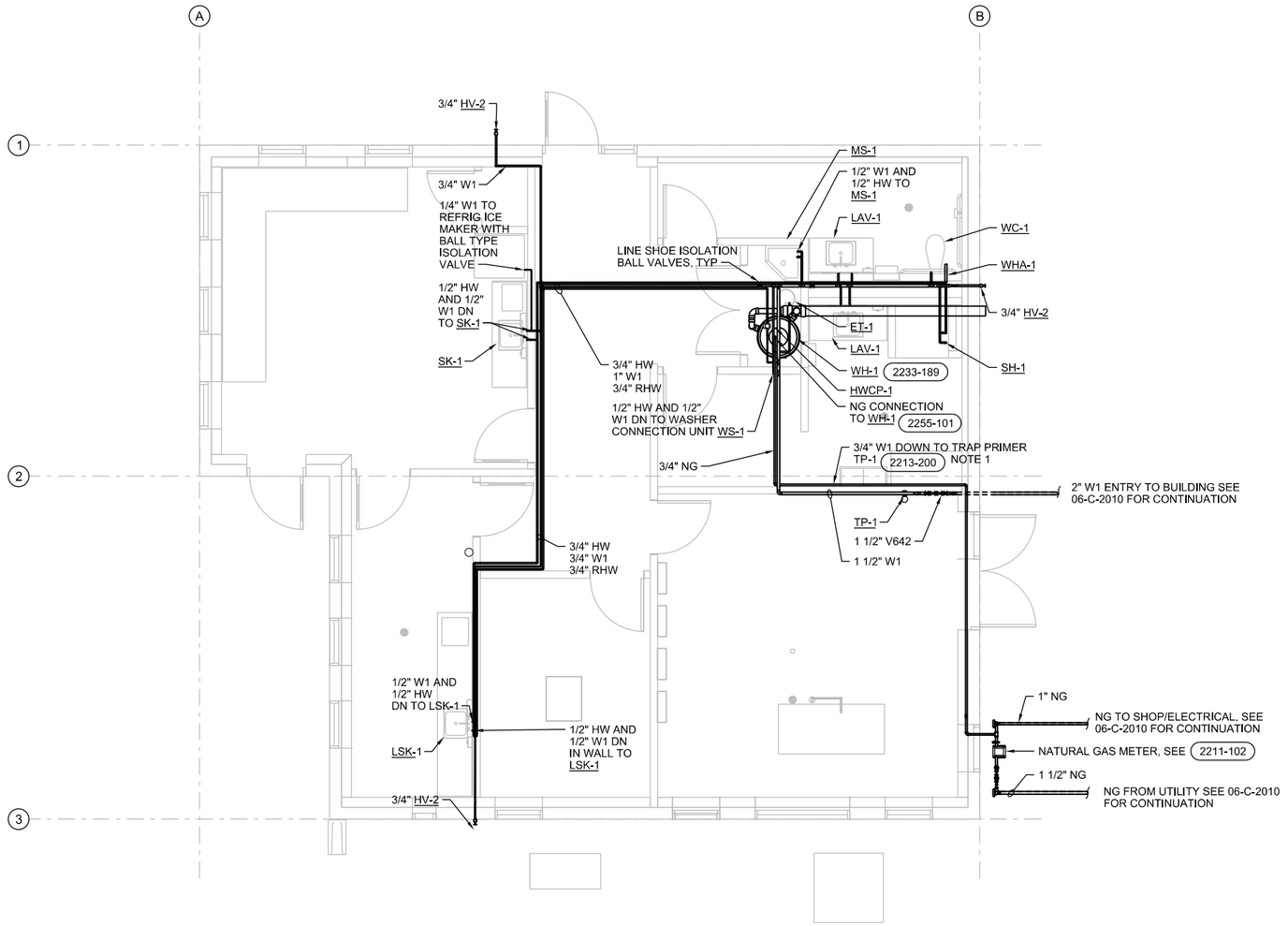
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CONTROL BUILDING
PLUMBING

DRAIN, WASTE, AND VENT PLAN

SHEET 60-P-2000
SEQ 180
DATE 12/2014
PROJ. NO. 490515

NOTES:

1. FIELD ROUTE TRAP PRIMING LINES TO ALL PRIMED TRAPS. PROVIDE ADDITIONAL TRAP PRIMERS AS REQUIRED.



PIPING PLAN

1/4"=1'-0"

N

REGISTERED PROFESSIONAL ENGINEER
80759PE
Digital Signature
OREGON
JANUARY 10, 2014
ADAM T. BOYD
EXP. 12-31-15

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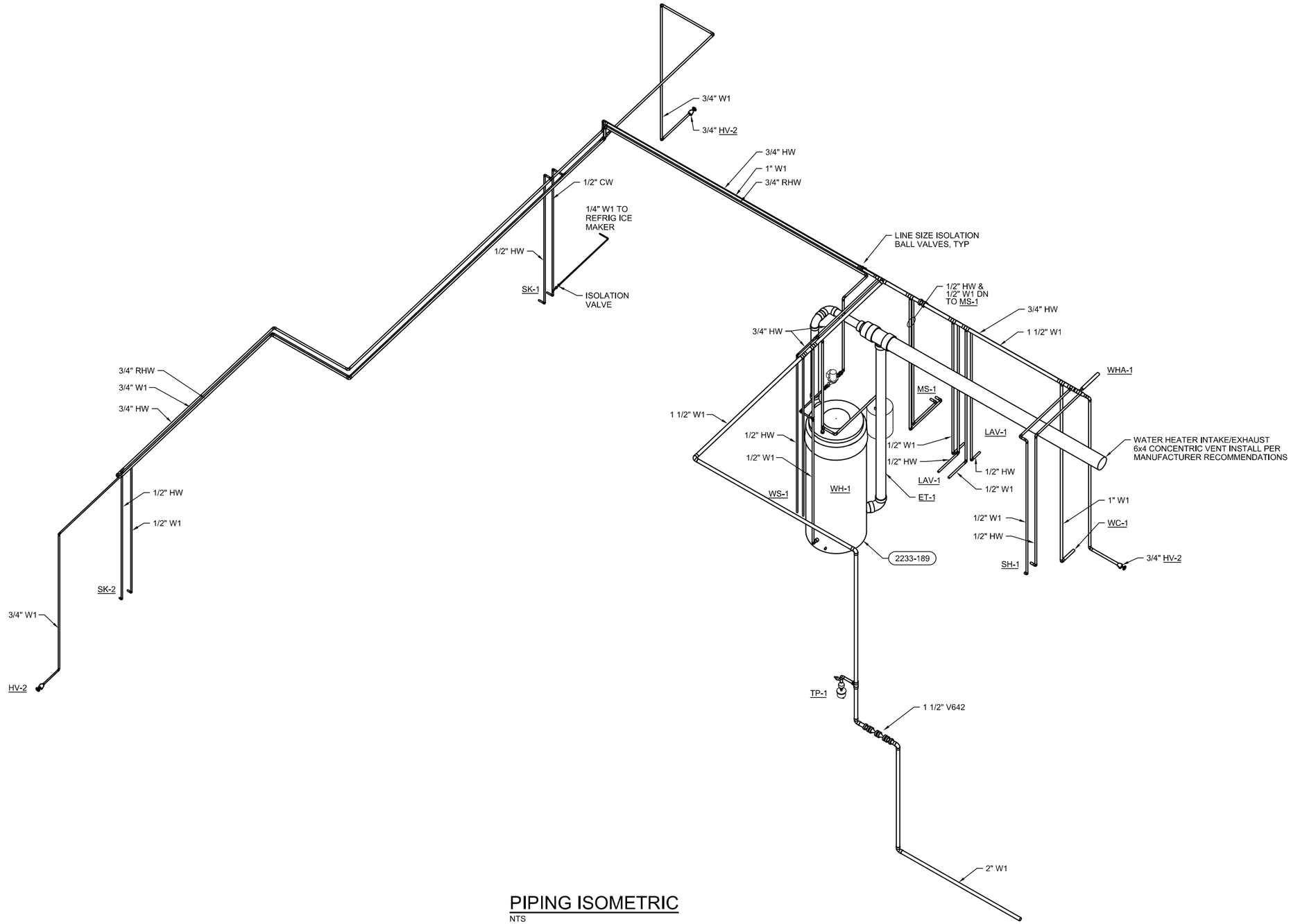
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DR	JLB
CHK	NRF
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CONTROL BUILDING
PLUMBING
PIPING PLAN

SHEET 60-P-2001
SEQ 181
DATE 12/2014
PROJ. NO. 490515



PIPING ISOMETRIC

NTS

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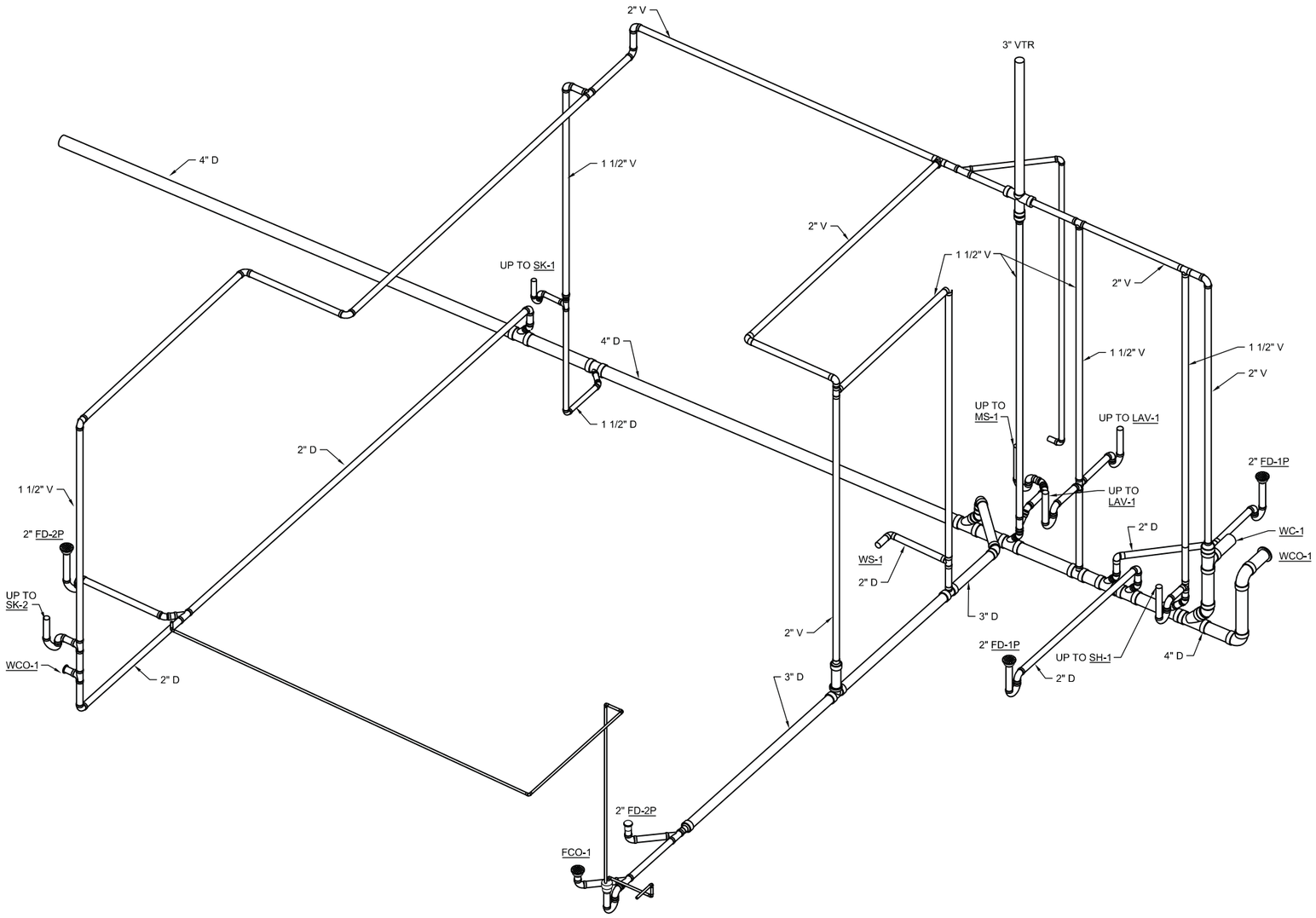
DSGN	ATB	DR	SLH	CHK	NRF	APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CONTROL BUILDING
PLUMBING
PIPING ISOMETRIC

REGISTERED PROFESSIONAL ENGINEER
80759PE
Digital Signature
OREGON
JANUARY 10, 2014
ADAM T. BOYD
EXP. 12-31-15

SHEET 60-P-5001
SEQ 182
DATE 12/2014
PROJ. NO. 490515

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DRAIN, WASTE AND VENT ISOMETRIC

NTS

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DR SLH
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APVD CWM

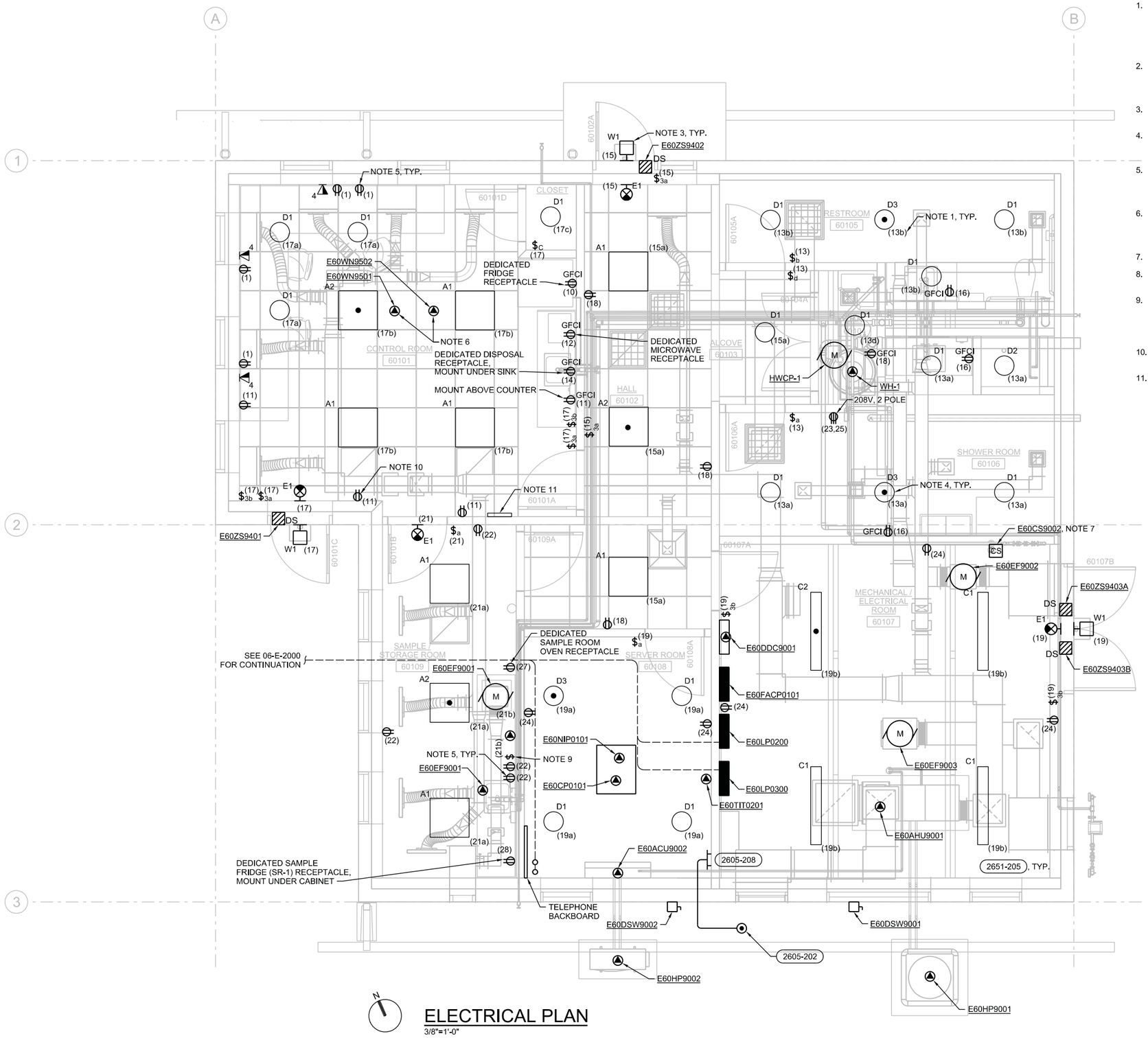
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CONTROL BUILDING
PLUMBING

DRAIN, WASTE, AND VENT PIPING ISOMETRIC

SHEET 60-P-5002
SEQ 183
DATE 12/2014
PROJ. NO. 490515

REGISTERED PROFESSIONAL ENGINEER
80759PE
Digital Signature
OREGON
JANUARY 10, 2013
ADAM T. BOYD
EXP. 12-31-15

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NOTES:

1. NUMBERS SHOWN IN PARENTHESES, (N), ADJACENT TO LIGHTS AND RECEPTACLES DENOTE CIRCUIT NUMBERS IN FACILITY PANELBOARDS. REFER TO PANELBOARD SCHEDULES FOR CORRECT PANEL. PROVIDE #12 CONDUCTORS FOR 20A OR 15A CIRCUITS LESS THAN 75 FEET. PROVIDE #10 CONDUCTORS FOR CIRCUITS GREATER THAN 75 FEET.
2. COMBINE RECEPTACLE AND LIGHTING CIRCUITS IN A CONDUIT TO MINIMIZE THE AMOUNT OF CONDUIT. CIRCUITS COMBINED INTO A SINGLE CONDUIT SHALL BE SIZED FOR NEC DERATING AND CONDUIT FILL REQUIREMENTS.
3. ROUTE EXTERIOR LUMINAIRES VIA EXTERIOR LIGHTING CONTROL SWITCH AND PHOTO CELL.
4. CONNECT EMERGENCY BALLASTS WITH UNSWITCHED CONDUCTORS. NORMAL BALLASTS, EVEN FOR EMERGENCY FIXTURES, SHALL BE CONTROLLED WITH ROOM SWITCH.
5. MOUNT BOTTOM OF RECEPTACLES A MINIMUM OF 4" ABOVE CONTROL AND SAMPLE ROOM DESKS. POWER CIRCUITS FROM UPS PANELBOARD E60LP0300. COLOR OF RECEPTACLE SHALL INDICATE EMERGENCY POWER.
6. LOCATION OF WIRELESS NETWORK IS APPROXIMATE. FINAL LOCATION OF TRANSMITTERS SHALL BE BASED ON THE NETWORK COMMUNICATION SYSTEMS SURVEY IN SPECIFICATION SECTION 40 95 80.
7. FOR CONTROL SCHEMATIC, REFERENCE DRAWING 90-E-6010.
8. FOR EXTERIOR BUILDING MOUNTED LUMINAIRE MOUNTING HEIGHTS, REFERENCE ARCHITECTURAL DRAWING 60-A-3000.
9. PROVIDE INTERMATIC FF COMMERCIAL SERIES TIMER RATED FOR 60 MINUTES. PROVIDE AN NK TECHNOLOGIES AT SERIES CURRENT TRANSDUCER IN A RECESSED BOX WITH COVER WHICH SHALL READ A CURRENT SENT TO THE EXHAUST FAN AND SEND A RUN SIGNAL TO E60DDC9001.
10. PROVIDE RECESSED BOX 2 FEET BELOW CEILING FOR POWERING THE CLOCK. WIRE TO CIRCUIT 11.
11. MOUNT FIRE ALARM POSTED INSTRUCTIONS (POI) HERE.

ELECTRICAL PLAN

3/8"=1'-0"

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
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NO.	DATE	REVISION	BY

DSGN JAC
DR JG
CHK RSH
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CONTROL BUILDING
ELECTRICAL
FLOOR PLAN

REGISTERED PROFESSIONAL ENGINEER
85946PE
Digital Signature
OREGON
JAN 10, 2013
JASON A. CLIFFORD
EXP. 12-31-15

SHEET 60-EF-2001
SEQ 184
DATE 12/2014
PROJ. NO. 490515

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ELECTRICAL PANELBOARD SCHEDULE

PANEL: E60LP0200
VOLTAGE: 208/120 VAC, 3 PHASE, 4 WIRE
BUS SIZE: 150A
MAIN SIZE: 150A
SCCR: 10KA

LOCATION: CONTROL BUILDING ELECTRICAL ROOM
MOUNTING: SURFACE
FED FROM: E80LP0200
MAIN TYPE: CIRCUIT BREAKER
NOTES:

CIRCUIT TITLE	BREAKER			LOAD, VA			LOAD, VA			BREAKER			CIRCUIT TITLE
	CKT NO.	AMP	POLE	PHASE A	PHASE B	PHASE C	PHASE A	PHASE B	PHASE C	POLE	AMP	CKT NO.	
E60HP9001	1	30	2	2288			4203			3	50	2	E60AHU9001
-	3	-	-		2288			4203		-	-	4	-
E60HP9002/E60ACU9002	5	20	2			1456			4203	-	-	6	-
-	7	-	-	1456						1	20	8	SPARE
E60DDC9001	9	20	1		300			1800		1	20	10	REFRIDGERATOR (R-1) RECEPT.
CONTOL ROOM RECEPTS	11	20	1			540			1000	1	20	12	MICROWAVE (MO-1) RECEPT.
SHOWER/RESTRM LTG. (E60EF9002)	13	20	1	650			500			1	20	14	DISPOSAL D-1 RECEPT.
HALLWAY/ALCOVE LIGHTING	15	20	1		150			900		1	20	16	LOCKER RM/RESTROOM RECEPTS
CONTROL ROOM LIGHTING	17	20	1			680			720	1	20	18	HALLWAY/CLOSET RECEPTS
MECHANICAL/SERVER ROOM LIGHTING	19	20	1	520			900			1	20	20	CONTROL ROOM RECEPTS
SAMPLE ROOM LIGHTING (E60EF9001)	21	20	1		200			720		1	20	22	SAMPLE ROOM RECEPTS
WASHER AND DRYER RECPT.	23	30	2			3120			900	1	20	24	MECHANICAL/SERVER ROOM RECEPTS
-	25	-	-	3120			500			1	20	26	AUTO SLIDE GATE
SAMPLE ROOM OVEN RECPT.	27	20	1		1900			1800		1	20	28	SAMPLE FRIDGE (SR-1) RECEPT.
AUTO SWING GATE 1A AND 1B	29	20	1			1000			500	1	20	30	E60EF9003
WH-1, HWCP-1	31	20	1	100						1	20	32	SPARE
SPARE	33											34	SPACE
SPACE	35											36	SPACE
SPACE	37											38	SPACE
SPACE	39											40	SPACE
SPACE	41											42	SPACE
TOTAL LOAD				8134	4838	6796	6103	9423	7323				

PHASE A LOAD (VA) =	14237
PHASE B LOAD (VA) =	14261
PHASE C LOAD (VA) =	14119
TOTAL LOAD (VA)=	42617

ELECTRICAL PANELBOARD SCHEDULE

PANEL: E60LP0300
VOLTAGE: 208/120 VAC, 3 PHASE, 4 WIRE
BUS SIZE: 100A
MAIN SIZE: 60A
SCCR: 10KA

LOCATION: CONTROL BUILDING ELECTRICAL ROOM
MOUNTING: SURFACE
FED FROM: E80LP0300
MAIN TYPE: CIRCUIT BREAKER
NOTES: PANELBOARD IS POWERED FROM FACILITY UPS

CIRCUIT TITLE	BREAKER			LOAD, VA			LOAD, VA			BREAKER			CIRCUIT TITLE
	CKT NO.	AMP	POLE	PHASE A	PHASE B	PHASE C	PHASE A	PHASE B	PHASE C	POLE	AMP	CKT NO.	
CONTROL RM. WORKSTATION RECEPTS.	1	15	1	720						1	20	2	SPARE
E60FACP0101	3	15	1		100					1	15	4	SPARE
E60NIP0101	5	15	1			500				1	15	6	SPARE
E60WN9501/E60WN9502	7	15	1	200						1	15	8	SPARE
SPARE	9	15	1							1	15	10	SPARE
SPARE	11	15	1							1	15	12	SPARE
SPARE	13	15	1							1	15	14	SPARE
SPARE	15	15	1							1	15	16	SPARE
SPARE	17	15	1							1	15	18	SPARE
TOTAL LOAD				920	100	500	0	0	0				

PHASE A LOAD (VA) =	920
PHASE B LOAD (VA) =	100
PHASE C LOAD (VA) =	500
TOTAL LOAD (VA)=	1520

NOTES:

1. ROUTE CIRCUIT FOR EXHAUST FAN THROUGH E60CS9002, REFERENCE DRAWING 90-E-6010.

REGISTERED PROFESSIONAL ENGINEER
85946PE
Digital Signature
OREGON
JAN. 10, 2012
JASON A. CLIFFORD
EXP. 12-31-15

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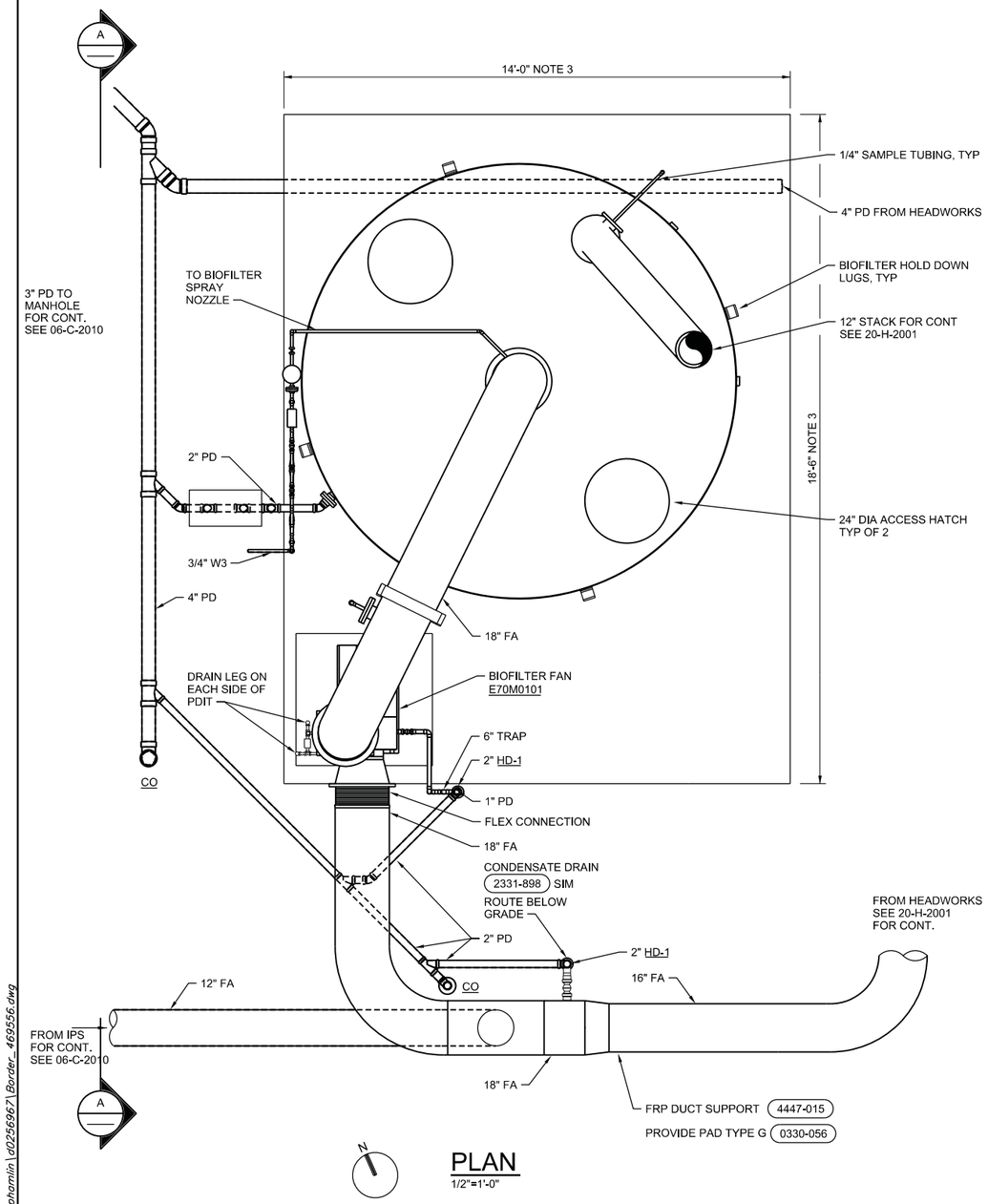
DSGN	JAC
DR	JG
CHK	RSH
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
CONTROL BUILDING
ELECTRICAL

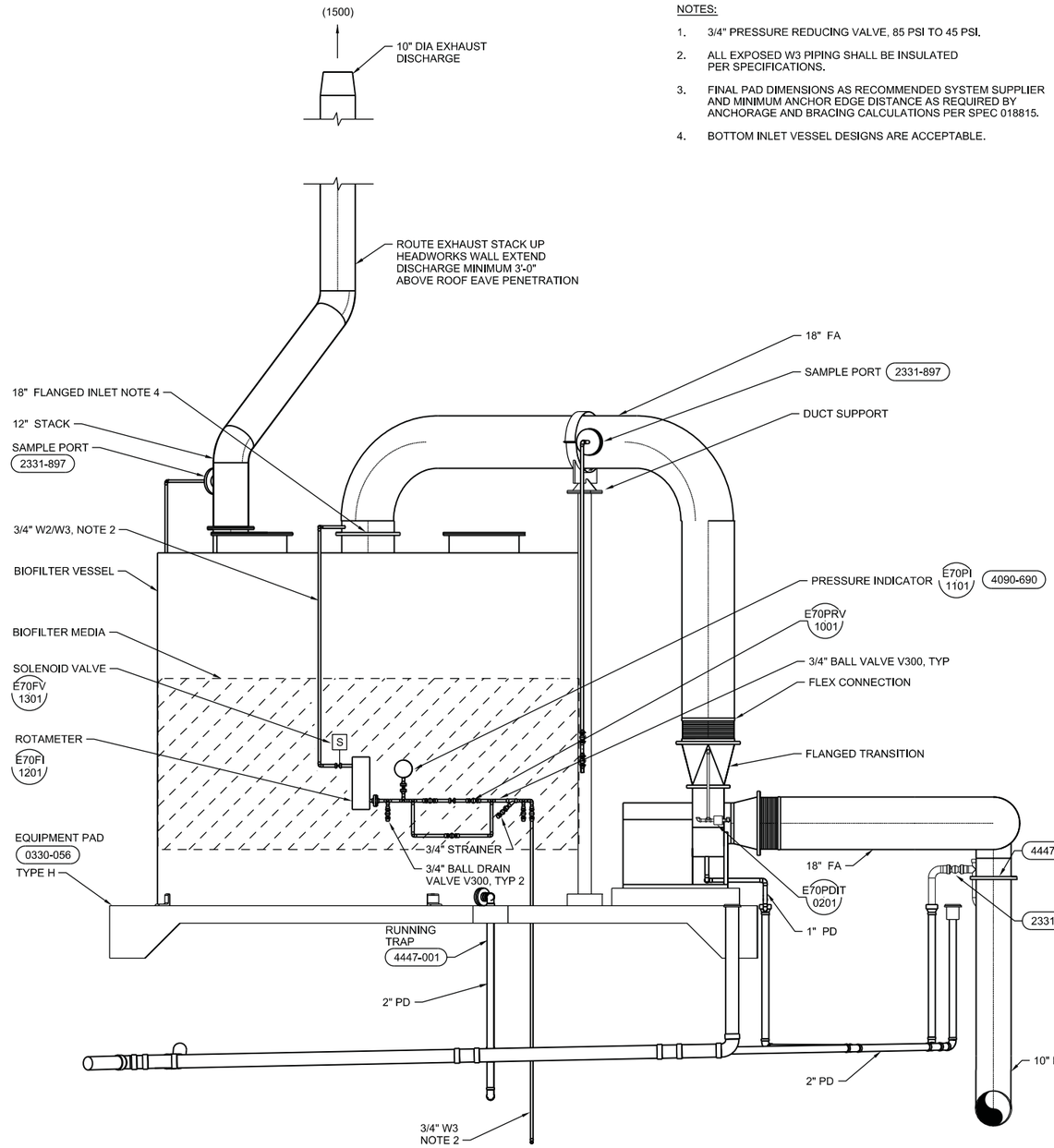
PANELBOARD SCHEDULES

SHEET 60-E-6001
SEQ 185
DATE 12/2014
PROJ. NO. 490515

60-E-6001_469556.dgn



PLAN
1/2"=1'-0"



SECTION
A 1/2"=1'-0"

NOTES:

1. 3/4" PRESSURE REDUCING VALVE, 85 PSI TO 45 PSI.
2. ALL EXPOSED W3 PIPING SHALL BE INSULATED PER SPECIFICATIONS.
3. FINAL PAD DIMENSIONS AS RECOMMENDED SYSTEM SUPPLIER AND MINIMUM ANCHOR EDGE DISTANCE AS REQUIRED BY ANCHORAGE AND BRACING CALCULATIONS PER SPEC 018815.
4. BOTTOM INLET VESSEL DESIGNS ARE ACCEPTABLE.

REGISTERED PROFESSIONAL ENGINEER
80759PE
Digital Signature
OREGON
JANUARY 10, 2013
ADAM T. BOYD
EXP. 12-31-15

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NO.	DATE	REVISION	BY

DSGN ATB | DR SLH | CHK NRF | APVD CWM

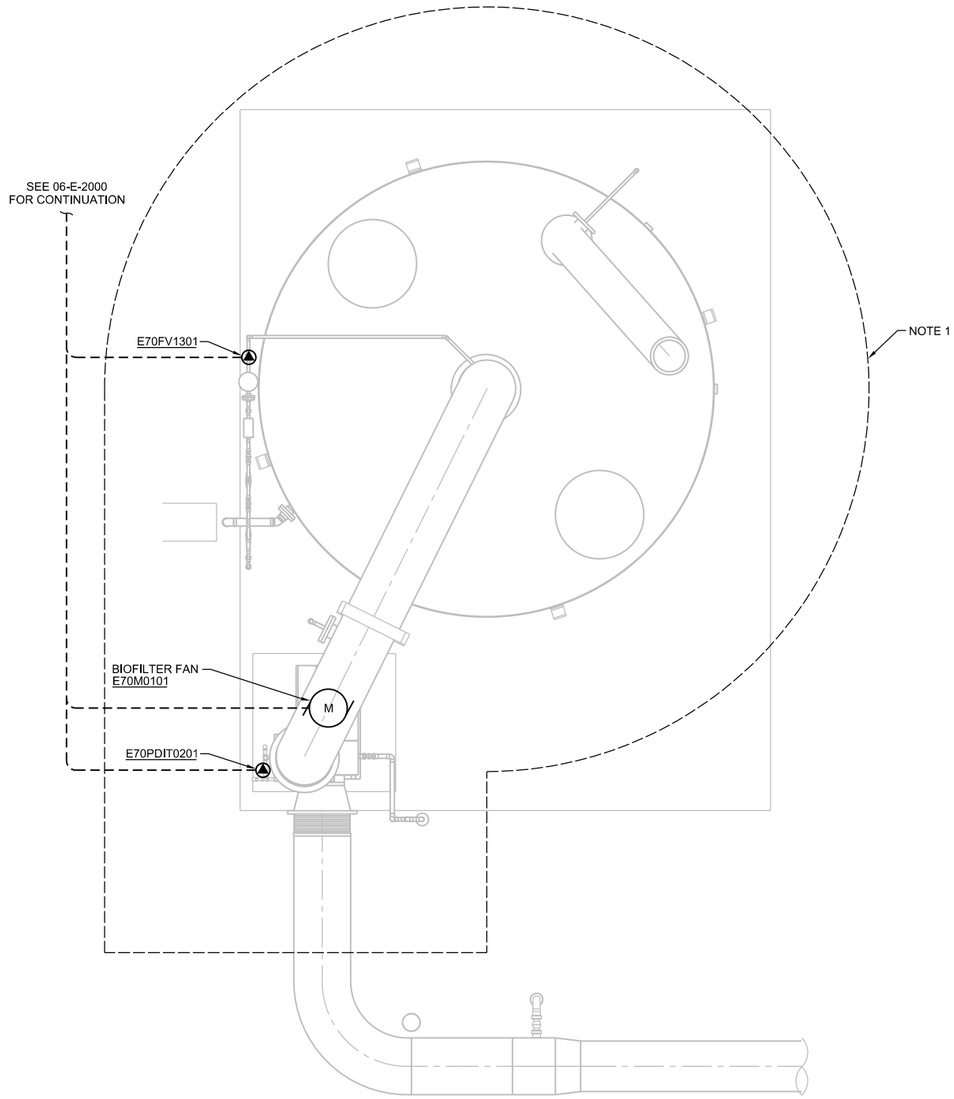
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
ODOR CONTROL
HVAC
PLAN AND SECTION

SHEET 70-H-2000
SEQ 186
DATE 12/2014
PROJ. NO. 490515

SAVED: 7/1/2013 9:56 AM PHAMLIN, PLOTTED: ---- HAMLIN, PRISCILLA/CVO
C:\pw_workdir\ch2mhill_wbg\phamlin\d0256967\Border_469556.dwg

NOTES:

1. AREAS WITHIN 3FT OF FANS, DAMPERS, FLEXIBLE CONNECTIONS, AND ODOR CONTROL VESSELS SHALL BE CONSIDERED A CLASS 1, DIV.2, GROUP D LOCATION. USE SUITABLE MATERIALS AND METHODS FOR THE ENVIRONMENT.



N

PLAN
1/2"=1'-0"

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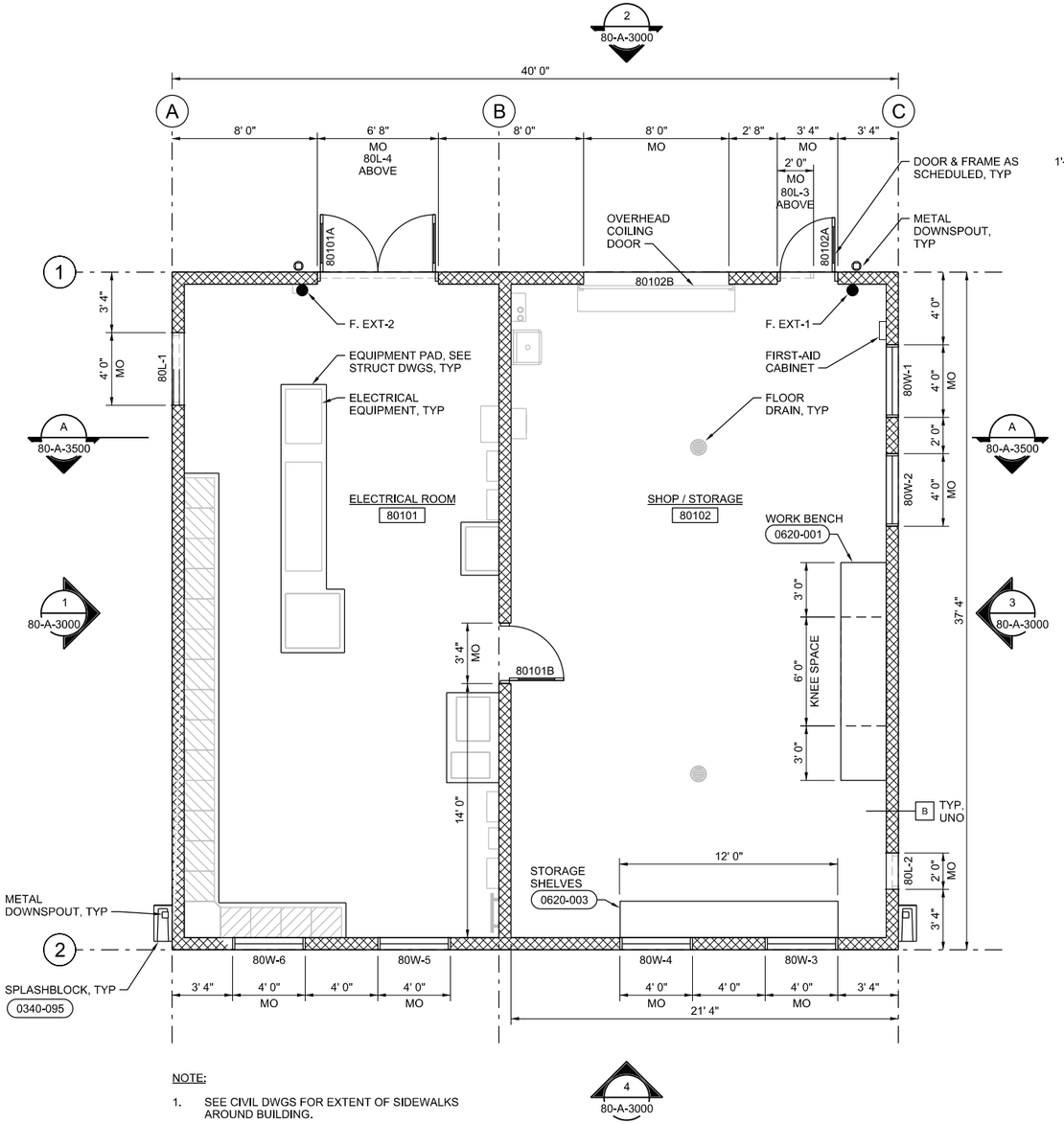
DSGN	JAC
DR	SMW
CHK	RSH
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
ODOR CONTROL
ELECTRICAL
ENLARGED PLAN

REGISTERED PROFESSIONAL ENGINEER
85946PE
Digital Signature
OREGON
JAN 10, 2012
JASON A. CLIFFORD
EXP. 12-31-15

SHEET 70-E-4001
SEQ 187
DATE 12/2014
PROJ. NO. 490515

SAVED: 7/1/2013 9:56 AM PHAMLIN, PLOTTED: ---- HAMLIN, PRISCILLA/CVO
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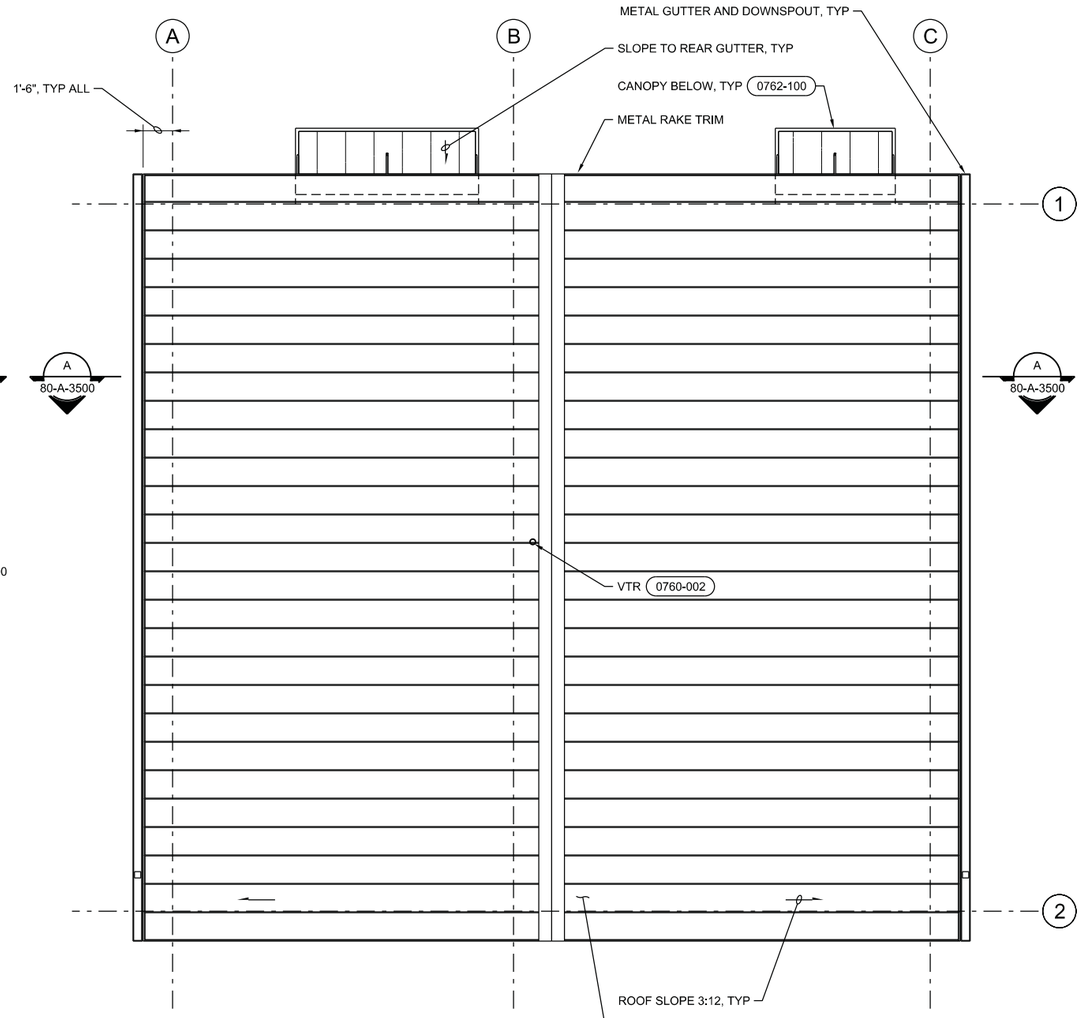


NOTE:

1. SEE CIVIL DWGS FOR EXTENT OF SIDEWALKS AROUND BUILDING.

FLOOR PLAN

1/4"=1'-0"



ROOF PLAN

1/4"=1'-0"

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DR	SDB
CHK	SJP
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SHOP / ELECTRICAL BUILDING
ARCHITECTURAL

FLOOR AND ROOF PLANS

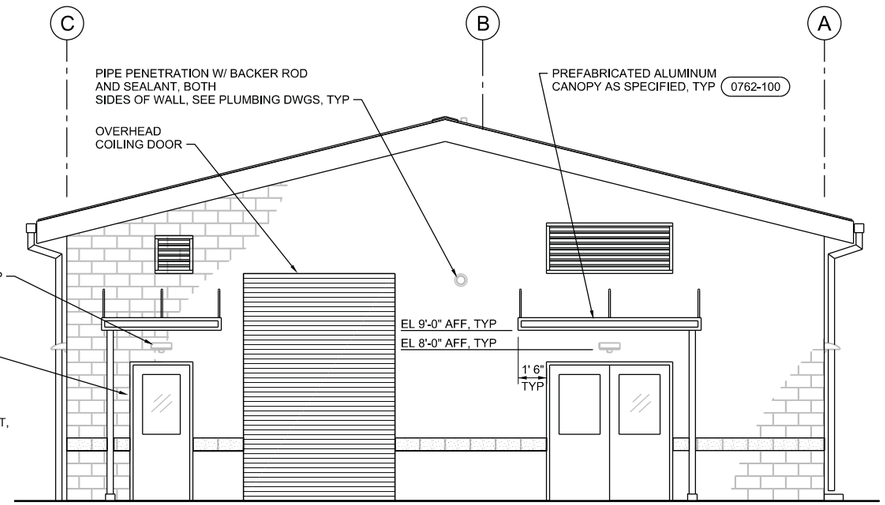
REGISTERED ARCHITECT
ROBERT P. TAVERNA
Digital Signature
ALBANY, OREGON
5797
STATE OF OREGON

SHEET 80-A-2000
SEQ 188
DATE 12/2014
PROJ. NO. 490515

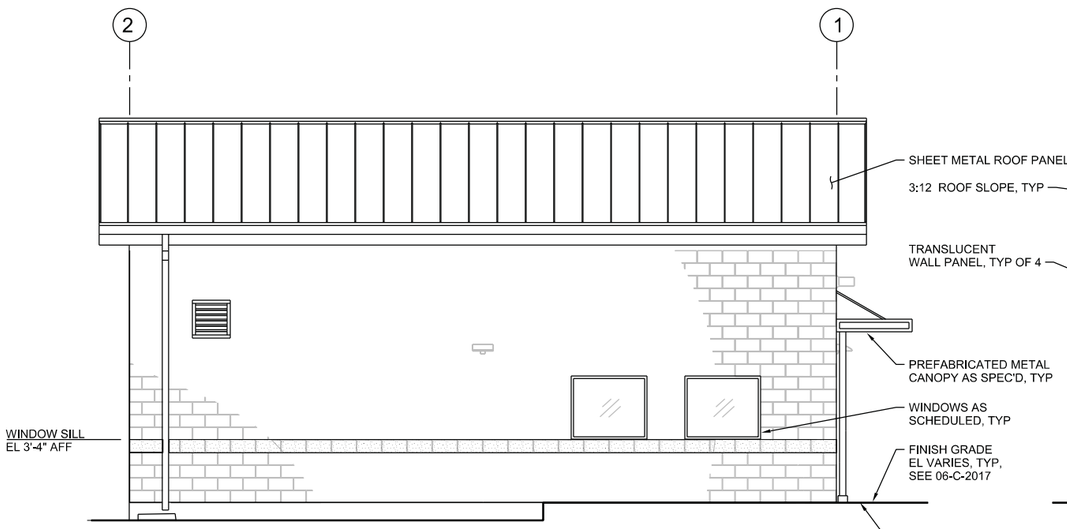
80-A-2000_469556.dgn



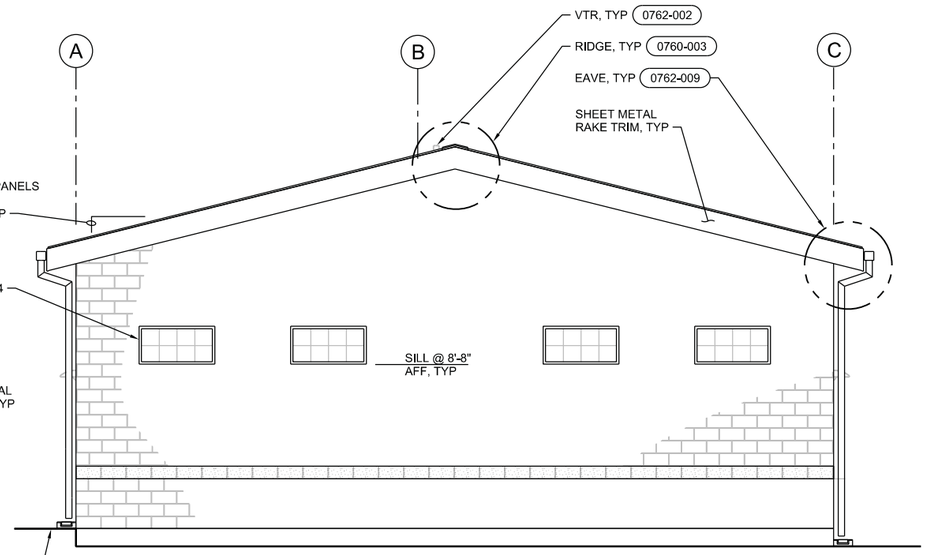
1 NORTH ELEVATION
1/4"=1'-0"
80-A-2000



2 EAST ELEVATION
1/4"=1'-0"
80-A-2000



3 SOUTH ELEVATION
1/4"=1'-0"
80-A-2000



4 WEST ELEVATION
1/4"=1'-0"
80-A-2000

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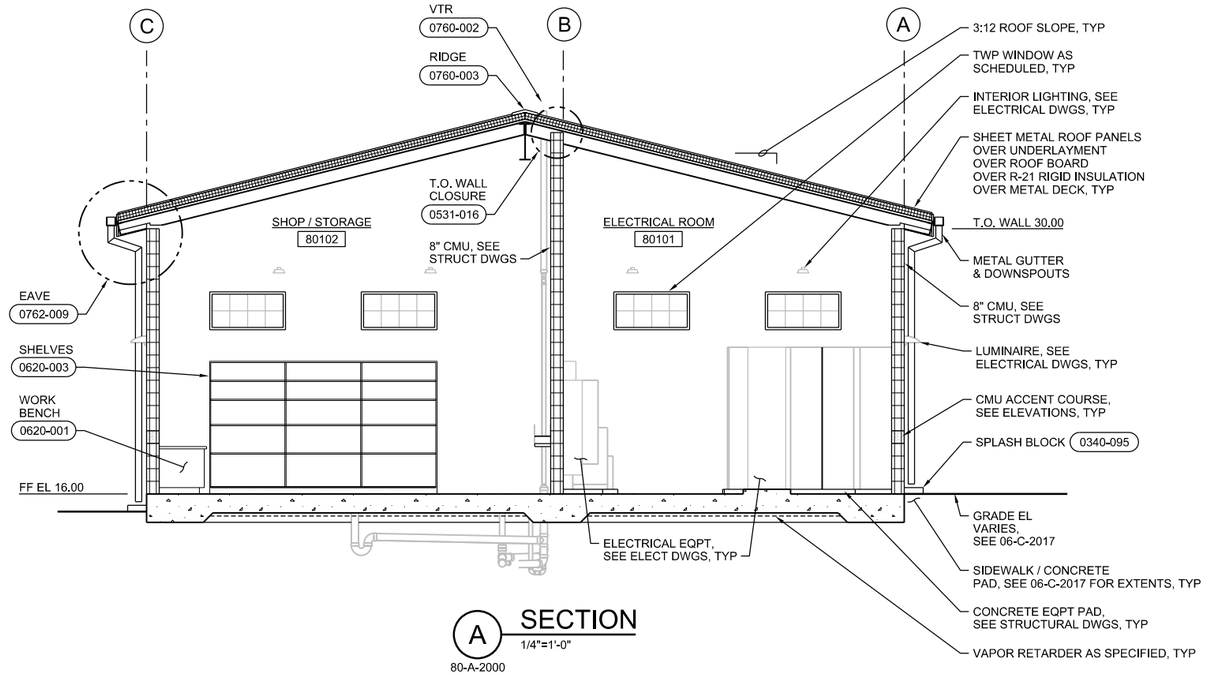
DSGN	BPT	DR	SDB	CHK	SJP	APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SHOP / ELECTRICAL BUILDING
ARCHITECTURAL
ELEVATIONS

REGISTERED ARCHITECT
ROBERT P. TAVERNA
Digital Signature
ALBANY, OREGON
5797
STATE OF OREGON

SHEET 80-A-3000
SEQ 189
DATE 12/2014
PROJ. NO. 490515

80-A-3000_469556.dgn



A SECTION
1/4"=1'-0"
80-A-2000

VERIFY SCALES
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SHN CONSULTING ENGINEERS & GEOLOGISTS, INC.

NO.	DATE	REVISION	BY

DSGN BPT
DR SDB
CHK SJP
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SHOP / ELECTRICAL BUILDING
ARCHITECTURAL
SECTION

SHEET 80-A-3500
SEQ 190
DATE 12/2014
PROJ. NO. 490515

REGISTERED ARCHITECT
ROBERT P. TAVERNA
Digital Signature
ALBANY, OREGON
5797
STATE OF OREGON

80-A-3500_469556.dgn

INTERIOR FINISH SCHEDULE

ABBREVIATIONS:

COL	COLOR	MAT	MATERIAL
CONC	CONCRETE	MET	METAL
FNSH	FINISH	OTS	OPEN TO STRUCTURE
HGT	HEIGHT		

NOTES:

NO. 1 NUMBERS IN THE FNSH COLUMN REFER TO PAINT SYSTEMS IN SPECIFICATION SECTION 09 90 00.
NO. 2 CODES IN COL COLUMN REFER TO COLOR LIST ON THIS SHEET.
NO. 3 FOR EXTERIOR FINISHES AND COLORS, SEE EXTERIOR FINISH SCHEDULE ON THIS SHEET.
NO. 4 FOR DOOR AND FRAME FINISHES, SEE DOOR AND HARDWARE SCHEDULE ON THIS SHEET.

SPACE		FLOOR			BASE AND WAINSCOT					TYPICAL WALL			OTHER WALL			CEILING				MISCELLANEOUS				OTHER REQUIREMENTS
NO.	NAME	SUB FL	FINISH	COL	HGT	MATL	FINISH	COL	WALLS	MATL	FINISH	COL	MATL	FINISH	COL	HGT	MATL	FINISH	COL	ITEM	MATL	FINISH	COL	
80101	ELECTRICAL ROOM	CONC	114	GRAY	-	-	-	-	-	CMU	113	P-1	-	-	-	OTS	MET	5	P-1	-				
80102	SHOP / STORAGE ROOM	CONC	114	GRAY	-	-	-	-	-	CMU	113	P-1	-	-	-	OTS	MET	5	P-1	-				

WINDOW SCHEDULE

WINDOW TYPE ABBREVIATIONS:

F FIXED
TWP TRANSLUCENT PANEL

OTHER ABBREVIATIONS:

AFF ABOVE FINISHED FLOOR
AL ALUMINUM
AS AS SPEICFIED
CLR CLEAR
FCTY FACTORY
IG-T INSULATING GLASS - TINTED

NOTES:

NO. 1 FOR FRAME TYPES, SEE BUILDING ELEVATIONS.
NO. 2 FOR FRAME DETAILS, SEE DESIGN DETAILS.
NO. 3 CODES IN COL COLUMN REFER TO COLOR LIST ON THIS SHEET

NO.	OPENING				FRAME				DETAILS			BLINDS	SILLS	ROLLER SHADE	OTHER REQUIREMENTS
	SIZE		WINDOW												
	WIDTH	HEIGHT	TYPE	GLASS	MATL	TYPE	FINISH	COL	HEAD	JAMB	SILL	Y / N	HEIGHT AFF		
80W-1	4'-0"	4'-0"	F	IG-T	AL	NOTE 1	FCTY	O-1	0851-002	0851-002	0851-002	N	3'-4"	-	
80W-2	4'-0"	4'-0"	F	IG-T	AL	NOTE 1	FCTY	O-1	0851-002	0851-002	0851-002	N	3'-4"	-	
80W-3	4'-0"	2'-0"	F	TWP	AL	NOTE 1	FCTY	O-1	0845-002	0845-002	0845-002	N	8'-8"	-	
80W-4	4'-0"	2'-0"	F	TWP	AL	NOTE 1	FCTY	O-1	0845-002	0845-002	0845-002	N	8'-8"	-	
80W-5	4'-0"	2'-0"	F	TWP	AL	NOTE 1	FCTY	O-1	0845-002	0845-002	0845-002	N	8'-8"	-	
80W-6	4'-0"	2'-0"	F	TWP	AL	NOTE 1	FCTY	O-1	0845-002	0845-002	0845-002	N	8'-8"	-	

EXTERIOR FINISH SCHEDULE

ITEM / MATERIAL	FINISH	COLOR
EXPOSED STRUCTURAL AND MISC. STEEL	PS-5	P-1
EXPOSED METAL DECK	PS-5	P-1
SHEET METAL ROOF PANELS	FCTY	M-1
SHEET METAL TRIM	FCTY	M-2
METAL GUTTERS AND DOWNSPOUTS	FCTY	M-2
PREFABRICATED METAL CANOPIES	FCTY	M-3
ALUMINUM DOORS AND FRAMES	FCTY	O-1
OVERHEAD COILING DOORS	FCTY	O-1
LOUVERS	FCTY	O-1
ALUMINUM WINDOWS	FCTY	O-1
TRANSLUCENT WALL PANEL FRAMES	FCTY	O-1
TCMU-1	FCTY	W-1
TCMU-2	FCTY	W-2

LOUVER SCHEDULE

LOUVER TYPE ABBREVIATIONS:

AC ACOUSTICAL
AFF ABOVE FINISHED FLOOR
DB DRAINABLE

OTHER ABBREVIATIONS:

AL ALUMINUM
AS AS SELECTED
FCTY FACTORY

NOTES:

NOTES:
NO. 1 FCR LOUVER DETAILS, SEE DESIGN DETAILS.
NO. 2 CODES IN COL COLUMN REFER TO COLOR LIST ON THIS SHEE

NO.	OPENING		LOUVER				DETAILS			SILLS	FREE AREA	OTHER REQUIREMENTS
	WIDTH	HEIGHT	MATL	TYPE	FINISH	COL	HEAD	JAMB	SILL	HEIGHT AFF		
80L-1	4'-0"	4'-0"	AL	DB	FCTY	W-1	0890-002	0890-002	0890-002	8'-8"	50%	
80L-2	2'-0"	2'-0"	AL	DB	FCTY	W-1	0890-002	0890-002	0890-002	8'-8"	40%	
80L-3	2'-0"	2'-0"	AL	DB	FCTY	W-1	0890-002	0890-002	0890-002	12'-0"	40%	
80L-4	6'-8"	2'-8"	AL	DB	FCTY	W-1	0890-002	0890-002	0890-002	12'-0"	50%	

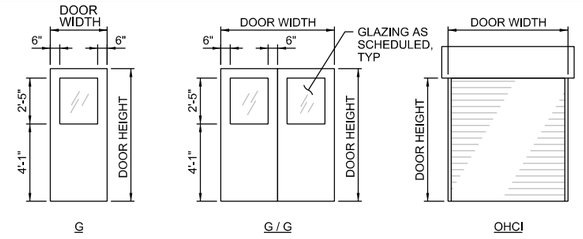
COLOR LIST

NOTES:

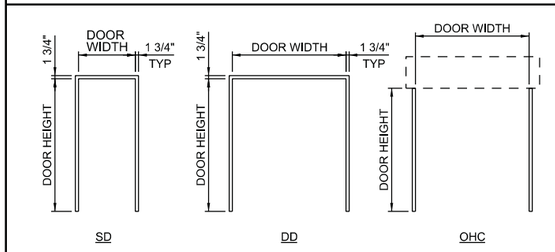
NO. 1 COLOR SELECTIONS FOR THIS PROJECT MAY BE NOTED IN DOOR AND HARDWARE SCHEDULE, WINDOW SCHEDULE, INTERIOR FINISH SCHEDULE, EXTERIOR FINISH SCHEDULE, LOUVER SCHEDULE, PIPING SCHEDULE AND ON THE DRAWINGS BY THE LETTER-NUMBER COMBINATION IN THE MARK COLUMN OF THIS LIST.
NO. 2 SOME COLOR SELECTIONS MAY BE MADE IN VARIOUS SPECIFICATION SECTIONS.
NO. 3 USE ONLY THE COLORS NOTED OR SCHEDULED. IF A COLOR SELECTION IS NOT MADE, REQUEST ONE FROM THE ENGINEER.

MARK	MATERIAL	MANUFACTURER	COLOR
M	METAL PANELS, TRIM AND ACCESSORIES		
M-1	METAL ROOF AND SOFFIT PANELS	AEP	COOL LEAF GREEN
M-2	METAL FASCIA AND RAKE TRIM, METAL GUTTERS AND DOWNSPOUTS		MATCH WILLAMETTE GRAYSTONE CASTLE WHITE
M-3	PREFABRICATED METAL CANOPY	MAPES INC.	MFR'S STD BLACK
O	OPENINGS		
O-1	ALUMINUM DOORS AND FRAMES	AS SPECIFIED	MATCH AEP COOL LEAF GREEN
	OVERHEAD COILING DOORS	AS SPECIFIED	MATCH AEP COOL LEAF GREEN
	ALUMINUM WINDOW FRAMES	AS SPECIFIED	MATCH AEP COOL LEAF GREEN
	TRANSLUCENT WALL PANEL FRAMES	AS SPECIFIED	MATCH AEP COOL LEAF GREEN
O-2	LOUVERS	AS SPECIFIED	MATCH WILLAMETTE GRAYSTONE CASTLE WHITE
P	PAINTING		
P-1	EXPOSED STRUCTURAL AND MISC. STEEL	SHERWIN WILLIAMS	SW-7063 NEBULOUS WHITE
	EXPOSED METAL DECK	SHERWIN WILLIAMS	SW-7063 NEBULOUS WHITE
	CMU	SHERWIN WILLIAMS	SW-7063 NEBULOUS WHITE
W	WALLS		
W-1	CMU - FIELD	WILLAMETTE GRAYSTONE	CASTLE WHITE
W-2	CMU - ACCENT COURSE	WILLAMETTE GRAYSTONE	MALLARD

DOOR TYPES



DOOR FRAME TYPES



DOOR AND HARDWARE SCHEDULE

ABBREVIATIONS:

AL	ALUMINUM	K-PL	KICK PLATE	SST	STAINLESS STEEL
AS	AS SPECIFIED	MATL	MATERIAL	TSHLD	THRESHOLD
CLSR	CLOSER	MET	METAL	W-S	WEATHERSTRIPPING
COL	COLOR	OHCI	OVERHEAD COILING DOOR INSULATED		
CONSTR	CONSTRUCTION	P-P	PUSH-PULL		
FCTY	FACTORY	SG	SAFETY GLASS		
FNSH	FINISH				

NOTES :

NO. 1 SEE THIS SHEET FOR DOOR AND FRAME TYPES.
NO. 2 FOR DOOR DETAILS. SEE DESIGN DETAILS
NO. 3 NUMBERS IN "FNSH" COLUMN REFER TO PAINT SYSTEMS IN SPECIFICATION SECTION 09 90 00.
NO. 4 CODES IN "COL" COLUMN REFER TO COLORLIST ON THIS SHEET.
NO. 5 FOR GLASS TYPES, SEE SPECIFICATION SECTION 08 81 00.

NO.	OPENING							FRAME				DETAILS			HARDWARE		EXIT	CLSR	P-P	STOP	BOLT	K-PL	TSHLD	W-S	MISC	FIRE PROTECTION RATING	OTHER REQUIREMENTS
	SIZE		DOOR																								
	WIDTH	HEIGHT	CONSTR	TYPE	GLASS	FNSH	COL	MATL	TYPE	FNSH	COL	HEAD	JAMB	SILL	HINGE	LOCK											
80101A	6'-4"	7'-2"	AL	G/G	SG	FCTY	O-1	AL	DD	FCTY	O-1	0811-010	0811-011	0871-010	H1	L2	-	C6	-	-	B2	K1	T1	W2	M-3	-	
80101B	3'-0"	7'-2"	AL	G	SG	FCTY	O-1	AL	SD	FCTY	O-1	0811-010	0811-011	0871-011	H1	L3	-	C6	-	-		K1	-	-	-	-	
80102A	3'-0"	7'-2"	AL	G	SG	FCTY	O-1	AL	SD	FCTY	O-1	0811-010	0811-011	0871-010	H1	L2	-	C6	-	-		K1	T1	W2	M-3	-	
80102B	6'-0"	12'-0"	MET	OHCI	-	FCTY	O-1	MET	OHCI	FCTY	O-1	0033-007	0033-008	0033-008	ALL HARDWARE BY DOOR MANUFACTURER											-	

REGISTERED ARCHITECT
ROBERT P. TAVERNA
Digital Signature
ALBANY, OREGON
5797
STATE OF OREGON

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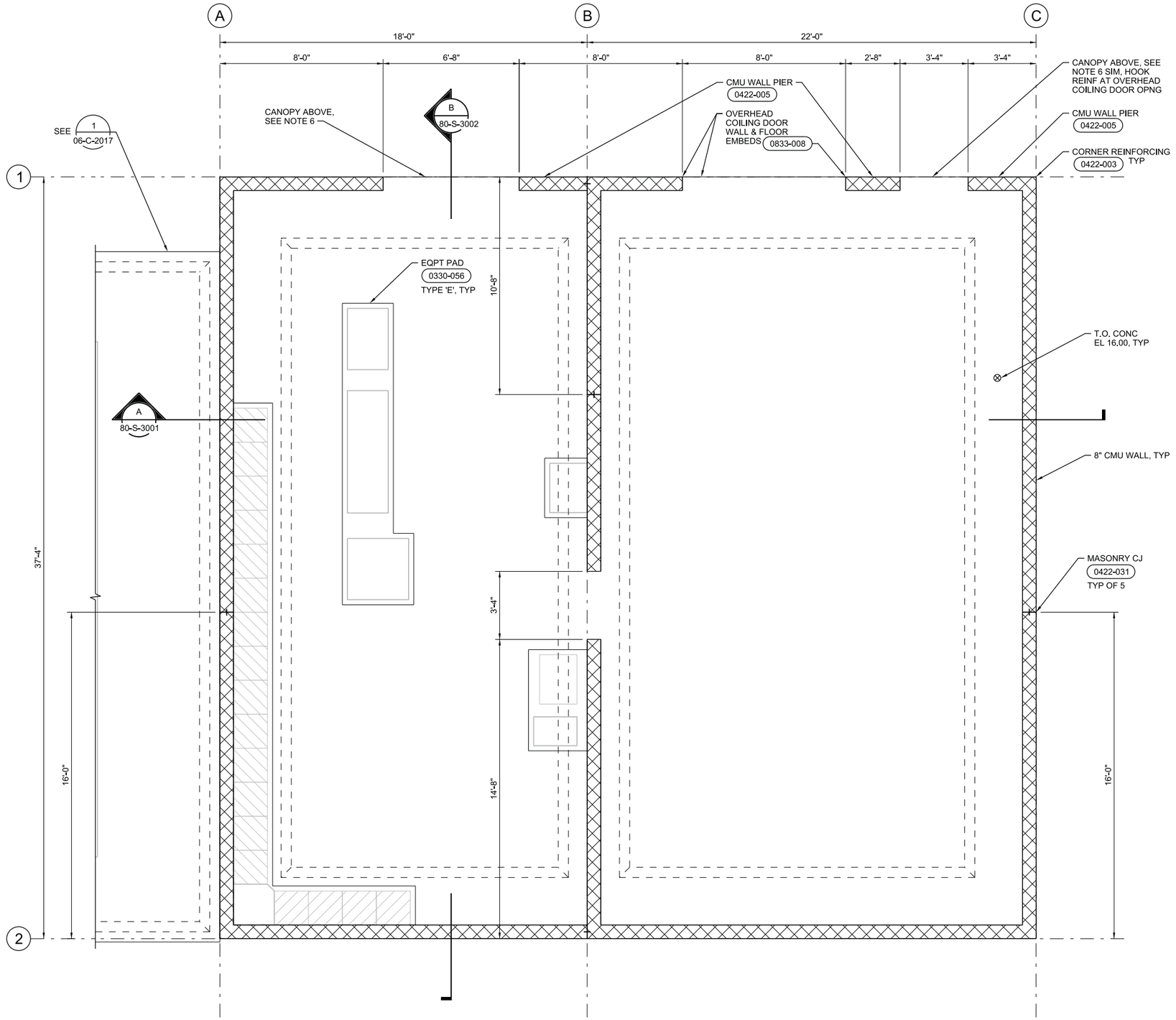
NO.	DATE	REVISION	BY

DSGN BPT
DR SDB
CHK SJP
APVD CWM

CITY OF COOS BAY WWTP 2. EXPANSION & UPGRADE
SHOP / ELECTRICAL BUILDING
ARCHITECTURAL
SCHEDULES

SHEET 80-A-6001
SEQ 191
DATE 12/2014
PROJ. NO. 490515

80-A-6001_469556.dgn



FOUNDATION PLAN

3/8"=1'-0"

FACILITY NOTES:

1. FOR GENERAL STRUCTURAL NOTES, SEE DRAWINGS 01-G-0020 AND 01-G-0021.
2. FOR STATEMENT OF SPECIAL INSPECTION PLAN, SEE DRAWINGS 01-G-0022 THROUGH 01-G-0026.
3. SEISMIC DESIGN CRITERIA:
   MAIN LATERAL FORCE RESISTING SYSTEM:
   SPECIAL REINFORCED MASONRY SHEAR WALLS

   RESPONSE MODIFICATION COEFFICIENT
   R = 5

   OVER STRENGTH FACTOR
   Ω = 2

   BASE SHEAR
   V = 72.5k
4. SOLID GROUT THE EAST WALL AT GRIDLINE (1). ALL OTHER WALLS SHALL BE PARTIALLY GROUTED.
5. FOR CMU WALL DETAILING, SEE (0422-001), (0422-003), (0422-004), (0422-005), (0422-006) AND (0422-041).
6. PROVIDE 48" DEEP LINTEL PER (0422-003) SIMILAR WITH ADDITIONAL #5@16" HORIZONTAL BARS. EXTEND BARS 4'-0" MINIMUM PAST OPENING.

VERIFY SCALES
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0 1"
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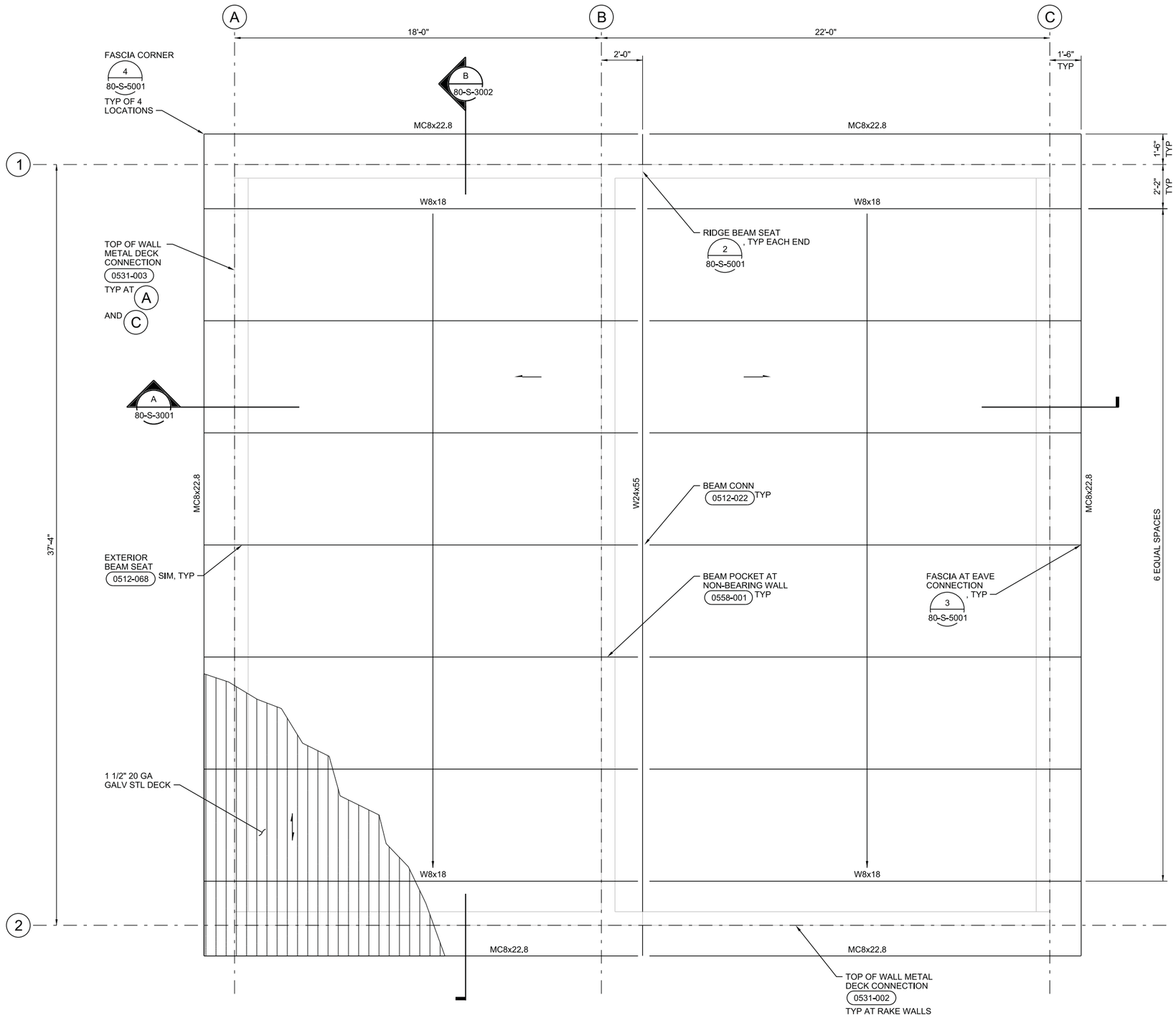
NO.	DATE	REVISION	BY

DSGN JYP/LAS
DR HFJ
CHK ALF
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SHOP/ELECTRICAL BUILDING
STRUCTURAL
FOUNDATION PLAN

REGISTERED PROFESSIONAL ENGINEER
76316PE
Digital Signature
OREGON
MAY 10, 2011
LUKE AARON SCOGGINS
EXP. 06-30-16

SHEET 80-S-2200
SEQ 192
DATE 12/2014
PROJ. NO. 490515



N

ROOF FRAMING PLAN

3/8"=1'-0"

NOTES:

1. FOR STEEL DECK AND ATTACHMENT SCHEDULE, SEE 1/80-S-5001.
2. ALL ROOF STEEL AND CONNECTION HARDWARE SHALL BE HOT-DIP GALVANIZED.

VERIFY SCALES
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CH2MHILL®

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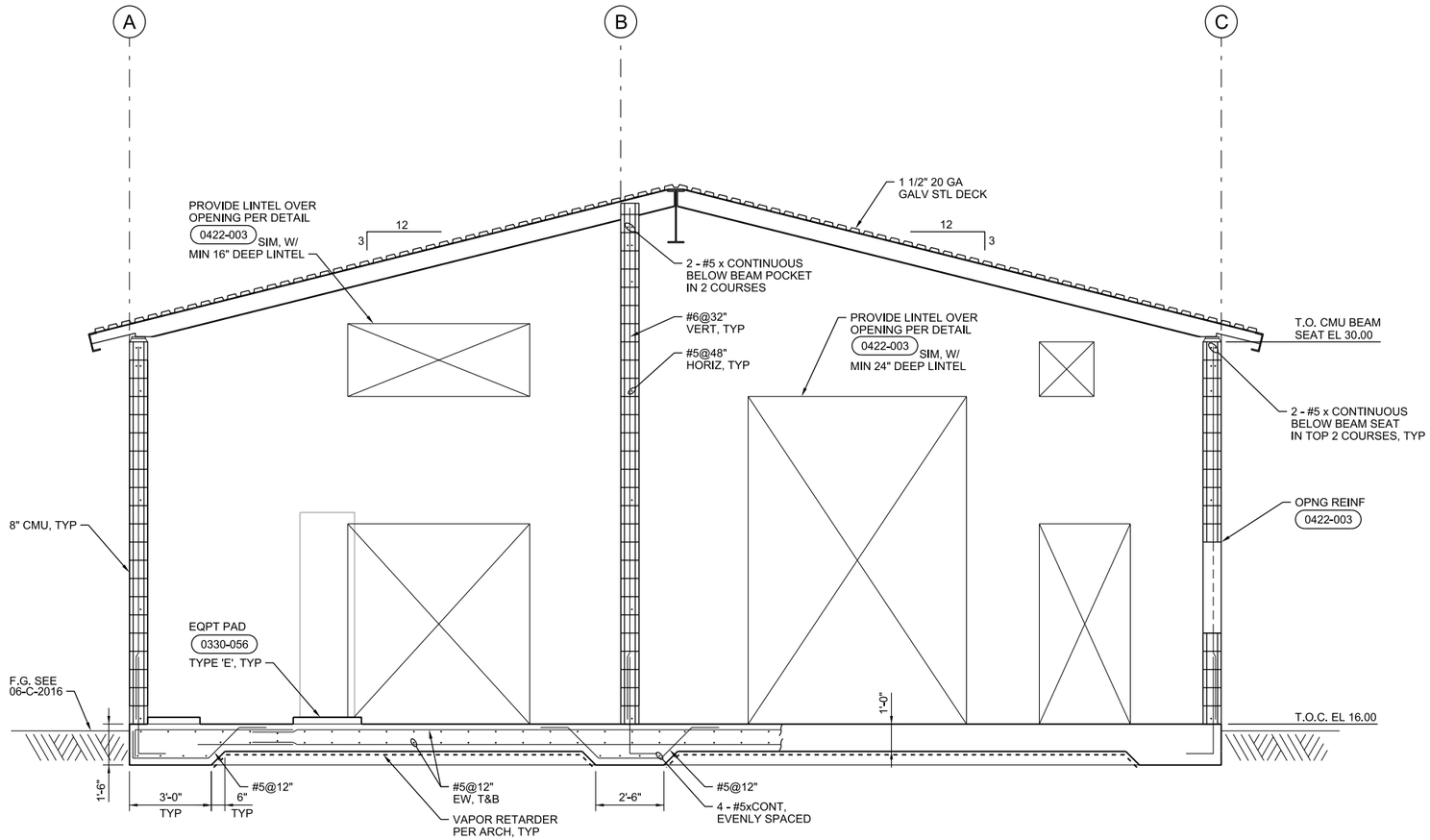
NO.	REVISION	BY	DATE

DSGN JYP/LAS
DR HFJ
CHK ALF
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SHOP/ELECTRICAL BUILDING
STRUCTURAL
ROOF FRAMING PLAN

REGISTERED PROFESSIONAL ENGINEER
76316PE
Digital Signature
OREGON
MAY 10, 2011
LUKE AARON SCOGGINS
EXP. 06-30-16

SHEET 80-S-2300
SEQ 193
DATE 12/2014
PROJ. NO. 490515



A SECTION
3/8"=1'-0"

80-S-2200
80-S-2300
80-S-3002

REGISTERED PROFESSIONAL ENGINEER
76316PE
Digital Signature
OREGON
MAY 10, 2011
LUKE AARON SCOGGINS
EXP. 06-30-16

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
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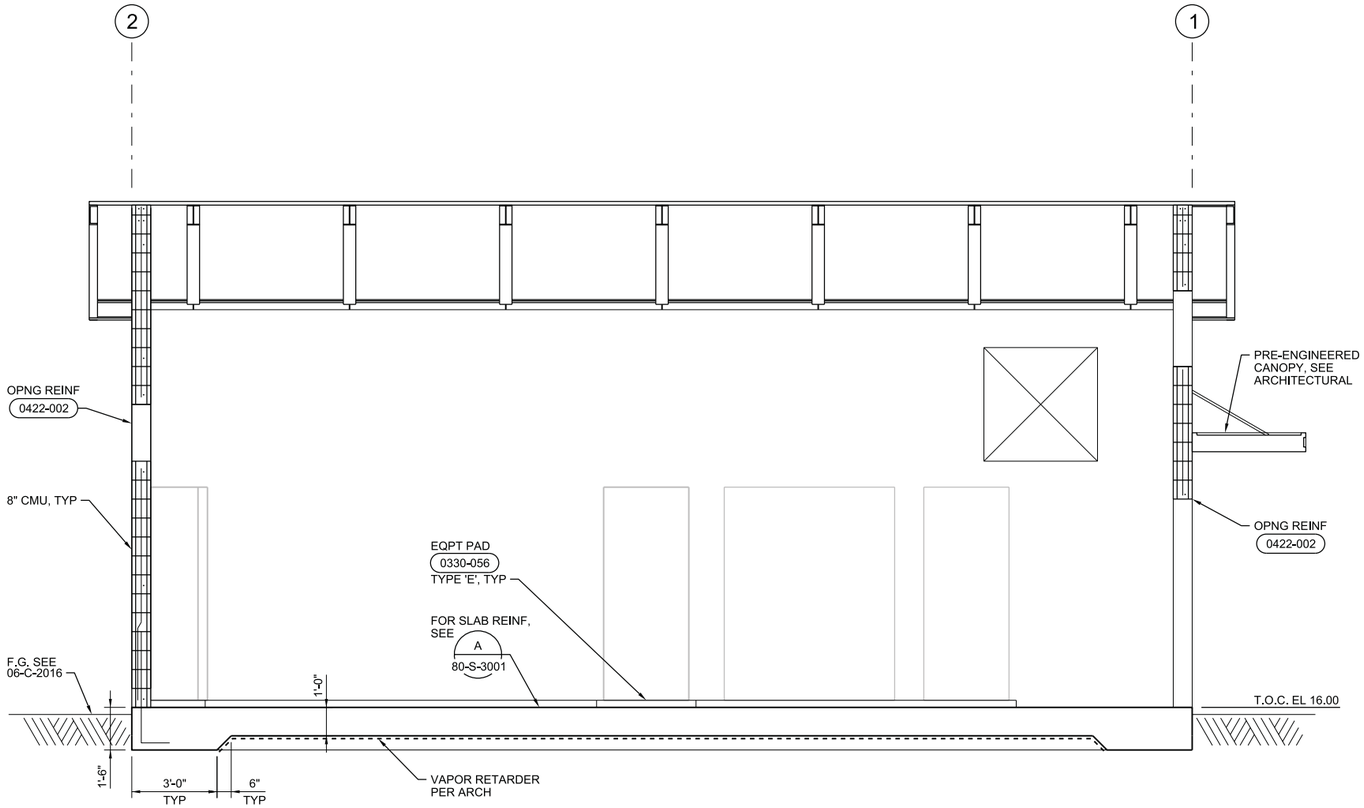
CH2MHILL®
SAY
CONSULTING ENGINEERS & GEOLOGISTS, INC.

NO.	DATE	REVISION	BY

DSGN	JYP/LAS
DR	HFJ
CHK	ALF
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SHOP/ELECTRICAL BUILDING
STRUCTURAL
SECTION

SHEET 80-S-3001
SEQ 194
DATE 12/2014
PROJ. NO. 490515



B SECTION
3/8"=1'-0"
80-S-2200
80-S-2300

VERIFY SCALES
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NO.	DATE	REVISION	BY

DSGN JYP/LAS
DR HFJ
CHK ALF
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SHOP/ELECTRICAL BUILDING
STRUCTURAL
SECTION

REGISTERED PROFESSIONAL ENGINEER
76316PE
Digital Signature
OREGON
MAY 10, 2011
LUKE AARON SCOGGINS
EXP. 06-30-16

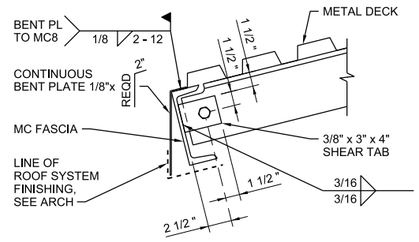
SHEET 80-S-3002
SEQ 195
DATE 12/2014
PROJ. NO. 490515

STEEL DECK & ATTACHMENT SCHEDULE

TYPE	DEPTH	PANEL WIDTH	DESIGN THICKNESS	MIN YIELD STRENGTH Fy (ksi)	MIN (+) S (in³/ft)	MIN I (in⁴/ft)	MIN DIAPHRAGM SHEAR CAPACITY (lbs/ft)	FINISH	AT PERPENDICULAR SUPPORTS, NOTE 1		AT PARALLEL SUPPORTS, NOTE 1		AT SIDELAPS	
									TYPE	NO PER SHEET	TYPE	SPACING	TYPE	SPACING
ROOF DECK	1.5"	36"	20 GA	33	0.23	0.231	350	GALV, G-90	5/8" PUDDLE WELD	4	5/8" PUDDLE WELD	12"	NOTE 2	18"

DECK SCHEDULE NOTES:

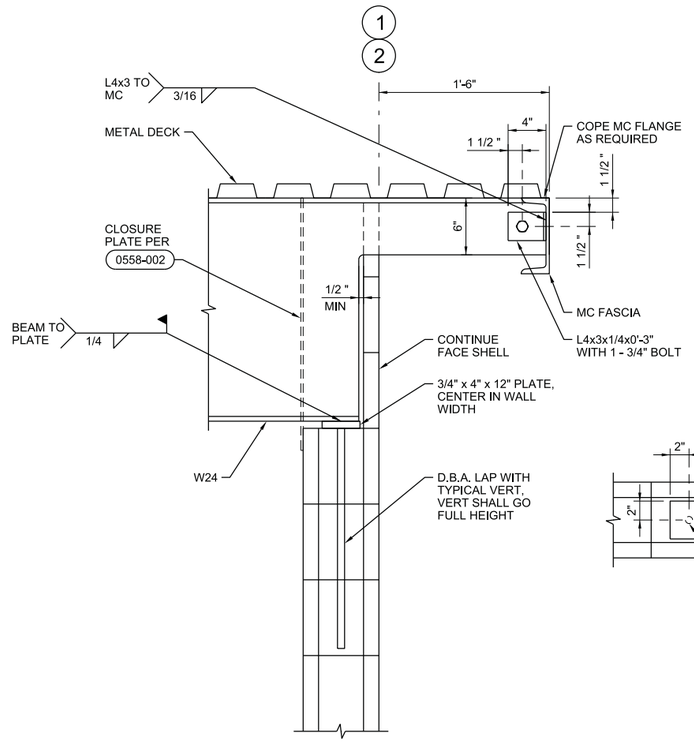
1. OTHER TYPE OF CONNECTIONS ARE ALLOWED.
2. MANUFACTURER'S STANDARD SIDELAP CONNECTION OR OTHER SIDELAP CONNECTIONS ARE ALLOWED PER APPROVAL OF STRUCTURAL ENGINEER.



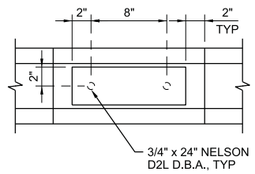
1 STEEL DECK & ATTACHMENT SCHEDULE

NTS

80-S-2300



ELEVATION



PLAN

2 RIDGE BEAM SEAT

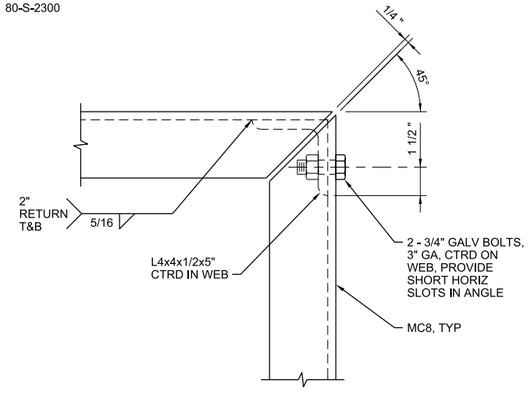
1 1/2"=1'-0"

80-S-2300

3 FASCIA AT EAVE CONNECTION

1 1/2"=1'-0"

80-S-2300



4 FASCIA CORNER CONNECTION

3"=1'-0"

80-S-2300

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

CH2MHILL®

SAY CONSULTING ENGINEERS & GEOLOGISTS, INC.

NO.	DATE	REVISION	BY

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DR	KMS
CHK	ALF
APVD	CWM

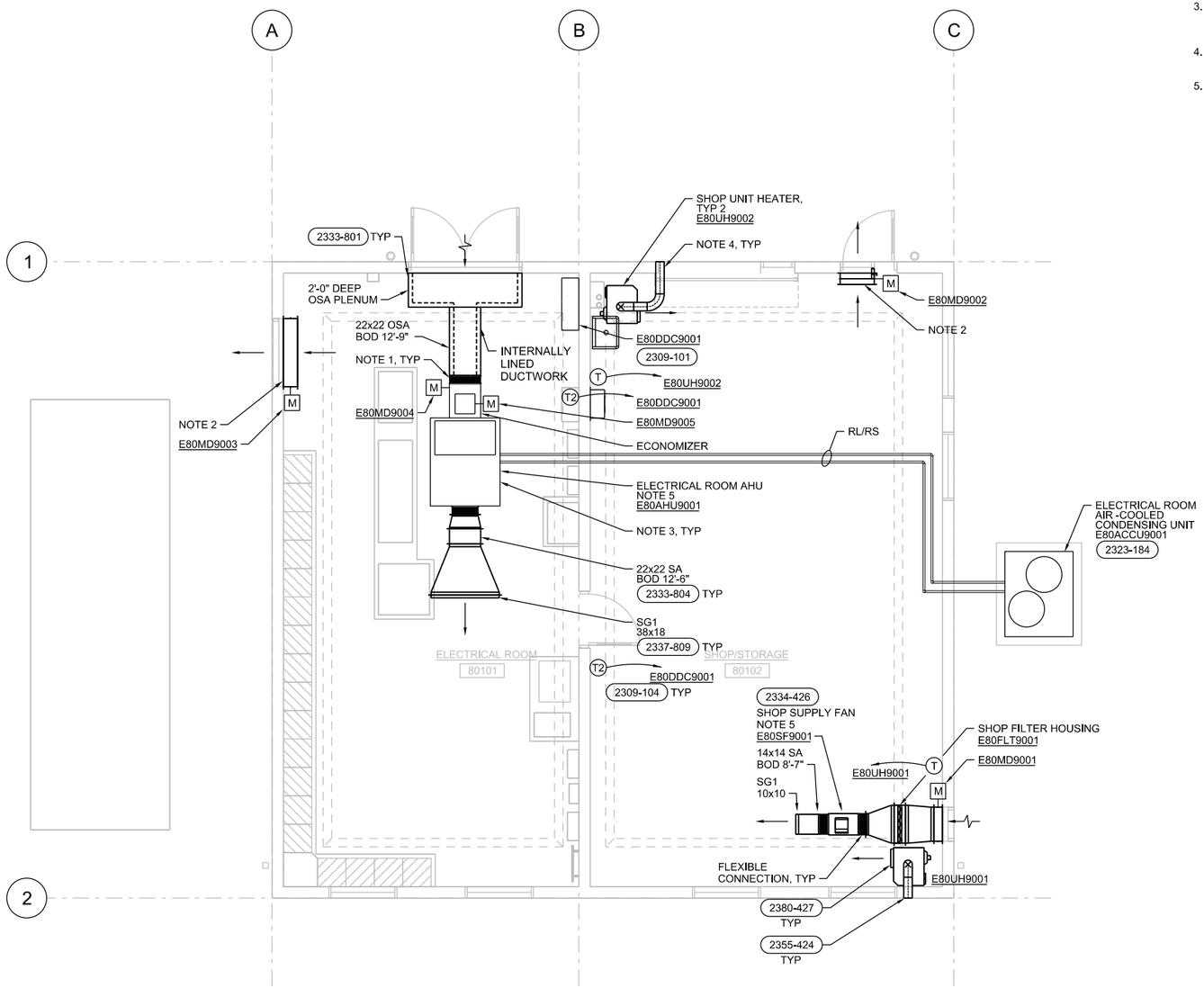
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SHOP/ELECTRICAL BUILDING
STRUCTURAL
DETAILS

REGISTERED PROFESSIONAL ENGINEER
76316PE
Digital Signature
OREGON
MAY 10, 2011
LUKE AARON SCOGGINS
EXP. 06-30-16

SHEET 80-S-5001
SEQ 196
DATE 12/2014
PROJ. NO. 490515

NOTES:

1. PROVIDE FLEXIBLE CONNECTION AT AIR HANDLING EQUIPMENT DUCT CONNECTIONS.
2. PROVIDE 1/2" MESH ALUMINUM SCREEN ON UPSTREAM SIDE OF DAMPER.
3. LOCATE HVAC EQUIPMENT AND DUCTWORK SUCH THAT PLACEMENT IS NOT IN REQUIRED ELECTRICAL GEAR CLEARANCES.
4. MAINTAIN A MINIMUM SEPARATION DISTANCE OF 10 FEET BETWEEN OSA LOUVER AND UNIT HEATER FLUE.
5. MOUNT EQUIPMENT TO PROVIDE A MINIMUM CLEARANCE OF 8'-0" AFF



FLOOR PLAN

3/16"=1'-0"

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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SHN CONSULTING ENGINEERS & GEOLOGISTS, INC.

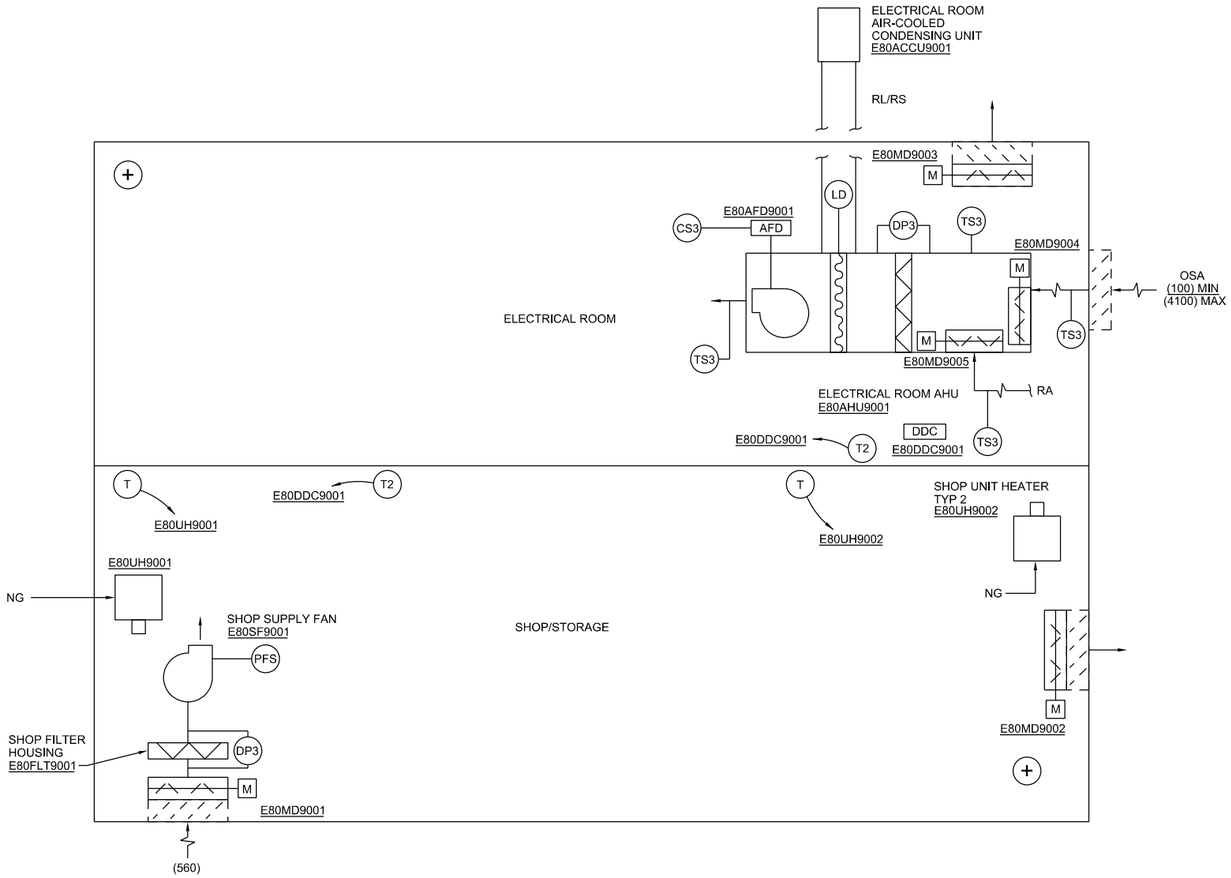
NO.	DATE	REVISION	BY

DSGN CJS
DR JLB
CHK NRF
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SHOP/ELECTRICAL BUILDING
HVAC
FLOOR PLAN

REGISTERED PROFESSIONAL ENGINEER 15279
Digital Signature
OREGON
JANUARY 9, 1981
CARL J. SHANK
EXP. 06-30-2016

SHEET 80-H-2000
SEQ 197
DATE 12/2014
PROJ. NO. 490515



AIR FLOW AND CONTROL SCHEMATIC

NTS

SAVED: 7/1/2013 9:56 AM PHAMLIN, PLOTTED: ---- HAMLIN, PRISCILLA/CVO
C:\pw_workdir\ch2mhill_wbg\phamlin\d0256967\Border_469556.dwg

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
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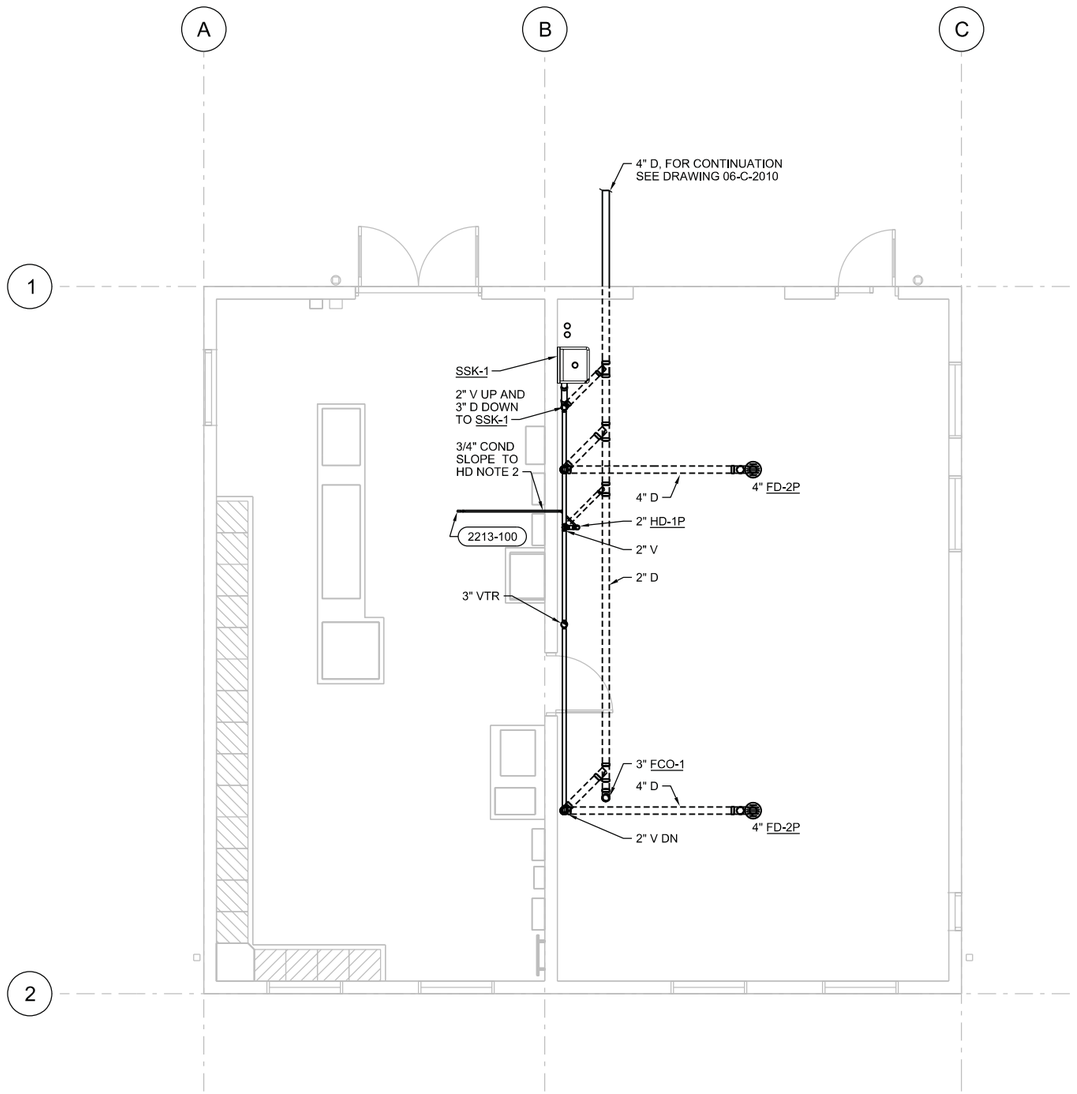
NO.	DATE	REVISION	BY

DSGN	CJS	DR	JLB	CHK	NRF	APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SHOP/ELECTRICAL BUILDING
HVAC
AIR FLOW AND CONTROL SCHEMATICS

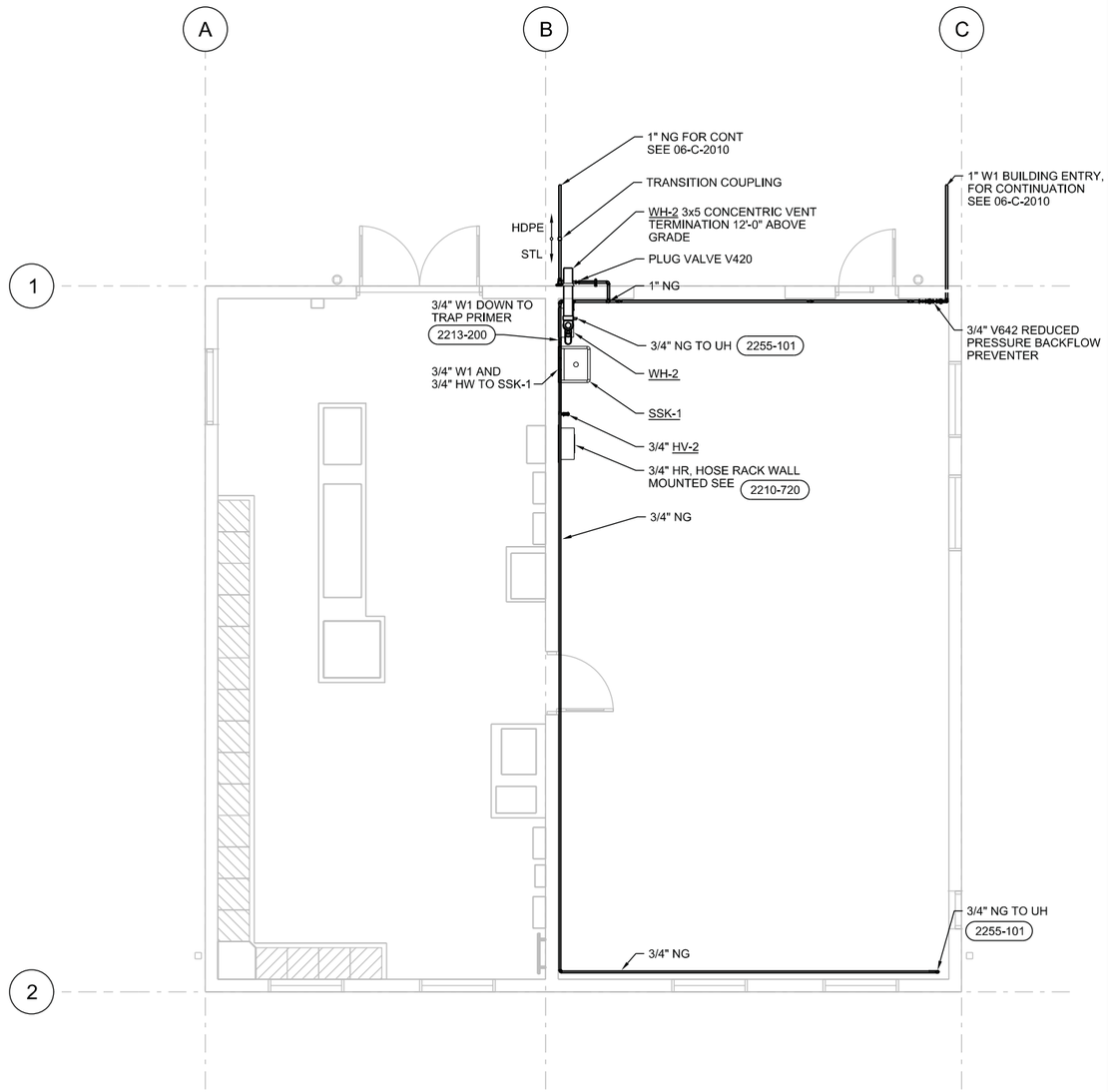
REGISTERED PROFESSIONAL ENGINEER
19279
Digital Signature
OREGON
JANUARY 9, 1986
CARL J. SHANK
EXP. 06-30-2016

SHEET 80-H-6001
SEQ 198
DATE 12/2014
PROJ. NO. 490515



WASTE AND VENT FLOOR PLAN

1/4"=1'-0"



PLUMBING PIPING FLOOR PLAN

1/4"=1'-0"

NOTES:

1. FIELD ROUTE TRAP PRIMING LINES TO ALL PRIMED TRAPS.
2. ROUTE CONDENSATE LINE SO THAT IT DOES NOT PASS ABOVE ELECTRICAL EQUIPMENT.

REGISTERED PROFESSIONAL ENGINEER
80759PE
Digital Signature
OREGON
JANUARY 10, 2003
ADAM T. BOYD
EXP. 12-31-15

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0 1"
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CH2MHILL

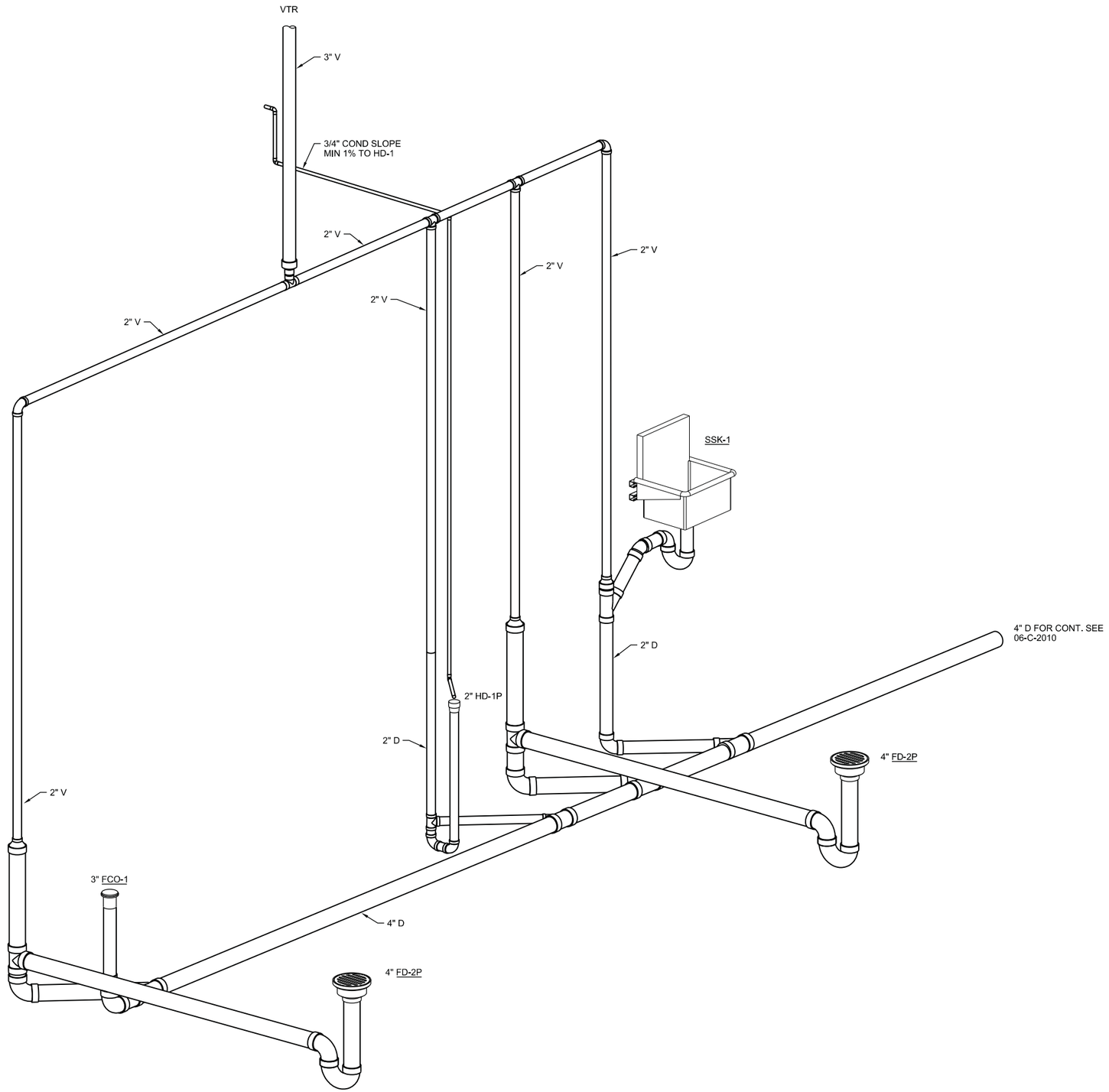
SHN
CONSULTING ENGINEERS & GEOLOGISTS, INC.

NO.	REVISION	DATE	BY

DSGN	ATB	DR	JLB	CHK	NRF	APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SHOP/ELECTRICAL BUILDING
PLUMBING
FLOOR PLANS

SHEET 80-P-2000
SEQ 199
DATE 12/2014
PROJ. NO. 490515



DRAIN, WASTE, VENT ISOMETRIC

VERIFY SCALES
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NO.	DATE	REVISION	BY

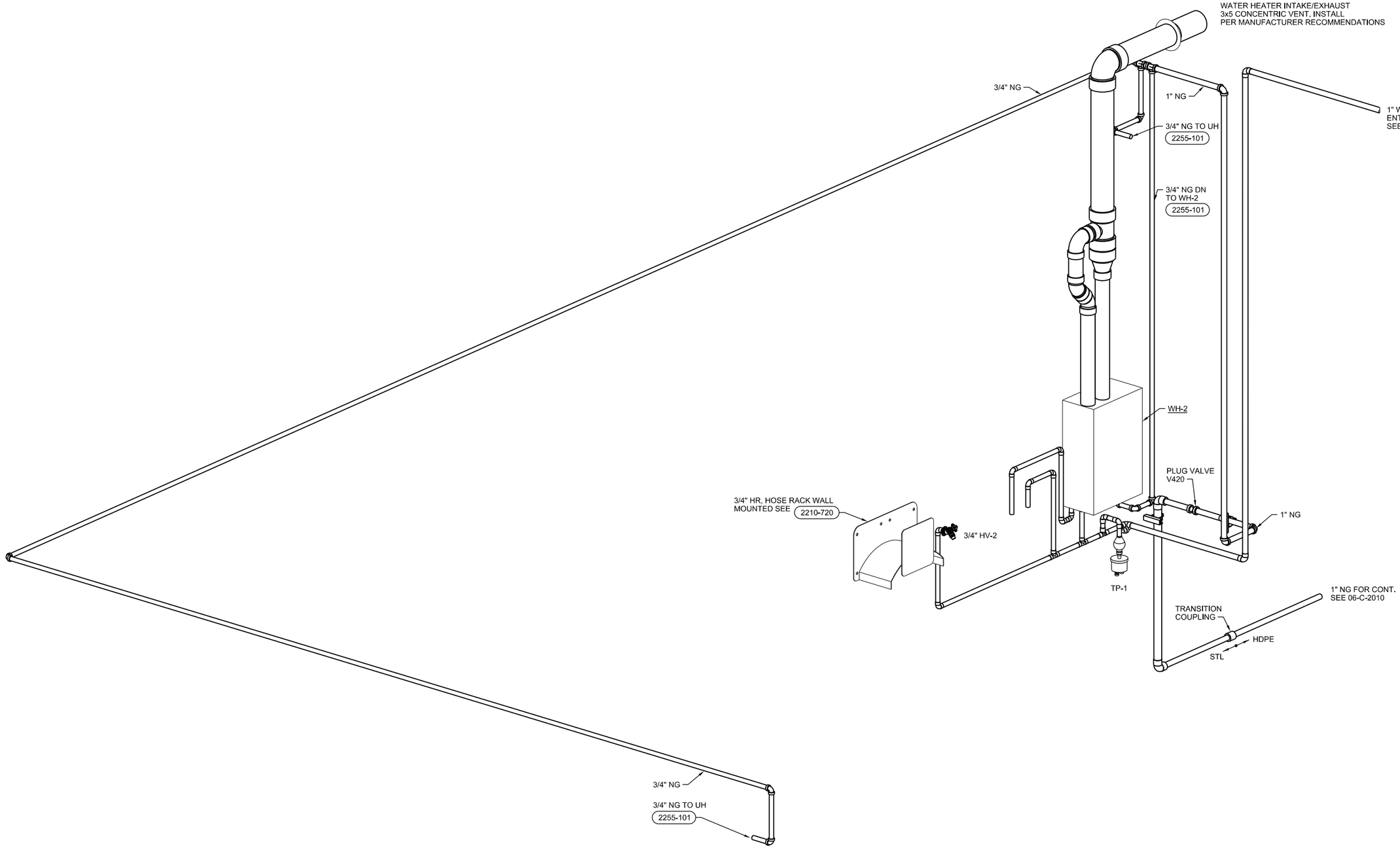
DSGN	ATB	DR	JLB	CHK	NRF	APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SHOP/ELECTRICAL BUILDING
PLUMBING

DRAIN, WASTE, AND VENT ISOMETRIC

REGISTERED PROFESSIONAL ENGINEER
80759PE
Digital Signature
OREGON
JANUARY 10, 2012
ADAM T. BOYD
EXP. 12-31-15

SHEET 80-P-3001
SEQ 200
DATE 12/2014
PROJ. NO. 490515



SERVICE WATER ISOMETRIC

VERIFY SCALES
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0 1"
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CONSULTING ENGINEERS & GEOLOGISTS, INC.

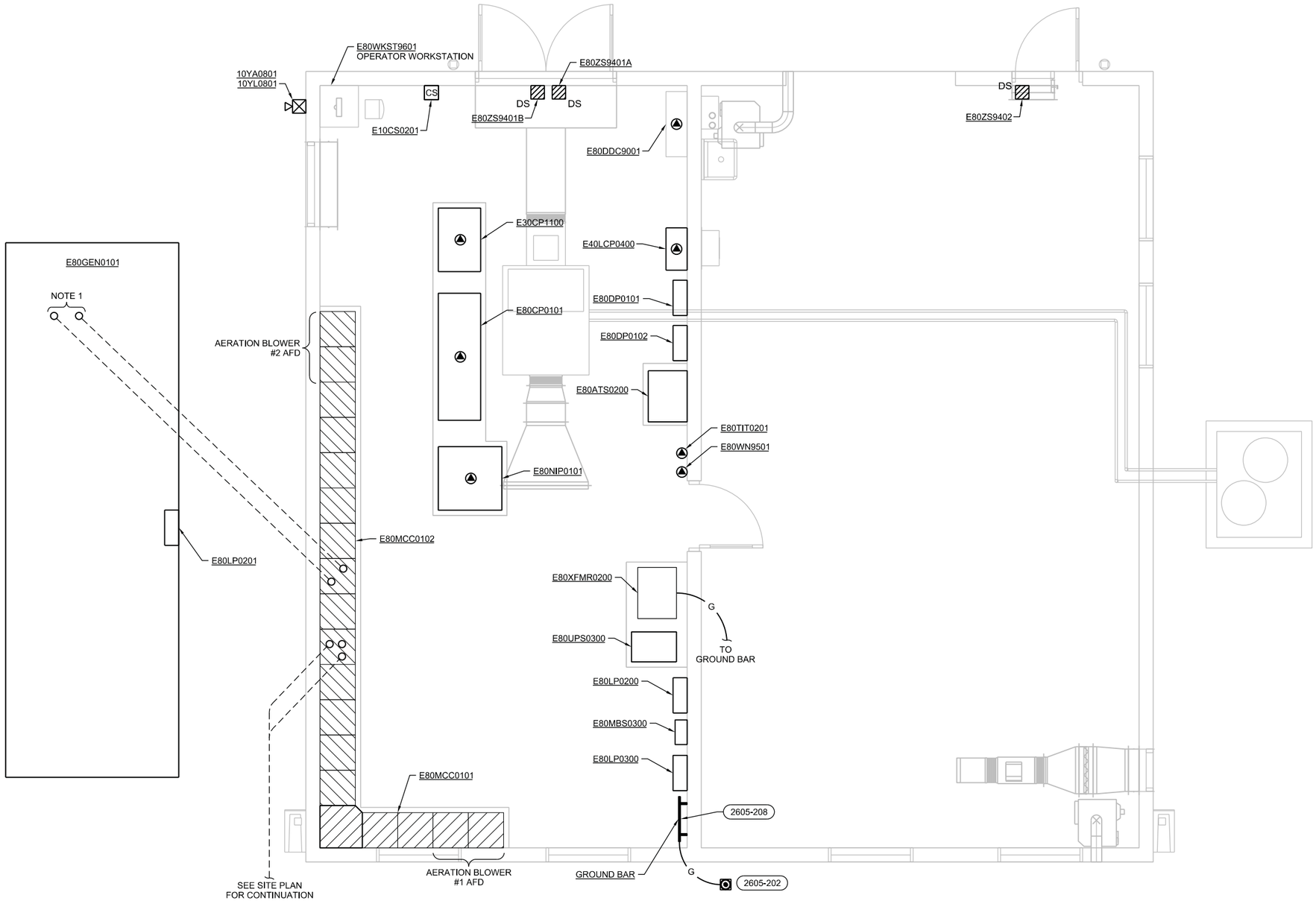
NO.	DATE	REVISION	BY

DSGN ATB
DR JLB
CHK NRF
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SHOP/ELECTRICAL BUILDING
PLUMBING
SERVICE WATER
ISOMETRIC

REGISTERED PROFESSIONAL ENGINEER
80759PE
Digital Signature
OREGON
JANUARY 10, 2013
ADAM T. BOYD
EXP. 12-31-15

SHEET 80-P-3002
SEQ 201
DATE 12/2014
PROJ. NO. 490515



NOTES:

1. CONDUIT STUB UP LOCATION SHALL BE BY CONTRACTOR. COORDINATE WITH GENERATOR MANUFACTURER ON CONDUIT STUP-UP LOCATION.

POWER PLAN

3/8"=1'-0"

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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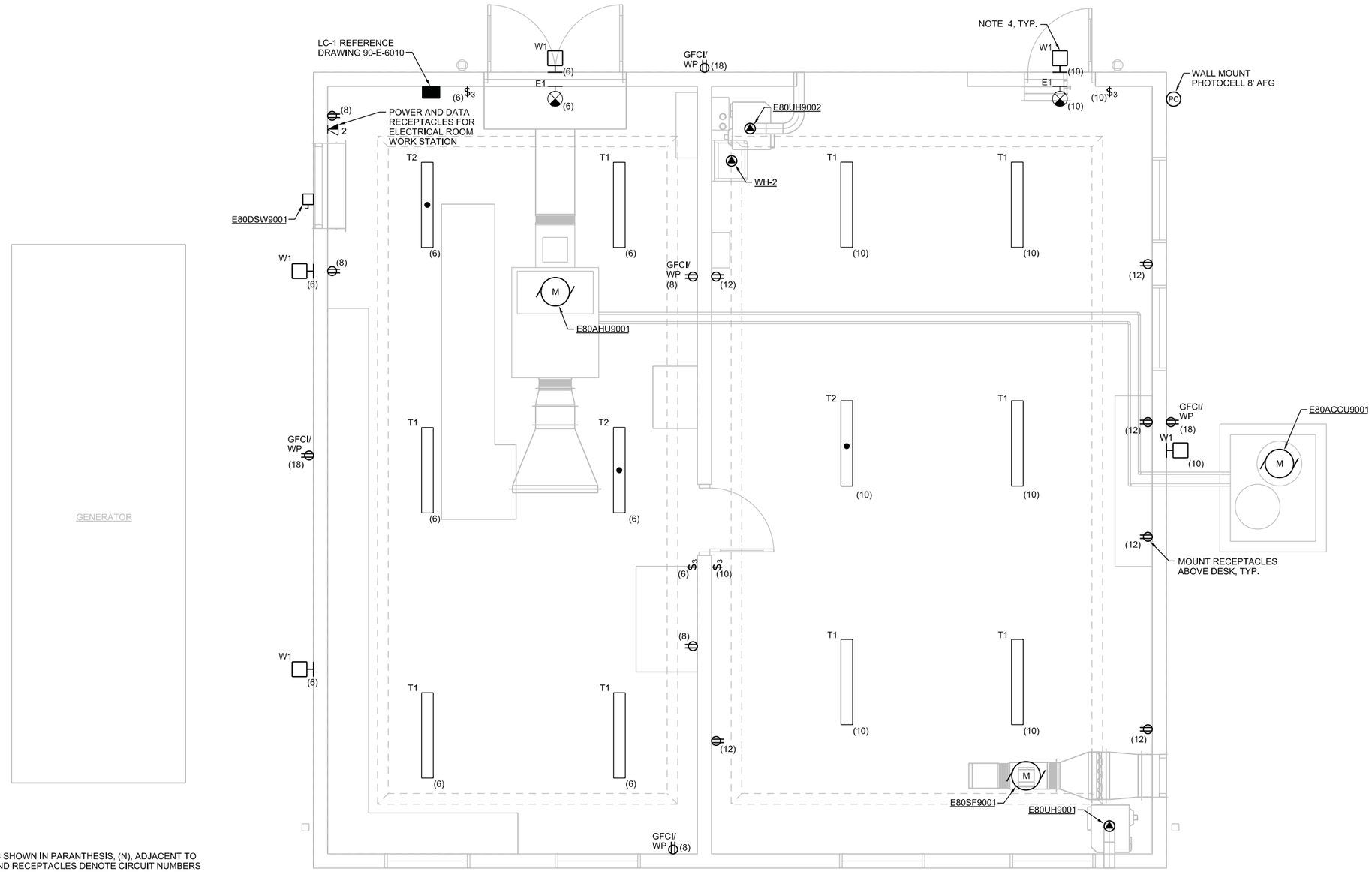
NO.	REVISION	BY	DATE

DSGN	JAC
DR	JG
CHK	RSH
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SHOP/ELECTRICAL BUILDING
ELECTRICAL
POWER FLOOR PLAN

REGISTERED PROFESSIONAL ENGINEER
85946PE
Digital Signature
OREGON
JAN. 10, 20 12
JASON A. CLIFFORD
EXP. 12-31-15

SHEET 80-EP-2001
SEQ 202
DATE 12/2014
PROJ. NO. 490515



NOTES:

1. NUMBERS SHOWN IN PARANTHESIS, (N), ADJACENT TO LIGHTS AND RECEPTACLES DENOTE CIRCUIT NUMBERS IN FACILITY PANELBOARDS. REFER TO PANELBOARD SCHEDULES FOR CORRECT PANEL. PROVIDE #12 CONDUCTORS FOR 20A OR 15A CIRCUITS LESS THAN 75 FEET. PROVIDE #10 CONDUCTORS FOR CIRCUITS GREATER THAN 75 FEET.
2. COMBINE RECEPTACLE AND LIGHTING CIRCUITS IN A CONDUIT TO MINIMIZE THE AMOUNT OF CONDUIT. CIRCUITS COMBINED INTO A SINGLE CONDUIT SHALL BE SIZED FOR NEC DERATING AND CONDUIT FILL REQUIREMENTS.
3. CONNECT EMERGENCY BALLASTS WITH UNSWITCHED CONDUCTORS. NORMAL BALLASTS, EVEN FOR EMERGENCY FIXTURES, SHALL BE CONTROLLED WITH ROOM SWITCH.
4. REFERENCE ARCHITECTURAL DRAWINGS 80-A-3000 FOR EXTERIOR BUILDING MOUNTED LUMINAIRE MOUNTING HEIGHTS.

GROUND FLOOR FACILITY PLAN

3/8"=1'-0"

REGISTERED PROFESSIONAL ENGINEER
85946PE
Digital Signature
OREGON
JAN. 10, 2012
JASON A. CLIFFORD
EXP. 12-31-15

VERIFY SCALES
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0 1"
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CONSULTING ENGINEERS & GEOLOGISTS, INC.

NO.	REVISION	DATE	BY

DSGN	JAC
DR	JG
CHK	RSH
APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SHOP/ELECTRICAL BUILDING
ELECTRICAL
FACILITY FLOOR PLAN

SHEET 80-EF-2001
SEQ 203
DATE 12/2014
PROJ. NO. 490515

ELECTRICAL PANELBOARD SCHEDULE

PANEL: E80DP0101
VOLTAGE: 480Y/277 VAC, 3 PHASE, 4 WIRE
BUS SIZE: 150A
MAIN SIZE: 150A
SCCR: 22KA

LOCATION: ELECTRICAL ROOM (SHOP / ELECTRICAL BUILDING)
MOUNTING: SURFACE
FED FROM: E80MCC0101
MAIN TYPE: LUGS
NOTES:

CIRCUIT TITLE	BREAKER CKT NO.	BREAKER AMP	BREAKER POLE	LOAD, VA PHASE A	LOAD, VA PHASE B	LOAD, VA PHASE C	LOAD, VA PHASE A	LOAD, VA PHASE B	LOAD, VA PHASE C	BREAKER POLE	BREAKER AMP	BREAKER CKT NO.	CIRCUIT TITLE
E40PDC0401 (UV BANK #1)	1	40	3	6667			305			3	20	2	E30LCP1101 (DECANTER 1)
-	3	-	-		6667			305		-	-	4	-
-	5	-	-			6667			305	-	-	6	-
E40PDC0403 (UV BANK #3)	7	40	3	6667			1000			3	20	8	E20SF9001 (VIA E20AFD9001)
-	9	-	-		6667			1000		-	-	10	-
-	11	-	-			6667			1000	-	-	12	-
E10FG0101	13	20	3	333			333			3	20	14	E30FCV3101
-	15	-	-		333			333		-	-	16	-
-	17	-	-			333			333	-	-	18	-
E20FG3201	19	20	3	333			333			3	20	20	E30FCV5201
-	21	-	-		333			333		-	-	22	-
-	23	-	-			333			333	-	-	24	-
E20FV5401	25	20	3	333			333			3	20	26	E40LCP1101
-	27	-	-		333			333		-	-	28	-
-	29	-	-			333			333	-	-	30	-
E32LCP0101	31	20	3	500			5542			3	25	32	E80AHU9001
-	33	-	-		500			5542		-	-	34	-
-	35	-	-			500			5542	-	-	36	-
E32LCP0103 (FUTURE)	37	20	3				6097			3	25	38	E80ACCU9001
-	39	-	-					6097		-	-	40	-
-	41	-	-						6097	-	-	42	-
SPARE	43											44	SPACE
-	45									-	-	46	
-	47									-	-	48	
SPACE	49											50	SPACE
-	51									-	-	52	
-	53									-	-	54	
TOTAL LOAD				14833	14833	14833	13943	13943	13943				

PHASE A LOAD (VA) = 28776
PHASE B LOAD (VA) = 28776
PHASE C LOAD (VA) = 28776
TOTAL LOAD (VA)= 86328

ELECTRICAL PANELBOARD SCHEDULE

PANEL: E80LP0200
VOLTAGE: 208/120 VAC, 3 PHASE, 4 WIRE
BUS SIZE: 225A
MAIN SIZE: 225A
SCCR: 10KA

LOCATION: ELECTRICAL ROOM (SHOP / ELECTRICAL BUILDING)
MOUNTING: SURFACE
FED FROM: E80XFMR0200
MAIN TYPE: CIRCUIT BREAKER
NOTES:

CIRCUIT TITLE	BREAKER CKT NO.	BREAKER AMP	BREAKER POLE	LOAD, VA PHASE A	LOAD, VA PHASE B	LOAD, VA PHASE C	LOAD, VA PHASE A	LOAD, VA PHASE B	LOAD, VA PHASE C	BREAKER POLE	BREAKER AMP	BREAKER CKT NO.	CIRCUIT TITLE
E80UH9001	1	20	1	230			1080			1	20	2	SBR RECEPTACLES
E80UH9002	3	20	1		230			270		1	20	4	SBR LIGHTS
E80SF9001	5	20	1			750			255	1	20	6	ELECTRICAL ROOM LIGHTING
E80DDC9001	7	20	1	300			720			1	20	8	ELECTRICAL ROOM RECEPTACLES
E20DDC9001	9	20	1		300			255		1	20	10	SHOP LIGHTING
SPARE	11	20	1						720	1	20	12	SHOP RECEPTACLES
SPARE	13	20	1				720			1	20	14	UV RECEPTACLES
E30CP1100	15	20	1		150			425		1	20	16	UV LIGHTING
E80CP0101	17	20	1			150			540	1	20	18	OUTDOOR BLDG. MOUNTED RECEPT.
E40LCP0400	19	20	1	150			570			1	20	20	BLOWER AND DUMPSTER ROOM LIGHTING
SPARE	21	20	1					900		1	20	22	BLOWER AND DUMPSTER ROOM RECEPT.
SPARE	23	20	1						470	1	20	24	HEADWORKS UPPER LEVEL LIGHTING
SPACE	25						540			1	20	26	HEADWORKS UPPER LEVEL RECEPT.
SPACE	27							490		1	20	28	SITE LIGHTING (VIA LC-1)
SPACE	29									1	20	30	SPARE
E60LP0200	31	150	3	14237						1	20	32	SPARE
	33	-	-		14261							34	SPACE
	35	-	-			14119						36	SPACE
E80MBS0300	37	30	3	2120			3000			3	60	38	E80LP0201 (GENERATOR PANELBOARD)
	39	-	-		2500			3000		-	-	40	-
	41	-	-			2680			3000	-	-	42	-
TOTAL LOAD				16807	17211	16949	6630	5340	4985				

PHASE A LOAD (VA) = 23437
PHASE B LOAD (VA) = 22551
PHASE C LOAD (VA) = 21934
TOTAL LOAD (VA)= 67922

ELECTRICAL PANELBOARD SCHEDULE

PANEL: E80DP0102
VOLTAGE: 480Y/277 VAC, 3 PHASE, 4 WIRE
BUS SIZE: 150A
MAIN SIZE: 150A
SCCR: 22KA

LOCATION: ELECTRICAL ROOM (SHOP / ELECTRICAL BUILDING)
MOUNTING: SURFACE
FED FROM: E80MCC0102
MAIN TYPE: LUGS
NOTES:

CIRCUIT TITLE	BREAKER CKT NO.	BREAKER AMP	BREAKER POLE	LOAD, VA PHASE A	LOAD, VA PHASE B	LOAD, VA PHASE C	LOAD, VA PHASE A	LOAD, VA PHASE B	LOAD, VA PHASE C	BREAKER POLE	BREAKER AMP	BREAKER CKT NO.	CIRCUIT TITLE
E40PDC0402 (UV BANK #2)	1	40	3	6667			305			3	20	2	E30LCP2101 (DECANTER 2)
-	3	-	-		6667			305		-	-	4	
-	5	-	-			6667			305	-	-	6	
E40HSC0400	7	20	3	333			333			3	20	8	E30FCV4101
-	9	-	-		333			333		-	-	10	
-	11	-	-			333			333	-	-	12	
E20FG3202	13	20	3	333			333			3	20	14	E30FCV5202
-	15	-	-		333			333		-	-	16	
-	17	-	-			333			333	-	-	18	
E20M9201 (PRESSURE WASHER)	19	80	3	16350			333			3	20	20	E20FV5401
-	21	-	-		16350			333		-	-	22	
-	23	-	-			16350			333	-	-	24	
E32LCP0102	25	20	3	500						3	20	26	SPARE
-	27	-	-		500					-	-	28	
-	29	-	-			500				-	-	30	
SPARE	31	20	3									32	SPACE
-	33	-	-							-	-	34	
-	35	-	-							-	-	36	
SPARE	37	20	3									38	SPACE
-	39	-	-							-	-	40	
-	41	-	-							-	-	42	
SPACE	43											44	SPACE
-	45	-	-							-	-	46	-
-	47	-	-							-	-	48	-
SPACE	49											50	SPACE
-	51	-	-							-	-	52	-
-	53	-	-							-	-	54	-
TOTAL LOAD				24183	24183	24183	1304	1304	1304				

PHASE A LOAD (VA) = 25487
PHASE B LOAD (VA) = 25487
PHASE C LOAD (VA) = 25487
TOTAL LOAD (VA)= 76460

ELECTRICAL PANELBOARD SCHEDULE

PANEL: E80LP0300
VOLTAGE: 208/120 VAC, 3 PHASE, 4 WIRE
BUS SIZE: 100A
MAIN SIZE: 60A
SCCR: 10KA

LOCATION: ELECTRICAL ROOM (SHOP / ELECTRICAL BUILDING)
MOUNTING: SURFACE
FED FROM: E80MBS300
MAIN TYPE: CIRCUIT BREAKER
NOTES: PANELBOARD IS POWERED FROM FACILITY UPS

CIRCUIT TITLE	BREAKER CKT NO.	BREAKER AMP	BREAKER POLE	LOAD, VA PHASE A	LOAD, VA PHASE B	LOAD, VA PHASE C	LOAD, VA PHASE A	LOAD, VA PHASE B	LOAD, VA PHASE C	BREAKER POLE	BREAKER AMP	BREAKER CKT NO.	CIRCUIT TITLE
E10FIT0501	1	15	1	100						1	15	2	SPARE
E10FIT0701	3	15	1		100			100		1	15	4	E30FET3001
E80WKST9601 RECEPT.	5	15	1			180			100	1	15	6	E30FET4201
SPARE	7	15	1				100			1	15	8	E30FET4001
SPARE	9	15	1					100		1	15	10	E30FET3201
E40LCP0400	11	15	1			100			100	1	15	12	E30FET5101
E40CS0901	13	15	1	100			100			1	15	14	E30FET6301
E40SAMP2001	15	15	1		100			100		1	15	16	E30AIT1401
E40FET1301	17	15	1			100			100	1	15	18	E30AIT2401
E40AIT0301	19	15	1	100			500			1	20	20	E32LCP0101
E80CP0101	21	20	1		1000			500		1	20	22	E32LCP0102
E80NIP0101	23	20	1			500				1	20	24	SPARE
E20WN9501/9502/9503	25	15	1	200						1	20	26	SPARE
E80WN9501/9502	27	15	1		300					1	20	28	SPARE
SPARE	29	15	1						1000	1	20	30	E30CP1100
	31											32	
	33											34	
	35											36	
	37						920			3	30	38	E60LP0300
	39							100				40	-
	41								500			42	-
TOTAL LOAD				500	1500	880	1620	900	1800				

PHASE A LOAD (VA) = 2120
PHASE B LOAD (VA) = 2400
PHASE C LOAD (VA) = 2680
TOTAL LOAD (VA)= 7200

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APVD	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SHOP/ELECTRICAL BUILDING
ELECTRICAL
PANELBOARD SCHEDULES

REGISTERED PROFESSIONAL ENGINEER
85946PE
Digital Signature
OREGON
JAN 10, 2012
JASON A. CLIFFORD
EXP. 12-31-15

SHEET 80-E-6001
SEQ 204
DATE 12/2014
PROJ. NO. 490515

80-E-6001_469556.dgn

NOTES:

1. BREAKER SIZED BY MANUFACTURER.
2. MAINTENANCE BYPASS CIRCUIT BREAKERS SIZED BY MANUFACTURER.
3. COORDINATE WITH PACIFIC POWER ON THE LOCATION OF THE CT CABINET AND UTILITY METER. INSTALL PER UTILITY REQIREMENTS.
4. BID ALTERNATE, SEE SPEC SECTION 00 05 00, CONSTRUCTION SERVICES AGREEMENT.

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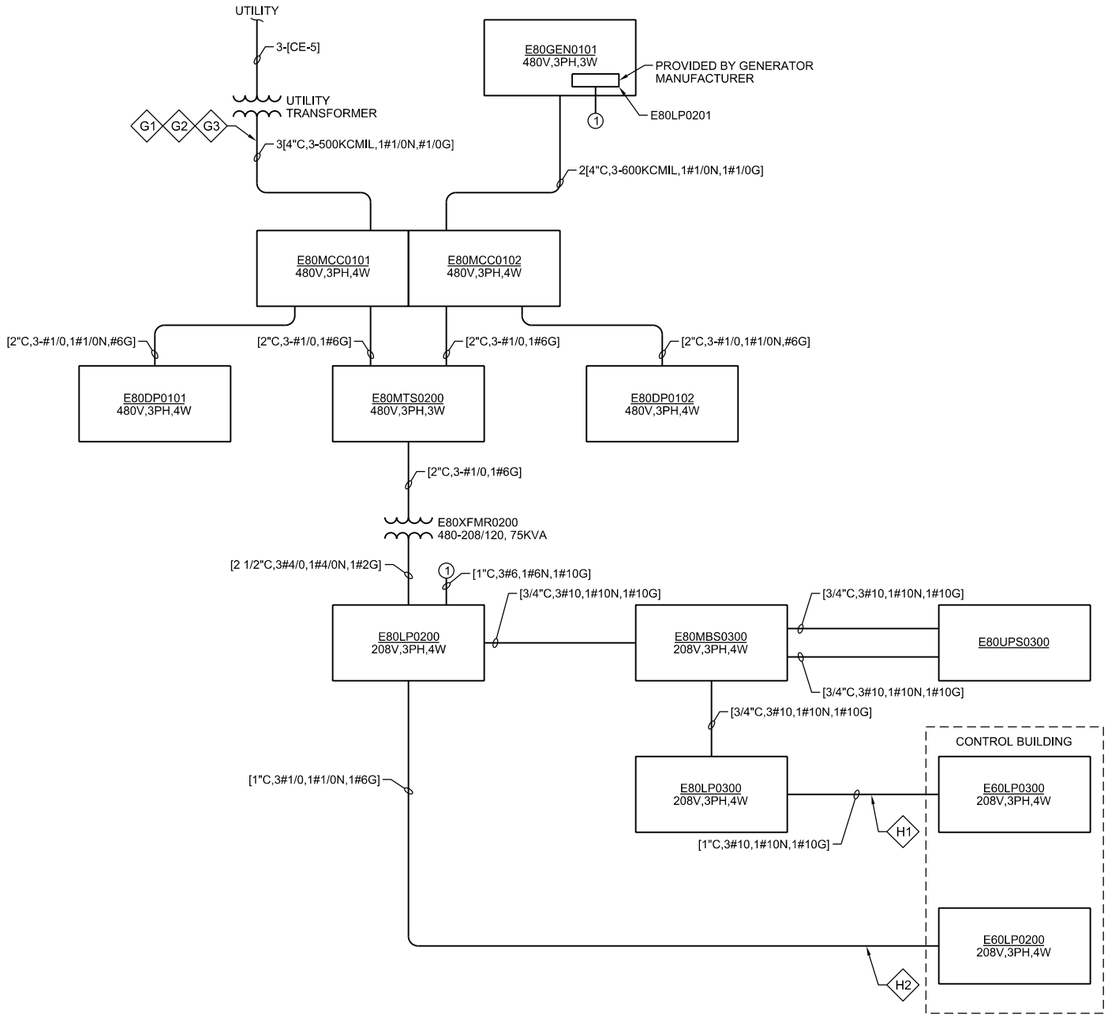
DSGN	JAC
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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
ELECTRICAL

ONE-LINE DIAGRAM

REGISTERED PROFESSIONAL ENGINEER
85946PE
Digital Signature
OREGON
JAN 10, 2012
JASON A. CLIFFORD
EXP. 12-31-15

SHEET 90-E-6000
SEQ 205
DATE 12/2014
PROJ. NO. 490515



POWER DISTRIBUTION CBD

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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
ELECTRICAL

CABLE BLOCK DIAGRAMS

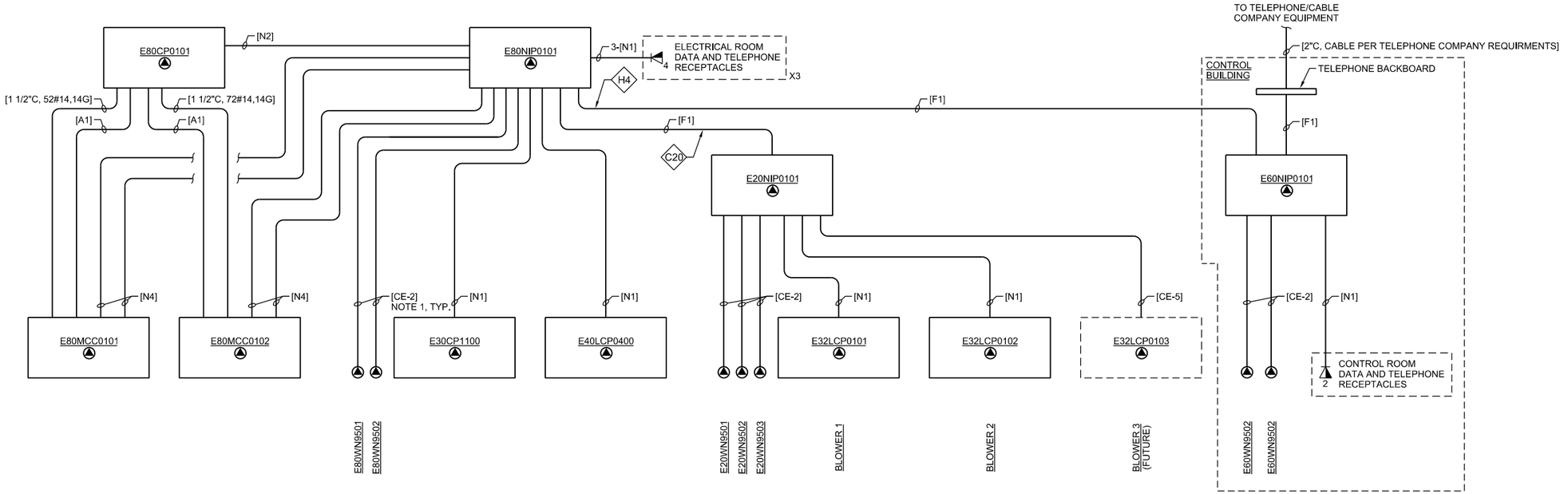
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85946PE
Digital Signature
OREGON
JAN. 10, 2012
JASON A. CLIFFORD
EXP. 12-31-15

SHEET 90-E-6001
SEQ 206
DATE 12/2014
PROJ. NO. 490515

90-E-6001_469556.dgn

NOTES:

1. CONDUIT WILL BE EXTENDED TO FINAL WIRELESS TRANSMITTER LOCATIONS BASED ON NETWORK COMMUNICATION SYSTEMS SURVEY RESULTS. PROVIDE CABLE BETWEEN TRANSMITTERS AND NIP'S BASED ON REQUIREMENTS IN THE NETWORK COMMUNICATIONS SYSTEM SURVEY.



PLANT NETWORK AND COMMUNICATION CBD

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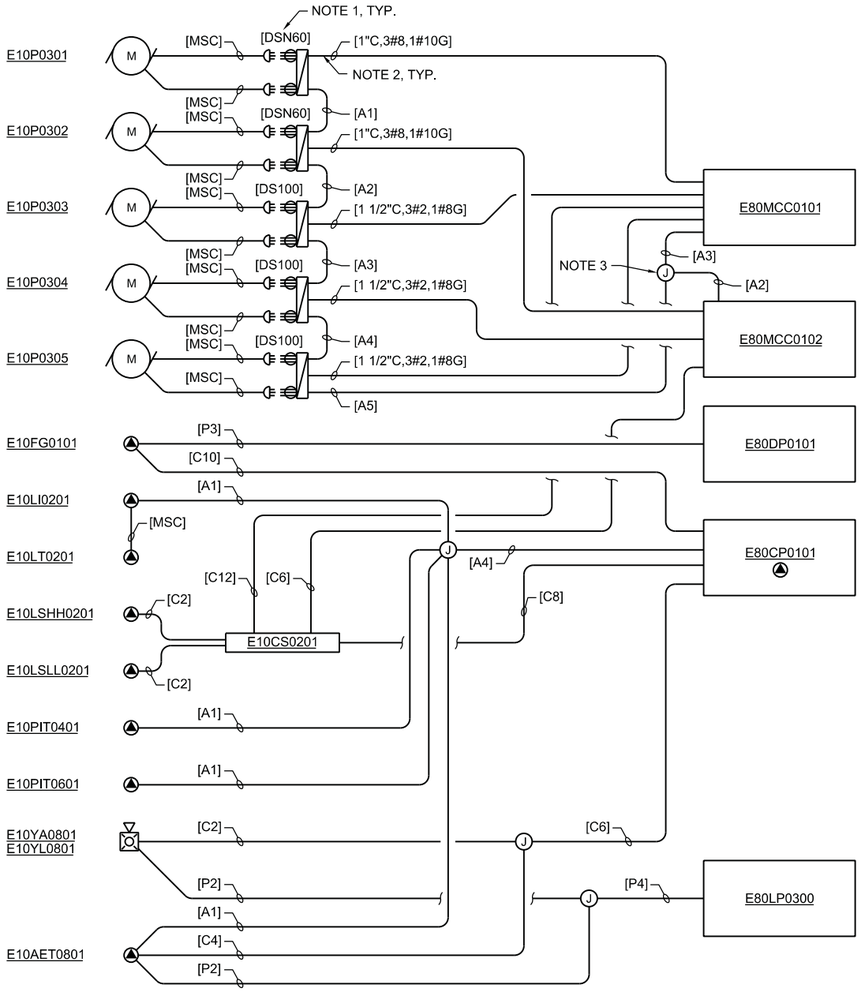
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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
ELECTRICAL

CABLE BLOCK DIAGRAMS

REGISTERED PROFESSIONAL ENGINEER
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Digital Signature
OREGON
JAN. 10, 2012
JASON A. CLIFFORD
EXP. 12-31-15

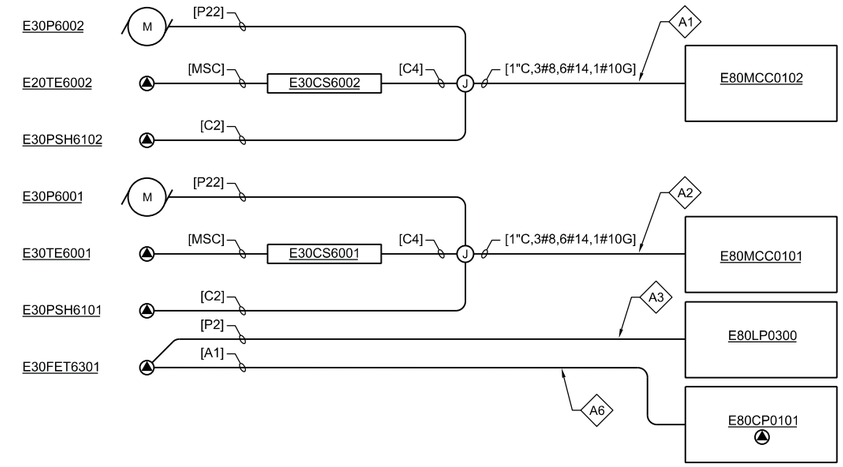
SHEET 90-E-6002
SEQ 207
DATE 12/2014
PROJ. NO. 490515



NOTES:

1. CALLOUT INDICATES STYLE AND AMPERAGE RATING OF MELTRIC DECONTACTOR PLUG AND RECEPTACLE COMBINATION.
2. INFLUENT PUMPS WILL EITHER COME FURNISHED WITH ONE OR TWO CABLES DEPENDING ON MANUFACTURER. FOR ONE CABLE, PROVIDE 1 MELTRICS PLUG AND RECEPTACLE PAIR WITH SUFFICIENT AUXILIARY PINS TO ACCOMMODATE CONTROL CONDUCTORS. FOR TWO CABLES, PROVIDE TWO MELTRICS PLUG AND RECEPTACLE PAIRS COMPLETE WITH TERMINAL JUNCTION BOX FOR WIRING TERMINATIONS. PROVIDE MELTRICS PLUG WITH SUFFICIENT TERMINATIONS FOR CONTROL CONDUCTORS.
3. ANALOG CONDUCTORS ARE FOR THE TEMPERATURE AND LEAKAGE DETECTORS INSIDE EACH SUBMERSIBLE PUMP. TERMINATE CONDUCTORS ON AUXILIARY PINS FURNISHED WITH THE METRICS PLUG ON ONE END AND AT THE PUMP MONITORING UNIT IN THE MCC ON THE OTHER.
4. BID ALTERNATE, SEE SPEC SECTION 00 05 00, CONSTRUCTION SERVICES AGREEMENT.

INFLUENT PUMP STATION CBD



WAS PUMP STATION CBD

REGISTERED PROFESSIONAL ENGINEER 85946PE Digital Signature OREGON JAN. 10, 2012 JASON A. CLIFFORD
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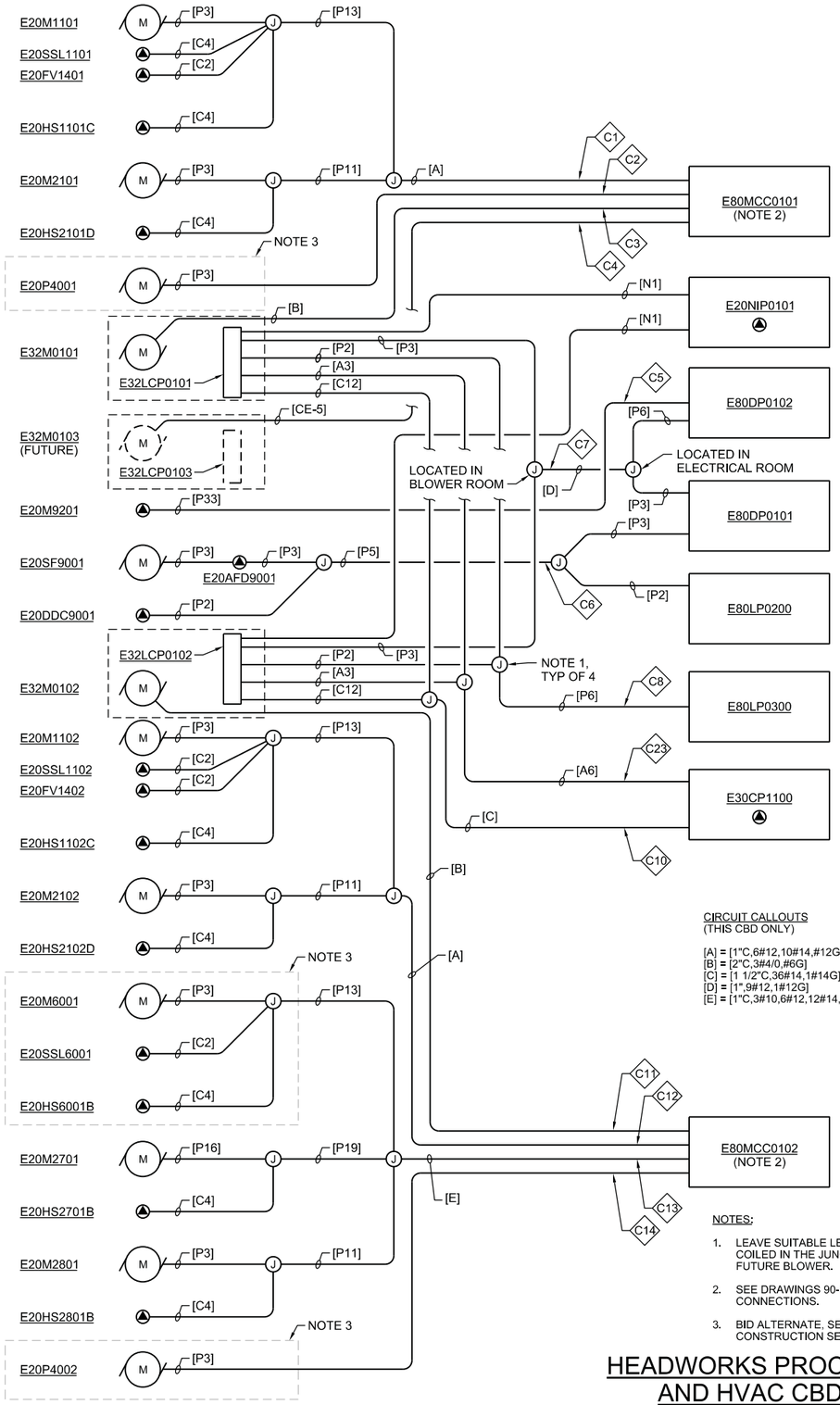
NO.	DATE	REVISION	BY

DSGN JAC
DR SMW
CHK RSH
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
ELECTRICAL
CALBE BLOCK DIAGRAMS

SHEET 90-E-6003
SEQ 208
DATE 12/2014
PROJ. NO. 490515

90-E-6003_469556.dgn



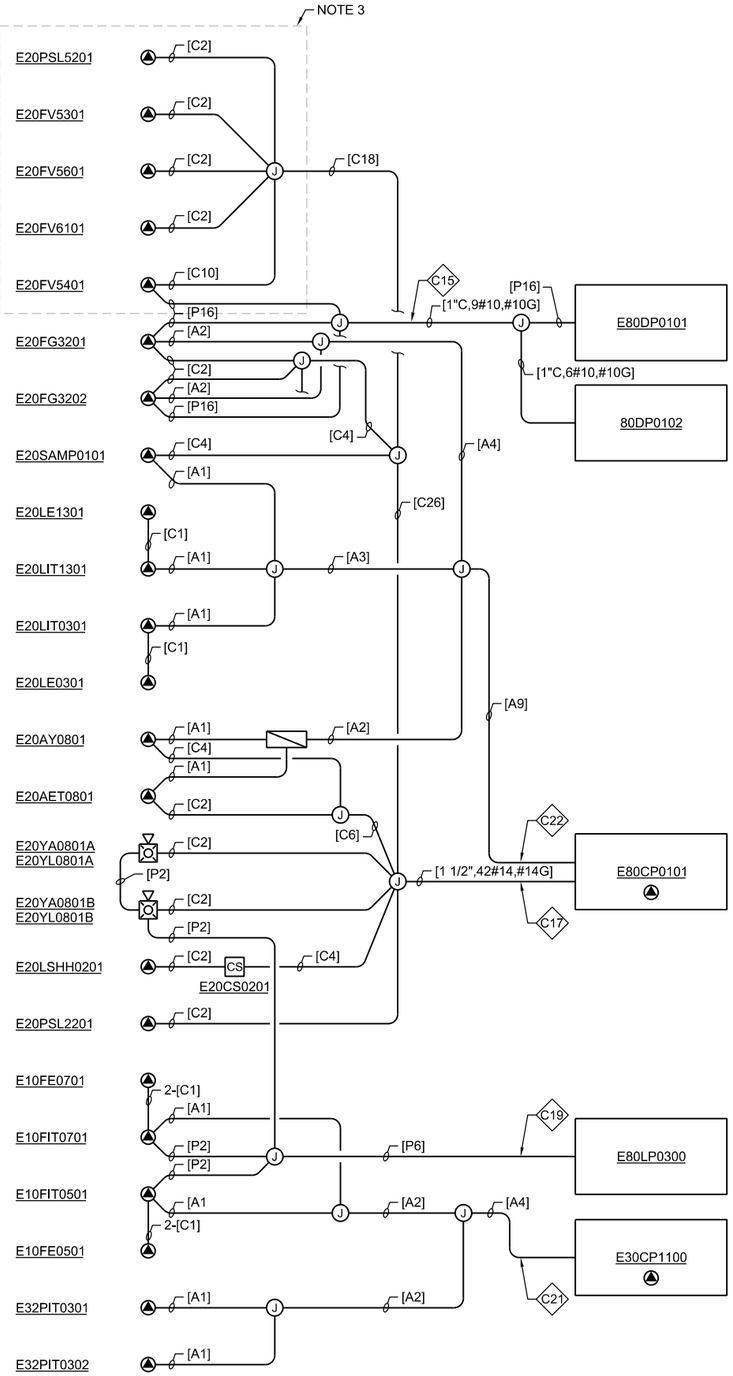
CIRCUIT CALLOUTS
(THIS CBD ONLY)

[A] = [1"C,6#12,10#14,#12G]
[B] = [2"C,3#4/0,#6G]
[C] = [1 1/2"C,36#14,1#14G]
[D] = [1",9#12,1#12G]
[E] = [1"C,3#10,6#12,12#14,#10G]

NOTES:

1. LEAVE SUITABLE LENGTH OF SPARE CONDUCTORS COILED IN THE JUNCTION BOX TO CONNECT TO FUTURE BLOWER.
2. SEE DRAWINGS 90-E-6002 FOR MCC TO PLC NETWORK CONNECTIONS.
3. BID ALTERNATE, SEE SPEC SECTION 00 05 00, CONSTRUCTION SERVICES AGREEMENT.

HEADWORKS PROCESS AND HVAC CBD



NOTES:

1. BID ALTERNATE, SEE SPEC SECTION 00 05 00, CONSTRUCTION SERVICES AGREEMENT.

HEADWORKS INSTRUMENTATION AND VALVE CBD

REGISTERED PROFESSIONAL ENGINEER
85946PE
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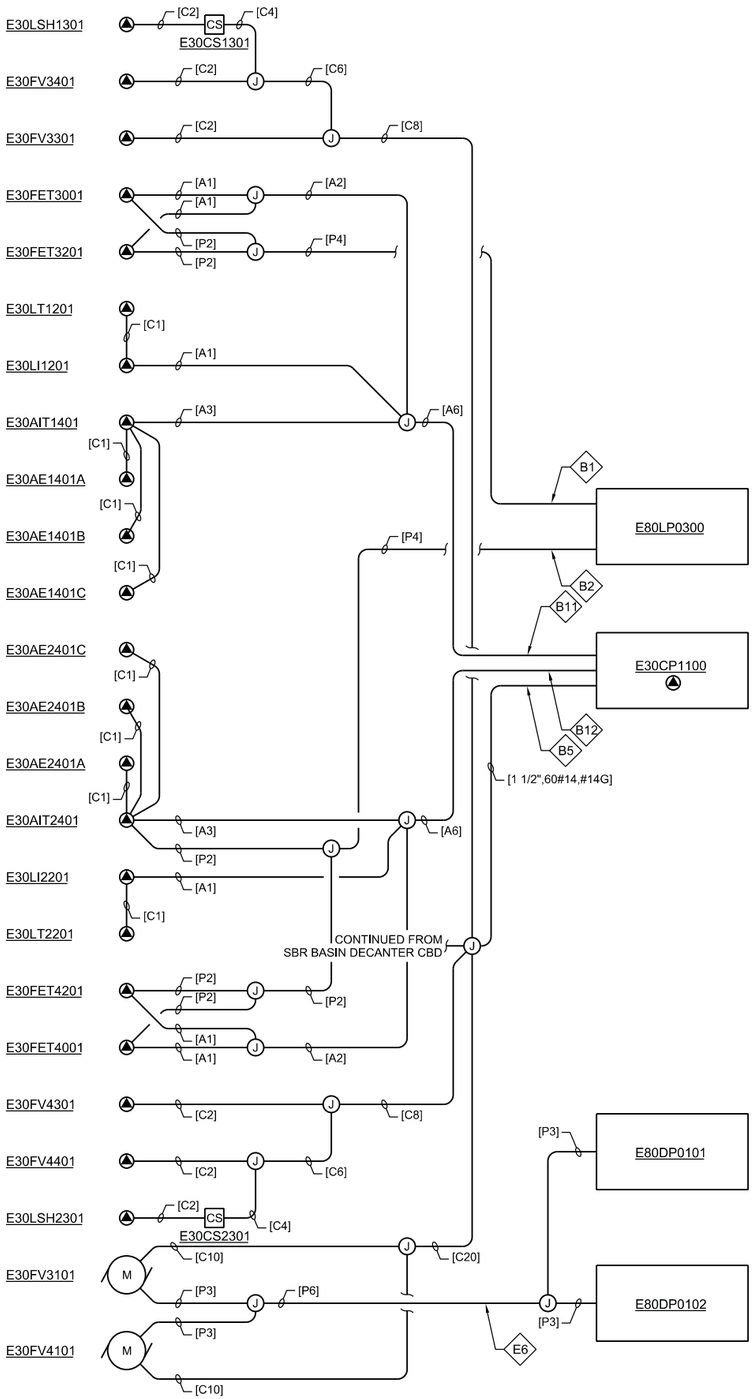
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APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
ELECTRICAL

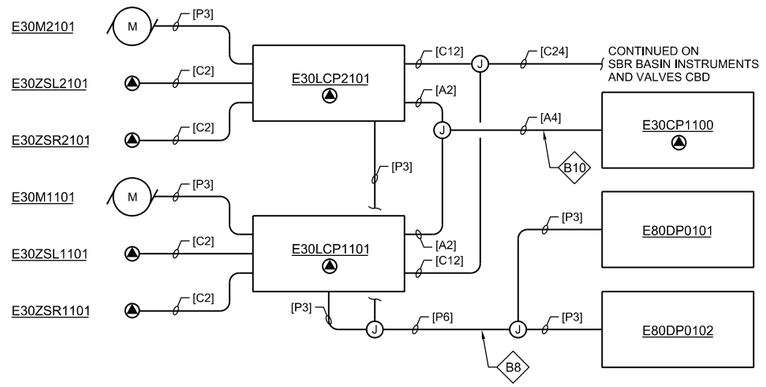
CABLE BLOCK DIAGRAMS

SHEET 90-E-6004
SEQ 209
DATE 12/2014
PROJ. NO. 490515

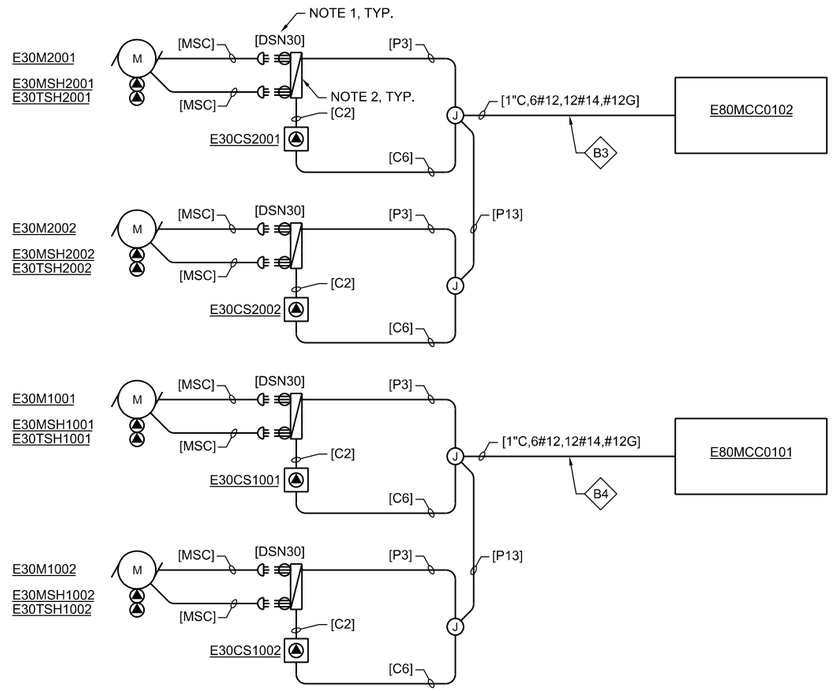
90-E-6004_469556.dgn



SBR BASIN INSTRUMENTS AND VALVES CBD



SBR BASIN DECANTER CBD



NOTES:

1. CALLOUT INDICATES STYLE AND APERAGE RATING OF MELTRIC DECONTACTOR PLUG AND RECEPTACLE COMBINATION.
2. SBR MIXERS WILL EITHER COME FURNISHED WITH ONE OR TWO CABLES DEPENDING ON MANUFACTURER. FOR ONE CABLE, PROVIDE 1 MELTRICS PLUG AND RECEPTACLE PAIR WITH SUFFICIENT AUXILIARY PINS TO ACCOMODATE CONTROL CONDUCTORS. FOR TWO CABLES, PROVIDE TWO MELTRICS PLUG AND RECEPTACLE PAIRS COMPLETE WITH TERMINAL JUNCTION BOX FOR WIRING TERMINATIONS. PROVIDE MELTRICS PLUG WITH SUFFICIENT TERMINATIONS FOR CONTROL CONDUCTORS.

SBR BASIN MIXER CBD

REGISTERED PROFESSIONAL ENGINEER
8594PE
Digital Signature
OREGON
JAN 10, 2012
JASON A. CLIFFORD
EXP. 12-31-15

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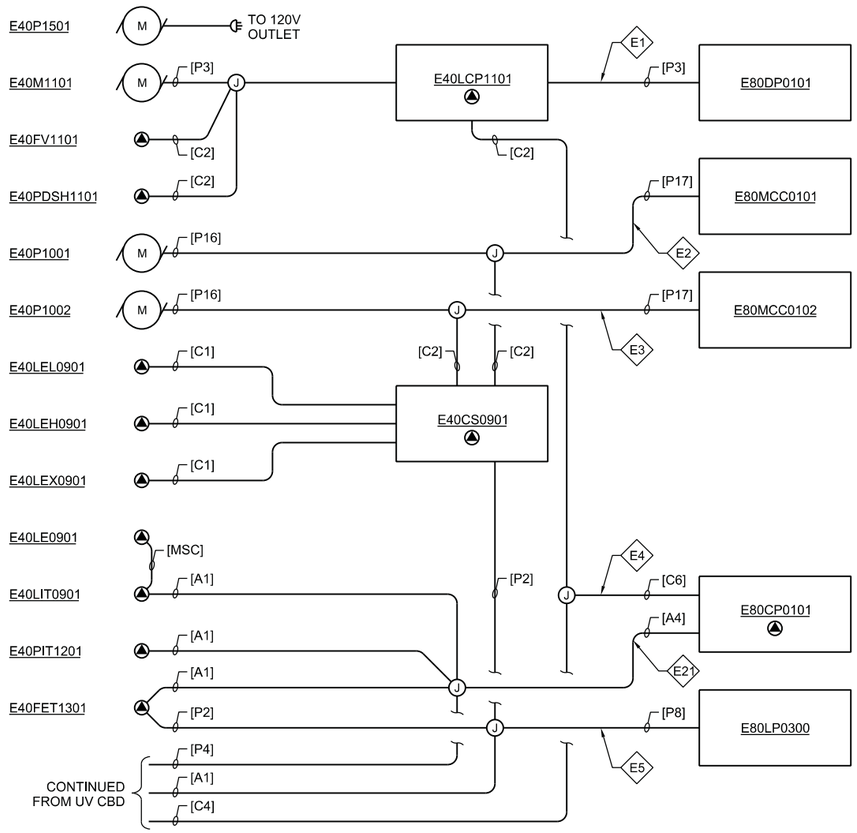
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APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
ELECTRICAL

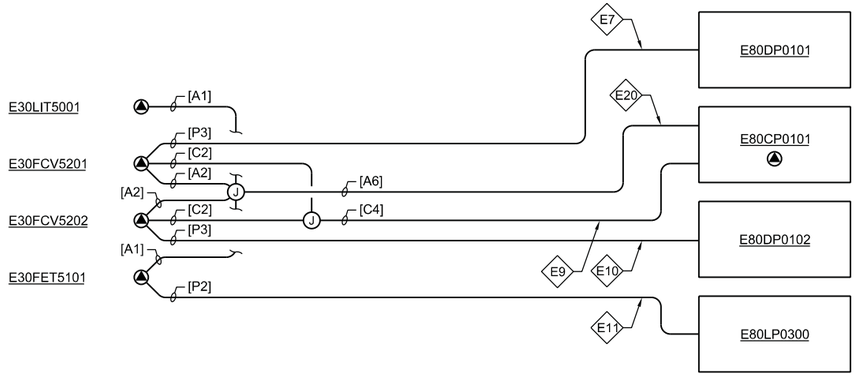
CALBE BLOCK DIAGRAMS

SHEET 90-E-6005
SEQ 210
DATE 12/2014
PROJ. NO. 490515

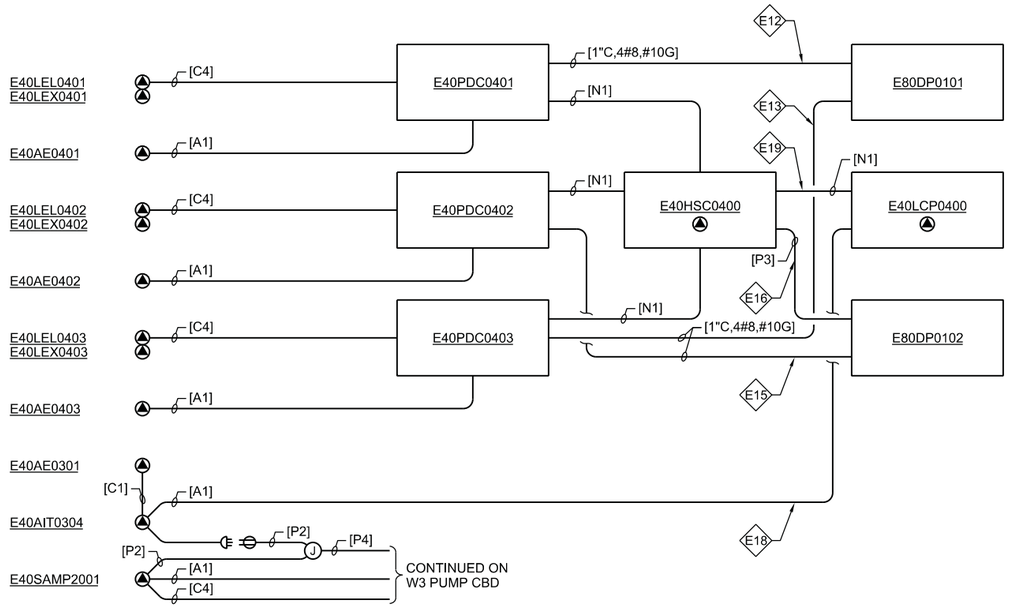
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W3 PUMP CBD



EQUALIZATION BASIN CBD



UV CBD

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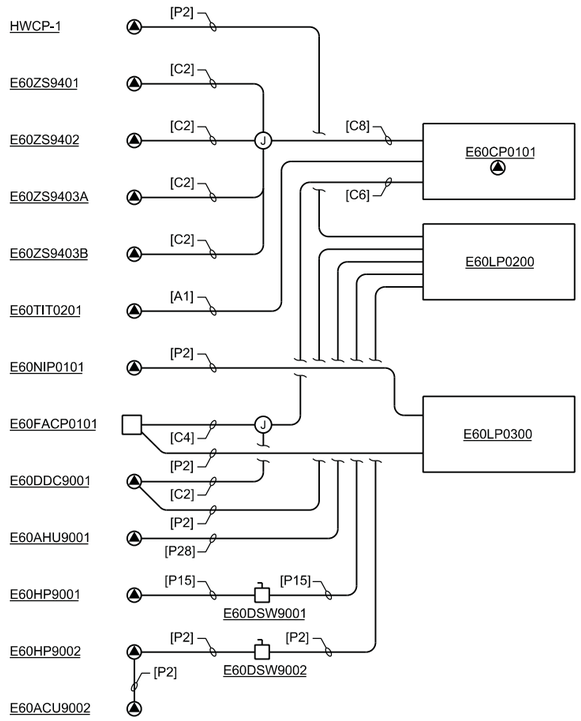
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
ELECTRICAL

CABLE BLOCK DIAGRAMS

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OREGON
Digital Signature
JAN 10, 2012
JASON A. CLIFFORD
EXP. 12-31-15

SHEET 90-E-6006
SEQ 211
DATE 12/2014
PROJ. NO. 490515

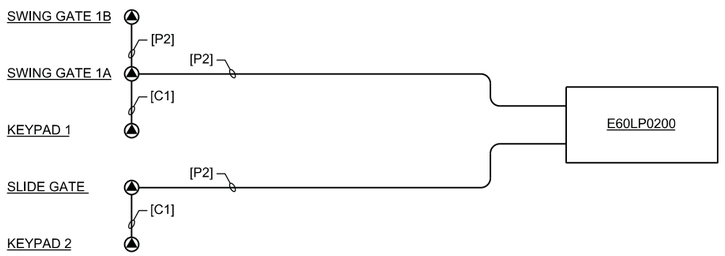
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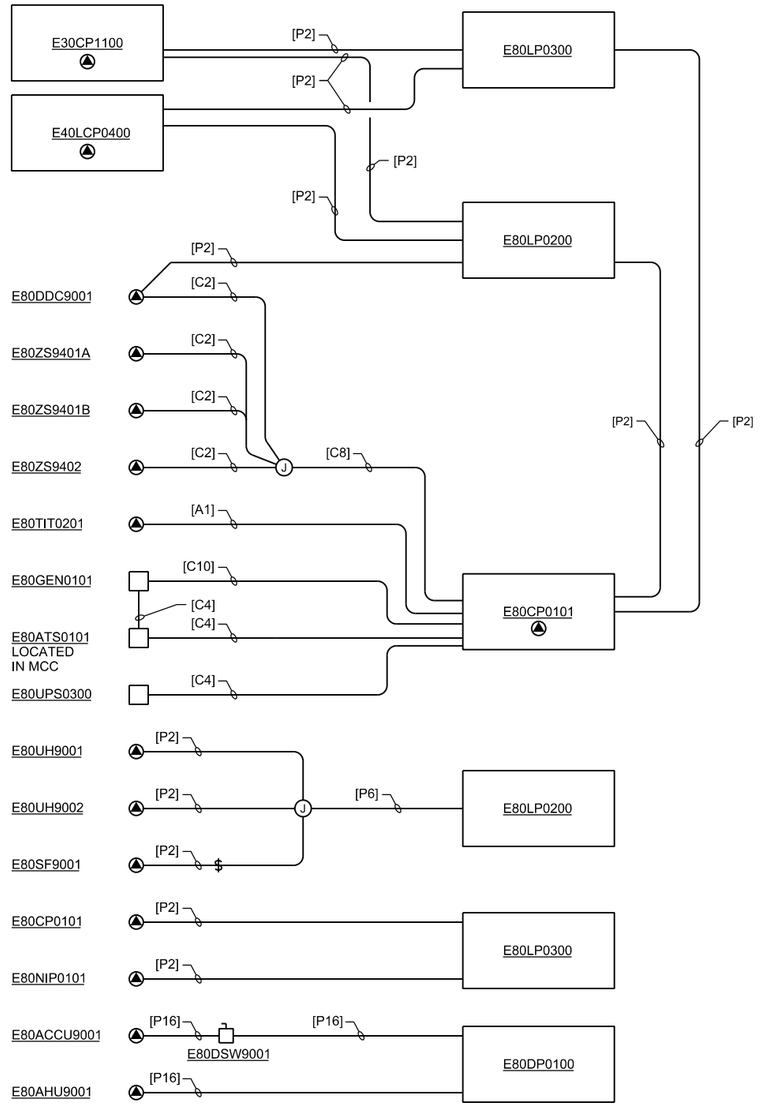
CONTROL BUILDING CBD



ODOR CONTROL CBD



SITE GATE CBD



SHOP/ELECTRICAL ROOM CBD

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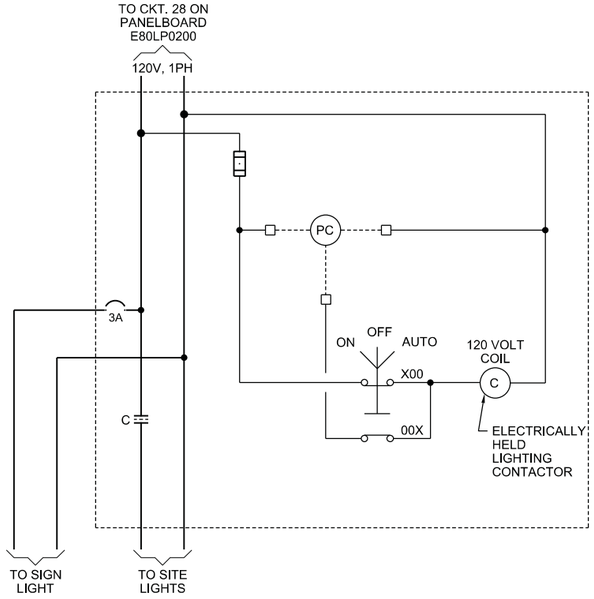
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ELECTRICAL

CABLE BLOCK DIAGRAMS

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JAN 10, 2012
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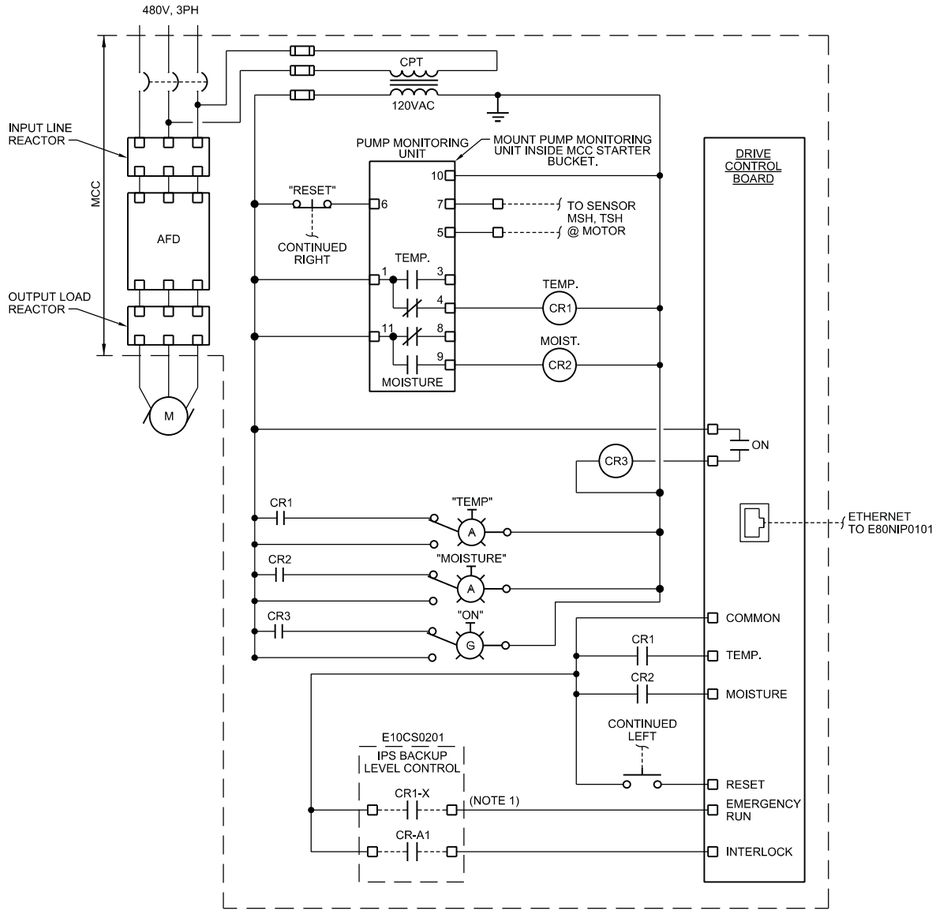
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SEQ 212
DATE 12/2014
PROJ. NO. 490515

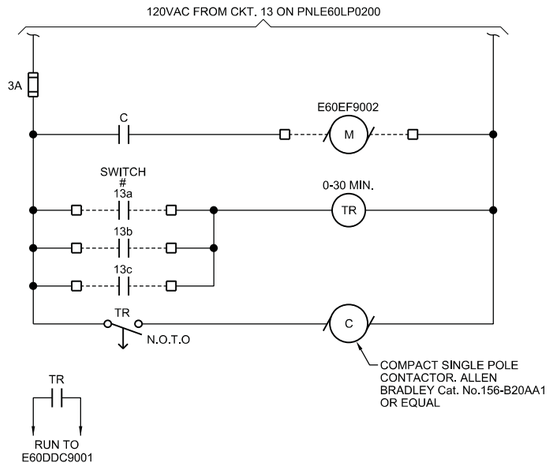
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LIGHTING CONTROL DIAGRAM LC-1

CONTROL SCHEMATIC





E60CS9002

CONTROL SCHEMATIC

MOTOR	MSH	TSH	CR-A1	CR1-X	MCC	AFD
E10P0301	E10MSH0301	E10TSH0301	CR-A1	TRI-3	E80MCC0101	E10AFD0301
E10P0302	E10MSH0302	E10TSH0302	CR-A1	TRI-3	E80MCC0102	E10AFD0302
E10P0303	E10MSH0303	E10TSH0303	CR-A1X	CR1-2	E80MCC0101	E10AFD0303
E10P0304	E10MSH0304	E10TSH0304	CR-A1X	N/A	E80MCC0102	E10AFD0304
E10P0305	E10MSH0305	E10TSH0305	CR-A1X	CR1-2	E80MCC0102	E10AFD0305

NOTES:

1. DRIVE SHALL START AND RUN AT 100% SPEED WHEN IPS BACKUP CONTROL DETECTS HIGH LEVEL. REFERENCE DWG 09-I-0104.
2. FLYGT'S MINI-CAS UNIT IS SHOWN FOR THE PUMP MONITORING UNIT. ADJUST CONTROL SCHEMATIC TO ACCOMODATE AN ALTERNATIVE MANUFACTURER.

INFLUENT PUMPS

CONTOL SCHEMATIC

REGISTERED PROFESSIONAL ENGINEER
85946PE
Digital Signature
OREGON
JAN 10, 2015
JASON A. CLIFFORD
EXP. 12-31-15

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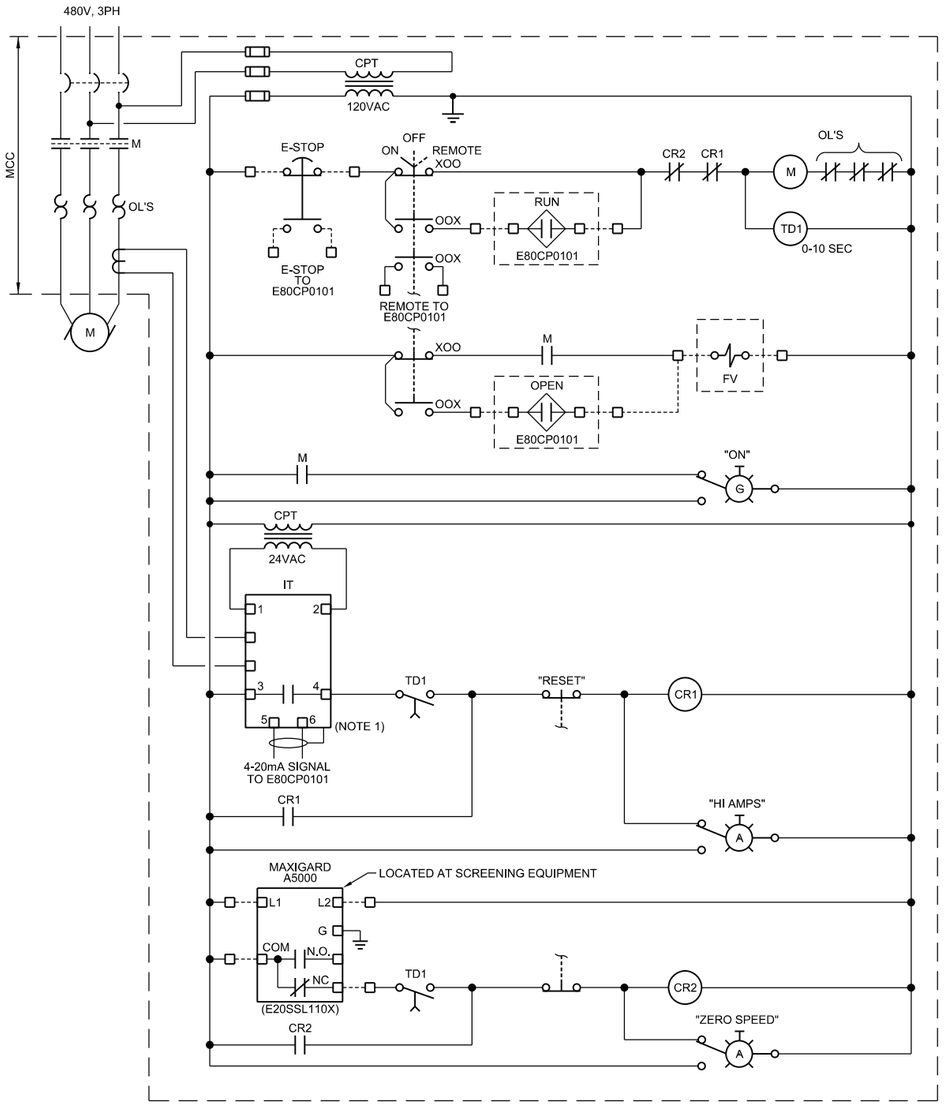
NO.	DATE	REVISION	BY

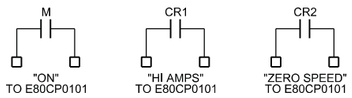
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APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
ELECTRICAL
CONTROL DIAGRAMS

SHEET 90-E-6010
SEQ 213
DATE 12/2014
PROJ. NO. 490515

90-E-6010_469556.dgn





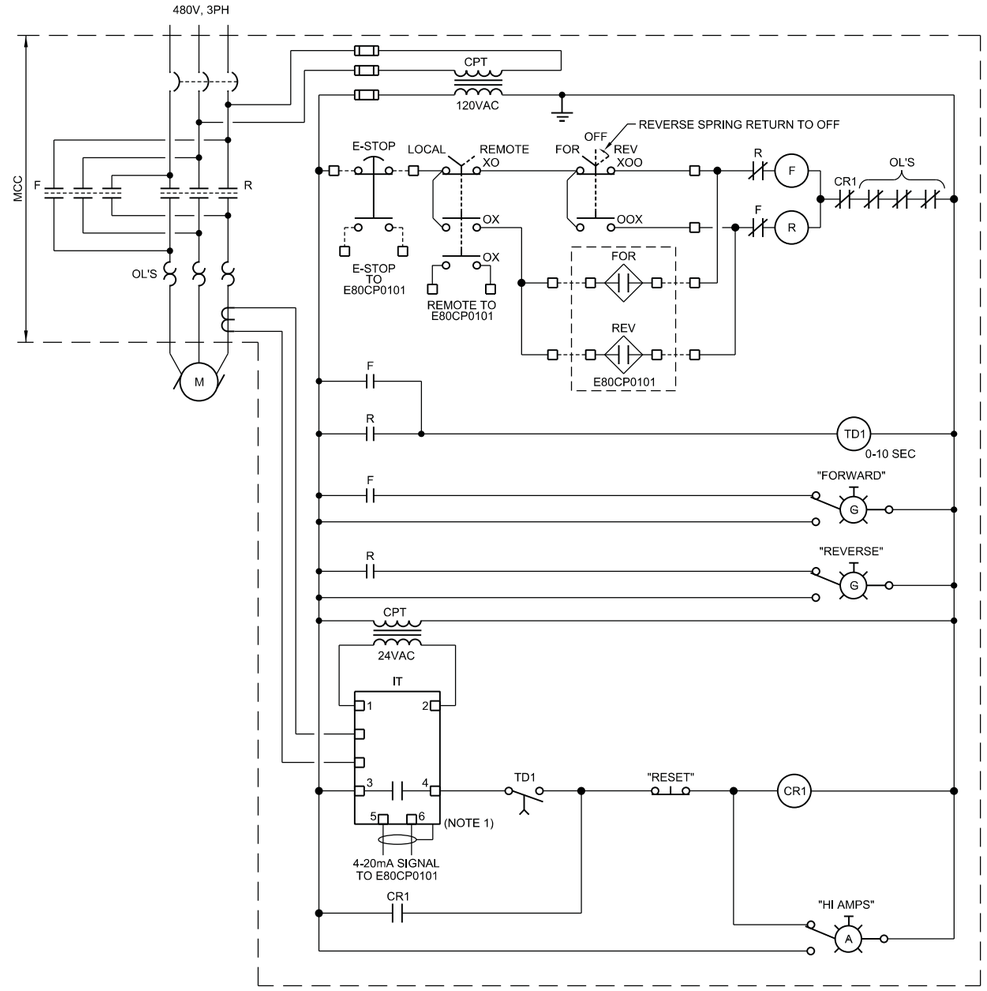
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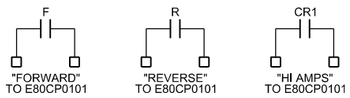
1. CURRENT MONITOR SHALL ALARM ON HIGH CURRENT AND BE SET BY THE SCREEN MANUFACTURER. CURRENT MONITOR SHALL BE NK TECHNOLOGIES ATS-1-420-MOAC-24U-FL.

MOTOR	HS	FV	MCC
E20M1101	E20HS1101C	E20FV1401	E80MCC0101
E20M1102	E20HS1102C	E20FV1402	E80MCC0102

INFLUENT SCREENS

CONTOL SCHEMATIC





NOTES:

1. CURRENT MONITOR SHALL ALARM ON HIGH CURRENT AND BE SET BY THE SCREEN MANUFACTURER. CURRENT MONITOR SHALL BE NK TECHNOLOGIES ATS-1-420-MOAC-24U-FL.

MOTOR	IT	MCC
E20M2101	E20IT2101	E80MCC0101
E20M2102	E20IT2102	E80MCC0102

SCREENINGS COMPACTOR

CONTOL SCHEMATIC

REGISTERED PROFESSIONAL ENGINEER
85946PE
Digital Signature
OREGON
JAN 10, 20 12
JASON A. CLIFFORD
EXP. 12-31-15

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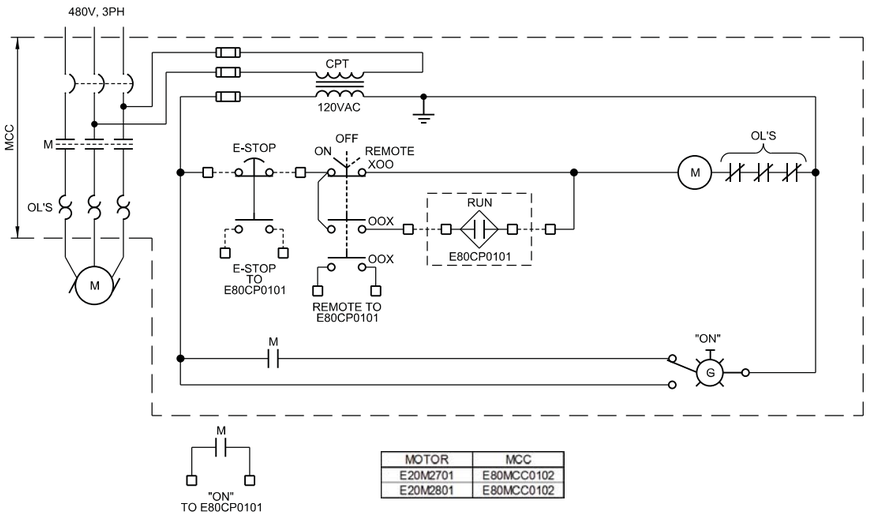
NO.	REVISION	DATE	BY

DSGN JAC
DR JNH
CHK RSH
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
ELECTRICAL
CONTROL DIAGRAMS

SHEET 90-E-6011
SEQ 214
DATE 12/2014
PROJ. NO. 490515

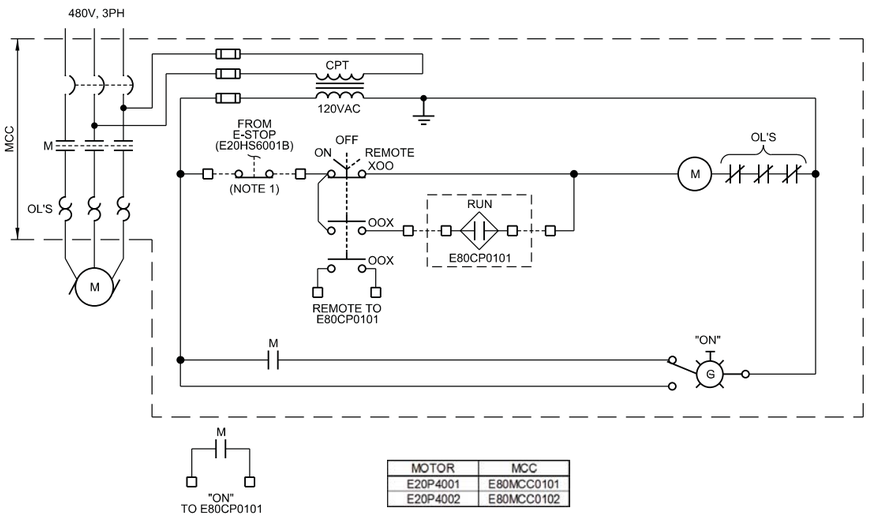
90-E-6011_469556.dgn



MOTOR	MCC
E20M2701	E80MCC0102
E20M2801	E80MCC0102

SCREENINGS CONVEYOR

NTS CONTOL SCHEMATIC



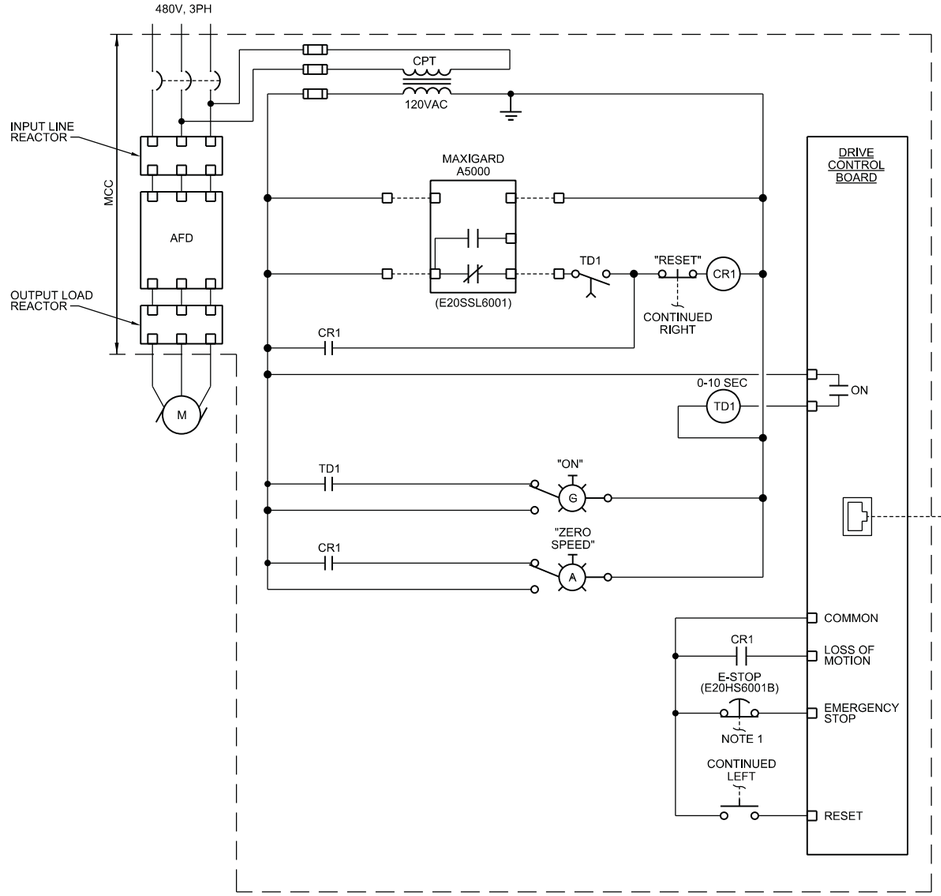
MOTOR	MCC
E20P4001	E80MCC0101
E20P4002	E80MCC0102

NOTES:

1. ADDITIONAL SETS OF CONTACTS FROM THE GRIT SNAIL E-STOP SHALL REMOVE POWER TO GRIT PUMPS.

GRIT PUMP

CONTOL SCHEMATIC



NOTES:

1. ADDITIONAL SETS OF CONTACTS FROM THE GRIT SNAIL E-STOP SHALL REMOVE POWER TO GRIT PUMPS.

GRIT SNAIL

CONTOL SCHEMATIC

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EXP. 12-31-15

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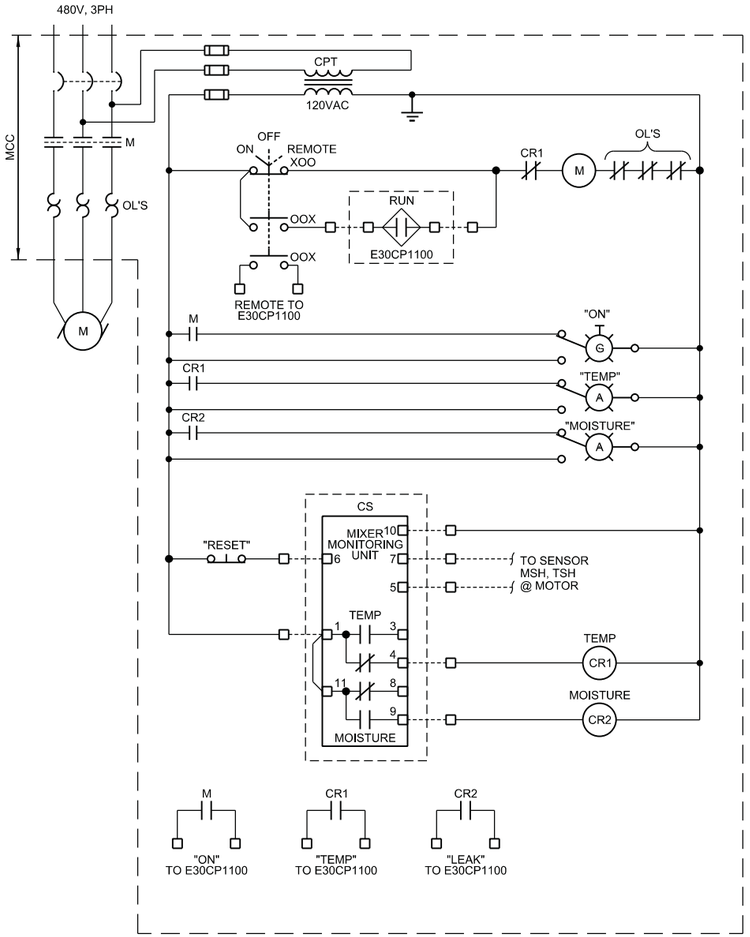
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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
ELECTRICAL

CONTROL DIAGRAMS

SHEET 90-E-6012
SEQ 215
DATE 12/2014
PROJ. NO. 490515

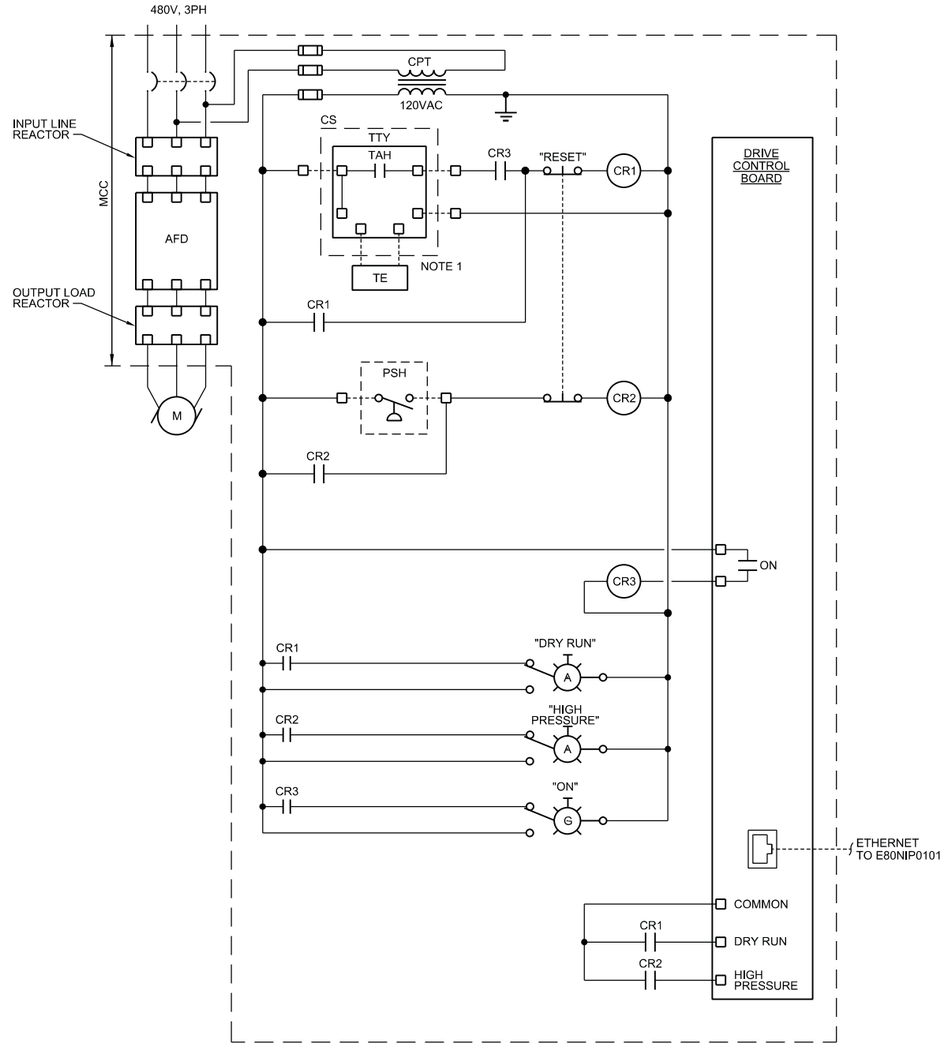
90-E-6012_469556.dgn



MOTOR	CS	MCC
E30M1001	E30CS1001	E80MCC0101
E30M1002	E30CS1002	E80MCC0101
E30M2001	E30CS2001	E80MCC0102
E30M2002	E30CS2002	E80MCC0102

SBR BASIN MIXER

CONTOL SCHEMATIC



NOTES:

1. PUMP MANUFACTURER SHALL PROVIDE DRY-RUN ELEMENT AND TRANSMITTER.

MOTOR	CS	TE	PSH	MCC
E30P6001	E30CS6001	E30TE6001	E30PSH6101	E80MCC0101
E30P6002	E30CS6002	E30TE6002	E30PSH6102	E80MCC0102

WAS PUMP

CONTOL SCHEMATIC

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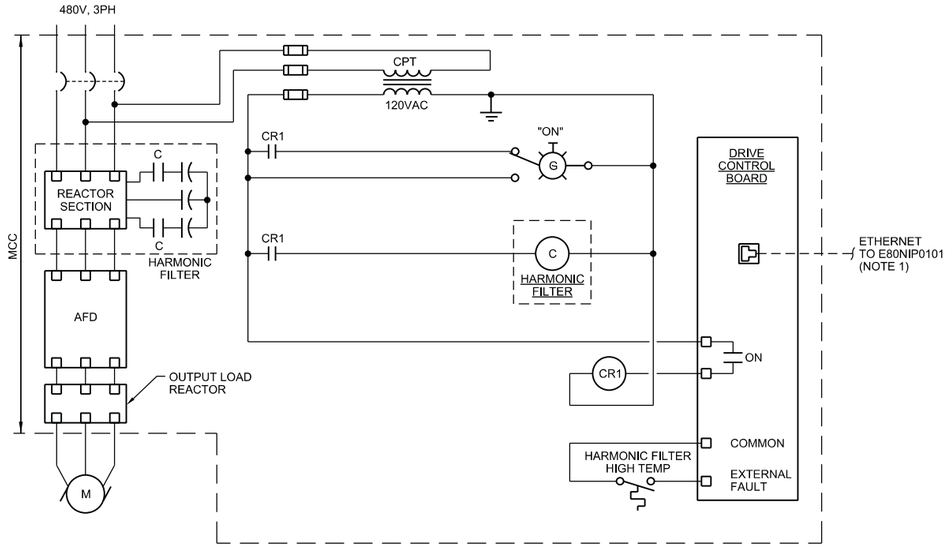
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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
ELECTRICAL

CONTROL DIAGRAMS

SHEET 90-E-6013
SEQ 216
DATE 12/2014
PROJ. NO. 490515

90-E-6013_469556.dgn



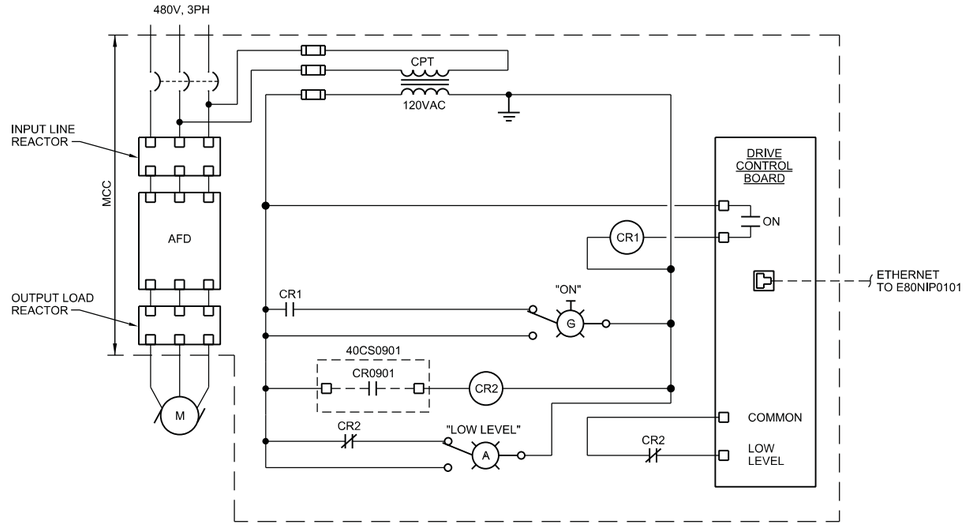
MOTOR	MCC	LCP
E32M0101	E80MCC0101	E32LCP0101
E32M0102	E80MCC0102	E32LCP0102

NOTES:

1. DRIVE COMMUNICATION TO E32LCP010X VIA PLANT CONTROL NETWORK.

PROCESS AIR BLOWER

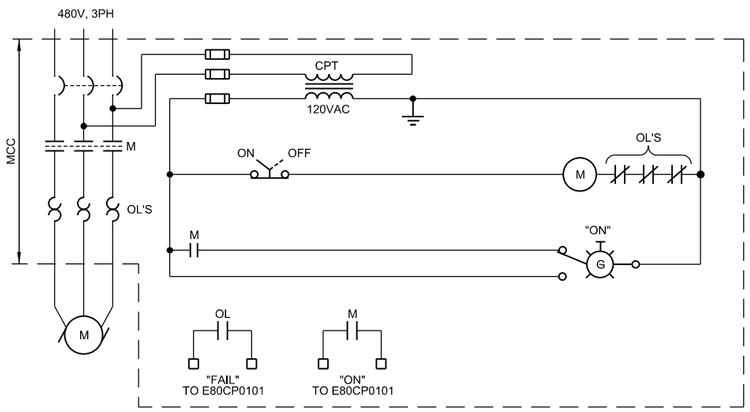
CONTOL SCHEMATIC



MOTOR	MCC
E40P1001	E80MCC0101
E40P1002	E80MCC0102

W3 PUMPS

CONTOL SCHEMATIC



BIOFILTER FAN

CONTOL SCHEMATIC

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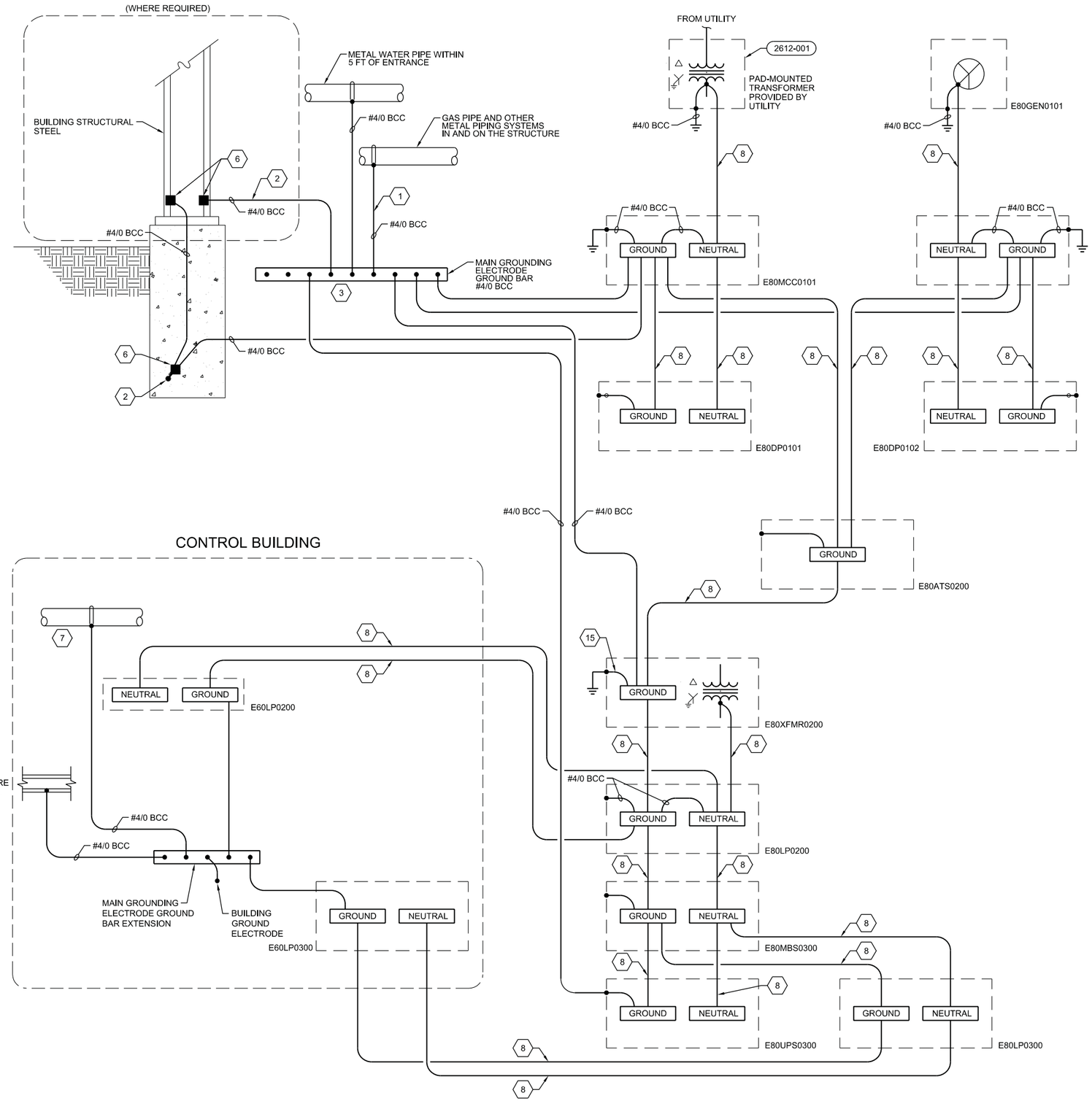
CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
ELECTRICAL

CONTROL DIAGRAMS

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OREGON
JAN. 10, 2013
JASON A. CLIFFORD
EXP. 12-31-15

SHEET 90-E-6014
SEQ 217
DATE 12/2014
PROJ. NO. 490515

90-E-6014_469556.dgn



NOTES:

1. GROUND CONDUCTORS SHALL BE #4/0 UON.
2. INSTALL GROUNDING CONNECTIONS TO BUILDING STRUCTURE AND WATER PIPES AT LOCATIONS THAT ARE VISIBLE AND ACCESSIBLE FOR INSPECTION, MAINTENANCE, AND TESTING.
3. INSTALL AN INSULATED GROUNDING BUSHING ON EACH METALLIC SERVICE ENTRANCE CONDUIT. BOND TO GROUND BUS USING CONDUCTOR THAT IS SIZED BASED ON NEC TABLE 250.66 USING THE SERVICE PHASE CONDUCTOR SIZE.
4. INSTALL AN INSULATED THROAT GROUNDING BUSHING ON EACH METALLIC FEEDER CONDUIT. BOND TO GROUND BUS USING CONDUCTOR THAT IS SIZED BASED ON NEC TABLE 250.122 USING THE FEEDER CIRCUIT OVERCURRENT DEVICE SIZE OR THE SEPARATELY DERIVED SYSTEM OVERCURRENT DEVICE SIZE.
5. BOND HOT AND COLD WATER PIPING SYSTEM, WHERE APPLICABLE.

KEYED NOTES:

1. BOND TO GAS PIPE ON THE BUILDING SIDE OF THE GAS METER. BONDS SHALL BE MADE ON THE ABOVE GRADE SIDE OF THE INSULATED FLANGES.
2. INSTALL A CONCRETE-ENCASED MAIN GROUNDING ELECTRODE IN THE BUILDING FOUNDATION. LOCATE ELECTRODE IN THE BOTTOM ONE-THIRD OF THE FOUNDATION WITH AT LEAST 3 INCHES OF CONCRETE COVER. USE BARE COPPER CABLE NOT SMALLER THAN THE GROUNDING ELECTRODE CONDUCTOR REQUIRED BY THE NEC AND NOT SMALLER THAN #4.
3. INSTALL A "MAIN GROUND ELECTRODE GROUND BAR" FOR SINGLE POINT GROUNDING. LOCATE AT AN ACCESSIBLE AND VISIBLE POINT NEAR THE SERVICE ENTRANCE EQUIPMENT AS SHOWN ON DRAWINGS. MAKE CONNECTIONS TO THE GROUND BAR USING TWO-HOLE COMPRESSION SPADE LUGS THAT MEET IEEE 837 REQUIREMENTS. LABEL EACH CONNECTION TO THE GROUND BAR.
4. INSTALL A COPPER GROUNDING BAR IN SERVER ROOM. CONNECT TO MCC-E GROUND TERMINAL USING 600V INSULATED COPPER CABLE.
5. INSTALL GROUNDED (NEUTRAL) CONDUCTOR THAT IS NOT LESS THAN THE PHASE CONDUCTOR AMPACITY..
6. INSTALL IRREVERSIBLE COMPRESSION CONNECTOR WITH TAMPER-PROOF HARDWARE OR INSTALL EXOTHERMIC WELD.
7. BOND TO METAL PIPING SYSTEMS IN THE AREA SERVED BY THE SEPARATELY DERIVED SYSTEM. BONDS SHALL BE MADE ON THE ABOVE GRADE SIDE OF THE INSULATED FLANGES.
8. REFERENCE DRAWING 90-E-6001 FOR GROUND NEUTRAL CONDUCTOR SIZES.

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CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
ELECTRICAL

TYPICAL GROUNDING DIAGRAM

REGISTERED PROFESSIONAL ENGINEER
85946PE
OREGON
Digital Signature
JAN 10, 2012
JASON A. CLIFFORD
EXP. 12-31-15

SHEET 90-E-6020
SEQ 218
DATE 12/2014
PROJ. NO. 490515

90-E-6020_469556.dgn

LUMINAIRE SCHEDULE

TYPE	VOLTAGE	INPUT WATTS	DESCRIPTION	MANUFACTURER AND CATALOG NO.	LAMPS	MOUNTING
A1	120	62	2'X2' RECESSED TROFFER, FIVE-COMPONENT PARTS. POWDER-PAINTED STEEL COMPONENTS, PREWIRED	LITHONIA: 2RT5R 24T5HO MVOLT GEB95 LP841	2-T5 28W 4100K	RECESSED
A2	120	62	2'X2' RECESSED TROFFER, FIVE-COMPONENT PARTS. POWDER-PAINTED STEEL COMPONENTS, PREWIRED. EMERGENCY BATTERY PACK.	LITHONIA: 2RT5R 24T5HO MVOLT GEB95 LP841 EL14	2-T5 28W 4100K	RECESSED
C1	120	66	4' LED LINEAR FIXTURE. IP 66 AND UL 1598/A RATED GASKETED ENCLOSURE. CLEAR POLYCARBONATE LENS.	DIALIGHT: LTM3N4M2P	LED 4000K	SUSPENDED
C2	120	85	4' LED LINEAR FIXTURE. IP 66 AND UL 1598/A RATED GASKETED ENCLOSURE. CLEAR POLYCARBONATE LENS. BATTERY BACKUP LUMINAIRE	DIALIGHT: LSM3N4MEP	LED 4000K	SUSPENDED
D1	120	52	HEAVY GAUGE DIE FORMED GALVANIZE STEEL MOUNTING FRAME. ALUMINUM CLEAR SEMI-SPECULAR UPPER REFLECTORS. ELECTRONIC BALLAST. TRT 4-PIN LAMPS.	LITHONIA: 6HF 2/26DTT F602 MVOLT	2-26W TRT 4100K	RECESSED
D2	120	26	HEAVY GAUGE DIE FORMED GALVANIZE STEEL MOUNTING FRAME. ALUMINUM CLEAR SEMI-SPECULAR UPPER REFLECTORS. ELECTRONIC BALLAST. TRT 4-PIN LAMPS. WET AREA RATED.	LITHONIA: 6HF 1/26 F6LS4 MVOLT (EL FOR BATTERY BACK-UP)	1-26W TRT 4100K	RECESSED
D3	120	52	HEAVY GAUGE DIE FORMED GALVANIZE STEEL MOUNTING FRAME. ALUMINUM CLEAR SEMI-SPECULAR UPPER REFLECTORS. ELECTRONIC BALLAST. TRT 4-PIN LAMPS. EMERGENCY BATTERY PACK WITH INTEGRAL SWITCH TEST.	LITHONIA: 6HF 2/26DTT F602 MVOLT EL	2-26W TRT 4100K	RECESSED
E1	120	2.8	EXIT SIGN, ULTRA-SLIM, COMPACT HOUSING. FINE-GRAIN BRUSHED ALUMINUM FACEPLATE WITH MATTE BLACK ELECTROSTATIC POLYMERIC TRIM. BATTERY AND ELECTRONICS LOCATED INSIDE OF HOUSING. LETTERS ARE 6" HIGH WITH 3/4" STROKE WITH 100FT VIEWING DISTANCE.	LITHONIA: LE CSA	N/A	UNIVERSAL MOUNTED
F1	120	41	GROUND MOUNTED LED FLOOD LUMINAIRE, SINGLE DIE-CAST ALUMINUM HOUSING WITH INTEGRAL HEAT SINK. HOUSING COMPLETELY SEALED, COATED BY A ZINC-INFUSED TGIC THERMOSET POWDER COAT AND INTEGRAL PHOTOCELL.	LITHONIA DSXF1 LED 2 530 40K WFL 120 IS PE SF DBLXD	LED 4000K	GROUND
S1	120	89	16' POLE MOUNTED LED AREA LUMINAIRE, SINGLE DIECAST ALUMINUM HOUSING WITH INTEGRAL HEAT SINK. ENCLOSURE IS COATED WITH ZINC INFUSED TGIC THERMOSET POWDER COAT AND IP66 ENGINES. ACRYLIC LENS.	LITHONIA DSX1 LED 40C 700 40K T4M MVOLT RPA DNATXD	40 LEDS 4100K	POLE
S2	120	35	10' POLE MOUNTED LED AREA LUMINAIRE, SINGLE DIECAST ALUMINUM HOUSING WITH INTEGRAL HEAT SINK. ENCLOSURE IS COATED WITH ZINC INFUSED TGIC THERMOSET POWDER COAT AND IP66 ENGINES. ACRYLIC LENS.	LITHONIA: DSX0 LED 20C 530 40k T1S MVOLT RPA	20 LEDS 4100K	POLE
S3	120	89	TYPE S1 WITH A T4M DISTRIBUTION. 12' MOUNTED LED LUMINAIRE.	LITHONIA: DSX1 LED 40C 700 40K T4M MVOLT RPA DNATXD	40 LEDS 4100K	POLE
T2	120	32	4' FLUORESCENT LINEAR FIXTURE. THERMALLY PROTECTED, CLASS P, UL LISTED AND CSA VERTIFIED. LOUVERS ARE FORMED FROM COLD-ROLLED 20 GAUGE STEEL, ABESTOS-FREE WITH A FIVE-STAGE IRON-PHOSPHATE PRETREATMENT FOR PAIN ADHESION AND RUST RESISTANCE. BATTERY BACKUP LUMINAIRE.	LITHONIA MS8 2 32W SBL WD 120 GEB10IS (EL FOR BATTERY BACKUP)	2-32W T8 4100K	SUSPENDED
W1	120	20	TWO PIECE DIECAST ALUMINUM HOUSING WITH INTEGRAL HEAT SINK. ENCLOSURE COMPLETELY SEALED AGAINST MOISTURE, IP65. EMERGENCY BATTERY BACKUP INTERGRAL PHOTOCELL.	LITHONIA: DSXW1 LED 10C 530 40K T4M MVOLT ELCW	10 LEDS 4000K	WALL MOUNTED

NOTES:

1. FOR EXACT LOCATION OF RECESSED INTERIOR LUMINAIRES, SEE ACHITECTURAL REFLECTED CEILING PLAN.
2. FOR LOCATION OF EXTERIOR MOUNTED LUMINAIRES, SEE ARCHITECTURAL ELEVATIONS.
3. FOR CEILING TYPES, SEE ARCHITECTURAL DWGS AND/OR SPECIFICATIONS.
4. ALL DIMENSIONS INDICATED ARE "NOMINAL DIMENSIONS."
5. PENDANT MOUNT FIXTURES INDIVIDUAL. FOR CONTINUOUS ROW MOUNTING USE SLOTTED SUPPORT CHANNEL.

   SYMBOL [•] LUMINAIRES WITH DOT INDICATES INTEGRAL EMERGENCY BATTERY PACK OR DRIVER, SEE SPECIFICATIONS. CONNECT LUMINAIRES SWITCHED, UNLESS OTHERWISE NOTED.
6. LUMINAIRES MARKED AS "24 HR" WILL NOT BE SWITCHED.
7. CONNECT EXIT SIGNS TO CIRCUIT CONNECTED TO LIGHT FIXTURES IN AREA SERVED. CONNECT TO UNSWITCHED PHASE CONDUCTOR.

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CHK RSH
APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
ELECTRICAL
LUMINAIRE SCHEDULE

SHEET 90-E-6021
SEQ 219
DATE 12/2014
PROJ. NO. 490515

90-E-6021_469556.dgn

AIR-COOLED CONDENSING UNITS

23 81 00

TAG NUMBER	BUILDING	ROOM	ASSOCIATED EQUIPMENT TAG NUMBER	DX COOLING DATA				DX HEATING DATA			OUTDOOR FAN DATA					COMPRESSOR DATA						UNIT ELECTRICAL DATA							MAXIMUM DIMENSIONS				MANUFACTURER	SERIES	REMARKS
				DE-RATED NET TCTAL BTU/HR	DE-RATED NET SENS. BTU/HR	AMBIENT TEMP. DEG. F	MIN. EER @ ARI	CAPACITY BTU/HR	COND. TEMP. DEG. F	COP @ ARI	NO.	HP (EA)	VOLTS	PH	SCFM (TOTAL)	NO.	STEPS	RLA (EA.)	LRA (EA.)	VOLTS	PH	# CONN	MCA AMPS	MOCP (FUSE)	MOTOR ENCLOSURE	NEMA CLASS	VOLTS	PH	INCHES L	INCHES W	INCHES H	WEIGHT LBS.			
E60HP9001	CONTROL BUILDING	MECHANCAL ROOM	E60AHU9001	19,100	18,900	79	14.0	15,800	32							1	2	17	82	208	1	1	22	35			208	1	35	35	41	300	CARRIER	25HNB	B, D, J, T, U, W, X, Y
E80ACCU9001	SHOP / ELECTRICAL BUILDING	ELECTRICAL ROOM	E80AHU9001	87,700	87,700	79	11.2									2	2	8	52	480	3	1	22	25			480	3	60	46	50	520	CARRIER	38AUDB12	B, D, J, T, W, X, Y

REMARKS:

A. CRANKCASE HEATER
B. CONDENSER HAIL GUARDS
C. 5 YEAR COMPRESSOR WARRANTY FOR EACH COMPRESSOR
D. DIP APPLIED ANTI-CORROSION CCATING ON CONDENSER COIL (NOT SPRAY APPLIED)
E. COPPER CONDENSER COIL FINS
F. FACTORY INSTALLED UNLOADER ACCESSORY
G. HOT GAS BYPASS ON LEAD COMPRESSOR
H. HOT GAS BYPASS ON BOTH COMPRESSORS
I. FACTORY INSTALLED ACCUMULATOR
J. LOW-AMBIENT COOLING KIT
K. WALL-MOUNT KIT
L. COMPRESSOR START ASSIST
M. CABINET CORROSION PROTECTION
N. COMPRESSOR CYCLE DELAY
O. HOT-GAS REHEAT
P. LIQUID LINE FILTER DRIER
Q. LIQUID SOLENOID VALVE
R. UNIT INSTALLED MOTOR CONTACTOR / STARTER
S. DISCONNECT FACTORY INSTALLED
T. DISCONNECT PROVIDED BY ELECTRICAL
U. MINIMUM SEER RATING
V. PROVIDE NON-FUSED DISCONNECT. INSTALLED BY ELECTRICAL
W. REFER TO SPECIFICATIONS FOR ANY ADDITIONAL EQUIPMENT REQUIREMENTS
X. REFER TO AREA CLASSIFICATION TABLE FOR NEMA REQUIREMENTS
Y. DUAL REFRIGERATION CIRCUITS

SCHEDULE REVISION DATE 7-Nov-2014

AIR HANDLING UNITS

23 81 00

TAG NUMBER	BUILDING	ROOM	TYPE	SUPPLY FAN MODULE														SUPPLY FAN SOUND DATA							
				AIRFLOW, CFM			STATIC PRESSURE											MAX. FAN DISCHARGE SOUND POWER LEVEL DB (RE 10-12 W) @ MID OCTAVE BAND FREQUENCY (HZ)							
				MAX. SUPPLY	MAX. OSA	MIN. OSA	TOTAL IN. WC	EXTERNAL IN. WC	FAN Q"Y	MAX. POWER BHP	FAN SPEED RPM	WHEEL TYPE	DRIVE TYPE	DRIVE SPEED CONTROL	HP	SPEED RPM	VOLT	PH	NEMA CLASS	MOTOR ENCLOSURE	63	125	250	500	1K	2K	4K	8K
E60AHU9001	CONTROL BUILDING	MECHANCAL ROOM	SPLIT, INDOOR, FLOOR	1,180	1,180	150		0.8	1					AFD OR ECM	1/2						67	63	59	56	54	52	48	
E80AHU9001	SHOP / ELECTRICAL BUILDING	ELECTRICAL ROOM	SPLIT, INDOOR, CEILING	4,100	4,100	100		0.5	1	2.9				AFD OR ECM	3.7						99	95	91	90	90	86	84	80

REMARKS:

A. REFER TO SPECIFICATIONS FOR ANY ADDITIONAL EQUIPMENT REQUIREMENTS
B. PROVIDE LOCAL MAIN POWER DISCONNECT WITH EQUIPMENT
C. REFER TO DRAWINGS FOR INLET AND DISCHARGE ORIENTATION
D. PROVIDE SINGLE POINT POWER CONNECTION
E. PROVIDE FACTORY DIP APPLIED ANTI-CORROSION COATING ON CONDENSER COIL (NOT SPRAY APPLIED), BRONZ-GLOW OR APPROVED EQUAL
F. REFER TO AREA CLASSFICATION TABLE FOR NEMA REQUIREMENTS
G. INCLUDE 0.6 INCHES WC DIRTY FILTER PRESSURE DROP ALLOWANCE IN FAN TSP
H. MOTOR CONTROL: ADJUSTABLE FREQUENCY DRIVE, UNIT MOUNTED
I. DISCONNECT PROVIDED BY ELECTRICAL
J. DUAL REFRIGERATION CIRCUITS
K. UNIT INSTALLED MOTOR CONTACTOR/STARTER
L. PROVIDE SEPARATE ECONOMIZER MXING BOX

SCHEDULE REVISION DATE 7-Nov-2014

AIR HANDLING UNITS - CONTINUED

23 81 00

TAG NUMBER	DX COOLING COIL MODULE														DX HEATING DATA				ELECTRIC HEATING DATA					FILTER DATA									
	DE-RATED NET TOTAL BTU/HR	DE-RATED NET SENS. BTU/HR	ROWS	FINS PER INCH	AIRSIDE									AMBIENT TEMP. DEG. F	MIN. EER @ ARI	CAPACITY BTU/HR	COND. TEMP. DEG. F	AMBIENT TEMP. DEG. F	COP @ ARI	CAPACITY KW	EAT DEG. F DB	STEPS	VOLT	PH	FILTER CONFIGURATION		EFFICIENCY %		DEPTH INCHES		QUANTITY		RESISTANCE, IN. WC			
					AREA SQ. FT.	FLOW CFM	EAT DEG. F DB	EAT DEG. F WB	LAT DEG. F DB	LAT DEG. F WB	DELTA P IN WC	TXV SIZE	TXV #															PRE	FINAL	PRE	FINAL	PRE	FINAL	PRE INITIAL	PRE FINAL	FINAL INITIAL	FINAL FINAL
E60AHU9001	19,100	18,900												79	14.0	15,800		32		9.0		2	208	1	SYNTHETIC, PLEATED	FLAT BANK		MERV 8		2					0.35	1.0
E80AHU9001	87,700	87,700												79	11.2										SYNTHETIC, PLEATED	FLAT BANK		MERV 8		2					0.35	1.0

ABBREVIATION MOD: MODULATING
BI: BACKWARD INCLINED
FC: FORWARD CURVED
CFM: ACTUAL CUBIC FEET PER MINUTE
MFA: MIXED FLOW AXIAL

AIR HANDLING UNITS - CONTINUED

23 81 00

TAG NUMBER	CONDENSER FAN DATA					COMPRESSOR DATA						UNIT ELECTRICAL DATA							MAXIMUM DIMENSIONS				MANUFACTURER	SERIES	REMARKS
	NO.	HP (EA)	VOLT	PH	CFM (TOTAL)	NO.	STEPS	RLA (EA)	LRA (EA)	VOLT	PH	# CONN	VOLT	PH	MCA AMPS	MOCP (FUSE)	NEMA CLASS	MOTOR ENCLOSURE	INCHES L	INCHES W	INCHES H	WEIGHT LBS			
E60AHU9001	N/A					N/A						1	208	3	35	40			73	23	18	150	CARRIER	FV4CNF002	A, B, C, D, F, G, L
E80AHU9001	N/A					N/A						1	480	3	20	25			69	29	56	450	CARRIER	40RUAA12	A, B, C, D, F, G, L

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CJS	SLH	NRF	CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SCHEDULES
HVAC
EQUIPMENT SCHEDULES
SHEET 1

REGISTERED PROFESSIONAL ENGINEER 18279 Digital Signature OREGON JANUARY 16, 1985 CARL J. SHANK
EXP. 06-30-2016

SHEET 99-H-6001
SEQ 220
DATE 12/2014
PROJ. NO. 490515

FANS

23 34 00

TAG NUMBER	BUILDING	ROOM	FAN TYPE	ARRANGEMENT	FAN DATA									SOUND DATA								ELECTRICAL DATA						MAXIMUM DIMENSIONS				MANUFACTURER	SERIES	REMARKS
					AIRFLOW						WHEEL			MAX. FAN SOUND POWER LEVEL DB (RE 10-12 W) @ MID OCTAVE BAND FREQUENCY (HZ)								MOTOR						INCHES			WEIGHT			
					MAX. SCFM	ESP IN. WC.	MIN. SCFM	SPEED RPM	DRIVE TYPE	DRIVE SPEED CONTROL	TYPE	MIN DIA INCH	MAX. BHP	63	125	250	500	1K	2K	4K	8K	HP	RPM	MOTOR ENCLOSURE	NEMA CLASS	VOLTS	PH	L	W	H	LBS.			
E20SF9001	HEADWORKS	BLOWER ROOM	INLINE FAN, TUBE AXIAL		4,600	1.7	1,600	1,770	DIRECT	AFD			2.40	87	87	90	91	86	79	74	70	3	1770	ODP		480	3	32	22	28	180	GREENHECK	AX-63-275	D, E, H
E60EF9001	CONTROL BUILDING	SAMPLE ROOM	CABINET FAN, CENTRIFUGAL		100	0.4	100	749	DIRECT	NONE			48 WATTS									48 WATTS		ODP		120	1	14	15	12	30	GREENHECK	SP-A200	D, H, I
E60EF9002	CONTROL BUILDING	REST ROOM, SHOWER	INLINE FAN, CENTRIFUGAL, SQUARE		230	0.4	230	1,321	DIRECT	ECM			0.04	66	63	54	47	42	34	30	29	1/6	1725	TENV		120	1	18	15	15	50	GREENHECK	SQ-90-VG	D, H, I, L, N
E60EF9003	CONTROL BUILDING	BUILDING AHU EXHAUST	INLINE FAN, CENTRIFUGAL, SQUARE		1,180	0.4	70	1,288	DIRECT	ECM			0.19	66	63	61	58	50	38	34	34	1/2	1725	ODP		120	1	23	19	19	60	GREENHECK	SQ-120-VG	D, H, I, M, N
E80SF9001	SHOP / ELECTRICAL BUILDING	SHOP	INLINE FAN, CENTRIFUGAL, SQUARE		560	1.4	560	1,789	DIRECT	ECM			0.39	78	80	69	71	59	46	45	48	3/4	2200	ODP		120	1	23	15	15	60	GREENHECK	SQ-99-VG	D, H, I, L, N

REMARKS:

A. PROVIDE NON-FUSED DISCONNECT.
B. PROVIDE GRAVITY OPERATED BACKDRAFT DAMPER
C. PROVIDE ALUMINUM BIRD SCREEN
D. REFER TO SPECIFICATIONS FOR ANY ADDITIONAL EQUIPMENT REQUIREMENTS
E. PROVIDE ADJUSTABLE FREQUENCY DRIVE WITH INTEGRAL DISCONNECT SWITCH. LOCATED REMOTE FROM FAN.
F. AMCA B CONSTRUCTION
G. ADJUSTABLE FREQUENCY DRIVE PROVIDED BY ELECTRICAL AND LOCATED REMOTE FROM FAN
H. REFER TO AREA CLASSIFICATION TABLE FOR NEMA REQUIREMENTS
I. DISCONNECT PROVIDED BY ELECTRICAL AND LOCATED NEAR FAN
J. PROVIDE FILTER BOX WITH ANGLED MERV 8 FILTERS
K. INCLUDE 0.6 INCHES WC DIRTY FILTER PRESSURE DROP ALLOWANCE IN FAN TSP
L. PROVIDE MOTOR-MOUNTED ECM SPEED POTENTIOMETER
M. ECM MOTOR CAPABLE OF 0-10 VDC INPUT SIGNAL
N. PROVIDE INSULATED HOUSING

SCHEDULE REVISION DATE 7-Nov-2014

DUCT MOUNTED FILTER HOUSINGS

23 34 00

TAG NUMBER	BUILDING	ROOM	EQUIPMENT SERVED	TYPE	FILTER AND HOUSING DATA																MAXIMUM DIMENSIONS				MANUFACTURER	SERIES	REMARKS
					MAXIMUM FLOW CFM	MAXIMUM VELOCITY FPM	HOUSING CODE		FILTER TYPE	EFFICIENCY %		DEPTH INCHES		QUANTITY PRE FILTER		QUANTITY FINAL FILTER		RESISTANCE, IN. WC				INCHES			WEIGHT LBS.			
							HIGH	WIDE		PRE	FINAL	PRE	FINAL	FULL	HALF	FULL	HALF	PRE INITIAL	PRE FINAL	FINAL INITIAL	FINAL FINAL	L	H	W				
E20FLT9001	HEADWORKS	BLOWER ROOM	E20SF9001	FLAT BANK	4,600	500	03	04	SYNTHETIC, PLEATED	N/A	MERV 8	N/A	2	N/A	N/A	2	2	N/A	N/A	0.35	1	39	47	6	65	AIRGUARD	04FB0305-02	B, C, D, E
E80FLT9001	SHOP / ELECTRICAL BUILDING	SHOP	E80SF9001	FLAT BANK	560	500	02	01	SYNTHETIC, PLEATED	N/A	MERV 8	N/A	2	N/A	N/A	0	1	N/A	N/A	0.35	1	27	12	6	65	AIRGUARD	01FB0205-02	B, C, D, E

REMARKS:

A. 316L STAINLESS STEEL MATERIALS OF CONSTRUCTION
B. REFER TO SPECIFICATIONS FOR ANY ADDITIONAL EQUIPMENT REQUIREMENTS
C. FULL FILTER DIMENSION 23-3/8" X 23-3/8"
D. HALF FILTER DIMENSION 11-3/8" X 23-3/8"
E. INCLUDE 0.6 INCHES WC DIRTY FILTER PRESSURE DROP ALLOWANCE IN FAN TSP

SCHEDULE REVISION DATE 7-Nov-2014

ADJUSTABLE FREQUENCY DRIVES

23 05 14

TAG NUMBER	BUILDING	ROOM	EQUIPMENT SERVED	EQUIPMENT SERVED TAG NUMBER	ELECTRICAL DATA				DIMENSIONS				MANUFACTURER	SERIES	REMARKS
					MOTOR RATING HP	NEMA RATING	INPUT VOLT	INPUT PH	INCHES L	INCHES W	INCHES H	MAX. WEIGHT LBS			
E20AFD9001	HEADWORKS	BLOWER ROOM	EXHAUST FAN	E20SF9001	3		480	3	14	20	30	115	YASKAWA	E7C	A, E, F

REMARKS:

A. REFER TO SPECIFICATIONS FOR ANY ADDITIONAL EQUIPMENT REQUIREMENTS
B. ADJUSTABLE FREQUENCY DRIVE PROVIDED WITH EQUIPMENT.
C. PROVIDE REMOTE MAIN POWER DISCONNECT WITH EQUIPMENT
D. PROVIDED BY ELECTRICAL AND LOCATED REMOTE FROM EQUIPMENT
E. REFER TO SPECIFIC EQUIPMENT SCHEDULE FOR ELECTRICAL AND HP REQUIREMENTS
F. REFER TO AREA CLASSIFICATION TABLE FOR NEMA REQUIREMENTS

SCHEDULE REVISION DATE 7-Nov-2014

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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NO.	REVISION	BY	DATE

DSGN CJS | DR SLH | CHK NRF | APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SCHEDULES
HVAC
EQUIPMENT SCHEDULES
SHEET 2

SHEET 99-H-6002
SEQ 221
DATE 12/2014
PROJ. NO. 490515

REGISTERED PROFESSIONAL ENGINEER 18278 Digital Signature OREGON JANUARY 16, 1981 CARL J. SHANK
EXP. 06-30-2016

SAVED: 7/1/2013 9:56 AM PHAMLIN, PLOTTED: ---- HAMLIN, PRISCILLA/CVO
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DUCTLESS SPLIT SYSTEM DX - OUTDOOR UNITS — 23 81 00

TAG NUMBER	BUILDING	ROOM	DX COOLING DATA				DX HEATING DATA			OUTDOOR FAN DATA					COMPRESSOR DATA						OUTDOOR UNIT ELECTRICAL DATA						MAXIMUM DIMENSIONS				MANUFACTURER	SERIES	REMARKS
			DE-RATED NET TOTAL BTU/HR	DE-RATED NET SENS. BTU/HR	AMBIENT TEMP. DEG. F	MIN. SEER @ ARI	CAPACITY BTU/HR	COND. TEMP. DEG. F	COP @ ARI	NO.	HP (EA.)	VOLTS	PH	SCFM (TOTAL)	NO.	STEPS	RLA (EA.)	LRA (EA.)	VOLTS	PH	# CONN	MCA AMPS	MOCP (FUSE)	MOTOR ENCLOSURE	NEMA CLASS	VOLTS	PH	INCHES L	INCHES W	INCHES H	WEIGHT LBS.			
E60HP9002	CONTROL BUILDING	SERVER ROOM	10,100	10,100	79	14.0	1,000	32		1					1	VARIABLE					1	14	20			208	1	12	33	29	110	DAIKIN	RXS15	B, D, J, T, U, W, X

REMARKS:

- A. CRANKCASE HEATER
- B. CONDENSER HAIL GUARDS
- C. 5 YEAR COMPRESSOR WARRANTY FOR EACH COMPRESSOR
- D. DIP APPLIED ANTI-CORROSION COATING ON CONDENSER COIL (NOT SPRAY APPLIED)
- E. COPPER CONDENSER COIL FINS
- F. FACTORY INSTALLED UNLOADER ACCESSORY
- G. HOT GAS BYPASS ON LEAD COMPRESSOR
- H. HOT GAS BYPASS ON BOTH COMPRESSORS
- I. FACTORY INSTALLED ACCUMULATOR
- J. LOW-AMBIENT COOLING KIT
- K. WALL-MOUNT KIT
- L. COMPRESSOR START ASSIST
- M. CABINET CORROSION PROTECTION
- N. COMPRESSOR CYCLE DELAY
- O. HOT-GAS REHEAT
- P. LIQUID LINE FILTER DRIER
- Q. LIQUID SOLENOID VALVE
- R. UNIT INSTALLED MOTOR CONTACTOR / STARTER
- S. DISCONNECT: FACTORY INSTALLED
- T. HEAT PUMP VERSION
- U. REFER TO AREA CLASSIFICATION TABLE FOR NEMA REQUIREMENTS
- V. DISCONNECT: UNIT INSTALLED
- W. REFER TO SPECIFICATIONS FOR ANY ADDITIONAL EQUIPMENT REQUIREMENTS
- X. DISCONNECT PROVIDED BY ELECTRICAL

SCHEDULE REVISION DATE 7-Nov-2014

DUCTLESS SPLIT SYSTEM DX - INDOOR UNITS — 23 81 00

TAG NUMBER	BUILDING	ROOM	TYPE	FAN DATA				DX COOLING DATA					DX HEATING DATA			ELECTRIC HEATING DATA				FAN MOTOR DATA		
				AIRFLOW, CFM			EXTERNAL STATIC P IN. WC	DE-RATED NET TOTAL BTU/HR	DE-RATED NET SENS. BTU/HR	EAT DEG. F		COND. DEG. F	TOTAL BTU/HR	EAT DB DEG. F	COND. DEG. F	KW	STEPS	VOLT	PH	FLA	VOLT	PH
				MAX. SUPPLY	MAX. OSA	MIN. OSA				DB	WB											
E60ACU9002	CONTROL BUILDING	SERVER ROOM	WALL MOUNTED	570	0	0		10,100	10,100	75		79	1,000	70	32						208	1

REMARKS:

- A: PROVIDE WALL MOUNTING BRACKET
- B: INDOOR UNIT POWERED FROM OUTDOOR UNIT
- C: PROVIDE OUTSIDE AIR DUCT AND WALL CAP
- D. MOUNT VENDOR-PROVIDED ELECTRONIC THERMOS˜AT INSIDE SPACE NEAR ENTRY DOOR ON INTERIOR WALL
- E. UNIT INSTALLED MOTOR CONTACTOR / STARTER
- F. REFER TO DRAWINGS FOR INLET AND DISCHARGE ORIENTATION

SCHEDULE REVISION DATE 7-Nov-2014

DUCTLESS SPLIT SYSTEM DX - INDOOR UNITS - CONTINUED — 23 81 00

TAG NUMBER	INDOOR UNIT ELECTRICAL DATA								MAXIMUM DIMENSIONS				MANUFACTURER	SERIES	REMARKS
	NO. OF CONN.	MCA AMPS	MOCP (FUSE)	VOLT	PH	NEMA CLASS	MOTOR ENCLOSURE	FACTORY INSTALLED DISCONNECT	INCHES L	INCHES W	INCHES H	WEIGHT LBS			
E60ACU9002	1								10	42	14	35	DAIKIN	FTXS15	A, B, D, G, H, I, J

REMARKS:

- G: REFER TO SPECIFICATIONS FOR ANY ADDITIONAL EQUIPMENT REQUIREMENTS
- H: PROVIDE CONDENSATE PUMP
- I. REFER TO AREA CLASSIFICATION TABLE FOR NEMA REQUIREMENTS
- J. INDOOR UNIT POWERED FROM OUTDOOR UNIT

CONTROL DAMPERS — 23 09 13

TAG NUMBER	BUILDING	ROOM	SPECIFICATION TYPE	SERVES	ACTUATOR DATA						DAMPER		ACTUATOR		REMARKS
					FAIL POSITION	RANGE	TYPE	NEMA CLASS	POWER VOLTAGE	CONTROL VOLTAGE	MANUFACTURER	SERIES	MANUFACTURER	SERIES	
E20MD9001	HEADWORKS	BLOWER	HIGH PERFORMANCE CONTROL DAMPER	E20SF9001 - OSA	OPEN	2 POSITION	ELECTRIC				RUSKIN		BELIMO		A, B, C
E20MD9002	HEADWORKS	BLOWER	HIGH PERFORMANCE CONTROL DAMPER	E20SF9001 - EA	OPEN	2 POSITION	ELECTRIC				RUSKIN		BELIMO		A, B, C
E60MD9001	CONTROL	MECHANCAL	HIGH PERFORMANCE CONTROL DAMPER	E60AHU9001 - OSA	OPEN	MODULATING	ELECTRIC				RUSKIN		BELIMO		A, B, C
E60MD9002	CONTROL	MECHANCAL	HIGH PERFORMANCE CONTROL DAMPER	E60AHU9001 - RA	CLOSED	MODULATING	ELECTRIC				RUSKIN		BELIMO		A, B, C
E60MD9003	CONTROL	MECHANCAL	HIGH PERFORMANCE CONTROL DAMPER	E60EF9003 - EA	CLOSED	2 POSITION	ELECTRIC				RUSKIN		BELIMO		A, B, C
E80MD9001	SHOP/ELECTRICAL	SHOP	HIGH PERFORMANCE CONTROL DAMPER	E80SF9001 - OSA	CLOSED	2 POSITION	ELECTRIC				RUSKIN		BELIMO		A, B, C
E80MD9002	SHOP/ELECTRICAL	SHOP	HIGH PERFORMANCE CONTROL DAMPER	E80SF9001 - EA	CLOSED	2 POSITION	ELECTRIC				RUSKIN		BELIMO		A, B, C
E80MD9003	SHOP/ELECTRICAL	ELECTRICAL ROOM	HIGH PERFORMANCE CONTROL DAMPER	E80AHU9001 - EA	CLOSED	MODULATING	ELECTRIC				RUSKIN		BELIMO		A, B, C
E80MD9004	SHOP/ELECTRICAL	ELECTRICAL ROOM	HIGH PERFORMANCE CONTROL DAMPER	E80AHU9001 - OSA	CLOSED	MODULATING	ELECTRIC				RUSKIN		BELIMO		A, B, C
E80MD9005	SHOP/ELECTRICAL	ELECTRICAL ROOM	HIGH PERFORMANCE CONTROL DAMPER	E80AHU9001 - RA	OPEN	MODULATING	ELECTRIC				RUSKIN		BELIMO		A, B, C

REMARKS:

- A. REFER TO SPECIFICATIONS FOR ANY ADDITIONAL EQUIPMENT REQUIREMENTS
- B. REFER TO THE AREA CLASSIFICATION TABLE FOR NEMA REQUIREMENTS
- C. POWER AND CONTROL VOLTAGE AS REQUIRED BY HVAC CONTROL SYSTEM

SCHEDULE REVISION DATE 7-Nov-2014

ABBREVIATIONS:

STL	GALVANIZED STEEL	316 SST	STAINLESS STEEL, TYPE 316
ALUM	ALUMINUM	PVC	POLY VINYL CHLORIDE
304 SST	STAINLESS STEEL, TYPE 304	EPDM	ETHYLENE PROPYLENE DIENE MONOMER

REGISTERED PROFESSIONAL ENGINEER 18279 Digital Signature OREGON JANUARY 31, 1995 CARL J. SHANK
EXP. 06-30-2016

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NO.	REVISION	BY	DATE

DSGN CJS | DR SLH | CHK NRF | APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SCHEDULES
HVAC
EQUIPMENT SCHEDULES
SHEET 3

SHEET 99-H-6003
SEQ 222
DATE 12/2014
PROJ. NO. 490515

UNIT HEATERS — 23 82 00

TAG NUMBER	BUILDING	ROOM	UNIT HEATER TYPE	AIR SIDE DATA								ELECTRICAL HEAT DATA				GAS TRAIN DATA					UNIT ELECTRICAL DATA					UNIT INFORMATION					MANUFACTURER	SERIES	REMARKS
				SUPPLY AIRFLOW CFM	HORIZ. THROW FT.	RPM	POWER HP	VOLTS	PH	EAT DEG F	RISE DEG F	CAPACITY KW	NUMBER OF STEPS	VOLTS	PH	FUEL TYPE	GAS INPUT BTU/HR	GAS OUTPUT BTU/HR AT ALTITUDE	SUPPLY PRESSURE MIN IN. WC	SUPPLY PRESSURE MAX IN. WC	MCA AMPS	MOCP AMPS	NEMA CLASS	VOLTS	PH	MOUNTING HEIGHT MAX. FT.	INCHES L	INCHES W	INCHES H	OVERALL WEIGHT LBS.			
E80UH9001	SHOP / ELECTRICAL BUILDING	SHOP	GAS, PROPELLER FAN	456	13	1,550	0.06	120	1	40	50					NG	30,000	24,600	7.0	14.0	1.9	15		120	1	8	27	26	13	65	REZNOR	UDAS-30	A1, A2, A5, A7, A9, A10, GF03, GF05, GF07, GF09, GF13, GF14
E80UH9002	SHOP / ELECTRICAL BUILDING	SHOP	GAS, PROPELLER FAN	456	13	1,550	0.06	120	1	40	50					NG	30,000	24,600	7.0	14.0	1.9	15		120	1	8	27	26	13	65	REZNOR	UDAS-30	A1, A2, A5, A7, A9, A10, GF03, GF05, GF07, GF09, GF13, GF14

REMARKS:

A1	MOTOR STARTER / HEATER CONTACTOR: UNIT INSTALLED
A2	DISCONNECT: FACTORY INSTALLED, NON-FUSED
A3	NOT USED
A4	NOT USED
A5	WALL MOUNTING BRACKET
A6	CEILING MOUNTING BRACKET
A7	WALL MOUNT THERMOSTAT KIT
A8	FACTORY MOUNTED THERMOSTAT KIT
A9	DISCONNECT: UNIT INSTALLED, NON-FUSED
A10	REFER TO SPECIFICATIONS FOR ANY ADDITIONAL EQUIPMENT REQUIREMENTS
A11	DISCONNECT: PROVIDED BY ELECTRCAL AND LOCATED NEAR UNIT HEATER
A12	REFER TO AREA CLASSIFICATION TABLE FOR NEMA REQUIREMENTS

FUEL TYPE ABBREVIATIONS:

NG:	NATURAL GAS
PG:	PROPANE GAS
NG/PG:	DUAL FUEL, NATURAL AND PROPANE GAS

EL01	HORIZONTAL AIRFLOW DISCHARGE
EL02	VERTICAL AIRFLOW DISCHARGE
EL03	FAN DELAY FEATURE
EL04	INDEPENDENT FAN OPERATION W/ UNIT MOUNTED SWITCH
EL05	INDEPENDENT FAN OPERATION W/ UNIT MOUNTED SWITCH THERMOSTAT
EL06	CONTROL TRANSFORMER
EL07	LOUVER CONE DIFFUSER
EL08	ANEMOSTAT DIFFUSER
EL09	TWO-STAGE HEATING OPERATION
EL20	WALL MOUNT EXPLOSION PROOF THERMOSTAT KIT
EL21	UNIT MOUNTED EXPLOSION PROOF THERMOSTAT
EL30	WALL MOUNTING BRACKET, 316 SST
EL31	CEILING MOUNTING BRACKET, 316 SST
EL32	UNIT MOUNTED NEMA 3R THERMOSTAT

GF01	POWER VENTING
GF02	GRAVITY VENTING
GF03	OUTDOOR COMBUSTION AIR INLET
GF04	INDOOR COMBUSTION AIR INLET
GF05	STANDARD FAN GUARD
GF06	FINGER-PROOF FAN GUARD
GF07	SPARK IGNITED INTERMITTENT SAFETY PILOT W/ ELECTRONIC FLAME SUPERVISION OR DIRECT SPARK IGNITION
GF08	INTERMITTENT SPARK PILOT W/ TIMED LOCKOUT
GF09	SINGLE STAGE HEATING CONTROL
GF10	TWO-STAGE HEATING CONTROL
GF11	MODULATING HEATING CONTROL
GF12	ALUMINIZED STEEL HEAT EXCHANGER
GF13	CONCENTRIC OUTSIDE AIR/FLUE ADAPTER CONNECTION AND KIT
GF14	STAINLESS STEEL HEAT EXCHANGER

SCHEDULE REVISION DATE 7-Nov-2014

DIFFUSERS, REGISTERS, AND GRILLES — 23 37 00

TAG NUMBER	SERVICE	TYPE	NECK CONNECTION TYPE	FACE SIZE, INCHES	AIR DISTRIBUTION PATTERN	MANUFACTURER	SERIES	REMARKS
CD1	SUPPLY	LOUVERED FACE	ROUND	24 X 24	SEE DRAWINGS	TITUS	TDCA	A, B, C, D, E
EG2	EXHAUST	PERFORATED FACE DIFFUSER	SQUARE OR RECTANGULAR	SEE DRAWINGS	1-WAY	TITUS	PAR	A, C, D, E
EG3	EXHAUST	EGGCRATE GRILLE, 1/2" X 1/2" X 1/2" GRID	SQUARE OR RECTANGULAR	SEE DRAWINGS	1-WAY	TITUS	50F	A, B, C, D, E
LD1-2	SUPPLY	SLOT LINEAR DIFFUSER, 2-FOOT LENGTH	OVAL	N/A	1-WAY	TITUS	TBDI-30	A, B, C, D, E
LD1-4	SUPPLY	SLOT LINEAR DIFFUSER, 4-FOOT LENGTH	OVAL	N/A	1-WAY	TITUS	TBDI-30	A, B, C, D, E
RG2	RETURN	PERFORATED FACE DIFFUSER	SQUARE OR RECTANGULAR	SEE DRAWINGS	1-WAY	TITUS	PAR	A, C, D, E
RG3	RETURN	EGGCRATE GRILLE, 1/2" X 1/2" X 1/2" GRID	SQUARE OR RECTANGULAR	SEE DRAWINGS	1-WAY	TITUS	50F	A, B, C, D, E
SG1	SUPPLY	LOUVERED, DOUBLE DEFLECTION GRILLE	SQUARE OR RECTANGULAR	SEE DRAWINGS	2-WAY	TITUS	300FS	A, B, C, D, E
TG2	TRANSFER	PERFORATED FACE DIFFUSER	SQUARE OR RECTANGULAR	SEE DRAWINGS	1-WAY	TITUS	PAR	A, C, D, E
TG3	TRANSFER	EGGCRATE GRILLE, 1/2" X 1/2" X 1/2" GRID	SQUARE OR RECTANGULAR	SEE DRAWINGS	1-WAY	TITUS	50F	A, C, D, E

REMARKS:

A. REFER TO DRAWINGS FOR SIZE
B. MATCH NECK SIZE TO DUCT SIZE. SEE DRAWINGS FOR DUCT SIZE.
C. REFER TO SPECIFICATIONS FOR ANY ADDITIONAL EQUIPMENT REQUIREMENTS
D. REFER TO AREA CLASSIFICATION TABLE FOR MATERIAL REQUIREMENTS
E. SOME GRILLES LISTED IN THE EQUIPMENT SCHEDULE MAY NOT BE USED ON THIS PROJECT

SCHEDULE REVISION DATE 7-Nov-2014

REGISTERED PROFESSIONAL ENGINEER 15279 — Digital Signature — OREGON — JANUARY 6, 1984 — CARL J. SHANK — EXP. 06-30-2016

VERIFY SCALES — BAR IS ONE INCH ON ORIGINAL DRAWING (0 — 1") — IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

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NO.	DATE	REVISION	BY

DSGN CJS | DR SLH | CHK NRF | APVD CWM

CITY OF COOS BAY WWTP 2 EXPANSION & UPGRADE
SCHEDULES
HVAC
EQUIPMENT SCHEDULES
SHEET 4

SHEET 99-H-6004
SEQ 223
DATE 12/2014
PROJ. NO. 490515

SAVED: 7/1/2013 9:56 AM PHAMLIN, PLOTTED: ---- HAMLIN, PRISCILLA/CVO
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100% Contract Documents

WWTP 2
Expansion and Upgrade

Volume 9

Waste Activated Sludge Pipeline Drawings

prepared for

City of Coos Bay

CH2MHILL

SHN
Engineers & Geologists

December 2014

CITY OF COOS BAY

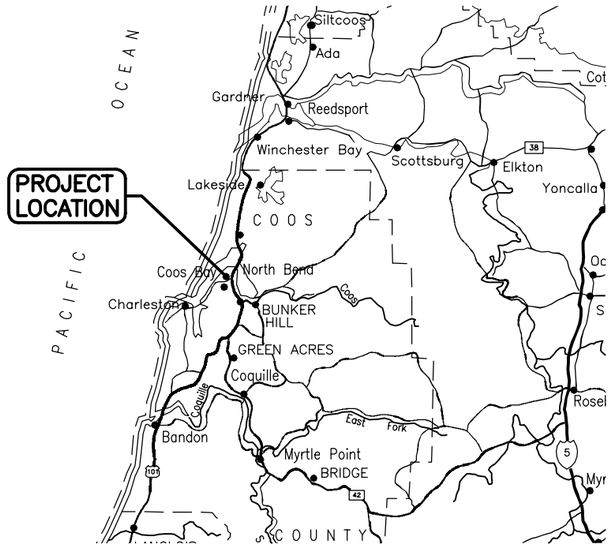
WWTP 2 EXPANSION AND UPGRADE
WASTE ACTIVATED SLUDGE PIPELINE

COOS BAY, OREGON

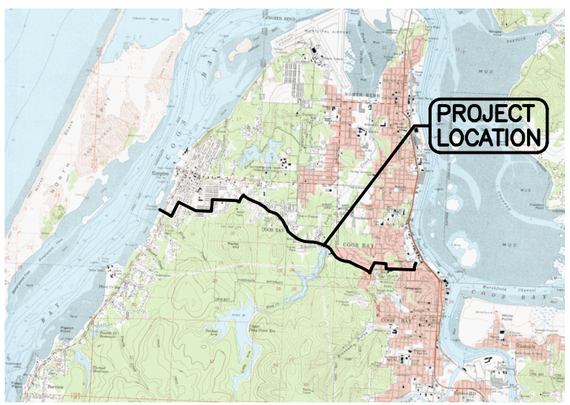
PREPARED BY:

SHN

DECEMBER 2014



LOCATION MAP
NTS



VICINITY MAP
NTS

INDEX OF SHEETS

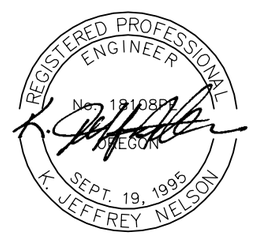
SEQ	SHEET	TITLE
1	G-1	COVER
2	G-2	STANDARD ABBREVIATIONS AND LEGENDS
3	G-3	DESIGN DATA SURVEY AND GENERAL NOTES
4	G-4	PROJECT INDEX
5	C-1	PLAN AND PROFILE 15+08.16-20+00
6	C-2	PLAN AND PROFILE 20+00-30+00
7	C-3	PLAN AND PROFILE 30+00-39+00
8	C-4	PLAN AND PROFILE 39+00-48+00
9	C-5	PLAN AND PROFILE 48+00-57+00
10	C-6	PLAN AND PROFILE 57+00-63+00
11	C-7	PLAN AND PROFILE 63+00-73+00
12	C-8	PLAN AND PROFILE 73+00-79+50
13	C-9	PLAN AND PROFILE 79+50-85+50
14	C-10	PLAN AND PROFILE 85+50-97+00
15	C-11	PLAN AND PROFILE 97+00-108+50
16	C-12	PLAN AND PROFILE 108+50-115+00
17	C-13	PLAN AND PROFILE 115+00-126+00
18	C-14	PLAN AND PROFILE 126+00-136+50
19	C-15	PLAN AND PROFILE 136+50-147+00
20	C-16	PLAN AND PROFILE 147+00-157+50
21	C-17	PLAN AND PROFILE 157+50-167+00
22	C-18	PLAN AND PROFILE 167+00-176+00
23	C-19	PLAN AND PROFILE 176+00-186+00
24	C-20	PLAN AND PROFILE 186+00-193+50
25	C-21	PLAN AND PROFILE 193+50-201+50
26	C-22	PLAN AND PROFILE 201+50-211+50
27	C-23	PLAN AND PROFILE 211+50-220+50
28	C-24	PLAN AND PROFILE 220+50-END
29	C-25	ENLARGED PLAN AND PROFILE
30	C-26	ENLARGED PLAN AND PROFILE
31	C-27	ENLARGED PLAN AND PROFILE
32	C-28	ENLARGED PLAN AND PROFILE
33	C-29	ENLARGED PLAN AND PROFILE
34	C-30	ENLARGED PLAN AND PROFILE
35	C-31	ENLARGED PLAN AND PROFILE
36	C-32	ENLARGED PLAN AND PROFILE
37	C-33	ENLARGED PLAN AND PROFILE
38	C-34	ENLARGED PLAN AND PROFILE
39	C-35	ENLARGED PLAN AND PROFILE
40	C-36	ENLARGED PLAN AND PROFILE
41	C-37	WWTP 2 CONNECTION PLAN AND PROFILE
42	C-38	DETAILS
43	C-39	DETAILS
44	C-40	DETAILS



Oregon law requires you to follow rules adopted by the Oregon Utility Notification Center. Those rules are set forth in OAR 952-001-0010 through OAR 952-001-0090. You may obtain copies of the rules by calling the center (503) 232-1987.

All underground Utilities and substructures shown hereon were obtained from the best available sources, and are presumed to be accurate, and complete. It shall be the contractor's sole responsibility to verify, locate, and protect all utilities and substructures shown or not shown.

CALL THE STATEWIDE UTILITIES LOCATING SERVICE AT: 1-(800) 332-2344 W/ YOUR SCHEDULE AT LEAST TWO DAYS PRIOR TO BEGINNING WORK.



EXPIRES: 12/31/2016

SAVED: 12/17/2014 10:26 AM CNEWELL, PLOTTED: 12/17/2014 4:23 PM CHRIS D. NEWELL
C:\Civil 3D Projects\614024WAS\614024-COVER.dwg

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
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CONSULTING ENGINEERS & GEOLOGISTS, INC.
275 MARKET AVENUE
COOS BAY, OR. 97420
WWW.SHN-ENGR.COM
541-266-9890

NO.	REVISION	DATE	BY

DSGN KMM
DR NMD
CHK JMD
APVD

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

COVER

SHEET G-1
SEQ 1
DATE 12/2014
PROJ. NO. 614024

ABBREVIATIONS

A

ABN — ABANDON
ABS — ACRYLONITRILE–BUTADIENE–STYRENE
AB — ANCHOR BOLT, AGGREGATE BASE
AC — ASPHALTIC CONCRETE
ACP — ASBESTOS CEMENT PIPE
ACI — AMERICAN CONCRETE INSTITUTE
ADJ — ADJUSTABLE
AGGR — AGGREGATE
AISC — AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AL — ALUMINUM
ALT — ALTERNATE
APPROX — APPROXIMATELY
ARCH — ARCHITECTURAL
ASTM — AMERICAN SOCIETY FOR TESTING & MATERIALS
AUTO — AUTOMATIC
AUX — AUXILIARY
@ — AT

B

BC — BEGIN CURVE
BCR — BEGIN CURB RETURN
BD — BOARD
BF — BLIND FLANGE
BFV — BUTTERFLY VALVE
BK — BOOK OR BACK
BLDG — BUILDING
BM — BENCH MARK, BEAM
BOT — BOTTOM
BRG — BEARING
BTWN — BETWEEN
BV — BALL VALVE
BVC — BEGINNING OF VERTICAL CURVE
BVCE — BEGINNING OF VERTICAL CURVE ELEVATION
BVCS — BEGINNING OF VERTICAL CURVE STATION
BW — BACK OF WALK
BWW — BACKWASH WATER

C

C — CHANNEL (STRUCTURAL SHAPE)
CARV — COMBINATION AIR RELEASE VALVE
CATV — CABLE TELEVISION
CB — CATCH BASIN
CEIL — CEILING
CFM — CUBIC FEET PER MINUTE
CFS — CUBIC FEET PER SECOND
CHEM — CHEMICAL
CI — CAST IRON
CIP — CAST IRON PIPE
C.I.P. — CAST IN PLACE
CJ — CONSTRUCTION JOINT
CL2 — CHLORINE
CLR — CLEAR
℄ — CENTERLINE
CMP — CORRUGATED METAL PIPE
CMU — CONCRETE MASONRY UNIT
CTSK — COUNTERSINK
CO — CLEANOUT
COL — COLUMN
CONC — CONCRETE
CONT — CONTINUOUS OR CONTINUED
COORD — COORDINATE
CPLG — COUPLING
CRS — COLD ROLLED STEEL
CTR — CENTER
CU — CUBIC
CU FT — CUBIC FEET
CV — CHECK VALVE
CW — COLD WATER
CY — CUBIC YARD

D

° — DEGREE (ANGLE)
d — PENNY (NAIL SIZE)
DB — DISTRIBUTION BOX
DBL — DOUBLE
DF — DOUGLAS FIR
DI — DROP INLET OR DUCTILE IRON
DIA — DIAMETER
DIAG — DIAGONAL
DIM — DIMENSION
DIMJ — DUCTILE IRON MECHANICAL JOINT
DIP — DUCTILE IRON PIPE
DET — DETAIL
DWG — DRAWING
D/W — DRIVEWAY

E

(E) — EXISTING
EA — EACH
EC — END CURVE
ECR — END CURB RETURN
EF — EACH FACE
EFL — EFFLUENT
EL — ELBOW
ELEC — ELECTRIC OR ELECTRICAL
ELEV — ELEVATION
ENGR — ENGINEER
EP — EDGE OF PAVING
EQ — EQUAL
EQUIP — EQUIPMENT
ER — EDGE OF ROAD
EVC — END OF VERTICAL CURVE
EVCE — END OF VERTICAL CURVE ELEVATION
EVCS — END OF VERTICAL CURVE STATION
EW — EACH WAY
EWEF — EACH WAY, EACH FACE
EXC — EXCAVATE
EXP — EXPOSED OR EXPANSION
EXP JT — EXPANSION JOINT
EXST — EXISTING
EXT — EXTERIOR

F

FC — FLEXIBLE COUPLING OR FACE OF CURB
FCA — FLANGED COUPLING ADAPTER
FD — FLOOR DRAIN
FDN — FOUNDATION
FF — FINISH FLOOR
FG — FINISHED GRADE
FH — FIRE HYDRANT
FIG — FIGURE
FIN — FINISH
℄ — FLOW LINE
FLG — FLANGE
FLR — FLOOR
FLTR — FILTER
FNPT — FEMALE NATIONAL PIPE THREAD
FOC — FACE OF CONCRETE
FPVC — FUSIBLE POLYVINYL CHLORIDE PLASTIC
FT — FOOT OR FEET
FT2 — SQUARE FEET
FT3 — CUBIC FEET
FTG — FOOTING
FW — FINISH WATER

G

G — GAS
GA — GAGE
GALV — GALVANIZED
GIP — GALVANIZED IRON PIPE
GPD — GALLONS PER DAY
GPH — GALLONS PER HOUR
GPM — GALLONS PER MINUTE
GRD — GRADE OR GROUND
GSP — GALVANIZED STEEL PIPE
GV — GATE VALVE
GYP — GYPSUM

H

HB — HOSE BIBB
HDR — HEADER
HDW — HARDWARE
HP — HORSEPOWER, HIGH POINT
HORIZ — HORIZONTAL
HR — HOUR
HT — HEIGHT
HW — HOT WATER
HWR — HOT WATER RETURN
HWS — HOT WATER SUPPLY

I

ID — INSIDE DIAMETER
IN — INCH
INFL — INFLUENT
INSUL — INSULATE OR INSULATION
INT — INTERIOR
INV — INVERT

J

JT — JOINT
JP — JOINT POLE

K

KIP — THOUSAND POUNDS
KW — KILOWATT

L

∠ — ANGLE (DEGREES)
L — ANGLE (STRUCTURAL SHAPE)
LB — POUND
LF — LINEAR FEET
LG — LONG
LH — LEFT HAND
LP — LOW POINT
LPG — LIQUIFIED PETROLEUM GAS
LR — LONG RADIUS
LT — LEFT
LONG — LONGITUDINAL

M

MATL — MATERIAL
MAX — MAXIMUM
MECH — MECHANICAL
MF — MEGA–FLANGE PIPE JOINT
MFR — MANUFACTURER
MGD — MILLION GALLONS PER DAY
MH — MANHOLE
MIN — MINIMUM OR MINUTE
MISC — MISCELLANEOUS
MJ — MECHANICAL JOINT
MTL — METAL
MWS — MAXIMUM WATER SURFACE

N

(N) — NEW
NC — NORMALLY CLOSED
NIC — NOT IN CONTRACT
NF — NON–FREEZE
NO — NUMBER OR NORMALLY OPEN
NOM — NOMINAL
NPT — NATIONAL PIPE THREAD
NTS — NOT TO SCALE
— NUMBER

O

OC — ON CENTER
OD — OUTSIDE DIAMETER
OG — ORIGINAL GROUND
OVFL — OVERFLOW
OZ — OUNCE
OH — OVERHEAD

P

PC — POINT OF CURVE
PCF — POUNDS PER CUBIC FOOT
PE — PLAIN END
PERF — PERFORATED
PEP — POLYETHELENE PIPE
PI — POINT OF INTERSECTION
PL — PLATE
℄ — PROPERTY LINE
PLCS — PLACES
PLYWD — PLYWOOD
PMP — PERFORATED METAL PIPE
PO — POLYMER
POC — POINT ON CURVE
PP — POWER POLE
PRC — POINT OF REVERSE CURVE
PREFAB — PREFABRICATED
PRELIM — PRELIMINARY
PRESS — PRESSURE
PROP — PROPERTY
PSF — POUNDS PER SQUARE FOOT
PSI — POUNDS PER SQUARE INCH
PSIG — POUNDS PER SQUARE INCH, GAUGE
PT — POINT OF TANGENCY, POINT
PV — PLUG VALVE
PVC — POLYVINYL CHLORIDE PLASTIC
PVI — POINT OF VERTICAL INTERSECTION
PVMT — PAVEMENT

Q

QTY — QUANTITY

R

R — RADIUS
RCP — REINFORCED CONCRETE PIPE
RD — ROAD
RDCR — REDUCER
RWD — REDWOOD
REF — REFER OR REFERENCE
REINF — REINFORCED, REINFORCING OR REINFORCE
REQD — REQUIRED
RET — RETURN
RH — RIGHT HAND
RM — ROOM
RO — ROUGH OPENING
RSP — ROCK SLOPE PROTECTION
RT — RIGHT OR RING TIGHT
R/W — RIGHT OF WAY
RW — RAW WATER
RWL — RAIN WATER LEADER

S

S — SEWER
SL — SLOPE
SCHED — SCHEDULE
SD — STORM DRAIN
SECT — SECTION
SHT — SHEET
SIM — SIMILAR
SP — SPACE OR SPACES
SPEC — SPECIFICATIONS
SQ — SQUARE
SQ FT — SQUARE FOOT
SQ IN — SQUARE INCH
SS — SANITARY SEWER
SST — STAINLESS STEEL
STA — STATION
STD — STANDARD
STL — STEEL
STR — STRUCTURAL
STRUCT — STRUCTURE
SUSP — SUSPENDED
SYMM — SYMMETRICAL

T

TAN — TANGENT
T&B — TOP AND BOTTOM
T&G — TONGUE AND GROOVE
TBM — TEMPORARY BENCH MARK
TC — TOP OF CURB
TCE — TEMPORARY CONSTRUCTION EASEMENT
TEL — TELEPHONE
TELEM — TELEMETRY
TEMP — TEMPERATURE OR TEMPORARY
THD — THREAD
TOC — TOP OF CONCRETE
TOG — TOP OF GRATE
TOW — TOP OF WALL
TP — TURNING POINT, TOP OF PAVEMENT OR TELEPHONE POLE
TRANSV — TRANSVERSE
TS — TUBE, STRUCTURAL
TYP — TYPICAL

U

UBC — UNIFORM BUILDING CODE
UOS — UNLESS OTHERWISE SPECIFIED
UG — UNDERGROUND
UTIL — UTILITY

V

V — VOLT
VAC — VACUUM
VC — VERTICAL CURVE
VCP — VITRIFIED CLAY PIPE
VERT — VERTICAL
VPI — VERTICAL POINT OF INTERSECTION

W

W — WATER OR WIDE FLANGE
W/ — WITH
W/O — WITHOUT
WP — WORK POINT
WS — WATER SURFACE, WATER STOP
WWF — WELDED WIRE FABRIC
W1 — POTABLE WATER
W2 — NON–POTABLE WATER

X

XFMR — TRANSFORMER

Y

YD — YARD
YD 2 — SQUARE YARD
YD 3 — CUBIC YARD

UTILITIES LEGEND

PROPOSED	EXISTING	
	⊗	GATE VALVE
	⊗ PV	PLUG VALVE
	⊗ BV	BALL VALVE
	⊗ BFV	BUTTERFLY VALVE
P	P	AUTOMATICALLY OPERATED VALVE (P= PNEUMATIC, E= ELECTRIC, S= SOLENOID, H= HYDRAULIC, D= DIAPHRAGM ACTUATOR)
		3–WAY VALVE
		GLOBE VALVE
		ANGLE VALVE
		PRESSURE REGULATING VALVE
		PRESSURE RELIEF VALVE
		CHECK VALVE
		AIR OR VACUUM RELEASE VALVE
AV	AV	AIR AND VACUUM VALVE
CA	CA	COMBINATION AIR VALVE
		FLOW METER
	NF	HOSE BIBB (NF= NON–FREEZE)
		REDUCER
		FIRE HYDRANT
		DROP INLET
		MANHOLE
		CLEANOUT
E	E	UNDERGROUND ELECTRICAL
OH E	OH E	OVERHEAD ELECTRICAL
TV	TV	CABLE TELEVISION
J	J	JOINT UTILITIES
TM	TM	UNDERGROUND TELEMETRY LINE
OH TM	OH TM	OVERHEAD TELEMETRY LINE
T	T	UNDERGROUND TELEPHONE LINE
OH T	OH T	OVERHEAD TELEPHONE LINE
W	W	WATER LINE
SS	SS	SANITARY SEWER LINE
SD	SD	STORM DRAIN LINE
G	G	GAS LINE
FM	FM	FORCE MAIN AND DIRECTION OF FLOW

SIZE AND MATERIAL OF EXISTING PIPING MAY BE SHOWN WHEN KNOWN.

SIZE AND MATERIAL OF NEW PIPING MAY BE SHOWN ON PLAN OR IN PROFILE.

		CULVERT
		POLE MOUNTED ROADWAY LUMINAIRE
	NOT USED	ITEM TO BE REMOVED
		ITEM TO BE ABANDONED IN PLACE
		WATER SERVICE
3	PB	PULL BOX AND DESIGNATION
R4–4		SIGN AND DESIGNATION

NOTES:

1. CONTACT THE ENGINEER FOR SYMBOLS NOT LISTED
2. THIS IS A STANDARD SHEET, THEREFORE, SOME SYMBOLS OR ABBREVIATIONS MAY APPEAR ON THIS SHEET WHICH DO NOT APPEAR ON THE PLANS.
3. SITE AND UTILITY SYMBOLS SHOWN ON THIS SHEET ARE NOT INTENDED TO REPRESENT THE PHYSICAL SCALE OR SHAPE OF ANY ITEMS. WHERE LARGE–SCALE PLANS ARE PRESENTED, THE SYMBOLS SHOWN HEREON MAY BE REPLACED BY DETAILS MORE SUITED TO THE DRAWING SCALE.

CURVE DATA

R (RADIUS)
L (LENGTH)
△ (DELTA)
T (TANGENT)

TOPOGRAPHIC LEGEND

PROPOSED	EXISTING	
		P.I. (POINT OF INTERSECTION)
NOT USED		TEMPORARY BENCH MARK
47.55	NOT USED	FINISH GRADE ELEVATON
NOT USED	42.6	ELEVATION OF ORIGINAL GROUND
		RADIAL POINT
		FLOW LINE AND DIRECTION
		TOP OF CUT
		TOP OF FILL
		TOE OF CUT OR FILL
200	180	CONTOUR LINE
		CONCRETE (IN PLAN)
		CONCRETE (IN SECTION)
		PAVEMENT
NOT USED		ROCKS
NOT USED		STUMPS
		TREES
		ROADS
	TP	UTILITY POLE (PP=POWER POLE, TP= TEL POLE, JP=JOINT POLE)
		GUY WIRE
		FENCE
℄	℄	BOUNDARY LIMITS, W/DESIGNATION
		CENTERLINE
NOT USED		MARSH
		WETLAND
NOT USED		SPRING
TP–4	TP–4	TEST PIT AND DESIGNATION
		EXPLORATION BORE HOLE
		PROPERTY CORNER
		SURVEY MONUMENT
		CONTROL POINT
		DRIVEWAY

DETAIL AND SECTION DESIGNATION

SECTION (LETTER) OR DETAIL (NUMERAL) DESIGNATION — A

INDICATES SECTION OR DETAIL TAKEN AND SHOWN ON SAME SHEET — C–5

ON DRAWING WHERE SECTION OR DETAIL IS TAKEN:
SHEET NUMBER WHERE SHOWN

ON DRAWING WHERE SECTION OR DETAIL IS SHOWN:
SHEET NUMBER WHERE TAKEN

STANDARD DETAIL NUMBER (DETAIL MAY BE SHOWN ON ANY SHEET WITHIN THE DRAWING SET) — 006

REGISTERED PROFESSIONAL ENGINEER
No. 19108PE
OREGON
K. JEFFREY NELSON
SEPT. 19, 1995

EXPIRES: 12/31/2016

VERIFY SCALES
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CONSULTING ENGINEERS & GEOLOGISTS, INC.
275 MARKET AVENUE
COOS BAY, OR. 97420
WWW.SHN–ENGR.COM
541–266–9990

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

STANDARD ABBREVIATIONS AND LEGENDS

DSGN	CDN	CHK	MCV
DR	CDN	APVD	

NO.	REVISION	BY	DATE

SHEET G–2
SEQ 2
DATE 12/2014
PROJ. NO. 614024

SAVED: 12/17/2014 8:34 AM CNEWELL, PLOTTED: 12/17/2014 9:35 AM CHRIS D. NEWELL
\\Eureka\Projects\CAD–FILES\CoosBay\2014\614024WAS\614024–STND–ABBR.dwg

GENERAL NOTES:

1. ALL WORK BASED ON THESE PLANS SHALL CONFORM TO THE APPLICABLE SECTIONS OF THE FOLLOWING:
   a. CITY OF COOS BAY STANDARD PLANS AND SPECIFICATIONS
   b. ODOT STANDARD PLANS AND SPECIFICATIONS
   c. THE CONTRACT PLANS AND SPECIFICATION

IN THE ABSENCE OF PLAN AND SPECIFICATION DEFINITION, THE MORE STRINGENT SHALL GOVERN IN CASE OF CONFLICT

2. AS USED IN THESE DRAWINGS
   OWNER: CITY OF COOS BAY
   ENGINEER: SHN CONSULTING ENGINEERS & GEOLOGISTS, INC.
   OWNER'S REPRESENTATIVE: CONSTRUCTION MANAGER
   CONTRACTOR: FIRM CHOSEN TO PERFORM THE WORK

3. THE CONTRACTOR SHALL PREPARE A DETAILED TRAFFIC CONTROL PLAN FOR ALL WORK AREAS AND SHALL SUBMIT THE PLAN TO THE CITY FOR DISCUSSION AND APPROVAL AT THE PRECONSTRUCTION MEETING. THE TRAFFIC CONTROL PLAN SHALL COMPLY WITH ALL REQUIRED PERMITS AND OTHER GUIDELINES LISTED ON THESE PLANS AND IN THE SPECIFICATIONS. THE CONTRACTOR SHALL CLEARLY SHOW ON HIS TRAFFIC CONTROL PLAN HOW HE INTENDS TO POSITION ALL SIGNS AND OTHER REQUIRED TRAFFIC CONTROL DEVICES THROUGHOUT THE WORK AREA DURING ALL PHASES OF CONSTRUCTION. THE TRAFFIC CONTROL PLAN SHALL CONFORM TO THE REQUIREMENTS OF THE ODOT "MANUAL OF TRAFFIC CONTROL FOR CONSTRUCTION AND MAINTENANCE WORK ZONES".

4. IF THE CONTRACTOR WISHES TO USE WATER FROM THE CITY OF COOS BAY WATER DISTRIBUTION SYSTEM DURING THE COURSE OF THIS PROJECT, HE SHALL OBTAIN AND ATTACH A DOUBLE CHECK VALVE AT THE POINT WHERE HE CONNECTS TO THE CITY WATER SYSTEM (I.E. AT A HYDRANT, WATER SERVICE, BLOW-OFF, ETC.). THE DOUBLE CHECK VALVE SHALL BE TESTED AND CERTIFIED BY EITHER A CERTIFIED TESTER OR THE CITY OF COOS BAY PUBLIC WORKS DEPARTMENT AND APPROVED BY THE ENGINEER PRIOR TO USE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND PROTECTION OF THE DOUBLE CHECK VALVE.

5. THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR DISPOSAL SITES AND SHALL PAY ANY AND ALL COSTS INVOLVED. WHEN ANY MATERIAL IS TO BE DISPOSED OF OUTSIDE THE PROJECT WORK AREA, THE CONTRACTOR SHALL OBTAIN BOTH A WRITTEN AGREEMENT BETWEEN THE PROPERTY OWNER AND THE CONTRACTOR AND A COPY OF THE PERMIT THAT ALLOWS MATERIAL DISPOSAL AT THE SUBJECT SITE. THE AGREEMENT SHALL GRANT THE CONTRACTOR PERMISSION TO USE THE PRIVATE PROPERTY AS A DISPOSAL SITE AND SHALL ABSOLVE THE CITY OF ALL RESPONSIBILITY FOR CONSEQUENCES OF SUCH USAGE. THE PERMIT COPY SHALL BE OBTAINED FROM THE PROPERTY OWNER, THE COOS COUNTY BUILDING DEPARTMENT, THE CITY OF COOS BAY BUILDING DEPARTMENT, OR OTHER REGULATORY AGENCY AS APPROPRIATE. BOTH THE AGREEMENT AND PERMIT SHALL BE FILED WITH THE ENGINEER PRIOR TO THE USE OF THE PROPERTY, AND THE CONTRACTOR SHALL OBTAIN PERMISSION FROM THE ENGINEER TO DISPOSE OF THE MATERIAL AT THE PROPOSED LOCATION DESIGNATED IN THE AGREEMENT AND ON THE PERMIT BEFORE ANY MATERIAL IS DISPOSED OF ON SAID PROPERTY. REFER TO THE CONTRACT SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.

6. DISPOSAL OF NON-FRIABLE ASBESTOS-CONTAINING MATERIALS SHALL BE IN AN APPROVED LANDFILL IN ACCORDANCE WITH LOCAL, COUNTY, AND STATE GUIDELINES.

7. DISPOSAL OF MATERIALS IS NOT PERMITTED WITHIN THE PUBLIC RIGHT-OF-WAY. THE CONTRACTOR SHALL MAKE ARRANGEMENTS FOR DISPOSAL SITES OUTSIDE OF THE RIGHT-OF-WAY, SHALL PAY ANY AND ALL COSTS INVOLVED, AND SHALL FURNISH THE CITY WITH ALL REQUIRED PERMITS AND DISPOSAL SITE AGREEMENTS. REFER TO THE CONTRACT SPECIAL PROVISIONS FOR ADDITIONAL REQUIREMENTS.

8. THE CONTRACTOR SHALL NOT COMMENCE WORK AT A SPECIFIC SITE UNLESS THE OWNER HAS BEEN PROVIDED 48-HOUR MINIMUM NOTICE, AND HAS APPROVED INITIATION OF THE WORK. IF WORK AT THAT SITE HAS BEEN DISCONTINUED, IT SHALL NOT BE RESUMED UNTIL THE OWNER HAS AGAIN GIVEN APPROVAL.

9. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR VERIFICATION OF THE EXISTENCE, LOCATION, AND DEPTH OF UTILITIES IN ALL CONSTRUCTION ZONES. EXISTING UTILITIES AS SHOWN ON THESE PLANS ARE FOR REFERENCE ONLY. NEITHER THE OWNER NOR THE ENGINEER MAKES A CLAIM AS TO THE ACCURACY AND COMPLETENESS OF THE UTILITIES SHOWN. THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE AND THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES IN THE PLANS OR CONFLICTS DISCOVERED IN THE FIELD. IN THE CASE OF CONNECTION TO EXISTING FACILITIES;
   a. EXPOSE THE EXISTING FACILITY,
   b. VERIFY LOCATION, SIZE, AND ELEVATION,
   c. NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
   d. INCORPORATE CORRECTIONS INTO CONTRACT RECORD DRAWINGS.

10. THE WORKING DRAWINGS ARE GENERALLY DIAGRAMATIC. THEY DO NOT SHOW OR DESCRIBE EVERY OFFSET, DIMENSION, SECTION, OR COMPONENT REQUIRED TO COMPLETE THE PROJECT. THE CONTRACTOR SHALL CHECK EXISTING IN-FIELD CONDITIONS AT ALL WORK LOCATIONS BEFORE BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL CONTACT THE OWNER'S REPRESENTATIVE AND THE ENGINEER FOR ADDITIONAL DETAILS OR CLARIFIFICATION.

11. ALL MATERIALS INCORPORATED INTO THE WORK, THE METHOD OF INSTALLATION, AND CONSTRUCTION TECHNIQUES SHALL BE APPROVED BY THE OWNER. TESTING PROCEDURES SHALL CONFORM TO THE CONTRACT DOCUMENTS AND THE OWNER'S SPECIFICATIONS. THE OWNER MAY REQUIRE ADDITIONAL TESTS TO BE PERFORMED, AT THE EXPENSE OF THE OWNER, ON CERTAIN MATERIALS OR SPECIFIC ITEMS OF WORK. IF THE ITEM OR MATERIAL DOES NOT MEET THE REQUIRED CRITERIA, THE CONTRACTOR WILL BECOME RESPONSIBLE FOR THE EXPENSE OF THE TEST, REPLACEMENT OR REPAIR OF THE NON-CONFORMING ITEM OF WORK, AND SUBSEQUENT RE-TESTING.

12. THE CONTRACTOR AGREES THAT, IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE EXECUTION OF THE WORK, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY, AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY, AND HOLD OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH PERFORMANCE OF THE WORK ON THIS PROJECT (EXCLUDING LIABILITY ARISING FROM THE NEGLIGENCE OF THE OWNER OR ENGINEER.)

13. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE QUALITY AND THE SCHEDULING OF ALL WORK PERFORMED BY HIS SUBCONTRACTORS, WITHOUT EXCEPTION.

14. THE CONTRACTOR SHALL TAKE EFFECTIVE ACTION TO PREVENT THE FORMATION OF AIRBORNE DUST NUISANCE AND SHALL BE RESPONSIBLE FOR ANY DAMAGE RESULTING FROM THE FAILURE TO DO SO. ALL CONSTRUCTION SHALL BE PERFORMED IN SUCH A MANNER AS TO COMPLY WITH THE STANDARDS ESTABLISHED BY THE DEPARTMENT OF ENVIRONMENTAL QUALITY FOR AIRBORNE PARTICULATES.

15. THE CONTRACTOR SHALL MAINTAIN ALL STREETS AND SIDEWALKS, AND ALL OTHER PUBLIC RIGHT-OF-WAY IN CLEAN, SAFE, AND USABLE CONDITION THROUGHOUT THE EXECUTION OF THE WORK. ALL SPILLS OF SOIL, ROCK, CONSTRUCTION DEBRIS, ETC. SHALL BE REMOVED IMMEDIATELY FROM PUBLICLY OWNED PROPERTY. ALL ADJACENT PROPERTY, PUBLIC OR PRIVATE, SHALL ALSO BE MAINTAINED IN A CLEAN, SAFE, AND USABLE CONDITION. THE CONTRACTOR SHALL PROVIDE FOR SAFE, UNOBSTRUCTED ACCESS TO PRIVATE PROPERTY ADJACENT TO THE WORK SITE, AND SAFE PASSAGE OF PUBLIC TRAFFIC THROUGH THE WORK ZONE DURING THE CONSTRUCTION PERIOD.

16. THE CONTRACTOR SHALL EMPLOY STANDARD BEST MANAGEMENT PRACTICES (BMPS) FOR EROSION CONTROL, INCLUDING BUT NOT LIMITED TO, IMPLEMENTING CONSTRUCTION DURING THE DRY SEASON, REMOVAL OF THE MINIMUM AMOUNT OF VEGETATION NECESSARY TO ACCOMPLISH THE WORK, PLACEMENT OF STRAW BALES OR COIR ROLLS DOWNSTREAM DURING CONSTRUCTION.

17. BACKFILLING OF PROJECT COMPONENTS SHALL NOT PROCEED UNTIL THE OWNER'S REPRESENTATIVE HAS OBSERVED AND ACCEPTED THE INSTALLATION. COMPACTION OF BACKFILL SHALL PROCEED ACCORDING TO THE REQUIREMENTS OF SPECIFICATION "SECTION 31 23 17 - TRENCHING AND BACKFILL". PAVING SHALL NOT COMMENCE UNTIL COMPACTION TESTING AND ALL UNDERGROUND WORK IS COMPLETE.

18. AT LEAST 48-HOURS ADVANCE NOTICE SHALL BE PROVIDED TO THE OWNER WHEN REQUESTING OBSERVATION OR TESTING OF INSTALLED PROJECT COMOPONENTS. THE OWNER'S REPRESENTATIVE MUST BE PRESENT WHEN ASPHALT CONCRETE PAVING OR PORTLAND CEMENT CONCRETE IS BEING PLACED.

19. THE OUTSIDE EDGES OF CONCRETE COLLARS ASSOCIATED WITH ALL MANHOLE FRAMES/LIDS, UTILITY BOXES, AND SURVEY MONUMENTS THAT ARE LOCATED WITHIN THE LIMITS OF PAVING SHALL BE FLUSH WITH THE FINISH PAVING GRADE.

20. ALL PUBLIC PEDESTRIAN FACILITIES, INCLUDING, BUT NOT LIMITED TO, SIDEWALKS, DRIVEWAYS, AND CURB RAMPS SHALL BE ADA COMPLIANT.

21. RELOCATION OF EXISTING POWER OR TELEPHONE POLES, SEWERS, UNDERGROUND FACILITIES SUCH AS WATER, STORMWATER, OR IRRIGATION PIPELINES, AND OTHER SURFACE OR SUB-SURFACE UTILITY INSTALLATIONS NECESSARY TO CLEAR THE LIMITS OF THE PROPOSED WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL MAKE ALL NECESSARY ARRANGEMENTS AND PERFORM THE WORK ACCORDING TO CONTRACT SPECIFICATION.

22. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR ANY DEVIATIONS OR CHANGES FROM THESE PLANS, UNLESS SPECIFICALLY APPROVED BY THE ENGINEER.

23. THE CONTRACTOR SHALL CONTACT OREGON UTILITY NOTIFICATION CENTER (1-800-332-2344) AND REQUEST FIELD MARKINGS OF ALL UNDERGROUND UTILITIES A MINIMUM OF TWO WORKING DAYS PRIOR TO ANY EXCAVATION OR DEMOLITION.

GENERAL NOTES CONTINUED:

24. THIS IS A PREVAILING WAGE PROJECT.

25. THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW A MINIMUM OF FOUR (4) COPIES OF THE MANUFACTURER'S PRODUCT INFORMATION CUT SHEETS INDICATING DIMENSIONS FOR ALL MANUFACTURED AND PRECAST ITEMS PROPOSED FOR USE. THE CITY WILL KEEP THREE (3) COPIES AND RETURN THE REMAINING COPIES TO THE CONTRACTOR AFTER APPROVAL.

26. ALL EQUIPMENT SHALL BE INSTALLED PER MANUFACTURERS' RECOMMENDATIONS.

27. THE CONTRACTOR SHALL POSSESS EITHER A CLASS 'A' (GENERAL ENGINEERING) OR A CLASS 'C-34' (PIPELINE) CONTRACTOR'S LICENSE, AS WELL AS A CITY OF COOS BAY BUSINESS LICENSE, AT THE TIME THE CONTRACT IS AWARDED.

GENERAL ORDER OF WORK:

1. THE CONTRACTOR SHALL SUBMIT A PROPOSED INTERIM CONSTRUCTION SCHEDULE TO THE ENGINEER WITHIN 5 DAYS AFTER EXECUTION OF THE CONTRACT SHOWING THE ORDER HE INTENDS TO CONSTRUCT ALL PORTIONS OF THIS PROJECT. THE ENGINEER SHALL PROVIDE EITHER APPROVAL OF THE CONTRACTOR'S SCHEDULE OR A LIST OF PROPOSED CHANGES TO THE SCHEDULE PRIOR TO CONSTRUCTION, AND THE CONTRACTOR SHALL ABIDE BY THAT APPROVED SCHEDULE THROUGHOUT THE COURSE OF THE PROJECT UNLESS OTHERWISE AGREED TO BY THE ENGINEER.

2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO THOROUGHLY EXAMINE THE JOB SITES, THE CONTRACT SPECIFICATIONS, AND THESE PLANS PRIOR TO SUBMITTING HIS BID. NO ADDITIONAL PAYMENT SHALL BE MADE BY THE CITY FOR ANY EXPENSE THE CONTRACTOR MAY INCUR AS A RESULT OF HIS FAILURE TO ADEQUATELY ACQUAINT HIMSELF WITH THE EXTENT OF THE WORK TO BE DONE, THE GENERAL SITE CONDITIONS, OR THE REQUIREMENTS OF THE PLANS, CONTRACT DOCUMENTS, GENERAL PROVISIONS, SPECIAL PROVISIONS, AND REFERENCED SPECIFICATIONS (AWWA, ODOT, OSHA, ETC).

3. PRIOR TO ANY PAYMENTS BEING MADE CONTRACTOR SHALL SUBMIT TO ENGINEER A COMPLETE SCHEDULE OF VALUES FOR ALL LUMP SUM BID ITEMS. NO PAYMENTS SHALL BE MADE UNTIL ENGINEER HAS APPROVED THE SCHEDULE OF VALUES.

SURVEY CONTROL NOTES:

HORIZONTAL DATUM: OSCS(SOUTH ZONE)
VERTICAL DATUM: NAVD88
PRIMARY CONTROL POINTS, COORDINATES, AND ELEVATIONS ESTABLISHED BY GPS STATIC OBSERVATIONS METHODS.
PROJECT CONTROL POINTS WERE SET BY GPS RTK SURVEY METHODS.

PRIMARY CONTROL POINTS

POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
100	647344.57	3924806.11	62.54	5/8IR W/OPC
105	649629.72	3918952.84	83.85	5/8IR W/OPC
224	645820.15	3932796.77	12.62	MAGS

PROJECT CONTROL POINTS

POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
100	647344.57	3924806.11	62.54	5/8IR W/OPC
101	648889.04	3916553.26	19.22	GPS 4
105	649629.72	3918952.84	83.85	5/8IR W/OPC
109	645641.46	3932841.51	14.25	PUNCH IN IRONPIPE
112	645000.86	3929881.53	176.84	MAG MCURB
200	648743.34	3916876.35	36.94	MAGS FULTON/WALL
202	649637.34	3917410.32	59.13	MAGS PACIFIC
203	649773.35	3917316.78	54.88	MAGS WALL ST
204	649103.77	3918470.54	70.93	MAGS PACIFIC/FILLMORE
206	649038.29	3919466.99	100.78	MAGS SE PACIFIC/MORRISON AT STOP
207	649365.76	3919448.84	91.61	MAGS NW MORRISON/GARFIELD
208	649869.24	3919443.45	87.79	MAGS NW MORRISON/FLANAGAN
209	650126.24	3919529.10	88.68	MAGS NE MORRISON/NOBLE
212	650137.34	3921506.35	124.68	PUNCH IN 1 1/4IN BOLT W/NT
213	645648.06	3930969.21	180.36	MAGS NW JUNIPER/13TH
214	645625.49	3930572.23	203.64	MAGS SW JUNIPER/14TH
215	645687.59	3930158.42	197.05	MAGS SW JUNIPER/115TH
216	645187.81	3929716.62	168.26	CP 216 MAGS
217	645280.89	3932029.25	172.40	CP MAG YLLO WHR
218	645239.56	3931776.87	180.16	CP MAG
219	645804.14	3928592.01	100.08	MAGS
220	645955.66	3928266.87	83.95	MAGS
221	649407.46	3917818.62	63.67	2 IN IP FOUND
222	649397.49	3917790.92	62.76	MAGS
223	649818.73	3919972.47	97.75	MAGS
224	645820.15	3932796.77	12.62	MAGS
300	645287.66	3931165.46	179.28	CP MAG
301	645261.43	3930994.39	171.50	CP MAG
302	646993.03	3926034.72	74.65	CP MAGS
304	647031.26	3926343.50	72.43	CP MAGS
305	648675.69	3924037.80	117.26	CP MAGS
306	649018.81	3923594.46	125.68	CP MAGS
308	649113.78	3918934.45	85.38	CP MAGS
309	649066.05	3919202.71	93.54	CP MAGS

REGISTERED PROFESSIONAL ENGINEER
OREGON
No. 19108PE
SEPT. 19, 1995
K. JEFFREY NELSON

EXPIRES: 12/31/2016

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541-266-9890

NO.	REVISION	DATE	BY

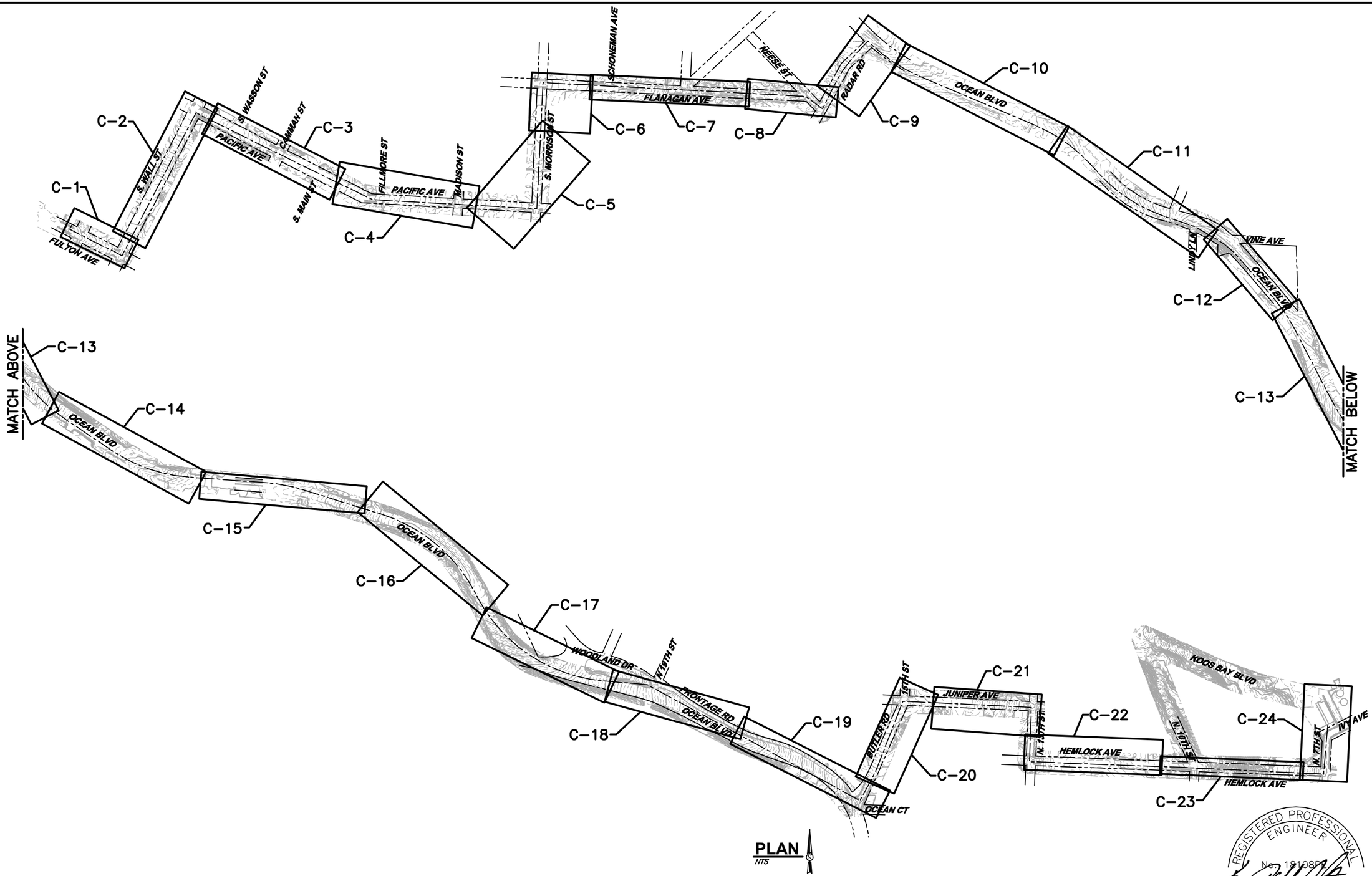
DSGN KMM
DR CDN
CHK JMD
APVD

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

DESIGN DATA SURVEY AND GENERAL NOTES

SHEET G-3
SEQ 3
DATE 12/2014
PROJ. NO. 614024

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OREGON
SEPT. 19, 1995
K. JEFFREY NELSON

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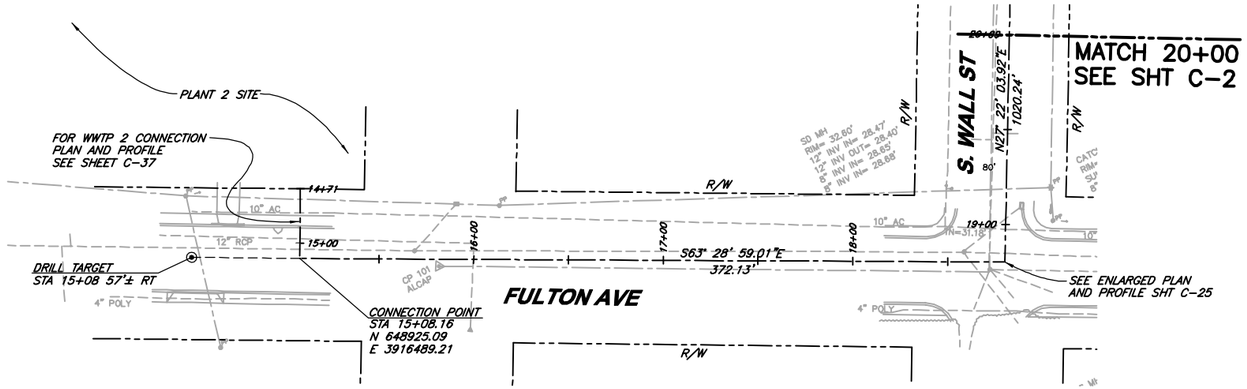
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CHK JMD
APVD

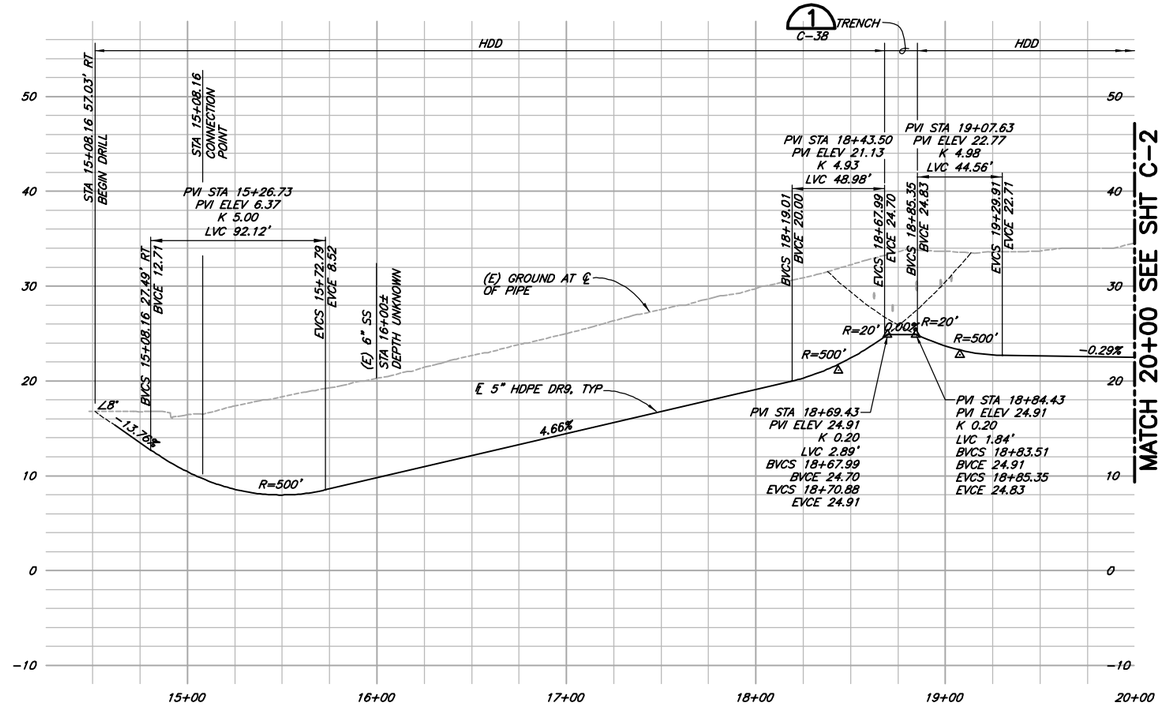
CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

PROJECT INDEX

SHEET G-4
SEQ 4
DATE 12/2014
PROJ. NO. 614024



PLAN
1"=40'



PROFILE
SCALE: 1"=40' H
1"=8' V

NOTE:
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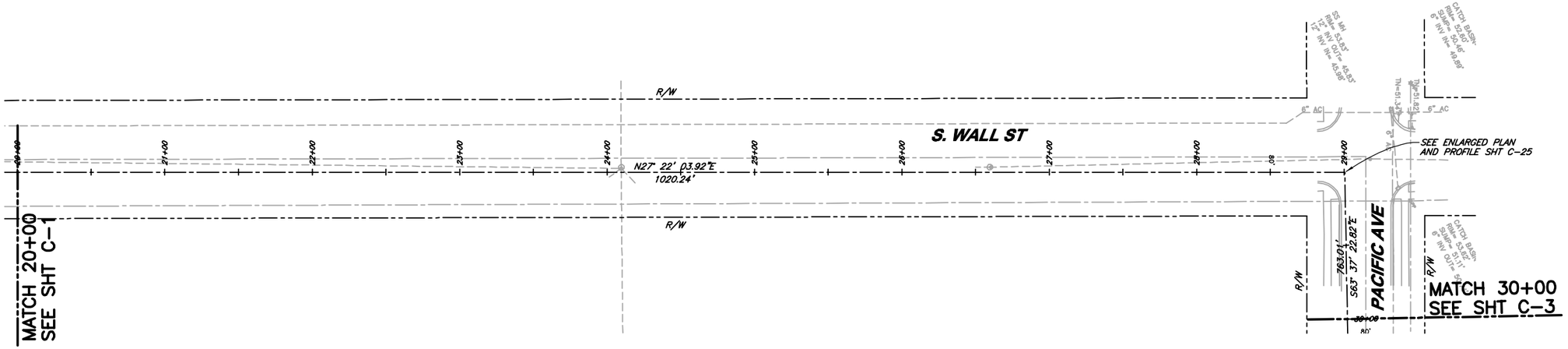
DSGN CDN/KMM
DR CDN
CHK JMD
APVD

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

PLAN AND PROFILE 15+08.16–20+00

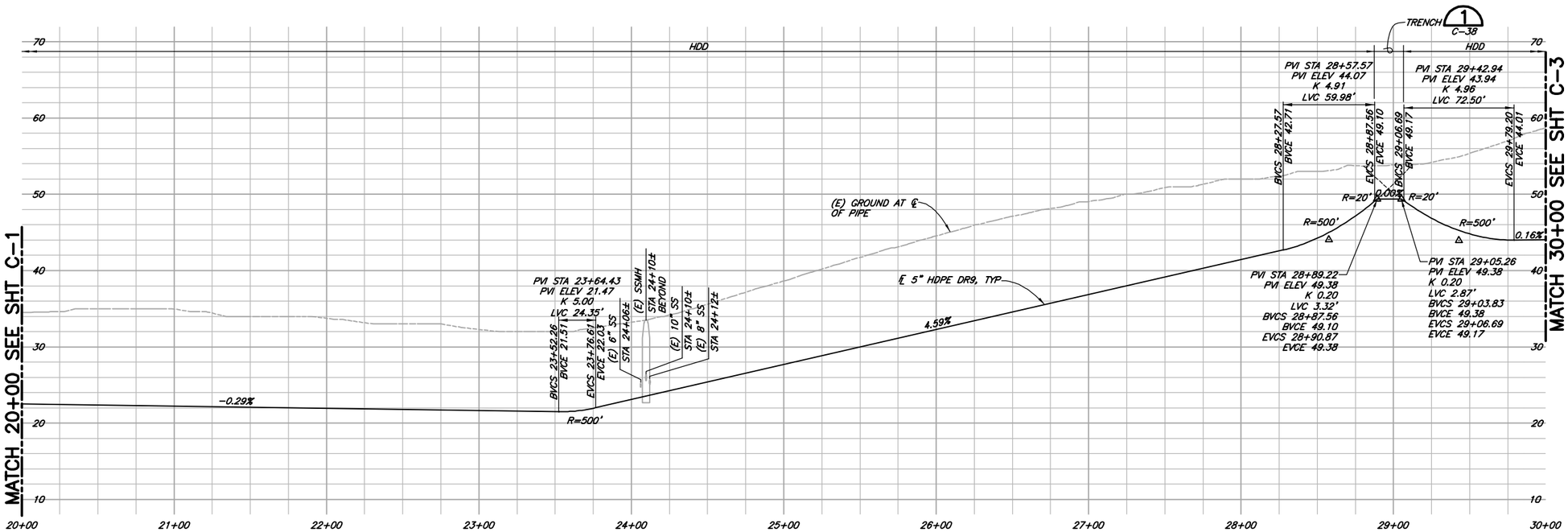
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SEQ 5
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PLAN

1"=40'



PROFILE

SCALE: 1"=40' H
1"=8' V

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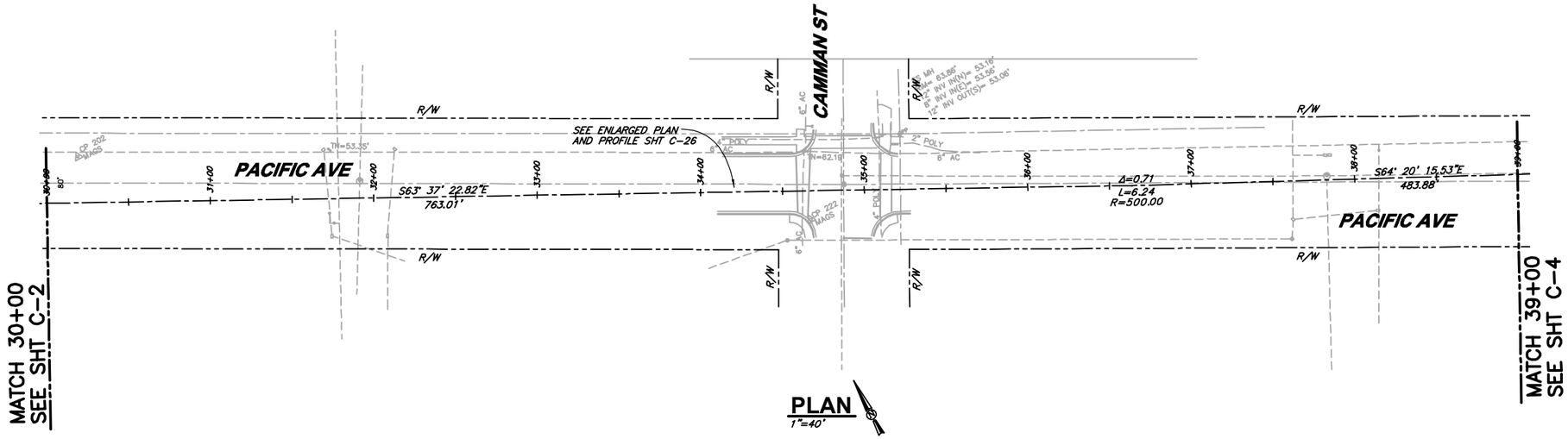
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DR CDN
CHK JMD
APVD

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

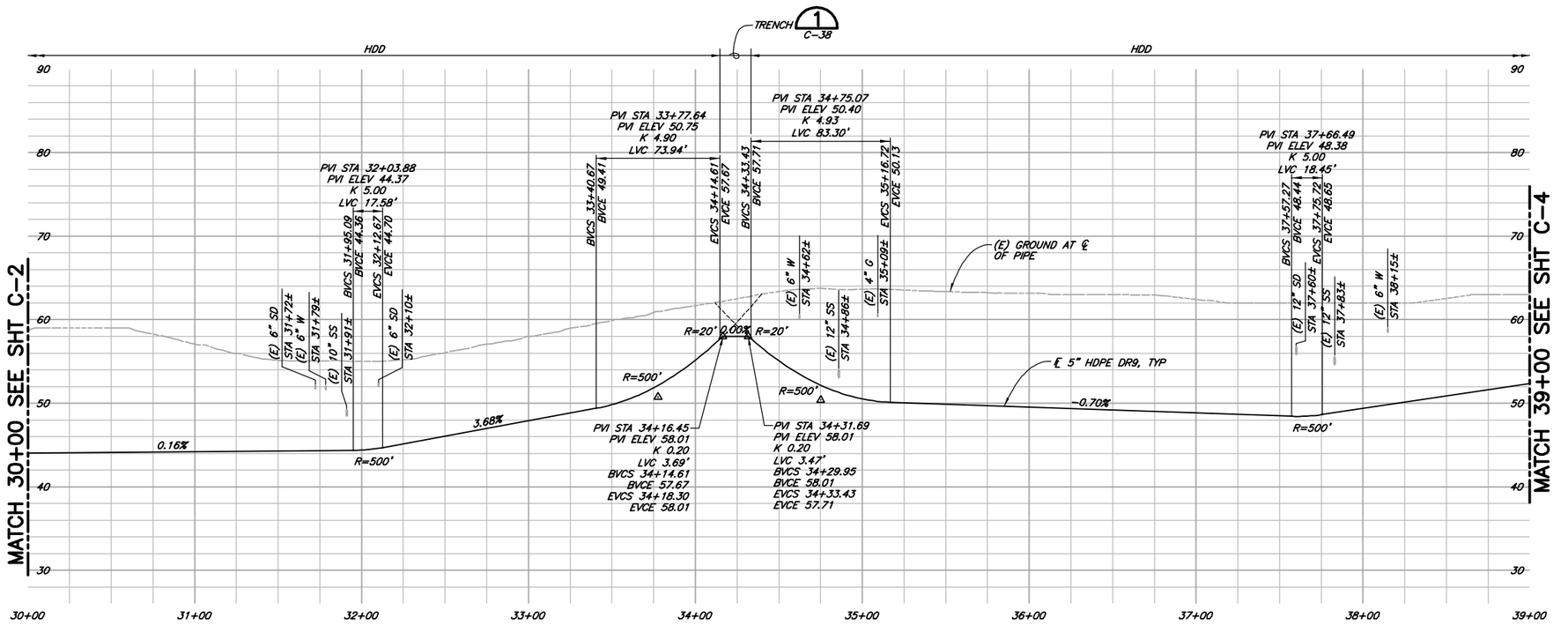
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SHEET C-2
SEQ 6
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PLAN
1"=40'



PROFILE
SCALE: 1"=40' H
1"=8' V

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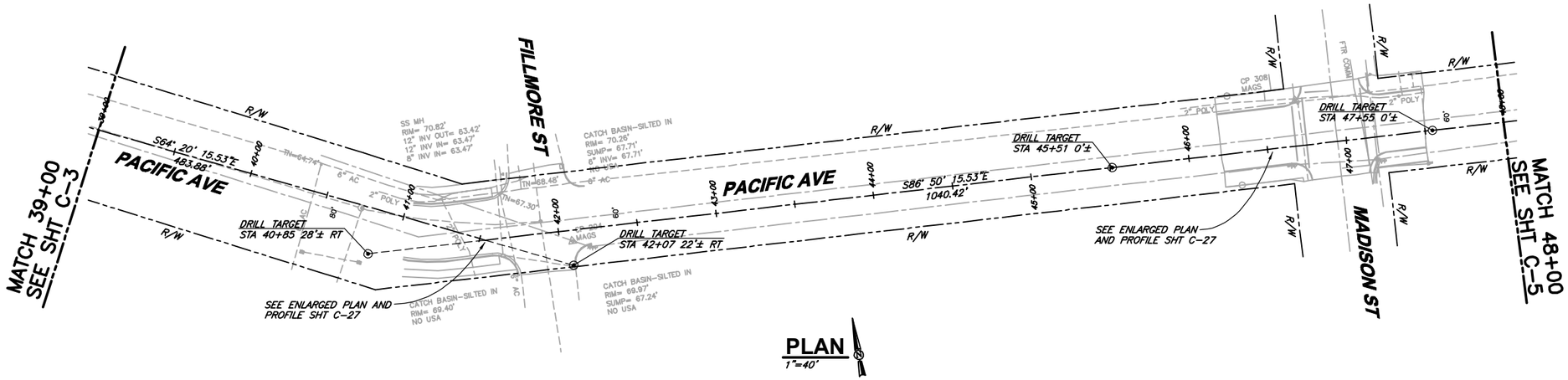
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CHK JMD
APVD

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

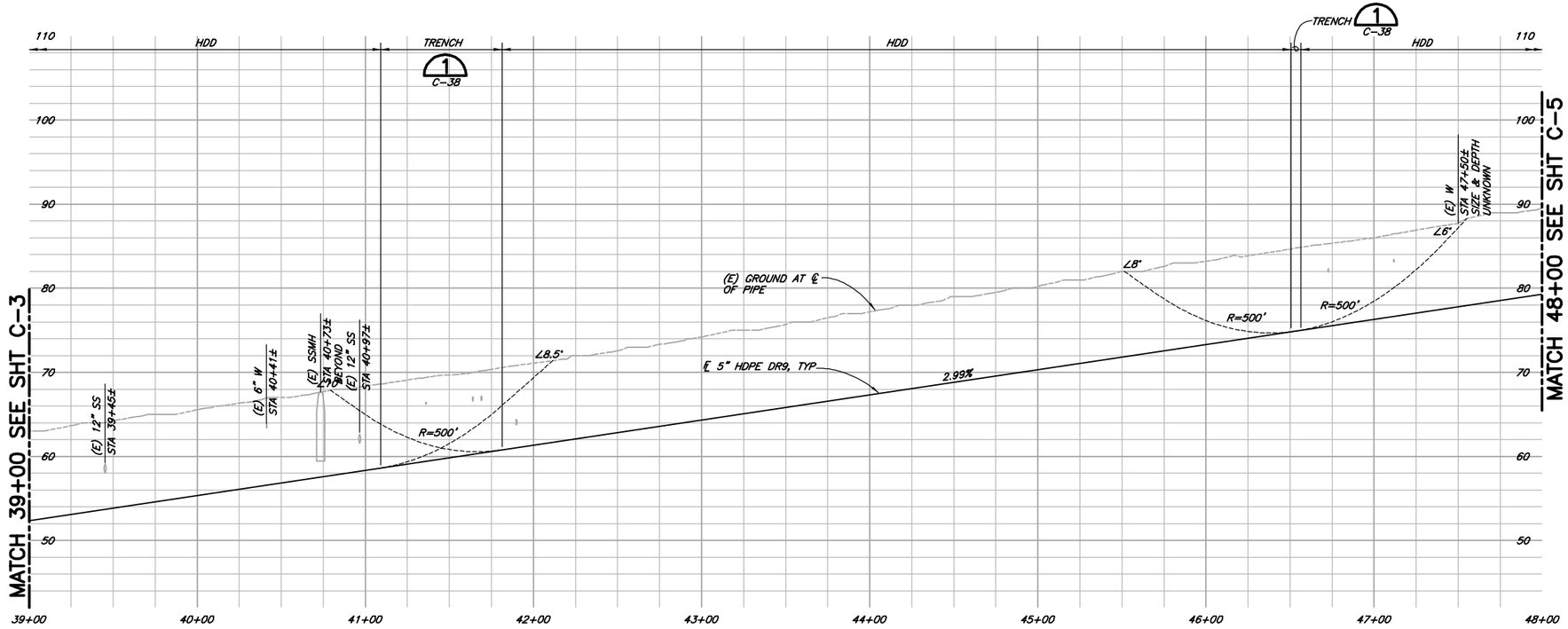
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PLAN
1"=40'



PROFILE
SCALE: 1"=40' H
1"=8' V

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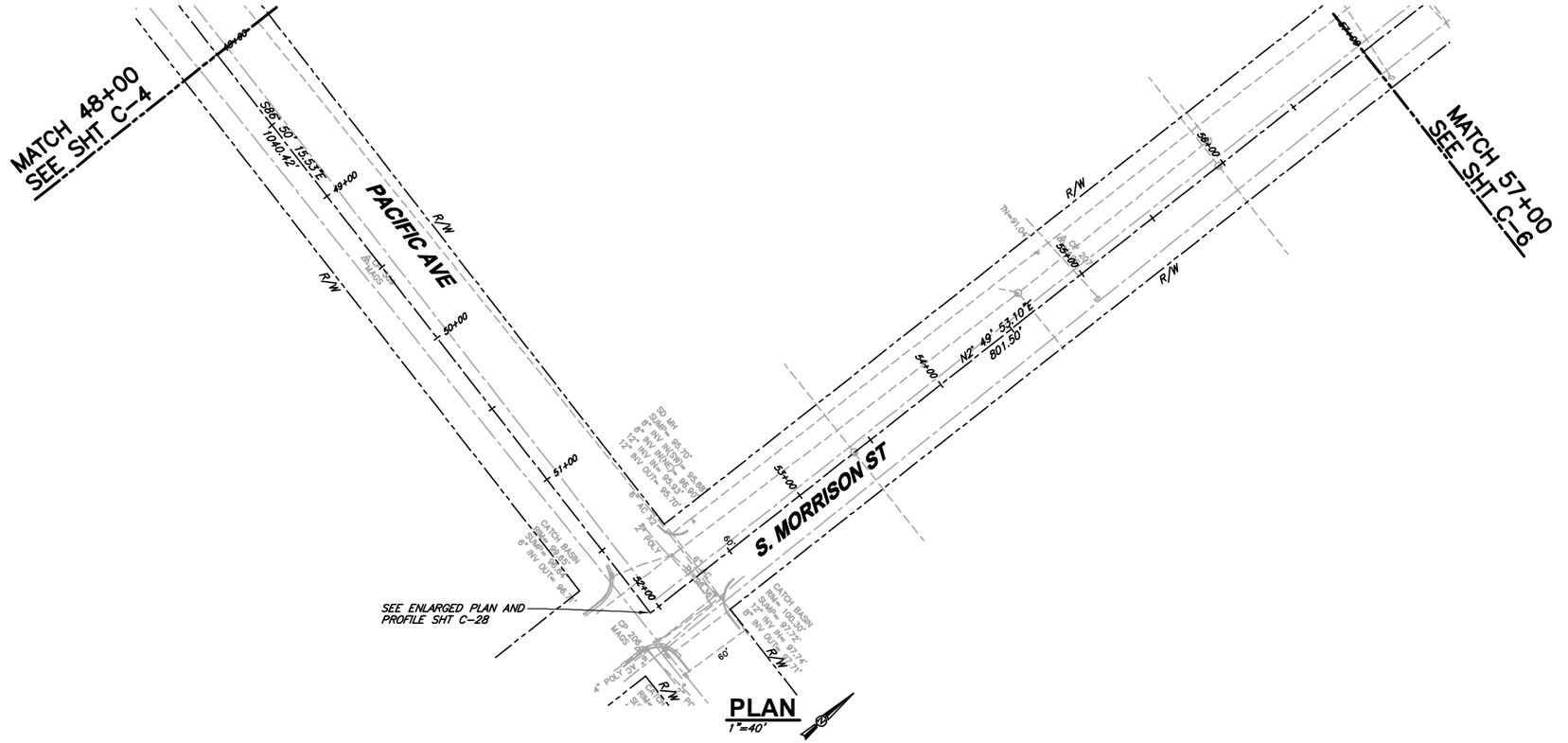
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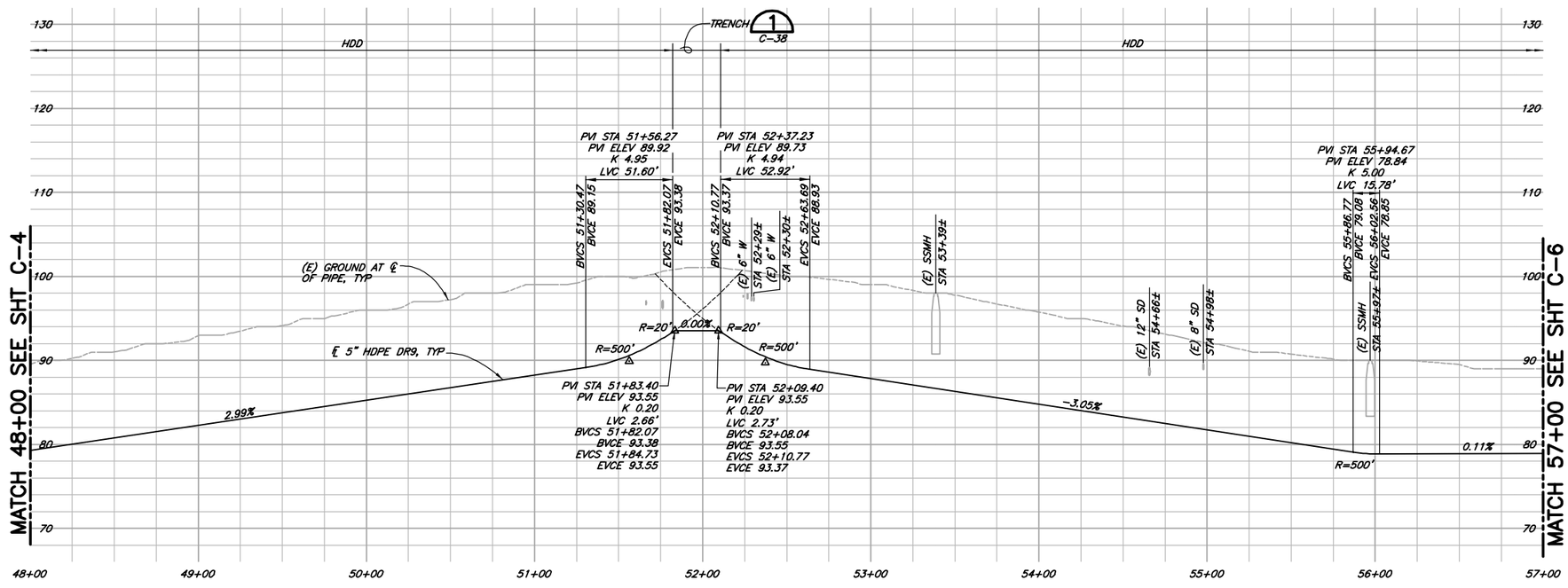
CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

PLAN AND PROFILE
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SHEET C–4
SEQ 8
DATE 12/2014
PROJ. NO. 614024

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PROFILE

SCALE: 1"=40' H
1"=8' V

REGISTERED PROFESSIONAL ENGINEER
No. 19108PE
OREGON
K. JEFFREY NELSON
SEPT. 19, 1995

EXPIRES: 12/31/2016

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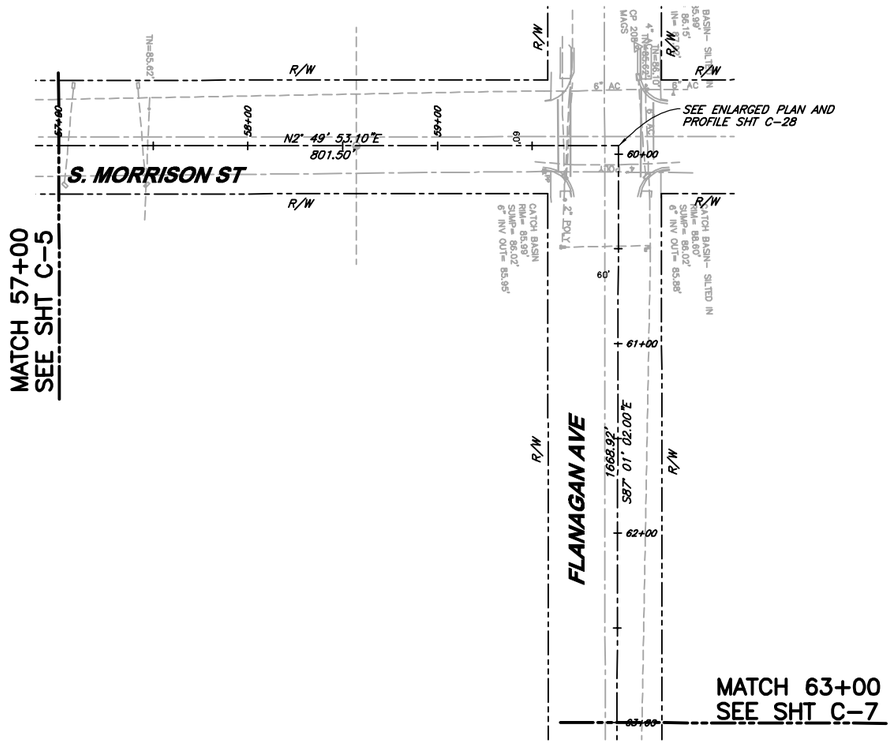
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CHK	JMD
APVD	

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

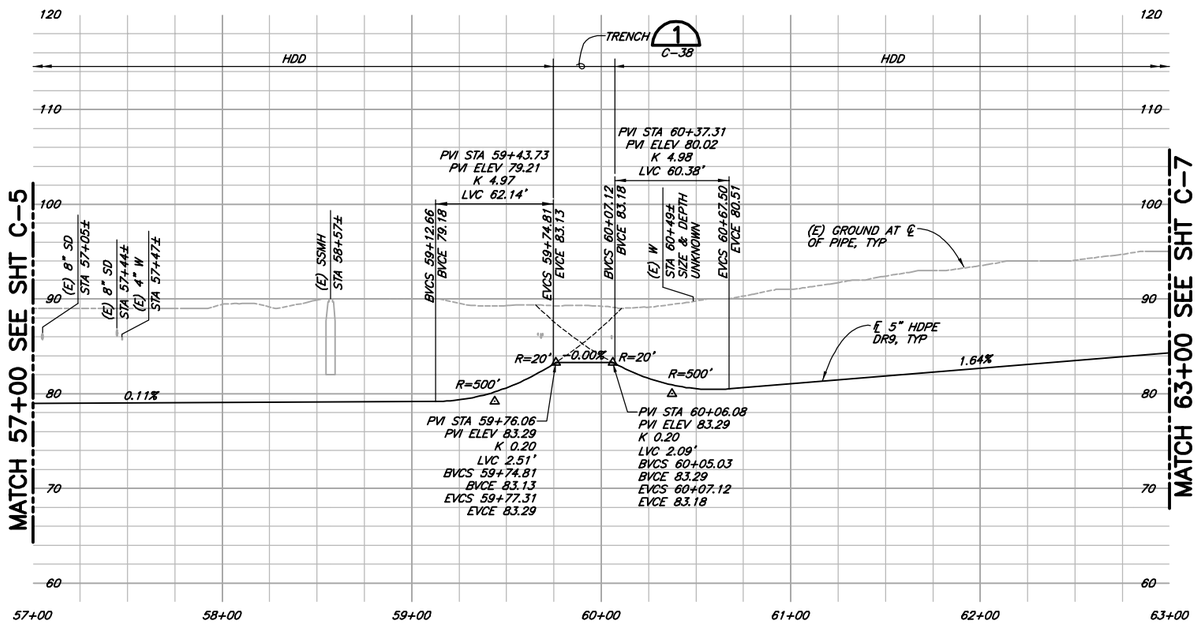
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DATE 12/2014
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PLAN
1"=40'



PROFILE
SCALE: 1"=40' H
1"=8' V

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CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

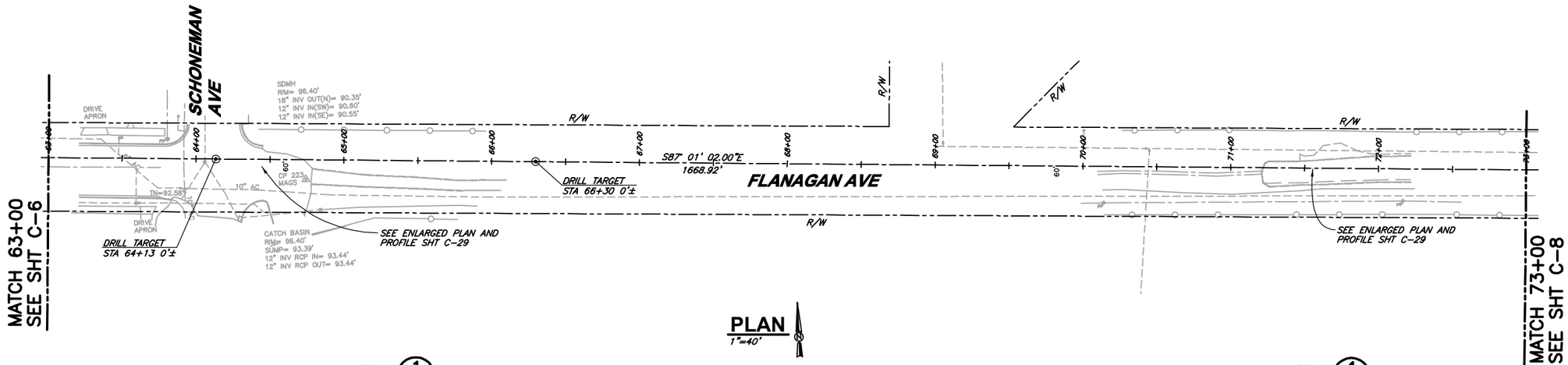
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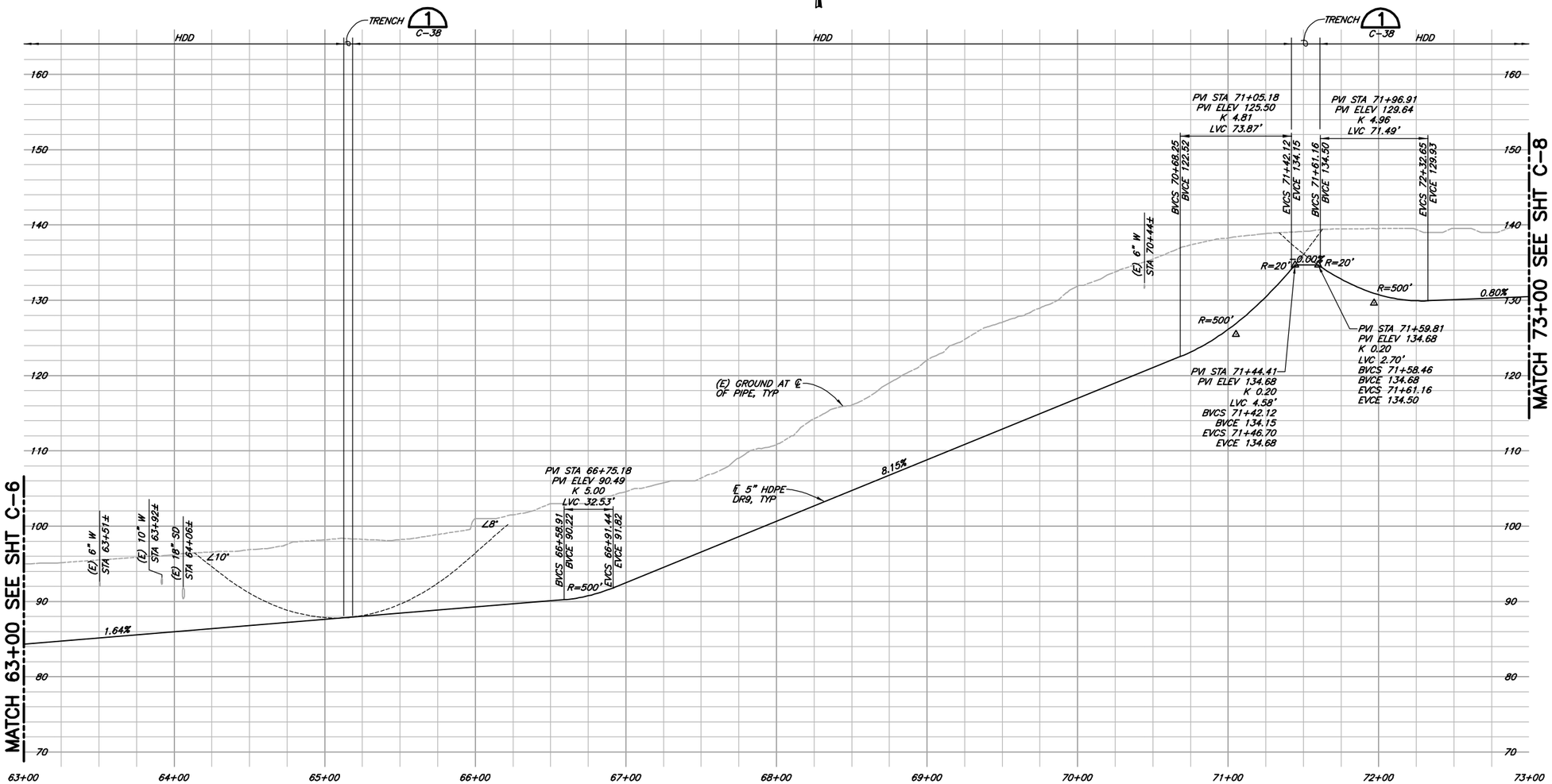
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CHK JMD
APVD

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PLAN
1"=40'



PROFILE
SCALE: 1"=40' H
1"=8' V

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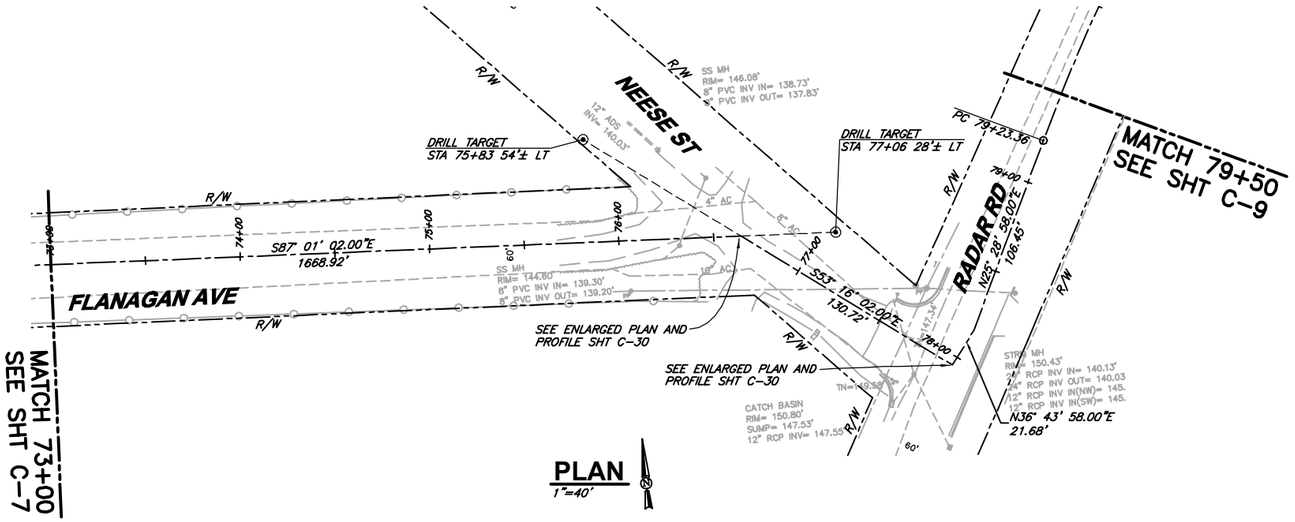
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DR CDN
CHK JMD
APVD

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

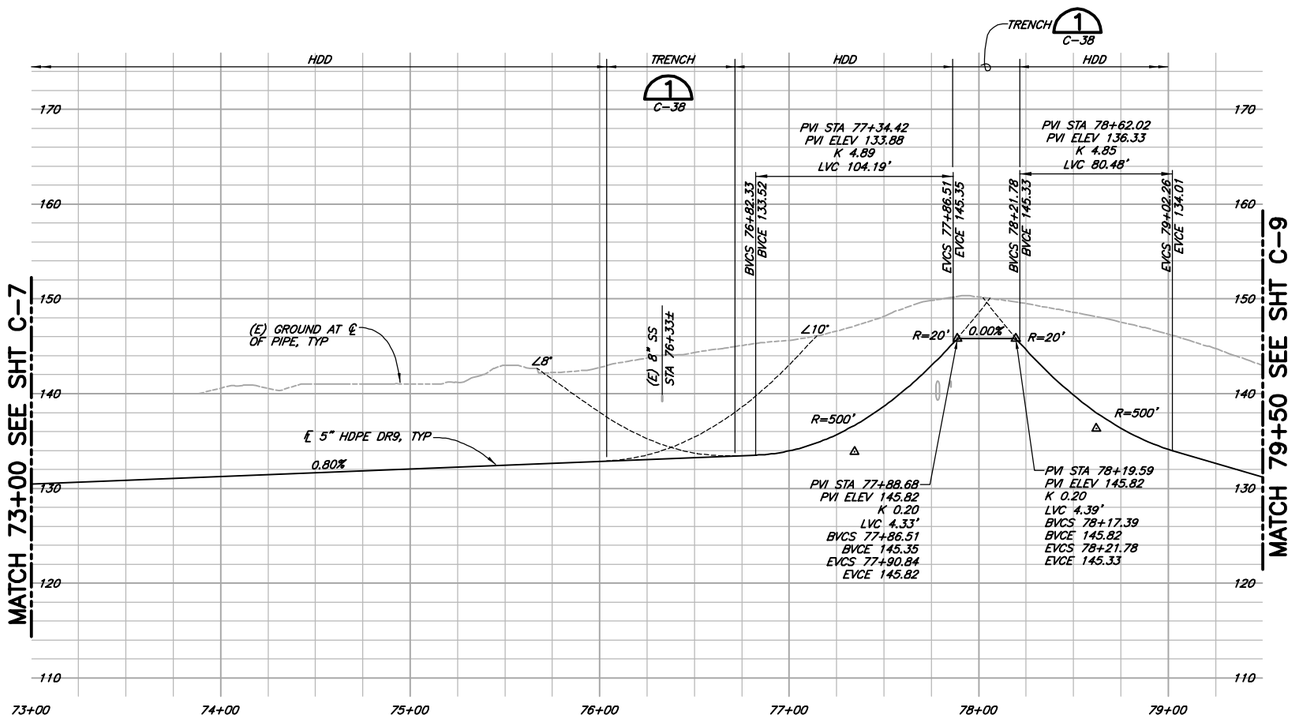
PLAN AND PROFILE 63+00–73+00

SHEET C-7
SEQ 11
DATE 12/2014
PROJ. NO. 614024

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PLAN
1"=40'



PROFILE
SCALE: 1"=40' H
1"=8' V

NOTE:

EXISTING UTILITY LOCATIONS, DEPTHS & SIZES ARE APPROXIMATE. SEWER LATERAL AND WATER SERVICES ARE LARGELY UNKNOWN AND ONLY SHOWN IN PLAN VIEW. CONTRACTOR TO VERIFY PRIOR TO DRILLING OR EXCAVATING.

REGISTERED PROFESSIONAL ENGINEER
No. 19108PE
OREGON
SEPT. 19, 1995
K. JEFFREY NELSON

EXPIRES: 12/31/2016

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COOS BAY, OR. 97420
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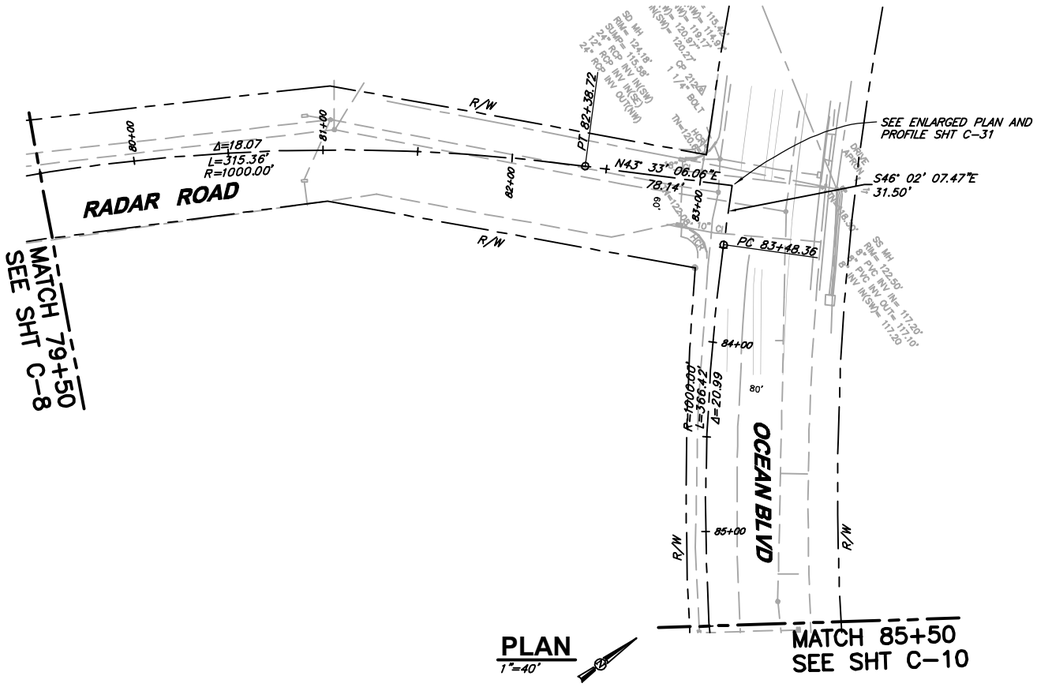
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DR CDN
CHK JMD
APVD

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

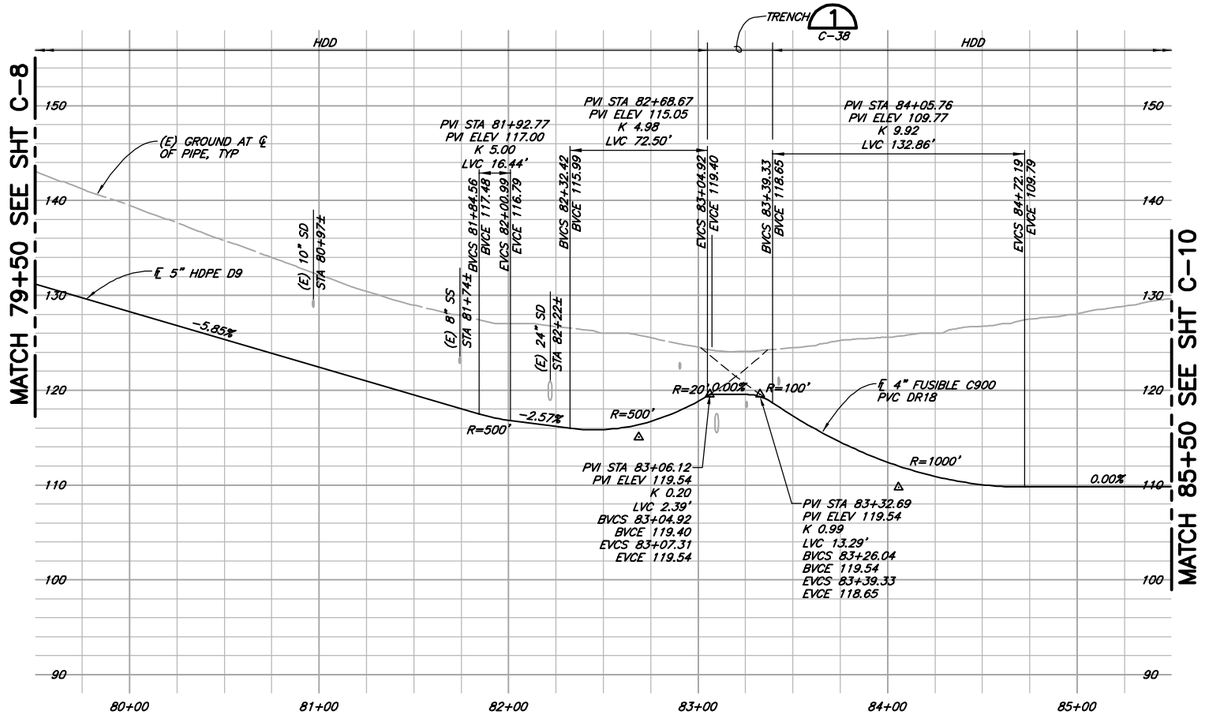
PLAN AND PROFILE 73+00-79+50

SHEET C-8
SEQ 12
DATE 12/2014
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PLAN
1"=40'



PROFILE
SCALE: 1"=40' H
1"=8' V

NOTE:
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REGISTERED PROFESSIONAL ENGINEER
No. 19108PE
OREGON
K. JEFFREY NELSON
SEPT. 19, 1995

EXPIRES: 12/31/2016

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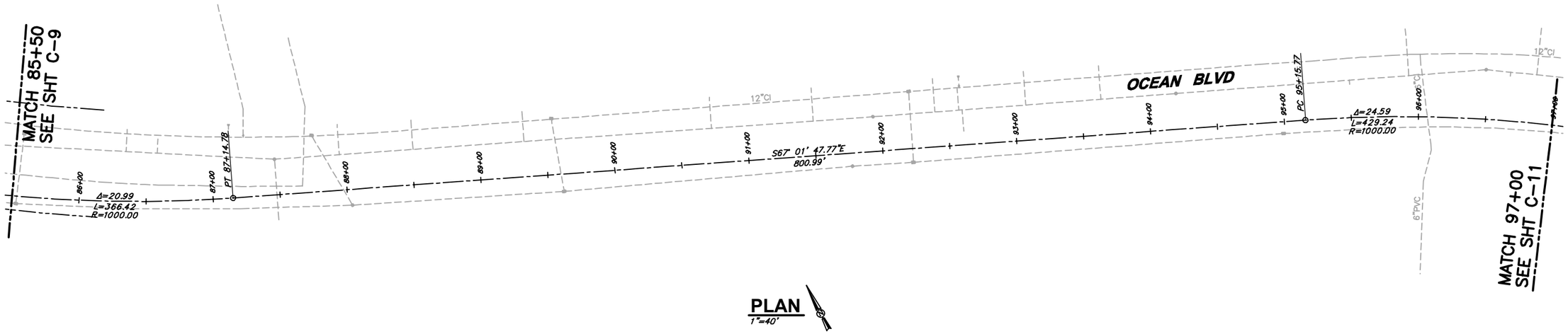
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DR	CDN
CHK	JMD
APVD	

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

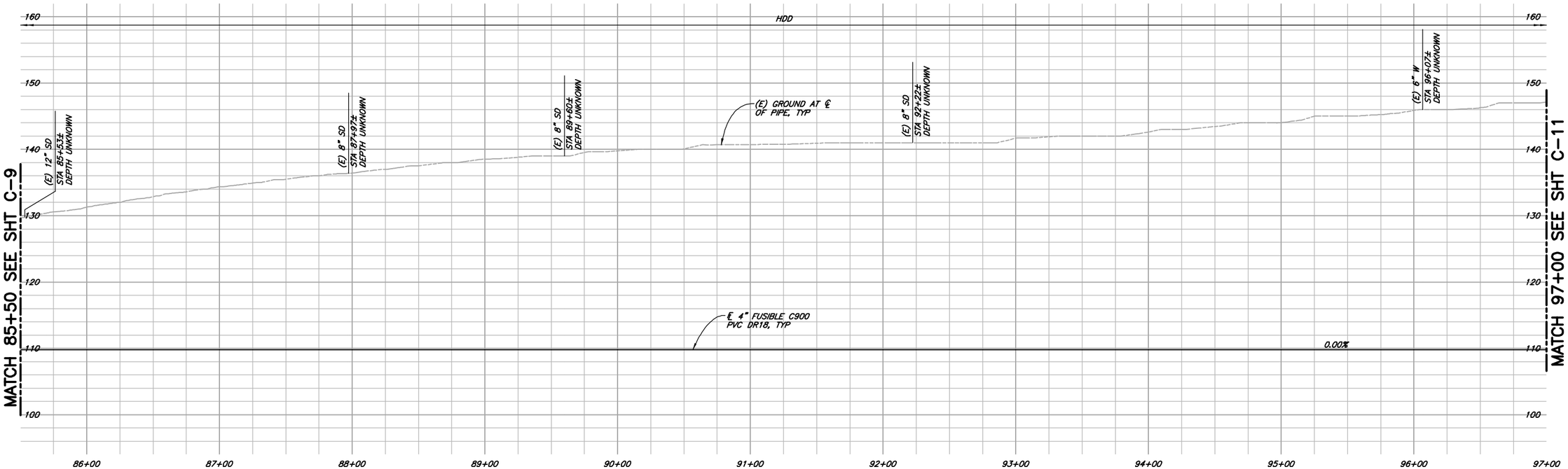
PLAN AND PROFILE
79+50-85+50

SHEET C-9
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DATE 12/2014
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PLAN
1"=40'



PROFILE
SCALE: 1"=40' H
1"=8' V

NOTE:
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REGISTERED PROFESSIONAL ENGINEER
No. 19108PE
OREGON
K. JEFFREY NELSON
SEPT. 19, 1995

EXPIRES: 12/31/2016

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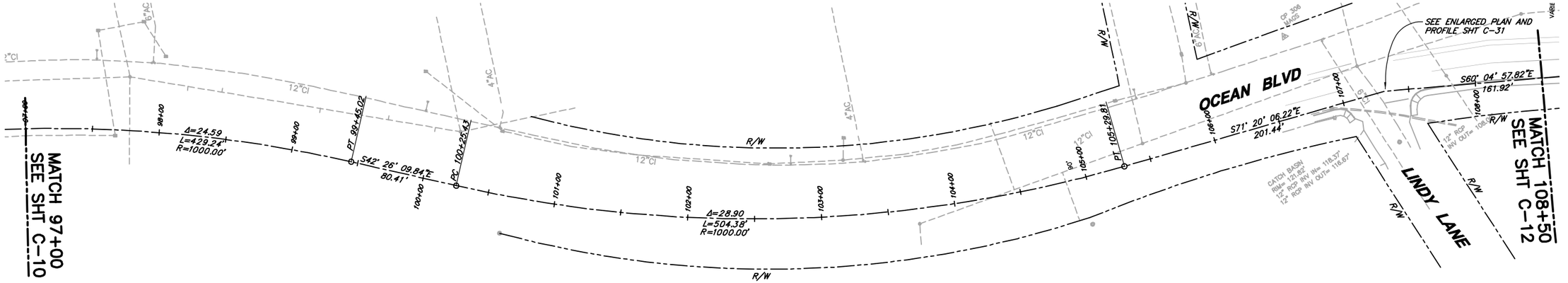
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DR CDN
CHK JMD
APVD

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

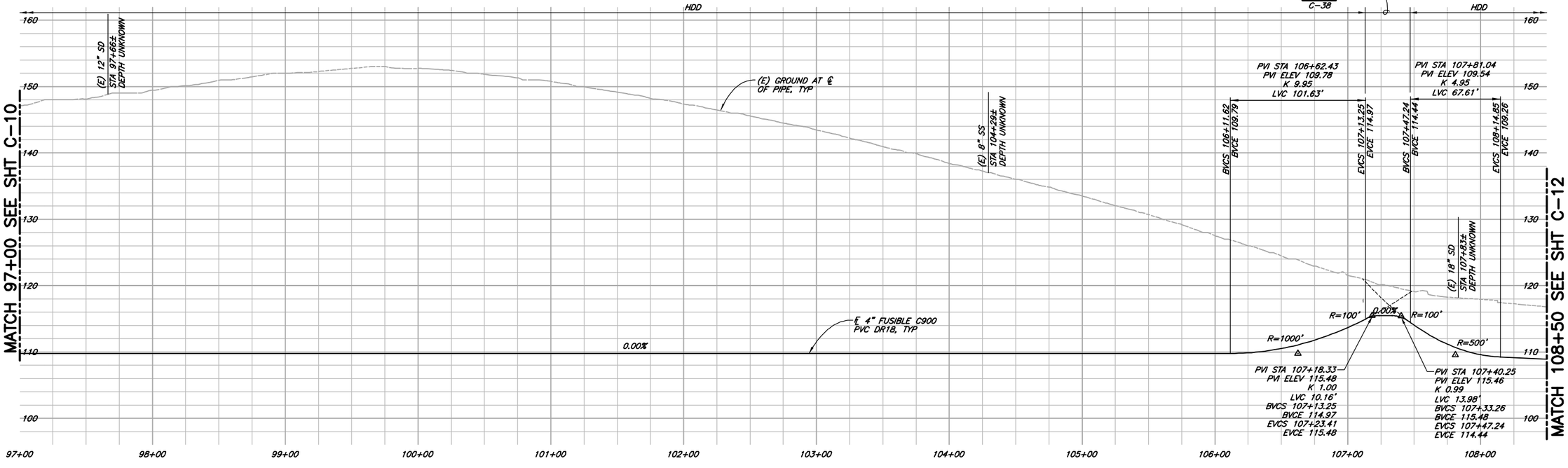
PLAN AND PROFILE 85+50-97+00

SHEET C-10
SEQ 14
DATE 12/2014
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PLAN
1"=40'



PROFILE
SCALE: 1"=40' H
1"=8' V

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REGISTERED PROFESSIONAL ENGINEER
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OREGON
K. JEFFREY NELSON
SEPT. 19, 1995

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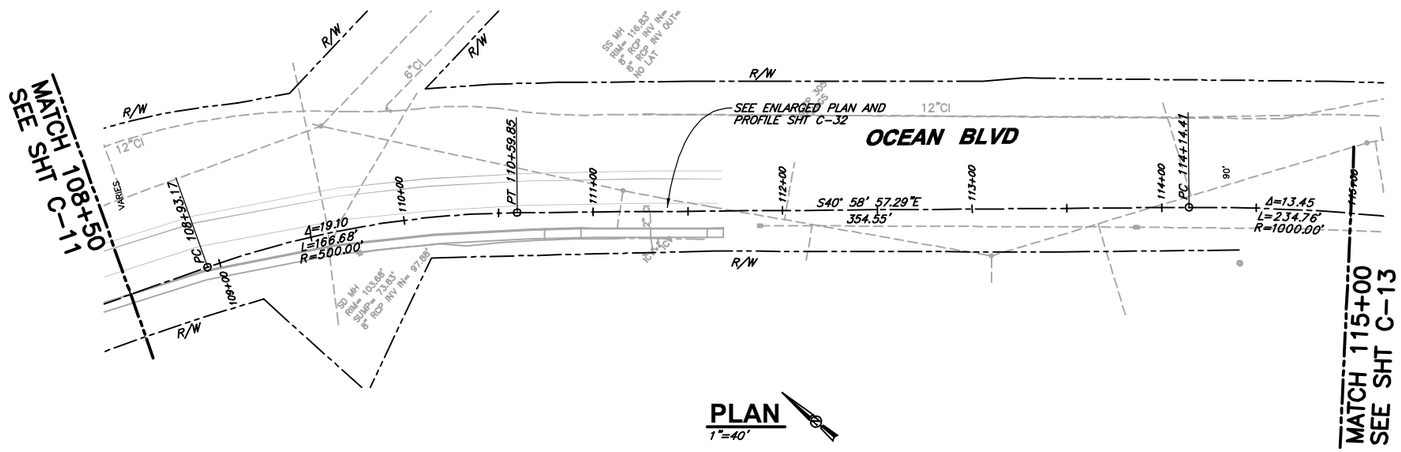
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DR CDN
CHK JMD
APVD

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

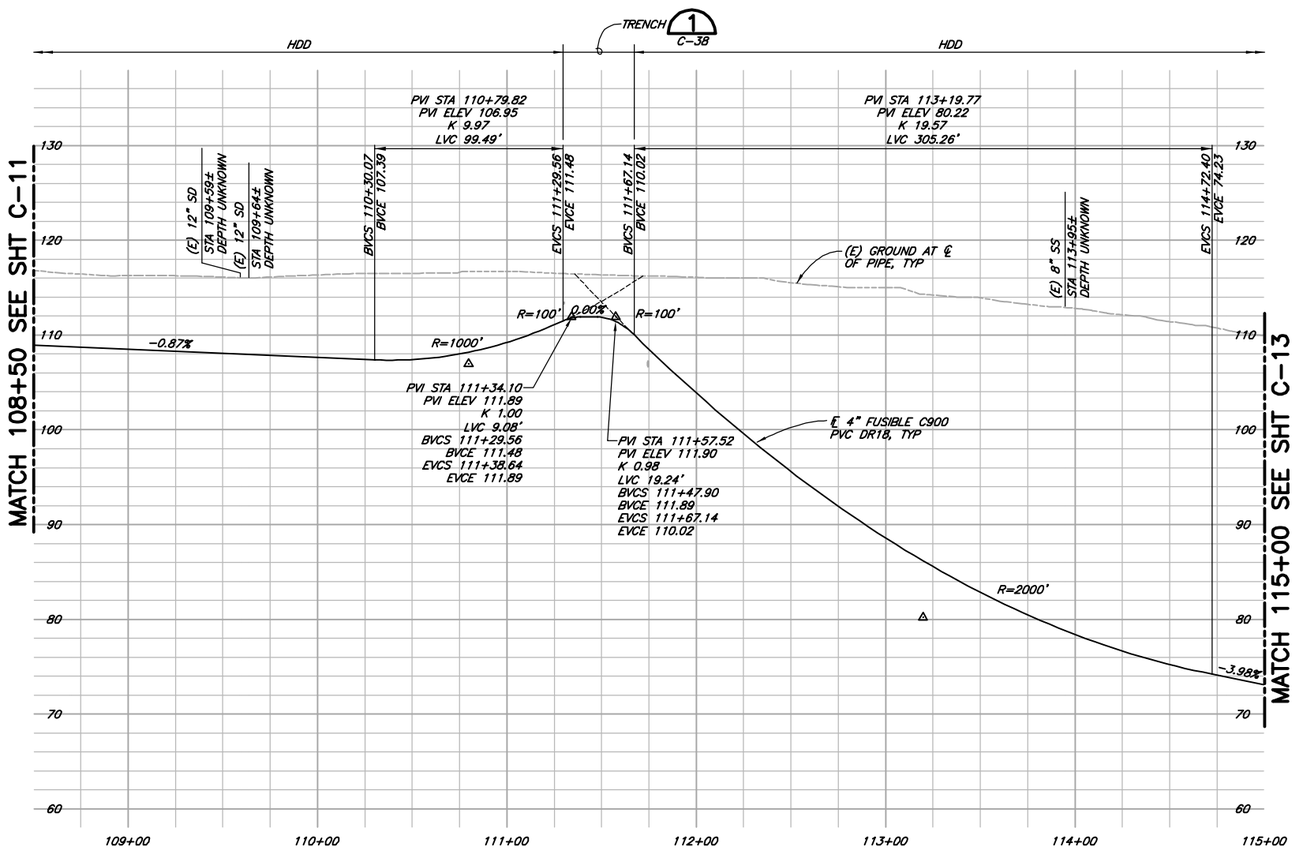
PLAN AND PROFILE 97+00–108+50

SHEET C-11
SEQ 15
DATE 12/2014
PROJ. NO. 614024

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PLAN
1"=40'



PROFILE
SCALE: 1"=40' H
1"=8' V

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OREGON
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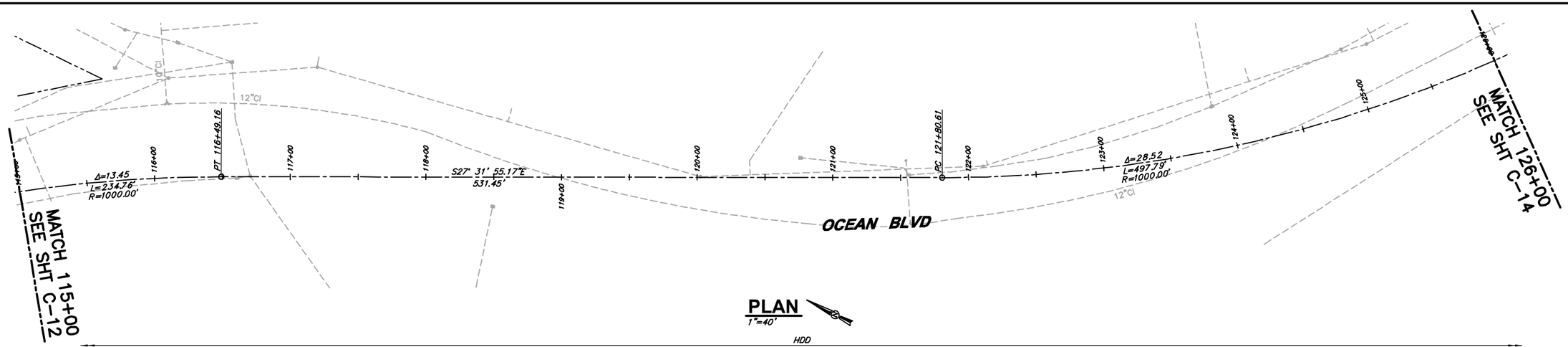
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CHK JMD
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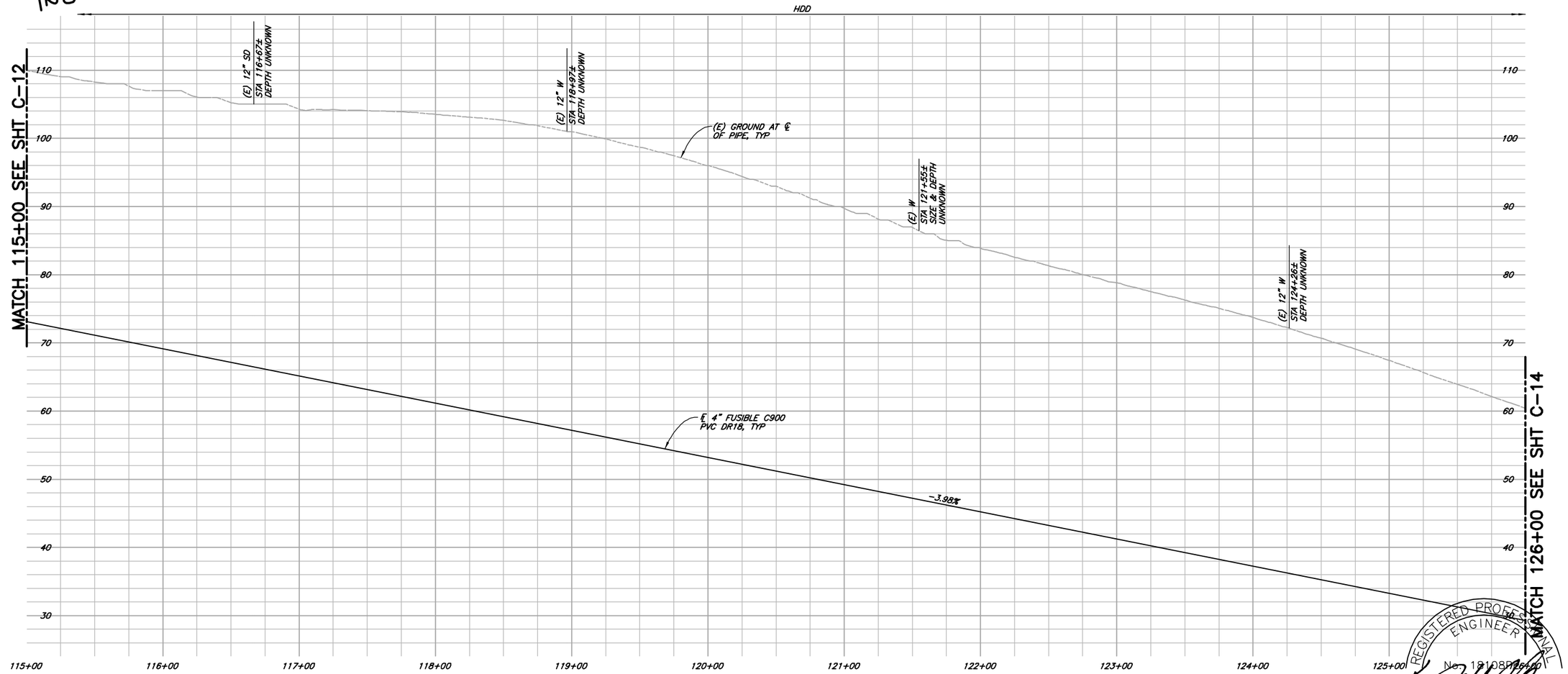
CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

PLAN AND PROFILE 108+50–115+00

SHEET C–12
SEQ 16
DATE 12/2014
PROJ. NO. 614024



PLAN
1"=40'



PROFILE
SCALE: 1"=40' H
1"=8' V

NOTE:
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REGISTERED PROFESSIONAL ENGINEER
OREGON
No. 18108PE
SEPT. 19, 1995
K. JEFFREY NELSON

EXPIRES: 12/31/2016

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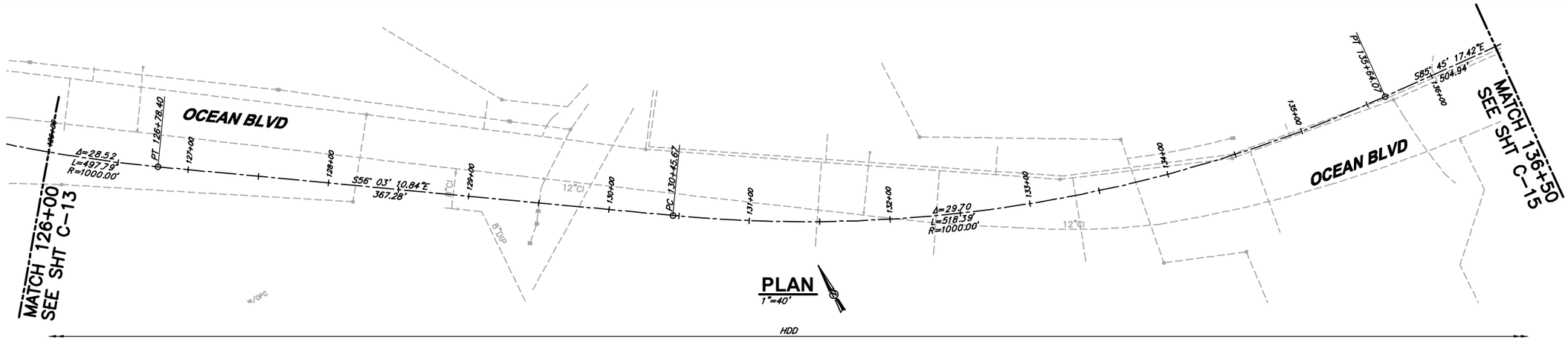
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DR	CDN
CHK	JMD
APVD	

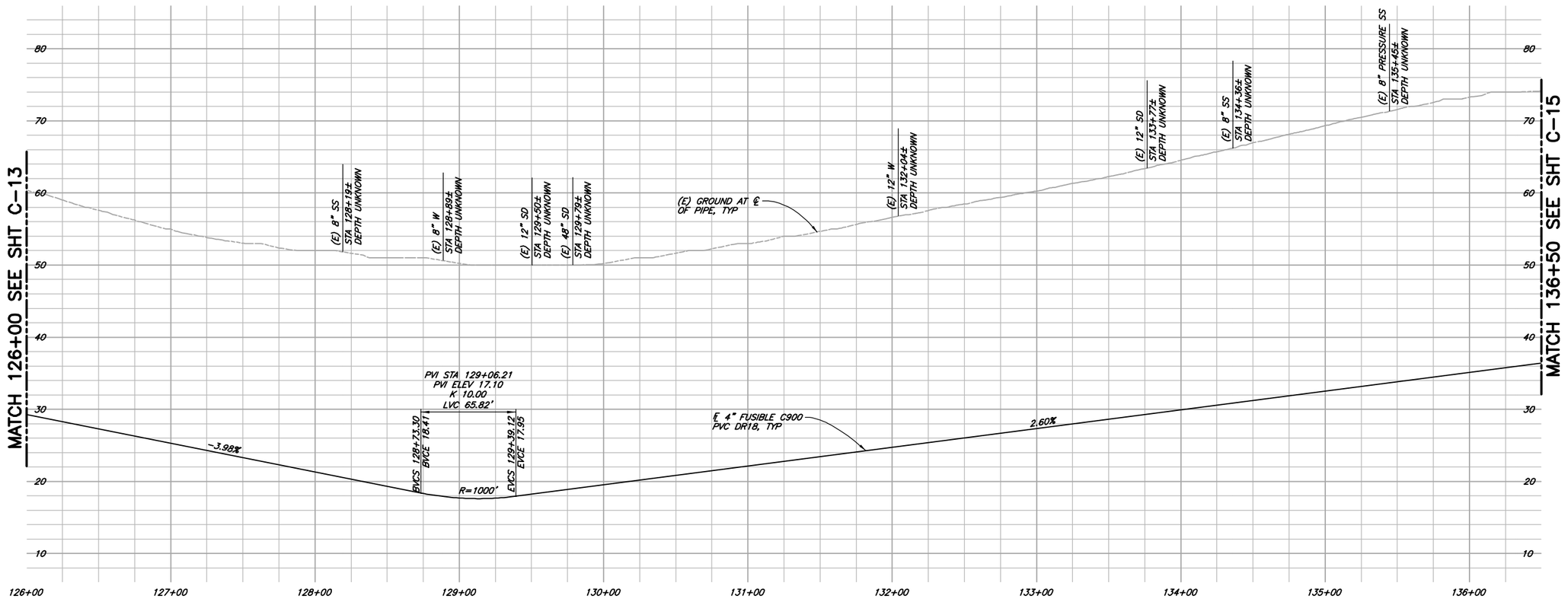
CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

PLAN AND PROFILE
115+00-126+00

SHEET C-13
SEQ 17
DATE 12/2014
PROJ. NO. 614024

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PROFILE
SCALE: 1"=40' H
1"=8' V

NOTE:

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REGISTERED PROFESSIONAL ENGINEER
No. 19108PE
OREGON
K. JEFFREY NELSON
SEPT. 19, 1995

EXPIRES: 12/31/2016

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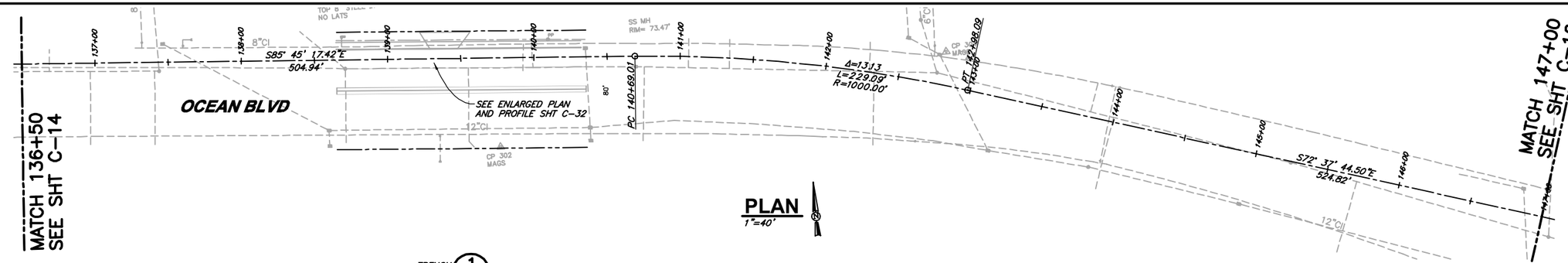
DSGN CDN/KMM
DR CDN
CHK JMD
APVD

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

PLAN AND PROFILE
126+00–136+50

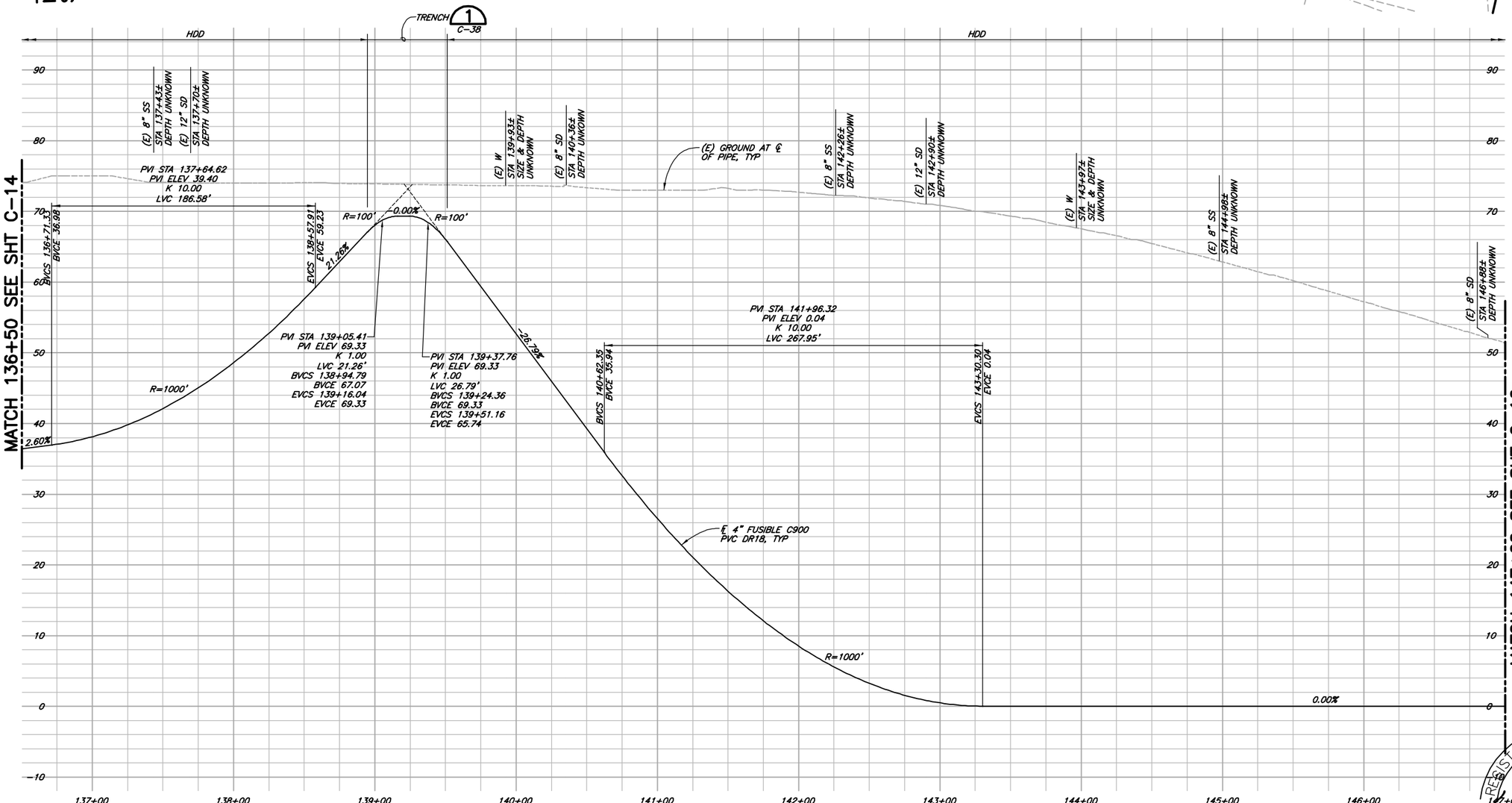
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PLAN

1"=40'



PROFILE

SCALE: 1"=40' H
1"=8' V

NOTE:

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REGISTERED PROFESSIONAL ENGINEER
OREGON
K. JEFFREY NELSON
SEPT. 19, 1995
Renewal No. 12/08/15

EXPIRES: 12/31/2016

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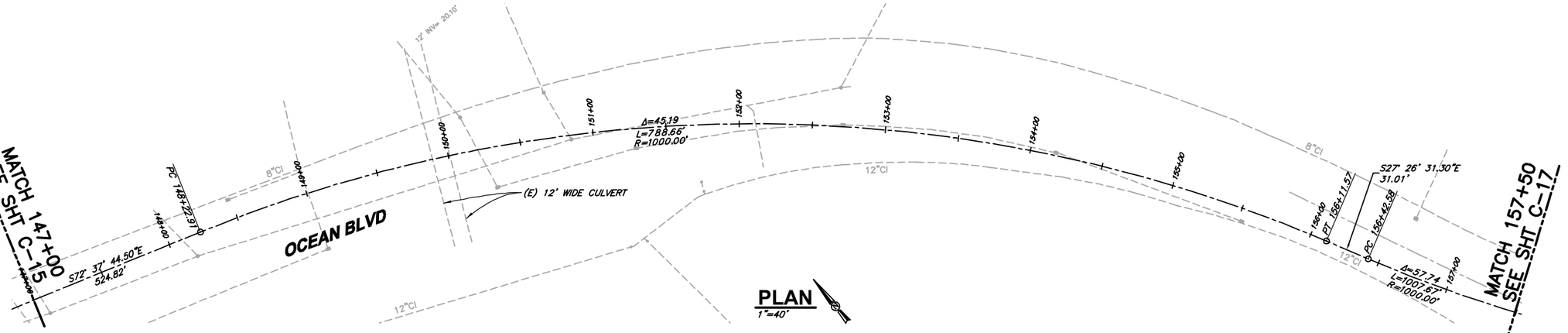
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DR CDN
CHK JMD
APVD

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

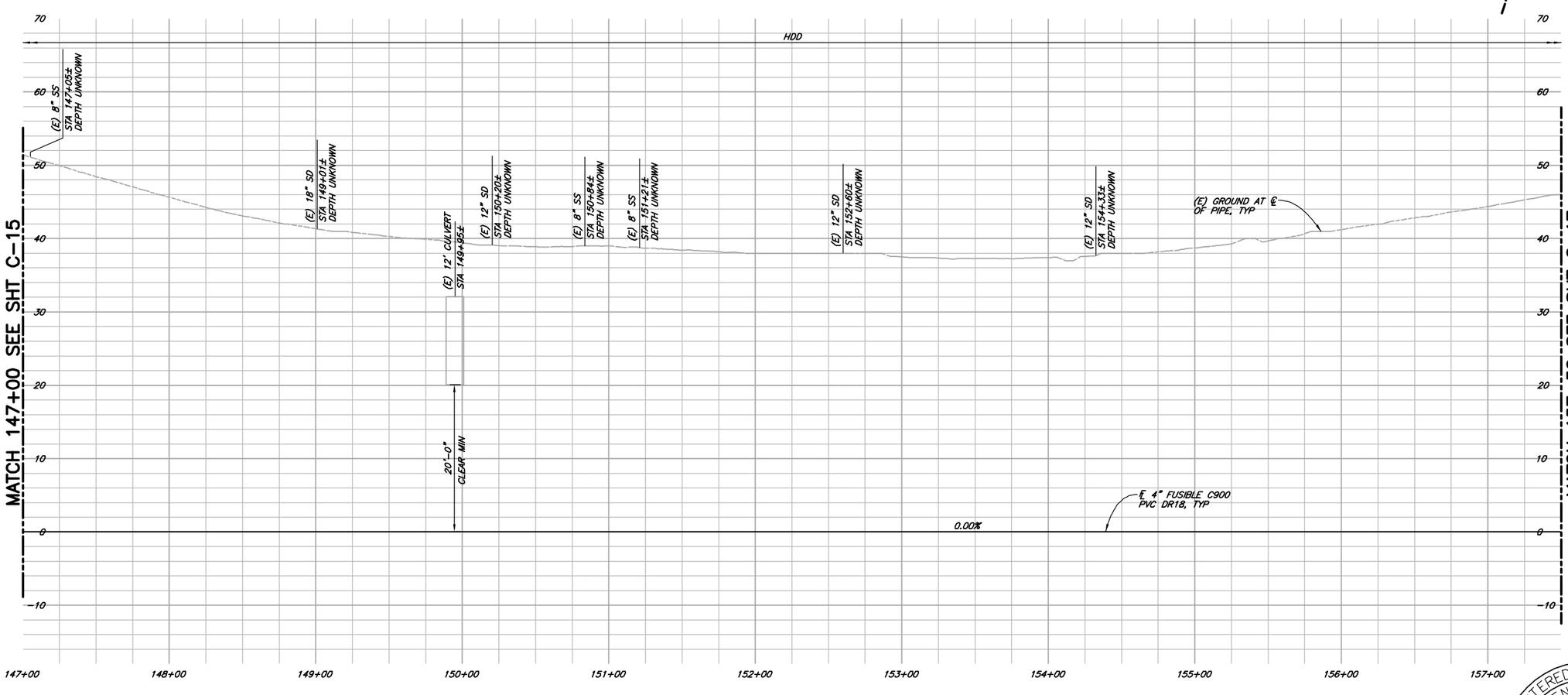
PLAN AND PROFILE 136+50–147+00

SHEET C–15
SEQ 19
DATE 12/2014
PROJ. NO. 614024

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PLAN
1"=40'



PROFILE
SCALE: 1"=40' H
1"=8' V

NOTE:
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REGISTERED PROFESSIONAL ENGINEER
No. 18108PE
OREGON
SEPT. 19, 1995
K. JEFFREY NELSON

EXPIRES: 12/31/2016

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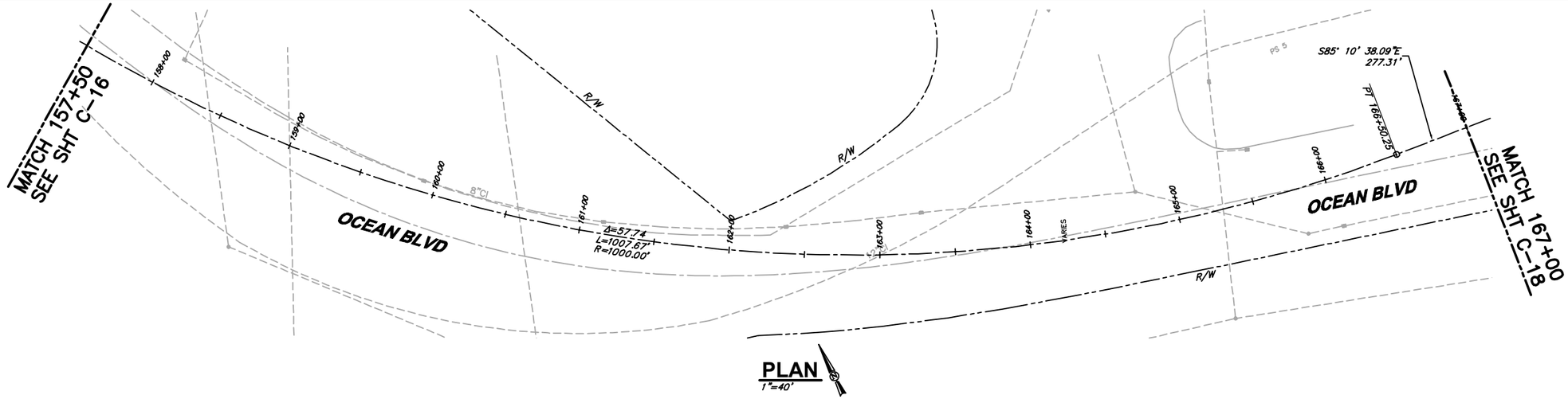
DSGN CDN/KMM
DR CDN
CHK JMD
APVD

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

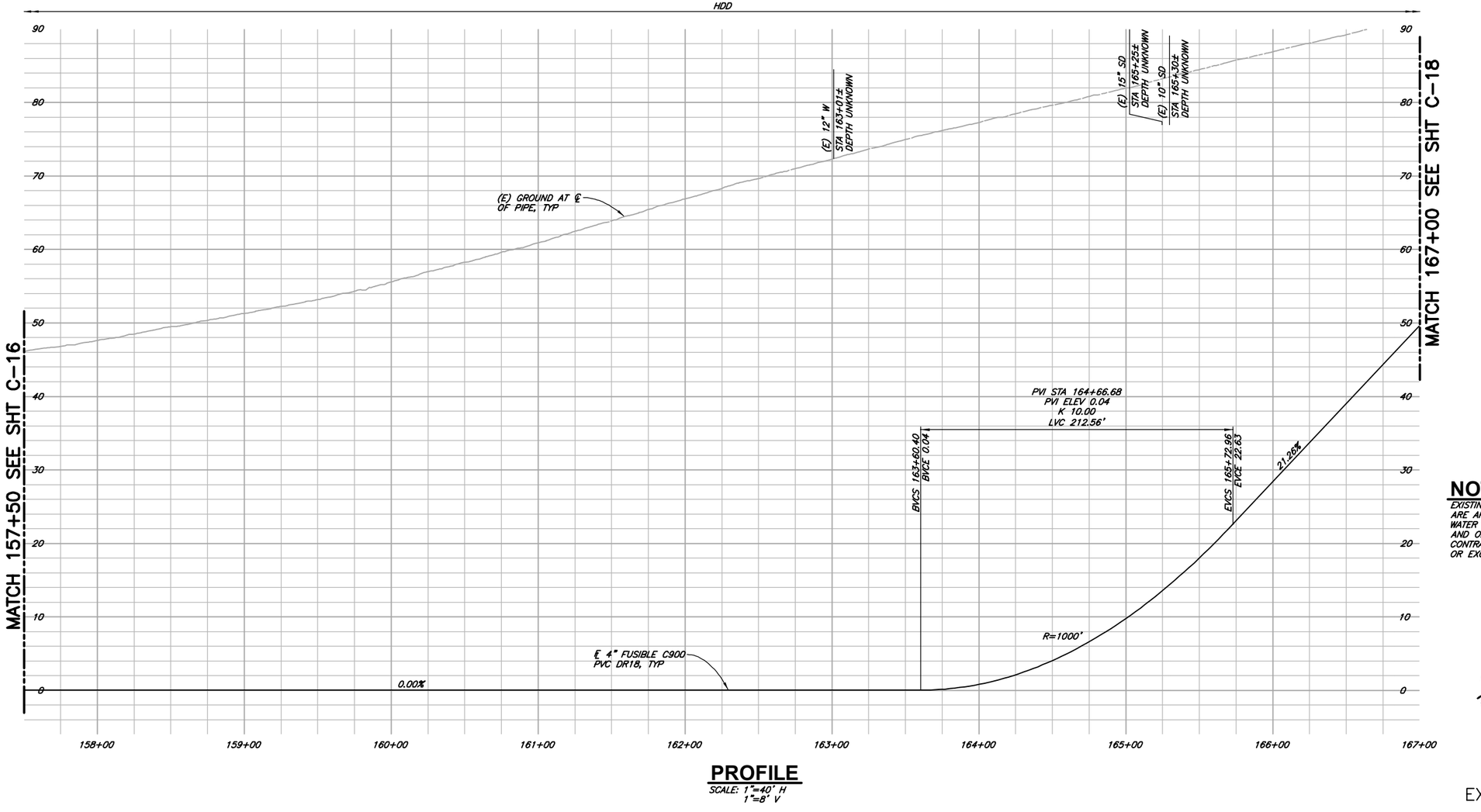
PLAN AND PROFILE 147+00–157+50

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SEQ 20
DATE 12/2014
PROJ. NO. 614024

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PLAN
1"=40'



PROFILE
SCALE: 1"=40' H
1"=8' V

NOTE:
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REGISTERED PROFESSIONAL ENGINEER
No. 19108PE
OREGON
K. JEFFREY NELSON
SEPT. 19, 1995

EXPIRES: 12/31/2016

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COOS BAY, OR. 97420
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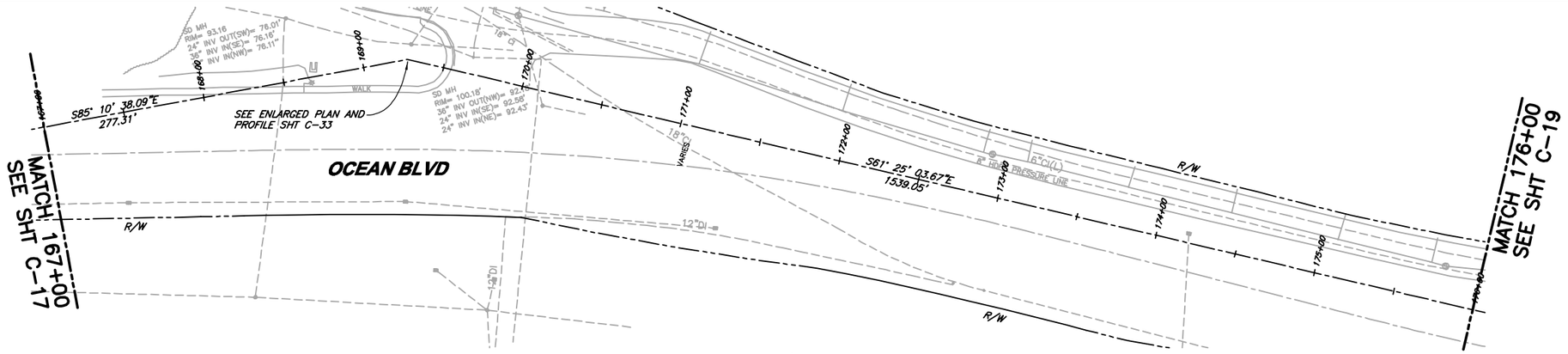
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DSGN CDN/KMM
DR CDN
CHK JMD
APVD

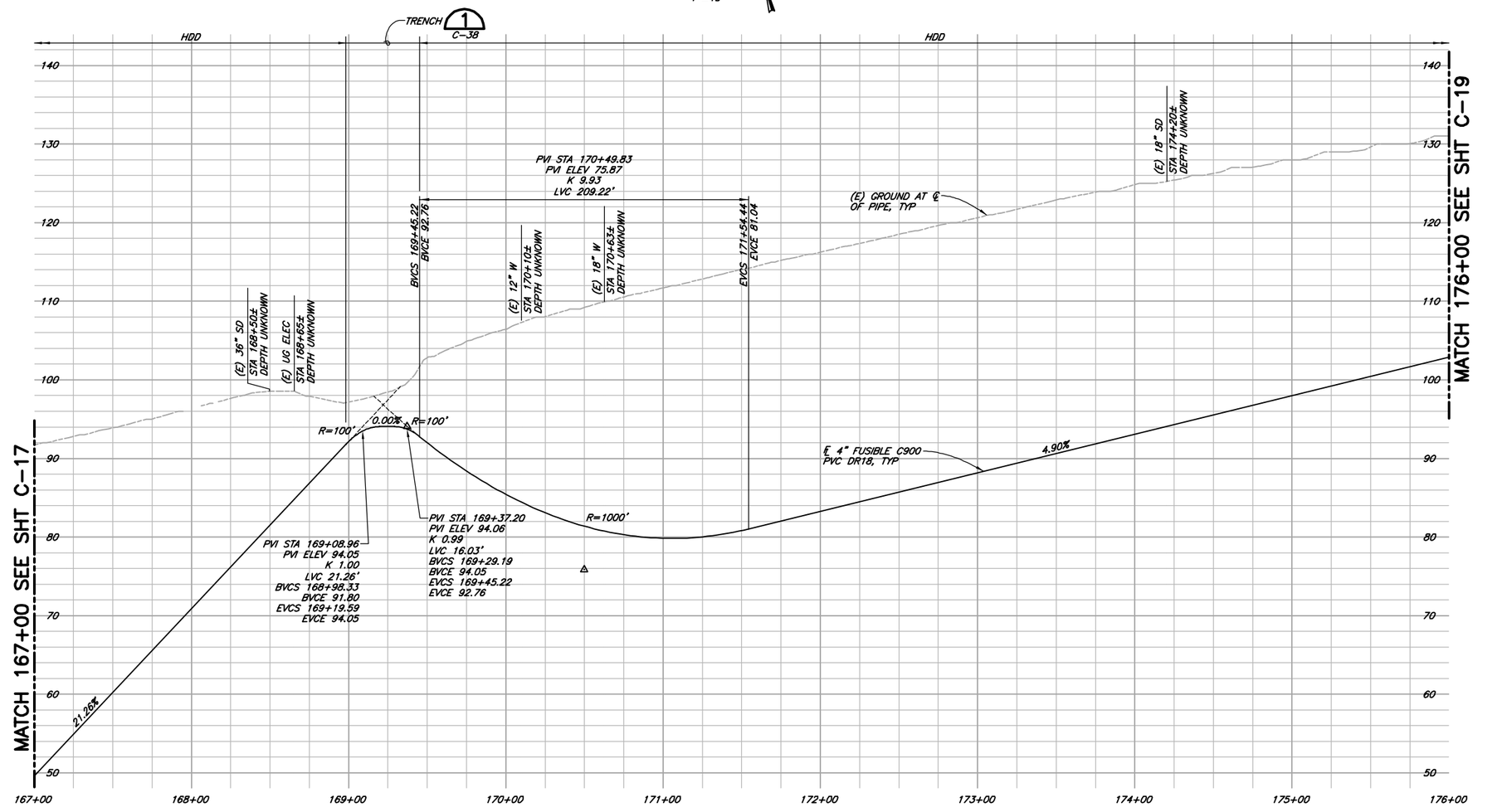
CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

PLAN AND PROFILE
157+50–167+00

SHEET C-17
SEQ 21
DATE 12/2014
PROJ. NO. 614024



PLAN
1"=40'



NOTE:
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PROFILE
SCALE: 1"=40' H
1"=8' V

REGISTERED PROFESSIONAL ENGINEER
OREGON
No. 19108PE
K. JEFFREY NELSON
SEPT. 19, 1995

EXPIRES: 12/31/2016

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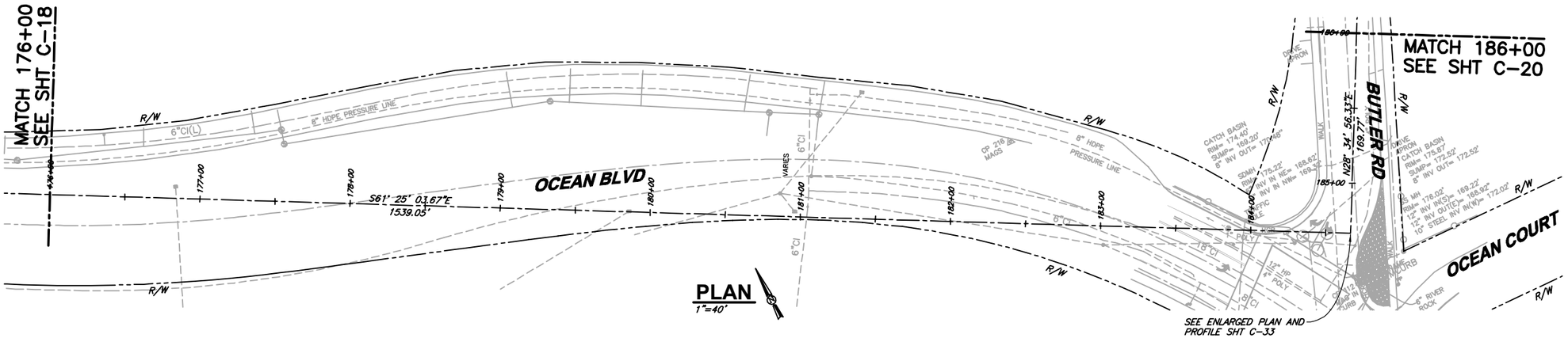
DSGN CDN/KMM
DR CDN
CHK JMD
APVD

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

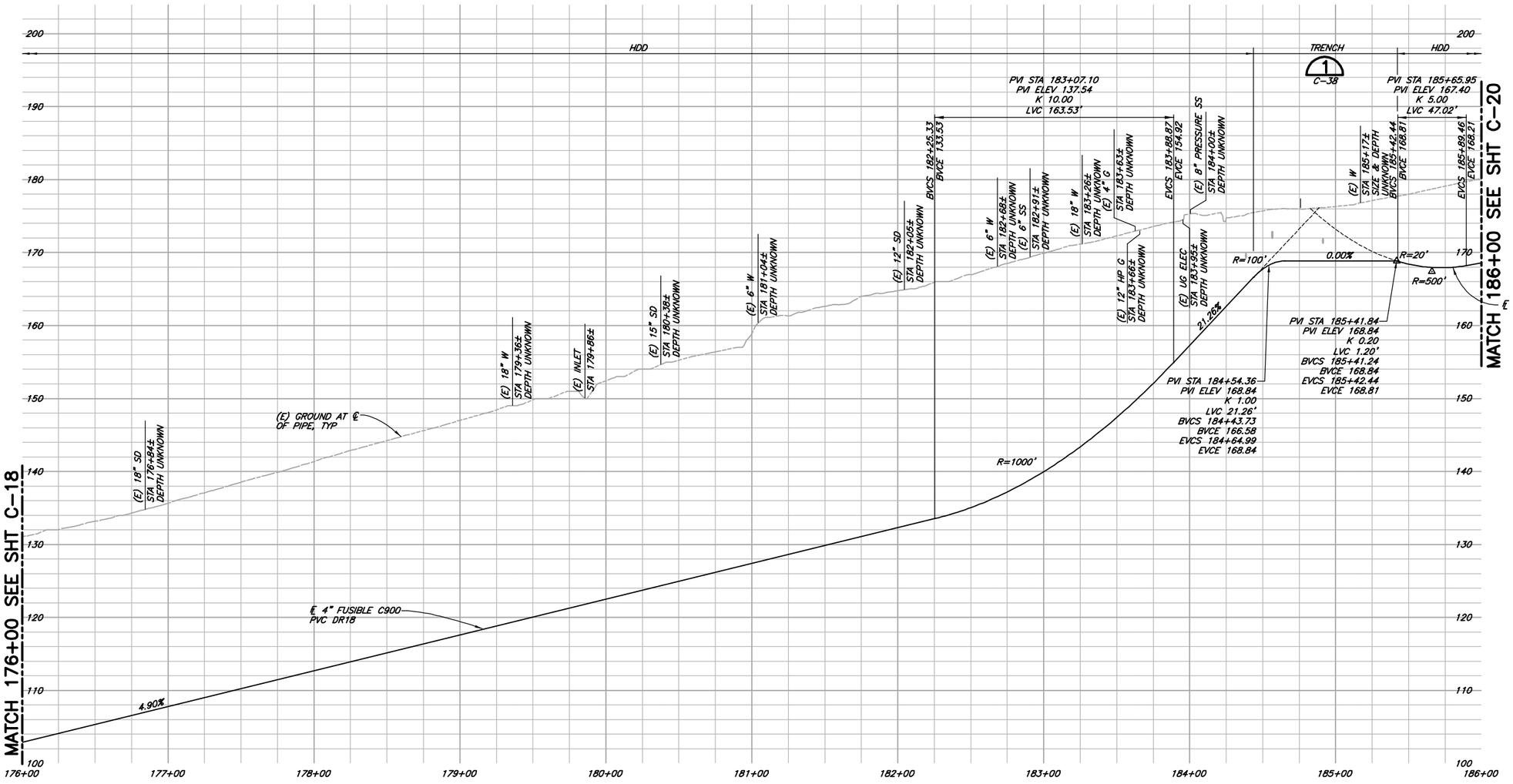
PLAN AND PROFILE 167+00–176+00

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SEQ 22
DATE 12/2014
PROJ. NO. 614024

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PLAN
1"=40'



PROFILE
SCALE: 1"=40' H
1"=8' V

NOTE:

EXISTING UTILITY LOCATIONS, DEPTHS & SIZES ARE APPROXIMATE. SEWER LATERAL AND WATER SERVICES ARE LARGELY UNKNOWN AND ONLY SHOWN IN PLAN VIEW. CONTRACTOR TO VERIFY PRIOR TO DRILLING OR EXCAVATING.

REGISTERED PROFESSIONAL ENGINEER
No. 19108PE
OREGON
K. JEFFREY NELSON
SEPT. 19, 1995

EXPIRES: 12/31/2016

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NO.	DATE	REVISION	BY

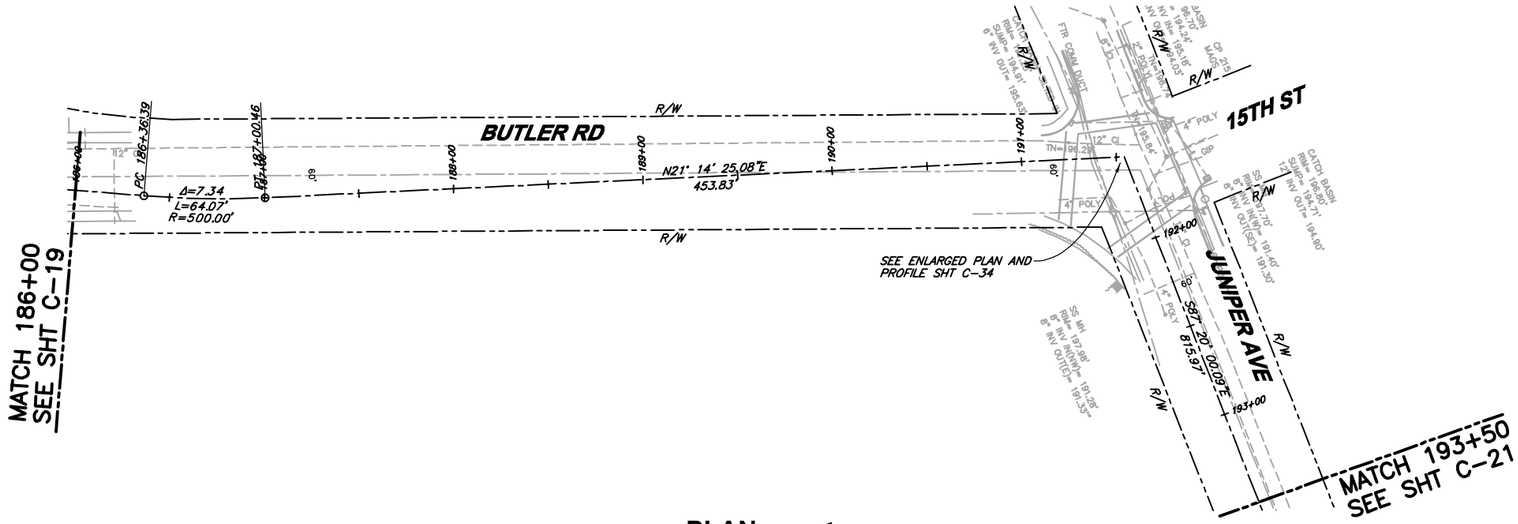
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DR	CDN
CHK	JMD
APVD	

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

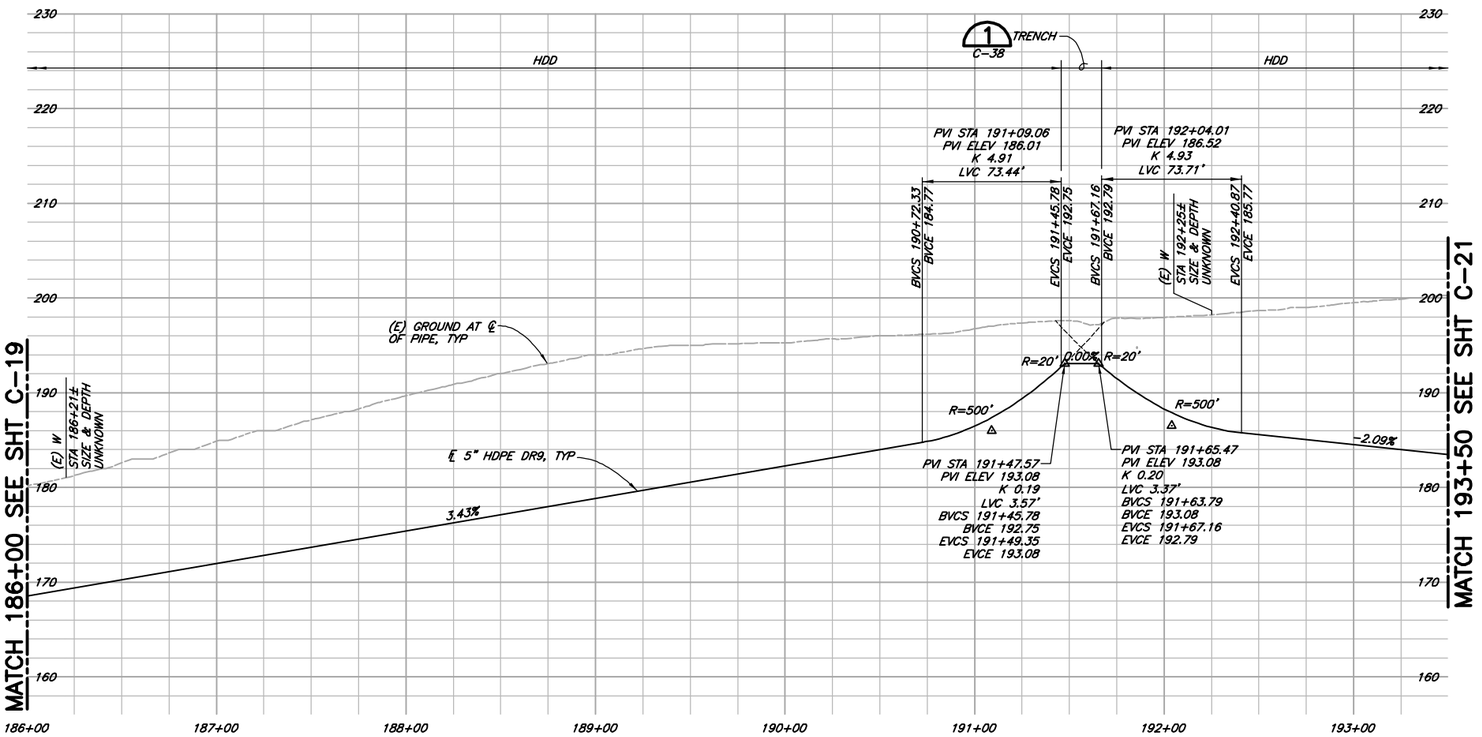
PLAN AND PROFILE 176+00–186+00

SHEET C–19
SEQ 23
DATE 12/2014
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PLAN
1"=40'



PROFILE
SCALE: 1"=40' H
1"=8' V

NOTE:

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REGISTERED PROFESSIONAL ENGINEER
No. 19108PE
OREGON
K. JEFFREY NELSON
SEPT. 19, 1995

EXPIRES: 12/31/2016

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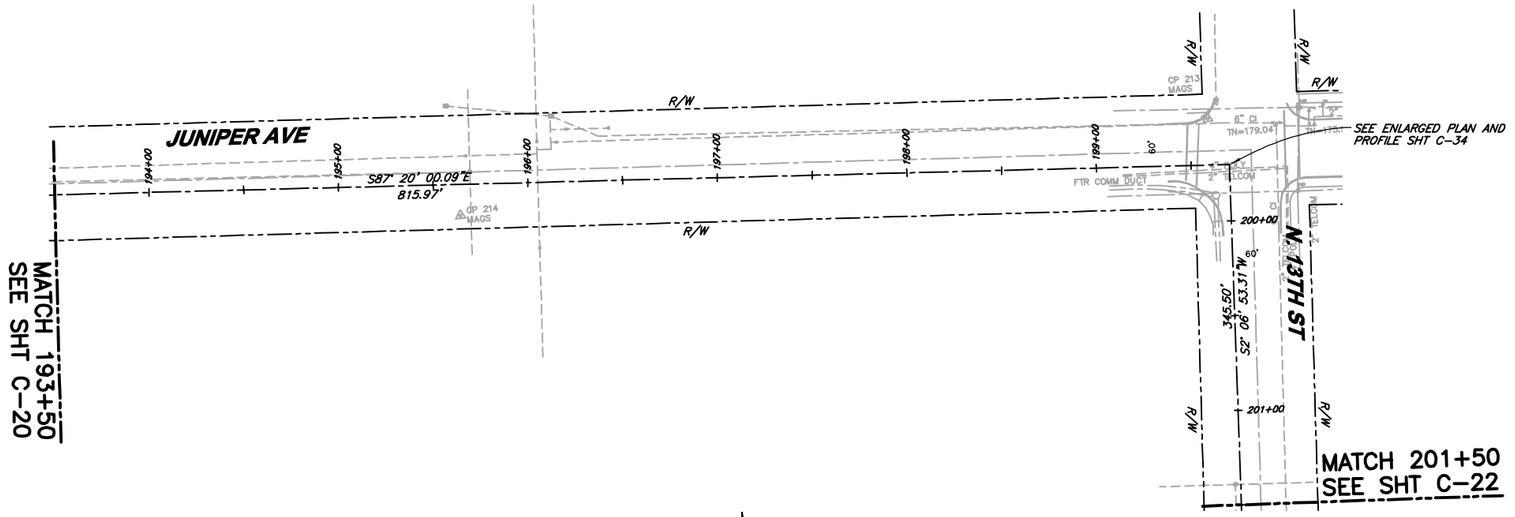
DSGN CDN/KMM
DR CDN
CHK JMD
APVD

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

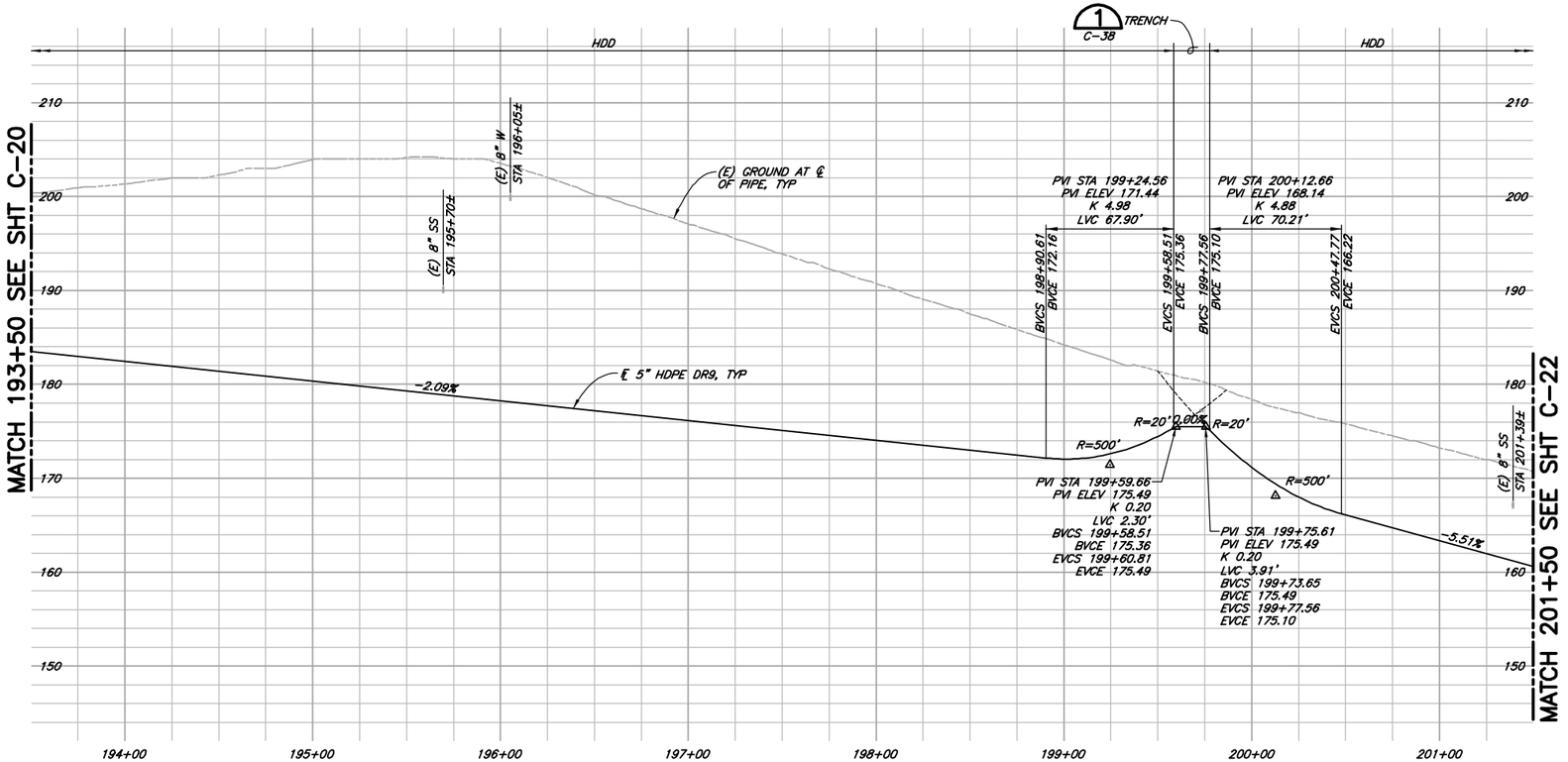
PLAN AND PROFILE 186+00–193+50

SHEET C–20
SEQ 24
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PLAN
1"=40'



PROFILE
SCALE: 1"=40' H
1"=8' V

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No. 18108PE
OREGON
SEPT. 19, 1995
K. JEFFREY NELSON

EXPIRES: 12/31/2016

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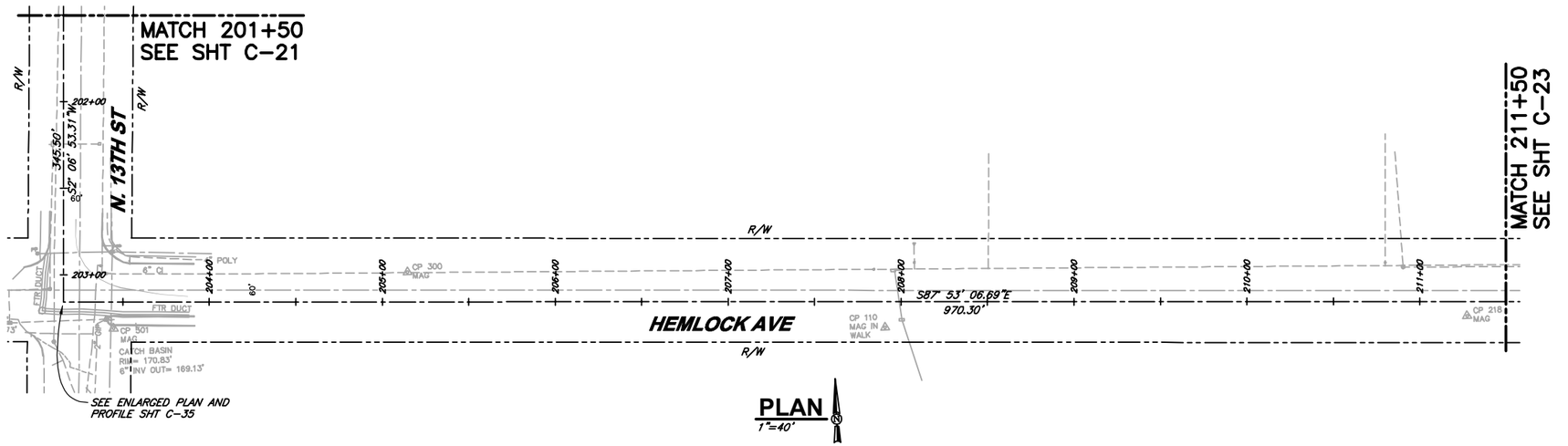
DSGN CDN/KMM
DR CDN
CHK JMD
APVD

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

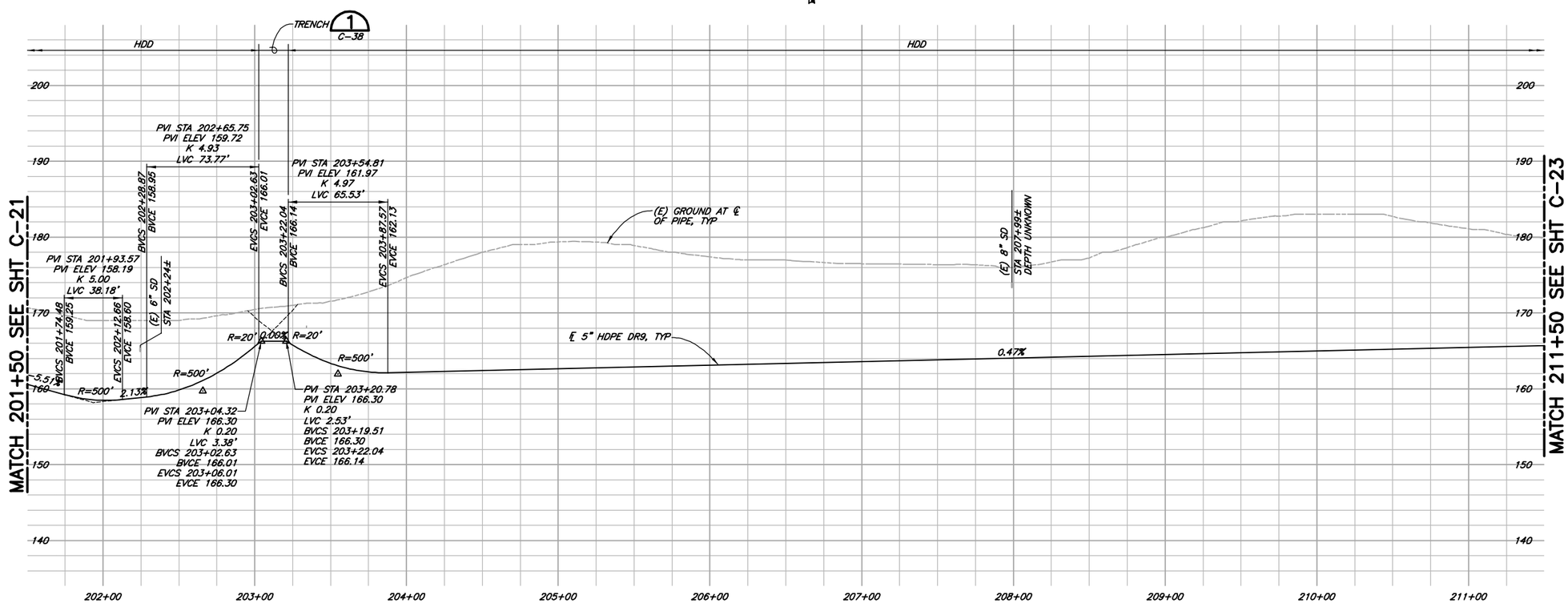
PLAN AND PROFILE 193+50-201+50

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SEQ 25
DATE 12/2014
PROJ. NO. 614024

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PLAN
1"=40'



PROFILE
SCALE: 1"=40' H
1"=8' V

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OREGON
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SEPT. 19, 1995

EXPIRES: 12/31/2016

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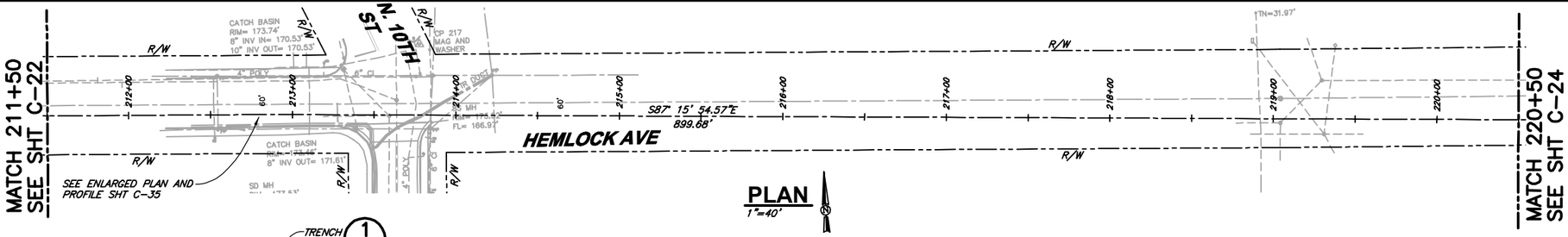
DSGN	CDN/KMM
DR	CDN
CHK	JMD
APVD	

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

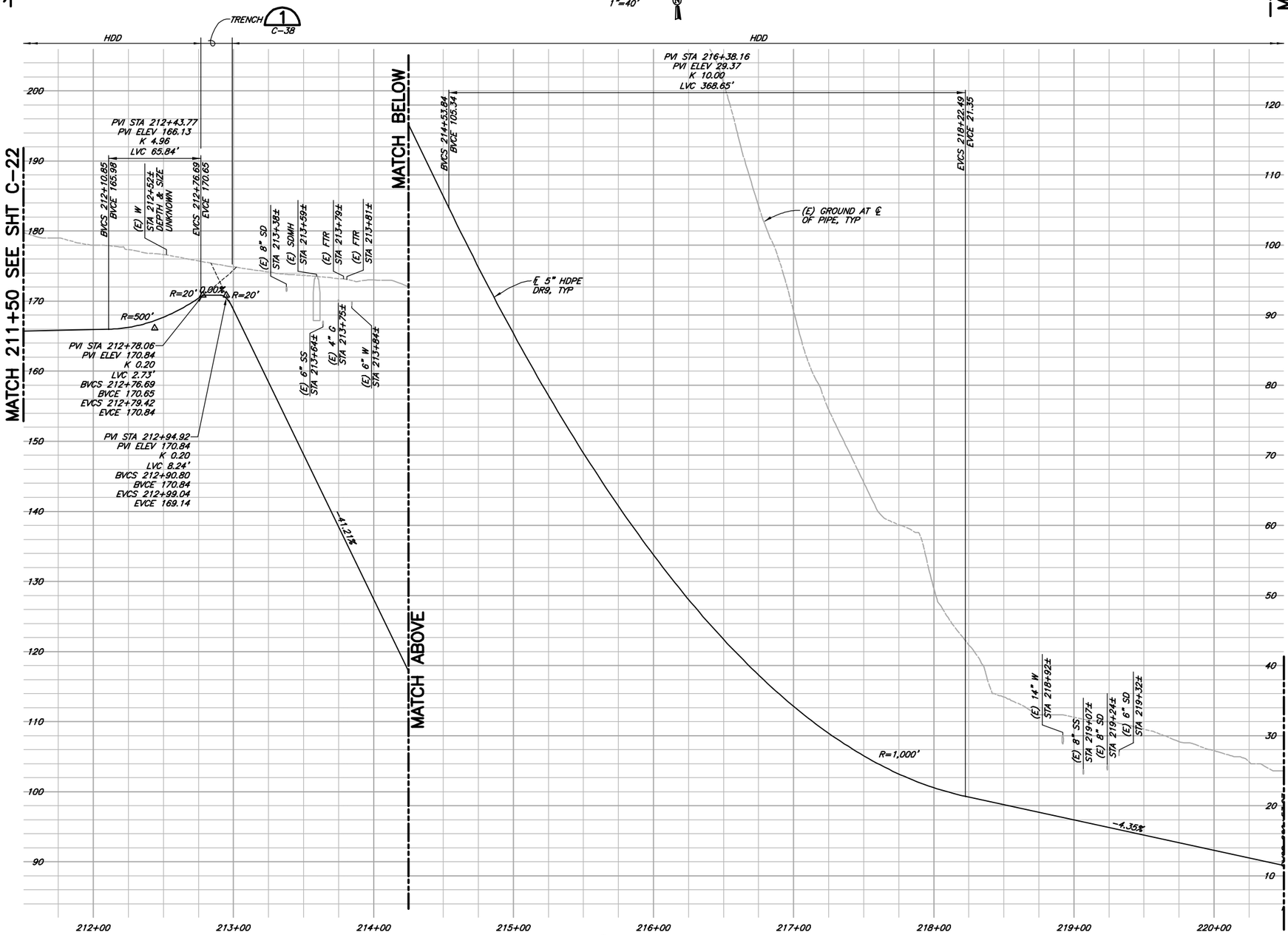
PLAN AND PROFILE 201+50–211+50

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SEQ 26
DATE 12/2014
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PLAN
1"=40'



PROFILE
SCALE: 1"=40' H
1"=8' V

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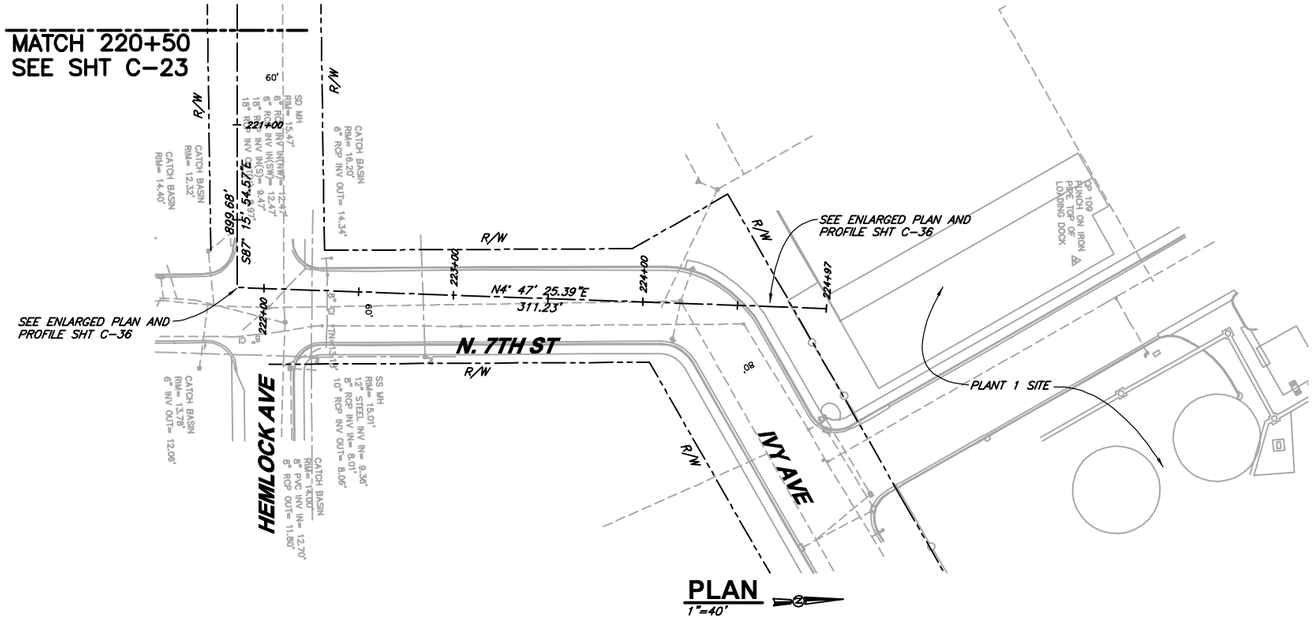
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DR CDN
CHK JMD
APVD

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

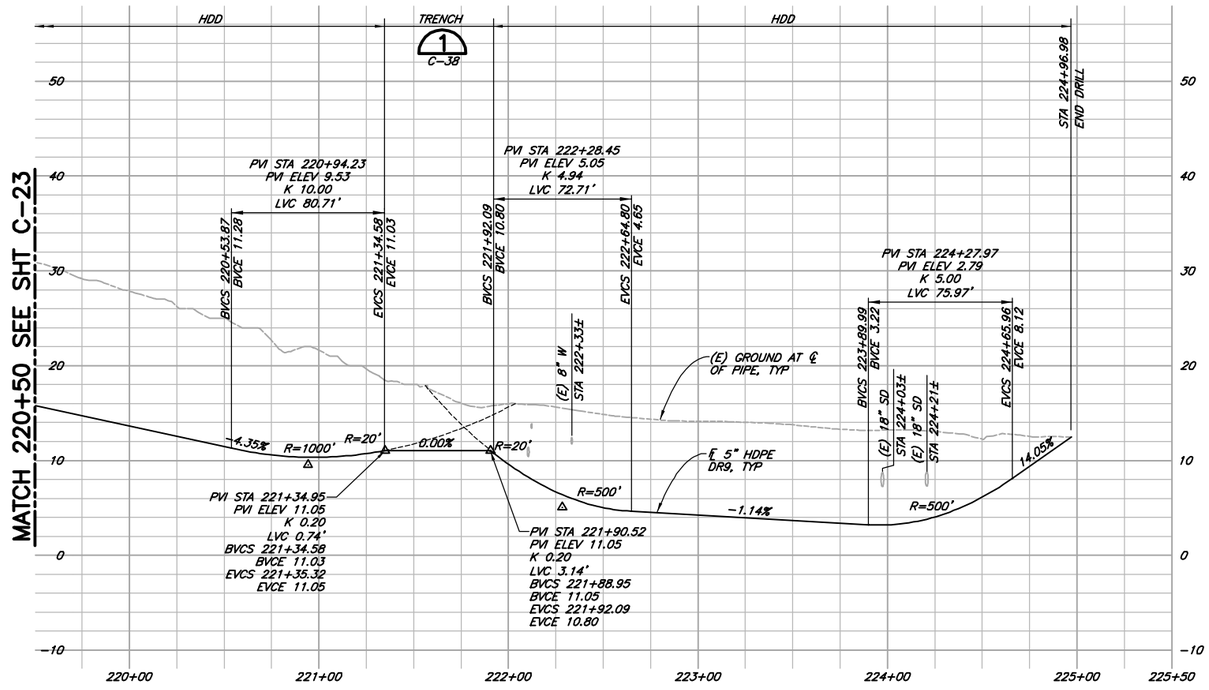
PLAN AND PROFILE 211+50–220+50

SHEET C-23
SEQ 27
DATE 12/2014
PROJ. NO. 614024

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PLAN
1"=40'



PROFILE
SCALE: 1"=40' H
1"=8' V

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OREGON
SEPT. 19, 1995
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EXPIRES: 12/31/2016

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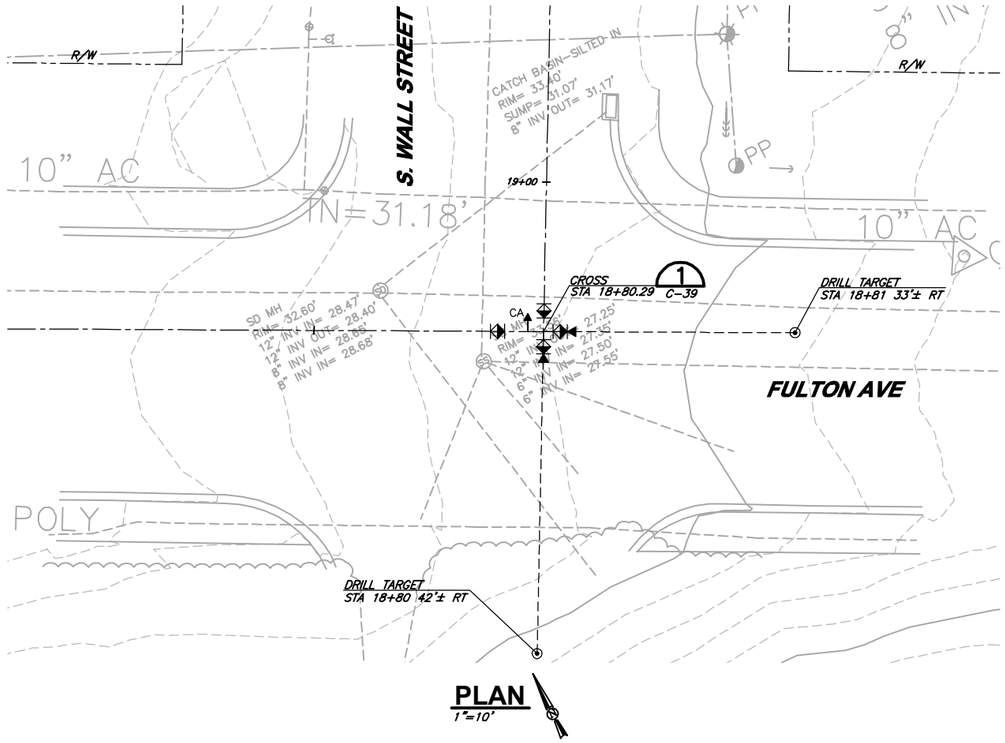
DSGN	CDN/KMM
DR	CDN
CHK	MD
APVD	

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

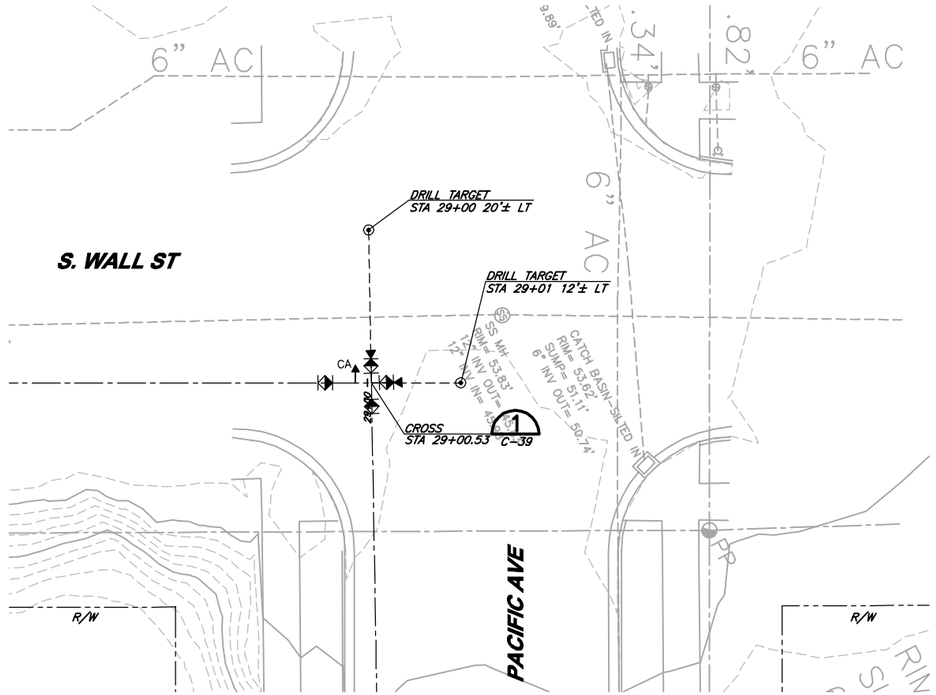
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220+50-END

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SEQ 28
DATE 12/2014
PROJ. NO. 614024

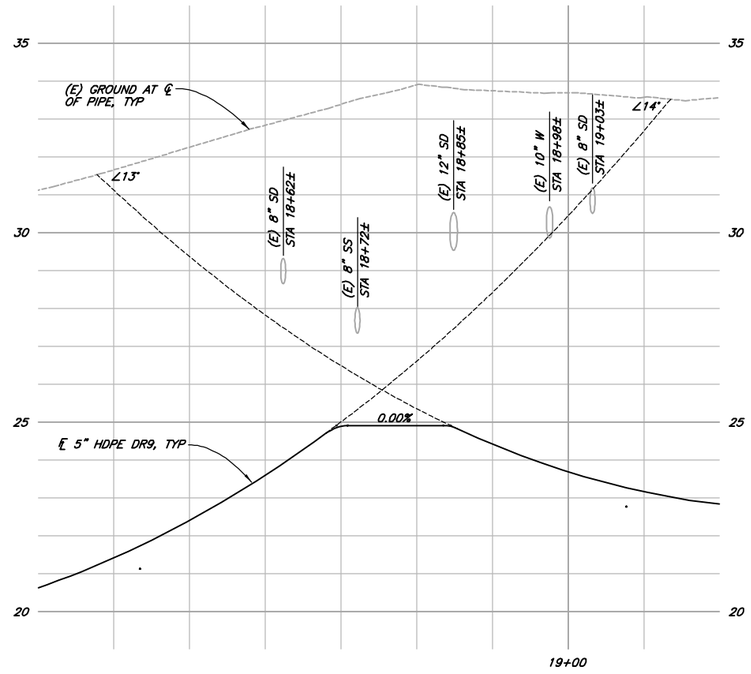
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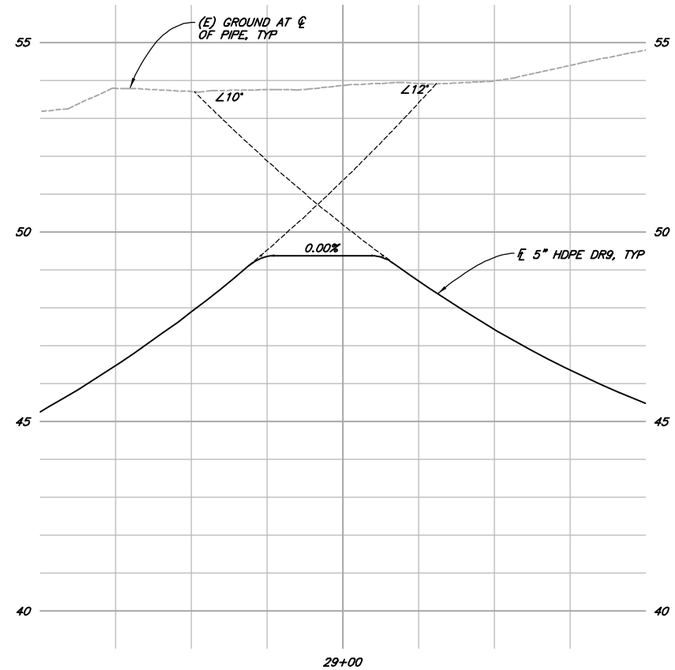
PLAN
1"=10'



PLAN
1"=10'



PROFILE
SCALE: 1"=10' H
1"=2' V



PROFILE
SCALE: 1"=10' H
1"=2' V

NOTE:
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REGISTERED PROFESSIONAL ENGINEER
No. 19108PE
OREGON
SEPT. 19, 1995
K. JEFFREY NELSON

EXPIRES: 12/31/2016

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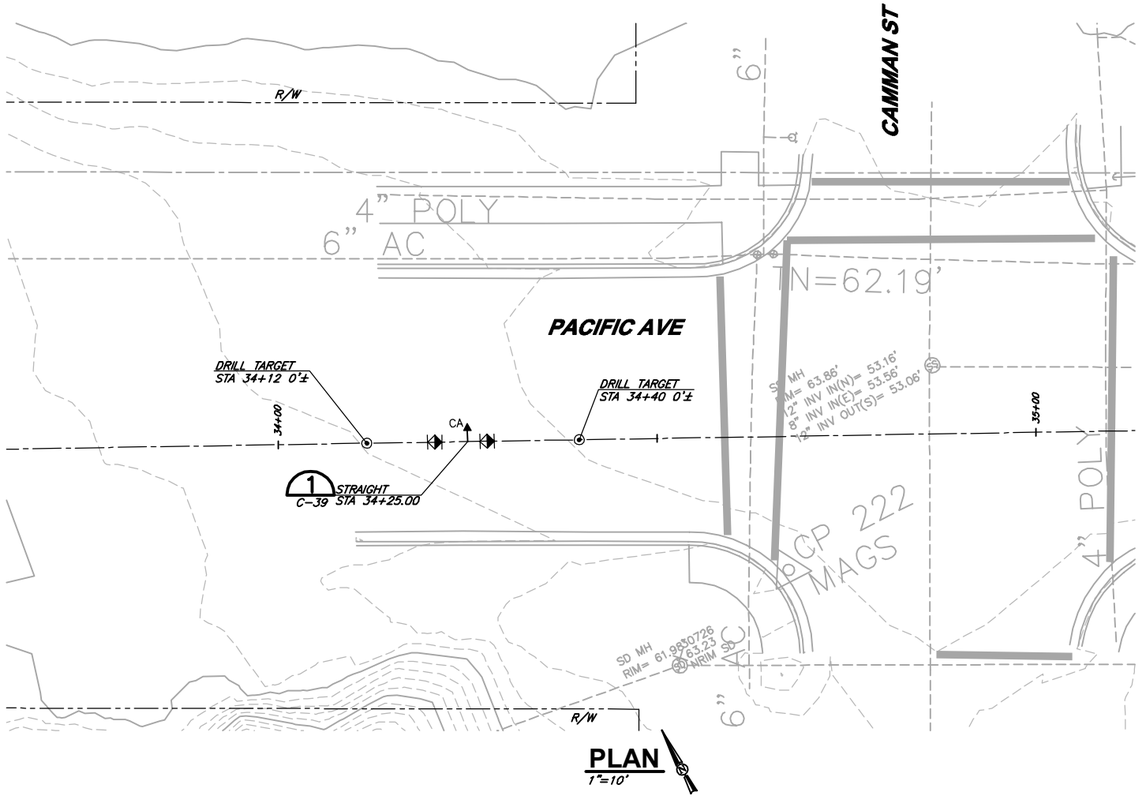
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DR	CDN
CHK	JMD
APVD	

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

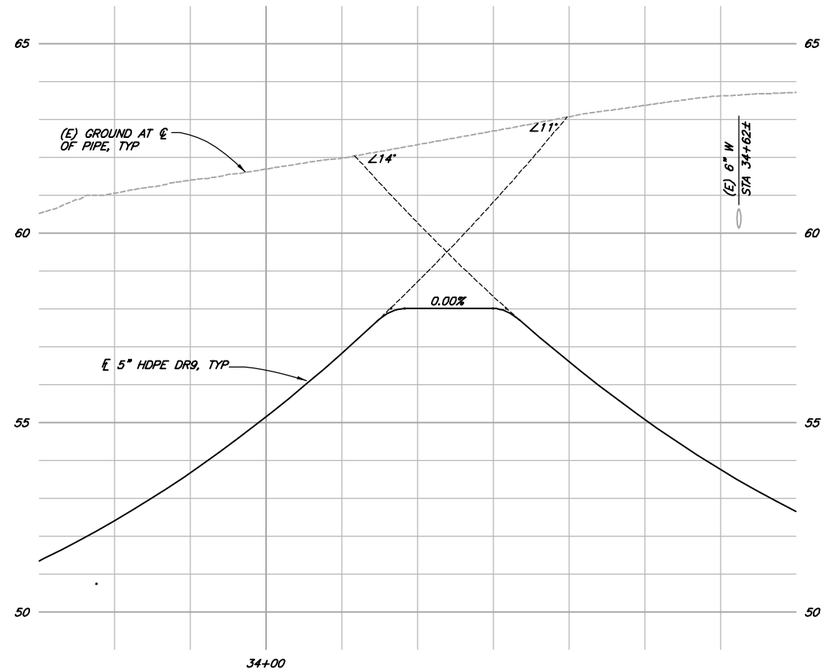
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SEQ	29
DATE	12/2014
PROJ. NO.	614024

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PLAN
1"=10'



PROFILE
SCALE: 1"=10' H
1"=2' V

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SEPT. 19, 1995
K. JEFFREY NELSON

EXPIRES: 12/31/2016

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COOS BAY, OR. 97420
WWW.SHN-ENGR.COM
541-266-9890

NO.	DATE	REVISION	BY

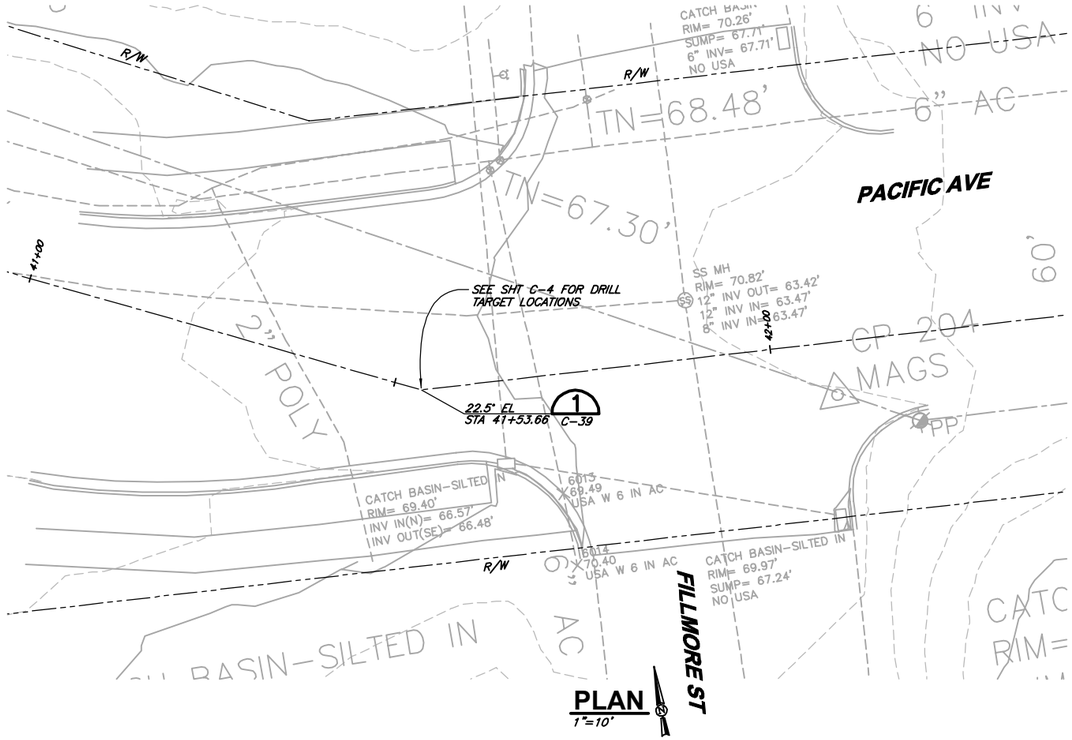
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DR CDN
CHK JMD
APVD

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

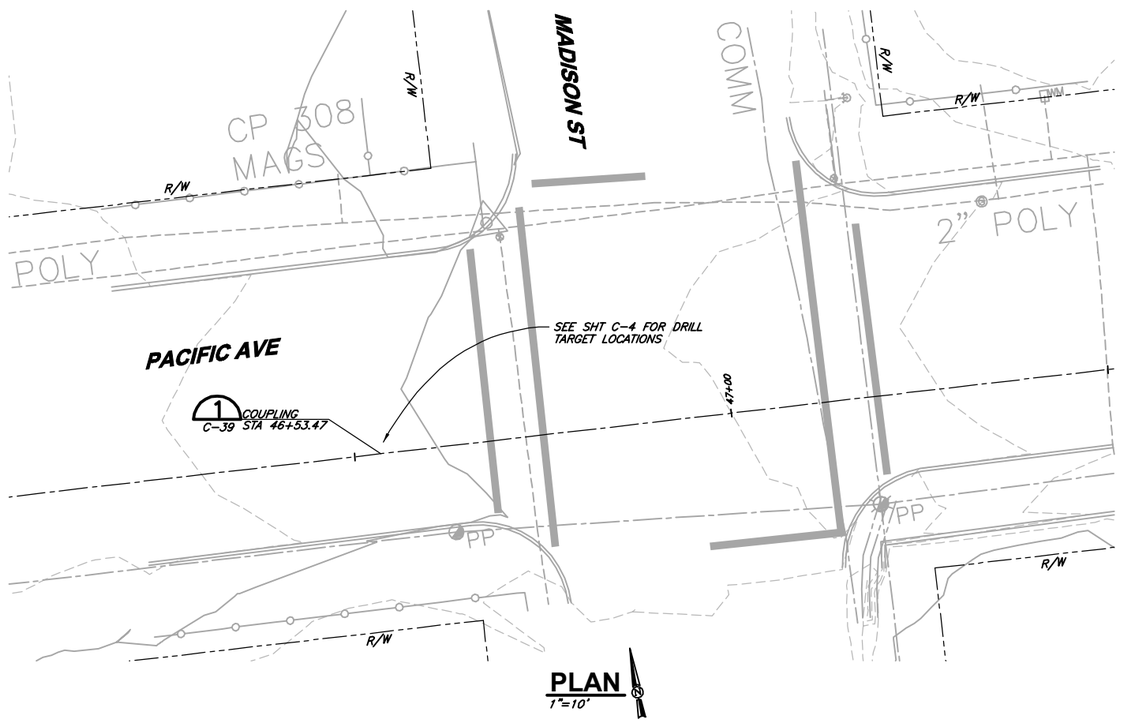
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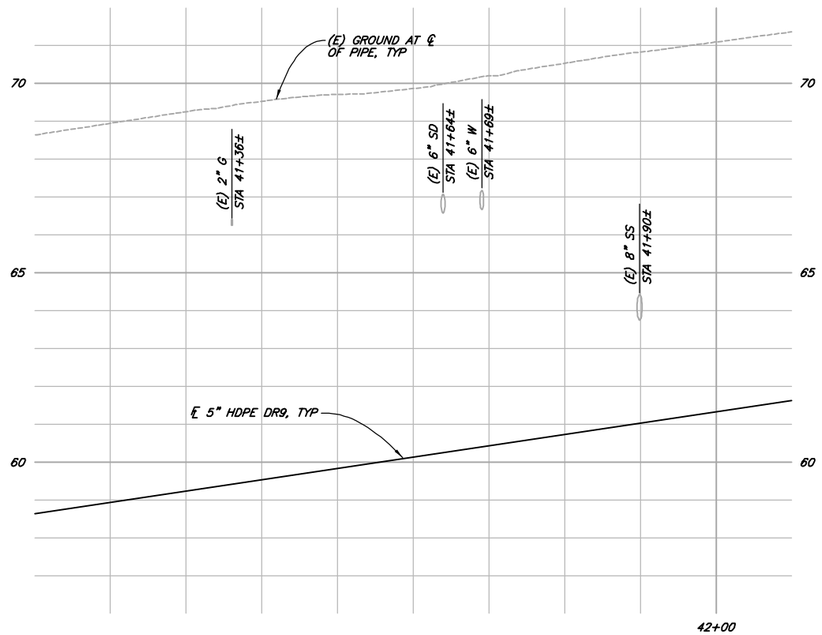
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PLAN
1"=10'

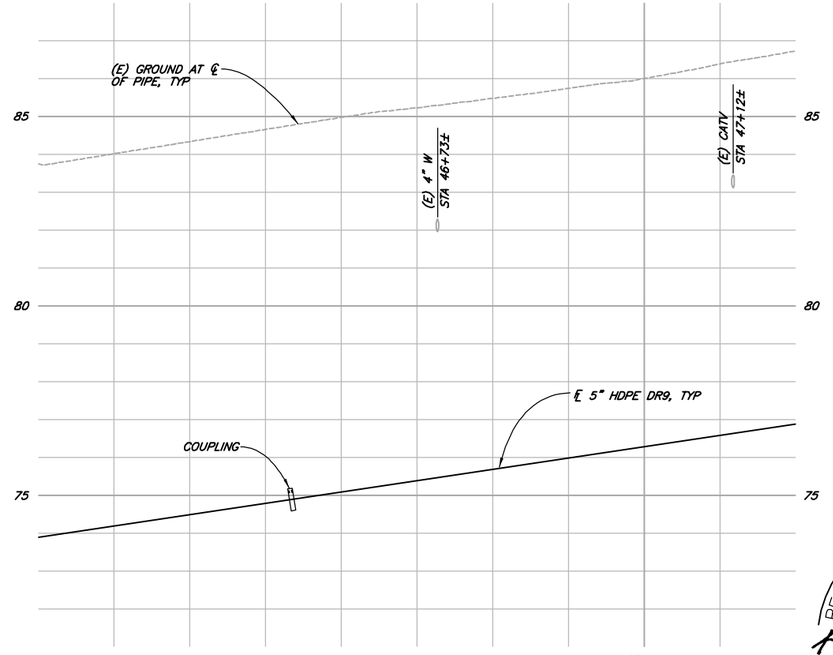


PLAN
1"=10'



PROFILE
SCALE: 1"=10' H
1"=2' V

NOTE:
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PROFILE
SCALE: 1"=10' H
1"=2' V

REGISTERED PROFESSIONAL ENGINEER
No. 19108PE
OREGON
K. JEFFREY NELSON
SEPT. 19, 1995

EXPIRES: 12/31/2016

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COOS BAY, OR. 97420
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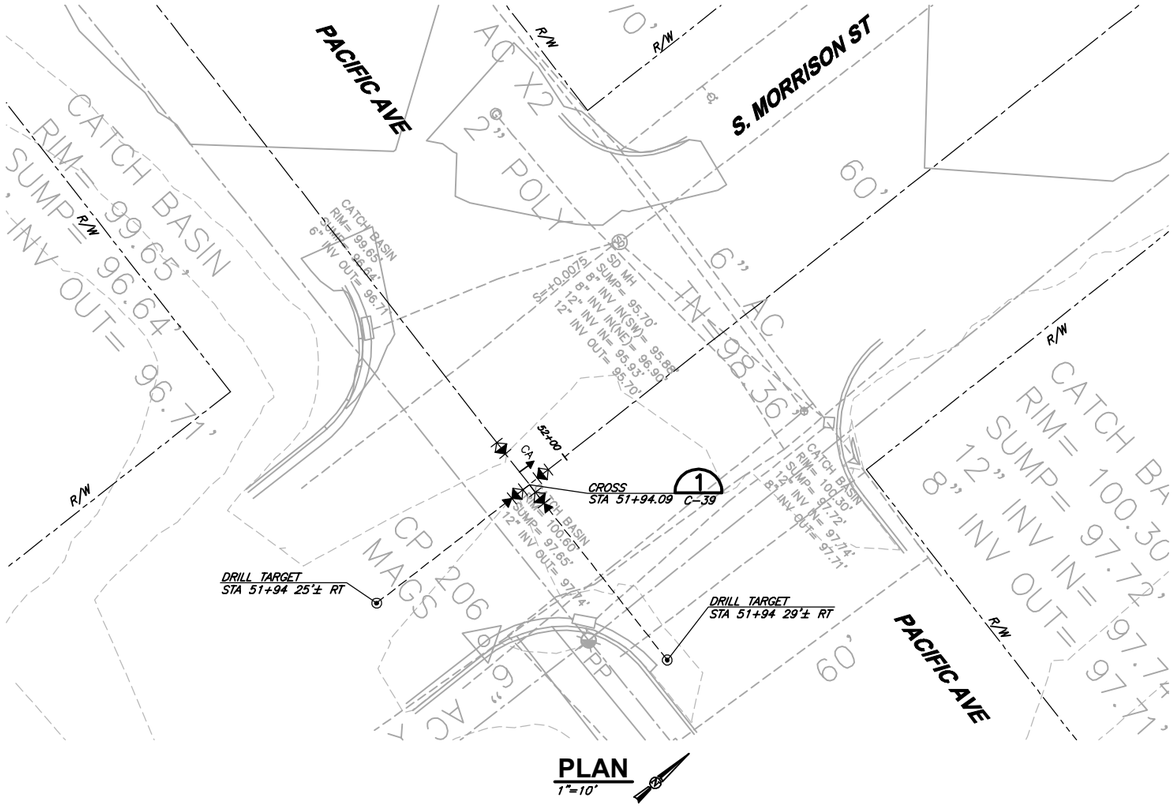
NO.	DATE	REVISION	BY

DSGN	CDN/KMM
DR	CDN
CHK	JMD
APVD	

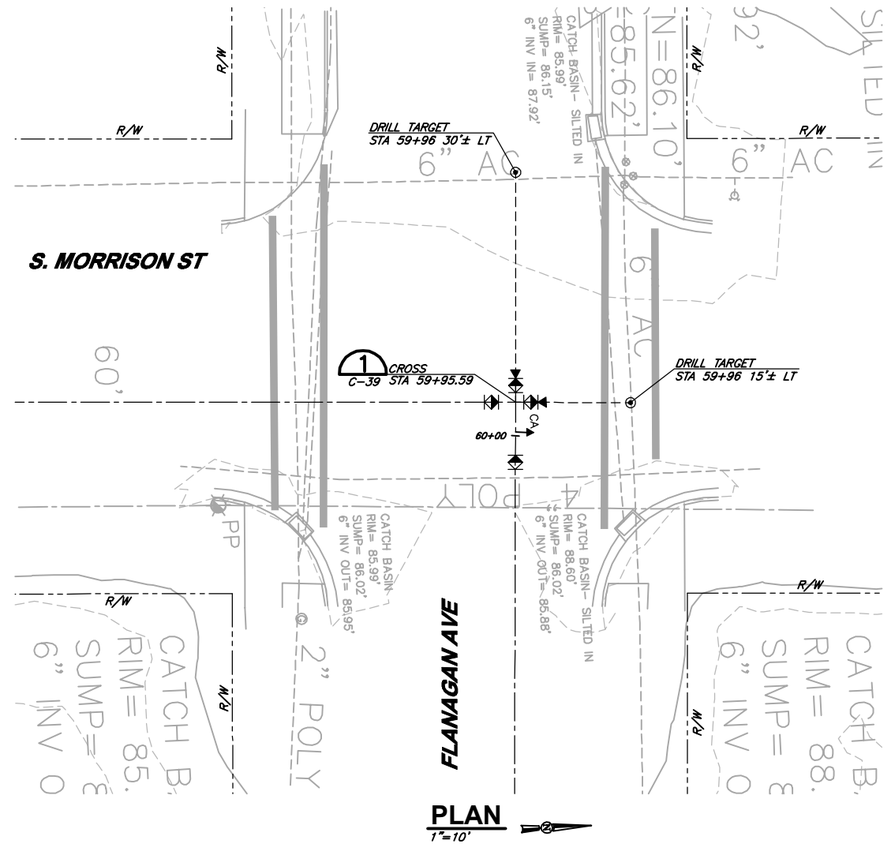
CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

ENLARGED PLAN AND PROFILE

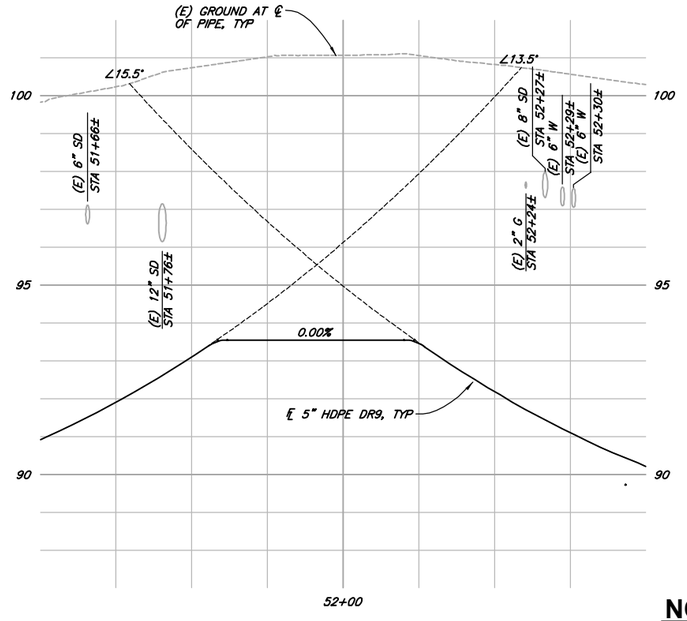
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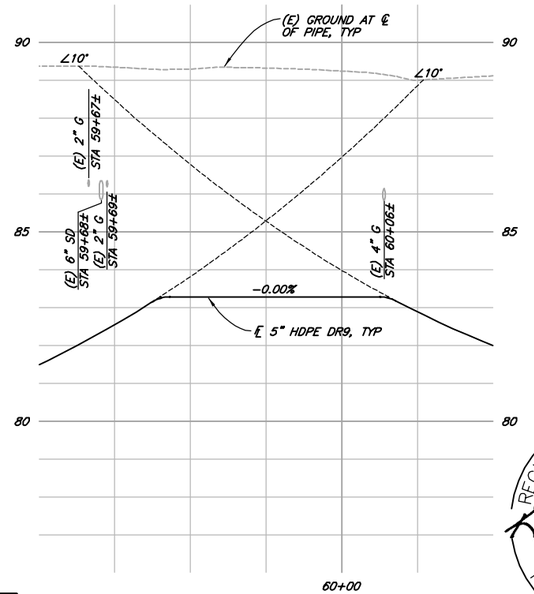
PLAN
1"=10'



PLAN
1"=10'



PROFILE
SCALE: 1"=10' H
1"=2' V



PROFILE
SCALE: 1"=10' H
1"=2' V

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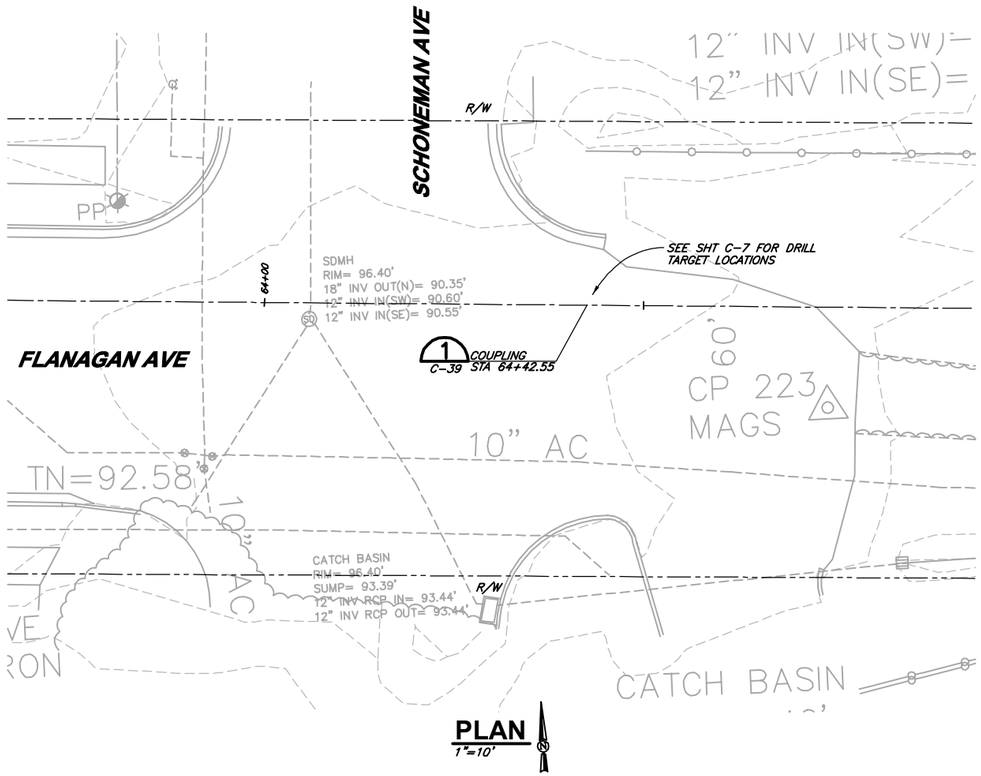
DSGN CDN/KMM
DR CDN
CHK JMD
APVD

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

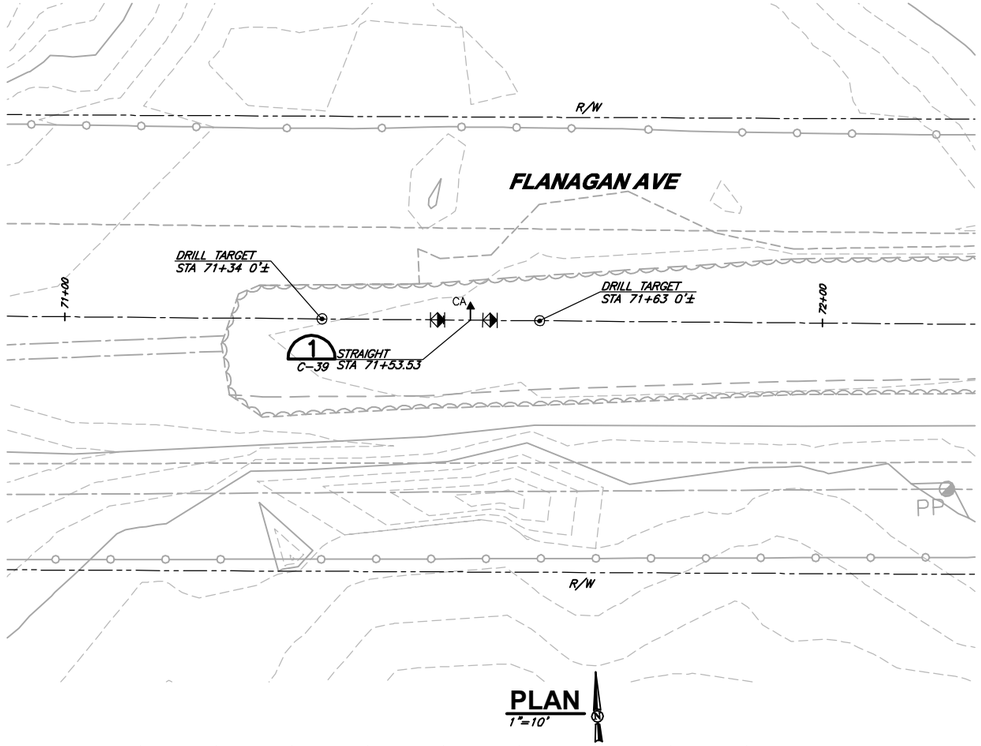
ENLARGED PLAN AND PROFILE

SHEET C-28
SEQ 32
DATE 12/2014
PROJ. NO. 614024

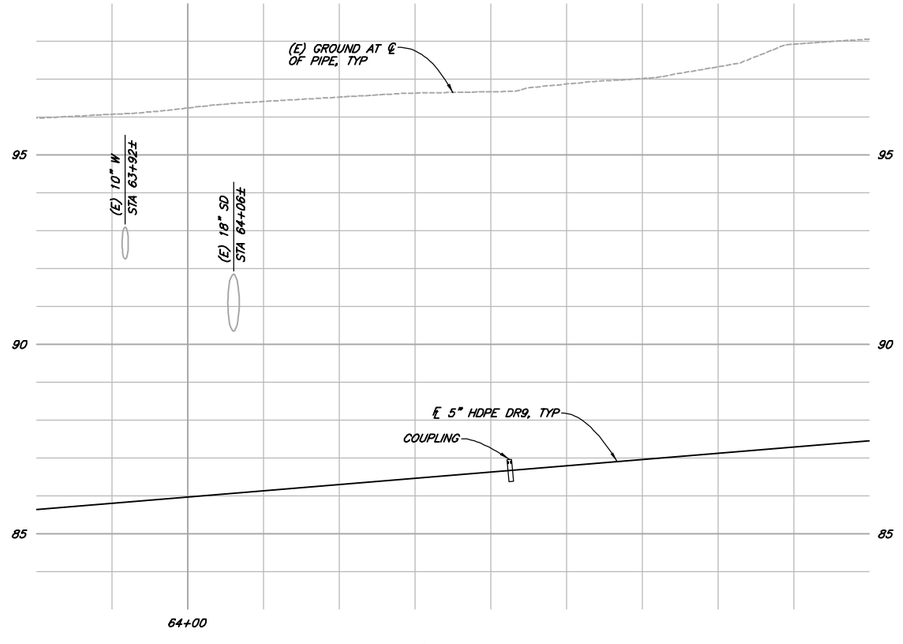
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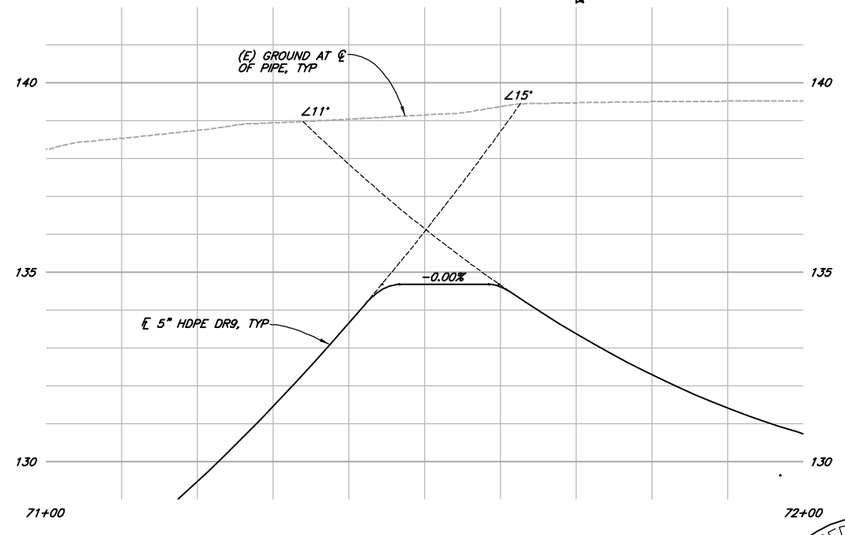
PLAN
1"=10'



PLAN
1"=10'



PROFILE
SCALE: 1"=10' H
1"=2' V



PROFILE
SCALE: 1"=10' H
1"=2' V

NOTE:

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REGISTERED PROFESSIONAL ENGINEER
No. 18108PE
OREGON
SEPT. 19, 1995
K. JEFFREY NELSON

EXPIRES: 12/31/2016

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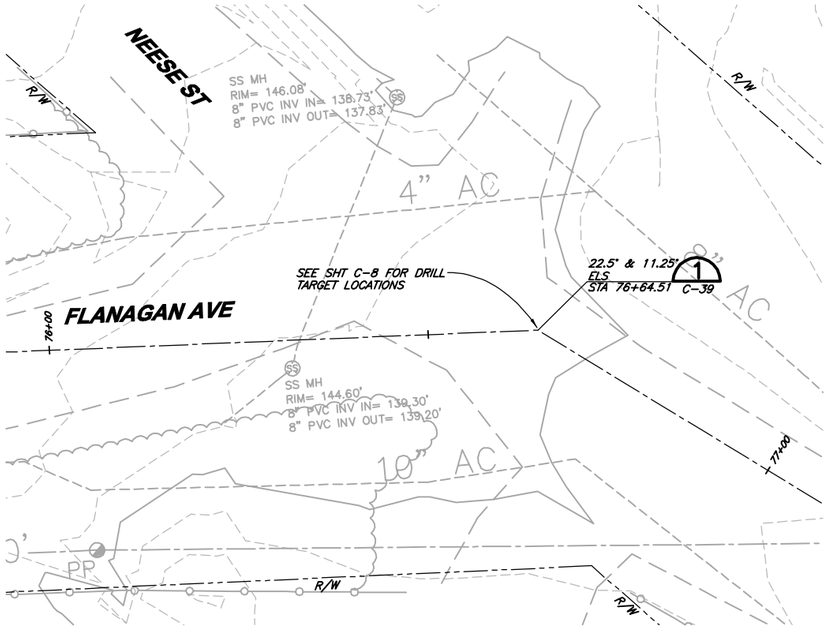
DSGN CDN/KMM
DR CDN
CHK JMD
APVD

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

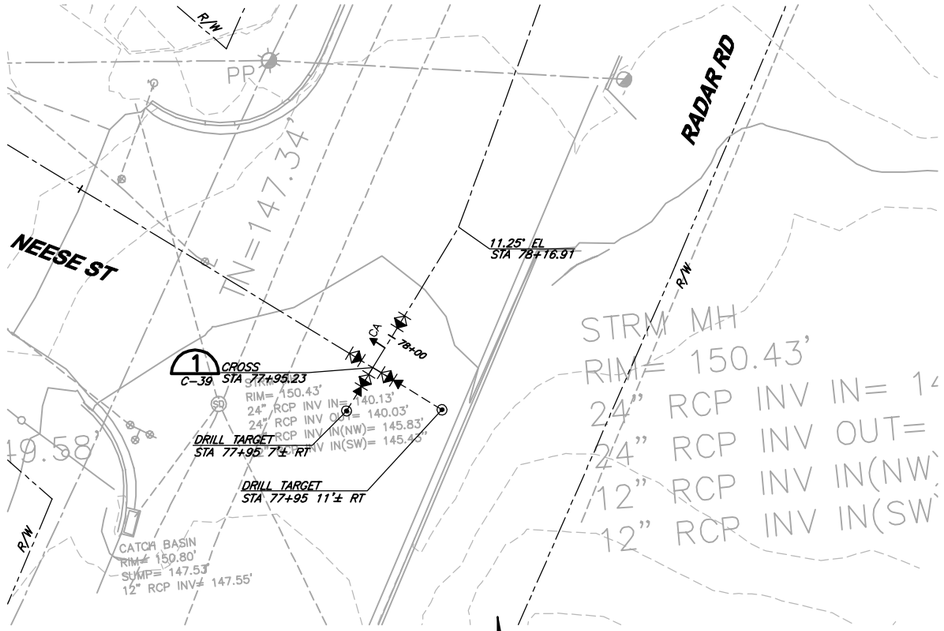
ENLARGED PLAN AND PROFILE

SHEET C-29
SEQ 33
DATE 12/2014
PROJ. NO. 614024

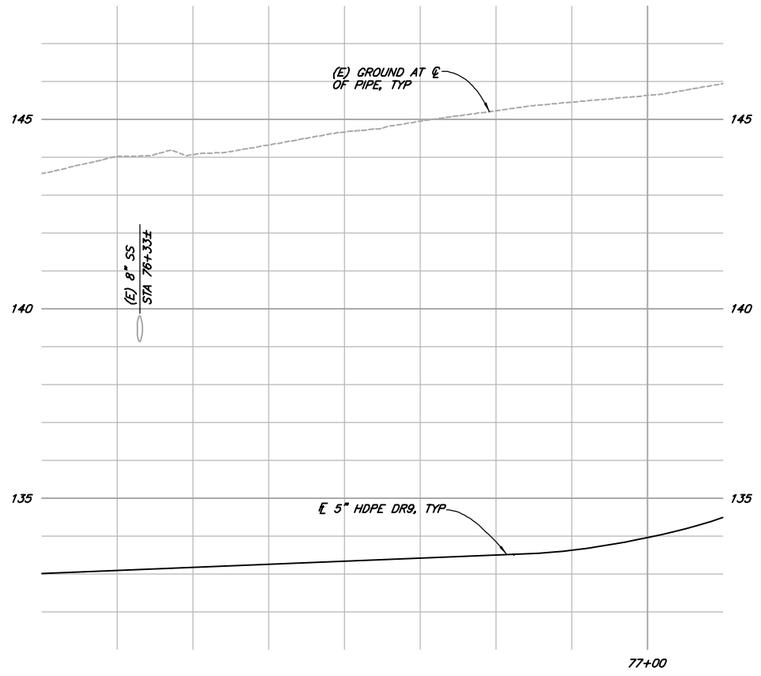
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\\Zing\Projects\CAD-FILES\CoosBay\2014\614024WAS\614024-ENLRC5.dwg



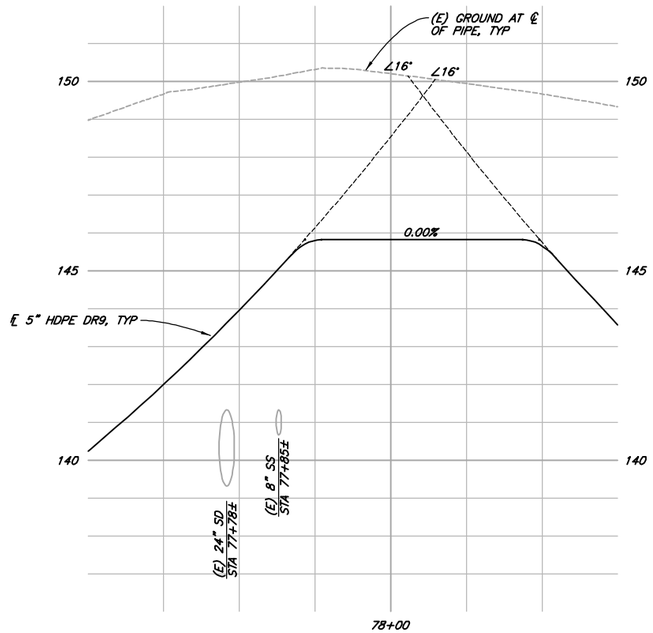
PLAN
1"=10'



PLAN
1"=10'



PROFILE
SCALE: 1"=10' H
1"=2' V



PROFILE
SCALE: 1"=10' H
1"=2' V

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REGISTERED PROFESSIONAL ENGINEER
No. 19108PE
OREGON
K. JEFFREY NELSON
SEPT. 19, 1995

EXPIRES: 12/31/2016

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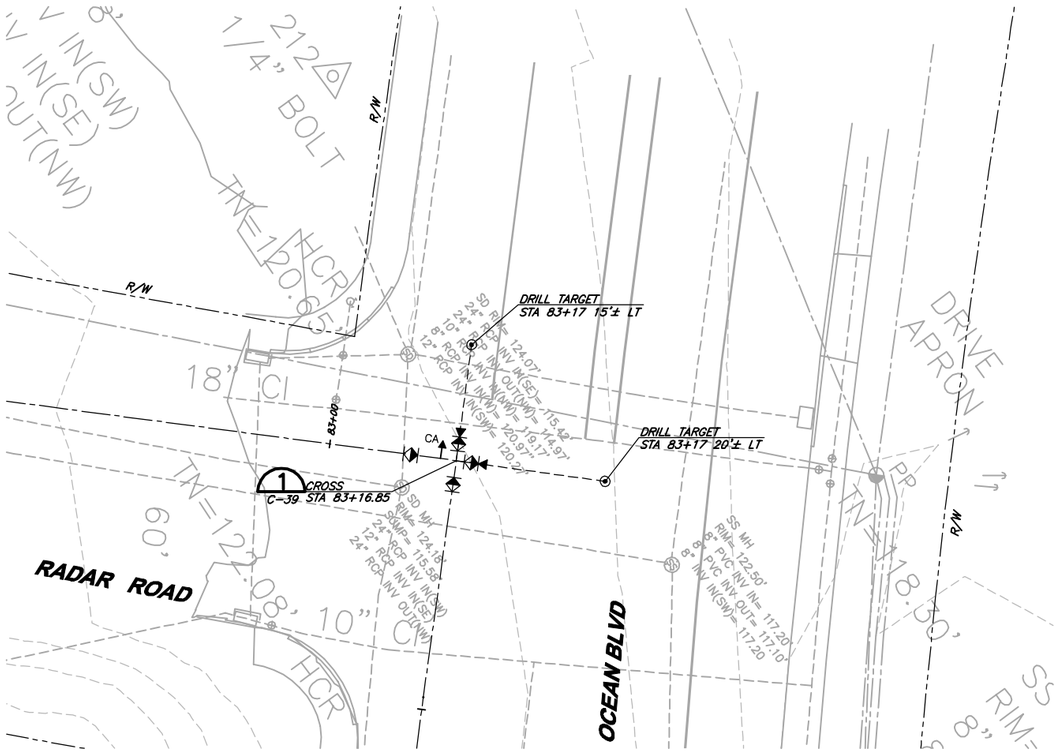
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DR	CDN
CHK	JMD
APVD	

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

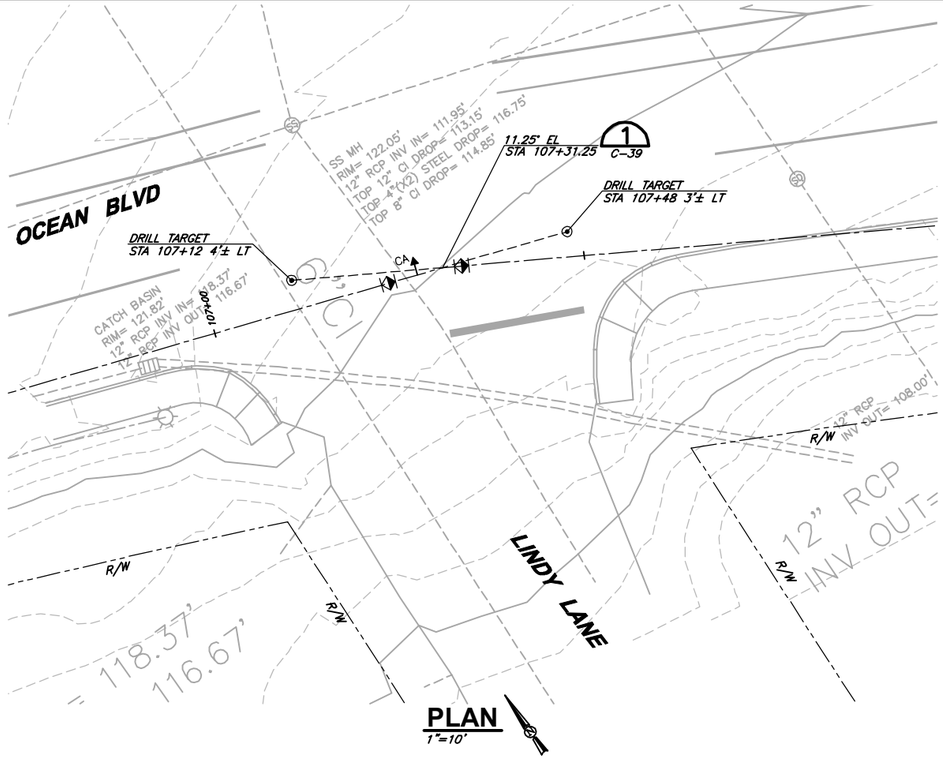
ENLARGED PLAN AND PROFILE

SHEET C-30
SEQ 34
DATE 12/2014
PROJ. NO. 614024

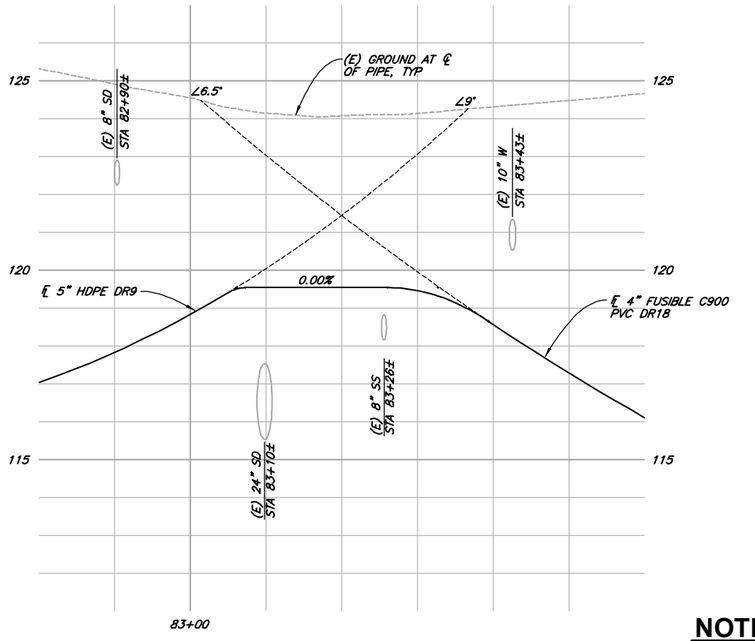
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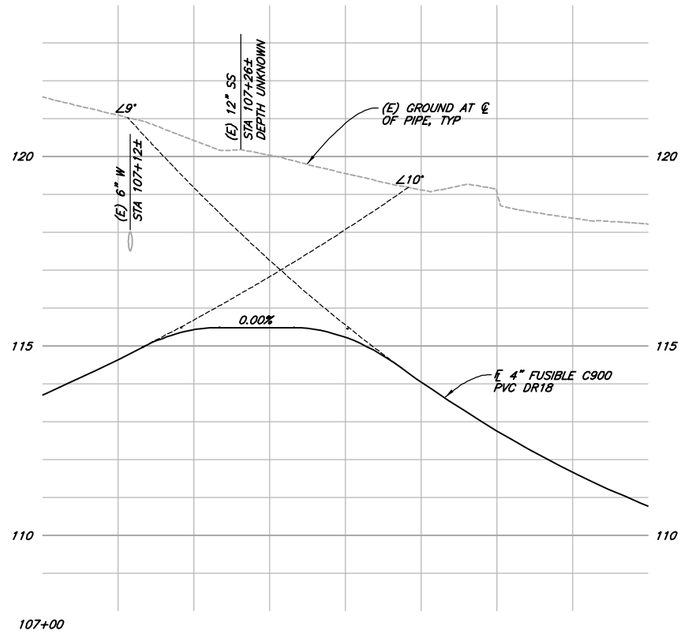
PLAN
1"=10'



PLAN
1"=10'



PROFILE
SCALE: 1"=10' H
1"=2' V



PROFILE
SCALE: 1"=10' H
1"=2' V

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REGISTERED PROFESSIONAL ENGINEER
No. 19108PE
OREGON
K. JEFFREY NELSON
SEPT. 19, 1995

EXPIRES: 12/31/2016

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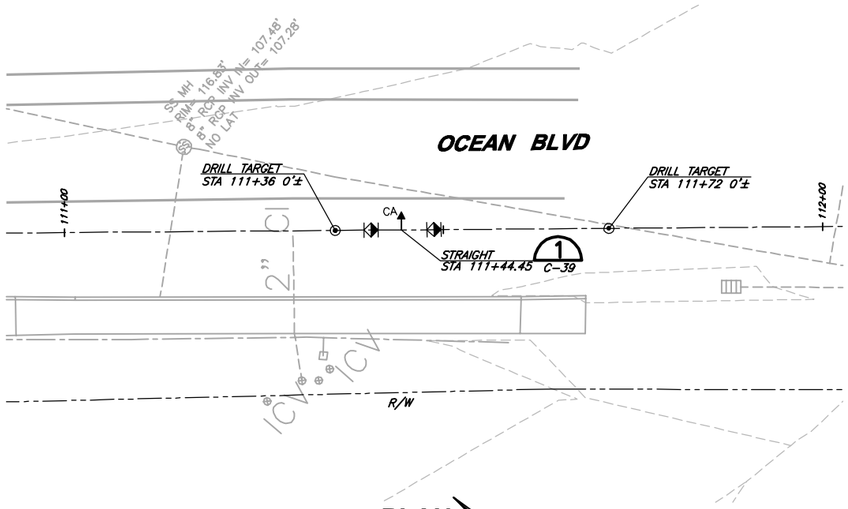
DSGN	CDN/KMM
DR	CDN
CHK	JMD
APVD	

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

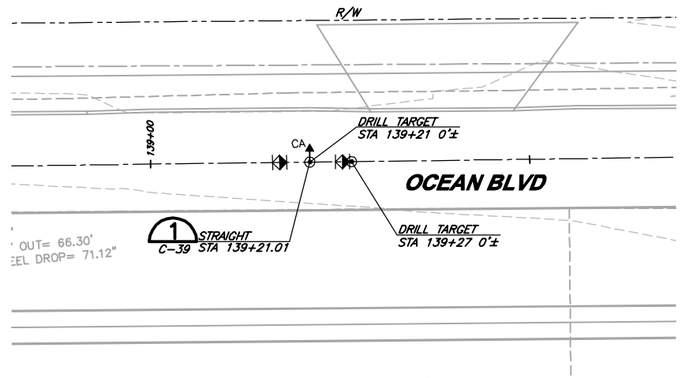
ENLARGED PLAN AND PROFILE

SHEET	C-31
SEQ	35
DATE	12/2014
PROJ. NO.	614024

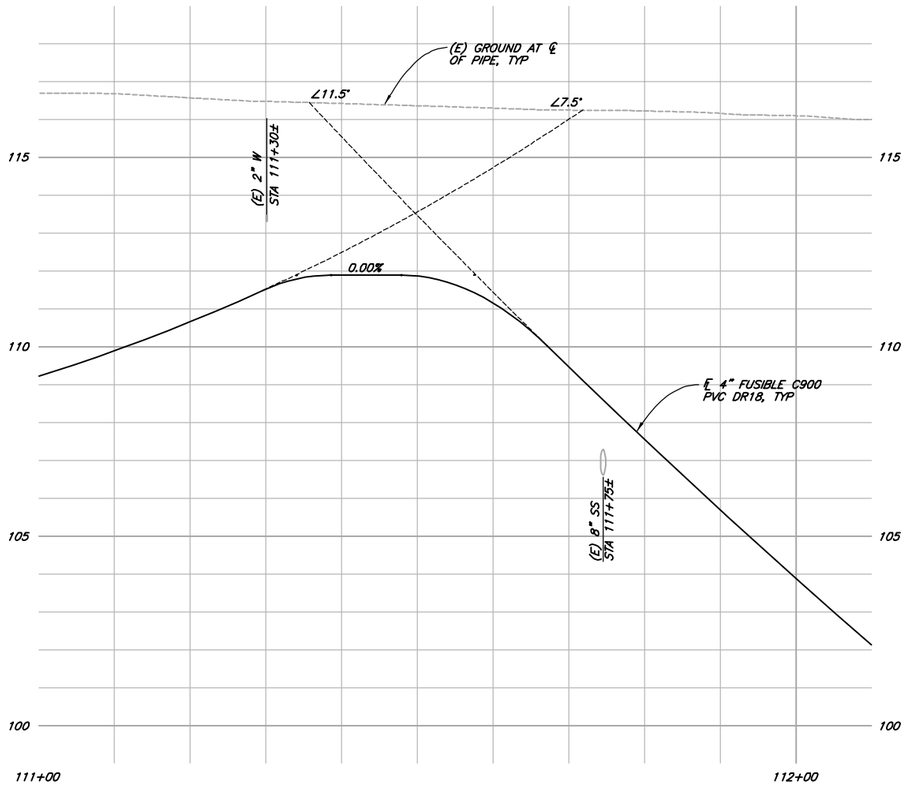
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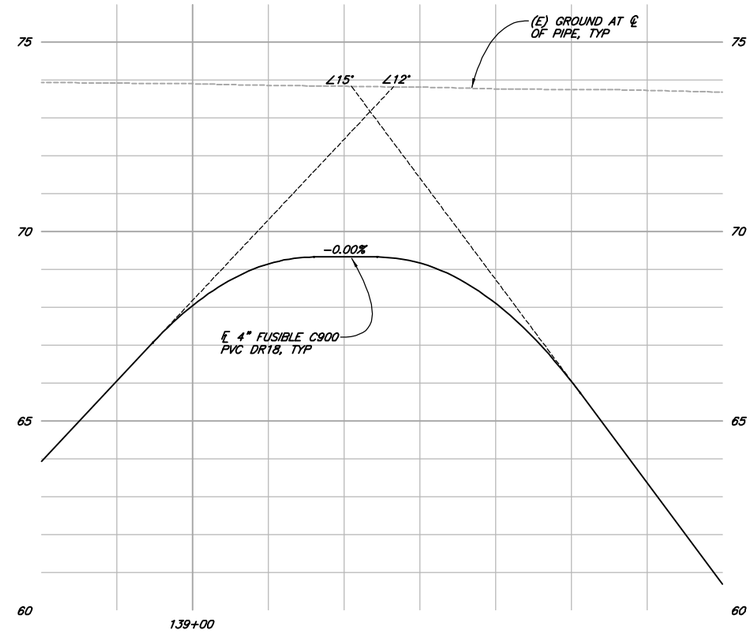
PLAN
1"=10'



PLAN
1"=10'



PROFILE
SCALE: 1"=10' H
1"=2' V



PROFILE
SCALE: 1"=10' H
1"=2' V

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EXPIRES: 12/31/2016

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541-266-9890

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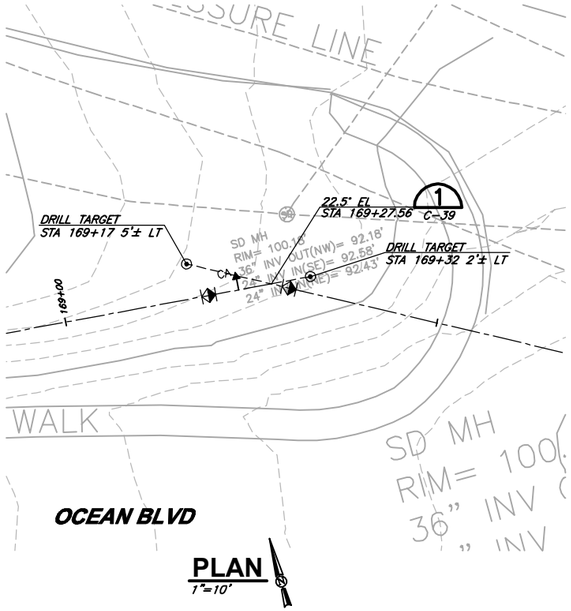
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DR	CDN
CHK	JMD
APVD	

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

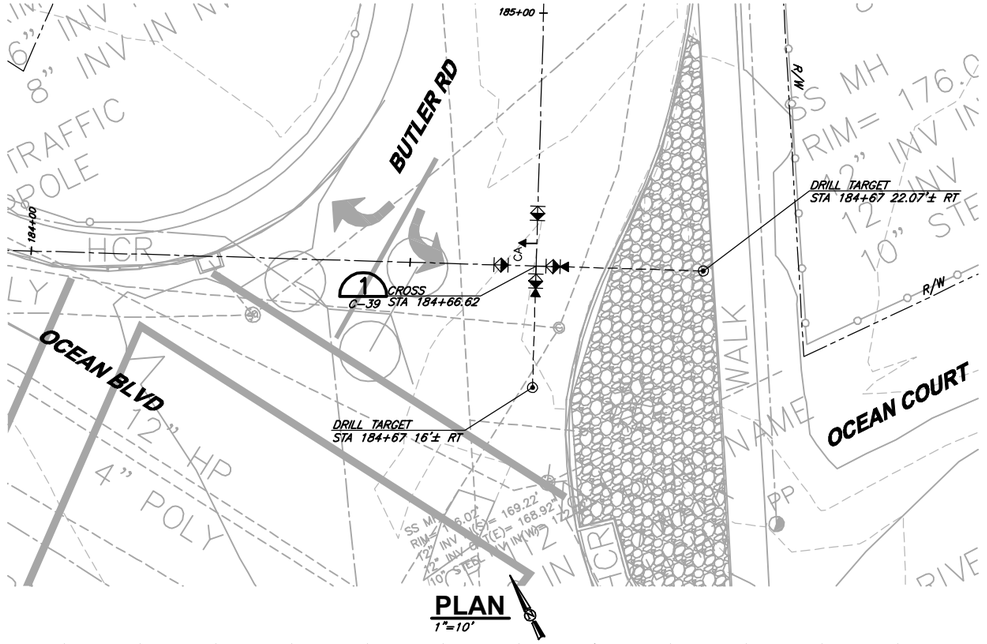
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SHEET C-32
SEQ 36
DATE 12/2014
PROJ. NO. 614024

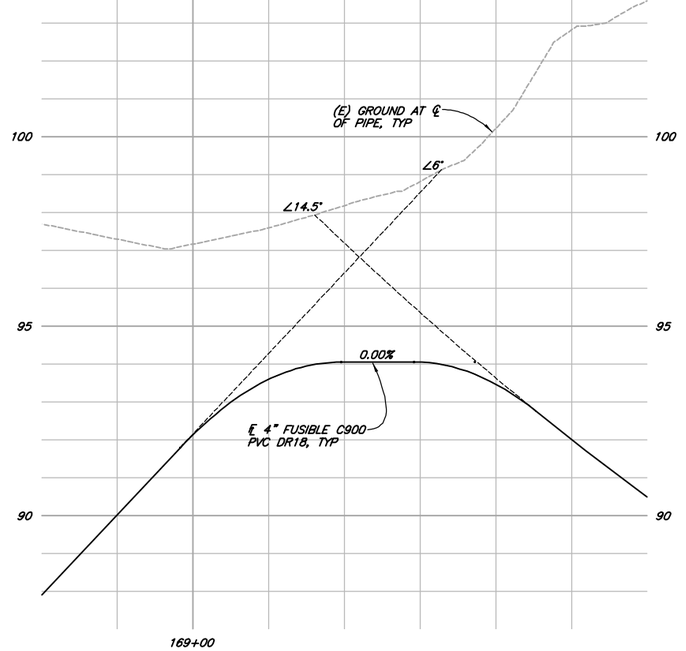
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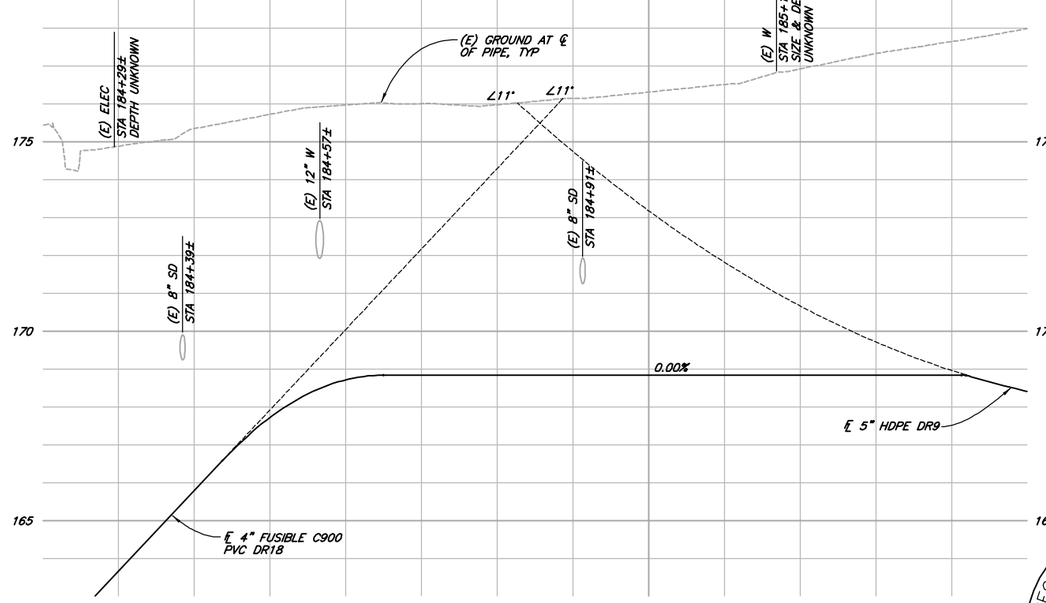
PLAN
1"=10'



PLAN
1"=10'



PROFILE
SCALE: 1"=10' H
1"=2' V



PROFILE
SCALE: 1"=10' H
1"=2' V

NOTE:

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REGISTERED PROFESSIONAL ENGINEER
No. 19108PE
OREGON
K. JEFFREY NELSON
SEPT. 19, 1995

EXPIRES: 12/31/2016

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WWW.SHN-ENGR.COM
541-266-9890

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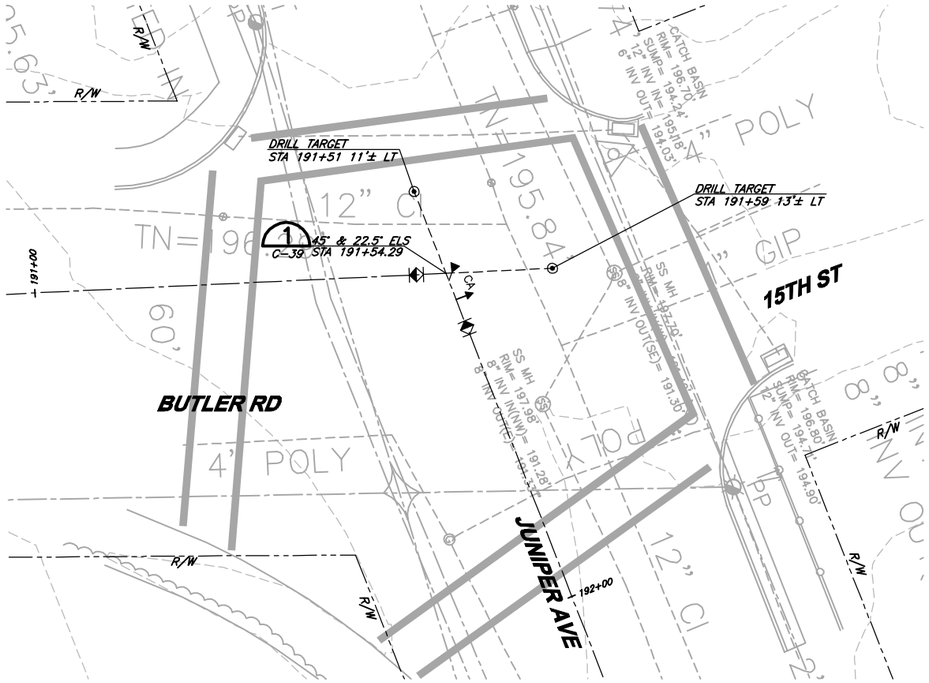
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DR	CDN
CHK	JMD
APVD	

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

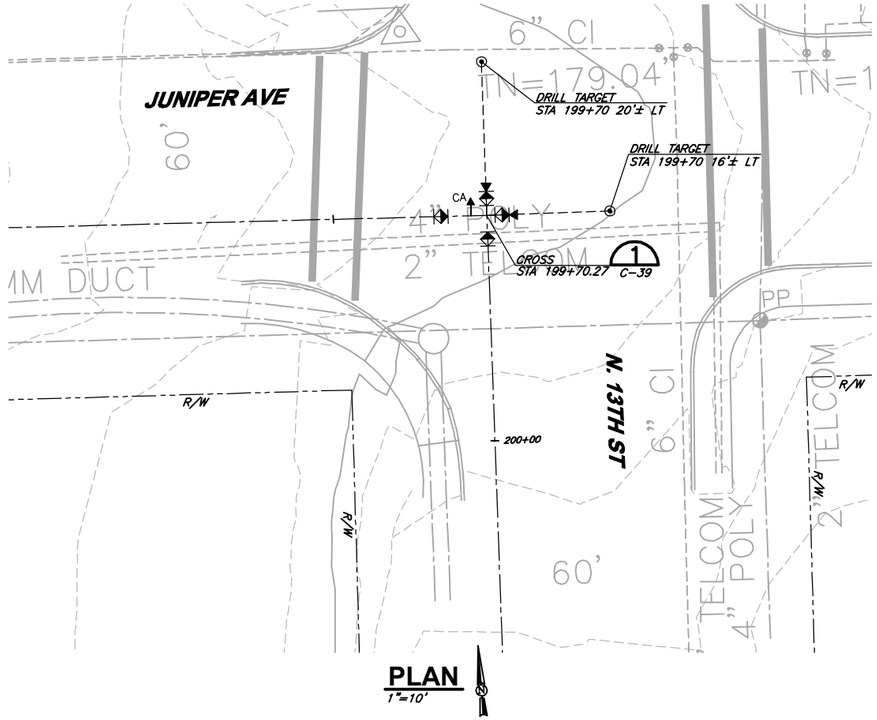
ENLARGED PLAN AND PROFILE

SHEET C-33
SEQ 37
DATE 12/2014
PROJ. NO. 614024

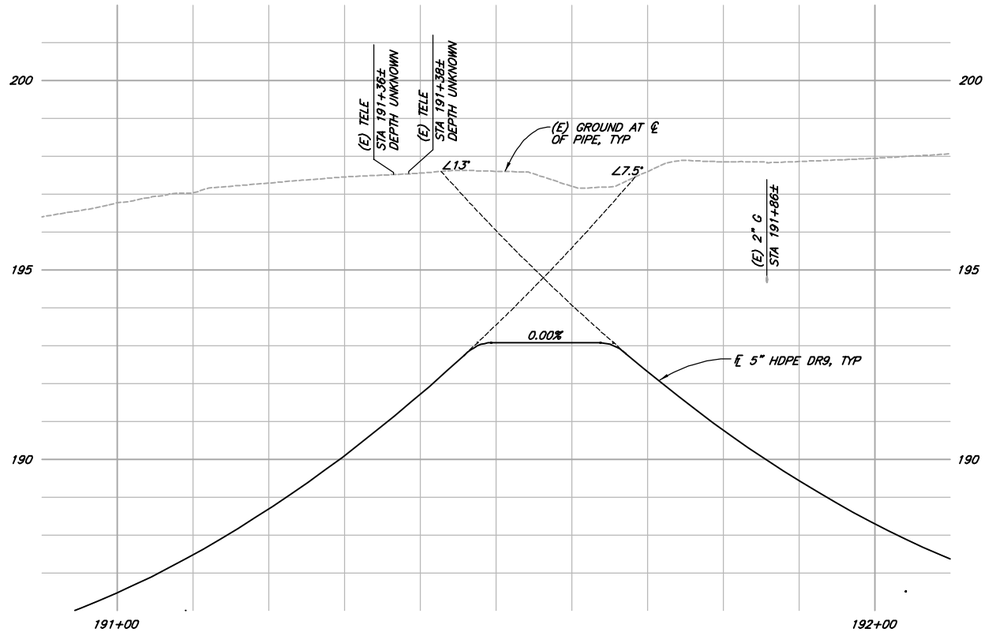
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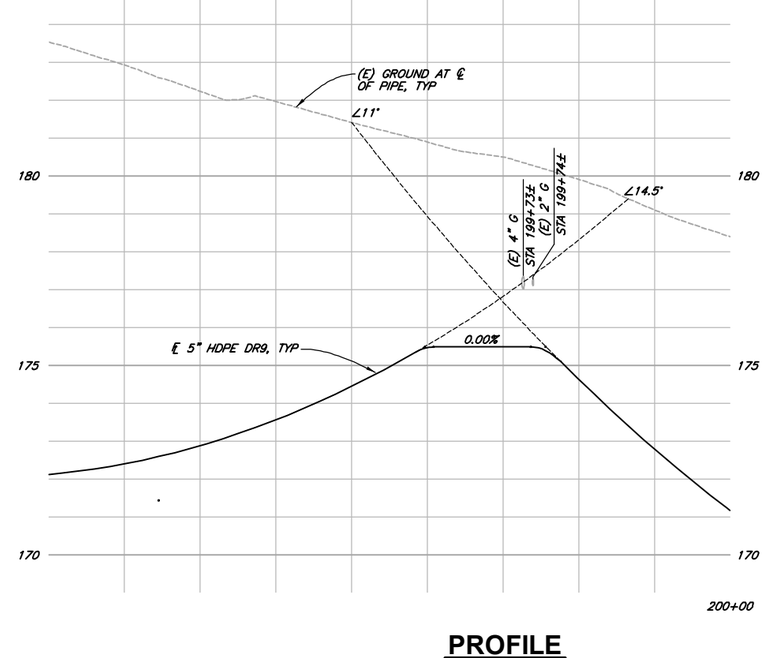
PLAN
1"=10'



PLAN
1"=10'



PROFILE
SCALE: 1"=10' H
1"=2' V



PROFILE
SCALE: 1"=10' H
1"=2' V

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REGISTERED PROFESSIONAL ENGINEER
No. 19108PE
OREGON
SEPT. 19, 1995
K. JEFFREY NELSON

EXPIRES: 12/31/2016

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COOS BAY, OR. 97420
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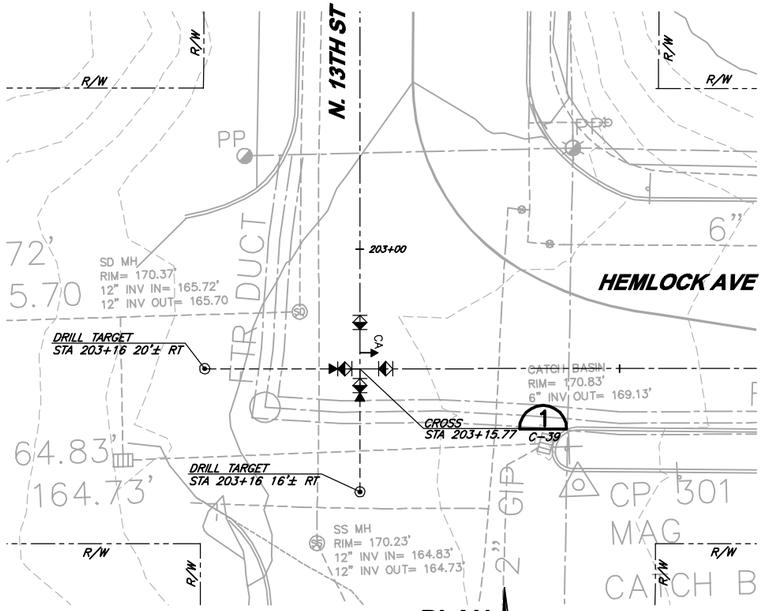
DSGN CDN/KMM
DR CDN
CHK JMD
APVD

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

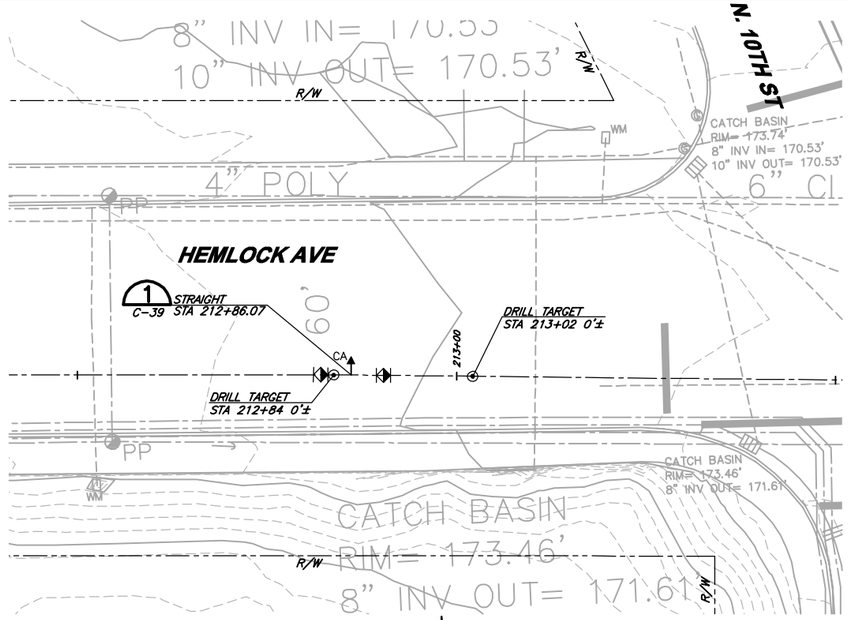
ENLARGED PLAN AND PROFILE

SHEET C-34
SEQ 38
DATE 12/2014
PROJ. NO. 614024

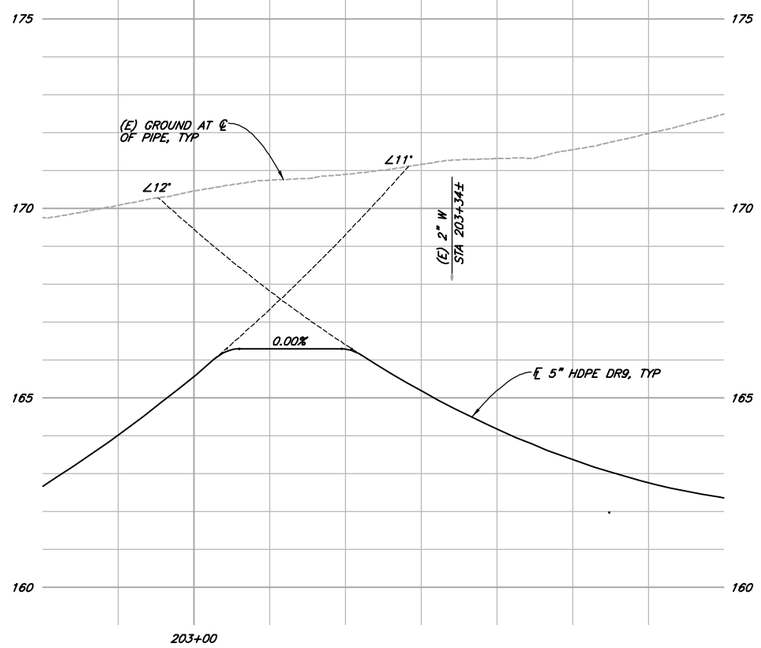
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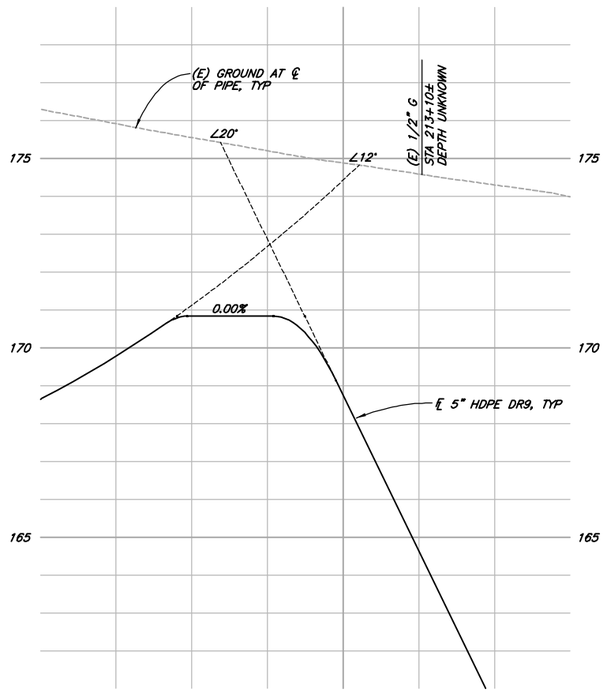
PLAN
1"=10'



PLAN
1"=10'



PROFILE
SCALE: 1"=10' H
1"=2' V



PROFILE
SCALE: 1"=10' H
1"=2' V

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OREGON
K. JEFFREY NELSON
SEPT. 19, 1995

EXPIRES: 12/31/2016

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275 MARKET AVENUE
COOS BAY, OR. 97420
WWW.SHN-ENGR.COM
541-266-9890

NO.	DATE	REVISION	BY

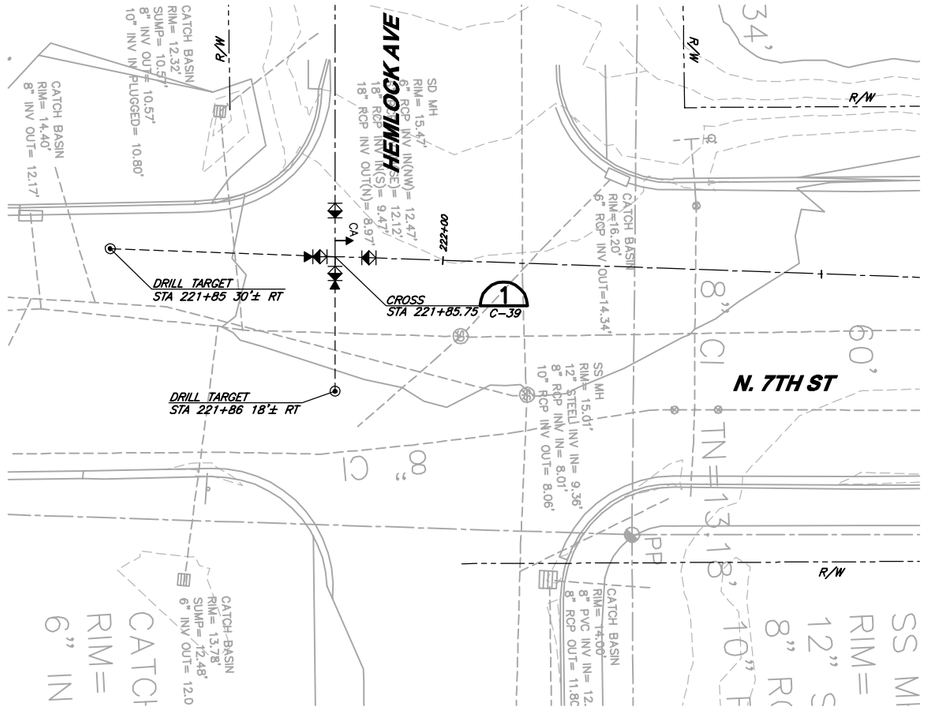
DSGN CDN/KMM
DR CDN
CHK JMD
APVD

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

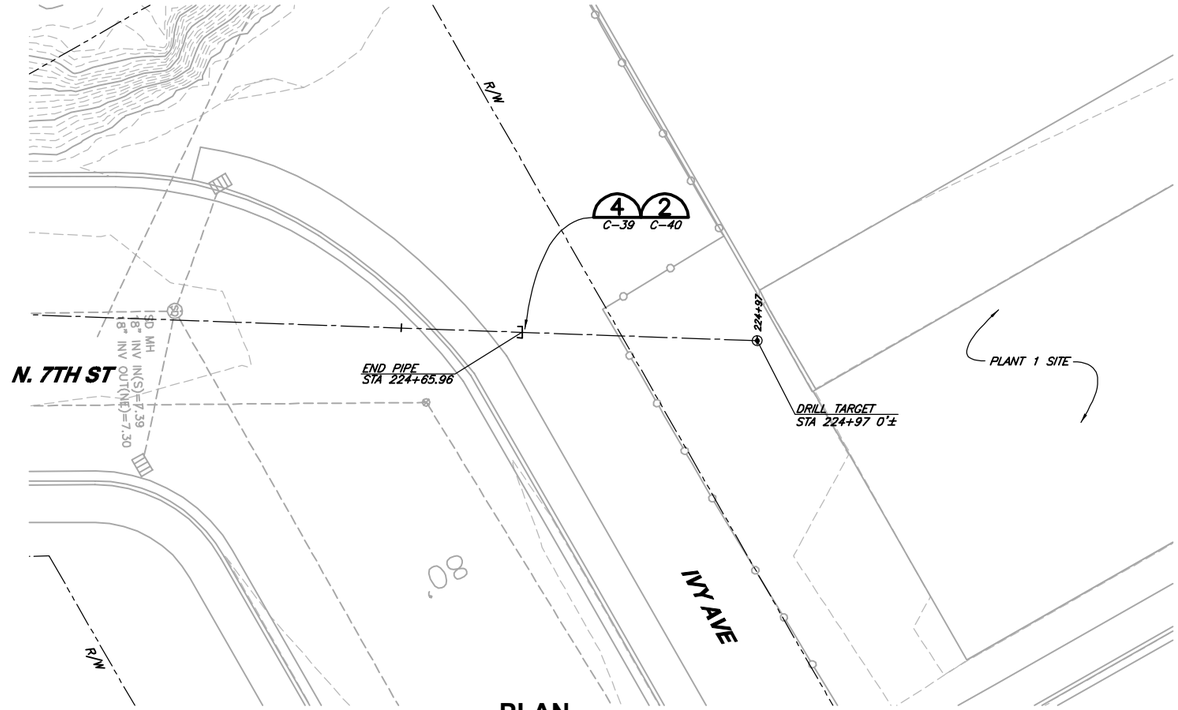
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SHEET C-35
SEQ 39
DATE 12/2014
PROJ. NO. 614024

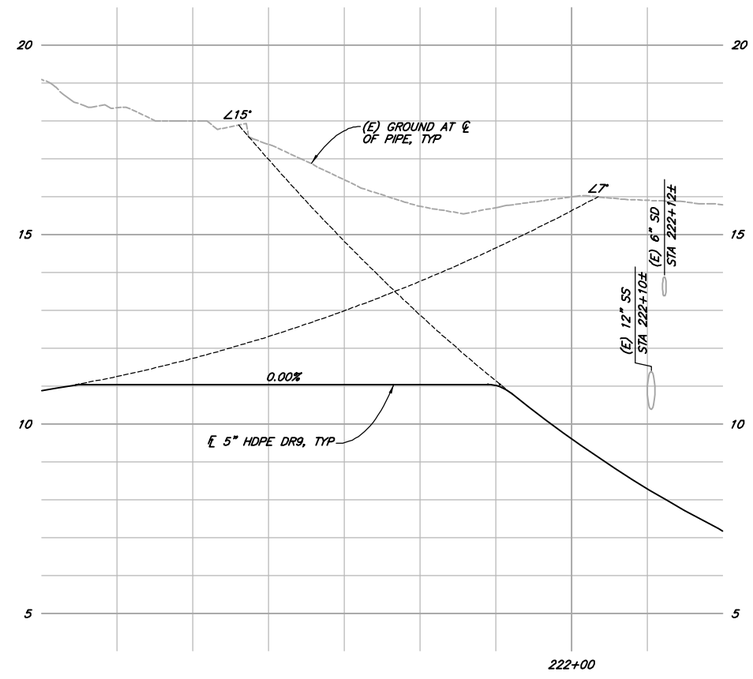
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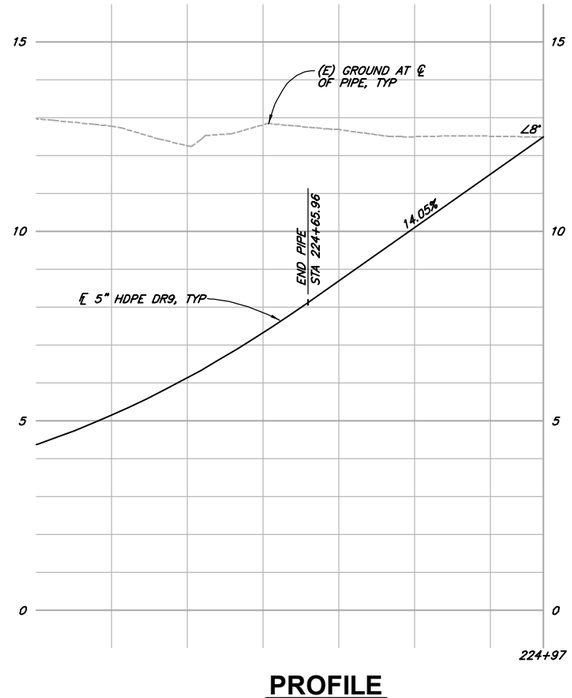
PLAN
1"=10'



PLAN
1"=10'



PROFILE
SCALE: 1"=10' H
1"=2' V



PROFILE
SCALE: 1"=10' H
1"=2' V

NOTE:
EXISTING UTILITY LOCATIONS, DEPTHS & SIZES ARE APPROXIMATE. SEWER LATERAL AND WATER SERVICES ARE LARGELY UNKNOWN AND ONLY SHOWN IN PLAN VIEW. CONTRACTOR TO VERIFY PRIOR TO DRILLING OR EXCAVATING.

REGISTERED PROFESSIONAL ENGINEER
No. 19108PE
OREGON
K. JEFFREY NELSON
SEPT. 19, 1995

EXPIRES: 12/31/2016

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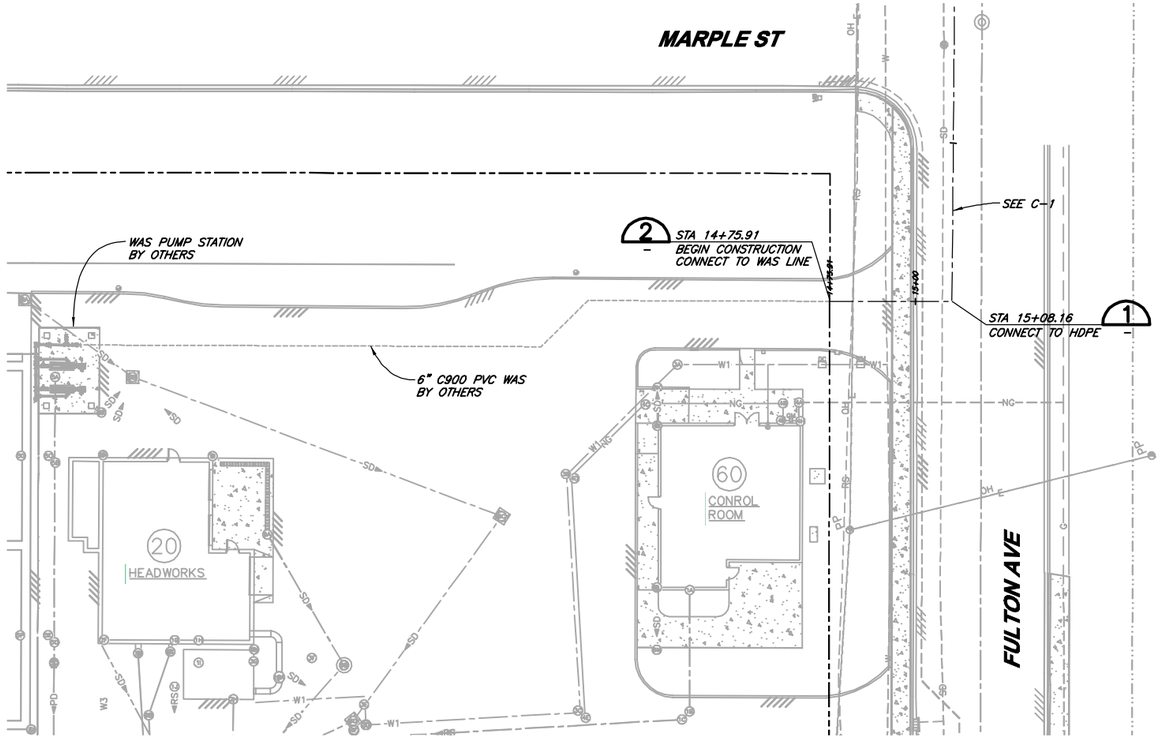
DSGN CDN/KMM
DR CDN
CHK JMD
APVD

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

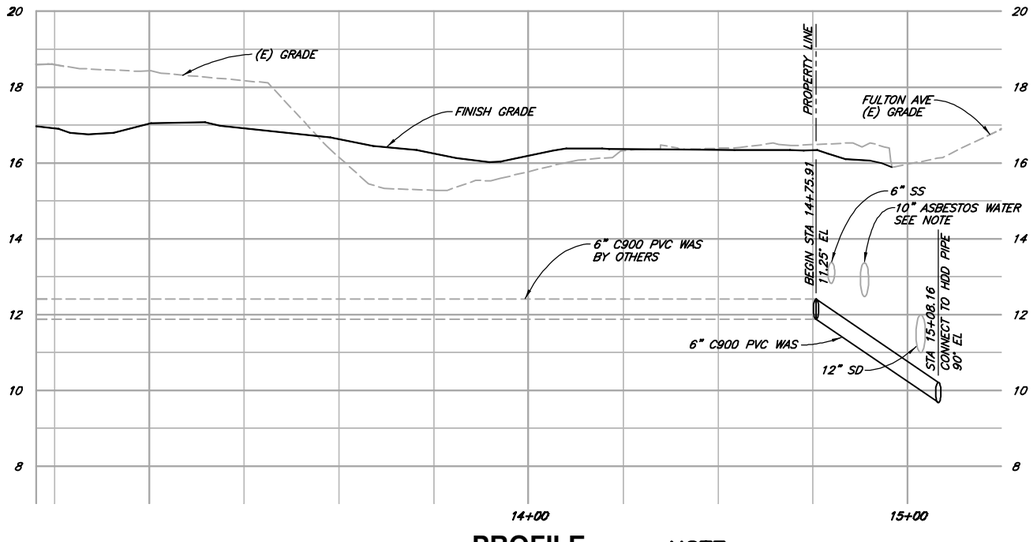
ENLARGED PLAN AND PROFILE

SHEET C-36
SEQ 40
DATE 12/2014
PROJ. NO. 614024

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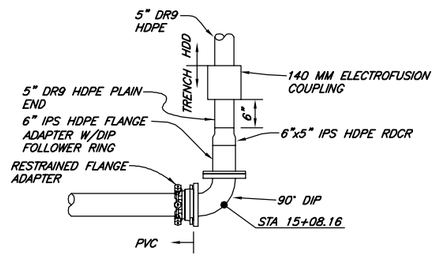


PLAN
1"=20'

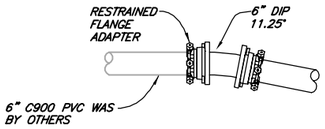


PROFILE
SCALE: 1"=20' H
1"=2' V

NOTE:
DO NOT PLACE PIPE JOINTS WITHIN 8' TO EITHER SIDE OF 10" ASBESTOS WATER LINE.



DETAIL 1
NTS



DETAIL 2
NTS

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REGISTERED PROFESSIONAL ENGINEER
No. 19108PE
OREGON
SEPT. 19, 1995
K. JEFFREY NELSON

EXPIRES: 12/31/2016

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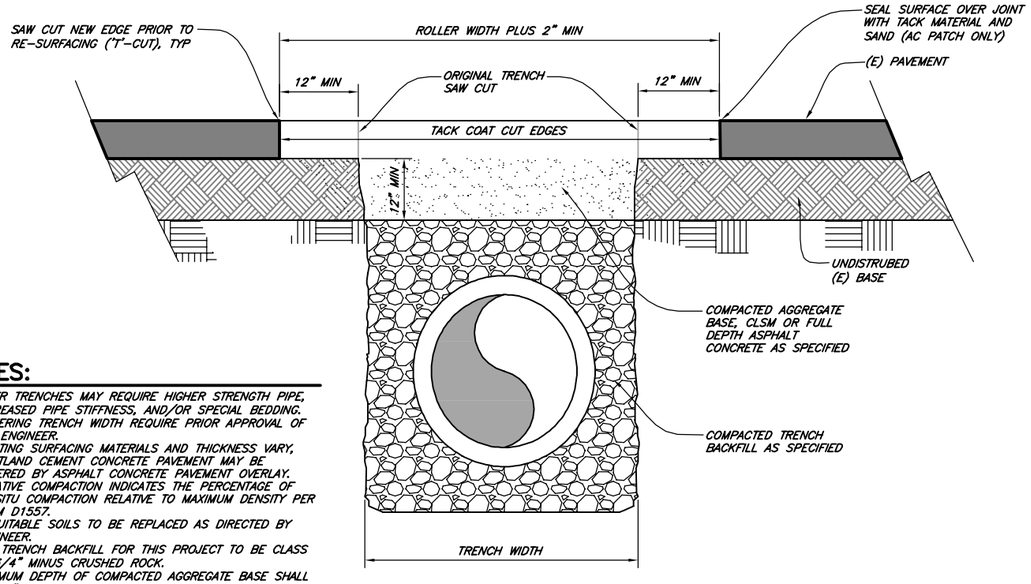
DSGN DG
DR DG/CDN
CHK JMD
APVD

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

WWTP 2 CONNECTION PLAN AND PROFILE

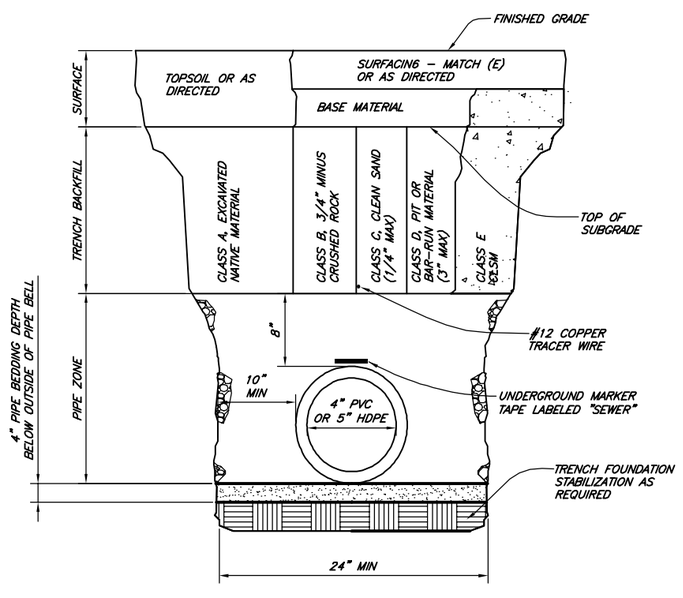
SHEET C-37
SEQ 41
DATE 12/2014
PROJ. NO. 614024

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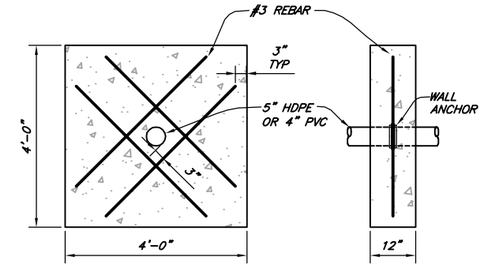
NOTES:

1. WIDER TRENCHES MAY REQUIRE HIGHER STRENGTH PIPE, INCREASED PIPE STIFFNESS, AND/OR SPECIAL BEDDING.
2. DIFFERING TRENCH WIDTH REQUIRE PRIOR APPROVAL OF THE ENGINEER.
3. EXISTING SURFACING MATERIALS AND THICKNESS VARY, PORTLAND CEMENT CONCRETE PAVEMENT MAY BE COVERED BY ASPHALT CONCRETE PAVEMENT OVERLAY.
4. RELATIVE COMPACTION INDICATES THE PERCENTAGE OF IN-SITU COMPACTION RELATIVE TO MAXIMUM DENSITY PER ASTM D1557.
5. UNSUITABLE SOILS TO BE REPLACED AS DIRECTED BY ENGINEER.
6. ALL TRENCH BACKFILL FOR THIS PROJECT TO BE CLASS B, 3/4" MINUS CRUSHED ROCK.
7. MINIMUM DEPTH OF COMPACTED AGGREGATE BASE SHALL BE 12".
8. MINIMUM DEPTH OF HMAC SURFACE REPLACEMENT FOR THIS PROJECT SHALL BE 3".
9. ODOT/APWA DRAWING FORMATED TO SHN DRAFTING STANDARD.



DETAIL 1 NTS VAR

(SANITARY SEWER TRENCH)

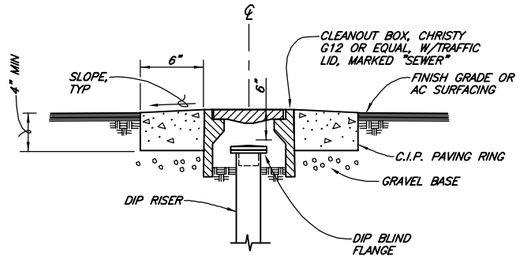


NOTES:

1. KEY ANCHOR COLLAR INTO NATIVE SOIL
2. WALL ANCHOR MUST BE FUSED TO HDPE PIPE
3. PLACE ANCHOR COLLAR WITHIN 5' OF OUTERMOST PLUG VALVES.

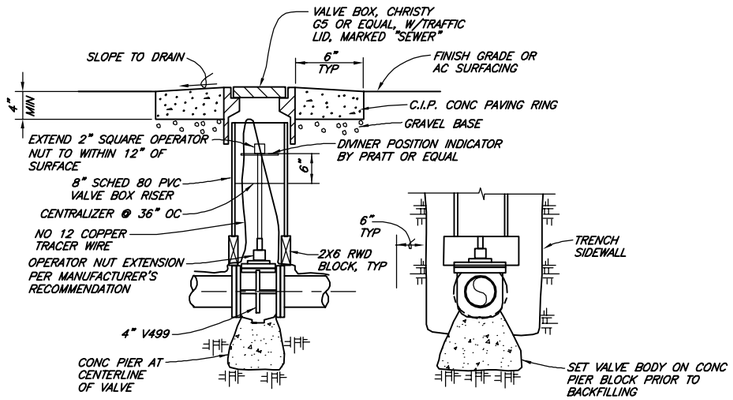
DETAIL 2 NTS C-39

(PIPE ANCHOR COLLAR)



DETAIL 3 NTS C-39,40

(CLEANOUT)



DETAIL 4 NTS C-40

(PLUG VALVE INSTALLATION)

REGISTERED PROFESSIONAL ENGINEER
No. 19108PE
OREGON
K. JEFFREY NELSON
SEPT. 19, 1995

EXPIRES: 12/31/2016

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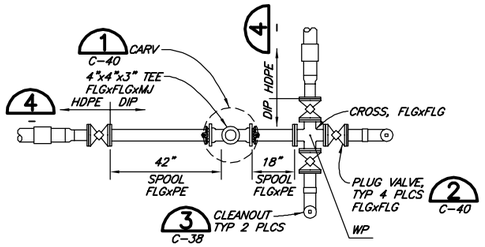
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CHK JMD
APVD

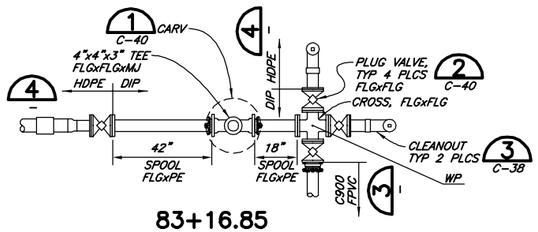
CITY OF COOS BAY
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COOS BAY, OREGON

DETAILS

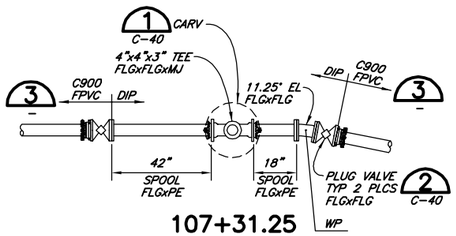
SHEET C-38
SEQ 42
DATE 12/2014
PROJ. NO. 614024



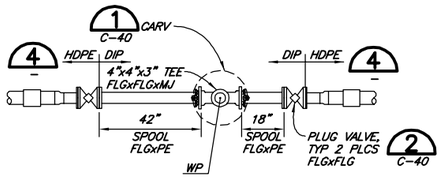
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51+94.09
59+95.59
77+95.23
199+70.27 (SIM)
203+15.77
221+85.75



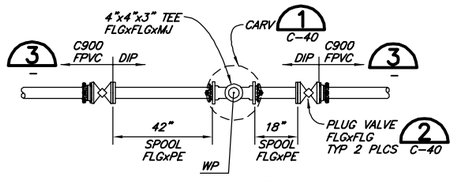
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184+66.62 (SIM)



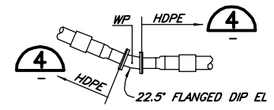
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34+25.00
71+53.53
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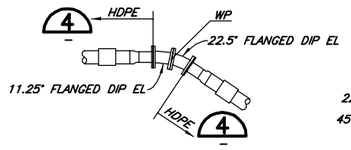
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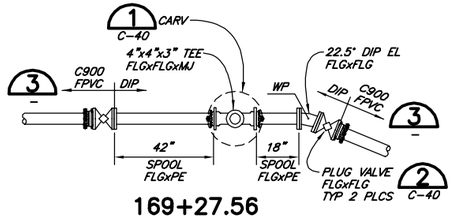
41+53.66



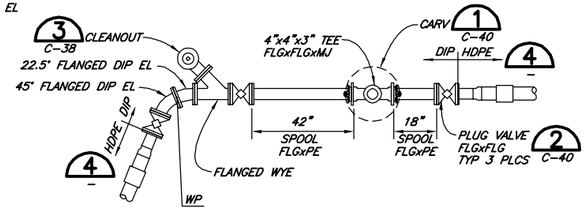
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64+42.55



76+64.51



169+27.56

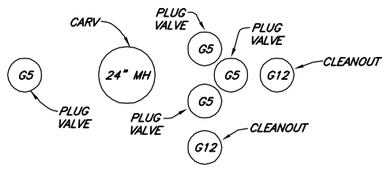


191+54.29

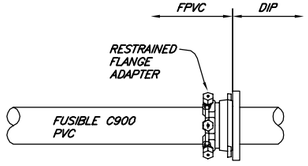
DETAIL 1 VAR
NTS

NOTES:

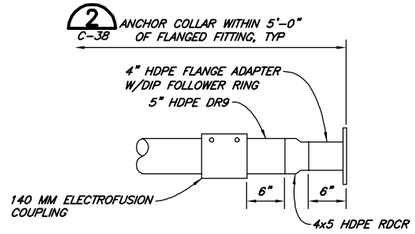
1. ALL MJ FITTINGS MUST BE RESTRAINED.
2. ALL HDPE PIPE AND FITTINGS ARE IPS 5" DR9. ALL PVC PIPE IS FUSIBLE C900 DR18.
3. SIMILAR (SIM) STATION CONNECTIONS ARE MIRRORED AND/OR ROTATED.



DETAIL 2
NTS
(CROSS VALVE BOX CLUSTER)



DETAIL 3
NTS
(FPVC CONNECTION DETAIL)



DETAIL 4
NTS
(HDPE CONNECTION DETAIL)

NOTE:

ANCHOR COLLARS REQUIRED ON ALL FITTING CONNECTIONS WITH VALVES. LOCATE ANCHOR COLLARS WITHIN 5' OF OUTER PLUG VALVES. TWO ANCHOR COLLARS PER CARV CONNECTION. SEE DETAIL 2 ON C-38.

REGISTERED PROFESSIONAL ENGINEER
No. 18108PE
OREGON
SEPT. 19, 1995
K. JEFFREY NELSON

EXPIRES: 12/31/2016

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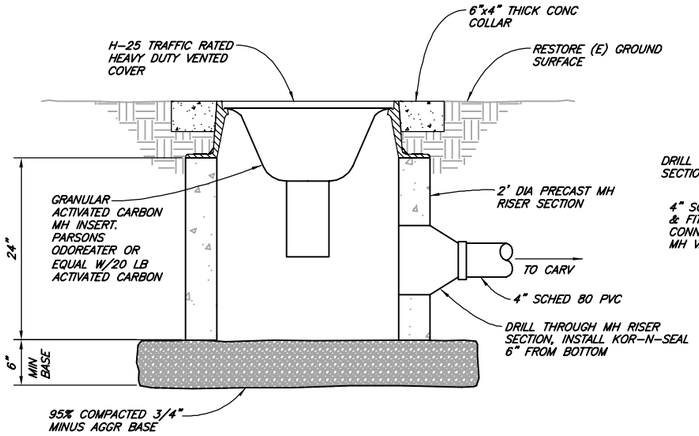
DSGN KMM
DR CJL/NMD
CHK JMD
APVD

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

DETAILS

SHEET C-39
SEQ 43
DATE 12/2014
PROJ. NO. 614024

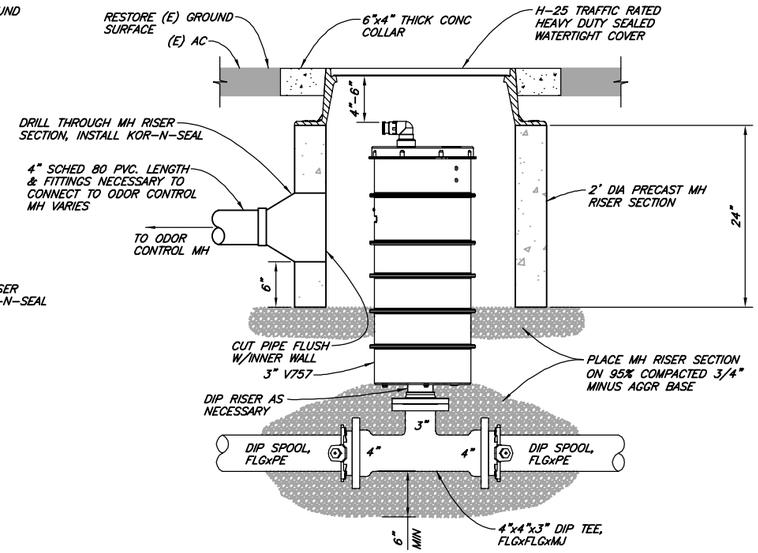
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ODOR CONTROL MH

NOTE:

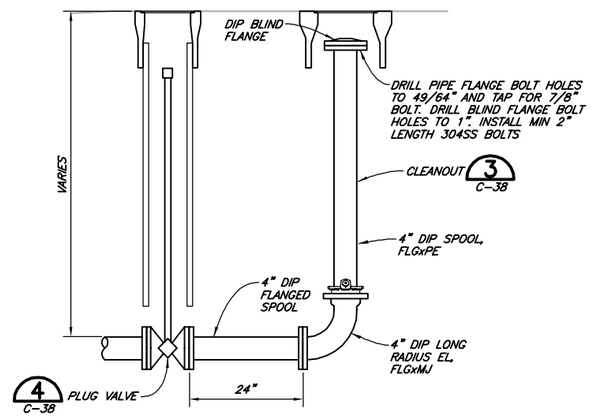
INSTALL ODOR CONTROL MH AT EACH CARV LOCATION. COORDINATE WITH CITY OF COOS BAY STAFF TO LOCATE ODOR CONTROL MANHOLES.



CARV

DETAIL 1
NTS C-39

(COMBINATION AIR RELEASE VALVE)



DETAIL 2
NTS C-39

(PLUG VALVE & CLEANOUT)

REGISTERED PROFESSIONAL ENGINEER
No. 19108PE
OREGON
SEPT. 19, 1995
K. JEFFREY NELSON

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DSGN KMM
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APVD

CITY OF COOS BAY
WASTE ACTIVATED SLUDGE PIPELINE
COOS BAY, OREGON

DETAILS

SHEET C-40
SEQ 44
DATE 12/2014
PROJ. NO. 614024