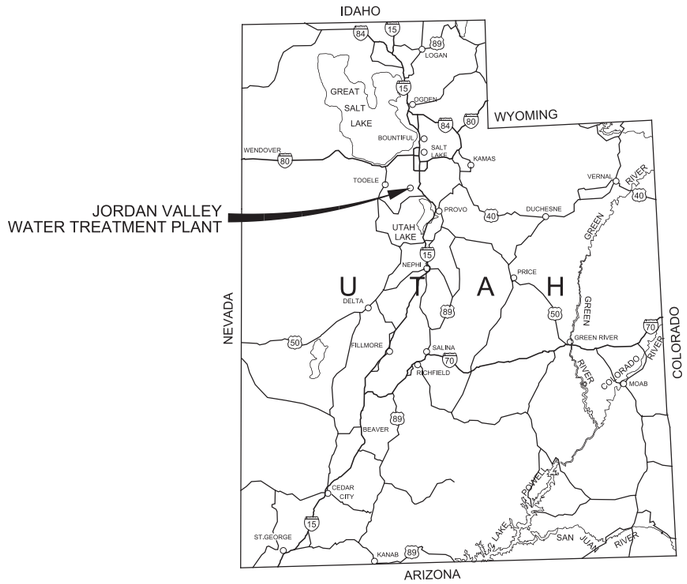
JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT

RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS

VOLUME 4 OF 4
DRAWINGS
JUNE 2020

PROJECT #4072



LOCATION MAP

VICINITY MAP

carollo®

REGISTERED PROFESSIONAL ENGINEER
No. 4804445
ALAN M. DOMONOSKE
STATE OF UTAH

JOB NO.	10851A.10
DRAWING NO.	G01
SHEET NO.	1 OF 70

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G02	2	DRAWING INDEX, PIPE SCHEDULE, AND DESIGN CRITERIA
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G05	5	GENERAL NOTES, LEGEND, AND SYMBOLS
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DC02	8	SITE DEMOLITION PLAN 2
10D01	9	EXISTING WASHWATER RECYCLE PUMP STA. NO. 1 - DEMOLITION UPPER PLAN
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C01	13	YARD PIPING PLAN 1
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PIPE SCHEDULE ABBREVIATIONS	
ABBREVIATIONS TO DESIGNATE TEST PRESSURE/METHOD PER SPECIFICATION SECTION 15956:	
AM	AIR METHOD
GR	GRAVITY METHOD
HH	HIGH HEAD METHOD
LH	LOW HEAD METHOD
SC	SPECIAL CASE
ABBREVIATIONS TO DESIGNATE PIPE MATERIAL:	
HDPE	HIGH DENSITY POLYETHYLENE
PVC	POLYVINYL CHLORIDE
SCH	SCHEDULE, FOLLOWED BY THE DESIGNATION
SST	STAINLESS STEEL
ABBREVIATIONS TO DESIGNATE CLASS, SCHEDULE, OR THICKNESS:	
SDR	STANDARD DIMENSION RATIO
ABBREVIATIONS TO DESIGNATE PIPING JOINTS/FITTINGS:	
BFW	BUTT FUSION WELD
FL	FLANGED
GE	GROOVED END
SW	SOLVENT WELD
WLD	WELDED
ABBREVIATIONS TO DESIGNATE LINING AND COATINGS:	
CM	CEMENT MORTAR
EPP	EPOXY AND POLYURETHANE COATING SYSTEM PER SECTION 09960
PEN	POLYETHYLENE ENCASED
PTW	POLYETHYLENE TAPE WRAP

PIPING SCHEDULE

ABBR.	SERVICE	DIAMETER (INCHES)	MATERIALS	PRESSURE CL, SPECIAL THICKNESS CL, OR	JOINTS/ FITTINGS	TEST PRESSURE/	LINING	COATING	PIPE SPEC SECTION	COMMENTS
BWR	BACKWASH RETURN									
	EXPOSED OR SUBMERGED	ALL	STEEL	AWWA C200	WLD, FL, OR GE	75 PSI/HH	CM	EPP	15278	
	BURIED	ALL	HDPE	SDR 17	BFW		NONE	NONE	15241	
D	DRAIN									
	BURIED	1/2 TO 10	PVC	SCH 80	SW	10 FEET/GR	NONE	NONE	15249	
PW	POTABLE WATER									
	EXPOSED	3 AND SMALLER	PVC	SCH 80	SW	125 PSI/HH	NONE	NONE	15249	
SL	SLUDGE									
	EXPOSED OR SUBMERGED	ALL	STEEL	AWWA C200	WLD, FL, OR GE	75 PSI/HH	CM	EPP	15278	
	BURIED	LESS THAN 24	HDPE	SDR 17	BFW		NONE	NONE	15241	
		LESS THAN 24	STEEL	AWWA C200	WLD		CM	CM	15278	WHERE INDICATED ON DRAWING C03
		GREATER THAN OR EQUAL TO 24	HDPE	SDR 17	BFW	10 FEET/GR	NONE	NONE	15241	
WW	WASTE WASHWATER									
	EXPOSED OR SUBMERGED	ALL	STEEL	AWWA C200	WLD, FL, OR GE	25 PSI/HH	CM	EPP	15278	
	BURIED	ALL	STEEL	AWWA C200	WLD		CM	CM	15278	

DESIGN CRITERIA

DESCRIPTION	UNITS	CRITERIA
PLANT CAPACITY		
DESIGN FLOW	MGD	180
FILTER BACKWASH		
FILTER TYPE		GRAVITY, DUAL MEDIA
NUMBER OF FILTERS	NO.	16
TOTAL BACKWASH VOLUME W/ FTW, EACH	GAL	230,000
VOLUME IN FIRST 4 MIN OF BW (SCALPED	GAL	100,000
VOLUME IN REMAINING 8 MIN OF BW	GAL	110,000
VOLUME IN 4 MIN FTW	GAL	20,000
MAX NUMBER OF BACKWASHES PER DAY *(BASED ON OPERATIONS IN 2017)*	NO.	24
FILTER BW SCALPING		
EQUALIZED AVERAGE DAILY SCALPING	GPM	2,400
MAX NUMBER OF SCALPED BW PER DAY	NO.	34
MAX NUMBER OF FULLY EQUALIZED BW PER DAY	NO.	15
FILTER WASTE WASHWATER CLARIFIER (REPURPOSED FOR SCALPING EQUALIZATION)		
TYPE		CIRCULAR WITH SLUDGE COLLECTOR
DIAMETER	FT	110
OPERATIONAL WATER DEPTH	FT	10.3
AREA	SF	9,500
OPERATIONAL VOLUME	GAL	730,000
TOTAL NUMBER OF SCALPED BW	NO.	7
TOTAL NUMBER OF FULLY EQUALIZED BW	NO.	3
RECYCLE PUMP STATIONS		
RECYCLE PUMP STATION NO. 1 (SCALPING)		
SLUDGE PUMPS (EXISTING)		
DRIVE TYPE		CONSTANT SPEED
NUMBER (1 + 1)	NO.	2
CAPACITY, EACH	GPM	1,000
POWER, EACH	HP	15
DECANT PUMPS (NEW)		
DRIVE TYPE		CONSTANT SPEED
NUMBER (1 + 1)	NO.	2
CAPACITY, EACH	GPM	1,400
POWER, EACH	HP	30
RECYCLE PUMP STATION NO. 2		
DRIVE TYPE		VARIABLE SPEED
NUMBER (1 + 1)	NO.	2
CAPACITY, EACH	GPM	6,000
POWER, EACH	HP	100

DESIGN CRITERIA (CONT'D)

DESCRIPTION	UNITS	CRITERIA
FILTER WASTE WASHWATER RECLAIM PONDS		
TYPE		CONCRETE LINED, TRAPEZOIDAL SHAPE
NUMBER	NO.	2
AREA AT MAX OPERATING DEPTH, EACH (APPROX.)	SF	29,000
MAX OPERATING DEPTH	FT	5.5
VOLUME PER POND, MAX DEPTH	GAL	1,200,000
AVERAGE DRYING AREA, EACH (APPROX.)	SF	21,500
TOTAL DRYING AREA	SF	43,000
DESIGN SOLIDS LOADING RATE	LBS/SF/YR	8
TOTAL DRYING CAPACITY	LBS/YR	344,000
SLUDGE LAGOONS		
TYPE		UNLINED EARTHEN
NUMBER	NO.	3
AVERAGE DRYING AREA, EACH (APPROX.)	SF	95,000
TOTAL DRYING AREA	SF	285,000
DESIGN SOLIDS LOADING RATE	LBS/SF/YR	8
TOTAL DRYING CAPACITY	LBS/YR	2,280,000
MAXIMUM TOTAL DECANT FLOW	GPM	5,000
COMBINED SLUDGE PRODUCTION		
MAXIMUM HISTORICAL SLUDGE PRODUCTION (2017)	LBS/YR	2,250,000
COMBINED DRYING CAPACITY	LBS/YR	2,624,000

REV	DATE	BY	DESCRIPTION

DESIGNED SSB
DRAWN TSD
CHECKED PAC
DATE JUNE 2020

REGISTERED PROFESSIONAL ENGINEER
No. 4939129-2202
PATRICK A. CARLSON
STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT

RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS

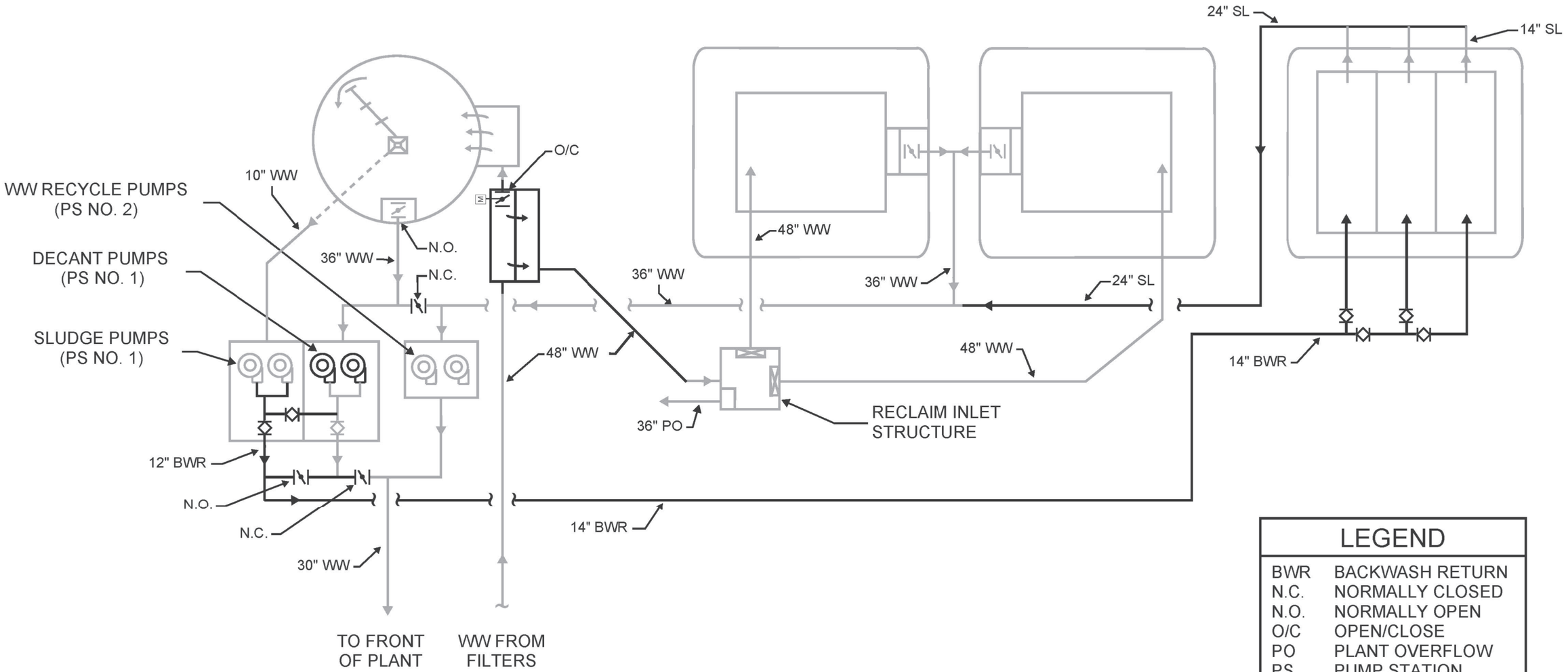
GENERAL

DRAWING INDEX, PIPE SCHEDULE, AND DESIGN CRITERIA

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

JOB NO. 10851A.10
DRAWING NO. G02
SHEET NO. 2 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A100G02.dgn



LEGEND

BWR	BACKWASH RETURN
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
O/C	OPEN/CLOSE
PO	PLANT OVERFLOW
PS	PUMP STATION
SL	SLUDGE
WW	WASTE WASHWATER
———	NEW
———	EXISTING

REV	DATE	BY	DESCRIPTION

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DATE JUNE 2020

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carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
GENERAL
PROCESS FLOW DIAGRAM

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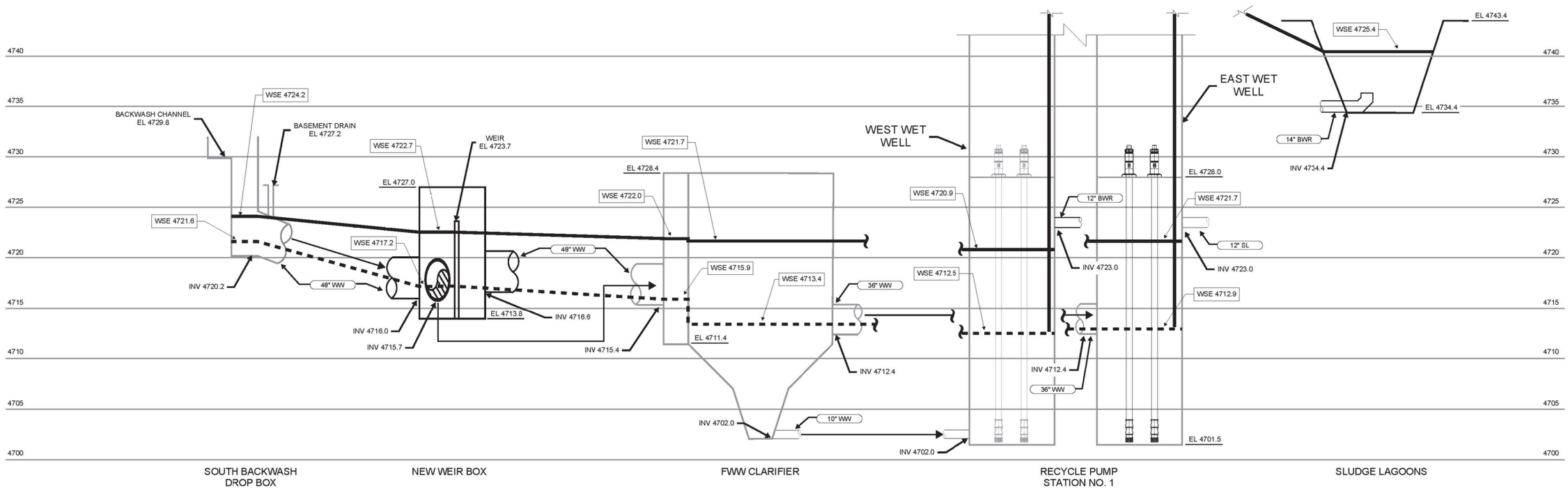
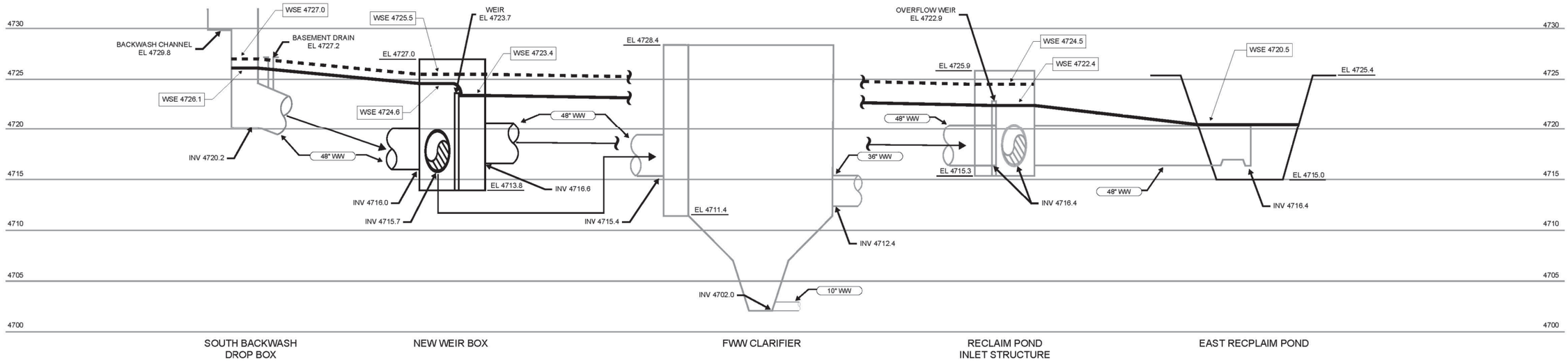
JOB NO. 10851A.10
DRAWING NO. G03
SHEET NO. 3 OF 70



HYDRAULIC PROFILE FOR MAX WSE AT MAX BW FLOW (26,750 GPM)

HYDRAULIC PROFILE FOR MIN WSE AT MAX BW FLOW (26,750 GPM)

HYDRAULIC PROFILE - SCALPED BACKWASH



HYDRAULIC PROFILE TO EAST RECLAIM POND AT MAX BW FLOW (26,750 GPM)

HYDRAULIC PROFILE TO OVERFLOW WEIR IF BOTH GATES TO THE RECLAIM PONDS WERE CLOSED AT MAX BW FLOW (26,750 GPM)

HYDRAULIC PROFILE - NON-SCALPED BACKWASH

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GENERAL
HYDRAULIC PROFILE

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JOB NO. 10851A.10
DRAWING NO. G04
SHEET NO. 4 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A100G04.dgn

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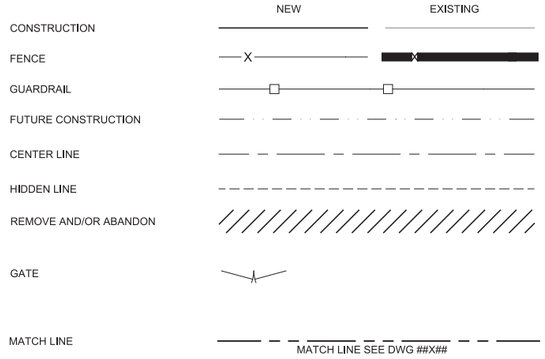
Model: Layout1
LAST SAVED BY: tdonnell

GENERAL NOTES

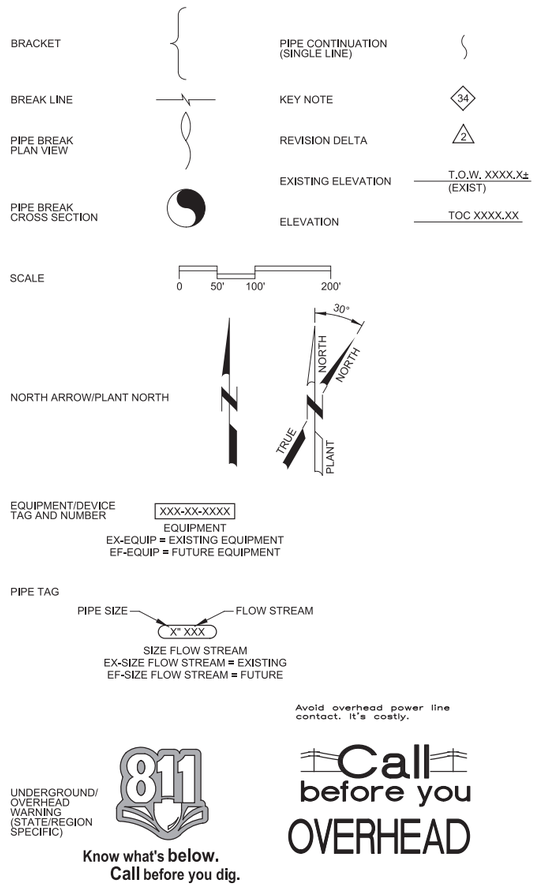
1. FOLLOWING NOTES ARE GENERAL AND APPLY TO ALL SHEETS OF THESE CONTRACT DOCUMENTS AS IF THEY WERE WRITTEN IN THEIR ENTIRETY ON EACH SHEET.
2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE STARTING WORK AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES. CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING ALL EXISTING CONDITIONS INCLUDING LOCATION AND DIMENSIONS OF ALL EXISTING CONSTRUCTION AND UTILITIES. CONTRACTOR SHALL NOTIFY ENGINEER IF THERE IS A CONFLICT BETWEEN THE CONTRACT DOCUMENTS AND EXISTING CONSTRUCTION BEFORE PROCEEDING WITH WORK.
3. UNLESS DETAILED, SPECIFIED, OR OTHERWISE INDICATED ON THE DRAWINGS, CONSTRUCTION SHALL BE AS INDICATED IN THE APPLICABLE TYPICAL DETAILS AND GENERAL NOTES. TYPICAL DETAILS SHALL APPLY EVEN THOUGH NOT REFERENCED AT SPECIFIC LOCATIONS ON DRAWINGS.
4. WHERE NO CONSTRUCTION DETAILS ARE SHOWN OR NOTED FOR ANY PART OF WORK, DETAILS SHALL BE IN THE SAME AS FOR OTHER SIMILIAR WORK.
5. CONTRACTOR SHALL COMPLY WITH LOCAL CONSTRUCTION STORM WATER DISCHARGE REGULATIONS AND REQUIREMENTS.
6. PRIOR TO EXCAVATION FOR NEW STRUCTURES, ELECTRICAL CONDUIT, FABRICATION OF NEW PIPING AND/OR OTHER PROPOSED UTILITIES, CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF ALL EXISTING PIPING AND UTILITIES IN THE CONSTRUCTION AREA. THE CONTRACTOR SHALL TEMPORARILY RELOCATE CONFLICTING EXISTING UTILITIES AT TIE-IN/CONNECTION LOCATIONS AND REINSTALL THEM AS REQUIRED TO ELIMINATE THE CONFLICT AT NO ADDITIONAL COST TO THE OWNER.
7. ALL PIPELINES 12" AND LARGER SHALL HAVE A MINIMUM COVER OF 36" UNLESS THE COVER DEPTH IS SPECIFICALLY INDICATED ON THE DRAWINGS. PIPE SMALLER THAN 12" SHALL HAVE A MINIMUM COVER OF 30" UNLESS NOTED OTHERWISE. PIPES SHALL BE ROUTED AS SHOWN UNLESS MINOR REVISIONS ARE NECESSARY TO MISS EXISTING PIPES, STRUCTURES, ETC. CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL FITTINGS AND ADAPTERS REQUIRED TO MAKE THE ROUTING CHANGES AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL INCLUDE COST FOR THIS IN THE BID.
8. EXISTING FACILITY AND UTILITY INFORMATION SHOWN ON THE DRAWINGS WAS OBTAINED FROM AVAILABLE RECORDS OR ELECTRONIC FILES. NEITHER THE OWNER NOR ENGINEER ASSUMES ANY RESPONSIBILITY FOR FACILITIES AND UTILITIES NOT SHOWN OR NOT IN THE LOCATION SHOWN. THE CONTRACTOR SHALL FIELD VERIFY ALL LOCATIONS, SIZES, MATERIAL TYPES, AND ELEVATIONS SHOWN AROUND OR NEAR AREAS OF NEW CONSTRUCTION PRIOR TO START OF CONSTRUCTION.
9. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT FROM DAMAGE EXISTING FACILITIES AND UTILITIES SHOWN OR NOT SHOWN THAT ARE TO REMAIN IN PLACE. ALL FACILITIES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE EXPEDITIOUSLY REPAIRED OR RECONSTRUCTED TO THE ORIGINAL OR BETTER CONDITION AT THE CONTRACTOR'S EXPENSE WITHOUT ADDITIONAL COMPENSATION.
10. CONTRACTOR SHALL MAKE CONNECTIONS TO EXISTING PIPE, EQUIPMENT, ETC. AS REQUIRED AND SHALL PROVIDE ALL FITTINGS, ADAPTERS, AND APPURTENANCES REQUIRED TO MAKE THE CONNECTIONS. PROVIDE ALL SUPPORTS REQUIRED FOR A RIGIDLY SUPPORTED COMPLETE AND WORKING SYSTEM.
11. ADJUST ALL VALVE BOXES, VAULTS, PULL BOXES, AND MANHOLES TO FINISHED GRADE UNLESS OTHERWISE SHOWN OR DIRECTED. MANHOLES IN OPEN FIELDS SHALL BE SET TWELVE INCHES ABOVE FINISHED GRADE AND VAULTS SHALL BE SIX INCHES ABOVE FINISHED GRADE.
12. THE CONTRACTOR SHALL CONTACT THE PROPER UTILITY REPRESENTATIVE AS FOLLOWS FOR QUESTIONS OR COORDINATION OF CONSTRUCTION RELATED TO EXISTING UTILITIES.

    BLUE STAKES OF UTAH: 1-800-662-4111
13. CONTRACTOR SHALL VERIFY THAT PIPING SHOWN TO BE ABANDONED OR AS ABANDONED PREVIOUSLY IS NO LONGER IN SERVICE. LINES IN SERVICE SHALL BE MAINTAINED UNTIL NO LONGER REQUIRED BY THE PLANT.
14. ALL EXISTING PIPES THAT ARE TO BE ABANDONED IN PLACE OR REMOVED MAY NOT BE SHOWN. WHERE PIPING IS TO BE ABANDONED AND MUST REMAIN IN SERVICE UNTIL COMPLETION OF OTHER PHASES OF WORK, AND IT CONFLICTS WITH NEW PIPING, TEMPORARILY RELOCATE PIPING AS REQUIRED TO MAINTAIN SERVICE BY THE PLANT.
15. CONTRACTOR SHALL REROUTE THE EXISTING PIPING IF REQUIRED TO MISS THE PROPOSED STRUCTURES. THE EXISTING PIPE SHALL REMAIN IN SERVICE UNTIL NEW PIPING IS READY TO BE PLACED INTO SERVICE. DOWNTIME SHALL BE A MAXIMUM OF 2 HOURS, UNLESS SPECIFIED OR SHOWN OTHERWISE.
16. ALL SIDEWALKS TO BE 3'-0" WIDE UNLESS SHOWN OTHERWISE.
17. THE CONTRACTOR SHALL TAKE SPECIAL PRECAUTIONS IN THE VICINITY OF ANY OVERHEAD ELECTRIC LINES. CONTRACTOR SHALL ABIDE BY THE NATIONAL ELECTRIC CODE AND ANY REQUIREMENT BY THE OWNER OF THE ELECTRIC LINES.
18. PROVIDE ALL SHEETING/SHORING REQUIRED TO PROTECT EXISTING STRUCTURES, PIPES AND FACILITIES.
19. CONTRACTOR SHALL VERIFY LOCATION OF ALL ARCHITECTURAL, MECHANICAL, AND ELECTRICAL ITEMS BEFORE PLACING ANY STRUCTURAL STEEL OR CONCRETE. ALSO, STRUCTURAL DIMENSIONS AND OPENINGS CONTROLLED BY ARCHITECTURAL, MECHANICAL, OR ELECTRICAL EQUIPMENT SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
20. MECHANICAL AND ELECTRICAL EQUIPMENT SUPPORTS, ANCHORAGES, OPENINGS, RECESSES, AND REVEALS NOT SHOWN ON THE STRUCTURAL DRAWINGS, THAT ARE REQUIRED BY OTHER CONTRACT DRAWINGS, SHALL BE PROVIDED PRIOR TO CASTING CONCRETE.

LINE WORK



SYMBOLS



UNDERGROUND/ OVERHEAD WARNING (STATE/REGION SPECIFIC)

811

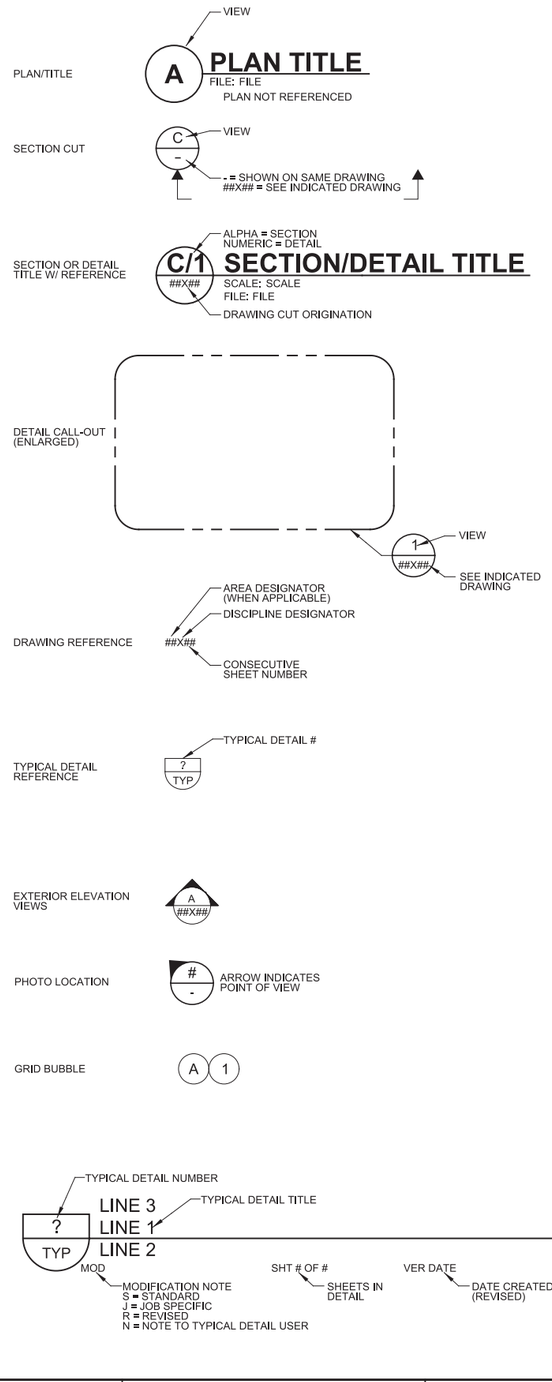
Know what's below. Call before you dig.

Avoid overhead power line contact. It's costly.

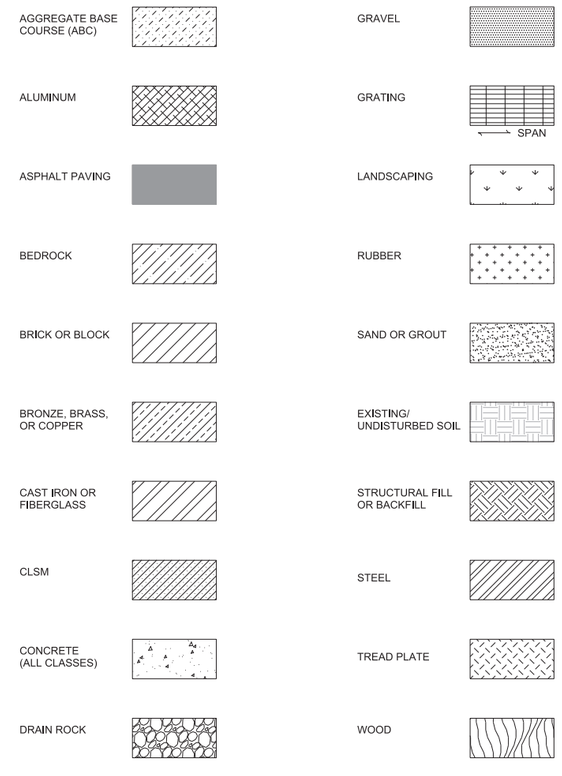
Call before you OVERHEAD

1-888-221-7070

DETAIL REFERENCES



HATCH PATTERNS



MISCELLANEOUS

REV	DATE	BY	DESCRIPTION

DESIGNED SSB
DRAWN TSD
CHECKED PAC
DATE JUNE 2020

REGISTERED PROFESSIONAL ENGINEER — No. 4939129-2202 — PATRICK A. CARLSON — STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
GENERAL
GENERAL NOTES, LEGEND, AND SYMBOLS

VERIFY SCALES
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JOB NO. 10851A.10
DRAWING NO. G05
SHEET NO. 5 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A100G05.dgn

@	AT (MEASUREMENT)	
△	DEFLECTION ANGLE, CENTRAL ANGLE	
#	NUMBER (REBAR Ø)	
A		
AB	ANCHOR BOLT	
ABC	AGGREGATE BASE COURSE	
ABS	ACRYLONITRILE BUTADIENE STYRENE	
AC	ASPHALTIC CONCRETE	
ACB	AIR CIRCUIT BREAKER	
ACI	AMERICAN CONCRETE INSTITUTE	
ACP	ASBESTOS CEMENT PIPE	
ACU	AIR CONDITIONING UNIT	
AD	AREA DRAIN	
ADDL	ADDITIONAL	
ADJ	ADJACENT, ADJUST, ADJUSTABLE	
ADMIN	ADMINISTRATION	
ADR	ACCESS DOOR	
AED	AREA EQUIPMENT DRAIN	
AER	AERAT(ION)(OR)	
AFC	AFTERCOOLER	
AFF	ABOVE FINISHED FLOOR	
AFM	AIR FLOW MONITOR	
AHU	AIR HANDLING UNIT	
AIC	AIR COMPRESSOR	
AIL	AIR INTAKE LOUVER	
ALT	ALTERNATE	
AL	ALUMINUM	
ANCH	ANCHOR	
ANV	ANGLE VALVE	
APPROX	APPROXIMATE, APPROXIMATELY	
ARCH	ARCHITECTURAL	
ARV	AIR RELEASE VALVE	
ASSY	ASSEMBLY	
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	
AV	ACID VENT	
AVG	AVERAGE	
AVV	AIR AND VACUUM VALVE	
AW	ACID WASTE	
B		
BC	BEGIN CURVE, BRASS CAP, BACK OF CURB, BOLT CIRCLE	
BCKR	BACKER BOARD	
BCM	BATCHMETER	
BD	BOARD	
BDD	BACKDRAFT DAMPER	
BDR	BASIN DRAIN LINE	
BF	BLIND FLANGE	
BFG	BELOW FINISHED GRADE	
BFP	BELT FILTER PRESS	
BFV	BUTTERFLY VALVE	
BG	BREAK GLASS HAND SWITCH	
BKW	BACKWASH	
BLDG	BUILDING	
BLK	BLOCK	
BLKHD	BULKHEAD	
BLR	PROCESS BLOWER	
BM	BEAM, BENCH MARK	
BOTT	BOTTOM	
BOTTS	BOTTOM SLUDGE	
BPV	BACK PRESSURE VALVE	
BRG	BEARING	
BSP	BLACK STEEL PIPE	
BTU	BRITISH THERMAL UNITS	
BTWN	BETWEEN	
BV	BALL VALVE	
BWCCP	BAR-WRAPPED CONCRETE CYLINDER PIPE	
C		
C	CLOSE, CONDUIT CHANNEL (STRUCTURAL)	
CA	CONCRETE ANCHOR	
CAUSTIC	CAUSTIC SOLUTION (CONCENTRATED OR DILUTE)	
CB	CATCH BASIN	
CC	CENTER OF CURVATURE, CENTER TO CENTER	
CCB	CHLORINE CONTACT BASIN	
CD	CEILING DIFFUSER, CONDENSATE DRAIN	
CDL	CHEMICAL DRAIN LINE	
CDT	CONDUIT	
CEF	CEILING EXHAUST FAN	
CF	CUBIC FEET	
CFM	CUBIC FEET PER MINUTE	
CFS	CUBIC FEET PER SECOND	
CHEMD	CHEMICAL DRAIN	
CHF	CHEMICAL FEEDER	
CHKD PL	CHECKERED PLATE	
CI	CAST IRON	
CIP	CAST IRON PIPE	
CIRC	CIRCUMFERENTIAL/CIRCUMFERENCE	
CJ	CONSTRUCTION JOINT	
CKA	CHECK VALVE, ANGLE	
CKB	CHECK VALVE, BALL	
CKF	CHECK VALVE, FLAP	
CKS	CHECK VALVE, SWING	
CL	CENTER LINE	
CLK	CHAIN LINK	
CLD	CHLORINE LEAK DETECTOR	
CLL	CHLORINE LIQUID	
CLP	CHLORINE GAS (PRESSURE)	
CLR	CLEAR	
CLS	CHLORINE SOLUTION	
CLSM	CONTROLLED LOW STRENGTH MATERIAL	
CLV	CHLORINE GAS (VACUUM)	
CML	CEMENT MORTAR LINED	
CMLC	CEMENT MORTAR LINED AND COATED	
CMP	CORRUGATED METAL PIPE	
CMU	CONCRETE MASONRY UNIT	
CNV	CONVEYOR	
CO	CLEANOUT	
COL(S)	COLUMN(S)	
CONC	CONCRETE	
CONN	CONNECT, CONNECTION	
CONST	CONSTRUCTION	
CONT	CONTINUOUS OR CONTINUATION OR (D) (OUS)	
CORR	CORRUGATE(D), CORROSION	
CP	CONTROL POINT	
CPLG	COUPLING	
CPT	CARPET	
CPVC	CHLORINATED POLYVINYL CHLORIDE	
CS	CARBON STEEL, CIRCULATING SLUDGE	
CSP	CHEMICAL SUMP PUMP, CORRUGATED STEEL PIPE	
CT	CURRENT TRANSFORMER, CERAMIC TILE	
CTJ	CONTROL JOINT	
CTL	CONTROL	
CTR	CENTER, CENTERED	
CTSK	COUNTERSUNK	
CU	CUBIC	
CUP	COPPER PIPE	
CV	CHECK VALVE	
CW	COLD WATER	
CWV	COMBINATION WASTE AND VENT	
CY	CUBIC YARD	
D		
D	DEPTH, DIGITAL OR DISCRETE, DRAIN	
D/W	DRIVEWAY	
DBL	DOUBLE	
DDR	DESICCANT DRYER	
DEG or °	DEGREE	
DEMO	DEMOLISH, DEMOLITION	
DET	DETAIL	
DFL	DECANT/FILTRATE	
DG	DOOR GRILLE	
DIA or Ø	DIAMETER	
DIAG	DIAGONAL	
DIF	DIFFUSER	
DIG	DIGESTER	
DIM	DIMENSION	
DIP	DUCTILE IRON PIPE	
DISCH	DISCHARGE	
DIW	DEIONIZED WATER	
DL	DEAD LOAD, DRAIN LINE	
DLV	DOOR LOUVER	
DMP	DAMPER	
DMS	DIAPHRAGM SEAL	
DN	DOWN	
do	DITTO	
DO	DOOR OPENING	
DP	DEEP (OR DEPTH)	
DPV	DIAPHRAGM VALVE	
DR	DOOR, DRAIN	
DRT	DRIP TRAP	
DRV	DRAIN VALVE	
DS	DIGESTED SLUDGE, DOWN SPOUT	
DSW	DISTILLED WATER, DOOR SWITCH	
DUC	DUST COLLECTOR	
DUH	DUCT HEATER UNIT	
DW	DISTILLED WATER	
DWD	DEWATERING DRAIN	
DWG(S)	DRAWING(S)	
DWL(S)	DOWEL(S)	
E		
E	EAST	
EA	EACH	
EC	END OF CURVE	
ECC RED	ECCENTRIC REDUCER	
ECU	EVAPORATOR COOLING UNIT	
ED	EQUIPMENT DRAIN	
EF	EXHAUST FAN, EACH FACE	
EFF	EFFLUENT	
EG	EXHAUST GRILLE	
EIFS	EXTERIOR INSULATION AND FINISH SYSTEM	
EJ	EXPANSION JOINT	
EJR	INJECTOR/EDUCTOR	
EL	ELEVATION	
ELEC	ELECTRICAL	
ELL	ELBOW	
EMBED	EMBEDMENT	
EMH	ELECTRICAL MANHOLE	
EP	EDGE OF PAVEMENT	
EPS	EXPANDED POLYSTYRENE	
EPV	ECCENTRIC PLUG VALVE	
EQ	EQUAL	
EQUIP	EQUIPMENT	
ER	EXHAUST REGISTER	
ES	EACH SIDE	
ESEW	EMERGENCY SHOWER AND EYE WASH	
ESS	EMERGENCY HAND SWITCH	
ET	ELECTRICALLY HEAT TRACED	
EUH	ELECTRIC UNIT HEATER	
EVR	EVAPORATOR	
EW	EACH WAY	
EWC	ELECTRIC WATER COOLER	
EWEF	EACH WAY EACH FACE	
EWH	ELECTRIC WATER HEATER, EXHAUST	
EX	EXISTING	
EXIST	EXISTING	
EXP	EXPANSION, EXPANSION TANK	
EXPO	EXPOSED	
EXT	EXTERIOR	
F		
FACT	FACTORY	
FAD	FOUL AIR DUCT	
FB	FLAT BAR	
FBW	FILTER BACKWASH	
FC	FACE OF CURB, FLEXIBLE COUPLING	
FCA	FLANGE COUPLING ADAPTER	
FCO	FLOOR CLEANOUT	
FCU	FAN COIL UNIT	
FD	FIRE DAMPER, FLOOR DRAIN, FOUND	
FDC	FIRE DEPARTMENT CONNECTION	
FDL	FLOOR DRAIN LINE	
FDR	FEEDER	
FEFF	FINAL EFFLUENT	
FG	FLAP GATE	
FH	FIRE HYDRANT	
FILT	FILTRATE	
FIN	FINISH	
FIN FL	FINISHED FLOOR	
FIN GR	FINISHED GRADE	
FL	FLOOR, FLOW LINE	
FLA	FOUL AIR	
FLD	FILTER DRAIN	
FLE	FILTER EFFLUENT	
FLEX	FLEXIBLE	
FLG	FLANGE, OR FLANGED	
FLR	FILTER	
FM	FORCE MAIN	
FND	FOUNDATION	
FO	FUEL OIL	
FOB	FLAT ON BOTTOM	
FOT	FLAT ON TOP	
FPM	FEET PER MINUTE	
FPP	FLEXIBLE PLASTIC PIPE	
FRP	FIBERGLASS REINFORCED PLASTIC	
FRPP	FIBERGLASS REINFORCED PLASTIC PIPE	
FRS	FROTH SPRAY	
FS	FAR SIDE	
FSTN	FASTEN(ED)	
FT or '	FOOT, FEET	
FTG	FOOTING	
FUP	FUEL DISPENSER	
FV	FLAP VALVE	
FW	FLUSHING WATER	
FX	FIRE EXTINGUISHER	
FXC	FIRE EXTINGUISHER CABINET	
FXE	FIRE EXTINGUISHER - ELECTRICAL	
G		
G	GAS, GROUND, GUTTER	
GA	GAUGE or GAGE	
GAL	GALLONS	
GALV	GALVANIZE(D)	
GAV	GRAVITY VENTILATOR	
GB	GRADE BREAK	
GBT	GRAVITY BELT THICKENER	
GC	GROOVED COUPLING	
GEL	GRAVITY EXHAUST LOUVER	
GEN	GENERAL, GENERATOR	
GL	GLASS	
GLV	GLOBE VALVE	
GM	GAS METER	
GND	GROUND	
GPD	GALLONS PER DAY	
GPM	GALLONS PER MINUTE	
GR	GRADE	
GRTG	GRATING	
GRV	GRAVITY VENTILATOR	
GSP	GALVANIZED STEEL PIPE	
GV	GATE VALVE	
GYP	GYPSUM	
H		
H	EXPLOSION-PROOF, HIGH, HORIZONTAL	
H1E	HOOK ONE END	
H2E	HOOK TWO ENDS	
HAS	HEADED ANCHOR STUD	
HB	HOSE BIBB	
HDPE	HIGH DENSITY POLYEHTYLENE	
HDW	HARDWARE	
HDWL	HEADWALL	
HEF	HOOD EXHAUST FAN	
HGT	HEIGHT	
HORIZ	HORIZONTAL	
HP	HEAT PUMP, HORSEPOWER, HIGH PRESSURE	
HPA	HIGH PRESSURE AIR	
HPT	HIGH POINT	
HPU	HEAT PUMP UNIT AIR	
HR	HANDRAIL, HOSE REEL, HOUR	
HSF	HOOD SUPPLY FAN	
HSS	HOLLOW STRUCTURAL SECTION (STEEL)	
HTX	HEAT EXCHANGER	
HV	HOSE VALVE	
HW	HOT WATER	
HWL	HIGH WATER LEVEL	
HWR	HOT WATER RETURN	
HWS	HOT WATER SUPPLY	
HxW	HEIGHT BY WIDTH	
HYD	HYDRANT	
I		
IA	INSTRUMENT AIR	
ID	INSIDE DIAMETER, INSIDE DIMENSION, IDENTIFICATION	
I.F.	INSIDE FACE	
IN or "	INCHES	
INCL	INCLUDE, INCLUDING	
INF	INFLUENT	
INJ	INJECTOR	
INSTR	INSTRUMENTATION	
INSUL	INSULAT(E)(ED)(ING)(ION)	
INT	INTERIOR	
INV	INVERT	
IP	IRON PIPE	
ISR	INTRINSICALLY SAFE RELAY	
J		
JST	JOIST	
JT	JOINT	
K		
KGV	KNIFE GATE VALVE	
L		
L	ANGLE (STRUCTURAL), LENGTH, LOUVER	
LAB	LABORATORY	
LAV	LAVATORY	
LB(S)	POUND(S)	
LDF	LIQUID DIESEL FUEL	
LDFR	LIQUID DIESEL FUEL RETURN	
LF	LINEAL FEET	
LG	LONG	
LH	LEFT HAND	
LHR	LEFT HAND REVERSE	
LHRA	LEFT HAND REVERSE ACTIVE	
LHRB	LEFT HAND REVERSE BEVEL	
LL	LIVE LOAD	
LLH	LONG LEG HORIZONTAL	
LLV	LONG LEG VERTICAL	
LP	LOW PRESSURE	
LPA	LOW PRESSURE AIR	
LPG	LIQUIFIED PROPANE GAS	
LPT	LOW POINT	
LR	LONG RADIUS	
LS	LAB SINK	
LT	LEFT	
LWL	LOW WATER LEVEL	
M		
M	MOTOR	
MAINT	MAINTENANCE	
MAN	MANUAL	
MASY	MASONRY	
MATL	MATERIAL	
MAU	MAKE-UP AIR UNIT	
MAX	MAXIMUM	
MB	MACHINE BOLT	
MC	MECHANICAL COUPLING	
MCJ	MASONRY CONTROL JOINT	
MD	MOTORIZED DAMPER	
MECH	MECHANICAL	
MET	METAL	
MFR	MANUFACTURER	
MG/L	MILLIGRAMS PER LITER	
MGD	MILLION GALLONS PER DAY	
MH	MANHOLE	
MIN	MINIMUM	
MISC	MISCELLANEOUS	
MIX	MIXER	
MJ	MECHANICAL JOINT	
MK	MARK	
ML	MIXED LIQUOR	
MO	MASONRY OPENING	
MOD	MODIFIED	
MOIST	MOISTURE	
MON	MONUMENT	
MOS	MOISTURE SEPARATOR	
MPM	METERING PUMP	
MS	MOP SINK	
MTD	MOUNTED	
N		
N	NORTH, NEUTRAL	
NA	NOT APPLICABLE	
NC	NORMALLY CLOSED	
NEV	VALVE, NEEDLE	
NG	NATURAL GRADE, NATURAL OR LP GAS	
NIC	NOT IN CONTRACT	
NO., #	NUMBER	
NOM	NOMINAL	
NPT	NATIONAL PIPE THREAD	
NPW	NON-POTABLE WATER	
NS	NEAR SIDE	
NTS	NOT TO SCALE	
O		
O	OPEN	
OBD	OPPOSED BLADE DAMPER	
OC	ON CENTER	
OD	OUTSIDE DIAMETER, OUTSIDE DIMENSION	
OED	OPEN EQUIPMENT DRAIN	
O.F.	OUTSIDE FACE	
OFL	OVERFLOW	
OPNG	OPENING	
OPP	OPPOSITE	
OPP HND	OPPOSITE HAND	
OZ	OUNCE	
P		
P	POLE	
PBL	POLYMER BLENDER	
PC	POINT OF CURVATURE	
PCC	PLANT CONTROL CENTER	
PCCP	PRESTRESSED CONCRETE CYLINDER PIPE	
PCP	PROGRESSIVE CAVITY PUMP	
PD	POSITIVE DISPLACEMENT, PLANT DRAIN	
PD, PLD	PULSATION DAMPENER	
PDP	POSITIVE DISPLACEMENT PUMP	
PE	PLAIN END	
PERP	PERPENDICULAR	
PG	PRESSURE GAUGE	
PH	PHASE, PHYSICALLY HANDICAPPED	
PI	POINT OF INTERSECTION	
PIV	POST INDICATOR VALVE	
PL	PLATE, PROPERTY LINE	
PLAS	PLASTIC	
PLCS	PLACES	
PLS	POLYMER SOLUTION	
PLWD	PLYWOOD	
PMP	PUMP	
PNL(S)	PANEL(S)	
POL	POLYMER	
POLY	POLYETHYLENE	
POS	POSITION	
POW	POTABLE WATER	
PP	POWER POLE	
PPMV	PARTS PER MILLION (VOLUME)	
PRC	POINT OF REVERSE CURVATURE	
PREFAB	PREFABRICATED	
PRG	PRESSURE REGULATOR	
PRI	PRIMARY	
PROJ	PROJECTION	
PRR	PRESSURE OR VACUUM RELIEF VALVE	
PRV	PRESSURE REDUCING VALVE, PRESSURE REGULATION VALVE, PRESSURE RELIEF VALVE	
PS	PUMP STATION, PIPE SUPPORT	
PSF	POUNDS PER SQUARE FOOT	
PSG	PRESSURE GAUGE	
PSI	POUNDS PER SQUARE INCH	
PSIG	POUNDS PER SQUARE INCH GAUGE	
PT	POINT, POINT OF TANGENCY	
PV	PLUG VALVE	
PVC	POINT OF VERTICAL CURVATURE, POLYVINYL CHLORIDE	
PVDF	POLYVINYLIDENEFLUORIDE	
PVI	POINT OF VERTICAL INTERSECTION	
PVMT	PAVEMENT	
PVT	POINT OF VERTICAL TANGENCY	
PLW	PLANT WATER	
Q		
QTY	QUANTITY	
R		
R/W	RIGHT OF WAY	
RAD	RADIUS, RADIAL	
RAS	RETURN ACTIVATED SLUDGE	
RCP	REINFORCED CONCRETE PIPE	
RCCP	REINFORCED CONCRETE CYLINDER PIPE	
RD	ROOF DRAIN	
RDL	ROOF DRAIN LINE	
RDOF	ROOF DRAIN OVERFLOW	
RECIRC	RECIRCULATING	
RED	REDUCER, ROOF EQUIPMENT DRAIN	
REF	REFERENCE	
REG	REGULATOR, REGULATING	
REINF	REINFORCE(D)(ING)(MENT)	
REJ	RUBBER EXPANSION JOINT	
REQD	REQUIRED	
RER	REACTOR	
RES	RESERVOIR	
REV	REVISION, REVERSE	
RF	RETURN FAN	
RG	RETURN GRILLE RUBBER GASKET	
RH	RIGHT HAND	
RHR	RIGHT HAND REVERSE	
RHRA	RIGHT HAND REVERSE ACTIVE	
RHRB	RIGHT HAND REVERSE BEVEL	
RLS	REGISTERED LAND SURVEYOR	
RM	ROOM	
RO	ROUGH OPENING	
ROT	ROTAMETER	
RP	RADIUS POINT	
RPM	REVOLUTIONS PER MINUTE	
RPMP	REINFORCED PLASTIC MORTAR PIPE	
RR	RETURN REGISTER	
RSR	RISER	
RT	RIGHT	
RTF	ROTARY FEEDER	
RTU	ROOF TOP UNIT	
RUD	RUPTURE DISK	
RW	RECLAIMED WATER, REUSE WATER	
RWR	RECLAIMED WATER RETURN	
RWW	RAW WASTEWATER	
S		
S/W	SIDEWALK	
S	SOUTH, SWITCH, SLOPE	
SA	SAMPLE	
SC	SECONDARY CLARIFIER	
SCB	SCRUBBER	
SCD	SMOKE CONTROL DAMPER	
SCFM	STANDARD CUBIC FEET PER MINUTE	
SCH	SCHEDULE	
SCO	SURFACE CLEANOUT	
SCR	BAR SCREEN	
SCR	SILICON CONTROL RECTIFIER	
SD	SMOKE DETECTOR, SPLITTER DAMPER, STORM DRAIN	
SDL	SUMP DISCHARGE DRAIN LINE	
SDO	SLUDGE DRAWOFF	
SE	SECONDARY EFFLUENT	
SEC	SECONDARY, SECOND	
SECT	SECTION	
SED	SEDIMENTATION	
SEP	SEPT(IC)	
SF	SUPPLY FAN	
SFW	SOFTENED WATER	
SG	SUPPLY GRILLE	
SGS	STORE FRONT GLAZING SYSTEM	
SHD	SHOWER DRAIN	
SHDR	SOLIDS HANDLING-RECYCLE	
SHR	SHOWER	
SHT	SHEET	
SIM	SIMILAR	
SK	SKIMMINGS	
SL	SLOPE, SLUDGE	
SLC	SLUDGE COLLECTOR DRIVE	
SLG	SLIDE GATE	
SLV	SLEEVE VALVE	
SMP	SAMPLER, SUMP PUMP	
SN	SUPERNATANT OR SUBNATANT	
SOL	SOLUTION	
SP	STATIC PRESSURE, SET POINT	
SPD	SUMP PUMP DRAIN	
SPDT	SINGLE POLE DOUBLE THROW	
SPEC(S)	SPECIFICATION(S)	
SPL	SPLITTER BOX	
SPR	SPARE	
SPS	SAMPLE SINK	
SPW	SAMPLE WATER	
SQ	SQUARE	
SQ FT	SQUARE FEET	
SQ IN(S)	SQUARE INCH(ES)	
SR	SHORT RADIUS, SUPPLY REGISTER	
SRL	SCRUBBER RECIRCULATION LIQUID (CAUSTIC)	
SS	SANITARY SEWER, SELECTOR SWITCH	
SSK	SERVICE SINK	
SSL	SECONDARY SLUDGE	
SST	STAINLESS STEEL	
ST	SLUDGE TRANSFER	
STA	STATION	
STB	STABILIZER	
STD(S)	STANDARDS(S)	
STIFF	STIFFENER	
STIR	STIRRUPS	
STL	STEEL	
STM	STEAM	
STP	STEEL PIPE	
STR	STRAINER	
STRUCT	STRUCTURAL	
SUG	SLUICE GATE	
SUPT	PIPE SUPPORT, SUPPORT	
SV	SERVICE VALVE, SHUTOFF VALVE, SOLENOID VALVE	
SW	SANITARY WASTE	
SWR	SEAL WATER	
SYM	SYMMETRICAL	
SYN	SYNTHETIC	
T		
T	TANGENT LENGTH, THERMOSTAT, TIMER	
T&B	TOP AND BOTTOM	
TAS	THREADED ANCHOR STUD	
TBM	TEMPORARY BENCHMARK	
TC	TOP OF CURB	
TCV	TEMPERATURE CONTROL VALVE	
TDH	TOTAL DYNAMIC HEAD	
TDR	TIME DELAY RELAY, TOWEL DISPENSER/RECEPTACLE	
TEL	TELEPHONE	
TH	TEST HOLE	
THK	THICKENER, THICKNESS, THICK	
TKS	THICKENED SLUDGE	
TLV	TELESCOPING VALVE	
TMH	TELEPHONE MANHOLE	
TMP	TEMPERATURE	
TNK	TANK	
T.O.	TOP OF	
TOC	TOP OF CONCRETE	
TOG	TOP OF GRATING	
TOM	TOP OF MASONRY	
TOS	TOP OF STEEL	
T.O.W.	TOP OF WALL	
TR	TRIAD (THREE CONDUCTOR SHIELDED CABLE), TIMING RELAY	
TRD	TREAD	
TS	THICKENER SUPERNATANT OR SUBNATANT	
TSD	THICKENED SLUDGE DECANT	
TSPL	TURBIDIMETER SAMPLE	
TSTAT	THERMOSTAT	
TTB	TELEPHONE TERMINAL BOARD	
TUR	TURBINE	
TV	TURNING VANES	
TWV	THREE-WAY VALVE	
TYP	TYPICAL	
U		
UC	UNDERCUT	
UG	UNDERGROUND	
UHMWPE	ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE	
UHMW	ULTRA HIGH MOLECULAR WEIGHT	
UNO	UNLESS NOTED OTHERWISE	
US	UTILITY SINK	
V		
V	VALVE	
VAR	VARIES	
VB	VALVE BOX	
VCP	VITRIFIED CLAY PIPE	
VEC	VINYL ESTER COATING	
VERT	VERTICAL	
VFR	VOLUMETRIC FEEDER	
VG	VACUUM GAUGE, VALLEY GUTTER	
VOL	VOLUME	
VRV	VACUUM REGULATING VALVE	
VTR	VENT THROUGH ROOF	
W		
W	WEST, WIDTH	
W/	WITH	
W/O	WITHOUT	
WAS	WASTE ACTIVATED SLUDGE	
WCO	WALL CLEANOUT	
WEF	WALL EXHAUST FAN	
WF	WALL FITTING, WASH FOUNTAIN	
WH	WATER HEATER	
WI	WEIGHT INDICATOR	
WL	WALL LOUVER, WATER LEVEL	
WM	WATER METER	
WOD	WASTE OIL DRAIN	
WP	WEATHERPROOF, WATERPROOF	
WPT	WORKING POINT	
WRG	WEIR GATE	
WRS	WATER SOFTENER	
WS	WATER SURFACE	
WSTP	WATERSTOP	
WT	WALK THROUGH, WEIGHT	
WTF	WATER TREATMENT FACILITY	
WTP	WATER TREATMENT PLANT	
WTR	WATER	
WV	WATER CONTROL VALVE	
WW	WASTEWATER	
WWF	WELDED WIRE FABRIC	
WWTF	WASTEWATER TREATMENT FACILITY	
WWTP	WASTEWATER TREATMENT PLANT	
Y		
Y	WYE	
YCO	YARD CLEANOUT	
YH	YARD HYDRANT	

REV	DATE	BY	DESCRIPTION

DESIGNED SSB
DRAWN TSD
CHECKED PAC
DATE JUNE 2020

REGISTERED PROFESSIONAL ENGINEER — No. 4939129-2202 — PATRICK A. CARLSON — STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
GENERAL
ABBREVIATIONS

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

JOB NO. 10851A.10
DRAWING NO. G06
SHEET NO. 6 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A100G06.dgn

Plot Date: 15-JUN-2020 12:26:28 PM
User: svcPW
Scale: 2:1
PlotScale: 2:1
PlotTable: Std_Pen_v0905.pen
DesignScript: Carollo_Std_Pen_v0905.pen
ColorTable: gshade.ctb
Model: Layout1
LAST SAVED BY: tdonnell

WELBY JACOBS CANAL

EXISTING WEST RECLAIM POND

EXISTING EAST RECLAIM POND

EXISTING FWW CLARIFIER
W.E. 4710.60

W.E. 4714.56

W.E. 4720.21

EXISTING TREATMENT BUILDING

EXISTING LOWER POND

EX 36" PO
EX 8" SS
EX 36" WW
EX 48" WW
EX 14" SL
EX 48" PO
EX FH
EX 30" WW
EX 8" SL
EX 12" SL
EX 90" PO
EX 8" PW
EX 90" RW

MATCH LINE SEE DWG C02

0 20' 40' 80'
SCALE: 1" = 40'

KEY NOTES:

1. REMOVE EXISTING 14" SL PIPELINE AND MANHOLES TO THE EXTENTS SHOWN. REPLACE WITH NEW 24" SL PIPELINE AND MANHOLES. MATCH INVERTS WITH EXISTING 14" PIPELINE. SEE DRAWINGS C01 AND C02 FOR ADDITIONAL DETAILS.
2. DEMOLISH EXISTING GATE VALVE AND OPERATOR WITHIN THE CLARIFIER INLET STRUCTURE. PATCH CONCRETE.
3. PIPE SECTION TO BE REMOVED AND PLUGGED. SEE DRAWING C03.
4. REMOVE EXISTING 8" SL TO THE EXTENTS SHOWN. REPLACE WITH NEW BWR PIPELINE IN THE SAME TRENCH. CAP OR PLUG 8" SL AND ABANDON IN PLACE.
5. STAGE CONSTRUCTION BETWEEN MANHOLES. SHUTDOWNS OVER 72 HOURS ARE NOT PERMITTED.
6. 8" SL TO BE ABANDONED AT THE BOX. CUT PIPE OFF AT THE BOX AND GROUT FILL.
7. REMOVE EXISTING BAFFLE.

REV	DATE	BY	DESCRIPTION

DESIGNED SSB
DRAWN TSD
CHECKED PAC
DATE JUNE 2020

REGISTERED PROFESSIONAL ENGINEER
No. 4939129-2202
PATRICK A. CARLSON
STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
DEMOLITION
SITE DEMOLITION PLAN 1

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

JOB NO. 10851A.10
DRAWING NO. DC01
SHEET NO. 7 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A1000DC01.dgn

EX 14" SL

EXISTING SLUDGE LAGOON OUTLET BOX NO. 1

EXISTING SLUDGE LAGOON OUTLET BOX NO. 2

EXISTING SLUDGE LAGOON OUTLET BOX NO. 3

EXISTING SLUDGE LAGOON NO. 1

EXISTING SLUDGE LAGOON NO. 2

EXISTING SLUDGE LAGOON NO. 3

W.E. 4739.24

MATCH LINE SEE DWG C01

EX 12" SL

EX 90" RW

EX 66" RW

EX 78" RW

KEY NOTES:

1. REMOVE EXISTING 14" SL PIPELINE AND MANHOLES TO THE EXTENTS SHOWN. REPLACE WITH NEW 24" SL PIPELINE AND MANHOLES. MATCH INVERTS WITH EXISTING 14" PIPELINE. SEE DRAWINGS C01 AND C02 FOR ADDITIONAL DETAILS.
2. STAGE CONSTRUCTION BETWEEN MANHOLES. SHUTDOWNS OVER 72 HOURS ARE NOT PERMITTED.

0 20' 40' 80'

SCALE: 1" = 40'

REV	DATE	BY	DESCRIPTION

DESIGNED SSB
DRAWN TSD
CHECKED PAC
DATE JUNE 2020

REGISTERED PROFESSIONAL ENGINEER No. 4939129-2202 PATRICK A. CARLSON STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT

RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS

DEMOLITION

SITE DEMOLITION PLAN 2

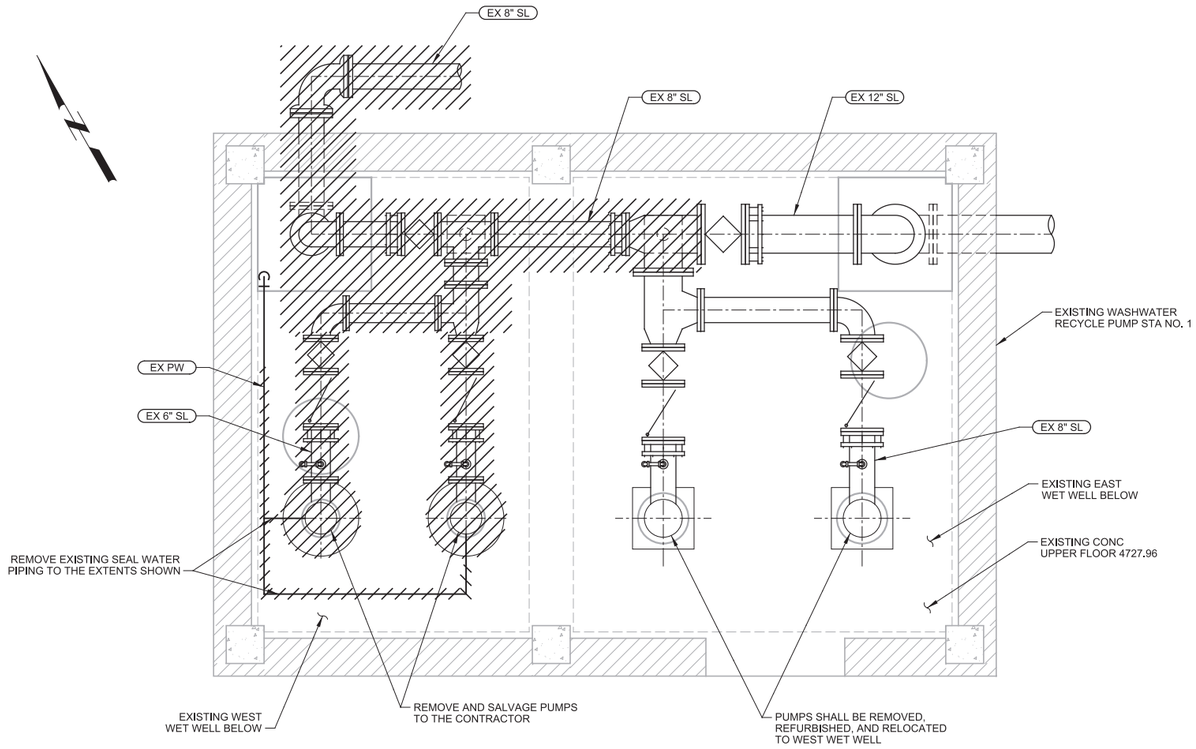
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 10851A.10
DRAWING NO. DC02
SHEET NO. 8 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A1000DC02.dgn

GENERAL NOTES:

1. COORDINATE DEMOLITION OF EXISTING EQUIPMENT WITH THE OWNER PER SECTION 01140 - WORK RESTRICTIONS.



A DEMOLITION UPPER PLAN

A / C03

SCALE: 1/2" = 1'-0"
FILE: 10851A1001M9101

REV	DATE	BY	DESCRIPTION

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REGISTERED PROFESSIONAL ENGINEER — No. 4939129-2202 — PATRICK A. CARLSON — STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
DEMOLITION
EXISTING WASHWATER RECYCLE PUMP STA. NO. 1
DEMOLITION UPPER PLAN

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

JOB NO. 10851A.10
DRAWING NO. 10D01
SHEET NO. 9 OF 70

PROJECT NO. 10851A.10
FILE NAME: 10851A1010D01.dgn

Plot Date: 15-JUN-2020 12:28:00 PM
User: svcPW
PlotScale: 2:1
DesignScript: Carollo_Std_Pen_v0905.pen
ColorTable: gshade.ctb
Model: Layout1
LAST SAVED BY: tdonnell

NOTES

GENERAL PIPELINE NOTES

1. DIMENSIONS TO STRUCTURES, REFERENCED PIPING, PAVING, AND OTHER IMPROVEMENTS IS APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND CONDITIONS 14 DAYS IN ADVANCE OF THE CONSTRUCTION PROGRESS. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO THE ENGINEER.
2. CONTRACTOR SHALL MAINTAIN A MINIMUM CLEARANCE OF 10 FEET HORIZONTAL AND 3 FEET VERTICAL BETWEEN THE SEWER LINES AND EXISTING WATER LINES.
3. REFER TO THE GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION ON THE GEOTECHNICAL CONDITIONS AND BORING INFORMATION.
4. ALL TRENCHING AND BACKFILL SHALL BE IN ACCORDANCE WITH TYPICAL DETAIL CP111 UNLESS NOTED OTHERWISE. ALL BURIED VALVE INSTALLATIONS SHALL BE SIMILAR TO TYPICAL DETAIL CP716, THE CONTRACTOR SHALL SHORE, SUPPORT, AND PROTECT EXISTING STRUCTURES AND FACILITIES IN ACCORDANCE WITH SECTION 02260.
5. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES ADJACENT TO THE WORK, THROUGHOUT THE CONSTRUCTION PERIOD.
6. ALL OPEN TRENCHES, WORK AREAS AND SHAFTS SHALL HAVE A SHORING SYSTEM IN ACCORDANCE WITH OSHA, STATE AND LOCAL REQUIREMENTS.
7. THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, COUNTY, AND LOCAL LAWS AND ORDINANCES RELATING TO THE SAFETY AND CHARACTER OF WORK, EQUIPMENT AND PERSONNEL. THIS INCLUDES BUT IS NOT LIMITED TO SHEETING, SHORING, BRACING, VENTILATION, CONFORMANCE WITH TRAFFIC CONTROL AND MAINTENANCE OF BARRICADES AND WARNING DEVICES.
8. LAYOUT DRAWINGS ARE REQUIRED FOR PIPING INSTALLED.
9. PROVIDE A MINIMUM OF 36 INCHES OF COVER ON ALL PIPELINES UNLESS OTHERWISE SHOWN OR DIRECTED.
10. STRAIGHT ALIGNMENT AND UNIFORM SLOPES SHALL BE MAINTAINED BETWEEN INVERTS SHOWN.
11. ADJUST ALL VALVE BOXES, VAULTS, PULL BOXES, AND MANHOLES TO FINISHED GRADE UNLESS OTHERWISE SHOWN OR DIRECTED. MANHOLES IN OPEN FIELDS SHALL BE SET ONE FOOT ABOVE FINISHED GRADE AND VAULTS SHALL BE SIX INCHES ABOVE FINISHED GRADE UNLESS OTHERWISE SHOWN OR DIRECTED.
12. CONTRACTOR SHALL TAKE ALL PRACTICAL PRECAUTIONS TO MINIMIZE DISTURBANCES TO STREAMS, VEGETATION, TREES AND CROP LANDS, WHEREVER PRACTICAL LEAVE EXISTING TREES AND VEGETATED AREAS UNDISTURBED. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING FACILITIES AND UTILITIES SHOWN OR NOT SHOWN WHICH ARE TO REMAIN IN PLACE FROM DAMAGE. ALL FACILITIES DAMAGED BY THE CONTRACTOR'S OPERATIONS SHALL BE EXPEDITIOUSLY REPAIRED OR RECONSTRUCTED TO THE ENGINEER'S SATISFACTION AT THE CONTRACTOR'S EXPENSE WITHOUT ADDITIONAL COMPENSATION.

UTILITY NOTES

1. EXISTING UTILITIES IN THE PROJECT MAY BE IN A FRAGILE CONDITION. THE CONTRACTOR SHALL EXERCISE NECESSARY CAUTION WHEN WORKING NEAR EXISTING UTILITIES.
2. PLAN LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES ARE BASED ON RECORD DRAWINGS, POTHOLING AND SURVEY INFORMATION AND ARE CONSIDERED APPROXIMATE ONLY. WHERE NO ELEVATIONS ARE SHOWN, NO INFORMATION WAS AVAILABLE DURING THE DESIGN PERIOD. ALL INFORMATION SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
3. SOME UTILITY SERVICES MAY NOT BE SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL TAKE NECESSARY MEASURES TO LOCATE AND PROTECT SERVICE DURING CONSTRUCTION.
4. THE LOCATION, SIZE, AND MATERIALS OF EXISTING UNDERGROUND UTILITIES SHOWN ON THESE DRAWINGS ARE APPROXIMATE AND IS SHOWN FOR BIDDING PURPOSES. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT THE UTILITY OWNERS SO THAT THOSE UTILITIES MAY MARK THE LOCATION OF THEIR UTILITIES PRIOR TO ANY EXCAVATION ACTIVITIES. THE CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE AND PROTECT EXISTING UTILITIES. THE CONTRACTOR SHALL CALL BLUE STAKES OF UTAH AT 1-800-662-4111 PRIOR TO ANY EXCAVATION ACTIVITIES.

EARTHWORK NOTES

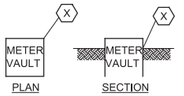
1. CLEAR THE CONSTRUCTION AREA OF NATURAL OBSTRUCTIONS EXISTING FOUNDATIONS, BUILDINGS, FENCES, LUMBER, WALLS, STUMPS, BRUSH, WEEDS, RUBBISH, TREES, BOULDERS, AND ANY OTHER ITEMS WHICH INTERFERES WITH CONSTRUCTION OPERATIONS OR ARE DESIGNATED FOR REMOVAL.
2. GRUB OUT AND DISPOSE OF TREE TRUNKS AND ROOT MATERIAL BELOW THE GROUND SURFACE REMAINING AFTER CLEARING.
3. DISPOSE OF THE UNACCEPTABLE BACKFILL MATERIAL FROM THE CLEARING AND GRUBBING OPERATIONS AT NO ADDITIONAL COST TO THE OWNER.
4. STRIP AND STOCKPILE THE TOPSOIL. THE DEPTH OF STRIPPING MAY BE ESTIMATED TO BE 12-INCHES BUT WILL BE DETERMINED IN THE FIELD AS SOIL CONDITIONS DICTATE BY THE FIELD ENGINEER.
5. ROCK AND AGGREGATE STORAGE AREAS SHALL BE RESTORED BY EXCAVATING ANY SOILS CONTAINING ROCK OR AGGREGATE AND BACKFILLING WITH TOPSOIL. SOIL REMOVED THAT COMPLIES WITH THE EARTHWORK PIPE BEDDING SPECIFICATION MAY BE USED FOR TRENCH BACKFILL ABOVE THE PIPE ZONE AND 3 FEET BELOW FINISHED GRADE.
6. THE CONTRACTOR SHALL SHORE, SUPPORT, AND PROTECT EXISTING STRUCTURES AND FACILITIES IN ACCORDANCE WITH SECTION 02260.
7. WHERE REPLACING EXISTING PAVEMENT, MATCH EXISTING GRADE AT EXISTING STRUCTURES AND BUILDINGS, EXCEPT WHEN OTHERWISE SHOWN OR DIRECTED.
8. ALL DEBRIS FROM DEMOLITION IS TO BE DISPOSED OF PROPERLY OFF SITE.
9. ALL EARTHWORK INCLUDING BUT NOT LIMITED TO CLEARING, GRUBBING, EXCAVATING, AND BACKFILLING SHALL BE IN STRICT CONFORMANCE WITH THE SPECIFICATIONS AND THE RECOMMENDATIONS OUTLINED IN THE GEOTECHNICAL REPORT.

LINE WORK

NEW STRUCTURES
EXISTING STRUCTURES (SCREENED)
NEW PIPING (TRIPLE LINES)
NEW PIPING (SINGLE LINE)
EXISTING PIPING (TRIPLE LINES) (SCREENED)
EXISTING PIPING (SINGLE LINE)(SCREENED)
HIDDEN LINE
CENTER, MONUMENT, OR SURVEY LINE
GUARDRAIL
EXISTING CONTOURS (SCREENED) — 310
NEW CONTOURS (MAJOR) — 310
NEW CONTOURS (MINOR)
NEW FENCE — X — X — X
EXISTING FENCE (SCREENED) — X — X — X
REMOVE OR ABANDONED (CROSS HATCHING: FENCE SHOWN AS EXAMPLE)
POWER POLE & LINE — E — PP — E
PROPERTY LINE OR RIGHT OF WAY
EDGE OF PAVEMENT
SLOPE
NEW ROAD
FUTURE ROAD
EXISTING ROAD (SCREENED)
CURB & GUTTER
CURB
ROAD CENTERLINE SWALE (3' WIDE)
ROAD CROSS GUTTER (10' WIDE)
FLOWLINE
FUTURE IMPROVEMENTS

COORDINATES

PLANT COORDINATES AT STRUCTURES (OUTSIDE FACE AT FINISHED GRADE)



COORDINATES (IN FEET)

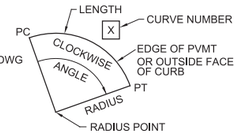
ELEVATION/SLOPES

CONTROL POINT — XX
SPOT ELEVATION (AT PAVEMENT) — XX.XX / PVMT
SPOT ELEVATION (AT DIRT) — XX.X
SPOT ELEVATION (AT FLOWLINE) — XX.XX / FL
SPOT ELEVATION (AT HIGH POINT) — XX.XX / (HP)
SPOT ELEVATION (AT TOP CURB) — XX.XX / TC
SPOT ELEVATION (FINISH ELEV) — XX.XX / FIN SLAB/ FIN SLAB
ELEVATION — X 1325.00 NEW; 1328.2 EXISTING
SLOPE CALLOUT — 2:1 = 2/1; 3:1 = 3/1
SURFACE SLOPE — 2%
ROADWAY GRADE — S=0.0100 (FT/FT)
DRAINAGE DITCH OR CHANNEL GRADE — S=0.0020 (FT/FT)

ROADWAY/PIPE CURVES

ROADWAY/PIPE CURVE

(SEE TABLE ON EACH GRADING & PAVING OR CIVIL PIPING DWG WITH ROADWAY/PIPE CURVES.)



PATTERNING

STABILIZED CONSTRUCTION ENTRANCE
STAGING AREA
CONCRETE PAVEMENT
RIP RAP
ASPHALT PAVEMENT

SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	BENCH MARK		TRANSIT POINT		FLANGE
	VERTICAL CONTROL POINT		ANCHOR POINT		VALVE
	MONUMENT		PARSHALL FLUME		CLOSED VALVE
XX	SOIL BORING LOCATIONS		GUARD POST		VALVE W/ CONNECTION
X	TEST BORING LOCATIONS		HEADWALL		CLOSED VALVE W/ CONNECTION
X	PERCOLATION TEST LOCATIONS		ROCK WALL		OPERATOR/ OPERATOR CLOSED
PH PHXX	POTHOLE/ POTHOLE NUMBER		RIP RAP		VALVE W/ OPERATOR
IP	IRON PIN		SHRUB/HEDGE		CLOSED VALVE W/ OPERATOR
IR	IRON ROD		TREE		VALVE W/ OPERATOR AND CONNECTION
	DATUM POINT		SIGN/SIGN POST		CLOSED VALVE W/ OPERATOR AND CONNECTION
			LIGHT		VALVE W/ TWO CONNECTIONS
			LIGHT POLE		CLOSED VALVE W/ TWO CONNECTIONS
			HIGH LIGHT POLE		VALVE W/ OPERATOR AND TWO CONNECTIONS
	FLOW ARROW		TRAFFIC LIGHT POLE		CLOSED VALVE W/ OPERATOR AND TWO CONNECTIONS
	FLOW/SLOPE DIRECTION		TRAFFIC LIGHT POLE		GATE VALVE W/ BLIND FLANGE AND CONNECTION
	DIRECTION ARROW		SINGLE TRAFFIC LIGHT POLE		CHECK VALVE
	PROPERTY HOOK		GUYED LIGHT POLE		PLUG VALVE
	MANHOLE (PLAN)		UTILITY POLE		CLOSED PLUG VALVE
			UTILITY POLE GUY WIRE		PIPE CAP OR CONNECTION
	MANHOLE (PROFILE)	PP	POWER POLE		CAP OR TURN DOWN
		MC MC	PA SPEAKER		CROSS
	CURB MANHOLE		2 WAY PA SPEAKER		REDUCER
	CATCH BASIN (SQUARE)		3 WAY PA SPEAKER		REDUCER W/ CONNECTION
	CATCH BASIN (ROUND)		4 WAY PA SPEAKER		REDUCER W/ CONNECTION
	DROP INLET		FIRE HYDRANT - 2 WAY		REDUCER FLANGED
	DROP MANHOLE		FIRE HYDRANT - 3 WAY		REDUCER W/ FLANGE AND CONNECTION
	ELECTRICAL MANHOLE AND PULL BOX		YARD HYDRANT		REDUCER W/ TWO CONNECTIONS
P	PULL BOX	CO	CLEANOUT		
T	TELEPHONE PEDESTAL		AIR RELEASE VALVE		FLANGED TEE
CTV	CABLE TV		BLOW OFF VALVE		TEE W/ CONNECTIONS
	X JUNCTION BOX		HOSE BIBB		TEE W/ FLANGE AND CONNECTIONS
	/ JUNCTION BOX		SERVICE CONNECTION		
	I JUNCTION BOX		BURIED VALVE		
	POWER TOWER		GAS VALVE OPEN/CLOSED		
	GATE		GAS METER		

*** ALL SYMBOLS SHOWN AS NEW. EXISTING SYMBOLS ARE SCREENED.

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carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

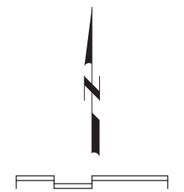
JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
CIVIL
GENERAL CIVIL NOTES, LEGEND AND SYMBOLS

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

JOB NO. 10851A.10
DRAWING NO. GC01
SHEET NO. 10 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A100GC01.dgn

LAST SAVED BY: tdonnell Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Std_Pen_v0905.pen PlotScale: 2:1 Plot Date: 15-JUN-2020 12:28:38 PM User: svcPW



SCALE APPROX: 1" = 100'

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JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
CIVIL
CONTRACTOR STAGING AREAS

VERIFY SCALES
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0 1"
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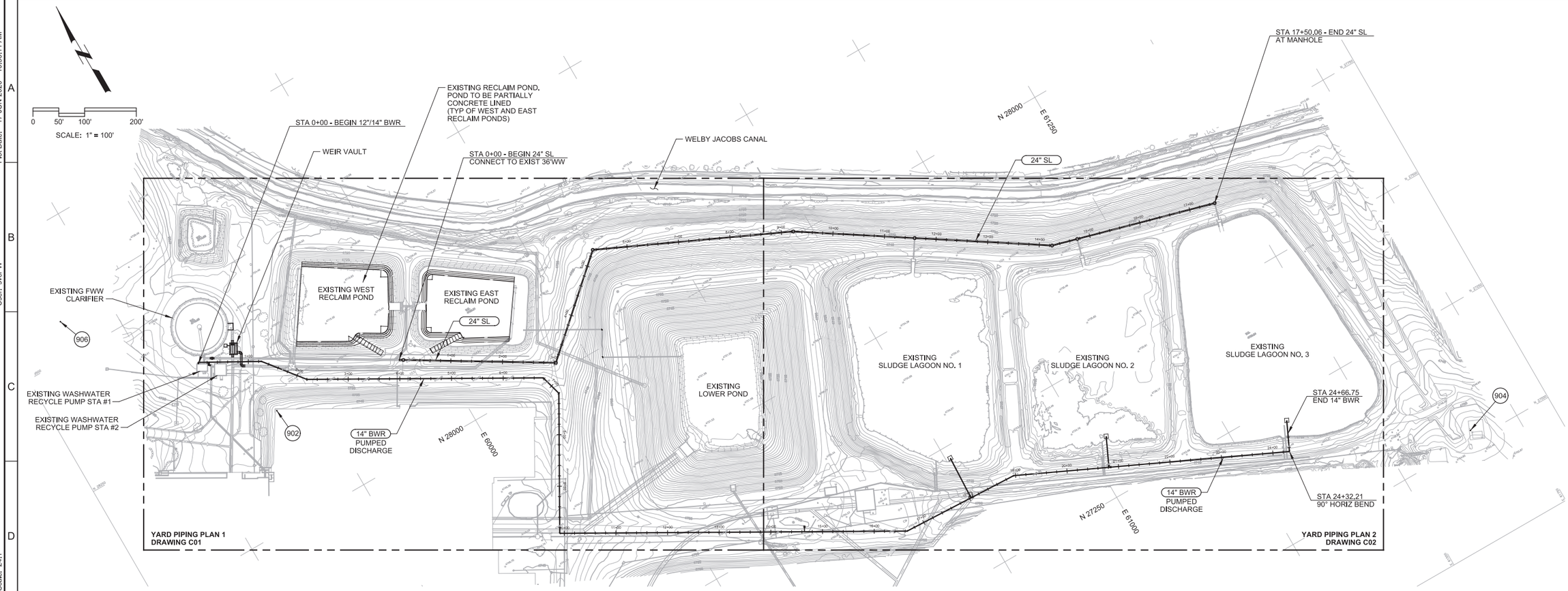
JOB NO. 10851A.10
DRAWING NO. GC02
SHEET NO. 11 OF 70



SURVEY CONTROL POINTS

POINT NO.	DESCRIPTION	NORTHING	EASTING	ELEV	REMARKS
* 901	RBB CONTROL POINT #1	29142.02	59362.55	4726.83	BRASS CAP IN CONCRETE STRUCTURE (NAVD 88)
902	RBB CONTROL POINT #2	28208.20	59675.90	4751.02	BRASS CAP IN CONCRETE STRUCTURE (NAVD 88)
* 903	RBB CONTROL POINT #3	27573.26	59882.29	4750.98	BRASS CAP IN CONCRETE STRUCTURE (NAVD 88)
904	RBB CONTROL POINT #4	27019.81	61657.89	4753.54	BRASS CAP IN CONCRETE STRUCTURE (NAVD 88)
* 905	RBB CONTROL POINT #11	28995.06	59175.57	4725.72	BRASS CAP IN CONCRETE STRUCTURE (NAVD 88)
906	OLD PLANT BENCH MARK	28566.95	59399.20	4731.88	BRASS CAP IN CONCRETE STRUCTURE (NAVD 88); 4728.53 (NGVD 29)

* NOT SHOWN - BEYOND EXTENTS OF PLAN SHOWN.

NEW STRUCTURES

POINT NO.	DESCRIPTION	NORTHING	EASTING	ELEV	REMARKS
1	NW CORNER WEIR VAULT	28367.62	59662.51	4713.84	TOP OF FOOTING
2	SW CORNER WEIR VAULT	28347.63	59651.14	4713.84	TOP OF FOOTING
3	NE CORNER WEIR VAULT	28360.21	59675.54	4713.84	TOP OF FOOTING
4	CENTER - 60" DIA MANHOLE	28018.46	60190.01	4722.91	INVERT
5	CENTER - 60" DIA MANHOLE	28172.09	60361.30	4725.48	INVERT
6	CENTER - 60" DIA MANHOLE	28008.87	60715.34	4729.50	INVERT
7	CENTER - 60" DIA MANHOLE	27880.40	60912.28	4730.22	INVERT
8	CENTER - 60" DIA MANHOLE	27734.85	61135.40	4731.04	INVERT
9	CENTER - 60" DIA MANHOLE	27721.50	61183.93	4731.18	INVERT
10	CENTER - 60" DIA MANHOLE	27648.56	61449.04	4731.94	INVERT

YARD PIPING / MISCELLANEOUS

POINT NO.	DESCRIPTION	NORTHING	EASTING	ELEV	REMARKS
100	48" WW - 90° HORIZ BEND	28340.35	59672.87	4716.18	INVERT
101	48" WW - 90° HORIZ BEND	28317.79	59659.79	4715.96	INVERT
102	END 48" WW - CONNECT TO EXISTING 48" WW	28314.22	59665.65	4715.90	INVERT
103	12" SL - TEE	28350.25	59605.95	4722.60	CENTERLINE
104	12" BWR - 90° HORIZ BEND	28365.28	59590.89	4723.00	CENTERLINE

YARD PIPING / MISCELLANEOUS

POINT NO.	DESCRIPTION	NORTHING	EASTING	ELEV	(CONT'D) REMARKS
105	14" PLUG VALVE	27389.92	60758.92	4744.00	CENTERLINE
106	NOT USED				
107	12" BWR - 12"x14" INCREASER	28357.08	59605.61	4723.00	CENTERLINE
108	14" BWR - TEE	28355.26	59608.88	4729.92	CENTERLINE
109	14" BWR - 45° HORIZ BEND	28005.37	60154.33	4730.46	CENTERLINE
110	14" BWR - 45° HORIZ BEND	27964.46	60165.57	4731.61	CENTERLINE
111	14" BWR - 90° HORIZ BEND	27728.65	60031.45	4742.01	CENTERLINE
112	14" BWR - 27° HORIZ BEND	27396.13	60616.06	4749.40	CENTERLINE
113	14" BWR - TEE	27390.08	60755.24	4741.83	CENTERLINE
114	14" BWR - 22.5° HORIZ BEND	27386.04	60848.25	4739.58	CENTERLINE
115	14" BWR - TEE	27307.86	61016.00	4739.58	CENTERLINE
116	14" BWR - 90° HORIZ BEND	27159.64	61334.03	4739.58	CENTERLINE
117	14" PLUG VALVE	27311.10	61017.51	4739.58	CENTERLINE
118	14" PLUG VALVE	27306.35	61019.25	4739.58	CENTERLINE
119	CONNECT 36"x24" RED TO EXIST 36" WW	28174.93	59930.22	4713.4±	INVERT
120	14" BWR - END OF PIPE	27475.35	60758.95	4735.11	CENTERLINE
121	14" BWR - END OF PIPE	27361.45	61040.98	4735.11	CENTERLINE
122	14" BWR - END OF PIPE	27213.23	61359.00	4735.11	CENTERLINE
123	14" PLUG VALVE	27393.76	60755.40	4741.83	CENTERLINE
124	36" BUTTERFLY VALVE	28358.76	59618.09	4712±	CENTERLINE
125	EDGE OF CONCRETE SLAB - TOE OF SLOPE	28426.05	59857.36	4715.00	TOC
126	RADIUS POINT	28331.91	59979.54	4715.00	TOC - Δ=86°39'35", R=14.00', L=21.17'
127	RADIUS POINT	28249.32	59932.17	4715.00	TOC - Δ=88°33'52", R=14.00', L=21.64'
128	RADIUS POINT	28249.51	59884.67	4715.00	TOC - Δ=60°05'22", R=10.00', L=10.49'
129	RADIUS POINT	28263.42	59868.64	4715.00	TOC - Δ=59°05'11", R=10.00', L=10.31'
130	CL BEGIN 10' WIDE CONCRETE RAMP	28202.60	59907.97	4724.81	TOC
131	EDGE OF CONCRETE SLAB - TOE OF SLOPE	28304.51	59775.99	4715.00	TOC
132	RADIUS POINT	28277.84	60063.26	4715.00	TOC - Δ=94°04'54", R=10.00', L=16.42'
133	EDGE OF CONCRETE SLAB - TOE OF SLOPE	28194.69	60198.52	4715.00	TOC
134	EDGE OF CONCRETE SLAB - TOE OF SLOPE	28107.07	60137.38	4715.00	TOC
135	RADIUS POINT	28198.26	60015.24	4715.00	TOC - Δ=91°20'06", R=10.00', L=15.94'
136	CL END 10' WIDE CONCRETE RAMP	28256.82	59877.28	4715.00	TOC
137	CL BEGIN 10' WIDE CONCRETE RAMP	28158.89	59992.80	4725.02	TOC
138	CL END 10' WIDE CONCRETE RAMP	28157.12	60058.49	4715.00	TOC
139	RADIUS POINT	28160.83	60056.59	4715.00	TOC - Δ=61°49'47", R=2.00', L=2.16'
140	RADIUS POINT	28150.34	60060.31	4715.00	TOC - Δ=63°32'09", R=2.00', L=2.22'
141	14" BWR - 22.5° HORIZ BEND	28305.75	59697.80	4722.92	CENTERLINE
142	14" BWR - 22.5° HORIZ BEND	28231.62	59756.54	4723.21	CENTERLINE

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JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
CIVIL
OVERALL PLAN AND SITE COORDINATES

VERIFY SCALES
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JOB NO. 10851A.10
DRAWING NO. C00
SHEET NO. 12 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A1000C00.dgn

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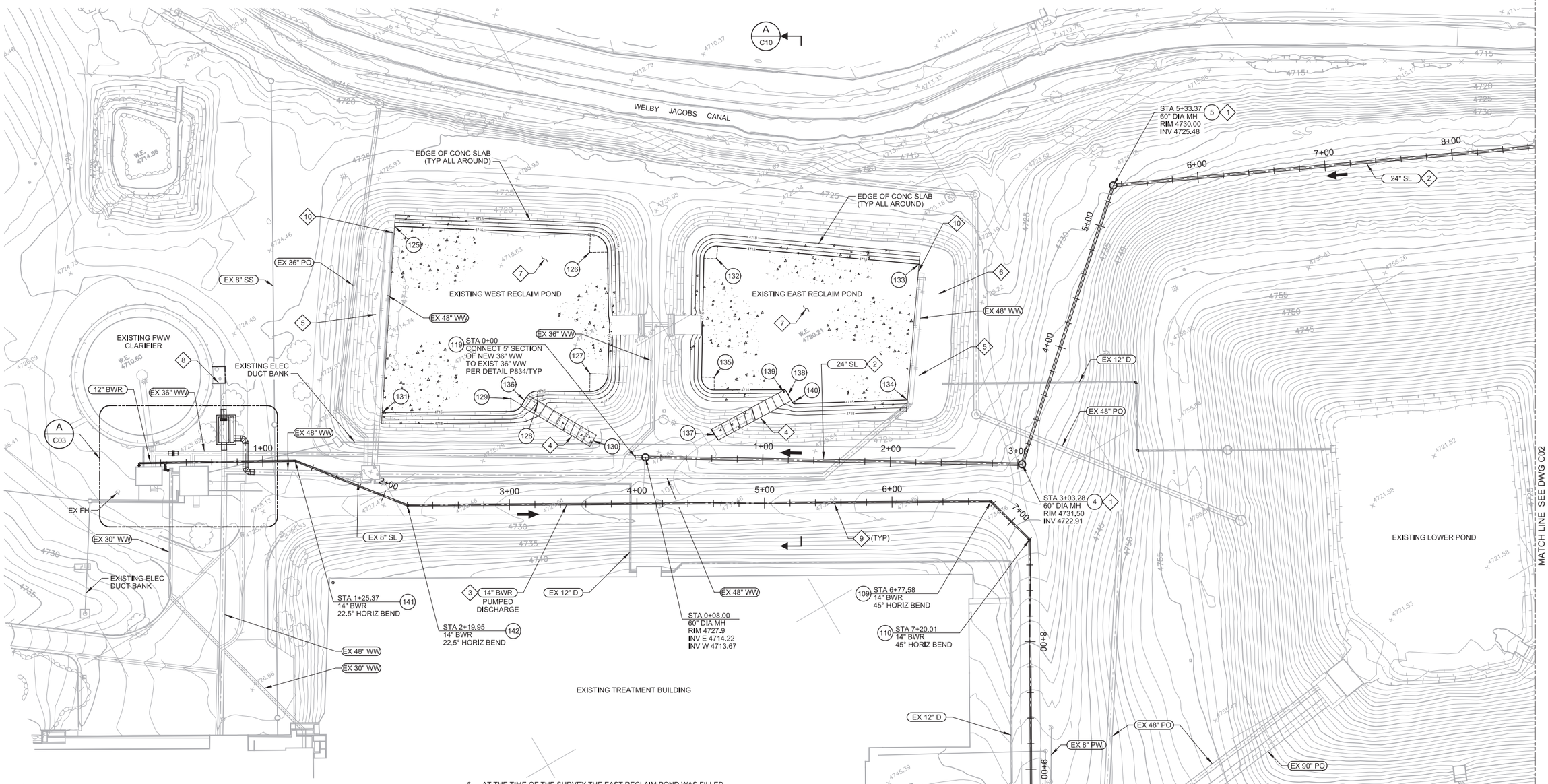

KEY NOTES:

1. NEW 60" DIAMETER MANHOLE PER DETAIL C010/TYP.
2. SEE DRAWINGS C04 AND C05 FOR 24" SL PROFILE.
3. SEE DRAWINGS C06-C09 FOR 12"/14" BWR PROFILE.
4. 6" THICK, 10' WIDE REINFORCED CONCRETE RAMP WITH #4@12" O.C. PLACE REINFORCING IN CENTER OF 6" THICKNESS. FOR SAW CUT SEE GENERAL NOTE 1 ON DRAWING C10. SAW CUT 10' O.C. PERPENDICULAR TO RAMP.
5. PROTECT IN PLACE EXISTING CONCRETE SLOPE PROTECTOR BEHIND THE BACKWASH INLET DIFFUSERS.
6. AT THE TIME OF THE SURVEY THE EAST RECLAIM POND WAS FILLED WITH BACKWASH WATER AT AN ELEVATION OF 4720.21. TOPOGRAPHY BELOW THIS ELEVATION IS NOT AVAILABLE. ASSUME TOPOGRAPHY OF THE EAST RECLAIM POND IS SIMILAR TO THE WEST POND FOR BIDDING PURPOSES.
7. APPROXIMATE AREA OF CONCRETE IN WEST RECLAIM POND CAN BE ASSUMED TO BE 28,220 SQUARE FEET. APPROXIMATE AREA OF CONCRETE IN EAST RECLAIM POND CAN BE ASSUMED TO BE 23,100 SQUARE FEET.
8. CONTRACTOR TO INSTALL SIDE MOUNTED THREE RAIL GUARDRAIL AROUND THE PERIMETER OF THE CLARIFIER INLET BOX (3 SIDES) PER DETAIL AC504/TYP.
9. CONTRACTOR TO PATCH ASPHALT PER SPECIFICATION 02952.
10. POUR NEW CONCRETE UP TO THE EXISTING CONCRETE PAD UNDER THE BACKWASH INLET DIFFUSER.

REV	DATE	BY	DESCRIPTION

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REGISTERED PROFESSIONAL ENGINEER
No. 4939129-2202
PATRICK A. CARLSON
STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
CIVIL
YARD PIPING PLAN 1

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

JOB NO. 10851A.10
DRAWING NO. C01
SHEET NO. 13 OF 70

STA 9+23.22
60" DIA MH
RIM 4735.72
INV 4729.50

STA 11+58.36
60" DIA MH
RIM 4736.67
INV 4730.22

STA 14+24.76
60" DIA MH
RIM 4736.64
INV 4731.04

STA 14+75.09
60" DIA MH
RIM 4737.84
INV 4731.18

STA 17+50.06
60" DIA MH
RIM 4739.16
INV 4731.94

EXISTING CLEANOUT STRUCTURE TO BE ABANDONED IN PLACE. PLUG EXISTING CLEANOUT PIPING

EXISTING SLUDGE LAGOON OUTLET BOX NO. 1

EXISTING SLUDGE LAGOON OUTLET BOX NO. 2

EXISTING SLUDGE LAGOON OUTLET BOX NO. 3

EXISTING SLUDGE LAGOON NO. 1

EXISTING SLUDGE LAGOON NO. 2

EXISTING SLUDGE LAGOON NO. 3

MATCH LINE SEE DWG C01

EXISTING RAW WATER METER VAULT

EXISTING SCREEN BLDG

EXISTING ELEC DUCT BANK

STA 16+63.86
14" BWR
27° HORIZ BEND

STA 18+03.17
14" TEE

STA 18+06.85
14" PLUG VALVE

STA 18+96.26
14" BWR
22.5° HORIZ BEND

14" BWR
PUMPED DISCHARGE

14" PLUG VALVE

STA 20+81.34
14" TEE

STA 20+84.92
14" PLUG VLV

EXISTING ELEC DUCT BANK

STA 24+32.21
14" BWR
90° HORIZ BEND

STA 24+91.33
END 14" BWR

KEY NOTES:

1. NEW 60" DIAMETER MANHOLE PER DETAIL C010/TYP.
2. SEE DRAWINGS C04 AND C05 FOR 24" SL PROFILE.
3. SEE DRAWINGS C06-C09 FOR 12"/14" BWR PROFILE.
4. INSTALL VALVE BOX SIMILAR TO DETAIL CP716/TYP.
5. SEE DETAIL 2/C10.
6. NOT ALL PIPING AND ELECTRICAL CONDUITS SHOWN. CONTRACTOR TO POTHOLE AREA BEFORE PIPE INSTALLATION.
7. 2" HOT DIPPED GALVANIZED STEEL PIPE, MAINTAIN AT A MIN 36" OF COVER WITH 2% SLOPE.
8. ELBOW PIPE ABOVE GRADE. DAYLIGHT PIPE A MIN OF 18" FROM CONCRETE PAD TO TOP OF TURNDOWN. COVER TURNDOWN WITH #14 SST SCREEN.
9. CONCRETE ENCASE RISER PIPE UP TO GRADE, 15" DIAMETER ENCASEMENT AND 36" MIN DEPTH. PROVIDE 3 GUARD POSTS PER DETAIL C160.

SCALE: 1" = 40'

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carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
CIVIL
YARD PIPING PLAN 2

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

JOB NO. 10851A.10
DRAWING NO. C02
SHEET NO. 14 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A1000C02.dgn

Plot Date: 15-JUN-2020 12:28:31 PM
User: svcPW
PlotScale: 2:1
DesignScript: Carollo_Std_Pen_v0905.pen
ColorTable: gshade.ctb
Model: Layout1
LAST SAVED BY: tdonnell

SCALE: 1" = 5'

EXISTING FWW CLARIFIER
MAX WS EL 4721.7

A WEIR VAULT 2S01

6" D

EXIST DIRT ROAD

SECTION OF EXISTING 48" WW PIPE TO BE REMOVED

EXISTING BAFFLE

124 3 6 36" BFV (NC)

EX 10" WW

104 STA 0+03.00 12" BWR 90° HORIZ BEND

108 STA 0+23.60 14" BWR - TEE

107 STA 0+19.85 12"x14" INCREASER

14" BWR

EX 36" WW (STEEL)

EX 48" WW (RCP)

48" WW (STEEL) P832 TYP P840 TYP

EX 8" SS

EXISTING ELEC DUCT BANK

FOR CONTINUATION SEE DRAWING C01

12" BWR

12"x14" INCREASER

6 12" BFV (NO)

12" BFV (NC)

STA 0+00.00 12" BWR

EX 12" SL (STEEL)

EXISTING WASHWATER RECYCLE PUMP STA #1 FIN FL 4727.96

103 12" SL - TEE

EXISTING WASHWATER RECYCLE PUMP STA #2 FIN FL 4728.06

CP521 TYP PLUG OR CAP EXISTING 48" WW AT TEE

PROVIDE THRUST BLOCK AT ELBOW PER DETAIL CP131 TYP

102

101

EXISTING 48" WW TO BE DEMOLISHED UPSTREAM OF 90° ELL CONNECTION

CONNECT NEW 48" WW (STEEL) TO EXISTING 48" WW (RCP) SIMILAR TO DETAIL P883 (SIM) TYP

EX FH

EXISTING ELEC CONDUITS

EXIST CONC STAIRS

EXIST CONC

EXIST GUTTER

EXISTING AC PAVEMENT

EXIST WASHWATER RECYCLE PUMP STA #1 MODIFICATIONS A 10D01 A 10M01 B 10M01

EX 30" WW

EXIST CONC STAIRS

4725.69

4726.13

KEY NOTES:

1. REMOVE EXISTING TREE.
2. REMOVE EXISTING BAFFLE.
3. APPROXIMATE INVERT EL 4712.4±
4. TRANSITION FROM STEEL TO HDPE PIPE. MAINTAIN STEEL PIPING AROUND TEE AND VALVES.
5. 6FTx6FTx3FT (LxWxD) GRAVEL PACK WRAPPED IN FILTER FABRIC PER SPECIFICATION 02620.
6. INSTALL VALVE BOX PER DETAIL CP715/TYP.
7. FIELD LOCATE NEAREST JOINT. CONNECT EXISTING RCP BELL/SPIGOT TO NEW STEEL PIPE PER DETAIL P883/TYP (TYP OF BOTH SIDES OF STRUCTURE).
8. CONNECT EXISTING AND NEW STEEL PIPE PER DETAIL P834/TYP.

A PARTIAL PLAN

A / C01

SCALE: 1" = 5'
FILE: 10851A100C101

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RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
CIVIL
PARTIAL PLAN

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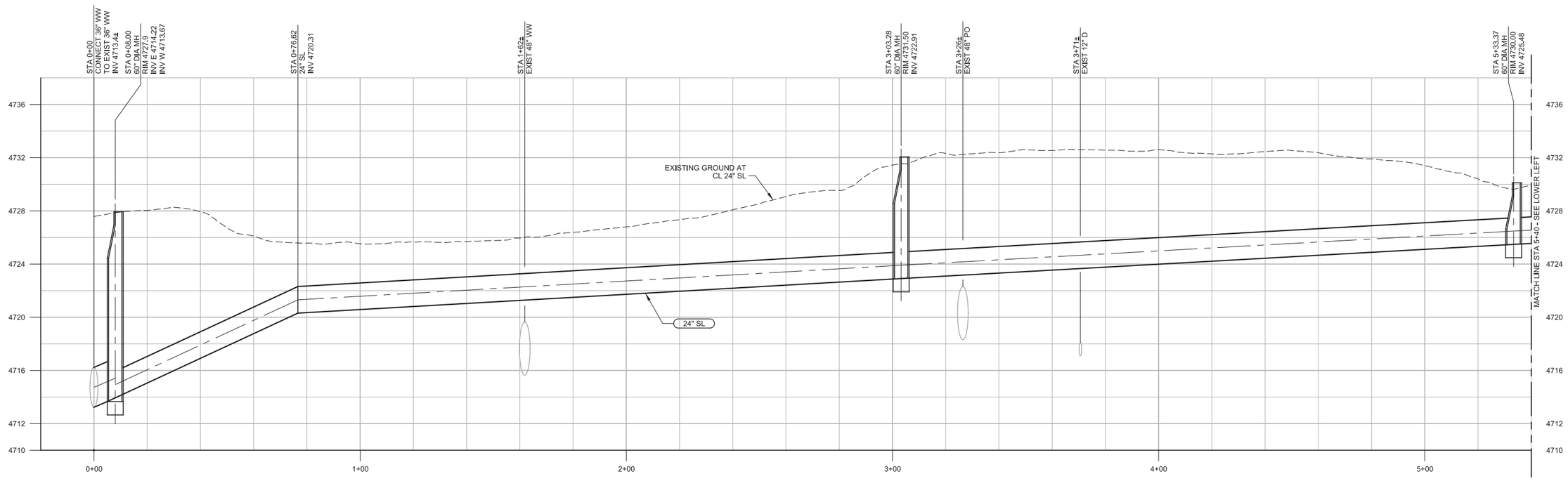
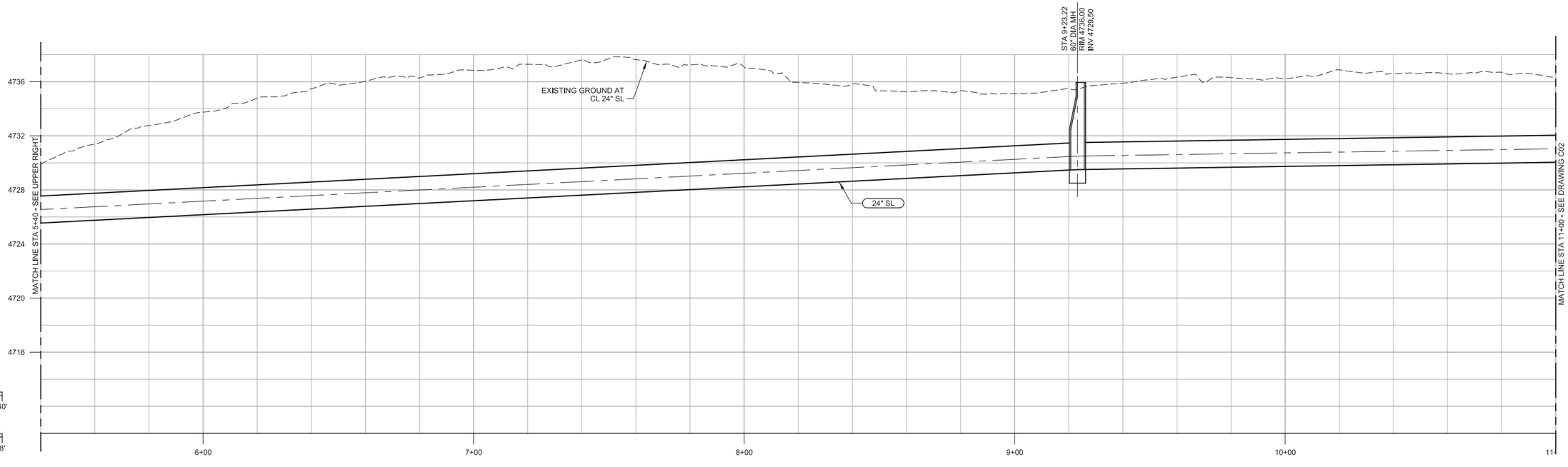
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 10851A.10
DRAWING NO. C03
SHEET NO. 15 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A1000C03.dgn





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RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS

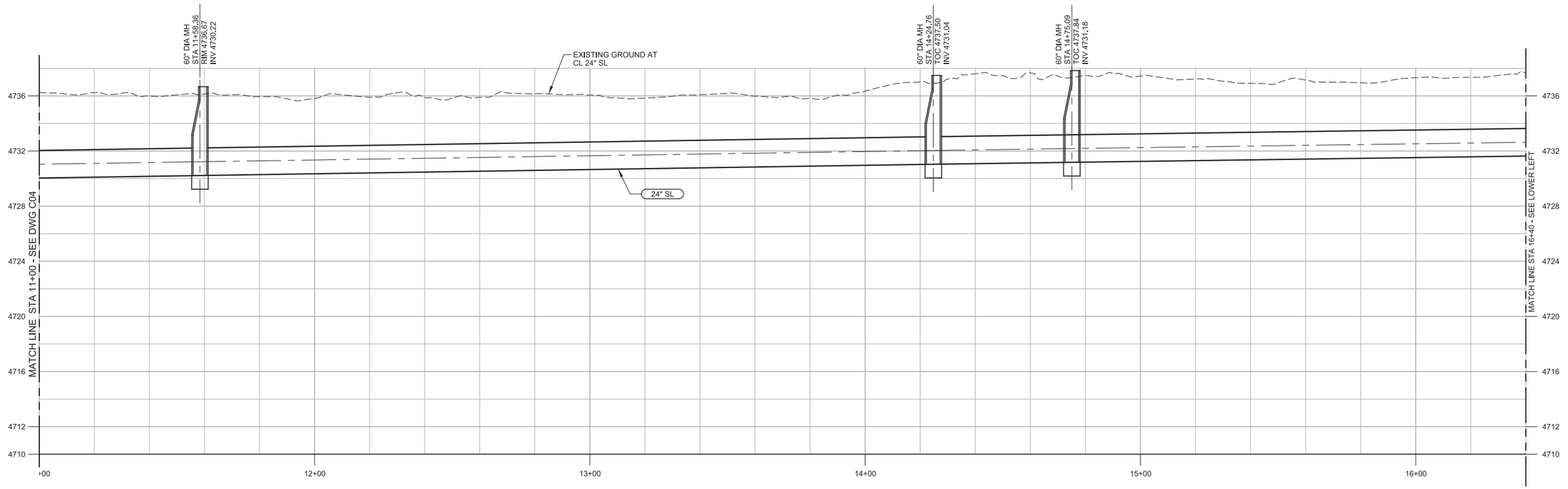
CIVIL

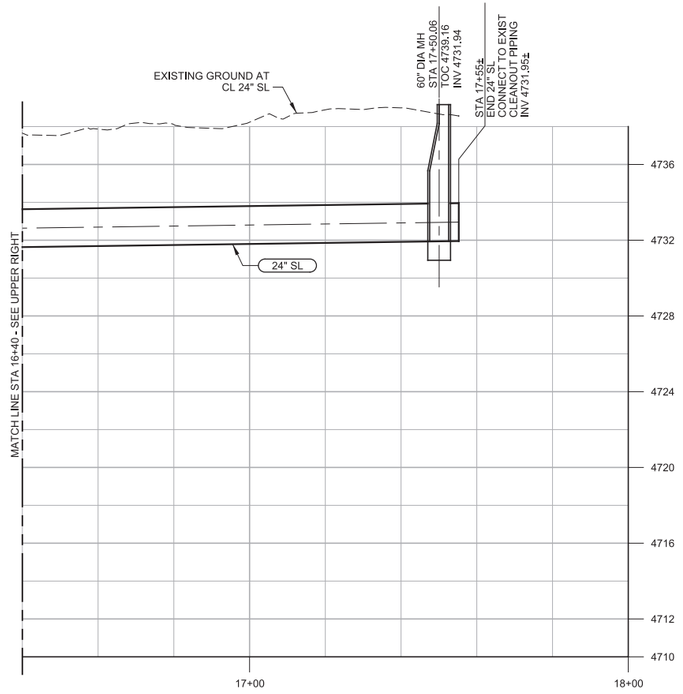
PROFILE 24" SL
STA 0+00 TO STA 11+00

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

JOB NO. 10851A.10
DRAWING NO. C04
SHEET NO. 16 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A1000C04.dgn





0 10' 20' 40'
HORIZ SCALE: 1" = 20'

0 2' 4' 8'
VERT SCALE: 1" = 4'

REV	DATE	BY	DESCRIPTION

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JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
CIVIL
PROFILE 24" SL
STA 11+00 TO STA 17+50.06

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

JOB NO. 10851A.10
DRAWING NO. C05
SHEET NO. 17 OF 70

LAST SAVED BY: tdonnell
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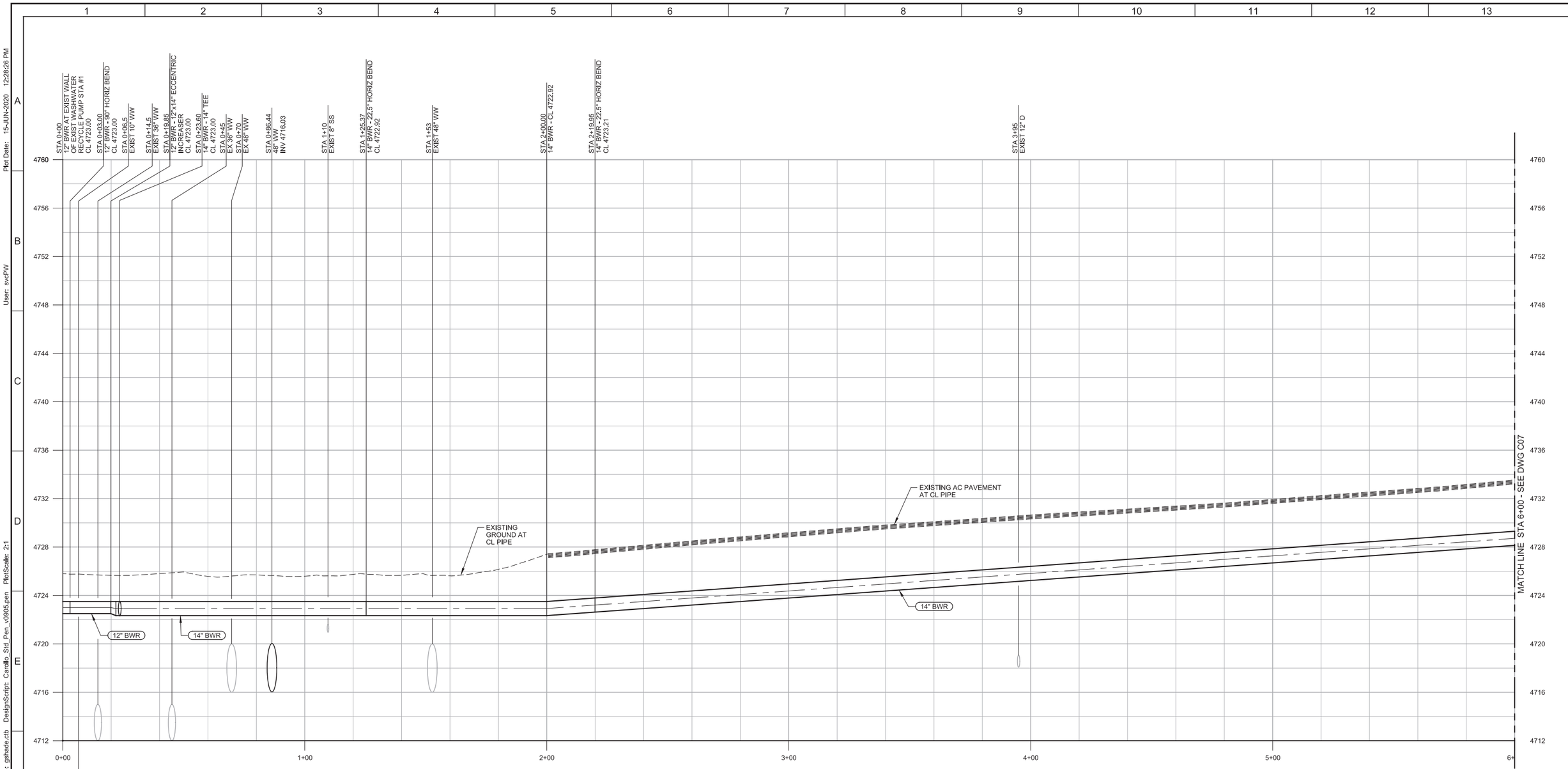
Plot Date: 15-JUN-2020 12:28:27 PM
User: svcPW

PROJECT NO. 10851A.10 FILE NAME: 10851A1000C05.dgn



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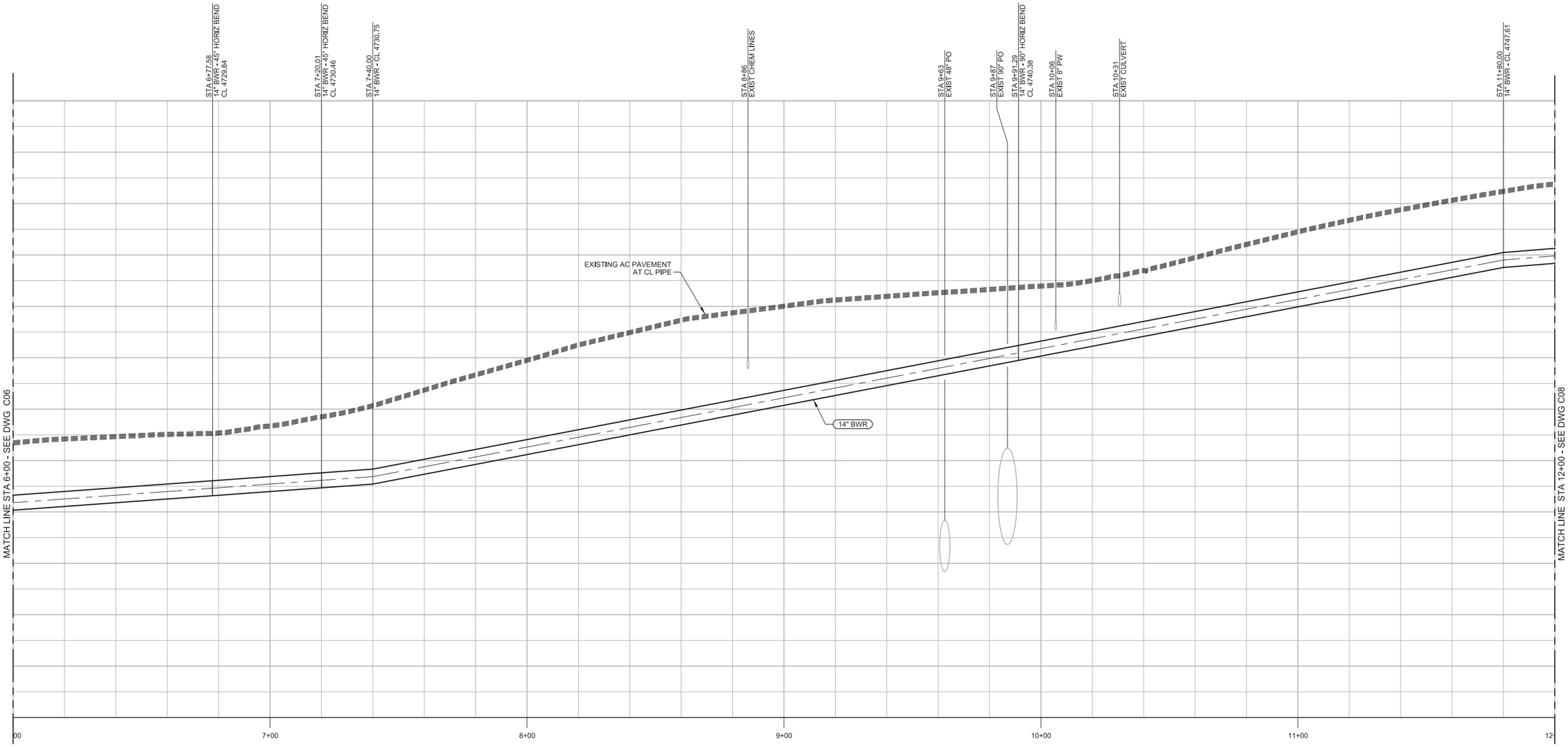
CIVIL
PROFILE 14" BWR
STA 0+00 TO STA 6+00

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

JOB NO. 10851A.10
DRAWING NO. C06
SHEET NO. 18 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A1000C06.dgn



0 10' 20' 40'
HORIZ SCALE: 1" = 20'

0 2' 4' 8'
VERT SCALE: 1" = 4'

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RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
CIVIL
PROFILE 14" BWR
STA 6+00 TO STA 12+00

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

JOB NO. 10851A.10
DRAWING NO. C07
SHEET NO. 19 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A1000C07.dgn

Plot Date: 15-JUN-2020 12:28:27 PM
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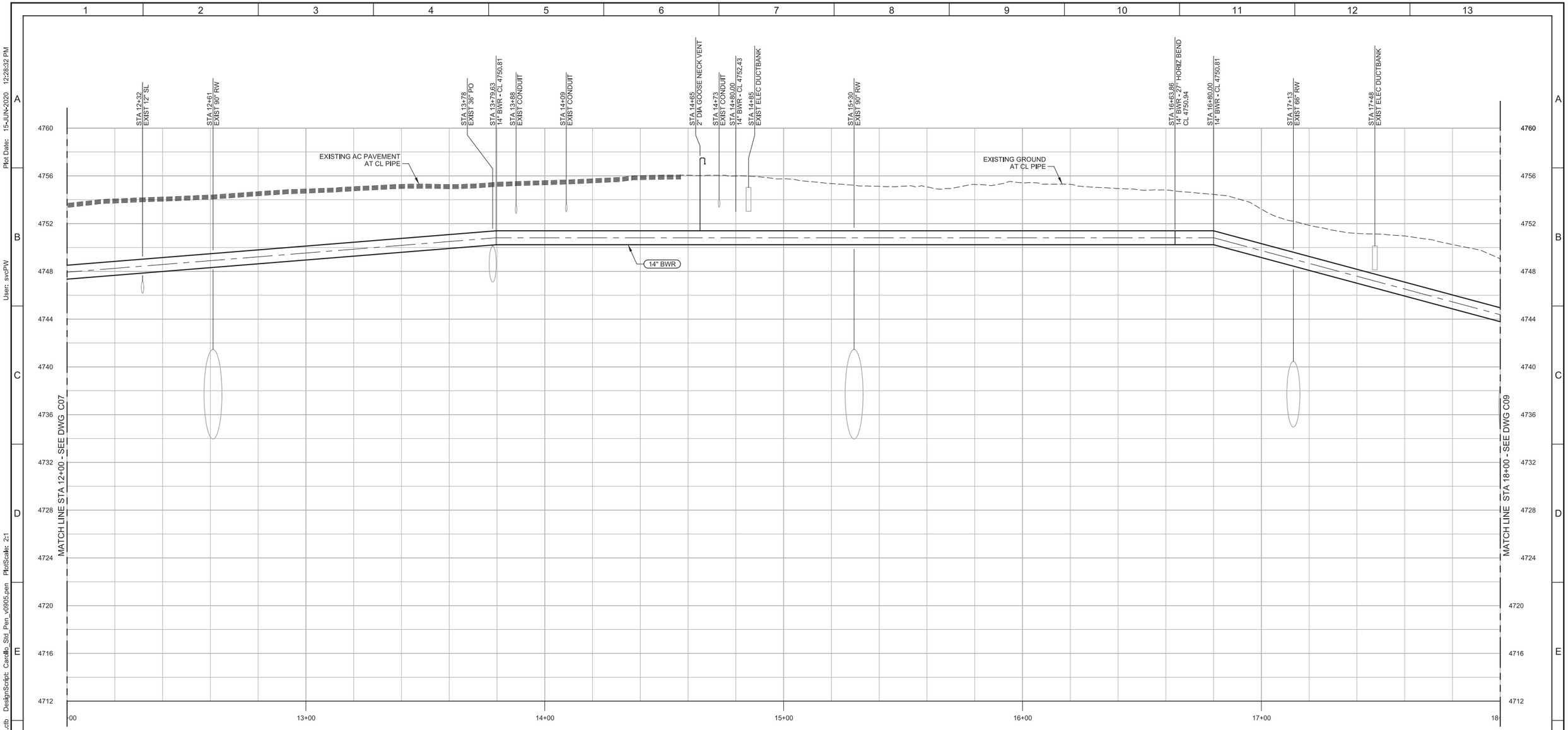
LAST SAVED BY: tdonnell



0 10' 20' 40'
HORIZ SCALE: 1" = 20'

0 2' 4' 8'
VERT SCALE: 1" = 4'

REV	DATE	BY	DESCRIPTION

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DATE JUNE 2020

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JORDAN VALLEY WATER TREATMENT PLANT

RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS

CIVIL

PROFILE 14" BWR
STA 12+00 TO STA 18+00

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

JOB NO. 10851A.10
DRAWING NO. C08
SHEET NO. 20 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A1000C08.dgn

Plot Date: 15-JUN-2020 12:28:32 PM
User: svcPW
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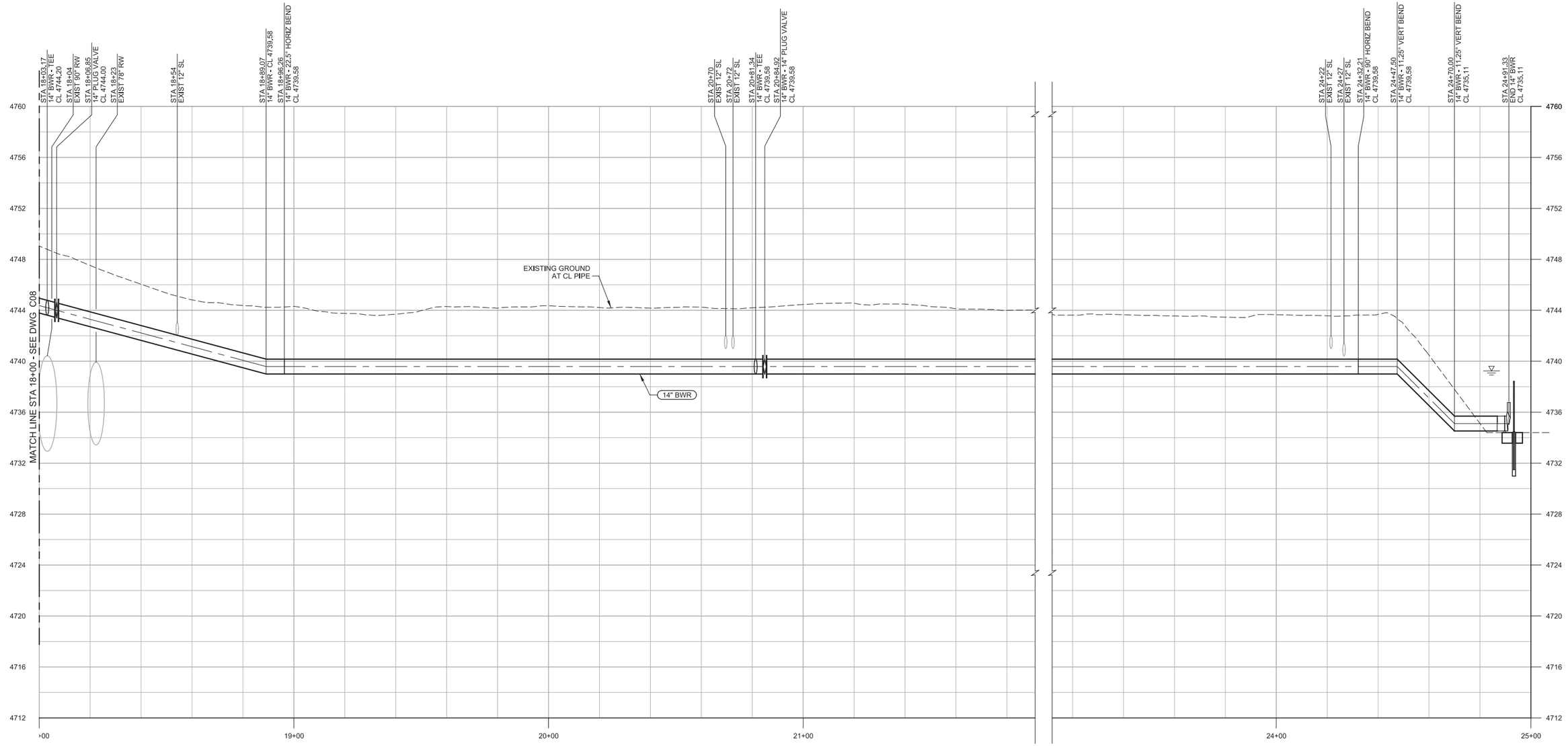

0 10' 20' 40'
HORIZ SCALE: 1" = 20'

0 2' 4' 8'
VERT SCALE: 1" = 4'

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CIVIL
PROFILE 14" BWR
STA 18+00 TO STA 24+91.33

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

JOB NO. 10851A.10
DRAWING NO. C09
SHEET NO. 21 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A1000C09.dgn

Plot Date: 15-JUN-2020 12:28:45 PM
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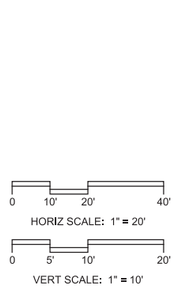
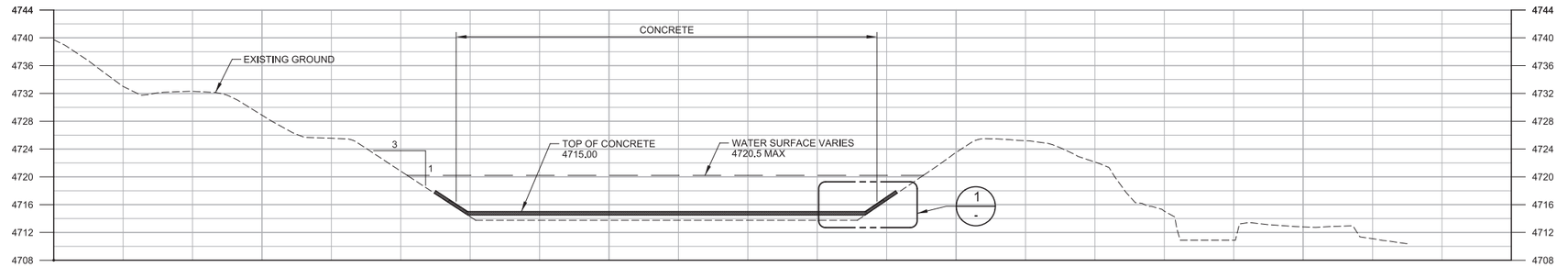
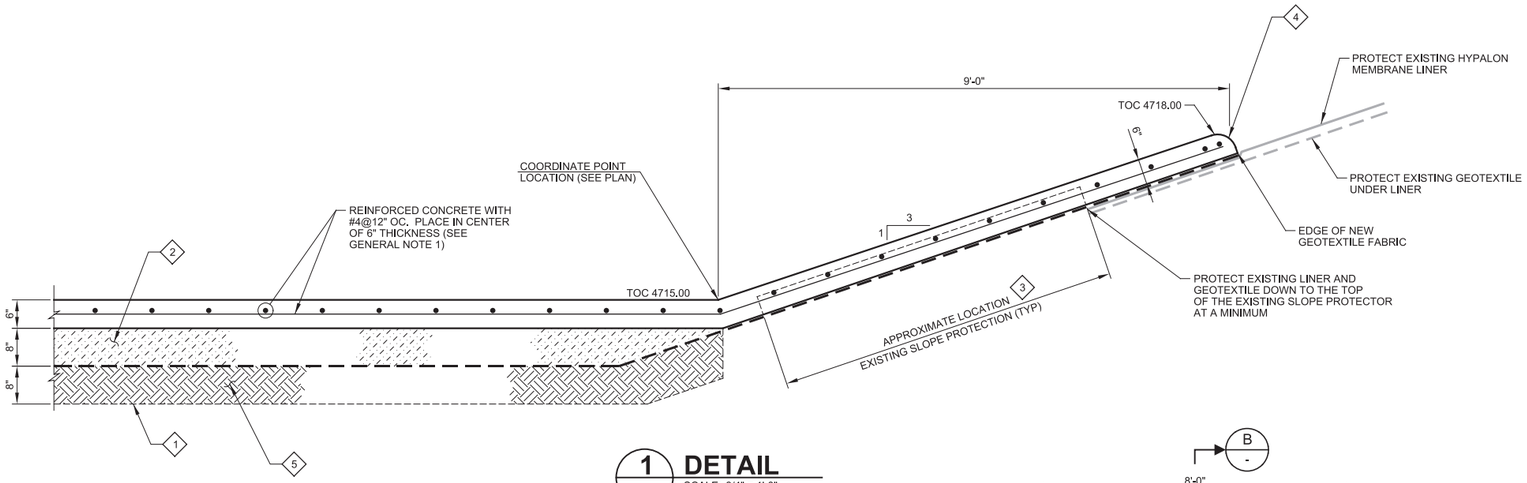
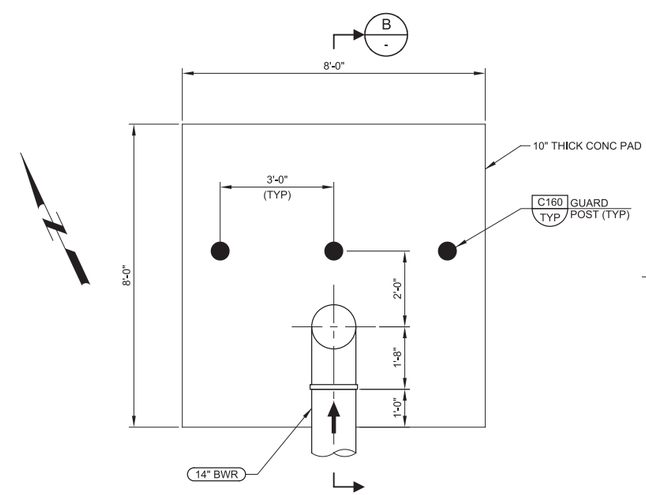




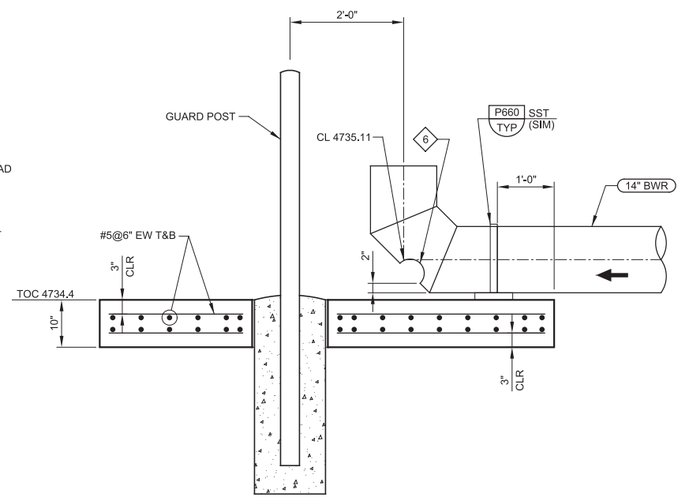
A SECTION
A / C01
SCALE: HORIZ: 1" = 20'
FILE: 10851A100C302



1 DETAIL
1 / -
SCALE: 3/4" = 1'-0"
FILE: 10851A100C302



2 DETAIL
2 / C01
SCALE: 1/2" = 1'-0"
FILE: 10851A100C101



B SECTION
B / -
SCALE: 3/4" = 1'-0"
FILE: 10851A100C303

GENERAL NOTES:

1. 6-INCH THICK REINFORCED CONCRETE SLAB TO BE POURED MONOLITHICALLY USING CLASS A CONCRETE MIX PER SPECIFICATION SECTION 03300 - CAST-IN-PLACE CONCRETE. FOLLOWING PLACEMENT AND FINISHING OF SLAB, COAT CONCRETE WITH LIQUID EVAPORATIVE RETARDANT PER SPECIFICATION SECTION 03300 - CAST-IN-PLACE CONCRETE. SUBMIT A CONCRETE JOINTING PLAN FOR APPROVAL BEFORE PLACING CONCRETE. NO SOONER THAN 24 HOURS, AND NO LATER THAN 72 HOURS, SAWCUT JOINTS IN THE SLAB. JOINTS SHALL BE 3/8" WIDE AND 1/2" DEEP AND SHALL BE SPACED NO MORE THAN 14 FEET APART IN EACH DIRECTION. JOINT PATTERN SHALL BE SQUARE WHERE POSSIBLE. JOINTS SHALL INTERSECT AT ALL SLOPES, CURBS, AND OTHER STRUCTURES. APPLY JOINT SEALANT TO ALL SAWCUT JOINTS IN THE SLAB PER MANUFACTURER'S DIRECTION AND IN ACCORDANCE WITH SPECIFICATION SECTION 07900 - JOINT SEALANT.

KEY NOTES:

1. THE BOTTOM OF THE EXISTING RECLAIM PONDS WERE ORIGINALLY CONSTRUCTED WITH 1.25 FEET OF GRAVEL OVER A HYPALON MEMBRANE LINER AND GEOTEXTILE FABRIC. THE EXISTING LINER AND GEOTEXTILE IS NOW DAMAGED AND ONLY REMNANTS OF GRAVEL REMAIN. CONTRACTOR SHALL EXCAVATE THE 14-INCHES OF VARIABLE MATERIAL (GRAVEL AND LINER REMNANTS MIXED WITH NATIVE MATERIAL AND SOME BOULDERS) AFTER SLUDGE REMOVAL. FOR BIDDING PURPOSES CONTRACTOR SHALL EXPECT TO REMOVE APPROXIMATELY 10 CY OF 6-INCH BOULDERS FROM EACH BASIN. THE BOTTOM ELEVATION OF THE EXISTING RECLAIM PONDS IS ASSUMED TO BE AT APPROXIMATELY 4715.
2. 8" ABC COMPACTED TO 95% RELATIVE COMPACTION.
3. DEMOLISH EXISTING 6-FT BY 4-INCH THICK SLOPE PROTECTOR ON THREE SIDES OF THE RECLAIM PONDS. DO NOT DEMOLISH SLOPE PROTECTOR BEHIND THE BACKWASH INLET DIFFUSER. PROTECT EXPOSED LINER AND GEOTEXTILE.
4. ROUND EDGE OF CONCRETE. STAKING WILL NOT BE PERMITTED TO AVOID DAMAGE OF THE MEMBRANE LINER.
5. SCARIFY NATIVE MATERIAL 8", MOISTURE CONDITION TO 2% OF OPTIMUM MOISTURE CONTENT, AND COMPACT TO A MINIMUM OF 95% RELATIVE COMPACTION. COMPACT BOTTOM AND SIDES TO SMOOTH GRADE PRIOR TO PLACING GEOTEXTILE.
6. SHOP FABRICATE 6" DIA HOLE IN 90 DEGREE BEND AT 2" ABOVE TOP OF SLAB.

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carollo

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JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
CIVIL
SECTIONS AND DETAILS

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

JOB NO. 10851A.10
DRAWING NO. C10
SHEET NO. 22 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A1000C10.dgn

Plot Date: 15-JUN-2020 12:28:43 PM
User: svcPW
PlotScale: 2:1
DesignScript: Carollo_Std_Pen_v0905.pen
ColorTable: gshade.ctb
Model: Layout1
LAST SAVED BY: tdonnell

GENERAL NOTES:

1. USE STRUCTURAL DRAWINGS IN CONJUNCTION WITH PROJECT DRAWINGS BY OTHER DISCIPLINES AND WITH THE SPECIFICATIONS.

2. UNLESS DETAILED, SPECIFIED, OR INDICATED OTHERWISE, CONSTRUCTION SHALL BE AS INDICATED IN THE GENERAL NOTES AND TYPICAL DETAILS.

3. PRESENTATION CONVENTIONS FOR STRUCTURAL DRAWINGS:

   A. SCREENED LINE WORK INDICATES EXISTING CONDITIONS.
   B. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED SIZES.
   C. PLANS ARE TREATED AS HORIZONTAL SECTIONS. (I.E.: "PLAN AT ELEVATION 110" SHOWS CONSTRUCTION AT AND BELOW ELEVATION 110.)

4. VERIFY DIMENSIONS AND CONDITIONS BEFORE BEGINNING WORK. ADVISE ENGINEER IMMEDIATELY OF DISCREPANCIES BETWEEN EXISTING CONDITIONS AND DIMENSIONS, AND INFORMATION SHOWN ON THESE DRAWINGS. CONFIRM THE FOLLOWING BEFORE PREPARATION AND SUBMITTAL OF SHOP DRAWINGS:

   A. DIMENSIONS AND WEIGHTS FOR EQUIPMENT SELECTED.
   B. SIZES AND LOCATIONS OF EQUIPMENT PADS FOR EQUIPMENT SELECTED.

5. TYPICAL DETAILS ARE INCLUDED ON THE "TS" DRAWINGS.

   A. TYPICAL DETAILS ARE INTENDED TO APPLY AT LOCATIONS DESCRIBED BY THEIR TITLES, EVEN WHEN NOT SPECIFICALLY REFERENCED ON THE DRAWINGS.
   B. IN STRUCTURAL TYPICAL DETAILS, ORIENTATION OF BARS IN EACH MAT OF REINFORCEMENT (WHETHER "LINES" OR "DOTS"ARE CLOSER TO THE FACE OF THE CONCRETE) IS GENERALLY ARBITRARY. SEE DRAWINGS OF EACH STRUCTURE FOR ORIENTATION REQUIRED AT THAT STRUCTURE.

6. SEE CIVIL DRAWINGS FOR STRUCTURE COORDINATES. POINTS ON THE STRUCTURES TO WHICH SITE COORDINATES REFER ARE SHOWN ON THE STRUCTURAL PLANS.

7. DRAWINGS PREPARED BY OTHER DISCIPLINES INCLUDE OPENINGS, ANCHORS, PIPES, CONDUITS, AND OTHER ITEMS THAT ARE EMBEDDED INTO OR PASS THROUGH STRUCTURES.

   A. CONFIRM SIZE AND LOCATIONS OF OPENINGS, PENETRATIONS AND EMBEDMENT FOR ITEMS AND EQUIPMENT FURNISHED.
   B. IN GENERAL, OPENINGS, EMBEDMENTS, AND PENETRATIONS LESS THAN 12 INCHES IN DIAMETER ARE NOT SHOWN ON THE STRUCTURAL DRAWINGS.
   C. SEE MECHANICAL DRAWINGS FOR DETAILS OF PIPE PENETRATIONS, PIPE SUPPORTS, AND ASSOCIATED STRUCTURAL REQUIREMENTS.
   D. SEE MECHANICAL DRAWINGS FOR EQUIPMENT PADS AND PIPE SUPPORTS.

STRUCTURAL DESIGN CRITERIA - GENERAL:

SEE DRAWINGS OF INDIVIDUAL STRUCTURES FOR SPECIFIC DESIGN CRITERIA BASED ON THESE OVERALL CRITERIA FOR THE SITE.

1. BUILDING CODE:

   A. 2018 INTERNATIONAL BUILDING CODE ("IBC 2018") WITH ASCE 7-16.

2. STRUCTURE RISK CATEGORY: III

3. DEAD LOADS: CALCULATED FOR STRUCTURE SELF-WEIGHT.

4. LIVE LOADS: (REDUCTIONS NOT USED)

   A. FLOOR LIVE LOAD: 100 PSF (UNO).
   B. GRATING AND CHECKERED PLATE: 100 PSF (UNO).

5. FLUID PRESSURE LOADS: 63 PSF/FT (UNO).

6. SNOW LOAD DATA:

   A. GROUND SNOW LOAD, Pg = 43.0 PSF.
   B. SNOW EXPOSURE FACTOR, Ce = 0.9.
   C. FLAT ROOF SNOW LOAD: 30.0 PSF (MINIMUM).

7. WIND DESIGN DATA:

   A. SPECIAL WIND REGION: NO
   B. WIND-BORNE DEBRIS REGION: NO
   C. BASIC WIND SPEED (3 SEC GUST, 33 FEET ABOVE GROUND): 109 MPH.

8. EARTHQUAKE DESIGN DATA:

		0.2 SECOND	*1.0 SECOND
A.	SITE CLASS: C.		
B.	MAPPED SPECTRAL RESPONSE ACCELERATIONS:	Ss = 1.175 g	S1 = 0.426 g
C.	SITE COEFFICIENTS:	Fa = 1.2	Fv = 1.5
D.	MAXIMUM CONSIDERED ACCELERATIONS:*	Sms = 1.41 g	Sm1 = 0.639 g
E.	DESIGN SPECTRAL RESPONSE ACCELERATIONS:* (* 5% DAMPED)	Sds = 0.940 g	Sd1 = 0.426 g

9. FLOOD LOADS:

   A. FLOOD HAZARD AREA: NO

10. CONSTRUCTION LOADS:
    STRUCTURES HAVE BEEN DESIGNED FOR OPERATING LOADS ON COMPLETED FACILITIES. UNTIL CONSTRUCTION IS COMPLETE AND MEMBERS HAVE ACHIEVED THEIR DESIGN STRENGTH, PROTECT STRUCTURES AS REQUIRED BY SHORING, BRACING, AND BALANCING.

GEOTECHNICAL REPORT / FOUNDATION DESIGN CRITERIA:

1. GEOTECHNICAL INVESTIGATION REPORT:

   TITLE: TECHNICAL MEMORANDUM: JORDAN VALLEY WATER TREATMENT PLANT UPGRADES
   PREPARED BY: GERBER & COLE
   JOB NO: 19-1225 DATED: FEBRUARY 26, 2020

2. FOUNDATION DESIGNS ARE BASED ON RECOMMENDATIONS IN THE GEOTECHNICAL INVESTIGATION REPORT.

   A. NET ALLOWABLE BEARING PRESSURE: 5,000 PSF

   B. FROST DEPTH: 30 INCHES

   C. LATERAL EARTH PRESSURE (UNO):
   SURCHARGE: EQUIVALENT TO 2 FEET OF SOIL ABOVE FINISHED GRADE.

	STATIC	SEISMIC
ACTIVE (PSF/FT):	39.0	16.0
AT REST (PSF/FT):	53.0	41.0
PASSIVE (PSF/FT):	50	NA
SLIDING COEFFICIENT OF FRICTION:	0.50	NA

   D. GROUNDWATER EL _____.

TYPICAL STRUCTURAL MATERIALS:

1. MATERIALS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

2. SEE PROJECT SPECIFICATIONS AND NOTES ON DRAWINGS OF SPECIFIC STRUCTURES FOR DETAILED AND LOCATION-SPECIFIC REQUIREMENTS.

REINFORCING STEEL (FOR CONCRETE AND MASONRY):

1. DEFORMED BARS:
   A. TYPICAL: ASTM A 615, GRADE 60.
   B. WHERE INDICATED ON THE DRAWINGS: ASTM A 706.

2. WELDED WIRE FABRIC: ASTM A 185.

CONCRETE:

1. NORMAL DENSITY.

2. MINIMUM SPECIFIED CONCRETE COMPRESSIVE STRENGTH, f'c (AT 28 DAYS UNO).

   A. STRUCTURES: "CLASS A"OR "CLASS B" f'c = 4500 PSI.
   B. FILL AND THRUST BLOCKS: "CLASS C" f'c = 2500 PSI.
   C. PIPE ENCASEMENT: "CLASS C" f'c = 2500 PSI.
   D. ELECTRICAL DUCT ENCASEMENT: "CLASS CE" f'c = 2500 PSI.

STRUCTURAL STEEL:

1. SECTIONS

   A. SHAPES W, WT: ASTM A 992 (Fy = 50 KSI)
   B. SHAPES S, ST, M, MT, HP, C, MC, L: ASTM A 36 (Fy = 36 KSI)
   C. PLATES AND BARS: ASTM A 36 (Fy = 36 KSI)
   D. PIPES: ASTM A 53, GRADE B (Fy = 35 KSI)
   E. HOLLOW STRUCTURAL SECTIONS:
      ROUND: ASTM A 500, GRADE B (Fy = 42 KSI)
      SQUARE AND RECTANGULAR: ASTM A 500, GRADE B (Fy = 46 KSI)

2. CONNECTIONS:

   A. BOLTS - STEEL TO-STEEL:
      ASTM A 325 HIGH-STRENGTH BOLTS, WITH LOAD INDICATOR WASHERS.
   B. BOLTS - STEEL TO CONCRETE OR MASONRY:
      ANCHOR BOLTS WITH HEX FORGED HEAD.
      ASTM A193, STAINLESS TYPE 316 (304)
      ASTM F 1554, GRADE 36 GALVANIZED.
   C. WELDS - SHIELDED METAL ARC PROCESS USING E70-XX ELECTRODES.

STAINLESS STEEL:

1. ANSI TYPE 316/316L EXCEPT WHERE TYPE 304/304L IS INDICATED ON THE DRAWINGS.

2. SECTIONS: SHAPES AND BARS: ASTM A 276.

3. BOLTED CONNECTIONS - BOLTS AND ANCHOR BOLTS:

   A. MATCH ALLOY OF THE STRUCTURAL MEMBERS CONNECTED.
   B. TYPE 316/316L: ASTM A 193, GRADE B8M, CLASS 1, HEAVY HEX.
   C. TYPE 304/304L: ASTM A 193, GRADE B8, CLASS 1, HEAVY HEX.

4. WELDED CONNECTIONS:

   A. TYPE 316L: E316L-15 ELECTRODES.
   B. TYPE 304L: E304L-15 ELECTRODES.

STRUCTURAL ALUMINUM:

1. SECTIONS

   A. SHAPES: ASTM B 308, ALLOY 6061-T6.
   B. SHEET AND PLATE: ASTM B 209, ALLOY 6061-T6.

2. BOLTED CONNECTIONS - BOLTS AND ANCHOR BOLTS:

   A. STAINLESS STEEL - TYPE 316, ASTM A 193, GRADE B8M, CLASS 1, HEAVY HEX.

3. WELDED CONNECTIONS:

   A. GAS METAL ARC (MIG) OR GAS TUNGSTEN ARC (TIG) PROCESS USING FILLER ALLOY 4043 ELECTRODES.

CONSTRUCTION:

CONFORM TO THE FOLLOWING REQUIREMENTS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

EXCAVATION AND BACKFILLING:

1. EXPOSE AND PREPARE SUBGRADE AS SHOWN ON THE DRAWINGS AND SPECIFIED. OBTAIN ENGINEER'S OBSERVATION OF SUBGRADE SURFACES, AS EXPOSED AND AS PREPARED, BEFORE PROCEEDING WITH FOUNDATION CONSTRUCTION.

2. DO NOT PLACE BACKFILL AGAINST WALLS UNTIL STRUCTURES SUPPORTING THE TOP OF THE WALL ARE IN PLACE, ARE COMPLETE, AND (IN THE CASE OF CONCRETE) HAVE CURED TO THEIR MINIMUM SPECIFIED 28-DAY COMPRESSIVE STRENGTH.

3. WHERE BACKFILL MUST BE PLACED AGAINST WALLS BEFORE STRUCTURES ABOVE ARE COMPLETE, PROVIDE BRACING FOR WALLS. KEEP BRACING IN PLACE UNTIL THE STRUCTURE ABOVE IS COMPLETE AND (IN THE CASE OF CONCRETE) HAS CURED TO ITS MINIMUM SPECIFIED 28-DAY COMPRESSIVE STRENGTH.

CONCRETE:

1. SEE S101/TYP FOR CONCRETE NOTES, INCLUDING CLEAR COVER AND LAP SPLICE LENGTH REQUIREMENTS FOR REINFORCING.

2. SUBMIT LOCATIONS OF CONSTRUCTION JOINTS NOT SHOWN ON THE DRAWINGS FOR ACCEPTANCE BY THE ENGINEER BEFORE FORM LAYOUT.

3. PROVIDE CHAMFER AT EXPOSED EDGES OF CAST-IN-PLACE CONCRETE. SEE SPECIFICATION 03102 FOR CHAMFERS.

4. PROVIDE REINFORCING:

   A. AT CORNERS AND JUNCTIONS - AS INDICATED IN S144/TYP, SUPPLEMENT WITH ADDED BARS WHERE INDICATED ON THE DRAWINGS.
   B. AT OPENINGS - AS INDICATED IN S180/TYP.

5. WELDING OF REINFORCING IS NOT PERMITTED UNLESS DETAILED ON THE DRAWINGS OR ACCEPTED IN ADVANCE BY THE ENGINEER.

6. MAINTAIN MINIMUM 3 INCHES CLEAR CONCRETE COVER BETWEEN REINFORCING AND EMBEDMENTS.

7. FINISH CONCRETE AS SPECIFIED IN SECTION 03366.

8. CONCRETE PADS

   A. ⬡ EQUIPMENT PAD SEE S302/TYP.

   B. ⬡ HOUSEKEEPING PAD FOR ELECTRICAL EQUIPMENT SEE S350/TYP.

STEEL, STAINLESS STEEL, AND ALUMINUM - CONNECTIONS:

1. BOLTED:

   A. MADE USING 3/4-INCH DIAMETER BOLTS.
   B. HAVING A MINIMUM OF 2 BOLTS, SPACED NOT CLOSER THAN 3 INCHES ON CENTER.
   C. WITH A DISTANCE OF AT LEAST 1 1/2 INCHES FROM CENTER OF BOLT TO ANY EDGE OF A PLATE OR STRUCTURAL ELEMENT.

2. WELDED:

   A. FILLET WELDS: PER AWS CODE BASED ON THE THICKNESS OF THE MATERIALS BEING JOINED, AND FULL LENGTH OF THE JOINT.

3. INTERFACE BETWEEN MATERIALS:

   A. AT BOLTED CONNECTIONS THAT INCLUDE DIFFERENT METALS (E.G.: STEEL AND STAINLESS STEEL, OR ALUMINUM AND STAINLESS STEEL) PROVIDE ISOLATING SLEEVES AND WASHERS AS SPECIFIED IN SECTION 05190.
   B. WHERE ALUMINUM IS IN CONTACT WITH MASONRY OR CONCRETE, COAT ALUMINUM SURFACES AS SPECIFIED IN SECTION 09960.

4. POST-INSTALLED ANCHORS IN CONCRETE AND MASONRY:

   A. INSTALL IN FULL COMPLIANCE WITH ACCEPTED BUILDING CODE EVALUATION REPORT AND MANUFACTURER'S INSTRUCTIONS.
   B. DO NOT CUT, DAMAGE, OR INTERRUPT EXISTING REINFORCEMENT TO INSTALL ANCHORS. USE NON-DESTRUCTIVE TESTING EQUIPMENT TO IDENTIFY LOCATIONS OF REINFORCEMENT IN MEMBERS BEFORE DRILLING HOLES FOR ANCHORS.

METAL FABRICATIONS:

1. HANDRAILS AND GUARDRAILS:

   A. ALUMINUM, EXCEPT WHERE OTHER MATERIALS ARE NOTED.

SPECIAL INSPECTION:

1. SPECIAL INSPECTION IS REQUIRED FOR THE FOLLOWING STRUCTURAL MATERIALS AND CONSTRUCTION. SEE SPECIFICATION SECTION 01455 FOR DETAILS.

2. DIVISION 2 SITE CONSTRUCTION (EARTHWORK)

   A. EXCAVATION DEPTH.
   B. ADEQUACY OF EXPOSED SURFACE TO PROVIDE REQUIRED SUPPORT.
   C. PREPARATION OF SOILS/SURFACES SUPPORTING CONSTRUCTION.
   D. FILL AND BACKFILL.

3. DIVISION 3 CONCRETE:

   A. LOCATIONS.
   B. FORMWORK AND MEMBER SIZES.
   C. REINFORCING STEEL.
   D. ANCHORS: CAST-IN AND POST-INSTALLED.
   E. CONCRETE MIX AND PLACEMENT.
   F. PROTECTION AND CURING PROCEDURES.

5. DIVISION 5 METALS

   A. GENERAL ALL METALS:
      1) MEMBER LOCATIONS.
      2) MEMBER SIZES/TYPES.
      3) ANCHORS - CAST-IN AND BUILT-IN ANCHOR BOLTS.
      4) ANCHORS - POST-INSTALLED MECHANICAL AND ADHESIVE.

   B. STRUCTURAL STEEL (CARBON AND STAINLESS).
      1) HIGH-STRENGTH BOLTING.
      2) WELDING.

   C. STRUCTURAL ALUMINUM.
      1) BOLTING.
      2) WELDING.

STRUCTURAL SYMBOLS:

1. SEE DRAWING G03 FOR KEY TO DRAWING TITLES AND SECTION CUTS, AND FOR DEFINITION OF MATERIALS SHADING PATTERNS.

2. WELDING: SYMBOLS: IN ACCORDANCE WITH AMERICAN WELDING SOCIETY (AWS) A2.4.

STRUCTURAL ABBREVIATIONS:

1. SEE DRAWING G04 FOR GENERAL LIST OF ABBREVIATIONS USED ON DRAWINGS.

2. ABBREVIATIONS FOR NAMES OF TECHNICAL GROUPS MAY BE FOUND IN THE PROJECT SPECIFICATIONS.

3. STRUCTURAL MEMBERS:

   A. STEEL: ABBREVIATIONS AND DESIGNATIONS ARE IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION'S STEEL CONSTRUCTION MANUAL, CURRENT EDITION.

   B. ALUMINUM: ABBREVIATIONS AND DESIGNATIONS ARE IN ACCORDANCE WITH THE ALUMINUM ASSOCIATION'S ALUMINUM DESIGN MANUAL, CURRENT EDITION.

4. ABBREVIATIONS FOR STRUCTURAL DRAWINGS:
   WHEN USED ON THE STRUCTURAL DRAWINGS, THE FOLLOWING ABBREVIATIONS HAVE THE MEANINGS LISTED.

REINFORCEMENT:		OTHER:	
BO	BOTTOM OF	L	ANGLE
EF	EACH FACE	PL	PLATE
I.F.	INSIDE FACE		
O.F.	OUTSIDE FACE		
T.O.	TOP OF		
#	NUMBER (REINFORCING BAR SIZE)		

DEFERRED DESIGN SUBMITTALS

AS DEFINED IN THE BUILDING CODE, DEFERRED DESIGN SUBMITTALS ARE PORTIONS OF THE DESIGN THAT ARE NOT SUBMITTED AT THE TIME OF PERMIT APPLICATION, AND THAT ARE TO BE REVIEWED BY THE REGISTERED DESIGN PROFESSIONAL AND SUBSEQUENTLY SUBMITTED TO THE BUILDING OFFICIAL.

DEFERRED DESIGN SUBMITTALS FOR THIS PROJECT INCLUDE:

1. DIVISION 2 SITE CONSTRUCTION (EARTHWORK).

   A. NONE

2. DIVISION 3 CONCRETE.

   A. NONE

3. DIVISION 4 MASONRY.

   A. NONE

4. DIVISION 5 METALS.

   A. 05500 HANDRAILS AND GUARDRAILS

5. DIVISION 6 WOOD AND PLASTICS.

   A. NONE

6. DIVISION 13 SPECIAL CONSTRUCTION.

   A. NONE

7. LIFTING EYES: SUBMIT DETAILS WITH CALCULATIONS DEMONSTRATING THE SPECIFIED LOAD CAPACITY TO ENGINEER, DELIVER REMOVABLE EYES TO OWNER AFTER INSTALLATION OF REMOVABLE PANELS.

REV	DATE	BY	DESCRIPTION

DESIGNED TWP
DRAWN JRL
CHECKED SSB
DATE APRIL 2020

REGISTERED PROFESSIONAL ENGINEER — No. 4763875-2203 — TODD W. PETRIK — STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
STRUCTURAL
GENERAL STRUCTURAL NOTES

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

JOB NO. 10851A.10
DRAWING NO. GS01
SHEET NO. 22 OF 69

PROJECT NO. 10851A.10 FILE NAME: 10851A100GS01.dgn

Plot Date: 24-APR-2020 8:20:24 AM
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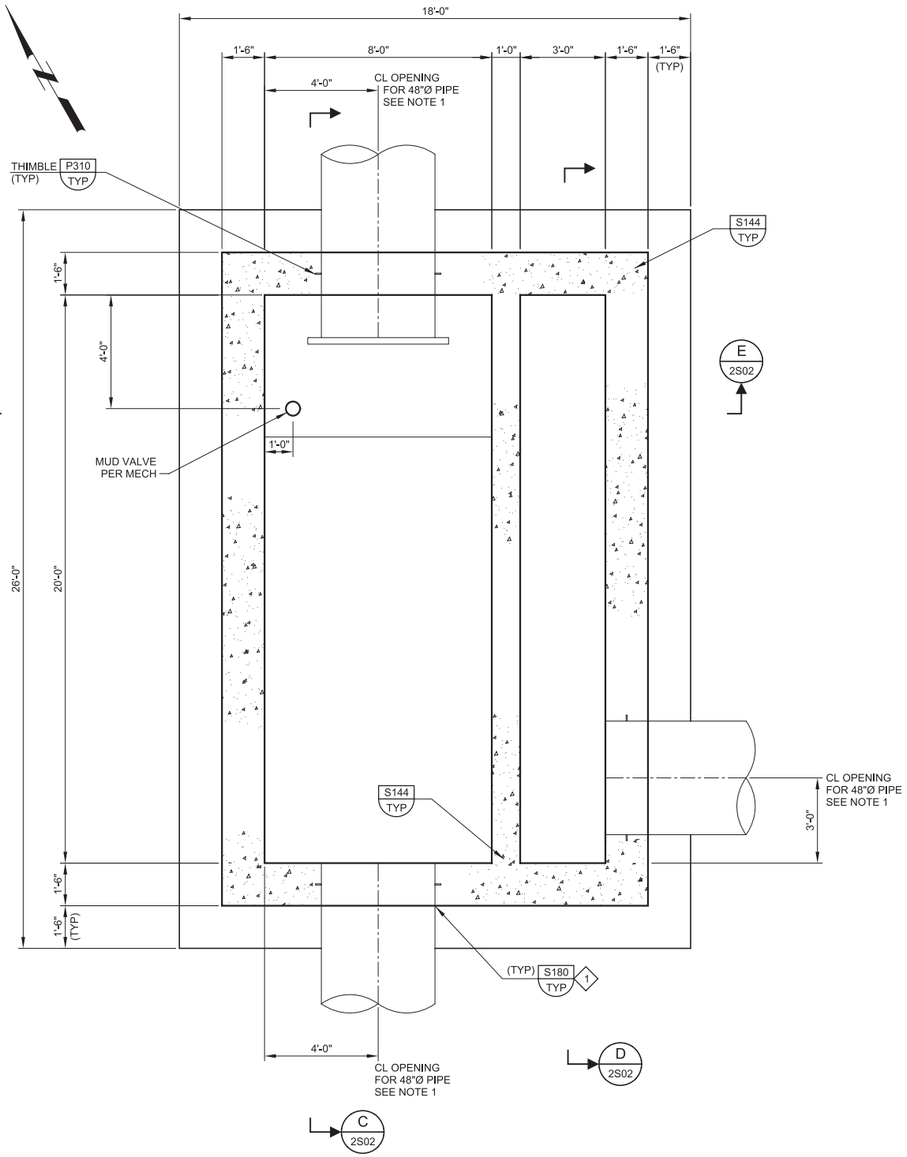
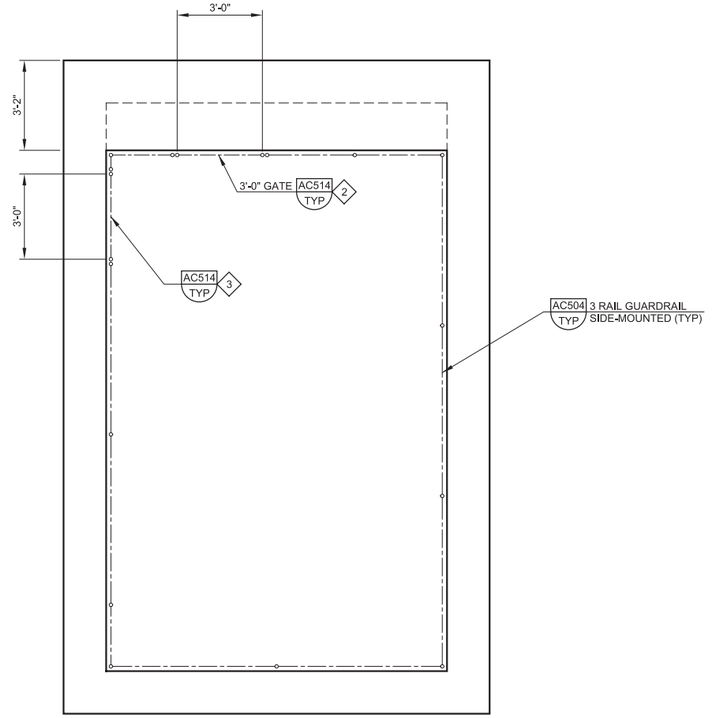
Model: Layout1
LAST SAVED BY: tdonnell



A LOWER PLAN

SCALE: 3/8" = 1'-0"
FILE: 10851A1002S101



B UPPER PLAN

SCALE: 3/8"= 1'-0"
FILE: 10851A1002S102

GENERAL NOTES:

1. COORDINATE THE LOCATION AND SIZE OF PIPE OPENING WITH THE CIVIL AND MECHANICAL DRAWINGS.

KEY NOTES:

1. USE #5x4'-0" DIAGONAL BARS ONLY PER DETAIL S180/TYP. SEE SECTIONS FOR ADDITIONAL VERTICAL AND HORIZONTAL REINFORCING.
2. CENTER GATE OPENING ON VALVE STEM.
3. CENTER GATE OPENING ON MUD VALVE.

REV	DATE	BY	DESCRIPTION

DESIGNED TWP
DRAWN JRL
CHECKED SSB
DATE APRIL 2020

REGISTERED PROFESSIONAL ENGINEER No. 4763875-2203 TODD W. PETRIK STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
STRUCTURAL
WEIR VAULT
LOWER AND UPPER PLANS

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

JOB NO. 10851A.10
DRAWING NO. 2S01
SHEET NO. 23 OF 69

PROJECT NO. 10851A.10 FILE NAME: 10851A1002S01.dgn

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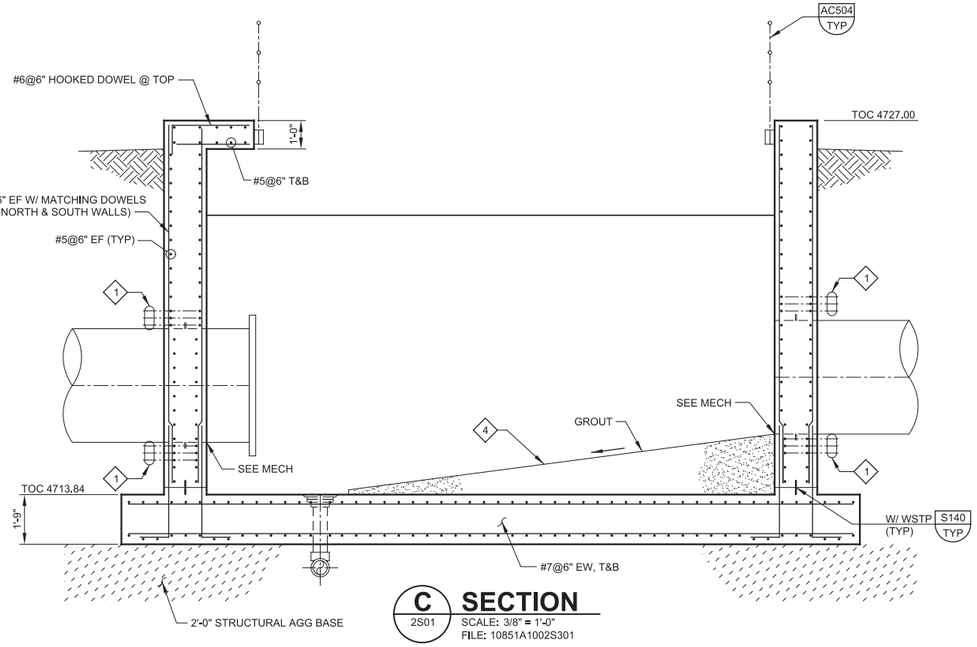
Model: Layout1
LAST SAVED BY: tdonnell



C SECTION (2S01)
SCALE: 3/8" = 1'-0"
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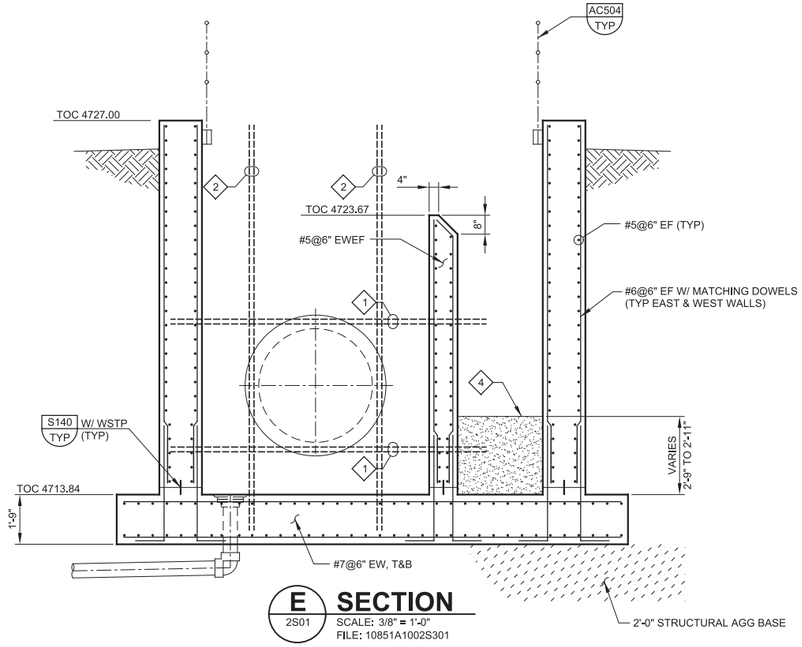

E SECTION (2S01)
SCALE: 3/8" = 1'-0"
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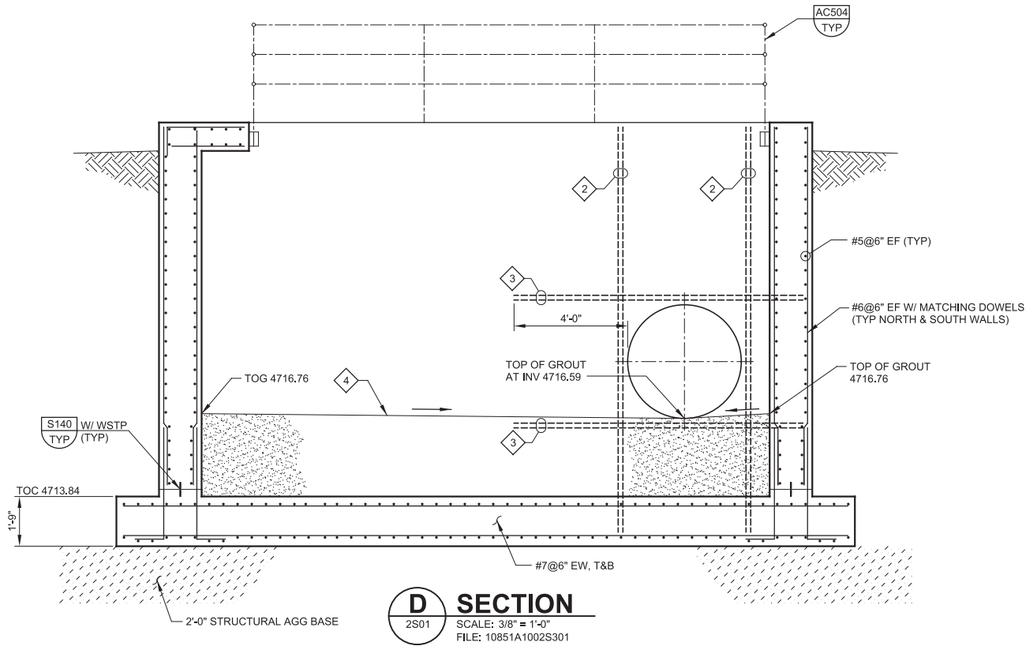

D SECTION (2S01)
SCALE: 3/8" = 1'-0"
FILE: 10851A1002S301

GENERAL NOTES:

1. COORDINATE THE LOCATION AND SIZE OF PIPE OPENING WITH THE CIVIL AND MECHANICAL DRAWINGS.

KEY NOTES:

1. (3) #6@3" OC EF ABOVE AND BELOW PIPE. HOOK ENDS AT OUTSIDE FACE OF OUTSIDE WALLS. THESE #6 BARS REPLACE THE TYPICAL HORIZONTAL BARS IN THIS 6" HEIGHT.
2. (2) #6 EF ADDITIONAL FULL HEIGHT BARS EACH SIDE OF PIPE W/ MATCHING DOWELS.
3. (2) #6 EF ABOVE AND BELOW OPENING. HOOK INTO EXTERIOR WALL AND EXTEND PAST OPENING 4'-0".
4. BASIN BOTTOM GROUT SEE SPECIFICATION SECTION 03565

REV	DATE	BY	DESCRIPTION

DESIGNED TWP
DRAWN JRL
CHECKED SSB
DATE APRIL 2020

REGISTERED PROFESSIONAL ENGINEER
No. 4763875-2203
TODD W. PETRIK
STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
STRUCTURAL
WEIR VAULT SECTIONS

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

JOB NO. 10851A.10
DRAWING NO. 2S02
SHEET NO. 24 OF 69

PROJECT NO. 10851A.10 FILE NAME: 10851A1002S02.dgn

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PIPING SYMBOLS

DOUBLE LINE	SINGLE LINE	DESCRIPTION
		WELDED JOINT
		GROOVED END JOINT
		FLANGED JOINT
		HUB & SPIGOT JOINT (RUBBER GASKET)
		PUSH-ON JOINT (RESTRAINED)
		ADAPTER SIDE GROOVED END ADAPTER FLANGE
		FLANGED COUPLING ADAPTER
		FLANGED COUPLING ADAPTER WITH THRUST TIES
		FLEXIBLE COUPLING
		FLEXIBLE COUPLING WITH THRUST TIES
		METAL BELLOWS EXP JOINT
		ELASTOMER BELLOWS EXP JOINT
		FLEXIBLE COUPLING ADAPTER
		DISMANTLING JOINT
		EXPANSION COMPENSATOR
		ELBOW UP
		ELBOW DOWN
		TEE UP
		TEE DOWN
		LATERAL UP
		LATERAL DOWN
		CONCENTRIC REDUCER
		ECCENTRIC REDUCER (FOT. FOB)
		UNION
		CAP
		ANCHOR
		ELBOW, 90 DEGREE
		CROSS
		TEE
		ELBOW, 45 DEGREE
		ELBOW, 22.5 DEGREE
		ELBOW, 11.25 DEGREE
		LATERAL

DOUBLE LINE	SINGLE LINE	DESCRIPTION
		GATE VALVE
	K	KNIFE GATE VALVE
		BUTTERFLY VALVE
V	V	CHARACTERIZED BALL CONTROL VALVE
		BALL VALVE
		GLOBE VALVE
		3-WAY GLOBE TYPE MIXING VALVE
M		DIAPHRAGM VALVE
		PLUG VALVE
		LUBRICATED PLUG VALVE
		ECCENTRIC PLUG VALVE
		SWING CHECK VALVE
		WAFER CHECK VALVE
		PINCH VALVE
		BALL CHECK VALVE
		DUAL CHECK VALVE
		SILENT CHECK VALVE
		MUD VALVE (PLAN VIEW)
		NEEDLE VALVE
		CHECK BACKFLOW PREVENTER
		PIPE MATERIAL CHANGE

MECHANICAL SYMBOLS

SINGLE LINE	DESCRIPTION
	AIR OR CHEMICAL DIFFUSER
	QUICK DISCONNECT HIGH PRESSURE AIR OR FLUSHING
	BATCHMETER
	AIR VENT
	BASKET STRAINER
	BLOWER
	CALIBRATION COLUMN
	COMPRESSOR/TURBINE
	COMPRESSOR: RECIPROCATING
	DIAPHRAGM SEAL
	DRAIN
	EJECTOR OR EDUCTOR
M	ELECTRIC MOTOR
	EQUIPMENT DRAIN
	EXPANSION JOINT, FLEXIBLE VIBRATION JOINT
	FAN: EXHAUST/SUPPLY
	FILTER
	FIRE HYDRANT
	FLAME ARRESTER
	FLAME ARRESTER WITH THERMALLY OPERATED VALVE
	FLOOR DRAIN
	FLOW SWITCH
	GAUGE: PRESSURE
	GAUGE: DIFFERENTIAL PRESSURE
	WEIR
	MIXER
	OIL OR MOISTURE TRAP
	PRIMARY LEVEL ELEMENT: BUBBLER
	PRIMARY LEVEL ELEMENT: ELECTRODE
	PRIMARY LEVEL ELEMENT: FLOAT SWITCH
	PRIMARY LEVEL ELEMENT: FLUID
	PRIMARY LEVEL ELEMENT: INVERTED COLUMN

SINGLE LINE	DESCRIPTION
	PRIMARY LEVEL ELEMENT: RADAR
	PRIMARY LEVEL ELEMENT: ULTRASONIC
	PRIMARY FLOW ELEMENT: FLUME
X	PRIMARY FLOW ELEMENT: X = C - CORIOLOS X = M - MAGNETIC X = P - PROPELLER X = PT - PITOT TUBE X = R - ROTAMETER X = T - TURBINE X = TH - THERMAL X = U - ULTRASONIC X = D - DENSITY
	PRIMARY FLOW ELEMENT: ORIFICE PLATE
	PRIMARY FLOW ELEMENT: VENTURI TUBE
	PRIMARY FLOW ELEMENT: WEIR
	PULSATION DAMPENER
	PUMP: CENTRIFUGAL
	PUMP: DIAPHRAGM
	PUMP: METERING
	PUMP: PLUNGER
	PUMP: PERISTALTIC TUBE METERING
	PUMP: PROGRESSIVE CAVITY
	PUMP: RECIPROCATING
	PUMP: ROTARY
	PUMP: SCREW
	PUMP: SUBMERSIBLE
	PUMP: VERTICAL LIFT
	PIPE REDUCER: CONCENTRIC
	PIPE REDUCER: ECCENTRIC (FOT, FOB)
	ROTARY CHEMICAL FEEDER
	RUPTURE DISK
	SAMPLE PORT
	SIGHT GLASS
	SLIDE GATE
	SLUICE GATE
	STRAINER: WYE TYPE

SINGLE LINE	DESCRIPTION
	STRAINER: WYE TYPE WITH BLOWOFF
	THERMOMETER
	VALVE: ANGLE
	VALVE: AIR RELIEF
	VALVE: BALL
	VALVE: BALL CHECK
	VALVE: BUTTERFLY
	VALVE: CONE
	VALVE: DIAPHRAGM
	VALVE: FLAPPER CHECK
	VALVE: FOUR WAY
	VALVE: GATE
	VALVE: GLOBE
	VALVE: HOSE
	VALVE: NEEDLE
	VALVE: PINCH
	VALVE: PLUG CONCENTRIC
	VALVE: PLUG ECCENTRIC
	VALVE: PRESSURE RELIEF PRESSURE-REDUCING REGULATOR
	VALVE: SWING CHECK
	VALVE: TELESCOPING
	VALVE: THREE WAY AIR OPERATED
M	VALVE: THREE WAY MOTOR OPERATED
S	VALVE: THREE WAY SOLENOID OPERATED
	VALVE: VACUUM
	BACKPRESSURE REGULATOR SELF-CONTAINED
	BACKPRESSURE REGULATOR W/ EXTERNAL PRESSURE TAP
	PRESSURE-REDUCING REGULATOR: SELF-CONTAINED
	PRESSURE-REDUCING REGULATOR W/EXTERNAL PRESSURE TAP

IDENTIFICATION SYMBOLS

CHEMICAL INJECTION POINT — CHEMICAL / DWG NO.

PIPE DESIGNATOR — PIPE SIZE, FLOW STREAM, X" XXX

CONTINUATION TAG — UNIQUE IDENTIFIER, CONTINUATION FROM DWG NO., CONTINUATION TO DWG NO., A, B, C

EQUIPMENT / VALVE TAG — XXX-XX-XXXX

LINE SYMBOLS

PIPE ABOVE OR BELOW GROUND

PIPE UNDERNEATH SLAB OR STRUCTURE

FUTURE

EXISTING

DEMO

PROCESS LINE SYMBOLS

PRIMARY PROCESS FLOW IN PIPE

SECONDARY PROCESS FLOW IN PIPE

PRIMARY PROCESS FLOW IN CHANNEL

SECONDARY PROCESS FLOW IN CHANNEL

FLOW STREAM IDENTIFIER

CODE		DESCRIPTION
AML	=	AMMONIA LIQUID
AMG	=	AMMONIA GAS
AMS	=	AMMONIA SOLUTION
AMV	=	AMMONIA VACUUM
AW	=	APPLIED WATER
BP	=	BYPASS
BWR	=	BACKWASH RETURN
CA	=	COMPRESSED AIR
CAP	=	COAGULANT AID POLYMER
CD	=	CHEMICAL DRAIN
CL	=	CHLORINE (GAS OR LIQUID STATE)
CLS	=	CHLORINE SOLUTION
CLV	=	CHLORINE GAS UNDER VACUUM
CS	=	CAUSTIC SODA
CSDL	=	CHEMICAL SUMP DRAIN LINE
CV	=	CHLORINATOR VENT AND DETECTION LINE
D	=	DRAIN
DPD	=	DEWATERING PUMP DISCHARGE
EA	=	EXHAUST AIR
FAP	=	FLOCCULANT AID POLYMER
FS	=	FERRIC SULFATE
FSP	=	FIRE PROTECTION SPRINKLER SYSTEM
FW	=	FILTERED WATER
GCO2	=	GASEOUS CARBON DIOXIDE
HC	=	HYDROCHLORIC ACID
HF	=	HYDROFLUOSILICIC ACID
HL	=	HYDRATED LIME
HLS	=	HYDRATED LIME SOLUTION
HP	=	HYDROGEN PEROXIDE (UNDILUTED)
HR	=	HEATING WATER RETURN
HS	=	HEATING WATER SUPPLY
MWR	=	MOTOR COOLING WATER RETURN
MWS	=	MOTOR COOLING WATER SUPPLY
OA	=	OUTSIDE AIR
OF	=	OVERFLOW
OW	=	OZONATED WATER
PA	=	PLANT AIR
PAC	=	POWDERED ACTIVATED CARBON
PD	=	PLANT DRAIN
PLS	=	POLYMER SOLUTION
PO	=	PLANT OVERFLOW
POL	=	POLYMER
PS	=	PHOSPHATE SOLUTION
PW	=	POTABLE WATER
RM	=	RAPID MIX WATER
RW	=	RAW WATER
SA	=	SAMPLE LINE
SD	=	STORM DRAIN
SL	=	SLUDGE
SPD	=	SUMP PUMP DISCHARGE
SS	=	SANITARY SEWER
TW	=	TREATED WATER
UW	=	UTILITY WATER (NON-POTABLE WATER)
V	=	VACUUM
VE	=	VENT
VTR	=	VENT THROUGH ROOF
WT	=	SANITARY SEWER
WW	=	FILTERED WASH WATER

REV	DATE	BY	DESCRIPTION

DESIGNED SSB
DRAWN TSD
CHECKED PAC
DATE JUNE 2020

REGISTERED PROFESSIONAL ENGINEER — No. 493929-2202 — PATRICK A. CARLSON — STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

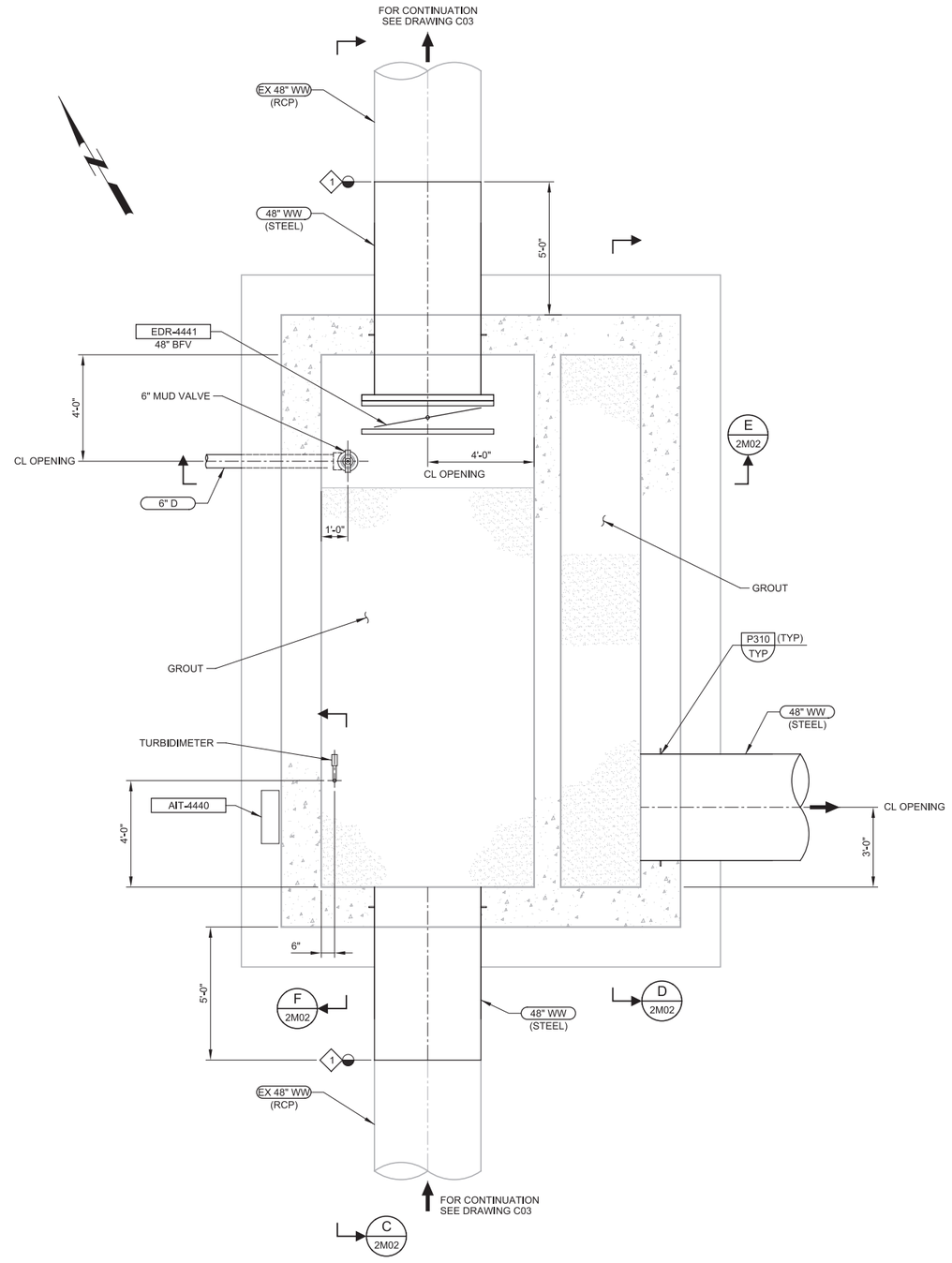
JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
MECHANICAL
MECHANICAL SYMBOLS

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

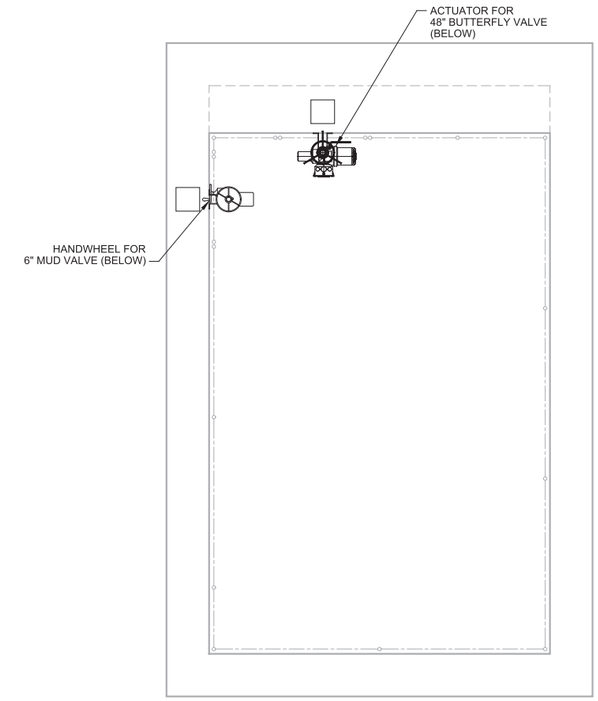
JOB NO. 10851A.10
DRAWING NO. GM01
SHEET NO. 26 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A100GM01.dgn

LAST SAVED BY: tdonnell PlotScale: 2:1 DesignScript: Carollo_Std_Pen_v0905.pen ColorTable: gshade.ctb Model: Layout1 User: svcPW Plot Date: 15-JUN-2020 12:28:56 PM



A C01 **LOWER PLAN**
SCALE: 3/8" = 1'-0"
FILE: 10851A1002M101



B **UPPER PLAN**
SCALE: SCALE
FILE: 10851A1002M102

GENERAL NOTES:

1. SEE CIVIL DRAWINGS FOR PIPING CONTINUATION.

KEY NOTES:

1. CONNECT RCP TO STEEL PIPE SIMILAR TO DETAIL P883/TYP. CONTRACTOR SHALL FIELD VERIFY RCP JOINT DIMENSIONS BEFORE FABRICATING STEEL PIPE FITTINGS.

REV	DATE	BY	DESCRIPTION

DESIGNED SSB
DRAWN TSD
CHECKED PAC
DATE JUNE 2020

REGISTERED PROFESSIONAL ENGINEER
No. 4939129-2202
PATRICK A. CARLSON
STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
MECHANICAL
WEIR VAULT
LOWER AND UPPER PLANS

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

JOB NO. 10851A.10
DRAWING NO. 2M01
SHEET NO. 27 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A1002M01.dgn

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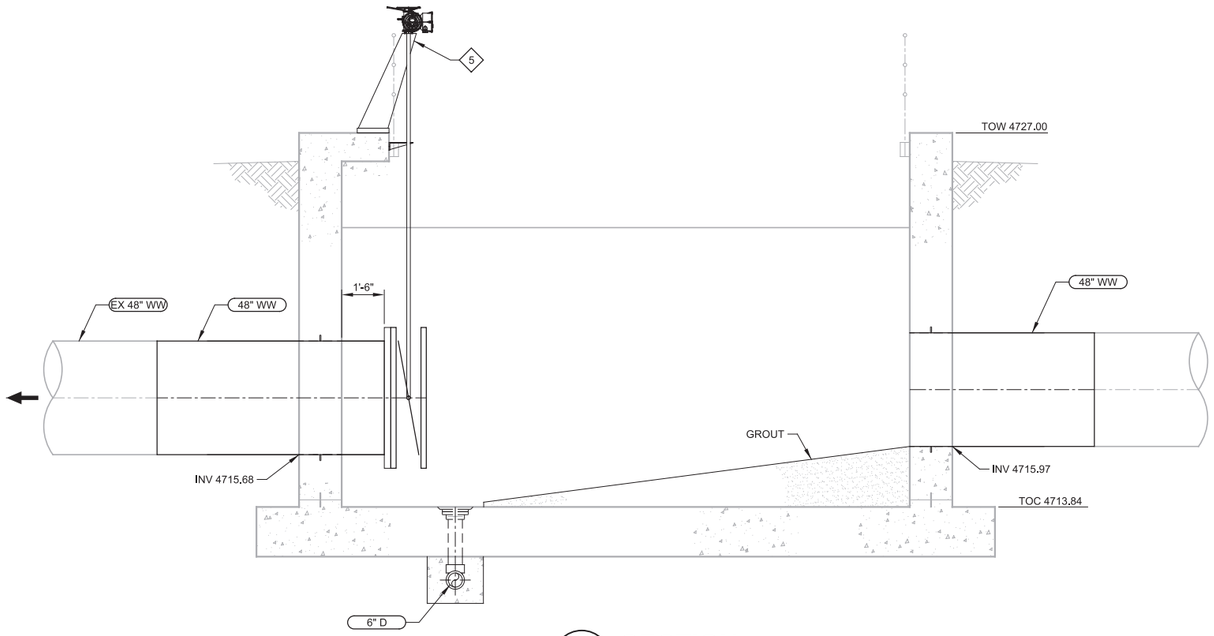
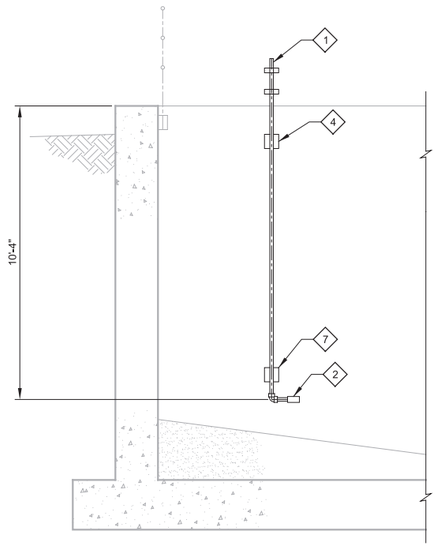


C SECTION
2M01 SCALE: 3/8" = 1'-0"
FILE: 10851A1002M301



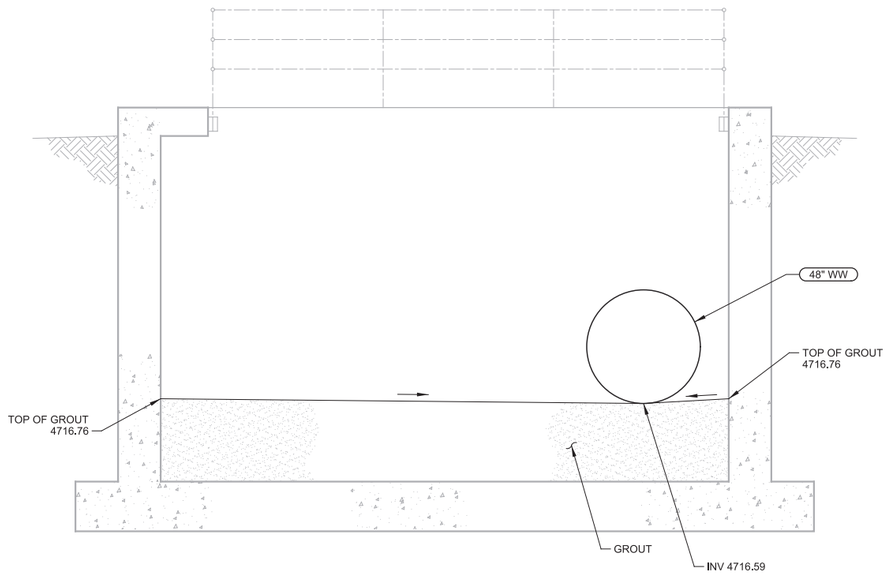
F SECTION
2M01 SCALE: 3/8" = 1'-0"
FILE: 10851A1002M301

GENERAL NOTES:

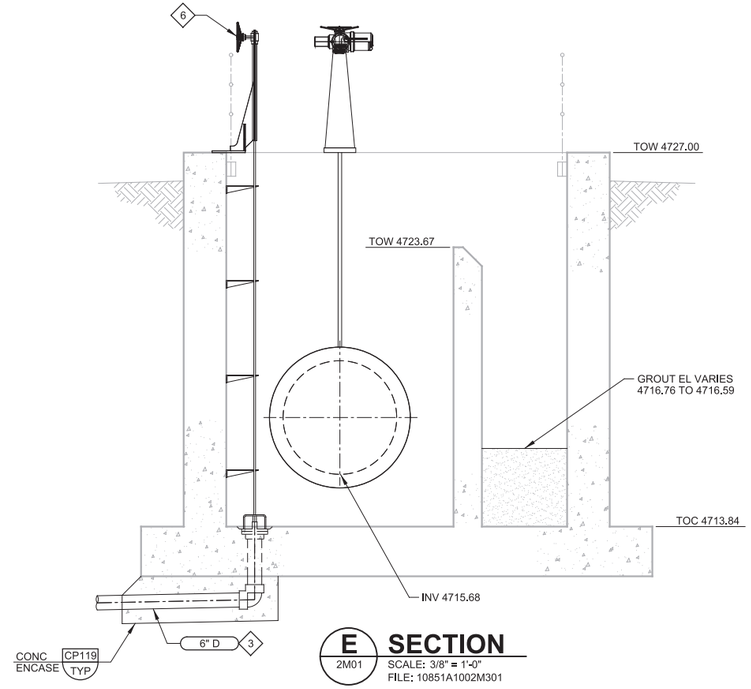
1. SEE CIVIL DRAWINGS FOR PIPING CONTINUATION.

◇# KEY NOTES:

1. 2" 316 SST MOUNTING PIPE.
2. TURBIDIMETER SIMILAR TO HACH SOLITAX.
3. CLEAR WATER DRAIN TO GRAVEL PACK.
4. MOUNT TURBIDIMETER SIMILAR TO HACH FIXED POINT INSTALLATION KIT (57344-00) AND PER MANUFACTURER'S RECOMMENDATIONS.
5. COORDINATE BUTTERFLY VALVE, STEM, AND ACTUATOR AND STAND LOCATIONS WITH STRUCTURAL. ACTUATOR AND STAND SHOULD NOT INTERFERE WITH RAILING.
6. COORDINATE MUD VALVE, STEM, AND WHEEL AND STAND LOCATIONS WITH STRUCTURAL. WHEEL AND STAND SHOULD NOT INTERFERE WITH RAILING.
7. PROVIDE CUSTOM FABRICATED TURBIDIMETER CRADLE TO SUPPORT LONG LENGTH OF PIPE.



D SECTION
2M01 SCALE: 3/8" = 1'-0"
FILE: 10851A1002M301



E SECTION
2M01 SCALE: 3/8" = 1'-0"
FILE: 10851A1002M301

REV	DATE	BY	DESCRIPTION

DESIGNED SSB
DRAWN TSD
CHECKED PAC
DATE JUNE 2020

REGISTERED PROFESSIONAL ENGINEER
No. 4939129-2202
PATRICK A. CARLSON
STATE OF UTAH

carollo

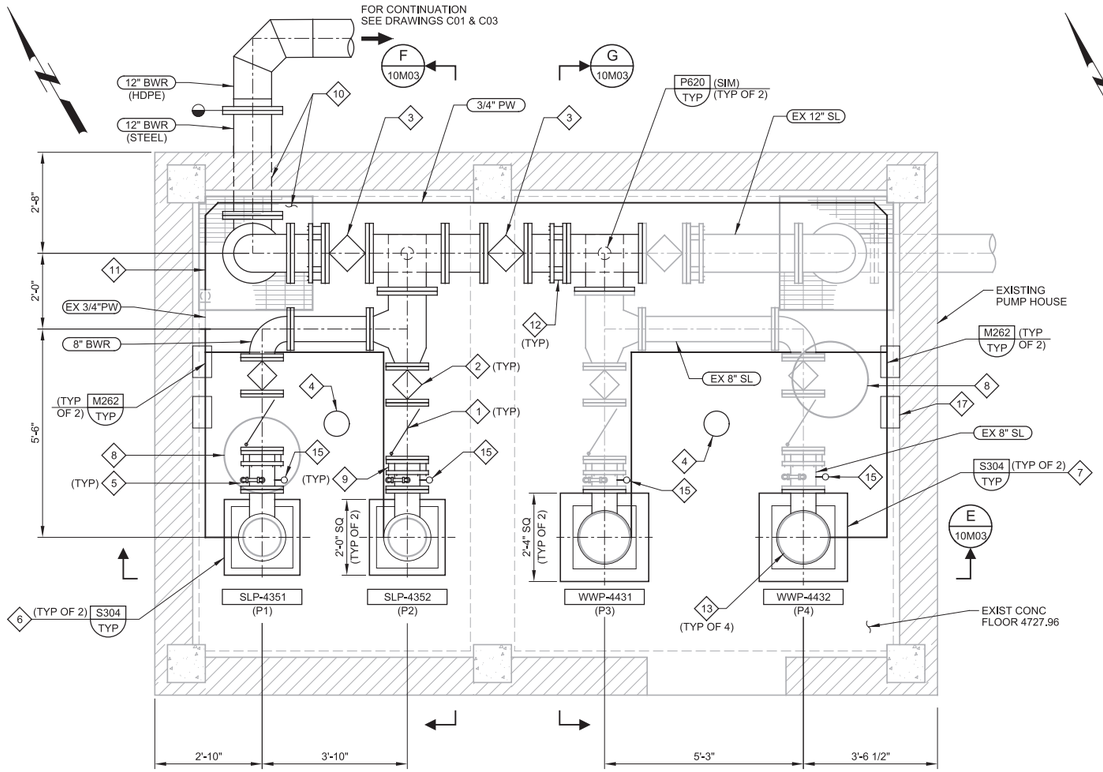
JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
MECHANICAL
WEIR VAULT SECTIONS

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

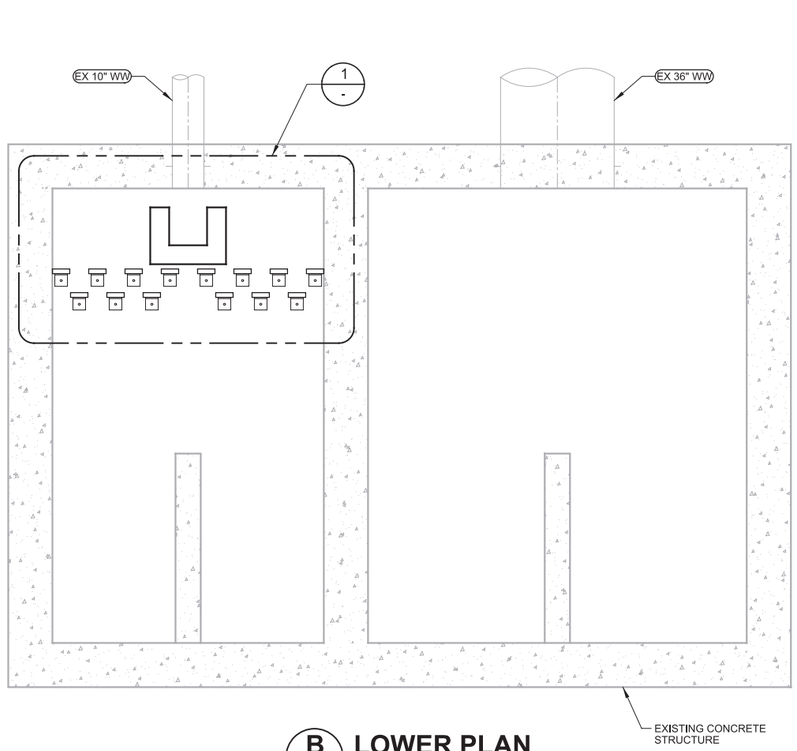
JOB NO. 10851A.10
DRAWING NO. 2M02
SHEET NO. 28 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A1002M02.dgn



A UPPER PLAN

C03 SCALE: 1/2" = 1'-0"
FILE: 10851A1001M101



B LOWER PLAN

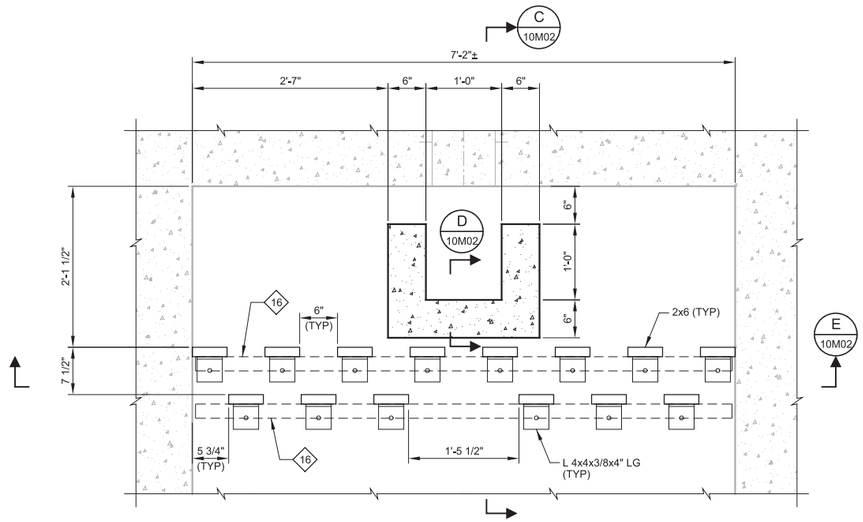
C03 SCALE: 1/2" = 1'-0"
FILE: 10851A1001S101

GENERAL NOTES:

1. COORDINATE PUMP ANCHORAGE WITH PUMP MANUFACTURER.
2. ALL METAL THAT SUPPORTS THE NEW 2x6 BAFFLES IS TO BE STAINLESS STEEL.
3. SEE CIVIL DRAWINGS FOR PIPING CONTINUATION.

KEY NOTES:

1. 8" SWING CHECK VALVE.
2. 8" PLUG VALVE.
3. 12" PLUG VALVE.
4. LEVEL INSTRUMENT. SEE DRAWING 10E01 FOR ADDITIONAL DETAILS.
5. 2" COMBINATION AIR VACUUM VALVE PER DETAIL P240/TYP.
6. AFTER REFURBISHMENT, EXISTING EAST WET WELL PUMPS TO BE RELOCATED TO THE WEST WET WELL. CONTRACTOR TO VERIFY FLOOR PENETRATION DIMENSIONS TO ENSURE EXISTING PUMPS WILL FIT IN THE EXISTING WEST WET WELL FLOOR PENETRATIONS.
7. INSTALL NEW PUMPS IN THE EAST WET WELL, CONTRACTOR TO VERIFY FLOOR PENETRATION DIMENSIONS BEFORE MANUFACTURING PUMPS.
8. EXISTING MANHOLE RING AND COVER.
9. 8" FLANGED COUPLING ADAPTER.
10. CORE LARGER OPENING IN WALL FOR INCREASED PIPE SIZE. SEE DETAIL P305/TYP. ENLARGE OPENING OF ALUMINUM GRATING. REPLACE IF NECESSARY.
11. CONNECT TO EXISTING SEAL WATER PIPING. ROUTE PIPING ALONG WALL, AND SUPPORT PER DETAILS P660/TYP AND P662/TYP.
12. 12" DISMANTLING JOINT.
13. REUSE EXISTING FLOOR PENETRATIONS. CONTRACTOR TO VERIFY ALL DIMENSIONS. INSTALL PUMPS PER MANUFACTURER'S RECOMMENDATIONS.
14. NOT USED.
15. PRESSURE SWITCH.
16. CONTINUOUS C8 ABOVE. SEE DETAIL 2/10M02.
17. SEAL WATER EQUIPMENT APPROXIMATE LOCATION (TYP).



1 DETAIL

SCALE: 1" = 1'-0"
FILE: 10851A1001S101

REV	DATE	BY	DESCRIPTION

DESIGNED SSB
DRAWN TSD
CHECKED PAC
DATE JUNE 2020

REGISTERED PROFESSIONAL ENGINEER
No. 4939129-2202
PATRICK A. CARLSON
STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
MECHANICAL
EXISTING WASHWATER RECYCLE PUMP STA. NO. 1 MODIFICATIONS - PLANS AND DETAIL

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

JOB NO. 10851A.10
DRAWING NO. 10M01
SHEET NO. 29 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A1010M01.dgn

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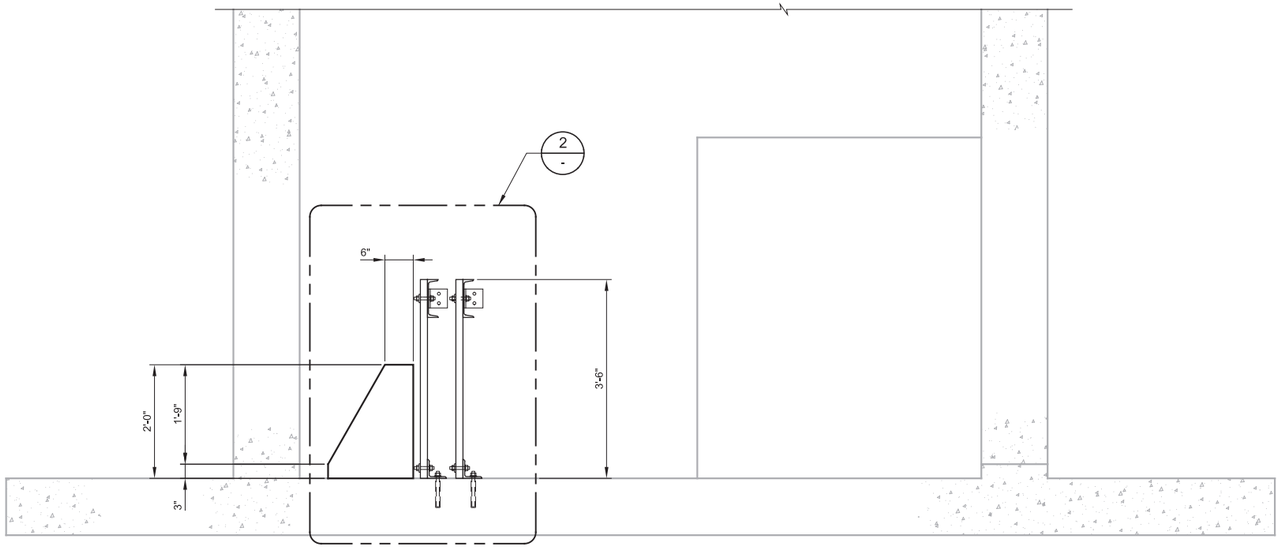
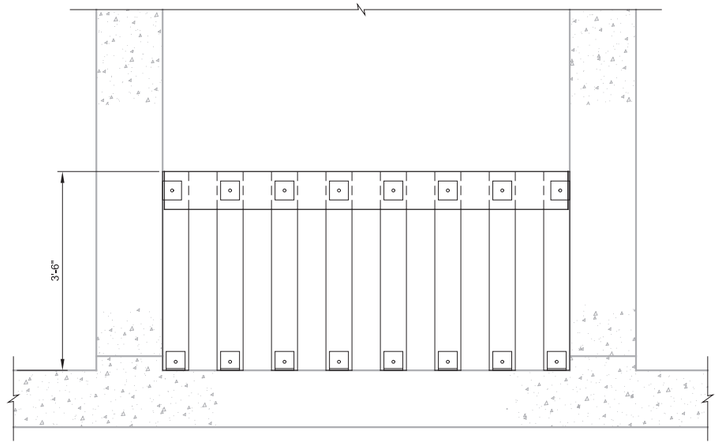
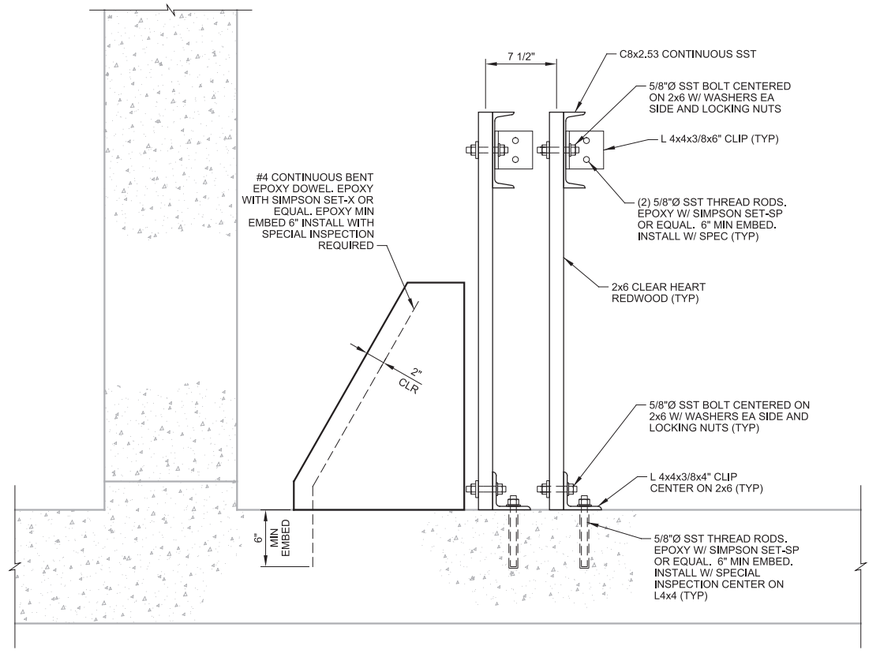


C SECTION
10M01 SCALE: 3/4" = 1'-0"
FILE: 10851A1001S301



E SECTION
10M01 SCALE: 3/4" = 1'-0"
FILE: 10851A1001S301

D SECTION
10M01 SCALE: 1 1/2" = 1'-0"
FILE: 10851A1001S302



2 DETAIL
- SCALE: 1 1/2" = 1'-0"
FILE: 10851A1001S301

REV	DATE	BY	DESCRIPTION

DESIGNED SSB
DRAWN TSD
CHECKED PAC
DATE JUNE 2020

REGISTERED PROFESSIONAL ENGINEER — No. 4939129-2202 — PATRICK A. CARLSON — STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
MECHANICAL
EXISTING WASHWATER RECYCLE PUMP STA. NO. 1 MODIFICATIONS - SECTIONS AND DETAILS 1

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

JOB NO. 10851A.10
DRAWING NO. 10M02
SHEET NO. 30 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A1010M02.dgn

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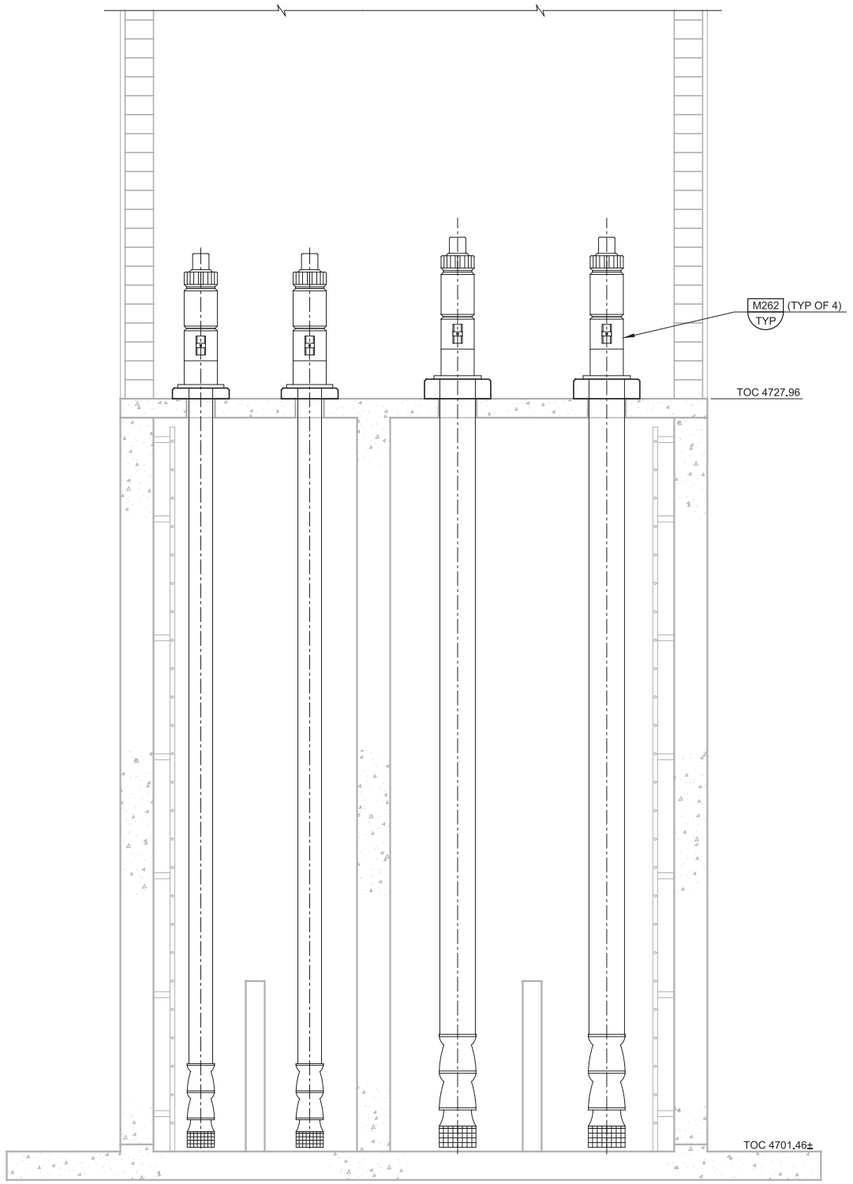
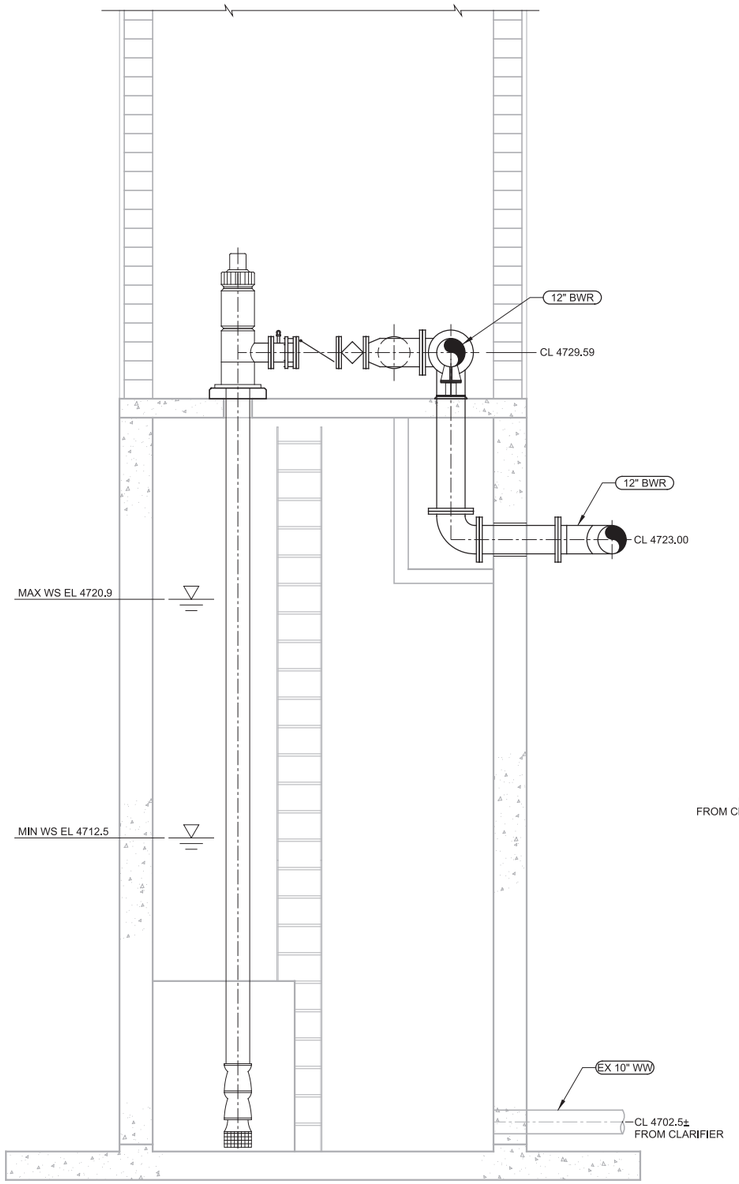
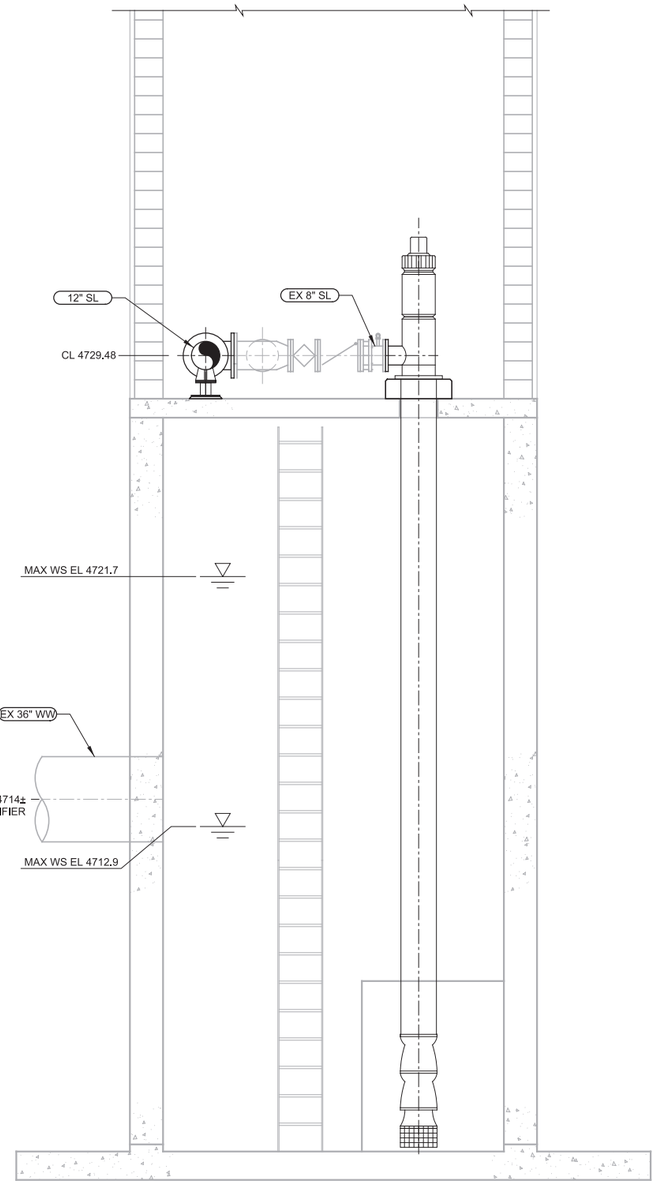
LAST SAVED BY: tdonnell



E SECTION
10M01
SCALE: 3/8" = 1'-0"
FILE: 10851A1001M301



F SECTION
10M01
SCALE: 3/8" = 1'-0"
FILE: 10851A1001M301



G SECTION
10M01
SCALE: 3/8" = 1'-0"
FILE: 10851A1001M301

REV	DATE	BY	DESCRIPTION

DESIGNED SSB
DRAWN TSD
CHECKED PAC
DATE JUNE 2020

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JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
MECHANICAL
EXISTING WASHWATER RECYCLE PUMP STA. NO. 1 MODIFICATIONS - SECTIONS AND DETAILS 2

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

JOB NO. 10851A.10
DRAWING NO. 10M03
SHEET NO. 31 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A1010M03.dgn

ELECTRICAL PLAN SYMBOLS

IDENTIFICATION SYMBOLS

EQUIP # — EQUIPMENT AND INSTRUMENT IDENTIFICATION

EQUIPMENT/INSTRUMENT LOCATOR

LUMINAIRE IDENTIFICATION
a = CIRCUIT DESIGNATION
b = DEVICE SWITCHED FROM
c = MOUNTING HEIGHT IN FEET TO BOTTOM OF FIXTURE

XXXX — CONDUIT IDENTIFICATION
XXXX = CONDUIT NUMBER.
REFER TO CONDUIT SCHEDULE
UNLESS OTHERWISE NOTED, GROUPED CONDUITS ARE LABELED LEFT TO RIGHT OR TOP TO BOTTOM.

X — INDICATES KEYNOTE X
(PERTAINS ONLY TO SHEET WHERE NOTE IS FOUND)

A — DISCONNECT SWITCH
A = TYPE, REFER TO DISCONNECT SCHEDULE

LUMINAIRES

LINEAR FIXTURE

2' X 2' LAY-IN TROFFER

2' X 4' LAY-IN TROFFER

LUMINAIRE POLE MOUNTED

RH — GO/NO-GO PANEL - STROBE AND HORN
R = RED LIGHT
G = GREEN LIGHT
H = HORN

RG — GO/NO-GO PANEL - SOLID

R — GO/NO-GO PANEL - STROBE

LUMINAIRE, EMERGENCY BATTERY-POWERED

LUMINAIRE, EMERGENCY/EXIT BATTERY-POWERED

LUMINAIRE, EMERGENCY BATTERY-POWERED REMOTE

LUMINAIRE, SURFACE OR PENDANT MOUNTED

LUMINAIRE, WALL MOUNTED

LUMINAIRE, FLOOD/SPOT

LUMINAIRE, EXIT ONE OR TWO FACES AS INDICATED.
ARROW POINTS IN DIRECTION OF EGRESS.

SWITCHES/RECEPTACLES

SINGLE POLE SWITCH
a = CIRCUIT DESIGNATION
b = DEVICE SWITCHED DESIGNATION
c = TYPE
2 = DOUBLE POLE SWITCH
3 = THREE-WAY SWITCH
3P = THREE POSITION SWITCH
4 = FOUR-WAY SWITCH
K = KEY OPERATED SWITCH
F = SWITCH AND FUSESTAT HOLDER
P = SWITCH AND PILOT LIGHT
T = THERMOSTAT
D = DIMMER SWITCH
L = LOW VOLTAGE LIGHT SWITCH
M = MANUAL MOTOR STARTER
N = NETWORKED SINGLE OR MULTIPLE SWITCH LOCATIONS

REFER TO ABBREVIATIONS LEGEND FOR ALL OTHER DESIGNATIONS.

OCCUPANCY SENSOR
X = REFERENCE LIGHTING CONTROL COMPONENT SCHEDULE
a = CIRCUIT DESIGNATION
b = DEVICE SWITCHED DESIGNATION
c = MOUNTING HEIGHT IN FEET TO BOTTOM OF SENSOR

PE — PHOTOCELL

SWITCH AND SINGLE RECEPTACLE
a = CIRCUIT DESIGNATION
b = DEVICE TYPE DESIGNATION

DUPLEX RECEPTACLE

QUADRUPLEX RECEPTACLE

IN FLOOR DUPLEX RECEPTACLE

IN FLOOR QUADRUPLEX RECEPTACLE

DUPLEX RECEPTACLE w/SPLIT WIRE

APPLIANCE RECEPTACLE

SPECIAL PURPOSE RECEPTACLE

WELDING RECEPTACLE
a = CIRCUIT DESIGNATION
b = DISCONNECT TYPE

TWIST LOCK RECEPTACLE
a = AMP RATING

TELEPHONE OUTLET
a = CIRCUIT DESIGNATION
b = MOUNTING HEIGHT

DATA COMMUNICATIONS OUTLET
a = CIRCUIT DESIGNATION
b = MOUNTING HEIGHT

FIRE ALARM

SMOKE DETECTOR
a = TYPE
I = IONIZATION
P = PHOTOELECTRIC
d = DUCT DETECTOR

FACP — FIRE ALARM CONTROL PANEL

F — FIRE ALARM PULL STATION

FH — FIRE ALARM HORN/STROBE COMBINATION

FS — FIRE ALARM STROBE

F — FIRE SPRINKLER
F = FLOW SWITCH
T = TAMPER SWITCH

RACEWAY

EXPOSED CONDUIT

BREAK AND CONTINUATION IN CONDUIT RUN

EXPOSED CONDUIT HIDDEN BEHIND WALLS, FLOORS OR OTHER STRUCTURES

UNDERGROUND CONDUIT, DIRECT BURIED OR IN DUCT BANK

CONDUIT IN SLAB

CONDUIT VERTICAL CHANGE IN DIRECTION

CONDUIT CAP

J — JUNCTION BOX

CONDUIT SEAL

CONDUIT TEE

DUCT BANK
APPROXIMATE DIMENSIONS SHOWN ON DUCT BANK SECTIONS

CONDUIT SIZE AND CONDUCTORS

INDIVIDUAL CONDUCTORS

W"C-(3-X (Ø), 1-Y (N) & 1-Z (G))

W"C (WHERE INDICATED): W = CONDUIT TRADE SIZE

3-X (Ø):
3 = QUANTITY
X = SIZE OF CONDUCTORS
(Ø) = DESIGNATES PHASE CONDUCTORS

1-Y (N)(WHERE INDICATED):
1 = QUANTITY
Y = SIZE OF CONDUCTORS
(N) = DESIGNATES NEUTRAL CONDUCTORS

1-Z (G)(WHERE INDICATED):
1 = QUANTITY
Z = SIZE OF CONDUCTORS
(G) = DESIGNATES GROUND CONDUCTORS

U(3-X (Ø) & 1-X (G))

U = NUMBER OF PARALLEL RUNS

MULTI CONDUCTOR CABLES

K/2/C#16S
K (WHERE INDICATED) = NUMBER OF PAIRS
2/C#16S = TWO CONDUCTOR, 16 GAUGE, TWISTED SHIELDED PAIR

K/3/C#16S
K (WHERE INDICATED) = NUMBER OF TRIPLETS
3/C#16S = THREE CONDUCTOR, 16 GAUGE, TWISTED SHIELDED TRIPLETS

N/CX
N = NUMBER OF CONDUCTORS IN THE CABLE
X = SIZE OF CONDUCTORS

FIBER OPTIC CABLES

FO/N
N = NUMBER OF INDIVIDUAL FIBERS

GROUNDING

UNDERGROUND GROUND CABLE
#4/0 SDBC UNLESS OTHERWISE NOTED

GROUND ROD

GROUND ROD AND GROUND WELL

ELECTRICAL ONE-LINE SYMBOLS

MEDIUM VOLTAGE

52 — CIRCUIT BREAKER, MEDIUM VOLTAGE
a = CIRCUIT BREAKER NUMBER
b = FRAME SIZE

ANSI RELAY DEVICE
a = ANSI DEVICE FUNCTION
b = QUANTITY

MEDIUM VOLTAGE DISCONNECT SWITCH NON-FUSED CUT OUT

MEDIUM VOLTAGE DISCONNECTING FUSE SINGLE FUSE CUT OUT

MEDIUM VOLTAGE DISCONNECTING FUSE DOUBLE FUSE CUT OUT

MEDIUM VOLTAGE SINGLE FUSE

MEDIUM VOLTAGE DOUBLE FUSE

MEDIUM VOLTAGE LIVE FRONT TERMINATOR

MEDIUM VOLTAGE ELBOW

MEDIUM VOLTAGE TEE

MEDIUM VOLTAGE CONTACTOR

MEDIUM VOLTAGE STARTER

MOV-ELBOW ARRESTER

LOW VOLTAGE

LOW VOLTAGE CIRCUIT BREAKER
a = TYPE
MCP = MOTOR CIRCUIT PROTECTOR
TM = THERMAL MAGNETIC
SS = SOLID STATE
b = FRAME SIZE (MANUFACTURER TO DETERMINE FRAME SIZE UNLESS INDICATED)
c = NUMBER OF POLES
d = TRIP SETTING (AT = AMP TRIP) (AC = MCP CONTINUOUS RATING)
e = DESIGNATION
f = INTERRUPTING RATING

LOW VOLTAGE CIRCUIT BREAKER AUXILIARY OPERATOR
* = S = SHUNT TRIP
= G = GROUND FAULT INTERRUPTER
= V = SOLENOID KEY RELEASE

A — DISCONNECT SWITCH
A = TYPE, REFER TO DISCONNECT SCHEDULE

B — FUSED DISCONNECT SWITCH
B = TYPE, REFER TO DISCONNECT SCHEDULE
b = FUSE RATING

FUSE

COMBINATION STARTER
WITH CONTROL POWER TRANSFORMER
a = CIRCUIT BREAKER DISCONNECT, TYPE AS NOTED
b = STARTER TYPE
REFER TO THE SPECIFICATIONS FOR STARTER DEFINITIONS.
c = NEMA STARTER SIZE
d = OVERLOAD

MOTOR STARTER/DRIVES:
a = DEVICE TYPE
VFD-6 = 6-PULSE VFD
VFD-18 = 18-PULSE VFD
RVSS = REDUCED VOLTAGE SOLID STATE STARTER
RVAT = REDUCED VOLTAGE AUTO TRANSFORMER
a/B = DEVICE WITH BYPASS STARTER. REFER TO THE SPECIFICATIONS

b = INPUT OPTIONS
LL = LINE REACTOR
PHF = PASSIVE HARMONIC FILTER

c = OUTPUT OPTIONS
LR = LOAD REACTOR
DV/DT = Dv/dt FILTER
SWF = SINE WAVE FILTER

EQUIPMENT ENCLOSURE

MISCELLANEOUS

HP — MOTOR
HP = HORSEPOWER RATING
FULL LOAD AMPS AS NOTED

PACKAGED EQUIPMENT
LOAD RATING AS INDICATED
a = RATED LOAD
b = UNIT(HP, KW, KVA) AS INDICATED

TRANSFORMER
a = DEVICE I.D.
b = KVA RATING
c = NUMBER OF PHASES
d = PRIMARY VOLTAGE
e = SECONDARY VOLTAGE
f,g = CONNECTION TYPE SYMBOL
h = IMPEDANCE

GROUNDED WYE CONNECTION

DELTA CONNECTION

G — ENGINE-GENERATOR RATINGS AS INDICATED ON THE DRAWINGS
a = KVA/KW
b = VOLTAGE/CONNECTION
c = PHASE
d = WIRE
e = PF

CURRENT TRANSFORMER WITH SHORTING TERMINAL BLOCK
a = QUANTITY
b = RATIO

POTENTIAL TRANSFORMER
a = QUANTITY
b = RATIO
c,d = CONNECTION TYPE SYMBOL

SSM — SOLID STATE MULTIFUNCTION METER

ATP — AMPERE TEST POINT

VTP — VOLTAGE TEST POINT

UTILITY METER

LIGHTNING ARRESTER

SPD — SURGE PROTECTIVE DEVICE

DRAWOUT CONNECTION

GROUND

CAPACITOR

BATTERY

K — KIRK KEY INTERLOCK

LOAD BANK

REV	DATE	BY	DESCRIPTION

DESIGNED JN
DRAWN MNH
CHECKED CAH
DATE JUNE 2020

REGISTERED PROFESSIONAL ENGINEER — No. 366286 — CHRISTOPHER A. CARVALHO — STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
ELECTRICAL
ELECTRICAL LEGEND

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

JOB NO. 10851A.10
DRAWING NO. GE01
SHEET NO. 32 OF 70

PROJECT NO. 10851A.10
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ABBREVIATIONS

A	AMP
ABS	ABSOLUTE
AC	ALTERNATING CURRENT
ACK	ACKNOWLEDGE
ACTR	ACTUATOR
AF	AMP FRAME
AFC	AUTOMATIC FREQUENCY CONTROL
AIC	AMP INTERRUPTING CAPACITY
AM	AMMETER
ANN	ANNUNCIATOR
ANT	ANTENNA
APU	AUXILIARY POWER UNIT
ARM	ARMORED CABLE
AS	AMMETER SWITCH
ASYM	ASYMMETRICAL
AT	AMP TRIP
ATO	AUTOMATIC THROW OVER
ATP	AMMETER TEST POINT
ATS	AUTOMATIC TRANSFER SWITCH
AUTO XFMR	AUTOMATIC TRANSFORMER
AUX	AUXILIARY
AWG	AMERICAN WIRE GAGE
B	BELL
BAT	BATTERY
BFG	BELOW FINISHED GRADE
BHP	BRAKE HORSEPOWER
BKR	BREAKER
BRF	BELOW RAISED FLOOR
C	CONDUIT / CONTINUOUS LOAD
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CCW	COUNTER CLOCKWISE
CKT	CIRCUIT
COAX	COAXIAL CABLE
COM	COMMON
COMM	COMMUNICATION
CPT	CONTROL POWER TRANSFORMER
CR	CONTROLLED RECEPTACLE
CS	CONTROL SWITCH
CT	CURRENT TRANSFORMER
CV	CONTROL VALVE
CW	CLOCKWISE / COOL WHITE
DC	DIRECT CURRENT
DCS	DISTRIBUTED CONTROL SYSTEM
DCU - X	DISTRIBUTED CONTROL UNIT NO. X
DEMO	DEMOLITION
DISC	DISCONNECT SWITCH
DM	DEMAND METER
DPDT	DOUBLE POLE DOUBLE THROW
DPST	DOUBLE POLE SINGLE THROW
DS	DOOR SWITCH
E/G	EMERGENCY GENERATOR
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
ENG	ENGINE
ENT	ELECTRICAL NON-METALLIC TUBING
EP	EXPLOSION PROOF
ETM	ELAPSED TIME METER
F	SUB-FED
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FDR	FEEDER
FLA	FULL LOAD AMPS
FLX	FLEXIBLE CONDUIT
FO	FIBER OPTIC
FRC	FIBERGLASS RIGID CONDUIT
FREQ	FREQUENCY
FU	FUSE
FU	SW FUSED SWITCH
FVNR	FULL VOLTAGE NON-REVERSING
FVR	FULL VOLTAGE REVERSING
FWD	FORWARD
G	GROUND / EQUIPMENT GROUND / GROUND FAULT
GEN	GENERATOR
GRC	GALVANIZED STEEL RIGID CONDUIT
GFCI	GROUND FAULT CIRCUIT INTERRUPTER (RECEPTACLE)
GFI	GROUND FAULT INTERRUPTER (BREAKER)
GFR	GROUND FAULT RELAY
H	HOT-LEG
HF	HIGH FREQUENCY
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HR	HOUR
HSTAT	HUMIDISTAT
HV	HIGH VOLTAGE
HVAC	HEATING/VENTILATION/AIR CONDITIONING
HZ	HERTZ
I	INSTANTANEOUS / INTERMITTENT LOAD
IC	INTERRUPTING CAPACITY
IJB	INSTRUMENT JUNCTION BOX
IMC	INTERMEDIATE METAL CONDUIT
INST	INSTANTANEOUS
INT	INTERLOCK
INTERCOM	INTERCOMMUNICATION
J	JUNCTION BOX
K	KEY INTERLOCK
KA	KILOAMP
KV	KILOVOLT
KVA	KILOVOLT AMPERE
KVAR	KILOVAR (REACTANCE)
KW	KILOWATT
KWD	KILOWATT DEMAND
KWH	KILOWATT HOUR
L	LONG-TIME
L-B	LINE-BUS
L-G	LINE-GROUND
LA	LIGHTNING ARRESTOR
LBL	LABEL
LC	LIGHTING CONTACT OR
LCP- X	LOCAL CONTROL PANEL NO. X
LL	LEAD-LAG LOAD REACTOR
LP	LIGHT POLE
LP - X	LIGHTING PANEL NO. X
LTG	LIGHTING
LV	LOW VOLTAGE
LVL	LEVEL
M-X	MOTOR CONTROLLER NO. X
MA	MILLIAMPERE
MCA	MOTOR CIRCUIT AMPS
MCC - X	MOTOR CONTROL CENTER NO. X
MCP	MOTOR CIRCUIT PROTECTOR
MH	MANHOLE / MOUNTING HEIGHT
MLO	MAIN LUGS ONLY
MOD	MOTOR OPERATED DAMPER
MOV	METAL OXIDE VARISTOR
MPR	MOTOR PROTECTION RELAY
MS-X	MOTOR STARTER NO. X
MSP	MOTOR STARTING PANEL
MTO	MANUAL THROW OVER
MTR-X	MOTOR NO. X
MTS	MANUAL TRANSFER SWITCH
MV	MEGAVOLT
MVA	MEGAVOLT-AMPERES
MVS	MEDIUM VOLTAGE SWITCH
MW	MEGAWATT
N	NEUTRAL
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NFC	NONMETALLIC FLEXIBLE CONDUIT
NL	NIGHT LIGHT
NO	NORMALLY OPEN
NP	NAMEPLATE
O	OPEN OR OPENED
OH	OVERHEAD
OL	OVERLOAD RELAY
P	POLE
PA	PUBLIC ADDRESS
PB	PUSHBUTTON / PULL BOX
PCS	PVC COATED GALVANIZED STEEL CONDUIT
PCM	PROCESS CONTROL MODULE
PE	PHOTOCELL
PF	POWER FACTOR
PFCC	POWER FACTOR CORRECTION CAPACITOR
PFR	PHASE FAILURE RELAY
PH	PHASE
PNL	PANEL
PPX	POWER PANEL NO. X
PRI	PRIMARY
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE RIGID PLASTIC CONDUIT
PWR	POWER
RAC	RIGID ALUMINUM CONDUIT
RECPT	RECEPTACLE
REV	REVERSE
RF	RADIO FREQUENCY
RMS	ROOT MEAN SQUARED
RVAT	REDUCED VOLTAGE AUTO TRANSFORMER
RVNR	REDUCED VOLTAGE NON-REVERSING
RVSS	REDUCED VOLTAGE SOLID STATE
S	SHIELD / SHORT-TIME
SA	SURGE ARRESTER
SC	SHORT CIRCUIT
SDBC	SOFT DRAWN BARE COPPER
SFL	SUB FEED LUGS
SLT	SEALTIGHT LIQUIDTIGHT FLEXIBLE CONDUIT
SM	SURFACE MOUNTED
SP	SINGLE POLE
SPD	SURGE PROTECTIVE DEVICE
SPDT	SINGLE POLE DOUBLE THROW
SPST	SINGLE POLE SINGLE THROW
SPKR	SPEAKER
SS	SOLID STATE
STB	SHORTING TERMINAL BLOCK
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
SYM	SYMMETRICAL
TACH	TACHOMETER
TB - X	TERMINAL BLOCK - UNIT X
TC	THERMOCOUPLE / TIME CLOCK / TRAY CABLE
TD	TEMPERATURE DETECTOR RELAY
TE	TOTALLY ENCLOSED
TEFC	TOTALLY ENCLOSED FAN COOLED
TENV	TOTALLY ENCLOSED NON-VENTILATED
TERM	TERMINAL
TJB	TERMINAL JUNCTION BOX
TM	THERMAL MAGNETIC
TP	TWISTED PAIR
TS	TEMPERATURE SWITCH
TS1W	TWO SPEED CONSEQUENT POLE, ONE WINDING
TS2W	TWO SPEED SEPARATE WINDING
TSTAT	THERMOSTAT
UHF	ULTRA HIGH FREQUENCY
UNG	UNGROUNDED
UPS	UNINTERRUPTIBLE POWER SUPPLY
UVR	UNDER VOLTAGE RELAY
V	VOLT
VA	VOLT AMPERE
VAR	VARMETER
VCP	VENDOR CONTROL PANEL
VFD	VARIABLE FREQUENCY DRIVE
VHF	VERY HIGH FREQUENCY
VM	VOLTMETER
VP	VAPORPROOF
VR	VOLTAGE REGULATOR
VS	VOLTAGE SWITCH
VT	VOLTAGE TRANSFORMER
VTP	VOLTAGE TEST POINT
W	WATT / WEST
WT	WATER TIGHT
WP	WEATHER PROOF
XFMR	TRANSFORMER

NOTES:

1. REFER TO SPECIFICATIONS AND OTHER DRAWINGS FOR ADDITIONAL ABBREVIATIONS.

POWER DEVICE FUNCTION NUMBERS

1	MASTER ELEMENT
2	TIME-DELAY STARTING OR CLOSING RELAY
3	CHECKING OR INTERLOCKING RELAY
4	MASTER CONTACTOR
5	STOPPING DEVICE
6	STARTING CIRCUIT BREAKER
7	ANODE CIRCUIT BREAKER
8	CONTROL POWER DISCONNECTING DEVICE
9	REVERSING DEVICE
10	UNIT SEQUENCE SWITCH
11	MULTIFUNCTION DEVICE
12	OVER-SPEED DEVICE
13	SYNCHRONOUS-SPEED DEVICE
14	UNDER-SPEED DEVICE
15	SPEED OR FREQUENCY MATCHING DEVICE
16	DATA COMMUNICATIONS DEVICE
17	SHUNTING OR DISCHARGE SWITCH
18	ACCELERATING OR DECELERATING DEVICE
19	STARTING-TO-RUNNING TRANSITION CONTACTOR
20	ELECTRICALLY OPERATED VALVE
21	DISTANCE RELAY
22	EQUALIZER CIRCUIT BREAKER
23	TEMPERATURE CONTROL DEVICE
24	VOLTS PER HERTZ RELAY
25	SYNCHRONIZING OR SYNCHRONISM-CHECK DEVICE
26	APPARATUS THERMAL DEVICE
27	UNDERVOLTAGE RELAY
27N	GROUND FAULT UNDERVOLTAGE RELAY
28	FLAME DETECTOR
29	ISOLATING CONTACTOR
30	ANNUNCIATOR RELAY
31	SEPARATE EXCITATION DEVICE
32	DIRECTIONAL POWER RELAY
33	POSITION SWITCH
34	MASTER SEQUENCE DEVICE
35	BRUSH-OPERATING OR SLIP-RING SHORT-CIRCUITING DEVICE
36	POLARITY DEVICE
37	UNDERCURRENT OR UNDERPOWER RELAY
38	BEARING PROTECTIVE DEVICE
39	MECHANICAL CONDITION MONITOR
40	FIELD RELAY
41	FIELD CIRCUIT BREAKER
42	RUNNING CIRCUIT BREAKER
43	MANUAL TRANSFER OR SELECTOR DEVICE
44	UNIT SEQUENCE STARTING RELAY
45	ABNORMAL ATMOSPHERIC CONDITION MONITOR
46	REVERSE-PHASE OR BALANCE CURRENT RELAY
47	PHASE-BALANCE OR PHASE-SEQUENCE VOLTAGE RELAY
48	INCOMPLETE SEQUENCE RELAY
49	MACHINE OR TRANSFORMER THERMAL RELAY
50	INSTANTANEOUS OVERCURRENT RELAY
51	AC TIME OVERCURRENT RELAY
52	AC CIRCUIT BREAKER
53	FIELD EXCITATION RELAY
54	TURNING GEAR ENGAGING DEVICE
55	POWER FACTOR RELAY
56	FIELD APPLICATION RELAY
57	SHORT-CIRCUITING OR GROUNDING DEVICE
58	RECTIFICATION FAILURE RELAY
59	OVERVOLTAGE RELAY
60	VOLTAGE OR CURRENT BALANCE RELAY
61	DENSITY SWITCH OR SENSOR
62	TIME-DELAY STOPPING OR OPENING RELAY
63	PRESSURE SWITCH
64	GROUND DETECTOR RELAY
65	GOVERNOR
66	NOTCHING OR JOGGING DEVICE
67	AC DIRECTIONAL OVERCURRENT RELAY
68	BLOCKING OR OUT OF STEP RELAY
69	PERMISSIVE CONTROL DEVICE
70	RHEOSTAT
71	LIQUID LEVEL SWITCH
72	DC CIRCUIT BREAKER
73	LOAD-RESISTOR CONTACTOR
74	ALARM RELAY
75	POSITION CHANGING MECHANISM
76	DC OVERCURRENT RELAY
77	TELEMETERING DEVICE
78	PHASE-ANGLE MEASURING RELAY
79	AC RECLOSING RELAY
80	FLOW SWITCH
81	FREQUENCY RELAY
82	DC LOAD MEASURING RECLOSING RELAY
83	AUTOMATIC SELECTIVE CONTROL OR TRANSFER RELAY
84	OPERATING MECHANISM
85	PILOT COMMUNICATIONS, CARRIER OR PILOT-WIRE RELAY
86	LOCKOUT RELAY
87	DIFFERENTIAL PROTECTIVE RELAY
88	AUXILIARY MOTOR OR MOTOR GENERATOR
89	LINE SWITCH
90	REGULATING DEVICE
91	VOLTAGE DIRECTIONAL RELAY
92	VOLTAGE AND POWER DIRECTIONAL RELAY
93	FIELD-CHANGING CONTACTOR
94	TRIPPING OR TRIP-FREE RELAY

COMMONLY USED SUFFIX LETTERS APPLIED TO POWER DEVICE FUNCTION NUMBERS

A	ALARM ONLY
B	BUS PROTECTION
G	GROUND FAULT PROTECTION (RELAY CT IN A SYSTEM NEUTRAL CIRCUIT OR GENERATOR PROTECTION)
GS	GROUND FAULT PROTECTION (RELAY CT IN TOROIDAL OR GROUND SENSOR TYPE)
L	LINE PROTECTION
M	MOTOR PROTECTION
N	GROUND FAULT PROTECTION (RELAY COIL CONNECTED IN RESIDUAL CT CIRCUIT)
T	TRANSFORMER PROTECTION
V	VOLTAGE
P	PHASE PROTECTION

ABBREVIATIONS

AFD	- ARC FLASH DETECTOR
CLK	- CLOCK OR TIMING SOURCE
DDR	- DYNAMIC DISTURBANCE RECORDER
DFR	- DIGITAL FAULT RECORDER
ENV	- ENVIRONMENTAL DATA
HIZ	- HIGH IMPEDANCE FAULT DETECTOR
HMI	- HUMAN MACHINE INTERFACE
HST	- HISTORIAN
LGC	- SCHEME LOGIC
MET	- SUBSTATION METERING
PDC	- PHASOR DATA CONCENTRATOR
PMU	- PHASOR MEASUREMENT UNIT
PQM	- POWER QUALITY MONITOR
RIO	- REMOTE I/O DEVICE
RTU	- REMOTE TELEMETRY UNIT/REMOTE TERMINAL UNIT
SER	- SEQUENCE OF EVENTS RECORDER
TCM	- TRIP CIRCUIT MONITOR

REV	DATE	BY	DESCRIPTION

DESIGNED JN
DRAWN MNH
CHECKED CAH
DATE JUNE 2020

REGISTERED PROFESSIONAL ENGINEER — No. 366286 — CHRISTOPHER A CARVALHO — STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
ELECTRICAL
ELECTRICAL ABBREVIATIONS

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

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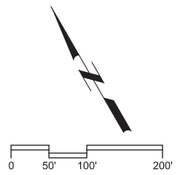
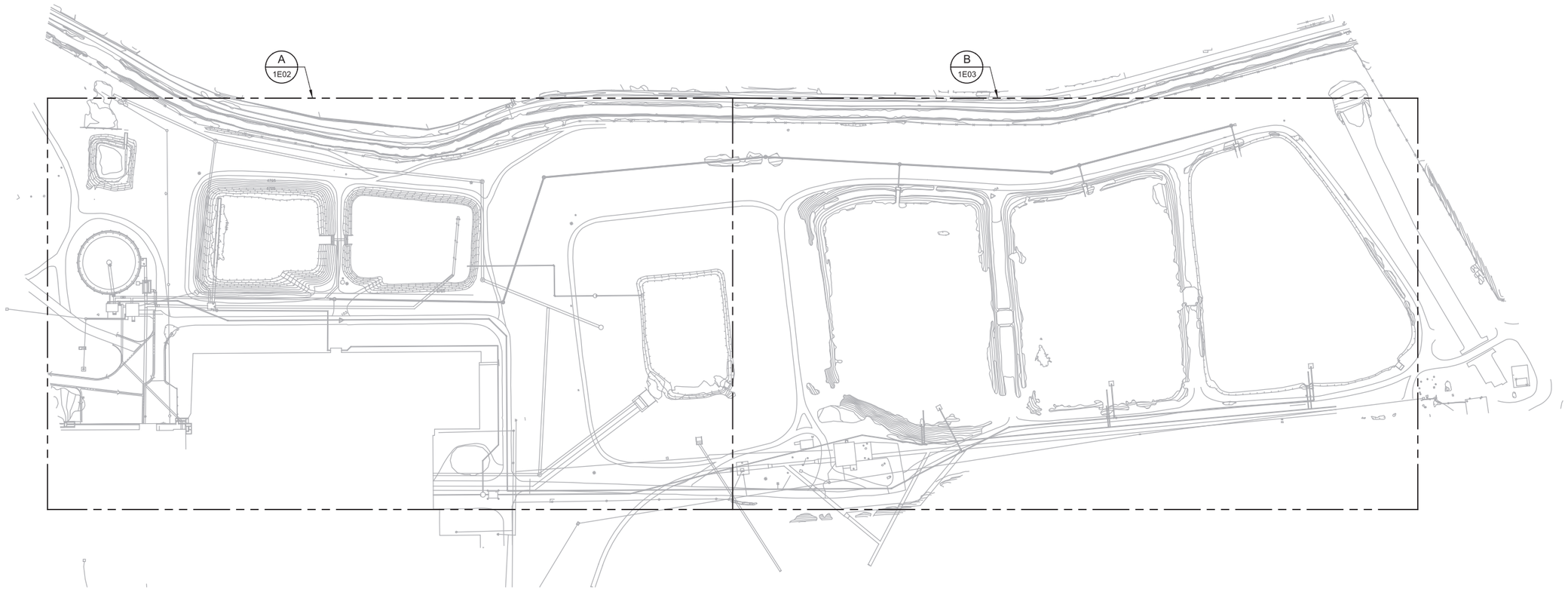
DRAWING NO. GE02
SHEET NO. 33 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A1000GE02.dgn





REV	DATE	BY	DESCRIPTION

DESIGNED JN
DRAWN MNH
CHECKED CAH
DATE JUNE 2020

Digitally signed by Christopher A. Carvalho
REGISTERED PROFESSIONAL ENGINEER
No. 366286
CHRISTOPHER A. CARVALHO
STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT

RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS

ELECTRICAL

OVERALL ELECTRICAL SITE PLAN

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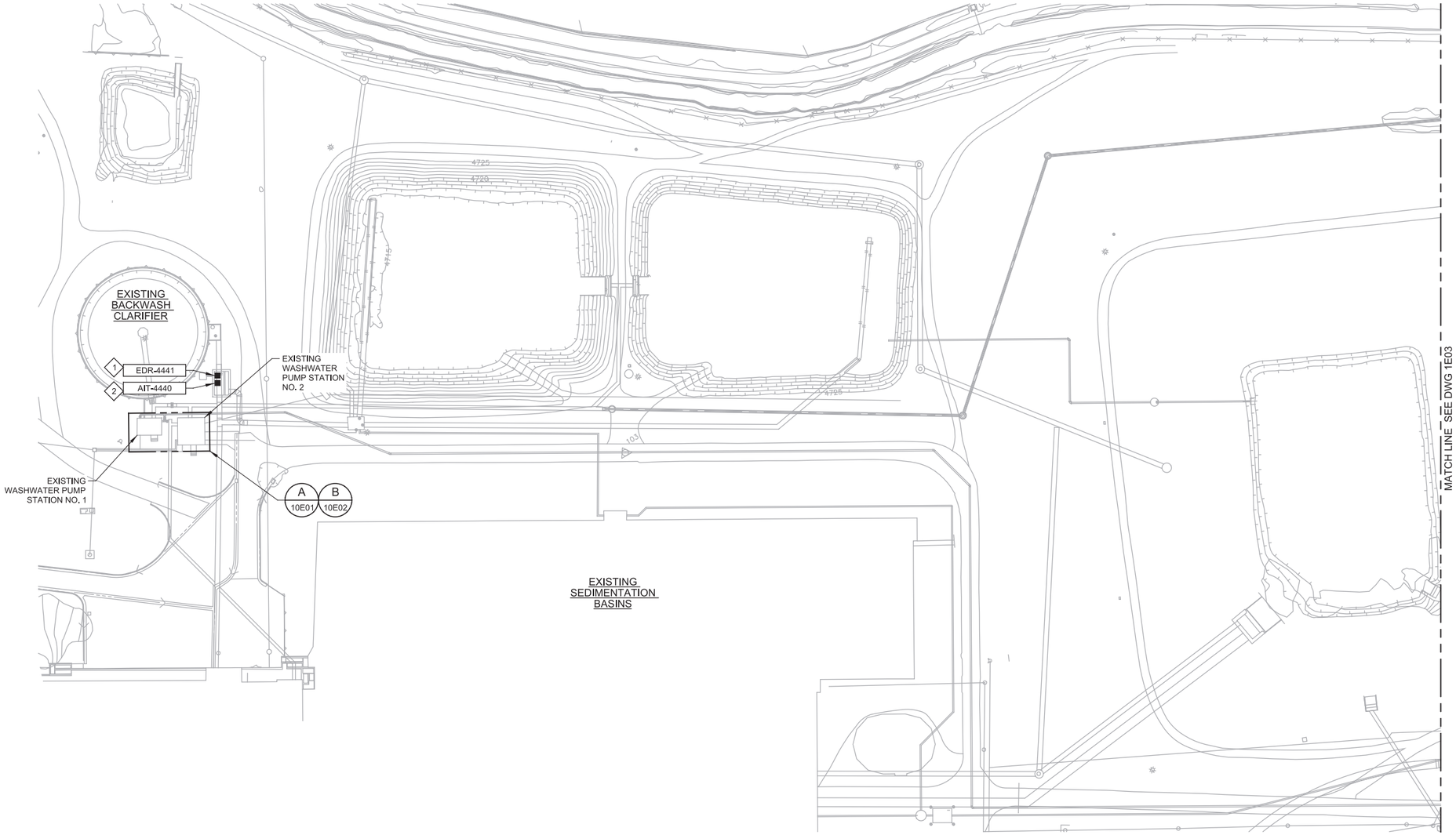
JOB NO. 10851A.10
DRAWING NO. 1E01
SHEET NO. 34 OF 70

0 25' 50' 100'

KEY NOTES:

1. ROUTE NEW POWER WIRES TO EXISTING MCC-WW AND NEW CONTROL WIRES TO RECLAIM RTU LOCATED IN PUMP STATION 2 BUILDING.
2. ROUTE NEW POWER AND CONTROL WIRES TO EXISTING RECLAIM RTU LOCATED IN PUMP STATION 2 BUILDING.



A 1E01 SITE PLAN
FILE: 10851A1001E101

REV	DATE	BY	DESCRIPTION

DESIGNED JN
DRAWN MNH
CHECKED CAH
DATE JUNE 2020

REGISTERED PROFESSIONAL ENGINEER No. 366286 CHRISTOPHER A. CARVALHO STATE OF UTAH

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JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
ELECTRICAL
ENLARGED SITE PLAN - 1

VERIFY SCALES
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0 1"
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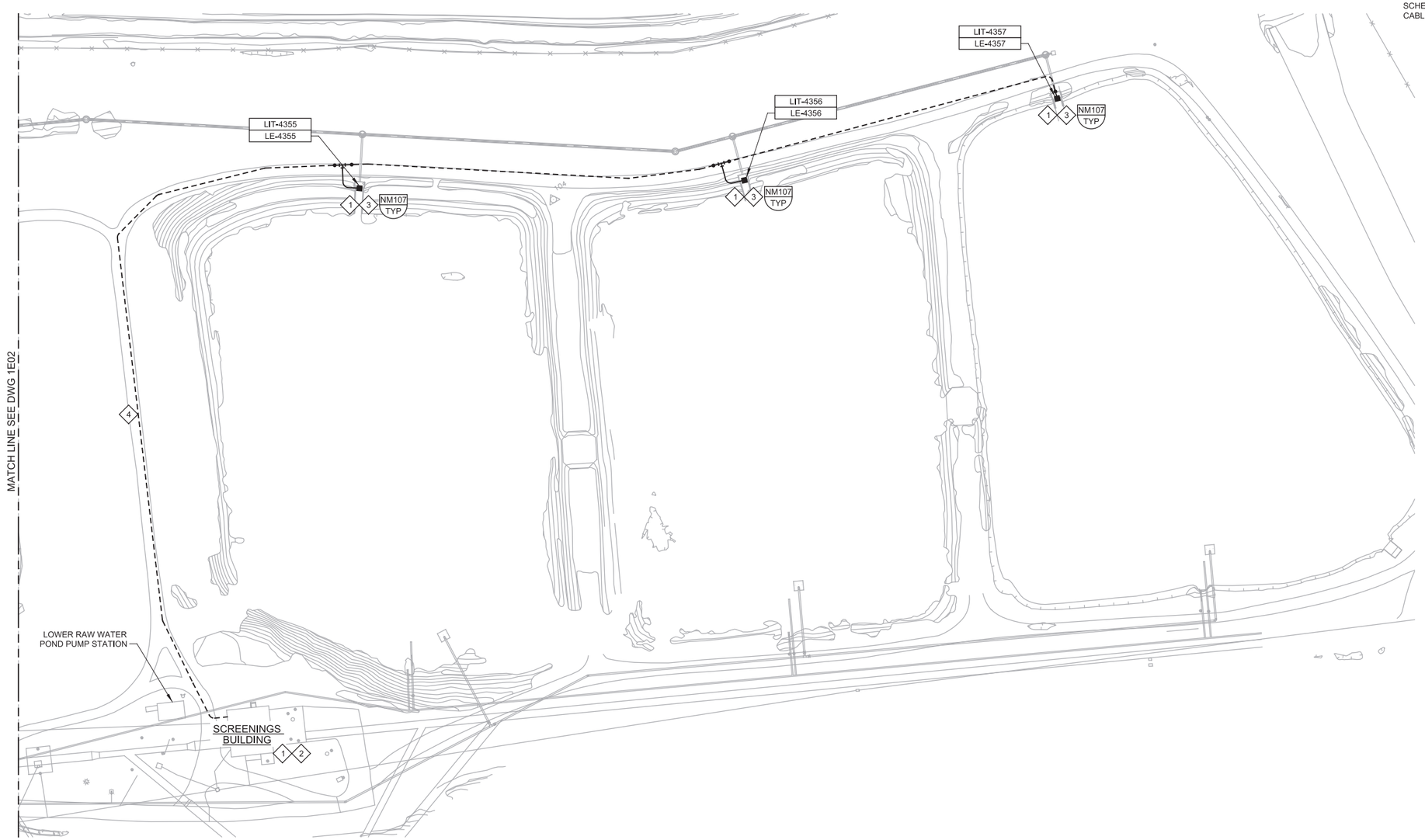
JOB NO. 10851A.10
DRAWING NO. 1E02
SHEET NO. 35 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A1001E02.dgn

0 25' 50' 100'

KEY NOTES:

1. PROVIDE ULTRASONIC LEVEL TRANSMITTER POWER FROM, PANEL UPS-SCREEN IN SCREENING BUILDING.
2. PROVIDE ULTRASONIC LEVEL TRANSMITTER SIGNAL TO RTU SCREEN IN SCREENING BUILDING.
3. MOUNT TRANSMITTER WITHIN 5 FEET OF THE TRANSDUCER ON AN INDEPENDENT STAND.
4. DIRECT BURIED CONDUIT ROUTE, REFER TO THE CONDUIT SCHEDULE AND CONDUIT DEVELOPMENT PLANS FOR CONDUIT AND CABLE DETAILS.



B 1E01 **SITE PLAN**
FILE: 10851A1001E101

REV	DATE	BY	DESCRIPTION

DESIGNED JN
DRAWN MNH
CHECKED CAH
DATE JUNE 2020

REGISTERED PROFESSIONAL ENGINEER — No. 366286 — CHRISTOPHER A CARVALHO — STATE OF UTAH

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JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
ELECTRICAL
ENLARGED SITE PLAN - 2

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
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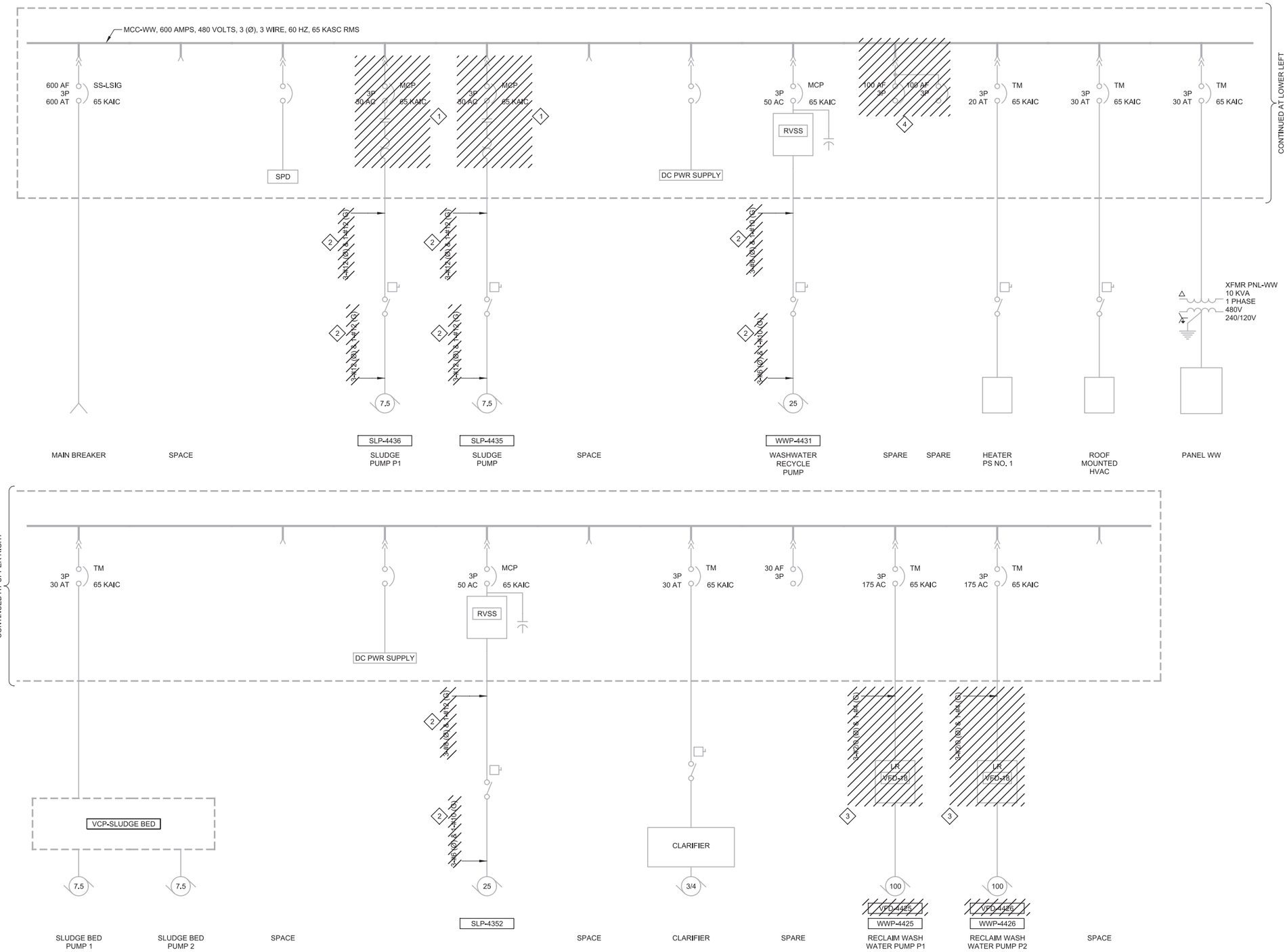
JOB NO. 10851A.10
DRAWING NO. 1E03
SHEET NO. 36 OF 70



KEY NOTES:

1. REMOVE EXISTING FULL VOLTAGE STARTERS AND RETURN TO THE OWNER.
2. DEMOLISH CONDUCTORS BETWEEN MCC-WW AND THE WASHWATER RECYCLE PUMP STATION. PROTECT THE CONDUITS FOR REUSE.
3. THE EXISTING WIRING BETWEEN THE PUMP MOTOR AND THE VFD MAY BE REUSED IF IT IS LONG ENOUGH AND CAN BE TERMINATED AT THE NEW VFD.
4. THE CIRCUIT BREAKER WILL BE REMOVED BY THE OWNER.

REV	DATE	BY	DESCRIPTION

DESIGNED JN
DRAWN MNH
CHECKED CAH
DATE JUNE 2020

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No. 366286
CHRISTOPHER A. CARVALHO
STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
ELECTRICAL
MCC-WW DEMO
ONE-LINE DIAGRAM

VERIFY SCALES
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DRAWING NO. 3DE02
SHEET NO. 37 OF 70

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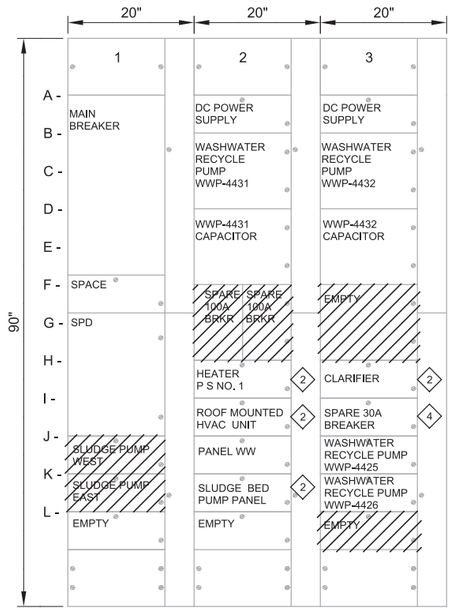

DEMOLITION ELEVATION

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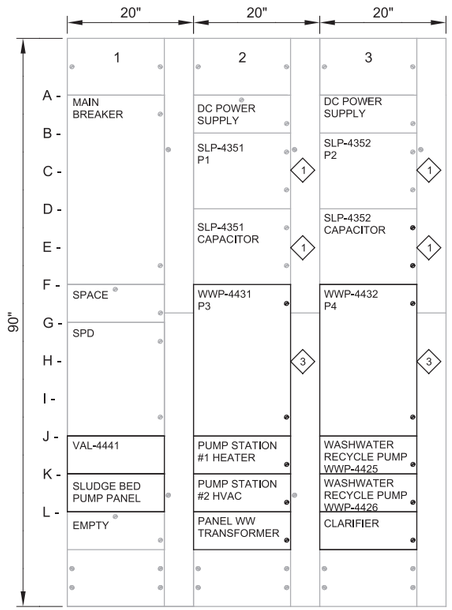


REVISED ELEVATION

SCALE: 3/4" = 1' - 0"
FILE: 10851A1003E621

GENERAL NOTES:

1. MCC-WW IS AN EATON/CUTLER-HAMMER FREEDOM SERIES 2100.

(#) KEY NOTES:

1. PROVIDE NEW NAMEPLATES FOR EXISTING COMPARTMENTS.
2. THE OWNER RELOCATE BUCKETS TO THE LOCATIONS SHOWN ON THE REVISED ELEVATION.
3. NEW RVSS STARTERS.
4. REUSE THE EXISTING SPARE BREAKER TO POWER VALVE OPERATOR VAL-4441.

REV	DATE	BY	DESCRIPTION

DESIGNED JN
DRAWN LLM
CHECKED CAH
DATE JUNE 2020

REGISTERED PROFESSIONAL ENGINEER
No. 366286
CHRISTOPHER A. CARVALHO
STATE OF UTAH

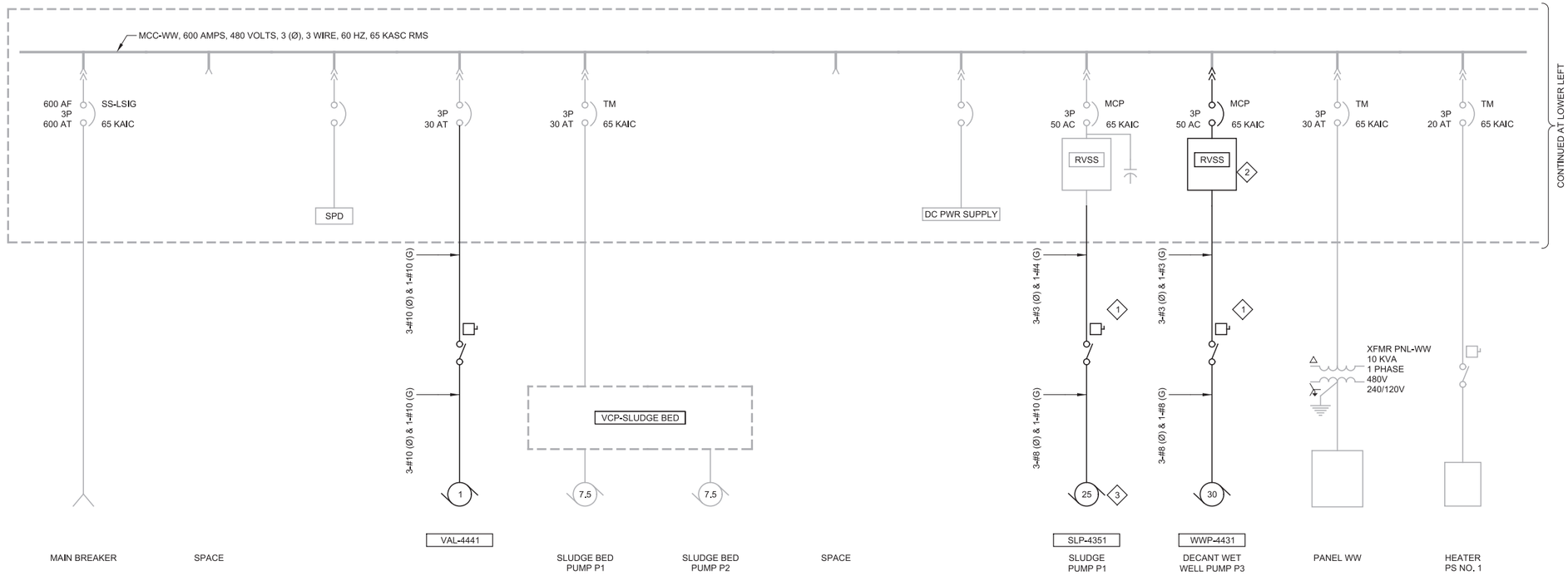
carollo

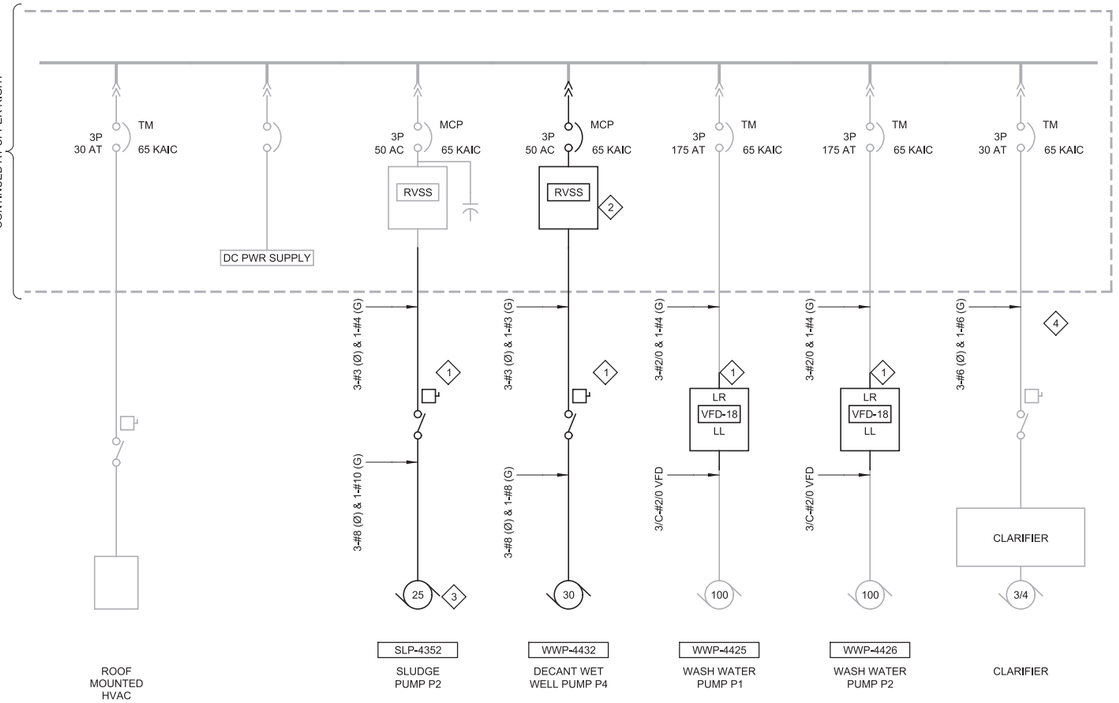
JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
ELECTRICAL
MCC-WW
ELEVATION

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

JOB NO. 10851A.10
DRAWING NO. 3E01
SHEET NO. 38 OF 70





KEY NOTES:

1. PULL NEW CONDUCTORS THROUGH THE EXISTING CONDUITS TO THE PUMPS. USE EXISTING JUNCTION BOX TO ROUTE CONDUCTORS TO THE EXISTING CONDUIT FEEDING THE PUMP.
2. INSTALL NEW RVSS STARTERS AT THE LOCATIONS INDICATED ON THE ELEVATION DRAWING.
3. PROVIDE NEW NAMEPLATES.
4. EXISTING CLARIFIER WIRES ARE BEING DEMOLISHED. PULL NEW WIRES THROUGH EXISITING CONDUITS AS SHOWN.

REV	DATE	BY	DESCRIPTION

DESIGNED JN
DRAWN MNH
CHECKED CAH
DATE JUNE 2020

REGISTERED PROFESSIONAL ENGINEER
No. 366286
CHRISTOPHER A. CARVALHO
STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
ELECTRICAL
MCC-WW
ONE-LINE DIAGRAM

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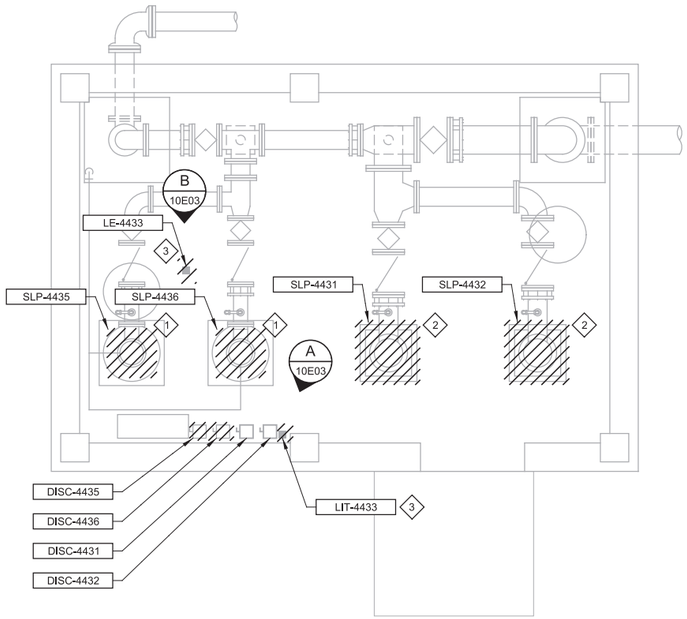
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

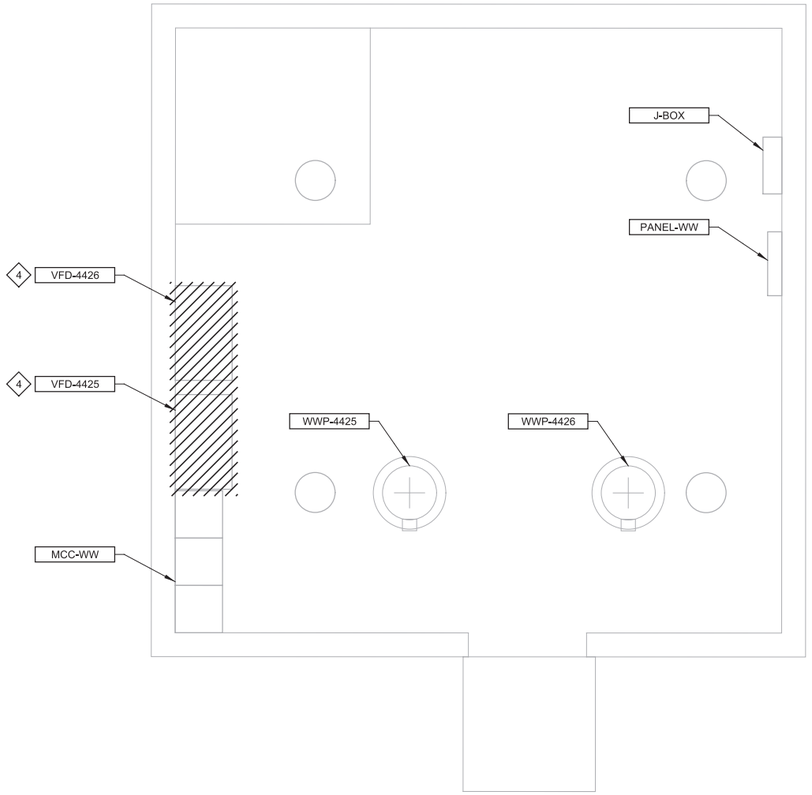
JOB NO. 10851A.10
DRAWING NO. 3E02
SHEET NO. 39 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A1003E02.dgn

Plot Date: 15-JUN-2020 10:35:15 AM User: svcPW Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Std_Pen_v0905.pen PlotScale: 2:1 LAST SAVED BY: SBoyd



WASHWATER PUMP STATION NO. 1



WASHWATER PUMP STATION NO. 2

GENERAL NOTES:

1. REFER TO SECTION 16050 FOR DEMOLITION REQUIREMENTS.

KEY NOTES:

1. DEMOLISH ALL POWER AND CONTROL WIRING FOR SLP-4435 AND SLP-4436. DEMOLISH THE CONDUIT TEE AND CONDUITS TO THE SEAL WATER SOLENOID AND MOTOR. REMOVE THE EXPOSED CONDUIT TO THE COUPLING NEAR THE FLOOR CAP OFF THE EMBEDDED CONDUIT.
2. DEMOLISH ALL POWER AND CONTROL WIRING FOR WWP-4431 AND WWP-4432. DEMOLISH THE FLEXIBLE CONDUIT BETWEEN THE EMBEDDED CONDUIT STUB-UP AND THE MOTOR.
3. DEMOLISH EXISTING LE-4433, LIT-4433, 120V DISCONNECT AND THE 120V POWER CONDUIT. PRESERVE THE CONDUIT FROM THE LE TO THE LIT FOR REUSE. MODIFY THE EXISTING SIGNAL CONDUIT AT THE WALL AS REQUIRED FOR THE NEW LIT-4433 AND LIT-4350 AS SHOWN ON THE CONDUIT DEVELOPMENT.
4. DEMOLISH THE EXISTING WASHWATER RECYCLE PUMP VFDS, EXPOSED CONDUITS, POWER AND CONTROL WIRING. MODIFY THE EXISTING HOUSEKEEPING PADS AS REQUIRED TO ACCOMMODATE THE NEW VFDS INCLUDING GRINDING DOWN EXISTING EMBEDDED CONDUITS.

A 1E02 **DEMO**
SCALE: 3/8" = 1'-0"
FILE: 10851A1010E9101

REV	DATE	BY	DESCRIPTION

DESIGNED CAC
DRAWN MNH
CHECKED CAH
DATE JUNE 2020

REGISTERED PROFESSIONAL ENGINEER
No. 366286
CHRISTOPHER A. CARVALHO
STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
ELECTRICAL
WASHWATER PUMP
STATION NO. 1 AND NO. 2 DEMO

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

JOB NO. 10851A.10
DRAWING NO. 10E01
SHEET NO. 40 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A1010E01.dgn

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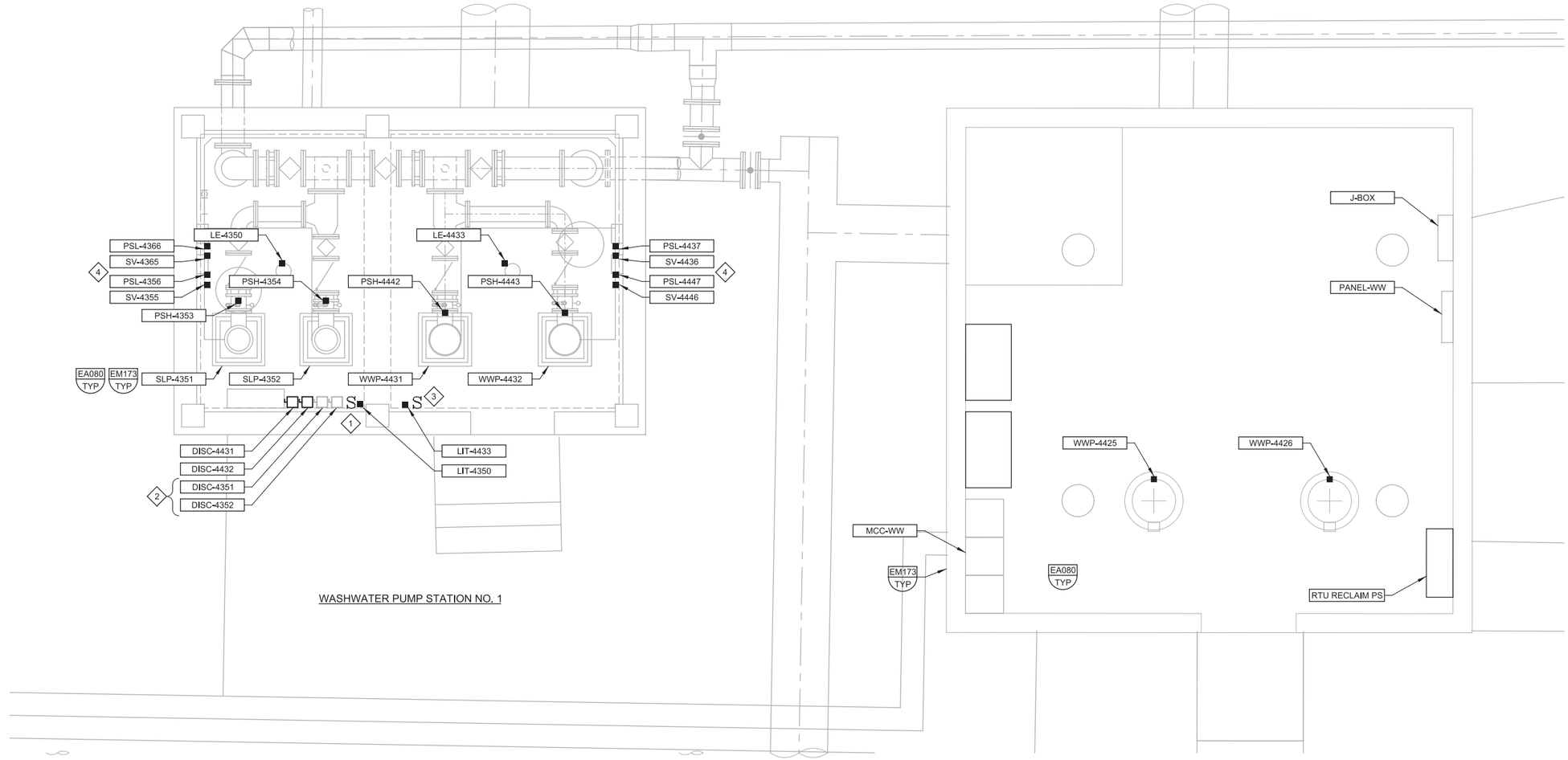
User: svcPW
PlotScale: 2:1
DesignScript: Carollo_Std_Pen_v0905.pen
ColorTable: gshade.ctb
Model: Layout1
LAST SAVED BY: SBoyd

GENERAL NOTES:

1. REFER TO THE CONDUIT DEVELOPMENT FOR CONDUIT AND WIRE REQUIREMENTS.
2. DIRECT BURY THE NEW CONDUITS BETWEEN PUMP STATION NO. 1 AND PUMP STATION NO. 2.
3. CORE DRILL THE WALLS AT THE PUMP STATIONS FOR NEW CONDUITS IN ACCORDANCE WITH TYPICAL DETAIL EM173.
4. INSTALL CONDUIT SUPPORTS IN ACCORDANCE WITH TYPICAL DETAIL EA080.

◇# KEY NOTES:

1. PROVIDE ADDITIONAL SUPPORTS FOR THE NEW DISCONNECTS AND CONDUITS AS REQUIRED.
2. PROVIDE NEW NAMEPLATES FOR THE EXISTING DISCONNECT SWITCHES.
3. NEMA 4, 120V, 1-POLE DISCONNECT SWITCH FOR THE LEVEL TRANSMITTERS.
4. PSL AND SV ARE LOCATED ON SEAL WATER PANEL.



WASHWATER PUMP STATION NO. 1

WASHWATER PUMP STATION NO. 2

B 1E02 **PLAN**
SCALE: 3/8" = 1'-0"
FILE: 10851A1010E101

REV	DATE	BY	DESCRIPTION

DESIGNED CAC
DRAWN MNH
CHECKED CAH
DATE JUNE 2020

REGISTERED PROFESSIONAL ENGINEER — No. 366286 — CHRISTOPHER A. CARVALHO — STATE OF UTAH

carollo®

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
ELECTRICAL
WASHWATER PUMP STATION NO. 1 AND NO. 2 MODIFICATION

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

JOB NO. 10851A.10
DRAWING NO. 10E02
SHEET NO. 41 OF 70

GENERAL NOTES:

1. REFER TO THE DEMOLITION PLAN ON 10E01 FOR DEMOLITION NOTES.
2. REFER TO SECTION 16050 FOR ADDITIONAL DEMOLITION REQUIREMENTS.

A PHOTO
10E01
SCALE: NO SCALE
FILE: PUMP STATION 1 - 1.JPG

B PHOTO
10E01
SCALE: NO SCALE
FILE: PUMP STATION 1 - 16.JPG

REV	DATE	BY	DESCRIPTION

DESIGNED CAC
DRAWN MP
CHECKED CAH
DATE JUNE 2020

REGISTERED PROFESSIONAL ENGINEER
No. 366286
CHRISTOPHER A. CARVALHO
STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
ELECTRICAL
WASHWATER PUMP
STATION NO. 1 AND NO. 2 DEMO PHOTOS

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

JOB NO. 10851A.10
DRAWING NO. 10E03
SHEET NO. 42 OF 70

GENERAL NOTES:

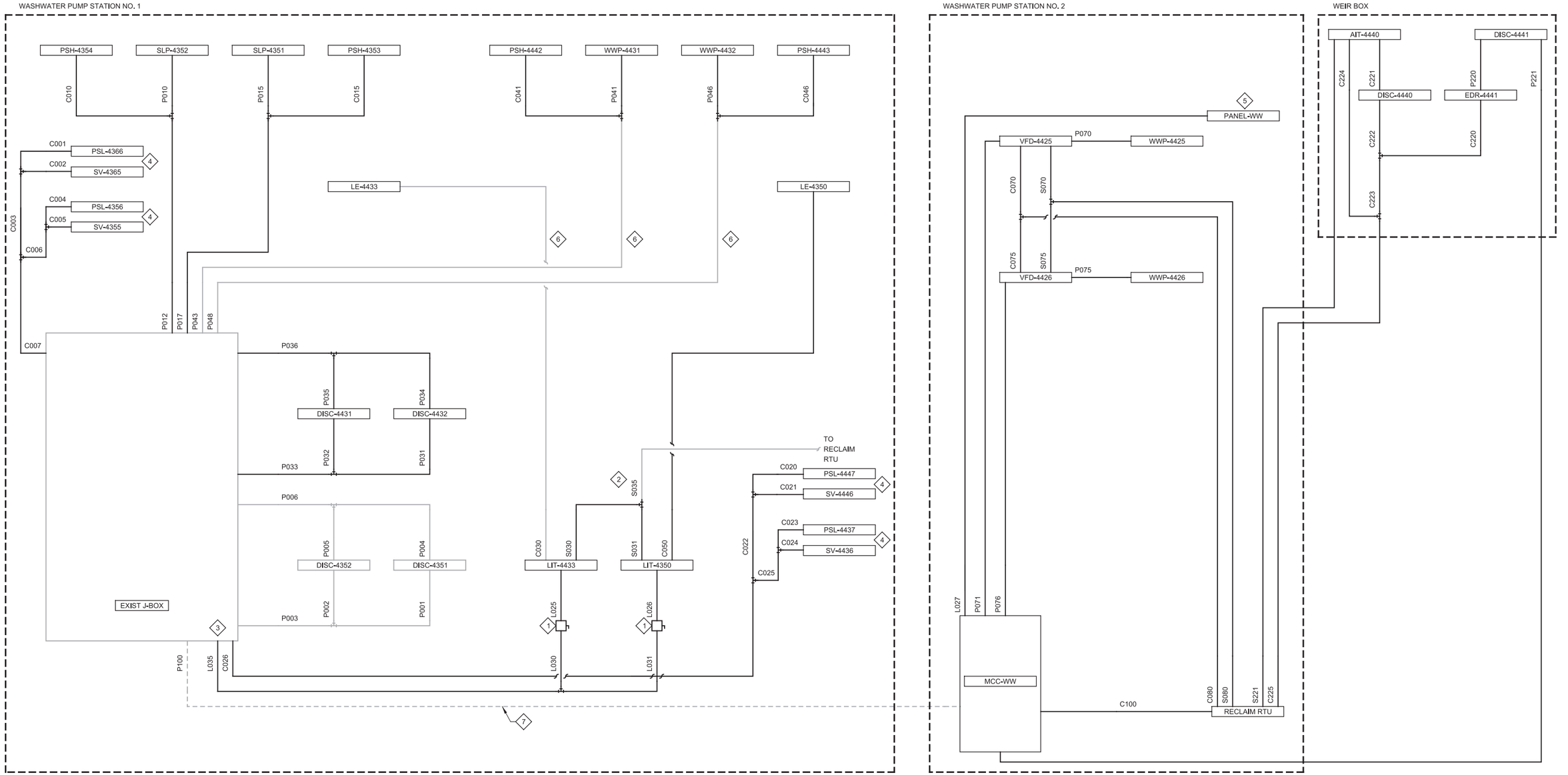
1. ROUTE ALL NEW CONDUITS TO AVOID TRIPPING HAZARDS AND OBSTRUCTING ACCESS TO THE EQUIPMENT.

KEY NOTES:

1. NEMA 4, 120V, 1-POLE, DISCONNECT SWITCH.
2. REUSE EXISTING CONDUIT FROM PS-1 TO RTU IN PS-2 FOR THE LIT SIGNAL WIRES.
3. REUSE EXISTING CONDUIT FROM PS-1 TO RTU IN PS-2 FOR THE LIT POWER WIRES.
4. PSL AND SV ARE LOCATED ON SEAL WATER PANEL.
5. IDENTIFY AND USE SPARE POWER BREAKERS IN PANEL-WW FOR MWH CIRCUITS. CONTINUE WIRES INTO P100.

KEY NOTES:

6. PULL NEW WIRE THROUGH EXISTING CONDUIT.
7. DEMOLISH EXISTING CONDUCTORS FROM MCC TO EXISTING JUNCTION BOX. INSTALL NEW CONDUCTORS AS IDENTIFIED IN THE CONDUIT SCHEDULE. NEW CONDUCTORS SHALL ROUTE FROM MCC TERMINALS EXISTING JUNCTION BOX.



REV	DATE	BY	DESCRIPTION

DESIGNED CAC
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REGISTERED PROFESSIONAL ENGINEER
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CHRISTOPHER A. CARVALHO
STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
ELECTRICAL
CONDUIT DEVELOPMENT PLAN - 1

VERIFY SCALES
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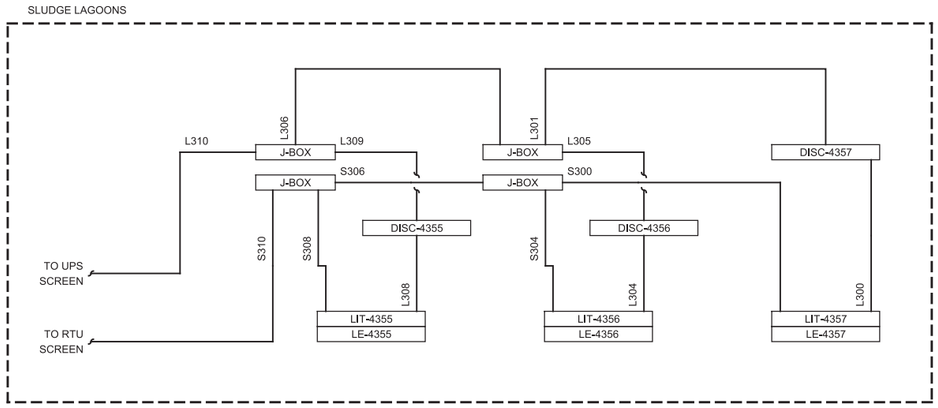
JOB NO. 10851A.10
DRAWING NO. 10E05
SHEET NO. 43 OF 70



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DATE JUNE 2020

REGISTERED PROFESSIONAL ENGINEER
No. 366286
CHRISTOPHER A. CARVALHO
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JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
ELECTRICAL
CONDUIT DEVELOPMENT PLAN - 2

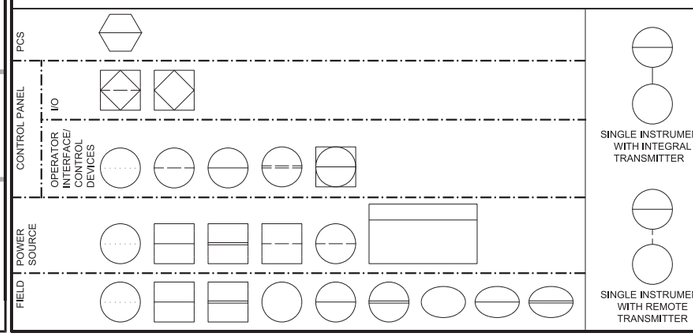
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 10851A.10
DRAWING NO. 10E06
SHEET NO. 44 OF 70

SYMBOL	DRAWING VISIBLE FIELDS	FIELD - 1	FIELD - 2	FIELD - 3	FIELD - 4	FIELD - 5	FIELD - 6
HMI/SCADA SYSTEM OPERATOR INTERFACE TERMINAL	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - DESCRIPTION 5 - DESCRIPTION 6 - EXISTING/FUTURE	REFER 1 2	REFER 3	ACTION ALARM NUM - NUMERIC SP - SET POINT STATUS TREND	DESCRIPTION 2 5	DESCRIPTION	E - EXISTING F - FUTURE
HARDWIRED I/O POINT	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - DESCRIPTION 5 - LOCATION 6 - EXISTING/FUTURE	REFER 1 2 4	REFER 3	AI - ANALOG INPUT AO - ANALOG OUTPUT DI - DISCRETE INPUT DO - DISCRETE OUTPUT HSC - HIGH SPEED COUNTER INPUT RTD - RTD INPUT	DESCRIPTION	PAC - PROGRAMMABLE AUTOMATION CONTROLLER NO. PLC - PROGRAMMABLE LOGIC CONTROLLER NO. RIO - REMOTE I/O VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE
NETWORK / SOFTI/O	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - DESCRIPTION 5 - LOCATION 6 - EXISTING/FUTURE 7 - DIGITAL NETWORK TABLE	REFER 1 2	REFER 3	BUS ID CNET - CONTROLNET DNET - DEVICENET ENET - ETHERNET/IP FF - FOUNDATION FIELDBUS MB - MODBUS RTU MB+ - MODBUS PLUS MBTCP - MODBUS TCP DP - PROFIBUS DP PA - PROFIBUS PA PNET - PROFINET SERIAL - PROPRIETARY PROTOCOL	DESCRIPTION	PAC - PROGRAMMABLE AUTOMATION CONTROLLER NO. PLC - PROGRAMMABLE LOGIC CONTROLLER NO. RIO - REMOTE I/O VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE
LOCAL OPERATOR INTERFACE	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - DESCRIPTION 5 - LOCATION 6 - EXISTING/FUTURE	REFER 1 2	REFER 3	ACTION ALARM NUM - NUMERIC SP - SET POINT STATUS	DESCRIPTION 2 5	LOI - LOCAL OPERATOR INTERFACE NO. LCP - LOCAL CONTROL PANEL NO. PCM - PROCESS CONTROL MODULE NO. VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE
PILOT DEVICE OPERATOR INTERFACE	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - DESCRIPTION 5 - LOCATION 6 - EXISTING/FUTURE	REFER 1 2	REFER 3	AM - AUTO/MANUAL BYPASS - BYPASS CL - CLOSE E-STOP - EMERGENCY STOP FRLR - FIXED RATE/LEVEL RATE HOA - HAND /OFF/AUTO JOHC - JOG OPEN/HOLD/CLOSE JOJC - JOG OPEN/JOG CLOSE LH - LOW/HIGH LOR - LOCAL/OFF/REMOTE LOS - LOCK OUT STOP LS - LEAD/STANDBY LSR - LOCAL/STOP/REMOTE NOOT - NO OFFLINE/OFFLINE TRANSITION OC - OPEN/CLOSE OLOL - ON LINE/OFF LINE OO - OFF/ON OP - OPEN OSC - OPEN/STOP/CLOSE RST - RESET SAAM - SEMI AUTO/AUTO/MANUAL SEL - SELECT SP - STOP SPD - SPEED SS - START/STOP ST - START	DESCRIPTION	LCP - LOCAL CONTROL PANEL NO. MCC - MOTOR CONTROL CENTER NO. PCM - PROCESS CONTROL MODULE NO. RVSS - REDUCED VOLTAGE SOLID STARTER NO. VCP - VENDOR CONTROL PANEL NO. VFD - VARIABLE FREQUENCY DRIVE NO.	E - EXISTING F - FUTURE
POWER DEVICE PRIMARY FUNCTION OPERATOR ACCESSIBLE	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - VOLTAGE-POLE 5 - LOCATION 6 - EXISTING/FUTURE	CB - CIRCUIT BREAKER DISC - DISCONNECT FU - FUSE	REFER 3	TM - THERMAL MAGNETIC CIRCUIT BREAKER	24VDC - 1P 120VAC - 1P 208VAC - 2P 208VAC - 3P 240VAC - 3P 240VAC - 2P 480VAC - 3P 2400VAC - 3P 4160VAC - 3P	DP - DISTRIBUTION PANEL NO. LCP - LOCAL CONTROL PANEL NO. LP - LIGHTING PANEL NO. MCC - MOTOR CONTROL CENTER NO. PCM - PROCESS CONTROL MODULE NO. PP - POWER PANEL NO. VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE
POWER DEVICE AUXILIARY FUNCTION FOR OPERATOR ACCESSIBLE DEVICES	1 - TAG 2 - LOOP NUMBER 3 - DESCRIPTION 4 - DESCRIPTION 5 - DESCRIPTION 6 - EXISTING/FUTURE	DISC - DISCONNECT	REFER 3	DESCRIPTION	DESCRIPTION	DESCRIPTION	E - EXISTING F - FUTURE
POWER DEVICE PRIMARY FUNCTION OPERATOR INACCESSIBLE	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - VOLTAGE-POLE 5 - LOCATION 6 - EXISTING/FUTURE	CB - CIRCUIT BREAKER FU - FUSE	REFER 3	MCP - MOTOR CIRCUIT PROTECTOR SS - SOLID STATE CIRCUIT BREAKER TM - THERMAL MAGNETIC CIRCUIT BREAKER	24VDC - 1P 120VAC - 1P 208VAC - 2P 208VAC - 3P 240VAC - 2P 240VAC - 3P 480VAC - 3P 2400VAC - 3P 4160VAC - 3P	DP - DISTRIBUTION PANEL NO. LCP - LOCAL CONTROL PANEL NO. LP - LIGHTING PANEL NO. MCC - MOTOR CONTROL CENTER NO. PCM - PROCESS CONTROL MODULE NO. PP - POWER PANEL NO. VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE

SYMBOL	DRAWING VISIBLE FIELDS	FIELD - 1	FIELD - 2	FIELD - 3	FIELD - 4	FIELD - 5	FIELD - 6
INSTRUMENT PRIMARY ELEMENT	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - LOCATION 6 - EXISTING/FUTURE	REFER 1	REFER 3	DESCRIPTION 5	DESCRIPTION 6	AREA NO. BUILDING NO. ROOM NO.	E - EXISTING F - FUTURE
INSTRUMENT/CONTROL ELEMENT PRIMARY FUNCTION OPERATOR ACCESSIBLE	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - DESCRIPTION 6 - EXISTING/FUTURE	REFER 1	REFER 3	DESCRIPTION 5	DESCRIPTION 6	DESCRIPTION	E - EXISTING F - FUTURE
INSTRUMENT/CONTROL ELEMENT AUXILIARY FUNCTION OPERATOR ACCESSIBLE	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - DESCRIPTION 6 - EXISTING/FUTURE	REFER 1	REFER 3	DESCRIPTION	DESCRIPTION 6	DESCRIPTION	E - EXISTING F - FUTURE
INSTRUMENT/CONTROL ELEMENT PRIMARY FUNCTION OPERATOR INACCESSIBLE	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - LOCATION 6 - EXISTING/FUTURE	REFER 1 3 XR - PROTECTION RELAY CR - CONTROL RELAY IR - INTERPOSING RELAY	REFER 3	DESCRIPTION	DESCRIPTION 6	LCP - LOCAL CONTROL PANEL NO. MCC - MOTOR CONTROL CENTER NO. PCM - PROCESS CONTROL MODULE NO. VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE
INSTRUMENT/CONTROL ELEMENT AUXILIARY FUNCTION OPERATOR INACCESSIBLE	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - LOCATION 6 - EXISTING/FUTURE	REFER 1 3 XR - PROTECTION RELAY CR - CONTROL RELAY IR - INTERPOSING RELAY	REFER 3	DESCRIPTION	DESCRIPTION 6	LCP - LOCAL CONTROL PANEL NO. MCC - MOTOR CONTROL CENTER NO. PCM - PROCESS CONTROL MODULE NO. VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE
FIELD EQUIPMENT NON-POWERED	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION/SIZE 4 - FURNISHED BY 5 - LOCATION 6 - EXISTING/FUTURE	REFER 3	REFER 3	DESCRIPTION	DESCRIPTION 6	AREA NO. BUILDING NO. ROOM NO.	E - EXISTING F - FUTURE
FIELD EQUIPMENT PRIMARY FUNCTION POWERED	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - LOCATION 6 - EXISTING/FUTURE	REFER 3	REFER 3	DESCRIPTION	DESCRIPTION 6	AREA NO. BUILDING NO. ROOM NO.	E - EXISTING F - FUTURE
FIELD EQUIPMENT AUXILIARY FUNCTION POWERED	1 - TAG 2 - LOOP NUMBER 3 - FUNCTION 4 - FURNISHED BY 5 - DESCRIPTION 6 - EXISTING/FUTURE	MWH - MOTOR WINDING HEATER TSH - TEMPERATURE SWITCH XSH - TORQUE SWITCH	REFER 3	DESCRIPTION	DESCRIPTION 6	DESCRIPTION	E - EXISTING F - FUTURE
FIELD EQUIPMENT STARTER/DRIVE CUBICLE/CABINET	1 - TAG 2 - LOOP NUMBER 3 - TYPE 4 - VOLTAGE-POLE 5 - POWER SOURCE 6 - EXISTING/FUTURE	MS - MOTOR STARTER RVAT - REDUCED VOLTAGE AUTO TRANSFORMER STARTER RVSS - REDUCED VOLTAGE SOLID STATE STARTER VFD - VARIABLE FREQUENCY DRIVE	REFER 3	FVNR - FULL VOLTAGE NON-REVERSING STARTER FVR - FULL VOLTAGE REVERSING STARTER PWS - PART-WINDING STARTER RVAT - REDUCED VOLTAGE AUTO TRANSFORMER STARTER RVSS - REDUCED VOLTAGE SOLID STATE STARTER TS1W - TWO SPEED SINGLE WINDING TS2W - TWO SPEED TWO WINDINGS VFD - VARIABLE FREQUENCY DRIVE	120VAC - 1P 208VAC - 2P 208VAC - 3P 240VAC - 2P 240VAC - 3P 480VAC - 3P 2400VAC - 3P 4160VAC - 3P	LCP - LOCAL CONTROL PANEL NO. MCC - MOTOR CONTROL CENTER NO. PCM - PROCESS CONTROL MODULE NO. VCP - VENDOR CONTROL PANEL NO.	E - EXISTING F - FUTURE

INSTRUMENT BUBBLE LOCATIONS



NOTES

1. INSTRUMENT TAG IDENTIFICATION LETTERS TABLE
2. OPERATOR PILOT DEVICE LEGEND
3. EQUIPMENT TAGGING TABLE
4. I/O TYPE DESIGNATIONS TABLE
5. INSTRUMENT TYPE DESIGNATIONS TABLE
6. FURNISHED BY: FBO FURNISHED BY OWNER
FBV FURNISHED BY VENDOR

REV	DATE	BY	DESCRIPTION

DESIGNED PL
DRAWN DKI
CHECKED KMP
DATE JUNE 2020

REGISTERED PROFESSIONAL ENGINEER No. 5612657 MATTHEW G. HATCH STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
INSTRUMENTATION
SYMBOLS AND ABBREVIATIONS - I

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

JOB NO. 10851A.10
DRAWING NO. GN01
SHEET NO. 45 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A1000GN01.dgn

Plot Date: 15-JUN-2020 10:35:52 AM
User: svcPW
DesignScript: Carollo_Std_Pen_v0905.pen
ColorTable: gshade.ctb
Model: Layout1
PlotScale: 2:1
LAST SAVED BY: dlmada

INSTRUMENT TAG IDENTIFICATION LETTERS

	MEASURED VARIABLE \ INSTRUMENT FUNCTION	ELEMENT	TRANSMITTER	INDICATING TRANSMITTER	CONVERTER TRANSDUCER, RELAY SPECIAL DEVICES	INDICATOR	RECORDER	CONTROLLER	INDICATING CONTROLLER	RECORDING CONTROLLER	SWITCH	SWITCH LOW LOW	SWITCH LOW	SWITCH HIGH	SWITCH HIGH HIGH	SWITCH COMBINATION HIGH LOW	ACTION	ALARM LOW LOW	ALARM LOW	ALARM HIGH	ALARM HIGH HIGH	TOTALIZE INDICATOR TRANSMITTER	VALVE	GAUGE	LIGHT	SPEED SETTING
A	ANALYSIS	AE	AT	AIT	AY	AI	AR	AC	AIC	ARC	AS	ASLL	ASL	ASH	ASHH	ASHL		AALL	AAL	AAH	AAHH				AL	
B	BURNER FLAME	BE	BT	BIT	BY	BI	BR	BC	BIC	BRC	BS	BSLL	BSL	BSH	BSHH			BALL	BAL	BAH	BAHH				BL	
C	CONDUCTIVITY	CE	CT	CIT	CY	CI	CR	CC	CIC	CRC	CS	CSLL	CSL	CSH	CSHH	CSHL		CALL	CAL	CAH	CAHH				CL	
D	DENSITY	DE	DT	DIT	DY	DI	DR	DC	DIC	DRC	DS	DSLL	DSL	DSH	DSHH	DSHL		DALL	DAL	DAH	DAHH				DL	
E																										
F	FLOW	FE	FT	FIT	FY	FI	FR	FC	FIC	FRC	FS	FSLL	FSL	FSH	FSHH	FSHL		FALL	FAL	FAH	FAHH	FQI	FCV	FG	FL	
FF	FLOW RATIO				FFY	FFI		FFC	FFIC		FFS														FFL	
G	GAUGING (DIMENSION)																									
H	HAND (MANUAL)*							HC			HS*						HA*						HV		HL	HSS
I	CURRENT		IT	IIT	IY	II	IR	IC	IIC	IRC	IS	ISLL	ISL	ISH	ISHH			IALL	IAL	IAH	IAHH				IL	
J	POWER																									
K	TIME				KY	KI	KR	KC	KIC	KRC	KS	KSLL	KSL	KSH	KSHH			KALL	KAL	KAH	KAHH		KV		KL	
L	LEVEL	LE	LT	LIT	LY	LI	LR	LC	LIC	LRC	LS	LSLL	LSL	LSH	LSHH	LSHL		LALL	LAL	LAH	LAHH		LCV	LG	LL	
M	MOISTURE OR HUMIDITY	ME	MT	MIT	MY	MI	MR	MC	MIC	MRC	MS	MSLL	MSL	MSH	MSHH			MALL	MAL	MAH	MAHH				ML	
N	EMERGENCY SHUTDOWN																									
O																										
P	PRESSURE OR VACUUM	PE	PT	PIT	PY	PI***	PR	PC	PIC	PRC	PS****	PSLL	PSL	PSH	PSHH	PSHL		PALL	PAL	PAH	PAHH		PCV		PL	
PD	DIFFERENTIAL PRESSURE		PDT	PDIT	PDY	PDI	PDR	PDC	PDIC	PDRC	PDS	PDSLL	PDSL	PDSH	PDSHH			PDALL	PDAL	PDAH	PDAHH		PDCV		PDL	
Q	QUANTITY	QE	QT	QIT	QY	QI	QR				QS	QSLL	QSL	QSH	QSHH			QALL	QAL	QAH	QAHH					
R	RADIOACTIVITY																									
S	SPEED	SE	ST	SIT	SY	SI	SR	SC	SIC	SRC	SS	SSLL	SSL	SSH	SSHH			SALL	SAL	SAH	SAHH					
T	TEMPERATURE	TE	TT	TIT	TY	TI	TR	TC	TIC	TRC	TS	TSLL	TSL	TSH	TSHH	TSHL		TALL	TAL	TAH	TAHH		TCV		TL	
TD	DIFFERENTIAL TEMPERATURE		TDT	TDIT	TDY	TDI	TDR	TDC	TDIC	TDRC	TDS	TDSLL	TDSL	TDSH	TDSHH			TDALL	TDAL	TDAH	TDAHH		TDCV		TDL	
U	MULTIVARIABLE					UI	UR	UC	UIC	URC	US														UL	
V	VISCOSITY	VE	VT	VIT	VY	VI	VR	VC	VIC	VRC	VS	VSLL	VSL	VSH	VSHH			VALL	VAL	VAH	VAHH				VL	
W	WEIGHT	WE	WT	WIT	WY	WI	WR				WS	WSLL	WSL	WSH	WSHH			WALL	WAL	WAH	WAHH					
X	UNCLASSIFIED	XE	XT	XIT	XY	XI	XR	XC	XIC	XRC	XS	XSLL	XSL	XSH	XSHH			XALL	XAL	XAH	XAHH		XCV	XG	XL	
XV	VIBRATION	XVE	XVT		XVY	XVI	XVR				XVS			XVSH	XVSHH					XVAH	XVAHH				XVL	
Y	STATUS***					YI***																			YL	
Z	POSITION	ZE	ZT	ZIT	ZY	ZI					ZS**												ZV		ZL**	

* REFER TO OPERATOR PILOT DEVICE LEGEND
** LETTER INDICATES POSITION (O=OPEN, C=CLOSED, R=RAISE, L=LOWER, ETC)
*** PI# # = 1,2,3 ETC. AND REPRESENTS A UNIQUE IDENTIFIER AND IS APPLICABLE TO ALL ITEMS IN THE TABLE ABOVE
**** COULD ALSO BE PIS - FOR PRESSURE INDICATING SWITCH

OPERATOR PILOT DEVICE LEGEND

PILOT DEVICE FUNCTION / DEVICE TYPE	LOCAL-OFF-REMOTE (LOR) OR LOCAL-STOP-REMOTE (LSR)	STOP (SP)	START (ST)	HAND-OFF-AUTO (HOA)	OFF-ON (OO)	SELECT (SEL)	OPEN-STOP-CLOSE (OSC)	JOG OPEN-HOLD-CLOSE (JOHC)	SEMIAUTO-AUTO-MANUAL (SAAM)	LEAD-LAG-STANDBY (LLGS)	JOG OPEN-JOG CLOSE (JOJC)	ONLINE-OFFLINE (OLOF)	AUTO-MANUAL (AM)	FIXED RATE-LEVEL RATE (FRLR)	OPEN-CLOSE (OC)	NO OFFLINE-OFFLINE TRANSITION (NOOT)	LOW-HIGH (LH)	RESET (RST)	SPEED (SPD)	START-STOP (STSP)	E-STOP (E-SP)	BYPASS (BYP)			SILENCE	POSITION (POS)
PILOT DEVICE TAG (HAND SWITCHES)	HSA*	HSB	HSC	HSD*	HSE	HSF	HSG*	HSH*	HSI	HSJ*	HSK*	HSL*	HSM*	HSN	HSO*	HSP	HSQ*	HSR	HSS	HST*	HSU	HSV	HSW	HSX	HSY	HSZ
SCADA/HMI TAG (HAND ACTION)	HAA	HAB	HAC	HAD	HAE	HAF	HAG	HAH	HAI	HAJ	HAK	HAL	HAM	HAN	HAO	HAP	HAQ	HAR	HAS	HAT	HAU	HAV	HAW	HAX	HAY	HAZ

HSA* SELECTOR SWITCH POSITION EG: HSA(R) R = REMOTE, HSD(A) A = AUTO, ETC

I/O TYPE DESIGNATIONS

AUX1	RUNNING	MSL	MOTOR START LOW
AUX2	FAILED/FAULT	MSM	VALVE MODULATE
AUXF1	RUNNING FORWARD	MSP	MOTOR STOP
AUXH1	RUNNING HIGH	MSR	MOTOR START REVERSE
AUXL1	RUNNING LOW	MST	MOTOR START
AUXR1	RUNNING REVERSE	SS	SPEED SIGNAL
SVC	SOLENOID VALVE CLOSE	ZC	POSITION COMMAND
SVO	SOLENOID VALVE OPEN	ZCC	POSITION COMMAND CLOSE
MS	RUN	ZCO	POSITION COMMAND OPEN
MSF	MOTOR START FORWARD		
MSH	MOTOR START HIGH		

INSTRUMENT TYPE DESIGNATIONS

AM	AMMONIA	O3	OZONE	SH	SODIUM HYPOCHLORITE
CAP	CAPACITANCE	ORP	OXIDATION REDUCTION POTENTIAL	TDR	TIME DOMAIN REFLECTOMETRY
CGD	COMBUSTIBLE GAS DETECTOR	P	PRESSURE	TH	THERMAL
CL	CHLORINE	P-SUB	PRESSURE SUBMERSIBLE	TSS	TOTAL SUSPENDED SOLIDS
COND	CONDUCTIVITY	PC	PARTICLE COUNTER	TURB	TURBIDITY
DO	DISSOLVED OXYGEN	PO	PHOSPHOROUS	US	ULTRASONIC
FMCW	FREQ. MODULATED CONT. WAVE	PTOF	PULSE TIME OF FLIGHT	UVI	UV INTENSITY
HSF	FLUORIDE	R/I	RESISTANCE TO CURRENT	UVT	UV TRANSMITTANCE
IS	INTRINSIC SAFETY BARRIER	ROT	ROTAMETER	VAC	VACUUM
LEL	LOWER EXPLOSIVE LIMIT	RTD	RESISTANCE TEMP DETECTOR		
MAG	MAGNETIC	SC	STREAMING CURRENT		

SPECIFIC ABBREVIATIONS

APH	A PHASE	MWH	MOTOR WINDING HEATER
BPH	B PHASE	SSG	SECONDARY SWITCHGEAR
BRB	BEARING BOTTOM	SV*	SOLENOID VALVE
BRT	BEARING TOP	SPD	SURGE PROTECTIVE DEVICE
BTFLY	BUTTERFLY	UPS	UNINTERRUPTIBLE POWER SUPPLY
CPH	C PHASE	YA	STATUS AUTO
CC*	CALIBRATION COLUMN	YR	STATUS REMOTE
HTR	HEATER	Y1	STATUS RUNNING
HTU	HEAT TRACE UNIT	Y2	ALARM FAILED/FAULT

* CC# AND SV# # = 1, 2, 3 ETC. AND REPRESENTS A UNIQUE IDENTIFIER

INSTRUMENT LINE SYMBOLS

INSTRUMENT OR CONNECTION TO PROCESS
PNEUMATIC SIGNAL
ELECTRIC SIGNAL
HYDRAULIC SIGNAL
CAPILLARY TUBE
ELECTROMAGNETIC OR SONIC SIGNAL (GUIDED)
ELECTROMAGNETIC OR SONIC SIGNAL (NOT GUIDED)
INTERNAL SYSTEM LINK (SOFTWARE OR DATA LINK)
COPPER ETHERNET
FIBER OPTIC ETHERNET
WIRELESS ETHERNET
PROFIBUS DP
PROFIBUS PA
DEVICENET
FOUNDATION FIELDBUS

PROCESS LINE SYMBOLS

PRIMARY PROCESS FLOW IN PIPE
SECONDARY PROCESS FLOW IN PIPE
PRIMARY PROCESS FLOW IN CHANNEL
SECONDARY PROCESS FLOW IN CHANNEL

DESIGNATIONS

EQUIPMENT ENCLOSURE
EXISTING
FUTURE

MISCELLANEOUS P&ID SYMBOLS

CONTINUATION TAG — DESC 2, DESC 1, #, A, B — UNIQUE IDENTIFIER — CONTINUATION FROM SHEET — CONTINUATION TO SHEET
PIPE CALLOUT — PIPE SIZE
SIGNAL CONTINUATION — TO DRAWING — FROM DRAWING

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JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
INSTRUMENTATION
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JOB NO. 10851A.10
DRAWING NO. GN02
SHEET NO. 46 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A1000GN02.dgn

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User: svcPW
PlotScale: 2:1
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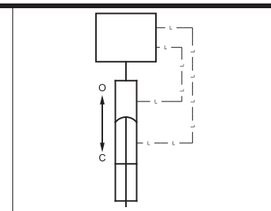
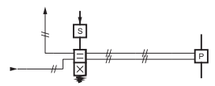
ColorTable: gshade.ctb
Model: Layout1
LAST SAVED BY: dmada

ACTUATORS

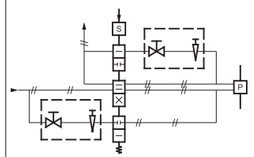
- DIAPHRAGM
- ELECTRIC DISCRETE
- ELECTRIC MODULATING
- ELECTRIC HYDRAULIC
- HAND
- HYDRAULIC
- PNEUMATIC
- SOLENOID



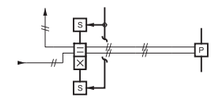
HYDRAULIC MODULATING



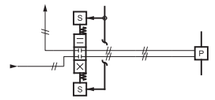
PNEUMATIC SINGLE SOLENOID OPEN/CLOSE



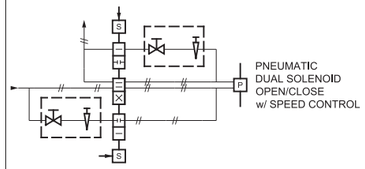
PNEUMATIC SINGLE SOLENOID w/ SPEED CONTROL



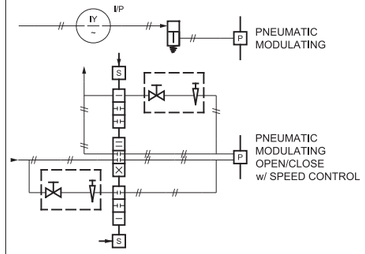
PNEUMATIC DUAL SOLENOID OPEN/CLOSE



PNEUMATIC DUAL SOLENOID OPEN/HOLD/CLOSE



PNEUMATIC DUAL SOLENOID OPEN/CLOSE w/ SPEED CONTROL



PNEUMATIC MODULATING

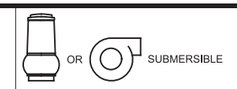
PNEUMATIC MODULATING OPEN/CLOSE w/ SPEED CONTROL

PIPING

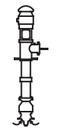
- AIR GAP
- BLIND FLANGE
- CAPPED OR PLUGGED
- CONCENTRIC INCREASER
- CONCENTRIC REDUCER
- DRAIN
- ECCENTRIC INCREASER
- TEE
- UNION
- ECCENTRIC REDUCER
- EXPANSION COUPLING
- EXPANSION JOINT VIBRATION CENTER
- FLEXIBLE CONNECTION
- QUICK DISCONNECT

PUMPS

- AIR DRIVEN
- CENTRIFUGAL
- CHEMICAL FEED DIAPHRAGM
- DIAPHRAGM
- GEAR
- PERISTALTIC OR HOSE
- PISTON
- PROGRESSIVE CAVITY



OR SUBMERSIBLE



VERTICAL TURBINE

VERTICAL CHOPPER

WATER CHAMP

BLOWERS/ COMPRESSORS

- CENTRIFUGAL SINGLE STAGE BLOWER
- CENTRIFUGAL MULTI STAGE BLOWER
- RECIPROCATING COMPRESSOR
- SCREW COMPRESSOR
- FAN
- LIQUID RING COMPRESSOR
- ROTARY LOBE BLOWER

CHECK VALVES

- BACK FLOW PREVENTER
- BALL
- DIAPHRAGM CHECK
- DOUBLE FLAP
- FLAPPER
- SPRING LOADED GENERAL
- SPRING LOADED SWING
- SWING

PRESSURE VALVES

- BACKPRESSURE REGULATING SELF CONTAINED
- BACKPRESSURE REGULATING EXTERNAL TAP
- PRESSURE REDUCING SELF CONTAINED
- PRESSURE REDUCING EXTERNAL PRESSURE TAP
- REGULATING
- PRESSURE RELIEF
- VACUUM RELIEF

VALVES

- 3-WAY
- 3-WAY PLUG
- 4-WAY
- AIR-RELIEF
- ANGLE
- BALL
- BALL V-NOTCH
- BUTTERFLY
- BUTTERFLY-BURIED VALVE BOX
- CONE
- DIAPHRAGM
- GATE
- GATE-BURIED VALVE BOX
- GLOBE
- HOSE
- MUD
- NEEDLE
- PINCH
- PLUG ECCENTRIC
- PLUG ECCENTRIC w-VALVE BOX
- PLUG ECCENTRIC LUBRICATED
- PLUG ECCENTRIC LUBRICATED BURIED VALVE BOX
- PLUG CONCENTRIC
- PLUG CONCENTRIC -BURIED VALVE BOX
- PLUG CONCENTRIC LUBRICATED
- PLUG CONCENTRIC LUBRICATED BURIED VALVE BOX
- PUMP DISCHARGE
- TELESCOPING

VALVE DESIGNATIONS	
NO	NORMALLY OPEN
NC	NORMALLY CLOSED
FO	FAIL OPEN
FC	FAIL CLOSE
FLP	FAIL LAST POSITION

MISC

- AIR DAMPER
- AIR / CHEMICAL DIFFUSER
- BASKET STRAINER
- BLOW-OFF SILENCER
- CALIBRATION COLUMN
- COALESCER
- DESICCANT DRYER
- EDUCTOR/EJECTOR
- EQUIPMENT/INSTRUMENT LOCATOR
- EXHAUST FAN
- EYEWASH
- FILTER
- FILTER SEPARATOR
- FINE FILTER
- FIRE ALARM/SENSOR
- FLAME ARRESTER
- FLAME ARRESTER w/THERMALLY OPERATED VALVE
- FLOW CONDITIONER
- GAS CANNON
- GRINDER
- HEAT EXCHANGER
- HOIST
- HORIZONTAL MIXER
- HOSE CONNECTION
- INLET STRAINER
- INLINE STATIC MIXER
- MATERIAL CHANGE
- MIXER
- MOTOR
- NOZZLE
- ORIFICE RESTRICTION
- PERISTALTIC COMPOSITE SAMPLER
- OR PULSATION DAMPENER
- REFRIGERATED DRYER
- RUPTURE DISK
- SAMPLE PORT
- SIGHT TUBE
- SMOKE DETECTOR
- STRAINER - MECHANICALLY CLEANED
- STRAINER WITH BLOW OFF
- STRAINER WYE TYPE
- VAPOR HEATER
- VAPORIZER
- VENT
- VENT TO ATMOSPHERE

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JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
INSTRUMENTATION
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FLOW

- BATCH
- CORIOLIS
- MAGNETIC
- ORIFICE
- PADDLE WHEEL
- PISTON
- ANNUBAR
- PITOT TUBE
- POSITIVE-DISPLACEMENT
- PROPELLER-TURBINE
- ROTAMETER
- THERMAL
- ULTRASONIC
- ULTRASONIC BIOGAS
- V-CONE
- VENTURI TUBE OR FLOW NOZZLE
- VORTEX

FLUMES

- LEOPOLD-LAGCO
- PALMER-BOWLUS
- PARSHALL
- REGULAR CUTTHROAT
- TRAPEZOIDAL

GATES

SIDE VIEW	PLAN VIEW
	FLAP
	KNIFE
SLIDE	SLIDE
SLUICE	SLUICE
STOP	STOP
	WEIR

LEVEL

- BUBBLER
- CAPACITANCE
- DIFFERENTIAL PRESSURE (TANK, PDE, LDIT)
- ELECTRODE
- FLOAT
- INVERTED COLUMN
- PROBE
- RADAR PTOF
- RADAR (FREQUENCY MODULATED CONTINUOUS WAVE)
- RADAR TDR
- SUSPENDED/ SUBMERSIBLE
- TUNING FORK
- ULTRASONIC

PRESSURE/VACUUM

PRESSURE	DIFFERENTIAL PRESSURE	PRESSURE SEALS
GAUGE (PI)	GAUGE DIFFERENTIAL INDICATOR (PDI)	SEAL ANNULAR
MANOMETER	DIFFERENTIAL PRESSURE SWITCH (PDSL, PDE)	SEAL DIAPHRAGM
PRESSURE SWITCH (PSH, PE)	DIFFERENTIAL PRESSURE TRANSMITTER (PDIT, PDE)	SEAL SANITARY
PRESSURE TRANSMITTER (PIT, PE)		EXAMPLE: PRESSURE SWITCH (PSH, PE)

TEMPERATURE

- TEMPERATURE w/THERMOWELL
- TEMPERATURE GAUGE
- THERMOMETER (T)

WEIGHT

- HYDRAULIC
- STRAIN GAUGE

WEIRS

SIDE VIEW	PLAN VIEW
RECTANGULAR w/o END CONTRACTIONS	RECTANGULAR w/o END CONTRACTIONS
RECTANGULAR w/ END CONTRACTIONS	RECTANGULAR w/ END CONTRACTIONS
V-NOTCH (TRIANGULAR)	V-NOTCH (TRIANGULAR)
TRAPEZOIDAL (CIPOLLETTI)	TRAPEZOIDAL (CIPOLLETTI)

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PROCESS SWITCHES

- FLOAT SWITCH CLOSE ON RISING LEVEL
- FLOAT SWITCH OPEN ON RISING LEVEL
- PRESSURE SWITCH CLOSE ON RISING PRESSURE
- PRESSURE SWITCH OPEN ON RISING PRESSURE
- TEMPERATURE SWITCH CLOSE ON RISING TEMPERATURE
- TEMPERATURE SWITCH OPEN ON RISING TEMPERATURE
- FLOW SWITCH CLOSE ON INCREASE IN FLOW
- FLOW SWITCH OPEN ON INCREASE IN FLOW
- VIBRATION SWITCH OPEN ON RISING VIBRATION
- VIBRATION SWITCH CLOSE ON RISING VIBRATION
- TORQUE SWITCH OPEN ON HIGH TORQUE
- TORQUE SWITCH CLOSE ON HIGH TORQUE
- NORMALLY CLOSED LIMIT SWITCH
- NORMALLY CLOSED HELD OPEN LIMIT SWITCH
- NORMALLY OPEN LIMIT SWITCH
- NORMALLY OPEN HELD CLOSED LIMIT SWITCH

HAND SWITCHES

- NORMALLY OPEN MOMENTARY PUSHBUTTON
- NORMALLY CLOSED MOMENTARY PUSHBUTTON
- THREE POSITION SELECTOR SWITCH (xoo) x - DENOTES POSITION CONTACTS CLOSED IN
- TWO POSITION SELECTOR SWITCH (xo) x - DENOTES POSITION CONTACTS CLOSED IN
- MUSHROOM HEAD PUSHBUTTON
- PUSH-PULL PUSHBUTTON MAINTAINED CONTACT
- PADLOCK SWITCH (xox) x - DENOTES POSITION CONTACTS CLOSED IN
- PULL CORD SWITCH
- STOP-LOCKOUT PUSHBUTTON
- SPRING-RETURN (xoo) x - DENOTES POSITION CONTACTS CLOSED IN

INDICATORS

- PILOT LIGHT
  a = LENS COLOR
  R = RED
  G = GREEN
  W = WHITE
  A = AMBER
  B = BLUE
  Y = YELLOW
  C = CLEAR
- BEACON
  a = LENS COLOR
  R = RED
  G = GREEN
  W = WHITE
  A = AMBER
  B = BLUE
  M = MAGENTA
  C = CLEAR
- HORN

RELAYS

- RELAY COIL
  a = TYPE
  CR - CONTROL RELAY
  TD - TIME DELAY RELAY
  M - MOTOR STARTER COIL
  L - MOTOR STARTER COIL - LOW SPEED
  H - MOTOR STARTER COIL - HIGH SPEED
  F - MOTOR STARTER COIL - FORWARD
  R - MOTOR STARTER COIL - REVERSE
  b = TDON - TIME DELAY ON ENERGIZATION
  TDOFF - TIME DELAY ON DEENERGIZATION
  c = TIMING RANGE/SETTING
  d = DESCRIPTION
- NORMALLY OPEN CONTROL CONTACT
- NORMALLY CLOSED CONTROL CONTACT
- NOTC TIME DELAY CONTACT NORMALLY OPEN TIMED CLOSING
- NCTO TIME DELAY CONTACT NORMALLY CLOSED TIMED OPENING
- NOTO TIME DELAY CONTACT NORMALLY OPEN TIMED OPENING
- NCTC TIME DELAY CONTACT NORMALLY CLOSED TIMED CLOSING

TERMINAL BLOCKS

- TERMINAL IN PLC/PCM PANEL
- TERMINAL IN MOTOR CONTROL CENTER
- TERMINAL IN LOCAL STARTER CONTROL PANEL
- TERMINAL AT FIELD DEVICE
- TERMINAL IN RTU
- TERMINAL IN FIELD PANEL
- TERMINAL IN (USER CHOICE)
- DIGITAL BUS CONNECTOR
  * = D - DEVICENET
  * = PA - PROFIBUS PA
  * = DP - PROFIBUS DP
  * = H1 - FOUNDATION FIELDBUS H1
  * = H2 - FOUNDATION FIELDBUS H2
  * = E - ETHERNET

I/O

- PLC DISCRETE (a) a = INPUT OR OUTPUT AS INDICATED
- PLC ANALOG (ANALOG / a) a = INPUT OR OUTPUT AS INDICATED
- DIGITAL BUS (DIGITAL / BUS)

MISC

- SOLENOID
- METER UNIT (M) M = TYPE
- MOTOR (HP)
- CIRCUIT BREAKER
- DISCONNECT
- FUSE
- TRANSIENT SURGE PROTECTION
- MOTOR WINDING HEATER (MWH-*) * - MOTOR TAG I.D.
- SPACE HEATER
- VARISTOR
- CAPACITOR
- RESISTOR
- BATTERY
- DIODE
- MOTOR OVERLOAD HEATERS
- OVERLOAD CONTACT
- DRAWOUT CONNECTION
- GROUND
- LIGHTNING ARRESTOR
- CONTROL POWER TRANSFORMER (H1 H3 H2 H4 / X1 X2)
- ELAPSED TIME METER (KI-* / ETM)

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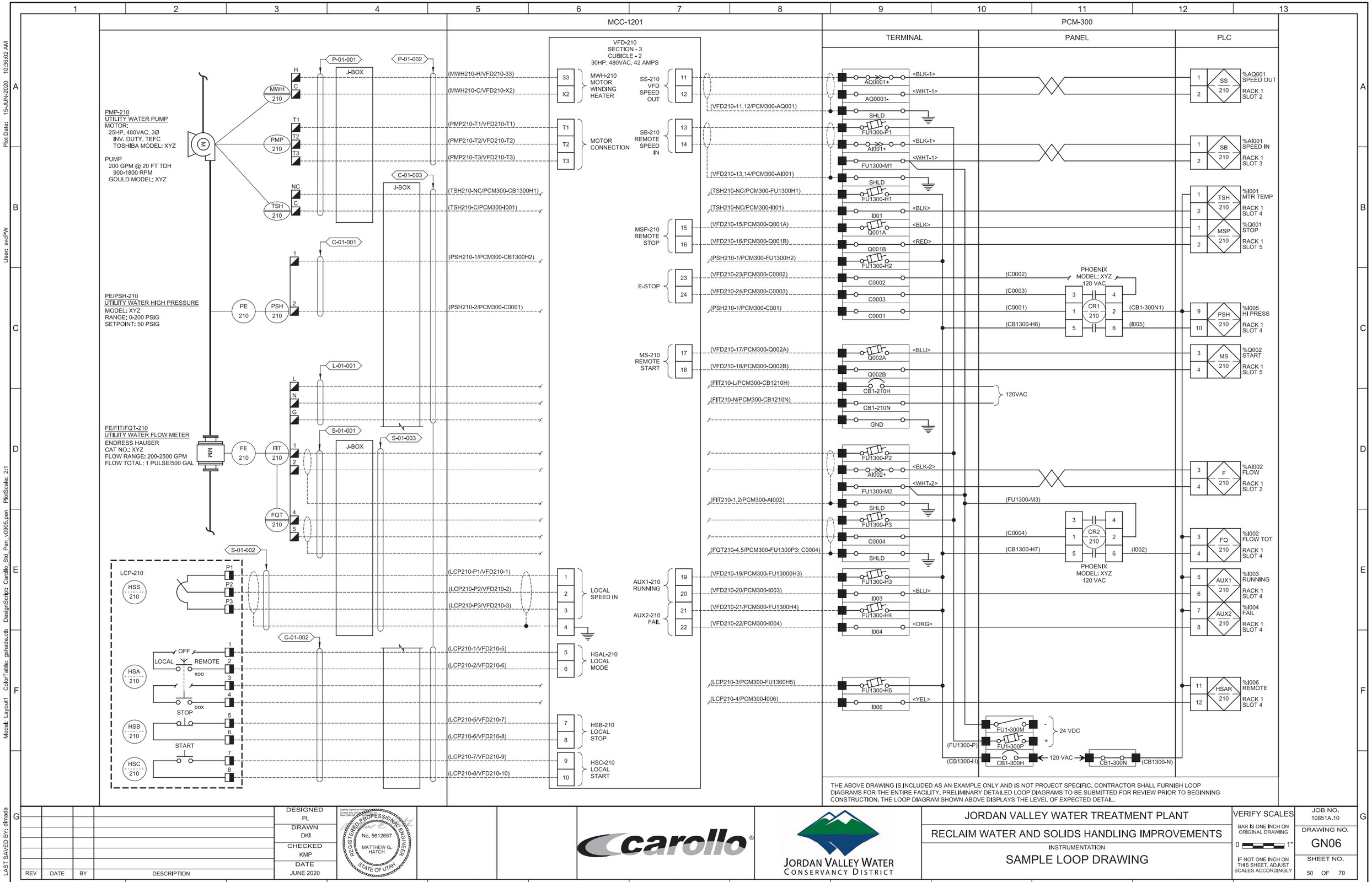

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DATE JUNE 2020

REGISTERED PROFESSIONAL ENGINEER
No. 5612657
MATTHEW G. HATCH
STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

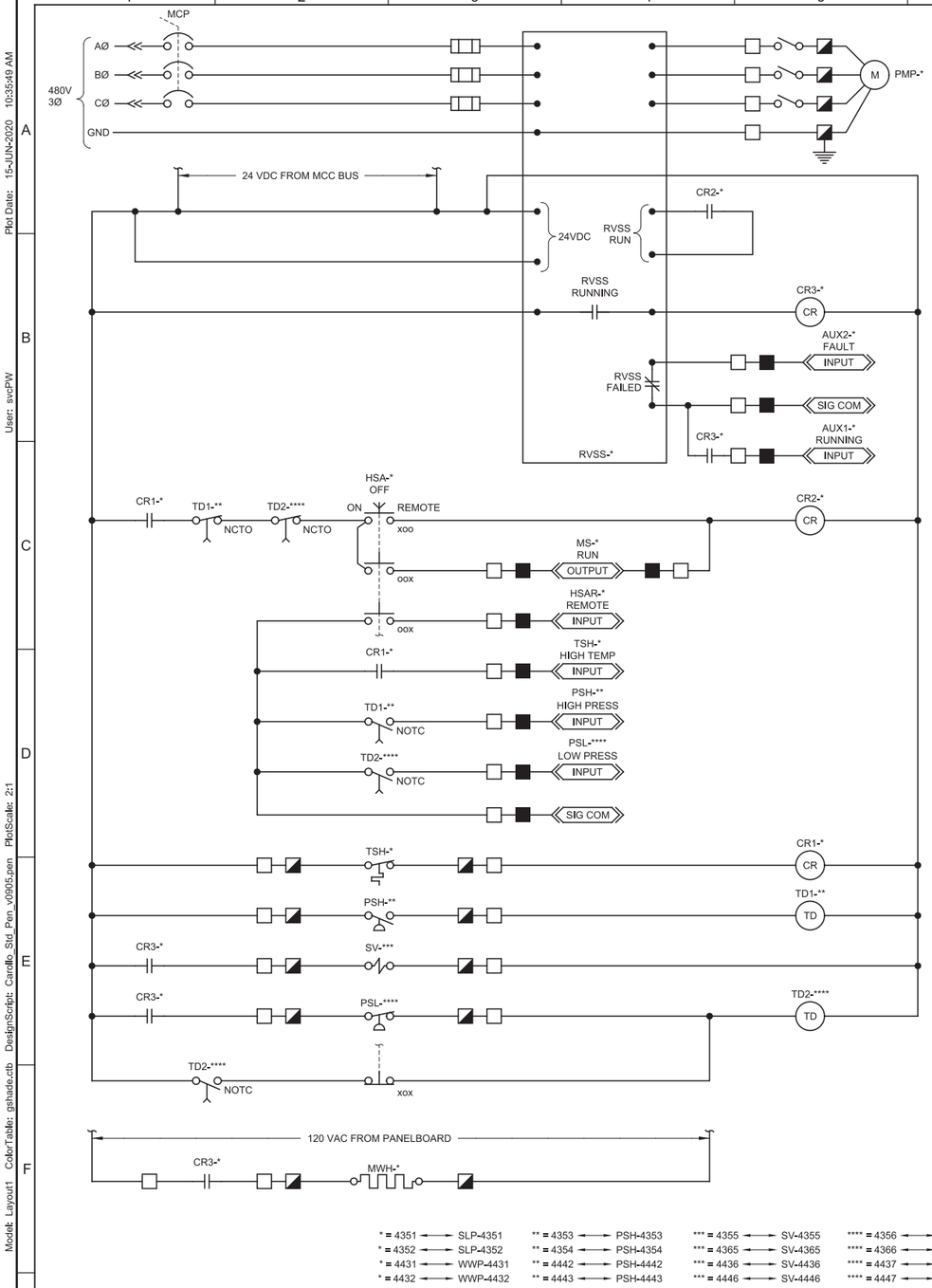
JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
INSTRUMENTATION
SAMPLE LOOP DRAWING

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

JOB NO. 10851A.10
DRAWING NO. GN06
SHEET NO. 50 OF 70

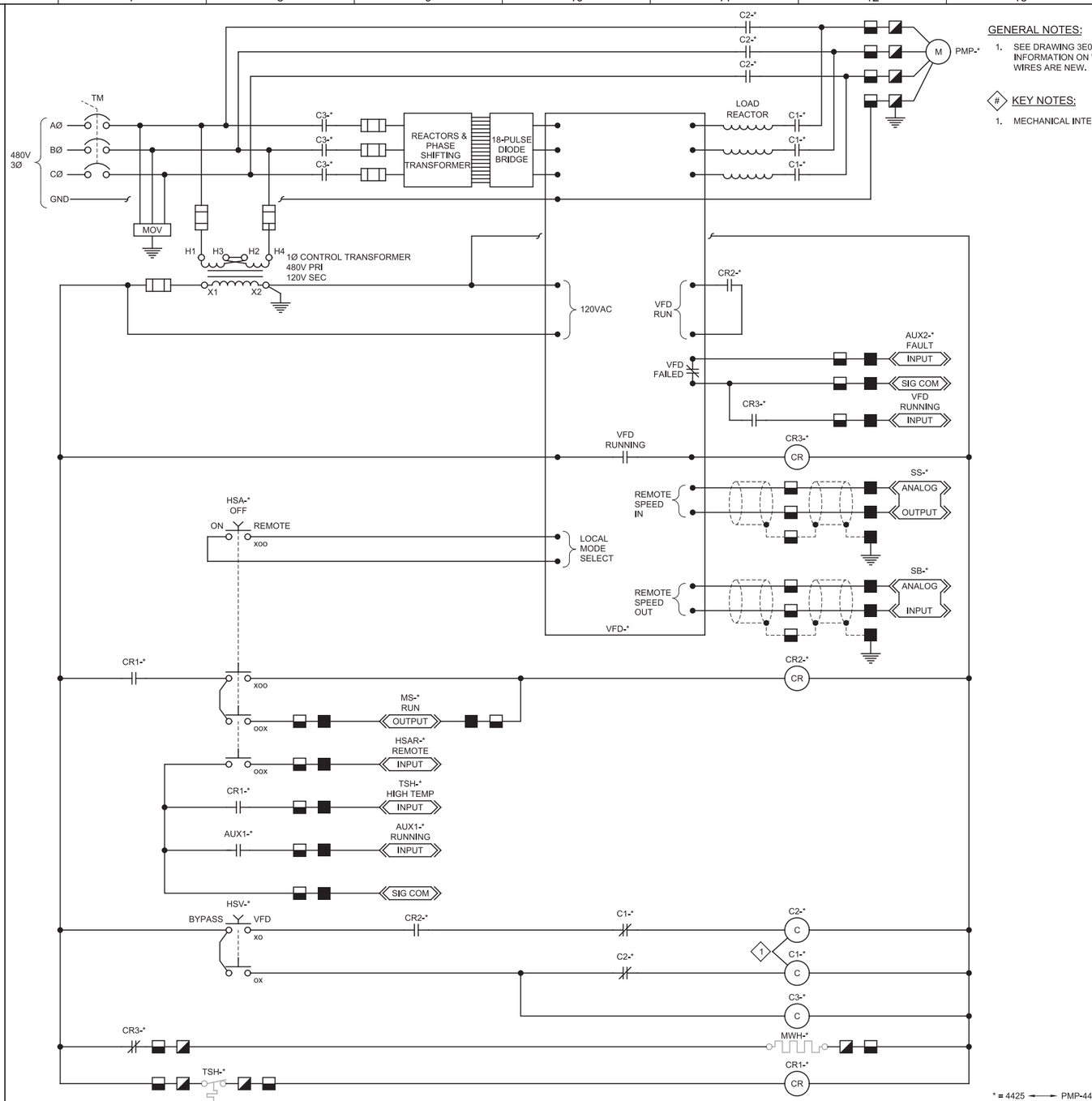
LAST SAVED BY: dlmada
Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Std_Pen_v0905.pen PlotScale: 2:1
Plot Date: 15-JUN-2020 10:36:02 AM
User: svcPW

PROJECT NO. 10851A.10 FILE NAME: 10851A1000GN06.dgn



1 RVSS START/STOP CONTROL SCHEMATIC

N02



2 VFD START/STOP CONTROL SCHEMATIC 18 PULSE VFD

N03

GENERAL NOTES:

1. SEE DRAWING 3E02 FOR INFORMATION ON WHICH WIRES ARE NEW.

 # KEY NOTES:

1. MECHANICAL INTERLOCK.

REV	DATE	BY	DESCRIPTION

DESIGNED MGH
DRAWN DKI
CHECKED KMP
DATE JUNE 2020

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No. 5612657
MATTHEW G. HATCH
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JORDAN VALLEY WATER CONSERVANCY DISTRICT

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INSTRUMENTATION
SCHEMATICS

VERIFY SCALES
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0 1"
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JOB NO. 10851A.10
DRAWING NO. IS01
SHEET NO. 51 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A1000IS01.dgn

LAST SAVED BY: dlmada Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Std_Pen_v0905.pen PlotScale: 2:1 User: svcPW Plot Date: 15-JUN-2020 10:35:49 AM

I/O

POWER SOURCE

FIELD

DO OPEN
ZCO 4441
RTU–RECLAIM PS

DO CLOSE
ZCO 4441
RTU–RECLAIM PS

DI REMOTE
HSAR 4441
RTU–RECLAIM PS

DI OPENED
ZSO 4441
RTU–RECLAIM PS

DI CLOSED
ZSC 4441
RTU–RECLAIM PS

AI TURB
A 4440
RTU–RECLAIM PS

TM 120VAC–1P
CB 4440
RTU–RECLAIM PS

TM 480VAC–3P
CB 4441
MCC–WW

DISC 4440

AIT 4440

AE 4440
TURB

ZSOC 4441
OSC

HSG 4441

HSA 4441
LSR

EDR 4441

DISC 4441

FWW FROM FILTERS
48" WW

VAL 441
F D

WEIR BOX

48" WW
RECLAIM POND INLET STRUCTURE
1 N01 N06

48" WW

6" D
GRAVEL PACK

AE–4440
TURBIDITY
0–4,000 NTU

F 2M02

* TYP
NM107
EM220

EDR–4441
WEIR BOX DISCHARGE VALVE

EXISTING FWW CLARIFIER

36" WW
DECANT WET WELL
3 N01 N03

10" WW
SLUDGE WET WELL
2 N01 N02

REV	DATE	BY	DESCRIPTION

DESIGNED PL
DRAWN DKI
CHECKED KMP
DATE JUNE 2020

Digitally signed by Matthew G. Hatch
Contact Info: Carollo Engineers, Inc.
Date: 2020.06.15 10:35:34 -06'00'

REGISTERED PROFESSIONAL ENGINEER
No. 5612657
MATTHEW G. HATCH
STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
INSTRUMENTATION
WEIR BOX P&ID

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

JOB NO. 10851A.10
DRAWING NO. N01
SHEET NO. 52 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A1000N01.dwg

KEY NOTES:

1. REUSE EXISTING DECANT PUMPS.
2. REPLACE EXISTING ULTRASONIC LEVEL SENSOR AND TRANSMITTER.
3. REUSE EXISTING RVSS.

AI L 4350 RTU–RECLAIM PS

DI PSL 4356 RTU–RECLAIM PS

DI PSH 4353 RTU–RECLAIM PS

DI PSL 4366 RTU–RECLAIM PS

DI PSH 4354 RTU–RECLAIM PS

DI TSH 4351 HIGH TEMP RTU–RECLAIM PS
DI HSAR 4351 REMOTE RTU–RECLAIM PS
DO MS 4351 RUN RTU–RECLAIM PS
DI AUX2 4351 FAULT RTU–RECLAIM PS
DI AUX1 4351 RUNNING RTU–RECLAIM PS

DI TSH 4352 HIGH TEMP RTU–RECLAIM PS
DI HSAR 4352 REMOTE RTU–RECLAIM PS
DO MS 4352 RUN RTU–RECLAIM PS
DI AUX2 4352 FAULT RTU–RECLAIM PS
DI AUX1 4352 RUNNING RTU–RECLAIM PS

RVSS-4351
RVSS
480VAC-3P
MCC-WW
3

RVSS-4352
RVSS
480VAC-3P
MCC-WW
3

TM CB 4350 120VAC–1P RTU–RECLAIM PS

DISC 4350

LIT 4350 2

LE 4350 2

SV 4355

PSL 4356

PE 4356

PRESS SW

E DISC 4351

TSH 4351

SLP 4351

MWH 4351

PSH 4353

PE 4353

PRESS SW

SV 4365

PSL 4366

PE 4366

PRESS SW

E DISC 4352

TSH 4352

SLP 4352

MWH 4352

PSH 4354

PE 4354

PRESS SW

8" BWR

12" BWR

14" BWR

EXISTING DECANT WET WELL
6 N02 N03

12" SL

EXISTING DECANT WET WELL
4 N02 N03

PI 4357

PI 4367

UTILITY WATER

UTILITY WATER

1

S

FI 4358

FI 4368

8" BWR

FWW CLARIFIER
2 N01 N02

10" WW

EXISTING SLUDGE WET WELL

EXISTING DECANT WET WELL

CONTINUED ON DWG N03

PE–4356 SEAL WATER LOW PRESSURE SWITCH 5 PSIG CLOSE * NP503 TYP

SLP–4351 SLUDGE WET WELL PUMP 1 25HP 480VAC 3PH 1 IS01

PE–4366 SEAL WATER LOW PRESSURE SWITCH 5 PSIG CLOSE * NP503 TYP

SLP–4352 SLUDGE WET WELL PUMP 2 25HP 480VAC 3PH 1 IS01

LE–4350 ULTRASONIC LEVEL METER 0–26.5 FT * NL174 TYP

FI–4358 SEAL WATER ROTAMETER 0–5 GPM

PI–4357 SEAL WATER PRESSURE INDICATOR 0–60 PSI * NP503 TYP

PE–4353 PRESSURE SWITCH HIGH 40 PSIG OPEN * NP502 TYP

FI–4368 SEAL WATER ROTAMETER 0–5 GPM

PI–4367 SEAL WATER PRESSURE INDICATOR 0–60 PSI * NP503 TYP

PE–4354 PRESSURE SWITCH HIGH 40 PSIG OPEN * NP502 TYP

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CHECKED KMP
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REGISTERED PROFESSIONAL ENGINEER No. 5612657 MATTHEW G. HATCH STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
INSTRUMENTATION
SLUDGE PUMPS
P&ID

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

JOB NO. 10851A.10
DRAWING NO. N02
SHEET NO. 53 OF 70

Plot Date: 15-JUN-2020 10:35:39 AM
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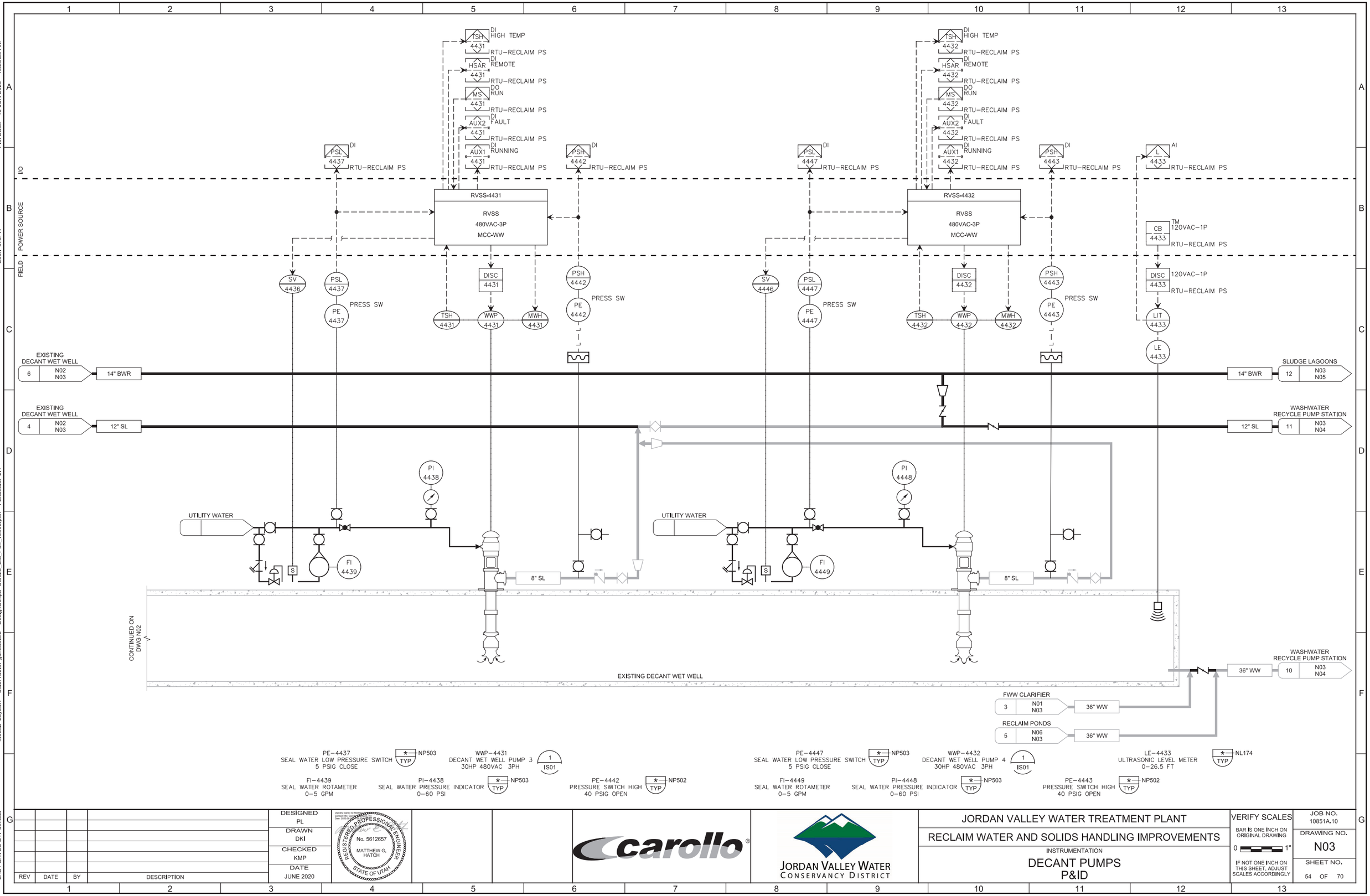

REV	DATE	BY	DESCRIPTION

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DATE JUNE 2020

REGISTERED PROFESSIONAL ENGINEER No. 5612657 MATTHEW G. HATCH STATE OF UTAH

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JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT

RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS

INSTRUMENTATION

DECANT PUMPS P&ID

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

JOB NO. 10851A.10
DRAWING NO. N03
SHEET NO. 54 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A1000N03.dwg

Plot Date: 15-JUN-2020 10:35:39 AM
User: svcPW
PlotScale: 2:1
DesignScript: Carollo_Std_Pen_v0905.pen
ColorTable: gshade.ctb
Model: Layout1
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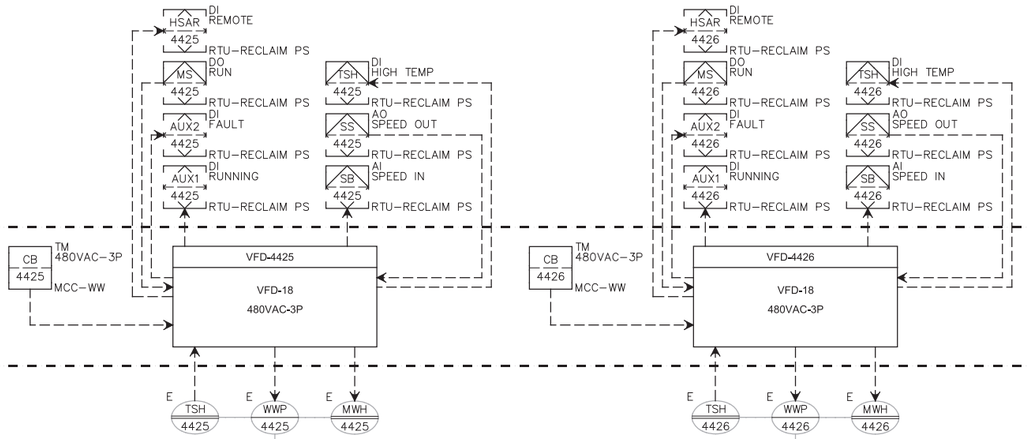
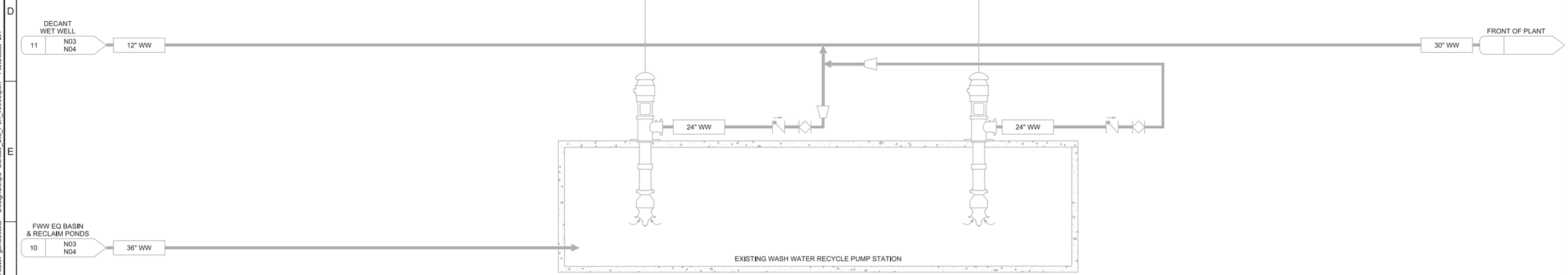
I/O

POWER SOURCE

FIELD





WWP–4425
EXISTING WASH WATER RECYCLE PUMP 1
100HP 480VAC 3PH
2 IS01

WWP–4426
EXISTING WASH WATER RECYCLE PUMP 2
100HP 480VAC 3PH
2 IS01

REV	DATE	BY	DESCRIPTION

DESIGNED PL
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REGISTERED PROFESSIONAL ENGINEER
No. 5612657
MATTHEW G. HATCH
STATE OF UTAH

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JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
INSTRUMENTATION
EXISTING WASH WATER RECYCLE PUMP STATION P&ID

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

JOB NO. 10851A.10
DRAWING NO. N04
SHEET NO. 55 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A1000N04.dwg

I/O

POWER SOURCE

FIELD

AI
L 4355
RTU–SCREEN

TM
CB 4355
120VAC–1P
UPS–SCREEN

DISC 4355

LIT 4355

ULTRASONIC
LE 4355

AI
L 4356
RTU–SCREEN

TM
CB 4356
120VAC–1P
UPS–SCREEN

DISC 4356

LIT 4356

ULTRASONIC
LE 4356

AI
L 4357
RTU–SCREEN

TM
CB 4357
120VAC–1P
UPS–SCREEN

DISC 4357

LIT 4357

ULTRASONIC
LE 4357

RECLAIM PONDS
N05
N06
8

24" SL

MANHOLE 1

MANHOLE 2

MANHOLE 3

SEDIMENTATION BASIN PUMPS
12" SL

SLUDGE PUMPS
12
N03
N05
14" BWR

LE–4355
SLUDGE LAGOON 1 OVERFLOW LEVEL
0–7 FT
* TYP
NL187
NM107
EM202

LE–4356
SLUDGE LAGOON 2 OVERFLOW LEVEL
0–7 FT
* TYP
NL187
NM107
EM202

LE–4357
SLUDGE LAGOON 3 OVERFLOW LEVEL
0–7 FT
* TYP
NL187
NM107
EM202

REV	DATE	BY	DESCRIPTION

DESIGNED PL
DRAWN DKI
CHECKED KMP
DATE JUNE 2020

Digitally signed by Matthew G. Hatch
Date: 2020.06.15 10:35:39 -06'00'
REGISTERED PROFESSIONAL ENGINEER
No. 5612657
MATTHEW G. HATCH
STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT

RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS

INSTRUMENTATION

SLUDGE LAGOONS P&ID

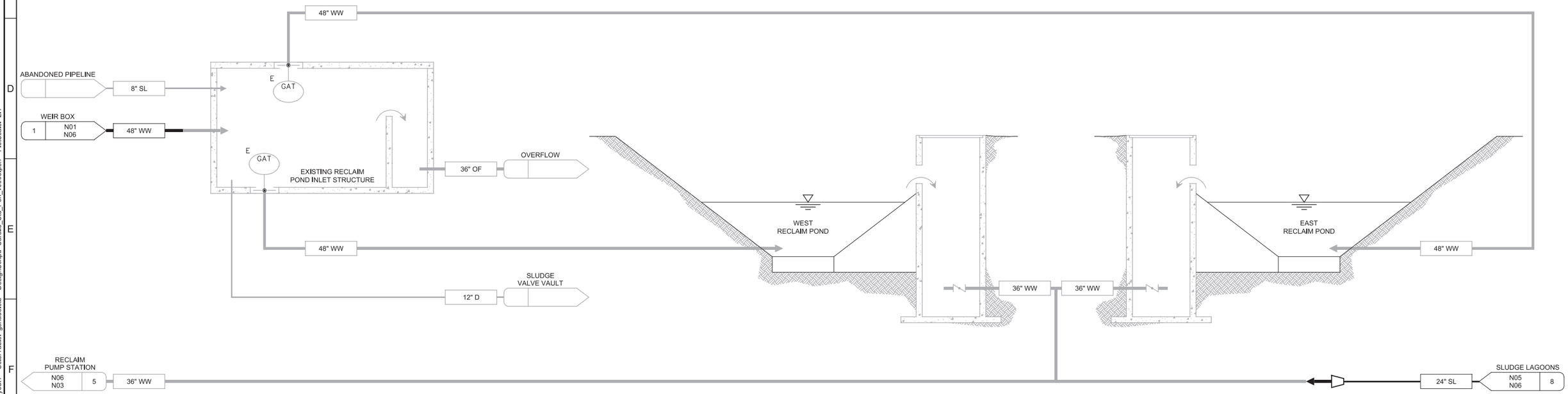
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. 10851A.10
DRAWING NO. N05
SHEET NO. 56 OF 70

I/O

POWER SOURCE

FIELD



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JORDAN VALLEY WATER TREATMENT PLANT

RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS

INSTRUMENTATION

RECLAIM PONDS P&ID

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

JOB NO. 10851A.10
DRAWING NO. N06
SHEET NO. 57 OF 70

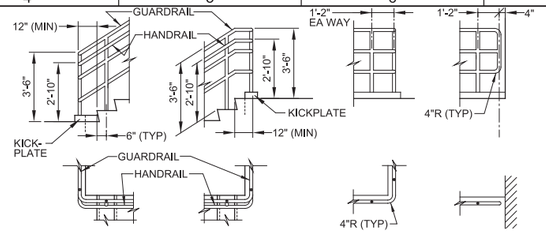
PROJECT NO. 10851A.10 FILE NAME: 10851A1000N06.dwg

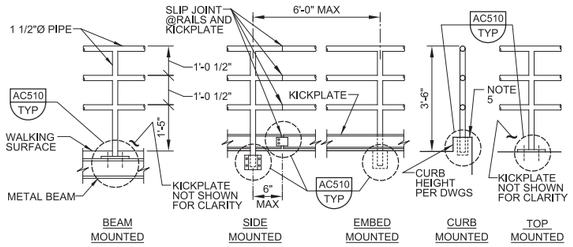
NOTES:

1. PROVIDE GUARDRAILS AT STAIRS AND AT OPEN SIDED WALKING SURFACES THAT ARE ELEVATED MORE THAN 30" ABOVE GRADE OR ADJACENT CONSTRUCTION.
2. WHERE EQUIPMENT IS LOCATED LESS THAN 10' FROM EDGE OF ROOF AND ELEVATED MORE THAN 30" ABOVE GRADE OR ADJACENT CONSTRUCTION, PROVIDE 42" HIGH GUARDRAIL FORMING A PROTECTIVE BARRIER. PARAPET WALL 42" OR MORE IN HEIGHT MAY BE THE GUARDRAIL AT ROOF LOCATIONS.
3. SEE DRAWINGS AND SPECIFICATIONS FOR GUARDRAIL MATERIAL TYPE(S).
4. PROVIDE HANDRAIL AT BOTH SIDES OF EVERY STAIR HAVING 2 OR MORE RISERS.
5. PROVIDE CONTINUOUS HANDRAIL GRIPPING SURFACES FOR THE FULL LENGTH OF THE STAIR.
6. PROVIDE HANDRAIL EXTENSIONS AT BOTH SIDES OF STAIRS AT TOP AND BOTTOM. HANDRAIL EXTENSION ON STAIR MOUNTED GUARDRAIL MAY BE OMITTED WHERE IT IS PERPENDICULAR TO AND IMPEDES EXIT FLOW.
7. MAKE INSIDE HANDRAIL ON SWITCHBACK STAIRS CONTINUOUS.
8. FOR WALL MOUNTED HANDRAILS, PROVIDE SINGLE RAIL WITH TOP OF RAIL AT 2'-10" HEIGHT ABOVE LANDINGS OR TREAD NOSINGS. PROVIDE MATCHING HANDRAIL ON OPPOSITE SIDE.
9. GUARDRAIL SHALL BE FIXED UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
10. PLACE CENTER OF EMBEDDED POSTS 6" FROM EDGE OF CONCRETE AND 6" FROM FRONT EDGE OF CONCRETE STAIR NOSINGS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
11. PLACE GUARDRAIL POSTS OPPOSITE EACH OTHER WHERE RAILINGS ARE PARALLEL.
12. FOR GUARDRAIL POSTS MOUNTED TO BEAM OR STAIR CHANNEL, PROVIDE MANUFACTURERS REINFORCED CONNECTION FROM POST TO PLATE. PLATE AND REINFORCED INSERTS SHALL BE ALUMINUM OR STAINLESS STEEL.
13. PROVIDE SLIDING JOINTS AT 24' MAX SPACING FOR EXPANSION OF RAIL AND KICKPLATE. LOCATE SLIDING JOINTS NEAR FACE OF POST. GAP AT TIME OF INSTALLATION SHALL BE BASED ON TEMPERATURE OF GUARDRAIL. PROVIDE 1/4" GAP AT 100°F AND 5/8" GAP AT 0°F. INTERPOLATE GAP FOR OTHER INSTALLATION TEMPERATURES. AT CONCRETE EXPANSION JOINTS, PROVIDE MINIMUM 1" GAP IN SLIDING JOINTS BUT NOT LESS THAN WIDTH OF CONCRETE EXPANSION JOINT. MAKE INSERT SLEEVES IN RAILS LONG ENOUGH TO ALLOW FOR THE FULL RANGE OF MOVEMENT.
14. MATERIAL FOR KICKPLATE CHANNEL SLIDING JOINT PLATES, SHALL BE OF THE SAME MATERIAL AS THE GUARDRAIL.
15. JOINTS FOR STAINLESS STEEL GUARDRAIL AND HANDRAIL SHALL BE COPED, WELDED, AND GROUND SMOOTH.
16. PROVIDE KICKPLATE AT ALL LOCATIONS EXCEPT AT SLOPING GUARDRAIL ON STAIRS AND WHERE GUARDRAIL IS MOUNTED ON A 4" MIN CURB. KICKPLATE MAY BE EXTRUDED OR BENT PLATE AND SHALL BE ATTACHED WITH SST BOLTS IN 5/16" x 3/4" SLOTTED HOLES. BOLT KICKPLATE TO POST WITH BOTTOM 1/4" CLEAR ABOVE FLOOR. FOR SIDE MOUNTED GUARDRAIL, PROVIDE STANDARD SPACER BLOCK BETWEEN POST AND KICKPLATE TO MAINTAIN 1/4" MAX CLEAR SPACING. HAND TIGHTEN AND CENTER PUNCH BOLT THREADS TO LOCK.
17. COAT SURFACES OF ALUMINUM IN CONTACT WITH CONCRETE AS SPECIFIED. PROVIDE NEOPRENE GASKET BETWEEN ALUMINUM AND STEEL.

AC500 TYP — GUARDRAIL - HANDRAIL - NOTES

NS 06/21/19

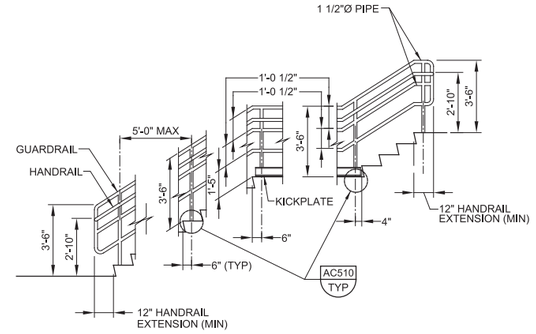




GUARDRAIL ELEVATION

AC504 TYP — GUARDRAIL - THREE RAIL

NS SHEET 1 OF 3 06/21/19



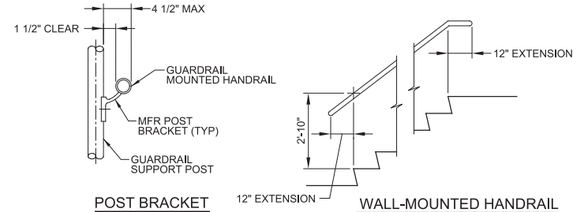
STAIR GUARDRAIL/HANDRAIL ELEVATION

NOTES:

1. THIS DETAIL IS APPLICABLE AT PRIVATE STAIRS IN F, H, AND S OCCUPANCIES WHERE OPERATOR ONLY ACCESS IS REQUIRED. DETAILS AND INSTALLATION SHALL COMPLY WITH THE BUILDING CODE.
2. SEE SPECIFICATIONS AND DETAIL AC500/TYP FOR ADDITIONAL REQUIREMENTS.
3. VARIOUS POST MOUNTING DETAILS ARE ILLUSTRATED. SEE DRAWINGS AND DETAIL AC510/TYP FOR SPECIFIC MOUNTING REQUIREMENTS.
4. HANDRAIL EXTENSIONS ARE REQUIRED ON BOTH SIDES OF STAIR, EXCEPT WHERE INSIDE HANDRAIL IS CONTINUOUS AT SWITCHBACK STAIR.
5. AT CURB, USE EMBEDDED OR TOP MOUNTED POST AS INDICATED ON THE DRAWINGS.

AC504 TYP — GUARDRAIL - THREE RAIL

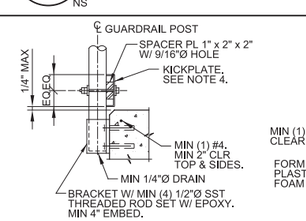
NS SHEET 2 OF 3 06/21/19



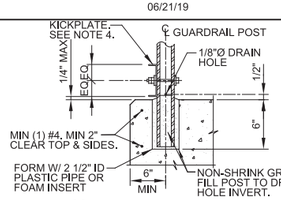
HANDRAIL DETAILS

AC504 TYP — GUARDRAIL - THREE RAIL

NS SHEET 3 OF 3 06/21/19



A SIDE MOUNTED POST



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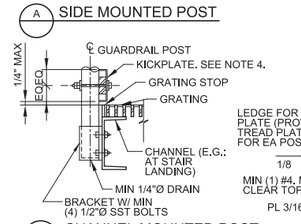
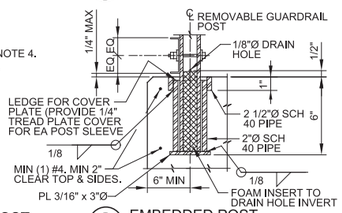
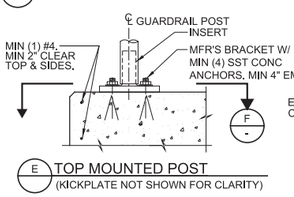


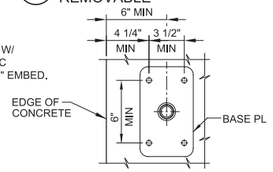
C CHANNEL MOUNTED POST



D EMBEDDED POST - REMOVABLE



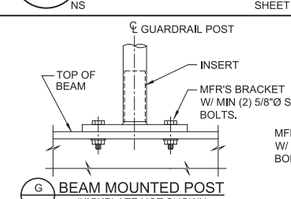
E TOP MOUNTED POST
(KICKPLATE NOT SHOWN FOR CLARITY)



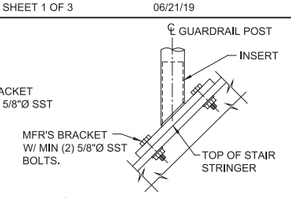
F PLAN

AC510 TYP — GUARDRAIL - MOUNTING

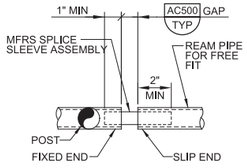
NS SHEET 1 OF 2 06/21/19



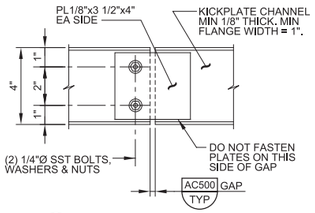
G BEAM MOUNTED POST
(KICKPLATE NOT SHOWN FOR CLARITY)



H STRINGER MOUNTED POST



J RAIL SLIP JOINT - PLAN



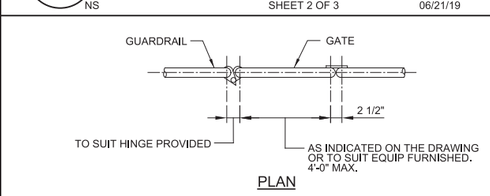
K KICKPLATE JOINT - ELEVATION

NOTES:

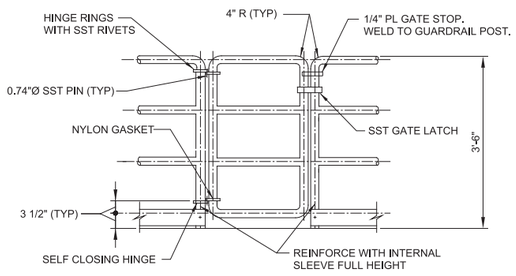
1. FOR ADDITIONAL REQUIREMENTS, SEE DETAIL AC500/TYP.
2. SEE DRAWINGS FOR MATERIAL TYPES.
3. COAT ALUMINUM SURFACES IN CONTACT WITH CONCRETE OR DISSIMILAR METALS AS SPECIFIED.
4. KICKPLATE CONNECTION AT POST: MIN 3/4" HORIZONTAL SLOTTED HOLE IN CHANNEL W/ MIN 1/4"Ø BOLT. PROVIDE WASHER AND DOUBLE NUTS. INSIDE NUT FINGER-TIGHT TO PERMIT EXPANSION AND CONTRACTION.

AC510 TYP — GUARDRAIL - MOUNTING

NS SHEET 2 OF 2 06/21/19



PLAN



ELEVATION

NOTES:

1. GATE MATERIAL AND FINISH SHALL MATCH GUARDRAIL.
2. GATE SHALL OPEN TOWARD THE WALKWAY.

AC514 TYP — GUARDRAIL - GATE - THREE RAIL

S 06/21/19

REV	DATE	BY	DESCRIPTION

DESIGNED SSB
DRAWN JRL
CHECKED PAC
DATE JUNE 2020

REGISTERED PROFESSIONAL ENGINEER — No. 4939129-2202 — PATRICK A. CARLSON — STATE OF UTAH

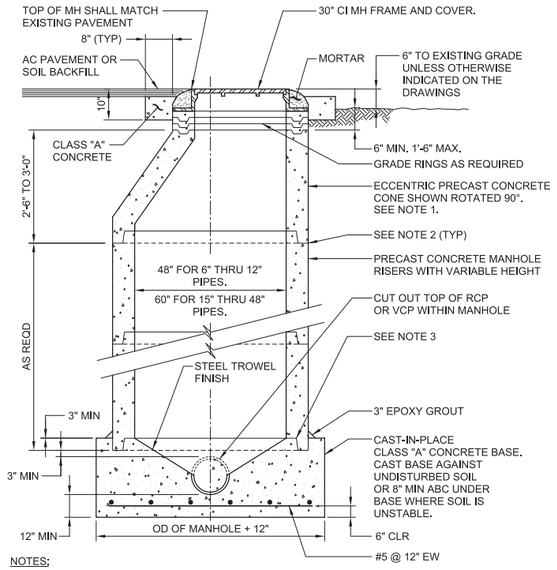
carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
TYPICAL DETAILS
ARCHITECTURAL TYPICAL DETAILS

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

JOB NO. 10851A.10
DRAWING NO. TA01
SHEET NO. 58 OF 70



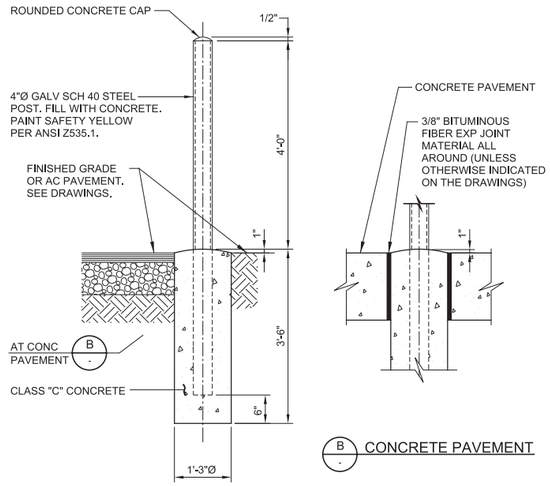
NOTES:

1. LOCATE MANHOLE COVER ON DOWNSTREAM SIDE OF MANHOLE. SET MANHOLE FRAME IN GROUT.
2. SEAL JOINTS WITH PRECAST CONCRETE JOINT SEALANT.
3. FORM GROOVE IN MANHOLE BASE WITH STEEL OR ALUMINUM BASERING PER MANUFACTURER'S DETAIL.

C010 MANHOLE

TYP

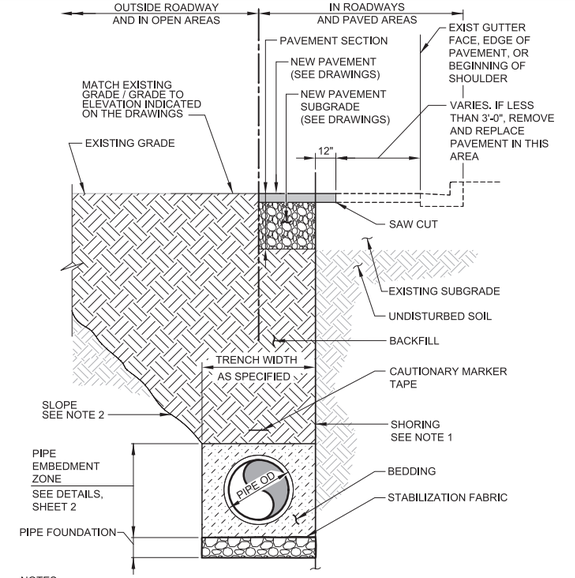
06/26/15



C160 GUARD POST

TYP

01/13/14



NOTES:

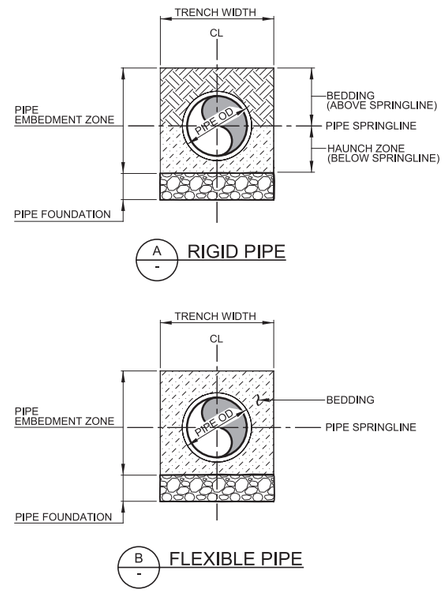
1. SEE SPECIFICATIONS FOR SHORING REQUIREMENTS.
2. SEE SPECIFICATIONS FOR SLOPE REQUIREMENTS.
3. SEE SPECIFICATIONS FOR DEPTH AND WIDTH REQUIREMENTS.

CP111 PIPE TRENCH

TYP

SHEET 1 OF 2

5/20/19

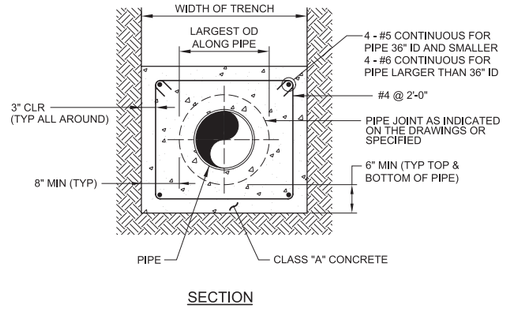


CP111 PIPE ZONE EMBEDMENT

TYP

SHEET 2 OF 2

5/22/19



SECTION

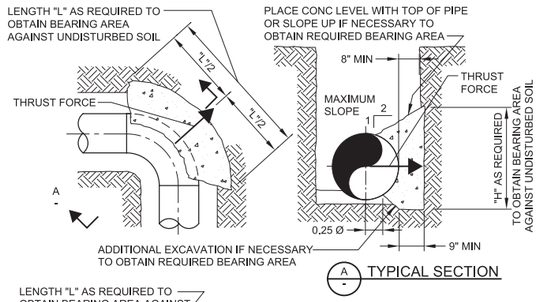
NOTE:

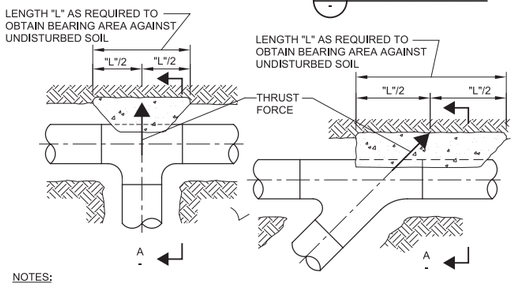
1. TYPE OF PIPE AND TYPE OF PIPE JOINT OR COUPLER AS INDICATED ON THE DRAWINGS.

CP119 CONCRETE PIPE ENCASEMENT

TYP

02/08/19



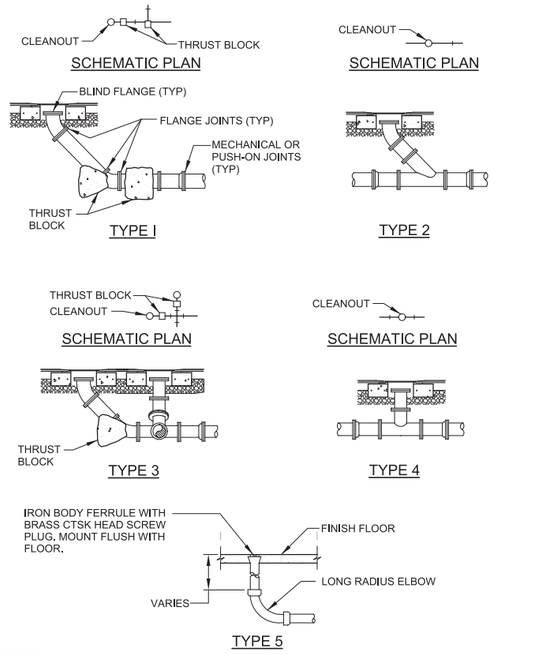


NOTES:

1. BEARING AREA IS THE AREA REQUIRED TO OBTAIN A MAXIMUM PRESSURE NOT GREATER THAN 1500 PSF AT THE TOP OF THRUST BLOCK WHEN THE PIPE IS SUBJECTED TO ITS TEST PRESSURE. OR BEARING AREA INDICATED ON THE DRAWINGS USING A PASSIVE RESISTANCE OF 200 PSF/FT DEPTH.
2. CONCRETE SHALL BE CLASS "A" OR "C".
3. THRUST BLOCK SHALL BEAR ON UNDISTURBED SOIL.

CP131 THRUST RESTRAINT - BURIED THRUST BLOCK

02/08/2019



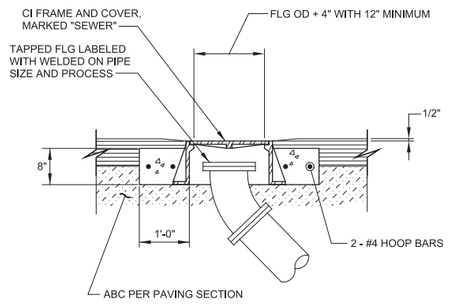
CP411 CLEANOUTS

TYP

R

SHT 1 OF 2

08/15/18



TERMINATION IN PAVEMENT
ALL TYPES FOR 4"Ø TO 12"Ø

NOTES:

1. ALL THRUST BLOCKS SHALL BE PLACED PER TYPICAL DETAIL CP131.
2. CONCRETE RING SHALL BE PLACED AFTER PAVEMENT PLACEMENT.
3. ALL FLANGES SHALL BE TAPPED TO ALLOW THE INSTALLATION OF BLIND FLANGES WITH BOLTS.
4. CLEANOUT PIPE SHALL BE SAME SIZE AS LINE PIPE.
5. FOR CLEANOUTS IN YARD AREA, PLACE 12" SQUARE BY 4" THICK CONCRETE PAD.

CP411 CLEANOUTS

TYP

R

SHT 2 OF 2

02/20/19

REV	DATE	BY	DESCRIPTION

DESIGNED SSB
DRAWN TSD
CHECKED PAC
DATE JUNE 2020

REGISTERED PROFESSIONAL ENGINEER — No. 4939129-2202 — PATRICK A. CARLSON — STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

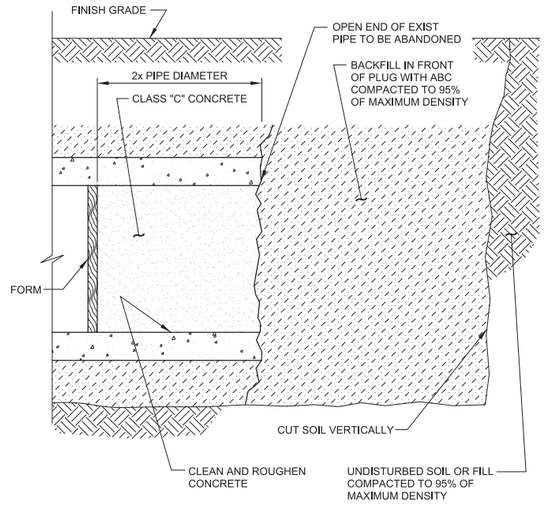
JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
TYPICAL DETAILS
CIVIL TYPICAL DETAILS 1

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

JOB NO. 10851A.10
DRAWING NO. TC01
SHEET NO. 59 OF 70

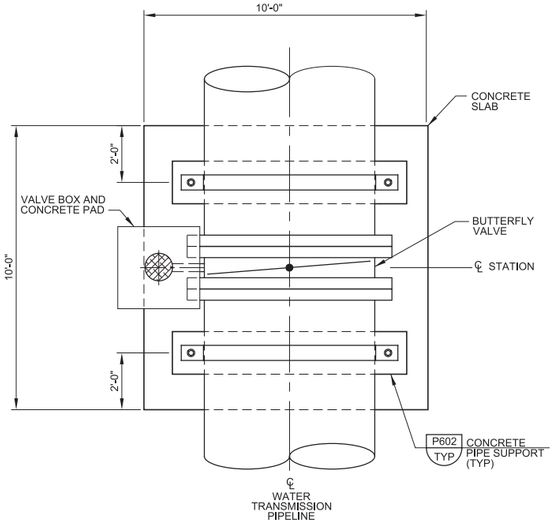
PROJECT NO. 10851A.10 FILE NAME: 10851A1000TC01.dgn

LAST SAVED BY: tdonnell Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Std_Pen_v0905.pen PlotScale: 2:1 User: svcPW Plot Date: 15-JUN-2020 12:30:12 PM



CP521 TYP — RCP - PIPE PLUG, CONCRETE

05/21/19



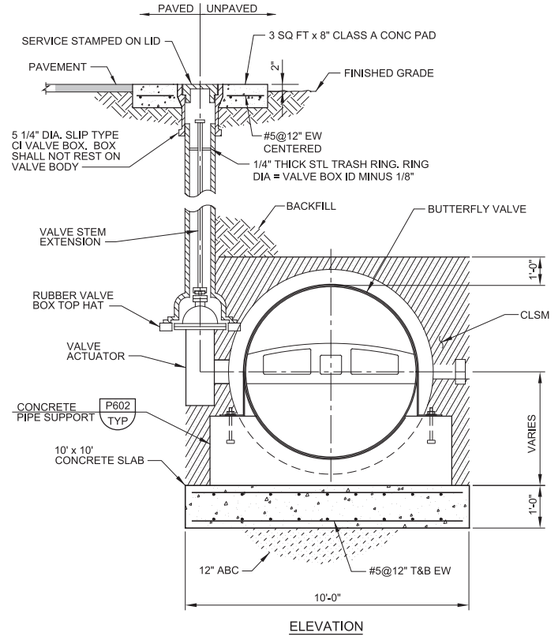
PLAN

NOTES:

1. ALL BURIED VALVES SHALL BE PROVIDED WITH EXTENSION STEM OPERATOR WITH 2" SQUARE AWWA NUT WITHIN 36" OF VALVE BOX COVER. INDICATE ON NUT DIRECTION OF ROTATION TO OPEN VALVE.
2. COAT BURIED PIPE AND VALVE BOX PER SPECIFICATIONS.
3. CLEAN VALVE BOX OF ALL DEBRIS AND SOIL.

CP715 TYP — BUTTERFLY VALVE - DIRECT BURY

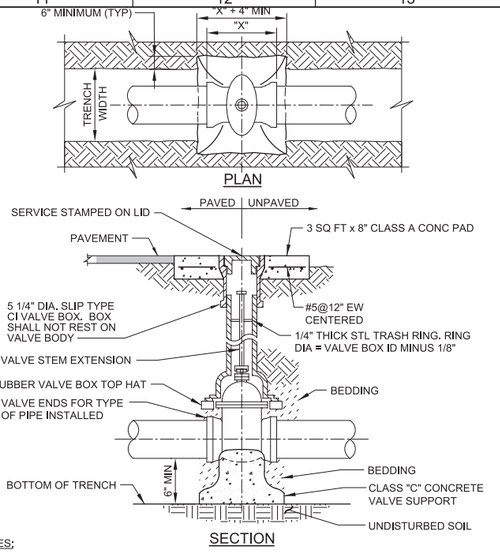
SHEET 1 OF 2 5/21/19



ELEVATION

CP715 TYP — BUTTERFLY VALVE - DIRECT BURY

SHEET 2 OF 2 5/21/19



PLAN

SECTION

NOTES:

1. ALL BURIED VALVES SHALL BE PROVIDED WITH EXTENSION STEM OPERATION WITH 2" SQUARE AWWA NUT WITHIN 36" OF VALVE BOX COVER. NUT IS TO INDICATE DIRECTION OF ROTATION TO OPEN VALVE.
2. COAT BURIED PIPE AND VALVE BOX AS SPECIFIED.
3. CLEAN VALVE BOX OF ALL DEBRIS AND SOIL.
4. VALVE TYPE AS INDICATED ON THE DRAWINGS.

CP716 TYP R — PLUG VALVE - DIRECT BURY

04/24/20

REV	DATE	BY	DESCRIPTION

DESIGNED SSB
DRAWN TSD
CHECKED PAC
DATE JUNE 2020

REGISTERED PROFESSIONAL ENGINEER — No. 4939129-2202 — PATRICK A. CARLSON — STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
TYPICAL DETAILS
CIVIL TYPICAL DETAILS 2

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

JOB NO. 10851A.10
DRAWING NO. TC02
SHEET NO. 60 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A1000TC02.dgn

Plot Date: 15-JUN-2020 12:30:10 PM
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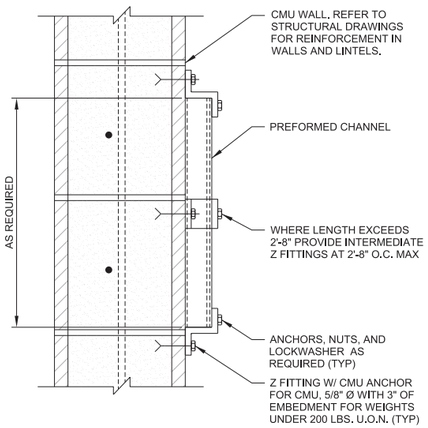
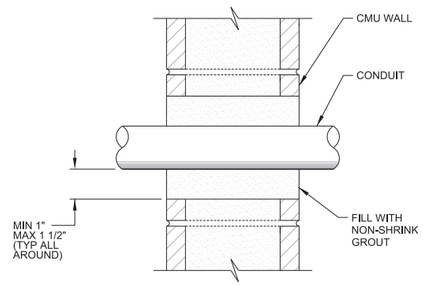


NOTES:

1. THIS DETAIL TYPICAL FOR BOTH VERTICAL AND HORIZONTAL MOUNTING.
2. SUPPORTS TO BE SPACED IN ACCORDANCE WITH NEC REQUIREMENTS. CONCRETE ANCHORS FOR CMU SHALL BE PER THE SPECIFICATIONS.

EA080 TYP S — PREFORMED CHANNEL ATTACHMENT TO FULLY GROUTED CMU WALL



NOTES:

1. PROVIDE NON-DESTRUCTIVE TESTING TO DETERMINE LOCATIONS OF REINFORCEMENT. MAINTAIN MIN 2" CLEAR BETWEEN CORE DRILLED OPENING AND REINFORCEMENT.
2. ROUGHEN SURFACE OF OPENING TO A 1/4" AMPLITUDE AND APPLY EPOXY CEMENT BONDING AGENT IMMEDIATELY PRIOR TO GROUTING.
3. PROVIDE 8" MINIMUM CENTER-TO-CENTER SPACING FOR CONDUITS.

EM173 TYP S — CORE HOLE PENETRATION FULLY GROUTED CMU WALL

REV	DATE	BY	DESCRIPTION

DESIGNED CAC
DRAWN MP
CHECKED CAH
DATE JUNE 2020

REGISTERED PROFESSIONAL ENGINEER — No. 366286 — CHRISTOPHER A CARVALHO — STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
TYPICAL DETAILS
ELECTRICAL TYPICAL DETAILS

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

JOB NO. 10851A.10
DRAWING NO. TE01
SHEET NO. 61 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A1000TE01.dgn

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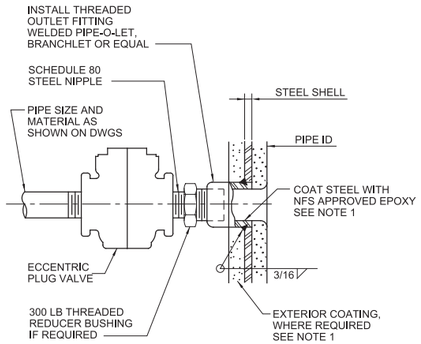
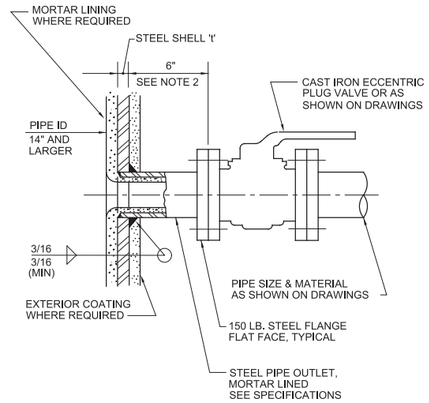


NOTES:

1. WHERE EXTERIOR COATING REQUIRED REMOVE COATING TO DISTANCE SPECIFIED AND COAT PER SPECS.

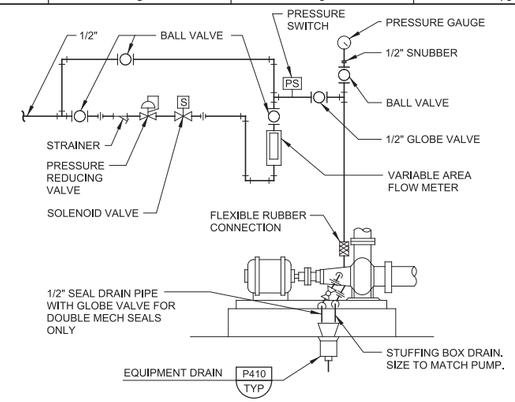
M201 TYP J — 2 1/2" AND SMALLER PIPE CONNECTION



NOTES:

1. FOR HIGH PRESSURE APPLICATION USE WELDED STEEL SADDLE
2. FOR 36" DIA AND LARGER PIPES USE AWWA M11 STANDARD

M203 TYP J — 4" AND LARGER PIPE CONNECTION



NOTES:

1. THIS INSTALLATION IS TO BE USED AT ALL PUMPS WITH SEAL WATER/FLUSH.
2. FLOW METER CAPACITY AND PIPING SYSTEM SHALL MEET PUMP AND SEAL MANUFACTURERS REQUIREMENTS.
3. UNLESS SPECIFIED OTHERWISE, ALL PIPING SHALL BE GSP.
4. WALL MOUNT EQUIPMENT IF NEAREST WALL IS WITHIN TEN FEET OF PUMP. IF PUMP IS NOT WITHIN 10 FEET OF WALL, MOUNT ON ALUMINUM STAND. SEE EM202 TYP FOR ALUMINUM STAND MOUNTING DETAIL.
5. WHERE A DRIP PAN IS SPECIFIED AND/OR PROVIDED ON THE PUMP BASE, A SEPARATE DRAIN LINE TO THE EQUIPMENT DRAIN SHALL BE PROVIDED.
6. WHEN AN INDICATING FLOW SWITCH IS USED, DELETE THE VARIABLE AREA FLOW METER.

M262 TYP — SEAL WATER PIPING

05/31/19

REV	DATE	BY	DESCRIPTION

DESIGNED SSB
DRAWN TSD
CHECKED PAC
DATE JUNE 2020

REGISTERED PROFESSIONAL ENGINEER — No. 4939129-2202 — PATRICK A. CARLSON — STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
TYPICAL DETAILS
MECHANICAL TYPICAL DETAILS

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

JOB NO. 10851A.10
DRAWING NO. TM01
SHEET NO. 62 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A1000TM01.dgn

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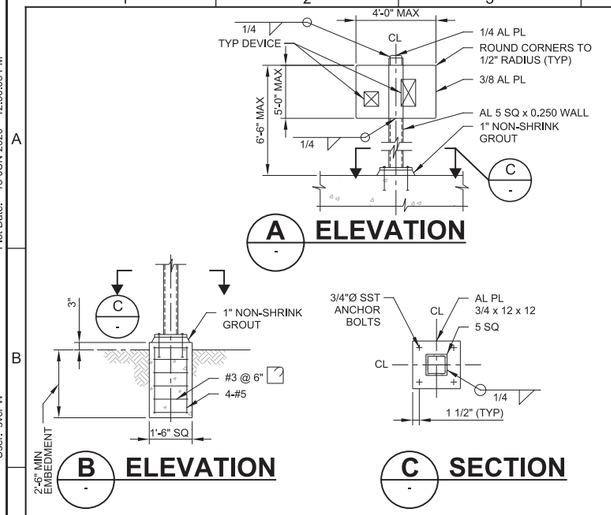
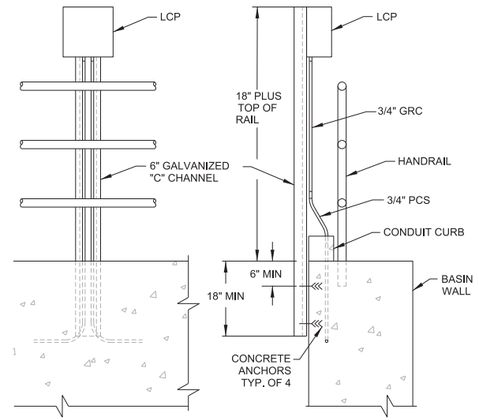
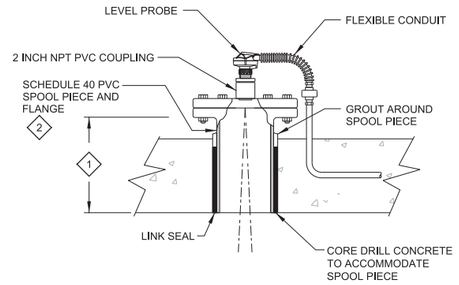


GENERAL NOTES:

EM202 TYP S DEVICE SUPPORT AND MOUNTING



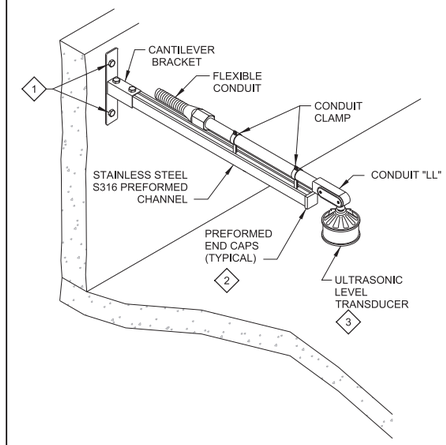
EM220 TYP S RAIL MOUNTED LCP DETAIL



KEY NOTES:

1. MINIMUM DISTANCE BETWEEN HIGHEST POSSIBLE LEVEL, INCLUDING OVERFLOW, AND PROBE FACE SHALL BE MANUFACTURER'S BLANKING ZONE PLUS 2 INCHES.
2. MINIMUM 6 INCHES DIAMETER. INCREASE DIAMETER AS REQUIRED TO ALLOW CONE ANGLE TO CLEAR BOTTOM OF THE TANK NOZZLE.

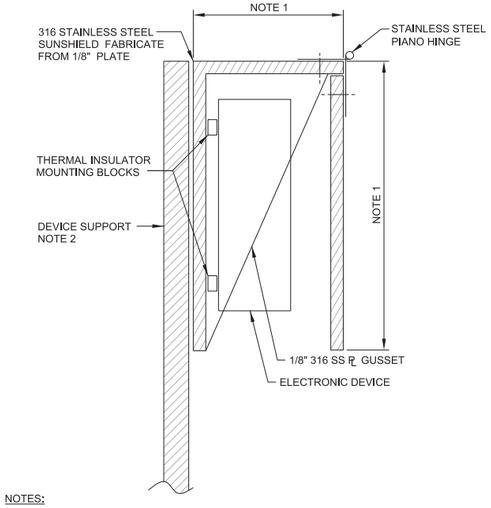
NL174 TYP R LEVEL PROBE MOUNTING DETAIL 1/8/20



KEY NOTES:

1. USE LAG BOLTS AND ANCHORS TO FASTEN TO WALL..
2. USE END CAPS AND CHANNEL CAPS ON ALL EXPOSED UNISTRUT.
3. MINIMUM DISTANCE BETWEEN HIGHEST POSSIBLE LEVEL, INCLUDING OVERFLOW, AND PROBE FACE SHALL BE MANUFACTURER'S BLANKING ZONE PLUS 2 INCHES.

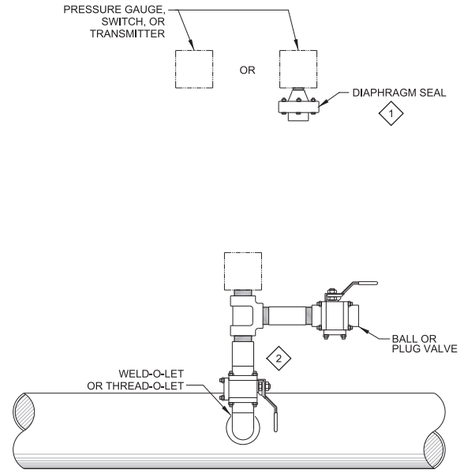
NL187 TYP R ULTRASONIC LEVEL TRANSDUCER WET WELL INSTALLATION 1/8/20



NOTES:

1. SUNSHIELD DIMENSIONS SHALL EXCEED THOSE OF THE ELECTRONIC DEVICE BY 2" ON ALL SIDES.
2. WHEN WALL MOUNTED, USE 4 STAINLESS STEEL ANCHOR BOLTS. WHEN MOUNTED ON HANDRAIL, USE STAINLESS STEEL U-BOLTS, NUTS & WASHERS.

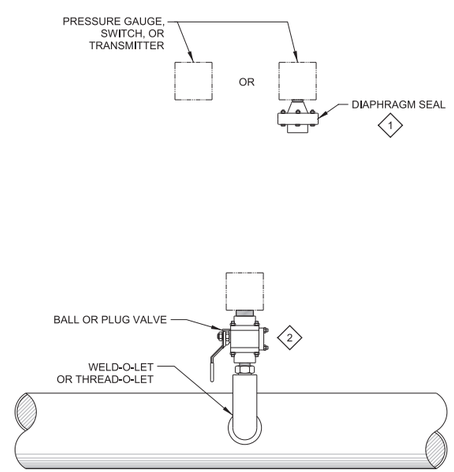
NM107 TYP S SUNSHIELD MOUNTING DETAIL



NOTES:

1. USE THE INSTRUMENT DATA SHEETS IN DIVISION 17 OR DIVISIONS 40 SPECS TO IDENTIFY INDIVIDUAL REQUIREMENTS FOR DIAPHRAGM SEALS.
2. ALL VALVE AND PIPE MATERIAL SHALL BE COMPATIBLE WITH PROCESS FLUID.

NP502 TYP S PRESSURE INSTRUMENT MOUNTING DETAIL



NOTES:

1. USE THE INSTRUMENT DATA SHEETS IN DIVISION 17 OR DIVISIONS 40 SPECS TO IDENTIFY INDIVIDUAL REQUIREMENTS FOR DIAPHRAGM SEALS.
2. ALL VALVE AND PIPE MATERIAL SHALL BE COMPATIBLE WITH PROCESS FLUID.

NP503 TYP S ISOLATING PRESSURE INSTRUMENT MOUNTING DETAIL

REV	DATE	BY	DESCRIPTION

DESIGNED MGH
DRAWN DKI
CHECKED KMP
DATE JUNE 2020

Digitally signed by Matthew G. Hatch
Date: 2020.06.15 12:30:03 -06'00'
REGISTERED PROFESSIONAL ENGINEER
No. 5612657
MATTHEW G. HATCH
STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
TYPICAL DETAILS
INSTRUMENTATION TYPICAL DETAILS

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

JOB NO. 10851A.10
DRAWING NO. TN01
SHEET NO. 63 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A1000TN01.dgn

Plot Date: 15-JUN-2020 12:30:03 PM
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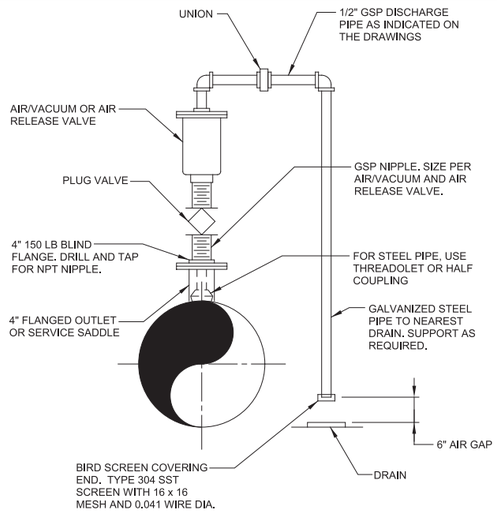
LAST SAVED BY: tdonnell

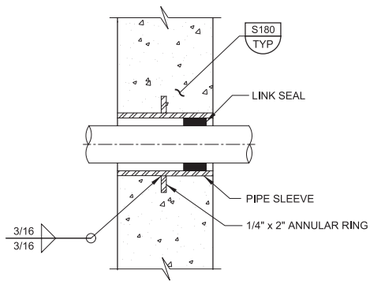


NOTES:

1. VALVE SIZE SHALL BE AS INDICATED ON THE DRAWINGS.
2. SERVICE TAP AND PLUG VALVE SHALL MATCH VALVE INLET SIZE.

P240 TYP — AIR VACUUM AND AIR RELEASE FOR 3" AND SMALLER VALVE ASSEMBLY

03/01/10

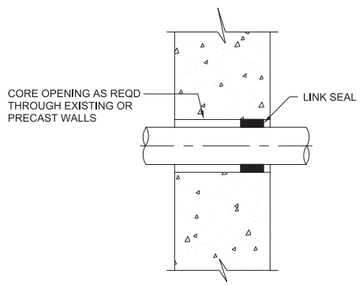


NOTES:

1. 6"Ø SLEEVES AND SMALLER SHALL BE SCH 40 STEEL PIPE.
2. SLEEVES LARGER THAN 6"Ø SHALL BE 1/4" THICK STEEL PIPE.
3. IN WALLS THICKER THAN 12", LINK SEAL SHALL BE INSTALLED AT BOTH ENDS OF WALL SLEEVE. SLEEVE DIAMETER SHALL BE PER LINK SEAL MANUFACTURER'S RECOMMENDATION.
4. SLEEVE SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.

P304 TYP — SLEEVE INSTALLATION THROUGH WALLS AND FLOOR SLABS

08/01/05

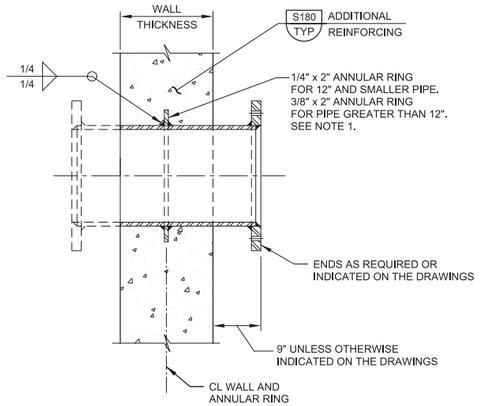


NOTE:

1. IN WALLS THICKER THAN 12", LINK SEAL SHALL BE INSTALLED AT BOTH ENDS OF WALL OPENING. DIAMETER SHALL BE PER LINK SEAL MANUFACTURER'S RECOMMENDATION.
2. BURN BACK REBAR 6" AND GROUT FILL.

P305 TYP J — PIPE INSTALLATION THROUGH EXIST OR PRECAST WALLS AND FLOOR SLABS

06-20-19

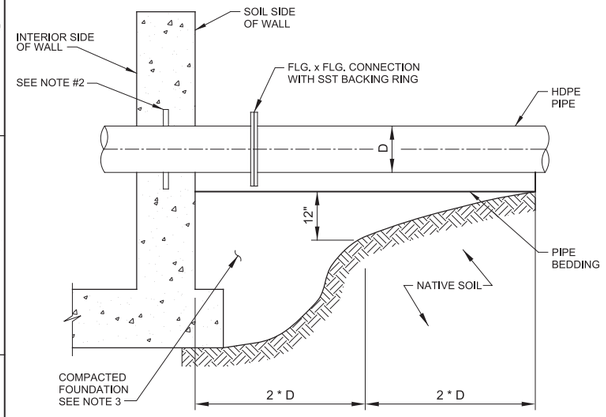


NOTE:

1. INSTALL ANNULAR RING ON PIPE SO THAT IT IS LOCATED AT CENTER OF WALL AND IN PLANE PARALLEL TO FACE OF WALL.

P310 TYP — WALL THIMBLE FOR STEEL PIPE

01/30/2015

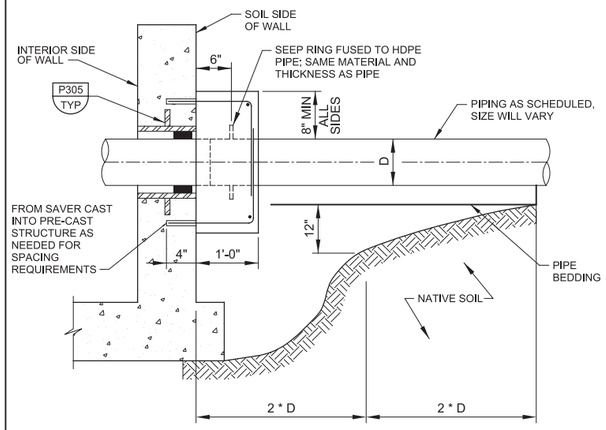


NOTES:

1. WHEN POSSIBLE, PIPES SHALL BE INSTALLED STRAIGHT, WITHOUT HORIZONTAL OR VERTICAL OFFSET.
2. PROVIDE STEEL OR DIP WALL PIPE PER TYPICAL P310 OR P312 DEPENDING ON SCHEDULED PIPE MATERIAL.
3. THE SOIL NEXT TO THE STRUCTURE SHALL BE OVER EXCAVATED TO A DEPTH NOT LESS THAN 12-INCHES OVER A DISTANCE OF TWO PIPE DIAMETERS. OVER THE NEXT TWO PIPE DIAMETERS THE DEPTH OF THE OVER EXCAVATION IS GRADUALLY DECREASED UNTIL IT MEETS NORMAL TRENCH DEPTH.
4. THE WALL FACE IN THIS DETAIL REPRESENTS THE END FACE OF THE CONCRETE ENCASEMENT WHEN THIS DETAIL IS APPLIED FOR CONCRETE ENCASED PIPES.

P372 TYP J — RESTRAINED HDPE PIPE FLEXIBLE CONNECTION AT WALL PENETRATION

08/12/2016

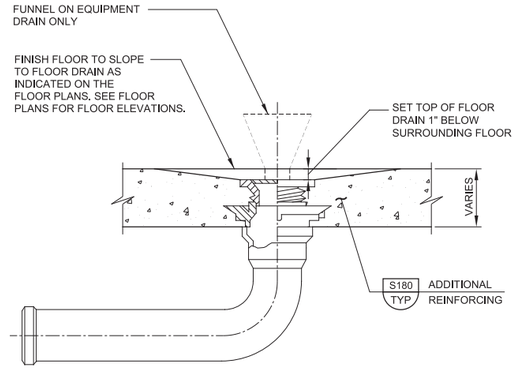


NOTES:

1. AN HDPE THIMBLE SHALL BE USED ONLY WHERE IDENTIFIED ON DRAWINGS. IF CONNECTION IS NOT IDENTIFIED, USE P372.
2. THE SOIL NEXT TO THE STRUCTURE SHALL BE OVER EXCAVATED TO A DEPTH NOT LESS THAN 12-INCHES OVER A DISTANCE OF TWO PIPE DIAMETERS. OVER THE NEXT TWO PIPE DIAMETERS THE DEPTH OF THE OVER EXCAVATION IS GRADUALLY DECREASED UNTIL IT MEETS NORMAL TRENCH DEPTH.

P373 TYP J — HDPE PIPE PENETRATION

10/16/2018

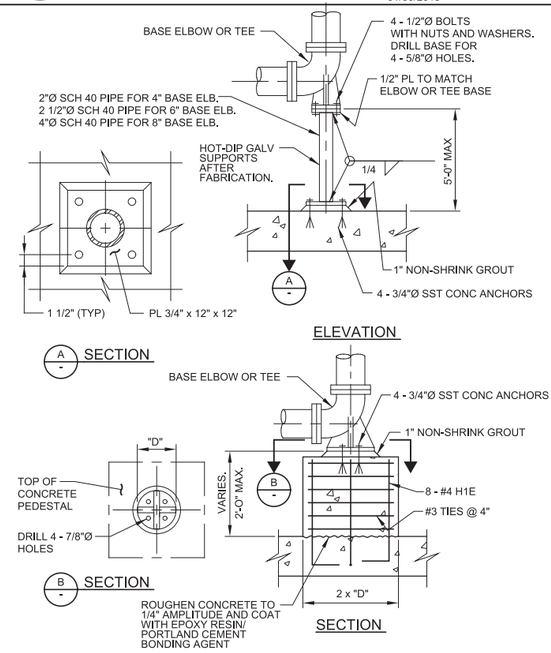


NOTE:

1. PROVIDE 12" RADIUS SLOPE TO EQUIPMENT DRAINS WHERE FLOOR DOES NOT SLOPE TO DRAIN.

P412 TYP — FLOOR DRAIN OR EQUIPMENT DRAIN WITHOUT TRAP

08/01/05



P620 TYP — ELBOW OR TEE PIPE SUPPORT

03/06/13

REV	DATE	BY	DESCRIPTION

DESIGNED SSB
DRAWN JRL
CHECKED PAC
DATE JUNE 2020

REGISTERED PROFESSIONAL ENGINEER — No. 4939129-2202 — PATRICK A. CARLSON — STATE OF UTAH

carollo

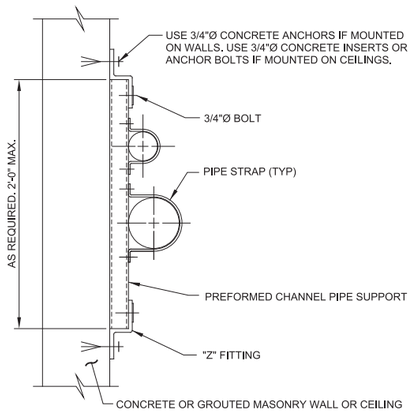
JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
TYPICAL DETAILS
PIPING TYPICAL DETAILS 1

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

JOB NO. 10851A.10
DRAWING NO. TP01
SHEET NO. 64 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A1000TP01.dgn

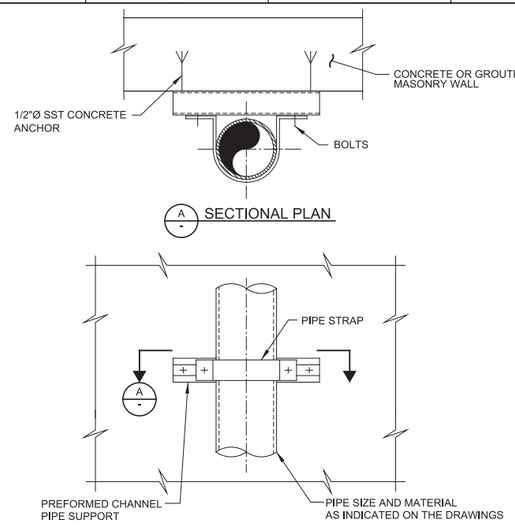


NOTES:

1. IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF WALL IN WATER BEARING STRUCTURE, ALL MATERIAL SHALL BE STAINLESS STEEL. IN ALL OTHER AREAS, THE MATERIALS SHALL BE HOT-DIP GALVANIZED STEEL UNLESS OTHERWISE INDICATED ON THE DRAWINGS. HOT-DIP GALVANIZE AFTER FABRICATION.
2. SPACE PREFORMED CHANNEL PIPE SUPPORTS AT MAXIMUM 5'-0" O.C.

P660 TYP — FLUSH MOUNT PIPE SUPPORT

09/06/13



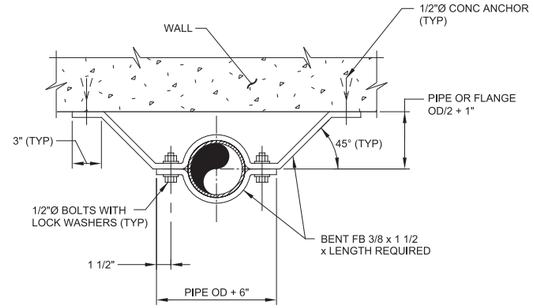
ELEVATION

NOTE:

1. IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF WALL IN WATER BEARING STRUCTURE, ALL MATERIAL SHALL BE STAINLESS STEEL. IN ALL OTHER AREAS, THE MATERIALS SHALL BE HOT-DIP GALAVANIZED STEEL UNLESS OTHERWISE INDICATED ON THE DRAWINGS. HOT-DIP GALVANIZE AFTER FABRICATION.

P662 TYP — PIPE SUPPORT FOR ONE VERTICAL RISER

07/01/13

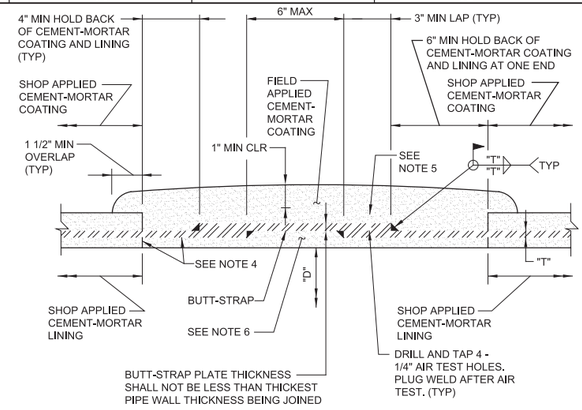


NOTE:

1. IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF WALL IN WATER BEARING STRUCTURE, ALL MATERIAL SHALL BE STAINLESS STEEL. IN ALL OTHER AREAS, ALL MATERIAL SHALL BE HOT-DIP GALVANIZED STEEL UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

P666 TYP — VERTICAL PIPE SWAY BRACE

07/31/08

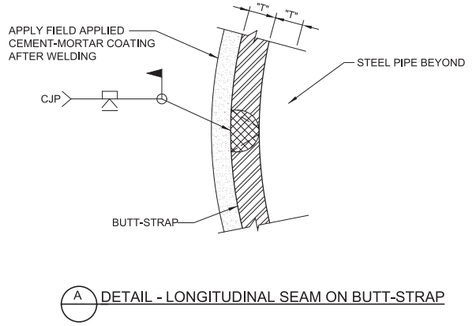


NOTES:

1. "D" = PIPE DIAMETER AS INDICATED ON THE DRAWINGS OR IN THE PIPING SCHEDULE.
2. "T" = PIPE WALL THICKNESS AS INDICATED ON THE DRAWINGS OR IN THE PIPING SCHEDULE.
3. FOR WELDING SYMBOL, "T" = THICKNESS OF THINNEST MEMBER BEING WELDED.
4. COAT STEEL CYLINDER AND ENDS OF SHOP APPLIED CEMENT-MORTAR LINING WITH EPOXY BONDING AGENT BEFORE APPLYING FIELD APPLIED CEMENT-MORTAR LINING.
5. 2x4-W0.5xW0.5 GALVANIZED AND CRIMPED, WELDED WIRE FABRIC. THE WIRES ON THE 2" SPACING SHALL EXTEND CIRCUMFERENTIALLY AROUND THE PIPE, LAP SPLICE MINIMUM OF ONE MESH OR WELD TOGETHER. TACK WELD TO STEEL CYLINDER AT MINIMUM OF 2 POINTS.
6. FIELD APPLIED CEMENT-MORTAR LINING. FINISH FIELD APPLIED CEMENT- MORTAR LINING SMOOTH AND FLUSH WITH SHOP APPLIED CEMENT-MORTAR LINING.

P832 TYP — STEEL PIPE - MORTAR LINED AND MORTAR COATED WELDED BUTT-STRAP JOINT FOR FIELD CLOSURE WITH JOINT AIR TESTING

SHEET 1 OF 2 04/21/15



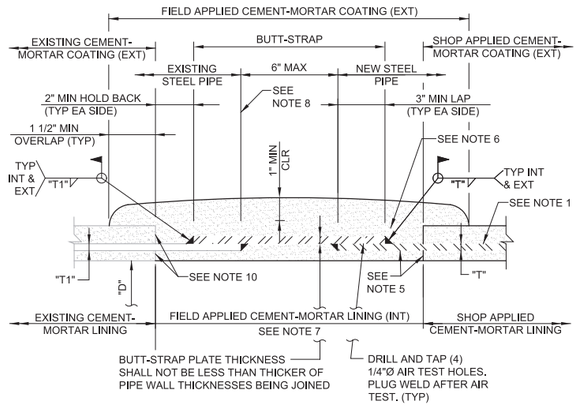
A DETAIL - LONGITUDINAL SEAM ON BUTT-STRAP

NOTES:

1. LINING IS NOT SHOWN FOR CLARITY.
2. REMOVE BACKER PLATE AFTER WELDING, BACKGOUGE, AND WELD. GRIND INSIDE OF WELD FLUSH SO BUTT-STRAP FITS OVER ENDS OF PIPE.
3. CJP = COMPLETE JOINT PENETRATION.

P832 TYP — STEEL PIPE - MORTAR LINED AND MORTAR COATED WELDED BUTT-STRAP JOINT FOR FIELD CLOSURE WITH JOINT AIR TESTING

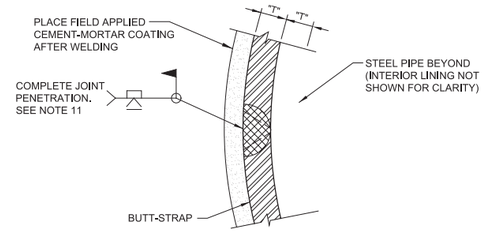
SHEET 2 OF 2 04/21/15



A DETAIL

P834 TYP — STEEL PIPE - MORTAR LINED AND MORTAR COATED, WELDED BUTT-STRAP JOINT - FIELD CLOSURE FOR NEW TO EXISTING PIPE WITH JOINT AIR TESTING

SHEET 1 OF 2 08/24/15



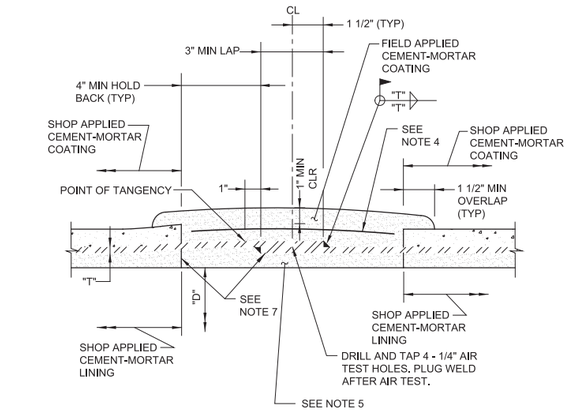
B DETAIL

NOTES:

1. OUTSIDE DIAMETER OF STEEL CYLINDER FOR NEW PIPE SHALL MATCH EXISTING PIPE.
2. "D" = PIPE DIAMETER OF EXISTING PIPE.
3. "T" = PIPE WALL THICKNESS OF NEW PIPE AS INDICATED ON THE DRAWINGS OR IN THE PIPING SCHEDULE.
4. "T1" = WALL THICKNESS OF EXISTING PIPE.
5. COAT STEEL CYLINDER, ENDS OF EXISTING AND SHOP APPLIED CEMENT-MORTAR LINING, AND BUTT-STRAP WITH EPOXY BONDING AGENT BEFORE APPLYING FIELD APPLIED CEMENT-MORTAR LINING. TYPICAL AT INTERIOR AND EXTERIOR OF PIPES.
6. 2x4-W0.5xW0.5 GALVANIZED AND CRIMPED, WELDED WIRE FABRIC. WIRES AT 2" SPACING SHALL EXTEND CIRCUMFERENTIALLY AROUND THE PIPE. LAP SPLICE MINIMUM OF ONE MESH OR WELD TOGETHER. TACK WELD TO STEEL CYLINDER AT MINIMUM OF 2 POINTS.
7. FIELD APPLIED CEMENT-MORTAR LINING. FINISH FIELD APPLIED CEMENT-MORTAR LINING SMOOTH AND FLUSH WITH EXISTING AND SHOP APPLIED CEMENT-MORTAR LINNGS.
8. CUT EXISTING PIPE A MINIMUM OF 12" FROM EXISTING PIPE JOINTS. CUT END SHALL BE SQUARE AND WITHIN 1/4" OF PLANE PERPENDICULAR TO CENTERLINE OF PIPE.
9. LOCATE EXISTING PIPE JOINTS BEFORE FABRICATING NEW PIPE TO DETERMINE REQUIRED LENGTH. ALTERNATIVELY, FABRICATE THE NEW PIPE WITH 2 FEET OF EXTRA LENGTH TO ACCOMMODATE THE ACTUAL LOCATION OF EXISTING PIPE JOINT AND FIELD CUT NEW PIPE TO FIT.
10. SAWCUT EXISTING MORTAR LINING AND COATING. DO NOT DAMAGE STEEL CYLINDER. CUT END SHALL BE SQUARE AND WITHIN 1/2" OF PLAN PERPENDICULAR TO CENTERLINE OF PIPE.
11. REMOVE BACKER PLATE AFTER WELDING, BACKGOUGE, AND WELD. GRIND INSIDE OF WELD FLUSH SO BUTT-STRAP FITS OVER ENDS OF PIPE.

P834 TYP — STEEL PIPE - MORTAR LINED AND MORTAR COATED, WELDED BUTT-STRAP JOINT - FIELD CLOSURE FOR NEW TO EXISTING PIPE WITH JOINT AIR TESTING

SHEET 2 OF 2 08/24/15



NOTES:

1. "D" = PIPE DIAMETER AS INDICATED ON THE DRAWINGS OR IN THE PIPING SCHEDULE.
2. "T" = PIPE WALL THICKNESS AS INDICATED ON THE DRAWINGS OR IN THE PIPING SCHEDULE.
3. FOR WELDING SYMBOL, "T" = THICKNESS OF THINNEST MEMBER BEING WELDED.
4. 2x4-W0.5xW0.5 GALVANIZED AND CRIMPED, WELDED WIRE FABRIC. THE WIRES ON THE 2" SPACING SHALL EXTEND CIRCUMFERENTIALLY AROUND THE PIPE. LAP SPLICE MINIMUM OF ONE MESH OR WELD TOGETHER. TACK WELD TO STEEL CYLINDER AT MINIMUM OF 2 POINTS.
5. FIELD APPLIED CEMENT-MORTAR LINING. FINISH FIELD APPLIED CEMENT-MORTAR LINING SMOOTH AND FLUSH WITH SHOP APPLIED CEMENT-MORTAR LINING.
6. AIR TEST HOLES MAY BE ON INSIDE OF PIPE WHERE INTERNAL WELD ARE COMPLETED AFTER BACKFILL.
7. COAT STEEL CYLINDER AND ENDS OF SHOP APPLIED CEMENT-MORTAR LINING WITH EPOXY BONDING AGENT BEFORE APPLYING FIELD APPLIED CEMENT-MORTAR LINING.

P840 TYP — STEEL PIPE - MORTAR LINED AND MORTAR COATED WELDED LAP JOINT WITH JOINT AIR TESTING

08/25/15

REV	DATE	BY	DESCRIPTION

DESIGNED SSB
DRAWN TSD
CHECKED PAC
DATE JUNE 2020

REGISTERED PROFESSIONAL ENGINEER — No. 4939129-2202 — PATRICK A. CARLSON — STATE OF UTAH

carollo

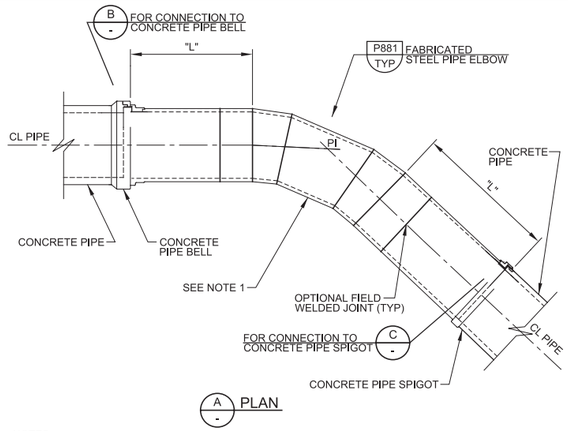
JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
TYPICAL DETAILS
PIPING TYPICAL DETAILS 2

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

JOB NO. 10851A.10
DRAWING NO. TP02
SHEET NO. 65 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A1000TP02.dgn

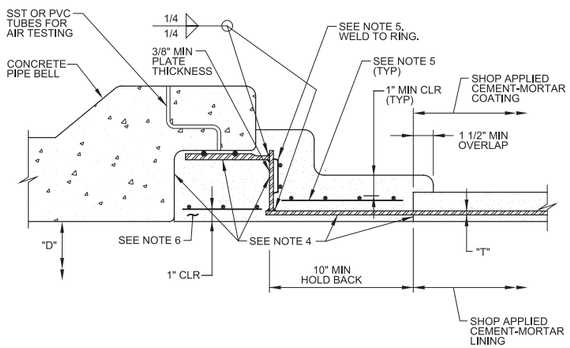


NOTES:

1. MORTAR COATING ON STEEL PIPE NOT SHOWN FOR CLARITY.
2. END CONNECTIONS ON STEEL ELBOW SHALL MATCH BELL OR SPIGOT USED ON CONNECTING ENDS OF CONCRETE PIPE.
3. "L" = GREATER OF LENGTH INDICATED ON THE DRAWINGS AND LENGTH REQUIRED FOR CONCRETE PIPE JOINT LAYOUT. 12" MIN LENGTH.
4. COAT STEEL CYLINDER, END OF SHOP APPLIED CEMENT-MORTAR LINING AND END OF RCP PIPE WITH EPOXY BONDING AGENT BEFORE APPLYING FIELD APPLIED CEMENT-MORTAR LINING.
5. 2x4-W0.5 GALVANIZED AND CRIMPED, WELDED WIRE FABRIC. THE WIRES ON THE 2" SPACING SHALL EXTEND CIRCUMFERENTIALLY AROUND THE PIPE. LAP SPLICE MINIMUM OF ONE MESH OR WELD TOGETHER. TACK WELD TO STEEL CYLINDER AT MINIMUM OF 2 POINTS.
6. FIELD APPLIED CEMENT-MORTAR LINING. FINISH FIELD APPLIED CEMENT-MORTAR LINING SMOOTH AND FLUSH WITH SHOP APPLIED CEMENT-MORTAR LINING.

P883 TYP FABRICATED MORTAR LINED AND MORTAR COATED STEEL PIPE ELBOW TO CONCRETE PIPE

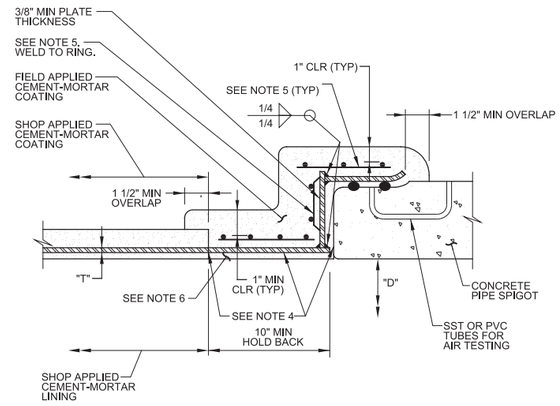
SHEET 1 OF 3 02/24/14



B
-
DETAIL - CONCRETE PIPE BELL

P883 TYP FABRICATED MORTAR LINED AND MORTAR COATED STEEL PIPE ELBOW TO CONCRETE PIPE

SHEET 2 OF 3 02/24/14



C
-
DETAIL - CONCRETE PIPE SPIGOT

P883 TYP FABRICATED MORTAR LINED AND MORTAR COATED STEEL PIPE ELBOW TO CONCRETE PIPE

SHEET 3 OF 3 01/22/14

REV	DATE	BY	DESCRIPTION

DESIGNED SSB
DRAWN TSD
CHECKED PAC
DATE JUNE 2020

REGISTERED PROFESSIONAL ENGINEER
No. 4939129-2202
PATRICK A. CARLSON
STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
TYPICAL DETAILS
PIPING TYPICAL DETAILS 3

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

JOB NO. 10851A.10
DRAWING NO. TP03
SHEET NO. 66 OF 70

PROJECT NO. 10851A.10 FILE NAME: 10851A1000TP03.dgn

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User: svcPW
Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Std_Pen_v0905.pen PlotScale: 2:1
LAST SAVED BY: tdonnell

1. SEE DIVISION 03 SPECIFICATION FOR REQUIREMENTS FOR CONCRETE CONSTRUCTION.
2. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, MINIMUM REINFORCEMENT OF CONCRETE WALLS OR SLABS SHALL BE AS FOLLOWS. CONTACT ENGINEER FOR LOCATIONS INSIDE CONCRETE.
   10" THICK OR LESS: .....#5 @ 12" EACH WAY.
   MORE THAN 10" THICK: .....#5 @ 12" EACH WAY, EACH FACE.
3. WALL REINFORCEMENT AT CORNERS OR JUNCTIONS OF WALLS SHALL BE CONTINUOUS, LAP SPLICED, OR TERMINATED IN AN ACI STANDARD 90 DEGREE HOOK. SEE DETAIL S144/TYP.
4. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, DOWELS BETWEEN ADJACENT CONCRETE PLACEMENTS SHALL BE THE SAME SIZE AND SPACING AS THE REINFORCEMENT WHICH IS SPLICED TO THE DOWELS.
5. SLAB, BEAM AND COLUMN REINFORCING BARS SHALL HAVE A MINIMUM EXTENSION OR ANCHORAGE INTO SUPPORTS IN ACCORDANCE WITH ACI 318 AND ACI 350.
6. PROVIDE STIRRUP SUPPORT BARS SHALL BE TO SECURE TOP BARS AGAINST DISPLACEMENT AS REQUIRED.
7. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, CONCRETE COVER OVER #11 AND SMALLER REINFORCING BARS SHALL BE AS FOLLOWS:
   A. SLABS AND JOISTS:
      FORMED CONCRETE SURFACES AND UNFORMED TOP SURFACES FOR DRY CONDITIONS
      #7 BARS AND SMALLER.....1"
      #8 BARS AND LARGER.....1 1/2"
      FORMED CONCRETE SURFACES AND UNFORMED TOP SURFACES EXPOSED TO WEATHER, IN CONTACT WITH SOIL OR FLUIDS, OR LOCATED OVER FLUIDS.....2"
   B. BEAMS AND COLUMNS:
      FORMED CONCRETE SURFACES FOR DRY CONDITIONS:
      STIRRUPS, SPIRALS, AND TIES.....1 1/2"
      PRINCIPAL REINFORCEMENT.....2"
      FORMED CONCRETE SURFACES EXPOSED TO WEATHER, IN CONTACT WITH SOIL OR FLUIDS, OR IN BEAMS LOCATED OVER FLUIDS:
      STIRRUPS AND TIES.....2"
      PRINCIPAL REINFORCEMENT.....2 1/2"
   C. WALLS:
      FORMED CONCRETE SURFACES FOR DRY CONDITIONS:
      #7 BARS AND SMALLER.....1"
      #8 BARS AND LARGER.....1 1/2"
      FORMED CONCRETE SURFACES EXPOSED TO WEATHER, OR IN CONTACT WITH SOIL OR FLUIDS.....2"

S101 TYP S REINFORCED CONCRETE NOTES

SHEET 1 0F 3 03/12/19

D. FOOTINGS AND SLABS ON GRADE:
   FORMED VERTICAL CONCRETE SURFACES.....2"
   AT UNFORMED CONCRETE SURFACES CAST AGAINST SOIL, ROCK, OR CONCRETE WORK MATS.....3"
   TOP SURFACE OF FOOTINGS AND SLABS.....SAME AS SLABS
8. WATERSTOPS:
   A. PROVIDE WATERSTOPS AT JOINTS IN SLABS AND WALLS OF LIQUID-CONTAINING STRUCTURES, AND PORTIONS OF STRUCTURES BELOW THE DESIGN GROUNDWATER LEVEL. MAKE WATERSTOPS CONTINUOUS THROUGH STRUCTURE, SPLICING WATERSTOPS IN SLABS WITH WATERSTOPS IN WALLS.
   B. END WATERSTOPS 3" BELOW TOP OF WALLS. WHERE TOP OF WALL IS COVERED BY A SLAB WITHOUT WATERSTOPS, CONTINUE WATERSTOP TO WALL/SLAB JOINT. WHERE TOP OF WALL IS COVERED BY A SLAB WITH WATERSTOPS, MAKE WATERSTOPS CONTINUOUS, SPLICING WATERSTOPS IN WALLS WITH WATERSTOPS IN SLAB.
9. CURE CONCRETE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. WHERE WATER CURING IS SPECIFIED, MEMBRANE CURING IS NOT ALLOWED.
   A. THE CONTRACTOR IS WARNED THAT WATER CURING IS DIFFICULT AT TIMES DUE TO WIND AND DRY CONDITIONS. STUDY SPECIFICATION REQUIREMENTS AND FURNISH ADEQUATE SYSTEMS TO PROVIDE WATER CURING WHERE REQUIRED.
   B. KEEP WATER CURED SURFACES VISIBLY MOIST AT ALL TIMES. FLOOD TOPS OF WALLS NOT LESS THEN 3 TIMES DAILY.
10. DO NOT PLACE BACKFILL AGAINST WALLS UNTIL:
   A. WALLS HAVE BEEN CAST TO FULL HEIGHT OF STRUCTURE AND CONCRETE HAS REACHED THE MINIMUM SPECIFIED COMPRESSIVE STRENGTH (f'c).
   B. CONNECTING SLABS AND BEAMS HAVE BEEN CAST AND CONCRETE IN THOSE ELEMENTS HAS REACHED THE MINIMUM SPECIFIED COMPRESSIVE STRENGTH (f'c).
11. LAP SPLICES:
   A. SEE TABLE 1 OF THIS DETAIL FOR LAP SPLICE LENGTHS.
   B. WHEN MULTIPLE BARS ARE SPLICED AT THE SAME SECTION, THE "CLEAR BAR SPACING" IS DEFINED AS THE MINIMUM CLEAR DISTANCE BETWEEN THE BARS OUTSIDE THE SPLICE LENGTH MINUS ONE BAR DIAMETER.
   C. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, BARS AT A LAP SPLICE SHALL BE IN CONTACT WITH EACH OTHER.
   D. "TOP BARS" ARE HORIZONTAL REINFORCEMENT AT LOCATIONS WHERE MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE BAR.
12. FORM EXPOSED CONCRETE CORNERS AND EDGES WITH 3/4" CHAMFER UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

S101 TYP S REINFORCED CONCRETE NOTES

SHEET 2 OF 3 03/12/19

TABLE 1: REINFORCING BAR LAP SPLICES: f'c = 4500 PSI, Fy = 60,000 PSI

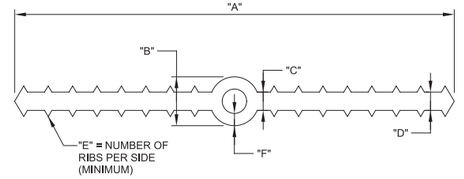
BAR SIZE	MINIMUM COVER (BAR DIA)	MINIMUM CLEAR BAR SPACING (BAR DIA)	LAP SPLICE LENGTH (INCHES)	
			TOP BARS	OTHER BARS
#4	MORE THAN 1	MORE THAN 2	32 *	25 *
	MORE THAN 2	MORE THAN 4	20	16
#5	MORE THAN 1	MORE THAN 2	40 *	31 *
	MORE THAN 2	MORE THAN 4	26	20
#6	MORE THAN 1	MORE THAN 2	48 *	37 *
	MORE THAN 2	MORE THAN 4	30	24
#7	MORE THAN 1	MORE THAN 2	70 *	54 *
	MORE THAN 2	MORE THAN 4	43	33
#8	MORE THAN 1	MORE THAN 2	81 *	62 *
	MORE THAN 2	MORE THAN 4	50	38
#9	MORE THAN 1	MORE THAN 2	90 *	70 *
	MORE THAN 2	MORE THAN 4	56	42
#10	MORE THAN 1	MORE THAN 2	104 *	81 *
	MORE THAN 2	MORE THAN 4	62	48
#11	MORE THAN 1	MORE THAN 2	114 *	88 *
	MORE THAN 2	MORE THAN 4	69	54

REINFORCING BAR LAP SPLICE TABLE NOTES:

1. TABULATED SPLICE LENGTHS ARE APPLICABLE ONLY WHEN BOTH REQUIREMENTS FOR MINIMUM COVER AND FOR MINIMUM CLEAR BAR SPACING ARE SATISFIED.
2. * = IF THE CLEAR BAR SPACING IS LESS THAN OR EQUAL TO TWO BAR DIAMETERS, OR THE COVER IS LESS THAN OR EQUAL TO ONE BAR DIAMETER, THE LAP SPLICE LENGTH SHALL BE INCREASED BY 50 PERCENT.

S101 TYP S REINFORCED CONCRETE NOTES

SHEET 3 OF 3 03/12/19



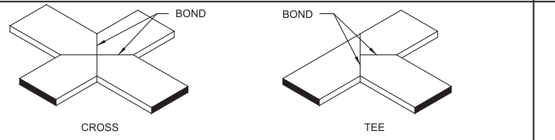
TYPE	"A"	"B"	"C"	"D"	"E"	"F"	APPLICATION
W/O CENTERBULB	6"	-	3/8"	3/8"	7	-	CONSTRUCTION AND CONTROL JOINTS
CENTERBULB	6"	7/8"	3/8"	3/8"	7	9/32"	FOR USE WITH DETAIL EM071/TYP ONLY
CENTERBULB	9"	1"	3/8"	3/8"	7	1/4"	EXPANSION JOINTS 1" AND NARROWER
CENTERBULB	9"	2"	3/8"	3/8"	7	1/4"	EXPANSION JOINTS WIDER THAN 1" AND TENSION/COMPRESSION RING BEAM AT DIGESTERS

NOTES:

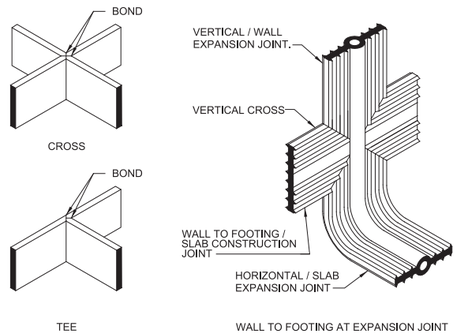
1. SEE SPECIFICATIONS FOR MATERIAL REQUIREMENTS.
2. DIMENSIONS ARE MINIMUM, UNLESS OTHERWISE NOTED.

S106 TYP PVC WATERSTOP SCHEDULE

07/08/16



IN-PLANE JOINTS



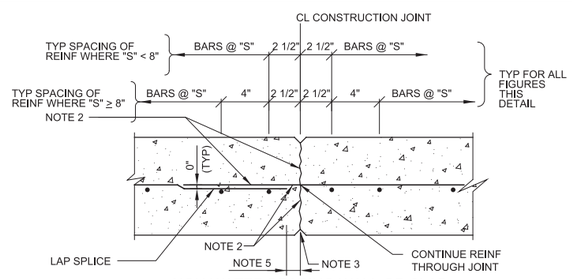
OUT-OF-PLANE JOINTS

NOTES:

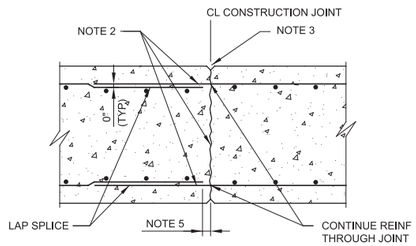
1. MAKE WELDS AS SPECIFIED AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
2. CROSSES AND TEES SHALL BE FACTORY PREFABRICATED BY THE MANUFACTURER. FIELD WELDS SHALL BE BUTT WELDS ONLY.

S107 TYP PREFABRICATED PVC WATERSTOP JOINTS

07/08/16



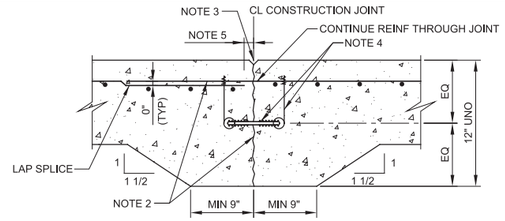
NON-WATER BEARING WALL OR SLAB
SINGLE LAYER REINFORCEMENT



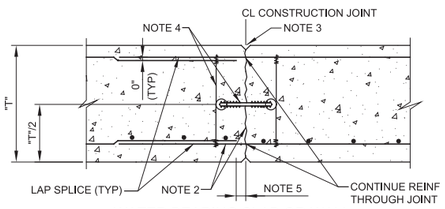
NON-WATER BEARING WALL OR SLAB
DOUBLE LAYER REINFORCEMENT

S110 TYP S CONSTRUCTION JOINT

SHEET 1 OF 2 07/11/16



WATER BEARING SLAB LESS THAN 12" THICK



WATER BEARING SLAB OR WALL

NOTES:

1. "S" EQUALS TYPICAL BAR SPACING INDICATED ON THE DRAWINGS. "T" EQUALS SLAB OR WALL THICKNESS.
2. WATER-BLAST EXPOSED JOINT FACE AND PROJECTING REINFORCEMENT BEFORE PLACING CONCRETE.
3. JOINT EDGES:
   A. FOR WALLS AND BOTTOM OF EXPOSED SLABS: FORM EDGES WITH 1/2" CHAMFER.
   B. FOR SLABS: EDGE TOP AND ENDS WITH 1/4" RADIUS.
4. 6" WATERSTOP CENTERED ON JOINT - SEE DETAIL S106/TYP. PROVIDE WIRE TIES MAX 2'-0" OC. HOG RINGS MAY BE USED IN LIEU OF WIRE LOOPS. THOROUGHLY CLEAN WATERSTOP BEFORE PLACING CONCRETE IN SECOND POUR.
5. STOP REINFORCING 2" CLEAR OF JOINT.

S110 TYP S CONSTRUCTION JOINT

SHEET 2 OF 2 07/11/16

REV	DATE	BY	DESCRIPTION

DESIGNED TWP
DRAWN JRL
CHECKED SSB
DATE APRIL 2020

REGISTERED PROFESSIONAL ENGINEER No. 4763875-2203 TODD W. PETRIK STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
TYPICAL DETAILS
STRUCTURAL TYPICAL DETAILS 1

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

JOB NO. 10851A.10
DRAWING NO. TS01
SHEET NO. 66 OF 69

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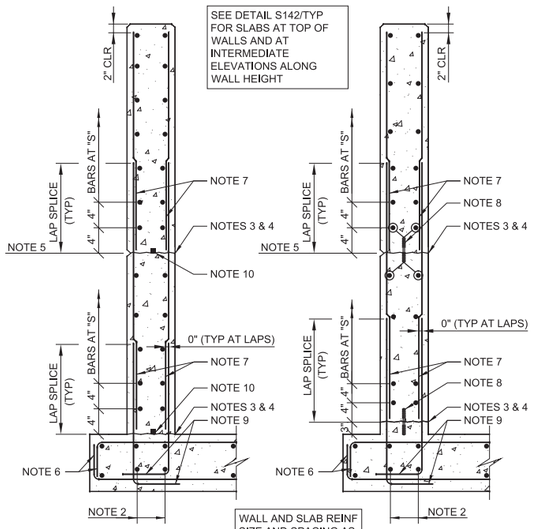


A SECTION

B SECTION - "W/ WSTP"

S140 TYP — CONSTRUCTION JOINT - WALLS

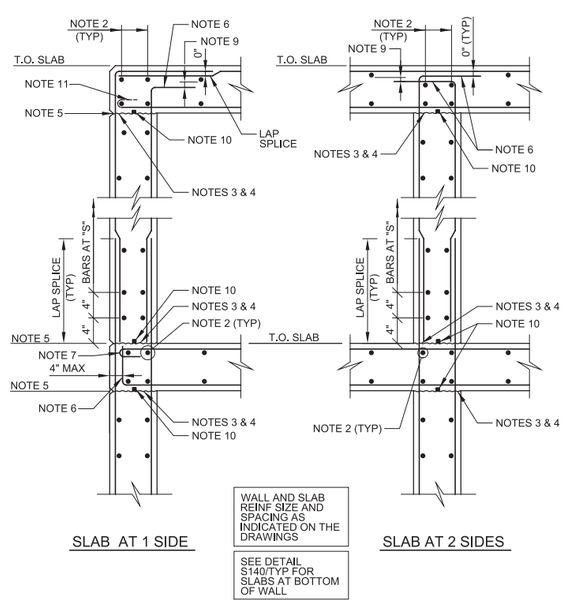
S, N — SHEET 1 OF 2 — 03/12/19

NOTES:

1. "S" EQUALS TYPICAL BAR SPACING INDICATED ON THE DRAWINGS.
2. PLACE AND ALIGN BARS BEFORE PLACING DOWELS. BAR SIZE TO MATCH SLAB BARS.
3. WATER-BLAST JOINT FACE AND PROJECTING REINFORCEMENT BEFORE PLACING CONCRETE.
4. PLACE CEMENT GROUT OVER JOINT FACE IMMEDIATELY BEFORE PLACING CONCRETE. (SEE SPECIFICATIONS.)
5. CONSTRUCTION JOINT WHERE INDICATED ON THE DRAWINGS. WHERE WALL SURFACE IS EXPOSED TO VIEW IN THE FINISHED WORK, PROVIDE V-GROOVE PER DETAIL S162/TYP.
6. STANDARD 90° HOOK WHERE INDICATED ON THE DRAWINGS. (ALTERNATE: PROVIDE 180° HOOK WHERE REQUIRED BY SLAB THICKNESS.)
7. DOWELS: SAME SIZE AND SPACING AS VERTICAL WALL BARS, UNLESS OTHERWISE NOTED.
8. 6" PVC WATERSTOP CENTERED VERTICALLY ON JOINT. PROVIDE WIRE TIES MAX 2'-0" OC. HOG RINGS MAY BE USED IN LIEU OF WIRE LOOPS. THOROUGHLY CLEAN WATERSTOP BEFORE PLACING CONCRETE.
9. STANDARD 90° HOOK UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
10. WHERE DRAWINGS INDICATE "W/ STRIP WSTP" PROVIDE LOW EXPANSION HYDROPHILIC WATERSTOP AT TOP SURFACE OF JOINT AND CENTERED BETWEEN VERTICAL BARS.

S140 TYP — CONSTRUCTION JOINT - WALLS

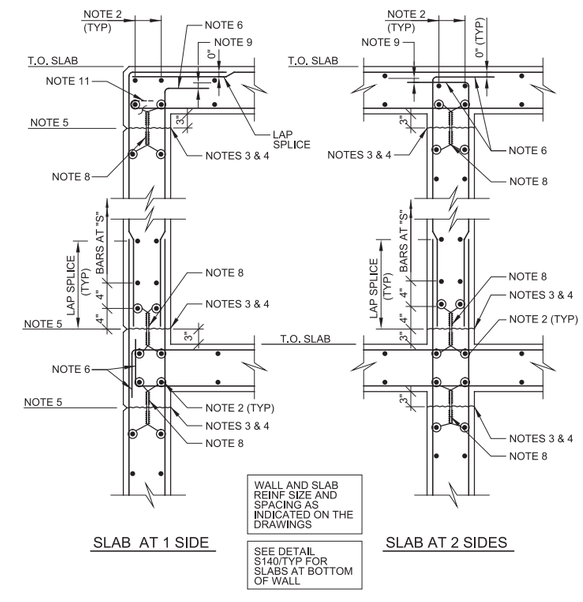
S, N — SHEET 2 OF 2 — 03/12/19



A SECTION

S142 TYP — CONSTRUCTION JOINT - WALLS AT ELEVATED SLABS

S, N — SHEET 1 OF 3 — 03/12/19



B SECTION - "W/ WSTP"

S142 TYP — CONSTRUCTION JOINT - WALLS AT ELEVATED SLABS

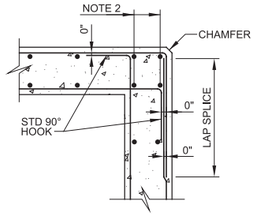
R — SHEET 2 OF 3 — 03/12/19

NOTES:

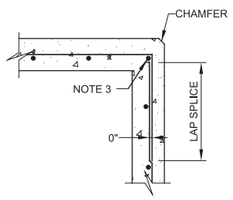
1. "S" EQUALS TYPICAL BAR SPACING INDICATED ON THE DRAWINGS.
2. AT INTERSECTION, MAKE BAR SIZE THE LARGER OF BAR SIZES IN ADJACENT SLAB OR WALL. PLACE BARS AT SAME LAYERS AS IN ADJACENT SLAB OR WALL.
3. WATER-BLAST JOINT FACE AND PROJECTING REINFORCEMENT BEFORE PLACING CONCRETE.
4. PLACE CEMENT GROUT OVER JOINT FACE IMMEDIATELY BEFORE PLACING CONCRETE. (SEE SPECIFICATIONS)
5. CONSTRUCTION JOINT WHERE INDICATED ON THE DRAWINGS. WHERE WALL SURFACE IS EXPOSED TO VIEW IN THE FINISHED WORK, PROVIDE V-GROOVE PER DETAIL S162/TYP.
6. STANDARD 90° HOOK UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
7. STANDARD 180° HOOK (ALTERNATE: 90° HOOK ROTATED OUT OF VERTICAL PLANE IF APPROVED BY ENGINEER.)
8. 6" PVC WATERSTOP CENTERED VERTICALLY ON JOINT. PROVIDE WIRE TIES MAX 2'-0" OC. HOG RINGS MAY BE USED IN LIEU OF WIRE LOOPS. THOROUGHLY CLEAN WATERSTOP BEFORE PLACING CONCRETE.
9. 1 BAR DIAMETER CLEAR.
10. WHERE DRAWINGS INDICATE "W/ STRIP WSTP" PROVIDE LOW EXPANSION HYDROPHILIC WATERSTOP AT TOP SURFACE OF JOINT AND CENTERED BETWEEN VERTICAL BARS.
11. STANDARD 180° HOOK WHERE INDICATED ON THE DRAWINGS.

S142 TYP — CONSTRUCTION JOINT - WALLS AT ELEVATED SLABS

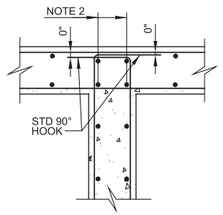
S — SHEET 3 OF 3 — 03/12/19



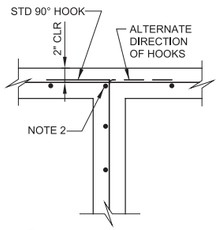
A DETAIL - CORNER: DOUBLE MAT



B DETAIL - CORNER: SINGLE MAT



C DETAIL - INTERSECTION: DOUBLE MAT



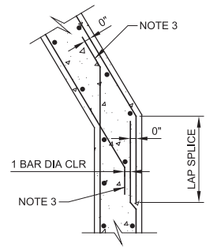
D DETAIL - INTERSECTION: SINGLE MAT

NOTES:

1. BAR SIZE, SPACING, AND ORIENTATION OF BAR LAYERS SHALL BE AS INDICATED ON THE DRAWINGS.
2. AT INTERSECTION, MAKE BAR SIZE THE LARGER OF BAR SIZES IN CONNECTING WALLS. PLACE BARS IN SAME LAYERS AS AT CONNECTING WALLS (TYP).
3. BAR TAILS: 12 BAR DIAMETERS PLUS 12".

S144 TYP — WALL REINFORCEMENT AT CORNERS & INTERSECTIONS

S — SHEET 1 OF 2 — 05/31/16



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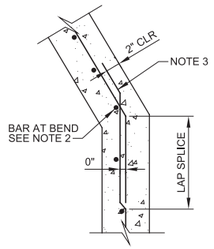
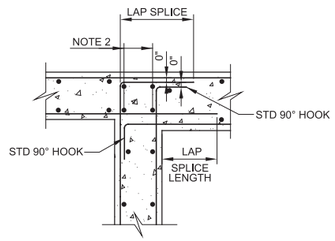


F DETAIL - INTERSECTION: SINGLE MAT



G DETAIL - INTERSECTION: CHANGE IN WALL THICKNESS

S144 TYP — WALL REINFORCEMENT AT CORNERS & INTERSECTIONS

S — SHEET 2 OF 2 — 05/31/16

REV	DATE	BY	DESCRIPTION

DESIGNED TWP
DRAWN JRL
CHECKED SSB
DATE APRIL 2020

REGISTERED PROFESSIONAL ENGINEER — No. 4763875-2203 — TODD W. PETRIK — STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
TYPICAL DETAILS
STRUCTURAL TYPICAL DETAILS 2

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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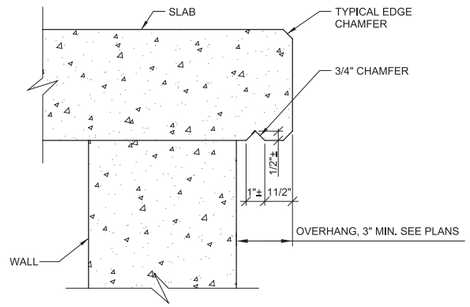
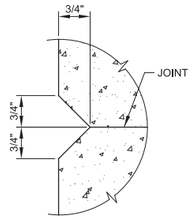
DRAWING NO. TS02
SHEET NO. 67 OF 69

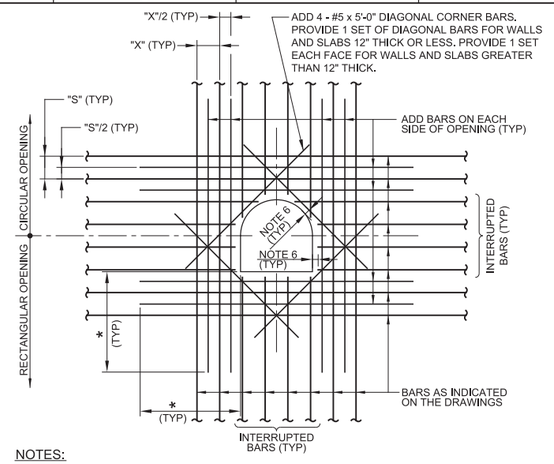
PROJECT NO. 10851A.10 FILE NAME: 10851A1000TS02.dgn



S160 TYP N — DRIP GROOVE — 07/21/16



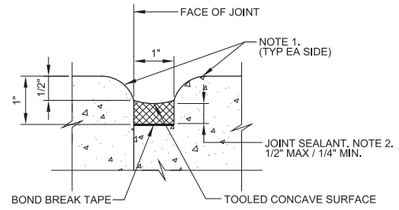
S162 TYP N — V-GROOVE JOINT — 07/21/16



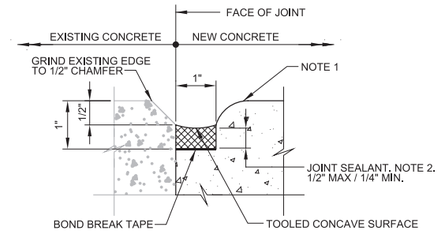
NOTES:

1. AREA OF ADD BARS AT EACH EDGE OF OPENING IN EACH DIRECTION SHALL BE EQUAL TO OR GREATER THAN 1/2 THE CROSS SECTIONAL AREA OF THE INTERRUPTED BARS.
2. PROVIDE STANDARD ACI HOOKS ON BARS IF STRAIGHT EXTENSION PAST THE OPENING, CANNOT BE ACHIEVED.
3. PLACE ADD BARS IN SAME PLANES AS INTERRUPTED REINFORCING.
4. PLACE #5 DIAGONAL BARS ON INSIDE OF INTERRUPTED REINFORCING.
5. * DIMENSION EQUALS OPENING DIMENSION MEASURED PERPENDICULAR TO ADD BARS PLUS LAP SPLICE LENGTH.
6. 2" CLEAR TO CONCRETE OPENINGS OR OUTSIDE FACE OF PIPES AND PIPE SLEEVES. DO NOT OVERCUT REINFORCMENT FOR EASIER PLACEMENT OF WEEP RINGS AND FLANGES.
7. ADD BARS ARE NOT REQUIRED AT SIDES OF OPENINGS PARALLEL TO AND WITHIN 6" OF A WALL OR BEAM.

S180 TYP S, N — ADDITIONAL REINFORCING AT OPENINGS IN CONCRETE SLABS OR WALLS — 03/12/19



JOINT IN NEW CONCRETE

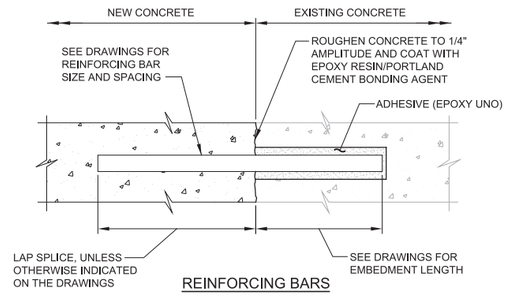


JOINT BETWEEN EXISTING AND NEW CONCRETE

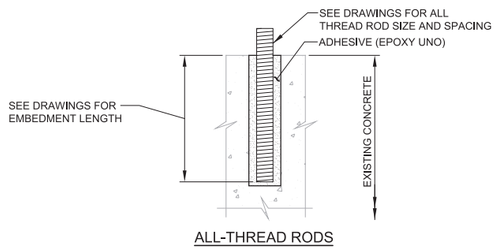
NOTES:

1. JOINT EDGES
   FOR WALLS: FORM EDGES WITH 1/2" CHAMFER.
   FOR SLABS: EDGE WITH 1/2" RADIUS.
2. SEE SPECIFICATIONS FOR SEALANT TYPE.

S188 TYP — SEALANT GROOVE — 07/25/16



REINFORCING BARS



ALL-THREAD RODS

NOTE:

1. INSTALLATION OF REINFORCING BARS AND ALL THREAD RODS AS INDICATED IN THE SPECIFICATIONS.

S194 TYP S — ADHESIVE BONDED REINFORCING BARS OR ALL THREAD RODS — 04/18/17

REV	DATE	BY	DESCRIPTION

DESIGNED TWP
DRAWN JRL
CHECKED SSB
DATE APRIL 2020

REGISTERED PROFESSIONAL ENGINEER — No. 4763875-2203 — TODD W. PETRIK — STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
TYPICAL DETAILS
STRUCTURAL TYPICAL DETAILS 3

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

JOB NO. 10851A.10
DRAWING NO. TS03
SHEET NO. 68 OF 69

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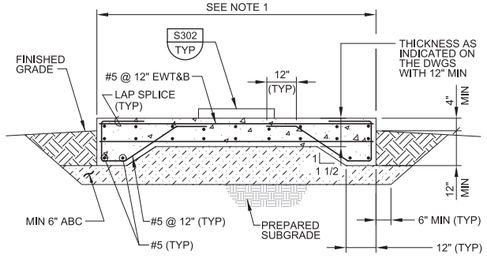
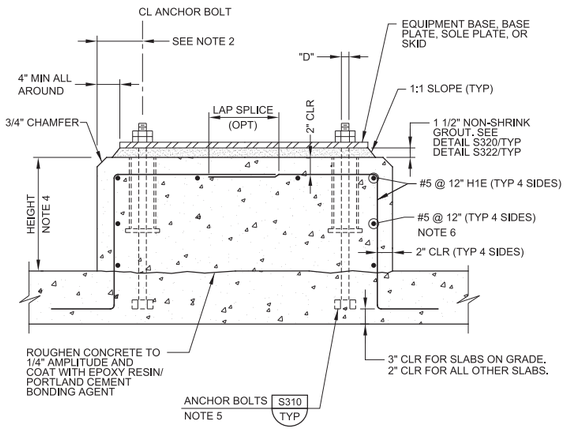


NOTE:

1. DIMENSIONS AS REQUIRED TO SUIT EQUIPMENT OR AS INDICATED ON THE DRAWINGS.

S300 TYP S — EQUIPMENT SLAB

04/09/19

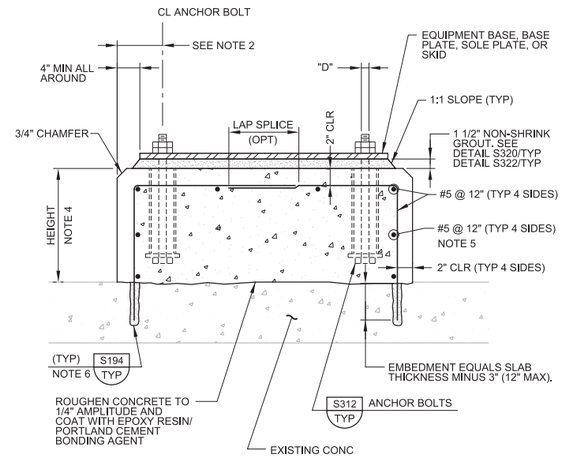


NOTES:

1. "D" = DIAMETER OF ANCHOR BOLT.
2. THE EDGE DISTANCE ON THE ANCHOR BOLTS SHALL NOT BE LESS THAN 6" OR 8 x "D".
3. PAD DIMENSIONS AND ANCHOR BOLT SIZE SHALL CONFORM TO EQUIPMENT MANUFACTURER'S REQUIREMENTS.
4. HEIGHT TO SUIT EQUIPMENT FURNISHED OR AS INDICATED ON THE DRAWINGS.
5. WHERE CONCRETE SLAB OR BEAM THICKNESS WILL NOT ACCOMMODATE THE ANCHOR BOLT, PROVIDE EXTRA THICKNESS FOR SLAB OR BEAM.
6. PROVIDE HOOPS OR CORNERS PER DETAIL S144/TYP.

S302 TYP N — EQUIPMENT BASE

12/29/2017

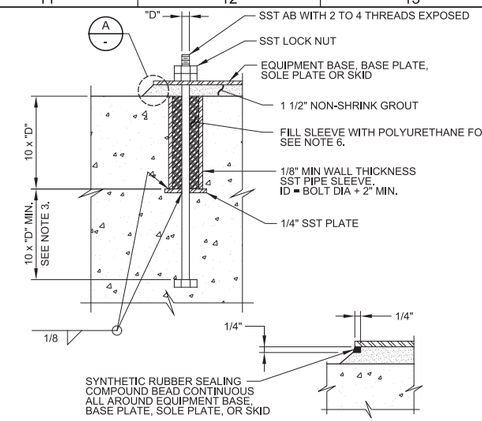


NOTES:

1. "D" = DIAMETER OF ANCHOR BOLT.
2. THE EDGE DISTANCE ON THE ANCHOR BOLTS SHALL NOT BE LESS THAN 6" OR 8 x "D".
3. PAD DIMENSIONS AND ANCHOR BOLT SIZE SHALL CONFORM TO EQUIPMENT MANUFACTURER'S REQUIREMENTS.
4. HEIGHT TO SUIT EQUIPMENT FURNISHED OR AS INDICATED ON THE DRAWINGS.
5. PROVIDE HOOPS OR CORNERS PER DETAIL S144/TYP.
6. FIELD LOCATE EXISTING REINFORCEMENT IN SLAB BEFORE DRILLING. ADJUST DOWEL LOCATIONS TO AVOID REINFORCEMENT.

S304 TYP N — EQUIPMENT BASE ON EXISTING CONCRETE

12/29/2017

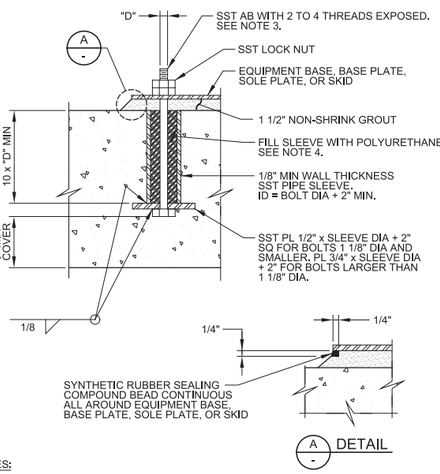


NOTES:

1. "D" = DIAMETER OF ANCHOR BOLT.
2. ANCHOR BOLT DIAMETER AS INDICATED ON THE DRAWINGS. IF NOT INDICATED ON THE DRAWINGS, THE ANCHOR BOLT SIZE SHALL BE AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER.
3. WHERE CONCRETE SLAB OR BEAM THICKNESS WILL NOT ACCOMMODATE THE ANCHOR BOLT, PROVIDE EXTRA THICKNESS OF SLAB OR BEAM.
4. PREFABRICATED PLASTIC ANCHOR BOLT SLEEVE OPTIONAL.
5. DO NOT USE ALL THREAD RODS AS A SUBSTITUTE FOR BOLTS WITH A BOLT HEAD. SMOOTH RODS THREADED AT THE ENDS MAY BE USED IF ACCEPTABLE TO THE ENGINEER. DO NOT WELD NUTS TO THE THREADED RODS.
6. COMPLETELY REMOVE ANY POLYURETHANE FOAM FROM CONCRETE, EQUIPMENT BASE, BASE PLATE, SOLE PLATE, OR SKID, AND ANCHOR BOLTS ABOVE TOP OF CONCRETE.
7. DO NOT USE LEVELING NUTS TO SUPPORT AND LEVEL EQUIPMENT BASE, BASE PLATE, SOLE PLATE, OR SKID.

S310 TYP N — ANCHOR BOLT - EMBED AND SLEEVE

05/20/15

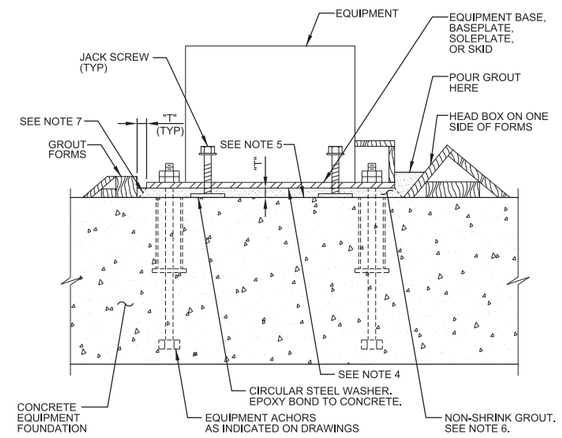


NOTES:

1. "D" = DIAMETER OF ANCHOR BOLT.
2. ANCHOR BOLT DIAMETER AS INDICATED ON THE DRAWINGS, IF NOT INDICATED ON THE DRAWINGS, THE ANCHOR BOLT SIZE SHALL BE AS RECOMMENDED BY THE EQUIPMENT MANUFACTURER.
3. DO NOT USE ALL THREAD RODS AS A SUBSTITUTE FOR BOLTS WITH A BOLT HEAD.
4. COMPLETELY REMOVE ANY POLYURETHANE FOAM FROM CONCRETE, EQUIPMENT BASE, BASE PLATE, SOLE PLATE, OR SKID, AND ANCHOR BOLTS ABOVE TOP OF CONCRETE.
5. DO NOT USE LEVELING NUTS TO SUPPORT AND LEVEL EQUIPMENT BASE, BASE PLATE, SOLE PLATE, OR SKID.

S312 TYP N — ANCHOR BOLT - IN SLEEVE

05/20/15

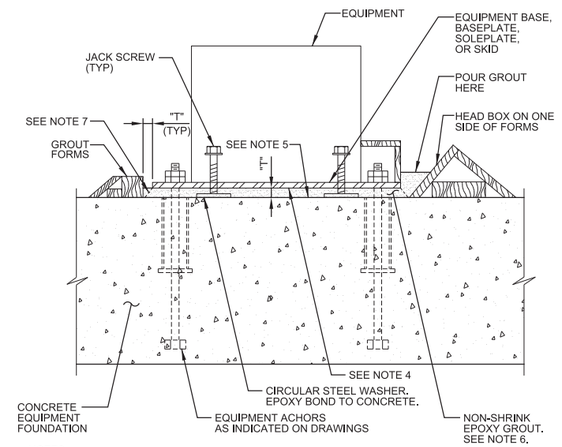


NOTES:

1. "T" = EQUALS GROUT THICKNESS INDICATED ON THE DRAWING. 1" MINIMUM GROUT THICKNESS.
2. FILL ANCHOR SLEEVES WITH POLYURETHANE FOAM BEFORE GROUTING.
3. DO NOT USE LEVELING NUTS ON EQUIPMENT ANCHORS.
4. PREPARE SURFACE OF EQUIPMENT BASES, BASEPLATES, SOLEPLATES, AND SKIDS IN CONTACT WITH GROUT AS SPECIFIED IN SECTION 15050.
5. PREPARE SURFACES OF CONCRETE FOUNDATION IN CONTACT WITH GROUT AS SPECIFIED IN SECTION 15050.
6. PLACE NON-SHRINK GROUT AS SPECIFIED IN SECTION 15050.
7. AFTER GROUT SETS, TRIM GROUT TO 45 DEGREE CHAMFER.

S320 TYP N — EQUIPMENT GROUTING WITH NON-SHRINK GROUT

12/29/17

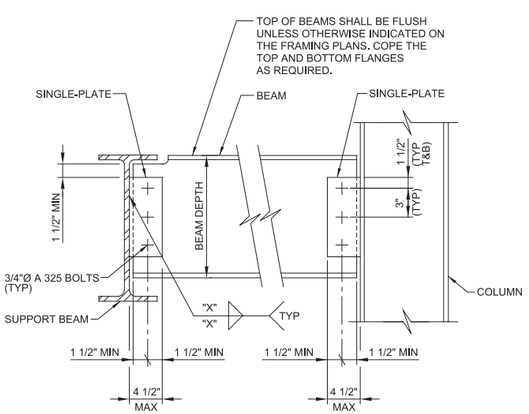


NOTES:

1. "T" = EQUALS GROUT THICKNESS INDICATED ON THE DRAWING. 1" MINIMUM GROUT THICKNESS.
2. FILL ANCHOR SLEEVES WITH POLYURETHANE FOAM BEFORE GROUTING.
3. DO NOT USE LEVELING NUTS ON EQUIPMENT ANCHORS.
4. PREPARE SURFACE OF EQUIPMENT BASES, BASEPLATES, SOLEPLATES, AND SKIDS IN CONTACT WITH GROUT AS SPECIFIED IN SECTION 15050.
5. PREPARE SURFACES OF CONCRETE FOUNDATION IN CONTACT WITH GROUT AS SPECIFIED IN SECTION 15050.
6. PLACE NON-SHRINK EPOXY GROUT AS SPECIFIED IN SECTION 15050.
7. AFTER GROUT SETS, TRIM GROUT TO 45 DEGREE CHAMFER.

S322 TYP N — EQUIPMENT GROUTING WITH NON-SHRINK EPOXY GROUT

12/29/17



BEAM DEPTH (INCHES)	NUMBER OF BOLTS PER PLATE	PLATE THICKNESS (INCHES)	FILLET WELD SIZE "X" (INCHES)
8-10	2	1/4	3/16
12-16	3	1/4	3/16
18-21	5	3/8	5/16
24-30	7	3/8	5/16

NOTE:

1. SCHEDULE APPLIES TO ALL BEAMS UNLESS NUMBER OF BOLTS PER LEG IS OTHERWISE INDICATED ON THE FRAMING PLAN BY ⟨#⟩ WHERE NUMBER INSIDE SYMBOL = NUMBER OF BOLTS.

S506 TYP N — STEEL SINGLE PLATE SHEAR CONNECTION 3/4" DIA BOLTS; ASTM A36 PLATES

03/27/19

REV	DATE	BY	DESCRIPTION

DESIGNED TWP
DRAWN JRL
CHECKED SSB
DATE APRIL 2020

REGISTERED PROFESSIONAL ENGINEER — No. 4763875-2203 — TODD W. PETRIK — STATE OF UTAH

carollo

JORDAN VALLEY WATER CONSERVANCY DISTRICT

JORDAN VALLEY WATER TREATMENT PLANT
RECLAIM WATER AND SOLIDS HANDLING IMPROVEMENTS
TYPICAL DETAILS
STRUCTURAL TYPICAL DETAILS 4

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

JOB NO. 10851A.10
DRAWING NO. TS04
SHEET NO. 69 OF 69

PROJECT NO. 10851A.10 FILE NAME: 10851A1000TS04.dgn