



WEST JORDAN CITY

WELL # 8 PUMP BUILDING

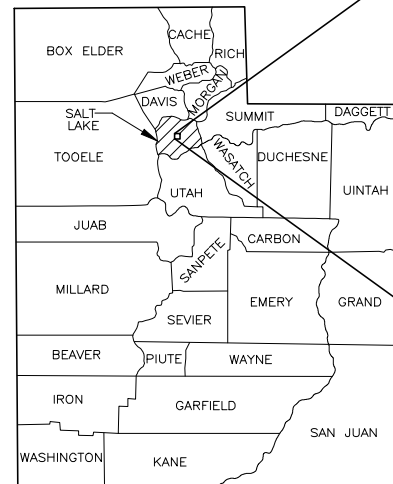
CONSTRUCTION PLANS

MARCH 2023

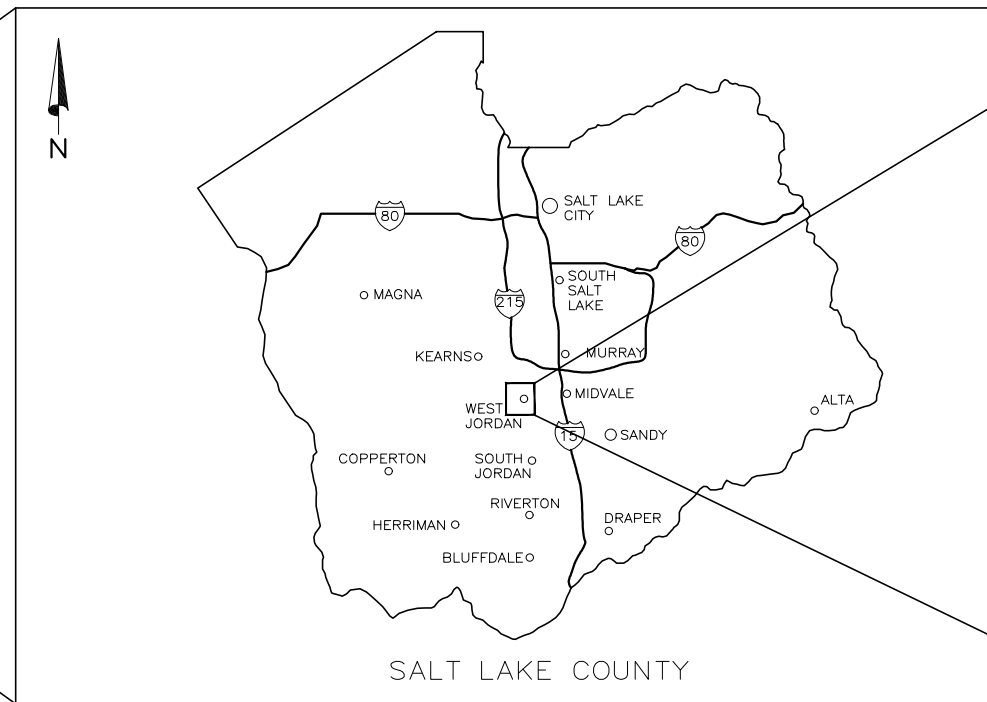
WEST JORDAN CITY

DAVID MURPHY, P.E.
UTILITY ENGINEERING MANAGER

7960 SOUTH 4000 WEST
WEST JORDAN UTAH, 84088
(801) 569-5700



STATE OF UTAH



VICINITY MAP



PROJECT LOCATION
6183 WEST 8600 SOUTH

APPROVED BY PLANNING DEPARTMENT
BY: LARRY GARDNER - CITY PLANNER
01/19/2023

CONDITIONAL USE PERMIT APPROVED BY WJ
PLANNING COMMISSION
08/18/2020

WEST JORDAN CITY OFFICIALS

MAYOR
DIRK BURTON
CITY COUNCIL
PAMELA BLOOM
KELVIN GREEN
ZACH JACOB
CHRIS MCCONNEHEY
DAVID PACK
KAYLEEN WHITELOCK
MELISSA WORTHEN

HANSEN, ALLEN & LUCE DESIGN TEAM

MARVIN E. ALLEN, P.E. - PRINCIPAL
MARK G. ATENCIO, P.E. - PROJECT MANAGER
ZAK C. STEELE - PROJECT ENGINEER
ROBERT C. CONDER, S.E. - STRUCTURAL ENGINEER
(CONDER ENGINEERING)
KEITH B. HEGERHORST, P.E. - ELECTRICAL ENGINEER
(HPE, INC. ELECTRICAL ENGINEERS)
TAYLOR E. GROBERG, P.E.
(BLUEFIELD ENGINEERING)
ERIC LYMAN - LANDSCAPE ARCHITECT
(E.A. LYMAN LANDSCAPE ARCHITECTS)
JAY R. MCQUIVEY - GEOTECHNICAL
(AGEC, INC.)

859 W. SOUTH JORDAN PKWY STE. 200
SOUTH JORDAN UTAH, 84095
(801) 566-5599

FILE NAME: PROJECTS\089 - WEST JORDAN\29.100 - WELL NO. 8 PUMP BUILDING\CAD\G-2 INDEX.DWG
FILE DATE: 2.15.2021 10:25:11 (DCL)

SECTION IDENTIFICATION

SECTION CUT ON DRAWING NO. 1:

ON DRAWING NO. 2, THIS SECTION IS IDENTIFIED AS:

DETAIL IDENTIFICATION

DETAIL CALL-OUT ON DRAWING NO. 1:

ON DRAWING NO. 2, THIS DETAIL IS IDENTIFIED AS:

NOTES:

1. IF SECTION CUT AND SECTION OR DETAIL CALL-OUT AND DETAIL ARE SHOWN ON SAME DRAWING, DRAWING NUMBER IS REPLACED BY A LINE.
2. DETAIL LETTERS "I" AND "O" NOT USED.

ABBREVIATIONS

⊙ = AT

CC = CENTER TO CENTER

CIP = CAST IRON PIPE

℄ = CENTER LINE

CLR. = CLEARANCE

CMP = CORRUGATED METAL PIPE

∅ = DIAMETER

DIA. = DIAMETER

DIP = DUCTILE IRON PIPE

DWG = DRAWING

EF = EACH FACE

EL. = ELEVATION

E.O. = EDGE OF OIL

E.W. = EACH WAY

ES = EACH SIDE

FL = FLOW LINE

FLG = FLANGE

FPS = FEET PER SECOND

FTG = FOOTING

GIP = GALVANIZED IRON PIPE

GPM = GALLONS PER MINUTE

G.V. = GATE VALVE

ID = INSIDE DIAMETER

MAX. = MAXIMUM

MG = MILLION GALLON(S)

MIN. = MINIMUM

MJ = MECHANICAL JOINT

MM = MILLIMETER

N.T.S. = NOT TO SCALE

O.C. = ON CENTER

OHP = OVERHEAD POWER LINE

POLY = POLYETHYLENE

PE = PLAIN END

ℙ = PROPERTY LINE

PRV = PRESSURE REDUCING VALVE

PSF = POUNDS PER SQUARE FOOT

PSI = POUNDS PER SQUARE INCH

PVC = POLYVINYL CHLORIDE

R.O.W. = RIGHT OF WAY

SCR = SCREWED

SF = SQUARE FEET

HP = HIGH PRESSURE

SQ. = SQUARE

SS = STAINLESS STEEL

STA. = STATION

TBC = TOP BACK OF CURB

THD. = THREAD

TYP. = TYPICAL

UBC = UNTREATED BASE COURSE

UGP = UNDERGROUND POWER LINE

YD. = YARD

DESIGNED MGA

DRAFTED BKC

CHECKED MEA

DATE MARCH 2023

3

2

1

NO.

DATE

REVISIONS

7/04

HANSEN
& LUCE
ENGINEERS

PROFESSIONAL ENGINEER
NO. 191306
MARK C. ATENCIO
3-14-23
STATE OF UTAH

PROJECT ENGINEER

LEGEND

4-G

GS

10-W

WS

15-SS

SL

24-SD

FD-UG

T-UG

P-UG

P-OH

X

EXISTING GAS LINE W/ SIZE

EXISTING GAS SERVICE

EXISTING WATER LINE W/ SIZE

EXISTING WATER SERVICE

EXISTING SANITARY SEWER W/ SIZE

EXISTING SANITARY SEWER LATERAL

EXISTING STORM DRAIN W/ SIZE

EXISTING FIBER OPTIC LINE

EXISTING UNDERGROUND TELEPHONE

EXISTING UNDERGROUND POWER LINE

EXISTING OVERHEAD POWER LINE

EXISTING FENCE LINE

12' DEEP EXCAVATION LIMITS

4' DEEP EXCAVATION LIMITS

EXISTING FIRE HYDRANT

EXISTING POWER POLE

EXISTING LIGHT POLE

EXISTING ELECTRICAL BOX

EXISTING WATER METER

EXISTING SANITARY SEWER MANHOLE

EXISTING STORM DRAIN MANHOLE

EXISTING WATER MANHOLE

EXISTING GUY WIRE

EXISTING VALVES

DRAWING INDEX

GENERAL

ARCHITECTURAL

CIVIL

CHEMICAL FEED

PLAN & PROFILE

LANDSCAPE

STRUCTURAL

G-1

G-2

G-3

G-4

A-1

A-2

A-3

C-1A

C-1B

C-2

C-3

C-4

C-5

C-6

C-7

C-8

C-9

C-10

C-11

C-12

C-13

C-14

C-15

CF-1

CF-2

PP-1

PP-2

PP-3

L1.1

L2.1

L5.1

L5.2

L5.3

S-1A

S-1B

S-2

S-3

S-4

S-5

S-6

S-7

COVER SHEET

DRAWING INDEX

SURVEY CONTROL

GENERAL NOTES

ELEVATIONS

SCHEDULES

DETAILS

PUMP HOUSE SITE PLAN

PUMP HOUSE UTILITIES SITE PLAN

PUMP HOUSE SITE GRADING PLAN

PUMP HOUSE FENCE SITE PLAN

PUMP HOUSE PIPING

PUMP ROOM PIPING SECTIONS & DETAILS

PIPE FITTING AND EQUIPMENT SCHEDULE

PUMP DETAILS

PIPING DETAILS

CIVIL DETAILS

CITY STANDARD DETAILS SHEET 1

CITY STANDARD DETAILS SHEET 2

CITY STANDARD DETAILS SHEET 3

CITY STANDARD DETAILS SHEET 4

FENCING DETAILS

FENCING SECTIONS

CHLORINE ROOM PLAN

CHLORINE ROOM DETAILS

DISCHARGE PRESSURE PIPELINE

DRAIN TO SEWER GRAVITY LINE

PUMP TO WASTE GRAVITY PIPELINE

PLANTING PLAN

IRRIGATION PLAN

IRRIGATION DETAILS

IRRIGATION DETAILS

PLANTING AND IRRIGATION DETAILS

NOTES

NOTES

FOOTING & FOUNDATION PLAN

ROOF PLAN

FOUNDATION DETAILS

TYPICAL ROOFING DETAILS

DETAILS 1

TYPICAL MASONRY DETAILS

DRAWING INDEX cont.

SHEET NO.

TITLE

MECHANICAL

H-1

H-2

H-3

H-4

H-5

HVAC DESIGN

HVAC SCHEDULES

HVAC SPECIFICATIONS

HVAC SPECIFICATIONS

HVAC SPECIFICATIONS

ELECTRICAL

E-001

E-002

E-101

E-102

E-103

E-104

E-501

E-502

E-503

E-504

E-505

E-601

E-602

E-603

E-604

E-605

E-606

E-607

E-608

LEGEND

LEGEND

OVERALL SITE PLAN

PUMP HOUSE POWER PLAN

PUMP HOUSE INSTR. & CONTROL PLAN

PUMP HOUSE LIGHTING PLAN

DETAILS, SHT. 1

DETAILS, SHT. 2

DETAILS, SHT. 3

DETAILS, SHT. 4

DETAILS, SHT. 5

POWER ONE-LINE DIAGRAM

I&C DIAGRAM

TYPICAL VFD CONTROL DIAGRAM

SCHEDULES, SHT. 1

CP-1 MAIN CONTROL PANEL

CP-1 CONTROL DIAGRAM SHT. 1

CP-1 CONTROL DIAGRAM SHT. 2

CP-2 EXHAUST FAN CONTROL PANEL

SCALE

NOT TO SCALE

WEST JORDAN
UTAH

WEST JORDAN CITY WELL #8

GENERAL
DRAWING INDEX

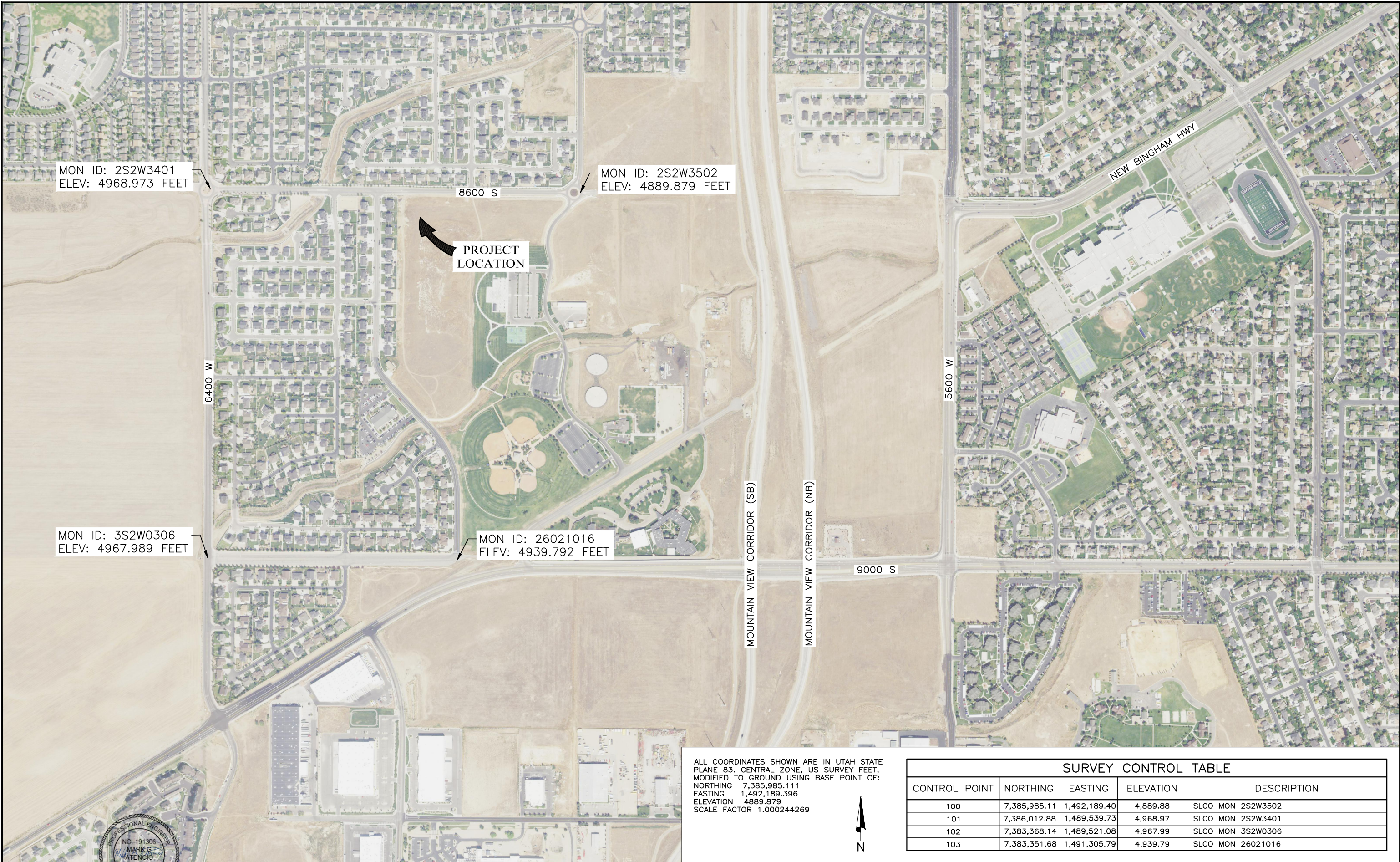
SHEET

G-2

089.29.100

FILE NAME: PROJECTS\089 - WEST JORDAN\29.100 - WELL NO. 8 PUMP BUILDING\CAD\G-3 SURVEY CONTROL.DWG
FILE DATE: 2/3/2021 13:46:22 (DCL)

7/04

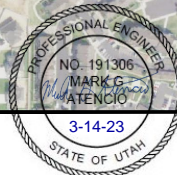


ALL COORDINATES SHOWN ARE IN UTAH STATE
PLANE 83, CENTRAL ZONE, US SURVEY FEET,
MODIFIED TO GROUND USING BASE POINT OF:
NORTHING 7,385,985.111
EASTING 1,492,189.396
ELEVATION 4889.879
SCALE FACTOR 1.000244269



SURVEY CONTROL TABLE

CONTROL POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
100	7,385,985.11	1,492,189.40	4,889.88	SLCO MON 2S2W3502
101	7,386,012.88	1,489,539.73	4,968.97	SLCO MON 2S2W3401
102	7,383,368.14	1,489,521.08	4,967.99	SLCO MON 3S2W0306
103	7,383,351.68	1,491,305.79	4,939.79	SLCO MON 26021016



DESIGNED MGA
DRAFTED JKN
CHECKED MEA
DATE MARCH 2023

3
2
1
NO.

DATE

REVISIONS

BY
APVD.

SCALE
NOT
TO
SCALE



WEST JORDAN CITY WELL #8
GENERAL
SURVEY CONTROL

SHEET
G-3
089.29.100

FILE NAME: PROJECTS\089 - WEST JORDAN\29.100 - WELL NO. 8 PUMP BUILDING\CAD\G-4 GENERAL NOTES W_GEO.DWG
FILE DATE: 2/5/2021 13:47:34 (DCL)
7/04

GENERAL NOTES

GENERAL NOTES

1. THESE DRAWINGS MAY REFERENCE THE APWA STANDARD 2017 SPECIFICATIONS AND PLANS AS PUBLISHED BY UTAH T2 CENTER (435) 797-2931.
2. THE CONTRACTOR SHALL MEET ALL UTAH STATE DEPARTMENT OF ENVIRONMENTAL QUALITY AND U.S. EPA REQUIREMENTS WITH RESPECT TO THEIR MINIMUM RULES AND REGULATIONS. ALL MATERIALS THAT MAY CONTACT DRINKING WATER, INCLUDING PIPES, GASKETS, LUBRICANTS, O-RINGS, SHALL BE ANSI/NSF 61, DRINKING WATER SYSTEM COMPONENTS – HEALTH EFFECTS AND BE APPROPRIATELY STAMPED WITH THE NSF LOGO.
3. UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES, INCLUDING WATER LINES, IRRIGATION DRAIN LINES, TELEPHONE CABLES, AND ANY OTHER OBSTRUCTION DURING THE COURSE OF CONSTRUCTION AND INSTALLATION OF THE PIPELINES. CALL BLUE STAKES @ 811 (1-800-662-4111).
4. CONTRACTOR SHALL POT HOLE UTILITIES A MINIMUM OF 300 FEET AHEAD OF PIPELINE CONSTRUCTION TO VERIFY THAT THE DESIGN ALIGNMENT AND GRADE IS FEASIBLE AND TO PLAN ANY UTILITY RELOCATION'S THAT MAY BE NECESSARY. FAILURE TO POT HOLE IN ADVANCE WILL NOT RELIEVE THE CONTRACTOR FROM LOCATING THE PIPELINE IN AN ACCEPTABLE MANNER TO THE OWNER. ANY RELAYING OF THE PIPELINE THAT MAY BECOME NECESSARY IN THIS REGARD SHALL BE DONE AT THE CONTRACTORS EXPENSE.
5. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN RIGHT OF INGRESS AND EGRESS SHOULD HE VENTURE ONTO PRIVATE PROPERTY WHICH IS NOT WITHIN DISTRICT EASEMENTS OR ACQUIRED RIGHTS-OF-WAY AND EASEMENTS.
6. UNLESS DETAILED, SPECIFIED OR INDICATED OTHERWISE, CONSTRUCTION SHALL BE AS INDICATED IN THE APPLICABLE TYPICAL DETAILS AND GENERAL NOTES. TYPICAL DETAILS ARE MEANT TO APPLY EVEN THOUGH NOT REFERENCED AT SPECIFIC LOCATIONS OR IN SPECIFIC DRAWINGS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL EXISTING IMPROVEMENTS DURING CONSTRUCTION AND SHALL REPLACE OR RESTORE ANY IMPROVEMENTS DAMAGED AS A RESULT OF THE CONSTRUCTION ACTIVITY, AS DIRECTED BY THE ENGINEER.
8. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS BEFORE STARTING WORK AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
9. THIS PROJECT IS LOCATED IN WEST JORDAN CITY LIMITS. THE CONTRACTOR SHALL OBTAIN ALL APPLICABLE PERMITS AND APPROVALS FROM WEST JORDAN CITY AND SHALL COMPLY WITH WEST JORDAN CITY REGULATIONS FOR TRAFFIC CONTROL, SAFETY, EXCAVATION IN CITY OWNED RIGHTS OF WAY, ETC.
10. THE CONTRACTOR SHALL PREPARE AND IMPLEMENT THE STORM WATER POLLUTION PLAN AND OBTAIN NOTICE OF INTENT, AND COMPLY WITH STORM WATER POLLUTION PREVENTION PLAN, AND ALL UPDES REQUIREMENTS.

GEOTECHNICAL NOTES

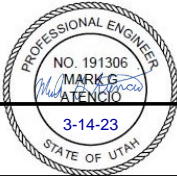
1. SEE SHEET S-1 AND GEOTECHNICAL REPORT FOR REQUIREMENTS.

CONSTRUCTION NOTES

1. EXCAVATION, BEDDING AND BACKFILL FOR BURIED PIPELINES SHALL CONFORM TO WEST JORDAN CITY STANDARDS AND GEOTECHNICAL REPORT.
2. ASPHALT CUTTING AND PATCHING SHALL CONFORM TO WEST JORDAN CITY STANDARD DRAWINGS.
3. CONTRACTOR SHALL REPLACE ANY EXISTING PAVEMENT, SIDEWALK OR CURB & GUTTER ALONG THE FRONTAGE OF THIS PROJECT, THAT IS DAMAGED OR REMOVED BY THE CONTRACTOR, AS DIRECTED BY THE CITY INSPECTOR.
4. ALL PUBLIC IMPROVEMENTS WITHIN WEST JORDAN CITY JURISDICTION SHALL BE CONSTRUCTED ACCORDING TO THE WEST JORDAN CITY DEVELOPMENT MANUAL – LAND DEVELOPMENT POLICIES, STANDARD SPECIFICATIONS AND DRAWINGS.
5. CONTRACTOR SHALL SECURE AN EXCAVATION PERMIT FROM WEST JORDAN CITY PUBLIC WORKS DEPARTMENT PRIOR TO DOING ANY WORK IN THE WEST JORDAN CITY RIGHT-OF-WAY. TRAFFIC PLAN, BONDING & INSURANCE WILL BE REQUIRED.
6. ANY PROPOSED CHANGES TO THE APPROVED DESIGN SHALL BE REVIEWED AND APPROVED BY THE ENGINEER OR ARCHITECT OF RECORD AND THE CITY ENGINEER.
7. NOTIFY HANSEN, ALLEN & LUCE AND WEST JORDAN CITY PUBLIC WORKS INSPECTION DEPARTMENT, 48 HOURS PRIOR TO BEGINNING CONSTRUCTION OF ANY ROADWAYS OR PUBLIC IMPROVEMENTS. ALL INSPECTIONS MUST BE DONE PRIOR TO OR CONCURRENT WITH CONSTRUCTION. FAILURE TO MAKE THIS NOTIFICATION MAY RESULT IN THE UNCOVERING AND/OR REMOVAL OF ALL CONSTRUCTION DONE WITHOUT NOTIFICATION AT THE DISCRETION OF THE CITY ENGINEER.
8. PROVIDE A PROCTOR TEST FOR ROADBASE MATERIAL, TO THE WEST JORDAN CITY PUBLIC WORKS INSPECTOR, WHEN DELIVERED OR PLACED ON SITE.
9. DUST, MUD AND EROSION SHALL BE ADEQUATELY CONTROLLED BY WHATEVER MEANS NECESSARY, AND THE ROADWAY SHALL BE KEPT FREE OF MUD AND DEBRIS, AT ALL TIMES.
10. 4H:1V MAXIMUM SLOPE IN LANDSCAPED AREAS.
11. FOLLOW ALL RECOMMENDATION OF THE APPROVED GEOTECHNICAL REPORT. WEST JORDAN CITY STANDARD SPECIFICATIONS AND DETAILS SHALL GOVERN, HOWEVER, UNLESS GEOTECHNICAL REPORT RECOMMENDATIONS ARE MORE STRINGENT.
12. THE USE OF MOTOR OILS AND OTHER PETROLEUM-BASED OR TOXIC LIQUIDS, FOR DUST SUPPRESSION, IS ABSOLUTELY PROHIBITED.

WATER NOTES

1. ALL CONSTRUCTION SHALL CONFORM WITH THE CURRENT WEST JORDAN CITY SPECIFICATIONS AND DETAILS FOR MUNICIPAL CONSTRUCTION.
2. WATER LINE TRENCHES IN PRIVATE ROADWAYS OR TRAFFIC AREAS TO BE THOROUGHLY COMPACTED TO A MINIMUM OF 96% OF MAXIMUM DENSITY PER ASTM D1557. DENSITY CHECKS MAY BE REQUIRED BY THE CITY AT ANY TIME.
3. A MINIMUM OF 48" OF COVER FROM THE TOP OF THE PIPE TO THE FINISH GRADE IS REQUIRED.
4. ALL DUCTILE FITTINGS INCLUDING TEES, WYES, ELBOWS, PLUGS, ETC. EXPOSED TO SOIL SHALL BE DOUBLE WRAPPED WITH 8 MIL THICK POLYETHYLENE FILM TUBE. ALL FITTINGS, VALVES AND EXPOSED NUTS & BOLTS SHALL BE LIBERALLY COATED WITH FM GREASE PRIOR TO WRAPPING. THE FILM SHALL BE HELD IN PLACE BY 2-INCH WIDE PVC ADHESIVE TAPE EQUAL TO POLYKEN 900 OR SCOTCHRAP NO. 50. THE TAPE SHALL BE INSTALLED TO TIGHTLY SECURE THE FILM TO THE PIPE. ENOUGH FILM SHALL BE USED TO OVERLAP ADJOINING SECTIONS OF FILM A MINIMUM OF ONE (1) FOOT.
5. VALVES SHALL BE WRAPPED BY BRINGING THE WRAP ON THE ADJACENT PIPE OVER THE BELLS OR FLANGES OF THE VALVE AND SEALING WITH THE ADHESIVE TAPE. THE VALVE BODIES ARE THEN WRAPPED WITH A FLAT SHEET OF THE FILM PASSED UNDER THE VALVE BOTTOM AND BROUGHT UP AROUND THE BODY TO THE STEM AND FASTENED IN PLACE WITH THE ADHESIVE TAPE.
6. ALL FITTINGS THAT REQUIRE CONCRETE BLOCKING SHOULD BE COMPLETELY DOUBLE WRAPPED PRIOR TO THE POURING OF THE CONCRETE THRUSTING BLOCK.
7. POLYETHYLENE WRAP SHALL BE PROTECTED FROM THE SUN AND WEATHERING PRIOR TO USE. CARE SHALL BE EXERCISED DURING BACK FILLING OF THE PROTECTED AREAS TO PREVENT PUNCTURING OF THE FILM.
8. UNLESS OTHERWISE NOTED, ALL FITTINGS FOR PRESSURIZED WATER PIPING SHALL BE PROPERLY RESTRAINED BY THRUST BLOCKING, AND JOINT RESTRAINT.



PROJECT ENGINEER

DESIGNED	MGA	3			
DRAFTED	BKC	2			
CHECKED	MEA	1			
DATE	MARCH 2023	NO.	DATE		

NO.

DATE

REVISIONS

BY

APVD.

SCALE
NOT
TO
SCALE



WEST JORDAN CITY WELL #8
GENERAL
GENERAL NOTES

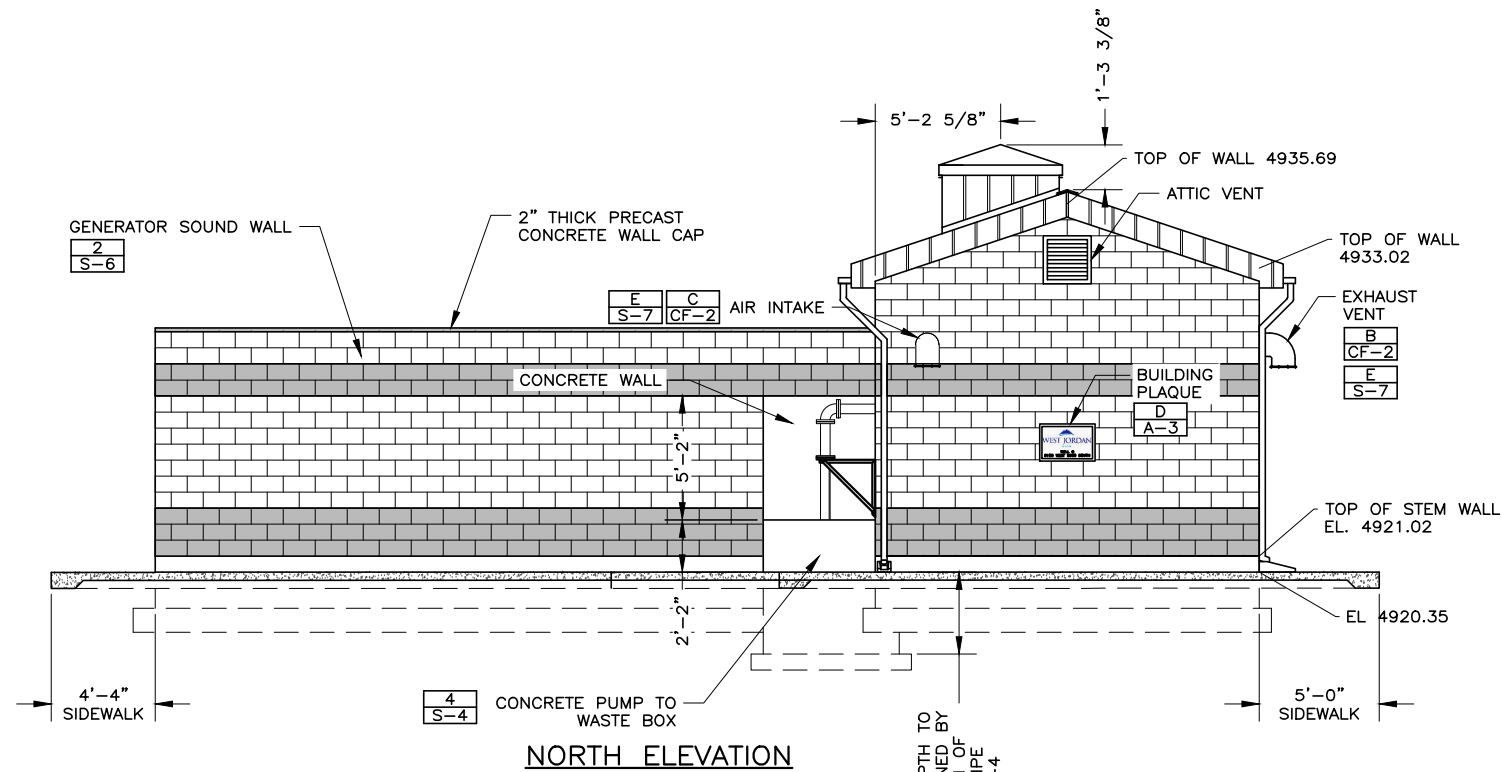
SHEET

G-4

089.29.100

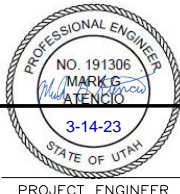
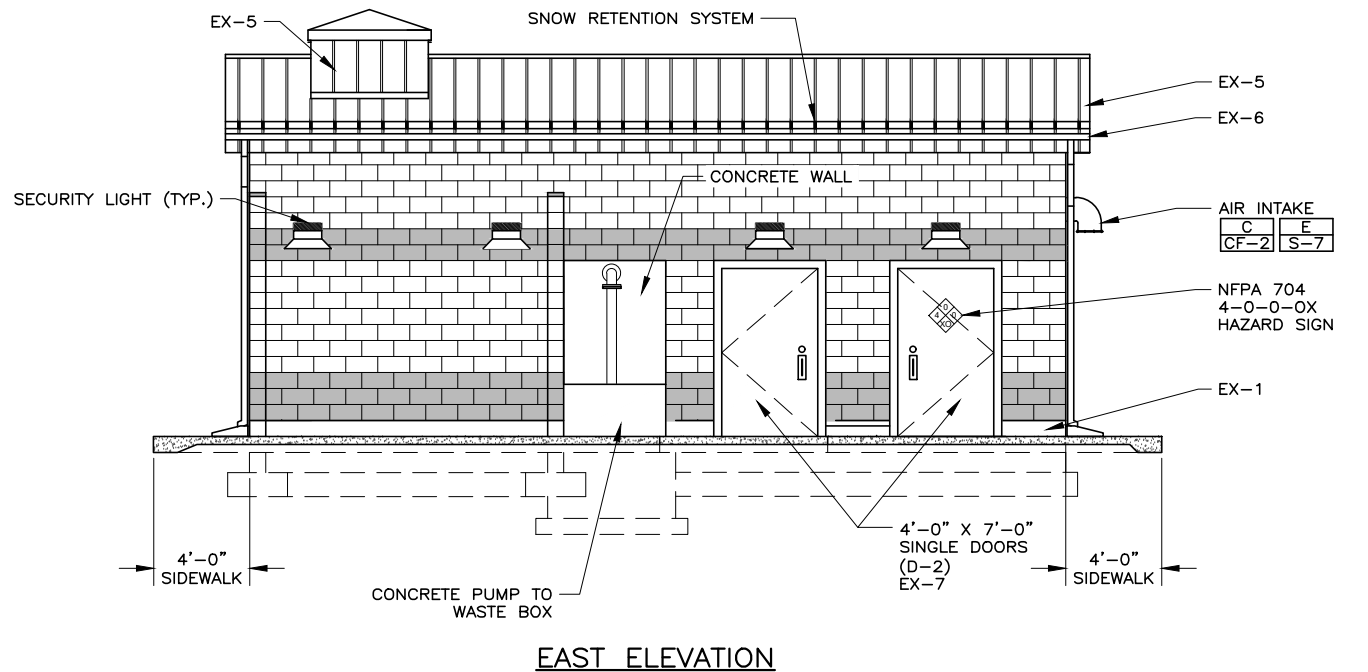
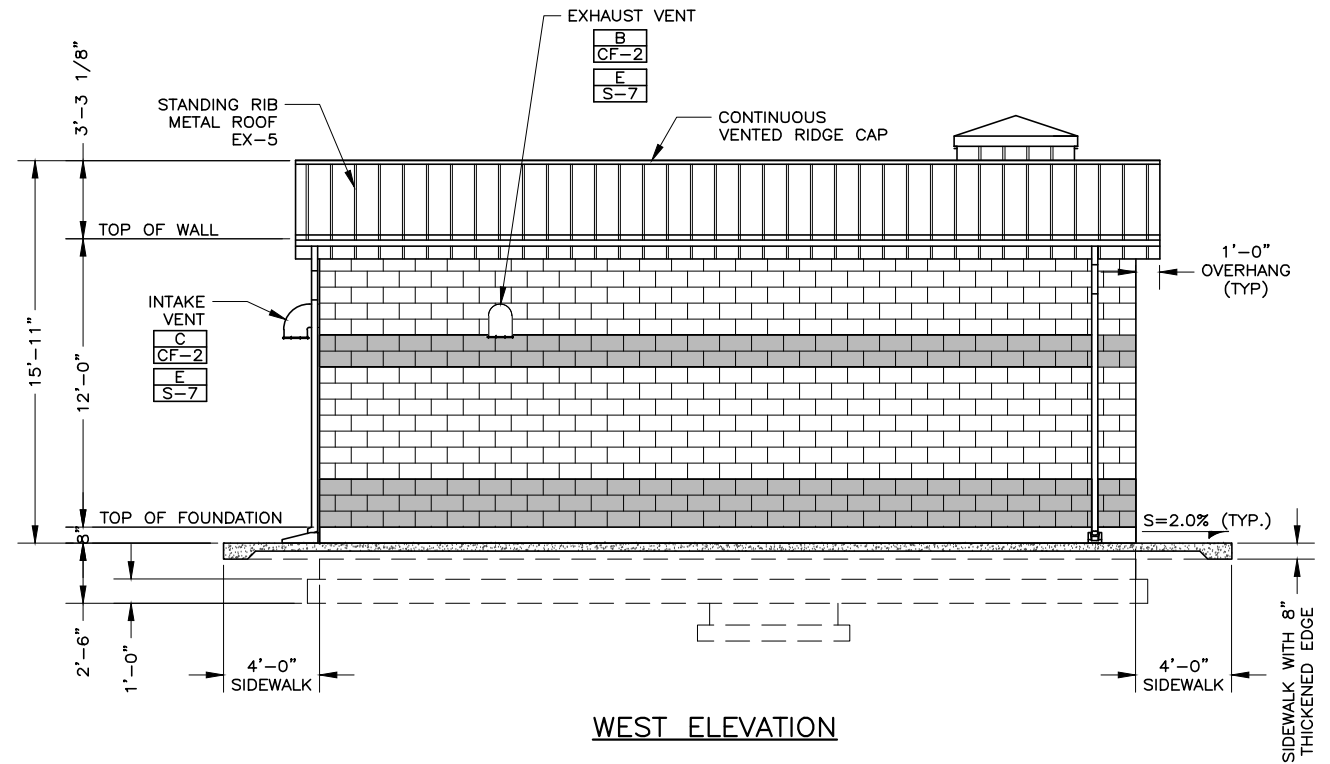
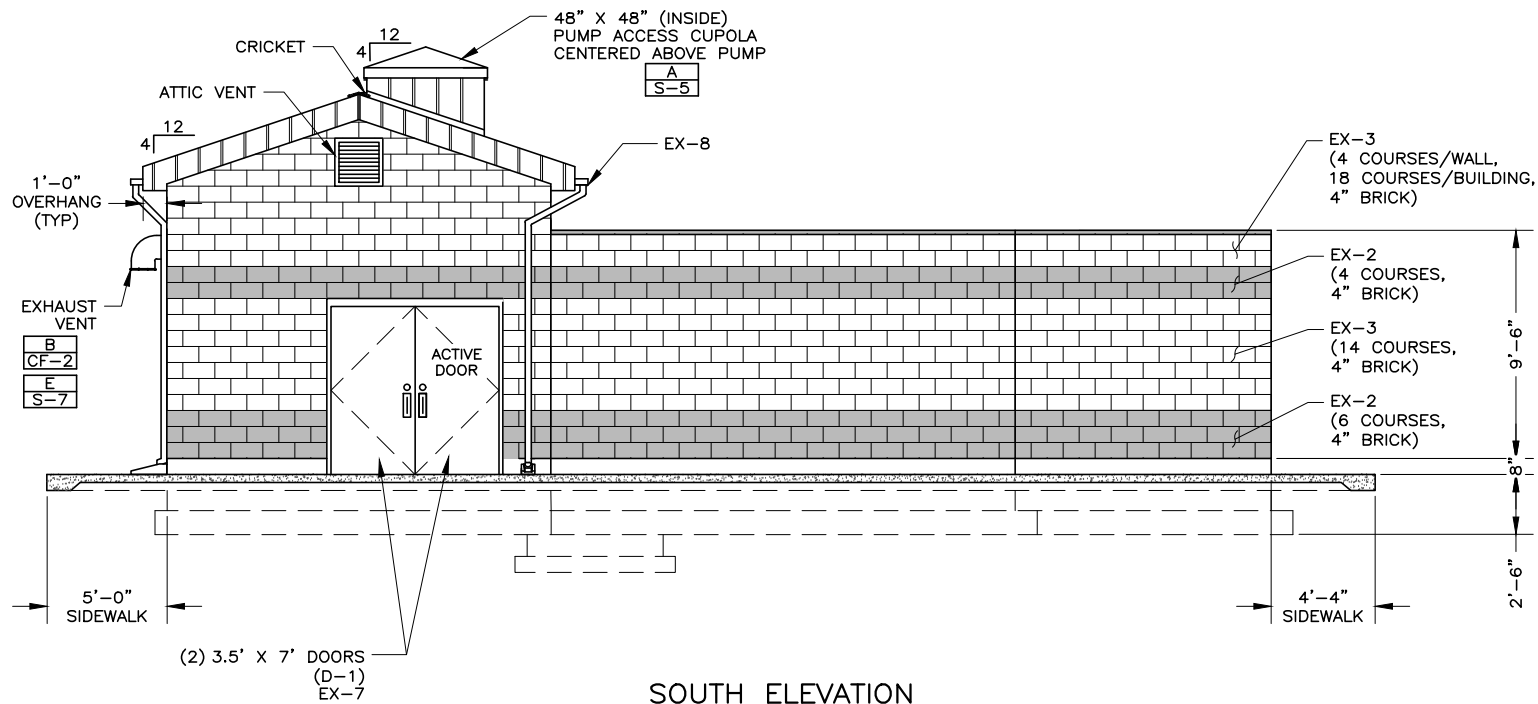
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FILE DATE: 2.9.2021 12:07:41 (DCL)

7/04



NOTE:

1. BUILDING PLAQUE BY OTHERS. COORDINATE W/ OWNER FOR INSTALLATION.
2. FOR CLARITY, ARCHITECTURAL DRAWINGS AND DETAILS SHOW 8" HIGH BRICKS. SEE SHEET A-2 FOR BRICK DIMENSIONS FOR THIS PROJECT.



HANSEN
ALLAN
& LUCE
ENGINEERS

PROJECT ENGINEER

DESIGNED MGA
DRAFTED BKC & DCL
CHECKED MEA
DATE MARCH 2023

NO.

DATE

REVISIONS

BY

APVD.

SCALE
AS SHOWN

WEST JORDAN
UTAH

WEST JORDAN CITY WELL #8
ARCHITECTURAL
ELEVATIONS

SHEET
A-1

089.29.100

FILE NAME: PROJECTS\089 - WEST JORDAN\29.100 - WELL NO. 8 PUMP BUILDING\CAD\A-2 ARCHITECTURAL SCHEDULES.DWG
FILE DATE: 12.28.2022 08:25:55 (MAJ)

7/04



PROJECT ENGINEER

DESIGNED	MGA	3		
DRAFTED	DCL	2		
CHECKED	MEA	1		
DATE	MARCH 2023	NO.	DATE	

NO.

DATE

REVISIONS

BY

APVD.

SCALE
AS
SHOWN



WEST JORDAN CITY WELL #8
ARCHITECTURAL
SCHEDULES

SHEET
A-2

089.29.100

EXTERIOR COLOR SCHEDULE

MARK	MATERIAL	MANUFACTURER	FINISH	COLOR	REMARKS
EX-1	CONCRETE	GEN. CONTR.	STONE RUB	NATURAL	
EX-2	ATLAS BRICK	INTERSTATE	SMOOTH	OCHRE BUFF	8"W X 4"H X 16"L
EX-3	ATLAS BRICK	INTERSTATE	SMOOTH	CANYON ROSE	8"W X 4"H X 16"L
EX-4	NOT USED				
EX-5	STANDING SEAM METAL ROOF	MBCI	FACTORY	TERRA COTTA	
EX-6	ALUMINUM	ALCOA	PRE-FINISHED	OWNER	FASCIA/SOFFIT ALCOA ALUMAX (OR APPROVED EQUAL)
EX-7	EXT. PAINT	SHERWIN WILLIAMS	SEMI-GLOSS	SW 6046 SWING BROWN	DOORS AND FRAMES
EX-8	ALUMINUM	-	PRE-FINISHED	MATCH FACIA	PRE-FINISHED METAL GUTTER & DOWNSPOUT W/PRE-CAST CONCRETE SPLASH BLOCK

DOOR SCHEDULE

DOOR SIZE			DOOR TYPE	MAT.	FINISH	FRAME MAT.	FRAME FINISH	SWING	REMARKS
WIDTH	HEIGHT	THICK							
7'-0"	7'-0"	1-3/4"	D-1	HOL. MTL.	SW 6046 SWING BROWN	HOL. MTL. (INSULATED)	EX-7	LHR, RHR	PANEL DOUBLE DOORS (6 PANELS)
(2) 4'-0"	7'-0"	1-3/4"	D-2	HOL. MTL.	SW 6046 SWING BROWN	HOL. MTL. (INSULATED)	EX-7	LHR, RHR	PANEL SINGLE DOOR (6 PANELS) WITH SECURITY CARD ACCESS HARDWARE PER SECTION 08 10 00 PART 2.1-B.14

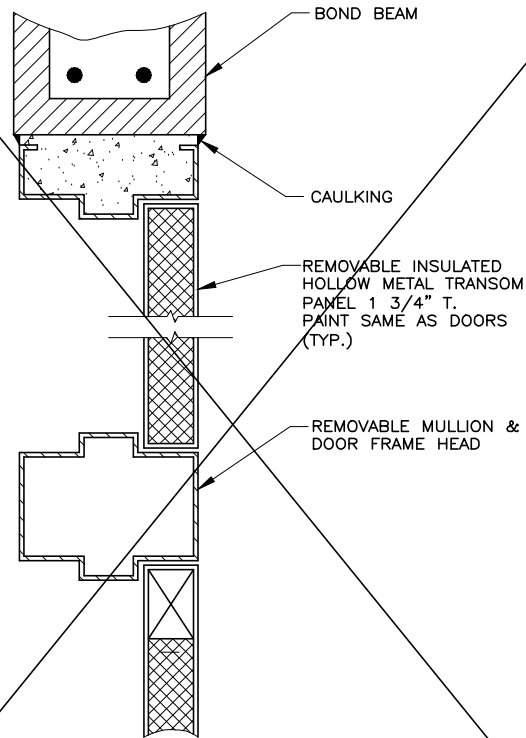
INTERIOR PAINTING SCHEDULE

LOCATION	MATERIAL	COLOR	FINISH	REMARKS
FLOOR	CONCRETE	GREY	SEMI-GLOSS	EPOXY COATING SEE 09 99 00 SYSTEM 9
WALLS	DRY WALL W/ FRP PANEL	WHITE	SEMI-GLOSS	RUBBER BASE TO COORDINATE WITH PAINT FRP PANEL HEIGHT TO BE 8'-0"
CEILING	DRY WALL	WHITE	SEMI-GLOSS	
PIPING	METAL	WASSER WISCONSIN BLUE	SEMI-GLOSS	EXPOSED PIPE, VALVES & FITTINGS TO BE PAINTED

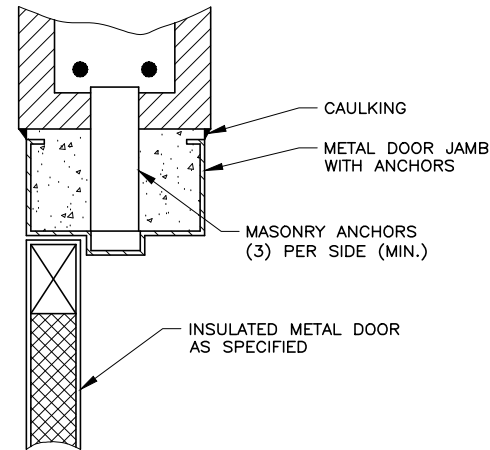
NOTES

- SEE TECHNICAL SPECIFICATION SECTION 08 10 00 FOR HARDWARE & SECURITY REQUIREMENTS.
- SEE TECHNICAL SPECIFICATION SECTION 09 91 00 FOR PAINTING AND FINISHES.

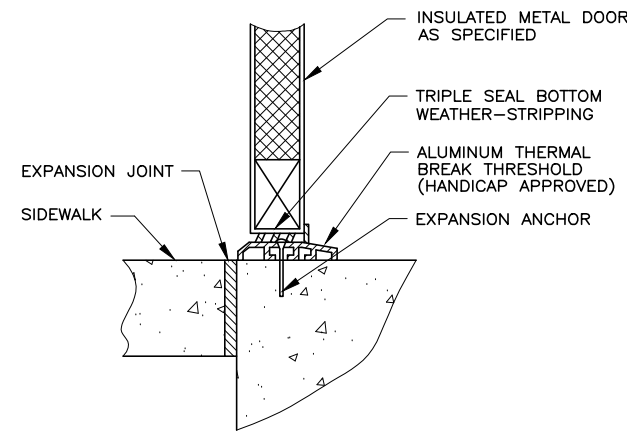
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FILE DATE:



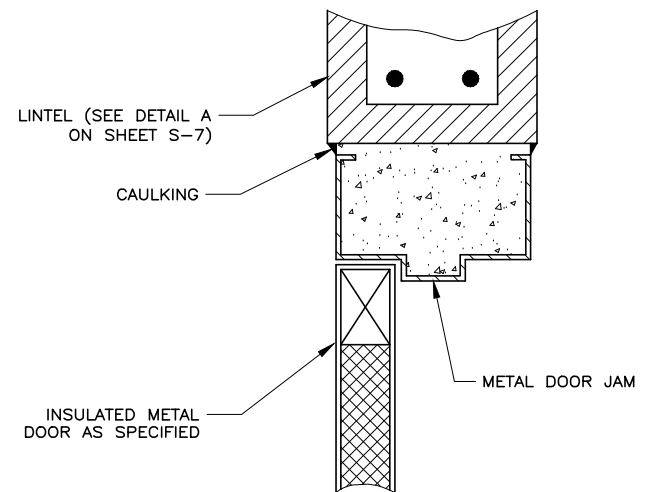
TRANSOM DETAIL A
N.T.S. A-1



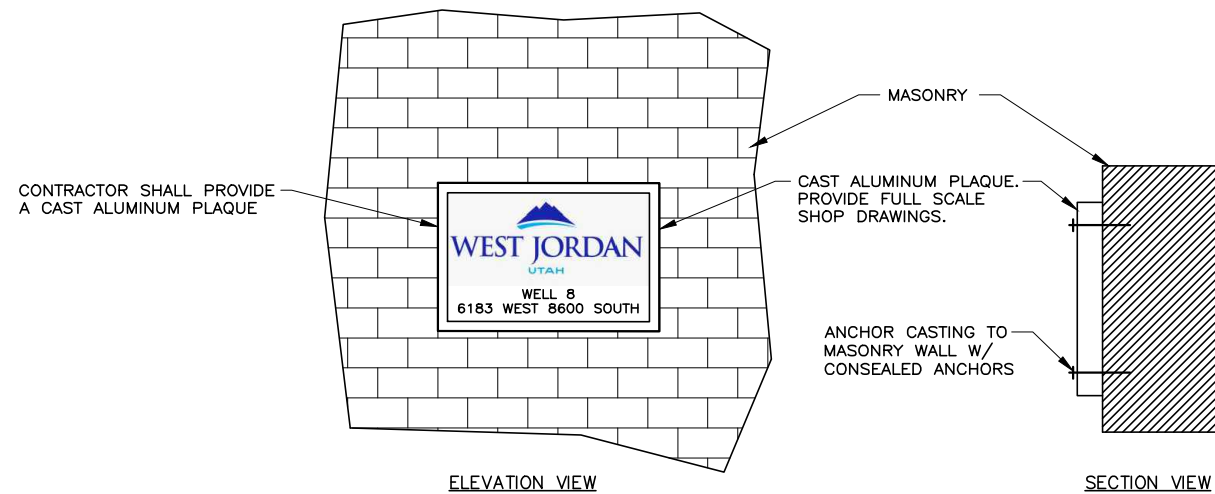
TYPICAL DOOR JAMB DETAIL B B
N.T.S. - C-5



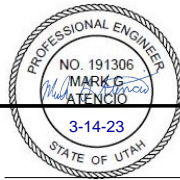
TYPICAL DOOR SILL DETAIL C C
N.T.S. - C-5



TYPICAL DOOR HEAD D D
N.T.S. - C-5

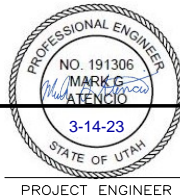


PRE-CAST ALUMINUM SIGN DETAIL D
N.T.S. A-1



FILE NAME: PROJECTS\089 - WEST JORDAN\29.100 - WELL NO. 8 PUMP BUILDING\CAD\C-1A SITE PLAN.DWG
FILE DATE: 2.17.2023 11:53:36 (ABO)

7/04



DESIGNED	MGA	3
DRAFTED	BKC & DCL	2
CHECKED	MEA	1
DATE	FEBRUARY 2023	NO.

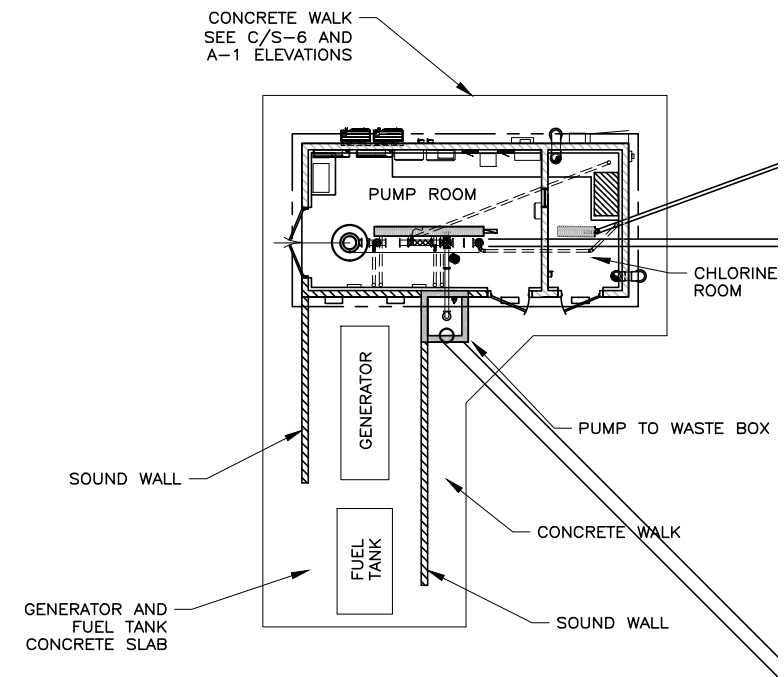
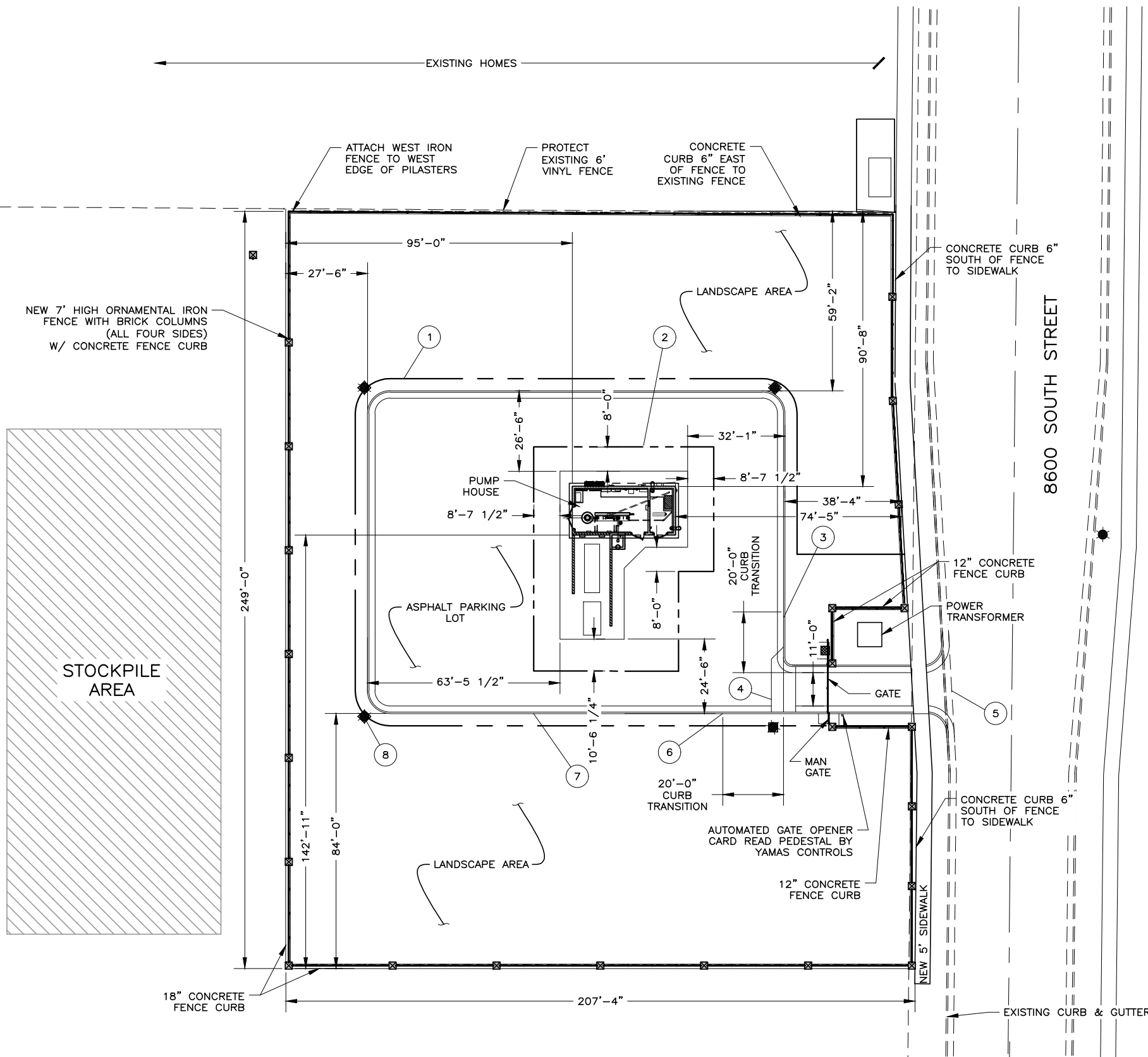
NO.	DATE	REVISIONS	BY	APVD.

SCALE
AS
SHOWN



WEST JORDAN CITY WELL #8
CIVIL
PUMP HOUSE SITE PLAN

SHEET
C-1A
089.29.100



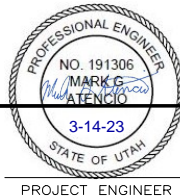
NOTE: MAINTAIN 3' MINIMUM CLEARANCE
AROUND GENERATOR AND FUEL TANK

PUMP HOUSE PLAN VIEW
SCALE: 1:10

- 1 LIMITS OF SHALLOW SITE OVER-EXCAVATION AND FILL REQUIREMENTS 4'-0" BEYOND CURB LINE AND OTHER MARKED AREAS (SEE GEOTECHNICAL REQUIREMENTS ON SHEET S-1B)
- 2 LIMITS OF DEEP SITE OVER-EXCAVATION AND FILL REQUIREMENTS (SEE GEOTECHNICAL REQUIREMENTS ON SHEET S-1B)
- 3 TRANSITION TO APWA PLAN 205. TYPE E TO NORTH
- 4 APWA PLAN 211 8' WATERWAY
- 5 REMOVE EXISTING CURB AND GUTTER AND REPLACE TO MATCH SURROUNDING PER WJ CITY STD DRAWING RD100 & RD200
- 6 TRANSITION TO APWA PLAN 205.2 TYPE E TO NORTH
- 7 APWA PLAN 205.2 TYPE H CURB & GUTTER
- 8 PARKING LOT LIGHT MOUNTED ON CONCRETE PEDESTAL (TYP OF 4)

FILE NAME: PROJECTS\089 - WEST JORDAN\29.100 - WELL NO. 8 PUMP BUILDING\CAD\C-1B SITE PLAN UTILITIES.DWG
FILE DATE: 2.17.2023 11:54:41 (ABO)

7/04



DESIGNED	MGA	3
DRAFTED	BKC & DCL	2
CHECKED	MEA	1
DATE	MARCH 2023	NO.

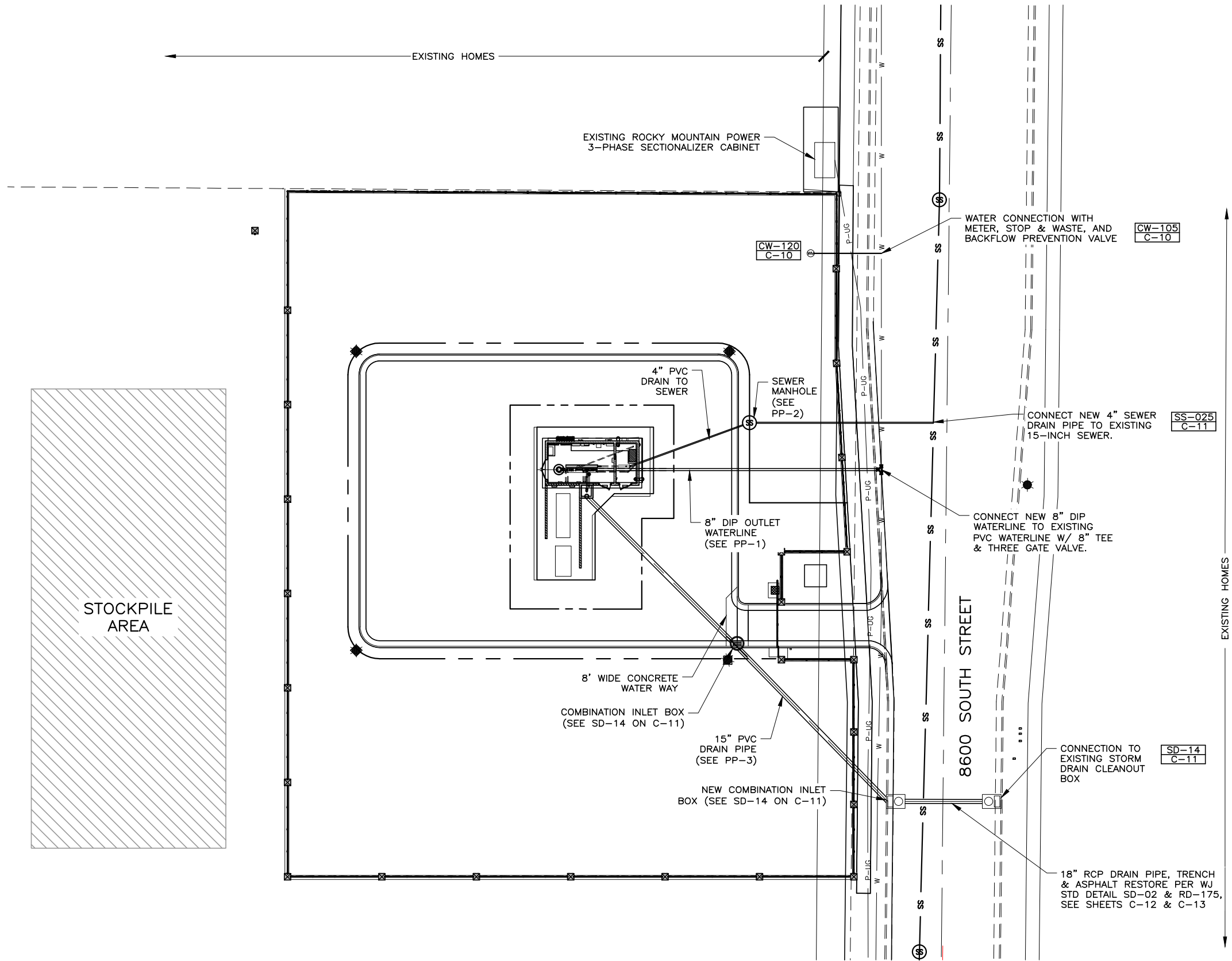
NO.	DATE	REVISIONS	BY	APVD.

SCALE
AS SHOWN



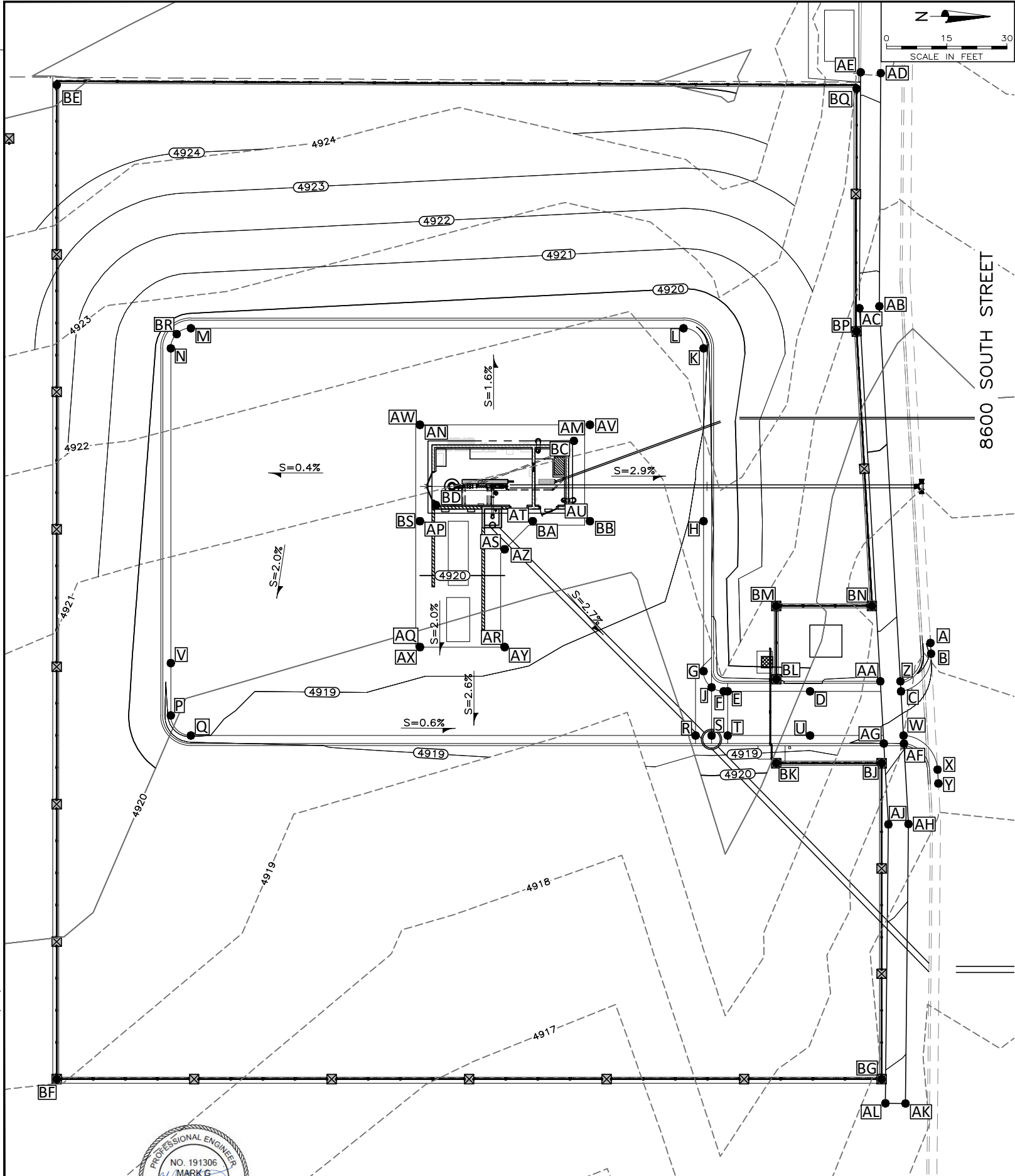
WEST JORDAN CITY WELL #8
CIVIL
PUMP HOUSE UTILITIES SITE PLAN

SHEET
C-1B
089.29.100



FILE NAME: PROJECTS\088 - WEST JORDAN\29.100 - WELL NO. 8 PUMP BUILDING\CAD\C-2 PUMP HOUSE SITE GRADING PLAN.DWG
FILE DATE: 12.28.2022 08:53:15 (MAJ)

7/04



POINT ID	NORTHING	EASTING	ELEVATION	DESCRIPTION
A	7,385,976.19	1,491,020.16	4918.10	LIP
B	7,385,976.34	1,491,022.83	4918.04	LIP PC (RADIUS = 9')
C	7,385,968.85	1,491,032.21	4918.29	LIP PT
D	7,385,946.22	1,491,032.19	4918.73	LIP GRADE BREAK
E	7,385,925.72	1,491,032.19	4918.54	LIP/WATERWAY
F	7,385,924.72	1,491,032.19	4918.53	LIP PC (RADIUS = 5')
G	7,385,919.72	1,491,027.19	4918.54	LIP PT
H	7,385,919.72	1,490,989.83	4918.88	LIP GRADE BREAK
J	7,385,921.72	1,491,031.19	4918.50	LIP GRADE BREAK
K	7,385,919.72	1,490,946.81	4919.10	LIP PC (RADIUS = 5')
L	7,385,914.72	1,490,941.81	4919.14	LIP PT
M	7,385,792.13	1,490,941.81	4919.75	LIP PC (RADIUS = 5')
N	7,385,787.13	1,490,946.81	4919.74	LIP PT
P	7,385,787.13	1,491,038.19	4919.08	LIP PC (RADIUS = 5')
Q	7,385,792.13	1,491,043.19	4919.03	LIP PT
R	7,385,917.72	1,491,043.19	4918.28	LIP/WATERWAY
S	7,385,921.72	1,491,043.19	4918.26	LIP GRADE BREAK
T	7,385,925.72	1,491,043.19	4918.30	LIP/WATERWAY
U	7,385,946.22	1,491,043.19	4918.51	LIP GRADE BREAK
V	7,385,787.13	1,491,025.16	4919.16	GRADE BREAK
W	7,385,969.47	1,491,043.19	4917.71	LIP PC (RADIUS = 9')
X	7,385,977.96	1,491,051.68	4917.26	LIP PT
Y	7,385,978.15	1,491,055.12	4917.18	EXISTING LIP
Z	7,385,968.71	1,491,029.68	4918.63	FW
AA	7,385,963.70	1,491,029.69	4918.72	BW
AB	7,385,963.47	1,490,936.33	4920.80	FW
AC	7,385,958.49	1,490,936.80	4920.80	BW
AD	7,385,963.81	1,490,878.30	4922.17	FW-EXISTING
AE	7,385,958.82	1,490,878.09	4922.13	BW-EXISTING
AF	7,385,969.58	1,491,045.21	4918.04	FW
AG	7,385,964.57	1,491,045.19	4918.21	BW
AH	7,385,970.70	1,491,065.20	4917.51	FW
AJ	7,385,965.70	1,491,065.32	4917.66	BW
AK	7,385,969.97	1,491,134.79	4915.67	FW
AL	7,385,964.97	1,491,134.74	4915.77	BW
AM	7,385,891.43	1,490,965.83	4920.27	CONCRETE
AN	7,385,849.13	1,490,965.83	4920.27	CONCRETE
AP	7,385,849.13	1,490,989.83	4920.27	CONCRETE GRADE BREAK
AQ	7,385,849.13	1,491,021.16	4919.64	CONCRETE
AR	7,385,870.21	1,491,021.16	4919.64	CONCRETE
AS	7,385,870.21	1,490,996.82	4920.13	CONCRETE
AT	7,385,877.21	1,490,989.83	4920.27	CONCRETE
AU	7,385,891.43	1,490,989.83	4920.27	CONCRETE
AV	7,385,891.43	1,490,965.83	4919.77	ASPHALT
AW	7,385,849.13	1,490,965.83	4919.77	ASPHALT
AX	7,385,849.13	1,491,021.16	4919.16	ASPHALT
AY	7,385,870.21	1,491,021.16	4919.16	ASPHALT
AZ	7,385,870.21	1,490,996.82	4919.63	ASPHALT
BA	7,385,877.21	1,490,989.83	4919.77	ASPHALT
BB	7,385,891.43	1,490,989.83	4919.77	ASPHALT

POINT ID	NORTHING	EASTING	ELEVATION	DESCRIPTION
BC	7,385,887.43	1,490,969.83	4920.35	NW BLD CNR
BD	7,385,853.13	1,490,985.83	4920.35	SE BLD CRN
BE	7,385,758.72	1,490,881.21	4925.17	CENTER OF COLUMN
BF	7,385,758.72	1,491,128.74	4919.03	CENTER OF COLUMN
BG	7,385,964.03	1,491,128.74	4915.94	CENTER OF COLUMN
BJ	7,385,964.03	1,491,050.08	4918.25	CENTER OF COLUMN
BK	7,385,937.81	1,491,050.08	4919.54	CENTER OF COLUMN
BL	7,385,937.81	1,491,029.17	4919.00	CENTER OF COLUMN
BM	7,385,937.81	1,491,010.95	4922.73	CENTER OF COLUMN
BN	7,385,961.61	1,491,010.95	4919.16	CENTER OF COLUMN
BP	7,385,957.80	1,490,942.62	4920.70	CENTER OF COLUMN
BQ	7,385,957.79	1,490,882.17	4918.98	CENTER OF COLUMN
BR	7,385,788.59	1,490,943.27	4919.77	LIP GRADE BREAK
BS	7,385,849.13	1,490,989.83	4919.77	ASPHALT GRADE BREAK



**HANSEN
ALLER
& LUCE**
ENGINEERS

DESIGNED	MGA	3
DRAFTED	GDS	2
CHECKED	MEA	1
DATE	MARCH 2023	NO.

DATE

REVISIONS

BY

SCALE
AS
SHOWN

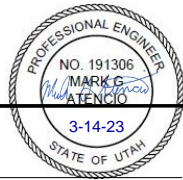
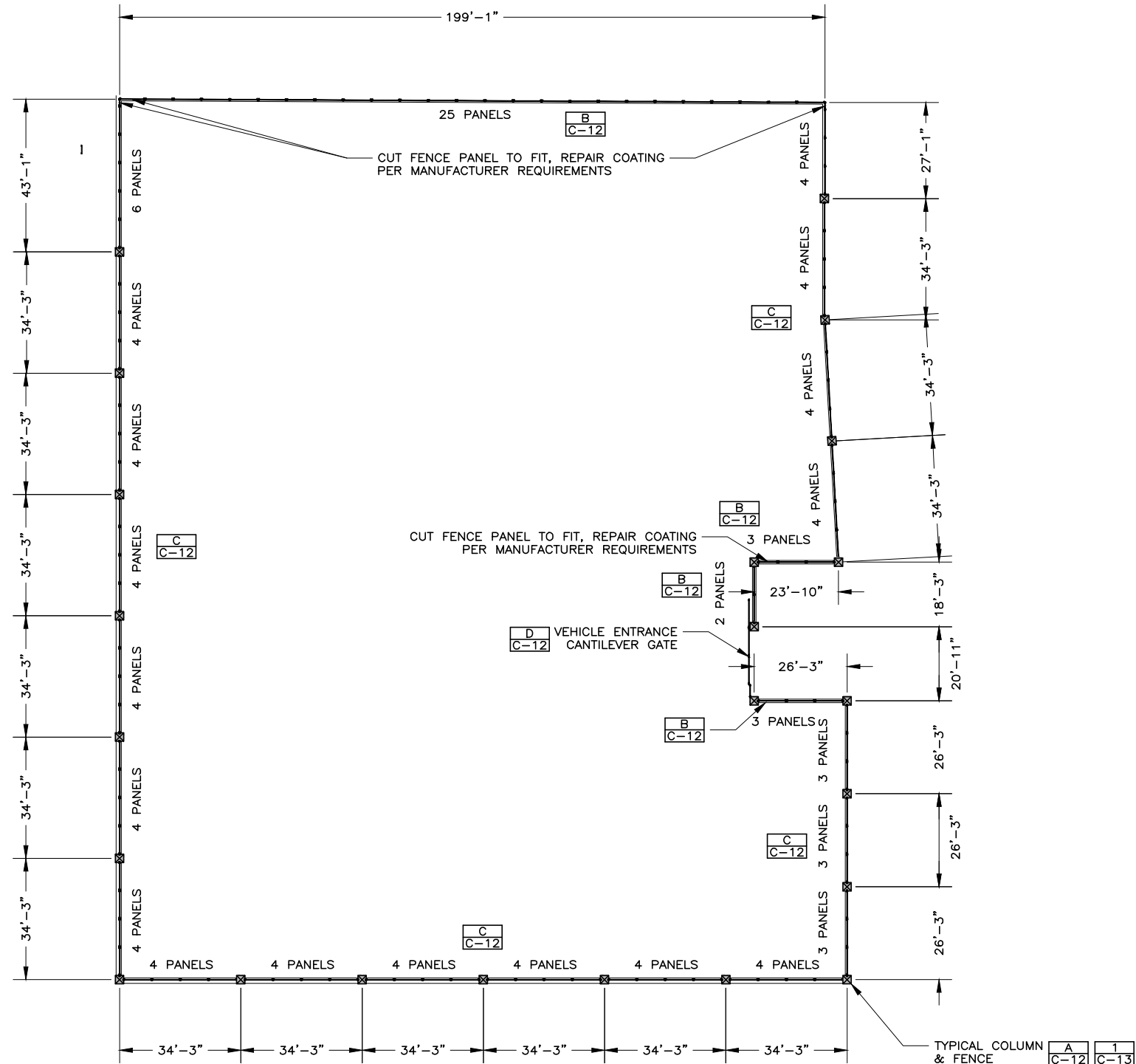
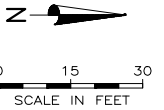


WEST JORDAN CITY WELL #8
CIVIL
PUMP HOUSE SITE GRADING PLAN

SHEET
C-2
089.29.100

FILE NAME: PROJECTS\089 - WEST JORDAN\29.100 - WELL NO. 8 PUMP BUILDING\CAD\C-3 SITE PLAN FENCE.DWG
FILE DATE: 2/12/2021 13:56:41 (DCL)

7/04



PROJECT ENGINEER

DESIGNED MGA
DRAFTED DCL
CHECKED MEA
DATE MARCH 2023

NO. 1

DATE

REVISIONS

BY

APVD.

SCALE

AS SHOWN

WEST JORDAN

UTAH

WEST JORDAN CITY WELL #8

CIVIL

PUMP HOUSE FENCE SITE PLAN

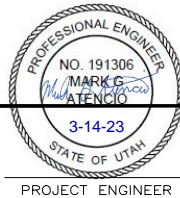
SHEET

C-3

089.29.100

FILE NAME: PROJECTS\089 - WEST JORDAN\29.100 - WELL NO. 8 PUMP BUILDING\CAD\C-4 PUMP HOUSE PLAN.DWG
FILE DATE: 12.28.2022 09:53:13 (MAJ)

7/04



DESIGNED	MGA	3
DRAFTED	BKC & DCL	2
CHECKED	MEA	1
DATE	MARCH 2023	NO.

NO.	DATE	REVISIONS	BY	APVD.

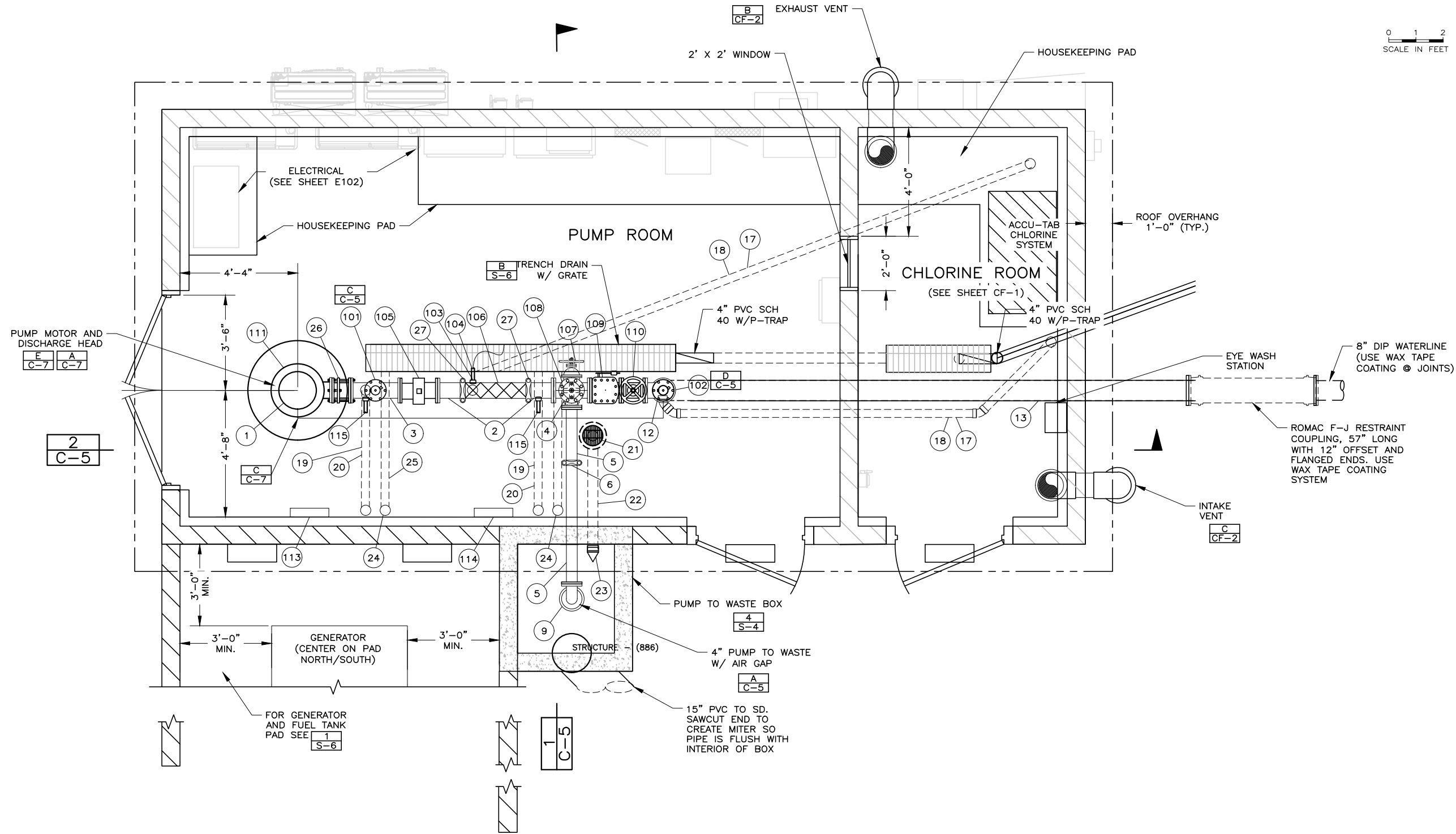
SCALE
AS
SHOWN



WEST JORDAN CITY WELL #8
CIVIL
PUMP HOUSE PIPING

SHEET
C-4

089.29.100

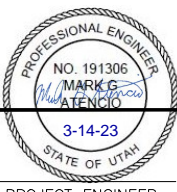
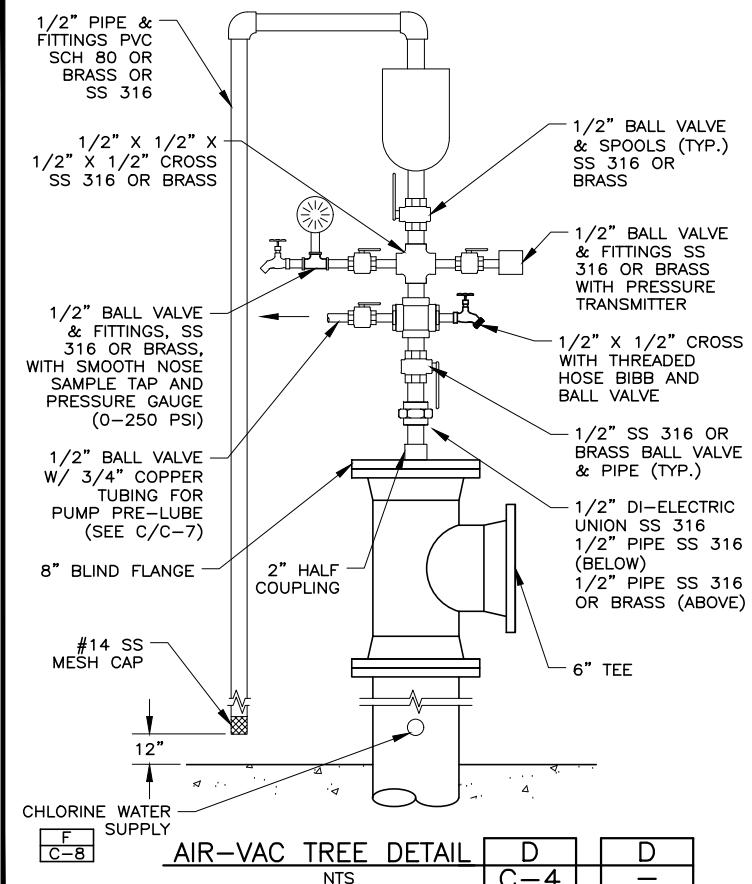
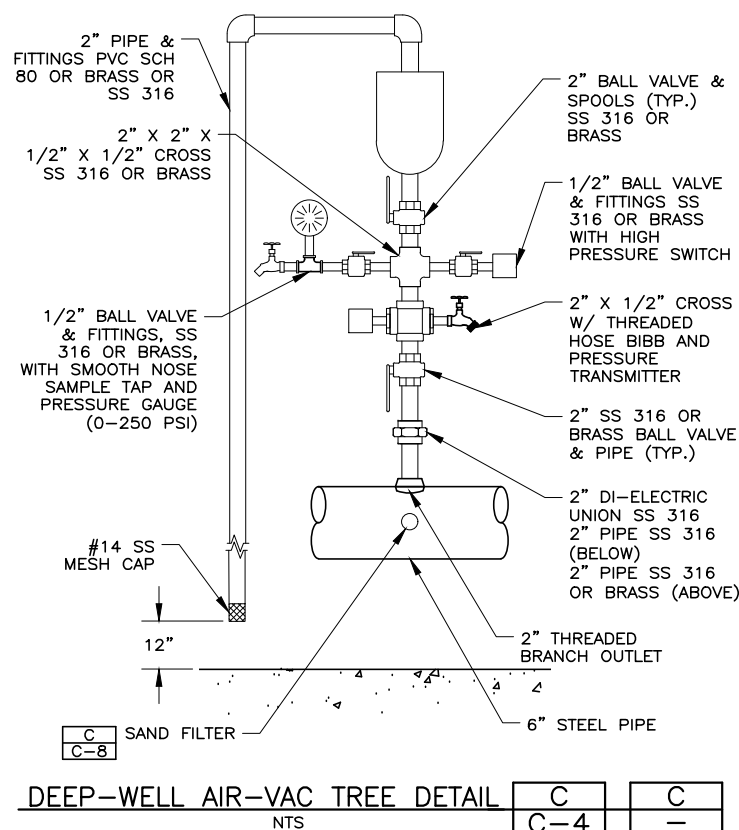
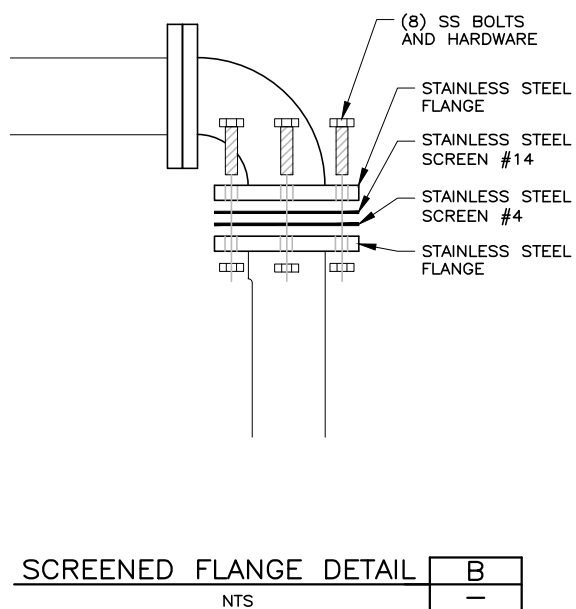
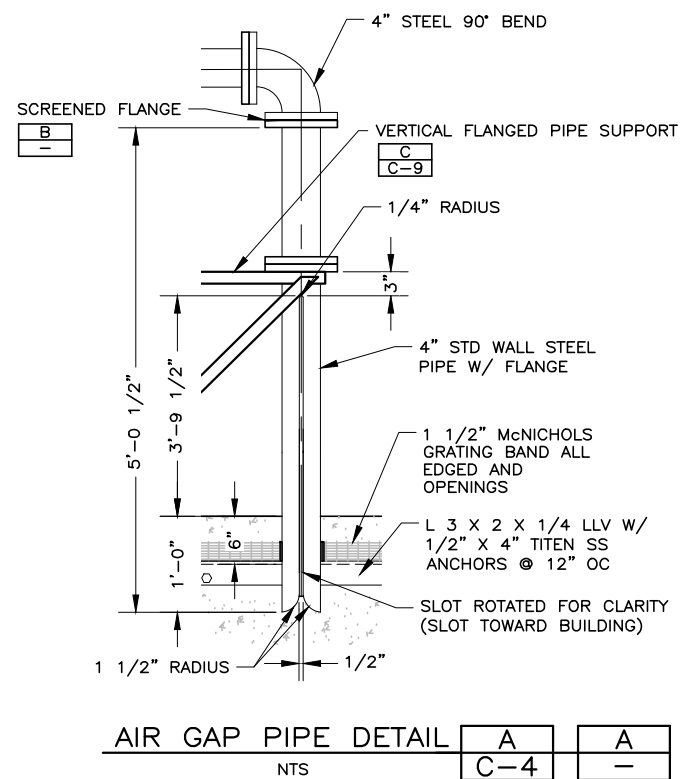
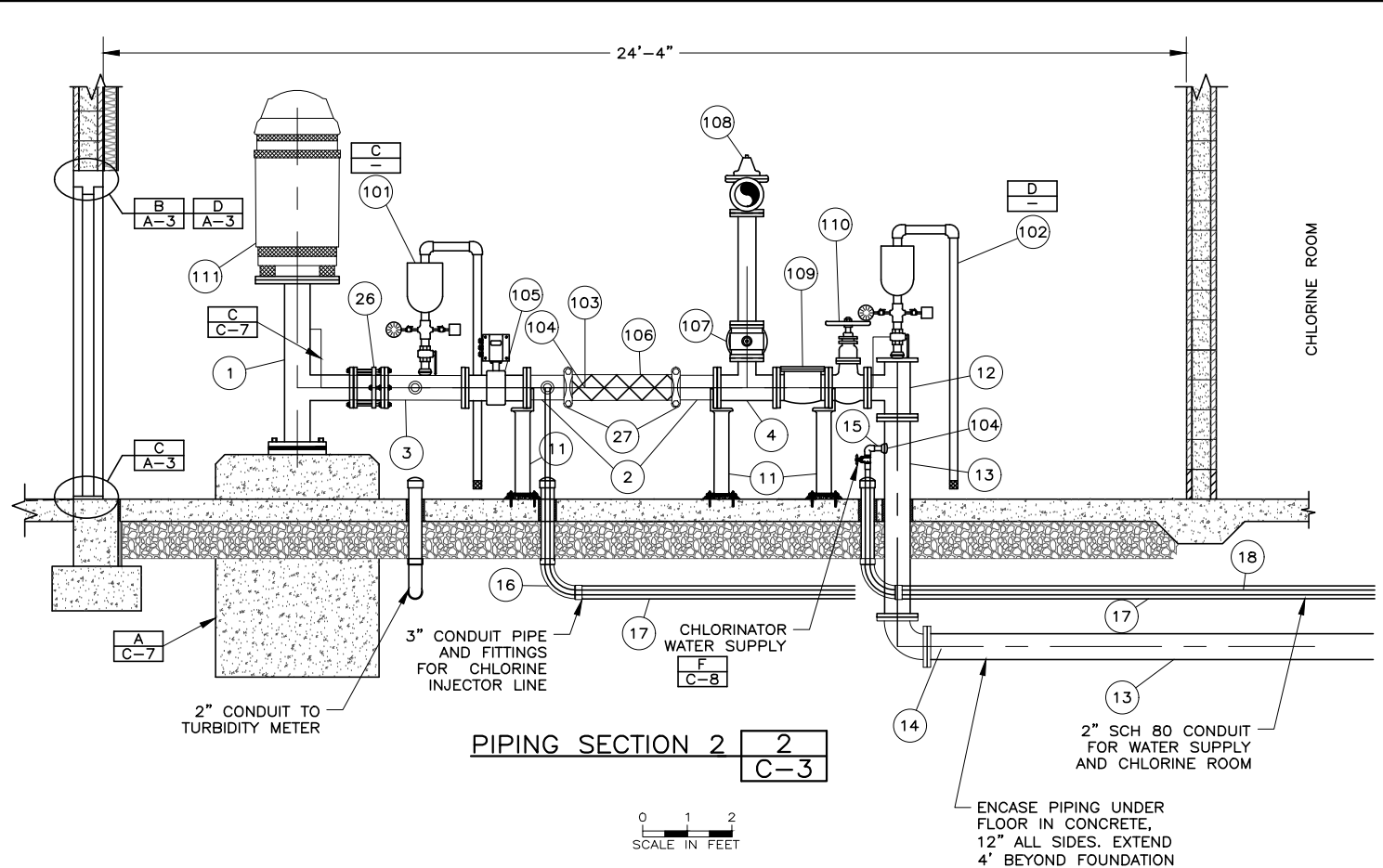
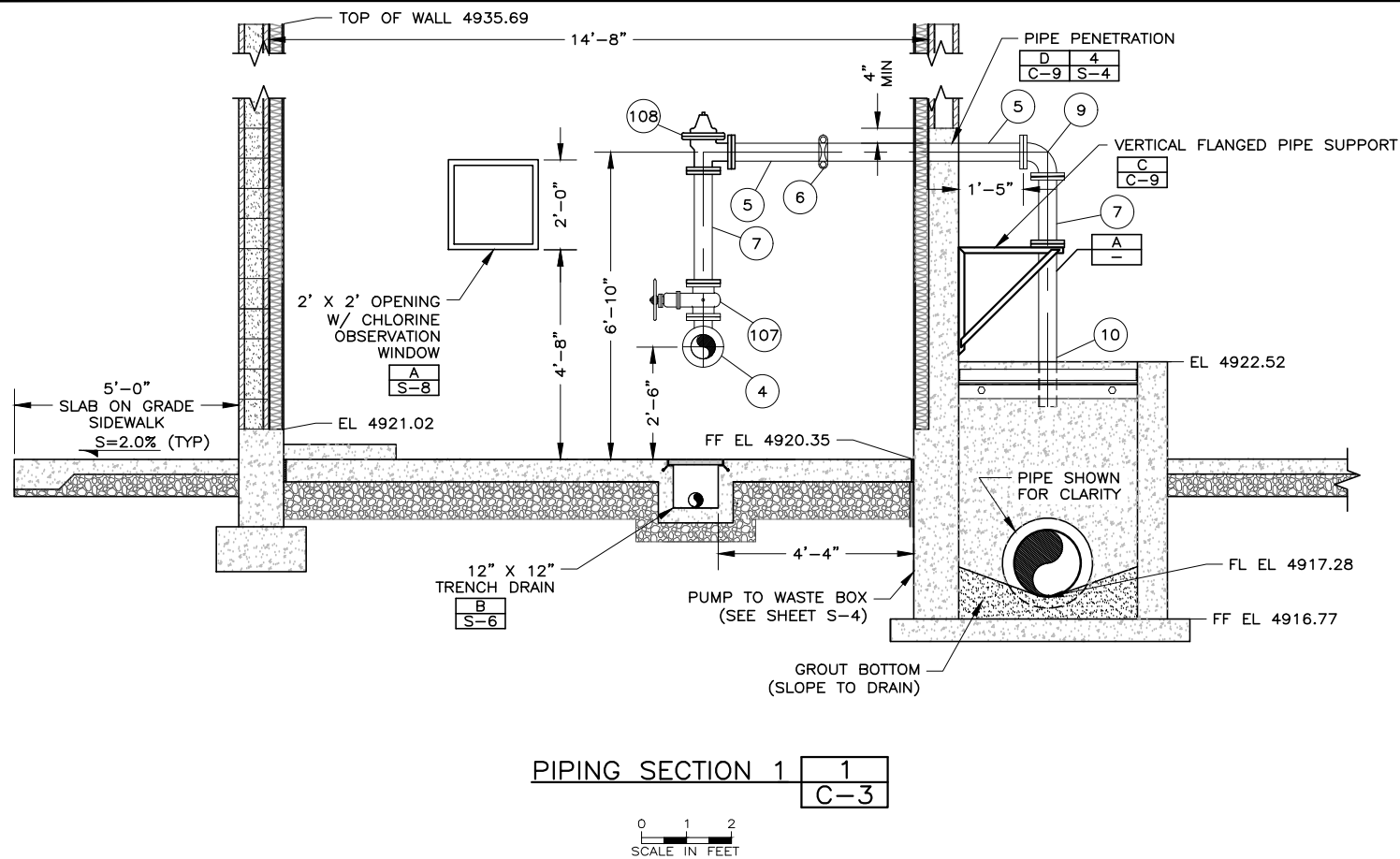


NOTES:

1. SEE SHEET C-6 FOR PIPE & FITTING SCHEDULE.
2. SEE SHEET S-2 FOR FOOTING AND FOUNDATION PLAN.
3. CUT HOLES IN TRENCH DRAIN AS REQUIRED TO FACILITATE CHLORINE INJECTION, SAMPLE LINES AND DRAIN LINES.

FILE NAME: PROJECTS\089 - WEST JORDAN\29.100 - WELL NO. 8 PUMP BUILDING\CAD\C-5 PUMP ROOM AND DETAILS.DWG
FILE DATE: 5/13/2023 09:57:47 (ABO)

7/04



DESIGNED MGA
DRAFTED DCL
CHECKED MEA
DATE MARCH 2023

3
2
1
NO. DATE

REVISIONS

NOTE: SEE SHEET C-6 FOR PIPE FITTING AND EQUIPMENT SCHEDULE.

SCALE
AS SHOWN



WEST JORDAN CITY WELL #8
CIVIL
PUMP ROOM PIPING SECTIONS & DETAILS

SHEET
C-5
089.29.100

FILE NAME: PROJECTS\089 -- WEST JORDAN\29.100 -- WELL NO. 8 PUMP BUILDING\CAD\C-6 FITTINGS AND SCHEDULES.DWG
FILE DATE: 12.28.2022 15:38:45 (JKV)

7/04

FITTING SCHEDULE								
ITEM NO.	DESCRIPTION	SIZE	MATERIAL	WALL THICKNESS	CONNECTION	FLANGE TYPE	COATING/LINING	NOTES
1	PUMP DISCHARGE HEAD	6"	STEEL	STD	FLG	CLASS D	SYSTEM NO. 1 / SYSTEM NO. 2	
2	PIPE, STRAIGHT NIPPLE	6"	STEEL	SCH 40	FLG x GRV			LENGTH VARIES, MIN. 10"
3	PIPE, STRAIGHT SPOOL	6"	STEEL	SCH 40	FLG	--		
4	TEE, REDUCING	6" x 6" x 4"	STEEL	SCH 40	FLG	WELD NECK	SYSTEM NO. 1 / SYSTEM NO. 1	
5	PIPE, STRAIGHT NIPPLE	4"	STEEL	SCH 40	FLG x GRV			WALL SPOOL WITH THRUST RING
6	COUPLING, FLEXIBLE, GROOVED	4"	DUCTILE IRON	--	GRV	--		VICTUALIC STYLE 177
7	PIPE, STRAIGHT SPOOL	4"	STEEL	SCH 40	FLG x FLG			
8	WELDOLET	1/2"	STEEL		WELD			
9	ELBOW, 90-DEG	4"	STEEL	SCH 40	FLG			
10	PIPE, STRAIGHT SPOOL	4"	STEEL	SCH 40	FLG x PE			
11	SUPPORT, ADJUSTABLE, FLANGE SUPPORT	6"	STEEL	-	-	-		B-LINE B3094, W/ B3089 & B3088T. DETAIL B ON C-9
12	TEE, REDUCING	8" x 8" x 6"	STEEL	SCH 40	FLG	WELD NECK	SYSTEM NO. 1 / SYSTEM NO. 1	
13	PIPE, STRAIGHT SPOOL	8"	DUCTILE IRON	CLASS 52	FLG			USE WAX TAPE COATING SYSTEM FOR BURIED FLANGES
14	ELBOW, 90-DEG	8"	DUCTILE IRON	CLASS 52	FLG			
15	WELDOLET	1"	STEEL	-	WELD			
16	HEAVY WALL PVC HOSE	1"	PVC					KURI TEC K3130 SERIES BF
17	SLEEVE FOR CHLORINE SOLUTIONS	3"	PVC	SCH 80	WELD			
18	HEAVY WALL PVC HOSE	1"	REINFORCED PVC					KURI TEC K3130 SERIES BF
19	SLEEVE FOR SAMPLE LINES	2"	PVC	SCH 80	WELD			
20	HEAVY WALL PVC HOSE	1/2"	REINFORCED PVC					KURI TEC K3130 SERIES BF
21	FLOOR DRAIN	9"	CAST IRON					ZURN - Z508 EXTRA HEAVY DUTY DRAIN W 6" OUTLET PIPE
22	FLOOR DRAIN	6"	PVC	SCH 80	WELD			DETAIL C ON C-10
23	CHECK VALVE	6"	RUBBER		SLIP ON			TIDEFLEX TF-1 W STAINLESS CLAMPS
24	AIR GAP DRAIN	2"	PVC	SCH 80	WELD			DETAIL G ON C-8
25	DRAIN	2"	PVC	SCH 80	WELD			CONNECT TO TRENCH DRAIN
26	COUPLING, DISMANTLING JOINT	6"	STEEL/DUCTILE IRON	STD	FLG	AWWA C207 CLASS D	FBE	ROMAC DJ400
27	COUPLING, FLEXIBLE, GROOVED	6"	DUCTILE IRON	--	GRV	--		VICTUALIC STYLE 177

VALVE & EQUIPMENT SCHEDULE									
ITEM NO.	DESCRIPTION	SIZE	MATERIAL	CLASS	CONNECTION	OPERATOR	MANUFACTURER	MODEL	NOTES
101.	DEEP WELL AIR VALVE ASSEMBLY	2"			THD		APCO DEZURIK	144DAT	W/ AIR RELEASE VALVE
102.	AIR VALVE ASSEMBLY	1"			THD		APCO DEZURIK	140C	
103.	CHLORINE INJECTION QUILL	1/2"	316 STAINLESS				KOFLO	QS-5-3	ROUTE HOSE THROUGH TRENCH
104.	CHLORINE INJECTION WELDOLET CONNECTION	1/2"	316 STAINLESS		HOSE X THD				1 1/2" x 1/2" REDUCER
105.	MAGNETIC FLOW METER	6"	STAINLESS STEEL	STD (150 PSI RATED)	FLG		ENDRESS & HAUSER	PRO MAG W 400	
106.	STATIC MIXER	6"	STAINLESS STEEL		GRV		STATIFLOW	SERIES 600	2 ELEMENTS (1.5:1 PITCH RATIO) CONFIRM LAY LENGTH
107.	GATE VALVE	4"	DUCTILE IRON	STD (350 PSI RATED)	FLG	HANDWHEEL	MUELLER	A-2361	W/ POSITION INDICATOR
108.	PUMP CONTROL VALVE	4"					CLAVAL	661-02	ANGLE STYLE
109.	CHECK VALVE, SHORT STROKE	6"	DUCTILE IRON	STD (250 PSI RATED)	FLG		VAL-MATIC	SURGEBUSTER	W/ POSITION INDICATOR
110.	GATE VALVE	6"	DUCTILE IRON	STD (350 PSI RATED)	FLG	HANDWHEEL	MUELLER	A-2361	W/ POSITION INDICATOR
111.	PUMP, SUBMERSIBLE, 500 GPM	16"							
112.	TABLET CHLORINATOR	N/A							
113.	TURBIDIMETER	N/A		150 PSI RATED			ATI	Q46/76	TO PROVIDE PIPING PER DETAILS B & E ON C-8
114.	CHLORINE ANALYZER	N/A		150 PSI RATED			ATI	Q46/62-63	WITH pH SENSOR
115.	SAMPLE POINT OUTLET	1-1/2"	WELDED STEEL		WELD X THD				LOCATION PER PLAN PER DETAIL D ON C-8



PROJECT ENGINEER

DESIGNED	MGA	3			
DRAFTED	BKC	2			
CHECKED	MEA	1			
DATE	MARCH 2023	NO.	DATE		

NO.

DATE

REVISIONS

BY

APVD.

SCALE
AS
SHOWN

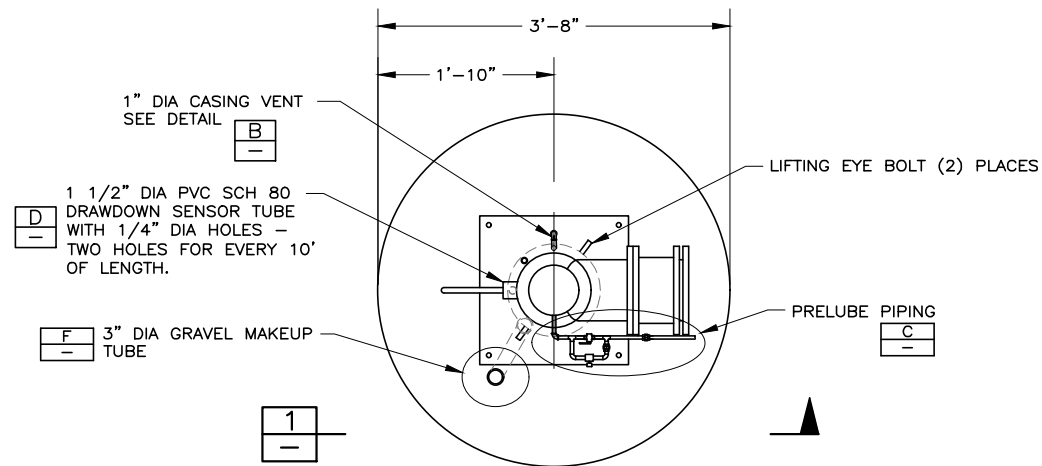


WEST JORDAN CITY WELL #8
CIVIL
PIPE FITTING AND EQUIPMENT SCHEDULE

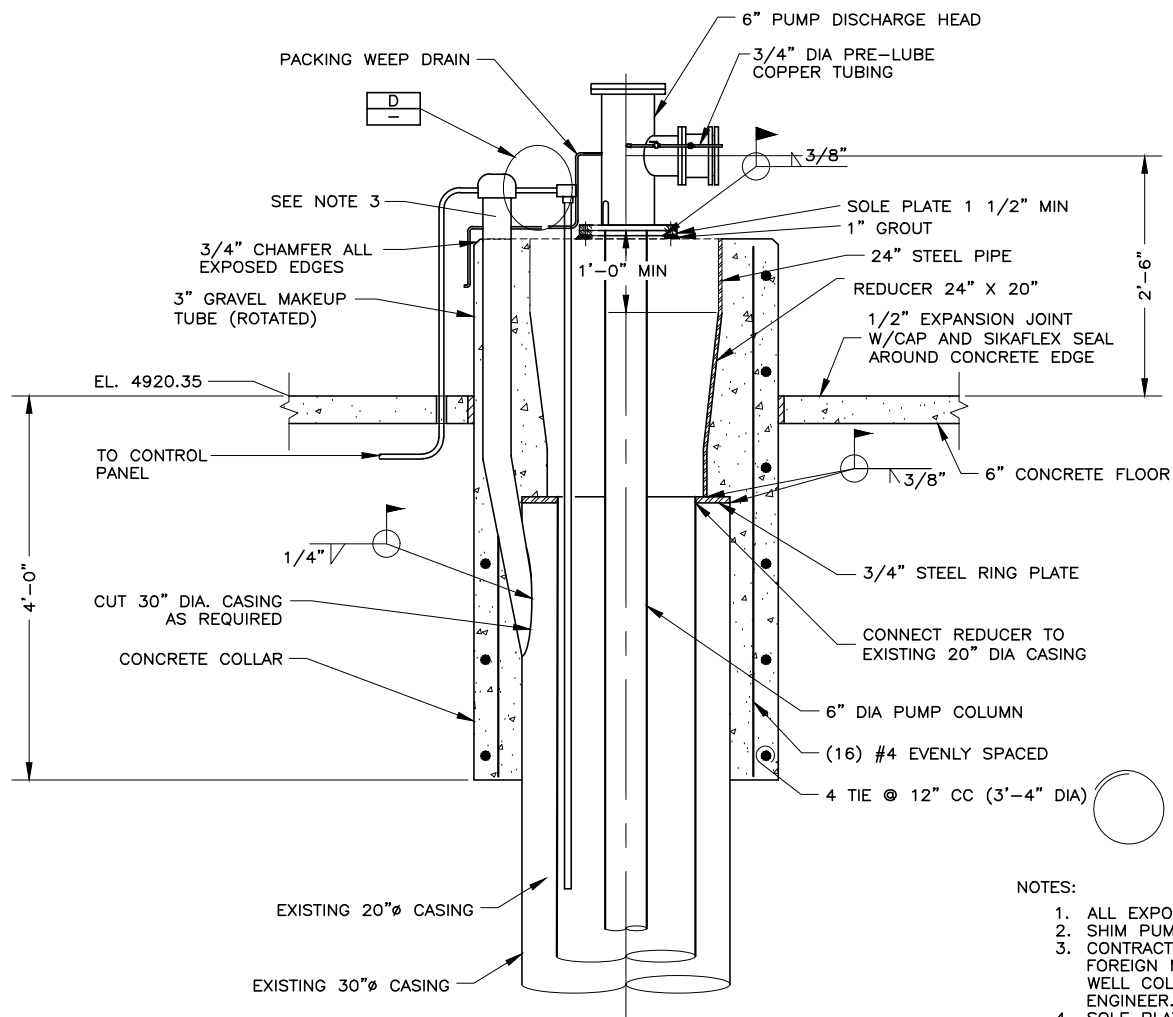
SHEET
C-6

089.29.100

FILE NAME: PROJECTS\089 - WEST JORDAN\29.100 - WELL NO. 8 PUMP BUILDING\CAD\C-7 PUMP DETAILS.DWG
FILE DATE: 12/28/2022 11:18:32 (MAJ)
7/04



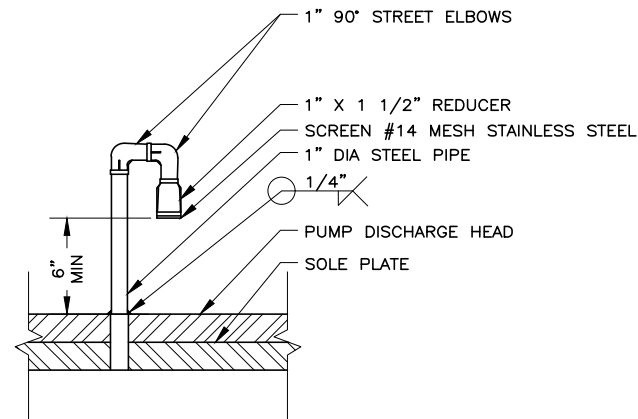
DETAIL A
NTS



SECTION 1
WELLHEAD DETAIL A
NTS

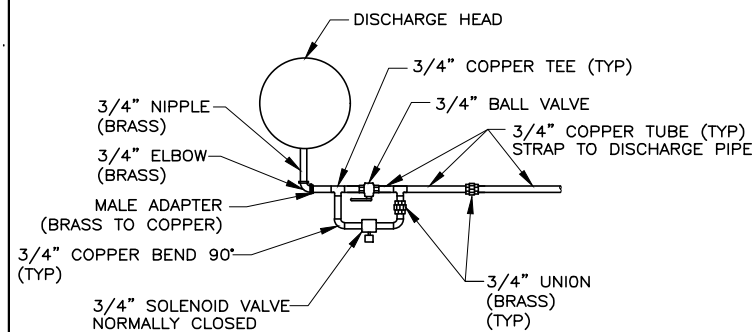
NOTES:

1. ALL EXPOSED STEEL TO BE PAINTED.
2. SHIM PUMP FOR PROPER ALIGNMENT.
3. CONTRACTOR SHALL NOT INTRODUCE ANY FOREIGN MATERIAL OR CHEMICAL INTO WELL COLUMN WITHOUT APPROVAL OF ENGINEER.
4. SOLE PLATE ELEVATION SHALL BE ADJUSTED TO MATCH DIMENSIONS OF SUPPLIED DISCHARGE HEAD.
5. PUMP DISCHARGE HEAD & SOLE PLATE SHALL BE DESIGNED BY CONTRACTOR FOR ALL LOADS AND PENETRATIONS.
6. BAND DRAWDOWN SENSOR TUBE TO PUMP COLUMN USING STAINLESS STEEL BANDS AT 10' CENTER TO CENTER.



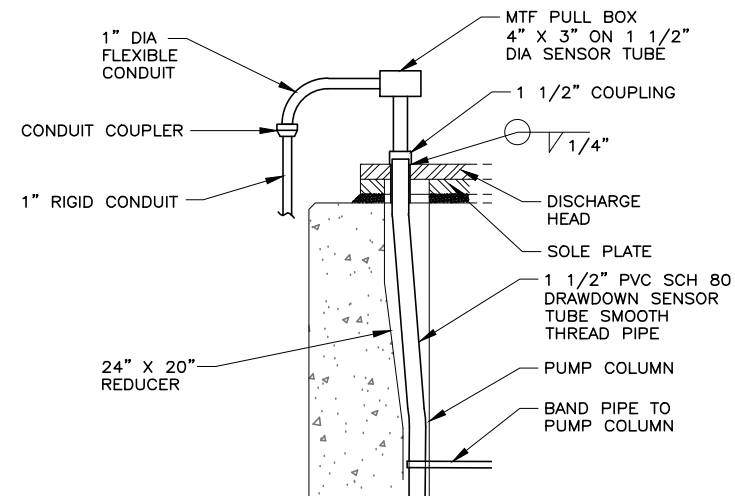
WELL CASING VENT DETAIL B
NTS

NOTE:
USE 316 STAINLESS STEEL PIPE AND FITTINGS FOR THE AIR VENT.

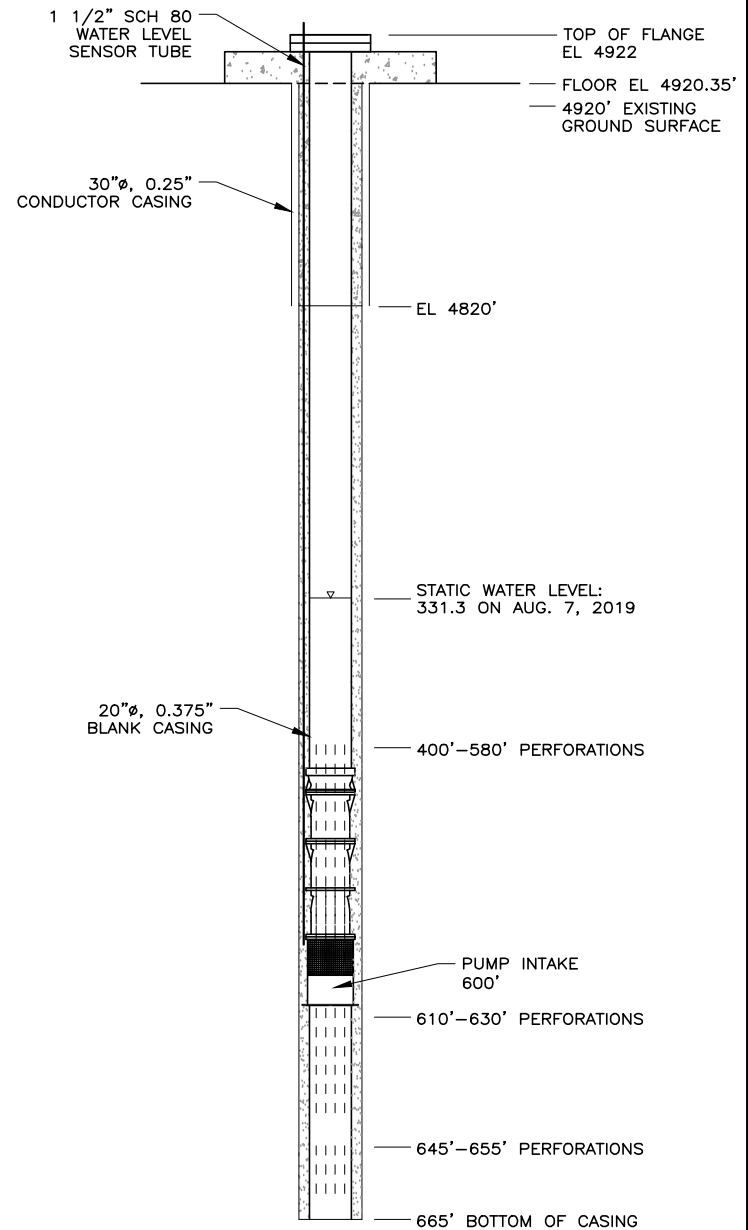


PLAN VIEW

DETAIL C
NTS

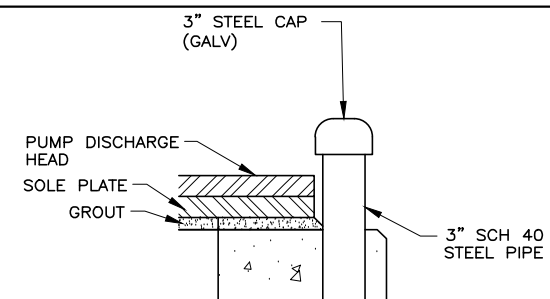


WELL LEVEL TRANSDUCER DETAIL D
NTS



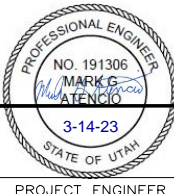
WELL PUMP DETAIL E
NTS

NOTE:
1. DEPTHS SHOWN ARE ESTIMATED BELOW EXISTING GRADE.



GRAVEL MAKEUP TUBE DETAIL F
NTS

HANSEN
ALLAN
& LUCE
ENGINEERS



DESIGNED MGA
DRAFTED DCL
CHECKED MEA
DATE MARCH 2023

3
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NO.

DATE

DATE

REVISIONS

BY

APVD.

SCALE

WEST JORDAN
UTAH

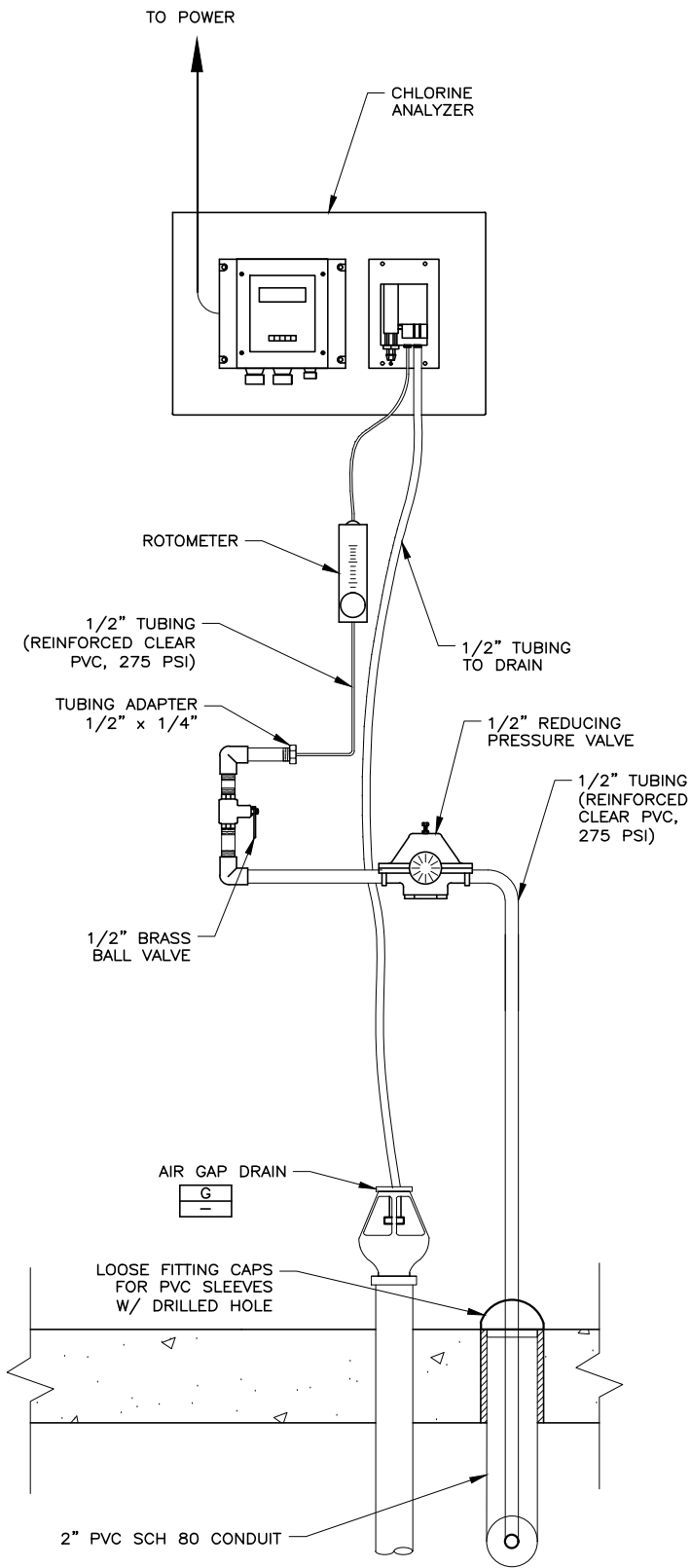
WEST JORDAN CITY WELL #8
CIVIL
PUMP DETAILS

SHEET

C-7

089.29.100

FILE NAME: PROJECTS\089 - WEST JORDAN\29.100 - WELL NO. 8 PUMP BUILDING\CAD\C-8 PIPING DETAILS.DWG
FILE DATE: 12/28/2022 11:25:55 (MAJ)
7/04

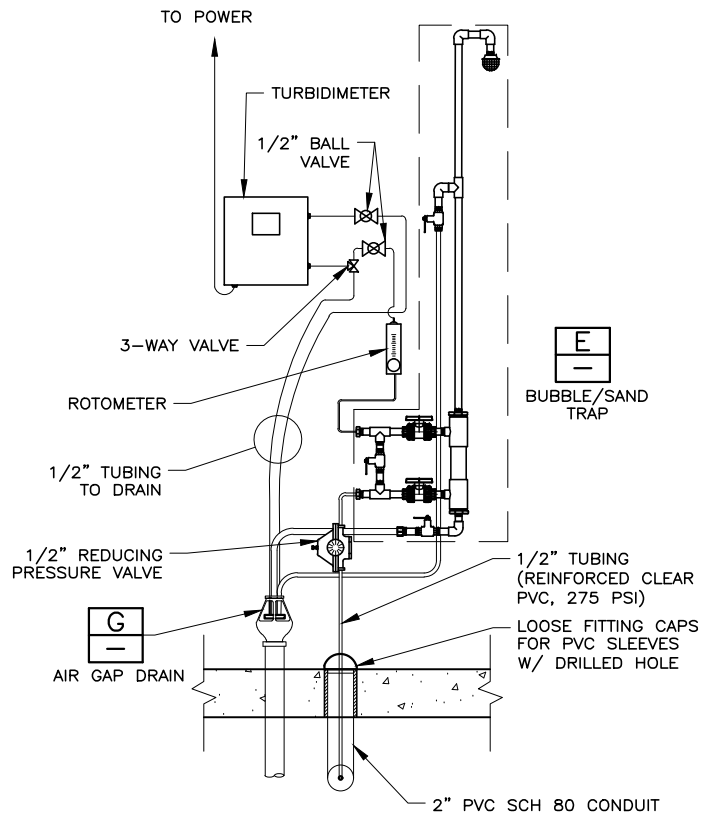


CHLORINE ANALYSIS ASSEMBLY DETAIL

A
—

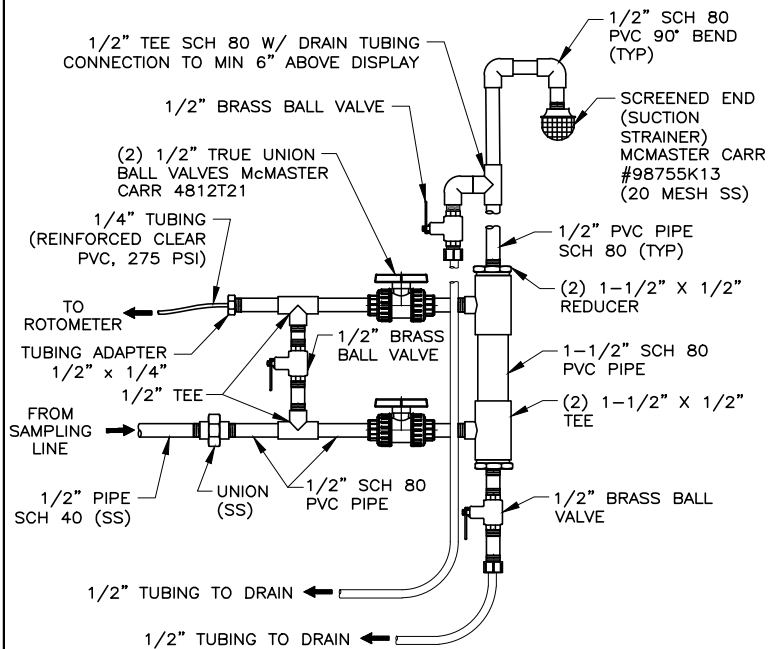


DESIGNED	MGA	3
DRAFTED	DCL	2
CHECKED	MEA	1
DATE	MARCH 2023	NO.



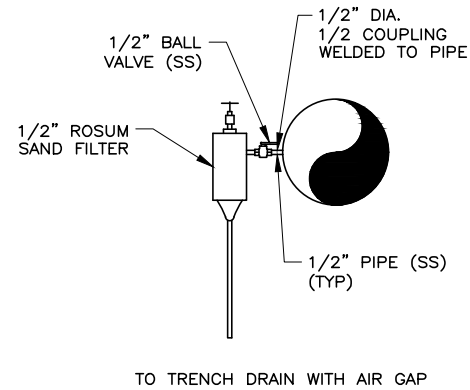
TURBIDIMETER ASSEMBLY DETAIL

B
—



BUBBLE/SAND TRAP DETAIL

E
—

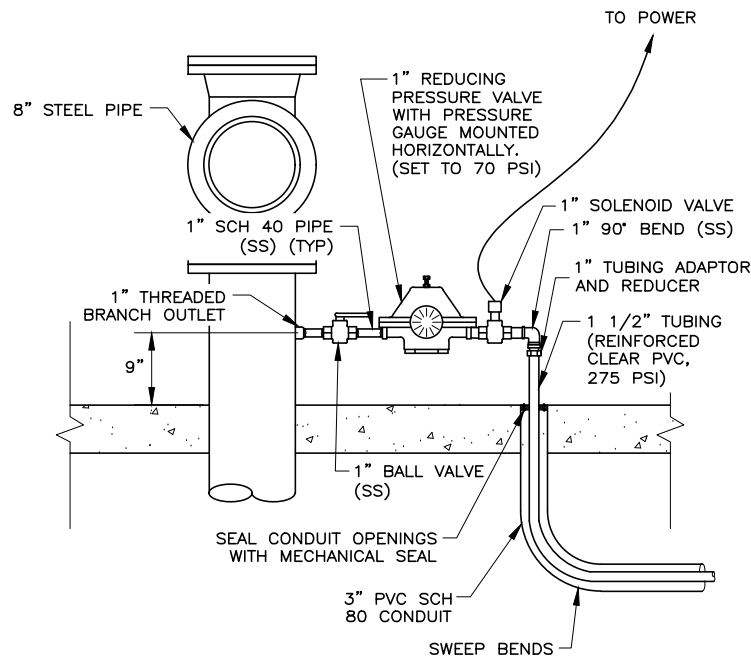


ROSSUM SAND TESTER

C
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C
C-5

NOTE:
1. ALL FITTINGS TO BE STAINLESS STEEL 316 UNLESS OTHERWISE NOTED.

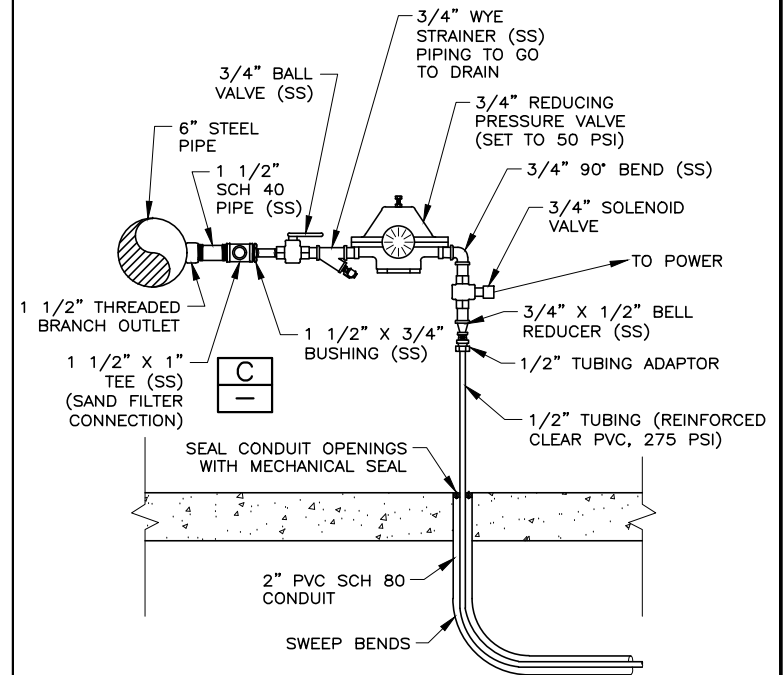


CHLORINE ROOM WATER SUPPLY DETAIL

F
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E
C-5

NOTE:
1. ALL 1" PIPING TO BE STAINLESS STEEL 316.

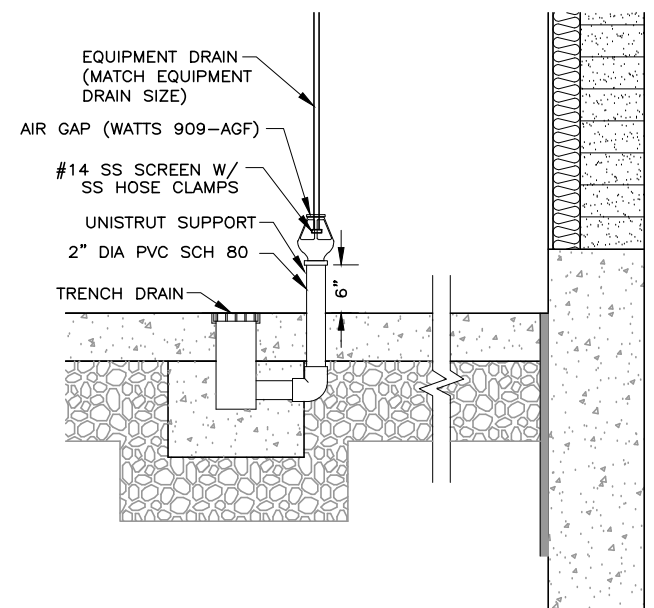


TURBIDIMETER FEED DETAIL

D
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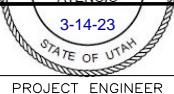
D
C-4

NOTE:
1. ALL PIPE TO BE STAINLESS STEEL 316.



AIR GAP DRAIN DETAIL

G
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DESIGNED	MGA	3
DRAFTED	DCL	2
CHECKED	MEA	1
DATE	MARCH 2023	NO.

REVISIONS	NO.	DATE
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BY	APVD.
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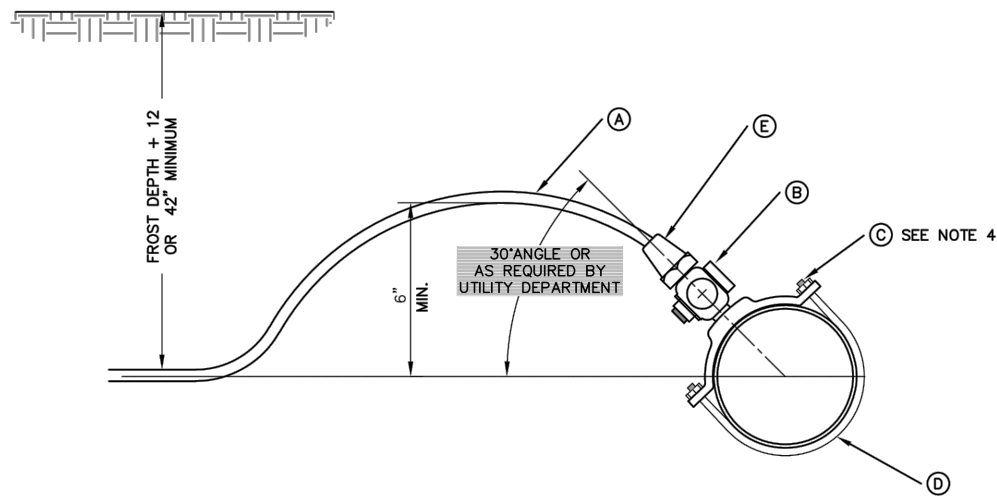
SCALE



WEST JORDAN CITY WELL #8
CIVIL
PIPING DETAILS

SHEET
C-8
089.29.100

FILE NAME: PROJECTS\089 - WEST JORDAN\29.100 - WELL NO. 8 PUMP BUILDING\CAD\C-10 CONNECTION DETAILS SHEET 1.DWG
FILE DATE: 2.16.2023 17:03:00 (ABO)



TYPE A - SADDLE CLAMP TAP

No.	ITEM	LEGEND	DESCRIPTION 3/4"	DESCRIPTION 1"
(A)	SERVICE PIPE		POLYETHYLENE IPS-ID 200 PSI SIDR-7 "BLUE" NSF APPROVED	POLYETHYLENE IPS-ID 200 PSI SIDR-7 "BLUE" NSF APPROVED
(B)	CORPORATION STOP		BRASS	BRASS
			FORD FB 500-3	FORD FB 500-4
(C)	SERVICE SADDLE CLAMP		BRASS DOUBLE STRAP	
			MUELLER: H 16109 FOR 8" FORD: 202B-962-IP3	MUELLER: H 16109 FOR 8" FORD: 202B-962-IP4
			MUELLER: H 16113 FOR 10" FORD: 202B-1212-IP3	MUELLER: H 16113 FOR 10" FORD: 202B-1212-IP4
			MUELLER: H 16116 FOR 12" FORD: 202B-1438-IP3	MUELLER: H 16116 FOR 12" FORD: 202B-1438-IP4
(D)	WATER MAIN PIPE		PVC or D I PIPE	
(E)	CONNECTIN FITTING FROM PIPE TO CORPORATION STOP		MUELLER INSTA-TITE H-15456 FIPS NON-FLARED x INSTA-TITE	MUELLER INSTA-TITE H-15456 FIPS NON-FLARED x INSTA-TITE

NOTES:

- INSPECTION: PRIOR TO BACKFILLING AROUND TAPS, SECURE INSPECTION OF INSTALLATION BY ENGINEER.
- BACKFILL: INSTALL AND COMPACT ALL BACKFILL MATERIAL PER APWA SECTION 33-05-20.
- TAPPING: PLACE TAPS A MINIMUM OF 24 INCHES APART. USE A TAPPING TOOL WHICH IS SIZED CORRESPONDING TO THE SIZE OF THE SERVICE LINE TO BE INSTALLED. NO TAPS WITHIN 24 INCHES OF THE END OF THE PIPE.
- SERVICE SADDLE: A SERVICE SADDLE CLAMP IS REQUIRED ON ALL PIPE TAPS.
- TEFLON TAPE: TEFLON TAPE IS REQUIRED ON ALL TAPS.

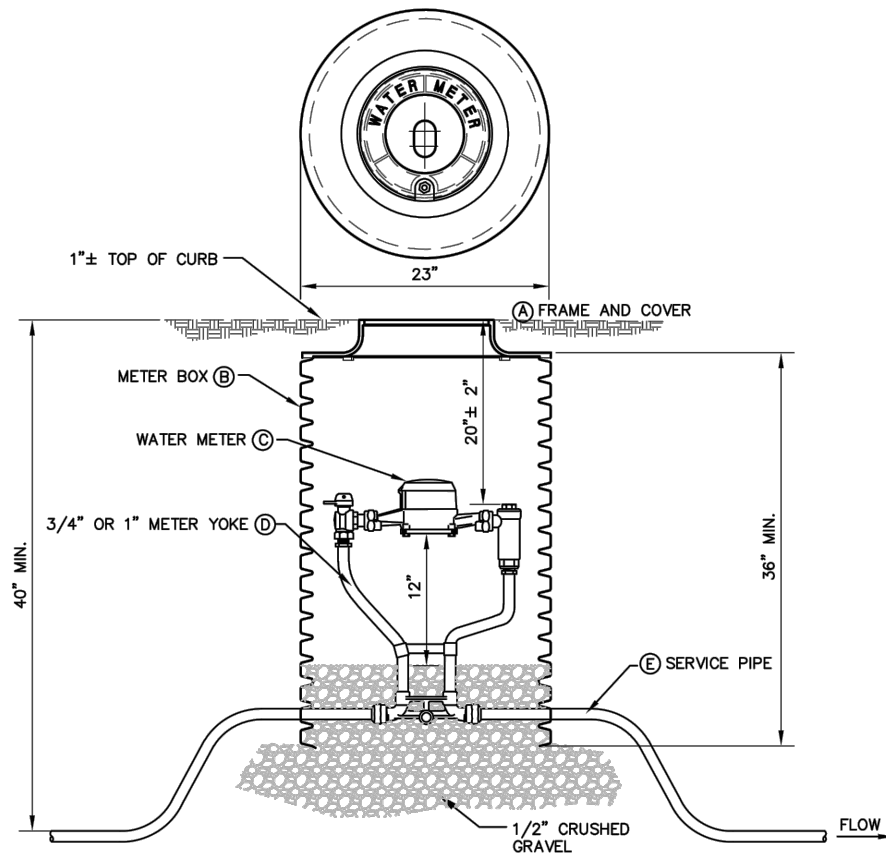
DRAWING UPDATED JANUARY 2019

City of West Jordan, Utah



SERVICE TAPS FOR
3/4 " AND 1" LATERALS

PLAN
CW-105



NO.	ITEM	DESCRIPTION 3/4" METER	DESCRIPTION 1" METER
(A)	FRAME AND COVER LABELED "WATER METER"	D&L SUPPLY L-2240-UNVI, L-2244 OLYMPIC MTU-9000-9021	D&L SUPPLY L-2240-UNVI, L-2244 OLYMPIC MTU-9000-9021
(B)	METER BOX	21" DIA. HANCOR METER PIT	21" DIA. HANCOR METER PIT
(C)	WATER METER FURNISHED & INSTALLED BY CITY	3/4" RESIDENTIAL MASTER METER BOTTOM LOAD MULTI-JET METERS	1" RESIDENTIAL MASTER METER BOTTOM LOAD MULTI-JET METERS
(D)	3/4" OR 1" METER YOKE	70 SERIES 3/4" COPPERSETTER VBHC72-21W-11-33-NL	1" COPPERSETTER 70 SERIES VBHC72-21W-11-44-NL
(E)	SERVICE PIPE	3/4" POLYETHYLENE IPS-ID-200 PSI SIDR-7 "BLUE" NSF APPROVED	1" POLYETHYLENE IPS-ID-200 PSI SIDR-7 "BLUE" NSF APPROVED

NOTES:

- INSPECTION: PRIOR TO BACK FILLING AROUND METER BOX, SECURE APPROVAL OF INSTALLATION BY INSPECTOR.
- BACK FILL: INSTALL AND COMPACT ALL BACKFILL MATERIAL PER APWA SECTION 33-05-20.
- ALL METER SETTERS MUST HAVE BACK FLOW PREVENTERS.
- PIPE: INSTALL SERVICE PIPE TO PROPERTY LINE.
- PLACEMENT: ALL METERS ARE TO BE INSTALLED IN THE PARK STRIP, (ALL EXCEPTIONS REQUIRE INSPECTOR APPROVAL), AND MUST BE PLACED IN THE CENTER OF THE LOT AND MUST BE LOCATED 1' AWAY FROM DRIVEWAY.
- METER BOX SHALL BE CLEANED AND FREE OF DIRT, TRASH, AND DEBRIS PRIOR TO FINAL INSPECTION.

DRAWING UPDATED AUGUST 2020

City of West Jordan, Utah



3/4" - 1" METER DETAIL

PLAN
CW-120



PROJECT ENGINEER

DESIGNED MGA
DRAFTED DCL
CHECKED MEA
DATE JANUARY 2021

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DATE

DATE

REVISIONS

BY

APVD.

SCALE



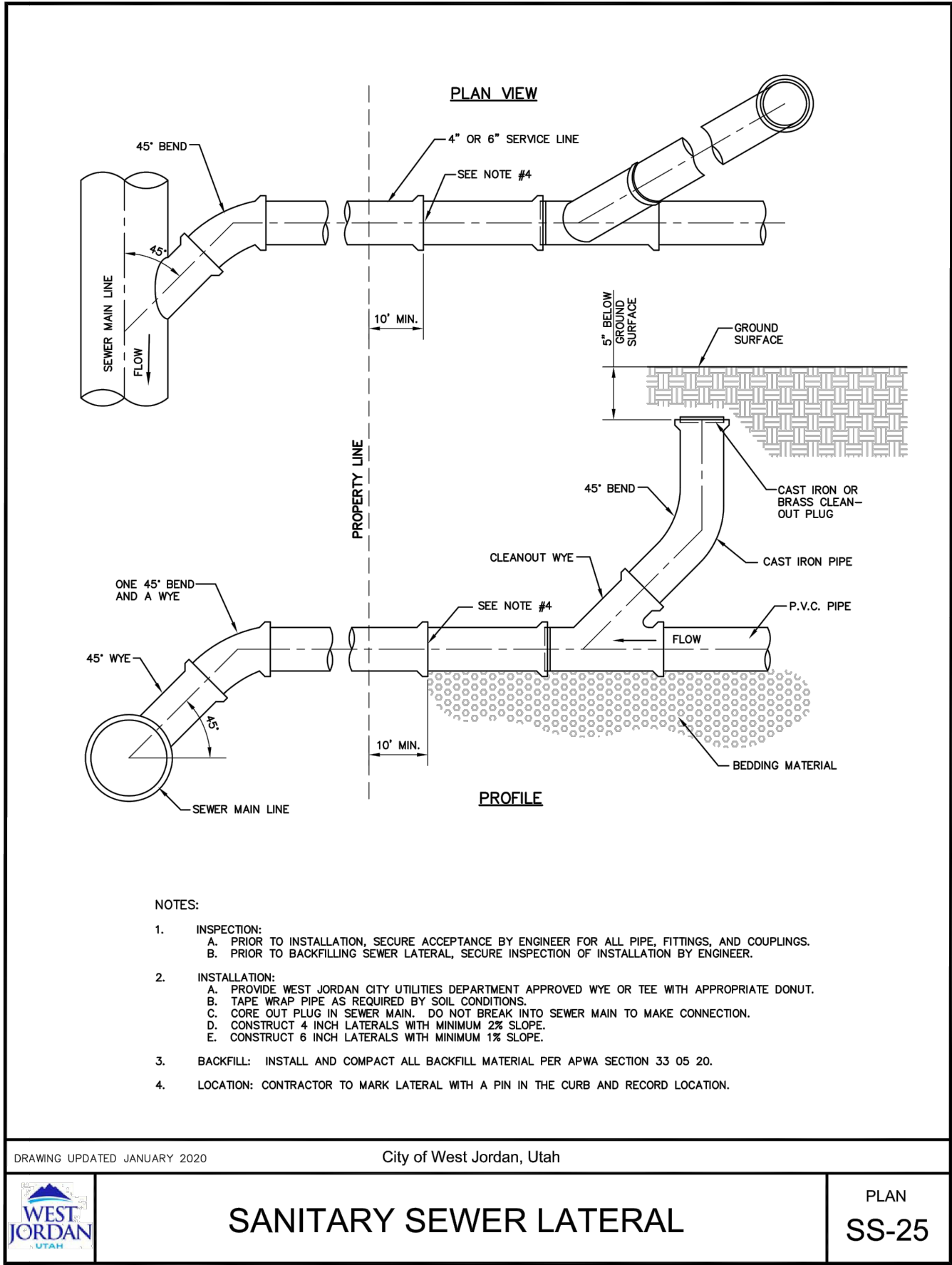
WEST JORDAN CITY WELL #8
CIVIL
CITY STANDARD DETAILS SHEET 1

SHEET

C-10

089.29.100

FILE NAME: PROJECTS\089 - WEST JORDAN\29.100 - WELL NO. 8 PUMP BUILDING\CAD\C-11 CONNECTION DETAILS SHEET 2.DWG
FILE DATE: 2.16.2023 16:58:13 (ABO)



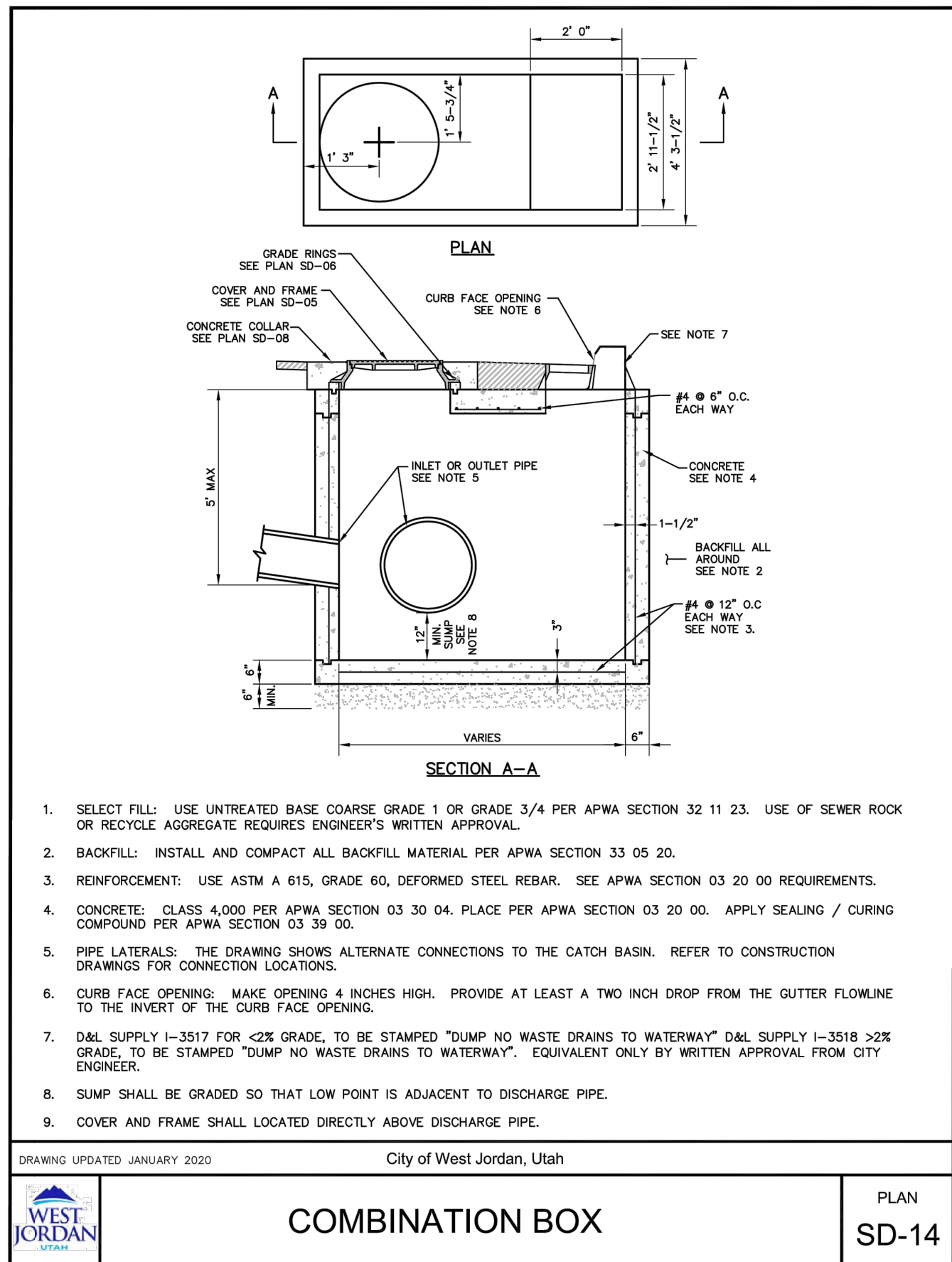
DRAWING UPDATED JANUARY 2020

City of West Jordan, Utah



SANITARY SEWER LATERAL

PLAN
SS-25



DRAWING UPDATED JANUARY 2020

City of West Jordan, Utah



COMBINATION BOX

PLAN
SD-14



PROJECT ENGINEER

DESIGNED MGA
DRAFTED DCL
CHECKED MEA
DATE FEBRUARY 2023

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NO.

DATE

DATE

REVISIONS

BY

APVD.

SCALE



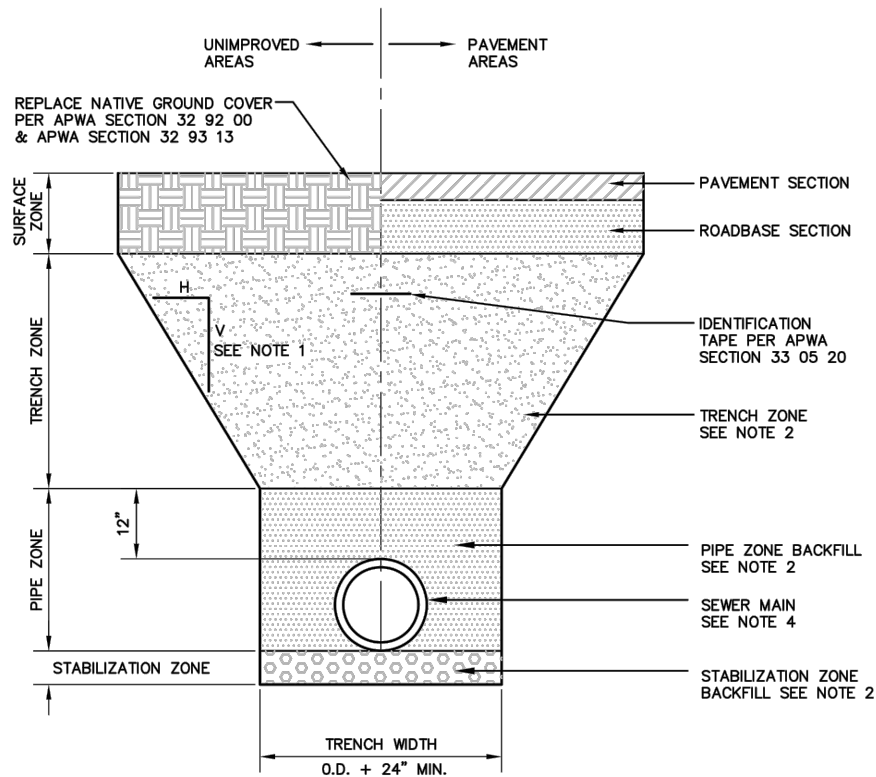
WEST JORDAN CITY WELL #8
CIVIL
CITY STANDARD DETAILS SHEET 2

SHEET

C-11

089.29.100

FILE NAME: PROJECTS\089 - WEST JORDAN\29.100 - WELL NO. 8 PUMP BUILDING\CAD\C-13 PIPE TRENCH DETAILS SHEET 4.DWG
FILE DATE: 2.16.2023 17:24:09 (ABO)



NOTES:

- EXCAVATION: TRENCH EXCAVATION PER APWA SECTION 31 23 16. EXCAVATION PROTECTION SHALL BE PROVIDED IN ACCORDANCE WITH OSHA AND UOSH SAFETY STANDARDS AND WITH APWA 31 41 00.
- BACKFILL: BACKFILL OPERATIONS SHALL COMPLY WITH APWA 33 05 20 "BACKFILLING TRENCHES". BACKFILL MATERIALS SHALL COMPLY WITH APWA 31 05 13 "COMMON FILL" AND 32 11 23 "AGGREGATE BASE COURSE" WITH MATERIAL SELECTION AS FOLLOWS:

	UNIMPROVED AREAS	PAVEMENT AREAS
STABILIZATION ZONE	1" MINUS SEWER ROCK	1" MINUS SEWER ROCK
PIPE ZONE	1" MINUS SEWER ROCK	1" MINUS SEWER ROCK
TRENCH ZONE	GRANULAR BACKFILL BORROW	GRANULAR BACKFILL BORROW
SURFACE ZONE	NATIVE TOP SOIL REPLACE VEGETATION TO PRECONSTRUCTION CONDITION	UNTREATED BASE COURSE PAVEMENT RESTORATION PER ROAD SPECIFICATIONS

- COMPACTION OF BACKFILL MATERIALS SHALL COMPLY WITH APWA 31 23 26. SUBMISSION OF QUALITY ASSURANCE TEST DATA MAY BE REQUESTED BY ENGINEER AT ANY TIME. CONTRACTOR IS TO PROVIDE RESULTS OF TESTS IMMEDIATELY UPON REQUEST.
- INSTALLATION OF PIPE: INSTALL PIPE PER APWA 33 31 00 "SANITARY SEWERAGE SYSTEMS". INSTALL PIPE ON STABLE FOUNDATION WITH UNIFORM BEARING.
- PAVEMENT RESTORATION: DO NOT INSTALL PAVEMENT OR ROAD BASE SECTION UNTIL TRENCH COMPACTION IS ACCEPTED BY ENGINEER.

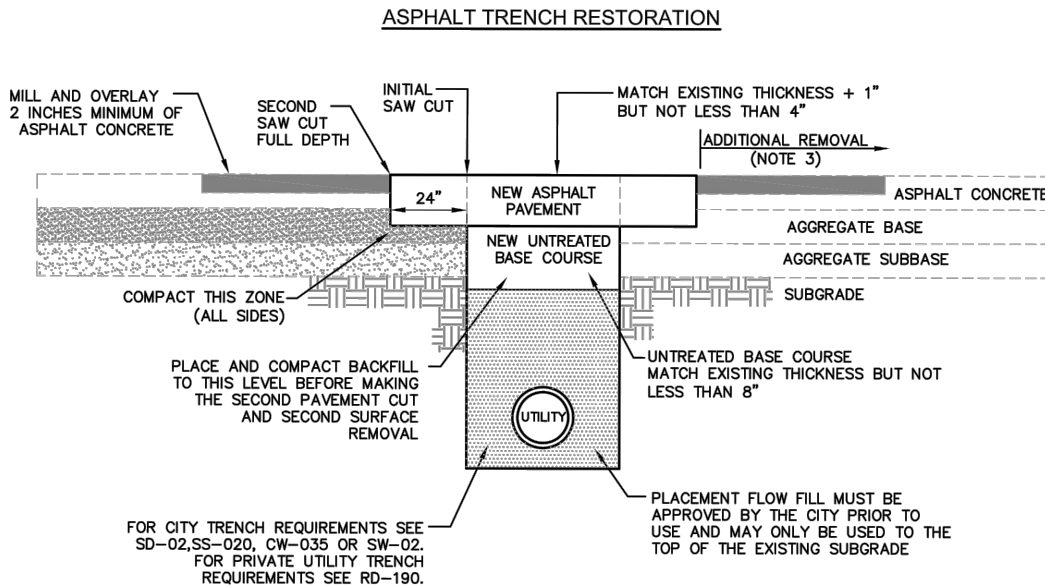
DRAWING UPDATED JANUARY 2020

City of West Jordan, Utah



SEWER PIPE TRENCH

PLAN
SS-20



ASPHALT TRENCH RESTORATION CONSTRUCTION NOTES

- ENCROACHMENT PERMIT: ALL WORK INSIDE WEST JORDAN RIGHT OF WAY REQUIRES AN APPROVED ENCROACHMENT PERMIT. COPY OF PERMIT SHALL BE HELD ON-SITE.
- INSPECTION REQUIREMENTS: CITY MUST BE NOTIFIED FOR THE FOLLOWING INSPECTION APPOINTMENTS 48 HOURS IN ADVANCE:
 - NOSE-ON OR TAP.
 - BACKFILL AND COMPACTION.
 - ROAD BASE COMPACTION.
 - PREPARATION OF SURFACE FOR ASPHALT.
 - ASPHALT PLACEMENT AND COMPACTION.

SURFACE RESTORATION SHALL BE DONE WITHIN 48 HOURS OF EXCAVATION. UNLESS OTHERWISE APPROVED BY THE CITY. TRAFFIC SHALL NOT BE PLACED ON UNTREATED BASE UNLESS APPROVED BY THE CITY. CONTRACTOR SHALL COVER ALL UNATTENDED EXCAVATIONS WITH STEEL PLATES.

CONTRACTOR SHALL PROVIDE THE CITY WITH A COPY OF THE DENSITY TESTING RESULTS PRIOR TO ASPHALT PLACEMENT.

- ADDITIONAL PAVEMENT REMOVAL:
 - PARALLEL TRENCH: COLLECTOR OR ARTERIAL STREETS - REMOVE ADDITIONAL PAVEMENT TO A PAINTED LANE STRIPE, A LIP OF GUTTER OR AN EDGE OF THE PAVEMENT. RESIDENTIAL STREETS - REMOVE ADDITIONAL PAVEMENT FROM THE LIP OF GUTTER TO THE CENTER OF THE STREET. THE CITY RESERVES THE RIGHT TO REQUIRE ADDITIONAL PAVEMENT RESTORATION IF DEEMED APPROPRIATE TO RESTORE THE ROADWAY TO THE ORIGINAL CONDITION.
 - PERPENDICULAR TRENCH: REPAIR TRENCH AS DESCRIBED IN THE STANDARD PLAN. MILL AND OVERLAY PAVEMENT 10 FEET EACH WAY FROM THE EDGE OF THE SECOND SAW CUT. CONTRACTOR SHALL COMBINE MULTIPLE TRENCH CUTS INTO ONE RESTORATION PATCH. THE CITY RESERVES THE RIGHT TO REQUIRE ADDITIONAL PAVEMENT RESTORATION GREATER THAN 10 FEET IF DEEMED APPROPRIATE TO RESTORE THE ROADWAY TO THE ORIGINAL CONDITION.
- NEW UNTREATED BASE COURSE: PROVIDE AGGREGATE CLASS "A" UNTREATED BASE COURSE MATERIAL SPECIFIED IN APWA SECTION 32 11 23. DO NOT USE GRAVEL OR SEWER ROCK. PLACE NEW MATERIAL PER APWA 32 05 10. COMPACT PER APWA SECTION 31 23 26 TO A MODIFIED PROCTOR DENSITY OF 95 PERCENT IN LIFTS NOT EXCEEDING 6 INCHES THICK AFTER COMPACTION.
- TACK COAT: PLACE AS SPECIFIED IN APWA SECTION 32 12 13.13. PROVIDE FULL TACK COAT COVERAGE ON ALL VERTICAL SURFACES.
- ASPHALT PAVEMENT: USE PG-64-34 DM 1/2 HOT MIX ASPHALT CONCRETE AS SPECIFIED IN APWA SECTION 33 12 05. RAP SHALL BE NO MORE THAN 15 PERCENT OF THE MIX. INSTALL PER APWA SECTION 32 12 16.13 IN MAXIMUM 3 INCH LIFTS. COMPACT TO 94 PERCENT OF ASTM D2041 (RICE METHOD) PLUS OR MINUS TWO PERCENT. ASPHALT PLACED AFTER APRIL 15 AND PRIOR TO MARCH 1 WILL BE CONSIDERED TEMPORARY AND MUST BE REPLACED AFTER MARCH 1.
- PATCH REPAIRS: REPAIR THE FOLLOWING CONDITIONS DURING THE CORRECTION PERIOD.
 - PAVEMENT SURFACE DISTORTION EXCEEDS 1/4 INCH DEVIATION IN 10 FEET. REPAIR OPTION: PLANE OFF SURFACE DISTORTIONS. COAT WITH AN EMULSION THAT COMPLIES WITH APWA 32 12 03 AND PROVIDE SAND BLOTTER.
 - CRACKS 1/4 WIDE AND 1 FOOT LONG OCCUR MORE OFTEN THAN 1 IN 10 SQUARE FEET. REPAIR OPTION: CRACK SEAL PER APWA 32 01 17.
 - ASPHALT RAVELING IS GREATER THAN 1 SQUARE FOOT IN 10 SQUARE FEET. REPAIR OPTION: MILL AND INLAY.

DRAWING UPDATED JUNE, 2019

City of West Jordan, Utah



STANDARD TRENCH EXCAVATION RESTORATION

PLAN
RD175



PROJECT ENGINEER

DESIGNED MGA
DRAFTED DCL & BKC
CHECKED MEA
DATE JANUARY 2021

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REVISIONS

BY

APVD.

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TO
SCALE



WEST JORDAN CITY WELL #8
CIVIL
CITY STANDARD DETAILS SHEET 4

SHEET

C-13

089.29.100

FILE NAME: PROJECTS\089 - WEST JORDAN\29.100 - WELL NO. 8 PUMP BUILDING\CAD\CF-1 CHLORINE ROOM PLAN.DWG
FILE DATE: 12.28.2022 12:03:17 (MAJ)

7/04



PROJECT ENGINEER

DESIGNED	MGA	3
DRAFTED	BKC	2
CHECKED	MEA	1
DATE	FEBRUARY 2023	

NO.

DATE

REVISIONS

BY

APVD.

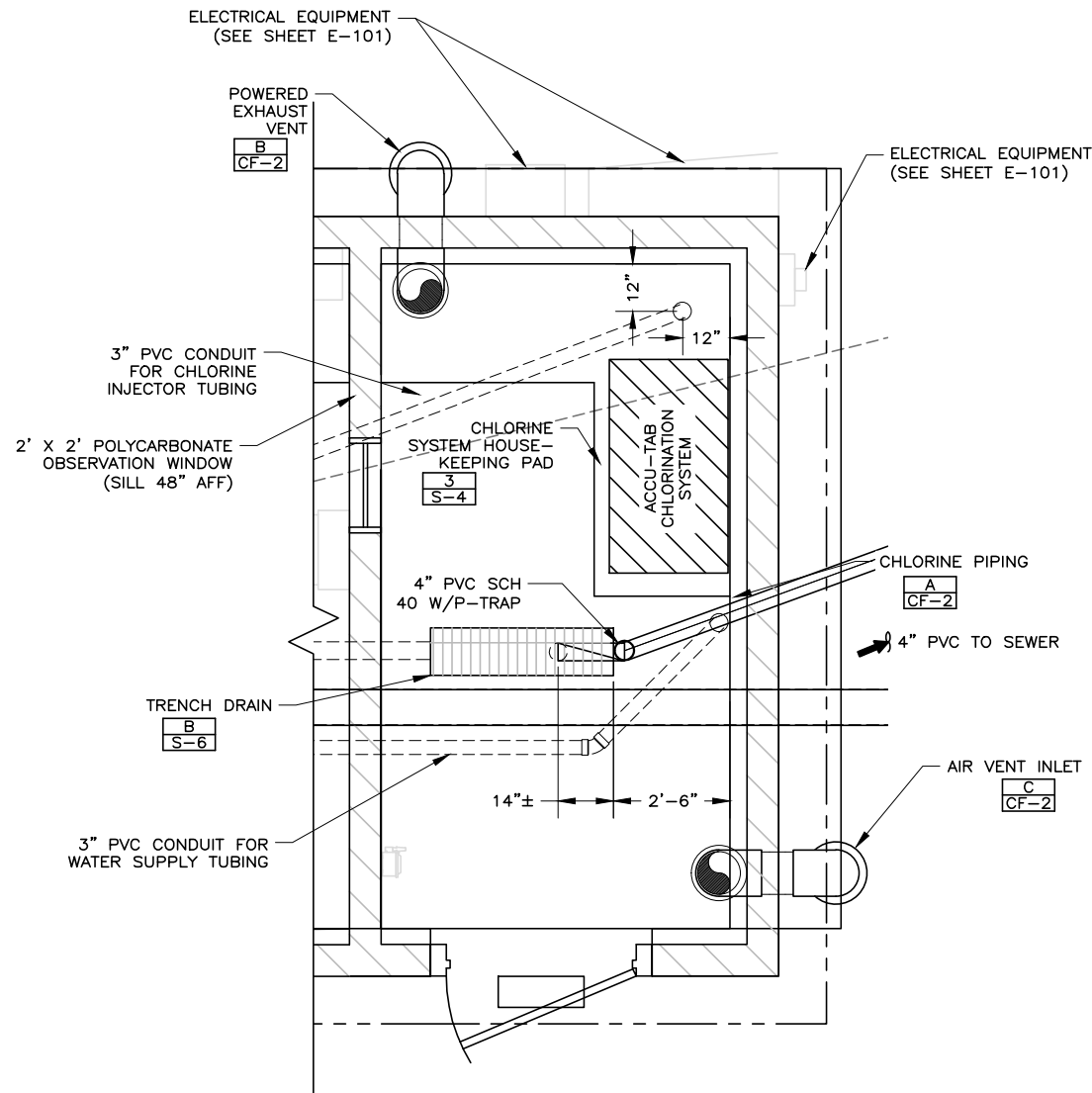
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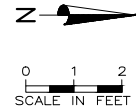
WEST JORDAN CITY WELL #8
CIVIL
CHLORINE ROOM PLAN

SHEET
CF-1

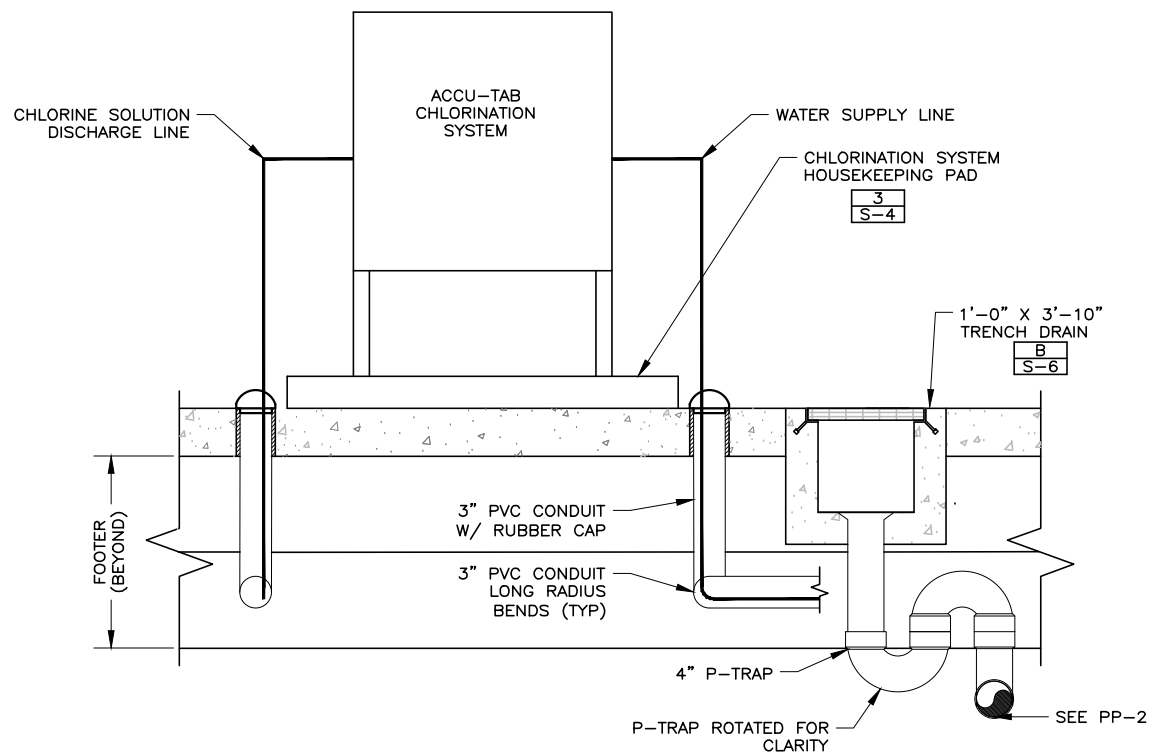
089.29.100



CHLORINE ROOM PLAN

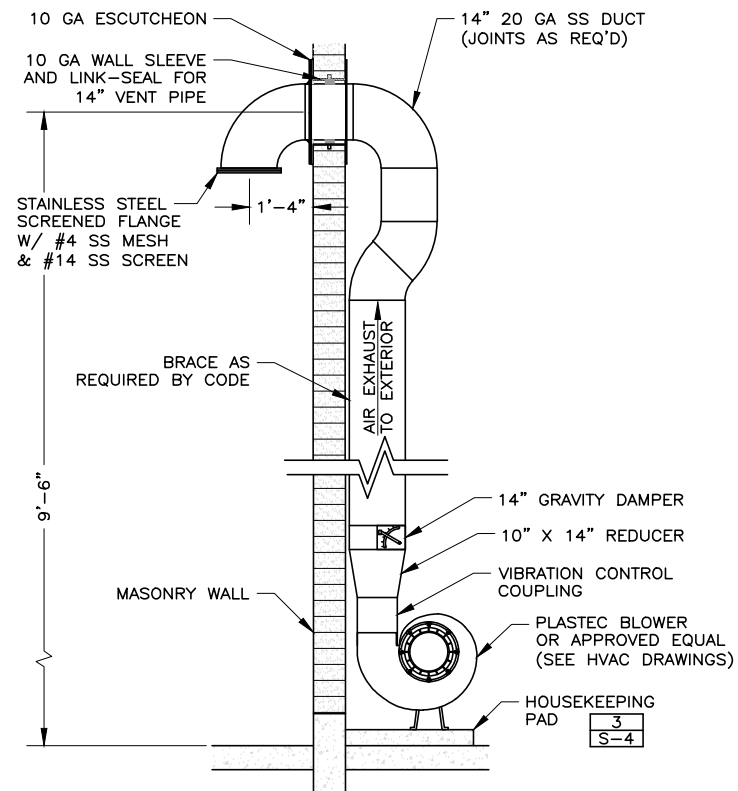


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FILE DATE: 12/28/2022 12:27:11 (MAJ)



TABLET CHLORINATOR DETAIL

A
CF-1



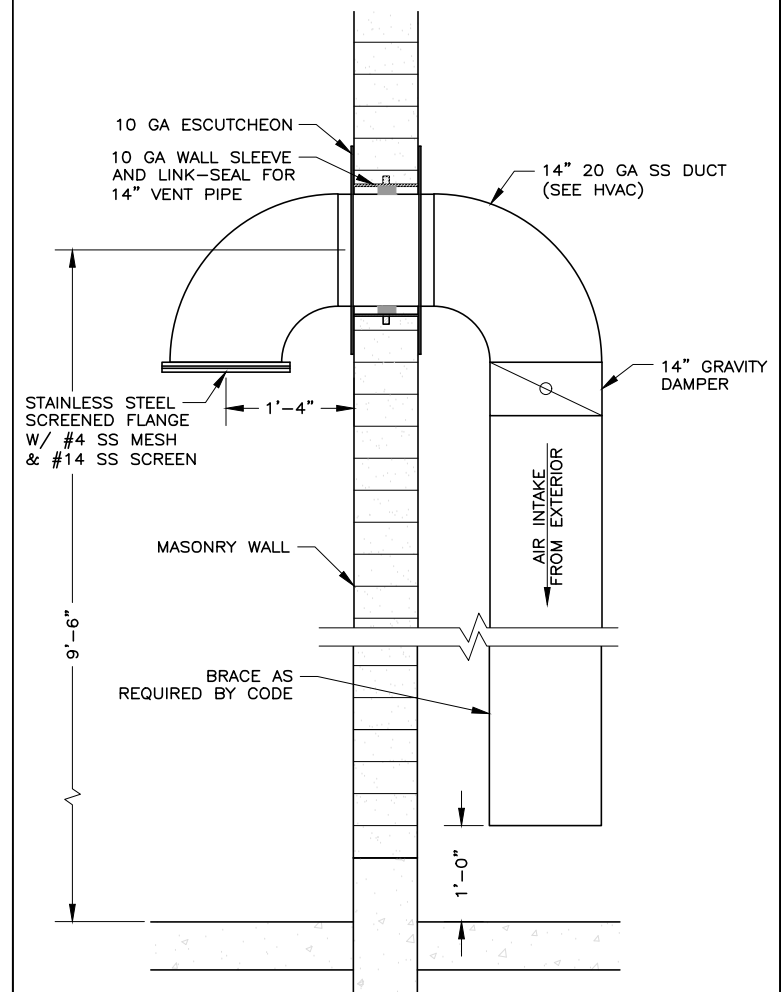
NOTE: EXHAUST AND INLET VENT SHALL BE MADE FROM STAINLESS STEEL DUCT.

EXHAUST FAN DETAIL

B
A-1

B
C-4

B
CF-1

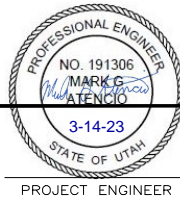


INTAKE VENT DETAIL

C
A-1

C
C-4

C
CF-1



**HANSEN
ALLEN
& LUCE**
ENGINEERS

PROJECT ENGINEER

DESIGNED	MGA	3
DRAFTED	BKC & DCL	2
CHECKED	MEA	1
DATE	MARCH 2023	NO.

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REVISIONS

BY

APVD.

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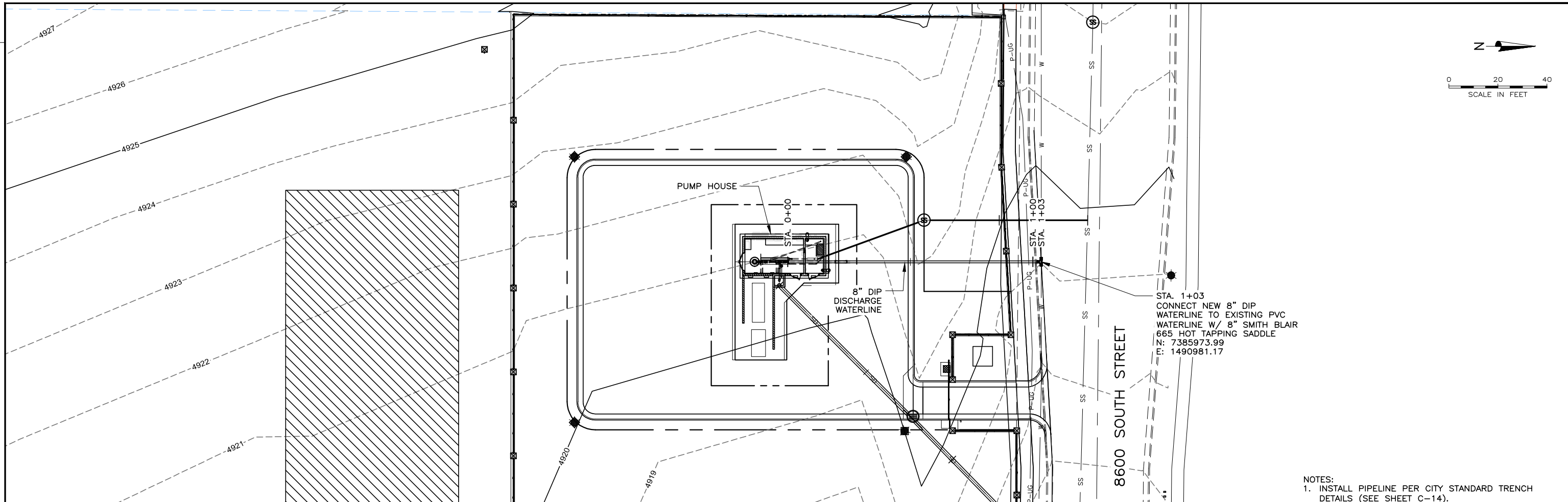


WEST JORDAN CITY WELL #8
CIVIL
CHLORINE ROOM DETAILS

SHEET
CF-2

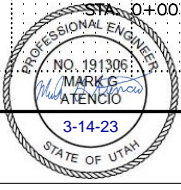
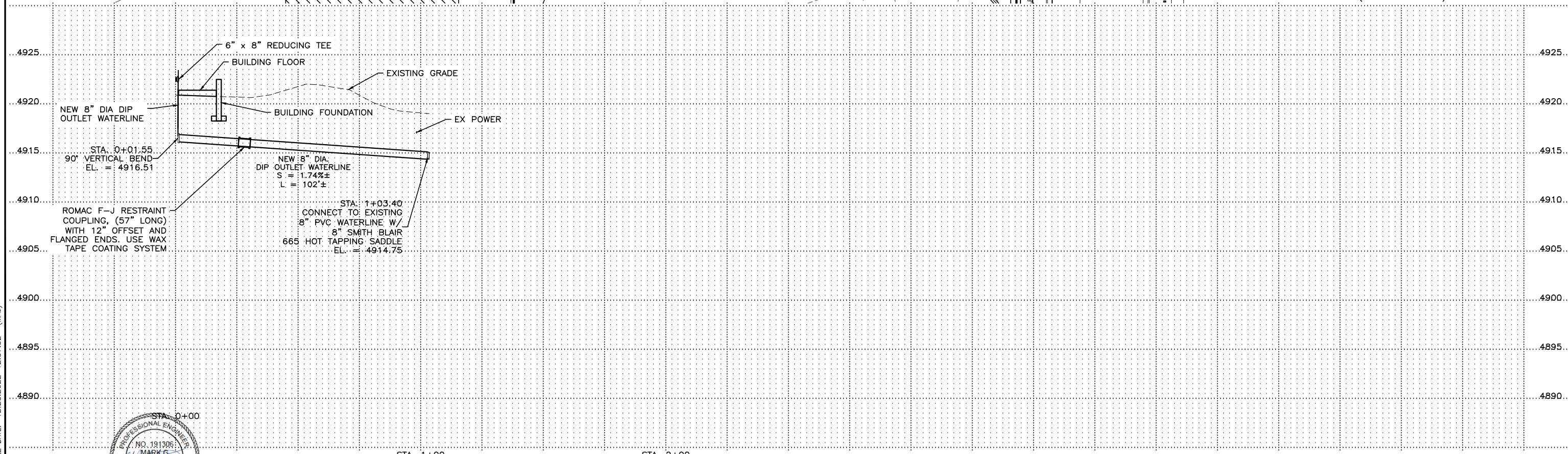
089.29.100

FILE NAME: PROJECTS\089 - WEST JORDAN\29.100 - WELL NO. 8 PUMP BUILDING\CAD\PP-1.DWG
FILE DATE: 12.28.2022 12:37:52 (MAJ)



STA. 1+03
CONNECT NEW 8" DIP
WATERLINE TO EXISTING PVC
WATERLINE W/ 8" SMITH BLAIR
665 HOT TAPPING SADDLE
N: 7385973.99
E: 1490981.17

NOTES:
1. INSTALL PIPELINE PER CITY STANDARD TRENCH
DETAILS (SEE SHEET C-14).



PROJECT ENGINEER

DESIGNED MGA
DRAFTED TPB
CHECKED MEA
DATE MAY 2020

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REVISIONS

BY

APVD.

SCALE

AS SHOWN

WEST JORDAN UTAH

WEST JORDAN CITY WELL #8
PLAN & PROFILE
DISCHARGE PRESSURE PIPELINE

SHEET
PP-1

089.29.100

FILE NAME: PROJECTS\089 - WEST JORDAN\29.100 - WELL NO. 8 PUMP BUILDING\CAD\3-S-1A STRUCTURAL NOTES.DWG
FILE DATE: 3.8.2023 14:31:52 (ABO)

STRUCTURAL NOTES

GENERAL NOTES:

1. THE GENERAL CONTRACTOR AND SUB-CONTRACTORS SHALL PROVIDE SUFFICIENT SKILLED WORKMEN AND SUPERVISORS WHO SHALL BE PRESENT AT ALL TIMES DURING EXECUTION OF THE WORK. A PROJECT MANAGER, SHALL BE ASSIGNED BY THE GENERAL CONTRACTOR, AND SHALL BE RESPONSIBLE FOR THE DAILY COORDINATION OF THE PROJECT AND SHALL MAINTAIN ALL REQUIRED DRAWINGS, SPECIFICATIONS, REPORTS, AND OTHER ITEMS FOR REVIEW AT THE SITE.
2. ALL CONSTRUCTION SHALL BE ACCORDING TO THE 2018 EDITION OF THE INTERNATIONAL BUILDING CODE (IBC). AS AMENDED BY THE STATE OF UTAH.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF AND SAFETY IN AND AROUND THE JOB SITE AND/OR ADJACENT PROPERTIES.
4. THE CONTRACTOR AND/OR OWNER SHALL KEEP LOADS ON THE STRUCTURE WITHIN THE LIMITS OF THE DESIGN LOADS BOTH DURING AND AFTER CONSTRUCTION.

DESIGN CRITERIA

1. RISK CATEGORY: IV
2. WIND SPEED (3-SECOND GUST) 115 MPH
3. WIND EXPOSURE: B
4. SEISMIC DESIGN CATEGORY: D
5. SITE CLASS: D
6. Ss: 0.94g
7. S1: 0.33g
8. Fa: 1.13
9. Fv: 1.97
10. R: 5
11. OMEGA: 2.5
12. Cd: 3.5
13. ROOF DESIGN DEAD LOAD: 20 PSF
14. ROOF DESIGN SNOW LOAD: 35 PSF
15. ROOF DESIGN UNBALANCED SNOW LOAD: 40 PSF
16. ALLOWABLE SOIL BEARING PRESSURE: 2000 PSF (PER AGECE REPORT #1200102)

STRUCTURAL NOTES:

REINFORCED CONCRETE:

1. ALL CONCRETE CONSTRUCTION, INCLUDING BENDING OF BARS, SHALL COMPLY WITH ACI "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318).
2. UNLESS CALLED OUT OTHERWISE ON THE PLANS, MINIMUM REINFORCEMENT OF CONCRETE WORK SHALL BE:
WALLS:
8" THICK OR LESS - USE #5 @ 16" E.W.
9" OR THICKER
SLABS:
8" THICK OR LESS - USE #5 @ 12" E.W., E.F.
8" THICK OR LESS - USE #4 @ 16" E.W.
3. ALL WALL REINFORCEMENT AT CORNERS OR JUNCTIONS OF WALLS SHALL BE CONTINUOUS, LAPPED, OR TERMINATED IN A STANDARD 90 DEGREE HOOK. LAP SPLICES SHALL CONFORM WITH NOTE 6.
4. UNLESS SHOWN OTHERWISE ALL BARS SHALL BE DOWELED. DOWELS SHALL BE THE SAME SIZE AND SPACING AS THE REINFORCEMENT WHICH IS TO BE SPLICED TO THE DOWELS.
5. ALL REINFORCING BARS SHALL BE GRADE 60 AND SHALL CONFORM TO ASTM A-615, CURRENT REVISION. REINFORCING STEEL SHALL BE NEW AND FREE FROM RUST, OIL OR OTHER BOND INHIBITOR.
6. ALL CONTINUOUS REINFORCING BARS SHALL LAP AT LEAST 40 BAR DIAMETERS. SPLICES SHALL BE MADE AWAY FROM POINTS OF MAXIMUM STRESS. MINIMUM LAP SHALL BE 18 IN.
7. CONCRETE COVER OVER REINFORCEMENT SHALL BE AS FOLLOWS:
A. SURFACE NOT EXPOSED DIRECTLY TO THE GROUND, WATER OR WEATHER AFTER FORM REMOVAL: CONCRETE SLABS IN BUILDINGS - - - - - 3/4"
B. CONCRETE SLABS IN WATER BEARING SURFACES EXPOSED DIRECTLY TO THE GROUND, WATER, OR WEATHER AFTER FORM REMOVAL:
FOR #5 BARS OR SMALLER - - - - - 1-1/2"
FOR #6 BARS OR LARGER - - - - - 2"
C. CONCRETE PLACED DIRECTLY AGAINST THE GROUND - - 3"
D. REINFORCEMENT SHALL BE PLACED WITHIN A TOLERANCE OF ±1/4" OF POSITION SPECIFIED.

REINFORCED CONCRETE CONT.

8. CONCRETE CURING SHALL BE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. SOME CONCRETE WORK REQUIRES WATER CURING, AS MEMBRANE CURING IS NOT ALLOWED. THE CONTRACTOR IS WARNED THAT WATER CURING IS DIFFICULT AT TIMES DUE TO WIND AND DRY CONDITIONS. THE CONTRACTOR SHALL STUDY REQUIREMENTS AND SHALL FURNISH ADEQUATE SYSTEMS TO PROVIDE WATER CURING WHERE REQUIRED. TOP OF WALLS SHALL BE KEPT VISIBLY MOIST AT ALL TIMES AND SHALL BE FLOODED NOT LESS THAN THREE TIMES DAILY.
A. FOR POURING CONCRETE DURING COLD WEATHER:
1. FOLLOW RECOMMENDATIONS CONTAINED IN PUBLICATION ACI 306R "COLD-WEATHER CONCRETING," CURRENT REVISION.
2. PROTECT CONCRETE WORK FROM PHYSICAL DAMAGE OR REDUCED STRENGTH WHICH COULD BE CAUSED BY FROST, FREEZING ACTIONS OR LOW TEMPERATURES.
3. WHEN AIR TEMPERATURE HAS FALLEN TO OR IS EXPECTED TO FALL BELOW 40°F OR 4°C, UNIFORMLY HEAT WATER AND AGGREGATES BEFORE MIXING TO OBTAIN A CONCRETE MIXTURE TEMPERATURE OF NOT LESS THAN 50°F OR 10°C, AND NOT MORE THAN 80°F OR 27°C AT TIME OF PLACEMENT.
4. CONCRETE SHALL BE AIR ENTRAINED WITH AIR CONTENT OF 6% +/- 1% BY VOLUME.
5. DO NOT USE FROZEN MATERIALS OR MATERIALS CONTAINING ICE OR SNOW. DO NOT PLACE CONCRETE ON FROZEN SUBGRADE OR ON SUBGRADE CONTAINING FROZEN MATERIALS.
6. DO NOT USE CALCIUM CHLORIDE, SALT OR OTHER MATERIALS CONTAINING ANTIFREEZE AGENTS OR CHEMICAL ACCELERATORS, UNLESS OTHERWISE APPROVED IN THE MIX DESIGN.
7. COVER AND HEAT CONCRETE FOR A MINIMUM OF 7 DAYS AS RECOMMENDED BY ACI 306R, CURRENT REVISION.
B. FOR POURING CONCRETE DURING HOT WEATHER:
1. FOLLOW RECOMMENDATIONS CONTAINED IN PUBLICATION ACI 305R "HOT-WEATHER CONCRETING," CURRENT REVISION.
2. PROTECT CONCRETE FROM FLASH CURING BY PROVIDING A WATER/MOISTURE CURE FOR 3 DAYS.
3. A 4500 PSI (WITH A 6-1/2 BAG MIX) IS RECOMMENDED FOR THESE CONDITIONS.
9. NO BACKFILL SHALL BE PLACED AGAINST WALLS UNTIL CONCRETE HAS REACHED 85 PERCENT OF THE SPECIFIED STRENGTH AND THE CONNECTING SLABS AND BEAMS HAVE BEEN CAST AND HAVE REACHED 85 PERCENT OF THE SPECIFIED STRENGTH.
10. CONCRETE TO HAVE A MIN. 28 DAY STRENGTH AND THE CONNECTING SLABS AND BEAMS HAVE BEEN CAST AND HAVE REACHED 85 PERCENT OF THE SPECIFIED STRENGTH.
11. CONCRETE EXPOSURE CATEGORIES AND CLASSES
SLABS: F1, S0, W0 & C1
FOOTINGS AND FOUNDATIONS: F1, S0, W0 & C1
12. SLOPE INTERIOR FLOORS TO DRAINS
13. CONCRETE FLOORS INSIDE BUILDINGS SHALL BE COATED WITH SYSTEM 10 PER SPECIFICATION SECTION 09 90 00.

MASONRY WALL REINFORCING NOTES:

1. WALL REINFORCEMENT SHALL BE PLACED AND GROUTED AS DESCRIBED IN THE SPECIFICATIONS AND SHALL CONFORM TO IBC REQUIREMENTS.
2. ALL WALLS SHALL BE REINFORCED WITH A MINIMUM OF #5 VERTICAL REINFORCING GROUTED AT 32" O.C. AND (1) #5 @ 48" O.C. HORIZONTAL BOND BEAM. SEE WALL ELEVATION OR NOTE 5 FOR ADDITIONAL VERTICAL REINFORCEMENT ADJACENT TO WALL OPENINGS. WALLS TO SOLID GROUTED.
3. ALL VERTICAL REINFORCING SHALL EXTEND TO ROOF LEVEL AND SHALL BE DOWELED TO THE FOOTING WITH MATCHING DOWELS.
4. ALL DOWELS SHALL LAP WALL REINFORCING 48 DIA. AND EXTEND INTO FOUNDATION A MINIMUM OF 40 DIA. OR EXTEND 12 DIA. PLUS HAVE A STANDARD HOOK.
5. A #5 VERTICAL BAR SHALL BE PLACED AND GROUTED AT WALL CORNERS AND WALL INTERSECTIONS AND TWO #5 VERTICAL BARS SHALL BE PLACED AT JAMBS OF WALL OPENINGS AND SUCH BARS SHALL EXTEND THE FULL HEIGHT OF WALL AND BE ANCHORED IN THE ROOF BOND BEAM AND FOOTING AS SPECIFIED IN PARAGRAPH ABOVE.
6. LINTELS FOR ALL OPENINGS SHALL BE AS SHOWN ON SHEET S-7. "TYPICAL WALL DETAILS", UNLESS OTHERWISE NOTED.
7. ALL HORIZONTAL AND VERTICAL JOINTS ON MASONRY UNITS SHALL BE CONCAVE ON BOTH FACES UNLESS SHOWN OR SPECIFIED OTHERWISE.
8. MASONRY CONTROL JOINTS IN WALLS SHALL BE INSTALLED AT 24'-0"± SPACING UNLESS SHOWN OTHERWISE.
9. EXTERIOR WALL CELLS SHALL BE SOLID GROUTED.
10. ALL REINFORCING BARS SHALL BE GRADE 60, AND SHALL CONFORM WITH: "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", ASTM A-615. REINFORCING BARS SHALL BE NEW, FREE FROM RUST, OIL OR OTHER BOND INHIBITOR. WELDABLE REBAR TO BE ASTM A-706.
11. COLD WEATHER PLACEMENT OF MASONRY: IF THE LOW TEMPERATURE FOR ANY 24-HOUR PERIOD FOR THE FIRST SEVEN DAYS AFTER THE MASONRY IS PLACED OR GROUTED DROPS BELOW 40°F BUT REMAINS ABOVE 28°F, COVER MASONRY WITH INSULATED BLANKETS. IF THE TEMPERATURE DROPS BELOW 28°F FOR ANY PERIOD AS DESCRIBED ABOVE, APPLY HEAT AND INSULATED BLANKETS AND MAINTAIN A TEMPERATURE AT OR ABOVE 34°F FOR SEVEN DAYS.
12. PROVIDE (2) #5 @ TOP OF WALLS (TYP.)
13. ALL MASONRY TO HAVE SPECIAL INSPECTION PER TABLE 1704.5.1 OF IBC.
14. ALL TERMINAL BARS TO HAVE HOOK @ END.

WOOD FRAMING NOTES

1. FRAMING LUMBER: DOUGLAS FIR LARCH (SURFACED DRY NOT TO EXCEED 19% MAXIMUM MOISTURE CONTENT), CONFORMING TO NATIONAL DESIGN SPECIFICATIONS (NDS) SUPPLEMENTS FOR WOOD DESIGN VALUES AND APPLICABLE STANDARDS IN THE FOLLOWING GRADES:
A. SILLS: REDWOOD, OR PRESSURE TREATED FOUNDATION GRADE.
B. PLATES @ TOP OF MASONRY WALLS: DOUGLAS FIR-LARCH, NO. 1, FB=1000 PSI MIN.
C. STUDS: DOUGLAS FIR-LARCH, OR HEMLOCK-FIR, STUD GRADE.
D. BEAMS, JOISTS, LEDGERS, POSTS & HEADERS: DOUGLAS FIR-LARCH, NO. 2 MIN., 900 PSI MIN.
E. ALL OTHER HORIZONTAL FRAMING MEMBERS: DOUGLAS FIR-LARCH, CONSTRUCTION GRADE.
F. ALL OTHER VERTICAL FRAMING MEMBERS: DOUGLAS FIR-LARCH, STANDARD OR BETTER GRADE.
G. SHEATHING: STANDARD EXTERIOR GRADE WITH EXTERIOR GLUE. APA RATED.
H. GLU-LAM BEAMS: DOUGLAS FIR-LARCH, 2400 PSI WITH AITC STAMP FOR QUALITY.
2. PROVIDE SOLID BLOCKING AT LEAST 1-1/2" THICK AT ENDS AND AT EACH SUPPORT OF JOIST. PROVIDE APPROVED BRIDGING AT A MAXIMUM 8'-0" O.C. BETWEEN SUPPORTS.
3. NAILING SHALL CONFORM TO STANDARD NAILING SCHEDULE 2304.10.1 OF INTERNATIONAL BUILDING CODE UNLESS NOTED OTHERWISE ON PLANS OR SCHEDULES. ALL NAILS SHALL BE COMMON NAILS.
4. USE SIMPSON STRONG TIE (SST) HANGERS FOR ALL FLUSH CONNECTIONS. USE STRONGEST HANGAR COMPATIBLE WITH MEMBER SIZE AND NAIL PER MANUFACTURERS SPECIFICATION TO OBTAIN MAXIMUM LOAD CARRYING CAPACITY.
5. ALL METAL HANGERS AND CONNECTORS SHALL BE "SIMPSON" OR EQUAL.
6. SECURE SILL PLATE TO CONCRETE WITH 5/8" DIA. X 12" A.B. @ 8" O.C. UNLESS NOTED OTHERWISE ON PLAN.
7. DOUBLE TOP AND BOTTOM PLATES TO BE LAPPED 4'-0" AT SPLICE AND CONNECT WITH 16D COMMON NAILS @ 3" O.C., STAGGERED.
8. NOTCHING OR DRILLING THROUGH ANY LUMBER MEMBER WILL NOT BE ALLOWED WITHOUT SPECIFIC APPROVAL OF STRUCTURAL ENGINEERS.
9. ROOF SHEATHING:
A. (5/8)" A.P.A. RATED STRUCTURAL II, EXTERIOR, PANEL INDEX #18, UNLESS NOTED OTHERWISE
B. NAIL WITH: 10D @ 6" O.C. - PANEL EDGES, UNLESS NOTED OTHERWISE
10D @ 12" O.C. - ALL ELSE, UNLESS NOTED OTHERWISE
C. INSTALL ROOF SHEATHING WITH "H" CLIPS.
10. KEEP ALL MATERIAL CLEARLY IDENTIFIED WITH ALL GRADE MARKS LEGIBLE. KEEP ALL DAMAGED MATERIAL CLEARLY IDENTIFIED AS DAMAGED AND SEPARATELY STORED TO PREVENT ITS INADVERTENT USE. IN THE EVENT OF DAMAGE, IMMEDIATELY MAKE ALL REPAIRS AND REPLACEMENTS NECESSARY TO THE APPROVAL OF THE ENGINEER AND AT NO ADDITIONAL COST TO THE OWNER.
11. PROVIDE 3"x3"x1/4" SLOTTED PLATE WASHERS AT ALL BOLTS IN PLATES, AND 2" DIAMETER PLATE WASHERS AT ALL BOLTS IN LEDGERS, BEAMS, AND COLUMNS. UNLESS OTHERWISE SPECIFIED, USE A307 BOLTS.
12. PROVIDE SOLID BLOCKING UNDER ALL LOCATIONS WHERE CONCENTRATED LOADS ARE LOCATED, SUCH AS COLUMNS, POSTS, BEAMS, ETC. FULL SUPPORT MUST BE PROVIDED TO THE FOUNDATION.

WOOD TRUSSES NOTES

1. DESIGN TRUSSES FOR FOLLOWING CRITERIA:
LIVE LOAD = 35 PSF (SNOW) LIVE LOAD DEFLECTION = L/360 MAXIMUM
DEAD LOAD = 20 PSF
NOTE: ALL TRUSSES TO BE DESIGNED FOR DRIFT LOADS PER ASCE-7. TRUSSES IN STORAGE AREA TO BE DESIGNED TO MEET ALL EQUIPMENT LOADS AND RISK CATEGORY IV.
2. PROVIDE BRIDGING AT TOP AND BOTTOM CHORDS AND STRUT BRACING, PER MANUFACTURER'S RECOMMENDATIONS.
3. NO STRESS INCREASE ALLOWED FOR TRUSS DESIGN.
4. DESIGN AND FABRICATION OF ALL TRUSSES SHALL COMPLY WITH REQUIREMENTS OF DESIGN SPECIFICATIONS FOR LIGHT METAL PLATE CONNECTED WOOD TRUSSES BY THE TRUSS PLATE INSTITUTE.
5. TRUSS MANUFACTURER SHALL DESIGN AND FABRICATE TRUSSES TO SUPPORT LOADS SHOWN ON DRAWINGS. COORDINATE DESIGN WITH ALL MECHANICAL EQUIPMENT AND SUSPENDED LOADS. SUBMIT DESIGN CALCULATIONS BEARING STAMP OF A REGISTERED PROFESSIONAL ENGINEER LICENSES BY THE STATE OF UTAH.
6. SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION INDICATING FRAMING PLAN, BRIDGING AND BRACING,, DIAGRAM OF THE TRUSSES WITH DIMENSIONS, SIZE AND GRADE OF MEMBERS, SIZE AND LOCATION OF METAL PLATES, BEARING DETAILS AND INSTRUCTION FOR INSTALLATION.
7. MOMENT COEFFICIENTS SHALL BE 1/8 FOR ONE AND TWO CONTINUOUS SPAN CONDITIONS AND 1/10 FOR THREE OR MORE CONTINUOUS SPAN CONDITIONS. LENGTH FACTOR FOR WEB DESIGN SHALL BE ONE. METAL PLATES AT COMPRESSION JOINTS SHALL BE DESIGNED FOR THE FULL LOAD WITHOUT CONSIDERING WOOD TO WOOD BEARING.
8. ALL METAL PLATE DIMENSIONS SHALL BE INCREASED BY 10% ABOVE THAT REQUIRED BY THE ANALYSIS. ALLOWABLE STRESS FOR METAL PLATE SHALL NOT BE INCREASED FOR THE LOAD DURATION. METAL PLATES SHALL BE PRESSED OR ROLLED INTO MEMBERS TO OBTAIN FULL PENETRATION WITHOUT CRUSHING THE WOOD SURFACE.
9. ALL METAL PLATES SHALL BE GALVANIZED STEEL AND SHALL BE ON BOTH SIDES OF EACH CONNECTION. SUBMIT A COPY OF THE I.C.B.O. APPROVAL, INCLUDING ALLOWABLE STRESSES ESTABLISHED BY THIS COMMITTEE, FOR METAL PLATES USED.
10. ALL LUMBER SHALL BE DOUGLAS FIR OR YELLOW PINE #1 GRADE. MOISTURE CONTENT SHALL NOT EXCEED 19% NOR SHALL BE LESS THAN 7%. HANDLING, STORAGE AND INSTALLATION OF ALL TRUSSES SHALL BE DONE SUCH THAT THE SPECIFIED MINIMUM AND MAXIMUM MOISTURE CONTENT LIMITS ARE NOT EXCEEDED. GRADE STAMPS SHALL APPEAR ON ALL MEMBERS.



PROJECT ENGINEER

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DATE	MARCH 2023	NO.	DATE		

REVISIONS

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APVD.

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WEST JORDAN CITY WELL #8
STRUCTURAL
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FILE NAME: PROJECTS\089 - WEST JORDAN\29.100 - WELL NO. 8 PUMP BUILDING\CAD\S-1B STRUCTURAL NOTES.DWG
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WOOD TRUSSES NOTES CONT.

- 11. PRIOR TO FABRICATION, CONTRACTOR SHALL SUBMIT IN WRITING PROOF OF COMPLIANCE OF IN-PLANT INSPECTION BY AN I.C.B.O. APPROVED INDEPENDENT INSPECTION AGENCY. SUBMIT SHOP DRAWINGS FOR TRUSS LAYOUT & DESIGN.
- 12. A HURRICANE TIE IS TO BE INSTALLED AT EACH TRUSS TO DOUBLE TOP PLATE LOCATION OR AS REQUIRED ON PLANS.
- 13. TRUSS MANUFACTURER IS RESPONSIBLE FOR ALL TRUSS HANGARS

SUBMITTALS:

- 1. THE FOLLOWING INFORMATION AND SUBMITTALS SHALL BE PROVIDED TO THE CONSTRUCTION MANAGER (CM) BEFORE FABRICATION AND/OR DELIVERY TO THE JOBSITE, NOT ALL MAY APPLY.
 - A. CONCRETE MIX DESIGNS.
 - B. CONCRETE REINFORCEMENT SHOP DRAWINGS.
 - C. MASONRY SPECIFICATIONS.
 - D. MASONRY MORTAR MIX DESIGNS.
 - E. MASONRY REINFORCEMENT SHOP DRAWINGS.
 - F. STRUCTURAL BACKFILL PIT LOCATION AND MATERIAL SPECIFICATION, IF USED ON SITE.
 - G. STRUCTURAL STEEL SHOP DRAWINGS.
 - H. OPEN WEB ROOF TRUSSES, SHOP DRAWINGS FROM MANUFACTURER.
 - I. OTHER SHOP DRAWINGS & SUBMITTALS AS DEEMED NECESSARY BY THE CONSTRUCTION MANAGER.

GEOTECHNICAL NOTES

- 1. WITHIN THE LIMITS OF THE SHALLOW OVER-EXCAVATION AREA SHOWN ON C-1A: REMOVE TOP FOUR FEET OF NATIVE SOIL AND REPLACE WITH IMPORTED SOILS PER DRAWINGS, SPECIFICATIONS, AND THE GEOTECHNICAL REPORT.
- 2. WITHIN THE LIMITS OF THE DEEP OVER-EXCAVATION SHOWN ON C-1A: REMOVE 12 FEET OF NATIVE CLAY SOILS. REPLACE WITH STRUCTURAL BACKFILL PLACED IN LIFTS PER SPECIFICATIONS, AND THE GEOTECHNICAL REPORT.
- 3. A 4-INCH LAYER OF SAND OR GRAVEL SHALL BE PLACED ABOVE THE STRUCTURAL FILL DIRECTLY UNDER ALL CONCRETE. A GEOFABRIC IS REQUIRED BETWEEN THE STRUCTURAL FILL AND THE SAND/GRAVEL LAYER.
- 4. THE UNTREATED BASE COURSE MATERIAL SHALL NOT BE CONTAMINATED WITH OTHER SOILS. CONTAMINATED BASE COURSE SHALL BE REMOVED AND REPLACED PRIOR TO THE INSTALLATION OF PAVEMENT.
- 5. ALL WORK SHALL BE PERFORMED PER THE GEOTECHNICAL REPORT IN THE APPENDIX.

STEEL NOTES:

- 1. ALL STRUCTURAL STEEL AND STRUCTURAL STEEL WORK SHALL COMPLY WITH "SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS OF THE AISC" AND THE "AISC CODE OF STANDARD PRACTICE."
- 2. ALL STRUCTURAL STEEL SHALL BE ASTM A36, UNLESS NOTED OTHERWISE. SEE PLAN.
- 3. ALL WELDS AND WELDING SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS OF "THE AMERICAN WELDING SOCIETY, USING ELECTRODES AS SPECIFIED THEREIN." WELDS TO BE MADE WITH E - 70xx ELECTRODES U.N.O.
- 4. USE A307 BOLTS WITH PLATE WASHERS, UNLESS OTHERWISE SPECIFIED, FOR TYPICAL CONNECTIONS AND CONNECTIONS TO CONCRETE.
- 5. USE A325 BOLTS WITH PLATE WASHERS, UNLESS OTHERWISE SPECIFIED, FOR STEEL TO STEEL CONNECTIONS.
- 6. METAL FLASHING SHALL BE HOT DIP GALVANIZED, OR HAVE OTHER APPROVED EQUAL CORROSION RESISTANCE.
- 7. MATERIAL SHALL COMPLY WITH THE FOLLOWING STANDARDS EXCEPT WHERE NOTED OTHERWISE.

TYPICAL BOLTS	ASTM A-307 GRADE A
HIGH STRENGTH BOLTS	ASTM A-325
ANCHOR BOLTS	ASTM A-307 GRADE A
NUTS FOR ANCHOR BOLTS	ASTM A-563 GRADE A
STEEL TUBES	ASTM A-500 GRADE B WITH YIELD STRENGTH EQUAL TO 46 KSI
STEEL PIPES	ASTM A-53 GRADE B TYPE E OR S
DEFORMED BAR ANCHORS	MANUFACTURED BY NELSON STUD CO. OR EQUAL
HEADED STUD ANCHORS	ASTM A-108 MANUFACTURED BY NELSON STUD CO. OR EQUAL
ALL OTHER STEEL SHAPES	ASTM A-36 WITH YIELD STRENGTH EQUAL TO 36 KSI.

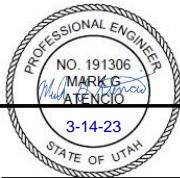
STRUCTURAL NOTES

ANCHOR NOTES:

- 1. ALL ANCHORS TO BE INSTALLED PER THE MANUFACTURER'S REQUIREMENTS. FOR BOTH MECHANICAL AND EPOXY TYPE ANCHORS THESE REQUIREMENTS INCLUDE, BUT IS NOT LIMITED TO:
 - A. PROPER HOLE DIAMETER, DEPTH, EDGE DISTANCES, AND SPACING.
 - B. PROPER HOLE PREPARATION AND CLEANOUT
 - C. WEATHER REQUIREMENTS TO BE FOLLOWED, ESPECIALLY FOR COLD WEATHER APPLICATIONS.
 - D. ALL STRUCTURAL ANCHORS TO COMPLY WITH THE CRACKED CONCRETE REQUIREMENTS OF THE CURRENT EDITION OF THE ACI 318.
- 2. ANY EPOXY TYPE ANCHOR IS TO MEET THE CURRENT ANSI/NSF 61 REQUIREMENTS FOR DRINKING WATER SYSTEM COMPONENTS, WHERE APPLICABLE.

SEISMIC BRACKETS:

- 1. CONTRACTOR SHALL DESIGN SEISMIC ATTACHMENTS, BRACES, AND ANCHORS TO THE STRUCTURE FOR ELEMENTS.
- 2. CONTRACTOR TO SUBMIT FOR REVIEW AND APPROVAL SEISMIC BRACKETS FOR HVAC, MECHANICAL AND ELECTRICAL EQUIPMENT TO MEET LOCAL CODES.



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WEST JORDAN CITY WELL #8
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FILE NAME: PROJECTS\089 - WEST JORDAN\29.100 - WELL NO. 8 PUMP BUILDING\CAD\5-1C SPECIAL INSPECTIONS.DWG
FILE DATE: 3.7.2023 13:42:04 (ABO)

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SPECIAL INSPECTIONS

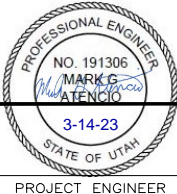
SCHEDULE OF SPECIAL INSPECTIONS APPLICABLE TO THIS PROJECT					
MATERIAL/ACTIVITY	TYPE OF INSPECTION	C/P *	EXTENT/REFERENCE	INSP INITIALS	INSP DATE
GENERAL					
Pre-construction conference	Meeting with Owner, Contractor and Registered Design Professional to discuss Special Inspection procedures	P	Scheduled by DCRA with the Contractor prior to commencement of work		
EARTHWORK					
Site preparation (building)	Field testing and inspection	P	Field Review; IBC 1705.6		
Fill material (building)	Review submittals, field testing and inspection	P	Field Review; IBC 1705.6		
Fill compaction (building)	In-place density tests, lift thickness	C	Field Review; IBC 1705.6		
Excavation	Field inspection and verification of proper depth	P	Field Review; IBC 1705.6		
Foundation sub-grade	Field inspection of foundation subgrade prior to placement of concrete	P	Field Review; IBC 1705.6		
MASONRY (Level : ; Building Risk Category) TYPICAL FOR LEVEL B AND RISK CATEGORY I,II,III					
Materials	Review of products supplied versus certificate of compliance and material submitted	P	Submittal & Field Review; ACI 530/ASCE 5; ACI 530.1/ASCE 6; IBC 1705.4, 1708		
Strength	Testing/review of strength	C	Submittal & Field Review; ACI 530/ASCE 5; ACI 530.1/ASCE 6; IBC 1705.4, 2105.2.2, 2105.3		
Mortar and Grout	Inspection of proportioning and mixing. Placement of mortar only.	C	Field Review; IBC 1705.4; ACI 530/ASCE 5; ACI 530.1/ASCE 6		
Grout placement, including pre-stressing grout	Verification to ensure compliance	C	Field Review; IBC 1705.4; ACI 530/ASCE 5; ACI 530.1/ASCE 6		
Grout space	Verification to ensure compliance	P	Field Review; IBC 1705.4; ACI 530/ASCE 5; ACI 530.1/ASCE 6; TMS 602		
Mortar, grout, and prism specimens	Observe Preparation	C	Field Review; IBC 1704.5; ACI 530.1; ASCE 6;		
Reinforcement, pre-stressing tendons, and connections	Inspect condition, size, location, and spacing	P	Field Review; IBC 1704.5; ACI 530/ASCE 5; ACI 530.1/ASCE 6		
Welding of reinforcing bars	Inspection and testing of welds	C	Field Review; IBC 1705.4; ACI 530/ASCE 5; ACI 530.1/ ASCE 6		
Pre-stressing force	Verify application and measurement	C	Field Review; IBC 1705.4; ACI 530/ASCE 5; ACI 530.1/ASCE 6		
Protection	Inspect procedures for protection during cold and hot weather	P	Field Review; IBC 1705.4.; ACI 530/ASCE 5; ACI 530.1/ASCE 6		
Anchorage	Inspection of anchorages	P	Field Review; ACI 530.1/ASCE 6, ASCE 6; IBC 1705.4; ACI 530/ASCE 5		
Masonry installation	Inspection of placement of masonry and joints (Periodic after the first 5000sq.ft)	C	Field Review; ACI 530/ASCE 5; ACI 530.1/ASCE 6; IBC 1705.4		
Grouting of pre-stressed tendons	Field inspection	C	Field Review; ACI 318: 18.18.4; IBC 1705.3		
Application of forces for pre-stressed concrete	Field inspection	C	Field Review; ACI 318: 18.20; IBC 1705.3		
CONCRETE					
Materials	Review product supplied versus certificates of compliance and mix design	P	Submittal & Field Review; IBC 1705.3; ACI 318: Ch. 4 and 5; IBC 1904.2, 1910.2, 1903.3		
Installation of reinforcing steel, including Pre-stressed tendons and anchor bolts as well as welding	Field inspection of placement	P	Submittal and Field Review; ACI 318:3.5, 3.5.2 3.8.6 & Ch. 7 8.1.3 and 21.2.8; AWS D1.4; IBC 1705.3, 1908.5, 1909.1, 1910.4		
Formwork installation	Field inspection	P	Field Review; ACI 318: 6.1.1; IBC 1705.3		
Concreting operations and placement	Field inspection of placement/sampling	C	Field Review; ACI 318: 5.6, 5.8, 5.9-10; ASTM C 172, C 31; IBC 1705.3, 1910.6, 1910.7, 1910.8, 1910.10		
Concrete curing	Field inspection of curing process	P	Field Review; ACI 318: 5.11-13; IBC 1705.3, 1910.9		
Concrete strength	Evaluation of concrete strength		Laboratory Testing; ACI 318: 6.2; IBC 1705.3		

SCHEDULE OF SPECIAL INSPECTIONS APPLICABLE TO THIS PROJECT					
MATERIAL/ACTIVITY	TYPE OF INSPECTION	C/P *	EXTENT/REFERENCE	INSP INITIALS	INSP DATE
STRUCTURAL STEEL					
Verify fabrication/QC procedures	In-plant inspection of fabrication/quality control procedures or submit Certificate of Compliance	P	IBC 1704.2.5, IBC 1704.2.5.1, 1704.2.5.2, 1705.2		
Bolts, nuts, and washers – materials	Material identification markings Review of Certificate of Compliance	P	Submittal & Field Review; IBC 1705.2.1; IBC 1705.2.2; IBC 1706; ASTM; AISC 360, Section A3.3		
Bolts, nuts, washers – installation	Inspection of insitu high-strength bolts, snug-tight joints, pre-tensioned and bearing type, and slip connections	C	Submittal & Field Review; IBC 1705.2.1, 1705.2.2.; AISC 360 Section M2.5		
Structural steel – materials	Material identification markings and review of Certificate of Compliance	P	Submittal & Field Review; IBC 1705.2.1, 1705.2.2, 1706; ASTM A6, A568		
Structural steel details – installation	Inspection of member locations, structural details for bracing, connections, stiffening	P	Submittal & Field Review; IBC 1705.2.1, 1705.2.2, AISC 360		
Weld filler materials and welder certs	Review of identification markings, certificate of compliance, and welder certifications	P	Submittal & Field Review; ASTM AISC 360 A3.5		
Welds	Inspection and testing of welds	C	Field Review; IBC 1705.2.2.1; AWS D1.1, D1.3		
Cold-formed metal deck – materials	Review of identification marking manufacturer's certified test results	P	Submittal and Field Review; IBC 1705.2.2; ASTM		
Cold-formed metal deck – installation	Review laps and welds	P	Submittal and Field Review; IBC 1705.2.2, AWS D1.3		
Cold-formed light frame construction – welds	Review welding operation	P	IBC 1705.10, 1705.10.2, 1705.10.3		
Cold form light frame construction wind resistance – screws	Review screw attachment bolting, anchoring hold downs, bracing, diaphragms, struts	P	Field Review; IBC 1705.10, 1705.10.2, 1705.10.3		
Cold-formed steel trusses spanning 60' or greater	Inspection of temporary and permanent restraints/bracing	C	Field review IBC 1705.2.2.2		
WOOD					
Verify fabrication/QC procedures	In-plant inspection of fabrication/quality control procedures** or submit Certificate of Compliance	P	Submittal or Field Review; IBC 1704.2.5, 1705.5, 1705.5.2		
Metal plate connected wood/metal trusses spanning 60' or more	Review approved submittal and installation of restraint/bracing	P	Field Review; IBC 1704.2.5, 1705.5, 1705.2		
Joist Hangers – Materials/Installation	Review manufacturer's material and test standards	P	Field Review; IBC 1711, ASTM D 1761		
High-Load Diaphragms – Installation	Review submittal and as-built assemblies; inspection of sheathing, framing size, nail and staple diameter and length, number of fastener lines, and fastener spacing.	C	IBC 1705.5, 1705.5.1		
Wood Shear Walls–installation	Review nailing, bolting, anchoring, fastening, Diaphragms, struts, braces, and hold downs when fasteners are < 4" on center.	P	Field Review; IBC1705.10.1		

NOTES:

- THE SPECIAL INSPECTOR IS RESPONSIBLE FOR ENSURING THE PUBLICATIONS USED FOR INSPECTION CRITERIA ARE THE MOST CURRENT AND UP TO DATE.
- FAILURE OF INSPECTABLE AREAS ARE TO BE NOTED AND SUBMITTED TO THE OWNER, ENGINEER OF RECORD, AND GENERAL CONTRACTOR IF CORRECTIONS REQUIRE A FOLLOW UP INSPECTION AND CANNOT BE MADE COMPLETED "ON THE SPOT".
- DOCUMENTATION FOR INSPECTIONS MUST BE COMPLETED AND SUBMITTED IN ACCORDANCE WITH CONTRACT REQUIREMENTS, INTERNATIONAL BUILDING CODE (LATEST EDITION), AND "MANUAL FOR SPECIAL INSPECTIONS" (LATEST EDITION), OR AS AGREED UPON WITH THE OWNER, ENGINEER OF RECORD, AND CONTRACTOR.
- SPECIAL INSPECTION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR ANY REQUIRED INSPECTIONS BY THE BUILDING OFFICIAL. CONTRACTOR IS RESPONSIBLE FOR SCHEDULING BOTH INSPECTIONS.
- SPECIFIED CONCRETE AND MASONRY TESTING DURING CONSTRUCTION WILL BE CONTRACTOR FURNISHED. SPECIFIED LAB TEST, MIXES, AND SIMILAR TESTING TO VERIFY MATERIAL QUALITY AND CONFORMANCE TO THE SPECIFICATIONS, REQUIRING SUBMITTAL FOR REVIEW AND ACCEPTANCE, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- STRUCTURAL OBSERVATIONS (CONTRACTOR FURNISHED) IS REQUIRED IN ACCORDANCE WITH IBC SECTION 110 AND CHAPTER 17 AS INDICATED IN THE STATEMENT OF SPECIAL INSPECTION.

P = PERIODIC INSPECTION
C = CONTINUOUS INSPECTION



DESIGNED	MGA	3			
DRAFTED	ABO	2			
CHECKED	MEA	1			
DATE	MARCH 2023	NO.	DATE		

REVISIONS					
				BY	APVD.

SCALE



WEST JORDAN CITY WELL #8
STRUCTURAL
SPECIAL INSPECTIONS

SHEET

S-1C

089.29.100

FILE NAME: PROJECTS\089 - WEST JORDAN\29.100 - WELL NO. 8 PUMP BUILDING\CAD\S-2 FOOTING & FOUNDATION PLAN.DWG
FILE DATE: 3/13/2023 09:38:31 (ABO)

7/04



PROJECT ENGINEER

DESIGNED	MGA	3
DRAFTED	BKC & DCL	2
CHECKED	MEA	1
DATE	MARCH 2023	NO.

NO.

DATE

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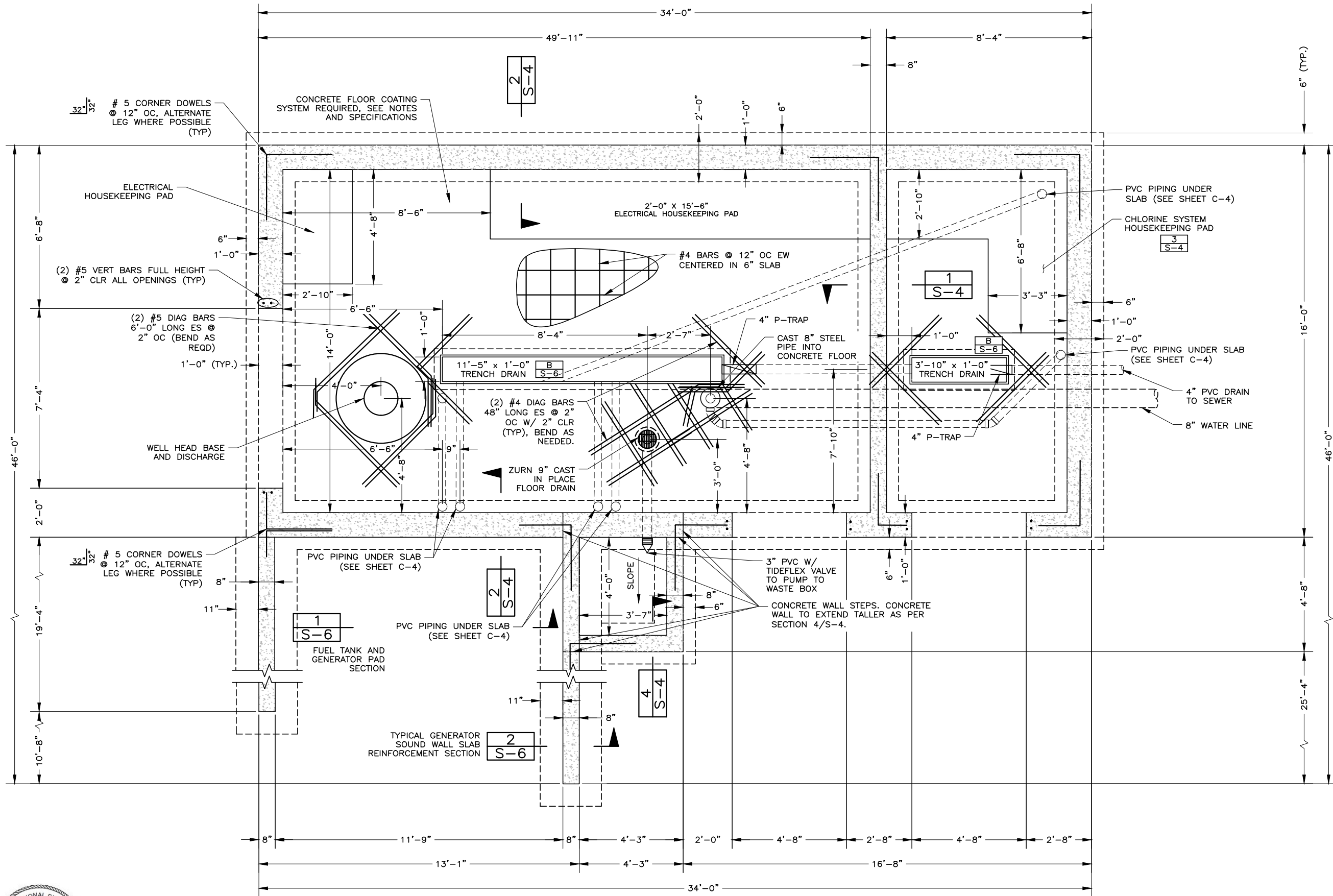
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SCALE
AS SHOWN



WEST JORDAN CITY WELL #8
STRUCTURAL
FOOTING AND FOUNDATION PLAN

SHEET
S-2
089.29.100



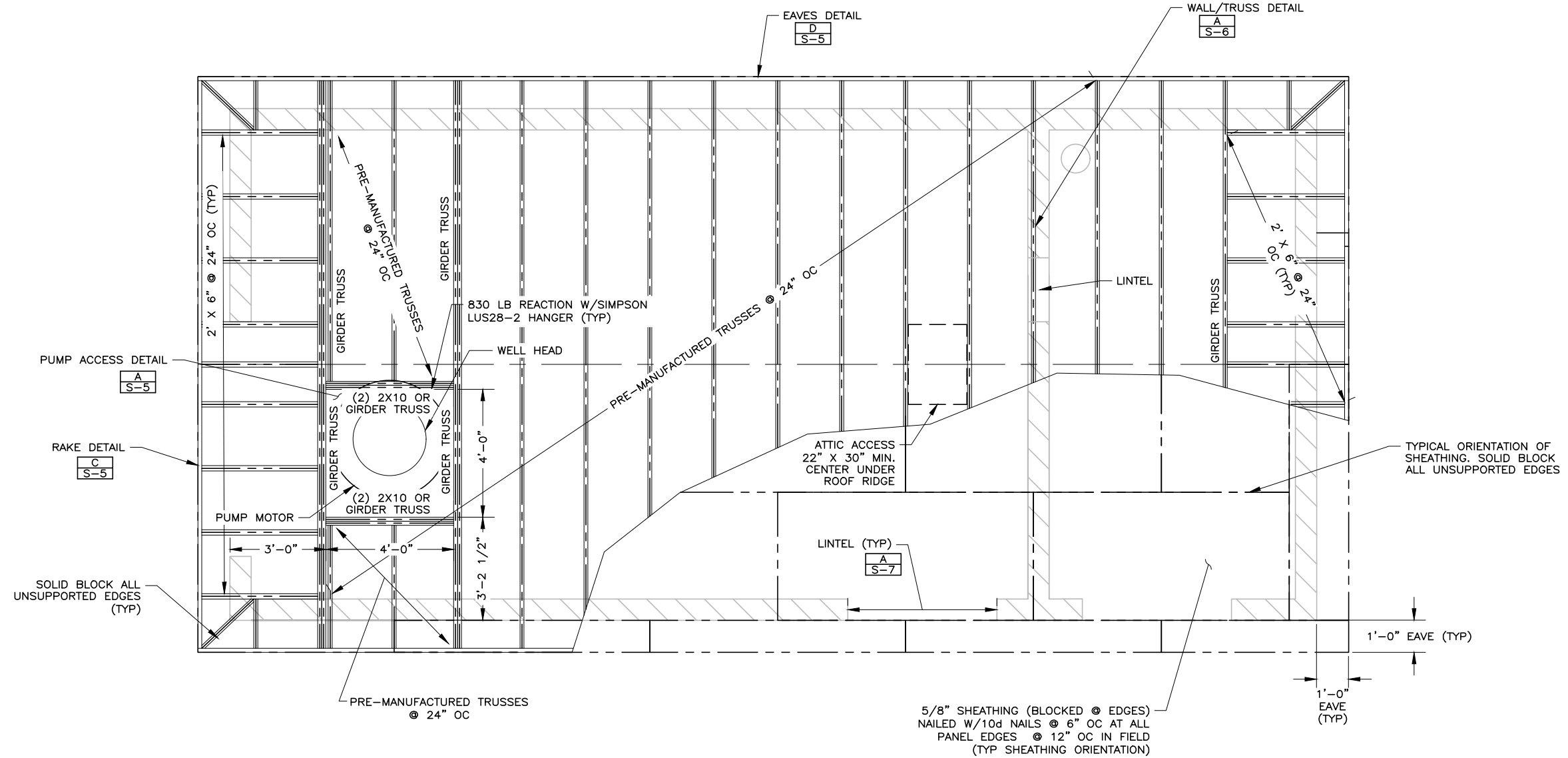
FOOTING & FOUNDATION PLAN

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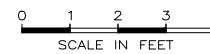
7/04

TRUSS LOADS

TOP CHORD LIVE SNOW LOAD: 35 PSF
TOP CHORD DEAD LOAD: 10 PSF
BOTTOM CHORD LIVE LOAD: 10 PSF
BOTTOM CHORD DEAD LOAD: 10 PSF

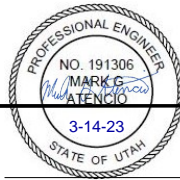


PUMP HOUSE ROOFING PLAN



NOTES:

1. ALL NAILING PER IBC TABLE 2304.10.1, UNLESS NOTED OTHERWISE.
2. PROVIDE SIMPSON H3 @ EACH TRUSS TO TOP PLATE OR AS REQUIRED BY THE DETAILS.
3. TRUSS MANUFACTURER TO PROVIDE ALL TRUSS TO TRUSS CONNECTIONS.
4. ALL STEEL IN CONTACT WITH TREATED PLATES OR MASONRY/CONCRETE TO BE GALVANIZED OR STAINLESS STEEL.
5. CENTER ACCESS OPENING NORTH & SOUTH OVER EXISTING WELL.



**HANSEN
ALLEN
& LUCE**
ENGINEERS

PROJECT ENGINEER

DESIGNED	MGA	3
DRAFTED	BKC	2
CHECKED	MEA	1
DATE	MARCH 2023	NO.

NO.

DATE

REVISIONS

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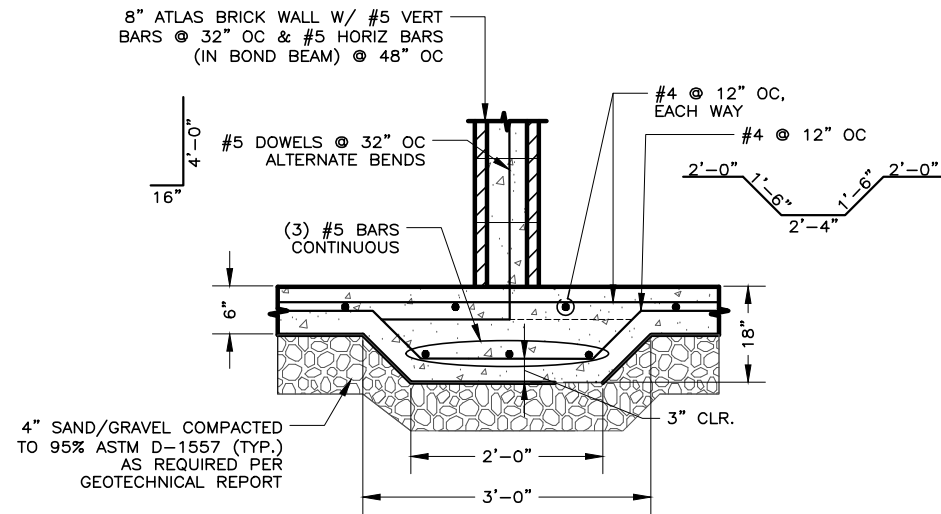
WEST JORDAN CITY WELL #8
STRUCTURAL
ROOF PLAN

SHEET

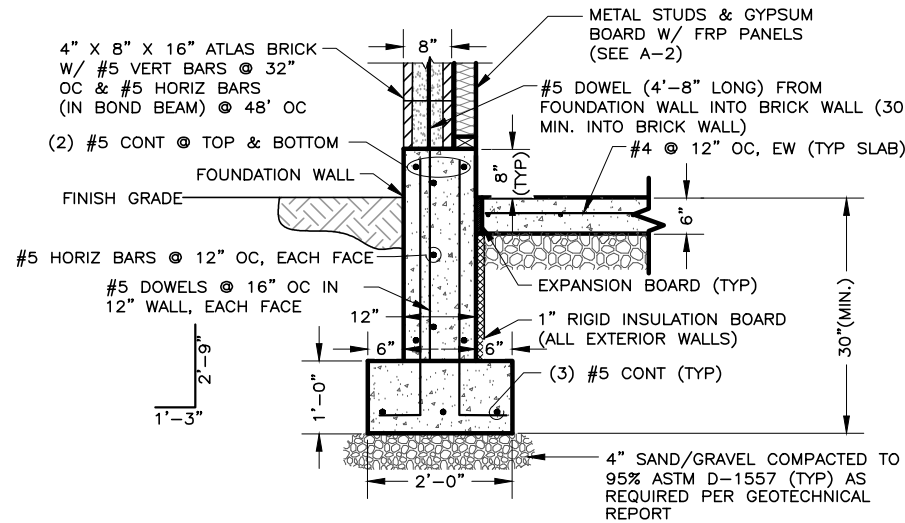
S-3

089.29.100

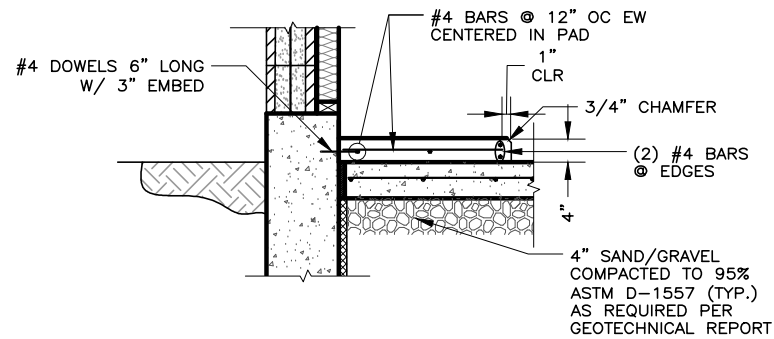
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FILE DATE: 3.13.2023 10:00:39 (ABO)



INTERIOR CMU WALL FOUNDATION SECTION 1
NTS S-2

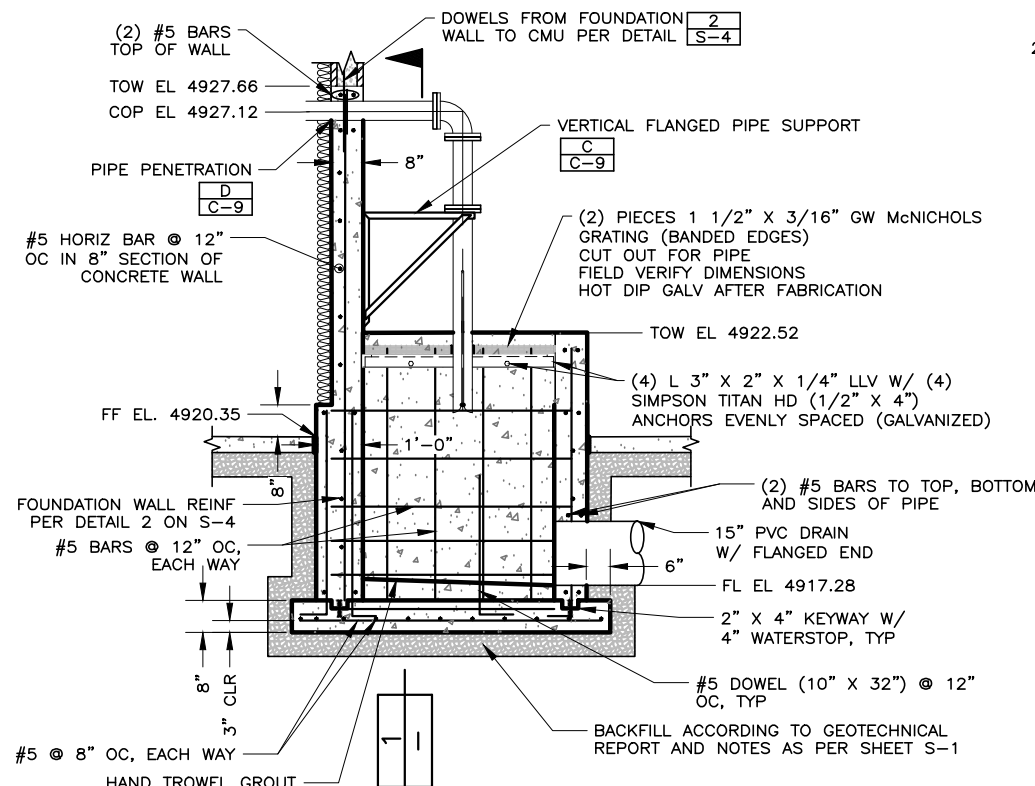


TYPICAL FOUNDATION DETAIL SECTION 2
NTS S-2

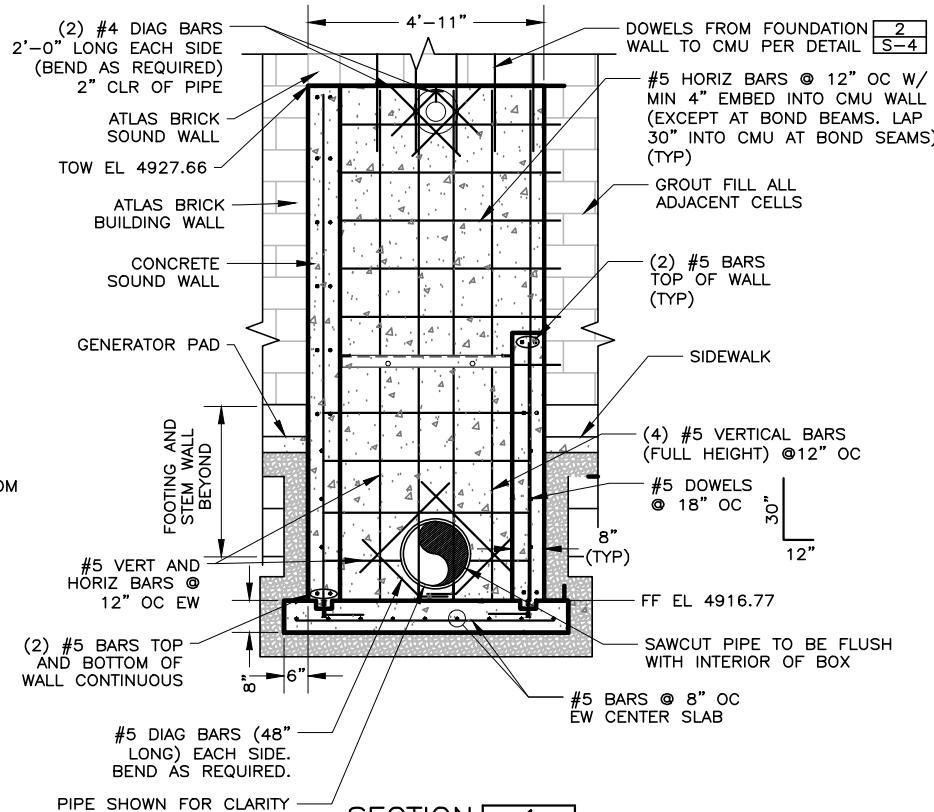


NOTE:
SEE SHEET S-2 FOR PAD DIMENSIONS

HOUSEKEEPING PAD SECTION 3
NTS S-2 CF-2

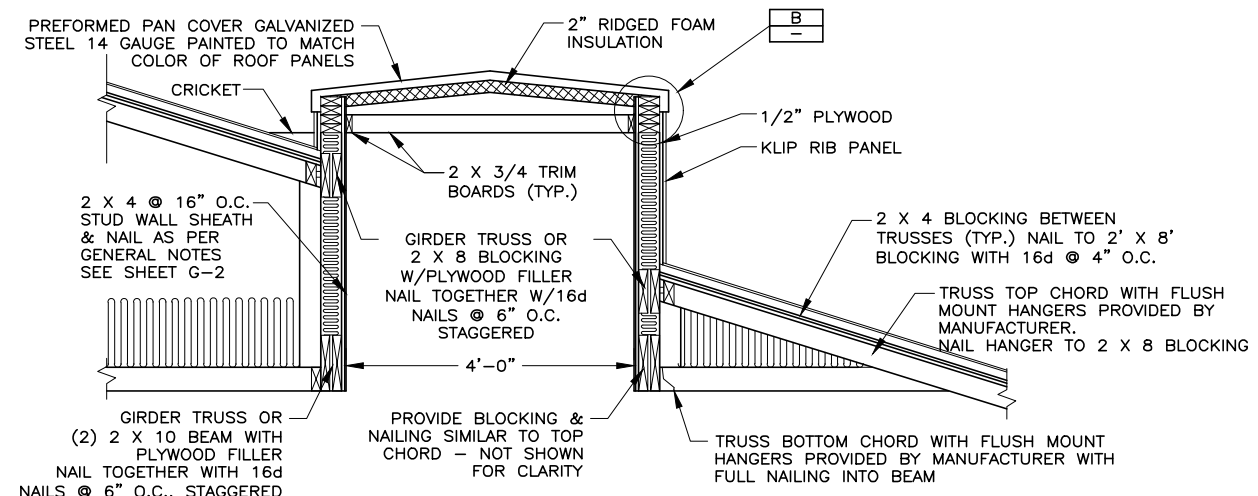


PUMP TO WASTE BOX SECTION 4
NTS A-1 C-5 S-2

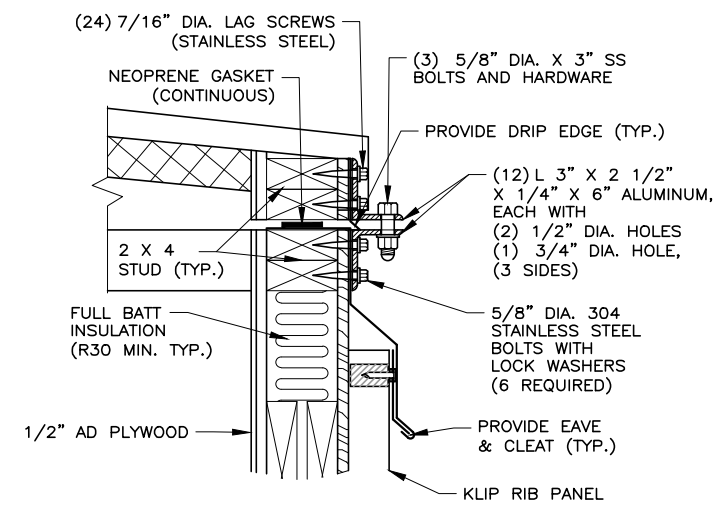


SECTION 1
NTS

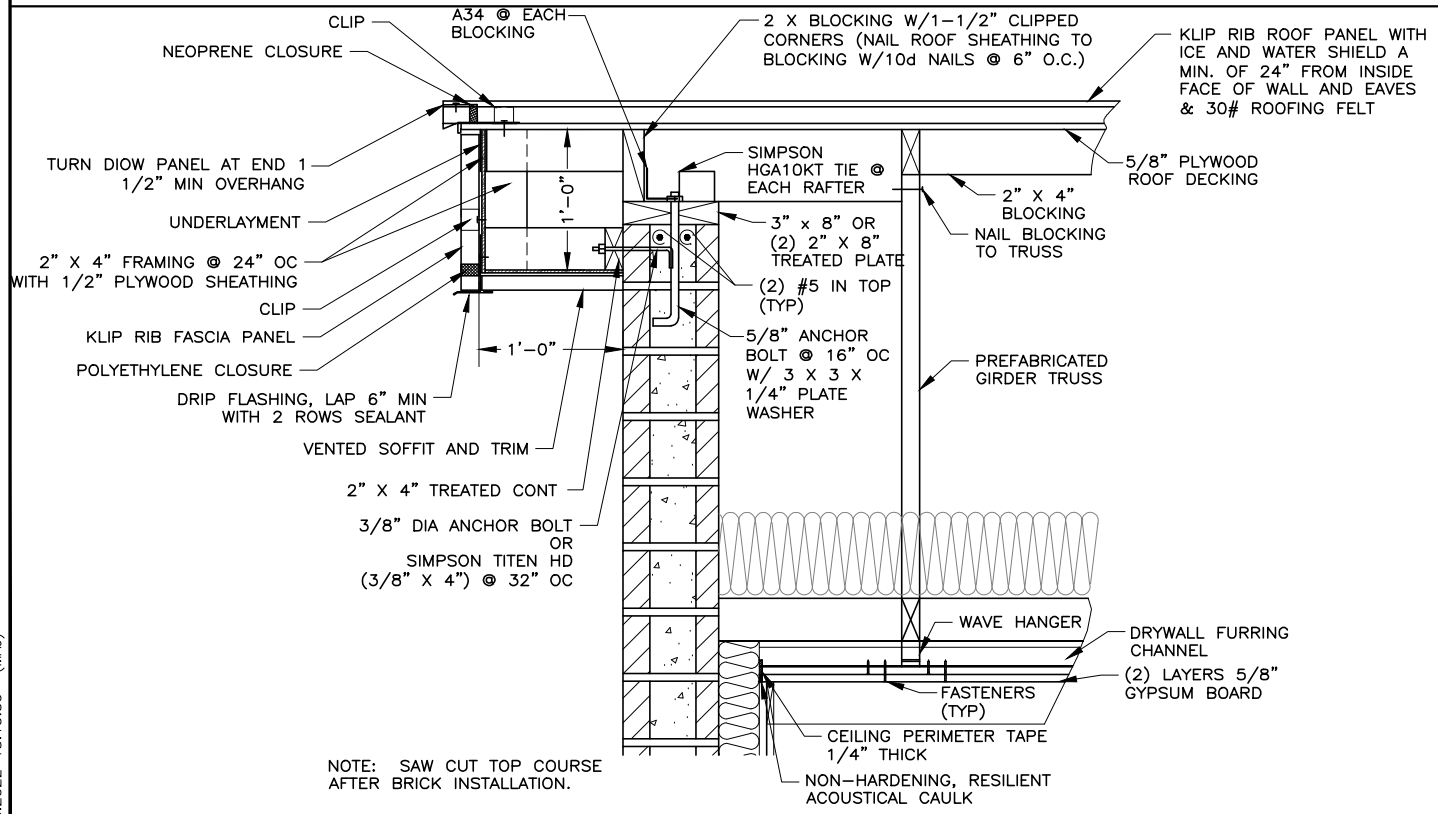
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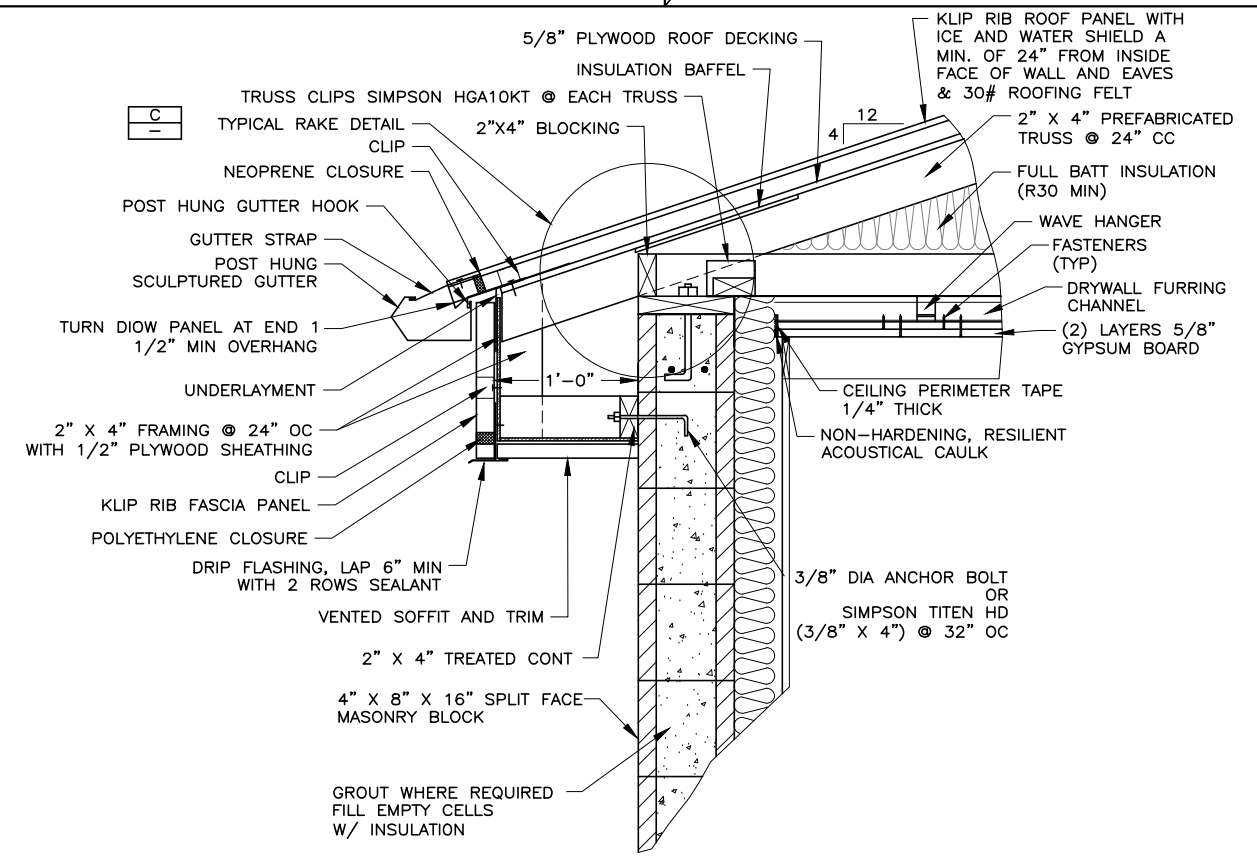
PUMP ACCESS DETAIL A
NTS S-3



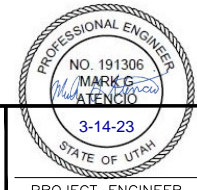
PUMP ACCESS FASTENER DETAIL B
NTS



TYPICAL RAKE DETAIL C
NTS S-3



TYPICAL EAVE DETAIL D
NTS S-3



DESIGNED	MGA	3			
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CHECKED	MEA	1			
DATE	MARCH 2023	NO.	DATE	REVISIONS	BY

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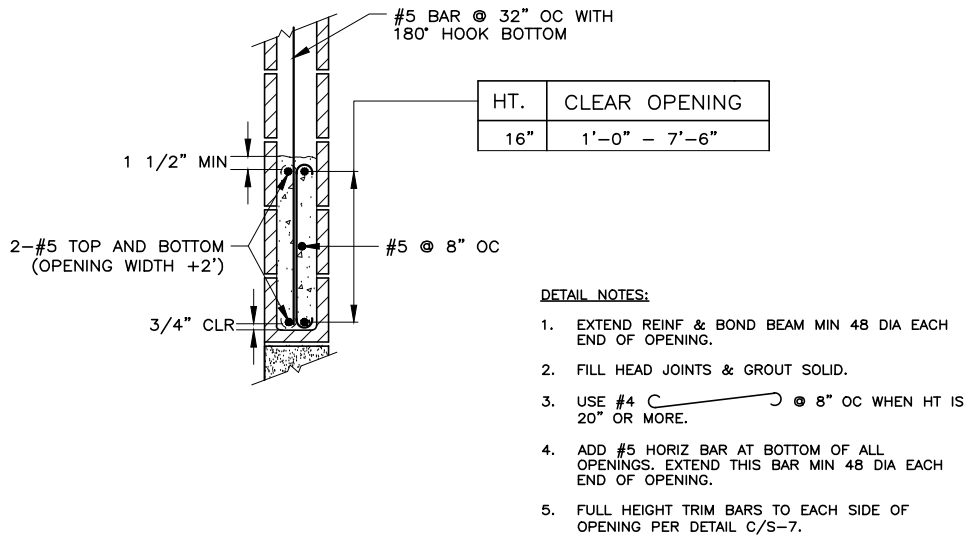


WEST JORDAN CITY WELL #8
STRUCTURAL
TYPICAL ROOFING DETAILS

SHEET
S-5
089.29.100

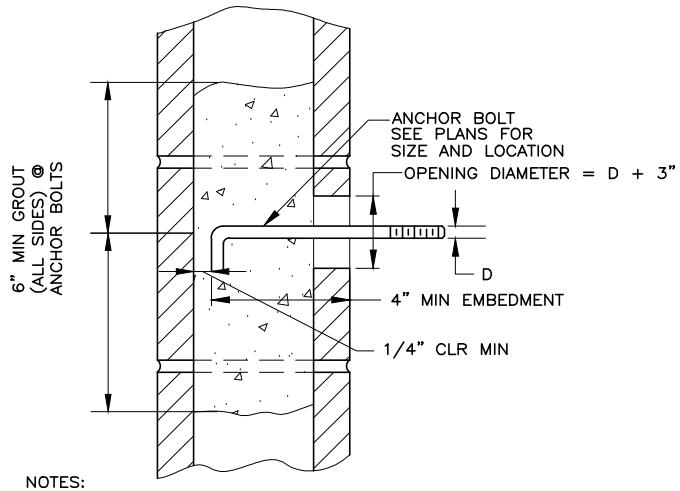
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FILE DATE: 3/9/2023 15:41:38 (ABO)

7/04



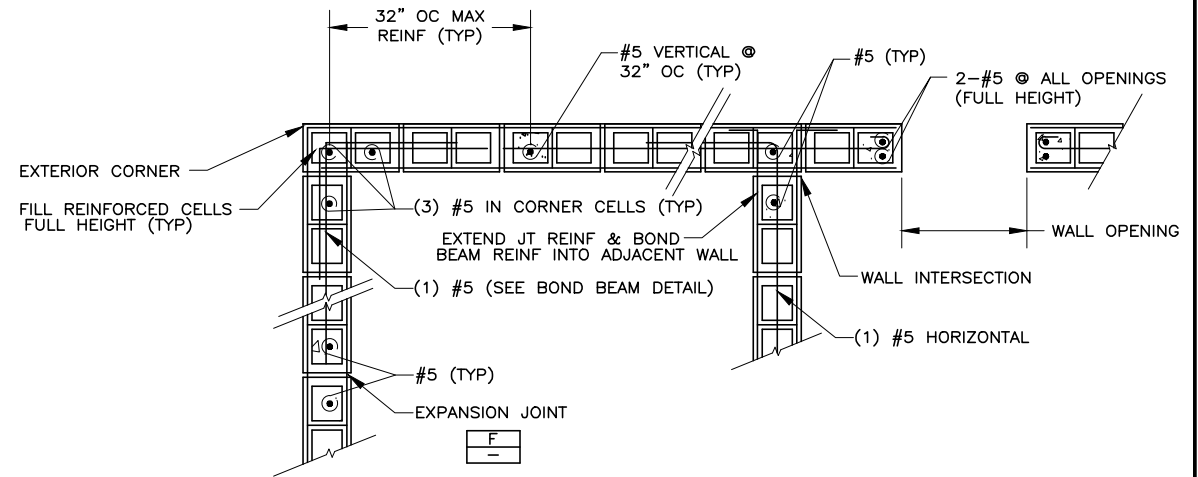
MASONRY LINTEL DETAIL AT WALL OPENINGS
NTS

A
S-3



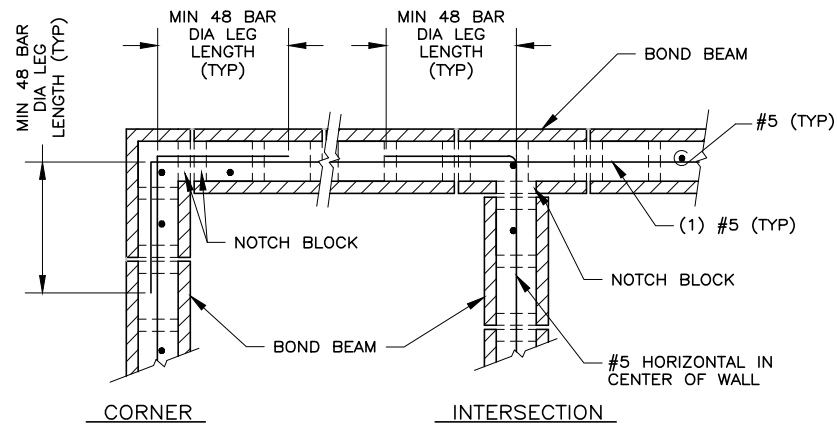
ANCHOR BOLTS IN MASONRY DETAIL
NTS

B
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TYPICAL MASONRY WALL REINFORCING DETAIL
NTS

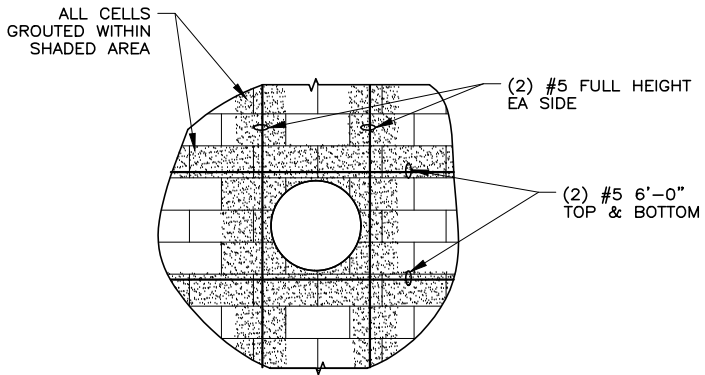
C
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SEE MASONRY NOTES ON SHEET S-1

MASONRY WALL REINFORCING AT TYPICAL BOND BEAM DETAIL
NTS

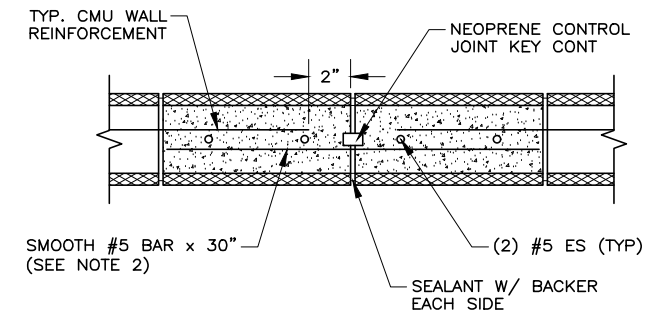
D
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PENETRATION THROUGH MASONRY WALLS DETAIL
NTS

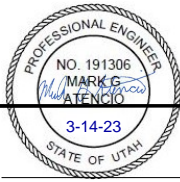
E
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E
A-1



CMU EXPANSION JOINT DETAIL
NTS

F
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& LUCE
ENGINEERS

PROJECT ENGINEER

DESIGNED	MGA	3
DRAFTED	BKC	2
CHECKED	MEA	1
DATE	MARCH 2023	NO.

DATE

NO.

DATE

REVISIONS

BY

APVD.

SCALE

WEST JORDAN

UTAH

WEST JORDAN CITY WELL #8

STRUCTURAL


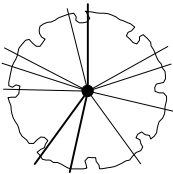






TYPICAL MASONRY DETAILS

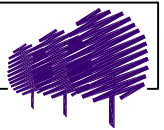
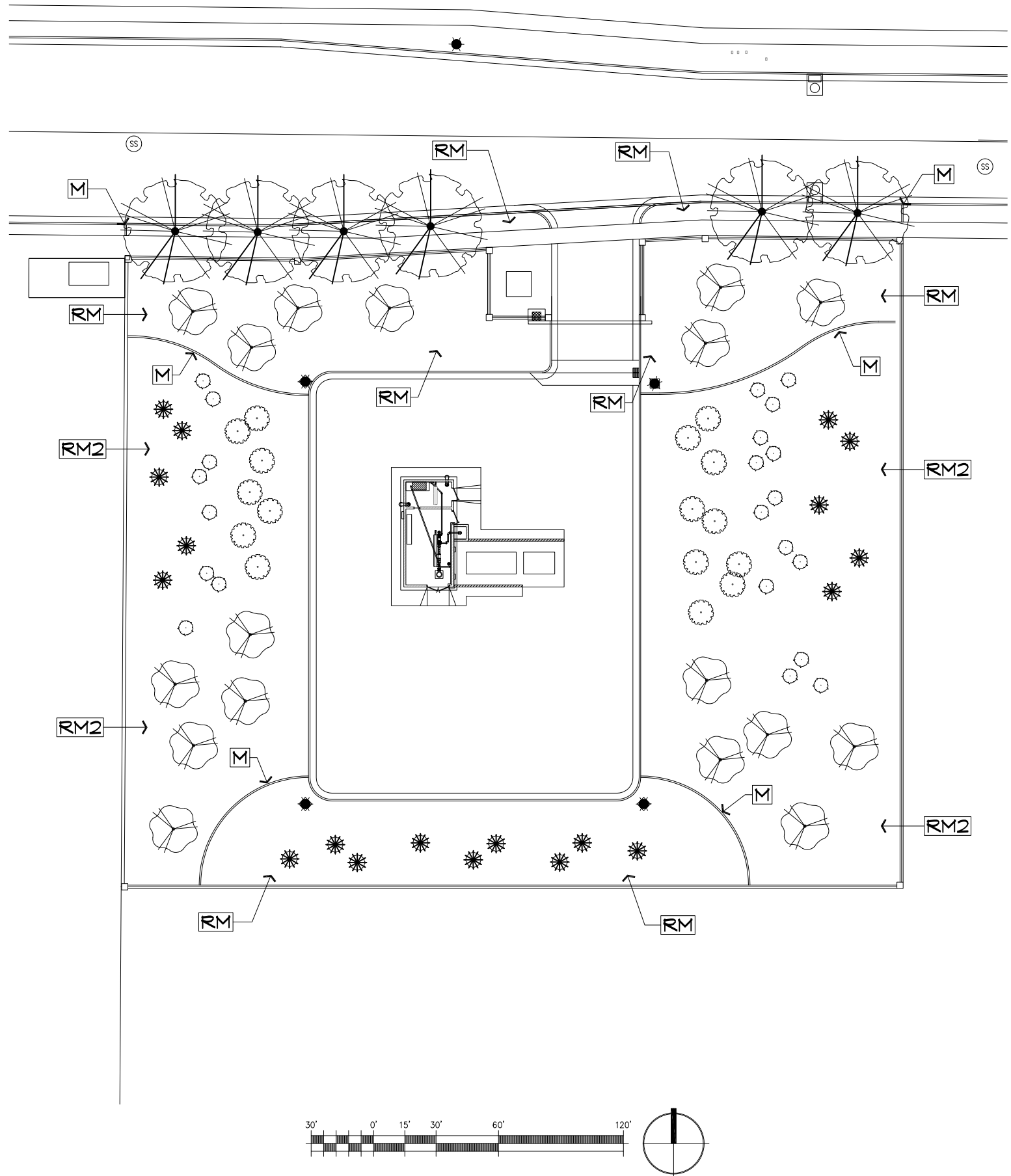
SHEET

S-7

089.29.100

10/07
FILE NAME:
FILE DATE:

PLANT SCHEDULE					
TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER
	17	Acer glabrum	Rocky Mountain Maple	25 gal.	25 Gal. Multi-Trunk
	6	Acer miyabei `State Street`	Miyabei Maple	2" Cal.	B#B
EVERGREEN TREES	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER
	19	Juniperus scopulorum `Gray Gleam`	Gray Gleam Juniper	5` Ht.	B#B
SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE	CONTAINER
	22	Amelanchier alnifolia `Regent`	Saskatoon Serviceberry	Container	5 gal
	16	Rhus trilobata `Autumn Amber`	Autumn Amber Sumac	5 gal.	Container
MISC					
	6"WX6"D Cast-in-place Concrete Mowstrip				
	Install 3" depth 3/4" - 1 1/4" washed Southtown Cobble (Utah Landscape Products) OR 3" depth 3/4" - 1 1/4" washed Nebo Cobble (Staker Parson) . Install over DeWitt Pro-5 Weed Barrier.				
	Install 3" depth 1 1/2" washed Island Storm (Bolinder Resources). Install over DeWitt Pro-5 Weed Barrier.				
NOTES:	1. See details and specifications for additional information.				



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E-mail: eric@ealyman.com

HANSEN
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& LUCE
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PROJECT ENGINEER

DESIGNED EAL
DRAFTED
CHECKED EAL
DATE JAN. 2017

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BY

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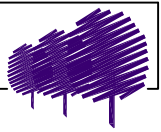
WEST JORDAN
UTAH

WEST JORDAN CITY WELL #8
LANDSCAPE PLAN

SHEET

L1.1

089.29.100

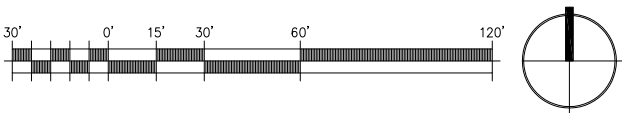
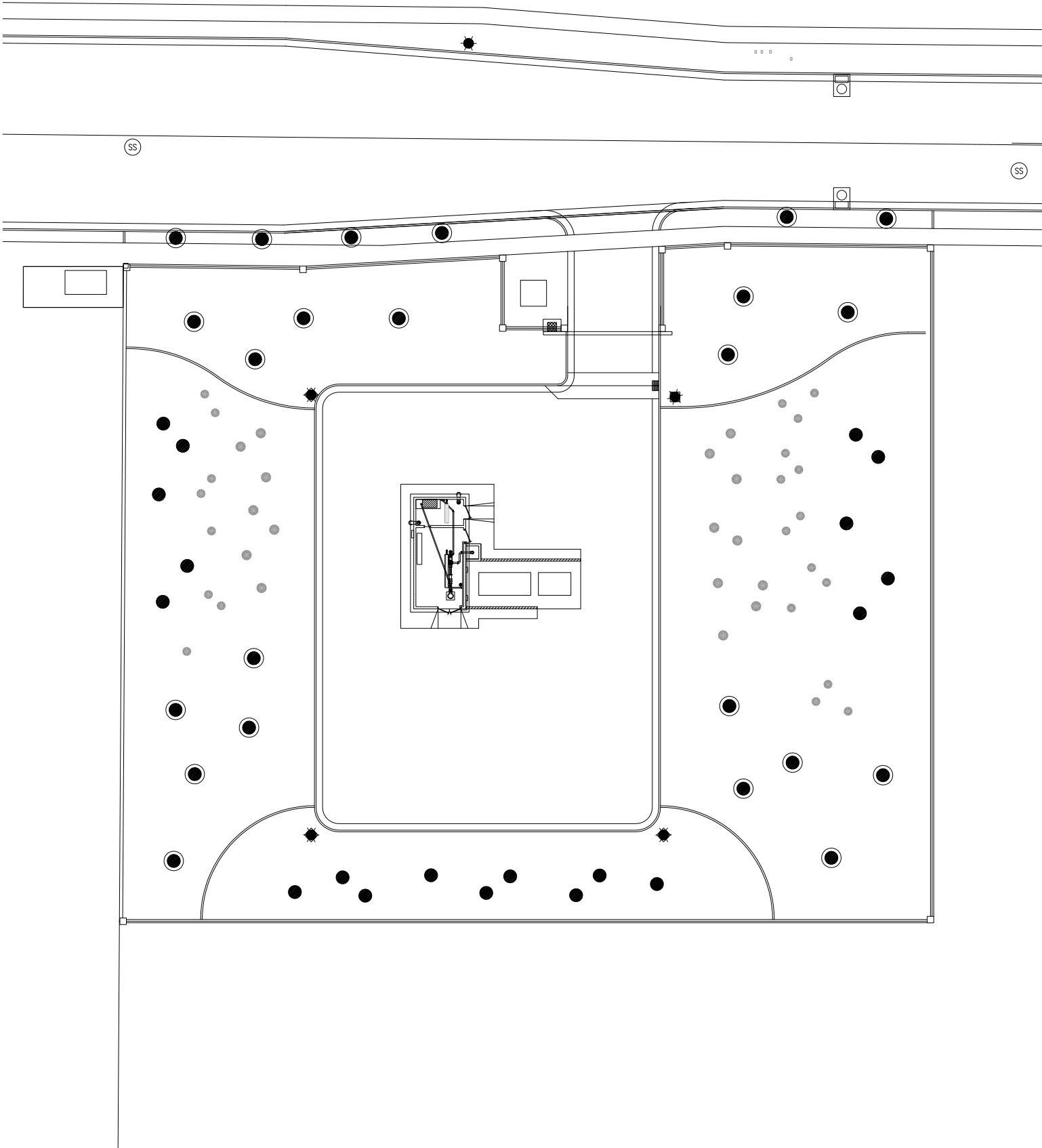


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IRRIGATION NARRATIVE
PREPARED BY E. A. LYMAN, LANDSCAPE ARCHITECT

- 1 A single 1 1/2" Point of Connection will be made to the Drinking Water Mainline. A stop and waste valve, backflow preventer and hydrometer will be installed at the point of connection.
- 2 Point source drip will be installed in the shrub beds. In-line drip tree rings will be used around the trees.
- 3 Trees and shrub beds will be set up on different valves.
- 4 All PVC pipe and fittings will be sch 40 with sch 80 fittings being used at the mainline.
- 5 After the point of connection install an isolation valve.
- 6 PVC lateral linesPipe will be 1"
- 7 Point source drip will be installed with a single emitter to each shrub.
- 8 Inline drip tubing with 2 rings around each deciduous tree and 1 ring around each juniper
- 9 Drip zone valves to include a filter and pressure reducing valve.
- 10 Install drain valve at low point of all drip zones
- 11 Use a Schedule 40 isolation ball valve at each valve manifold.
- 12 Use wall mount controller inside of building in a utility room.
- 13 Use a smart controller that utilizes local historic or actual weather reports.
- 14 All valves to be 1" size plastic commercial grade.
- 15 All wire connection to the valves to be made using 3M DBY waterproof wire connectors.
- 16 Only 1 valve per standard size valve box.



10/07
FILE NAME:
FILE DATE:

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& LUCE
ENGINEERS

PROJECT ENGINEER

DESIGNED	EAL	3
DRAFTED		2
CHECKED	EAL	1
DATE	JAN. 2017	NO.

DATE

DATE

REVISIONS

BY

APVD.

SCALE

WEST JORDAN
UTAH

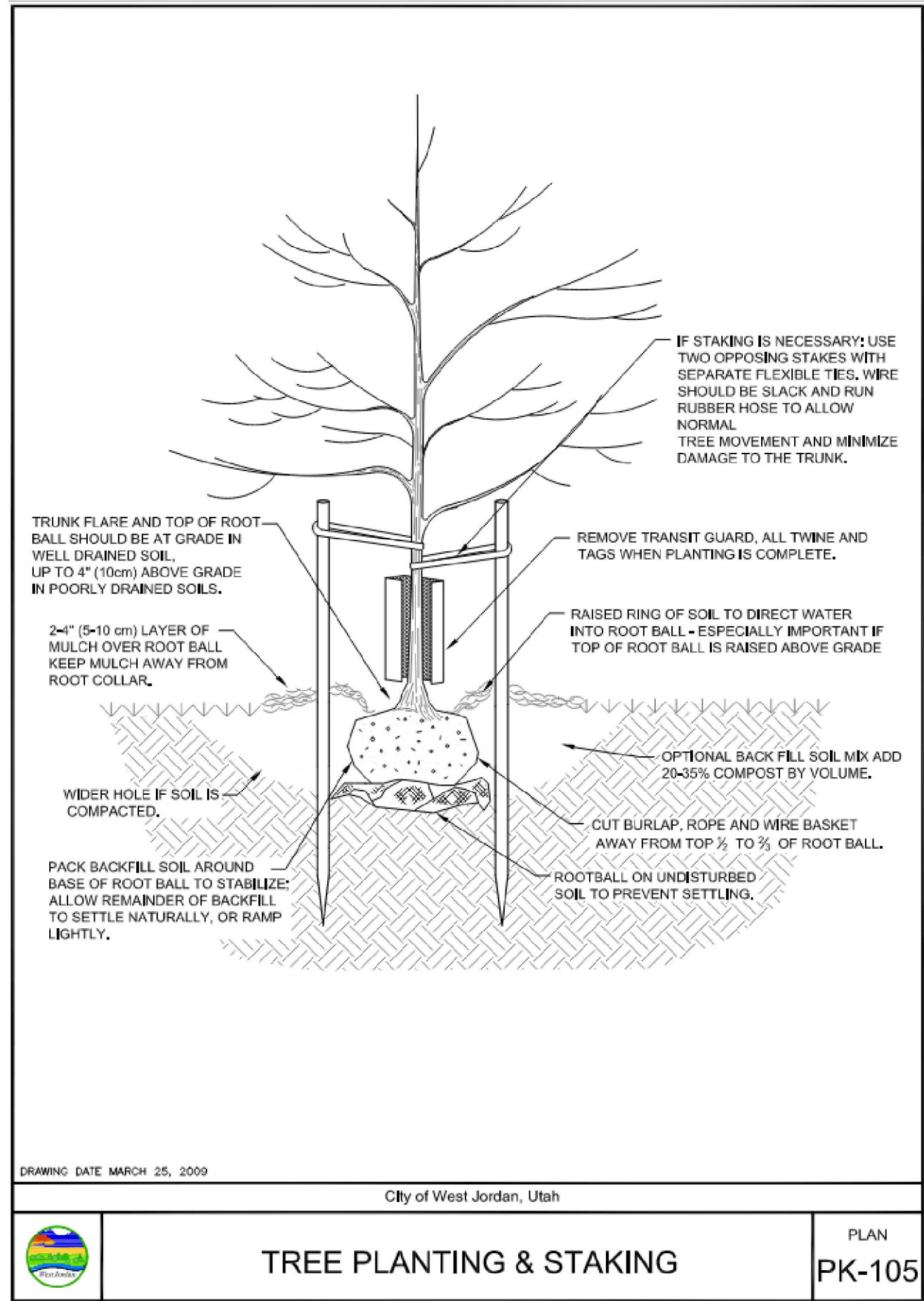
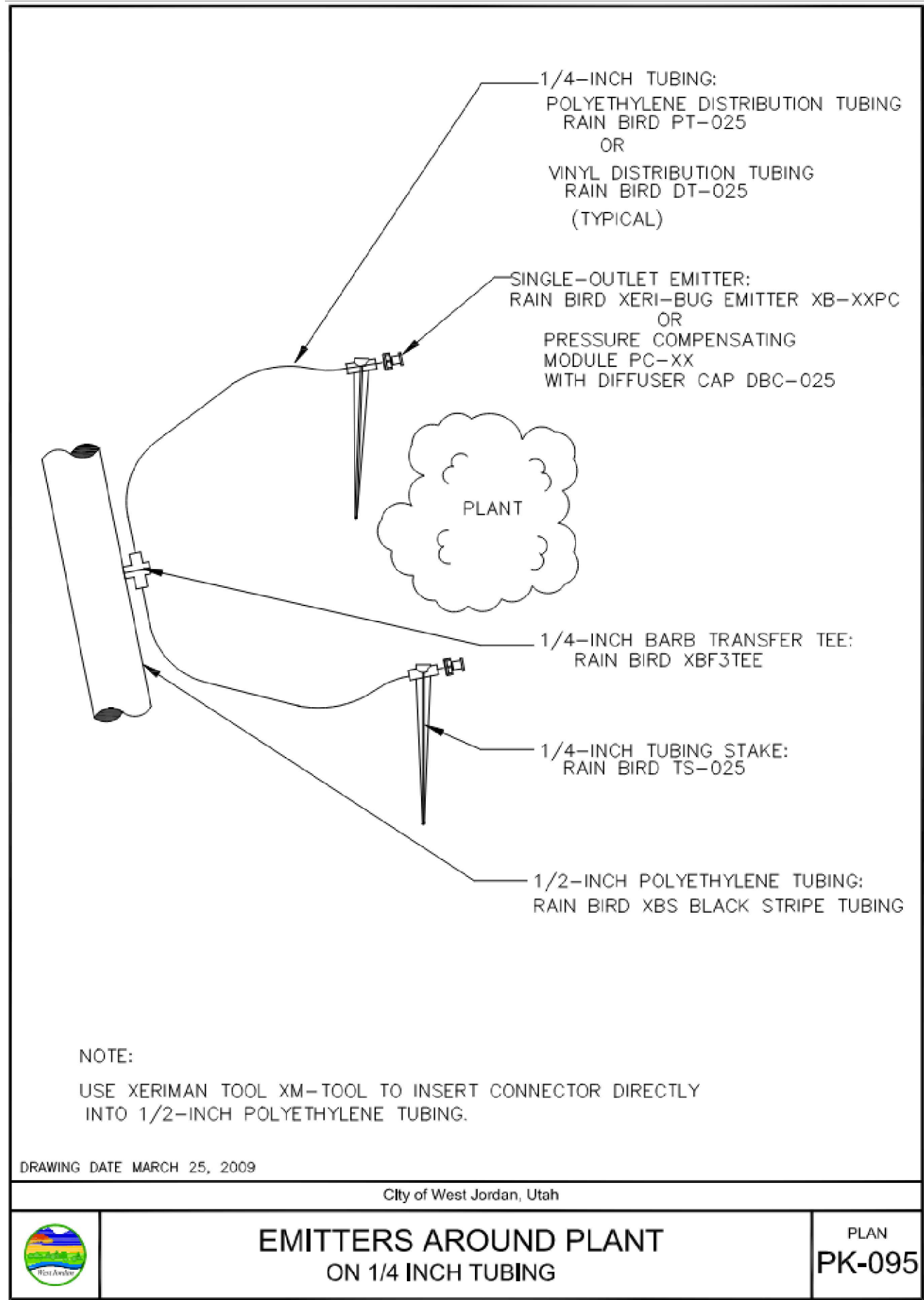
WEST JORDAN CITY WELL #8
IRRIGATION PLAN

SHEET

L2.1

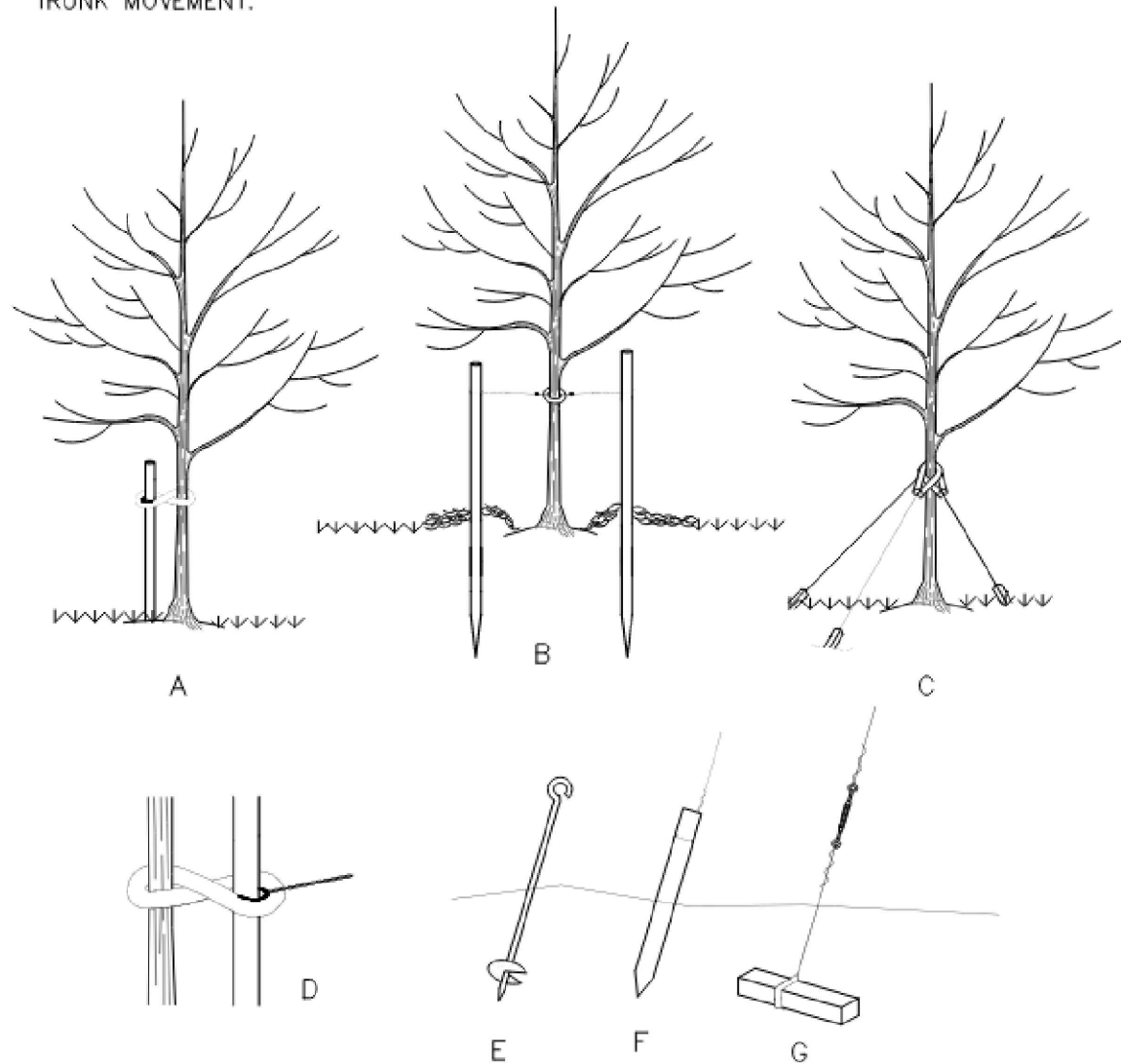
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FILE NAME: PROJECTS\089 - WEST JORDAN\29.100 - WELL NO. 8 PUMP BUILDING\CAD\L5.2 IRRIGATION DETAILS.DWG
FILE DATE: 12.29.2022 12:53:48 (JKN)



FILE NAME: PROJECTS\089 - WEST JORDAN\29.100 - WELL NO. 8 PUMP BUILDING\CAD\L5.3 PLANTING AND IRRIGATION DETAILS.DWG
FILE DATE: 12.29.2022 12:53:37 (JKN)

A SINGLE STAKE IS OFTEN USED ON SMALL TREES. A SINGLE STAKE SHOULD BE PLACED ON THE SIDE OF THE TREE TOWARD THE PREVAILING WINDS SO THE TREE IS BLOWN AWAY FROM THE STAKE. TWO STAKES, WITH SEPARATE FLEXIBLE TIES IS USUALLY RECOMMENDED. IT IS OFTEN EASIER TO INSTALL STAKES BEFORE THE HOLE IS BACKFILLED. GUY WIRES ARE USED ON LARGER TREES. THE GUYS ARE BEST SECURED BY SPECIALLY DESIGNED LAND ANCHORS OR DEADMEN BURIED IN THE SOIL, AND THEY SHOULD BE AT A 45-DEGREE ANGLE WITH THE TRUNK. GALVANIZED STEEL CABLE IS BEST. TURNBUCKLES CAN BE INSTALLED TO ADJUST THE LENGTH. COMPRESSION SPRINGS CAN PROVIDE FLEXIBILITY FOR TRUNK MOVEMENT.



THREE METHODS OF STAKING AND GUYING TREES. A SINGLE STAKE USED FOR TREES UP TO 2IN (5CM) IN DIAMETER. THE TREE IS ATTACHED TO THE STAKE BY MEANS OF A WIRE RUN THROUGH A PIECE OF HOSE (D). B TREES 2 TO 4IN (5 TO 10CM) IN DIAMETER ARE SUPPORTED BY TWO OR THREE STAKES. ATTACHMENT IS THE SAME AS IN A, AND THE STAKES SHOULD BE PLACED SO THE BRANCHES DO NOT RUB AGAINST THEM. C TREES OVER 4IN (10CM) IN DIAMETER SHOULD BE GUYED WITH AT LEAST THREE GUYS. GABLE OR WIRE IS ATTACHED TO THE TREE BY RUNNING WIRES THROUGH A PIECE OF HOSE OR BY USING LAG HOOKS ON LARGE TREES. THE GUYS SHOULD BE SECURED TO ARROWHEAD SHAPED LAND ANCHORS (E), WOODEN STAKES (F), OR DEADMEN BURIED IN THE SOIL (G).

DRAWING DATE MARCH 25, 2009

City of West Jordan, Utah

1 OF 2



TREE PLANTING & STAKING

PLAN
PK-110

SOIL MIX: for all trees, shrubs and ground cover shall be 30% existing soil excavated from plant hole, 30% imported loamy topsoil, 20% clean coarse sand and 20% peat moss.

PLACE AGRIFORM TABS: in each planting pit, buried 1/3 depth of ball.

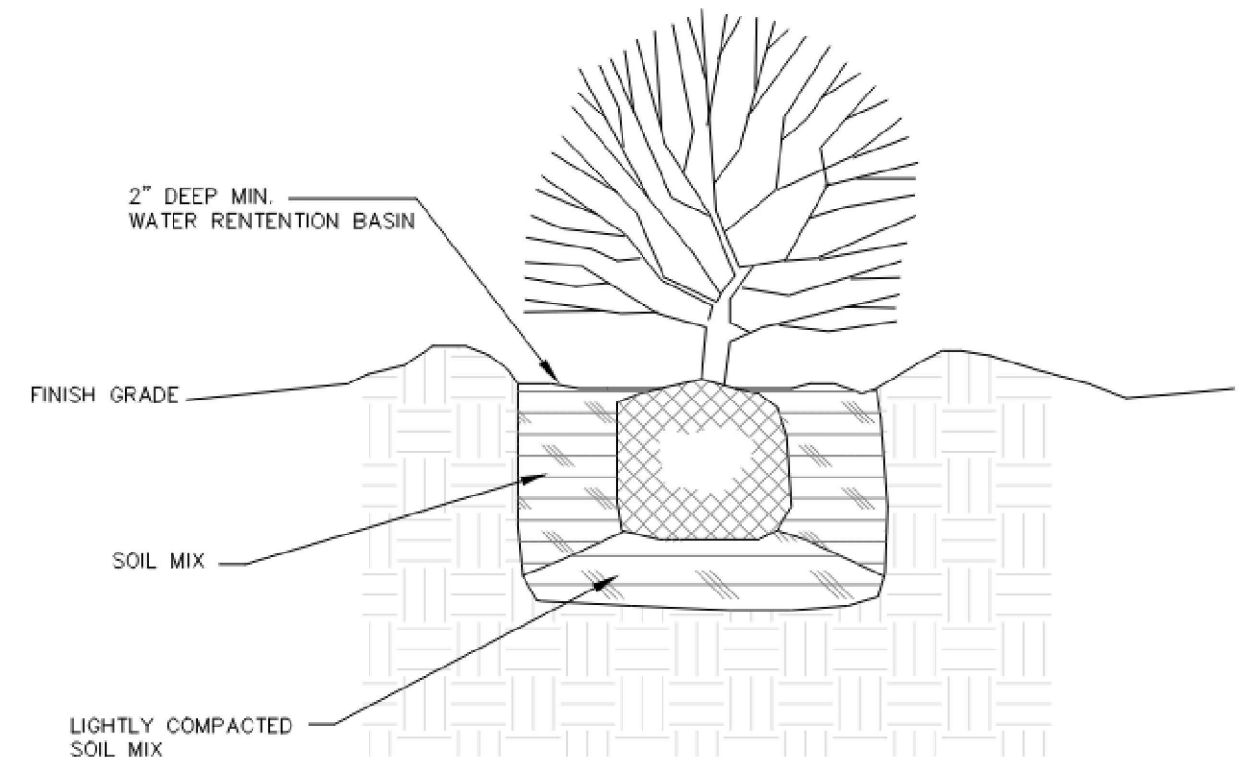
PLACE TABS AS FOLLOWS:

#1 & #2 size - 1 tab

#5 size - 2 tabs

1 1/2" cal. & up - 3 tabs

PLACE TABS: no closer than 18" apart.



TYPICAL SHRUB PLANING DEPTH:
Depth of ball plus 3"

TYPICAL SHRUB PLANING WIDTH:
Width of ball plus 6"

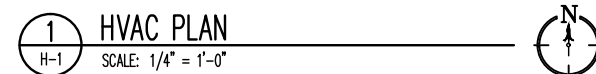
DRAWING DATE MARCH 25, 2009

City of West Jordan, Utah



SHRUB PLANTING DETAIL

PLAN
PK-115



-

MITSUBISHI OUTDOOR UNIT SCHEDULE

ID	APPROVED MANUFACTURER AND NOMINAL TONAGE	LOCATION	AMBIENT AIR HTG / CLG (DEG F)	COOLING CAPACITY NOMINAL (MBH)	HEATING CAPACITY NOMINAL (MBH)	REFRIG. TYPE	COP (47F / 17F)	ELECTRICAL					PHYSICAL DATA			NOTES
								FUSE (AMPS)	FAN OUTPUT (W)	CONNECTION #1			SOUND IN ANECHOIC (dB)	WEIGHT (LBS)	DIMENSIONS LN / WD / HT (IN)	
										VOLT / PH	MCA (AMPS)	MOCP (AMPS)				
CU.1	MITSUBISHI PUZ-A30N	GROUND	0 / 98	30	32	R-410	3.8 / 2.7	25	86	208 / 1	19	26	48	153	38 / 14 / 37	1,2
CU.2	MITSUBISHI PUZ-A30N	GROUND	0 / 98	30	32	R-410	3.8 / 2.7	25	86	208 / 1	19	26	48	153	38 / 14 / 37	1,2

1. INCLUDE LOW AMBIENT HOOD KIT WITH ACCOCIATED WIND BAFFLES FOR 100% LOW AMBIENT COOLING TO -10F
2. PROVIDE WITH DRAIN PAN AND BASE PAN HEATER

MITSUBISHI INDOOR UNIT SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	TYPE	USE TYPE	AIR				FAN	REFRIGERANT			ELECTRICAL		PHYSICAL	NOTES
				MAXIMUM AIRFLOW RATE (CFM)	OUTSIDE AIRFLOW RATE (CFM)	CAP 97 F ODB 75 F IDB (BTU/H)	CAP 5 F ODB 70 F IDB (BTU/H)	EXT. STATIC PRESS. (IN. H2O)	TYPE	GAS PRESS. SIZE (IN)	LIQUID PRESS. SIZE (IN)	UNIT ONLY MCA (AMPS)	VOLT/PH/HZ	LENGTH/ WIDTH/ HEIGHT - WEIGHT (IN) - (LBS)	
FC.1	MITSUBISHI PKA - A30K	WALL MOUNTED	HTG	700	-	--	32	-	R410A	5/8	3/8	1	208 / 1 / 60	46 / 12 / 15	1
			CLG	700	-	30	46								
FC.2	MITSUBISHI PKA - A30K	WALL MOUNTED	HTG	700	-	--	32	-	R410A	5/8	3/8	1	208 / 1 / 60	46 / 12 / 15	1
			CLG	700	-	30	46								

1. POWERED FROM OUTDOOR UNIT.

FAN SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPE	AIR		FAN		ELECTRICAL		PHYSICAL	NOTES
				MAXIMUM AIRFLOW RATE (CFM)	STATIC PRESSURE (IN. WATER)	FAN WHEEL DIAMETER (IN)	STATIC EFFICIENCY (%)	MOTOR SIZE HP	VOLT/PH/HZ	LENGTH/ WIDTH/ HEIGHT (IN)	
EF.1	PLASTEC MODEL 30	CHLORINE AREA	INTERIOR VENT SET	1,100	0.5	22	70	3/4	120 / 1 / 60	28 / 22 / 30	1,2,3

1. TIE TO LIGHT SWITCH.
2. TIED TO LINE VOLTAGE THERMOSTAT AND TO CHLORINE SENSOR FOR EMERGENY USE.
3. PROVIDE WITH BACKDRAFT DAMPER.

ELECTRIC HEATER SCHEDULE

ID	MANUFACTURER AND MODEL NUMBER	LOCATION	TYPIE	AIR		ELECTRICAL			PHYSICAL	NOTES
				AIRFLOW RATE (CFM)	LOAD (BTU/H)	TEMP. RISE DB (°F)	HEAT CAPACITY (KW)	VOLT/PH/HZ	LENGTH/ HEIGHT/ WIDTH (INCH)	
UH.1	Q-MARK MUH 0541 5KW	CONTROL ROOM	ELECTRIC	350	17,050	85	5	480 / 3 / 60	14 / 16 / 8	1,2,3
UH.2	Q-MARK MUH 0341 3KW	CONTROL ROOM	ELECTRIC	250	17,050	85	3	480 / 3 / 60	14 / 16 / 8	1,2,3

1. PROVIDE WITH FACTORY WALL MOUNT BRACKET.
2. PROVIDE WITH FINGER PROOF FAN GUARD.
3. COORDINATE WITH ARCHITECTURAL.

DIVISION 22/23 – PLUMBING/HVAC

SECTION 22 0500/23 0500
COMMON WORK RESULTS FOR PLUMBING/HVAC

GENERAL CONDITIONS:

The General Conditions of the Contract, with the amendments, supplements, forms and requirements in Division 1, and herewith made a part of this Division.

All sections of Division 15 shall comply with the Mechanical General Requirements. The standards established in this section as to quality of materials and equipment, the type and quality of workmanship, mode of operations, safety rules, code requirements, etc., shall apply to all sections of this Division as though they were repeated in each Division.

SCOPE OF WORK:

The project described herein is West Jordan Well #8. This work shall include all labor, materials, equipment, fixtures, and devices for the entire mechanical work and a complete operating, tested and commissioned installation.

Section 23 Index:

SECTION 23 0500 – COMMON WORK RESULTS FOR HVAC PIPING
SECTION 23 0553 – IDENTIFICATION FOR HVAC PIPING & EQUIPMENT
SECTION 23 3113 – METAL DUCTS
SECTION 23 3300 – AIR DUCT ACCESSORIES
SECTION 23 3423 – HVAC POWER VENTILATORS
SECTION 23 8000 – DECENTRALIZED HVAC EQUIPMENT
SECTION 23 0900 – TEMPERATURE CONTROLS
SECTION 23 0593 – TESTING, ADJUSTING AND BALANCING AND MAINTENANCE MANUALS
SECTION 23 0822 – LOUVERS
SECTION 23 9900 – CONTROLS SEQUENCE

SYSTEM DESCRIPTION:

CODES & ORDINANCES:

All work shall be executed in accordance with all underwriters, public utilities, local and state rules and regulations applicable to the trade affected. Should any change in the plans and Specifications be required to comply with these regulations, the Contractor shall notify the Engineer before the time of submitting his bid. After entering into contract, the Contractor will be held to complete all work necessary to meet these requirements without extra expense to the Owner. Where work required by drawings or specifications is above the standard required, it shall be done as shown or specified.

Applicable codes are as follows:
2018 International Mechanical Code
2018 International Building Code
2018 International Plumbing Code
Utah State Boiler Code

SUBMITTALS AND SHOP DRAWINGS:

Submittals:

As soon as possible after the contract is awarded, but in no case more than 5 calendar days thereafter, the Contractor shall submit to the Engineer four (4) copies of the descriptive literature covering products and materials to be used in the installation of mechanical systems for this project. The review of the submitted data will require a minimum of [7] days. If the Contractors schedule requires return of submitted literature in less than the allotted time, the Contractor shall accelerate his submittal delivery date. The Contractor shall resubmit all items requiring re-review within 7 days of returned submittals. Refer to each specification section for items requiring submittal review. Written approval of the Owner's Representative shall be obtained before installing any such equipment or materials for the project. The submittals shall be prepared in an orderly manner, contained in a 3-ring loose-leaf binder with index and identification tabs each item or group of items and for each specification section. All items shall be submitted at one time except automatic temperature control drawings and seismic restraint drawings which may be submitted separately within 60 days of the contract award date. Partial submittals will not be reviewed until the complete submittal is received.

Submitted literature shall bear the Contractor's stamp, indicating that he has checked all equipment being submitted; that each item will fit into the available space with the accesses shown on the drawings; and, further, that each item conforms to the capacity and quality standards given in the contract documents.

Coordination Drawings: Detail major elements, components, and systems of plumbing and HVAC equipment and materials in relationship with other systems, installations, and building components. Show space requirements for installation and access. Indicate if sequence and coordination of installations are important to efficient flow of the Work. Include the following:

- Planned piping and duct layout, including specialty locations and access areas.
- Clearances for installing and maintaining insulation.
- Clearances for servicing and maintaining equipment, accessories, and specialties, including space for disassembly required for periodic maintenance.
- Equipment and accessory service connections and support details.
- Exterior wall and foundation penetrations.
- Fire-rated wall and floor penetrations.
- Sizes and location of required concrete pads and bases.
- Scheduling, sequencing, movement, and positioning of large equipment into building during construction.
- Floor plans, elevations, and details to indicate penetrations in floors, walls, and ceilings and their relationship to other penetrations and installations.

Submitted literature shall clearly indicate performance, quality, and utility requirements; shall show dimension and size of connection points; and shall include derating factors that were applied for each item of equipment to provide capacity at job site elevation. Temperature control submittals shall include piping and wiring diagrams, sequence of operation and equipment. Equipment must fit into the available space with allowance for operation, maintenance, etc. Factory piped and wired equipment shall include shop drawings for all internal wiring and piping furnished with the unit.

Submitted literature shall clearly show all required field install wiring, piping, and accessory installations required by the Contractor to provide a complete operating system.

Review by the Owner's Representative is for general conformance of the submitted equipment to the project specification. In no way does such review relieve this Contractor of his obligation to furnish equipment and materials that comply in detail to the specification nor does it relieve the Contractor of his obligation to determine actual field dimensions and conditions that may affect his work. Regardless of any items overlooked by the submittal review, the requirements of the contract drawings and specifications must be followed and are not waived or superseded in any way by the review.

The contractor is to review equipment by description, catalog number, and manufacturer's names. Standards of quality have been established by the Engineer for certain manufactured equipment items and specialties that are to be furnished by this Division. Alternate products and equipment may be proposed for use only if specifically named in the specifications or if given written prior approval in published addenda. Design equipment is the equipment listed on the drawings or if not listed on the drawings is the equipment first named in the specifications.

Alternate Equipment:

The Contractor should protect himself with the supplier of alternate named equipment. Alternate named equipment will be reviewed only one time.

Should alternate equipment be submitted and be rejected, it shall not be resubmitted for review and it shall be the responsibility of this contractor. The contractor shall only submit on design equipment on future submittals. Incomplete submittal data will be rejected.

If the Engineer is required to do additional design work to incorporate changes caused by submitting equipment or products, different than the design equipment specified, as defined above, the contractor shall reimburse the engineer for additional time and expenses at the engineers current, recognized, hourly rates.

DRAWINGS AND MEASUREMENTS:

Drawings:

The contract document drawings show the general design, arrangements, and extent of the system. In certain cases, the drawings may include details that show more nearly exact locations and arrangements; however, the locations, as shown diagrammatically, are to be regarded as general.

It shall be the work of this Section to make such slight alterations as may be necessary to make adjustable parts fit to fixed parts, leaving all complete and in proper shape when done. All dimensions given on the drawings shall be verified as related to this work and with the Engineer's office before work is started.

This Section shall carefully study building sections, space, clearances, etc., and then provide offsets in piping or ductwork as required to accommodate the building structure without additional cost to the Owner. In any case and at any time, a change in location required by obstacles or the installation of other trades not shown on the mechanical plans shall be made without charge.

The drawings shall not be scaled for roughing in measurements nor shall they be used as shop drawings. Where drawings are required for these purposes or where drawings must be made from field measurements, the Contractor shall take the necessary measurements and prepare the drawings. Shop drawings of the various subcontractors shall be coordinated to eliminate all interferences and to provide sufficient space for the installation of all equipment, piping, ductwork, etc.

The drawings and specifications have been prepared to supplement each other and they shall be interpreted as an integral unit with items shown on one and not the other being furnished and installed as though shown and called out on both.

Record Drawings:

Record drawings for all systems and sections of this Division shall be furnished as work of this Section. Blue-line white prints of floor plans shall be furnished by the Engineer's office. These prints shall be accurately and neatly marked in colored pencil, showing all changes from schematics. Installation and commissioning checklists that are provided on the drawings are to be initialed and dated upon completion.

These drawings shall be reviewed with the Engineer's at least once each month, shall be submitted at time of final inspection, and shall be checked for accuracy. Failure to keep record drawings up-to-date shall be cause for withholding monthly payments.

CONTRACTOR'S USE OF BUILDING EQUIPMENT:

The Contractor may use equipment such as electric motors, fans, heat exchangers, filters, etc., with the written permission of the Owner. As each piece of equipment is used (such as electric motors and fans), maintenance procedures approved by the manufacturer are to be followed. A careful record is to be kept of the length of the time the equipment is used, maintenance procedures followed, and any difficulty encountered. The record is to be submitted to the Owner upon acceptance. All fan belts and filter media (such as bearings) shall be carefully inspected just prior to acceptance. Any excessive wear noted shall require replacement. Any damage by Contractor to be replaced by Contractor.

EXISTING CONDITIONS:

The Contractor shall carefully examine all existing conditions that might affect the mechanical system and shall compare these conditions with all drawings and specifications for work included under this contract. He shall, at such time, ascertain and check all conditions that may affect his work. No allowance shall subsequently be made in his behalf for an extra expense incurred as a result of his failure or neglect to make such examination. This Contractor shall include in his bid proposal all necessary allowances to repair or replace any item that will remain or will be removed, and any item that will be damaged or destroyed by new construction.

The Contractor shall remove all abandoned piping, etc., required by new construction and cap or plug openings. No capping, etc., shall be exposed in occupied areas. All openings of items removed shall be sealed to match adjacent surfaces.

The Contractor shall verify the exact location of all existing services, utilities, piping, etc., and make connections to existing systems as required or as shown on the drawings. The exact location of each utility line, together with size and elevation, shall be established before any on-site lines are installed. Should elevation or size of existing main utility lines make connections to them impossible as shown on drawings, then notification of such shall immediately be given to the Owners Representative for a decision.

EQUIPMENT CAPACITIES:

Capacities shown for equipment in the specifications and on the drawings are the minimum acceptable. No equipment shall be considered as an alternate without prior approval of the design Engineer.

All equipment shall give the specified capacity and performance at the job-site elevation of [4200] feet above sea level. Manufacturers' standard ratings shall be adjusted accordingly. All capacities and performances listed on drawings or in specifications are for job-site conditions.

SEISMIC REQUIREMENTS FOR EQUIPMENT:

All equipment must be furnished structurally adequate to withstand seismic forces as outlined in the Uniform Building Code for seismic Zone 3. Equipment bases shall be designed for direct attachment of seismic snubbers and/or seismic anchors. Coordinate with structural.

COOPERATION WITH OTHER TRADES:

The general contractor shall be responsible for job site coordination. The Contractor shall refer to other drawings and parts of this specification that cover work of other trades that is carried on in conjunction with the mechanical work such that all work can proceed without interference resulting from lack of coordination.

The Contractor shall properly size and locate all openings, chases, sleeves, equipment bases, and accesses. He shall provide accurate wiring diagrams to the Electrical Contractor for all equipment furnished under this Division.

The ceiling cavity must be carefully reviewed and coordinated with all trades. In the event of conflict, the installation of the mechanical equipment and piping shall be in the following order: plumbing, waste, and soil lines; supply, return, and exhaust ductwork; water piping; medical gases; fire protection piping; and pneumatic control piping.

The mechanical Contractor shall insure that the installation of all piping, ducts and equipment is in compliance with Articles 110-16 and 384-4 of the National Electrical Code relative to proper clearances in front of and over all electrical panels and equipment. No piping or ductwork will be allowed to run over an electrical panel.

RESPONSIBILITY OF CONTRACTOR:

The Contractor is responsible for the installation of a satisfactory piece of work in accordance with the true intent of the drawings and specifications. He shall provide, as a part of his work and without expense, all incidental items required even though these items are not particularly specified or indicated. The installation shall be made so that its several component parts will function together as a workable system and shall be left with all equipment properly adjusted and in working order. (The Contractor shall familiarize the Owner's Representative with maintenance and lubrication instructions as prepared by the Contractor and shall explain and fully instruct him relative to operating, servicing, and maintenance of them.) Part of training package and P.M. program.

UNFIT OR DAMAGED WORK:

Any part of this installation that fails, is unfit, or becomes damaged during construction, shall be replaced or otherwise made good. The cost of such remedy shall be the responsibility of this Division and general contractor.

WORKMANSHIP:

Workmanship shall be the best quality of its kind for the respective industries, trades, crafts, and practices, and shall be acceptable in every respect to the Owner's representative. Nothing contained herein shall relieve the Contractor from making good and perfect work in all details in construction. All work shall be performed under the directories of any licensed journeyman. Contractor shall maintain a licensed journeyman on site at all times during construction.

SAFETY REGULATION:

The Contractor shall comply with all local and OSHA safety requirements in performance with this work. (See General Conditions). This Contractor shall be required to provide equipment, supervision, construction, procedures, and all other necessary items to assure safety to life and property.

ELECTRICAL SERVICES:

Motors:

All motors required under this Division shall be furnished and installed as work of this Division. All motor-starting equipment, unless otherwise specified in Division 15 shall be furnished as work of Division 16, Electrical. Motors shall be name plated with Class F insulation as manufactured by Lincoln Electric, US Motors, General Electric, Allis Chalmers, Century, or Reliance, designed for quiet continuous operations with maximum (Class B) 90oC resistance heating rise with 40oC ambient temperature at full load and rated speed and voltage individually specified with minimum 1.15 service factor. Motors shall be all of the same make except those incorporated in packaged units. All motors shall be provided with ball bearings and conduit connection boxes. Lifting eyes shall be provided on motors 1-1/2 horsepower and larger.

Unless otherwise specified, motors 3/4 horsepower and larger shall be 3 phase, 60 cycle, and motors 1/2 horsepower and smaller shall be single phase, 60 cycle. Contractor is to coordinate with available power voltage and phase. Refer to fan and equipment schedules on drawings for voltage characteristics, horsepower, size, etc. All single-phase motors shall have thermal overload protection. If motor-starting equipment is included in packaged units, all three phases shall have overload protection. All motors shall have a power factor of 85 percent or better. All motors 20 horsepower and larger shall be manufacturers Premium Efficiency grade and shall meet the NEMA MG 1-12.54" efficiency ratings for energy efficient motors. All two speed motors, unless otherwise specified, shall be 1800/1200 rpm dual winding type. All 3 phase motors shall be designed and manufactured to be capable of speed control through a variable frequency drive controller.

Motors and other electrical control equipment installed in damp or moist areas or in areas of other special conditions shall be designed and approved for the installation. Motors and electrical equipment in explosive locations shall be approved for those locations. Motors located outside buildings shall be totally enclosed.

Electric Wiring:

All equipment control wiring and all boiler control wiring, water heater control wiring, pump interlocks, automatic temperature control wiring including all necessary contacts, relays, and interlocks, whether low or line voltage, except power wiring, shall be furnished and installed as work of this Division.

All equipment that requires an electrical connection shall be furnished so that it will operate properly and deliver full capacity on the electrical service available and also satisfy the requirements under "Motors," as specified above.

The Mechanical Contractor must refer to the electrical control equipment and wiring shown on the diagrams. Any changes or additions required by specific equipment furnished shall be the complete responsibility of the Contractor furnishing the equipment.

The Mechanical Contractor must coordinate with the Electrical Contractor to insure that all required components of control work are included and fully understood. No additional cost shall accrue to the Owner as a result of lack of such coordination.

WORK, MATERIALS, AND QUALITY OF EQUIPMENT:

Unless otherwise specified, all materials shall be new and of the best quality of their respective kinds and all labor shall be done in a most thorough and workmanlike manner. Work shall be performed by a licensed electrician.

Products or equipment of any of the manufacturers cited herein or any of the products approved by the Addenda may be used. However, where lists of products are cited herein, the one first listed in the design equipment used in drawings and schedules to establish size, quality, function, and capacity standards. If other than design equipment is used, it shall be carefully checked for access to equipment, electrical and control requirements, valving, and piping. Should changes or additions occur in piping, valving, electrical work, etc., or if the work of other Contractors would be revised by the alternate equipment, the cost of all changes shall be borne as work of this Division.

Pipe of foreign manufacture will not be acceptable.

The access to equipment shown on the drawings are the minimum acceptable space requirements. No equipment that reduces or restricts accessibility to this or any other equipment will be considered.

END OF SECTION 22 0500/23 0500



DESIGNED	TG	3		
DRAFTED	BLUEFIELD	2		
CHECKED	BLUEFIELD	1	-	-
DATE	JUNE 2020	NO.	DATE	

REVISIONS

	TG			
	BY	APVD.		

SCALE
AS SHOWN

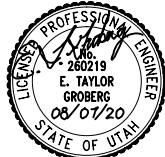


WEST JORDAN CITY WELL #8
HVAC
HVAC SPECIFICATIONS

SHEET
H-3

089-29-100

THESE DOCUMENTS
ARE INCOMPLETE
WITHOUT FULL
COORDINATION WITH
BLUEFIELD
ENGINEERING.



DIVISION 23 – HVAC				SECTION 23 80 00 DECENTRALIZED HVAC EQUIPMENT			
PART 1 – GENERAL				PART 3 – Products 3.01 R2–SERIES Outdoor Unit			
1.01 System Description				A. General: The R2–Series PURY outdoor unit shall be used specifically with CITY MULTI VRFZ components. The PURY outdoor units shall be equipped with multiple circuit boards that interface to the M–NET controls system and shall perform all functions necessary for operation. Each outdoor unit module shall be completely factory assembled, piped and wired and run tested at the factory.			
The variable capacity, heat pump heat recovery air conditioning system shall be a Mitsubishi Electric CITY MULTI VRFZ (Variable Refrigerant Flow Zoning).				1. The model nomenclature and unit requirements are shown below. All units requiring a factory supplied twinning kits shall be piped together in the field, without the need for equalizing line(s). If an alternate manufacturer is selected, any additional material, cost, and labor to install additional lines shall be incurred by the contractor.			
1.02 Quality Assurance				2. Outdoor unit shall have a sound rating no higher than 60 dB(A) individually or 64 dB(A) twinned. Units shall have a sound rating no higher than 50 dB(A) individually or 53 dB(A) twinned while in night mode operation. If an alternate manufacturer is selected, any additional material, cost, and labor to meet published sound levels shall be incurred by the contractor.			
A. The units shall be listed by Electrical Testing Laboratories (ETL) and bear the ETL label.				3. Both refrigerant lines from the outdoor unit to the BC (Branch Circuit) Controller (Single or Main) shall be insulated.			
B. All wiring shall be in accordance with the National Electrical Code (N.E.C.).				4. There shall be no more than 3 branch circuit controllers connected to any one outdoor unit.			
C. The units shall be manufactured in a facility registered to ISO 9001 and ISO14001 which is a set of standards applying to environmental protection set by the International Standard Organization (ISO).				5. Outdoor unit shall be able to connect to up to 50 indoor units depending upon model.			
D. All units must meet or exceed the 2010 Federal minimum efficiency requirements and the proposed ASHRAE 90.1 efficiency requirements for VRF systems. Efficiency shall be published in accordance with the DOE alternative test procedure, which is based on the Air–Conditioning, Heating, and Refrigeration Institute (AHRI) Standards 340/360, 1230 and ISO Standard 13256–1.				6. The outdoor unit shall have an accumulator with refrigerant level sensors and controls.			
E. A full charge of R–410A for the condensing unit only shall be provided in the condensing unit.				7. The outdoor unit shall have a high pressure safety switch, over–current protection, crankcase heater and DC bus protection.			
1.03 Delivery, Storage and Handling				8. The outdoor unit shall have the ability to operate with a maximum height difference of 164 feet and have total refrigerant tubing length of 1804–2625 feet. The greatest length is not to exceed 541 feet between outdoor unit and the indoor units without the need for line size changes or traps.			
A. Unit shall be stored and handled according to the manufacturer’s recommendation.				9. The outdoor unit shall be capable of operating in heating mode down to –4F ambient temperatures or cooling mode down to 23F ambient temperatures, without additional low ambient controls. If an alternate manufacturer is selected, any additional material, cost, and labor to meet low ambient operating condition and performance shall be incurred by the contractor.			
1.04 Controls				10. The outdoor unit shall be capable of operating in cooling mode down to –10F with optional manufacturer supplied low ambient kit.			
A. The control system shall consist of a low voltage communication network of unitary built–in controllers with on–board communications and a web–based operator interface. A web controller with a network interface card shall gather data from this system and generate web pages accessible through a conventional web browser on each PC connected to the network. Operators shall be able to perform all normal operator functions through the web browser interface.				11. Manufacturer supplied low ambient kit shall be provided with predesigned control box rated for outdoor installation and capable of controlling kit operation automatically in all outdoor unit operation modes.			
B. System controls and control components shall be installed in accordance with the manufacturer’s written installation instructions.				12. Manufacturer supplied low ambient kit shall be listed by Electrical Laboratories (ETL) and bear the ETL label.			
C. Furnish energy conservation features such as optimal start, night setback, request–based logic, and demand level adjustment of overall system capacity as specified in the sequence.				13. Manufacturer supplied low ambient kit shall be factory tested in low ambient temperature chamber to ensure operation. Factory performance testing data shall be available when requested.			
D. System shall provide direct and reverse–acting on and off algorithms based on an input condition or group conditions to cycle a binary output or multiple binary outputs.				14. The outdoor unit shall have a high efficiency oil separator plus additional logic controls to ensure adequate oil volume in the compressor is maintained.			
E. Provide capability for future system expansion to include monitoring and use of occupant card access, lighting control and general equipment control.				15. Most defrost all circuits simultaneously in order to resume full heating more quickly. Partial defrost which may extend ‘no or reduced heating’ periods shall not be allowed.			
F. System shall be capable of email generation for remote alarm annunciation.				A. Unit Cabinet: 1. The casing(s) shall be fabricated of galvanized steel, bonderized and finished. Units cabinets shall be able to withstand 960 hours per ASTM B117 criteria for seacoast protected models (–BS models)			
G. Control system start–up shall be a required service to be completed by the manufacturer or a duly authorized, competent representative that has been factory trained in Mitsubishi controls system configuration and operation. The representative shall provide proof of certification for Mitsubishi CMCN Essentials Training and/or CMCN Hands–On Training indicating successful completion of no more than two (2) years prior to system installation. This certification shall be included as part of the equipment and/or controls submittals. This service shall be equipment and system count dependent and shall be a minimum of one (1) eight (8) hour period to be completed during normal working hours.				B. Fan: 1. Each outdoor unit module shall be furnished with one direct drive, variable speed propeller type fan. The fan shall be factory set for operation under 0 in. WG external static pressure, but capable of normal operation under a maximum of 0.24 in. WG external static pressure via dipswitch.			
PART 2 – WARRANTY				2. All fan motors shall have inherent protection, have permanently lubricated bearings, and be completely variable speed.			
2.01 The units shall be covered by the manufacturer’s limited warranty for a period of one (1) year from date of installation. If the systems are:				3. All fan motors shall be mounted for quiet operation.			
1) designed by a certified CITY MULTI Diamond Designer,				4. All fans shall be provided with a raised guard to prevent contact with moving parts.			
2) installed by a contractor that has successfully completed the Mitsubishi Electric three day service course, AND				5. The outdoor unit shall have vertical discharge airflow.			
3) verified with a completed commissioning report submitted to and approved by the Mitsubishi Electric Service Department,				C. Refrigerant 1. R410A refrigerant shall be required for PURY–P–T/Y(S)JMU–A outdoor unit systems.			
then the units shall be covered by an extended manufacturer’s limited warranty for a period of five (5) years from date of installation.				2. Polyolester (POE) oil shall be required. Prior to bidding, manufacturers using alternate oil types shall submit material safety data sheets (MSDS) and comparison of hygroscopic properties for alternate oil with list of local suppliers stocking alternate oil for approval at least two weeks prior to bidding.			
In addition the compressor shall have a manufacturer’s limited warranty for a period of seven (7) years from date of installation.				D. Coil: 1. The outdoor coil shall be of nonferrous construction with lanced or corrugated plate fins on copper tubing.			
If, during this period, any part should fail to function properly due to defects in workmanship or material, it shall be replaced or repaired at the discretion of the manufacturer.				2. The coil fins shall have a factory applied corrosion resistant blue–fin finish.			
This warranty shall not include labor.				3. The coil shall be protected with an integral metal guard.			
2.02 Manufacturer shall have a minimum of twenty–nine years of HVAC experience in the U.S. market.				4. Refrigerant flow from the outdoor unit shall be controlled by means of an inverter driven compressor.			
2.03 All manufacturer technical and service manuals must be readily available for download by any local contractor should emergency service be required. Registering and sign–in requirements which may delay emergency service reference are not allowed.				5. The outdoor coil shall include 4 circuits with two position valves for each circuit, except for the last stage.			
2.04 The CITY MULTI VRFZ system shall be installed by a contractor with extensive CITY MULTI install and service training. The mandatory contractor service and install training should be performed by the manufacturer.				E. Compressor: 1. Each outdoor unit module shall be equipped with one inverter driven scroll hermetic compressor. Non inverter–driven compressors, which cause inrush current (demand charges) and require larger wire sizing, shall not be allowed.			
				2. A crankcase heater(s) shall be factory mounted on the compressor(s).			
				3. The outdoor unit compressor shall have an inverter to modulate capacity. The capacity shall be completely variable with a turndown of 19%–5% of rated capacity, depending upon unit size.			
				4. The compressor will be equipped with an internal thermal overload.			
				5. The compressor shall be mounted to avoid the transmission of vibration.			
				6. Field–installed oil equalization lines between modules are not allowed. Prior to bidding, manufacturers requiring equalization must submit oil line sizing calculations specific to each system and module placement for this project.			
				F. Electrical: 1. The outdoor unit electrical power shall be 208/230 volts, 3–phase, 60 hertz.			
				2. The outdoor unit shall be capable of satisfactory operation within voltage limits of 187–228 volts (208V/60Hz), 207–253V (230V/60Hz).			
				3. The outdoor unit shall be controlled by integral microprocessors.			
				4. The control circuit between the indoor units, BC Controller and the outdoor unit shall be 24VDC completed using a 2–conductor, twisted pair shielded cable to provide total integration of the system.			
				G. Controls: 1. The outdoor unit shall have the capability of up to 8 levels of demand control for each 2. refrigerant system.			
				3.01 PKFY (Wall Mounted) INDOOR UNIT			
				A. General: The PKFY shall be a wall–mounted indoor unit section and shall have a modulating linear expansion device and a flat front. The PKFY shall be used with the R2–Series outdoor unit and BC Controller, Y–Series outdoor unit, or S–Series outdoor unit. The PKFY shall support individual control using M–NET DDC controllers.			
				B. Indoor Unit The indoor unit shall be factory assembled, wired and run tested. Contained within the unit shall be all factory wiring, piping, electronic modulating linear expansion device, control circuit board and fan motor. The unit shall have a self–diagnostic function, 3–minute time delay mechanism, an auto restart function, and a test run switch. Indoor unit and refrigerant pipes shall be charged with dehydrated air before shipment from the factory.			
				C. Unit Cabinet: 1. All casings, regardless of model size, shall have the same white finish			
				2. Multi directional drain and refrigerant piping offering four (4) directions for refrigerant piping and two (2) directions to draining shall be standard.			
				3. There shall be a separate back plate which secures the unit firmly to the wall.			
				D. Fan: 1. The indoor fan shall be an assembly with one or two line–flow fan(s) direct driven by a single motor.			
				2. The indoor fan shall be statically and dynamically balanced to run on a motor with permanently lubricated bearings.			
				3. A manual adjustable guide vane shall be provided with the ability to change the airflow from side to side (left to right).			
				4. A motorized air sweep louver shall provide an automatic change in airflow by directing the air up and down to provide uniform air distribution.			
				E. Filter: 1. Return air shall be filtered by means of an easily removable, washable filter.			
				F. Coil: 1. The indoor coil shall be of nonferrous construction with smooth plate fins on copper tubing.			
				2. The tubing shall have inner grooves for high efficiency heat exchange.			
				3. All tube joints shall be brazed with phos–copper or silver alloy.			
				4. The coils shall be pressure tested at the factory.			
				5. A condensate pan and drain shall be provided under the coil.			
				6. Both refrigerant lines to the PKFY indoor units shall be insulated.			
				G. Electrical: 1. The unit electrical power shall be 208/230 volts, 1–phase, 60 hertz.			
				2. The system shall be capable of satisfactory operation within voltage limits of 187–228 volts (208V/60Hz) or 207–253 volts (230V/60Hz)			
				H. Controls: 1. This unit shall use controls provided by Mitsubishi Electric to perform functions necessary to operate the system. Please refer to Part 4 of this guide specification for details on controllers and other control options.			
				2. The unit shall be able to control external backup heat.			
				3. The unit shall have a factory built in receiver for wireless remote control			
				4. Indoor unit shall compensate for the higher temperature sensed by the return air sensor compared to the temperature at level of the occupant when in HEAT mode. Disabling of compensation shall be possible for individual units to accommodate instances when compensation is not required.			
				5. Control board shall include contacts for control of external heat source. External heat may be energized as second stage with 1.8F – 9.0F adjustable deadband from set point.			
				6. Indoor unit shall include no less than four (4) digital inputs capable of being used for customizable control strategies.			
				7. Indoor unit shall include no less than three (3) digital outputs capable of being used for customizable control strategies.			
				DIVISION 23 – HVAC			
				SECTION 23 0900 TEMPERATURE CONTROLS			
				GENERAL 1. A programmable temperature controller shall be located in each zone and shall control the air handler, exhaust fan and unit heaters according to documented sequence to maintain the space temperature setpoint.			
				2. Exhaust fans shall also operate based on hand–off–auto wall switch.			
				END OF SECTION 23 0900			
				DIVISION 23 – HVAC			
				SECTION 23 0593 TESTING, ADJUSTING, BALANCING AND MAINTENANCE MANUALS			
				GENERAL 1. All air and water systems to be tested and balanced by an independent testing and balancing firm approved by the engineer. All systems shall be adjusted to perform within 5% of the design document requirements. A complete report shall be provided at the completion of the work.			
				2. Each system shall be commissioned to insure correct operation. A complete report shall be provided at the completion of the work.			
				3. Complete maintenance and operations manuals shall be provided for all equipment in the building.			
				END OF SECTION 23 0593			
				DIVISION 23 – HVAC			
				SECTION 23 0822 LOUVERS			
				GENERAL 1. EXAMINATION 1.1 Examine substrates and openings for compliance with requirements for installation tolerances and other conditions affecting performance.			
				1.2 Proceed with installation only after unsatisfactory conditions have been corrected.			
				2. PREPARATION 2.1 Clean Opening thoroughly prior to installation.			
				2.2 Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.			
				3. INSTALLATION 3.1 Install louvers at locations as indicated on the drawings and in accordance with manufacturer’s instructions.			
				3.2 Install louvers plumb, level, in plane of wall, and in alignment with adjacent work.			
				3.3 Install joint sealants as specified in Section 079000.			
				4. CLEANING 4.1 Clean exposed surfaces of louvers with water and mild soap or detergent not harmful to finish taking care to remove fingerprints and soil. Thoroughly rinse surfaces and dry. Do not let soil accumulate during construction period.			
				4.2 Touch–up, repair, or replace louvers damaged during installation and construction so that no evidence remains of the corrective work.			
				END OF SECTION 23 0822			
				DIVISION 23 – HVAC			
				SECTION 23 9900 CONTROLS SEQUENCE			
				1. PUMP ROOM: 1.1. Heating: existing UH to be provided with integral stat at set to 55 deg. F.			
				1.2. Cooling: AH.1 fan, pump control by RTU to maintain space temperature setpoint. Space temp sensor by others, wired to RTU.			
				1.3. Heat: 1.3.1. Heating existing unit heater Start<50 deg. F.			
				1.3.2. existing unit heater Stop > 55 deg. F. Space temperature.			
				1.4. Cool: 1.5. Control panel will provide dry contact status of L.1. Closed upon open louver status.			
				END OF SECTION 23 9900			
				THESE DOCUMENTS ARE INCOMPLETE WITHOUT FULL COORDINATION WITH BLUEFIELD ENGINEERING.			
				WEST JORDAN CITY WELL #8 HVAC HVAC SPECIFICATIONS			
				SHEET H–5			
				089–29–100			

		DESIGNED KBH	3						SCALE		WE EL LE
		DRAFTED DAS	2								
		CHECKED KBH	1								
		PROJECT ENGINEER	DATE AUGUST 2020	NO.	DATE	REVISIONS					

AMP RATING	DRAWING ID TAG.	CONDUCTOR		MIN. CONDUIT SIZE	
		QTY.*	SIZE	SIZE	EXCEPTIONS
20	212	2	#12	3/4"	
	312	3		3/4"	
	412	4		3/4"	
30	20	2	#10	3/4"	
	30	3		3/4"	
	40	4		3/4"	
50	28	2	#8	3/4"	
	38	3		3/4"	
	48	4		3/4"	
65	26	2	#6	3/4"	
	36	3		3/4"	
	46	4		3/4"	1"(C9)
85	24	2	#4	3/4"	1"(C2,C9)
	34	3		1"	3/4"(C4),1-1/4"(C9)
	44	4		1"	1-1/4"(C9)
115	22	2	#2	1"	
	32	3		1"	1-1/4"(C9)
	42	4		1-1/4"	
130	21	2	#1	1-1/4"	1"(C3,C4)
	31	3		1-1/4"	1"(C3)
	41	4		1-1/4"	1-1/2"(C2,C9,C10)
150	210	2	1/0	1-1/4"	
	310	3		1-1/4"	1-1/2"(C3,C9)
	410	4		1-1/2"	2"(C9)
175	220	2	2/0	1-1/4"	1-1/2"(C3,C4,C9)
	320	3		1-1/2"	
	420	4		2"	
200	230	2	3/0	1-1/2"	1-1/4"(C4)
	330	3		1-1/2"	2"(C3,C9)
	430	4		2"	
230	240	2	4/0	1-1/2"	2"(C3)
	340	3		2"	
	440	4		2"	2-1/2"(C9)
255	225	2	250 KCMIL	2"	1-1/2"(C4)
	325	3		2"	2-1/2"(C1,C8)
	425	4		2-1/2"	2"(C4)
310	235	2	350 KCMIL	2"	2-1/2"(C9)
	335	3		2-1/2"	2"(C4)
	435	4		3"	2-1/2"(C1,C4)
380	250	2	500 KCMIL	2-1/2"	2"(C4)
	350	3		3"	2-1/2"(C1,C4)
	450	4		3"	3-1/2"(C9)
475	275	2	750 KCMIL	3"	
	375	3		3-1/2"	3"(C1,C7,C8)
	475	4		4"	3-1/2"(C1,C4,C8)

GROUNDING ELECTRODE
CONDUCTOR SERVICE
ENTRANCE OR SEPARATELY
DERIVED SYSTEM

COPPER CONDUCTOR	WIRE SIZE
#2 OR SMALLER	#8
1 OR 1/0	#6
2/0 OR 3/0	#4
>3/0 THRU 350 KCMIL	#2
>350 KCMIL THRU 600 KCMIL	1/0



DESIGNED	KBH	3
DRAFTED	DAS	2
CHECKED	KBH	1
DATE	AUGUST 2020	NO.

FUSE OR CB	SIZE (COPPER)
15	14
20	12
30	10
40	10
60	10
100	8
200	6
300	4
400	3
500	2
600	1
800	1/0
1000	2/0
1200	3/0
1600	4/0
2000	250
2500	350

TAG	DESCRIPTION	LOCATION	SUPPLIED BY	INSTALLED BY
CU-1	CONDENSING UNIT 1	OUTSIDE	CONTRACTOR	CONTRACTOR
CU-2	CONDENSING UNIT 2	OUTSIDE	CONTRACTOR	CONTRACTOR
EF-1	EXHAUST FAN	CHLORINE ROOM	CONTRACTOR	CONTRACTOR
FC-1	FAN COIL 1	WELL ROOM	CONTRACTOR	CONTRACTOR
FC-2	FAN COIL 2	WELL ROOM	CONTRACTOR	CONTRACTOR
LA-1	EXHAUST FAN INTAKE LOUVER ACTUATOR	CHLORINE ROOM	CONTRACTOR	CONTRACTOR
LA-2	EXHAUST FAN LOUVER ACTUATOR	CHLORINE ROOM	CONTRACTOR	CONTRACTOR
UH-1	UNIT HEATER	WELL ROOM	CONTRACTOR	CONTRACTOR
UH-2	UNIT HEATER	CHLORINE ROOM	CONTRACTOR	CONTRACTOR

TAG	DESCRIPTION	LOCATION	SUPPLIED BY	INSTALLED BY
ATS	AUTOMATIC TRANSFER SWITCH	WELL ROOM	CONTRACTOR	CONTRACTOR
CP-1	MAIN CONTROL PANEL	WELL ROOM	CONTRACTOR	CONTRACTOR
CP-2	EXHAUST FAN CONTROL PANEL	WELL ROOM	CONTRACTOR	CONTRACTOR
CTE	CURRENT TRANSFORMER ENCLOSURE	OUTSIDE	CONTRACTOR	CONTRACTOR
GA-1	GATE ACTUATOR	OUTSIDE	CONTRACTOR	CONTRACTOR
GEN	BACKUP POWER GENERATOR	OUTSIDE	CONTRACTOR	CONTRACTOR
MSD	MAIN SERVICE DISCONNECT	OUTSIDE	CONTRACTOR	CONTRACTOR
P-1	WELL PUMP	WELL ROOM	CONTRACTOR	CONTRACTOR
TC-1	TABLET CHLORINATOR	CHLORINE ROOM	CONTRACTOR	CONTRACTOR
RTU	REMOTE TELEMETRY UNIT	WELL ROOM	OWNER	CONTRACTOR
VFD	WELL VARIABLE FREQUENCY DRIVE	WELL ROOM	CONTRACTOR	CONTRACTOR

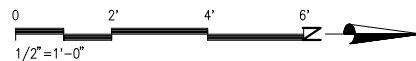
TAG	DESCRIPTION	LOCATION	SUPPLIED BY	INSTALLED BY
LSH-1	PUMP ROOM FLOOR HIGH WATER SWITCH	WELL ROOM	CONTRACTOR	CONTRACTOR
PSH-1	WELL PUMP DISCHARGE PRESSURE SWITCH	WELL ROOM	CONTRACTOR	CONTRACTOR
ZS-1	MAN-DOOR POSITION SWITCH	WELL ROOM	CONTRACTOR	CONTRACTOR
ZS-2A	SERVICE DOOR POSITION SWITCH	WELL ROOM	CONTRACTOR	CONTRACTOR
ZS-2B	SERVICE DOOR POSITION SWITCH	WELL ROOM	CONTRACTOR	CONTRACTOR
ZS-3	WELL ROOF HATCH POSITION SWITCH	WELL ROOM	CONTRACTOR	CONTRACTOR
ZS-4	MAN-DOOR POSITION SWITCH	CHLORINE ROOM	CONTRACTOR	CONTRACTOR
ZS-5B	WV-1 IN FULL WASTE POSITION	WELL ROOM	CONTRACTOR	CONTRACTOR
ZS-5A	WV-1 IN FULL SYSTEM POSITION	WELL ROOM	CONTRACTOR	CONTRACTOR

TAG	DESCRIPTION	LOCATION	SUPPLIED BY	INSTALLED BY
AE-3	CHLORINE ANALYZER	CHLORINE ROOM	CONTRACTOR	CONTRACTOR
AE-2	TURBIDITY ANALYZER	WELL ROOM	CONTRACTOR	CONTRACTOR
AIT-3	CHLORINE INDICATOR/TRANSMITTER	WELL ROOM	CONTRACTOR	CONTRACTOR
AIT-2	TURBIDITY INDICATOR/TRANSMITTER	WELL ROOM	CONTRACTOR	CONTRACTOR
FE-1	WELL DISCHARGE FLOW ELEMENT	WELL ROOM	CONTRACTOR	CONTRACTOR
FIIT-1	WELL DISCHARGE FLOW INDICATOR/TRANSMITTER	WELL ROOM	CONTRACTOR	CONTRACTOR
LT-1	WELL LEVEL TRANSMITTER	WELL ROOM	CONTRACTOR	CONTRACTOR
PT-1	STATION DISCHARGE PRESSURE TRANSMITTER	WELL ROOM	CONTRACTOR	CONTRACTOR
PT-2	WELL DISCHARGE PRESSURE TRANSMITTER	WELL ROOM	CONTRACTOR	CONTRACTOR
TT-1	ROOM TEMPERATURE TRANSMITTER	WELL ROOM	CONTRACTOR	CONTRACTOR
TT-2	ROOM TEMPERATURE TRANSMITTER	CHLORINE ROOM	CONTRACTOR	CONTRACTOR

TAG	DESCRIPTION	LOCATION	SUPPLIED BY	INSTALLED BY
V-1	WASTE VALVE	WELL ROOM	CONTRACTOR	CONTRACTOR
SV-1	WELL PRE-LUBE SOLENOID VALVE	WELL ROOM	CONTRACTOR	CONTRACTOR
SV-2	TURBIDITY ANALYZER VALVE	WELL ROOM	CONTRACTOR	CONTRACTOR
SV-3	CHLORINE ANALYZER VALVE	WELL ROOM	CONTRACTOR	CONTRACTOR
V-2	SYSTEM VALVE	WELL ROOM	CONTRACTOR	CONTRACTOR

- SHEET KEYNOTES:

1. CONTRACTOR SHALL PROVIDE AND INSTALL A 24"H x 20"W x 8"D LOCKABLE NEMA 12 ENCLOSURE FOR THE LANDSCAPE TIMER AND OUTLET. COORDINATE WITH LANDSCAPE CONTRACTOR DURING CONSTRUCTION AND MODIFY DIMENSIONS AS REQUIRED FOR IRRIGATION TIMER. INSTALL A 2" FROM THE ENCLOSURE UNDER THE PAVING TO THE LANDSCAPE AREA FOR THE IRRIGATION VALVE CONTROL WIRES.
2. INSTALL FLOW METER INDICATOR/TRANSMITTER ON THE WALL BELOW THE FAN COIL UNIT.
3. INSTALL THE SECURITY ENCLOSURE BELOW THE RTU RADIO ENCLOSURE AND AT THE SAME HEIGHT AS CP-1.
4. SCADA RADIO ENCLOSURE: 24"H x 20"W x 8"D ENCLOSURE WITH INTERNAL PANEL. DATA RADIO AND ANTENNA SURGE DEVICE PROVIDED AND INSTALLED BY SCADA CONTRACTOR.
5. FLOOR MOUNTED EQUIPMENT: EXTEND HOUSEKEEPING PAD 4-IN FROM FRONT AND SIDES. WALL MOUNTED EQUIPMENT: PAD SHALL EXTEND 6-IN (MAX.) FROM WALL.



SCALE
AS
SHOWN



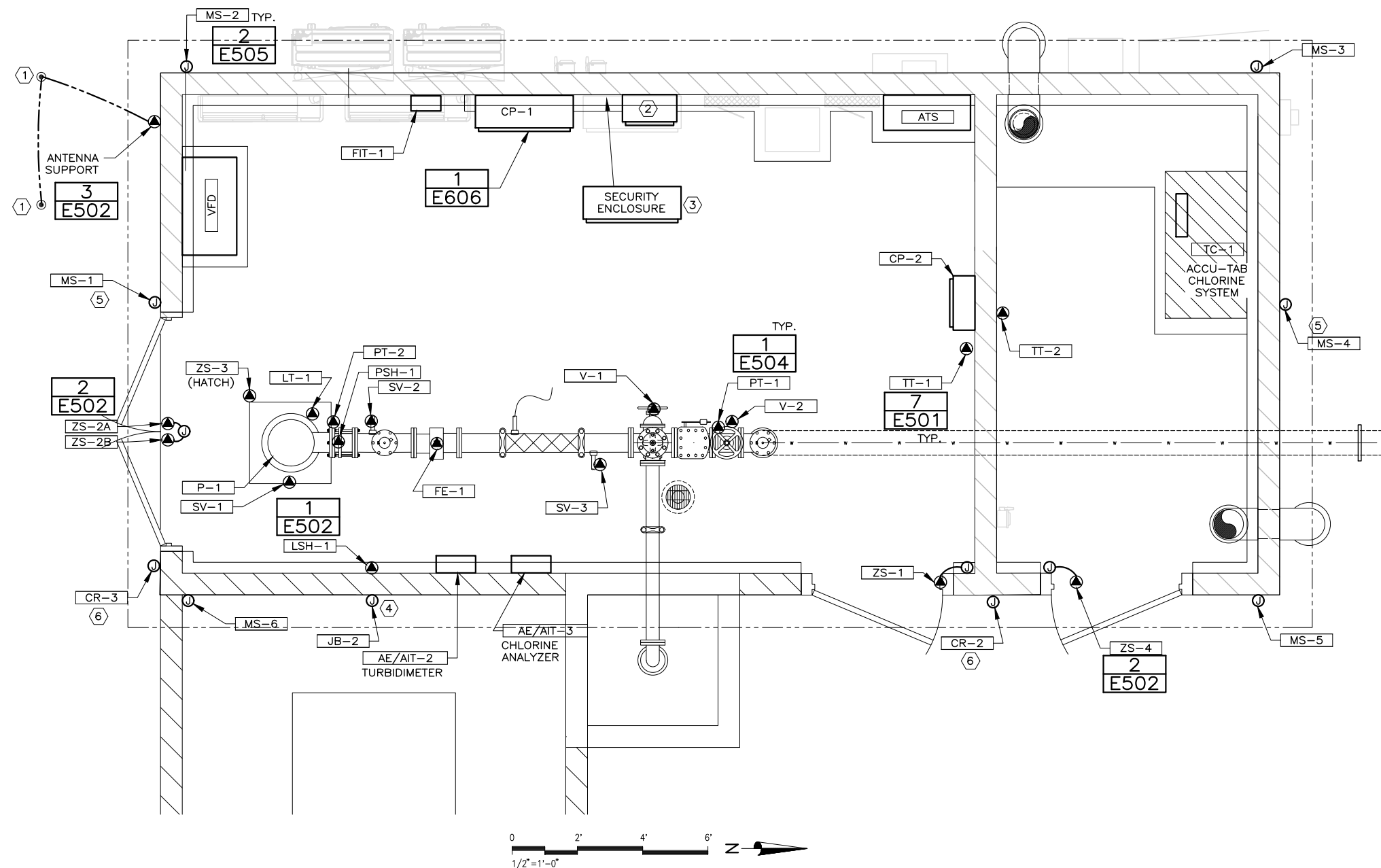
WEST JORDAN CITY WELL #8
ELECTRICAL
PUMP HOUSE POWER PLAN

GENERAL NOTES:

1. VERIFY LOCATIONS OF ALL DEVICES PRIOR TO CONDUIT ROUGH-IN.
2. FOR WIRE AND CONDUIT REQUIREMENTS, REFER TO INSTRUMENTATION AND CONTROL ONE-LINE DIAGRAM ON E602.

SHEET KEYNOTES:

1. GROUND ANTENNA SUPPORT WITH AWG NO 6 BC. INSTALL TWO 3/4"x10' GROUND RODS APPROXIMATELY 10' APART.
2. SUPPLY AND INSTALL A 20"W x 24"H x 10"D RTU RADIO ENCLOSURE WITH A SUB PANEL. PROVIDE PANEL TO SCADA CONTRACTOR FOR ASSEMBLY OF THE RTU. RTU COMPONENTS PROVIDED AND INSTALLED BY APCO.
3. SECURITY ENCLOSURE INSTALLED BELOW RTU ENCLOSURE.
4. FOR A FUTURE CAMERA, INSTALL A RECESSED CCTV J-BOX IN THE BUILDING WALL 6-IN BELOW SOFFIT CENTERED ABOVE THE GENERATOR.
5. INSTALL BUILDING END J-BOXES AT SAME HEIGHT AS THE SIDE J-BOXES.
6. RECESS 2X4 ELECTRICAL BOX IN MASONRY FOR CARD READER. VERIFY HEIGHT AND LOCATION WITH OWNER DURING CONSTRUCTION.



HANSEN
ALLER
& LUCE
ENGINEERS

PROJECT ENGINEER

DESIGNED	KBH	3
DRAFTED	DAS	2
CHECKED	KBH	1
DATE	AUGUST 2020	NO.

DATE		REVISIONS
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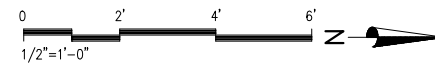
BY	APVD.
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SCALE
AS
SHOWN



WEST JORDAN CITY WELL #8
ELECTRICAL
PUMP HOUSE INSTR. & CONTROL PLAN

SHEET
E103
089.29.100

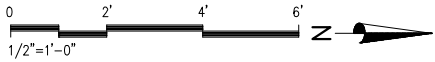
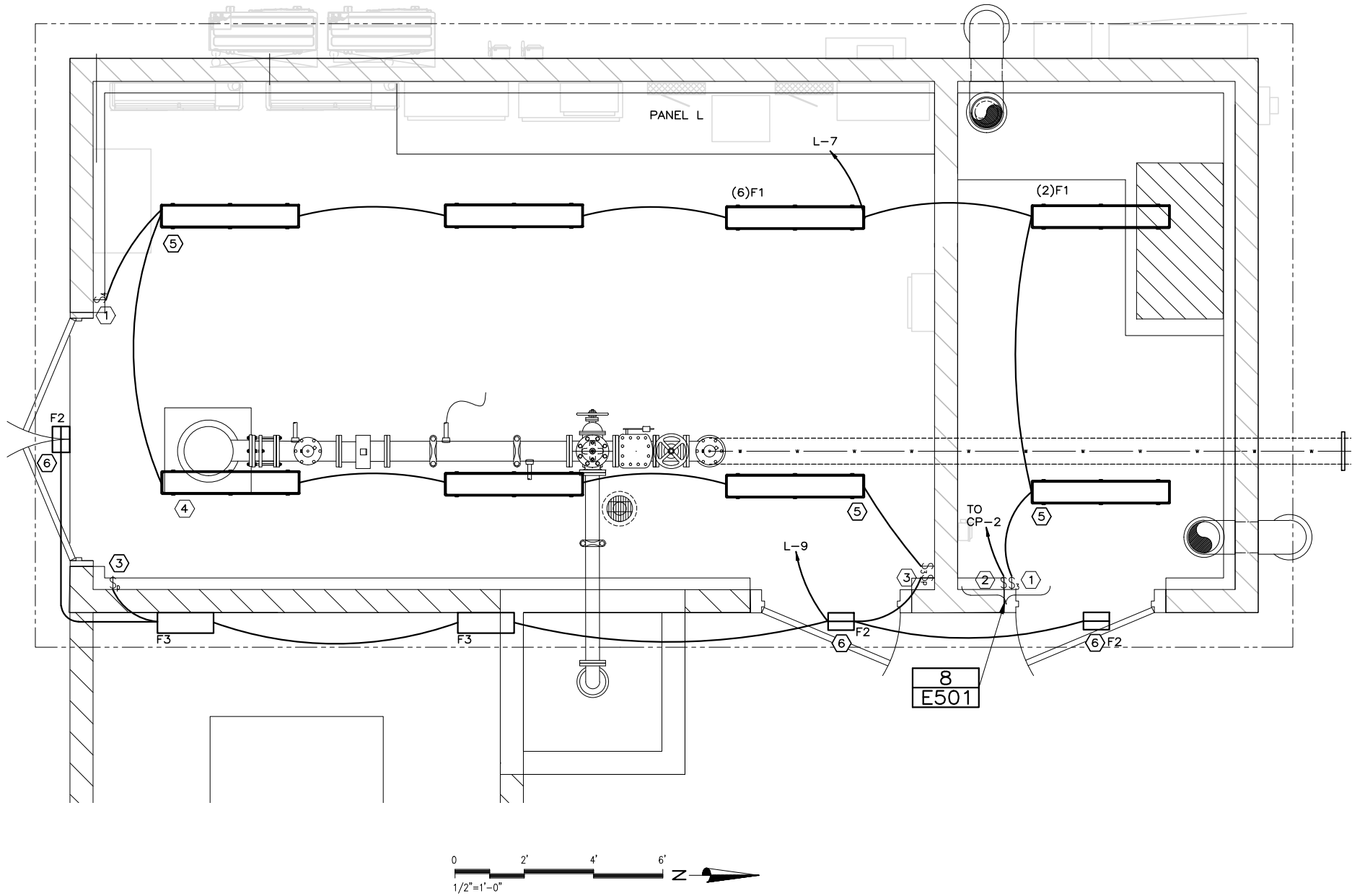


GENERAL NOTES:

1. REFER TO PANEL SCHEDULE FOR WIRE AND CONDUIT SIZES.

SHEET KEYNOTES:

1. THREE-WAY SWITCHES AND FOUR-WAY SHALL CONTROL BOTH ROOM FIXTURES AT THE SAME TIME.
2. EXHAUST FAN MANUAL SWITCH (HS-1) LABEL AS CHLORINE ROOM EXHAUST FAN.
3. PROVIDE A PILOT LIGHT TOGGLE SWITCH TO CONTROL THE TWO GENERATOR FLOOD LIGHTS. LABEL "GENERATOR FLOOD LIGHTS".
4. RELOCATE FIXTURE AS REQUIRED FOR ROOF HATCH.
5. PROVIDE A 90-MINUTE BATTERY PACK IN THIS FIXTURE.
6. INSTALL FIXTURE 8-IN ABOVE DOOR.



FILE NAME:
FILE DATE:



HANSEN
ALLER
& LUCE
ENGINEERS

PROJECT ENGINEER

DESIGNED KBH
DRAFTED DAS
CHECKED KBH
DATE AUGUST 2020

NO.

DATE

REVISIONS

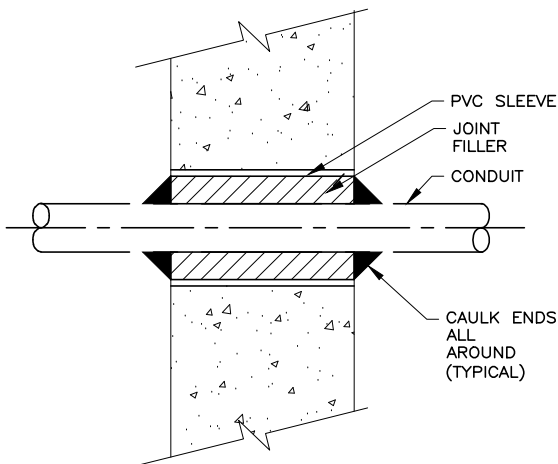
BY
APVD.

SCALE
AS
SHOWN

WEST JORDAN
UTAH

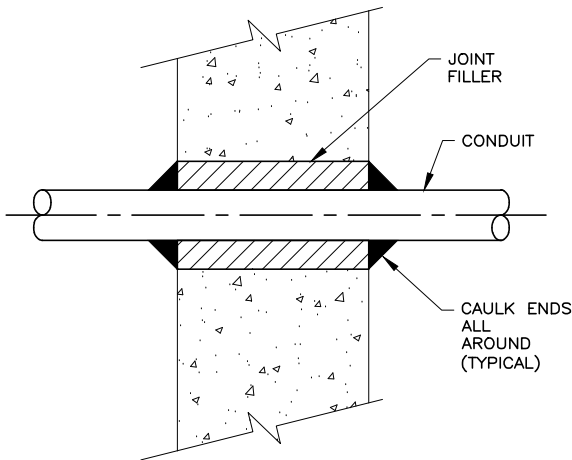
WEST JORDAN CITY WELL #8
ELECTRICAL
PUMP HOUSE LIGHTING PLAN

SHEET
E104
089.29.100



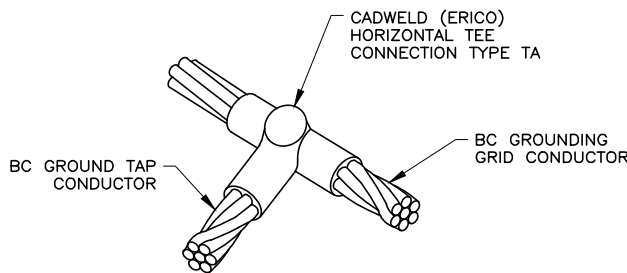
CONDUIT THRU NEW WALL

A
3" = 1'-0"



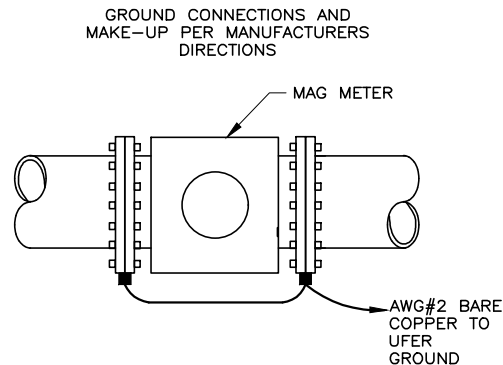
CONDUIT THRU EXISTING WALL

B
3" = 1'-0"



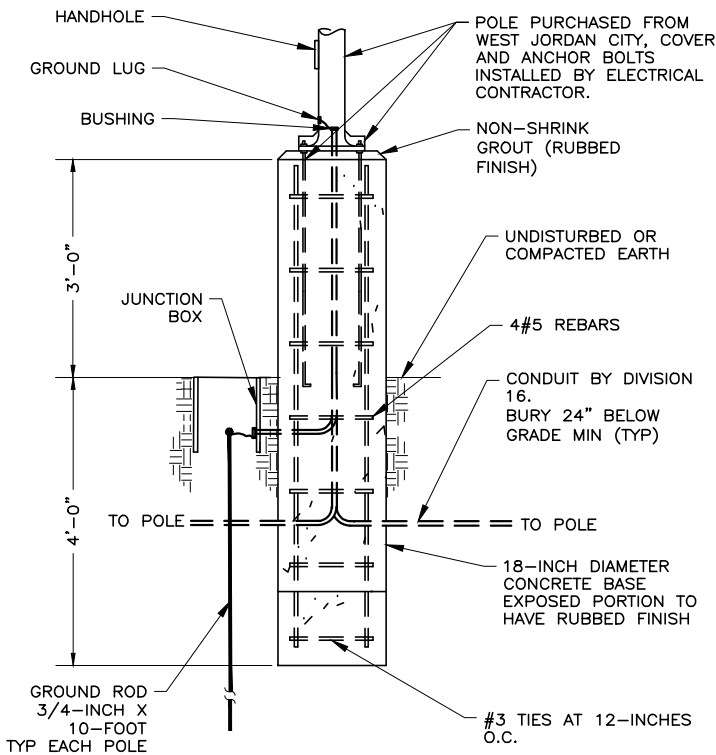
WELDED GROUND CONNECTION

C
NONE



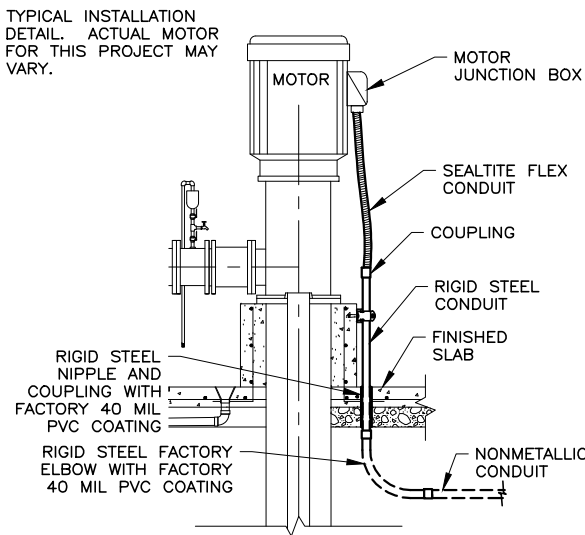
FLOW METER GROUNDING DETAIL

D
1' = 1'-0"



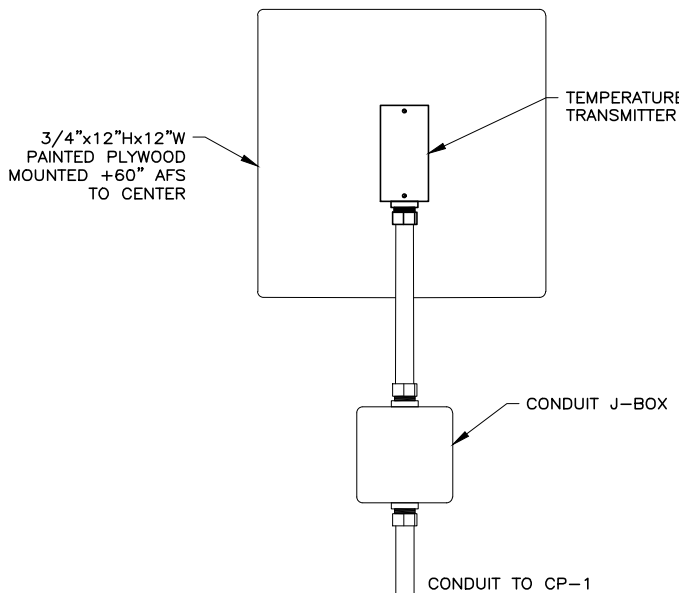
POLE BASE DETAIL

E
NTS



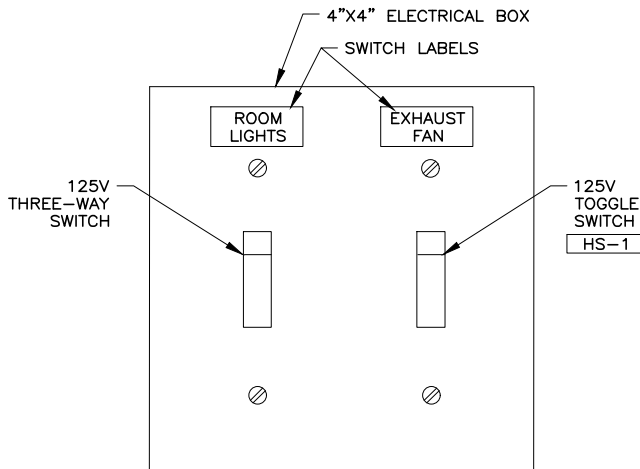
WELL MOTOR CONDUIT INSTALLATION

F
1/4" = 1'-0"



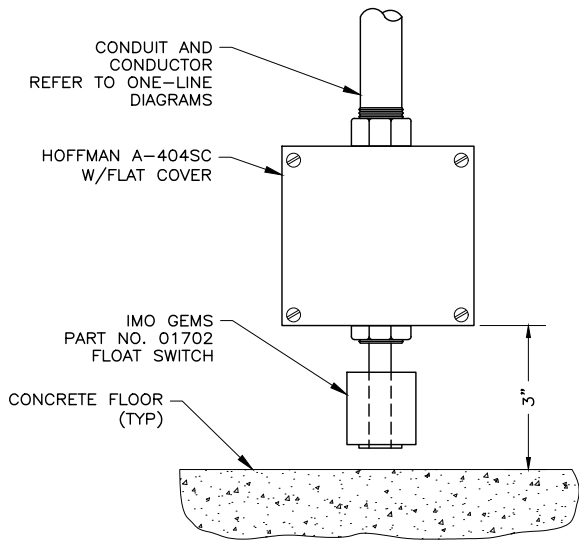
TEMPERATURE TRANSMITTER

G
3" = 1'-0"

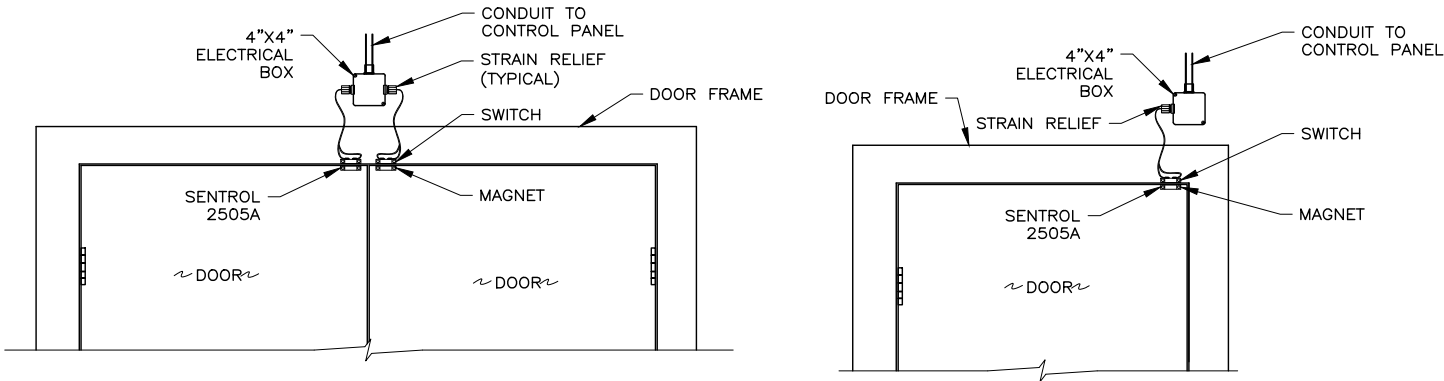


CHLORINE ROOM SWITCHES

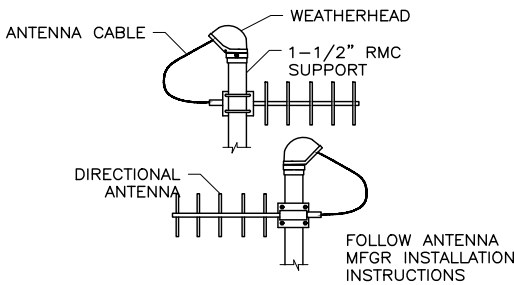
H
1' = 1'-0"



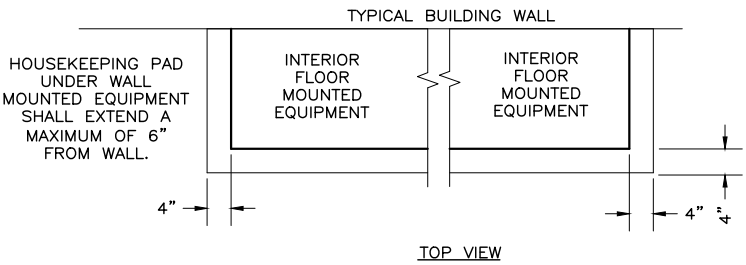
FLOOD LEVEL SWITCH INSTALLATION 1
6" = 1'-0" E103



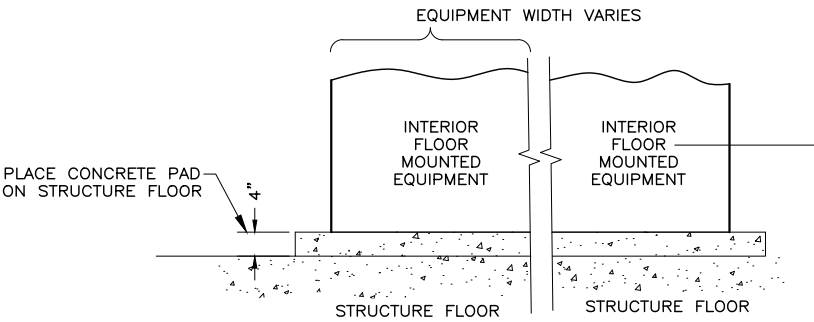
TYPICAL DOOR POSITION SWITCH 2
1" = 1'-0" E103



SUPPORT WEATHERHEAD 4
1 1/2" = 1'-0" —

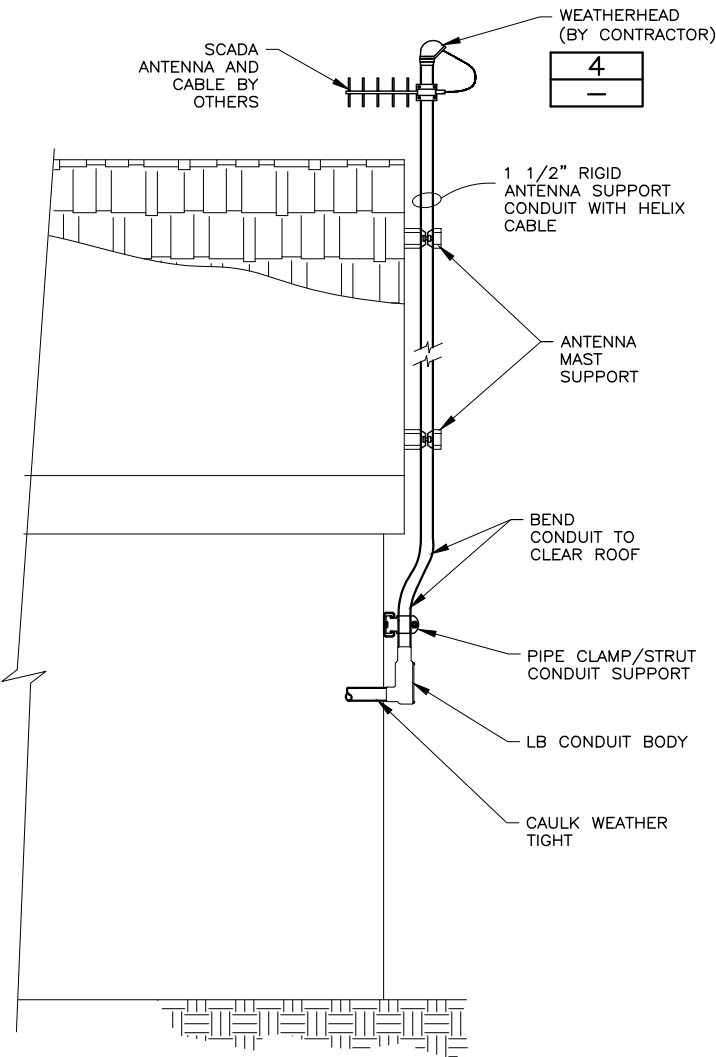


TOP VIEW



FRONT VIEW

EQUIPMENT INSTALLATION 5
3/4" = 1'-0" E102



SCADA ANTENNA SUPPORT 3
1" = 1'-0" E103



DESIGNED	KBH	3			
DRAFTED	DAS	2			
CHECKED	KBH	1			
DATE	AUGUST 2020	NO.	DATE		

REVISIONS

BY APVD.

SCALE
AS
SHOWN



WEST JORDAN CITY WELL #8
ELECTRICAL
DETAILS, SHT. 2

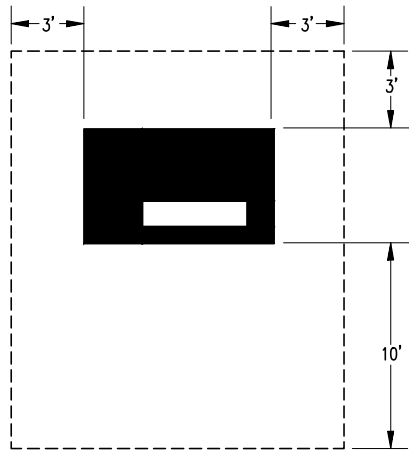
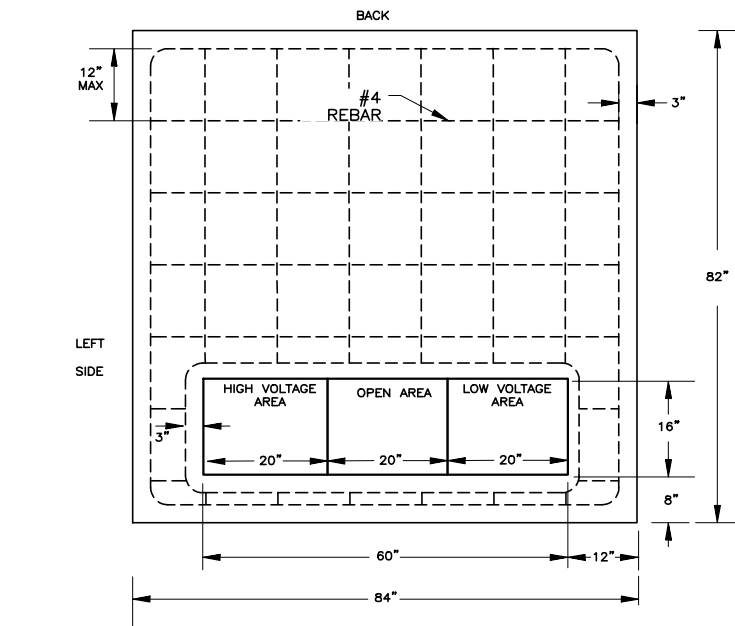
SHEET
E502
089.29.100

GENERAL NOTES:

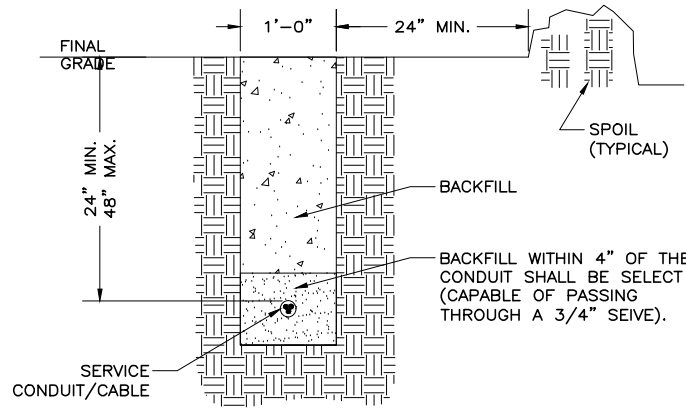
1. REFER TO UTILITY STANDARD DETAILS ON-LINE FOR THE LATEST PAD AND TRENCH REQUIREMENTS.
2. NOT USED.

SHEET KEYNOTES:

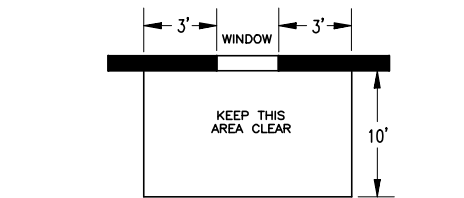
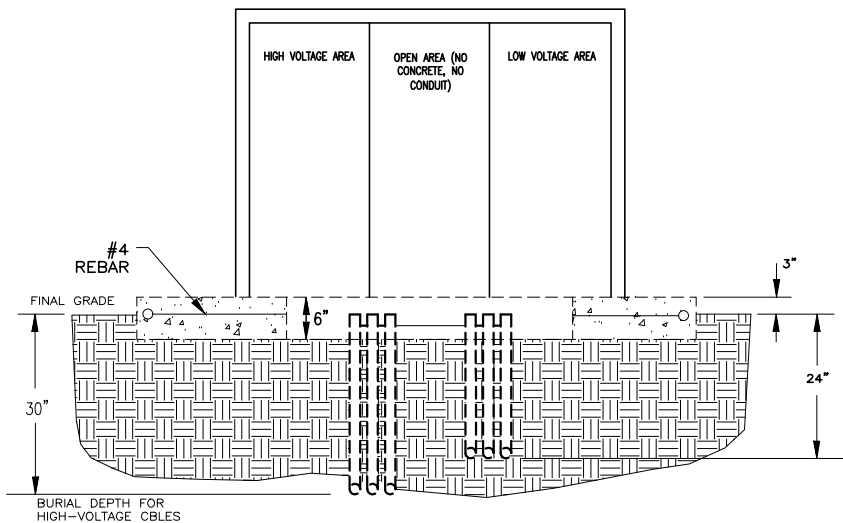
1. NOT USED.



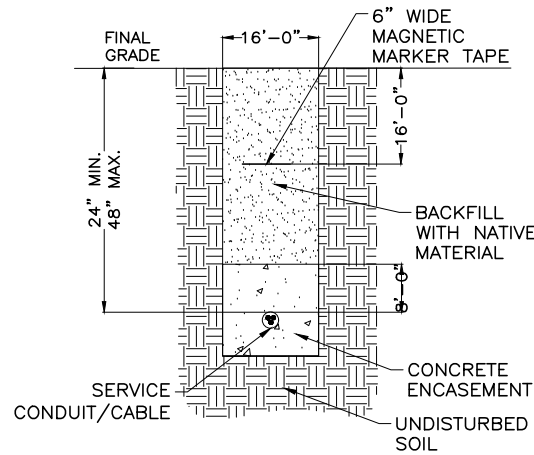
DETAIL "C"



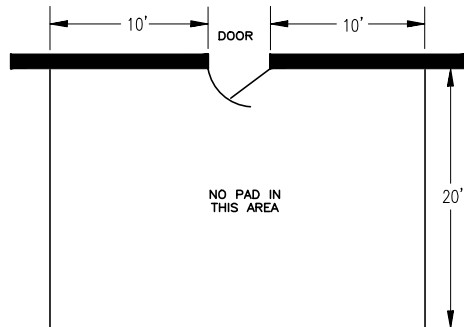
PRIMARY CONDUIT TRENCH B
1" = 1'-0"



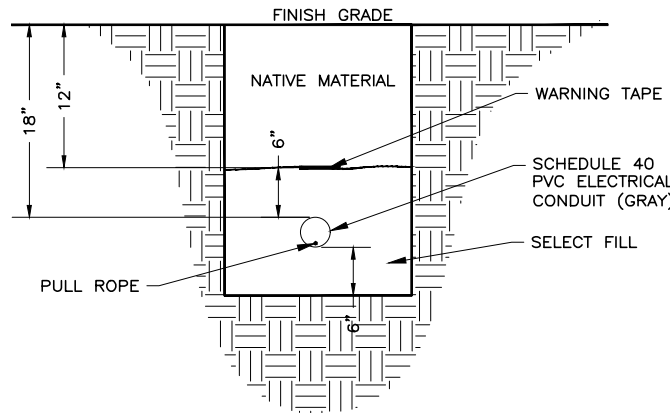
DETAIL "A"



SECONDARY CONDUIT TRENCH C
1" = 1'-0"



DETAIL "B"



TRENCH DETAIL D
1" = 1'-0"

NOTES:

1. SITE PREPARATION: ALL DIRT BENEATH THE PAD SITE MUST BE COMPACTED AND LEVEL PRIOR TO SETTING OR POURING THE PAD TO PREVENT SETTLING.
2. CONCRETE: SHALL BE MADE USING A STANDARD BRAND OF PORTLAND CEMENT. STEEL REINFORCEMENT SHALL BE #4 REBAR PLACED ACCORDING TO THE DRAWINGS. THE PAD MUST BE POURED AT LEAST THREE FULL DAYS PRIOR TO SETTING THE UNIT. CONCRETE MUST BE KEPT ABOVE FREEZING AT LEAST 72 HOURS AFTER POURING. THE FINISHED SURFACE MUST BE COMPLETELY FLAT AND LEVEL. ALL WORK MUST BE DONE TO HIGH QUALITY STANDARDS.
3. PREFABRICATION: THE PAD MAY EITHER BE CONSTRUCTED ON THE SITE OR PREFABRICATED ACCORDING TO SPECIFICATIONS. PREFABRICATED PADS SHALL BE SET LEVEL AND PLUMB.
4. TRANSFORMER CONDUIT WINDOW LAYOUT: LOW VOLTAGE CONDUITS SHALL BE FORMED AS TIGHTLY AS POSSIBLE AGAINST RIGHT SIDE OF THE OPENING AND SHALL IN NO CASE EXTEND FURTHER THAN 16" FROM THE RIGHT SIDE OF CONDUIT WINDOW ON THE PAD. NO MORE THAN 4 CONDUITS WILL BE USED ON THE LOW VOLTAGE SIDE. DO NOT PUT ANY CONCRETE IN OR UNDER THE CONDUIT WINDOW. USE DIRT TO SEPARATE CONDUITS. BELL ENDS ARE REQUIRED FOR ALL METAL CONDUITS BUT NOT FOR PLASTIC CONDUIT.
5. CLEARANCE: THE FRONT OF THE PAD SHOULD ALWAYS FACE AWAY FROM ADJACENT STRUCTURES AND BE FREE OF OBSTRUCTIONS. AT LEAST THREE FEET MUST SEPARATE THE EDGES OF THE PAD FROM ANY ADJACENT STRUCTURES. THE EDGES OF THE PAD MUST BE AT LEAST TEN FEET FROM ANY COMBUSTIBLE STRUCTURE. THE AREA IN FRONT OF THE PAD MUST HAVE TEN FEET OF CLEAR LEVEL WORKING AREA FOR MAINTENANCE OF THE UNIT.

UTILITY TRANSFORMER PAD A
3/4" = 1'-0"

FILE NAME:
FILE DATE:

7/04

HANSEN
ALLEN
& LUCE
ENGINEERS



PROJECT ENGINEER

DESIGNED	KBH	3
DRAFTED	DAS	2
CHECKED	KBH	1
DATE	AUGUST 2020	NO.

DATE

REVISIONS

BY

APVD.

SCALE

WEST JORDAN
UTAH

WEST JORDAN CITY WELL #8
ELECTRICAL
DETAILS, SHT. 3

SHEET

E503

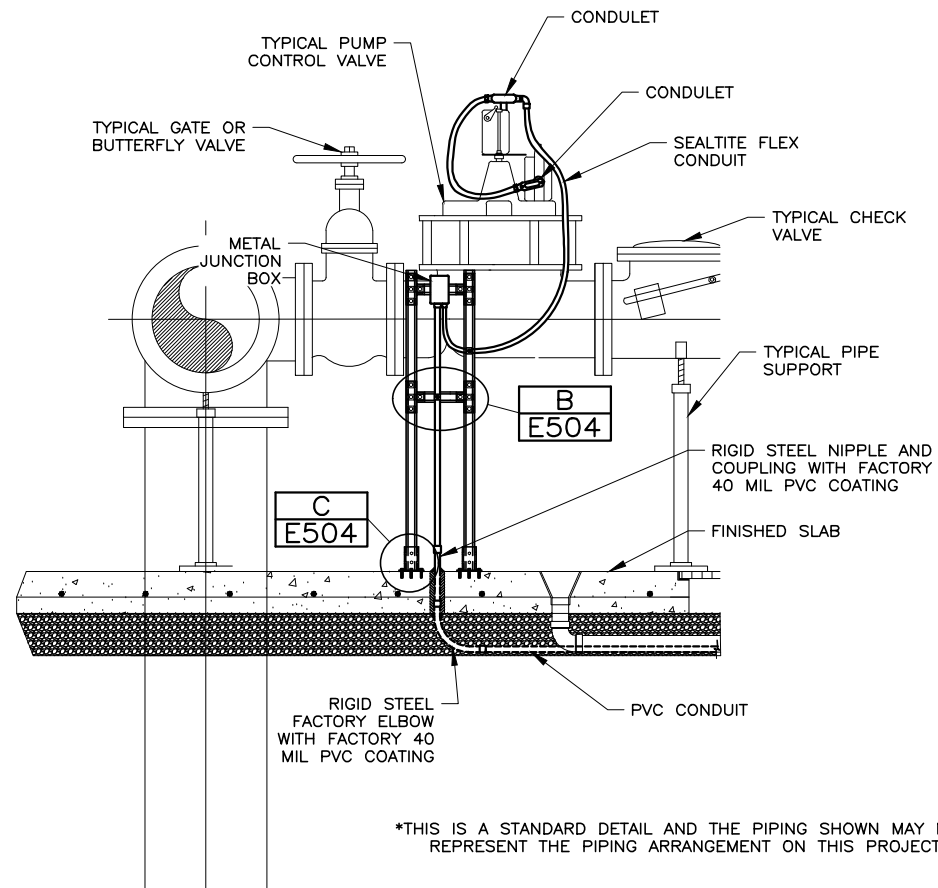
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GENERAL NOTES:

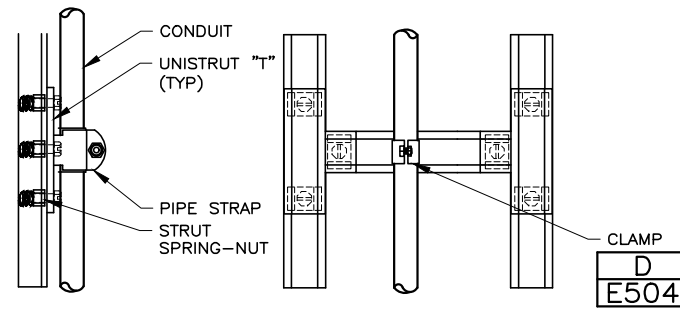
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SHEET KEYNOTES:

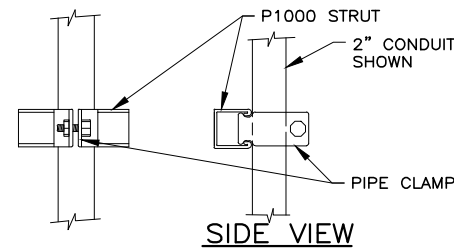
1. NOT USED.



CONDUIT SUPPORT INSTALLATION **A**
1" = 1'-0"



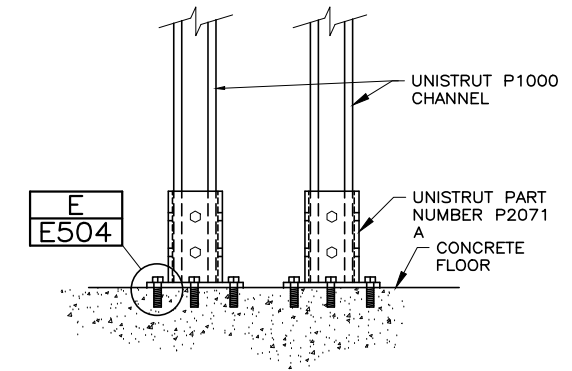
SUPPORT BRACE INSTALLATION **B**
3" = 1'-0"



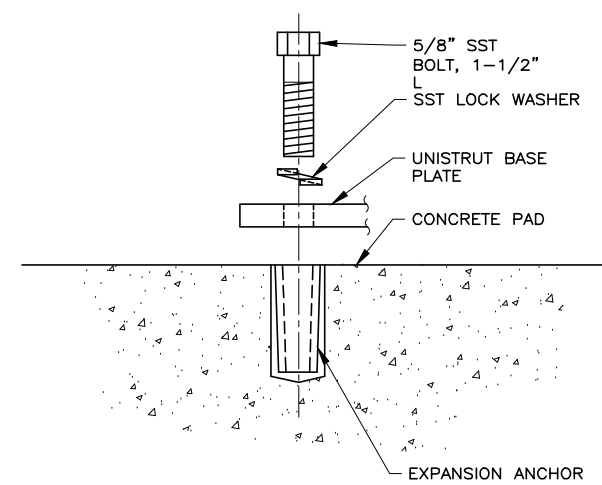
CONDUIT PIPE CLAMPS*				
SIZE	EMT	RGS	EMT/RGS	
1/2"	P1426	P1111	-	
3/4"	P1427	P1112	P1212	
1"	P1428	P1113	P1213	
1-1/4"	P1429	P1114	P1214	
1-1/2"	P1430	P1115	P1215	
2"	P1431	P1117	P1217	
2-1/2"	P1118	P1118	-	
3"	P1119	P1119	-	
3-1/2"	P1120	P1120	-	
4"	P1121	P1121	-	

* = SUPPLIED WITH SLOTTED
HEAD SCREW AND NUT

CONDUIT CLAMP INSTALLATION **D**
3" = 1'-0"



SUPPORT BASE INSTALLATION **C**
3" = 1'-0"



BASE ANCHOR INSTALLATION **E**
6" = 1'-0"

7/04
FILE NAME:
FILE DATE:



HANSEN
ALLEN
& LUCE
ENGINEERS

PROJECT ENGINEER

DESIGNED KBH
DRAFTED DAS
CHECKED KBH
DATE AUGUST 2020

3
2
1
NO.

DATE

REVISIONS

BY
APVD.

SCALE

WEST JORDAN
UTAH

WEST JORDAN CITY WELL #8
ELECTRICAL
DETAILS, SHT. 4

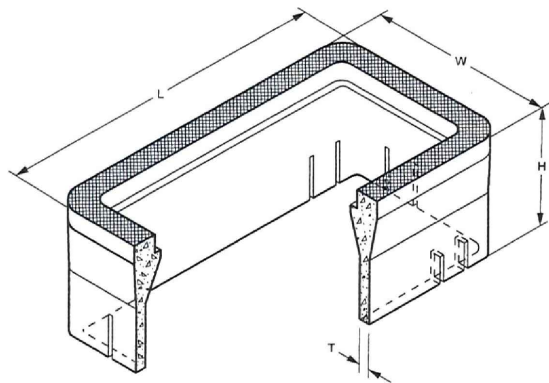
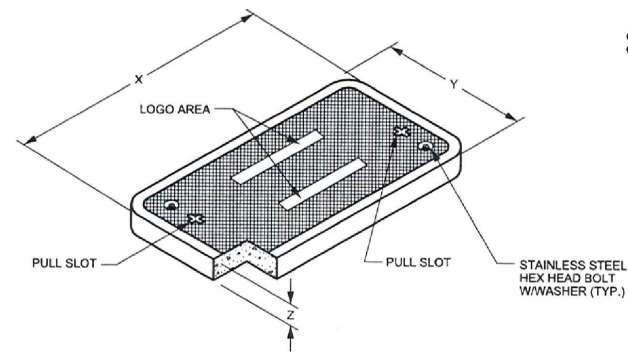
SHEET
E504
089.29.100

GENERAL NOTES:

1. NOT USED.

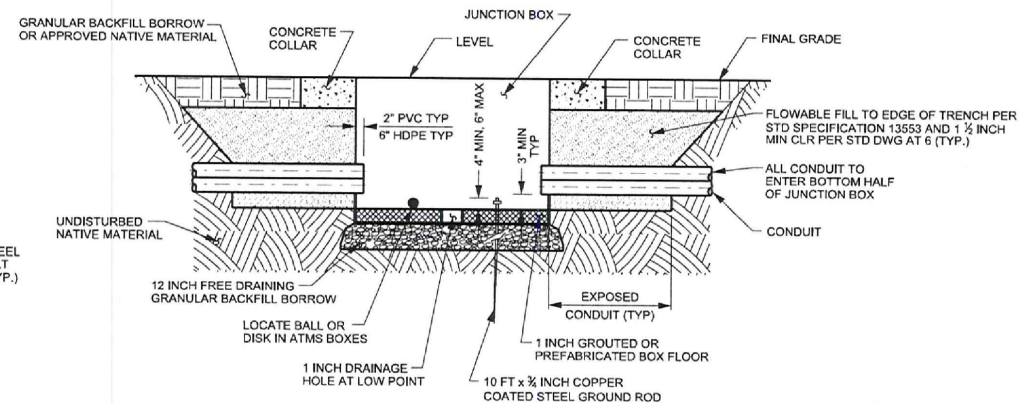
SHEET KEYNOTES:

1. NOT USED.

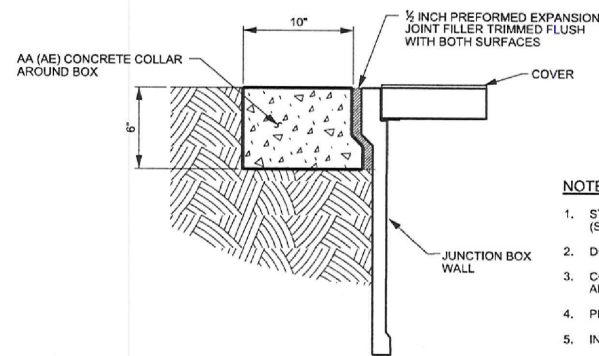


BOX AND LID DIMENSIONS

BOX TYPE	"H" Inch	"L" Inch	"T" Inch	"W" Inch	"X" Inch	"Y" Inch	"Z" Inch
I-PC	24	25	1 1/2	16	23 1/2	13 1/2	2
II-PC	24	37 1/2	1 1/2	26	35 1/2	24	3
III-PC	24	49 1/2	2	32 1/2	47 1/2	30 1/2	3



JUNCTION BOX CONDUIT PENETRATION DETAIL

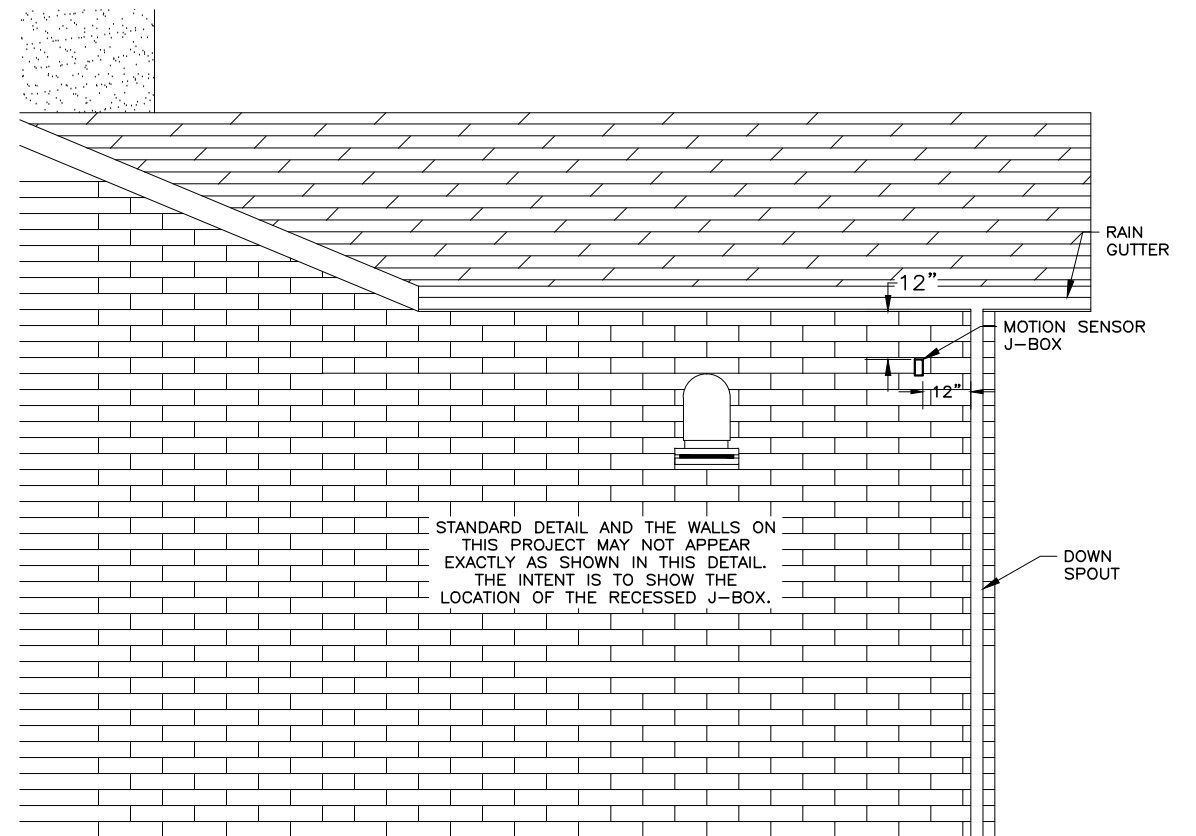


JUNCTION BOX CONCRETE COLLAR DETAIL

NOTES:

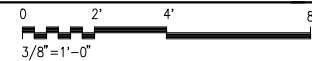
1. STAMP BOX LOGO INTO THE LID FROM THE FACTORY. (SEE STANDARD SPECIFICATION 13554).
2. DO NOT PLACE JUNCTION BOXES IN THE TRAVELED WAY OR ON FREEWAY SHOULDERS.
3. CONCRETE COLLAR WIDTH VARIES WHEN ADJACENT TO ATMS CABINETS. REFER TO AT AND SL SERIES STD DWGS.
4. PROVIDE CONCRETE COLLARS EXCEPT WITHIN CONCRETE PAVED AREAS.
5. INSTALL CONDUIT PLUG PER STANDARD SPECIFICATION 13554.
6. ALIGN ATMS CONDUIT BY COLOR ON EACH SIDE OF THE JUNCTION BOX.
7. PROVIDE TYPE III-PC JUNCTION BOXES WITH A SPLIT LID.
8. CONFORM TO ANSI/SCTE-77 2007 "SPECIFICATION FOR UNDERGROUND ENCLOSURE INTEGRITY" TIER 22 LOADING FOR ALL JUNCTION BOXES.
9. EXTEND GROUND ROD A MINIMUM OF 4 INCHES AND A MAXIMUM OF 6 INCHES ABOVE BOTTOM OF JUNCTION BOX.
10. USE A SPLIT BOLT TO ATTACH GROUND WIRES TO GROUND ROD. ATTACH NOT MORE THAN TWO WIRES PER BOLT.
11. DO NOT CUT GROUND RODS.

UG ELECTRICAL BOX A



STANDARD DETAIL AND THE WALLS ON THIS PROJECT MAY NOT APPEAR EXACTLY AS SHOWN IN THIS DETAIL. THE INTENT IS TO SHOW THE LOCATION OF THE RECESSED J-BOX.

MOTION SENSOR J-BOX INSTALLATION B



7/04
FILE NAME:
FILE DATE:



PROJECT ENGINEER

DESIGNED KBH 3
DRAFTED DAS 2
CHECKED KBH 1
DATE AUGUST 2020 NO. DATE

REVISIONS

SCALE

BY APVD.



WEST JORDAN CITY WELL #8
ELECTRICAL
DETAILS, SHT. 5

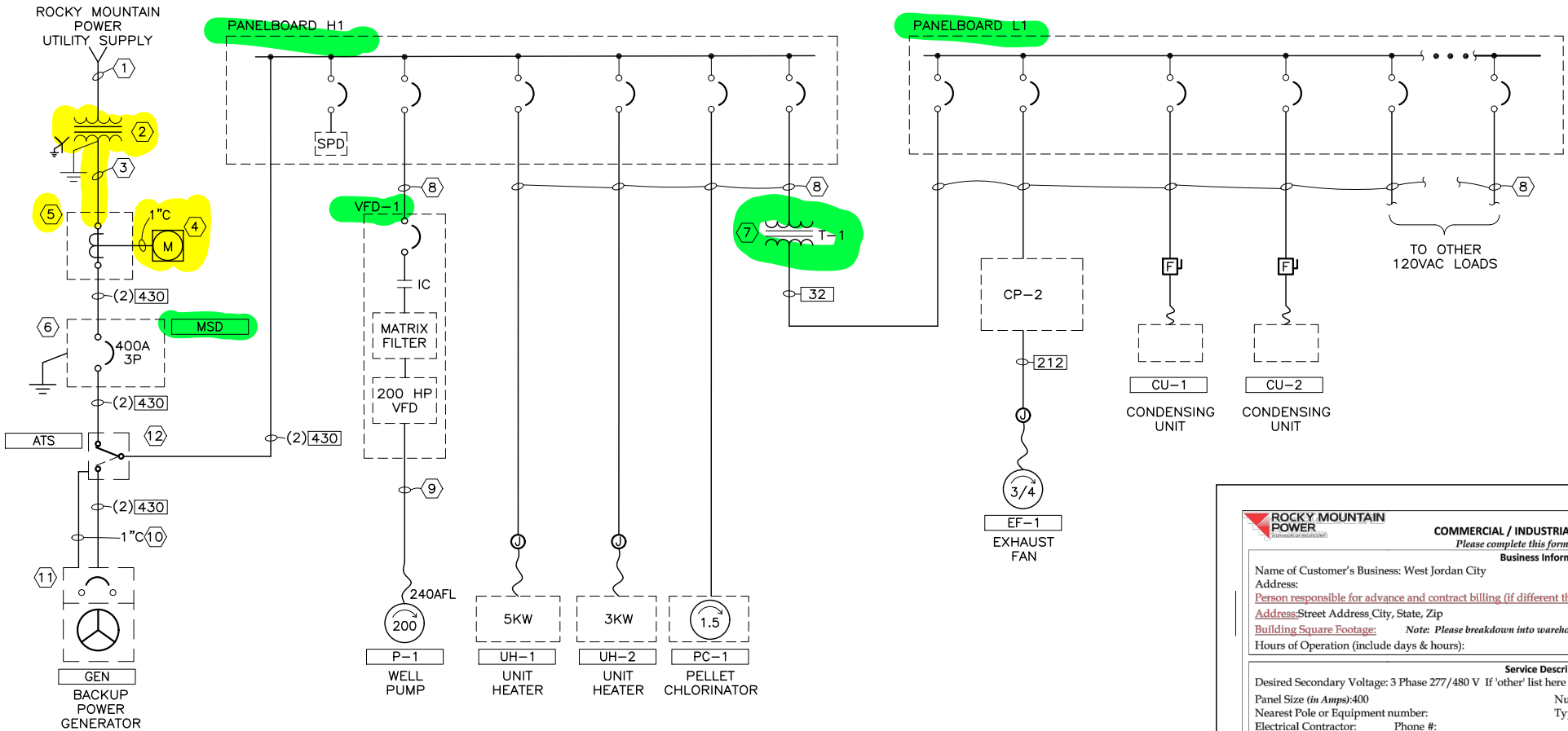
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GENERAL NOTES:

1. REFER TO CONDUIT/CONDUCTOR TABLE FOR WIRE AND CONDUIT REQUIREMENTS.
2. REFER TO ELECTRICAL PLANS FOR ELECTRICAL EQUIPMENTS LOCATIONS.

SHEET KEYNOTES:

1. CONDUIT SIZE 4". COORDINATE WITH UTILITY COMPANY AS AS REQUIRED.
2. TRANSFORMER: PROVIDED AND INSTALLED BY UTILITY COMPANY. PAD BY CONTRACTOR.
3. 4"C, CONDUCTORS BY UTILITY COMPANY.
4. METER SOCKET: PROVIDED AND INSTALLED AS REQUIRED BY UTILITY COMPANY.
5. CT METERING ENCLOSURE: PROVIDED AND INSTALLED AS REQUIRED BY UTILITY COMPANY.
6. MAIN SERVICE DISCONNECT: 480VAC, 300A, 3-POLE CIRCUIT BREAKER IN NEMA 3R ENCLOSURE. LABEL AS "MAIN SERVICE DISCONNECT" AND AS REQUIRED BY NEC 110.24.
7. TRANSFORMER T-1: XXXKVA, 480VAC PRIMARY, 208Y/120V SECONDARY.
8. REFER TO PANELBOARD SCHEDULE FOR WIRE IDENTIFICATION.
9. VFD CONDUCTORS: 3-350, IN 3"C (BELDEN 29534 OR APPROVED EQUAL).
10. 1"C, CONDUCTORS AS REQUIRED FOR ATS TO START/STOP THE GENERATOR.
11. BACKUP POWER GENERATOR: 230KW, 480VAC, 3-PH, 4-W DIESEL GENERATOR.
12. AUTOMATIC TRANSFER SWITCH: 480VAC, 400A, 3-PH, 4-W.



ONE-LINE DIAGRAM A
NONE

ROCKY MOUNTAIN POWER
COMMERCIAL / INDUSTRIAL CUSTOMER INFORMATION SHEET
Please complete this form and return to the Estimator assigned to your job

Business Information
Name of Customer's Business: West Jordan City Phone No.: Request Number:
Address: Fax No.:
Person responsible for advance and contract billing (if different than monthly billing customer):
Address: Street Address, City, State, Zip E-mail Address:
Building Square Footage: Note: Please breakdown into warehouse, office and manufacturing if applicable
Hours of Operation (include days & hours):

Service Description
Desired Secondary Voltage: 3 Phase 277/480 V If 'other' list here Note: Not all voltages may be available
Panel Size (in Amps): 400 Number of Meters: 1 List addresses for each above
Nearest Pole or Equipment number: Type of Service Desired: Underground
Electrical Contractor: Phone #:

Load List (attach additional sheets if necessary)

Description	Phase and Voltage	New Load to be added	Load to be removed	Total Connected Load after changes	Unit
HVAC (name plate rating)	1 Phase 120/240 V	1.8	-	1.8	Tons*
Refrigeration Equipment	1 Phase 120/240 V	-	-	-	Tons*
Total connected Tons				1.8	Tons
Exhaust Fans	1 Phase 120/240 V	0.75	-	0.75	HP
Gas/Fuel/Sump Pump	1 Phase 120/240 V	-	-	-	HP
Small Motors (include motor codes)	1 Phase 120/240 V	1.5	-	1.5	HP
Air Compressor	1 Phase 120/240 V	-	-	-	HP
Swimming Pool	1 Phase 120/240 V	-	-	-	HP
Largest Motor (not included above) & code	3 Phase 277/480 V	200	-	200	HP
Total connected HP				202.25	HP
Electric Heat	3 Phase 277/480 V	9.08	-	9.08	kW
Water Heating	1 Phase 120/240 V	-	-	-	kW
Lighting	1 Phase 120/240 V	0.6	-	0.6	kW
Outlets	1 Phase 120/240 V	1.62	-	1.62	kW
Office Equipment	1 Phase 120/240 V	-	-	-	kW
Kitchen Equipment	1 Phase 120/240 V	-	-	-	kW
Computers, Magnetic Power Supplies	1 Phase 120/240 V	1.0	-	1.0	kW
Machinery	1 Phase 120/240 V	-	-	-	kW
Thermoplastic Injection Equipment	1 Phase 120/240 V	-	-	-	kW
Elevators	1 Phase 120/240 V	-	-	-	kW
Boiler	1 Phase 120/240 V	-	-	-	kW
Snow Melting	1 Phase 120/240 V	-	-	-	kW
Signs	1 Phase 120/240 V	-	-	-	kW
X-Ray Equipment	1 Phase 120/240 V	-	-	-	kW
Washer/Dryer	1 Phase 120/240 V	-	-	-	kW
Miscellaneous	1 Phase 120/240 V	1.0	-	1.0	kW
Heat Exchanger	1 Phase 120/240 V	-	-	-	kW
Humidifier	1 Phase 120/240 V	-	-	-	kW
Future	1 Phase 120/240 V	-	-	0	kW
Total connected kW				20.22	kW

It is important to provide the most accurate information available, as it is used by the Estimator to design PacifiCorp's facilities and determine the customer's costs. Please sign and date this form before giving it to your estimator.

Customer Signature _____ Date _____

Note:
• You may wish to consult a trained professional (electrician, engineer, etc.) prior to providing the information to your estimator.
• Commercial metering can have many restrictions that should be discussed with the estimator prior to the purchase and installation of your metering equipment. There are also restrictions regarding master metering. If your plans call for master metering, please discuss this with your estimator.
• Motors larger than 35hp three phase or 5hp single phase will require approval by our engineering department prior to installation in order to determine the acceptable starting current.

*Tons = BHPs/12,000

ELECTRICAL UTILITY INSTALLATION		
UTILITY INFORMATION		
UTILITY COMPANY:	ROCKY MOUNTAIN POWER	
UTILITY COMPANY CONTACT:	AUBREY RASMUSSEN	
CONTACT INFORMATION:	PHONE: 801-576-6247	
WORK ORDER NUMBER:	6845352	
SERVICE PRIMARY	SUPPLIED BY:	INSTALLED BY:
PRIMARY TRENCHING/BACKFILL	-	CONTRACTOR
PRIMARY CONDUIT	CONTRACTOR	CONTRACTOR
PRIMARY CONDUCTOR	UTILITY COMPANY	UTILITY COMPANY
SERVICE TRANSFORMER	SUPPLIED BY:	INSTALLED BY:
TRANSFORMER PAD	CONTRACTOR	CONTRACTOR
TRANSFORMER	UTILITY COMPANY	UTILITY COMPANY
SERVICE SECONDARY	SUPPLIED BY:	INSTALLED BY:
SECONDARY TRENCHING/BACKFILL	-	CONTRACTOR
SECONDARY CONDUIT	CONTRACTOR	CONTRACTOR
SECONDARY CONDUCTOR	UTILITY COMPANY	UTILITY COMPANY
METERING EQUIPMENT	SUPPLIED BY:	INSTALLED BY:
METER	UTILITY COMPANY	UTILITY COMPANY
METER SOCKET	CONTRACTOR	CONTRACTOR
COMBO METER/MAIN	-	-
CURRENT TRANSFORMER ENCL.	CONTRACTOR	CONTRACTOR
CT ENCL. TO METER SOCKET WIRING	UTILITY COMPANY	UTILITY COMPANY
CT ENCL. TO METER SOCKET CONDUIT	CONTRACTOR	CONTRACTOR
MAIN SERVICE DISCONNECT	SUPPLIED BY:	INSTALLED BY:
CIRCUIT BREAKER	CONTRACTOR	CONTRACTOR
FUSED DISCONNECT SWITCH	-	-



EQUIPMENT SCHEDULE

ITEM	DESCRIPTION	EQUIPMENT RATING						DISCONNECT						STARTER		NOTES
		VOLTS	PH	HP	WATTS	FLA	MCA	AMPS	VOLTS	POLES	NEMA	FUSE	CONNECTION	TYPE	NEMA SIZE	
AIT-2	CHLORINE ANALYZER	120	1	-	10	0.08	-	-	-	-	-	-	HARD-WIRED	-	-	
AIT-3	TURBIDITY ANALYZER	120	1	-	150	1.25	-	-	-	-	-	-	HARD-WIRED	-	-	
ATS	AUTOMATIC TRANSFER SWITCH	480	3	-	-	400	-	-	-	-	-	-	HARD-WIRED	-	-	
CP-1	MAIN CONTROL PANEL	120	1	-	800	-	-	-	-	-	-	-	HARD-WIRED	-	-	
CP-2	EXHAUST FAN CONTROL PANEL	120	1	-	-	-	-	-	-	-	-	-	HARD-WIRED	-	-	
CTE	CURRENT TRANSFORMER ENCLOSURE	480	3	-	-	-	-	-	-	-	-	-	-	-	-	
FE-1	FLOW ELEMENT	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
FIT-1	FLOW INDICATOR/TRANSMITTER	120	1	-	50	0.4	-	-	-	-	-	-	-	-	-	
GA-1	GATE ACTUATOR	240	1	1	1,920	8	-	-	-	-	-	-	-	-	-	
GEN	BACKUP POWER GENERATOR	480	3	-	-	-	-	-	-	-	-	-	HARD-WIRED	-	-	
LT-1	WELL LEVEL TRANSMITTER	24	-	-	-	-	-	-	-	-	-	-	-	-	-	
MSD	MAIN SERVICE DISCONNECT	480	3	-	-	-	-	-	-	-	-	-	-	-	-	
P-1	WELL PUMP	480	3	200	199,296	240	-	-	-	-	-	-	HARD-WIRED	VFD	200 HP	
PC-1	PELLET CHLORINATOR	120	1	-	1,656	-	-	-	-	-	-	-	-	-	-	
RTU	REMOTE TELEMETRY UNIT	120	1	-	-	-	-	-	-	-	-	-	HARD-WIRED	-	-	
SV-2	WELL PRE-LUBE SOLENOID VALVE	120	-	-	-	-	-	-	-	-	-	-	-	-	-	
TT-1	PUMP ROOM TEMPERATURE SENSOR	24	-	-	-	-	-	-	-	-	-	-	-	-	-	
TT-2	CHLORINE ROOM TEMPERATURE SENSOR	24	-	-	-	-	-	-	-	-	-	-	-	-	-	
V-1	WASTE VALVE ACTUATOR	120	1	1/6	528	4.4	-	-	-	-	-	-	-	-	-	
V-2	SYSTEM VALVE ACTUATOR	120	1	1/6	528	4.4	-	-	-	-	-	-	-	-	-	
VFD	WELL VARIABLE FREQUENCY DRIVE	480	3	200	-	-	-	-	-	-	-	-	HARD-WIRED	-	-	

NOTES: 1)

FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER		FIX VA	LAMP	LUMENS	TEMPERATURE (KELVIN)	MOUNTING	NOTES:
		NAME	CATALOG NO.						
F1	4" LED ENCLOSED INDUSTRIAL, FIBERGLASS HOUSING, DAMP LOCATION, 110VOLT	METALUX	4VT2 LD5-4-DR-UNV-L840-CD1-WL-U	38	LED	4000	4000	SURFACE	
F2	LED WALL MOUNTED FULL CUTOFF MINI AREA WALL PACK FOR WET LOCATIONS	LUMARK	XTOR2B-W-PC1	18	LED	1,472	4000	WALL	1)
F3	FLOOD LIGHT, WIDE DISTRIBUTION, 120 VAC, 4000 DEG K LED	EATON	UFLD-C25-E-U-66-Y-BZ	128	LED	15,530	4000	WALL	2)
F4A	WEST JORDAN STANDARD POLE LIGHT	-	-	129	LED	13,748	4999	POLE	3)
F4B	WEST JORDAN STANDARD LIGHT POLE	-	-	-	-	-	-	-	3)

NOTES:

- 1) FIXTURE SHALL BE MOTION SENSOR CONTROLLED.
2) AIM TOWARD GENERATOR SIDE AISLE.
3) POLE AND FIXTURE SHALL BE PURCHASED FROM WEST JORDAN CITY.

HVAC MECHANICAL EQUIPMENT SCHEDULE

ITEM	DESCRIPTION	EQUIPMENT RATING						DISCONNECT						STARTER		NOTES
		VOLTS	PH	HP	WATTS	FLA	MCA	AMPS	VOLTS	POLES	NEMA	FUSE	CONNECTION	TYPE	NEMA SIZE	
CU-1	CONDENSING UNIT	208	1	-	3,162	15.2	19	30	240	3	3R	25	HARD-WIRED	INCL.	N/A	
CU-2	CONDENSING UNIT	208	1	-	3,162	15.2	19	30	240	3	3R	25	HARD-WIRED	INCL.	N/A	
EF-1	EXHAUST FAN	120	1	F	150	1.25	-	20	125	1	-	-	HARD-WIRED	N/A	N/A	
FC-1	AIR HANDLER	208	1	-	-	-	-	-	-	-	-	-	-	-	-	1)
FC-2	AIR HANDLER	208	1	-	-	-	-	-	-	-	-	-	-	-	-	1)
L-1	CHL. ROOM INTAKE LOUVER	120	1	F	50	0.4	-	-	-	-	-	-	-	-	-	
L-2	CHL. ROOM EXHAUST LOUVER	120	1	F	50	0.4	-	-	-	-	-	-	-	-	-	
UH-1	UNIT HEATER	480	3	F	5,000	6.02	-	-	-	-	-	-	HARD-WIRED	INCL.	N/A	
UH-2	UNIT HEATER	480	3	F	3,300	3.97	-	30	600	3	1	-	HARD-WIRED	N/A	N/A	

NOTES: 1) INDOOR UNIT RECEIVES POWER FROM OUTDOOR UNIT. REFER TO MANUFACTURER'S LITERATURE.
2)

PANELBOARD H

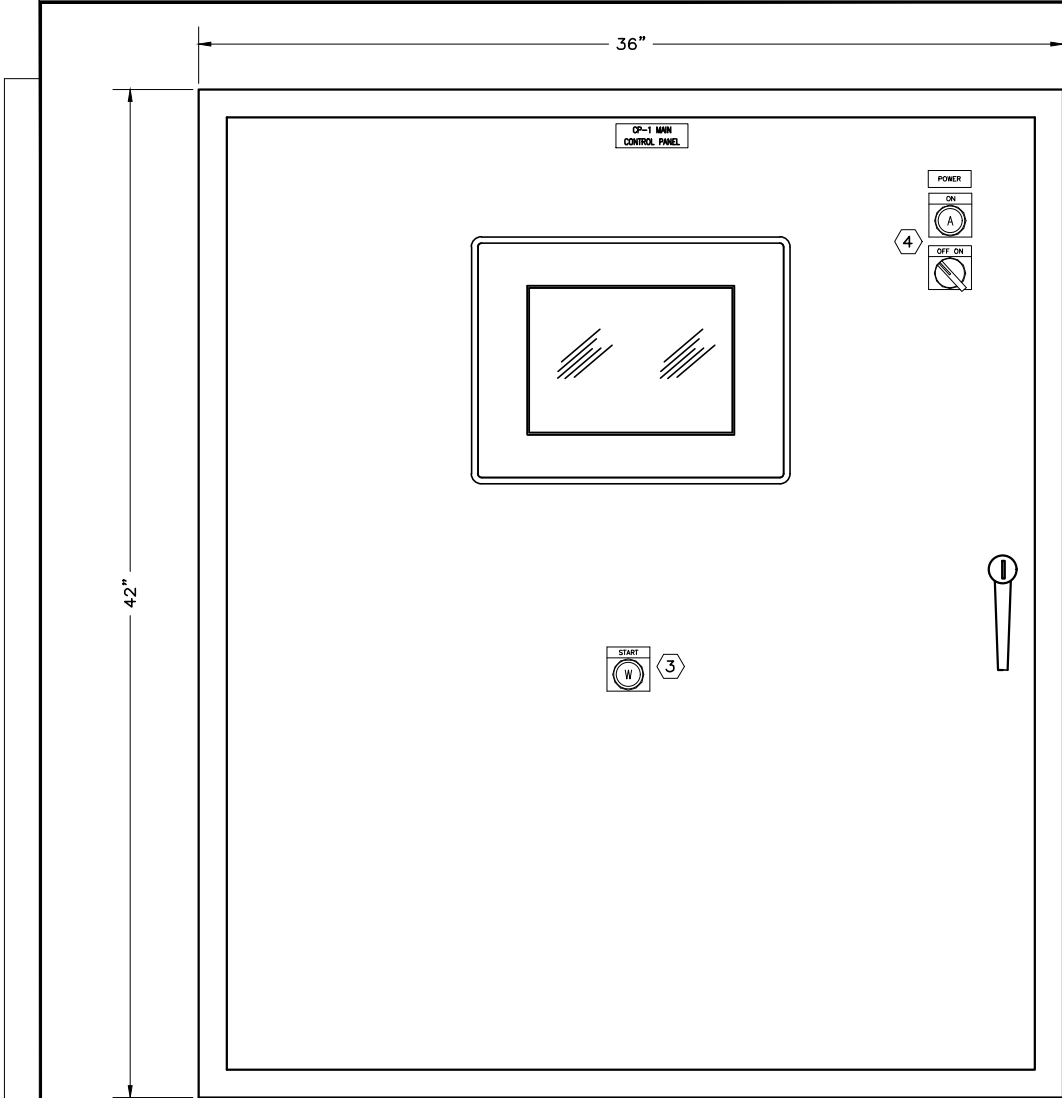
LOCATION: WELL ROOM				MFGR: SQUARE D COMPANY				400 AMPS				VOLTS: 480Y/277			
DIMENSIONS: 20"Wx 6"Dx 26"H				TYPE: F-LINE				X M.L.O				PHASE: 3			
MOUNTING: SURFACE				NEMA: 1				22,000 A.I.C.				WIRES: 4			
FEED: TOP				X SURGE PROTECTION								FED FROM: UTILITY			
PHASE LOADS															
BRKR				CIRCUIT	CONT.	N-CONT.	A		B		C				
A	P	DESCRIPTION	ID	WATTS	WATTS	NO	CONT.	N-CONT.	CONT.	N-CONT.	CONT.	N-CONT.	CONT.	N-CONT.	
20	3	CP-1 SURGE DEVICE	312			1	0	0	0	0	0	0	0	0	
350	3	WELL PUMP (200 HP)	310	199,296		2	66,432	0	66,432	0	66,432	0	66,432	0	
20	3	WELL ROOM HEATER	312	5,000		3	1,667		1,667				1,667		
20	3	CHLORINE ROOM HEATER	312	3,300		4	1,100		1,100				1,100		
20	3	PELLET CHLORINATOR	312	2,491		5	830		830				830		
50	3	TRANSFORMER L SPACE	38	5,382	14,482	6	1,954	5,071	860	4,221	2,568	5,191			
						7									
TOTAL WATTS:				215,469	14,482		71,983	5,071	70,889	4,221	72,597	5,191			
CONTINUOUS LOAD:				215,469											
CONTINUOUS LOAD * 125%:				269,337											
NON-CONTINUOUS LOAD:				14,482											
DESIGN WATTS:				283,819											
MIN. RATING (AMPS):				342											

TRANSFORMER L

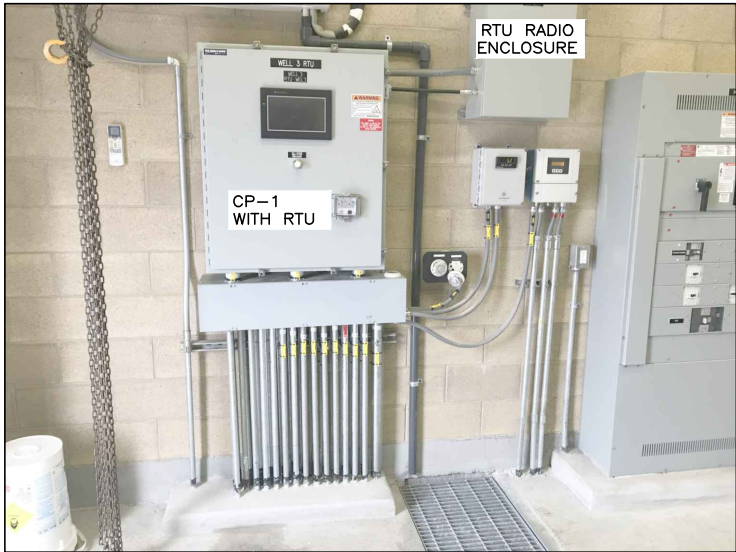
LOCATION: WELL ROOM				25.5 PRIMARY AMPS				PRIMARY VOLTS: 480			
DIMENSIONS: 14.75"W x 9.00"D x 14.75"H				58.9 SECONDARY AMPS				SECONDARY VOLTS: 208Y/120			
MOUNTING: WALL								KVA: 30			
FEED: SIDE								FED FROM: PNL H			
								PHASE LOADS			
				CONT.	N-CONT.	A		B		C	
				WATTS	WATTS	CONT.	N-CONT.	CONT.	N-CONT.	CONT.	N-CONT.
PANELBOARD L				5,382	14,482	1,954	5,071	860	4,221	2,568	5,191
TOTAL WATTS:				5,382	14,482	1,954	5,071	860	4,221	2,568	5,191
CONTINUOUS LOAD:				5,382							
CONTINUOUS LOAD * 125%:				6,728							
NON-CONTINUOUS LOAD:				14,482							
DESIGN WATTS:				21,210							

PANELBOARD L

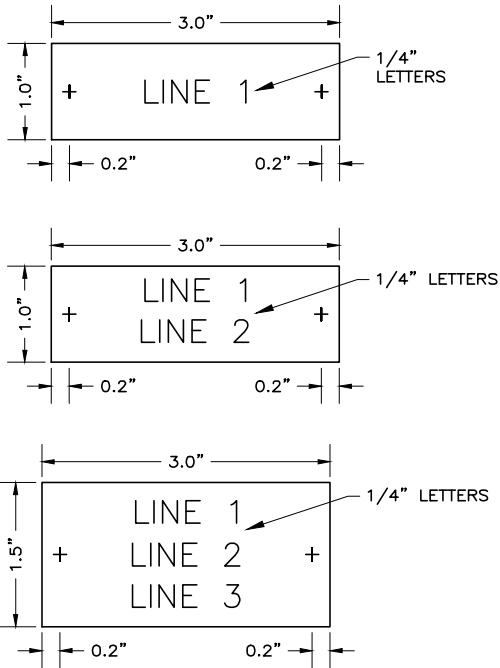
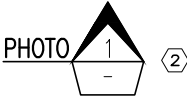
LOCATION: WELL ROOM				MFGR: SQUARE D				225 AMPS				VOLTS: 208Y/120								
DIMENSIONS: 20"W x 5.75"D x 14.75"H				TYPE: NQ				90 M.C.B.				PHASE: 3								
MOUNTING: SURFACE				NEMA: 1				10,000 A.I.C.				WIRES: 4								
FEED: TOP								X SPD				FED FROM: XFMR L								
PHASE LOADS																				
BRKR				CIRCUIT	CONT.	N-CONT.	A		B		C		N-CONT.	CONT.	CIRCUIT			BRKR		
A	P	DESCRIPTION	ID	WATTS	WATTS	NO	CONT.	N-CONT.	CONT.	N-CONT.	CONT.	N-CONT.	NO	WATTS	WATTS	ID	DESCRIPTION	A	P	
20	1	CO, PUMP ROOM	212			1,080	1	1,000	1,080				2		1,000	212	CP-1/RTU	20	1	
20	1	CO, CHLORINE ROOM	212			180	3			500	180		4		500	212	RTU RADIO ENCLOSURE	20	1	
20**	1	CO, EXTERIOR	212			360	5					0	1,110	6	750	212	GENERATOR JACKET WATER HEATER	20	2	
20**	1	LTS, INTERIOR	212	304		7		304	750				8	750		-	-	-	-	
20	1	LTS, EXTERIOR	212	310		9				310	1,000		10	1,000		212	GENERATOR BATTERY CHARGER	20	1	
20	1	FLOW METER	212	50		11						50	1,581	12	1,581	20	WELL ROOM EXTERIOR A/C UNIT-1	30	2	
20	2	SITE GATE ACTUATOR	212			960	13	0	2,541				14	1,581		-	-	-	-	
-	-	-	-			960	15			0	2,541		16	1,581		20	WELL ROOM EXTERIOR A/C UNIT-1	30	2	
20	1	TURBIDIMETER	212	150		17						150	1,581	18	1,581		-	-	-	
20	1	RESIDUAL CHLORINE ANALYZER	212	150		19		150	500				20	500		212	V-1 ACTUATOR	20	1	
20**	1	CO, IRRIGATION CONTROLLER	212	50		21				50	500		22	500		212	V-2 ACTUATOR	20	1	
20	1	LTS, POLES & CCTV CO	212	512		720	23					2,368	920	24	200	1,856	20	CP-2 CONTROL PANEL	30	1
20	1	SECURITY ENCLOSURE	212	500		25		500	200				26				SPARE	20	1	
20	1	SPARE				27				0	0		28				SPARE	20	1	
	1	SPACE				29						0	0	30			SPARE	20	1	
TOTAL WATTS:				2,026	4,260		1,954	5,071	860	4,221	2,568	5,191		10,022	3,356					
CONTINUOUS LOAD:				5,382																
CONTINUOUS LOAD * 125%:				6,728																
NON-CONTINUOUS LOAD:				14,282	** PROVIDE A GFC CIRCUIT BREAKER															
DESIGN WATTS:				21,010																
MIN. RATING (AMPS):				58																



CONTROL PANEL CP-1 WITH RTU 1



(TYPICAL CONTROL PANEL)



NAMEPLATE DETAIL A

SCADA COORDINATION		
SCADA CONTRACTOR: APCO, INC.		
CONTACT INFORMATION: (801) 519-9500		
ENCLOSURE	SUPPLIED BY:	INSTALLED BY:
ENCLOSURE	CONTRACTOR	CONTRACTOR
INTERNAL PANEL	CONTRACTOR	CONTRACTOR
INTERNAL COMPONENTS	SCADA CONTR.	SCADA CONTR.
INTERNAL COMPONENT WIRING	SCADA CONTR.	SCADA CONTR.
ING TO/FROM RTU ENCLOSURE	SUPPLIED BY:	INSTALLED BY:
POWER SOURCE	CONTRACTOR	CONTRACTOR
FIELD I/O TO ENCLOSURE TERMINALS	CONTRACTOR	CONTRACTOR
FIELD DEVICE TERMINATIONS	CONTRACTOR	CONTRACTOR
COMPONENT	SUPPLIED BY:	INSTALLED BY:
PROGRAMMABLE LOGIC CONTROLLER	SCADA CONTR.	SCADA CONTR.
SEPARATE RTU CONTROLLER	-	-
ANAL WIRING INSIDE RTU	SUPPLIED BY:	INSTALLED BY:
FIELD DEVICE WIRING TERMINATION	-	SCADA CONTR.
SIGNAL	SUPPLIED BY:	INSTALLED BY:
1" CONDUIT FOR SCADA RADIO	CONTRACTOR	CONTRACTOR
DATA RADIO COAXIAL CABLE	SCADA CONTR.	SCADA CONTR.
ANTENNA SUPPORT (SEE PLANS)	CONTRACTOR	CONTRACTOR
DATA RADIO ANTENNA	SCADA CONTR.	SCADA CONTR.

CP-1 MAIN CONTROL PANEL I/O LIST
DISCRETE INPUTS

DESCRIPTION	FROM	TO	NOTES
ATS IN GENERATOR POSITION	ATS	CP-1	
ATS IN UTILITY POSITION	ATS	CP-1	
CHLORINE PUMP ON	PC-1	CP-1	
CHLORINE RM. EF RUNNING	CP-2	CP-1	
CHLORINE ROOM DOOR OPEN	SEC. PNL.	CP-1	
CHLORINE SOLUTION TANK HIGH LEVEL	PC-1	CP-1	
CHLORINE SOLUTION TANK LOW LEVEL	PC-1	CP-1	
CHLORINE SYSTEM FLOW	PC-1	CP-1	
CHLORINE WEIGHT SCALE ALARM	PC-1	CP-1	
CP-1 POWER LOSS	CP-1	CP-1	
GATE CLOSED STATUS	SEC. PNL.	CP-1	
GATE OPEN STATUS	SEC. PNL.	CP-1	
GENERATOR FAULT	GEN	CP-1	
GENERATOR ON	GEN	CP-1	
PELLET CHLORINATOR ALARM	PC-1	CP-1	
PELLET CHLORINATOR ON	PC-1	CP-1	
SYSTEM VALVE FULL CLOSED POSITION	V-2	CP-1	
SYSTEM VALVE FULL SYSTEM POSITION	V-2	CP-1	
VFD ALARM RESET	VFD	CP-1	
VFD FAULT	VFD	CP-1	
VFD FILTER HIGH TEMPERATURE	VFD	CP-1	
VFD HOA IN AUTO MODE	VFD	CP-1	
VFD HOA IN HAND MODE	VFD	CP-1	
VFD ON	VFD	CP-1	
VFD READY-TO-START	VFD	CP-1	
VFD SHUTDOWN RESET	VFD	CP-1	
WASTE VALVE FULL CLOSED POSITION	V-1	CP-1	
WASTE VALVE FULL WASTE POSITION	V-1	CP-1	
WELL HIGH DISCHARGE PRESSURE	PSH-1	CP-1	
WELL ROOM FLOOR HIGH WATER	LSH-3	CP-1	
WELL ROOM MAINTENANCE DOOR A OPEN	SEC. PNL.	CP-1	
WELL ROOM MAINTENANCE DOOR B OPEN	SEC. PNL.	CP-1	
WELL ROOM MAN DOOR OPEN	SEC. PNL.	CP-1	
WELL ROOM ROOF HATCH OPEN	SEC. PNL.	CP-1	
WELL STOP	RTU	CP-1	

NOTES:
1)

DISCRETE OUTPUTS

DESCRIPTION	FROM	TO	NOTES
CHLORINE RM EXHAUST FAN RUN	CP-1	CP-2	
GATE CLOSE COMMAND	CP-1	SEC. PNL.	
GATE OPEN COMMAND	CP-1	SEC. PNL.	
PELLET CHLORINATOR REMOTE RUN	CP-1	PC-1	
PRE-LUBE SOLENOID VALVE OPEN	CP-1	SV-2	
SYSTEM VALVE OPEN COMMAND	CP-1	V-2	
VFD BACKSPIN TIME DELAY	CP-1	VFD	
VFD FILTER CAPACITOR CONTROL	CP-1	VFD	
VFD HP SHUTDOWN & INDICATION LIGHT	CP-1	VFD	
VFD LOW LEVEL SHDN & INDICATION LIGHT	CP-1	VFD	
VFD RUN	CP-1	VFD	
VFD SHUTDOWN	CP-1	VFD	
WASTE VALVE CLOSE COMMAND	CP-1	V-1	

NOTES: 1)

ANALOG INPUTS

DESCRIPTION	FROM	TO	NOTES
CHLORINE ROOM TEMPERATURE	TT-2	CP-1	1)
RESIDUAL CHLORINE	AIT-2	CP-1	1)
STATION DISCHARGE PRESSURE	PT-1	CP-1	1)
VFD RUNNING SPEED	VFD	CP-1	1)
WELL DISCHARGE FLOW	FIT-1	CP-1	1)
WELL LEVEL	LT-1	CP-1	1)
WELL DISCHARGE PRESSURE	PT-2	CP-1	1)
WELL ROOM TEMPERATURE	TT-1	CP-1	1)
WELL TURBIDITY	AIT-3	CP-1	1)

NOTES:

1) SIGNAL SHALL BE REPEATED AS PLC ANALOG OUTPUT TO RTU.

ANALOG OUTPUTS

DESCRIPTION	FROM	TO	NOTES
CHLORINE DOSE RATE (WELL FLOW)	CP-1	PC-1	
VFD COMMAND SPEED	CP-1	VFD	

NOTES: 1)

GENERAL NOTES:

- INTERNAL COMPONENTS AND ARRANGEMENT NOT SHOWN ON THESE DRAWINGS AND SHALL BE PROVIDED BY APCO, THE CITY'S SCADA CONTRACTOR. APCO SHALL PROVIDE ALL INTERNAL COMPONENTS AND ALL PLC AND HMI PROGRAMMING.

SHEET KEYNOTES:

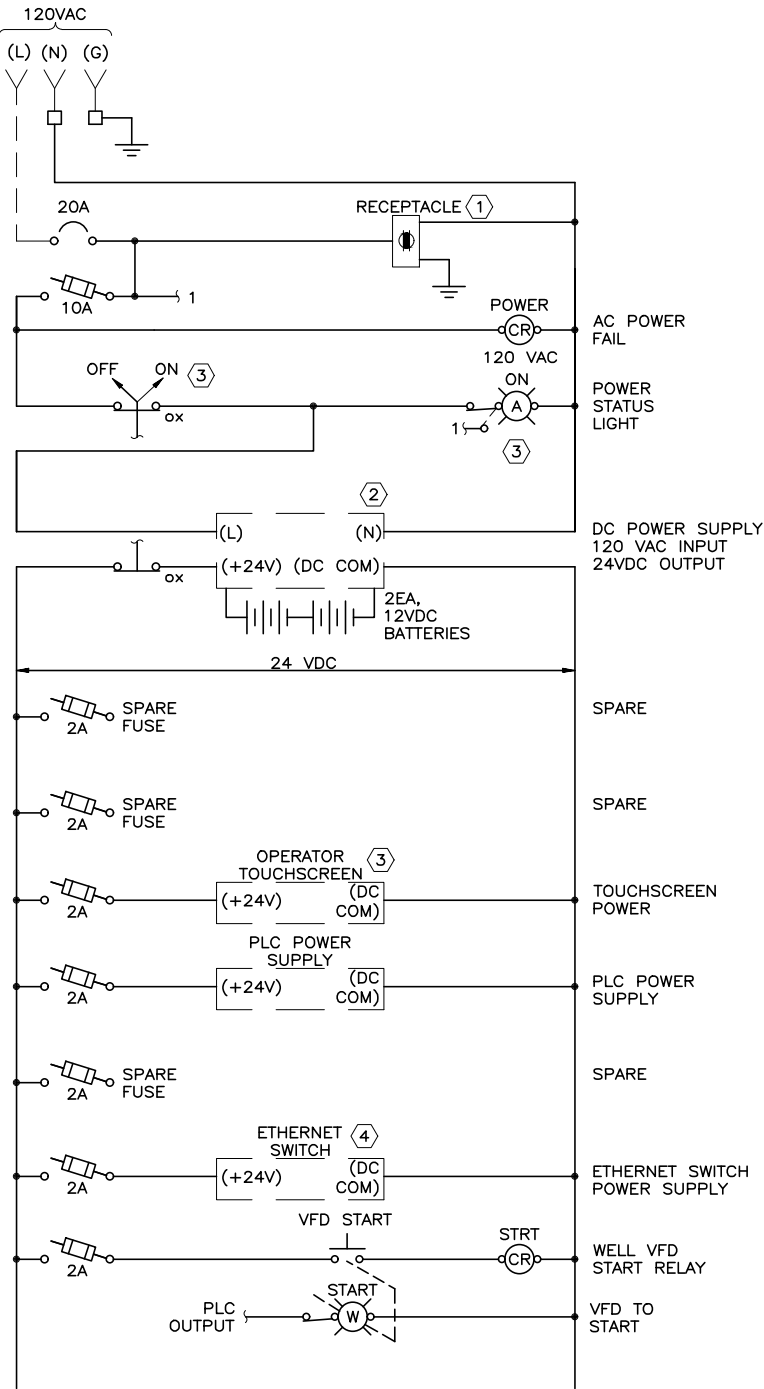
- 10" OPERATOR TOUCH SCREEN SHOWN. PROVIDED AND INSTALLED BY SCADA CONTRACTOR.
- TYPICAL MAIN CONTROL PANEL SHOWN. MODIFY AS REQUIRED BY OWNER.
- VFD READY-TO-START INDICATION AND START PUSHBUTTON.
- CONTROL POWER INDICATION AND OFF/ON SELECTOR SWITCH.

GENERAL NOTES:

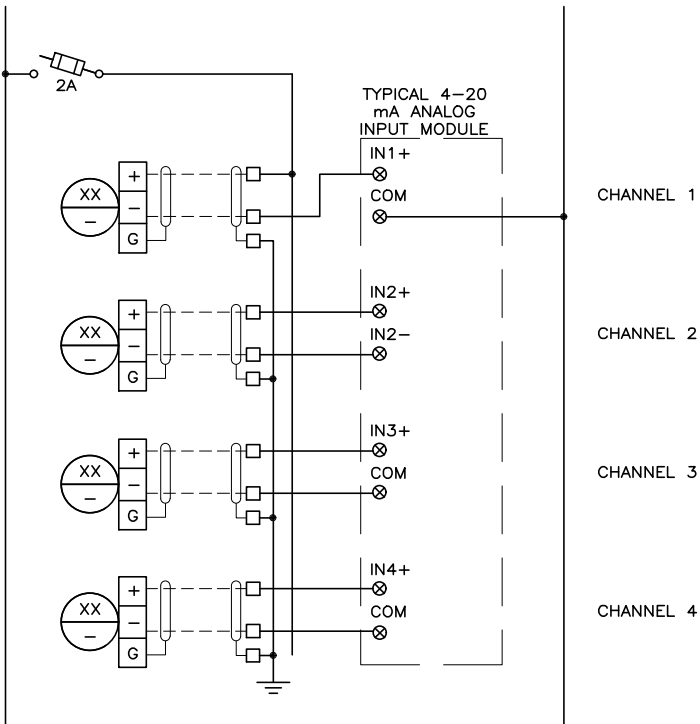
- THIS DIAGRAM IS TYPICAL AND INDICATES THE BASIC CONTROL PANEL CONTROL DIAGRAM. THE CONTRACTOR SHALL MODIFY AS REQUIRED FOR THE DEVICES AND PLC MODULES USED.
- CONTRACTOR SHALL PREPARE A CONTROL DIAGRAM BASED ON THE DEVICES SUPPLIED, INCLUDING WIRE, FUSE AND TERMINAL NUMBERS AS REQUIRED. THE PLC I/O SHOWN IS GENERIC.

SHEET KEYNOTES:

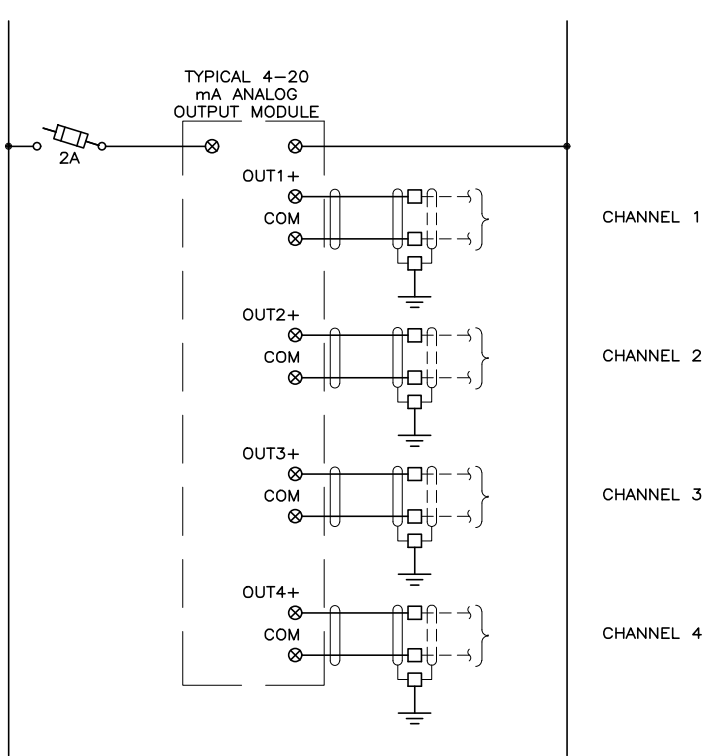
- PROVIDE A DUPLEX GFCI RECEPTACLE IN THE ENCLOSURE.
- PROVIDE A 120VAC:24VDC POWER SUPPLY/BATTERY CHARGER COMPLETE WITH BATTERY CAPACITY TO PROVIDE 2 HOURS OF PANEL OPERATION UPON THE LOSS OF UTILITY POWER OR PROVIDE 120VAC UNINTERRUPTIBLE POWER SUPPLY.
- DEVICE SHALL BE INSTALLED IN THE ENCLOSURE DOOR AND AVAILABLE TO THE OPERATOR.



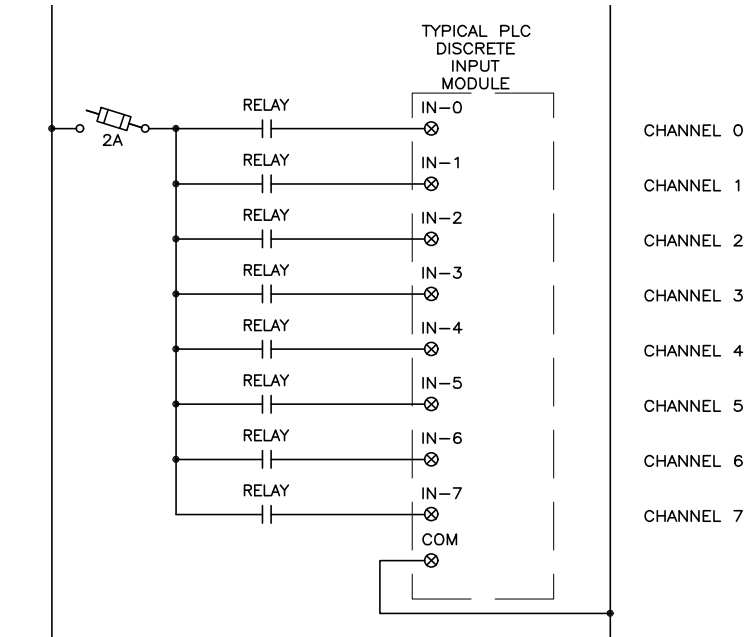
POWER LOGIC 1
NONE -



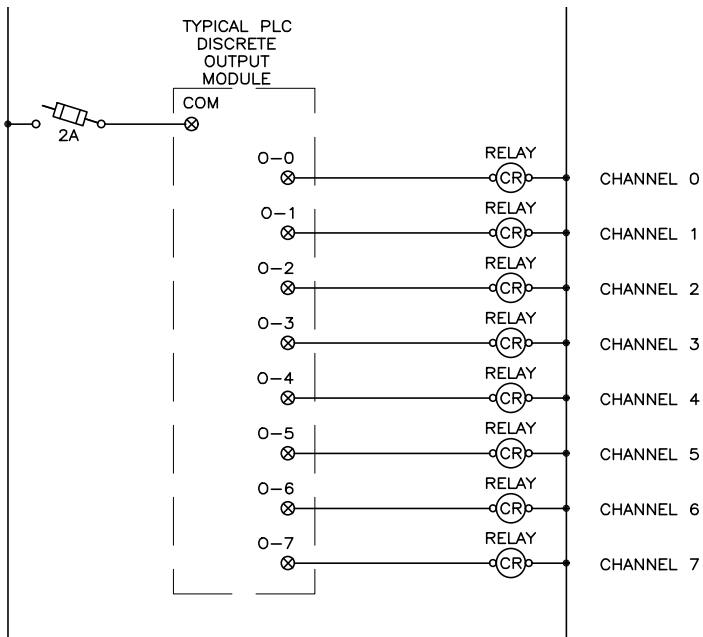
ANALOG INPUT MODULE 2
NONE -



ANALOG OUTPUT MODULE 3
NONE -



DISCRETE INPUT MODULE F
NONE -



DISCRETE OUTPUT MODULE G
NONE -

7/04
FILE NAME:
FILE DATE:



DESIGNED KBH 3
DRAFTED DAS 2
CHECKED KBH 1
DATE AUGUST 2020 NO. DATE

REVISIONS

SCALE

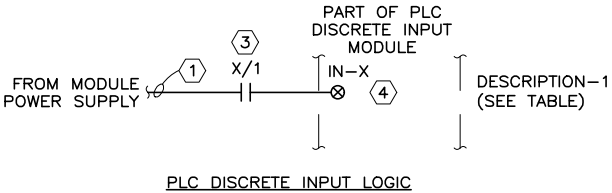
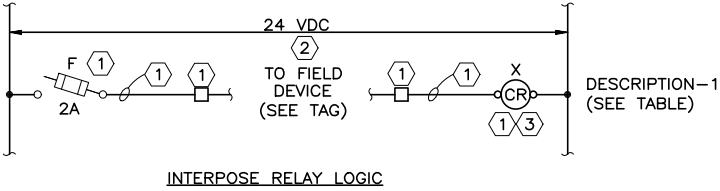


WEST JORDAN CITY WELL #8
ELECTRICAL
CP-1 CONTROL DIAGRAM SHT. 1

SHEET
E606
089.29.100

NOTES:

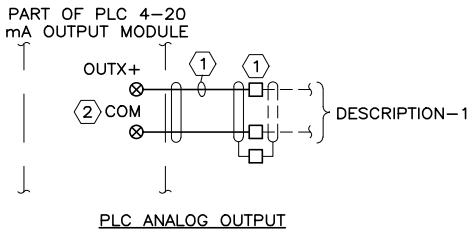
1. CONTRACTOR SHALL ASSIGN FUSE, RELAY, TERMINAL AND WIRE NUMBERS AS REQUIRED.
2. CONTRACTOR MAY COMBINE CONDUCTORS IN COMMON CONDUIT TO DEVICES IN SAME PROXIMITY.
3. PROVIDE AN INTERPOSING RELAY AND WIRE RELAY CONTACT TO PLC INPUT AS INDICATED.
4. CONTRACTOR SHALL ASSIGN PLC MODULE AND CHANNEL.



PLC DISCRETE INPUT WIRING 1
NONE —

NOTES:

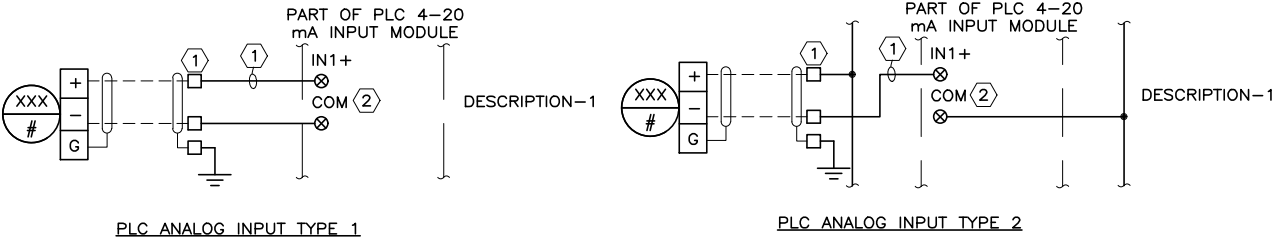
1. CONTRACTOR SHALL ASSIGN FUSE, RELAY, TERMINAL AND WIRE NUMBERS AS REQUIRED.
2. CONTRACTOR SHALL ASSIGN PLC MODULE AND CHANNEL.



PLC DISCRETE OUTPUT WIRING 3
NONE —

NOTES:

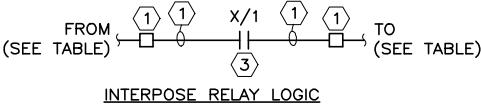
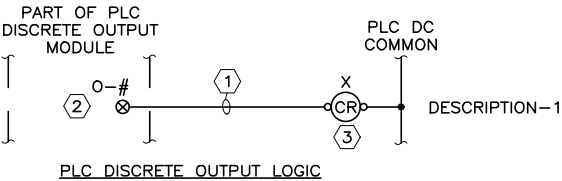
1. CONTRACTOR SHALL ASSIGN FUSE, RELAY, TERMINAL AND WIRE NUMBERS AS REQUIRED.
2. CONTRACTOR SHALL ASSIGN PLC MODULE AND CHANNEL.



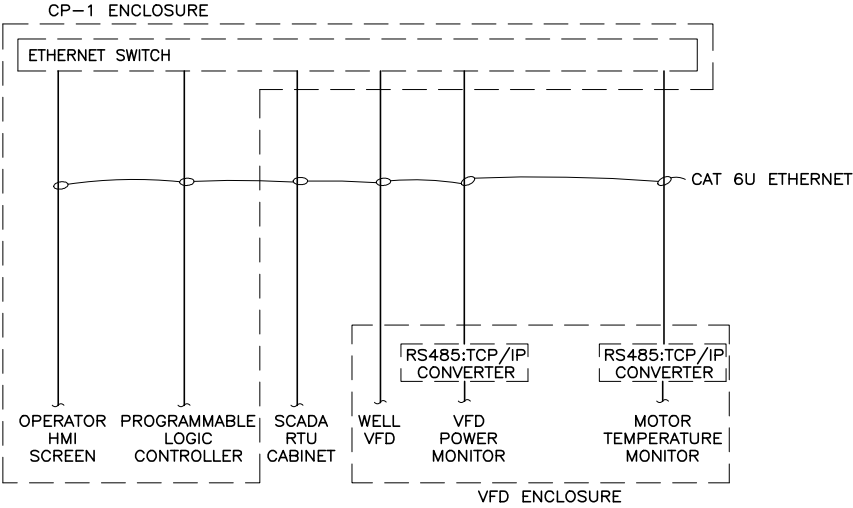
PLC ANALOG INPUT WIRING 2
NONE —

NOTES:

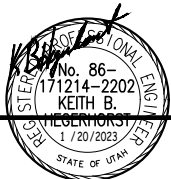
1. CONTRACTOR SHALL ASSIGN FUSE, RELAY, TERMINAL AND WIRE NUMBERS AS REQUIRED.
2. CONTRACTOR SHALL ASSIGN PLC MODULE AND CHANNEL.
3. PROVIDE AN INTERPOSING RELAY AND WIRE RELAY CONTACT TO PLC INPUT AS INDICATED.



PLC ANALOG OUTPUT WIRING 4
NONE —



ETHERNET SIGNAL DIAGRAM

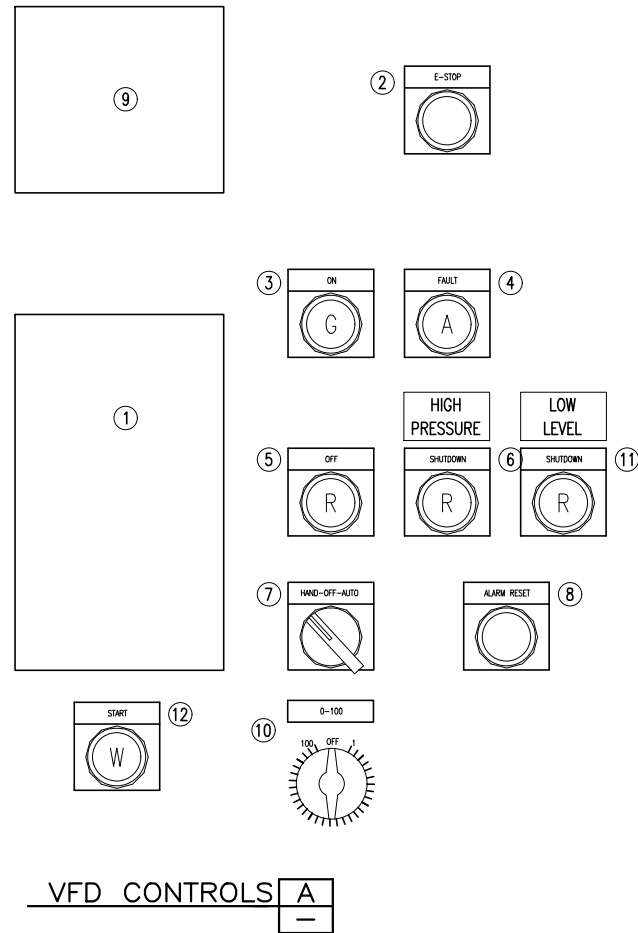


GENERAL NOTES:

- ENCLOSURE DIMENSIONS SHOWN ARE TYPICAL AND SHALL BE MODIFIED BY THE CONTRACTOR AS REQUIRED FOR THE DEVICES USED.
- WIRING DIAGRAM IN TYPICAL. MODIFY AS REQUIRED.

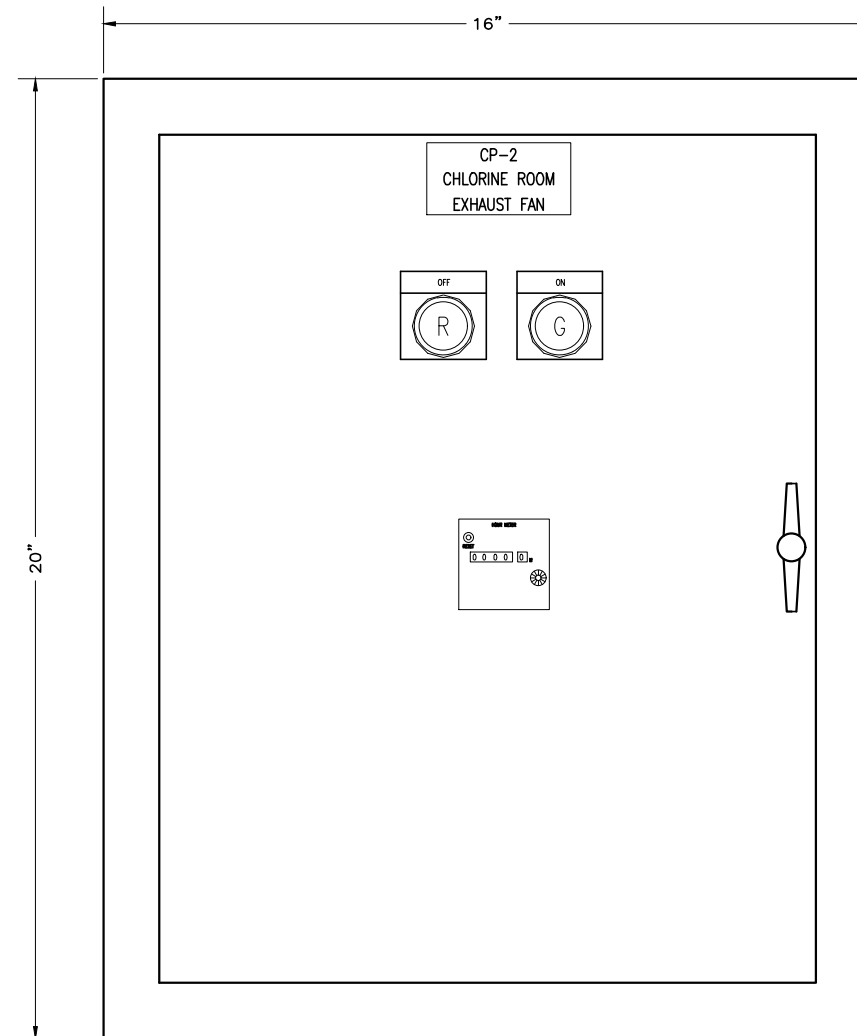
SHEET KEYNOTES:

- OFF-ON TOGGLE SWITCH WITH ROOM LIGHT SWITCH.

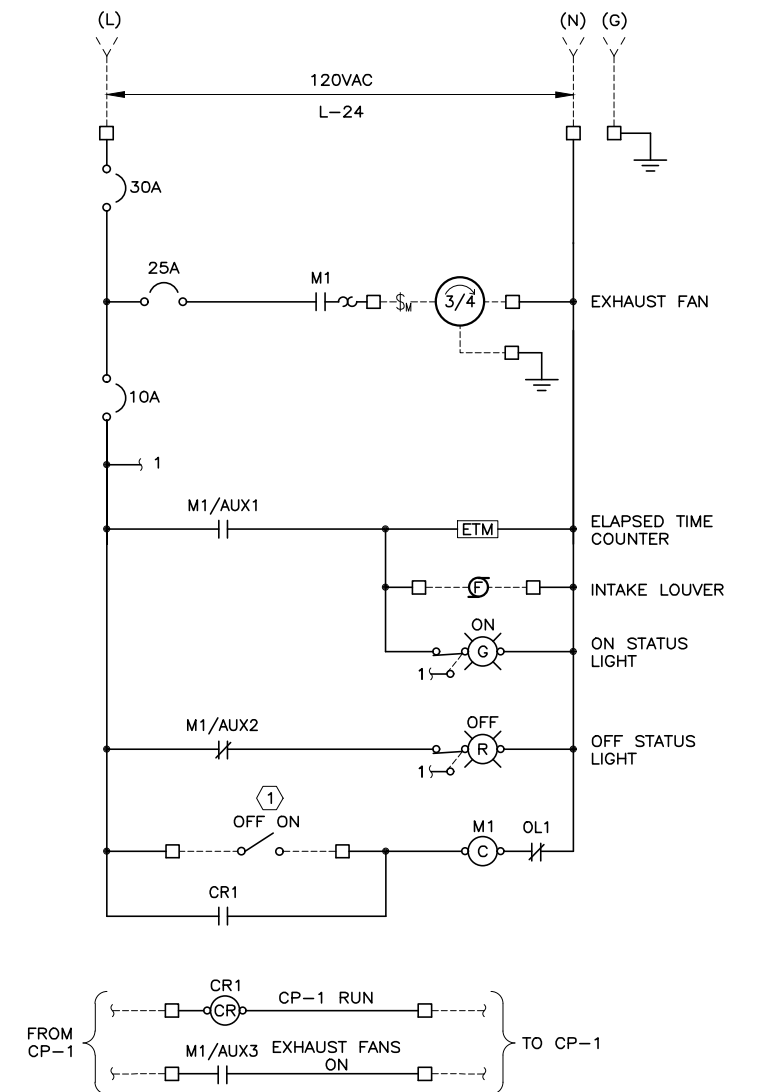


VFD CONTROL LEGEND

- VFD MEMBRAN KEYPAD
- VFD E-STOP MUSHROOM HEAD LATCHING PUSHBUTTON
- VFD STATUS INDICATION LIGHT
- VFD FAULT INDICATION LIGHT
- VFD OFF INDICATION LIGHT
- HIGH DISCHARGE PRESSURE SHUTDOWN INDICATION LIGHT
- HAND-OFF-AUTO SELECTOR SWITCH
- ALARM RESET PUSHBUTTON
- POWER AND ENERGY METER (COMPTON INTEGRA 1530)
- VFD SPEED POTENTIOMETER
- LOW LEVEL SHUTDOWN INDICATION LIGHT
- START PUSH BUTTON



CP-2 EXHAUST FAN CONTROL PANEL 1



EXHAUST FAN WIRING DIAGRAM B



PROJECT ENGINEER

DESIGNED KBH 3
DRAFTED DAS 2
CHECKED KBH 1
DATE AUGUST 2020 NO. DATE

REVISIONS

BY APVD.

SCALE



WEST JORDAN CITY WELL #8
ELECTRICAL
CP-2 EXHAUST FAN CONTROL PANEL

SHEET
E608
089.29.100