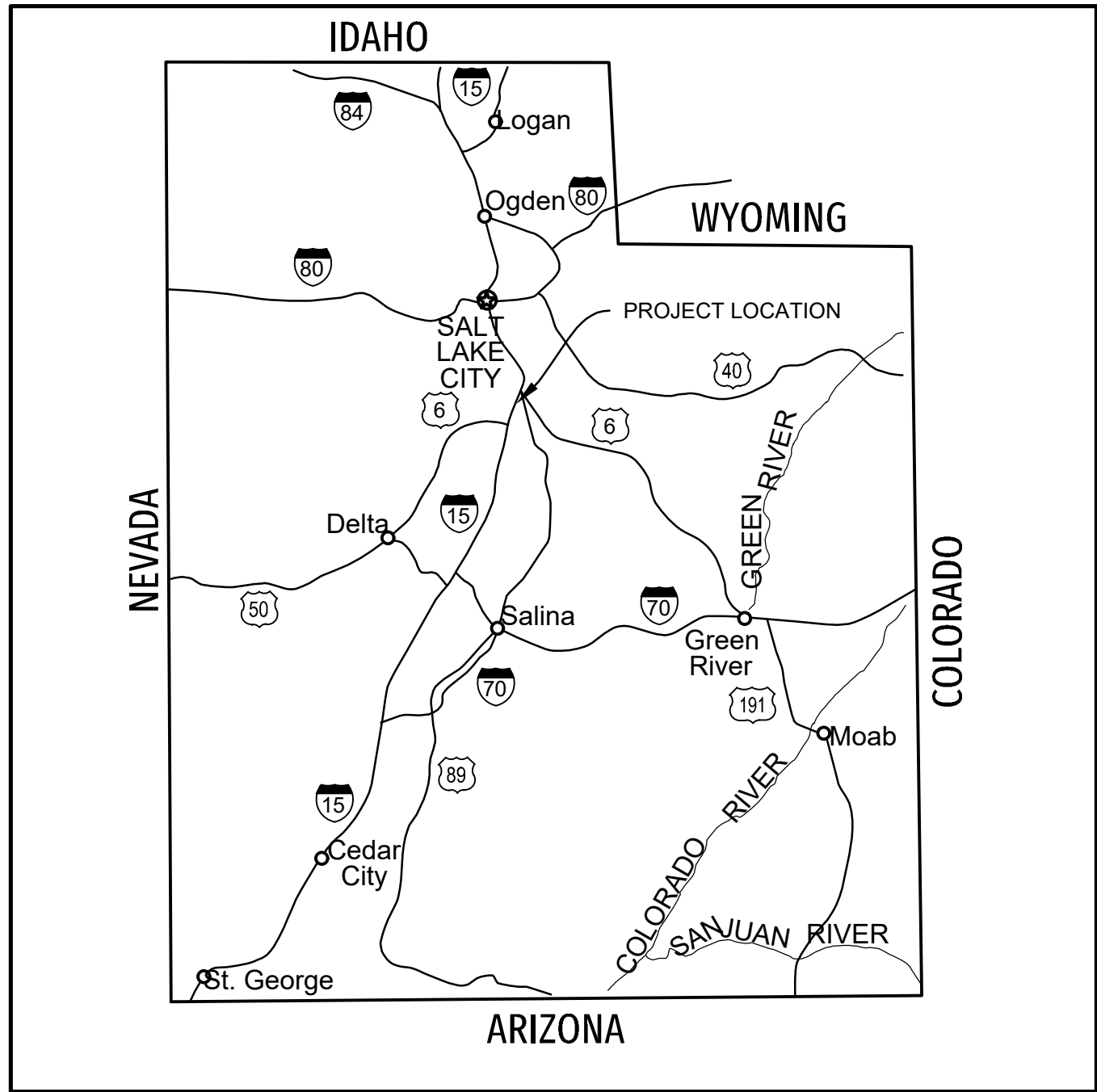


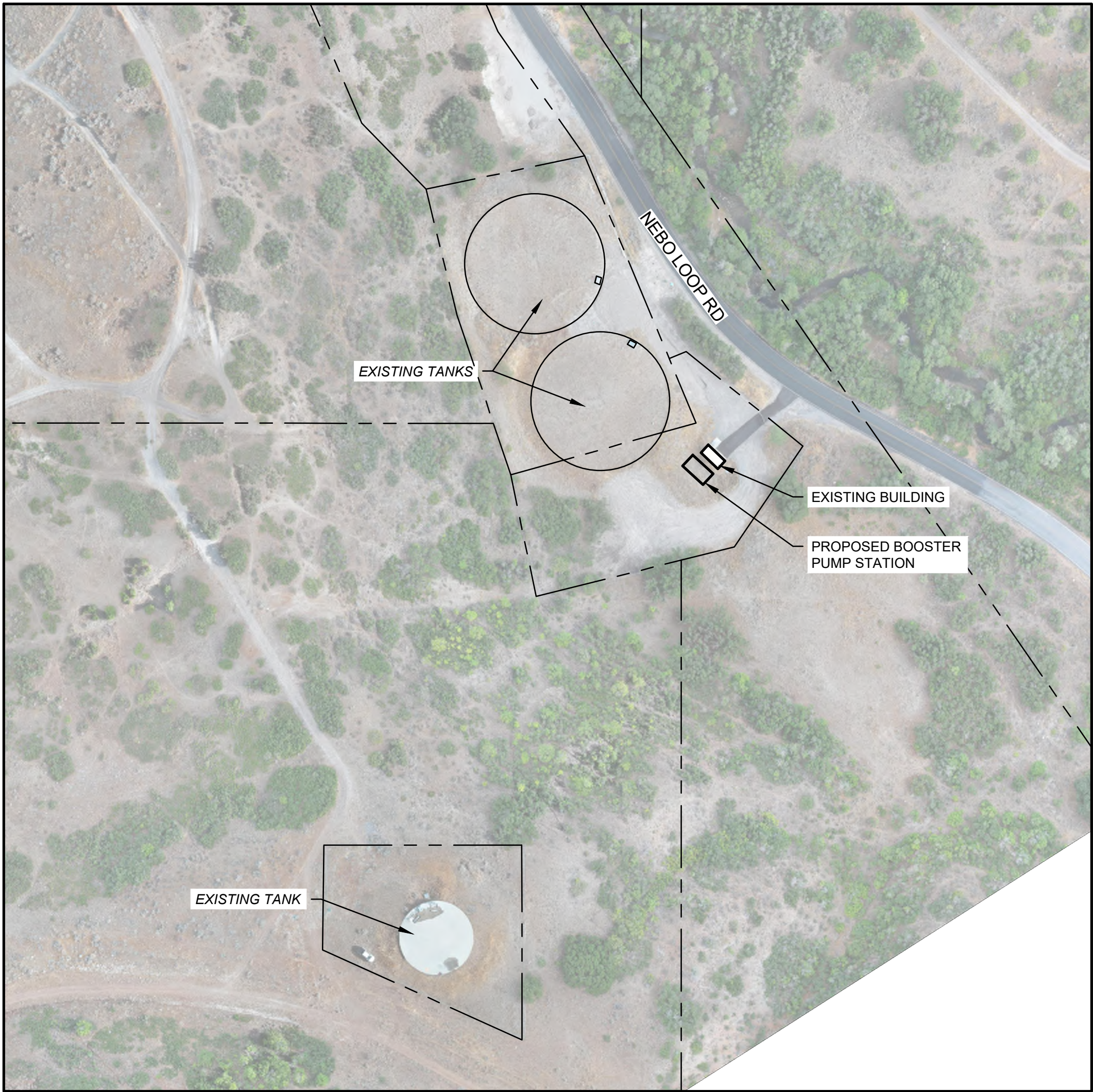
PAYSON CITY BOOSTER PUMP STATION

PAYSON, UT

JANUARY, 2025



VICINITY MAP
(N.T.S.)



PROJECT MAP
(N.T.S.)



3160 W. CLUBHOUSE DRIVE, STE. A
LEHI, UT 84043
801.768.7200

ARCHITECTURAL:
TIMPHAVEN DESIGN
289 EAST 950 SOUTH
OREM, UTAH 84058
301.512.6859

STRUCTURAL:
REDWOOD ENGINEERING
291 EAST 950 SOUTH
OREM, UTAH 84058
801.426.6500

MECHANICAL:
BNA CONSULTING
4225 LAKE PARK BLVD STE 275
WEST VALLEY CITY, UTAH 84120
801.532.2196

ELECTRICAL:
MHW ENGINEERING LLC.
8619 SANDY PARKWAY SUITE 101
SANDY, UTAH 84070
801.466.4021



439 W. UTAH AVE.
PAYSON, UT 84651
801.465.5217

CIVIL SHEET INDEX		
SHEET NO	SHEET ID	SHEET TITLE
1	G-001	COVER SHEET
2	G-002	GENERAL NOTES
3	G-003	ABBREVIATIONS & LEGEND
4	C-100	DEMOLITION PLAN
5	C-101	OVERALL SITE PLAN
6	C-102	BOOSTER PUMP STATION SITE PLAN
7	C-103	BOOSTER PUMP STATION PLAN VIEW
8	C-201	PLAN & PROFILE VIEWS
9	C-301	SECTION VIEWS
10	C-302	SECTION VIEWS
11	C-401	CIVIL DETAILS
12	C-402	CIVIL DETAILS
ARCHITECTURAL SHEET INDEX		
SHEET NO	SHEET ID	SHEET TITLE
1	C101	COVER SHEET & LIST
2	C102	PROJECT SPECIFICATIONS & DETAILS
3	A101	FLOOR PLANS
4	A201	EXTERIOR ELEVATIONS
5	A301	BUILDING SECTION (A) & (B)
6	A401	ARCHITECTURAL DETAILS
STRUCTURAL SHEET INDEX		
SHEET NO	SHEET ID	SHEET TITLE
1	SN.1	GENERAL STRUCTURAL NOTES
2	S1.0	FOOTING AND FOUNDATION PLAN
3	S1.1	ROOF FRAMING PLAN
4	SD.1	STRUCTURAL DETAILS
MECHANICAL SHEET INDEX		
SHEET NO	SHEET ID	SHEET TITLE
1	MG001	MECHANICAL GENERAL NOTES AND LEGEND
2	ME101	MECHANICAL FLOOR PLAN
3	ME301	MECHANICAL SECTIONS
4	ME501	MECHANICAL DETAILS
5	ME601	MECHANICAL SCHEDULES
ELECTRICAL SHEET INDEX		
SHEET NO	SHEET ID	SHEET TITLE
1	E001	SYMBOLS AND NOTES
2	E002	SCHEDULES
3	E003	ELECTRICAL SPECIFICATIONS
4	E101	ELECTRICAL SITE PLAN
5	E201	LIGHTING PLAN
6	E301	POWER/SYSTEMS PLAN
7	E401	ONE-LINE DIAGRAM
8	E501	ELECTRICAL DIAGRAMS



3160 W. Clubhouse Drive, Ste. A
Lehi, UT 84043
801.768.7200



PAYSON CITY BOOSTER
PUMP STATION
PAYSON, UT

REVISIONS			
NO.	DATE	DESCRIPTION	MARK
1	12/17/2024	90% DESIGN SUBMITTAL	
2	10/31/2024	60% DESIGN SUBMITTAL	
3	9/30/2024	30% DESIGN SUBMITTAL	

PROJECT NO: 24336.00
DATE: DECEMBER, 2024
DESIGN BY: MAC
CHECKED BY: RWD

SHEET TITLE

COVER SHEET

G-001

1 OF 35



F:\DWG\11\Utility\Payson\Payson 2024\11\24336.dwg - Payson City Booster Pump Station.dwg - C:\Users\j_r\OneDrive\Documents - DATE: 12/17/2024 4:44 AM

Project : FX 24336
Subject : Payson City Booster Pump Station

Date : 18-Oct-2024
Designed By : RWD
Checked By : DSS

Project Design Criteria

TRANSMISSION LINE FROM LOWER TANKS TO PUMP STATION

PIPE SPECIFICATION

Pipe Size	10	in	
Pipe Material	PVC DR-18		
Pressure Class	235	psi	
Nominal Thickness	0.55	in	JM Eagle
Minimum Radius of Curve	235	ft	JM Eagle
Working Pressure	100	psi	
Testing Pressure	150	psi	

PIPE INSTALLATION

Minimum Cover	48	in	Payson City Std
Minimum Horizontal Separation (other waterlines)	36	in	
Minimum Vertical Separation (other waterlines)	6	in	

BOOSTER PUMP

EXISTING SYSTEM INFORMATION

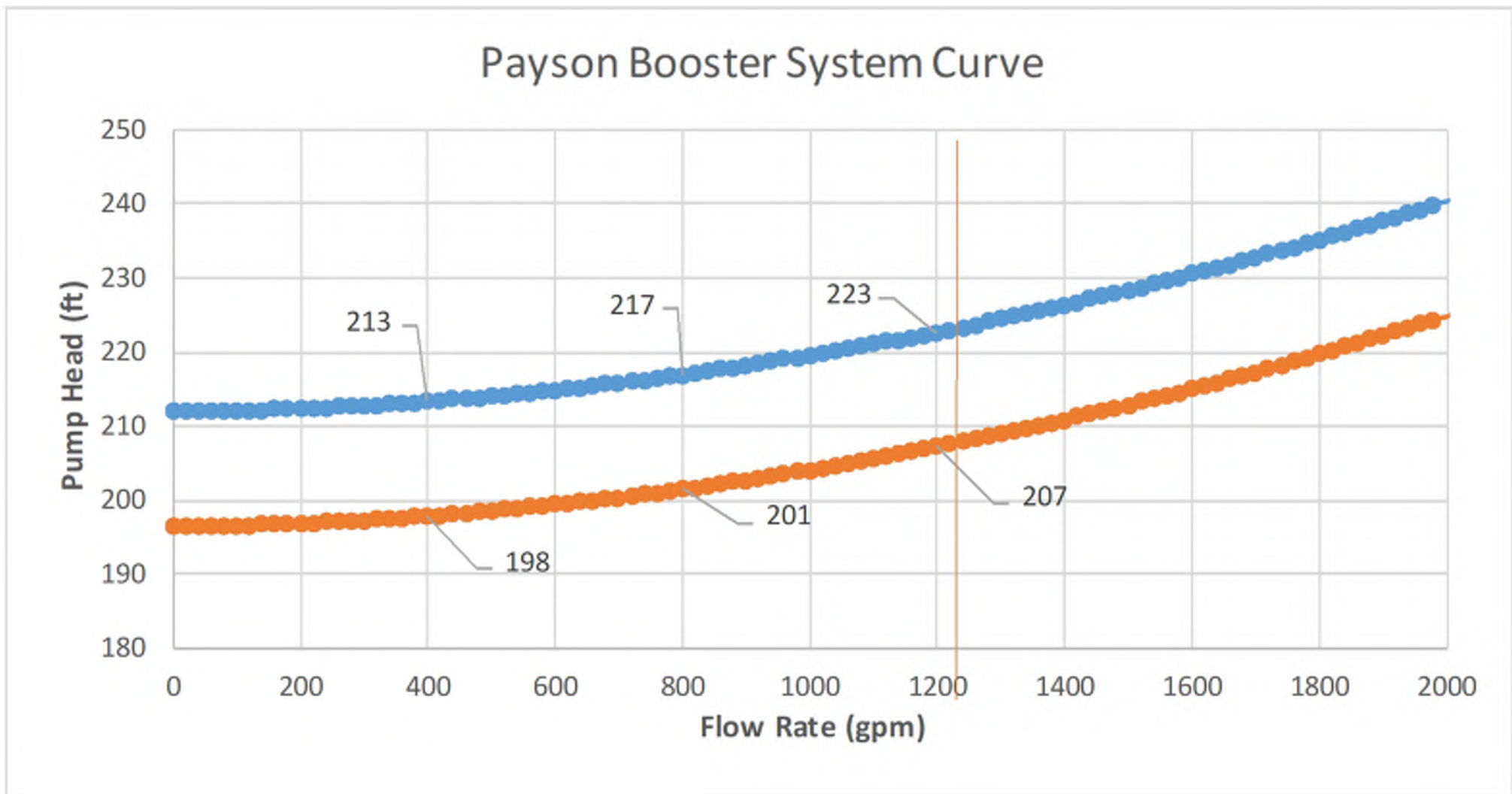
Upper Patterson Tank 3 Floor Elevation	5115.92	ft
HWL	5138.42	ft
LWL	5123.92	ft
Lower Tanks 5&6 Floor Elevation	4907.92	ft
HWL	4930.42	ft
LWL	4929.42	ft
Differential Elevation Head (Upper High - Lower Low)	209.00	ft
Differential Elevation Head (Upper Low - Lower High)	193.50	ft

PUMPING DATA & ASSUMPTIONS

Pump Type	(3) 400 GPM Pump Skid
Pump Efficiency	$\eta = 0.775$
Anticipated Flow	1200 gpm

Pump Curve Data (@ 1200 gpm)

Major Losses (Friction)	$H_f = 10$	ft	See Pump Curve Calcs
Minor Losses	$h_f = 4.1$	ft (conservative)	See Pump Curve Calcs
Total Dynamic Pump Head (Upper Limit)	$H = 223$	ft = (elevation difference) + $H_f + h_f$	
Total Dynamic Pump Head (Lower Limit)	$H = 207$	ft = (elevation difference) + $H_f + h_f$	
Pump Horsepower	$HP_{pump} = 89$		
Pump Power	$P_{pump} = 119$	kW	



PAYSON CITY STANDARD CONSTRUCTION NOTES

GENERAL NOTES:

- ALL CONSTRUCTION TO CONFORM TO PROJECT'S CURRENT SPECIFICATIONS AND DETAILS. THE SPECIFICATIONS ORDER OF PRIORITY IS: CONSTRUCTION DRAWINGS, SPECIAL PROVISIONS, PAYSON CITY STANDARD PLANS, APWA STANDARDS, AND SUMMARY.
- PRIVATE DEVELOPMENTS MUST COMPLY WITH PAYSON CITY STANDARDS AND SPECIFICATIONS UNTIL THE START OF THE 1-YEAR FINAL INSPECTION.
- EXISTING UTILITIES ARE SHOWN BASED ON BEST INFORMATION AVAILABLE AT THE TIME OF DESIGN. PAYSON CITY IS NOT RESPONSIBLE FOR INACCURACIES IN THE LOCATIONS OR SIZE OF UTILITY SHOWN. NOTIFY BLUE STAKES (811) PRIOR TO ANY EXCAVATION.
- PROTECT ALL EXISTING UTILITIES (WATER, FIBER OPTIC, AND DRAINAGE SERVICES AND ACCESS ROADS, ETC.) DURING CONSTRUCTION AND ENSURE THEY REMAIN IN PLACE AND OPERATIONAL (UNLESS OTHERWISE NOTIFIED BY PROPERTY OWNER). DEPTHS OF DRY UTILITIES ARE APPROXIMATE. POTHOLE TO ASSESS LOCATION OF UTILITIES.
- IDENTIFY DAMAGED ITEMS WITHIN THE CONSTRUCTION BOUNDARIES PRIOR TO BEGINNING CONSTRUCTION. REPLACE ANY ITEM DAMAGED, NOT IDENTIFIED PRIOR TO BEGINNING CONSTRUCTION, AT NO COST TO THE CITY. PROVIDE VIDEO OF THE SITE BEFORE CONSTRUCTION.
- MAINTAIN SAFE CONSTRUCTION PROCEDURES AND WORKING CLEARANCES AT ALL TIMES WHILE WORKING NEAR POWER LINES. FOLLOW ALL APPLICABLE OSHA STANDARDS. PROPER SIGNAGE IS REQUIRED AT CONTRACTOR'S EXPENSE.
- VERIFY ALL DIMENSIONS BEFORE STARTING WORK. IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES.
- UNLESS DETAILED, SPECIFIED, OR OTHERWISE INDICATED ON THE DRAWINGS, CONSTRUCTION REQUIREMENTS ARE IN THE APPLICABLE TYPICAL DETAILS AND GENERAL NOTES. TYPICAL DETAILS APPLY EVEN WHEN NOT REFERENCED AT SPECIFIC LOCATIONS ON THE DRAWINGS.
- CONSULT WITH THE ENGINEER WHERE NO CONSTRUCTION DETAILS ARE SHOWN OR NOTED FOR ANY PART OF WORK.
- PRESERVE AND PROTECT ALL SURVEY MONUMENTS. CONTACT COUNTY SURVEYORS OFFICE TO RESET SURVEY MONUMENTS TO FINISH GRADE.
- PRESERVE, RESTORE, OR REPLACE ALL EXISTING FENCES, ROADS, DRIVE APPROACHES, CULVERTS, MAIL BOXES, LANDSCAPING, EROSION CONTROL BLANKETS, DITCHES, SIGNS, K-RAIL, ETC. TO PRE-CONSTRUCTION CONDITION.
- NOTIFY AT LEAST 48 HOURS IN ADVANCE THE CITY CONSTRUCTION INSPECTOR, THE FIRE CHIEF AND THE POLICE CHIEF OF ANY ROAD CLOSURES THAT HAVE BEEN APPROVED BY THE CITY ENGINEER RELATING TO THE PROJECT. A SIGNED AND APPROVED ROAD CLOSURE PERMIT IS REQUIRED.
- REQUEST ANY CHANGES TO THE PLANS IN WRITING TO THE CITY ENGINEER FOR APPROVAL PRIOR TO MAKING THE CHANGES. DESIGN CHANGE REQUESTS MUST BE STAMPED BY THE PROJECT ENGINEER.
- DO NOT PERFORM ANY WORK NEAR UTILITY LINES WITHOUT FIRST CONTACTING THE RELATED UTILITY COMPANY AND ALLOWING A REPRESENTATIVE OF THE RELATED UTILITY COMPANY TO OBSERVE THE WORK IF REQUESTED.

RIGHT-OF-WAY NOTES:

- SUBMIT FOR ACCEPTANCE TO CITY ENGINEER A TRAFFIC CONTROL PLAN FOR THE PROJECT'S TRAFFIC MAINTENANCE THAT MEETS MUTCD STANDARDS.
- PROTECT EXISTING ASPHALT FROM CONSTRUCTION EQUIPMENT DAMAGE. REPLACE DAMAGED PAVEMENT AT THE DIRECTION OF THE PUBLIC WORKS DIRECTOR OR DESIGNEE.
- DO NOT TRESPASS PRIVATE PROPERTY ALONG THE PROJECT. SECURE ACCESS IN WRITING FROM OWNERS TO PROPERTIES, RESIDENCES AND BUSINESSES DURING CONSTRUCTION. MAINTAIN TRAFFIC TO LOCAL RESIDENTS AT ALL TIMES.

STORMWATER NOTES:

- LENGTHS SHOWN ON PLAN SHEETS ARE HORIZONTAL.
- ALL PIPE IN THE PAYSON CITY RIGHT-OF-WAY TO BE REINFORCED CONCRETE OR POLYVINYL CHLORIDE PIPE. HIGH DENSITY POLYETHYLENE PIPE IS NOT PERMITTED.
- PROVIDE UPDES SWPP PERMIT AND NOI PRIOR TO PRE-CONSTRUCTION MEETING. KEEP THE PERMIT ON THE PROJECT FOR REVIEW.
- ALL SWPP BMPS TO BE IN PLACE AND APPROVED PRIOR TO START OF CONSTRUCTION.
- SWPP BMPS TO BE REMOVED AND STORM DRAIN TO BE CLEANED AND CCTV INSPECTION PERFORMED BY A THIRD PARTY PRIOR TO FINAL ACCEPTANCE.
- STORM PIPE TO BE INSPECTED AND SURVEYED PRIOR TO BACKFILL. NOTIFY CITY 48 HOURS IN ADVANCE OF ANY REQUIRED INSPECTION.

SANITARY SEWER NOTES:

- SEWER PIPE TO BE INSPECTED AND SURVEYED PRIOR TO BACKFILL. NOTIFY CITY 48 HOURS IN ADVANCE OF ANY REQUIRED INSPECTION.
- DROP MANHOLES ARE NOT PERMITTED WITHOUT PRIOR APPROVAL FROM THE CITY ENGINEER.
- ALL SEWER PIPE TO BE GREEN SDR35 PVC PIPE. CORROSION RESISTANT PIPES AND MANHOLES ARE REQUIRED ON ALL LINES WITH HIGH HYDROGEN SULFIDE CONTENT OR AT THE DISCRETION OF THE PUBLIC WORKS DIRECTOR OR DESIGNEE.
- COUPLINGS TO BE DOUBLE BAND, SHIELDED ADJUSTABLE REPAIR COUPLINGS IN COMPLIANCE WITH ASTM C 1173. NO CAST IRON FITTINGS PERMITTED.
- INSTALL CONCRETE COLLAR FLUSH WITH MANHOLE RIM. CONCRETE COLLAR TO BE 1/4" BELOW PAVEMENT. SLOPE COLLAR FROM OUTSIDE EDGE TOWARDS THE MIDDLE TO THE RING AND COVER.
- ALL SEWER TO BE CLEANED, AIR TESTED, AND CCTV INSPECTION PERFORMED BY A THIRD PARTY PRIOR TO FINAL ACCEPTANCE.
- DURING CLEANING, BLOCK CONNECTION TO EXISTING CITY SEWER SYSTEM TO PREVENT DEBRIS FROM ENTERING THE SYSTEM.

WATER AND PRESSURIZED IRRIGATION NOTES:

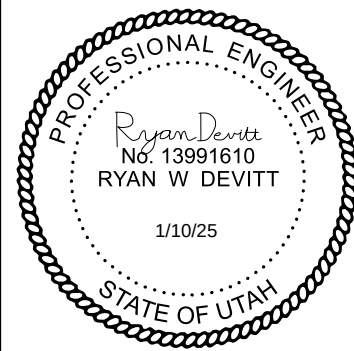
- ALL PIPE TO BE DR18 PVC PIPE MEETING AWWA C900 SPECIFICATIONS. DRINKING WATER LINES TO BE BLUE, PRESSURIZED IRRIGATION LINES TO BE PURPLE.
- SERVICE LATERALS TO BE 1" MINIMUM CTS POLY PIPE. DRINKING WATER SERVICES TO BE BLUE, PRESSURIZED IRRIGATION SERVICES TO BE PURPLE.
- ALL WATER LINES TO BE INSPECTED AND SURVEYED PRIOR TO BACKFILL. NOTIFY CITY 48 HOURS IN ADVANCE OF ANY REQUIRED INSPECTION.
- TRACER WIRE REQUIRED ALONG ALL PIPES AND LATERALS 2" DIAMETER OR GREATER. TAPE TRACER WIRE TO PIPE BELLS. CONTINUITY TO BE TESTED AND APPROVED PRIOR TO FINAL ACCEPTANCE. ANY ISSUES WITH TRACER WIRE CONTINUITY WILL BE REPAIRED AT CONTRACTOR'S EXPENSE.
- TRACER WIRE AT VALVES SHALL BE BROUGHT NEAR SURFACE ON THE OUTSIDE OF VALVE BOX. NOTCH A HOLE ON THE UPPER SLEEVE AND FEED TRACER WIRE INTO VALVE BOX.
- ALL METAL FIXTURES AND APPURTENANCES MUST BE WRAPPED IN 20 MIL BLACK POLYWRAP.
- ALL DRINKING WATER AND PRESSURIZED IRRIGATION MAIN LINES MUST BE TESTED AT 200 PSI FOR 2 HOURS.
- PRESSURIZED IRRIGATION MAIN LINES MAY BE AIR TESTED DURING THE OFF SEASON.
- ALL FIRE HYDRANTS 10 YEARS OR OLDER WITHIN THE PROJECT LIMITS MUST BE REPLACED.

ELECTRICAL NOTES:

- ALL WORK AND MATERIALS TO CONFORM TO NATIONAL ELECTRIC CODE AND PAYSON CITY STANDARDS.
- ALL POWER CONDUITS TO BE GRAY SCH 40 PVC OR APPROVED EQUAL.
- NO OTHER UTILITY IS PERMITTED IN GRAY CONDUIT.
- COORDINATE ALL ELECTRICAL WORK WITH PAYSON CITY POWER.



3160 W. Clubhouse Drive, Ste. A
Lehi, UT 84043
801.768.7200



PAYSON CITY BOOSTER PUMP STATION

PAYSON, UT

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REVISIONS

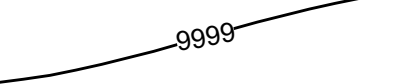
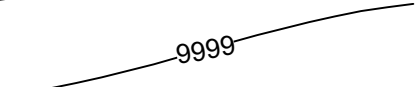
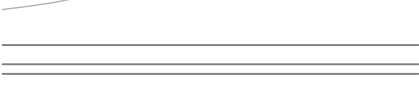
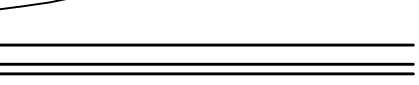
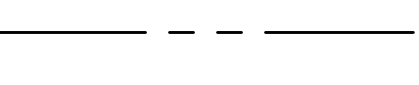
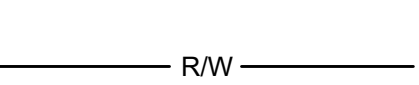
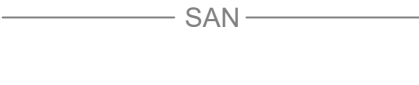
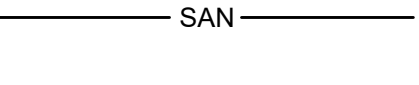
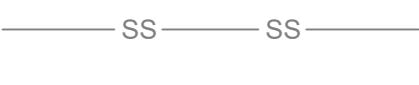
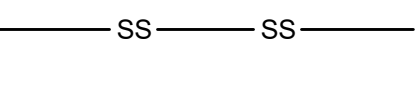
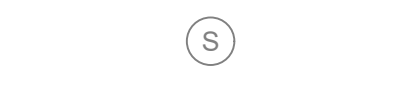
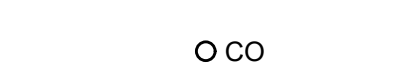
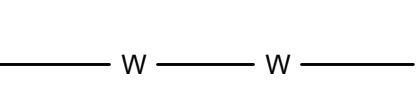
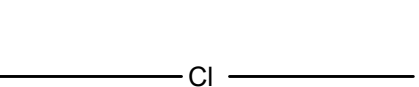
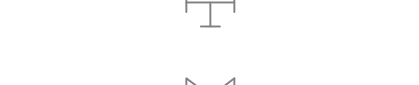
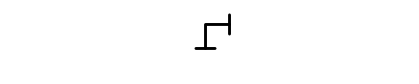
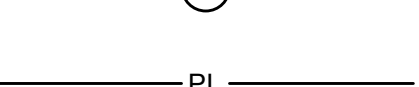
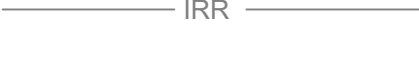
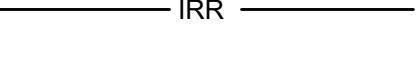
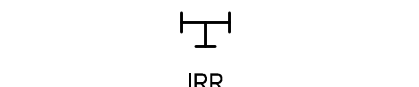
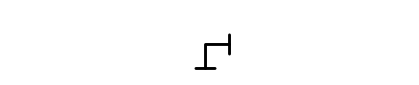
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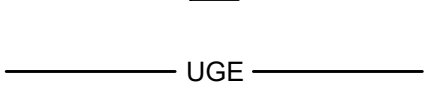
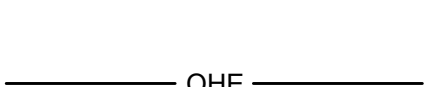
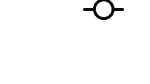
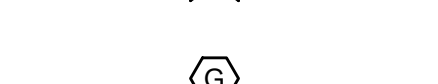
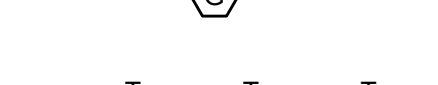
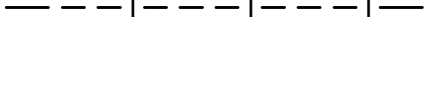
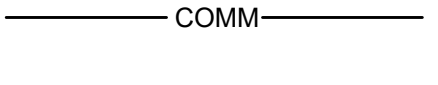
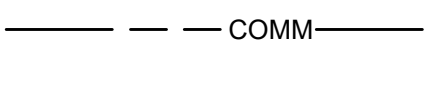
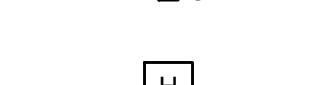
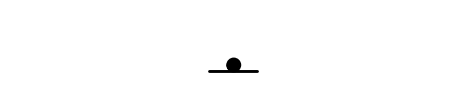
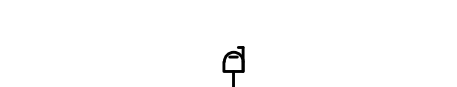
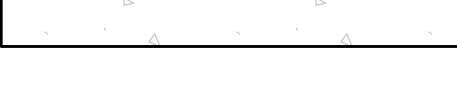
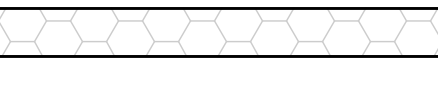
ABBREVIATIONS

AC	ACRE	FEMA	FEDERAL EMERGENCY MANAGEMENT AGENCY	REQ'D	REQUIRED
ACE	ARMY CORPS OF ENGINEERS	FES	FLARED END SECTION	ROW	RIGHT-OF-WAY
AGGR	AGGREGATE	FG	FINISHED GRADE	RR	RAILROAD
ALT.	ALTERNATE	FH	FIRE HYDRANT	RT	RIGHT
APPR.	APPROXIMATE	FIRM	FLOOD INSURANCE RATE MAP	S.	SOUTH
AR MH	AIR RELEASE MANHOLE	FL	FLOWLINE	SAN	SANITARY
ARV	AIR RELEASE VALVE	FM	FORCE MAIN	SCH.	SCHEDULE
ASSY.	ASSEMBLY	FO	FIBER OPTIC	SD	STORM DRAIN
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS	FS	FINISHED SURFACE	SDR	STANDARD DIMENSION RATIO
AVE	AVENUE	FT	FOOT/FEET	SF/SQ FT	SQUARE FEET
BDC	BUILDING CORNER	GALV.	GALVANIZED	SHT	SHEET
BFV	BUTTERFLY VALVE	GB	GRADE BREAK	SIM.	SIMILAR
BH	BORE HOLE	GR	GRATE	SS	SANITARY SEWER
BITUM.	BITUMINOUS	GV	GATE VALVE	ST	STREET
BK	BACK	HDPE	HIGH-DENSITY POLYETHYLENE	STA	STATION
B.O.	BY OTHERS	HMA	HOT MIX ASPHALT	STD	STANDARD
BOA	BEGINNING OF ALIGNMENT	HOR.	HORIZONTAL	SW	SIDEWALK
BOP	BEGINNING OF PROJECT	HP	HIGH POINT	SY/SQ YD	SQUARE YARD
BSW	BACK OF SIDEWALK	HYD.	HYDRANT	TA	TOP OF ASPHALT
BVC	BEGIN VERTICAL CURVE	IN.	INCH	TBC	TOP BACK OF CURB
BW	BOTTOM OF WALL	I.D.	INSIDE DIAMETER	TBR	TO BE REMOVED
C&G	CURB AND GUTTER	INV.	INVERT	TC	TOP OF CONCRETE
CB	CATCH BASIN	IRR.	IRRIGATION	TOP	TOP OF PIPE
C-C	CENTER TO CENTER	INS.	INSERT	TW	TOP OF WALL
CE/L	CONSTRUCTION EASEMENT LINE	LEN.	LENGTH	TYP.	TYPICAL
CF	CUBIC FEET	LF	LINEAR FEET	VAR.	VARIES
CFS	CUBIC FEET PER SECOND	LP	LOW POINT	VERT.	VERTICAL
CHIS	CHISELED	LT	LEFT	WAT.	WATER
CI	CAST IRON	MAX	MAXIMUM	WL	WATER LINE
CIP	CAST IRON PIPE	MFG.	MANUFACTURER		
CL	CENTERLINE	MH	MANHOLE		
CMP	CORRUGATED METAL PIPE	MIN.	MINIMUM		
CO	CLEANOUT	MJ	MECHANICAL JOINT		
COMM.	COMMUNICATION	MON	MONUMENT		
CONC.	CONCRETE	N.	NORTH		
CONST.	CONSTRUCTION	NO.	NUMBER		
CU	COPPER	NTS	NOT TO SCALE		
CY/CU YD	CUBIC YARD	O.C.	ON CENTER		
DBL	DOUBLE	O.D.	OUTSIDE DIAMETER		
DI	DUCTILE IRON	OH	OVERHEAD		
DIAD	DIAMETER	OSHA	OCCUPATION SAFETY & HEALTH ADMIN.		
DIP	DUCTILE IRON PIPE	PC	POINT OF CURVATURE		
DR	DRIVE	PCC	POINT OF COMPOUND CURVATURE		
DRWY	DRIVEWAY	PI	POINT OF INTERSECTION		
DWG	DRAWING	PL	PROPERTY LINE		
E.	EAST	POLY	POLYETHYLENE		
EA.	EACH	POT.	POTABLE		
EG	EXISTING GRADE	PP	POWER POLE		
EP/EOP	EDGE OF PAVEMENT	PRC	POINT OF REVERSE CURVATURE		
ELEC.	ELECTRICAL	PRV	PRESSURE REDUCING VALVE		
EL/ELEV.	ELEVATION	PSI	POUNDS PER SQUARE INCH		
ELOH	OVERHEAD ELECTRICAL	PT	POINT OF TANGENCY		
EOA	END OF ALIGNMENT	PVC	POLYVINYL CHLORIDE		
ESMT	EASEMENT	PVI	POINT OF VERTICAL INTERSECTION		
EVC	END VERTICAL CURVE	PUE	PUBLIC UTILITY EASEMENT		
EX/EXIST.	EXISTING	RAD/R	RADIUS		
EXT.	EXTENSION	RCP	REINFORCED CONCRETE PIPE		

LEGEND

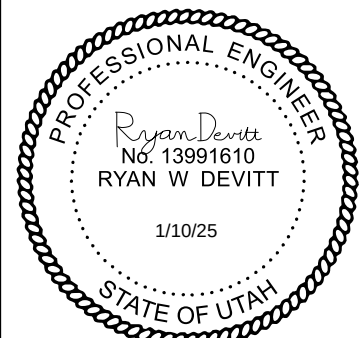
EXISTING	PROPOSED	DESCRIPTION
		MAJOR CONTOUR
		MINOR CONTOUR
		CURB AND GUTTER
		EDGE OF PAVEMENT
		EDGE OF GRAVEL
		STREET CENTERLINE
		PROPERTY LINE
		LOT LINE
		SECTION LINE
		SECTION CORNER
		RIGHT-OF-WAY LINE
		EASEMENT LINE
		FENCE
		SANITARY SEWER LINE
		SANITARY SEWER - FORCE
		SANITARY SEWER MANHOLE
		SANITARY SEWER CLEAN OUT
		WATER LINE
		CHLORINE LINE
		WATER TEE
		WATER VALVE
		WATER BEND (ANGLE NOTED)
		WATER STUB / CAP
		FIRE HYDRANT
		WATER METER
		WATER MANHOLE
		PRESSURIZED IRRIGATION LINE
		IRRIGATION LINE
		IRRIGATION TEE
		IRRIGATION VALVE
		IRRIGATION BEND (ANGLE NOTED)
		IRRIGATION STUB / CAP
		IRRIGATION METER
		IRRIGATION MANHOLE
		IRRIGATION BOX
		STORM DRAIN PIPE
		CULVERT WITH FLARED END SECTION
		STORM DRAIN MANHOLE

LEGEND

PROPOSED	DESCRIPTION
	STORM DRAIN COMBO BOX
	STORM DRAIN CURB INLET
	JUNCTION STRUCTURE
	BURIED ELECTRIC LINE
	OVERHEAD ELECTRIC LINE
	POWER POLE
	GUY WIRE ANCHOR
	ELECTRICAL EQUIPMENT
	ELECTRICAL TRANSFORMER
	GAS LINE
	GAS VALVE
	GAS METER
	BURIED TELEPHONE
	OVERHEAD COMMUNICATIONS LINE
	BURIED COMMUNICATIONS LINE
	OVERHEAD CABLE TV
	BURIED CABLE TV
	BURIED FIBER OPTIC LINE
	COMMUNICATIONS PEDESTAL
	COMMUNICATIONS HANDHOLE
	GRADE TO DRAIN
	EXTENTS OF GRADING
	FIRE DEPARTMENT CONNECTION
	FIRE SPRINKLER RISER
	STREET LIGHT
	SIGN (SINGLE POLE, 2 OR MORE POLES)
	MAILBOX
	ASPHALT PAVEMENT
	CONCRETE FLATWORK
	UNTREATED BASE COURSE
	LANDSCAPE
	RIP-RAP
	AREAS TO BE DEMOLISHED
	SPOT ELEVATION
	SECTION / DETAIL CALL-OUT SYMBOL
	DECIDUOUS SHRUB/TREE
	CONIFEROUS SHRUB/TREE



3160 W. Clubhouse Drive, Ste. A
Lehi, UT 84043
801.768.7200



PAYSON CITY BOOSTER
PUMP STATION

PAYSON, UT

REVISIONS	
NO.	DATE
1	12/17/2024
2	12/17/2024
3	12/17/2024
4	12/17/2024
5	12/17/2024
6	12/17/2024
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98	12/17/2024
99	12/17/2024
100	12/17/2024

PROJECT NO:	24336.00
DATE:	DECEMBER, 2024
DESIGN BY:	MAC
CHECKED BY:	RWD
SHEET TITLE	

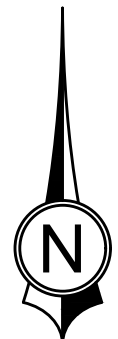
ABBREVIATIONS
& LEGEND

G-003

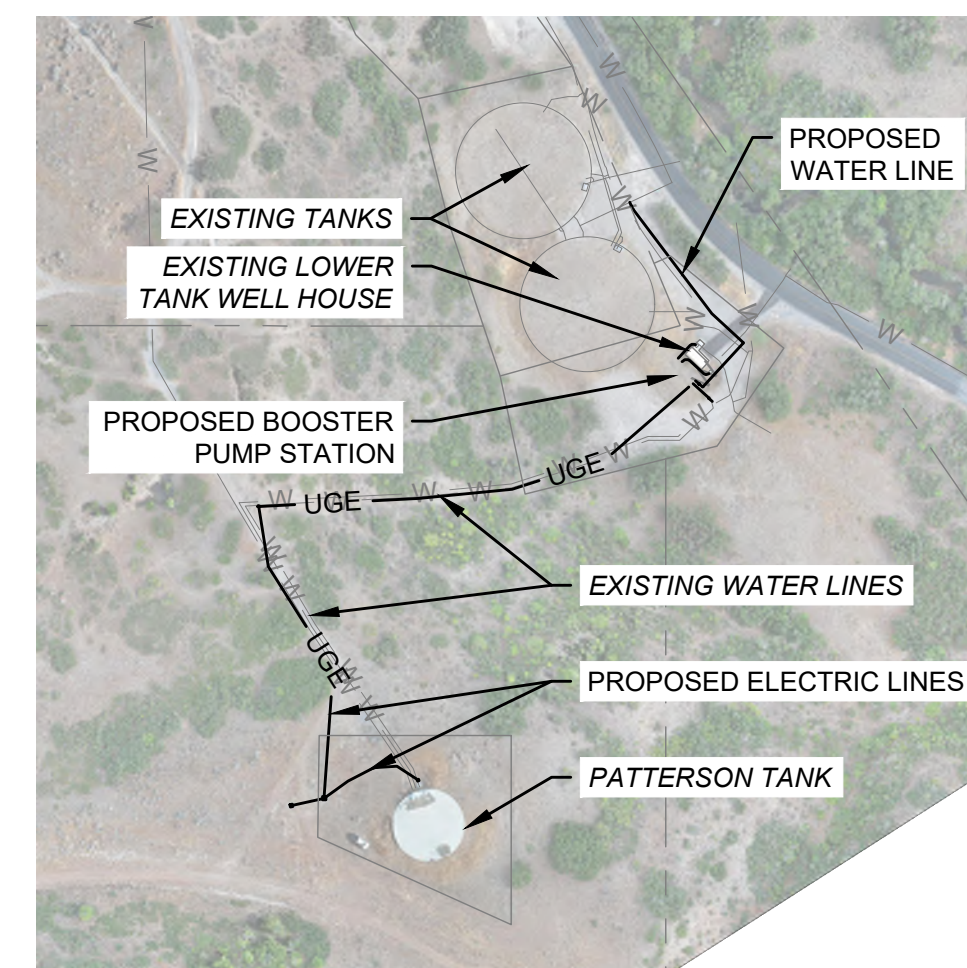
3 OF 35



90% DESIGN SUBMITTAL



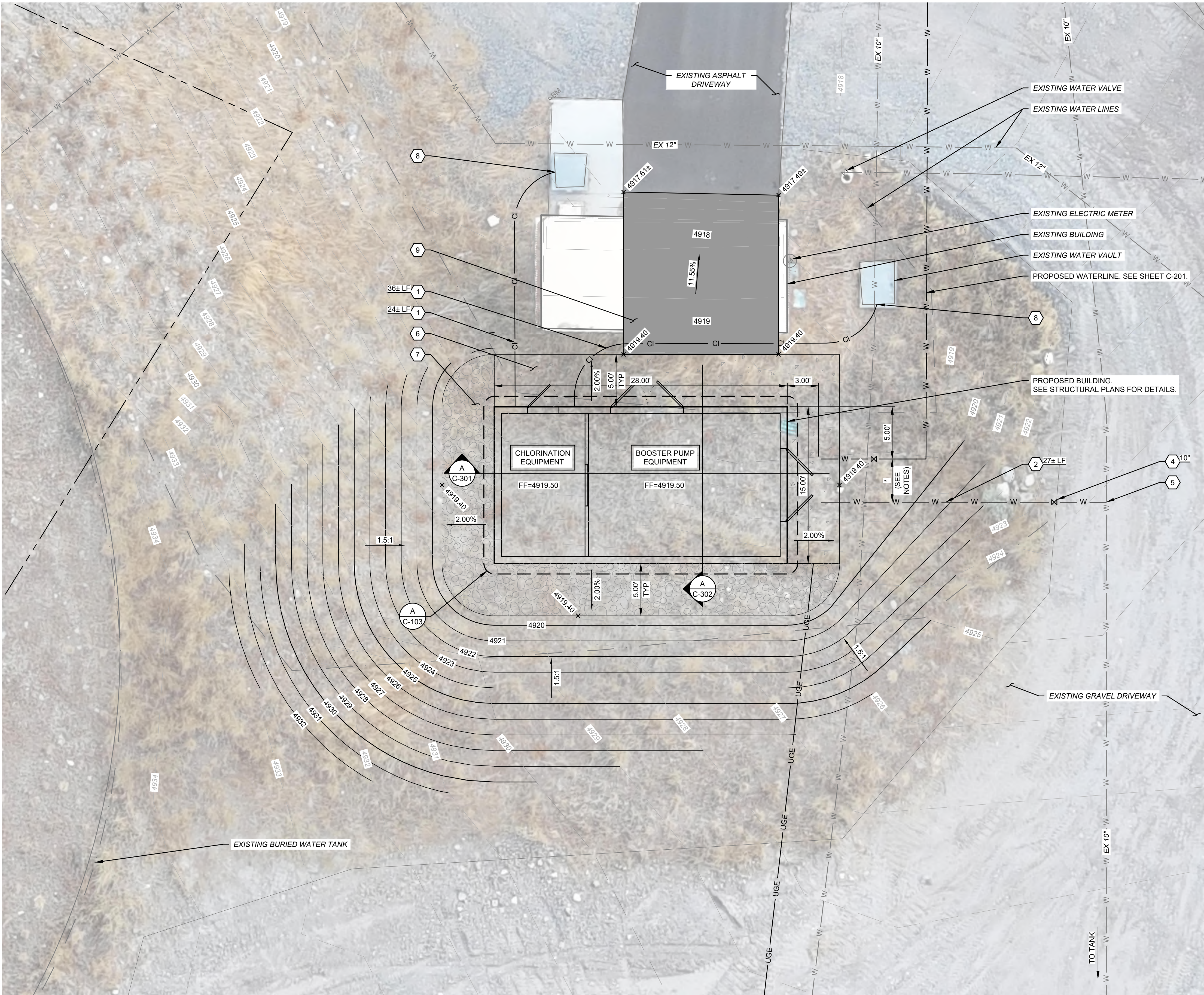
Blue Stakes of
UTAH811
Bluestakes.org



B OVERALL SYSTEM MAP
N.T.S

SURVEY CONTROL POINTS				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	78229.16	79233.04	4919.5000	BDC
2	78240.20	79243.18	4919.5000	BDC
3	78221.26	79263.81	4919.5000	BDC
4	78210.22	79253.66	0.0000	BDC
101	78277.16	79434.83	4910.8460	NAIL
102	78643.00	79114.40	4897.6690	NAIL
103	78261.49	79143.35	4935.0350	CHIS "X"
201	80894.35	76519.14	4797.5440	MON
202	80913.13	79170.94	4868.4000	MON
203	80932.04	81888.10	4828.0600	MON





BOOSTER PUMP STATION SITE PLAN
SCALE: 1" = 5'

GENERAL SHEET NOTES

- ALL WATER SYSTEM INSTALLATION AND DESIGN MUST CONFORM TO PAYSON CITY WATER SYSTEM MASTER PLAN AND THE UTAH STATE ADMINISTRATIVE CODE, RULE R309-510.
- DENOTES OFFSET DISTANCE PER PUMP EQUIPMENT MANUFACTURER'S SPECIFICATIONS.

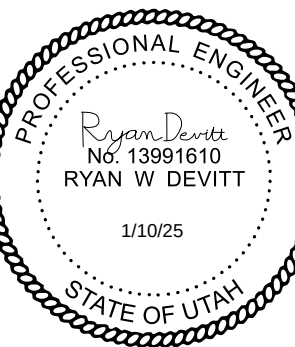


SHEET KEYNOTES

- FURNISH & INSTALL 1" PE CHLORINATION LINE (LF PER PLAN), BEDDING & TRENCH PER DETAIL 1 ON SHEET C-401.
- FURNISH & INSTALL 10" PVC WATER LINE (LF PER PLAN), BEDDING & TRENCH PER DETAIL 1 ON SHEET C-401.
- FURNISH & INSTALL WATER FITTINGS (SIZE & TYPE PER PLAN) W/ MECHANICAL JOINT RESTRAINTS PER DETAIL 1 ON SHEET C-402.
- FURNISH & INSTALL WATER VALVES (SIZE PER PLAN) PER DETAIL 3 ON SHEET C-401.
- FURNISH & INSTALL 10"x10" TAPPING SLEEVE AND TIE INTO EXISTING WATERLINE PER DETAIL 9 ON SHEET C-401 AND APWA SPECS.
- FURNISH & INSTALL 5' SIDEWALK PER DETAIL 4 ON SHEET C-401.
- FURNISH & INSTALL 6" DEEP 1" CRUSHED ROCK OVER WEED BARRIER FABRIC.
- FURNISH & INSTALL CHLORINE RETRACTABLE INJECTION QUILL (MODEL: EB-146 BY SAF-T-FLO OR APPROVED EQUAL) AND TIE INTO EXISTING WATERLINE PER APWA SPECS & MANUFACTURER'S RECOMMENDATIONS (SEE EQUIPMENT SCHEDULE).
- FURNISH & INSTALL PAVEMENT PER PAYSON CITY DEVELOPMENT GUIDELINES SECTION 1.10.

REFERENCE KEYNOTES

APWA - MANUAL OF STANDARD SPECIFICATIONS	
DIVISION 33 - UTILITIES	
33 11 00	WATER DISTRIBUTION AND TRANSMISSION
33 11 00-2.6	TAPPING SADDLES
33 13 00	DISINFECTION



PAYSON CITY BOOSTER PUMP STATION

PAYSON, UT

REVISIONS			
NO.	DATE	DESCRIPTION	BY
1	12/17/2024	90% DESIGN SUBMITTAL	MAC
2	10/31/2024	60% DESIGN SUBMITTAL	RWD
3	9/30/2024	30% DESIGN SUBMITTAL	

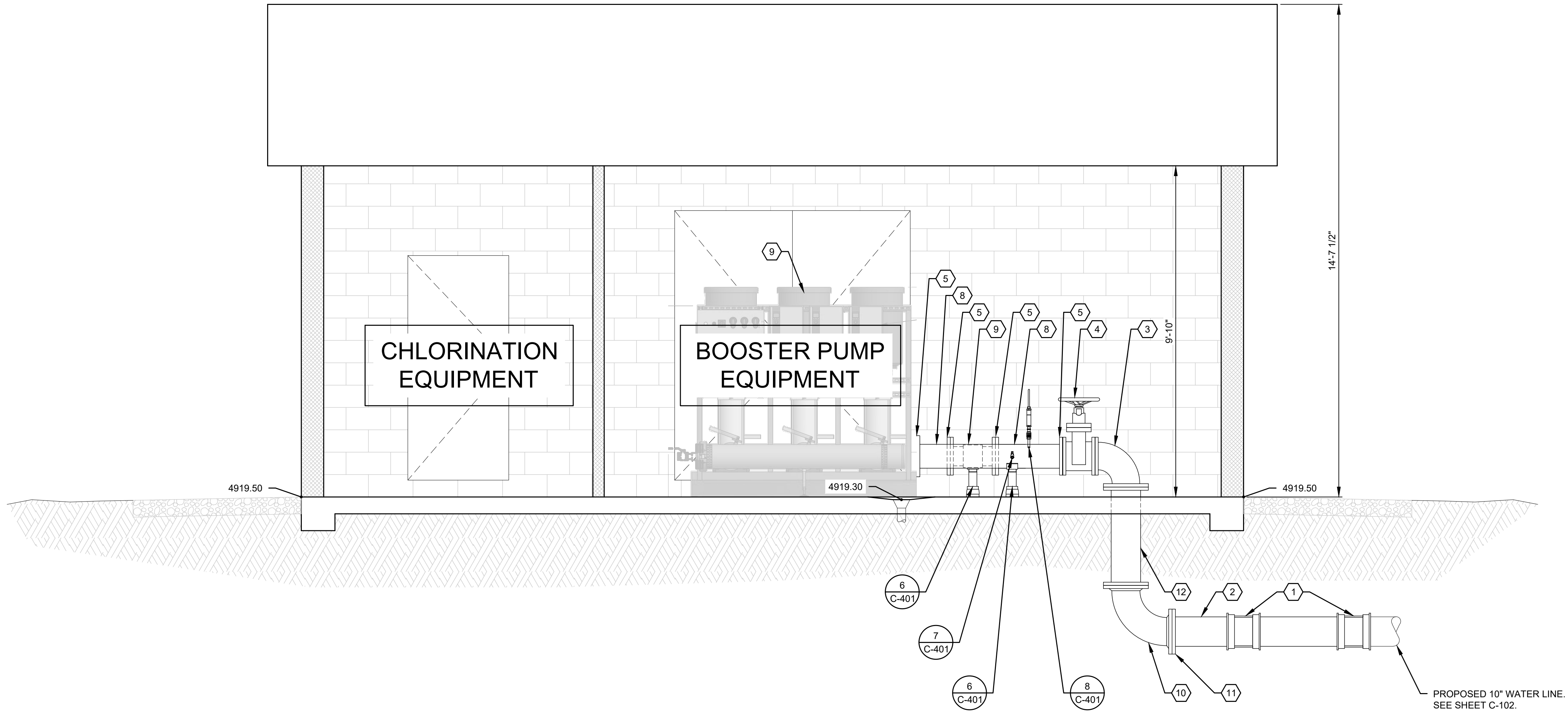
PROJECT NO: 24336.00
DATE: DECEMBER, 2024
DESIGN BY: MAC
CHECKED BY: RWD
SHEET TITLE

BOOSTER PUMP STATION SITE PLAN

C-102
6 OF 35



90% DESIGN SUBMITTAL



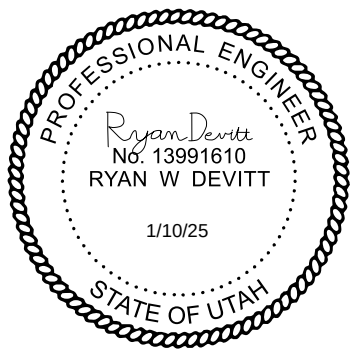
GENERAL SHEET NOTES

- ALL WATER SYSTEM INSTALLATION AND DESIGN MUST CONFORM TO PAYSON CITY WATER SYSTEM MASTER PLAN AND THE UTAH STATE ADMINISTRATIVE CODE, RULE R309-510.



PROPOSED BOOSTER PUMP
EQUIPMENT SCHEDULE

- 8" DI MJ LONG SLEEVE (2)
- 10" FL X GE SPOOL
- 10"x8" FL 90° REDUCING BEND
- 8" FL GATE VALVE
- 8" FL X GE ADAPTER
- 8" MAGNETIC FLOW METER (SEE NOTE 5.)
- 8" FL 90° BEND
- 8" FL x GE SPOOL
- IN-LINE BOOSTER PUMP
- 10" FL 90° BEND
- 10" FL X GE ADAPTER
- 10" FL SPOOL



PAYSON CITY BOOSTER
PUMP STATION

PAYSON, UT

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REVISIONS			
MARK	DATE	DESCRIPTION	
90%	12/17/2024	90% DESIGN SUBMITTAL	
60%	10/31/2024	60% DESIGN SUBMITTAL	
30%	9/30/2024	30% DESIGN SUBMITTAL	

PROJECT NO: 24336.00
DATE: DECEMBER, 2024
DESIGN BY: MAC
CHECKED BY: RWD

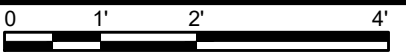
SHEET TITLE

SECTION
VIEWS

C-301

9 OF 35

A BOOSTER PUMP STATION - SECTION VIEW
SCALE: 1/2" = 1'



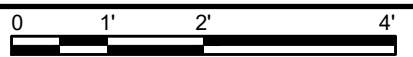
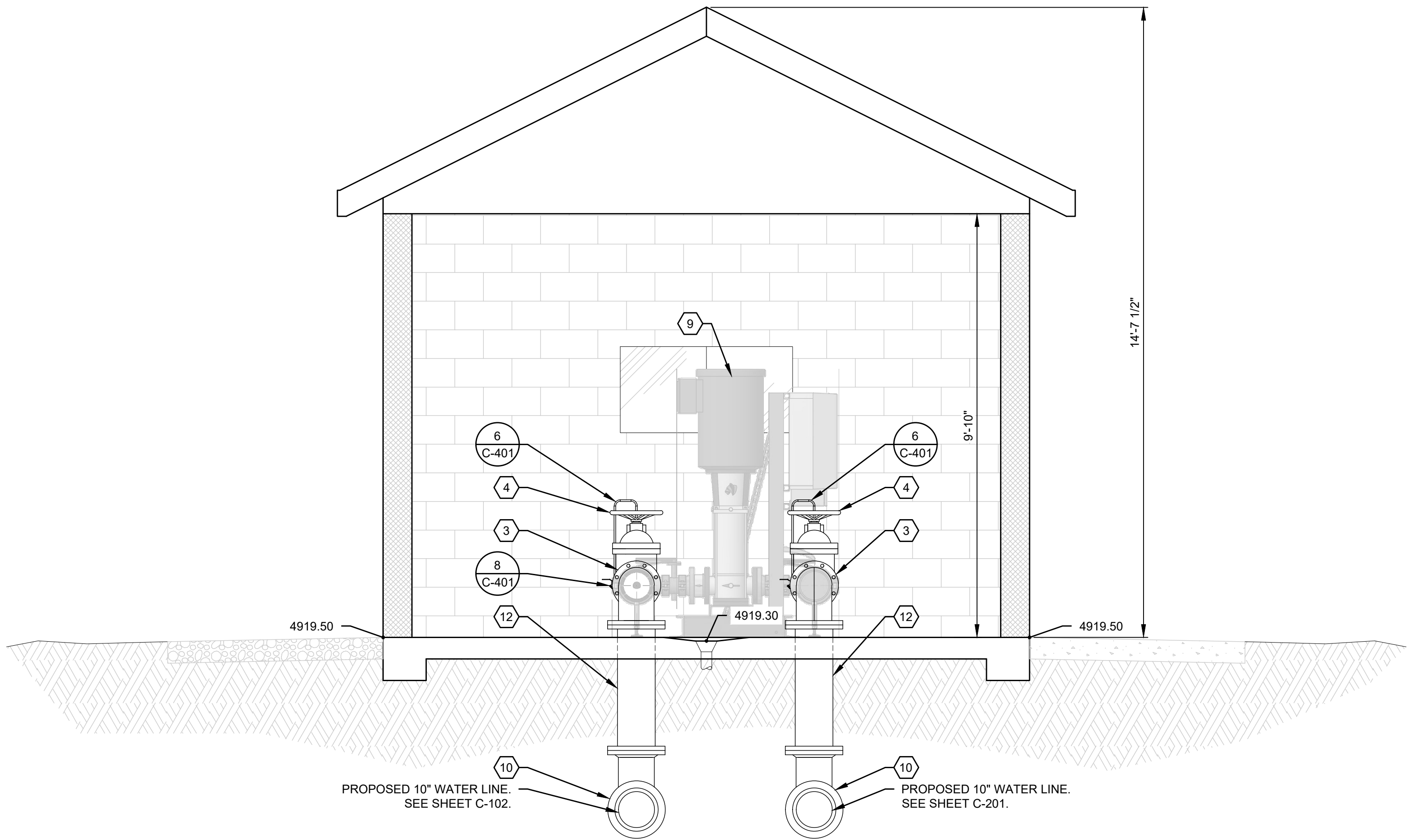
90% DESIGN SUBMITTAL

\\FDMA01\Users\payscience\payscience\2024\174336\105 - Payson City Booster Pump Station\105 - Payson City Booster Pump Station.dwg - C:\Users\payscience\AppData\Local\Temp\2024-12-17\174336-105.dwg - DATE: 12/17/2024 8:58 AM

A

BOOSTER PUMP STATION - SECTION VIEW

SCALE: 1/2" = 1'



GENERAL SHEET NOTES

1. ALL WATER SYSTEM INSTALLATION AND DESIGN MUST CONFORM TO PAYSON CITY WATER SYSTEM MASTER PLAN AND THE UTAH STATE ADMINISTRATIVE CODE, RULE R309-510.



PROPOSED BOOSTER PUMP
EQUIPMENT SCHEDULE

1. 8" DI MJ LONG SLEEVE (2)
2. 10" FL X GE SPOOL
3. 10"x8" FL 90° REDUCING BEND
4. 8" FL GATE VALVE
5. 8" FL X GE ADAPTER
6. 8" MAGNETIC FLOW METER (SEE NOTE 5.)
7. 8" FL 90° BEND
8. 8" FL x GE SPOOL
9. IN-LINE BOOSTER PUMP
10. 10" FL 90° BEND
11. 10" FL X GE ADAPTER
12. 10" FL SPOOL



PAYSON CITY BOOSTER
PUMP STATION

PAYSON, UT

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REVISIONS			
MARK	DATE	DESCRIPTION	
90%	12/17/2024	90% DESIGN SUBMITTAL	
60%	10/31/2024	60% DESIGN SUBMITTAL	
30%	9/30/2024	30% DESIGN SUBMITTAL	

PROJECT NO: 24336.00
DATE: DECEMBER, 2024
DESIGN BY: MAC
CHECKED BY: RWD

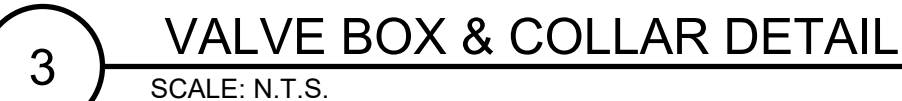
SHEET TITLE

SECTION
VIEWS

C-302

10 OF 35

90% DESIGN SUBMITTAL

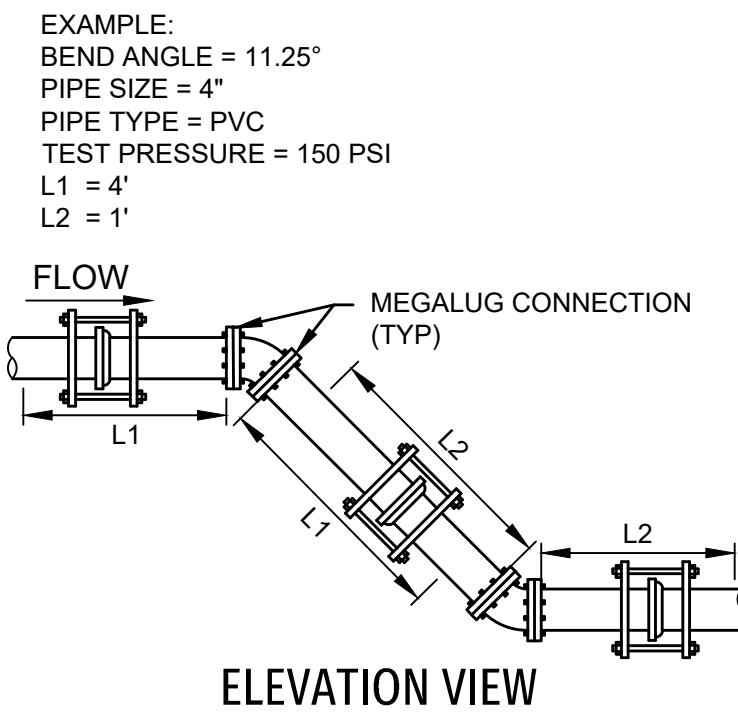


* USE 2 1/2" SUPPORTS FOR PIPES LESS THAN 2 1/2" Ø



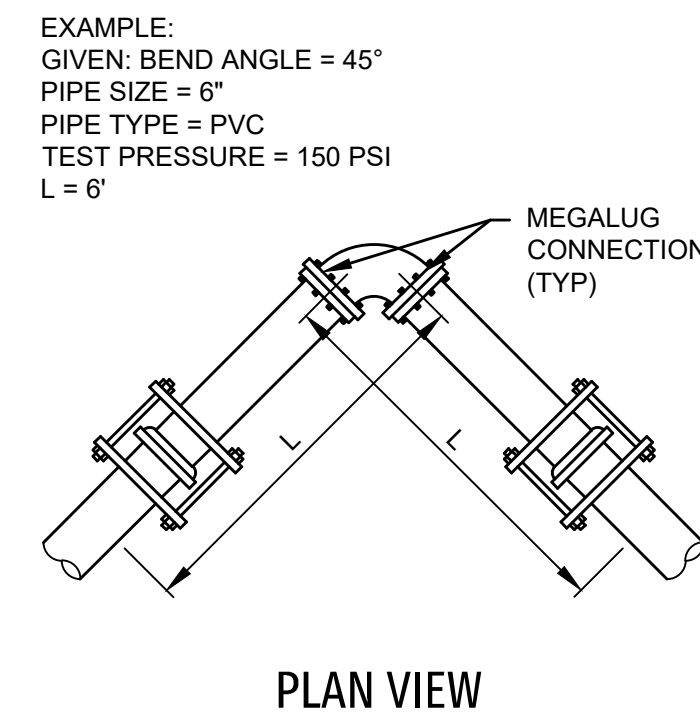
PVC VERTICAL BEND RESTRAINED LENGTHS, L, IN FT. (150 PSI TEST PRESS.)									
BEND ANGLE	PPE SIZE								
	4	6	8	10	12	14	16	18	20
11.25	4/1	6/2	8/2	9/3	11/3	12/3	14/4	15/4	17/4
22.5	8/2	12/3	15/4	18/5	21/6	24/6	27/7	30/8	33/9
45	17/5	23/6	30/8	37/10	43/11	50/13	56/14	62/16	68/17

NOTES:
1. ALL JOINTS WITHIN LENGTH "L" MUST BE RESTRAINED. USE RETAINER GLAND AT MECHANICAL JOINTS AND HARNESS WITH PUSH-ON PIPE.



PVC HORIZONTAL BEND RESTRAINED LENGTHS, L, IN FT. (150 PSI TEST PRESS.)									
BEND ANGLE	PPE SIZE								
	4	6	8	10	12	14	16	18	20
11.25	1	2	2	3	3	3	4	4	4
22.5	2	3	4	5	6	6	7	8	9
45	5	6	8	10	11	13	14	16	17
90	10	14	19	22	26	30	34	37	41

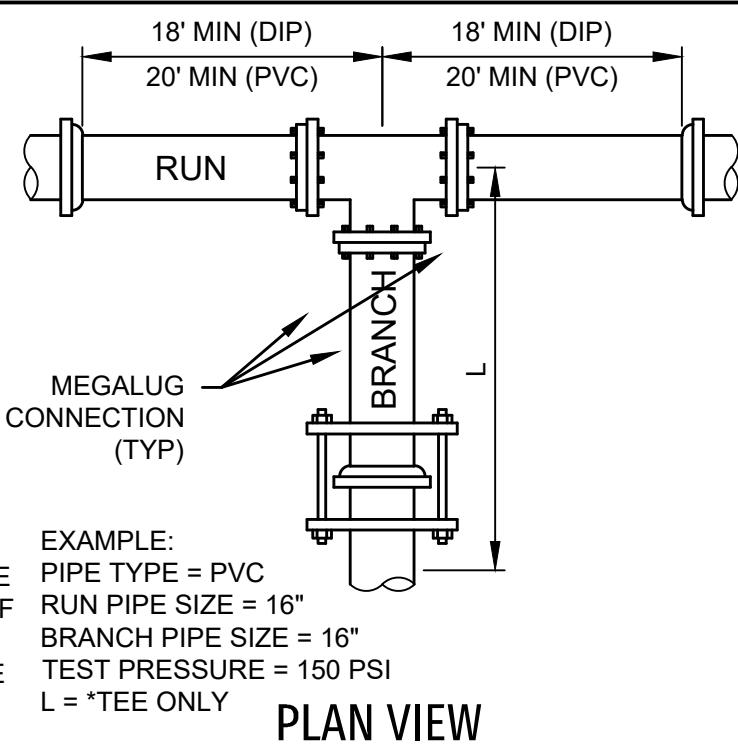
NOTES:
1. ALL JOINTS WITHIN LENGTH "L" MUST BE RESTRAINED. USE RETAINER GLAND AT MECHANICAL JOINTS AND HARNESS WITH PUSH-ON PIPE.

[illegible]

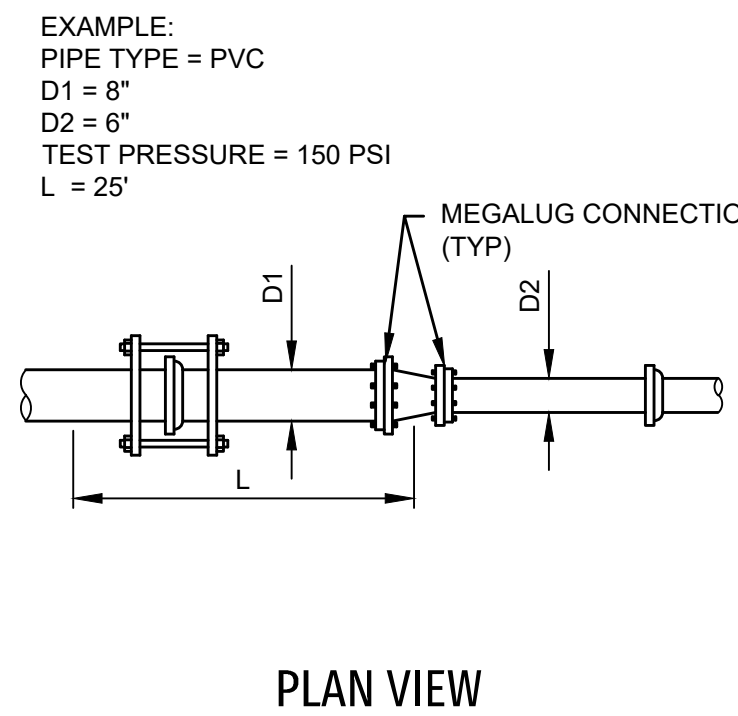
* = FOR THIS CONDITION NEED ONLY RESTRAIN THE OUTLETS OF TEE

NOTES:

1. RESTRAIN THE TWO MECHANICAL JOINTS ON THE RUN SIDES OF THE TEE. THERE SHOULD BE A FULL 20' LENGTH OF PIPE INSTALLED ON EACH SIDE OF THE RUN. IF CONDITIONS DIFFER, CONSULT ENGINEER.
2. ALL JOINTS WITHIN THE LENGTH "L" ON THE BRANCH MUST BE RESTRAINED. USE RETAINER GLAND AT MECHANICAL JOINTS AND HARNESS ON PUSH-ON PIPE.

[illegible]

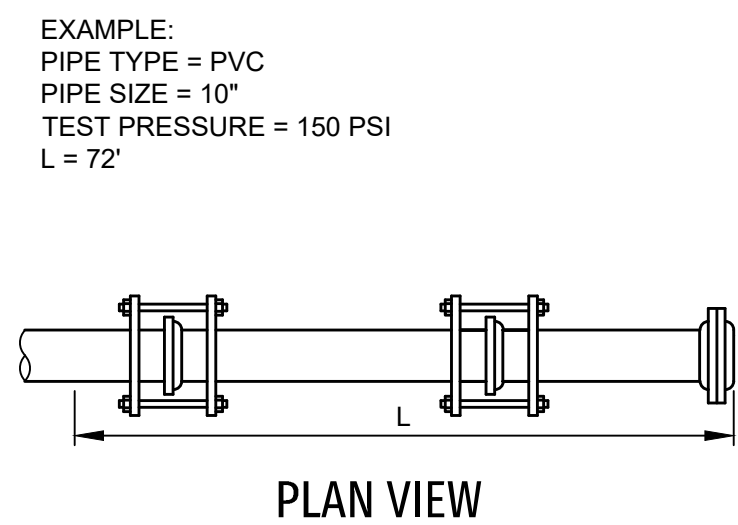
*ALL JOINTS WITHIN THE "L" DISTANCE SHALL BE RESTRAINED



PVC DEAD END RESTRAINED LENGTHS, L, IN FT. (150 PSI TEST PRESS.)								
PIPE SIZE								
4	6	8	10	12	14	16	18	24
32	45	59	72	84	97	109	122	158

NOTES:

1. ALL JOINTS WITHIN LENGTH "L" MUST BE RESTRAINED. USE RETAINER GLAND AT MECHANICAL JOINTS AND HARNESS WITH PUSH-ON PIPE.
2. LENGTH MAY BE REDUCED BY USING STATIC PRESSURE. COORDINATE WITH ENGINEER.



ALLOWABLE PIPE DEFLECTION

MAXIMUM RECOMMENDED OFFSET/20' PIPE SECTION
TO ACHIEVE MINIMUM CURVE RADIUS BY DEFLECTING
A STRAIGHT LENGTH OF PIPE AT THE JOINT (FOR ALL
DR AND CLASS RATINGS)
*PVC BY IPEX, DIP BY U.S. PIPE

PIPE SIZE	MAX OFFSET	DEFLECTION ANGLE
PVC	INCHES	DEGREES
4"	12.5	3
6"	12.5	3
8"	11	3
10"	10	3
12"	8	2.5

DIP	INCHES	DEGREES
4"-36" (18')	9.5	2.5
4"-36" (20')	10.5	2.5

MEGALUG

THRUST RESTRAINING SYSTEM DETAILS

RESTRAINED JOINT LENGTHS USAGE

RESTRAINED LENGTH CALCULATIONS ARE BASED ON THE FOLLOWING DESIGN FROM THE PROJECT GEOTECHNICAL REPORT AND APWA STANDARDS.

1. FOUR (4) FEET MINIMUM DEPTH OF COVER.
2. A SAFETY FACTOR OF 1.5
3. SOIL TYPE SILTY SAND (GC SOIL DESIGNATION)
4. TYPE 5 TRENCH COMPACTION FROM FOUR (4) INCHES MINIMUM UNDER THE PIPE TO THE CENTER LINE OF THE PIPE, AND COMPACTED GRANULAR OR SELECTED MATERIAL FROM THE CENTER LINE OF THE PIPE TO THE TOP OF THE PIPE (90% STANDARD PROCTOR DENSITY, AASHTO T-99).
5. 150 PSI TEST PRESSURES FOR FOUR (4) THROUGH THIRTY SIX (36) INCH SIZE PIPES.

IF ACTUAL CONDITIONS DIFFER FROM THOSE LISTED ABOVE OR THE REQUIRED RESTRAINED LENGTH CANNOT BE MET, THE RESTRAINED JOINT LENGTH SHALL BE DETERMINED BY THE ENGINEER.

NOTES:

1. COORDINATE WITH ENGINEER FOR RESTRAINT LENGTH OF VALVES (WILL BE TREATED AS A DEAD END SCENARIO).
2. FOR TEST PRESSURES AND LAYING CONDITIONS SEE SECTION ON GENERAL NOTES FOR USE OF RESTRAINED JOINT LENGTHS.

JOINT RESTRAINTS DETAIL

SCALE: N.T.S.



PAYSON CITY BOOSTER STATION

Nebo Loop Rd.

Payson, Utah

PROJECT INFORMATION

OWNER:

DESIGNER:

TimpHaven Design
C: 301.512.6859
289 East 950 South
Orem, Utah 84058

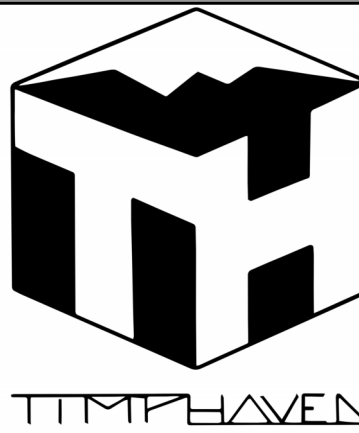
CONTRACTOR:

STRUCTURAL ENGINEER:

Redwood Engineering
PH: 801.426.6500
291 East 950 South
Orem, Utah 84058

SHEET LIST

C101	COVER SHEET & LIST
C102	PROJECT SPECIFICATIONS & DETAILS
A101	FLOOR PLANS
A201	EXTERIOR ELEVATIONS
A301	BUILDING SECTION (A) & (B)
A401	ARCHITECTURAL DETAILS
SN.1	GENERAL STRUCTURAL NOTES
S1.0	FOOTING AND FOUNDATION PLAN
S1.1	ROOF FRAMING PLAN
SD.1	STRUCTURAL DETAILS



289 E 950 S - Orem, UT 84058
C: 301.512.6859

REVISIONS

BUILDING CODE

2021 IRC - Utah Amendments

PAYSON CITY BOOSTER STATION

Payson, Utah

Nebo Loop Rd.

COVER SHEET &
LIST

SQUARE FOOTAGE

TOTAL	
STATION SPACE	420 SF

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PROJECT 24125

06 DEC. 2024

C101

GENERAL ARCHITECTURAL SPECIFICATIONS

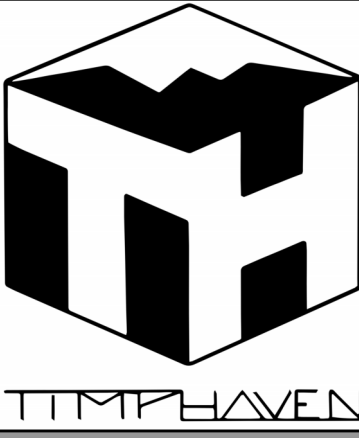
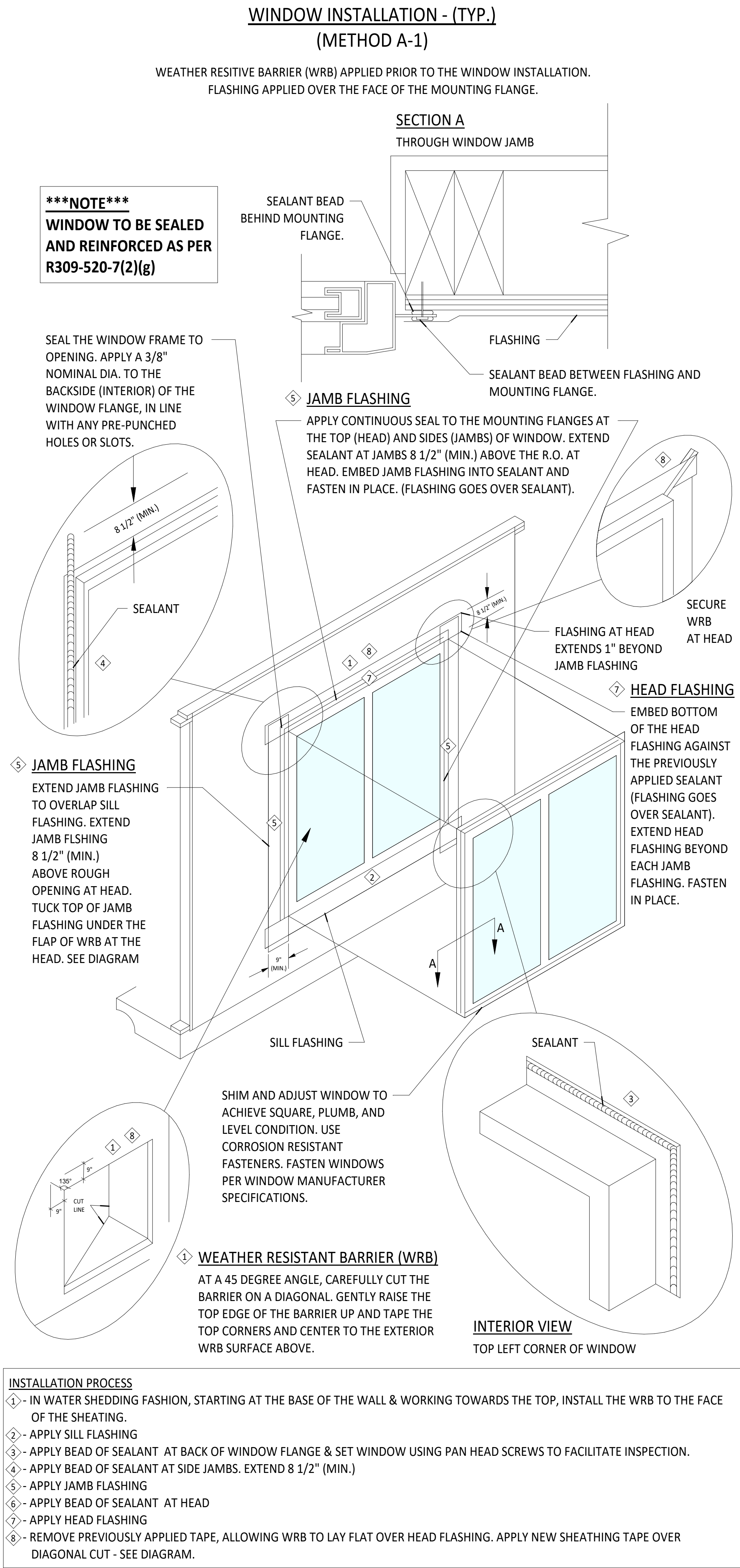
- 1) The contractor shall verify all dimensions & site conditions prior to starting construction. Contractor shall verify sizes and locations of all mechanical and electrical pads and bases as well as power or water and drain installations with equipment manufacturers before proceeding with work. changes to accommodate field conditions or substitutions shall be made without additional charge to owner. During construction, the contractor shall field verify all dimensions prior to fabrication or construction in any area. TimpHaven Design shall be notified of any discrepancies or inconsistencies. All omissions or conflict between the various elements of the working drawings &/or specifications shall be brought to the attention of TimpHaven Design &/or the structural engineer before proceeding with any work involved. In case of conflict, follow the most stringent requirements as directed by TimpHaven Design & the engineer without any additional cost to the Owner.
DO NOT SCALE THE WORKING DRAWINGS!
- 2) The typical details shall be used wherever applicable unless otherwise noted on the drawings. Notes and details on drawings shall take precedence over general notes, typical details, & specifications.
- 3) The contractor shall investigate the site during clearing, excavation & other earth work operations for filled excavations, buried structures or unnatural soil conditions. If any of these conditions are found, TimpHaven Design & the geotechnical engineer shall be notified immediately.
- 4) All construction work shall conform to the minimum standards of locally approved building codes & regulations.
- 5) Contractor shall be responsible for safety & protection & all rubbish and debris resulting from demolition an/or new work shall be recycled and/or disposed of off-site and shall not be allowed to accumulate.
- 6) Observation visits to the site by TimpHaven Design shall neither be construed as inspection nor approval of construction.
- 7) All fill and back fill shall be compacted to a minimum of 95% of maximum relative density for building construction and 90% for general site work.
- 8) Grading shall allow for positive drainage (2 percent minimum) away from the building, other footings & foundations, drives, & sidewalks. All downspouts shall drain onto 3 foot long splashblocks sloping away from foundations or into approved storm drain system.
- 9) All bearing earth to be undisturbed earth or compacted fill. The area on which the fill is placed must be frost-free. The fill shall then be placed in layers not to exceed 8 inches in depth & compacted. All fill & backfill shall be compacted to a minimum of 95% of maximum relative density as per ASTM D depth & compacted. All fill & backfill shall be compacted 1557-78 at optimum moisture.
- 10) The structure is not stable until all diaphragms, shear walls & associated connections have been made. It is the responsibility of the contractor to design & install all required temporary bracing and shoring. Do not backfill walls until floor at top of walls is in place or adequate temporary bracing is provided.
- 11) All symbols and abbreviations used on the plans are considered to be construction standards. if the contractor has questions regarding abbreviations of thier exact meaning, the architectect shall be notified for clarification.
- 12) Minimum headroom clearance at stairs shall be 6'-8" measured vertically from a plane parallel and tangent to the tread nosing to the soffit above at all points.
- 13) Provide tempered glass as required by IRC code and by other applicable codes.
- 14) Mechanical ventilation for toilet compartments, bathrooms, and laundry rooms shall be capable of providing 5 air changes per hour per IRC P3201.7
- 15) Where garage doors with springs occur, the following shall apply: Springs shall be permanently identified, and indicate the maximum recommended stretch. Both springs and containment devices shall bear information stating that they have manufactured in accordance with requirements of the State department of housing and community development.
- 16) Showers shall be finished to a min. of 72" above drain with surface materials not adversely affected by moisture per IRC P2709. See plans for actual plans.
- 17) Lighting fixtures in closets are to be a minimum of 18" from shelves.
- 18) All water heaters shall be provided with seismic straps per IRC P2801.8
- 19) Pools, spas, wall fences, patio covers, retaining walls, and other freestanding structures require separate review and permits.
- 20) All "or equal" substitutions must be submitted to, and approved by the city building official prior to installation of the time.
- 21) Note that all insulation materials shall have a flame-spread rating not to exceed 25 and a smoke density not to exceed 450. IRC R320.2
- 22) Provide anti-scalding valves at showers and tubs/showers.
- 23) Developer / Contractor / owner responsible for the verification of existing curb location from property line.
- 24) All door jambs to be 6" unless otherwise dimensioned

GENERAL WINDOW & EXTERIOR NOTES

- 1 - SEAL ALL TYVEK JOINTS AND PENETRATIONS WITH APPROVED TAPE. (ex. DUPONT CONTRACTOR TAPE)
2 - FASTEN TYVEK TO SHEATHING WITH LARGE HEAD NAILS OR USE NAILS WITH LARGE PLASTIC WASHER HEADS. (EX. DUPONT WRAP CAPS)
3 - SEAL OR GASKET BRICK TIES TO FACE OF TYVEK
4 - LOCAL LAW, ZONING, AND BUILDING CODES VARY AND THEREFORE GOVERNS OVER MATERIAL SELECTION AND DETAILING SHOWN BELOW.
5 - INSTALL STUCCO ACCORDING TO MANUFATURER'S WRITTEN INSTRUCTIONS

GENERAL CONSTRUCTION SPECIFICATIONS

- 1) All work shall conform to the minimum standards of the International Building Code, any other regulating agencies which have authority over any portion of the work, and the codes and standards listed in these notes and specifications. All specifications noted shall be the latest approved revision or edition. The General Contractor shall review and approve all shop drawings prior to submitting them to the Designer or Engineer. A reviewed copy of all shop drawings shall be kept at the construction site for reference. The shop drawing review shall not relieve the General Contractor of any responsibility for completion of the project according to the contract documents.
- 2) Structural drawings and specifications represent the finished structure, not the method of construction. The General Contractor shall be responsible for all measures necessary to protect the structure during construction. These measures include, but are not limited to bracing, shoring, etc. Shoring & bracing shall remain in place until all permanent members are in place and connections complete. Observation visits to the site by the Engineer or his representative shall not include inspection of these items.
- 3) Construction materials shall be spread out if placed on framed floors or roof. Loads shall not exceed the design live load per sq. ft. Provide adequate shoring or bracing where structure has not attained design strength.
- 4) It shall be the responsibility of the General Contractor to coordinate with all trades, & all items that are to be integrated into the structural system.The civil, structural, mechanical, plumbing, and electrical drawings are supplementary to the architectural drawings. it shall be the responsibility of the contractor to check with the architectural drawings before proceeding withinstallation of civil, structural, mechanical, plumbing, and electrical work. should there be any discrepancies between the architect's and the consulting engineer's drawings and specifications that would cause a conflict. It shall be corrected by the contractor at his expense and at no additional expense to the owner or architect. It is the responsibility of the contractor to examine all conditions prior to submitting bids or commencing with construction. Discrepancies in the drawings or between the drawings and actual field conditions shall be reported to the architect and to the owner.
- 5) See Architectural drawings for the following: (U.N.O.)
-Size and location of door, window, floor, and roof openings.
-Size and location of all interior and exterior non-bearing partitions
-Size and location of all curbs, drains, depressed areas, slopes, changes in level, grooves, chamfers, inserts, etc.
-Floor and roof finishes.
-Dimensions not shown on structural drawings.
- 6) See Mechanical and Electrical drawings for the following (U.N.O.)
-Pipe runs, sleeves, trenches, hangers, wall and slabs, openings, etc.
-Electrical conduits, boxes, and outlets in walls and slabs.
-Concrete insert requirements for mechanical and electrical.
-Size and location of machine or equipment bases, anchor bolt requirements, etc.
- 7) Openings larger than 6" shall not be placed in slabs, decks, walls, etc., unless specifically detailed on the structural drawings. Notify the Structural Engineer when drawing by others who above conditions located in structural members.
- 8) The engineer shall be notified forty-eight hours in advance prior to any of the following:
-Placing any concrete.
-Closing any forms.
-Grouting any masonry.
-Completing the nailing of any sheathed wall or deck.
-Completing the welding of steel decking.
- 9) Observation visits by the Engineer or his representative shall neither be construed as inspection nor approval of construction.
- 10) All symbols and abbreviations used on the plans are considered to be construction standards. if the contractor has questions regarding abbreviations of thier exact meaning, the architectect shall be notified for clarification.
- 11) Details marked shall apply in all cases unless specifically indicated otherwise.
- 12) All rubbish and debris resulting from demolition and/or new work shall be recycled and/as disposed of off-site and shall not be allowed to accumulate.
- 13) Offset studs where required so that finish wall surface will be flush. If structural panels are required on a wall plane, the entire wall plane shall be furred or finished flush.
- 14) Install metal corner beads at all exposed wallboard edges. Install casing beads wherever wallboards, plaster, ect. abuts a dissimilar finish material and provide sealant as required.
- 15) Contractor shall provide and install all stiffeners, bracing, back-up plates, and supporting brackets required for the installation of all casework, stair railing, toilet accessories, partitions, and of all mounted or suspended mechanical, electrical, or misc. equipment.
- 16) Door sizes shown on plan are opening sizes. allowance for thresholds, ect., shall be taken off the doors. Doors and frames shall be reinforced, where required for closures, stops and hardware.
- 17) All doors shall be provided with a seal, astral, or baffle at the head and sill to prrvent air leakage
- 18) All construction shall be preformed in accordance with the state construction safety regulations.
- 19) All gypsum wall board required by IRC R702.3
- 20) Pools, spas, wall fences, patio covers, retaining walls, and other freestanding structures require separate review and permits.
- 21) All "or equal" substitutions must be submitted to, and approved by the city building official prior to installation of the time.
- 22) Developer/contractor/ owner resonsible for the verification of existing curb location from the property line.
- 23) Inspection required for Stucco Installation.
- 24) A permanent certificate shall be posted on or in the electrical distribution panel listing the predominant R-values of insulation installed in or on ceiling/roof, walls, foundation (slab, basement wall, and/or floor) and ducts outside the conditioned spaces; U-factors of windows and the solar heat gain coefficient of windows. The type and efficiency of heating, cooling and service water heating equipment shall also be listed. Per IRC N1101.9
- 25) Fire block stud spaces at soffits, floor and ceiling joist lines, at 10' vertically and horizontally, and at any other locations not specifically mentioned which could afford passage for flames, Per IRC R302.11
- 26) All plumbing installations shall comply with current edition of the IRC
- 27) All mechanical installations shall comply with current edition of the IRC & IFGC



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REVISIONS

PAYSON CITY BOOSTER STATION

Payson, Utah

Nebo Loop Rd.

PROJECT SPECIFICATIONS & DETAILS

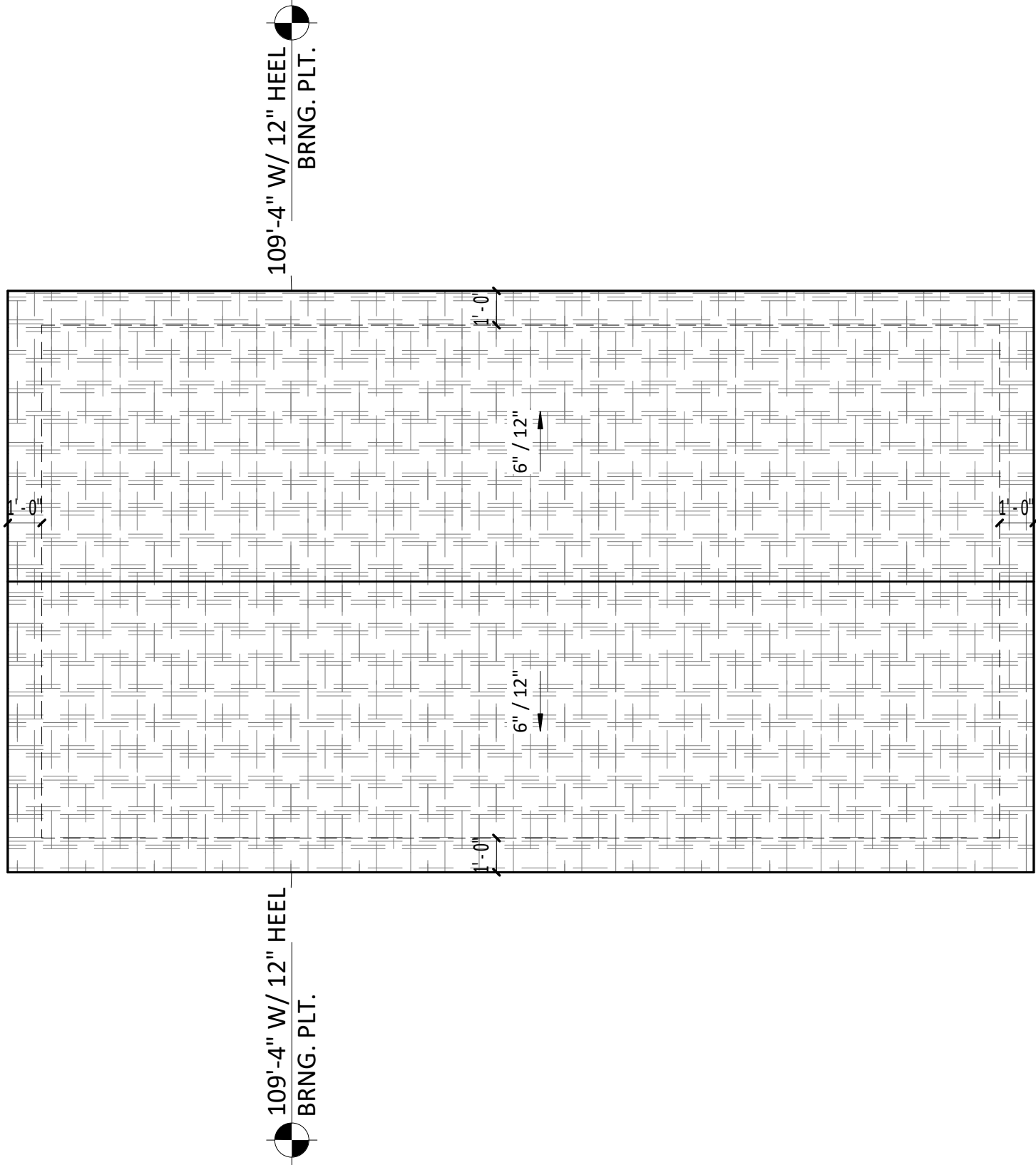
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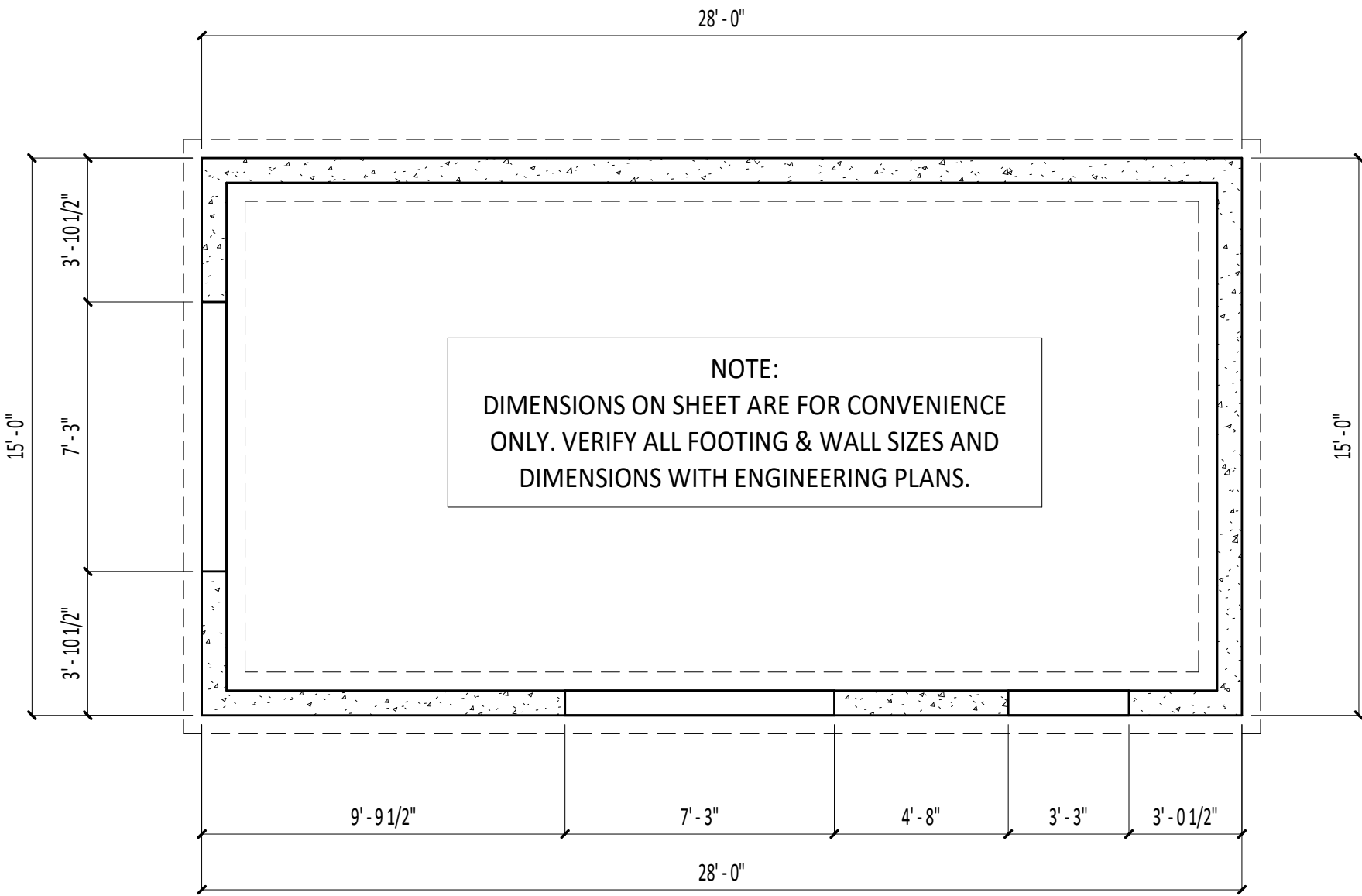
PROJECT 24125

06 DEC. 2024

C102



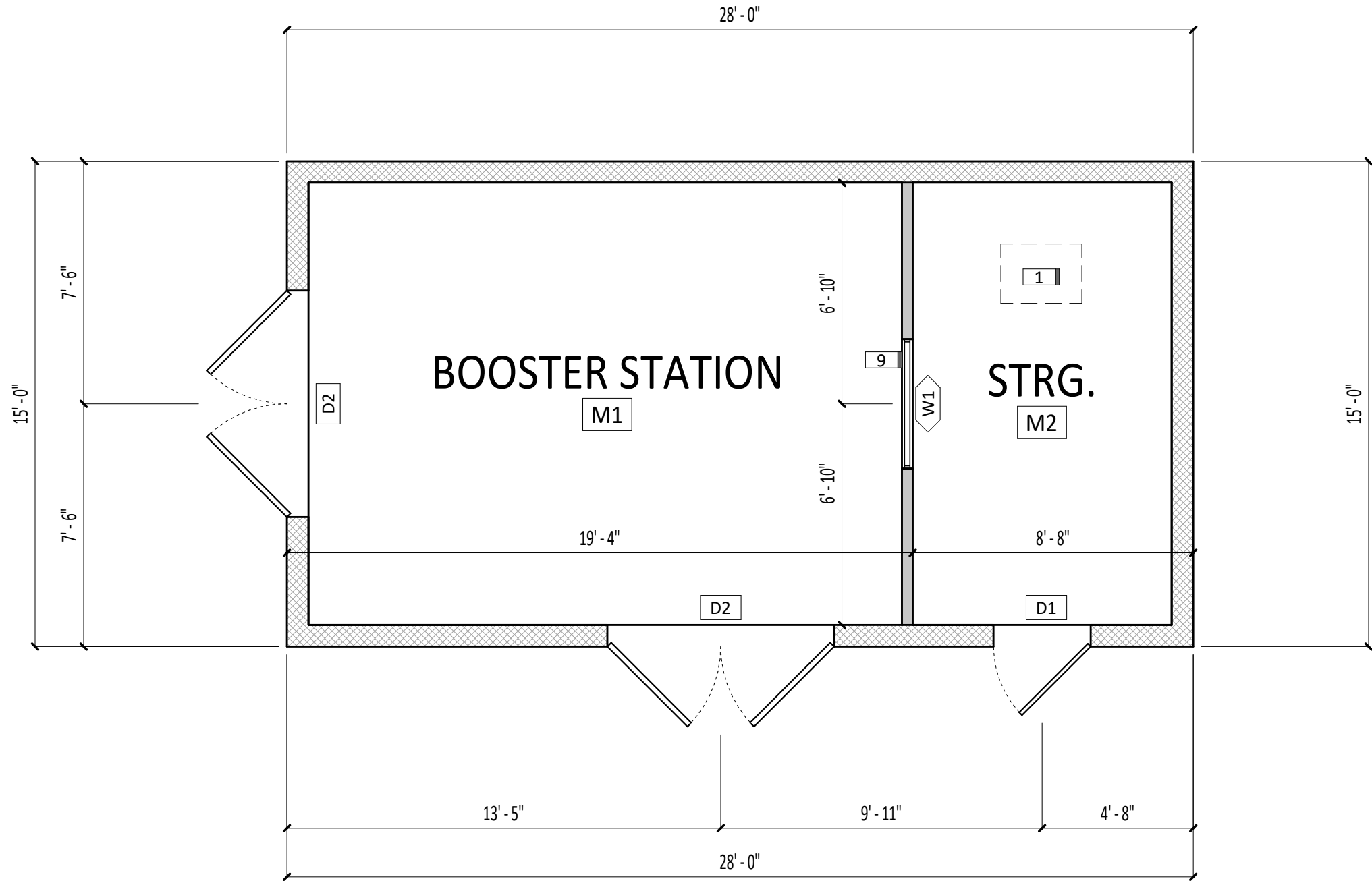
ROOF PLAN



FOUNDATION PLAN

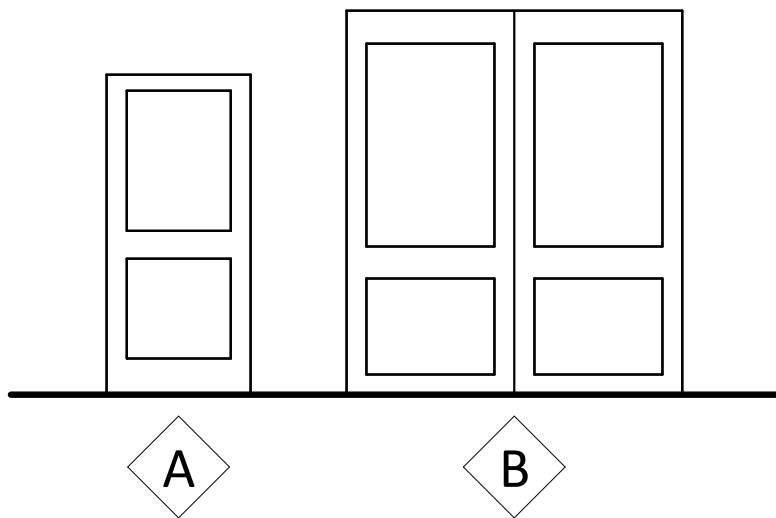
ALL CEILING HEIGHTS ARE APPROX. AND MAY VARY DEPENDING ON CONSTRUCTION MATERIALS, TECHNIQUES, ETC. BUILDER/OWNER TO VERIFY ALL DIMENSIONS

MAIN LEVEL ROOM SCHEDULE		
RM.	CEILING	NOTES
M1	9'-4" FLAT CEILING	
M2	9'-4" FLAT CEILING	

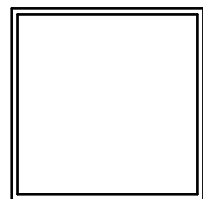


MAIN LEVEL FLOOR & DIMENSION PLAN

DOOR STYLE LEGEND



WINDOW STYLE LEGEND



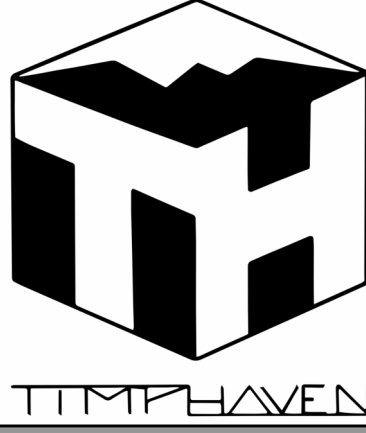
A

COMPLETE DOOR SCHEDULE					
DOOR	QUANTITY	WIDTH	HEIGHT	STYLE	REMARKS
D1	1	3' - 0"	6' - 8"	A	Metal door to have panic bar as per R309-520-7(2)(g)
D2	2	7' - 0"	8' - 0"	B	Metal door

COMPLETE WINDOW SHEDULE					
WINDOW	QUANTITY	WIDTH	HEIGHT	STYLE	HEAD HT.
W1	1	4' - 0"	4' - 0"	A	7' - 6"

SHEET NOTES

- 22" x 30" attic access as per IRC R807
- Slope concrete slab 4" to doors as req'd
- Provide perimeter drain as req'd
- All overhangs to be 1'-0" from finished wall or noted otherwise
- Provide adequate slope for water drainage as req'd
- Provide ice & water shield @ all roof edges, eaves or valleys, & extend 24" up warm side of the exterior wall
- Provide adequate attic ventilation area req'd by code
- Truss manufacturer to submit engineered shop drawings to city building officials for approval prior to fabrication
- Window to be sealed and reinforced as per R309-520-7(2)(g)



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PAYSON CITY BOOSTER STATION

Payson, Utah

Nebo Loop Rd.

FLOOR PLANS

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PROJECT 24125

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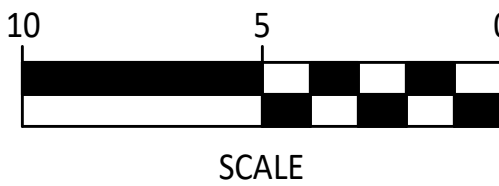
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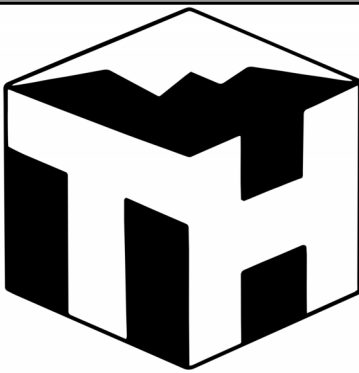
MAIN LEVEL

STATION SPACE 420 SF

12 x 18 (SHEET SIZE) 1/8"=1'-0"

24 x 36 (SHEET SIZE) 1/4"=1'-0"





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REVISIONS

PAYSON CITY BOOSTER STATION

Payson, Utah

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EXTERIOR ELEVATIONS

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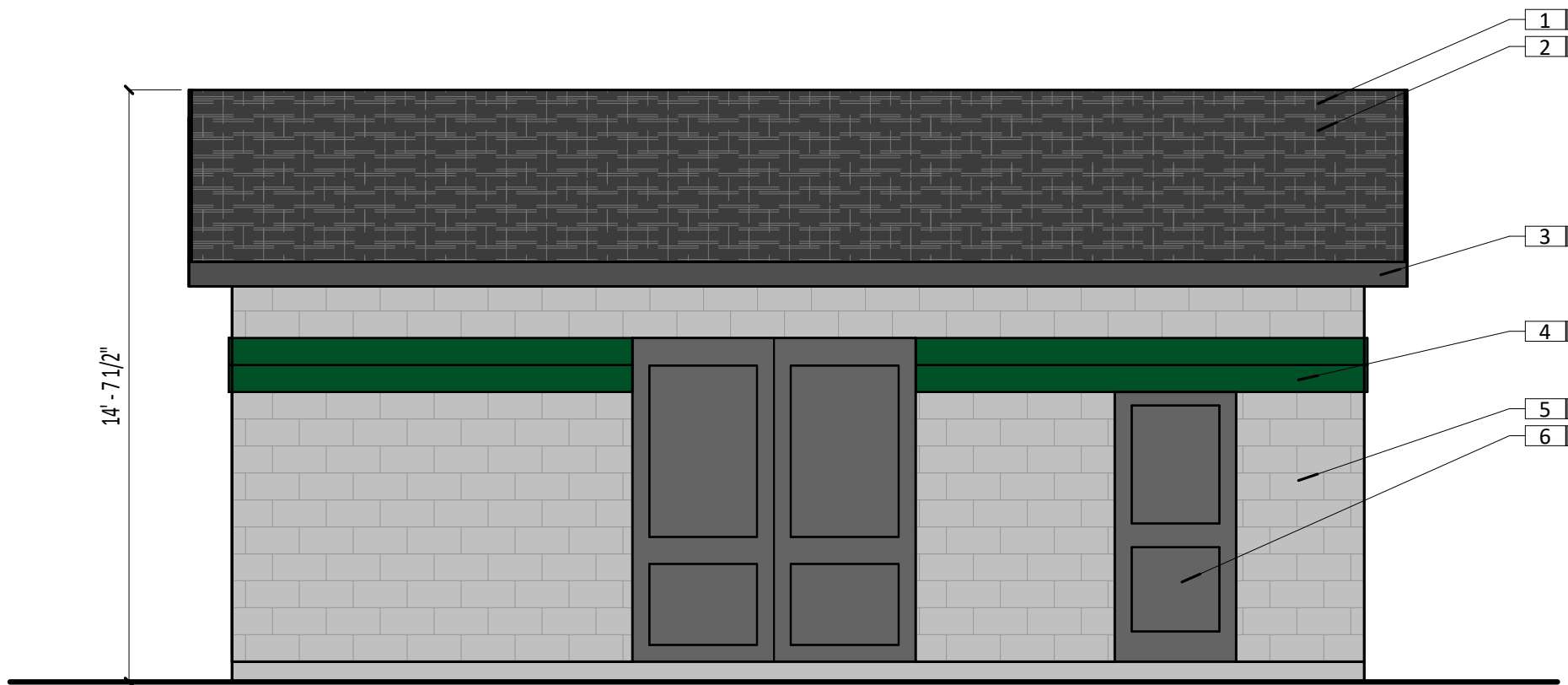
PROJECT 24125

06 DEC. 2024

A201

SHEET NOTES

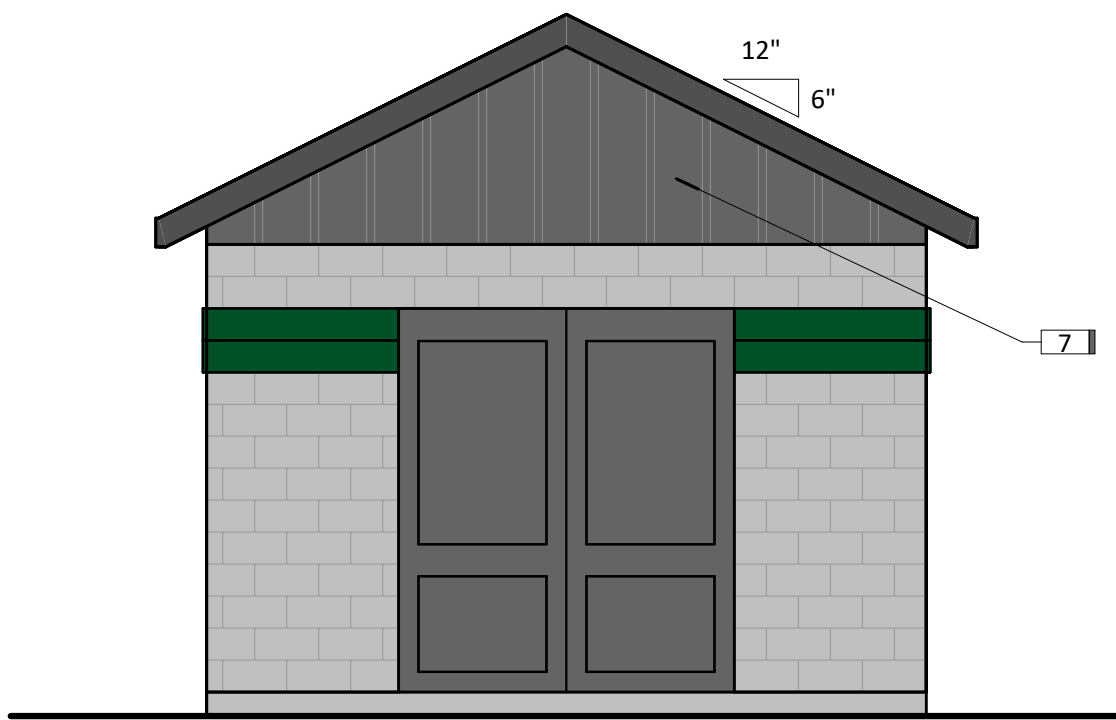
- 1 Provide soffit, ridge, & j-vents for adequate attic ventilation equal to 1/300 of attic space as per IRC
- 2 Class 'A' architectural asphalt composition shingles as per owner
- 3 2 x 8 fascia board
- 4 Two rows of painted block as per owner
- 5 CMU block as per owner
- 6 Doors & windows as per floor plans, schedules, & owner
- 7 Vertical siding as per owner



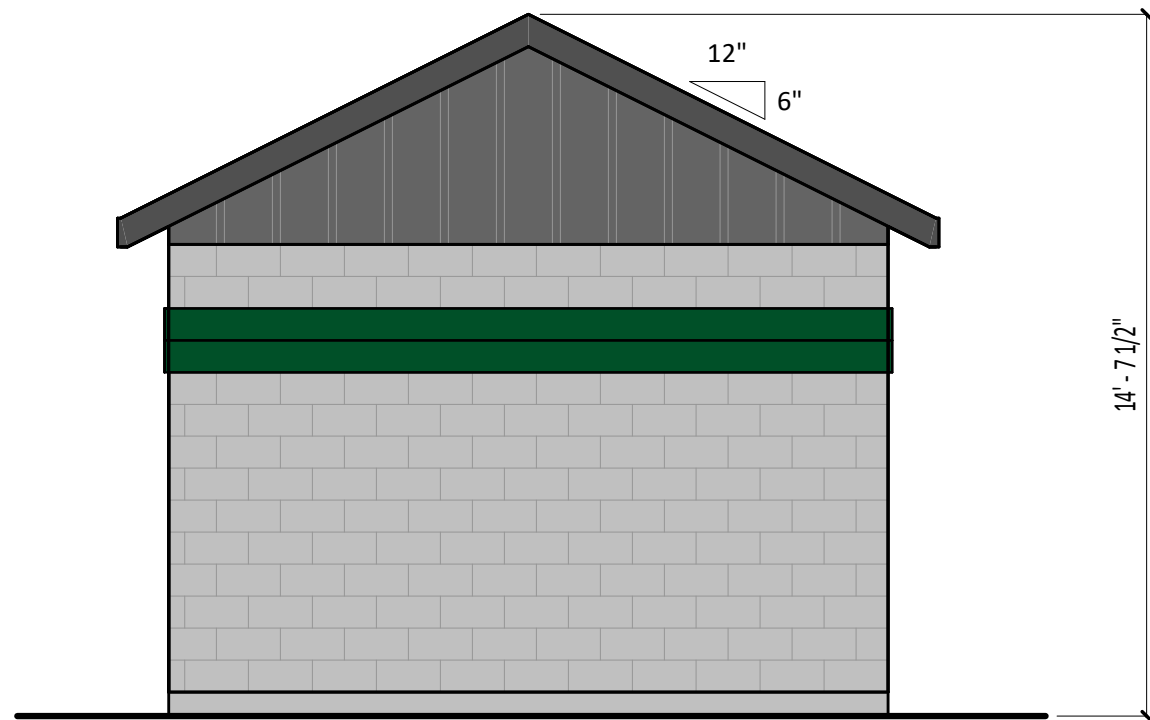
FRONT ELEVATION



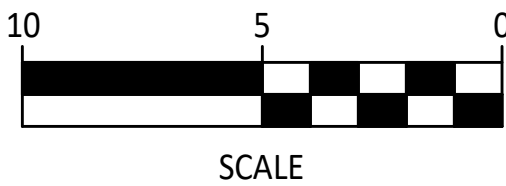
REAR ELEVATION



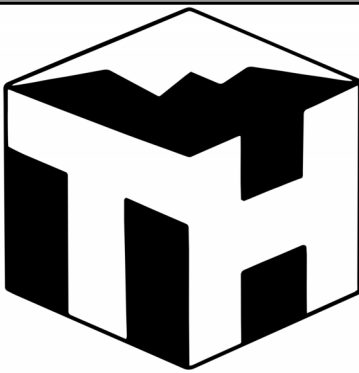
LEFT ELEVATION



RIGHT ELEVATION



12 x 18 (SHEET SIZE) 1/8"=1'-0"
24 x 36 (SHEET SIZE) 1/4"=1'-0"



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REVISIONS

PAYSON CITY BOOSTER STATION

Payson, Utah

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BUILDING SECTION (A) & (B)

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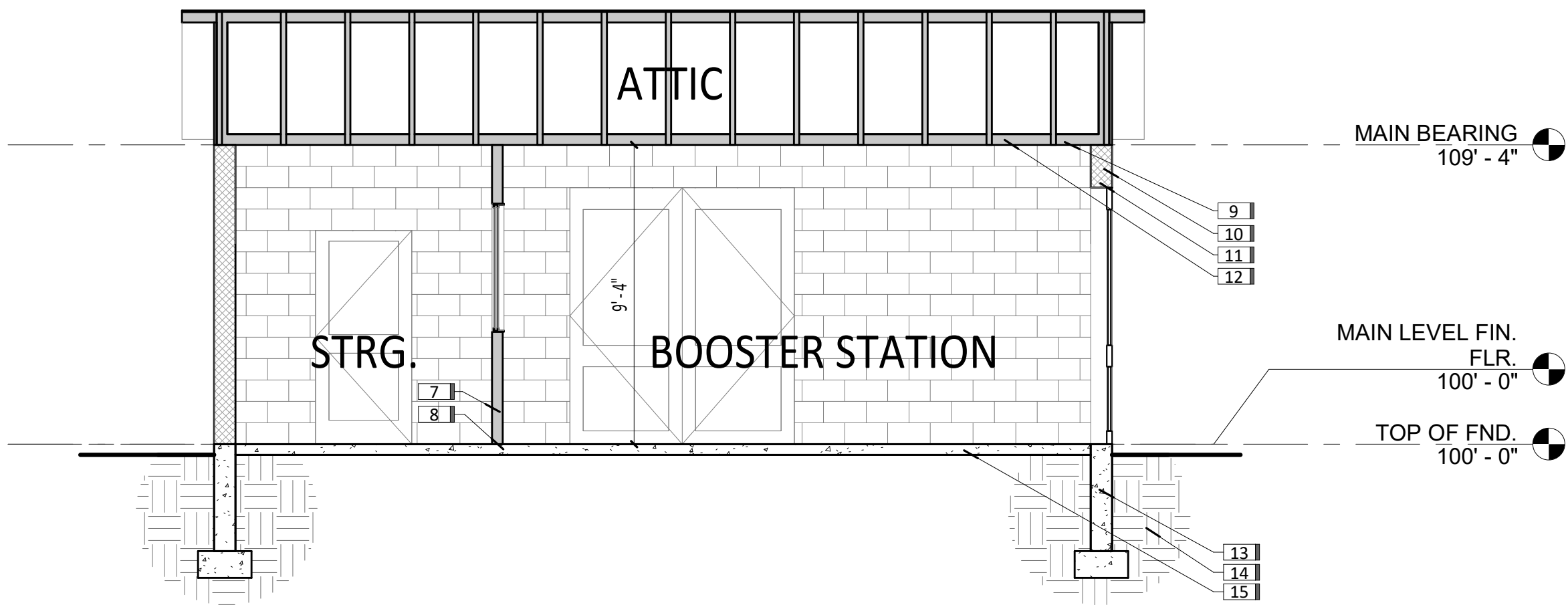
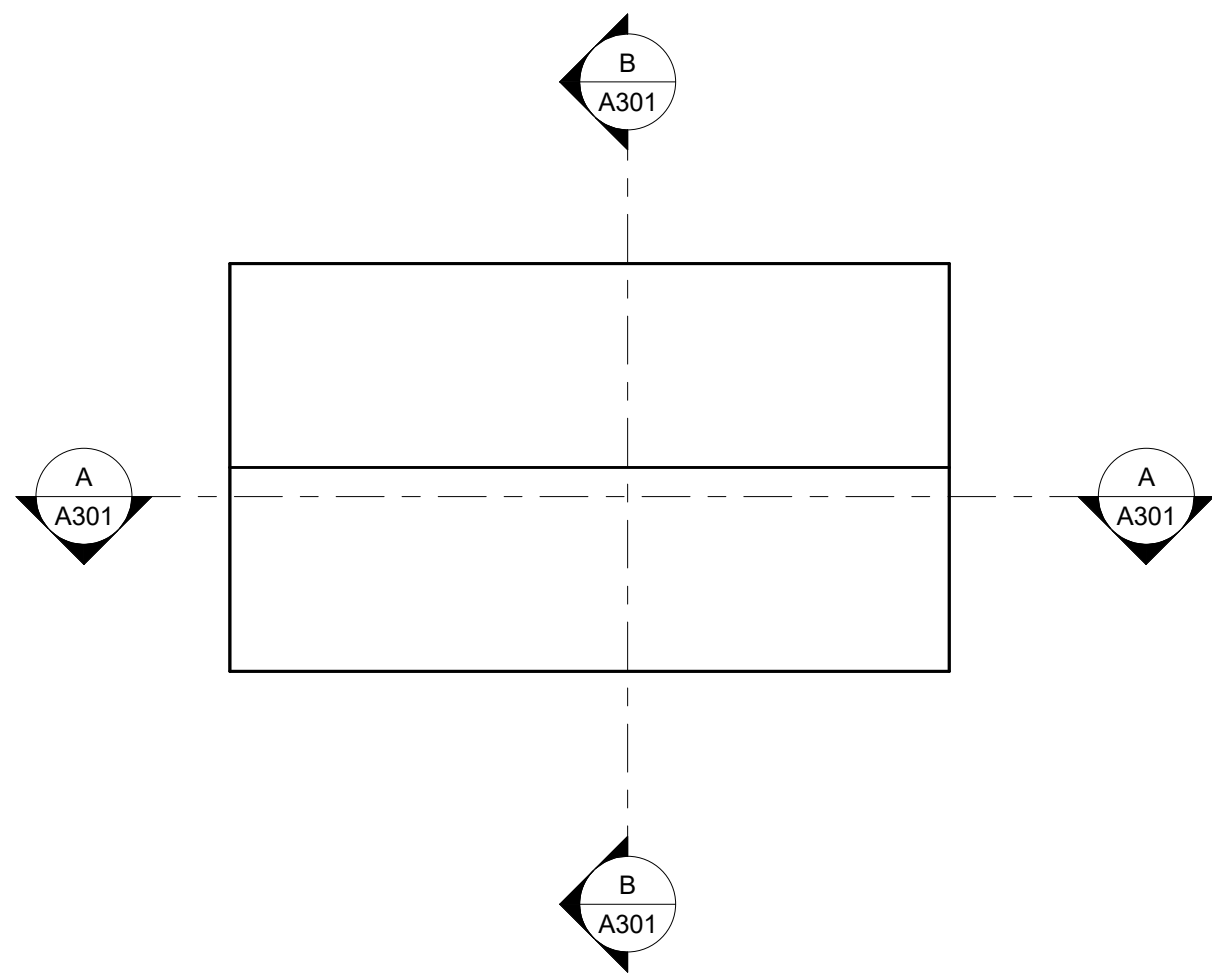
PROJECT 24125

06 DEC. 2024

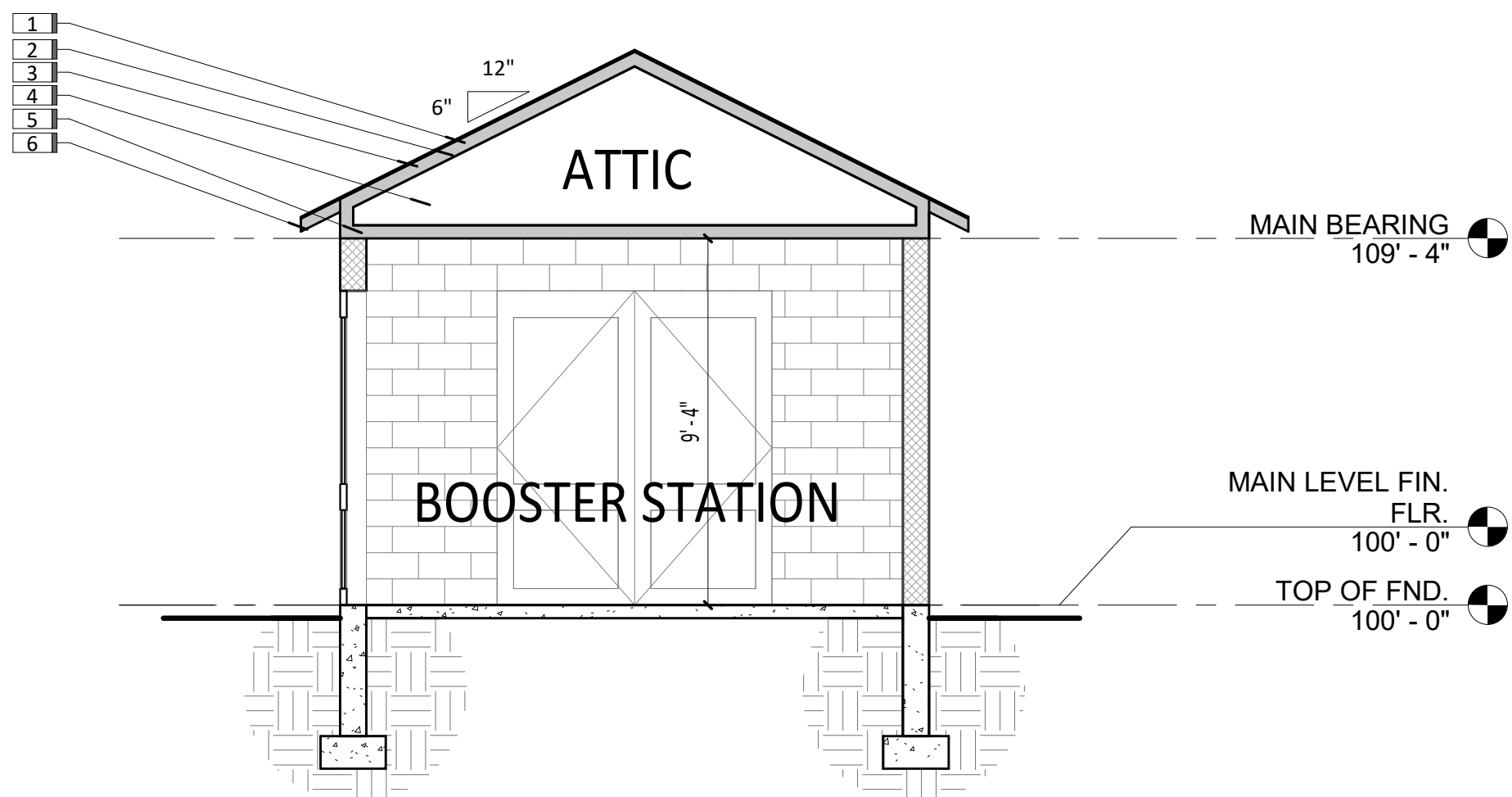
A301

SHEET NOTES

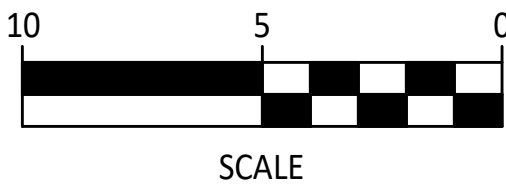
- 1 Class "A" architectural asphalt composition shingles as per owner
- 2 Pre-manufactured roof trusses as per Roof Framin Plan
- 3 Roof sheathing as per Roof Framing Plan
- 4 R-50 (min.) blow-in ceiling insulation
- 5 Provide attic insulation baffles as per IRC
- 6 2x8 fascia board
- 7 Interior walls: 2x4's (u.n.o.)
- 8 Provide redwood or treated sill plate @ all concrete to wood connection
- 9 1/2" gypsum board @ inside of walls & ceiling (typical unless noted otherwise)
- 10 Exterior walls: CMU block (u.n.o.)
- 11 Provide counter flashing & caulking of all exterior opening, (doors, windows, vents, etc.)
- 12 Provide a minimum 4-mil polyethylene vapor retarder over the insulation on the inside (warm side) of all exterior walls and roof ceilings. - IRC R318, IECC 502.1.1
- 13 Concrete foundation & footing as per Footing & Foundation Plan
- 14 Earth to be unexcavated or compacted to 90%
- 15 4" concrete slab o/4" free draining granular fill



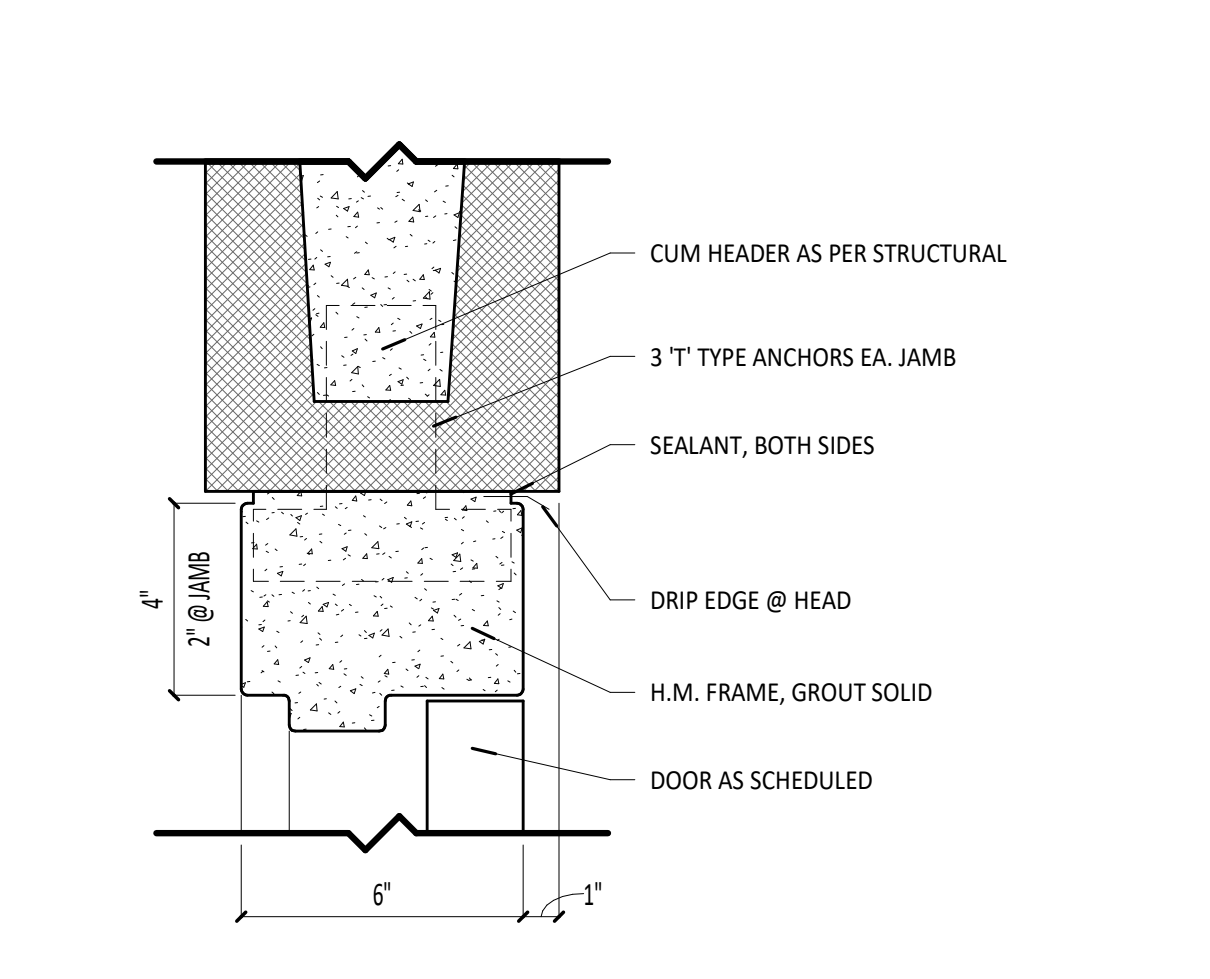
BUILDING SECTION (A)



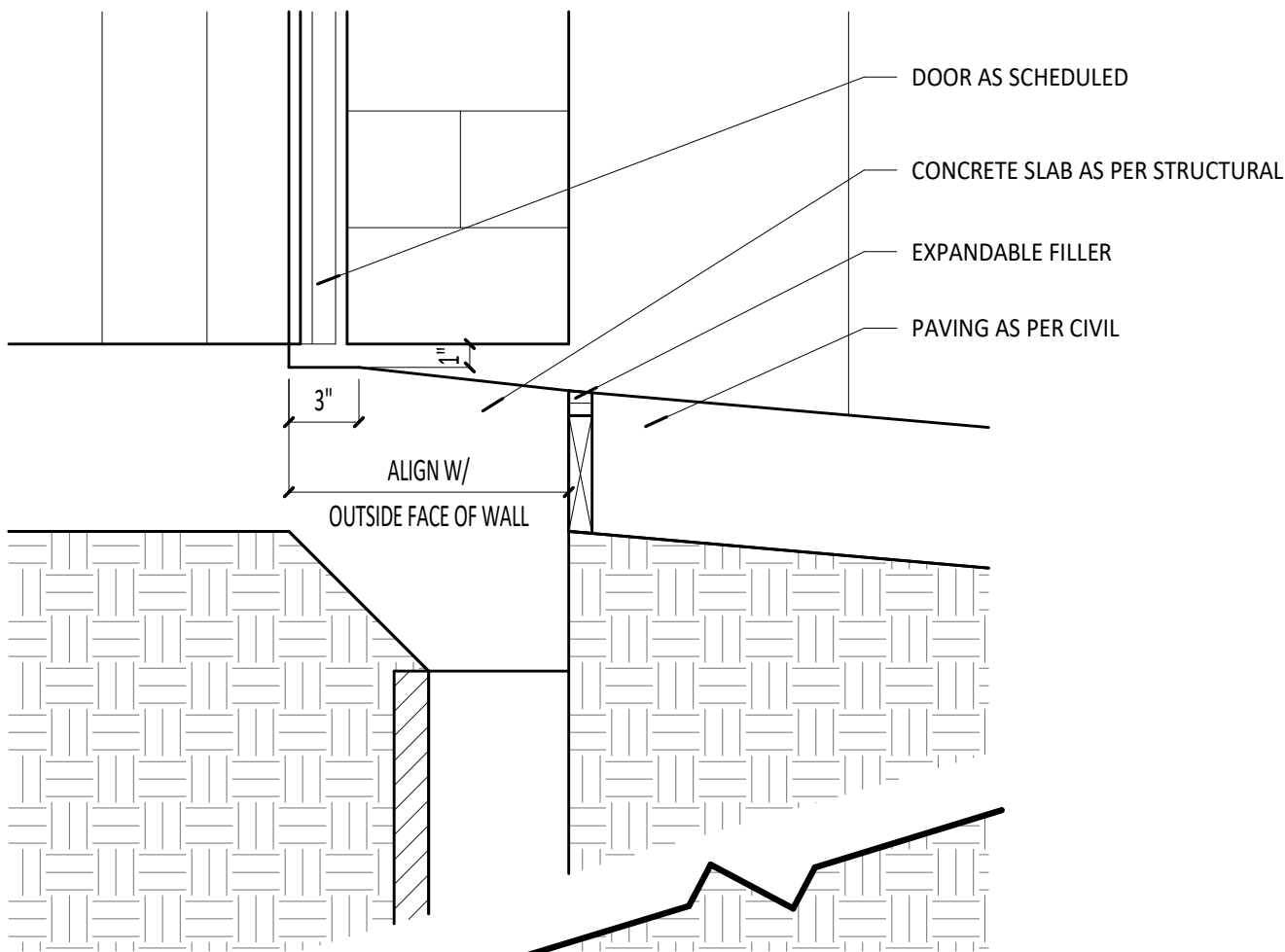
BUILDING SECTION (B)



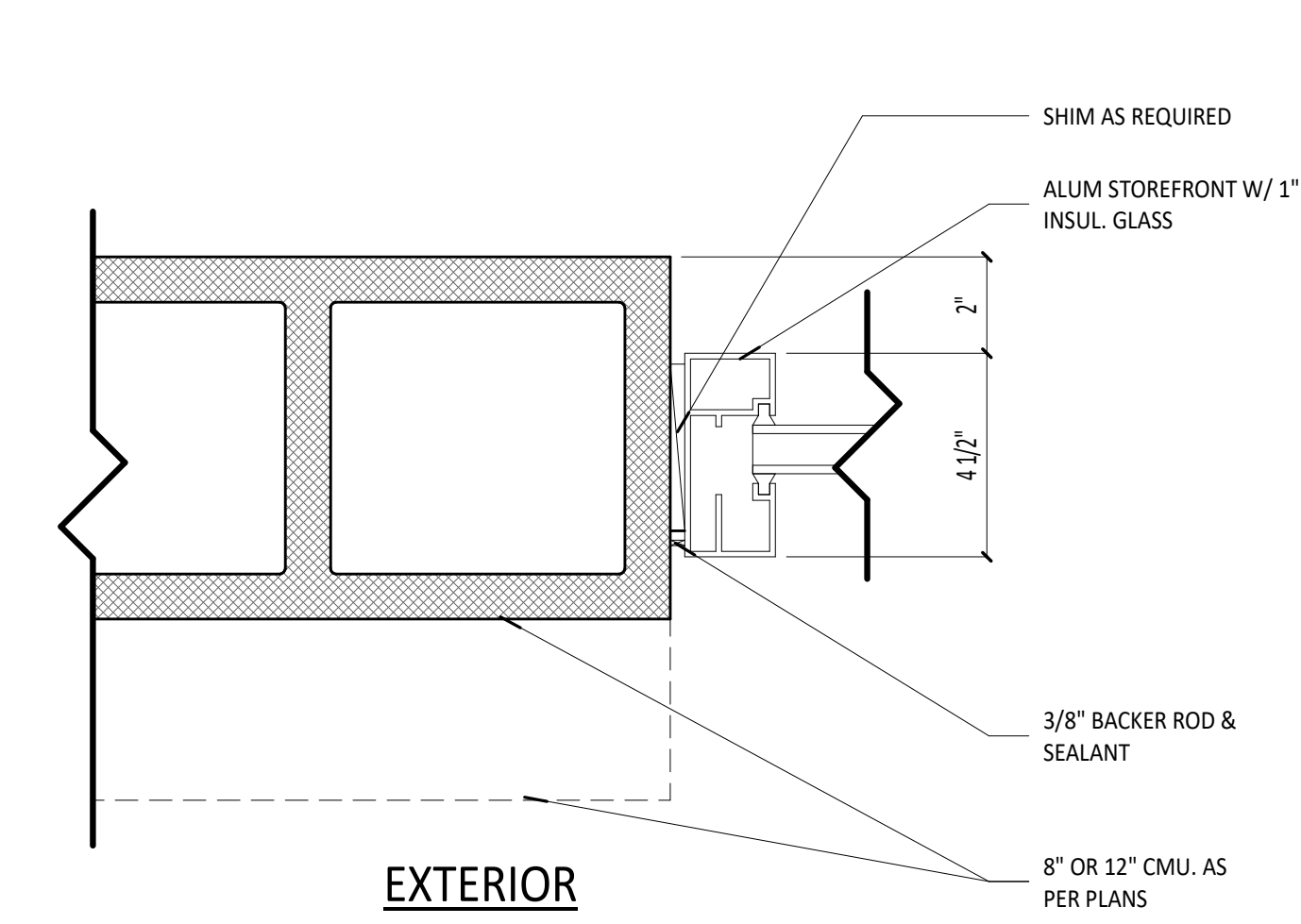
12 x 18 (SHEET SIZE) 1/8"=1'-0"
24 x 36 (SHEET SIZE) 1/4"=1'-0"



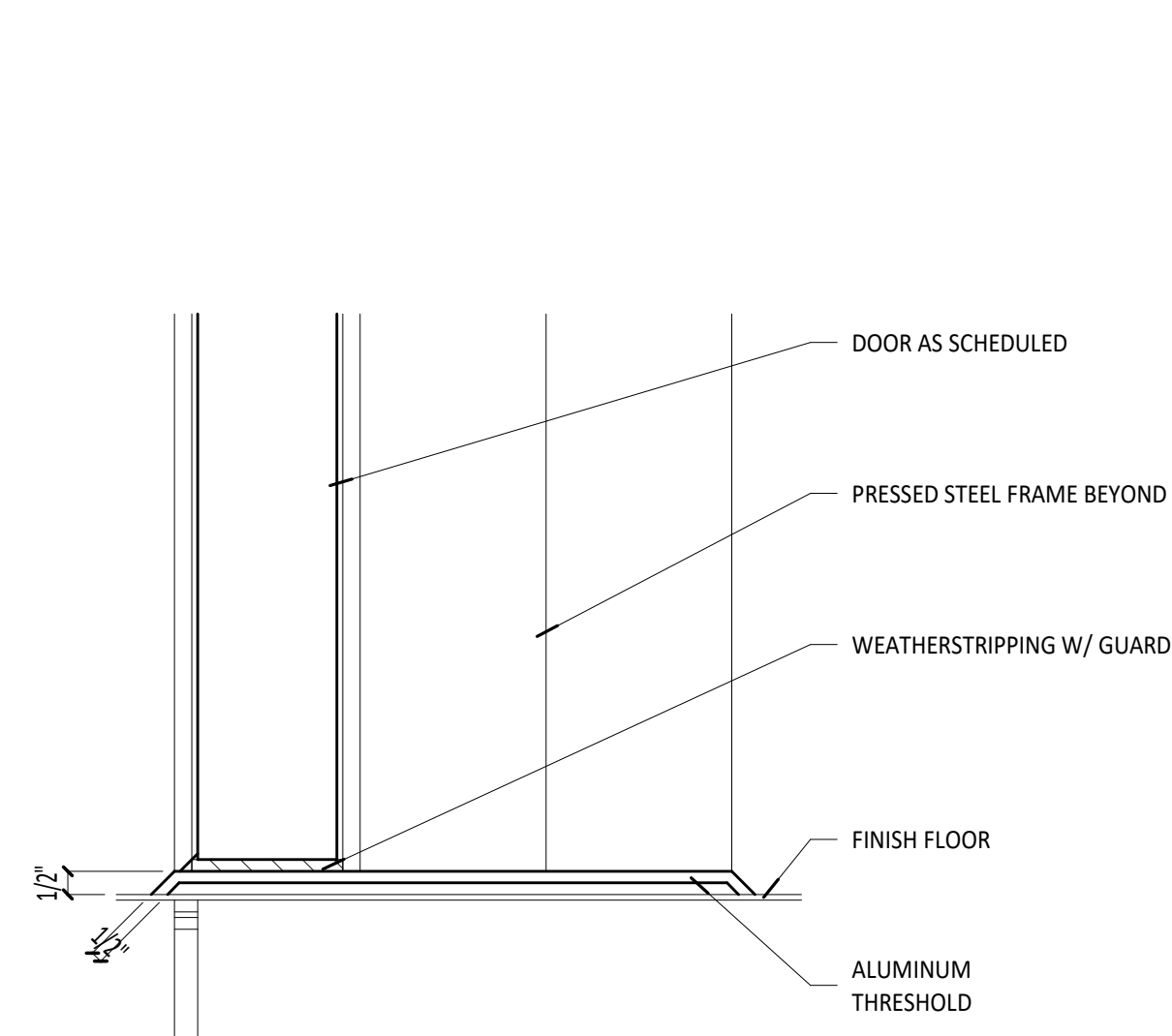
1 DOOR HEAD - JAMB DETAIL



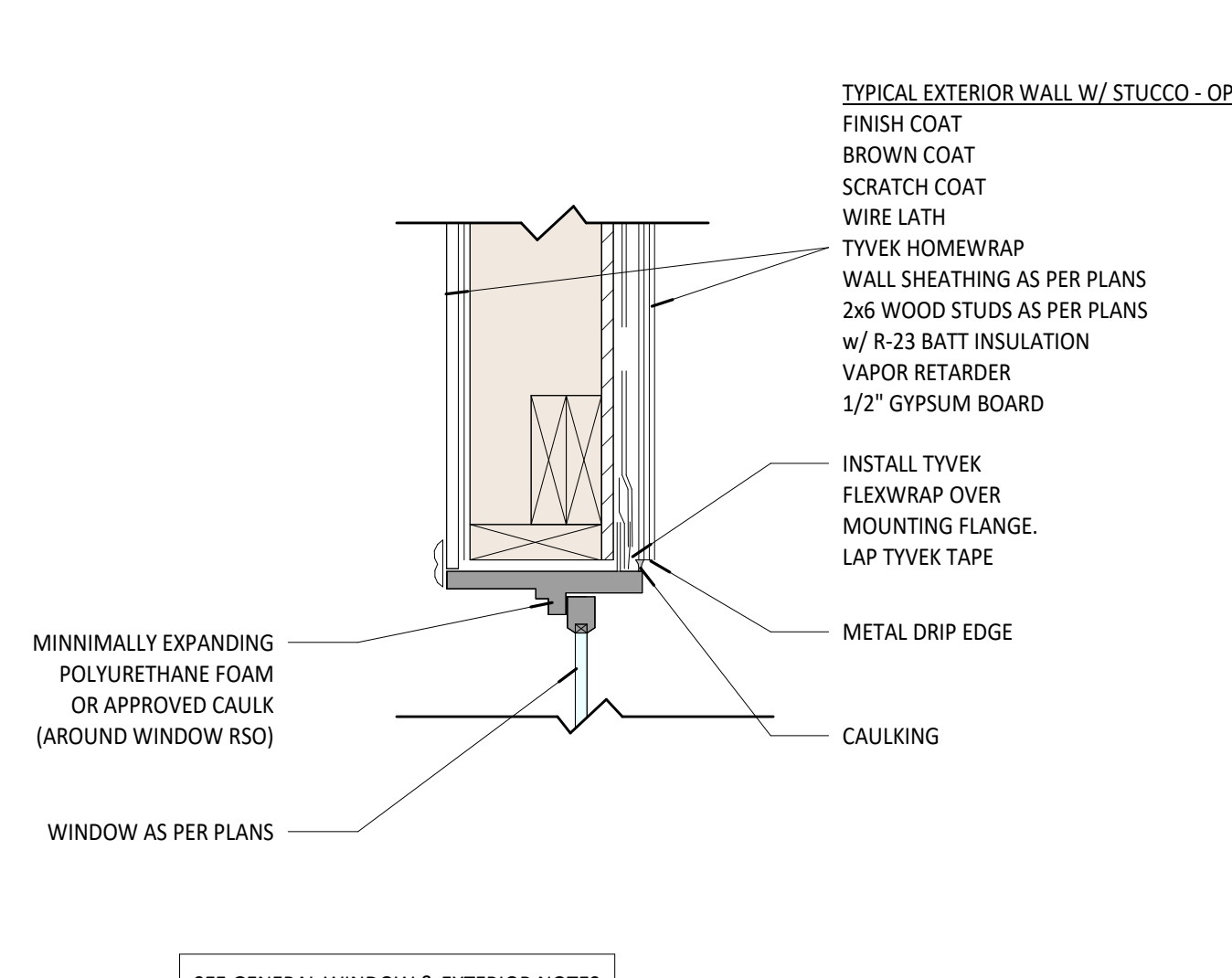
2 OVERHEAD DOOR SILL DETAIL



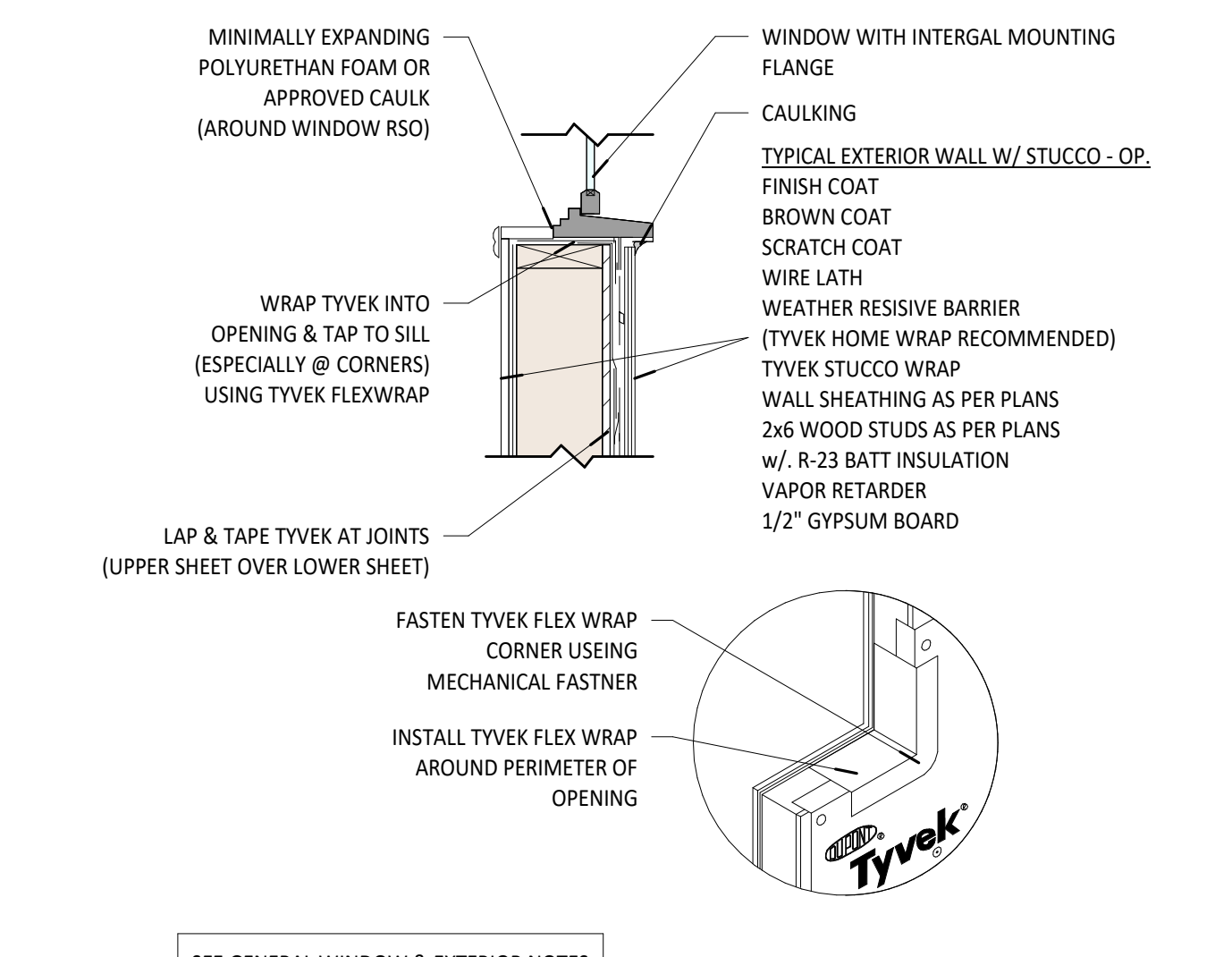
3 STOREFRONT JAMB @ MASONRY DETAIL



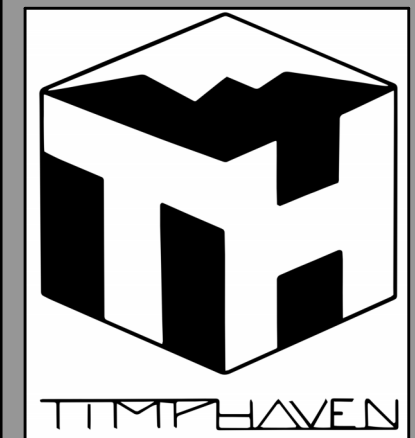
4 DOOR THRESHOLD DETAIL



5 WINDOW HEAD DETAIL



6 WINDOW SILL DETAIL



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REVISIONS

NOT TO SCALE

PAYSON CITY BOOSTER STATION

Payson, Utah

Nebo Loop Rd.

ARCHITECTURAL
DETAILS

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PROJECT 24125

06 DEC. 2024

A401

STRUCTURAL DESIGN CRITERIA		
GOVERNING BUILDING CODE: 2021 INTERNATIONAL BUILDING CODE		
2. ROOF LOADING		
A. ROOF DEAD LOAD, P_D	15.0 psf	
B. ROOF LIVE LOAD, P_L	20.0 psf	
C. ROOF SNOW LOAD, P_S	37.0 psf	
D. SNOW LOAD, P_{SL}	40.0 psf	
E. SNOW EAVE FACTOR, C_e	1.0	
F. THERMAL FACTOR, C_t	1.2	
G. ROOF SLOPE FACTOR, C_s	1.0	
H. IMPORTANCE FACTOR, I	1.0	
I. DRIFT SURCHARGE	AS NOTED ON PLANS	
J. RAIN INTENSITY, I (in/hr)		
3. FLOOR LOADING		
A. FLOOR DEAD LOAD, P_D	15.0 psf	
B. FLOOR LIVE LOAD, P_L	40.0 psf	
C. FLOOR LIVE LOAD (BALCONIES & DECKS)	60.0 psf	
4. WALL WEIGHT		
A. WALL DEAD LOAD (FRAMING ONLY)	10 psf	
5. SEISMIC PARAMETERS		
A. SEISMIC RISK CATEGORY	II	
B. SEISMIC DESIGN CATEGORY	D	
C. SPECTRAL RESPONSE ACCELERATIONS		
S_a	1.69g	
S_d	0.83g	
F_a	1.20g	
F_v	1.70g	
S_s	1.35g	
S_1	0.72g	
D. SEISMIC FORCE RESISTING SYSTEM	MASONRY	
E. IMPORTANCE FACTOR, I	1.0	
F. DESIGN BASE SHEAR, V	0.127W	
G. ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE	
6. WIND PARAMETERS		
A. BASIC WIND SPEED, <mathv< math=""></mathv<>	110 MPH	
B. NOMINAL DESIGN WIND SPEED, <mathv_{ref}< math=""></mathv_{ref}<>	85 MPH	
C. WIND RISK CATEGORY	II	
D. WIND EXPOSURE	C	
E. INTERNAL PRESSURE COEFFICIENT	0.18	
F. COMPONENTS & CLADDING PRESSURE	16 psf	
7. SOIL CRITERIA		
A. SOIL BEARING PRESSURE, q_{ult}	1,600 psf	
B. SOIL SITE CLASS	SE	
C. FROST DEPTH	36 INCHES	
D. GEOTECH STUDY USED	EARTHTECH ENGINEERING GEOTECH REPORT (JOB NO. 966-272) DATED JULY 12, 1996	

- GENERAL**
- CONSTRUCTION DOCUMENTS ARE VALID FOR A SINGLE USE AT THE PROJECT LOCATION AND SHALL NOT BE REUSED, COPIED, OR REPRODUCED WITHOUT WRITTEN APPROVAL OF THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE.
 - THE GENERAL CONTRACTOR SHALL:
 - FIELD VERIFY ALL SITE CONDITIONS AND IMMEDIATELY NOTIFY THE ARCHITECT AND STRUCTURAL ENGINEER REGARDING ANY DISCREPANCIES WITH ACTUAL CONDITIONS AT THE SITE.
 - COORDINATE ALL WORK BETWEEN THE VARIOUS TRADES AND SUBCONTRACTORS. REPORT ANY MODIFICATIONS TO THE STRUCTURAL PORTION OF THE BUILDING BY OTHER TRADES TO THE ARCHITECT AND STRUCTURAL ENGINEER.
 - CONTRACT DOCUMENTS:
 - DETAILS, SECTIONS AND NOTES SHOWN ON THE STRUCTURAL DRAWINGS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO ALL SIMILAR SITUATIONS ELSEWHERE. THE ARCHITECT AND STRUCTURAL ENGINEER SHALL BE AMENDED TO LATEST DATE UNLESS NOTED OTHERWISE.
 - THE CONTRACT DOCUMENTS SHALL TAKE PRECEDENCE OVER SHOP DRAWINGS UNLESS SPECIFICALLY NOTED OTHERWISE.
 - BUILDING CODE COMPLIANCE:
 - INSPECTION, TESTING, CONSTRUCTION, WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF THE GOVERNING BUILDING CODE AND STANDARDS. ASTM AND IBC DESIGNATIONS SHALL BE AMENDED TO LATEST DATE UNLESS NOTED OTHERWISE.
 - CONSTRUCTION SEQUENCE, SHORING, AND BRACING REQUIREMENTS:
 - THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN, MEANS, AND SEQUENCE OF ALL STRUCTURAL ERECTION EXCEPT WHEN SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS. HE SHALL PROVIDE TEMPORARY SHORING AND BRACING AS HIS METHOD OF ERECTION REQUIRES TO PROVIDE ADEQUATE VERTICAL AND LATERAL SUPPORT DURING ERECTION. THIS SHORING AND BRACING SHALL REMAIN IN PLACE UNTIL ALL PERMANENT MEMBERS ARE PLACED AND ALL FINAL CONNECTIONS ARE COMPLETED, INCLUDING ALL ROOF AND FLOOR ATTACHMENTS.
 - SHORING AND SUPPORTS FOR CONCRETE OR MASONRY MATERIAL SHALL REMAIN IN PLACE AND SHALL NOT BE REMOVED UNTIL THE STRUCTURAL MEMBERS HAVE ACQUIRED SUFFICIENT STRENGTH TO SAFELY SUPPORT THEIR OWN WEIGHT AND ANY ADDITIONAL CONSTRUCTION, STORAGE, AND/OR OTHER LOADS TO WHICH THEY MAY BE SUBJECTED. IN NO CASE SHALL THEY BE REMOVED PRIOR TO 7 DAYS. RE-SHORING SHALL BE IMMEDIATELY INSTALLED UPON REMOVAL OF SUCH FORMS AND SHALL REMAIN IN PLACE UNTIL 28 DAYS AFTER PLACING OF MATERIAL OR UNTIL MATERIAL HAS REACHED ITS DESIGN STRENGTH, WHICHEVER IS LONGER. DO NOT REMOVE LARGE AREAS OF SHORING BEFORE STARTING RE-SHORING PROCEDURES.
 - NON-BEARING INTERIOR WALLS SHALL BE ADEQUATELY BRACED TO THE STRUCTURE ABOVE WITH ALLOWANCE FOR THE DEFLECTION OF THE STRUCTURE ABOVE.
 - BUILDING WALLS WHICH RETAIN EARTH MUST BE BRACED AT THE TOP. DO NOT BACKFILL UNLESS BRACING IS PROVIDED OR UNTIL THE COMPLETE FLOOR OR ROOF SYSTEM IS IN PLACE, TYPICAL, UNLESS NOTED OTHERWISE.
 - OMISSIONS AND/OR CONFLICTS:
 - OMISSIONS IN AND/OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND STRUCTURAL ENGINEER AND SHALL BE RESOLVED BY THE SAME BEFORE PROCEEDING WITH ANY WORK INVOLVED.
 - REMODEL AND ADDITION PLANS:
 - REDWOOD ENGINEERING INC. ASSUMES NO LIABILITY FOR THE DESIGN AND CONSTRUCTION OF THE EXISTING BUILDING.
 - NOTIFY REDWOOD ENGINEERING, INC. OF ANY DISCREPANCIES WITH THE EXISTING SITE AND PROPOSED CONSTRUCTION DOCUMENTS PRIOR TO ANY DEMOLITION AND CONSTRUCTION.
- DEFERRED SUBMITTAL NOTES**
- PRE-FABRICATED METAL PLATE TRUSSES ARE TO BE SUBMITTED SUBSEQUENT TO THE TIME OF APPLICATION.
 - DEFERRED SUBMITTALS SHALL HAVE THE PRIOR APPROVAL OF THE BUILDING OFFICIAL.
 - DEFERRED SUBMITTAL DOCUMENTS SHALL BE SUBMITTED TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE WHO SHALL REVIEW AND FORWARD THEM TO THE BUILDING OFFICIAL WITH A NOTATION INDICATING THAT THE DOCUMENTS HAVE BEEN REVIEWED AND FOUND TO BE IN GENERAL CONFORMANCE TO THE DESIGN OF THE BUILDING.
 - DEFERRED SUBMITTAL ITEMS SHALL NOT BE INSTALLED UNTIL THE DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE BUILDING OFFICIAL.
- DETAIL DESIGNATION LEGEND**
- TYP** USE THIS DETAIL IN ALL SIMILAR (TYPICAL) LOCATIONS ON PLANS (DETAIL MAY BE USED MORE THAN ONCE).
- XXX** USE THIS DETAIL IN SPECIFIED LOCATION ONLY. DETAIL IS SPECIFIC TO A CERTAIN LOCATION NOTED ON PLANS.

- MASONRY**
- MASONRY MATERIALS, CONSTRUCTION, AND QUALITY SHALL CONFORM TO CURRENT EDITIONS OF IBC AND ACI 530/TMS 402/ASCE 5 OR TMS 403.
 - COMPRESSIVE STRENGTH: $f'_m = 2000$ PSI
 - CONCRETE MASONRY UNITS (CMU) (ASTM C 90)
 - COMPRESSIVE STRENGTH: $f'_m = 2000$ PSI
 - MORTAR (ASTM C 270)
 - TYPE S PORTLAND CEMENT (ASTM C 59)
 - COMPRESSIVE STRENGTH: $f'_m = 1,800$ PSI
 - GROUT (ASTM C 476)
 - TYPE: FINE OR COARSE
 - COMPRESSIVE STRENGTH (MINIMUM SPECIFIED AT 28 DAYS): $f'_c = 2,000$ PSI (ASTM C 1019)
 - STEEL REINFORCEMENT:
 - DEFORMED BARS: $f_y = 60$ KSI (ASTM A 615 GR. 60)
 - DEFORMED BAR ANCHORS (DBA) (ASTM A496)
 - HEADED STUD ANCHORS (HSA) (ASTM A108)
 - BED JOINT THICKNESS SHALL BE $\frac{1}{2}$ " MAXIMUM
 - GROUT SHALL HAVE AN 8"-11" SLUMP USING A $\frac{3}{4}$ " MAXIMUM AGGREGATE. GROUT LIFTS SHALL NOT EXCEED 5 FEET IN HEIGHT UNLESS NOTED OTHERWISE. CONSOLIDATE BY MECHANICAL VIBRATION POWERS THAT EXCEED 12" IN HEIGHT.
 - THE CLEAR DISTANCE BETWEEN PARALLEL BARS SHALL NOT BE LESS THAN THE NOMINAL DIAMETER OF THE BARS, NOR LESS THAN $\frac{1}{4}$ ". JOINT REINFORCEMENT SHALL HAVE COVER NOT LESS THAN $\frac{1}{2}$ ".
 - THE DIAMETER OF BEND MEASURED ON THE INSIDE OF REINFORCING BARS, OTHER THAN FOR STIRRUPS AND TIES, SHALL NOT BE LESS THAN 6 BAR DIAMETERS
 - REINFORCE MASONRY IN BOTH DIRECTIONS. GROUT FILL ALL BLOCK CELLS WITH REINFORCING. ALIGN CELLS TO PRESERVE UNOBSTRUCTED VERTICAL CELLS OF 24"x24" MINIMUM.
 - DOVELL REINFORCING IN COLUMNS AND WALLS INTO THE FOOTING OR STRUCTURE BELOW WITH REBAR OF THE SAME SIZE AND SPACING AS REQUIRED ABOVE. PROVIDE 40 BAR DIAMETERS FOR SPLICE INTO CONCRETE AND 48 BAR DIA. INTO MASONRY.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR ACTUAL LAYOUT AND PLACEMENT OF REINFORCING STEEL COORDINATE WITH MASONRY MANUFACTURER/SUPPLIER AS REQUIRED.
 - ALL NON-BEARING PARTITION WALLS SHALL EXTEND TO ROOF OR TO 2" BELOW AS PER STRUCTURAL PLANS, OR SHALL HAVE BRACING PROVIDED PER THE STRUCTURAL MASONRY DETAILS.
 - ALL STANDARD WALL REINFORCING SHALL CONTINUE THROUGH THE UNTEL SECTION.
 - ALL HORIZONTAL REINFORCING IN HEADERS AND LINTELS SHALL EXTEND 24" MIN. BEYOND EDGE OF OPENING INTO SUPPORT. IF HORIZONTAL REINFORCING CAN NOT EXTEND 24" BEYOND EDGE OF OPENING, PROVIDE STANDARD 90 DEG. HOOK AT ENDS.
 - ALL LINTELS AND 24" MIN. OF ADJACENT WALLS SHALL BE GROUDED SOLID.
 - DO NOT LAP BOTTOM STEEL AT CENTER SPAN, NOR TOP STEEL NEAR INTERIOR OR EXTERIOR SUPPORTS, TYPICAL ALL BEAMS AND LINTELS. ALL LAPS SHALL BE MADE IN THE SECTION OF THE WALL, AND NOT IN THE LINTEL.
 - USE "I" BLOCK SAME THICKNESS AS THE WALL, AS THE BOTTOM BLOCK OF THE LINTEL.
 - PENETRATIONS THROUGH LINTELS FOR MECHANICAL, ELECTRICAL SYSTEMS, ETC. ARE NOT PERMITTED TO MASON TO INSTALL. HITS, EMBED ANCHORS, ETC. SHALL BE INSTALLED AS PER STRUCTURAL PLANS OR FURNISHED BY STRUCTURAL STEEL SUPPLIER, COORDINATE WITH GENERAL CONTRACTOR.

- SITE PREPARATION**
- ARCHITECTURAL AND SITE PLANS FOR THIS PROJECT WERE PREPARED BY OTHERS. REDWOOD ENGINEERING, INC. ASSUMES NO LIABILITY FOR THE ACCURACY, COMPLETENESS, OR CODE COMPLIANCE OF ARCHITECTURAL, ELECTRICAL, MECHANICAL OR DRAINAGE SPECS.
 - SOIL REPORT:
 - IF SOILS CONDITIONS VARY FROM THE SOILS REPORT, THE CONTRACTOR SHALL IMMEDIATELY INFORM THE ARCHITECT AND THE STRUCTURAL ENGINEER.
 - FOUNDATION DESIGN BASED ON THE NOTED PSF SOIL BEARING CAPACITY. WE RECOMMEND THAT A LICENSED GEOTECHNICAL ENGINEER VERIFY THE SOIL BEARING CAPACITY, SLOPE STABILITY, ETC.
 - REQUIREMENTS:
 - DO NOT PLACE FOOTINGS OR FOUNDATIONS ON DISTURBED SOILS, UNDOCUMENTED FILL, DEBRIS, FROZEN SOIL, OR IN PONDED WATER.
 - ALL UNSUITABLE SOILS AND VEGETATION, SUCH AS TOPSOIL, ORGANIC SOILS, UNDOCUMENTED FILL, DISTURBED NATIVE SOILS, AND OTHER DELETERIOUS MATERIALS, SHALL BE REMOVED FROM BELOW FOOTINGS, FOUNDATIONS AND FLOOR SLABS.
 - STRUCTURAL FILL SHALL CONSIST OF IMPORTED, WELL GRADED, GRANULAR SOIL WITH A MAXIMUM PARTICLE SIZE OF THREE INCHES, LESS THAN 30 PERCENT RETAINED ON THE $\frac{1}{2}$ " SIEVE, AND LESS THAN 15 PERCENT FINER THAN THE NO. 200 SIEVE. THE MAXIMUM LIMIT OF THE FINES SHALL NOT EXCEED 35 PERCENT AND THE PLASTICITY INDEX SHALL BE BELOW 15.
 - STRUCTURAL FILL SHALL BE PLACED IN MAXIMUM EIGHT INCH LOOSE LIFTS AND COMPACTED ON A HORIZONTAL PLANE. MOISTURE SHALL BE MAINTAINED BY PROPER MIXING AT A MOISTURE CONTENT WITHIN TWO PERCENT OF THE OPTIMUM MOISTURE DETERMINED BY ASTM D 1587, COMPACT TO AT LEAST 95 PERCENT OF MAXIMUM DENSITY AS DETERMINED BY ASTM D 1567 BELOW FOOTINGS, FOUNDATIONS, AND FLOOR SLABS.
 - ALL STRUCTURAL FILL THAT BECOMES DISTURBED DURING CONSTRUCTION SHALL BE RE-COMPACTED PER THE COMPACTION REQUIREMENTS SPECIFIED BELOW ALL LAYERS BEARING WALLS ABOVE. IF ENCOUNTERED, THE SUB-GRADE MUST BE PROPERLY STABILIZED, DE-WATERING, PLACEMENT OF GEO-FABRIC, OR OTHER STABILIZATION MAY BE REQUIRED.
 - ALL SLABS ON GRADE SHALL BE RE-QUOTED AS REQUIRED AT FOUR INCHES OF FREE-DRAINING GRANULAR MATERIAL SUCH AS "PEA" GRAVEL OR THREE-QUARTERS TO ONE INCH MINUS CEN GRAVEL.
 - THE GROUND IMMEDIATELY ADJACENT TO THE FOUNDATION SHALL HAVE A 5-PERCENT SLOPE AWAY FROM THE BUILDING FOR A MINIMUM DISTANCE OF 10 FEET MEASURED FROM THE EXTERIOR FACE OF THE FOUNDATION WALL. IF PHYSICAL OBSTRUCTIONS OR LOT LINES PROHIBIT 10 FEET OF HORIZONTAL DISTANCE, A 5-PERCENT SLOPE SHALL BE PROVIDED TO AN APPROVED ALTERNATIVE METHOD OF DIVERTING WATER AWAY FROM THE FOUNDATION. IMPERVIOUS SURFACES WITHIN 10 FEET OF THE BUILDING FOUNDATION SHALL HAVE A MINIMUM 2-PERCENT SLOPE.

- CONCRETE**
- CONCRETE MATERIALS, QUALITY CONTROL, AND CONSTRUCTION SHALL COMPLY WITH CURRENT EDITIONS OF IBC AND ACI 318.
 - COMPRESSIVE STRENGTH (MINIMUM SPECIFIED AT 28 DAYS)
 - FOOTINGS: 3,000 PSI
 - INTERIOR FLOOR SLABS ON GRADE: 4,000 PSI
 - EXTERIOR FLOOR SLABS ON GRADE: 4,000 PSI
 - SUSPENDED SLABS: 4,000 PSI
 - WALLS: 3,000 PSI FOR R-2 AND R-3 OCCUPANCIES, 4,000 PSI FOR OTHER
- NOTE: 2550 PSI CONCRETE USED IN FOOTING DESIGN, HIGHER STRENGTHS SPECIFIED FOR QUALITY CONTROL.
- MATERIALS**
- CEMENTS (ASTM C 150), CONCRETE EXPOSED TO FREEZING AND THAWING OR DEICING CHEMICALS SHALL CONFORM TO THE MAXIMUM WATER-CEMENTITIOUS MATERIAL RATIO AND MINIMUM COMPRESSIVE STRENGTH REQUIREMENTS OF ACI-318.
 - AGGREGATES (ASTM C 33): MINIMUM MAXIMUM SIZE OF COARSE AGGREGATE SHALL NOT BE LARGER THAN $\frac{1}{5}$ THE NARROWEST DIMENSION BETWEEN FORMS, NOR $\frac{1}{3}$ THE DEPTH OF SLABS, NOR $\frac{1}{4}$ THE MINIMUM CLEAR SPACING BETWEEN REINFORCING BARS OR WIRES, TENDONS, OR DUCTS.
 - WATER USED IN MIXING CONCRETE SHALL BE POTABLE, CLEAN AND FREE FROM INJURIOUS AMOUNTS OF OILS, ACIDS, ALKALIS, SALTS, ORGANIC MATERIALS, OR OTHER SUBSTANCES DELETERIOUS TO CONCRETE OR REINFORCEMENT.
 - ADMIXTURES SHALL BE SUBJECT TO PRIOR APPROVAL BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE.
 - CONCRETE EXPOSED TO FREEZING AND THAWING OR DEICING CHEMICALS SHALL BE AIR-ENTRAINED WITH AIR CONTENT INDICATED IN ACI 318. TOLERANCE ON AIR CONTENT AS DELIVERED SHALL BE PLUS/MINUS 1.5 PERCENT.
 - CONSTRUCTION:
 - CONCRETE SHALL BE PROPERLY VIBRATED DURING PLACEMENT.
 - PRIOR TO PLACING CONCRETE, CHECK WITH ALL TRADES TO ENSURE PROPER PLACEMENT OF OPENINGS, BLOCK OUTS, SLEEVES, CURBS, CONDUITS, BOLTS, INSERTS, EMBEDS, DOWELS, ETC. ANCHOR BOLTS AND DOWELS SHALL BE PLACED PRIOR TO CASTING CONCRETE.
 - CONSTRUCTION JOINTS AND BULKHEADS SHALL BE FORMED WITH A KEYWAY. ALL CONTACT SURFACES, NEW OR EXISTING, AT CONSTRUCTION JOINTS SHALL BE INTENTIONALLY ROUGHENED PRIOR TO CASTING ADJACENT PLY.
 - OPENINGS IN FLOORS AND/OR WALLS SHALL HAVE ADDITIONAL REINFORCING AROUND ALL SIDES OF THE OPENING EQUIVALENT TO THE BARS CUT BY THE OPENING WITH HALF ON EACH SIDE OF THE OPENING OR BARS, WHICHEVER IS LONGER, UNLESS OTHERWISE NOTED.
 - REINFORCING SHALL RUN FULL LENGTH OF THE SPAN. BARS IN THE OTHER DIRECTION SHALL RUN 24 INCHES BEYOND THE EDGE OF THE OPENING OR END WITH A STANDARD HOOK. ALSO PROVIDE 24x4 x 4'-0" DIAGONAL BARS AT EACH CORNER OF EACH CORNER OF EACH CORNER OF EACH CORNER OF EACH CORNER.
 - NO PENETRATION SHALL BE ALLOWED THROUGH ANY CONCRETE BEAM, JOIST, COLUMN, PIER, WALL, OR JAMB WITHOUT THE ARCHITECT'S AND STRUCTURAL ENGINEERS' PRIOR WRITTEN APPROVAL. PENETRATIONS SHALL BE RE-QUOTED AS REQUIRED AT THESE LOCATIONS.
 - FOOTINGS:
 - FOOTINGS SHALL BEAR ON PROPERLY PREPARED MATERIAL. SEE THE SITE PREPARATION NOTES.
 - FOOTINGS SHALL BE CENTERED BELOW THE WALL AND AROUND COLUMN ABOVE, TYPICAL UNLESS NOTED OTHERWISE.
 - CONCRETE FOR FOOTINGS SHALL BEAR BELOW THE EFFECTS OF FROST.
 - STAGGER FOOTING CONSTRUCTION JOINTS FROM WALL CONSTRUCTION JOINTS ABOVE BY AT LEAST 6 FEET.
 - REINFORCING IN CONTINUOUS FOOTINGS SHALL BE CONTINUOUS AT CORNERS AND/OR INTERSECTIONS BY PROVIDING PROPER LAP LENGTHS AND/OR CORNER BARS.
 - REINFORCING IN WALLS SHALL BE CONTINUOUS THROUGHOUT THE ENTIRE WALL ABOVE SHALL BE REINFORCED WITH A MINIMUM OF 24" LONGITUDINAL TOP BARS IN ADDITION TO REINFORCING SPECIFIED IN THE FOOTING SCHEDULE.
 - NO PENETRATIONS SHALL BE ALLOWED THROUGH ANY concrete FOOTING, WHEN CONFLICTS ARISE BETWEEN UNDERGROUND PLUMBING, UTILITIES, ETC., THE FOOTING SHALL BE STEPPED DOWN BELOW THE CONFLICT AND A CONCRETE WALL, PIER, COLUMN, ETC., SHALL BE EXTENDED TO THE FOOTING AS REQUIRED.
 - BEARING SURFACES FOR FOOTINGS WHICH ARE, OR BECOME, UNDERMINED DURING CONSTRUCTION SHALL BE BACKFILLED WITH A LEAN-MIX CONCRETE (1000 PSI MIN.).
 - SLABS ON GRADE:
 - INTERIOR SLABS ON GRADE SHALL BE A MINIMUM OF 4 INCHES THICK, SHALL BEAR ON A 4 INCH MINIMUM LAYER OF FREE-DRAINING GRAVEL.
 - CONTROL JOINT SPACING RULE OF THUMB IS 24x SLAB THICKNESS (4" SLAB = 8'-0" MAX. O.C. EACH WAY). PROVIDE CONTROL JOINTS AT APPROX. 15'-0" EACH WAY (MAXIMUM).
 - SAW CUT WITHIN 8-16 HOURS OF POURING CONCRETE. CONCRETE MUST BE HARD ENOUGH TO PREVENT RAVELING OF JOINT EDGES OR DISLODGING OF COARSE AGGREGATE.
 - LARGE AREAS OF INTERIOR SLABS ON GRADE SHALL BE PLACED IN STRIPS NOT TO EXCEED 120 FEET IN LENGTH NOR 30 FEET IN WIDTH WHICH ARE SUBJECTED BY CONSTRUCTION AND/OR CORNER JOINTS. CONSTRUCTION (CONTROL) JOINTS INTO ROUGHLY SQUARES WHOSE SIDES SHALL NOT EXCEED 15 FEET IN EITHER DIRECTION.
 - WALLS:
 - PLACE VERTICAL REINFORCING IN THE CENTER OF THE WALL (EXCEPT FOR RETAINING WALLS, OR WHEN EACH FACE IS SPECIFIED).
 - VERTICAL REINFORCING SHALL BE DOWELED TO FOOTING OR STRUCTURE BELOW AND TO STRUCTURE ABOVE WITH THE SAME SIZE BAR AND SPACING, TYPICAL, UNLESS NOTED OTHERWISE.
 - PROVIDE CORNER BARS AT ALL INTERSECTIONS AND CORNERS. USE SAME SIZE BAR AND SPACING AS THE HORIZONTAL REINFORCING.
 - HORIZONTAL REINFORCING SHALL TERMINATE AT THE ENDS OF WALLS AND AT OPENINGS WITH A STANDARD HOOK.
 - WHEN TWO CURTAINS OF STEEL ARE REQUIRED, THE SPLICES IN THE HORIZONTAL REINFORCING OF EACH CURTAIN SHALL NOT OCCUR AT THE SAME LOCATION.
 - PROVIDE DRAINAGE AT THE BASE OF RETAINING WALLS AND AT THE BASE OF ALL BASEMENT WALLS.
 - ANCHOR BOLTS ARE TO HAVE A MIN. 7" EMBEDMENT INTO CONCRETE. PROVIDE 1 BOLT A MIN. OF 4" FROM END OF PLATE & A MAX. OF 12" FROM END OF PLATE. EACH PLATE IS TO HAVE A MIN. OF 2 BOLTS. ANCHOR BOLT SPACING IS NOT TO EXCEED 32" O.C. U.N.O. ON PLATE.
 - A PROPERLY SIZED NUT AND WASHER SHALL BE TIGHTENED ON EACH BOLT TO THE PLATE. ANCHOR BOLTS FOR STRUCTURES LOCATED IN SEISMIC DESIGN CATEGORY D, E, OR F SHALL INCLUDE A 3"x3"x22" WASHER WITH ROUND OR SLOTTED HOLES.

- REINFORCING STEEL**
- CODES AND STANDARDS:
 - REINFORCING STEEL SHALL COMPLY WITH:
 - CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
 - AMERICAN CONCRETE INSTITUTE "DETAILING MANUAL", ACI 315 (OR SP-66).
 - MATERIALS:
 - REINFORCING STEEL SHALL BE NEW STOCK DEFORMED BARS AND SHALL CONFORM TO ASTM A615, GRADE 60, WITH A DESIGN YIELD STRENGTH OF 60,000 PSI, EXCEPT AS NOTED BELOW.
 - DOWELS TO BE BENT IN THE FIELD DURING CONSTRUCTION SHALL BE ASTM A615, GRADE 40 OR ASTM A706, GRADE 60, "LOW ALLOY STEEL".
 - REINFORCING TO BE WELDED SHALL BE ASTM A706, GRADE 60, "LOW-ALLOY STEEL".
 - CONSTRUCTION:
 - REINFORCING SHALL BE DETAILED, BOLSTERED, AND SUPPORTED PER ACI 318 AND IBC.
 - REINFORCING STEEL SHALL BE FREE OF LOOSE, FLAKY RUST, SCALE, GREASE, OIL, DIRT, AND OTHER MATERIALS WHICH MIGHT AFFECT OR IMPAIR THE CONCRETE.
 - REINFORCING SHALL BE CONTINUOUS IN WALLS, BEAMS, COLUMNS, SLABS, FOOTINGS, ETC.
 - SPLICES IN CONTINUOUS REINFORCING SHALL BE MADE IN AREAS OF COMPRESSION AND/OR AT POINTS OF MINIMUM STRESS, TYPICAL UNLESS NOTED OTHERWISE. LAP SPLICES SHALL BE 40 BAR DIAMETERS LONG IN CONCRETE AND 48 BAR DIAMETERS LONG IN MASONRY. MINIMUM LAP SHALL BE 24 INCHES LONG. DOWELS SHALL HAVE A MINIMUM OF 30 BAR DIAMETERS EMBEDMENT. TENSION SPLICES SHALL BE USED IN CONCRETE WHEN SPECIFICALLY NOTED. USE A CLASS B SPLICE. SPLICES IN TOP BARS IN SUSPENDED SLABS AND BEAMS SHALL BE MADE AT MID SPAN. SPLICES IN BOTTOM BARS IN SUSPENDED SLABS AND BEAMS SHALL BE MADE AT SUPPORTS.
 - BENDS SHALL BE MADE COLD. DO NOT USE HEAT. BENDS SHALL BE DONE IN THE FABRICATOR'S SHOP UNLESS SPECIFICALLY NOTED FOR THE FIELD. DO NOT UN-BEND OR RE-BEND A PREVIOUSLY BENT BAR.
 - REINFORCING STEEL IN CONCRETE SHALL BE SECURELY ANCHORED IN PLATE PRIOR TO PLACING CONCRETE AND SHALL BE POSITIONED WITH THE FOLLOWING WITH THE FOLLOWING WITH THE FOLLOWING WITH CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH.....3"

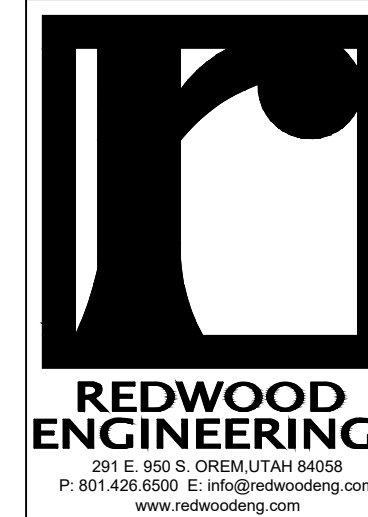
- CONCRETE EXPOSED TO EARTH OR WEATHER.....2"
- #5 AND SMALLER.....1 1/2"
- CONCRETE NOT EXPOSED TO EARTH OR WEATHER.....1 1/2"
- SLABS AND WALLS, #11 AND SMALLER.....1 1/2"
- BEAMS AND COLUMNS, MAIN REINFORCING OR TIES.....1 1/2"
- SLABS, PROVIDE 24" MIN. OF ADJACENT WALLS SHALL BE GROUDED SOLID.
- G. NO REINFORCING STEEL SHALL BE WELDED UNLESS SPECIFICALLY NOTED AS SUCH. USE EPOXY ELECTRODES AND ASTM A706 REINFORCING. COMPLY WITH AWS REQUIREMENTS.
- EPOXY ADHESIVE ANCHORING SYSTEMS:
 - CONCRETE: HILTI HIT-RE 500-SD OR SIMPSON SET-XP
 - MASONRY (GROUTED): HILTI HIT-HY 150-MAX OR SIMPSON SET
 - STEEL REINFORCEMENT AND RODS SHALL BE EMBEDDED TO BAR DIAMETERS UNLESS NOTED OTHERWISE IN THE STRUCTURAL DRAWING AND DETAILS. WHERE 10 BAR DIAMETERS EXCEED THE MEMBER THICKNESS MINUS MINIMUM COVER, STEEL REINFORCEMENT SHALL BE EMBEDDED THE MEMBER THICKNESS MINUS MINIMUM COVER WITH A STANDARD HOOK.
 - EMBEDDED PORTIONS OF STEEL REINFORCEMENT AND RODS SHALL BE CLEAN, STRAIGHT, AND FREE OF MILL SCALE, RUST AND OTHER COATINGS THAT IMPAIR THE BOND WITH THE ADHESIVE. REINFORCEMENT MUST NOT BE BENT AFTER INSTALLATION.
- MECHANICAL EXPANSION ANCHORS:
 - CONCRETE: HILTI KWIK BOLT TZ
 - MASONRY: HILTI KWIK BOLT 3
 - EXPANSION ANCHORS SHALL NOT BE USED IN TENSILE LOAD APPLICATIONS (E.G. HOLD-DOWNS, MOMENT FRAMES) AND MAY NOT BE USED TO SUBSTITUTE OTHER ANCHOR SYSTEMS.
- POST-INSTALLED ANCHORING SYSTEMS SHALL BE INSTALLED ACCORDINGS TO THE MANUFACTURER'S INSTRUCTIONS. HOLE CLEANING METHOD SHALL BE BASED ON DRILLING METHOD AND BORE HOLE CONDITIONS AND SHALL CONFORM TO THE MANUFACTURER'S INSTRUCTIONS.

- GENERAL FRAMING NOTES**
- ALL RAFTERS, RAFTERS, POSTS AND HEADERS SHALL BE DOUGLAS FIR LARCH NO 2 OR EQUAL U.N.O.
 - ALL JOISTS AND RAFTERS SHALL HAVE SLOD BLOCKING AT THEIR BEARING POINTS.
 - ALL WOODLUMBER PLACED ONTO CONCRETE SHALL BE PRESSURE TREATED OR REDWOOD.
 - ALL WOOD CONNECTIONS MUST CARRY THE CAPACITY OF THE MEMBER. CONTRACTOR IS RESPONSIBLE FOR THE CONNECTIONS. IF OTHER THAN STANDARD CONNECTIONS ARE REQUIRED, SEE PROJECT ENGINEER FOR ADDITIONAL ASSISTANCE. USE SIMPSON OR EQUAL CONNECTIONS FOR WOOD TO WOOD.
 - ALL COLUMNS SHALL EXTEND DOWN THROUGH THE STRUCTURE TO THE FOUNDATION. ALL COLUMNS SHALL BE BRACED AT ALL FLOOR LEVELS. COLUMNS SHALL BE AS WIDE AS THE MEMBER THEY SUPPORT. POSTS SUPPORTED BY SLABS OR FND WALLS TO HAVE SIMPSON CB POST BASE OR EQUIVALENT.
 - ALL FLOOR SHEATHING TO BE $\frac{1}{2}$ " THICK 1/8" SHEATHING GLED AND NAILED WITH 8d COMMON NAILS OR EQUAL @ 8" O.C. EDGES AND @ 12" O.C. IN THE FIELD.
 - VERIFY ALL BEAM SIZES WITH ENGINEERING SPECIFICATIONS.
 - ALL BEAMS AND HEADERS OVER 48" SHALL BE SUPPORTED BY DOUBLE TRIMMERS UNLESS NOTED OTHERWISE.
 - TRUSS MANUFACTURER SHALL PROVIDE ENGINEERING SPECS. FOR ALL TRUSSES.
 - $\frac{1}{2}$ " ROOF NAILING SCHEDULE AS FOLLOWS: (1" ROOF SHEATHING TO USE 10d NAILS)
 - 8d NAILS @ 8" O.C. AT EDGES OF ROOF
 - 8d NAILS @ 4" O.C. AT GABLE ENDS
 - SPACE NAILS 12" O.C. ON INTERMEDIATE MEMBERS
 - STAGGER SHEATHING JOINTS.
 - SHEATHING PERP. TO RAFTERS AND TRUSSES
 - PROVIDE SQUASH BLOCKING AT RIM JOIST BELOW ALL POSTS FROM ROOF, HEADER OR BEAM POINT LOADS. SQUASH BLOCKING TO BE SAME MATERIAL AS POST ABOVE.
 - TRUSS MANUFACTURER SHALL PROVIDE ENGINEERING SPECS. FOR ALL TRUSSES.
 - GLULAM BEAMS SHALL BE 24F-V4 DDF OF FOR SINGLE SPANS AND 24F-V8 DDF OF FOR MULTIPLE SPANS, AND CANTILEVERED SPANS. GLULAMS EXPOSED TO WEATHER SHALL BE PRESSURE TREATED OR PROVIDE WEATHER PROTECTIVE COATING.
 - LAMINATED VENEER LUMBER (LVL) SHALL HAVE THE FOLLOWING PROPERTIES: E=1900KSI, Fb=2600PSI, Fv=285PSI. ALL RAFTERS AND JOISTS OVER THREE FEET LONG SHALL BE HANGERO IF NOT SUPPORTED BY BOTTOM BOLT. ALL RAFTERS AND JOISTS SHALL PROVIDE END NAILING PER SHEARWALL SCHEDULE. THE MEMBER THAT THEY ARE SUPPORTING.
 - FRAMING CONNECTIONS NOTED ON THE DRAWINGS ARE SIMPSON STRONG-TIE OR EQUAL. INSTALL WITH THE MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS. NO WEB OR CHORD MEMBERS SHALL BE MODIFIED IN THE FIELD.
 - NO STRUCTURAL MEMBER SHALL BE CUT OR NOTCHED UNLESS SPECIFICALLY SHOWN, NOTED OR APPROVED BY ENGINEER.
 - LAG SCREWS SHALL BE INSERTED IN A DRILLED PILOT HOLE 80%-75% OF THE SHANK DIAMETER BY TURNING WITH A WRENCH, NOT BY DRIVING WITH A HAMMER. ALL NUTS, BOLTS AND LAG SCREWS SHALL BE PROVIDED WITH AN OVERSIZED WASHER.
 - NAILS TO BE COMMON WIRE UNLESS OTHERWISE NOTED.
 - ALL BOLT HOLES SHALL BE DRILLED WITH A BIT $\frac{1}{16}$ " TO $\frac{1}{8}$ " LARGER THAN THE NOMINAL BOLT DIAMETER.
 - ALL JOINTS IN WALL SHEATHING SHALL OCCUR IN THE MIDDLE OF A PLATE OR BLOCK AND NAILED ON EACH SIDE OF THE JOINT. REINFORCING SHALL BE NAILED PER SHEARWALL SCHEDULE.
 - COLUMNS AND POSTS LOCATED ON CONCRETE OR MASONRY FLOORS OR DECKS EXPOSED TO THE WEATHER OR TO WATER SPLASH OR IN BASEMENTS, AND WHICH SUPPORT PERMANENT STRUCTURES, SHALL BE SUPPORTED BY CONCRETE PIERS OR METAL PEDESTALS PROVIDING ADEQUATE STRENGTH AND STIFFNESS. WOOD OF NATURAL RESISTANCE TO DECAY OR TREATED WOOD IS USED. THE PEDESTAL SHALL PROJECT AT LEAST 6" ABOVE EXPOSED EARTH & AT LEAST 1" ABOVE SUCH FLOORS.
 - ALL FASTENERS IN PRESSURE TREATED LUMBER ARE TO COMPLY WITH CURRENT IBC REQUIREMENTS.
 - ALL STAPLES INTO WOOD PACKAGINGS ARE TO BE A MINIMUM OF 1" 16 GAGE WITH SPACING PER PLANS, CHIMNEY & FIREPLACE FRAMING - PROVIDE FULL HT. 24d STUDS (MIN.) FROM BEARING TO TOP OF CHIMNEY.
 - END (2"x3)" SDS SCREWS AT EACH STUD TO RAFTER/TRUSS CHORD INTERSECTION.
 - PROVIDE KING STUDS AT THE END OF FRAMED WALL OPENINGS PER TABLE U.N.O.I.

- PRE-FABRICATED METAL PLATE WOOD TRUSS NOTES**
- BOTTOM CHORDS, TOP CHORDS, BRACINGS, ACTING AS CEILING MEMBERS MUST BE ABLE TO SUPPORT A 10 PSF LIVE LOAD PER IBC REQUIREMENTS.
 - THE TRUSS MANUFACTURER SHALL BE RESPONSIBLE FOR THE DESIGN AND FABRICATION OF THE PRE-ENGINEERED TRUSSES, INCLUDING ALL TEMPORARY BRACING, SHORING, TRUSS TO TRUSS CONNECTIONS AND SHALL DESIGN THE TRUSSES PER ATTACHED ENGINEERING SPECS.
 - THE TRUSSES SHALL BE DESIGNED TO CARRY ANY ADDITIONAL LOADS DUE TO MECHANICAL UNITS, OVERHEAD DOORS, ROOF MEMBERS, ETC.
 - THE TRUSSES SHALL ALSO BE DESIGNED PER THE MOST RECENT BUILDING CODE, AND LOCAL ORDINANCES. DESIGN MUST ALSO TAKE INTO ACCOUNT UNBALANCED SNOW LOADS, SNOW DRIFTING, INCREASED SNOW LOADS ON EACH CORNER OF EACH CORNER OF EACH CORNER OF EACH CORNER OF EACH CORNER.
 - ALL MEMBERS SHALL BE DESIGNED FOR COMBINED STRESS, BASED ON WORST CASE CONDITION.
 - ALL DIMENSIONS SHALL BE FIELD VERIFIED PRIOR TO FABRICATION.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF THE TRUSSES PER THE TRUSS MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS. NO WEB OR CHORD MEMBERS SHALL BE MODIFIED IN THE FIELD.
 - THE PROJECT ENGINEER OR ENGINEER OF RECORD, IS NOT RESPONSIBLE FOR THE PRE-ENGINEERING TRUSSES, NOR FOR THE INSTALLATION ETC. OF THE TRUSSES. TRUSS PLANT SHALL PROVIDE LICENSED ENGINEERED PLAN.
 - TRUSS SPANNING MORE THAN 60' AND/OR TALLER THAN 5'-0" IN HEIGHT REQUIRE SPECIAL INSPECTION ON TEMPORARY & PERMANENT LATERAL BRACING.
 - THE TRUSS DESIGNER SHALL PROVIDE A TRUSS PACKAGE THAT INCLUDES THE FOLLOWING ITEMS:
 - A DESIGN DRAWING OF EACH INDIVIDUAL TRUSS.
 - TRUSS PLACEMENT DIAGRAM FOR THE PROJECT.
 - TRUSS MEMBER PERMANENT BRACING SPECIFICATION.
 - TRANSFER OF LOADS AND ANCHORAGE OF EACH TRUSS TO THE SUPPORTING STRUCTURE SHALL BE APPROVED BY THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE.

- STRUCTURAL STEEL**
- CODES AND STANDARDS:
 - STRUCTURAL STEEL WORK SHALL COMPLY WITH CURRENT EDITIONS OF IRC 2205, AISC 341, AISC 358, AND AISC 360.
 - MATERIALS:
 - STRUCTURAL STEEL SHAPES SHALL CONFORM TO ASTM A992 GRADE 50 STEEL. STRUCTURAL STEEL PLATES SHALL CONFORM TO ASTM A588.
 - STRUCTURAL TUBE STEEL SHALL CONFORM TO ASTM A500, GRADE B, WITH A MINIMUM YIELD STRENGTH $F_y=46$ KSI.
 - STRUCTURAL PIPE SHALL CONFORM TO ASTM A53, WITH A MINIMUM YIELD STRENGTH $F_y=36$ KSI.
 - NOR 30 FEET IN LENGTH NOR 30 FEET IN WIDTH WHICH ARE SUBJECTED BY CONSTRUCTION AND/OR CORNER JOINTS. CONSTRUCTION (CONTROL) JOINTS INTO ROUGHLY SQUARES WHOSE SIDES SHALL NOT EXCEED 15 FEET IN EITHER DIRECTION.
 - CONSTRUCTION:
 - FABRICATION SHALL BE DONE IN AN APPROVED FABRICATOR'S SHOP.
 - CAMBER IN BEAMS SHALL BE AS INDICATED ON PLANS.
 - PROVIDE A SHOP COAT OF PAINT ON ALL STEEL ITEMS, EXCEPT AT AREAS OF WELDING AND/OR BOLTING.
 - BOLTED CONNECTIONS:
 - BOLT SHALL BE BEARING TYPE CONNECTIONS UNLESS NOTED OTHERWISE.
 - STEEL TO STEEL BOLTED CONNECTIONS SHALL BE MADE WITH ASTM A325 HIGH STRENGTH BOLTS AND NUTS, UNLESS NOTED OTHERWISE. BOLTS SHALL CARRY THE IDENTIFYING MARK OF THREE (3) RADIAL LINES.
 - ALL OTHER BOLTED CONNECTIONS SHALL BE MADE WITH BOLTS AND NUTS CONFORMING TO ASTM A307 UNLESS NOTED OTHERWISE, INCLUDING ANCHOR BOLTS.
 - BOLTED CONNECTIONS SHALL BE TIGHTENED AND SHALL HAVE WASHERS AS REQUIRED BY AISC UNLESS NOTED OTHERWISE.
 - ENLARGING OF HOLES SHALL BE ACCOMPLISHED BY MEANS OF REAMING. DO NOT USE A TORCH ON ANY BOLT HOLES.
 - WELDED CONNECTIONS:
 - WELDED CONNECTIONS SHALL BE MADE USING LOW HYDROGEN FILLER MATERIAL MATCHING THE ELECTRODES, UNLESS NOTED OTHERWISE.
 - WELDERS SHALL BE CURRENTLY CERTIFIED ACCORDING TO AWS WITHIN THE LAST 12 MONTHS. ALL WELDING PROCEDURES SHALL BE PRE-QUALIFIED. WELDERS SHALL FOLLOW WELDING PROCEDURES.
 - WELDING AND GAS CUTTING SHALL BE DONE PER AWS. WELDS SHALL HAVE THE SLAG REMOVED.
 - WELDING WORK SHALL COMPLY WITH THE AMERICAN WELDING SOCIETY (AWS) "STRUCTURAL WELDING CODE," EXCLUDING TIMES CONFLICTING WITH AISC REQUIREMENTS.

- MASONRY VENEER ANCHOR TIES**
- MASONRY VENEER MATERIALS, CONSTRUCTION, AND QUALITY SHALL CONFORM TO CURRENT IBC AND ACI 530
 - PRODUCTS: MASONRY VENEER ANCHOR TIES SHALL BE ONE OF THE FOLLOWING:
 - INSTALLATION:
 - DOVETAIL ANCHORS.
 - DX-10 SEISMIC CLIP INTERLOCK SYSTEM BY HOHMANN & BARNARD.
 - ARCHITECT AND STRUCTURAL ENGINEER APPROVED TWO PIECE ADJUSTABLE HOT-DIPPED GALVANIZED TIES.
 - PROVIDE CONTINUOUS HORIZONTAL GALVANIZED #9 WIRE IN CENTER THIRD OF MORTAR JOINTS AT 16" O.C. ENGAGE #9 WIRE WITH ALL ANCHOR TIES. (SEE DETAIL)
- | VENEER LINTELS | | | |
|-----------------|------------------|----------|--|
| OPENINGS | ANGLE SIZE (LLV) | MIN. BRG | |
| UP TO 7'-0" | 3"x3"x3/4" | 8" | |
| 7'-0" TO 7'-9" | 4"x3"x3/4" | 8" | |
| 9'-0" TO 10'-0" | 5"x3"x3/4" | 10" | |
| >10'-0" | 6"x3"x3/4" | 12" | |
- ROCK VENEER
- 2x. STUDS PER PLANS
- NO. 22 GA. 1" WIDE CORRUGATED GALV. TIE @ 16" O.C. VERTICAL AND MATCH STUD WALL SPACING HORIZONTAL LOOP END OF THE VENEER AND INSTALL #9 WIRE. 15" LONG, INTO LOOP W/ 2" RIGHT-ANGLE BEND @ EACH END OF WIRE
- NO. 22 GA. 1" WIDE CORRUGATED GALV. TIE @ 16" O.C. VERTICAL AND MATCH STUD WALL SPACING HORIZONTAL. ATTACH TO STUD W/ 1" DIA. BEND TIE TO #9 GAUGE/CORR. GALV. HORIZ. JOINT REINF. PLUS GROUT AT EACH TIE. TIES SHALL BE INSTALLED WITHIN 12" OF WALL OPENINGS.
- PLYWOOD AND OSB*
- 2x. STUDS PER PLANS
- BRICK VENE



PAYSON CITY BOOSTER STATION
NEBO LOOP RD., PAYSON, UTAH
FOOTING AND FOUNDATION PLAN

FOOTING SCHEDULE											
	WIDTH	LENGTH	DEPTH	CROSSWISE REINFORCEMENT				LENGTHWISE REINFORCEMENT			
				NO.	SIZE	LENGTH	SPACING	NO.	SIZE	LENGTH	SPACING
FT1	20"	CONT.	10"					2	#4	CONT.	EQ.
FT2	18"	CONT.	10"					2	#4	CONT.	EQ.
FT3	24"	24"	10"	3	#4	18"	EQ.	3	#4	18"	EQ.
FT4	30"	30"	10"	3	#4	24"	EQ.	3	#4	24"	EQ.
FT5	36"	36"	10"	4	#4	30"	EQ.	4	#4	30"	EQ.
FT6	42"	42"	12"	5	#5	36"	EQ.	5	#5	36"	EQ.
FT7	48"	48"	12"	5	#5	42"	EQ.	5	#5	42"	EQ.

NOTES:

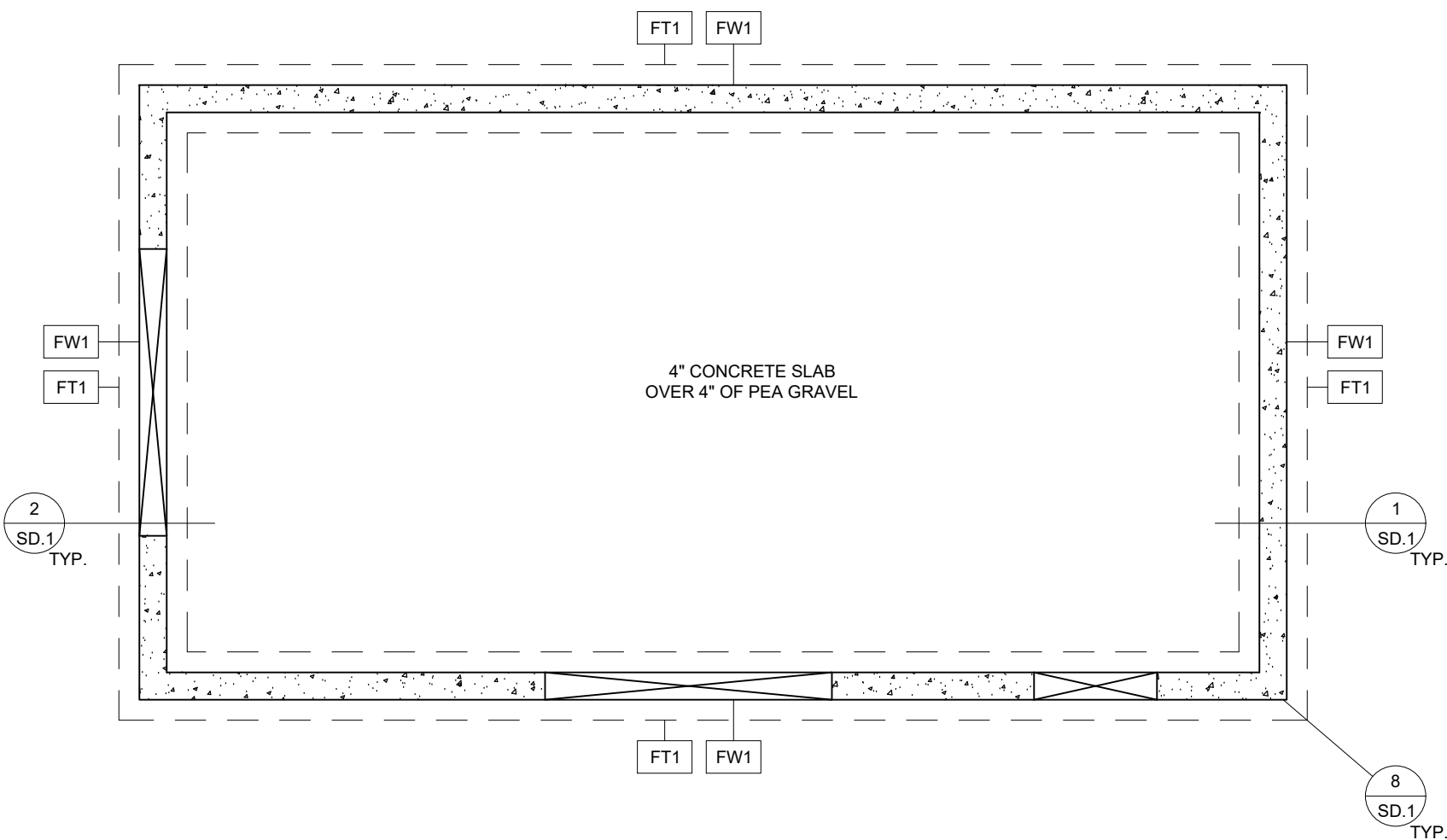
1. SEE GENERAL STRUCTURAL NOTES SHEET (SN.1) FOR TYPICAL FOOTING REQUIREMENTS
2. ALL FOOTINGS ARE TO BEAR BELOW THE FROST LINE OF THE LOCALITY (30" MIN. U.N.O.)
3. PROVIDE J-BARS TO MATCH VERTICAL WALL REINFORCEMENT
4. CONTINUOUS FOOTINGS SHALL BE CENTERED UNDER WALLS AND SPOT FOOTINGS SHALL BE CENTERED UNDER COLUMNS (U.N.O.)

FOUNDATION WALL SCHEDULE								
	WIDTH	HEIGHT	VERTICAL REINFORCEMENT			HORIZONTAL REINFORCEMENT		
			SIZE	GRADE	SPACING	SIZE	GRADE	SPACING
FW1	8"	36"	#4	60	24"	#4	60	(3) #4

NOTES:

1. SEE GENERAL STRUCTURAL NOTES SHEET (SN.1) FOR TYPICAL FOUNDATION WALL REQUIREMENTS
2. PLACE REINFORCEMENT IN CENTER OF WALL OR NEAR EACH FACE, PER PLANS (U.N.O.)
3. PLACE TOP AND BOTTOM REINFORCEMENT WITHIN 4" OF TOP AND BOTTOM OF WALL.

NOTE: VERIFY ALL DIMENSIONS WITH ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION

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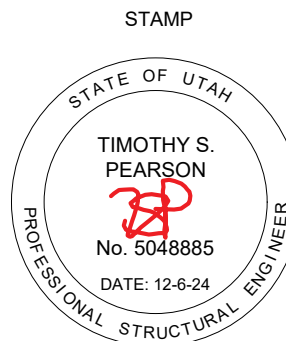
PROJECT NO: 2024-381

DATE: 11-18-24

SCALE: $\frac{1}{4}"=1'-0"$

DRAWN BY: JJSS

CHECKED BY: TSP



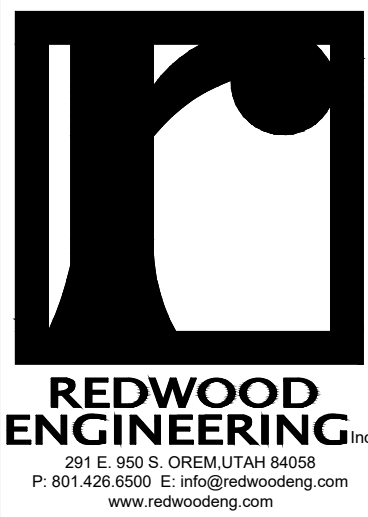
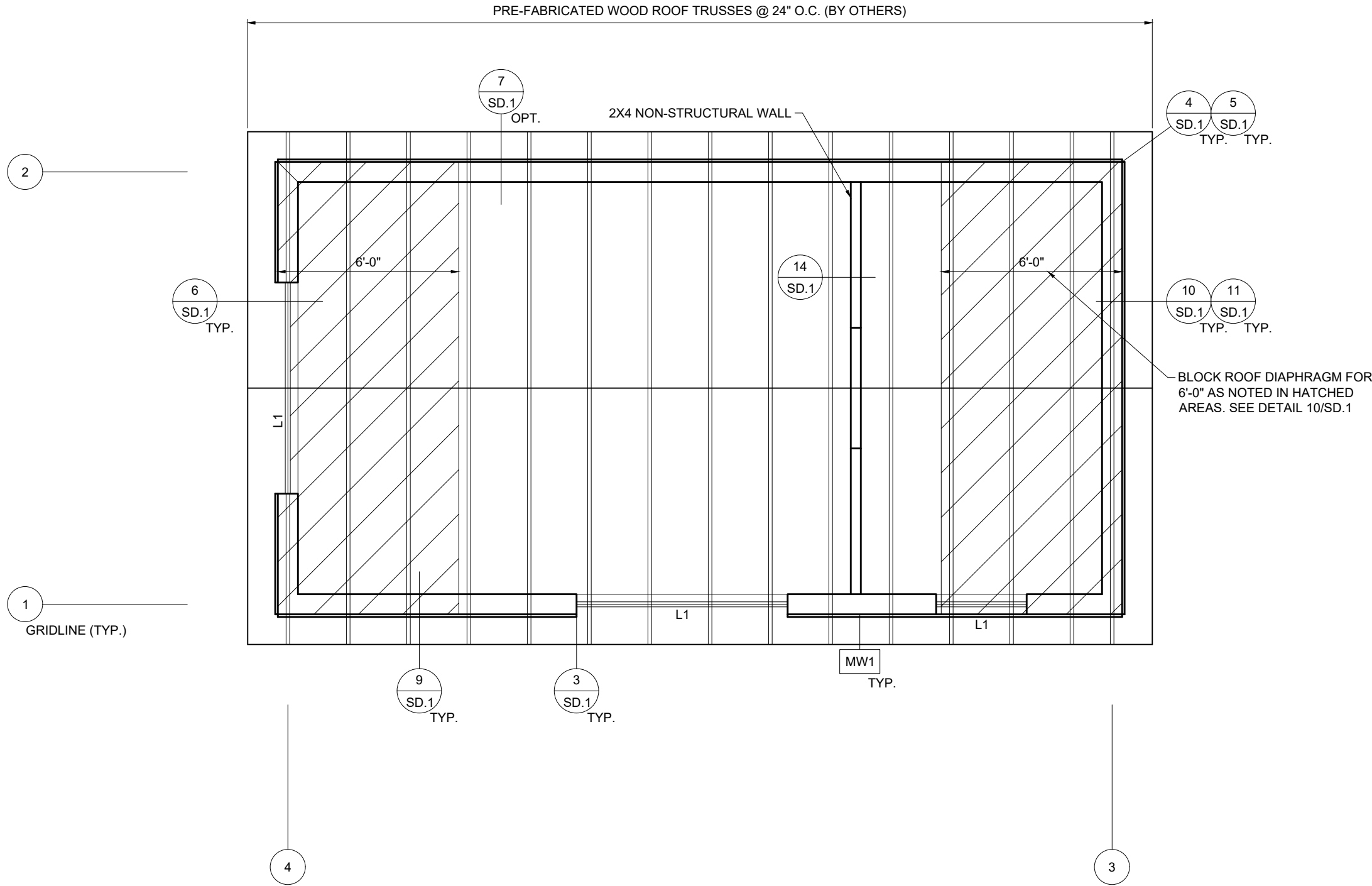
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S1.0

MASONRY WALL SCHEDULE				
	TYPE	VERTICAL REINFORCEMENT	HORIZONTAL REINFORCEMENT	NOTES
MW1	8"x8"x16"	(1) #4 BARS @ 24" O.C.	(2) #4 BARS @ 48" O.C.	
MASONRY NOTES: 1. PROVIDE (2) #4 BARS VERTICAL IN ALL CORNER & END CELLS (DETAIL 3/SD.1 & 4/SD.1) 2. f'm = 1500 psi 3. f_s = 24000 psi 4. SOLID GROUT ALL REINFORCED CELLS 5. PROVIDE CONTROL/EXPANSION JOINTS IN WALLS AT 40'-0" O.C. (MIN.) SEE DETAIL 7/SD.1 6. SEE DETAILS 3/SD.1 & 4/SD.1 FOR SPECIAL REINFORCEMENT REQUIREMENTS AT SIDES OF OPENINGS AND WALL CORNERS				

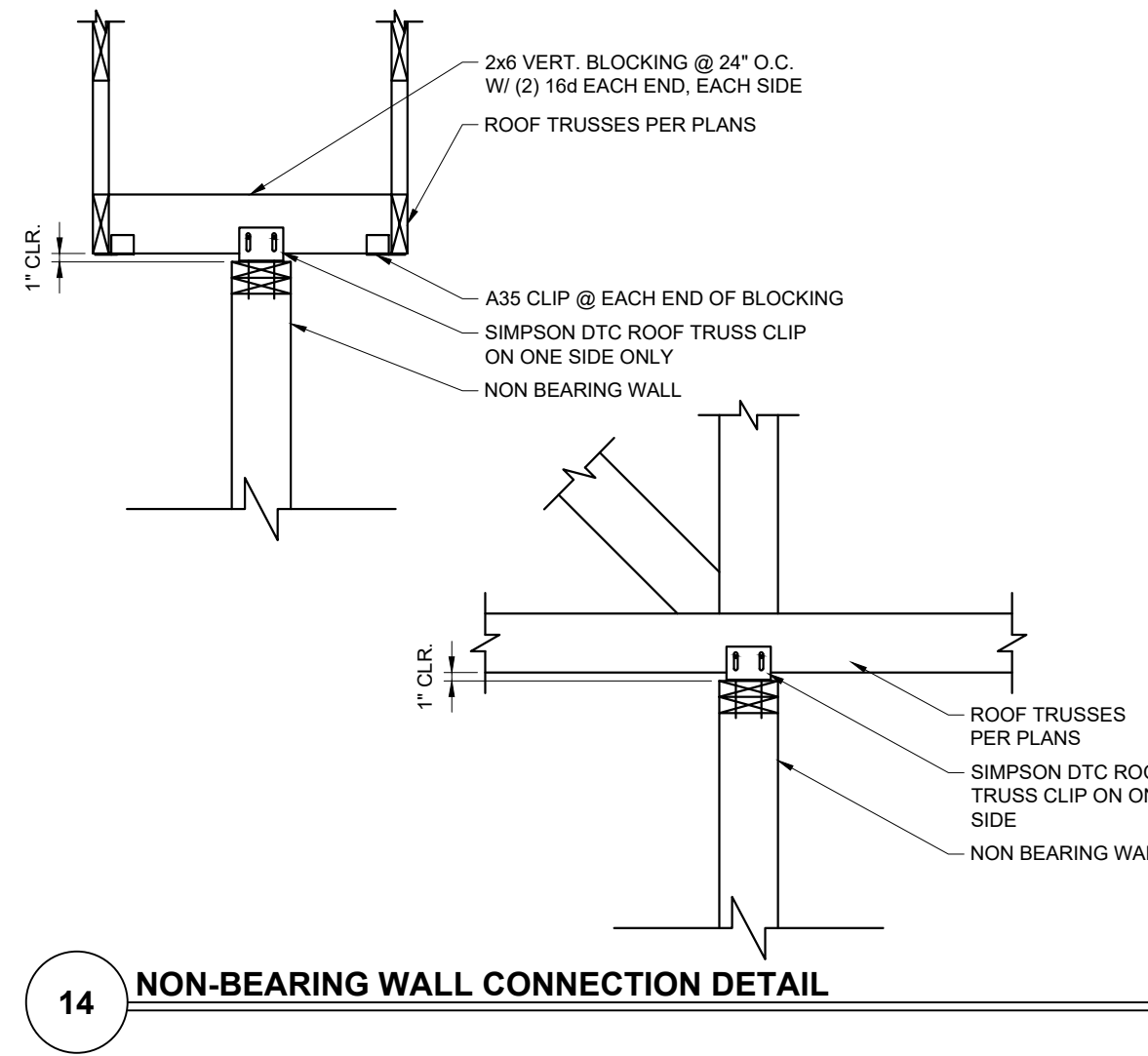
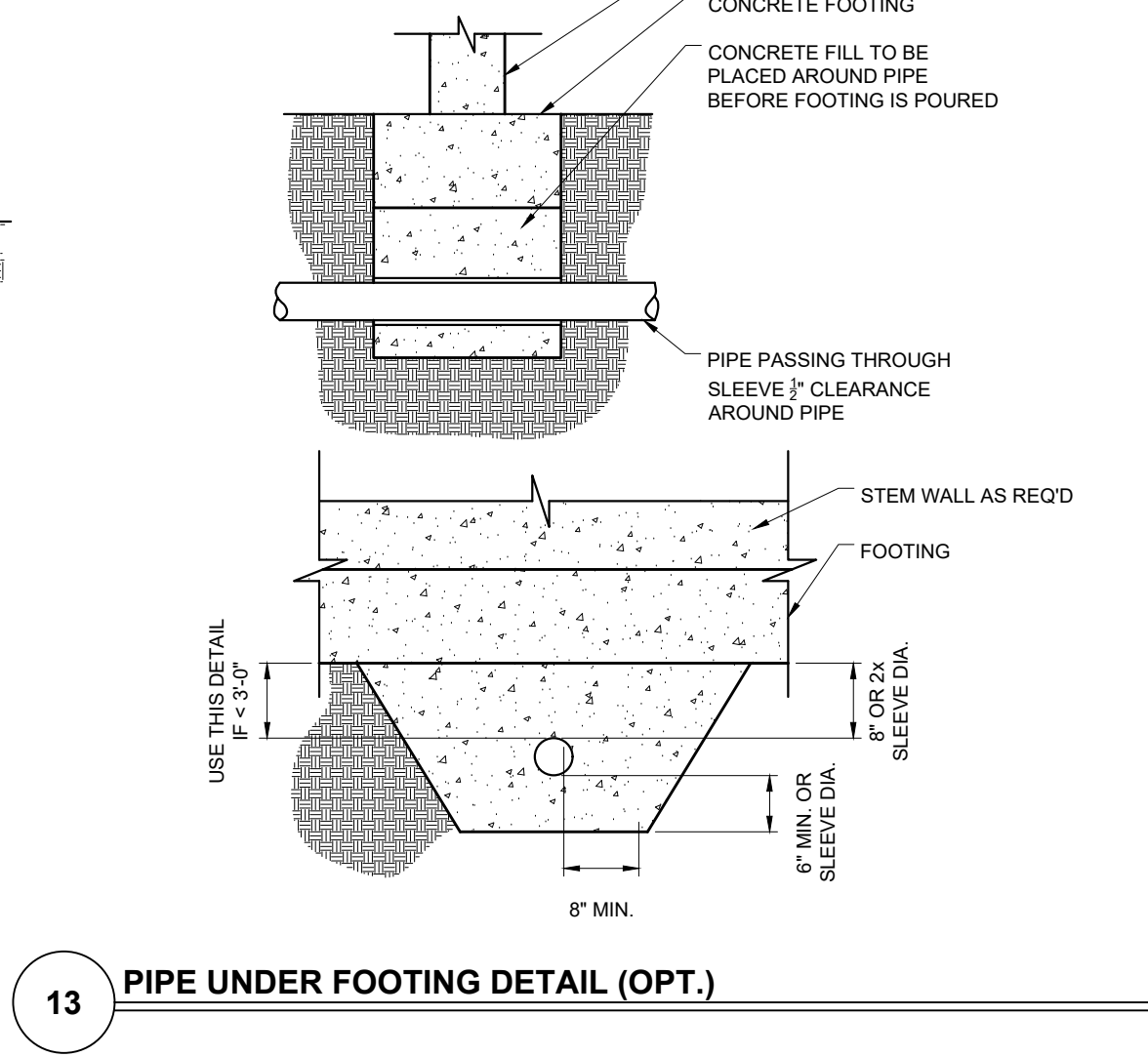
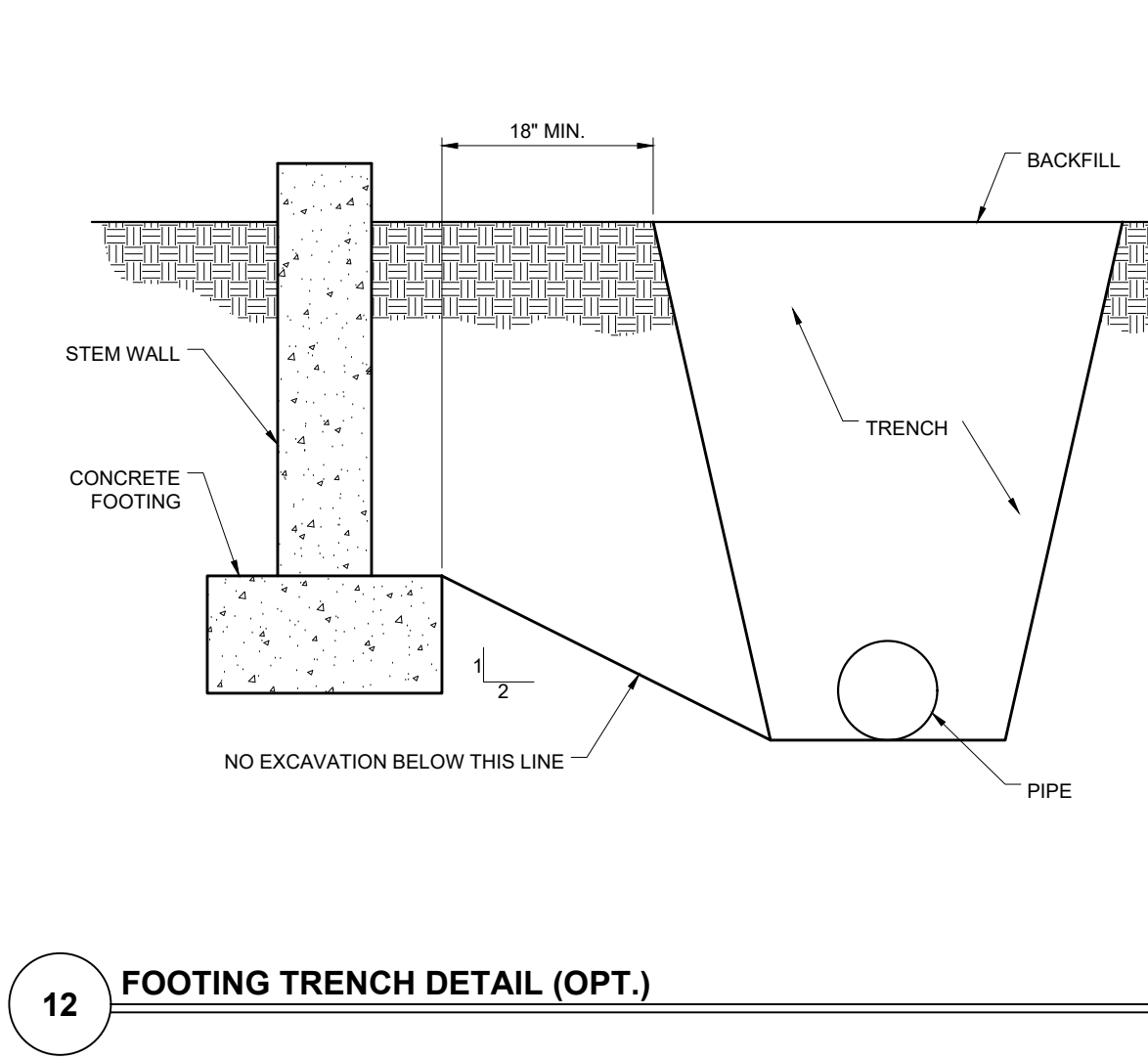
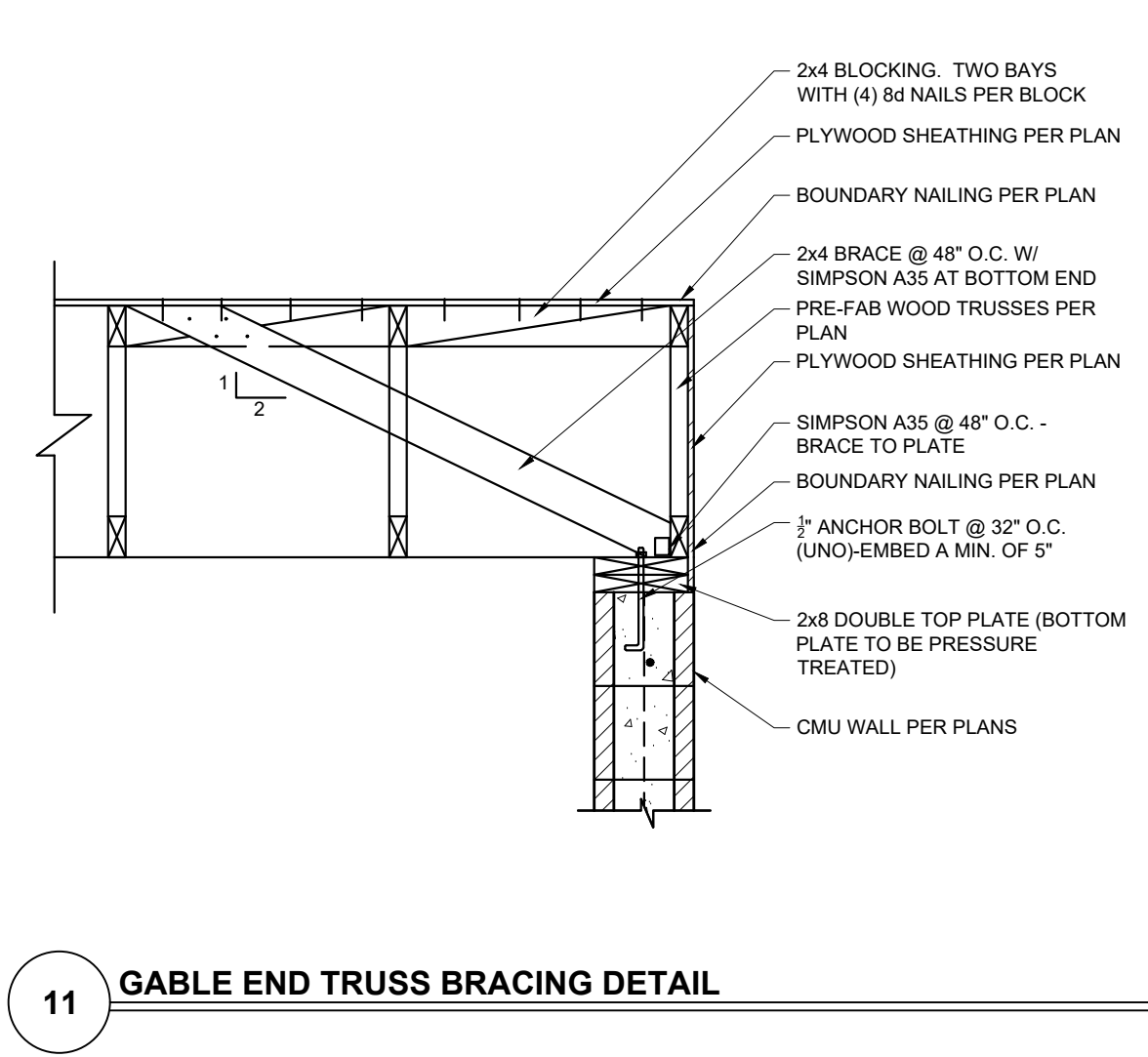
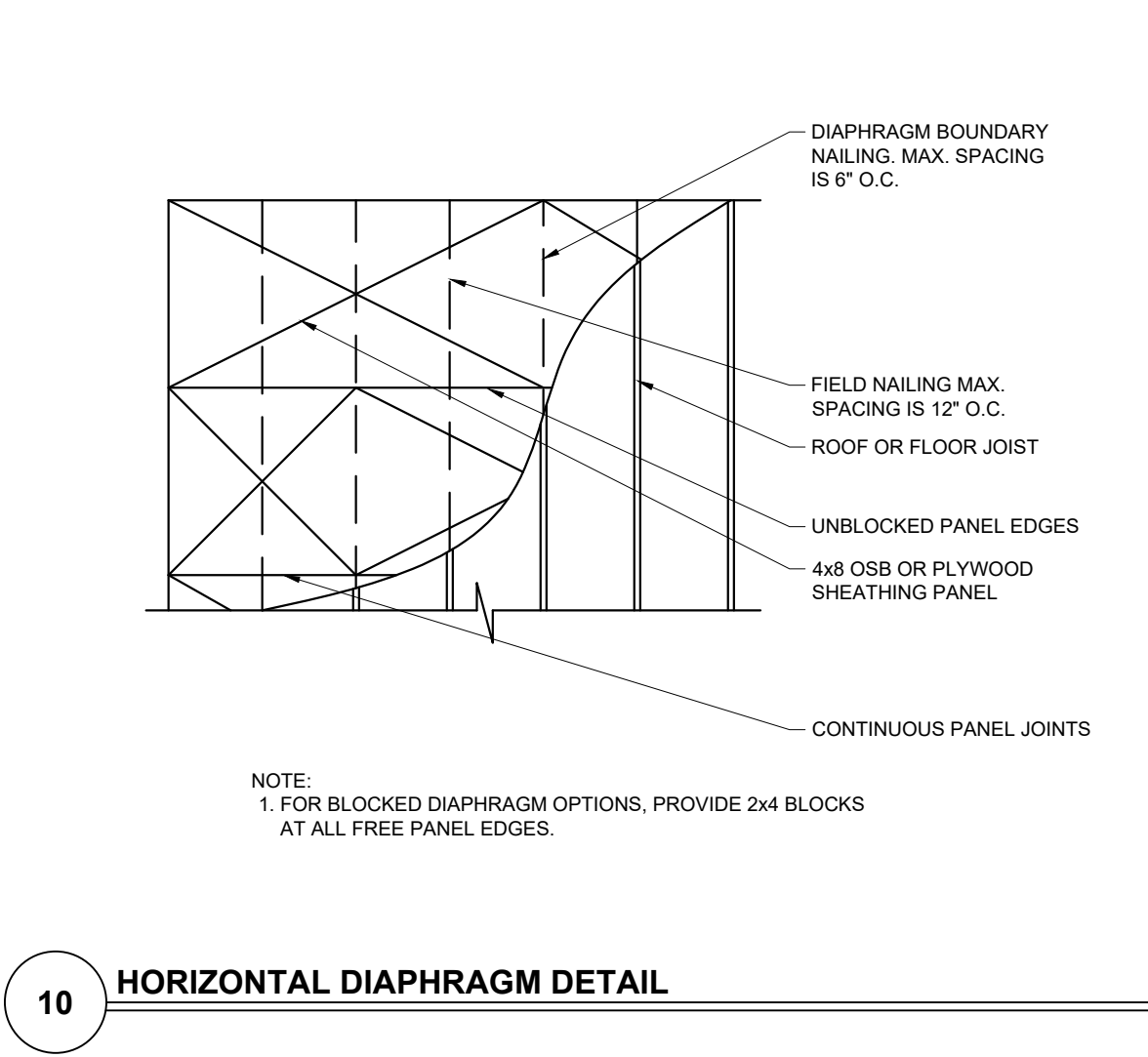
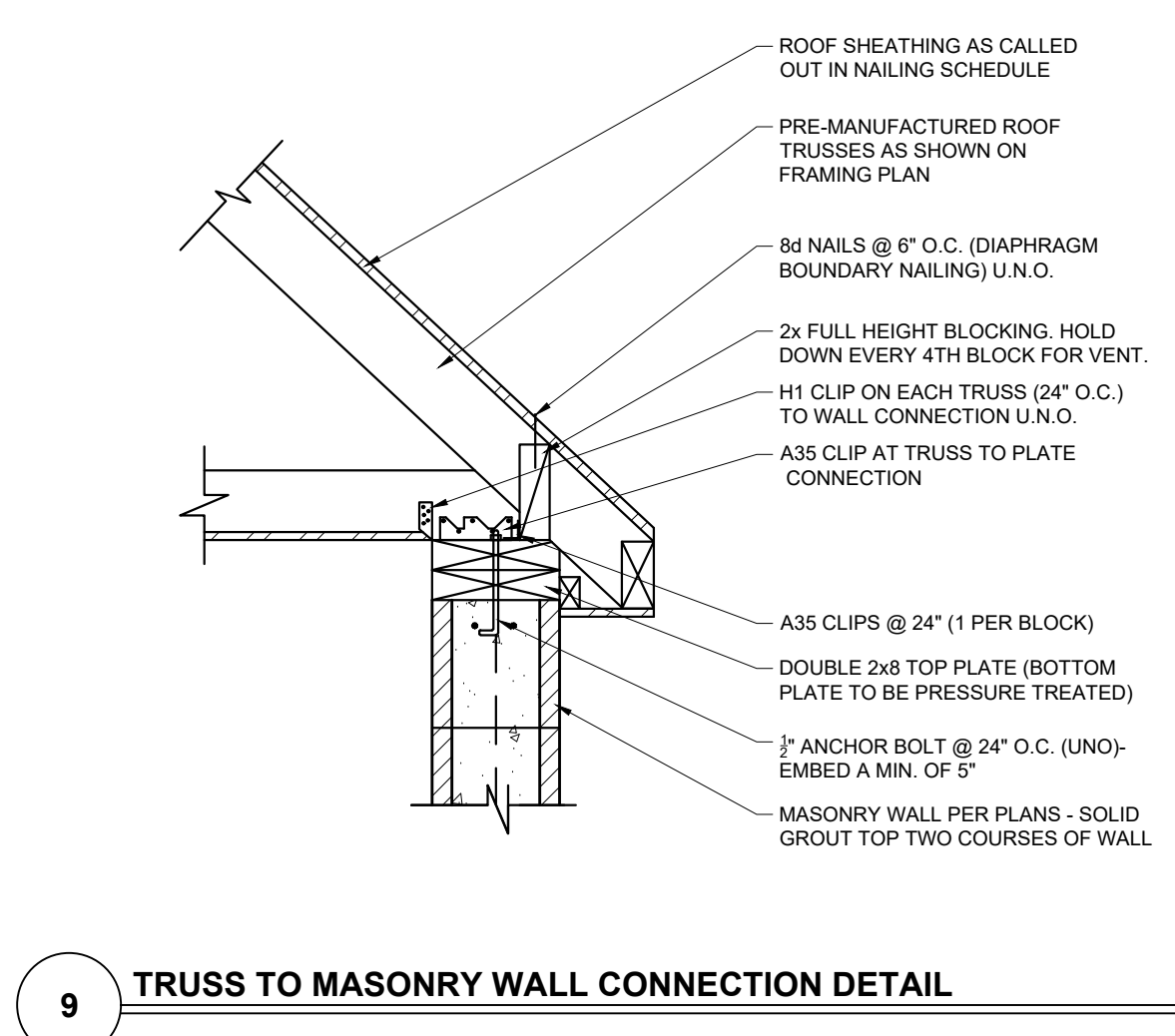
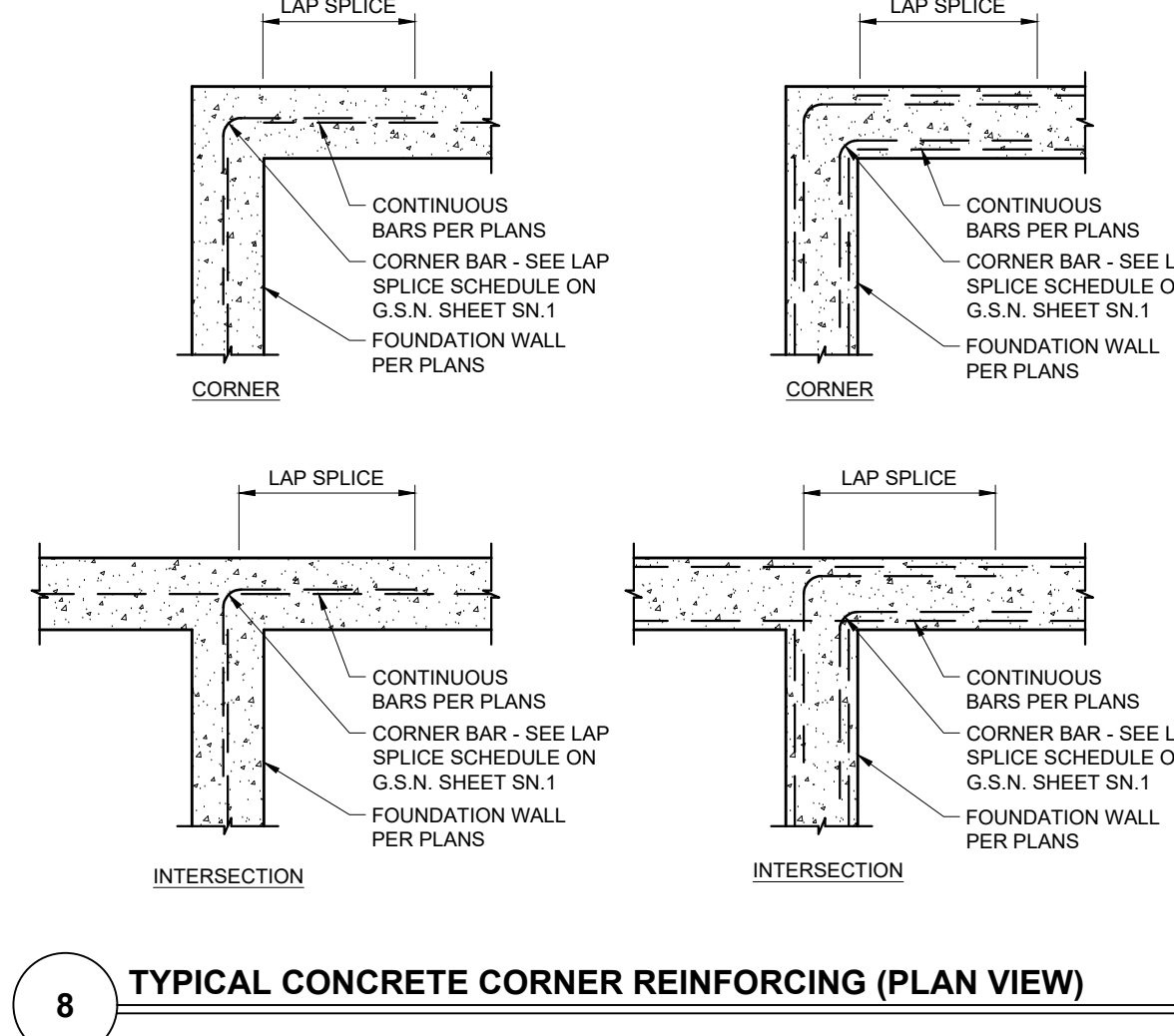
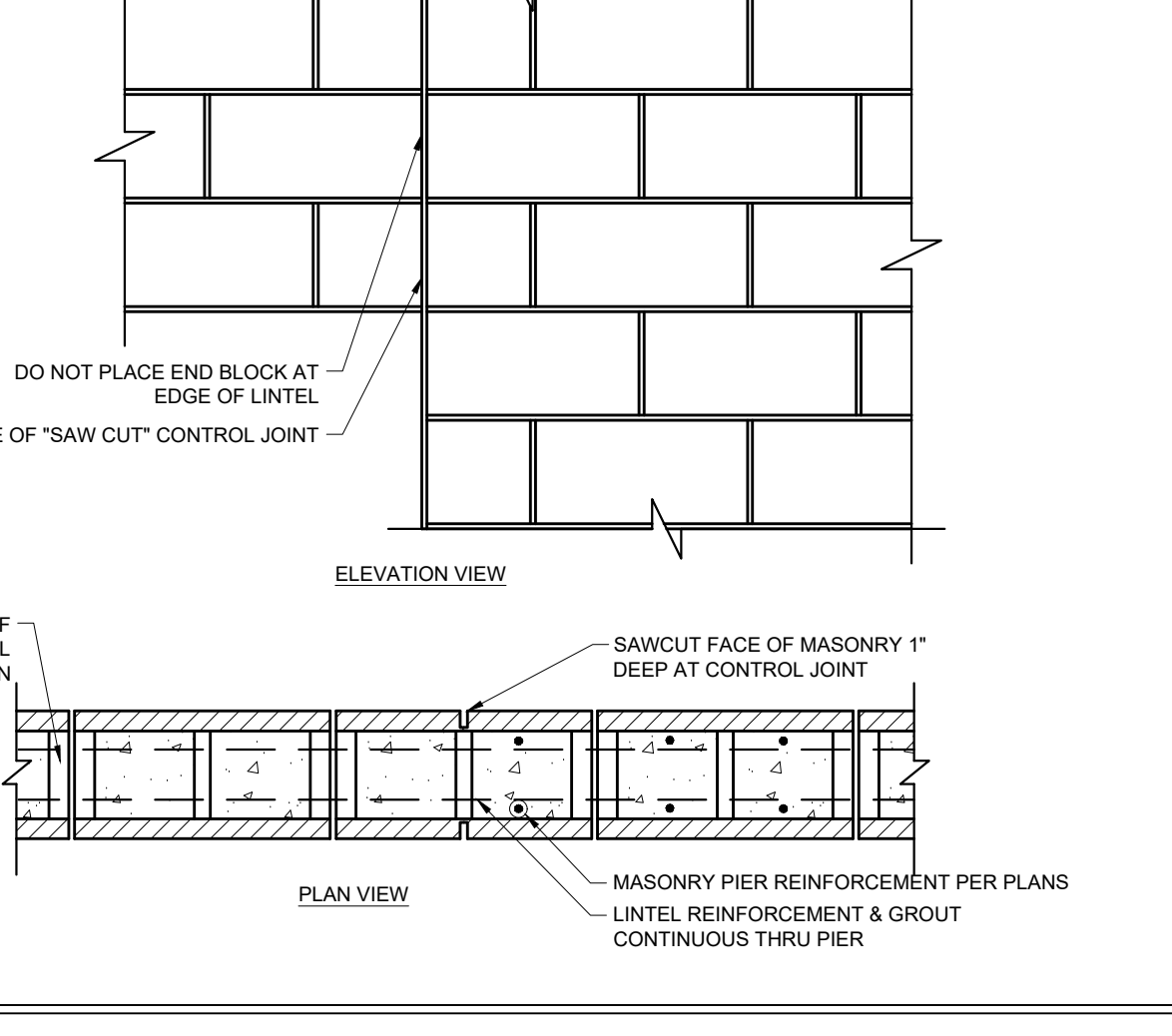
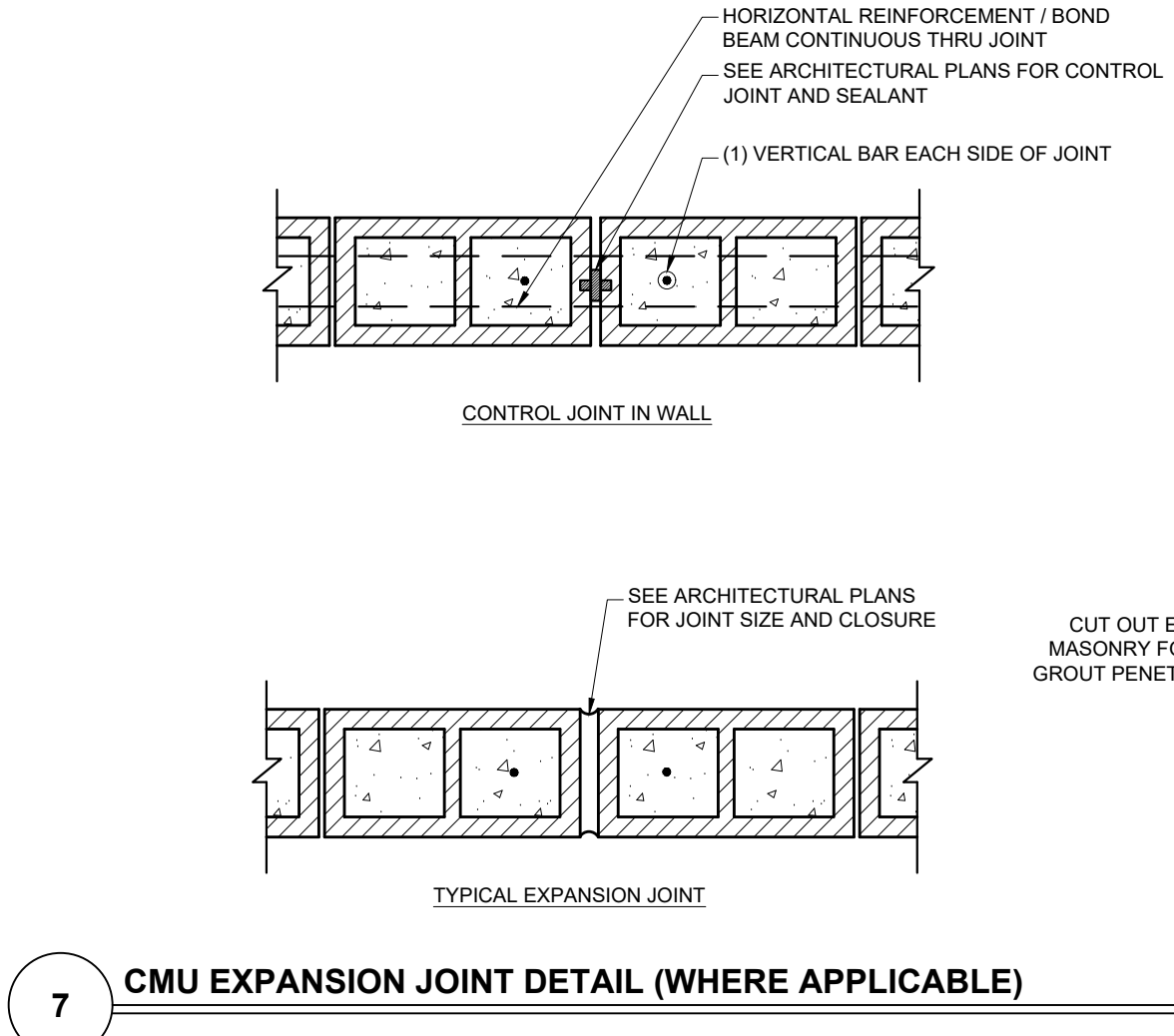
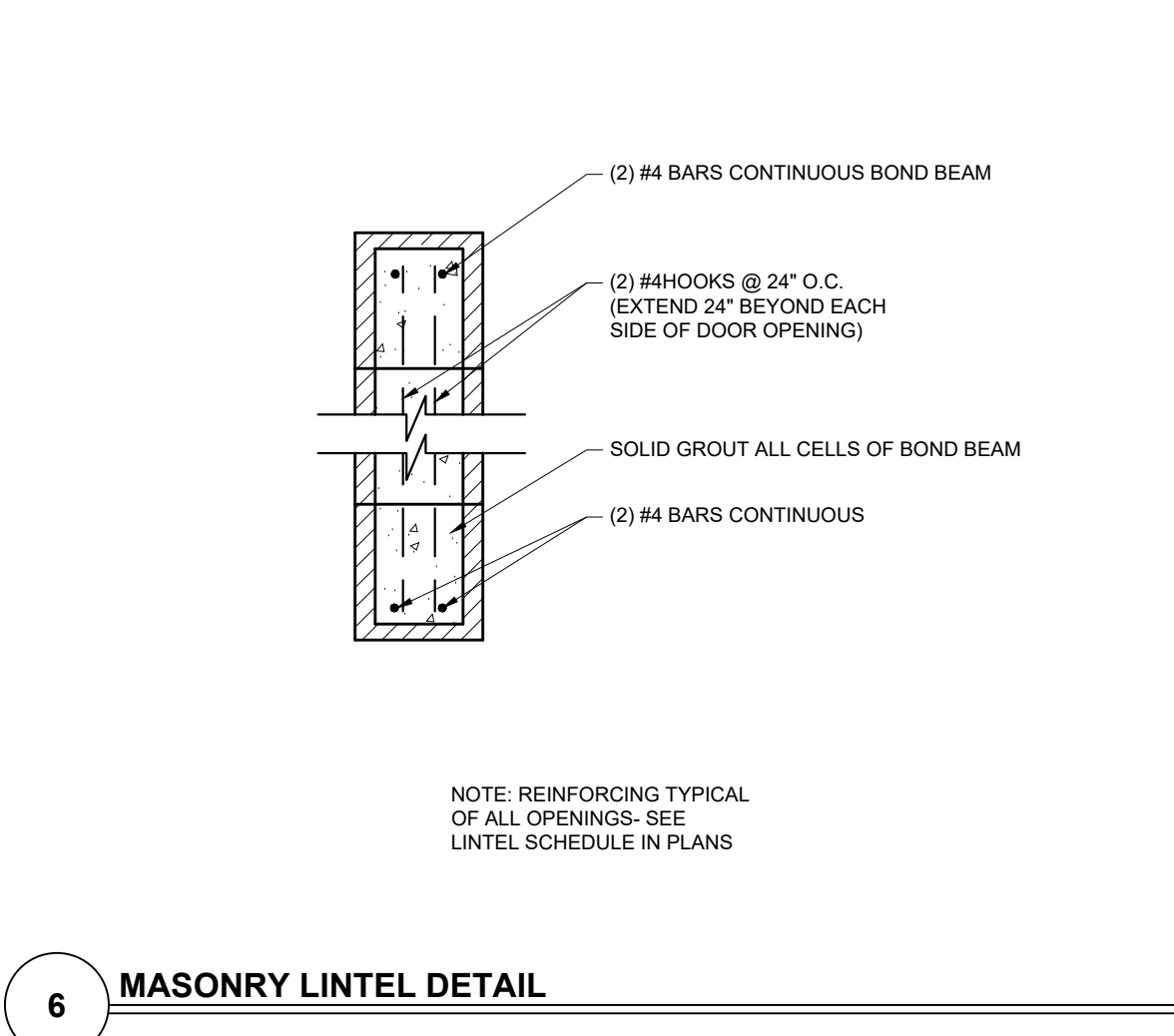
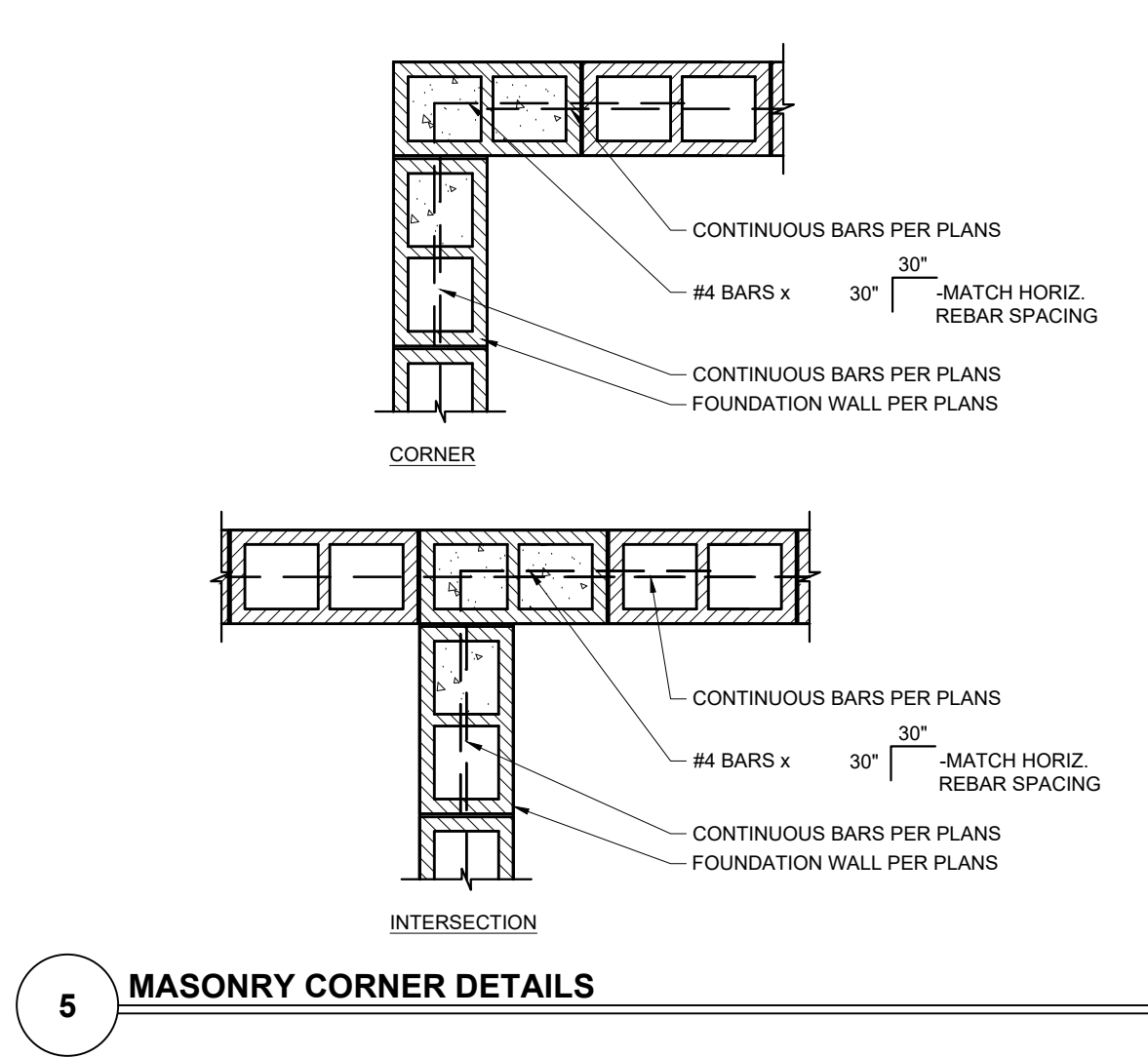
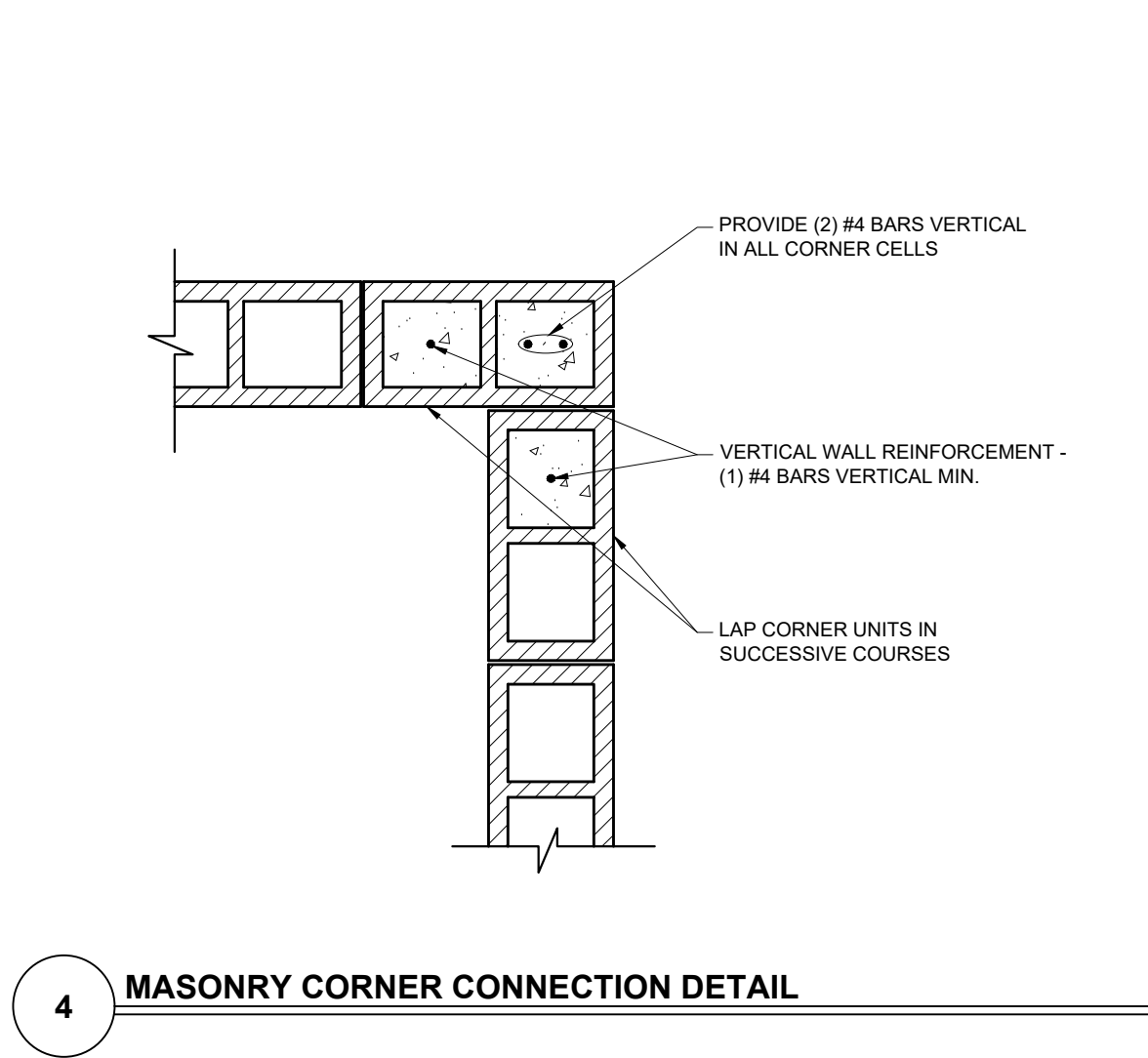
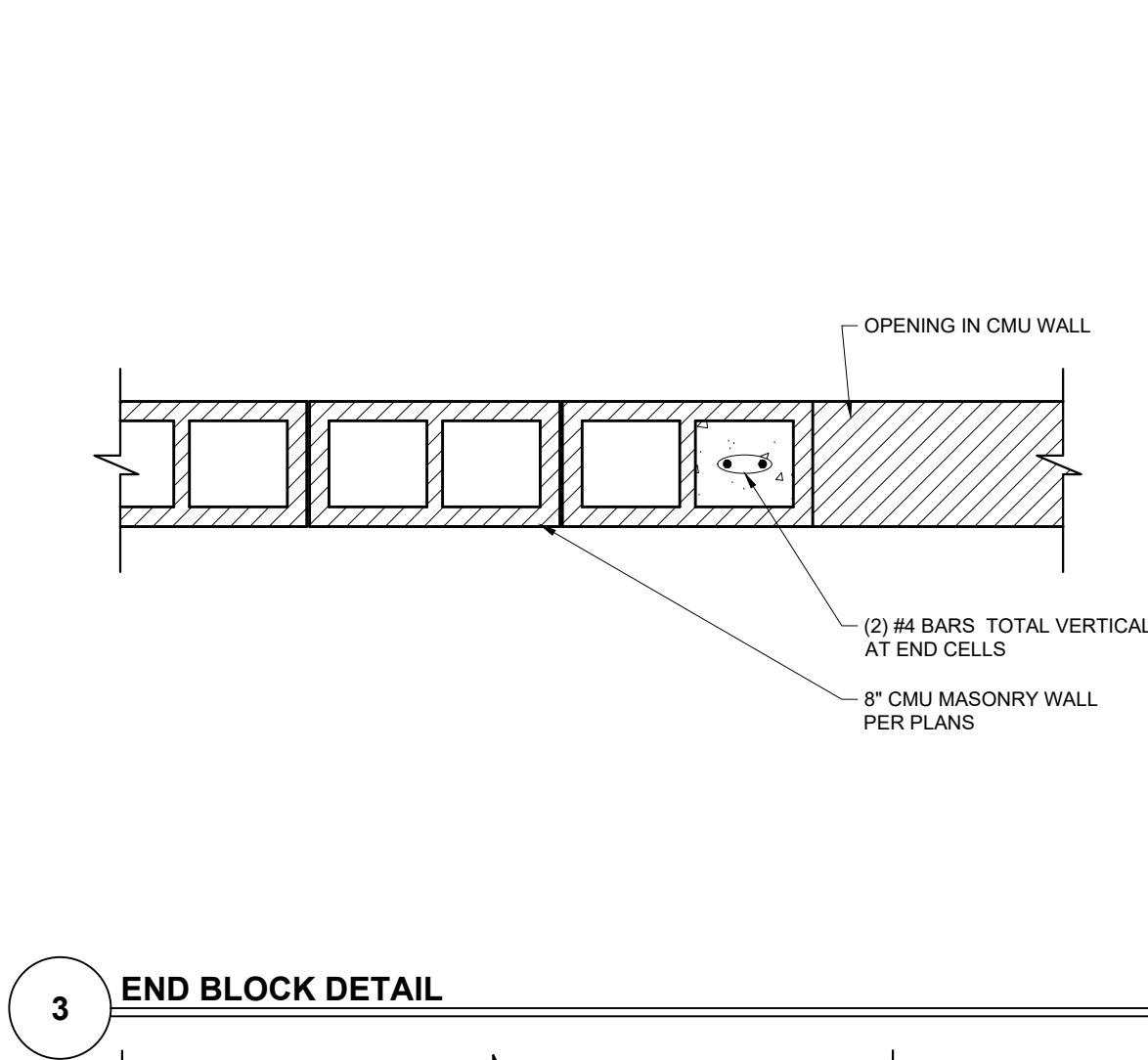
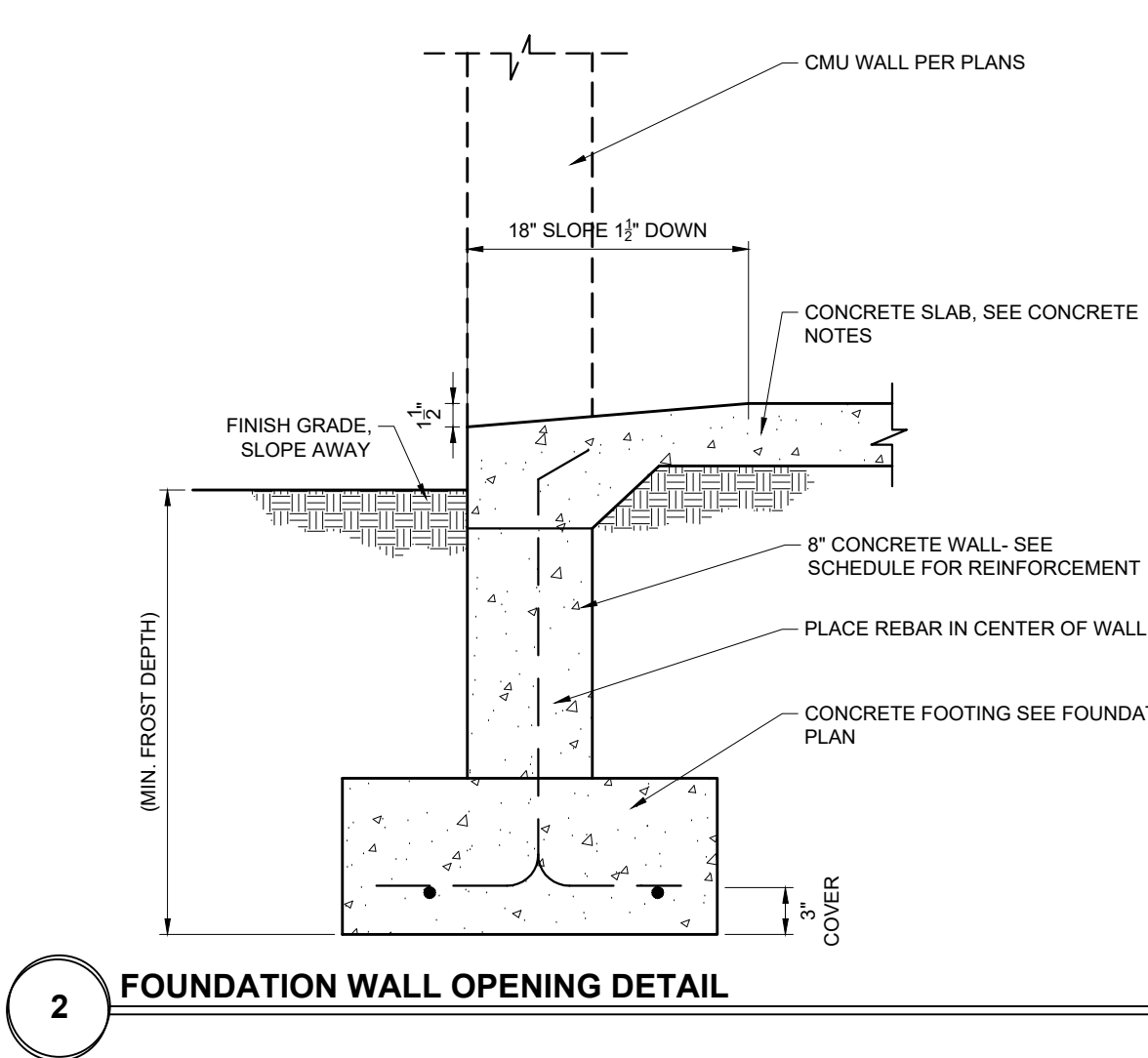
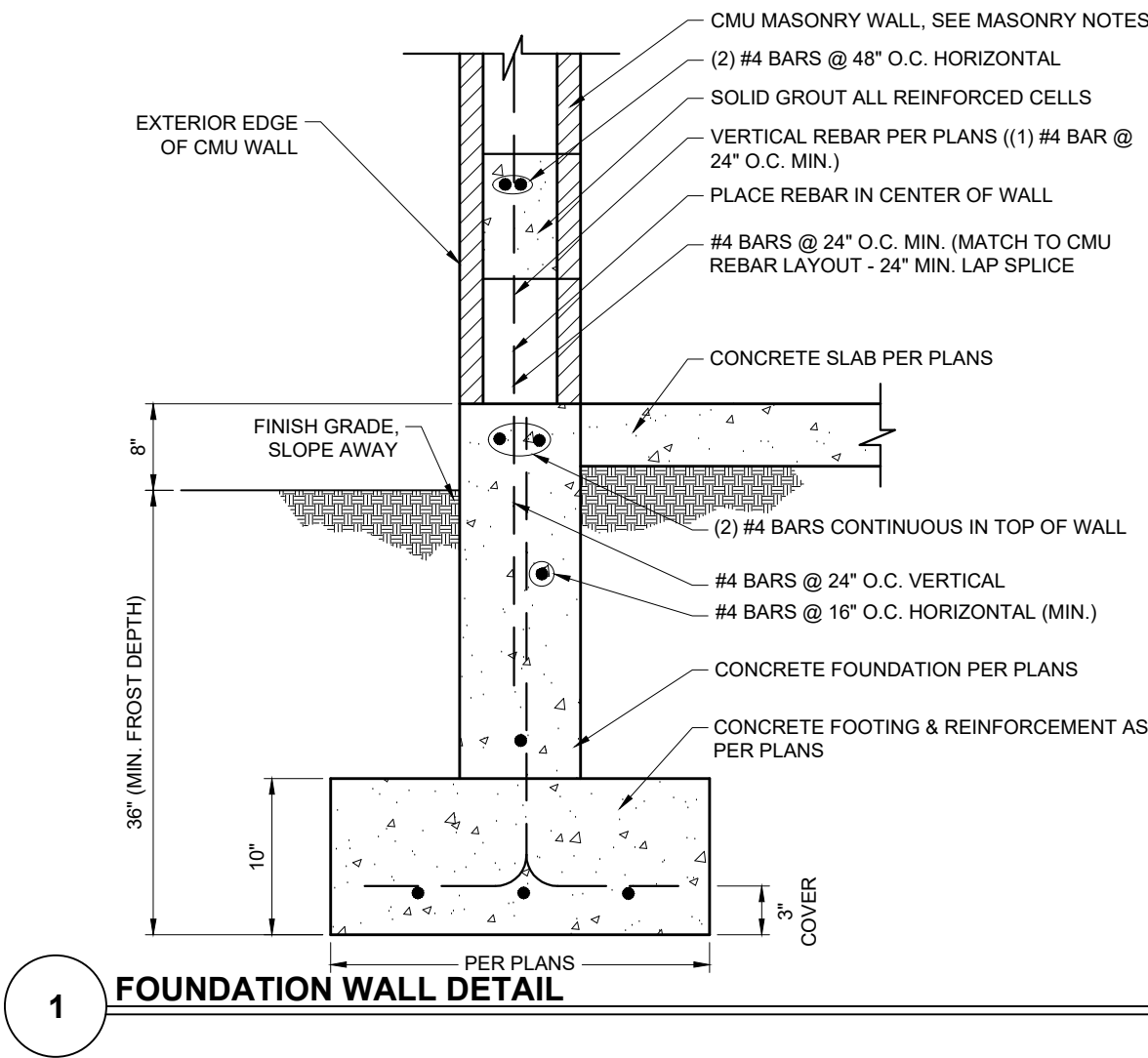
MASONRY LINTEL SCHEDULE				
	WIDTH	DEPTH (MIN.)	MAX OPENING	REINFORCEMENT
L1	8"	16"	7'-0"	(2) #4 BARS IN TOP & BOTTOM CELL

NOTES: SEE DETAIL 6/SD.1 FOR TYPICAL LINTEL CONSTRUCTION



PAYSON CITY BOOSTER STATION
NEBO LOOP RD., PAYSON, UTAH
ROOF FRAMING PLAN

DATE	REVISION
PROJECT NO:	2024-381
DATE:	11-18-24
SCALE:	$\frac{1}{4}"=1'-0"$
DRAWN BY:	JJSS
CHECKED BY:	TSP
STAMP	
STATE OF UTAH TIMOTHY S. PEARSON No. 5048885 DATE: 12-6-24 PROFESSIONAL STRUCTURAL ENGINEER	
SHEET NO.	
S1.1	

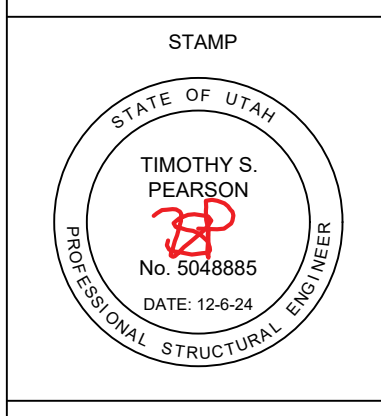


PAYSON CITY BOOSTER STATION
NEBO LOOP RD., PAYSON, UTAH

STRUCTURAL DETAILS

DATE	REVISION

PROJECT NO:	2024-381
DATE:	11-19-24
SCALE:	NTS
DRAWN BY:	CC
CHECKED BY:	TSP



SHEET NO.
SD.1

MECHANICAL GENERAL NOTES:

GENERAL

- | | |
|------|---|
| GM-1 | THE MECHANICAL INSTALLATION SHALL CONFORM TO THE 2018 EDITION OF THE IMC WITH UTAH ANNOTATIONS AND LOCAL AUTHORITY REQUIREMENTS. |
| GM-2 | MECHANICAL INFORMATION IS NOT LIMITED TO THE MECHANICAL DRAWINGS. CONTRACTOR SHALL BE RESPONSIBLE FOR INFORMATION ON ALL OTHER CONSTRUCTION DOCUMENTS INCLUDING DRAWINGS BY OTHER DISCIPLINES AND SPECIFICATIONS. |
| GM-3 | A - EACH DRAWING SHEET HAS BEEN PREPARED TO SUPPLEMENT EACH OTHER AND THEY SHALL BE INTERPRETED AS AN INTEGRAL UNIT WITH ITEMS SHOWN AND NOTED ON ONE AND NOT THE OTHER BEING FURNISHED AND INSTALLED AS THOUGH SHOWN AND CALLED OUT IN ALL PLACES. |

B - THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE INSTALLATION OF THE SYSTEMS ACCORDING TO THE TRUE INTENT AND MEANING OF THE CONTRACT DOCUMENTS.

C - THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT WITH PROPER SERVICE ACCESS AND CLEARANCES ACCORDING TO MANUFACTURERS RECOMMENDATIONS. THE CONTRACTOR SHALL REVIEW SUPPLIERS BID PACKAGES FOR COMPLETENESS AND COMPLIANCE TO THE SPECIFICATIONS, SCHEDULES, AND DESIGN INTENT (ALL EQUIPMENT AND METHODS). THE CONTRACTOR SHALL REMOVE AND REINSTALL CORRECTLY AT HIS OWN EXPENSE ANY EQUIPMENT NOT IN COMPLIANCE.

D - THE CONTRACTOR SHALL CONSULT MANUFACTURERS INSTALLATION INSTRUCTIONS FOR SIZES, METHODS, ACCESSORIES, AND CLEARANCES IN SPACE AVAILABLE PRIOR TO BIDDING PROJECT.

E - ANYTHING NOT CLEAR OR IN CONFLICT WILL BE EXPLAINED BY MAKING APPLICATION TO THE ENGINEER IN WRITING.

- GM-4** ANY AND ALL ALTERATIONS TO THE SYSTEM SHOWN SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR. ARCHITECT SHALL BE NOTIFIED IN WRITING PRIOR TO CHANGES.
- GM-5** CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND LOCATIONS.
- GM-6** THE WORKING DRAWINGS ARE DIAGRAMMATIC. THEY DO NOT SHOW EVERY OFFSET, BEND, OR ELBOW NECESSARY FOR THE COMPLETE INSTALLATION IN THE SPACE PROVIDED. ALL LOCATIONS FOR MECHANICAL EQUIPMENT SHALL BE FIELD VERIFIED AND COORDINATED WITH ALL DRAWINGS. THE CONTRACTOR SHALL PROVIDE OR COORDINATE WITH THE GENERAL CONTRACTOR PROVISIONS FOR BLOCK OUTS OR CORE DRILLS THROUGH STRUCTURE. CHANGES REQUIRED IN WORK SPECIFIED IN DIV 22 AND 23 CAUSED BY NEGLECT TO SECURE APPROVAL SHALL BE MADE AT NO COST TO THE OWNER.
- GM-7** THE INSTRUCTION TO "PROVIDE" ALSO INCLUDES INSTALLATION.
- GM-8** THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY IN HANDLING AND DISPOSING OF REFRIGERANTS, OILS, ETC. ALL SUCH MATERIALS SHALL BE HANDLED, DISPOSED, AND USED ON ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL LAWS.
- GM-9** THE MECHANICAL CONTRACTOR SHALL VERIFY MOTOR VOLTAGES WITH THE ELECTRICAL DRAWING PRIOR TO ORDERING MOTORIZED EQUIPMENT AND CONTROLS.
- GM-10** SUPPLIERS SHALL REVIEW ALL DRAWINGS PRIOR TO SUBMITTING PRICES TO THE CONTRACTOR. ALL QUESTIONS AND DISCREPANCIES SHALL BE BROUGHT TO THE ENGINEERS ATTENTION PRIOR TO BIDDING.
- GM-11** CONTRACTOR SHALL THOROUGHLY REVIEW AND SIGN SUBMITTALS FOR COMPLETENESS AND COMPLIANCE TO THE SPECIFICATIONS PRIOR TO ENGINEERS REVIEW. SUPPLIERS SHALL HIGHLIGHT OR MARK ALL INFORMATION REQUIRED TO SHOW COMPLIANCE TO THE SPECIFICATIONS. ALL REQUESTED EXCEPTIONS TO THE DRAWINGS, OR SCHEDULES SHALL BE CLEARLY NOTED AND EXPLAINED. SUBMITTAL REVIEW AND ACCEPTANCE IS FOR DESIGN CONCEPT ONLY, AND DOES NOT AT ANY TIME RELIEVE THE CONTRACTOR OF RESPONSIBILITY TO MEET SPECIFICATIONS, CAPACITIES, OR DESIGN INTENT.

- GM-12** INSTALLATION AND SELECTION OF MATERIALS AND EQUIPMENT SHALL ADHERE TO THE REQUIREMENTS OF ASHRAE/IEES 90.1-2016 ENERGY EFFICIENT DESIGN OF NEW BUILDINGS EXCEPT LOW RISE AND ENFORCED BY THE LAWS OF THE STATE OF UTAH AND THE LOCAL AUTHORITY HAVING JURISDICTION.
- GM-13** PROVIDE OPERATION AND MAINTENANCE (O&M) MANUALS TO THE OWNER. SUBMIT TO ENGINEER ELECTRONICALLY FOR REVIEW AND COMPLETENESS. THIS SHALL INCLUDE MINIMUM 1 YEAR LABOR WARRANTY, ORGANIZED APPROVED SUBMITTALS, O&M DOCUMENTS FOR ALL EQUIPMENT, CONTROLS DIAGRAMS, SEQUENCE OF OPERATIONS, TAB REPORT, ETC. DOCUMENT SHALL BE AN ORGANIZED AND BOOKMARKED PDF.
- GM-14** CONTRACTOR SHALL KEEP AN UP TO DATE SET OF MECHANICAL AND PLUMBING DRAWINGS IN HIS CUSTODY SHOWING ALL CHANGES IN RED, CLEARLY DEFINED AND NEATLY DRAFTED BY HIM. AT THE END OF CONSTRUCTION, HE SHALL TURN THESE DRAWINGS OVER TO THE ENGINEER. RECORD DRAWINGS MUST BE COMPLETED AND SUBMITTED PRIOR TO FINAL SITE OBSERVATION.
- GM-15** PROVIDE TAGS AND LABELS ON NEW PIPING, DUCTWORK, AND EQUIPMENT. EQUIPMENT TAGS SHALL BE METAL WITH DATA ENGRAVED OR STAMPED FOR PERMANENT ATTACHMENT ON EQUIPMENT AND SHALL INCLUDE MANUFACTURER, PRODUCT NAME, MODEL NUMBER, SERIAL NUMBER, CAPACITY, OPERATING AND POWER CHARACTERISTICS, AND ESSENTIAL DATA. THESE SHALL BE LOCATED IN AN ACCESSIBLE AND VISIBLE LOCATION. PIPING MARKERS SHALL BE COLOR CODED WITH LETTERING INDICATING SERVICE AND FLOW DIRECTION. DUCT LABELS SHALL BE LOCATED WHERE DUCTS ENTER INTO CONCEALED SPACES AND A MAXIMUM INTERVAL OF 50 FEET IN EXPOSED OR ACCESSIBLE CEILINGS. THESE SHALL INDICATE SERVICE AND FLOW DIRECTION.

- GM-16** SEE STRUCTURAL PLANS FOR OFFICIAL SEISMIC AND WIND CLASSIFICATIONS. PROVIDE SEISMIC CALCULATIONS AND DESIGN AS DEFERRED SUBMITTAL FOR ALL COMPONENTS REQUIRED BY IBC BY LICENSED SEISMIC ENGINEER. BUILDING IMPORTANCE FACTOR = 1.0. COMPONENT IMPORTANCE FACTOR SHALL BE THE SAME AS BUILDING UNLESS SPECIFIED DIFFERENTLY IN THE IBC.

AIR SIDE

- | | |
|------|---|
| GA-1 | MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL SMOKE AND FIRE DAMPERS AS REQUIRED BY LOCAL CODES AND AUTHORITIES. |
| GA-2 | SHEET METAL DUCT SIZES SHOWN ON DRAWINGS ARE FREE AREA DIMENSIONS. |
| GA-3 | PROVIDE AND INSTALL BALANCING DAMPERS IN ALL SUPPLY AND EXHAUST AIR BRANCH DUCTS. BALANCE TO CFM SHOWN ON PLAN. TESTING AND BALANCING SHALL BE PERFORMED BY AABC OR NEBB CERTIFIED TAB CONTRACTOR. BALANCE REPORT SHALL BE ISSUED TO THE ENGINEER OF RECORD FOR REVIEW. |
| GA-4 | SEE ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF DIFFUSERS AND GRILLES. |
| GA-5 | PROVIDE TURNING VANES IN ALL ELBOWS OF RECTANGULAR DUCT. |
| GA-6 | C.F.M. LISTED IS ACTUAL AIR. |
| GA-7 | ALL DUCTWORK SHALL BE GALVANIZED STEEL FABRICATED TO SMACNA STANDARDS FOR THE VELOCITY, PRESSURE, AND GEOMETRY INVOLVED. DUCT JOINTS SHALL BE SEALED USING HARD CAST TAPE. TYPE AND APPLICATION TECHNIQUES SHALL BE AS RECOMMENDED BY THE MANUFACTURER FOR THE INTENDED USE AND LOCATION. |
| GA-8 | DUCT LINER SHALL BE ATTACHED TO INSIDE OF DUCTWORK WITH ADHESIVE COATING BETWEEN THE DUCT AND LINER AND FURTHER SECURED BY PINS MECHANICALLY FASTENED TO DUCT. PINS ADHESIVELY ATTACHED ARE NOT ACCEPTABLE ALL EDGES OF LINER SHALL BE THOROUGHLY COATED WITH ADHESIVE AND TIGHTLY BUTTED. LINER SHALL BE FIBERGLASS WITH BLACK CLOTH FINISH ON SMACNA STANDARDS AND ALL REQUIREMENTS OF THE MANUFACTURER. LINER AND ADHESIVE SHALL MEET ALL REQUIREMENTS OF FEDERAL, STATE, AND LOCAL CODES. |
| GA-9 | DUCTWORK ROUTED OUTSIDE OF BUILDING SHALL BE INSULATED AS REQUIRED BY ASHRAE/IEES 90.1-2016. INSULATION SHALL BE MADE UP OF DUCT LINER, EXTERNAL DUCT WRAP WITH A WEATHERPROOF COVER OR A COMBINATION THERE OF AS NEEDED TO MEET REQUIREMENTS. INSULATION SYSTEM SHALL MEET UBC, IMC, ASTM, UL, AND NFPA STANDARDS AND REQUIREMENTS. |

FIRE SPRINKLER

- | | |
|-------------|---|
| FS-1 | PROVIDE NEW FIRE SPRINKLER SYSTEM INCLUDING DESIGN, LAYOUT, CALCULATION, FLOW TEST, ETC THROUGH DEFERRED SUBMITTAL. DESIGN SHALL BE COMPLETED BY NICET LEVEL IV CERTIFIED FIRE SPRINKLER DESIGNER. SUBMIT SHOP DRAWINGS, HYDRAULIC CALCULATIONS, AND MATERIALS TO ENGINEER FOR REVIEW AND COORDINATE WITH AHJ FIRE MARSHALL. |
| FS-2 | PROVIDE MODIFICATIONS TO THE EXISTING FIRE SPRINKLER SYSTEM INCLUDING DESIGN, LAYOUT, CALCULATION, FLOW TEST, ETC THROUGH DEFERRED SUBMITTAL. DESIGN SHALL BE COMPLETED BY NICET LEVEL III CERTIFIED FIRE SPRINKLER DESIGNER. SUBMIT SHOP DRAWINGS, HYDRAULIC CALCULATIONS, AND MATERIALS TO ENGINEER FOR REVIEW AND COORDINATE WITH AHJ FIRE MARSHALL. |

WET SIDE

- GW-1** ALL PIPING FOR HYDRONICS SHALL BE ASTM A-53 BLACK STEEL SCHEDULE 40 PIPE WITH THREADED JOINTS FOR PIPING 2 INCHES AND UNDER AND WELDED FITTINGS FOR 2-1/2 INCHES AND LARGER. WELDERS SHALL BE CERTIFIED AND BY NATIONAL CERTIFICATION AGENCY WITHIN SIX MONTHS OF START OF THIS PROJECT. WELDS SHALL BE SUBJECT TO NON DESTRUCTIVE TESTING AT THE DISCRETION OF THE OWNER AND ENGINEER. TESTING SHALL BE AT THE CONTRACTOR'S EXPENSE.
- GW-2** PIPE INSULATION SHALL BE HEAVY DUTY FIBERGLASS WITH ASJ JACKET AND VINYL FITTING COVERS OVER INSULATION AT FITTINGS. INSULATION ON PUMP COVERS AND BALANCING VALVES SHALL BE REMOVABLE FOR INSPECTION AND REPAIR. INSULATION SHALL MEET REQUIREMENTS OF THE UBC, IMC, NFPA, AND ASTM WITH REGARDS TO FLAME SPREAD AND SMOKE GENERATION. EXPOSED INSULATION IN MECHANICAL ROOMS AND OTHER OPEN AREAS SHALL HAVE COLORED PVC JACKET OVER THE INSULATION. COORDINATE COLOR WITH ARCHITECT.

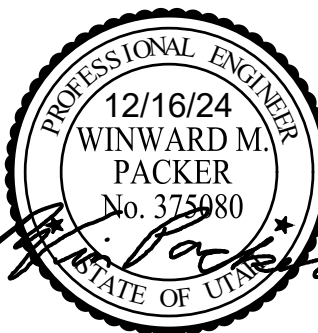


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PAYSON CITY BOOSTER PUMP STATION

PAYSON, UT

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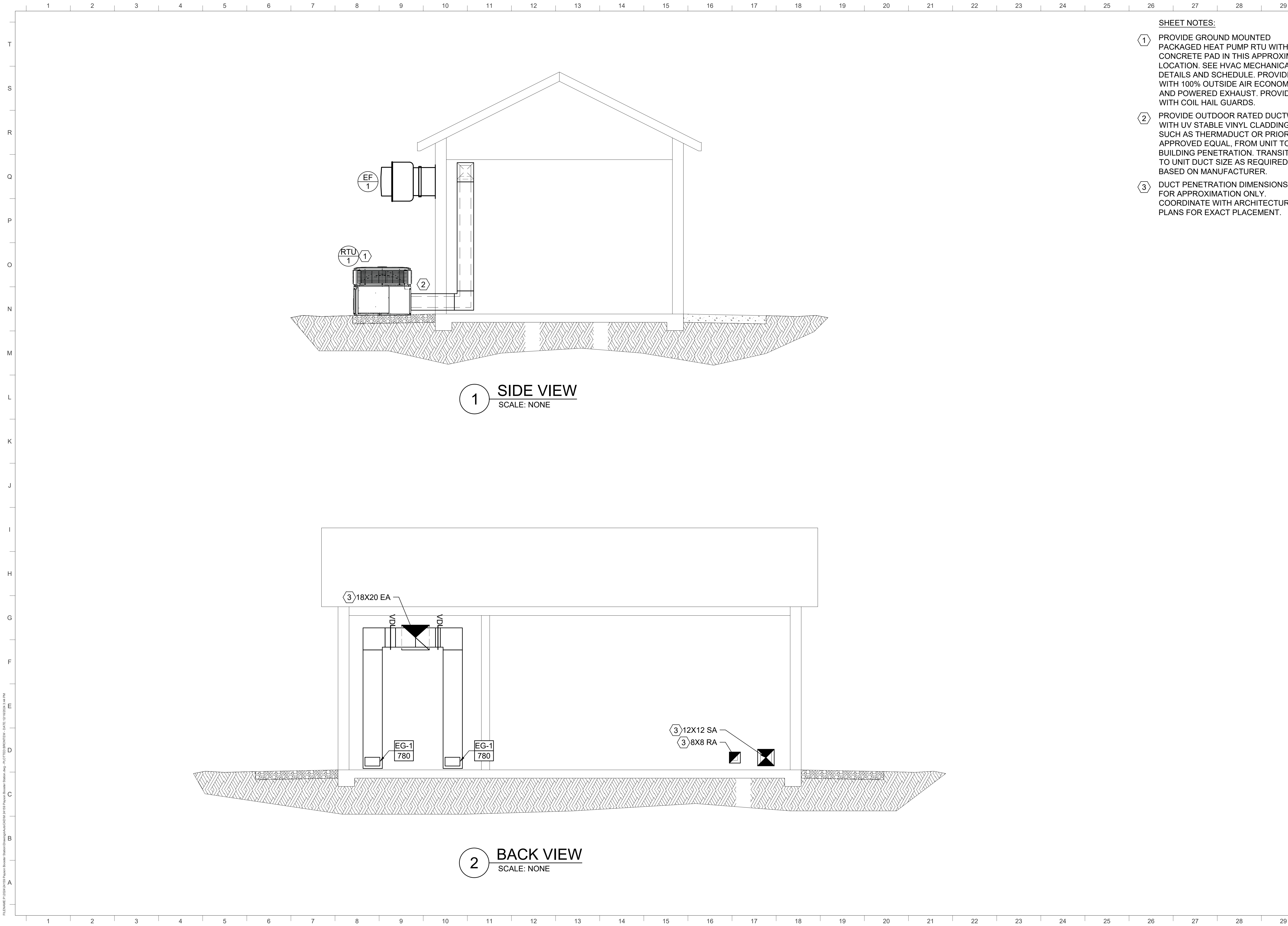
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SHEET TITLE

MECHANICAL GENERAL NOTES AND LEGEND

MG001



SHEET NOTES:

- 1 PROVIDE GROUND MOUNTED PACKAGED HEAT PUMP RTU WITH 4" CONCRETE PAD IN THIS APPROXIMATE LOCATION. SEE HVAC MECHANICAL DETAILS AND SCHEDULE. PROVIDE WITH 100% OUTSIDE AIR ECONOMIZER AND POWERED EXHAUST. PROVIDE WITH COIL HAIL GUARDS.
- 2 PROVIDE OUTDOOR RATED DUCTWORK WITH UV STABLE VINYL CLADDING SUCH AS THERMADUCT OR PRIOR APPROVED EQUAL, FROM UNIT TO BUILDING PENETRATION. TRANSITION TO UNIT DUCT SIZE AS REQUIRED BASED ON MANUFACTURER.
- 3 DUCT PENETRATION DIMENSIONS ARE FOR APPROXIMATION ONLY. COORDINATE WITH ARCHITECTURAL PLANS FOR EXACT PLACEMENT.



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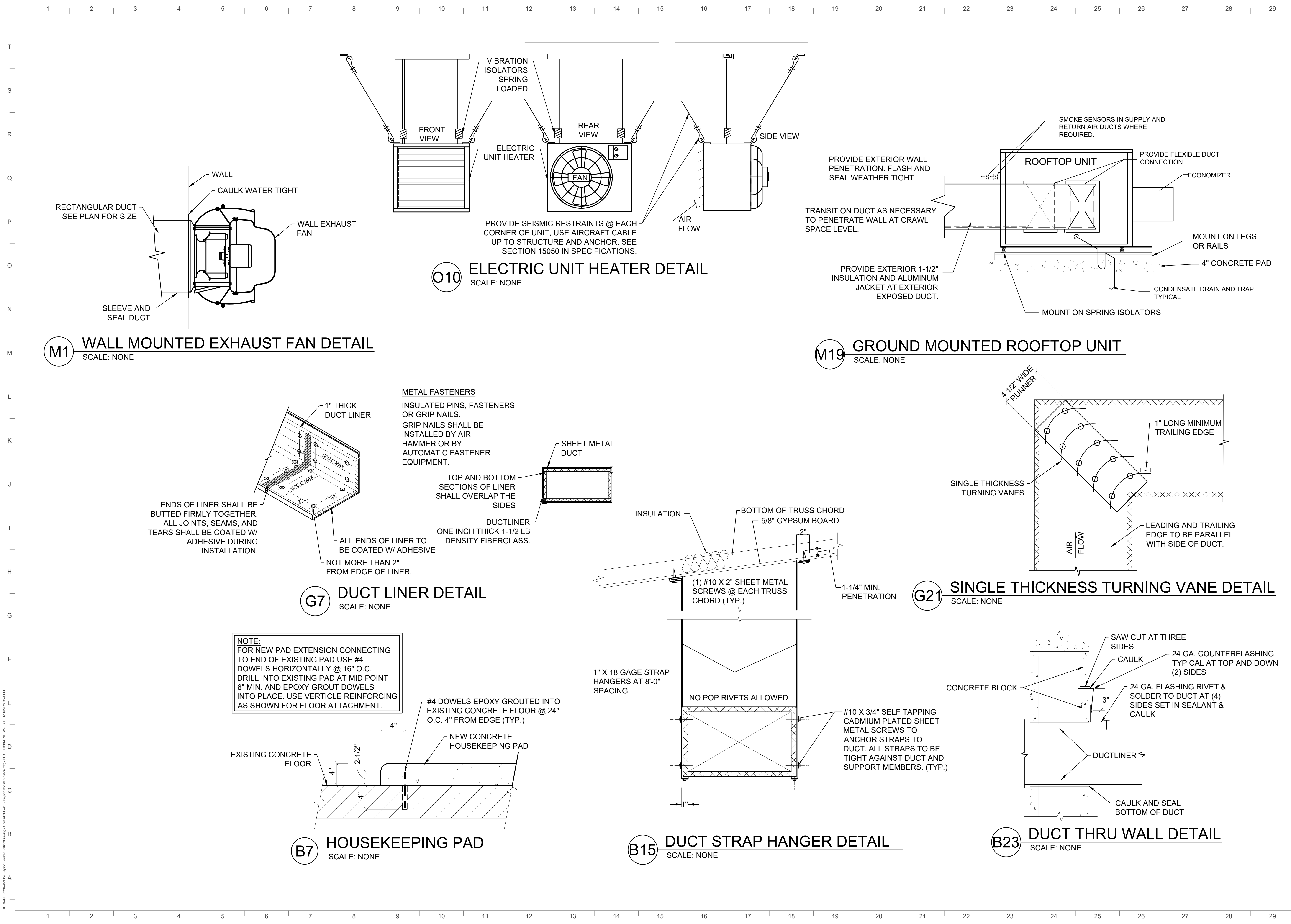
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MECHANICAL
SECTIONS

ME301

3 OF 6



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12/16/24
WINWARD M. PACKER
No. 375980
STATE OF UTAH

PAYSON CITY BOOSTER PUMP STATION

PAYSON, UT

REVISIONS		DATE	DESCRIPTION

PROJECT NO: 24159
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MECHANICAL DETAILS

ME501

4 OF 6

ROOFTOP AIR CONDITIONER SCHEDULE	
----------------------------------	--

SYMBOL	MANUFACTURER & MODEL NUMBER	SUPPLY AIR CFM	OUTSIDE AIR CFM	E.S.P. IN W.G.	HEATING		COOLING	ELECTRICAL				SEER	OPER. WT. (LBS)	SCHEDULE NOTES
					INPUT - 1ST STAGE (MBH)	INPUT - 2ND STAGE (MBH)	PERFORMANCE COOLING (MBH)	V - Ø - Hz	COMPRESSOR #	MCA	MOCP			
	TRANE 4YCY5024	815	165	0.3	48	60	23.8	208-1-60	1	18.4	25	15	355	1,2,3,4,5

1. E.S. P. DOES NOT INCLUDE LOSSES THROUGH ACCESSORIES.
2. RATED MINIMUM INPUT AT SEA LEVEL.
3. PROVIDE ONE 20 AMP, 120 VOLT, DUPLEX GFCI SERVICE OUTLET. FACTORY INSTALLED, FIELD WIRED.
4. BELT DRIVE UNIT
5. PROVIDE 100% OUTSIDE AIR ECONOMIZER.

ELECTRIC UNIT HEATER SCHEDULE

TAG				ELECTRICAL DATA 230 V			MOUNTING HEIGHT	OPERATING WEIGHT	MANUF & MODEL	SCHEDULE NOTES
	AREA SERVED	CFM	HEAT INPUT (kW)	VOLTAGE	PHASE	FREQUENCY				
UH 1	CHLORINE ROOM	500	5.0 kW	208	1	60	10'	150 LBS	MODINE HEX 50-5	1,2

- | |
|---|
| 1. SHALL BE QMARK, MODINE, LENNOX, REZNOR, STERING, TRANE, OR APPROVED EQUAL. |
| 2. PROVIDE WITH HANGER RODS C/W VIBRATION ISOLATORS SEISMICALLY BRACED UNITS. |

LOUVER SCHEDULE	
-----------------	--

SYMBOL	AREA SERVED	MAX FLOW	FACE SIZE		MIN FREE AREA	MAX VELOCITY	MAX NC	MANUF. & MODEL	SCHEDULE NOTES
			HEIGHT	WIDTH					
L-1	CHLORINE ROOM	1800 CFM	24"	48"	2.7 ft²	700 FT/MIN	25	RUSKIN ELF811	1,2

- | |
|---|
| <p>1. SHALL BE RUSKIN811, AIROLITE, ARROW UNITED, CARNES, CESCO, GREENHECK, NCA MANUFACTURING, POTTORFF, UNITED ENERTEC, OR APPROVED EQUAL.</p> <p>2. FINISH SHALL BE SPECIFIED BY ARCHITECT.</p> |
|---|

[illegible]

SYMBOL	MANUFACTURER & MODEL No.	SERVES	C.F.M.	STATIC PRESSURE IN. WG.	MAX NOISE SONES	MOTOR			OPER. WT. (LBS)	SCHEDULE NOTES
						V - Ø - Hz	HP	RPM		
	GREENHECK CUE-140-B	CHLORINE ROOM	1560	0.39	10.4	115/60/1	1/4	1140	108	1,2,3

- | |
|---|
| 1. RUN CONTINUOUSLY. COORDINATE WITH ELECTRICAL TO PROVIDE OVERRIDE SWITCH.
2. SEE SPECIFICATIONS FOR OTHER APPROVED MANUFACTURERS.
3. PROVIDE WITH AIR DRIED PHENALIC COATING. |
|---|

DIFFUSER SCHEDULE

SYMBOL	TYPE	MAX CFM	FACE SIZE	BLOW	PATTERN	MAX NC	MANUF. & MODEL	SCHEDULE NOTES
	DUCT MOUNTED	260	8X6	1-WAY		26	PRICE 20/30	1,2,3,4
	SIDEWALL	826	14X14	-	-	30	PRICE 610	1,2,3,4
	DUCT MOUNTED	1200	24X24	-	-	25	PRICE 610	1,2,3,4

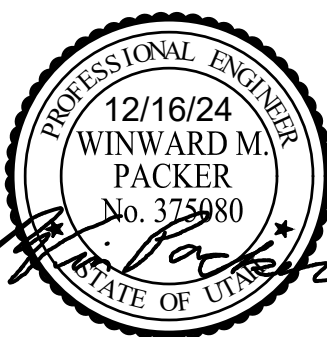
1. MAXIMUM NC AT CFM LISTED.
2. PROVIDE TRANSITION TO DIFFUSER NECK SIZE AS REQUIRED TO DUCTWORK SHOWN ON PLAN.
3. SEE SPECIFICATIONS FOR OTHER APPROVED MANUFACTURERS.
4. FINISH SHALL BE SPECIFIED BY ARCHITECT.



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DATE: 12/16/2024

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SHEET TITLE

MECHANICAL SCHEDULES

ME601

GENERAL NOTES

- CONSULT ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF ALL LIGHTING FIXTURES.
- VERIFY ALL EQUIPMENT DIMENSIONS AND LOCATIONS BEFORE BEGINNING ROUGH IN. CONSULT ALL APPLICABLE CONTRACT DRAWINGS AND SHOP DRAWINGS TO INSURE NEC CODE CLEARANCES REQUIRED AROUND ALL ELECTRICAL EQUIPMENT.
- CONTRACTOR SHALL VERIFY ALL ELECTRICAL LOADS (VOLTAGE, PHASE, CONNECTION REQUIREMENTS, ETC.) OF ALL EQUIPMENT FURNISHED UNDER ALL DIVISIONS, INCLUDING ALL EXISTING EQUIPMENT TO BE RE-USED. REVIEW ALL SHOP DRAWINGS AND EXISTING EQUIPMENT BEFORE BEGINNING ROUGH IN.
- SEE SECTION 265100 (16510) OF THE SPECIFICATION REQUIRED COORDINATION MEETINGS WITH MECHANICAL AND CEILING CONTRACTORS.
- SEE APPLICABLE SHOP DRAWINGS FOR ROUGH IN LOCATION OF ALL EQUIPMENT, WIRING DEVICES, ETC. WHERE APPLICABLE MOUNT ALL WIRING DEVICES ABOVE BACK SPLASH EXCEPT THOSE SERVING UNDER COUNTER EQUIPMENT.
- SEE SPECIFICATION FOR ENERGY SAVING LAMP AND BALLAST REQUIREMENTS.
- FINISHES OF ALL LIGHT FIXTURES SHALL BE AS SELECTED BY ARCHITECT.
- THE ELECTRICAL CONTRACTOR SHALL NOTIFY AND COOPERATE WITH THE MECHANICAL CONTRACTOR SUCH THAT NO PIPING, DUCTS, OR EQUIPMENT FOREGO TO THE OPERATION OF THE ELECTRICAL EQUIPMENT SHALL BE PERMITTED TO BE INSTALLED IN, ENTER OR PASS THRU ELECTRICAL ROOMS OR SPACES, OR ABOVE OR BELOW ELECTRICAL EQUIPMENT IN OTHER AREAS.
- ELECTRICAL BOXES SHALL NOT BE LOCATED IN MASONRY COLUMNS IN BRICK WALLS OR IN GROUTED CELLS ADJACENT TO OPENINGS. COORDINATE LOCATION OF BOXES WITH MASONRY CONTRACTOR.
- ALL PENETRATIONS OF FIRE RATED FLOORS, WALLS, AND CEILINGS SHALL BE SEALED WITH APPROVED MATERIAL TO MAINTAIN FIRE RATING OF SURFACE PENETRATED.
- CONTRACTOR SHALL VERIFY FURNITURE LAYOUT PRIOR TO ANY FLOORBOX OR POKE-THRU INSTALLATION. COORDINATE EXACT LOCATION OF FLOOR BOX OR POKE-THRU WITH OWNER AND FURNITURE PROVIDER PRIOR TO ROUGH-IN.
- CIRCUITS EXTENDING OVER 70' FOR 120 VOLT AND 115' FOR 277 VOLT 20 AMP CIRCUITS SHALL BE RUN WITH CONDUCTORS PER TABLE BELOW.

20 AMP MINIMUM BRANCH CIRCUIT CONDUCTOR SIZING		
MAXIMUM LENGTH CONDUCTOR LENGTH (FT)	BRANCH CIRCUIT VOLTAGE	
	120 VOLT	277 VOLT
<70	MIN. #12 AWG	MIN. #12 AWG
70 - 115	MIN. #10 AWG	MIN. #12 AWG
115 - 170	MIN. #8 AWG	MIN. #10 AWG
170 - 270	MIN. #6 AWG	MIN. #8 AWG
271 - 380	NOTE B	MIN. #6 AWG
>380	NOTE B	NOTE B

- A. THESE ARE BASED ON MAXIMUM LENGTH OF CIRCUIT.
- B. PERFORM VOLTAGE DROP CALCULATIONS AND PROVIDE CONDUCTOR SIZE TO KEEP BRANCH CIRCUIT VOLTAGE DROP LESS THAN 3% WITH A 15 AMP LOAD.
- C. CONTRACTOR SHALL ENSURE THAT THE INSTALLATION OF EACH BRANCH CIRCUIT STAYS WITHIN 3% VOLTAGE DROP FOR A 15 AMP LOAD. IF NECESSARY, CONTRACTOR SHALL INCREASE WIRE AND CONDUIT SIZE TO MEET THE STANDARD AT NO ADDITIONAL COST TO OWNER.

INDEX OF ELECTRICAL DRAWINGS

E001	SYMBOLS AND NOTES
E002	SCHEDULES
E003	ELECTRICAL SPECIFICATIONS
E101	ELECTRICAL SITE PLAN
E201	LIGHTING PLAN
E301	POWER/SYSTEMS PLAN
E401	ONE-LINE DIAGRAM
E501	ELECTRICAL DIAGRAM

SYMBOL SCHEDULE

- NOTES:
- SEE FIXTURE SCHEDULE FOR TYPE, MOUNTING AND WATTAGE.
 - HEIGHT MEASURED TO CENTER LINE OF THE BOX FROM THE FINISHED FLOOR.
 - REFER TO DRAWINGS FOR DIRECTIONAL ARROWS.
 - SUBSCRIPT INDICATES FIXTURES TO BE CONTROLLED.
 - NEMA TYPE 'ND' NON-FUSED UNLESS NOTED 'F' (FUSED). USE 'HD' 480V.
 - HEIGHT MEASURED TO TOP OF THE BOX FROM FINISHED FLOOR.
 - PROVIDE H.O.A. AND S.S. PUSHBUTTONS AS REQUIRED.
 - DOUBLE ARROWS INDICATE A DOUBLE FACE UNIT.
 - DEVICES NOTED WITH AN "A" ADJACENT TO IT INDICATES TO COORDINATE WITH MILLWORK SHOP DRAWINGS AND ELEVATIONS FOR HEIGHT.
 - SUBSCRIPT INDICATES NEMA CONFIGURATION.
 - SOLID BOX AROUND DEVICE INDICATES INSTALLED IN FLOOR, DASHED BOX AROUND DEVICE INDICATES INSTALLED IN CEILING.
 - COORDINATE WITH DOOR HARDWARE SUPPLIER.
 - FOR WATER COOLER LOCATION, SEE DIAGRAM R002. FOR ALL OTHER LOCATIONS MOUNT AT +18" TO BOTTOM OF THE BOX FROM FINISHED FLOOR, OR AS NOTED.
 - ARROWS SHOWN ON DEVICE INDICATE THE SENSOR AIMING LOCATION.
 - CAMERA NUMBERS ARE SHOWN INSIDE THE CAMERA SYMBOL. CAMERA TYPES ARE SHOWN IN CAMERA TAGS.
 - MOUNT ON TRACK OF OVERHEAD DOOR 6" FROM TOP OF DOOR UNLESS OVERHEAD DOOR IS ROLL UP DOOR, THEN MOUNT PER MANUFACTURER'S INSTRUCTIONS.
 - INSTALL DEVICES PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
 - DASHED LINE INDICATES EQUIPMENT CLEARANCES. ARROW DENOTES FRONT OF RANK.
 - SPEAKER TO BE MOUNTED IN HORIZONTAL POSITION.
 - MOUNTING HEIGHTS IS TO BOTTOM OF DISPLAY.
- * TYPICAL SYMBOL SCHEDULE. SOME SYMBOLS MAY NOT BE USED IN THIS SET OF DRAWINGS.

STANDARD MOUNTING HEIGHT UNLESS OTHERWISE NOTED ON PLANS									
GENERAL									
SYMBOL	DESCRIPTION	MOUNTING HEIGHT	NOTES	SYMBOL	DESCRIPTION	MOUNTING HEIGHT	NOTES		
	ONE CIRCUIT, HOME RUN TO PANEL				JUNCTION BOX (F' IN FLOOR)	AS NOTED			
	TWO CIRCUIT, HOME RUN TO PANEL				EQUIPMENT PANEL SEE DRAWINGS	+72"	6.		
	THREE CIRCUIT, HOME RUN TO PANEL				CABLE TRAY (BASKET/LADDER)	AS NOTED			
	CONDUIT RUN CONCEALED IN WALL OR CEILING				GROUND BUS BAR	+18"	6.		
	CONDUIT RUN CONCEALED IN FLOOR OR GROUND				LIGHT FIXTURE (LETTER DESIGNATES TYPE)				
	CONDUIT UP				EQUIPMENT NUMBER				
	CONDUIT DOWN				ARCHITECTURAL ROOM NUMBER				
	CONDUIT STUB LOCATION	CAP CONDUIT			DEVICE/EQUIPMENT (TEXT DESIGNATES TYPE) SEE SCHEDULE				
	CONDUIT/CIRCUIT CONTINUATION				DEVICE/EQUIPMENT (TEXT DESIGNATES TYPE) SEE SCHEDULE/LEGEND				
LIGHTING									
	CEILING LIGHT FIXTURE	CEILING	1.		EMERGENCY LIGHTING CONTROL UNIT	ABOVE CEILING	SEE DIAGRAM, SPEC.		
	WALL LIGHT FIXTURE	AS NOTED	1.		SINGLE POLE SWITCH	+46"	2. 4.		
	RECESSED DOWNLIGHT FIXTURE	CEILING	1.		THREE-WAY SWITCH	+46"	2. 4.		
	RECESSED WALL-WASH DOWNLIGHT FIXTURE	CEILING	1.		FOUR-WAY SWITCH	+46"	2. 4.		
	LIGHT FIXTURE	AS NOTED	1.		KEY OPERATED SWITCH	+46"	2. 4.		
	EGRESS LIGHT FIXTURE	AS NOTED	1.		SWITCH WITH PILOT LIGHT	+46"	2. 4.		
	AREA LIGHT POLE AND FIXTURE	CONCRETE BASE	1., SEE DIAGRAM		VARIABLE INTENSITY SWITCH	+46"	2. 4.		
	BOLARD	CONCRETE BASE	1.		TIMER SWITCH	+46"	2. 4.		
	STEP LIGHT FIXTURE	AS NOTED	1.		MOMENTARY CONTACT SWITCH	+46"	2. 4.		
	IN-GRADE LIGHT FIXTURE	CONCRETE BASE	1.		LOW VOLTAGE WALLSTATION (SUBSCRIPT INDICATES CONFIGURATION & CONTROL SEQUENCE)	+46"	2. SEE DIAGRAM, SPEC.		
	FLOOD OR TRACK FIXTURE	AS NOTED	1.		DUAL TECH CEILING MOUNTED OCCUPANCY SENSOR (PROVIDE WITH ALL PP AND ROOM CONTROLLERS)	CEILING	SEE DIAGRAM, SPEC.		
	CEILING / WALL MOUNTED EXIT LIGHT	CEILING/ AS NOTED	1, 3, 8.		DUAL TECH WALL MOUNTED OCCUPANCY SENSOR (SUBSCRIPT D = DIMMING AND DAY-LIGHT CONTROL)	+46"	2. 4. SEE DIAGRAM, SPEC.		
	EMERGENCY LIGHT FIXTURE	AS NOTED	1.		PHOTO-ELECTRIC CONTROL (LOCATE ON ROOF, FACE NORTH)	AS NOTED	MOUNT AS PER MFR.		
	COMBO EXIT / EMERGENCY LIGHT FIXTURE	AS NOTED	1.		DIGITAL DAYLIGHT SENSOR	CEILING	SEE DIAGRAM, SPEC.		
	POWER PACK	ABOVE CEILING	SEE DIAGRAM, SPEC.		TIME CLOCK	+60"	2.		
	DIGITAL ROOM CONTROLLER (SUBSCRIPT INDICATES NUMBER OF RELAYS)	ABOVE CEILING	SEE DIAGRAM, SPEC.		RECEPTACLE SWITCH PACK	ABOVE CEILING			
POWER									
	DUPLEX RECEPTACLE	UPPER OUTLET SWITCH CONTROLLED	+18" OR AS NOTED	2. 9.		RECEPTACLE SWITCH PACK	ABOVE CEILING		
	SIMPLEX RECEPTACLE		+18" OR AS NOTED	2. 9.		POWER POLE			
	TAMPER-PROOF RECEPTACLE		+18" OR AS NOTED	2. 9.		PLUGMOLD/SURFACE RACEWAY	+46" OR AS NOTED	2. SEE SPEC.	
	DUPLEX RECEPTACLE		+18" OR AS NOTED	2. 9. 11.		FLAT PANEL DISPLAY WALL BOX, TVSS RECEPT., DATA AND OTHER DEVICES. REFER TO DIAGRAMS	AS NOTED	SEE DIAGRAM & SPEC. 26 2726	
	DUPLEX RECEPTACLE WITH USB OUTLET		+18" OR AS NOTED	2. 9.		CEILING PROJECTION SYSTEM CEILING BOX	ABOVE CEILING	SEE DIAGRAM AND SPEC.	
	CONTROLLED DUPLEX RECEPTACLE		+18" OR AS NOTED	2. 9.		CLOCK OUTLET	+90"	2.	
	DUPLEX RECEPTACLE			9.		DOOR BELL CHIME	+90"	2.	
	5mA GFCI CIRCUIT BREAKER PROTECTED RECEPTACLE			13.		FLOOR BOX - SEE SCHEDULE	FLOOR	SEE DIAGRAM, SPEC.	
	WEATHERPROOF RECEPTACLE		+24" OR AS NOTED	2. 9.		POKE THRU - SEE SCHEDULE	FLOOR	SEE DIAGRAM, SPEC.	
	ISOLATED GROUND RECEPTACLE		+18" OR AS NOTED	2. 9.		MOTOR OUTLET	TO SUIT EQUIP.		
	GROUND FAULT INTERRUPTER DUPLEX RECEPTACLE		+18" OR AS NOTED	2. 9.		PUSHBUTTON	+46"	2.	
	DUPLEX RECEPTACLE EMERGENCY POWER (RED)		+18" OR AS NOTED	2. 9. 11.		NON-FUSED DISCONNECT SWITCH	+60"	5. 6.	
	FOURPLEX RECEPTACLE		+18" OR AS NOTED	2. 9. 11.		FUSED DISCONNECT SWITCH	+60"	5. 6.	
	GROUND FAULT INTERRUPTER FOURPLEX RECEPTACLE		+18" OR AS NOTED	2. 9.		BREAKER DISCONNECT SWITCH	+60"	5. 6.	
	FOURPLEX RECEPTACLE EMERGENCY POWER (RED)		+18" OR AS NOTED	2. 9. 11.		MANUAL STARTER THERMAL OVERLOAD SWITCH WITH PILOT LIGHT	+46"	2.	
	CONTROLLED FOURPLEX RECEPTACLE		+18" OR AS NOTED	2. 9.		MAGNETIC STARTER	+60"	6. 7.	
	TVSS PROTECTED RECEPTACLE		+18" OR AS NOTED	2. 9.		MAGNETIC STARTER / DISCONNECT COMBINATION	+60"	6. 7.	
	SPECIAL PURPOSE OUTLET		+18" OR AS NOTED	2. 10. W/CAP.		VARIABLE FREQUENCY DRIVE	+66"	6.	
	CORD DROP			SEE DIAGRAM		PANEL BOARD	+72"	6.	
	CORD REEL			SEE DIAGRAM		MAIN DISTRIBUTION PANEL			
	TOMBSTONE RECEPTACLE					UTILITY METER	+72"	6.	
TELECOMMUNICATIONS									
	WALL PHONE		+60" OR AS NOTED	2.		TELEPHONE TERMINAL BOARD			
	DATA OUTLET , ONE CABLE		+18" OR AS NOTED	2. 9. 11.		EQUIPMENT CEILING RACK	CEILING		
	DATA OUTLET, TWO CABLES		+18" OR AS NOTED	2. 9. 11.		EQUIPMENT 4-POST RACK/CABINET	AS NOTED	18. SEE SPEC.	
	DATA OUTLET, THREE CABLES		+18" OR AS NOTED	2. 9. 11.		EQUIPMENT 2-POST	AS NOTED	18. SEE SPEC.	
	DATA OUTLET , "X" INDICATES QUANTITY		+18" OR AS NOTED	2. 9. 11.		SPLITTER	ABOVE CEILING		
	DATA OUTLET , CEILING		AS NOTED			VIA	ABOVE CEILING		
	WIRELESS ACCESS POINT, TWO CABLES SOLID = WALL, DASHED = CEILING			11.		FIBER BDA	ABOVE CEILING		
	TELEVISION OUTLET		+18" OR AS NOTED	2. 9. 11.		ANTENNA PS = PUBLIC SERVICE COM = CELLULAR/COMMERCIAL	CEILING		

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LIGHT FIXTURE SCHEDULE		
LIGHT FIXTURE ABBREVIATION SCHEDULE		
A.F.F. ABOVE FINISH FLOOR	CCBA CUSTOM PAINTED COLOR AS SELECTED BY THE ARCHITECT	CFBA CUSTOM FINISH AS SELECTED BY THE ARCHITECT
WALL@CLG WALL MOUNT AT CORNER OF WALL AND CEILING	SCBA STANDARD PAINTED COLOR AS SELECTED BY THE ARCHITECT	SFBA STANDARD FINISH AS SELECTED BY THE ARCHITECT

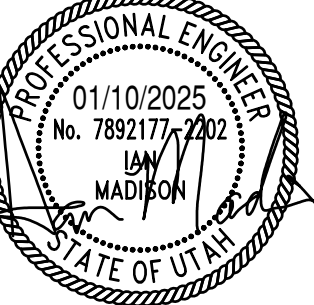
LIGHT FIXTURE GENERAL NOTES									
1. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR LOCATIONS OF LIGHT FIXTURES AND, CONFIRM CEILING TYPES WITH LIGHT FIXTURE TRIMS. BRING ALL DISCREPANCIES OF LOCATIONS AND QUANTITIES TO THE ATTENTION OF THE ARCHITECT AND ELECTRICAL ENGINEER PRIOR TO BIDDING.									
2. REFER TO ARCHITECTURAL ELEVATIONS FOR MOUNTING HEIGHTS AND LOCATIONS OF LIGHT FIXTURES. BRING ALL DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT PRIOR TO BIDDING.									
3. REFER TO THE SPECIFICATIONS FOR OTHER LIGHT FIXTURE, FUSING, LED DRIVERS, AND LAMP REQUIREMENTS AND ACCEPTABLE MANUFACTURERS.									
4. CONFIRM AVAILABLE MOUNTING DEPTHS OF ALL LIGHT FIXTURES AND COMPARE WITH DEPTHS SHOWN ON SHOP DRAWINGS. BRING ALL POTENTIAL CONFLICT AREAS TO THE ATTENTION OF THE ARCHITECT AND ELECTRICAL ENGINEER PRIOR TO RELEASE.									
5. REFER TO LIGHTING PLANS FOR ALL LINEAR FIXTURE LENGTHS. THE CATALOG NUMBER IS BASED ON THE FIXTURE SPECIFIED AND MAY NOT REFLECT THE QUANTITY OR OVERALL LENGTH OF LINEAR FIXTURES REQUIRED. CONTRACTOR TO NOTE THAT VARIOUS FIXTURE LENGTHS MAY BE REQUIRED TO ACHIEVE THE OVERALL RUN LENGTH.									
6. REFER TO LIGHTING PLANS FOR ALL UNDERCABINET FIXTURE LENGTHS. THE CATALOG NUMBER IS BASED ON THE FIXTURE SPECIFIED AND MAY NOT REFLECT THE QUANTITY OR OVERALL LENGTH OF THE UNDERCABINET FIXTURES REQUIRED. CONTRACTOR TO NOTE THAT VARIOUS FIXTURE LENGTHS MAY BE REQUIRED TO ACHIEVE THE OVERALL RUN LENGTH OR TO FIT WITHIN THE MILLWORK. COORDINATE FIXTURE LAYOUT WITH MILLWORK SHOP DRAWINGS PRIOR TO LIGHTING SUBMITTALS.									
7. WHEN A CONTRADICTION EXISTS BETWEEN A SPECIFIC MODEL NUMBER AND THE DESCRIPTION, NOTIFY THE ELECTRICAL ENGINEER AND/OR LIGHTING DESIGNER.									
8. PRIOR APPROVALS ARE REQUIRED BEFORE BIDDING THE PROJECT AND SHALL BE SUBMITTED TO THE ELECTRICAL ENGINEER'S OFFICE AT LEAST (8) EIGHT WORKING DAYS BEFORE THE BID. PRIOR APPROVALS RECEIVED AFTER THIS TIME PERIOD SHALL BE REJECTED.									
9. REFER TO SPECIFICATIONS 20 0500, 26 5100 & 26 5600 (16001, 16510 & 16551).									
10. VALUE ENGINEERING CONDUCTED WITHOUT THE DESIGN TEAM IE, ARCHITECT, ENGINEER & LIGHTING CONSULTANT/DESIGNER WILL NOT BE ALLOWED, REVIEWED OR APPROVED.									
TYPE	DESCRIPTION	MFR.	CATALOG #	VOLTS	TOTAL WATTS	LAMP TYPE	DELIVERED LUMENS	COLOR TEMP	CRI
O1	LOW PROFILE WALL PACK DIE CAST ALUMINUM HOUSING STANDARD COLOR BY ARCHITECT FORWARD TYPE IV DISTRIBUTION EQUIP WITH BUTTON PHOTOCELL	GARDOO	GWS-A03-630-T4M-120-PCB-SCBA (OR OWNER APPROVED EQUAL)	120	25	LED	3500	3000K	80
S4X	4" LED LENSED STRPLIGHT DIFFUSE MATTE ACRYLIC LENS CHAIN OR SURFACE UN-STRUT MOUNT MOUNT LIGHT FIXTURES AT APPROX 10'-0" AFF EQUIP WITH 90 MINUTE BATTERY PACK	HE WILLIAMS	75L-4-L50/840-DMA-EM10WLP-VBY-2-DIM-UNV (OR OWNER APPROVED EQUAL)	120	42	LED	5100	4000K	80

EQUIPMENT SCHEDULE													
UNIT #	FUNCTION	LOAD	VOLT	PHASE	FULL LOAD AMPS	CONDUIT SIZE	WIRES				OCPD		REMARKS
							NO. SETS	NO.	SIZE	EQUIP. GND (n)	TYPE	AMPS	
BP-1	BOOSTER PUMP	535 FLA	240	1	535.00	2-1/2"	2	2	500	1/0	CB	800	9B
DP-1	DOSING PUMP	12 FLA	120	1	12.00	3/4"	1	2	12	12	CB	20	11A
EF-1	EXHAUST FAN	1/4 HP	120	1	5.80	3/4"	1	2	12	12	CB	15	4A
FM-1	FLOW METER	1/16 HP	120	1	2.40	3/4"	1	2	12	12	CB	15	11A
RTU-1	ROOFTOP UNIT	18.4 MCA	240	1	14.72	3/4"	1	2	12	12	CB	25	2A
UH-1	UNIT HEATER	5 KVA	240	1	20.83	3/4"	1	2	10	10	CB	30	1A
NOTES:													
1. NON-FUSED DISCONNECT SWITCH							A. FURNISHED, INSTALLED, AND CONNECTED UNDER DIVISION 26						
2. FUSED DISCONNECT SWITCH							B. FURNISHED AND INSTALLED UNDER ANOTHER DIVISION REQUIRING CONNECTION UNDER DIVISION 26.						
3. BREAKER IN ENCLOSURE							C. FURNISHED UNDER ANOTHER DIVISION BUT INSTALLED AND CONNECTED UNDER DIVISION 26.						
4. MANUAL STARTER W/THERMAL OVERLOAD							D. FURNISHED, INSTALLED AND CONNECTED UNDER ANOTHER DIVISION.						
5. MAGNETIC STARTER							CB = CIRCUIT BREAKER - THERMAL MAGNETIC						
6. MAGNETIC STARTER/NON-FUSED DISCONNECT COMBINATION													
7. MAGNETIC STARTER/FUSED DISCONNECT COMBINATION													
8. MAGNETIC STARTER/BREAKER COMBINATION													
9. VARIABLE FREQUENCY DRIVE													
10. REDUCED VOLTAGE STARTER							NOTE 1: PER 250.122(A), EQUIPMENT GROUND IS NOT REQUIRED TO BE LARGER THAN PHASE CONDUCTOR.						
11. DIRECT CONNECTION							NOTE 2: OVERCURRENT PROTECTION DEVICE (OCPD) SHOWN IS LOCATED AT POWER PANEL. ALL FUSING TO BE SIZED IN ACCORDANCE WITH FUSE MFR RECOMMENDATION FOR MOTOR NAME PLATE RATING. SEE SECTION 26 2815.						
12. RECEPTACLE/SPECIAL PURPOSE OUTLET/ETC.							NOTE 3: ALL EQUIPMENT TO BE RATED FOR THE ENVIRONMENT FOR WHICH IT IS INSTALLED.						
13. TWO-SPEED STARTER, COORDINATE W/MOTOR TYPE													
14. SOLID STATE SOFT STARTER													



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PAYSON CITY BOOSTER
PUMP STATION
PAYSON, UT

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REVISIONS

MARKDATEDESCRIPTION

PROJECT NO: 24336.00

DATE: JANUARY 10, 2025

DESIGN BY: BNA

CHECKED BY: I.M.

SHEET TITLE

SCHEDULES

E002

2 OF 8

ELECTRICAL SPECIFICATIONS

ELECTRICAL GENERAL PROVISIONS

DESCRIPTION OF WORK: EXTENT OF ELECTRICAL WORK IS INDICATED ON DRAWINGS. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, SUPERVISION AND SERVICE NECESSARY FOR A COMPLETE ELECTRICAL SYSTEM. WORK INCLUDES, BUT IS NOT NECESSARILY LIMITED TO THE FOLLOWING ITEMS:

- o ELECTRICAL CONNECTIONS FOR EQUIPMENT
- o CONDUCTORS AND CABLES
- o GROUNDING
- o SUPPORTING DEVICES
- o CONDUIT RACEWAYS
- o ELECTRICAL BOXES AND FITTINGS
- o ELECTRICAL SEISMIC CONTROL
- o ELECTRICAL IDENTIFICATION
- o PROTECTIVE DEVICE STUDY
- o PANELBOARDS
- o SERVICE ENTRANCE
- o WIRING DEVICES
- o OVERCURRENT PROTECTIVE DEVICES
- o MOTOR AND CIRCUIT DISCONNECTS
- o MOTOR STARTERS
- o SURGE PROTECTIVE DEVICES
- o INTERIOR AND EXTERIOR BUILDING LIGHTING

INTERPRETATION OF DRAWINGS AND SPECIFICATIONS: BEFORE BIDDING, CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH THE DRAWINGS, SPECIFICATIONS AND PROJECT SITE.

VISIT THE SITE DURING THE BIDDING PERIOD TO DETERMINE EXISTING CONDITIONS AFFECTING ELECTRICAL AND OTHER WORK, ALL COSTS ARISING FROM SITE CONDITIONS AND/OR PREPARATION SHALL BE INCLUDED IN THE BASE BID. NO ADDITIONAL CHARGES WILL BE ALLOWED DUE TO INADEQUATE SITE INSPECTION.

QUALITY ASSURANCE: PERFORM WORK IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC), COMPLY WITH REQUIREMENTS FOR STATE AND LOCAL ORDINANCES. OBTAIN ALL PERMITS, INSPECTIONS, ETC. FOR AUTHORITY HAVING JURISDICTION (AHJ). EMPLOY ONLY QUALIFIED CRAFTSMEN WITH AT LEAST THREE (3) YEARS OF EXPERIENCE. WORKMANSHIP SHALL BE NEAT, HAVE A GOOD MECHANICAL APPEARANCE AND CONFORM TO BEST ELECTRICAL STATE CONTRACTING LICENSE. PROVIDE EQUIPMENT AND MATERIALS THAT ARE UNDERWRITERS LABORATORIES INC. (UL) LISTED AND LABELED.

SUBMITTALS: AFTER THE CONTRACT IS AWARDED BUT PRIOR TO MANUFACTURE OR INSTALLATION OF ANY EQUIPMENT, PREPARE COMPLETE SHOP DRAWINGS.

- o PROVIDE SUBMITTALS IN PORTABLE DOCUMENT FORMAT (PDF).
- o DOCUMENTS MUST BE ELECTRONICALLY BOOKMARKED AND KEYWORD SEARCHABLE USING (HTTP://ADOBE.COM/ACROBAT) ADOBE ACROBAT OR BLUEBEAM REVU (HTTP://BLUEBEAM.COM) FOR EACH RELEVANT SECTION. (I.E. INCLUDE ELECTRONIC BOOKMARKS SEPARATION "LIGHT FIXTURES" FROM "PANELBOARDS").
- o ELECTRONICALLY HIGHLIGHT ALL OPTIONS FOR LIGHT FIXTURES, ELECTRICAL EQUIPMENT, ETC. MANUAL HIGHLIGHTING AND SCANNING OF THE DOCUMENTS IS NOT ACCEPTABLE AND WILL NOT BE REVIEWED.
- o PROVIDE ONLY COMPLETED CUTSHEETS FOR ALL FIXTURE AND EQUIPMENT TYPES. BLANK CUTSHEETS SUBMITTED WITH A SCHEDULE ARE NOT ACCEPTABLE AND WILL NOT BE REVIEWED.
- o A MAXIMUM OF ONE SUBMITTAL PER SPECIFICATION SECTION IS ALLOWED, IT IS NOT ACCEPTABLE TO PROVIDE PRODUCT BY PRODUCT SUBMITTAL. SINGLE PRODUCT SUBMITTALS WILL NOT BE REVIEWED.
 - o ELECTRICAL CONNECTIONS FOR EQUIPMENT
 - o CONDUCTORS AND CABLES
 - o GROUNDING
 - o SUPPORTING DEVICES
 - o CONDUIT RACEWAYS
 - o ELECTRICAL BOXES AND FITTINGS
 - o ELECTRICAL SEISMIC CONTROL
 - o ELECTRICAL IDENTIFICATION
 - o PROTECTIVE DEVICE STUDY
 - o PANELBOARDS
 - o SERVICE ENTRANCE
 - o WIRING DEVICES
 - o OVERCURRENT PROTECTIVE DEVICES
 - o MOTOR AND CIRCUIT DISCONNECTS
 - o MOTOR STARTERS
 - o SURGE PROTECTIVE DEVICES
 - o INTERIOR AND EXTERIOR BUILDING LIGHTING
- o PRODUCTS: PRODUCTS ARE SPECIFIED BY MANUFACTURER NAME, DESCRIPTION AND/OR CATALOG NUMBER. PROVIDE PRODUCTS OF MANUFACTURERS SPECIFIED. SUBSTITUTIONS WILL BE CONSIDERED IF A DUPLICATE WRITTEN APPLICATION IS SUBMITTED. NO MATERIAL MAY BE SUBSTITUTED AFTER THE BID OPENING. PROVIDE BLOCK OUTS, SLEEVES, ETC. REQUIRED FOR INSTALLATION OF WORK SPECIFIED.
- o RECORD DRAWINGS: MAINTAIN ON A DAILY BASIS, A COMPLETE SET OF RECORD DRAWINGS, REFLECTING AN ACCURATE DIMENSIONAL RECORD OF ALL BURIED OR CONCEALED WORK. MARK RECORD DRAWINGS TO SHOW THE PRECISE LOCATION OF CONCEALED WORK AND EQUIPMENT, INCLUDING CONCEALED OR EMBEDDED CONDUIT AND JUNCTION BOXES AND ALL CHANGES AND DEVIATIONS IN THE WORK FROM THAT SHOWN ON THE CONTRACT DOCUMENTS.
- o OPERATION AND MAINTENANCE MANUALS: PROVIDE OPERATION AND MAINTENANCE DATA BOOKS FOR ALL EQUIPMENT AND MATERIALS FURNISHED UNDER THIS DIVISION.
- o GUARANTEE: ENSURE THAT ELECTRICAL SYSTEMS INSTALLED UNDER THIS CONTRACT IS IN PROPER WORKING ORDER AND IN COMPLIANCE WITH DRAWINGS, SPECIFICATIONS, AND/OR AUTHORIZED CHANGES, WITHOUT ADDITIONAL CHARGE, REPLACE ANY WORK OR MATERIALS WHICH DEVELOP DEFECTS, EXCEPT FROM ORDINARY WEAR AND TEAR, WITHIN ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION.
- o FIRE PROTECTION SEALS: SEAL ALL PENETRATIONS FOR WORK OF THIS SECTION THROUGH FIRE RATED FLOORS, WALLS, CEILINGS TO PREVENT THE SPREAD OF SMOKE, FIRE, TOXIC GAS, OR WATER THROUGH THE PENETRATION EITHER BEFORE, DURING OR AFTER FIRE.
- o POWER OUTAGES: ALL POWER OUTAGES REQUIRED FOR EXECUTION OF THIS WORK SHALL OCCUR DURING NON-STANDARD WORKING HOURS AND AT THE CONVENIENCE OF THE OWNER. INCLUDE ALL COSTS FOR OVERTIME WORK IN BID.
- o EXCAVATING FOR ELECTRICAL WORK: LOCATE AND PROTECT EXISTING UTILITIES AND OTHER UNDERGROUND WORK. PERFORM EXCAVATION IN A MANNER WHICH PROTECTS WALLS, FOOTINGS AND OTHER STRUCTURAL MEMBERS.
- o CONCRETE BASES: PROVIDE 4" CONCRETE BASES FOR ELECTRICAL EQUIPMENT.
- o ROOF PENETRATIONS: PROVIDE ROOF JACK, SIZED TO FIT TIGHTLY TO RACEWAY FOR WEATHERTIGHT SEAL.

ELECTRICAL CONNECTIONS FOR EQUIPMENT

- o VERIFY EXACT LOAD AND LOCATION OF ALL EQUIPMENT BEFORE ROUGH-IN FOR EACH ELECTRICAL CONNECTION. PROVIDE COMPLETE ASSEMBLY OF MATERIAL, INCLUDING BUT NOT NECESSARILY LIMITED TO, RACEWAYS, CONDUCTORS, CORDS, CORD CAPS, PLUGS, WIRING DEVICES, PRESSURE CONNECTORS, TERMINALS (LUGS), ELECTRICAL INSULATION TAPE, HEAT-SHRINKABLE INSULATION TUBING, CABLE TIES, SOLDERLESS WIRE NUTS, AND OTHER ITEMS AND ACCESSORIES AS NEEDED TO COMPLETE SPLICES, TERMINATIONS, AND CONNECTIONS AS REQUIRED. FOR PERMANENTLY INSTALLED FIXED EQUIPMENT, PROVIDE FLEXIBLE SEAL-TITE CONNECTIONS. FOR MOVABLE AND/OR PORTABLE EQUIPMENT, PROVIDE WIRE DEVICE, CORD CAP, AND MULTI-CONDUCTOR CORD.

CONDUCTORS AND CABLES

- o PROVIDE FACTORY FABRICATED CONDUCTORS FOR SIZES, RATINGS, MATERIAL, AND TYPES INDICATED FOR EACH SERVICE. PROVIDE COPPER CONDUCTORS, WITH THHN/THWN INSULATION. SIZE ALL CONDUCTORS IN ACCORDANCE WITH NEC: MINIMUM SIZE TO BE #12 AWG. PROVIDE STRANDED CONDUCTORS FOR #8 AWG AND LARGER.
- o THE FOLLOWING COLOR SCHEME SHALL BE USED:

CONDUCTOR	240/120 V SYSTEM	208/120 V SYSTEM	480/277 V SYSTEM
PHASE A	BLACK	BLACK	BROWN
PHASE B	RED	RED	ORANGE
PHASE C	BLUE	BLUE	YELLOW
SHARED/SINGLE NEUTRAL	WHITE	WHITE	GRAY
NEUTRAL A (DEDICATED)	WHITE W/ BLACK STRIPE	WHITE W/ BLACK STRIPE	GRAY W/ BROWN STRIPE
NEUTRAL B (DEDICATED)	WHITE W/ RED STRIPE	WHITE W/ RED STRIPE	GRAY W/ ORANGE STRIPE
NEUTRAL C (DEDICATED)	WHITE W/ BLUE STRIPE	WHITE W/ BLUE STRIPE	GRAY W/ YELLOW STRIPE
EQUIPMENT GROUND	GREEN	GREEN	GREEN
ISOLATED GROUND	GREEN W/ YELLOW STRIPE	GREEN W/ YELLOW STRIPE	GREEN W/ YELLOW STRIPE

GROUNDING

- o PROVIDE GROUNDING AND BONDING OF ALL ELECTRICAL AND COMMUNICATION APPARATUS, MACHINERY, APPLIANCES, BUILDING COMPONENTS, AND ITEMS REQUIRED BY THE NEC TO PROVIDE A PERMANENT, CONTINUOUS LOW IMPEDANCE, GROUNDING SYSTEM. PROVIDE AN NEC BONDING/GROUNDING CONDUCTOR IN ALL RACEWAYS USE FOR POWER DISTRIBUTION.

SUPPORTING DEVICES

- o PROVIDE SUPPORTS, ANCHORS, SLEEVES AND SEALS AS REQUIRED FOR A COMPLETE RACEWAY SUPPORT SYSTEM, INCLUDING BUT NOT LIMITED TO: CLEVIS HANGERS, RISER CLAMPS, C-CLAMPS, BEAM CLAMPS, ONE- AND TWO-HOLE CONDUIT STRAPS, OFFSET CONDUIT CLAMPS, EXPANSION ANCHORS, TOGGLE BOLTS, THREADED RODS, U-CHANNEL, STRUT SYSTEM, AND ALL OTHER ASSOCIATED ACCESSORIES. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND WITH RECOGNIZED INDUSTRY PRACTICES TO ENSURE SUPPORTING DEVICES COMPLY WITH REQUIREMENTS. PROVIDE RIGID ATTACHMENT OF ALL FLOOR MOUNTED EQUIPMENT TO THE FLOOR SLAB OR STRUCTURAL SYSTEM.

CONDUIT RACEWAYS

- o PROVIDE METAL CONDUIT, TUBING, AND FITTINGS OF TYPES, GRADES, SIZES, AND WEIGHTS (WALL THICKNESS) AS REQUIRED; WITH MINIMUM TRADE SIZE OF 3/4". INSTALL ELECTRICAL RACEWAY SYSTEMS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND APPLICABLE REQUIREMENTS OF NEC AND NECA "STANDARD OF INSTALLATION" IN ACCORDANCE WITH THE FOLLOWING:
 - o FEEDERS: INSTALL FEEDERS RATED 100 AMPS AND GREATER, IN ELECTRICAL METALLIC CONDUIT (EMT); WHERE BURIED BELOW GRADE, INSTALL IN CONCRETE ENCASED NON-METALLIC CONDUIT OR DUCT (SCHEDULE 40 PVC). o BRANCH CIRCUITS, AND INDIVIDUAL EQUIPMENT CIRCUITS RATED LESS THAN 100 AMPS; INSTALL IN ELECTRICAL METALLIC TUBING (EMT). WHERE LOCATED IN POURED WALLS, BELOW CONCRETE SLAB-ON-GRADE, OR IN EARTH FILL, INSTALL IN NON-METALLIC PLASTIC DUCT (SCHEDULE 40 PVC). ENCASE NON-METALLIC PLASTIC DUCT 1-1/4" AND LARGER IN CONCRETE.
 - o PROVIDE RIGID METAL CONDUIT (RMC) FOR ALL BENDS IN BURIED CONDUIT GREATER THAN 30 DEGREES. PROVIDE PROTECTIVE COATING FOR RIGID METAL CONDUIT BENDS.
 - o INSTALL FLEXIBLE CONDUIT FOR CONNECTIONS TO MOTORS, TRANSFORMERS, AND OTHER ELECTRICAL EQUIPMENT WHERE SUBJECT TO MOVEMENT AND VIBRATIONS.
 - o PROVIDE "OZ" EXPANSION FITTINGS ON ALL CONDUITS CROSSING BUILDING EXPANSION JOINTS, BOTH IN SLAB AND SUSPENDED.
 - o DUCT BANKS: PROVIDE DUCT BANK CONSTRUCTION AS INDICATED USING 3000 PSI CONCRETE WITH RED MARKER DYE. INSTALL #4 REINFORCING BAR IN EACH CORNER OF DUCT BANK. PROVIDE MINIMUM OF 4" CONCRETE COVER ON ALL SIDES OF EXTERIOR CONDUITS.

ELECTRICAL BOXES AND FITTINGS

- o PROVIDE ONE PIECE GALVANIZED FLAT ROLLED SHEET STEEL INTERIOR OUTLET WIRING BOXES, CORROSION-RESISTANT CAST-METAL WEATHERPROOF OUTLET WIRING BOXES, CODE GAUGE SHEET STEEL JUNCTION AND PULL BOXES, GALVANIZED CAST IRON CONDUIT BODIES, CORROSION-RESISTANT PUNCH-STEEL BOX KNOCKOUT CLOSURES, CONDUIT LOCKOUTS AND MALLEABLE STEEL CONDUIT BUSHINGS AND OFFSET CONNECTORS, AND ALL ACCESSORIES AS REQUIRED TO SUIT EACH RESPECTIVE LOCATION AND INSTALLATION. FASTEN BOXES RIGIDLY TO SUBSTRATES OR STRUCTURAL SURFACES TO WHICH ATTACHED, OR SOLIDLY EMBED ELECTRICAL BOXES IN CONCRETE OR MASONRY. USE BAR HANGERS FOR STUD CONSTRUCTION.

ELECTRICAL SEISMIC CONTROL

- o PROVIDE SEISMIC CONTROL EQUIPMENT INCLUDING BUT NOT LIMITED TO: VIBRATION ISOLATORS, FLEXIBLE CONNECTIONS, RIGID STEEL FRAMES, ANCHORS, INSERTS AND ATTACHMENTS, SEISMIC SNUBBER AND BRACING TO MEET THE REQUIREMENTS FOR THE PROJECT SITE AS DESIGNED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED.
- o THE ABOVE REFERENCED ENGINEER SHALL DETERMINE SPECIFIC REQUIREMENTS FOR EQUIPMENT ANCHORAGE AND RESTRAINTS, LOCATIONS AND SIZES BASED ON SHOP DRAWINGS FOR THE ELECTRICAL EQUIPMENT WHICH HAVE BEEN SUBMITTED.
- o THE DIVISION 26 CONTRACTOR SHALL REQUIRE ALL EQUIPMENT SUPPLIER FURNISHED EQUIPMENT THAT MEETS THE SEISMIC CODE, WITH BASES/SKIDS/CURBS DESIGNED TO RECEIVE SEISMIC BRACING AND/OR ANCHORAGE.
- o SPRING ISOLATED EQUIPMENT: ALL VIBRATION ISOLATED EQUIPMENT SHALL BE MOUNTED ON RIGID STEEL FRAMES OR CONCRETE BASES. EACH SPRING MOUNTED BASE SHALL HAVE A MINIMUM OF FOUR ALL-DIRECTIONAL SEISMIC SNUBBERS THAT ARE DOUBLE ACTING AND LOCATED AS CLOSE TO THE VIBRATION ISOLATORS AS POSSIBLE TO FACILITATE ATTACHMENT BOTH TO THE BASE AND THE STRUCTURE.
- o NON-ISOLATED EQUIPMENT: THE DIVISION 26 CONTRACTOR SHALL BE RESPONSIBLE FOR THOROUGHLY REVIEWING ALL DRAWINGS AND SPECIFICATIONS TO DETERMINE ALL EQUIPMENT TO BE RESTRAINED. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR CERTIFYING THAT THIS EQUIPMENT IS MOUNTED AND BRACED.
- o CONDUIT: A RIGID CONDUIT SYSTEM SHALL NOT BE BRACED TO DISSIMILAR PARTS OF THE BUILDING OR TWO DISSIMILAR BUILDING SYSTEMS THAT MAY RESPOND IN A DIFFERENT MODE DURING AN EARTHQUAKE. EXAMPLE: WALLS AND A ROOF; SOLID CONCRETE WALL AND A METAL DECK WITH LIGHTWEIGHT CONCRETE FILL. UNBRACED CONDUIT ATTACHED TO IN-LINE EQUIPMENT SHALL BE PROVIDED WITH ADEQUATE FLEXIBILITY TO ACCOMMODATE DIFFERENTIAL DISPLACEMENTS. PROVIDE LARGE ENOUGH PIPE SLEEVES THROUGH WALLS OR FLOORS TO ALLOW FOR ANTICIPATED DIFFERENTIAL MOVEMENTS.
- o CABLE TRAY: CABLE TRAYS SHALL BE SUSPENDED FROM ROD HANGERS AND HANGERS THAT ARE 12" IN LENGTH OR LONGER FROM POINT ROD ATTACHES TO TRAY, TO THE POINT ROD CONNECTS LOCATED AS CLOSE TO THE VIBRATION ISOLATORS AS POSSIBLE TO THE SUPPORTING STRUCTURE BOTH TO THE BASE AND TO THE VIBRATION ISOLATORS AS POSSIBLE TO FACILITATE ATTACHMENT AND THE STRUCTURE.
- o NON-ISOLATED EQUIPMENT: THE DIVISION 26 CONTRACTOR SHALL BE RESPONSIBLE FOR THOROUGHLY REVIEWING ALL DRAWINGS AND SPECIFICATIONS TO DETERMINE ALL EQUIPMENT TO BE RESTRAINED. THIS CONTRACTOR SHALL BE RESPONSIBLE FOR CERTIFYING THAT THIS EQUIPMENT IS MOUNTED AND BRACED.

ELECTRICAL IDENTIFICATION

- o PROVIDE ELECTRICAL IDENTIFICATION PRODUCTS FOR BURIED ELECTRICAL LINES, ARC-FLASH HAZARD LABELS (ANSI Z535.4), SOURCE OF SUPPLY LABELS, AVAILABLE FAULT CURRENT LABELS AND EMERGENCY OPERATING SIGNS TO EQUIPMENT INSTALLED AS PART OF THIS PROJECT.
- o COLOR ADHESIVE MARKING TAPE FOR RACEWAYS, WIRES AND CABLES: SELF-ADHESIVE VINYL TAPE NOT LESS THAN 3 MILLS THICK BY 1" TO 2" IN WIDTH.
- o UNDERGROUND LINE MARKING TAPE: PERMANENT, BRIGHT COLORED, CONTINUOUS-PRINTED, PLASTIC TAPE COMPOUNDED FOR DIRECT-BURIAL SERVICE NOT LESS THAN 6" WIDE BY 4 MILLS THICK.
- o ENGRAVED, PLASTIC LAMINATED LABELS, SIGNS AND INSTRUCTION PLATES: ENGRAVING STOCK PLASTIC LAMINATE, 1/16" MINIMUM THICKNESS FOR SIGNS UP TO 20" SQUARE, OR 8" IN LENGTH; 1/8" FOR ARCHES; SIZE 1/8" ENGRAVED LEGEND IN 1/4" HIGH WHITE LETTERS ON BLACK BACKGROUND.
- o PROVIDE LABELS ON COVER PLATES INDICATING SOURCE OF POWER (I.E. PANEL - CIRCUIT #) TO COMPLY WITH NEC 408.4.
- o PROVIDE CIRCUIT DIRECTORY THAT CLEARLY IDENTIFIES EACH AND EVERY CIRCUIT, TO COMPLY WITH NEC 408.4.
- o CONDUIT IDENTIFICATION
 - o IDENTIFY RACEWAYS OF SYSTEMS WITH COLOR CODING. ACCEPTABLE MEANS OF COLOR IDENTIFICATION ARE AS FOLLOWS:
 - o COLORED ADHESIVE MARKING TAPE
 - o FIELD PAINTED FITTINGS IE: COUPLINGS AND CONNECTORS
 - o FIRE ALARM SYSTEM: RED
 - o SOUND/IC: BLUE
 - o TELEPHONE: YELLOW
 - o DATA: GREEN
 - o SECURITY: ORANGE
 - o IDENTIFY JUNCTION, PULL AND CONNECTION BOXES
 - o PROVIDE COVERPLATES FOR SYSTEMS JUNCTION, PULL AND CONNECTIONS BOXES
 - o PAINTED TO MATCH REQUIREMENTS ABOVE.
 - o FOR POWER AND LIGHTING JUNCTION BOXES LABEL WITH IDENTITY OF CONTAINED CIRCUITS.

PROTECTIVE DEVICE STUDY

- o PROVIDE PROTECTIVE DEVICE AND ARC-FLASH HAZARD STUDIES PERFORMED BY QUALIFIED ENGINEERS OF THE EQUIPMENT MANUFACTURER OR AN APPROVED CONSULTANT. STUDIES MUST BEAR THE PROFESSIONAL ENGINEER'S STAMP OF THE ENGINEER RESPONSIBLE OF THE PROTECTIVE DEVICE STUDIES. PERFORM ALL WORK IN ACCORDANCE WITH LATEST IEEE AND ANSI STANDARDS.
- o FAULT CURRENT PROTECTIVE DEVICE & EQUIPMENT EVALUATION:
 - o PERFORM FAULT CURRENT ANALYSIS WITH THE AID OF A COMPUTER AND APPROPRIATE SOFTWARE. INCLUDES INPUT DATA THE MAXIMUM AVAILABLE SHORT CIRCUIT DISTRIBUTION, RESISTANCE AND REACTANCE COMPONENTS OF THE BRANCH IMPEDANCES, THE X/R RATIOS, BASE QUANTITIES SELECTED, AND OTHER SOURCE IMPEDANCES.
- o PROTECTIVE DEVICE COORDINATION STUDY
 - o PERFORM A PROTECTIVE DEVICE COORDINATION STUDY INCLUDING THE NECESSARY CALCULATIONS AND LOGIC DECISIONS REQUIRED TO SELECT POWER FUSE RATINGS, PROTECTIVE RELAY CHARACTERISTICS AND SETTINGS, RATIOS AND CHARACTERISTICS OF ASSOCIATED CURRENT TRANSFORMERS, AND LOW VOLTAGE BREAKER TRIP CHARACTERISTICS AND SETTINGS. PERFORM THE STUDIES IN ACCORDANCE WITH THE LATEST APPLICABLE IEEE AND ANSI STANDARDS.
- o ARC-FLASH HAZARD ANALYSIS AND STUDY:
 - o PERFORM AN ARC-FLASH HAZARD ANALYSIS AND STUDY. INCLUDE THE NECESSARY CALCULATIONS REQUIRED TO DETERMINE THE LEVEL OF PERSONAL PROTECTION EQUIPMENT (PPE) THAT A WORKER MUST USE, THE ARC-FLASH BOUNDARY IN INCHES, AND THE INCIDENT ENERGY AT EACH LOCATION. THIS INFORMATION SHALL BE CALCULATED AND DETERMINED FOR EACH PIECE OF SERVICE EQUIPMENT. EACH POWER DISTRIBUTION SWITCHBOARD OR PANEL. EACH SEPARATELY MOUNTED CIRCUIT BREAKER, EACH MOTOR CONTROL CENTER, EACH INDIVIDUALLY MOUNTED MOTOR STARTER, AND EACH BRANCH PANELBOARD.

PANELBOARDS

- o PROVIDE GALVANIZED SHEET STEEL CABINET TYPE ENCLOSURES, IN SIZES AND NEMA TYPES AS INDICATED, CODE-GAUGE MINIMUM 16-GAUGE THICKNESS. PROVIDE DEAD FRONT SAFETY TYPE PANELBOARDS WITH DOOR-IN-DOOR HINGED FRONTS. EQUIP WITH COPPER (ALUMINUM) BUS BARS, FULL-SIZED NEUTRAL AND GROUND BUS. PROVIDE ENCLOSURES FABRICATED BY THE SAME MANUFACTURER AS OVERCURRENT DEVICES. BOLT ENGRAVED PLASTIC LAMINATE LABELS INDICATING PANEL NAME AND VOLTAGE ON THE INTERIOR AND EXTERIOR OF PANELBOARD.

SERVICE ENTRANCE

- o PROVIDE SERVICE-ENTRANCE EQUIPMENT AND ACCESSORIES OF TYPES, SIZES, RATINGS, AND ELECTRICAL CHARACTERISTICS INDICATED.
- o PROVIDE EACH SERVICE ENTRANCE SWITCHBOARD WITH SURGE PROTECTIVE DEVICE.
- o PROVIDE METER SOCKETS WHICH COMPLY WITH THE REQUIREMENTS OF LOCAL UTILITY COMPANY.
- o PROVIDE METERS, CURRENT AND POTENTIAL TRANSFORMERS, SELECTOR SWITCHES, WIRING, ETC. FOR A COMPLETE METERING SYSTEM.

WIRING DEVICES

- o PROVIDE SPEC GRADE FACTORY-FABRICATED WIRING DEVICES, IN TYPE, AND ELECTRICAL RATINGS FOR APPLICATIONS INDICATING AND COMPLYING WITH NEMA STD5 PUB NO. WD-1. PROVIDE HEAVY DUTY SPECIFICATION GRADE, 20-AMPERES RATED, GROUNDING TYPE CONVENIENCE OUTLETS. PROVIDE 20-AMPERE RATED TOGGLE SWITCHES. CONSTRUCT WIRING DEVICE OF HEAVY-DUTY HIGH IMPACT NYLON AND PROVIDE COVER PATES TO MATCH. PROVIDE DEVICES AND COLORS SELECTED BY ARCHITECT.
- o PROVIDE THE FOLLOWING:
 - o CONTROLLED RECEPTACLE - NEMA 5-20R TO COMPLY WITH NEC 406.3(F).
 - o TAMPER RESISTANT RECEPTACLE - NEMA 5-20R TO COMPLY WITH NEC 406.12.
 - o US8 RECEPTACLE - NEMA 5-20R WITH (2) USB, 5VDC, 2.0 AND 3.0 TYPE A AND TYPE C PORTS.
 - o GROUND FAULT INTERRUPTER - NEMA 5020R WITH 5 MILLIAMPERES GROUND FAULT TRIP LEVEL.
 - o WEATHER RESISTANT RECEPTACLE - NEMA 5-20R TO COMPLY WITH NEC 406.9.
 - o WEATHER PROTECTIVE DEVICE ENCLOSURE - PROVIDE IN-USE COVER TO COMPLY WITH NEC 406.9.

OVERCURRENT PROTECTIVE DEVICES

- o PROVIDE OVERCURRENT PROTECTIVE DEVICES OF THE SAME MANUFACTURER AS THE SWITCHBOARD AND/OR PANELBOARD MANUFACTURER. PROVIDE FACTORY ASSEMBLED DEVICES OF AMPERAGE, VOLTAGE, AND RMS INTERRUPTING RATING SHOWN. PROVIDE DEVICES AS FOLLOWS:
 - o MOLDED CASE THERMAL TRIP CIRCUIT BREAKERS:
 - o PROVIDE FACTORY-ASSEMBLED BOLT-ON MOLDED CASE CIRCUIT BREAKER WITH PERMANENT THERMAL TRIP AND ADJUSTABLE INSTANTANEOUS MAGNETIC TRIP IN EACH POLE. SERIES RATING IS NOT ACCEPTABLE. CONSTRUCT BREAKERS FOR MOUNTING AND OPERATING IN ANY PHYSICAL POSITION AND IN AN AMBIENT TEMPERATURE OF 40 DEGREES C.
 - o CIRCUIT BREAKERS 15 AMPS THROUGH 599 AMPS SHALL BE MOLDED CASE THERMAL CIRCUIT BREAKERS
 - o MOLDED CASE SOLID STATE CIRCUIT BREAKERS
 - o PROVIDE FACTORY ASSEMBLED BOLT-ON MOLDED CASE CIRCUIT BREAKERS UL LISTED FOR APPLICATION AT 100% OF THEIR RATED CONTINUOUS AMPERE RATING.
 - o CIRCUIT BREAKERS 600 AMPS THROUGH 1199 AMPS SHALL BE MOLDED CASE SOLID-STATE CIRCUIT BREAKERS.
 - o SOLID-STATE TRIP MECHANISMS SHALL HAVE THE FOLLOWING FUNCTIONS: ADJUSTABLE LONG TIME AMPERE RATING; ADJUSTABLE LONG TIME DELAY; SHORT TIME PICK-UP; ADJUSTABLE SHORT TIME DELAY; ADJUSTABLE INSTANTANEOUS PICK-UP.
 - o INSULATED CASE CIRCUIT BREAKERS
 - o PROVIDE FACTORY ASSEMBLED BOLT-ON INSULATED CASE CIRCUIT BREAKERS WITH SOLID-STATE TRIP APPLICATION AT 100% OF THEIR CONTINUOUS AMPERE RATING.
 - o CIRCUIT BREAKERS 1200 AMPS AND LARGER SHALL BE INSULATED CASE CIRCUIT BREAKERS..

MOTOR AND CIRCUIT DISCONNECTS

- o PROVIDE HEAVY-DUTY TYPE SAFETY SWITCHES; FUSIBLE OR NON-FUSIBLE AS INDICATED. PROVIDE SWITCHES RATED AT 600 VOLTS, 60 HZ.; INCORPORATING QUICK-MAKE, QUICK-BREAK TYPE MECHANISMS. EQUIP WITH OPERATING HANDLE THAT IS CAPABLE OF BEING PADLOCKED IN THE OFF POSITION. PROVIDE NEMA ENCLOSURE RATINGS BASED ON LOCATION OF INSTALLATION

MOTOR STARTERS

- o PROVIDE FACTORY ASSEMBLED, AC-NON-RESERVING MAGNETIC STARTERS RATED AT 600V WITH THERMAL OVERLOAD PROTECTION IN ALL PHASES. MOUNT HAND-OFF-AUTO SWITCH, RED PILOT LIGHT, AND RESET BUTTON IN FACE OF ENCLOSURE. PROVIDE NEMA ENCLOSURES RATINGS BASED ON LOCATION OF INSTALLATION.

SURGE PROTECTIVE DEVICES

- o PROVIDE HIGH ENERGY SURGE PROTECTIVE DEVICES, WITH HIGH FREQUENCY LINE NOISE FILTERING, SUITABLE FOR APPLICATION IN CATEGORY A, B, AND C ENVIRONMENTS. UNIT SHALL BE COMPLETE PACKAGED UNIT COMPLYING WITH APPLICABLE REQUIREMENTS OF ANSI/IEEE C62 IN THE LIFE SAFETY EMERGENCY DISTRIBUTION SYSTEM. AND UL 1449.
- o PROVIDE SURGE PROTECTIVE DEVICES AT EACH SWITCHBOARD AND/OR PANELBOARD LOCATED

INTERIOR AND EXTERIOR BUILDING LIGHTING

- o PROVIDE LIGHTING FIXTURES COMPLETE WITH ALL COMPONENTS FOR EACH SIZE, TYPE, AND RATING INDICATED. THIS INCLUDES, BUT NOT LIMITED TO HOUSING, DRIVER, REFLECTORS, AND WIRING. SIZE FUSES PER BALLAST MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL NECESSARY SUPPORTS, BRACKETS, AND MISCELLANEOUS EQUIPMENT FOR THE MOUNTING OF FIXTURES. SUPPORT ALL GRID MOUNTED FIXTURES FROM THE BUILDING STRUCTURE WITH #12GA-STEEL WIRE ATTACHED TO EACH CORNER; INDEPENDENT OF THE CEILING SYSTEM. PROVIDE BACKING SUPPORTS. PROVIDE GYPSUM BOARD PROTECTION AS REQUIRED TO MAINTAIN FIRE RATING OF EACH CEILING IN WHICH FIXTURES ARE INSTALLED. PROVIDE ALL EXTERIOR FIXTURES WITH DAMP OR WET LOCATION LABEL AS REQUIRED BY APPLICATION. PROVIDE CLASS 2 WIRING FOR ALL FIXTURES INDICATED TO HAVE 0-10 DIMMING.

PAYSON CITY BOOSTER PUMP STATION
PAYSON, UT

REVISIONS		MARK	DATE	DESCRIPTION

PROJECT NO: 24336.00
DATE: JANUARY 10, 2025
DESIGN BY: BNA
CHECKED BY: I.M.
SHEET TITLE

ELECTRICAL SPECIFICATIONS

E003

3 OF 8

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By: nolson, Jan 10, 2025 -- 10:49am
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SHEET KEYNOTES	
S1	APPROXIMATE LOCATION OF SERVICE TRANSFORMER. COORDINATE WITH PAYSON CITY POWER AND REFER TO ONE-LINE DIAGRAM FOR MORE INFORMATION.
S2	LOCATION OF METER/SERVICE DISCONNECT. REFER TO ONE-LINE DIAGRAM FOR MORE INFORMATION.

PLAN NORTH

ELECTRICAL SITE PLAN

1" = 20'-0"

BNA
CONSULTING
SALT LAKE ST. GEORGE

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West Valley City, Utah 84120
P:801.532.2196
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PAYSON
UTAH
HOME TO ADVENTURE

PAYSON CITY BOOSTER
PUMP STATION
PAYSON, UT

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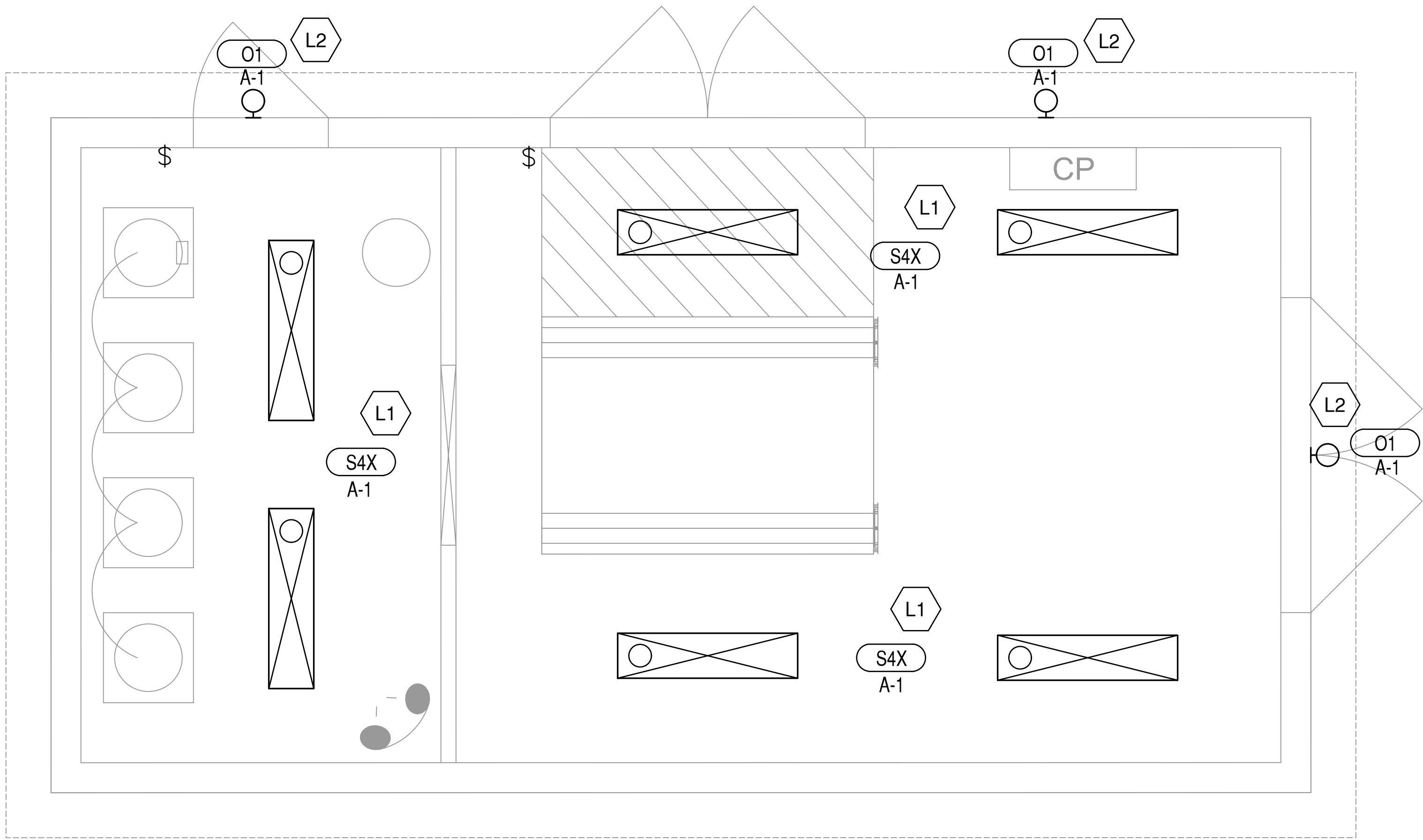
REVISIONS		MARK	DATE	DESCRIPTION

PROJECT NO: 24336.00
DATE: JANUARY 10, 2025
DESIGN BY: BNA
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SHEET TITLE

ELECTRICAL
SITE
PLAN

E101
4 OF 8

By: nolsent, Jan 10, 2025 - 10:48am
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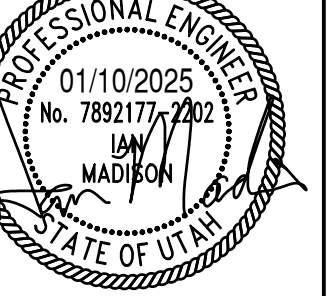


SHEET KEYNOTES	
L1	PROVIDE UNSWITCHED LIGHTING CIRCUIT TO BATTERY IN FIXTURE.
L2	PROVIDE UNSWITCHED LIGHTING CIRCUIT TO PHOTOCELL CONTROLLED EXTERIOR LIGHT FIXTURE.



3160 W. Clubhouse Drive, Ste. A
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PAYSON CITY BOOSTER
PUMP STATION

PAYSON, UT

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REVISIONS	

MARK	DATE	DESCRIPTION

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SHEET TITLE

LIGHTING PLAN

E201

5 OF 8

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PANELBOARD SCHEDULE																													
PANEL		A		TYPE				120/240		VOLTS		1		PH		3		W											
MOUNTING		FLUSH X SURFACE		DIMENSIONS		W D (in.) H		LOCATION		PUMP HOUSE		MAINS		LUGS BREAKER SUBFEED LUGS ISO GROUND 200% NEUTRAL SPD															
BRANCH BREAKERS																													
ITEM		AMPS		POLE		WIRE SIZE		CIR. NO.		L. PHASE LOAD		R. PHASE LOAD		CIR. NO.		AMPS		POLE		WIRE SIZE		ITEM							
LIGHTING		20		1		12		1		120		720		288		4		15		1		12		CONV. RECEPTACLES					
SCALES		20		1		12		3				2000		6		30		1		10		SCADA PANEL							
DP-1		20		1		12		7		1440		696		8		15		1		12		EP-1							
UH-1		30		2		10		9		2500		1766		10		25		2		12		RTU-1							
-		-		-		-		11		2500		1766		12		-		-		-		-							
SPARE		20		1				13						14								SPACE ONLY							
SPARE		20		1				15						16								SPACE ONLY							
SPACE ONLY								17						18								SPACE ONLY							
SPACE ONLY								19						20								SPACE ONLY							
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SPACE ONLY								35						36								SPACE ONLY							
SPACE ONLY								37						38								SPACE ONLY							
SPACE ONLY								39						40		30		2		10		SPD CAT C							
SPACE ONLY								41						42		-		-		-									
										3120	4660		4486	2750															
										7606	7410		TOTAL							CONNECTED LOAD TOTAL									
										63	62		AMPS/PHASE							15016 W									
* Provide 5 mA GFCI Circuit Breaker																													
										EQUIP RATING										40.000		AMPS RMS SYM.							

