BOX ELDER BEGGNAUCHT DE ACHE RICH OCOUPH OGREAT TOOELE TOOE

AREA MAP



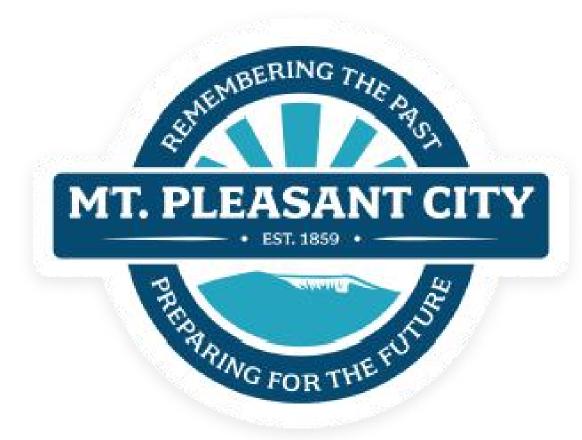
VICINITY MAP

LAGOON IMPROVEMENTS PROJECT

MT PLEASANT CITY

SEPTEMBER 2025

BIDSET



PROJECT NO. 93-24-009



J-U-B ENGINEERS, INC.

392 E. Winchester St., Suite 300, Salt Lake City, UT 84107

p 801 886 9052 w www.jub.com

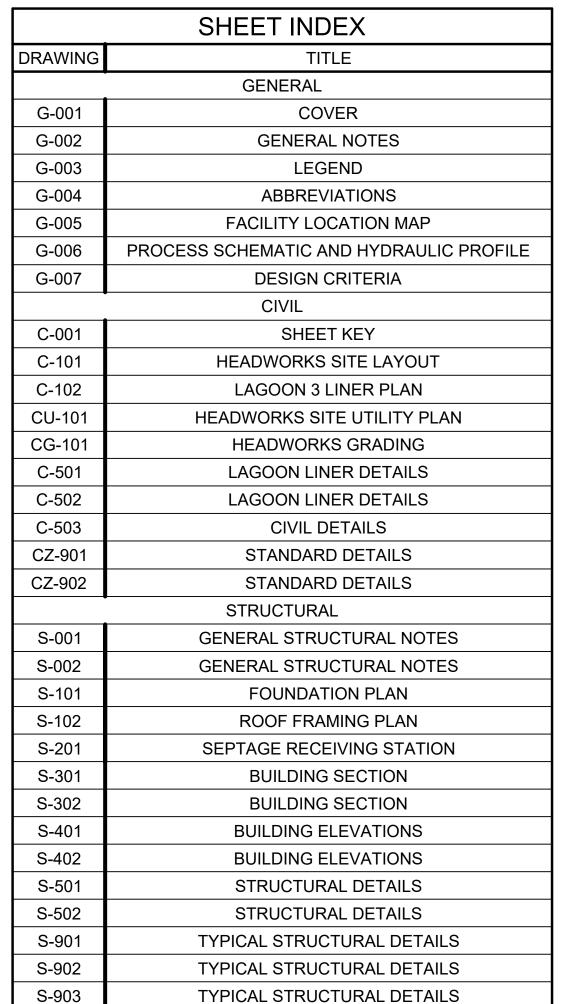








J-U-B FAMILY OF COMPANIES



TYPICAL STRUCTURAL DETAILS

S-904

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D-102	NEW HEADWORKS BUILDING - PLAN
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D-302	SEPTAGE RECEIVING STATION
DZ-901	STANDARD DETAILS
DZ-902	STANDARD DETAILS
•	ELECTRICAL
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E-002	ELECTRICAL SYMBOL LEGEND
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E-110	POWER PLAN
E-111	CONTROLS PLAN
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G-001

GENERAL NOTES

- A. THE GENERAL NOTES AND SPECIFICATIONS SUPPLEMENT THE PROJECT OPPOSED AND THE PROJECT OPPOSED OF THE PROJECT OPPOSED OPPOSED
- B. THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION BRACING, TEMPORARY SHORING, AND OTHER SITE SAFETY CONTROLS REQUIRED DURING CONSTRUCTION IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS, TO ENSURE THE STABILITY AND SAFETY OF ALL CONSTRUCTION UNTIL IT IS COMPLETED.
- C. DETAILS ON THESE PLANS ARE INTENDED TO DEPICT THE GENERAL CONSTRUCTION DETAILS AND METHODS FOR THIS PROJECT. DETAILS AND CONDITIONS NOT SPECIFICALLY SHOWN THAT ARE SIMILAR IN NATURE TO THOSE THAT ARE SPECIFIED SHALL BE ASSUMED ONE AND THE SAME. IF QUESTIONS REGARDING THE APPLICATION OF DETAILS ARE ENCOUNTERED, NOTIFY THE ENGINEER FOR CLARIFICATION OR INSTRUCTION.
- D. PRIOR TO IMPLEMENTING ANY CHANGES TO THESE PLANS, THE ENGINEER SHALL BE NOTIFIED IN WRITING FOR THEIR WRITTEN APPROVAL. CHANGES IMPLEMENTED WITHOUT THE ENGINEERS WRITTEN APPROVAL SHALL RELIEVE THE ENGINEER OF ANY CLAIM OR LIABILITY RESULTING FROM THAT PORTION OF THE PROJECT CHANGED OR AFFECTED BY THE CHANGE.
- E. CONTRACTOR SHALL HAVE ONE (1) COPY OF APPROVED PLANS, AND ONE (1) COPY OF THE APPROPRIATE STANDARDS AND SPECIFICATIONS AND A COPY OF ANY PERMITS NEEDED FOR THE JOB, ON SITE AT ALL TIMES.
- F. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL LABOR AND MATERIALS NECESSARY FOR THE COMPLETION OF THE INTENDED IMPROVEMENTS SHOWN ON THESE DRAWINGS OR DESIGNATED TO BE PROVIDED, INSTALLED, CONSTRUCTED, REMOVED AND RELOCATED UNLESS SPECIFICALLY NOTED OTHERWISE.
- G. CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING AS—BUILT DRAWINGS ON A SET OF RECORD DRAWINGS KEPT AT THE CONSTRUCTION SITE, AND AVAILABLE TO THE CITY INSPECTOR AT ALL TIMES
- H. THE CONTRACTOR IS REQUIRED TO PROPERLY DISPOSE OF ALL DEBRIS REMOVED FOR CONSTRUCTION OF THE WORK.
 I. THE OWNER RESERVES THE RIGHT TO SALVAGE ITEMS NOTED FOR DEMOLITION. CONTRACTOR SHALL DISPOSE OF ALL ITEMS NOT
- SALVAGED BY THE OWNER.

 J. CONTRACTOR SHALL COORDINATE WITH STATE AND LOCAL INSPECTION AGENCIES AS REQUIRED FOR INSPECTION AND APPROVAL OF THE WORK (E.G., PLUMBING, MECHANICAL,
- ELECTRICAL, BUILDING, ETC.).

 K. FINISH GRADE SLOPE AWAY FROM BUILDINGS/STRUCTURES AT A MINIMUM OF 2% OR A MAXIMUM OF 25% FOR A MINIMUM DISTANCE OF 10' OR TO THE CATCH POINT WITH EXISTING GRADE (WHICH EVER IS GREATER) UNLESS INDICATED OTHERWISE ON THE DRAWINGS.

CONTRACTOR RESPONSIBILITY FOR COORDINATION

- A. IT IS THE CONTRACTORS PRIME RESPONSIBILITY TO COORDINATE THE WORK SHOWN ON ALL OF THE PROJECT DRAWINGS, GENERAL, SPECIAL, AND TECHNICAL SPECIFICATIONS.
- B. THE CONTRACTOR IS RESPONSIBLE TO VERIFY ALL EXISTING CONSTRUCTION MATERIAL TYPES, DIMENSIONS, ELEVATIONS, AND CONDITIONS.
- C. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CAREFULLY STUDY AND COORDINATE THE CONSTRUCTION REQUIREMENTS SHOWN ON THESE DRAWINGS. WHEN CONFLICTS OR DISCREPANCIES ARE FOUND IN THESE DRAWINGS, THE CONTRACTOR SHALL REPORT THEM IMMEDIATELY TO THE PROJECT ENGINEER FOR DIRECTION AND/OR CLARIFICATION.
- D. ANY CONSTRUCTION WORK DONE BY THE CONTRACTOR BEFORE OBTAINING SUCH CLARIFICATION FROM THE PROJECT ENGINEER SHALL BE AT THE CONTRACTOR'S OWN RISK AND COST. FURTHERMORE; ANY WORK REQUIRED TO CORRECT, REPLACE AND/OR RESTORE THE WORK AS DIRECTED BY THE ENGINEER SHALL BE AT THE CONTRACTOR'S OWN RISK AND COST.
- E. THE EXISTING LAGOON TREATMENT FACILITY WILL REMAIN IN OPERATION DURING CONSTRUCTION. CONTRACTOR SHALL PLAN, SCHEDULE, AND PERFORM THE WORK TO MINIMIZE DISRUPTIONS. ALL NECESSARY SHUT DOWNS OR BYPASSES SHALL FIRST BE APPROVED BY THE OWNER AND ENGINEER.

PROJECT NOTES

- A. THE CONTRACTOR SHALL LIMIT ACTIVITIES TO IMMEDIATE PROJECT AREA TO FULLEST EXTENT POSSIBLE, ALL WORK SHALL OCCUR WITHIN THE LIMITS OF MT PLEASANT CITY PROPERTY, RIGHT—OF—WAY. AND APPROVED EASEMENTS.
- B. ANY DAMAGE TO PUBLIC OR PRIVATE PROPERTY RESULTING FROM CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO EQUAL OR BETTER CONDITION AT THE CONTRACTOR'S EXPENSE.
- C. THE CONTRACTOR SHALL LOCATE AND PROTECT ALL EXISTING UTILITIES AND BE RESPONSIBLE FOR DAMAGES TO EXISTING UTILITIES AND EXISTING IMPROVEMENTS AS A RESULT OF THE CONTRACTOR'S CONSTRUCTION ACTIVITIES.

EXISTING UTILITIES

- A. THE LOCATION OF EXISTING UTILITIES ARE SHOWN IN AN
- APPROXIMATE WAY ONLY.

 B. DEPTHS AND ELEVATIONS OF UTILITIES ARE UNKNOWN UNLESS
- OTHERWISE SHOWN.
 C. CONTRACTOR IS RESPONSIBLE TO:
 - VERIFY EXACT LOCATIONS OF ALL UTILITIES PRIOR TO BEGINNING WORK IN THAT AREA
 - 2. BRING ANY DISCREPANCIES AND/OR CONFLICTS TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.
 - 3. NOTIFY APPROPRIATE UTILITY COMPANIES WHEN CONSTRUCTION MIGHT INTERFERE WITH NORMAL OPERATION OF ANY UTILITIES.
 - 4. MAINTAIN SERVICE OF EXISTING UTILITIES.
 - 5. RESTORE ANY UTILITIES DAMAGED DUE TO CONSTRUCTION AT NO ADDITIONAL COST TO THE OWNER.

MISCELLANEOUS

- A. CONTRACTOR IS RESPONSIBLE FOR DUST ABATEMENT AND ANY LIABILITY ISSUES RELATED TO DUST AT ANY LOCATION WHICH MAY BE CAUSED BY THIS PROJECT.
- B. THE CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL AND PROTECTION OF PEDESTRIANS IN AND AROUND THIS WORK.
 REFERENCE THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD LATEST EDITION FOR WORK ZONE TRAFFIC CONTROL).
- C. SHOULD CONSTRUCTION BE HALTED BECAUSE OF INCLEMENT WEATHER CONDITIONS, THE CONTRACTOR WILL COMPLETELY CLEAN UP ALL AREAS AND MAINTAIN THE SURFACE IN GOOD CONDITION DURING THE SHUT-DOWN PERIOD.
- D. CONTRACTOR SHALL NOT PERFORM CONSTRUCTION OUTSIDE MOUNT PLEASANT CITY BUSINESS HOURS, MON-FRI 9:00A.M. TO 5:00 P.M., WITHOUT PRIOR WRITTEN PERMISSION FROM THE CITY.

INSPECTION AND TESTING

- A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MATERIALS TESTING INCLUDING BUT NOT LIMITED TO CONCRETE, ASPHALT, AND COMPACTION. ALL TESTS SHALL MEET MINIMUM ENGINEER REQUIREMENTS. REFER TO PROJECT STANDARDS FOR FREQUENCY OF TESTING.
- 3. THE CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH ENGINEER AND SPECIAL INSPECTOR FOR INSPECTIONS OF WORK AT APPROPRIATE INTERVALS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PAY FOR ADDITIONAL INSPECTIONS THAT ARE THE RESULT OF HIS WORKMANSHIP.

PERMITTING AND COORDINATION

- A. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND BUSINESS LICENSES PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL LOCAL. STATE, AND FEDERAL PERMITS REQUIRED FOR STORM WATER POLLUTION PREVENTION AS A RESULT OF CONSTRUCTION ACTIVITIES. WHEN CALLED FOR IN THE CONTRACT DOCUMENTS, CONTRACTOR SHALL PREPARE A STORM WATER POLLUTION PREVENTION PLAN FOR APPROVAL BY THE ENGINEER AND FOR SUBMITTAL TO LOCAL AUTHORITIES FOR REVIEW AND APPROVAL. IF THE CONSTRUCTION WILL DISTURB MORE THAN ONE ACRE, CONTRACTOR SHALL FILE A "NOTICE OF INTENT" FOR PERMIT COVERAGE UNDER THE STATE'S UPDES STORM WATER GENERAL PERMIT FOR CONSTRUCTION ACTIVITIES (UTR300000) AND PAY ALL ASSOCIATED FEES. THE NOI MAY BE FILED ELECTRONICALLY AT THE FOLLOWING WEBSITE: HTTP://WWW.WATERQUALITY.UTAH.GOV/UPDES/STORMWATERCON.HTM AND FOLLOWING THE DIRECTIONS GIVEN UNDER THE HEADING "ONLINE APPLICATION PROCESS AND SEARCH FOR EXISTING PERMITS". THE CGP DOES NOT RELIEVE CONTRACTOR FROM COMPLIANCE WITH OTHER REGULATIONS OR CONTRACT REQUIREMENTS REGARDING STORM WATER POLLUTION PREVENTION INCLUDING BUT NOT LIMITED TO: PROTECTION OF SURFACE WATERS. PREVENTION OF SOIL RUNOFF INTO DRAINS, DUST CONTROL PREVENTION OF TRACKING SOILS TO ADJACENT STREETS, FUEL CONTAINMENT, SPILL CONTROL, ETC.

MECHANICAL NOTES:

- A. MECHANICAL MATERIAL/EQUIPMENT SHOWN IS FOR SCHEMATIC PURPOSES. CONTRACTOR IS RESPONSIBLE FOR CORRECT QUANTITIES AND DIMENSIONS. CONSULT MANUFACTURER'S DETAIL DRAWINGS FOR DIMENSIONS AND INSTALLATION DETAILS. MECHANICAL DRAWINGS ARE INTENDED TO DETAIL CERTAIN MECHANICAL FEATURES, DIMENSIONS AND EQUIPMENT. FOR CLARITY, OTHER MECHANICAL, STRUCTURAL, CIVIL, HVAC/PLUMBING, ARCHITECTURAL OR ELECTRICAL INFORMATION MAY BE SHOWN IN BACKGROUND, LIGHTENED, HIDDEN OR REMOVED FROM THE MECHANICAL DRAWINGS. CONTRACTOR IS RESPONSIBLE TO CROSS—REFERENCE AMONG DRAWINGS/BID VOLUMES AND COORDINATE WITH OTHER TRADES OR DISCIPLINES TO CONFORM TO THE OVERALL DESIGN INTENT FOR THESE FACILITIES.
- CONTRACTOR SHALL VERIFY ALL EQUIPMENT DIMENSIONS AND ELEVATIONS AND CROSS REFERENCE THESE WITH ALL OTHER EQUIPMENT AND TRADES ASSOCIATED WITH THE WORK TO ENSURE PROPER INSTALLATION, OPERATION, ALIGNMENT, MOUNTING REQUIREMENTS, CONNECTION DETAILS, ETC. SUBMIT MANUFACTURERS CONNECTION DETAILS AND SHOP DRAWINGS PER THE SPECIFICATIONS.
- C. CLEAN, PRIME, AND PAINT ALL EXPOSED METAL, PUMPS, PIPING, VALVES, FITTINGS, AND OTHER EQUIPMENT PER THE SPECIFICATIONS.
- PIPE SUPPORTS AND HANGARS SHOWN ARE A GENERALIZATION.
 PIPE SUPPORTS AND HANGARS SHALL BE DESIGNED BY THE
 CONTRACTOR AND SUBMITTED WITH THE PIPING SHOP DRAWINGS.
 PROVIDE PIPE SUPPORTS AND HANGARS IN ACCORDANCE WITH THE
 STANDARD DETAILS AND AS REQUIRED TO ADEQUATELY SUPPORT
 AND STABILIZE THE PIPING.

PROJECT CONTACT LIST

MT PLEASANT PUBLIC WORKS

COLTER ALLEN 435-201-9184

ENGINEER

GARY VANCE 801-750-4771

(JUB)

J-U-B ENGINEERS, INC.

J-U-B ENGINEERS, INC.

392. E. Winchester St., Suite 300
Salt Lake City, UT 84107
Phone: 801.547.0393

Subconsultant:

PROFESS/ONA FROFESS/ONA FROFE

J-U-B SHALL RETAIN ALL COMMON LAW, STATUTORY, COPYRIGHT AND OTHER RESERVED RIGHTS OF THESE DRAWINGS, AND THE SAME SHALL NOT BE REUSED WITHOUT J-U-B'S PRIOR WRITTEN CONSENT.

ANY REUSE WITHOUT LIABILITY OR LEGAL EXPOSURE TO J-U-B.

REVISION

REVISION

NO. DESCRIPTION

BY APR, DATE

ON IMPROVEMENTS PROJE MT PLEASANT CITY

FILE: 93-24-009 G-002 G NOTES

JUB PROJ. #:93-24-009

DRAWN BY: CIH

DESIGN BY: BP

CHECKED BY: BP

ONE INCH

AT FULL SIZE, IF NOT ONE

G-002

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LAG

ONE INCH

AT FULL SIZE, IF NOT ONE
INCH, SCALE ACCORDINGLY
LAST UPDATED: 6/19/2025

DRAWING:

R

Know what's below.
Call before you dig.

CALL 2 BUSINESS DAYS IN ADVANCE BEFORE
YOU DIG, GRADE, OR EXCAVATE FOR THE
MARKING OF UNDERGROUND MEMBER
UTILITIES

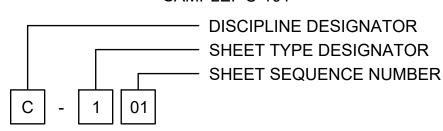
LINE LEGEND

LINE DESCRIPTION	PROPOSED LINE	EXISTING LINE
POWER / COMMUNICAT	IONS	
OVERHEAD POWER	——ОНР——	——— ОНР ———
UNDERGROUND POWER	UP	— — — UP — — —
OVERHEAD TELEPHONE	—— онт ——	OHT
UNDERGROUND TELEPHONE	ит	— — — UT — — —
FIBER OPTIC	F/0	F/0
CABLE TELEVISION	стv	CTV
UNDERGROUND POWER, TEL, CABLE TV		- — — - P,T,CTV - — — -
UNDERGROUND POWER, TEL, CABLE TV, GAS		— — — P,T,CTV,G — — —
STORM DRAIN		
STORM DRAIN (GENERAL)	SD	———— SD ————
STORM DRAIN	——————————————————————————————————————	————x"sd————
ROOF DRAIN	RD	— — — RD — — —
LAND DRAIN	——ьь——	————LD————
SANITARY SEWER		
SANITARY SEWER (GENERAL)	ss	ss
SANITARY SEWER	X"SS	x"ss
SANITARY SEWER SERVICE	—-ss—ss—-	SS SS
SEWER FORCE MAIN	———- FM———	— — — FM — — —
WATER		
WATER (GENERAL)	w	w
WATER (SPECIFIED SIZE)	x**w	×"w
WATER SERVICE	wsws	WS WS
IRRIGATION		
IRRIGATION	IRR	———— IRR ————
GRAVITY IRRIGATION	——— GIRR ———	— — — GIRR — — —
PRESSURE IRRIGATION	——— PIRR ———	— — — PIRR — — —
POTABLE WATER	PW	— — — PW — — —
NON-POTABLE WATER	NPW	NPW
GAS		
NATURAL GAS	G	G
NATURAL GAS SERVICE	— G — G —	G G
HIGH PRESSURE GAS	HPG	— — — HPG — — —
LIQUID GAS	LG	— — — LG — — —
UTILITY		
CHLORINE LINE	——————————————————————————————————————	CHL
INDUSTRIAL WASTE WATER	IWW	ww

LINE DESCRIPTION	PROPOSED LINE	EXISTING LINE
BOUNDARY		
PROPERTY LINE	P/L	——— P/L ———
PROPERTY LINE		
RIGHT OF WAY	R/W	R/W
TEMPORARY EASEMENT	T/E	——— т/Е ———
PERMANENT EASEMENT	———P/E———	———— P/E ———
TOWNSHIP AND RANGE		
SECTION LINE		
QUARTER SECTION LINE		
1/16 SECTION LINE		
STATE LINE		
COUNTY LINE		
SITE		
FENCE MAJOR CONTOUR	x 2521	X
MAJOR CONTOUR MINOR CONTOUR	2521	
GRADE BREAK		GB
TOP OF BANK		TOB
TOP OF BANK TOE OF SLOPE		TOE
CUT LIMITS		TOE
CUT LIMITS CUT LIMITS	CUT	
FILL LIMITS		
FILL LIMITS		
DITCH		
STORM SWALE		
EDGE OF WATER		
HIGH WATER		
WETLAND		WET
WETLAND BOG		BOG
WETLAND MARSH		MRSH
WETLAND SWAMP		SWMP
		Strivi
ROADWAY		
ROAD SHOULDER		
ROAD CENTERLINE		
ROAD ASPHALT		————EP————
ROAD GRAVEL	EG	————EG————
TOP BACK OF CURB		
LIP OF GUTTER		
LANDSCAPING LIMITS	LS	————LS ———

SHEET NUMBERING

SAMPLE: C-101



DISCIPLINE DESIGNATORS					
DISCIPLINE DESIGNATOR DESCRIPTION					
	G	ALL GENERAL			
GENERAL	GI	GENERAL INFORMATION			
GENERAL	GC	GENERAL CONTRACTUAL			
	GR	GENERAL RESOURCE			
SURVEY/MAPPING	V	ALL SURVEY			
GEOTECHNICAL	В	ALL GEOTECHNICAL			
CIVIL	С	ALL CIVIL			
LANDSCAPE	L	ALL LANDSCAPE			
STRUCTURAL	S	ALL STRUCTURAL			
ARCHITECTURAL	Α	ALL ARCHITECTURE			
EQUIPMENT	Q	ALL EQUIPMENT			
MECHANICAL	M	ALL MECHANICAL			
ELECTRICAL	E	ALL ELECTRICAL			
PLUMBING	Р	ALL PLUMBING			
PROCESS	D	ALL PROCESS			
RESOURCE R ALL F		ALL RESOURCE			

	SHEET TYPE DESIGNATORS				
DESIGNATOR	SHEET TYPE				
0	GENERAL (SYMBOLS, LEGENDS, NOTES, ETC.)				
1	PLANS (HORIZONTAL VIEWS)				
2	ELEVATIONS, PROFILES, COMBINED PLAN & PROFILES				
3	SECTIONS (SECTIONAL VIEWS)				
4	LARGE-SCALE VIEWS (PLANS, ELEVATIONS, ECT.)				
5	DETAILS OR COMBINED DETAILS AND SECTIONS				
6	SCHEDULES AND DIAGRAMS				
7	USER DEFINED				
8	USER DEFINED				
9	3D REPRESENTATIONS (ISOMETRICS, PERSPECTIVES, PHOTOS)				

SECTION AND DETAIL IDENTIFIERS

NOTE:
A DASH MAY BE PLACED IN THE LOWER PORTION OF THE IDENTIFIER IF THE DETAIL DRAWING OR SECTION VIEW IS LOCATED ON THE SAME SHEET.

SECTION IDENTIFICATION DETAIL IDENTIFICATION DETAIL NUMBER SECTION LETTER -CALLOUT C-501 SHEET NUMBER WHERE SHEET NUMBER WHERE DETAIL DRAWING IS LOCATED SECTION DRAWING IS LOCATED — DETAIL NUMBER - SECTION LETTER LABEL SECTION

J-U-B ENGINEERS, INC. J-U-B ENGINEERS, INC. 392. E. Winchester St., Suite 300 Salt Lake City, UT 84107 Phone: 801.547.0393 www.jub.com

Subconsultant:

BID

LAGOON IMPROVEMENTS PROJECT MT PLEASANT CITY

FILE: 93-24-009 G-003 LGND JUB PROJ. #:93-24-009 DRAWN BY: CIH

DESIGN BY: BP CHECKED BY: BP

ONE INCH

AT FULL SIZE, IF NOT ONE
INCH, SCALE ACCORDINGLY

LAST UPDATED: 6/18/2025

DRAWING: G-003

SYMBOL DESCRIPTION	EXISTING SYMBOL	PROPOSED SYMBOL
SURVEY		
CAP (ALUMINUM)	\oplus	
CAP (BRASS)	•	
CHISELED X		
CTRL PT GENERIC	\triangle	
CTRL PT ½" REBAR	△1/2" PIN CONTROL PT	
CTRL PT 5/8" REBAR	△5/8" PIN CONTROL PT	
CTRL PT 60D NAIL	△ 60D	
CTRL PT HUB & TACK	А нт	
CTRL PT PK NAIL	Å PK	
CTRL PT TEMP BENCH MARK	≜ твм	
NAIL		•
NAIL AND TAG	© ^{N/T}	
NAIL (PK)	PK	
BOLT	•	
DRILL STEEL	\bigcirc	
REBAR (½")	0	•
REBAR (5/8")	0	
STAINLESS STEEL ROD		
IRON PIPE	©	
RAILROAD SPIKE	\Diamond	
R/W MONUMENT	0	
STONE		
SECTION CORNER. MON.	22 15	
SECTION QUARTER MON.	15	
SITE		
BOLLARD		
BOULDER	0	
DRINKING FOUNTAIN	DF	DF
FLAGPOLE	Ē	(Ē)
GATE		
MAIL BOX	M	M
PARKING METER	₽M	<u>PM</u>
POST	0	•
SIGN	- o -	
SPOT ELEVATION		×
TREE (SHRUB)		
TREE (STUMP)	P.	
TREE (CONIFEROUS)		
TREE (DECIDUOUS)		
TEST HOLE	(TH)	
WELL	(w)	ŵ
WELL (MONITORING)	M	M

SYMBOL DESCRIPTION	EXISTING SYMBOL	PROPOSED SYMBOL
UTILITIES		
MANHOLE (GENERIC)		•
PRESSURE CLEAN OUT AT GRADE	PCG	PCG
THRUST BLOCK		_
VAULT	V	V
COMMUNICATION		
TELE. MANHOLE	T	•
TELE. PEDESTAL		◐
TELE. POLE		-
TV PEDESTAL	TV	TV
GUY WIRE		\uparrow
DOMESTIC WATER		
FIRE HYDRANT	2	
SPIGOT	€	€
YARD HYDRANT	P	•
WATER MANHOLE	W	•
WATER METER	⊞	•
WATER VALVE	₩ W	W
ELECTRIC		1
ELEC. MANHOLE	Ē	•
ELEC. METER	E H	E.
ELEC. TRANS.	E	E
JUNCTION BOX	J	J
POWER POLE	-	-
POWER STUB	Œ	(E)
STREET LIGHT	*	*
TRAFFIC SIGNAL POLE		
IRRIGATION		
IRRIGATION VALVE	RR ∑	IRR
IRRIGATION VALVE BOX		•
SPRINKLER	\triangle	A
NATURAL GAS		
GAS METER	G H	G E
GAS VALVE	G ⋈	G M
SANITARY SEWER		
CLEANOUT	(1)	•
SEWER STUB	\S\	\$
SS MANHOLE	S	•
STORM DRAIN		
CATCH BASIN	B	B
DRY WELL	(DW)	(W)
FLARE END	abla	
GREASE TRAP		
SD MANHOLE	D	

SYMBOL DESCRIPTION	EXISTING SYMBOL	PROPOSED SYMBOL
FITTINGS		
BEND (11.25°)		I
BEND (22.5°)		
BEND (45°)		<u></u>
BEND (90°)		띡
CAP		E
COUPLING	#	#
CROSS	\vdash	\vdash
REDUCER (CONCENTRIC)		
REDUCER (ECCENTRIC)		
TEE	<u> </u>	μ <u>τ</u>
TRUE UNION	=	=
WYE		
VALVES	1	
AIR VALVE	Á	A
BLOW OFF	B	
COMBO VALVE	<u> </u>	A
BALL VALVE (N.C.)]•[1
BALL VALVE (N.O.)	10[1 <u>0</u> Ct
BUTTERFLY VALVE	<u> </u>	N
CHECK VALVE		
CHECK VALVE (FLANGE)		N
CHECK VALVE (MJ)		
GATE VALVE		\bowtie
PLUG VALVE (N.C.)		*
PLUG VALVE (N.O.)		
ROAD MARKINGS		
TURN ARROW		
ARROW STRAIGHT		†
ARROW STRAIGHT/TURN		4
BICYCLE ROUTE		ofo
CAR		•
HANDICAP SYMBOL	C	5
ROADWAY	T	ı
INTERSTATE ROUTE	25	
MAST ARM		
PEDESTRIAN SIGNAL		
STATE ROUTE	14	

TRAFFIC LIGHT

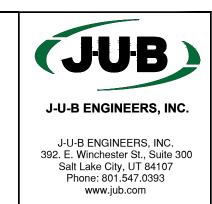
SYMBOL DESCRIPTION	EXISTING SYMBOL	PROPOSED SYMBOL
ROADWAY (CONT.)		
TYPE 2 BARRICADE	• •	
US ROUTE	287	
TRAFFIC ATTENUATOR		
JERSEY BARRIER		

ABBREVIATIONS			
ASSY	ASSEMBLY		
>	ANGLE		
@	AT (MEASUREMENTS)		
BLDG	BUILDING		
BM	BENCH MARK		
BSC	BITUMINOUS SURFACE COURSE		
BSW	BACK OF SIDEWALK		
BW	BOTH WAYS		
C	CHANNEL (STRUCTURAL		
C/L	CENTER LINE		
CMP	CORRUGATED METAL PIPE		
CO	CLEANOUT		
CONC	CONCRETE		
CONT	CONTINUOUS		
CPLG	COUPLING		
	CUBIC FEET		
CU YD	CUBIC FEET		
CU YD DEG OR °	DEGREE		
	DETAIL		
DET			
DIA OR Ø	DIAMETER DUCTILE IRON PIPE		
DIP			
DIST	DISTRIBUTION		
DWG	DRAWING		
<u>EA</u>	EACH		
ELB	ELBOW		
ELEV	ELEVATION		
EW	EACH WAY		
EXIST	EXISTING		
FG	FINISH GRADE		
FH	FIRE HYDRANT		
FLG	FLANGE		
FT OR '	FEE1		
GV	GATE VALVE		
HORIZ	HORIZONTAL		
ID	INSIDE DIAMETER		
IN OR "	INCH		
LB OR #	POUNE		
LF	LINEAL FEET		
LN	LINEAL		
MAX	MAXIMUM		
MIN	MINIMUM		
NO OR #	NUMBER		
PE	POLYETHYLENE		
PL	PLATE		
PL	PROPERTY LINE		
PVC	POLYVINYL-CHLORIDE		
R	RADIUS		
RP	RADIUS POINT		
R&R	REMOVE & REPLACE		
REM	REMOVE		
	REQUIRED		
KEUU			
REQ'D REV	REVISION		

Δ	BBREVIATIONS
ASSY	ASSEMBLY
S	SLOPE
SPEC	SPECIFICATION
STA	STATION
STD	STANDARD
STL	STEEL
ST STL	STAINLESS STEEL
TBC	TOP BACK OF CURB
TYP	TYPICAL
TFC	TOP FACE OF CONCRETE
W/	WITH
W/O	WITHOUT

W/REQ'D

WHERE REQUIRED



Subconsultant:

BID

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REUSE OF DRAWINGS J-U-B SHALL RETAIN ALL COMMON LAW, STATUTORY, COPYRIGHT AND OTHER RESERVED RIGHTS OF THESE DRAWINGS, AND THE SAME SHALL NOT BE REUSED WITHOUT J-U-B'S PRIOR WRITTEN CONSENT ANY REUSE WITHOUT WRITTEN CONSENT BY J-U-B WILL BE AT CLIENT'S SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO J-U-B.	REVISION				DESCRIPTION
SH SH					NO.

LAGOON IMPROVEMENTS PROJECT MT PLEASANT CITY

FILE: 93-24-009 G-004 ABBR

JUB PROJ. #:93-24-009

DRAWN BY: CIH

DESIGN BY: BP

CHECKED BY: BP

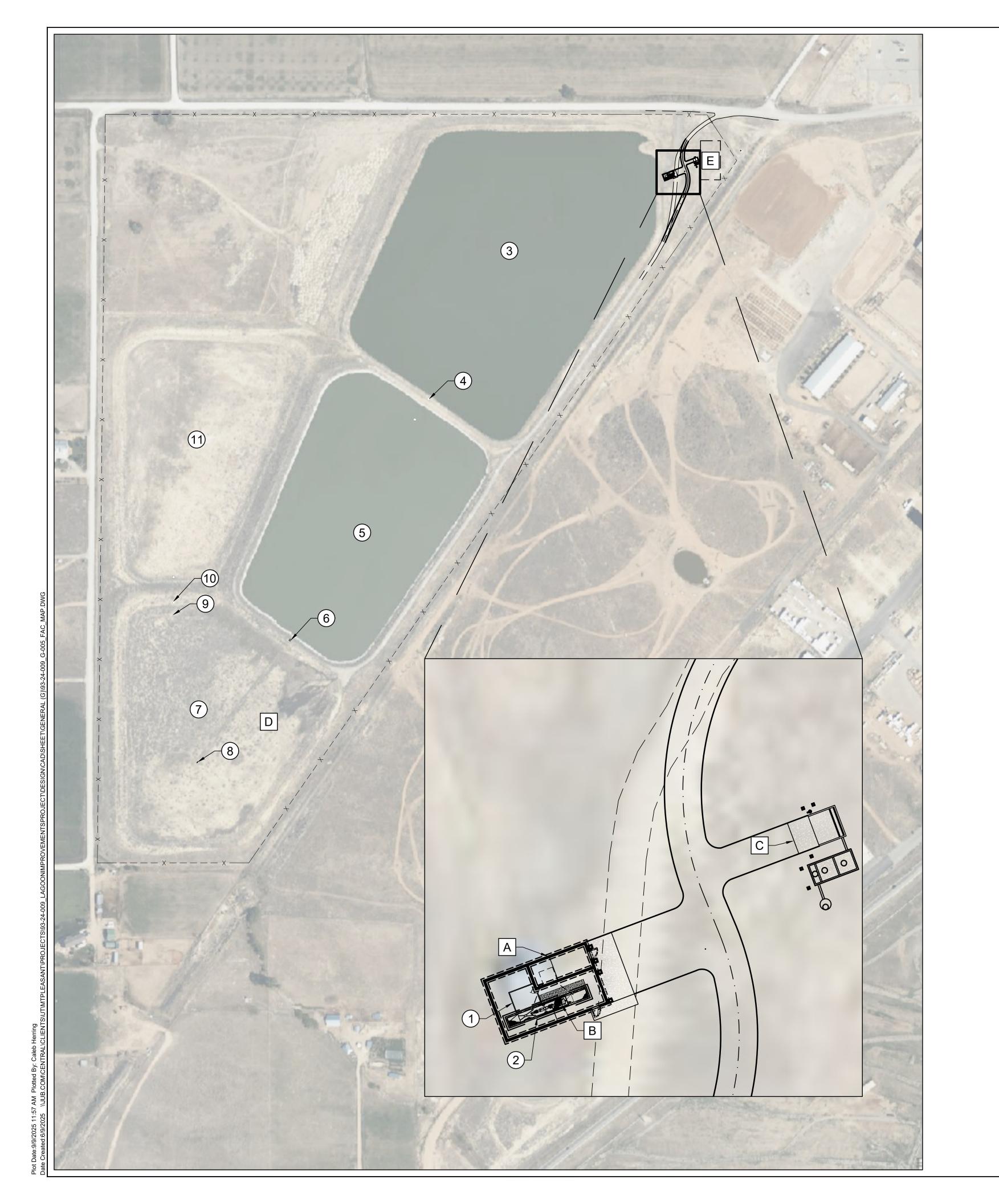
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INCH, SCALE ACCORDINGLY

LAST UPDATED: 6/19/2025

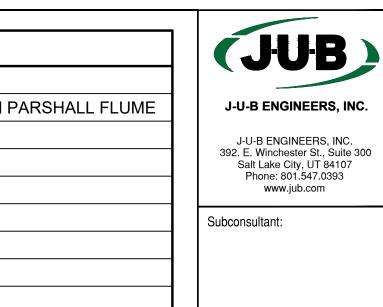
DRAWING:

G-004



	EXISTING FEATURES (#)
1	HEADWORKS MONITORING SHED
2	HEADWORKS INFLUENT CHANNEL WITH PARSHALL FLUME
3	LAGOON 1
4	LAGOON 2 TRANSFER STRUCTURE
5	LAGOON 2
6	LAGOON 3 TRANSFER STURCTURE
7	LAGOON 3
8	LAGOON 3 INLET STRUCTURE
9	LAGOON 3 OUTLET
10	LAGOON 4 TRANSFER STRUCTURE
11	LAGOON 4

	NEW OR MODIFIED FACILITIES #
А	HEADWORKS CMU BUILDING
В	HEADWORKS SCREEN
С	SEPTAGE RECEIVING STATION
D	LAGOON 3 IMPROVEMENTS (INSTALL GEOMEMBRANE LINER, AND REPLACE INLET/OUTLET PADS)
E	CONTRACTOR LAYDOWN AREA



	NEW OR MODIFIED FACILITIES #
Α	HEADWORKS CMU BUILDING
В	HEADWORKS SCREEN
С	SEPTAGE RECEIVING STATION
D	LAGOON 3 IMPROVEMENTS (INSTALL GEOMEMBRANE LINER, AND REPLACE INLET/OUTLET PADS)
E	CONTRACTOR LAYDOWN AREA

SCALE IN FEET

REUSE OF DRAWINGS					
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HOUT LIABILITY OR LEGAL EXPOSURE TO J-U-B.	SSUR	E TO .	J-U-B.	SI	TE .
REVISION				Ξ	OF
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DESCRIPTION	ВУ	APR.	BY APR. DATE		

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LAGOON IMPROVEMENTS PROJECT MT PLEASANT CITY		FACILITY I OCATION MAP	

FILE: 93-24-009 G-005 FAC MAP

JUB PROJ. #:93-24-009

DRAWN BY: CIH

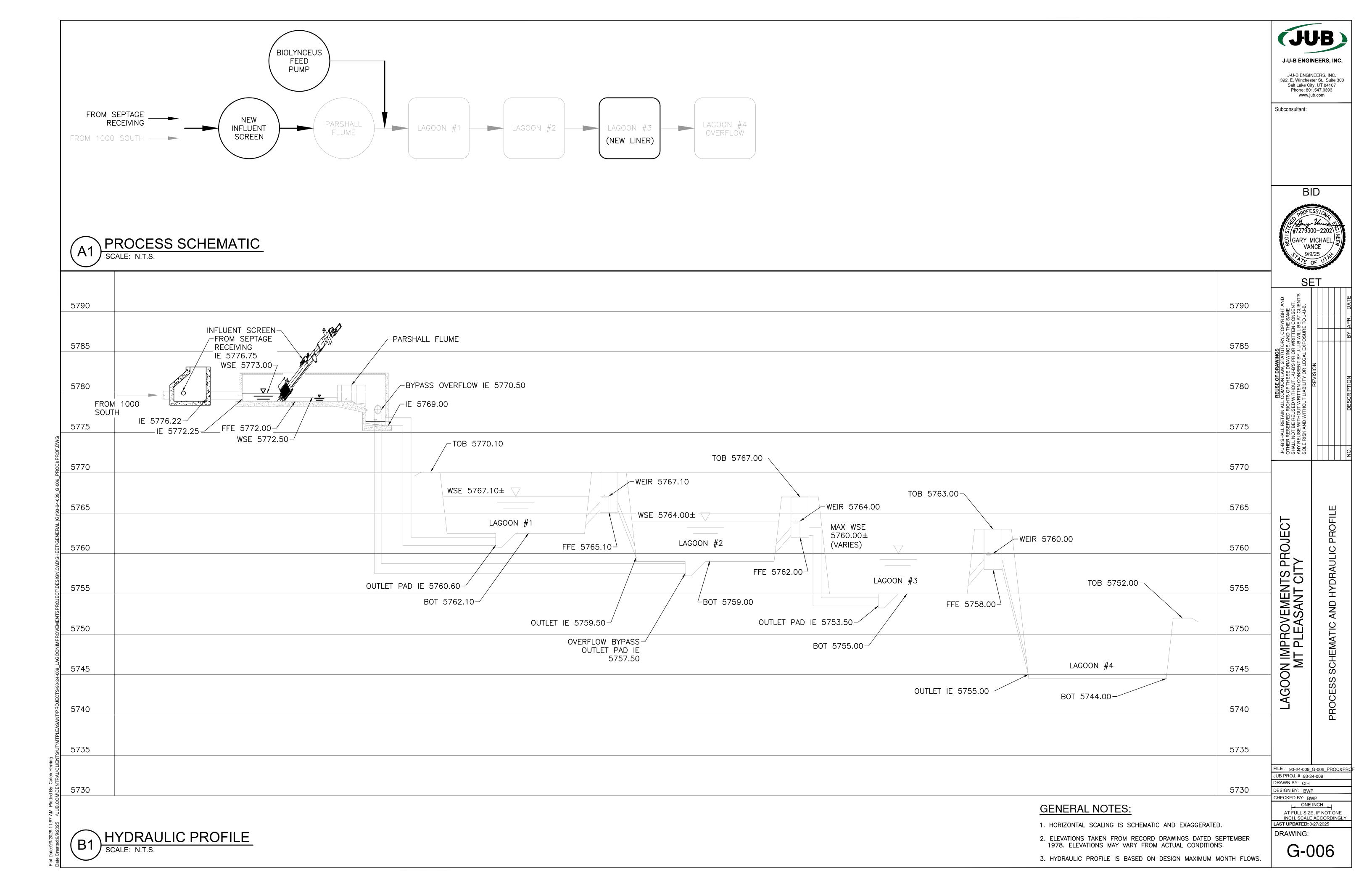
DESIGN BY: BWP

CHECKED BY: BWP

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INCH, SCALE ACCORDINGLY

LAST UPDATED: 9/9/2025 DRAWING: G-005



DESIGN CRITERIA	UNITS	DESIGN VALUES
FLOW		DESIGN VALUES
EXISTING		
MIN DAY	MGD	0.12
AVERAGE DAY	MGD	0.23
MAX MONTH	MGD	0.25
PEAK HOUR	MGD	0.61
DESIGN (2042)		
MIN DAY	MGD	0.18
AVERAGE DAY	MGD	0.35
MAX MONTH	MGD	0.38
PEAK HOUR	MGD	0.93
ELITURE RUUR OLIT (2070)		
FUTURE BUILDOUT (2070)	MCD	0.20
AVERAGE DAY	MGD	0.30
MAX MONTH	MGD	0.60
PEAK HOUR	MGD MGD	0.75
BOD	MGD	1.57
EXISTING		
CONCENTRATION	MG/L	250
AVERAGE DAY LOADING	LB/DAY	480
MAX MONTH LOADING	LB/DAY	521
	LUJUM	521
DESIGN (2042)		
CONCENTRATION	MG/L	250
AVERAGE DAY LOADING	LB/DAY	730
MAX MONTH LOADING	LB/DAY	792
SEPTAGE RECEIVING		
TRUCK TANK SIZE	GAL	2,000
DUMP FREQUENCY	PER WEEK	2
HOLDING TANK SIZE	GAL	2,500
INICI LICALE CODECNI		
INFLUENT SCREEN	INI	26
CHANNEL WIDTH	IN	36
TYPE	-	AUTOMATIC FINE SCREEN WITH INTEGRAL WASHPRESS
QUANTITY	_	1
BASKET DIAMETER	IN	24
CAPACITY, EACH	MGD	1.57
HEADLOSS AT CAPACITY	IN	6
OPENING SIZE	IN	1/4
MOTOR SIZE	HP	2
DRIVE TYPE	-	VFD
WASHSYSTEM		3-ZONE WASH SYSTEM
WASHWATER DEMAND	GPM / PSI	20 / 60
LAGOON 3	,	
WATER STORAGE VOLUME	MGAL	31.3
SURFACE AREA AT MAX. WATER DEPTH	AC	12.1
MAX WATER DEPTH	FT	5
FREEBOARD	FT	
		3
INTERIOR EMBANKMENT SLOPE	H:V	3:1
EXTERIOR EMBANKMENT SLOPE	H:V	3:1
LINER SURFACE AREA	SQ. FT.	587,500
LINER MATERIAL	TYPE	60 MIL HDPE

J-U-B ENGINEERS, INC. J-U-B ENGINEERS, INC. 392. E. Winchester St., Suite 300 Salt Lake City, UT 84107 Phone: 801.547.0393 www.jub.com

Subconsultant:

BID

LAGOON IMPROVEMENTS PROJECT MT PLEASANT CITY

FILE: 93-24-009 G-007 DSN_CRIT

JUB PROJ. #:93-24-009

DRAWN BY: CIH

DESIGN BY: BWP

CHECKED BY: BWP

ONE INCH

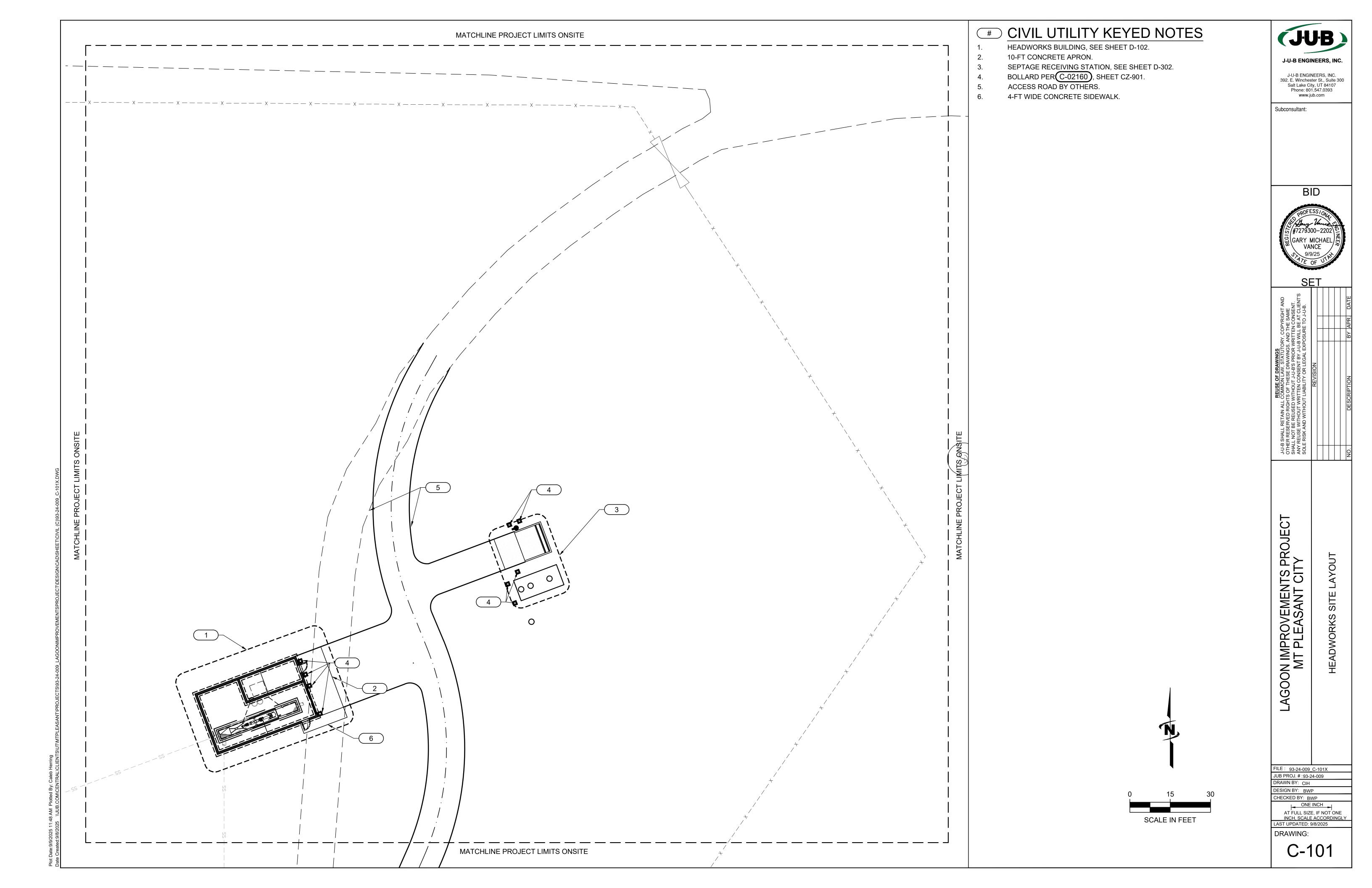
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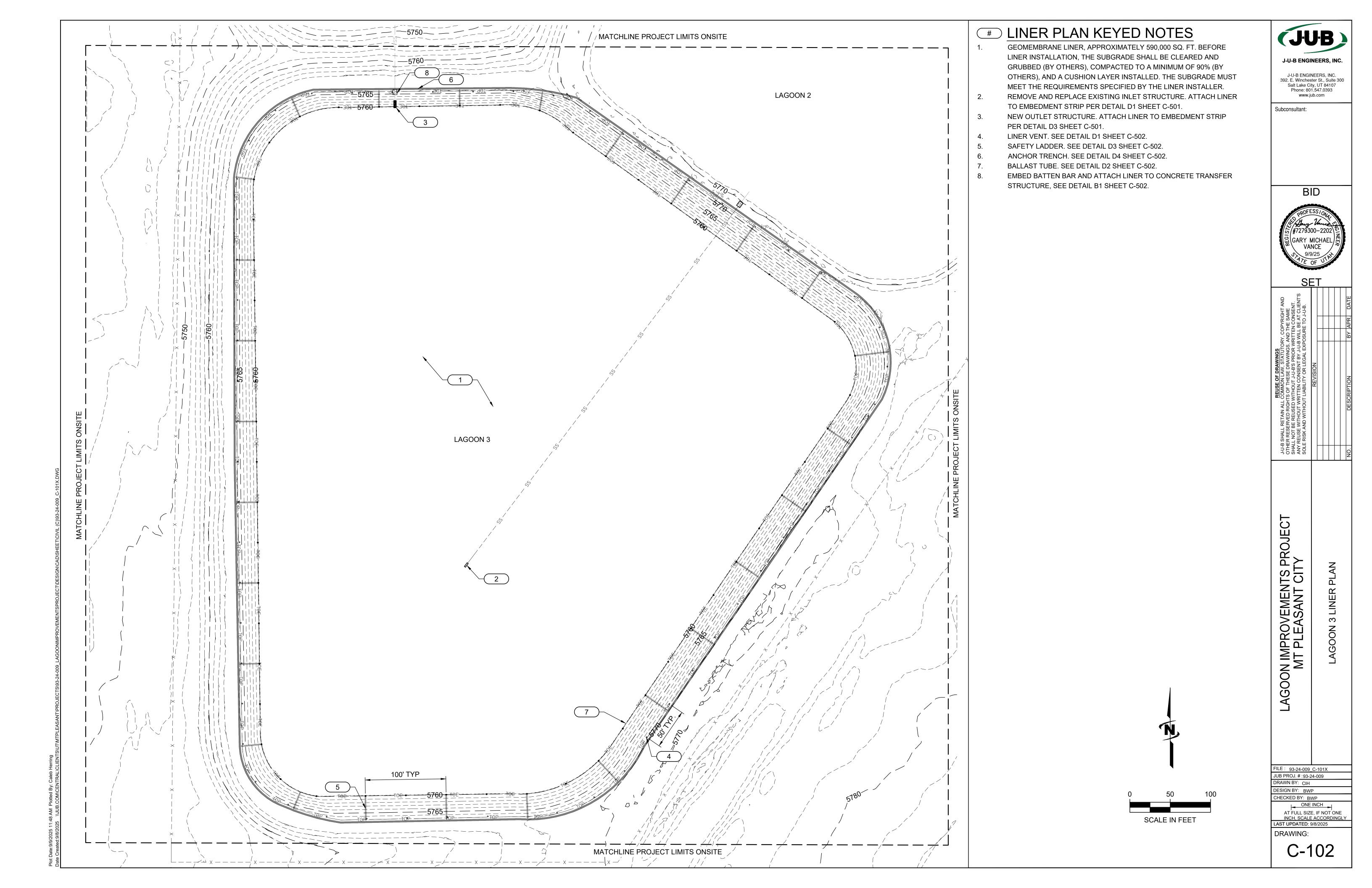
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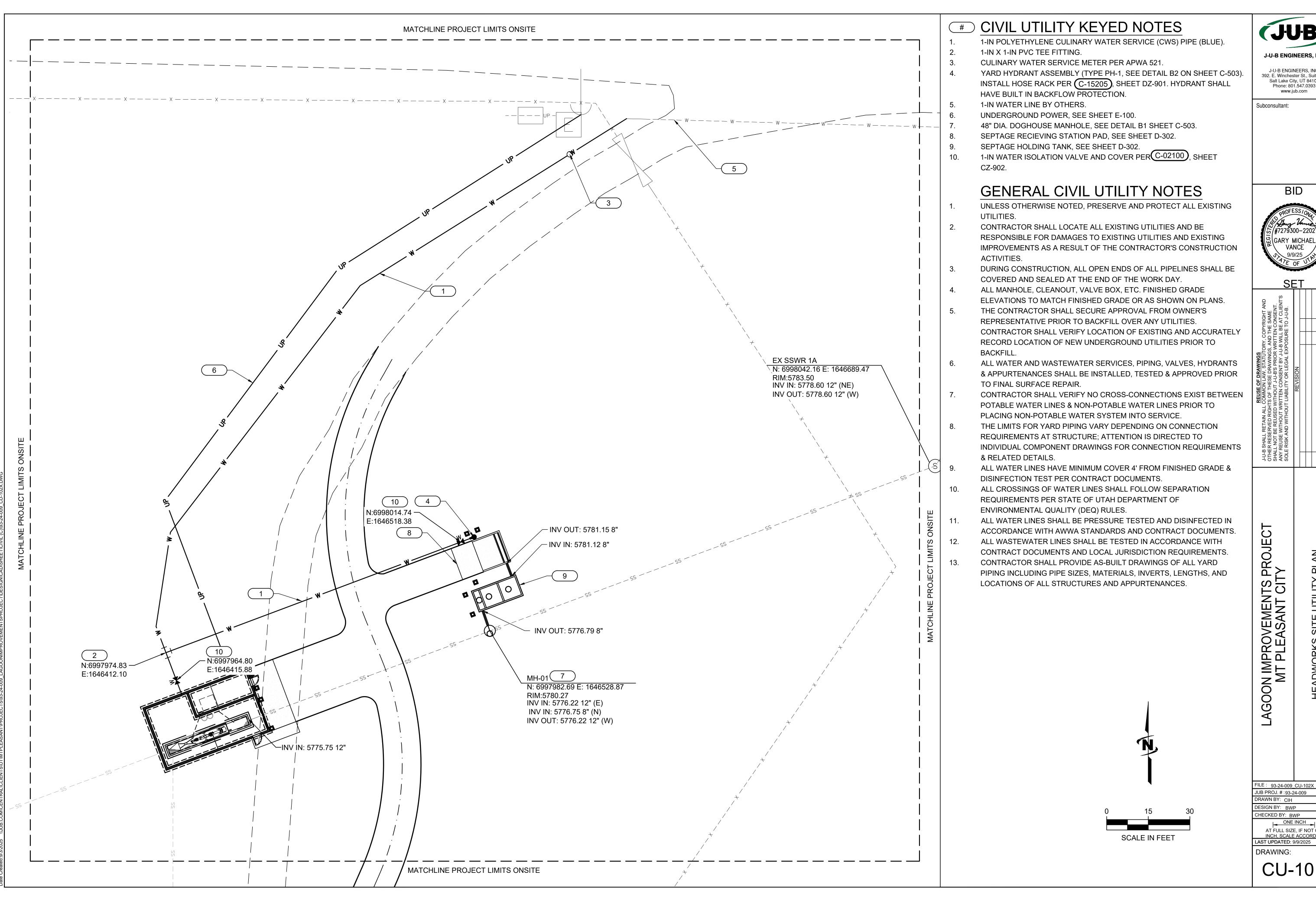
DRAWING:

G-007









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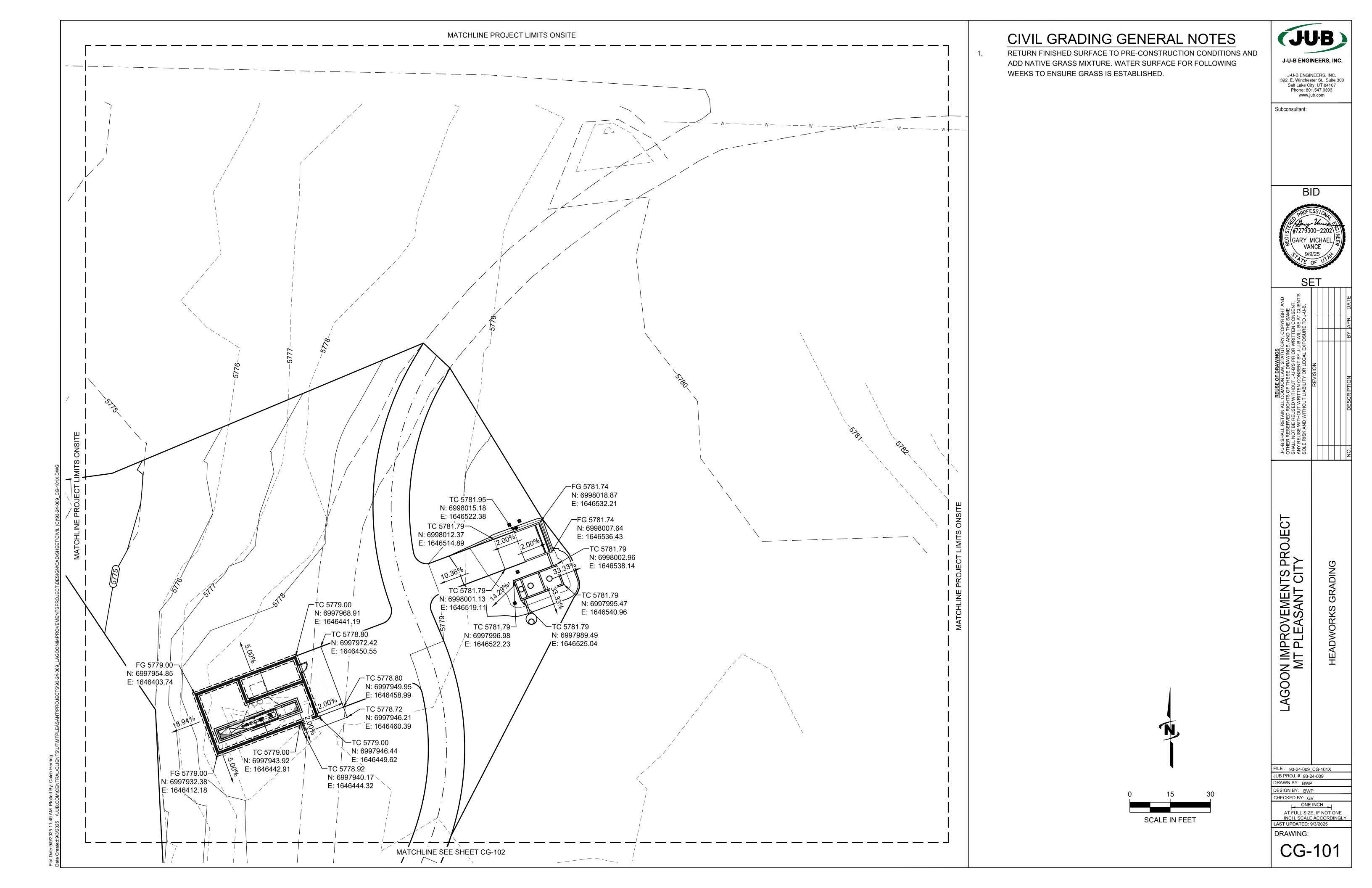
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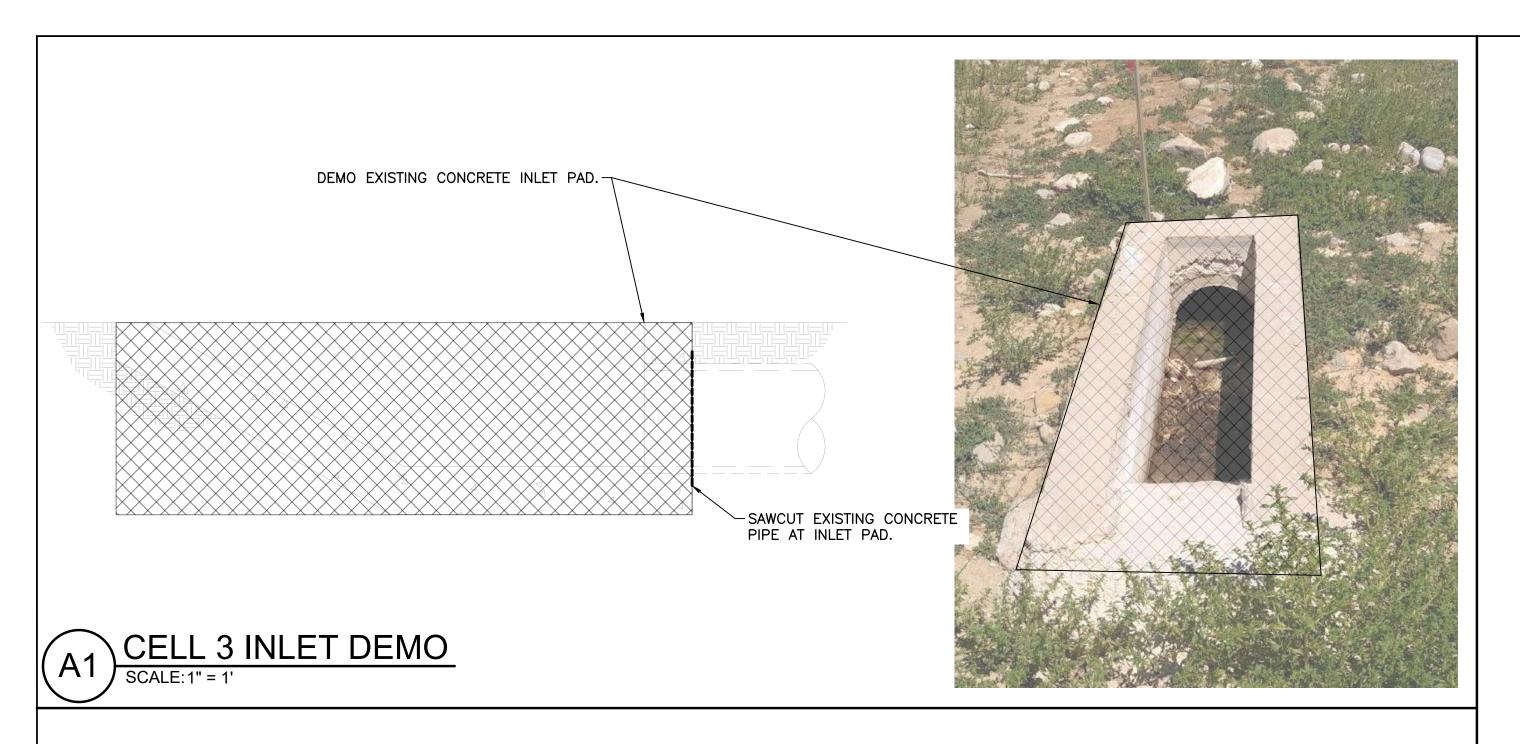
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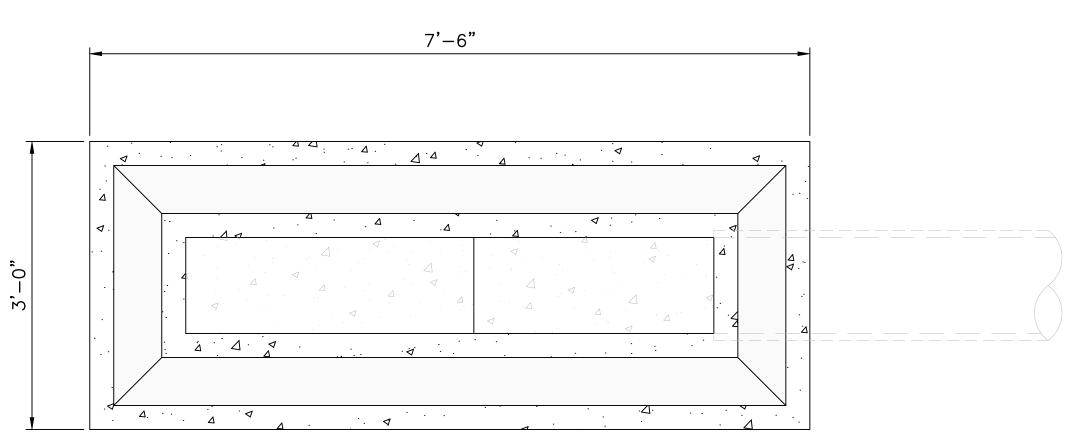
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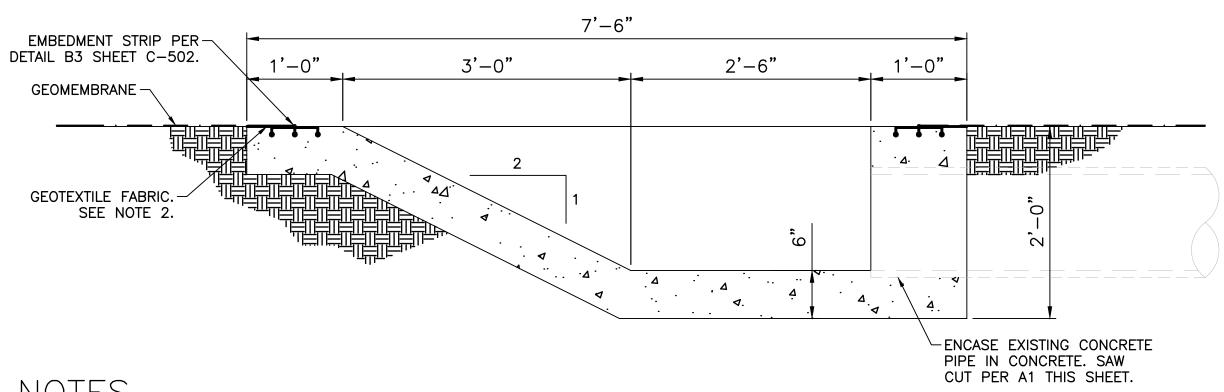
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CU-101





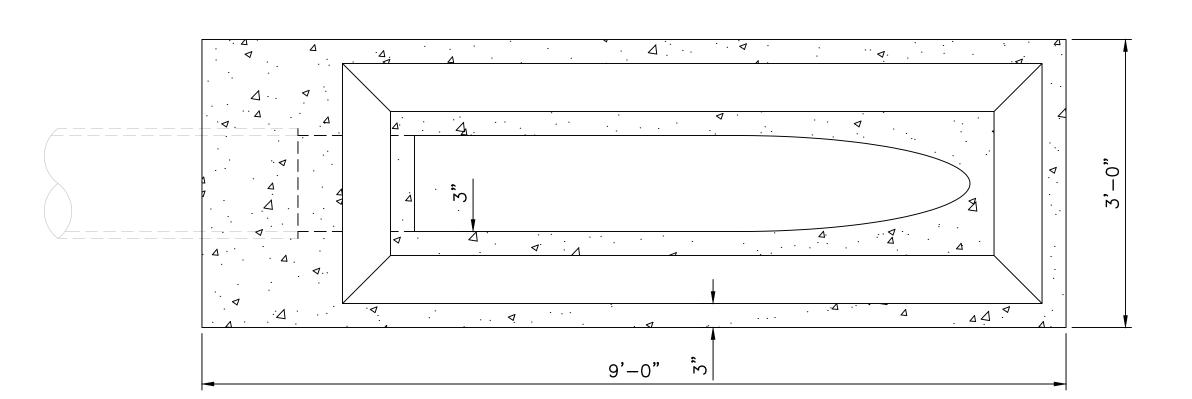


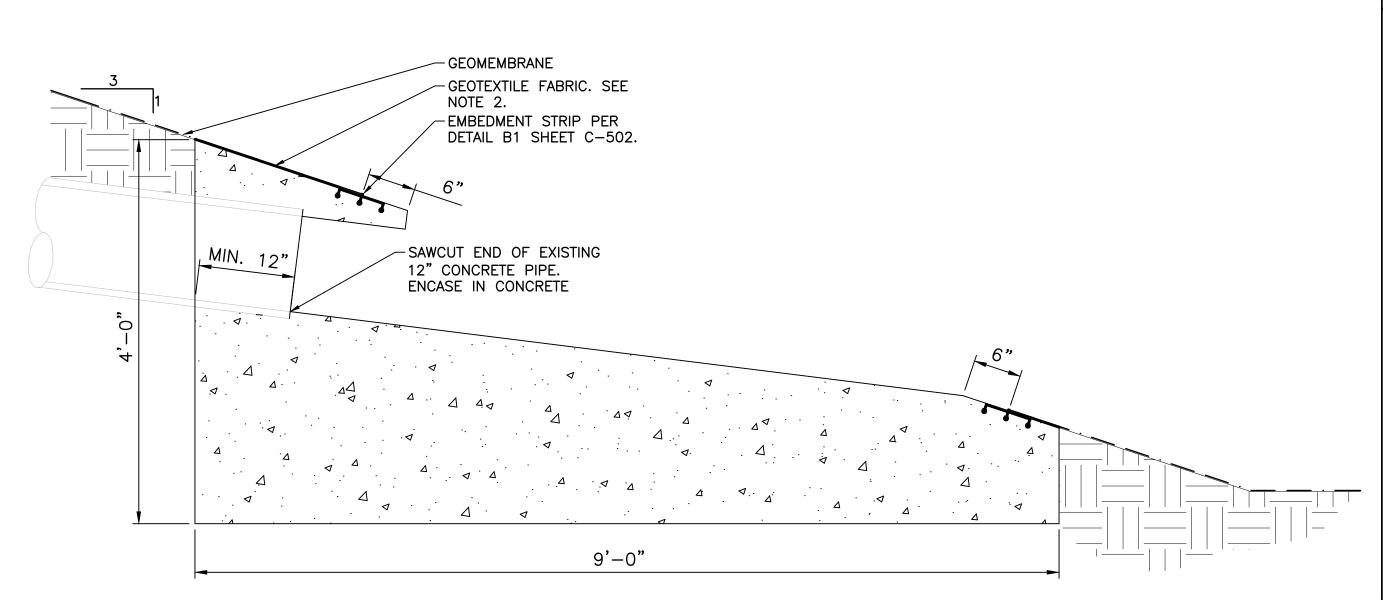


- NOTES
- 1. ALL CONCRETE SURFACES THAT MAY CONTACT LINER SHALL BE STEEL TROWEL FINISHED SMOOTH WITH ROUND (1" RADIUS) AND SMOOTH EDGES.
- 2. PROVIDE 12oz NON WOVEN GEOTEXTILE BETWEEN CONCRETE AND LINER. GLUE GEOTEXTILE TO CONCRETE.
- 3. CORNERS OF LINER TO CONCRETE ANCHORS TO BE MITER CUT $(45^{\circ}\pm)$ AND EXTRUSION WELDED PRIOR TO PLACING IN CONCRETE.
- 4. PLACE EMBEDMENT STRIP IN SLAB AT TIME OF POURING TO FORM A CONTINUOUS WELDABLE SURFACE.

CELL 3 INLET STRUCTURE

SCALE: 1" = 1'





NOTES

- 1. ALL CONCRETE SURFACES THAT MAY CONTACT LINER SHALL BE STEEL TROWEL FINISHED SMOOTH WITH ROUND (1" RADIUS) AND SMOOTH EDGES.
- 2. PROVIDE 12oz NON WOVEN GEOTEXTILE BETWEEN CONCRETE AND LINER. GLUE GEOTEXTILE TO CONCRETE.
- 3. CORNERS OF LINER TO CONCRETE ANCHORS TO BE MITER CUT (45°±) AND EXTRUSION WELDED PRIOR TO PLACING IN CONCRETE.
- -. PLACE EMBEDMENT STRIP IN SLAB AT TIME OF POURING TO FORM A CONTINUOUS WELDABLE SURFACE.

CELL 3 OUTLET STRUCTURE

SCALE: 1" = 1'

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Subconsultant:

BID

ROFESS/ONA

#7279300-2202

GARY MICHAEL

VANCE

9/9/25

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PROFESS/ONA

PROFESS/O

J-U-B SHALL RETAIN ALL COMMON LAW, STATUTORY, COPYRIGHT AND OTHER RESERVED RIGHTS OF THESE DRAWINGS, AND THE SAME SHALL NOT BE REUSED WITHOUT J-U-B'S PRIOR WRITTEN CONSENT.

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REVISION

REVISION

NO. DESCRIPTION

BY APR. DATE

LAGOON IMPROVEMENTS PROJECT MT PLEASANT CITY

FILE: 93-24-009 C-501X

JUB PROJ. #:93-24-009

DRAWN BY: CIH

DESIGN BY: BWP

CHECKED BY: BWP

ONE INCH

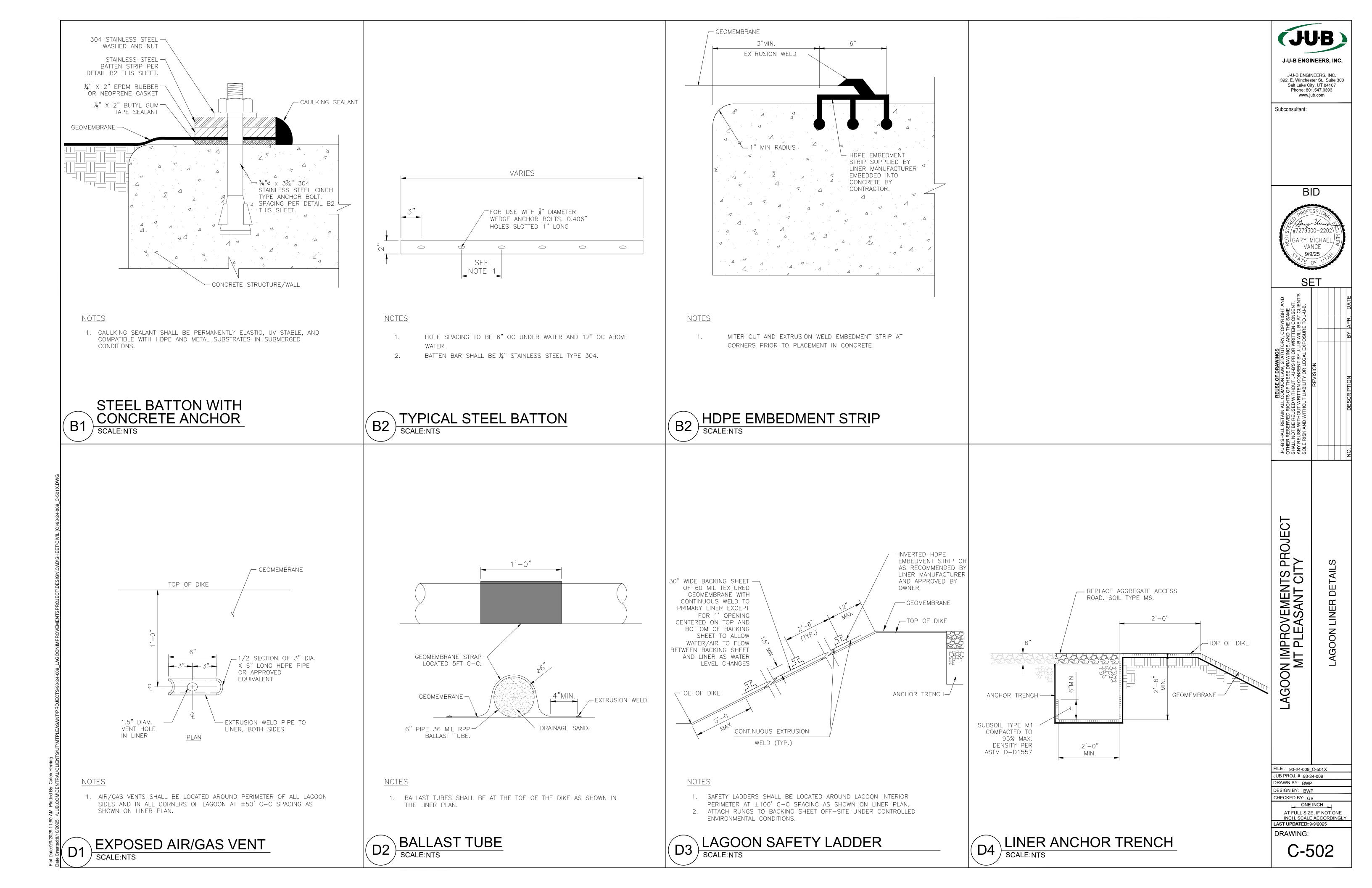
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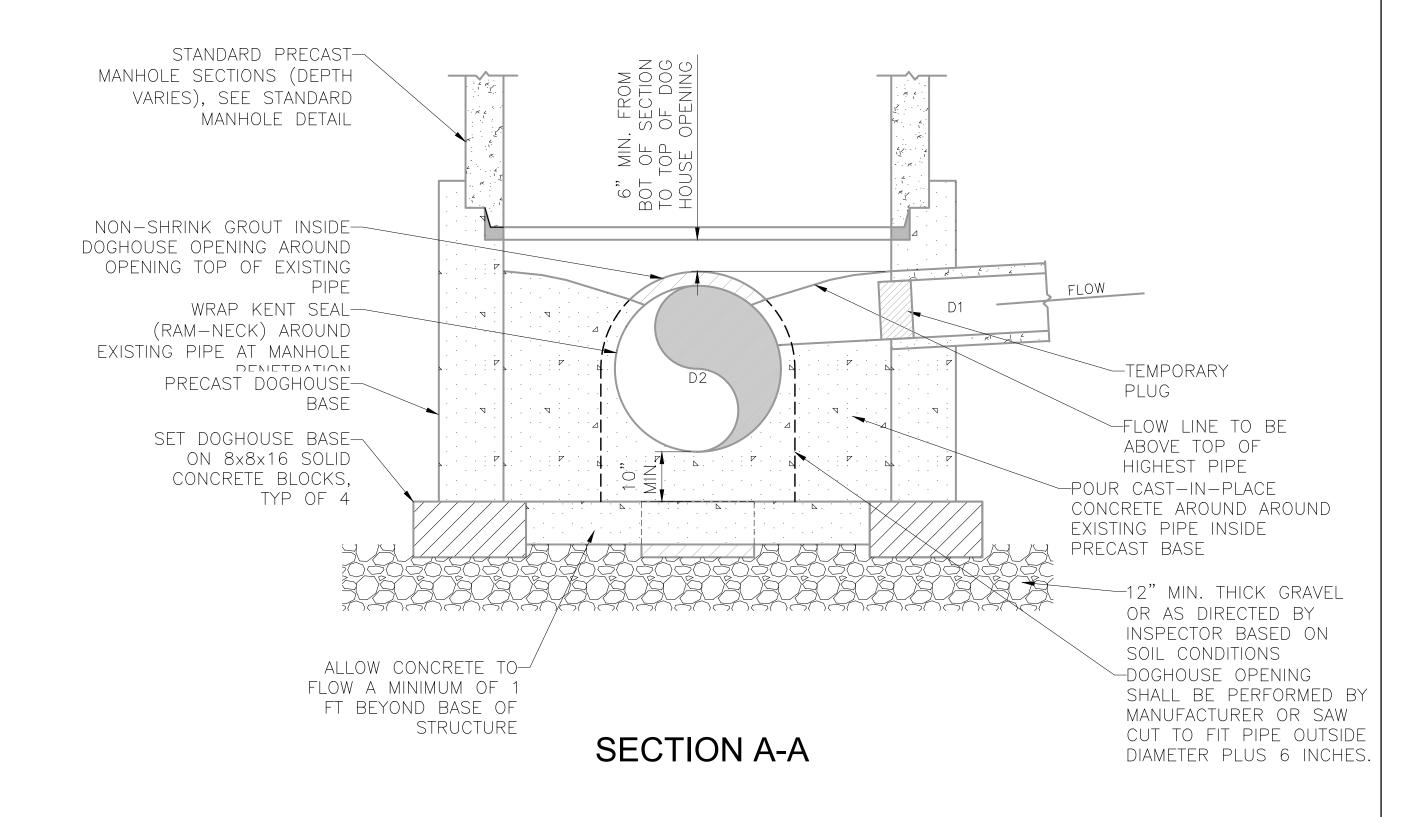
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LAST UPDATED: 9/9/2025

DRAWING:

C-501



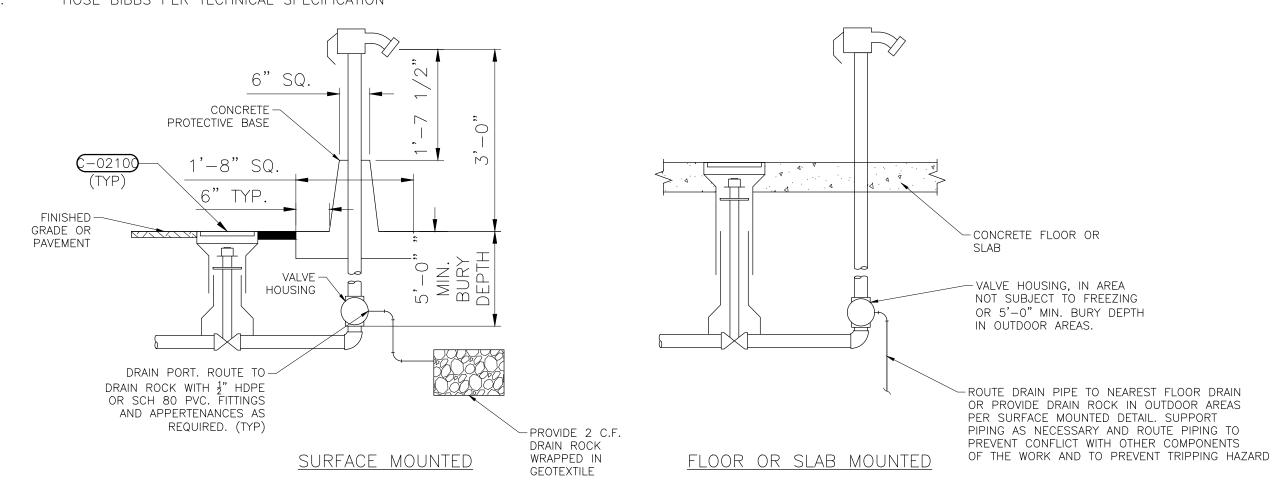


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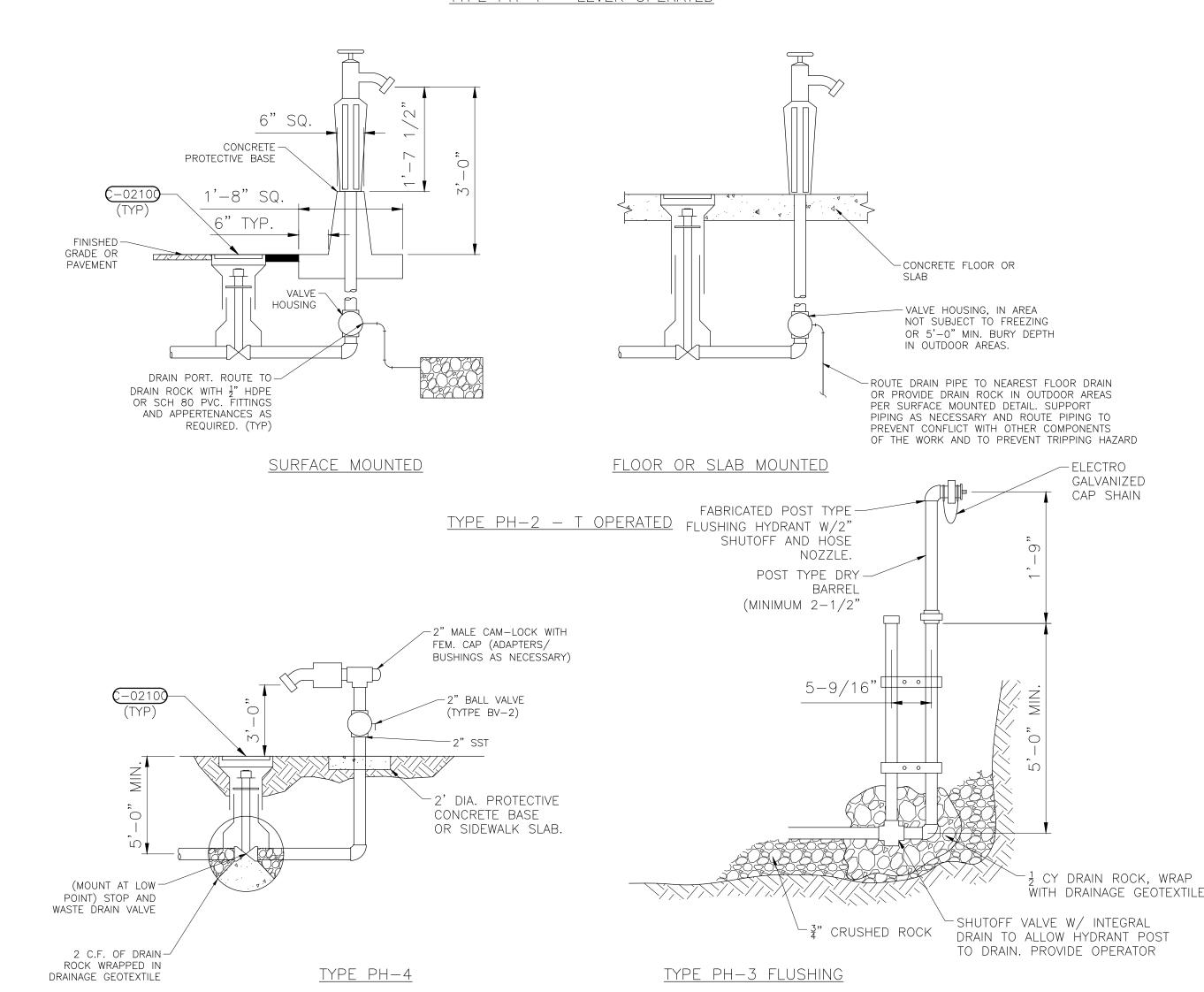
- 1. IF GRADE ALLOWS, INVERT D1 SHALL MATCH THE 0.75 DEPTH POINT OF D2. OTHERWISE, MATCH TOP OF PIPE FOR D1 TO TOP OF PIPE OF D2 AS APPROVED BY INSPECTOR.
- 2. AFTER ALL GRADING AROUND MANHOLE HAS BEEN COMPLETED AND FINAL SURFACING IS IN PLACE, REMOVE DEBRIS AND TEMPORARY PLUGS OR PLYWOOD FROM INSIDE OF MANHOLES.
- 3. IF MANHOLE IS TO BE POURED IN PLACE, FOLLOW SAME PATTERN AS SHOWN EXCEPT USE 10" MIN. WALL THICKNESS.
- 4. CONTACT INSPECTOR 48 HOURS (2 BUSINESS DAYS) PRIOR TO CONSTRUCTION.
- 5. STUBS FOR FUTURE CONNECTIONS SHALL BE PLUGGED UNTIL ACTIVATION IS APPROVED BY INSPECTOR.

NOTES

- 1. PROVIDE WARNING SIGN PER STANDARD DETAIL D-15215 WHEN USED FOR NON-POTABLE WATER.
- 2. ALL POST HYDRANTS TO BE CONTROLLED BY INDIVIDUAL SHUT OFF VALVE. PROVIDE
- CURB STOP FOR $\frac{3}{4}$ " 2" PIPES. GATE VALVE FOR LARGER PIPES
- 3. SUPPLY PIPING MATERIAL AND SIZE PER THE PLANS; PROVIDE ADAPTERS AND FITTINGS ARE REQUIRED FOR CONNECTION TO HYDRANT STEM
- HOSE BIBBS SHALL BE INSTALLED SO THAT ALL COMPONENTS ARE EASILY ACCESSIBLE AND HOSE CAN BE EASILY ATTACHED WITHOUT OBSTRUCTION.
- 5. PROVIDE FITTINGS AND ADAPTERS AS NECESSARY.
- 6. PROVIDE A HOSE RACK AND HOSE PER STANDARD DETAIL D-15205, SHEET DZ-901.
- 7. HOSE BIBBS PER TECHNICAL SPECIFICATION



TYPE PH-1 - LEVER OPERATED



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Subconsultant:

PROFESSIONATION OF VANCE

9/9/25

PROFESSIONATION

PROFES

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REVISION

DESCRIPTION

BY APR. DATE

LAGOON IMPROVEMENTS PROJECT MT PLEASANT CITY

FILE: 93-24-009 C-501X

JUB PROJ. #:93-24-009

DRAWN BY: BWP

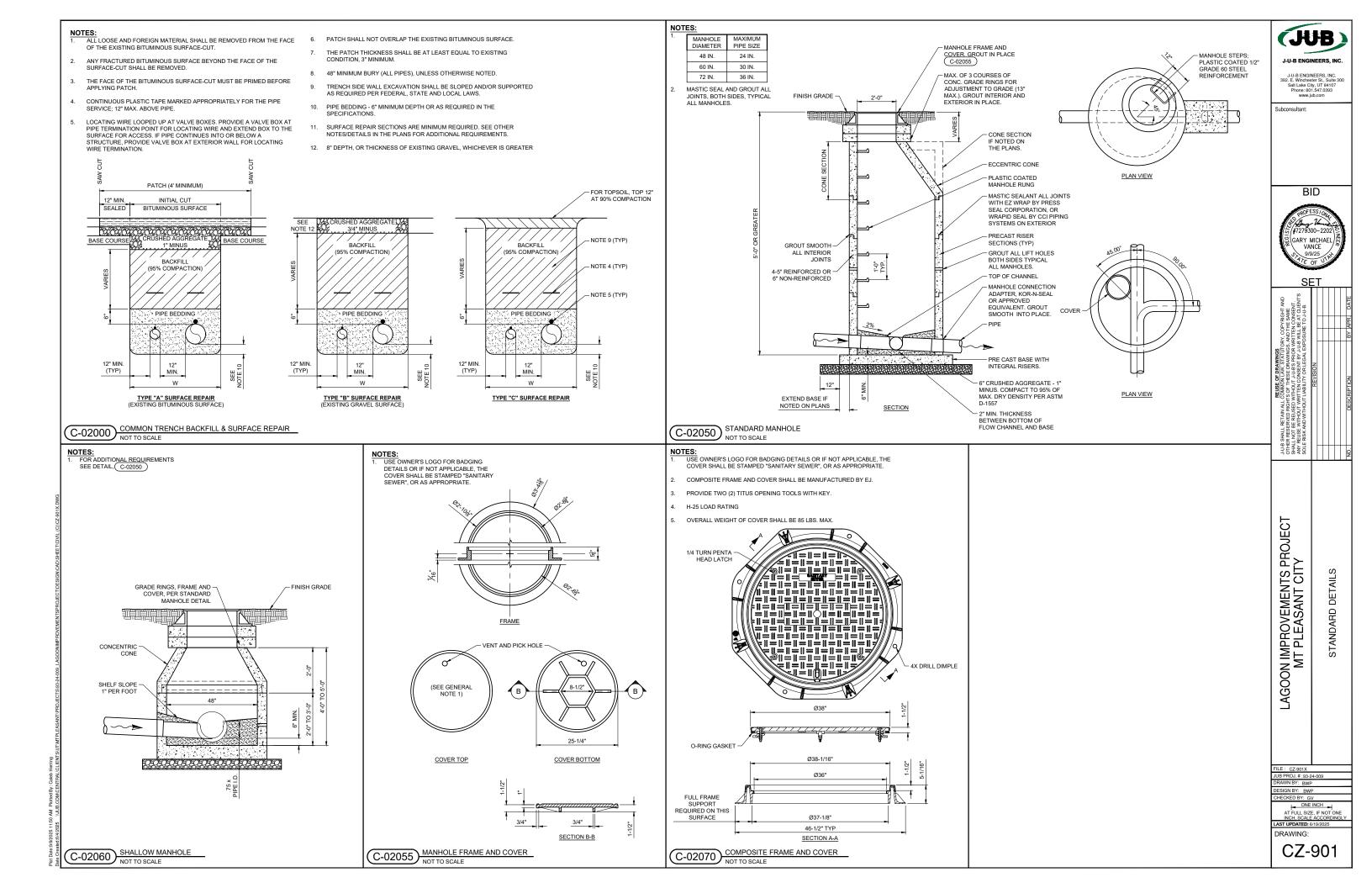
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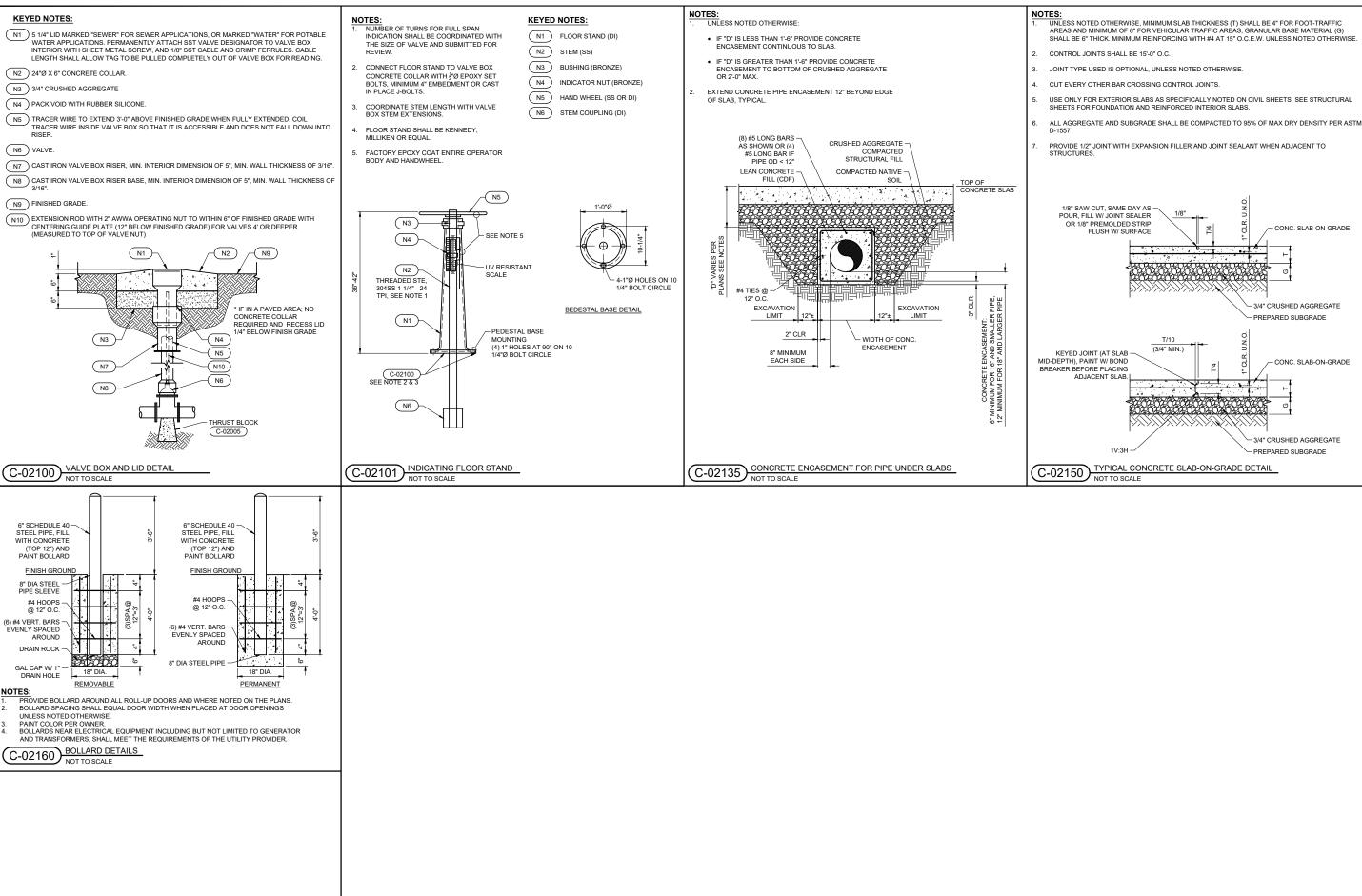
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INCH, SCALE ACCORDINGLY
LAST UPDATED: 9/9/2025

DRAWING: C-503

B2 NON-FREEZE HYDRANTS
SCALE: N.T.S.

DOGHOUSE MANHOLE
SCALE: N.T.S.





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Subconsultant:

BID VANCE

LAGOON IMPROVEMENTS PROJECT MT PLEASANT CITY

STANDARD DETAILS

PROJ. #:93-24-009

AT FULL SIZE, IF NOT ON

LAST UPDATED: 6/19/

DRAWING

CZ-902

GENERAL REQUIREMENTS **DESIGN CRITERIA** A. THESE GENERAL STRUCTURAL NOTES AND SPECIFICATIONS SUPPLEMENT THE PROJECT WRITTEN A. OCCUPANCY OR USE; IBC TABLE 1607.1: UTILITY TECHNICAL SPECIFICATIONS AND THE PROJECT STRUCTURAL DRAWINGS. i RISK CATEGORY; ASCE-7 TABLE 1.5-2: III B. THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION BRACING, TEMPORARY SHORING, AND B. LIVE LOADS: OTHER SITE SAFETY CONTROLS REQUIRED DURING CONSTRUCTION IN ACCORDANCE WITH ALL i ROOF LIVE LOAD: 20 PSF APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS, TO ENSURE THE STABILITY AND SAFETY OF ALL C. SNOW LOADS: CONSTRUCTION UNTIL IT IS COMPLETED AND SELF-SUPPORTING. i FLAT ROOF SNOW LOAD, Pf= 34 PSF C. THE CONTRACTOR IS RESPONSIBLE FOR ALL WATER, BOTH ABOVE AND BELOW GROUND, RUNOFF AND ii GROUND SNOW LOAD, PG: 40 PSF OTHER ENVIRONMENTAL CONTROLS REQUIRED DURING CONSTRUCTION TO ENSURE THE SITE IS iii SNOW IMPORTANCE FACTOR, Is=1.1 MAINTAINED IN COMPLIANCE WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS. iv SNOW EXPOSURE FACTOR, Ce=1.00 D. DETAILS ON THESE PLANS ARE INTENDED TO DEPICT THE GENERAL CONSTRUCTION DETAILS AND v THERMAL FACTOR, Ct=1.1 METHODS FOR THIS STRUCTURE. CONNECTION DETAILS AND CONDITIONS NOT SPECIFICALLY SHOWN vi UNBALANCED SNOW PER ASCE-7 THAT ARE SIMILAR IN NATURE TO THOSE THAT ARE SPECIFIED SHALL BE ASSUMED ONE AND THE SAME. IF D. DEAD LOADS: QUESTIONS REGARDING THE APPLICATION OF DETAILS ARE ENCOUNTERED, NOTIFY THE ENGINEER FOR i ROOF DEAD LOAD: 16 PSF CLARIFICATION OR INSTRUCTION. E. WIND: PRIOR TO IMPLEMENTING ANY CHANGES TO THESE PLANS, THE ENGINEER SHALL BE NOTIFIED IN WRITING i BASIC WIND SPEED, V=108 MPH FOR THEIR WRITTEN APPROVAL. CHANGES IMPLEMENTED WITHOUT THE ENGINEERS WRITTEN APPROVAL ii SITE WIND EXPOSURE: C iii ENCLOSURE CLASSIFICATION: ENCLOSED BUILDING SHALL RELIEVE THE ENGINEER OF ANY CLAIM OR LIABILITY RESULTING FROM THAT PORTION OF THE STRUCTURE CHANGED OR AFFECTED BY THE CHANGE. iv INTERNAL PRESSURE COEFFICIENTS: +0.18 TO -0.18 v COMPONENT & CLADDING (FOR DEFERRED SUBMITTALS) (a) DESIGN WIND PRESSURES: +16 PSF TO -66 PSF F. EARTHQUAKE: CONTRACTOR RESPONSIBILITY FOR COORDINATION SEISMIC IMPORTANCE FACTOR, le: 1.25 ii MAPPED SPECTRAL RESPONSE ACCELERATION: (a) SHORT PERIOD, Ss: 0.591 A. IT IS THE CONTRACTOR'S PRIME RESPONSIBILITY TO COORDINATE THE WORK SHOWN ON ALL OF THE (b) 1-SECOND, S1: 0.194 PROJECT DRAWINGS, GENERAL, SPECIAL AND TECHNICAL SPECIFICATIONS. iii SOIL SITE CLASS: D B. THE CONTRACTOR IS RESPONSIBLE TO VERIFY ALL EXISTING CONSTRUCTION MATERIAL TYPES iv DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETERS: (a) SHORT PERIOD, Sds: 0.52 DIMENSIONS, ELEVATIONS AND CONDITIONS. (b) 1-SECOND, Sd1: 0.29 C. THE CONTRACTOR SHALL VERIFY AND COORDINATE THE DIMENSIONS AMONG ALL DRAWINGS AND IN THE v SEISMIC DESIGN CATEGORY: D FIELD PRIOR TO PROCEEDING WITH ANY WORK OR FABRICATION, ANY DISCREPANCY SHALL BE vi BASIC SEISMIC FORCE RESISTING SYSTEM(S) IMMEDIATELY REPORTED TO THE ENGINEER. (a) SPECIAL REINFORCED MASONRY SHEAR WALLS D. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CAREFULLY STUDY AND COORDINATE THE CONSTRUCTION RESPONSE MODIFICATION COEFFICIENT, R=5 REQUIREMENTS SHOWN ON BOTH THE STRUCTURAL DRAWINGS. WHEN CONFLICTS OR DISCREPANCIES SEISMIC RESPONSE COEFFICIENT, Cs=0.13 ARE FOUND BETWEEN THESE PLAN SETS AND/OR WITHIN THESE DRAWINGS, THE CONTRACTOR SHALL SEISMIC DESIGN BASE SHEAR, V=9.27 KIPS REPORT THEM IMMEDIATELY TO THE PROJECT ENGINEER FOR DIRECTION AND/OR CLARIFICATION. (a) ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE PROCEDURE E. ANY CONSTRUCTION WORK DONE BY THE CONTRACTOR BEFORE OBTAINING SUCH CLARIFICATION FROM . MECHANICAL LOADS: MASONRY AND CONCRETE ARE ABLE TO RESIST THE LOADS IMPOSED BY THE WALL THE PROJECT ENGINEER SHALL BE AT THE CONTRACTOR'S OWN RISK AND COST. FURTHERMORE, ANY MOUNTED HVAC UNIT, AND FLOOR AND WALL MOUNTED ELECTRICAL EQUIPMENT. WORK REQUIRED TO CORRECT, REPLACE AND/OR RESTORE THE WORK AS DIRECTED BY THE ENGINEER G. SOIL DESIGN PARAMETERS (RB&G, #202401-043, DEC. 2024): SHALL BE AT THE CONTRACTOR'S OWN RISK AND COST. i NET ALLOWABLE SOIL BEARING PRESSURES; Qn = 1500 PSF (WITH 12" STRUCTURAL FILL) ii NATIVE SOIL UNIT WEIGHT, Ws = 130 PCF iii GROUND WATER (GW) ELEVATION (a) GROUND WATER DOES NOT APPEAR TO EXIST WITHIN 30 FT OF THE GROUND SURFACE iv EQUIVALENT DRAINED FLUID PRESSURES (ABOVE GW) CODES (a) ACTIVE; Ka = 39 PCF (b) AT REST; Kr = 59 PCF (c) PASSIVE; Kp = 429 PCF A. INTERNATIONAL BUILDING CODE, IBC 2021 EDITION. v COEFICIENT OF FRICTION, SOIL TO CONCRETE; F = 0.3 B. MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES, ASCE 7-16. vi MODULUS OF SUBGRADE REACTION; Km = 150 PCI C. AMERICAN CONCRETE INSTITUTE, ACI 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE; vii FROST DEPTH; Df = 2'-6" CURRENT EDITION. D. AMERICAN CONCRETE INSTITUTE, ACI 530, BUILDING CODE REQUIREMENTS AND SPECIFICATIONS FOR MASONRY STRUCTURES; CURRENT EDITION. E. NATIONAL DESIGN SPECIFICATIONS, NDS FOR WOOD CONSTRUCTION; CURRENT EDITION. **SUBMITTALS FOUNDATIONS** A. SUBMIT PRODUCT OR MATERIAL INFORMATION TO THE ENGINEER FOR REVIEW FOR THE FOLLOWING A. ALL FOOTINGS TO BE PLACED ON FIRM UNDISTURBED, INORGANIC MATERIAL. PROOF ROLL SUB-GRADE i CONCRETE MIX DESIGNS AND ADMIXTURES. PRIOR TO PLACING CONCRETE WHERE THE MATERIAL HAS BEEN DISTURBED BY THE EXCAVATING ii NON-SHRINK GROUT. iii EXPANSION BOLTS. B. ALL PIERS AND FOOTINGS OUTSIDE OR AT THE PERIMETER OF THE STRUCTURE, OR IN OTHER UNHEATED iv ADHESIVE ANCHORS. AREAS SHALL BE SET TO A DEPTH OF AT LEAST 30-IN. BELOW FINISH GRADE, UNLESS OTHER WISE NOTED v STRUCTURAL MASONRY GROUT AND MORTAR MIX DESIGNS. ON THE PLANS. vi STRUCTURAL CONCRETE BLOCK OR BRICK. ALL FOUNDATIONS AND RETAINING WALLS BELOW FINISH GRADE SHALL RECEIVE AN APPROVED DAMP-PROOF COATING. FOUNDATION WALLS BELOW MAXIMUM ANTICIPATED GROUND WATER LEVELS SHALL RECEIVE AN APPROVED WATER-PROOF COATING; EXTEND WATER-PROOFING TO A MINIMUM OF 1'-0" ABOVE THE MAXIMUM ANTICIPATED GROUND WATER LEVEL. D. ALLOWABLE BEARING PRESSURE FOR ALL FOOTINGS QA = 1500 PSF **DEFERRED SUBMITTALS** E. LOCAL AREAS OF SOFT AND/OR UNACCEPTABLE MATERIAL ENCOUNTERED AT BOTTOM OF FOOTING

ELEVATIONS INDICATED ON THE PLANS MUST BE OVER-EXCAVATED AND BROUGHT UP TO DESIGN GRADE WITH COMPACTED STRUCTURAL FILL OR LEAN CONCRETE FILL.

. ALL STRUCTURAL FILL AND/OR BACKFILL SHALL BE GRANULAR. FREE DRAINING. MATERIAL: UNIFIED SOILS CLASSIFICATION GW, GP, GM, OR SW; MAXIMUM AGGREGATE SIZE OF 3-IN. AND NO MORE THAN 7% PASSING A NUMBER 200 SIEVE. MATERIAL SHALL BE PLACED IN LIFTS NO GREATER THAN 6-IN. IN DEPTH AND COMPACTED TO 95% OF MAXIMUM DENSITY AS DETERMINED PER ASTM D1557.

G. DESIGN FOR THE MITIGATION OF SUBSURFACE WATER FLOW AND/OR PERCHED WATER TABLES SHALL BE THE RESPONSIBILITY OF OTHERS.

H. AS INDICATED ON THE PLANS ALL EXCAVATED AREAS UNDERNEATH CONCRETE STRUCTURES SHALL BE BACKFILLED WITH CONTROLLED DENSITY FILL (CDF) OTHERWISE CALLED CONTROLLED LOW STRENGTH MATERIAL (CLSM). CDF SHALL BE A MIXTURE OF CEMENT, FINE AND COARSE AGGREGATE, FLY ASH AND ADMIXTURES FORMULATED TO BE FLOWABLE AND SELF-CONSOLIDATING WITH A NET 28 DAY COMPRESSIVE STRENGTH OF 200 TO 300 PSI.

THE ENGINEER SHALL BE NOTIFIED IN WRITING IF ANY GROUND WATER, CLAY TYPE SOILS, DEBRIS OR UNCONSOLIDATED MATERIALS ARE ENCOUNTERED DURING EXCAVATIONS FOR FOUNDATIONS.

J. REFER TO THE FINAL PROJECT GEOTECHNICAL REPORT BY RB&G DATED DEC. 2024.

WELDING OF STRUCTURAL STEEL

A. ALL WELDING SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT AWS STRUCTURAL WELDING CODE D1.1.

B. WELD METAL: FEXX=70 KSI, TYPICAL UNLESS OTHERWISE NOTED OR REQUIRED BY AWS. C. ALL WELDERS SHALL BE TESTED AND CERTIFIED BY AN INDEPENDENT TESTING AGENCY.

D. QUALIFICATION OF WELDERS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS FOR STANDARD

QUALIFICATION PROCEDURE OF THE AWS. E. CONTRACTOR SHALL SUBMIT A WPS FOR EACH TYPE 1 MOMENT CONNECTION WELD TO BE PERFORMED

ON THE JOB. THE WPS SHALL FOLLOW THE REQUIREMENTS OF AWS D1.1 AND SPECIFY AT A MINIMUM THE FOLLOWING: PROCEDURE IDENTIFICATION, BASE METAL IDENTIFICATION, WELDING PROCESS, TYPE OF WELDING, POSITION OF WELDING, FILLER METAL SPECIFICATIONS, FILLER METAL CLASSIFICATION, NUMBER OF PASSES, WELDING CURRENT, WELDING POLARITY, PRE-HEAT AND INTER-PASS TEMPERATURES, CONTROLLED COOLING REQUIREMENTS, WELDING PARAMETERS SUCH AS ELECTRODE DIAMETER, AMPERAGE RANGE, VOLTAGE RANGE, TRAVEL SPEED RANGE, WIRE FEED SPEED RANGE, AND

STRUCTURAL MATERIALS

A. ANCHOR RODS: ANCHOR RODS (BOLTS SET INTO CONCRETE) SHALL BE ASTM F1554, FY=55 KSI. NUTS FOR ANCHOR RODS SHALL CONFORM TO ASTM A563, GRADE A, HEAVY HEX.

B. THREADED STEEL RODS: THREADED STEEL RODS SHALL CONFORM TO ASTM A36, FY=36 KSI. NUTS FOR THREADED RODS SHALL CONFORM TO ASTM A563, GRADE A, HEAVY HEX.

C. WASHERS: ALL WASHERS SHALL CONFORM TO ASTM F436.

D. BOLT PLACEMENT: ALL BOLTS SHALL BE ON MEMBER STANDARD GAGE LINES EXCEPT AS NOTED

E. PROJECT CONCRETE MIX TYPES: CONCRETE SHALL BE PROPORTIONED AND FURNISHED FOR THE VARIOUS PROJECT USES AS INDICATED ON THE PLANS AND AS FOLLOWS:

M2500-SEC: SECONDARY CONCRETE MIX FOR FILL AND BACKFILL AROUND BURIED PIPES UNDERNEATH STRUCTURAL FOOTINGS AND FOUNDATION SLABS: FC = 2,500 PSI, ABSOLUTE WATER-CEMENT RATIO BY WEIGHT = 0.55, AIR CONTENT = 6% (+/- 1.5%), MAXIMUM AGGREGATE SIZE

3/8-INCH; SLUMP 8-INCH. ii M3000-INT: CONCRETE MIX FOR CLASS 1, 2 OR 3 INTERIOR SLABS ON GRADE: FC = 3,000 PSI, ABSOLUTE WATER-CEMENT RATIO BY WEIGHT = 0.50, AIR CONTENT = 0 TO 2% (NON-AIR ENTRAINED

iii M4500-STD: STANDARD EXTERIOR CONCRETE MIX FOR NON-LIQUID RETAINING BUILDING FOOTINGS/FOUNDATION WALLS: FC = 4,500 PSI, ABSOLUTE WATER-CEMENT RATIO BY WEIGHT = 0.45, AIR CONTENT = 6% (+/- 1.5%)

iv M-SLURRY: SLURRY CONCRETE FOR HORIZONTAL CONSTRUCTION JOINTS IN WALLS. A FLOWABLE MIX CONSISTING OF SAND, 3/8-INCH MAXIMUM AGGREGATE, WATER AND A MINIMUM 1,150 POUNDS OF CEMENT PER CUBIC YARD.

v M-CDF: MIX FOR CONTROLLED DENSITY FILL (CDF) OR CONTROLLED LOW STRENGTH MATERIAL (CLSM). CDF SHALL BE A MIXTURE OF CEMENT, FINE AND COARSE AGGREGATE, FLY ASH AND ADMIXTURES FORMULATED TO BE FLOWABLE AND SELF-CONSOLIDATING WITH A NET 28 DAY COMPRESSIVE STRENGTH OF 200 TO 300 PSI.

CONCRETE MIX COMPONENTS. i A WATER-REDUCING ADMIXTURE CONFORMING TO ASTM C494, USED IN STRICT CONFORMANCE WITH THE MANUFACTURERS INSTRUCTIONS, SHALL BE INCORPORATED IN ALL CONCRETE MIX DESIGNS.

ii FOR ALL WATER-RETAINING CONCRETE STRUCTURAL WALLS AND SLABS, A HIGH-RANGE WATER-REDUCING (HRWR) ADMIXTURE CONFORMING TO ASTM C494, TYPE F OR G, SHALL BE USED. THE TOTAL SLUMP SHALL BE LESS THAN 10-IN.

iii HIGHER WATER-CEMENT RATIOS THAN SHOWN ABOVE MAY BE USED IF SUBSTANTIATED IN **ACCORDANCE WITH ACI 318**

iv FLY-ASH CONFORMING TO ASTM C618 TYPE F OR C, MAY REPLACE UP TO 20% OF THE CEMENT CONTENT, PROVIDED THAT THE MIX STRENGTH IS SUBSTANTIATED BY TEST DATA.

v CEMENT: ASTM C595 TYPE IL (10)(MS).

vi CEMENT: ASTM C845 TYPE K FOR SHRINKAGE COMPENSATING MIXES

vii WATER: CLEAN & POTABLE

viii AIR ENTRAINING AGENT: ASTM C260. EXCEPT WHERE NOTED NON-AIR ENTRAINED. ix AGGREGATE: 0.75-INCH MAXIMUM AGGREGATE PER ASTM C33. UNLESS NOTED OTHERWISE.

x MIX PROPORTIONING: ACI 211.1 AND 350R. G. CONCRETE ACCESSORIES

i REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60; #3 BARS MAY BE GRADE 40.

ii REINFORCING STEEL TO BE WELDED: ALL REINFORCING STEEL TO BE WELDED SHALL CONFORM TO ASTM A706 GRADE 60, LOW-ALLOY, DEFORMED REINFORCING STEEL.

iii WELDED WIRE FABRIC: ASTM A185 OR A497.

iv WIRE: PLAIN WIRE SHALL CONFORM TO ASTM A 82. DEFORMED WIRE SHALL CONFORM TO ASTM A496, AND EPOXY COATED WIRE SHALL CONFORM TO ASTM A884.

v JOINTING MATERIALS: IN ACCORDANCE WITH ACI 350, ALL JOINTING MATERIALS INCLUDING WATER-STOPS, EXPANSION JOINTS AND SEALANTS SHALL BE RESISTANT TO CHEMICAL ATTACK FOR THE DESIGN LIFE OF THE FACILITY. SEALANTS SHALL CONFORM TO ASTM C920 AND FEDERAL

SPECIFICATION TT-S-00227E AND PVC WATER-STOP SHALL CONFORM TO ASTM D570, ASTM D746, ASTM D1149 AND CRD-C572. MASONRY: THE MASONRY ASSEMBLAGE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF

2,000 PSI. ASSEMBLY SHALL BE VERIFIED PER IBC STANDARDS USING THE UNIT STRENGTH METHOD. STEEL JOISTS & JOIST GIRDERS: STEEL ROOF AND FLOOR JOISTS AND JOIST GIRDERS SHALL BE

DESIGNED AND MANUFACTURED IN ACCORDANCE WITH THE STEEL JOIST INSTITUTE STANDARD SPECIFICATIONS, CURRENT EDITION. BRACING, HORIZONTAL BRIDGING, AND ALL REQUIRED CONNECTING HARDWARE SHALL BE DESIGNED

AND SUPPLIED BY THE JOIST MANUFACTURER IN ACCORDANCE WITH SJI RECOMMENDATIONS. ii STEEL JOISTS SHALL BE STORED, HANDLED, AND INSTALLED PER THE MANUFACTURERS AND THE SJI WRITTEN RECOMMENDATIONS.

STEEL ROOF DECKING: ALL STEEL ROOF DECKING SHALL BE FABRICATED FROM ASTM A653 STEEL, FY=33 KSI, CLASS G-60 COATING. DECKING SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES: i ROOF: DEPTH = 1.5", TYPE HSB-36, 20 GAG, IX = 0.197 IN⁴, SX = 0.224 IN³

NON-SHRINK GROUT: ALL NON-SHRINK GROUT NOTED ON THE PLANS SHALL BE NON-SHRINK, NON-METALLIC GROUT WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 7,000 PSI.

EXPANSION BOLTS: BOLTS NOTED ON THE PLANS AS EXPANSION BOLTS SHALL BE HILTI KWIK BOLT 3, STUD ANCHORS; SIZE AND EMBEDMENT AS NOTED ON THE DRAWINGS, INSTALLED PER THE MANUFACTURERS RECOMMENDATIONS; OR AN APPROVED EQUAL.

M. DEFORMED BAR ANCHORS (DBA): DEFORMED BAR ANCHORS SHALL MEET THE REQUIREMENTS OF AWS D1.1, DEFORMED BAR ANCHORS, MADE FORM ASTM A496 MATERIAL WITH A MINIMUM YIELD STRENGTH OF FY=70 KSI. DEFORMED BAR ANCHORS SHALL BE AUTOMATICALLY END-WELDED WITH THE MANUFACTURER'S STANDARD EQUIPMENT IN ACCORDANCE WITH THEIR RECOMMENDATIONS.

CONCRETE FINISHING

A. FORMED CONCRETE SURFACES. AFTER REMOVAL OF FORMS, GIVE EACH FORMED SURFACE ONE OR MORE OF THE FOLLOWING FINISHES IN CONFORMANCE WITH ACI 301 FINISHING FORMED SURFACES. i CONCRETE STRUCTURES:

(a) CONCRETE FOOTINGS AND FOUNDATIONS NOT EXPOSED TO VIEW. PROVIDE AN AS-CAST FINISH. (b) FOUNDATION WALL AND OTHER SURFACES BELOW GRADE AND NOT EXPOSED TO VIEW. PROVIDE A SURFACE FINISH TYPE SF-1.0. (c) INTERIOR, EXTERIOR AND TOP SURFACES EXPOSED TO VIEW TO 6-INCHES BELOW GRADE. PROVIDE

A SURFACE FINISH TYPE SF-2.0.

B. UNFORMED CONCRETE SURFACES. UNFORMED CONCRETE SURFACES INCLUDING THE TOP SURFACE OF ALL CONCRETE ROOF AND FLOOR SLABS SHALL BE FINISHED IN ACCORDANCE WITH ACI 301 AND ACI 302. (a) FOR THE TOP SURFACES OF WALLS, PROVIDE A SCRATCHED FINISH.

(b) INTERIOR GARAGE, INDUSTRIAL OR WORK AREAS SUBJECT TO EQUIPMENT OR TRAFFIC LOADS SHALL RECEIVE A BROOM FINISH.

(c) PROVIDE A NONSLIP FINISH FOR EXTERIOR SURFACES AND WHERE INDICATED ON THE PLANS. C. SAWED CONTRACTION JOINTS. CONFORM TO ACI 301.

SPECIAL INSPECTIONS

SPECIAL INSPECTIONS PER IBC CHAPTER 17 ARE REQUIRED FOR THE FOLLOWING ITEMS: "C" INDICATES CONTINUOUS, "P" INDICATES PERIODIC. A. SOILS. BY GEOTECHNICAL ENGINEER **FREQUENCY** i SITE PREPARATION:

ii FILL MATERIAL VERIFICATION: iii FILL PLACEMENT AND COMPACTION: iv LIFT THICKNESS:

B. CONCRETE i REINFORCEMENT PLACEMENT: REFER TO STEEL WELDING REQUIREMENTS. ii REINFORCING WELDING:

iii PLACEMENT OF CAST-IN-PLACE ANCHORS iv VERIFICATION OF USE OF REQUIRED MIX: v CONCRETE PLACEMENT:

vi VERIFICATION OF IN-SITU CONCRETE PRIOR TO REMOVAL OF FORMS AND SHORES FROM ELEVATED BEAMS AND SLABS:

C. POST INSTALLED CONCRETE ANCHORS. i INSTALLATION: D. STRUCTURAL MASONRY i VERIFICATION OF SITE PROPORTIONED MORTAR & GROUT: ii OBSERVATION OF PRISM PREPARATION:

iii PLACEMENT OF MASONRY UNITS & MORTAR JOINTS:

iv VERIFICATION OF SIZE AND LOCATION OF STRUCTURAL ELEMENTS: v ANCHORAGE OF MASONRY TO FRAMES, STRUCTURAL MEMBERS AND DIAPHRAGMS

INCLUDING TYPE, SIZE AND LOCATION OF ANCHORS : vi TYPE, GRADE AND SIZE OF REINFORCING STEEL: vii REINFORCING STEEL AND CONNECTOR PLACEMENT: viii COLD/HOT WEATHER MASONRY PROTECTION: ix VERIFY USE OF GROUT MIX DESIGN:

x VERIFY GROUT SPACE IS CLEAN PRIOR TO GROUTING: xi GROUT PLACEMENT: E. STRUCTURAL STEEL i FABRICATION OF STRUCTURAL ELEMENTS: ii MATERIAL VERIFICATION OF STRUCTURAL STEEL:

iii MATERIAL VERIFICATION OF HIGH STRENGTH BOLTS: iv MATERIAL VERIFICATION OF ANCHOR BOLTS & THREADED RODS: v MATERIAL VERIFICATION OF WELD FILLER MATERIALS: vi VERIFY USE OF PROPER WPS'S:

vii COMPLETE AND PARTIAL PENETRATION GROOVE WELDS: viii MULTI-PASS FILLET WELDS: ix SINGLE-PASS FILLET WELDS GREATER THAN 5/16": x SINGLE-PASS FILLET WELDS LESS THAN OR EQUAL TO 5/16":

xi INSTALLATION OF COMPOSITE SLAB DECKING: xii INSTALLATION OF ROOF DECKING: xiii FLOOR AND ROOF DECK WELDS:

xiv WELDING SHEAR STUDS: XV WELDING STAIR AND RAILING SYSTEMS: xvi SNUG-TIGHT HIGH STRENGTH BOLT INSTALLATION:

xvii PRE-TENSIONED HIGH STRENGTH BOLT INSTALLATION USING TURN-OF-THE-NUT METHOD WITH MATCH MARKING, DIRECT TENSION INDICATOR METHOD OR TWIST-OFF TYPE TENSION CONTROL BOLT METHOD: xviii PRE-TENSIONED HIGH STRENGTH BOLT INSTALLATION USING TURN-OF-THE-NUT METHOD

WITHOUT MATCH MARKING, OR CALIBRATED WRENCH METHOD: C XIX VERIFICATION OF FRAME JOINT DETAILS INCLUDING APPLICATION, COMPONENT LOCATIONS,

BRACING, AND STIFFENERS: XX WELDING PERFORMED IN THE SHOP OF AN APPROVED FABRICATOR SHALL NOT REQUIRE SPECIAL

INSPECTION. XXI SPECIAL INSPECTOR SHALL SUBMIT A FINAL REPORT TO THE LOCAL BUILDING OFFICIAL DETAILING

THE RESULTS OF ALL STRUCTURAL STEEL INSPECTIONS PRIOR TO FINAL BUILDING INSPECTION. F. SPRAY APPLIED FIRE-PROOFING:

G. ALL SPECIAL INSPECTIONS SHALL BE PERFORMED BY ICC CERTIFIED INSPECTORS

H. FOR ADHESIVE ANCHOR INSPECTION REQUIREMENTS REFER TO THE IBC.

I. SHRINKAGE COMPENSATING OR REDUCING CONCRETE MIXES:

i TO DOCUMENT AND VERIFY SHRINKAGE CHARACTERISTICS OF SHRINKAGE COMPENSATING OR REDUCED CONCRETE MIX DESIGNS, PROVIDE (3) RECORD SHRINKAGE TESTS FOR EACH SUCH MIX. TEST EACH SAMPLE PER ASTM C157.

FORMWORK

A. FORMS SHALL RESULT IN A FINAL STRUCTURE THAT CONFORMS TO SHAPES, LINES, AND DIMENSIONS OF THE MEMBERS AS REQUIRED BY THE DESIGN DRAWINGS AND SPECIFICATIONS. i DESIGN OF FORMWORK SHALL BE IN ACCORDANCE WITH ACI 318/350.

ii FORMWORK SHALL BE IN ACCORDANCE WITH ACI 347, GUIDE TO FORMWORK FOR CONCRETE. B. SPECIAL FORMWORK DESIGN. FORMWORK AS LISTED IN THIS SECTION SHALL BE DESIGNED PER ACI 347 BY A PROFESSIONAL ENGINEER CURRENTLY REGISTERED IN THE STATE OF UTAH. DESIGN CALCULATIONS AND FORMWORK PLANS AND DETAILS, SEALED AND SIGNED BY THE FORMWORK ENGINEER OF RECORD SHALL BE SUBMITTED UNDER THE DEFERRED SUBMITTAL SECTION OF THE

PROJECT SPECIFICATIONS. SUBMIT SPECIAL FORMWORK DESIGNS FOR THE FOLLOWING ITEMS: C. TOLERANCES FOR FINISHED CONCRETE SURFACES SHALL MEET THE FOLLOWING REQUIREMENTS, CLASS OF SURFACE IS PER ACI 347:

i FOOTINGS: CLASS C ii FOUNDATION WALLS: CLASS B

iii ABOVE GRADE CONCRETE NOT VISIBLE TO SIGHT: CLASS B

iv ABOVE-GRADE CONCRETE VISIBLE TO SIGHT: CLASS A

D. REMOVAL OF FORMS.

CONCRETE FORMS SHALL NOT BE REMOVED UNTIL THE RETAINED CONCRETE HAS REACHED THE FOLLOWING MINIMUM PERCENTAGE OF THE REQUIRED 28 DAY COMPRESSIVE STRENGTH: (a) FOOTINGS AND BASE SLABS ON GRADE: 50% OF F'C. (b) FOUNDATION WALLS AND COLUMNS: 67% OF F'C.

(c) ELEVATED STRUCTURAL SLABS, BEAMS AND JOISTS: 95% F'C. WHERE CONCRETE CYLINDER TESTS ARE NOT AVAILABLE FOR STRENGTH VERIFICATION THE FOLLOWING GUIDE MAY BE USED WHEN PERMITTED BY THE PROJECT ENGINEER:

(a) FOOTINGS AND BASE SLABS ON GRADE: 12 HOURS. (b) FOUNDATION WALLS AND COLUMNS: 24 HOURS. (c) ELEVATED STRUCTURAL SLABS, BEAMS AND JOISTS:

 SPANS UNDER 10-FEET: 4 DAYS SPANS BETWEEN 10-FEET AND 15-FEET.: 7 DAYS.

 SPANS BETWEEN 15-FEET AND 20-FEET: 10 DAYS SPANS GREATER THAN 20-FEET: BY CYLINDER STRENGTH VERIFICATION ONLY.

E. EMBEDMENTS IN CONCRETE. i CONDUITS, PIPES, AND SLEEVES OF ANY MATERIAL NOT HARMFUL TO CONCRETE AND WITHIN

LIMITATIONS OF ACI 318/350 SHALL BE PERMITTED TO BE EMBEDDED IN CONCRETE WITH APPROVAL OF THE PROJECT ENGINEER, PROVIDED THEY ARE NOT CONSIDERED TO REPLACE STRUCTURALLY THE DISPLACED CONCRETE, EXCEPT AS PROVIDED IN ACI 350.

ii CONDUITS AND PIPES OF ALUMINUM SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE UNLESS EFFECTIVELY COATED OR COVERED TO PREVENT ALUMINUM-CONCRETE REACTION OR ELECTROLYTIC ACTION BETWEEN ALUMINUM AND STEEL.

ii CONSTRUCTION JOINTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ACI 318/350.

F. CONSTRUCTION JOINTS.

i CONSTRUCTION JOINTS SHALL ONLY BE PLACED WHERE INDICATED ON THE PROJECT DRAWINGS OR AS APPROVED BY THE PROJECT ENGINEER

> **LAST UPDATED**: 9/9/2025 DRAWING:

FILE: 93-24-009 S-001X

JB PROJ. #:93-24-009

RAWN BY: EM

DESIGN BY: KJH

HECKED BY: RC

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STRUCTURAL RAL STRUCTURAL

ONE INCH

AT FULL SIZE, IF NOT ONE

INCH, SCALE ACCORDINGLY

J-U-B ENGINEERS, INC.

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BID

0.13260784

KAYLA JEAN

HOOVER

Subconsultant:

THE FOLLOWING ITEMS TO BE DESIGNED BY OTHERS ARE CONSIDERED "DEFERRED SUBMITTALS".

CALCULATIONS, STAMPED AND SIGNED BY A PROFESSIONAL STRUCTURAL ENGINEER CURRENTLY

REGISTERED IN THE STATE OF UTAH.

SHOP DRAWINGS

A. PRE-ENGINEERED AND SHOP FABRICATED STEEL TRUSSES.

REINFORCING STEEL FOR ALL CONCRETE.

ii REINFORCING STEEL FOR MASONRY WALLS.

iii METAL FABRICATION OF GUARD RAIL.

DEFERRED SUBMITTALS SHALL BE ACCOMPANIED BY DESIGN DRAWINGS, SHOP DRAWINGS AND STRUCTURAL

A. SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR REVIEW PRIOR TO FABRICATION OF THE FOLLOWING

CONCRETE QUALITY AND DETAILS

- A. GENERAL. CONCRETE SHALL BE PROPORTIONED TO PROVIDE AN AVERAGE COMPRESSIVE STRENGTH, FC, AS PRESCRIBED IN ACI 318/350 AND SHALL SATISFY THE DURABILITY CRITERIA OF ACI 318/350. B. CONCRETE PROPORTIONS.
- i CONCRETE MIX PROPORTIONING SHALL BE IN ACCORDANCE WITH ACI 211.1; STANDARD PRACTICE FOR SELECTING PROPORTIONS FOR NORMAL-DENSITY AND HIGH-DENSITY CONCRETE.
- ii CONCRETE MIX PROPORTIONING FOR LIGHTWEIGHT CONCRETE SHALL BE IN ACCORDANCE WITH ACI 211.2; STANDARD PRACTICE FOR SELECTING PROPORTIONS FOR LIGHTWEIGHT CONCRETE.
- C. CONCRETE MIX VERIFICATION: CONCRETE MIX DESIGNS SHALL BE VERIFIED BY STANDARD 28-DAY CYLINDER TESTS PER ASTM C39.
- D. EVALUATION AND ACCEPTANCE OF CONCRETE. CONCRETE SHALL BE TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 318/350.
- E. MIXING & PLACING CONCRETE. CONCRETE SHALL BE PREPARED, MIXED, PLACED AND CONSOLIDATED IN ACCORDANCE WITH ACI 318/350 AND AS FOLLOWS:
- i ACI 304; GUIDE FOR MEASURING, MIXING, TRANSPORTING, AND PLACING CONCRETE. ii ACI 309; GUIDE FOR CONSOLIDATION OF CONCRETE.
- F. MINIMUM TIME BETWEEN ADJACENT PLACEMENTS:
- i NON-LIQUID RETAINING STRUCTURES:
- (a) CONSTRUCTION JOINTS: FIVE (5) DAYS WET CURE, OR SEVEN (7) DAYS DRY CURE.
- (b) CONTROL JOINTS: TWO (2) DAYS.
- (c) EXPANSION JOINTS: ONE (1) DAY.
- ii FLOOR SLABS:
- (a) CONSTRUCTION JOINTS: SEVEN (7) DAYS WET CURE, OR TEN (10) DAYS DRY CURE.
- (b) CONTROL JOINTS: FOUR (4) DAYS. (c) EXPANSION JOINTS: ONE (1) DAY.
- G. COLD WEATHER REQUIREMENTS. ADEQUATE EQUIPMENT SHALL BE PROVIDED FOR HEATING CONCRETE MATERIALS AND PROTECTING CONCRETE DURING FREEZING OR NEAR-FREEZING WEATHER. THE
- RECOMMENDED PROCEDURES LISTED IN ACI 306; COLD WEATHER CONCRETING SHALL BE FOLLOWED. i COLD WEATHER IS DEFINED AS A PERIOD WHEN, FOR MORE THAN 3 CONSECUTIVE DAYS, THE
- FOLLOWING CONDITIONS EXIST: (a) THE AVERAGE DAILY AIR TEMPERATURE IS LESS THAN 40-DEGREES F AND
- (b) THE AIR TEMPERATURE IS NOT GREATER THAN 50-DEGREES F FOR MORE THAN ONE-HALF OF ANY 24-HOUR PERIOD.
- H. HOT WEATHER REQUIREMENTS. DURING HOT WEATHER, PROPER ATTENTION SHALL BE GIVEN TO INGREDIENTS, PRODUCTION METHODS, HANDLING, PLACING, PROTECTION, AND CURING TO PREVENT EXCESSIVE CONCRETE TEMPERATURES OR WATER EVAPORATION THAT COULD IMPAIR REQUIRED STRENGTH OR SERVICEABILITY OF THE MEMBER OR STRUCTURE. THE RECOMMENDED PROCEDURES LISTED IN ACI 305; HOT WEATHER CONCRETING SHALL BE FOLLOWED.
- i HOT WEATHER IS ANY COMBINATION OF THE FOLLOWING CONDITIONS THAT TENDS TO IMPAIR THE QUALITY OF FRESHLY MIXED OR HARDENED CONCRETE BY ACCELERATING THE RATE OF MOISTURE LOSS AND RATE OF CEMENT HYDRATION, OR OTHERWISE CAUSING DETRIMENTAL RESULTS: (a) HIGH AMBIENT TEMPERATURE.
- (b) HIGH CONCRETE TEMPERATURE. (c) LOW RELATIVE HUMIDITY.
- (d) WIND SPEED.
- (e) SOLAR RADIATION.

CONCRETE FLOORS AND SLABS

- A. CONCRETE FLOORS AND SLABS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ACI 302, CONCRETE FLOOR AND SLAB CONSTRUCTION. PROVIDE THE FOLLOWING CLASS CONCRETE FLOOR SLABS UNLESS OTHERWISE NOTED ON THE DRAWINGS:
- i INTERIOR OFFICES, LABORATORY SPACES AND OTHER AREAS RECEIVING ONLY LIGHT FOOT TRAFFIC: CLASS 1 OR 2 FLOOR DEPENDING ON FINAL FLOOR COVERING.
- INTERIOR GARAGE, INDUSTRIAL OR WORK AREAS SUBJECT TO EQUIPMENT OR TRAFFIC LOADS:
- CLASS 6 FLOOR WITH A SPECIAL METALLIC OF MINERAL AGGREGATE SURFACE HARDENER. iii EXTERIOR STRUCTURAL FLOOR SLABS SUBJECT TO FOOT AND MAINTENANCE TRAFFIC LOADS:
- CLASS 4 OR 5 FLOOR. PROVIDE A NONSLIP FINISH TO ALL WALKING SURFACES.
- B. PLACING, CONSOLIDATING, AND FINISHING. FOLLOW THE RECOMMENDATIONS GIVEN IN ACI 302.

DETAILS OF REINFORCEMENT

- A. PLACEMENT OF ALL REINFORCING STEEL WITHIN CONCRETE STRUCTURES SHALL BE IN CONFORMANCE
- B. REINFORCING STEEL HOOKS, BENDS, TIES, SPLICES AND OTHER REINFORCEMENT DETAILS SHALL BE IN ACCORDANCE WITH ACI 315, GUIDE TO PRESENTING REINFORCING STEEL DESIGN DETAILS. C. SPACING LIMITS FOR REINFORCEMENT SHALL BE IN CONFORMANCE WITH ACI 318/350.
- D. CONCRETE PROTECTION FOR REINFORCEMENT. UNLESS NOTED ELSEWHERE ON THE DRAWINGS. ALL
- REINFORCING STEEL SHALL HAVE THE FOLLOWING CONCRETE COVER: i FOR NON-LIQUID CONTAINING CONCRETE STRUCTURES; PER ACI 318:
- (a) CONCRETE CAST AGAINST EARTH: 3.00 INCH
- (b) CONCRETE EXPOSED TO EARTH OR WEATHER:
- NO. 5 OR SMALLER BARS: 1.50-INCH NO. 6 OR LARGER BARS: 2.00-INCH
- (c) CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
- NO. 11 OR SMALLER BARS: 0.75-INCH
- NO. 14 OR LARGER BARS: 1.50-INCH
- E. CONCRETE BLOCKS OR PLASTIC-COATED BAR CHAIRS SHALL BE PROVIDED FOR SUPPORT OF ALL SLAB REINFORCING STEEL, SUFFICIENT IN NUMBER TO PREVENT SETTLEMENT OR SAGGING, BUT IN NO CASE SHALL SUCH SUPPORT BE CONTINUOUS. METAL CLIPS OR SUPPORTS SHALL NOT BE PLACED IN CONTACT WITH THE FORMS OR THE SUB-GRADE.
- . DOWELS AND ANCHOR BOLTS SHALL BE WIRED OR OTHERWISE HELD IN CORRECT POSITION PRIOR TO PLACING CONCRETE. CARE SHALL BE TAKEN TO ENSURE THAT DOWELS AND ANCHOR BOLTS REMAIN PLUM AFTER CONCRETE IS POURED AND VIBRATED. IN NO CASE SHALL DOWELS OR ANCHOR BOLTS BE STABBED INTO FRESHLY POURED CONCRETE!
- G. PROVIDE DOWELS IN FOOTINGS AND AT CONSTRUCTION JOINTS TO MATCH VERTICAL REINFORCING BAR SIZE AND SPACING, UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- H. COORDINATE PLACEMENT OF DOWELS INTO MASONRY OR BRICK WALLS WITH THE MASONRY SHOP WHERE DRILLED IN ANCHORS ARE TO BE POST-INSTALLED INTO CONCRETE SURFACES TAKE CARE TO
- LOCATE REINFORCING STEEL SO THAT IT WILL NOT INTERFERE WITH THE DRILLING OPERATIONS. MOVE BARS PLUS OR MINUS 1 TO 2 INCHES IN ORDER TO AVOID DRILLING CONFLICTS. J. ALL BAR BENDS, HOOKS, SPLICES AND OTHER REINFORCING STEEL DETAILS SHALL CONFORM TO THE
- K. UNLESS OTHERWISE NOTED ON THE PLANS ALL BARS SHALL BE SPLICED WITH A MINIMUM CLASS B LAP SPLICE; LAP SPLICES OF DEFORMED BARS AND DEFORMED WIRE IN COMPRESSION ZONES MAY BE CLASS
- A SPLICES. . AT ALL CORNERS AND WALL INTERSECTIONS PROVIDE BENT BARS TO MATCH THE HORIZONTAL
- REINFORCING STEEL AND IN ACCORDANCE WITH THE TYPICAL CORNER REINFORCING DETAILS. M. CHAMFER ALL EXPOSED CORNERS AND FILLET ENTRANT ANGLES 3/4" UNLESS OTHERWISE NOTED ON THE DRAWINGS.
- N. AT SLAB AND WALL OPENINGS PROVIDE A MINIMUM OF (4) #5 BARS: OVER, UNDER AND AT EITHER SIDE OF THE OPENINGS. EXTEND THESE BARS A MINIMUM OF 24" PAST THE OPENING EDGE. PROVIDE (1) MATT OF (4) #5 BARS FOR WALLS OR SLABS WITH SINGLE-LAYER REINFORCING AND (2) MATTS OF (4) #5 BARS FOR DOUBLE-LAYER REINFORCING WALLS OR SLABS. PROVIDE #4, 4'-0" LONG DIAGONAL BARS AT EACH RE-ENTRANT CORNER IN SLABS; (1) BAR FOR SLABS WITH SINGLE LAYER REINFORCING AND (2) BARS FOR SLABS WITH DOUBLE LAYER REINFORCING.

STEEL ROOF DECKING CONNECTIONS

- A. METAL DECKING CONNECTIONS AS INDICATED ARE SYMMETRICAL THROUGHOUT THE ROOF AND/OR FLOOR WITH THE DECKING FASTENED TO ALL SUPPORTING BEAMS, JOISTS AND WALLS.
- B. ATTACH ALL ROOF DECKING AS FOLLOWS: i TO ALL SUPPORTING MEMBERS & DIAPHRAGM BOUNDARIES USE:
- (a) 5/8-IN. DIAMETER PUDDLE WELDS AT 6-IN. O.C.
- (b) #12 SELF-DRILLING SCREWS @ 6" O.C.
- (c) SIMPSON X #12 SCREW FASTENERS @ 6" O.C. (d) PNEUTEK SDK61 FASTENERS @ 6" O.C.
- ii FASTEN SIDE-LAPS WITH: (a) #10 TEK SCREWS @ 12-IN. O.C. (FOR NESTABLE LAPS ONLY)
- (b) BUTTON PUNCH @ 12" O.C. (FOR STANDING SEAM SIDE LAPS) (c) DELTAGRIP SIDE SEAM ATTACHMENTS @ 12" O.C.
- C. LAP ALL ROOF DECKING A MINIMUM OF 2" OVER SUPPORTS.

STRUCTURAL BRICK & MASONRY REQUIREMENTS

- A. GENERAL. ALL STRUCTURAL MASONRY CONSTRUCTION SHALL BE IN ACCORDANCE WITH ACI 530.1. SPECIFICATIONS FOR MASONRY STRUCTURES, CURRENT EDITION.
- **B. STRUCTURAL MASONRY UNITS:**
 - CONCRETE MASONRY UNITS: ALL CONCRETE MASONRY UNITS (CMU) SHALL CONFORM TO ASTM C-90, WITH A MINIMUM NET AREA COMPRESSIVE STRENGTH OF 2,000 PSI.
- ii PLACE MASONRY UNITS IN ACCORDANCE WITH ACI 530.1.
- C. MORTAR: ALL MORTAR FOR USE WITH STRUCTURAL MASONRY UNITS SHALL CONFORM TO ASTM C270, CLASS S AND HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 1,900 PSI.
- ii MORTAR SHALL BE IN ACCORDANCE WITH ACI 530.1. D. GROUT:
- ALL GROUT FOR USE WITH STRUCTURAL MASONRY UNITS SHALL CONFORM TO ASTM C476 AND HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 2,000 PSI.
- ii GROUT SHALL BE IN ACCORDANCE WITH ACI 530.1.
- iii PLACE GROUT IN ACCORDANCE WITH ACI 530.1.
- iv GROUT POUR HEIGHT. DO NOT EXCEED THE MAXIMUM GROUT POUR HEIGHT LISTED IN ACI 530.1.
- V GROUT LIFT HEIGHT. DO NOT EXCEED THE MAXIMUM GROUT LIFT HEIGHTS AS DEFINED BY ACI 530.1. E. CELLS: FILL ALL CELLS CONTAINING REINFORCING STEEL AND AS DIRECTED ON THE DRAWINGS SOLID
- FULL HEIGHT WITH GROUT.
- F. BOND BEAMS: ALL BOND BEAMS SHALL BE GROUTED SOLID TO A MINIMUM HEIGHT OF 8-INCHES.
- G. LINTELS: ALL MASONRY LINTELS (UNITS OVER WALL OPENINGS GREATER THAN 8-INCHES IN LENGTH) SHALL BE GROUTED SOLID FROM THE BOTTOM OF THE LINTEL TO A TOTAL STRUCTURAL DEPTH AS INDICATED ON THE PLANS, OR 16-IN. MINIMUM. EXTEND THE LENGTH OF SOLID GROUTING PAST THE EDGE
- OF EACH OPENING AS INDICATED ON THE PLANS OR 8" MINIMUM. H. REINFORCING:
- i FABRICATE BARS USED IN MASONRY REINFORCEMENT IN ACCORDANCE WITH THE FABRICATING TOLERANCES OF ACI 315, AND IN ACCORDANCE WITH ACI 530.1.
- ii PLACE REINFORCEMENT IN ACCORDANCE WITH ACI 530.1. iii ALL REINFORCING STEEL SHALL BE IN PLACE AND SECURED AGAINST DISPLACEMENT PRIOR TO GROUTING WITH WIRE TIES, SPACERS OR OTHER SUITABLE DEVICES AT TOPS AND BOTTOMS AND
- INTERVALS NOT EXCEEDING 192 BAR DIAMETERS NOR 10-FEET. iv BAR PLACEMENT: WHERE ONE VERTICAL BAR IS CALLED FOR IN EACH VERTICAL CORE THE BAR IS TO BE PLACED IN THE CENTER OF THE MASONRY CORE. WHERE TWO VERTICAL BARS ARE CALLED FOR, THEY SHALL BE PLACED NEAR EACH WALL FACE WITH 1/5-INCH OF CLEARANCE FOR FINE GROUT AND
- ½-IN. OF CLEARANCE FOR COARSE GROUT. v LAPS: WHERE BARS ARE NOT CONTINUOUS LAP ALL BARS AS INDICATED ON THE DRAWINGS. WHERE NOT OTHERWISE INDICATED PROVIDE A MINIMUM VERTICAL LAP SPLICE OF 48 BAR DIAMETERS AND A
- MINIMUM HORIZONTAL LAP SPLICE OF 32 BAR DIAMETERS. ANCHOR BOLTS: ANCHOR BOLTS SHALL BE ACCURATELY SET WITH TEMPLATES OR BY APPROVED
- EQUIVALENT MEANS AND HELD IN PLACE TO PREVENT MOVEMENT. CONFORM TO ACI 530.1.
- J. WALL TIES: INSTALL WALL TIES IN ACCORDANCE WITH ACI 530.1. K. VENEER ANCHORS: INSTALL VENEER ANCHORS IN ACCORDANCE WITH ACI 530.1
- L. FOUNDATION DOWELS: IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE PLACEMENT OF DOWELS PROJECTING FROM CONCRETE FOUNDATIONS INTO REINFORCED MASONRY OR BRICK WALLS.
- M. MINIMUM REINFORCING: WHERE REINFORCING IS NOT NOTED ON THE DRAWINGS PROVIDE THE
- FOLLOWING MINIMUM REINFORCING STEEL: i 4" WALL: #4 VERTICAL BARS @ 48-INCHES O.C. CENTERED, ONE (1) #4 BARS IN HORIZONTAL BOND
- BEAMS @ 48-INCHES O.C. ii 6" WALL: #4 VERTICAL BARS @ 48-INCHES O.C. CENTERED, ONE (1) #5 BARS IN HORIZONTAL BOND BEAMS @ 48-INCHES O.C.
- iii 8" WALL: #5 VERTICAL BARS @ 48-INCHES O.C. CENTERED, TWO (2) #4 BARS IN HORIZONTAL BOND BEAMS @ 48-INCHES O.C.
- iv 10" WALL: #6 VERTICAL BARS @ 48-INCHES O.C. CENTERED, TWO (2) #5 BARS IN HORIZONTAL BOND BEAMS @ 48-INCHES O.C.
- v 12" WALL: #5 VERTICAL BARS @ 48-INCHES O.C. EACH FACE, TWO (2) #5 BARS IN HORIZONTAL BOND BEAMS @ 48-INCHES O.C.
- N. BOND BEAMS WITH TWO (2) #5 BARS HORIZONTALLY SHALL BE PROVIDED AT ALL FLOOR AND ROOF LINES AND AT THE TOP OF WALLS. PROVIDE A BOND BEAM WITH TWO (2) #5 BARS HORIZONTALLY ABOVE AND BELOW ALL OPENINGS AND EXTEND THESE BARS 2'-0" PAST THE OPENING EDGE. PROVIDE FULL HEIGHT VERTICAL REINFORCEMENT MATCHING TYPICAL VERTICAL REINFORCING EACH SIDE OF OPENINGS AT WALL ENDS AND INTERSECTIONS.
- O. COLD-WEATHER CONSTRUCTION. WHEN AMBIENT AIR TEMPERATURE IS BELOW 40-DEGREES F, IMPLEMENT COLD WEATHER PROCEDURES IN ACCORDANCE WITH ACI 530.1.
- P. FIELD QUALITY CONTROL: PROVIDE SPECIAL INSPECTION AND VERIFICATION IN ACCORDANCE WITH ACI 530.1.
- Q. CLEANING: CLEAN ALL EXPOSED MASONRY SURFACES IN ACCORDANCE WITH ACI 530.1



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Subconsultant:

BID 0.13260784 KAYLA JEAN HOOVER

5 PR ON IMPROVEMENTS
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STRUCTURAL STRUCTURAL

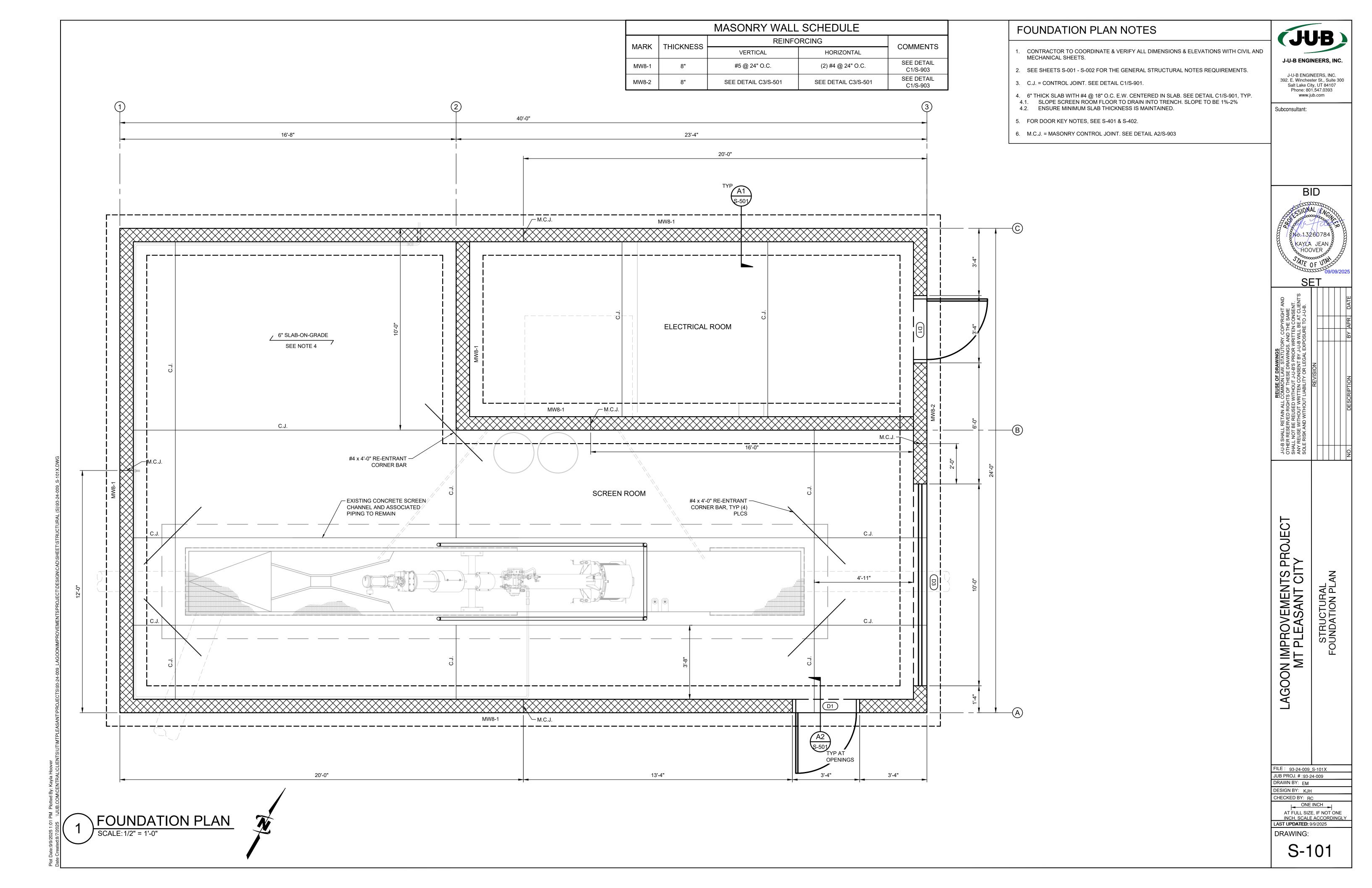
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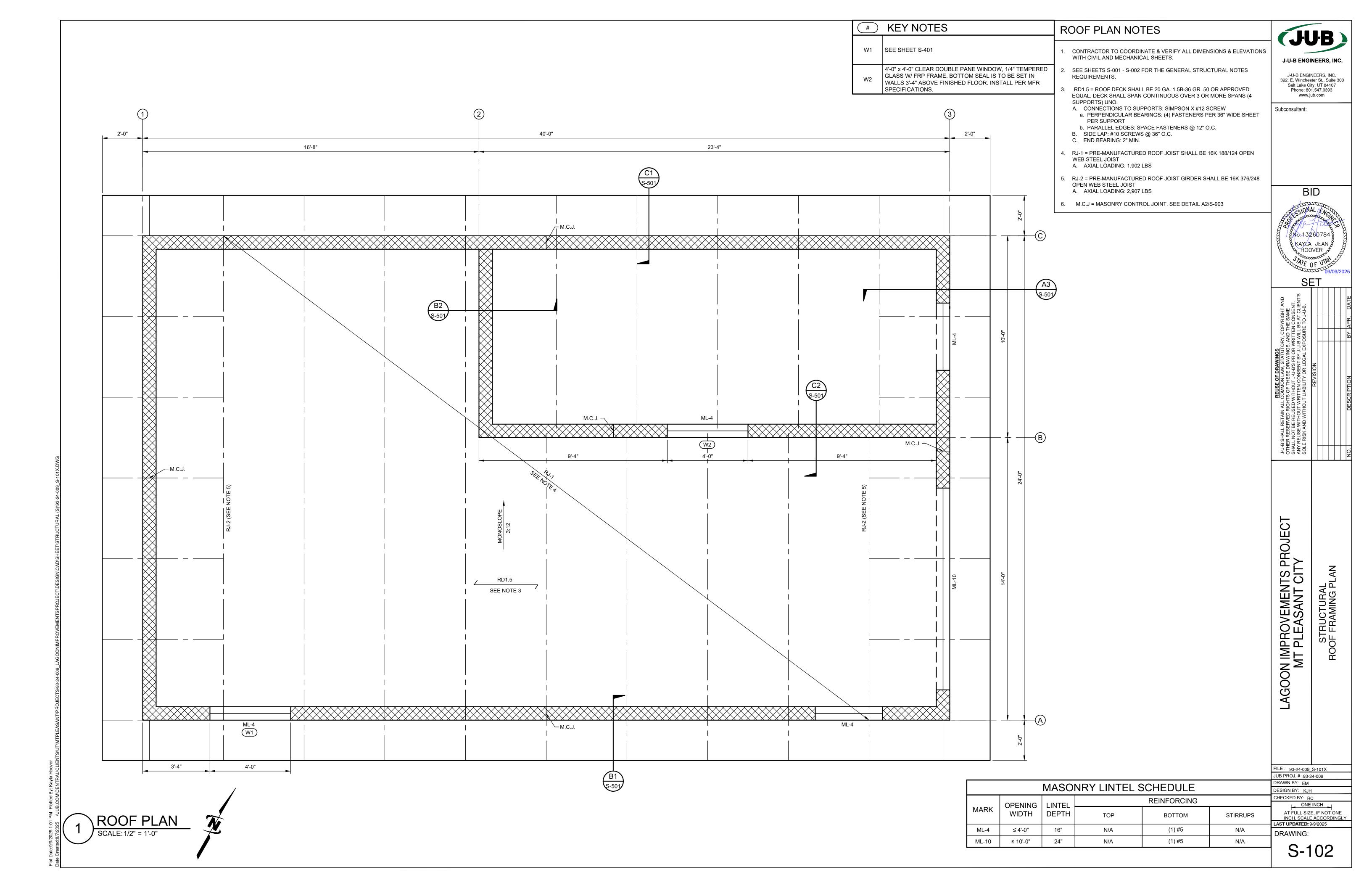
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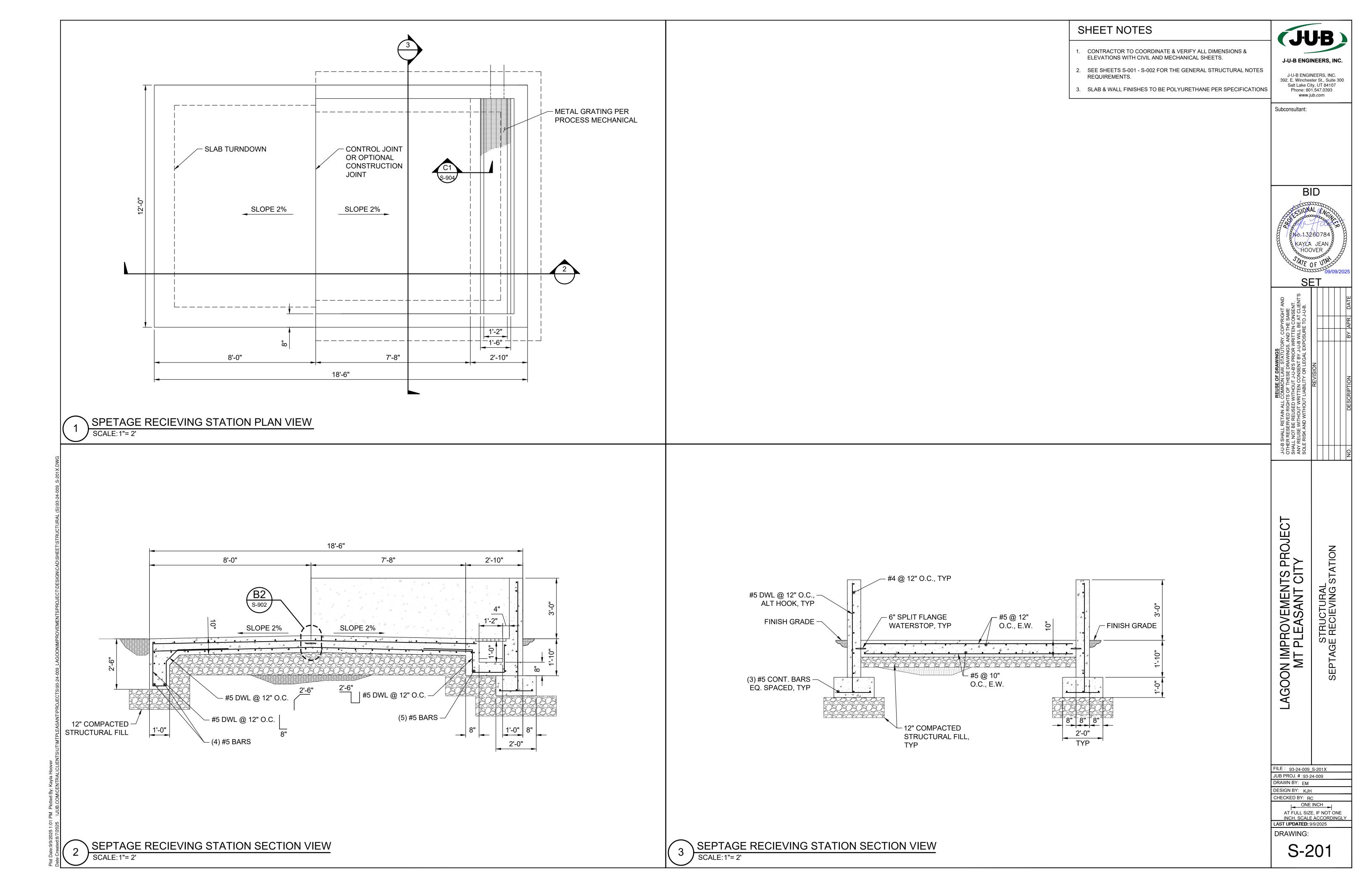
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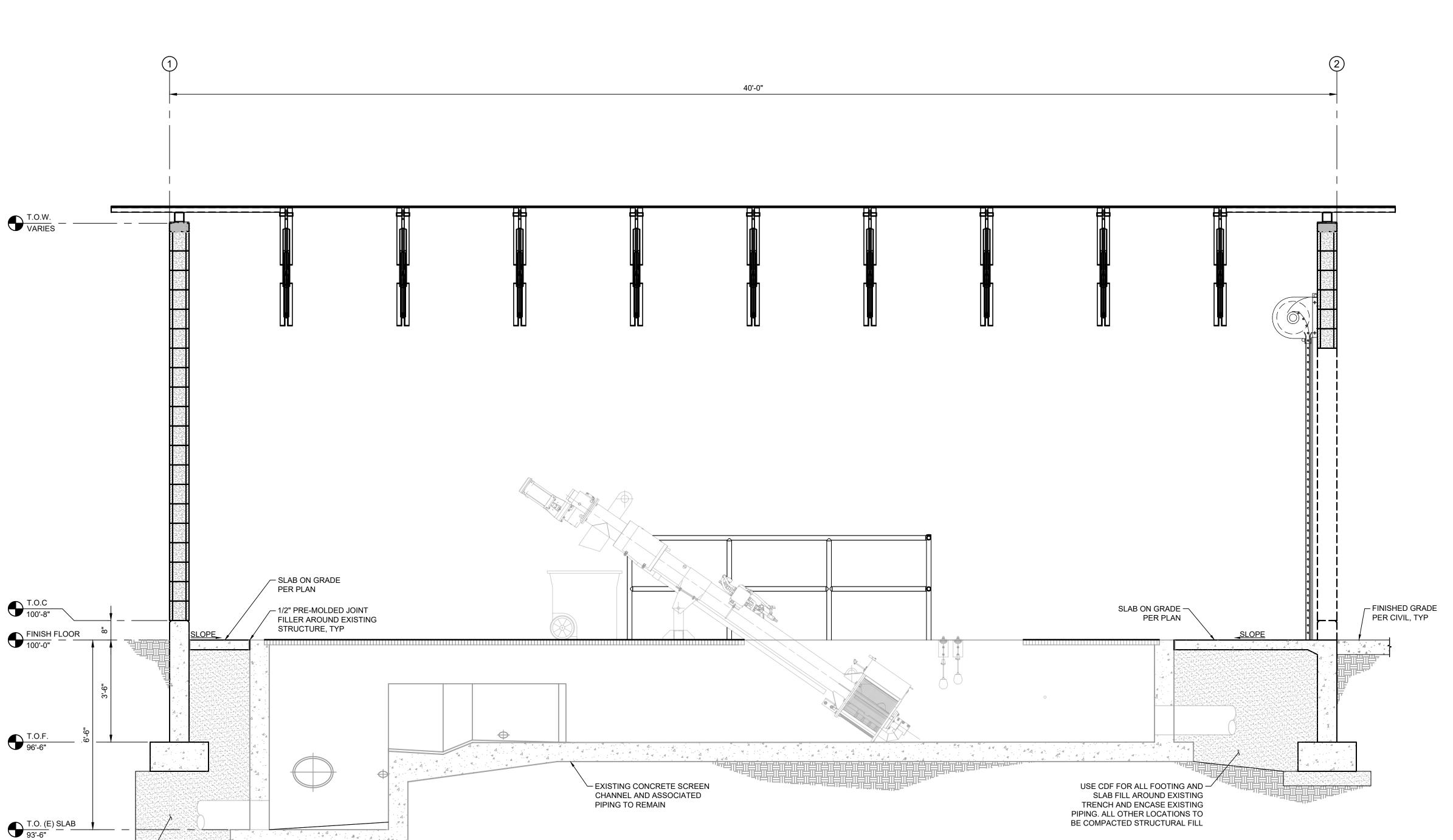
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GENERAL SHEET NOTES CONTRACTOR TO COORDINATE & VERIFY ALL DIMENSIONS & ELEVATIONS WITH CIVIL AND MECHANICAL SHEETS. ELEVATIONS ARE RELATIVE COORDINATE ACTUAL ELEVATIONS. J-U-B ENGINEERS, INC. 2. SEE SHEETS S-001 - S-002 FOR THE GENERAL STRUCTURAL NOTES REQUIREMENTS. J-U-B ENGINEERS, INC. 392. E. Winchester St., Suite 300 Salt Lake City, UT 84107 Phone: 801.547.0393 www.jub.com Subconsultant: BID LAGOON IMPROVEMENTS PROJECT MT PLEASANT CITY STRUCTURAL BUILDING SECTION FINISHED GRADE PER CIVIL, TYP FILE: 93-24-009_S-101X JUB PROJ. #:93-24-009 DRAWN BY: EM DESIGN BY: KJH CHECKED BY: RC ONE INCH AT FULL SIZE, IF NOT ONE INCH, SCALE ACCORDINGLY LAST UPDATED: 9/9/2025 DRAWING: S-301



USE CDF FOR ALL FOOTING AND SLAB FILL AROUND EXISTING TRENCH AND ECASE EXISTING PIPE. ALL OTHER LOCATIONS TO BE COMPACTED STRUCTURAL FILL.

BUILDING SECTION

SCALE: 1/2" = 1'-0"

GENERAL SHEET NOTES

- CONTRACTOR TO COORDINATE & VERIFY ALL DIMENSIONS & ELEVATIONS WITH CIVIL AND MECHANICAL SHEETS. ELEVATIONS ARE RELATIVE COORDINATE ACTUAL ELEVATIONS.
- 2. SEE SHEETS S-001 S-002 FOR THE GENERAL STRUCTURAL NOTES REQUIREMENTS.

J-U-B ENGINEERS, INC. J-U-B ENGINEERS, INC. 392. E. Winchester St., Suite 300 Salt Lake City, UT 84107 Phone: 801.547.0393 www.jub.com

Subconsultant:

BID

LAGOON IMPROVEMENTS PROJECT MT PLEASANT CITY STRUCTURAL BUILDING SECTION

FILE: 93-24-009_S-101X JUB PROJ. #:93-24-009 DRAWN BY: EM

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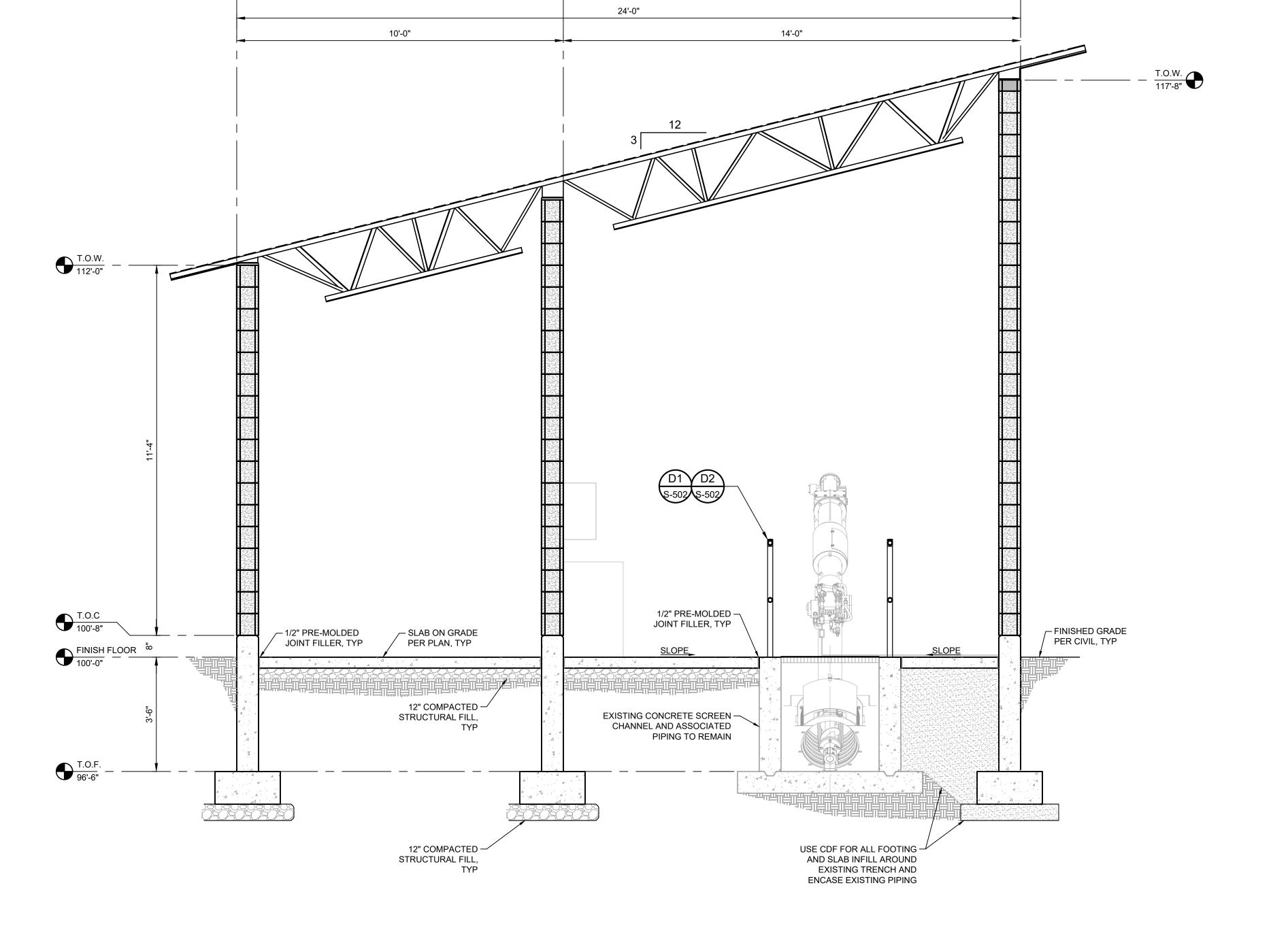
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AT FULL SIZE, IF NOT ONE
INCH, SCALE ACCORDINGLY

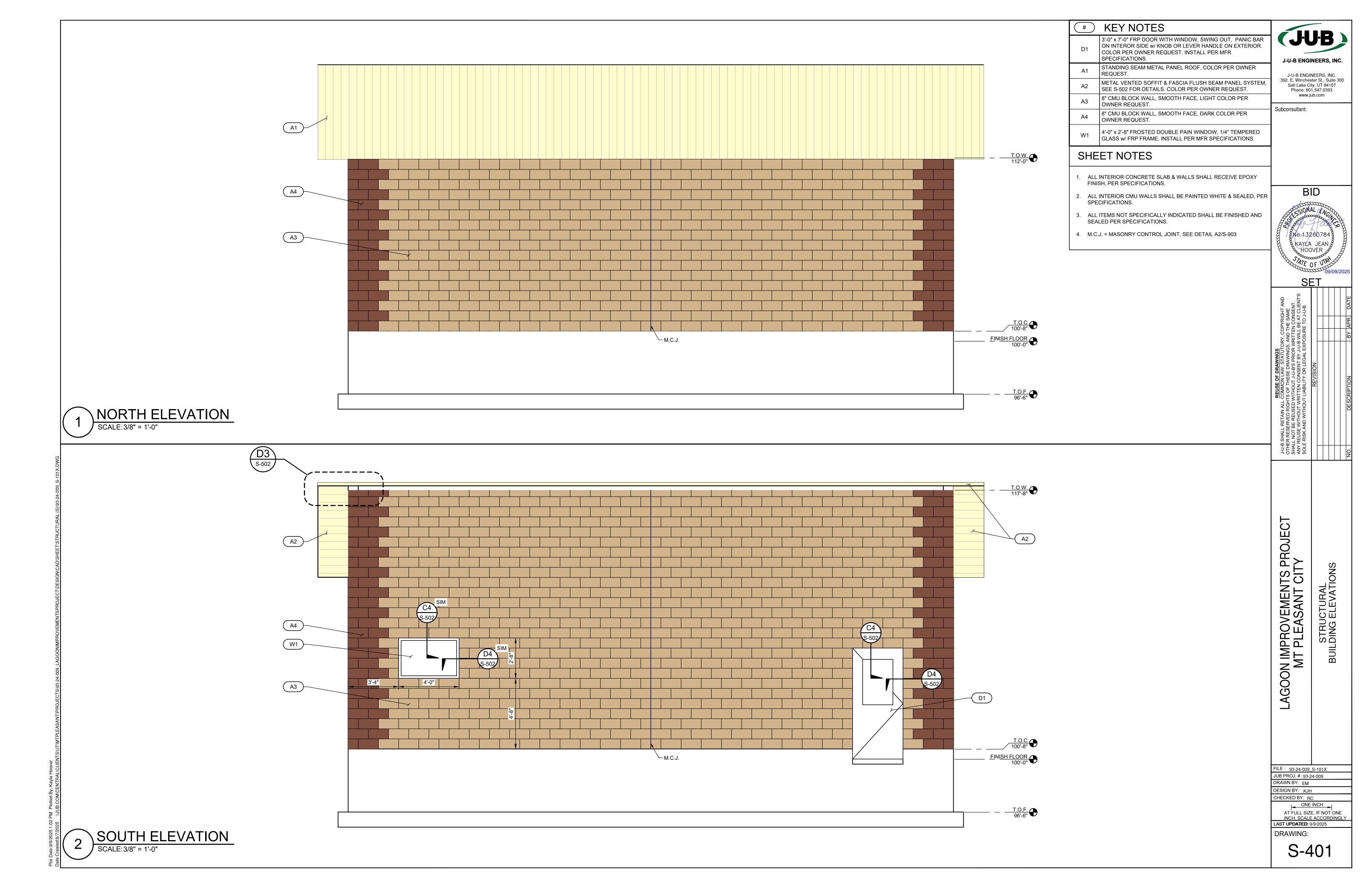
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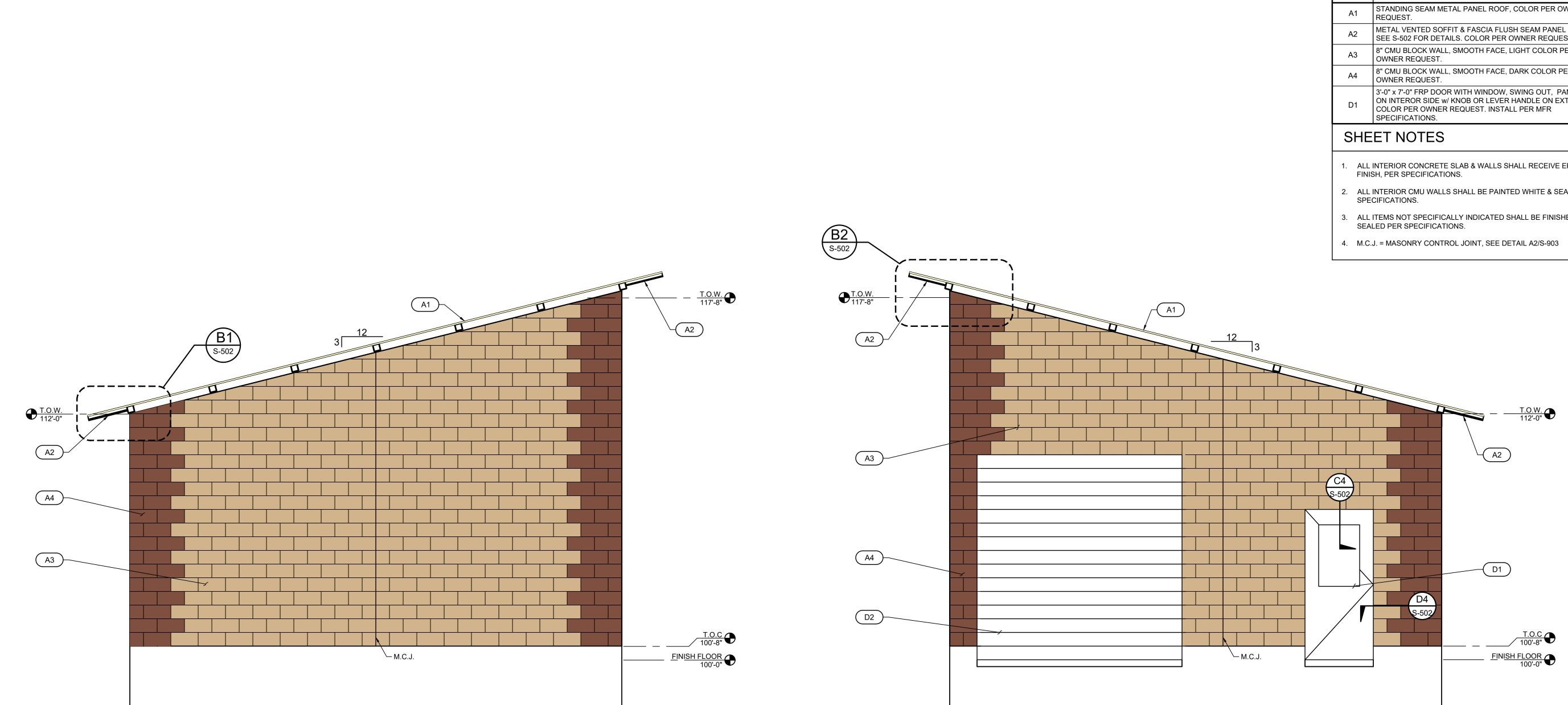
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BUILDING SECTION

SCALE: 1/2" = 1'-0"

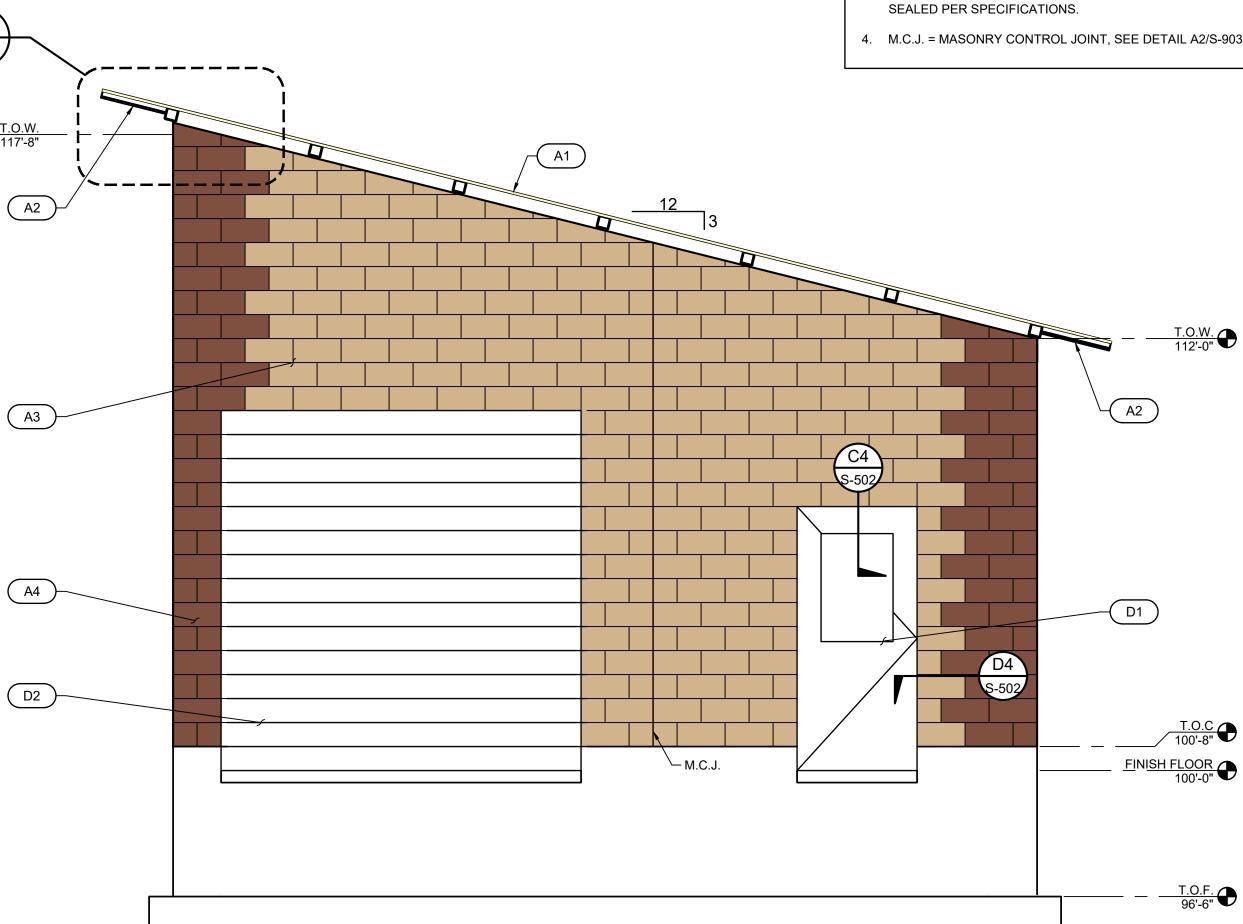




T.O.F. 96'-6"

KEY NOTES 10'-0" X 10'-4" METAL ROLLUP DOOR. COLOR PER OWNER REQUEST. DOOR JAMB, OVERHEAD CASE, DOOR GUIDE, ETC. SHALL BE PER MFR RECOMENDATIONS. STANDING SEAM METAL PANEL ROOF, COLOR PER OWNER J-U-B ENGINEERS, INC. 392. E. Winchester St., Suite 300 Salt Lake City, UT 84107 Phone: 801.547.0393 METAL VENTED SOFFIT & FASCIA FLUSH SEAM PANEL SYSTEM. SEE S-502 FOR DETAILS. COLOR PER OWNER REQUEST. 8" CMU BLOCK WALL, SMOOTH FACE, LIGHT COLOR PER Subconsultant: 8" CMU BLOCK WALL, SMOOTH FACE, DARK COLOR PER 3'-0" x 7'-0" FRP DOOR WITH WINDOW, SWING OUT, PANIC BAR ON INTEROR SIDE w/ KNOB OR LEVER HANDLE ON EXTERIOR.

- 1. ALL INTERIOR CONCRETE SLAB & WALLS SHALL RECEIVE EPOXY
- 2. ALL INTERIOR CMU WALLS SHALL BE PAINTED WHITE & SEALED, PER
- 3. ALL ITEMS NOT SPECIFICALLY INDICATED SHALL BE FINISHED AND



WEST ELEVATION

EAST ELEVATION

J-U-B ENGINEERS, INC.

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SESSIONAL FN. 6.13260784 HOOVER 4

LAGOON IMPROVEMENTS PROJECT MT PLEASANT CITY

STRUCTURAL BUILDING ELEVATIONS

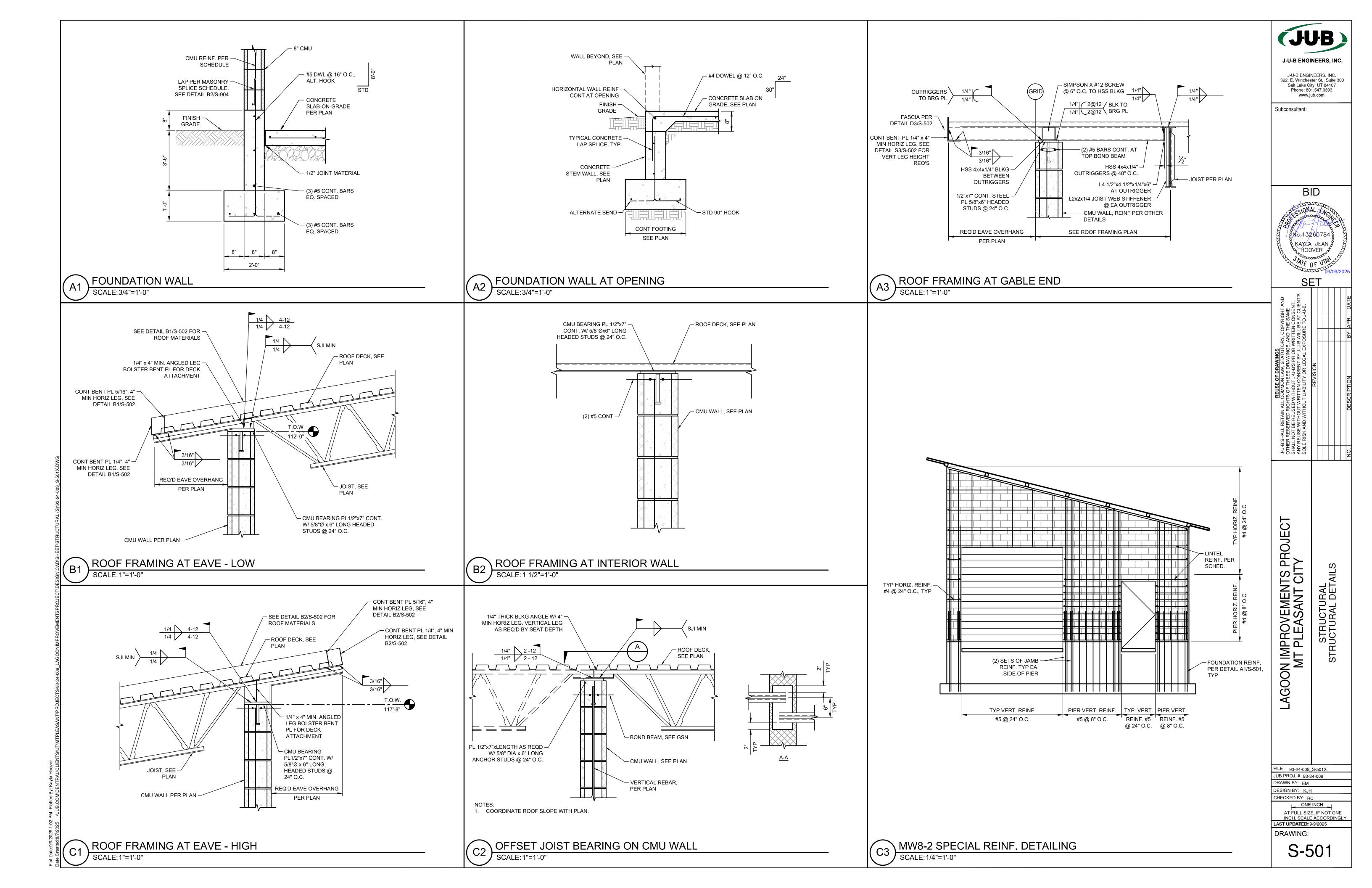
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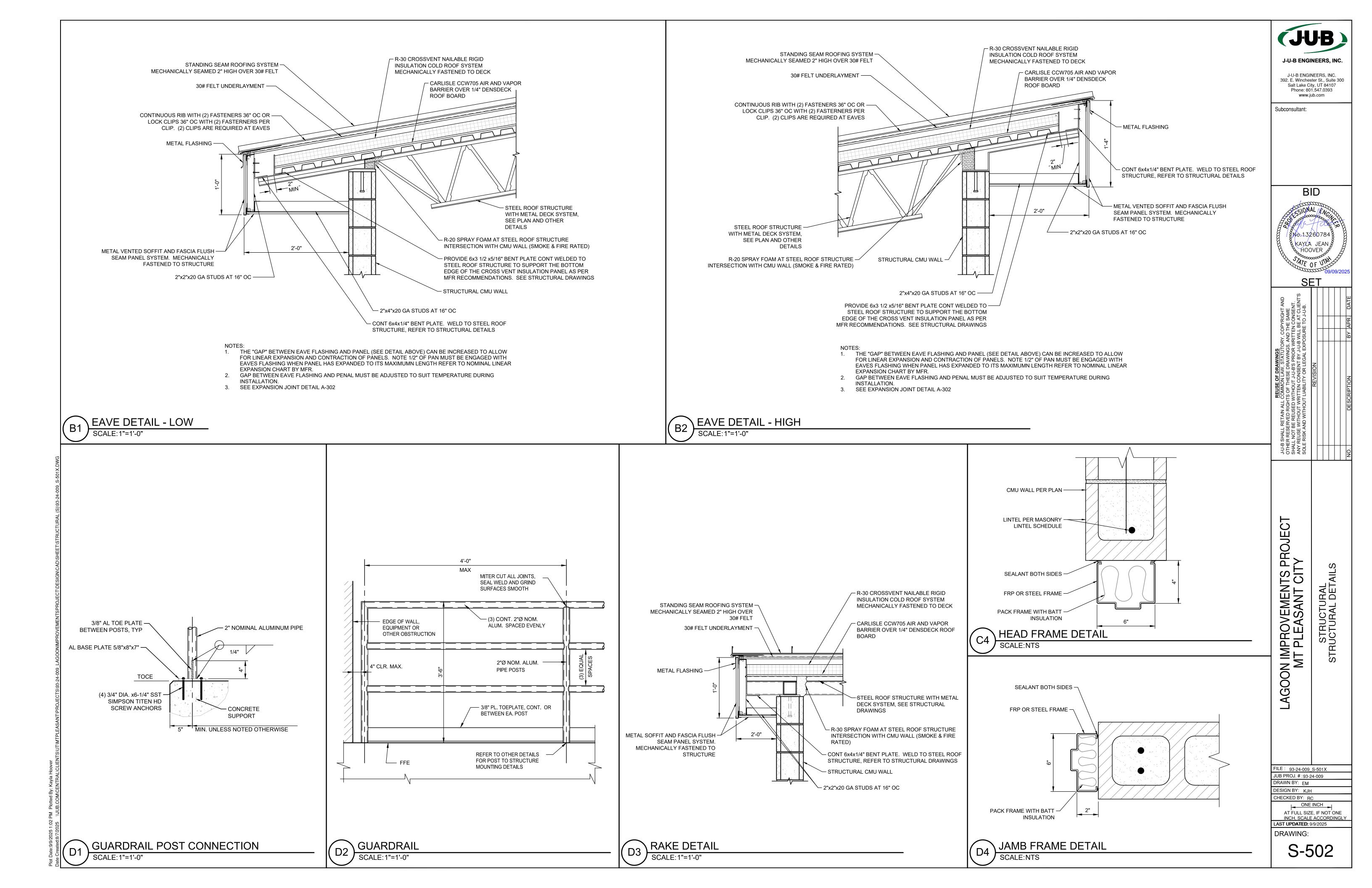
ONE INCH

AT FULL SIZE, IF NOT ONE
INCH, SCALE ACCORDINGLY

LAST UPDATED: 9/9/2025

DRAWING: S-402





TYPICAL LAP SPLICE LENGTHS IN INCHES, PER ACI 318									
BAR	LAP	f'c=3,00	0 psi	f'c=4,00	f'c=4,000 psi		f'c=4,500 psi		0 psi
SIZE	CLASS	CAT.1	CAT.2	CAT.1	CAT.2	CAT.1	CAT.2	CAT.1	CAT.2
#3	A	16	25	14	21	14	20	13	19
	B	21	32	19	28	18	27	17	25
#4	A	22	33	19	28	18	27	17	25
	B	28	43	25	37	24	35	22	33
#5	A	27	41	24	36	23	34	21	32
	B	36	53	31	46	30	44	28	41
#6	A	33	49	28	43	27	41	25	38
	B	43	64	37	55	36	53	33	50
#7	A	48	72	42	62	40	59	37	56
	B	62	93	54	81	51	77	48	72
#8	A	55	82	47	71	45	68	42	64
	B	71	106	61	92	58	88	55	83
#9	A	62	92	53	80	51	76	48	72
	B	80	120	69	104	66	99	62	93

NOTES: 1. FOR GRADE 60 REINFORCING STEEL BARS.

CONCRETE CAST BELOW THE BARS.

ALL LAP SPLICES SHALL BE CLASS B, UNLESS NOTED OTHERWISE.

CATEGORY 1: CLEAR COVER >= db & CLR. SPACING >= db, AND STIRRUPS OR TIES THROUGHOUT Ld ARE PROVIDED. CATEGORY 1: CLEAR COVER >= db & CLR. SPACING >= 2db.

CATEGORY 2: CLEAR COVER < db OR CLR. SPACING < 2db. FOR TOP BARS MULTIPLY LAP LENGTH LISTED BY 1.30 TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12" OF

FOR HOLES w/ DIA. $> 1.5 \times BAR$ SPA.

REFER TO GENERAL NOTES FOR REBAR CLEARANCE REQUIREMENTS. REFER TO OTHER

DETAILS FOR REBAR SIZE AND SPACING REQUIREMENTS. BAR SPACING REFERS TO THE

LESSER OF THE VERT. OR HORIZ. BAR SPACING. DETAIL IS SIMILAR FOR VERTICAL WALL AND

NOTE: PROVIDE (4) REINFORCING BARS FOR WALLS w/ ONE MAT OF REBAR & (4)

REINFORCING BARS EA. FACE FOR WALLS w/ TWO MATS OF REBAR.

TYP CONCRETE REBAR LAP SPLICE SCHEDULE

CUT NO MORE THAN (1)

VERT. OR HORIZ. REBAR

#5 REINFORCING BARS AT

EACH FACE.

45° EA. SIDE

2" MIN. CLR.

MOVE WALL REBAR AS -

REQ'D TO PROVIDE

REQ'D CLEARANCE

SCALE:NTS

HOOK DETAILING DETAILING DIMENSION DIMENSION A or G 4 db or 2 1/2" MIN.

180° HOOKS

BAR	D	180° H	90° HOOKS	
SIZE	D	A or G	J	A or G
#3	2 1/4"	5"	3"	6"
#4	3"	6"	4"	8"
#5	3 3/4"	7"	5"	10"
#6	4 1/2"	8"	6"	1'-0"
#7	5 1/4"	10"	7"	1'-2"
#8	6"	11"	8"	1'-4"

NOTES: db = NOMINAL BAR DIAMETER.

D = FINISHED INSIDE BEND DIAMETER. MINIMUM D = 6 db FOR #3 TO #8 BARS

MINIMUM D = 8 db FOR #9 TO #11 BARS

MINIMUM D = 10 db FOR #14 AND #18 BARS

TYPICAL MINIMUM END HOOKS, ALL GRADES OF STEEL.

TYP BAR HOOKS DETAIL

2" MIN. CLR.

2" MIN. ÇLR

WALL REBAR

PER OTHER

DETAILS

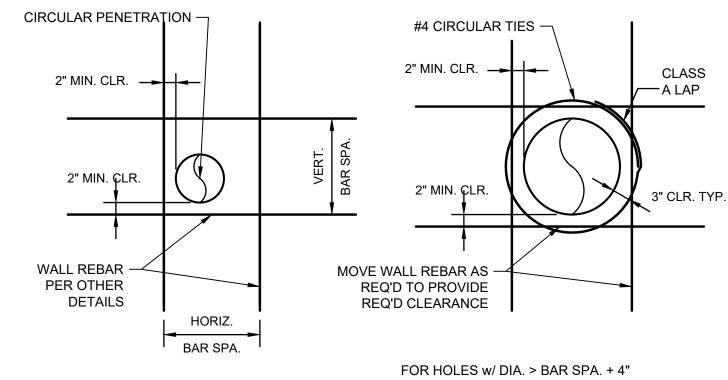
BAR SPA.

FOR HOLES w/ W. < BAR SPA. + 4"

NOTE: NO SPECIAL REINFORCEMENT IS

REQUIRED AROUND THE PENETRATION.

SCALE: NTS SQUARE PENETRATION -



FOR HOLES w/ DIA. < BAR SPA. + 4"

AND w/ DIA. $< 1.5 \times BAR SPA$.

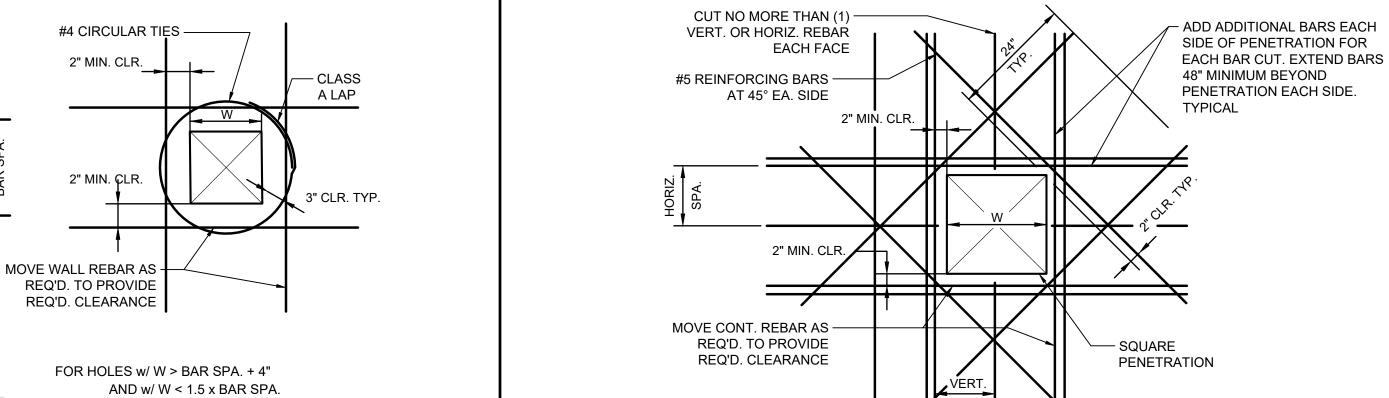
NOTE: NO SPECIAL REINFORCEMENT IS REQUIRED AROUND THE PENETRATION.

NOTE: PROVIDE (1) CIRCULAR TIE FOR WALLS w/ ONE MAT OF REBAR & (2) TIES FOR WALLS w/ TWO MATS OF REBAR

NOTE: REFER TO GENERAL NOTES FOR REBAR CLEARANCE REQUIREMENTS. REFER TO OTHER DETAILS FOR WALL/SLAB REINFORCING SIZE AND SPACING. BAR SPACING REFERS TO THE LESSER OF THE VERT. OR HORIZ. BAR SPACING. DETAIL IS SIMILAR FOR EITHER VERTICAL WALL OR HORIZONTAL SLAB LOCATIONS.

TYP CIRCULAR HOLE IN CONCRETE SLAB ON GRADE OR WALL

SCALE:NTS



1. PROVIDE (4) REINFORCING BARS FOR WALLS W/ ONE MAT OF REBAR & (4) REINFORCING BARS EA.

SPA.

FOR HOLES w/ DIA. > 1.5 x BAR SPA.

FACE OF WALL W/ TWO MATS OF REBAR

2. REFER TO GENERAL NOTES FOR REBAR CLEARANCE REQUIREMENTS. 3. REFER TO OTHER DETAILS FOR REBAR SIZE AND SPACING REQUIREMENTS.

4. BAR SPACING REFERS TO THE LESSER OF THE VERT. OF HORIZ. BAR SPACING. DETAIL IS SIMILAR FOR VERTICAL WALL AND HORIZONTAL SLAB LOCATIONS.

HORIZONTAL SLAB LOCATIONS. TYP CIRCULAR HOLE IN CONCRETE SLAB ON GRADE OR WALL SCALE:NTS

TYP SQUARE HOLE IN CONCRETE SLAB ON GRADE OR WALL

1. REFER TO GENERAL NOTES FOR REEBAR CLEARANCE REQUIREMENTS.

2. REFER TO OTHER DETAILS FOR WALL/SLAB REINFORCING SIZE AND SPACING.

3. BAR SPACING REFERS TO THE LESSER OF THE VERT. OR HORIZ. BAR SPACING.

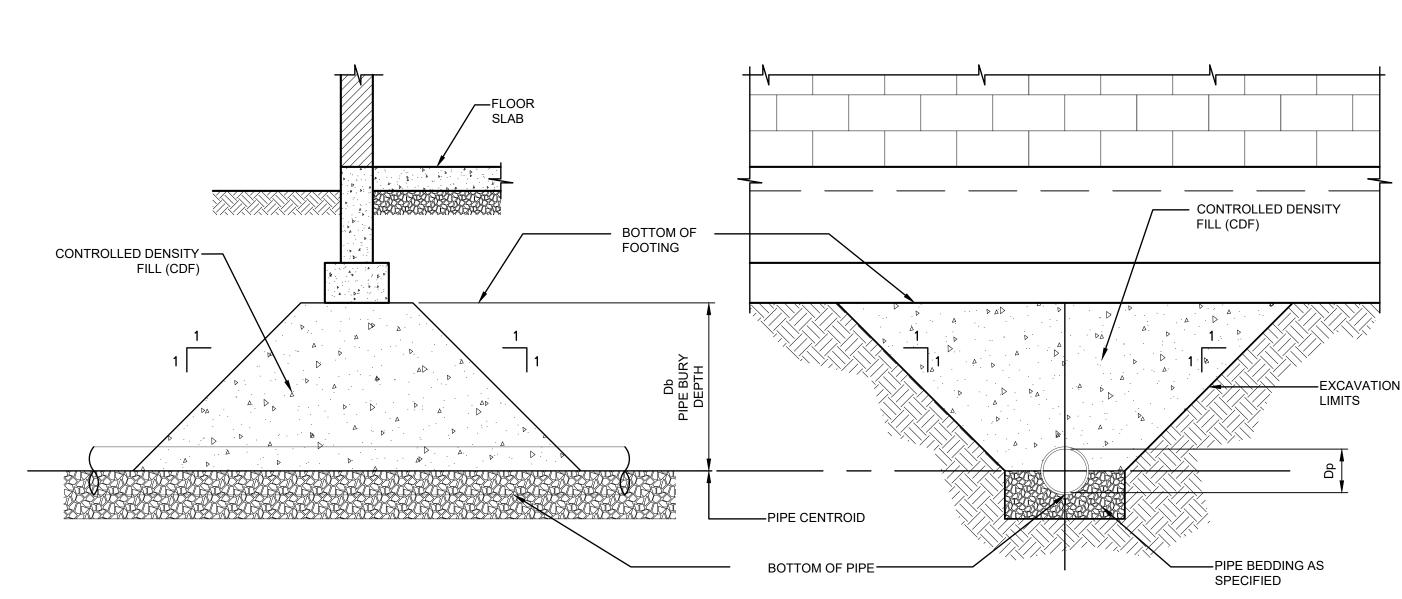
DETAIL IS SIMILAR FOR EITHER VERTICAL WALL OR HORIZONTAL SLAB LOCATIONS.

NOTE: PROVIDE (1) CIRCULAR TIE FOR WALLS w/

MATS OF REBAR

ONE MAT OF REBAR & (2) TIES FOR WALLS w/ TWO

TYP SQUARE HOLE IN CONCRETE SLAB ON GRADE OR WALL SCALE:NTS



TYP BACKFILL FOR PIPES CROSSING UNDER BEARING WALLS SCALE:NTS

SCALE:NTS

- CONC. SLAB-ON-GRADE - 1" CLR. U.N.O. - GRANULAR BASE VAPOR RETARDER -MATERIAL

T/10 (3/4" MIN.)

PREMOLDED STRIP FLUSH W/ SURFACE - CONC. SLAB-ON-GRADE · 1" CLR. U.N.O. - GRANULAR BASE **MATERIAL** VAPOR RETARDER PREPARED SUBGRADE

- 1/8" SAW CUT, SAME DAY

AS POUR, FILL W/ JOINT

SEALER OR 1/8"

- ADD ADDITIONAL BARS

PENETRATION FOR EACH

BAR CUT. EXTEND BARS

PENETRATION EACH SIDE.

48" MINIMUM BEYOND

EACH SIDE OF

TYPICAL

- CIRCULAR PENETRATION

1V:3H

- KEYED JOINT (AT SLAB

MID-DEPTH), PAINT W/

BOND BREAKER BEFORE

PLACING ADJACENT SLAB.

1. REFER TO FOUNDATION PLAN FOR SLAB AND GRANULAR MATERIAL THICKNESS T AND G,

AND SLAB REINFORCING REQUIREMENTS. 2. CONTROL JOINTS TO BE 20'-0" ON CENTER, MAXIMUM, UNLESS NOTED OTHERWISE.

TYP SLAB ON GRADE CONTROL JOINT DETAIL

- PREPARED SUBGRADE

JOINT TYPE USED IS OPTIONAL, UNLESS NOTED OTHERWISE.

4. CUT EVERY OTHER BAR CROSSING CONTROL JOINTS. 5. USE FOR NON WATER-RETAINING INTERIOR FLOOR SLABS.

SCALE:NTS

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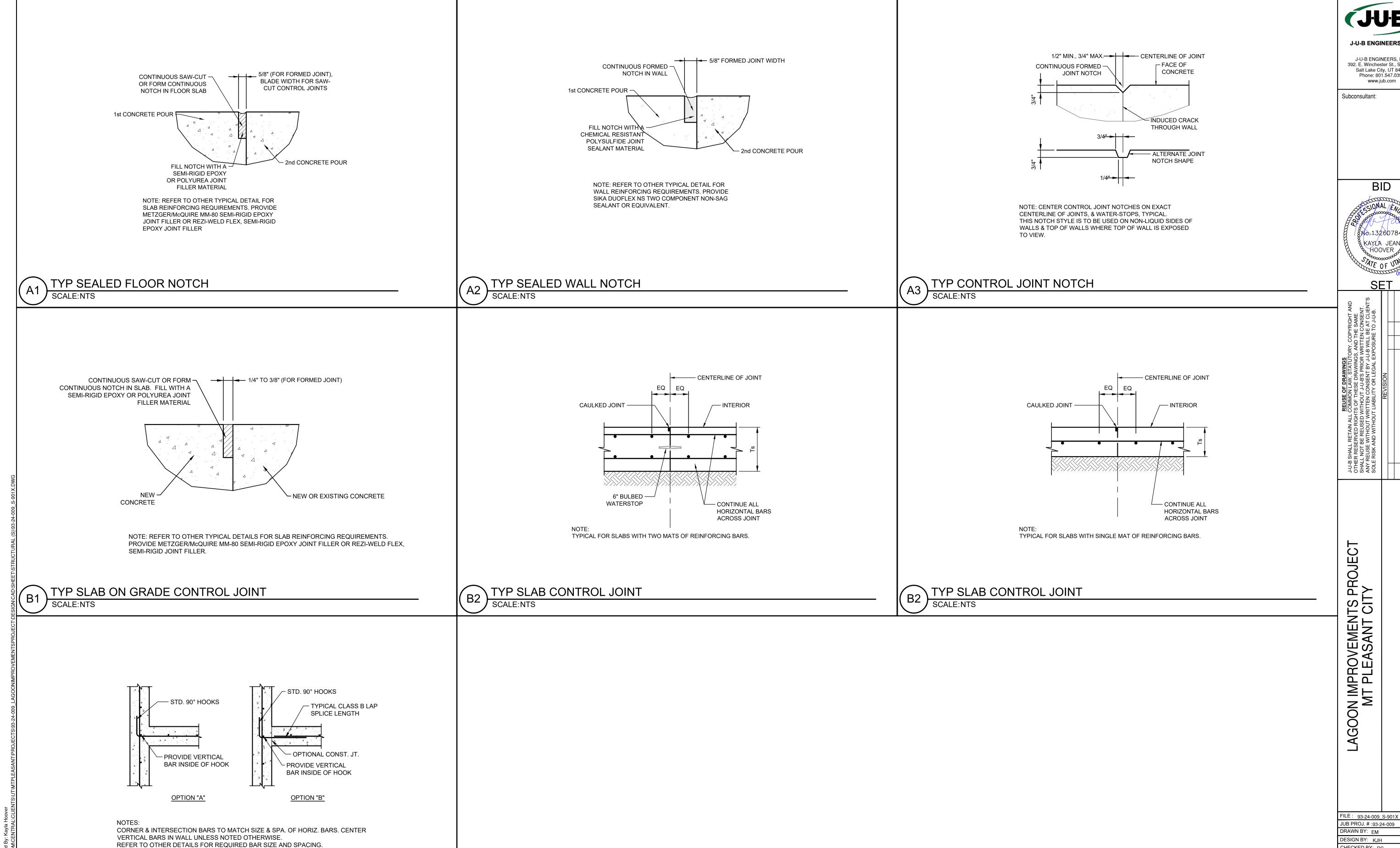
STRUCTURAL STRUCTURAL

FILE: 93-24-009 S-901X JUB PROJ. #:93-24-009 DRAWN BY: EM DESIGN BY: KJH CHECKED BY: RC

ONE INCH AT FULL SIZE, IF NOT ONE INCH, SCALE ACCORDINGLY

LAST UPDATED:: 9/9/2025 DRAWING:

S-901



THIS IS A TYPICAL DETAIL FOR WALLS WITH (1) ONE MATT OF REBAR.

THIS IS A TYPICAL DETAIL FOR NON-WATER RETAINING WALLS.

TYP CORNER WALL INTERSECTION DETAIL

SCALE:NTS

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STRUCTURAL I STRUCTURAL

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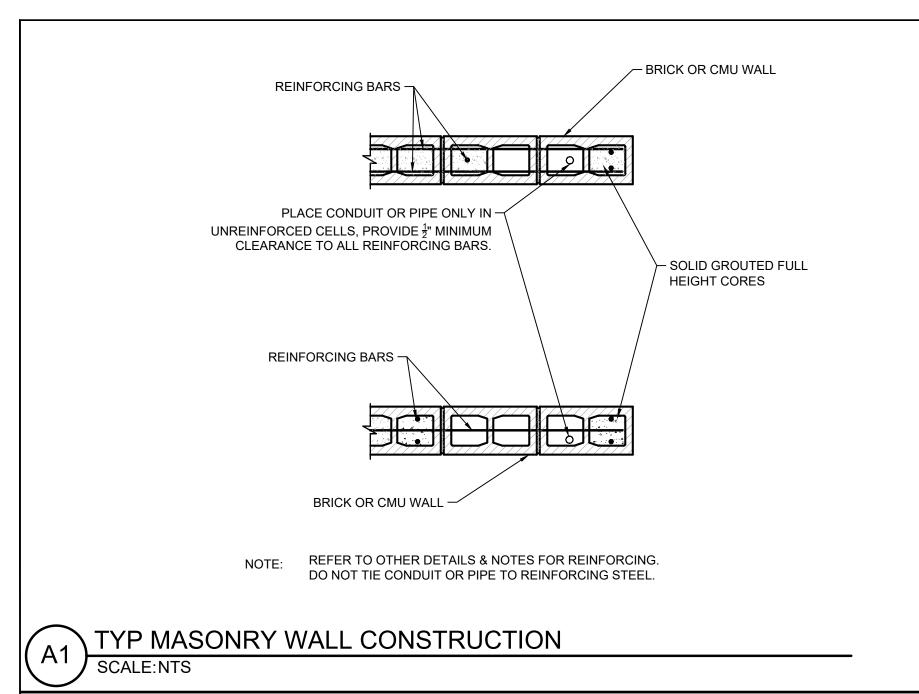
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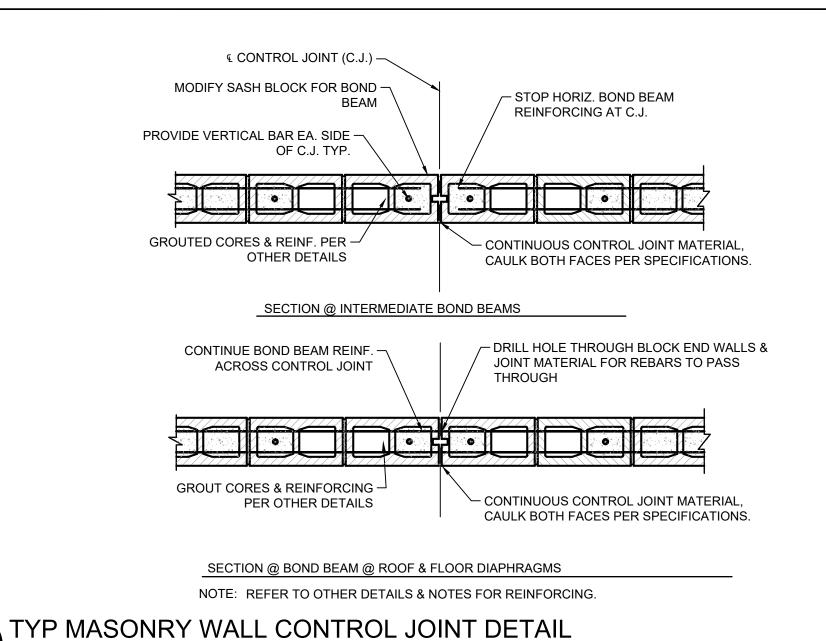
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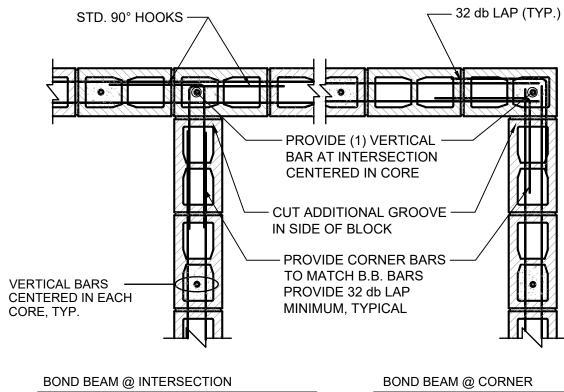
LAST UPDATED: 9/9/2025

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S-902







BOND BE

NOTE:
REFER TO OTHER DETAILS & NOTES FOR REINFORCING SIZE & SPACING BOND BEAM
TO BE SOLID GROUTED FULL HEIGHT & LENGTH. TYPICAL DETAIL WHERE VERTICAL
CORES CONTAIN (1) BAR.

TOP COURSE DIAPHRAGM

- PROVIDE A MINIMUM 8" TOP

COURSE GROUT THICKNESS

- PARTIALLY GROUTED WALL IS VISUALLY SHOWN, SOLID

GROUT IF/AS NOTED IN OTHER

DETAILS

TYPICAL BOND BEAM

BARS WHERE OCCUR

BOND BEAM BARS

(A3) TYP MASONRY WALL INTERSECTION DETAIL
SCALE:NTS

CONTINUOUS BOND BEAM REINFORCEMENT (CENTER SINGLE BAR IN BOND BEAM)

MINIMUM DEPTH SOLID GROUTED BOND BEAM

TYPICAL POSITIONER STYLE (DUR-O-WAL DA812)

PROVIDE FIBERGLASS GROUT STOP EQUAL TO DUR-O-WALL "FIL-STOP" CONTINUOUS UNDER ALL BOND BEAMS

BRICK OR CMU WALL

NOTE: BUILDING PAPER IS NOT ALLOWED AS GROUT STOP.
REFER TO OTHER DETAILS & NOTES FOR ALL MASONRY REINFORCING.
GROUT ALL CORES SOLID FULL HEIGH WHERE DIRECTED ON THE
GENERAL STRUCTURAL NOTES & SPECIFICATIONS & TYPICAL DETAILS.

B2 TYP MASONRY REBAR PLACEMENT DETAIL
SCALE: NTS

SCALE: NTS

PLACE HORIZONTAL BOND BEAM REINFORCEMENT
EITHER SIDE OF VERTICAL BARS.

PLACE VERTICAL BARS CENTERED WITHIN EACH CELL

TYPICAL
POSITIONER
STYLE

PROVIDE FINE GROUT PER ASTM C 476 FOR ALL STRUCTURAL REINFORCED MASONRY

PROVIDE MECHANICAL REBAR POSITIONERS TO CORRECTLY HOLD BARS IN POSITION.

TYPICAL DETAIL WHERE (1) VERTICAL BAR IS PLACED WITHIN BLOCK CELLS.

REFER TO OTHER DETAILS FOR WALL REINFORCING REQUIREMENTS.
THE ROOF STRUCTURE IS NOT SHOWN IN THIS VIEW.
REFER TO OTHER DETAILS FOR BLOCK TYPE.

TYPICAL VERICAL BARS -

WHERE OCCUR

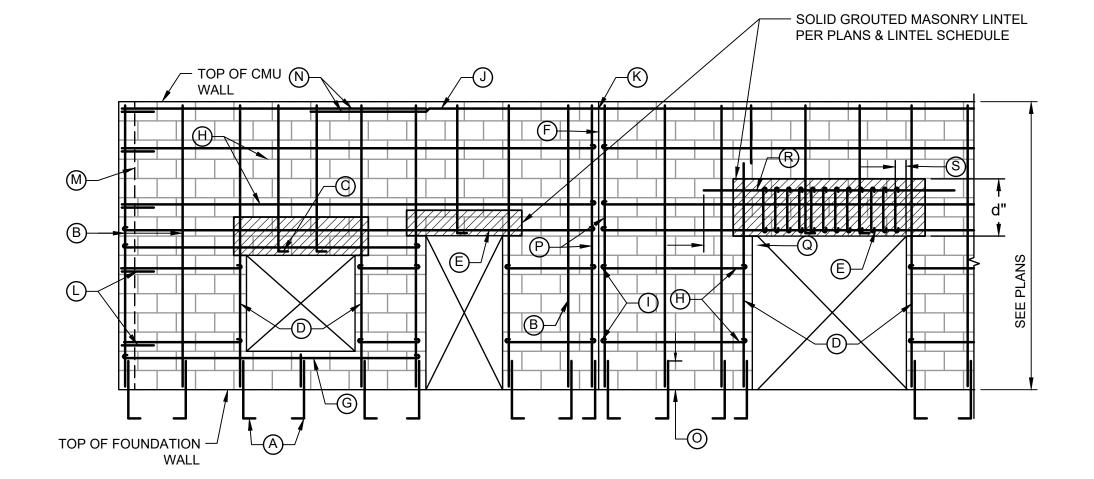
NOTE: REFER TO PLAN & ELEVATION VIEWS FOR ELEVATIONS AND SLOPES.

B3 TYP RAKED WALL DETAIL
SCALE:NTS

TOP OF RAKED CMU WALL.

SLOPE

CUT CMU TO MATCH ROOF



- FOUND. DOWELS TO MATCH JAMB & VERT. BAR LOCATIONS.
- B) VERTICAL WALL BARS, 8" CMU: #5 VERT. @ 32" O.C. U.N.O
- C) STANDARD 90° HOOK.
- 8" CMU: (2) #5 VERTICAL BARS, EA. SIDE OF OPENINGS TYP.,
- REFER TO LINTEL REINFORCING SCHEDULE FOR BAR SIZE.
 EXTEND BAR TO WALL'S EDGE AND/OR OBSTRUCTION, PROVIDE 180° HOOK ON EA. END.
- VERTICAL WALL CONTROL (C.J.) JOINTS. SEE PLANS
- (2) #4 BAR UNDER EACH OPENING. EXTEND BAR TO WALL'S EDGE AND/OR OBSTRUCTION, PROVIDE 180° HOOK ON EA. END.
- HORIZ. B.B. REIN, 8" CMU: (2) #4 CONTINUOUS. USE (2) #5 BARS @ 12" CMU. PROVIDE 180° HOOK AT END WHERE STARTING AND/OR STOPPING BETWEEN OPENINGS.

- STOP BOND BEAM BARS @ WALL CONTROL JOINT. END w/ 180° HOOK
- J) DIAPHRAGM CHORD B. B. W/ (2) #5 CONT.
- K) CONTINUE BARS ACROSS WALL CONTROL JOINT.
- CORNER BARS AT EACH BOND BEAM.
- M) WALL BEYOND, WHERE OCCURS
-) LAP DIAPHRAGM B.B. BARS 72db MINIMUM.
- (O) LAP 48 db MINIMUM.
- (2) #5 VERT. BAR/BARS EA. SIDE OF C.J.
- 48 BAR DIAMETERS MINIMUM
- R ADD'L #4 HORIZ. BAR WHEN SHEAR REINF. IS REQUIRED. SEE LINTEL DETAIL
- C

S d"/4, TYP

NOTES:
WALL SHOWN IS A REPRESENTATIVE SECTION OF TYPICAL SPECIAL REINFORCED MASONRY
OR BRICK SHEAR WALL. FOR ACTUAL WALL AND OPENING DIMENSIONS REFER TO THE PLANS
AND ELEVATION VIEWS. REFER TO OTHER DETAILS AND STRUCTURAL NOTES FOR
REINFORCING REQUIREMENTS

FILE: 93-24-009 S-901X

JUB PROJ. #: 93-24-009

DESIGN BY: KJH

CHECKED BY: RC

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CHECKED BY: RC

CHECKED BY: RC

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DRAWING:

S-903

J-U-B ENGINEERS, INC.

J-U-B ENGINEERS, INC.

BID

0.13260784

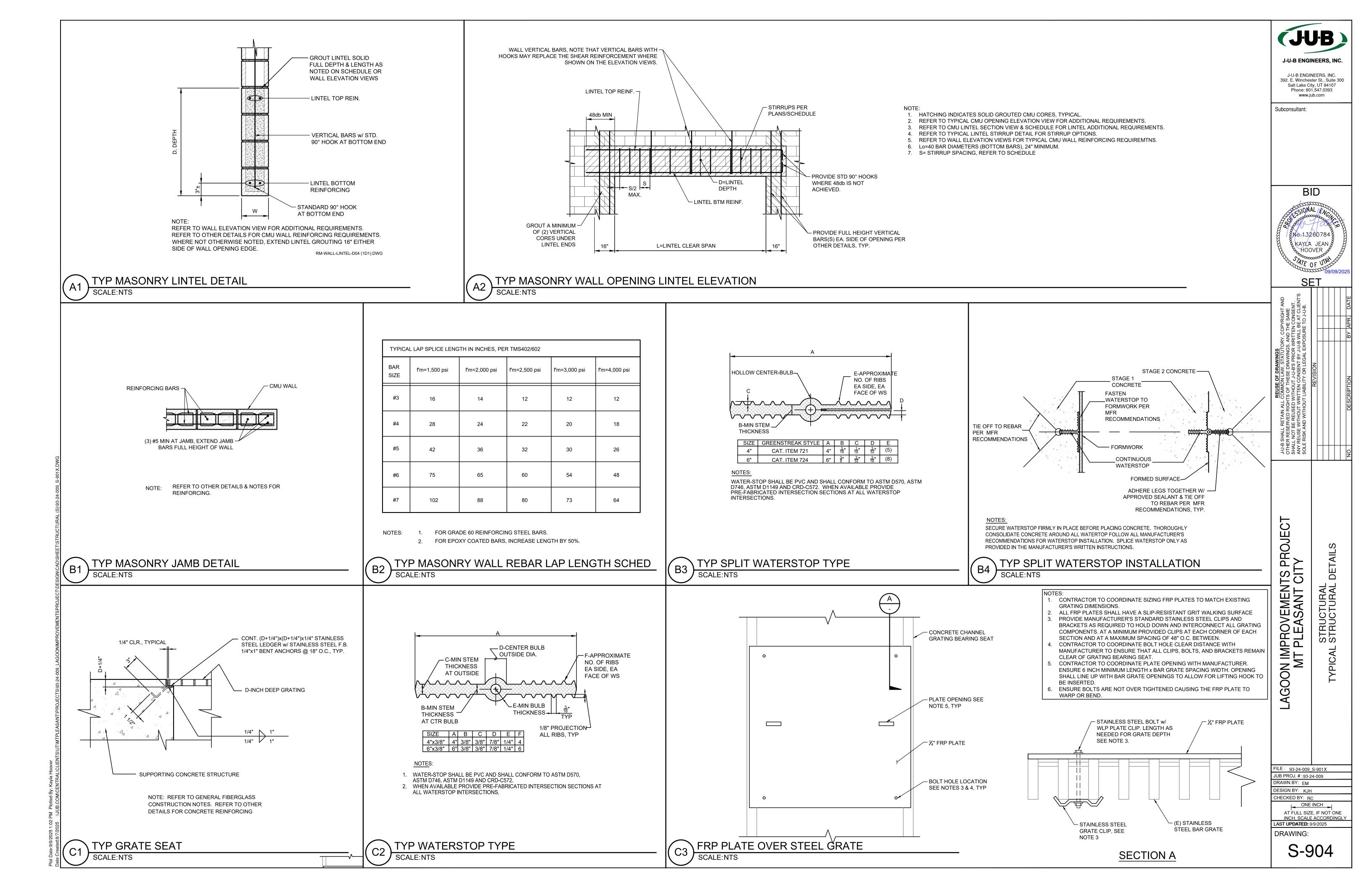
HOOVER

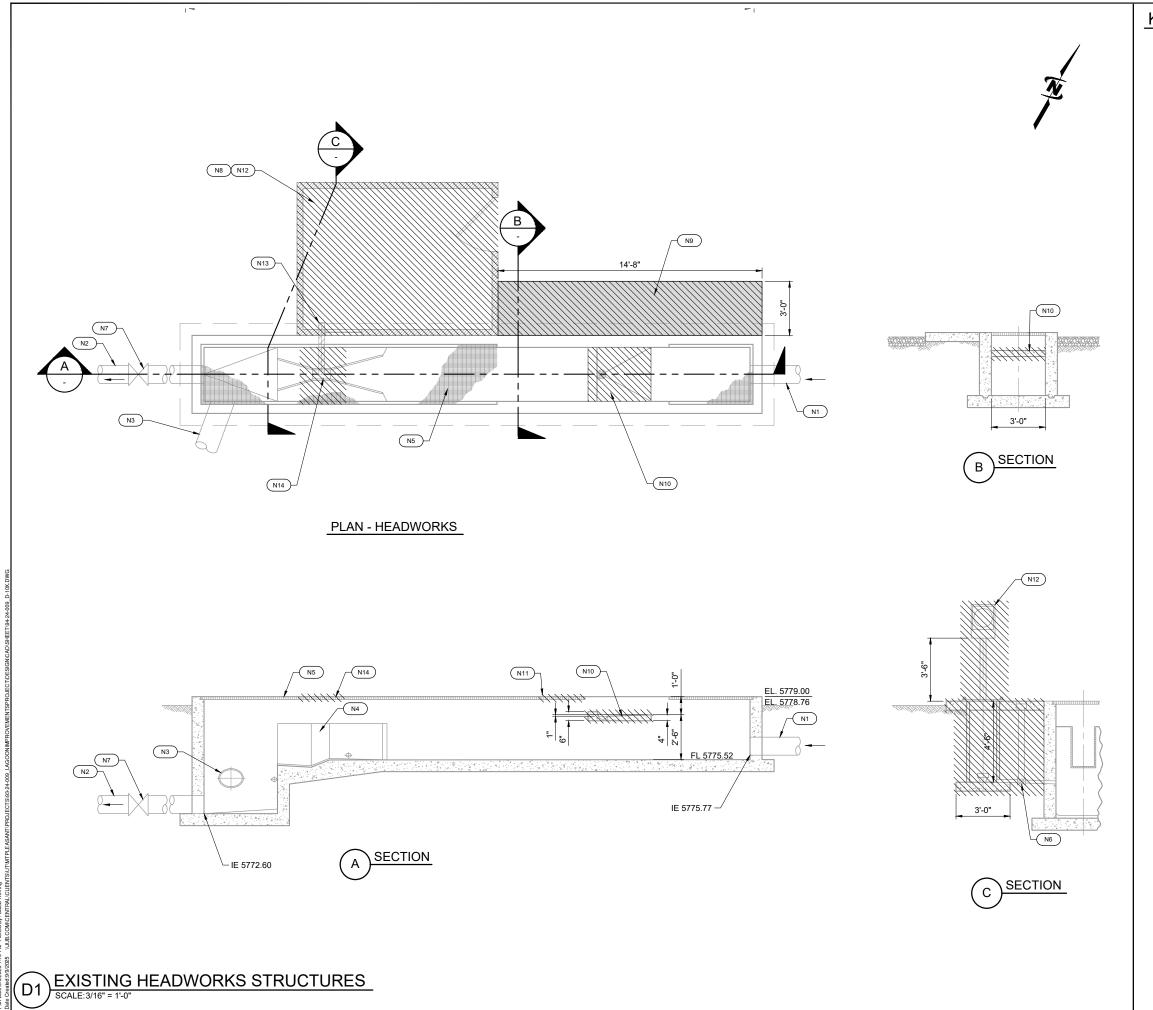
Subconsultant:

392. E. Winchester St., Suite 300 Salt Lake City, UT 84107 Phone: 801.547.0393 www.jub.com

TYP REINFORCED MASONRY WALL ELEVATION
SCALE: NTS

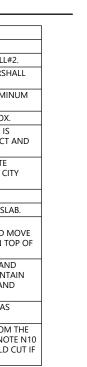
TYP MASONRY WALL BOND BEAM DETAIL





KEYED NOTES

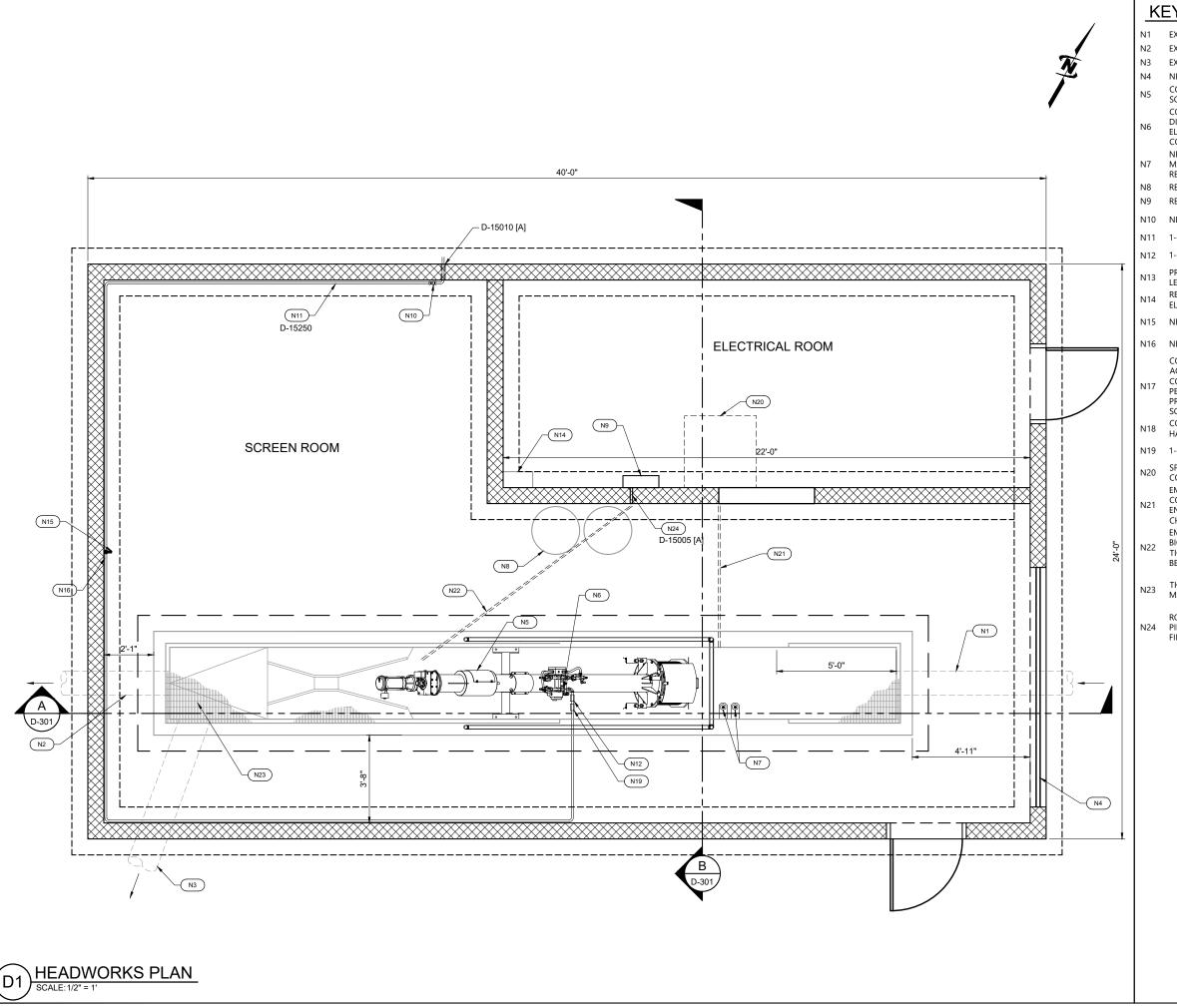
N1	EXISTING 12-IN INLET PIPE.
N2	EXISTING 12-IN OUTLET PIPE.
N3	EXISTING 15-IN BYPASS PIPE TO CELL#2.
N4	EXISTING 6-IN PREFABRICATED PARSHALL FLUME. PROTECT IN PLACE.
N5	EXISTING REMOVABLE 1.75-IN ALUMINUM GRATING.
N6	EXISTING 2-IN BALL VALVE WITH BOX.
N7	EXISTING VALVE. VALVE OPERATOR IS LOCATED INSIDE THE SHED. PROTECT AND MAINTAIN VALVE OPERATOR.
N8	DEMO EXISTING SHED. COORDINATE SALVAGE REQUIREMENT WITH THE CITY STAFF.
N9	DEMO EXISTING CONCRETE PAD.
N10	CONTRACTOR TO DEMO EXISTING SLAB.
N11	REMOVE EXISTING GRATING TO ACCOMMODATE NEW SCREEN AND MOVE IT TO FILL THE GAP IN GRATING ON TOP OF THE FLUME.
N12	DEMO EXISTING FLOW TOTALIZER AND DOSING PUMP. PROTECT AND MAINTAIN ALL OTHER EXISTING EQUIPMENT AND PANELS. SEE E- 100.
N13	PROTECT AND REROUTE CONDUIT AS SHOWN IN E-SHEET.
N14	USE EXCESS EXISTING GRATING FROM THE TOP OF THE AREA SHOWN BY KEYNOTE N10 TO THE GAP IN GRATING HERE. FIELD CUT IF NEEDED.



REUSE OF DRA JULE SHALL FETAIN ALL COMMON LAW, OTHER RESERVED RIGHTS OF THESE DE SHALL NOT BE REUSED WITHOUT JULB'S ANY REUSE WITHOUT WRITTEN CONSIGN SOLE RISK AND WITHOUT LIABILITY OR L	REVISION NO. DESCRIPTION							
LAGOON IMPROVEMENTS PROJECT MT PLEASANT CITY	EXISTING HEADWORKS DEMOLITION PLAN							
FILE: 94-24-009 D-10X JUB PROJ. #:93-24-009 DRAWN BY: CIH DESIGN BY: BP								
CHECKED BY: BP ONE INCH AT FULL SIZE, IF NOT ONE INCH. SCALE ACCORDINGLY LAST UPDATED: 9/9/2025 DRAWING:								

BID

XD-101



KEYED NOTES

- 1 EXISTING 12-IN INLET PIPE.
- N2 EXISTING 12-IN OUTLET PIPE.
- N3 EXISTING 15-IN BYPASS PIPE TO CELL#2.
- N4 NEW 10 FT X 10 FT MANUAL ROLL UP DOOR.
- N5 CONTRACTOR SHALL FURNISH AND INSTALL A NEW FINE SCREEN. REFERENCE SPECIFICATION SECTION 46 21 00.
- N6 CONTRACTOR SHALL PROVIDE FLEXIBLE PIGTAIL/QUICK DISCONNECT TYPE CONNECTION FOR WATER SUPPLY AND ELECTRICAL LINES TO ALLOW UNIT TO PIVOT OUT OF CHANNEL. COORDINATE LINE CONNECTIONS WITH THE MANUFACTURER.
- NEW DUAL FLOAT SWITCHES FURNISHED BY THE SCREEN
 MANUFACTURER. TIE CONTROL INTO NEW SCREEN SYSTEM.
 REFERENCE SPECIFICATION SECTION 46 21 00.
- N8 RELOCATE EXISTING BIOLYNCEUS DRUMS.
- N9 RELOCATE EXISTING BIOLYNCEUS DOSING PUMP.
- N10 NEW 1-IN POTABLE WATER BACKFLOW PREVENTOR.
- N11 1-IN HDPE WATER SUPPLY LINE. ROUTE ALONG THE WALL.
- N12 1-IN TO 3/4-IN PIPE REDUCER.
- PROVIDE PIPE SUPPORTS AS REQUIRED ALONG THE ENTIRE LENGTH OF THE LINE.
- RELOCATE EXISTING FLOW METER DISPLAY INTO THE NEW ELECTRICAL ROOM.
- N15 NEW HOSE RACK.
- N16 NEW 1-IN HOSE BIBB.
- CONTRACTOR TO SECURE SCREEN TO CONCRETE CHANNEL TO ACCOMMODATE MINOR VARIATIONS IN THE EXISTING CONCRETE SURFACE AND SEAL BOTTOM AND SIDES OF SCREEN
- N17
 PER MANUFACTURER'S REQUIREMENTS AND AS REQUIRED TO PREVENT BYPASSING OF THE SCREEN. COORDINATE WITH SCREEN MANUFACTURER.
- CONTRACTOR TO PROVIDE AND INSTALL REMOVABLE HANDRAILS. SEE DETAIL D1 AND D2 IN SHEET S-502.
- N19 1-IN BALL VALV
- N20 SPACE ALLOCATED FOR FUTURE AUTOMATED REFIGERATED COMPOSITE SAMPLER.
- EMBED AND ROUTE 1-IN HDPE CARRIER PIPE FOR FUTURE COMPOSITE SAMPLER LINE. NO FITTINGS ALLOWED. SEAL BOTH ENDS WATERTIGHT. MIN 1% SLOPE TO CHANNEL, INVERT AT CHANNEL 2-FT BELOW FFE.
- EMBED AND ROUTE 1-IN HDPE CARRIER PIPE FOR DOSING
 BIOLYNCEUS. NO FITTINGS ALLOWED. SEAL BOTH ENDS WATER
 TIGHT, MIN 1% SLOPE TO CHANNEL, INVERT AT CHANNEL 2-FT
- THE EXISTING GRATING SHALL BE COVERED WITH SOLID FRP MAT. SEE DETAIL C3 IN STRUCTURAL SHEET S-904.
- ROUTE SUCTION AND DISCHARGE PIPE THROUGH THE SAME PIPE SLEEVE. THE PIPE SLEEVE IS 2-IN BORE HOLE 4 FT FROM THE FINISHED FLOOR.

JUB

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Subconsultant:

BID

PROFESS/OUT 2 7279300-2202 2 2 GARY MICHAEL E VANCE 9/9/25

<u>SET</u>

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OTHER RESERVED RIGHTS OF THESE URANINGS, AND THE SAME
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SOLE RISK AND WITHOUT LABBLITY OR LEGAL EXPOSURE TO JUJB.

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LAGOON IMPROVEMENTS PROJECT MT PLEASANT CITY

NEW HEADWORKS BUILDING

94-24-009_D-10X PROJ. # :93-24-009

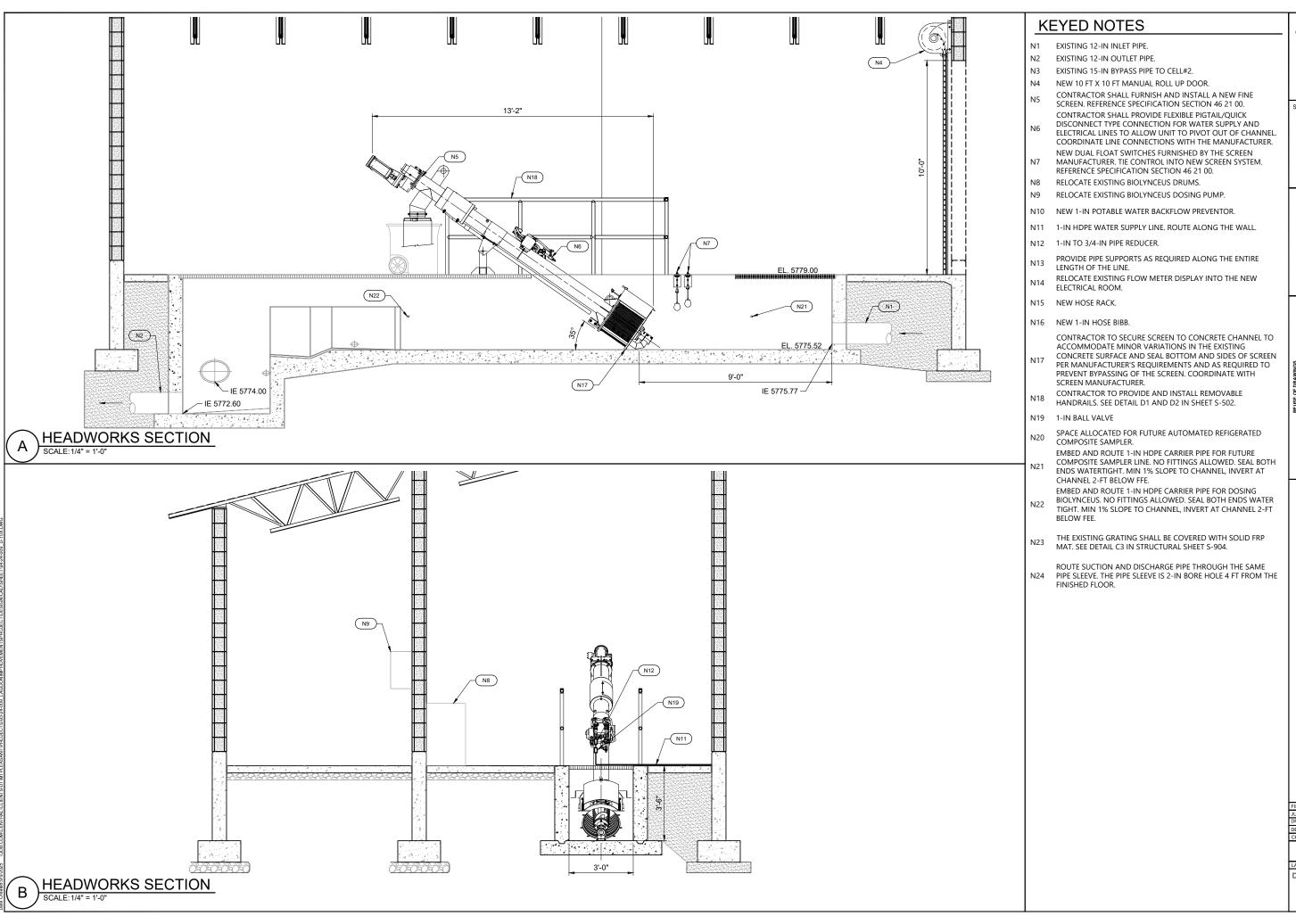
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DRAWING:

D-102



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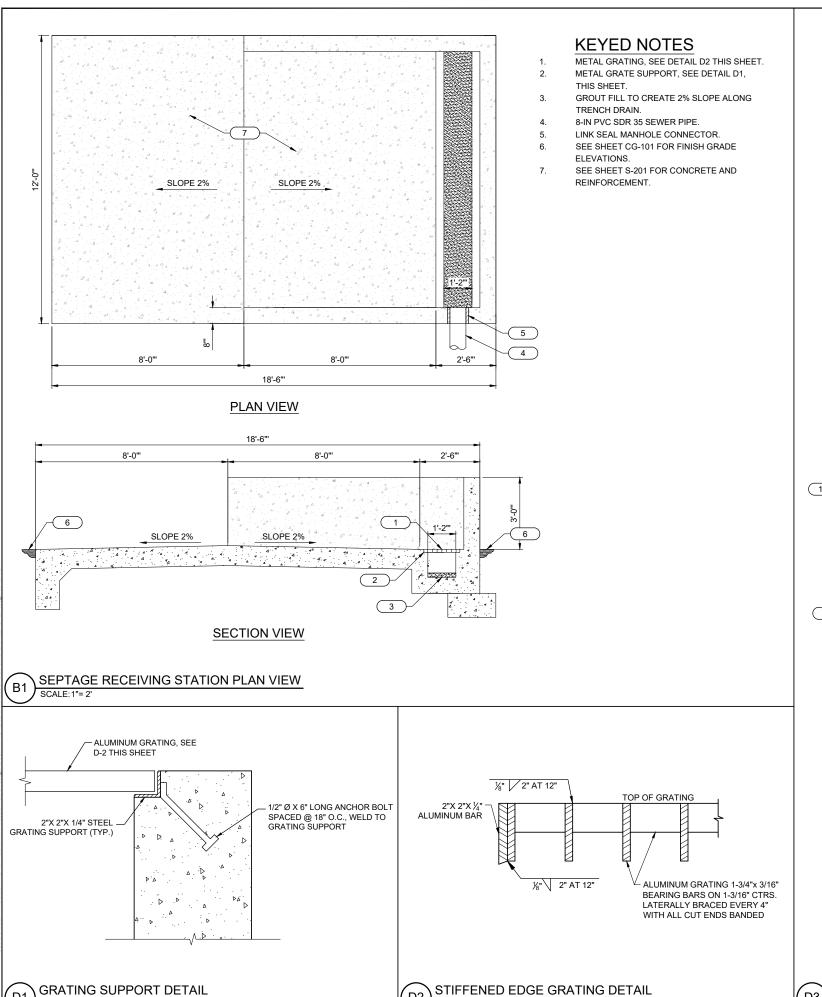
LAGOON IMPROVEMENTS PROJECT MT PLEASANT CITY

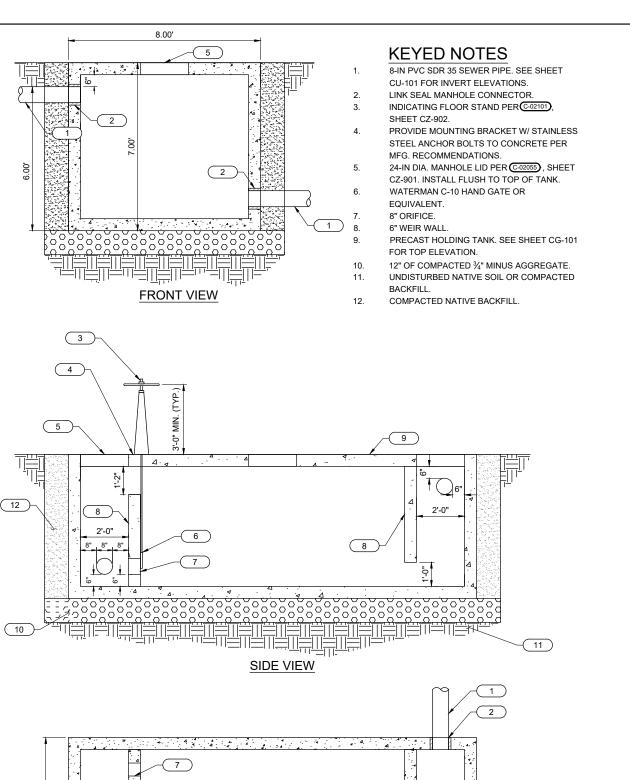
> E: 94-24-009_D-10X B PROJ. #:93-24-009 AWN BY: CIH

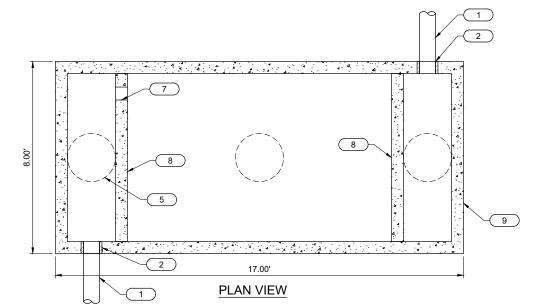
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DRAWING:

D-301







SEPTAGE HOLDING TANK DETAIL

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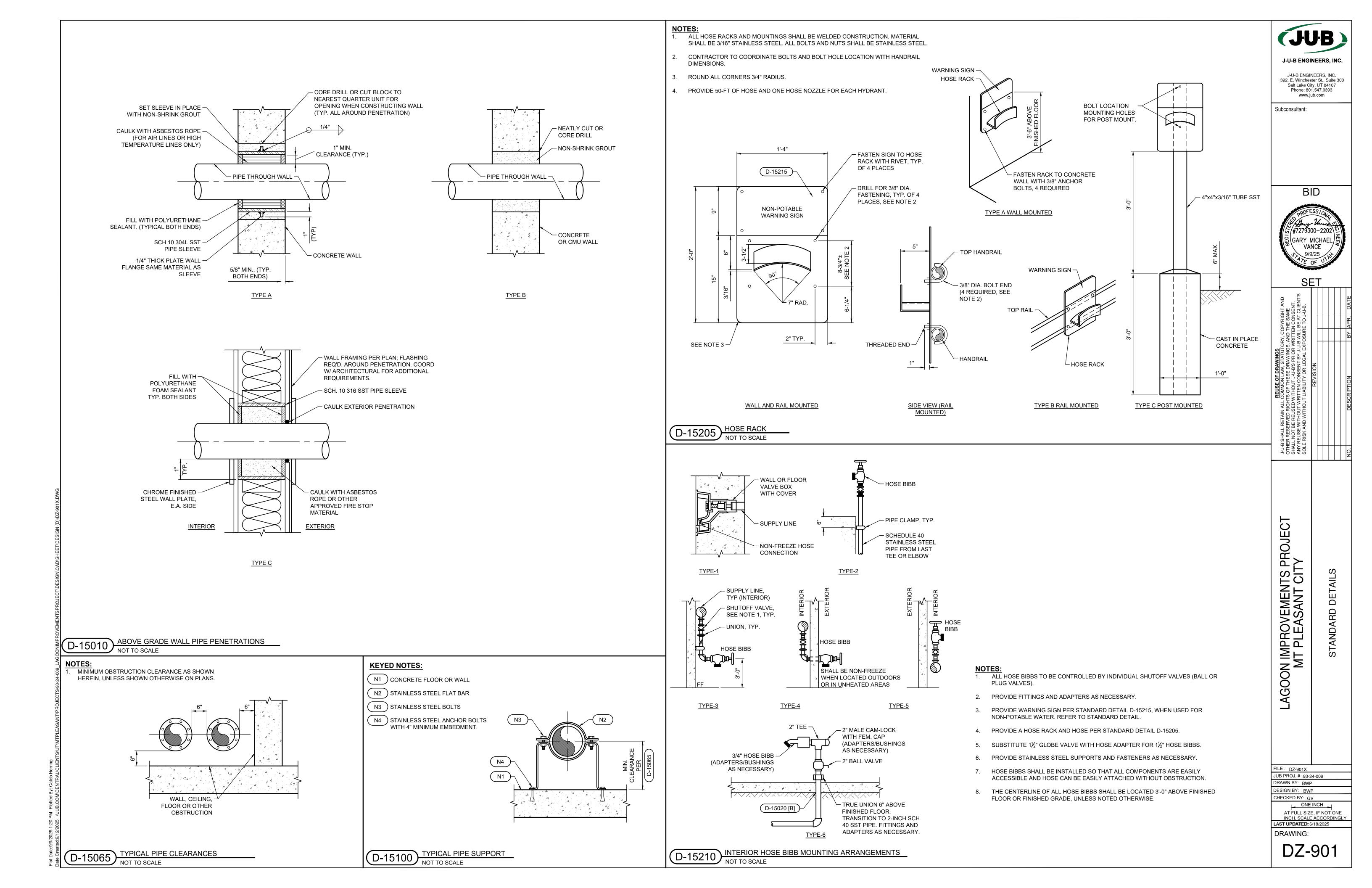
SEPTAGE RECEIVING STATION

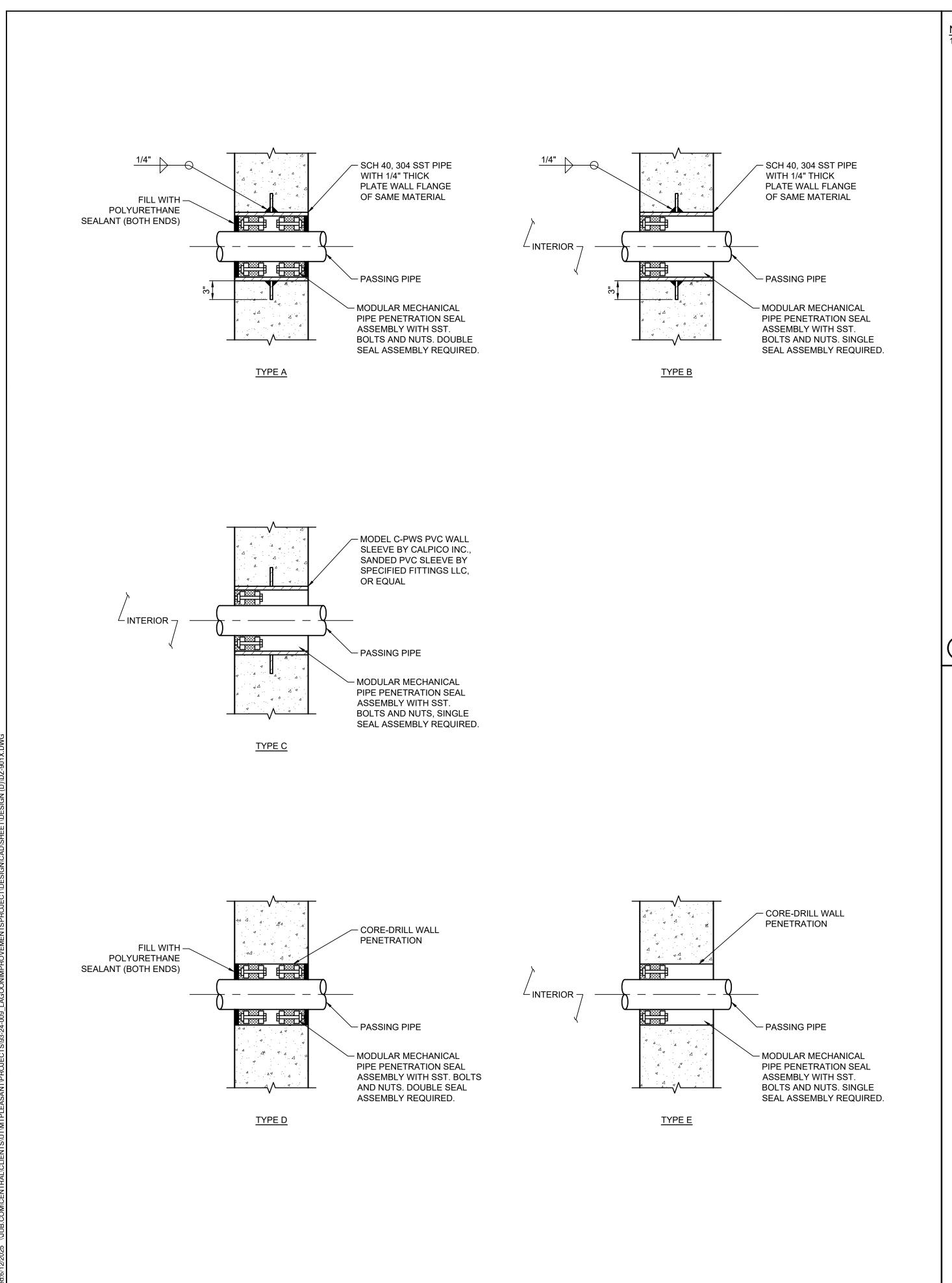
PROJ. #:93-24-009

AT FULL SIZE, IF NOT ON

LAST UPDATED: 9/8/202 DRAWING:

D-302





D-15005 SLEEVED PIPE PENETRATIONS
NOT TO SCALE

NOTES:

1. REDUCED PRESSURE BACKFLOW DEVICE:

a. FEBCO LF825Y OR EQUAL, 2" AND SMALLER

b. ANSI/ASSE 1013, AWWA C506; BRONZE BODY WITH BRONZE INTERNAL PARTS AND STAINLESS STEEL SPRINGS; TWO INDEPENDENTLY OPERATING, SPRING LOADED CHECK VALVES; DIAPHRAGM TYPE DIFFERENTIAL PRESSURE RELIEF VALVE LOCATED BETWEEN CHECK VALVES; THIRD CHECK VALVE THAT OPENS UNDER BACK PRESSURE IN CASE OF DIAPHRAGM FAILURE; NON-THREADED VENT OUTLET; ASSEMBLED WITH TWO GATE VALVES, STRAINER, AND FOUR TEST COCKS.

GATE VALVE (TY STRAIN AND FOUR TEST COCKS)

GATE VALVE (TY STRAIN AND FOUR TEST COCKS)

FIPE BRACE. SI TO WALL PER MANUFACTURE RECOMMENDA

BACKFLOW PREVENTER

UNION (TYP 2)

STRAINER

UNION (TYP 2)

OUT

"U" BOLT

OUT

TO WALL PER

MANUFACTURER'S

RECOMMENDATIONS.

PIPE BRACE. SECURE

TO WALL PER

MANUFACTURER'S

AIR GAP ADAPTER

O

2" DRAIN PIPE TO

FLOOR DRAIN

(D-15250) REDUCED PRESSURE BACKFLOW PREVENTER (≤2 INCH INTERIOR)

NOT TO SCALE

(JUB)

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LAGOON IMPROVEMENTS PROJECT MT PLEASANT CITY

STANDARD DETAILS

FILE: DZ-901X

JUB PROJ. #:93-24-009

DRAWN BY: BWP

DESIGN BY: BWP

CHECKED BY: GV

ONE INCH

AT FULL SIZE, IF NOT ONE
INCH, SCALE ACCORDINGLY

LAST UPDATED: 6/18/2025

LAST UPDATED: 6/18/2025
DRAWING:

DZ-902

	TEOOREOCENT EIGHT TIMTORE, OLE TIMTORE OOHEDOLE.
	EMERGENCY LIGHTING, SEE FIXTURE SCHEDULE.
F#	LIGHTING FIXTURE TYPE - SEE FIXTURE SCHEDULE.
\$	SINGLE POLE SWITCH
\$ ₃	3 WAY SWITCH
\$ _m	WALL MOUNTED MOTION SWITCH - DUAL TECHNOLOGY
\$ _T	MOTOR RATED TOGGLE SWITCH
\$ _D	DIGITAL OVERRIDE SWITCH
\$ _P	SINGLE POLE SWITCH WITH PILOT LIGHT
(SP)	RECESSED CEILING MOUNTED SPEAKER BY OTHERS
₾	WALL MOUNTED MOTION SENSOR
©	CEILING MOUNTED MOTION SENSOR
▼ 🕏	CEILING-MOUNTED EXIT LIGHT, SEE FIXTURE SCHEDULE
⊗	WALL-MOUNTED EXIT LIGHT, SEE FIXTURE SCHEDULE
	RECESSED CAN LIGHT, SEE FIXTURE SCHEDULE
	ONTROLS & INSTRUMEN
SYMBOL	DESCRIPTION
(AE)	ANALYZER ELEMENT
AIT	ANALYZING INDICATING TRANSMITTER
CGD	COMBUSTIBLE GAS DETECTOR
CIT	CONDUCTIVITY INDICATING TRANSMITTER
FE	FLOW ELEMENT
FIT	FLOW INDICATING TRANSMITTER
(FS)	FLOW SWITCH
(LE)	LEVEL ELEMENT
LIT	LEVEL INDICATING TRANSMITTER
(15)	LEVEL SWITCH
LT	LEVEL TRANSMITTER
ME	MOISTURE ELEMENT
MV	MOTOR OPERATED VALVE OR GATE
05)	OVER TORQUE SWITCH
PIT	PRESSURE INDICATING TRANSMITTER
(PS)	PRESSURE SWITCH
SV	SOLENOID OPERATED VALVE
TE	TEMPERATURE ELEMENT
(TS)	TEMPERATURE SWITCH
TT	TEMPERATURE TRANSMITTER
(ZS)	LIMIT OR POSITION SWITCH

SCHEMATICS & DIAGRAMS

LIGHTING

FLUORESCENT LIGHT FIXTURE, SEE FIXTURE SCHEDULE.

SYMBOL DESCRIPTION

~~~

SYMBOL

TERMINAL LUG OR STRIP

GROUND CONNECTION

BOND TO METALLIC WATER PIPE

BOND TO METALLIC WATER PIPE

BOND TO BUILDING STEEL

GENERATOR

DESCRIPTION

TRANSFORMER

| ·                                    | DESCRIPTION                                                                                                                                                                                                                                |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ்டி                                  | EMERGENCY STOP PUSH BUTTON (MAINTAINED)                                                                                                                                                                                                    |
| مله                                  | NORMALLY CLOSED PUSH BUTTON                                                                                                                                                                                                                |
|                                      | LOCKOUT STOP PUSH BUTTON                                                                                                                                                                                                                   |
|                                      | NORMALLY OPEN PUSH BUTTON                                                                                                                                                                                                                  |
| <b>d b</b> T.C.                      | CONTACT - TIME DELAY T.C. = NORMALLY OPEN W/TIME DELAY CLOSING. I.C T.O. = NORMALLY OPEN WITH INSTANT CLOSING AND TIME DELAY OPENING. T.CT.O. = NORMALLY OPEN W/TIME DELAY CLOSING AND TIME DELAY OPENING AFTER DEENERGIZATION.            |
| <b>9/</b> * <sub>T.O.</sub>          | CONTACT - TIME DELAY T.C. = NORMALLY CLOSED WITH TIME DELAY OPENING. T.OT.C. = NORMALLY CLOSED WITH TIME DELAY OPENING AND TIME DELAY CLOSING AFTER DEENERGIZATION. I.OT.C. = NORMALLY CLOSED WITH INSTANT OPENING AND TIME DELAY CLOSING. |
| d þ                                  | NORMALLY OPEN CONTACT                                                                                                                                                                                                                      |
| <b>∮</b> ⁄∳                          | NORMALLY CLOSED CONTACT                                                                                                                                                                                                                    |
| 000                                  | LIMIT SWITCH                                                                                                                                                                                                                               |
| <del>Д</del>                         | PRESSURE SWITCH LOW                                                                                                                                                                                                                        |
| <u>-</u>                             | PRESSURE SWITCH HIGH                                                                                                                                                                                                                       |
| <u>~~</u>                            | FLOW SWITCH                                                                                                                                                                                                                                |
| <del></del>                          | LEVEL FLOAT SWITCH                                                                                                                                                                                                                         |
| <u>~</u>                             | TEMPERATURE SWITCH                                                                                                                                                                                                                         |
| MPS / POLES                          | DISCONNECT SWITCH SHOWN WITH RATING AND NUMBER OF POLES.                                                                                                                                                                                   |
| MPS / POLES                          | FUSEHOLDER OR FUSEBLOCK                                                                                                                                                                                                                    |
| AMPS POLES                           | CIRCUIT BREAKER OR MOTOR CIRCUIT PROTECTOR, SHOWN WITH TRIP RATING AND NUMBER OF POLES.                                                                                                                                                    |
| 1 O A                                | 3 POSITION SELECTOR SWITCH HAND - OFF - AUTO, POSITION LEGEND: X=CLOSED O=OPEN                                                                                                                                                             |
| OFF XO                               | 2 POSITION SELECTOR SWITCH, POSITION LEGEND: X=CLOSED O=OPEN                                                                                                                                                                               |
| 0_0                                  | TIMER RELAY CONTACT INSTANTANEOUS CLOSE TIME DELAY OPEN.                                                                                                                                                                                   |
| V ICTO                               | TIMER RELAY CONTACT NORMALLY OPEN TIME DELAY CLOSE.                                                                                                                                                                                        |
| → NOTC                               | FULL VOLTAGE NONREVERSING (FVNR) MOTOR STARTER OR                                                                                                                                                                                          |
| <u>5</u>                             | CONTACTER NUMBER DESIGNATES NÉMA SIZE.  RTU, PLC, OR RIO CONTACT                                                                                                                                                                           |
| (UM)                                 | UTILITY METER                                                                                                                                                                                                                              |
|                                      | BEACON ALARM LIGHT. LETTER INDICATES COLOR: R=RED,                                                                                                                                                                                         |
| $\stackrel{\smile}{\Longrightarrow}$ | A=AMBER, B=BLUE, G=GREEN PILOT LIGHT. LETTER INDICATES COLOR: R=RED. A=AMBER.                                                                                                                                                              |
| <b>√</b>                             | B=BLUE, G=GREEN  RELAY                                                                                                                                                                                                                     |
| o(R)o                                |                                                                                                                                                                                                                                            |
| <b>a</b> (TD) <b>a</b>               | TIME DELAY RELAY                                                                                                                                                                                                                           |
| d(AR)                                | ALARM RELAY                                                                                                                                                                                                                                |
| M (ETM)                              | ELAPSED TIME METER                                                                                                                                                                                                                         |
| •(M)•                                | MOTOR STARTER OR CONTACTOR COIL                                                                                                                                                                                                            |
| EOL                                  | ELECTRONIC OVERLOAD RELAY                                                                                                                                                                                                                  |
| SSRV                                 | SOLID STATE REDUCED VOLTAGE STARTER                                                                                                                                                                                                        |
| VFD                                  | VARIABLE FREQUENCY DRIVE                                                                                                                                                                                                                   |
| HF                                   | HARMONIC FILTER                                                                                                                                                                                                                            |
| CT'S                                 | CURRENT TRANSFORMER                                                                                                                                                                                                                        |
| <u> </u>                             | THERMAL OVERLOAD RELAY                                                                                                                                                                                                                     |
| <u>•••</u>                           | LTC CONNECTION                                                                                                                                                                                                                             |
| <del>√</del>                         | MC CONNECTION                                                                                                                                                                                                                              |
|                                      | MOTOR, X = HORSEPOWER                                                                                                                                                                                                                      |
| (x)                                  | MOTOR, X - HORSELOWER                                                                                                                                                                                                                      |
| <u>(X)</u>                           | DEVICE LOCATED AT REMOTE LOCATION.                                                                                                                                                                                                         |

NODE OR CONNECTION

|                                               | POWER                                                                                                                                                                                                |
|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SYMBOL                                        | DESCRIPTION                                                                                                                                                                                          |
| Ψ                                             | DUPLEX RECEPTACLE                                                                                                                                                                                    |
| <b>(</b>                                      | DUPLEX RECEPTACLE, RECESSED FLOOR MOUNTED                                                                                                                                                            |
| <b>(</b>                                      | DUPLEX RECEPTACLE, RECESSED CEILING MOUNTED                                                                                                                                                          |
| <del></del>                                   | QUADRAPLEX RECEPTACLE                                                                                                                                                                                |
| <b>(</b>                                      | QUADRAPLEX RECEPTACLE, RECESSED FLOOR MOUNTED                                                                                                                                                        |
| <b>*</b>                                      | QUADRAPLEX RECEPTACLE, RECESSED CEILING MOUNTED                                                                                                                                                      |
| $\Phi$                                        | ISOLATED GROUND TYPE DUPLEX RECEPTACLE                                                                                                                                                               |
| <b>P</b>                                      | SPECIAL PURPOSE OR WELDING OUTLET.                                                                                                                                                                   |
| <b>₽</b> GFCI                                 | GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE.                                                                                                                                                         |
| ₩P                                            | WEATHERPROOF CONVENIENCE OUTLET                                                                                                                                                                      |
| ₩▼▼                                           | FLUSH FLOOR DEVICE BOX                                                                                                                                                                               |
| #                                             | HOME RUN TO PANEL - INDICATING 2 #   2, #   2 GND, 3/4" CONDUIT OR AS SHOWN.                                                                                                                         |
| # >>                                          | HOME RUN TO PANEL - INDICATING NUMBER OF CONDUCTORS - #12 OR AS SHOWN.                                                                                                                               |
| V   3 5                                       | HOME RUN TO PANEL SHOWING BRANCH CIRCUIT NUMBERS.                                                                                                                                                    |
| X-1,3,5                                       | HATCH MARKS IN CONDUIT RUN DENOTES NUMBER OF CONDUCTORS                                                                                                                                              |
|                                               | IN CONDUIT. LONG HATCH MARK DENOTES GROUND CONDUCTOR. SIZE OF CONDUCTORS TO BE #12 AWG CONDUCTORS IN CONDUIT UNLESS NOTED OTHERWISE. UNMARKED CONDUITS SHALL BE 3/4" WITH 3 #12.                     |
| (E)                                           | DENOTES EXISTING EQUIPMENT OR DEVICES                                                                                                                                                                |
| T                                             | THERMOSTAT                                                                                                                                                                                           |
| χM                                            | MOTOR, X = HORSE POWER                                                                                                                                                                               |
| (F)                                           | CEILING EXHAUST FAN                                                                                                                                                                                  |
| <u> </u>                                      | JUNCTION BOX                                                                                                                                                                                         |
|                                               | ELECTRICAL PANEL, POWER OR LIGHTING                                                                                                                                                                  |
|                                               | METER BASE                                                                                                                                                                                           |
|                                               |                                                                                                                                                                                                      |
| <u>₩</u>                                      | COMBINATION MOTOR STARTER, SEE SPECS  DISCONNECT SWITCH.                                                                                                                                             |
| 4                                             | DISCONNECT SWITCH.                                                                                                                                                                                   |
|                                               | VOLTAGE RATING  NEMA ENCLOSURE                                                                                                                                                                       |
|                                               | FUSE (NF-NO FUSE)                                                                                                                                                                                    |
|                                               | POLES —— SIZE (AMPS)                                                                                                                                                                                 |
| +0'-0"                                        | THIS NOTATION ADJACENT TO WALL OUTLET SYMBOL DENOTES MOUNTING HEIGHT ABOVE FINISHED FLOOR TO CENTER OF OUTLET DEVICE. IF NOT NOTED, THE MOUNTING HEIGHT TO CENTER SHALL BE AS DETAILED OR SPECIFIED. |
| \$ <sub>M</sub>                               | MANUAL MOTOR STARTER                                                                                                                                                                                 |
| \$ <sub>T</sub>                               | MANUAL MOTOR STARTER WITH OVERLOADS                                                                                                                                                                  |
| DM                                            | DAMPER MOTOR                                                                                                                                                                                         |
| F#                                            | LIGHTING FIXTURE TYPE - SEE FIXTURE SCHEDULE.                                                                                                                                                        |
| <del>'</del> π<br>\$                          | SINGLE POLE SWITCH                                                                                                                                                                                   |
| •                                             | 3 WAY SWITCH                                                                                                                                                                                         |
| \$3<br>                                       |                                                                                                                                                                                                      |
| \$ <sub>4</sub>                               | 4 WAY SWITCH  COMMUNICATION/DATA JACK. CONDUIT TO ABOVE CEILING.                                                                                                                                     |
| <b>►</b>                                      | OWNER TO RUN WIRING.  DATA OR CATHODE RAY TUBE (CRT) TERMINAL OUTLET. + 1'-6".                                                                                                                       |
| $\bowtie$                                     | (SINGLE, DOUBLE)                                                                                                                                                                                     |
| <b>■ ■</b> <sub>2</sub> <b>■</b> <sub>4</sub> | TELEPHONE JACK OUTLET. 1'-6". (SINGLE, DOUBLE, QUAD)                                                                                                                                                 |
| F                                             | EEDER DESIGNATION LOGIC                                                                                                                                                                              |
|                                               | P: 2 I. NUMBER OF CONDUITS N: 3 5 2. P: NUMBER - SIZE OF PHASE CONDUCTORS PER CONDUIT                                                                                                                |
| , ·                                           | G: 4 3. N: NUMBER - SIZE OF NEUTRAL CONDUCTOR(S) PER COND                                                                                                                                            |
|                                               | 4. G: NUMBER- SIZE OF GROUND CONDUCTOR(S) PER CONDU<br>5. SIZE OF EACH CONDUIT IN INCHES<br>CTOR SIZE \$ TYPE 6. CONDUIT NUMBER                                                                      |
| EY TO CONDU<br>4 = #14 AWG                    |                                                                                                                                                                                                      |

| ACC AMMS INTERRUPTING CAPACITY APP AND ADJUSTABLE PREQUENTY DRIVES AND AND AS AN SUPPLY ATS AUTOMATIC TRANSPER SWITCH MITS AND TO SCALE MITS AUTOMATIC TRANSPER SWITCH MITS AUTOMATIC TRANSPER SWITCH MITS AND TO SCALE MITS AUTOMATIC TRANSPER SWITCH M |                                            | ABBRE                                                                                                                                       | /IAT                                        | ΓIONS                                                                                                                                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| C C CONDUIT CB CIRCUIT BEBAKER CI2 CHIGNINE CON CONTACTOR CPM COSTOMER POWER MONITORING CPM CONTROL PANEL PHASE OR POLE PULL BOX CONTROL PANEL PHASE POWER MONITORING POLE PROFESSOR FAILURE RELAY PLANEL INDICATE CONTROL PANEL PHASE POWER PHASE POWER PANEL PHASE POWER PAR PANEL PHASE POWER PHASE POWER PANEL PHASE POWER PROFESSOR CONTROL LOW PPH PASSED INTERFACE PPH PASSED INTERFACE PPH PASSED POWER PANEL PHASE POWER PASSED INTERFACE PER PANEL PHASE POWER PANEL PHASE POWER PASSED POWER PA | AFF<br>AI<br>AIC<br>AFD<br>AO<br>AS<br>ATS | ABOVE FINISHED FLOOR ANALOG INPUT AMPS INTERRUPTING CAPACITY ADJUSTABLE FREQUENCY DRIVES ANALOG OUTPUT AIR SUPPLY AUTOMATIC TRANSFER SWITCH | NEC<br>NECA<br>NOTC<br>NPW<br>NS<br>NTS     | NATIONAL ELECTRICAL CODE NATIONAL ELECTRICAL CONTRACTO ASSOCIATION NORMALLY OPEN TIMED CLOSED NON-POTABLE WATER NITROGEN SUPPLY NOT TO SCALE |
| DCS DISTRIBUTED CONTROL SYSTEM DI DCSCRETE INPUT DVDT DIFFERENTIAL VOLTAGE/FIME DWG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | C<br>CB<br>CL2<br>CON<br>CPM<br>CPT<br>CU  | CONDUIT CIRCUIT BREAKER CHLORINE CONTACTOR CUSTOMER POWER MONITORING CONTROL POWER TRANSFORMER COPPER, BARE                                 | OF<br>OIT<br>OL<br>OO<br>OR                 | OVERFLOW OPERATOR INTERFACE TERMINAL OVERLOAD ON/OFF (MAINTAINED) OFF-REMOTE PHASE OR POLE                                                   |
| ETM ELAFSED TIME METER EQU ELECTRONIC OVERLOAD PO EXIST EXISTING PH FA FOUL AIR FC FAIL CLOSED FF FLOW ELEMENT FIA FULL LOAD AWPS FS FLOW SWITCH FVMR FWH FINISHED WATER  G GROUND GROUND FRESURE SWITCH HIGH FWW FINISHED WATER  G GROUND FRESURE SWITCH HIGH FW FINISHED WATER  G GROUND FAULT CIRCUIT GROUND FAULT CIRCUIT GROUND FAULT FROTECTION GROUND FRESURE SWITCH HIGH FW FINISHED WATER  RAS  RETURN ACTIVATED SLUDGE REMOTE I/O REMOTE  | DCS<br>DI<br>DO<br>DV/DT<br>DWG            | CONTROL VALVE  DISTRIBUTED CONTROL SYSTEM DISCRETE INPUT DISCRETE OUTPUT DIFFERENTIAL VOLTAGE/TIME DRAWING                                  | PCP<br>PFR<br>PI<br>PLC<br>PLI<br>PKG       | PROCESS CONTROL PANEL PHAS/POWER FAILURE RELAY PULSE INPUT PROGRAMMABLE LOGIC CONTROLLER PLANT INFLUENT PACKAGE                              |
| FLA FULL LOAD AMPS PS FLOW SWITCH FOUND FOR SULL VOLTAGE NON-REVERSING PW FINISHED WATER PSI FLOW SWITCH FOUNDS PER SQUARE INCH PROCESS VARIABLE PROCESS VARIABLE RW FINISHED WATER RW FINISHED WATER RW FINISHED WATER RW FOUNDS PER SQUARE INCH PROCESS VARIABLE RW RW WATER RW RAW WATER REMOTE INPUT/OUTPUT REMOTE INPUT/OUTPUT REMOTE INPUT/OUTPUT REMOTE INPUT/OUTPUT REMOTE INPUT/OUTPUT RESIST RESET  | ETM<br>EOL<br>ES<br>EXIST<br>FA<br>FC      | ELAPSED TIME METER ELECTRONIC OVERLOAD EMERGENCY STOP EXISTING FOUL AIR FAIL CLOSED                                                         | PNL<br>PO<br>PPG<br>PPH<br>PPM<br>PR        | PANEL PULSE OUTPUT POUNDS PER GALLON POUNDS PER HOUR PARTS PER MILLION PAIR                                                                  |
| GFCI GROUND FAULT CIRCUIT INTERRUPTER GP GROUND FAULT PROTECTION GND GROUND GPD GALLONS PER DAY GPH GALLONS PER HOUR GPM GALLONS PER MINUTE GRS GALVANIZED RIGID STEEL H, HI HIGH H2S HYDROGEN SULFIDE HIMAN MACHINE INTERFACE HOA HAND-OFF-AUTO IC INSTRUMENTATION CABLE ICR INTERMITTENT CYCLE REACTOR IO INPUT/OUTPUT ISC SHORT CIRCUIT CURRENT ISR INTRINSICALLY SAFE RELAY ISR INTRINSICALLY SAFE RELAY ISR INTRINSICALLY SAFE RELAY ISS SOLVE STATE LC LOOP CONTROLLER LC LOOP CONTROLLER LC LOOP CONTROLLER LC LOOP CONTROLL STOP LR LOCAL AREA NETWORK LC LOOP CONTROLL STOP LR LOCAL CONTROL PANEL LCS LOOP CONTROLL STOP LR LOCAL CONTROL PANEL LCS LOY SOLVEN LAN LOCAL AREA NETWORK LC LOOP CONTROLLER LCS LOOP CONTROL CONTROL LCS LOOP CONTROL LCS CONTROL LCS LOOP CONTROL LCS STATI-LOCK-OFF-STOP LT CURRENT SPR SEPICTOR RRMOTE INPUT/OUTPUT REMOTE INPUT/OUTPUT RESET REMOTE ILEMETRY UNIT REFLECTED WAS EMMOTE RELOTOR REMOTE ILEMETRY UNIT REFLECTED WAS EMMOTE RELOTOR REMOTE INPUT/OUTPUT RESET REMOTE ILEMETRUP REDETOR REMOTE ILEMETRUP REDETOR REMOTE I | FLA<br>FS<br>FVNR<br>FW                    | FULL LOAD AMPS FLOW SWITCH FULL VOLTAGE NON-REVERSING FINISHED WATER GROUND                                                                 | PS<br>PSH<br>PSI<br>PV<br>RAS               | PRESSURE SWITCH PRESSURE SWITCH, HIGH POUNDS PER SQUARE INCH PROCESS VARIABLE RETURN ACTIVATED SLUDGE                                        |
| H2S HYDROGEN SULFIDE HMM HUMAN MACHINE INTERFACE HOA HAND-OFF-AUTO HOR HAND-OFF-REMOTE  I CURRENT IC INSTRUMENTATION CABLE ICR INTERMITTENT CYCLE REACTOR IO INPUT/OUTPUT ISC SHORT CIRCUIT CURRENT ISR INTRINSICALLY SAFE RELAY JB JUNCTION BOX JSS START-LOCK-OFF-STOP SHOW START-LOCK-OFF-STOP SHOW START-LOCK-OFF-STOP SHOW SUBMERSIBLE MANUFACTURER CABLE ICR INTERMITTENT CYCLE REACTOR IO INPUT/OUTPUT ISC SHORT CIRCUIT CURRENT ISR INTRINSICALLY SAFE RELAY SPARE SS START/STOP JB JUNCTION BOX SSS SOLID STATE STARTER (SOFT START) SHUNT TRIP  LAN LOCAL AREA NETWORK LC LOOP CONTROLLER LC LEVEL CONTROL, LOW LAN LOCAL CONTROL PANEL LC LEVEL CONTROL, TODE LCP LOCAL CONTROL PANEL LCS LEVEL SWITCH LOS LOCK-OUT-STOP ISP TIME DELAY ON ENERGIZE TEMPERATURE SWITCH TOS TIME DELAY ON ENERGIZE TEMPERATURE SWITCH TYP TYPICAL  M MOTOR MA MANUAL/AUTO, MILLIAMP MAX MAXIMUM MC MANUFACTURER'S CABLE MCC MOTOR CONTROL CENTER MCC MCC MOTOR CONTROL CENTER MCC                                                                                                 | GFCI<br>GFP<br>GND<br>GPD<br>GPH<br>GPM    | GROUND FAULT CIRCUIT INTERRUPTER GROUND FAULT PROTECTION GROUND GALLONS PER DAY GALLONS PER HOUR GALLONS PER MINUTE                         | RCL<br>RF<br>RIO<br>RS<br>RSP<br>RST<br>RTD | REMOTE I/O RADIO FREQUENCY REMOTE INPUT/OUTPUT RAW SEWAGE RAW SEWAGE PUMP RESET RESISTANCE TEMPERATURE DETECTOR REMOTE TELEMETRY UNIT        |
| IC INSTRUMENTATION CABLE ICR INTERMITTENT CYCLE REACTOR SO2 SULFUR DIOXIDE IO INPUT/OUTPUT ISC SHORT CIRCUIT CURRENT ISR INTRINSICALLY SAFE RELAY SPR SPARE SS START/STOP  JB JUNCTION BOX SSS SOLID STATE STARTER (SOFT START)  L, LO LOW LAN LOCAL AREA NETWORK LC LOOP CONTROLLER ICL LEVEL CONTROL, LOW LCP LOCAL CONTROL PANEL ICS LOCK-OUT-STOP IR LOCAL/REMOTE LS LEVEL SWITCH LTC LIQUID TIGHT FLEXIBLE CONDUIT TYP TYPICAL  M MOTOR MA MANUAL/AUTO, MILLIAMP MAX MAXIMUM MC MANUFACTURER'S CABLE MCB MAIN CIRCUIT BREAKER MCC MOTOR CONTROL CENTER MCC MOTOR CIRCUIT PROTECTOR MFR(S) MANUFACTURER(S) MGD MILLION GALLONS PER DAY MGL MILLIGRAMS PER LITER MIN MINIMUM ML MIXED LIQUOR  CABLE SULFUR DIOXIDE SURAR SULFUR DIOXIDE START/STOP START/STOP START/STOP STARTICE STARTER (SOFT STARTER (SOFT STARTER SS START/STOP SPARE CONDUIT SP SPARE SS START/STOP SPARE SS START/STOP SPARE CONDUIT SPR SPARE SS START/STOP SPARE SS START/STOP SPARE SS START/STOP SPARE SOLID STATE STARTER (SOFT START) SHUNT TRIP  TELEPHONE CABLE SURGE SUPPRESION TYP TYPICAL  MOTOR CONTROL CENTER WAS WASTE ACTIVATED SLUDGE WEATHERPROOF WEATHERPROOF WEATHERPROOF WEATHERPROOF WEATHERPROOF MET TRANSFORMER TRANSFORMER TRANSMITTER  TRANSMITTER  TRANSMITTER  MIN MINIMUM MIXED LIQUOR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | HŹS<br>HMI<br>HOA                          | HYDROGEN SULFIDE<br>HUMAN MACHINE INTERFACE<br>HAND-OFF-AUTO<br>HAND-OFF-REMOTE                                                             | SEQ<br>SES<br>SLC<br>SLOS                   | SERVICE ENTRANCE EQUIPMENT<br>SERVICE ENTRANCE SECTION<br>SINGLE LOOP CONTROLLER<br>START-LOCK-OFF-STOP                                      |
| LÂN LOCAL AREA NETWORK LC LOOP CONTROLLER LCL LEVEL CONTROL, LOW LCP LOCAL CONTROL, LOW LOS LOCK-OUT-STOP LR LOCAL/REMOTE LS LEVEL SWITCH LTC LIQUID TIGHT FLEXIBLE CONDUIT MANUAL/AUTO, MILLIAMP MAX MAXIMUM MC MANUFACTURER'S CABLE MCB MAIN CIRCUIT BREAKER MCC MOTOR CONTROL CENTER MCP MOTOR CIRCUIT PROTECTOR MFR(S) MANUFACTURER(S) MGD MILLION GALLONS PER DAY MGL MILLIGRAMS PER LITER MC MANUAL/AUTO MC MANUFACTURER(S) MGD MILLION GALLONS PER DAY MGL MILLIGRAMS PER LITER MCM MANUAL/AUTO MCM MANUAL/AUTO MCM MANUFACTURER(S) MCD MILLION GALLONS PER DAY MGL MILLIGRAMS PER LITER MH MANHOLE MIN MINIMUM ML MIXED LIQUOR  TCC TELEPHONE CABLE TIME DELAY ON ENERGIZE TRANSIENT VOLTAGE SURGE SUPPRESSION TYP TYPICAL  UG UNDERGROUND  V VOLT VFD VARIABLE FREQUENCY DRIVE WAS WASTE ACTIVATED SLUDGE WP WEATHERPROOF  WEATHERPROOF  XFMR TRANSFORMER TRANSMITTER  XMTR TRANSMITTER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | ICR<br>IO<br>ISC<br>ISR<br>JB              | INSTRUMENTATION CABLE INTERMITTENT CYCLE REACTOR INPUT/OUTPUT SHORT CIRCUIT CURRENT INTRINSICALLY SAFE RELAY JUNCTION BOX                   | 502<br>5P<br>5PC<br>5PR<br>55<br>555        | CABLE SULFUR DIOXIDE SET POINT SPARE CONDUIT SPARE START/STOP SOLID STATE STARTER (SOFT START)                                               |
| M MOTOR MA MANUAL/AUTO, MILLIAMP MAX MAXIMUM MC MANUFACTURER'S CABLE MCB MAIN CIRCUIT BREAKER MCC MOTOR CONTROL CENTER MCP MOTOR CIRCUIT PROTECTOR MFR(S) MANUFACTURER(S) MGD MILLION GALLONS PER DAY MGL MILLIGRAMS PER LITER MH MANHOLE MIN MINIMUM ML MIXED LIQUOR  UMDERGROUND  V VOLT VFD VARIABLE FREQUENCY DRIVE WAS WASTE ACTIVATED SLUDGE WP WEATHERPROOF XFMR TRANSFORMER XMTR TRANSMITTER ZS POSITION SWITCH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | LÂN<br>LC<br>LCL<br>LCP<br>LOS<br>LR<br>LS | LOCAL AREA NETWORK LOOP CONTROLLER LEVEL CONTROL, LOW LOCAL CONTROL PANEL LOCK-OUT-STOP LOCAL/REMOTE LEVEL SWITCH                           | TC<br>TDOE<br>TS<br>TSP<br>TVSS             | TELEPHONE CABLE TIME DELAY ON ENERGIZE TEMPERATURE SWITCH TWISTED SHIELDED PAIR TRANSIENT VOLTAGE SURGE SUPPRESSION                          |
| MCB MAIN CIRCUIT BREAKER MCC MOTOR CONTROL CENTER MCP MOTOR CIRCUIT PROTECTOR MFR(S) MANUFACTURER(S) MGD MILLION GALLONS PER DAY MGL MILLIGRAMS PER LITER MH MANHOLE MIN MINIMUM ML MIXED LIQUOR  WWATT, WIRE WAS WASTE ACTIVATED SLUDGE WP WEATHERPROOF  XFMR TRANSFORMER XMTR TRANSMITTER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | M<br>MA<br>MAX                             | MOTOR<br>MANUAL/AUTO, MILLIAMP<br>MAXIMUM                                                                                                   | UG<br>V                                     | UNDERGROUND<br>VOLT                                                                                                                          |
| MGD MILLION GALLONS PER DAY MGL MILLIGRAMS PER LITER MH MANHOLE MIN MINIMUM ML MIXED LIQUOR  XFMR TRANSFORMER XMTR TRANSMITTER XMTR TRANSMITTER XMTR TRANSMITTER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | MCB<br>MCC<br>MCP                          | MAIN CIRCUIT BREAKER<br>MOTOR CONTROL CENTER<br>MOTOR CIRCUIT PROTECTOR                                                                     | W<br>WAS                                    | WATT, WIRE<br>WASTE ACTIVATED SLUDGE                                                                                                         |
| MTU MASTER TELEMETRY UNIT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | MGD<br>MGL<br>MH<br>MIN<br>ML<br>MOV       | MILLION GALLONS PER DAY MILLIGRAMS PER LITER MANHOLE MINIMUM MIXED LIQUOR MOTOR OPERATED VALVE                                              | XMTR                                        | TRANSMITTER                                                                                                                                  |

**ELECTRICAL LINETYPES** 

DESCRIPTION

EXPOSED CONDUIT

UNDERGROUND CONDUIT

EXISTING EXPOSED CONDUIT

EXISTING UNDERGROUND CONDUIT

---- CAPPED UNDERGROUND CONDUIT OR STUBBUP

NEW ELECTRICAL EQUIPMENT

——— DETAIL VIEW OR MATCHING

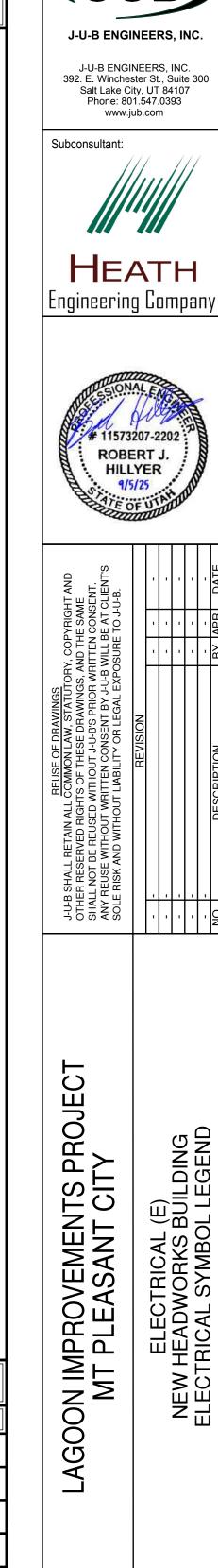
CONDUIT DROP

CONDUIT RISE

FUTURE

----- I

BARE COPPER GROUND CONDUCTOR



JUB PROJ. # : ######## DRAWN BY: KJB DESIGN BY: RJK CHECKED BY: RJK ONE INCH

AT FULL SIZE, IF NOT ONE
INCH, SCALE ACCORDINGLY

LAST UPDATED: 8/20/2025 DRAWING:

#### POWER CONDITIES CHEDITE

| OWE  | R CO | NDUI    | SCHI      | <u> EDUL</u> |
|------|------|---------|-----------|--------------|
| P001 |      |         | CONDUIT   |              |
|      |      |         |           |              |
| P002 | 1    | WIRE BY | ' UTILITY | 3"           |
|      |      |         |           |              |
|      |      | P:      | 3 – #1    |              |
| P100 | 1    | N:      | 1 – #1    | 1-1/2"       |
|      |      | G:      | NONE      |              |
|      |      |         |           |              |
|      |      | P:      | 3 – #1    |              |
| P101 | 1    | N:      | 1 - #1    | 1-1/2"       |
|      |      | G:      | 1 – #8    |              |
|      |      |         |           |              |
|      |      | P:      | 3 - #12   |              |
| P102 | 1    | N:      | NONE      | 3/4"         |
|      |      | G:      | 1 - #12   |              |
|      | •    |         |           |              |
|      |      | P:      | 3 - #10   |              |
| P103 | 1    | N:      | NONE      | 3/4"         |
|      |      | G:      | 1 - #10   |              |
|      |      |         |           |              |
|      |      | P:      | 3 - #6    |              |
| P104 | 1    | N:      | 1 – #6    | 1"           |
|      |      | G:      | 1 - #10   |              |
|      |      |         |           |              |
|      |      | D.      | 2 _ #12   |              |

#### CONTROL CONDUIT SCHEDULE 2 - #16 TSP

G: | - #|4

4 - #14

G: | -#|4

6 - #14

G: | -#|4

16 - #14

G: | -#|4

MANUFACTURERS

CABLE

ANTENNA CABLE

3/4"

3/4"

3/4"

C002

C102

C103

C108

C201

C202

3/4"

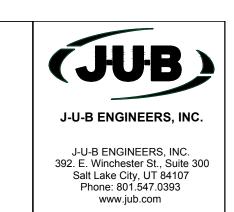
NONE

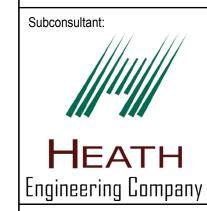
1 - #12

|       |                                             | L                                                                                                                                                                 | IGHTING FIXTURE SCHEDULE                                                                                                     |           |        |     |       |         |       |
|-------|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------|--------|-----|-------|---------|-------|
| T)/DE | MANUEACTURER                                | OATALOG NUMBER                                                                                                                                                    | DECORIDATION                                                                                                                 |           | SOURCE |     | ELEC  | TRICAL  | NOTEO |
| TYPE  | MANUFACTURER                                | CATALOG NUMBER                                                                                                                                                    | DESCRIPTION                                                                                                                  | LUMENS    | CCT    | CRI | WATTS | VOLTS   | NOTES |
| F1    | LITHONIA                                    | FEM L48 10000LM IMAFD WD MVOLT GZ10 50K 80CRI                                                                                                                     | GASKETED INDUSTRIAL, 48" LINEAR, ACRYLIC, DEEP FROSTED LENS, WIDE DISTRIBUTION, 0-10V DIMMING                                | 10000     | 5000K  | 80  | 62    | 120-277 | 1,3   |
| F2    | LITHONIA                                    | WST LED P1 30K VW 120 PE DDBXD                                                                                                                                    | LED WALL PACK, DIE CAST ALUMINUM HOUSING, GLASS LENS, WIDE DISTRIBUTION, PHOTOELECTRIC CELL BUTTON TYPE, DARK BRONZE FINISH. | 1500      | 3000K  | 70  | 12    | 120     | 2,4   |
| F3    | RED SKY<br>LITELUME<br>HIGH5LED<br>BEGHELLI | CJLCL32CBU RND2-35-120-277-5K-120-H2-CG-GRY-PND LL-JJEP-40-50-UNV-GY HMAR-4-A-C-P-ND-5Y-FG-OPCM HZCAS150 HT HO DIM WT50 120-277V HLVP3-F-CSM 40L QT 50K 120D CGWG | EXPLOSION PROOF, HAZARDOUS LOCATION. CEILING MOUNT, 3/4" NPT HUB.                                                            | 5150-5600 | 5000K  | 70  | 20-35 | 120-277 | 1     |
| KEYED | ) NOTES:                                    |                                                                                                                                                                   |                                                                                                                              |           |        |     | 1     |         |       |
| 1-    | MOUNT AT 12'-2" A.F.F. U                    | JNLESS OTHERWISE NOTED; FIELD COORDINATE EXAC                                                                                                                     | T LOCATION.                                                                                                                  |           |        |     |       |         |       |
| 2-    | WALL MOUNT AT 8'-4" A.                      | F.F. UNLESS OTHERWISE NOTED; SEE ARCHITECTURAL                                                                                                                    | DRAWINGS.                                                                                                                    |           |        |     |       |         |       |
| 3-    | FIXTURE BY LITHONIA, N                      | METALUX, DAY-BRITE, ORACLE, COLUMBIA, HIGH5LED, H                                                                                                                 | IE WILLIAMS OR BEGHELLI. EQUAL DISTRIBUTION, LUMENS, AND SPECIFICATIONS                                                      |           |        |     |       |         |       |
| 4-    | FIXTURE BY LITHONIA, N                      | MCGRAW-EDISON, GARDCO, LSI, BEACON, LUMINOS GLO                                                                                                                   | DBAL, LUMARK OR RAYON. EQUAL DISTRIBUTION, LUMENS, AND SPECIFICATIONS.                                                       |           |        |     |       |         |       |

|        |           |          |        |                  |                            | P      | ANEL   | H      |                |              |    |          |          |       |
|--------|-----------|----------|--------|------------------|----------------------------|--------|--------|--------|----------------|--------------|----|----------|----------|-------|
|        |           |          |        |                  |                            |        |        |        | BUS AMPS:      | 125          |    |          |          |       |
|        |           |          |        | VOLTAGE:         | 480/277 V 3Ø 4W            |        |        |        | MLO            |              |    |          |          |       |
|        |           |          |        | ENCLOSURE:       | NEMA 1                     |        |        |        |                |              |    |          |          |       |
|        |           |          | CIRCU  | IT BREAKER TYPE: | BOLT-ON                    |        |        |        | MOUNTING:      | SURFACE      |    |          |          |       |
|        |           | l        | NTERRI | UPTING CAPACITY: | 10 KAIC                    |        |        |        | COVER TYPE:    | HINGED COVER |    |          |          |       |
|        |           |          |        |                  |                            |        |        |        | LOCATION:      | AS INDICATED |    |          |          |       |
| BRAN   | ICH CIRCU | IT BREAK | ER     | CONNECTION       | DESCRIPTION                |        | PHASE  |        | DESCRIPTION    | CONNECTION   | BF | RANCH CI | RCUIT BR | EAKER |
| NOTES  | #         | AMP      | P.     | LOAD (VA)        |                            | А      | В      | С      |                | LOAD (VA)    | P. | AMP      | #        | NOTES |
|        | 1         | 20       | 3      | 2161             | INFLUENT SCREEN            | 4422.6 |        |        | TRANSFORMER TL | 2262         | 3  | 25       | 2        |       |
|        | 3         |          |        | 2161             |                            |        | 3254.6 |        |                | 1094         |    |          | 4        |       |
|        | 5         |          |        | 2161             |                            |        |        | 4086.6 |                | 1926         |    |          | 6        |       |
|        | 7         | 25       | 3      | 5000             | HEATER UH-1                | 10000  |        |        | HEATER UH-2    | 5000         | 3  | 25       | 8        |       |
|        | 9         |          |        | 5000             |                            |        | 10000  |        |                | 5000         |    |          | 10       |       |
|        | 11        |          |        | 5000             |                            |        |        | 10000  |                | 5000         |    |          | 12       |       |
|        | 13        | 20       | 3      |                  | SPARE                      | 0      |        |        | SPARE          |              | 1  | 20       | 14       |       |
|        | 15        |          |        |                  |                            |        | 0      |        | SPARE          |              | 1  | 20       | 16       |       |
|        | 17        |          |        |                  |                            |        |        | 0      | SPARE          |              | 1  | 20       | 18       |       |
|        | 19        | 20       | 3      |                  | SPARE                      | 0      |        |        | SPARE          |              | 1  | 20       | 20       |       |
|        | 21        |          | ŀ      |                  |                            |        | 0      |        | SPARE          |              | 1  | 20       | 22       |       |
|        | 23        |          | I      |                  |                            |        |        | 0      | SPARE          |              | 1  | 20       | 24       |       |
|        |           |          |        |                  | PHASE SUBTOTALS (VA)       | 14423  | 13255  | 14087  |                |              |    |          |          |       |
|        |           |          |        |                  | PHASE TOTALS (KVA)         | 14.4   | 13.3   | 14.1   |                |              |    |          |          |       |
|        |           |          |        |                  | PHASE TOTALS @ 277V (AMPS) | 52.1   | 47.9   | 50.9   |                |              |    |          |          |       |
| NOTES: |           |          |        |                  |                            |        |        |        |                |              |    |          |          |       |
| GEN    | PROVIDE   | WITH INT | EGRAL  | SURGE PROTECTION | DN                         |        |        |        |                |              |    |          |          |       |
| 1      |           |          |        |                  |                            |        |        |        |                |              |    |          |          |       |
| 2      |           |          |        |                  |                            |        |        |        |                |              |    |          |          |       |
| 3      |           |          |        |                  |                            |        |        |        |                |              |    |          |          |       |
|        |           |          |        |                  |                            |        |        |        |                |              |    |          |          |       |

|       |           |          |       |                  |                              | P    | ANEL  | . <b>L</b> |                           |              |    |          |          |       |
|-------|-----------|----------|-------|------------------|------------------------------|------|-------|------------|---------------------------|--------------|----|----------|----------|-------|
|       |           |          |       |                  |                              |      |       |            | BUS AMPS:                 | 125          |    |          |          |       |
|       |           |          |       | VOLTAGE:         | 208/120 V 3Ø 4W              |      |       | -          | MAIN BREAKER AMPS         | 50           |    |          |          |       |
|       |           |          |       | ENCLOSURE:       | NEMA 1                       |      |       |            |                           |              |    |          |          |       |
|       |           |          | CIRCU | IT BREAKER TYPE: | BOLT-ON                      |      |       |            | MOUNTING:                 | SURFACE      |    |          |          |       |
|       |           | I        | NTERR | UPTING CAPACITY: | 10 KAIC                      |      |       |            | COVER TYPE:               | HINGED COVER |    |          |          |       |
|       |           |          |       |                  |                              |      |       |            | LOCATION:                 | AS INDICATED |    |          |          |       |
| BRAN  | CH CIRCUI | T BREAK  | ER    | CONNECTION       | DESCRIPTION                  |      | PHASE |            | DESCRIPTION               | CONNECTION   | BF | RANCH CI | RCUIT BR | EAKER |
| NOTES | #         | AMP      | P.    | LOAD (VA)        |                              | Α    | В     | С          |                           | LOAD (VA)    | P. | AMP      | #        | NOTES |
|       | 1         | 20       | 1     | 150              | RTU                          | 1070 |       |            | SPLIT HEAT PUMP           | 920          | 2  | 25       | 2        |       |
|       | 3         | 20       | 1     | 150              | FLUME FLOW LEVEL TRANSMITTER |      | 1070  |            |                           | 920          |    |          | 4        |       |
|       | 5         | 20       | 1     | 210              | INFLUENT SCREEN RM LIGHTING  |      |       | 1386       | ROOFTOP EXHAUST FAN REF-1 | 1176         | 1  | 20       | 6        |       |
|       | 7         | 20       | 1     | 124              | ELEC RM LIGHTING             | 652  |       |            | DOSING PUMP               | 528          | 1  | 20       | 8        |       |
|       | 9         | 20       | 1     | 24               | EXTERIOR LIGHTING            |      | 24    |            | SPARE                     |              | 1  | 20       | 10       |       |
|       | 11        | 20       | 1     | 540              | RECEPTACLES                  |      |       | 540        | SPARE                     |              | 1  | 20       | 12       |       |
|       | 13        | 20       | 1     | 540              | RECEPTACLES                  | 540  |       |            | SPARE                     |              | 1  | 20       | 14       |       |
|       | 15        | 20       | 1     |                  | SPARE                        |      | 0     |            | SPARE                     |              | 1  | 20       | 16       |       |
|       | 17        | 20       | 1     |                  | SPARE                        |      |       | 0          | SPARE                     |              | 1  | 20       | 18       |       |
|       | 19        | 20       | 1     |                  | SPARE                        | 0    |       |            | SPARE                     |              | 1  | 20       | 20       |       |
|       | 21        | 20       | 1     |                  | SPARE                        |      | 0     |            | SPARE                     |              | 1  | 20       | 22       |       |
|       | 23        | 20       | 1     |                  | SPARE                        |      |       | 0          | SPARE                     |              | 1  | 20       | 24       |       |
|       |           |          |       |                  | PHASE SUBTOTALS (VA)         | 2262 | 1094  | 1926       |                           |              |    |          |          |       |
|       |           |          |       |                  | PHASE TOTALS (KVA)           | 2.3  | 1.1   | 1.9        |                           |              |    |          |          |       |
|       |           |          |       |                  | PHASE TOTALS @ 120V (AMPS)   | 18.9 | 9.1   | 16.1       |                           |              |    |          |          |       |
| OTES: |           |          |       |                  |                              |      |       |            |                           |              |    |          |          |       |
| GEN   | PROVIDE ' | WITH INT | EGRAL | SURGE PROTECTIO  | DN                           |      |       |            |                           |              |    |          |          |       |
| 1     |           |          |       |                  |                              |      |       |            |                           |              |    |          |          |       |
| 2     |           |          |       |                  |                              |      |       |            |                           |              |    |          |          |       |
| 3     |           |          |       |                  |                              |      |       |            |                           |              |    |          |          |       |







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| HT AND<br>IE<br>ENT.<br>SLIENT'S<br>J-B.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |          | - | - | - | - | - | BY APR. DATE |
| PYRIGH<br>HE SAN<br>I CONS<br>SE AT (                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |          | - | - | - | - | • | APR.         |
| Y, COF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |          | - | - | - | - | - | ВУ           |
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| J-U-<br>OTI<br>SH/<br>AN)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |          | - | - | - | - | • | NO.          |

LAGOON IMPROVEMENTS PROJECT MT PLEASANT CITY

FILE: 
JUB PROJ. #:#######

DRAWN BY: KJB

DESIGN BY: RJK

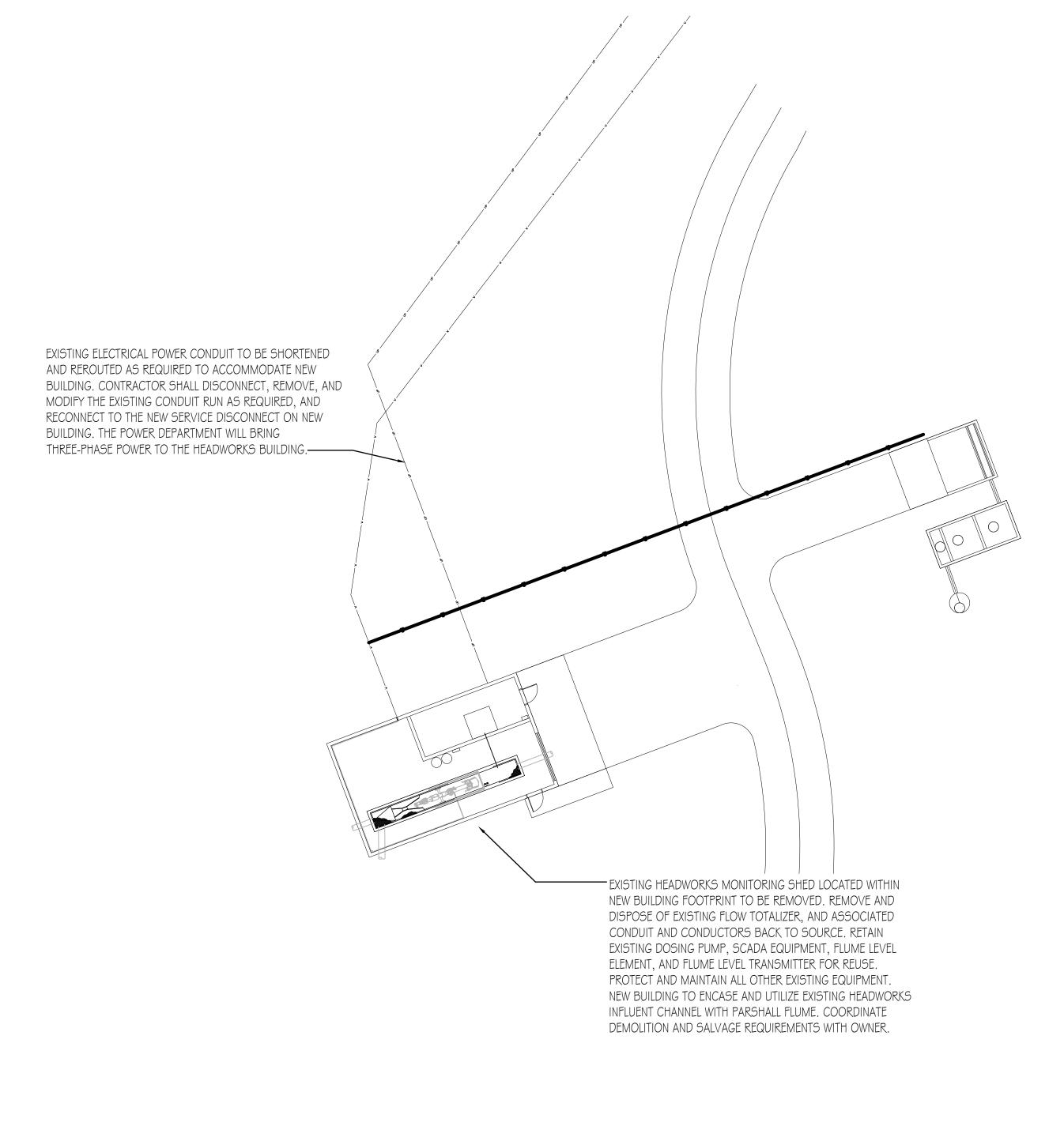
CHECKED BY: RJK

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AT FULL SIZE, IF NOT ONE INCH, SCALE ACCORDINGLY

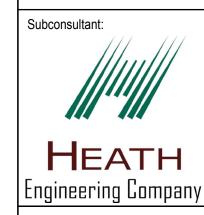
LAST UPDATED: 8/20/2025

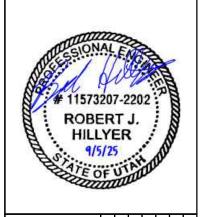
DRAWING:



SITE ELECTRICAL PLAN







| SHT AND<br>NME<br>NSENT.<br>T CLIENT'S<br>J-U-B.                                                                                                                                                                                                                                                                          |          | - | - | • | - |   | BY APR. DATE    |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---|---|---|---|---|-----------------|--|
| PYRIC<br>HE SA<br>N CON<br>BE AT<br>E TO                                                                                                                                                                                                                                                                                  |          | ٠ | • | • | - | - | APF             |  |
| Y, CO<br>ND TI<br>SITTEN<br>WILL<br>DSURI                                                                                                                                                                                                                                                                                 |          | • | 1 | 1 | 1 | 1 | ВУ              |  |
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|                                                                                                                                                                                                                                                                                                                           |          |   |   |   |   |   |                 |  |

LAGOON IMPROVEMENTS PROJECT MT PLEASANT CITY

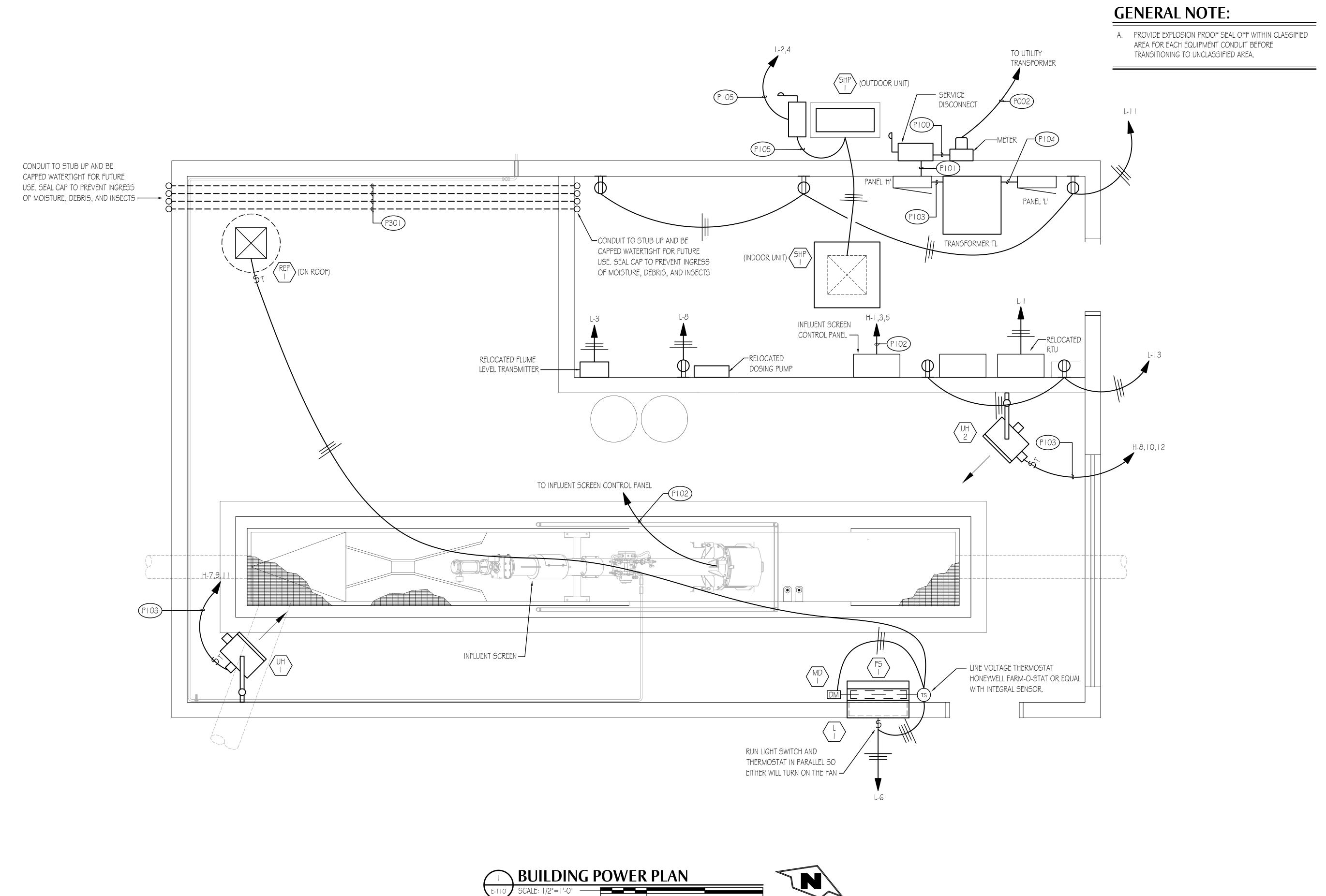
JUB PROJ. # : ########## DRAWN BY: KJB DESIGN BY: RJK CHECKED BY: RJK

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LAST UPDATED: 8/20/2025

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DRAWN BY: KJB

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LAGOON IMPROVEMENTS PROJECT MT PLEASANT CITY

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AT FULL SIZE, IF NOT ONE
INCH, SCALE ACCORDINGLY

LAST UPDATED: 8/20/2025

J-U-B ENGINEERS, INC.

J-U-B ENGINEERS, INC. 392. E. Winchester St., Suite 300 Salt Lake City, UT 84107 Phone: 801.547.0393 www.jub.com

HEATH

Engineering Company

ROBERT J.

HILLYER

Subconsultant:

DRAWING:

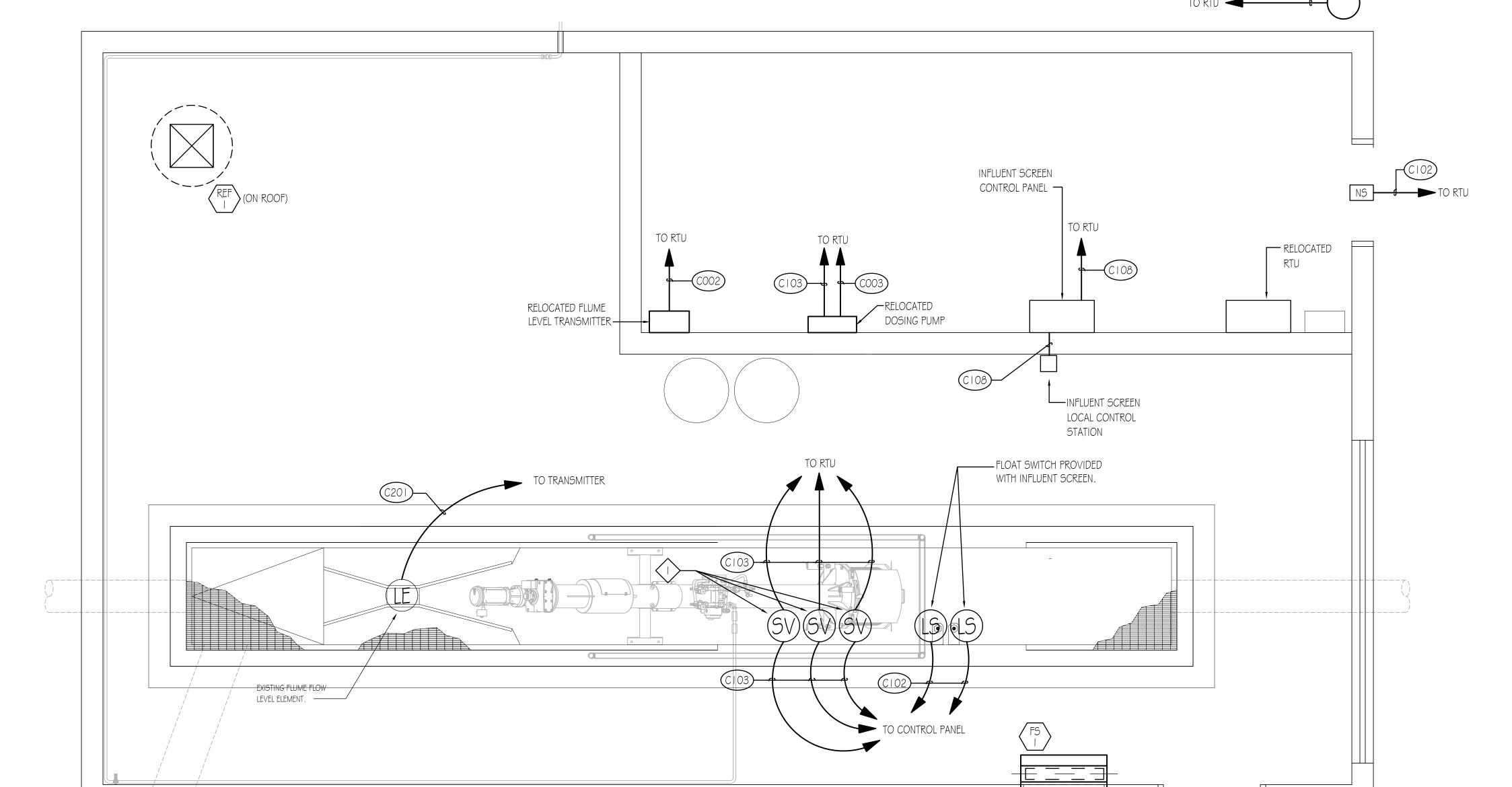
#### **GENERAL NOTE:**

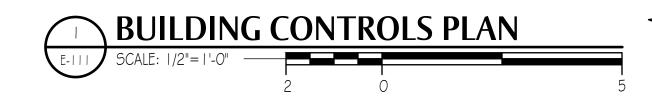
A. PROVIDE EXPLOSION PROOF SEAL OFF WITHIN CLASSIFIED AREA FOR EACH EQUIPMENT CONDUIT BEFORE TRANSITIONING TO UNCLASSIFIED AREA.

#### **DRAWING NOTES**

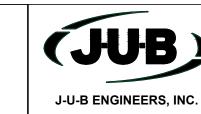
CELLULAR ANTENNA ----

3-ZONE WASH SYSTEM SOLENOID VALVE PROVIDED WITH INFLUENT SCREEN









J-U-B ENGINEERS, INC. 392. E. Winchester St., Suite 300 Salt Lake City, UT 84107 Phone: 801.547.0393 www.jub.com

Subconsultant:





| TH AND                                                         | AE<br>SENT.                                                                                                      | CLIENT'S                                                       | U-B.                                                        |          | - | - | - | - |   | DATE        |
|----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|-------------------------------------------------------------|----------|---|---|---|---|---|-------------|
| YRIG                                                           | IE SAN<br>CONS                                                                                                   | 3E AT (                                                        | TO J-                                                       |          | - | - | - | - | - | RY APR      |
| O. P.                                                          | NO TEN                                                                                                           | WILLE                                                          | SURE                                                        |          | - | 1 | - | - | - | ВУ          |
| REUSE OF DRAWINGS J.H.B SHALL BETAIN ALL COMMONTAW STATISTICAL | OTHER RESERVED RIGHTS OF THESE DRAWINGS, AND THE SAME SHALL NOT BE REUSED WITHOUT J-U-B'S PRIOR WRITTEN CONSENT. | ANY REUSE WITHOUT WRITTEN CONSENT BY J-U-B WILL BE AT CLIENT'S | SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO J-U-B. | REVISION | - | - | - | - | 1 | DESCRIPTION |
|                                                                | OT S                                                                                                             | AN)                                                            | SOL                                                         |          | - | - | - | - |   | S           |

LAGOON IMPROVEMENTS PROJECT
MT PLEASANT CITY
ELECTRICAL (E)

FILE: JUB PROJ. #: ########

DRAWN BY: KJB

DESIGN BY: RJK

CHECKED BY: RJK

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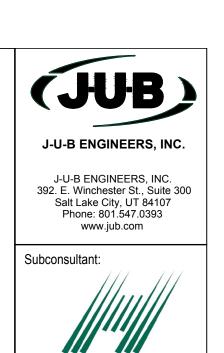
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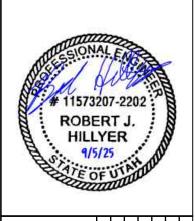
BUILDING GROUNDING PLAN

SCALE: 1/2"=1'-0"

BOND TO FOUNDATION REBAR (NON



CELLULAR ANTENNA ----



Engineering Company

| SHA<br>SHA<br>ANY<br>SOL | REUSE OF DRAWINGS J-U-B SHALL RETAIN ALL COMMON LAW, STATUTORY, COPYRIGHT AND OTHER RESERVED RIGHTS OF THESE DRAWINGS, AND THE SAME SHALL NOT BE REUSED WITHOUT J-U-B'S PRIOR WRITTEN CONSENT. ANY REUSE WITHOUT WRITTEN CONSENT BY J-U-B WILL BE AT CLIENT'S SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO J-U-B. | C, COF<br>ND TH<br>ITTEN<br>MILL E | YRIGH<br>IE SAN<br>I CONS<br>SE AT C | IT AND<br>E<br>ENT.<br>LIENT'S<br>J-B. |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|--------------------------------------|----------------------------------------|
|                          | REVISION                                                                                                                                                                                                                                                                                                                  |                                    |                                      |                                        |
| -                        |                                                                                                                                                                                                                                                                                                                           | -                                  | -                                    | -                                      |
| -                        | -                                                                                                                                                                                                                                                                                                                         | -                                  | -                                    | -                                      |
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| '                        | -                                                                                                                                                                                                                                                                                                                         |                                    | ,                                    | -                                      |
| Š.                       | DESCRIPTION                                                                                                                                                                                                                                                                                                               | ВУ                                 | BY APR.                              | DATE                                   |
|                          |                                                                                                                                                                                                                                                                                                                           |                                    |                                      |                                        |

LAGOON IMPROVEMENTS PROJECT
MT PLEASANT CITY

ELECTRICAL (E)
NEW HEADWORKS RILLI DING

FILE: 
JUB PROJ. #: ########

DRAWN BY: KJB

DESIGN BY: RJK

CHECKED BY: RJK

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LAST UPDATED: 8/20/2025

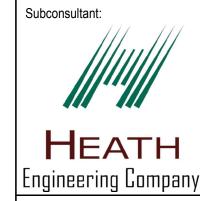
DRAWING:

#### **GENERAL NOTE:**

A. PROVIDE EXPLOSION PROOF SEAL OFF WITHIN CLASSIFIED AREA FOR EACH EQUIPMENT CONDUIT BEFORE TRANSITIONING TO UNCLASSIFIED AREA.



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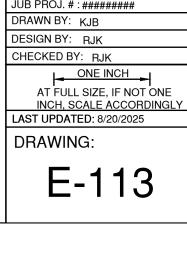


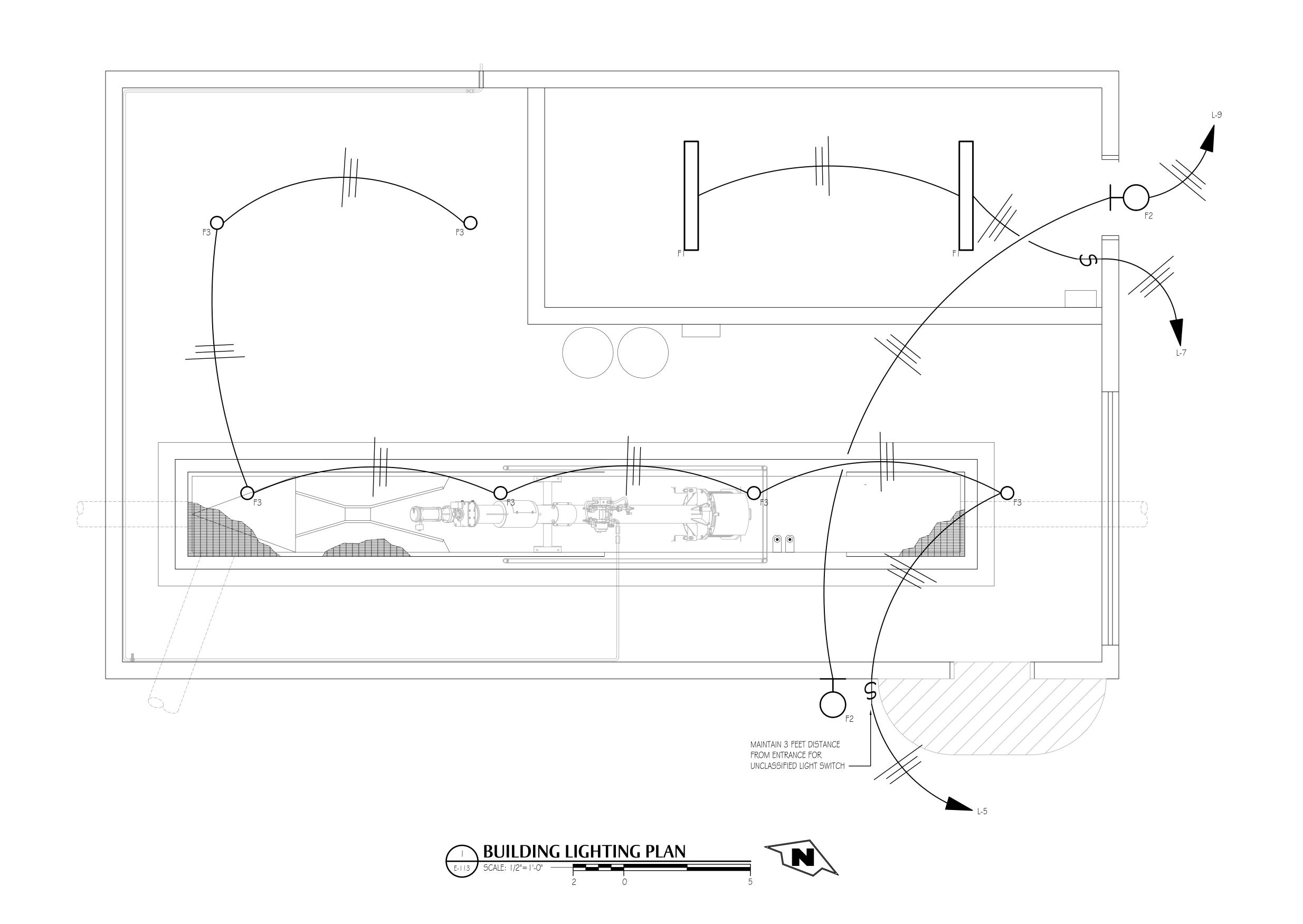
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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
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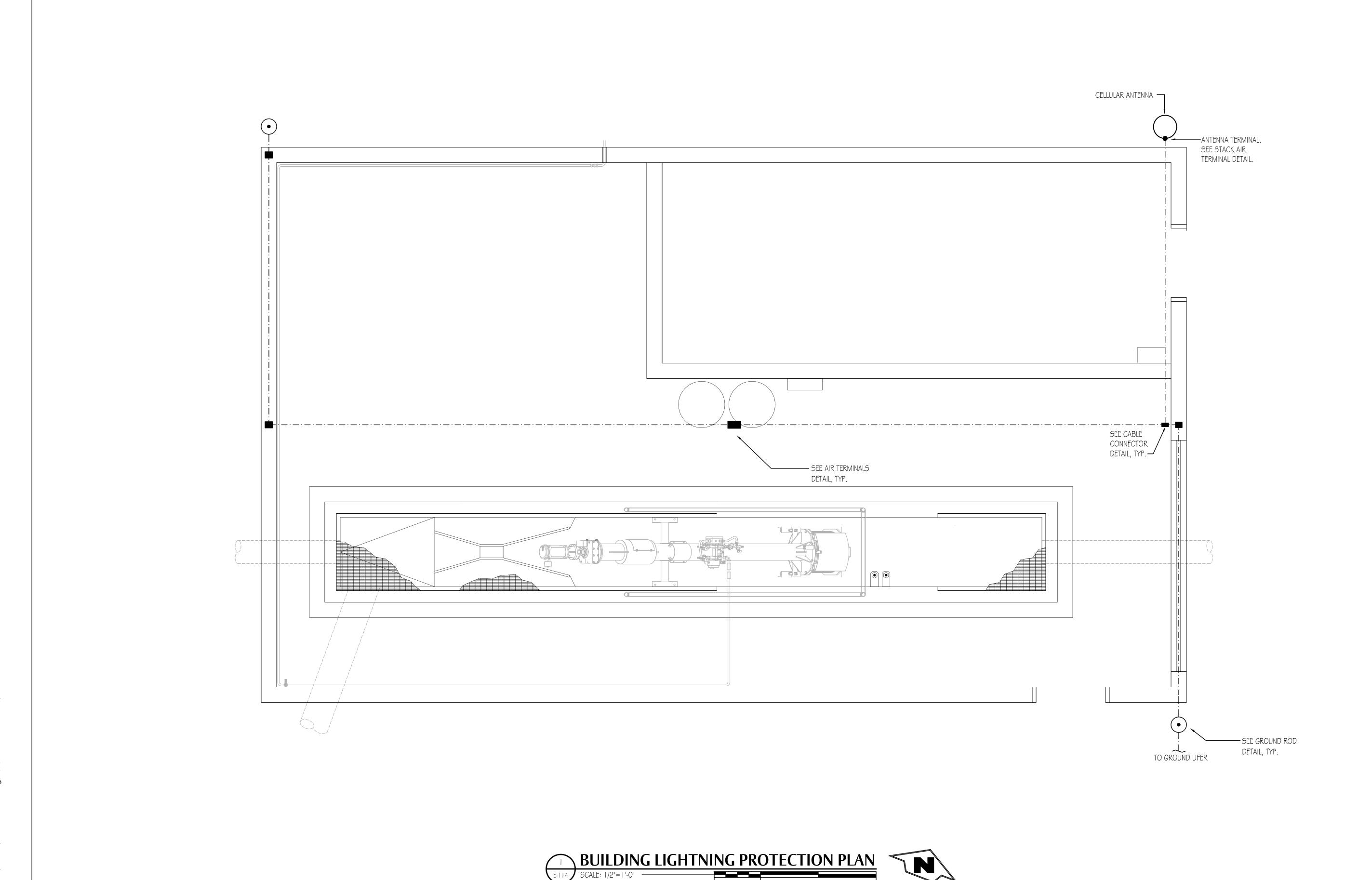
LAGOON IMPROVEMENTS PROJECT MT PLEASANT CITY

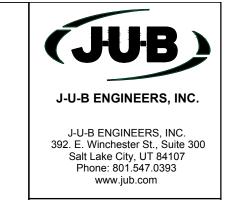
JUB PROJ. # : ######## DRAWN BY: KJB
DESIGN BY: RJK CHECKED BY: RJK

DRAWING:













| REUSE OF DRAWINGS  J-U-B SHALL RETAIN ALL COMMON LAW, STATUTORY, COPYRIGHT AND OTHER RESERVED RIGHTS OF THESE DRAWINGS, AND THE SAME SHALL NOT BE REUSED WITHOUT J-U-B'S PRIOR WRITTEN CONSENT.  ANY REUSE WITHOUT LIABILITY OR LEGAL EXPOSURE TO J-U-B.  REVISION                                 |                                                                                                                                                                                                                                              |          |   |   |   |   |   |                 |
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| SCHENCE OF DRAWINGS  J-U-B SHALL RETAIN ALL COMMON LAW, STATUTORY, COFOTHER RESERVED RIGHTS OF THESE DRAWINGS, AND THE SHALL NOT BE REUSED WITHOUT J-U-B'S PRIOR WRITTEN CONSENT BY J-U-B'S WILLE SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE                                                | YRIGH<br>IE SAM<br>CONS<br>SE AT C                                                                                                                                                                                                           |          | - | - | - | - | - | APR.            |
| REUSE OF DRAWINGS J-U-B SHALL RETAIN ALL COMMON LAW, STATUTORY OTHER RESERVED RIGHTS OF THESE DRAWINGS, A SHALL NOT BE REUSED WITHOUT J-L-B'S PRIOR WR ANY REUSE WITHOUT WRITTEN CONSENT BY J-L-B'S SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPC                                                  | Y, COF<br>ND TH<br>ITTEN<br>WILL E                                                                                                                                                                                                           |          | - | - | - | - | - | ВУ              |
|                                                                                                                                                                                                                                                                                                    | REUSE OF DRAWINGS J-U-B SHALL RETAIN ALL COMMON LAW, STATUTOF OTHER RESERVED RIGHTS OF THESE DRAWINGS., SHALL NOT BE REUSED WITHOUT J-U-B'S PRIOR WI ANY REUSE WITHOUT WRITTEN CONSENT BY J-U-B SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXP | REVISION | - |   | - | - | - | NO. DESCRIPTION |

LAGOON IMPROVEMENTS PROJECT MT PLEASANT CITY

JUB PROJ. # : ######## DRAWN BY: KJB DESIGN BY: RJK CHECKED BY: RJK ONE INCH

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INCH, SCALE ACCORDINGLY

LAST UPDATED: 8/20/2025

DRAWING:

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| HT AND<br>ME<br>SENT.<br>SLIENT'S<br>U-B.                                                                                                                                                                                                                                                                                 |          | - | - | - |   | • | BY APR. DATE |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---|---|---|---|---|--------------|
| PYRIGH<br>HE SAN<br>I CONS<br>SE AT (                                                                                                                                                                                                                                                                                     |          | - | - | - | - | - | APR.         |
| Y, COF                                                                                                                                                                                                                                                                                                                    |          | - | - | - | - | - | ВУ           |
| REUSE OF DRAWINGS J-U-B SHALL RETAIN ALL COMMON LAW, STATUTORY, COPYRIGHT AND OTHER RESERVED RIGHTS OF THESE DRAWINGS, AND THE SAME SHALL NOT BE REUSED WITHOUT J-U-B'S PRIOR WRITTEN CONSENT. ANY REUSE WITHOUT WRITTEN CONSENT BY J-U-B WILL BE AT CLIENT'S SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO J-U-B. | REVISION | - | - | - | - | - | DESCRIPTION  |
| SH. SO.                                                                                                                                                                                                                                                                                                                   |          |   |   | ı |   |   | Š.           |

LAGOON IMPROVEMENTS PROJECT MT PLEASANT CITY

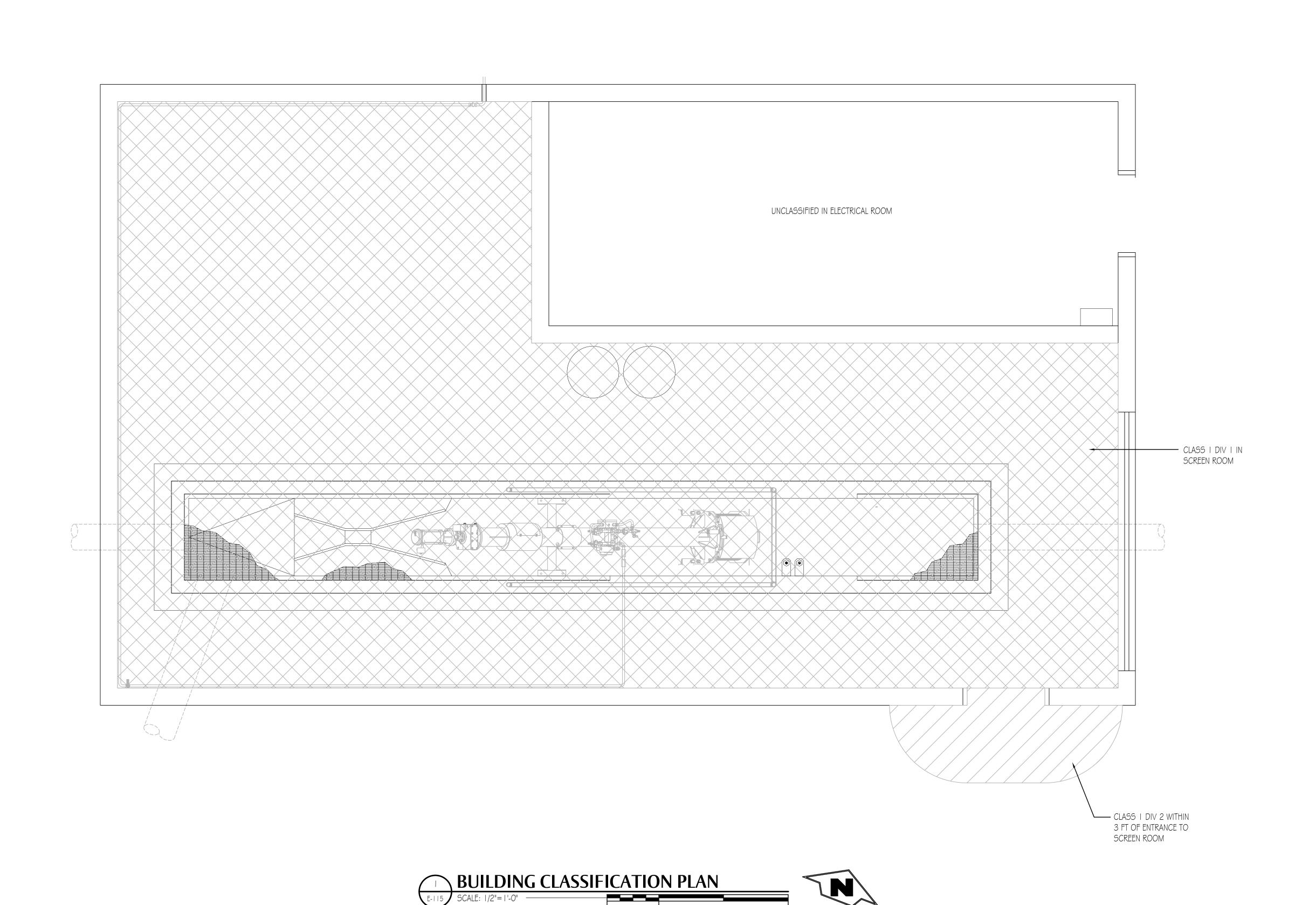
JUB PROJ. #:######## DRAWN BY: KJB DESIGN BY: RJK CHECKED BY: RJK

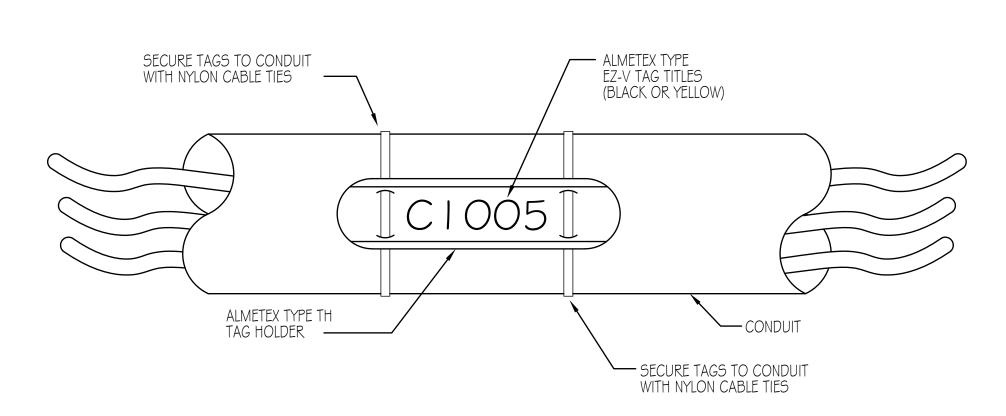
ONE INCH

AT FULL SIZE, IF NOT ONE
INCH, SCALE ACCORDINGLY

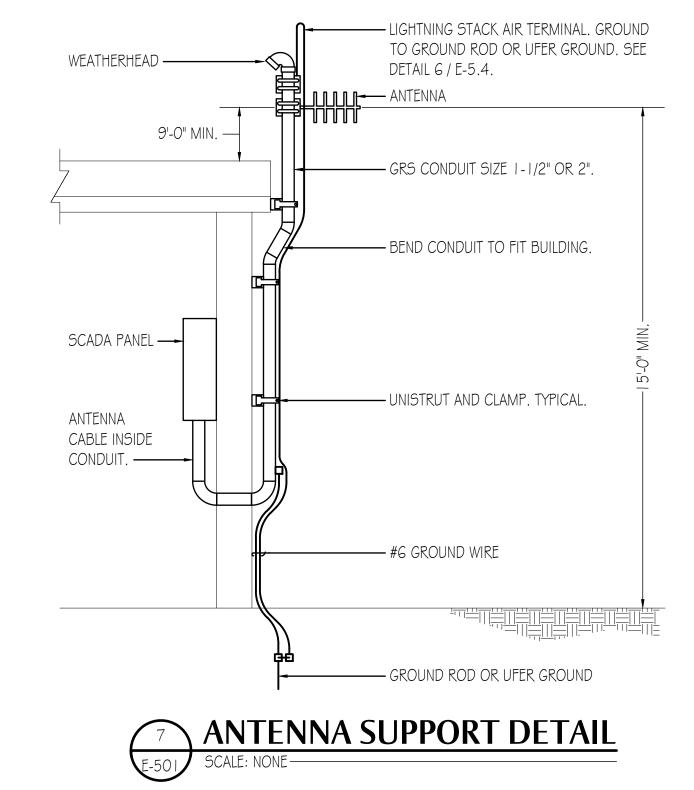
LAST UPDATED: 8/20/2025

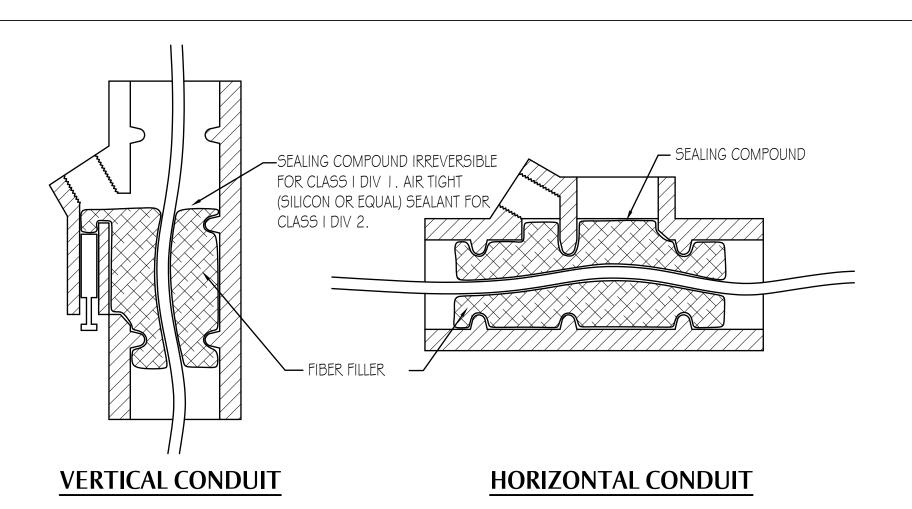
DRAWING:



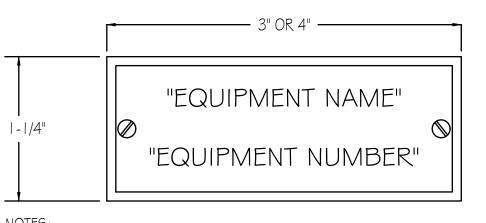








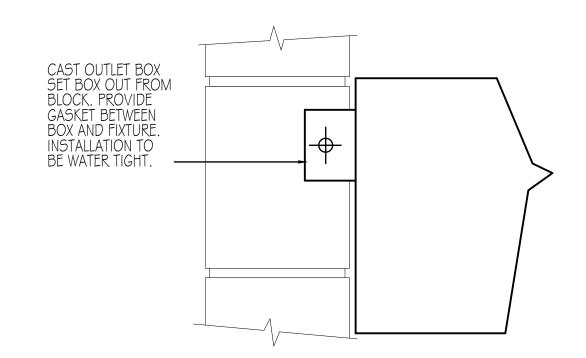
## TYPICAL CONDUIT SEAL DAMMING AND POURING SCALE: NONE



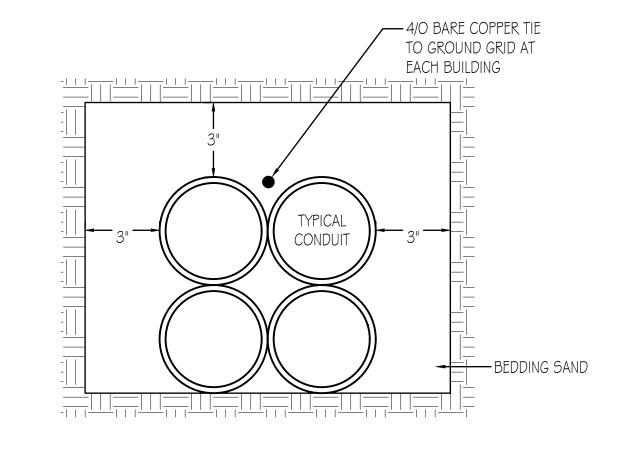
#### NOTES:

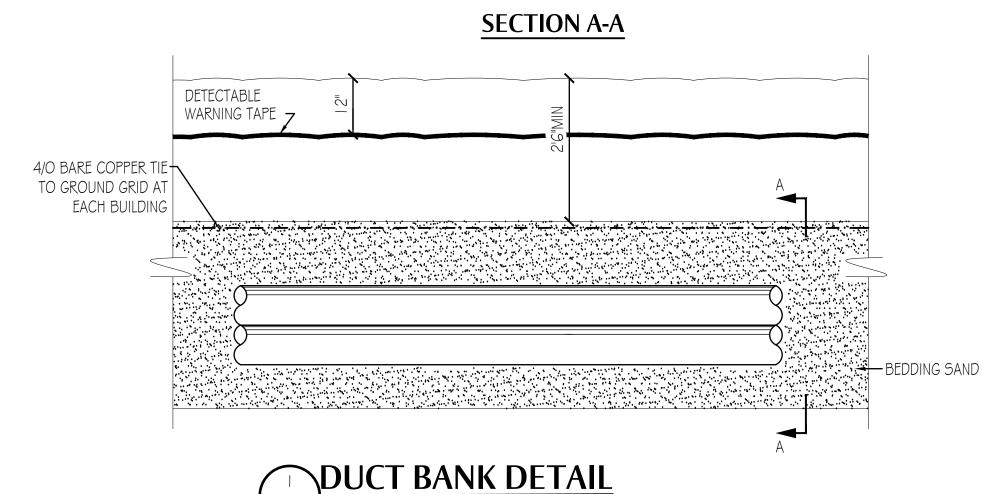
- I. ALL LETTERS TO BE 1/4" UNLESS NOTED OTHERWISE.
- 2. ALL NAMEPLATES TO BE MOUNTED ON THE VERTICAL CENTERLINE OF THE CUBICAL OR DEVICE.
- 3. ATTACH ALL NAMEPLATES WITH STAINLESS STEEL SCREWS.
- 4. PROVIDE BLANK NAMEPLATES FOR ALL SPARE AND FUTURE DEVICES.

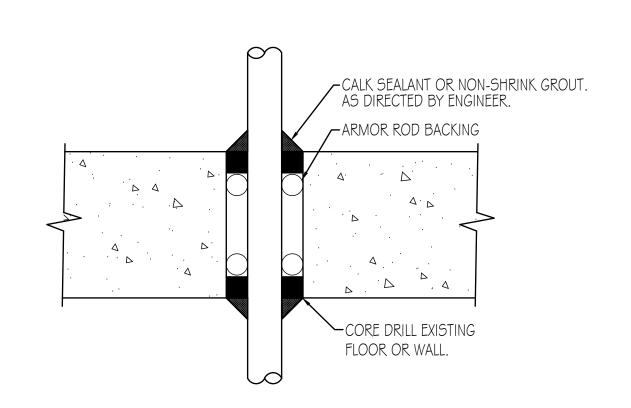




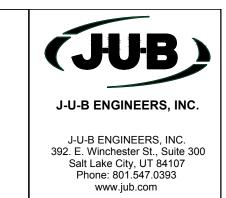


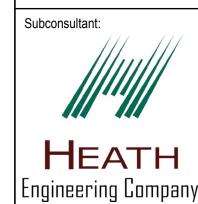














| T AND<br>E<br>ENT.<br>LIENT'S<br>J-B.                                                                                                                                                                                                                                                                                     |          | - | - |   | -        |   | DATE           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---|---|---|----------|---|----------------|
| PYRIGH<br>HE SAM<br>I CONSI<br>SE AT C                                                                                                                                                                                                                                                                                    |          | - | - | - | -        |   | BY APR.        |
| 7, COF<br>ND TH<br>ITTEN<br>WILL E                                                                                                                                                                                                                                                                                        |          | - | - | - | -        | - | ВУ             |
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| 70040                                                                                                                                                                                                                                                                                                                     |          | ' | ' | Ľ | <u> </u> | ' | Š.             |
|                                                                                                                                                                                                                                                                                                                           |          |   |   |   |          |   |                |

LAGOON IMPROVEMENTS PROJECT
MT PLEASANT CITY
ELECTRICAL (E)
NEW HEADWORKS BUILDING

FILE: 
JUB PROJ. #:########

DRAWN BY: KJB

DESIGN BY: RJK

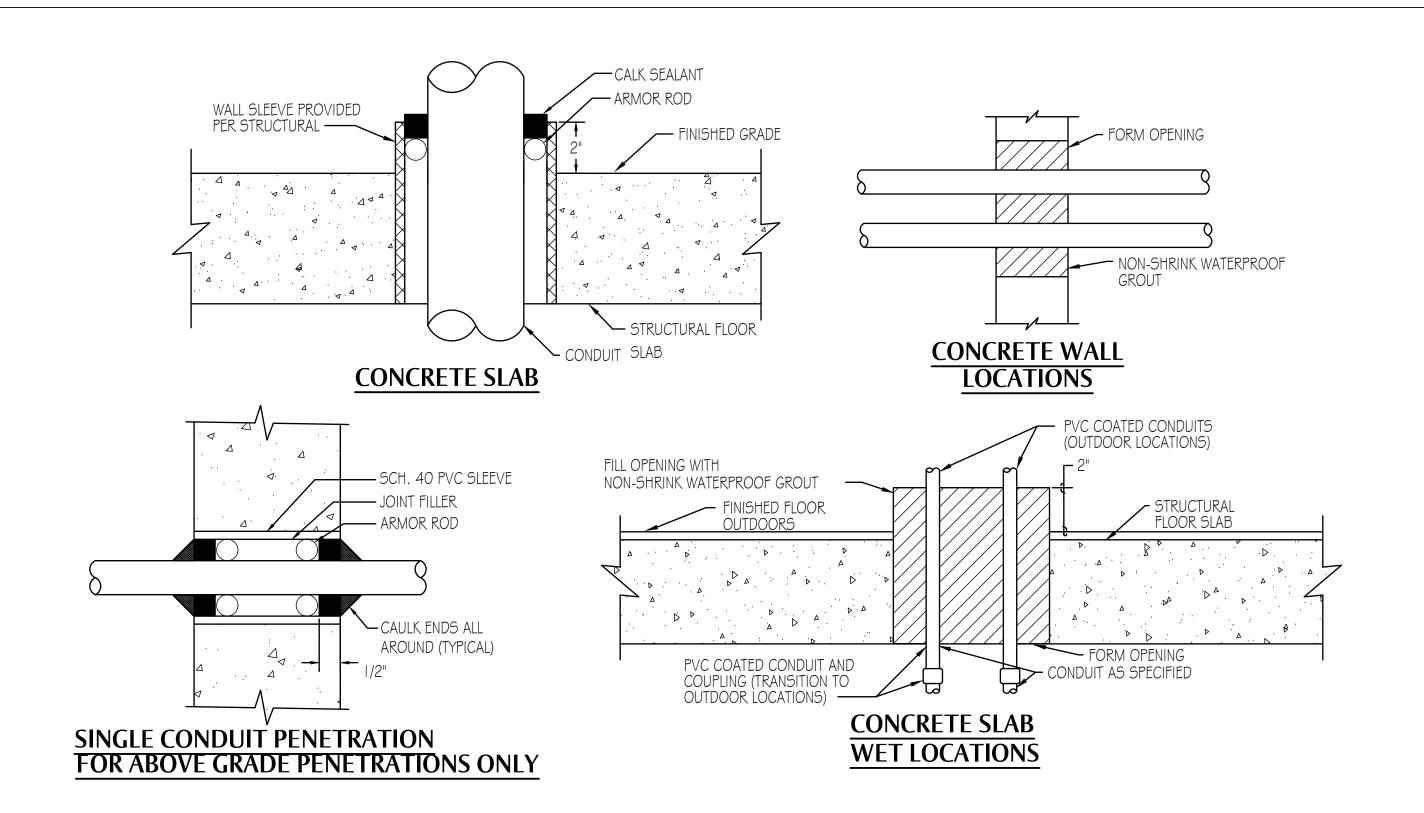
CHECKED BY: RJK

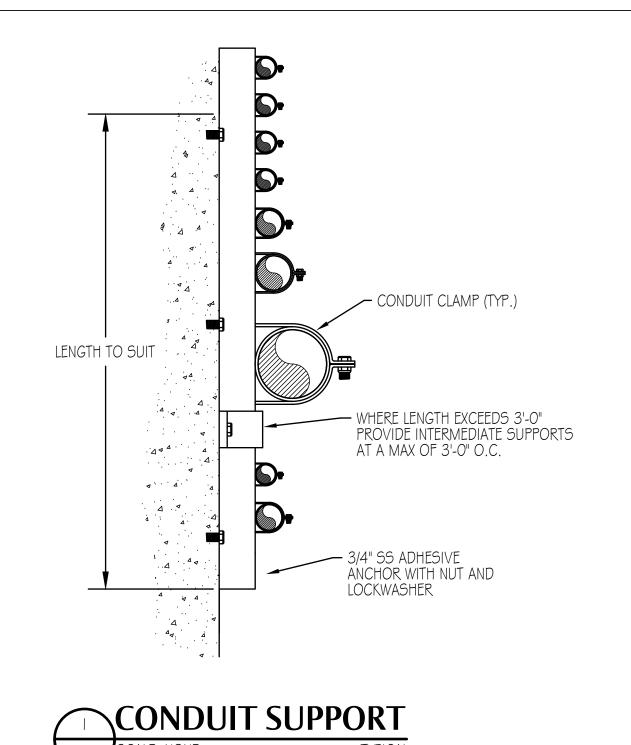
ONE INCH
AT FULL SIZE, IF NOT ONE
INCH, SCALE ACCORDINGLY

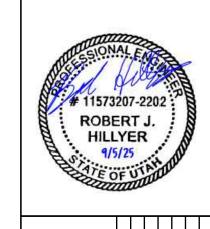
LAST UPDATED: 8/20/2025

E-501

DRAWING:







J-U-B ENGINEERS, INC.

J-U-B ENGINEERS, INC. 392. E. Winchester St., Suite 300 Salt Lake City, UT 84107 Phone: 801.547.0393

www.jub.com

HEATH

Engineering Company

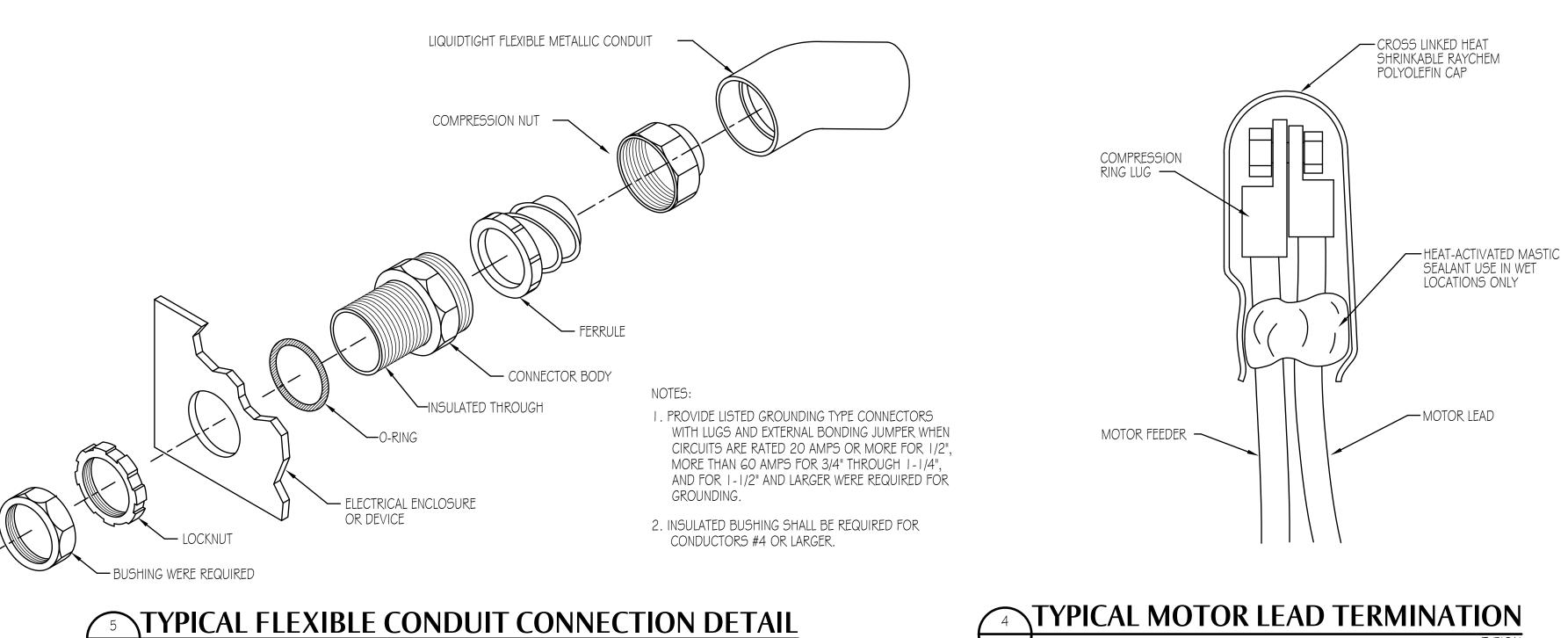
Subconsultant:

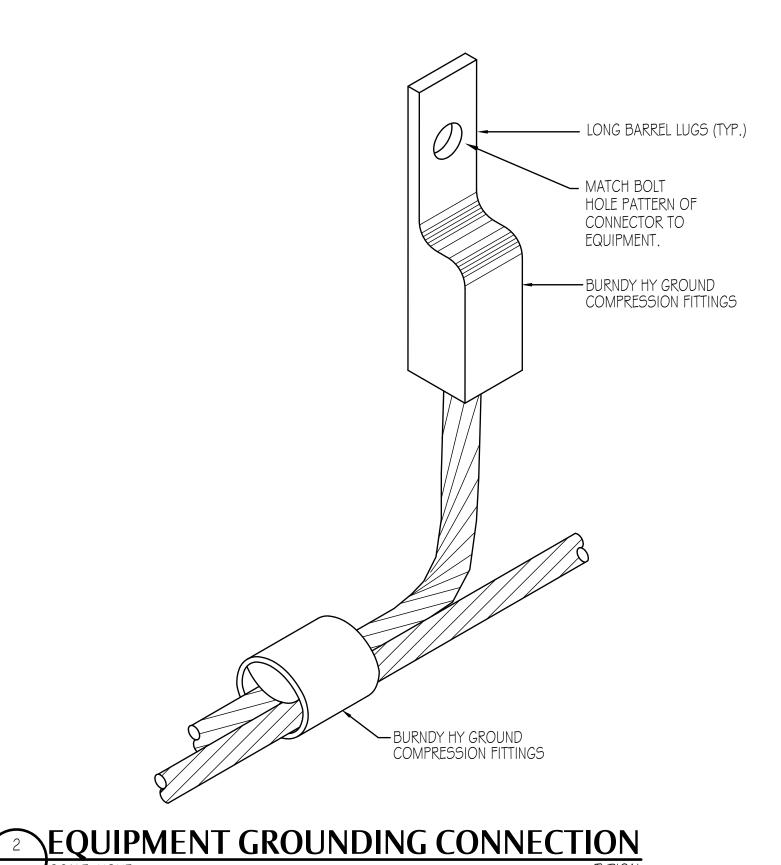
| PYRIGHT AND<br>HE SAME<br>N CONSENT.<br>BE AT CLIENT'S<br>E TO J-U-B.                                                                                                                                                                                                                                                     |          |   |   | - | - |    | RV APR DATE |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---|---|---|---|----|-------------|
| Y, CO<br>ND TH<br>ITTEN<br>WILL                                                                                                                                                                                                                                                                                           |          | - | - | - |   | ١. | Α.          |
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| SHA<br>AN)                                                                                                                                                                                                                                                                                                                |          | - | - | - |   | ١. | 2           |
|                                                                                                                                                                                                                                                                                                                           |          |   |   |   |   |    |             |

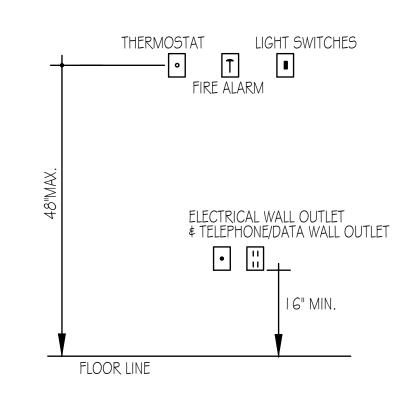
LAGOON IMPROVEMENTS PROJECT MT PLEASANT CITY

JUB PROJ. # : ######## DRAWN BY: KJB DESIGN BY: RJK CHECKED BY: RJK ONE INCH AT FULL SIZE, IF NOT ONE INCH, SCALE ACCORDINGLY
LAST UPDATED: 8/20/2025 DRAWING:

TYPICAL ABOVE GROUND CONDUIT PENETRATIONS FOR NEW WALLS/FLOORS







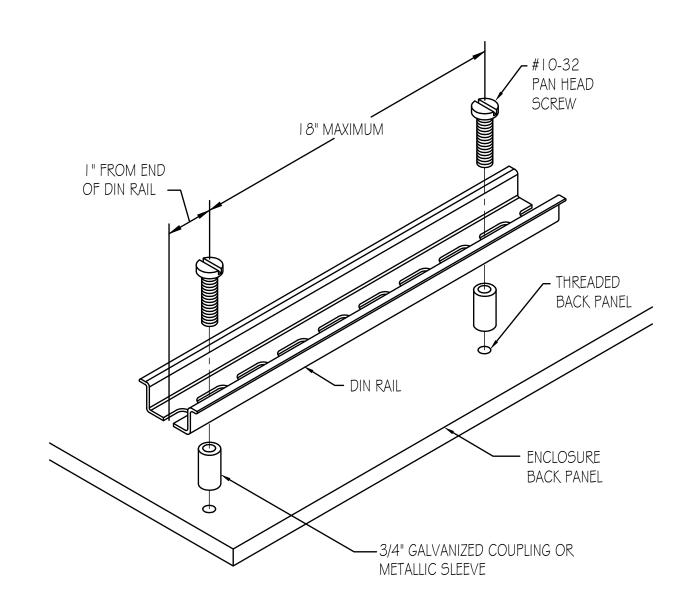
## - 3/4" GROUND ROD ROD TYPE EXOTHERMIC CONNECTOR

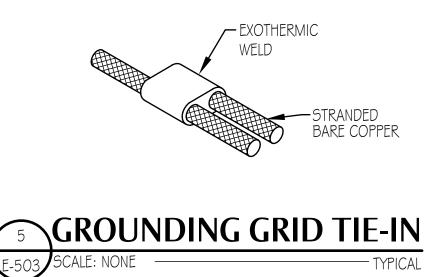
CABLE TO ROD CONNECTION DETAIL

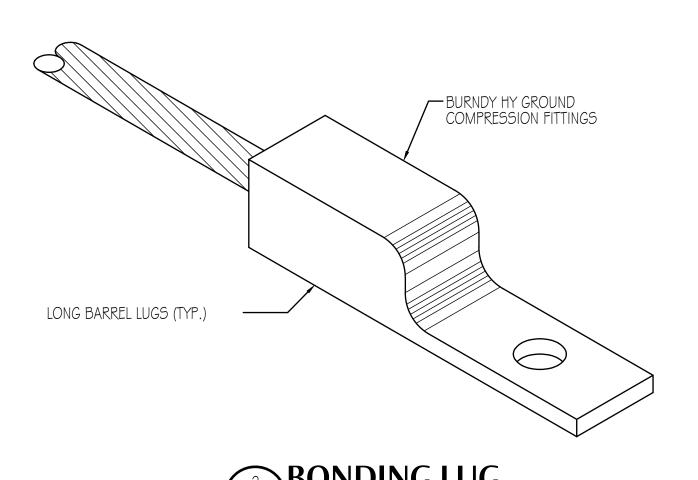
## - SLAB ON GRADE MAX. I" CONDUIT — I" CLEAR MIN. I" COVER MIN. I " CONDUIT OR LARGER METALLIC OR NON-METALLIC —



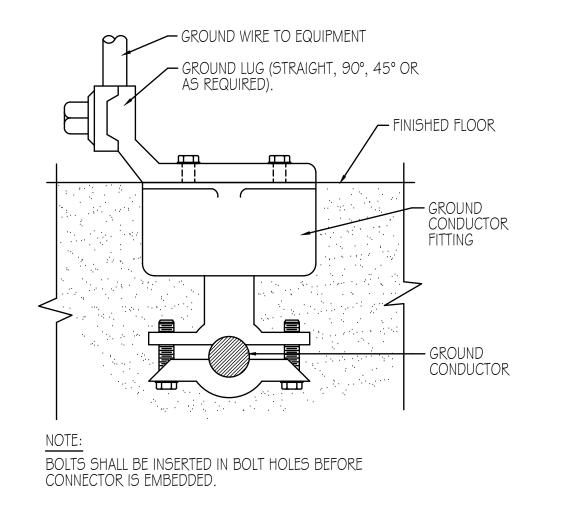
## MOUNTING HEIGHTS FOR ELECTRICAL DEVICES

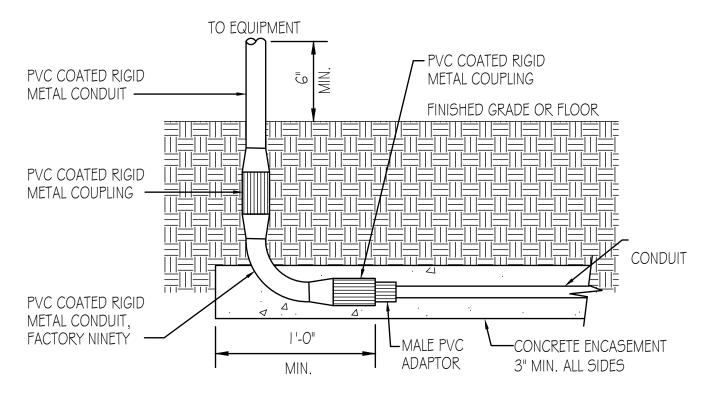






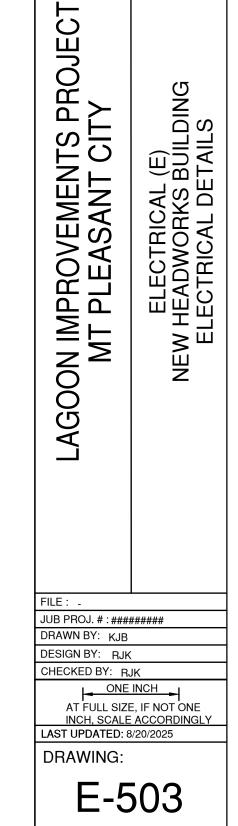












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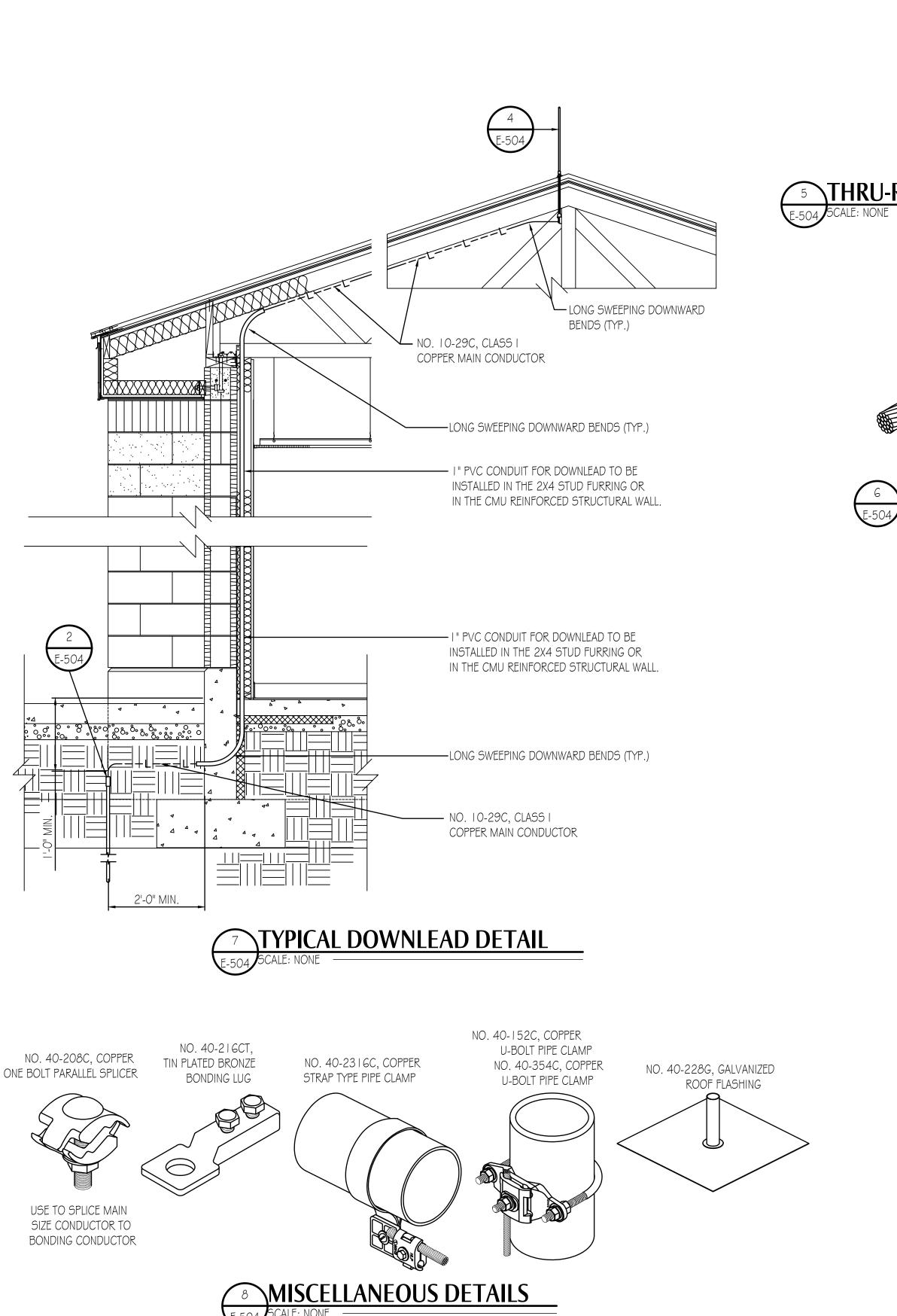
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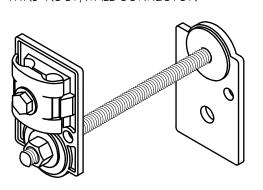
Engineering Company

HILLYER

Subconsultant:



NO. 40-22618BM, BI-METAL THRU-ROOF/WALL CONNECTOR



**\THRU-ROOF/WALL CONNECTOR** 

NO. 40-206C, COPPER ONE BOLT PARALLEL SPLICER ISE TO SPLICE MAIN SIZE CONDUCTOR TO MAIN SIZE CONDUCTOR

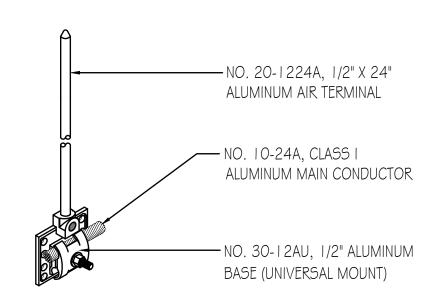
CABLE CONNECTOR

#### **LEGEND**

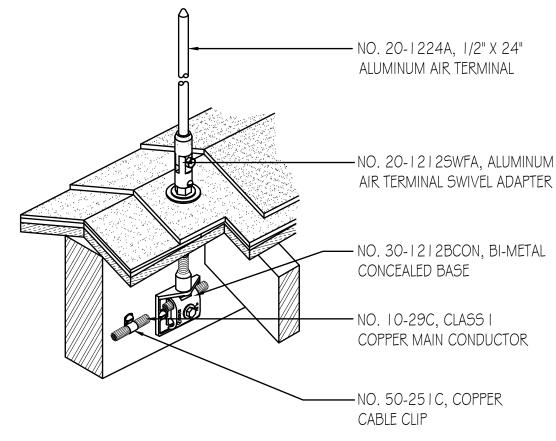
- AIR TERMINAL AND BASE ASSEMBLY
- MECHANICAL CONNECTION
- THRU-ROOF CONNECTION
- THRU-WALL CONNECTION
- COPPER LIGHTNING PROTECTION CONDUCTOR
- ———— ALUMINUM LIGHTNING PROTECTION CONDUCTOR
- GROUND ROD
- MISCELLANEOUS BOND

- NO. 10-29C, CLASS I COPPER MAIN CONDUCTOR - NO. 60-301, BRONZE GROUND ROD CLAMP -NO. 60-5810, 5/8" X 10' COPPER CLAD GROUND ROD





### 3 STACK AIR TERMINAL



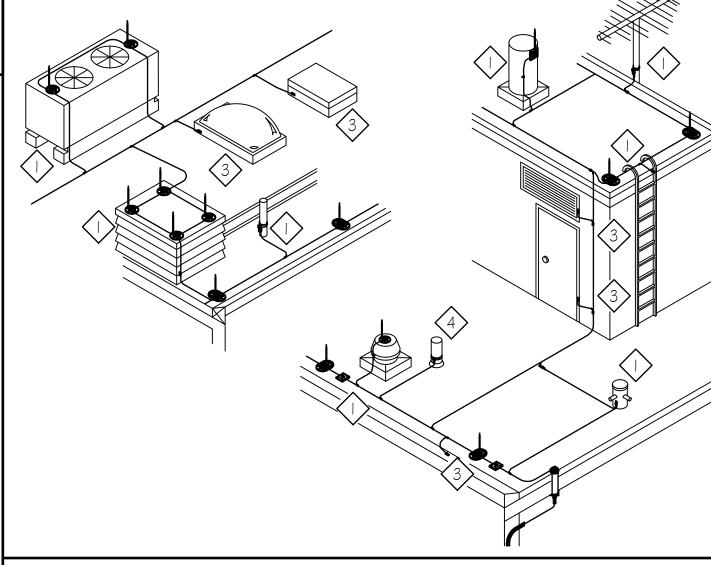
**\RIDGE AIR TERMINAL** 

#### **GENERAL CONSTRUCTION NOTES**

THIS DRAWING IS INTENDED FOR USE AS A CONSTRUCTION DOCUMENT. FIELD VERIFY ACTUAL CONDITIONS PRIOR TO CONSTRUCTION. CONTACT ENGINEER TO CLARIFY ANY DISCREPANCIES.

#### **GENERAL BONDING NOTES**

- TYPICAL BODIES OF CONDUCTANCE AS NOTED BELOW. USE FULL SIZE CONDUCTOR AND APPROPRIATE FITTING SHOWN FOR CONNECTION.
- BONDING CONNECTIONS AND FITTINGS SHOWN ARE TYPICAL EXAMPLES. MAKE ALL CONNECTIONS REQUIRED TO MEET CODES AS NOTED BELOW. ADJUST FITTING TYPE AS REQUIRED TO SUIT FIELD CONDITIONS.
- TYPICAL BODIES OF INDUCTANCE AS NOTED BELOW. USE SECONDARY SIZE (SMALLER) CONDUCTOR AND APPROPRIATE FITTING SHOWN FOR CONNECTION.
- | Engineering Company (PLUMBING STACK) REQUIRES BONDING WITH MAIN SIZE CABLE ONLY IF WITHIN 6'-O" (1,828mm) OF LIGHTNING



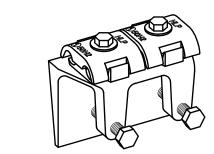
#### **GENERAL INSTALLATION NOTES**

- LOCATE AIR TERMINALS AS SHOWN. TAKE CARE TO INSURE THAT ALL POINTS ARE WITHIN 2'-O" (609mm) OF OUTSIDE BUILDING EDGE, OUTSIDE CORNERS, RIDGE ENDS, AND THAT MAX SPACING DOES NOT EXCEED 20'-C (6,096mm), AND THAT MIN PROJECTION ABOVE OBJECT PROTECTED IS 10" (254mm); POINTS PROJECTING 24' (609mm) MAY BE SPACED @ 25'-0" (7,520mm) MAX.
- MAINTAIN HORIZONTAL OR DOWNWARD COURSING OF MAIN CONDUCTOR. INSURE THAT ALL BENDS HAVE AT LEAST AN 8" (203mm) RADIUS AND DO NOT EXCEED 90 DEGREES.
- 3 ATTACH ALL EXPOSED ROOF, DOWN LEAD AND BONDING CABLES AT 3'-0" (9 I 4mm) ON CENTER MAX. VERIFY COMPATIBILITY OF ADHESIVE ON MEMBRANE ROOF APPLICATIONS PRIOR TO INSTALLATION.
- GROUND ELECTRODES SHALL BE INSTALLED AS SHOWN, BUT IN NO INSTANCE SHALL THEY BE LESS THAN 1'-(304mm) BELOW GRADE AND 2'-0" (609mm) FROM FOUNDATION WALL. DRIVEN RODS SHALL PENETRATE THE EARTH AT LEAST 10'-0" (3,048mm).
- BOND TO WATER SERVICE AND OTHER PIPING SYSTEMS AS SHOWN AND AS REQUIRED BY CODE.
- NTERCONNECT LIGHTNING PROTECTION GROUND TO ELECTRIC, TELEPHONE, AND OTHER BUILDING GROUND SYSTEMS AS SHOWN OR AS REQUIRED BY CODE.
- SYSTEM SHALL BE INSTALLED AS REQUIRED TO INSURE PROPER CODE COMPLIANCE AND SYSTEM CERTIFICATION. ANY MAJOR INSTALLATION VARIANCE SHALL BE RESUBMITTED FOR APPROVAL.
- RECORD DOCUMENTS SHALL BE SUBMITTED IN ACCORDANCE WITH CERTIFICATION PROCEDURES.
- (3,048mm) INTERVALS AND "B" LABELS ON ALL AIR TERMINALS. COMPLETED INSTALLATION SHALL BEAR U.L. MASTER LABEL "C" TO BE SECURED BY SYSTEM INSTALLER PER

.LL MATERIALS TO BE UNDERWRITER'S LABORATORIES APPROVED WITH "A" LABELS ON CONDUCTORS @ 10'-

INSTALLATION SHALL BE MADE UNDER THE SUPERVISION OF AN L.P.I. CERTIFIED MASTER INSTALLER.





STEEL CONNECTION



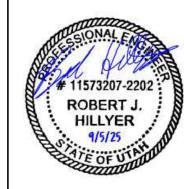
J-U-B ENGINEERS, INC. 392. E. Winchester St., Suite 300 Salt Lake City, UT 84107 Phone: 801.547.0393

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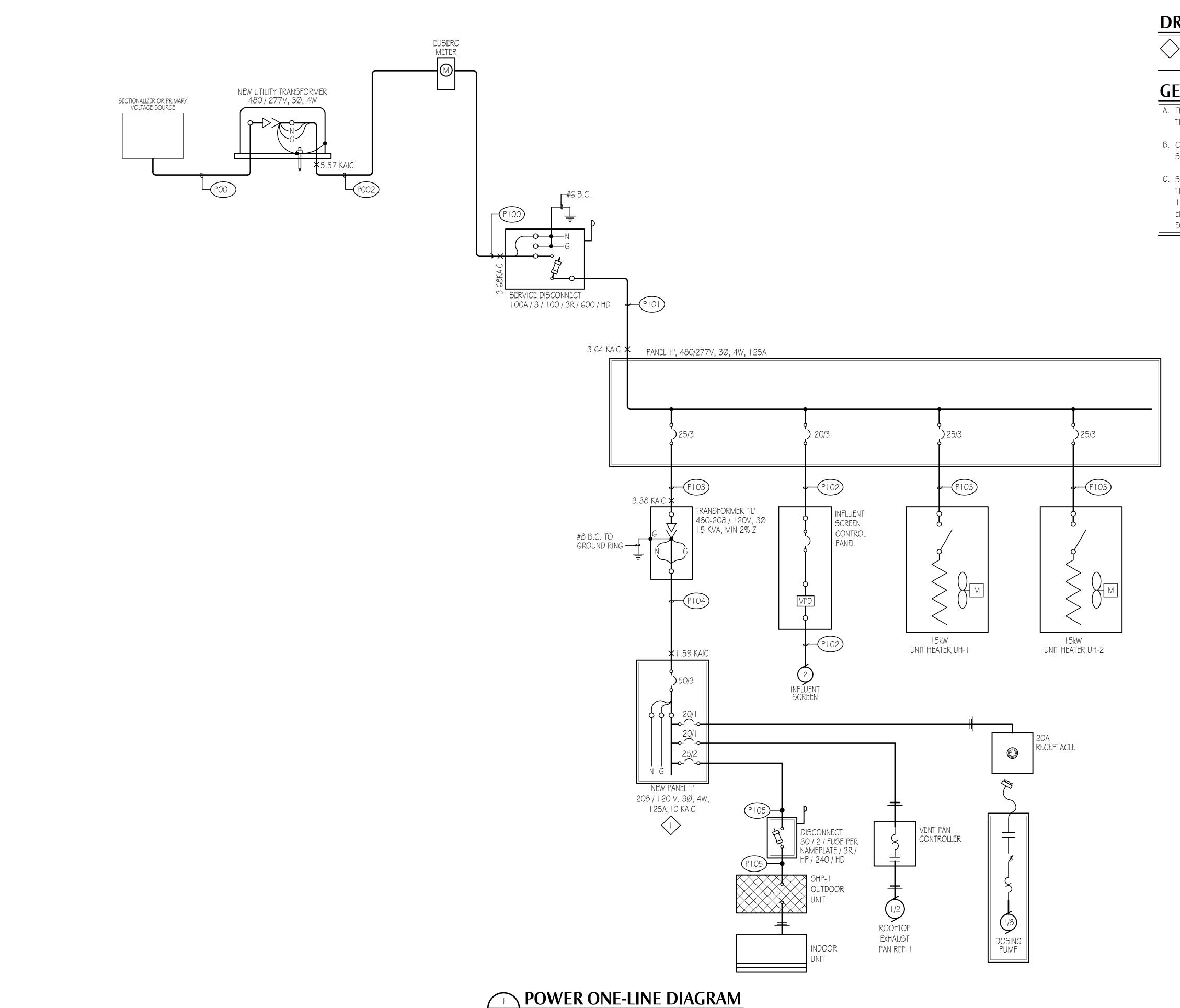


PROJE ELECTRICAL (E) NEW HEADWORKS BUILDING ELECTRICAL DETAILS ON IMPROVEMENTS
MT PLEASANT CIT

JUB PROJ. #:####### DRAWN BY: KJB DESIGN BY: RJK CHECKED BY: RJK

ONE INCH AT FULL SIZE, IF NOT ONE INCH, SCALE ACCORDINGLY LAST UPDATED: 8/20/2025

DRAWING:



#### **DRAWING NOTES**

SEE PANEL SCHEDULE FOR ADDITIONAL LOADS

#### **GENERAL NOTES**

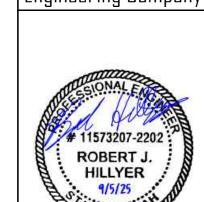
- A. THERE ARE NO HAZARDOUS (CLASSIFIED) LOCATIONS WITHIN THIS PROJECT.
- B. COMPLETED WIRING INSTALLATION SHALL BE FREE FROM SHORT CIRCUITS AND GROUND FAULTS.
- C. SERVICE EQUIPMENT SHALL BE MARKED IN THE FIELD WITH THE AVAILABLE FAULT CURRENT IN ACCORDANCE WITH NEC I 10.24. ALSO REFER TO SPECIFICATION 26 05 07-ELECTRICAL POWER SYSTEM STUDIES FOR FAULT CURRENT EQUIPMENT MARKING REQUIREMENTS.



Subconsultant:

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HEATH Engineering Company



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|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---|---|---|---|---|-----------------|
| REUSE OF DRAWINGS J-U-B SHALL RETAIN ALL COMMON LAW, STATUTORY, COPYRIGHOTHER RESERVED RIGHTS OF THESE DRAWINGS, AND THE SAM SHALL NOT BE REUSED WITHOUT J-U-B'S PRIOR WRITTEN CONS ANY REUSE WITHOUT WRITTEN CONSENT BY J-U-B WILL BE ATC SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO J-I-I-I-I-I-I-I-I-I-I-I-I-I-I-I-I-I-I-I | IT AND<br>E<br>ENT.<br>SLIENT'S<br>J-B.                                                                                                                                                                                                       |          | - | - | - | - |   | DATE            |
| REUSE OF DRAWINGS J-U-B SHALL RETAIN ALL COMMON LAW, STATUTORY, COF OTHER RESERVED RIGHTS OF THESE DRAWINGS, AND TH SHALL NOT BE REUSED WITHOUT J-U-B'S PRIOR WRITTEN ANY REUSE WITHOUT WRITTEN CONSENT BY J-U-B WILL E SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE                                                               | YRIGH<br>IE SAM<br>I CONS<br>SE AT C                                                                                                                                                                                                          |          | - | - | - | - | - | APR.            |
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| Z                                                                                                                                                                                                                                                                                                                                       | REUSE OF DRAWINGS J-U-B SHALL RETAIN ALL COMMON LAW, STATUTOR OTHER RESERVED RIGHTS OF THESE DRAWINGS, A SHALL NOT BE REUSED WITHOUT J-U-B'S PRIOR WE ANY REUSE WITHOUT WRITTEN CONSENT BY J-U-B SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXP | REVISION |   | - |   | - |   | IO. DESCRIPTION |
|                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                               |          |   |   |   |   |   | ᆸ               |

LAGOON IMPROVEMENTS PROJECT MT PLEASANT CITY

JUB PROJ. # : ######### DRAWN BY: KJB DESIGN BY: RJK CHECKED BY: RJK

ONE INCH

AT FULL SIZE, IF NOT ONE
INCH, SCALE ACCORDINGLY

LAST UPDATED: 8/20/2025

DRAWING:

#### **AIR FLOW DESIGN NOTES**

I 2 AC / HOUR WHILE OCCUPIED OR WHEN SPACE TEMP > SET POINT.

SCREENING ROOM VOLUME 6,400 FT<sup>3</sup> 12 AC / HOUR = 1,300 CFM

| N.O.         | NORMALLY OPEN                               |
|--------------|---------------------------------------------|
| N.C.         | NORMALLY CLOSED                             |
| AO           | ANALOG OUTPUT                               |
| Al           | ANALOG INPUT                                |
| <br>DO       | DIGITAL OUTPUT                              |
| DI           | DIGITAL INPUT                               |
|              | NEW CONNECTION                              |
|              | SUPPLY DUCT (CROSS SECTION)                 |
|              | RETURN AIR OR EXHAUST DUCT (CROSS SECTION)  |
| <u>a</u>     | ROUND DUCT (CROSS SECTION)                  |
| 24"x12"      | DUCT SIZE, INSIDE CLEAR DIMENSION IN INCHES |
|              | DROP OR RISE IN SUPPLY DUCT                 |
| Parks        | TURNING VANES IN DUCT                       |
| H.D.         | HAND DAMPER                                 |
| — <b>—</b> ► | SUPPLY AIR DIRECTION OR OUTSIDE AIR         |
|              | RETURN AIR OR EXHAUST DIRECTION             |
| - 🗆 —        | SUPPLY DIFFUSER                             |
|              | RETURN AIR GRILLE                           |
|              | EXHAUST GRILLE                              |
|              | SIDEWALL SUPPLY DIFFUSER                    |
| A.M.         | SIDEWALL RETURN OR EXHAUST GRILLE           |
| 井            | BRANCH DUCT TAKE-OFF                        |
| <u> </u>     | OPPOSED BLADE DAMPER                        |
| 6 p p p p    | PARALLEL BLADE DAMPER                       |
| O.A.         | OUTSIDE AIR                                 |
| R.A.         | RETURN AIR                                  |
| S.A.         | SUPPLY AIR                                  |
| E.A.         | EXHAUST AIR                                 |
| V.A.         | VENTILATION AIR                             |
| $\bigcirc$   | THERMOSTAT                                  |
| <u>(S)</u>   | WALL SENSOR                                 |
| SD           | SMOKE DETECTOR                              |
| —s—          | REFRIGERANT SUCTION LINE                    |
| L            | REFRIGERANT LIQUID LINE                     |
| Τ            | DUCT/PIPE THERMOSTAT, REMOTE BULB           |
| R            | RELAY                                       |
| T            | THERMOSTAT                                  |
| ©            | HOLDING COILING-MOTOR STARTER OR AUX. RELAY |
| M            | MAIN AIR                                    |
| <del></del>  | NIGHT SETBACK THERMOSTAT                    |

## ELECTRIC UNIT HEATER SCHEDULE

| SYMBOL   | BTUH   | NOMINAL |       | ELEC | TRICAL DAT | Ā    |    | MARKEL    | DUTY          | REMARKS                                                                   |
|----------|--------|---------|-------|------|------------|------|----|-----------|---------------|---------------------------------------------------------------------------|
| STIVIDOL | ווטוט  | CFM     | VOLTS | HZ   | PHASE      | AMPS | KW | MODEL     | DUTT          | KLIVIANO                                                                  |
| UH-I     | 51,200 | 2,450   | 480   | 60   | 3          | 19   | 15 | HLA 20-48 | SCREENINGS RM | SURFACE MOUNTED, INTEGRAL THERMOSTAT. PROVIDE WITH CLASS   DIV.   RATING. |
| UH-2     | 51,200 | 2,450   | 480   | 60   | 3          | 19   | 15 | HLA 20-48 | SCREENINGS RM | SURFACE MOUNTED, INTEGRAL THERMOSTAT. PROVIDE WITH CLASS   DIV.   RATING. |

SEE SPECIFICATION SECTION 238333

|        | ROOFTOP EXHAUST FAN |                                           |                   |       |                 |                   |             |      |       |       |     |               |               |                                                                                                                                                |
|--------|---------------------|-------------------------------------------|-------------------|-------|-----------------|-------------------|-------------|------|-------|-------|-----|---------------|---------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| SYMBOL | AIR<br>FLOW<br>CFM  | TOTAL STATIC<br>PRESS IN WC<br>@ ALTITUDE | FAN<br>MAX<br>RPM | VOLTS | FAN EL<br>HERTZ | ECTRICAL<br>PHASE | MOTOR<br>HP | BHP  | DRIVE | SONES | LWA | COOK<br>MODEL | DUTY          | REMARKS                                                                                                                                        |
| REF-I  | 1,600               | 0.5                                       | 1390              | 120   | 60              | I                 | 1/2         | 0.34 | BELT  | 14.8  | 77  | 135R5B        | SCREENINGS RM | UPBLAST, AMCA TYPE "A" SPARK-RESISTANT RATING SUITABLE FOR<br>EXHAUSTING FROM A CLASS I DIVISION I SPACE. FURNISH WITH A<br>BACK DRAFT DAMPER. |

SEE SPECIFICATION SECTION 233400

|        |                |                     |                |               |                        | FILTER                     | SECTION |
|--------|----------------|---------------------|----------------|---------------|------------------------|----------------------------|---------|
| SYMBOL | FILTER<br>SIZE | FILTER<br>THICKNESS | FILTER<br>TYPE | FARR<br>MODEL | DUTY                   | NO. AND SIZE<br>OF FILTERS | REMARKS |
| FS-I   | 32"x32"        | 2"                  | PLEATED        | 30-30         | SCREENINGS ROOM INTAKE | (4)   6"x   6"             | -       |

SEE SPECIFICATION SECTION 234 I 00

|        |                     |       |                  |                 |                        | LOUVER                                                |
|--------|---------------------|-------|------------------|-----------------|------------------------|-------------------------------------------------------|
| SYMBOL | APPROXIMATE<br>SIZE | CFM   | MAX. P.D.<br>H20 | RUSKIN<br>MODEL | DUTY                   | REMARKS                                               |
| L-     | 32"x32"             | 1600L | 0.1"             | ELF6375DX       | SCREENINGS ROOM INTAKE | MOUNT BOTTOM OF LOUVER 36" A.F.F., SEE DETAIL 4/H-501 |

SEE SPECIFICATION SECTION 233700

|        |                     |               |                 |                        | MOTORIZED DAMPER                                                                               |
|--------|---------------------|---------------|-----------------|------------------------|------------------------------------------------------------------------------------------------|
| SYMBOL | APPROXIMATE<br>SIZE | TYPE          | RUSKIN<br>MODEL | DUTY                   | REMARKS                                                                                        |
| MD-I   | 32"x32"             | OPPOSED BLADE | CD-40           | SCREENINGS ROOM INTAKE | PROVIDE DAMPER ACTUATOR WITH CLASS   DIV.   RATING. INTERLOCK WITH REF-1, REFERENCE ELECTRICAL |

SEE SPECIFICATION SECTION 230900

| SPLIT SYSTEM HEAT PUMP |                 |                    |                       |           |                      |                |         |       |         |                 |                     |              |                   |   |       |       |       |     |         |              |               |        |     |           |
|------------------------|-----------------|--------------------|-----------------------|-----------|----------------------|----------------|---------|-------|---------|-----------------|---------------------|--------------|-------------------|---|-------|-------|-------|-----|---------|--------------|---------------|--------|-----|-----------|
| SYMBOL                 | INDOOR SECTION  |                    |                       |           |                      |                |         |       |         | OUTDOOR SECTION |                     |              |                   |   |       |       |       |     |         |              |               |        |     |           |
|                        | COOLING         |                    | HEATING               |           | ELECTRICAL           |                |         |       | COOLING |                 | ELECTRICAL          |              |                   |   |       |       | ERR   | COP | REMARKS |              |               |        |     |           |
|                        | EAT<br>DB/WB °F | TOTAL CAP.<br>BTUH | SENSIBLE<br>CAP. BTUH | EAT<br>°F | HEATING<br>CAP. BTUH | AIRFLOW<br>CFM | VOLTS F | 'HASE | HERTZ   | MCA             | MANUFACTURER<br>MCA | MODEL        | COOLING<br>EAT °F |   | VOLTS | PHASE | HERTZ | MCA | MCOP    | MANUFACTURER | MODEL         | RATING |     |           |
| SHP-1                  | 80 / 67         | 10,000             | 9,960                 | 70        | 7,500                | 450            | 208     | 1     | 60      | 2               | MITSUBISHI          | PKA-A I 2EA7 | 98                | 5 | 208   | I     | 60    | 11  | 28      | MITSUBISHI   | PUZ-A I 2NKA7 | 12     | 4.3 | 1,2,3,4,5 |

- I. CAPACITY AT SITE ELEVATION.
- 2. INDOOR SECTION RECEIVES POWER FROM OUTDOOR UNIT. INVERTER DRIVEN COMPRESSOR.
- 3. FURNISH WITH CONTROLLER.
- 4. 24V DC BETWEEN INDOOR AND OUTDOOR.
- 5. MAX WEIGHT: INDOOR UNIT = 40 LBS., OUTDOOR UNIT = 120 LBS.
- 6. FURNISH WITH CONDENSATE PUMP AS REQUIRED.

SEE SPECIFICATION SECTION 236100

#### **GENERAL NOTES**

- I. EQUIPMENT MANUFACTURERS AND MODEL NUMBERS ON DRAWING SCHEDULES ARE PROVIDED FOR REFERENCE ONLY IN ORDER TO AID THE CONTRACTOR ESTABLISH SIZES. DO NOT LIMIT EQUIPMENT SELECTION TO SHOWN MAKES. APPROVED EQUAL MANUFACTURERS WILL BE ACCEPTED. REFERENCE DIV. 23 SPECIFICATIONS FOR OTHER APPROVED MANUFACTURERS.
- 2. SIZES OF EQUIPMENT PADS, FLOOR, AND WALL PENETRATIONS ARE GIVEN FOR REFERENCE ONLY AND SHALL BE FIELD VERIFIED PRIOR TO FABRICATION OR ORDERING EQUIPMENT.
- 3. THE HVAC CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH THE GENERAL CONTRACTOR. THE FINAL SIZE AND LOCATION OF ROOF AND WALL OPENINGS REQUIRED FOR THE HVAC EQUIPMENT INSTALLATION.
- 4. ALL EQUIPMENT MOTORS SHALL BE DERATED FOR AN ELEVATION OF 5800 FT ABOVE SEA LEVEL.
- 5. ALL DUCTWORK IN PROCESS AREAS TO BE STAINLESS STEEL, ALUMINUM, OR PVC COATED AND LINED GALVANIZED DUCT.
- 6. REFERENCE SECTION 230900 FOR HVAC CONTROL SEQUENCE.
- 7. REFERENCE ELECTRICAL CONTROL LADDER DIAGRAMS FOR WALL EXHAUST FANS WIRING DIAGRAM.



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Subconsultant:

HEATH
Engineering Company



AGOON IMPROVEMENTS PROJECT
MT PLEASANT CITY

FILE: \_

JUB PROJ. #:#######

DRAWN BY: KJB

DESIGN BY: KDH

CHECKED BY: KDH

| ONE INCH |
AT FULL SIZE, IF NOT ONE INCH, SCALE ACCORDINGLY

LAST UPDATED: 8/20/2025

H-001

DRAWING:

#### **DRAWING NOTES**

- MOUNT UNIT HEATER AT HEIGHT AS RECOMMENDED BY VENDOR.
- 2) MOUNT BOTTOM OF LOUVER 36' A.F.F. FIELD COORDINATE EXACT LOCATION.
- 3 EXTEND REFRIGERANT PIPING FROM OUTDOOR UNIT, PENETRATE OUTSIDE WALL. RISE UP AGAINST INTERIOR WALL, AND EXTEND INTO INDOOR UNIT. COORDINATE EXACT LOCATION OF REFRIGERANT PIPE RISERS TO AVOID CONFLICT WITH ELECTRICAL EQUIPMENT. SEE DETAIL 1/H-502. SIZE AND ROUTE REFRIGERANT LINES PER MANUFACTURER'S RECOMMENDATIONS.
- 4 COORDINATE EXACT LOCATION OF INDOOR UNIT TO AVOID CONFLICT WITH LIGHTING. SUPPORT INDOOR UNIT FROM ROOF STRUCTURE.
- MOUNT OUTDOOR UNIT ON 4" THICK CONCRETE PAD. FIELD COORDINATE EXACT LOCATION. MINIMUM OF 12" CLEARANCE FROM OUTSIDE WALL.
- 6 FIELD FABRICATE A 20 GAUGE SHEET METAL COVER TO PROTECT THE REFRIGERANT LINE AND CONDENSATE DROPS. SECURE COVER TO WALL.
- ROUTE 3/4" CONDENSATE LINE TO EXTERIOR OF BUILDING AS SHOWN. COORDINATE EXACT LOCATION TO AVOID CONFLICT WITH ELECTRICAL. PUMP CONDENSATE AS REQUIRED. TURN DOWN CONDENSATE AND TERMINATE 12" ABOVE GRADE. SEAL WATER TIGHT AROUND CONDENSATE DRAIN PENETRATION.
- 8) I 6"x I 6" OPENING IN ROOF UP TO REF-I. FIELD COORDINATE EXACT ROOF OPENING SIZE AND LOCATION.



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MT PLEASANT CITY
HVAC (H)
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DRAWN BY: KJB
DESIGN BY: KDH
CHECKED BY: KDH

ONE INCH

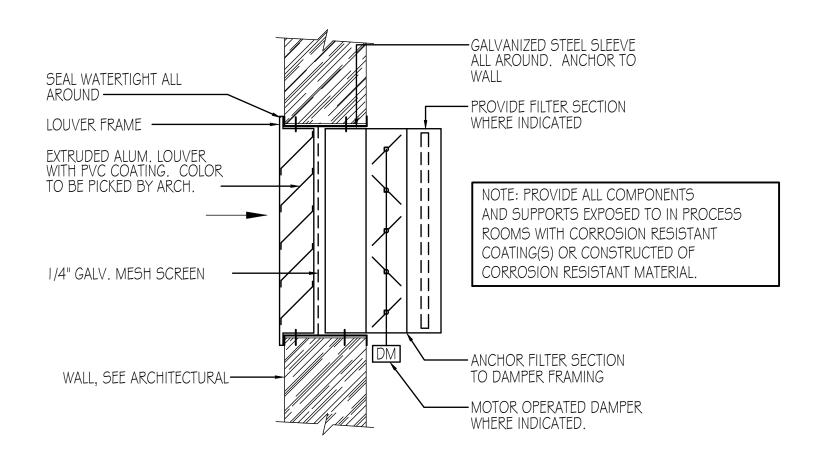
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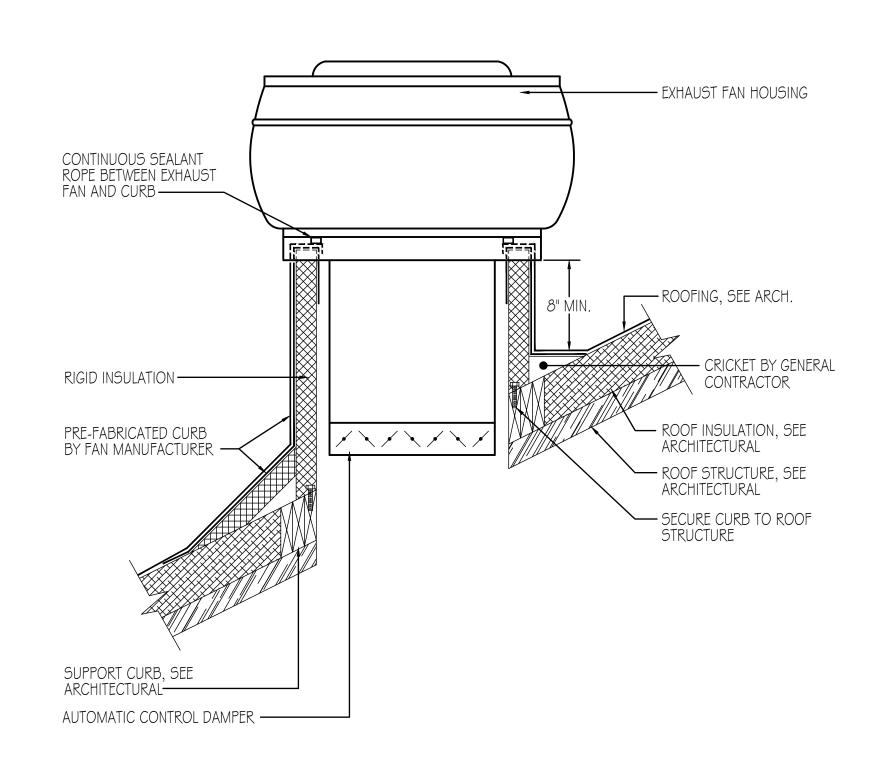
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## INLET LOUVER WITH DAMPER AND FILTER DETAIL SCALE: NONE

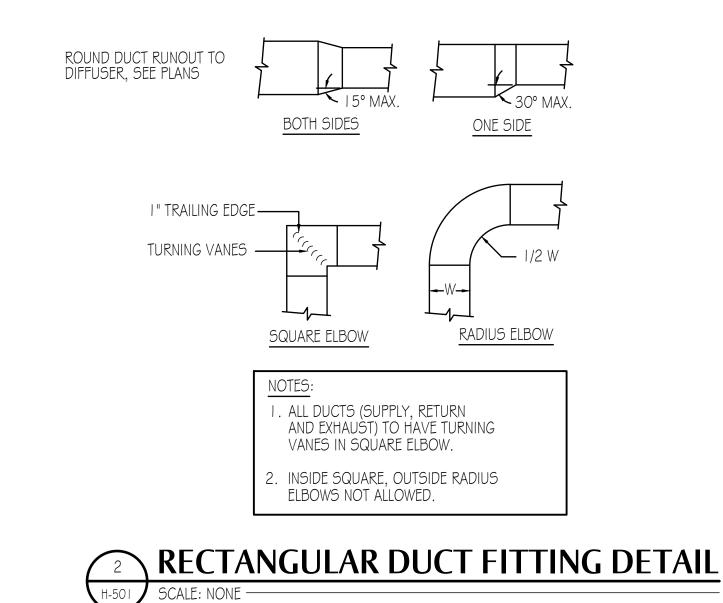


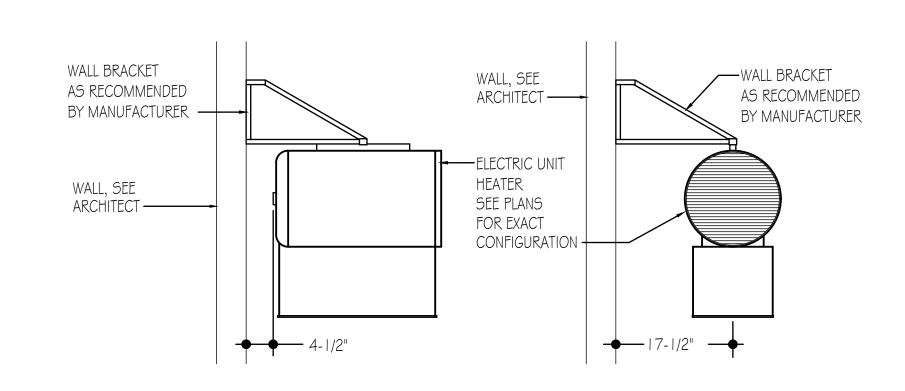


|                                                 |                                                  | TRANSVERSE REINFORCING *                                                                                                |               |                                  |                          |                          |                             |                             |                             |                                       |                                           |                             |  |  |
|-------------------------------------------------|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|---------------|----------------------------------|--------------------------|--------------------------|-----------------------------|-----------------------------|-----------------------------|---------------------------------------|-------------------------------------------|-----------------------------|--|--|
|                                                 |                                                  |                                                                                                                         |               | AT JOINTS                        |                          |                          |                             |                             |                             |                                       |                                           |                             |  |  |
| DIMENSION<br>OF<br>LONGEST<br>SIDE,<br>(INCHES) | SHEET<br>METAL<br>GAGE<br>(ALL<br>FOUR<br>SIDES) | MINIMUM REINFORCING ANGLE SIZE \$ MAXIMUM LONGITUDINAL SPACING BETWEEN TRANSVERSE JOINTS \$/OR INTERMEDIATE REINFORCING | MIN<br>H, IN. | DRIVE<br>SLIP<br>PLAIN<br>5 SLIP | HEMMED<br>S SLIP         | ALT.<br>BAR SLIP         | REIN-<br>FORCED<br>BAR SLIP | BAR SLIP<br>H<br>ANGLE SLIP |                             | STD. SEAM  ANGLE REINFORCED STD. SEAM | POCKET LOCK  ANGLE REINFORCED POCKET LOCK |                             |  |  |
|                                                 |                                                  |                                                                                                                         |               | RECOM-<br>MENDED<br>GAGE         | RECOM-<br>MENDED<br>GAGE | RECOM-<br>MENDED<br>GAGE | RECOM-<br>MENDED<br>GAGE    | RECOM-<br>MENDED<br>GAGE    | REINFORCED<br>ANGLE<br>SIZE | REINFORCED<br>ANGLE<br>SIZE           | RECOM-<br>MENDED<br>GAGE                  | REINFORCED<br>ANGLE<br>SIZE |  |  |
| UP THRU 12                                      | 24                                               | NONE REQ.                                                                                                               | ı             | 26                               | 26                       | 24                       | 24                          | 24                          | NOT REQ.                    | NOT REQ.                              | 24                                        | NOT REQ.                    |  |  |
| 13-18                                           | 24                                               | NONE REQ.                                                                                                               | I             | 24                               | 24                       | 24                       | 24                          | 24                          | NOT REQ.                    | NOT REQ.                              | 24                                        | NOT REQ.                    |  |  |
| 19-30                                           | 24                                               | 1x1x1/8 @60m.                                                                                                           |               | -                                | 24                       | 24                       | 24                          | 24                          | NOT REQ.                    | NOT REQ.                              | 24                                        | NOT REQ.                    |  |  |
| 31-42                                           | 22                                               | 1x1x1/8 @60in.                                                                                                          |               | -                                | -                        | 22                       | 22                          | 22                          | NOT REQ.                    | NOT REQ.                              | 22                                        | NOT REQ.                    |  |  |
| 43-54                                           | 22                                               | - /2x - /2x /8 @60in.                                                                                                   | 1-1/2         | -                                | -                        | 22                       | 22                          | 22                          | - /2x - /2x /8              | NOT REQ.                              | 22                                        | NOT REQ.                    |  |  |
| 55-60                                           | 20                                               | - /2x - /2x /8 @60in.                                                                                                   | 1-1/2         | -                                | -                        | -                        | 22                          | 22                          | - /2x - /2x /8              | NOT REQ.                              | 22                                        | NOT REQ.                    |  |  |
| 61-84                                           | 20                                               | - /2x - /2x /8 @60in.                                                                                                   | 1-1/2         | -                                | -                        | -                        | 22                          | 22                          | - /2x - /2x /8              | - /2x - /2x /8                        | 22                                        | 1-1/2x1-1/2x1/8             |  |  |

<sup>\*</sup> TRANSVERSE REINFORCING SIZE IS DETERMINED BY DIMENSION OF SIDE TO WHICH ANGLE IS APPLIED.



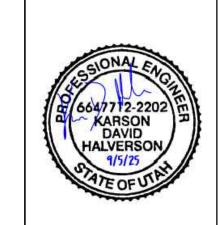








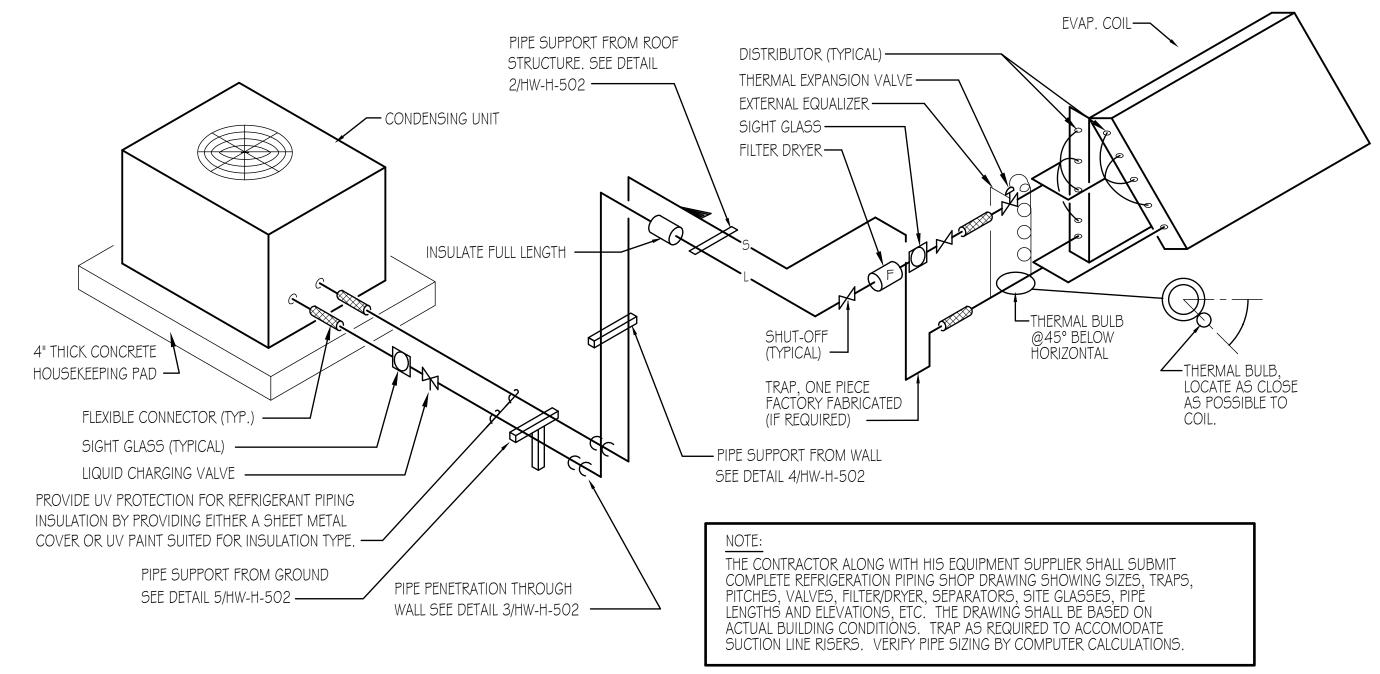


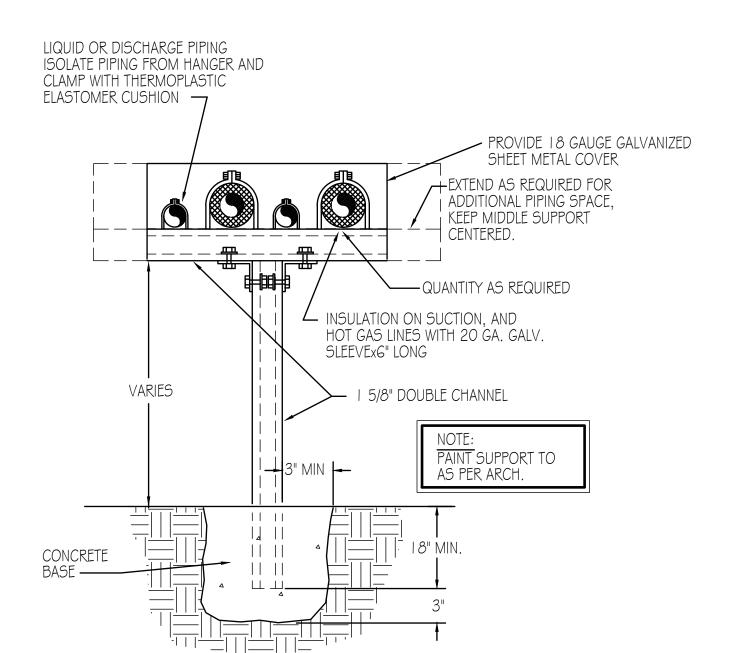


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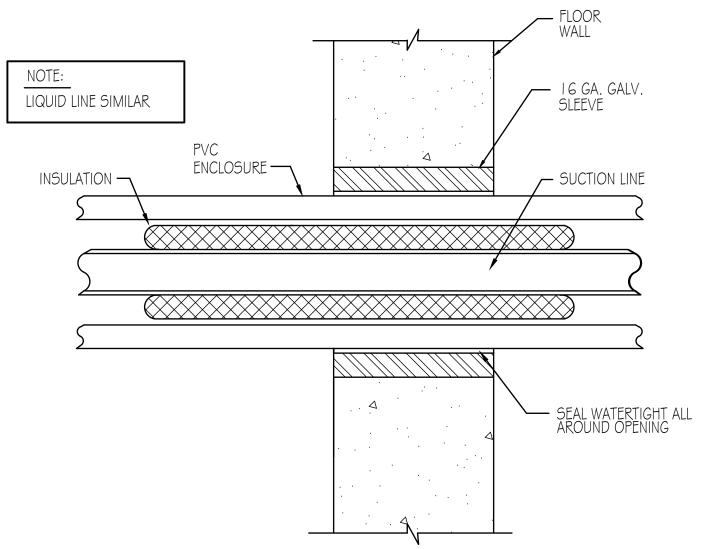
| REFRIGERANT PIPING LEGEND |                                 |  |  |  |  |  |  |
|---------------------------|---------------------------------|--|--|--|--|--|--|
| SYMBOL                    | DESCRIPTION                     |  |  |  |  |  |  |
|                           | REFRIGERANT SHUT-OFF VALVE      |  |  |  |  |  |  |
|                           | EXPANSION VALVE.                |  |  |  |  |  |  |
|                           | MOISTURE INDICATING SIGHT GLASS |  |  |  |  |  |  |
|                           | FLEXIBLE CONNECTION             |  |  |  |  |  |  |
| <b>I</b>                  | DIRECTION OF SLOPE DOWN         |  |  |  |  |  |  |
| /5/                       | SUCTION LINE                    |  |  |  |  |  |  |
| /L                        | LIQUID LINE                     |  |  |  |  |  |  |



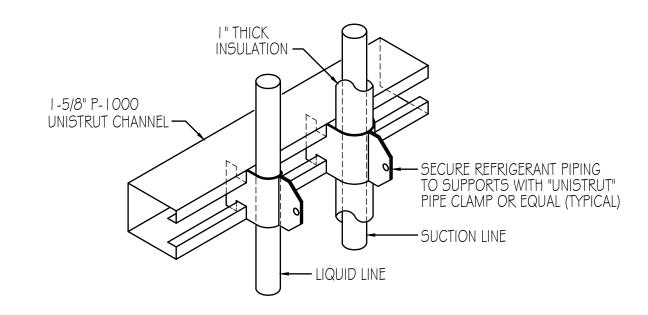




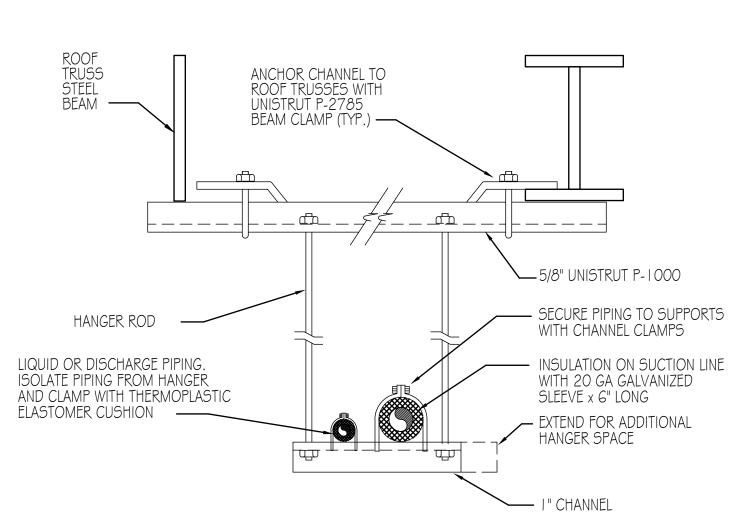
# REFRIGERANT PIPING SCHEMATIC SCALE: NONE FLOOR WALL OTE: 16 GA. GALV.











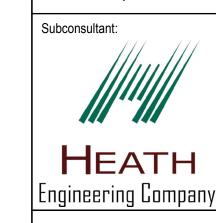
SUSPENDED REFRIGERANT PIPE SUPPORT DETAIL

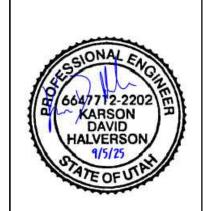
SCALE: NONE

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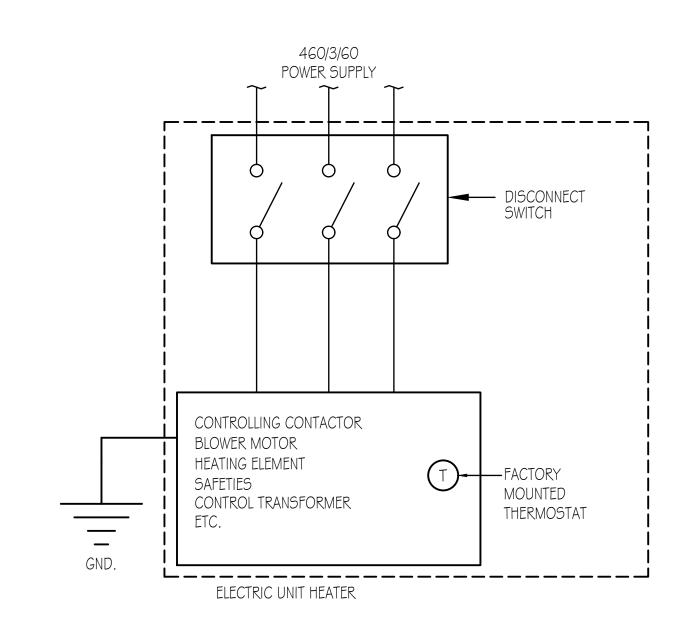
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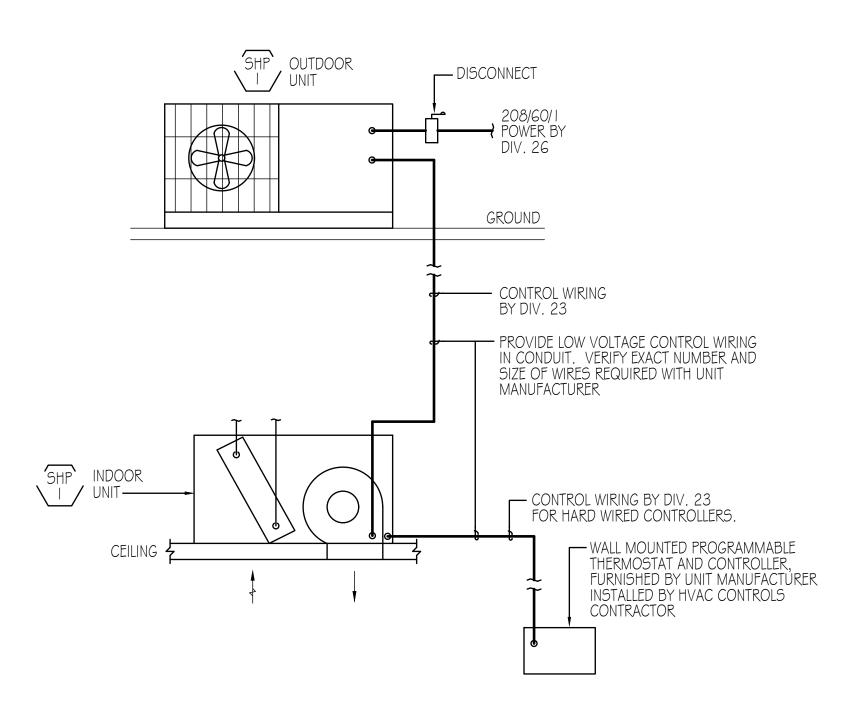


#### ELECTRIC UNIT HEATER CONTROL DIAGRAM

TYPICAL FOR UH-1 AND UH-2

NOTE:

ALL COMPONENTS SHALL BE RATED FOR A CLASS 1, DIV. 1 ENVIRONMENT



#### SPLIT SYSTEM HEAT PUMP UNIT CONTROL DIAGRAM

SCALE: NONE — TYPICAL FOR SHP-1. SEE PLANS FOR EXACT CONFIGURATION

CONTROL GENERAL NOTES:

A. ALL CONTROL COMPONENTS, RELAYS, INTERLOCKS, MISCELLANEOUS ITEMS, CONDUIT, WIRING, INSTALLATION AND TERMINATION FOR THE CONTROL OF THE EQUIPMENT SHOWN ON THIS DRAWING SHALL BE BY DIVISION 23. COMPLETE POWER WIRING SHALL BE BY DIVISION 26.





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|                                                                                                                                                                                                                                                                                                                           |          |   |   |   |   |   | ·            |

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