# HERRIMAN CITY - CEMETERY RESTROOM BUILDING

ADDITIVE BID ALTERNATE 1

6018 W HERITAGE HILL DRIVE HERRIMAN, UT

## Project Narrative

THE PROPOSED PROJECT IS A 302 SF STAND-ALONE SINGLE STORY BUILDING CONSISTING OF TWO SINGLE-OCCUPANT RESTROOMS AND AN ASSOCIATED UTILITY ROOM. CONSTRUCTION SHALL INCLUDE UNIT MASONRY (STRUCTURAL AND FACING), ROUGH CARPENTRY, METAL ROOF SYSTEMS AND ACCESSORIES, DOORS AND HARDWARE, PAINTING AND SPECIAL COATINGS, TOILET ROOM ACCESSORIES, PLUMBING AND PLUMBING FIXTURES, MECHANICAL SYSTEMS, ELECTRICAL (POWER AND LIGHTING), AND EXTERIOR IMPROVEMENTS, SUCH AS CONCRETE SIDEWALKS.

# Project Team

## **OWNER**

Herriman City 5355 West Herriman Main Street Herriman, Utah 84096

## MECHANICAL

Olsen & Peterson, Inc. 14 East 2700 South Salt Lake City, Utah 84115 801-486-4646

## **ARCHITECT**

SH Architecture 868 S. McClelland St., #2 Salt Lake City, Utah 84102 801-883-9328

## **ELECTRICAL**

**BNA Consulting** 635 South State Street Salt Lake City, Utah 84111 801-532-2196

## Sheet Index

STRUCTURAL	SHT.#	DESCRIPTION	<u></u>	DATE	DESCRIPTION			
Reaveley Engineers	General							
675 East 500 South, Suite 400	GI001	COVER SHEET	_	_	-			
Salt Lake City, Utah 84102	GI002	GENERAL NOTES & ACCESSIBILITY GUIDELINES	-	_	_			
801-486-3883	GI003	CODE INFORMATION	_	_	_			
	CIVIL							
	SD-01	SITE PLAN	_	_	_			
	SD-02	GRADING PLAN	_	_	_			
	SD-03	UTILITIES	_	_	_			
	Archite	ectural						
	AE101	FLOOR PLAN, ROOF PLAN, RCP & FINISHES	_	_	_			
	AE201	EXTERIOR & INTERIOR ELEVATIONS	-	_	_			
	AE301	BUILDING SECTIONS & WALL SECTIONS	-	_	_			
	AE501	DETAILS	_	_	_			
	AE601	DOOR SCHEDULE & TYPES, AND DETAILS	-	_	_			
			_	_	_			
	Structi	ural						
	SE001	GENERAL STRUCTURAL NOTES	_	_	_			
	SE002	GENERAL STRUCTURAL NOTES	_	_	_			
	SE003	GENERAL STRUCTURAL NOTES	_	_	_			
	SE004	GENERAL STRUCTURAL NOTES	_	_	_			
	SE005	LEGENDS & ABBREVIATIONS	_	_	_			
	SB101	FOOTING & FOUNDATION PLAN	_	_	_			
11	SB501	TYPICAL FOOTING & FOUNDATION DETAILS	-	_	_			
N ON	SB601	CONCRETE SCHEDULES	-	_	_			
Uintali	SB611	MASONRY SCHEDULES	-	_	_			
1 660	SB612	MASONRY SCHEDULES	_	_	_			
	SF101	ROOF FRAMING PLAN	_	_	_			
	SF501	ROOF FRAMING DETAILS	_	_	_			

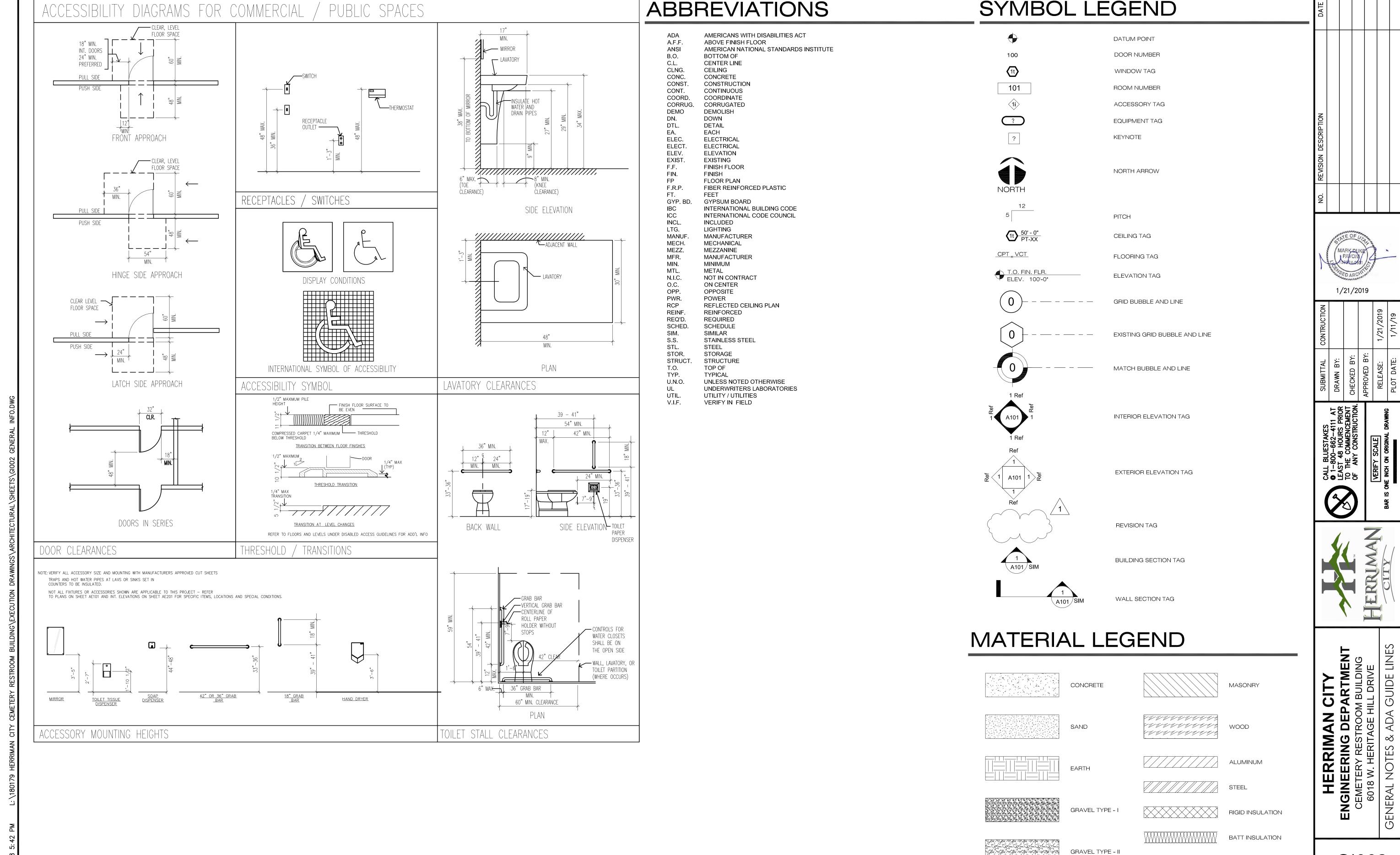
SB611	MASONRY SCHEDULES	_	_	_					
SB612	MASONRY SCHEDULES	_	_	_					
SF101	ROOF FRAMING PLAN	_	_	_					
SF501	ROOF FRAMING DETAILS	_	_	_					
Plumb	ing								
P101	PLUMBING FLOOR PLAN, LEGENDS AND SCHEDULES	_	_	_					
P501	PLUMBING DETAILS	_	_	_					
P502	PLUMBING DETAILS	_	_	_					
Mechanical									
M101	MECHANICAL FLOOR PLAN AND SCHEDULES	_	_	_					
M501	MECHANICAL DETAILS	_	_	_					

E001	SYMBOLS, SCHEDULES AND NOTES	_	_	_
E002	SCHEDULES	_	-	_
E101	ELECTRICAL SITE PLAN	_	_	_
E201	LIGHTING AND POWER PLANS	_	_	_
E401	ONE-LINE DIAGRAM & PANELBOARD SCHEDULES	_	_	_
E501	ELECTRICAL DIAGRAMS	_	_	_

## Location



G100



SYMBOL LEGEND



GI002

	ATION	
room. Construction shall include unit	d-alone single story building consisting of two single occupant restroom asonry (structural and facing), rough carpentry, metal roof systems and atings, toilet room accessories, plumbing and plumbing fixtures, mechabyements, such as concrete sidewalks.	d accessories, doors
Applicable Codes	Year	Year
International Building Code	2015 International Mechanical Code	2015
International Existing Building Code	2015 International Plumbing Code	2015
International Fire Code  ADA Accessibility Guidelines	Energy Code IECC  NEC Electrical Code	<u>2015</u> 2014
IBC Chapter 11	2015	
A.N.S.I. Standard A117.1	2009	
A. Occupancy and Group	U occupancy	
Change In Use Yes	No X Mixed Occupancy Yes	NoX
B. Type of Construction	1 I II II (II IV	V V
	$\frac{I}{A}$ $\frac{I}{B}$ $\frac{II}{A}$ $\frac{II}{B}$ $\frac{III}{A}$ $\frac{III}{B}$ $\frac{IV}{H.T.}$	<u>V</u> <u>V</u> B
C. Sprinklered N	ne Existing	
D. Location of Property F.	. Ext. Walls (Hrs.) 10' < 0 HR < 30' Ext. Wall Opening (s) Protection	n (Hrs.) <u>30'&gt; UP.</u>
E Occumentation Comment Comment	d (Hrs) None	
E. Occupancy Separation Requi	u (⊓is) <u>Nolle</u>	
F. Areas and Heights:		
Occupancy Sprinklered	Vac or No	
Sprinklered Actual Number of Stories/Hei	Yes or No	
Tabular Building Height (Tab		
Tabular Number of Stories (T	, <u> </u>	
Actual Area of Building (Com		
Largest Floor Footprint (Mair		
Tabular Area per Floor (Tabl	506.2) <u>9,000 SF</u>	
G. Fire Resistive Requirements	trs)	
Exterior Bearing Walls	0 HR Floors - Ceiling Floors _ 0 HF	₹
Interior Bearing Walls	0 HR Roofs - Ceiling Roofs _ 0 HF	₹
Exterior Non-Bearing Walls	10' < 0 HR < 30' Exterior Doors and Windows AS REQ'D	
Structural Frame	0 HR Shaft Enclosures 2 HF 0 HR.	₹
Non Bearing Interior Walls	U FIR.	
BUILDING AND FLOOF	AREAS	
FLOOR	SQ. FT (GROSS)	
MAIN LEVEL	, , ,	
IVIAIIN LLVLL	302 sf	



. ~	DRAWN BY:	
<del>レブ</del>	снескер ву:	
	APPROVED BY:	
	RELEASE:	1/21/2019
	PI OT DATE.	1 /11 /19

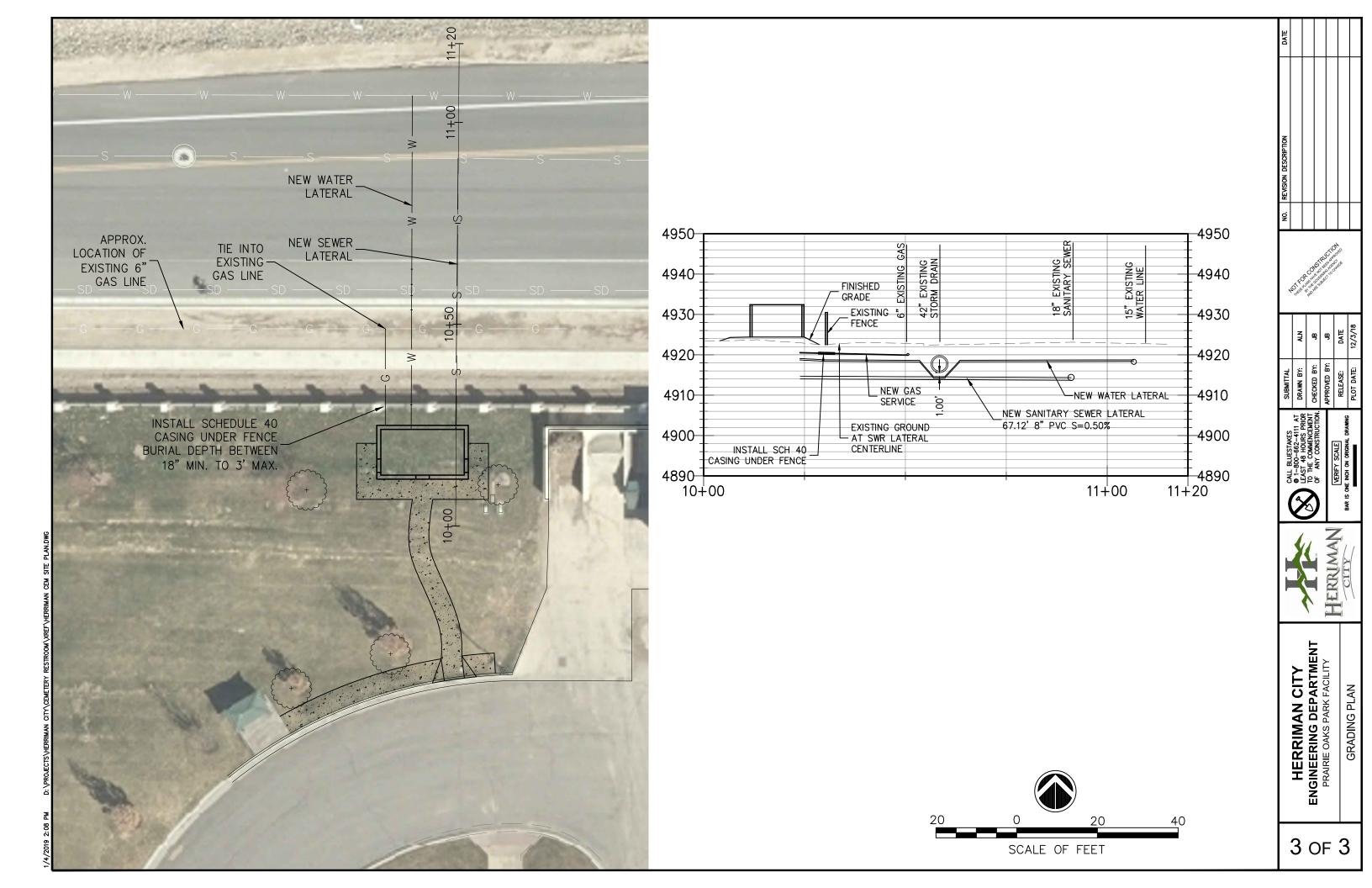


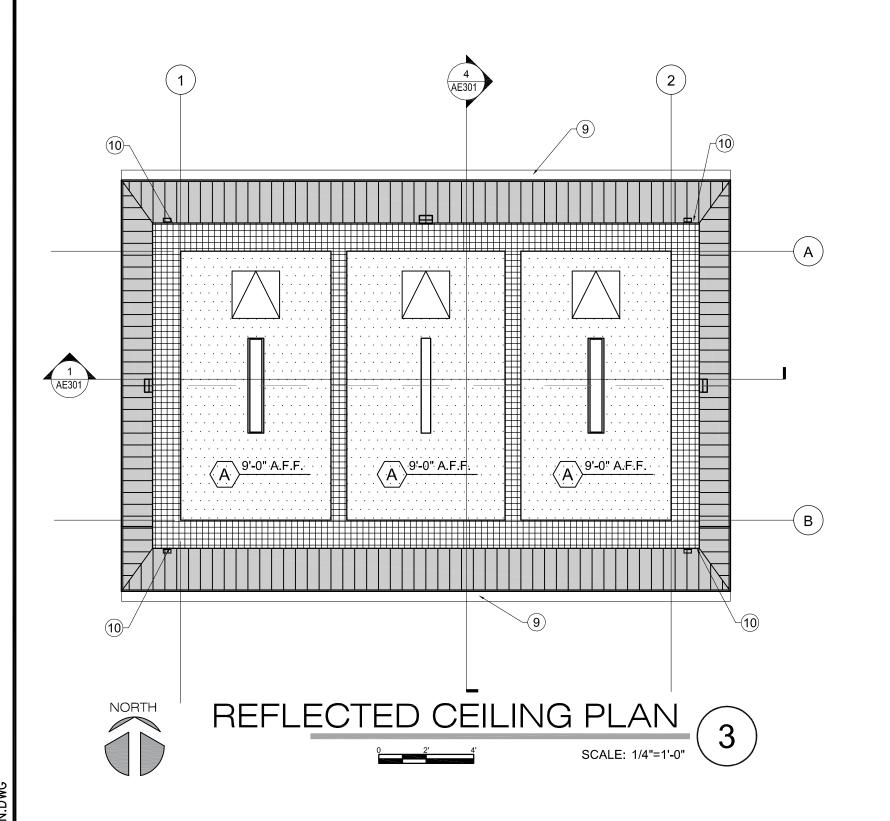
HERRIMAN CITY
ENGINEERING DEPARTMENT
CEMETERY RESTROOM BUILDING
6018 W. HERITAGE HILL DRIVE
CODE INFORMATION

G1003



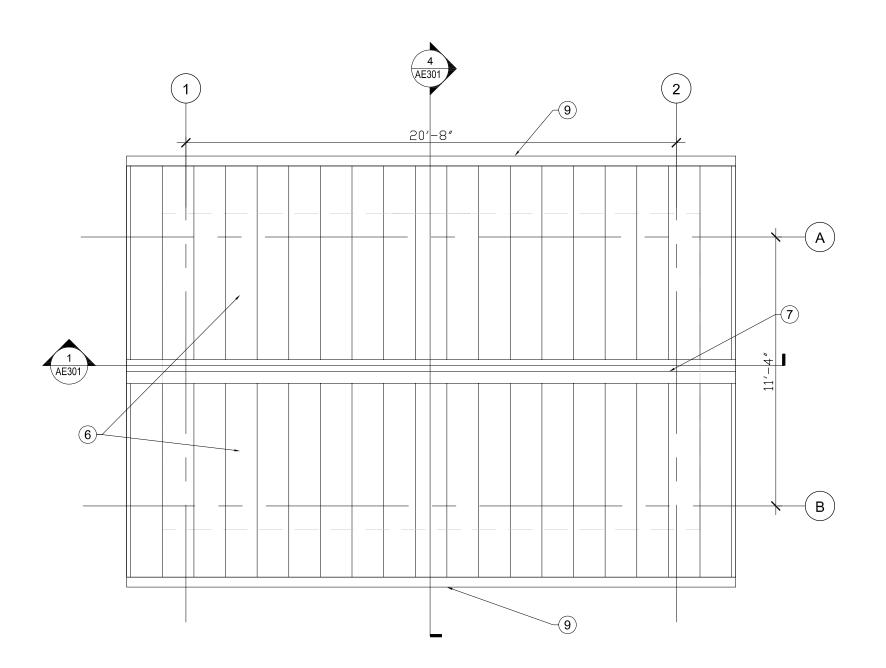


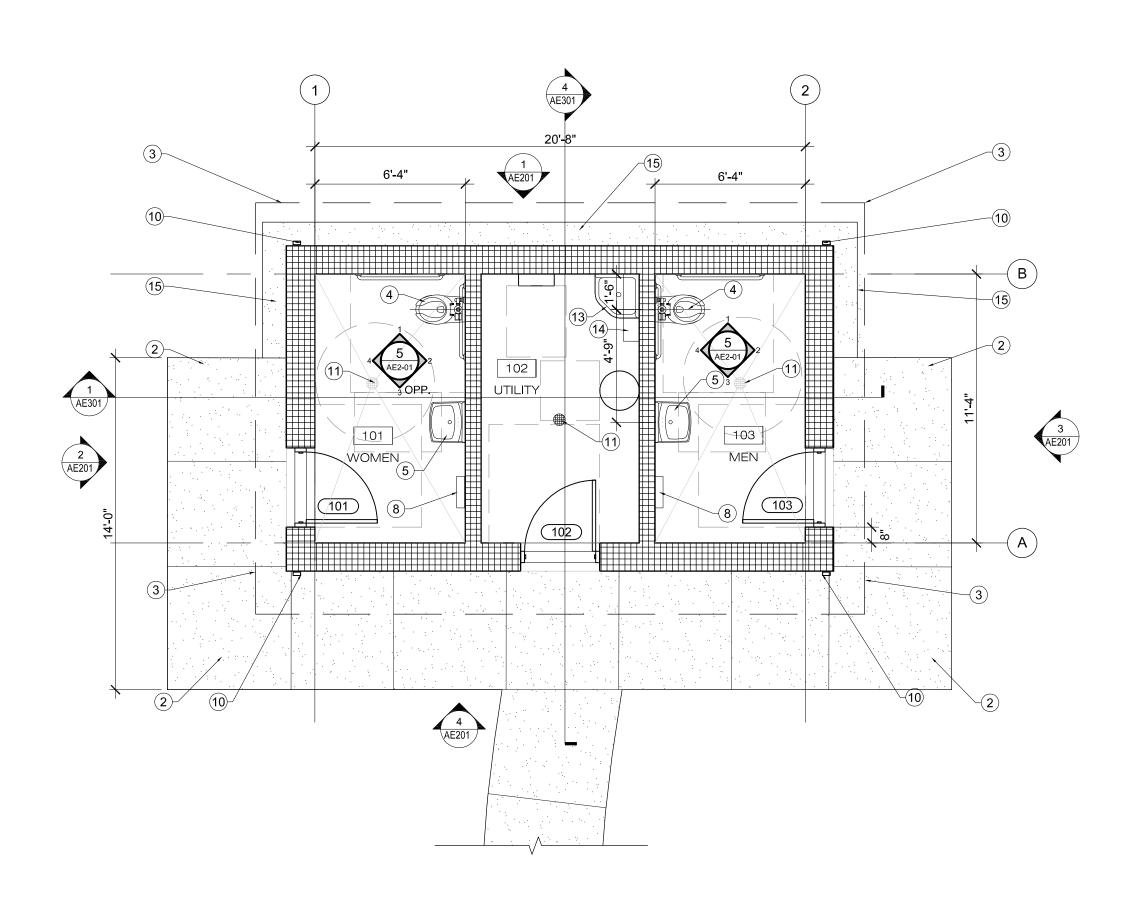




FINISH SCHEDULE									
NI-	DOOM	FLOOD	OOR BASE		V	VALLS		OFILING	NOTEO
No.	ROOM	FLOOR		NORTH	EAST	SOUTH	WEST	CEILING	NOTES
101	WOMEN	F-02	F-02	P-01	P-01	P-01	P-01	C-01	DOORS & FRAMES TO BE P-02
102	UTILITY	F-01	F-01	P-01	P-01	P-01	P-01	C-01	DOORS & FRAMES TO BE P-02
103	MEN	F-02	F-02	P-01	P-01	P-01	P-01	C-01	DOORS & FRAMES TO BE P-02

FINISH KEY									
KEY	ITEM	MANUFACTURER	SIZE	PRODUCT#	COLOR NAME	COMMENT			
F-01	CONCRETE, SEALED	KELLY-MOORE PAINTS	-	98 MULTI SEAL	ACRYLIC SEALER	2-COAT SYSTEM (PRIMER & FINISH)			
F-02	EPOXY FLOOR SYSTEM	GENERAL POLYMERS	-	CERAMIC CARPET	TBD	1/8" SYSTEM - FULL RANGE OF MFR. COLORS			
P-01	CMU, SEALED	KELLY-MOORE PAINTS	-	98 MULTI SEAL	ACRYLIC SEALER	2-COAT SYSTEM (PRIMER & FINISH)			
P-02	PAINT	SHERWIN WILLIAMS	-	TBD	TBD	-			
C-01	CEILING	SHERWIN WILLIAMS	-	TBD	TBD	-			





## GENERAL NOTES

- 1. ALL DIMENSIONS ARE TO FACE OF FINISHED FACE OR CENTER LINE OF GRIDS UNLESS NOTED OTHERWISE. ALL CLEAR DIMENSIONS ARE FROM FACE OF FINISH.
- 2. PRIOR TO COMMENCEMENT OF WORK, CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS. INCLUDING BUT NOT LIMITED TO DIMENSIONS, UTILITY LOCATIONS AND UTILITY
- 3. SHOULD ANY CONDITION ARISE WHERE THE INTENT OF DRAWINGS ARE IN DOUBT OR THERE IS A DISCREPANCY BETWEEN DRAWINGS AND FIELD CONDITIONS. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IN WRITING FOR CLARIFICATION. RECORD ANY DISCREPANCY ON A REPRODUCIBLE DOCUMENT AND TRANSIT TO THE ARCHITECT FOR PROJECT RECORD, COORDINATION AND NECESSARY RESOLUTION PRIOR TO CONTINUING WORK.
- 4. ALTHOUGH NOTES MAY BE GIVEN ONLY ONCE, MANY NOTES ARE TYPICAL FOR SIMILAR DETAILS AND CONDITIONS.
- 5. SEE STRUCTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION AND COORDINATION.

## REFERENCE NOTES

- 1. CONCRETE WALK BY OTHERS, COORD. WITH CIVIL.
- 2. CONCRETE SIDEWALK, SEE CIVIL DRAWINGS FOR ADDITIONAL INFORMATION.
- 3. ROOF EAVE ABOVE
- 4. WATER CLOSET, COORD. WITH PLUMBING.
- 5. LAVATORY, COORD. WITH PLUMBING.
- 6. PRE FINISHED METAL STANDING SEAM ROOFING SYSTEM ON CONT. SELF ADHERENT UNDERLAYMENT
- 7. PRE FINISHED METAL RIDGE VENT.
- 8. HAND DRYER, COORD. WITH ELECTRICAL.
- 9. PRE FINISHED METAL GUTTER.

16" O.C., PAINT.

- 10. PRE FINISHED METAL DOWN SPOUT. 11. FLOOR DRAIN, COORD. WITH PLUMBING.
- 12. TYPE 'X' GYPSUM BOARD ON TREATED 2x4 FRAMING @
- 13. CUSTODIAL SINK, COORD. WITH PLUMBING.
- 14. UTILITY SHELF W/ MOP HOLDER, BOBRICK, B-239.
- 15. 12" WIDE X 6" THICK CONCRETE MOW STRIP, SLOPE AWAY FROM BUILDING.

## LEGEND

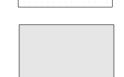
MASONRY WALL W/ VENEER, COORD. W/ STRUCTURAL

NEW 4" CONCRETE SIDE WALK ON 4" WASHED GRAVEL COORD WITH CIVIL

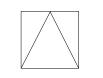


PAINTED 5/8" TYPE 'X' GYPSUM BOARD

CEILING TAG



CONCRETE WALK BY OTHERS. COORD W/ CIVIL



24" X 24" CEILING ACCESS PANEL, PAINT COORDINATE FINAL LOCATION WITH OWNER

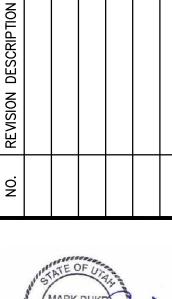












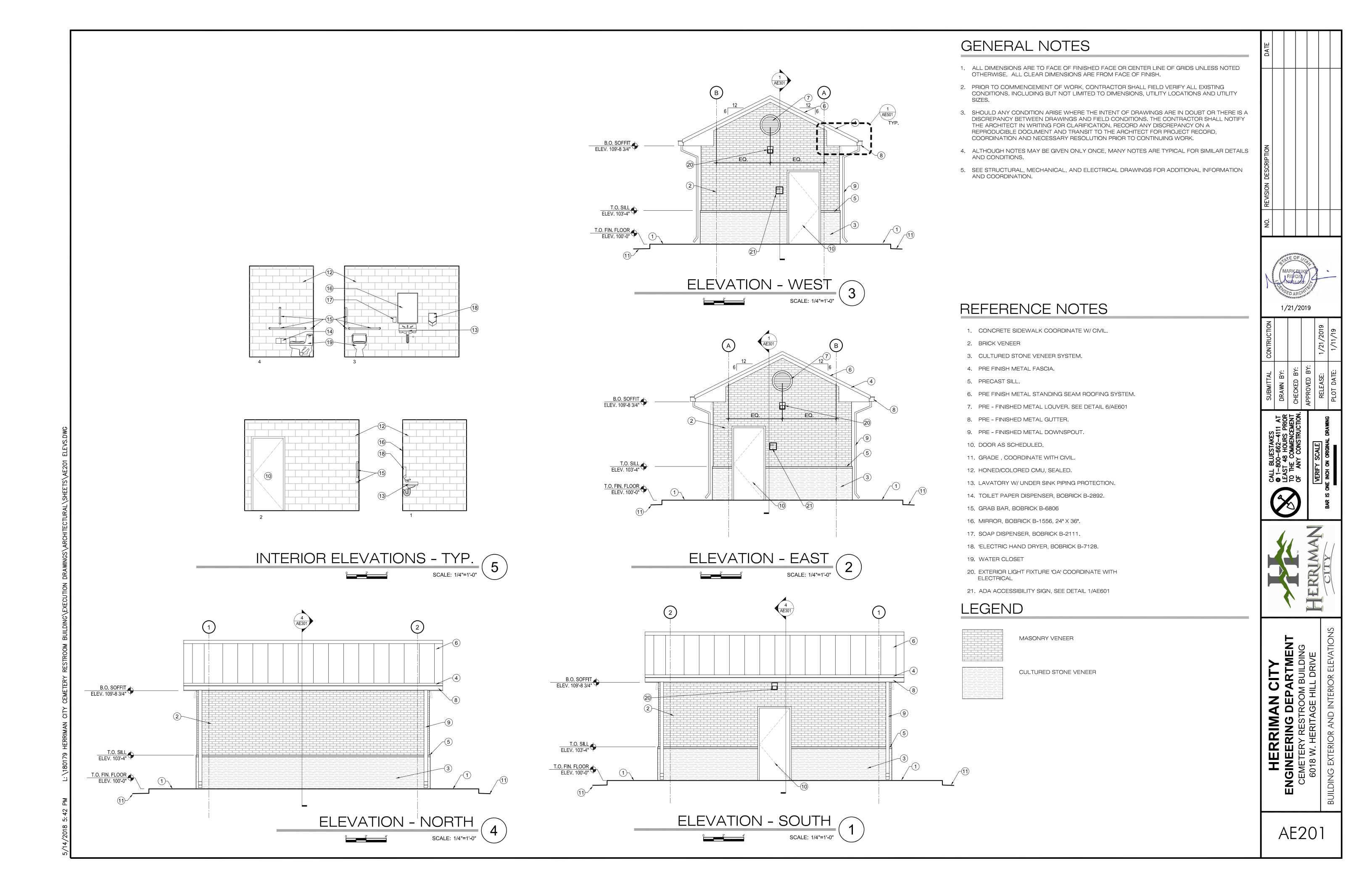
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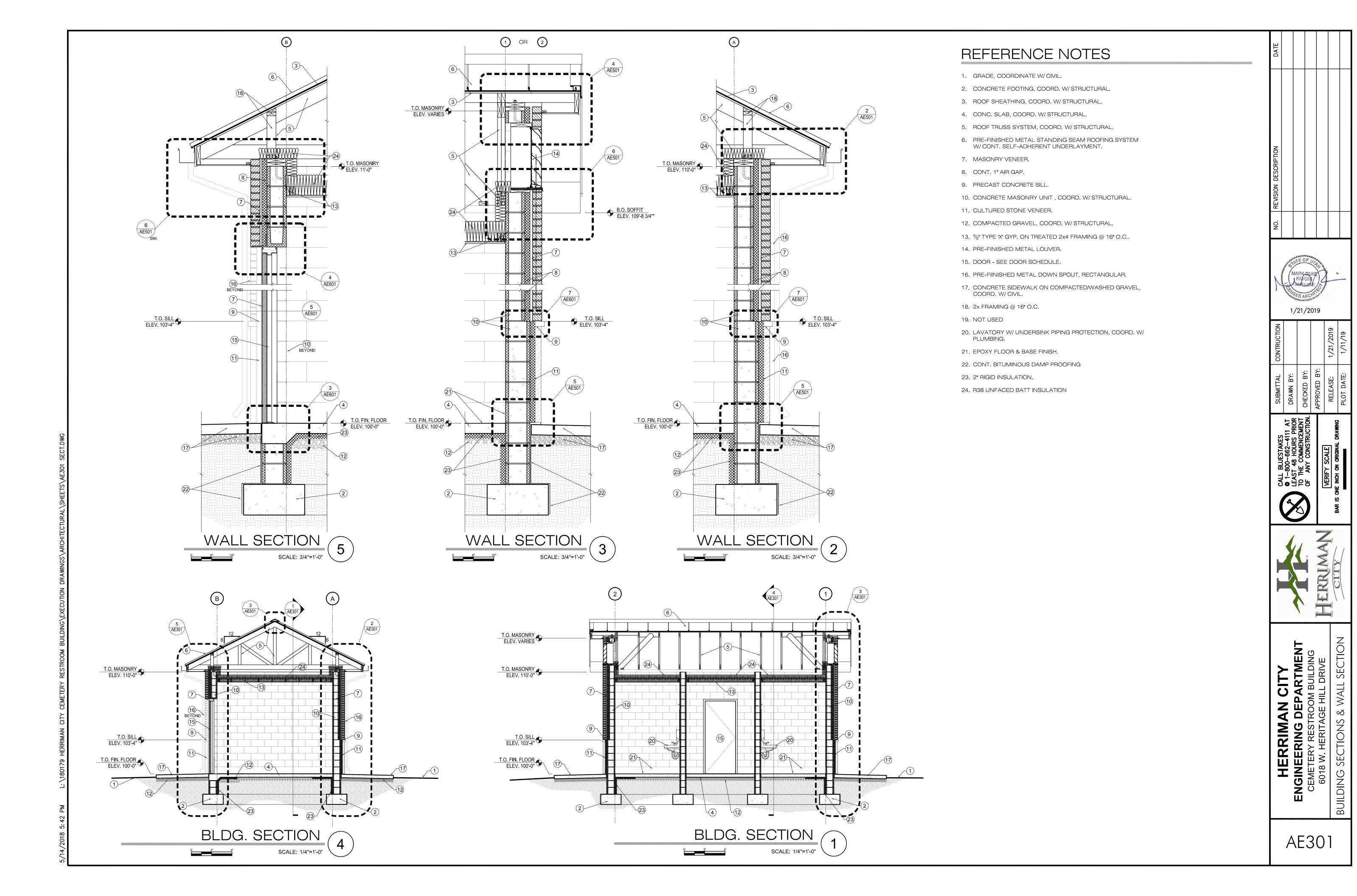
SUBMITTAL CONTRU DRAWN BY: CHECKED BY: APPROVED BY: RELEASE: 1/21/2
CONTRUCTION 1/21/2019

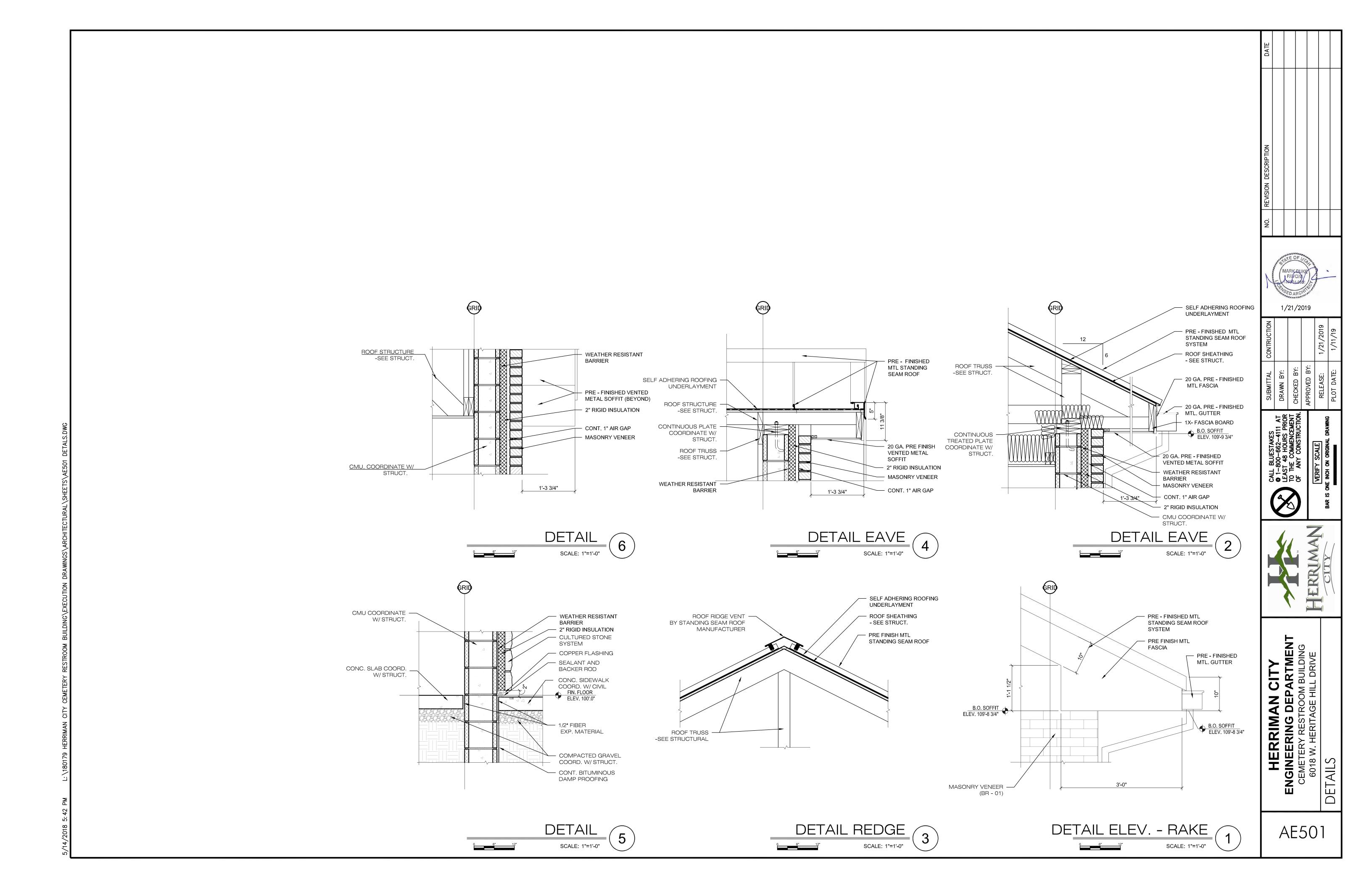


HERRIMAN CITY
ENGINEERING DEPARTMENT
CEMETERY RESTROOM BUILDING
6018 W. HERITAGE HILL DRIVE

AE101







## DOOR SCHEDULE

		DOOR FRAME													
NO.	TYPE	SIZ	Έ	GLASS	MATERIAL	FINISH	FRAME	DETAIL		DETAIL		MATERIAL FINISH		REMARKS	NO.
,,,,,,		WIDTH	HEIGHT*				TYPE	HEAD	JAMB	SILL	T		SET		
101	D1	3'-0"	7'-2"	_	GALV. H.M.	PT.	F1	4/AE601	5/AE601	3/AE601	GALV. H.M.	PT.	HW-01	DOOR TO BE INSULATED	101
102	D1	3'-0"	7'-2"	-	GALV. H.M.	PT.	F1	4/AE601	5/AE601	3/AE601	GALV. H.M.	PT.	HW-01	DOOR TO BE INSULATED	102
103	D1	3'-0"	7'-2"	_	GALV. H.M.	PT.	F1	4/AE601	5/AE601	3/AE601	GALV. H.M.	PT.	HW-01	DOOR TO BE INSULATED	103

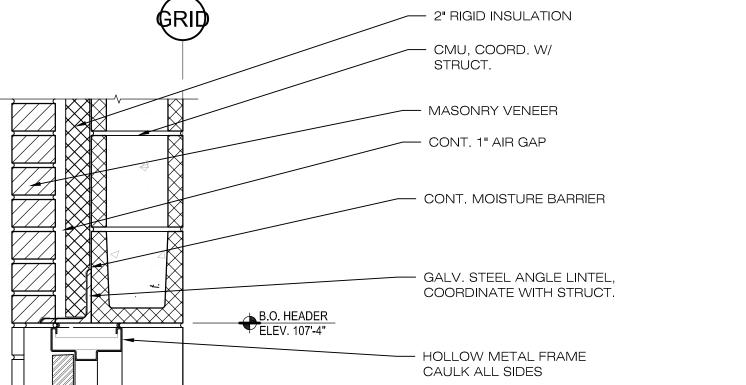
\* VERIFY DOOR HEIGHTS IN FIELD

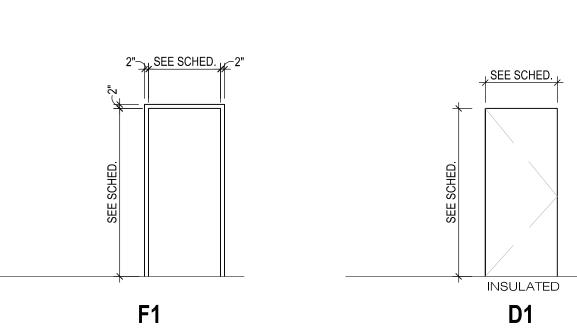
## DOOR HARDWARE

1 11 4 7	, OET. 0:	4			
	' SET: 0 <sup>-</sup> ors 101,	ı 102 & 103)			
3	EA	HINGE	5BB1HW 4.5 X 4.5 NRP	630	IVE
1	EA	LOCK SET	NDE80 RHO SERIES (CYL PREP AS REQ'D)	626	SCHLAGE
			ON 'ENGAGE' PLATFORM		
1	EA	CYLINDER / CORE	MATCH OWNER KEY SYST.	626	SCHLAGE
1	EA	SURFACE CLOSER	4040XP SCUSH TBWMS	689	LCN
1	EA	RAIN DRIP	142 SERIES	628	ZERO
1	SET	PERIMETER GASKET	429 SERIES (HEAD & JAMBS)	628	ZERO
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	DOOR SWEEP	39 SERIES	628	ZERO
1	EA	SADDLE THRESHOLD	656 SERIES X 223	719	ZERO

## **ABBREVIATIONS**

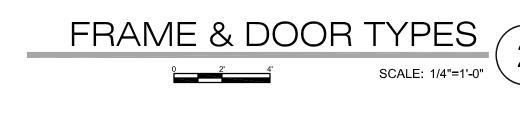
H.M.	HOLLOW METAL
PT.	PAINTED
GALV H.M.	GALVANIZED HOLLOW METAL
	(INSULATED @ DOORS)

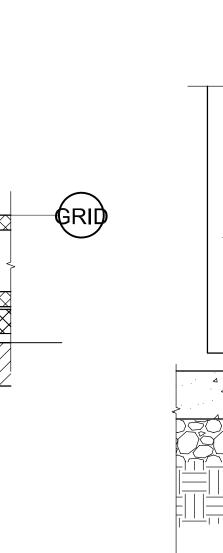


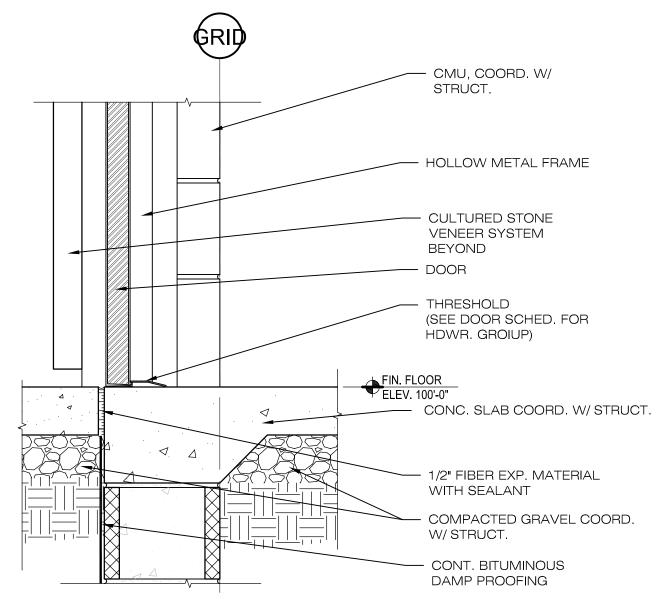


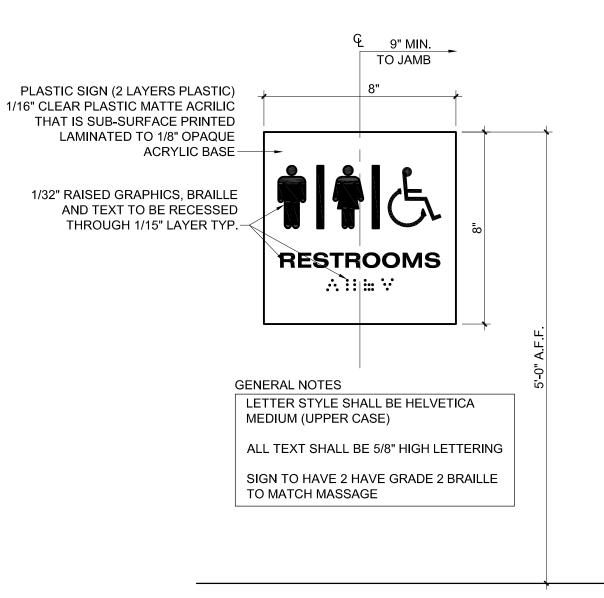


DOOR (SEE DOOR SCHED)
 FOR TYPE & SIZE)









RESTROOM SIGN

SCALE: 3"=1'-0"

COMPACTED GRAVEL COORD.
W/ STRUCT.

CONT. BITUMINOUS
DAMP PROOFING

DETAIL - DOOR SILL
SCALE: 1 1/2"=1'-0"

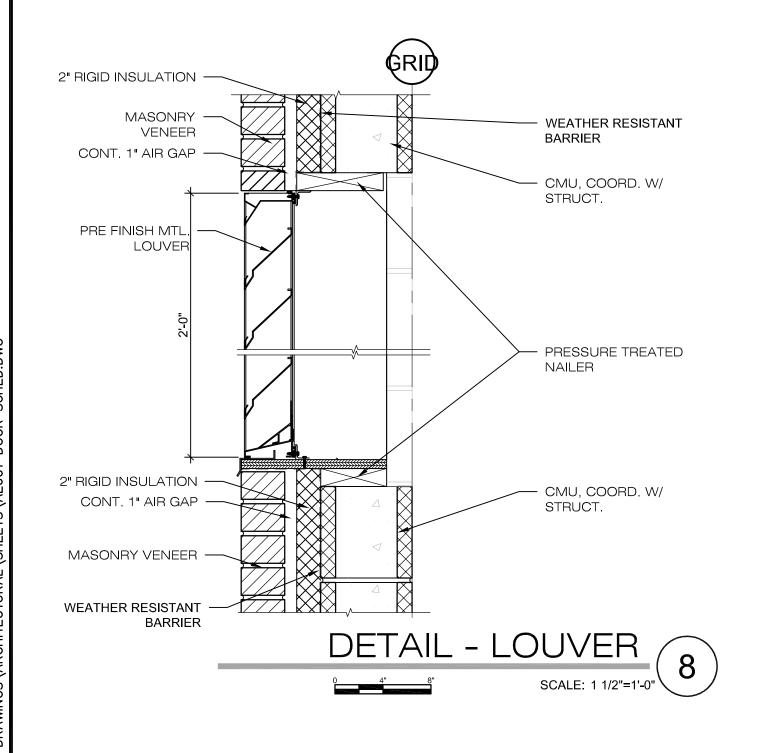
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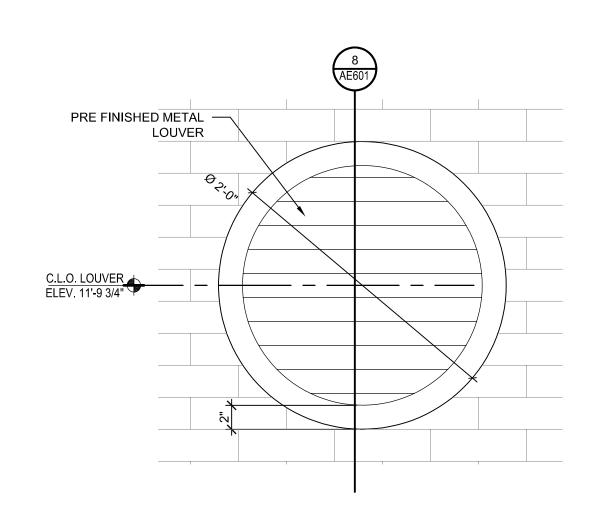
HERRIMAN CITY ENGINEERING DEPARTME CEMETERY RESTROOM BUILDIN	6018 W. HERITAGE HILL DRIVE
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door schedule & door type & details

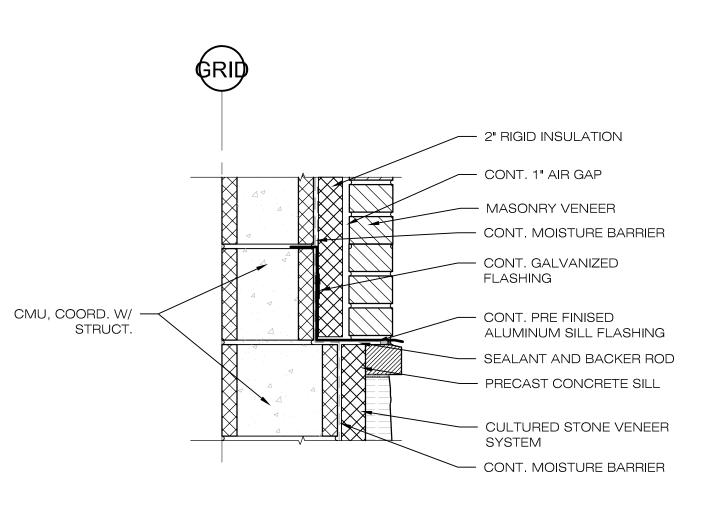
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AE601





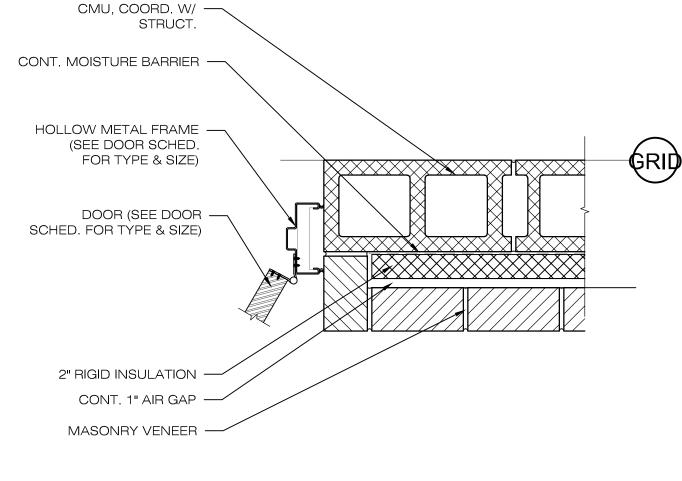




0 4" 8

DETAIL

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





#### 1. Design Criteria

	Governing Building Code  A. Risk Category	•	(IBC)
1.2.	Roof Live Loading		

## A. Roof Live Load.

#### .32 psf + Drift per IBC B. Roof Snow Load. 1. Ground Snow Load, Pa .48 psf

#### 2. Snow Exposure Factor, C<sub>e</sub>. .. 1.0 3. Importance Factor, Is .. 1.0 4. Thermal Factor, Ct. .. 1.2

#### 1.3. Earthquake

J.	La	iliquake
	Α.	Seismic Design CategoryD
		Spectral Response Accelerations
		$S_{c} = 1.207  \text{a}$ $S_{Dc} = 0.818  \text{a}$

- $S_1 = 0.401 g$  $S_{D1} = 0.427 g$ C. Soil Site Class.
- $F_{v} = 1.599$  $F_a = 1.017$ Special Reinforced Masonry Shear Walls
- D. Basic Seismic-Force-Resisting System. R = 5 $\Omega_0 = 2.5$  $C_{\rm d} = 3.5$
- E. Importance Factor, IE F. Redundancy Factor, ρ .. Equivalent Lateral Force (Static) G. Analysis Procedure.

...6.0 kips

### H. Design Base Shear.

- 1.4. Wind . 115 mph A. Ultimate Design Wind Speed Vult. B. Exposure.. C. Internal Pressure Coefficient, GCpi. .. 0.18
  - D. Topographic Factor, K<sub>ht</sub>... .. 1.0

#### E. Components and Cladding Design Pressure

	Design Wind Pressure (psf)					
	Location	Tributary Area (ft²)				
	Location			100	> 500	
Walls	Within 3 ft of building corner	31.8	26.9	22.6	19.7	
vvalis	All other areas	25.8	23.3	21.2	19.7	
	Within 3 ft of building corner	56.0	51.2	47.6	43.9	
Roof	Within 3 ft of building edge	37.9	33.9	30.8	27.8	
	All other areas	21.8	21.0	20.3	19.7	

#### 1.5. Foundation

- A. Subsurface Conditions:
- Soils bearing values are taken from IBC table 1806.2 Presumptive Load Bearing values..
- B. Soil Bearing Pressure: . 1500 psf, C. Lateral Soil Pressure Fluid Equivalent Density.
- 100 pcf 1. Passive: D. Coefficient of Friction: .. 0.25

#### 2. Earthwork

- 2.1. Clearing: The entire building area shall be scraped to remove the top 4 inches of soil, including all vegetation and debris.
- 2.2. Proof rolling: The natural undisturbed soil below all footings shall be proof rolled prior to placing concrete. Remove all soft spots and replace with compacted structural fill.
- 2.3. Compacted structural fill: All fill material shall be a well-graded granular material with a maximum size less than 4 inches and with not more than 10 percent passing a No. 200 sieve. It shall be compacted to 95 percent of the maximum laboratory density as determined by ASTM D1557. All fill shall be tested (See Specifications and the Quality Assurance section of the GSN).

#### 3. Concrete

3.1. Materials shall comply with the Standards specified in American Concrete Institute (ACI) 318-14, "Building Code Requirements for Structural Concrete."

Concrete mix design requirements shal	i be as fol	lows:					
Location	f'c at 28 days	Max W/C	Air Content	Max Aggregate	l .	xposu lasse:	
	(psi)	Ratio	(%)	Size	F	S	С
Footings	3000	0.50	-	1"	F0	S0	C0
Interior Slabs on Grade	3000	0.45	6	1"	F0	S0	C0
All other site cast concrete	4500	0.45	6	1"	F1	S0	C1

- \* Exposure Classes are per ACI 318, Section 19.13.1.1, where F, S and C are exposure categories for
- freezing and thawing, sulfate, and corrosion protection of reinforcement, respectively. B. Cementitious Materials:
- 1. Portland Cement (ASTM C150):
- a. Type I or II for exposure class S0.
- 2. Fly Ash (ASTM C618, Class C or F): maximum fly ash content as a percentage of total weight of cementitious materials shall be 25 percent. C. Concrete Density (Maximum Air Dry Weight):
- 1. Normal weight concrete shall be approximately 145 to 155 pounds per cubic foot. Aggregate shall be ASTM C33
- D. Steel Reinforcement:
- 1. ASTM A615 Grade 60, fy = 60,000 psi min. unless noted otherwise. E. Wire Reinforcement:
- 1. Welded wire fabric (WWF): ASTM A1064.
- F. Admixtures:
- 1. Air-entraining admixtures, comply with ASTM C 260 (when used).
- a. Tolerance on air content as delivered shall be +/- 1.5%.
- b. When air content of a trowel finished floor slab exceeds 3%, there is an increased risk for delaminations and blistering to occur. When this situation is present, the contractor shall pay special attention to the finishing procedures to help minimize such risks. Refer to ACI 302.1R-15 "Guide for Concrete Floor and Slab Construction" for proper finishing
- 2. The use of super plasticizers and water reducers is allowed, but not required.
- 3. Calcium chloride or admixtures containing calcium chloride shall not be added to the concrete
- G. Chloride Ion: Maximum water soluble chloride ion concentrations in hardened concrete at age between 28 and 42 days contributed from the ingredients including water, aggregates, cementitious materials, and admixtures shall not exceed a maximum, by weight of cement, of 1.00% for concrete with exposure class C0, 0.30% for concrete with exposure class C1, and 0.15% for concrete with exposure class C2.
- H. Slump Limit: 4 inches, maximum for all concrete prior to the addition of plasticizers and water reducing admixtures. The concrete supplier shall indicate the final slump of each concrete mix in
- I. Shrinkage Limit: Interior slabs on grade shall have a drying shrinkage limit of 0.040 percent tested in accordance with ASTM C157. Drying shrinkage test results shall be submitted with mix
- J. Only one grade or type of concrete shall be poured on the site at any given time.
- 3.2. Formwork shall comply with ACI Standards Publication 347 and the project specifications. The contractor shall be responsible for the design, detailing, care, placement and removal of the formwork and shores.

- 3.3. Concrete cover requirements for deformed bar reinforcing steel shall comply with ACI 318, "Building
  - Code Requirements for Structural Concrete". A. Cast-in-place Concrete: **Specified Cover** Cast against and permanently exposed to earth:
- 2. Formed concrete exposed to earth or weather: #5 and smaller bars... . 1.1/2"
- 3.4. Construction Joints and Control Joints:
- A. Provide a surface intentionally roughened to 1/4" amplitude in all wall footings. A continuous keyway shall not be used for concrete shear wall to footing connections, unless specifically indicated. Refer to project plans, schedules and details for the shear wall to footing connection requirements.
- B. All horizontal and vertical construction joints shall have a surface intentionally roughened to 4" amplitude. A continuous 2 X 4 keyway may be used on elements other than shear walls.
- C. Provide reinforcement dowels to match the member reinforcement across the joint, unless noted otherwise. For dowels across construction joints and wall to footing connections of concrete
- shear walls, refer to specific project plans, schedules, and details. D. Construction joints in suspended concrete pours shall be made at the center of spans.
- E. Slabs on grade shall have construction or control joints spaced not to exceed 30 times the slab thickness in any direction.
- F. Control joints shall be installed in slabs on grade so the length to width ratio of the slab is no more than 1.25:1. Control joints shall be completed within 12 hours of concrete placement. See typical details for joint configuration.
- G. Control joints in visually exposed walls, unless noted otherwise: (Joints shall line up with masonry and architectural joints, see drawings.)
- Vertical control joints at 10'-0" on center. 2. Reinforcing shall be continuous through control and construction joints, unless noted
- 3. Control joints in concrete foundation walls shall line up with masonry control joints.
- 3.5. Detailing: All reinforcing, including welded wire fabric, shall be detailed, bolstered & supported to comply with ACI 315, "Details and Detailing of Concrete Reinforcement" and the Concrete Reinforcing Steel Institute (CRSI) recommendations. Reinforcing bars shall not be welded unless specifically shown on drawings.
  - A. Lap splice lengths shall be detailed to comply with the CONCRETE REINFORCING BAR DEVELOPMENT AND LAP SPLICE SCHEDULE
  - B. All embedded elements and dowels shall be securely tied to formwork or to adjacent reinforcing prior to the placement of concrete
  - C. Use chairs or other support devices recommended by CRSI to support and tie reinforcement bars and welded wire fabric prior to placing concrete. Welded wire fabric shall be continuously supported at 36" o.c. maximum.
- D. Contractor shall coordinate placement of all openings, curbs, dowels, sleeves, conduits, bolts, inserts and other embedded items prior to concrete placement.
- E. All reinforcement shall be bent cold, and shall be bent only once at the same location. All reinforcement shall be shop bent, unless otherwise permitted by the engineer.
- 3.6. No aluminum conduit or product containing aluminum or any other material injurious to concrete shall be embedded in concrete.
- 3.7. Unless otherwise noted, all slabs on grade shall be 4" thick.

#### 4. Masonry

- 4.1. Materials shall comply with the Standards specified in TMS 402-13/ACI 530-13/ASCE 5-13 and TMS 602-13/ACI 530.1-13/ASCE 6-13, "Building Code Requirements and Specification for Masonry Structures."
  - A. Materials, unless noted otherwise:
- 1. Concrete Masonry 8" Blocks to be ASTM C 90, Medium Weight. 10" Blocks to be ASTM C 90,
  - 2. Material Strength: The Prism Test Method or the Unit Strength Method according to TMS 602-13/ACI 530.1-13/ASCE 6-13 Section 1.4B may be used to determine the compressive strength of masonry assemblies. The contractor shall select the desired method and meet the required material strengths as follows:
  - a. Prism Test Method. TMS 602-13/ACI 530.1-13/ASCE 6-13 Section 1.4B.3:
  - 1) Concrete Masonry Unit Assembly, f'm = 2000 psi.
  - b. Unit Strength Method, TMS 602-13/ACI 530.1-13/ASCE 6-13 Section 1.4B.2: 1) Concrete Masonry Units, minimum unit strength of 2000 psi average or better. (f'm =
  - 3. Mortar: Use Type "S" according to ASTM C270, proportion specification. Admixtures shall not be added to the mortar mix.
  - 4. Grout: For masonry assemblies with f'm = 2,000 psi or less conform to ASTM C476, proportion specification. Grout that does not meet the requirements of ASTM C476 proportion specification or that is used in masonry assemblies with f'm > 2,000 psi shall meet the following requirements: Meet the material requirements of ASTM C476, obtain a minimum compressive strength of f'm or 2,000 psi, whichever is larger, at 28 days tested according to ASTM C1019, and a slump of 8 in. to 11 in. as determined by ASTM C143.
  - a. Self-Consolidating Grout: Conform to the material requirements of ASTM C476, obtain a minimum compressive strength of f'm or 2,000 psi, whichever is larger, at 28 days tested according to ASTM C1019, obtain a slump flow of 24 in. to 30 in. as determined by ASTM C1611, and shall have a Visual Stability Index less than or equal to 1 as determined in
  - accordance with ASTM C1611 Appendix X.1. Field addition of admixtures is not permitted. 5. Reinforcing: Grade 60 reinforcing steel shall comply with ASTM A615. Wire joint reinforcing shall comply with ASTM A951.
  - 6. Deformed Bar Anchors (DBA): All DBAs shall comply with ASTM A496.
  - 7. Anchor Bolts (AB): ASTM A307 with ASTM A563 heavy hex nuts and hardened washers,
  - Grade A, unless noted otherwise. 8. Headed Stud Anchors (HSA): Manufacture all HSAs in conformance with ASTM A108 with dimensions complying with AISC specifications.
- 4.2. Construction Requirements:
- A. Mortar Joints: Joints shall be "concave", "V-joint" or "weathered raked" for structural members unless noted otherwise on architectural drawings.
- B. Masonry walls, beams and columns shall be constructed with running bond, unless noted
- C. Grouting Requirements: Comply with IBC Section 2104 and ACI 530.1/ASCE 6/TMS 602 Section 3.5. Grout shall be mechanically consolidated and mechanically reconsolidated according to TMS 602/ACI 530.1/ASCE 6 Section 3.5 E.
- 1. Grout Pour Heights that exceed 4 feet shall meet the following requirements:
- a. Provide cleanouts in the bottom course of masonry for each grout pour in accordance with ACI530.1/ASCE 6/TMS 602 Section 3.2 F. b. For grout other than Self Consolidating Grout a demonstration panel representative of the
- proposed wall construction and construction procedures shall be provided and approved by the Architect. The demonstration panel may be a part of the completed construction as approved by the Architect. c. For Self Consolidating Grout placed in masonry that has cured for at least 4 hours, place
- in lifts not exceeding the Maximum Grout Pour Height in listed in ACI 530.1/ASCE 6/TMS 602 Table 7.
- 2. When grouting, form grout keys between grout pours. Form grout keys between grout lifts when the first lift is permitted to set prior to placement of the subsequent lift.
- a. Form a grout key by terminating the grout a minimum of 1.1/2 in. below a mortar joint.
- b. Do not form grout keys within beams.
- c. At beams or lintels laid with closed bottom units, terminate the grout pour at the bottom of the beam or lintel without forming a grout key. D. Reinforcing Bars shall not be welded unless specifically shown on drawings. In such cases, use
- only AWS standards. Do not substitute reinforcing bars for DBAs or HSAs. E. Control Joints: Spacing shall not exceed 40'-0" or 2.5 times the wall height, whichever is less. Joints shall not be located over masonry openings, and shall be a minimum of the schedule
- masonry column width away from masonry openings. See architectural drawings for locations. F. Grout all beam and joist pockets solid after installation of beams and joists.

- G. Masonry Veneer Attachment and Reinforcing:
- 1. Joint reinforcement: Veneer shall have continuous galvanized wire joint reinforcement of wire size W1.7 (#9 gauge) spaced at 18" o.c. maximum. Mechanically attach veneer anchors to the joint reinforcing with Hohmann & Barnard Seismiclip Interlock System (or engineer approved equivalent).
- 2. To steel stud and wood stud walls: Veneer shall be attached to the studs with Hohmann & Barnard DW-10HS seismic veneer anchors (or engineer approved equivalent) spaced at maximum 16" o.c horizontally and 18" o.c. vertically. Veneer anchors shall be attached to studs with #10 corrosion resistant self-drilling screws.
- 3. To concrete walls: 22 gauge galvanized dovetail slots shall be installed vertical in concrete at maximum 16" o.c. horizontal spacing. Attach the veneer to dovetail slots with Hohmann & Barnard #315 BT Flexible Brick Tie at maximum 18" o.c. vertically. Dovetail slots and anchor ties shall be galvanized.
- 4. To reinforced masonry walls: Veneer shall be attached with tri-rod laddur type reinforcement spaced at a maximum of 16" o.c. vertically consisting of 3 – W1.7 (#9 gauge), galvanized, corrugated, continuous wires. Cross wires shall be W1.7 (#9 gauge) galvanized wires welded to the longitudinal wires and spaced at a maximum of 16" o.c. horizontally. Veneer may also be attached with Hohmann & Barnard 285 Grip-Lok Ladder (or engineer approved equivalent) spaced at maximum 16" o.c. horizontally and 18" o.c. vertically. Where the joints in the veneer and masonry back up walls do not align, attach veneer with Hohmann & Barnard 364 SV Seismic-Notch Gripstay Channel Slot Anchor seismic veneer anchors (or engineer approved equivalent).
- 5. Other methods of attachment may be used after written acceptance by the architect and structural engineer.
- 6. Steel Lintels: Provide steel angle lintels at all openings through the masonry veneer. Provide one inch of bearing for each foot of width of opening, with a minimum bearing of six inches. See the Steel Angle Lintel Schedule for size.

#### 4.3. Detailing Requirements:

- A. Standards: Reinforcing detailing shall comply with American Concrete Institute (ACI) Standard 315, "Details and Detailing of Concrete Reinforcement."
- B. Reinforcement Protection (cover):
- 1. Joint reinforcement shall have not less than 5/8" mortar coverage from the exposed face. 2. Other reinforcement shall have a minimum coverage of one bar diameter over all the bars, but
- not less than 3/4". When masonry is exposed to soil, minimum coverage shall be 1.5". C. Vertical steel reinforcement shall be placed and secured against displacement prior to grouting by wire positioners or other suitable devices; at intervals not exceeding 112 bar diameters, at the grout lift heights, or at bar splice locations, whichever is less. Vertical reinforcing shall be located at the center of the wall, unless noted otherwise.
- D. Lap Splice Lengths: Lap all masonry reinforcing bars per the "Masonry Reinforcing Bar Lap Splice Schedule." Joint reinforcement shall lap a minimum of 6".
- E. Corner Bars: Horizontal reinforcement shall be continuous at all corners and at intersecting walls. Provide corner bars with the required lap splice length
- F. Dowels: All vertical reinforcing shall be doweled to the foundation wall, footing (structure below) and to the structure above with the same size dowel, spacing (and in the same core) as the vertical wall reinforcing unless noted otherwise.
- G. Wall Openings 24" wide and wider: Provide reinforced masonry lintels per Masonry Lintel Schedule over the top of, and 2 - #5 bars, in grouted spaces, on all sides and adjacent to every unscheduled opening, unless noted otherwise. Bars for all openings shall extend a minimum of 48 bar diameters beyond the corners of the opening. Vertical bars shall extend from floor level below to the floor, or roof, level above. Where a 48 bar diameter extension is not possible, extend bars as far beyond the opening as possible and terminate them with a 90 degree standard ACI
- H. Horizontal wall reinforcing shall be continuous through joining concrete walls, masonry walls, columns, and pilasters. Provide a key between the wall and the column or pilaster. Horizontal wall reinforcing shall be placed inside the column vertical reinforcing.
- stud anchors shall have 1" grout surrounding the shank at its penetration. Grout shall be flush with the face or top of the masonry.

I. Anchor bolts and headed stud anchors shall be set in a grouted cell. Anchor bolts and headed

#### J. The exposed face of all embed plates shall be set flush with the face of masonry wall or column.

4.4. Minimum Reinforcing: All masonry walls shall be reinforced as follows, unless shown otherwise on the drawings.

info	nforcing shall be placed in grouted cells.				
	Wall Thickness	Horizontal Reinforcing	Vertical Reinforcing		
	6"	#4 @ 48" o.c.	#5 @ 32" o.c.		
	8"	#5 @ 48" o.c.	#5 @ 32" o.c.		
	10"	#6 @ 48" o.c.	#6 @ 32" o.c.		
	12"	2 - #5 @ 48" o.c.	#6 @ 32" o.c.		

#### 5. Structural Steel

#### 5.1. Material:

- A. All Other Shapes and Plates: ASTM A36 (Fy = 36 ksi), except as noted otherwise
- B. Deformed Bar Anchors (DBA): ASTM A496 or ASTMA1064, 70 ksi minimum yield strength.
- C. Headed Stud Anchors (HSA): ASTM A108, with dimensions complying with AISC specifications D. Anchor Rods: ASTM F1554, Grade 36, unless noted otherwise, with ASTM A563 heavy hex nuts and ASTM F436 hardened washers
- 5.2. Structural shapes and plates shall be fabricated from newly rolled (milled) one-piece sections without splices, unless specifically noted otherwise on the structural drawings. Connections for structural steel shall comply with the structural drawings, unless written approval is given by the structural enaineer.

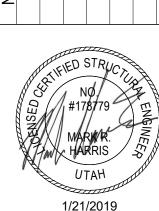
#### 5.3. Welding:

- A. It is recommended the steel erection contractor and steel fabricator contact the Quality Assurance Agency prior to beginning any welds. A program of joint preparation and welding procedures should be worked out between the two parties before the welding is started so that correct welds
- will be made from the beginning. B. Certification of Welders: All shop and field welding shall be executed by AWS certified welders who have been specifically certified for the process of welding being performed. The welder's certification will be considered as being current unless the welder is not engaged in the process of welding being performed for a period exceeding six months or there is a specific reason to question a welder's ability as required by AWS. Certification and records must comply with AWS Standards. Certification and appropriate records must be provided to the architect prior to
- C. Electrodes: E-70 XX or as noted otherwise. E60 XX may be used for welding steel floor and roof D. Minimum Welds: All intersecting steel shapes that are not bolted shall be connected by a fillet
- weld all around, unless noted otherwise. Fillet weld sizes that are not shown shall be 1/16" less than the thinnest of the connected parts for thicknesses 1/4" and larger. Fillet welds on plates less than 1/4" shall be of the same size as the thinnest of the connected parts.
- E. Reinforcing Bars: Do not weld rebar except as specifically detailed in the drawings. In such cases, use only AWS standards. Do not substitute reinforcing bars for deformed bar anchors (DBAs), machine bolts, or headed stud anchors (HSAs). F. Bolts: Do not apply any welds, including "tack" welds to bolts, including anchor bolts, except as
- specifically detailed in the drawings. G. Headed Stud Anchor (HSA) welding and Deformed Bar Anchor (DBA) welding shall conform to the manufacturer's specifications. Welding shall comply with AWS D1.1 Section 7.6 through 7.9

## 5.4. Steel Lintels

and Annex G.

A. Provide steel angle lintels at all openings through the masonry veneer. Provide one inch of bearing for each foot of width of opening, with a minimum bearing of six inches. See the Steel Angle Lintel Schedule for size.



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ERRIMAN CITY
EERING DEPARTMENT
ETERY RESTROOM BUILDING
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CEMETI 6018 \

#### 6. Wood

- 6.1. Fabrication and construction shall comply with the following Codes and Standards:
  - A. American Wood Council National Design Specification for Wood Construction 2015 Edition and Supplement (NDS and NDS Supplement)
  - B. American Wood Council Special Design Provisions for Wind and Seismic 2015 Edition (SDPWS) C. Truss Plate Institute National Design Standard for Metal-plate-connected Wood Truss Construction 2014 Edition (TPI 1)
- 6.2. Materials:
- A. Sawn Lumber: Members shall be identified by the grade mark and shall conform to the requirements of DOC PS 20.
  - 1. Dimension Lumber: Members shall be Number 2 Douglas Fir-Larch or better or as noted
- 2. Heavy Timber: Timbers larger than 5"x5" shall be Douglas-Fir Larch Number 1 or better or as noted otherwise, as graded by WWPA.
- C. Wood Structural Panel Sheathing: All panels shall be rated by the American Plywood Association (APA). Panels shall bear the stamp of an approved testing and grading agency. Panels shall be grade DOC PS 1 or PS 2 with exterior glue with the following panel span rating, unless noted otherwise

Area to be sheathed	Span Rating	Minimum Thickness (in)
Roofs	40/20	19/32

D. Nails as referenced in these documents shall meet the tolerances in ASTM F1667 and have the following properties:

Tollowing proportion							
			Co	ommon	Galva	nized Box	
Nail Size	Length	Minimum Penetration	Shank Diameter	Dowel Bending Yield Strength (psi)	Shank Diameter	Dowel Bending Yield Strength (psi)	
6d	2"	1.1/8"	0.113"	100,000	0.099"	100,000	
8d	2.1/2"	1.3/8"	0.131"	100,000	0.113"	100,000	
10d	3"	1.1/2"	0.148"	90,000	0.128"	100,000	
16d	3.1/2"	1.5/8"	0.162"	90,000	0.135"	100,000	
20d	4"	2"	0.192"	80,000	0.148"	90,000	

When used to attach structural sheathing nails shall be common or galvanized box type nails. All other nails shall be common type nails.

- E. Bolts for connections: ASTM A307 with ASTM A563 heavy hex nuts and standard washers unless
- F. Lag screws for connections: SAE J429 Grade 1 or ASTM A307 Grade A with dimensions per ANSI/ASME B18.2.1. Minimum dowel bending yield strength to be 45,000 psi.
- 6.3. Special Treatments:
- A. Preservative Treatment:
- 1. The following conditions require that wood members be either naturally durable or preservative
- a. All wood in contact with concrete or masonry which is less than 8 in from exposed earth or
- b. Any wood member exposed to the weather without covering or protection to prevent water or moisture accumulation.
- 2. Preservative-treated wood shall meet the requirements in IBC Section 2303.1.9. Preservativetreated wood shall be treated to meet the requirements of AWPA Standard U1 and M4 according to species, use, and preservative. Preservatives used shall be listed in AWPA U1, Section 4. Preservative-treated wood shall be identified by the mark of an accredited inspection agency. Preservative treated wood shall have a moisture content of less than 19% prior to being enclosed or covered.
- B. Fasteners, including nuts and washers, in contact with treated wood shall meet the following criteria as per IBC Section 2304.10.5:
- 1. Fasteners in contact with preservative-treated wood shall be hot-dipped galvanized steel, stainless steel, silicon bronze or copper. Fasteners other than nails, wood screws, timber rivets, and lag screws may be mechanically-deposited zinc-coated steel with coatings meeting ASTM B 695, Class 55 minimum. Fasteners used in exterior applications shall be per fastener manufacturer's recommendations.

#### 6.4. General Framing and Carpentry

- A. Minimum Nailing Requirements (See drawings for areas with greater requirements):
- 1. Roof: Use two plyclips between each support for spans of 48" o.c. and one plyclip between each support for lesser spans at all unsupported panel edges. Provide 1/8" gap between panels. Nail all sheathing panels to common framing with 10d common nails at 6" o.c. at all supported edges and at 12" o.c. at all intermediate supports.
- B. Connect all items as per the "Minimum Nailing Schedule" contained within the contract drawings and IBC Table 2304.10.1, "Fastening Schedule", unless noted otherwise.
- C. All blocking shall, unless noted otherwise, be nominally 2 in thick minimum and fit tight against
- 1. Full-depth blocking shall match the depth of adjacent framing member depths. Full-depth blocking shall be shaped to match diaphragm slope. Full-depth blocking cut from I-joist material of the same depth as the I-joists used in floor/roof construction may be used for flat floors or roofs
- D. Provide full-depth shaped blocking at joist supports and where indicated.
- E. Full-depth blocking between joists shall be nailed to the wood plate at the top of masonry walls with one Simpson "A35" framing anchor per each piece of blocking, unless noted otherwise.
- F. Coordinate size and locations of middle or end notching for roof ventilation with architectural
- G. All required bridging and bracing for prefabricated wood I-joists shall be provided by joist manufacturer and installed by contractor. All penetrations through the joists shall be done per manufacturers' recommendations and requirements.
- H. Lateral support of non-bearing walls shall be provided per TYPICAL WOOD NON-BEARING WALL BRACING DETAIL. Framing members shall not bear on non-bearing walls.

#### 6.5. Framing Connections

- A. Simpson Strong Tie Connectors are used as the basis of design. Alternate connectors are permitted with approval of the engineer. The Contractor shall submit the proposed product data and code evaluation report demonstrating the connector is equivalent or exceeds the capacity of
- B. Framing connections not indicated shall be connected in a manner similar to typical details in the drawings and the engineer shall be notified prior to the procurement of connector materials.
- C. Where framing connection type is specified without reference to a specific model no. the highest capacity model hanger of that type which is compatible with the member to be supported shall be used unless noted otherwise in the drawings.
- D. All framing connectors supporting roof members where additional uplift capacity is available shall be fastened to achieve such.
- E. Fill holes in the framing anchors per manufacturer's requirements, unless noted otherwise.

#### 6.3. Pre-Fabricated Steel Plate Wood Trusses (Trusses):

- A. Trusses shall be designed in accordance with IBC Section 2303.4 and TPI 1.
- B. Design Loading: The truss manufacturer is responsible for design and fabrication of the trusses. They shall be designed to support the concentrated and other distributed loads as shown in the drawings. In addition to loads shown, the truss designer shall coordinate and incorporate any additional loads from mechanical equipment, fire sprinkling systems, architectural elements, and hanging walls supported by the trusses. Provide extra trusses where required. As a minimum, the truss bottom chord shall be designed for a 4 psf dead load.
- C. Unless properly coordinated with the truss designer, truss bottom chords shall not be permitted to support mechanical or electrical equipment, plumbing, fire sprinklers, or hanging wall.
- D. Deflection of floor trusses due to live load shall be limited to L/480 and L/360 due to live load and total dead + live load respectively.
- E. Minimum specific gravity of wood truss members shall be G=0.5.
- F. Submittals:
- 1. The Truss submittal package shall include design drawings and calculations for each unique truss, a truss placement diagram for each individual truss and details for permanent truss restraint/bracing.
- a. Truss Design Drawings shall meet the requirements of IBC Section 2303.4.1.1

- b. Truss design drawings must bear the seal and signature of a design professional registered
- to practice in the jurisdiction of the project location. c. Truss placement diagrams shall meet the requirements of IBC Section 2303.4.2
- G. Steel Connector Plates: Use only galvanized steel connector plates that comply with the Truss Plate Institute publication, TPI 1, latest edition. All steel connector plates must be approved by the ICC Evaluation Services. Submit a copy of the ICC Code Evaluation Report for the connector plate used. Values established by this committee must be indicated on the shop drawings.
- 1. Plates shall be pressed or rolled into member to obtain full penetration without crushing the outer surfaces of wood.
- 2. Steel plates at compression web members shall be designed to resist 100% of the compression force without considering wood to wood bearing.
- H. Wood Members: All wood members of the truss shall be constructed of kiln dried lumber. The trusses shall be handled and stored in a manner to prevent moisture from being absorbed by the wood. Grade stamps shall be visible on framing members.
- I. Lateral Bracing/Restraint: Permanent Lateral bracing/restraint and bridging shall be installed by the General Contractor as required by the truss designer and specified on the pre-fabricated wood roof truss design drawings
- 1. The truss installer shall follow the BCSI recommendations for handling of trusses and for both permanent and temporary bracing.
- J. Prior to the fabrication of the pre-fabricated wood trusses, the contractor shall submit, in writing, proof of compliance of in-plant inspection by an ICC approved independent inspection agency. The in-plant inspections shall comply with section 1704.2 of the International Building Code.
- K. The truss manufacturer's identification stamp shall be clearly visible. Truss members and connections shall not be cut, notched, drilled, spliced or otherwise altered

(including additional loads) in any way without prior written approval of the engineer.

#### 7. Miscellaneous

- 7.1. Post-Installed Anchors in Concrete and Masonry
  - A. Anchorage to hardened concrete and grout-filled masonry shall include all mechanical and adhesive anchors and epoxy doweled reinforcing bars of size, quantity, spacing, and embedment as shown on the drawings. Additional anchors shall not be used without approval from the Engineer prior to installation.
  - B. Special inspection is required during the installation of all post-installed anchors. Refer to applicable code evaluation reports and the Quality Assurance and Statement of Special Inspections sections of the General Structural Notes.
- C. Anchorage to Concrete:
- 1. All post-installed anchors into hardened concrete shall be selected from the following preapproved products, unless noted otherwise:

Steel Screw Anchor	Evaluation Report
Hilti KWIK HUS-EZ	ICC ESR-3027
DeWalt Screw-Bolt+	ICC ESR-3889
Simpson Titen HD	ICC ESR-2713
Steel Expansion/Wedge Anchor	Evaluation Report
Hilti KWIK Bolt TZ	ICC ESR-1917
ITW Red Head Trubolt+	ICC ESR-2427
DeWalt Power-Stud+ SD2	ICC ESR-2502
Simpson Strong-Bolt 2	ICC ESR-3037
Adhesive Anchor System	Evaluation Report
Hilti HIT-HY 200	ICC ESR-3187
Hilti HIT-RE 500-V3	ICC ESR-2322
DeWalt AC200+	ICC ESR-4027
DeWalt Pure 110+	ICC ESR-3298
Simpson SET-XP	ICC ESR-2508

- 2. Adhesive anchors shall be installed into concrete having a minimum age of 21 days. For installations sooner than 21 days, consult the adhesive manufacturer.
- D. Anchorage to Masonry:
- 1. All post-installed anchors into grout-filled masonry shall be selected from the following preapproved products, unless noted otherwise:

Steel Screw Anchor	Evaluation Report
Hilti KWIK HUS-EZ	ICC ESR-3056
DeWalt Screw-Bolt+	ICC ESR-4042
Simpson Titen HD	ICC ESR-1056
Steel Expansion/Wedge Anchor	Evaluation Report
Hilti KWIK Bolt 3	ICC ESR-1385
DeWalt Power-Stud+ SD1	ICC ESR-2966
Simpson Wedge-All	ICC ESR-1396
Adhesive Anchor System	Evaluation Report
Hilti HIT-HY 270	ICC ESR-2682
DeWalt AC100+ Gold	ICC ESR-3200

- Alternate anchors or adhesives are permitted with approval of the engineer. The Contractor shall submit the proposed anchor product data and code evaluation report demonstrating the anchor is equivalent or exceeds the capacity of the specified anchor.
- F. Installation of adhesive anchors horizontally or upwardly inclined to support sustained tension loads shall be performed by personnel certified by an applicable certification program. Certification shall include written and performance tests in accordance with the ACI/CRSI Adhesive Anchor Installer Certification program, or equivalent. Proof of current certification shall be submitted to the engineer for approval prior to commencement of installation.
- G. Anchors shall be installed according to the Manufacturer's Printed Installation Instructions and applicable code evaluation reports including:
- 1. Hole diameter, depth, and cleaning procedure
- 2. Adhesive mixing, preparation, and placement
- Installation torque
- H. Locate all existing reinforcement and embedded items prior to drilling into concrete or masonry elements. Do not damage rebar or embeds while drilling or installing anchors.
- I. Grout all defective or abandoned holes with non-shrink grout or an injectable epoxy adhesive matching the surrounding concrete compressive strength. Consult the Architect for additional requirements at architecturally exposed concrete.
- J. Drilled anchors are not allowed in post-tensioned concrete without approval of the architect and
- K. Carbon steel anchors are limited to use in dry, interior locations.

#### 8. Special Instructions

- 8.1. The project specifications are not superseded by the General Structural Notes but are intended to be complementary to them. Consult the specifications for additional requirements in each section. Notes and specific details on the drawings shall take precedence over General Structural Notes and typical
- 8.2. The architectural drawings are the prime contract drawings. Consultant drawings by other disciplines are supplementary to the architectural drawings. All omissions or conflicts, including dimensions, between the various elements of the consultants' drawings and/or specifications shall be brought to the attention of the Architect before proceeding with any work involved. In case of conflict, follow the most stringent requirement as directed by the Architect without additional cost to the owner. Any work done by the contractor after discovery of such discrepancy shall be done at the contractor's risk.
- 8.3. The structural drawings shall be used in conjunction with the architectural drawings. Primary structural elements and overall structural layout are indicated within the structural plans and details. Some secondary elements, architectural layouts, alcoves, elevations, slopes, depressions, curbs, mechanical equipment and electrical equipment, are not indicated within the structural drawings. Detailing and shop drawing production for structural elements will require information (including dimensions) contained in the architectural, structural and/or other consultants' drawings.

8.4. Shoring and Bracing Requirements:

- A. Roof Structures -- The General Contractor is responsible for the method and sequence of all structural erection. He shall provide temporary shoring and bracing as his method of erection requires to provide adequate vertical and lateral support. Shoring and bracing shall remain in place as the chosen method requires until all permanent members are in place and all final connections are completed, including all roof and floor attachments. The building shall not be considered stable until all connections are complete.
- B. Foundation walls must be braced until the complete floor or roof systems is completed. Do not backfill until floor or roof systems are in place.
- C. Walls above grade shall be braced until the structural system is complete. Walls shall not be considered to be self-supporting.
- 8.5. Submittals: A copy of all shop drawings that have been submitted for review must be kept at the construction site for reference. These drawings must bear the appropriate review stamps. The shop drawing review shall not relieve the contractor of the responsibility of completing the project according to the contract documents. The general contractor shall review and mark all shop drawings prior to submitting them to the Architect for his review. Shop Drawings made from reproductions of (these) contract drawings will be rejected.
- 8.6. Project Coordination: It shall be the responsibility of the general contractor to coordinate with all trades any and all items that are to be integrated into the structural system. Openings or penetrations through, or attachments to the structural system that are not indicated on these drawings shall be the responsibility of the general contractor and shall be coordinated with the Architect/Engineers. The order of construction is the responsibility of the general contractor. It is the contractor's obligation to provide all items necessary for his chosen procedure.
- 8.7. Contractor shall field verify all dimensions, and conditions. If the contract drawings do not represent actual conditions, contractor shall notify architect/engineer prior to fabrication or construction within
- 8.8. Notice of Copyright: The structural drawings, plans, schedules, notes and details are hereby copyrighted by Reaveley Engineers and Associates, Inc., All Rights reserved. Submission or distribution of documents to meet official regulatory requirements or for similar purposes in connection with the project is not to be construed as publication in derogation of Reaveley Engineers and Associates, Inc.'s reserved rights. The documents defining the structure are instruments of service prepared by Reaveley Engineers and Associates, Inc. for one use only. Furthermore, these documents shall not be reproduced, or copied, in whole or in part by the contractor or his subcontractors for preparation of shop drawings or other submittals.

#### 9. Quality Assurance

- 9.1. Quality Assurance Agency Requirements:
  - A. The Owner shall engage a qualified Quality Assurance Agency (QAA) to provide all special inspection and quality assurance testing for the project. The QAA shall provide all information necessary for the building official to determine that the agency meets the applicable requirements 1. The QAA shall be objective, competent and independent from the contractor responsible for the work being inspected. The agency shall also disclose possible conflicts of interest to
  - confirm objectivity. 2. The QAA shall have adequate equipment to perform required tests.
  - 3. The QAA shall employ experienced personnel educated in conducting, supervising and evaluating tests and/or inspections. Experience or training shall be considered relevant when the documented experience or training is related in complexity to the same type of special inspection activities for projects of similar complexity and material qualities.
  - 4. Prior to the start of construction, the QAA shall submit to the building official, the owner architect and engineer copies of the following:
  - a. Current calibration records for all equipment to be used for the work being inspected and/or
  - b. Current certification and training records for each individual performing the inspections
  - and/or testing. c. Sample inspection and testing reports and the distribution list for the records.
  - d. Proposed inspection procedures and frequency for each inspection required by the work. e. Proposed testing methods and frequency of testing required by the work.
  - 5. The QAA shall send copies of all inspection and testing reports to the building official, owner, architect, engineer and contractor. Reports shall indicate that the work inspected was or was not completed in conformance to the approved construction documents. Discrepancies shall be brought to the immediate attention of the contractor for correction. If they are not corrected, the discrepancies shall be brought to the attention of the building official, architect and
  - 6. The QAA shall submit a final report documenting required special inspections and correction of any discrepancies noted in the inspections. The final report shall be distributed to the building official, owner, architect and engineer in a timely manner prior to the completion of the project.

#### 9.2. Contractor Responsibilities:

- A. Each contractor responsible for the construction of a system or component requiring special inspections or testing shall submit a written statement of responsibility to the building official, owner, architect and engineer prior to the commencement of the work. The contractor's statement of responsibility shall contain the following:
- 1. Acknowledgement of awareness of the special requirements defined in the statement of special inspections. 2. Acknowledgement that control will be exercised in order to obtain conformance to the
- approved construction documents. 3. Contractor's internal quality control procedures, methods and measures to be used in order to obtain conformance to the approved construction documents. Include copies of quality control
- reports, frequency of reporting and distribution of reports. 4. Identification and qualifications of the person(s) responsible for quality control and their position(s) within the organization.
- B. Notification of Engineer: The contractor shall notify the engineer twenty-four hours prior to the items listed in the Structural Observations by the Engineer of Record section.
- C. Notification of QAA: The contractor shall notify the QAA in a timely manner so that inspection and testing may be performed as outlined in the statement of special inspections.

#### 9.3. Structural Observations by the Engineer of Record.

- A. The Engineer of Record will perform a structural observations once prior to the completion of the project. Copies of the engineer's report will be distributed to the architect, contractor, owner, and building official.
- B. Observation visits to the site by the Engineer's field representatives shall not be construed as inspection or approval of construction.







ERRIMAN CITY
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ETERY RESTROOM BUILDING
8 W. HERITAGE HILL DRIVE HEF 1€T 18

#### 10. Statement of Special Inspections

- 10.1. The following materials, systems and components require special inspection or testing per Chapter 17 of the International Building Code (IBC).
- 10.2. For items requiring continuous inspection, a special inspector must be present onsite during the performance of that task. In most cases, periodic inspections/tests shall be performed prior to commencing the task, intermittently during the task, and at the completion of the task.

#### Concrete Construction per IBC Sections 1705.3 &1705.12

ncrete Construction per IBC Section	JIIS 1705.3 & 1705.12	
tem Reinforcing steel	Frequency Periodic	Detailed Instructions  Verify prior to placing concrete that reinforcing is of specified type, grade and size; that it is free of oil, dirt and rust; that it is located and spaced properly; that hooks, bends, ties, stirrups and supplemental reinforcement are placed correctly; that lap lengths, stagger and offsets are provided; and that all mechanical connections are installed per the manufacturer's instructions and/or evaluation report.
Welding of reinforcing steel	Periodic	Verify weldability of reinforcing steel other than A706. Continuous inspection is required for welding of reinforcing steel used in intermediate or special concrete moment frames, boundary elements of special structural walls or shear reinforcement.
Cast-in bolts & embeds	Periodic	
Post-installed adhesive anchors nstalled in horizontally or upwardly nclined orientations to resist sustained tension loads	Continuous	All post-installed anchors/dowels shall be special inspected in accordance with the approved code evaluation report and with ACI Section 17.8.2.
Post-installed mechanical anchors and adhesive anchors not defined above	Periodic	
Jse of required mix design	Periodic	Verify that all mixes used comply with the approved construction documents; ACI 318: Ch. 19, 26.4.3-26.4.4; and IBC 1904.1, 1908.2, 1908.3.
Concrete sampling for strength ests, slump, air content, and emperature	Continuous	Samples for strength tests shall be taken in accordance with ASTM C172, cured per ASTM C31 and tested in accordance with ASTM C39 by a testing agency complying with ASTM C1077. Acceptance criteria for strength tests shall be per ACI 318 Section 26.12.3. For each mix placed, samples shall be taken not less than once a day, nor less than once for each 150 yd³ of concrete, nor less than once for each 5000 ft² of surface area for slabs or walls. At the time fresh concrete is is sampled to fabricate specimens for strength tests, perform slump and air content tests and determine the temperature of the concrete.
Concrete & shotcrete placement	Continuous	
Curing temperature and techniques	Periodic	Verify that concrete is maintained at a temperature of at least 50°F and in a moist condition for at least 7 days after placement. Verify that high-early-strength concrete is maintained at a temperature of at least 50°F and in a moist condition for at least 3 days after placement. Accelerated curing methods may be used (see ACI 318: 26.5.3.2(c)). Shotcrete shall be maintained at a temperature of at least 40°F for the same period of time as noted for concrete and kept in the moist condition during curing periods in accordance to IBC 1908.9 All concrete materials, reinforcement, forms, fillers, and ground shall be free from frost. In hot weather conditions ensure that appropriate measures are taken to avoid plastic shrinkage cracking and that the specified water/cement ratio is not exceeded.
Formwork	Periodic	Verify that the forms are placed plumb and conform to the shapes, lines, and dimensions of the members as required by the approved construction documents.
Molding of Poinforcing Str -1 //DO T-1	blo 1705 21:	
Welding of Reinforcing Steel (IBC Tall Verification of weldability	Periodic	Verify weldability of reinforcing steel other than A706 based upon carbon equivalent and in accordance with AWS D1.4. Continuous inspection is required for welding of reinforcing steel used in intermediate or special concrete moment frames, boundary elements of special structural walls or shear reinforcement.
Other reinforcing steel	Periodic	Visually inspect all welds in accordance with AWS D1.4.
Single-pass fillet welds, 5/16" max	Periodic	
All other welds	Continuous	

#### Masonry Construction per IBC Section 1705.4

em	Frequency	Detailed Instructions
rior to Construction (Article 3.1.1, eview material certificates, mix esigns, test results and onstruction procedures	, ,	
		designs shall conform to ASTM C 270 while grout shall comply with the proportion or strength requirements of ASTM C 476 or be based upon compressive strength tests in accordance with ASTM C1019. Material certificates shall be provided for the following: reinforcement; anchors, ties, fasteners, and metal accessories; masonry units; mortar and grout materials. Construction procedures for cold-weather or hot-weather construction shall be reviewed.

Verify f' <sub>m</sub> prior to construction	Periodic	Determine the compressive strength for each wythe by the "unit strength method" or by the "prism test method" as specified in Section 1.4B of ACI 530.1-13 prior to construction.
Proportions of site-prepared mortar	Periodic	Verify that mortar is of the type and color specified on the construction documents, that it conforms to ASTM C 270, and that it is mixed in accordance with Article 2.6 A of TMS-602/ACI 530.1-13.
Construction of mortar joints	Periodic	Verify that mortar joints comply with Article 3.3 B of TMS-602/ACI 530.1-13.
Preparation of required grout specimens, mortar specimens and/or prisms shall be observed	Periodic	If the prism test method is used a minimum of three prisms shall be constructed in accordance with ASTM C1314. If the unit strength method is selected the compressive strength of the grout shall be determined per ASTM C1019 (not required if grout complies with ASTM C476).
Prior to Grouting (Table 3.1.2, TMS-	-402/ACI 530-13):	
Grout space	Periodic	Verify that grout space is free of mortar droppings, debris, loose aggregate, and other deleterious materials and that cleanouts are provided per Article 3.2 D and 3.2 F of TMS-602/ACI 530.1-13.
Grade, type, and size of reinforcement and anchor bolts	Periodic	Verify that reinforcement, joint reinforcement, wall ties, anchor bolts and veneer anchors comply with the approved construction documents and Section 1.6 of TMS 402/ACI 530-13.
Placement of reinforcement and connectors	Periodic	Verify that reinforcement, joint reinforcement, wall ties, anchor bolts and veneer anchors are installed in accordance with the approved construction documents and Articles 3.2 E, 3.4, and 3.6 A of TMS 602/ACI 530.1-13.
Proportions of site-prepared grout	Periodic	Verify that grout is proportioned per ASTM C 476 and has a slump between 8-11 inches. Self-consolidated grout shall not be proportioned onsite. (see Articles 2.6 B and 2.4 G.1.b of TMS 602/ACI 530.1-13
Placement of masonry units and construction of mortar joints	Periodic	Verify that face shells and head joints are fully mortared and that vertical cells are aligned and unobstructed openings for grout are provided. All units are to be clean and placed while mortar is soft and plastic. Verify that mortar joints are placed in accordance with Article 3.3 B of TMS 602/ACI 530.1-13.
D : 11	0 / 0 THO /00/40/50	
During Masonry Construction (Table Size and location of structural elements	9 3.1.2, TMS-402/ACI53 Periodic	Verify that structural elements are placed in locations specified on the approved construction documents and to the tolerances noted in Section 3.3F of TMS 602/ACI 530.1-13.
Type, size, and location of anchors, including other details of anchorage of masonry to structural members, frames, or other construction	Periodic	Verify that correct anchorages and connections are provided per the approved plans and Sections 1.16.4.3 and 1.17.1 of TMS 402/ACI 530-13. Verify that structural elements are placed in locations specified on the approved construction documents. Headed or bent bar anchor bolts shall be embedded in grout.
Welding of reinforcement	Continuous	
Preparation, construction, and protection of masonry during cold weather (<40°F) or hot weather (>90°F)	Periodic	Verify that cold-weather construction is performed in accordance with Article 1.8 C of TMS 602/ACI 530.1-13 and hot weather construction per Article 1.8 D of TMS 602/ACI 530.1-13.
Placement of grout	Continuous	
Self-consolidating grout	Continuous	Novie that we deal to be a little to the second of the sec
Placement of AAC masonry units and construction of thin-bed mortar joints	Periodic	Verify that mortar is placed in accordance with Article 3.3 B.8 of TMS-602/ACI 530.1-13.
Observation of grout specimens, mortar specimens, and/or prisms	Periodic	Confirm that specimens/prisms are performed as required by Article 1.4 of TMS-602/ACI 530.1-13.
Minimum Testing:		
Verification of Slump Flow and Visual Stability Index (VSI) for self-consolidating grout  Verification of f'm and f'AAC	Periodic Periodic	Compressive strength tests should be performed in accordance with ASTM C 1019 for slump flow and ASTM C 1611 for VSI.  Determine the compressive strength for each
- Simpation of Fill and FAAC	. 5.15410	wythe by the "unit strength method" or by the "prism test method" as specified in Article 1.4 B
		of TMS 602/ACI 530.1-13 prior to construction.

#### Soils per IBC Section 1705.6

Item	Frequency	Detailed Instructions
Verify subgrade is adequate to achieve design bearing capacity	Periodic	Prior to placement of concrete.
Verify excavations extend to proper depth and material	Periodic	Prior to placement of compacted fill or concrete.
Verify that subgrade has been appropriately prepared prior to placing compacted fill	Periodic	Prior to placement of compacted fill.
Perform classification and testing of compacted fill materials	Periodic	All materials shall be checked at each lift for proper classifications and gradations not less than once for each 10,000ft² of surface area.
Verify proper materials, densities and lift thicknesses during placement and compaction.	Continuous	

SUBMITTAL CONSTRUCTION TRIOR EMENT CHECKED BY: JTA/RE+A GOOD STRUCTION DESCRIPTION DATE NO. REVISION DESCRIPTION DESCRIPTION DESCRIPTION DESCRIPTION DESCRIPTION DESCRIPTION DESCRIPTION DESCRIPTION DATE NO. REVISION DESCRIPTION DESCRIP

FERRIMAN BAR

NGINEERING DEPARTMEN
CEMETERY RESTROOM BUILDING

SE003

	PL	AN LEGEND	COMBINED LEGENI
ა⊢	FOOTING STEP		MASONRY WALL
	FOOTING - CONTINUOUS		MASONRY WALL - RECESSED (FDTN PLAN) MASONRY LINTEL (FRAMING PLAN)
	FOOTING - THICKENED SLAB		MASONRY COLUMN IN MASONRY WALL
	FOOTING - SQUARE FOOTING - RECTANGULAR FOOTING - MAT FOOTING		
0"	CHANGE IN ELEVATION		
<del></del>	SLAB BLOCK-OUT AT COLUMN		
- CI	SLAB CONTROL/CONSTRUCTION JOINT		
	OPENING		
4 4 4	CONCRETE HOUSEKEEPING PAD		

		CTR	CENTER
		D.B.	DECK BEARING
		db	DIAMETER OF REINFOR
		DBA	DEFORMED BAR ANCHO
	DLAN MADIZO	DBL	DOUBLE
	PLAN MARKS	DET	DETAIL
<del>-</del> #	BRACED FRAME	DIA (OR Ø)	DIAMETER
3-#	CONCRETE BEAM	DIAG	DIAGONAL
C-#	CONCRETE COLUMN	DIM	DIMENSION
CSS-#	CANTILEVERED CONCRETE SUSPENDED	DK	DECK
	SLAB	DN	DOWN
OP-#	CONCRETE DRILLED PIER	DWG	DRAWING
	CONCRETE FOUNDATION WALL	DWL	DOWEL
GB-#	CONCRETE GRADE BEAM	E.F.	EACH FACE
J-#	CONCRETE JOIST	E.J.	EXPANSION JOINT (SEIS
IC-#	CONCRETE JAMB COLUMN	L.0.	SEPARATION JOINT)
#	CONCRETE LINTEL	l <sub>E.W.</sub>	EACH WAY
P-#	CONCRETE PIER	EA	EACH
RW-#	CONCRETE RETAINING WALL	EL	ELEVATION
SG-#	CONCRETE SLAB ON GRADE	ELEC	ELECTRICAL
SH-#	CONCRETE SHEAR HEAD	ELEV	ELEVATOR
SS-#	CONCRETE SUSPENDED SLAB	ENG	ENGINEER
SW-#	CONCRETE SHEAR WALL	EQ	EQUAL
N-#	CONCRETE WALL	EQUIP	•
)#	CONTINUOUS FOOTING	-,-	EQUIPMENT
Л#	MAT FOOTING	EXIST (E)	
?#	RECTANGULAR FOOTING		EXPANSION / EXPOSED
S#	SQUARE FOOTING	EXT	EXTERIOR
S#	THICKENED SLAB FOOTING	F.D.	FLOOR DRAIN
)-#	HOLD DOWN ANCHOR	F.F.	FINISH FLOOR
C-#	MASONRY COLUMN	F.V.	FIELD VERIFY
5- <del>π</del> =-#	MOMENT FRAME	FDTN	FOUNDATION
- <del></del> #	MASONRY LINTEL	FIN 	FINISH
_ <del>-#</del> >-#	MASONRY PIER	FL	FLOOR
		FT	FOOT
N-#	MASONRY WALL	FTG	FOOTING
TB-#	POST-TENSIONED CONCRETE BEAM	GA	GAUGE
3P-#	STEEL BASE PLATE	GALV	GALVANIZED
C-#	STEEL COLUMN	GLB	GLU-LAMINATED BEAM
CP-#	STEEL CAP PLATE	GR	GRADE
)-#	STEEL DECK	GSN	GENERAL STRUCTURAL
DA-#	STEEL DECK ATTACHMENT	HB	HORIZONTAL BRIDGING
<b>3-#</b>	STEEL GIRDER	HORIZ	HORIZONTAL
I-#	STEEL JOIST	HSA	HEADED STUD ANCHOR
ND-#	SNOW DRIFT	HSS	HOLLOW STRUCTURAL
B-#	WOOD BEAM	HT	HEIGHT
BW-#	WOOD BEARING WALL	I.F.	INSIDE FACE
C-#	WOOD COLUMN	IBC	INTERNATIONAL BUILDII
D-#	WOOD DIAPHRAGM	ICBO	INTERNATIONAL CONFE
J-#	WOOD JOIST		BUILDING OFFICIALS
SW-#	WOOD SHEAR WALL	ICC	INTERNATIONAL CODE
		IN	INCH
		INICIII	INCLII ATIONI

	AT
3	ANCHOR BOLT (S)
3V	ABOVE
.T	ALTERNATE
PPROX	APPROXIMATE
RCH	ARCHITECT(URAL)
.DG	BUILDING
.W	BELOW
Л	BEAM
)T	ВОТТОМ
RG	BEARING
TWN	BETWEEN
I	CONSTRUCTION JOINT OR CONTROL
•	JOINT
IP	COMPLETE JOINT PENETRATION
ИU	CONCRETE MASONRY UNIT
DL	COLUMN
ONC	CONCRETE
ONST	CONSTRUCTION
ONT	CONTINUOUS
ONTR	CONTRACTOR
ΓR	CENTER
В.	DECK BEARING
	DIAMETER OF REINFORCING BAR
' BA	DEFORMED BAR ANCHORS
BL	DOUBLE DAR ANCHORS
ET	DETAIL
	DIAMETER
	DIAGONAL
	DIMENSION
M	
<b>(</b>	DECK
NC NC	DOWN
NG A/I	DRAWING
NL -	DOWEL
F.	EACH FACE
	EXPANSION JOINT (SEISMIC
W.	SEPARATION JOINT)
	EACH WAY
4	EACH
	ELEVATION
EC.	ELECTRICAL
.EV	ELEVATOR
	ENGINEER
	EQUAL
	EQUIPMENT
(IST (E)	
	EXPANSION / EXPOSED
(T	EXTERIOR
D.	FLOOR DRAIN
F.	FINISH FLOOR
٧.	FIELD VERIFY
DTN	FOUNDATION
N	FINISH
-	FLOOR
-	FOOT
G	FOOTING
A	GAUGE
ALV	GALVANIZED
_B	GLU-LAMINATED BEAM
₹	GRADE
SN	GENERAL STRUCTURAL NOTES
3	HORIZONTAL BRIDGING
ORIZ	HORIZONTAL
SA	HEADED STUD ANCHORS
SS	HOLLOW STRUCTURAL STEEL
Γ	HEIGHT
	INSIDE FACE
С	INTERNATIONAL BUILDING CODE
ВО	INTERNATIONAL CONFERENCE OF
	BUILDING OFFICIALS
С	INTERNATIONAL CODE COUNCIL
	INCH
SUL	INSULATION
T	INTERIOR
ST	JOIST
•	JOINT
	KIPS - 1,000 POUNDS
.F	KIPS PER LINEAL FOOT
SF	KIPS PER SQUARE FOOT
SF SI	KIPS PER SQUARE FOOT KIPS PER SQUARE INCH
	·

ABBREVIATIONS

	ABBREVIATIONS
- , -, ,	SEE CONCRETE REINFORCING BAR DEVELOPMENT AND LAP LENGTH SCHEDULE
LF	LINEAL FOOT
LFRS	LATERAL FORCE RESISTING SYSTEM (SFRS & WFRS)
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LSH	LONG SIDE HORIZONTAL
LSV	LONG SDIE VERTICAL
MAS	MASONRY
MAX	MAXIMUM
MCJ	MASONRY CONTROL JOINT
MECH	MECHANICAL
MFGR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
NIC	NOT IN CONTRACT
NORM	NORMAL
NTS	NOT TO SCALE
O.C.	ON CENTER
0.5. 0.F.	OUTSIDE FACE
OPNG	OPENING
OPP	OPPOSITE
OWSJ	OPEN WEB STEEL JOIST
P.T.	POST-TENSIONED
PCF	POUNDS/CUBIC FOOT
PJP	PARTIAL JOINT PENETRATION
PL	PLATE
	POUNDS/LINEAL FOOT
PNL	PANEL
=	· · · · · <del></del>
_	POUNDS/SQ FOOT POUNDS/SQ INCH
	ROOF DRAIN
	REINFORCING
REQD	
	SEISMIC FORCE RESISTING SYSTEM
_	SHEET
	SPECIAL INSPECTION (SP. INSP.)
SIM	SIMILAR
	SLAB ON GRADE
	SQUARE
-	STAGGERED
	STANDARD
	STIFFENER
_	STEEL
_	STRUCTURAL
	TOP AND BOTTOM
тав Т.О.	TOP OF
TEMP	TEMPERATURE
THDS	THREADS
TOC	TOP OF CONCRETE
TOCP	TOP OF CONCRETE PIER
TOF	TOP OF CONCRETE FIER
TOS	TOP OF SLAB
TOST	TOP OF STEEL
TOW	TOP OF WALL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
W.P.	WORK POINT
W/	WITH
WF	WIDE FLANGE
WFRS	WIND FORCE RESISTING SYSTEM
WT	WEIGHT
\	AMAR A A A A A A A A A A A A A A A A A A
WWF YD	WELDED WIRE FABRIC YARD

STRUCTURAL DRAWING LIST											
SHT NO.	SHT NAME										
SE001	GENERAL STRUCTURAL NOTES										
SE002	GENERAL STRUCTURAL NOTES										
SE003	GENERAL STRUCTURAL NOTES										
SE004	LEGENDS & ABBREVIATIONS										
SB101	FOOTING & FOUNDATION PLAN										
SB501	TYPICAL FOOTING & FOUNDATION DETAILS										
SB601	CONCRETE SCHEDULES										
SB611	MASONRY SCHEDULES										
SB612	MASONRY SCHEDULES										
SF101	ROOF FRAMING PLAN										
SF501	ROOF FRAMING DETAILS										

	DATE						
	REVISION DESCRIPTION						
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FERRIMAN BAR II

HERRIMAN CITY
ENGINEERING DEPARTMENT
CEMETERY RESTROOM BUILDING
6018 W. HERITAGE HILL DRIVE

SE004

#### MASONRY WALL NOTES

- 1. TERMINATE HORIZONTAL REINFORCEMENT AT CONTROL JOINTS IN MASONRY WALLS PER DETAIL A1/SB611.
- 2. PROVIDE ADDITIONAL HORIZONTAL AND VERTICAL REINFORCING AT WALL CORNERS, EDGES OF OPENINGS, WALL ENDS, AND WALL INTERSECTIONS PER B1/SB611
- 3. SEE A2/SB611 FOR TYPICAL REINFORCING AROUND MISCELLANEOUS OR RECESSED MASONRY WALL OPENINGS.
- 4. SEE B3/SB612 FOR REQUIRED ADDITIONAL DUCTILITY REINFORCING IN LOAD BEARING MASONRY WALLS.
- 5. SEE ARCHITECTURAL FOR TOP OF NON-BEARING WALL LOCATIONS.

#### SLAB ON GRADE PLAN NOTES

- 1. ALL SLABS ON GRADE SHALL BE 4 INCHES THICK, UNLESS NOTED OTHERWISE. SEE TYPICAL CONCRETE SLAB ON GRADE PROFILE DETAIL C4/SB501 FOR SUBGRADE REQUIREMENTS.
- 2. SEE ARCHITECTURAL, CIVIL AND LANDSCAPE DRAWINGS FOR EXTERIOR CONCRETE WORK AT DOORS, SIDEWALKS, ETC.
- 3. SEE ARCHITECTURAL DRAWINGS AND FINISH SCHEDULE FOR SLAB DEPRESSIONS, SLOPES TO DRAINS AND SLAB AREAS TO RECEIVE FLOOR TILE.
- 4. SEE TYPICAL CONCRETE SLAB ON GRADE DETAILS FOR CONSTRUCTION JOINTS, CONTROL JOINTS AND ADDITIONAL SLAB REINFORCING C2/SB501.

20' - 8"

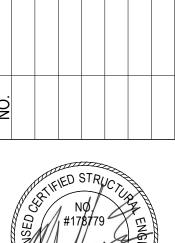
\_MW-2\_

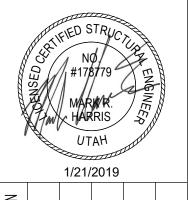
MW-2

B3 SB501

#### FOOTING & FOUNDATION PLAN NOTES

- 1. SEE ARCHITECTURAL, CIVIL AND LANDSCAPE DRAWINGS FOR EXTERIOR CONCRETE RETAINING AND / OR SITE WALLS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
- 2. SEE TYPICAL STEP DETAIL AT CONTINUOUS FOOTING FOR REINFORCING REQUIREMENTS C1/SB501.
- 3. DOWEL ALL CONCRETE WALLS TO FOOTING PER TYPICAL DETAIL B3/SB501.





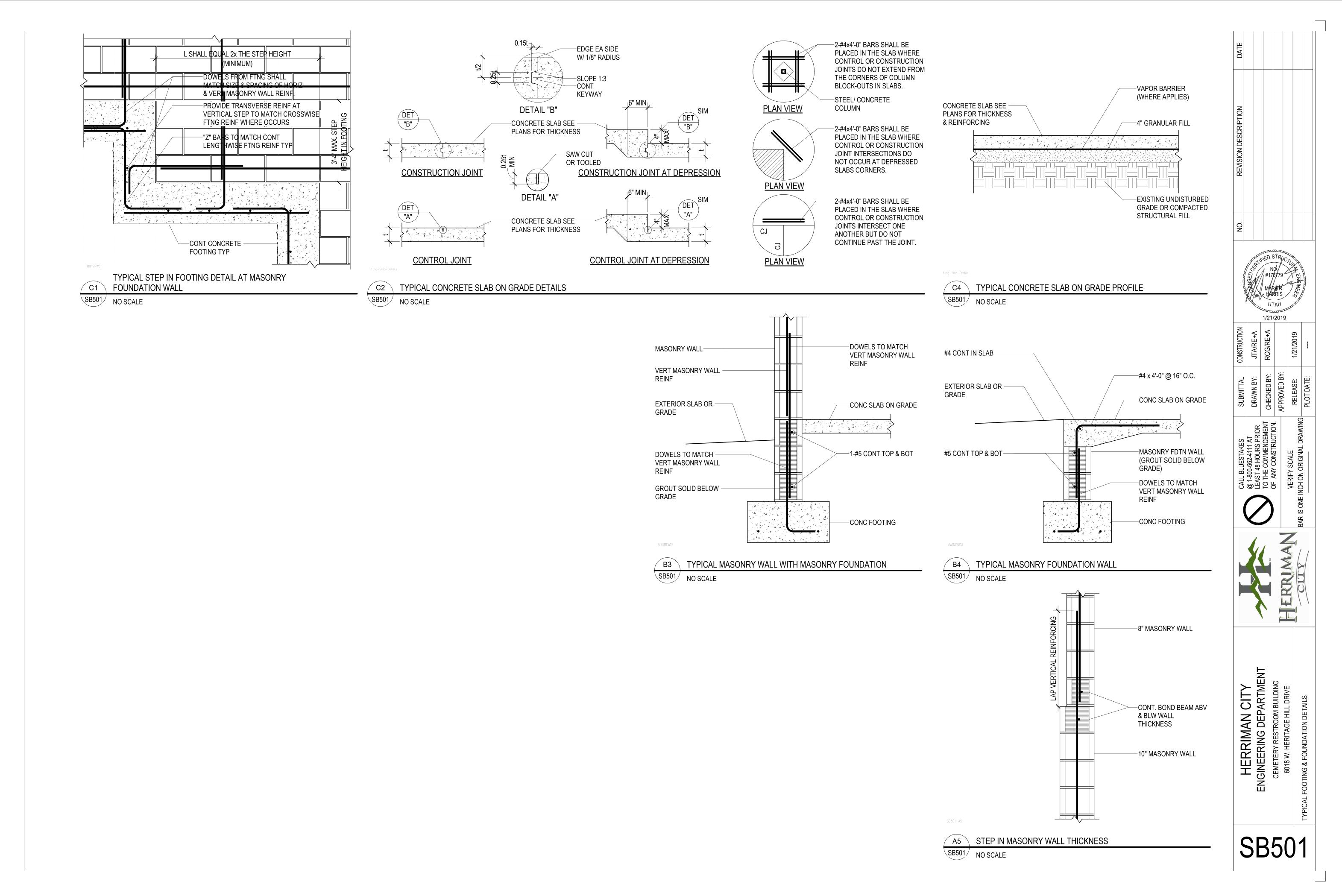
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JTA/RE+A	RCG/RE+A			1/21/2019	I						
DRAWN BY:	CHECKED BY:	יאם חשו/יטמממי	ALTROVED DI.	RELEASE:	PLOT DATE:						
PRIOR EMENT ICTION.											

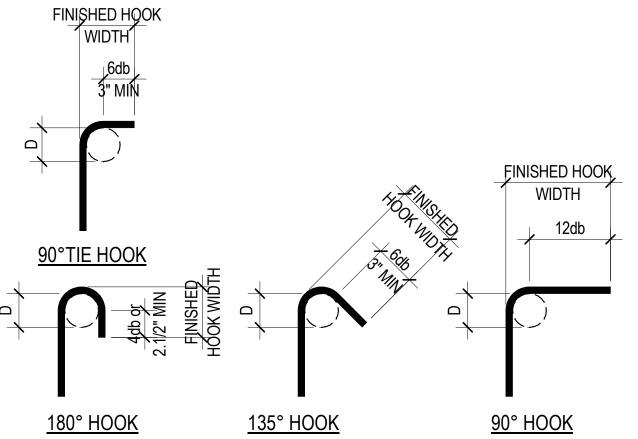


SB101

FOOTING & FOUNDATION PLAN

TOF = 98' - 6"





END HOOK SCHEDULE												
BAR SIZE	D		FINISHED HOOK WIDTH									
DAIN SIZE		180° HOOK	135° HOOK	90° HOOK	90° TIE HOOK							
#3	2.1/4"	3"	4.1/4"	6"	4"							
#4	3"	4"	4.1/2"	8"	4.1/2"							
#5	3.1/4"	5"	5.1/2"	10"	6"							
#6	4.1/2"	6"	8"	12"								
#7	5.1/4"	7"	9"	14"								
#8	6"	8"	10.1/2"	16"								
#9	9.1/2"	11.3/4"		19"								
#10	10.3/4"	13.1/4"		22"								
#11	12"	14.3/4"		24"								
#14	18.1/4"	21.3/4"		31"								
#18	24"	28.1/2"		41"								

REINFORCEMENT END HOOK SCHEDULE

NO SCALE

	CONCRETE REINFORCING BAR DEVELOPMENT AND LAP SPLICE LENGTH SCHEDULE																					
BAR	fc = 3000 PSI				fc = 4000 PSI				fc = 4500 PSI				f'c = 50	00 PSI		fc = 6000 PSI				f'c = ALL		
SIZE	Ld	Lt	Lsb	Lsbt	Ld	Lt	Lsb	Lsbt	Ld	Lt	Lsb	Lsbt	Ld	Lt	Lsb	Lsbt	Ld	Lt	Lsb	Lsbt	Ldc	Lsc
#3	17"	22"	22"	28"	15"	19"	19"	25"	14"	18"	18"	23"	13"	17"	17"	22"	12"	16"	16"	20"	8"	12"
#4	22"	29"	29"	38"	19"	25"	25"	33"	18"	24"	24"	31"	17"	23"	23"	29"	16"	21"	21"	27"	10"	15"
#5	28"	36"	36"	47"	24"	31"	31"	41"	23"	30"	30"	38"	22"	28"	28"	36"	20"	26"	26"	33"	12"	19"
#6	33"	43"	43"	56"	29"	37"	37"	49"	27"	35"	35"	46"	26"	34"	34"	44"	24"	31"	31"	40"	15"	23"
#7	48"	63"	63"	81"	42"	54"	54"	71"	40"	51"	51"	67"	38"	49"	49"	63"	34"	45"	45"	58"	17"	27"
#8	55"	72"	72"	93"	48"	62"	62"	81"	45"	59"	59"	76"	43"	56"	56"	72"	39"	51"	51"	66"	19"	30"
#9	62"	81"	81"	105"	54"	70"	70"	91"	51"	66"	66"	86"	48"	63"	63"	81"	44"	57"	57"	74"	22"	34"
#10	70"	91"	91"	118"	61"	79"	79"	102"	57"	74"	74"	96"	54"	71"	71"	92"	50"	64"	64"	84"	24"	39"
#11	78"	101"	101"	131"	67"	87"	87"	114"	64"	82"	82"	107"	60"	78"	78"	102"	55"	71"	71"	93"	27"	43"
#14	93"	121"	NA	NA	81"	105"	NA	NA	76"	99"	NA	NA	72"	94"	NA	NA	66"	86"	NA	NA	33"	NA
#18	124"	161"	NA	NA	108"	140"	NA	NA	101"	132"	NA	NA	96"	125"	NA	NA	88"	114"	NA	NA	43"	NA

Ld: TENSION DEVELOPMENT LENGTH FOR REINFORCEMENT SATISFYING THE FOLLOWING CONDITIONS:

SLABS AND WALLS: CLEAR SPACING > 2db AND CONCRETE CLEAR COVER > db

Lt: DEVELOPMENT LENGTH FOR TOP BARS IN TENSION

Lsbt: TENSION LAP SPLICE LENGTH OF TOP BARS.

Ldc: DEVELOPMENT LENGTH FOR BARS IN COMPRESSION

db: NOMINAL BAR DIAMETER (INCHES)

TOP BARS: HORIZONTAL BEAM REINFORCEMENT WITH MORE THAN 12 INCHES OF CONCRETE CAST BELOW

2. MULTIPLY VALUES IN SCHEDULE BY 1.5 IF CLEAR SPACING OR CONCRETE COVER DO NOT MEET REQUIREMENTS FOR Ld IN NOTE 1.

3. MULTIPLY VALUES IN SCHEDULE BY 1.3 FOR USE IN LIGHTWEIGHT AGGREGATE CONCRETE.

4. FOR EPOXY COATED BAR: MULTIPLY VALUES IN SCHEDULE BY 1.5 FOR BARS WITH CLEAR COVER < 3db OR CLEAR SPACING < 6db. OTHERWISE

5. a. FOR BUNDLED BARS OF THREE OR LESS MULTIPLY LENGTHS BY 1.2.

b. FOR BUNDLED BARS OF FOUR OR MORE MULTIPLY LENGTHS BY 1.33.

6. SCHEDULE LENGTHS ARE FOR fy=60ksi REINFORCING, MULTIPLY LENGTHS BY 1.25 FOR fy=75ksi REINFORCING.

7. LAP SPLICES ARE NOT PERMITTED FOR #14 & #18 BARS. USE BAR COUPLERS PER G.S.N.

	CONCRETE FOOTING SCHEDULE												
CROSSWISE REINFORCING LENGTHWISE REINFORCING													
MARK	WIDTH	LENGTH	THICK	NO.	SIZE	LENGTH	SPACE	NO.	SIZE	LENGTH	SPACE	REMARKS	
FC2.0	FC2.0 2' - 0" CONT. 1' - 0" NONE REQ'D 2 #5 CONT. 18"												

PLACE ALL FOOTING REINFORCING IN BOTTOM OF FOOTING WITH 3" CLEAR CONCRETE COVER UNLESS NOTED OTHERWISE.

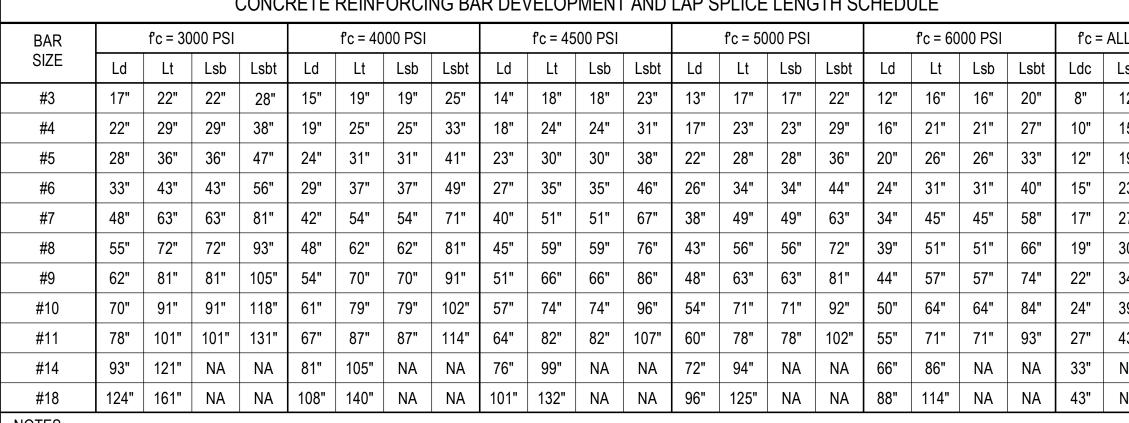
TOP REINFORCING, WHERE SPECIFIED, SHALL BE PLACED IN THE TOP OF THE FOOTING WITH 2" CLEAR CONCRETE COVER.

SPOT FOOTINGS SHALL BE CENTERED UNDER COLUMNS AND CONTINUOUS FOOTINGS SHALL BE CENTERED UNDER WALLS, UNLESS NOTED

ALL FOOTINGS SHALL BE FORMED. FOOTINGS SHALL NOT BE EARTH FORMED OR OVERSIZED WITHOUT WRITTEN PERMISSION FROM THE STRUCTURAL ENGINEER.



1/21/2019



BEAMS AND COLUMNS: CLEAR COVER SPACING > db AND CONCRETE CLEAR COVER > db

Lsb: TENSION LAP SPLICE LENGTH FOR OTHER THAN TOP BARS (CLASS B)

Lsc: TIED COLUMN LAP SPLICE IN COMPRESSION

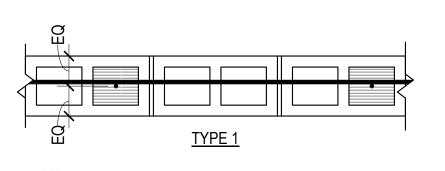
MULTIPLY VALUES BY 1.2.

c. INDIVIDUAL BAR SPLICES WITHIN A BUNDLE SHALL NOT OVERLAP. ENTIRE BUNDLES SHALL NOT BE LAP SPLICED.

		MA	SONRY WALL SC	HEDULE		
			R	EINFORCING		
MARK	WIDTH	MATERIAL	VERTICAL	HORIZONTAL	TYPE	REMARKS
MW-1	8"	CMU	#5 @ 32" O.C.	#5 @ 32" O.C.	TYPE 1	
MW-2	10"	CMU	#5 @ 32" O.C.	#5 @ 32" O.C.	TYPE 1	

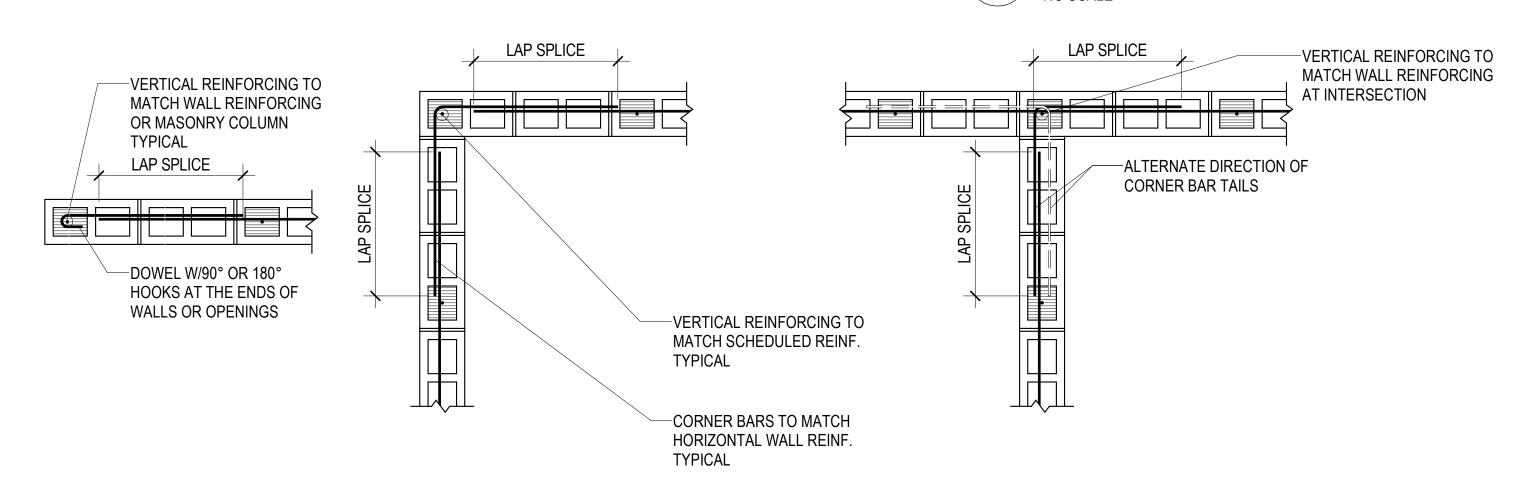
SEE PLANS, DETAILS AND GENERAL STRUCTURAL NOTES FOR ADDITIONAL REINFORCING REQUIREMENTS.

- GROUT SOLID ALL CELLS BELOW GRADE, CELLS CONTAINING EMBEDS (HSA'S, DBA'S, ANCHOR BOLTS, ETC.), AND CELLS CONTAINING REINFORCING. CONSOLIDATE GROUT AS PER THE GENERAL STRUCTURAL NOTES.
- HORIZONTAL WALL REINFORCING SHALL CONTINUE THROUGH MASONRY LINTELS. WHERE BOTH HORIZONTAL WALL REINFORCING AND LINTEL REINFORCING OCCUR IN THE SAME COURSE, THE LARGER BARS ARE TO REPLACE THE SMALLER BARS.



TYPICAL MASONRY WALL TYPES - PLAN VIEW

SB611/ NO SCALE

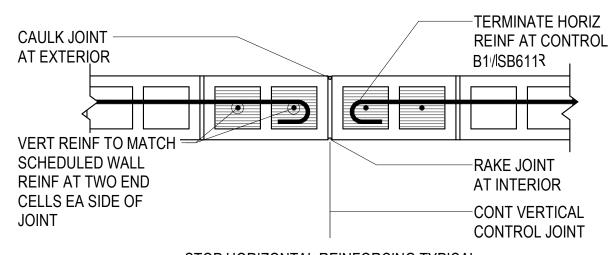


WALL ENDS / EDGES OF OPENINGS **WALL CORNERS WALL INTERSECTIONS** 

SB611/

NO SCALE

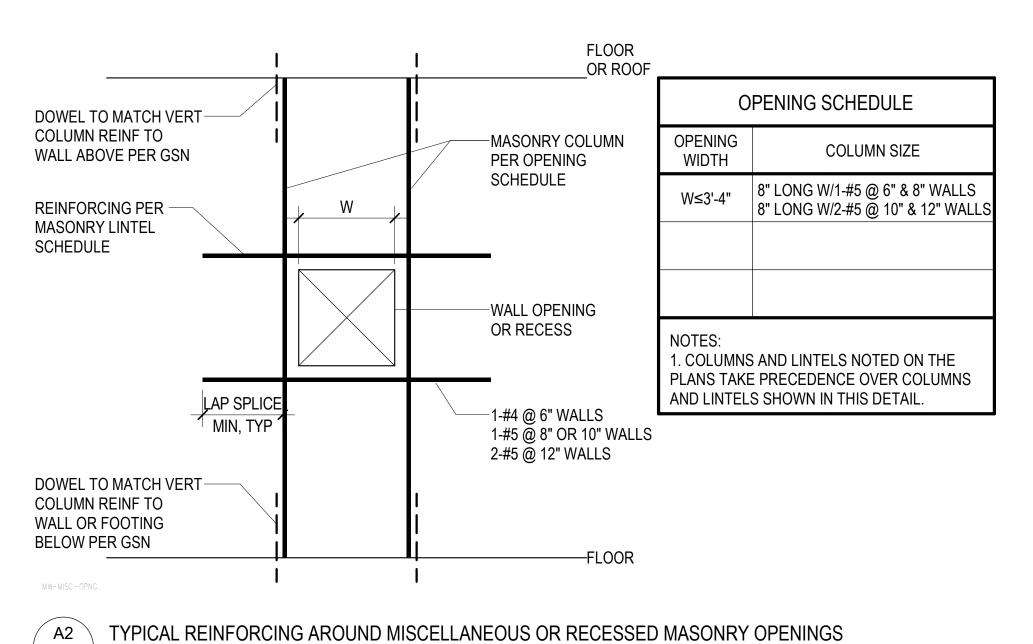
## TYPICAL MASONRY WALL END, CORNER AND INTERSECTION DETAILS SB611/



NO SCALE

	CONTROL JOINT
	REINFORCING TYPICAL EAM & JOINT REINF.
CAULK JOINT AT EXTERIOR	I
VERT REINF TO MATCH	
SCHEDULED WALL REINF AT TWO END	RAKE JOINT AT INTERIOR
CELLS EA SIDE OF JOINT	CONT VERTICAL CONTROL JOINT
CONTINUOUS HORIZONTA AT ROOF, FLOOR AND J	

	A1	TYPICAL CONTROL JOINTS IN MASONRY WALLS
•	SB611/	NO SCALE



	MASONRY REINFORCING BAR LAP SPLICE SCHEDULE												
			f'm =	= 2000 psi									
BAR	6" CMU	8" C	CMU	10" (	CMU								
SIZE	CLASS	CLA	ASS	CLA	ASS								
	Α	Α	В	Α	В								
#3	12"	12"	12"	12"	12"								
#4	18"	13"	21"	12"	20"								
#5	28"	20"	35"	16"	32"								
#6	**	38"	54"	29"	54"								
#7	1	52"	**	40"	**								
#8	-	**	-	61"	**								
#9	1	-	-	79"	-								

1. CLASS A SPLICES MAY BE USED WHEN ONLY ONE BAR IS CONTINUOUS IN THE MASONRY CELL OR

2. CLASS B SPLICES SHALL BE USED WHEN TWO BARS ARE CONTINUOUS IN THE MASONRY CELL OR COURSE.

3. \*\* INDICATES THAT A LAP SPLICE IS NOT ALLOWED AND MECHANICAL BAR COUPLERS ARE REQUIRED FOR THE BAR SPLICES. SPLICES SHALL BE OFFSET 2'-0" TO AVOID CONGESTION.

4. WHERE VERTICAL BARS HAVE A REQUIRED LAP SPLICE GREATER THAN THE HEIGHT OF THE GROUT POUR, THE BAR SPLICE SHALL BE MADE WITH A MECHANICAL BAR COUPLER. WHERE THE HEIGHT OF THE GROUT POUR EXCEEDS 60 INCHES, HIGH LIFT GROUTING PROCEDURES SHALL BE FOLLOWED.

5. WHERE MECHANICAL BAR COUPLERS ARE USED, THE CONNECTOR SHALL DEVELOP 125% OF THE

YIELD STRENGTH OF THE BAR IN TENSION AND COMPRESSION.

		WIDTH HORIZONTAL STIRRUPS S				ML-
MADIZ	DIMEN	SIONS	REINFO	RCING	MAXIMUM	DEMARKS
MARK	DEPTH	WIDTH	HORIZONTAL	STIRRUPS	SPAN	REMARKS
ML-1	16"				3'-4"	

1. EXTEND ALL HORIZONTAL REINFORCING 48 BAR DIAMETERS BEYOND THE EDGE OF THE OPENING. IF HORIZONTAL REINFORCING CANNOT BE EXTENDED 48 BAR DIAMETERS BEYOND THE EDGE OF THE OPENING, PROVIDE 90 DEGREE STANDARD HOOK.

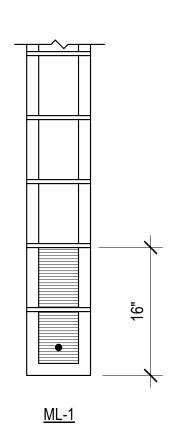
2. GROUT MASONRY LINTELS MONOLITHICALLY WITH THE SUPPORT WALL OR COLUMN AT EACH END.

3. SPLICE TOP BARS AT MIDSPAN OF LINTEL ONLY.

4. SPLICE BOTTOM BARS OVER SUPPORTS ONLY.

5. FOR WALL ABOVE LINTEL, DOWEL VERTICAL REINFORCING INTO FULL DEPTH OF THE LINTEL OR 48 BAR DIAMETERS, WHICHEVER IS LESS.

6. HORIZONTAL WALL REINFORCING SHALL CONTINUE THROUGH MASONRY LINTELS. WHERE BOTH HORIZONTAL WALL REINFORCING AND LINTEL REINFORCING WOULD OCCUR IN THE SAME COURSE, THE LARGER BARS ARE TO REPLACE THE SMALLER BARS.



TYPICAL MASONRY LINTEL DETAILS

NO SCALE

NO. REVISION DESCRIPTION DATE			

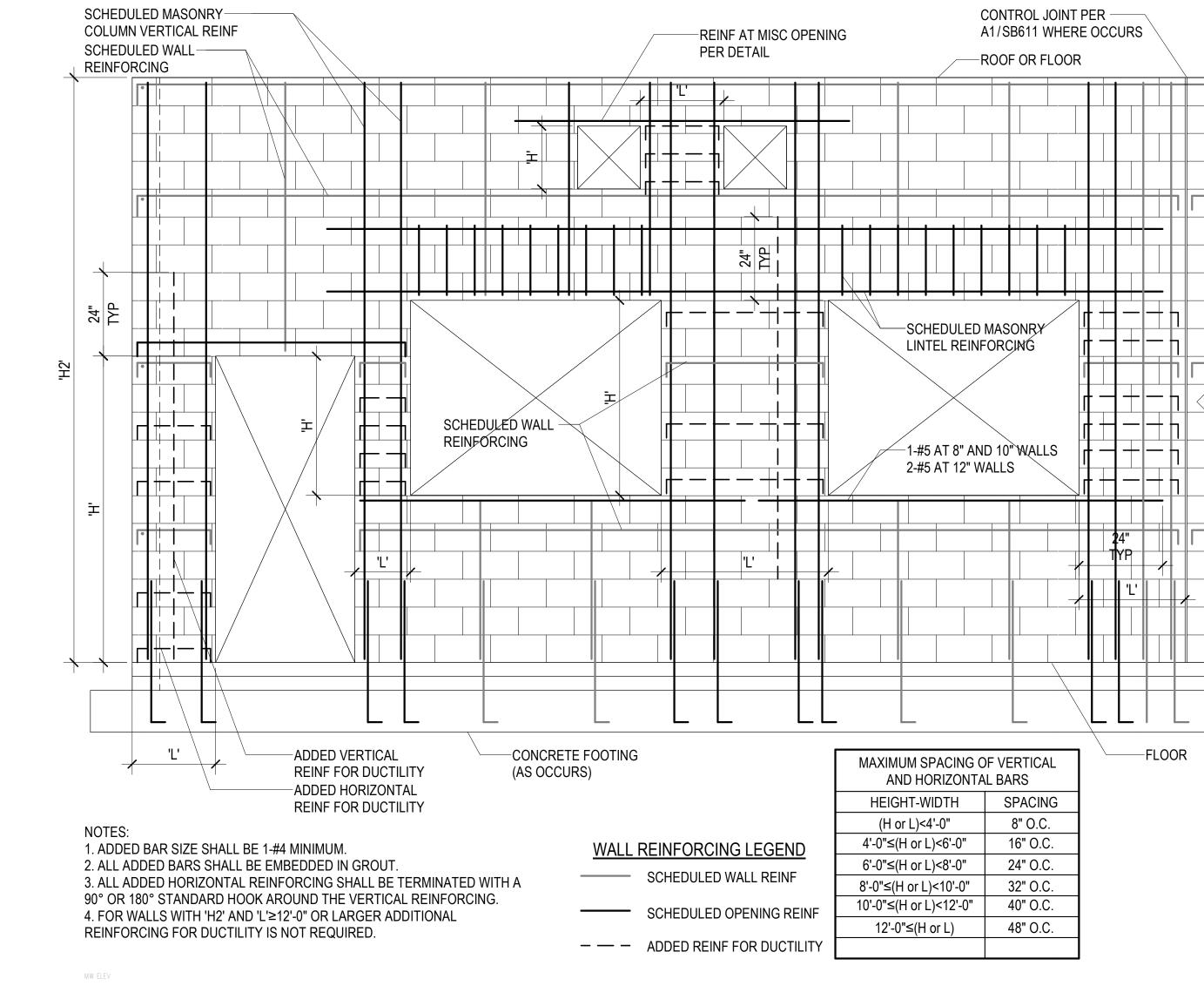
1/21/2019

CALL BLUESTAKES © 1-800-662-4111 A LEAST 48 HOURS F TO THE COMMENC OF ANY CONSTRU



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SB611



TYPICAL MASONRY WALL OPENINGS WITH ADDITIONAL DUCTILITY REINFORCMENT FOR MASONRY SHEAR WALLS

HERRIMAN CITY
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1/21/2019

CALL BLUESTAKES
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TO THE COMMENCEMENT
OF ANY CONSTRUCTION.

1/21

ROOF FRAMING PLAN NOTES

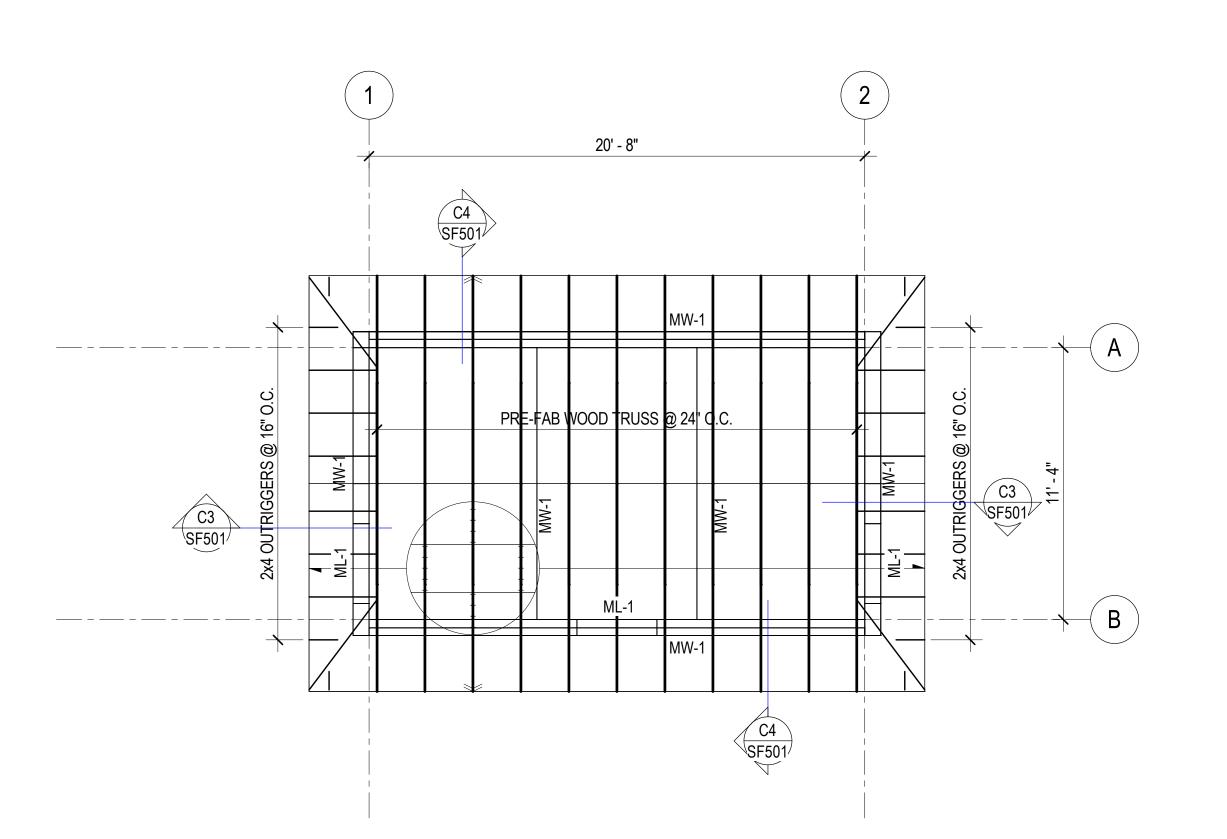
2. TYPICAL ROOF FRAMING IS WOOD SHEATHING OVER PREFAB METAL PLATE WOOD TRUSSES.

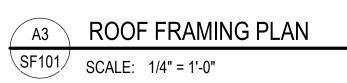
1. SEE A3/SF501 FOR TRUSS LOADING DIAGRAMS.

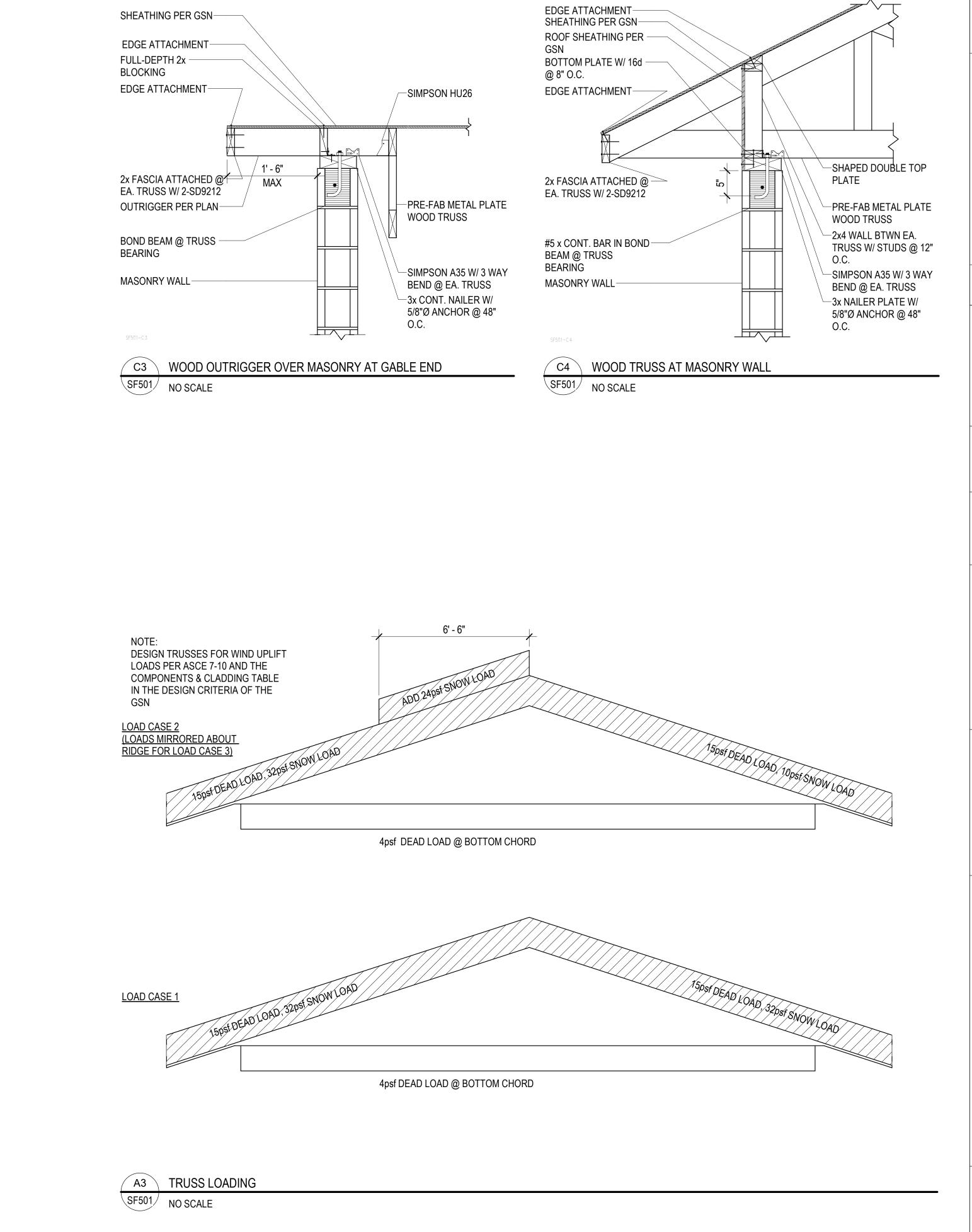
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ROOF FRAMING PLAN

SF101







1/21/2019







UTILITY <12>

101

	PLUMBING FIXTURE SCHEDULE											
SYMBOL	FIXTURE	WASTE	VENT	C.W.	H.W.	T.W.	NOTES					
WC 1	WATER CLOSET	4"	2"	1-1/4"	_	_	ADA, WALL MTD, SIPHON JET 1.6 GPF, STAINLESS STEEL CONCEALED FLUSH VALVE, WHITE IN COLOR ACORN 2105-W-1-1.6-FVBO-EGE					
L 1	LAVATORY - ADA	Y - ADA 1 1/2" 1 1		-	_	1/2"	ADA, WALL MTD, 18" x 22" STAINLESS STEEL BASIN, CONCEALED MIXING VALVE, AIR CONTROLED VALVE, SINGLE HOLE PUNCH . ACORN 1953-1-DMS-9-MI-EGE					
MV 1	MIXING VALVE	_	-	1/2"	1/2"	1/2"	ACORN ST70-LEAD FREE, ASSE 1070 SET @ 105° F					
FD 1	FLOOR DRAIN	2"	2"	-	_	_	J.R. SMITH 2005, NICKEL BRONZE STRAINER W/ DEEP SEAL P-TRAP AND PROSET TRAP GUARD					
HB 1	HOSE BIBB FREEZE PROOF	_	-	3/4"	_	-	J.R. SMITH 5609QT, FREEZE PROOF, QUARTER TURN, LOOSE KEY, WALL CLAMP, INTEGRAL VACUUM BREAKER					
HB 2	HOSE BIBB	_	_	1/2"	_	_	CHICAGO 387-E27CP					

# PLUMBING FLOOR PLAN - WASTE & VENT

COTG (1)

## **REFERENCE NOTES**

- POINT OF CONNECTION (P.O.C.) CONNECT TO SITE UTILITY PIPING IN THIS LOCATION. MATCH PIPING SIZE AND MATERIAL OR PROVIDE COMPATIBLE TRANSITION.
- 2 WATER VALVE BOX WITH DRAIN FITTING. INSTALL WATER VALVE BOX WITH CURB STOP VALVES AND DRAINAGE FITTING. SEE DETAIL 6/P501.
- BUILDING DOMESTIC WATER SERVICE ENTRANCE. SEE DETAIL
- 4 INSTALL ISOLATION BALL VALVES TO ISOLATE SERVICE TO EACH RESTROOM AND TO THE WATER HEATER. (TYP)
- INSTALL ELECTRIC WATER HEATER ON WALL IN THIS LOCATION. PROVIDE SUPPORTING WALL SHELF AND BRACKETS. SEE DETAIL
- 6 INSTALL ADA COMPLIANT WALL MOUNTED STAINLESS STEEL WATER CLOSET IN THIS LOCATION. PROVIDE CONCEALED CHAIR CARRIER AND FLUSH VALVE IN UTILITY ROOM. PIPE 4" WASTE AND 2" VENT LINES FROM WATER CLOSET AND CONNECT TO MAIN WASTE AND VENT LINES AS INDICATED. PIPE 1-1/4" CW LINE DOWN AND CONNECT TO CONCEALED FLUSH VALVE IN UTILITY ROOM. MAKE ALL REQUIRED PIPING CONNECTIONS FOR A COMPLETE INSTALLATION. SEE ARCHITECTURAL DRAWINGS FOR PREFERRED MOUNTING HEIGHT OF WATER CLOSET.
- INSTALL ADA COMPLIANT WALL MOUNTED STAINLESS STEEL LAVATORY IN THIS LOCATION. PROVIDE CONCEALED ARMS CARRIER AND MIXING VALVE IN UTILITY ROOM. PIPE 1-1/2" WASTE AND 1-1/2" VENT LINES FROM LAVATORY AND CONNECT TO MAIN WASTE AND VENT LINES AS INDICATED. PIPE 1/2" CW AND 1/2" HW TO CONCEALED MIXING VALVE IN UTILITY ROOM. PIPE 1/2" TEMPERED WATER LINE THROUGH WALL TO LAVATORY FAUCET. MAKE ALL REQUIRED PIPING CONNECTIONS FOR A COMPLETE INSTALLATION. SEE ARCHITECTURAL DRAWINGS FOR PREFERRED MOUNTING HEIGHT.
- PIPE 3/4" CW LINE DOWN TO NON-FREEZE HOSE BIBB. MOUNT HOSE BIBB 18" ABOVE FINISHED GRADE.
- 9 PIPING TO RUN HIGH NEAR STRUCTURE. COORDINATE LOCATION WITH MECHANICAL, STRUCTURAL, AND ELECTRICAL TRADES.
- PROVIDE "T" FITTINGS WITH BALL VALVES AT EACH PLUMBING FIXTURE WATER SUPPLY LINE TO THOROUGHLY DRAIN AND WINTERIZE ALL WATER LINES SERVING THE RESTROOM FIXTURES. SEE DETAIL 1/P501.
- CLEANOUT TO GRADE (COTG). SEE DETAIL 5/P501.
- 12 FLOOR CLEANOUT (FCO). SEE DETAIL 4/P502.
- VASTE PIPING TO RUN 30" BELOW FLOOR SLAB OR GRADE LINE. SLOPE PIPING AT 2 %.
- VENT THRU ROOF (VTR). TERMINATE 18" A.F.R. (TYP) COORDINATE ROOF PENETRATION WITH MECHANICAL EXHAUST FAN AND ARCHITECT. SEE DETAIL 5/P502.
- LOCATE FLOOR DRAIN IN THIS LOCATION. COORDINATE FLOOR DRAIN LOCATION WITH ARCHITECT.
- COORDINATE LOCATION OF PIPING WITH STRUCTURAL FOOTINGS. COORDINATE WITH GENERAL CONTRACTOR AND STRUCTURAL ENGINEER FOR PIPE SLEEVES THROUGH FOUNDATION WALLS.

## PLUMBING EQUIPMENT SCHEDULE

103

--(c)

ELECTRIC WATER HEATER, POINT OF USE, 6 GALLON STORAGE CAP, 3/4" INLET AND OUTLET,, T&P VALVE, 2000 WATT HEATING ELEMENT, HIGH TEMP SAFETY CUT-OUT, 120 VOLT 1 PHASE POWER, FURNISH W/ WALL BRACKET AND SHELF, 1/4 TURN BALL VALVE DRAIN. MOUNT 48" ABOVE FINISHED

MANUFACTURER: RHEEM MODEL: 81VP6S ELECTRICAL: 2000 WATT, 120 VOLT / 1 PHASE SIZE: 16" DIA X 16" TALL WEIGHT: 50 LBS

SIZE: 8" DIA X 13" TALL

WEIGHT: 5 LBS

DOMESTIC WATER EXPANSION TANK, 2 GALLON TOTAL VOLUME, 0.9 GALLON ACCEPTANCE VOLUME, PRE-CHARGED DIAPHRAGM, MAXIMUM WORKING PRESSURE 150 PSI, NSF 61, 200 DEG F MAX TEMP. MOUNT ON WALL NEAR WATER HEATER. CONFIGURE INSTALLATION TO PROVIDE FOR FULL DRAINAGE AND WINTERIZATION. MANUFACTURER: AMTROL MODEL: ST-5

PLUMBING PIPING LEGEND

COLD WATER	
HOT WATER	
WASTE	
VENT	

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JCTION	FF	/L	/L	3/19	/19

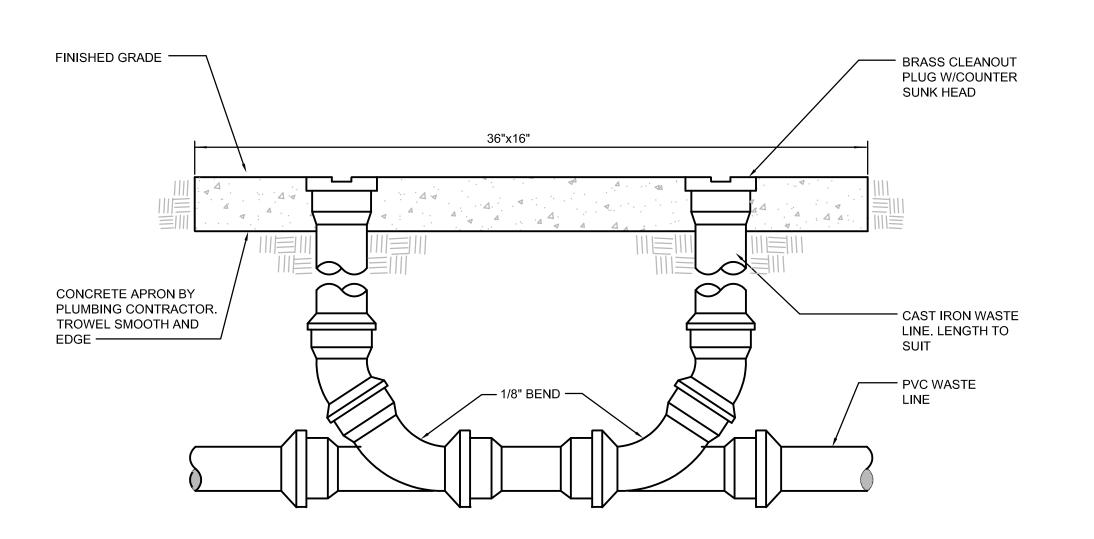
CA @ CA



FLOOR PLANS

PLUMBING

P101



DOUBLE CLEANOUT TO GRADE DETAIL

NOT TO SCALE

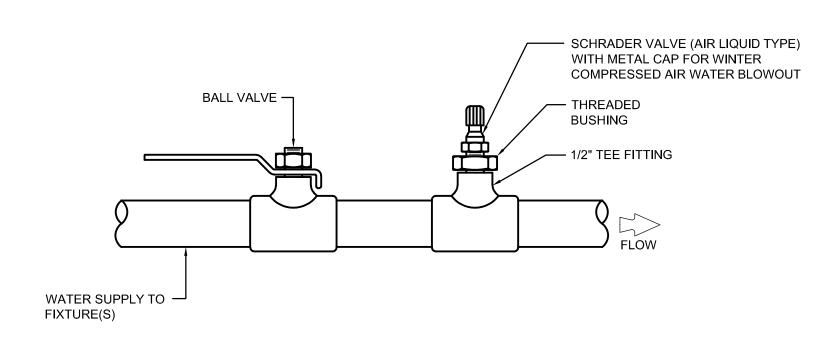
HEAVY DUTY CAST IRON LID —

1 1/4"—

1-1/4" CURB STOP BALL VALVE ----

TYPE "K" COPPER SUPPLY FROM WATER MAIN

NOT TO SCALE



CONCRETE FLOOR LINE

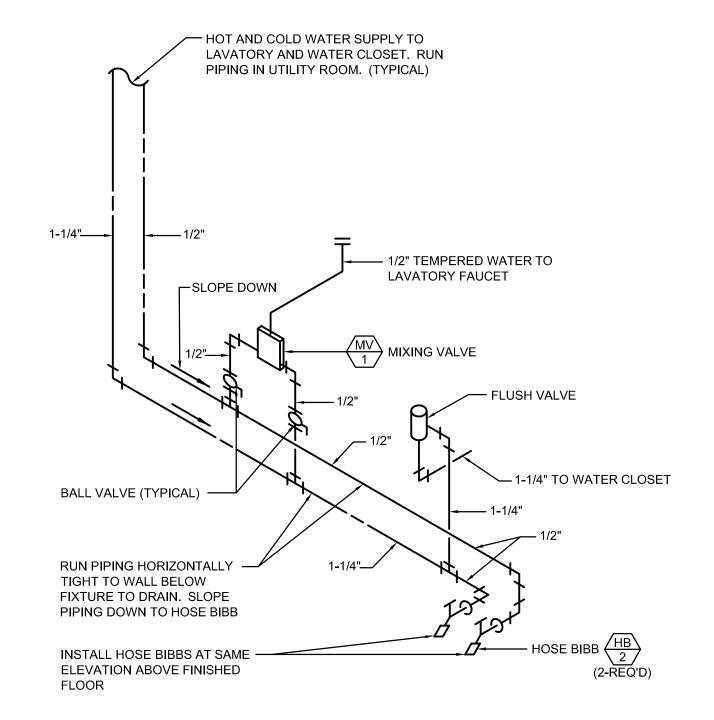
- APPROVED BACKFILL MATERIAL. COMPACT TO 95% DENSITY

- 6" MIN. SAND ABOVE AND BELOW PIPE. INSTALL PIPE ON STABLE SHAPED

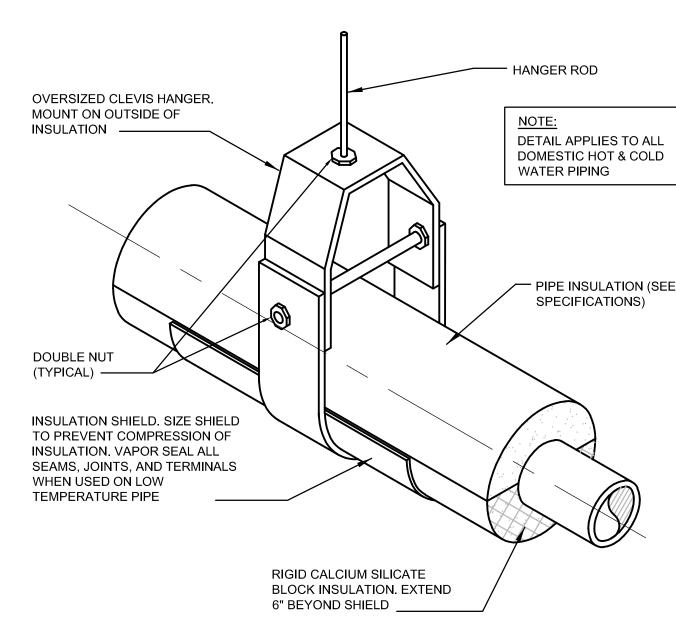
TRENCH TO FIT BOTTOM OF PIPE

- PVC WASTE PIPING



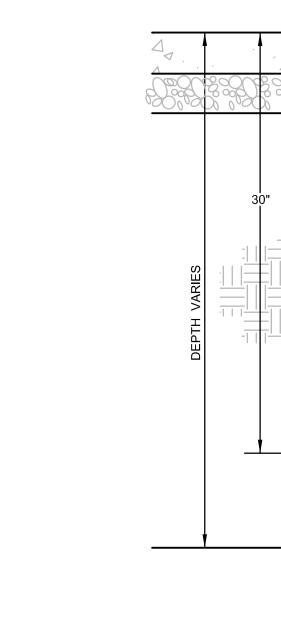




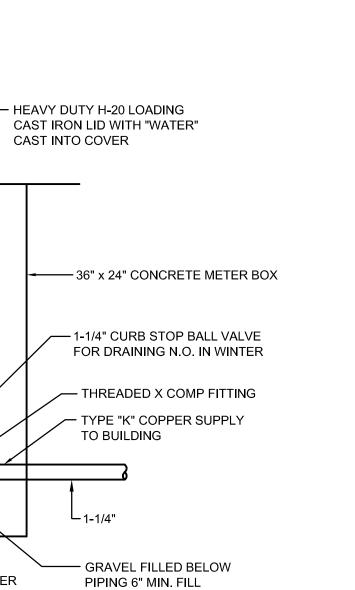


PIPE SUPPORT DETAIL

NOT TO SCALE









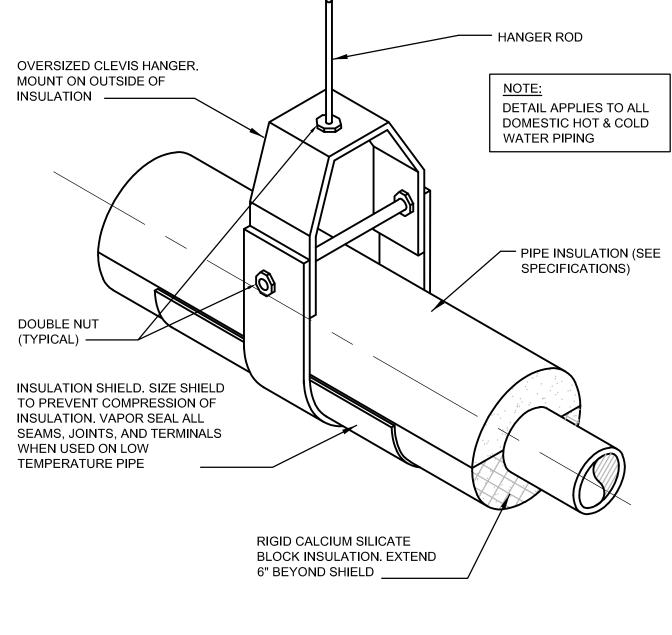
L TEE

NIPPLE

- TYPE 'K' COPPER

TO BUILDING

CAST INTO COVER



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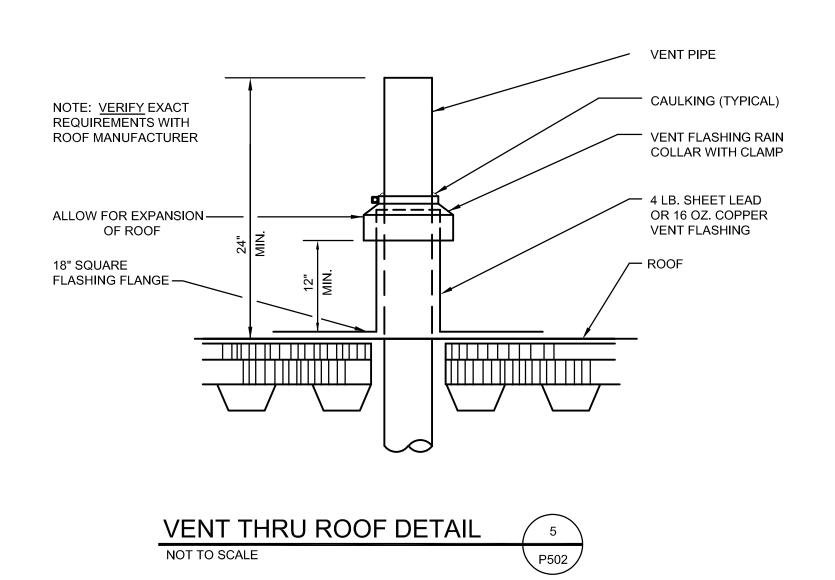
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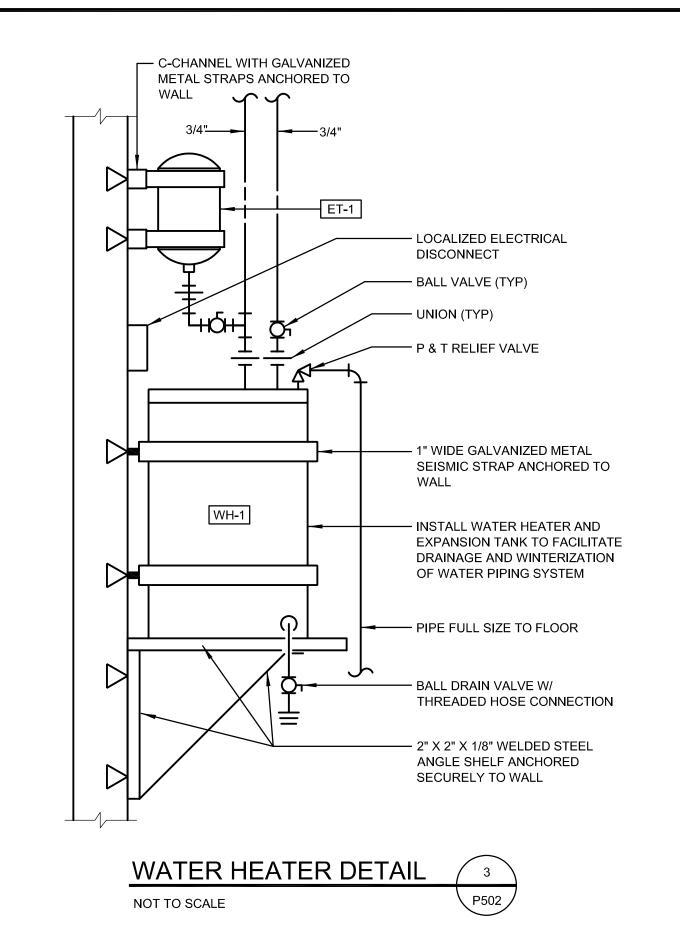
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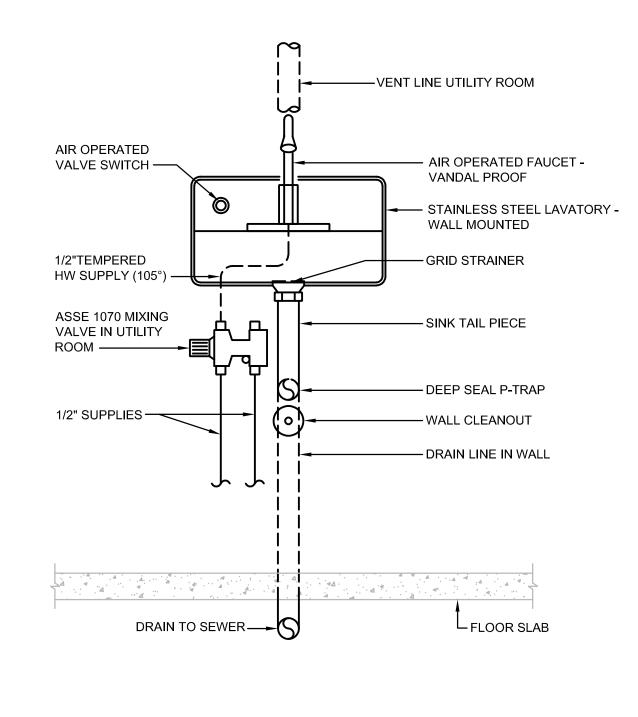
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PLUMBING DETAILS

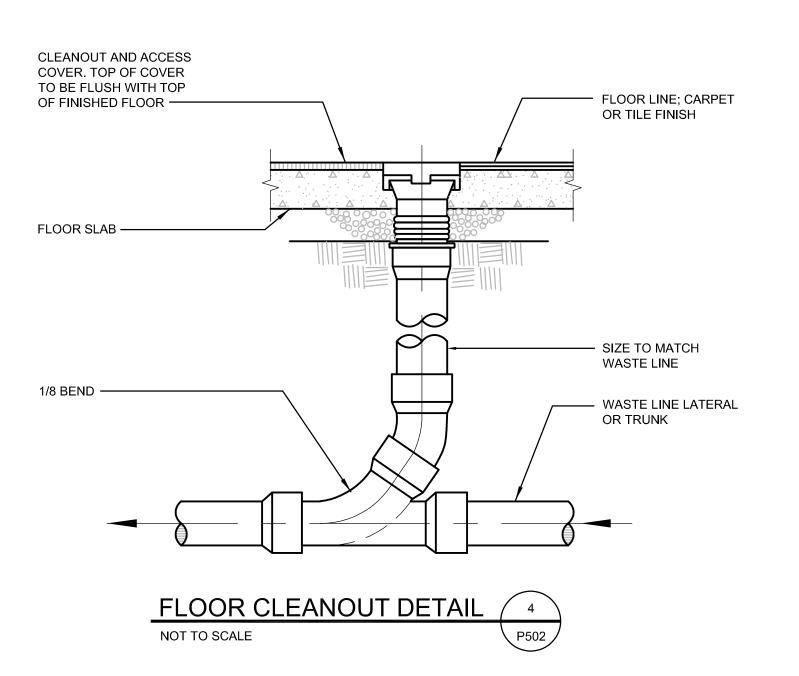
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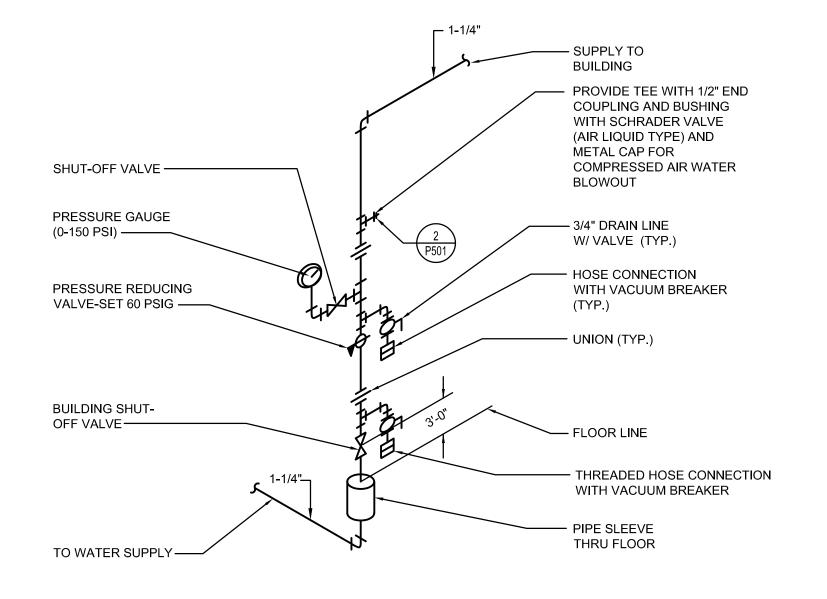














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PLUMBING DETAILS

P502

#### NOTES:

- (1) RADIANT HEATING PANEL SHALL BE WHITE IN COLOR. PROVIDE PLASTER OR GYP BOARD CEILING MOUNTING FRAME, SEAL TIGHT FLEXIBLE CONDUIT AND CONNECTORS.
- (2) UL LISTED AND CSA CERTIFIED. 22 GA. GALVANIZED STEEL CONSTRUCTION WITH CRYSTALLINE SURFACE FINISH AND HIGH TEMPERATURE SILICONE PAINT.

		ELECTI	RIC UI	NIT HEATER SCHE	DULE
SYMBOL	TYPE	SIZE	CFM	ELECTRICAL	MAKE & MODEL
EH-1	HORIZONTAL	18"W x 22"H x 22"D	830	10 KW, 1/15 HP MOTOR 208/1/60	MODINE HER100 (1)(2)

#### NOTES:

- (1) PROVIDE ELECTRICAL DISCONNECT AND LINE VOLTAGE WALL MOUNTED THERMOSTAT. PROVIDE MOUNTING KIT, AIR DEFLECTORS AND ALL SAFETY CONTROLS
- (2) HEAVY DUTY STEEL CASING WITH PAINTED POWDER COAT FINISH.

		REGISTER & G	RILLE SCHE	DULE
SYMBOL	SIZE	LOCATION	TYPE	MAKE & MODEL
EG-1 CFM	8" x 8"	CEILING	EXHAUST AIR	PRICE 535 (1)(2)
SR-1 CFM	12" x 12"	CEILING	MAKE-UP AIR	PRICE 535 (1)(2)

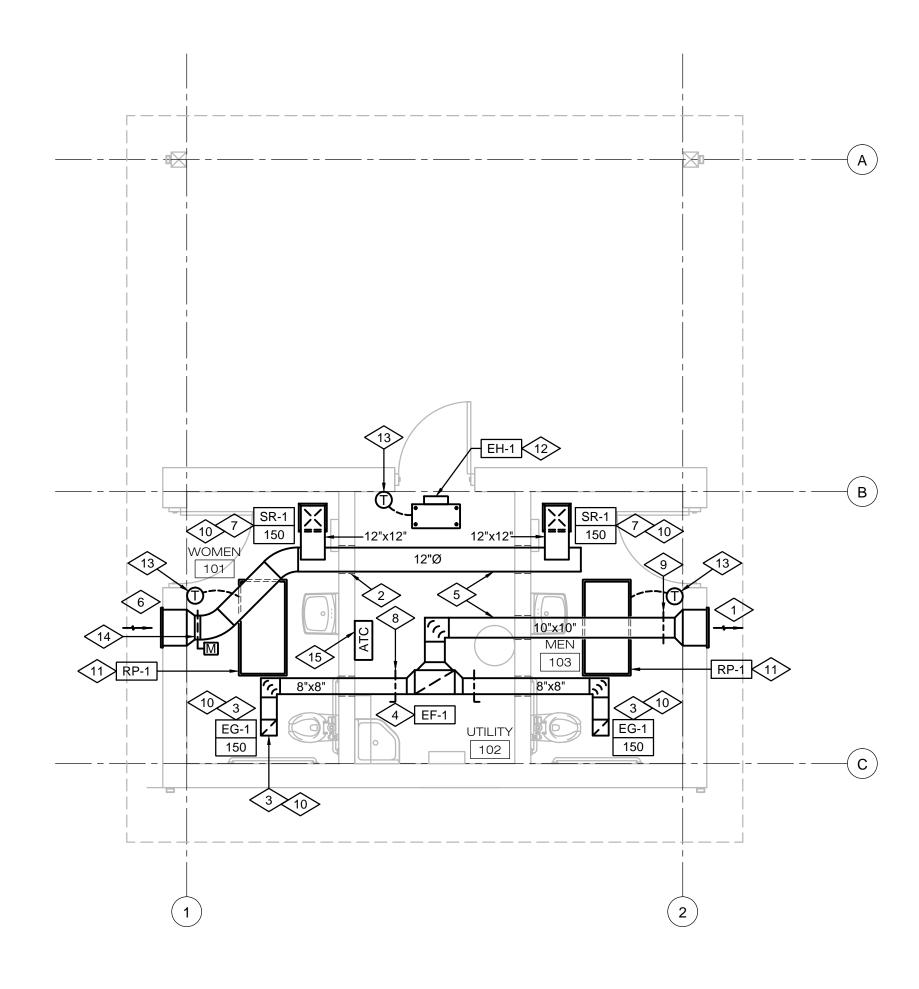
#### NOTE

- (1) FURNISH WITH BRIGHT WHITE FINISH.
- (2) PROVIDE FRAME FOR MOUNTING IN GYP BOARD OR LAY-IN CEILING.

SYMBOL SERVES TYPE C.F.M S.P. R.P.M. MOTOR DRIVE MAKE & MODEL NOTE:				E	XHAUS	T FAN	N SCHEDU	LE		
	SYMBOL	SERVES	TYPE	C.F.M	S.P.	R.P.M.	MOTOR	DRIVE	MAKE & MODEL	NOTES
EF-1         RESTROOMS         IN-LINE         300         0.375         1600         100 WATTS 120/1/60         DIRECT         COOK GN-542	EF-1	RESTROOMS	IN-LINE	300	0.375	1600		DIRECT	COOK GN-542	(1)

#### NOTES:

(1) FAN TO BE COMPLETE WITH SPRING VIBRATION ISOLATION KIT, BACKDRAFT DAMPER, INTEGRAL WIRED FAN SPEED CONTROLLER AND DIRECT DRIVE MOTOR.





### REFERENCE NOTES

- CONNECT EXHAUST DUCTWORK TO EXTERIOR LOUVER IN THIS LOCATION. EXTERIOR LOUVER FURNISHED BY OTHERS.
  TRANSITION DUCTWORK TO MATCH LOUVER DIAMETER. SEAL AIR TIGHT AROUND DUCT-WALL PENETRATION.
- CORE DRILL, FRAME OR SLEEVE DUCT AT WALL PENETRATION.
  SEAL AIR TIGHT AROUND DUCT. COORDINATE REQD WALL
  OPENINGS WITH GENERAL CONTRACTOR. (TYP)
- INSTALL CEILING EXHAUST GRILLE IN THIS LOCATION. CONNECT EXHAUST GRILLE TO EXHAUST DUCT. TRANSITION EXHAUST DUCT AS NEEDED TO MATCH GRILLE SIZE. BALANCE EXHAUST GRILLE TO CFM INDICATED.
- INSTALL INLINE EXHAUST FAN IN THIS LOCATION. SUPPORT EXHAUST FAN FROM OVERHEAD STRUCTURE, PROVIDE VIBRATION ISOLATION KIT. MAKE ALL REQUIRED INLET AND OUTLET DUCT CONNECTIONS PER MANUFACTURER'S INSTRUCTIONS. SEE INSTALLATION DETAIL 2/M501.
- RUN DUCTWORK HIGH ABOVE CEILINGS AND CLOSE TO STRUCTURE. COORDINATE LOCATION OF DUCTWORK WITH STRUCTURE, PLUMBING AND ELECTRICAL TRADES.
- CONNECT MAKE-UP AIR DUCTWORK TO EXTERIOR LOUVER IN THIS LOCATION. EXTERIOR LOUVER FURNISHED BY OTHERS. TRANSITION DUCTWORK TO MATCH LOUVER DIAMETER. SEAL AIR TIGHT AROUND DUCT-WALL PENETRATION.
- 7 INSTALL CEILING MAKE UP AIR REGISTER IN THIS LOCATION. CONNECT REGISTER TO MAKE-UP AIR DUCT. TRANSITION MAKE-UP AIR DUCT AS NEEDED TO MATCH REGISTER SIZE. BALANCE REGISTER TO CFM INDICATED.
- 8 VOLUME DAMPER (TYP)
- 9 INSTALL GRAVITY BACKDRAFT DAMPER ON EXHAUST DUCT NEAR WALL PENETRATION.
- INSTALL REGISTERS AND GRILLES AS INDICATED. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION. (TYP)
- 11 INSTALL ELECTRIC RADIANT CEILING PANEL IN THIS LOCATION.
- INSTALL ELECTRIC UNIT HEATER IN THIS LOCATION. MOUNT HIGH CLOSE TO CEILING. SUPPORT HEATER FROM OVERHEAD STRUCTURE. SEE DETAIL 5/M501.
- install wall mounted controlling thermostat in this location. Provide vandal proof stainless steel locking cover to protect thermostat. Mount at 54" a.f.f.
- INSTALL MOTORIZED DAMPER ON OUTSIDE AIR MAKE-UP UNIT. INTERLOCK MOTORIZED DAMPER OPERATION WITH EXHAUST FAN EF-1. DAMPER SHALL OPEN WHENEVER EF-1 IS ENERGIZED.
- PROVIDE ATC CONTROL PANEL FOR TEMPERATURE CONTROLS SERVING RESTROOMS AND UTILITY SPACE. PROVIDE TRANSFORMERS, RELAYS, CONDUIT AND CONDUCTORS. PROVIDE 120 V/ 1 PH POWER.

	ON	REVISION DESCRIPTION	7
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CONTRUCTION	STAFF	PWL	PWL	01/08/19	1/9/19





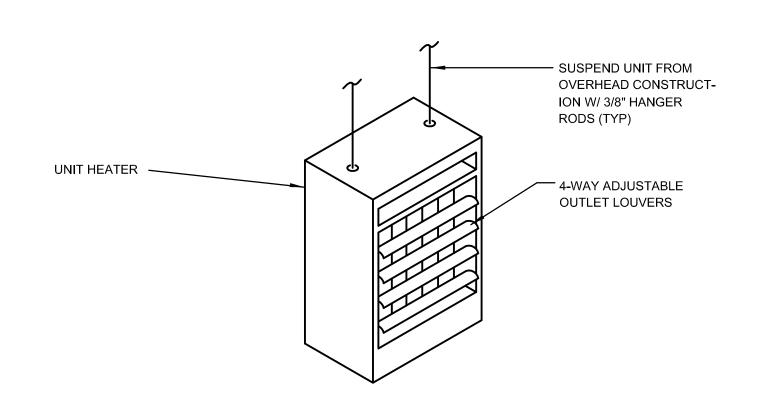
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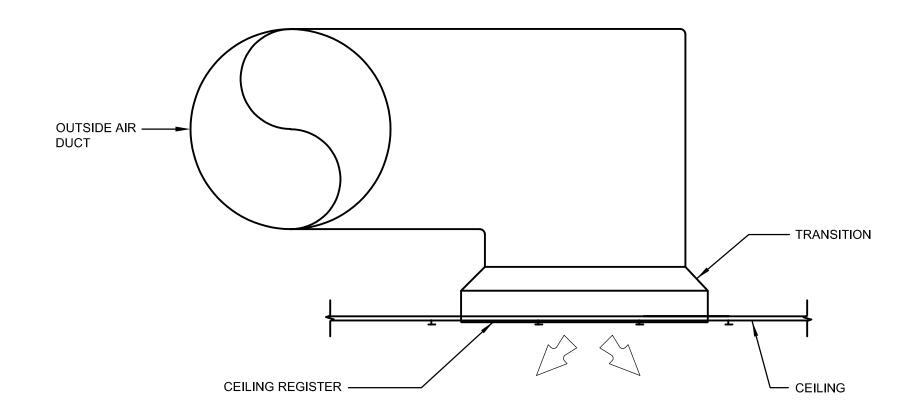
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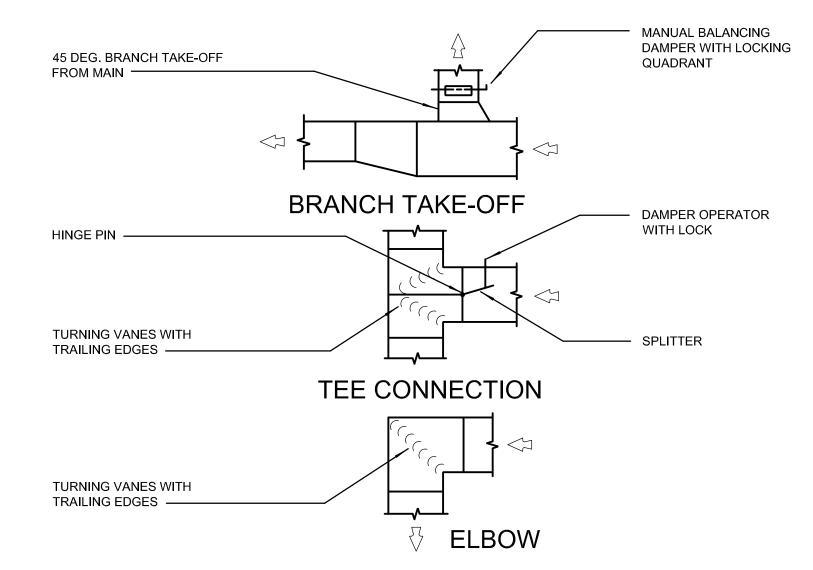
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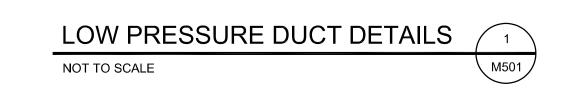
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M101



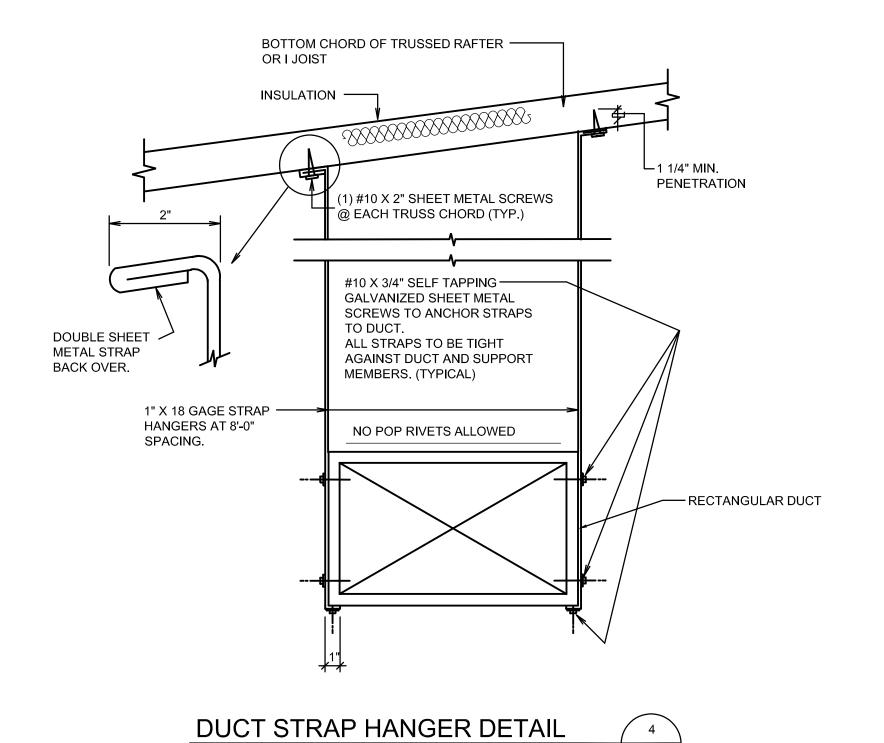






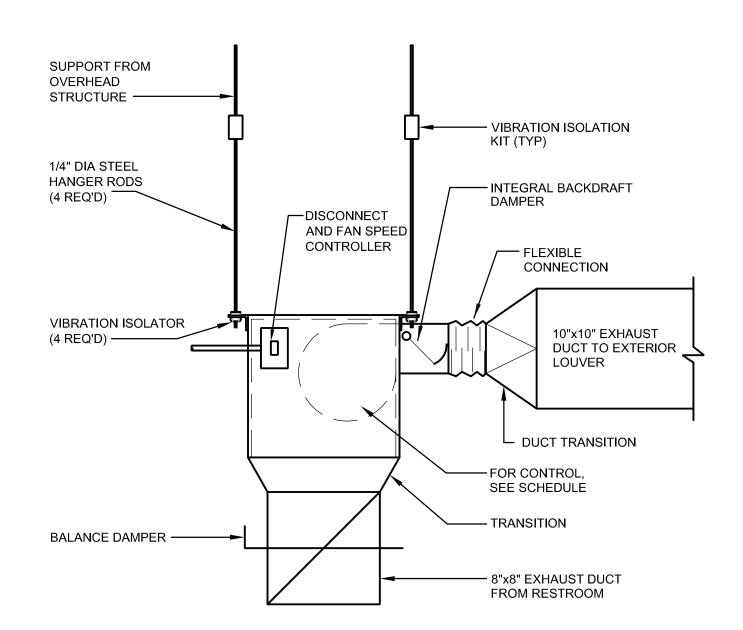






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M501

HERRIMAN CITY
ENGINEERING DEPARTMENT
CEMETERY RESTROOM BUILDING
6018 W. HERITAGE HILL DRIVE

MECHANICAL DETAILS

## GENERAL NOTES

- 1. CONSULT ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF ALL LIGHTING FIXTURES.
- 2. VERIFY ALL EQUIPMENT DIMENSIONS AND LOCATIONS BEFORE BEGINNING ROUGH IN. CONSULT ALL APPLICABLE CONTRACT DRAWINGS AND SHOP DRAWINGS TO INSURE NEC CODE CLEARANCES REQUIRED AROUND ALL ELECTRICAL EQUIPMENT.
- 3. CONTRACTOR SHALL VERIFY ALL ELECTRICAL LOADS (VOLTAGE, PHASE, CONNECTION REQUIREMENTS, ETC.) OF EQUIPMENT FURNISHED UNDER DIVISION 23 (15) WITH APPROVED MECHANICAL SHOP DRAWINGS BEFORE BEGINNING ROUGH IN.
- 4. SEE SECTION 265100 (16510) OF THE SPECIFICATION REQUIRED COORDINATION MEETINGS WITH MECHANICAL AND CEILING CONTRACTORS.
- 5. SEE APPLICABLE SHOP DRAWINGS FOR ROUGH IN LOCATION OF ALL EQUIPMENT, WIRING DEVICES, ETC. WHERE APPLICABLE MOUNT ALL WIRING DEVICES ABOVE BACK SPLASH EXCEPT THOSE SERVING UNDER COUNTER EQUIPMENT.
- 6. SEE SPECIFICATION FOR ENERGY SAVING LAMP AND BALLAST REQUIREMENTS.
- 7. FINISHES OF ALL LIGHT FIXTURES SHALL BE AS SELECTED BY ARCHITECT.
- 8. THE ELECTRICAL CONTRACTOR SHALL NOTIFY AND COOPERATE WITH THE MECHANICAL CONTRACTOR SUCH THAT NO PIPING, DUCTS, OR EQUIPMENT FOREIGN TO THE OPERATION OF THE ELECTRICAL EQUIPMENT SHALL BE PERMITTED TO BE INSTALLED IN, ENTER OR PASS THRU ELECTRICAL ROOMS OR SPACES, OR ABOVE OR BELOW ELECTRICAL EQUIPMENT
- 9. ELECTRICAL BOXES SHALL NOT BE LOCATED IN MASONRY COLUMNS IN BRICK WALLS OR IN GROUTED CELLS ADJACENT TO OPENINGS. COORDINATE LOCATION OF BOXES WITH
- 10. ALL PENETRATIONS OF FIRE RATED FLOORS, WALLS, AND CEILINGS SHALL BE SEALED WITH APPROVED MATERIAL TO MAINTAIN FIRE RATING OF SURFACE PENETRATED.
- 11. CIRCUITS EXTENDING OVER 70' FOR 120 VOLT AND 115' FOR 277 VOLT 20 AMP CIRCUITS SHALL BE RUN WITH CONDUCTORS PER TABLE BELOW.

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

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

## ELECTRICAL SYMBOL SCHEDULE

- SEE FIXTURE SCHEDULE FOR TYPE, MOUNTING AND WATTAGE.
  HEIGHT MEASURED TO CENTER LINE OF THE BOX FROM THE FINISH FLOOR.
  REFER TO DRAWINGS FOR DIRECTIONAL ARROWS.
  SUBSCRIPT KEYS SWITCH TO FIXTURES CONTROLLED.
  NEMA TYPE 'ND' NON-FUSED UNLESS NOTED 'F' (FUSED). USE 'HD' 480 V.
  HEIGHT MEASURED TO TOP OF THE BOX FROM FINISHED FLOOR.
- PROVIDE H.O.A. AND S.S. PUSHBUTTONS AS REQUIRED. DOUBLE ARROWS DENOTE A DOUBLE FACE UNIT.
- COORDINATE WITH MILLWORK SHOP DRAWINGS AND ELEVATIONS FOR HEIGHT. 10. SUBSCRIPT DENOTES NEMA CONFIGURATION.
- 11. HEIGHT MEASURED TO BOTTOM OF THE BOX FROM FINISH FLOOR. 12. COORDINATE WITH DOOR HARDWARE SUPPLIER.
- \* TYPICAL SYMBOL SCHEDULE. SOME SYMBOLS MAY NOT BE USED IN
- THIS SET OF DRAWINGS.

STANDARD I	MOUNTING HEIGHT UNLESS OTHERWISE NOTED ON P	LANS					
SYMBOL	DESCRIPTION	MOUNTING HEIGHT	NOTES	SYMBOL	DESCRIPTION	MOUNTING HEIGHT	NOTES
	ONE CIRCUIT, HOME RUN TO PANEL				JUNCTION BOX ('F' IN FLOOR)	AS NOTED	
<del></del>	TWO CIRCUIT, HOME RUN TO PANEL			<i>/</i> O/	MOTOR OUTLET	TO SUIT EQUIP.	
	THREE CIRCUIT, HOME RUN TO PANEL			•	PUSHBUTTON	+4'-0"	6.
	CONDUIT RUN CONCEALED IN WALL OR CEILING				NON-FUSED DISCONNECT SWITCH	+5'-0"	5.
	CONDUIT RUN CONCEALED IN FLOOR OR GROUND			F	FUSED DISCONNECT SWITCH	+5'-0"	5.
	CONDUIT UP			\$ <sup>T</sup>	MANUAL STARTER THERMAL OVERLOAD SWITCH WITH PILOT LIGHT	+4'-0"	6.
	CONDUIT DOWN				MAGNETIC STARTER	+5'-0"	7.
<del></del>	CONDUIT STUB LOCATION	CAP CONDUIT			MAGNETIC STARTER / DISCONNECT COMBINATION	+5'-0"	
	CONDUIT/CIRCUIT CONTINUATION			VFD	VARIABLE FREQUENCY DRIVE	+6'-6"	
	CABLE TRAY	AS NOTED			PANEL BOARD	TOP AT +6'-0"	
0	CEILING LIGHT FIXTURE	CEILING	1.		MAIN DISTRIBUTION PANEL		
Ю	WALL LIGHT FIXTURE	AS NOTED	1.		TELEPHONE TERMINAL BOARD		
	RECESSED DOWNLIGHT FIXTURE	CEILING	1.	<del></del>	GROUND BUS BAR		
	RECESSED WALL-WASH FIXTURE	CEILING	1.		CHIME	+7'-6"	
0	LIGHT FIXTURE	AS NOTED	1	F	FIRE ALARM MANUAL STATION	+4'-0"	6.
	EGRESS LIGHT FIXTURE	AS NOTED	UNSWITCHED	H	FIRE ALARM SIGNAL HORN/STROBE	+8'-0"	6.
•=	AREA LIGHT POLE AND FIXTURE	CONCRETE BASE	SEE DIAGRAM	E	FIRE ALARM SIGNAL SPEAKER/STROBE	+8'-0"	6.
$\bigcirc$	FLOOD OR TRACK FIXTURE	AS NOTED		S	FIRE ALARM STROBE	+8'-0"	6.
<b>⊗ Ю</b>	CEILING/WALL MOUNTED EXIT LIGHT	CEILING/ AS NOTED	1. 3. 8.	K	FIRE ALARM SPEAKER ONLY	+8'-0"	6.
\$ ×	SINGLE POLE SWITCH	+4'-0"	4. 6.	B	FIRE ALARM SIGNAL STROBE WITH BLUE COLORED LENS (CO VISUAL ALARM)	+8'-0"/ CEILING	MOUNT AS PER. MAN
\$ <sup>3</sup>	THREE-WAY SWITCH	+4'-0"	6.		SMOKE DETECTOR	CEILING	
\$ <sup>4</sup>	FOUR-WAY SWITCH	+4'-0"	6.	 ⊚c	CARBON MONOXIDE DETECTOR	CEILING	
\$ <sup>K</sup>	KEY OPERATED SWITCH	+4'-0"	6.	<u> </u>	HEAT DETECTOR	CEILING	
<u> </u>	TIMER SWITCH	+4'-0"	6.	<u> </u>	DUCT SMOKE DETECTOR		MTD. IN DUCT
⊕ Ox	LOW VOLTAGE WALL STATION (SUBSCRIPT INDICATES	+4'-0"	6.		FIRE/SMOKE DAMPER		
<u> </u>	CONFIGURATION & CONTROL SEQUENCE) SEE DIAGRAM DUAL TECHNOLOGY CEILING MOUNTED OCCUPANCY		SEE DIAGRAM, SPEC.		DOOR HOLDER	AS NOTED	
Ю	SENSOR (PROVIDE WITH ALL ROOM CONTROLLERS)  DUAL TECHNOLOGY WALL MOUNTED OCCUPANCY SENSOR (SUBSCIPT D=DIMMING AND DAY-LIGHT CONTROL)		SEE DIAGRAM, SPEC.	R	FIRE ALARM RELAY OR SECURITY RELAY		
P	POWER PACK	ABOVE	SEE DIAGRAM, SPEC.	CM	FIRE ALARM CONTROL MODULE		
	DIGITAL ROOM CONTROLLER (SUBSCRIPT INDICATES	CEILING ABOVE	SEE DIAGRAM. SPEC.	MM	FIRE ALARM MONITOR MODULE		
EP	NUMBER OF RELAYS, #E INDICATES EM ENABLED RC)  EMERGENCY LIGHTING CONTROL UNIT	CEILING ABOVE	SEE DIAGRAM, SPEC.	• D	DURESS PUSHBUTTON	+4'-0"	6.
(R)	RECEPTACLE SWITCH PACK	ABOVE	SPEC.	<u> </u>	SECURITY SYSTEM DOOR SWITCH	DOOR	
A	AUTOMATIC RELAY PACK	CEILING ABOVE	SEE DIAGRAM. SPEC.		SECURITY SYSTEM OVERHEAD DOOR SWITCH	JAMB CEILING	MOUNT AS PER. MAN
	LOW VOLTAGE TRANSFORMER	CEILING	SEE DIAGRAMI. SI EC.	(M) 2	MAGNETIC SHEAR LOCK	OLILINO	MOON AS I EN. MAN
P	PHOTO-ELECTRIC CONTROL	AS NOTED	TORK 2000A	(A)	SECURITY SYSTEM KEYED ACCESS SWITCH	+4'-0"	6.
	DIGITAL DAYLIGHT SENSOR	CEILING	SEE DIAGRAM SPECIFICATION	(k)	SECURITY SYSTEM KEYED PAD		6.
TC	TIME CLOCK	+5'-0"	SPECIFICATION 2.	$\bigcirc$	INFRARED SENSOR	AS NOTED	· · · · · · · · · · · · · · · · · · ·
<u> </u>	DUPLEX RECEPTACLE	+16" OR	9. 11.	₩ ₩	SECURITY MOTION DETECTOR	AS NOTED	MOUNT AS PER. MAN
_		AS NOTED +16" OR		(P)	SECURITY MOTION DETECTOR  SECURITY SYSTEM POP—IT		MOUNT AS PER. MAN
<del>_</del> ∪ 	DUPLEX RECEPTACLE WITH USB OUTLET  DUPLEX RECEPTACLE WITH CONTROL	AS NOTED +16" OR	9. 11.	Ť	GLASS BREAK DETECTOR	CEILING	MOOTH TO LETY MAN
	DUPLEX RECEPTABLE WITH CONTROL  DUPLEX RECEPTABLE	AS NOTED	9. 11.	(S) (ES)	ELECTRIC DOOR STRIKE	JEIEII4G	12.
⊕ <sub>A</sub> ⊕ <sub>W</sub>	ELECTRIC WATER COOLER RECEPTACLE		SEE DIAGRAM	EL)	ELECTRIC DOOR STRIKE  ELECTRIC DOOR LOCK		12.
		+24" OR					12.
₩P	WEATHERPROOF RECEPTACLE	AS NOTED	2. 9.	R	ACCESS CONTROL CARD READER	LA' O"	6
<b>→</b>	GROUND FAULT INTERRUPTER DUPLEX RECEPTACLE	+16" OR AS NOTED +16" OR		CR	ACCESS CONTROL CARD READER		6.
<u></u> ♣	FOURPLEX RECEPTACLE	+16" OR AS NOTED +16" OR		BR	ACCESS CONTROL BIOMETRIC READER		6.
	GROUND FAULT INTERRUPTER FOURPLEX RECEPTACLE	+16" OR AS NOTED +16" OR			CAMERA - SEE SCHEDULE	AS NOTED	SEE DIAGRAM, SPEC.
<u> </u>	SPECIAL PURPOSE OUTLET	+16" OR AS NOTED +16" OR	10. WITH CAP. 11.		DOOR POSITION INDICATING SWITCH		
	DATA OUTLET W/(1) CABLE (SEE SPECIFICATION)	I AS NOTED		(A)	LIGHT FIXTURE (LETTER DESIGNATES TYPE)		
	DATA OUTLET W/(2) CABLES (SEE SPECIFICATION)	I AS NOTED		(EQ) 34	EQUIPMENT NUMBER		
	DATA OUTLET W/(3) CABLES (SEE SPECIFICATION)	L V2 MOLED		842	ARCHITECTURAL ROOM NUMBER		
X	DATA OUTLET W/MORE THAN (3) CABLES (SEE SPEC)	AS NOTED	9. 11.	X	DEVICE/EQUIPMENT (TEXT DESIGNATES TYPE) SEE SCHEDULE		
$\qquad \qquad \diamondsuit$	WIRELESS ACCESS POINT, W/(2) CABLES (SEE SPEC)	CEILING					

## INDEX OF ELECTRICAL DRAWINGS

- E001 SYMBOLS, SCHEDULES AND NOTES E002 SCHEDULES
- E101 ELECTRICAL SITE PLAN E201 LIGHTING AND POWER PLAN
- E401 ONE-LINE DIAGRAM AND PANEL BOARD SCHEDULES
- E501 ELECTRICAL DIAGRAMS

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AND NOTE

SCHEDULES

SYMBOLS,

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					_ I			
			DATE					
A.	F.F.							
w.	ALL@CLG	WALL MOUNT AT CORNER OF WALL AND CEILING	CFBA	CUSTOM FINISH AS SELECTED BY THE ARCHITECT				
C	CBA	CUSTOM PAINTED COLOR AS SELECTED BY THE ARCHITECT	SFBA	STANDARD FINISH AS SELECTED BY THE ARCHITECT				
			MOD	MODIFY STANDARD LIGHT FIXTURE AS INDICATED				
		LIGHT FIXTU	RE GENERAL N	OTES	$\  \ $			
1.	REFER TO							
ATTENTION OF THE ARCHITECT AND ELECTRICAL ENGINEER PRIOR TO BIDDING.  2. REFER TO ARCHITECTURAL ELEVATIONS FOR MOUNTING HEIGHTS AND LOCATIONS OF LIGHT FIXTURES. BRING ALL DISCREPANCIES TO THE ATTENTION OF THE ARCHITECT PRIOR TO BIDDING.								
3.	REFER TO	THE SPECIFICATIONS FOR OTHER LIGHT FIXTURE, FUSING, BALLAST, A	ND LAMP REQUIRE	MENTS AND ACCEPTABLE MANUFACTURERS.		PTION		
4.		AVAILABLE MOUNTING DEPTHS OF ALL LIGHT FIXTURES AND COMPARE OF THE ARCHITECT AND ELECTRICAL ENGINEER PRIOR TO RELEASE.	WITH DEPTHS SHO	WN ON SHOP DRAWINGS. BRING ALL POTENTIAL CONFLICT AREAS TO THE		ESCRIP		
5.	REFER TO OVERALL		VISION D					
6.	REFER TO OR OVER/ LENGTH O		REVIS					
7.	WHEN A	CONTRADICTION EXISTS BETWEEN A SPECIFIC MODEL NUMBER AND THE	DESCRIPTION, THE	E DESCRIPTION SHALL GOVERN.		o		
8.		PROVALS SHALL BE SUBMITTED TO THE ELECTRICAL ENGINEER'S OFFICE IS TIME PERIOD SHALL BE REJECTED.	AT LEAST (8) E	GHT WORKING DAYS BEFORE THE BID. PRIOR APPROVALS RECEIVED	$\  \ $	O Z		
9.	REFER TO	SPECIFICATIONS 260500, 265100 & 265600 (16001, 16510 & 1655	1).				*****	

EIVTLIDE COUEDLILE										
FIXTURE SCHEDULE										
TYPE	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	VOLTS	TOTAL WATTS	LAMPS				
Α	4 FOOT LED SURFACE WRAP FIXTURE WITH 5,072 LUMENS, PEARLESCENT POLY CARBONATE LENS, ELECTRONIC DRIVER AND EMERGENCY BATTERY PACK	KENA LL	MLHA 8-48-R-MW-PP-45L40K-DCC-120-LEL	120	49	INCLUDED				
В	4 FOOT LE STRIP FIXTURE WITH 4436 LUMENS, FULL FROST LENS AND ELECTRONIC DRIVER	METALUX	4SWLED-44HL-LW-UNV-L840-CD1-U	120	40	INCLUDED				
OA	LED WALL SCONCE WITH 4000 LUMENS, PHOTOCELL, ELECTRONIC DRIVER	LUMA RK	XTOR4B-Y-SCBA-PC1	120	38	INCLUDED				

10. VALUE ENGINEERING CONDUCTED WITHOUT THE DESIGN TEAM IE; ARCHITECT, OWNER, ENGINEER & LIGHTING CONSULTANT/DESIGNER WILL NOT BE ALLOWED, REVIEWED OR APPROVED.

EQUIPMENT SCHEDULE																	
							1	WIRE	S		OC	PD	RE	F. NOT	ΓES		
UNIT#	FUNCTION	LOAD	VOLT	PHASE	FULL	AMPS	CONDUIT	NO. SETS	NO.	SIZE	EQUIP. GNQ1)	TYPE	AMPS	STARTER	DISCONNECT	отнек	REMARKS
EF-1	EXHAUST FAN	100 VA	120	1	0.8	33	3/4"	1	2	12	12	СВ	15	4A			
EH-1	ELECTRIC UNIT HEATER	10 KVA	208	1	48.	08	1"	1	2	4	8	CB	70		1A		
RP-1	RA DIA NT PA NEL	750 VA	120	1	6.2	25	3/4"	1	2	12	12	СВ	20			11A	
WH-1	WATER HEATER	2000 VA	120	1	16.	67	3/4"	1	2	10	10	CB	25		1A		

- 1. NON-FUSED DISCONNECT SWITCH 2. FUSED DISCONNECT SWITCH
- 3. BREAKER IN ENCLOSURE
- 4. MANUAL STARTER W/THERMAL OVERLOAD
- 5. MAGNETIC STARTER
- 6. MAGNETIC STARTER/NON-FUSED DISCONNECT COMBINATION 7. MAGNETIC STARTER/FUSED DISCONNECT COMBINATION
- 8. MAGNETIC STARTER/BREAKER COMBINATION
- 9. VARIABLE FREQUENCY DRIVE
- 10. REDUCED VOLTAGE STARTER
- 11. DIRECT CONNECTION
- 12. RECEPTACLE/SPECIAL PURPOSE OUTLET/ETC.
- 13. TWO-SPEED STARTER, COORDINATE W/MOTOR TYPE 14. SOLID STATE SOFT STARTER

- A. FURNISHED, INSTALLED, AND CONNECTED UNDER DIVISION 26
- B. FURNISHED AND INSTALLED UNDER ANOTHER DIVISION REQUIRING CONNECTION UNDER DIVISION 26.
- C. FURNISHED UNDER ANOTHER DIVISION BUT INSTALLED AND
- CONNECTED UNDER DIVISION 26. D. FURNISHED, INSTALLED AND CONNECTED UNDER ANOTHER DIVISION.

CB = CIRCUIT BREAKER - THERMAL MAGNETIC

CKW = CHILLER KILOWATTS

NOTE 1: PER 250.122(A), EQUIPMENT GROUND IS NOT REQUIRED TO BE LARGER THAN PHASE CONDUCTOR.

HERRIM



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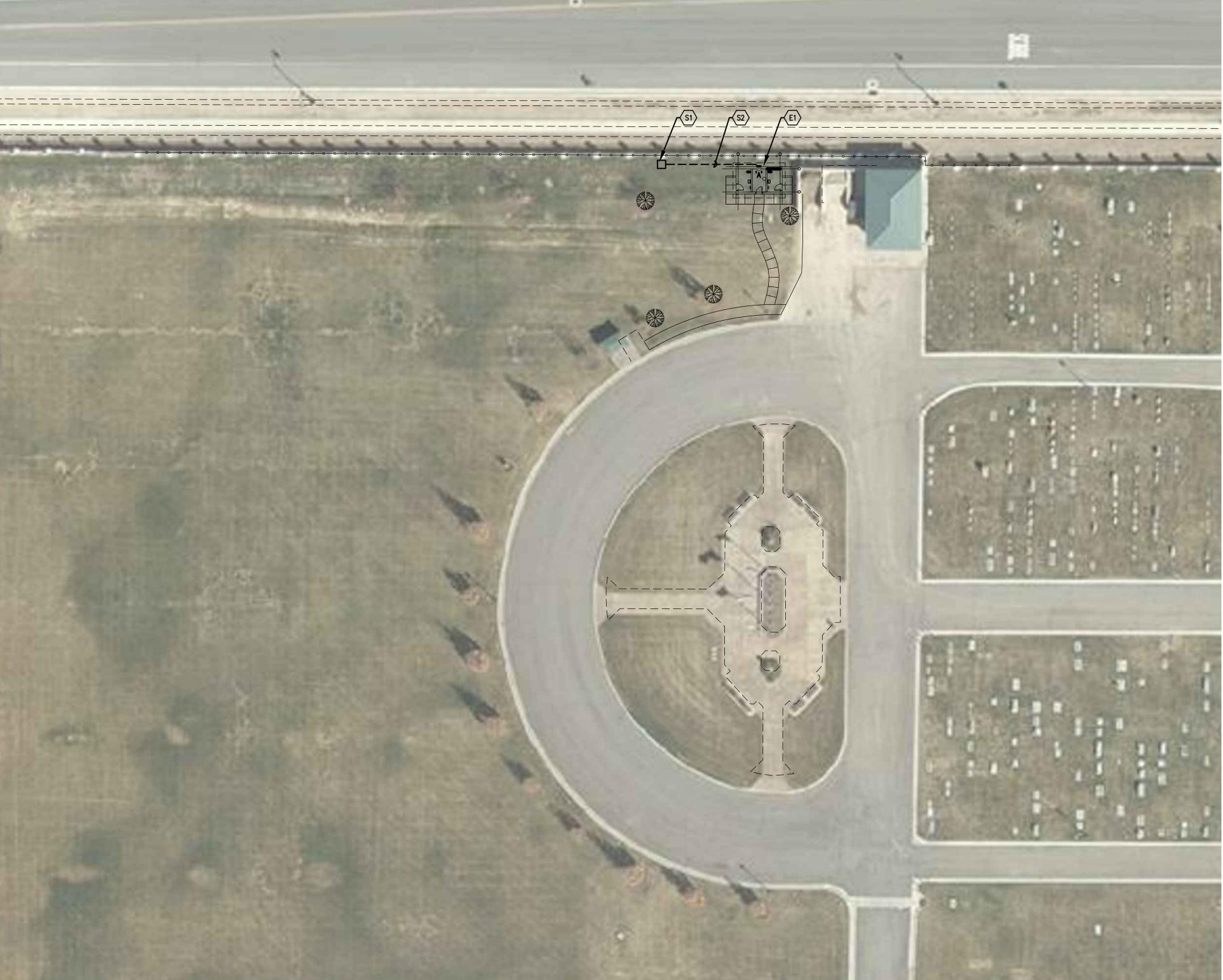
SCHEDULES

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## SHEET KEYNOTES

- S1 EXISTING ROCKY MOUNTAIN POWER CONNECTION BOX.
- $\langle S2 \rangle$  (1) 3" CONDUIT FOR POWER SERVICE. SEE ONE-LINE DIAGRAM SHEET E401.
- ET FEED THRU METER BASE. SEE ONE-LINE DIAGRAM SHEET E401 FOR ADDITIONAL SERVICES.



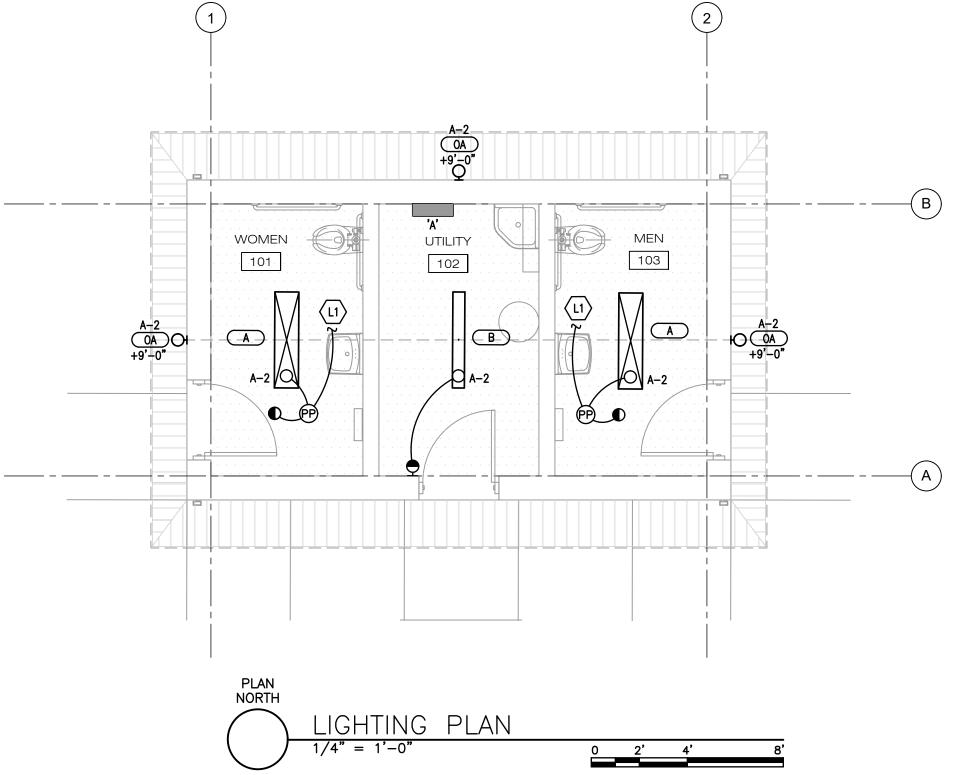


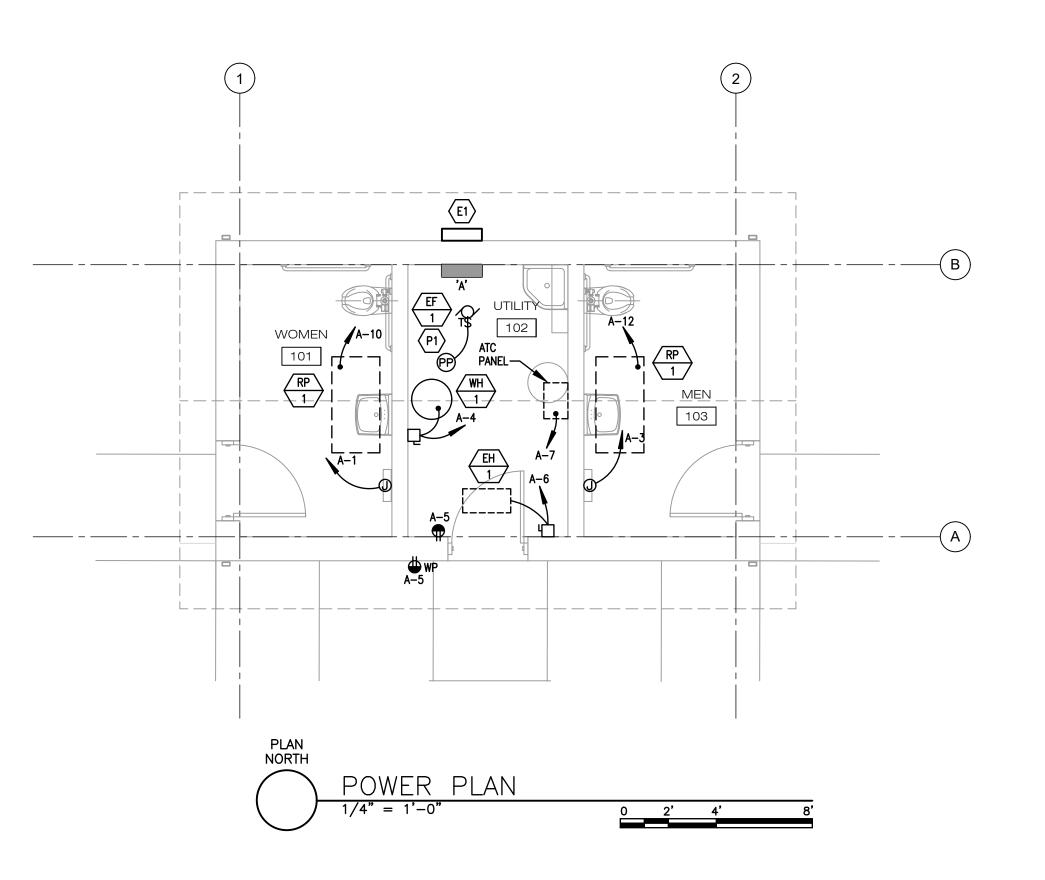
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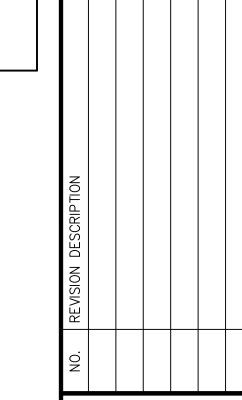
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CEMETERY RESTROOM BUILDING
6018 W. HERITAGE HILL DRIVE ELECTRICAL SITE PLAN

## SHEET KEYNOTES $\overline{\langle { t E1} angle}$ feed thru meter base. See one—line diagram sheet E401 for additional requirements. $\overline{\langle P1 \rangle}$ wire exhaust fan to occupancy sensor in restrooms. $\langle L1 \rangle$ PROVIDE WIRING TO POWER PACK TO CONTROL EXHAUST FAN.









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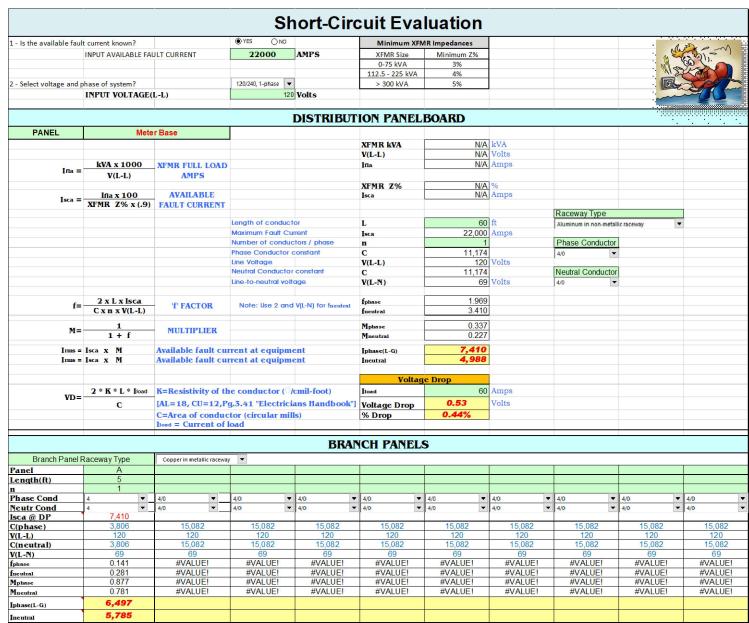


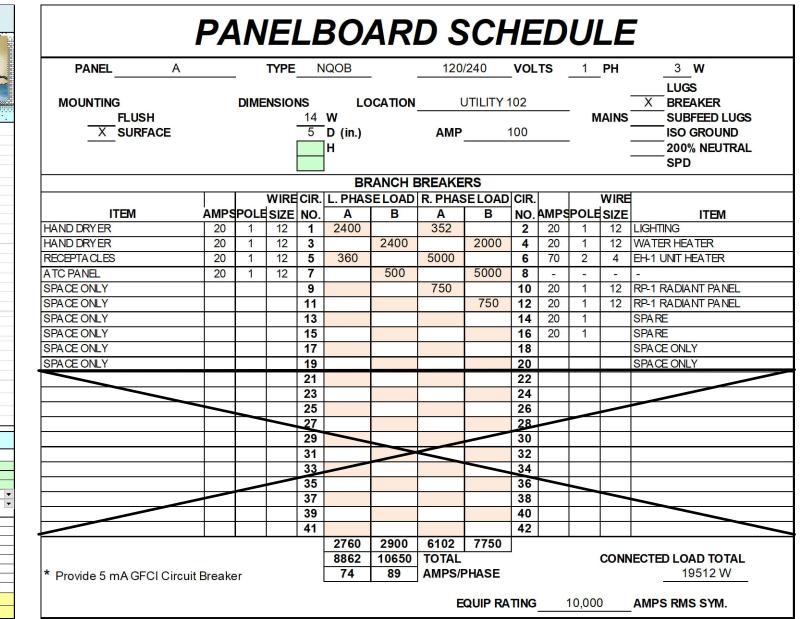
**LIGHTING AND POWER PLANS** 

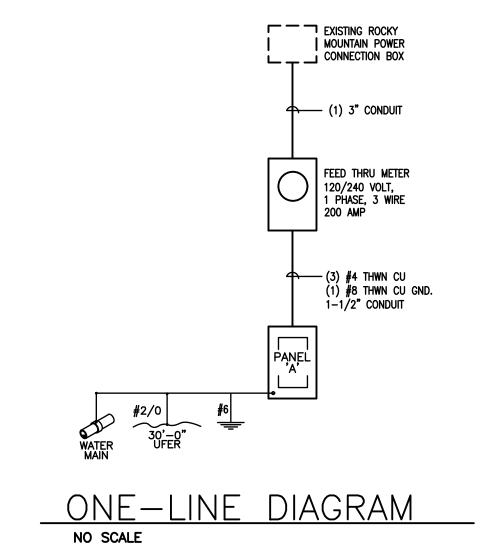
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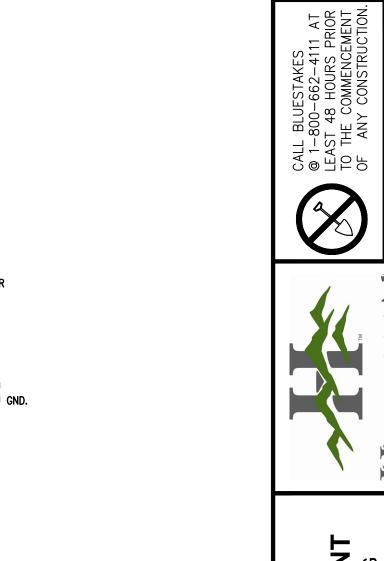
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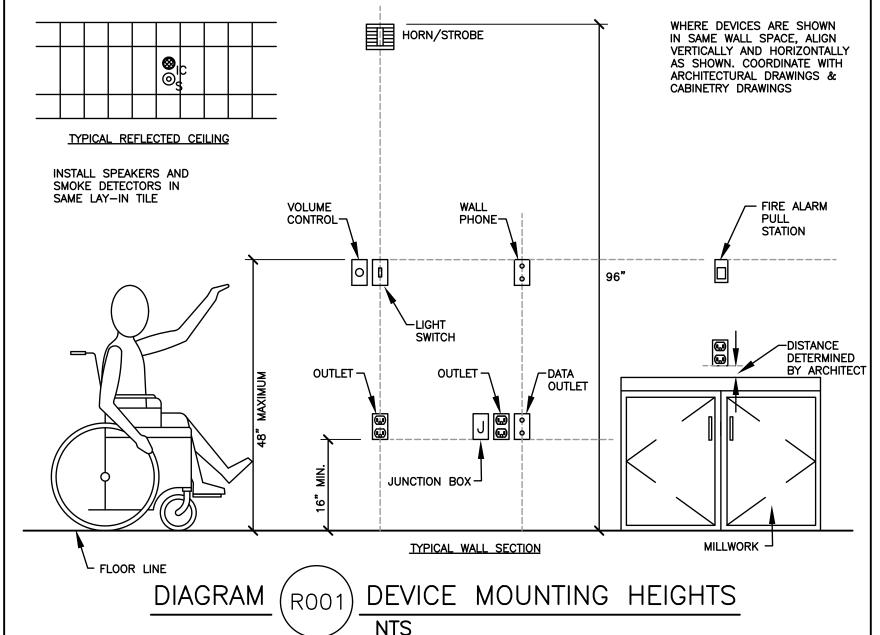
E401

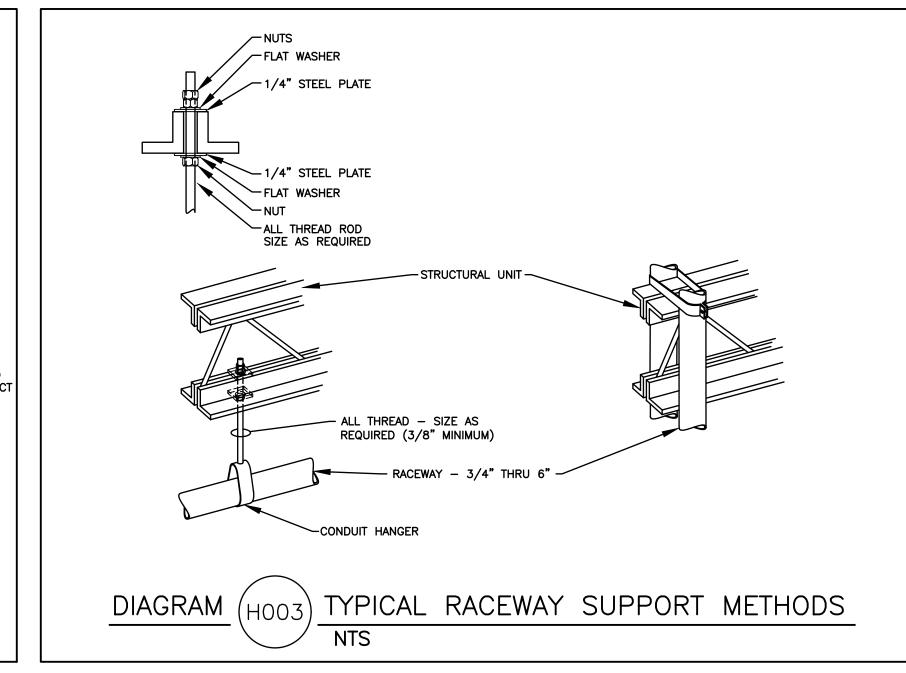
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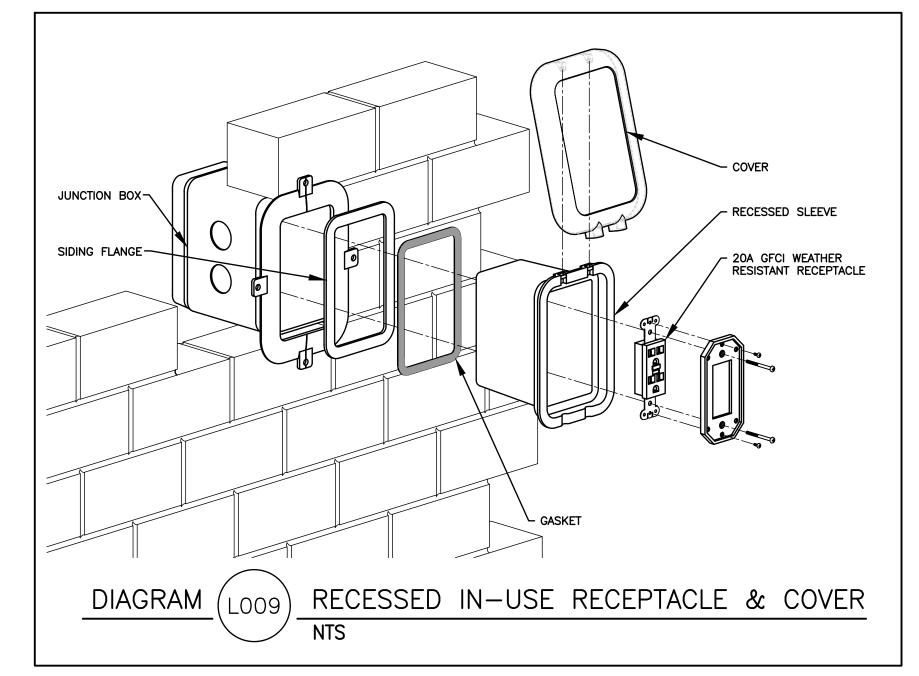
HILL DRIVE PANELBOARD

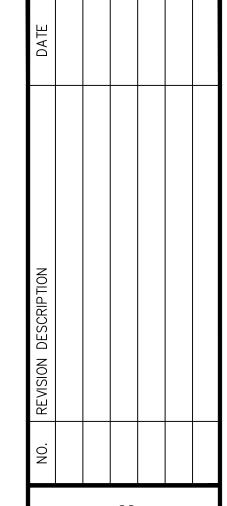
6018 W. HERITAG ONE-LINE DIAGRAM

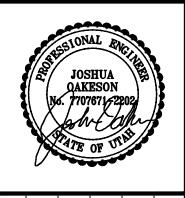
JOSHUA QAKESON











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@ 1-800-662-4111 AT LEAST 48 HOURS PRIOR	TO THE COMMENCEMENT OF ANY CONSTRUCTION.			VERIFY SCALE	INCH ON OBIGINAL DRAWING	יייסון סון סווסוועיב בועיייייס		



HERRIMAN CITY
ENGINEERING DEPARTMENT
CEMETERY RESTROOM BUILDING
6018 W. HERITAGE HILL DRIVE
ELECTRICAL DIAGRAMS

**BNA**CONSULTING

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