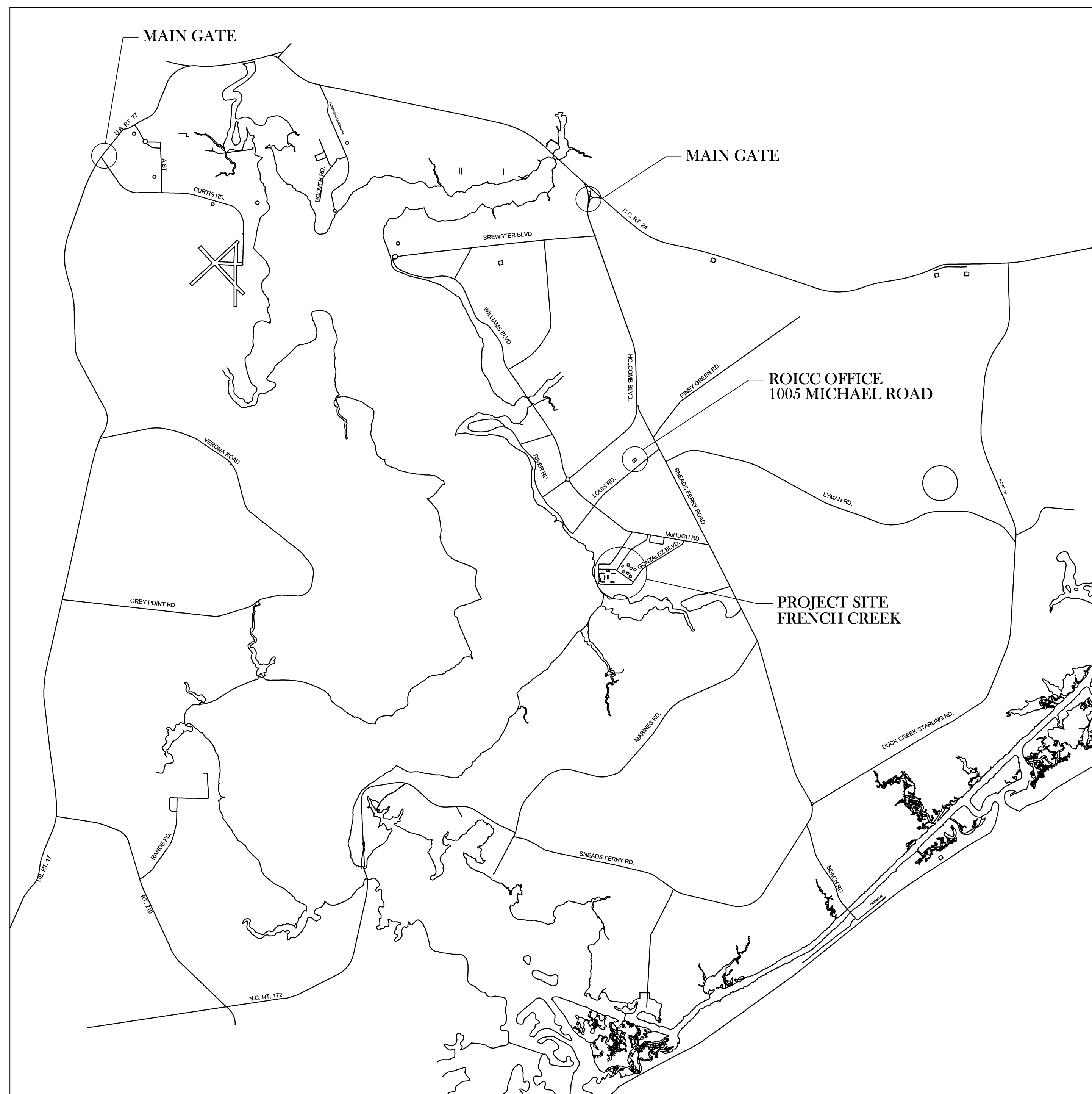


SYM.	PREP'D BY	DATE	APPROVED

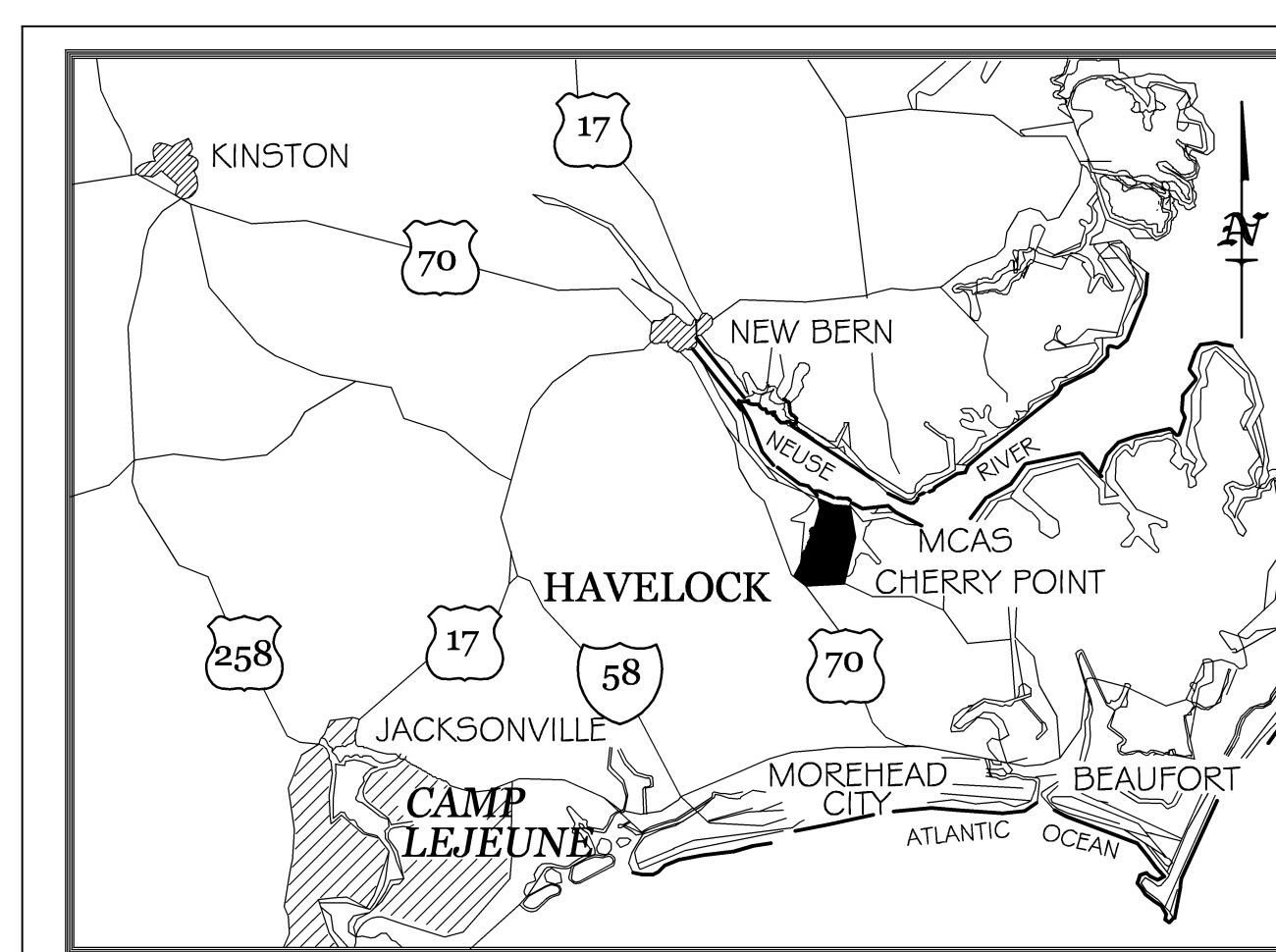


LOCATION MAP  
NOT TO SCALE



# BOILER MODIFICATIONS, VARIOUS FACILITIES, FRENCH CREEK

MARINE CORPS BASE,  
CAMP LEJEUNE, N.C.  
PROJECT NO. CP 12-0121



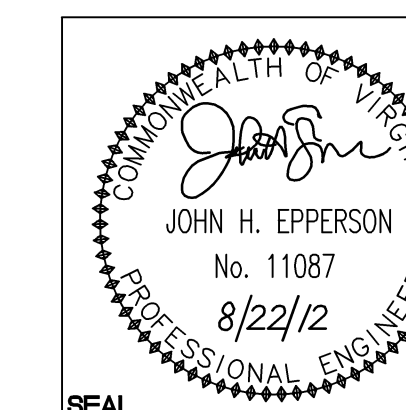
VICINITY MAP  
SCALE AS NOTED



**DISCLOSURE OF INFORMATION**

Contractor shall comply as follows:

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The Contracting Officer has given prior written approval; or
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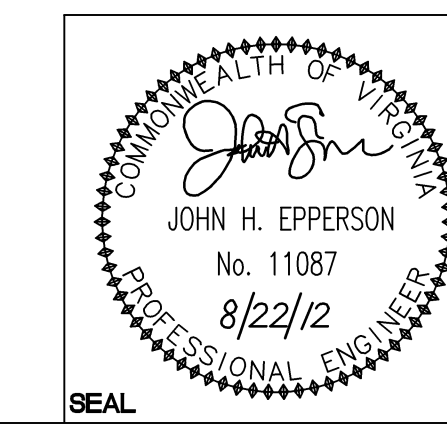
WileyWilson 6600 West Broad St., Suite 500 Richmond, Virginia 23230-1717 804.254.7342 wileywilson.com		G-001 PROJECT NO. CP12-0121	
DEPT OF NAVY <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA		NAVAL FACILITIES ENGINEERING COMMAND	
DES. JHE DR. AEI CHK. JHE SUBMITTED BY: DESIGN DR.		<b>BOILER MODIFICATIONS, VARIOUS FACILITIES, FRENCH CREEK</b> COVER SHEET	
APPROVED PWO OR OICC DATE SATISFACTORY TO DATE	SIZE E CODE IDENT NO. 80091	NAVFAC DRAWING NO. 60011308 CONSTR CONTR NO. N40085-12-B-0121	
SCALE: AS SHOWN	SPEC No. 06-12-0121	SHEET 01 OF 37	

SYM.	PREP'D BY	DATE	APPROVED

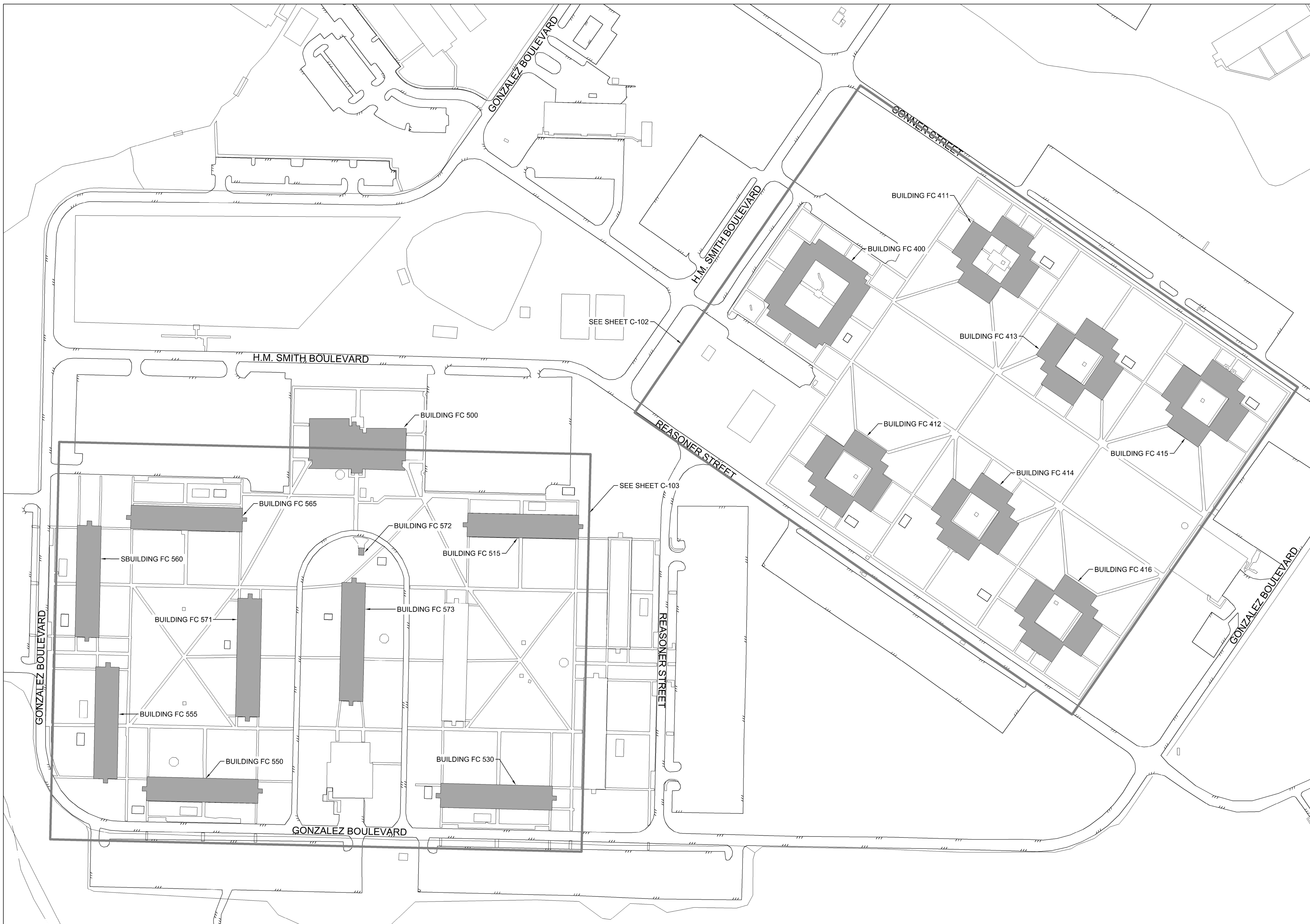
INDEX OF DRAWINGS		
Sheet Number	NAVFAC Number	Sheet Title
G-001	60011308	COVER SHEET
G-002	60011309	INDEX OF DRAWINGS
C-101	60011310	OVERALL PLAN
C-102	60011311	SITE PLAN (1 OF 2)
C-103	60011312	SITE PLAN (2 OF 2)
C-201	60011313	DETAILS
S-101	60011314	FOUNDATION & ROOF FRAMING PLANS AND GENERAL NOTES
S-301	60011315	SECTIONS & DETAILS
A-001	60011316	GENERAL NOTES, ABBREVIATIONS, AND LEGEND
A-101	60011317	PLANS AND ELEVATIONS - TYPICAL
A-102	60011318	PLANS AND ELEVATIONS - FC572
A-103	60011319	PLANS AND ELEVATIONS - FC400, FC571, FC573
A-301	60011320	SECTIONS AND DETAILS
M-001	60011321	LEGEND AND ABBREVIATIONS
M-101	60011322	BUILDING FC400 MECHANICAL DEMOLITION AND NEW WORK PLAN
M-102	60011323	BUILDING FC411 MECHANICAL DEMOLITION AND NEW WORK PLAN
M-103	60011324	BUILDING FC412 MECHANICAL DEMOLITION AND NEW WORK PLAN
M-104	60011325	BUILDING FC413 MECHANICAL DEMOLITION AND NEW WORK PLAN
M-105	60011326	BUILDING FC414 MECHANICAL DEMOLITION AND NEW WORK PLAN
M-106	60011327	BUILDING FC415 MECHANICAL DEMOLITION AND NEW WORK PLAN
M-107	60011328	BUILDING FC416 MECHANICAL DEMOLITION AND NEW WORK PLAN
M-108	60011329	BUILDING FC500 MECHANICAL DEMOLITION AND NEW WORK PLAN
M-109	60011330	BUILDING FC515 MECHANICAL DEMOLITION AND NEW WORK PLAN
M-110	60011331	BUILDING FC530 MECHANICAL DEMOLITION AND NEW WORK PLAN
M-111	60011332	BUILDING FC550 MECHANICAL DEMOLITION AND NEW WORK PLAN
M-112	60011333	BUILDING FC555 MECHANICAL DEMOLITION AND NEW WORK PLAN
M-113	60011334	BUILDING FC560 MECHANICAL DEMOLITION AND NEW WORK PLAN
M-114	60011335	BUILDING FC565 MECHANICAL DEMOLITION AND NEW WORK PLAN
M-115	60011336	BUILDING FC571 MECHANICAL DEMOLITION AND NEW WORK PLAN
M-116	60011337	BUILDING FC572 MECHANICAL DEMOLITION AND NEW WORK PLAN
M-117	60011338	BUILDING FC573 MECHANICAL DEMOLITION AND NEW WORK PLAN
M-201	60011339	DETAILS
M-301	60011340	CONTROLS
E-001	60011341	ELECTRICAL LEGEND, ABBREVIATIONS AND LIGHTING DETAILS
E-101	60011342	BUILDINGS FC-400, 411-416 ELECTRICAL PLANS
E-102	60011343	BUILDINGS FC-500, 515, 530, 550, 560, 565 ELECTRICAL PLANS
E-103	60011344	BUILDINGS FC-571, 572, 573 ELECTRICAL PLANS

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WileyWilson 6006 West Broad St., Suite 500 Richmond, Virginia 23230-1717 804.254.7242 wileywilson.com		PROJECT NO. CP12-0121	
DEPT OF NAVY <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA		<b>G-002</b>	
DES.	JHE	SIZE	E
DR.	AEI	CODE IDENT NO.	80091
CHK.	JHE	NAVFAC DRAWING NO.	60011309
SUBMITTED BY:		CONSTR CONTR NO.	N40085-12-B-0121
DESIGN DR.		SHEET	02 OF 37
APPROVED PWO OR OIC	DATE	SPEC No.	05-12-0121
SATISFACTORY TO	DATE		



**GENERAL NOTES:**

- NO TOPOGRAPHIC OR GROUND SURVEY WAS PERFORMED. ALL EXISTING FEATURES SHOWN ON THE PLANS ARE FROM GIS INFORMATION PROVIDED BY CAMP LEJEUNE. THIS PLAN DOES NOT GUARANTEE THE EXISTENCE, NON-EXISTENCE, SIZE, TYPE, LOCATION, ALIGNMENT, OR DEPTH OF ANY UNDERGROUND UTILITY OR STRUCTURE. THE CONTRACTOR SHALL PERFORM ANY INVESTIGATION NECESSARY TO VERIFY UTILITY LOCATIONS AND SHALL REPORT TO THE ENGINEER ANY DISCREPANCIES.
- CONTACT MISS UTILITY, 1-800-632-4949, FORTY-EIGHT (48) HOURS PRIOR TO DIGGING. UTILITY AUTHORITIES SHALL BE NOTIFIED IN ADVANCE OF ANY EXCAVATION IN THE PROXIMITY OF THEIR UTILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING, AT HIS EXPENSE, ANY EXISTING UTILITY DAMAGED DURING CONSTRUCTION.
- UNLESS OTHERWISE INDICATED, DEMOLITION WASTE BECOMES THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROMPTLY REMOVED FROM THE SITE.
- THE CONTRACTOR IS RESPONSIBLE FOR CONDUCTING DEMOLITION OPERATIONS IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.
- LOCATE, IDENTIFY, DISCONNECT, AND SEAL OR CAP OFF UTILITIES TO BE ABANDONED. EXISTING UTILITIES LOCATED UNDER PROPOSED BOILER BUILDINGS SHALL BE FILLED WITH FLOWABLE FILL. COORDINATE ALL UTILITY DEMOLITION WITH APPLICABLE UTILITY AUTHORITY. NOTIFY OWNER NOT LESS THAN TWO (2) DAYS IN ADVANCE OF PROPOSED UTILITY INTERRUPTIONS.
- THE CONTRACTOR SHALL PROTECT SITE FEATURES THAT ARE TO REMAIN DURING CONSTRUCTION ACTIVITIES. ALL TREES SHALL BE PROTECTED AND NOT DAMAGED DURING CONSTRUCTION. THE CONTRACTOR SHALL BE FULLY LIABLE FOR ANY DAMAGES TO PUBLIC OR PRIVATE PROPERTY CAUSED BY THE CONSTRUCTION OPERATION AND SHALL RESTORE DAMAGED PROPERTY TO EXISTING OR BETTER CONDITION AT NO ADDITIONAL COST TO OWNER.
- DO NOT CLOSE OR OBSTRUCT STREETS, WALKS, WALKWAYS, OR OTHER ADJACENT OCCUPIED OR USED FACILITIES WITHOUT PERMISSION FROM THE OWNER AND AUTHORITIES HAVING JURISDICTION.
- CONTRACTOR SHALL PROVIDE SAFETY FENCING AROUND THE CONSTRUCTION SITE AS NEEDED TO KEEP PEDESTRIANS AND VEHICLES OUT OF THE CONSTRUCTION AREA.
- THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM ALL BUILDINGS AND MINIMUM 4 INCHES OF CLEARANCE FROM FINISH FLOOR TO GROUND ELEVATION. UNIFORMLY ROUGH GRADE AREA OF CONSTRUCTION TO A SMOOTH SURFACE, FREE FROM IRREGULAR SURFACE CHANGES. PROVIDE SMOOTH TRANSITION BETWEEN ADJACENT EXISTING GRADES AND NEW GRADES. ADDITIONAL FILL SHALL BE PROPERLY COMPACTED WITH SATISFACTORY SOIL MATERIALS. PROVIDE EROSION CONTROL MEASURES AS APPROPRIATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING ANY EROSION FROM OCCURRING AND SEDIMENT FROM LEAVING THE DISTURBED AREA.
- CLEAR AND GRUB AREAS WITHIN AND TO A POINT 5 FEET OUTSIDE OF ALL STRUCTURES, AREAS TO RECEIVE FILL, AND TRANSITIONAL AREAS BETWEEN CUT AND FILL. STRIP TOPSOIL IN A MANNER TO PREVENT INTERMINGLING WITH UNDERLYING SUBSOIL OR WASTE MATERIAL.
- CLEAN ADJACENT STRUCTURES AND IMPROVEMENTS OF DUST, DIRT, AND DEBRIS CAUSED BY CONSTRUCTION OPERATIONS. RETURN ADJACENT AREAS TO CONDITION EXISTING BEFORE CONSTRUCTION OPERATIONS BEGAN. CLEAN UP DEBRIS RESULTING FROM CONSTRUCTION OPERATIONS CONTINUOUSLY WITH THE PROGRESS OF THE WORK.
- ALL CONSTRUCTION VEHICLE WHEELS SHALL BE CLEANED BEFORE ENTERING PAVED ROADS.
- DIMENSIONS SHOWN ARE TO FACE OF BUILDING.
- ALL DISTURBED AREAS SHALL BE PERMANENTLY SEEDED AND STABILIZED IN ACCORDANCE WITH THE SEEDING SPECIFICATIONS IMMEDIATELY AFTER REACHING FINISHED GRADE.
- CONTRACTOR SHALL CONNECT FLOOR DRAIN TO EXISTING SANITARY LINE. THE CONTRACTOR SHALL VERIFY EXISTING SANITARY SEWER LOCATION AND ELEVATION AND UTILITY CROSSING CONFLICTS. CLEANOUTS SHALL BE PROVIDED AT 5' OUTSIDE THE BUILDINGS AND AT EVERY BEND. LATERAL LENGTHS GREATER THAN 50' SHALL HAVE A CLEANOUT SPACED EVERY 50'. LATERAL LENGTHS GREATER THAN 300' SHALL HAVE A MANHOLE. ALL PIPES SHALL BE 4" PVC PIPE AND HAVE A MINIMUM SLOPE OF 1%.
- ALL DISTURBED CONCRETE AND ASPHALT SHALL BE REPLACED AS DETAILED ON SHEET C-102 OR TO MATCH EXISTING, WHICHEVER IS GREATER.

**HADNOT POINT - OVERALL PLAN**  
 1"=200'  
 0' 50' 100' 200'

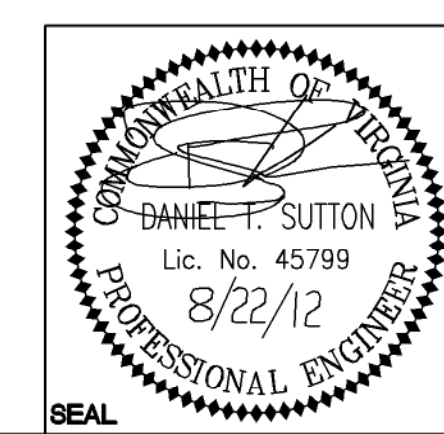
**CIVIL ABBREVIATIONS**

BLDG	BUILDING
C	COMMUNICATIONS
FM	FORCE MAIN
MIN	MINIMUM
OHE	OVERHEAD ELECTRIC
SAN	SANITARY
SD	STORMDRAIN
STM	STORM
T	TELEPHONE
UGE	UNDERGROUND ELECTRIC

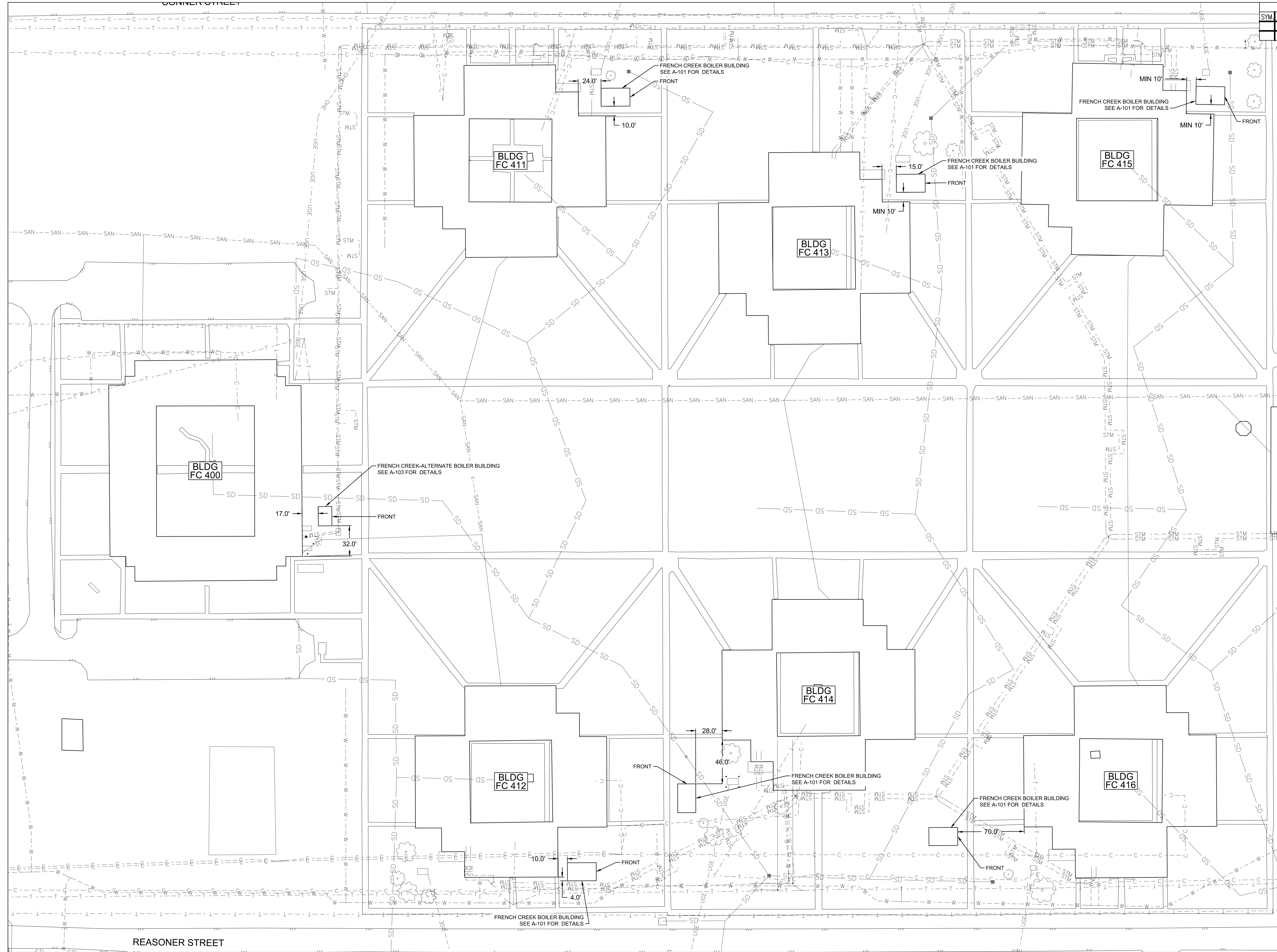
**CIVIL LEGEND**

---	EX DITCH LINE
---SD---	EX STORM LINE
---W---	EX WATER LINE
---SAN---	EX SANITARY LINE GRAVITY
---FM---	EX SANITARY LINE FORCE MAIN
---STM---	EX STEAM LINE
---T---	EX COMMUNICATIONS LINE
---C---	EX FIBEROPTIC LINE
---OHE---	EX OVERHEAD POWER
---	EX UNDERGROUND POWER
	CONCRETE SIDEWALK RESTORATION
XXXXX	ASPHALT RESTORATION

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 (c) The Contractor agrees to include a similar requirement in each subcontract under this contract. Subcontractors shall submit requests for authorization to release through the prime contractor to the Contracting Officer.



WileyWilson 6006 West Broad St., Suite 500 Richmond, Virginia 23230-1717 804.254.7242 wileywilson.com		<b>C-101</b> PROJECT NO: CP12-0121	
DEPT OF NAVY <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA		NAVAL FACILITIES ENGINEERING COMMAND	
<b>BOILER MODIFICATIONS, VARIOUS FACILITIES, FRENCH CREEK</b>			
OVERALL PLAN			
DESIGNED BY: CEK CHECKED BY: CEK SUBMITTED BY: DTS DESIGN DR.	APPROVED: PWO OR OICC DATE	SIZE: E CODE IDENT NO.: 80091	NAVFAC DRAWING NO.: 60011310 CONSTR CONTR NO.: M40085-12-B-0121
SATISFACTORY TO:	DATE:	SCALE: AS SHOWN SPEC No.: 05-12-0121	SHEET 03 OF 37



SYM	PREP'D BY	DATE	APPROVED

**NOTES:**

- SEE SHEET C-101 FOR LEGEND AND NOTES.
- SEE SHEET C-201 FOR TEMPORARY AND PERMANENT STABILIZATION.

REASONER STREET

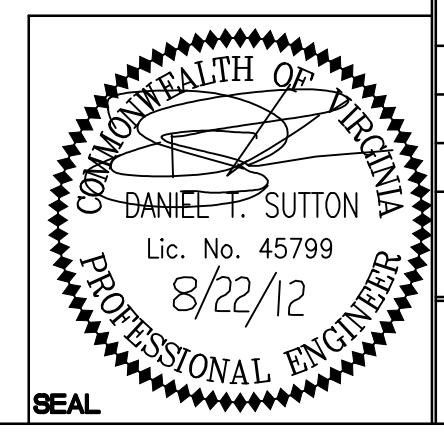


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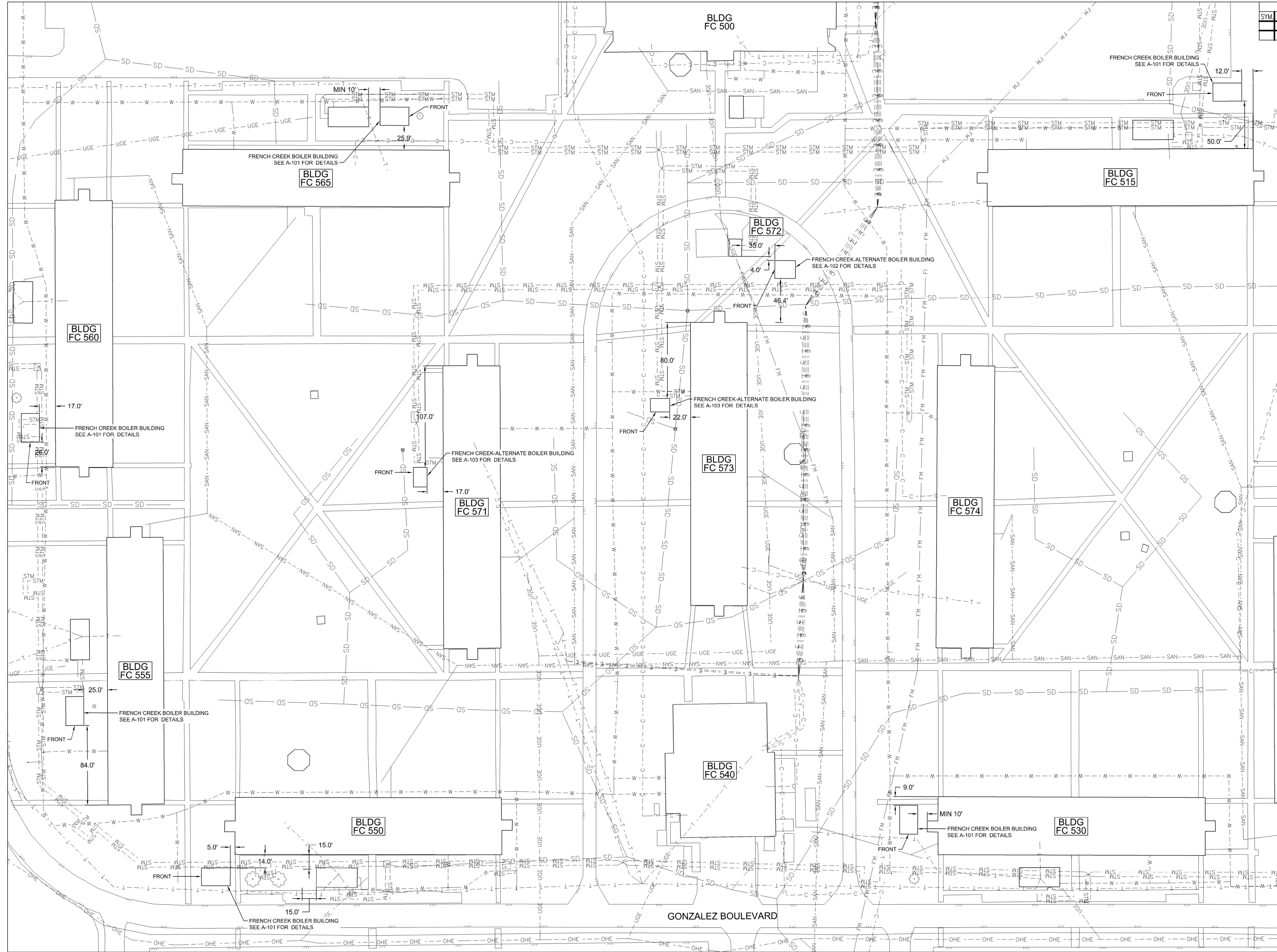
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WileyWilson 6605 West Broad St., Suite 500 Richmond, Virginia 23230-1717 (804) 254-7242 wileywilson.com		<b>C-102</b> PROJECT NO. CP12-012 NAVAL FACILITIES ENGINEERING COMMAND <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA	
DES. CEK	DR. CEK	CHK. DTS	BOILER MODIFICATIONS, VARIOUS FACILITIES, FRENCH CREEK SITE PLAN (1 OF 2)
DESIGN DR.	APPROVED PWO OR OIC	DATE	NAVFAC DRAWING NO. 60011311 CONSTR CONTR NO. N40085-12-B-0121
SUBMITTED BY:	DATE	SCALE: AS SHOWN	SHEET 04 OF 37
SATISFACTORY TO	DATE	SPEC No. 05-12-0121	

X:\2012\12091 MCB Clr French Creek Bldg Mod\CA\12091 C-102.dwg August 15, 2012

SYM.	PREP'D BY	DATE	APPROVED



**NOTES:**

- SEE SHEET C-101 FOR LEGEND AND NOTES.
- SEE SHEET C-201 FOR TEMPORARY AND PERMANENT STABILIZATION.

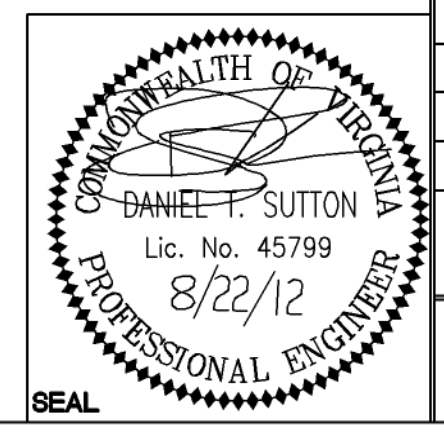
**500 SERIES BUILDINGS**  
 1"=40'

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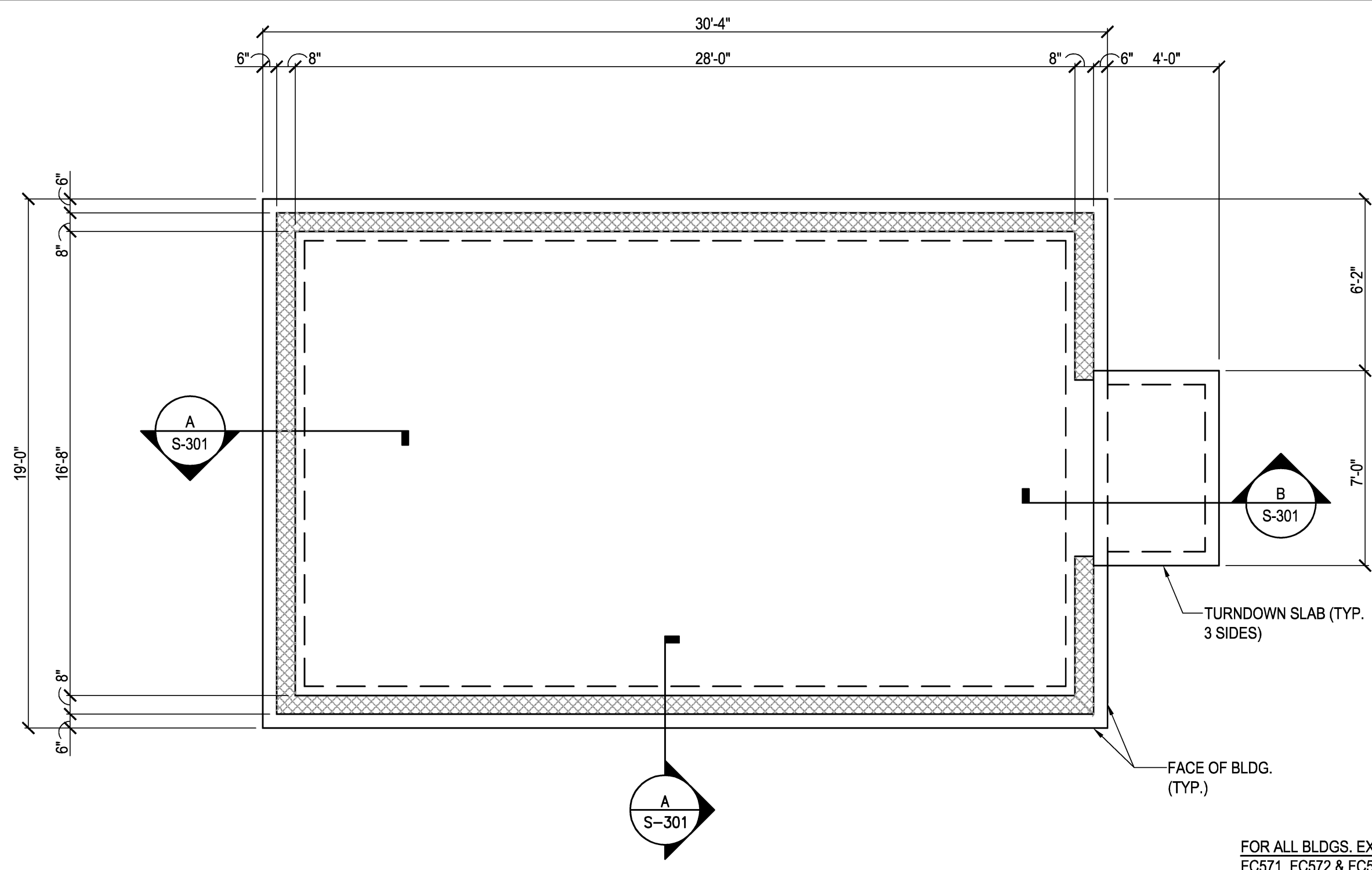
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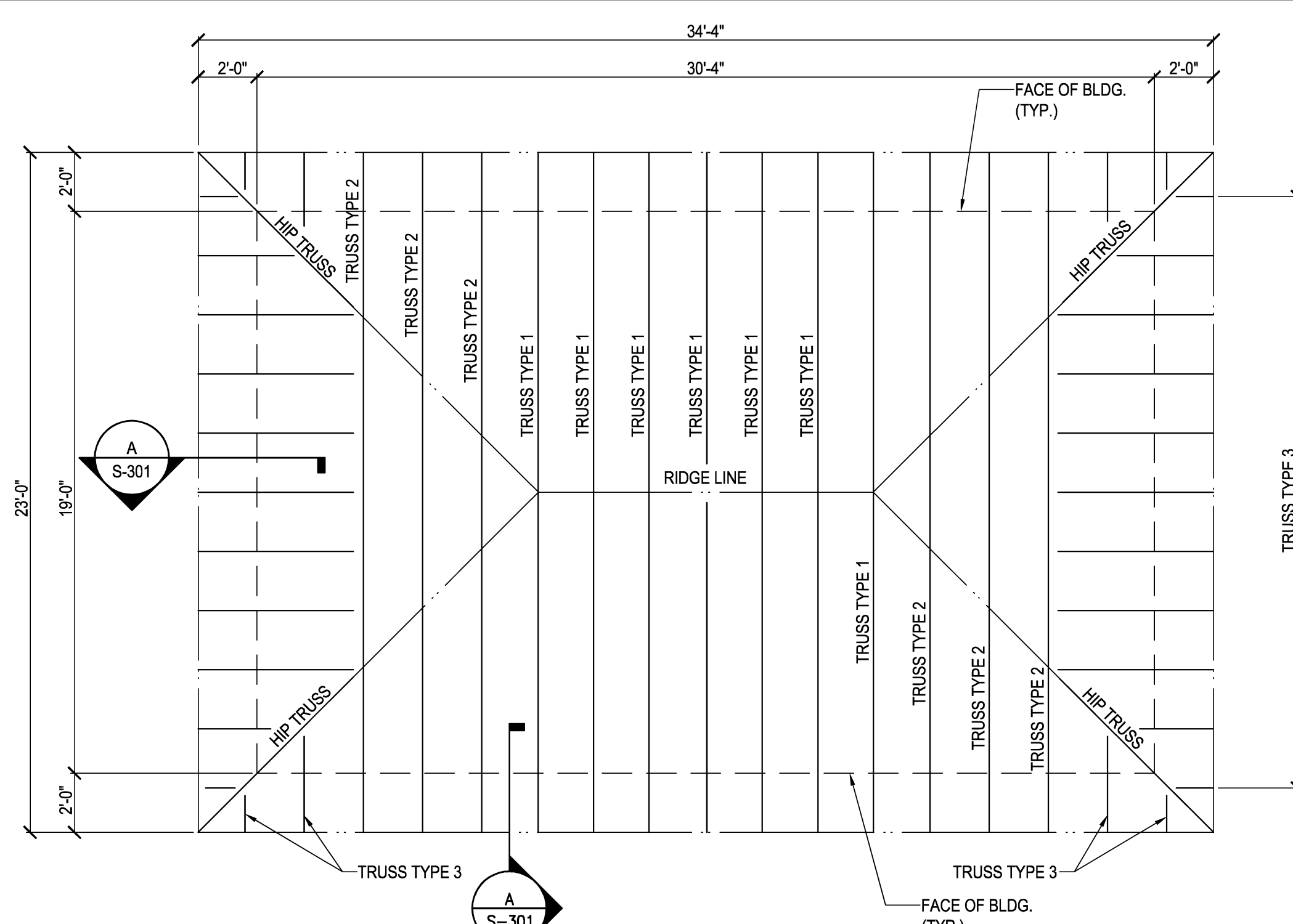
WileyWilson 6606 West Broad St., Suite 500 Richmond, Virginia 23220-1717 804.254.7242 wileywilson.com		<b>C-103</b> PROJECT NO. CP12-0121	
DEPT OF NAVY <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA		NAVAL FACILITIES ENGINEERING COMMAND	
DES. CEK DR. CEK CHK. DTS SUBMITTED BY: DESIGN DR: APPROVED PWO OR CIOG DATE: 8/22/12		<b>BOILER MODIFICATIONS, VARIOUS FACILITIES, FRENCH CREEK</b> SITE PLAN (2 OF 2)	
SATISFACTORY TO DATE:		SIZE: <b>E</b> CODE IDENT NO.: 80091	NAVFAC DRAWING NO.: 60011312 CONSTR CONTR NO.: M40085-12-B-0121
SCALE: AS SHOWN		SPEC No. 05-12-0121	SHEET 5 OF 37

X:\2012\212091 MCB Cl French Creek Bldg Mods\CAO\Gwin\12091 C-103.dwg August 21, 2012

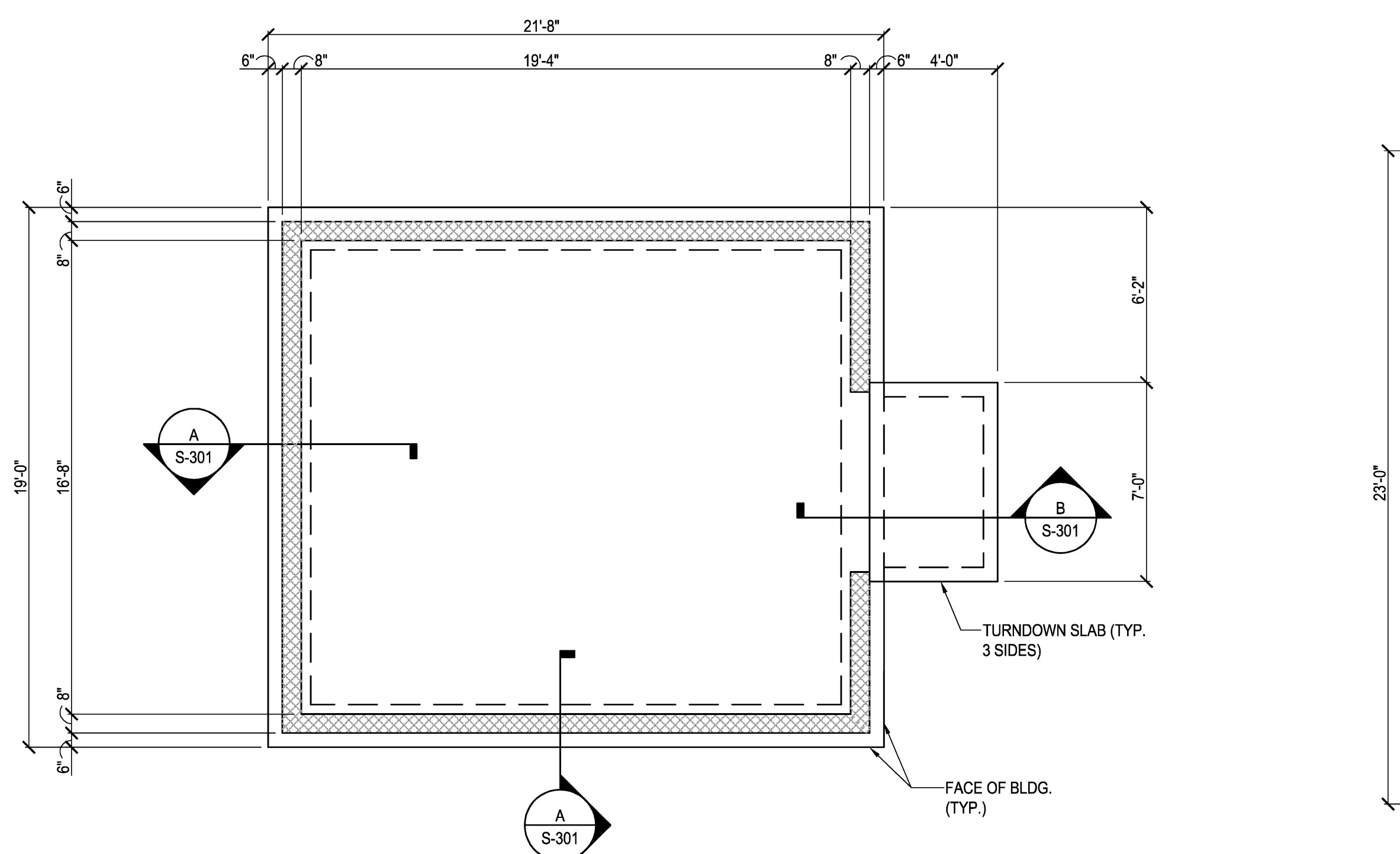




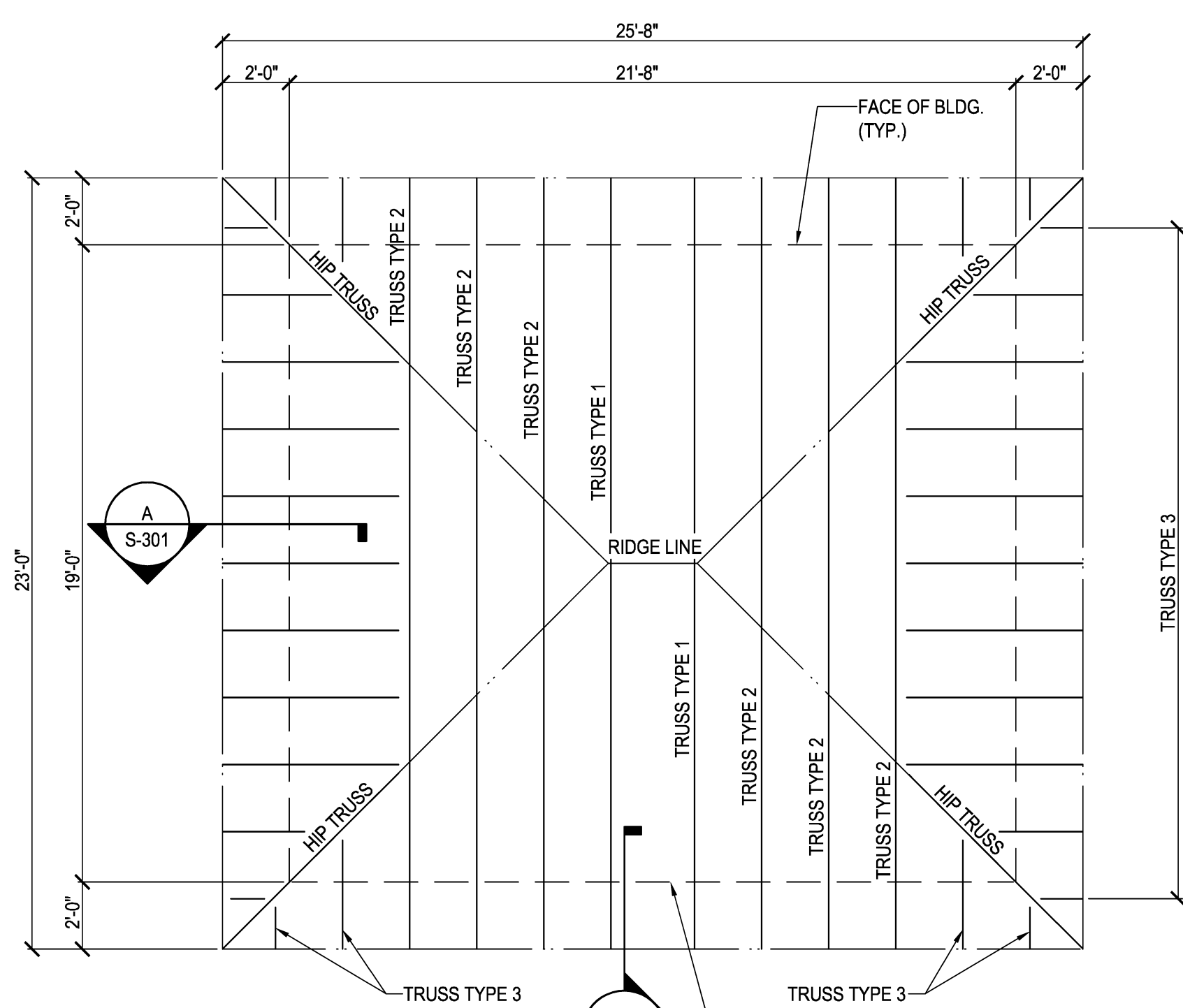
**1 FOUNDATION PLAN**  
 $\frac{1}{4}''=1'-0''$



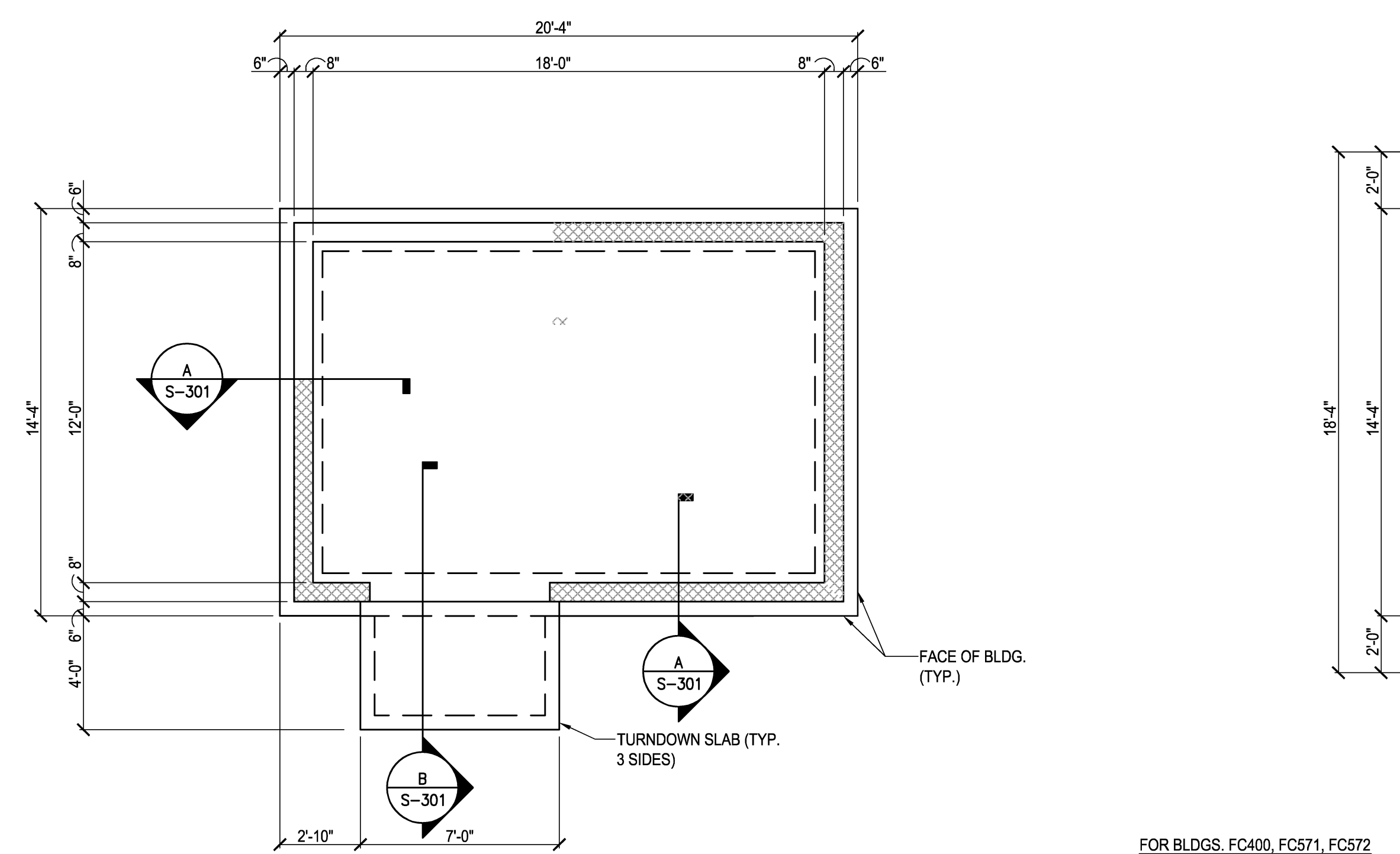
**2 ROOF FRAMING PLAN**  
 $\frac{1}{4}''=1'-0''$



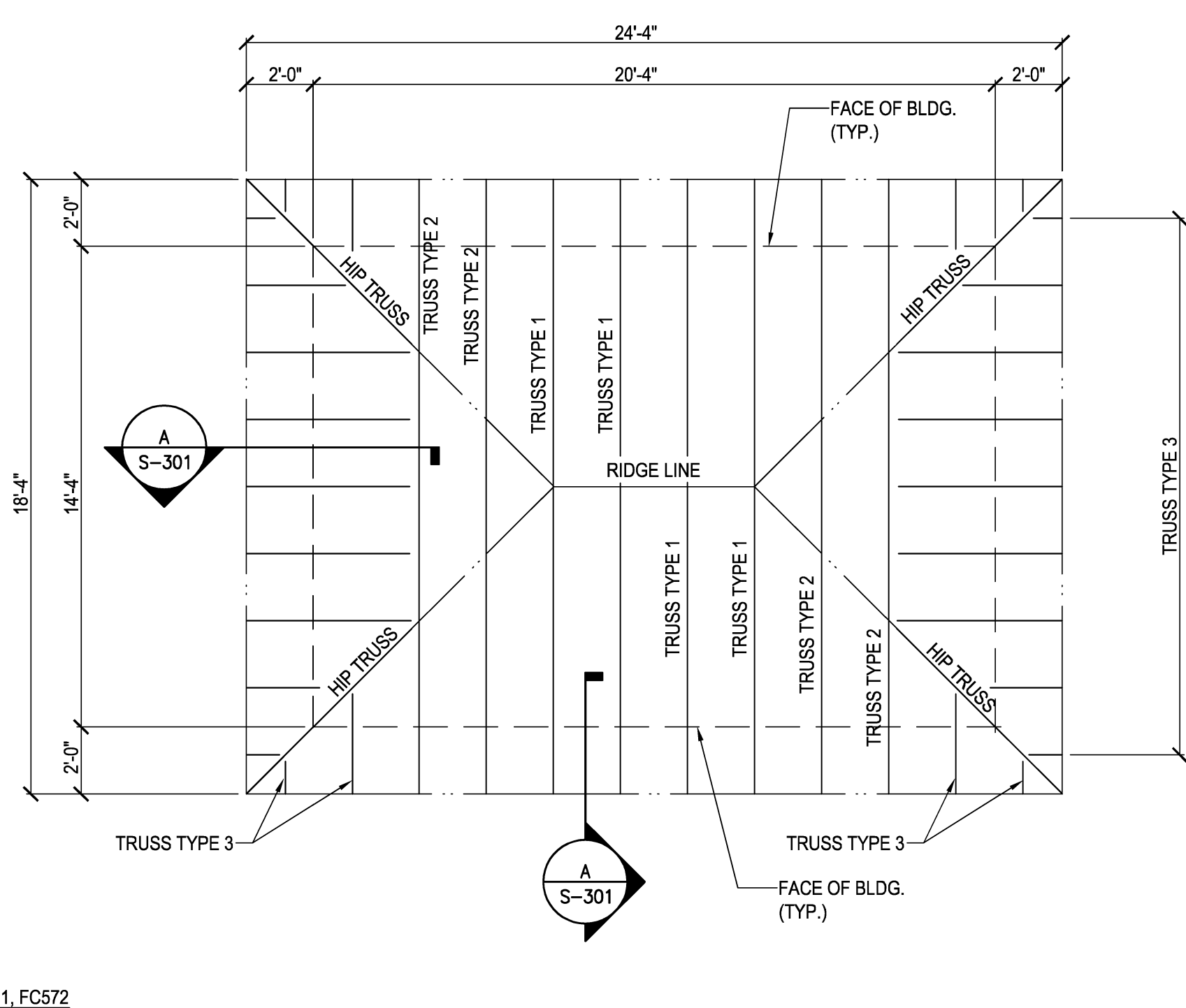
**3 FOUNDATION PLAN**  
 $\frac{1}{4}''=1'-0''$



**4 ROOF FRAMING PLAN**  
 $\frac{1}{4}''=1'-0''$



**5 FOUNDATION PLAN**  
 $\frac{1}{4}''=1'-0''$



**6 ROOF FRAMING PLAN**  
 $\frac{1}{4}''=1'-0''$

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**GENERAL NOTES:**

- THE STRUCTURAL DRAWING SHALL BE USED IN CONJUNCTION WITH THE ARCHITECTURAL, CIVIL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS, AND THE SPECIFICATIONS. THE CONTRACTOR SHALL VERIFY THE REQUIREMENTS OF OTHER TRADES AS TO LEVELS, CHANGES, HANGERS, INSERTS, ANCHORS, HOLES, AND ADDITIONAL ITEMS TO BE PLACED OR SET IN THE STRUCTURAL WORK.
- THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE DESIGN CRITERIA OF THE TECHNICAL INSTRUCTIONS AS FOLLOWS:  
 DESIGN CODES:  
 INTERNATIONAL BUILDING CODE (IBC 2009)  
 ACI 318-08 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE"  
 ACI 530-02 "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES"  
 MANUAL OF STEEL CONSTRUCTION, ASD - AISC THIRTEENTH EDITION  
 ASCE 7-06 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES.
- THE LATERAL-LOAD-RESISTING SYSTEM FOR THIS STRUCTURE CONSISTS PRIMARILY OF THE FOLLOWING:  
 CONCRETE MASONRY SHEAR WALLS  
 THESE ELEMENTS PROVIDE FOR LATERAL STRENGTH AND STABILITY IN THE COMPLETED STRUCTURE.
- THE CONTRACTOR SHALL PROVIDE TEMPORARY SHORING AND BRACING REQUIRED TO ERECT AND HOLD THE STRUCTURAL IN PROPER ALIGNMENT UNTIL PERMANENT SUPPORTS AND LATERAL BRACING ARE IN PLACE.
- THE CONTRACTOR SHALL FIELD VERIFY THE DIMENSIONS, ELEVATIONS, AND OTHER REQUIREMENTS NECESSARY FOR THE PROPER CONSTRUCTION AND ALIGNMENT OF THE BUILDING. THE CONTRACTOR SHALL MAKE ALL MEASUREMENTS NECESSARY FOR FABRICATION AND ERECTION OF STRUCTURAL MEMBERS. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTING OFFICER.
- DESIGN LOADS:  
 LIVE LOADS  
 ROOF (SNOW) ..... 20 PSF  
 SLAB ON GRADE ..... 200 PSF  
 WIND DESIGN CRITERIA:  
 BASIC WIND SPEED ..... 130 MPH  
 IMPORTANCE FACTOR (I) ..... 0.77  
 WIND EXPOSURE CATEGORY ..... C  
 SEISMIC DESIGN CRITERIA:  
 1 SECOND SPECTRAL RESPONSE (S1) ..... 0.08g  
 0.2 SECOND SPECTRAL RESPONSE (S0) ..... 0.18g  
 SEISMIC USE GROUP ..... I  
 SITE CLASS ..... D  
 SEISMIC IMPORTANCE FACTOR ..... 1.00  
 SEISMIC DESIGN CATEGORY ..... B  
 RESPONSE MODIFICATION FACTOR (R) ..... 1.5  
 ORDINARY REINFORCED MASONRY SHEAR WALLS ..... 1.5  
 ANALYSIS PROCEDURE ..... EQUIVALENT LATERAL FORCE

SYM.	PREP'D BY	DATE	APPROVED

- ALL REINFORCING STEEL AND EMBEDDED ITEMS SUCH AS ANCHOR BOLTS AND WELD PLATES SHALL BE ACCURATELY PLACED IN THE POSITIONS SHOWN AND ADEQUATELY TIED AND SUPPORTED BEFORE CONCRETE IS PLACED TO PREVENT DISPLACEMENT BEYOND PERMITTED TOLERANCES.
- CONCRETE COVER TO REINFORCING STEEL SHALL CONFORM TO THE MINIMUM COVER RECOMMENDATIONS IN ACI 318-05 UNLESS OTHERWISE NOTED.
- WHERE REINFORCEMENT SPLICES ARE INDICATED, SPLICE LENGTHS SHALL BE AS FOLLOWS:  

BAR SIZE	TOP BARS	OTHER	BARS IN MASONRY
#3	16"	16"	16"
#4	24"	19"	24"
#5	30"	23"	30"
#6	36"	38"	36"
#7	42"	33"	42"
- CHAMFER ALL EXPOSED EDGES OF CONCRETE  $\frac{1}{4}''$ .

**CONCRETE MASONRY NOTES:**

- CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C 90 AND BE MADE WITH NORMAL OR LIGHTWEIGHT AGGREGATE. THE COMPRESSIVE STRENGTH OF MASONRY,  $F_m$ , EXPRESSED AS FORCE PER UNIT OF NET CROSS-SECTIONAL AREA, SHALL BE 1,500 PSI AT 28 DAYS.
- REINFORCING STEEL SHALL COMPLY WITH ASTM A 615, GRADE 60. SHOP FABRICATE REINFORCING BARS WHICH ARE SHOWN TO BE BENT OR HOOKED.
- GROUT SHALL COMPLY WITH ASTM C 476, AND SHALL BE PROPORTIONED TO OBTAIN A 28 DAY COMPRESSIVE STRENGTH OF 3,000 PSI.
- MORTAR SHALL COMPLY WITH ASTM C 270, TYPE S OR M. AGGREGATE FOR MORTAR SHALL COMPLY WITH ASTM C 144. AGGREGATE FAILING TO COMPLY WITH ASTM C 144 GRADATION REQUIREMENTS MAY BE USED PROVIDED THE MORTAR CAN BE PREPARED TO COMPLY WITH THE AGGREGATE RATIO, WATER RETENTION, AND COMPRESSIVE STRENGTH REQUIREMENTS OF THE PROPERTY SPECIFICATIONS OF ASTM C 270.
- PROVIDE VERTICAL REINFORCING BARS OF THE GIVEN SIZE AND SPACING SHOWN ON THE FOUNDATION PLANS. LAP ALL REINFORCING AT ALL SPLICES PER CAST-IN-PLACE CONCRETE NOTE 5.
- PROVIDE REINFORCING STEEL DOWELS OF THE SAME SIZE AND SPACING AS VERTICAL REINFORCING FROM THE SUPPORTING STRUCTURE. DOWELS SHALL HAVE STANDARD ACI HOOKS.
- PROVIDE STANDARD LADDER TYPE HORIZONTAL JOINT REINFORCING IN CMU WALLS AT 16" O.C. AND IN TWO JOINTS IMMEDIATELY ABOVE AND BELOW ALL OPENINGS, EXTENDING A MINIMUM OF 24" BEYOND THE JAMB OF EACH SIDE OF THE OPENING, EXCEPT AT CONTROL JOINTS.
- PLACE CONTINUOUS BOND BEAMS AT THE TOP OF ALL WALLS.
- CMU BOND BEAM LITELS MAY BE USED FOR SPANS UP TO 8 FEET.

**FOUNDATION NOTES:**

- SHALLOW FOUNDATIONS FOR BUILDINGS HAVE BEEN DESIGNED FOR A NET BEARING PRESSURE OF 2000 PSF. REFER TO GEOTECHNICAL REPORT FOR DETAILED INFORMATION ON THE SUBSURFACE SOILS INVESTIGATION AND FOUNDATION RECOMMENDATIONS.
- PRIOR TO PLACING FOUNDATION CONCRETE, ALL FOUNDATION EXCAVATIONS SHALL BE INSPECTED BY THE GEOTECHNICAL ENGINEER TO EXPLORE THE EXTENT OF LOOSE, SOFT OR OTHERWISE UNSATISFACTORY SOIL MATERIAL (SUCH AS SHRINK-SWELL SOIL) AND TO VERIFY DESIGN BEARING PRESSURE. THE GEOTECHNICAL ENGINEER WILL PROVIDE DIRECTION FOR CORRECTIVE ACTION WHERE REQUIRED.
- REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS TO NON-BEARING WALLS AND DIMENSIONS OF MASONRY OPENINGS.
- REFER TO ARCHITECTURAL DRAWINGS FOR LOCATIONS OF MASONRY CONTROL JOINTS.
- REFER TO CIVIL DRAWINGS FOR EXTERIOR CONCRETE SLABS.

**CAST-IN-PLACE CONCRETE NOTES:**

- CONCRETE SHALL BE NORMAL WEIGHT AND SHALL OBTAIN 28 DAY COMPRESSIVE STRENGTHS AS FOLLOWS:  
 SLAB-ON-GRADE ..... 4,000 PSI  
 FOOTINGS AND CONCRETE NOT OTHERWISE NOTED ..... 3,000 PSI
- REINFORCING MATERIALS SHALL BE AS FOLLOWS:  
 REINFORCING BARS - ASTM A 615, GRADE 60 DEFORMED.  
 WELDED WIRE FABRIC - ASTM A 185, WELDED STEEL WIRE FABRIC.  
 PROVIDE SHEET TYPE, ROLL TYPE NOT ACCEPTABLE.

**STRUCTURAL STEEL NOTES:**

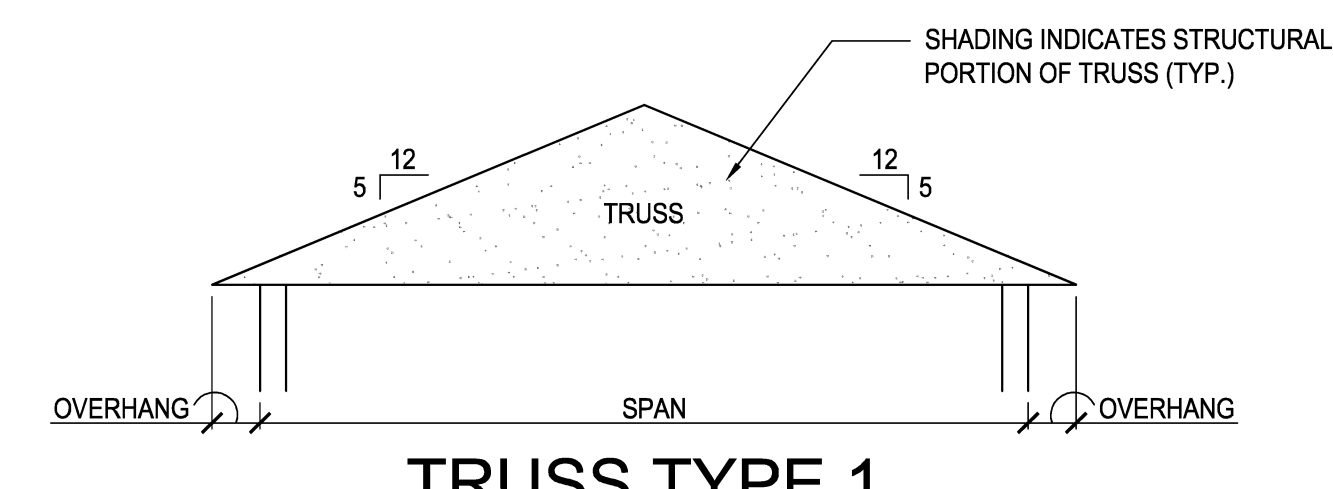
- STRUCTURAL STEEL SHALL COMPLY WITH THE FOLLOWING SPECIFICATIONS:  
 STRUCTURAL STEEL PLATES - ASTM A36,  $F_y=36$  KSI.
- WELDING SHALL BE IN ACCORDANCE WITH AWS D1.1, "STRUCTURAL WELDING CODE - STEEL". WELD ELECTRODES SHALL BE E70XX, UNLESS OTHERWISE NOTED. PROVIDE CONTINUOUS FILLET WELDS WITH MINIMUM SIZE REQUIRED BY TABLE J2.4 OF THE "MANUAL OF STEEL CONSTRUCTION, ALLOWABLE STRESS DESIGN".

**ROOF FRAMING NOTES:**

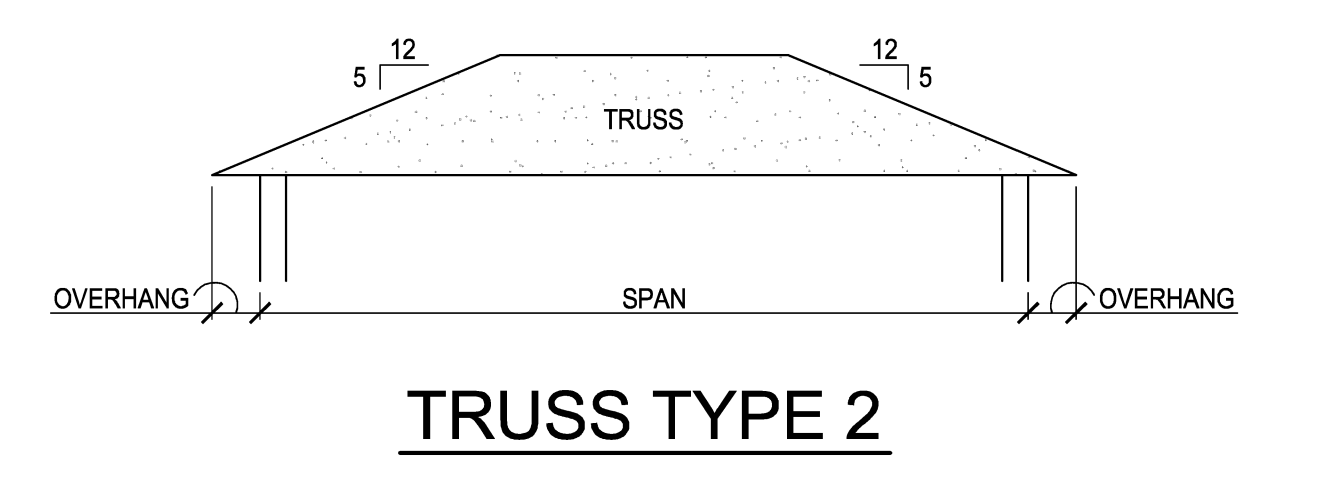
- ROOF SHALL BE FRAMED USING COLD FORMED STEEL (CFS) TRUSSES (OR CFS RAFTERS WHERE NOTED).
- TRUSSES SHALL BE DESIGNED FOR A SUPERIMPOSED DEAD LOAD OF 20 PSF FOR THE BOTTOM CHORD OF TRUSS AND FOR THE FRAMING. DESIGN TOP CHORD FOR A LIVE (SNOW) LOAD OF 20 PSF EXPOSED TO ROOF SURFACE, PLUS THE ADDITIONAL WEIGHT OF DRIFTING SNOW IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE (IBC). TRUSSES SHALL BE DESIGNED FOR WIND LOADS GIVEN IN THE IBC USING A 130 MPH WIND SPEED, EXPOSURE C.
- PROVIDE SUFFICIENT BOTTOM CHORD BRIDGING FOR BOTH ERECTION AND PERMANENT STABILITY.
- MAXIMUM SPACING FOR CFS TRUSSES AND FRAMING IS 2'-0" O.C.

**SITE / GRADING NOTES:**

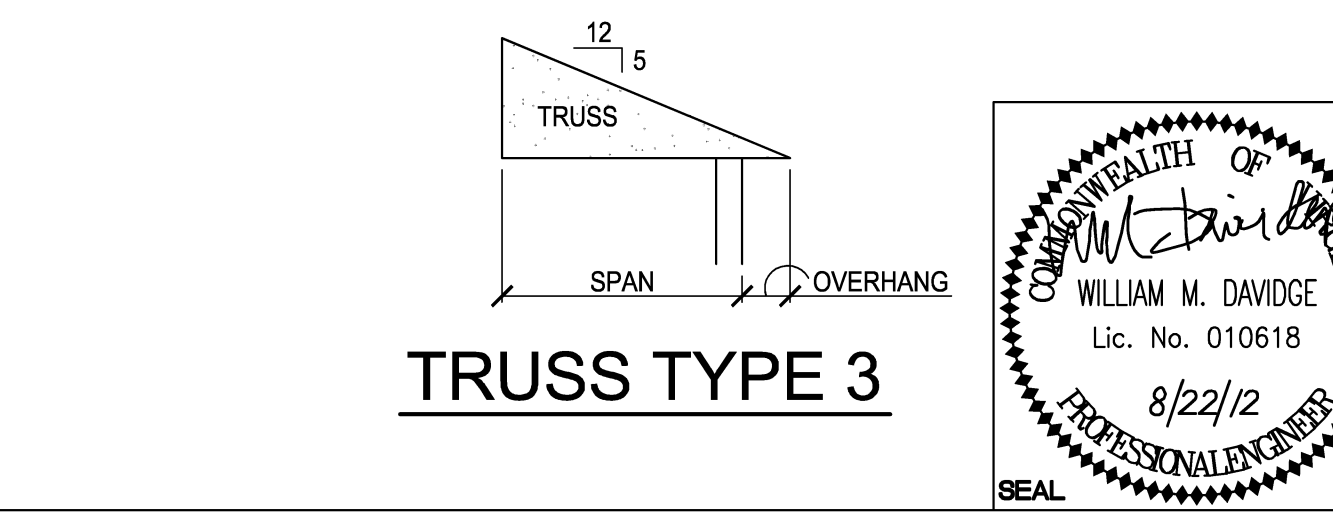
- NO TOPOGRAPHIC SURVEY HAS BEEN DONE FOR THIS PROJECT.
- LOCATE EACH BUILDING ACCORDING TO THE CONTROLS GIVEN ON THE CIVIL-SITE DRAWINGS.
- SET EACH BUILDING'S FLOOR ELEVATION 4" ABOVE THE HIGHEST GRADE THAT EXISTS AROUND ITS PERIMETER. SET THE FINISHED GRADE FROM 4" TO 5" BELOW THE FLOOR ELEVATION. PROVIDE POSITIVE DRAINAGE AWAY FROM THE BUILDING FOR A DISTANCE OF AT LEAST 4'-0".
- IF SIDEWALKS OR OTHER SITE FEATURES DICTATE THAT THE FINISHED GRADE ADJOINING THE BUILDING IS MORE THAN 7" BELOW THE FLOOR LEVEL, NOTIFY THE DESIGNER OF RECORD SO THAT THE FOUNDATION MAY BE ADJUSTED TO ACCOMMODATE THE INTENT OF THE DESIGN.
- REFER TO THE CIVIL-SITE DRAWINGS FOR OTHER NOTES AND REQUIREMENTS.



**TRUSS TYPE 1**

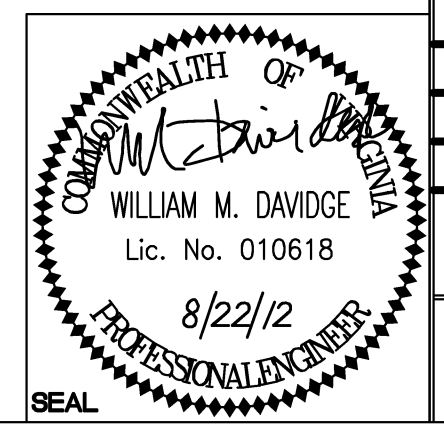


**TRUSS TYPE 2**

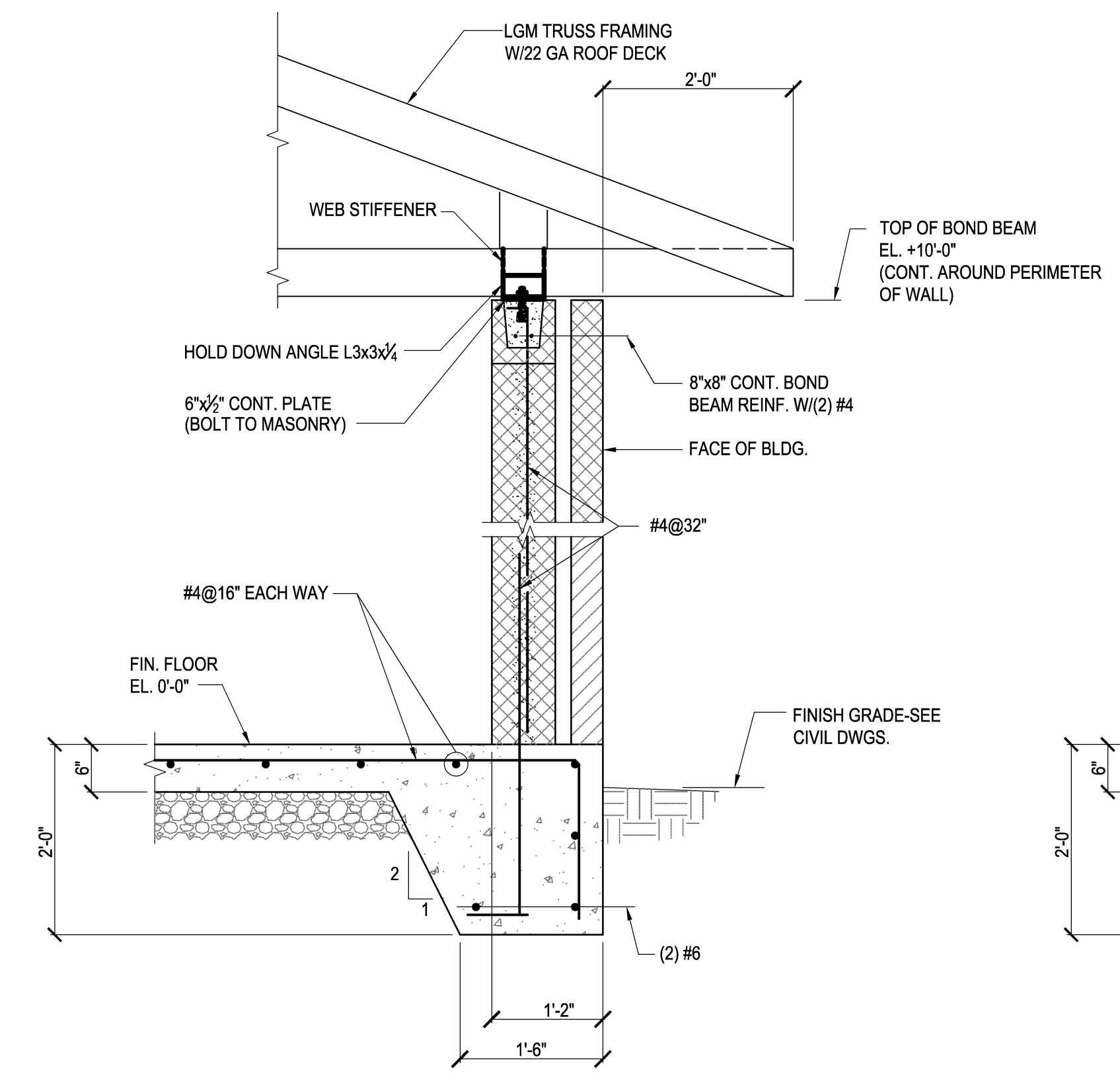


**TRUSS TYPE 3**

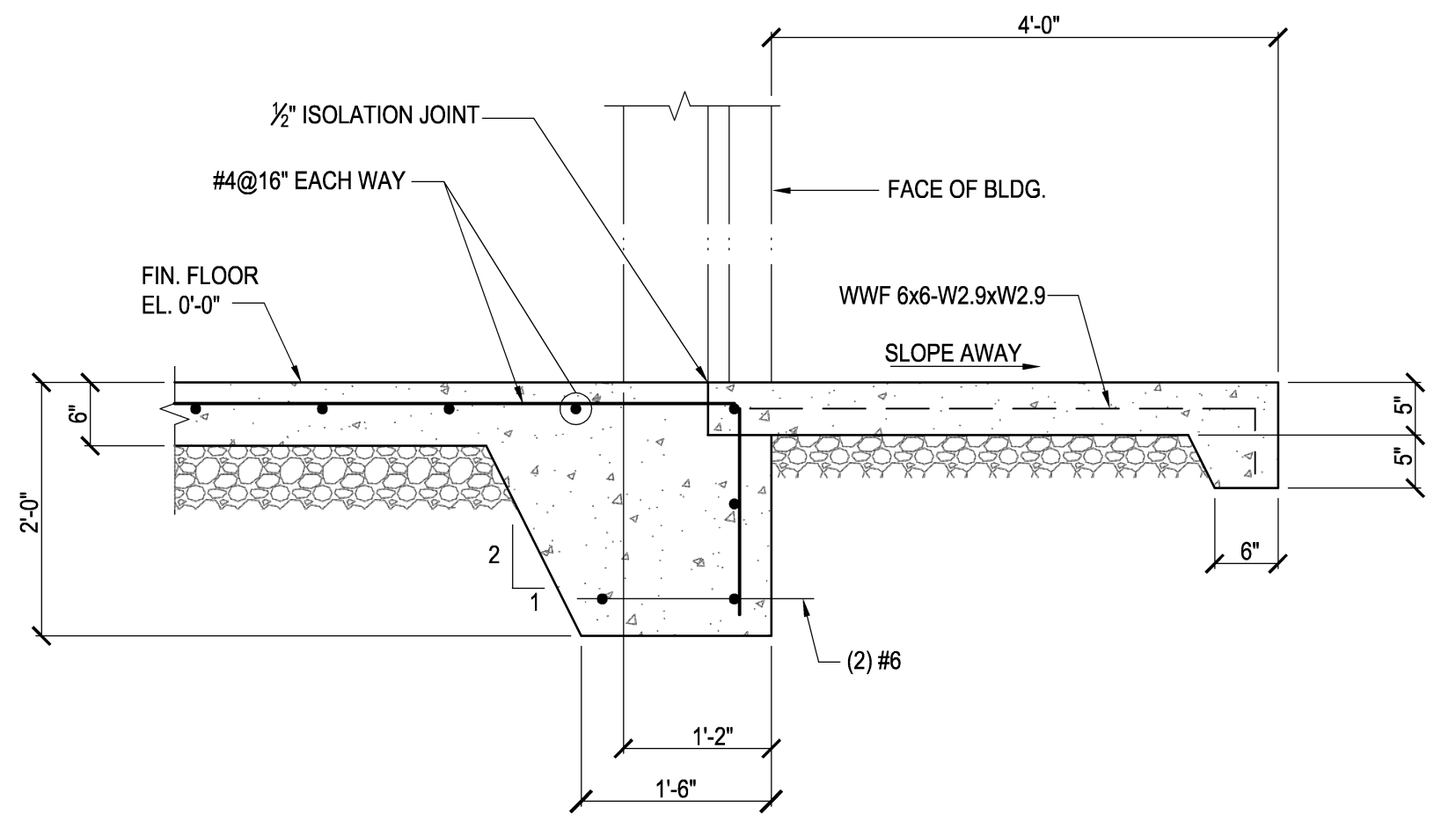
WileyWilson 6606 West Broad St., Suite 500 Richmond, Virginia 23230-1717 804.254.7242 wileywilson.com		<b>S-101</b> PROJECT NO. CP2-0121	
DEPT OF NAVY <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA		NAVFAC ENGINEERING COMMAND	
DES.	WJB	SIZE	CODE IDENT NO.
DR.	WJB	E	80091
CHK.	WMD	DATE	NAVFAC DRAWING NO.
SUBMITTED BY:		APPROVED PWO OR OKCC	60011314
DESIGN DR.		DATE	CONSTR CONTR NO.
APPROVED PWO OR OKCC		DATE	N40085-12-B-0121
SATISFACTORY TO		SCALE: AS SHOWN	SPEC No. 05-12-0121
			SHEET 07 OF 37



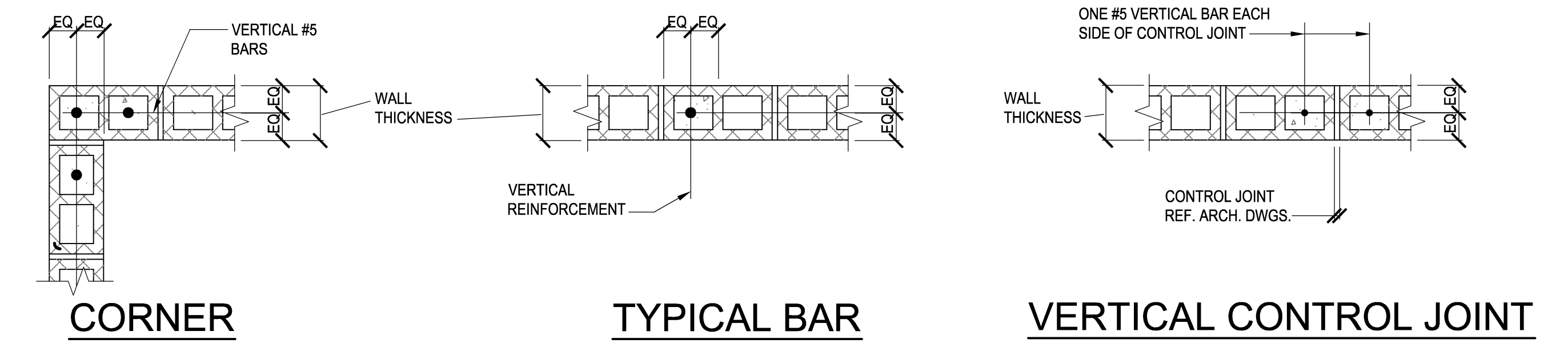
SYM.	PREP'D BY	DATE	APPROVED



**A SECTION - THRU WALL**  
 3/4"=1'-0"



**B SECTION - THRU DOOR**  
 3/4"=1'-0"

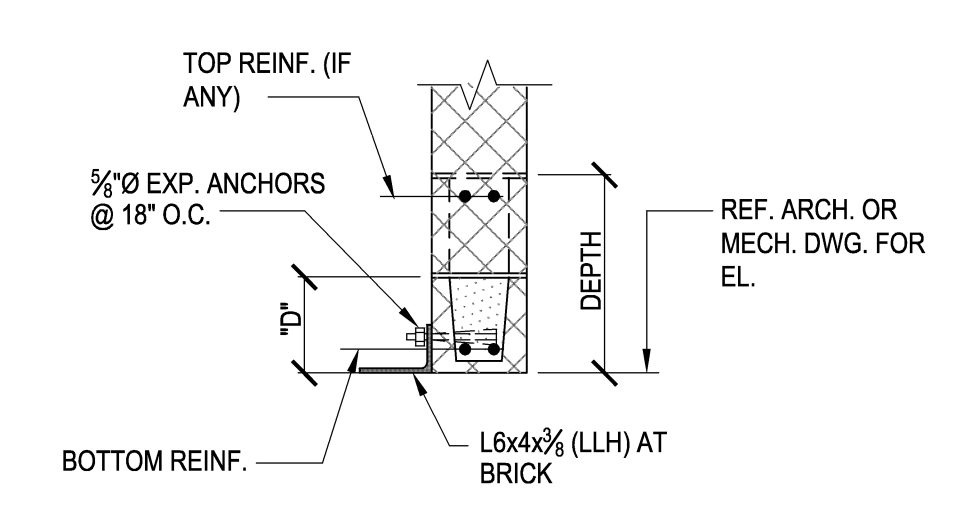


**CORNER TYPICAL BAR VERTICAL CONTROL JOINT**  
 LESS THAN 3'-4" BETWEEN 3'-4" & 8'-0" WIDE OR TALL OPENINGS

NOTE: SHIFT BARS FROM EDGE OF OPENINGS TO CLEAR LINTEL WHERE NECESSARY. SEE REINFORCEMENT AROUND MASONRY WALL OPENINGS, THIS DRAWING.

**TYPICAL CONCRETE MASONRY REINFORCING DETAILS**

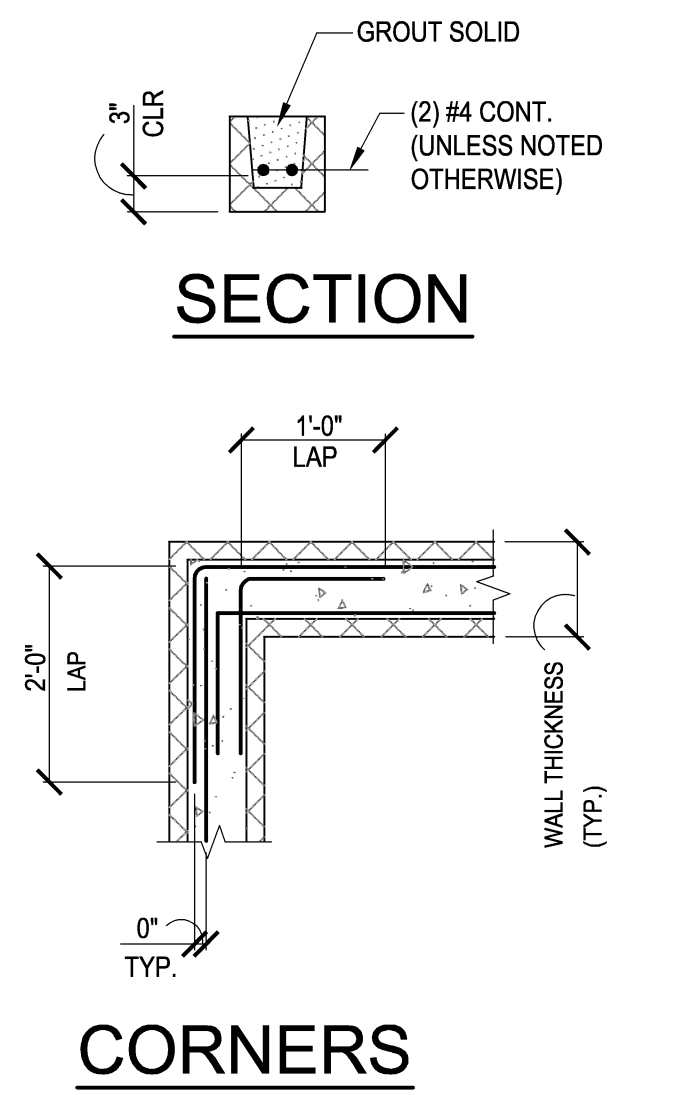
NOT TO SCALE  
 NOTE: EMPLOY THESE TYPICAL DETAILS UNLESS OTHERWISE SHOWN.



**TYPICAL SECTION BOND BEAM LINTEL DETAILS**

CLEAR SPAN	DEPTH "D"	REINFORCING	
		8" WIDE	12" WIDE
0 TO 4'-0"	8	(2) #4 BOT.	(2) #4 BOT.
4'-0" TO 8'-0"	16	(2) #4 TOP & BOT.	(2) #5 TOP & BOT.

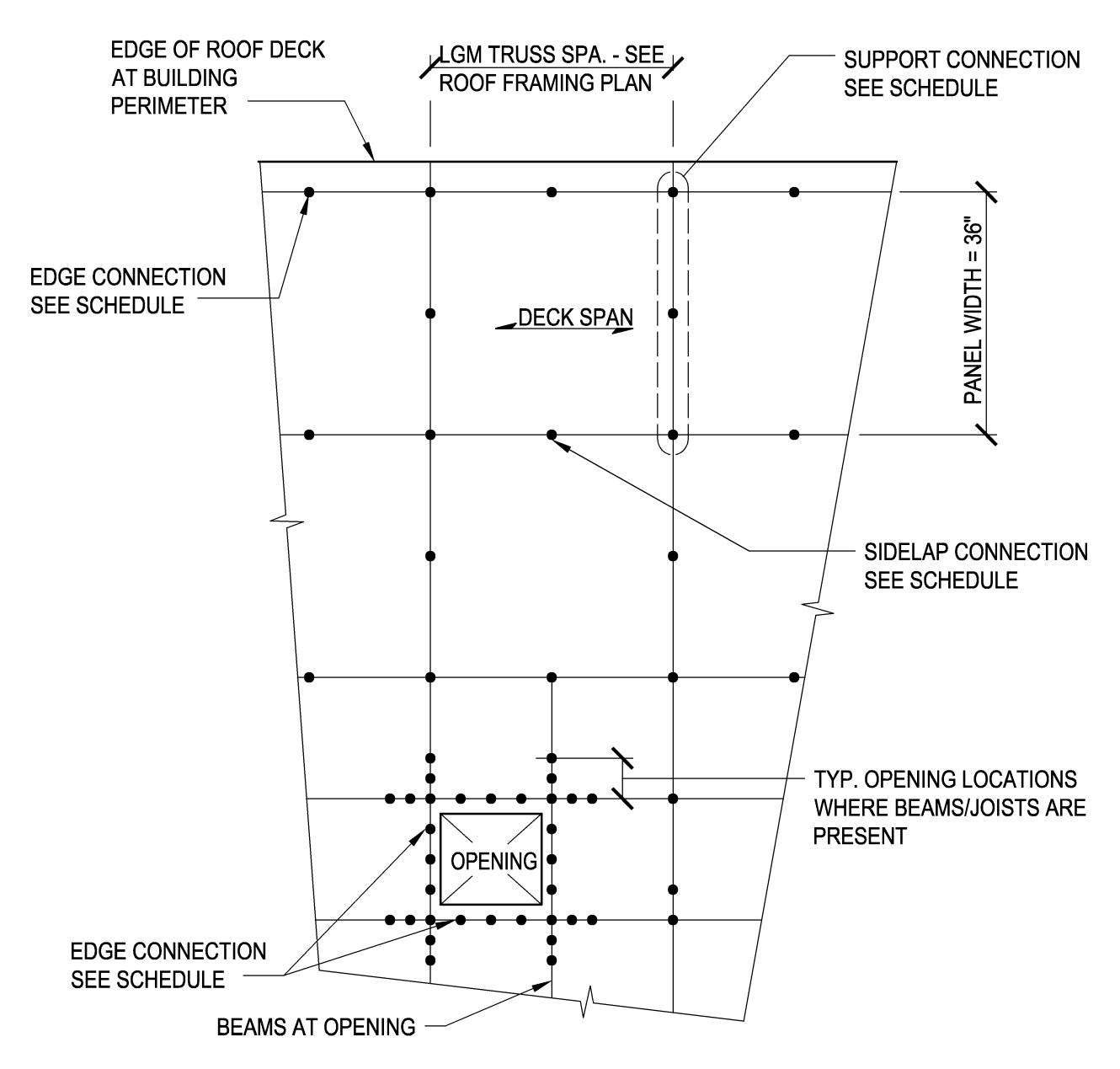
- BOND BEAM LINTEL NOTES:**
- PROVIDE 8" BEARING EACH END OF LINTEL.
  - REFER TO ARCHITECTURAL DRAWINGS FOR SIZE AND LOCATION OF OPENINGS.
  - FOR LOUVER OPENINGS REFER TO MECHANICAL DRAWINGS.
  - REFER TO ARCHITECTURAL DRAWINGS FOR WIDTH OF LINTEL. SCHEDULE APPLIES ONLY TO LINTELS NOT OTHERWISE SHOWN ON THE DRAWINGS.
  - FOR HEAD DETAILS, SEE ARCHITECTURAL DRAWINGS.



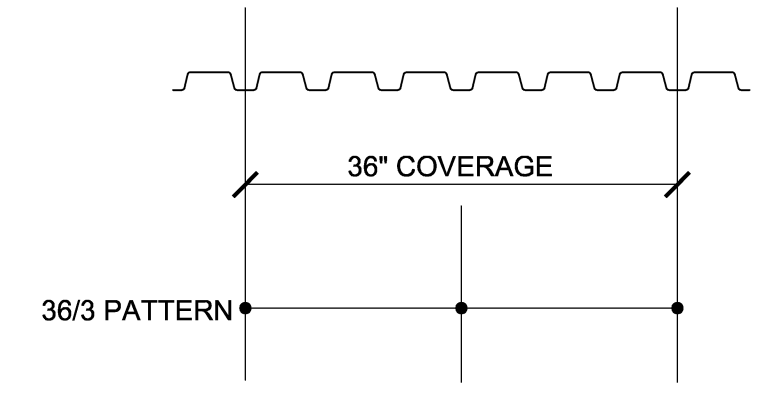
**SECTION CORNERS TYPICAL BOND BEAM REINFORCING DETAIL**  
 NOT TO SCALE

DECK CONNECTION SCHEDULE							
DIAPHRAGM SHEAR (PLF)	OPTION	SUPPORT		SIDELAP		EDGE	
		FASTENER	DECK PATTERN	FASTENER*	MAX. SPACING	FASTENER	MAX. SPACING
150 PLF	ROOF	#12 TEK SCREWS	36/3	S10	24"	#12 TEK SCREWS	18"

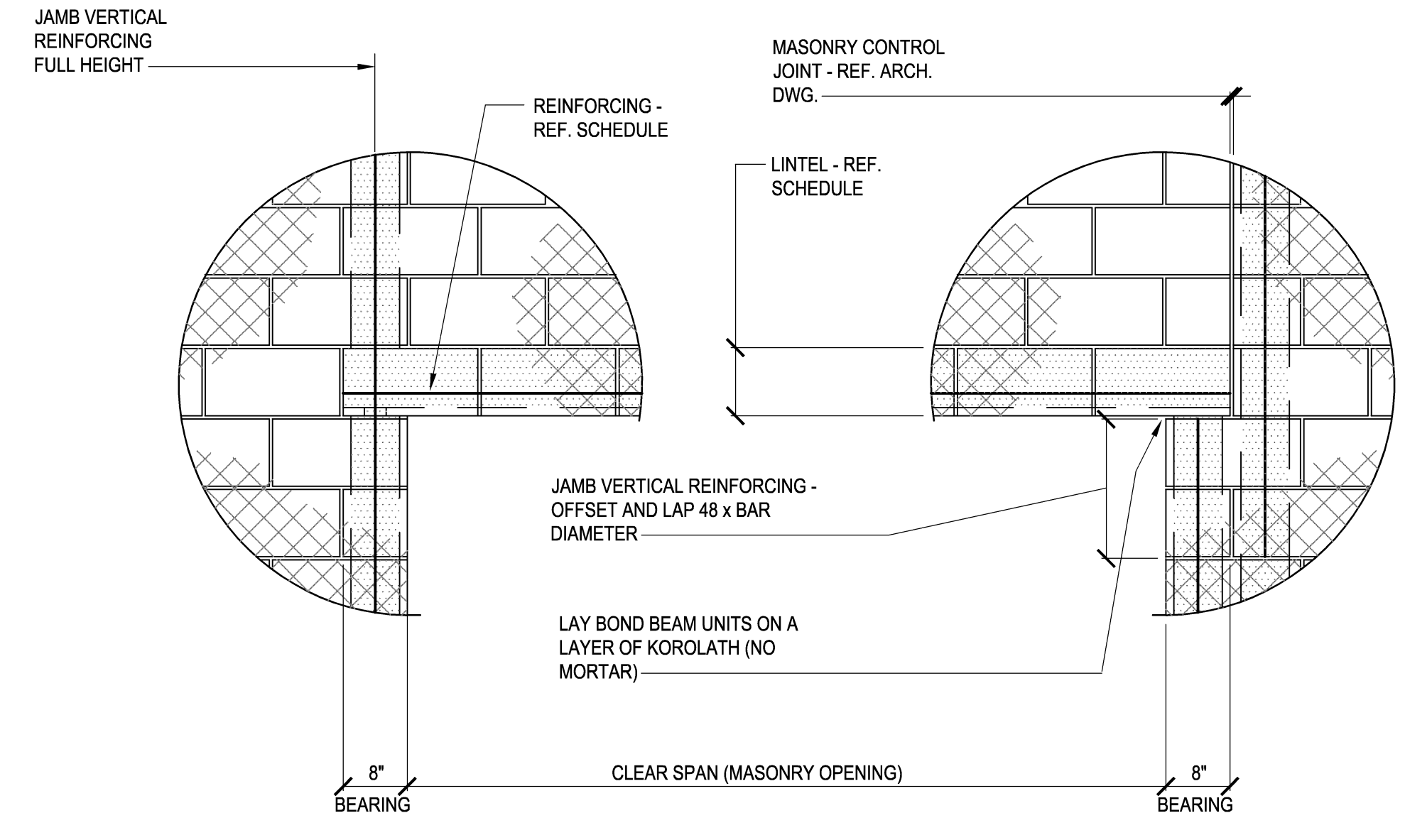
\* FASTENER TYPES:  
 S10 = BUILDDEX TEKS #10 SCREWS  
 FOR SUPPORT PATTERNS, SEE TYPICAL FASTENER LAYOUT



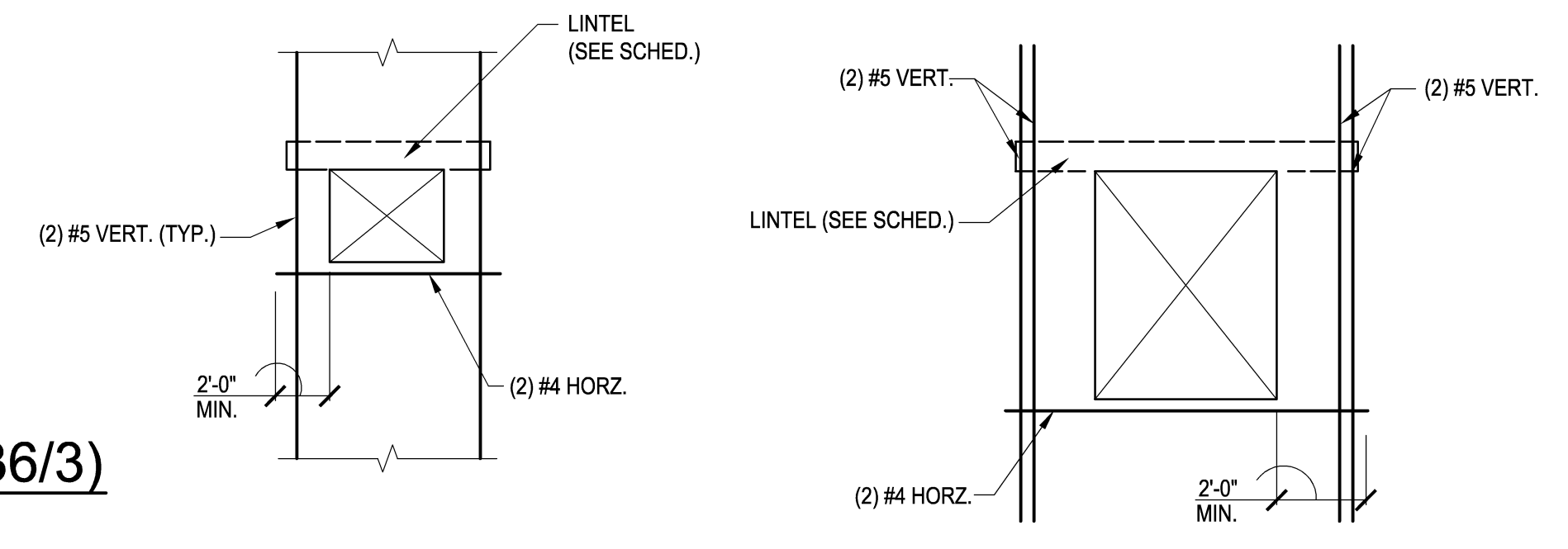
**PART PLAN-ROOF DECK CONNECTION**  
 NO SCALE



**TYPICAL ROOF FASTENER LAYOUT (36/3)**  
 NO SCALE



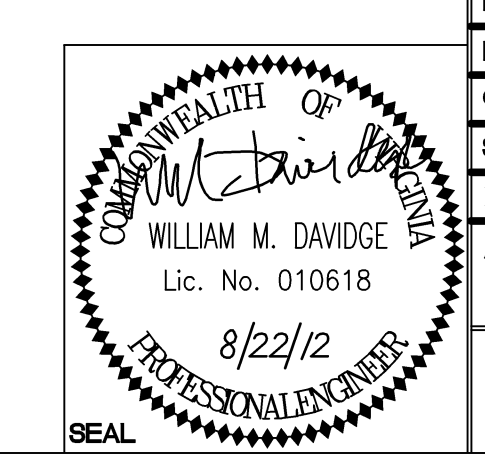
**TYPICAL JAMB ELEVATION JAMB ELEVATION AT MASONRY CONTROL JOINT**



**CASE 1 CASE 2 REINFORCEMENT AROUND MASONRY WALL OPENINGS**

- SCALE: NONE  
 NOTES:  
 1. CASE 1 - APPLIES TO OPENINGS IN WALLS WHICH ARE 4 FEET OR LESS IN ANY DIRECTION.  
 CASE 2 - APPLIES TO OPENINGS IN WALLS WHICH EXCEED 4 FEET IN ANY DIRECTION.  
 2. REINFORCEMENT SHOWN ABOVE IS IN ADDITION TO THE TYPICAL WALL REINFORCEMENT.  
 3. ALL VERTICAL BARS TO BE FULL HEIGHT FROM FLOOR TO FLOOR.

**DISCLOSURE OF INFORMATION**  
 Contractor shall comply as follows:  
 (a) The Contractor shall not release to anyone outside the Contractor's organization any unclassified information, regardless of medium (e.g., film, tape, document), pertaining to any part of this contract or any program related to this contract, unless-  
 (1) The Contracting Officer has given prior written approval; or  
 (2) The information is otherwise in the public domain before the date of release.  
 (b) Requests for approval shall identify the specific information to be released, the medium to be used, and the purpose for the release. The Contractor shall submit its request to the Contracting Officer at least 45 days before the proposed date for release.  
 (c) The Contractor agrees to include a similar requirement in each subcontract under this contract. Subcontractors shall submit requests for authorization to release through the prime contractor to the Contracting Officer.



<b>WileyWilson</b> 6606 West Broad St., Suite 500 Richmond, Virginia 23230-1717 804.254.7242 wileywilson.com		<b>S-301</b> PROJECT NO. CP12-0121 NAVAL FACILITIES ENGINEERING COMMAND	
DEPT OF NAVY <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA		<b>BOILER MODIFICATIONS, VARIOUS FACILITIES, FRENCH CREEK</b>	
DESIGN DIR. APPROVED PWO OR OICG DATE SATISFACTORY TO DATE		SECTIONS & DETAILS NAVFAC DRAWING NO. 60011315 CONSTR CONTR NO. N40085-12-B-0121	
DES. WJB DR. WJB CHK. WMD SUBMITTED BY:	DATE DATE	SIZE E CODE IDENT NO. 80091 SCALE: AS SHOWN	SHEET 08 OF 37



SYM	PREP'D BY	DATE	APPROVED

## ARCHITECTURAL ABBREVIATIONS

(OFFICE STANDARDS - SOME MAY NOT BE APPLICABLE)

AB	AIR BARRIER OR ANCHOR BOLT	MTL	METAL
ACT	ACOUSTICAL CEILING TILE	MIN	MINIMUM
AC	ACOUSTICAL	MISC	MISCELLANEOUS
ADJ	ADJUSTABLE	MO	MASONRY OPENING
AFF	ABOVE FINISH FLOOR		
ALUM	ALUMINUM	NOM	NOMINAL
APP	APPLICABLE	NO.(#)	NUMBER
APPROX	APPROXIMATE(LY)	NIC	NOT IN CONTRACT
		NTS	NOT TO SCALE
BD	BOARD		
BLDG	BUILDING	OC	ON CENTER
BM	BEAM	OCC	OCCUPANT
B-U	BUILT-UP	OH	OVERHEAD
		OPNG	OPENING
		OPP	OPPOSITE
CFS	COLD FORMED STEEL		
CJ	CONTROL JOINT		
CLG	CEILING	PCF	POUNDS PER CUBIC FOOT
CLR	CLEAR	PR	PAIR
CMU	CONCRETE MASONRY UNIT	PSF	POUNDS PER SQUARE FOOT
COMM	COMMUNICATION	PT	PRESSURE TREATED
CORR	CORRIDOR		
CONC	CONCRETE		
CONTR	CONTRACTOR	R	RISER
CONT	CONTINUOUS	RCP	REFLECTED CEILING PLAN
CORR	CORRIDOR	REC	RECOMMEND(ED)
		REF	REFRIGERATOR, REFERENCE
		REIN	REINFORCING
D	DEPTH	REQ	REQUIRED
DEMO	DEMOLISH (DEMOLITION)	RO	ROUGH OPENING
DIA(M)	DIAMETER		
DN	DOWN		
DS	DOWNSPOUT	SC	SOLID CORE
DWG(S)	DRAWING(S)	SCH	SCHEDULE
		SECT	SECTION
EA	EACH	SIM	SIMILAR
ELEC	ELECTRICAL	SF	SQUARE FOOT (FEET)
ELEV	ELEVATION	SQ	SQUARE
ELEV	ELEVATOR	STC	SOUND TRANSMISSION COEFFICIENT
EL EQ	ELEVATOR EQUIPMENT	STD	STANDARD
EPDM	ETHYLENE PROPYLENE DIENE MONOMER	STD(NT)	STUDENT
EQ	EQUAL	STL	STEEL
EQUIP	EQUIPMENT	STOR	STORAGE
ETC	ETCETERA		
EXIST(EX)	EXISTING	T	TREAD
EJ	EXPANSION JOINT	TBD	TO BE DETERMINED
EXP	EXPOSED	THK	THICKNESS
EXT	EXTERIOR	THRU	THROUGH
		TYP	TYPICAL
F	FEMALE		
FCU	FAN COIL UNIT	UL	UNDERWRITER LABORATORIES
FD	FLOOR DRAIN	UNO	UNLESS NOTED OTHERWISE
FE	FIRE EXTINGUISHER		
FIN	FINISH	VCT	VINYL COMPOSITION TILE
FL(FLR)	FLOOR	VERT	VERTICAL
		VIF	VERIFY IN FIELD
FLUOR	FLUORESCENT		
FT	FEET (FOOT)	W	WIDE
		W/	WITH
GA	GAUGE	W/O	WITHOUT
GALV	GALVANIZED	WD	WOOD
GC	GENERAL CONTRACTOR		
GFGI	GOVERNMENT FURNISHED, GOVERNMENT INSTALLED		
GOVT	GOVERNMENT	&	AND
GYP	GYPSPUM	@	AT
GWB	GYPSPUM WALL BOARD	¢	CENTERLINE
		S	STEEL LINE
H	HIGH		
HDW	HARDWARE		
HT	HEIGHT		
HORIZ	HORIZONTAL		
HR	HOUR		
HM	HOLLOW METAL		
HVAC	HEATING VENTILATING AIR CONDITIONING		
ID	INSIDE DIMENSIONS		
IN.	INCHES		
INFO	INFORMATION		
INSUL	INSULATION		
JAN	JANITOR		
LB	POUND (#)		
LAM	LAMINATED		
L	LENGTH		
LF	LINEAR FEET (FOOT)		
LLH	LONG LEG HORIZONTAL		
LLV	LONG LEG VERTICAL		
M	MALE		
MAINT	MAINTENANCE		
MAS	MASONRY		
MAT	MATERIAL		
MAX	MAXIMUM		
MECH	MECHANICAL		
MFR	MANUFACTURER		

## GENERAL CONSTRUCTION NOTES:

1. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE DRAWINGS FOR DISCREPANCIES OR OMISSIONS BEFORE ANY WORK IS BEGUN. ANY DISCREPANCIES OR OMISSIONS THAT WOULD AFFECT THE WORK, ITS COST, OR THE WELFARE OF THE GENERAL PUBLIC SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTING OFFICER BEFORE ANY WORK IS BEGUN.
2. THE CONTRACTOR SHALL VISIT THE JOB SITE AND FAMILIARIZE HIMSELF WITH CONDITIONS BEFORE ANY WORK IS BEGUN. ANY UNUSUAL SITE CONDITIONS THAT COULD AFFECT THE WORK, ITS COST, OR THE WELFARE OF THE GENERAL PUBLIC SHALL BE BROUGHT TO THE ATTENTION OF THE ROICC BEFORE ANY WORK IS BEGUN.
3. THE CONTRACTOR SHALL SAFEGUARD THE OWNER'S PROPERTY AND ADJACENT PROPERTIES DURING CONSTRUCTION AND SHALL REPLACE ANY DAMAGED PROPERTY OR MATERIALS TO THE ORIGINAL CONDITION AT NO COST TO THE OWNER.
4. THE CONTRACTOR SHALL COMPLY WITH THE INTERNATIONAL BUILDING CODE (2009 EDITION) AND ALL APPLICABLE AND GOVERNING CODES AND REGULATIONS; AND SHALL COMPLY WITH ALL LIFE SAFETY REQUIREMENTS OF ALL GOVERNING AUTHORITIES. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES AND ORDINANCES.
5. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CLEARANCES PRIOR TO THE COMMENCEMENT OF WORK OR ORDERING OF MATERIALS. ANY DEVIATIONS FROM THE CONTRACT DOCUMENTS SHALL BE REPORTED TO THE CONTRACTING OFFICER IN WRITING PRIOR TO PROCEEDING WITH THAT PORTION OF WORK.
6. THE CONTRACTOR OR ANY OF HIS EMPLOYEES, OR SUB-CONTRACTORS SHALL NOT SCALE THESE DRAWINGS FOR DIMENSIONS. IF THERE IS ANY QUESTION CONCERNING THE DIMENSIONS THE CONTRACTOR SHALL CONTACT THE ARCHITECT TO CLARIFY THE DIMENSIONS.
7. DRAWING REFERENCES ARE FOR CONVENIENCE ONLY AND DO NOT LIMIT THE EXTENT OR APPLICATION OF THE DRAWING OR DETAIL. ALL DIMENSIONS, DESCRIPTIONS AND/OR SYMBOLS WITHIN A DRAWING ARE COMPLEMENTARY. DRAWINGS AND SPECIFICATIONS WHETHER TAKEN SEPARATELY OR TOGETHER ARE TO BE INTERPRETED ACCORDING TO THEIR FULL INTENT, MEANING AND SPIRIT, AND SHALL BE DEEMED TO EXPLAIN MUTUALLY EACH OTHER AND TO BE A DESCRIPTION OF THE WORK TO BE DONE UNDER THE CONTRACT.
8. THE CONTRACTOR SHALL NOT PROCEED WITH ANY WORK THAT DEVIATES FROM WHAT IS INDICATED IN THE CONTRACT DOCUMENTS OR THAT MAY RESULT IN ADDITIONAL COST OR TIME TO THE PROJECT WITHOUT WRITTEN PERMISSION FROM THE CONTRACTING OFFICER.
9. REPAIR ANY DAMAGE TO EXISTING EXTERIOR OR INTERIOR WALLS, CEILINGS, FLOORS, OR FINISHES REMAINING IN PLACE, CAUSED BY CONSTRUCTION WORK.
10. HORIZONTAL DIMENSIONS FOR NEW CONSTRUCTION ARE FROM FACE OF STUD OR FACE MASONRY UNLESS OTHERWISE NOTED. HORIZONTAL DIMENSIONS FOR EXISTING CONSTRUCTION ARE FROM FACE OF EXISTING FINISHED SURFACE.
11. THE CONTRACTOR SHALL NOT REMOVE, ALTER, LOAD PENETRATE OR ADD TO ANY EXISTING BUILDING ASSEMBLY OR STRUCTURE WHICH MAY COMPROMISE ITS INTEGRITY OR STRUCTURAL STABILITY OR THE INTEGRITY AND STRUCTURAL STABILITY OF ADJACENT BUILDING ASSEMBLIES OR STRUCTURE WITHOUT HIS PRIOR INVESTIGATION, REMEDY OR ACTION; AND WRITTEN PERMISSION FROM THE ARCHITECT.

## ARCHITECTURAL SYMBOLS

(OFFICE STANDARDS - SOME MAY NOT BE APPLICABLE)

0.00	FLOOR ELEVATIONS	DETAIL DESIGNATION (NUMBER)	DETAIL TAG
XX	NUMBER DENOTES WALL TYPE	X-XXX	SHEET WHERE DETAIL IS DRAWN
(X)	TOILET ACCESSORIES TAGS	(X)	FLOOR PLAN KEYED NOTE TAG
(X)	WINDOW FRAME TAG (LETTER)	(X)	DEMOLITION KEYED NOTE TAG
(X)	COLUMN DESIGNATION	(X)	FURNITURE TAG
0001	ROOM NUMBER DESIGNATION	(X-X)	FURNITURE TAG
XXXX	ROOM DESIGNATION	(X)	SECTION DESIGNATION (LETTER)
XXXX	DOOR NUMBER DESIGNATION	(X-XXX)	SHEET WHERE SECTION IS DRAWN
(X)	ELEVATION DESIGNATION	XX'-XX"	DIMENSIONS IN FEET/INCHES
(X)	ELEVATION TAG (INTERIOR)		DIMENSIONS
(X)	CORNER GUARD TAG QUANTITY	(X)	EQUIPMENT/ACCESSORY TAG (NUMBER)
(X)	BUILDING ELEVATION MATERIAL TAG	(X)	REVISION TAG
		(X)	FLOOR PATTERN TAG (NUMBER)

## CODE INFORMATION:

### 2009 IBC:

BUILDING INFORMATION:	412 SF
GROSS BUILDING AREA:	322 SF
NET BUILDING AREA:	
MEAN BUILDING HEIGHT:	±12'-6"
NUMBER OF STORIES:	ONE (1)
TOTAL PERIMETER:	78'-8" LF
USE GROUP CLASSIFICATIONS:	"U" - UTILITY AND MISCELLANEOUS (312.1)
CONSTRUCTION TYPE:	II-B (NON-COMBUSTIBLE, UNPROTECTED)
TABLE 603:	
ALLOWABLE AREA:	8,500 SF
ALLOWABLE HEIGHT:	55 FT
ALLOWABLE # OF STORIES:	2 STORIES
TABLE 601 (RATINGS):	
STRUCTURAL FRAME:	0 HR
EXTERIOR WALLS:	0 HR
INTERIOR WALLS:	0 HR
ROOF CONSTRUCTION:	0 HR
FLOOR CONSTRUCTION:	0 HR
TABLE 602 (RATINGS):	
SEPARATION DISTANCE:	10 ≤ X ≤ 30 FT

### NFPA LIFE SAFETY CODE 101:

OCCUPANCY CLASSIFICATION:	N/A
COMMON PATH OF TRAVEL (SECTION 7.12.1):	X < 50 FT
EGRESS (SECTION 7.12.2):	STORIES USED EXCLUSIVELY FOR MECHANICAL EQUIPMENT, FURNACES, OR BOILERS SHALL BE PERMITTED TO HAVE A SINGLE MEANS OF EGRESS WHERE THE TRAVEL DISTANCE TO AN EXIT ON THAT STORY IS NOT IN EXCESS OF THE COMMON PATH OF TRAVEL LIMITATIONS OF 7.12.1
MINIMUM EGRESS WIDTH:	X ≥ 36 IN.; 72 IN. PROVIDED

## MATERIALS LEGEND

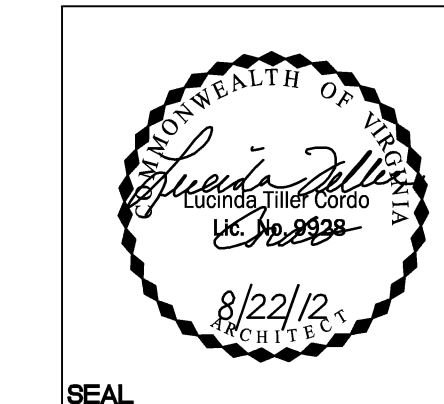
(OFFICE STANDARDS - SOME MAY NOT BE APPLICABLE)

	BATT INSULATION
	BRICK
	CONCRETE
	FRAMING LUMBER
	GYPSPUM WALL BOARD
	LIGHT GAUGE METAL FRAMING
	PLYWOOD (SMALL SCALE)
	PLYWOOD (LARGE SCALE)
	RIGID INSULATION
	STEEL

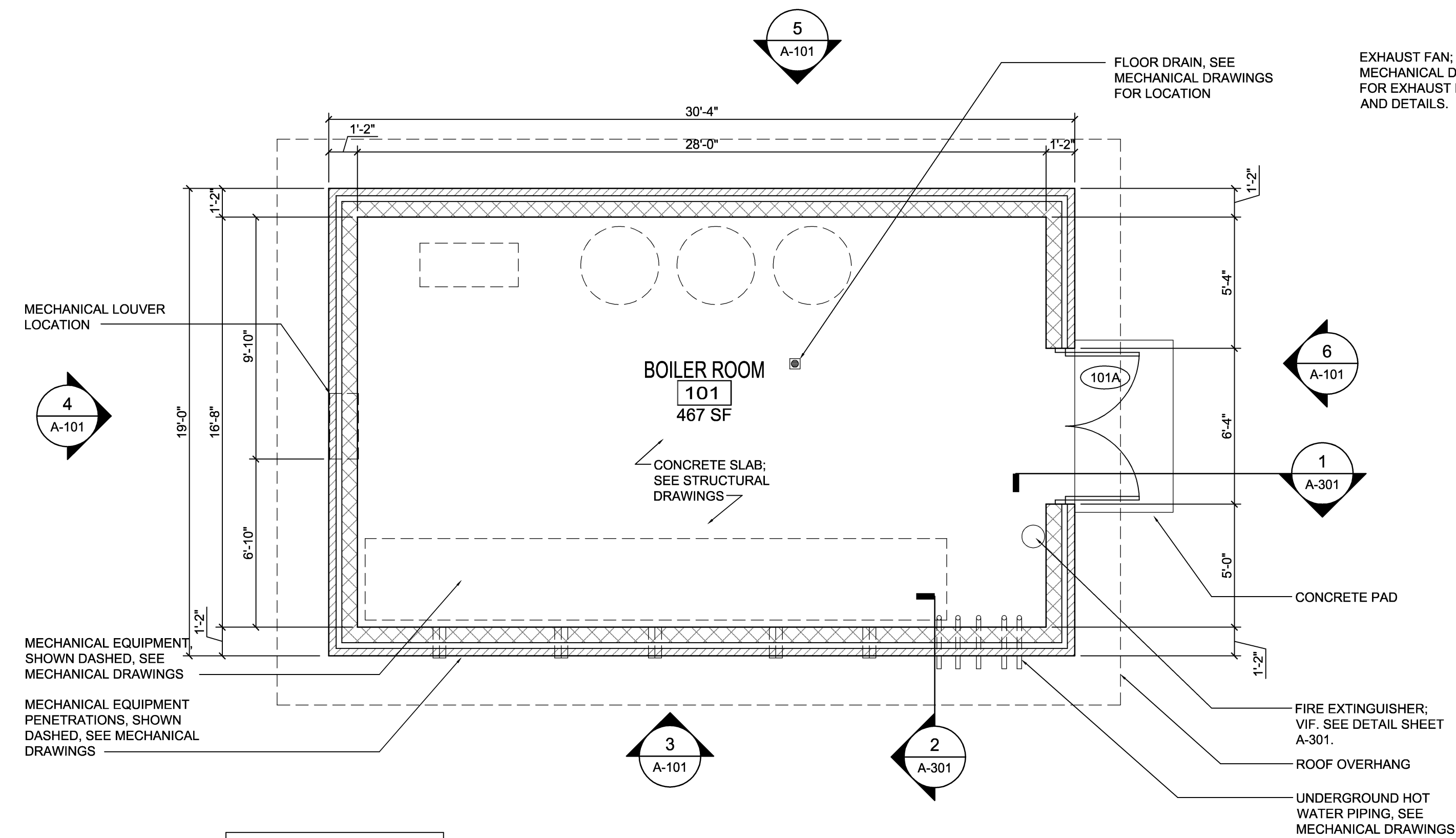
### DISCLOSURE OF INFORMATION

Contractor shall comply as follows:

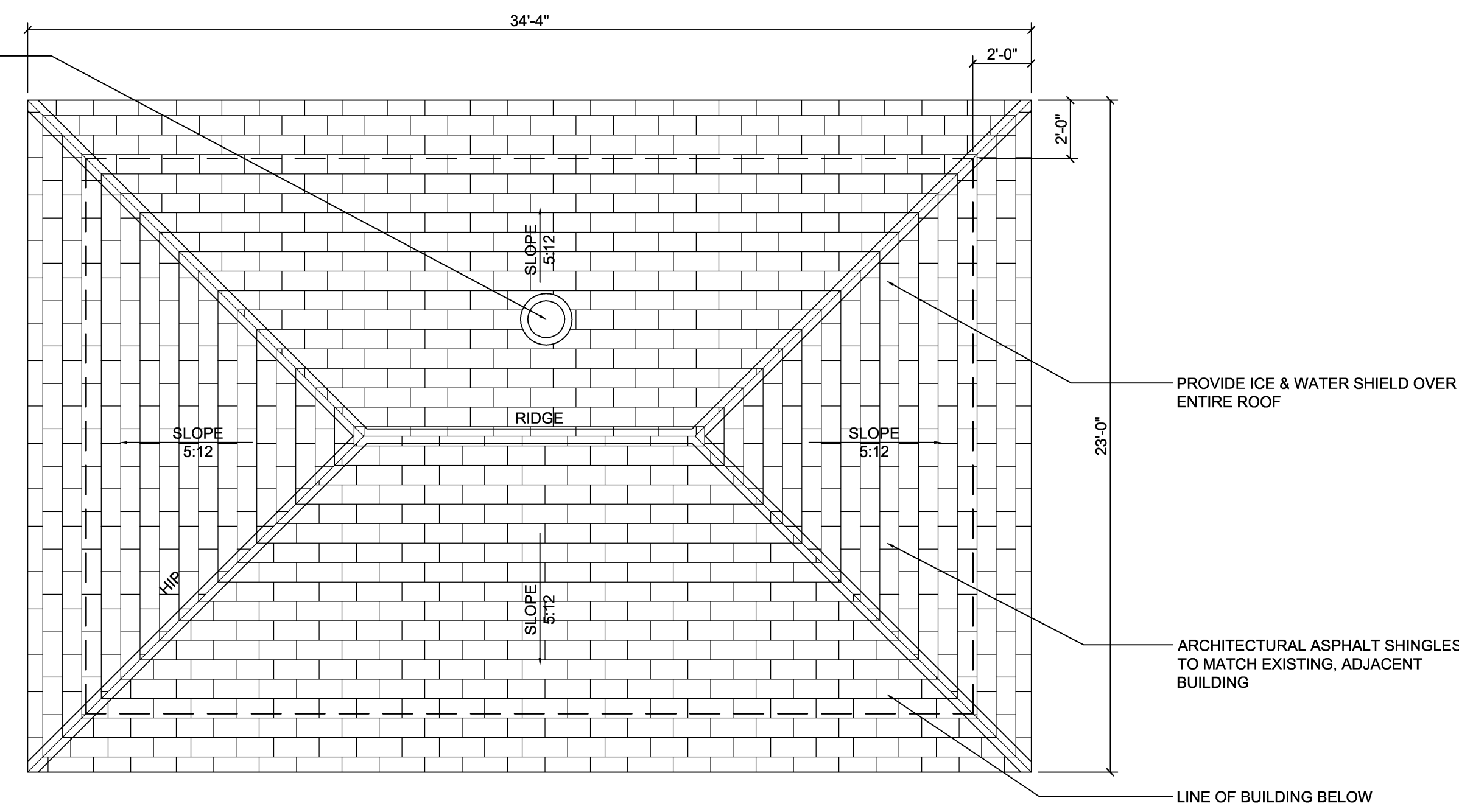
- The Contractor shall not release to anyone outside the Contractor's organization any unclassified information, regardless of medium (e.g., film, tape, document), pertaining to any part of this contract or any program related to this contract, unless-
  - The Contracting Officer has given prior written approval; or
  - The information is otherwise in the public domain before the date of release.
- Requests for approval shall identify the specific information to be released, the medium to be used, and the purpose for the release. The Contractor shall submit its request to the Contracting Officer at least 45 days before the proposed date for release.
- The Contractor agrees to include a similar requirement in each subcontract under this contract. Subcontractors shall submit requests for authorization to release through the prime contractor to the Contracting Officer.



WileyWilson 6600 West Street St., Suite 500 Richmond, Virginia 23290-1717 804.294.7432 wileywilson.com		<h1>A-001</h1>	
		PROJECT NO. CP12-0121 NAVAL FACILITIES ENGINEERING COMMAND	
		<b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA	
DES.	LTC	<b>BOILER MODIFICATIONS, VARIOUS FACILITIES, FRENCH CREEK</b>	
DR.	MTG	GENERAL NOTES, ABBREVIATIONS, AND LEGEND	
CHK.	JHE		
SUBMITTED BY:			
DESIGN DR.			
APPROVED: PWO OR OICC	DATE	SIZE	CODE IDENT NO.
E		E	80091
BATSFACTORY TO	DATE	NAVFAC DRAWING NO. 60011316	
		CONSTR CONTR NO. N40085-12-B-0121	
SCALE: AS SHOWN	SPEC No. 06-12-0121	SHEET 09 OF 37	



**1 FRENCH CREEK BOILER BUILDING FLOOR PLAN**  
1/4"=1'-0"



**2 FRENCH CREEK BOILER BUILDING ROOF PLAN**  
1/4"=1'-0"

**GENERAL DRAWING NOTES:**

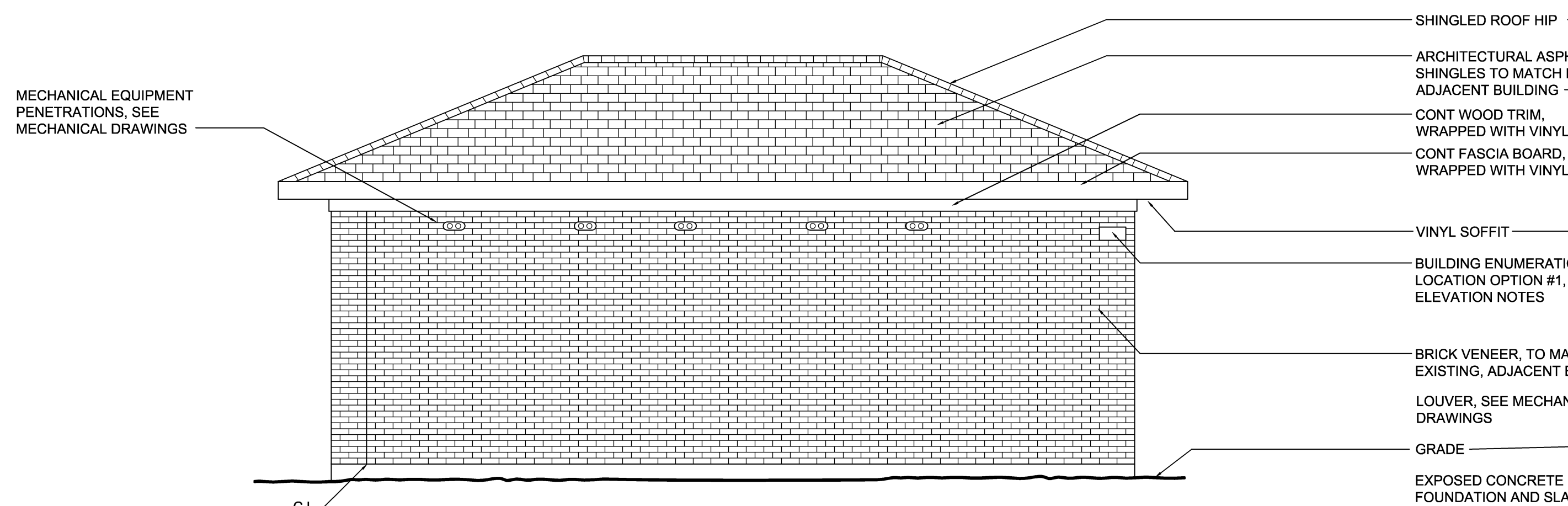
- BOILER BUILDING SHALL BE REQUIRED ADJACENT TO AND SERVING THE FOLLOWING BUILDINGS AT FRENCH CREEK:  
FC411  
FC412  
FC413  
FC414  
FC415  
FC416  
FC515  
FC530  
FC550  
FC555  
FC560  
FC565
- FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION OF ARCHITECTURAL ASPHALT SHINGLES.
- VIF AND COORDINATE PENETRATIONS WITH MECHANICAL DRAWINGS.

**PLAN NOTES:**

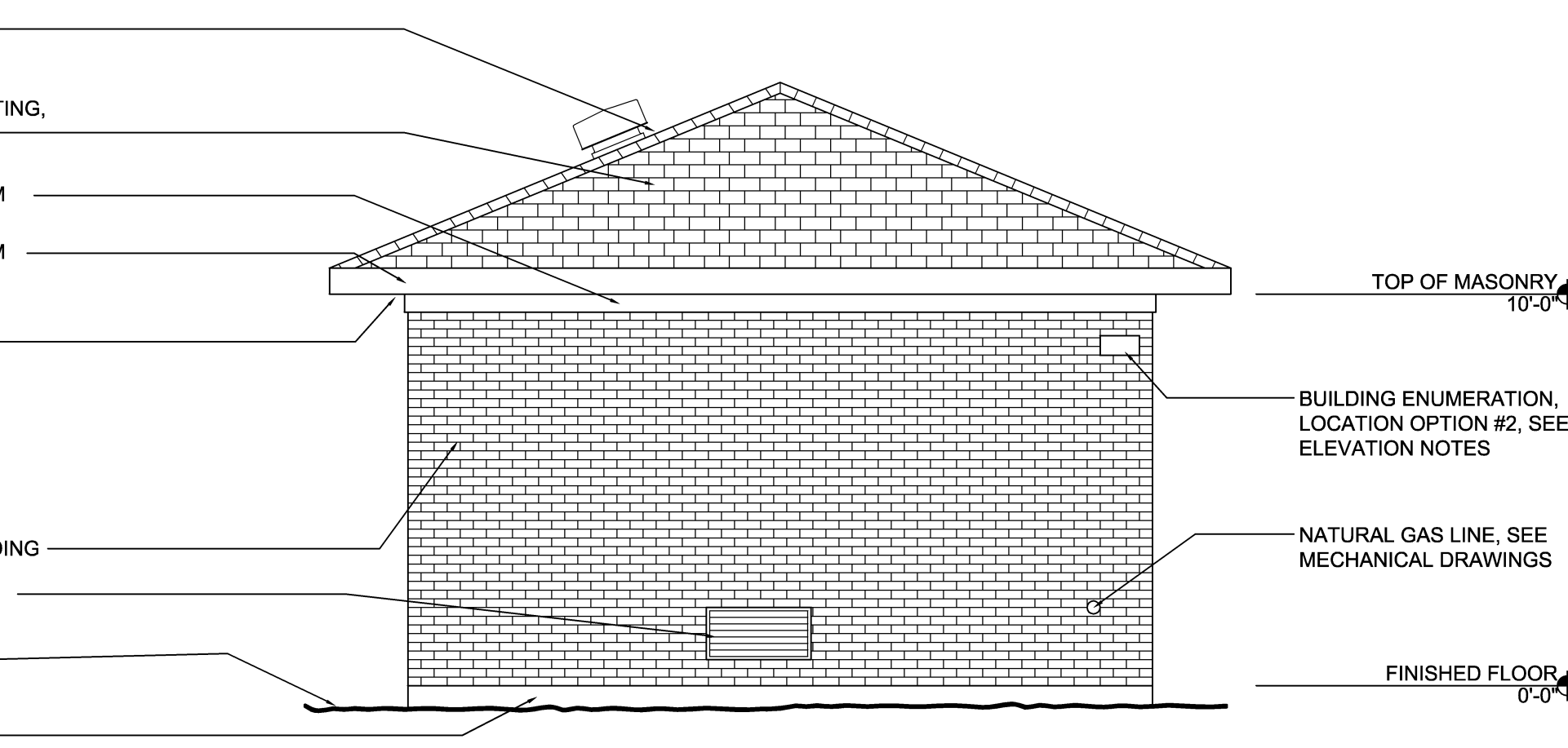
- HORIZONTAL DIMENSIONS ARE FROM FACE OF MASONRY UNLESS OTHERWISE NOTED.
- SEE SHEET A-301 FOR WALL SECTIONS AND DETAILS.

**ELEVATION NOTES:**

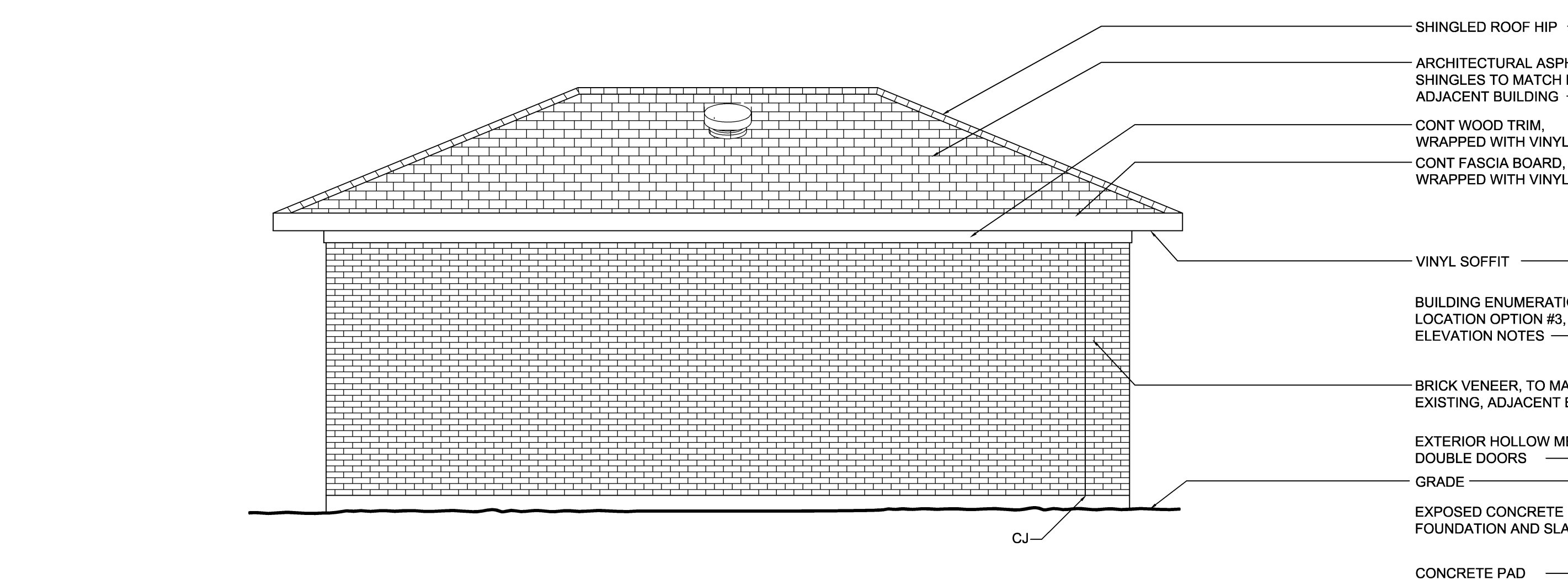
- ALL EXTERIOR MATERIALS FOR BOILER BUILDINGS ARE TO CONFORM TO CAMP LEJEUNE BASE STANDARDS.
- COLORS AND TEXTURES TO MATCH ADJACENT BUILDINGS.
- BUILDING ENUMERATION SIGNAGE TO BE LOCATED ON THE FACE OF THE BUILDING CLOSEST TO THE ROAD. FINAL LOCATION AND ENUMERATION TEXT TO BE COORDINATED WITH CAMP LEJEUNE CULTURAL RESOURCES PROGRAM MANAGER AND CAMP LEJEUNE PUBLIC WORKS MANAGEMENT OFFICE.



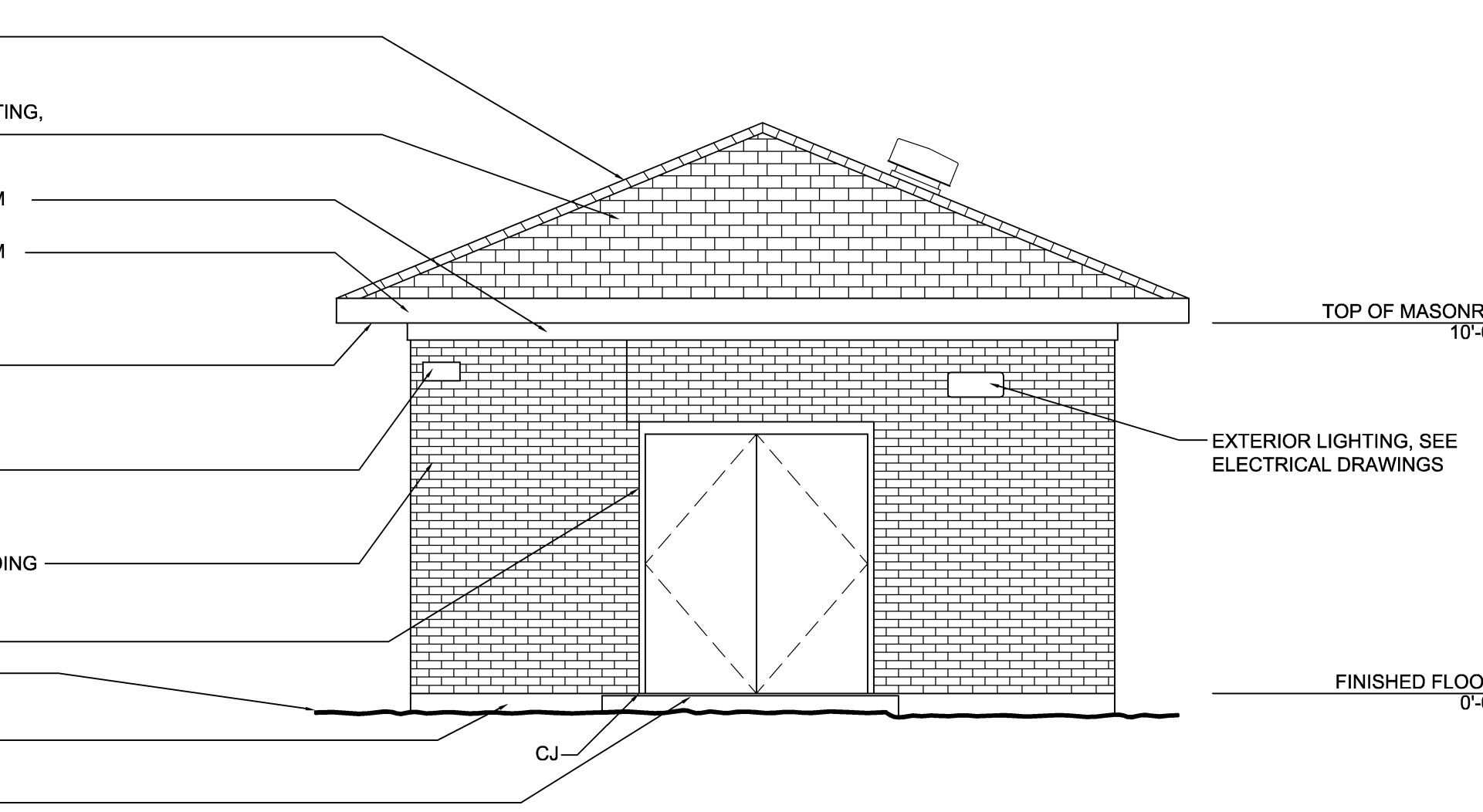
**3 FRENCH CREEK SIDE ELEVATION**  
1/4"=1'-0"



**4 FRENCH CREEK REAR ELEVATION**  
1/4"=1'-0"



**5 FRENCH CREEK SIDE ELEVATION**  
1/4"=1'-0"



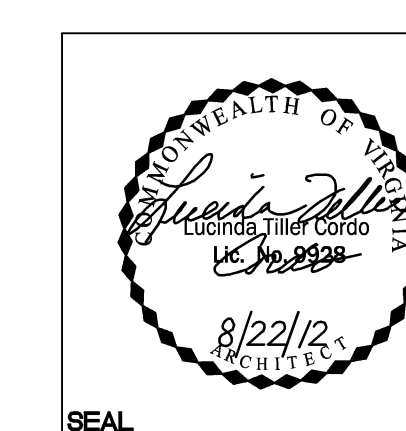
**6 FRENCH CREEK FRONT ELEVATION**  
1/4"=1'-0"

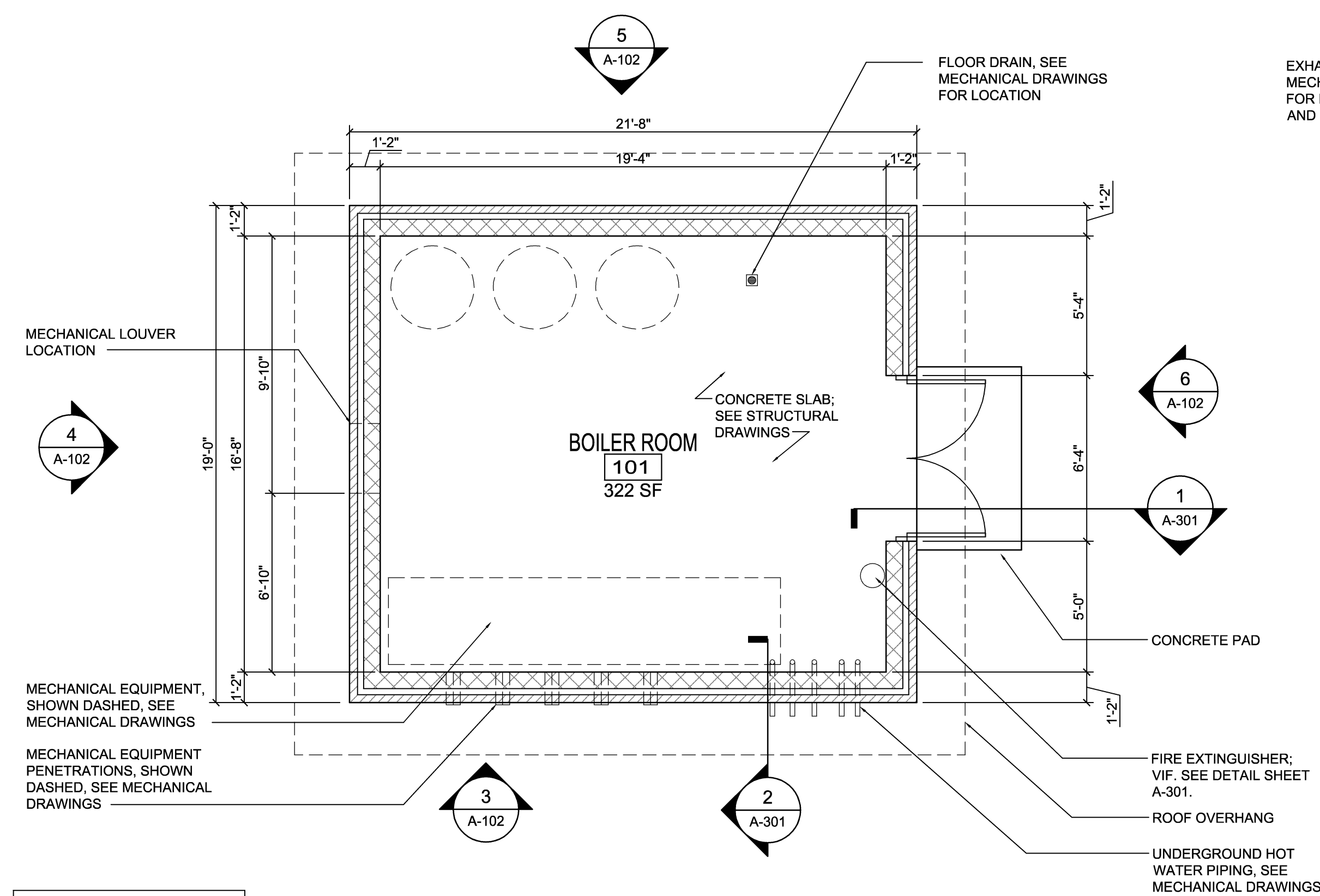
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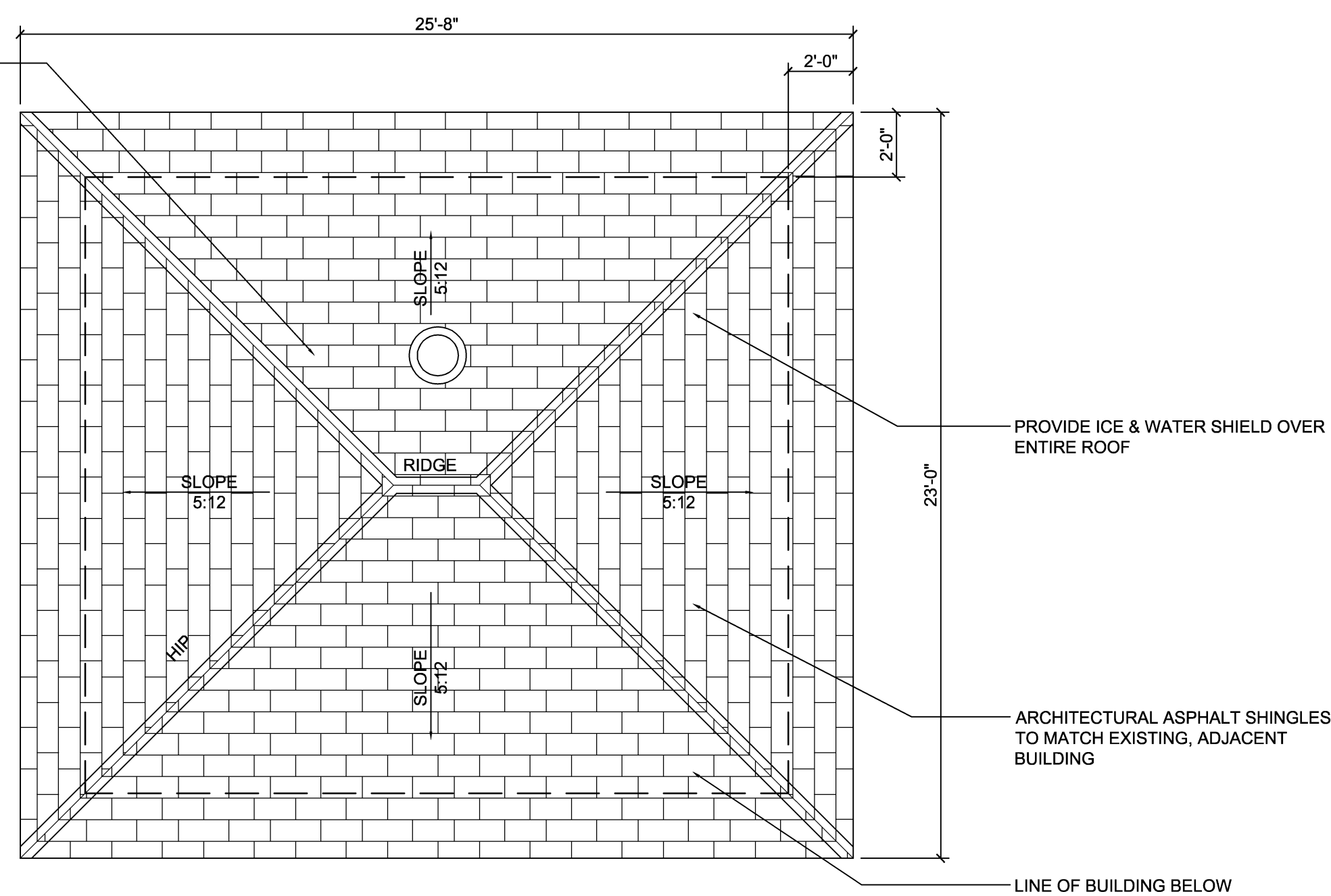
<p>WileyWilson 6600 West Broad St., Suite 500 Richmond, Virginia 23230-1717 804.254.7342 wileywilson.com</p>		<p><b>A-101</b></p> <p>PROJECT NO. CP12-0121</p> <p>NAVAL FACILITIES ENGINEERING COMMAND</p>	
<p>DEPT OF NAVY</p> <p><b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA</p>		<p><b>BOILER MODIFICATIONS, VARIOUS FACILITIES, FRENCH CREEK</b></p> <p>PLANS AND ELEVATIONS - TYPICAL</p>	
DES. LTC	DR. AEI	CHK. JHE	<p>NAVAC DRAWING NO. 60011317</p> <p>CONSTR CONTR NO. N40085-12-B-0121</p>
<p>APPROVED: PWO OR OICC DATE</p>		<p>SIZE E</p> <p>CODE IDENT NO. 80091</p>	<p>SCALE: AS SHOWN</p> <p>SPEC No. 06-12-0121</p> <p>SHEET 10 OF 37</p>
<p>BATHFACTORY TO DATE</p>		<p>APPROVED: PWO OR OICC DATE</p>	





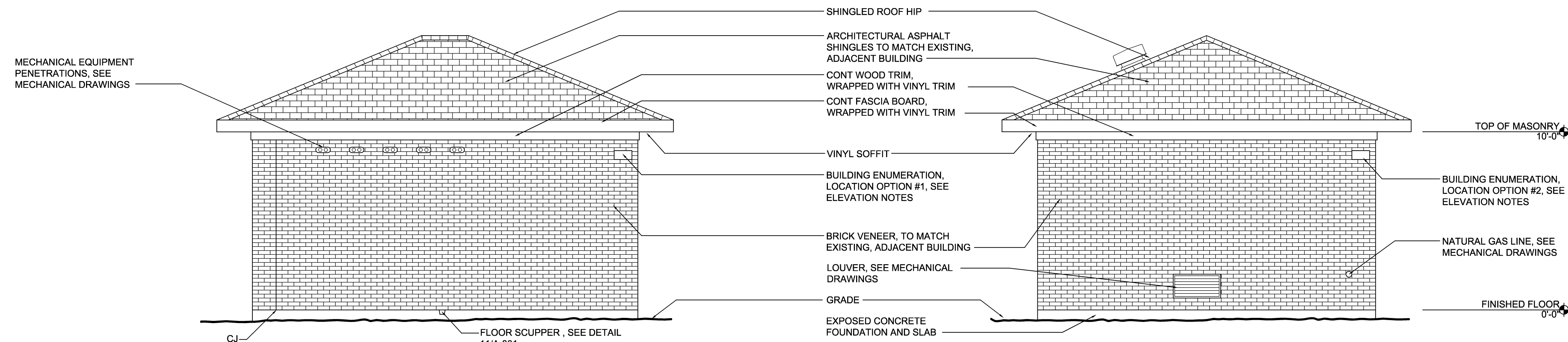
**1 FRENCH CREEK - ALTERNATE BOILER BUILDING FLOOR PLAN**

**2 FRENCH CREEK - ALTERNATE BOILER BUILDING ROOF PLAN**



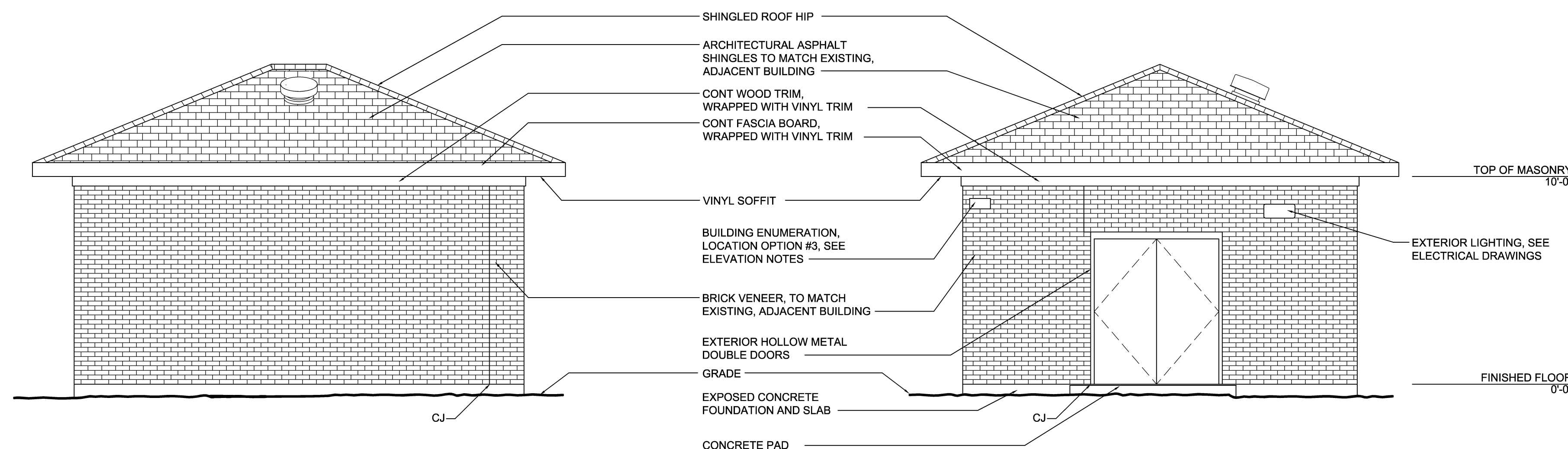
- GENERAL DRAWING NOTES:**
- BOILER BUILDING SHALL BE REQUIRED ADJACENT TO AND SERVING THE FOLLOWING BUILDINGS AT FRENCH CREEK: FC572
  - FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION OF ARCHITECTURAL ASPHALT SHINGLES.
  - VIF AND COORDINATE PENETRATIONS WITH MECHANICAL DRAWINGS.
- PLAN NOTES:**
- HORIZONTAL DIMENSIONS ARE FROM FACE OF MASONRY UNLESS OTHERWISE NOTED.
  - SEE SHEET A-301 FOR WALL SECTIONS AND DETAILS.
- ELEVATION NOTES:**
- ALL EXTERIOR MATERIALS FOR BOILER BUILDINGS ARE TO CONFORM TO CAMP LEJEUNE BASE STANDARDS.
  - COLORS AND TEXTURES TO MATCH ADJACENT BUILDINGS.
  - BUILDING ENUMERATION SIGNAGE TO BE LOCATED ON THE FACE OF THE BUILDING CLOSEST TO THE ROAD. FINAL LOCATION AND ENUMERATION TEXT TO BE COORDINATED WITH CAMP LEJEUNE CULTURAL RESOURCES PROGRAM MANAGER AND CAMP LEJEUNE PUBLIC WORKS MANAGEMENT OFFICE.

NOTE: REFER TO CIVIL DRAWINGS FOR LOCATION AND ORIENTATION OF BOILER BUILDING. REFER TO MECHANICAL DRAWINGS FOR EQUIPMENT AND PENETRATION LOCATIONS FOR EACH BUILDING.



**3 FRENCH CREEK - ALTERNATE SIDE ELEVATION**

**4 FRENCH CREEK - ALTERNATE REAR ELEVATION**



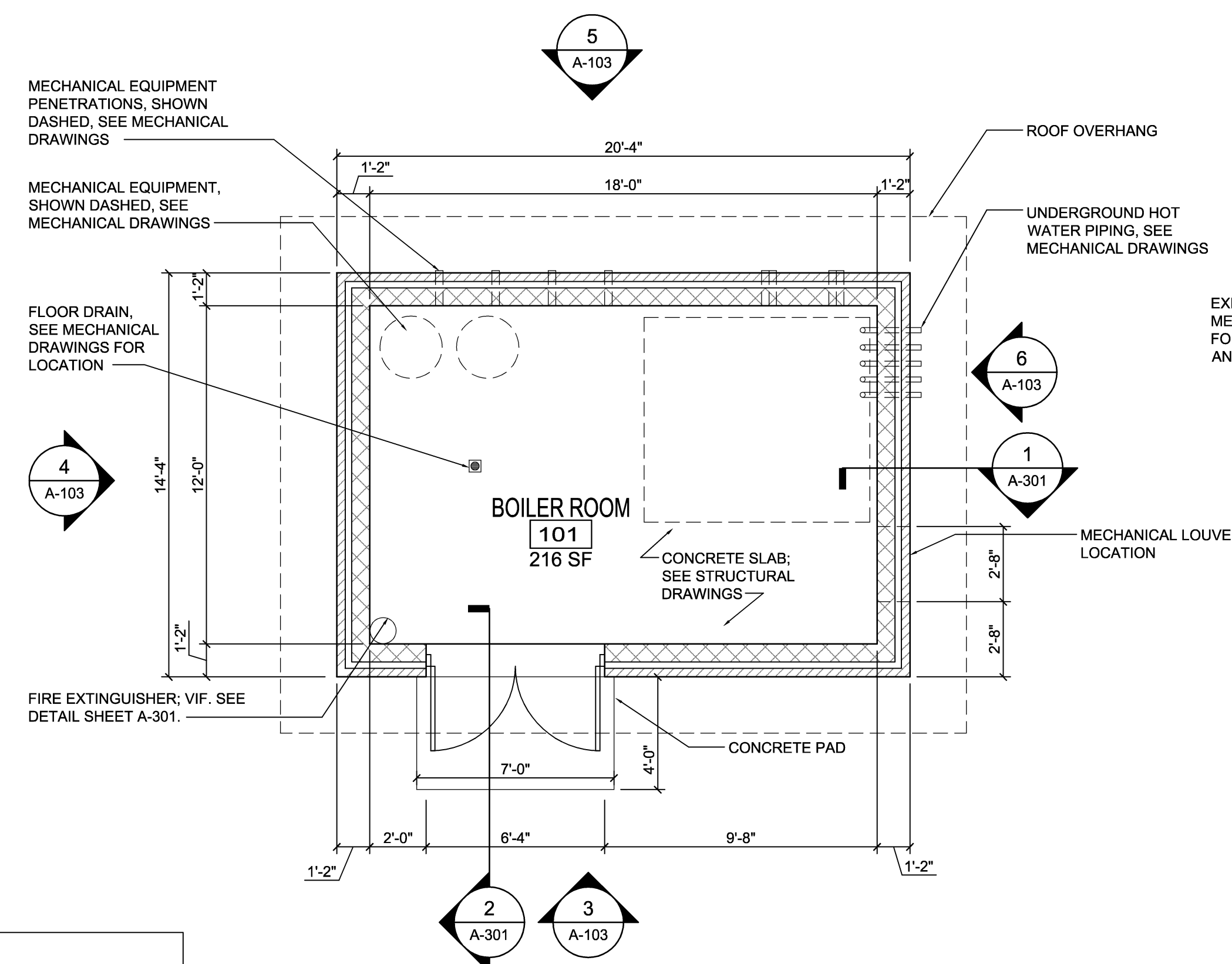
**5 FRENCH CREEK - ALTERNATE SIDE ELEVATION**

**6 FRENCH CREEK - ALTERNATE FRONT ELEVATION**

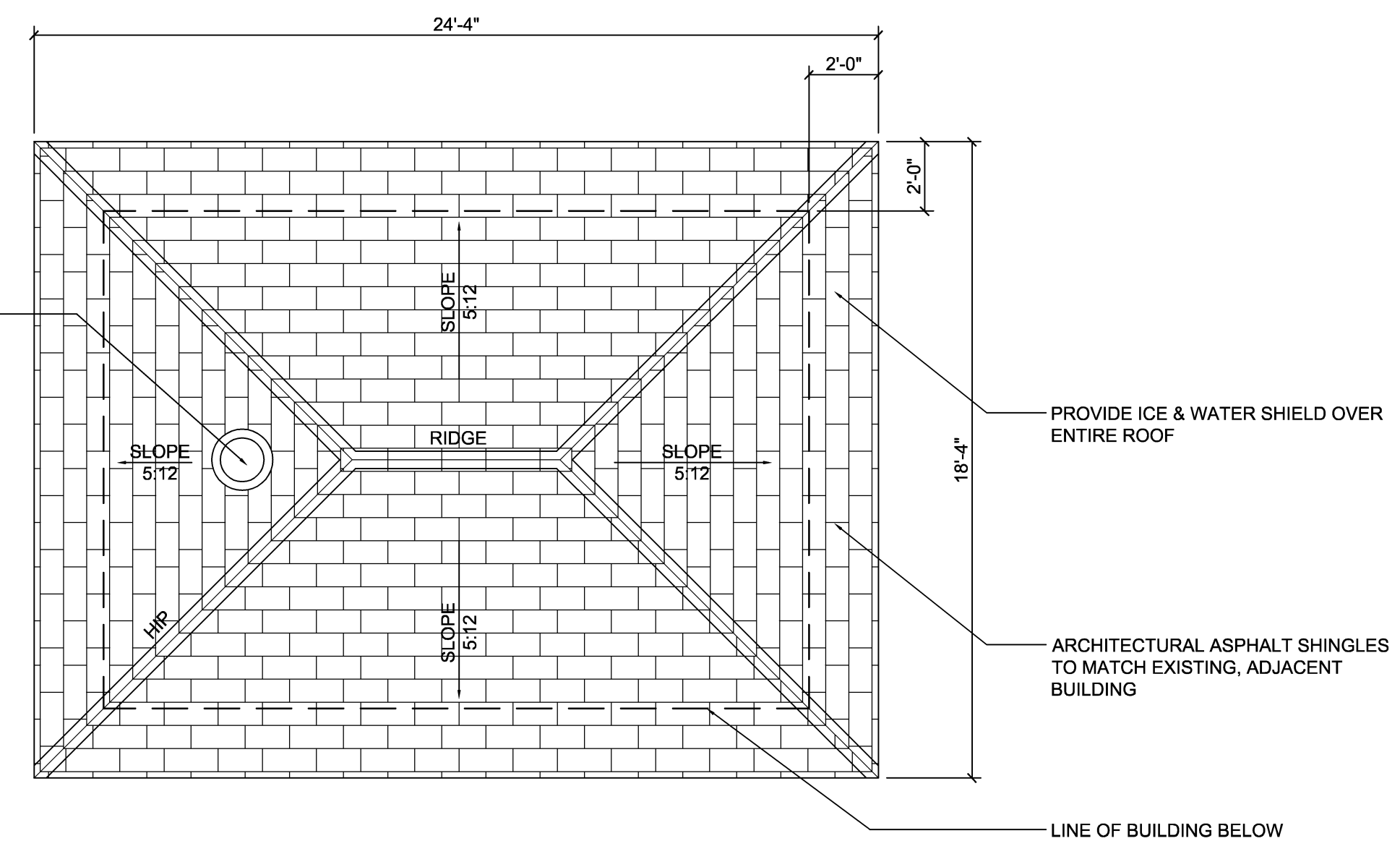
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WileyWilson 6600 West Broad St., Suite 500 Richmond, Virginia 23230-1717 804.254.7424 wileywilson.com		A-102 PROJECT NO. CP12-0121 NAVAL FACILITIES ENGINEERING COMMAND	
DEPT OF NAVY <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA		BOILER MODIFICATIONS, VARIOUS FACILITIES, FRENCH CREEK PLANS AND ELEVATIONS - FC572	
DES. LTC	DR. AEJ	SIZE E	CODE IDENT NO. 80091
CHK. JHE	DESIGN DR.	APPROVED PWO OR OICC DATE	DATE
SUBMITTED BY: 		NAVFAC DRAWING NO. 60011318	CONSTR CONTR NO. N40085-12-B-0121
SATISFACTORY TO DATE		SCALE: AS SHOWN	SPEC No. 06-12-0121
		SHEET 11 OF 37	



**1 FRENCH CREEK - ALTERNATE BOILER BUILDING FLOOR PLAN**  
1/4"=1'-0"



**2 FRENCH CREEK - ALTERNATE BOILER BUILDING ROOF PLAN**  
1/4"=1'-0"

**GENERAL DRAWING NOTES:**

- BOILER BUILDING SHALL BE REQUIRED ADJACENT TO AND SERVING EACH OF THE FOLLOWING BUILDINGS AT FRENCH CREEK:  
FC400  
FC571  
FC573
- FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION OF ARCHITECTURAL ASPHALT SHINGLES.
- VIF AND COORDINATE PENETRATIONS WITH MECHANICAL DRAWINGS.

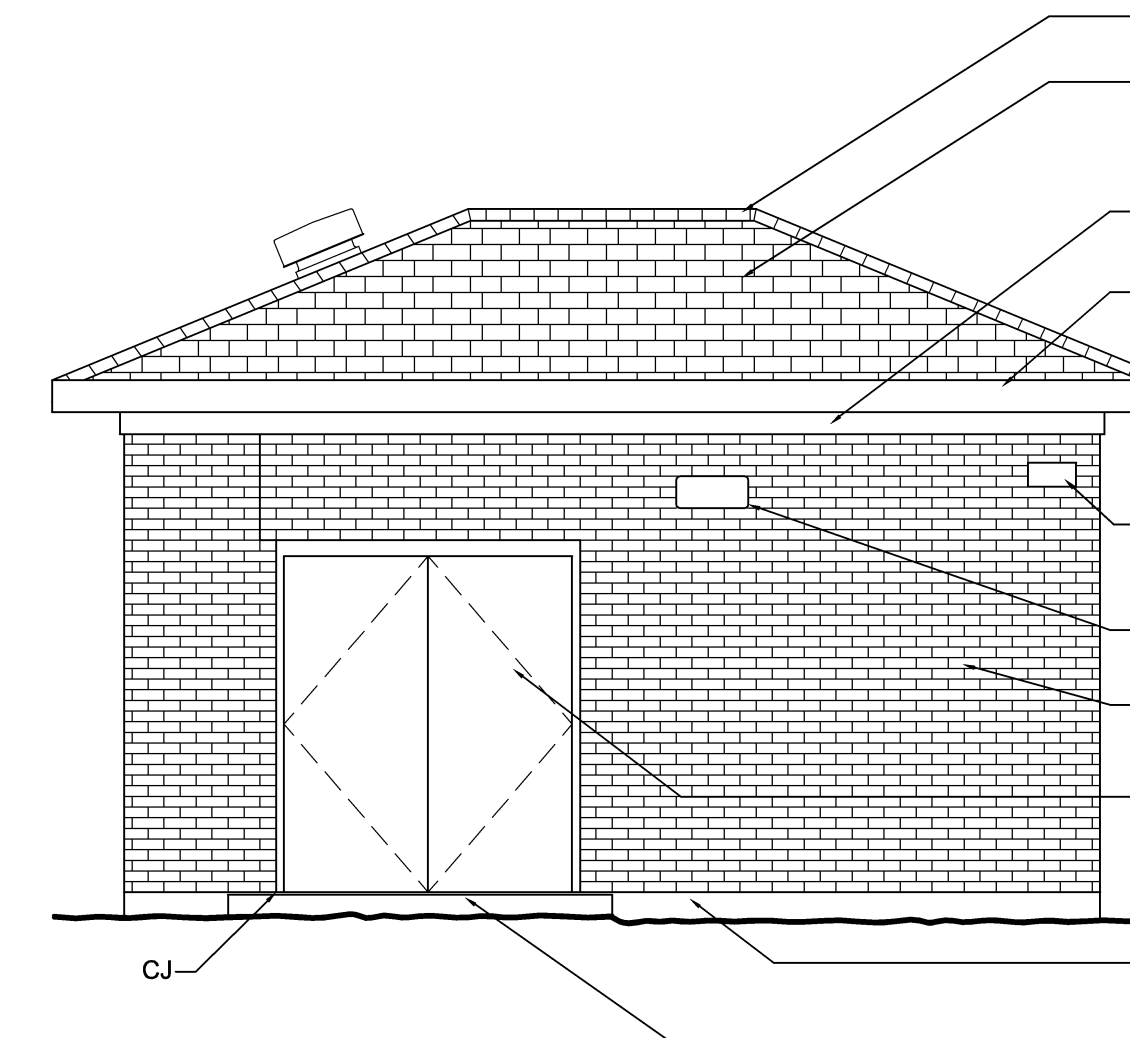
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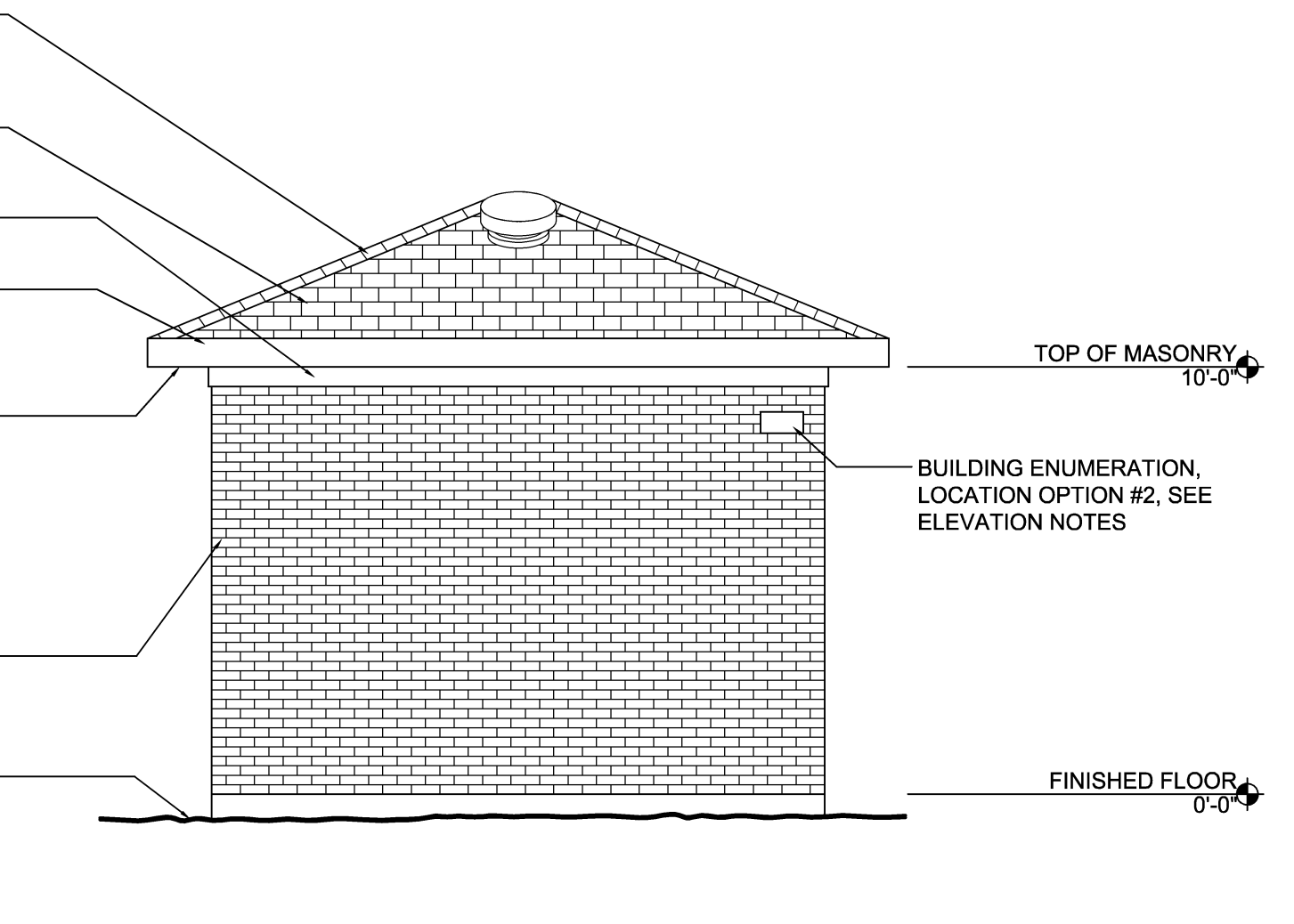
**ELEVATION NOTES:**

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- COLORS AND TEXTURES TO MATCH ADJACENT BUILDINGS.
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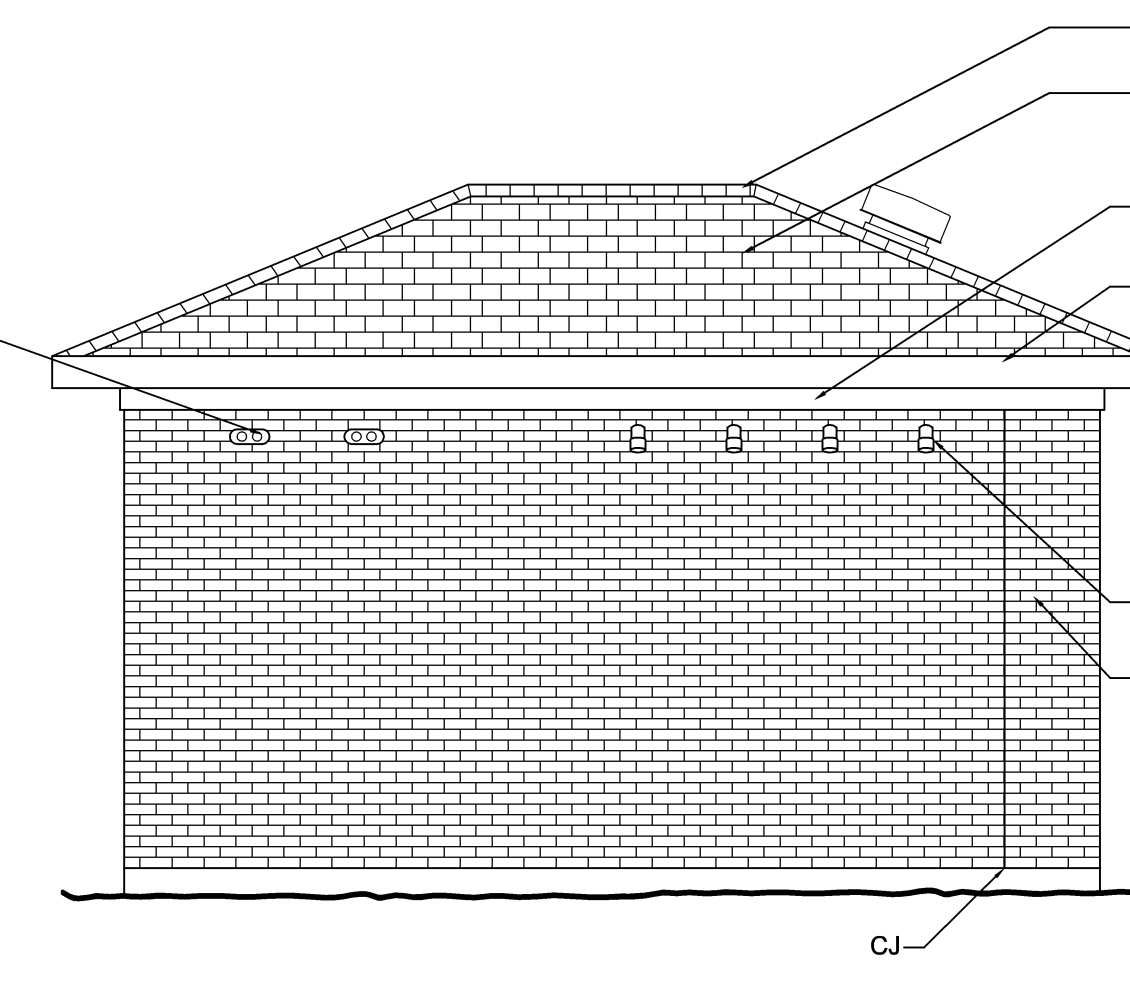
NOTE:  
REFER TO CIVIL DRAWINGS FOR LOCATION AND ORIENTATION OF BOILER BUILDING.  
REFER TO MECHANICAL DRAWINGS FOR EQUIPMENT AND PENETRATION LOCATIONS FOR EACH BUILDING.



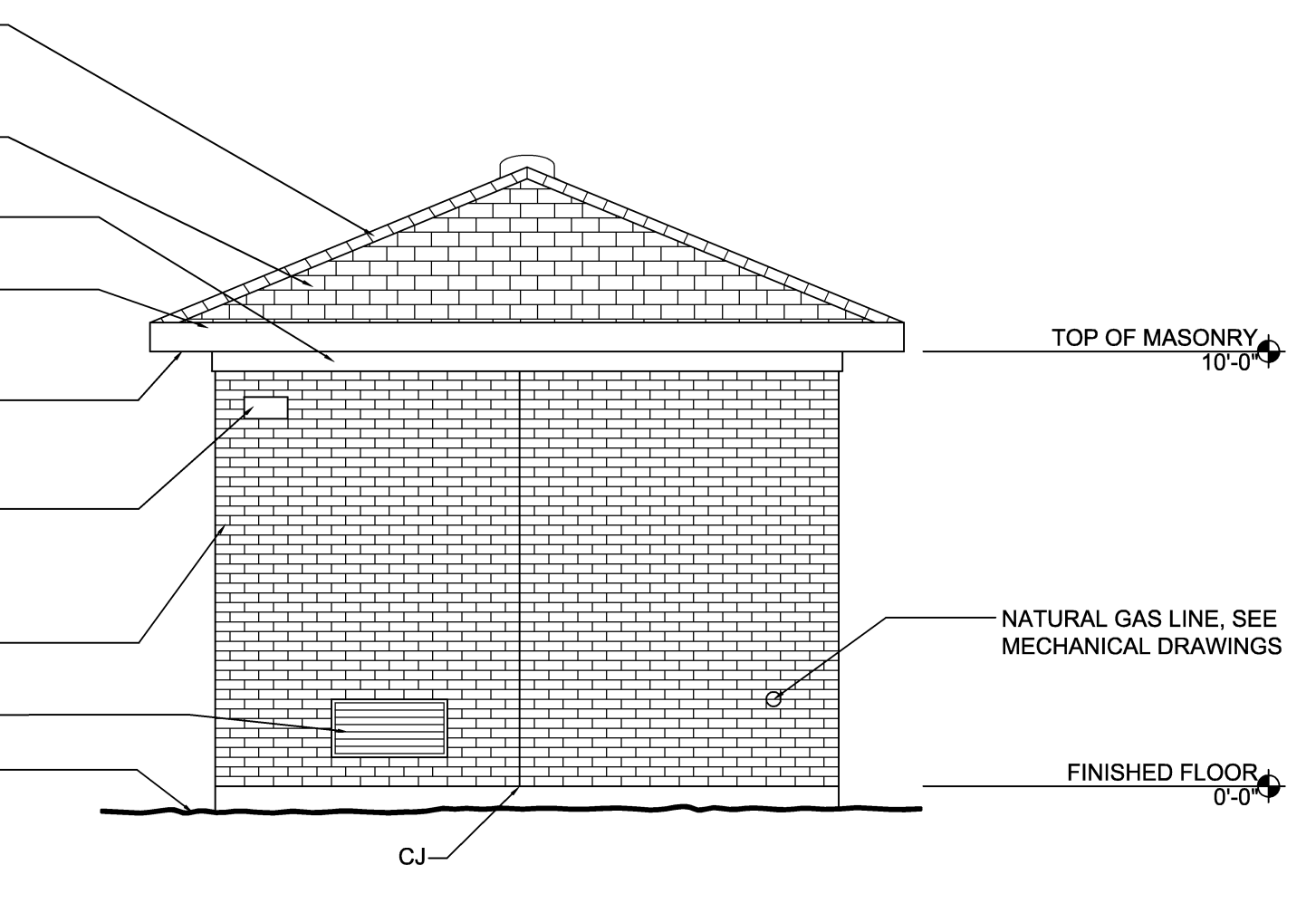
**3 FRENCH CREEK - ALTERNATE FRONT ELEVATION**  
1/4"=1'-0"



**4 FRENCH CREEK - ALTERNATE SIDE ELEVATION**  
1/4"=1'-0"



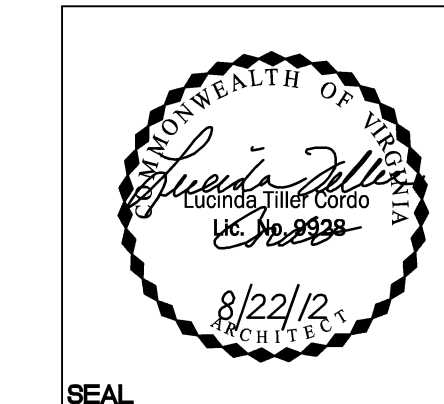
**5 FRENCH CREEK - ALTERNATE REAR ELEVATION**  
1/4"=1'-0"



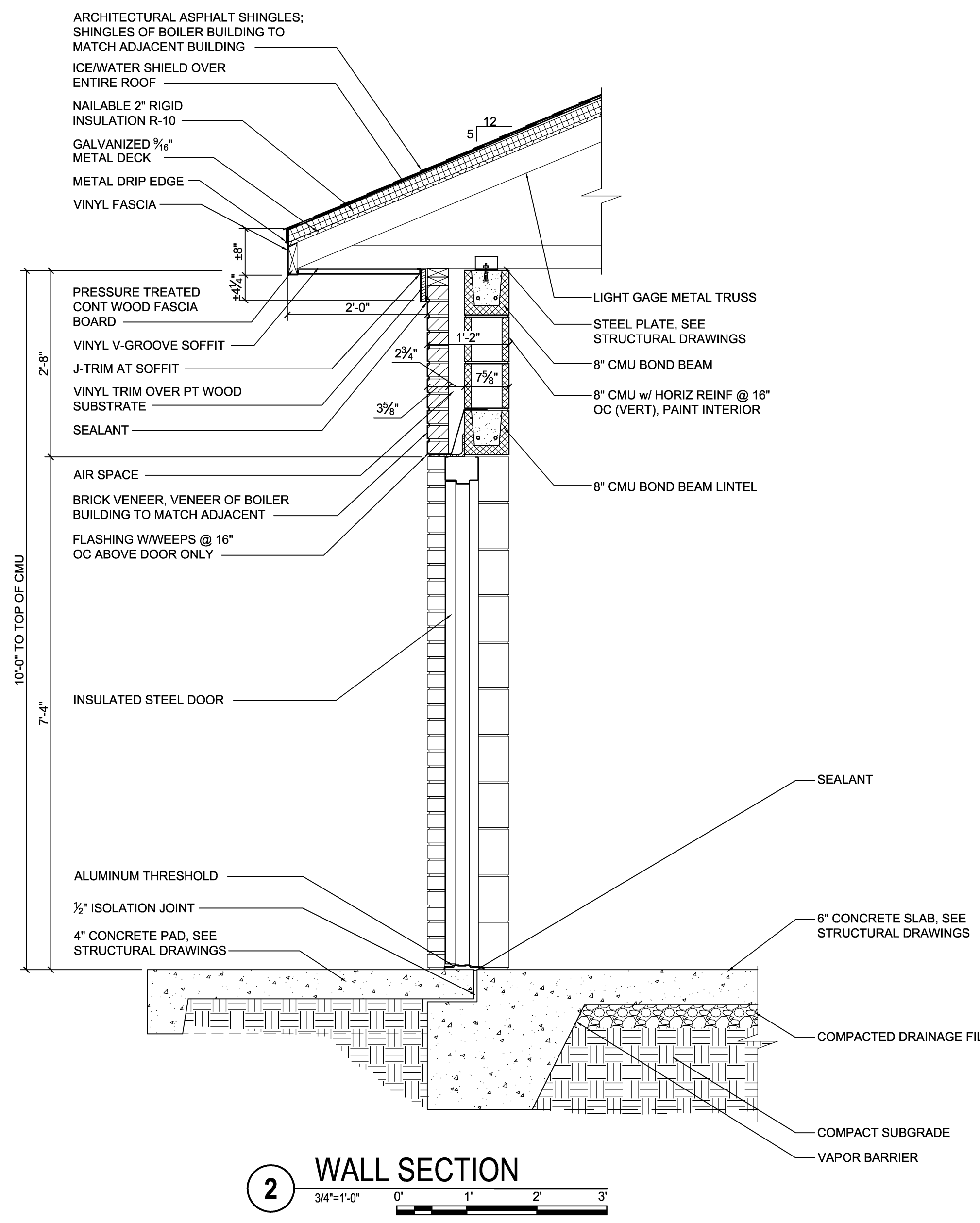
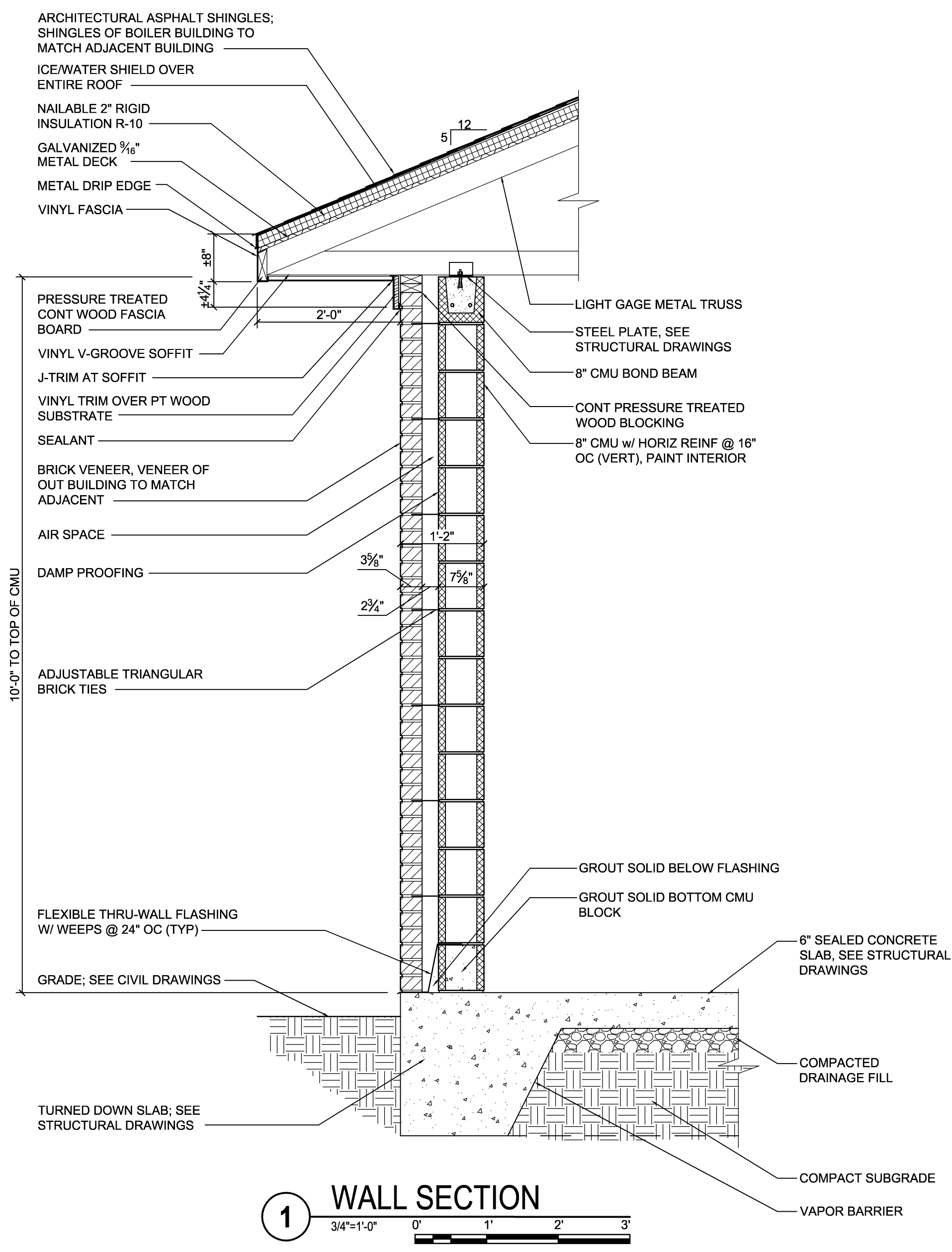
**6 FRENCH CREEK - ALTERNATE SIDE ELEVATION**  
1/4"=1'-0"

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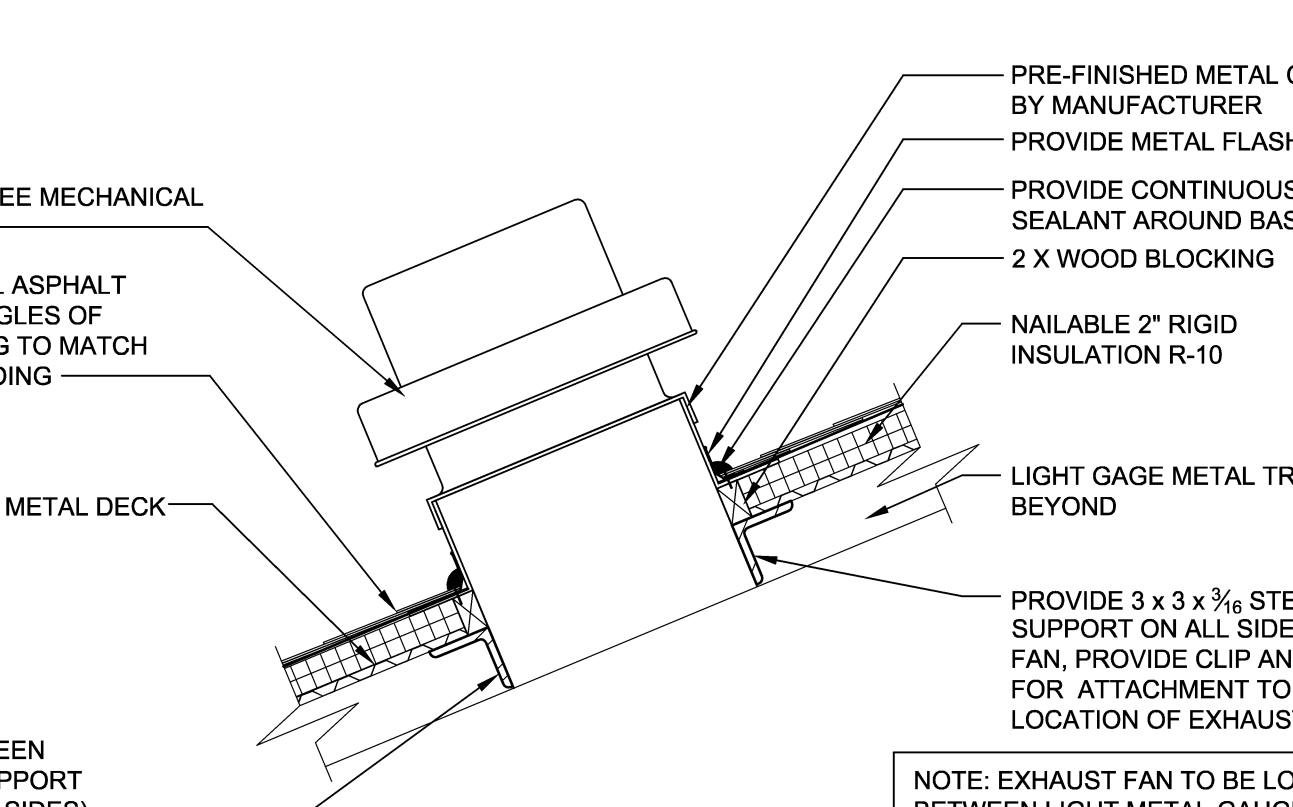
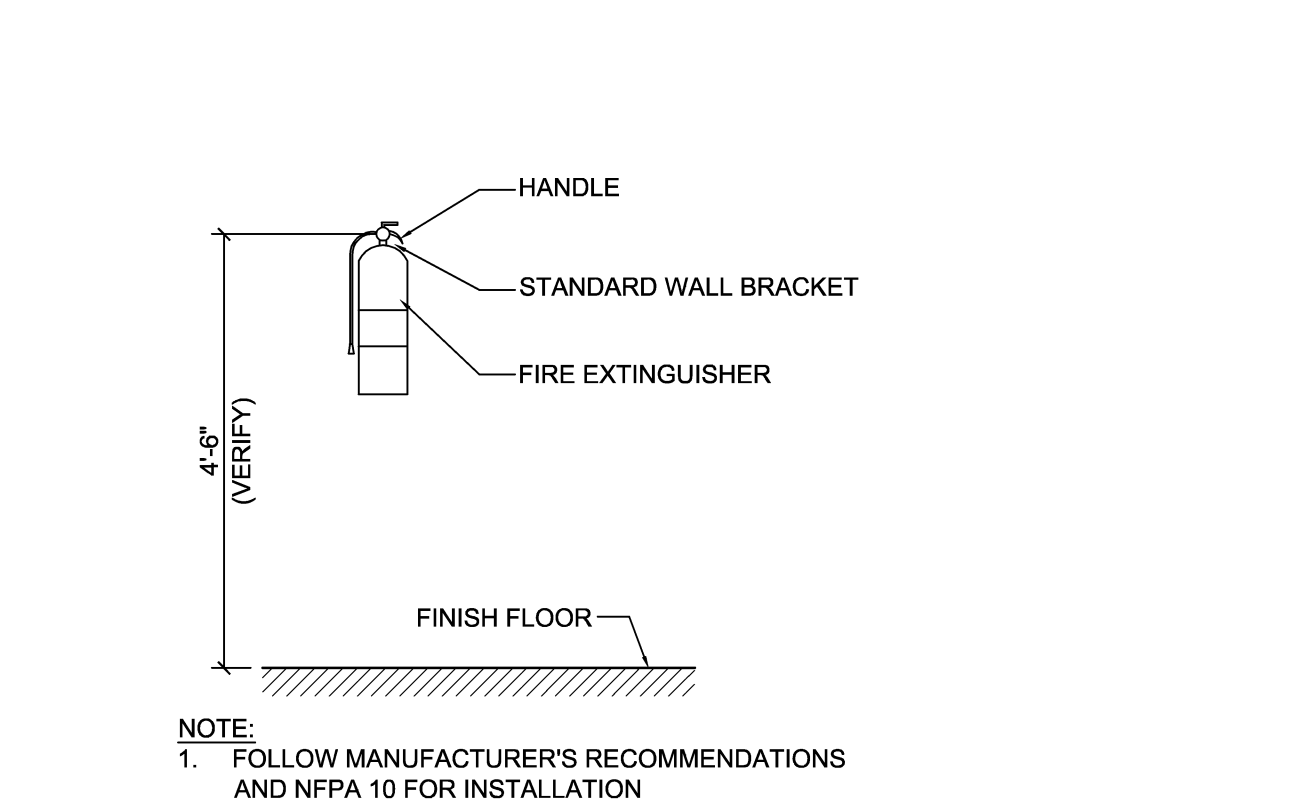
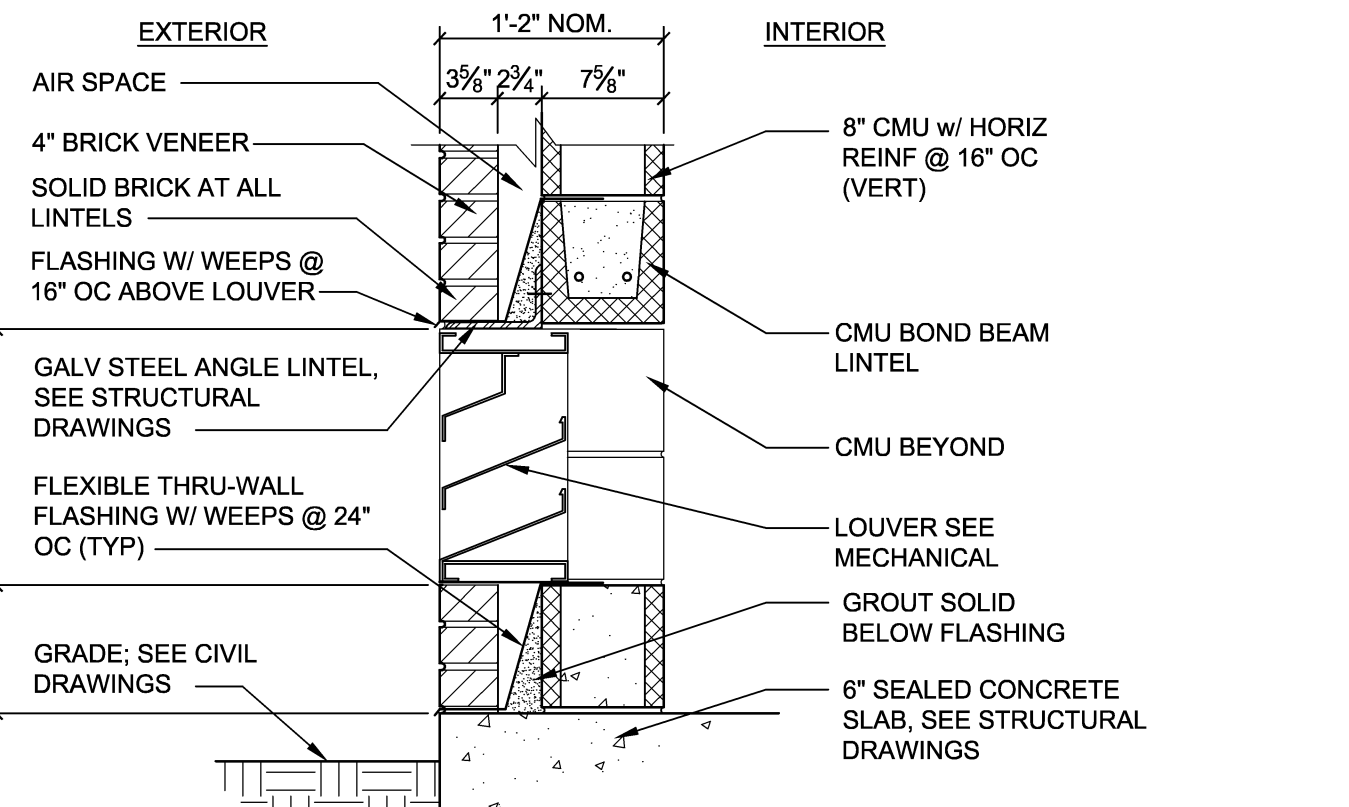
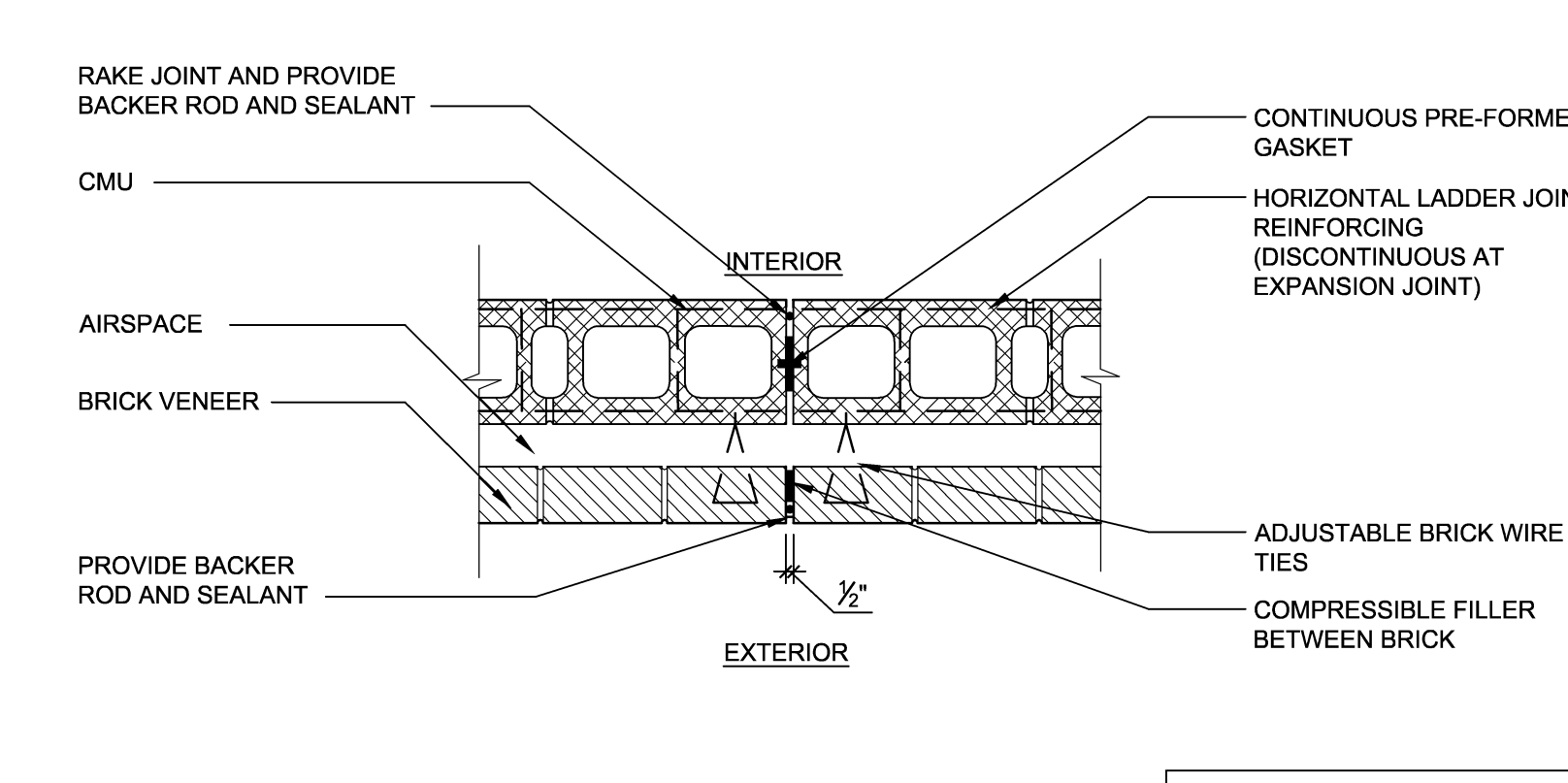
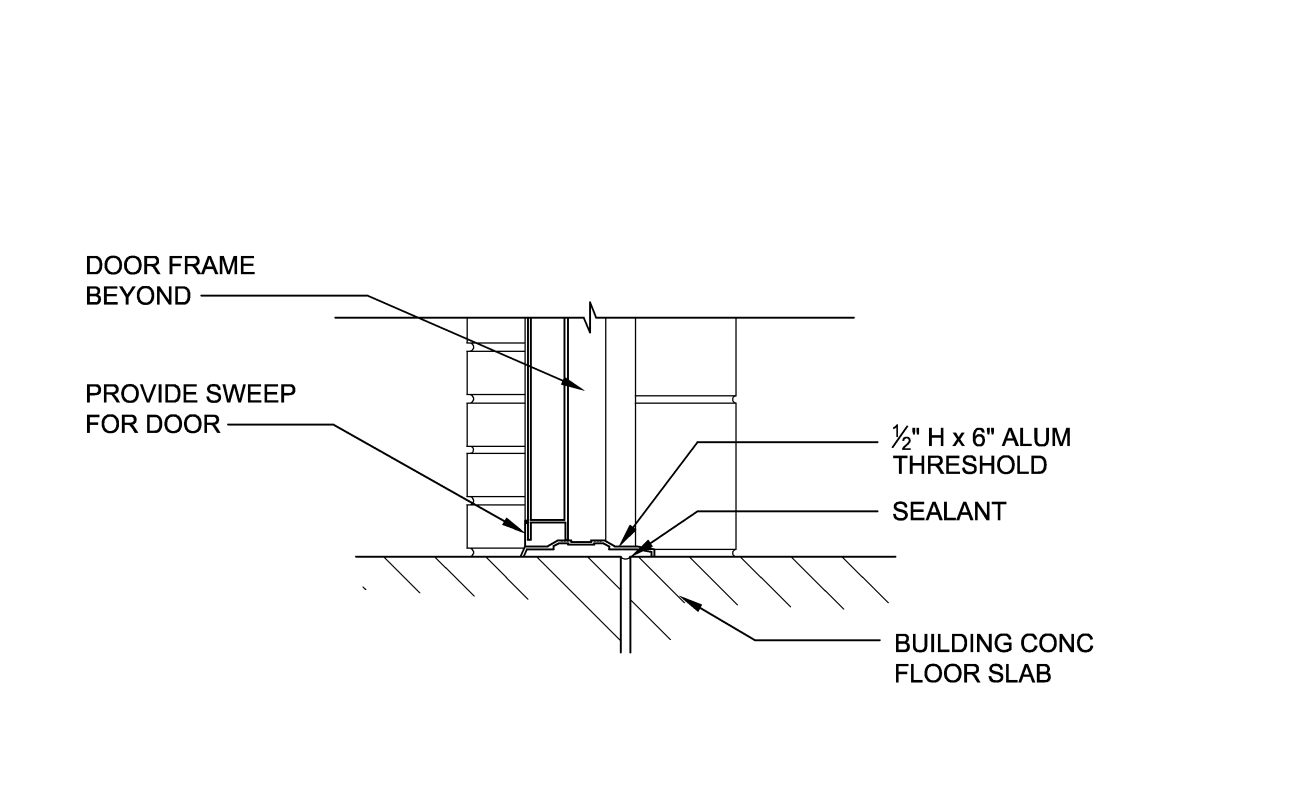
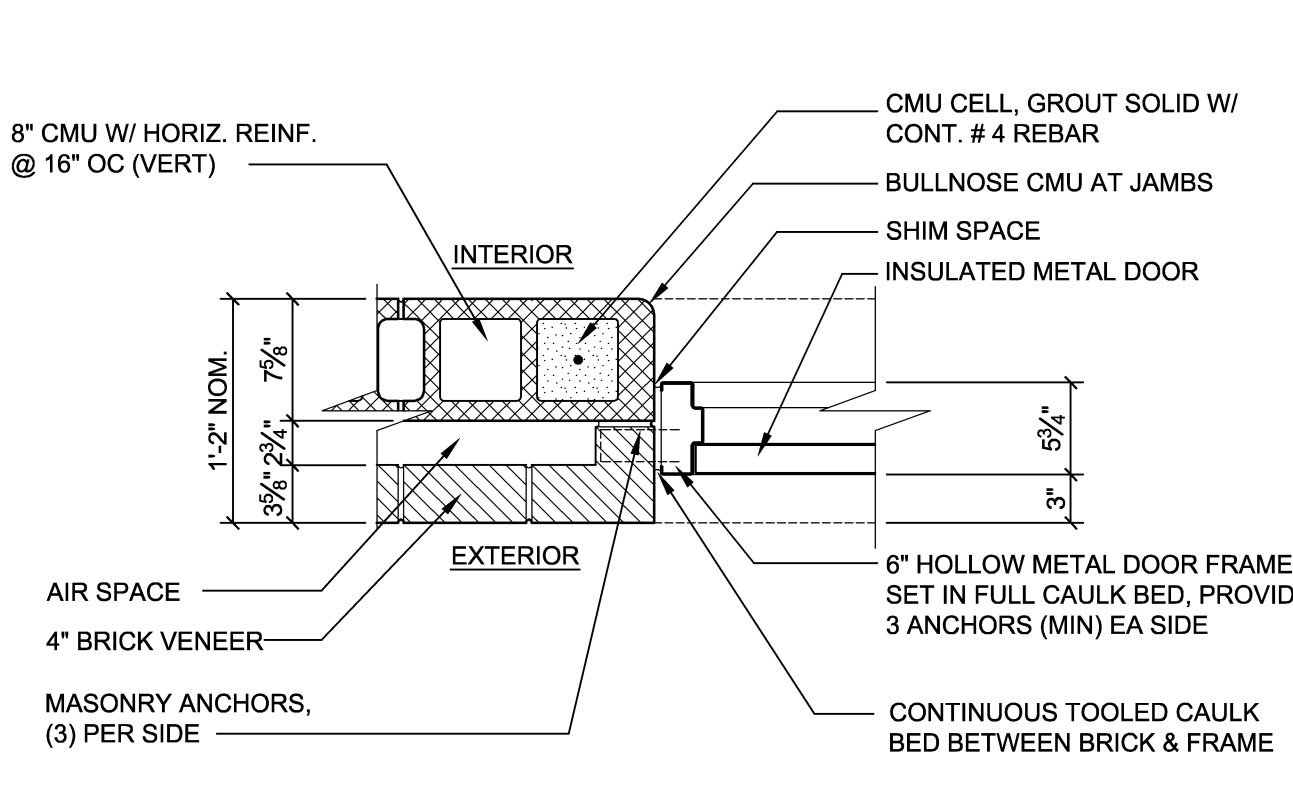
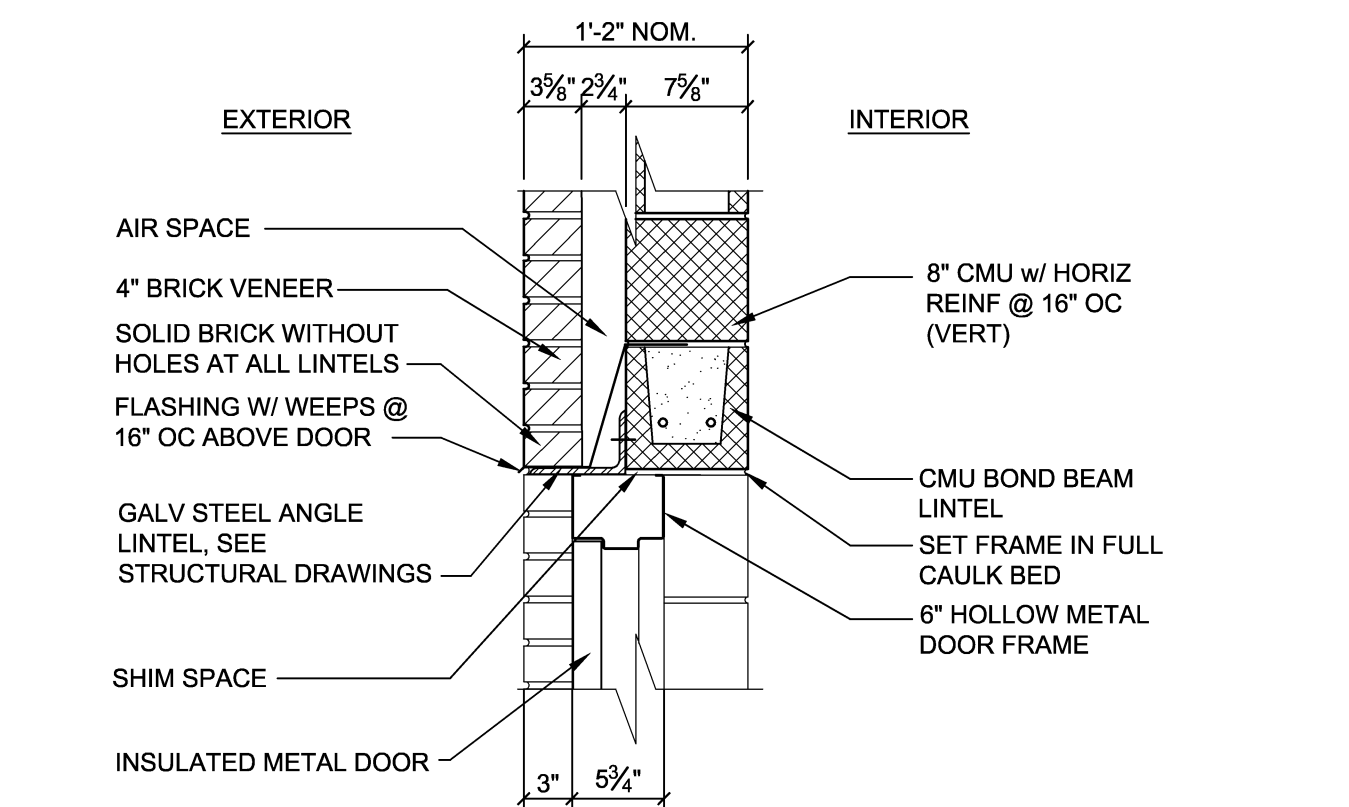
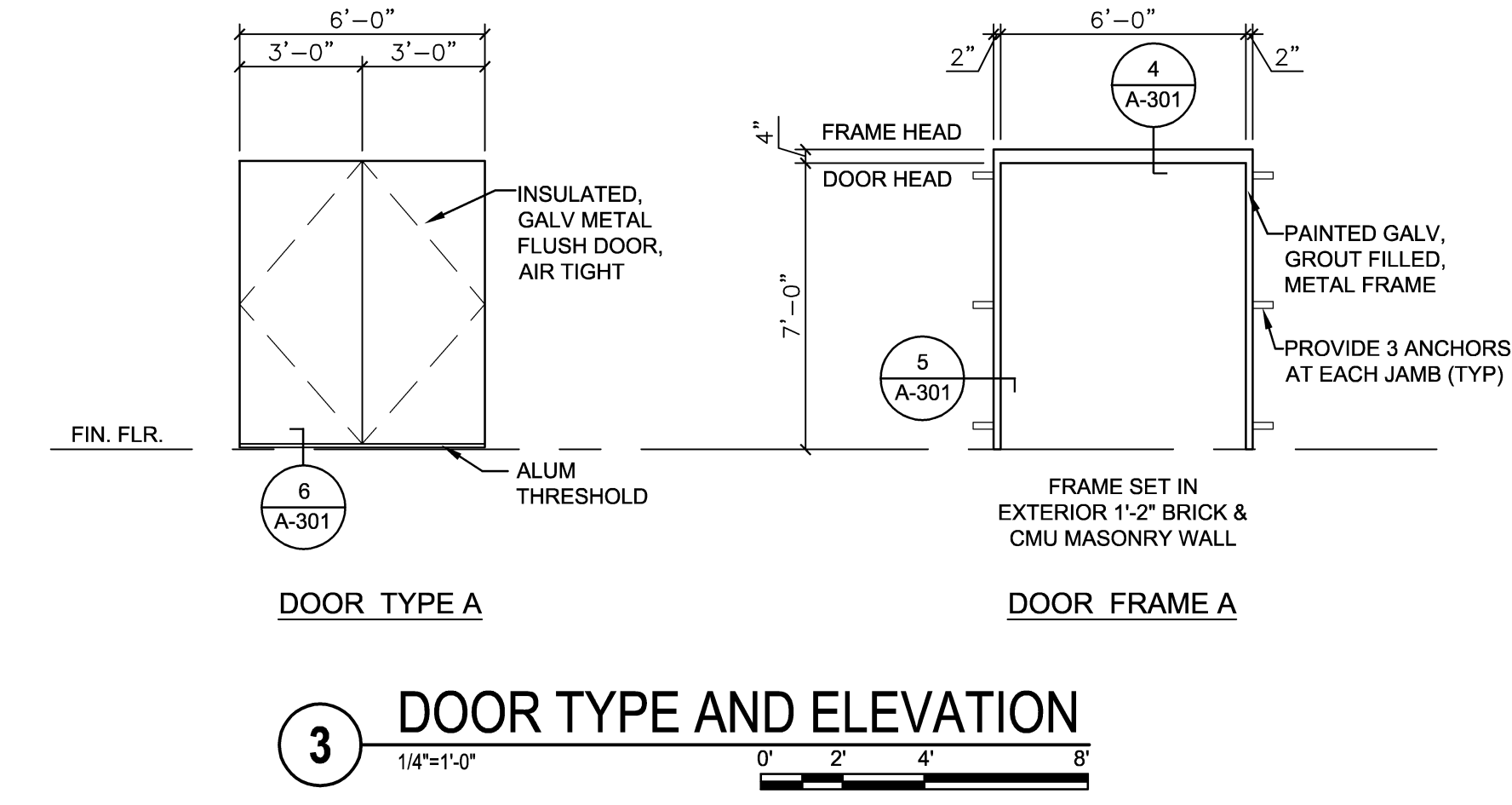


<b>WileyWilson</b> 6600 West Broad St., Suite 500 Richmond, Virginia 23230-1717 804.254.7342 wileywilson.com		<b>A-103</b> PROJECT NO. CP12-0121	
DEPT OF NAVY <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA		NAVAL FACILITIES ENGINEERING COMMAND	
DES. LTC	DR. AEI	<b>BOILER MODIFICATIONS, VARIOUS FACILITIES, FRENCH CREEK</b> PLANS AND ELEVATIONS - FC400, FC571, FC573	
CHK. JHE	SUBMITTED BY:	SIZE E	CODE IDENT NO. 80091
DESIGN DR.	APPROVED PWO OR OICC DATE	NAVFAV DRAWING NO. 60011319	CONSTR CONTR NO. N40085-12-B-0121
BATSFATORY TO	DATE	SCALE: AS SHOWN	SPEC No. 06-12-0121
		SHEET 12 OF 37	



MARK	DOOR				FRAME			FIRE RATING LABEL	NOTES		
	WD	HT	THK	MAT	MAT	ELEV	HEAD			JAMB	SILL
101A	6'-0"	7'-0"	1.34"	INSUL HM	HM	A	4/A-301	5/A-201	6/A-301	--	SEE DOOR NOTE #1

- DOOR NOTES:**
- SEE SPECIFICATIONS FOR DOOR HARDWARE SET. HARDWARE TO BE HEAVY DUTY COMMERCIAL GRADE.
  - VERIFY WITH OWNER KEYING AND FUNCTION.
  - FOLLOW MFG RECOMMENDATIONS FOR INSTALLATION OF DOOR FRAME HARDWARE FOR APPLICATION IDENTIFIED.
  - PAINT DOOR AND FRAME.
  - DOOR TYPICAL FOR ALL BUILDINGS IDENTIFIED ON A-101

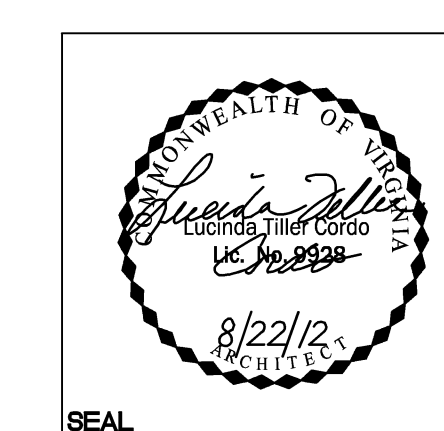


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	<p>NAVAL FACILITIES ENGINEERING COMMAND <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA</p>	
<p>DES. LTC</p> <p>DR. MTG</p> <p>CHK. JHE</p> <p>SUBMITTED BY:</p> <p>DESIGN DR.</p>	<p>SECTION AND DETAILS</p>	
<p>APPROVED PWO OR OICC DATE</p>	<p>SIZE CODE IDENT NO.</p> <p>E 80091</p>	<p>NAVY DRAWING NO.</p> <p>60011320</p>
<p>SATISFACTORY TO DATE</p>	<p>CONSTR CONTR NO.</p> <p>N40085-12-B-0121</p>	<p>SHEET 13 OF 37</p>
<p>SCALE: AS SHOWN</p>	<p>SPEC No. 06-12-0121</p>	













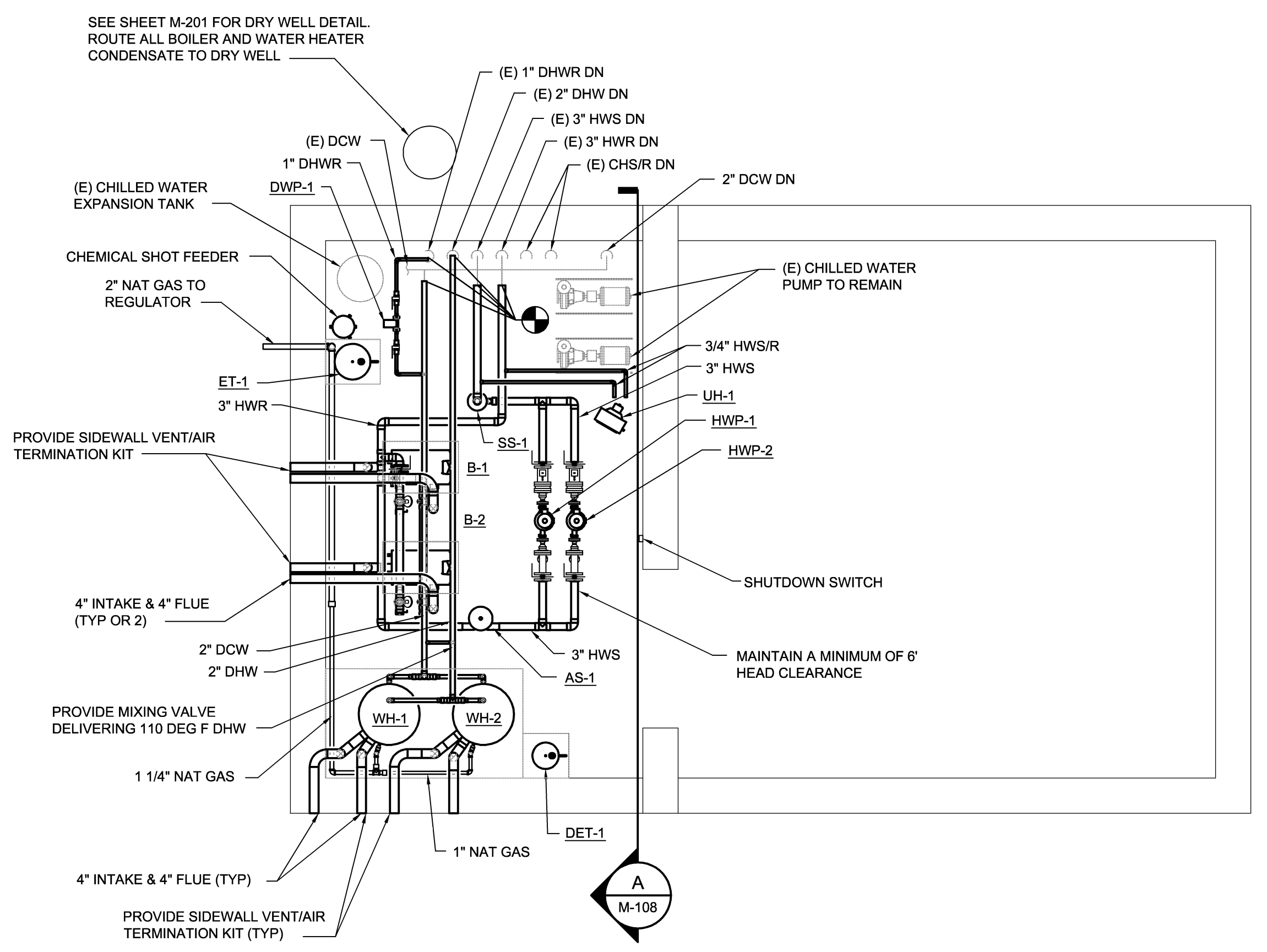




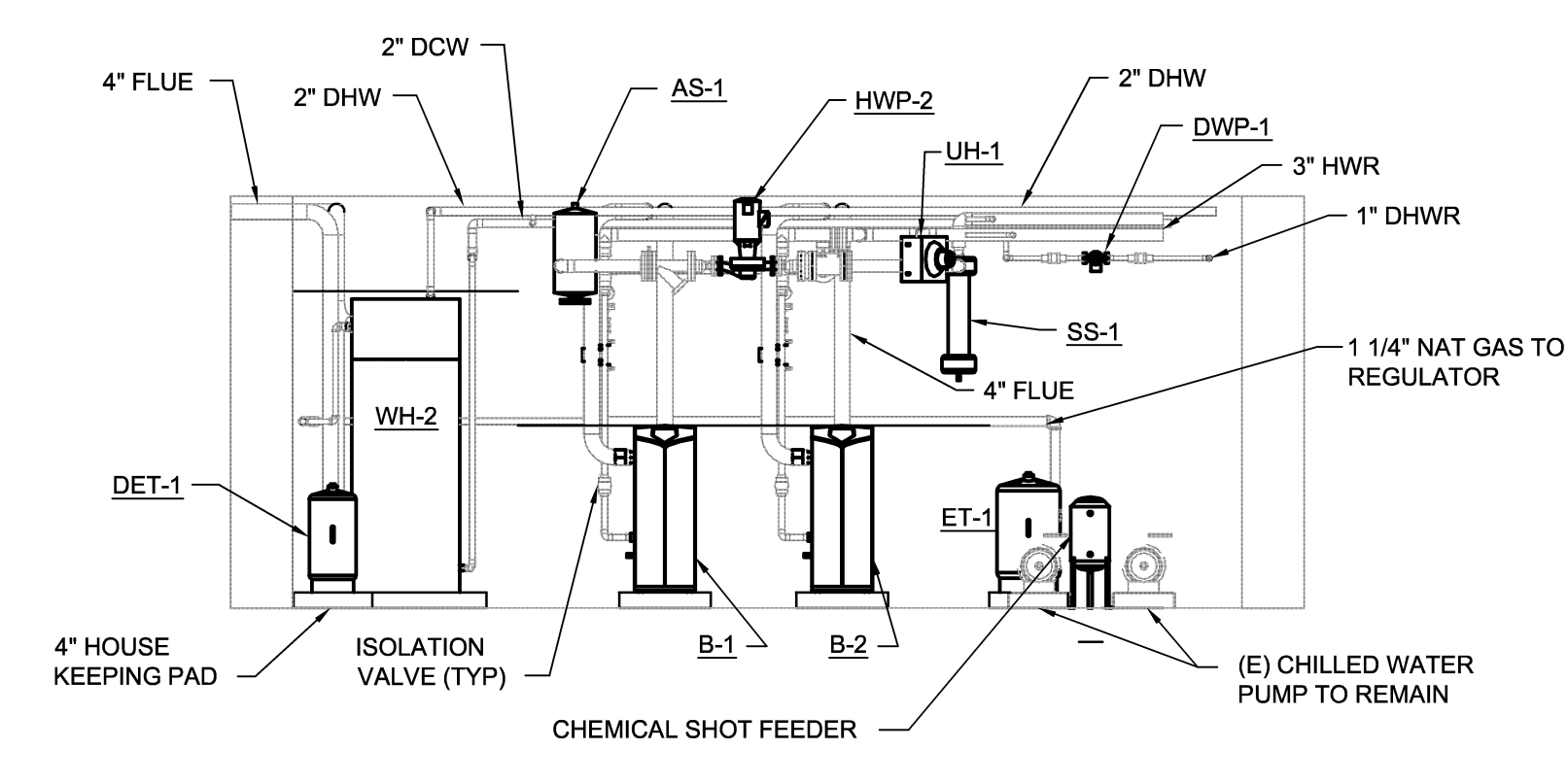




SYM.	PREP'D BY	DATE	APPROVED



**BUILDING FC-500A MECHANICAL NEW WORK PLAN**  
1/4"=1'-0" 0 2 4 8



**MECHANICAL ROOM SECTION**  
1/4"=1'-0" 0 2 4 8

**NATURAL GAS NOTE:**  
1. TOTAL CONNECTED NATURAL GAS DEMAND FOR THIS BUILDING IS 1,100 MBH AT 10 IN-H2O.

**DEMOLITION NOTES**

- REMOVE HOT WATER PIPING, PUMPS, HEAT EXCHANGERS AND EXPANSION TANKS AS SHOWN. REMOVE ALL ASSOCIATED PIPING, SUPPORTS AND HANGERS. REMOVE ALL STEAM SUPPLY AND CONDENSATE RETURN PIPING, COMPONENTS, HANGERS AND EQUIPMENT.
- CHILLED WATER SYSTEM IS EXISTING TO REMAIN AND SHALL NOT BE INTERRUPTED DURING CONSTRUCTION.
- EXISTING CONTROLS TO REMAIN FOR MODIFICATION AND INTEGRATION WITH NEW BACNET EMCS SYSTEM.
- THE EQUIPMENT AND BUILDING LAYOUT IS BASED ON THE BASIS OF DESIGN EQUIPMENT CLEARANCES. ANY MODIFICATION REQUIRED FOR ACCEPTABLE ALTERNATE MANUFACTURER'S SHALL BE PROVIDED BY THE CONTRACTOR IF NECESSARY.

**GENERAL NOTES**

- SEE GENERAL NOTES ON SHEET M-001.
- BUILDING FC-500A IS THE EXISTING MECHANICAL ROOM THAT SERVES BUILDING FC-500.
- MAINTAIN MANUFACTURER RECOMMENDED CLEARANCE AROUND ALL EQUIPMENT. FOR BOILERS, PROVIDE A MINIMUM 30" PIPING AND MAINTENANCE CLEARANCE ON ALL SIDES. AT LEAST EVERY OTHER SIDE SHALL HAVE 30" CLEAR FLOOR SPACE FOR PERSONNEL ACCESS. FOR WATER HEATERS, PROVIDE MINIMUM 15" CLEARANCE TO THE SIDES AND REAR AND A MINIMUM 30" IN THE FRONT.
- THE LOCATION OF ALL DUCT, PIPING AND EQUIPMENT SHALL BE ADJUSTED TO ACCOMMODATE ANTICIPATED OR ENCOUNTERED INTERFERENCES. THESE PLANS ARE PARTIALLY DIAGRAMMATIC AND MAY NOT SHOW MINOR DETAILS AND LOCATIONS. ALL PIPING OFFSETS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- INSTALL GAS PIPE IN ACCORDANCE WITH 2012 NORTH CAROLINA FUEL GAS CODE.
- PROVIDE HOSE BIB AND 1/2" CONNECTION FOR FILLING MECHANICAL ROOM.
- STORE DOMESTIC HOT WATER AT 140 DEG F AND TEMPER TO 110 DEG F BEFORE BEING SUPPLIED TO BUILDING. PROVIDE MIXING VALVE.
- PROVIDE APPURTENANCES TO COMPLY WITH ASME CSD-1, INCLUDING BUT NOT LIMITED TO MUSHROOM TYPE EMERGENCY SHUT DOWN SWITCH LOCATED ADJACENT TO EXIT DOOR.

DESIGNATION	B-1	B-2
LOCATION	MECH ROOM	MECH ROOM
FUEL TYPE	NATURAL GAS	NATURAL GAS
MINIMUM INLET GAS PRESSURE (IN. WG.)	4	4
MAXIMUM INLET GAS PRESSURE (IN. WG.)	10	10
GAS INLET CONNECTION (IN)	1	1
INPUT (MBH)	399	399
OUTPUT (MBH)	367	367
MINIMUM TURN DOWN RATIO	5:1	5:1
FLOWRATE (GPM)	21	21
MAXIMUM PRESSURE DROP (FT-H2O)	8	8
ENTERING WATER TEMPERATURE (DEG F)	140	140
LEAVING WATER TEMPERATURE (DEG F)	165	165
MINIMUM OPERATING PRESSURE (PSI)	30	30
VOLTAGE (V)	120	120
PHASE	1	1
FREQUENCY (Hz)	60	60
TOTAL OPERATING AMPS	1.5	1.5
FLUE GAS STACK EXHAUST CONNECTION SIZE (IN)	4	4
SELECTION BASED ON	LOCHINVAR	LOCHINVAR
MODEL REMARKS	KB-400	KB-400
REMARKS	1, 2, 3 & 4	1, 2, 3 & 4

- REMARKS LEGEND:**
- PROVIDE CONDENSATE NEUTRALIZATION DRAIN KIT THAT HOLDS 0.25 CU. FT. OF LIME STONE AND IS RECHARGEABLE WITHOUT BEING DISCONNECTED FROM PIPING OR HOLDING BRACKETS. LOCATE KITS ON SLAB. PROVIDE ONE KIT PER BOILER.
  - BOILER CIRCULATION PUMP TO BE PROVIDED BY MANUFACTURER AT 30 GPM AT 25 DELTA T.
  - PROVIDE SEALED COMBUSTION CHAMBER, DIRECT VENT AND DUCTED COMBUSTION AIR. PROVIDE CPVC OR AL29-4C FLUE GAS PIPE, PVC IN NOT ALLOWED.
  - PROVIDE BOILERS WHICH ARE AT LEAST 84% EFFICIENT BASED ON BTS-2000 REV06.07 CONDITIONS.

DESIGNATION	UH-1
LOCATION	MECH ROOM
AIRFLOW (CFM)	340
HEATING CAPACITY (MBH)	10
ENTERING AIR TEMPERATURE (DEG F)	55
LEAVING AIR TEMPERATURE (DEG F)	82
ENTERING WATER TEMPERATURE (DEG F)	155
FLOW RATE (GPM)	.5
WATER PRESSURE DROP (FT W.G.)	.5
MOTOR POWER (HP)	1/80
VOLTAGE (V)	115
PHASE	1
FREQUENCY (Hz)	60
BASED ON	MODINE
MODEL	HC-18 S 01
REMARKS	1

- REMARKS LEGEND**  
1. PROVIDE UNIT MOUNTED THERMOSTAT.

DESIGNATION	SS-1
LOCATION	MECH ROOM
SERVICE	HOT WATER
MAXIMUM PRESSURE DROP (FT-H2O)	12
COLLECTION CHAMBER CAPACITY (GAL)	0.8
BASED ON	LAKOS
MODEL	ILB-0200

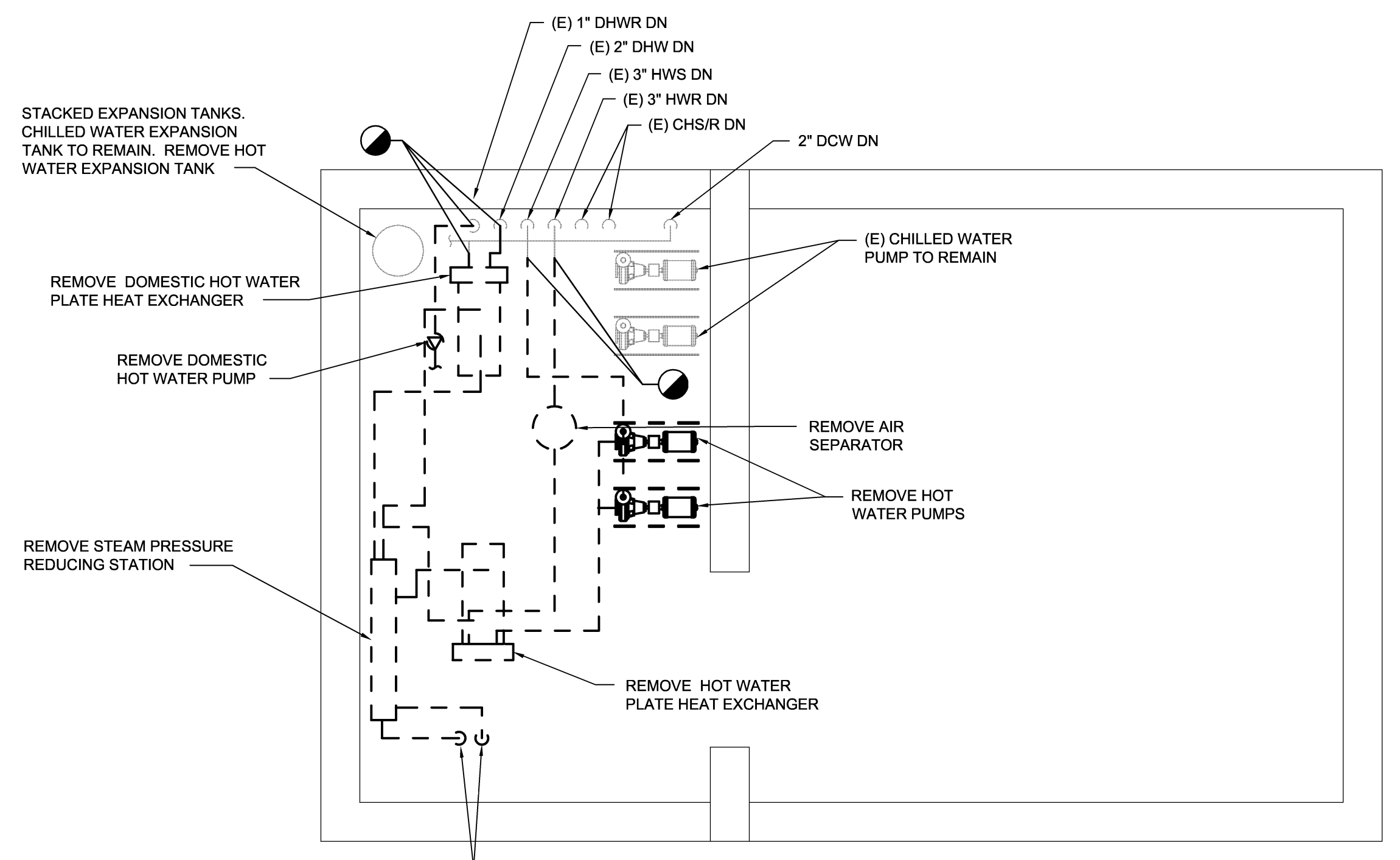
DESIGNATION	AS-1
LOCATION	MECH ROOM
SERVICE	HOT WATER
LINE SIZE (IN)	3
BASED ON	BELL & GOSSETT
MODEL	ROLAIRTR0L

DESIGNATION	ET-1	DET-1
SERVICE	HEATING WATER	DOMESTIC HOT WATER
LOCATION	MECH ROOM	MECH ROOM
TYPE	BLADDER	BLADDER
TANK VOLUME (GAL)	60	17.5
FILL PRESSURE (PSI)	20	60*
RELIEF VALVE PRESSURE SETTING (PSI)	100	100
BASED ON	JOHN WOOD COMPANY	AMTROL
MODEL	JAER-23-607	ST-C SERIES ST-42V-C

\* MATCH DOMESTIC WATER SUPPLY PRESSURE AT THIS LOCATION.

DESIGNATION	HWP-1	HWP-2	DWP-1
SERVICE	HOT WATER	HOT WATER	DOMESTIC HOT WATER
LOCATION	MECH ROOM	MECH ROOM	MECH ROOM
TYPE	INLINE	INLINE	INLINE
PUMP DATA	-	-	-
FLOW (GPM)	66	66	5
TOTAL HEAD (FT-H2O)	65	65	20
MINIMUM EFFICIENCY (%)	55	55	55
CONNECTION SIZE	-	-	-
SUCTION (IN)	1.5	1.5	1.5
DISCHARGE (IN)	1.5	1.5	1.5
MOTOR DATA	-	-	-
MOTOR FRAME	182JM	182JM	-
HORSEPOWER	3	3	-
RPM	1750	1750	2650
VOLTS	208	208	115
PHASE	1	1	1
HERTZ	60	60	60
SELECTION BASED ON (MFG)	BELL & GOSSETT	BELL & GOSSETT	BELL & GOSSETT
MODEL	80 1-1/2x1-1/2x9-1/2	80 1-1/2x1-1/2x9-1/2	BOOSTER PL-30
REMARKS	-	-	1

- REMARKS LEGEND:**  
1. BRONZE FITTED PUMP FOR DOMESTIC WATER SERVICE. PROVIDE AQUASTAT CONTROL.

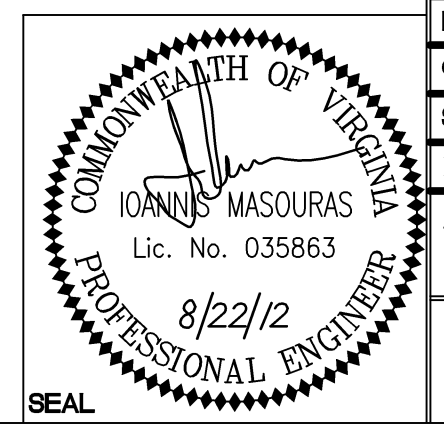


**BUILDING FC-500A MECHANICAL DEMOLITION PLAN**  
1/4"=1'-0" 0 2 4 8

DESIGNATION	WH-1	WH-2
LOCATION	MECH ROOM	MECH ROOM
STORAGE (GALLONS)	100	100
GPH AT 100 DEG F RISE	173	173
FUEL TYPE	NATURAL GAS	NATURAL GAS
MINIMUM INLET GAS PRESSURE (IN. WG.)	4.8	4.8
MAXIMUM INLET GAS PRESSURE (IN. WG.)	10.5	10.5
GAS INLET CONNECTION (IN)	3/4	3/4
INPUT (MBH)	150	150
VOLTAGE (V)	120	120
PHASE	1	1
FREQUENCY (Hz)	60	60
FLUE GAS STACK EXHAUST CONNECTION SIZE (IN)	4	4
SELECTION BASED ON	STATE	STATE
MODEL	SUF 100 150 NE	SUF 100 150 NE
REMARKS	1 & 2	1 & 2

- REMARKS LEGEND**
- PROVIDE CONDENSATE NEUTRALIZATION DRAIN KIT THAT HOLDS 0.25 CU. FT. OF LIME STONE AND IS RECHARGEABLE WITHOUT BEING DISCONNECTED FROM PIPING OR HOLDING BRACKETS. LOCATE KITS ON SLAB. PROVIDE ONE KIT PER WATER HEATER.
  - PROVIDE SEALED COMBUSTION CHAMBER, DIRECT VENT AND DUCTED COMBUSTION AIR. PROVIDE CPVC OR AL29-4C FLUE GAS PIPE, PVC IN NOT ALLOWED.

**DISCLOSURE OF INFORMATION**  
Contractor shall comply as follows:  
(a) The Contractor shall not release to anyone outside the Contractor's organization any unclassified information, regardless of medium (e.g., film, tape, document), pertaining to any part of this contract or any program related to this contract, unless-  
(1) The Contracting Officer has given prior written approval; or  
(2) The information is otherwise in the public domain before the date of release.  
(b) Requests for approval shall identify the specific information to be released, the medium to be used, and the purpose for the release. The Contractor shall submit its request to the Contracting Officer at least 45 days before the proposed date for release.  
(c) The Contractor agrees to include a similar requirement in each subcontract under this contract. Subcontractors shall submit requests for authorization to release through the prime contractor to the Contracting Officer.



<p>6606 West Broad St., Suite 500 Richmond, Virginia 23230-1717 804.264.7242 wileywilson.com</p>		<p><b>M-108</b></p> <p>PROJECT NO. CP12-0121</p> <p>NAVAL FACILITIES ENGINEERING COMMAND</p> <p><b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA</p>	
DES. IM	DR. SWL	CHK. JHE	<p>BOILER MODIFICATIONS, VARIOUS FACILITIES, FRENCH CREEK</p> <p>BUILDING FC500 MECHANICAL DEMOLITION AND NEW WORK PLAN</p>
SUBMITTED BY: DESIGN DR.	APPROVED PWO OR OIC	DATE	<p>NAVFAC DRAWING NO. 60011329</p> <p>CONSTR CONTR NO. N40085-12-B-0121</p>
SATISFACTORY TO	DATE	SCALE: AS SHOWN	<p>SPEC No. 05-12-0121</p> <p>SHEET 22 OF 37</p>









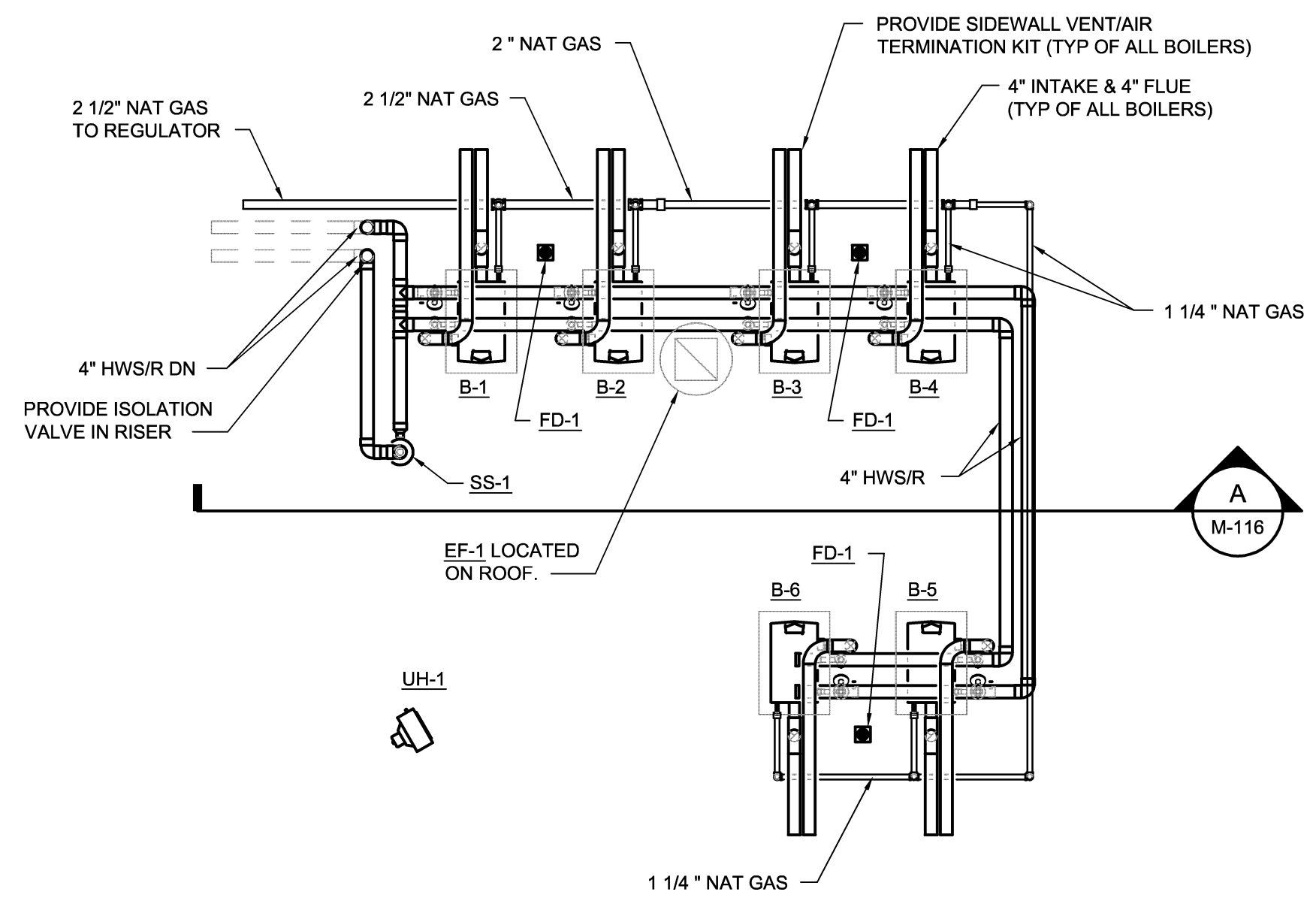




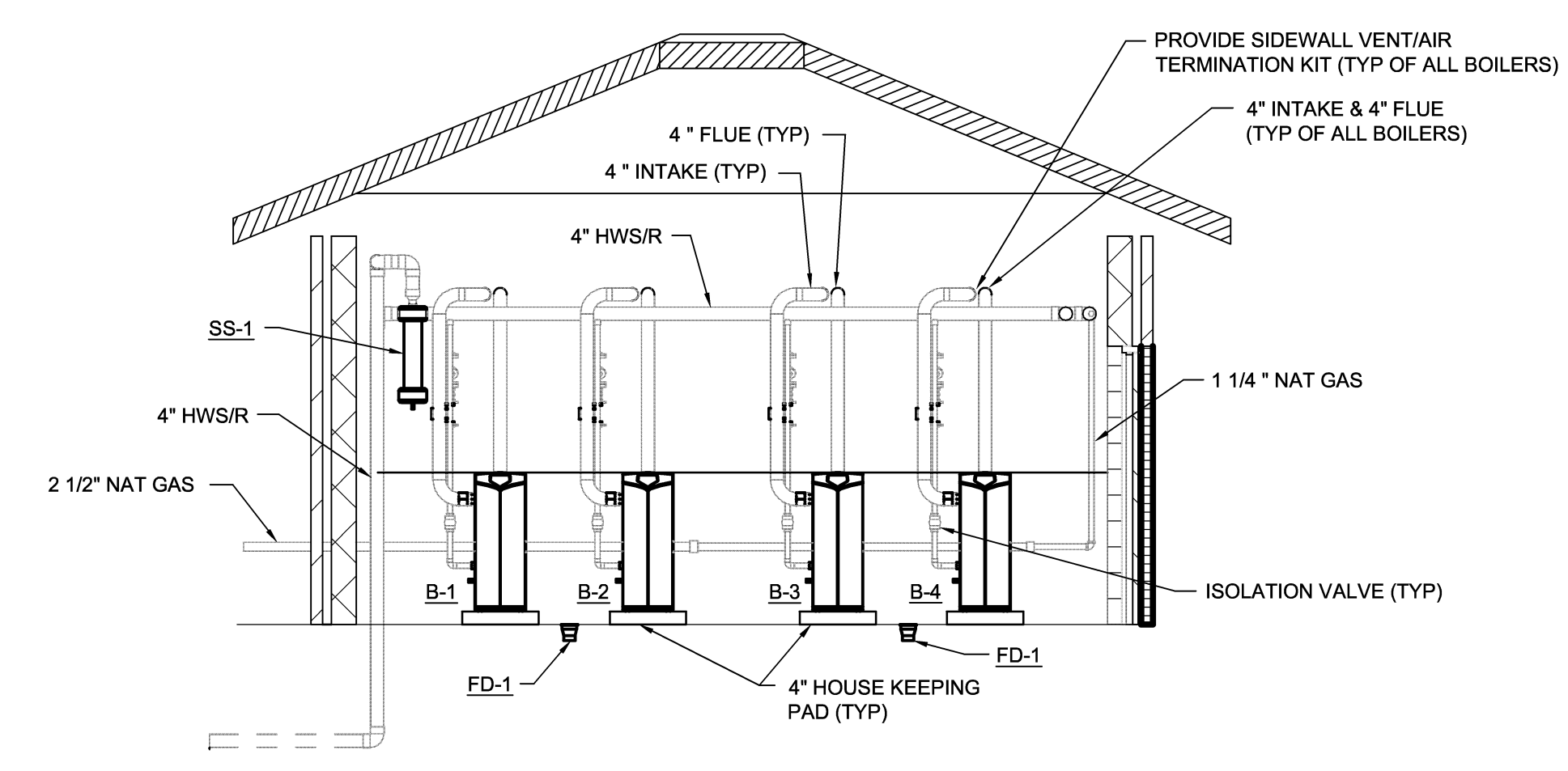




SYM.	PREP'D BY	DATE	APPROVED



**1 BUILDING FC-572 NEW MECHANICAL ROOM PLAN**  
1/4"=1'-0"



**A MECHANICAL ROOM SECTION**  
1/4"=1'-0"

**NATURAL GAS NOTE:**  
1. TOTAL CONNECTED NATURAL GAS DEMAND FOR THIS BUILDING IS 2,400 MBH AT 10 IN-H2O.

- DEMOLITION NOTES**
- REMOVE HOT WATER PIPING, PUMPS, HEAT EXCHANGERS AND EXPANSION TANKS AS SHOWN. REMOVE ALL ASSOCIATED PIPING, SUPPORTS AND HANGERS. REMOVE ALL STEAM SUPPLY AND CONDENSATE RETURN PIPING, COMPONENTS, HANGERS AND EQUIPMENT.
  - CHILLED WATER SYSTEM IS EXISTING TO REMAIN AND SHALL NOT BE INTERRUPTED DURING CONSTRUCTION.
  - EXISTING CONTROLS TO REMAIN FOR MODIFICATION AND INTEGRATION WITH NEW BACNET EMCS SYSTEM.
  - THE EQUIPMENT AND BUILDING LAYOUT IS BASED ON THE BASIS OF DESIGN EQUIPMENT CLEARANCES. ANY MODIFICATION REQUIRED FOR ACCEPTABLE ALTERNATE MANUFACTURER'S SHALL BE PROVIDED BY THE CONTRACTOR IF NECESSARY.

- GENERAL NOTES**
- SEE GENERAL NOTES ON SHEET M-001.
  - THIS PLAN SHOWS THE NEW HOT WATER SYSTEM FOR BUILDING FC-572. BUILDING FC-572 IS A MECHANICAL ROOM THAT PROVIDES DUAL TEMPERATURE WATER FOR BUILDINGS FC-571 AND FC-573.
  - MAINTAIN MANUFACTURER RECOMMENDED CLEARANCE AROUND ALL EQUIPMENT. FOR BOILERS, PROVIDE A MINIMUM 30" PIPING AND MAINTENANCE CLEARANCE ON ALL SIDES. AT LEAST EVERY OTHER SIDE SHALL HAVE 30" CLEAR FLOOR SPACE FOR PERSONNEL ACCESS.
  - THE LOCATION OF ALL DUCT, PIPING AND EQUIPMENT SHALL BE ADJUSTED TO ACCOMMODATE ANTICIPATED OR ENCOUNTERED INTERFERENCES. THESE PLANS ARE PARTIALLY DIAGRAMMATIC AND MAY NOT SHOW MINOR DETAILS AND LOCATIONS. ALL PIPING OFFSETS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
  - INSTALL GAS PIPE IN ACCORDANCE WITH 2012 NORTH CAROLINA FUEL GAS CODE.
  - PROVIDE APPURTENANCES TO COMPLY WITH ASME CSD-1, INCLUDING BUT NOT LIMITED TO MUSHROOM TYPE EMERGENCY SHUT DOWN SWITCH LOCATED ADJACENT TO EXIT DOOR.

BOILER SCHEDULE						
DESIGNATION	B-1	B-2	B-3	B-4	B-5	B-6
LOCATION	MECH ROOM	MECH ROOM	MECH ROOM	MECH ROOM	MECH ROOM	MECH ROOM
FUEL TYPE	NATURAL GAS	NATURAL GAS	NATURAL GAS	NATURAL GAS	NATURAL GAS	NATURAL GAS
MINIMUM INLET GAS PRESSURE (IN. WG.)	4	4	4	4	4	4
MAXIMUM INLET GAS PRESSURE (IN. WG.)	10	10	10	10	10	10
GAS INLET CONNECTION (IN)	1	1	1	1	1	1
INPUT (MBH)	399	399	399	399	399	399
OUTPUT (MBH)	367	367	367	367	367	367
MINIMUM TURN DOWN RATIO	5:1	5:1	5:1	5:1	5:1	5:1
FLOWRATE (GPM)	21	21	21	21	21	21
MAXIMUM PRESSURE DROP (FT. H2O)	8	8	8	8	8	8
ENTERING WATER TEMPERATURE (DEG F)	150	150	150	150	150	150
LEAVING WATER TEMPERATURE (DEG F)	185	185	185	185	185	185
MINIMUM OPERATING PRESSURE (PSI)	30	30	30	30	30	30
VOLTAGE (V)	120	120	120	120	120	120
PHASE	1	1	1	1	1	1
FREQUENCY (Hz)	60	60	60	60	60	60
TOTAL OPERATING AMPS	1.5	1.5	1.5	1.5	1.5	1.5
FLUE GAS STACK EXHAUST CONNECTION SIZE (IN)	4	4	4	4	4	4
SELECTION BASED ON	LOCHINVAR	LOCHINVAR	LOCHINVAR	LOCHINVAR	LOCHINVAR	LOCHINVAR
MODEL REMARKS	KB-400	KB-400	KB-400	KB-400	KB-400	KB-400
REMARKS	1, 2, 3 & 4	1, 2, 3 & 4	1, 2, 3 & 4	1, 2, 3 & 4	1, 2, 3 & 4	1, 2, 3 & 4

- REMARKS LEGEND:**
- PROVIDE CONDENSATE NEUTRALIZATION DRAIN KIT THAT HOLDS 0.25 CU. FT. OF LIME STONE AND IS RECHARGEABLE WITHOUT BEING DISCONNECTED FROM PIPING OR HOLDING BRACKETS. LOCATE KITS ON SLAB. PROVIDE ONE KIT PER BOILER.
  - BOILER CIRCULATION PUMP TO BE PROVIDED BY MANUFACTURER AT 21 GPM AT 35 DELTA T.
  - PROVIDE SEALED COMBUSTION CHAMBER, DIRECT VENT AND DUCTED COMBUSTION AIR. PROVIDE CPVC OR AL29-4C FLUE GAS PIPE, PVC IN NOT ALLOWED.
  - PROVIDE BOILERS WHICH ARE AT LEAST 94% EFFICIENT BASED ON BTS-2000 REV06.07 CONDITIONS.

FAN SCHEDULE	
DESIGNATION	EF-1
USAGE	EXHAUST
SERVES ROOM(S)	MECH ROOM
DESCRIPTION	CENTRIFUGAL
FAN DATA	--
AIRFLOW (SCFM)	550
TOTAL SP (IN-H2O)	.15
RPM	1630
DRIVE TYPE	DIRECT
MOTOR DATA	--
HORSEPOWER	1/6
RPM	1725
VOLTS	115
PHASE	1
HERTZ	60
SELECTION BASED ON	GREENHECK
MODEL	G-085-VG
REMARKS	1, 2 & 3

- REMARKS LEGEND:**
- PROVIDE FAN WITH INTEGRAL BACK-DRAFT DAMPER, CONTINUOUS DUTY RATED.
  - PROVIDE FAN WITH UNIT MOUNTED DISCONNECT.
  - PROVIDE WALL MOUNTED THERMOSTAT CONTROL WIRE INTAKE LOUVER DAMPER IN SERIES WITH FAN TO OPEN UPON FAN OPERATION.

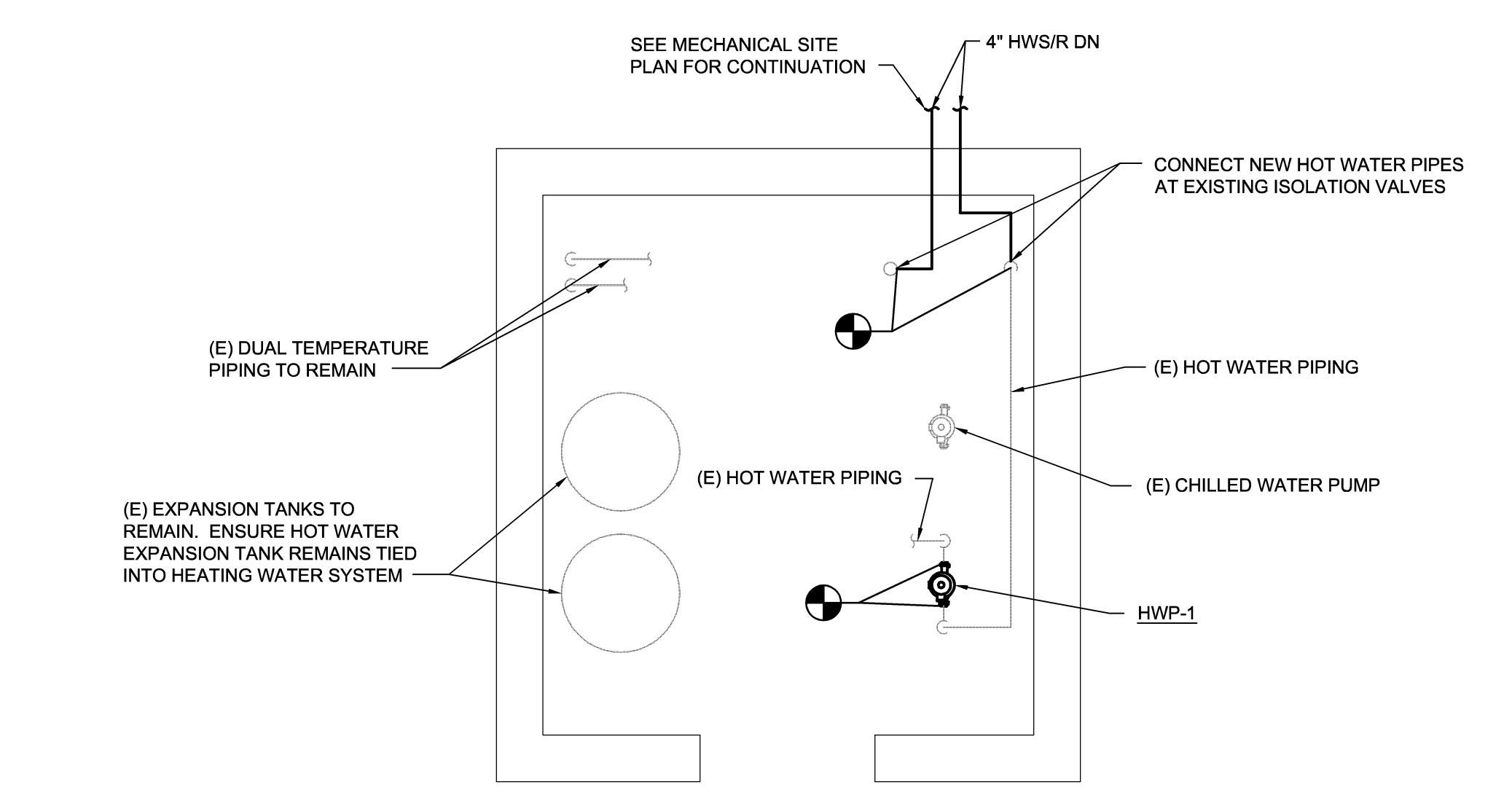
PUMP SCHEDULE	
DESIGNATION	HWP-1
SERVICE	HOT WATER
LOCATION	MECH ROOM
TYPE	INLINE
PUMP DATA	--
FLOW (GPM)	126
TOTAL HEAD (FT-H2O)	75
MINIMUM EFFICIENCY (%)	60
CONNECTION SIZE	--
SUCTION (IN)	2.5
DISCHARGE (IN)	2.5
MOTOR DATA	--
MOTOR FRAME	213JM
HORSEPOWER	7.5
RPM	1750
VOLTS	208
PHASE	1
HERTZ	60
SELECTION BASED ON (MFR)	BELL & GOSSETT
MODEL	2-1/2x2-1/2x9-1/2B
REMARKS	--

UNIT HEATER SCHEDULE	
DESIGNATION	UH-1
LOCATION	MECH ROOM
AIRFLOW (CFM)	300
HEATING CAPACITY (KW)	3
ENTERING AIR TEMPERATURE (DEG F)	55
LEAVING AIR TEMPERATURE (DEG F)	87
MOTOR POWER (HP)	1/60
VOLTAGE (V)	208
PHASE	1
FREQUENCY (Hz)	60
BASED ON	INDEECO
MODEL	UL1
REMARKS	1 & 2

- REMARKS LEGEND:**
- PROVIDE UNIT MOUNTED THERMOSTAT.
  - PROVIDE INTEGRAL DISCONNECT.

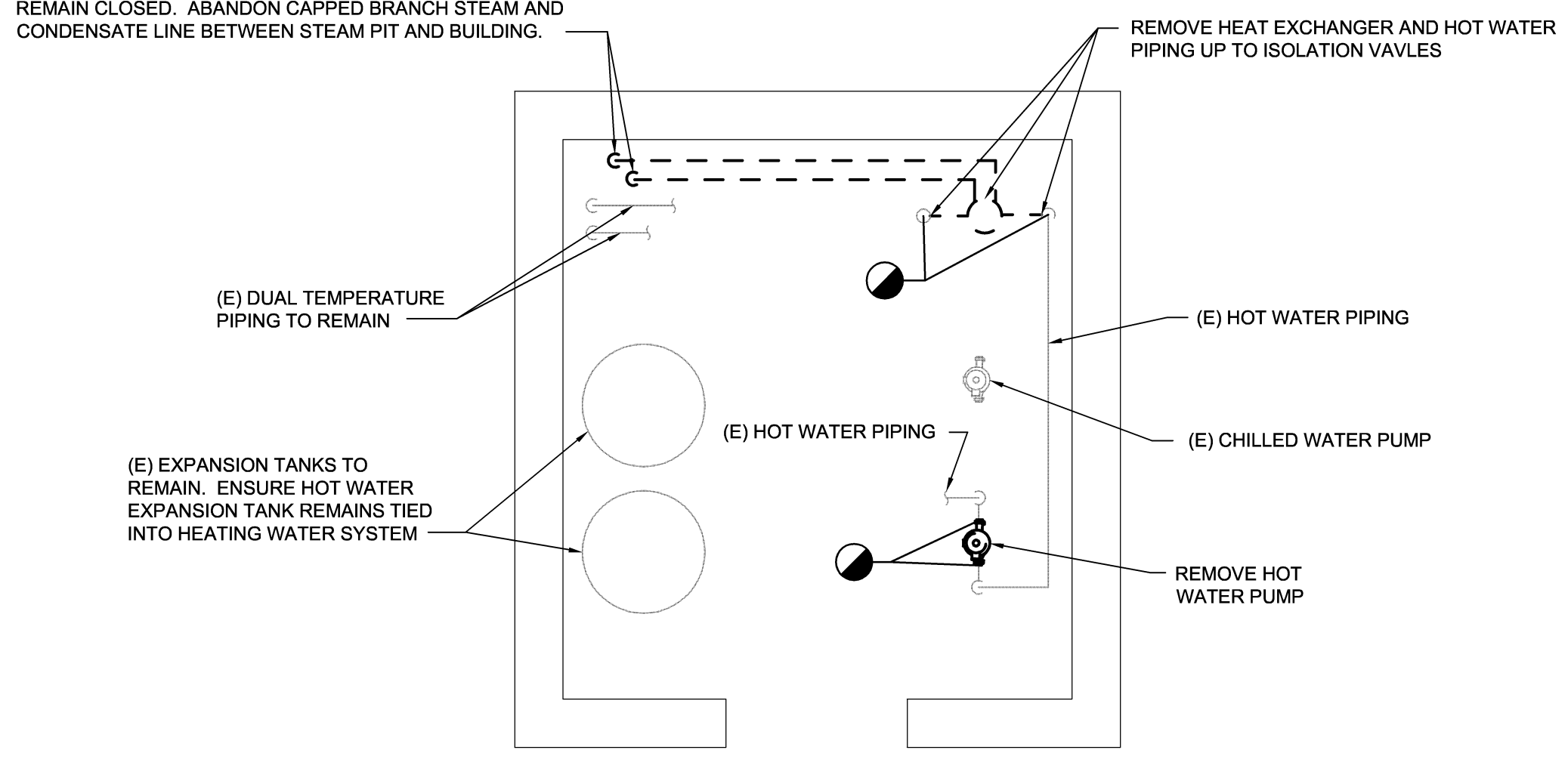
LOUVER SCHEDULE	
DESIGNATION	L-1
USAGE	INTAKE
LOCATION	MECH ROOM
DESCRIPTION	COMBINATION LOUVER/DAMPER
DEPTH (IN)	8
FRAME TYPE	CHANNEL
WIDTH (IN)	32
HEIGHT (IN)	16
AIRFLOW (CFM)	550
FREE AREA (SF)	.75
FREE AREA VELOCITY (FPM)	734
PRESSURE DROP (IN H2O)	.067
SELECTION BASE ON	GREENHECK
ACTUATOR TYPE	120 VAC
ACTUATOR FAIL POSITION	CLOSED
MODEL	EAC-601
REMARKS	1, 2 & 3

- REMARKS LEGEND:**
- SUBMIT COLOR CHART. COLOR TO BE APPROVED BY ARCHITECT.
  - SEE ARCHITECTURAL PLANS FOR LOCATION.
  - PROVIDE SPRING RETURN CLOSE, POWERED OPEN BY ACTUATOR.

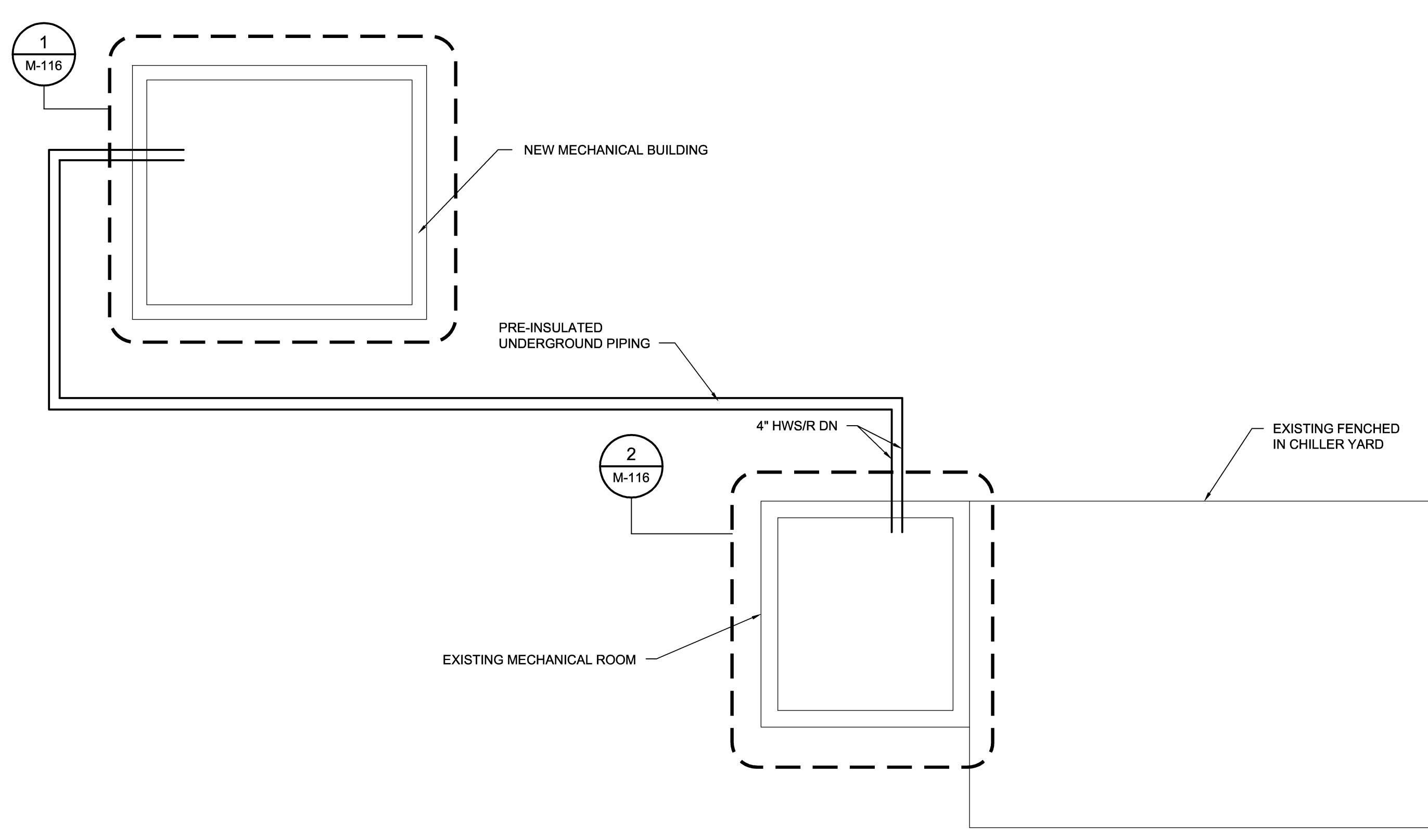


**2 BUILDING FC-572 EXISTING MECHANICAL ROOM NEW WORK PLAN**  
1/4"=1'-0"

REMOVE STEAM AND CONDENSATE LINES AND CAP AT FLOOR. FOLLOW UNDERGROUND STEAM AND CONDENSATE LINES BACK TO STEAM PIT WHERE BRANCHES CONNECT TO MAINS. REMOVE BRANCH PIPING TO ENTRANCE OF STEAM PIT AND PROVIDE CAP. PROVIDE BLIND FLANGE TO EXISTING BRANCH STEAM AND CONDENSATE ISOLATION VALVE AND TAG VALVES TO REMAIN CLOSED. ABANDON CAPPED BRANCH STEAM AND CONDENSATE LINE BETWEEN STEAM PIT AND BUILDING.



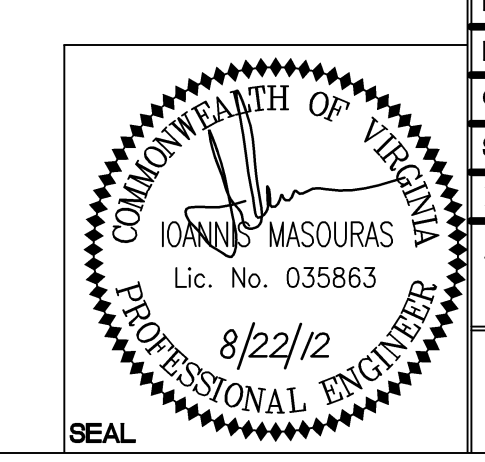
**2 BUILDING FC-572 EXISTING MECHANICAL ROOM DEMOLITION PLAN**  
1/4"=1'-0"



**BUILDING FC-572 MECHANICAL SITE PLAN**  
1/8"=1'-0"

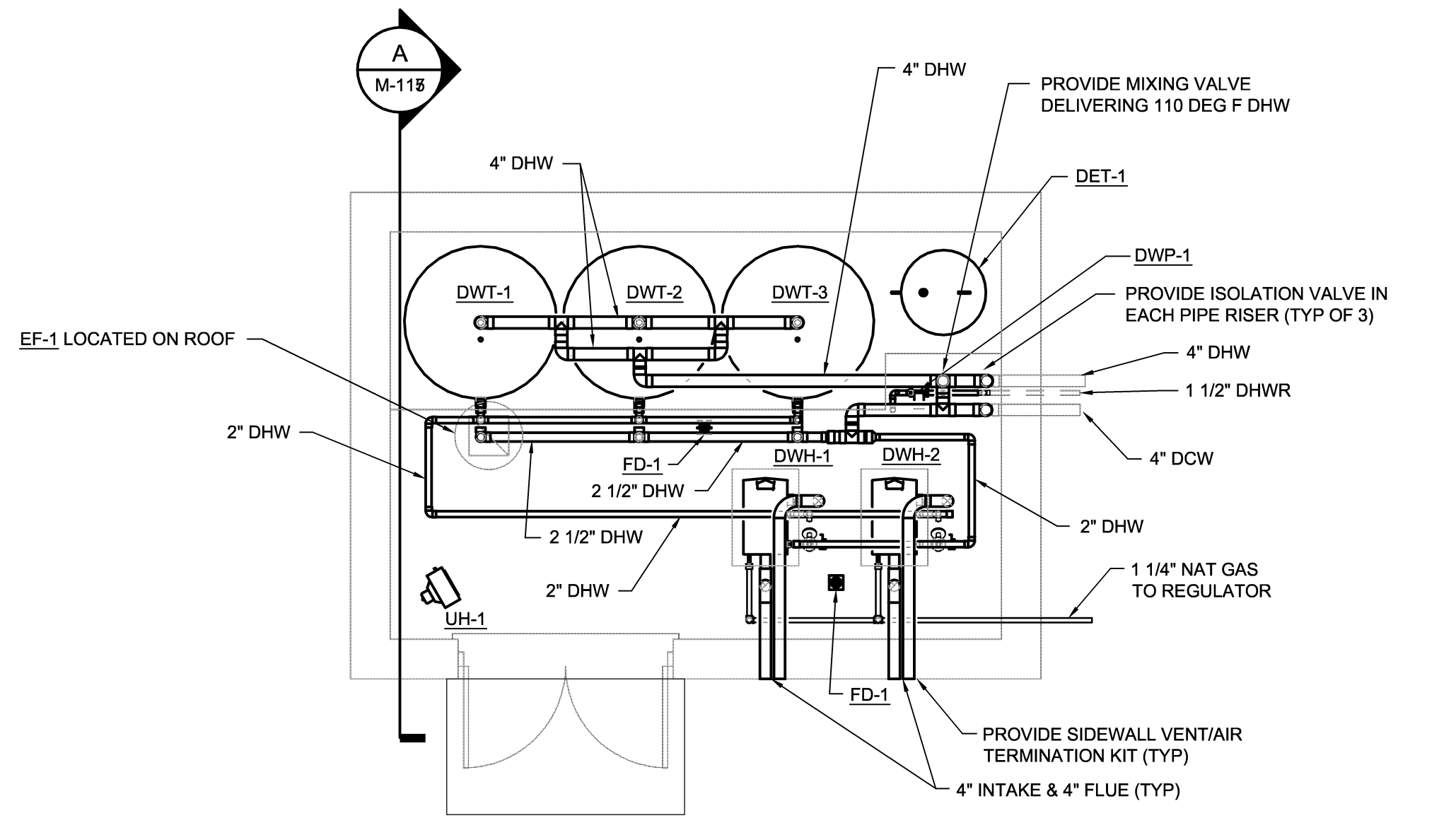
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  - The information is otherwise in the public domain before the date of release.
- Requests for approval shall identify the specific information to be released, the medium to be used, and the purpose for the release. The Contractor shall submit its request to the Contracting Officer at least 45 days before the proposed date for release.
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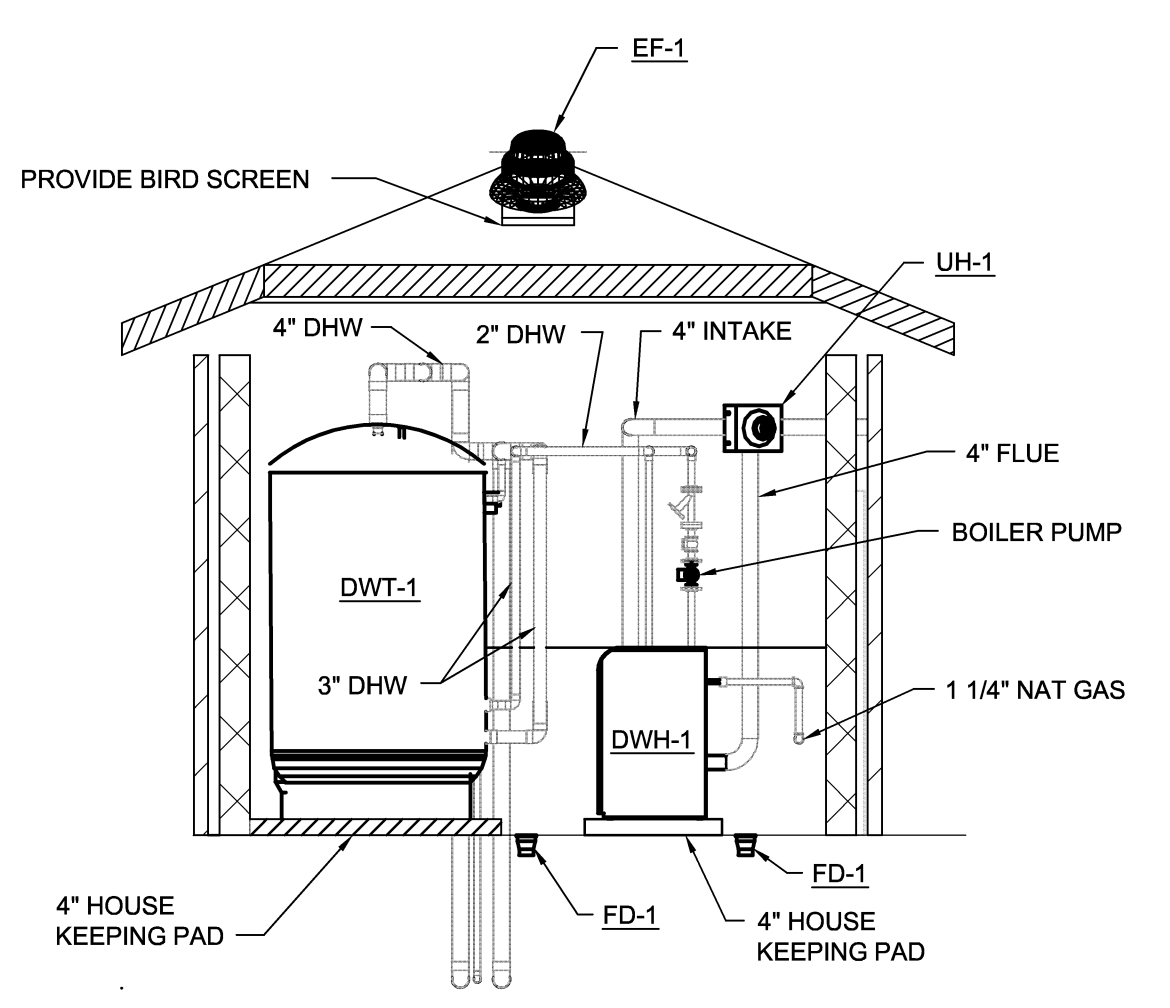


<b>WileyWilson</b> 6006 West Broad St., Suite 500 Richmond, Virginia 23230-1717 804.264.7242 wileywilson.com		<b>M-116</b> PROJECT NO. CP12-0121 NAVAL FACILITIES ENGINEERING COMMAND <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA	
DES. IM DR. SWL CHK. JHE SUBMITTED BY: DESIGN DR. APPROVED PWO OR OICC DATE: 8/22/12		BOILER MODIFICATIONS, VARIOUS FACILITIES, FRENCH CREEK BUILDING FC572 MECHANICAL DEMOLITION AND NEW WORK PLAN NAVFAC DRAWING NO. 60011337 CONSTR CONTR NO. N40085-12-B-0121	
SATISFACTORY TO: DATE:		SCALE: AS SHOWN SPEC No. 05-12-0121 SHEET 30 OF 37	

SYM.	PREP'D BY	DATE	APPROVED



**1 BUILDING FC-573 NEW MECHANICAL ROOM PLAN**  
1/4"=1'-0"



**A MECHANICAL ROOM SECTION**  
1/4"=1'-0"

**NATURAL GAS NOTE:**  
1. TOTAL CONNECTED NATURAL GAS DEMAND FOR THIS BUILDING IS 800 MBH AT 10 IN-H2O.

**DEMOLITION NOTES**  
1. REMOVE HOT WATER PIPING, PUMPS, HEAT EXCHANGERS AND EXPANSION TANKS AS SHOWN. REMOVE ALL ASSOCIATED PIPING, SUPPORTS AND HANGERS. REMOVE ALL STEAM SUPPLY AND CONDENSATE RETURN PIPING, COMPONENTS, HANGERS AND EQUIPMENT.  
2. CHILLED WATER SYSTEM IS EXISTING TO REMAIN AND SHALL NOT BE INTERRUPTED DURING CONSTRUCTION.  
3. EXISTING CONTROLS TO REMAIN FOR MODIFICATION AND INTEGRATION WITH NEW BACNET EMCS SYSTEM.  
4. THE EQUIPMENT AND BUILDING LAYOUT IS BASED ON THE BASIS OF DESIGN EQUIPMENT CLEARANCES. ANY MODIFICATION REQUIRED FOR ACCEPTABLE ALTERNATE MANUFACTURERS SHALL BE PROVIDED BY THE CONTRACTOR IF NECESSARY.

**GENERAL NOTES**  
1. SEE GENERAL NOTES ON SHEET M-001.  
2. REPLACE ALL 92 SHOWER HEADS IN THE BUILDING WITH LOW FLOW, 1.5 GPM SHOWER HEADS.  
3. THIS PLAN SHOWS THE NEW DOMESTIC HOT WATER SYSTEM FOR BUILDING FC-571. HEATING WATER IS GENERATED AT BUILDING FC-572 AND IS DISTRIBUTED TO FC-571 VIA DUAL TEMPERATURE PIPES. SEE SHEET M-116 FOR NEW HEATING SYSTEM AT FC-572.  
4. MAINTAIN MANUFACTURER RECOMMENDED CLEARANCE AROUND ALL EQUIPMENT. FOR BOILERS, PROVIDE A MINIMUM 30\"/>

DOMESTIC HOT WATER HEATER SCHEDULE		
DESIGNATION	DWH-1	DWH-2
LOCATION	MECH ROOM	MECH ROOM
FUEL TYPE	NATURAL GAS	NATURAL GAS
MINIMUM INLET GAS PRESSURE (IN. WG.)	4	4
MAXIMUM INLET GAS PRESSURE (IN. WG.)	14	14
GAS INLET CONNECTION (IN)	1	1
INPUT (MBH)	399	399
OUTPUT (MBH)	367	360
MINIMUM TURN DOWN RATIO	5:1	
FLOWRATE (GPM)	21	39
MAXIMUM PRESSURE DROP (FT. H2O)	21.1	21.1
ENTERING WATER TEMPERATURE (DEG F)	105	40
LEAVING WATER TEMPERATURE (DEG F)	140	140
MINIMUM OPERATING PRESSURE (PSI)	30	
VOLTAGE (V)	120	120
PHASE	1	1
FREQUENCY (Hz)	60	60
TOTAL OPERATING AMPS	6.5	6.5
FLUE GAS STACK EXHAUST CONNECTION SIZE (IN)	4	4
SELECTION BASED ON	LOCHINVAR	LOCHINVAR
MODEL REMARKS	AW-400	AW-400
REMARKS	1 & 2	1 & 2

**REMARKS LEGEND:**  
1. PROVIDE CONDENSATE NEUTRALIZATION DRAIN KIT THAT HOLDS 0.25 CU. FT. OF LIME STONE AND IS RECHARGEABLE WITHOUT BEING DISCONNECTED FROM PIPING OR HOLDING BRACKETS. LOCATE KITS ON SLAB.  
2. BOILER CIRCULATION PUMP TO BE PROVIDED BY MANUFACTURER AT 21 GPM AT 35 DELTA T.  
3. PROVIDE SEALED COMBUSTION CHAMBER, DIRECT VENT AND DUCTED COMBUSTION AIR. PROVIDE CPVC OR AL29-4C FLUE GAS PIPE, PVC IN NOT ALLOWED  
4. PROVIDE BOILERS WHICH ARE AT LEAST 94% EFFICIENT BASED ON BTS-2000, REV 06.07 CONDITIONS.

UNIT HEATER SCHEDULE	
DESIGNATION	UH-1
LOCATION	MECH ROOM
AIRFLOW (CFM)	300
HEATING CAPACITY (KW)	3
ENTERING AIR TEMPERATURE (DEG F)	55
LEAVING AIR TEMPERATURE (DEG F)	87
MOTOR POWER (HP)	1/60
VOLTAGE (V)	208
PHASE	1
FREQUENCY (Hz)	60
BASED ON	INDECO
MODEL	ULI
REMARKS	1 & 2

**REMARKS LEGEND:**  
1. PROVIDE UNIT MOUNTED THERMOSTAT.  
2. PROVIDE INTEGRAL DISCONNECT.

FAN SCHEDULE	
DESIGNATION	EF-1
USAGE	EXHAUST
SERVES ROOM(S)	MECH ROOM
DESCRIPTION	CENTRIFUGAL
FAN DATA	--
AIRFLOW (SCFM)	550
TOTAL SP (IN-H2O)	.15
RPM	1630
DRIVE TYPE	DIRECT
MOTOR DATA	--
HORSEPOWER	1/6
RPM	1725
VOLTS	115
PHASE	1
HERTZ	60
SELECTION BASED ON	GREENHECK
MODEL	G-085-VG
REMARKS	1, 2 & 3

**REMARKS LEGEND:**  
1. PROVIDE FAN WITH INTEGRAL BACK-DRAFT DAMPER, CONTINUOUS DUTY RATED.  
2. PROVIDE FAN WITH UNIT MOUNTED DISCONNECT.  
3. PROVIDE WALL MOUNTED THERMOSTAT CONTROL. WIRE INTAKE LOUVER DAMPER IN SERIES WITH FAN TO OPEN UPON FAN OPERATION.

PUMP SCHEDULE	
DESIGNATION	DWP-1
SERVICE	DOMESTIC HOT WATER
LOCATION	MECH ROOM
TYPE	INLINE
PUMP DATA	-
FLOW (GPM)	15
TOTAL HEAD (FT-H2O)	20
MINIMUM EFFICIENCY (%)	-
CONNECTION SIZE	-
SUCTION (IN)	1.5
DISCHARGE (IN)	1.5
MOTOR DATA	-
MOTOR FRAME	-
HORSEPOWER	-
RPM	3300
VOLTS	115
PHASE	1
HERTZ	60
SELECTION BASED ON (MFR)	BELL & GOSSETT
MODEL	BOOSTER PL-36
REMARKS	1

**REMARKS LEGEND:**  
1. BRONZE FITTED PUMP FOR DOMESTIC WATER SERVICE. PROVIDE AQUASTAT CONTROL.

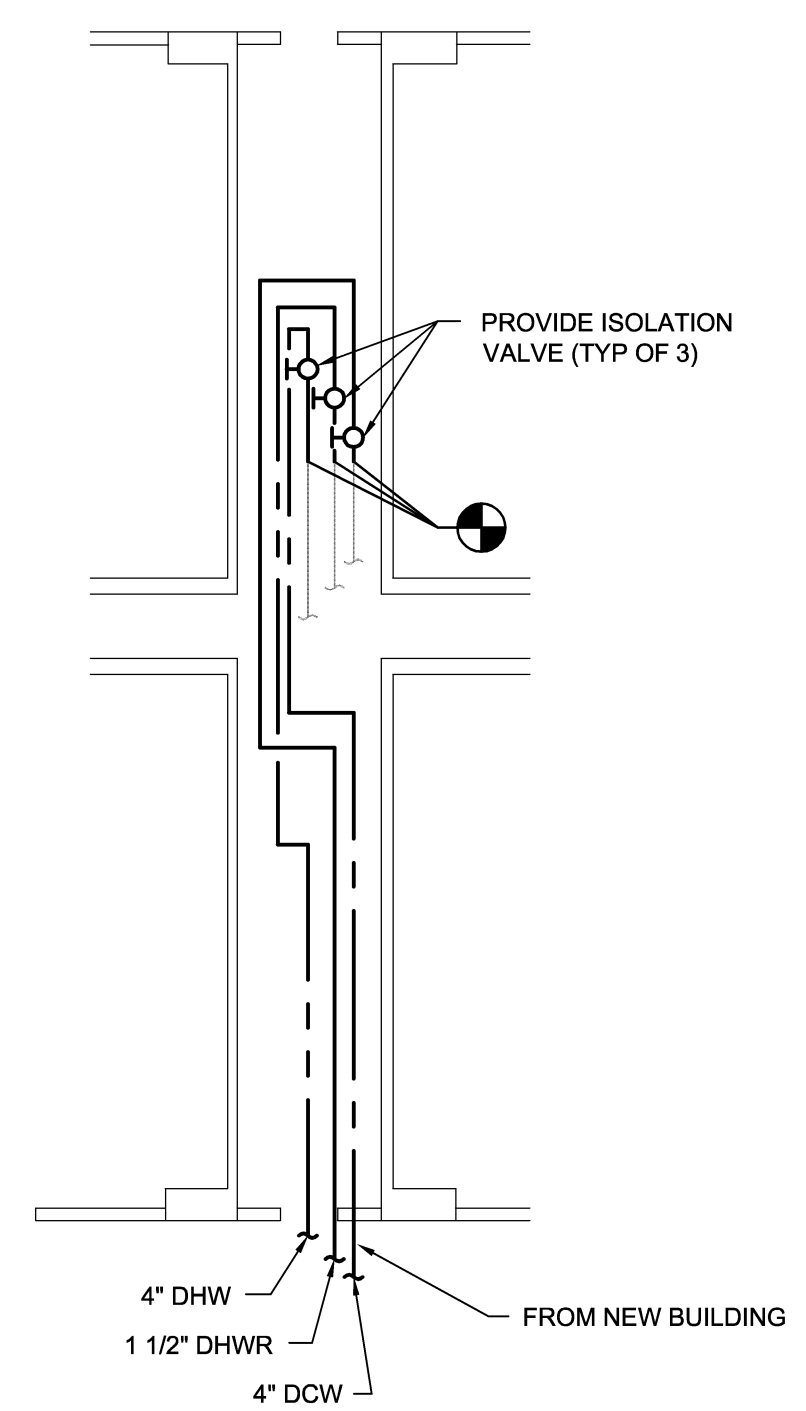
EXPANSION TANK SCHEDULE	
DESIGNATION	DET-1
SERVICE	DOMESTIC HOT WATER
LOCATION	MECH ROOM
TYPE	REPLACEABLE BLADDER
TANK VOLUME (GAL)	211
FILL PRESSURE (PSI)	60"
RELIEF VALVE PRESSURE SETTING (PSI)	100
BASED ON	AMTROL
MODEL	ST-C SERIES ST-452-C
REMARKS	1

**REMARKS LEGEND:**  
1. MATCH DOMESTIC WATER SUPPLY PRESSURE AT THIS LOCATION.

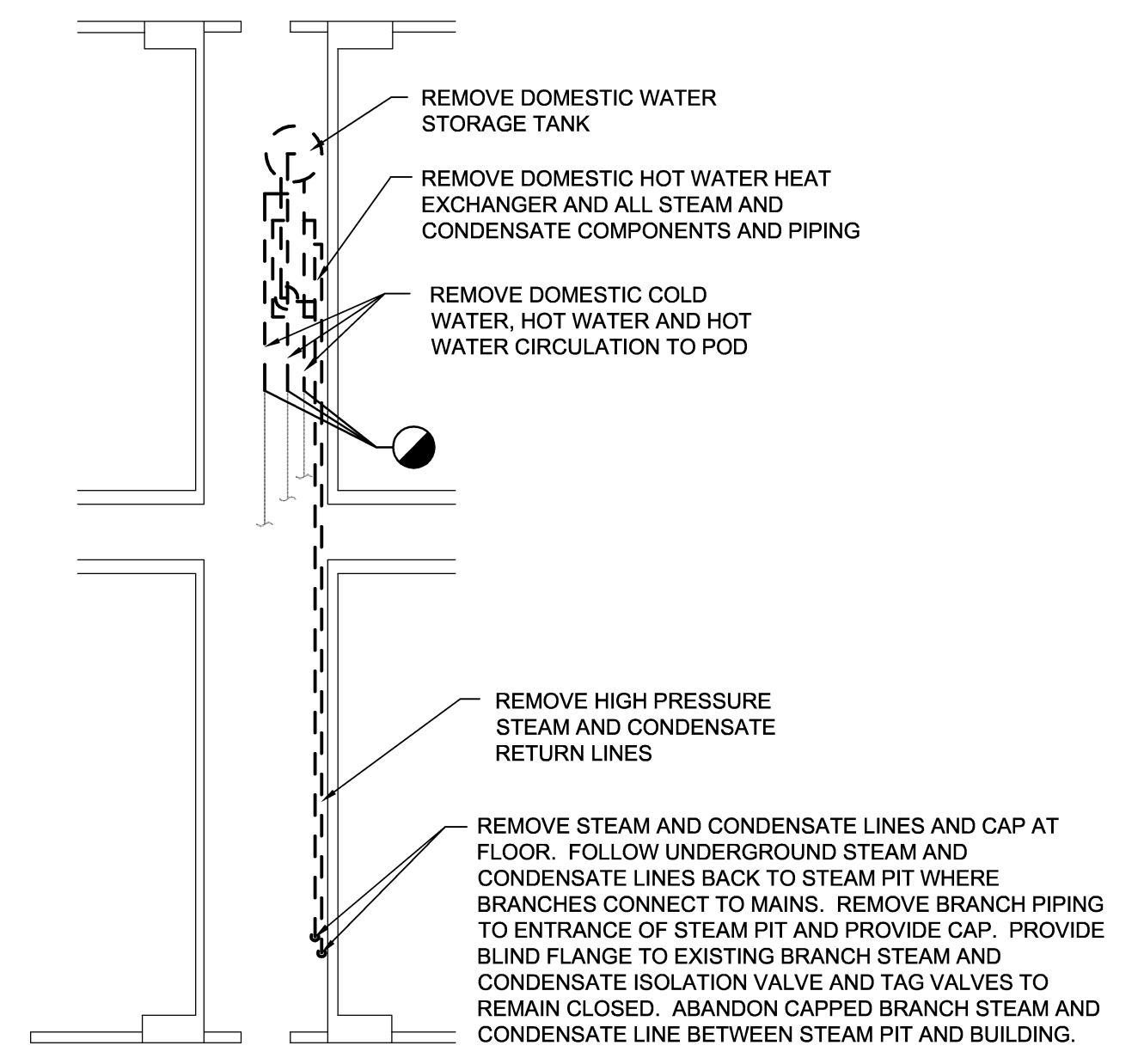
DOMESTIC HOT WATER STORAGE TANK SCHEDULE			
DESIGNATION	DWT-1	DWT-2	DWT-3
TYPE	VERTICAL WITH INLET BAFFLE	VERTICAL WITH INLET BAFFLE	VERTICAL WITH INLET BAFFLE
LOCATION	MECH ROOM	MECH ROOM	MECH ROOM
STORAGE (GALLONS)	752	752	752
ASME PRESSURE RATING (PSI)	125	125	125
TANK DIAMETER (IN)	48	48	48
VERTICAL HEIGHT (IN)	100	100	100
BASED ON	LOCHINVAR	LOCHINVAR	LOCHINVAR
MODEL	LOCK-TEMP	LOCK-TEMP	LOCK-TEMP
REMARKS	1	1	1

**REMARKS LEGEND:**  
1. PROVIDE GLASS LINED VERTICAL DOMESTIC HOT WATER STORAGE TANK WITH RING BASE, 2" TOP OUTLET, 1 1/4" T&P TOP CONNECTION, 2" SIDE BOTTOM HEATING INLET, 2" SIDE BOTTOM HEATING OUTLET, 1" BOTTOM DRAIN, 3/4" SIDE AQUASTAT/SENSOR TAPPING. SEE SPECIFICATIONS FOR REQUIRED FIELD INSULATION, R-12.5 MINIMUM.

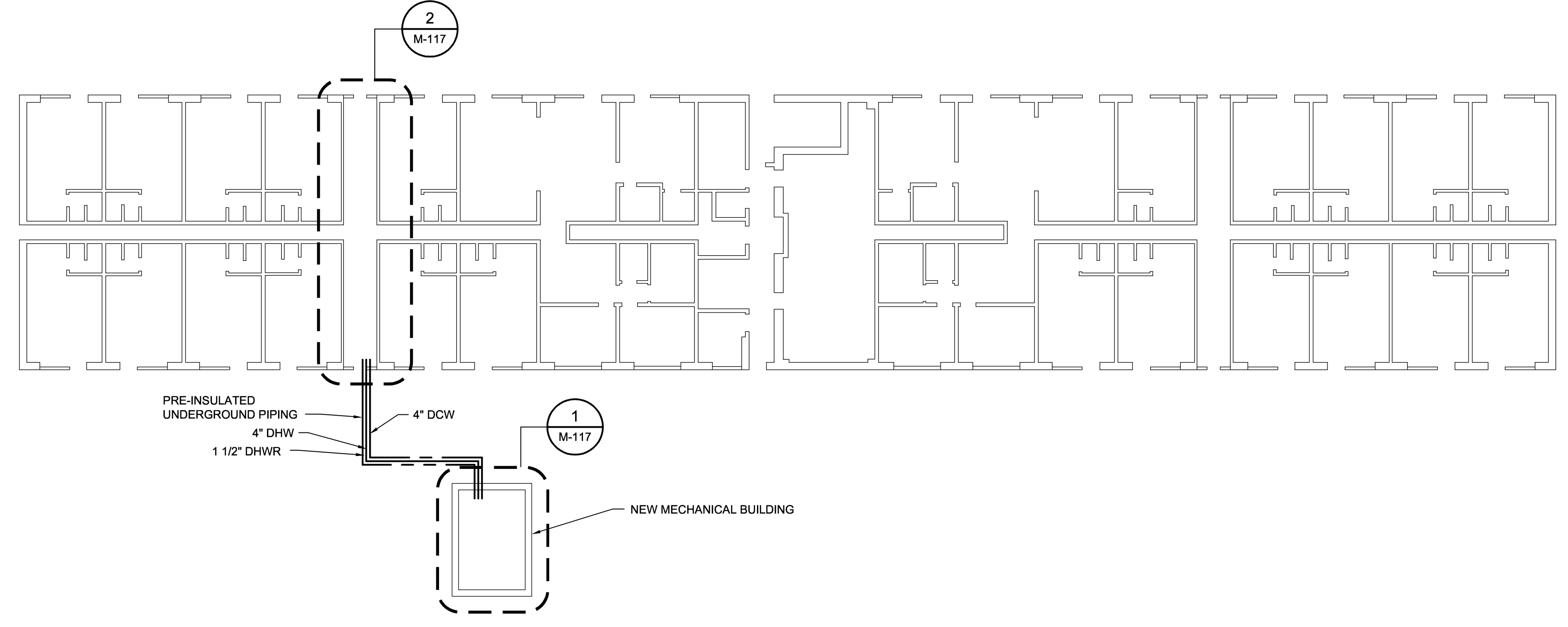
FLOOR DRAIN SCHEDULE		
DESIGNATION	DRAIN SIZE	DESCRIPTION
FD-1	3"	ZURN MODEL 418B WITH 6" NICKEL BRONZE STRAINER AND PROSET TRAPGUARD



**2 BUILDING FC-573 EXISTING MECHANICAL ROOM NEW WORK PLAN**  
1/8"=1'-0"



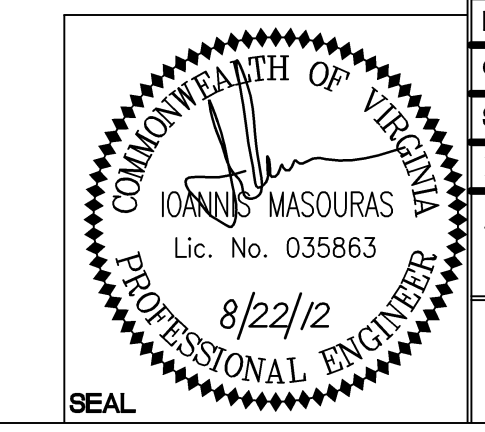
**2 BUILDING FC-573 EXISTING MECHANICAL ROOM DEMOLITION PLAN**  
1/8"=1'-0"



**BUILDING FC-573 MECHANICAL SITE PLAN**  
1/16"=1'-0"

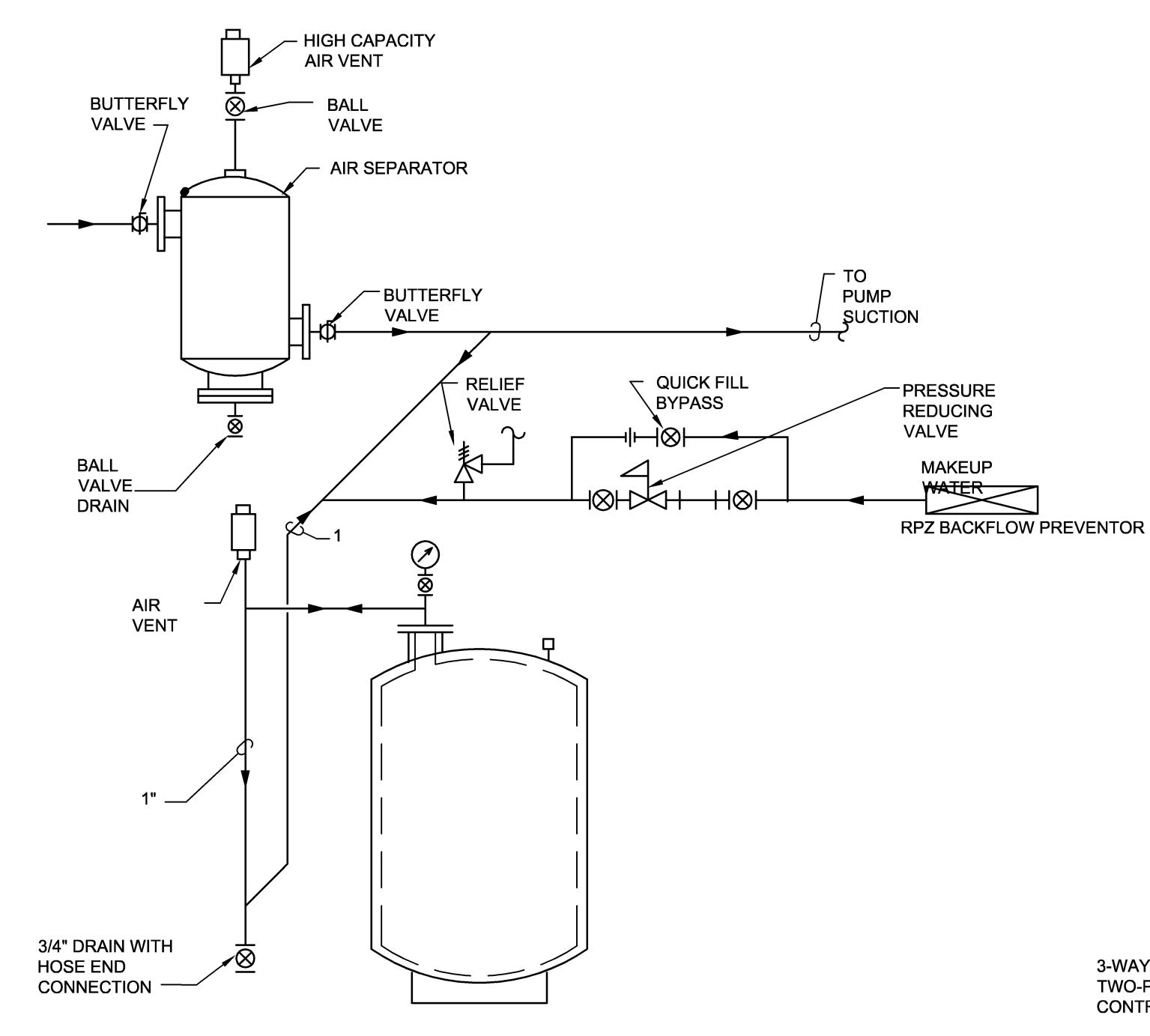
NOTE: SEE CIVIL FOR EXACT LOCATION OF BUILDING

**DISCLOSURE OF INFORMATION**  
Contractor shall comply as follows:  
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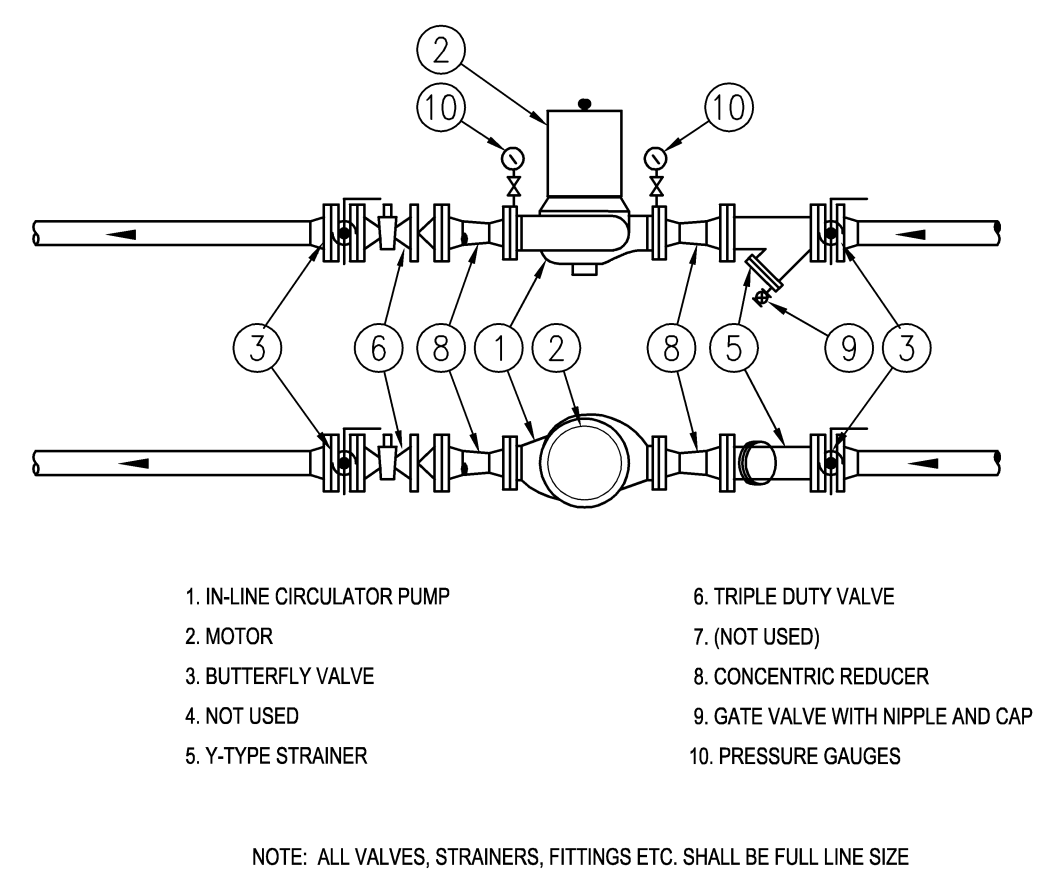


<b>WileyWilson</b> 6606 West Broad St., Suite 500 Richmond, Virginia 23230-1717 804.264.7242 wileywilson.com		<b>M-117</b> PROJECT NO. CP12-0121 NAVAL FACILITIES ENGINEERING COMMAND	
DEPT OF NAVY <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA		<b>BOILER MODIFICATIONS, VARIOUS FACILITIES, FRENCH CREEK</b> BUILDING FC573 MECHANICAL DEMOLITION AND NEW WORK PLAN	
DES. IM	DR. SWL	SIZE E	CODE IDENT NO. 80091
CHK. JHE	DATE 8/22/12	SCALE AS SHOWN	NAVFAAC DRAWING NO. 60011338
SUBMITTED BY: DESIGN DR.	APPROVED PWO OR OICC	DATE	CONSTR CONTR NO. N40085-12-B-0121
SATISFACTORY TO	DATE	SPEC No. 05-12-0121	SHEET 31 OF 37

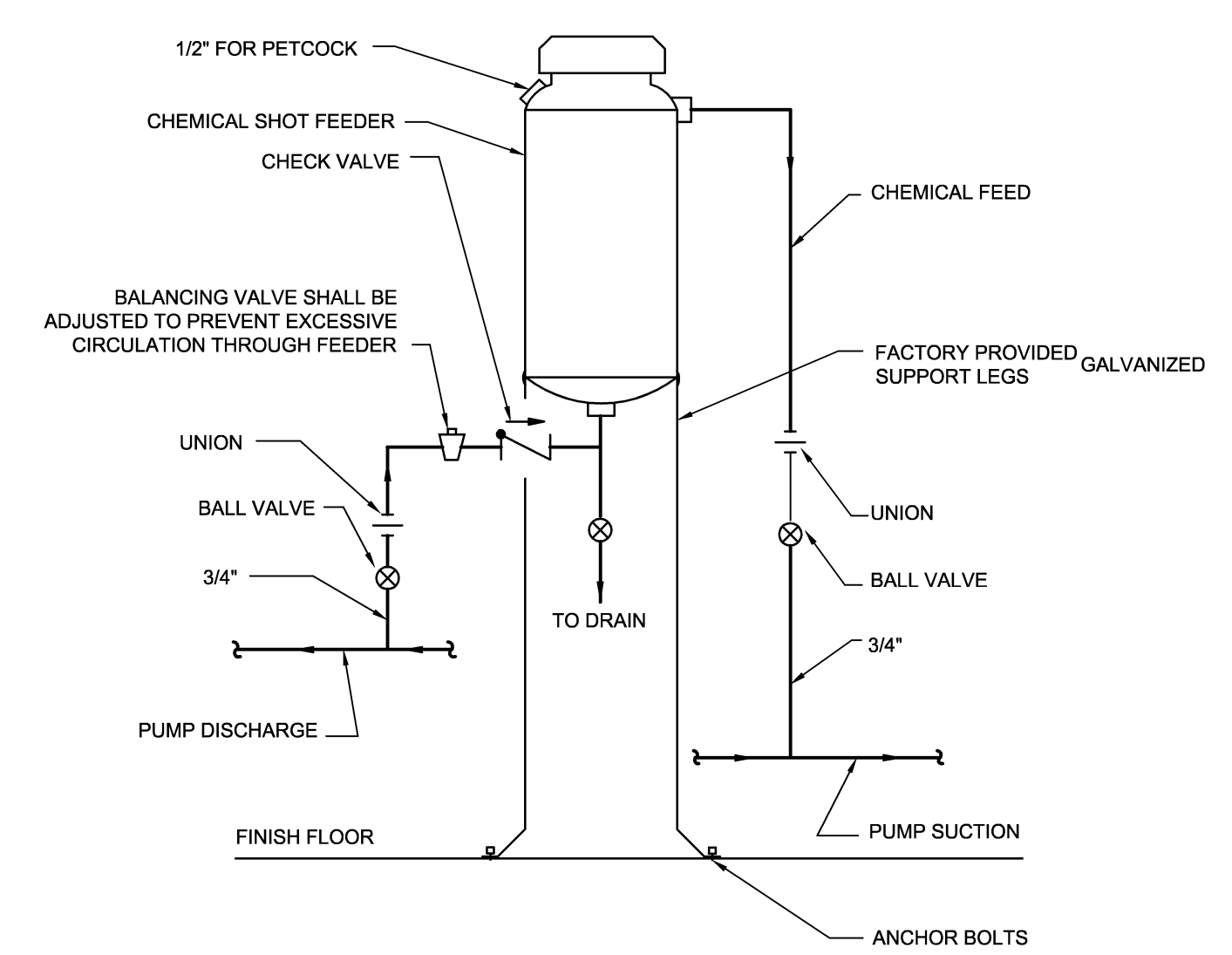
SYM.	PREP'D BY	DATE	APPROVED



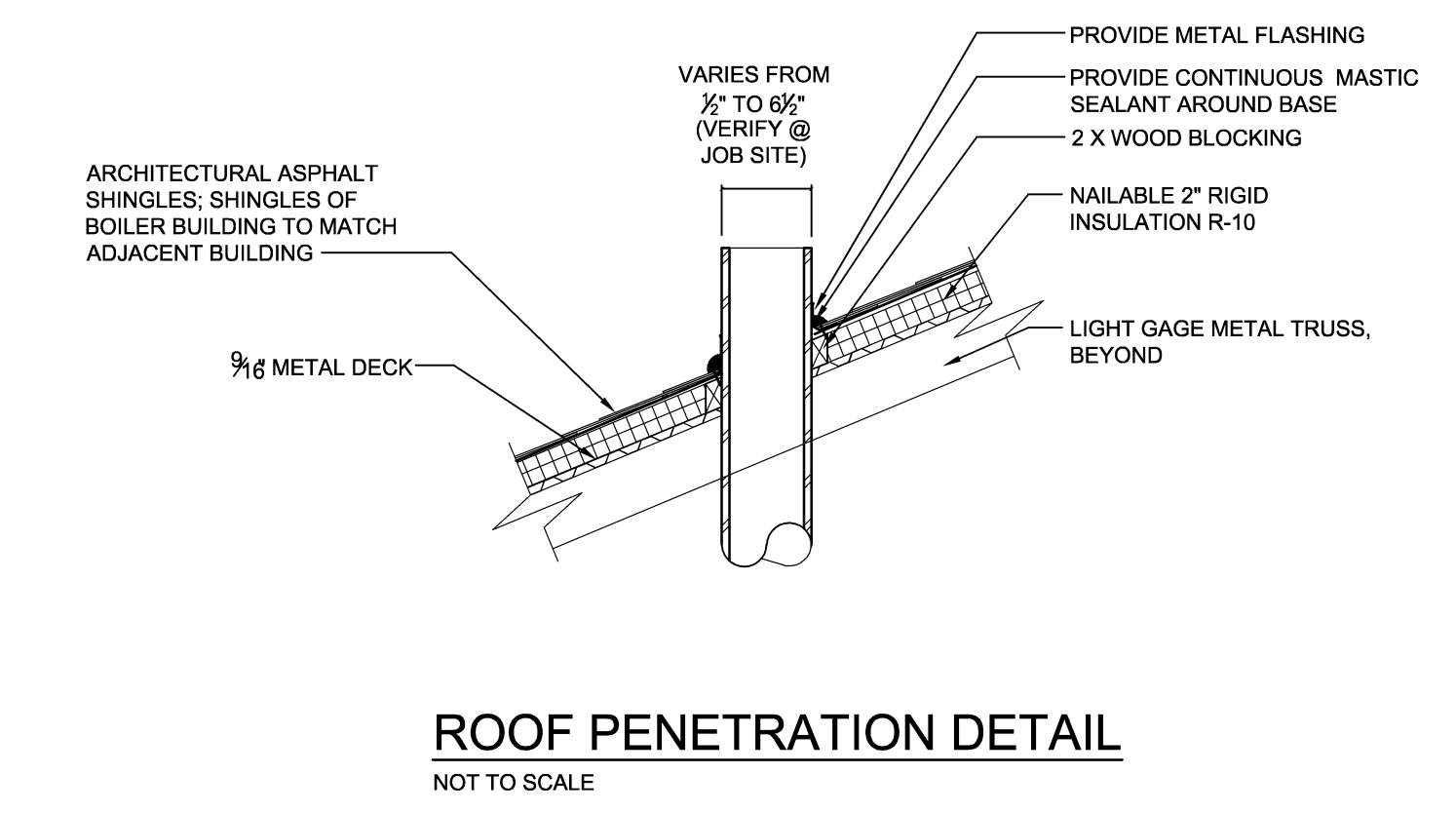
**PRE-PRESSURIZED BLADDER TYPE EXPANSION TANK**  
SCALE: NONE



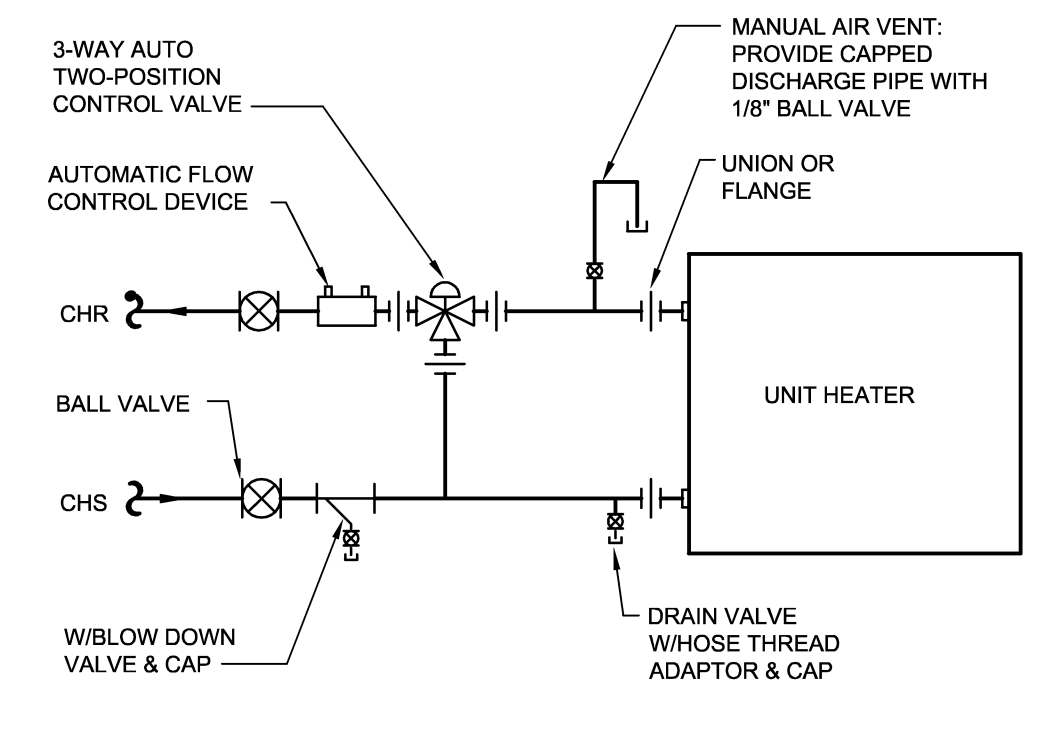
**IN-LINE CIRCULATOR PUMP**  
SCALE: NONE



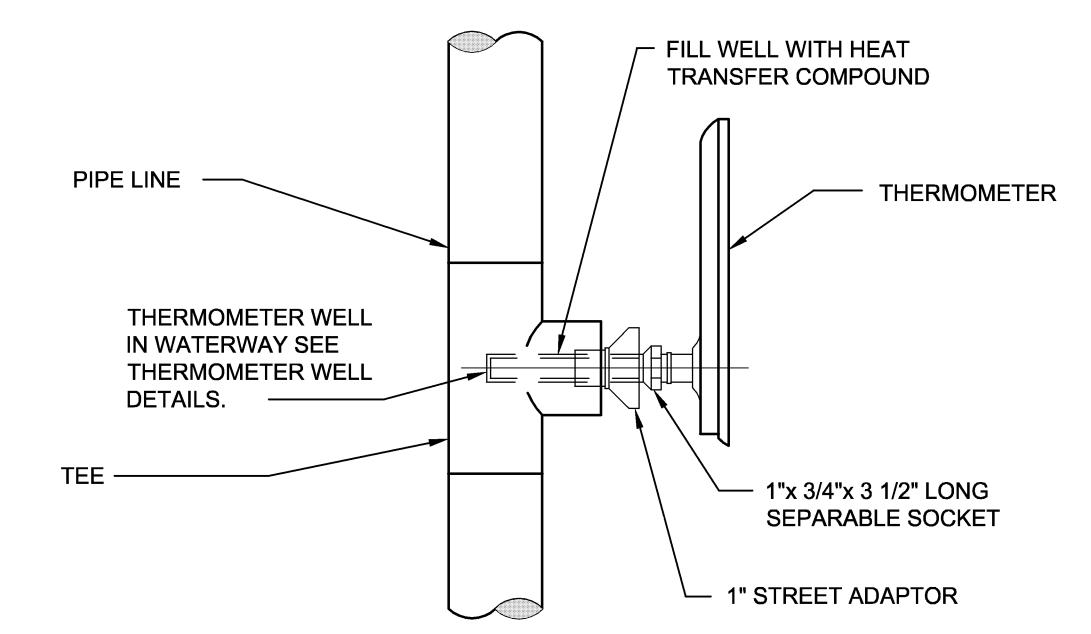
**CHEMICAL SHOT FEEDER DETAIL**  
NOT TO SCALE



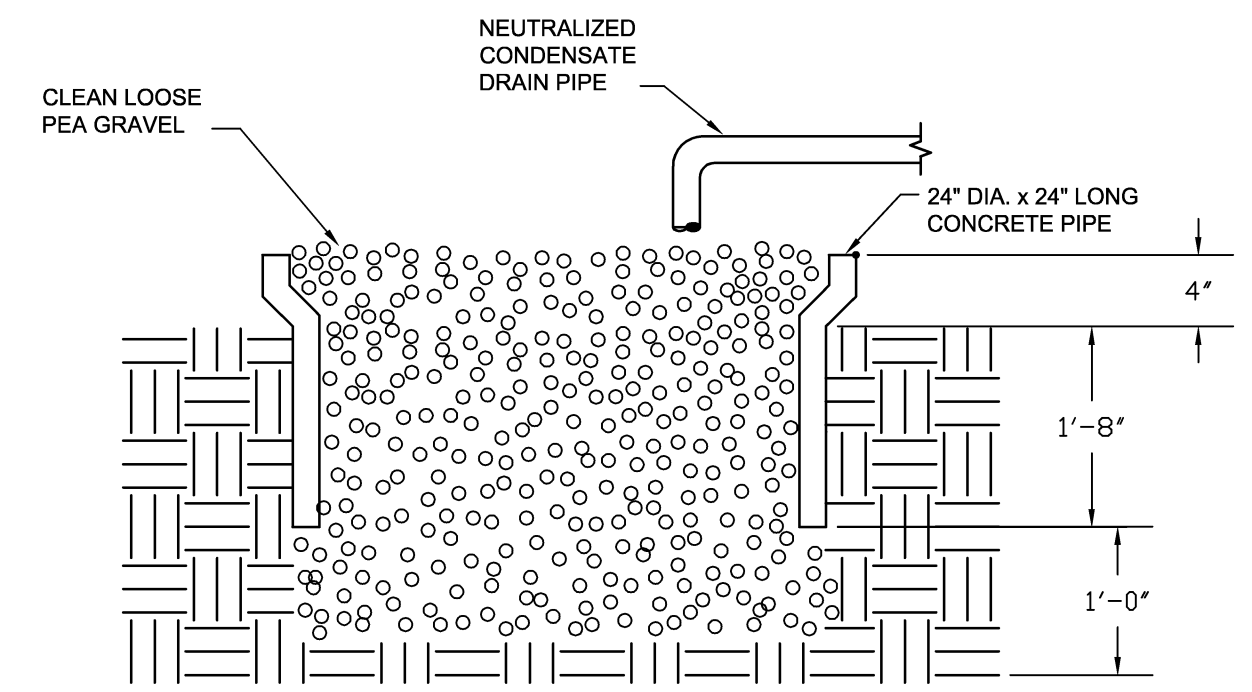
**ROOF PENETRATION DETAIL**  
NOT TO SCALE



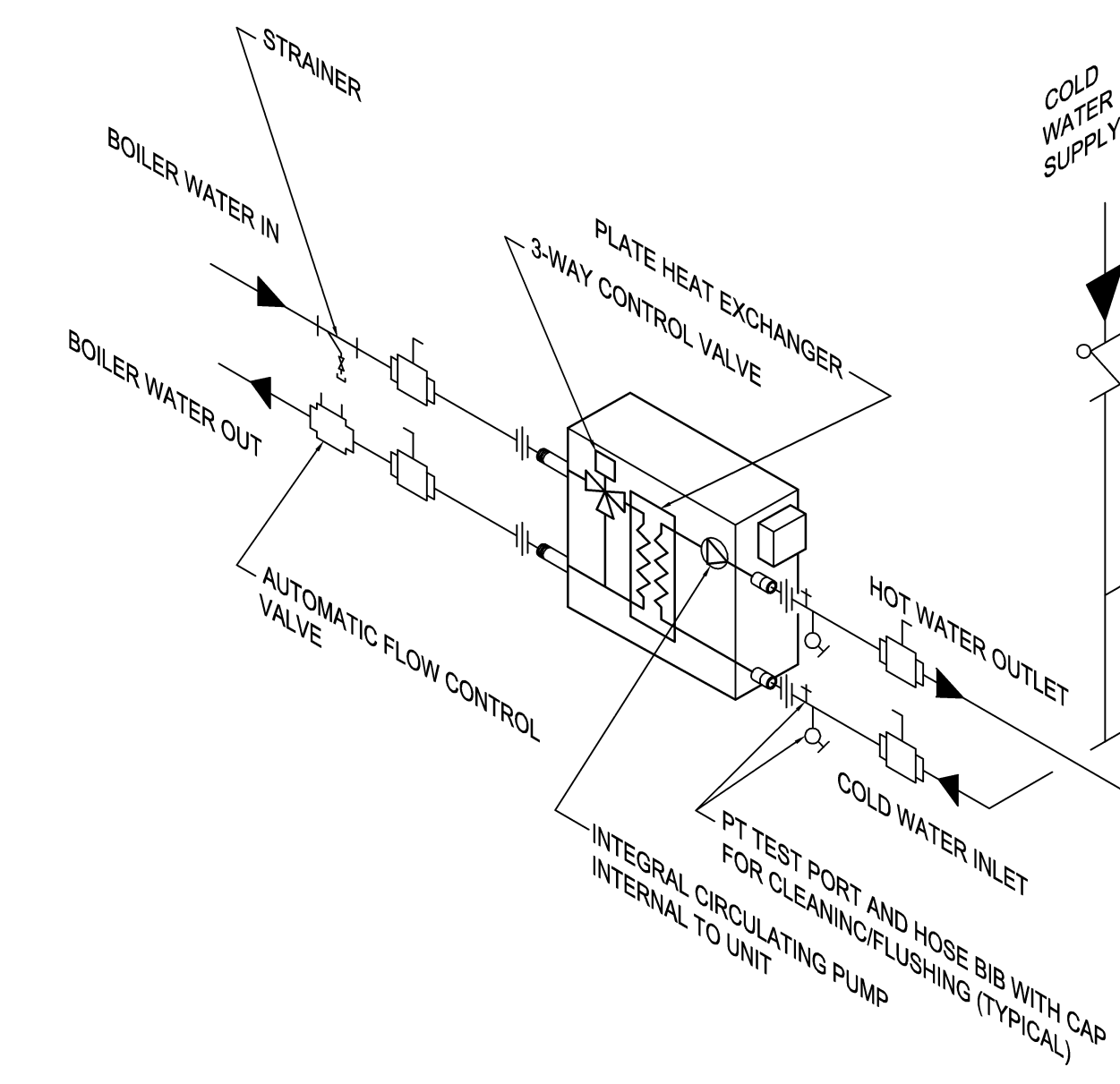
**3-WAY UNIT HEATER PIPING DETAIL**  
SCALE: NONE



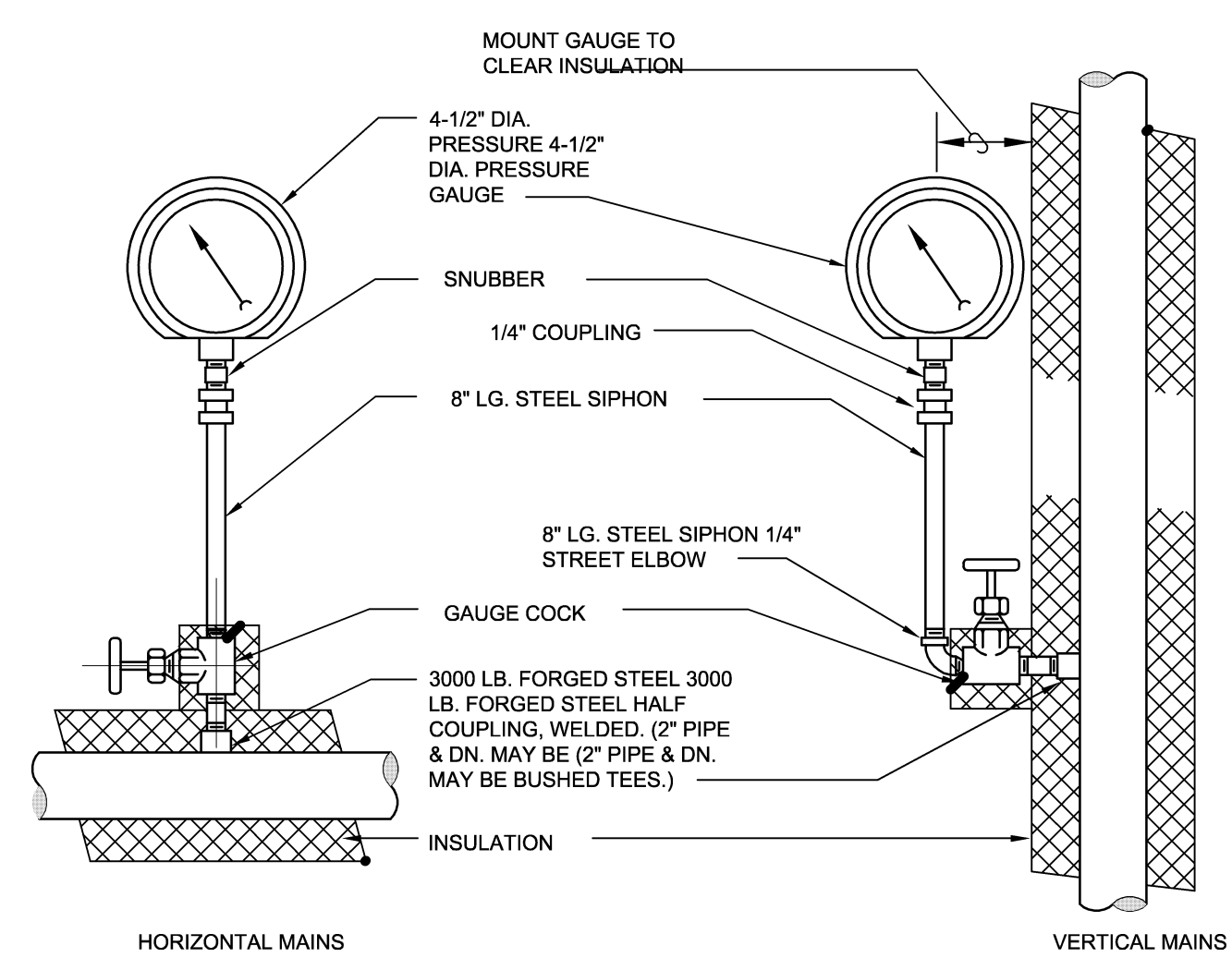
**TYPICAL THERMOMETER INSTALLATION**  
SCALE: NONE



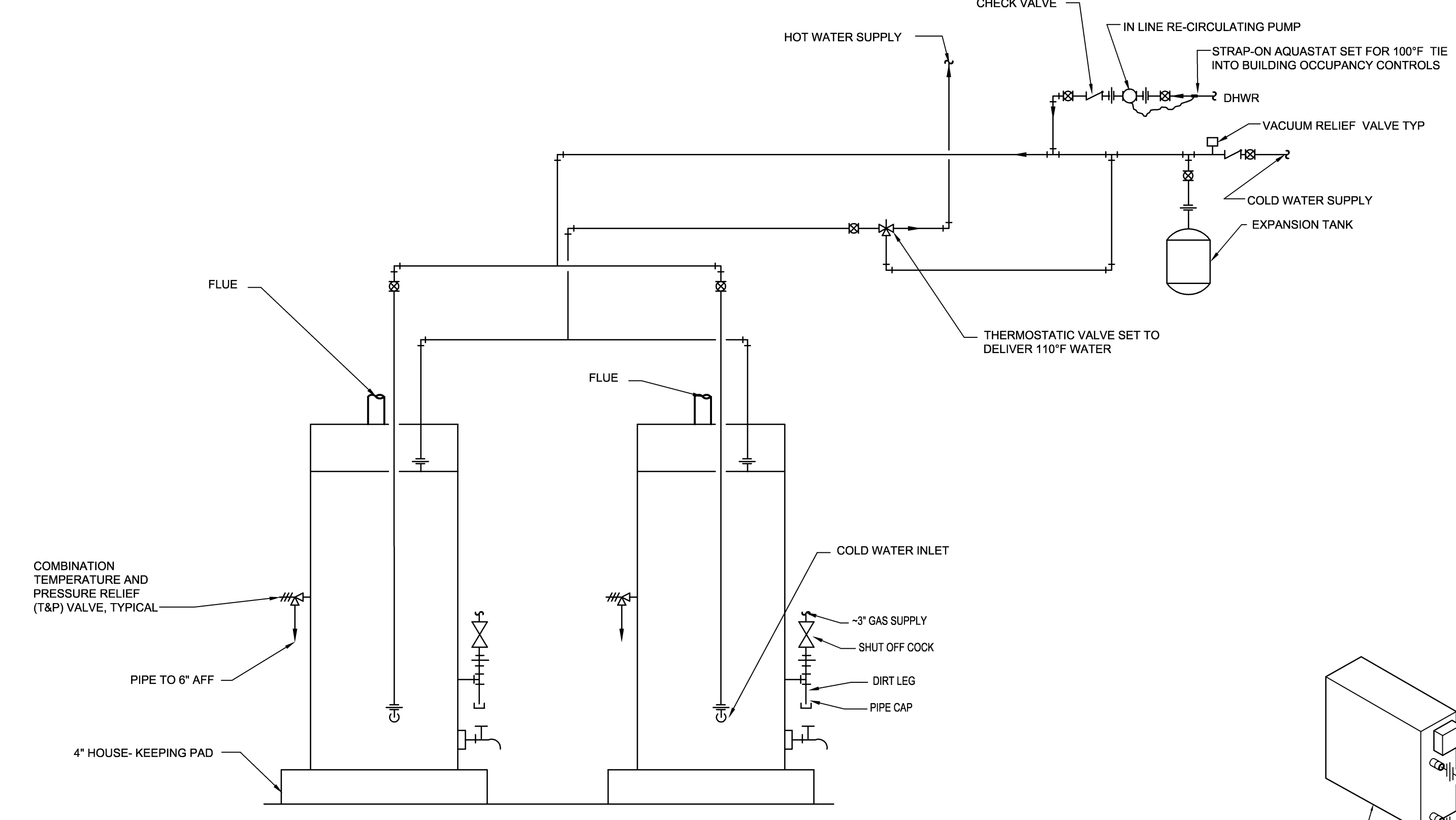
**DRY WELL DETAIL**  
NOT TO SCALE



**DOMESTIC HOT WATER BRAZED PLATE HEAT EXCHANGER AND STORAGE TANK PIPING DIAGRAM**  
SCALE: NONE

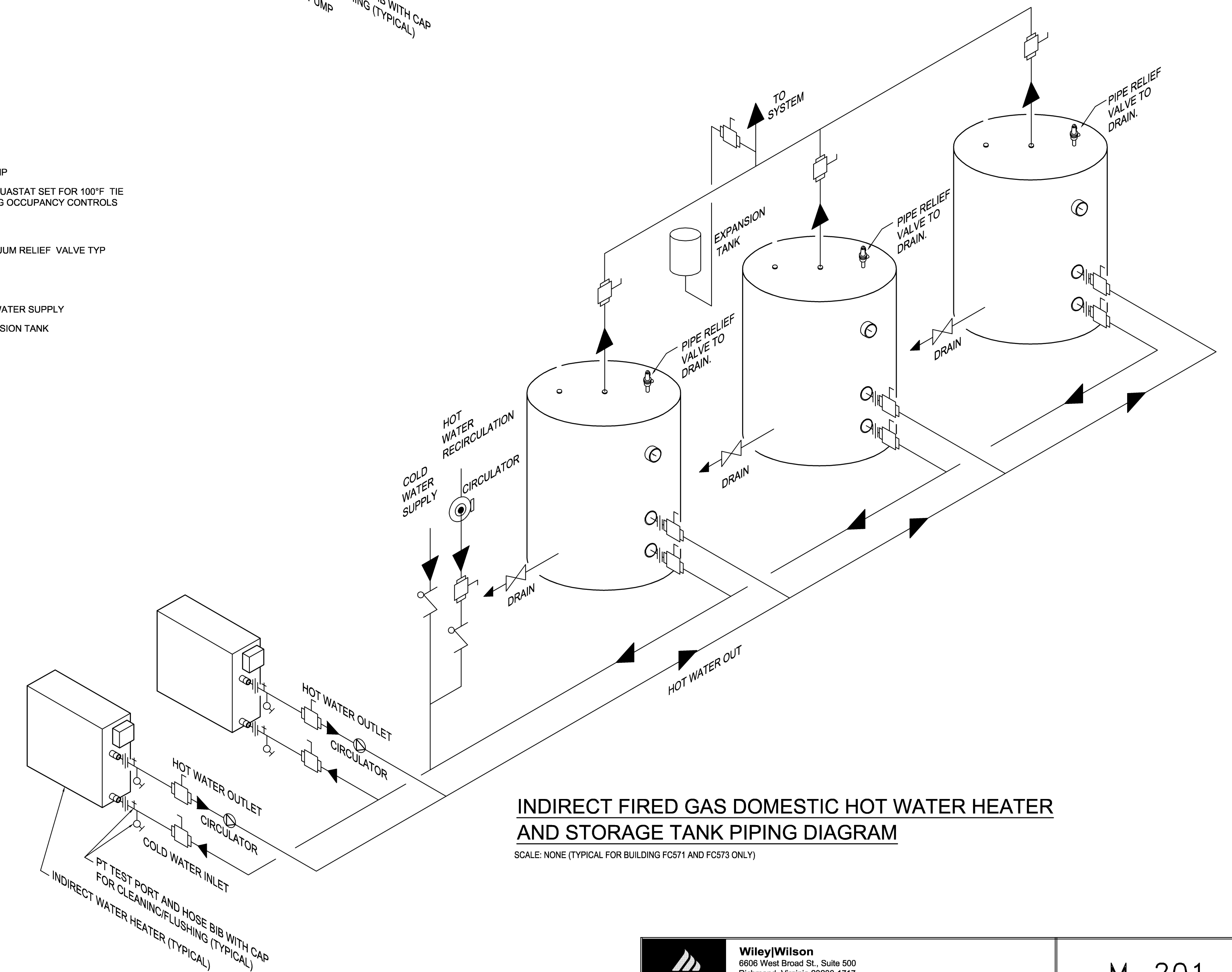


**CHILLED, CONDENSER, AND HOT WATER GAUGE ASSEMBLY**  
SCALE: NONE



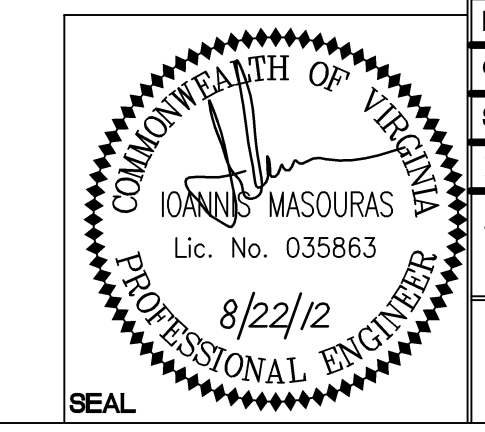
**GAS WATER HEATER DETAIL**

SCALE: NONE  
NOTE: DETAILS SHOWN AS TYPICAL. PROVIDE ALL ADDITIONAL COMPONENTS AS REQUIRED BY MANUFACTURERS INSTALLATION AND OPERATION MANUAL. INSTALL GAS PIPING AND APPURTENANCES IN ACCORDANCE WITH NORTH CAROLINA FUEL GAS CODE, LATEST EDITION.



**INDIRECT FIRED GAS DOMESTIC HOT WATER HEATER AND STORAGE TANK PIPING DIAGRAM**  
SCALE: NONE (TYPICAL FOR BUILDING FC571 AND FC573 ONLY)

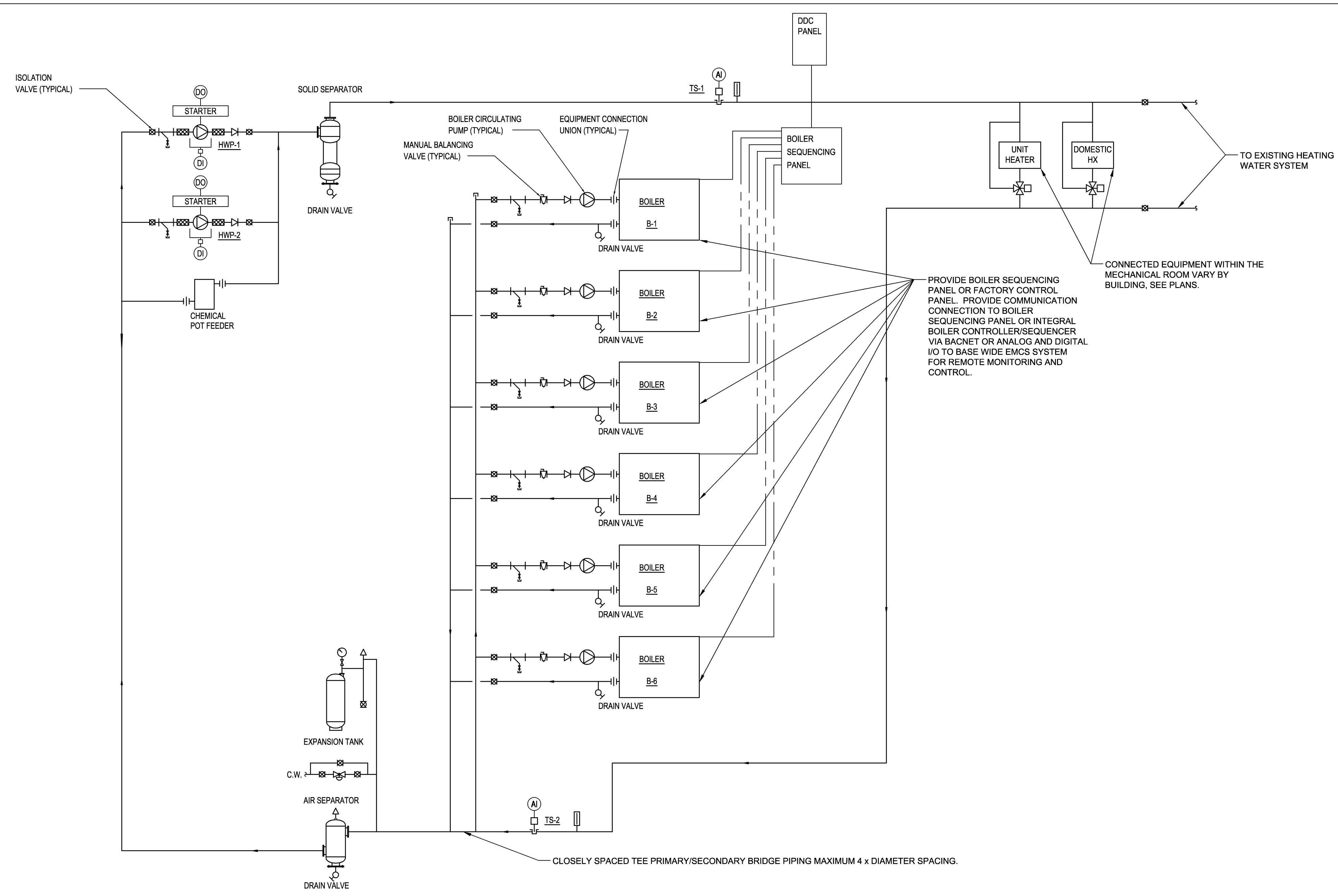
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<b>WileyWilson</b> 6606 West Broad St., Suite 500 Richmond, Virginia 23230-1717 804.254.7242 wileywilson.com		<b>M-201</b> PROJECT NO. CP12-0121 NAVAL FACILITIES ENGINEERING COMMAND	
DEPT OF NAVY <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA		<b>BOILER MODIFICATIONS, VARIOUS FACILITIES, FRENCH CREEK</b> DETAILS	
DES. IM	DR. SWL	CHK. JHE	DESIGN DR.
APPROVED PWO OR OICC	DATE	SIZE	CODE IDENT NO.
		E	80091
SATISFACTORY TO	DATE	CONSTR CONTR NO.	NAVFAC DRAWING NO.
		N40085-12-B-0121	60011339
SCALE: AS SHOWN	SPEC No.	05-12-0121	SHEET 32 OF 37



SYM.	PREP'D BY	DATE	APPROVED



**HEATING WATER SYSTEM CONTROL DIAGRAM**  
SCALE: NONE (SYSTEM IS TYPICAL FOR ALL BUILDINGS WITH BOILER QUANTITY VARYING BY BUILDING - SEE PLANS)

PROVIDE A COMPLETE PACKAGED BOILER CONTROL SYSTEM, EITHER A SEPARATE SEQUENCING PANEL OR INTEGRAL BOILER CONTROLLER.

ON A CALL FOR HEAT, OR ON A CALL FOR DOMESTIC WATER ON BUILDINGS WITH PLATE HEAT EXCHANGER WATER HEATERS, THE DIGITAL CONTROLLER SHALL ENABLE THE LEAD HEATING WATER PUMP AND SEND A SIGNAL TO THE BOILER SEQUENCING CONTROLLER TO ENABLE THE BOILERS. THE BOILERS CIRCULATING PUMPS SHALL BE HARD-WIRED TO THE BOILER CONTROL PANEL AND CONTROLLED DIRECTLY BY THE FACTORY BOILER CONTROLLER TO ENERGIZE WHEN THE BOILER IS ENABLED.

THE BOILER SEQUENCING PANEL SHALL CONTROL THE HOURS OF OPERATION AND THE STANDBY OR DUTY STATUS OF THE BOILERS. THE DIGITAL CONTROLLER SHALL ONLY BE ALLOWED TO ADJUST THE DISCHARGE SET-POINT FOR THE SYSTEM AND ENABLE OR DISABLE TO BOILER SYSTEM. THE BOILERS SHALL BE SEQUENCED PER THE MANUFACTURER'S STANDARD SEQUENCE OF OPERATION TO MAXIMIZE SYSTEM EFFICIENCY TO DELIVER A MAXIMUM HEATING WATER SUPPLY TEMPERATURE OF 180°F (REMOVELY ADJUSTABLE) AS SENSED BY TEMPERATURE SENSOR TS-1. PROVIDE OUTSIDE AIR TEMPERATURE RESET CONTROL OF HEATING WATER SYSTEM TEMPERATURE FROM 180°F (ADJUSTABLE) AT 23°F (ADJUSTABLE) OUTSIDE AIR TEMPERATURE. TO 140°F (ADJUSTABLE) AT 50°F (ADJUSTABLE) OUTSIDE AIR TEMPERATURE. THE LEAD BOILER SHALL ALTERNATE POSITION. IF THE LEAD PUMP FAILS TO OPERATE, THE STANDBY PUMP SHALL BE STARTED, THE LEAD PUMP SHALL BE STOPPED AND AN ALARM SIGNAL SHALL BE SENT TO THE DIGITAL CONTROLLER.

WHERE PUMPS OPERATE IN LEAD-STANDBY OPERATION, THE PUMPS SHALL AUTOMATICALLY SWITCH FROM LEAD TO STANDBY AND STANDBY TO LEAD AFTER EVERY 250 HOURS OPERATION AT THE NEXT AVAILABLE TIME.

A DIFFERENTIAL PRESSURE SWITCH INSTALLED ACROSS THE FACTORY PROVIDED PRESSURE TAPS OF THE PUMPS SHALL SERVE OF PROOF OF PUMP OPERATION. IF PUMP FAILS TO OPERATE WITHIN 2 MINUTES OF AN ENABLE COMMAND, THE DIGITAL CONTROLLER SHALL SEND AN ALARM.

TEMPERATURE SENSORS SHALL BE INSTALLED AS SHOWN ON THE FLOW SCHEMATIC FOR THE PURPOSE OF MONITORING AND CONTROLLING THE SYSTEM. IF THE TEMPERATURE SENSED IS 20°F MORE OR LESS THAN COMMANDED OR EXPECTED, AN ALARM SIGNAL SHALL BE SENT TO THE DIGITAL CONTROLLER.

ALL OF THE POINTS INDICATED SHALL BE VIEWABLE FROM THE BASE WIDE EMCS. IN ADDITION, FOR EACH BOILER, FOLLOWING POINTS SHALL BE VIEWABLE ON THE EMCS:

1. BOILER LEAVING WATER TEMPERATURE
2. BOILER LEAVING WATER TEMPERATURE SETPOINT
3. BOILER FIRING STATUS
4. BOILER ALARM STATUS
5. BOILER STATUS (ENABLE/DISABLE).

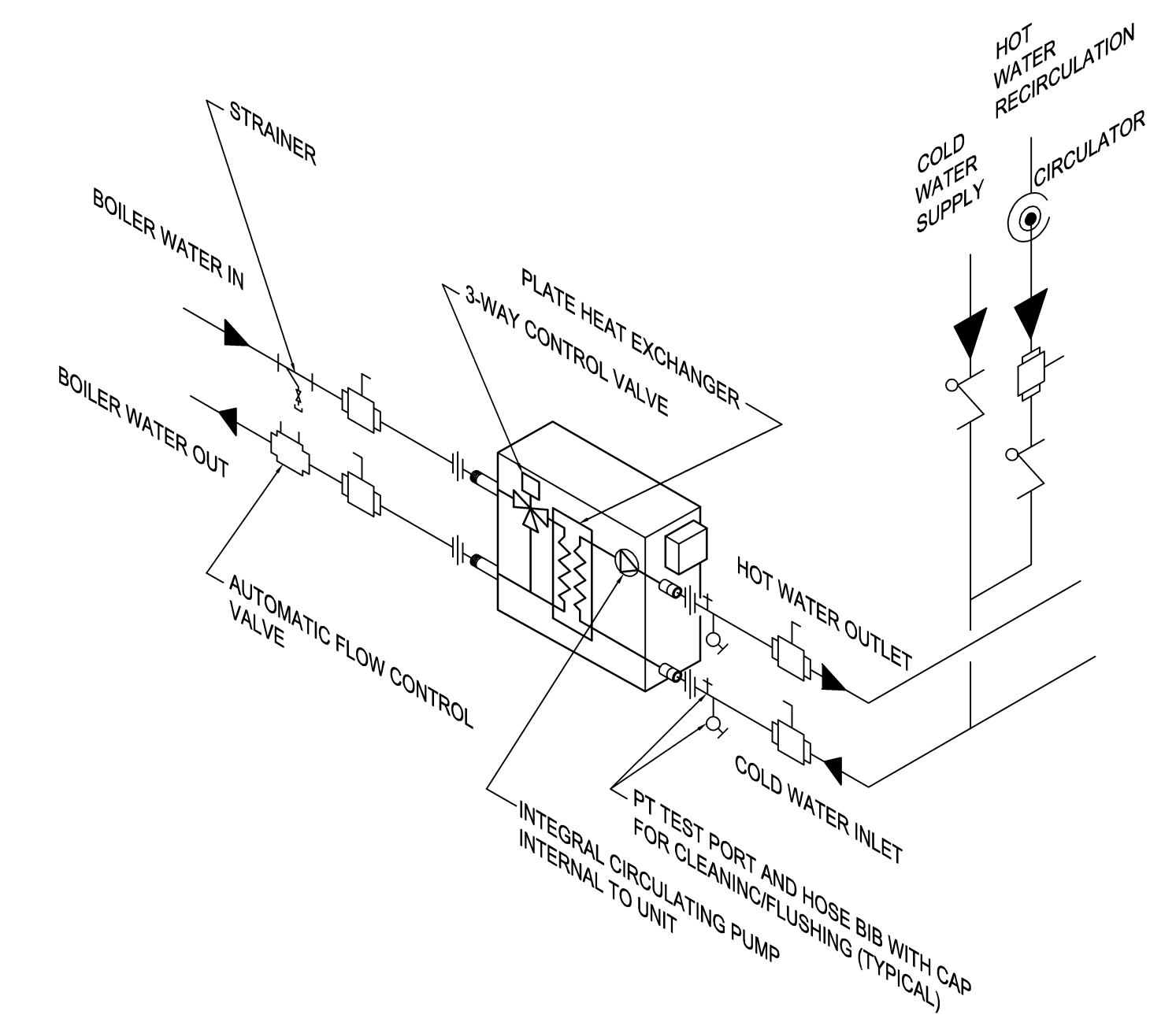
NOTE: IN BUILDING FC-572, THE HEATING WATER SUPPLY PUMPS ARE REMOTELY LOCATED INSIDE THE BUILDING.

IF NEW BOILER CONTROLLER DOES NOT INCLUDE BACNET MS/TP BUS, PROVIDE GATEWAY TO CONVERT BOILER CONTROL PROTOCOL TO APPROPRIATE PROTOCOL. THE FOLLOWING LIST INCLUDES THE EXISTING TO REMAIN BUILDING SUPERVISOR CONTROLLER PROTOCOL INFORMATION FOR COORDINATION:

- FC400 BACNET MS/TP
- FC411 BACNET MS/TP
- FC412 BACNET MS/TP
- FC413 BACNET MS/TP
- FC414 METASYS N2
- FC415 BACNET MS/TP
- FC416 BACNET MS/TP
- FC515 BACNET MS/TP
- FC530 METASYS N2
- FC550 METASYS N2
- FC555 METASYS N2
- FC560 METASYS N2
- FC565 METASYS N2
- FC571 BACNET MS/TP
- FC572 BACNET MS/TP
- FC573 BACNET MS/TP

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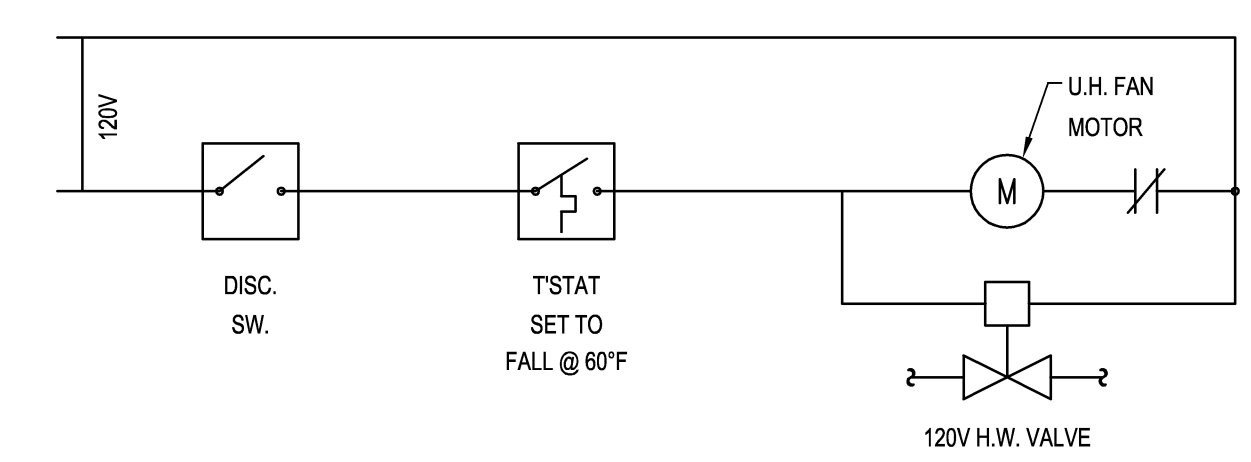
**DOMESTIC HEATING WATER HEAT EXCHANGER SYSTEM CONTROL DIAGRAM**  
SCALE: NONE

ON A CALL FOR DOMESTIC HOT WATER, AS SENSED BY TANK MOUNTED TEMPERATURE SENSORS OR INTERNAL TEMPERATURE SENSORS, THE DIGITAL CONTROLLER SHALL ENABLE THE DOMESTIC WATER TANK CIRCULATING PUMP AND SEND A CALL FOR HEATING WATER TO THE HEATING WATER SYSTEM. THE CONTROL VALVE SHALL THEN MODULATE TO PROVIDE A DOMESTIC LEAVING WATER TEMPERATURE OF 140°F (ADJUSTABLE). WHEN THE CALL FOR DOMESTIC HOT WATER CEASES, THE REVERSE SHALL OCCUR.

A DIFFERENTIAL PRESSURE SWITCH INSTALLED ACROSS THE FACTORY PROVIDED PRESSURE TAPS OF THE PUMPS SHALL SERVE OF PROOF OF PUMP OPERATION. ALTERNATIVELY, A CALIBRATED CT SENSOR IS ACCEPTABLE AS PROOF OF FLOW. IF THE PUMP FAILS TO OPERATE WITHIN 2 MINUTES OF AN ENABLE COMMAND, THE DIGITAL CONTROLLER SHALL SEND AN ALARM.

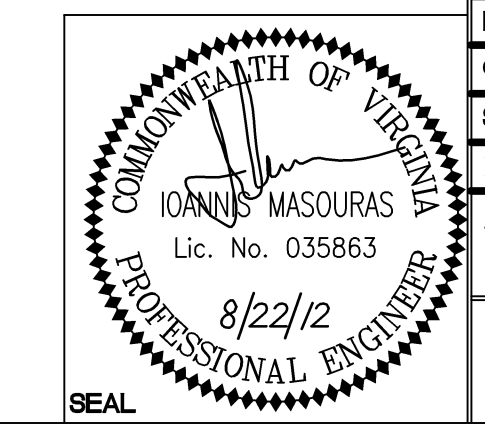
THE FOLLOWING POINTS SHALL BE VIEWABLE ON THE EMCS:

1. HEAT EXCHANGER DOMESTIC HOT WATER LEAVING TEMPERATURE
2. HEAT EXCHANGER DOMESTIC HOT WATER LEAVING TEMPERATURE SETPOINT
3. PUMP STATUS
4. HEAT EXCHANGER PUMP ALARM STATUS
5. HEAT EXCHANGER SYSTEM STATUS (ENABLE/DISABLE/CALL FOR HEATING WATER).

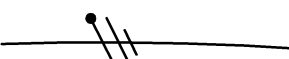
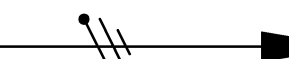











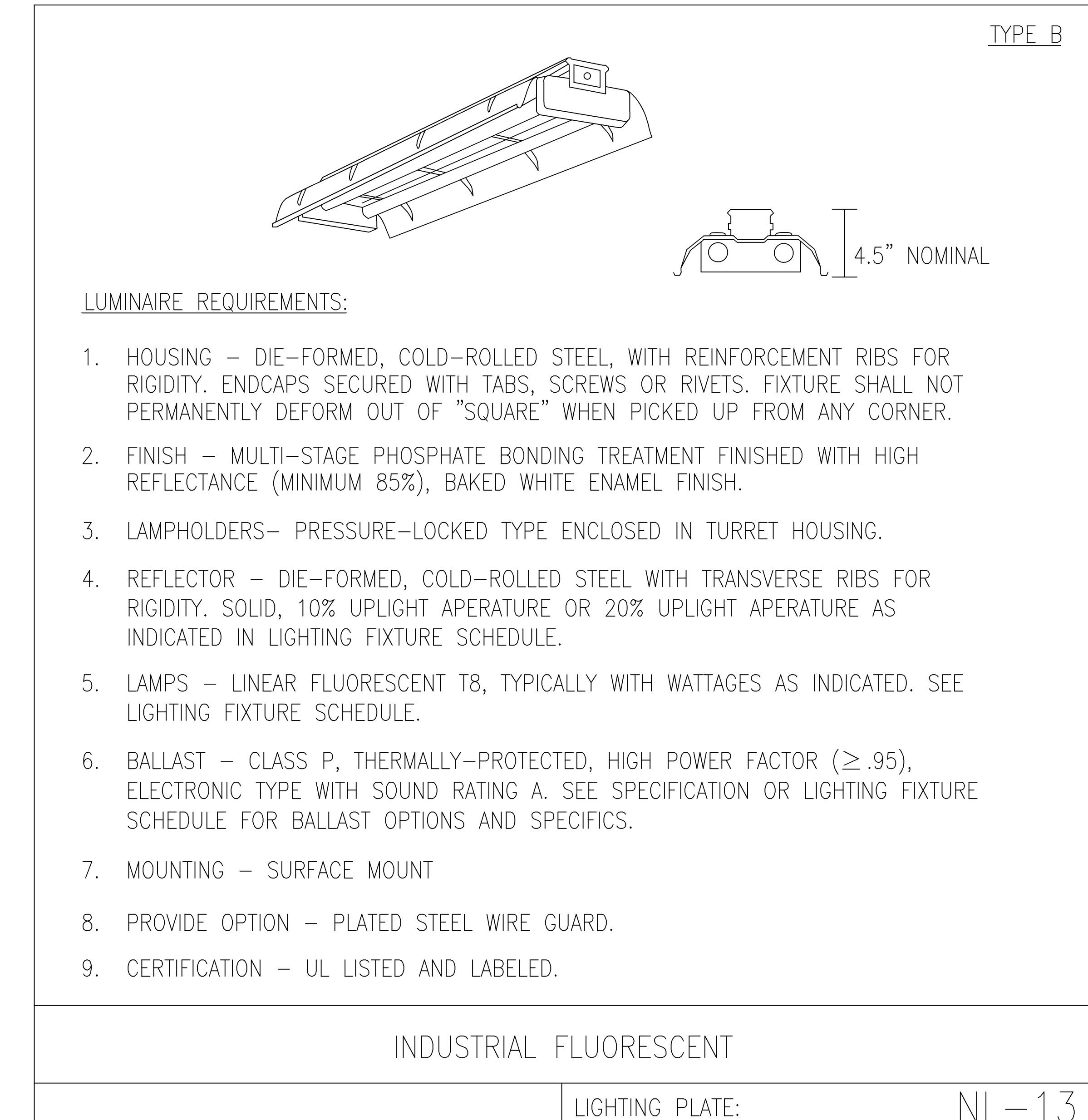
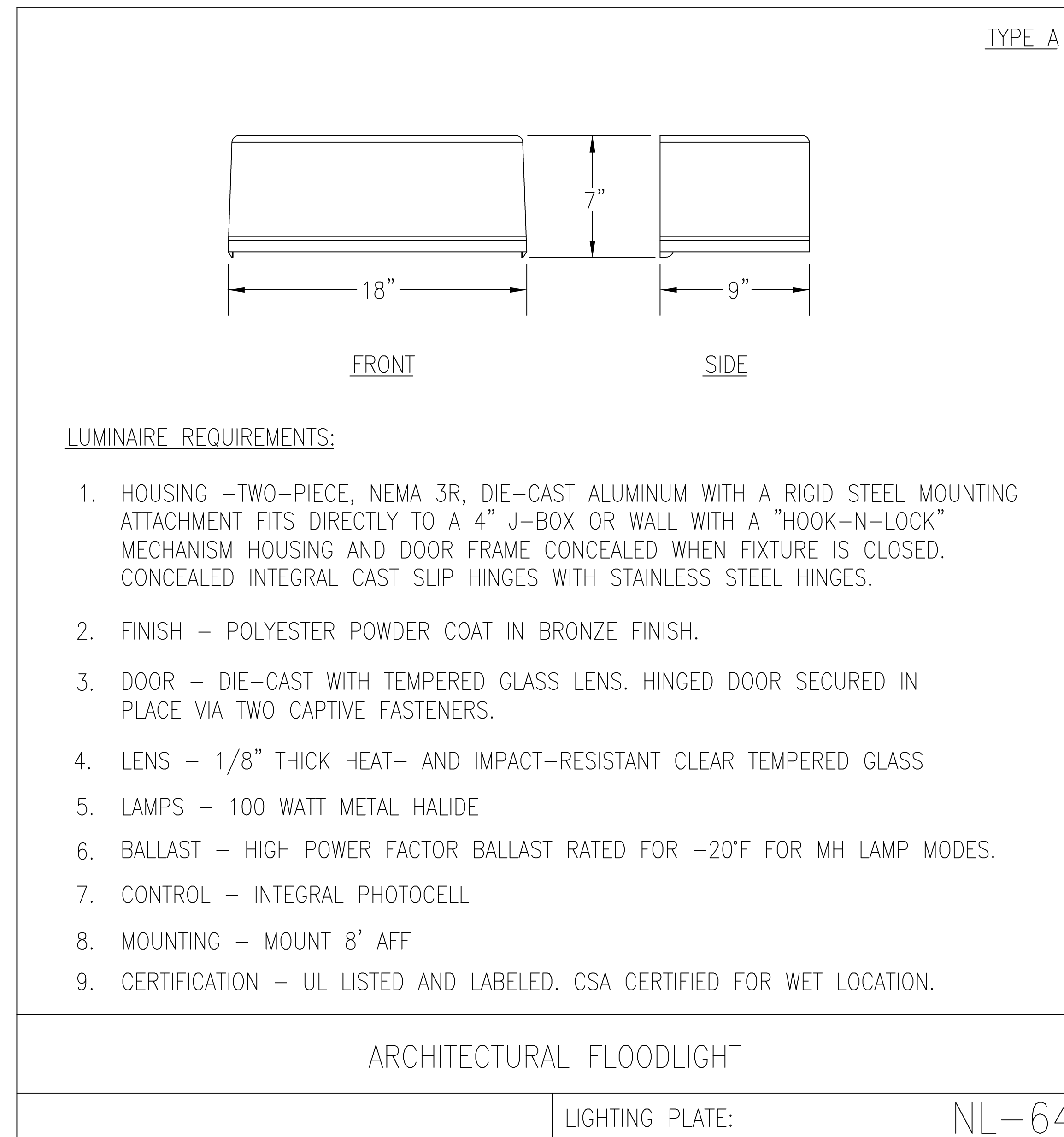
**TYPICAL HOT WATER UNIT HEATER CONTROL DIAGRAM**  
SCALE: NONE

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DEPT OF NAVY <b>NAVAL FACILITIES ENGINEERING COMMAND</b> <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA		BOILER MODIFICATIONS, VARIOUS FACILITIES, FRENCH CREEK	
DES. IM	DR. SWL	CHK. JHE	SUBMITTED BY: DESIGN DR. APPROVED PWO OR OICG DATE SATISFACTORY TO DATE
SIZE <b>E</b>	CODE IDENT NO. 80091	NAVFAC DRAWING NO. 60011340	CONSTR CONTR NO. N40085-12-B-0121
SCALE: AS SHOWN	SPEC No. 05-12-0121	SHEET 33 OF 37	



### ELECTRICAL LEGEND

-  RACEWAY RUN SURFACE MOUNTED, WITH PHASE, NEUTRAL AND GROUND CONDUCTOR UNLESS NOTED OTHERWISE. PROVIDE 2,3 OR 4 WAY SWITCH LEG CONDUCTORS PER SWITCH TYPE INDICATED ON PLAN. TIC MARKS INDICATE MORE THEN 3 WIRES IN RACEWAY.
-  HOMERUN RACEWAY RUN SURFACE MOUNTED,
-  BRANCH CIRCUIT PANELBOARD. SIZE AND DESCRIPTION AS SCHEDULED. TOP: +6'-0" AFF.
-  DRY TYPE SECONDARY TRANSFORMER. SIZE AS INDICATED.
-  ELECTRIC MOTOR. SIZE IN HORSEPOWER AS INDICATED OR SCHEDULED.
-  DISCONNECT SWITCH. POLES, AMPS, VOLTS, FUSED AND ENCLOSURE TYPE AND SIZED PER NEC FOR THE EQUIPMENT SUPPLIED. UNO. TOP: +5'-0" AFF.
-  FUSED COMBINATION MAGNETIC STARTER, SIZE AND POLES INDICATED IN NEMA 12 ENCLOSURE WITH ON AND OFF DOOR MOUNTED PUSHBUTTON CONTROLS. SIZE THERMAL UNIT PER NEC FOR MOTOR SUPPLIED. TOP: +5'-0" AFF.
-  120 VOLT, 20 AMP, 3-WIRE, NEMA 5-20 DUPLEX RECEPTACLE. MOUNTING HEIGHT: CENTER +36" AFF UNO.
-  120 VOLT, 20 AMP, 3-WIRE, NEMA 5-20 DOUBLE DUPLEX RECEPTACLE. MOUNTING HEIGHT: CENTER +136" AFF UNO.
-  120 VOLT, 20 AMP, 3-WIRE, NEMA 5-20 DUPLEX GROUND FAULT CIRCUIT INTERRUPTING RECEPTACLE. MOUNTING HEIGHT: CENTER +18" AFF UNO.
-  120 VOLT, 20 AMP, 3-WIRE, NEMA 5-20 DUPLEX GROUND FAULT CIRCUIT INTERRUPTING RECEPTACLE WITH DUAL HINGED WEATHERPROOF GASKETED COVER. MOUNTING HEIGHT: CENTER +18" AFF UNO.



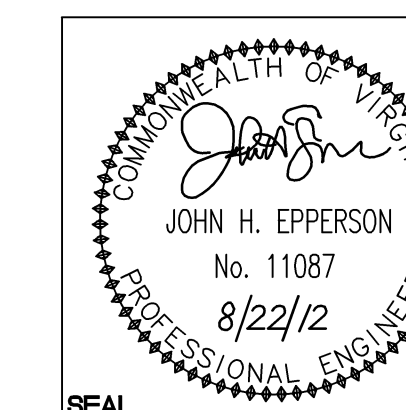
### ELECTRICAL ABBREVIATIONS

<b>A</b> AMPERES <b>AF</b> AMPERE FRAME OR AMPERE FUSE <b>AFD</b> ADJUSTABLE FREQUENCY MOTOR DRIVE UNIT <b>AFF</b> ABOVE FINISHED FLOOR <b>AFG</b> ABOVE FINISHED GRADE <b>AHU</b> AIR HANDLING UNIT <b>AWG</b> AMERICAN WIRE GAUGE <b>BAS</b> BUILDING AUTOMATION SYSTEM <b>C</b> CONDUIT <b>CHWP</b> CHILLED WATER PUMP <b>CKT</b> CIRCUIT <b>CKT BKR</b> CIRCUIT BREAKER <b>COMM</b> COMMUNICATIONS <b>CT</b> CURRENT TRANSFORMER OR CABLE TRAY <b>DS OR DISC SW</b> DISCONNECT SWITCH <b>DN</b> DOWN <b>E OR EXIST.</b> EXISTING <b>EA</b> EACH <b>EF</b> EXHAUST FAN <b>EM</b> EMERGENCY <b>ENCL</b> ENCLOSURE <b>ERU</b> ENERGY RECOVERY UNIT <b>EUPE</b> EXISTING UNDERGROUND ELECTRIC POWER <b>EUTC</b> EXISTING UNDERGROUND COMMUNICATIONS <b>EWC</b> ELECTRIC WATER COOLER <b>F</b> FLUSH MOUNTED IN WALL <b>FTL</b> FEED THRU LUGS <b>FUS</b> FUSE <b>FVNR</b> FULL VOLTAGE NON-REVERSING <b>G</b> GROUND <b>GFGI</b> GOVERNMENT FURNISHED GOVERNMENT INSTALLED <b>GFI</b> GROUND FAULT INTERRUPTING <b>HP</b> HORSE POWER <b>HT</b> HEAT TRACE <b>HWP</b> HOT WATER PUMP <b>JB</b> JUNCTION BOX <b>KV</b> KILOVOLTS <b>KVA</b> KILOVOLT AMPERES <b>KW</b> KILOWATTS <b>LAN</b> LOCAL AREA NETWORK <b>LED</b> LIGHT EMITTING DIODE	<b>M</b> MAIN OR METER <b>MB</b> MAIN CIRCUIT BREAKER <b>MCCB</b> MOLDED CASE CIRCUIT BREAKER <b>MCP</b> MOTOR CIRCUIT PROTECTOR <b>MH</b> METAL HALIDE, MANHOLE, OR MOUNTING HEIGHT TO CENTER OF DEVICE <b>MLO</b> MAIN LUGS ONLY <b>MS</b> MAGNETIC STARTER <b>MSB</b> MAIN SWITCHBOARD <b>MTD</b> MOUNTED <b>MV</b> MEDIUM VOLTAGE <b>N</b> NEUTRAL <b>NC</b> NORMALLY CLOSED <b>NEC</b> NATIONAL ELECTRICAL CODE <b>NETA</b> NATIONAL ELECTRICAL TESTING ASSOCIATION <b>NF</b> NON-FUSED <b>NIC</b> NOT IN CONTRACT <b>NL</b> NON LINEAR <b>NO</b> NORMALLY OPEN <b>NPZ</b> NAME PLATE IMPEDANCE <b>O.C.</b> ON CENTER <b>OS</b> OCCUPANCY SENSOR <b>P</b> POLE OR PRIMARY <b>PBX</b> PULLBOX <b>PC</b> PHOTOELECTRIC CELL <b>PH</b> PHASE <b>PNL</b> PANEL <b>PWR</b> POWER <b>R</b> RAINTIGHT <b>RCPT</b> RECEPTACLE <b>S</b> SINGLE POLE SINGLE THROW <b>SCC</b> SHORT CIRCUIT CURRENT <b>STCB</b> SHUNT TRIP CIRCUIT BREAKER <b>SW</b> SWITCH <b>SYM</b> SYMMETRICAL <b>TC</b> TIME CLOCK <b>TVSS</b> TRANSIENT VOLTAGE SURGE SUPPRESSOR <b>TYP</b> TYPICAL	<b>UE</b> UNDERGROUND ELECTRIC <b>UH</b> UNIT HEATER <b>UNO</b> UNLESS NOTED OTHERWISE <b>V</b> VOLTS <b>WH</b> WATER HEATER <b>WP</b> WEATHERPROOF <b>XFMR</b> TRANSFORMER <b>Y</b> WYE CONNECTED
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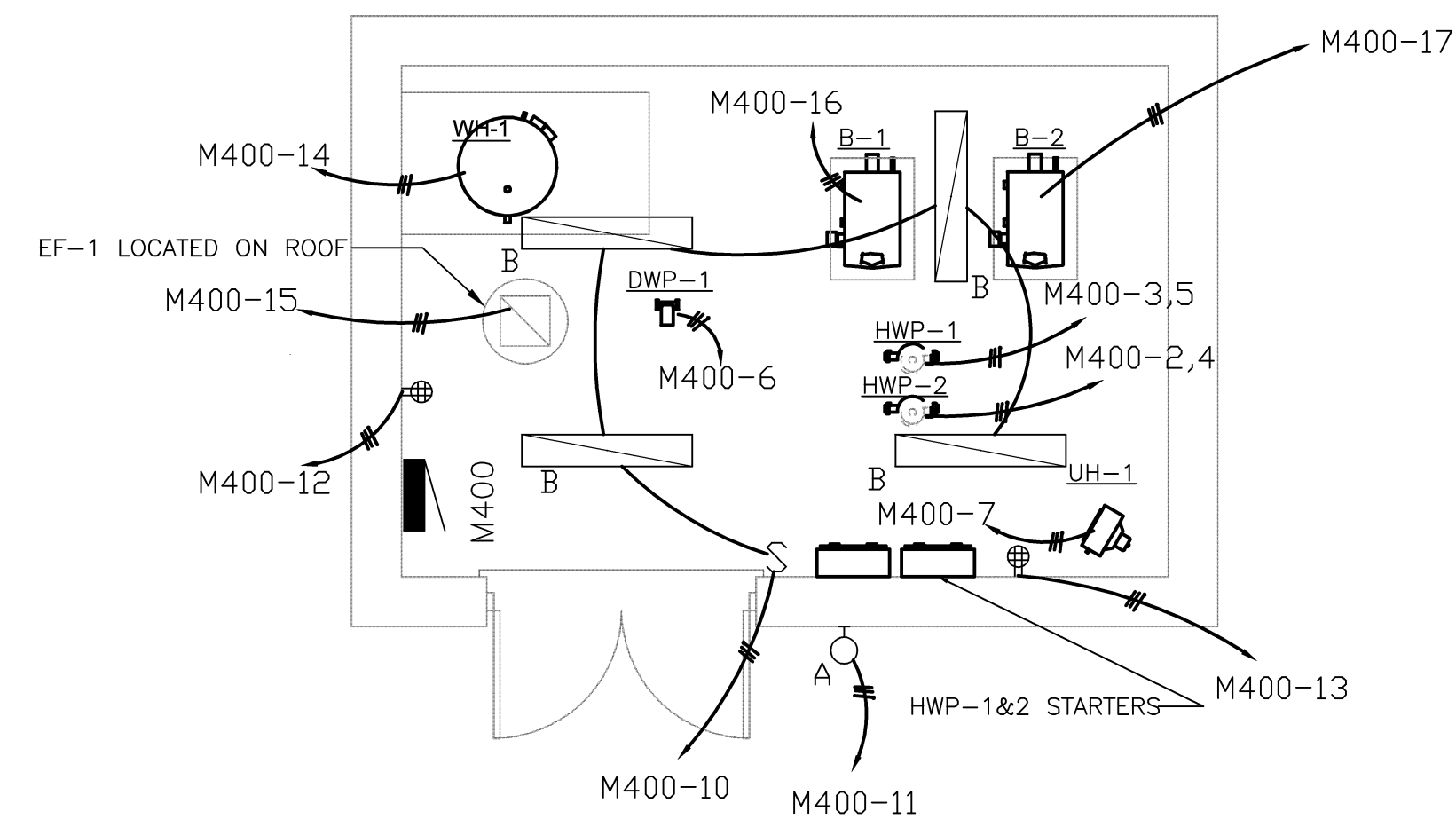
#### DISCLOSURE OF INFORMATION

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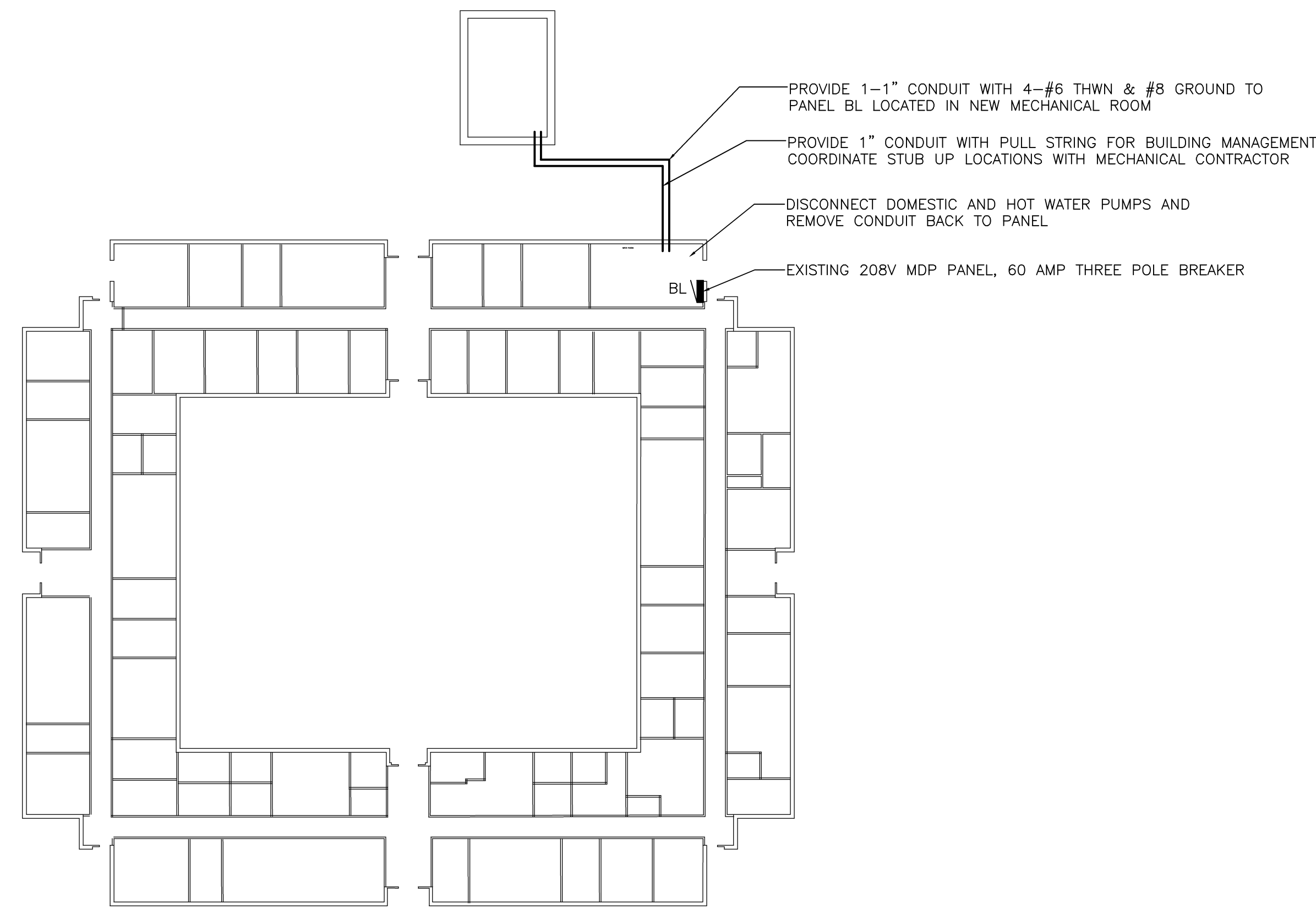
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WileyWilson 6600 West Broad St., Suite 500 Richmond, Virginia 23230-1717 804.254.7342 wileywilson.com		<b>E-001</b> <small>PROJECT NO. CP12-0121</small>	
<small>DEPT OF NAVY</small> <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA		<small>NAVAL FACILITIES ENGINEERING COMMAND</small>	
<small>DES.</small> CDH <small>DR.</small> CDH <small>CHK.</small> JHE <small>SUBMITTED BY:</small> <small>DESIGN DR.</small>	BOILER MODIFICATIONS, VARIOUS FACILITIES, FRENCH CREEK ELECTRICAL LEGEND, ABBREVIATIONS AND LIGHTING DETAILS		
<small>APPROVED:</small> PWO OR OICC <small>DATE</small> <small>BATSFATORY TO</small> <small>DATE</small>	<small>SIZE</small> E <small>CODE IDENT NO.</small> 80091	<small>NAVFAC DRAWING NO.</small> 60011341 <small>CONSTR CONTR NO.</small> N40085-12-B-0121	<small>SHEET</small> 34 OF 37
<small>SCALE:</small> AS SHOWN	<small>SPEC No.</small> 06-12-0121	<small>SHEET</small> 34 OF 37	

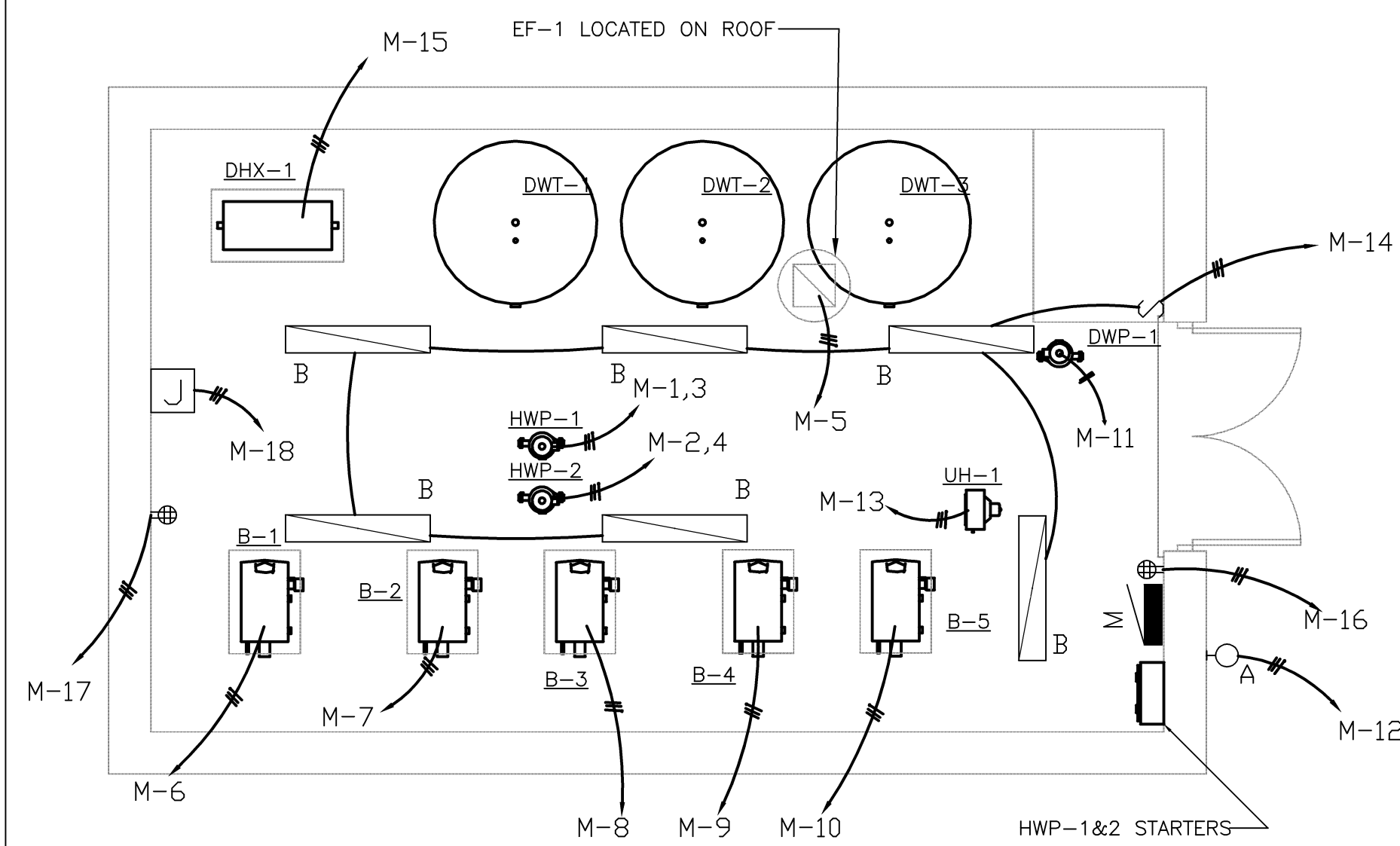


**BUILDING FC-400 NEW MECHANICAL ROOM PLAN**  
1/4"=1'-0" 0 2 4 8

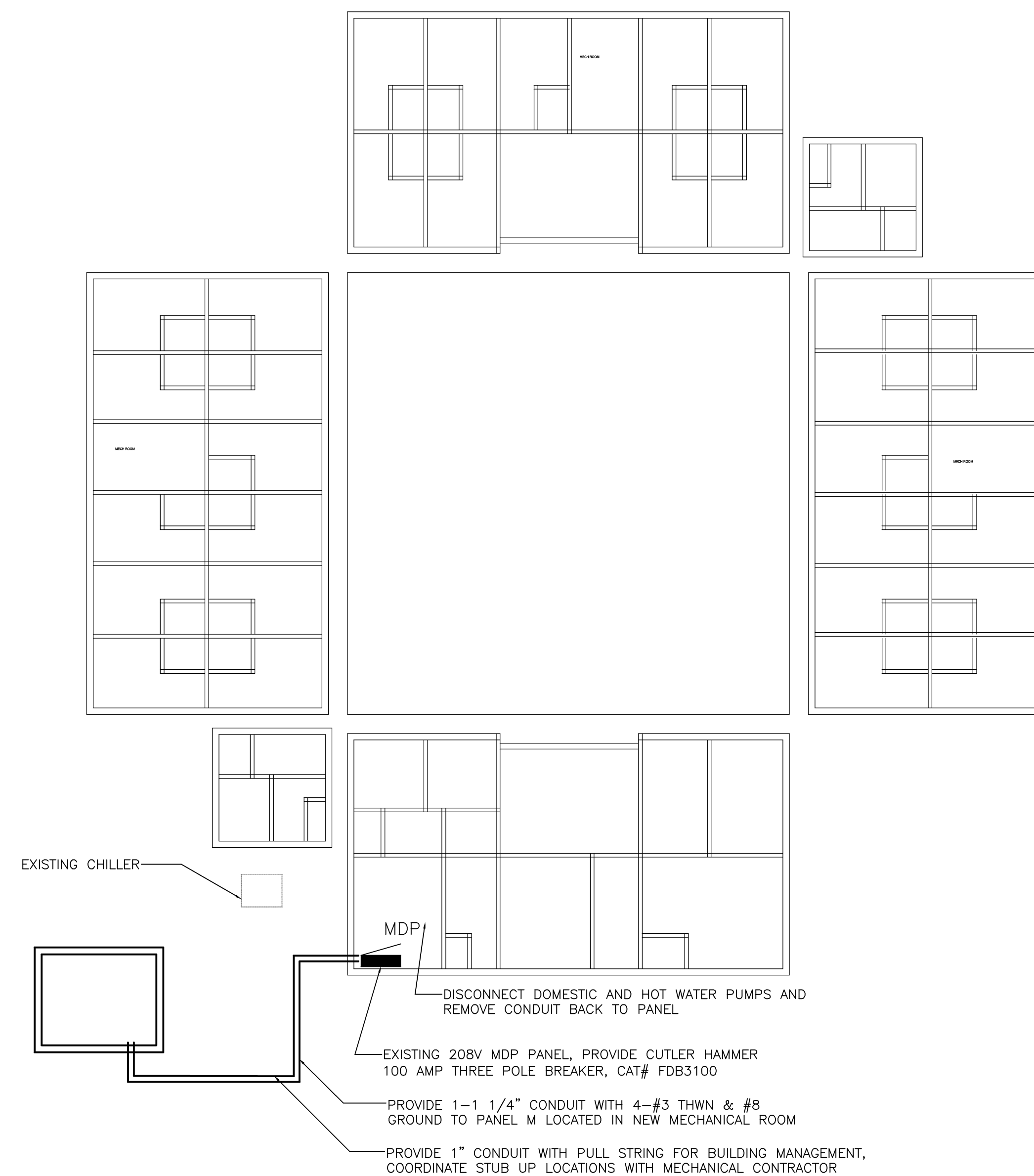


**BUILDING FC-400 ELECTRICAL SITE PLAN**  
1/8"=1'-0" 0 8 16 32

ELECTRICAL M400 SCHEDULE										
VOLTS/PHASE/WIRE: 120V/208y/3φ/4W		PANEL SIZE: 60 A		MAIN TYPE & SIZE: 60 A MCB			CABINET: ----		MIN SCC: 22000	FED FROM: ----
CIRCUIT NO.	AREA SERVED	TRIP AMPS	NO. POLES	PHASE LOAD VA			WIRE & CONDUIT SIZE	CIRCUIT NOTES		
				A	B	C				
1	SPARE	20	1	0	0	0	2-#10-#10G-3/4"C			
2,4	HWP-2	30	2	600	600	0	2-#10-#10G-3/4"C			
3,5	HWP-1	30	2	0	600	600	2-#10-#10G-3/4"C			
6	DWP-1	20	1	0	0	360	2-#12-#12G-3/4"C			
7	JH-1	20	1	800	0	0	2-#12-#12G-3/4"C			
8	SPARE	20	1	0	0	0				
9	SPARE	20	1	0	0	0				
10	LIGHTS	20	1	0	300	0	2-#12-#12G-3/4"C			
11	OUTSIDE LIGHT	20	1	0	0	125	2-#12-#12G-3/4"C			
12	RECEPTACLE	20	1	0	0	360	2-#12-#12G-3/4"C			
13	RECEPTACLE	20	1	360	0	0	2-#12-#12G-3/4"C			
14	WH-1	20	1	800	0	0	2-#12-#12G-3/4"C			
15	EF-1	20	1	0	360	0	2-#12-#12G-3/4"C			
16	BOILER 1	20	1	0	0	360	2-#12-#12G-3/4"C			
17	BOILER 2	20	1	0	0	360	2-#12-#12G-3/4"C			
18	SPARE	20	1	0	0	0				
19	SPARE	20	1	0	0	0				
20	SPARE	20	1	0	0	0				
CONNECTED LOAD				2560	2220	1805	6.6 KVA			
LOAD CATEGORY		CONN. LOAD	DEMAND FACTOR	EST. LOAD						
Lighting		0.4	1.25	0.5						
Motors		2.6	1.00	2.6						
Motors (Largest)		1.2	1.25	1.5						
Receptacles (0 - 10 KVA)		2.3	1.00	2.3						
TOTAL		6.6KVA		7.0KVA						



**BUILDINGS FC-411-416 NEW MECHANICAL ROOM PLAN**  
1/4"=1'-0" 0 2 4 8



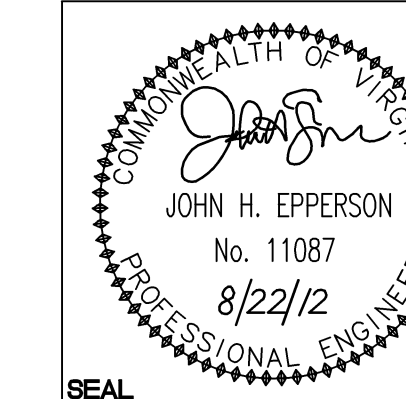
**BUILDINGS FC-411-416 ELECTRICAL SITE PLAN**  
1/8"=1'-0" NOTE: SEE CIVIL DRAWINGS FOR BUILDING ORIENTATION 0 8 16 32

ELECTRICAL M SCHEDULE										
VOLTS/PHASE/WIRE: 120V/208y/3φ/4W		PANEL SIZE: 100 A		MAIN TYPE & SIZE: 100 A MCB			CABINET: ----		MIN SCC: 22000	FED FROM: ----
CIRCUIT NO.	AREA SERVED	TRIP AMPS	NO. POLES	PHASE LOAD VA			WIRE & CONDUIT SIZE	CIRCUIT NOTES		
				A	B	C				
1,3	HWP-1	20	2	600	600	0	2-#12-#12G-3/4"C			
2,4	HWP-2	20	2	600	600	0	2-#12-#12G-3/4"C			
5	EF-1	20	1	0	0	360	2-#12-#12G-3/4"C			
6	BOILER 1	20	1	0	0	360	2-#12-#12G-3/4"C			
7	BOILER 2	20	1	360	0	0	2-#12-#12G-3/4"C			
8	BOILER 3	20	1	360	0	0	2-#12-#12G-3/4"C			
9	BOILER 4	20	1	0	360	0	2-#12-#12G-3/4"C			
10	BOILER 5	20	1	0	360	0	2-#12-#12G-3/4"C			
11	JH-1	20	1	0	0	800	2-#12-#12G-3/4"C			
12	OUTSIDE LIGHT	20	1	0	0	125	2-#12-#12G-3/4"C			
13	DWP-1	20	1	360	0	0	2-#12-#12G-3/4"C			
14	LIGHTS	20	1	450	0	0	2-#12-#12G-3/4"C			
15	DHX-1	20	1	0	360	0	2-#12-#12G-3/4"C			
16	RECEPTACLE	20	1	0	0	360	2-#12-#12G-3/4"C			
17	RECEPTACLE	20	1	0	0	360	2-#12-#12G-3/4"C			
18	LDUJVER	20	1	0	0	180	2-#12-#12G-3/4"C			
19	SPARE	20	1	0	0	0				
20	SPARE	20	1	0	0	0				
21	SPARE	20	1	0	0	0				
22	SPARE	20	1	0	0	0				
23	SPARE	20	1	0	0	0				
24	SPARE	20	1	0	0	0				
25	SPARE	20	1	0	0	0				
26	SPARE	20	1	0	0	0				
27	SPARE	20	1	0	0	0				
28	SPARE	20	1	0	0	0				
29	SPARE	20	1	0	0	0				
30	SPARE	20	1	0	0	0				
CONNECTED LOAD				2730	2640	2185	7.4 KVA			
LOAD CATEGORY		CONN. LOAD	DEMAND FACTOR	EST. LOAD						
Lighting		0.6	1.25	0.7						
Motors		4.1	1.00	4.1						
Motors (Largest)		1.2	1.25	1.5						
Receptacles (0 - 10 KVA)		1.5	1.00	1.5						
TOTAL		7.4KVA		7.8KVA						

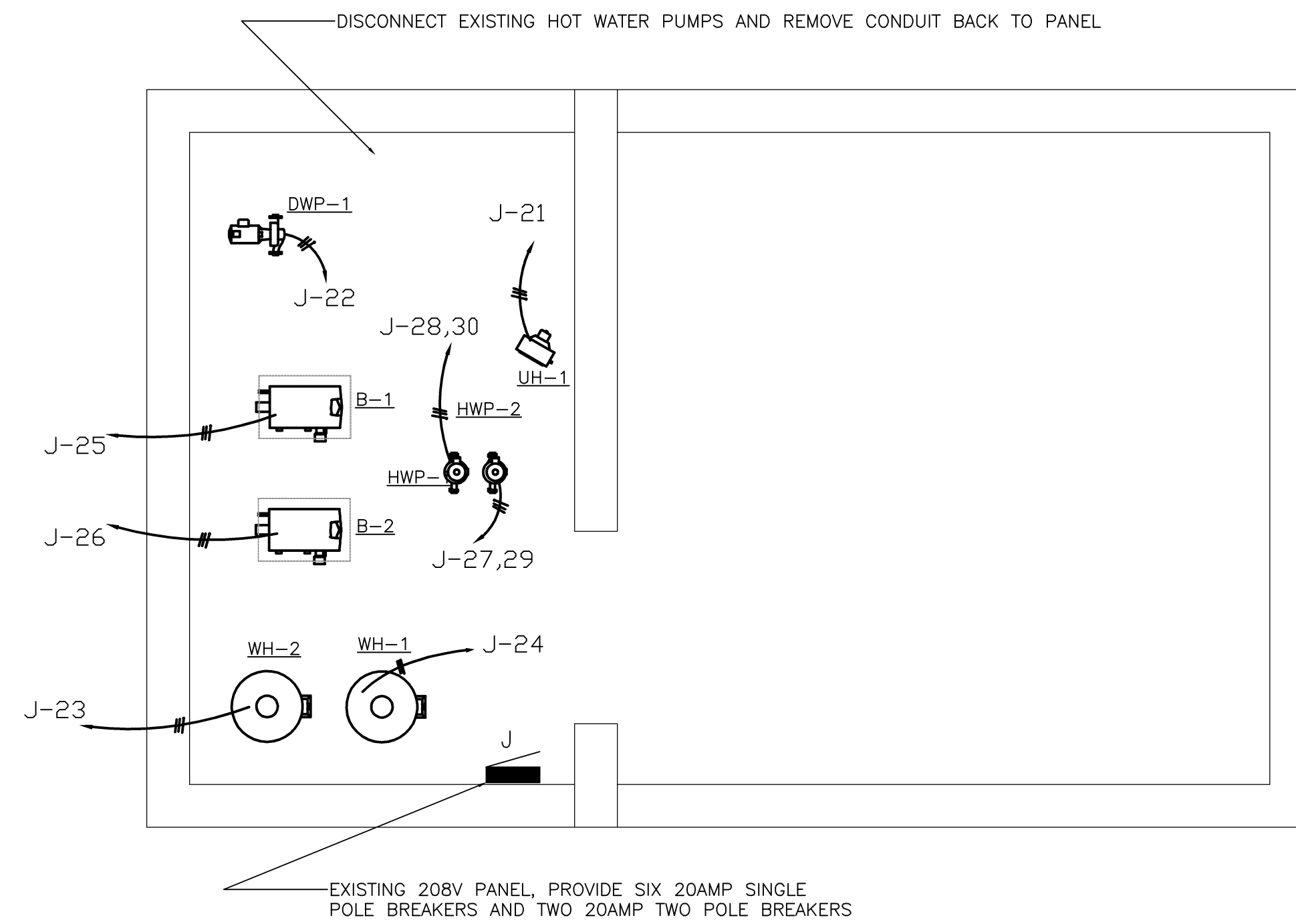
**DISCLOSURE OF INFORMATION**

Contractor shall comply as follows:

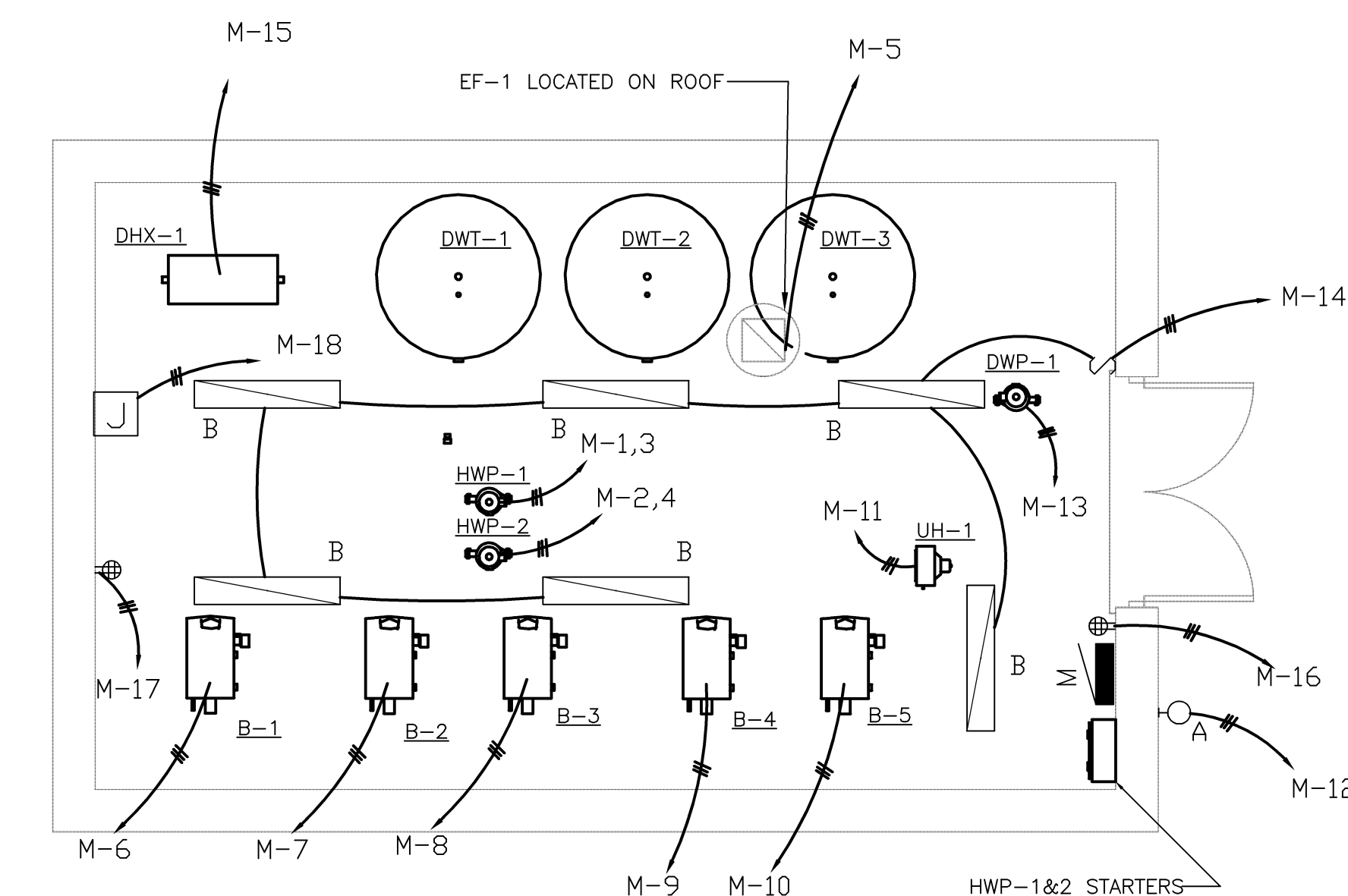
- The Contractor shall not release to anyone outside the Contractor's organization any unclassified information, regardless of medium (e.g., film, tape, document), pertaining to any part of this contract or any program related to this contract, unless the Contracting Officer has given prior written approval; or
- The information is otherwise in the public domain before the date of release.
- Requests for approval shall identify the specific information to be released, the medium to be used, and the purpose for the release. The Contractor shall submit its request to the Contracting Officer at least 45 days before the proposed date for release.
- The Contractor agrees to include a similar requirement in each subcontract under this contract. Subcontractors shall submit requests for authorization to release through the prime contractor to the Contracting Officer.



<b>WileyWilson</b> 6600 West Broad St., Suite 500 Richmond, Virginia 23230-1717 804.254.7424 wileywilson.com		<b>E-101</b> PROJECT NO. CP12-0121 NAVAL FACILITIES ENGINEERING COMMAND <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA <b>BOILER MODIFICATIONS, VARIOUS FACILITIES, FRENCH CREEK</b> BUILDINGS FC-400, 411-416 ELECTRICAL PLANS	
DES.	CDH	SIZE	CODE IDENT NO.
DR.	CDH	E	80091
CHK.	JHE	DATE	NAVAC DRAWING NO.
SUBMITTED BY:		8/22/12	60011342
DESIGN DR.		DATE	CONSTR CONTR NO.
APPROVED PWO OR OICC		DATE	N40085-12-B-0121
SATISFACTORY TO		DATE	
SCALE:	AS SHOWN	SPEC No.	06-12-0121
			SHEET 35 OF 37

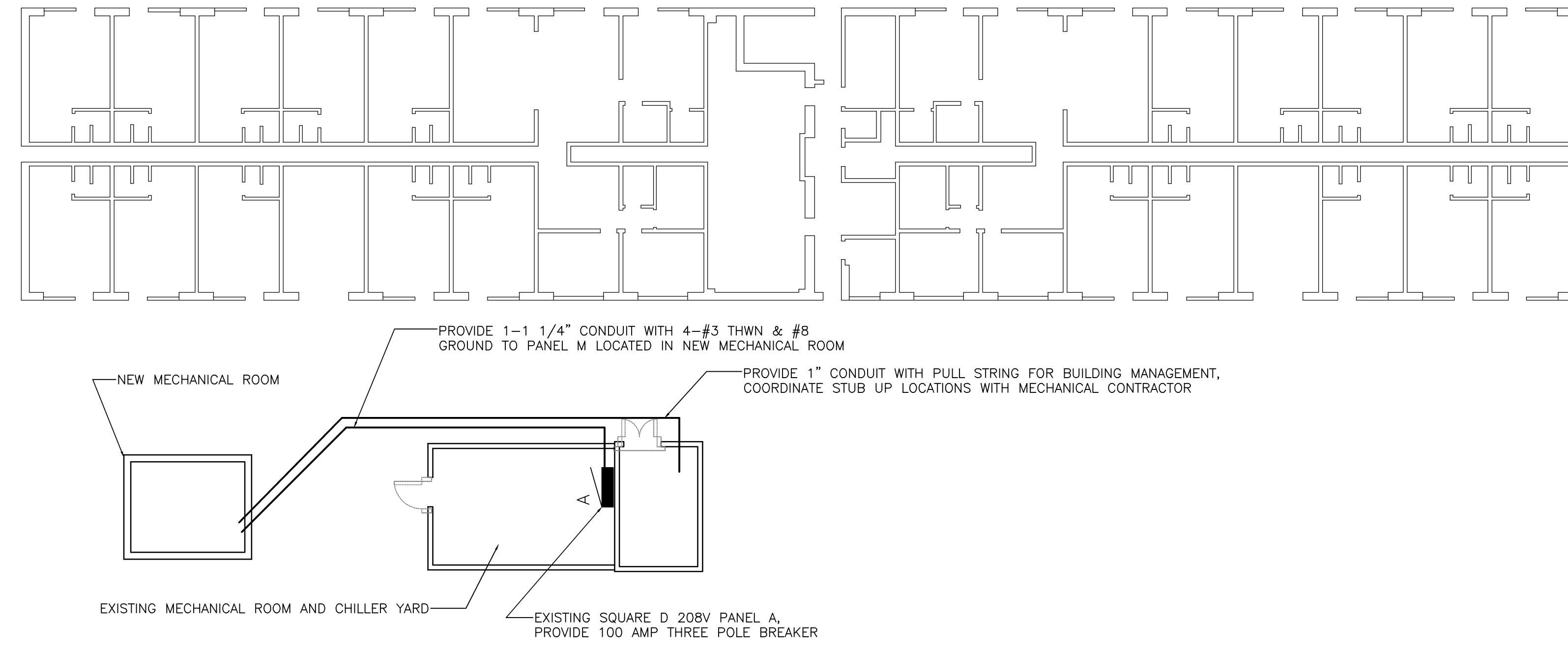


**1 BUILDING FC-500A ELECTRICAL NEW WORK PLAN**  
 1/4"=1'-0" 0' 2' 4' 8'



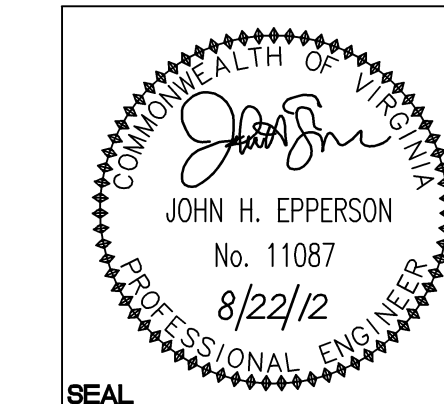
**BUILDINGS FC-515, 530, 550, 556, 560, 565 NEW MECHANICAL ROOM PLAN**  
 1/4"=1'-0" 0' 2' 4' 8'

ELECTRICAL M SCHEDULE									
CIRCUIT NO.	AREA SERVED	TRIP AMPS	NO. POLES	PHASE LOAD VA			WIRE & CONDUIT SIZE	CIRCUIT NOTES	
				A	B	C			
1,3	HWP-1	20	2	600	600	0	2-#12-#12G-3/4"		
2,4	HWP-2	20	2	600	600	0	2-#12-#12G-3/4"		
5	EF-1	20	1	0	0	360	2-#12-#12G-3/4"		
6	BOILER 1	20	1	0	0	360	2-#12-#12G-3/4"		
7	BOILER 2	20	1	360	0	0	2-#12-#12G-3/4"		
8	BOILER 3	20	1	360	0	0	2-#12-#12G-3/4"		
9	BOILER 4	20	1	0	360	0	2-#12-#12G-3/4"		
10	BOILER 5	20	1	0	360	0	2-#12-#12G-3/4"		
11	UH-1	20	1	0	0	800	2-#12-#12G-3/4"		
12	OUTSIDE LIGHT	20	1	0	0	125	2-#12-#12G-3/4"		
13	DWP-1	20	1	360	0	0	2-#12-#12G-3/4"		
14	LIGHTS	20	1	450	0	0	2-#12-#12G-3/4"		
15	DHX-1	20	1	0	360	0	2-#12-#12G-3/4"		
16	RECEPTACLE	20	1	0	360	0	2-#12-#12G-3/4"		
17	RECEPTACLE	20	1	0	0	360	2-#12-#12G-3/4"		
18	LIDUVER	20	1	0	0	180	2-#12-#12G-3/4"		
19	SPARE	20	1	0	0	0			
20	SPARE	20	1	0	0	0			
21	SPARE	20	1	0	0	0			
22	SPARE	20	1	0	0	0			
23	SPARE	20	1	0	0	0			
24	SPARE	20	1	0	0	0			
25	SPARE	20	1	0	0	0			
26	SPARE	20	1	0	0	0			
27	SPARE	20	1	0	0	0			
28	SPARE	20	1	0	0	0			
29	SPARE	20	1	0	0	0			
30	SPARE	20	1	0	0	0			
CONNECTED LOAD				2730	2640	2185	7.4 KVA		
LOAD CATEGORY	CONN. LOAD	DEMAND FACTOR	EST. LOAD						
Lighting	0.6	1.25	0.7						
Motors	4.1	1.00	4.1						
Motors (Largest)	1.2	1.25	1.5						
Receptacles (0 - 10 KVA)	1.5	1.00	1.5						
TOTAL	7.4KVA		7.8KVA						

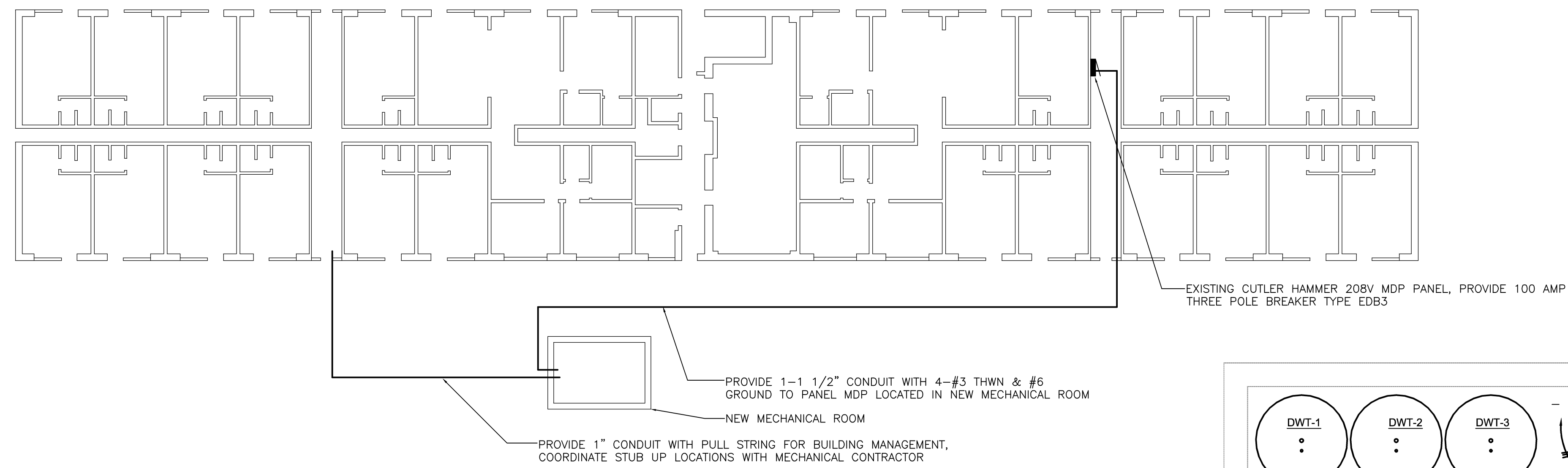


**BUILDINGS FC-515, 530, 550, 556, 560, 565 ELECTRICAL SITE PLAN**  
 1/8"=1'-0" NOTE: SEE CIVIL DRAWINGS FOR BUILDING ORIENTATION 0' 8' 16' 32'

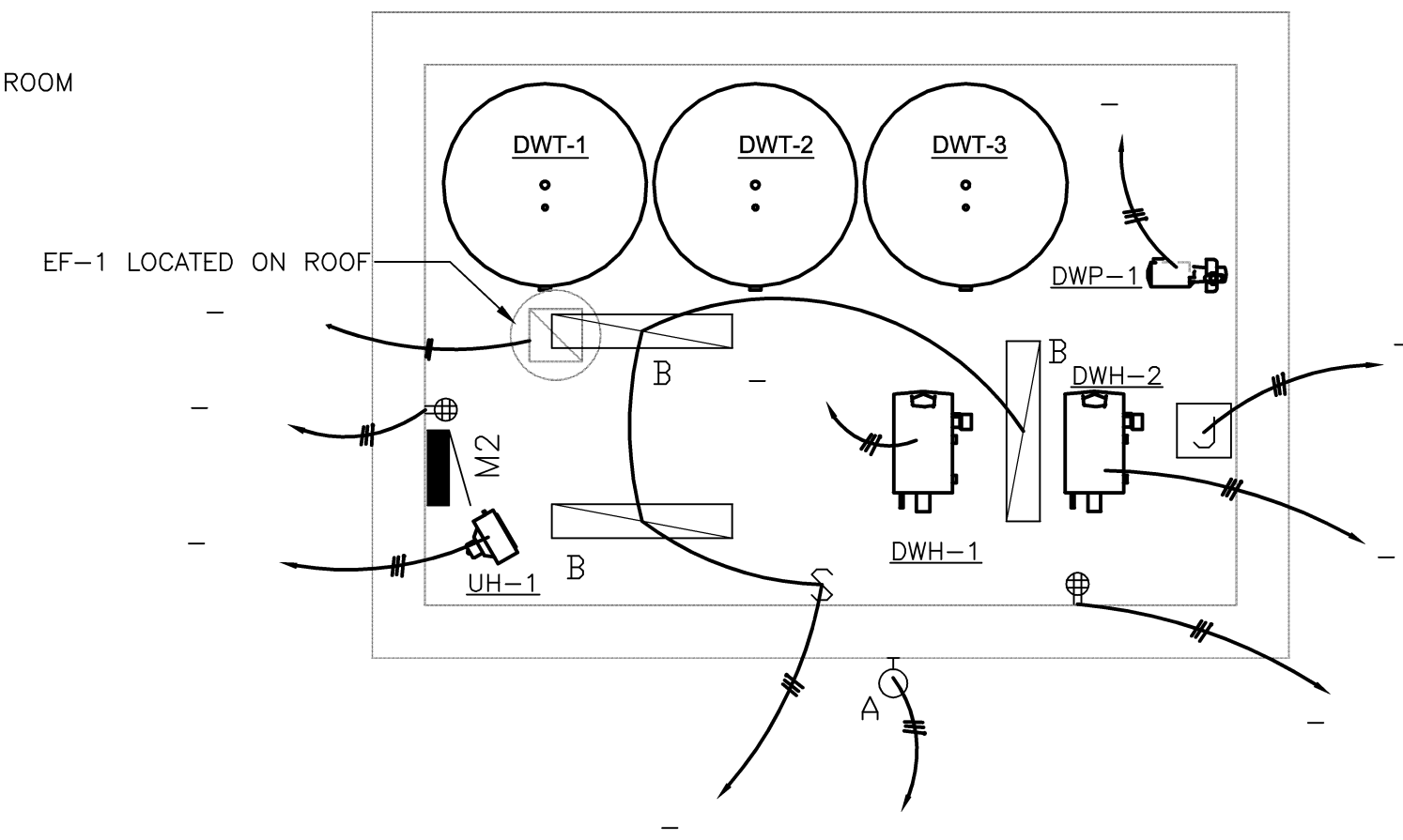
**DISCLOSURE OF INFORMATION**  
 Contractor shall comply as follows:  
 (a) The Contractor shall not release to anyone outside the Contractor's organization any unclassified information, regardless of medium (e.g., film, tape, document), pertaining to any part of this contract or any program related to this contract, unless the Contracting Officer has given prior written approval; or  
 (1) The information is otherwise in the public domain before the date of release.  
 (b) Requests for approval shall identify the specific information to be released, the medium to be used, and the purpose for the release. The Contractor shall submit its request to the Contracting Officer at least 45 days before the proposed date for release.  
 (c) The Contractor agrees to include a similar requirement in each subcontract under this contract. Subcontractors shall submit requests for authorization to release through the prime contractor to the Contracting Officer.



<b>WileyWilson</b> 6600 West Street St., Suite 500 Richmond, Virginia 23230-1717 804.294.7242 wileywilson.com	<b>E-102</b> PROJECT NO. CP12-0121 NAVAL FACILITIES ENGINEERING COMMAND	
	<b>NAVAL FACILITIES ENGINEERING COMMAND</b> <b>MARINE CORPS BASE</b> <b>CAMP LEJEUNE, NORTH CAROLINA</b>	
DES. CDH DR. CDH CHK. JHE	<b>BOILER MODIFICATIONS, VARIOUS FACILITIES, FRENCH CREEK</b> BUILDINGS FC-500, 515, 530, 550, 556, 560, 565 ELECTRICAL PLANS	
SUBMITTED BY: DESIGN DR.	APPROVED PWO OR OICC DATE 8/22/12	SIZE CODE IDENT NO. E 80091 NAVFAC DRAWING NO. 60011343 CONSTR CONTR NO. N40085-12-B-021
SATISFACTORY TO DATE	SCALE AS SHOWN SPEC No. 06-12-0121	SHEET 36 OF 37

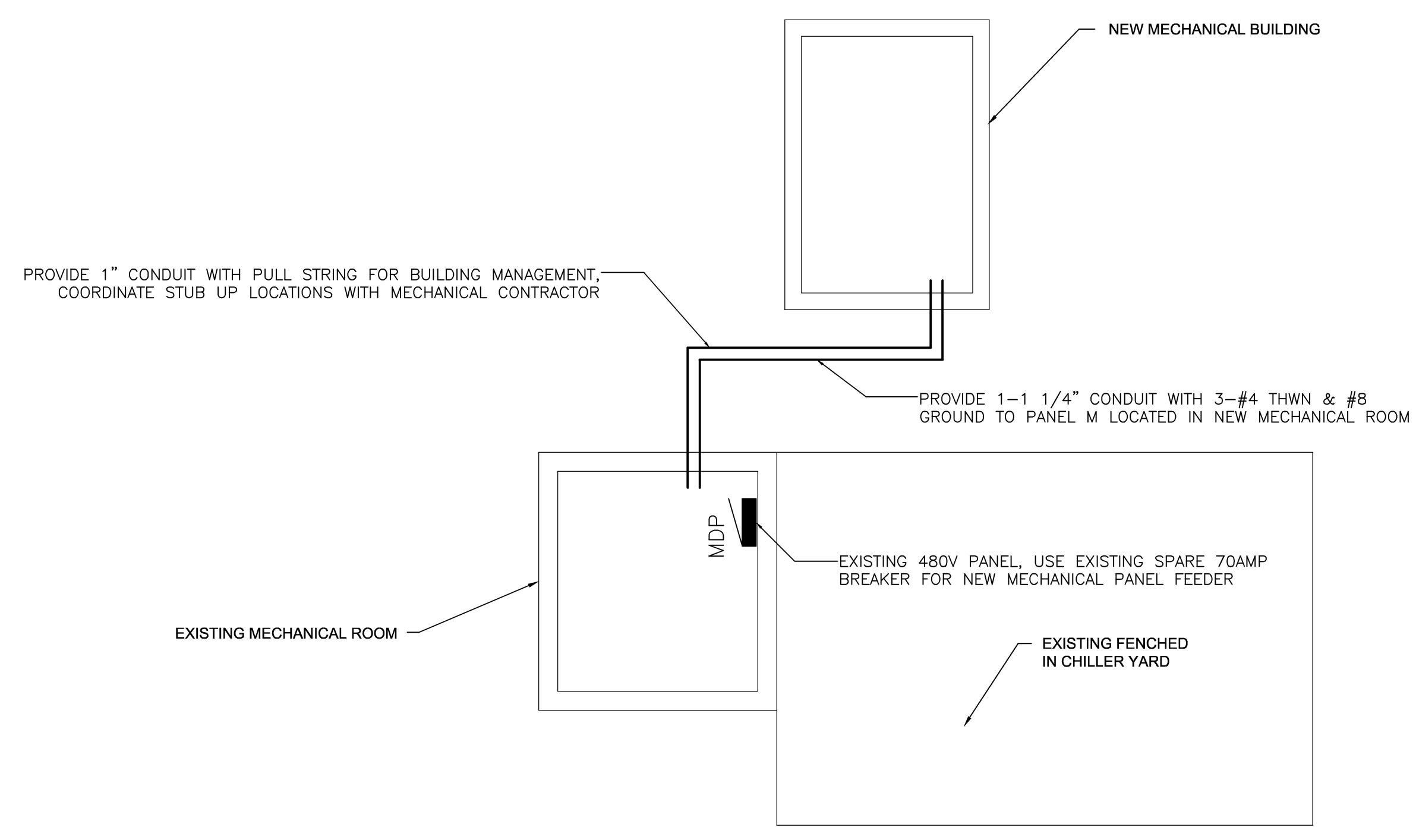


**BUILDING FC-571 & 573 ELECTRICAL SITE PLAN**  
1/16"=1'-0"

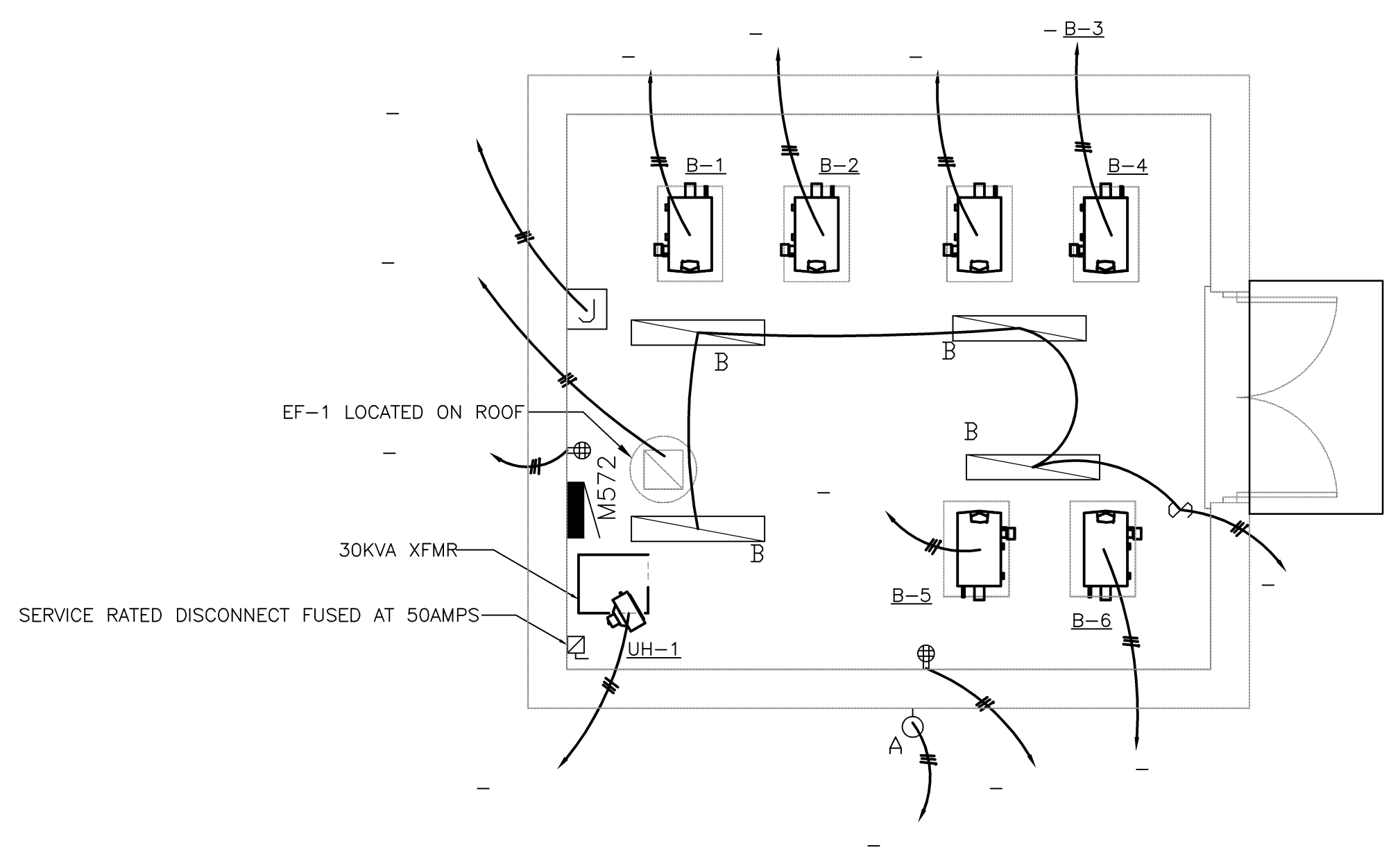


**BUILDING FC-571 & 573 NEW MECHANICAL ROOM PLAN**  
1/4"=1'-0"

ELECTRICAL M2 SCHEDULE									
VOLTS/PHASE/WIRE: 120V/208y/3φ/4W		PANEL SIZE: 100 A		MAIN TYPE & SIZE: 100 A MCB			CABINET: -----	MIN SCC: 22000	FED FROM: -----
CIRCUIT NO.	AREA SERVED	TRIP AMPS	NO. POLES	PHASE LOAD VA			WIRE & CONDUIT SIZE	CIRCUIT NOTES	
				A	B	C			
1	EF-1	20	1	360	0	0	2-#12-#12G-3/4"C		
2	SPARE	20	1	0	0	0			
3	DWP-1	20	1	0	360	0	2-#12-#12G-3/4"C		
4	LIGHTS	20	1	0	225	0	2-#12-#12G-3/4"C		
5,7	DWH-1	20	2	800	0	800	2-#12-#12G-3/4"C		
6	DWH-1	20	1	0	0	360	2-#12-#12G-3/4"C		
8	DWH-2	20	1	360	0	0	2-#12-#12G-3/4"C		
9	SPARE	20	1	0	0	0			
10	SPARE	20	1	0	0	0			
11	RECEPTACLE	20	1	0	0	360	2-#12-#12G-3/4"C		
12	RECEPTACLE	20	1	0	0	360	2-#12-#12G-3/4"C		
13	SPARE	20	1	0	0	0			
14	SPARE	20	1	0	0	0			
15	LDUVER	20	1	0	180	0	2-#12-#12G-3/4"C		
16	OUTSIDE LIGHT	20	1	0	125	0	2-#12-#12G-3/4"C		
17	SPARE	20	1	0	0	0			
18	SPARE	20	1	0	0	0			
19	SPARE	20	1	0	0	0			
20	SPARE	20	1	0	0	0			
21	SPARE	20	1	0	0	0			
22	SPARE	20	1	0	0	0			
23	SPARE	20	1	0	0	0			
24	SPARE	20	1	0	0	0			
25	SPARE	20	1	0	0	0			
CONNECTED LOAD				1520	890	1880	4.1 KVA		
LOAD CATEGORY	CONN. LOAD	DEMAND FACTOR	EST. LOAD						
Lighting	0.3	1.25	0.4						
Motors	1.1	1.00	1.1						
Motors (Largest)	0.4	1.25	0.5						
Receptacles (0 - 10 KVA)	2.3	1.00	2.3						
<b>TOTAL</b>	<b>4.1KVA</b>		<b>4.3KVA</b>						



**BUILDING FC-572 ELECTRICAL SITE PLAN**  
1/8"=1'-0"

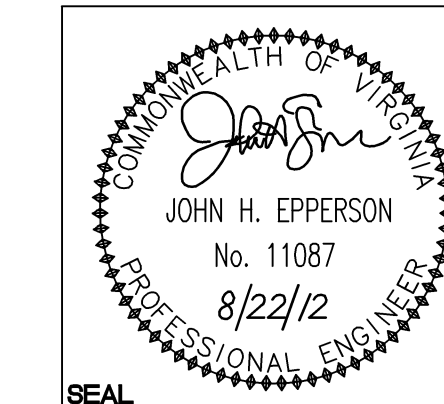


**BUILDING FC-572 NEW MECHANICAL ROOM PLAN**  
1/4"=1'-0"

ELECTRICAL M572 SCHEDULE									
VOLTS/PHASE/WIRE: 120V/208y/3φ/4W		PANEL SIZE: 60 A		MAIN TYPE & SIZE: 60 A MCB			CABINET: -----	MIN SCC: 22000	FED FROM: -----
CIRCUIT NO.	AREA SERVED	TRIP AMPS	NO. POLES	PHASE LOAD VA			WIRE & CONDUIT SIZE	CIRCUIT NOTES	
				A	B	C			
1,3	UH-1	20	2	800	800	0	2-#12-#12G-3/4"C		
2	BOILER 1	20	1	360	0	0	2-#12-#12G-3/4"C		
4	BOILER 2	20	1	0	360	0	2-#12-#12G-3/4"C		
5	BOILER 3	20	1	0	0	360	2-#12-#12G-3/4"C		
6	BOILER 4	20	1	0	0	360	2-#12-#12G-3/4"C		
7	BOILER 5	20	1	360	0	0	2-#12-#12G-3/4"C		
8	BOILER 6	20	1	360	0	0	2-#12-#12G-3/4"C		
9	SPARE	20	1	0	0	0	2-#12-#12G-3/4"C		
10	EF-1	20	1	0	360	0	2-#12-#12G-3/4"C		
11	RECEPTACLE	20	1	0	0	360	2-#12-#12G-3/4"C		
12	RECEPTACLE	20	1	0	0	360	2-#12-#12G-3/4"C		
13	LIGHTS	20	1	300	0	0	2-#12-#12G-3/4"C		
14	OUTSIDE LIGHT	20	1	125	0	0	2-#12-#12G-3/4"C		
15	LDUVER	20	1	0	180	0	2-#12-#12G-3/4"C		
16	SPARE	20	1	0	0	0			
17	SPARE	20	1	0	0	0			
18	SPARE	20	1	0	0	0			
19	SPARE	20	1	0	0	0			
20	SPARE	20	1	0	0	0			
CONNECTED LOAD				2305	1700	1440	5.3 KVA		
LOAD CATEGORY	CONN. LOAD	DEMAND FACTOR	EST. LOAD						
Lighting	0.4	1.25	0.5						
Motors	2.2	1.00	2.2						
Motors (Largest)	0.4	1.25	0.5						
Receptacles (0 - 10 KVA)	2.3	1.00	2.3						
<b>TOTAL</b>	<b>5.3KVA</b>		<b>5.5KVA</b>						

**DISCLOSURE OF INFORMATION**  
Contractor shall comply as follows:

- The Contractor shall not release to anyone outside the Contractor's organization any unclassified information, regardless of medium (e.g., film, tape, document), pertaining to any part of this contract or any program related to this contract, unless the Contracting Officer has given prior written approval; or
- The information is otherwise in the public domain before the date of release.
- Requests for approval shall identify the specific information to be released, the medium to be used, and the purpose for the release. The Contractor shall submit its request to the Contracting Officer at least 45 days before the proposed date for release.
- The Contractor agrees to include a similar requirement in each subcontract under this contract. Subcontractors shall submit requests for authorization to release through the prime contractor to the Contracting Officer.



<b>WileyWilson</b> 6600 West Broad St., Suite 500 Richmond, Virginia 23230-1717 804.294.7424 wileywilson.com		<b>E-103</b> PROJECT NO. CP12-0121 NAVAL FACILITIES ENGINEERING COMMAND <b>MARINE CORPS BASE</b> CAMP LEJEUNE, NORTH CAROLINA <b>BOILER MODIFICATIONS, VARIOUS FACILITIES, FRENCH CREEK</b> BUILDINGS FC-571, 572, 573 ELECTRICAL PLANS	
DES. CDH	DR. CDH	CHK. JHE	SUBMITTED BY: DESIGN DR. APPROVED PWO OR OICC DATE SATISFACTORY TO DATE
SIZE E	CODE IDENT NO. 80091	NAVFAC DRAWING NO. 60011344	CONSTR CONTR NO. N40085-12-B-0121
SCALE: AS SHOWN	SPEC No. 06-12-0121	SHEET 37 OF 37	