GENERAL NOTES

GENERAL

1. THE DRAWINGS AND SPECIFICATIONS DESCRIBE IN GENERAL THE QUALITY AND CHARACTER OF THE MATERIALS, SHAPE AND CONFIGURATION OF STRUCTURES AND METHOD OF INSTALLATION. MISCELLANEOUS ITEMS OF WORK, MATERIAL, EQUIPMENT, ETC., NECESSARY TO COMPLETE THE INSTALLATION SHALL BE PROVIDED BY THE CONTRACTOR WHETHER OR NOT MENTIONED IN THE SPECIFICATIONS OR SHOWN ON THE DRAWINGS.
2. SPECIFIC NOTES AND DETAILS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.
3. ALL CONSTRUCTION DOCUMENTS ARE COMPLEMENTARY, AND WHAT IS CALLED FOR BY ANY WILL BE AS BINDING AS IF CALLED FOR BY ALL. ANY WORK SHOWN OR REFERRED TO ON ANY CONSTRUCTION DOCUMENTS SHALL BE PROVIDED AS THOUGH ON ALL RELATED DOCUMENTS.
4. LARGE SCALE DRAWINGS TAKE PRECEDENCE OVER SMALL SCALE, DETAILS TAKE PRECEDENCE OVER ALL. CONTRACTOR SHALL NOTIFY COR OF CONFLICTS IN WRITING PRIOR TO PROCEEDING WITH THE WORK IN QUESTION.
5. CONTRACTOR IS RESPONSIBLE FOR CHECKING ALL CONTRACT DOCUMENTS, FIELD CONDITIONS, AND DIMENSIONS FOR ACCURACY AND CONFIRMING THAT WORK IS BUILDABLE AS SHOWN BEFORE PROCEEDING WITH THE CONSTRUCTION. IF THERE ARE ANY QUESTIONS, THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE GOVERNMENT BEFORE PROCEEDING WITH THE WORK IN QUESTION OR RELATED WORK.
6. CONTRACTOR SHALL NOT SCALE DRAWINGS. WRITTEN DIMENSIONS SHALL ALWAYS GOVERN. CONTRACTOR REQUIRING DIMENSIONS NOT NOTED SHALL CONTACT THE GOVERNMENT FOR SUCH INFORMATION PRIOR TO PROCEEDING WITH WORK RELATED TO THOSE DIMENSIONS EXCEPT FOR DIMENSIONS OR DETAILS OF EXISTING CONDITIONS WHERE CONTRACTOR SHALL FIELD MEASURE.
7. NO REPRODUCTIONS OF THE CONSTRUCTION DOCUMENTS ARE ACCEPTABLE FOR USE AS SHOP DRAWINGS.
8. THE CONTRACTOR SHALL PROTECT EXISTING FACILITIES FROM DAMAGE. ANY DAMAGE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE OWNER. BARRICADES, SIGNS, LIGHTS, ETC., REQUIRED FOR THE PROTECTION OF PERSONNEL, PROPERTY AND MATERIAL SHALL BE PROVIDED FOR AND MAINTAINED DURING CONSTRUCTION BY THE CONTRACTOR, AND SHALL CONFORM TO ALL GOVERNING CODES, ORDINANCES AND REGULATIONS. THE CONTRACTOR SHALL EMPLOY ALL MEANS NECESSARY TO CONTROL DUST & DEBRIS AT AND NEAR THE SITE OF WORK AND ALONG APPROACH ROUTES.
9. THE CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO INSTALL AND/OR ERECT THE CONSTRUCTION AS REQUIRED TO PROPERLY COMPLETE THE WORK. PRIOR TO BEGINNING THE WORK, CONTRACTOR SHALL RETAIN A STATE LICENSED STRUCTURAL ENGINEER WHO WILL REVIEW DETAILS AND DESIGN ALL NECESSARY SHORING WHEN TEMPORARY FORMWORK, SHORING OR BRACING IS NEEDED FOR CONSTRUCTION OF THE PROJECT. THE CONTRACTOR SHALL PROVIDE TEMPORARY ERECTION BRACING AND SHORING FOR ALL MEMBERS AS REQUIRED FOR THE STABILITY OF THE STRUCTURE(S) DURING ALL PHASES OF CONSTRUCTION ADEQUATELY DESIGNED FOR THE IMPOSITION OF ALL LOADS DURING CONSTRUCTION.
10. THE DRAWINGS SHOW THE FORM OF THE COMPLETED STRUCTURE(S) EXCLUSIVE OF ANY PROVISIONS FOR BRACING OR SHORING DURING CONSTRUCTION. STRUCTURAL ELEMENTS ARE NON-SELF SUPPORTING AND REQUIRE INTERACTION WITH OTHER ELEMENTS FOR STABILITY AND RESISTANCE TO GRAVITY, LATERAL, SEISMIC, WIND, AND OTHER SUCH FORCES. FRAMING AND WALLS SHALL BE TEMPORARILY BRACED BY THE CONTRACTOR UNTIL PERMANENT BRACING, FLOOR AND ROOF DECKS, AND WALLS HAVE BEEN INSTALLED AND CONNECTIONS BETWEEN THESE ELEMENTS HAVE BEEN MADE.
11. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE COR OF ANY CONDITION THAT MIGHT ENDANGER THE STABILITY OF THE STRUCTURE(S) OR CAUSE DISTRESS OF THE STRUCTURE(S). THE DESIGN ENGINEER IS NOT RESPONSIBLE FOR INSPECTION OF THE ELEMENTS DESCRIBED ABOVE, NOR WILL THE DESIGN ENGINEER BE RESPONSIBLE FOR THE CONTRACTOR'S MEANS, METHODS, TECHNIQUES OR SEQUENCES OF CONSTRUCTION. THE SPECIFICATIONS AND STRUCTURAL DRAWINGS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE THE METHOD OF CONSTRUCTION, UNLESS NOTED OTHERWISE. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES, AND OPERATION OF CONSTRUCTION AND SAFETY PRECAUTIONS AND PROGRAMS INCIDENTAL THERETO.
12. THE CONTRACTOR SHALL PROVIDE ALL TOOLS, TRANSPORTATION, UTILITIES, TEMPORARY FACILITIES, AND OTHER SERVICES AS NECESSARY FOR PROPER EXECUTION OF THE WORK, AND SHALL ASSUME FULL RESPONSIBILITY FOR PROTECTION AND SAFEKEEPING OF THESE ELEMENTS DURING CONSTRUCTION. THE CONTRACTOR SHALL CONTACT THE COR FOR DESIGNATION OF THE MATERIAL STORAGE AREA AT THE JOB SITE.
13. CONTRACTOR SHALL FIELD INVESTIGATE, VERIFY AND BE RESPONSIBLE FOR ALL CONDITIONS, ELEVATIONS AND DIMENSIONS OF THE PROJECT, AS SHOWN ON OR REFERENCED ON THE DRAWINGS AND ADDITIONALLY AS NECESSARY TO COMPLETE ALL THE WORK, AND NOTIFY THE GOVERNMENT ABOUT ANY CONDITION REQUIRING MODIFICATION OR CHANGE PRIOR TO BIDDING. EXAMINE THE DRAWINGS AND SPECIFICATIONS AND CLEARLY UNDERSTAND THE EXISTING CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED PRIOR TO BIDDING.
14. ENTERING INTO AN AGREEMENT WITH THE GOVERNMENT INDICATES THAT THE CONTRACTOR HAS VISITED THE SITE, FAMILIARIZED HIMSELF OR HERSELF WITH EXISTING CONDITIONS, AND REVIEWED SAME WITH REQUIREMENTS OF CONTRACT DOCUMENTS. NO ALLOWANCES OF ANY KIND WILL BE MADE FOR ANY EXTRA COST DUE THE CONTRACTOR'S FAILURE TO INFORM THE GOVERNMENT OF DISCREPANCIES IN TIME TO ISSUE CORRECTIVE ADDENDA PRIOR TO BIDDING. THE CONTRACT DOCUMENTS ILLUSTRATE THE INTENT OF THE WORK TO BE PERFORMED.
15. THE CONTRACTOR SHALL MAINTAIN GOOD HOUSEKEEPING PRACTICES AT THE JOB SITE. EXCESS BUILDING MATERIALS AND DEBRIS SHALL BE REMOVED PROMPTLY FROM THE JOB SITE AND DISPOSED OF AT AN APPROVED DUMPSITE. THE JOB SITE SHALL BE LEFT "BROOM CLEAN" AT THE END OF EACH WORKDAY. BEFORE ACCEPTANCE BY THE GOVERNMENT, THE COMPLETED CONSTRUCTION SHALL BE CLEARED, ANY APPLICABLE LABELS REMOVED, AND ALL OTHER TOUCH UP WORK COMPLETED.
16. ALL FINISH MATERIALS SHALL BE PROTECTED AT ALL TIMES AGAINST SUBSEQUENT DAMAGE, UNTIL FINAL ACCEPTANCE BY THE GOVERNMENT.
17. ANY AND ALL REVISIONS SHALL BE IN WRITTEN CHANGE ORDER FORM AND APPROVED AND AUTHORIZED BY THE GOVERNMENT BEFORE BEGINNING WORK.
18. THE CONTRACTOR SHALL MAINTAIN A CURRENT AND COMPLETE SET OF CONSTRUCTION DOCUMENTS ON THE JOB SITE DURING ALL PHASES OF CONSTRUCTION FOR USE OF ALL TRADES, AND SHALL NOTIFY ALL SUBCONTRACTORS WITH CURRENT CONSTRUCTION DOCUMENTS, AS REQUIRED.
19. ALL WORK LISTED, SHOWN, OR IMPLIED ON ANY CONSTRUCTION DOCUMENTS SHALL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR, EXCEPT WHERE NOTED OTHERWISE, TYPICALLY INDICATED AS "BY OTHERS" OR "NOT IN CONTRACT", SUCH WORK BEING SHOWN FOR COORDINATION PURPOSES.
20. THE CONTRACTOR SHOULD NOTE THAT ONLY THOSE PORTIONS OF THE EXISTING STRUCTURE ARE SHOWN WHERE PERTINENT TO THE LOCATIONS OF SUPPORT FRAMING MODIFICATION OR ADDITION. DRAWINGS SHALL BE USED FOR LAYOUT RELATIVE TO THE EXISTING STRUCTURE, HOWEVER FIELD VERIFICATION OF FRAMING LOCATIONS IS REQUIRED BEFORE INSTALLATION OF ANY NEW FRAMING.
21. THE CONTRACTOR SHOULD VERIFY EXACT LOCATIONS AND DIMENSIONS WITH ARCHITECTURAL DRAWINGS WHERE NOT SPECIFICALLY NOTED ON THIS SHEET, EXISTING BUILDING INFORMATION SHOWN IS FOR REFERENCE ONLY AND ALL INFORMATION SHALL BE FIELD VERIFIED PRIOR TO START OF CONSTRUCTION.
22. THE CONTRACTOR SHOULD VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO FABRICATION OF STRUCTURAL ITEMS. EXISTING PORTION OF PLANS ARE FROM LIMITED FIELD OBSERVATIONS AND AS-BUILT DRAWINGS, WHICH MAY OR MAY NOT REFLECT ACTUAL CURRENT AS-BUILT CONDITIONS OR DIMENSIONS. IF ANY DISCREPANCIES ARE FOUND BETWEEN WHAT IS SHOWN ON THE PLANS AND WHAT EXISTS IN THE FIELD, CONTACT THE COR TO DETERMINE WHAT SHOULD BE DONE TO MATCH OR ACCOMMODATE EXISTING CONDITIONS AS REQUIRED. BEGINNING OF CONSTRUCTION MEANS ACCEPTANCE OF EXISTING CONDITIONS. REFER TO GENERAL NOTES AND SPECIFICATIONS.
23. SUSPENDED PIPING AND CONDUIT SHALL BE SUPPORTED AT INTERVALS NOT TO EXCEED THOSE SHOWN IN THE DRAWINGS, SPECIFICATIONS OR ACCORDING TO THE GOVERNING CODES OVER SUCH WORK.
24. UTILITY CONNECTIONS AND DISCONNECTIONS NECESSARY TO COMPLETE THE WORK WILL BE PERFORMED ON "OFF-HOURS" TIME TO AVOID UTILITY SERVICE INTERRUPTIONS TO FACILITY OPERATIONS IN THE VICINITY OF CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE ALL UTILITY INTERRUPTIONS WITH THE COR TO OBTAIN APPROVAL FOR DISRUPTION TIMES AND DURATIONS.
25. THE LAYOUT OF ALL ELEMENTS OF CONSTRUCTION AS SHOWN ON THE DRAWINGS IS GENERALLY DIAGRAMMATIC UNLESS SPECIFICALLY DIMENSIONED. THE CONTRACTOR IS RESPONSIBLE FOR THE CORRECT LOCATIONS OF ALL WORK AND COORDINATION BETWEEN TRADES. USE ONLY DIMENSIONS INDICATED ON THE DRAWINGS. DO NOT SCALE DRAWINGS OR USE ANY DIMENSIONS TAKEN FROM ELECTRONIC DRAWING FILES. ASSUME EQUAL SPACING IF NOT INDICATED ON DRAWINGS.
26. WHERE DIMENSIONS AND DETAILS OF SPECIFIC INSTALLATION AND OPERATING INSTRUCTIONS OF EQUIPMENT ARE NOT PROVIDED IN THE DRAWINGS OR SPECIFICATIONS, PERFORM THE WORK ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS. THE CONTRACTOR IS RESPONSIBLE FOR FIELD LOCATION ADJUSTMENTS TO PROPERLY INSTALL ALL EQUIPMENT. FULLY COORDINATE AND INSTALL ALL EQUIPMENT COMPONENTS IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S WRITTEN INSTRUCTIONS.
27. OBSTRUCTIONS AND UNDERGROUND CONDITIONS, EXISTING FOUNDATIONS, UTILITIES, ETC. INDICATED ARE FOR INFORMATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION AND DEPTH OF ALL OBSTRUCTIONS WITH THE APPROPRIATE AGENCY.
28. CONTRACTOR SHALL PROVIDE BARRICADES TO PROTECT THE GENERAL PUBLIC AND TO PREVENT UNCONTROLLED ACCESS TO THE SITE AT ALL TIMES.
29. THE GOVERNMENT MAKES NO REPRESENTATION AS TO THE ACCURACY OR COMPLETENESS OF THE LOCATION, OR EXISTENCE OR NONEXISTENCE OF ANY UNDERGROUND UTILITIES OR STRUCTURES, WITHIN THE LIMITS OF THIS PROJECT. THE CONTRACTOR IS REQUIRED TO TAKE ALL PRECAUTIONARY MEANS TO PROTECT UTILITIES AND STRUCTURES NOT OF RECORD WHETHER SHOWN OR NOT ON THESE PLANS.
30. SUPPORT AND BRACE MECHANICAL DUCTWORK AND PIPING, CONDUITS AND CABLE TRAYS, TELECOMMUNICATION WIRES AND CABLE TRAYS TO RESIST DIRECTIONAL FORCES (LATERAL, LONGITUDINAL AND VERTICAL.)
31. AT REGULAR INTERVALS, LATERALLY BRACE SUSPENDED CEILINGS AGAINST LATERAL AND VERTICAL MOVEMENTS. INDEPENDENTLY SUPPORT AND LATERALLY BRACE ALL LIGHTING FIXTURES.
32. "TYPICAL" OR "TYP." MEANS THAT THE CONDITION IS REPRESENTATIVE FOR ALL SIMILAR CONDITIONS, UNLESS OTHERWISE NOTED. "SIMILAR" OR "SIM." MEANS COMPARABLE CHARACTERISTICS FOR THE CONDITIONS OR DETAILS WITH ONLY SPECIFIC DIFFERENCES NOTED. VERIFY DIMENSIONS AND ORIENTATION ON PLANS AND ELEVATIONS. "ALIGN" AS USED IN THESE DOCUMENTS MEANS TO ACCURATELY LOCATE FINISHES IN THE SAME PLANE.

GENERAL CONTINUED

33. "AS REQUIRED" MEANS AS REQUIRED BY REGULATORY REQUIREMENTS, BY REFERENCED STANDARDS, BY EXISTING CONDITIONS, BY GENERALLY ACCEPTED CONSTRUCTION PRACTICE OR BY THE CONTRACT DOCUMENTS.
34. NON-STRUCTURAL BUILDING COMPONENTS ARE COMPONENTS OR SYSTEMS THAT ARE NOT PART OF THE BUILDING'S STRUCTURAL SYSTEM WHETHER INSIDE OR OUTSIDE, ABOVE OR BELOW GRADE. NON-STRUCTURAL COMPONENTS OF BUILDINGS INCLUDE; SUSPENDED CEILING; BRACING AT TOP OF WALLS THAT DO NOW FULLY EXTEND FROM FLOW TO STRUCTURE ABOVE; POWER AND LIGHTING SYSTEMS; PANELS; FIRE PROTECTION AND ALARM SYSTEMS; TELEPHONE AND COMMUNICATION SYSTEMS; HEATING, VENTILATION, AND AIR-CONDITIONING SYSTEMS; ROOF DRAINAGE PIPING; MEDICAL GAS PIPING; SPRINKLER SYSTEMS; MEDICAL EQUIPMENT AND OTHER EQUIPMENT EXCEEDING WEIGHT LIMITATIONS AS SPECIFIED AND DETAILED.
35. CONTRACTOR SHALL PROVIDE ALL NECESSARY BLOCKING, BACKING, FRAMING HANGERS OR OTHER SUPPORTS FOR ALL FIXTURES, EQUIPMENT, CABINETRY, FURNISHINGS AND ALL OTHER ITEMS REQUIRING SAME.
36. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING REQUIRED FOR PROPER INSTALLATION OF MATERIAL AND EQUIPMENT. PROVIDE DEMOLITION AND PATCH/REPAIR IN ALL AREAS (WHETHER SPECIFICALLY SHOWN OR NOT) TO ACCOMMODATE ALL WORK INCLUDING MECHANICAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION.
37. CONTRACTOR SHALL PROTECT, PATCH AND REFINISH TO MATCH EXISTING AREAS TO REMAIN AND AREAS DISTURBED BY NEW CONSTRUCTION.
38. ALL NEW REINFORCING BARS OR THREADED ROD DOWELS PLACED INTO EXISTING CONCRETE, CONCRETE MASONRY OR BRICK SHALL BE EPOXIED, SEE NOTES FOR DRILLED IN ANCHORS.
39. PROTECT EXISTING PIPE(S) FROM DAMAGE AND MAINTAIN OPERATIONAL DURING CONSTRUCTION. PROVIDE PIPE SLEEVE(S) FOR EXISTING PIPE(S) THAT PENETRATE NEW CONCRETE WALLS. PIPE SLEEVES SHALL PROVIDE A MINIMUM OF 2" CLEARANCE BETWEEN SLEEVE AND PIPE. THE SIZE AND LOCATION OF EQUIPMENT PADS AND PENETRATIONS THROUGH THE STRUCTURE FOR MECHANICAL, ELECTRICAL, AND PLUMBING WORK SHALL BE VERIFIED BY THE CONTRACTOR. PENETRATIONS SHALL BE SUBJECT TO APPROVAL BY THE ARCHITECT AND STRUCTURAL ENGINEER. REFER TO MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR OPENING LOCATIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
40. EXISTING UNDERGROUND PIPE(S) TO REMAIN UNLESS SPECIFICALLY SHOWN FOR REMOVAL ON PLANS. PROTECT EXISTING PIPE(S) FROM DAMAGE AND MAINTAIN OPERATIONAL DURING CONSTRUCTION. PROVIDE PIPE SLEEVE(S) FOR EXISTING PIPE(S) THAT PENETRATE NEW CONCRETE WALLS. PIPE SLEEVES SHALL PROVIDE A MINIMUM OF 2" CLEARANCE BETWEEN SLEEVE AND PIPE.
41. DURING WELDING OR ANY OTHER CONSTRUCTION ACTIVITY THAT GENERATES SPARKS OR INTENSE HEAT, THE CONTRACTOR SHALL PROVIDE ADEQUATE FIRE PROTECTION TO THE EXISTING STRUCTURE AND CONTENTS. AS A MINIMUM:
    A. REMOVE COMBUSTIBLE MATERIALS FROM AREAS OF WELDING AND SPARKS.
    B. PROVIDE FIRE PROOF BLANKETS AND SHIELDS TO CONTAIN SPARKS WHERE COMBUSTIBLE MATERIALS CANNOT BE REMOVED.
    C. PROVIDE A FIRE SAFETY OBSERVER WITH A FIRE EXTINGUISHER ON BOTH THE ROOF AND BELOW THE ROOF DURING WELDING NEAR THE ROOF STRUCTURE.
42. BEFORE OR CONCURRENT WITH EXCAVATIONS FOR THE FOUNDATIONS ADJACENT TO THE EXISTING BUILDING, PROVIDE ADEQUATE SUPPORT TO THE EXISTING SUBBASE OF THE EXISTING SLAB AND THE FOUNDATIONS TO PREVENT UNDERMINING.
43. THE SPECIFICATIONS ARE AN INTEGRAL PART OF THE CONTRACT DOCUMENTS AND SHALL BE USED IN CONJUNCTION WITH THE STRUCTURAL DRAWINGS. WHERE REQUIREMENTS INDICATED ON THE STRUCTURAL DRAWINGS DIFFER FROM THE SPECIFICATIONS, NOTIFY THE COR.

CONCRETE

1. REFER TO ACI 318 LATEST EDITION FOR CONCRETE COVER, ACI 315 LATEST EDITION FOR DETAILING PRACTICES AND FABRICATION AND ACI 301 LATEST EDITION FOR STANDARD PRACTICE FOR MIXING AND PLACING REINFORCED CONCRETE.
2. MINIMUM COMPRESSIVE STRENGTH (f'c) AT THE END OF 28 DAYS SHALL BE AS FOLLOWS:

A. FOOTINGS	3000 PSI
B. FOUNDATION WALLS AND PEDESTALS	4000 PSI
C. SLABS-ON-GRADE	3000 PSI
D. SLABS ON DECK (SUSPENDED SLABS)	3000 PSI
E. STEEL STAIR PANS (SLABS ON NON-COMPOSITE DECK)	3000 PSI
F. INTERIOR TOPPING SLABS	4000 PSI LIGHTWEIGHT
G. BUILDING FRAME MEMBERS (OTHER THAN PRECAST)	4000 PSI
H. BUILDING WALLS AND PILASTERS	4000 PSI
I. PRECAST WALL PANELS, SLAB PANELS, BEAMS	5000 PSI

   REFER TO SPECIFICATIONS FOR MAXIMUM WATER/CEMENT RATIOS, MINIMUM CEMENT CONTENTS AND OTHER MIX DESIGN REQUIREMENTS. CONCRETE SHALL BE NORMAL WEIGHT (145 PCF), UNLESS NOTED OTHERWISE.
3. EXTERIOR CONCRETE AND CONCRETE EXPOSED TO FREEZE-THAW CYCLES SHALL BE AIR-ENTRAINED. REFER TO SPECIFICATIONS FOR AIR CONTENT.
4. MATERIALS OR ADMIXTURES SHALL NOT CONTAIN ANY CALCIUM CHLORIDE.
5. REINFORCING STEEL SHALL MEET THE FOLLOWING:

A. DEFORMED BARS	ASTM A615, GRADE 60
B. WELDABLE DEFORMED BARS	ASTM A706, GRADE 60
C. WELDED WIRE FABRIC	ASTM A185
D. STEEL FIBERS	ASTM A820

6. WHERE DOWELS ARE INDICATED BUT NOT SIZED, PROVIDE DOWELS THAT MATCH SIZE AND LOCATION OF MAIN REINFORCING STEEL AND LAP SPLICE WITH THE MAIN REINFORCING STEEL. REINFORCING BARS SHALL BE SPLICED AS NOTED IN THE REINFORCING LAP SCHEDULE.
7. PROVIDE CORNER BARS THAT MATCH AND LAP CONTINUOUS REINFORCEMENT SIZE AND QUANTITY AT INTERSECTIONS AND CORNERS OF WALLS AND FOUNDATIONS.
8. PROVIDE #3 Z-BAR SPACERS AT 24 INCHES ON CENTER EACH WAY FOR CONCRETE WALLS HAVING REINFORCING STEEL IN BOTH FACES.
9. ALL SLOTS, SLEEVES AND OTHER EMBEDDED ITEMS SHALL BE SET BEFORE CONCRETE IS PLACED. SEE ARCHITECTURAL, ELECTRICAL, MECHANICAL, AND VENDOR DRAWINGS FOR SIZE AND LOCATION.
10. ANCHORS INSTALLED IN HARDENED CONCRETE SHALL ONLY BE USED WHERE SPECIFIED ON THE CONTRACT DRAWING. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER-OF-RECORD PRIOR TO INSTALLING POST-INSTALLED ANCHORS IN PLACE OF MISSING OR MISPLACED CAST-IN-PLACE ANCHORS.
11. CARE SHALL BE TAKEN IN PLACING POST-INSTALLED ANCHORS TO AVOID CONFLICTS WITH EXISTING REBAR. HOLES SHALL BE DRILLED AND CLEANED AND ANCHORS INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED WRITTEN INSTRUCTIONS AND APPLICABLE ESR REPORT. REFER TO DETAILS FOR ANCHOR SIZE AND EMBEDMENT. SUBSTITUTION REQUESTS FOR PRODUCTS OTHER THAN THOSE SPECIFIED ON THE CONTRACT DRAWINGS SHALL BE SUBMITTED BY THE CONTRACTOR TO THE COR ALONG WITH CALCULATIONS THAT ARE SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION AND LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED. THE CALCULATIONS SHALL DEMONSTRATE THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERTINENT EQUIVALENT PERFORMANCE VALUES (MINIMUM) OF THE SPECIFIED PRODUCT USING THE APPROPRIATE DESIGN PROCEDURE AND/OR STANDARD(S) AS REQUIRED BY THE BUILDING CODE.
12. INCLUDE AN ALLOWANCE IN THE BID PRICE FOR 5000 POUNDS OF REINFORCING STEEL TO BE FABRICATED AND PLACED AS DIRECTED BY ARCHITECT OR ENGINEER. ALLOWANCE IS TO INCLUDE, BUT IS NOT LIMITED TO, MATERIAL, DETAILING, FABRICATION, SHIPPING, INSTALLATION, OVERHEAD AND PROFIT.

SEISMIC REQUIREMENTS

1. THE LATERAL FORCE RESISTING SYSTEM OF THE OVERALL STRUCTURE HAS BEEN DESIGNED TO ACCOUNT FOR SEISMIC LOADING FROM THE BUILDING AND SYSTEMS SHOWN ON THESE DRAWINGS ACCORDING TO IBC, ASCE 7, AND VA SEISMIC REQUIREMENTS. BRACING OF ALL INDIVIDUAL COMPONENTS AND SYSTEMS TO THE MAIN STRUCTURE IS NOT SHOWN ON THE STRUCTURAL DRAWINGS. REFER TO ARCHITECTURAL AND MEP DRAWINGS AND EQUIPMENT MANUFACTURER REQUIREMENTS FOR SPECIFIC COMPONENT BRACING TO THE MAIN STRUCTURE WHERE NOT SPECIFICALLY SHOWN ON THE STRUCTURAL DRAWINGS. DELEGATED/DEFERRED BRACING DESIGN OR MANUFACTURER PRE-APPROVED ANCHORAGE SHALL RESIST, AT MINIMUM, THE LOADING INDICATED ON THESE DRAWINGS UNDER THE SECTION "DESIGN PARAMETERS".
2. SUSPENDED PIPING AND CONDUIT SHALL BE SEISMICALLY BRACED AT INTERVALS NOT TO EXCEED THOSE SHOWN IN THE DRAWINGS, SPECIFICATIONS OR ACCORDING TO THE GOVERNING CODES OVER SUCH WORK. REFER TO MEP DRAWINGS AND SPECIFICATIONS FOR MORE INFORMATION.
3. FOR BRACING OF SYSTEMS NOT SPECIFICALLY SHOWN ON STRUCTURAL DRAWINGS, REFER TO UNISTRUT SEISMIC BRACING FOR OSHPD PRE-APPROVED MANUFACTURER CERTIFICATION (OSHPD OPM-0295-13) FOR UNISTRUT BRACING SYSTEMS AND DETAILS. OTHER PRE-APPROVED RESTRAINT SYSTEMS ARE ACCEPTABLE AS APPROVED BY COR AND STRUCTURAL ENGINEER.
4. REFER TO VA SEISMIC DESIGN REQUIREMENTS, H-18-8, NOVEMBER 2019 FOR ADDITIONAL REQUIREMENTS FOR SEISMIC BRACING OF NON STRUCTURAL BUILDING COMPONENTS AND EQUIPMENT.
5. REFER TO ASCE 7-16, CHAPTER 13 FOR ADDITIONAL REQUIREMENTS FOR SEISMIC BRACING OF NON STRUCTURAL BUILDING COMPONENTS AND EQUIPMENT.
6. PROVIDE SUPPORTS AND ANCHORING SO THAT, UPON APPLICATION OF SEISMIC FORCES, PIPING REMAINS FULLY CONNECTED AS OPERABLE SYSTEMS, WHICH WILL NOT DISPLACE SUFFICIENTLY TO DAMAGE ADJACENT OR CONNECTING EQUIPMENT OF BUILDING MEMBERS. PROVIDE FLEXIBLE CONNECTIONS TO ALLOW MOVEMENT AT CRITICAL ELEMENTS. REFER TO MEP DRAWINGS AND SPECIFICATIONS FOR MORE INFORMATION.
7. REFER TO SPECIFICATIONS FOR APPROVED BRACING METHODS OF SUSPENDED CEILING SYSTEMS.

FOUNDATIONS AND SLABS ON GRADE

1. FOOTING DESIGNS ARE BASED ON A NET SOIL BEARING PRESSURE FOR COLUMN FOOTINGS AND FOR CONTINUOUS SPREAD FOOTINGS AS NOTED IN THE SOILS REPORT: **2,000 NET PSF**
2. CONTRACTOR SHALL READ GEOTECHNICAL REPORT **#23-0352** BY **GEOTEK ENGINEERING AND TESTING SERVICES, INC., DATED MAY 18, 2023** CONTRACTOR AND TESTING LABORATORY REPRESENTATIVE SHALL READ THE GEOTECHNICAL REPORT AND BECOME THOROUGHLY FAMILIAR WITH SITE AND SUBGRADE INFORMATION GIVEN THEREIN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING EXACT QUANTITIES OF CUT AND FILL FOR ESTIMATING AND CONSTRUCTION. SUBGRADE SHALL BE PREPARED AS NOTED IN THE GEOTECHNICAL REPORT.
3. A QUALIFIED AND REGISTERED GEOTECHNICAL ENGINEER, LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED AND WORKING FOR THE TESTING LABORATORY, SHALL DETERMINE CONFORMANCE OF THE FOUNDATION BEARING STRATA WITH THE FOUNDATION DESIGN CRITERIA ABOVE, AND ALL OTHER CONTRACT DOCUMENTS. TESTING LABORATORY SHALL NOTIFY CONTRACTOR, ARCHITECT AND CONSULTING ENGINEER OF ANY CONDITIONS NOT IN ACCORDANCE WITH FOUNDATION DESIGN CRITERIA OR CONTRACT DOCUMENTS.
4. INTERIOR AND EXTERIOR FOOTINGS SHALL BEAR AT OR BELOW MINIMUM BEARING DEPTH. MINIMUM BEARING DEPTH IS **30"** BELOW ADJACENT FINISHED GRADE. STANDARD PROCEDURES OF FROST PROTECTION FOR FOUNDATIONS AND EXCAVATIONS SHALL BE EMPLOYED FOR WINTER CONSTRUCTION. BACKFILLING OF EXCAVATIONS SHALL BE DONE AS SOON AS POSSIBLE TO PROTECT FOUNDATIONS FROM FROST.
5. USE ONLY STRUCTURAL FILL MATERIAL AS NOTED IN THE GEOTECHNICAL REPORT FOR FILL BELOW BUILDINGS/STRUCTURES AND REQUIRED DISTANCE BEYOND THE EDGES OF THE BUILDINGS/STRUCTURES.
6. FOUNDATION WALLS SHALL HAVE ADEQUATE TEMPORARY BRACING INSTALLED BY THE CONTRACTOR BEFORE BACKFILL IS PLACED AGAINST THEM. TEMPORARY BRACING SHALL NOT BE REMOVED UNTIL WALL IS PERMANENTLY BRACED.
7. FOUNDATION PENETRATIONS SHALL BE SUBJECT TO APPROVAL BY THE ARCHITECT/ENGINEER. PENETRATIONS SHALL BE THROUGH FOUNDATION STEMWALL OR 6" CLEAR BELOW FOOTING.
8. "C.J." INDICATES SAW CUT CONTRACTION JOINT OR DOWELED CONSTRUCTION JOINT IN SLAB-ON-GRADE. REFER TO SPECIFICATIONS FOR ACCEPTED SAW CUT METHODS. SLAB POURS SHALL BE SEPARATED BY A DOWELED CONSTRUCTION JOINT. CONTRACTION/CONSTRUCTION JOINTS SHALL BE LOCATED AS SHOWN ON PLANS OR AS DIRECTED BY THE STRUCTURAL ENGINEER.
9. CONTROL/CONSTRUCTION JOINTS SHALL BE LOCATED AS SHOWN ON PLANS OR AS DIRECTED BY THE ARCHITECT OR ENGINEER.
10. SOIL SUPPORTED SLABS SHALL BE CONSTRUCTED OVER PREPARED SUBGRADE AS SPECIFIED IN THE GEOTECHNICAL REPORT.

BUILDING AND STRUCTURE PAD PREPARATION AND SUBGRADE

1. THE GEOTECHNICAL REPORT RECOMMENDATIONS SUPERCEDE DIRECTION PROVIDED ON THESE DRAWINGS OR SPECIFICATIONS. WHERE CONFLICTING INFORMATION IS ENCOUNTERED, FOLLOW PRESCRIBED METHODS AND MATERIALS AS INDICATED IN THE GEOTECHNICAL REPORT.
2. AFTER PERFORMING ANY REQUIRED CUTS, STRIPPING AND PROOFROLLING, THE EXPOSED SUBGRADE SHALL BE PREPARED IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS.
3. DURING COMPACTION, THE EXPOSED SUBGRADE AND EACH LIFT OF COMPACTION FILL SHALL BE TESTED FOR MOISTURE AND DENSITY AND REWORKED AS NECESSARY UNTIL THE LIFT IS APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO THE PLACEMENT OF ADDITIONAL MATERIAL.
4. THE GROUND SURFACE SHOULD BE SLOPED AWAY FROM THE BUILDING ON ALL SIDES TO PREVENT WATER FROM COLLECTING NEAR THE BUILDING. WATER SHOULD NOT BE ALLOWED TO POND NEAR THE BUILDING DURING OR AFTER CONSTRUCTION. IN ADDITION, THE MOISTURE CONTENT OF THE SOIL SHOULD BE MAINTAINED NEAR OPTIMUM UNTIL THE FLOOR SLAB IS CONSTRUCTED. THEREFORE, THE BUILDING PAD SHOULD ALWAYS CONTAIN ENOUGH MOISTURE SO THAT SURFACE CRACKS DO NOT DEVELOP. THE MOISTURE CONTENT OF THE BUILDING PAD SHALL BE EVALUATED JUST BEFORE CONCRETE FOR THE FLOOR IS PLACED.
5. IMMEDIATELY NOTIFY THE COR IF UNUSUAL SOIL CONDITIONS ARE FOUND.
6. PROTECT EXISTING STRUCTURES AND UTILITIES WITHIN THE BUILDING PAD AREA FROM DAMAGE. RESTORE ALL ITEMS DAMAGED AT NO COST TO VA.
7. DO NOT ALLOW STORED EXCAVATION MATERIAL TO DISRUPT PROPER DRAINAGE OF AREA. PROVIDE EROSION CONTROL AND SWPPP MEASURES TO PREVENT LOSS OR SPREADING OF SILT MATERIALS FROM STORAGE AREAS.
8. BUILDING PAD AND SLAB SUBBASE SHALL BE PREPARED IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS.
9. EXPANSIVE SOILS SHALL BE REMOVED TO A MINIMUM OF SIX (6) FEET AWAY FROM THE BUILDING AREAS. THESE SOILS SHALL BE REPLACED WITH PROPERLY COMPACTED LOW PLASTICITY STRUCTURAL FILL.
10. SLAB-ON-GRADES SHALL BE SUPPORTED ON A MINIMUM FOUR (4) INCH THICK AGGREGATE BASE ON TOP OF COMPACTED LOW VOLUME CHANGE SUBGRADE.
11. ALL IMPORTED FILL SHALL CONFORM TO THE REQUIREMENTS AS STATED IN THE DRAWINGS AND SPECIFICATIONS.
12. A VAPOR RETARDER MEMBRANE (15-MIL POLYETHYLENE, REFER TO ARCH.) SHOULD BE PLACED IMMEDIATELY BELOW THE FLOOR SLAB TO HELP REDUCE MOISTURE EMISSIONS THROUGH THE SLAB.

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL MEET THE FOLLOWING MINIMUM YIELD STRENGTHS:

TYPE	YIELD	ASTM SPEC.
A. W, WT SHAPES:	50 KSI	A992
B. BARS, PLATES, CHANNELS, ANGLES:	36 KSI	A36
C. SQUARE, RECTANGULAR HSS:	46 KSI	A500, GRADE B
D. ROUND HSS:	42 KSI	A500, GRADE B
E. STRUCTURAL STEEL PIPE:	35 KSI	A53, GRADE B
F. ALL-THREAD RODS:	36 KSI	A36
G. ANCHOR RODS:	36 KSI	A307 OR F1554-36
H. HEADED STUD ANCHORS:	60 KSI	A108, GRADES 1010-1020

2. BOLTS FOR STEEL BEAM AND COLUMN CONNECTIONS SHALL BE 3/4" DIAMETER ASTM A325 HIGH-STRENGTH BEARING TYPE BOLTS WITH THREADS EXCLUDED FROM THE SHEAR PLANE, INSTALLED SNUG TIGHT, UNLESS NOTED OTHERWISE. BOLT HOLES SHALL BE 1/16 INCH LARGER THAN BOLT DIAMETER UNLESS OTHERWISE NOTED.
3. WELDING SHALL MEET ANSI/AWS D1.1 STRUCTURAL WELDING CODE, LATEST REVISION. ELECTRODES SHALL BE 70KSI LOW HYDROGEN SERIES.
4. THE FABRICATOR SHALL BE RESPONSIBLE FOR THE DESIGN AND ADEQUACY OF CONNECTIONS THAT ARE NOT DESIGNED OR FULLY DETAILED ON THE CONTRACT DOCUMENTS. ALL CONNECTIONS NOT FULLY DETAILED ON THE STRUCTURAL DRAWINGS SHALL BE DESIGNED AND DETAILED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED, EMPLOYED OR RETAINED BY THE STEEL FABRICATOR. THE DESIGN AND DETAILING SHALL COMPLY WITH ALL APPLICABLE CODES AND SPECIFICATION SECTIONS.
5. PROVIDE DOUBLE NUTS AND DOUBLE WASHERS FOR STEEL COLUMN ANCHOR BOLTS TO ALLOW FOR ADJUSTMENT IN BASE PLATE ELEVATION. PROVIDE ASTM A194 GRADE 2H NUTS AND F436 WASHERS FOR ANCHOR BOLTS.
6. PROVIDE 1 1/2 INCH NON-SHRINK GROUT UNDER BASE PLATE AFTER ERECTION EXCEPT USE 2 1/2 INCH NON-SHRINK GROUT WHEN COLUMN ANCHOR BOLTS ARE 1 1/4 INCH DIAMETER OR GREATER. NON-SHRINK GROUT, WHERE INDICATED ON PLANS, SHALL BE NON-METALLIC WITH A MINIMUM COMPRESSIVE STRENGTH OF 5,000 PSI AT 28 DAYS.
7. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR INCLUDING THE COSTS FOR ALL MISCELLANEOUS STEEL IN THEIR BID, REGARDLESS OF WHETHER THOSE ITEMS ARE INDICATED ON THE STRUCTURAL DRAWINGS. THESE COSTS SHALL INCLUDE, BUT NOT LIMITED TO, MISCELLANEOUS STEEL ITEMS SHOWN ON ARCHITECTURAL, CIVIL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS. REFER TO DRAWINGS AND SPECIFICATIONS FOR MORE INFORMATION AND MISCELLANEOUS STEEL REQUIREMENTS.
8. CONNECTING PLATES, BASE PLATES, STIFFENERS, DOUBLER PLATES, CONTINUITY PLATES, SHEAR TABS, ETC., SHALL BE SAME GRADE AS HIGHEST GRADE MEMBER AT CONNECTION, EXCEPT WHERE NOTED OTHERWISE.
9. ALL STEEL FABRICATION AND DETAILS SHALL COMPLY WITH MOST STRINGENT OF AISC CODE (2022 AISC 360), THE AWS CODE (2020 D1.1), THE REFERENCED CODES AND STANDARDS (2021 IBC), AND CONTRACT DOCUMENTS.
10. ALL WELDS SHALL BE E700X UNLESS NOTED OTHERWISE.
11. INSPECTIONS AND ACCEPTANCE OF ALL WELDS, INCLUDING ALL PENETRATION WELDS, IS PER THE MOST STRINGENT OF THE 2020 AWS D1.1 CODE, AWS REQUIREMENTS, AND CONTRACT DOCUMENTS. WELD INSPECTIONS SHALL BE PERFORMED BY A 3RD PARTY CERTIFIED WELDING INSPECTOR, REFER TO SG002 SPECIAL INSPECTION REQUIREMENTS FOR ADDITIONAL INFORMATION.
12. ALL WELDING SHALL BE BY CERTIFIED WELDERS AND SHALL CONFORM TO ALL CODE AND AWS REQUIREMENTS.
13. ALL STEEL WITH YIELD STRENGTHS OF 36000 PSI OR GREATER SHALL BE IDENTIFIED BY THE MILL AND FABRICATION IN ACCORDANCE WITH THE DESIGN CODE.
14. "ALL THREAD" MATERIAL SHALL NOT BE SUBSTITUTED FOR BOLTS IN STEEL, CONCRETE, TIMBER, MASONRY, OR ANY OTHER STRUCTURAL APPLICATION, UNLESS NOTED OTHERWISE.

POWER ACTUATED FASTENER (PAF) GENERAL NOTES (INSTALLED IN STEEL)

1. POWER ACTUATED FASTENER (PAF), POWDER DRIVEN FASTENERS (PDF), POWER DRIVEN PINS (PDP), SHOT PINS ALL REPRESENT THE SAME FASTENER AND WILL HEREAFTER BE REFERRED TO AS POWER ACTUATED FASTENERS (PAF).
2. MINIMUM STEEL TENSILE STRENGTH Fu=58 KSI.
3. MINIMUM SPACING = 1 INCH, MINIMUM EDGE DISTANCE = 1/2 INCH.
4. USE KNURLED SHANK FASTENERS FOR ALL CONNECTIONS.
5. PAF SHALL BE INSTALLED PER CURRENT ICC-ES EVALUATION REPORTS INDICATED (OR EQUIVALENT ICC-ESR REPORTS OR OTHER REPORTS FROM OTHER TESTING AGENCIES ACCEPTABLE TO THE VA COR). SEE IBC, ASCE AND MANUFACTURER INSTALLATION INSTRUCTIONS FOR PAF REQUIREMENTS & ATTACHMENT TO STEEL.
6. ALLOWABLE STRENGTHS SHALL BE COMPARED TO ALLOWABLE STRESS DESIGN (ASD) LEVEL DEMAND IN ACCORDANCE WITH APPLICABLE CODES.
7. ALLOWABLE STRENGTHS ARE FOR SINGLE FASTENERS, WHICH MEET THE REQUIREMENTS PER NOTES ABOVE. THE ALLOWABLE STRENGTHS ARE BASED UPON THE LEAST OF THE ALLOWABLE STRENGTHS LISTED IN THE ICC-ESR REPORT INDICATED FOR FASTENERS SHOWN ON DRAWINGS.
8. TOTAL ALLOWABLE TENSION, SHEAR OR TENSION SHEAR COMBINATION SHALL NOT EXCEED 250 LBS IN SEISMIC DESIGN CATEGORIES D, E AND F, AS INDICATED BY THE IBC AND ASCE CODES.
9. STANDARD PAF INSTALLED TO STEEL UNLESS NOTED OTHERWISE: HILTI .177"ø KNURLED SHANK PAF (ICC-ESR 1663) (OR APPROVED EQUAL), UNLESS NOTED OTHERWISE. REFER TO DETAILS FOR QUANTITY AND SPACING.

DESIGN PARAMETERS

1. BUILDING CODE	2021 INTERNATIONAL BUILDING CODE / ASCE 7-16 VA DESIGN GUIDE / VA H-18-8
2. DEAD LOADS	
FLOOR LEVEL (SUPERIMPOSED)	10 PSF
ROOF LEVEL (SUPERIMPOSED - TAPERED INSULATION AND ROOFING)	10 PSF
ROOF LEVEL (SUPERIMPOSED - FRAMED SLOPED ROOFING SYSTEM)	20 PSF
3. LIVE LOADS	
ROOF	20 PSF
OCCUPIED FLOORS (INCLUDES PARTITION ALLOWANCE)	100 PSF
MECHANICAL ROOMS	125 PSF
4. SNOW LOADS	
A. GROUND SNOW LOAD, Pg	50 PSF
B. ROOF SNOW LOAD, Pf	42 PSF
C. SNOW EXPOSURE FACTOR, Ce	1.0
D. IMPORTANCE FACTOR, I	1.2
E. THERMAL FACTOR, Ct	1.0
F. MAX SNOW DRIFT LOAD	91 PSF
5. WIND LOADS	
A. BASIC WIND SPEED (3 SECOND GUST)	
ULTIMATE WIND SPEED, Vult	120 MPH
SERVICE LEVEL WIND SPEED, Vasd	92.95 MPH
B. RISK CATEGORY	IV
C. WIND EXPOSURE CATEGORY	C
D. INTERNAL PRESSURE COEFFICIENT	0.18
E. DESIGN WIND PRESSURES ON PRIMARY STRUCTURE	(LOADS INCLUDE .6 SERVICE LEVEL FACTOR)
1. WALLS	
WINDWARD & LEEWARD	21.6 PSF
SIDEWALL	-14.9 PSF
2. PARAPETS	
WINDWARD	29.6 PSF
LEEWARD	-19.7 PSF
3. ROOF	
NORMAL TO RIDGE	
WINDWARD CASE I	-4.1 PSF
WINDWARD CASE II	9.6 PSF
LEEWARD	-13.2 PSF
ALL OTHER CONDITIONS (0-36 FT)	-18.1 PSF
F. DESIGN WIND PRESSURES ON COMPONENTS AND CLADDING	
1. WALLS	
INTERIOR ZONE	20.4/-22.3 PSF
END ZONE	20.4/-25.9 PSF
2. PARAPETS	
INTERIOR ZONE	43.4 PSF
END ZONE	47.4 PSF
3. ROOF (GROSS)	
INTERIOR ZONE	19.4/-19.9 PSF
END ZONE	19.4/-23.8 PSF
CORNER ZONE	19.4/-23.8 PSF
4. WIDTH OF END / CORNER ZONE	12 FT
5. EXTERIOR DOORS	
MAN DOORS	21.0/-27.1 PSF
ENTRANCE DOORS	20.0/-25.0 PSF
6. EARTHQUAKE LOADS	
A. MAPPED SPECTRAL RESPONSE ACCELERATION (SHORT PERIOD), SS	0.079
B. MAPPED SPECTRAL RESPONSE ACCELERATION (1-SEC. PERIOD), S1	0.022
C. DESIGN SPECTRAL RESPONSE ACCELERATION (SHORT PERIOD), SDS	0.084
D. DESIGN SPECTRAL RESPONSE ACCELERATION (1-SEC. PERIOD), SD1	0.035
E. IMPORTANCE FACTOR, I	1.5
F. SEISMIC DESIGN CATEGORY	A
G. SITE CLASS	D
H. BASIC STRUCTURAL SYSTEM	BUILDING FRAME SYSTEM
I. BASIC SEISMIC FORCE RESISTING SYSTEM	ORDINARY REINFORCED MASONRY SHEAR WALLS
J. RESPONSE MODIFICATION COEFFICIENT, R	2.0
K. SYSTEM OVERSTRENGTH FACTOR	2.5
L. DEFLECTION AMPLIFICATION FACTOR, Cd	2.0
M. SEISMIC RESPONSE COEFFICIENT, Cs	0.063W (0.044W ASD)
N. ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE PROCEDURE

POWER ACTUATED FASTENER (PAF) GENERAL NOTES (INSTALLED IN CONCRETE FILLED METAL DECK OR SLAB)

1. POWER ACTUATED FASTENER (PAF), POWDER DRIVEN FASTENERS (PDF), POWER DRIVEN PINS (PDP), SHOT PINS ALL REPRESENT THE SAME FASTENER AND WILL HEREAFTER BE REFERRED TO AS POWER ACTUATED FASTENERS (PAF).
2. ALLOWABLE STRENGTHS SHALL BE COMPARED TO ALLOWABLE STRESS DESIGN (ASD) LEVEL DEMAND IN ACCORDANCE WITH GOVERNING CODES WITH REDUCTIONS IN CAPACITY PER ICC-ESR AND ASCE-7 REQUIREMENTS.
3. ALLOWABLE STRENGTHS ARE FOR A SINGLE FASTENER WHICH MEET REQUIREMENTS PER ICC-ESR REPORT INDICATED, OR EQUIVALENT PRODUCT WITH APPLICABLE ICC-ESR REPORT SUITABLE FOR USE IN SEISMIC RESISTANCE FOR NON-STRUCTURAL COMPONENTS. THE ALLOWABLE STRENGTHS ARE BASED UPON THE LEAST OF THE ALLOWABLE STRENGTHS LISTED.
4. MINIMUM CONCRETE STRENGTH FOR USE OF PAF CONNECTORS IS F'C=2,000 PSI FOR NORMAL WEIGHT CONCRETE AND F'C=3,000 PSI FOR ALL LIGHT WEIGHT CONCRETE UNLESS NOTED OTHERWISE.
5. PAF INSTALLED THROUGH LOW FLUTES OF THE METAL DECK SHALL MEET THE REQUIREMENTS OF THE INSTALLATION CRITERIA PER IBC AND MANUFACTURERS INSTRUCTIONS.
6. MINIMUM EDGE DISTANCE IS 1 1/8" FROM THE EDGE OF METAL DECK WEB AND 4" FROM THE EDGE OF THE DECK OR SLAB.
7. STEEL DECK SHALL BE A MINIMUM OF 20 GA.
8. CONCRETE FILL DEPTH ABOVE THE TOP OF METAL DECK MUST BE A MINIMUM OF 3 1/4" AT LIGHT WEIGHT CONCRETE COMPOSITE METAL DECK.
9. PAF SHALL NOT BE USED TO RESIST SEISMIC SHEAR FORCES EXCEPT AT INTERIOR NON-LOAD BEARING, NON-SHEAR WALL PARTITION WALLS (AS PERMITTED BY IBC) AND COMPONENTS EXEMPT FROM CONSTRUCTION DOCUMENT REVIEW BY IBC (NOT PERMITTED TO TAKE SEISMIC SHEAR BY ICC-ES AC70 FOR ANY OTHER CONDITIONS). PAF SHALL NOT BE USED TO CARRY SEISMIC TENSION LOADS (EXCEPT FOR VERTICAL SEISMIC LOAD PRODUCED BY SELF WEIGHT OF THE COMPONENTS) OR IN CRACKED CONCRETE UNLESS APPROVED FOR SUCH LOADING BY CODE.
10. PAF SHALL NOT BE USED IN PRE-STRESSED CONCRETE OR STRUCTURAL SLABS AS EXIST ON THIS SITE UNLESS NON-DESTRUCTIVE TESTING METHODS ARE USED TO LOCATE STRAND AND REINFORCEMENT PRIOR TO FASTENER INSTALLATION.
11. PAF INSTALLATION SHALL NOT NICK OR DAMAGE EXISTING CONCRETE REINFORCEMENT. SHALL THIS OCCUR THE COR AND STRUCTURAL ENGINEER SHALL BE NOTIFIED IMMEDIATELY. PAF SHALL BE INSTALLED 1" CLEAR OF EXISTING REINFORCEMENT. THIS REQUIRES NON-DESTRUCTIVE TESTING.
12. PAF SHALL BE INSTALLED PER CURRENT ICC-ES EVALUATION REPORTS INDICATED (OR EQUIVALENT ICC-ESR REPORTS OR OTHER REPORTS FROM OTHER TESTING AGENCIES ACCEPTABLE TO CODE).
13. TESTING OF PAF SHALL BE PER IBC REQUIREMENTS. MINIMUM CONCRETE SUBSTRATE THICKNESS IS THREE TIMES THE PAF PENETRATION INTO THE CONCRETE SUBSTRATE.
14. TESTING IS NOT REQUIRED OF PAF USED TO ATTACHED TRACKS OF INTERIOR NON-SHEAR WALL PARTITIONS FOR SHEAR ONLY WHERE THERE ARE AT LEAST THREE FASTENERS.
15. TOTAL ALLOWABLE LOADS IN TENSION, SHEAR OR TENSION SHEAR COMBINATIONS SHALL NOT EXCEED 90 LBS IN SEISMIC DESIGN CATEGORIES D, E AND F, AS INDICATED BY THE IBC AND ASCE CODES.
16. REFER TO DRAWINGS AND NOTES FOR ADDITIONAL PAF REQUIREMENTS.

ABBREVIATIONS

A.F.F.	ABOVE FINISHED FLOOR	G.B.	GRADE BEAM		
A.B.	ANCHOR BOLTS	GA.	GAUGE (GAGE)	REQD.	REQUIRED
AHU	AIR HANDLING UNIT	GALV.	GALVANIZED	RTU	ROOF TOP UNIT
ARCH.	ARCHITECT	H.S.A.	HEADED STUD ANCHOR	QTY.	QUANTITY
BAL.	BALANCE	HORIZ.	HORIZONTAL	SCHED.	SCHEDULE
B.F.F.	BELOW FINISHED FLOOR	INFO.	INFORMATION	SIM.	SIMILAR
B.L.	BLOCK LINTEL	INSUL.	INSULATION	SP.	SPACES
B.O.F.	BOTTOM OF FOOTING	INT.	INTERIOR	SPECS.	SPECIFICATIONS
B.O.S.	BOTTOM OF STEEL	JST. BRG.	JOIST BEARING	STD.	STANDARD
BLDG.	BUILDING	K	KIPS	T&B	TOP AND BOTTOM
C.L.	CENTER LINE	KSF	KIPS PER SQUARE FOOT	T.C.E.	TOP CHORD EXTENSIONS
CLR.	CLEAR	KSI	KIPS PER SQUARE INCH	T.O.C.	TOP OF COLUMN
COL.	COLUMN	KLF	KIPS PER LINEAR FOOT	T.O.F.	TOP OF FOOTING
CO	CONTRACTING OFFICER	LT. WT.	LIGHT WEIGHT	T.O.M.	TOP OF MASONRY
COR	CO REPRESENTATIVE	L.L.	LIVE LOAD	T.O.P.	TOP OF PIER
CONC.	CONCRETE	LLH	LONG LEG HORIZONTAL	T.O.S.	TOP OF STEEL
CMU	CONCRETE MASONRY UNIT	LLV	LONG LEG VERTICAL	T.O.W.	TOP OF WALL
CONST. JT.	CONSTRUCTION JOINT	LONG.	LONGITUDINAL	TRANS.	TRANSVERSE
CONT.	CONTINUOUS	MFR.	MANUFACTURER	TYP.	TYPICAL
C.J.	CONTROL JOINT	MAX.	MAXIMUM	U.N.O.	UNLESS NOTED OTHERWISE
D.B.A.	DEFORMED BAR ANCHOR	MEZZ.	MEZZANINE	UNREINF.	UNREINFORCED
DIA.	DIAMETER	MIN.	MINIMUM	VERT.	VERTICAL
DWGS.	DRAWINGS	MISC.	MISCELLANEOUS		
E.	EXISTING	MTL.	METAL		
E.F.	EACH FACE	N.S.	NEAR SIDE		
E.W.	EACH WAY	O.C.	ON CENTER		
ELECT.	ELECTRICAL	OPP. HD.	OPPOSITE HAND		
ELEV.	ELEVATION	O.F.	OUTSIDE FACE		
EQ.	EQUAL	PL.	PLATE		
EXP. JT.	EXPANSION JOINT	PCF	POUNDS PER CUBIC FOOT		
EXT.	EXTERIOR	PLF	POUNDS PER LINEAR FOOT		
F.S.	FARSIDE	PREP.	PREPARATION		
F.F.E.	FINISH FLOOR ELEVATION	PSF	POUNDS PER SQUARE FOOT		
FIN. FLR.	FINISH FLOOR	PSI	POUNDS PER SQUARE INCH		
FTG.	FOOTING	REFER TO	REFER		
FOUND.	FOUNDATION	REINF.	REINFORCING		

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: GENERAL STRUCTURAL NOTES

Approved: Project Director

Phase: 100% CONSTRUCTION DOCUMENTS

FULLY SPRINKLERED

Project Title: DESIGN REPLACE BOILER PLANT

Location: SIOUX FALLS VAMC
SIOUX FALLS, SD 57105

Issue Date: 08-09-2024 | Checked: TWW | Drawn: DRW

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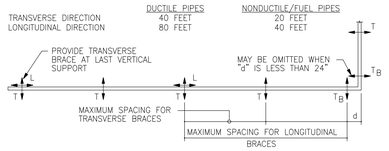
GENERAL NOTES (CONTINUED)

NON-STRUCTURAL COMPONENTS, EQUIPMENT AND PIPING SUPPORT/BRACING NOTES

1. PERMANENT EQUIPMENT AND NONSTRUCTURAL COMPONENTS SHALL BE SEISMICALLY BRACED IN CONFORMANCE WITH IBC, ASCE 7 CHAPTER 13, AND VA H-18-8 REQUIREMENTS AND AS NOTED ON PLANS, SPECIFICATIONS AND DETAILS.
2. REFER TO ASCE 7, SECTION 13.1.4 FOR SPECIFIC COMPONENT EXEMPTIONS FROM THE REQUIREMENTS OF SEISMIC BRACING.
3. BRACING, CONNECTIONS, HANGERS, SUPPORTS, BRACKETS, ANCHORS, ETC. SHALL BE DESIGNED BY A LICENSED ENGINEER WITH CALCULATIONS AND BRACING PLANS SIGNED AND SEALED, SUBMITTED TO THE COR FOR REVIEW AND APPROVAL.
4. ALL NONSTRUCTURAL COMPONENTS IN CRITICAL FACILITIES SHALL HAVE A COMPONENT IMPORTANCE FACTOR, Ip=1.5 FOR NEW STRUCTURES.
5. PERMANENT EQUIPMENT AND NONSTRUCTURAL COMPONENTS SHALL HAVE SPECIAL SEISMIC CERTIFICATION IN ACCORDANCE WITH SECTION 13.2.2 OF THE ASCE 7, SECTION 13.2.2.
6. ALL WALL MOUNTED PIPES CONDUITS, DUCTS, LIGHTS, EQUIPMENT AS WELL AS ALL WALL MOUNTED CABINETRY, ETC., SHALL BE ANCHORED IN CONFORMANCE WITH CODE REQUIREMENTS AND TYPICAL CONDITION DETAILS SHOWN ON THESE DRAWINGS.
7. ALL FLOOR MOUNTED OR FLOOR SUPPORTED PIPES, CONDUITS, SPRINKLERS, MACHINERY, TANKS, CABINETRY, ETC., SHALL BE ANCHORED IN CONFORMANCE WITH CODE REQUIREMENTS AND TYPICAL CONDITION DETAILS SHOWN ON THESE DRAWINGS.
8. GROUPS OF PIPES, CONDUITS, OR DUCTS MAY BE COMBINED AND SEISMICALLY BRACED WITH A COMMON SUPPORTING ASSEMBLY, PROVIDED THAT THE ENTIRE ASSEMBLY AND ALL DETAILS CONFORM TO CODE REQUIREMENTS.
9. TRANSVERSE BRACING FOR ONE PIPE SECTION MAY ALSO BE CONSIDERED AS LONGITUDINAL BRACING FOR THE PIPE SECTION PERPENDICULAR TO IT, PROVIDED THAT BRACING IS WITHIN 24" OF ELBOW OR TEE OF SIMILAR SIZE.
10. ALL SUSPENDED PIPES SHALL HAVE HANGERS SIZED AND SPACED NO FURTHER THAN TABULATED BELOW. VERIFY EXISTING CONDITIONS AND FURNISH AS REQUIRED.

PIPE DIAMETER	MAXIMUM SPACING	MINIMUM HANGER DIAMETER
1 1/2" OR LESS	7'-0"	3/8"
2"	10'-0"	1/2"
4"	10'-0"	5/8"
6"	10'-0"	3/4"
8"	10'-0"	3/4"

11. THE LOCATIONS OF SEISMIC BRACES FOR EACH PIPE SHALL BE SHOWN ON PLANS AND SHALL NOT EXCEED THE FOLLOWING SPACING:



12. VERIFY FROM SMACNA OR OTHER CODE ACCEPTED PUBLICATIONS THE CAPACITIES OF: CLAMPS, "U" BOLTS, "J" BOLTS, PIPES, BRACKETS, UNISTRUT AND OTHER DEVICES USED AT BRACES.

LIGHT GAGE STEEL FRAMING

1. STUD SIZES, GAGES, SPACING, CONNECTIONS AND DETAILS ARE MINIMUM REQUIREMENTS AND ARE BASED ON STEEL STUD MANUFACTURERS ASSOCIATION (SSMA) SECTION PROPERTIES.
2. MEMBERS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE AMERICAN IRON AND STEEL INSTITUTE, AISI, "SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS."
3. FOR 18 GAGE AND LIGHTER FRAMING, CONNECTIONS SHALL BE MADE USING SELF-DRILLING, SELF-TAPPING SCREWS. FOR 16 GAGE AND HEAVIER FRAMING, CONNECTIONS SHALL BE MADE BY BOLTING, BY SELF-DRILLING SELF-TAPPING SCREWS OR BY WELDING. ALL 18 GAGE AND LIGHTER FRAMING SHALL HAVE A MINIMUM YIELD STRENGTH OF 33 KSI. ALL 16 GAGE AND HEAVIER FRAMING SHALL HAVE A MINIMUM YIELD STRENGTH OF 50 KSI.
4. DO NOT WELD 18 GAGE AND LIGHTER FRAMING, UNLESS SPECIFICALLY CALLED FOR IN PLANS AND DETAILS.
5. FASTENING OF COMPONENTS SHALL BE WITH SELF-TAPPING SCREWS OR WELDING AS INDICATED OR IF NOT INDICATED, AS RECOMMENDED BY THE MANUFACTURER FOR THE DESIGN LOADS AND APPLICATIONS INDICATED. SCREWS SHALL BE BY BUILDEX, INC. OR APPROVED EQUAL. WELDS SHALL BE PERFORMED BY OPERATORS QUALIFIED IN ACCORDANCE WITH SECTION 6.0 OF AWS D1.3, SHEET METAL.
6. METAL FRAMING SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN RECOMMENDATIONS. JOIST AND STUD WALL BRIDGING SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. JOIST BRIDGING SHALL BE INSTALLED AT 8'-0" O.C. MAXIMUM AND STUD WALL BRIDGING SHALL BE INSTALLED AT 4'-0" O.C. MAXIMUM, UNO BY LIGHT GAGE DESIGNER. APPLIED FINISH MATERIALS SHALL NOT BE CONSIDERED BRIDGING OR FLANGE BRACING, UNLESS NOTED OTHERWISE.
7. ALL AXIALLY LOADED STUDS SHALL HAVE FULL FLANGE BEARING AGAINST UPPER AND LOWER TRACK WEB PRIOR TO ATTACHMENT TO TRACK. SPLICES IN AXIALLY LOADED STUDS ARE NOT PERMITTED.
8. IF TOP OF INTERIOR WALL IS LATERALLY UNBRACED, THEN BRACING SHALL BE PROVIDED. TOP OF WALL BRACING SHALL MATCH DEPTH AND GAGE OF WALL STUDS AND SHALL BE LOCATED FROM TOP OF WALL TO STRUCTURE ABOVE AT 48" O.C. (MAX.) U.N.O. ON DRAWINGS.
9. JOISTS SHALL BE PLACED DIRECTLY OVER BEARING STUDS AND JOIST WEB STIFFENERS SHALL BE PROVIDED AT REACTION POINTS AND AS OTHERWISE SHOWN ON THE DRAWINGS.
10. PROVIDE FULL DEPTH BLOCKING BETWEEN JOISTS AT SUPPORTS WHERE JOISTS ARE NOT OTHERWISE RESTRAINED FROM ROTATION.
11. REFER TO ARCH. FOR INTERIOR STUD OR FURRING WALLS NOT SHOWN ON THE STRUCTURAL PLANS OR STRUCTURAL DETAILS.
12. UNLESS OTHERWISE NOTED, ALL METAL STUDS SHALL MEET OR EXCEED SSMA XXXS162-XX OR DIETRICH CSJ SERIES MINIMUM MEMBER SIZES, THICKNESS, AND GROSS SECTION PROPERTIES WITH 1 5/8" FLANGE WIDTH.
13. CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY BRACING OF LIGHT GAGE FRAMING.
14. CONTRACTOR SHALL SUBMIT THE FOLLOWING TO THE DESIGN TEAM FOR REVIEW AND APPROVAL:
    - A. SUBMIT COMPLETE STRUCTURAL CALCULATIONS FOR THE STEEL FRAMING SYSTEM. CALCULATIONS SHALL COVER ALL STUDS, JAMB STUDS, TRACKS, BRACING, ATTACHMENT OF LIGHT GAGE FRAMING TO LIGHT GAGE FRAMING, GRAVITY DESIGN, LATERAL DESIGN, HEADER DESIGN, AND LIGHT GAGE FRAMING TO CONCRETE, STRUCTURAL STEEL OR MASONRY.
    - B. SUBMIT DETAILED SHOP DRAWINGS FOR STEEL FRAMING SHOWING THE TYPE AND SPACING OF ALL MEMBERS. ALL ATTACHMENTS SHALL BE CLEARLY DETAILED ON THE DRAWINGS, INDICATING SUPPLEMENTAL STRAPPING, BRACING, CLIPS, AND OTHER ACCESSORIES REQUIRED FOR PROPER INSTALLATION.
    - C. SUBMIT CERTIFICATION OF MATERIALS FROM THE MANUFACTURER TO SHOW COMPLIANCE WITH THE CONTRACT DOCUMENTS.
    - D. ALL SUBMITTALS SHALL BEAR THE SEAL OF A LICENSED ENGINEER WITHIN THE PROJECT STATE.
    - E. CONNECTIONS SHOWN IN DETAILS ARE GENERIC AND DO NOT NECESSARILY MATCH THE CONNECTIONS DESIGNED BY THE CONTRACTOR'S LIGHT GAGE STEEL ENGINEER.

DEFERRED SUBMITTAL ITEMS

THE ITEMS LISTED BELOW ARE DEFERRED SUBMITTAL ITEMS, WHERE THE CONTRACTOR IS RESPONSIBLE FOR SUBMITTAL OF SHOP DRAWINGS AND STRUCTURAL CALCULATIONS, STAMPED AND SEALED, BY A LICENSED ENGINEER:

1. STEEL STAIR AND PLATFORM FRAMING
2. BRACING AND ANCHORAGE OF EQUIPMENT ATTACHED TO THE STRUCTURE WEIGHING MORE THAN 200LB NOT SPECIFICALLY SHOWN ON THESE DRAWINGS
3. MEP SYSTEMS PIPING BRACING
4. BLAST RESISTANT DOORS AND WINDOWS AND THEIR CONNECTIONS TO STRUCTURE

POST-INSTALLED ANCHORS

1. ALL ANCHORS SHALL BE AS NOTED ON THE DRAWINGS AND SPECIFICATIONS AND SHALL BE FURNISHED AND INSTALLED IN FULL CONFORMANCE OF THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND AS PER ICC/ER/ESR REPORTS COVERING SPECIFIC PRODUCTS.
2. POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE DRAWINGS. CONTRACTOR SHALL OBTAIN APPROVAL FROM THE COR PRIOR TO USING POST-INSTALLED ANCHORS FOR MISSING OR MISPLACED CAST-IN-PLACE ANCHORS.
3. ALL ANCHOR DESIGNS ARE BASED ON HILTI AND SIMPSON STRONG-TIE PRODUCTS AS BASIS OF DESIGN FOR LOADING AND TYPE. WHERE SEVERAL COMPONENTS FORM ONE COMPLETE INSTALLED ANCHOR, SUCH AS AN EPOXIED THREADED ROD AND NUT, EACH AND EVERY COMPONENT USED IN EVERY SUCH ASSEMBLY SHALL BE FROM THE SAME MANUFACTURER AND SHALL BE THE SAME AS DESCRIBED IN THE CURRENT ICC/ER/ESR REPORT FOR THE ASSEMBLY AND SHALL BE THE SAME AS THE TESTED SAMPLES PRIOR TO STARTING PRODUCTION WORK.
4. PRODUCTS BY MANUFACTURERS OTHER THAN SPECIFIED THAT MEET ALL REQUIREMENTS AND HAVE CURRENT ICC/ER/ESR REPORTS MAY BE SUBMITTED FOR APPROVAL.
5. ALL INSTALLATION PROCEDURES INCLUDING: DRILLS, HOLE DIAMETERS, EMBEDMENT LENGTHS, ALL EPOXY PRODUCTS, MINIMUM TEMPERATURE, HOLE PREPARATION, TOOLS, AND METHODS SHALL FOLLOW THE MANUFACTURER'S WRITTEN PROCEDURES.
6. LOCATE EXISTING REINFORCING IN CONCRETE, CMU, OR BRICK BY USES OF NONDESTRUCTIVE INSPECTION DEVICES TO ACCURATELY LOCATE ALL EXISTING REINFORCING AND GROUTED CELLS AND OTHER EMBEDDED ELEMENTS PRIOR TO DRILLING. WHERE POTENTIAL CONFLICTS ARE NOTED, MOVE ANCHOR LOCATIONS AS DIRECTED BY ENGINEER TO CLEAR CONFLICTING ELEMENTS.
7. USE SMALLEST PRACTICAL DIAMETER DRILL FOR A PILOT HOLE TO LOCATE EXISTING REINFORCING OR OTHER EMBEDDED ELEMENTS PRIOR TO DRILLING MAIN ANCHOR HOLES OR MORE HOLES AT OBSTRUCTIONS.
8. ALL EPOXY ADHESIVES USED MUST HAVE CLEARLY DELINEATED EXPIRATION DATES FOR ALL PRODUCTS OR COMPONENTS. NO EPOXY PRODUCT SHALL BE USED PAST ITS PRINTED EXPIRATION DATE.
9. MILL CERTIFICATES AND YIELD TEST RESULTS SHALL BE PROVIDED BY THE CONTRACTOR FOR EACH LOT OF EACH SIZE OF EPOXIED THREADED RODS, EPOXIED REINFORCING BARS AND EXPANSION BOLTS PRIOR TO THE PRE-QUALIFYING TESTS DESCRIBED BELOW AND FOR ONE SAMPLE OF EACH SIZE AND TYPE OF PRODUCTION ANCHORS PER 200 APPLICATIONS.
10. OWNER'S TESTING AGENCY SHALL DETERMINE APPROPRIATE TESTING PROCEDURES AND SELECT SEQUENCES AND LOCATIONS OF ANCHORS FOR TESTING.
11. ALL PRODUCTS, PROCEDURES AND INSTALLATIONS SHALL BE INSPECTED BY THE CONTRACTOR'S 3RD PARTY SPECIAL INSPECTOR OR ENGINEER OF RECORD.
12. REACTIONS FROM TEST LOAD MAY BE APPLIED NO CLOSER THAN 6 ANCHOR DIAMETERS FROM ANY SIDE OF THE ANCHOR BEING TESTED AND PROVIDED THAT THE ANCHOR IS NOT RESTRAINED FROM WITHDRAWING BY THE TESTING APPARATUS.
13. WHERE ANY TEST OR INSPECTION INDICATES WORK NOT IN CONFORMANCE WITH THESE REQUIREMENTS, CONTRACT DOCUMENTS OR REFERENCED CODES THEN CONTRACTOR SHALL CORRECT ALL SUCH WORK AS DIRECTED BY COR AND AT NO COST TO THE OWNER.
14. POST-INSTALLED ADHESIVE ANCHORS REQUIRE CONTINUOUS SPECIAL INSPECTION BY A QUALIFIED 3RD PARTY SPECIAL INSPECTOR.

POST-INSTALLED ANCHOR TESTING

1. ALL EPOXIED THREADED RODS, EPOXIED REINFORCING BARS, AND EXPANSION BOLTS SHALL BE LOAD TESTED BY A 3RD PARTY TESTING AND INSPECTION AGENCY TO ESTABLISH CONFORMANCE OF INSTALLED ANCHORS TO THE PROJECT REQUIREMENTS. AS A MINIMUM THE FOLLOWING SHALL BE PERFORMED:
    - A. 10 DAYS PRIOR TO THE START OF ANY WORK THE CONTRACTOR SHALL SUBMIT CURRENT PRODUCT LITERATURE FOR ALL EPOXIED ANCHORS INCLUDING CURRENT ICC/ER/ESR REPORTS AND DESCRIPTIVE ACTUAL PRODUCT LITERATURE COVERING INSTALLATION, CURING TIMES ETC. FOR OWNER'S REVIEW.
    - B. AS PART OF PRE-QUALIFYING ANCHORS, AND PRIOR TO STARTING PRODUCTION WORK, CONTRACTOR SHALL INSTALL 10 SAMPLES OF EACH SIZE, TYPE AND ARRANGEMENT OF ANCHORS SHOWN ON DRAWINGS, AT LOCATIONS SELECTED BY THE OWNER, USING PROPOSED PRODUCTS, TOOLS, METHODS, CURING TIME, AND PROCEDURES THAT CONTRACTOR INTENDS TO USE FOR PRODUCTION WORK.
    - C. EACH OF THE TEST SAMPLES WILL BE TESTED BY THE TESTING AND INSPECTION AGENCY FOR TABULATED TEST LOADS, WITH ANCHORS HOLDING TABULATED TEST LOADS FOR DURATIONS NOTED IN ICC/ER/ESR REPORTS BUT NOT LESS THAN 60 SECONDS FOR ANCHORS IN CMU AND CONCRETE AND 5 MINUTES FOR ANCHORS IN BRICK.
    - D. IF ALL TESTS ARE SATISFACTORY AND NO PERMANENT DEFORMATIONS, FAILURES, YIELDING OR LOSS OF LOAD CARRYING CAPACITIES ARE NOTED, THEN PRODUCTION WORK MAY PROCEED USING THE SAME PROCEDURES, PRODUCTS, METHODS AND EQUIPMENT AS TESTED.
    - E. TESTS ARE TO BE MADE ON THE FIRST 5 ANCHORS OF EACH SIZE FOR EACH 8-HOUR PRODUCTION SHIFT, PLUS AN ADDITIONAL 10% OF ALL ANCHORS MADE DURING THE SHIFT. ADHESIVE AND EXPANSION ANCHOR LOAD TESTS SHALL BE MADE NO SOONER THAN 24 HOURS AND NO LATER THAN 72 HOURS AFTER ANCHORS ARE INSTALLED. HOWEVER, ADHESIVE ANCHORS INSTALLED WHERE CONCRETE TEMPERATURES ARE LESS THAN 65 DEGREES SHALL BE TESTED NO SOONER THAN 72 HOURS AND NO LATER THAN 120 HOURS AFTER ANCHORS ARE INSTALLED.
    - F. IF ALL TEST SAMPLES DO NOT PASS TESTS SATISFACTORILY THEN ALL ELEMENTS OF ANY TYPE AND SIZE INSTALLED AFTER THE LAST COMPLETELY SUCCESSFUL TEST SHALL BE TESTED AGAIN.
    - G. REPLACE ALL ANCHORS THAT DO NOT PASS TESTS AS DIRECTED BY OWNER.
    - H. RE-TEST 100% OF ALL CORRECTED OR ADDITIONAL ANCHORS.

EPOXIED THREADED RODS IN CONCRETE

1. UNLESS NOTED OTHERWISE, ALL REFERENCES TO EPOXIED THREADED RODS IN CONCRETE SHALL BE "HILTI HIT-RE 500-SD" CONFORMING TO ICC REPORT ESR-2322 OR "SIMPSON STRONG-TIE SET-XP" CONFORMING TO ICC REPORT ESR-2508, WITH THREADED RODS CONFORMING TO ASTM A193, GRADE B7, FY=105 KSI AND NUTS CONFORMING TO ASTM A563 GRADE DH. ALL THREADED RODS, NUTS, WASHERS, ETC. SHALL BE GALVANIZED PER ASTM A153.
2. EPOXIED THREADED RODS IN CONCRETE SHALL BE TESTED FOR THE FOLLOWING LOADS:
3. THESE TEST LOADS ARE FOR 4,000 PSI NORMAL WEIGHT CONCRETE, MIN. EDGE DISTANCE AND MIN. CENTER TO CENTER DISTANCE.

THREADED ROD DIAMETER (IN)	EMBED DEPTH (IN)	MIN. EDGE DISTANCE (IN)	MIN. CENTER TO CENTER DISTANCE (IN)	TENSION TEST LOAD (LBS)
3/8	4	6	8	3,400
1/2	5	7 1/2	10	4,500
5/8	6	9	12	5,800
3/4	7	10 1/2	14	8,000
7/8	8	12	16	9,800

EXPANSION BOLTS IN CONCRETE

1. UNLESS NOTED OTHERWISE, EXPANSION BOLTS IN CONCRETE SHALL BE "HILTI KWIK BOLT TZ" CONFORMING TO ICC ESR-1917, "SIMPSON STRONG-TIE STRONG-BOLT" CONFORMING TO ICC ESR-1771, OR "SIMPSON STRONG-TIE STRONG-BOLT 2" CONFORMING TO ICC ESR-3037.
2. ALL EXPANSION BOLTS SHALL BE STAINLESS STEEL UNLESS NOTED OTHERWISE.
3. EXPANSION BOLTS IN CONCRETE SHALL BE TESTED FOR THE FOLLOWING LOADS:
4. THESE TEST LOADS ARE FOR 4,000 PSI NORMAL WEIGHT CONCRETE.

EXPANSION BOLT DIAMETER (IN)	EMBED DEPTH (IN)	MIN. EDGE DISTANCE (IN)	MIN. CENTER TO CENTER DISTANCE (IN)	TENSION TEST LOAD (LBS)
3/8	2	6	3	1,300
1/2	3 1/2	4	4	2,300
5/8	4	6 1/2	6 1/2	3,300
3/4	5 1/2	8	8	4,500

EPOXIED THREADED RODS IN FACE OF CMU WALLS

1. UNLESS NOTED OTHERWISE, ALL REFERENCES TO EPOXIED THREADED RODS IN CMU SHALL BE "HILTI HIT HY-150 MAX" CONFORMING TO ESR-1967 OR "SIMPSON STRONG-TIE SET" CONFORMING TO ICC ESR-1772, WITH THREADED RODS CONFORMING TO ASTM A307.
2. EPOXIED THREADED RODS IN CMU SHALL BE TESTED FOR THE FOLLOWING LOADS:
3. THESE TEST LOADS ARE FOR GROUT FILLED CONCRETE MASONRY UNITS CONFORMING TO ASTM C90 BLOCKS.

THREADED ROD DIAMETER (IN)	EMBED DEPTH (IN)	MIN. EDGE DISTANCE (IN)	MIN. CENTER TO CENTER DISTANCE (IN)	TENSION TEST LOAD (LBS)
3/8	3 1/2	20	16	2,000
1/2	4 1/2	20	16	2,600
5/8	5	20	16	3,200
3/4	6 3/4	20	16	4,800

SPECIAL INSPECTION NOTES

1. PROVIDE SPECIAL INSPECTIONS PER SECTION 1705 OF THE 2018 IBC.
2. THE CONTRACTOR SHALL EMPLOY OF QUALIFIED PERSONNEL TO PERFORM, AT A MINIMUM, THE SPECIAL INSPECTIONS INDICATED IN THE TABLES THIS SHEET (SEE TABLES TO THE RIGHT OF THIS NOTE SECTION), AND PROVIDE WRITTEN RECORD OF THE INSPECTIONS AND RESULTS, INCLUDING ANY RE-INSPECTIONS AND APPROVALS TO THE ENGINEER AND COR.
3. THE APPROVED INDEPENDENT TESTING AGENCY'S INDIVIDUAL SPECIAL INSPECTOR SHALL DEMONSTRATE COMPETENCE FOR INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.
4. THE SPECIAL INSPECTOR SHALL BRING NON-CONFORMING ITEMS TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR AND NOTE ALL SUCH ITEMS IN THE REPORTS. ANY UNRESOLVED ISSUE ABOUT ITEMS TO BE COVERED BY THE WORK SHALL BE BROUGHT TO THE COR'S ATTENTION IMMEDIATELY.
5. THE SPECIAL INSPECTOR SHALL FURNISH REPORTS, TESTS, AND INSPECTIONS DIRECTLY TO THE COR.
6. THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL SIGNED REPORT STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS, TO THE BEST OF THE INSPECTOR'S KNOWLEDGE, IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS.
7. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE SPECIAL INSPECTION AGENCY REGARDING INDIVIDUAL INSPECTIONS FOR ITEMS LISTED ON THE SCHEDULE AND AS NOTED ON THE BUILDING DEPARTMENT APPROVED PLANS. ADEQUATE NOTICE AND ACCESS TO APPROVED PLANS SHALL BE PROVIDED SO THAT THE SPECIAL INSPECTOR HAS TIME TO BECOME FAMILIAR WITH THE PROJECT.
8. ADDITIONAL SPECIAL INSPECTIONS PER THE IBC 2018 MAY BE REQUIRED AND SHALL BE OUTLINED AND PRESENTED TO THE COR PRIOR TO START OF WORK FOR ACCEPTANCE. THIS DOES NOT RELIEVE THE CONTRACTOR OF ANY RESPONSIBILITY TO PERFORM THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS OR SECTION 1705 OF THE 2018 IBC.
9. THE CONTRACTOR SHALL NOTIFY THE INSPECTOR AT LEAST 48 HOURS IN ADVANCE OF ALL INSPECTIONS.

REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION IBC 2018, TABLE 1705.3

VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	REFERENCED STANDARD	IBC REFERENCE
1. INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS, AND PLACEMENT.	–	X	ACI 318: Ch. 20, 25.2, 25.3, 26.6.1–26.6.3	1908.4
2. INSPECTION OF REINFORCING BAR WELDING: A. WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A 706. B. SINGLE-PASS FILLET WELDS, MAX. 5/16". C. ALL OTHER WELDS.	– – X	X X –	AWS D1.4 ACI 318: 26.6.4	–
3. INSPECTION OF ANCHORS CAST IN CONCRETE.	–	X	ACI 318: 17.8.2	–
4. INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE. A. ADHESIVE ANCHORS INSTALLED HORIZONTALLY OR UPWARDLY INCLINED TO RESIST SUSTAINED TENSION. B. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.A.	X –	– X	ACI 318: 17.8.2.4 ACI 318: 17.8.2	–
5. VERIFYING USE OF REQUIRED DESIGN MIX.	–	X	ACI 318: CH. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE CONCRETE.	X	–	ASTM C 172 ASTM C 31 ACI 318: 26.5, 26.12	1908.10
7. INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	–	ACI 318: 26.5	1908.6, 1908.7, 1908.8
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	–	X	ACI 318: 26.5.3–26.5.5	1908.9
9. INSPECTION OF PRESTRESSED CONCRETE FOR: A. APPLICATION OF PRESTRESSING FORCES. B. GROUTING OF BONDED PRESTRESSING TENDONS.	X X	– –	ACI 318: 26.10	–
10. INSPECTION OF ERECTION OF PRECAST CONCRETE MEMBERS.	–	X	ACI 318: Ch. 26.9	–
11. VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	–	X	ACI 318: 26.11.2	–
12. INSPECTION OF FORMWORK FOR SHAPE, LOCATION, AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	–	X	ACI 318: 26.11.1.2(b)	–

SPECIAL REQUIRED VERIFICATION AND INSPECTION OF SOILS IBC 2018, TABLE 1705.6

VERIFICATION AND INSPECTION TASK	CONTINUOUS DURING TASK LISTED	PERIODICALLY DURING TASK LISTED
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	–	X
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	–	X
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIAL.	–	X
4. VERIFY USE OF PROPER MATERIAL, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	–
5. PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	–	X

SPECIAL REQUIRED VERIFICATION AND INSPECTION OF MASONRY CONSTRUCTION IBC 2018 SECTION 1705.4 AND TMS 602 / ACI 530.1 / ASCE 6.

SPECIAL REQUIRED VERIFICATION AND INSPECTION OF STEEL CONSTRUCTION IBC 2018 SECTION 1705.2.1 AND AISC 360-10 CHAPTER N

VERIFICATION AND INSPECTION TASK	CONTINUOUS	PERIODIC	REFERENCE STANDARD	IBC REFERENCE
1. MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS AND WASHERS:				
A) IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	–	X	AISC 360, SECTION A3.3 AND APPLICABLE ASTM MATERIAL STANDARDS	
B) MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.	–	X	–	–
2. INSPECTION OF HIGH STRENGTH BOLTING:				
A) SNUG-TIGHT JOINTS.	–	X	AISC 360, SECTION M2.5	1705.2
B) PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITH MATCH MARKING, TWIST-OFF BOLT OR DIRECT TENSION INDICATOR METHOD OF INSTALLATION.	–	–		
C) PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITHOUT MATCH MARKING,OR CALIBRATED WRENCH METHOD OF INSTALLATION.	–	–		
3. MATERIAL VERIFICATION OF STRUCTURAL STEEL AND COLD FORMED STEEL DECK:				
A) FOR STRUCTURAL STEEL, IDENTIFICATION MARKING TO CONFORM TO AISC 360.	–	X	AISC 360, SECTION N8, SDI QA/QC	1705.2.2
B) FOR OTHER STEEL, IDENTIFICATION MARKINGS TO CONFORM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS.	–	X	APPLICABLE ASTM MATERIAL STANDARDS	
C) MANUFACTURER'S CERTIFIED TEST REPORTS.	–	X	–	
4. MATERIAL VERIFICATION OF WELD FILLER MATERIALS:				
A) IDENTIFICATION MARKINGS TO CONFORM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS.	–	X	AISC 360, SECTION A3.5 AND APPLICABLE AWS AS DOCUMENTS.	–
B) MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.	–	X	–	–
5. INSPECTION OF WELDING:				
A) STRUCTURAL STEEL AND COLD FORMED STEEL DECK:				
1) COMPLETE AND PARTIAL JOINT PENETRATION GROOVE WELDS.	X	–	AWS D1.4	1705.3.1
2) SINGLE-PASS FILLET WELDS > 5/16"	X	–		
3) SINGLE-PASS FILLET WELDS ≤ 5/16"	–	X		
4) FLOOR AND ROOF DECK WELDS.	–	X	AWS D1.4	
6. INSPECTION OF STEEL FRAME JOINT DETAILS FOR COMPLIANCE:				
A) DETAIL SUCH AS BRACING AND STIFFENING.	–	X		1705.2
B) MEMBER LOCATIONS.	–	X		
C) APPLICATION OF JOINT DETAIL AT EACH CONNECTION.	–	X		

SPECIAL INSPECTIONS AS REQUIRED BY SPECIFICATION/MANUFACTURER:

CONTINUOUS SPECIAL INSPECTIONS:

1. ADHESIVE ANCHOR INSTALLATIONS REQUIRE SPECIAL INSPECTION IN ACCORDANCE WITH ADHESIVE MANUFACTURER'S APPLICABLE ESR REPORT.
2. ADDITIONAL SPECIAL INSPECTIONS AS REQUIRED BY SPECIFICATION/MANUFACTURER.
3. ADDITIONAL INSPECTIONS AS REQUIRED BY EQUIPMENT SUPPLIER FOR ALL INSTALLED EQUIPMENT AND ACCESSORIES NOT SPECIFICALLY INSPECTED BY A REPRESENTATIVE OF THE EQUIPMENT SUPPLIER.
4. CONSTRUCTION OF LIGHT GAGE BLAST WALLS FOR COMPONENT SIZE AND SPACING, PANEL AND FASTENER INSTALLATION, ANCHOR AND TOP CONNECTION INSTALLATION.

Revisions:	Date:
⚠ ADDENDUM 1	08-09-24

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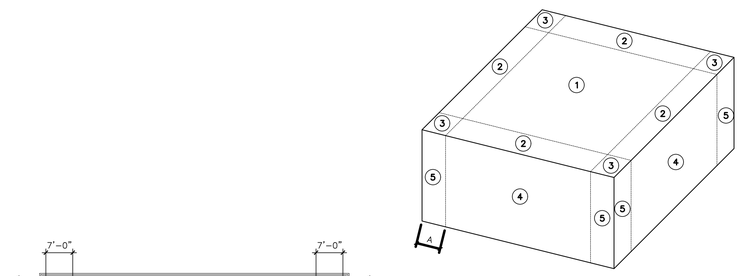
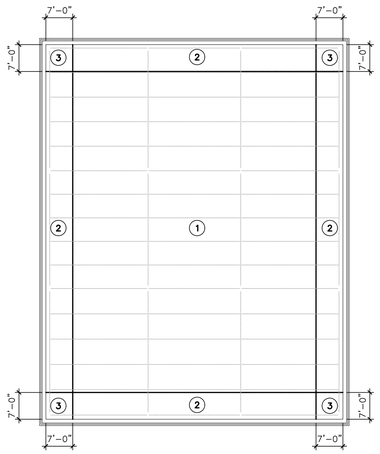
Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	GENERAL STRUCTURAL NOTES
Phase	100% CONSTRUCTION DOCUMENTS
Project Title	DESIGN REPLACE BOILER PLANT
Project Number	438-22-900
Building Number	12
Approved: Project Director	
	FULLY SPRINKLERED
Location	SIOUX FALLS VAMC SIOUX FALLS, SD 57105
Drawing Number	SG002
Issue Date	08-09-2024
Checked	TWW
Drawn	DRW

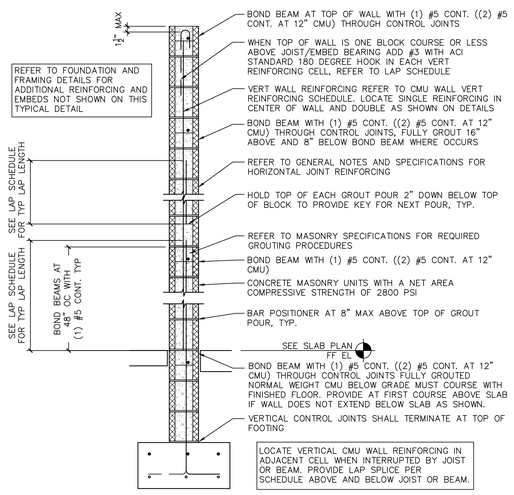
VA FORM 08 - 6231

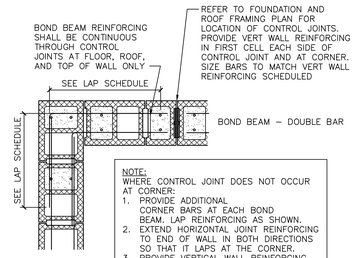




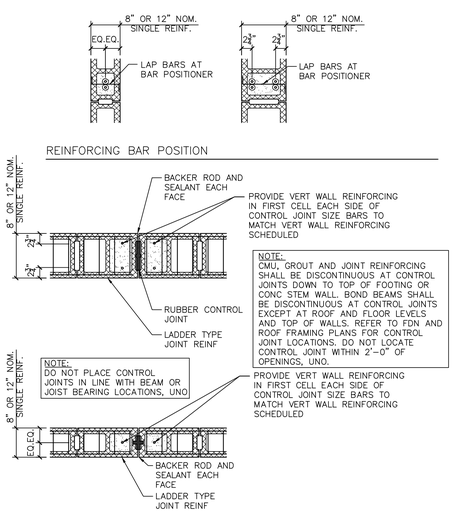
	ZONE	EFFECTIVE WIND AREA (SF)	POSITIVE PRESSURE (PSF)	NEGATIVE PRESSURE (PSF)
ROOF	1	10	+9.6	−23.1
		20	+9.6	−22.5
		50	+9.6	−21.7
		100	+9.6	−21.2
	2	10	+9.6	−38.8
		20	+9.6	−34.6
		50	+9.6	−29.2
		100	+9.6	−25.1
	3	10	+9.6	−38.8
		20	+9.6	−34.6
		50	+9.6	−29.2
		100	+9.6	−25.1
WALLS	4	10	+21.2	−22.9
		20	+20.2	−22.0
		50	+19.0	−20.7
		100	+18.0	−19.8
	5	10	+21.2	−28.2
		20	+20.2	−26.3
		50	+19.0	−23.9
		100	+18.0	−22.0

F1 COMPONENTS AND CLADDING WIND DIAGRAM
1/8" = 1'-0"





BOND BEAM REINFORCING AT CORNER



EXPANSION/CONTROL JOINT DETAIL

F7 TYPICAL CMU WALL REINFORCING DIAGRAM AND DETAILS
3/4"=1'-0"

Revisions:	Date:
⚠ ADDENDUM 1	08-09-24

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Office of Construction and Facilities Management
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Drawing Title: GENERAL STRUCTURAL DETAILS	Phase: 100% CONSTRUCTION DOCUMENTS
Approved: Project Director	FULLY SPRINKLERED

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	Building Number: 12
Location: SIOUX FALLS VAMC, SIOUX FALLS, SD 57105	Drawing Number: SG003
Issue Date: 08-09-2024	Checked: TWW
	Drawn: DRW

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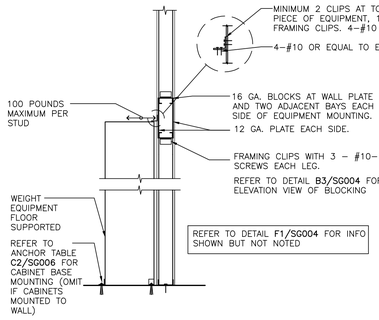
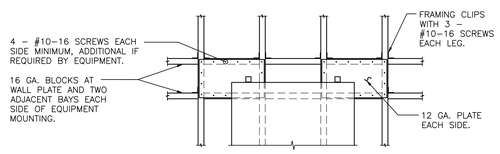
GENERAL SHEET NOTES

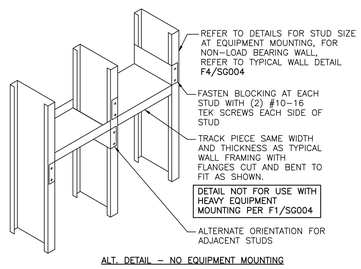
1. REFER TO ARCHITECTURAL DRAWINGS FOR MORE DETAILED INFORMATION AT WALL SECTIONS. TYPICAL FRAMING DETAILS THIS SHEET ARE TO SHOW MINIMUM STRUCTURAL PROPERTIES OF FRAMING AND MINIMUM REQUIRED CONNECTIONS. THICKER WALL WIDTHS ARE REQUIRED IN CERTAIN WALL SECTIONS AND ADDITIONAL CONNECTIONS SHALL BE APPLIED TO ACCOMMODATE ARCHITECTURAL DETAILING.
2. WHERE CONFLICT EXISTS BETWEEN ARCHITECTURAL DETAILS AND STRUCTURAL DETAILS, THE MORE STRINGENT OF REQUIREMENTS SHALL TAKE PRECEDENCE.
3. WHERE CONFLICT EXISTS BETWEEN DRAWINGS AND SPECIFICATIONS, THE MORE STRINGENT OF REQUIREMENTS SHALL TAKE PRECEDENCE.



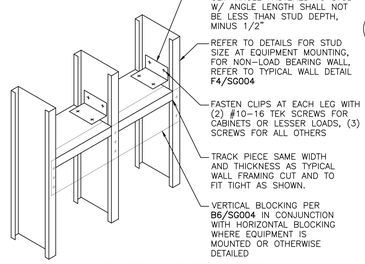
B1 WALL FRAMING AT FLOOR-MOUNTED EQUIPMENT BRACING
NOT TO SCALE



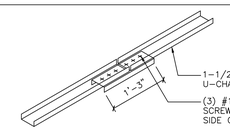
B3 WALL FRAMING AT FLOOR-MOUNTED EQUIPMENT BRACING
NOT TO SCALE



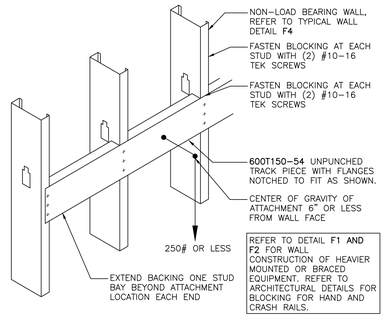
ALT. DETAIL – NO EQUIPMENT MOUNTING



STD. DETAIL – USE FOR EQUIPMENT MOUNTING

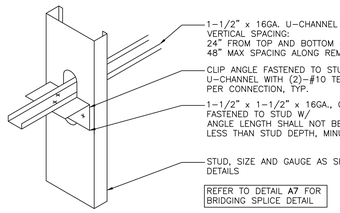


A7 BRIDGING SPLICE DETAIL
NOT TO SCALE

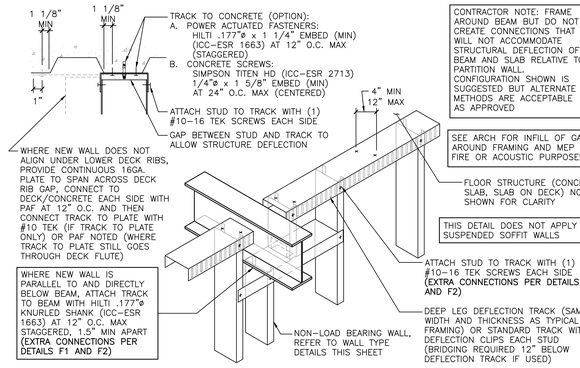


B6 WALL BLOCKING FOR MOUNTED LOADS 250# OR LESS
NOT TO SCALE

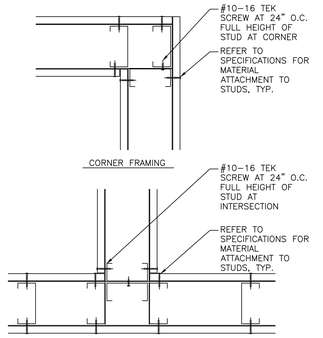
NOTES:
1. THIS DETAIL SHALL NOT BE UTILIZED IF STUD DEPTH EXCEEDS 8"
2. RIGID FACING MATERIAL APPLIED TO BOTH STUD FLANGES MAY BE UTILIZED IN LIEU OF U–CHANNEL, PROVIDED THE FOLLOWING CRITERIA:
   A. STUD HEIGHT DOES NOT EXCEED 16'
   B. SHEATHING APPLIED TO BOTH STUD FLANGES FULL HEIGHT PER APPLICABLE ASTM STANDARDS
3. STUD SHALL BE BRACED PER THIS DETAIL IF ONE FLANGE IS PERMANENTLY UNSHEATHED (I.E. FURRING WALLS)
4. THIS DETAIL APPLIES TO STUDS 16 GA MAX. THICKNESS



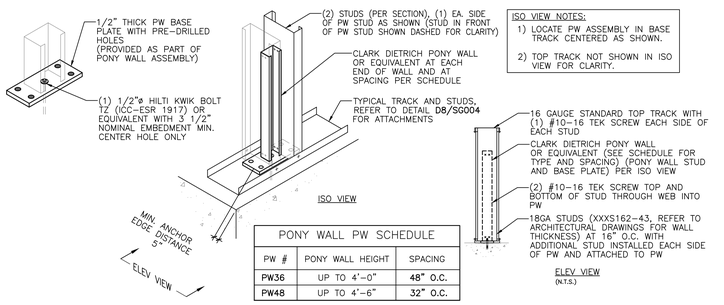
D6 STUD WALL BRIDGING DETAIL
NOT TO SCALE



B8 TYPICAL WALL CONNECTION AT TOP OF WALL TO CONCRETE SLAB ABOVE
NOT TO SCALE



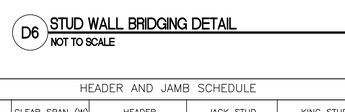
C1 WALL CORNER/INTERSECTION DETAIL
NOT TO SCALE

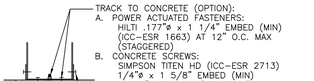


ISO VIEW NOTES:
1) LOCATE PW ASSEMBLY IN BASE TRACK CENTERED AS SHOWN.
2) TOP TRACK NOT SHOWN IN ISO VIEW FOR CLARITY.

PONY WALL PW SCHEDULE		
PW #	PONY WALL HEIGHT	SPACING
PW36	UP TO 4'–0"	48" O.C.
PW48	UP TO 4'–6"	32" O.C.

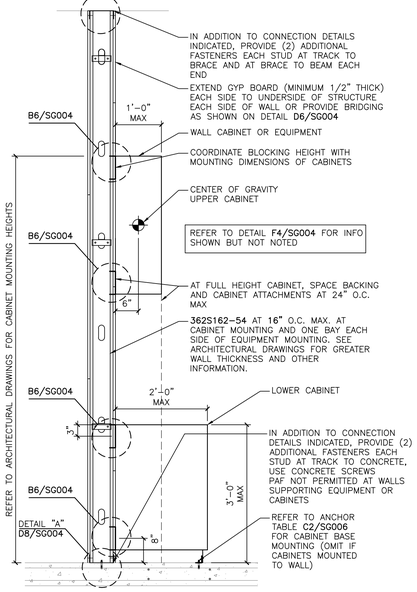
C2 PONY WALL CONNECTION AT PARTIAL HEIGHT WALLS (TO 48" ABOVE FLOOR)
NOT TO SCALE



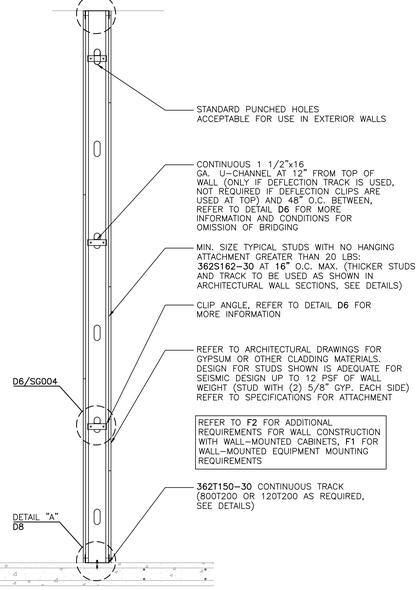


D8 TYPICAL WALL CONNECTION AT BOTTOM TRACK TO CONCRETE
NOT TO SCALE

F1 EQUIPMENT MOUNTING AT LIGHT GAUGE WALL FRAMING
NOT TO SCALE



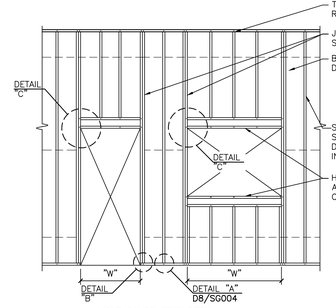
F2 CABINET MOUNTING AT LIGHT GAUGE WALL FRAMING
NOT TO SCALE



F4 TYPICAL LIGHT GAUGE WALL FRAMING (NON-LOADBEARING)
NOT TO SCALE

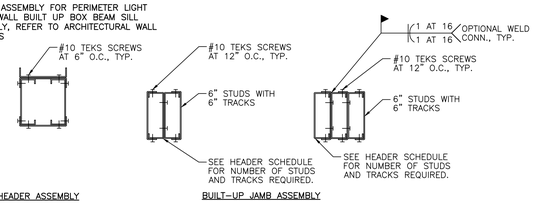
HEADER AND JAMB SCHEDULE				
STUD WIDTH	CLEAR SPAN (W)	HEADER	JACK STUD	KING STUD
3.625"	UP TO 3'–4"	(2)–600S162–30	(2)–362S162–30	(2)–362S162–30
3.625"	UP TO 6'–8"	(3)–600S162–30	(2)–362S162–30	(3)–362S162–30

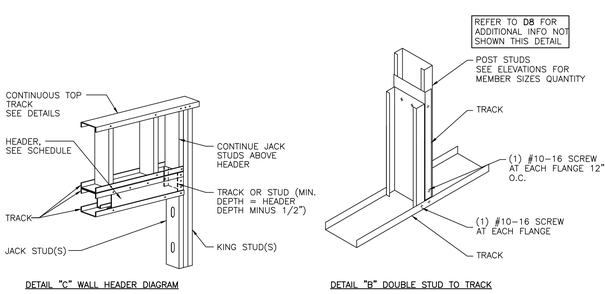
NOTES:
1. STUD WALL THICKNESS IS MINIMUM REQUIRED FOR PROJECT. REFER TO ARCHITECTURAL DRAWINGS AND USE WIDER MEMBERS FOR WALL THICKNESS SHOWN
2. USE HEADER SCHEDULE ABOVE, UNLESS NOTED OTHERWISE ON PLANS. INTERIOR HEADERS ARE NON–STRUCTURAL BUT FOR SEISMIC LOADING CONTRACTOR SHALL FOLLOW SCHEDULED SIZES
3. EXTERIOR WALL HEADERS SHALL INCLUDE (3)–362T200–30 TRACK SECTIONS AS SHOWN.
4. HEADERS SHALL BE BUILT–UP USING "UNPUNCHED" SECTIONS.
5. EXTERIOR WALL JAMBS SHALL INCLUDE NESTED 362T150–30 TRACK SECTIONS WITH KING STUDS AS SHOWN.



LIGHT GAUGE STUD DETAIL

SIMILAR ASSEMBLY FOR PERIMETER LIGHT GAUGE WALL BUILT UP BOX BEAM SILL ASSEMBLY, REFER TO ARCHITECTURAL WALL SECTIONS





F6 LIGHT GAUGE DETAILS FOR OPENINGS IN INTERIOR PARTITION WALLS
NOT TO SCALE

Revisions:	Date:
⚠ ADDENDUM 1	08-09-24

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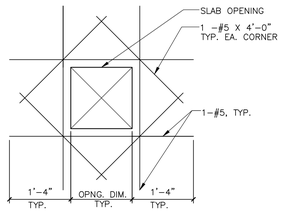
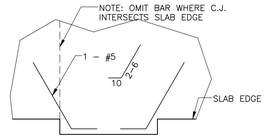
Office of Construction and Facilities Management
VA U.S. Department of Veterans Affairs

Drawing Title	LIGHT GAUGE FRAMING DETAILS
Phase	100% CONSTRUCTION DOCUMENTS
Approved: Project Director	
	FULLY SPRINKLERED
Project Title	DESIGN REPLACE BOILER PLANT
Location	SIOUX FALLS VAMC, SIOUX FALLS, SD 57105
Issue Date	08-09-2024
Checked	TWW
Drawn	DRW
Project Number	438-22-900
Building Number	12
Drawing Number	SG004

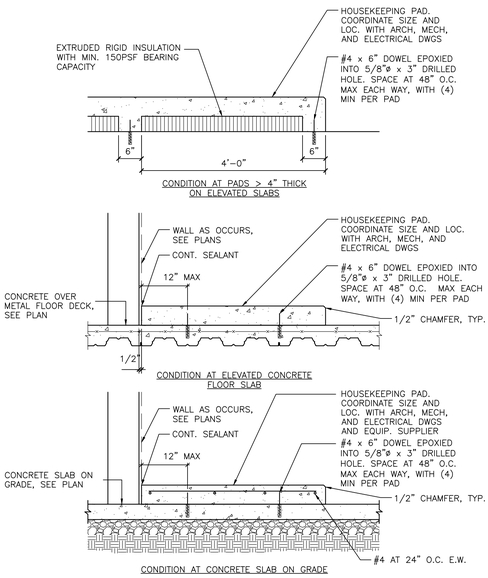
VA FORM 08 - 6231



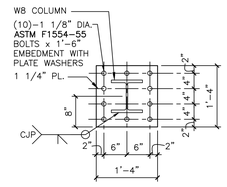
B6 SLAB OPENING DETAIL - PLAN
3/4"=1'-0"

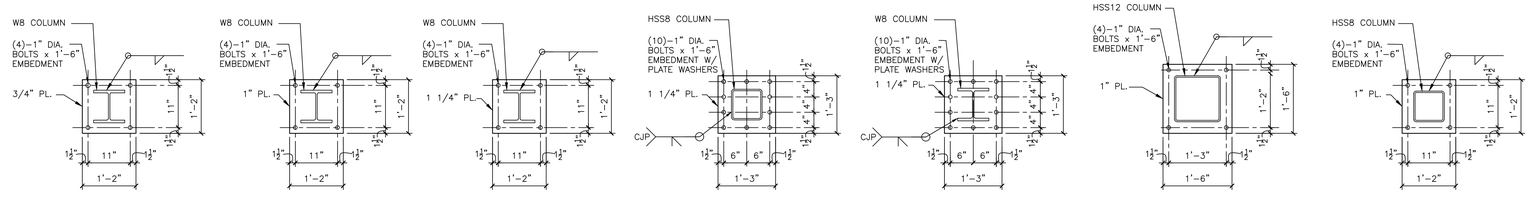


B7 SLAB DOWELS AT DOORS - PLAN
3/4"=1'-0"



C8 SECTION - HOUSEKEEPING/EQUIPMENT PAD
3/4"=1'-0"



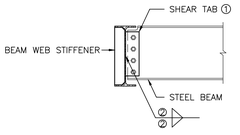


C1 BASEPLATE AND ANCHOR BOLT LAYOUTS
NOT TO SCALE

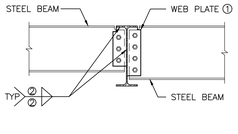
REFER TO PLANS AND BRACING ELEVATIONS FOR BRACE DIRECTION TO DETERMINE BASEPLATE ORIENTATION

A–325 BOLT SCHEDULE			
MAX BEAM SIZE IN BEAM DEPTH GROUP	A–325N BOLTS		
	No. PER BEAM	SIZE	ASD CAPACITY
W8	2	3/4"ø	16.45K
W10	2	3/4"ø	21.2K
W12	3	3/4"ø	24.45K
W14	3	3/4"ø	31.8K
W16	4	3/4"ø	42.4K
W18	5	3/4"ø	53.0K
W21	6	3/4"ø	63.6K
W24	7	3/4"ø	74.2K
W27	8	3/4"ø	84.8K
W30	9	3/4"ø	95.4K

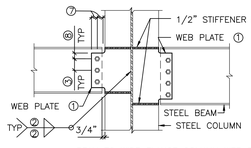
① SHEAR TAB SHALL BE 3/8" THICK.
② 5/16" FILLET WELD EACH SIDE OF SHEAR TAB.
③ BOLT SPACING SHALL BE 3" MIN, TYP.
④ WHEN MORE THAN ONE ROW OF BOLTS IS NEEDED, THE FIRST ROW SHALL BE A COMPLETE ROW WITH THE REMAINDER OF THE BOLTS PLACED IN THE SECOND ROW.
⑤ HSS COLUMN SHALL HAVE A MINIMUM 1/4" THICKNESS USE A SINGLE ANGLE CONNECTION WHERE STEEL TUBE WALL IS TOO THIN.
⑥ AT MOMENT FRAME COLUMNS, SEE MOMENT CONNECTION DETAILS FOR CONTINUITY PLATE REQUIREMENTS.
⑦ BOLT EDGE DISTANCE, Le≥ SHALL BE EQUAL TO TWICE THE BOLT DIAMETER FOR BOTH THE PLATE AND THE BEAM WEB.
⑧ BOLT EDGE DISTANCE, Le≥ SHALL BE 1 1/4" FOR BOLT DIAMETERS 7/8" OR LESS AND 1 3/4"xBOLT DIAMETER FOR BOLT DIAMETERS GREATER THAN 7/8".



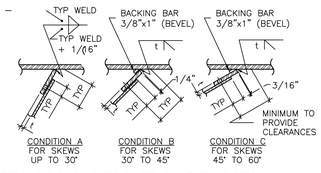
BEAM TO BEAM SHEAR TAB CONNECTION

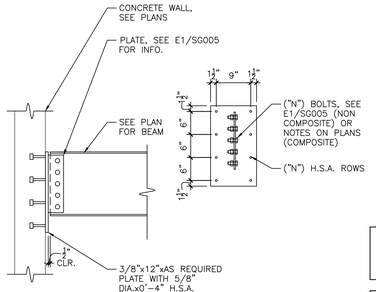


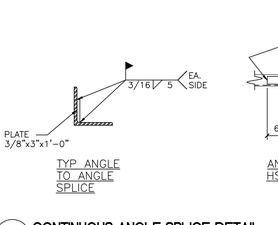
BEAM TO BEAM WEB PLATE CONNECTION



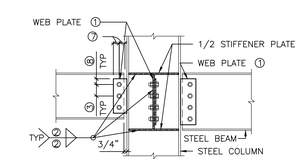
BEAM TO WIDE FLANGE COLUMN WEB PLATE CONNECTION SHEAR CONNECTOR PLATES AT SKEWED MEMBERS



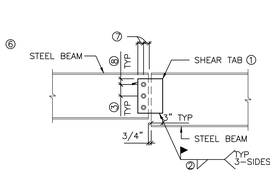




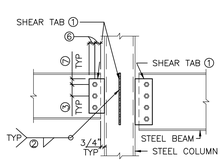
D8 CONTINUOUS ANGLE SPLICE DETAIL
3/4"=1'-0"



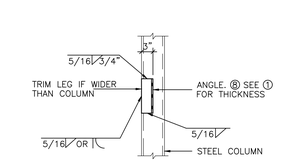
BEAM TO WIDE FLANGE COLUMN WEB PLATE CONNECTION



BEAM TO PARALLEL BEAM WEB PLATE CONNECTION

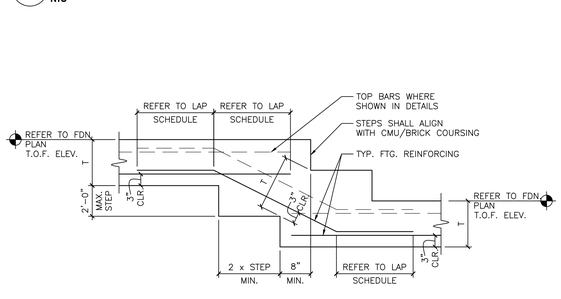


BEAM TO HSS COLUMN SHEAR TAB CONNECTION

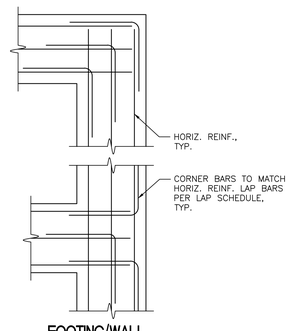


SINGLE ANGLE CONNECTION WHERE REQUIRED BY NOTE No. 5

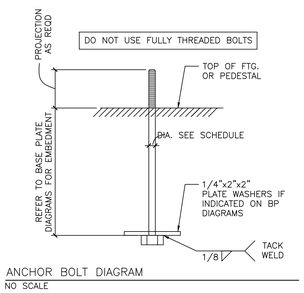
E1 TYPICAL BEAM CONNECTION DIAGRAM FOR NON-COMPOSITE BEAMS
3/4"ϕ BOLTED WEB PLATE CONNECTIONS WITH BOLT SCHEDULE
NTS



F1 FOOTING STEP DETAIL
NTS

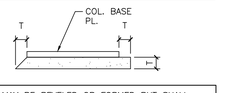


F3 FOOTING/WALL CORNER AND INTERSECTION
3/4"=1'-0"



ANCHOR BOLT DIAGRAM
NO SCALE

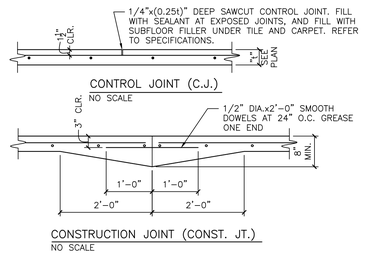
NOTES:
1. REFER TO BASE PLATE DIAGRAMS FOR WIDTH, LENGTH, AND THICKNESS "T".
2. SIZE WELDS PER AISC MINIMUM FILLET REQUIREMENTS.
3. ANCHOR BOLTS WITH FORGED HEADS MEETING THE REQUIREMENTS OF ASTM A307 MAY BE SUBSTITUTED FOR ANCHOR BOLTS SHOWN.



GROUT MAY BE BEVELED OR FORMED BUT SHALL EXTEND A MIN OF "T" BEYOND FACE OF BASE PLATE. "T" = 1 1/2" FOR ANCHOR BOLT DIA. UP TO 1" AND 2 1/2" FOR 1 1/4" DIA. ANCHOR BOLT.

GROUT PLACEMENT
NO SCALE

F4 BASEPLATE AND ANCHOR BOLT DETAILS
3/4"=1'-0"



F7 SLAB JOINT DETAILS
3/4"=1'-0"

REINFORCEMENT TENSION LAPS, EMBEDMENT LENGTHS AND HOOK LENGTHS

CONCRETE			fc=3,000 PSI			fc=4,000 PSI		
fy=60,000 PSI	BAR SIZE	LAP CLASS	SPLICE		HOOK LENGTH	SPLICE		HOOK LENGTH
			TOP	OTHER		TOP	OTHER	
	#3	B	28"	22"	6"	25"	19"	8"
	#4	B	38"	29"	8"	33"	25"	10"
	#5	B	47"	36"	10"	41"	31"	12"
	#6	B	56"	43"	12"	49"	37"	15"
	#7	B	81"	63"	14"	71"	54"	17"
	#8	B	93"	72"	16"	81"	62"	19"
	#9	B	105"	81"	18"	91"	70"	22"

CMU f'm=2,000 PSI			
fy=60,000 PSI	BAR SIZE	SPLICE	
		2.75"	4"
	#3	18"	18"
	#4	24"	24"
	#5	30"	30"
	#6	x	36"
	#7	x	48"
	#8	x	x
	#9	x	x

NOTES

1. LENGTHS SHOWN CONFORM WITH NON-SEISMIC PROVISIONS OF THE CURRENT EDITION OF ACI 318/530 IBC FOR UNCOATED BARS NOT ENCLOSED BY CLOSELY SPACED SPIRALS OR TIES. DEVELOPMENT OF REINFORCEMENT NOT COVERED BY THE TABLE SHALL CONFORM WITH THE CURRENT EDITION OF CODES.
2. LAP AND EMBEDMENT LENGTHS SHOWN APPLY WHEN BAR MINIMUM CONCRETE COVER OVER BARS CONFORMS WITH VALUES GIVEN IN THE TABLE FOR "CONCRETE COVER". THESE COVER VALUES CONFORM WITH THE CURRENT EDITION OF ACI 318.
3. HOOK LENGTH GIVEN IS THE STRAIGHT LINE DISTANCE FROM THE LOCATION OF MAXIMUM STRESS IN THE BAR TO THE OUTSIDE END OF THE HOOK. MULTIPLY LENGTHS GIVEN BY 1.43 FOR HOOKS WITH SIDE COVER NORMAL TO THE HOOK LESS THAN 2 1/2 INCHES AND FOR 90 DEGREE HOOKS COVER ON BAR EXTENSION BEYOND HOOK LESS THAN 2 INCHES.
4. TOP BARS ARE HORIZONTAL REINFORCEMENT PLACED SO THAT MORE THAN 12 INCHES OF CONCRETE IS CAST BELOW THE REINFORCEMENT.
5. MULTIPLY LAP AND EMBEDMENT LENGTHS GIVEN BY 2.0 FOR BARS WITH CLEAR SPACING OF TWO BAR DIAMETERS OR LESS OR CONCRETE COVER OF ONE BAR DIAMETER OR LESS.
10. MINIMUM CONCRETE COVER FROM FACE OF MEMBER TO EDGE OF BAR SHALL NOT BE LESS THAN TWO AND ONE HALF BAR DIAMETERS. THIS REQUIREMENT IS IN ADDITION TO ACI MINIMUM DETAILING CONCRETE COVER.

F8 REINFORCING BAR LAP SCHEDULE
3/4"=1'-0"

Revisions:	Date:
⚠ ADDENDUM 1	08-09-24

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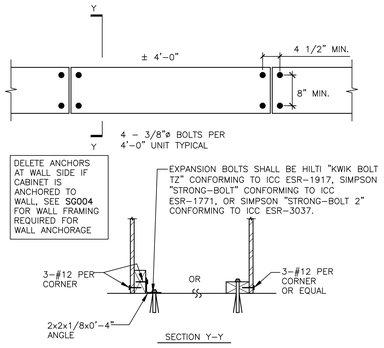
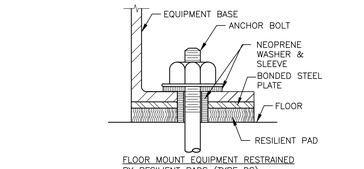
Office of Construction and Facilities Management
VA U.S. Department of Veterans Affairs

Drawing Title: GENERAL STRUCTURAL DETAILS	Phase: 100% CONSTRUCTION DOCUMENTS	Project Title: DESIGN REPLACE BOILER PLANT	Project Number: 438-22-900
			Building Number: 12
Approved: Project Director	FULLY SPRINKLERED	Location: SIOUX FALLS VAMC, SIOUX FALLS, SD 57105	Drawing Number: SG005
		Issue Date: 08-09-2024 / Checked: TWW / Drawn: DRW	

VA FORM 08 - 6231

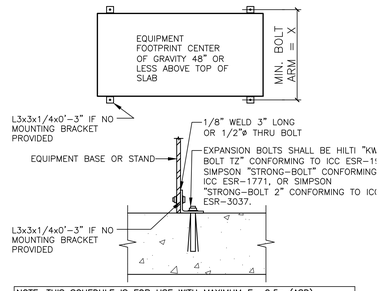


C1 TYPICAL CABINET FLOOR ANCHORAGE
NOT TO SCALE



FLOOR MOUNT EQUIPMENT RESTRAINED BY RESILIENT PADS (TYPE DS)

B2 RESILIENT PAD MOUNTING DETAIL
NOT TO SCALE

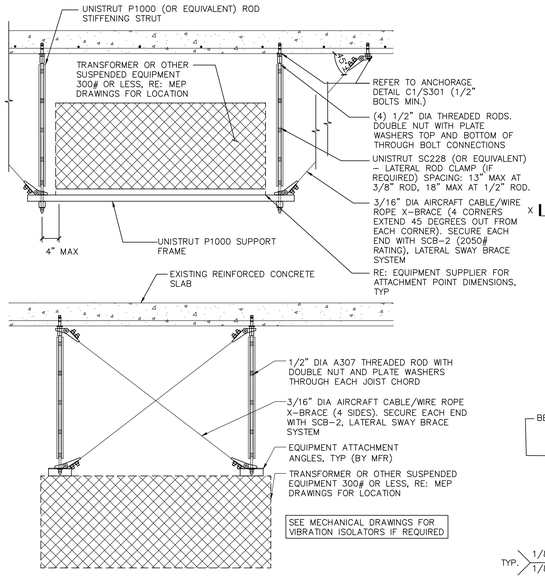


NOTE: THIS SCHEDULE IS FOR USE WITH MAXIMUM Fp=2.5g (ASD) (SDs=1.041g & I=1.5, Ap AND Rp PER COMPONENT)

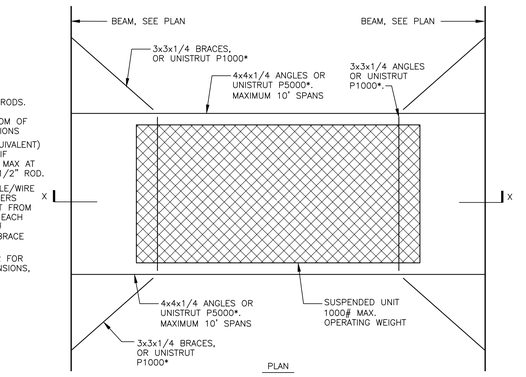
BOLT ARM	EQUIPMENT OPERATING WEIGHTS						
	250#	500#	1000#	2000#	3000#	4000#	6000#
X = 12"	3/8	1/2	3/4	N/A	N/A	N/A	N/A
X = 24"	3/8	3/8	1/2	3/4	1	N/A	N/A
X > 48"	3/8	3/8	3/8	1/2	5/8	3/4	1

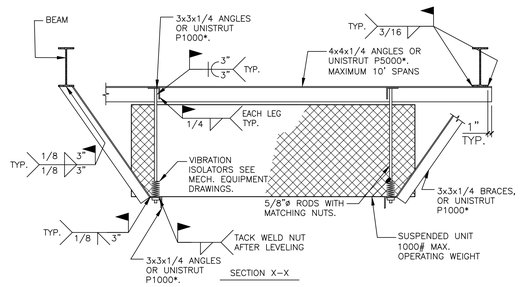
DENOTES BOLT DIAMETER, TYP., REFER TO EXPANSION BOLT SUPPLIER FOR REQUIRED MINIMUM EMBEDMENT DEPTH PER BOLT DIAMETER

C2 TYPICAL FLOOR MOUNTED EQUIPMENT ANCHORAGE
NOT TO SCALE



C4 TYPICAL SUSPENDED EQUIPMENT ANCHORAGE (CONCRETE)
NOT TO SCALE





C6 TYPICAL SUSPENDED EQUIPMENT ANCHORAGE (BEAMS)
NOT TO SCALE

GENERAL SHEET NOTES

1. REFER TO EQUIPMENT AND PIPING BRACING GENERAL NOTES ON SHEET SG001/SG002 FOR MORE INFORMATION.
2. ALL BRACING DETAILS AND DIAGRAMS SHOWN ARE DIAGRAMMATIC IN NATURE AND DO NOT FULLY DETAIL THE FINAL CONFIGURATION AND SPACING OF ALL BRACING. DETAILS ARE GENERAL IN NATURE AND SHALL BE SUPERSEDED BY ANCHORAGE AND BRACING SPECIFICALLY SHOWN ON THE MEP DRAWINGS.
3. DIAGRAMS AND DETAILS SHOWN ARE MINIMUM REQUIREMENTS IN THE ABSENCE OF SPECIFIC DETAILS NOTED ABOVE.
4. *FOR UNISTRUT OPTION, FURNISH WITH ALL NECESSARY CONNECTING HARDWARE TO EQUAL ALLOWABLE STRESS CAPACITIES OF WELDS OR BOLTS SHOWN ON DETAILS.

BRACING SUBMITTALS

SHOP-DRAWING PREPARATION:

1. HAVE BRACING AND RESTRAINT SHOP DRAWINGS SUBMITTED AS A PART OF THE MISCELLANEOUS STEEL SUBMITTAL OR AS AN INDEPENDENT SUBMITTAL UNDER SECTION 05 20 00.

COORDINATION:

1. DO NOT INSTALL RESTRAINTS UNTIL SUBMITTALS ARE APPROVED.
2. COORDINATE AND INSTALL TRAPEZE OR OTHER MULTI-PIPE HANGER SYSTEMS PRIOR TO PIPE INSTALLATION.

SUBMITTALS:

SUBMIT A COORDINATED SET OF EQUIPMENT ANCHORAGE DRAWINGS PRIOR TO INSTALLATION INCLUDING:

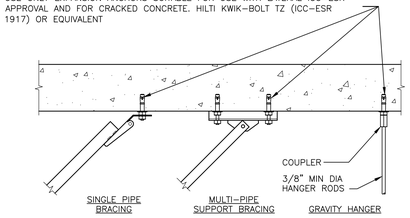
1. DESCRIPTION, LAYOUT, AND LOCATION OF ITEMS TO BE ANCHORED OR BRACED WITH ANCHORAGE OR BRACE POINTS NOTED AND DIMENSIONED.
2. DETAILS OF ANCHORAGE OR BRACING AT LARGE SCALE WITH ALL MEMBERS, PARTS BRACKETS SHOWN, TOGETHER WITH ALL CONNECTIONS, BOLTS, WELDS ETC. CLEARLY IDENTIFIED AND SPECIFIED.
3. FOR EXPANSION BOLTS, INCLUDE DESIGN LOAD AND CAPACITY IF DIFFERENT FROM THOSE SPECIFIED.

SUBMIT PRIOR TO INSTALLATION, A COORDINATED SET OF BRACING DRAWINGS FOR PROTECTION OF PIPING, WITH DATA IDENTIFYING THE VARIOUS SUPPORT-TO-STRUCTURE CONNECTIONS AND BRACING STRUCTURAL CONNECTIONS, INCLUDE:

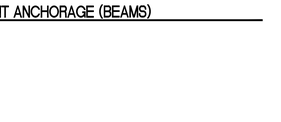
1. SINGLE-LINE PIPING DIAGRAMS ON A FLOOR-BY-FLOOR BASIS. SHOW ALL SUSPENDED PIPING FOR A GIVEN FLOOR ON THE SAME PLAIN.
2. TYPE OF PIPE (COPPER, STEEL, CAST IRON, INSULATED, NON-INSULATED, ETC.).
3. PIPE CONTENTS.
4. STRUCTURAL FRAMING.
5. LOCATION OF ALL GRAVITY LOAD PIPE SUPPORTS AND SPACING REQUIREMENTS.
6. NUMERICAL VALUE OF GRAVITY LOAD REACTIONS.
7. LOCATION OF ALL GRAVITY AND LATERAL BRACING.
8. NUMERICAL VALUE OF APPLIED BRACE LOADS.
9. TYPE OF CONNECTION (VERTICAL SUPPORT, VERTICAL SUPPORT WITH LATERAL BRACE ETC.).
10. HANGER/BRACE REACTION TYPE (TENSION OR COMPRESSION): DETAILS ILLUSTRATING ALL SUPPORT AND BRACING COMPONENTS, METHODS OF CONNECTIONS, AND SPECIFIC ANCHORS TO BE USED.

SUBMIT FOR ALL ANCHORS THE APPROPRIATE ICC-ESR REPORTS INDICATING SUITABILITY OF ANCHORS FOR USE IN ALL APPLICATIONS TO BE INSTALLED.

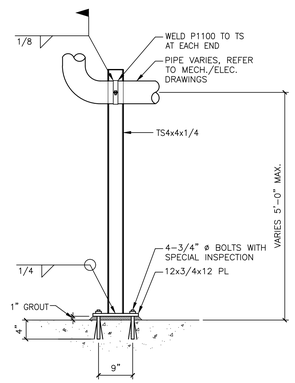
3/8" MIN DIA EXP. BOLTS X 3 1/8" EMBEDMENT TO 1500 LBS
1/2" MIN DIA EXP. BOLTS X 3 5/8" EMBEDMENT TO 3000 LBS
USE ONLY EXPANSION ANCHORS SUITABLE FOR USE WITH LATERAL ICC-ESR APPROVAL AND FOR CRACKED CONCRETE. HILTI KWIK-BOLT TZ (ICC-ESR 1917) OR EQUIVALENT



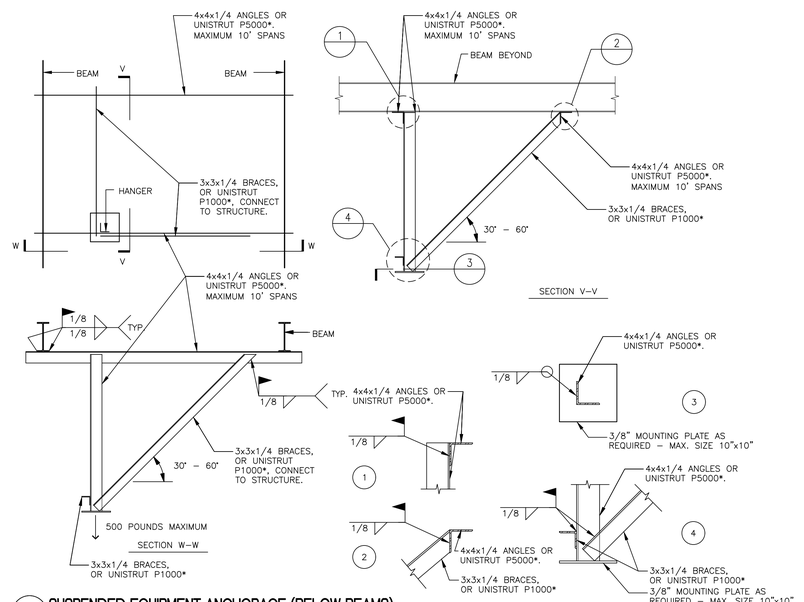
E1 SECURING HANGER RODS/BRACES TO CONCRETE
NOT TO SCALE



D4 CABLE/ANGLE BRACING PLAN (SPLAYED)
NOT TO SCALE



F2 FLOOR BRACE
NOT TO SCALE



F7 SUSPENDED EQUIPMENT ANCHORAGE (BELOW BEAMS)
NOT TO SCALE

Revisions:	Date:
⚠ ADDENDUM 1	08-09-24

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VA U.S. Department of Veterans Affairs

Drawing Title: EQUIPMENT BRACING AND ANCHORAGE DETAILS	Phase: 100% CONSTRUCTION DOCUMENTS
Approved: Project Director	FULLY SPRINKLERED

Project Title: DESIGN REPLACE BOILER PLANT		Project Number: 438-22-900
		Building Number: 12
Location: SIOUX FALLS VAMC, SIOUX FALLS, SD 57105		Drawing Number: SG006
Issue Date: 08-09-2024	Checked: TWW	Drawn: DRW

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SPREAD FOOTING SCHEDULE

MARK	SIZE (WxLxT)	REINFORCING (EACH WAY)	NOTES
F1	4'-0"x4'-0"x2'-0"	(4)-#7 BOTTOM	1,2
F2	5'-0"x5'-0"x2'-0"	(5)-#7 BOTTOM	1,2
F3	6'-0"x6'-0"x2'-0"	(6)-#7 BOTTOM	1,2
F4	7'-0"x7'-0"x2'-0"	(8)-#7 T&B	1,2,3
F5	8'-0"x8'-0"x2'-0"	(8)-#7 T&B	1,2,3
F6	9'-0"x9'-0"x2'-0"	(9)-#8 T&B	1,2,3
F7	10'-0"x10'-0"x2'-0"	(10)-#8 T&B	1,2,3
F8	8'-0"x41'-0"x3'-0"	#8 T&B E.W.	1,2,3,4
F9	13'-0"x27'-0"x3'-0"	#8 T&B E.W.	1,2,3,4

NOTES:
1. SEE PLANS AND DETAILS FOR TOP OF FOOTING ELEVATION.
2. SEE DETAILS FOR CONFIGURATION OF REINFORCING.
3. T&B INDICATES TOP AND BOTTOM REINFORCING MATS.
4. CENTER FOOTING BETWEEN TWO COLUMNS IN BRACED FRAME AS SHOWN ON PLAN. REINFORCING AT 12" O.C. TOP AND BOTTOM, EACH WAY

CONTINUOUS FOOTING SCHEDULE

MARK	SIZE (WxD)	REINFORCING	STIRRUPS
CF1	2'-3"x2'-0"	(4)-#6 CONT.	#3 AT 16"O.C.
CF2	2'-0"x2'-0"	(4)-#6 CONT.	#3 AT 16"O.C.
CF3	1'-6"x2'-0"	(4)-#6 CONT.	#3 AT 16"O.C.
CF4*	2'-3"x2'-0"	(4)-#6 CONT.	#3 AT 12"O.C.

NOTES:
1. *CF4 STIRRUPS SHALL BE CLOSED WITH 135° HOOK WITH EXTENSION BEYOND HOOK MIN. 3" OR 6 x BAR DIAMETER.
2. SEE DETAILS FOR CONFIGURATION OF REINFORCING.

WALL OPENING SCHEDULE (WO# LO# DO#)

MARK	OPENING WIDTH	OPENING HEIGHT	BOTTOM ELEVATION	TOP ELEVATION	JAMB REINFORCING	HEADER/SILL REINFORCING
DOOR OPENINGS – EXTERIOR, BLAST RATED, SEE SPECS					SEE SHEET SE201	SEE SHEET SE201
DO1	3'-4"	7'-4"	0'-0"	7'-4"		
DO2	14'-0"	8'-8"	0'-0"	8'-8"		
DO3	6'-4"	7'-4"	0'-0"	7'-4"		
LOUVER OPENINGS – EXTERIOR, BLAST RATED, SEE SPECS						
LO1	8'-0"	8'-0"	1'-4"	9'-4"		
LO2	4'-0"	8'-0"	1'-4"	9'-4"		
LO3	7'-0"	7'-0"	2'-0"	9'-0"		
LO4	4'-0"	4'-0"	6'-0"	10'-0"		
LO5	8'-0"	8'-0"	16'-8"	24'-8"		
LO6	4'-0"	4'-0"	21'-0"	25'-0"		
LO7	4'-0"	8'-0"	16'-8"	24'-8"		
WINDOW OPENINGS – EXTERIOR, BLAST RATED, SEE SPECS						
W01	3'-4"	8'-7 1/2"	12'-5 1/2"	21'-1"		

NOTES:
1. SEE ARCH ELEVATIONS FOR ADDITIONAL INFORMATION ON OPENINGS IN WALLS
2. SEE SE201 ELEVATIONS FOR CONFIGURATION OF REINFORCING IN ADDITION TO TYPICAL REINFORCING CALLED OUT FOR WALLS.
3. ENVELOPE BLAST RATING MINIMUM REQUIREMENTS FOR DESIGN/CERTIFICATION OF COMPONENTS LOADING SHALL BE MIN. 13.44 PSI AT 50.78 PSI–MSEC.
4. WINDOWS SHALL BE LAMINATED AND DESIGNED FOR BLAST LOADING, IF IGU SYSTEMS ARE USED, ONLY THE INNER PANE SHALL BE LAMINATED, MIN 1/4" PANE THICKNESS.
5. WINDOW AND DOOR FRAMES AND ANCHORAGE SHALL BE DESIGNED FOR COLLECTED BLAST LOADING INDICATED IN NOTE 3.

MARKS AND SYMBOLS LEGEND

- F2 / SB0XX — SECTION MARK, SHEET NUMBER
- F6 — FOOTING DESIGNATION, SEE SCHEDULE THIS SHEET
- FTG. STEP F1/SG005 — INDICATES FOOTING STEP, SEE DETAIL F1/SG005
- INDICATES CONCRETE WALL
- CFx — INDICATES CONTINUOUS FOOTING. SEE SCHEDULE THIS SHEET
- (X.X) — INDICATES EXISTING GRID
- X.X — INDICATES NEW GRID
- C.J. — INDICATES CONTROL/CONST. JOINT. SEE DETAIL F7/SG005
- W10X49 BF6 — INDICATES STEEL COLUMN AND BASEPLATE SIZE, SEE C1/SG005 FOR BASEPLATES
- INDICATES SLAB/F.F.E. STEP

LIGHT GAGE WALL FRAMING NOTES

1. SEE SHEET SG003 AND FOUNDATION AND FRAMING DETAILS FOR BLAST RESISTANT EXTERIOR LIGHT GAGE WALL FRAMING INFORMATION AND DETAILS. ALL EXTERIOR WALLS SHALL CONFORM TO THE REQUIREMENTS SHOWN ON SHEET SG003. BLAST RESISTANT INTERIOR AND EXTERIOR WINDOWS AND DOOR FRAMES AND THEIR ATTACHMENTS SHALL BE CAPABLE OF RESISTING BLAST IMPULSE LOADING ON THIS SHEET.
2. AT TYPICAL INTERIOR PARTITION WALLS WITH NO ATTACHED WALL–MOUNTED EQUIPMENT OR CABINETS, REFER TO TYPICAL DETAIL F4/SG004 FOR MINIMUM REQUIRED FRAMING AND ATTACHMENT INFORMATION. REFER TO ARCHITECTURAL DRAWINGS FOR ACTUAL REQUIRED WALL FRAMING THICKNESS (3 5/8" MIN. FOR ALL WALLS EXCEPT FURRING WALLS). REFER TO ARCHITECTURAL AND MEP DRAWINGS FOR ADDITIONAL COORDINATION OF EQUIPMENT AND CABINETS SHOWN TO BE MOUNTED TO WALLS NOT SHOWN THIS PLAN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WALL FRAMING PER DETAILS F1/SG004, F2/SG004 AND B1/SG004 FOR FRAMING OF WALLS AT LOCATIONS WHERE EQUIPMENT AND CABINETS ARE TO BE MOUNTED WHERE NOT SPECIFICALLY SHOWN THIS SHEET.
3. WHERE CABINETS ARE TO BE MOUNTED TO WALLS, REFER TO DETAIL F2/SG004 FOR MINIMUM REQUIRED FRAMING AND ATTACHMENT INFORMATION. REFER TO ARCHITECTURAL DRAWINGS FOR ACTUAL REQUIRED WALL FRAMING THICKNESS (3 5/8" MIN). DASHED LINE INDICATES APPROXIMATE EXTENTS OF SUPPORT FRAMING WITH GREATER REQUIREMENTS THAN TYPICAL WALL FRAMING, REFER TO DETAILS FOR MORE INFORMATION.
4. WHERE EQUIPMENT AND WALL–MOUNTED SINKS ARE TO BE MOUNTED TO WALLS, REFER TO DETAIL F1/SG004 FOR MINIMUM REQUIRED FRAMING AND ATTACHMENT INFORMATION. REFER TO ARCHITECTURAL DRAWINGS FOR ACTUAL REQUIRED WALL FRAMING THICKNESS (3 5/8" MIN). DASHED LINE INDICATES APPROXIMATE EXTENTS OF SUPPORT FRAMING WITH GREATER REQUIREMENTS THAN TYPICAL WALL FRAMING, REFER TO DETAILS FOR MORE INFORMATION.
5. PARTIAL HEIGHT WALLS AND COUNTERTOP STATION FACE WALLS SHALL HAVE SUPPORTING STRUCTURE PER DETAIL C2/SG004 AT ENDS OF WALLS AND AT 48" O.C. MAX.
6. ANY WALL MOUNTED TOILETS SHALL HAVE FULL HEIGHT STEEL FRAME WALL CARRIERS AND SHALL NOT BE MOUNTED TO WALL FRAMING, REFER TO PLUMBING DRAWINGS AND SPECIFICATIONS FOR TOILET INFORMATION.

GENERAL NOTES

A. GROUND FINISHED FLOOR ASSUMED ELEVATION = 100'–0" (4754.87') ALL ELEVATIONS ARE BASED ON THIS DATUM UNLESS NOTED OTHERWISE.

B. SEE SHEET SG001 AND SG002 FOR GENERAL NOTES AND DESIGN LOADS.

C. SEE SHEETS SB301 AND SB302 FOR FOUNDATION DETAILS.

D. COORDINATE LIMITS AND LOCATION OF VENEER WITH ARCHITECTURAL DRAWINGS. DIMENSIONS SHOWN TO OUTSIDE OF BUILDING ARE TO FACE OF BRICK, TYP.

E. SEE PLUMBING DRAWINGS FOR LOCATION OF FLOOR DRAINS AND DEPRESSED/SLOPED SLABS.

F. ALL FOOTINGS ARE CENTERED UNDER COLUMNS AT GRID INTERSECTIONS UNLESS NOTED OTHERWISE ON PLAN. FOOTINGS NOT CENTERED OR NOT SUPPORTING COLUMNS ARE LOCATED ON PLAN WITH DIMENSIONS FROM GRIDLINES.

G. SEE SG005 FOR BASEPLATE AND ANCHOR BOLT DIAGRAMS.

H. VERIFY ALL WALL OPENING AND INTERIOR WALL DIMENSIONS AND LOCATIONS WITH ARCHITECTURAL DRAWINGS.

I. SEE ARCH. FOR CONTROL JOINT SPACING IN BRICK FACADE WHERE NOT SPECIFICALLY SHOWN THIS SHEET. BRICK JOINTS THIS SHEET ARE REQUIRED AS SHOWN IN ADDITION TO THOSE SHOWN ON ARCH DRAWINGS.

J. SEE SE201 FOR BUILDING STRUCTURE ELEVATIONS AND EXTERIOR WALL INFORMATION.

K. VERIFY ALL DIMENSIONS IN THE FIELD AND WITH EQUIPMENT SUPPLIER REQUIREMENTS FOR FULL COORDINATION OF MISC. SUPPORT AND FRAMING STEEL AND OTHER STRUCTURAL ITEMS PRIOR TO FABRICATION. LOCATIONS OF SUPPORTS, HANGERS, ATTACHMENTS AND OTHER ITEMS WILL VARY ACCORDING TO EQUIPMENT SELECTED AND FINAL CONFIGURATION OF INSTALLED MEP SYSTEMS. SEE GENERAL NOTES ON SG001 AND SG002.

L. SEE C8/SG005 FOR HOUSEKEEPING OR EQUIPMENT MOUNTING PADS. REFER TO ARCH AND MEP DRAWINGS FOR SIZE AND LOCATION OF PADS.

M. REFER TO SHEET S004 FOR TYPICAL INTERIOR NON–LOADBEARING LIGHT GAGE FRAMING DETAILS. REFER TO ARCHITECTURAL AND MEP DRAWINGS FOR ADDITIONAL COORDINATION OF EQUIPMENT AND CABINETS SHOWN TO BE MOUNTED TO WALLS NOT SPECIFICALLY SHOWN THIS PLAN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WALL FRAMING PER DETAILS ON SHEET S004 FOR FRAMING OF WALLS AT LOCATIONS WHERE ADDITIONAL EQUIPMENT AND CABINETS 20 LBS AND GREATER ARE TO BE MOUNTED UNDER THIS CONTRACT.

N. ONLY THOSE PORTIONS OF THE EXISTING STRUCTURE ARE SHOWN WHERE PERTINENT TO THE LOCATIONS OF SUPPORT FRAMING MODIFICATION OR ADDITION. DRAWINGS SHALL BE USED FOR LAYOUT RELATIVE TO THE EXISTING STRUCTURE, HOWEVER FIELD VERIFICATION OF FRAMING LOCATIONS IS REQUIRED BEFORE INSTALLATION OF ANY NEW FRAMING.

O. WHEN CORING THROUGH CONCRETE, CONTRACTOR SHALL PROVIDE GROUND PENETRATING RADAR OR OTHER MEANS OF SLAB OR OTHER STRUCTURAL COMPONENT REINFORCING LOCATION AND MARK SUCH LOCATIONS SO THAT NO EXISTING REINFORCING IS DAMAGED DURING INSTALLATION OF ANY NEW FASTENERS (POWER ACTUATED FASTENERS, SCREWS, BOLTS OR OTHER CONNECTORS), FLOOR SINKS DRAINS OR OTHER MEP SLAB PENETRATIONS TO TOP OF BOTTOM OF EXISTING FLOOR SLAB. ANY DAMAGED REINFORCING WILL REQUIRE STRUCTURAL REPAIRS AT THE CONTRACTORS EXPENSE.

P. SEE ARCHITECTURAL AND CIVIL DRAWINGS FOR EXTERIOR CONCRETE WORK AT DOORS, SIDEWALKS, ETC.

Q. BLAST RESISTANT EXTERIOR WINDOWS AND DOOR FRAMES AND THEIR ATTACHMENTS AND ANCHORAGE SHALL BE CAPABLE OF RESISTING IMPULSE LOADING OF 13.44 PSI AT 50.78 PSI–MSEC. SEE SE201 FOR MORE INFORMATION.

R. SEE CIVIL AND ARCHITECTURAL DRAWINGS FOR SITE RETAINING AND SCREEN WALL LOCATIONS. REFER TO SHEET SB302 FOR CONSTRUCTION DETAILS OF SITE WALLS AND OTHER STRUCTURES.

S. SEE F2/SB301 FOR FOOTING STEP AND DETAILING AROUND MEP PENETRATIONS THROUGH EXTERIOR WALL LOCATIONS.

T. DO NOT BACKFILL TUNNEL, BASEMENT OR BELOW GRADE WALLS UNTIL ALL WALLS, FRAMING, SLABS, AND BRACING ARE COMPLETED AT GRADE. STABILITY OF RETAINING WALLS IS CONTINGENT ON COMPLETION OF BRACES AND CONNECTION OF SLAB TO WALLS.

⚠1 U. AT MEP PENETRATIONS THROUGH FOUNDATION FOOTINGS, SEE F2/SB301 WHERE CONFLICT ARISES BETWEEN PIPE/CONDUIT ELEVATION AND FOUNDATION REINFORCING.

KEY NOTES – FOUNDATION AND SLAB PLAN ⬡

1. SEE ARCHITECTURAL DRAWINGS FOR STAIR PLANS AND DETAILS, STAIR FRAMING IS DELEGATED DESIGN SUBMITTAL, SEE SHEET SG002. SUPPORT LOWER STAIR AND CORNER LANDING FROM SLAB USING POSTS, MEZZANINE LEVEL FRAMING SHALL BE SUSPENDED FROM ROOF FRAMING, SEE FRAMING PLANS FOR MORE INFORMATION.
2. 7" SLAB–ON–GRADE REINFORCED WITH #4 AT 18" O.C. E.W. PLACED AT MID–SLAB OVER A 15 MIL CLASS "A" VAPOR BARRIER OVER 8" CLEAN CRUSHED STONE OVER PREPARED SUB GRADE AS SPECIFIED IN THE GEOTECHNICAL REPORT. REFER TO EQUIPMENT SUPPLIER FOR REQUIRED SPECIAL FLOOR FLATNESS AND LEVELNESS REQUIREMENTS BEYOND TYPICAL SPECIFICATION REQUIREMENTS FOR OTHER FLOOR AREAS. THE CONTRACTOR SHALL FOLLOW THE GEOTECHNICAL REPORT SUBGRADE PREPARATION REQUIREMENTS DUE TO THE EXISTING SOIL CONDITIONS ENCOUNTERED ON SITE. A GEOTECHNICAL REPRESENTATIVE SHALL BE RETAINED BY THE CONTRACTOR TO MONITOR AND APPROVE ALL FOUNDATION AND SUBGRADE PREPARATION.
3. SEE B4/SB301 FOR TRENCH CONSTRUCTION. COORDINATE LOCATION WITH MEP PIPING, SLOPE TRENCH BOTTOM TO DRAIN WHERE SHOWN ON PLUMBING PLANS.
4. T.O.F. EL. = 97'–4" TYPICAL AT INTERIOR COLUMN FOOTINGS UNLESS NOTED OTHERWISE.
5. SEE F3/SG005 FOR FOOTING AND WALL REINFORCING DETAILING AT CORNERS, TYP.
6. MANDATORY FULL HEIGHT CMU EXPANSION JOINT, SEE DETAILS ON SHEET SG003 AND CMU WALL REINFORCING ELEVATIONS ON SHEET SE201 FOR MORE INFORMATION. SEE ARCH FOR BRICK VENEER EXPANSION JOINT LOCATIONS NOT SHOWN THIS PLAN. INTERIOR WALL CMU CONTROL JOINTS SHALL BE SPACED AT 40' MAX, LOCATIONS AT DISCRETION OF CONTRACTOR.
7. SIDEWALK / STAIRS AND STOOP PADS, SEE DETAILS FOR SIZE AND INSTALLATION REQUIREMENTS.
8. SEE B6/SG005 FOR ADDITIONAL REINFORCING AROUND SLAB PENETRATIONS LARGER THAN 12"x12" OR WHERE TYPICAL SLAB REINFORCING IS DISRUPTED, TYP.
9. ACCESS/PLUMBING PIT, SEE DETAILS. INSTALL STEEL GRATE WITH REMOVABLE ACCESS HATCH TO ACCESS PIT LADDER. GRATE SHALL HAVE 500 PSF / 3,000# WHEEL LOAD CAPACITY.
10. 6" REINFORCED CONCRETE EQUIPMENT PAD, SEE C8/SG005 FOR PAD DETAILS. PAD SHALL BE DOWELED TO SLAB PER DETAIL, BUT INSTALLED AS A COLD JOINT / SEPARATELY POURED PAD NOT INTEGRAL WITH BUILDING FLOOR SLAB. SEE EQUIPMENT SUPPLIER REQUIREMENTS FOR PAD DIMENSIONS. PAD SIZES SHOWN ARE FOR APPROXIMATE SIZE BIDDING PURPOSES ONLY AND VARY BY FINAL EQUIPMENT MODEL PROVIDED. GC TO COORDINATE FINAL PAD SIZE AND EXACT LOCATION. SEE C8/SB302.
11. AT DOORWAYS, ADD #5 HAIRPIN BARS EACH SIDE IN SLAB, SEE B7/SG005 AND FOUNDATION DETAILS REFERENCED, TYP.
12. SEE MECHANICAL AND PLUMBING FOR ALL FLOOR DRAINS AND SLAB PENETRATIONS TO BE PLACED AND PROTECTED BEFORE POURING SLAB.
13. STEAM HEADER SUPPORTED FROM FLOOR SLAB WITH STEEL PIPE STANDS, SEE MECHANICAL DRAWINGS. ANCHORS SHALL BE DRILLED AND EPOXIED.
14. SLAB CONTROL JOINT / CONSTRUCTION JOINT, TYP. CONSTRUCTION JOINTS TO BE APPROVED BY GC PROPOSED SLAB POUR SCHEDULING SUBMITTAL.
15. STEAM TUNNEL, SEE MECHANICAL AND CIVIL FOR EXTENTS. SEE SB302 FOR DETAILS.
16. SEE F7/SB302 FOR BOLLARD INSTALLATION DETAILS, TYP. ⚠1

F1 GROUND FLOOR FOUNDATION PLAN
1/8" = 1'-0"

F5 GROUND FLOOR SLAB PLAN
1/8" = 1'-0"

⚠1 GENERAL ADD1 NOTES:
ADDED TYP WHERE APPLICABLE TO NOTES AND DETAIL FOR CLARITY.
ADDED KEYNOTE CALLOUTS TO TYP. ITEMS FOR CLARITY

⚠ ADDENDUM 1	08-09-24
Revisions:	Date:

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Office of Construction and Facilities Management
VA U.S. Department of Veterans Affairs

Drawing Title: FOUNDATION AND SLAB PLANS	Phase: 100% CONSTRUCTION DOCUMENTS
Approved: Project Director	FULLY SPRINKLERED

Project Title	DESIGN REPLACE BOILER PLANT
Project Number	438-22-900
Building Number	12
Location	SIOUX FALLS VAMC, SIOUX FALLS, SD 57105
Drawing Number	SB101
Issue Date	08-09-2024
Checked	TWW
Drawn	DRW

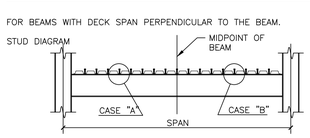
VA FORM 08 - 6231

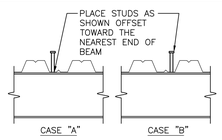
MARKS AND SYMBOLS LEGEND

- F2 / SB301 — SECTION MARK, SHEET NUMBER
- X.X — INDICATES EXISTING GRID
- X.X — INDICATES NEW GRID
- INDICATES SLAB/F.F.E. STEP
- INDICATES MOMENT CONNECTION BEAM TO COLUMN

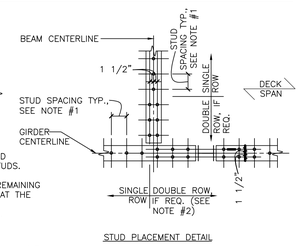
COMPOSITE BEAM NOTES AND DETAILS

FOR BEAMS WITH DECK SPAN PERPENDICULAR TO THE BEAM.





1. LAYOUT STUDS ALONG BEAM LENGTH PRIOR TO STUD ATTACHMENT.
2. IF TOTAL QUANTITY OF STUDS EXCEEDS SPAN LENGTH IN FEET, LAYOUT A SINGLE ROW OF STUDS AT 12" O.C. AND LAYOUT REMAINING STUDS IN EQUAL QUANTITIES FROM EACH END OF BEAM AT 12" O.C. IN A DOUBLE ROW OF STUDS. CENTER DOUBLE STUD ROW ABOUT CENTERLINE OF BEAM. SEE STUD PLACEMENT DETAIL FOR STUD PLACEMENT.
3. IF TOTAL QUANTITY OF STUDS IS LESS THAN THE SPAN LENGTH IN FEET, PLACE STUDS AT 24" O.C. AND PLACE REMAINING STUDS IN EQUAL QUANTITIES FROM EACH END OF BEAM AT VACANT DECK FLUTE LOCATIONS AT 24" O.C. SUCH THAT THE STUD SPACING AT END IS 12" O.C.
4. IN ALL CASES, THERE SHALL BE AN EQUAL NUMBER OF SHEAR STUDS ON EACH SIDE OF THE MIDPOINT OF BEAM.

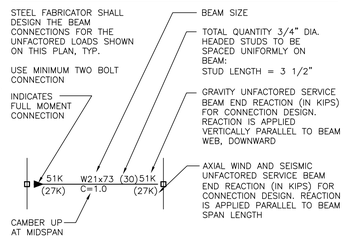


STUD PLACEMENT DETAIL

FOR BEAMS WITH DECK SPAN PARALLEL TO THE BEAM.

1. LAYOUT STUDS ALONG BEAM LENGTH PRIOR TO STUD ATTACHMENT.
2. SPACE STUDS IN A SINGLE ROW BETWEEN SUPPORTS AT A UNIFORM SPACING, SPACING SHALL NOT BE LESS THAN 4 1/2".
3. IF SPACING WOULD BE LESS THAN 4 1/2", LAYOUT A SINGLE ROW OF STUDS AT 4 1/2" ON CENTER AND LAYOUT THE REMAINING STUDS IN EQUAL QUANTITIES FROM EACH END OF THE BEAM IN A DOUBLE ROW OF STUDS. CENTER DOUBLE STUD ROW ABOUT CENTERLINE OF BEAM. SEE DETAIL "C" FOR STUD PLACEMENT.

COMPOSITE BEAM LEGEND



COMPOSITE DECK ATTACHMENT

1. DECK PERPENDICULAR TO SUPPORT – (4)–5/8" DIA. PUDDLE WELDS PER SHEET.
2. DECK PARALLEL TO SUPPORT – 5/8" DIA. PUDDLE WELDS AT 12" O.C. (24" O.C. MAX.)
3. SIDELAPS – 3/8"x1 1/4" ARC SEAM WELDS AT 24" O.C. U.N.O.
4. DECK SHALL BE CONTINUOUS OVER (3) SUPPORTS, U.N.O.

GENERAL NOTES

A. GROUND FINISHED FLOOR ASSUMED ELEVATION = 100'–0" (4754.87') ALL ELEVATIONS ARE BASED ON THIS DATUM UNLESS NOTED OTHERWISE.

B. SEE SHEET SG001 AND SG002 FOR GENERAL NOTES AND DESIGN LOADS.

C. SEE SHEETS SF401, SF402, AND SF403 FOR FRAMING DETAILS.

D. COORDINATE LIMITS AND LOCATION OF VENEER WITH ARCHITECTURAL DRAWINGS. DIMENSIONS SHOWN TO OUTSIDE OF BUILDING ARE TO FACE OF BRICK, TYP.

E. SEE PLUMBING DRAWINGS FOR LOCATION OF FLOOR DRAINS AND DEPRESSED/SLOPED SLABS.

F. VERIFY ALL WALL OPENING AND INTERIOR WALL DIMENSIONS AND LOCATIONS WITH ARCHITECTURAL DRAWINGS.

G. VERIFY ALL DIMENSIONS IN THE FIELD AND WITH EQUIPMENT SUPPLIER REQUIREMENTS FOR FULL COORDINATION OF MISC. SUPPORT AND FRAMING STEEL AND OTHER STRUCTURAL ITEMS PRIOR TO FABRICATION. LOCATIONS OF SUPPORTS, HANGERS, ATTACHMENTS AND OTHER ITEMS WILL VARY ACCORDING TO EQUIPMENT SELECTED AND FINAL CONFIGURATION OF INSTALLED MEP SYSTEMS. SEE GENERAL NOTES ON SG001 AND SG002.

H. SEE C8/SG005 FOR HOUSEKEEPING OR EQUIPMENT MOUNTING PADS. REFER TO ARCH AND MEP DRAWINGS FOR SIZE AND LOCATION OF PADS.

I. REFER TO SHEET S004 FOR TYPICAL INTERIOR NON–LOADBEARING LIGHT GAGE FRAMING DETAILS. REFER TO ARCHITECTURAL AND MEP DRAWINGS FOR ADDITIONAL COORDINATION OF EQUIPMENT AND CABINETS SHOWN TO BE MOUNTED TO WALLS NOT SPECIFICALLY SHOWN THIS PLAN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WALL FRAMING PER DETAILS ON SHEET S004 FOR FRAMING OF WALLS AT LOCATIONS WHERE ADDITIONAL EQUIPMENT AND CABINETS 20 LBS AND GREATER ARE TO BE MOUNTED UNDER THIS CONTRACT.

J. ONLY THOSE PORTIONS OF THE EXISTING STRUCTURE ARE SHOWN WHERE PERTINENT TO THE LOCATIONS OF SUPPORT FRAMING MODIFICATION OR ADDITION. DRAWINGS SHALL BE USED FOR LAYOUT RELATIVE TO THE EXISTING STRUCTURE, HOWEVER FIELD VERIFICATION OF FRAMING LOCATIONS IS REQUIRED BEFORE INSTALLATION OF ANY NEW FRAMING.

K. WHEN CORING THROUGH CONCRETE, CONTRACTOR SHALL PROVIDE GROUND PENETRATING RADAR OR OTHER MEANS OF SLAB OR OTHER STRUCTURAL COMPONENT REINFORCING LOCATION AND MARK SUCH LOCATIONS SO THAT NO EXISTING REINFORCING IS DAMAGED DURING INSTALLATION OF ANY NEW FASTENERS (POWER ACTUATED FASTENERS, SCREWS, BOLTS OR OTHER CONNECTORS), FLOOR SINKS DRAINS OR OTHER MEP SLAB PENETRATIONS TO TOP OF BOTTOM OF EXISTING FLOOR SLAB. ANY DAMAGED REINFORCING WILL REQUIRE STRUCTURAL REPAIRS AT THE CONTRACTORS EXPENSE.

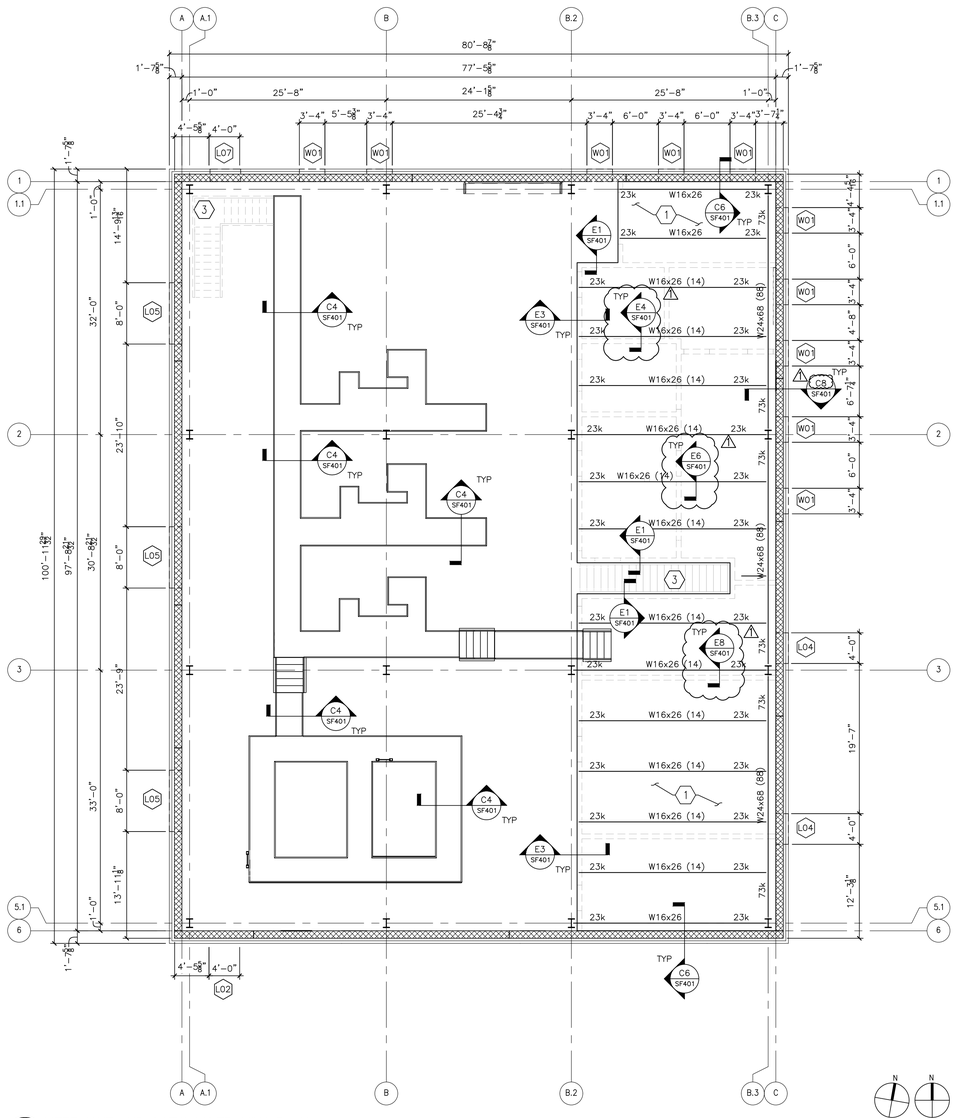
L. SEE COMPOSITE BEAM NOTES AND DETAILS THIS SHEET FOR SHEAR STUDS AND DECK ATTACHMENT TO FRAMING MEMBERS AND DECK FASTENER TYPE, SIZE, AND SPACING.

M. VERIFY ALL OPENINGS FOR MECHANICAL SHAFTS, STAIRS, ETC. WITH ARCHITECTURAL AND MECHANICAL DRAWINGS. SEE C2/SF402 FOR TYPICAL FLOOR OPENINGS LESS THAN 24". SEE C9/SF402 FOR TYPICAL FLOOR OPENINGS GREATER THAN 24".

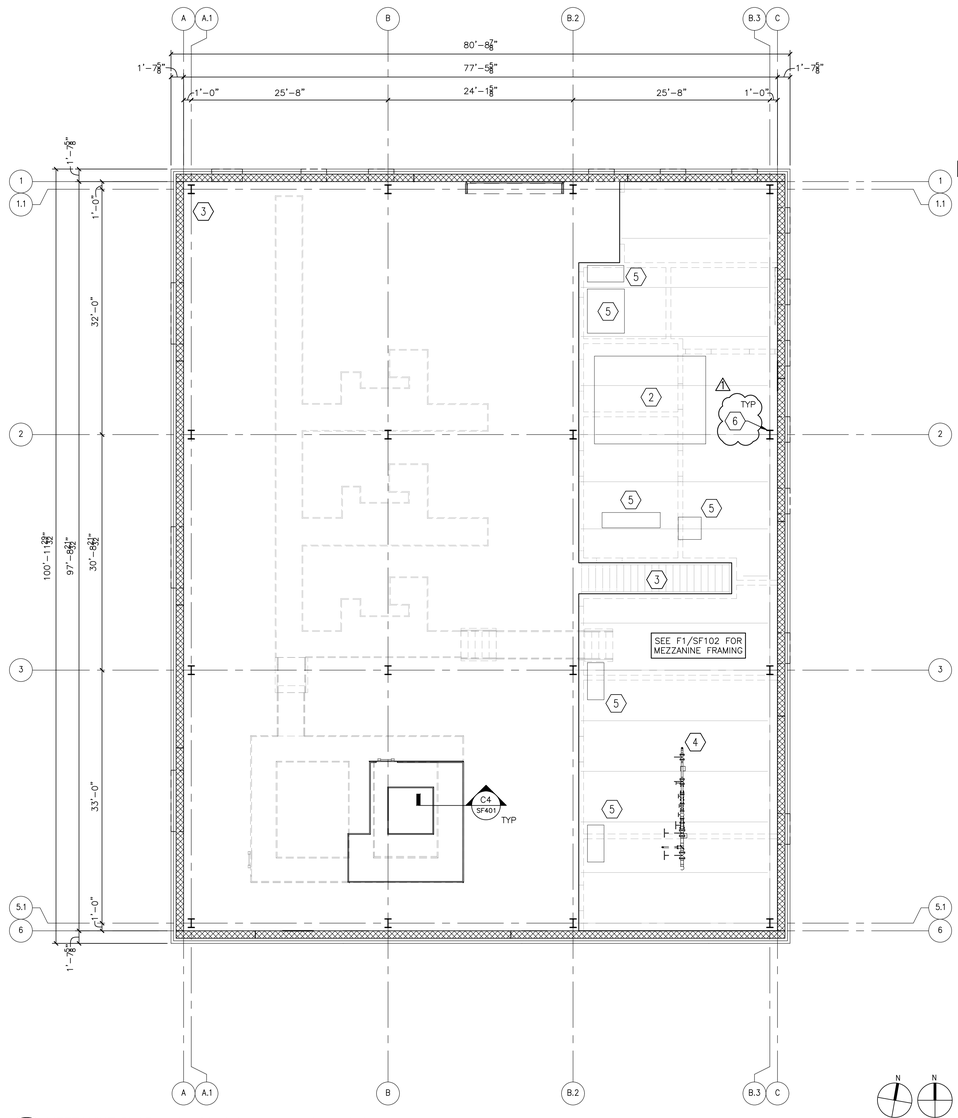
N. SEE E2/SF402 FOR TYPICAL AND GENERAL COMPOSITE BEAM FRAMING DETAILS.

KEY NOTES

1. 3" LIGHTWEIGHT CONCRETE ON VULCRAFT GALVANIZED 2" 20GA VLI COMPOSITE METAL DECK. TOTAL SLAB THICKNESS = 5". SEE SF104 FOR COMPOSITE FLOOR SLAB REINFORCING.
2. 6" REINFORCED CONCRETE EQUIPMENT PAD, SEE C8/SG005 FOR PAD DETAILS. PAD SHALL BE DOWELED TO SLAB PER DETAIL, BUT INSTALLED AS A COLD JOINT / SEPARATELY POURED PAD NOT INTEGRAL WITH BUILDING MEZZANINE SLAB. SEE EQUIPMENT SUPPLIER REQUIREMENTS FOR PAD DIMENSIONS. PAD SIZES SHOWN ARE FOR APPROXIMATE SIZE BIDDING PURPOSES ONLY AND VARY BY FINAL EQUIPMENT MODEL PROVIDED. GC TO COORDINATE FINAL PAD SIZE AND EXACT LOCATION. SEE C8/SB302.
3. SEE ARCHITECTURAL DRAWINGS FOR STAIR PLANS AND DETAILS, STAIR FRAMING IS DELEGATED DESIGN SUBMITTAL, SEE SHEET SG002 AND SB101 FOR MORE INFORMATION.
4. STEAM HEADER SUPPORTED FROM MEZZANINE FLOOR SLAB WITH STEEL PIPE STANDS, SEE MECHANICAL DRAWINGS. ANCHORS SHALL BE DRILLED AND EPOXIED.
5. 4" REINFORCED CONCRETE EQUIPMENT PAD, SEE C8/SG005 FOR PAD DETAILS. PAD SHALL BE DOWELED TO SLAB PER DETAIL, BUT INSTALLED AS A COLD JOINT / SEPARATELY POURED PAD NOT INTEGRAL WITH BUILDING MEZZANINE SLAB. SEE EQUIPMENT SUPPLIER REQUIREMENTS FOR PAD DIMENSIONS. PAD SIZES SHOWN ARE FOR APPROXIMATE SIZE BIDDING PURPOSES ONLY AND VARY BY FINAL EQUIPMENT MODEL PROVIDED. GC TO COORDINATE FINAL PAD SIZE AND EXACT LOCATION. SEE C8/SB302.
6. SEE E9/SF402 FOR DECK BEARING SUPPORTS AT COLUMNS, TYP.



F1 MEZZANINE AND CATWALK FRAMING PLAN
1/8" = 1'-0"



F5 MEZZANINE SLAB AND UPPER CATWALK FRAMING PLAN
1/8" = 1'-0"

Revisions:	Date:
ADDENDUM 1	08–09–24

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STATE OF KENTUCKY — DAVID R. WALTON — 31109 — LICENSED PROFESSIONAL ENGINEER

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

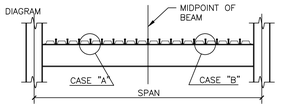
Drawing Title: MEZZANINE AND CATWALK FRAMING PLANS	Phase: 100% CONSTRUCTION DOCUMENTS	Project Title: DESIGN REPLACE BOILER PLANT	Project Number: 438-22-900
			Building Number: 12
Approved: Project Director	FULLY SPRINKLERED	Location: SIOUX FALLS VAMC, SIOUX FALLS, SD 57105	Drawing Number: SF102
		Issue Date: 08-09-2024 / Checked: TWW / Drawn: DRW	

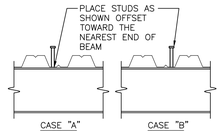
VA FORM 08 - 6231

COMPOSITE BEAM NOTES AND DETAILS

FOR BEAMS WITH DECK SPAN PERPENDICULAR TO THE BEAM.

STUD DIAGRAM

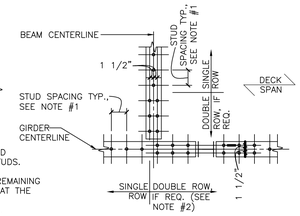




1. LAYOUT STUDS ALONG BEAM LENGTH PRIOR TO STUD ATTACHMENT.
2. IF TOTAL QUANTITY OF STUDS EXCEEDS SPAN LENGTH IN FEET, LAYOUT A SINGLE ROW OF STUDS AT 12" O.C. AND LAYOUT REMAINING STUDS IN EQUAL QUANTITIES FROM EACH END OF BEAM AT 12" O.C. IN A DOUBLE ROW OF STUDS. CENTER DOUBLE STUD ROW ABOUT CENTERLINE OF BEAM. SEE STUD PLACEMENT DETAIL FOR STUD PLACEMENT.
3. IF TOTAL QUANTITY OF STUDS IS LESS THAN THE SPAN LENGTH IN FEET, PLACE STUDS AT 24" O.C. AND PLACE REMAINING STUDS IN EQUAL QUANTITIES FROM EACH END OF BEAM AT VACANT DECK FLUTE LOCATIONS AT 24" O.C. SUCH THAT THE STUD SPACING AT END IS 12" O.C.
4. IN ALL CASES, THERE SHALL BE AN EQUAL NUMBER OF SHEAR STUDS ON EACH SIDE OF THE MIDPOINT OF BEAM.

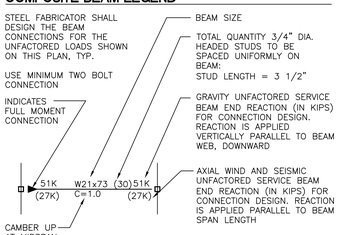
FOR BEAMS WITH DECK SPAN PARALLEL TO THE BEAM.

1. LAYOUT STUDS ALONG BEAM LENGTH PRIOR TO STUD ATTACHMENT.
2. SPACE STUDS IN A SINGLE ROW BETWEEN SUPPORTS AT A UNIFORM SPACING, SPACING SHALL NOT BE LESS THAN 4 1/2".
3. IF SPACING WOULD BE LESS THAN 4 1/2", LAYOUT A SINGLE ROW OF STUDS AT 4 1/2" ON CENTER AND LAYOUT THE REMAINING STUDS IN EQUAL QUANTITIES FROM EACH END OF THE BEAM IN A DOUBLE ROW OF STUDS. CENTER DOUBLE STUD ROW ABOUT CENTERLINE OF BEAM. SEE DETAIL "C" FOR STUD PLACEMENT.



STUD PLACEMENT DETAIL

COMPOSITE BEAM LEGEND



COMPOSITE DECK ATTACHMENT

1. DECK PERPENDICULAR TO SUPPORT – (4)–5/8" DIA. PUDDLE WELDS PER SHEET.
2. DECK PARALLEL TO SUPPORT – 5/8" DIA. PUDDLE WELDS AT 12" O.C. (24" O.C. MAX.)
3. SIDELAPS – 3/8"x1 1/4" ARC SEAM WELDS AT 24" O.C. U.N.O.
4. DECK SHALL BE CONTINUOUS OVER (3) SUPPORTS, U.N.O.

GENERAL NOTES

A. GROUND FINISHED FLOOR ASSUMED ELEVATION = 100'–0" (4754.87') ALL ELEVATIONS ARE BASED ON THIS DATUM UNLESS NOTED OTHERWISE.

B. SEE SHEET SG001 AND SG002 FOR GENERAL NOTES AND DESIGN LOADS.

C. SEE SHEETS SF401, SF402, AND SF403 FOR FRAMING DETAILS.

D. COORDINATE LIMITS AND LOCATION OF VENEER WITH ARCHITECTURAL DRAWINGS. DIMENSIONS SHOWN TO OUTSIDE OF BUILDING ARE TO FACE OF BRICK, TYP.

E. SEE ARCH FOR ROOF TAPER AND SLOPE REQUIREMENTS FOR DRAINAGE. ROOF SLAB IS FLAT ACROSS ENTIRE ROOF PLANE.

F. VERIFY ALL WALL OPENING AND INTERIOR WALL DIMENSIONS AND LOCATIONS WITH ARCHITECTURAL DRAWINGS.

G. VERIFY ALL DIMENSIONS IN THE FIELD AND WITH EQUIPMENT SUPPLIER REQUIREMENTS FOR FULL COORDINATION OF MISC. SUPPORT AND FRAMING STEEL AND OTHER STRUCTURAL ITEMS PRIOR TO FABRICATION. LOCATIONS OF SUPPORTS, HANGERS, ATTACHMENTS AND OTHER ITEMS WILL VARY ACCORDING TO EQUIPMENT SELECTED AND FINAL CONFIGURATION OF INSTALLED MEP SYSTEMS. SEE GENERAL NOTES ON SG001 AND SG002.

H. ONLY THOSE PORTIONS OF THE EXISTING STRUCTURE ARE SHOWN WHERE PERTINENT TO THE LOCATIONS OF SUPPORT FRAMING MODIFICATION OR ADDITION. DRAWINGS SHALL BE USED FOR LAYOUT RELATIVE TO THE EXISTING STRUCTURE, HOWEVER FIELD VERIFICATION OF FRAMING LOCATIONS IS REQUIRED BEFORE INSTALLATION OF ANY NEW FRAMING.

I. WHEN CORING THROUGH CONCRETE, CONTRACTOR SHALL PROVIDE GROUND PENETRATING RADAR OR OTHER MEANS OF SLAB OR OTHER STRUCTURAL COMPONENT REINFORCING LOCATION AND MARK SUCH LOCATIONS SO THAT NO EXISTING REINFORCING IS DAMAGED DURING INSTALLATION OF ANY NEW FASTENERS (POWER ACTUATED FASTENERS, SCREWS, BOLTS OR OTHER CONNECTORS), FLOOR SINKS DRAINS OR OTHER MEP SLAB PENETRATIONS TO TOP OF BOTTOM OF EXISTING FLOOR SLAB. ANY DAMAGED REINFORCING WILL REQUIRE STRUCTURAL REPAIRS AT THE CONTRACTORS EXPENSE.

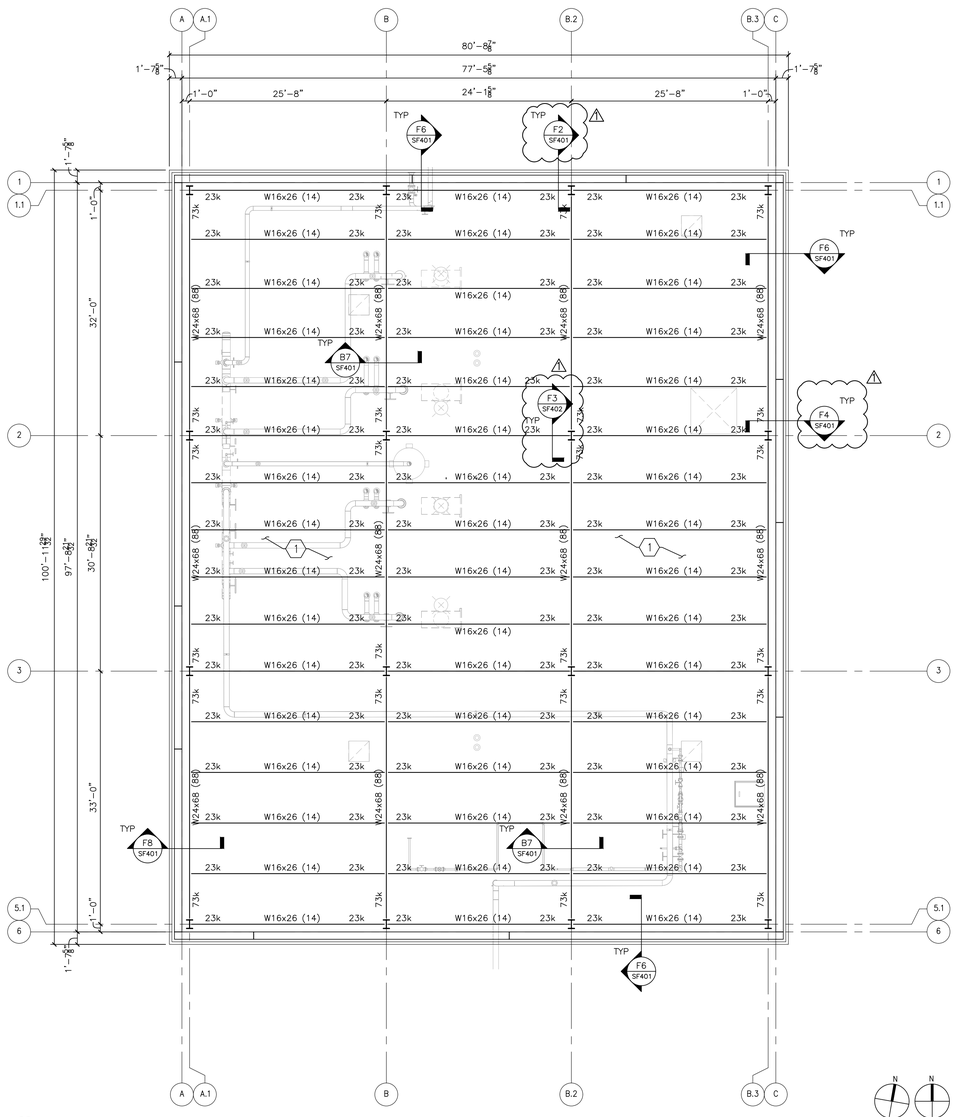
J. SEE COMPOSITE BEAM NOTES AND DETAILS THIS SHEET FOR SHEAR STUDS AND DECK ATTACHMENT TO FRAMING MEMBERS AND DECK FASTENER TYPE, SIZE, AND SPACING.

K. SEE SHEET SF104 FOR COMPOSITE FLOOR SLAB REINFORCING FOR THIS LEVEL, INCLUDING ADDITIONAL REQUIREMENTS FROM THE VA PHYSICAL SECURITY DESIGN MANUAL FOR TIE-FORCE METHOD TO MINIMIZE PROGRESSIVE COLLAPSE POTENTIAL.

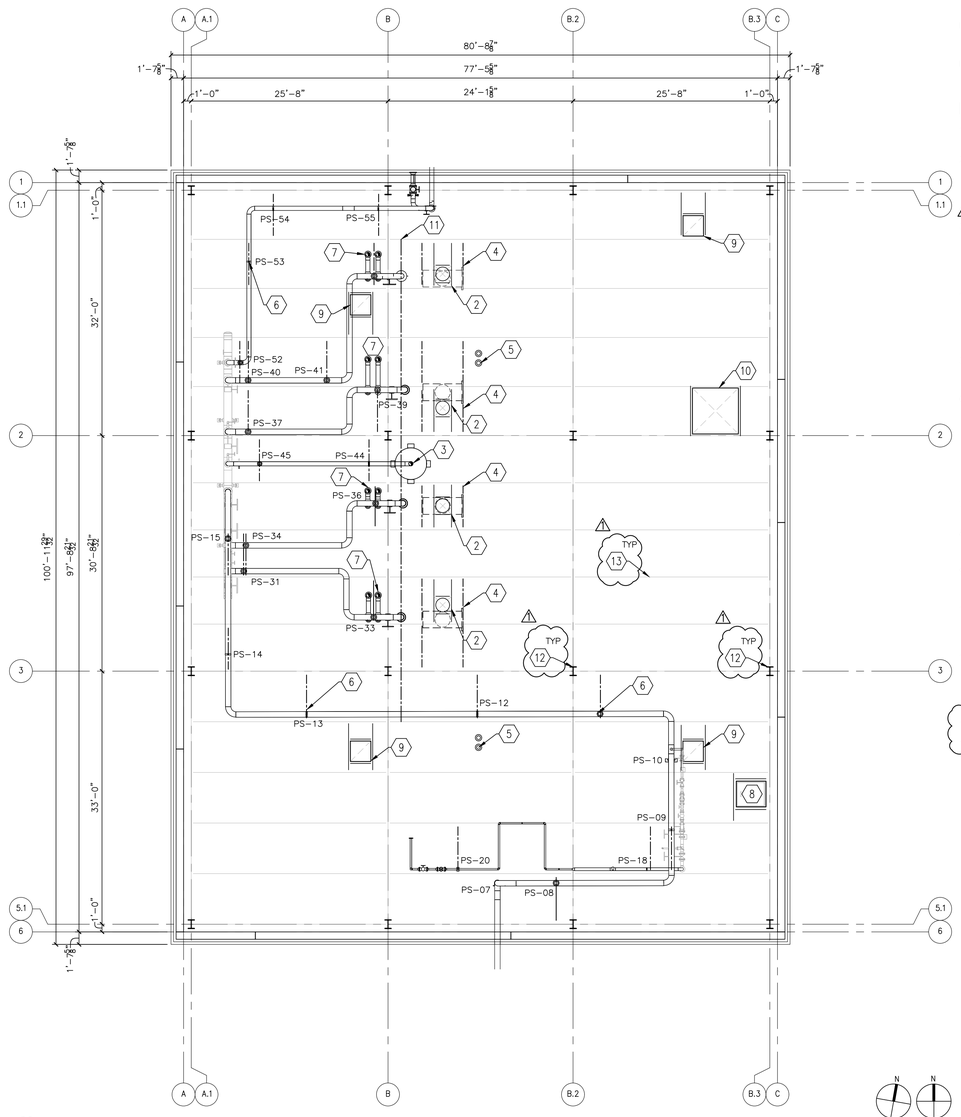
L. VERIFY ALL OPENINGS FOR MECHANICAL SHAFTS, STAIRS, ETC. WITH ARCHITECTURAL AND MECHANICAL DRAWINGS. SEE C2/SF402 FOR TYPICAL FLOOR OPENINGS LESS THAN 24". SEE C9/SF402 FOR TYPICAL FLOOR OPENINGS GREATER THAN 24".

KEY NOTES

1. 3" LIGHTWEIGHT CONCRETE ON VULCRAFT GALVANIZED 2" 20GA VLI COMPOSITE METAL DECK. TOTAL SLAB THICKNESS = 5". SEE SF104 FOR COMPOSITE SLAB REINFORCING.
2. BOILER EXHAUST STACK ROOF PENETRATION. SEE NOTE L FOR FRAMING AROUND SLAB ON DECK OPENINGS AND UTILIZE DETAIL C9/SF402 FOR THESE STACK OPENINGS. COORDINATE SIZE AND LOCATION OF ALL MECHANICAL OPENINGS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS. NOTE OFFSET FROM VERTICAL LOWER STACK AND ECONOMIZER BELOW TO AVOID MAIN BEAMS. SEE MECHANICAL FOR PIPE BOLTING. SEE B9/SF401 FOR GUY WIRE BRACING BASE CONNECTIONS TO STRUCTURE.
3. 6" PIPE STEAM HEADER PRESSURE RELIEF PIPE PENETRATION OPENING CORE DRILLED THROUGH SLAB AND DECK, SEE MEP FOR PIPE AND SILENCER INFORMATION. PROVIDE FABRICATED STEEL SUPPORT FRAME FOR SILENCER TO BOLT TO ROOF SLAB. INCLUDE IN BID FOR POSSIBLE GUY WIRE BRACING AT TOP OF SILENCER AND POST-INSTALLED WIRE ANCHORAGE AND BRACKETS AT ROOF SLAB, FRAME, AND ANCHORAGE BY SILENCER SUPPLIER. SEE B9/SF401 FOR GUY WIRE BRACING BASE CONNECTIONS TO STRUCTURE.
4. STEAM BOILER ECONOMIZER AND UPPER SECTION OF EXHAUST STACK PIPE PENETRATION TO BE SUPPORTED BY HANGER RODS LOCATED IN COORDINATION WITH ECONOMIZER SUPPORT BRACKETS PER SUPPLIER. PROVIDE W8x10 BELOW MAIN ROOF BEAMS AND BOLTED TO BOTTOM FLANGE OF MAIN ROOF BEAMS. HANGER RODS SHOULD BE DRILLED THROUGH BOTTOM FLANGE OF W8x10 AND SUPPORTED BY HEAVY WASHERS AND DOUBLE HEX NUTS INSTEAD OF USING BEAM HANGER CLAMPS.
5. ROOF DRAIN OPENING CORE DRILLED THROUGH SLAB AND DECK, SEE ARCH FOR ROOF DRAIN DETAIL AND PLUMBING FOR PIPE CONNECTIONS AND SUPPORT. SEE GENERAL SHEET NOTE L AND DETAIL C2/SF402 FOR ADDITIONAL SUPPORT AT SMALL OPENINGS.
6. SUSPENDED MECHANICAL PIPE HANGER LOCATIONS. SEE MECHANICAL FOR HANGER TYPE AND LOAD. SEE DETAILS FOR FRAMING SUPPORT OF HANGER LOADS. WHERE NO ADDITIONAL INTERMEDIATE SUPPORT STEEL IS SHOWN, HANGER LOADS ARE LESS THAN 250# AND CAN BE SUSPENDED VIA THREADED ROD TITEN HD HANGER COUPLER BOLT INSTALLED IN BOTTOM OF STRUCTURAL SLAB/DECK OR VIA BOTTOM FLANGE HANGER CLAMP. SEE BOLT AND DECK SUPPLIER LITERATURE FOR SPACING/DISTANCE REQUIREMENTS FROM LOWER DECK FLUTE EDGES. MOST MEP PIPE/CONDUIT AND HANGERS LESS THAN 250# ARE NOT SHOWN THESE DRAWINGS, ONLY MAJOR LOAD POINTS ARE SHOWN TYPICALLY. REFER TO MEP DRAWINGS FOR ADDITIONAL PIPE/CONDUIT AND EQUIPMENT REQUIRING VERTICAL HANGER ROD SUPPORT.
7. MEP PIPE PENETRATION OPENING CORE DRILLED THROUGH SLAB AND DECK, SEE GENERAL SHEET NOTE L AND DETAIL C2/SF402 FOR ADDITIONAL SUPPORT AT SMALL OPENINGS.
8. ROOF ACCESS HATCH, SEE ARCH FOR DETAIL. COORDINATE WITH HATCH SUPPLIER FOR SUPPLEMENTAL FRAMING DIMENSIONS. SEE C9/SF402 FOR FRAMING AT OPENING ON ROOF DECK AND SLAB.
9. ROOF VENTILATION SHAFT OPENING THROUGH SLAB, SEE MECHANICAL FOR VENTILATION EQUIPMENT. SEE NOTE L FOR FRAMING AROUND SLAB ON DECK OPENINGS AND UTILIZE DETAIL C9/SF402 FOR THESE OPENINGS
10. MECHANICAL DUCT OPENING IN ROOF SLAB, SEE MECHANICAL. SEE NOTE L FOR FRAMING AROUND SLAB ON DECK OPENINGS AND UTILIZE DETAIL C9/SF402 FOR THESE OPENINGS. DO NOT CUT ANY STEEL BEAMS OR STOP DECK SHORT OF BEAM TOP FLANGE FOR ANY OPENINGS.
11. PROVIDE W8x10 CONTINUOUS TO EXTENTS SHOWN (BOLTED SHEAR CONNECTION WHERE REQUIRED FOR INSTALLATION, HOWEVER BOTTOM FLANGE SHALL BUTT TIGHT) BELOW MAIN ROOF BEAMS AND BOLTED TO BOTTOM FLANGE OF MAIN ROOF BEAMS. PROVIDE MANUAL 1 TON PUSH BEAM TROLLEY COMPATIBLE WITH W8 BOTTOM FLANGE AND PROVIDE MANUAL 1 TON CHAIN HOIST COMPATIBLE WITH TROLLEY HANGER POINT. ALIGN WITH VERTICAL MAIN STEAM RISER FROM BOILER.
12. SEE E9/SF402 FOR DECK BEARING SUPPORTS AT COLUMNS, TYP.
13. SEE E2/SF402 FOR REQUIREMENTS ON DECK BEARING CONFIGURATIONS AT BEAMS, TYP.



F1 ROOF FRAMING PLAN - PRIMARY FRAMING
1/8" = 1'-0"



F5 ROOF FRAMING PLAN - SUPPLEMTAL SUPPORT FRAMING
1/8" = 1'-0"

ADDENDUM 1	08-09-24
Revisions:	Date:

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STATE OF KENTUCKY
DAVID R. WALTON
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LICENSED PROFESSIONAL ENGINEER

Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title	Phase	Project Title	Project Number
ROOF FRAMING AND SLAB PLANS	100% CONSTRUCTION DOCUMENTS	DESIGN REPLACE BOILER PLANT	438-22-900
			Building Number 12
Approved: Project Director	FULLY SPRINKLERED	Location SIOUX FALLS VAMC, SIOUX FALLS, SD 57105	Drawing Number SF103
		Issue Date 08-09-2024 / Checked TWW / Drawn DRW	

VA FORM 08 - 6231

TIE SCHEDULE			
TIE TYPE	TIE SIZE	SPACING	NOTES
PERIMETER "P1"	(3)–#5 CONT.	N/A	
PERIMETER "P2"	(5)–#5 CONT.	N/A	1
X–DIRECTION	AS SHOWN	AS SHOWN	
Y–DIRECTION	AS SHOWN	AS SHOWN	

NOTES:
1. CONTRACTOR OPTION: (4) #6 CONT. BARS

GENERAL NOTES

A. TIE–FORCE REQUIREMENTS ARE AS OUTLINED IN UFC 4–023–03 SECTION 3–1. REFER TO THIS REFERENCE FOR MORE INFORMATION ON THE ITEMS SHOWN THIS PLAN.

B. SEE SHEET SF102 FOR FRAMING AND DIMENSIONS AND OTHER INFORMATION NOT SHOWN THIS PLAN. FOR CLARITY, THIS PLAN SHOWS ONLY THE SLAB EDGE PERIMETER, BEAM AND COLUMN FRAMING AND TIE–FORCE SLAB REINFORCING. ADDITIONAL REINFORCING REQUIREMENTS ARE AS NOTED BELOW.

C. SPLICES IN STEEL REINFORCEMENT USED FOR INTERNAL LONGITUDINAL AND TRANSVERSE TIES ARE NOT SHOWN ON THIS PLAN AND ARE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE. SPLICES SHALL BE CLASS B LAP SPLICES, WELDED OR MECHANICALLY JOINED WITH TYPE I OR II MECHANICAL SPLICES PER ACI 318. TYPE II MECHANICAL SPLICES MAY BE USED AT ANY LOCATION WITHIN THE SLAB. TYPE I MECHANICAL SPLICES, WELDED SPLICES AND CLASS B LAP SPLICES SHALL BE LOCATED NO CLOSER THAN 20% OF THE BAY SPACING IN THE DIRECTION OF THE TIE TO ANY COLUMN/BAY GRID LINES.

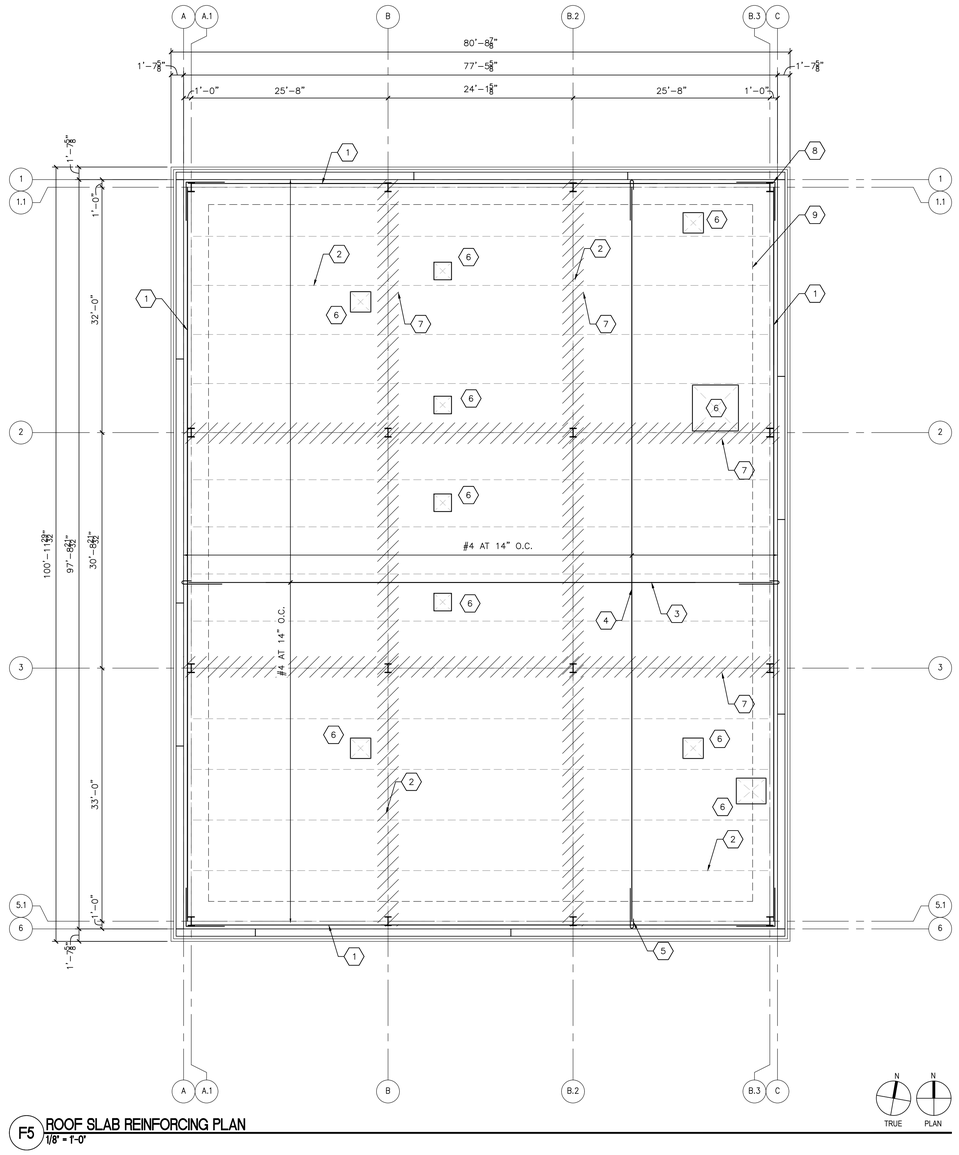
D. SPLICES IN STEEL REINFORCEMENT USED FOR PERIPHERAL TIES ARE NOT SHOWN ON THIS PLAN AND ARE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE. FOR PERIPHERAL TIES, TYPE I MECHANICAL SPLICES, WELDED SPLICES AND CLASS B LAP SPLICES SHALL BE LOCATED NO CLOSER THAN 20% OF THE BAY SPACING TO THE COLUMN GRID LINES.

E. NON–CONTACT SPLICES ARE NOT ALLOWED.

F. USE SEISMIC HOOKS, SAME SIZE AS INTERNAL TIES, PER ACI 318 TO LAP WITH ENDS OF INTERNAL TIES, USING ACI CHAPTER 12 LAP LENGTHS (SEE LAP SCHEDULE ON SHEET SG005), TO ANCHOR INTERNAL TIES TO PERIPHERAL CONTINUOUS TIE AT PERIMETER OF SLAB. ANCHORS SHALL ENCOMPASS OUTER LINE OF PERIPHERAL REINFORCEMENT IF MORE THAN ONE BAR IS USED FOR PERIPHERAL TIE LINE.

KEY NOTES ⬡

1. CONTINUOUS PERIMETER/PERIPHERAL TIE BARS, TYP. REFER TO SCHEDULE. REFER TO SHEET NOTE D FOR SPLICE INFORMATION.
2. BEAM/GIRDER FRAMING, TYP. REFER TO SHEET SF102. ADJUST CONTINUOUS INTERNAL TIE SPACING SUCH THAT INTERNAL TIES DO NOT FALL DIRECTLY ABOVE FLOOR FRAMING MEMBERS, TYP.
3. "X–DIRECTION" CONTINUOUS INTERNAL TIE REINFORCING, TYP. REFER TO SCHEDULE.
4. "Y–DIRECTION" CONTINUOUS INTERNAL TIE REINFORCING, TYP. REFER TO SCHEDULE.
5. SEISMIC HOOK PER ACI 318, SAME SIZE AND SPACING AS INTERNAL TIE REINFORCING. PROVIDE SPLICE WITH TIE REINFORCING, TYP. REFER TO SHEET NOTE C.
6. AT CORNERS PENETRATIONS LARGER THAN 12"x12", PROVIDE SLAB REINFORCING CONFIGURED PER DETAIL C9/SF402 AND EXTEND BARS INTO SLAB FIELD PER LAP LENGTH ON SHEET SG005.
7. AT COLUMN LINES PROVIDE BARS BETWEEN COLUMNS SAME SIZE AND SPACING AS INTERNAL TIE REINFORCING BUT DO NOT SPLICE OR LAP WITHIN THE COLUMN STRIP, NOT SPECIFICALLY SHOWN ON PLAN AT ALL LOCATIONS FOR CLARITY, BUT TYPICAL ALL COLUMN/BEAM AND COLUMN/GIRDER LINES. DISCONTINUOUS REINFORCING DOES NOT NEED TO BE SHIFTED TO AVOID BEING PLACED DIRECTLY OVER MEMBERS, HOWEVER MINOR OFFSET IS REQUIRED TO AVOID CONFLICT WITH COMPOSITE BEAM SHEAR STUDS.
8. PROVIDE CORNERS BARS SAME SIZE AND NUMBER AS PERIPHERAL TIE BARS WITH ACI LAP EACH LEG.
9. PERIPHERAL TIES SHALL BE LOCATED WITHIN 3'–3" OF EDGE OF SLAB, ALL EDGES OF BUILDING.



F5 ROOF SLAB REINFORCING PLAN
1/8" = 1'-0"

⚠ ADDENDUM 1	08–09–24
Revisions:	Date:

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Office of Construction and Facilities Management
VA U.S. Department of Veterans Affairs

Drawing Title: ROOF SLAB REINFORCING DIAGRAM
Approved: Project Director
Phase: 100% CONSTRUCTION DOCUMENTS
FULLY SPRINKLERED
Project Title: DESIGN REPLACE BOILER PLANT
Location: SIOUX FALLS VAMC, SIOUX FALLS, SD 57105
Issue Date: 08–09–2024
Checked: TWW
Drawn: DRW
Project Number: 438–22–900
Building Number: 12
Drawing Number: SF104

VA FORM 08 - 6231

WALL OPENING SCHEDULE (WO#, LO#, DO#)

MARK	OPENING WIDTH	OPENING HEIGHT	BOTTOM ELEVATION	TOP ELEVATION	JAMB REINFORCING	HEADER/SILL REINFORCING
DOOR OPENINGS – EXTERIOR, BLAST RATED, SEE SPECS					SEE SHEET SE201	SEE SHEET SE201
DO1	3'-4"	7'-4"	0'-0"	7'-4"		
DO2	14'-0"	8'-8"	0'-0"	8'-8"		
DO3	6'-4"	7'-4"	0'-0"	7'-4"		
LOUVER OPENINGS – EXTERIOR, BLAST RATED, SEE SPECS						
LO1	8'-0"	8'-0"	1'-4"	9'-4"		
LO2	4'-0"	8'-0"	1'-4"	9'-4"		
LO3	7'-0"	7'-0"	2'-0"	9'-0"		
LO4	4'-0"	4'-0"	6'-0"	10'-0"		
LO5	8'-0"	8'-0"	16'-8"	24'-8"		
LO6	4'-0"	4'-0"	21'-0"	25'-0"		
LO7	4'-0"	8'-0"	16'-8"	24'-8"		
WINDOW OPENINGS – EXTERIOR, BLAST RATED, SEE SPECS						
WO1	3'-4"	8'-7 1/2"	12'-5 1/2"	21'-1"		

NOTES:
1. SEE ARCH ELEVATIONS FOR ADDITIONAL INFORMATION ON OPENINGS IN WALLS
2. SEE SE201 ELEVATIONS FOR CONFIGURATION OF REINFORCING IN ADDITION TO TYPICAL REINFORCING CALLED OUT FOR WALLS.
3. ENVELOPE BLAST RATING MINIMUM REQUIREMENTS FOR DESIGN/CERTIFICATION OF COMPONENTS LOADING SHALL BE MIN. 13.44 PSI AT 50.78 PSI–MSEC.
4. WINDOWS SHALL BE LAMINATED AND DESIGNED FOR BLAST LOADING, IF IGU SYSTEMS ARE USED, ONLY THE INNER PANE SHALL BE LAMINATED, MIN 1/4" PANE THICKNESS.
5. WINDOW AND DOOR FRAMES AND ANCHORAGE SHALL BE DESIGNED FOR COLLECTED BLAST LOADING INDICATED IN NOTE 3.

GENERAL NOTES

A. GROUND FINISHED FLOOR ASSUMED ELEVATION = 100'–0" (35.50') ALL ELEVATIONS ARE BASED ON THIS DATUM UNLESS NOTED OTHERWISE.

B. SEE PLANS FOR DETAIL REFERENCES RELATIVE TO ITEMS SHOWN THIS SHEET.

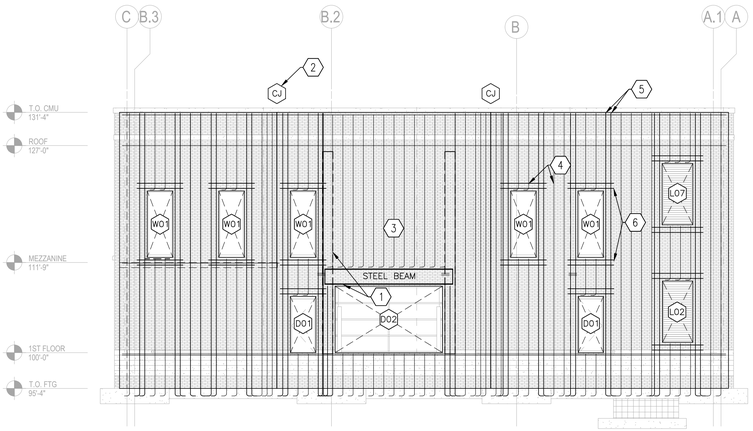
C. COORDINATE LIMITS AND LOCATION OF VENEER WITH ARCHITECTURAL DRAWINGS. DIMENSIONS SHOWN TO OUTSIDE OF BUILDING ARE TO FACE OF CONCRETE WALL, TYP.

D. VERIFY ALL WALL OPENING AND INTERIOR WALL DIMENSIONS AND LOCATIONS WITH ARCHITECTURAL DRAWINGS.

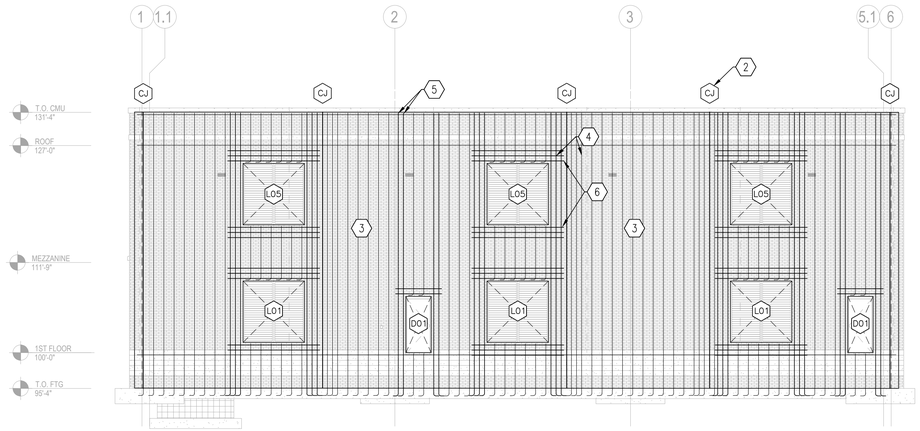
E. SEE ARCH. FOR CONTROL JOINT SPACING IN BRICK FACADE. BRICK JOINTS ARE REQUIRED AS SHOWN ON ARCH DRAWINGS.

KEY NOTES

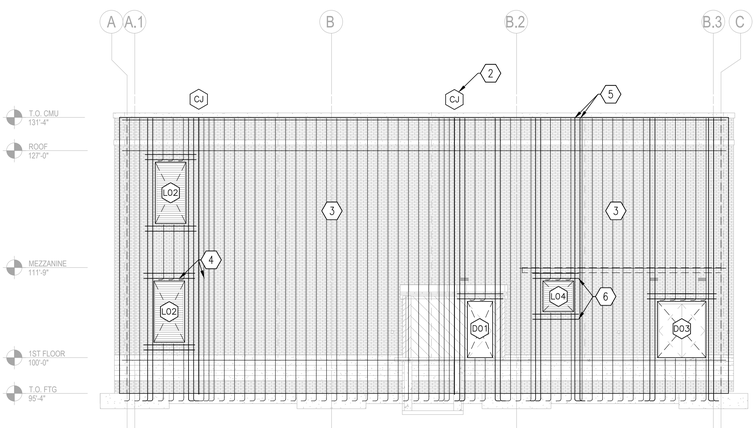
1. BRACING AND BACKUP FRAME ABOVE AND AROUND WALL OPENINGS GREATER THAN 8'–0" WIDTH, SEE DETAIL REFERENCES AT THESE LOCATIONS (TYP.)
2. FULL HEIGHT CMU WALL EXPANSION JOINT, SEE ARCH FOR BRICK EXPANSION JOINTS. EA. SIDE OF JOINT, 2 CELLS GROUTED AND REINFORCED WITH (2) #5 BARS EA. FACE OF WALL, 2.5" CLEAR FROM FACE, SEE CMU REINFORCING DETAILS (TYP.)
3. TYPICAL WALL REINFORCING IN CMU WALLS (2) #5 AT 16" O.C. (1 BAR EA. FACE).
4. ALL VERTICAL CMU CELL REINFORCING AND HORIZONTAL BOND BEAM BARS SHOWN ARE #5 BARS EA. FACE OF WALL, 2.5" CLEAR FROM FACE. (TYP.)
5. ADDITIONAL REINFORCED CELLS AT JAMBS AS SHOWN.
6. BOND BEAMS WITH REINFORCING TOP AND BOTTOM OF OPENING AS SHOWN, EXTEND REINFORCING MIN 24" BEYOND OPENING EA. SIDE., TYP.



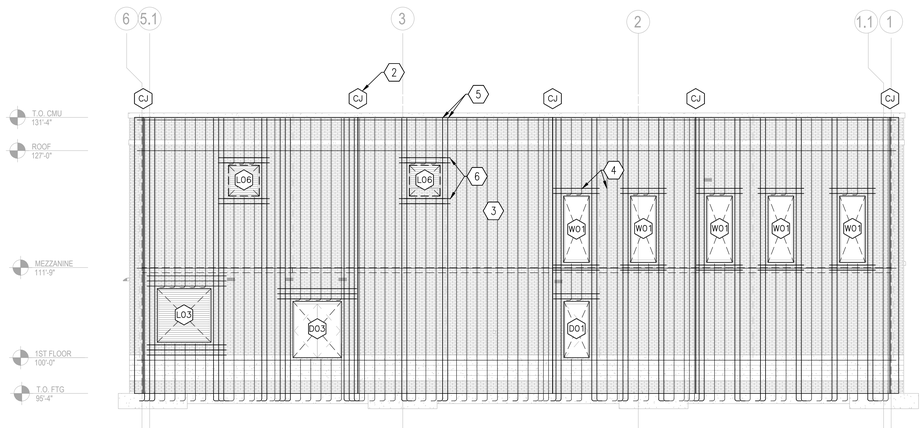
D1 NORTH WALL REINFORCING ELEVATION
1/8" = 1'-0"



D5 WEST REINFORCING ELEVATION
1/8" = 1'-0"



F1 SOUTH WALL REINFORCING ELEVATION
1/8" = 1'-0"



F5 EAST WALL REINFORCING ELEVATION
1/8" = 1'-0"

⚠ ADDENDUM 1	08-09-24
Revisions:	Date:

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VA U.S. Department of Veterans Affairs

Drawing Title: WALL ELEVATION REINFORCING DIAGRAMS
Approved: Project Director
Phase: 100% CONSTRUCTION DOCUMENTS
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Project Title: DESIGN REPLACE BOILER PLANT
Location: SIOUX FALLS VAMC, SIOUX FALLS, SD 57105
Issue Date: 08-09-2024
Checked: TWW
Drawn: DRW
Project Number: 438-22-900
Building Number: 12
Drawing Number: SE201

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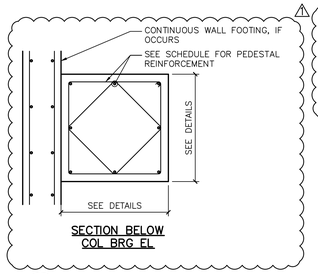
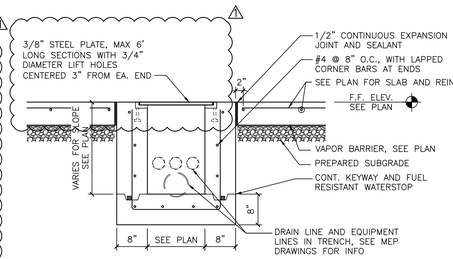
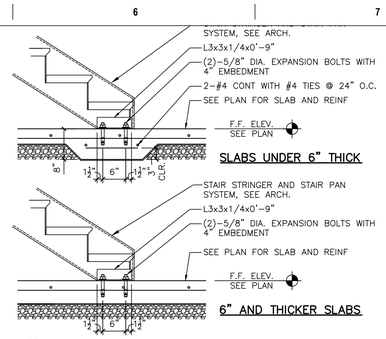


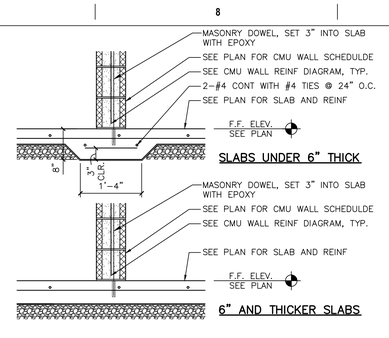
B2 PEDESTAL REINFORCING
3/4"=1'-0"



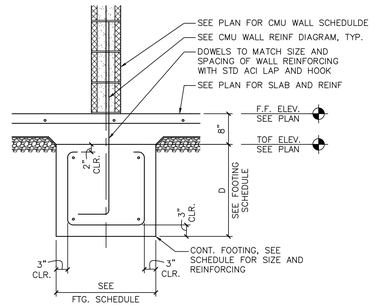
B4 SECTION - TRENCH DRAIN
3/4"=1'-0"



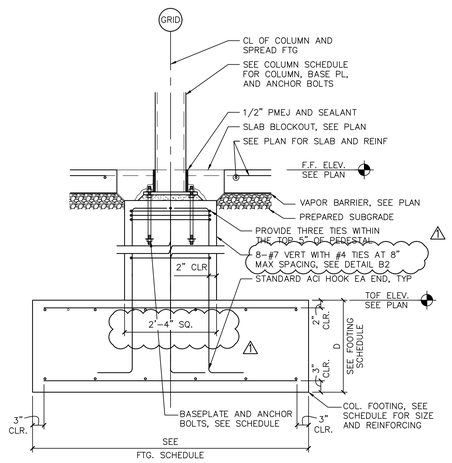
B6 SECTION - SLAB AT STAIR FRAMING
3/4"=1'-0"



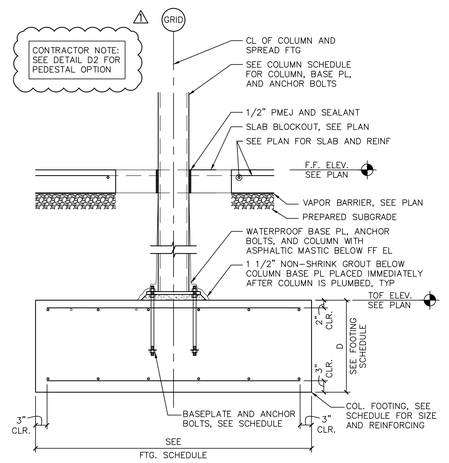
B7 SECTION - SLAB AT PARTITION WALL
3/4"=1'-0"



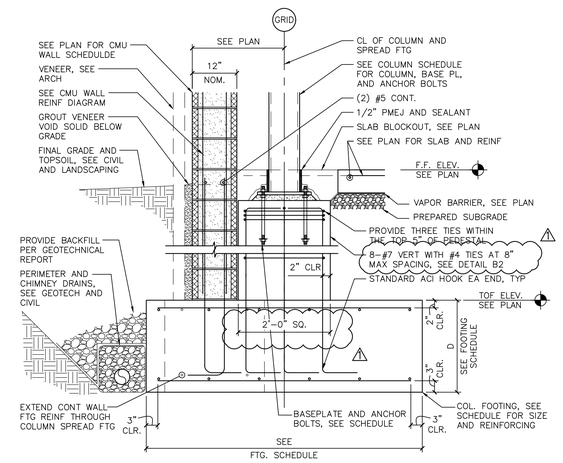
B9 SECTION - FOUNDATION AT LOADBEARING WALL
3/4"=1'-0"



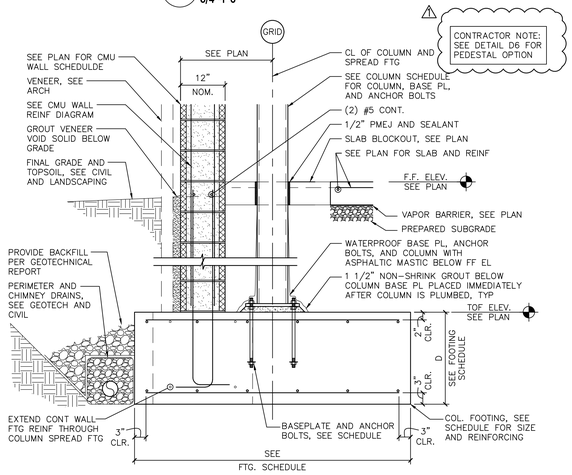
D2 SECTION - FOUNDATION AT INTERIOR COLUMN ON PEDESTAL
3/4"=1'-0"



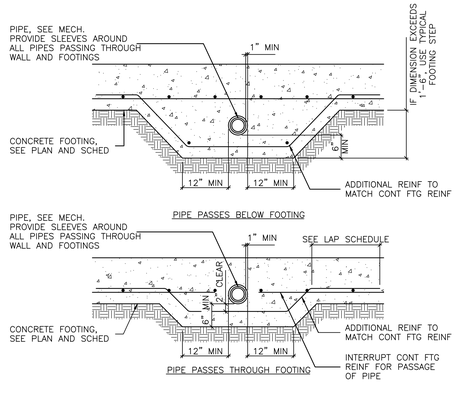
D4 SECTION - FOUNDATION AT INTERIOR COLUMN ON FOOTING
3/4"=1'-0"



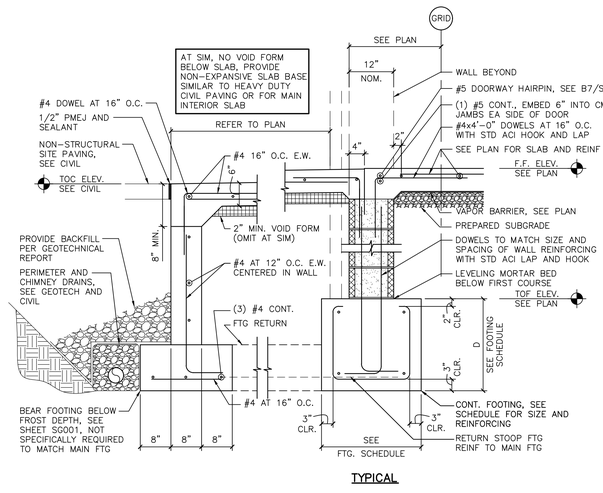
D6 SECTION - FOUNDATION AT EXTERIOR COLUMN ON PEDESTAL
3/4"=1'-0"



D8 SECTION - FOUNDATION AT EXTERIOR COLUMN ON FOOTING
3/4"=1'-0"

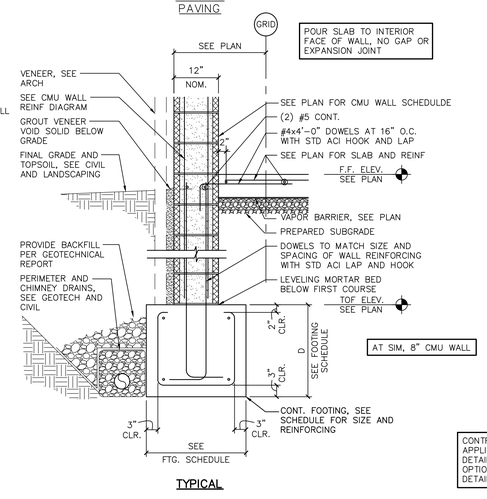


F2 SECTION - MEP PENETRATIONS THROUGH FOUNDATIONS
3/4"=1'-0"



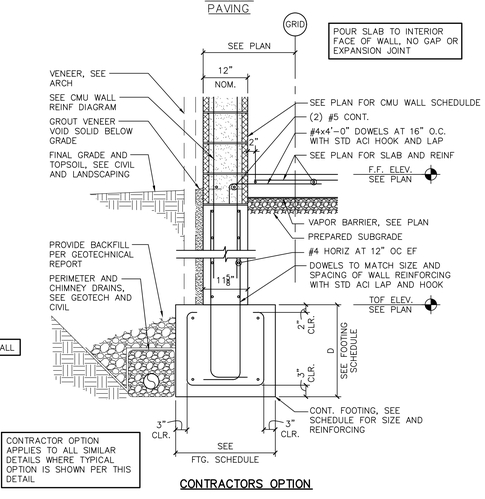
TYPICAL

F4 SECTION - FOUNDATION AT EXTERIOR WALL - STRUCTURAL STOOP
3/4"=1'-0"



TYPICAL

F7 SECTION - FOUNDATION AT TYPICAL EXTERIOR WALL
3/4"=1'-0"



CONTRACTORS OPTION

F7 SECTION - FOUNDATION AT TYPICAL EXTERIOR WALL
3/4"=1'-0"

Revisions:	Date:
ADDENDUM 1	08-09-24

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VA U.S. Department of Veterans Affairs

Drawing Title: FOUNDATION DETAILS	Phase: 100% CONSTRUCTION DOCUMENTS	Project Title: DESIGN REPLACE BOILER PLANT	Project Number: 438-22-900
			Building Number: 12
Approved: Project Director	FULLY SPRINKLERED	Location: SIOUX FALLS VAMC, SIOUX FALLS, SD 57105	Drawing Number: SB301
		Issue Date: 08-09-2024 / Checked: TWW / Drawn: DRW	

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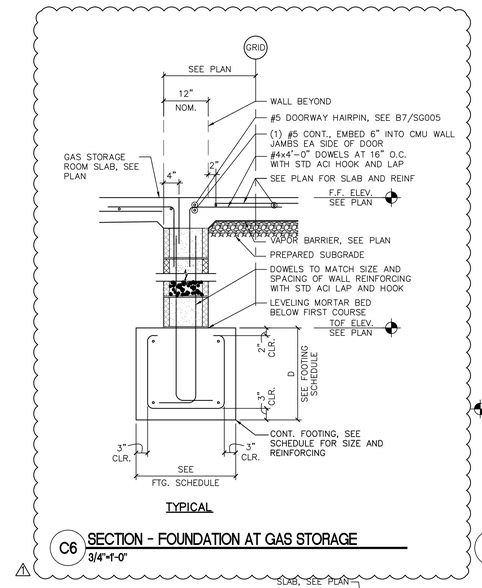
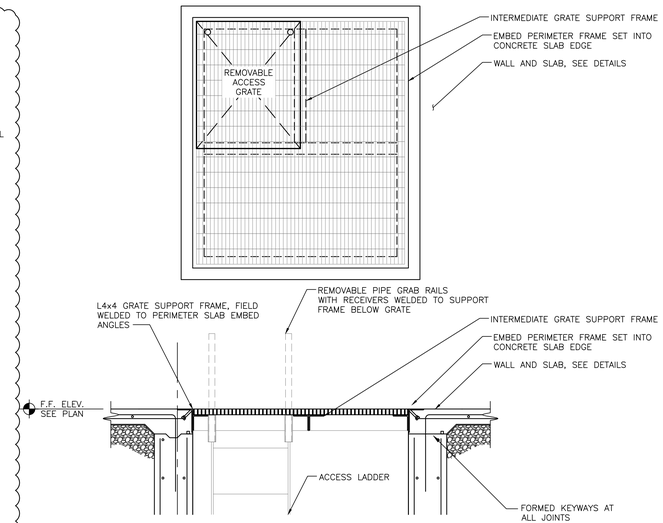
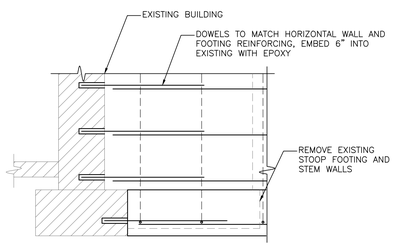


TYPICAL

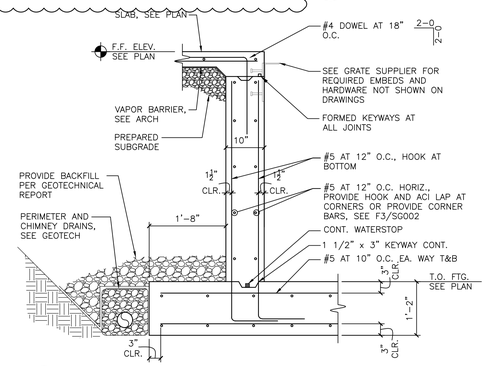
C6 SECTION - FOUNDATION AT GAS STORAGE
3/4"=1'-0"



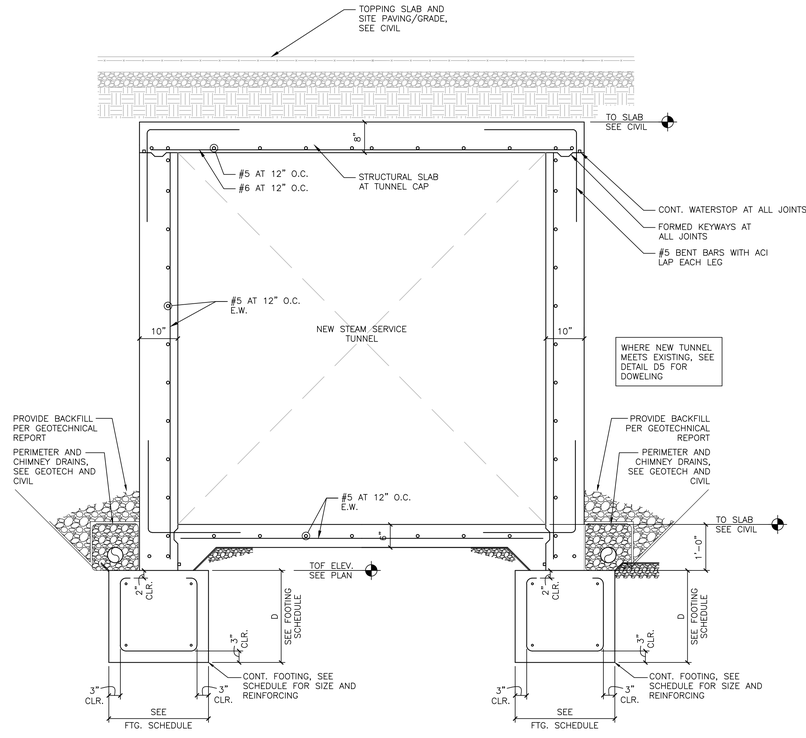
C8 SECTION - PIT GRATE COVER
3/4"=1'-0"



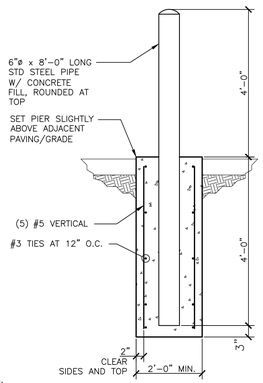
D5 SECTION - FOUNDATION AT EXISTING WALL
3/4"=1'-0"



D7 SECTION - SERVICE ACCESS PIT
3/4"=1'-0"

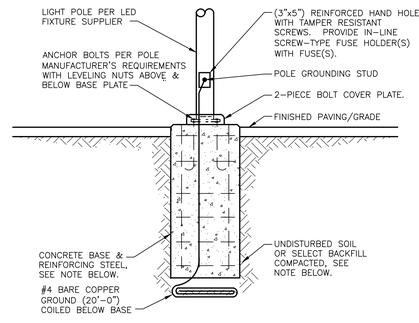


F1 STEAM TUNNEL SECTION
NOT TO SCALE



NOTES:
1. POST BARRICADES SHALL BE PAINTED WITH ONE PRIME COAT OF RED OXIDE (PAINT NO.1). ONE FINISH COAT OF HIGH VISIBLE YELLOW ENAMEL AND STRIPES CONSISTING OF 4" BANDS OF BLACK/WHITE DIAGONAL STRIPED REFLECTOR TAPE SHALL BE USED UNLESS OTHERWISE SPECIFIED ON THE PLANS.
2. FINISH COLOR COMBINATIONS, OTHER THAN THAT SPECIFIED ABOVE, SHALL BE SUBMITTED TO THE AGENCY FOR APPROVAL.
3. BOLLARDS TO BE SPACED AT 4'-0" MAX CLEAR SPACING WHEN IN ARRAY.

F7 BOLLARD GUARD POST
NOT TO SCALE



GENERAL NOTES:
1. BACKFILL, CONCRETE, REINFORCING STEEL, AND ANCHOR BOLTS ARE SHOWN FOR REFERENCE ONLY. ACTUAL DIMENSIONS AND REINFORCING ARE AS REQUIRED BY POLE SUPPLIER FOR FIXTURE HEIGHT AND TYPE. FOR BIDDING PURPOSES ASSUME 24" DIA. PIER 5' DEEP WITH (6) #5 VERT AND #3 TIES AT 12" O.C.
2. PIER SUPPLIER: FOR DESIGN OF POLE, BASE AND PIER, SEISMIC DESIGN CATEGORY B, EQUIVALENT WIND SPEED 90 MPH.

F9 LIGHT POLE BASE
NOT TO SCALE

Revisions:	Date:
⚠ ADDENDUM 1	08-09-24

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Office of Construction and Facilities Management

VA U.S. Department of Veterans Affairs

Drawing Title: FOUNDATION DETAILS	Phase: 100% CONSTRUCTION DOCUMENTS	Project Title: DESIGN REPLACE BOILER PLANT	Project Number: 438-22-900
			Building Number: 12
Approved: Project Director	FULLY SPRINKLERED	Location: SIOUX FALLS VAMC, SIOUX FALLS, SD 57105	Drawing Number: SB302
		Issue Date: 08-09-2024 / Checked: TWW / Drawn: DRW	

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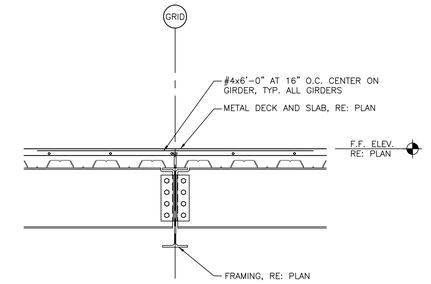
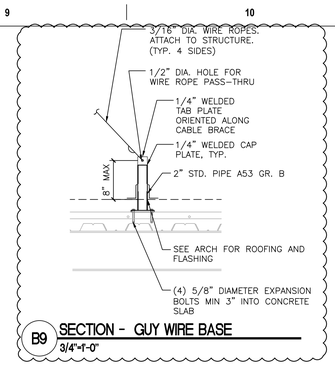
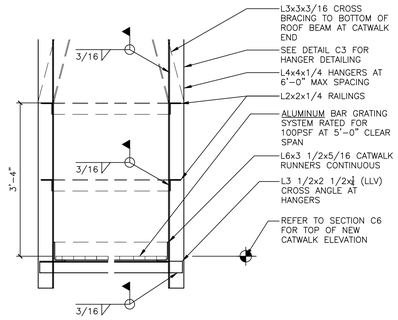


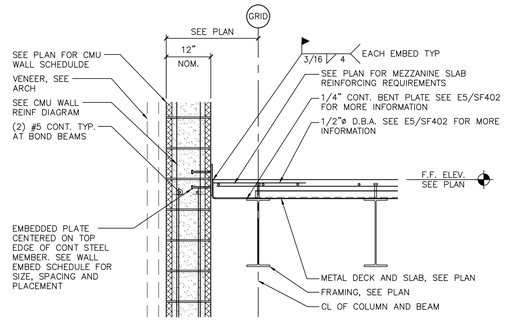
B7 SECTION - FRAMING
3/4"=1'-0"



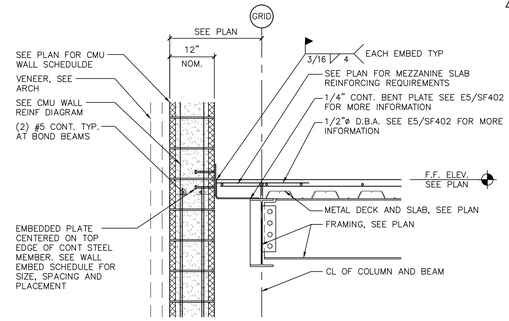
B9 SECTION - GUY WIRE BASE
3/4"=1'-0"



C4 CATWALK FRAMING SECTION
3/4" = 1'-0"

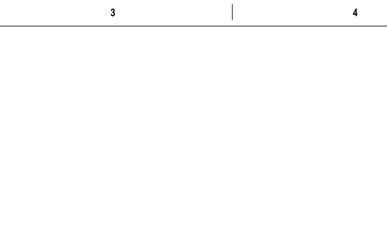


C6 SECTION - FRAMING AT EXTERIOR WALL
3/4"=1'-0"

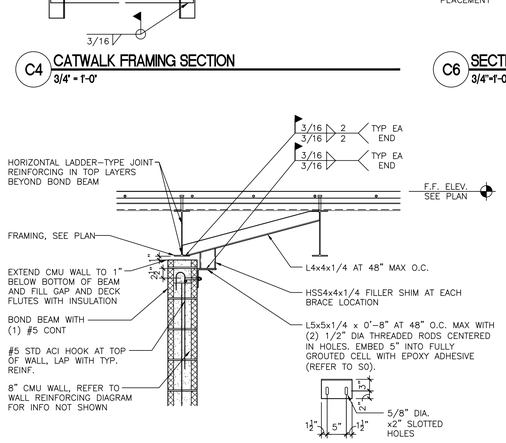


C8 SECTION - FRAMING AT EXTERIOR WALL
3/4"=1'-0"

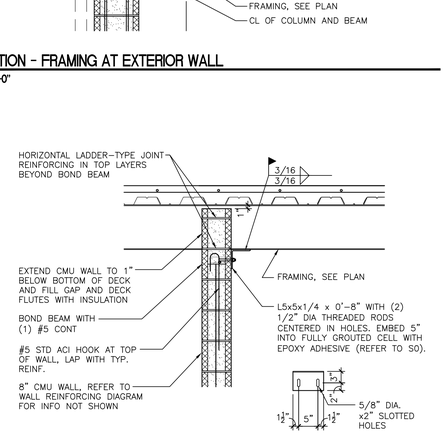
E1 SECTION - CMU DECK BEARING
3/4"=1'-0"



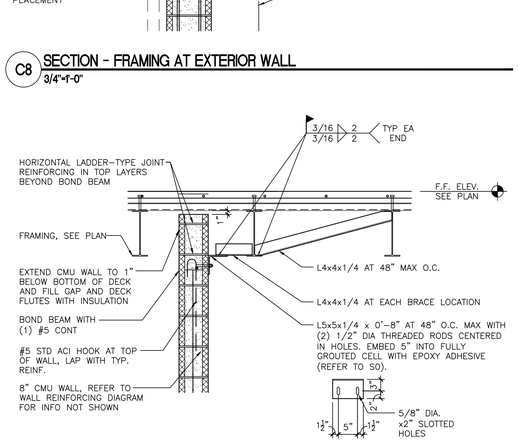
E3 SECTION - CMU BEAM BEARING
3/4"=1'-0"



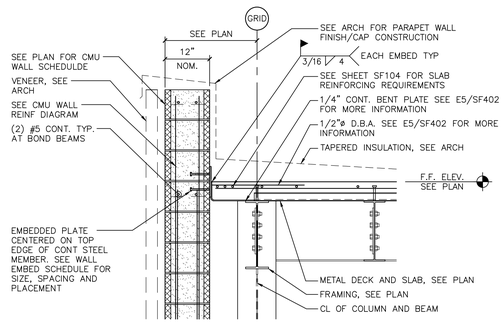
E4 SECTION - CMU WALL BRACING - NONLOADBEARING
3/4"=1'-0"



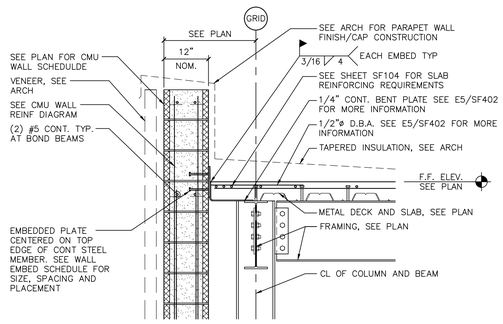
E6 SECTION - CMU WALL BRACING - NONLOADBEARING
3/4"=1'-0"



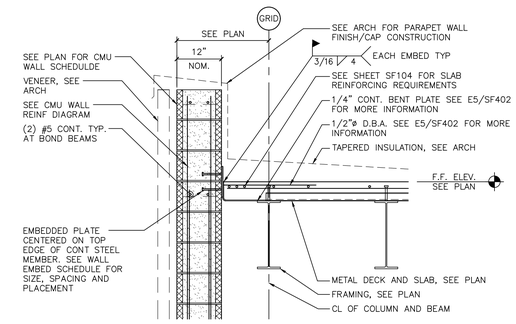
E8 SECTION - CMU WALL BRACING - NONLOADBEARING
3/4"=1'-0"



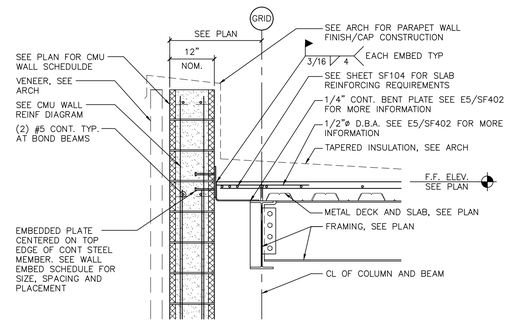
F2 SECTION - FRAMING AT EXTERIOR WALL
3/4"=1'-0"



F4 SECTION - FRAMING AT EXTERIOR WALL
3/4"=1'-0"



F6 SECTION - FRAMING AT EXTERIOR WALL
3/4"=1'-0"



F8 SECTION - FRAMING AT EXTERIOR WALL
3/4"=1'-0"

Revisions:	Date:
⚠ ADDENDUM 1	08-09-24

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Office of Construction and Facilities Management
VA U.S. Department of Veterans Affairs

Drawing Title: FRAMING DETAILS	Phase: 100% CONSTRUCTION DOCUMENTS
Approved: Project Director	FULLY SPRINKLERED

Project Title: DESIGN REPLACE BOILER PLANT			Project Number: 438-22-900
			Building Number: 12
Location: SIOUX FALLS VAMC, SIOUX FALLS, SD 57105			Drawing Number: SF401
Issue Date: 08-09-2024	Checked: TWW	Drawn: DRW	

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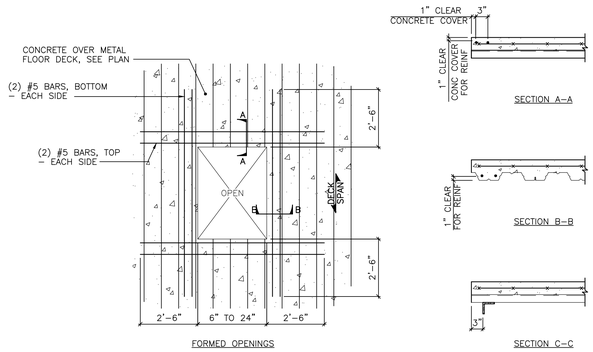
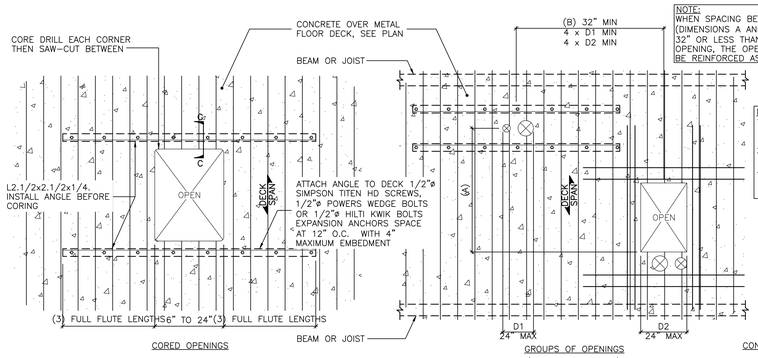


FORMED OPENINGS

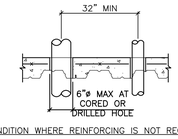


CORED OPENINGS

GROUPS OF OPENINGS
(FORMED OR CORED)

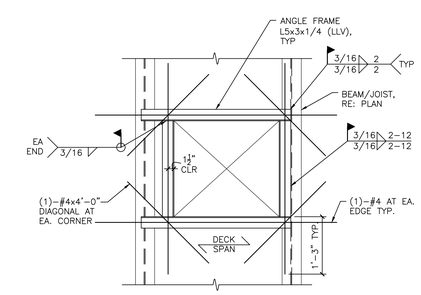
NOTE:
WHEN SPACING BETWEEN OPENINGS (DIMENSIONS A AND B) IS LESS THAN 32" OR LESS THAN 4x THE LARGER OPENING, THE OPENING GROUP SHALL BE REINFORCED AS A SINGLE OPENING.

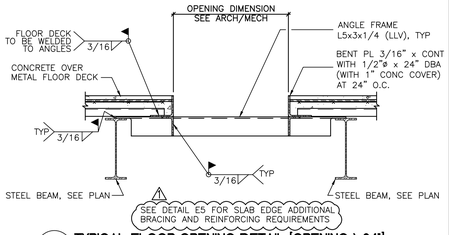
NOTES:
1. AT FORMED OPENINGS, LEAVE DECK INTACT AND BLOCK OUT FOR OPENING. REMOVE DECKING AFTER CONCRETE HAS CURED.
2. FOR HOLES THAT DO NOT REQUIRE REINFORCING, SEE DETAIL "CONDITION AT UNREINFORCED OPENING" BELOW.
3. REFER TO ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR SIZE AND LOCATION OF OPENINGS. MANY SMALL OPENINGS ARE NOT SHOWN ON STRUCTURAL PLANS.



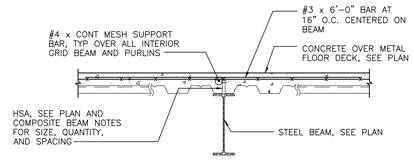
CONDITION WHERE REINFORCING IS NOT REQUIRED

C2 MISCELLANEOUS SMALL OPENINGS IN FLOOR SLAB (UP TO 24")
3/4"=1'-0"

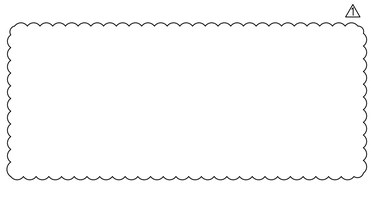


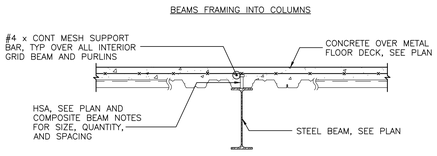


C9 TYPICAL FLOOR OPENING DETAIL [OPENING) 24"]
3/4"=1'-0"

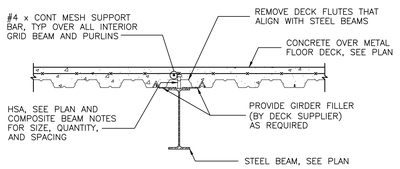


BEAMS FRAMING INTO COLUMNS



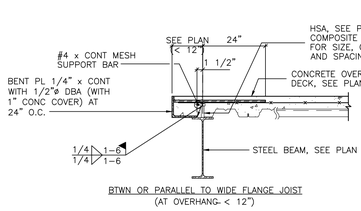


BEAMS NOT FRAMING INTO COLUMNS

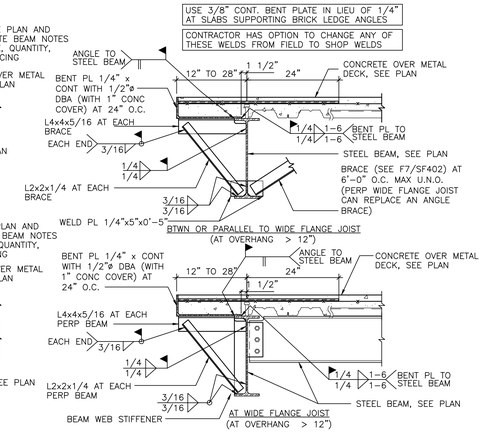


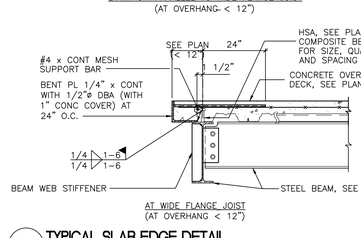
BEAMS PARALLEL TO RAISED DECK FLUTES

E2 TYPICAL COMPOSITE BEAM DETAILS
3/4"=1'-0"

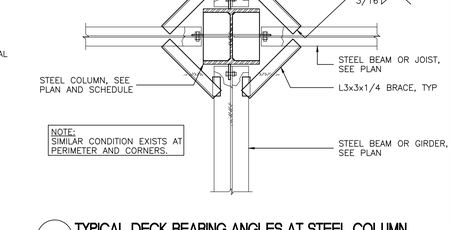


BTWN OR PARALLEL TO WIDE FLANGE JOIST
(AT OVERHANG- < 12")

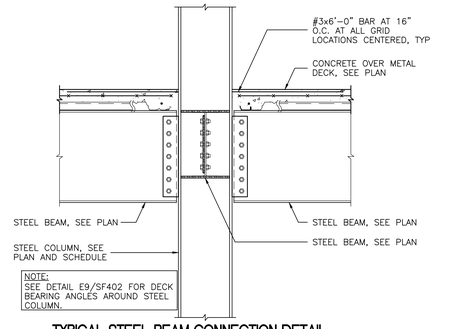




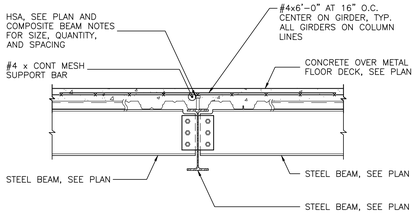
E5 TYPICAL SLAB EDGE DETAIL
3/4"=1'-0"



E9 TYPICAL DECK BEARING ANGLES AT STEEL COLUMN
3/4"=1'-0"



F3 TYPICAL STEEL BEAM CONNECTION DETAIL OF INTERIOR STEEL COLUMN
3/4"=1'-0"



F5 TYPICAL STEEL BEAM TO STEEL GIRDER CONNECTION
3/4"=1'-0"

F7 NOT USED
3/4"=1'-0"

F9 NOT USED
3/4"=1'-0"

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Drawing Title: FRAMING DETAILS	Phase: 100% CONSTRUCTION DOCUMENTS	Project Title: DESIGN REPLACE BOILER PLANT	Project Number: 438-22-900
			Building Number: 12
Approved: Project Director	FULLY SPRINKLERED	Location: SIOUX FALLS VAMC, SIOUX FALLS, SD 57105	Drawing Number: SF402
		Issue Date: 08-09-2024 / Checked: TWW / Drawn: DRW	

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