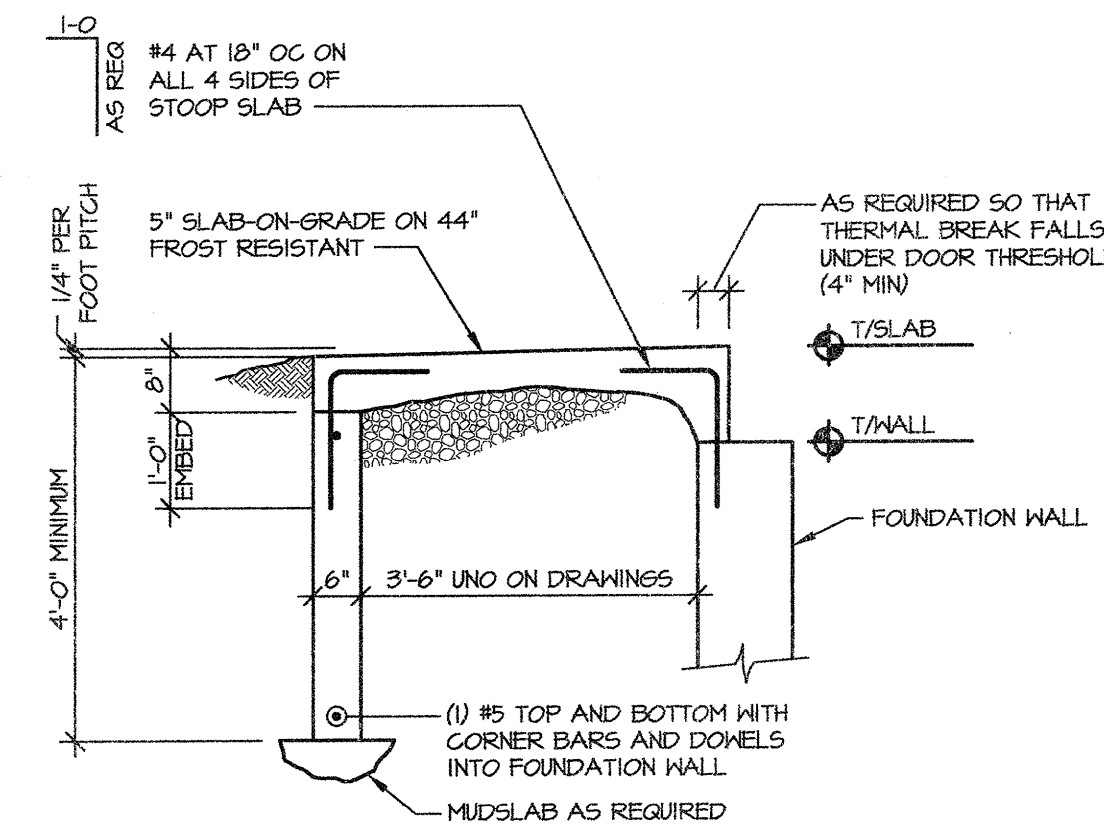
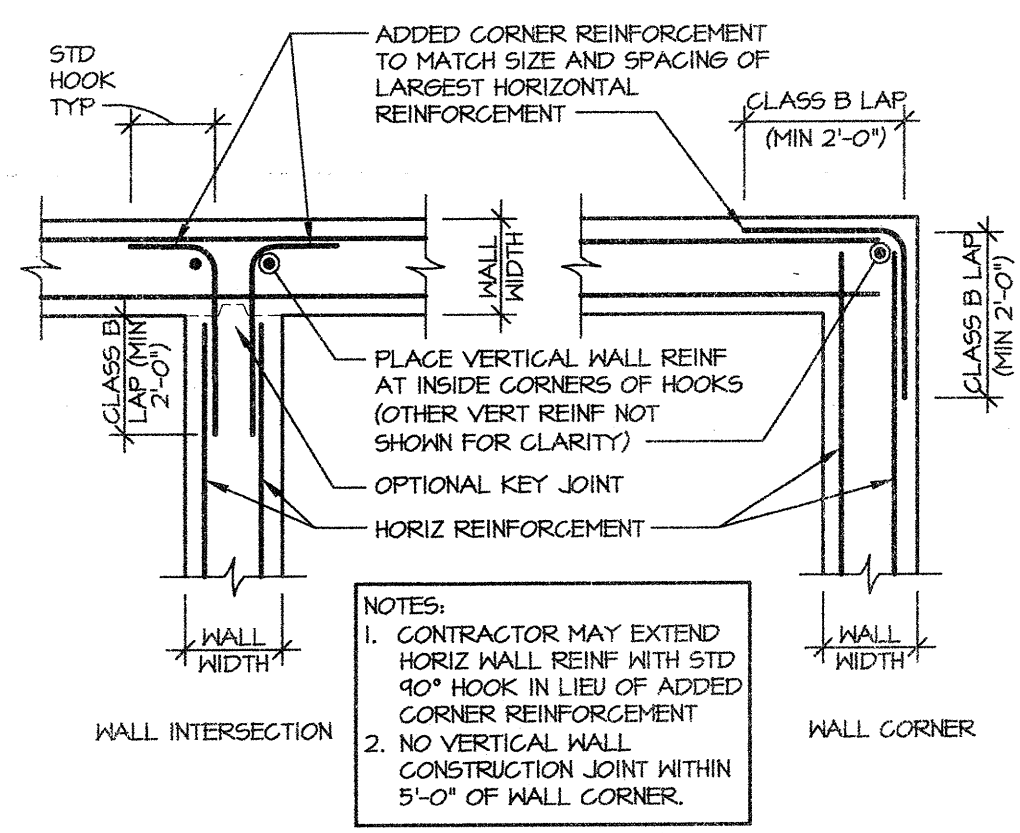


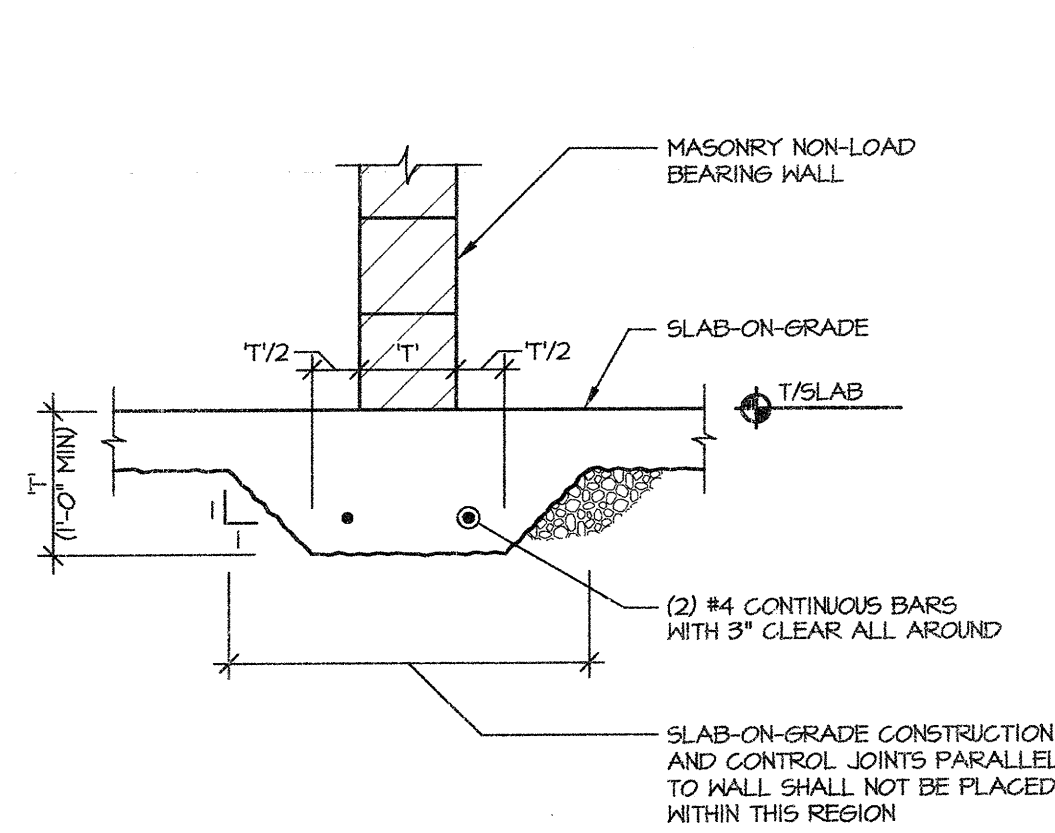
1 FOUNDATION AT STAIR
SCALE: 3/4" = 1'-0"



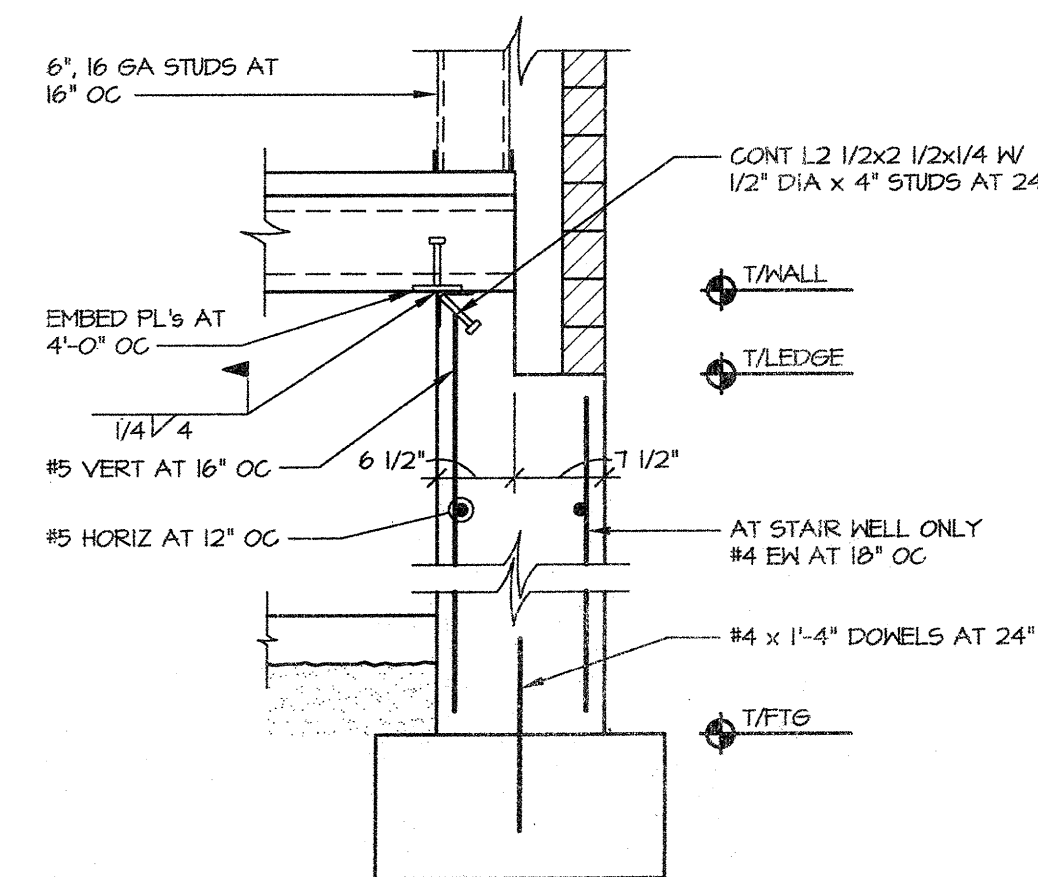
2 TYPICAL STOOP
SCALE: 1/2" = 1'-0"



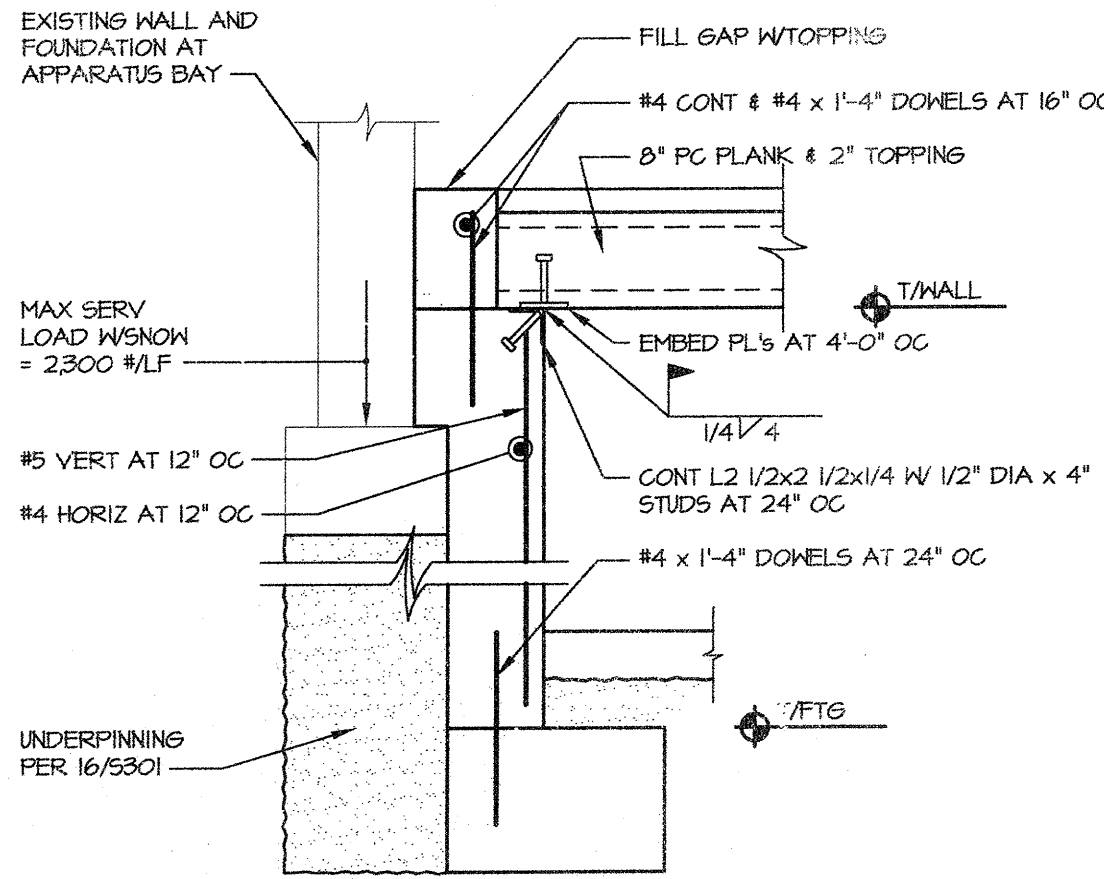
3 TYP WALL CORNER REINFORCEMENT
SCALE: 3/4" = 1'-0"



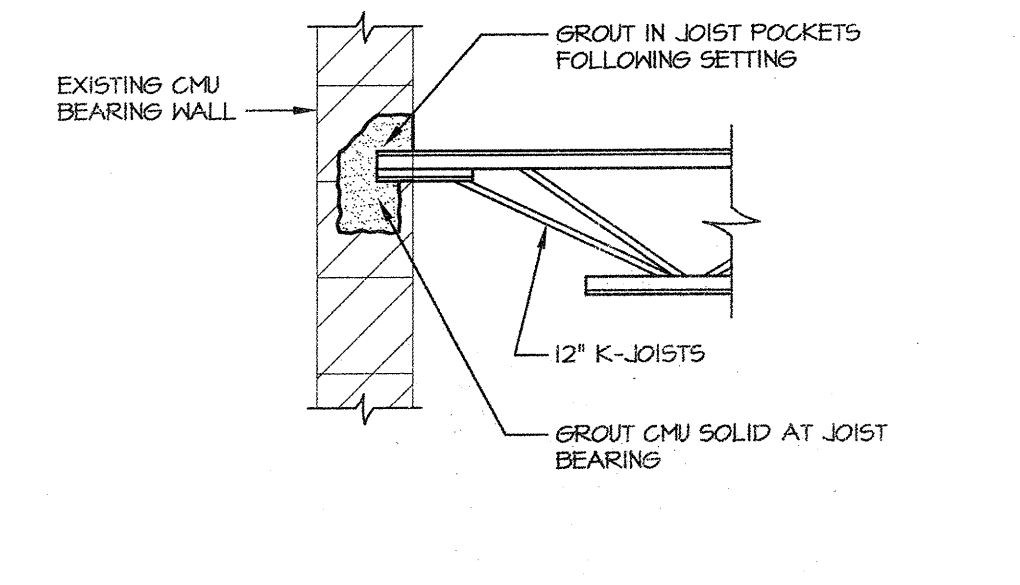
THICKENED SLAB FOR NON-LOAD BEARING WALLS
SCALE: 3/4" = 1'-0"



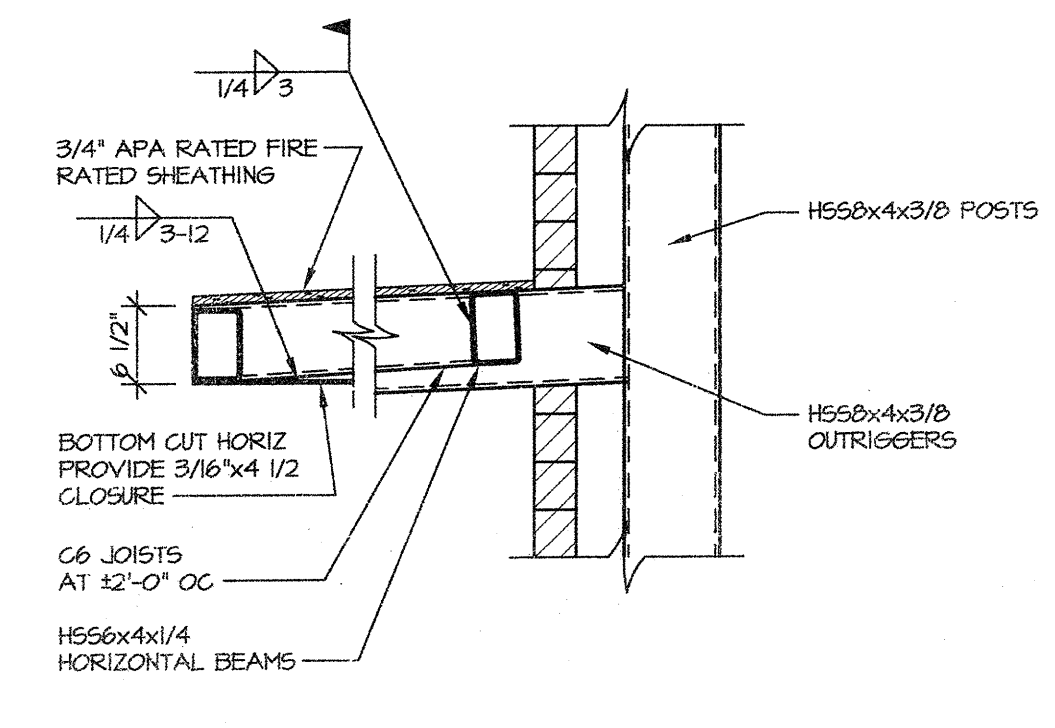
5 FOUNDATION WALL
SCALE: 3/4" = 1'-0"



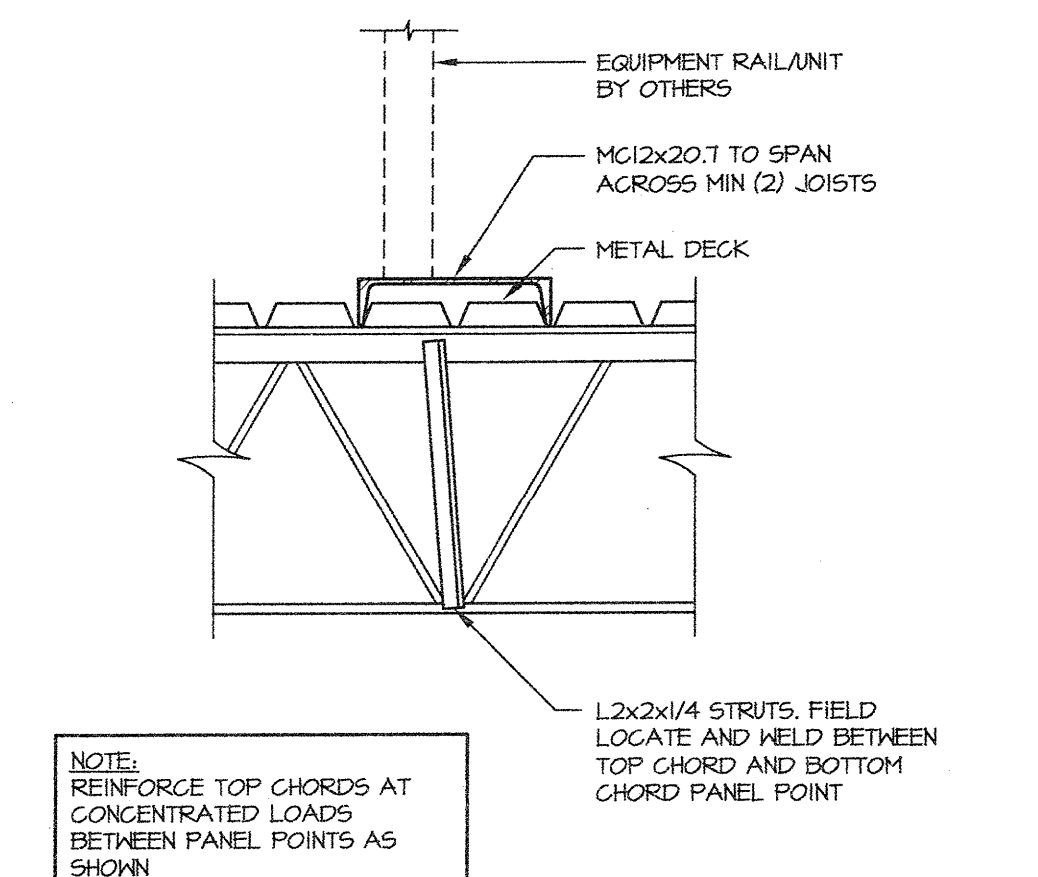
6 FOUNDATION ADJACENT TO EXTG
SCALE: 3/4" = 1'-0"



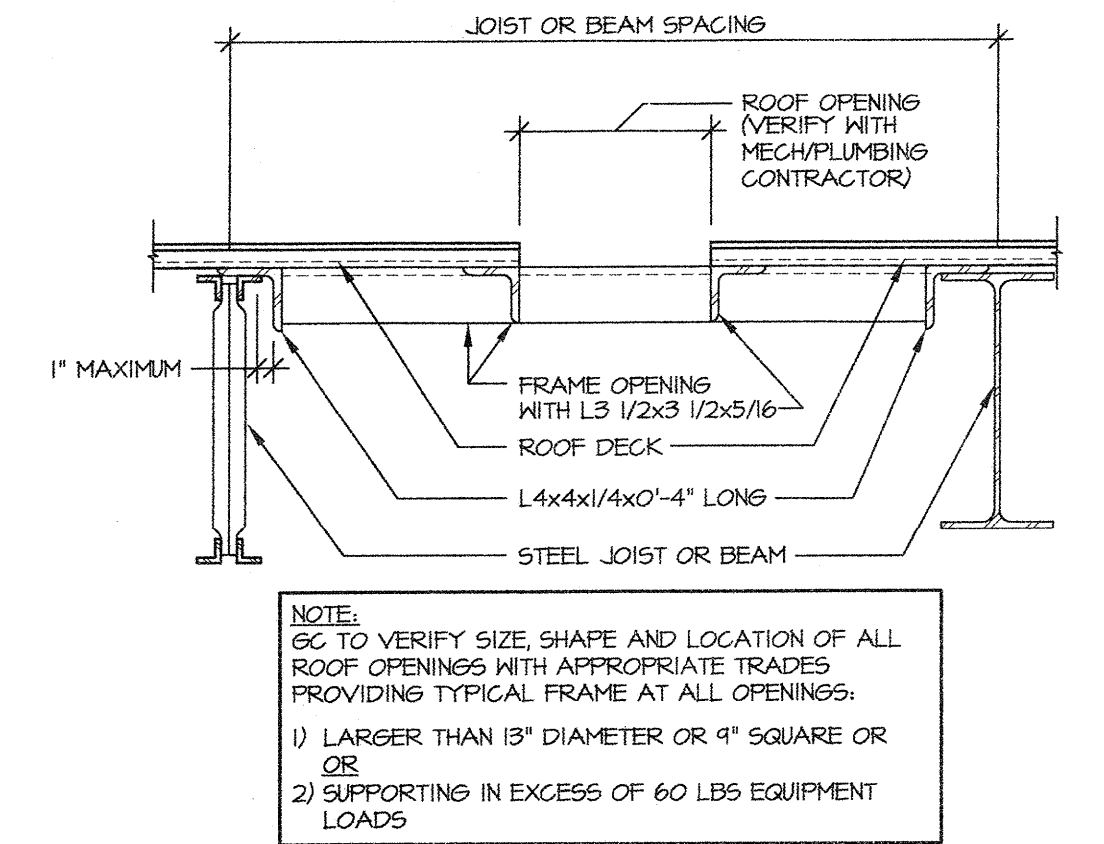
7 BRG NEW JOISTS AT EXTG WALL
SCALE: 3/4" = 1'-0"



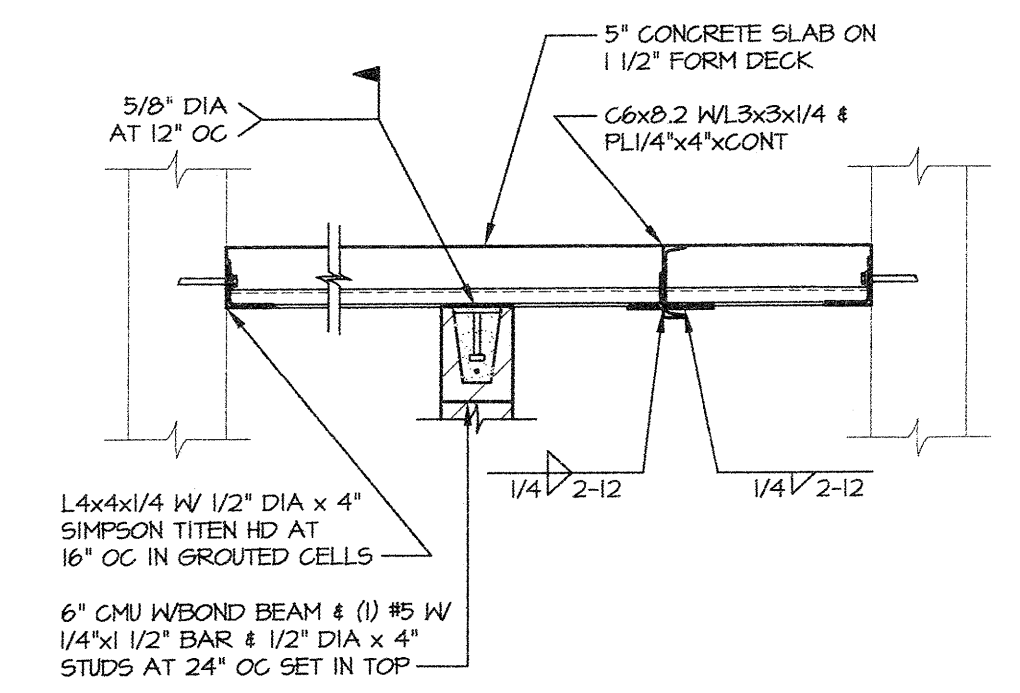
8 WEST CANOPY/OUTRIGGER
SCALE: 3/4" = 1'-0"



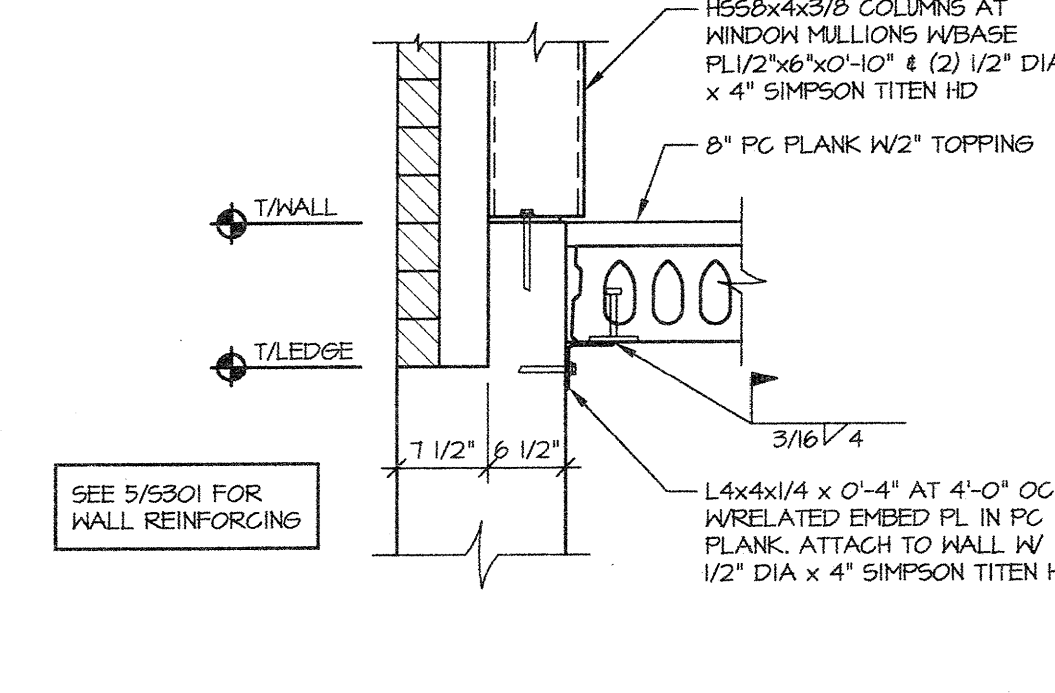
9 CONCENTRATED LOAD AT JOIST
SCALE: NONE



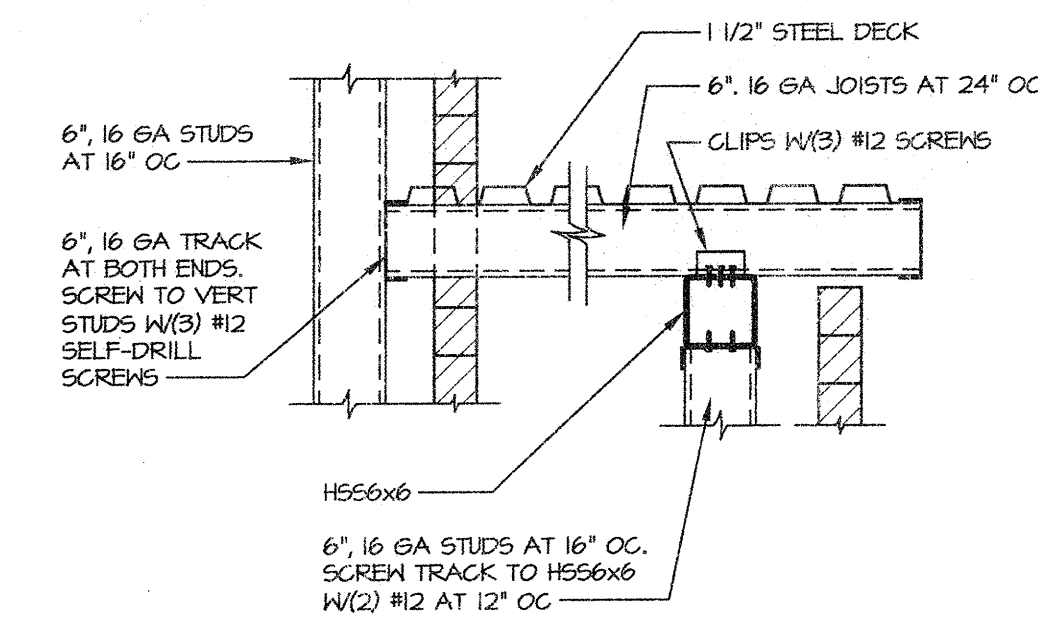
10 TYP FRAMING AT ROOF OPENINGS
SCALE: NONE



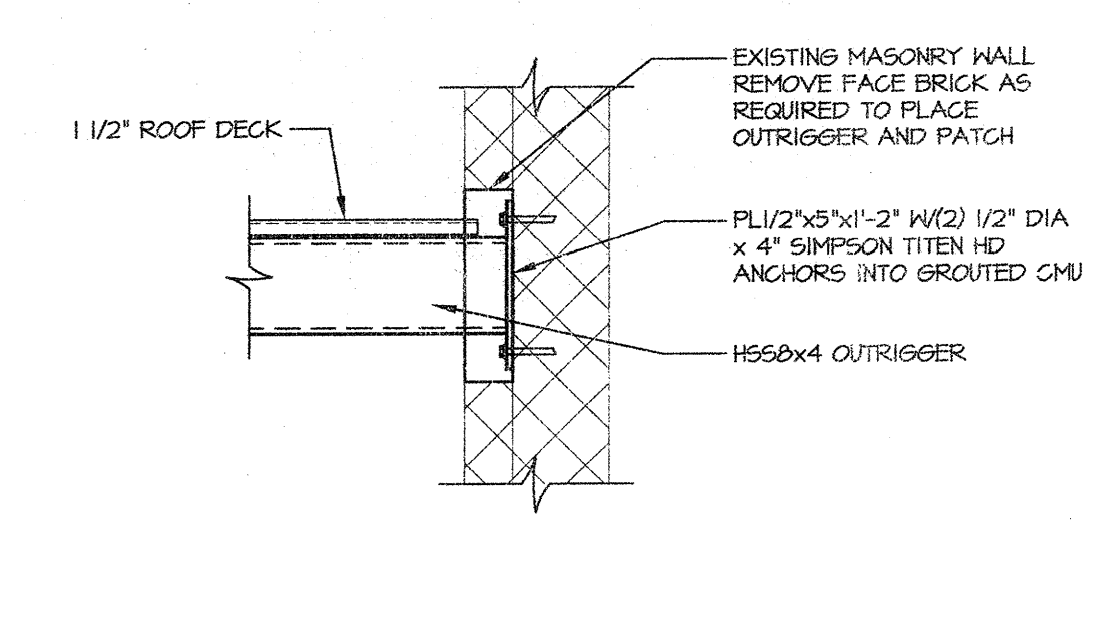
11 HOSE TOWER MECH PLATFORM
SCALE: 3/4" = 1'-0"



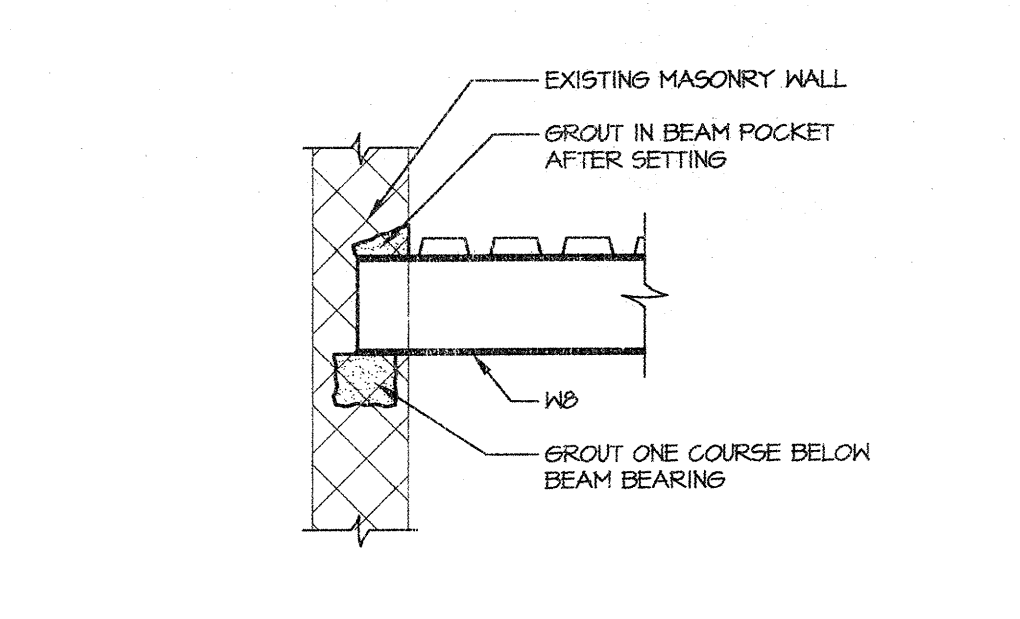
12 PLANK & HSS CONN AT SIDE WALL
SCALE: 3/4" = 1'-0"



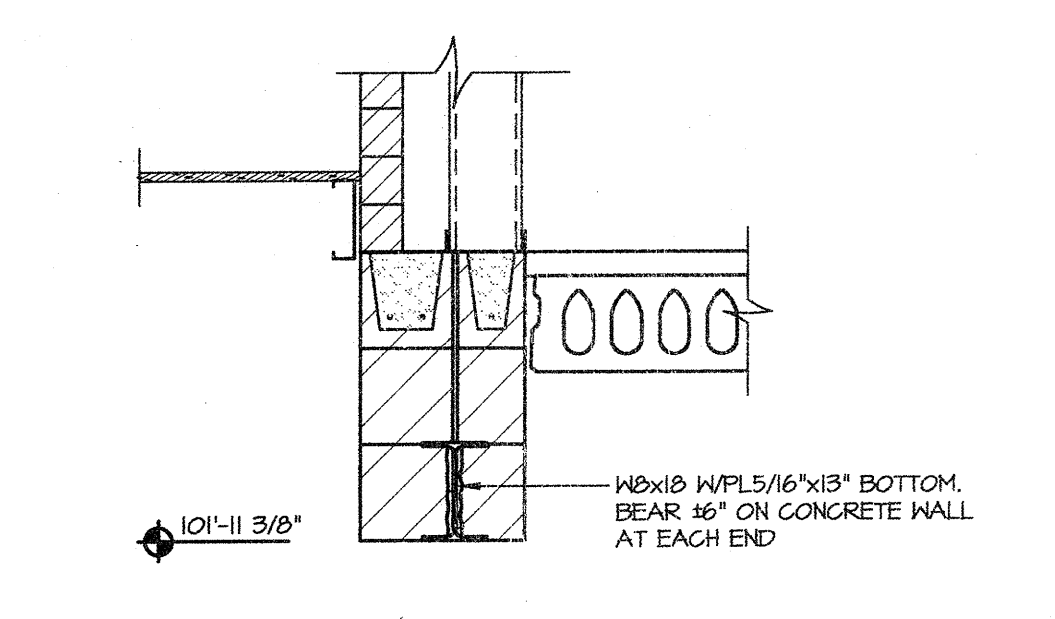
13 LOW ROOF AT STAIR
SCALE: 3/4" = 1'-0"



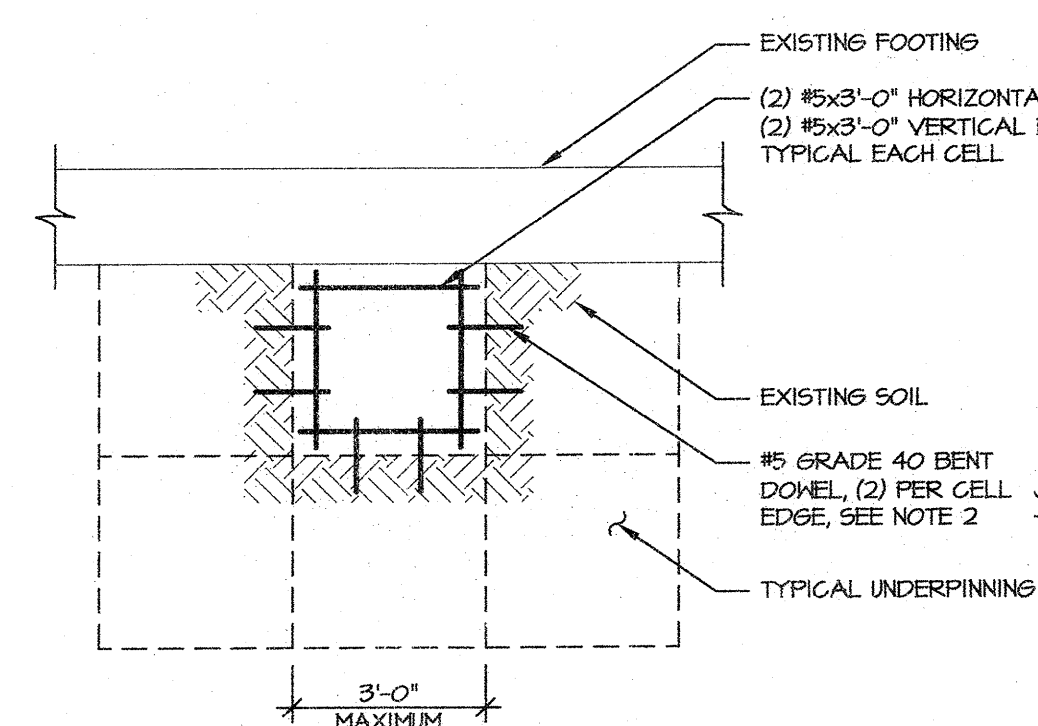
14 OUTRIGGER TO MASONRY WALL
SCALE: 3/4" = 1'-0"



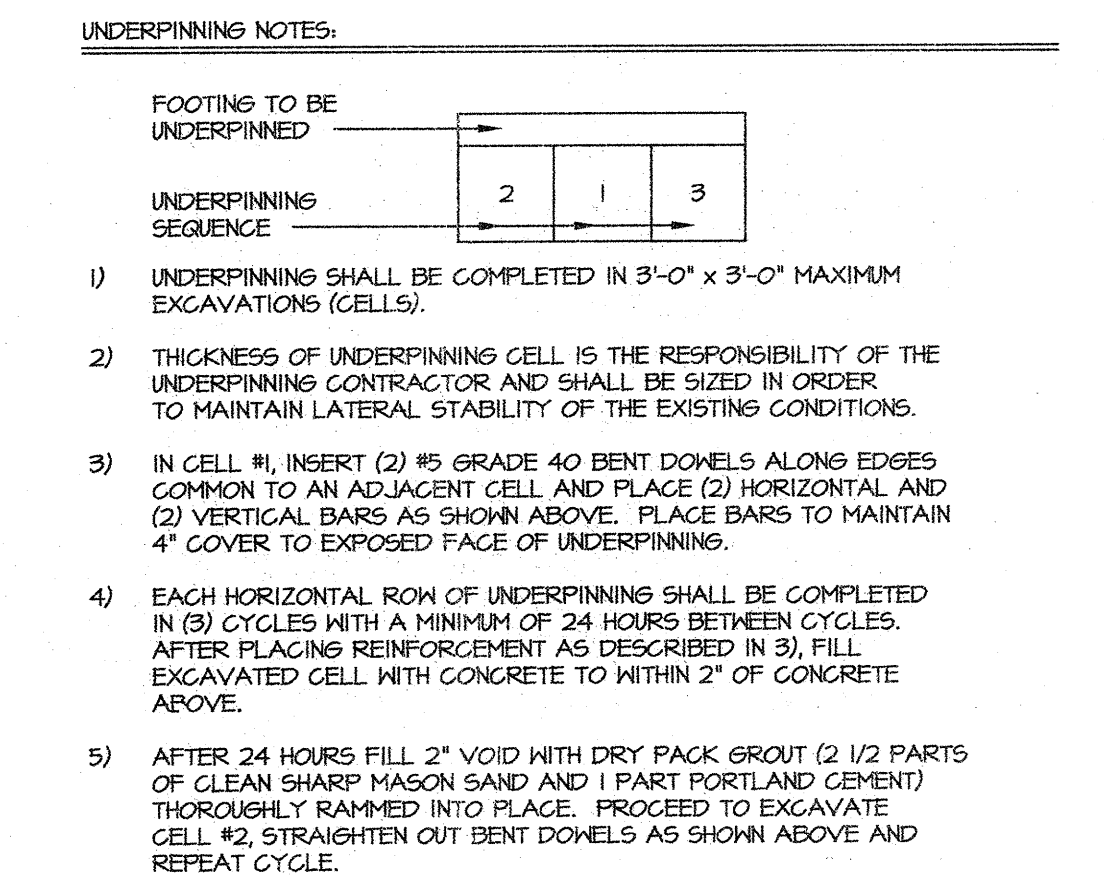
15 BM BRG AT EXTG MASONRY WALL
SCALE: 3/4" = 1'-0"



16 SECTION AT STAIR
SCALE: 3/4" = 1'-0"



17 UNDERPINNING DETAIL
SCALE: NONE



15 BM BRG AT EXTG MASONRY WALL
SCALE: 3/4" = 1'-0"

STRUCTURAL GENERAL NOTES	
1) THESE NOTES SUPPLEMENT THE SPECIFICATIONS. PROJECT SPECIFICATIONS CONTAIN ADDITIONAL INFORMATION AND CLARIFICATIONS. IN CASE OF CONFLICT BETWEEN PROJECT SPECIFICATIONS AND THESE NOTES, THESE NOTES SHALL GOVERN.	
2) GOVERNING BUILDING CODE: 2001 IBC AS AMENDED BY THE STATE OF WISCONSIN.	
3) BUILDING OCCUPANCY CATEGORY: ---	IV
4) DESIGN LOADS	
FLOORS	
LIVE LOAD	---
TYPICAL (INCLUDING PARTITIONS)	100 PSF
SUPERIMPOSED DEAD LOAD	---
TYPICAL	10 PSF
ROOF	
LIVE LOAD	---
TYPICAL ROOF	20 PSF
SUPERIMPOSED DEAD LOAD	---
TYPICAL ROOF	10 PSF
SNOW LOADS	
GROUND SNOW (Pg)	30 PSF
IMPORTANCE FACTOR (I _s)	1.0
EXPOSURE FACTOR (C _e)	1.0
THERMAL FACTOR (C _t) FOR BUILDING	1.0
THERMAL FACTOR (C _t) FOR CANOPY	1.0
BASE ROOF SNOW LOAD FOR BUILDING	25.1 PSF
BASE ROOF SNOW LOAD FOR CANOPY	30 PSF
WIND LOADS	
BASIC WIND SPEED	90 MPH
IMPORTANCE FACTOR (I _w)	1.0
EXPOSURE CATEGORY	B
METHOD 1 DESIGN WIND PRESSURE FOR MAIN FLOOR (P _s)	-11 PSF
SEISMIC LOADS	---
5) FOUNDATIONS AND EARTHWORK	
ALL ACTIVITIES CONCERNING PREPARATION AND VERIFICATION OF BEARING SOILS FOR SLAB-ON-GRADE AND FOOTINGS SHALL BE SUPERVISED AND APPROVED BY A QUALIFIED GEOTECHNICAL ENGINEER.	
SOIL DESIGN INFORMATION	
ALLOWABLE SOIL BEARING PRESSURE	2,000 PSF
SOIL UNIT WEIGHT	125 PCF
SURCHARGE DESIGN LOAD	100 PSF
AT-REST PRESSURE	55 PSF PER FOOT OF DEPTH
REMOVE EXISTING SURFICIAL TOP SOIL AND VEGETATION FROM WITHIN THE BUILDING AREA AND A MINIMUM TEN FEET BEYOND. EXCAVATE MATERIAL TO PROPOSED SLAB-ON-GRADE SUBGRADE. PROOFROLL WITH A HEAVY RUBBER TIRED VEHICLE. SOILS WHICH HEAVE, PUMP OR DO NOT READILY COMPACT SHALL BE EXCAVATED AND REPLACED WITH ENGINEERED FILL.	
SUBGRADE PREPARATION FOR FOOTINGS SHALL CONSIST OF EXCAVATION TO REQUIRED ALLOWABLE BEARING CAPACITY SOILS AT OR NEAR DESIGN FOOTING ELEVATIONS. WHERE UNSUITABLE SOIL IS ENCOUNTERED AT NORMAL FOOTING DEPTH SEE OVER EXCAVATION DETAIL.	
ALL COMPACTION REQUIREMENTS REFER TO % OF MAXIMUM DRY DENSITY PER ASTM-D1557 MODIFIED PROCTOR. GRANULAR STRUCTURAL FILL SHALL BE PLACED IN NO MORE THAN 8" LAYERS COMPACTED TO 95%. ALTERNATIVELY, FILL MAY CONSIST OF APPROVED COHESIVE SOILS PLACED IN NO MORE THAN 8" LAYERS COMPACTED TO 95%. MOISTURE CONDITION FILL MATERIAL AS REQUIRED TO OBTAIN PROPER COMPACTION. COHESIVE SOILS OR GRANULAR SOILS WITH A SIGNIFICANT PERCENT OF COHESIVE FINES SHALL BE CONDITIONED TO WITHIN 3% OF OPTIMUM MOISTURE CONTENT AT COMPACTION.	
6) CONCRETE	
MINIMUM 28 DAY COMPRESSIVE STRENGTH (F _c)	
FOOTINGS	3,000 PSI
PIERS, WALLS	3,000 PSI
SLAB-ON-GRADE (INTERIOR)	3,000 PSI
METAL DECK FILL	3,500 PSI
COVER ON MILD STEEL REINFORCEMENT (UNLESS NOTED OTHERWISE)	
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3"
CONCRETE EXPOSED TO EARTH OR WEATHER	1 1/2"
#5 BARS AND SMALLER	2"
#6 BARS AND LARGER	2"
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND	1"
CONCRETE REINFORCEMENT YIELD STRENGTH (F _y)	60,000 PSI
WELDED WIRE FABRIC	65,000 PSI
DESIGN OF CONCRETE BASED ON THE 2005 EDITION OF THE ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE	
7) STRUCTURAL STEEL	
SHAPE AND YIELD STRENGTH (F _y)	
A6 AND A7 (A72, F _y =65 KSI)	50 KSI
HSS (A500, GRADE B, F _y =50 KSI)	46 KSI
ANGLES, CHANNELS, PLATES (A36, F _y =50 KSI)	36 KSI
CONNECTORS	
HIGH STRENGTH BOLTS	3/4" A325/F1552
WELDING ELECTRODES	ETD
DESIGN OF STRUCTURAL STEEL BASED ON THE THIRTEENTH EDITION OF THE AISC MANUAL OF STEEL CONSTRUCTION	
ALL STEEL TO STEEL FRAMING SHALL USE STANDARD FRAMED CONNECTIONS - DOUBLE CLIP ANGLES WELDED TO BEAM AND BOLTED TO GIRDER OR COLUMN - UNLESS NOTED OTHERWISE. CONNECTIONS SHALL BE SYMMETRICAL ABOUT BEAM WEB. SINGLE PLATE SHEAR CONNECTIONS SHALL BE USED IN PLACE OF STANDARD FRAMED CONNECTIONS IF AND ONLY IF ONE OF THE FOLLOWING CONDITIONS IS MET: CONNECTION IS SPECIFICALLY DETAILED AS A SINGLE PLATE SHEAR TAB, OR CONNECTION OF BEAM TO ONE SIDE OF A GIRDER IS MATCHED BY SIMILAR CONNECTIONS AT SIMILAR SPACING ON THE OPPOSITE SIDE OF THE SAME GIRDER.	
DESIGN ALL CONNECTIONS FOR LOADS GIVEN, OR AS FOLLOWS:	
NON-COMPOSITE BEAMS:	
CONNECTION SHALL SUPPORT 55% OF THE TOTAL UNIFORM LOAD CAPACITY FOR THE GIVEN MEMBER, SPAN AND GRADE OF STEEL.	
8) LUMBER	
MATERIAL STRENGTH FOR SAWN LUMBER BASED ON 2005 NDS SUPPLEMENT VALUES FOR SPRUCE-PINE-FIR. WALL STUD VALUES FROM STUD GRADE. ALL OTHER VALUES FROM OR NO. 2 GRADE OR BETTER. VALUES FOR BEAMS, STRINGERS, POSTS AND TIMBERS ARE FOR MEMBERS 5"x5" AND LARGER.	
JOISTS AND HEADERS	
F _b = 675 PSI	F _c = 675 PSI
F _v = 135 PSI	F _c = 125 PSI
F _c = 125 PSI	E = 1.2x10 ⁶ PSI
E = 1.4x10 ⁶ PSI	
BEAMS AND STRINGERS	
F _b = 600 PSI	F _c = 500 PSI
F _v = 125 PSI	F _c = 500 PSI
F _c = 125 PSI	E = 1.0x10 ⁶ PSI
E = 1.0x10 ⁶ PSI	
MANUFACTURED LVL'S	
F _b = 5,000 PSI	F _c = 285 PSI
F _v = 285 PSI	F _c = 285 PSI
F _c = 285 PSI	E = 2.0x10 ⁶ PSI
E = 2.0x10 ⁶ PSI	
DESIGN OF WOOD ELEMENTS BASED ON THE 2005 EDITION OF THE NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION	
9) GENERAL	
PROPRIETARY EQUIPMENT DIMENSIONAL REQUIREMENTS SHALL BE VERIFIED WITH MANUFACTURER PRIOR TO FABRICATION AND ERECTION OF SUPPORTING STRUCTURE.	
MECHANICAL, PLUMBING AND ELECTRICAL REQUIREMENTS CHANGES IN SIZE, LOCATION OR NUMBER OF OPENINGS SHOWN ON THE STRUCTURAL DRAWINGS SHALL NOT BE PERMITTED WITHOUT WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER. NOT ALL OPENINGS ARE SHOWN ON THE STRUCTURAL DRAWINGS.	
10) EXISTING CONDITIONS	
INFORMATION PERTAINING TO EXISTING CONDITIONS GIVEN ON THESE STRUCTURAL DRAWINGS REPRESENTS TO THE BEST OF OUR KNOWLEDGE THE ACTUAL EXISTING FIELD CONDITIONS. ARNOLD & O'SHERIDAN, INC. MAKES NO WARRANTY AS TO THEIR ACCURACY. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS IMPERATIVE TO THE NEW WORK. REPORT DISCREPANCIES BETWEEN THE DRAWINGS AND FIELD CONDITIONS TO THE A/E FOR REVIEW. ANY WORK PERFORMED PRIOR TO RESOLUTION OF DISCREPANCIES BY THE A/E IS SUBJECT TO REMOVAL AND REPLACEMENT AT NO ADDITIONAL COST TO THE CONTRACT.	



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AEO PROJECT #11498
Contractors are responsible for the means, methods, techniques, sequences and procedures of construction including, but not limited to, temporary supports, shoring, forming to support proposed loads and other similar items.

DRAWING SET PLAN REVISION
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FILE NAME 111498 S301.dwg.dwg
REVISIONS
DRAWN DAS
CHECKED PEK
DATE 02/07/12
PROJECT NO. 2011009
PROJECT TITLE

CITY OF MADISON
FIRE STATION #2
ADDITION AND
REMODELING

421 GRAND CANTON DRIVE
MADISON, WISCONSIN

SHEET TITLE
STRUCTURAL
DETAILS

SHEET NO.
S301