

**DESIGN CRITERIA**

- CODES:
  - INTERNATIONAL BUILDING CODE (IBC) 2009
  - AMERICAN CONCRETE INSTITUTE BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318-08)
  - AMERICAN CONCRETE INSTITUTE BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES (ACI 530-08)
  - AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS
  - ALLOWABLE STRENGTH DESIGN (ASD) (AISC 360-05) THIRTEENTH EDITION, 2005
  - AMERICAN WELDING SOCIETY D1.1
  - AMERICAN IRON AND STEEL INSTITUTE (AISI) SPECIFICATION FOR DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS
  - AMERICAN FOREST & PAPER ASSOCIATION (AF&PA) NATIONAL DESIGN SPECIFICATION (NDS) FOR WOOD CONSTRUCTION, 2005
- DESIGN LOADS:
  - OCCUPANCY CATEGORY II
  - BACKFILL EQUIVALENT FLUID PRESSURE 70 PCF
  - SEISMIC (IBC)
    - SOIL CLASSIFICATION D
    - SPECTRAL RESPONSE ACCELERATION, S<sub>s</sub> 0.105 g
    - SPECTRAL RESPONSE ACCELERATION, S<sub>1</sub> 0.044 g
    - SHORT PERIOD DESIGN ACCELERATION, S<sub>ds</sub> 0.112g
    - LONG PERIOD DESIGN ACCELERATION, S<sub>dl</sub> 0.070 g
    - IMPORTANCE FACTOR I 1.0
    - SEISMIC DESIGN CATEGORY B
    - SEISMIC FORCE RESISTING SYSTEM ORDINARY REINFORCED MASONRY SHEAR WALLS
  - RESPONSE MODIFICATION FACTOR, R 2
  - ANALYSIS PROCEDURE EQUIVALENT LATERAL FORCE
  - SEISMIC RESPONSE COEFFICIENT, C<sub>s</sub> 0.056
  - DESIGN BASE SHEAR, V = C<sub>s</sub> x W
- WIND - PARAMETERS
  - BASIC WIND SPEED 90 MPH
  - IMPORTANCE FACTOR 1.0
  - EXPOSURE CLASS B
  - WIND - MAIN WIND FORCE RESISTING SYSTEM PRESSURES
    - DESIGN PRESSURE 15 PSF
    - ROOF UPLIFT PRESSURE 15 PSF (GROSS) [LC, 1.0W1]
    - ROOF UPLIFT PRESSURE 5 PSF (NET) [LC, 0.0DL + 1.0 WL]
  - WIND - ELEMENTS AND COMPONENTS PER APPLICABLE BUILDING CODE
  - LIVE LOADS
    - CORRIDOR AND PUBLIC SPACE 100 PSF UNREDUCIBLE
    - MECHANICAL 125 PSF UNREDUCIBLE
    - OFFICE 75 PSF REDUCIBLE
    - PARTITIONS 20 PSF UNREDUCIBLE
    - STAIRS 100 PSF UNREDUCIBLE
    - PHOTOVOLTAIC PANELS 10 PSF UNREDUCIBLE
    - GREEN ROOF SEDUM TRAYS 40 PSF UNREDUCIBLE
  - SNOW LOADS
    - GROUND SNOW LOAD 30 PSF
    - SNOW EXPOSURE FACTOR 1.0
    - THERMAL FACTOR 1.0
    - IMPORTANCE FACTOR 1.0
    - FLAT-ROOF SNOW LOAD 21 PSF
    - DESIGN LOAD 25 PSF
    - DRIFTING LOAD REFER TO PLAN
- NET ALLOWABLE SOIL BEARING CAPACITIES
  - SPREAD FOOTINGS 4000 PSF (PRESUMED)
  - CONTINUOUS FOOTINGS 4000 PSF (PRESUMED)
  - MINIMUM FROST PROTECTION DEPTH FROM ADJACENT GRADE 4'-0"
  - EXTERIOR FOOTINGS IN UNHEATED AREA 4'-0"
- SPECIFIED 28-DAY CONCRETE COMPRESSIVE STRENGTHS (f'<sub>c</sub>)
  - ELEVATED SLABS 4000 PSI
  - FOOTINGS 3000 PSI
  - FOUNDATION WALLS 4000 PSI
  - SLABS ON GRADE 4000 PSI
  - TYPICAL - UNLESS NOTED OTHERWISE 4000 PSI
- CONCRETE REINFORCING STEEL SHALL BE HIGH STRENGTH NEW BILLET STEEL CONFORMING TO THE FOLLOWING STANDARDS:
  - DEFORMED BARS ASTM A615, GRADE 60 F<sub>y</sub> = 60 KSI
  - WELDED WIRE REINFORCING ASTM A185 F<sub>y</sub> = 65 KSI
- MATERIALS FOR CONCRETE UNIT MASONRY SHALL CONFORM TO THE FOLLOWING STANDARDS:
  - CONCRETE MASONRY UNITS ASTM C90
  - MORTAR MATERIALS ASTM C270, TYPE S
  - GROUT FOR MASONRY ASTM C476
  - REINFORCING STEEL FOR MASONRY ASTM A615, GRADE 60 (UNO)
  - PLATE AND BENT BAR ANCHORS ASTM A36
  - SHEET METAL ANCHORS AND TIES ASTM A1036
  - WIRE MESH TIES ASTM A185
  - WIRE TIES AND ANCHORS ASTM A951
  - ANCHOR BOLTS FOR MASONRY ASTM A307, GRADE A
- MINIMUM 28 DAY COMPRESSIVE STRENGTHS FOR MASONRY (f'<sub>m</sub>)
  - DESIGN ASSEMBLY STRENGTH, f<sub>m</sub> 2500 PSI
  - INDIVIDUAL CONCRETE MASONRY UNITS 3750 PSI
  - MORTAR FOR MASONRY (TYPE S REQUIRED) 1900 PSI
  - GROUT FOR MASONRY 2500 PSI
- STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING STANDARDS:
  - WIDE FLANGE SECTIONS ASTM A992 F<sub>y</sub> = 50 KSI
  - OTHER ROLLED SECTIONS ASTM A36 F<sub>y</sub> = 36 KSI
  - SQUARE AND RECTANGULAR HSS ASTM A500, GR B F<sub>y</sub> = 46 KSI
  - PIPE SECTIONS ASTM A53, GR B F<sub>y</sub> = 35 KSI
  - CAP AND BASE PLATES ASTM A36 F<sub>y</sub> = 36 KSI
  - CONNECTION MATERIAL ASTM A36 F<sub>y</sub> = 36 KSI
  - STIFFENER PLATES ASTM A36 F<sub>y</sub> = 36 KSI
  - ANCHOR RODS ASTM F1554, GR 36 F<sub>y</sub> = 36 KSI
  - ANCHOR BOLTS ASTM A307, GRADE A F<sub>y</sub> = 24 KSI
  - 3/4" DIA. ANCHOR UNO F<sub>y</sub> = 24 KSI
  - TWIST-OFF BOLT NUT/WASHER ASSEMBLIES ASTM F1554, GR 36 F<sub>y</sub> = 36 KSI
  - HEAVY HEX NUTS ASTM A563
  - WASHERS ASTM F436
  - HEADED WELDED STEEL STUDS ASTM A108, TYPE B
  - ELECTRODES FOR ARC WELDING AWS 5.1, E70XX
- COLD-FORMED STRUCTURAL STUDS SHALL CONFORM TO THE FOLLOWING STANDARDS:
  - ROLLED SECTIONS, CONNECTION MATERIAL, STIFFENER PLATES ASTM A653, GR 33 F<sub>y</sub> = 50 KSI
  - 16 GAUGE AND THICKER ASTM A653, GR 50 F<sub>y</sub> = 50 KSI
  - CONNECTION MATERIAL (≥3/16" THICK) ASTM A36 F<sub>y</sub> = 36 KSI
  - ANCHOR RODS ASTM F1554, GR 36 F<sub>y</sub> = 36 KSI
  - BOLTS ASTM A307
  - ANCHOR RODS ASTM A307, GRADE A F<sub>y</sub> = 24 KSI
  - ELECTRO - PLATE ASTM A561
  - ALUMINUM - ZINC ASTM A792, GR 40
  - INSTALLATION ASTM C955 AND ASTM C1007
  - ELECTRODES FOR ARC WELDING AWS 5.1, E70XX
- STEEL DECK AND ALL ACCESSORIES SHALL BE FORMED FROM STEEL SHEETS CONFORMING TO THE FOLLOWING STANDARDS:
  - GALVANIZED STEEL FLOOR DECK ASTM A653, GR 50 F<sub>y</sub> = 50 KSI
  - GALVANIZED STEEL ROOF DECK ASTM A653, GR 33 F<sub>y</sub> = 33 KSI
- WOOD FRAMING:
  - DOUGLAS FIR - LARCH; F<sub>b</sub> = 850 PSI F<sub>c</sub> = 1400 PSI
  - HEM FIR; NO. 2
  - SOUTHERN PINE; NO. 2

**GENERAL NOTES**

- NEITHER THE PROFESSIONAL ACTIVITIES OF THE ENGINEER, NOR THE PRESENCE OF THE ENGINEER OR HIS OR HER EMPLOYEES AND SUBCONSULTANTS AT THE CONSTRUCTION SITE, SHALL RELIEVE THE CONTRACTOR AND ANY OTHER ENTITY OF THEIR OBLIGATIONS, DUTIES, AND RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES, OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING, OR COORDINATING ALL PORTIONS OF THE WORK OF CONSTRUCTION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES. THE ENGINEER AND HIS OR HER PERSONNEL HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER ANY CONSTRUCTION CONTRACTOR OR OTHER ENTITY OR THEIR EMPLOYEES IN CONNECTION WITH THEIR WORK OR ANY HEALTH OR SAFETY PRECAUTIONS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE JOBSITE SAFETY, THE ENGINEER AND THE ENGINEER'S CONSULTANTS SHALL BE MADE ADDITIONAL INSUREDS UNDER THE CONTRACTOR'S GENERAL LIABILITY INSURANCE POLICY.
- STRUCTURAL DRAWINGS INCLUDE DESIGN REQUIREMENTS AND DIMENSIONS FOR STRUCTURAL INTEGRITY BUT DO NOT SHOW ALL DETAIL DIMENSIONS TO FIT INTRICATE ARCHITECTURAL AND MECHANICAL DETAILS. CONTRACTOR SHALL SO CONSTRUCT THE WORK SO THAT IT WILL CONFORM TO THE CLEARANCES REQUIRED BY ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DESIGN.
- THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE, UNLESS NOTED OTHERWISE, THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION.
- DETAILS AND NOTES ON THE STRUCTURAL DRAWINGS ARE INTENDED TO BE TYPICAL FOR SIMILAR SITUATIONS ELSEWHERE.
- ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR MECHANICAL, ELECTRICAL, AND PLUMBING WITH APPROPRIATE TRADE CONTRACTORS. OPENING SIZES AND LOCATIONS SHOWN FOR DUCTS, PIPES, INSERTS AND OTHER PENETRATIONS WHEN SHOWN ARE FOR GENERAL INFORMATION ONLY AND SHALL BE VERIFIED PRIOR TO FORMING.
- DIMENSIONS, NOTES, AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.
- WHERE NEW CONSTRUCTION INTERFACES WITH EXISTING CONDITIONS, FIELD VERIFY EXISTING DIMENSIONS, MEMBER SIZES AND ELEVATIONS SHOWN ON THE DRAWINGS PRIOR TO STARTING CONSTRUCTION. ALL DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT.
- REFER TO ARCHITECTURAL DRAWINGS FOR THE FOLLOWING:
  - SIZE AND LOCATION OF ALL DOOR AND WINDOW OPENINGS, UNLESS NOTED OTHERWISE.
  - SIZE AND LOCATIONS OF ALL INTERIOR AND EXTERIOR MASONRY WALLS.
  - SIZE AND LOCATION OF ALL CONCRETE CURBS, FLOOR DRAINS, SLOPES, DEPRESSED AREAS, CHANGES IN LEVEL, CHAMFERS, GROOVES, INSERTS, ETC.
  - SIZE AND LOCATION OF ALL FLOOR AND ROOF OPENINGS UNLESS NOTED OTHERWISE.
  - FLOOR, WALL AND ROOF FINISHES.
  - STAIR FRAMING AND DETAILS. ALSO REFER TO STAIR MANUFACTURER'S APPROVED SHOP DRAWINGS.
  - DIMENSIONS NOT SHOWN ON STRUCTURAL DRAWINGS.
  - FIRE PROTECTION REQUIREMENTS.
- REFER TO MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR THE FOLLOWING:
  - PIPE RUNS, SLEEVES, HANGERS, TRENCHES, WALL AND SLAB OPENINGS, ETC., EXCEPT AS SHOWN.
  - ELECTRICAL CONDUIT RUNS, BOXES, OUTLETS IN WALLS AND SLABS.
  - CONCRETE INSERTS FOR ELECTRICAL, MECHANICAL OR PLUMBING FIXTURES.
  - SIZE AND LOCATION OF MACHINE OR EQUIPMENT BASES OR CURBS AND ANCHOR BOLTS FOR MOTOR MOUNTS.

- BEFORE SUBMITTING A PROPOSAL FOR THIS WORK, EACH BIDDER SHALL VISIT THE PREMISES AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS, TEMPORARY CONSTRUCTION REQUIRED, QUANTITIES AND TYPES OF EQUIPMENT, ETC. THE BID SHALL INCLUDE ALL SUMS REQUIRED TO DO THE WORK WITHIN THE EXISTING CONDITIONS, DISRUPTION OF NORMAL ACTIVITIES IN THE WORK AREA SHALL BE KEPT TO A MINIMUM.
- SHOP DRAWINGS PREPARED BY SUPPLIERS, SUBCONTRACTORS, AND OTHERS SHALL BE REVIEWED AND COORDINATED PRIOR TO SUBMITTING TO THE ARCHITECT. EACH SHOP DRAWING SUBMITTED SHALL BE STAMPED, INITIALED AND DATED INDICATING REVIEW BY THE ARCHITECT OR DRAWING MANAGER/GENERAL CONTRACTOR.
- SHOP DRAWINGS PREPARED BY THE SUBCONTRACTORS, SUPPLIERS, AND OTHERS SHALL BE REVIEWED BY THE ARCHITECT ONLY FOR GENERAL CONFORMANCE WITH DESIGN CONCEPT ONLY. REVIEW BY THE ARCHITECT SHALL NOT BEGIN UNTIL THE PRIOR COORDINATION AND REVIEW BY THE GENERAL CONTRACTOR WORK SHALL NOT BEGAIN WITH REVIEW BY THE ARCHITECT. NOTATIONS MADE BY THE ARCHITECT ON THE SHOP DRAWINGS DO NOT RELIEVE THE CONTRACTOR FROM COMPLYING WITH THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS.
- OPTIONS ARE FOR THE CONTRACTORS CONVENIENCE. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY CHANGES RESULTING FROM CHOOSING AN OPTION AND SHALL COORDINATE ALL DETAILS. THE COST OF ADDITIONAL DESIGN WORK NECESSITATED BY SELECTION OF AN OPTION SHALL BE BORNE BY THE CONTRACTOR.
- THE COST OF ADDITIONAL DESIGN WORK DUE TO ERRORS OR OMISSIONS BY THE CONTRACTOR IN CONSTRUCTION SHALL BE BORNE BY THE CONTRACTOR.
- ANY ENGINEERING DESIGN PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW OR RECORD SHALL BEAR THE STAMP AND SIGNATURE OF A PROFESSIONAL STRUCTURAL ENGINEER REGISTERED IN THE STATE OF WISCONSIN.
- ELEVATIONS ARE BASED ON THE EXISTING FIRST FLOOR ELEVATION OF (+100'-0") WHICH IS EQUAL TO CIVIL ELEVATION OF (913.5').

**FOUNDATIONS/SLAB-ON-GRADE**

- CROSS REFERENCE ARCHITECTURAL AND STRUCTURAL DRAWINGS TO ASSURE PROPER DIMENSIONS AND PLACEMENT OF ALL ANCHOR BOLTS, INSERTS, NOTCHES, EDGES IN GRADE BEAMS, FOUNDATION WALLS AND PIERS.
- FOUNDATION DESIGN BASED ON INFORMATION FROM THE EXISTING 1926 DRAWINGS, SOIL BEARING CAPACITY TO BE FIELD VERIFIED PRIOR TO POURING NEW FOUNDATIONS, NOTIFY A/E IF EXISTING CONDITIONS DIFFER FROM THOSE INDICATED.
- ALL EXCAVATIONS SHALL BE PROPERLY AND SAFELY BACKFILLED. DO NOT PLACE BACKFILL BEHIND RETAINING WALLS BEFORE CONCRETE HAS ATTAINED SPECIFIED COMPRESSIVE STRENGTH. CONTRACTOR SHALL BRACE OR PROTECT ALL WALLS BELOW GRADE FROM LATERAL LOADS UNTIL SUPPORTING FLOOR IS COMPLETELY IN PLACE AND HAS ATTAINED FULL STRENGTH. CONTRACTOR SHALL PROVIDE FOR DESIGN, PERMITS, AND INSTALLATION OF SHORING AND/OR SHEETING. BACKFILLING IS NOT PERMITTED FOR FOUNDATION WALLS UNTIL SUPPORTED SLAB ABOVE IS IN PLACE OR THE WALL IS ADEQUATELY BRACED TO RESIST LATERAL LOADS.
- UNLESS NOTED OTHERWISE, ALL FOOTINGS SHALL BE CENTERED UNDER WALLS, PIERS OR COLUMNS.
- PROVIDE SAW CUT CONTROL JOINTS IN ALL SLABS-ON-GRADE. LOCATE JOINTS ALONG COLUMN LINES WITH INTERMEDIATE JOINTS SPACED AT A MAXIMUM OF 36 TIMES THE SLAB THICKNESS, UNLESS NOTED OTHERWISE. CONTROL JOINTS SHALL NOT STAGGER. UNLESS NOTED OTHERWISE, CONTROL JOINTS SHALL HAVE A MAXIMUM LENGTH TO WIDTH RATIO OF 1.5 TO 1. PROVIDE ADDITIONAL CONTROL JOINTS AT ALL RE-ENTRANT CORNERS FORMED IN SLAB ON GRADE.

**UNDERPINNING NOTES**

- UNDERPIN EXISTING WALLS AND FOOTINGS AND PLACE NEW FOOTINGS AS SHOWN ON THE FOUNDATION PLAN AND DETAILS.
- NO EXCAVATION CAN BE DONE WITHIN 6'-0" OF THE EXISTING BUILDING UNTIL UNDERPINNING IS COMPLETE.
- POURED CONCRETE WALL UNDERPINNING PROCEDURE SHALL BE AS FOLLOWS:
  - WHERE NOTED ON THE PLANS AND DETAILS, UNDERPINNING SHALL BE PERFORMED IN SEPARATE OPERATIONS NOT TO EXCEED 6'-0" IN LENGTH.
  - PLACE HORIZONTAL REINFORCING BARS WITH DEGREE BENDS SO THAT THEY MAY BE STRAIGHTENED TO LAP WITH BARS OF ADJACENT UNDERPINNING SECTIONS.
  - PLACE CONCRETE OF NEW WALL TO WITHIN 3'-4" OF THE UNDERSIDE OF EXISTING FOOTING WHERE APPLICABLE. AFTER 28 DAYS DRY GROUT. USE SAME GROUT SPECIFIED UNDER STEEL-BASE PLATES GIVEN IN SPECIFICATION SECTION 05120. GROUT IS TO SET AT LEAST 7 DAYS BEFORE ADJACENT SECTION IS EXCAVATED. SHORE AND BRACE EACH SECTION AS SOON AS FORMS ARE REMOVED. AFTER EXCAVATION IS STABILIZED IN ANY SECTION, ALLOW THAT SECTION TO BE COMPLETED COMPLETELY AND PRIOR TO STARTING ANOTHER SECTION IN THE IMMEDIATE AREA.
  - UNLESS NOTED OTHERWISE, NEW FOUNDATION WALL AND FOOTING TO MATCH EXISTING WALL THICKNESS AND FOOTING SIZE.
  - PRIOR TO BACKFILLING AGAINST THE FOUNDATION WALL, SLAB-ON-GRADE MUST BE INSTALLED.
  - REPEAT THIS PROCEDURE IN ALTERNATE 6'-0" SECTIONS UNTIL UNDERPINNING IS COMPLETE.
- DURING UNDERPINNING OPERATION, CONTRACTOR SHALL BRACE AND SHORE WITH JACKS EXISTING FOOTING OR WALL AS REQUIRED TO PREVENT MOVEMENT OF EXISTING BUILDING. THE SHORING SHALL BE SELECTED TO WITHSTAND THE DESIGN FORCES INDICATED ON THE DRAWINGS. THE SHORING JACKS ARE TO BE LEFT IN PLACE AND CAST INTO CONCRETE UNDERPINNING POUR.
- CONTRACTOR SHALL SUBMIT A SCHEDULE OF UNDERPINNING OPERATIONS FOR REVIEW OF THE ARCHITECT AND ENGINEER.
- CONTRACTOR SHALL SURVEY EXISTING FOOTING AND WALL ELEVATIONS PRIOR TO, DURING, AND AFTER UNDERPINNING OPERATIONS TO MONITOR POTENTIAL MOVEMENTS. SURVEY RESULTS SHALL BE SUBMITTED TO THE ARCHITECT AND ENGINEER.

**REINFORCING STEEL**

- FOR CAST-IN-PLACE CONCRETE THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT UNLESS NOTED OTHERWISE:
 

CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3 INCHES
CONCRETE EXPOSED TO EARTH OR WEATHER	2 INCHES
NO. 5 BARS OR SMALLER	1 1/2 INCHES
SLABS, WALLS, JOISTS NOT EXPOSED TO WEATHER OR IN CONTACT WITH EARTH	1 1/2 INCHES
NO. 14 AND NO. 18 BARS	3/4 INCHES
NO. 11 BARS OR SMALLER	3/4 INCHES
BEAMS AND COLUMNS NOT EXPOSED TO WEATHER OR IN CONTACT WITH EARTH	1 1/2 INCHES
- DIMENSIONS OF CONCRETE COVER FOR REINFORCEMENT INDICATED ON DRAWINGS ARE TO OUTERMOST REINFORCING BARS, FOR BEAMS OR COLUMNS WITH STRIPPUS OR TIES, CLEAR COVER INDICATED IS TO STRIPPUS OR TIES.
- BAR SPLICES: SPLICE REINFORCING WHERE INDICATED ON THE DRAWINGS, ALL SPLICES SHALL BE CLASS 1'S AS DEFINED IN ACI 318. IF SPLICE LENGTH IS NOT GIVEN ON THE DRAWINGS, PROVIDE LAP LENGTHS (IN INCHES) AS FOLLOWS:
 

3000 PSI CONCRETE		4000 PSI CONCRETE	
BAR SIZE	OTHER	TOP	OTHER
#3	22	28	19
#4	29	38	25
#5	36	47	31
#6	43	56	37
#7	63	81	54
#8	72	93	62
#9	81	105	70
#10	91	118	79
#11	101	131	87
#14	131	144	114

- LAP LENGTHS ASSUME CLEAR SPACING BETWEEN BARS OF 2 BAR DIAMETERS, AND A MINIMUM COVER OF 1 BAR DIAMETER FOR DEVELOPMENT LENGTHS. DIVIDE BY 1.3. TOP BARS ARE REINFORCED AS HORIZONTAL BARS WITH MORE THAN 1'-0" OF FRESH CONCRETE BELOW.
- ADHESIVE FOR DOWELING SHALL BE HILTI HIT HY 200, POWERS PE 1000+, OR SIMPSON SET XP. EMBEDMENT LENGTH SHALL BE AS INDICATED ON THE DRAWINGS. INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

**MASONRY (CONCRETE MASONRY UNITS)**

- MORTAR SHALL CONFORM TO AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) DESIGNATION C110 UNDER DESIGN CRITERIA, AND PROJECT SPECIFICATIONS. REFER TO DESIGN CRITERIA FOR MINIMUM COMPRESSIVE STRENGTH OF MORTAR.
- REFER TO ARCHITECTURAL DRAWINGS FOR SURFACE AND HEIGHT OF UNITS, LAYING PATTERN AND JOINT TYPE. ALL BLOCK SHALL BE RUNNING BOND UNLESS NOTED OTHERWISE.
- THE LOAD BEARING CONCRETE MASONRY WALLS FOR THIS PROJECT WERE DESIGNED TO SPAN VERTICALLY AND BE BRACED BY THE ROOF AND FLOOR FRAMING ELEMENTS OF THE STRUCTURE. DURING CONSTRUCTION THE MASONRY CONTRACTOR SHALL PROVIDE LATERAL BRACING UNTIL THE ROOF STRUCTURE IS INSTALLED AS RECOMMENDED BY ACI 530 AND THE LATEST REVISION OF "STANDARD PRACTICE FOR BRACING MASONRY WALLS UNDER CONSTRUCTION" PREPARED BY THE COUNCIL FOR MASONRY. LATERAL BRACING: THIS BRACING IS TO BE INSTALLED IN THAT SECTION TO PREVENT DAMAGE TO THE MASONRY WALLS FROM WIND LOADS, WHICH CAN OCCUR WHILE THE WALLS ARE NOT PROPERLY BRACED BY THE ROOF AND FLOOR STRUCTURE.
- BAR SPLICES: SPLICE REINFORCING WHERE INDICATED ON THE DRAWINGS. IF SPLICE LENGTH IS NOT GIVEN ON THE DRAWINGS, PROVIDE LAP LENGTHS (IN INCHES) AS FOLLOWS: BARS LARGER THAN #6 ARE TO BE MECHANICALLY SPLICED.

MINIMUM LAP SPLICE LENGTH	
BAR SIZE	LAP LENGTH
#3	27
#4	36
#5	45
#6	54

**POST INSTALLED STEEL ANCHORS**

- POST INSTALLED EXPANSION ANCHORS SERVING AS THE BASIS OF DESIGN ARE SHOWN ON THE DRAWINGS. ACCEPTABLE ALTERNATE ANCHORS MAY BE SUPPLIED PROVIDED THAT THE QUANTITY AND CONFIGURATION MATCHES THE CAPACITY OF THE DESIGN ANCHOR QUANTITY AND CONFIGURATION. ANY ACCEPTABLE ALTERNATES ARE TO BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. THE FOLLOWING TABLE SUMMARIZES THE EXPANSION ANCHORS USED ON THE PROJECT:

ANCHORED INTO:	BASIS OF DESIGN	ACCEPTABLE ALTERNATES AT CONTRACTOR'S OPTION
HOLLOW CMU	HILTI HLC SLEEVE	POWERS LOG BOLT, ITW IRED HEAD DYNABOLT SLEEVE
GROUTED CMU	HILTI KWIK BOLT 3	POWER STUD- SD1, SIMPSON WEDGE-ALL
UNCRACKED CONCRETE	HILTI KWIK BOLT 3	POWER STUD+ SD2, ITW IRED HEAD TRUBOLT+, SIMPSON STRONG BOLT
CRACKED CONCRETE	HILTI KWIK BOLT TZ	POWER STUD+ SD2, ITW IRED HEAD TRUBOLT+, SIMPSON STRONG BOLT

- ADHESIVE ANCHOR SYSTEMS FOR ATTACHMENT INTO CONCRETE SHALL CONSIST OF ASTM A193 GRADE B7 RODS, HEAVY DUTY NUTS AND WASHERS, AND A TWO COMPONENT STRUCTURAL ADHESIVE. ADHESIVE ANCHORING SYSTEMS SERVING AS THE BASIS OF DESIGN ARE SHOWN ON THE DRAWINGS. ACCEPTABLE ALTERNATE ANCHORS MAY BE SUPPLIED PROVIDED THAT THE QUANTITY AND CONFIGURATION MATCHES THE CAPACITY OF THE DESIGN ANCHOR QUANTITY AND CONFIGURATION. ANY ACCEPTABLE ALTERNATES ARE TO BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW. INSTALL IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. ANCHORING SYSTEMS INTO HOLLOW CMU SHALL INCLUDE A SCREEN TUBE. THE FOLLOWING TABLE SUMMARIZES THE ADHESIVE ANCHORS USED ON THE PROJECT:

ANCHORED INTO:	BASIS OF DESIGN	ACCEPTABLE ALTERNATES AT CONTRACTOR'S OPTION
HOLLOW CMU	HILTI HIT HY 70	POWERS AC 100+ GOLD, ITW AT ACRYLIC
GROUTED CMU	HILTI HIT HY 70	POWERS AC 100+ GOLD, ITW AT ACRYLIC, SIMPSON SET
CRACKED/UNCRACKED CONCRETE	HILTI HIT HY 200	POWERS PE 1000+, SIMPSON SET XP

**STRUCTURAL STEEL**

- REFER TO DRAWINGS FOR DETAIL OF DECK OPENINGS. REFER TO ARCHITECTURAL MECHANICAL, ELECTRICAL DRAWINGS, ETC. FOR EXACT SIZE, LOCATION, AND COUNT OF REQUIRED OPENINGS.
- UNLESS NOTED OTHERWISE ALL WELDS SHALL BE CONTINUOUS 1/4" FILLET WELDS.
- HIGH STRENGTH BOLTS SHALL BE INSTALLED IN ACCORDANCE WITH AISC SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS. SEE DESIGN CRITERIA FOR BOLT SIZE AND MATERIAL ASTM DESIGNATION.
- BOLTS IN SLOTTED HOLES SHALL BE LOCATED IN THE CENTER OF THE HOLE AFTER FIELD ASSEMBLY IS COMPLETE, UNLESS DETAILED OTHERWISE.

**STEEL DECK**

- DECK SIZE AND GAGE INDICATED IN THE DRAWINGS ARE BASED ON THE FOLLOWING:
  - VULCRAFT 2008 CATALOG FOR GRAVITY DESIGN LOADS.
  - STEEL DECK INSTITUTE (SDI) DIAPHRAGM DESIGN MANUAL, 3RD EDITION FOR DIAPHRAGM LOADS.
  - VULCRAFT 2008 CATALOG FOR UNSHORED CONSTRUCTION SPANS.
- STEEL ROOF DECK GALVANIZING SHALL CONFORM TO ASTM A84 WITH A MINIMUM COATING OF G60.
- CORRUGATED STEEL FORM DECK GALVANIZING SHALL CONFORM TO ASTM A924 WITH A MINIMUM COATING OF G60.
- UNLESS NOTED OTHERWISE, DECK SHALL BE FASTENED WITH 5/8" DIAMETER PUDDLE WELDS AT 12" OC AT ALL SUPPORTS AND EDGES. SIDE LAPS SHALL BE FASTENED WITH 1/2" DIA. BOLTS. MINIMUM ONE AT EACH MIDSPAN. OPENING EDGES SHALL RECEIVE THE SAME WELDING AS REQUIRED AT DECK EDGES. ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS EXPERIENCED IN COLD-FORMED STEEL DECK WORK.
- DO NOT EXCEED 25 LBS PER HANGER AND A MINIMUM SPACING OF 2'-0" ON CENTER WHEN ATTACHING TO STEEL ROOF DECK. BRACING LIMITATION NOT REQUIRED ON STEEL DECK. THIS 25 LBS LOAD AND 2'-0" SPACING INCLUDES ADJACENT MECHANICAL, ELECTRICAL, AND ARCHITECTURAL ITEMS HANGING FROM DECK. IF THE HANGER RESTRICTIONS CANNOT BE ACHIEVED, SUPPLEMENTAL FRAMING SUPPORTED OFF THE STEEL FRAMING WILL NEED TO BE ADDED. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING LOCATION AND WEIGHT OF ALL THE ELEMENTS BEING HUNG.
- USE SUMP PANS AT ALL ROOF DRAINS. MINIMUM THICKNESS FOR SUMP PANS SHALL BE 14 GAGE.

**LINTELS**

- PROVIDE LINTELS OVER ALL OPENINGS AND RECESSES IN MASONRY CONSTRUCTION.
- THE STRUCTURAL DOCUMENTS REFLECT THE BEST ATTEMPT TO IDENTIFY ALL WALL PENETRATIONS IN THE EXISTING AND NEW CONSTRUCTION. PENETRATIONS NOT IDENTIFIED ON THE DOCUMENTS ARE TO BE TREATED IN A MANNER SIMILAR TO THE IDENTIFIED LOCATIONS. LINTELS IN NON-BEARING MASONRY WALL OPENINGS CAN BE SIZED IN ACCORDANCE WITH THE NOTE BELOW. LINTELS THAT OCCUR IN EXISTING BEARING WALLS ARE TO BE SIZED ACCORDING TO SIMILAR CONDITIONS AND SPANS IN THE NEW CONSTRUCTION AND LINTEL SCHEDULE. BOTTOM PLATE SIZE SHALL BE A MINIMUM OF 3/8" THICK. THE WIDTH OF THE PLATE SHALL BE 3/4" LESS THAN THE FIELD SIZE WALL THICKNESS. THE PLATE SHALL BE THE FULL LENGTH OF THE LINTEL MEMBER. LINTELS ARE NOT REQUIRED OVER OPENINGS THAT ARE 12" WIDE OR LESS AND AT LEAST 1 COURSE BELOW THE TOP OF THE WALL.
- ALL LINTELS SHALL HAVE A MINIMUM OF 6" END BEARING.
- ALL LINTELS IN EXTERIOR WALL CONSTRUCTION SHALL BE HOT-DIP GALVANIZED, UNO.
- FOR ALL OPENINGS NOT OTHERWISE DETAILED OR SCHEDULED, MINIMUM LINTELS SHALL BE FOR EACH 4 INCH OF MASONRY WIDTH:
 

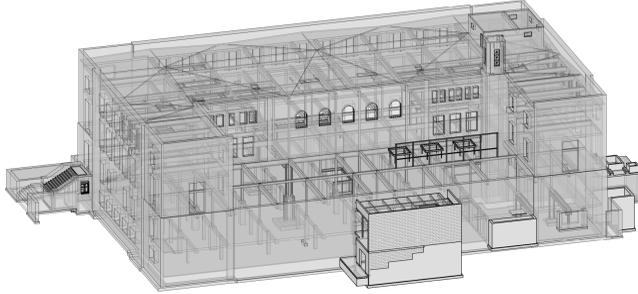
0 TO 2'-0" SPAN	5/16" PLATE (3/4" LESS THAN WALL WIDTH)
2'-0" TO 4'-0" SPAN	L 3 1/2x3 1/2x1/4
4'-0" TO 6'-0" SPAN	Lx3 1/2x5/16 (1LV)
6'-0" TO 8'-0" SPAN	Lx3 1/2x5/16 (1LV)
- ALL ANGLES THAT ARE BACK TO BACK SHALL BE WELDED TOP AND BOTTOM 3" AT 12" MINIMUM.
- BEARING PLATES NOT REQUIRED FOR LINTELS UNLESS NOTED OTHERWISE.

**STRUCTURAL COLD-FORMED STEEL FRAMING (CFSF)**

- MATERIAL DESIGN AND MANUFACTURE SHALL BE IN ACCORDANCE WITH THE "STANDARD FOR COLD-FORMED STEEL FRAMING - GENERAL PROVISIONS" OF THE AMERICAN IRON AND STEEL INSTITUTE CURRENT EDITION.
- STRUCTURAL COLD FORM STEEL FRAMING IS DEFINED AS THE FOLLOWING:
  - ANY COLD FORMED FRAMING THICKER THAN 20 GA (33 MIL).
  - ANY EXTERIOR COLD FORMED FRAMING.
  - ALL OTHER STEEL STUD FRAMING IS NON-STRUCTURAL AND NOT A PART OF THE STRUCTURAL PACKAGE.
- STRUCTURAL CFSF IS PERFORMANCE SPECIFIED. DESIGN INFORMATION INCLUDED IN THESE DOCUMENTS ARE TO BE CONSIDERED GUIDELINES FOR BIDDING PURPOSES ONLY. STUD DEPTH IS TO BE SPECIFIED IN THE PLANS. CONNECTIONS TO BE SHOWN IN THE PLANS. CONNECTION DETAILS ARE ONLY AN INDICATION OF SUGGESTED SUPPORT AND SLIP JOINT ORIENTATION, GAUGE, SECTION, MATERIAL, BRACING, CONNECTIONS, STIFFENERS, AND SIMILAR DETAILS ARE THE RESPONSIBILITY OF THE MANUFACTURER BASED ON LOADS GIVEN ON THE PLANS AND SPECIFICATIONS. CONTRACTOR SHALL NOT BEGIN UNTIL SHOP DRAWINGS AND CALCULATIONS HAVE BEEN REVIEWED BY THE STRUCTURAL ENGINEER OF RECORD AND THE ARCHITECT.

**EXISTING STRUCTURAL INFORMATION**

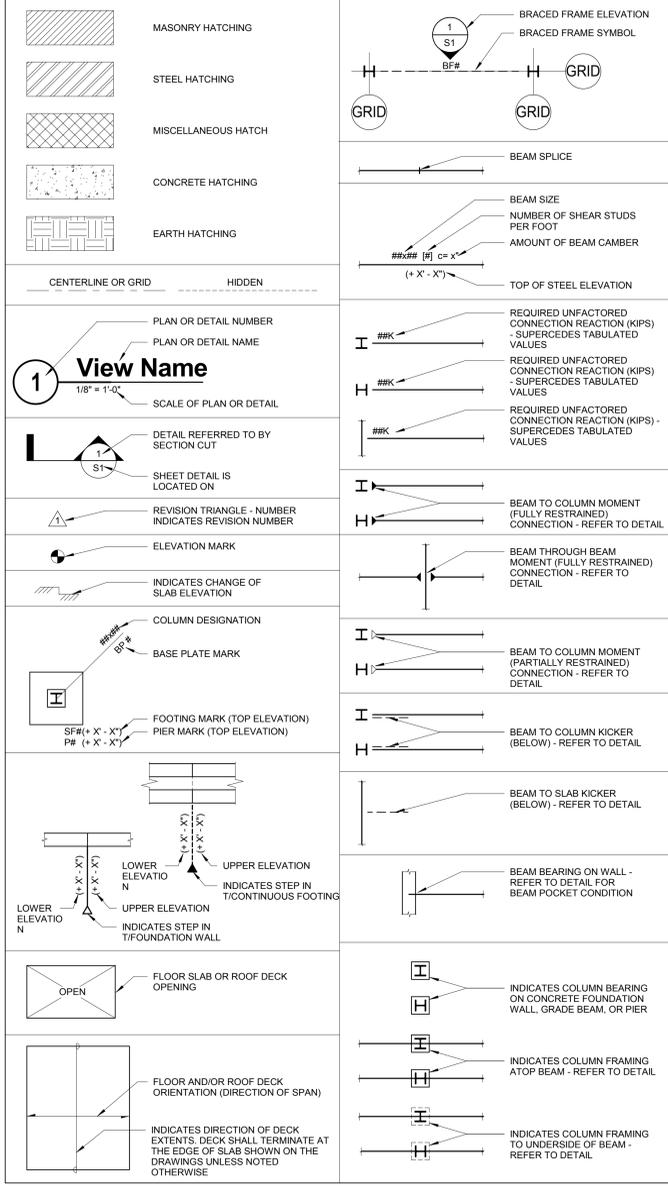
- EXISTING STRUCTURAL INFORMATION SHOWN WAS OBTAINED FROM EXISTING DRAWINGS DATED:
  - 1926 BY THE US GOVERNMENT
  - 1970 BY FLAD AND ASSOCIATES
- CONTRACTOR TO VERIFY EXISTING INFORMATION, DIMENSIONS, AND SIZES AS REQUIRED TO COMPLETE THEIR WORK.



**3D VIEW**

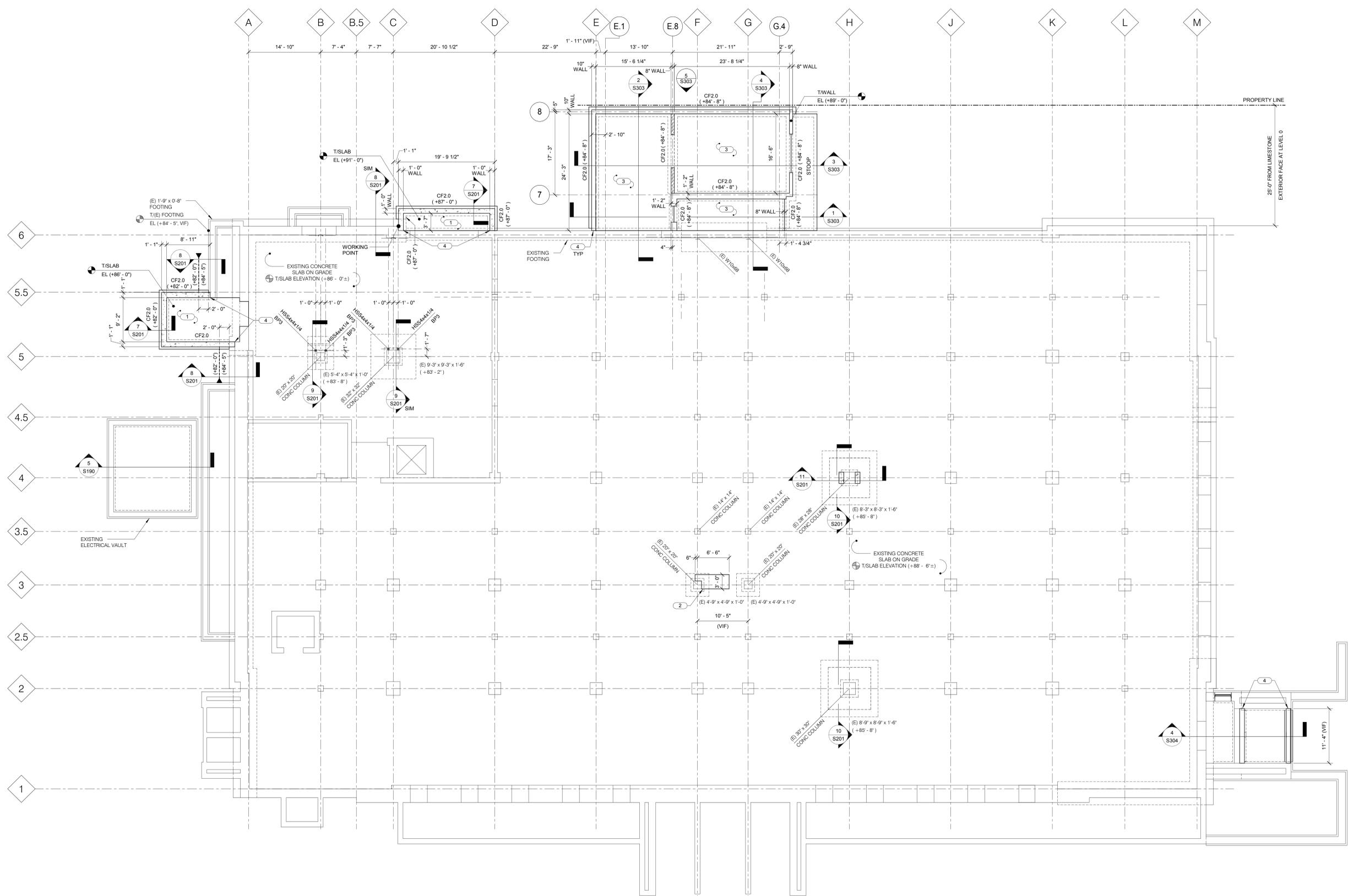
- NOTES:
- 3D VIEW IS FOR REFERENCE ONLY. NOT FOR CONSTRUCTION. REFER TO PLANS, DETAILS AND SPECIFICATIONS FOR ACTUAL CONSTRUCTION REQUIREMENTS.

**STRUCTURAL DRAWING SYMBOLS**



**STRUCTURAL ABBREVIATIONS LIST**

#	NUMBER	KSF	KIPS PER SQUARE FOOT
@	AT	LB	POUND
°	DEGREES	LF	LINEAR FOOT
AHU	AIR-HANDLING UNIT	LL	LIVE LOAD
APPROX	APPROXIMATE	LH	LONG LEG HORIZONTAL
ARCH	ARCHITECT - URE, -URAL	LV	LONG LEG VERTICAL
BTM	BOTTOM OF	LSH	LONG SIDE HORIZONTAL
CF	CLEARANCE	LSV	LONG SIDE VERTICAL
BM	BEAM	LONG	LONGITUDINAL
BP	BASE PLATE	MECH	MECHANICAL/ELECTRICAL
BRG	BEARING	MAX	MAXIMUM
CFSP	COLD FORM STEEL FRAMING	MCH	MECHANICAL
CONJ	CONTROL JOINT	MEZ	MEZZANINE
CU	CLEAR	MIN	MINIMUM
CMU	CONCRETE MASONRY UNIT	MISC	MISCELLANEOUS
CONC	CONCRETE	MK	MARK
CONSTR	CONSTRUCTION	NORTH	NORTH
CONT	CONTINUOUS	N	LENGTH (AS PLATES)
D	DEPTH	NIC	NOT IN CONTRACT
DBL	DOUBLE	NO	NUMBER
DEG	DEGREE	NTS	NOT TO SCALE
DM	DIMENSION	OC	ON CENTER
DL	DEAD LOAD	OPEN	OPENING
DTL	DETAIL	OPF	OPERATED FASTENER
DWG	DRAWING	PAF	POWER ACTUATED FASTENER
EACH	EACH	PCF	POUNDS PER CUBIC FOOT
EP	EACH FACE	PL	PLATE
EL	ELEVATION	PSF	POUNDS PER SQUARE FOOT
ELC	ELECTRICAL	PSI	POUNDS PER SQUARE INCH
EMBED	EMBEDDED	PCW	POLYETHYLENE CHLORIDE
EOD	EDGE OF DECK</		



1

### GROUND LEVEL FOUNDATION PLAN

1/8" = 1'-0"  
NOTES:

- TOP OF FOOTING ELEVATION (+86'-0"), UNO. MATCH BOTTOM OF EXISTING FOOTING ELEVATION.
- TOP OF FOUNDATION WALL ELEVATION (+88'-8").
- SF# AND CF# INDICATES SPREAD AND CONTINUOUS FOOTINGS. REFER TO THIS SHEET FOR SCHEDULES.
- REFER TO 1 AND 2/S201 FOR TYPICAL SLAB ON GRADE CONSTRUCTION DETAILS.
- REFER TO 6/S201 FOR TYPICAL SLAB ON GRADE PATCHING DETAIL. REFER TO ARCHITECTURAL DRAWINGS FOR PATCH LOCATIONS.
- INDICATES FOOTING STEP. REFER TO 12/S201 FOR FOOTING STEP DETAIL.

KEYNOTES:

- 4" CONCRETE SLAB ON GRADE WITH 6X6 - W2.1XW2.1 WWR.
- DEMO EXISTING CONCRETE AND REPLACE WITH 12" THICKENED WITH (3) #5 BARS IN LONG DIRECTION SLAB FOR STAIR STRINGER SUPPORT. DOWEL TO EXISTING SLAB PER 6/S201.
- 5" CONCRETE SLAB ON GRADE WITH 6X6 - W2.1XW2.1 WWR. T/S LAB ELEVATION SLOPES. REFER TO ARCHITECTURAL DRAWINGS.
- DOWEL HORIZONTAL WALL AND FOOTING REINFORCING TO EXISTING WITH ADHESIVE PER S000 AND 4" EMBEDMENT. PROVIDE WATERSTOP AT VERTICAL JOINT. BOTTOM OF NEW FOOTING ELEVATION TO MATCH BOTTOM OF EXISTING FOOTING ELEVATION.
- SLEEVE UTILITY THROUGH FOUNDATION PER 13/S201. COORDINATE SIZE AND LOCATION WITH THE CONTRACTOR.

CONTINUOUS FOOTING SCHEDULE				
MARK	WIDTH	THICKNESS	REINFORCING	
			LONG DIRECTION	SHORT DIRECTION
CF2.0	2'-0"	1'-0"	(3) #5	WALL DOWELS

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PROJECT # 2014057-00

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**Madison Municipal Building Renovation**  
BPW Project #7939  
215 Martin Luther King, Jr. Blvd  
Madison, WI 53703

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Architect under the Laws of the State of Wisconsin.  
ARCHITECT SEAL

Signature: \_\_\_\_\_  
Print Names: \_\_\_\_\_  
Date: \_\_\_\_\_ License No.: \_\_\_\_\_

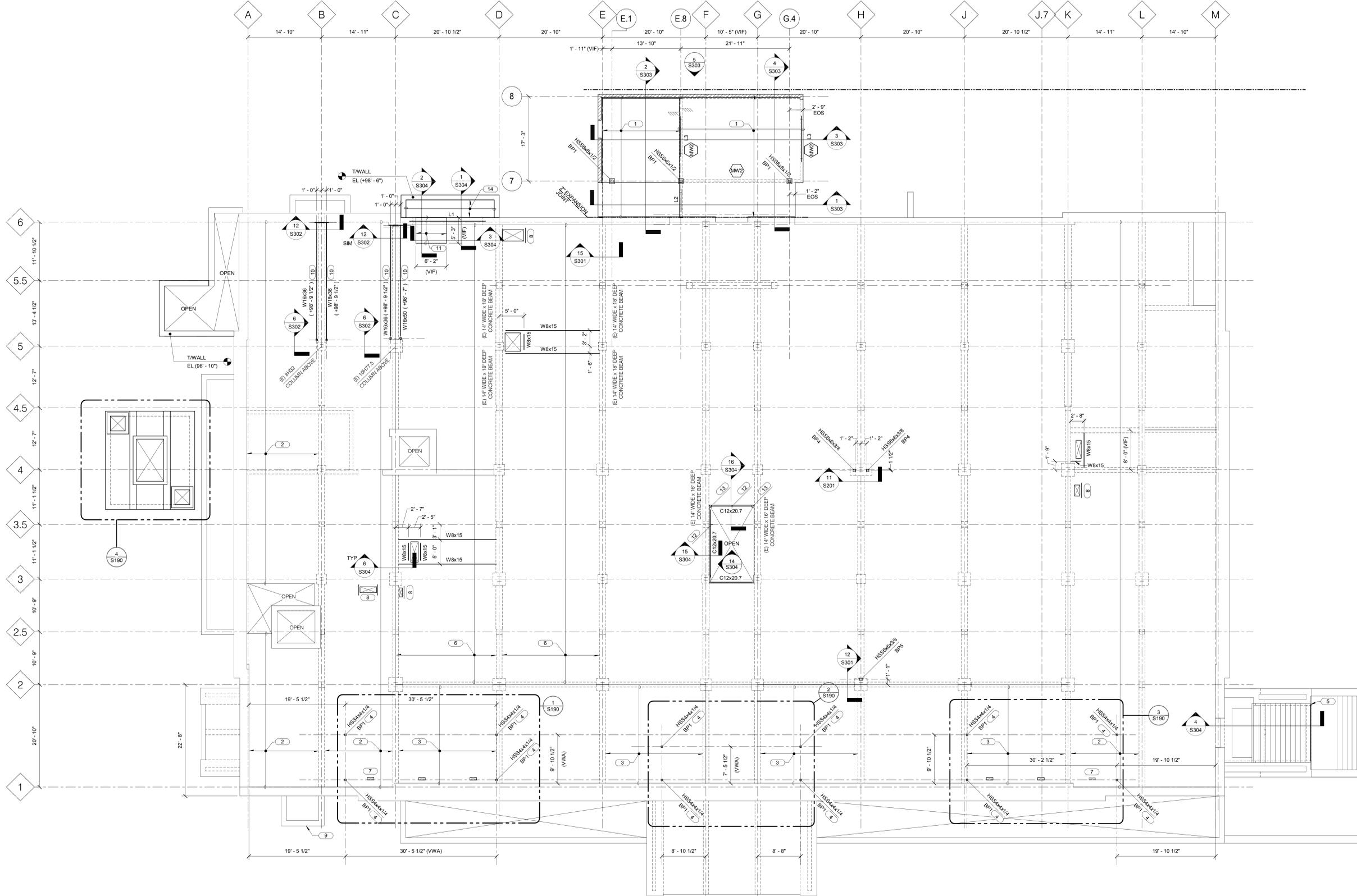
MARK	DATE	DESCRIPTION
	03.24.2017	BID SET

PROJECT NO. 2014057  
PROJECT PHASE BID SET  
DRAWN BY: PRIPAN CHECKED BY: ABBPER  
Issued 01/09/2017  
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### FOUNDATION PLAN

EXHIBIT H  
**S100**

**NOT FOR CONSTRUCTION**



LINTEL SCHEDULE			
MARK	MEMBER BEARING, EACH END	MEMBER SIZE	REFERENCE DETAIL
L1	8"	W14x43 + 3/8" BOTTOM PLATE	1/S305
L2	8"	8" DEEP BOND BEAM WITH (2) #5 BARS	2/S301
L3	8"	16" DEEP BOND BEAM WITH (2) #5 BARS	2/S301
L4	8"	W8x24 + 3/8" BOTTOM PLATE	1/S301

**NOTES:**  
 1. REFER TO 8/S301 FOR TYPICAL MASONRY OPENING DETAIL.

MASONRY WALL REINFORCING SCHEDULE			
MARK	WALL THICKNESS	VERTICAL WALL REINFORCING SIZE AND SPACING	HORIZONTAL WALL REINFORCING SIZE AND SPACING
MW1	8"	(2) #5 @ 8" OC	TYPICAL
MW2	8"	#5 @ 24" OC	TYPICAL

**NOTES:**  
 1. TYPICAL HORIZONTAL REINFORCING IS AS PER SPECIFICATIONS. IT IS INTENDED TO BE A "DUROWAL - TRUSS TYPE" OR EQUIVALENT.  
 2. "GROUT ALL CORES" INDICATES EVERY REINFORCED CORE AND UNREINFORCED CORE.  
 3. REINFORCED CORES ARE ALWAYS GROUTED.

### 1 LEVEL ONE FLOOR FRAMING PLAN

1/8" = 1'-0"  
**NOTES:**  
 1. L# INDICATES LINTEL IN STRUCTURAL MASONRY WALL. REFER TO THIS SHEET FOR SCHEDULE. REFER TO GENERAL NOTES FOR LITELS IN NON-STRUCTURAL WALLS.  
 2. MW# INDICATES MASONRY WALL - REFER TO THIS SHEET FOR SCHEDULE.

- KEYNOTES:**
- 8" CONCRETE SLAB WITH #5 @ 8" OC, EACH WAY, TOP AND BOTTOM. REFER TO SECTIONS FOR TOP OF SLAB ELEVATIONS. REINFORCEMENT PLACEMENT SEQUENCE: EAST-WEST BOTTOM LAYER BARS, NORTH-SOUTH BOTTOM LAYER BARS, NORTH-SOUTH TOP LAYER BARS, EAST-WEST TOP LAYER BARS
  - EXISTING ONE-WAY CONCRETE JOIST AND CLAY TILE FLOOR SLAB. 5" WIDE JOISTS AT 17' OC. 2" THICK SLAB + 8" DEEP JOIST RIBS = 10" TOTAL THICKNESS.
  - EXISTING 7" THICK CONCRETE SLAB.
  - COLUMN TO EXTEND DOWN TO STRUCTURAL SLAB BELOW. T/SLAB = (+99' - 8") VIF. PATCH FLOORING PER ARCHITECTURAL DRAWINGS.
  - NEW CONCRETE STAIR TO SUPPORT STONE STAIR TREADS. COORDINATE WITH BE-SERIES SHEETS AND EXISTING CONDITIONS.
  - EXISTING ONE-WAY CONCRETE JOIST AND CLAY TILE FLOOR SLAB. 5" WIDE JOISTS AT 17' OC. 2 1/2" THICK SLAB + 10" DEEP JOIST RIBS = 12 1/2" TOTAL THICKNESS.

- LOCATE NEW MECHANICAL OPENING BETWEEN EXISTING CONCRETE JOIST RIBS.
- PROVIDE ANGLE REINFORCING AT NEW MECHANICAL OPENING. ANCHOR TO ADJACENT CONCRETE JOIST RIBS PER 9/S304. LOCATE OPENING SO ONLY ONE EXISTING JOIST IS CUT.
- DEMO DAMAGED MASONRY PORTION OF EXISTING AREA WAY AND REPLACE WITH NEW CONCRETE CURB, DOWELED INTO EXISTING CONCRETE BELOW.
- REFER TO DETAIL 13/S302 FOR TYPICAL BEAM BRACING DETAIL.
- INFILL EXISTING DOCK LEVELER PIT WITH 2 1/2" NORMAL WEIGHT CONCRETE ON 1 1/2" (18 GA) CONFORM DECK, SINGLE SPAN, WITH 6x8-W1.4xW1.4 WWR. TOTAL THICKNESS = 4". TOP OF SLAB ELEVATION TO MATCH EXISTING.
- SINGLE PLATE HANGER DOWN TO STAIR LANDING, REFER TO ARCHITECTURAL DRAWINGS.
- DOUBLE PLATE HANGER DOWN TO STAIR LANDING, REFER TO ARCHITECTURAL DRAWINGS. WELD PLATES TOGETHER TO FORM L-SHAPE.
- 1 1/2" BAR GRATING. SELECT BAR THICKNESS AND SPACING TO SUPPORT 100 PSF LIVE LOAD.

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**Madison Municipal Building Renovation**  
 BPW Project #7939  
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 Madison, WI 53703

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Architect under the Laws of the State of Wisconsin.  
 ARCHITECT SEAL

Signature: \_\_\_\_\_  
 Print Names: \_\_\_\_\_  
 Date: \_\_\_\_\_ License No.: \_\_\_\_\_

MARK	DATE	DESCRIPTION
	03.24.2017	BID SET

PROJECT NO: 2014057  
 PROJECT PHASE: BID SET  
 DRAWN BY: PRIPAN CHECKED BY: ABBPER  
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### FIRST FLOOR FRAMING PLAN

### EXHIBIT H S101

**NOT FOR CONSTRUCTION**















**Madison Municipal Building Renovation**  
 BPW Project #7939  
 215 Martin Luther King, Jr. Blvd  
 Madison, WI 53703

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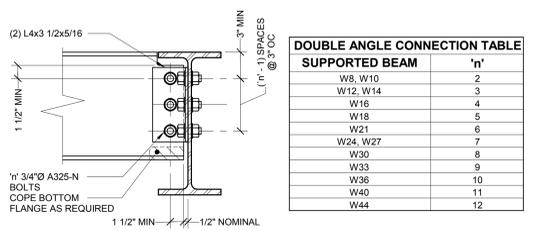
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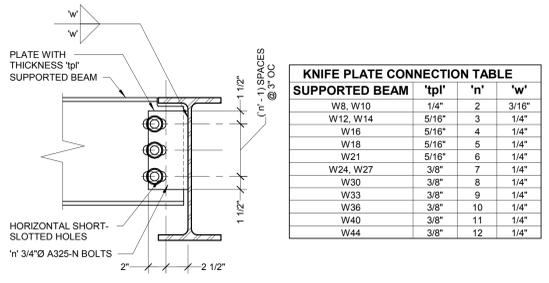
PROJECT NO.	2014057
PROJECT PHASE	BID SET
DRAWN BY:	PRIPAN
CHECKED BY:	ABBPER

**FRAMING DETAILS**

EXHIBIT H  
**S302**



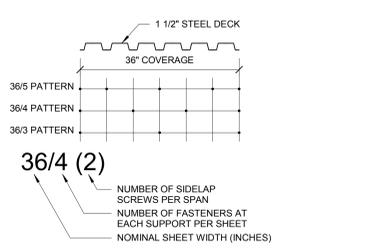
SUPPORTED BEAM	"h"
W6, W10	2
W12, W14	3
W16	4
W18	5
W21	6
W24, W27	8
W30	9
W33	7
W36	10
W40	11
W44	12



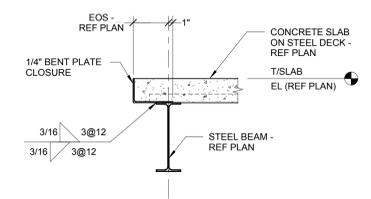
SUPPORTED BEAM	"tp"	"h"	"w"
W6, W10	1/4"	2	3/16"
W12, W14	5/16"	3	1/4"
W16	5/16"	4	1/4"
W18	5/16"	5	1/4"
W21	5/16"	6	1/4"
W24, W27	3/8"	7	1/4"
W30	3/8"	8	1/4"
W33	3/8"	9	1/4"
W36	3/8"	10	1/4"
W40	3/8"	11	1/4"
W44	3/8"	12	1/4"

**1 TYPICAL SHEAR CONNECTION**  
 1 1/2" = 1'-0"

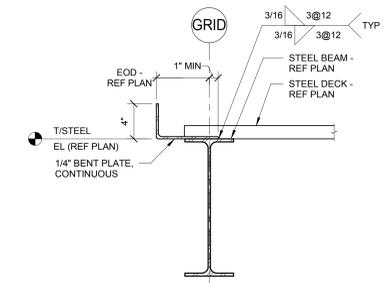
- NOTES:
- BOTH DOUBLE ANGLE AND KNIFE PLATE CONNECTIONS ARE ACCEPTABLE, UNLESS NOTED OTHERWISE. FABRICATOR AND DETAILER SHALL SELECT WHICH OPTION IS BEST SUITED FOR THEIR FABRICATION PROCESS AND THE ANTICIPATED ERECTION PROCEDURES.
  - DETAIL TO BE SIMILAR AT CONNECTIONS TO WIDE FLANGE OR HSS COLUMNS.
  - UNLESS NOTED OTHERWISE, PROVIDE SHEAR CONNECTIONS AS INDICATED BY THIS DETAIL.
  - DETAILER IS RESPONSIBLE FOR FULLY DEVELOPING GEOMETRY AND DIMENSIONAL INFORMATION REQUIRED TO FABRICATE.
  - WHERE TYPICAL SHEAR CONNECTION DETAIL IS NOT APPLICABLE, FABRICATOR SHALL SELECT AND DETAIL ALTERNATE CONNECTION CAPABLE OF DEVELOPING EQUAL STRENGTH. ALTERNATE CONNECTION SHALL BE SELECTED IN ACCORDANCE WITH AISC ASD CONNECTION TABLES.



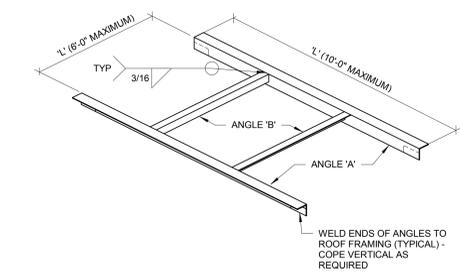
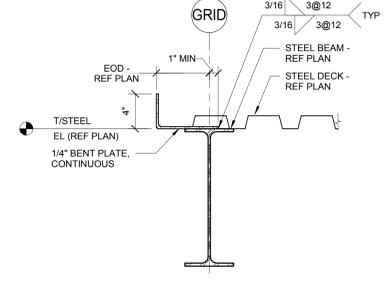
**2 DECK FASTENER LAYOUT**  
 3/4" = 1'-0"



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



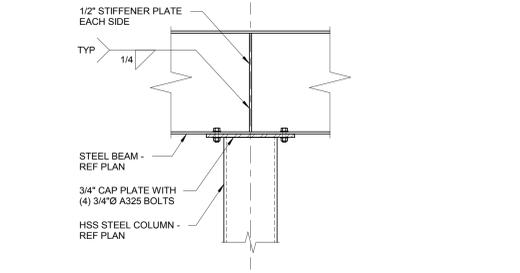
**4 TYPICAL CLOSURE PLATE DETAIL**  
 1 1/2" = 1'-0"



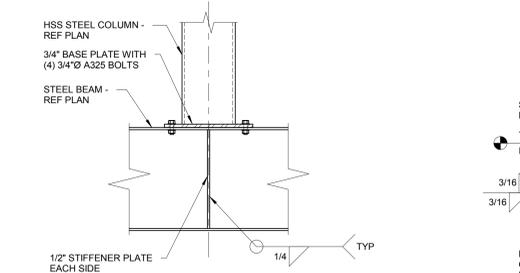
"L"	ANGLE "A"	ANGLE "B"
UP TO 1'-0"	NONE - SLUMP PAN ONLY	NONE - SLUMP PAN ONLY
1'-1" TO 4'-6"	L4x4x1/4	L4x4x1/4
4'-7" TO 6'-0"	L4x4x5/16	L4x4x1/4
6'-1" TO 8'-0"	L4x4x3/8	-
8'-1" TO 10'-0"	L6x4x3/8 (LLV)	-

**5 DECK OPENING FRAMING DETAIL**  
 3/4" = 1'-0"

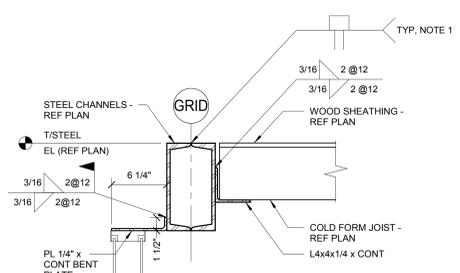
- NOTES:
- USE ABOVE FRAMING AT ALL OPENINGS EXCEEDING 1'-0" UNO.
  - REFERENCE ARCHITECTURAL AND MECHANICAL DRAWINGS FOR SIZE AND LOCATION OF ALL OPENINGS.
  - ROOF OPENING FRAMING NOT REQUIRED AT SIDE DISCHARGE ROOF DRAINS. COORDINATE WITH MECHANICAL CONTRACTOR.



**6 BEAM BEARING ON COLUMN**  
 3/4" = 1'-0"

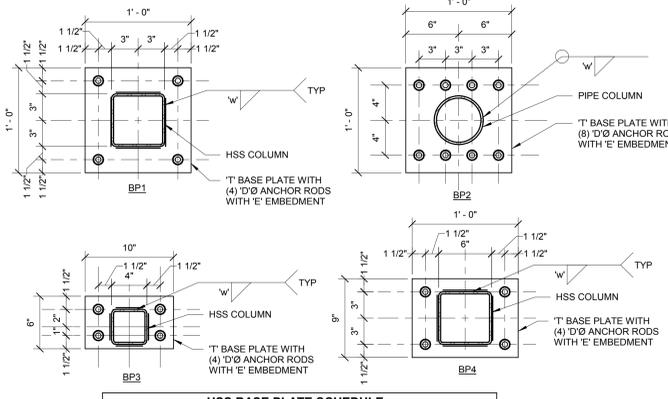


**7 COLUMN BEARING ON BEAM**  
 3/4" = 1'-0"



**8 CEILING FRAMING DETAIL**  
 1 1/2" = 1'-0"

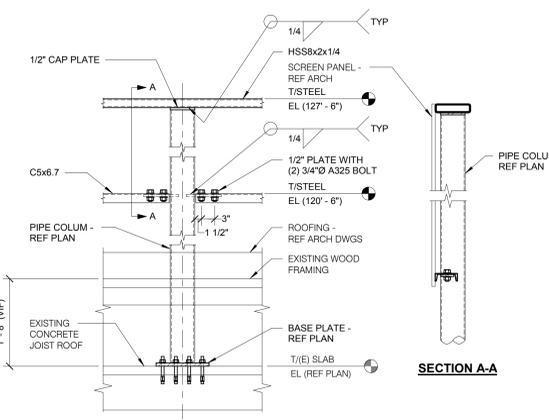
- NOTES:
- GRIND WELD SMOOTH ON BOTTOM SIDE, WHERE EXPOSED TO VIEW.
  - TOP OF WOOD SHEATHING TO ALIGN WITH TOP OF STEEL CHANNELS.



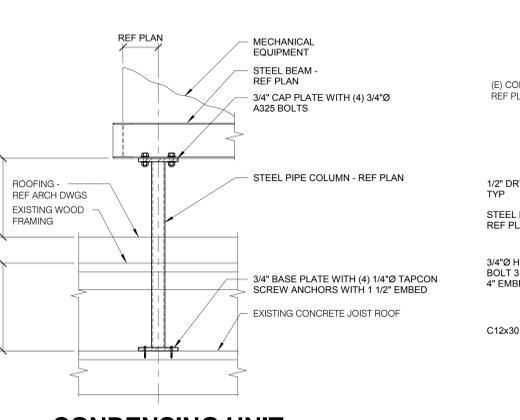
MARK	COLUMN	"T"	"D"	"E"	"W"	COMMENTS
BP2	SSTD	3/4"	5/8"	4"	1/4"	HILTI KWIK TZ
BP3	HSS4x4	3/4"	5/8"	4"	1/4"	HILTI KWIK TZ
BP4	HSS6x6	3/4"	3/4"	4"	5/16"	ADHESIVE ANCHOR - REF S000
BP5	HSS6x6	7/8"	3/4"	4"	5/16"	ADHESIVE ANCHOR - REF S000

**9 BASE PLATE DETAIL**  
 1 1/2" = 1'-0"

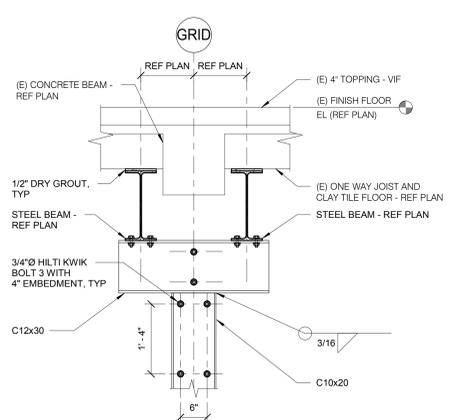
- NOTES:
- NO WELDS REQUIRED AT RADIIUSES.



**10 FRAMING AT SCREEN DETAIL**  
 3/4" = 1'-0"

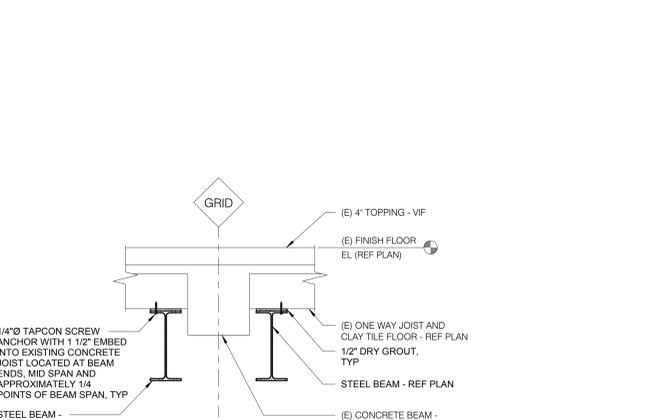


**11 CONDENSING UNIT SUPPORT FRAMING**  
 3/4" = 1'-0"



**12 BEAM BEARING AT COLUMN**  
 3/4" = 1'-0"

- NOTES:
- AT SIM. BOTTOM OF BEAM ELEVATIONS DIFFER, PROVIDE HSS2 1/2x2 1/2x3/16 SHIM AT BEAM BEARING OF HIGHER BEAM.



**13 BEAM BRACING DETAIL**  
 3/4" = 1'-0"

**KJWW ENGINEERING CONSULTANTS**  
 1800 DENNING WAY SUITE 200  
 MIDDLETON, WISCONSIN 53602  
 608.223.9500 FAX 608.836.8476  
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PROJECT # 2014057-00

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REFERENCE SCALE IN INCHES  
 1" = 1'-0"

**Madison Municipal Building Renovation**  
 BPW Project #7939  
 215 Martin Luther King, Jr. Blvd  
 Madison, WI 53703

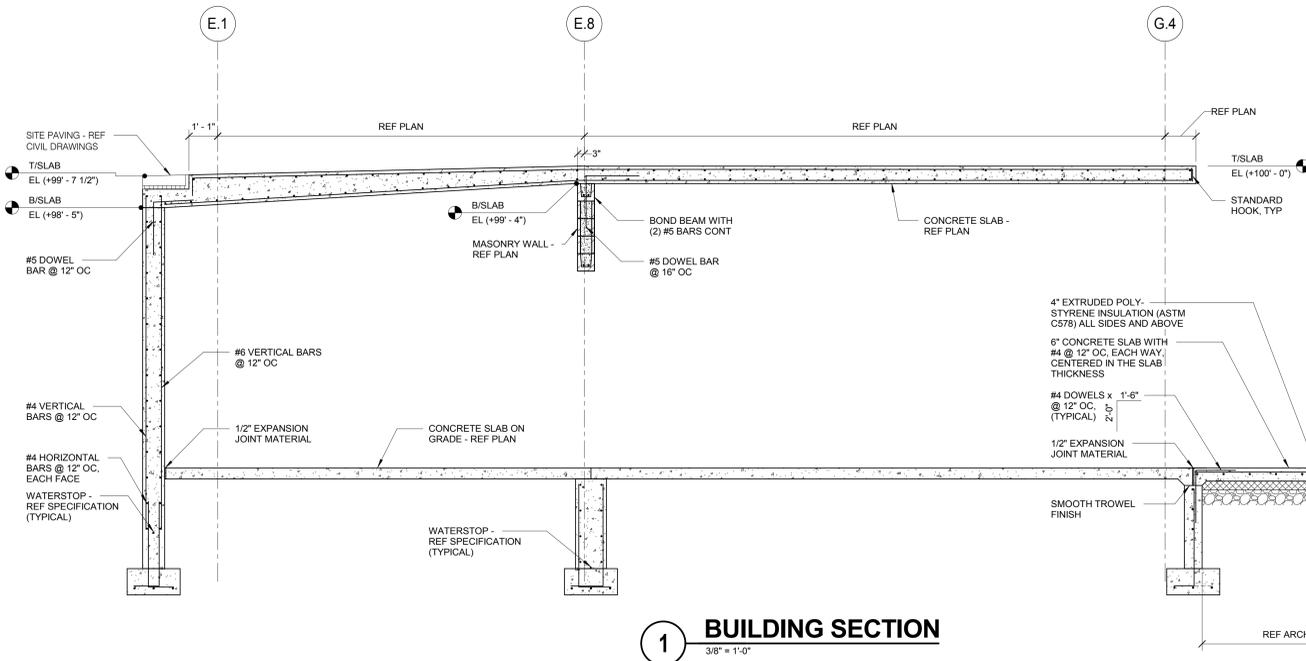
I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Architect under the Laws of the State of Wisconsin.  
 ARCHITECT SEAL

Signature: \_\_\_\_\_  
 Print Names: \_\_\_\_\_  
 Date: \_\_\_\_\_ License No: \_\_\_\_\_

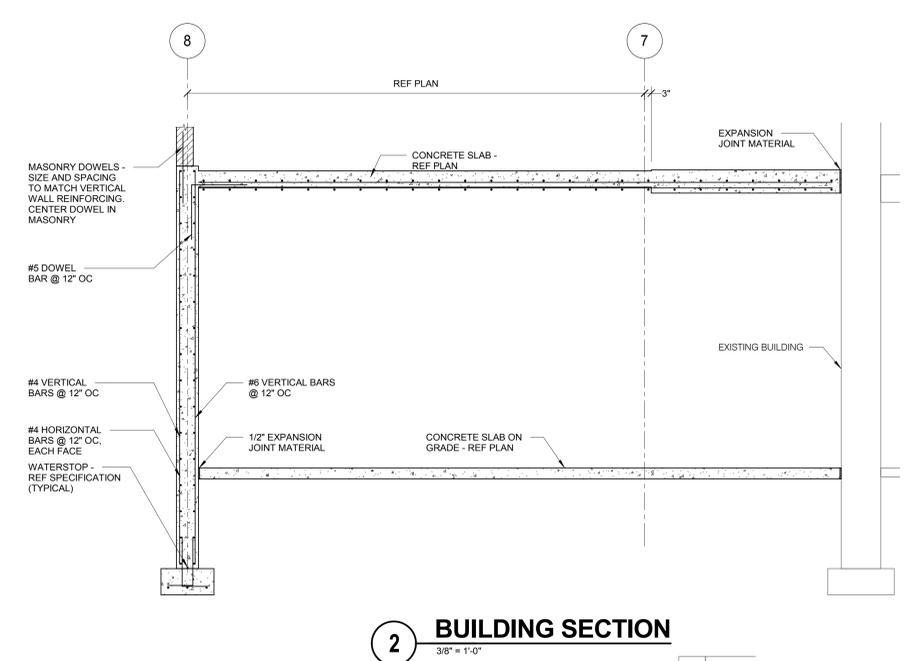
MARK	DATE	DESCRIPTION
03	24.2017	BID SET

PROJECT NO: 2014057  
 PROJECT PHASE: BID SET  
 DRAWN BY: PRIPAN CHECKED BY: ABBPER  
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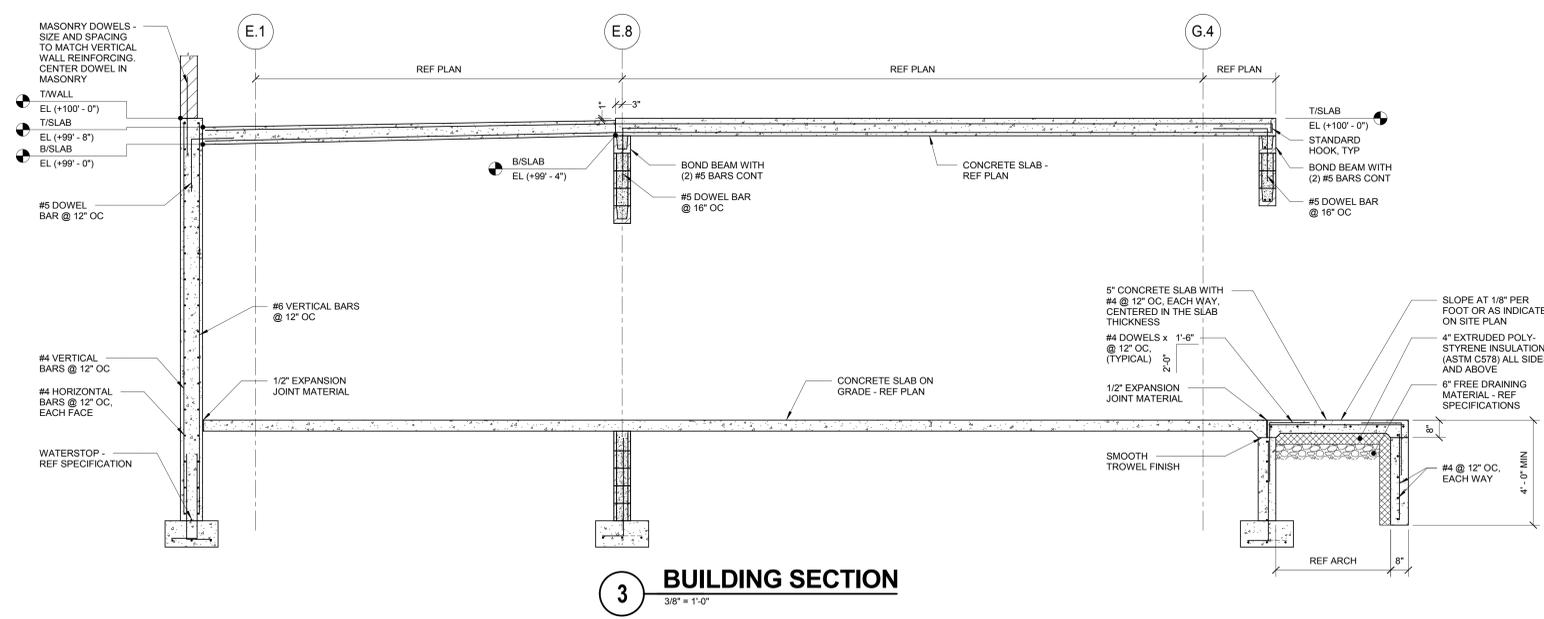
ELEVATION  
 EXHIBIT H  
**S303**



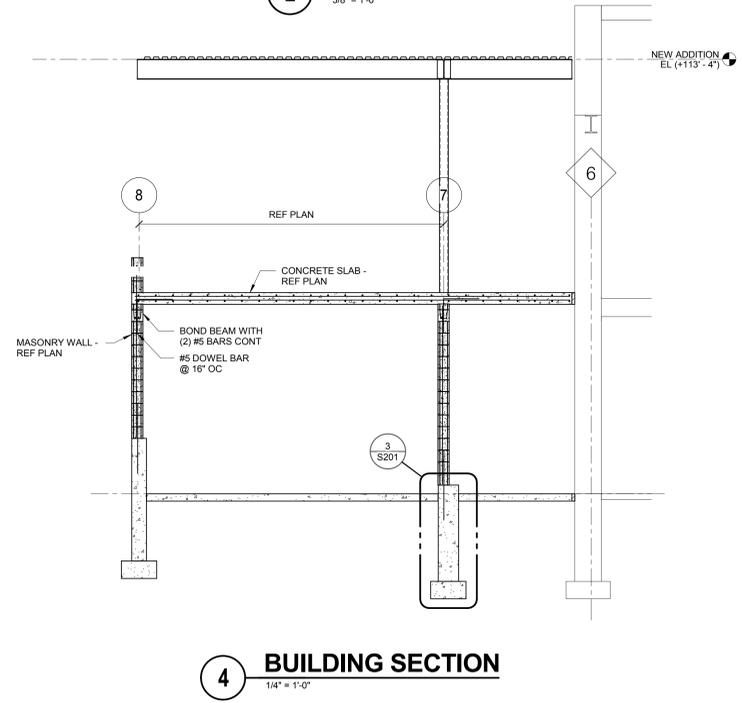
**1 BUILDING SECTION**  
 3/8" = 1'-0"



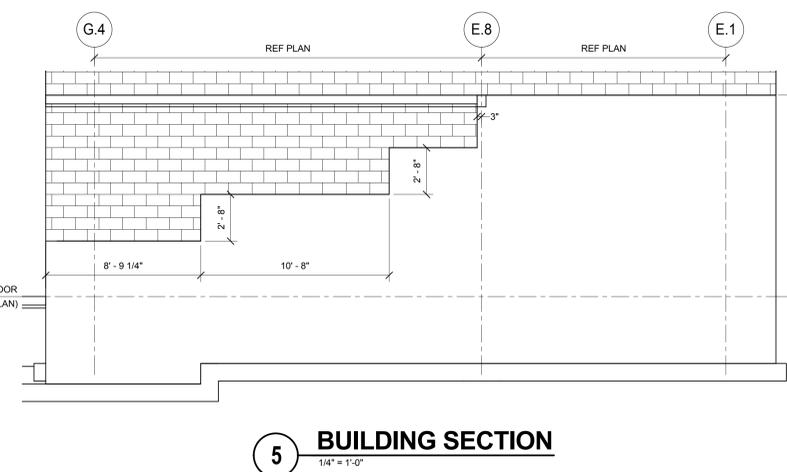
**2 BUILDING SECTION**  
 3/8" = 1'-0"



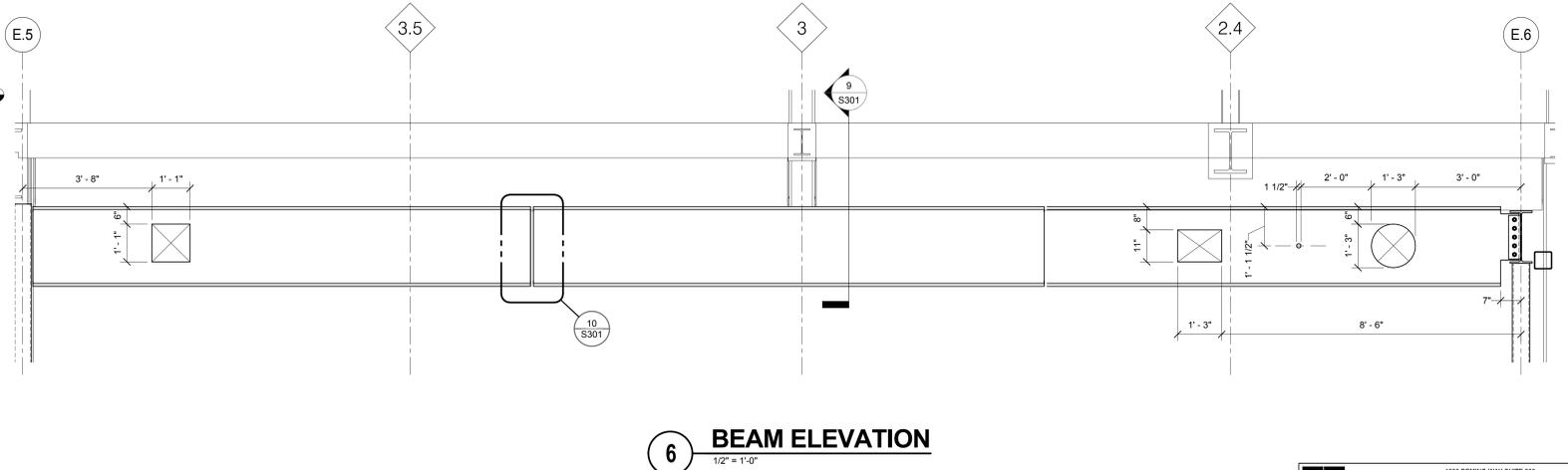
**3 BUILDING SECTION**  
 3/8" = 1'-0"



**4 BUILDING SECTION**  
 1/4" = 1'-0"



**5 BUILDING SECTION**  
 1/4" = 1'-0"



**6 BEAM ELEVATION**  
 1/2" = 1'-0"

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REFERENCE SCALE IN INCHES  
 0 1 2 3

**NOT FOR CONSTRUCTION**

