

# GENERAL STRUCTURAL NOTES

## A. GENERAL NOTES:

- ALL WORK SHALL CONFORM TO THE STATE BUILDING CODE, LATEST REVISION, AS WELL AS ALL LOCAL AND FEDERAL REQUIREMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL LAYOUT OF THE FOUNDATIONS AND SHALL COORDINATE THE LOCATIONS OF ALL FOOTINGS, ANCHOR BOLTS, AND OTHER EMBEDDED ITEMS WITH PLUMBING, ELECTRICAL, MECHANICAL, STRUCTURAL, AND ARCHITECTURAL PLAN REQUIREMENTS.
- ANY CHANGES TO THE BUILDING WHICH MAY AFFECT THE LOCATION AND/OR REACTIONS OF THE STRUCTURAL COMPONENTS AND FOUNDATION MEMBERS SHALL BE BROUGHT TO THE DESIGN ENGINEER'S ATTENTION IMMEDIATELY.
- ORIENTATION OF THE BUILDING SHALL BE DETERMINED BY THE OWNER.
- DESIGN ENGINEER SHALL NOT BE RESPONSIBLE FOR EXISTING SLAB OR OTHER FLOOR MATERIALS, FOOTINGS WERE DESIGNED INDEPENDENT OF EXISTING BUILDING FLOOR CONDITIONS.
- CONTRACTOR TO VERIFY ALL DIMENSIONAL REQUIREMENTS FOR BUILDING PLACEMENT AND ORIENTATION OF ANCHOR BOLTS PRIOR TO POURING CONCRETE.
- STRUCTURAL DRAWINGS ARE INTENDED TO BE USED WITH THE ARCHITECTURAL AND MECHANICAL DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR COORDINATING SUCH REQUIREMENTS INTO THEIR SHOP DRAWINGS.
- NO CHANGE IN SIZE OF THE DIMENSION OF STRUCTURAL MEMBERS SHALL BE MADE WITHOUT WRITTEN APPROVAL OF THE ENGINEER.
- THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED UPON STRUCTURAL FRAMING. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF THE FRAMING AT THE TIME THE LOADS ARE IMPOSED.
- DO NOT SCALE THESE DRAWINGS; USE DIMENSIONS.

## B. DESIGN PARAMETERS

- STRUCTURE HAS BEEN DESIGNED BASED ON A PROTOTYPE ANALYSIS CONSIDERING LOADING CRITERIA THAT MAY EXCEED THE LOCAL JURISDICTIONAL CODE REQUIREMENTS.
- DESIGN CODES:
  - 2018 INTERNATIONAL BUILDING CODE
  - ASCE 7-16 (MINIMUM DESIGN LOADS AND ASSOCIATED CRITERIA FOR BUILDINGS AND OTHER STRUCTURES)
  - ACI 318-11 (BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE)
  - AISC STEEL CONSTRUCTION MANUAL, 14TH EDITION.
  - AWC SDPWS 2015 (SPECIAL DESIGN PROVISIONS FOR WIND AND SEISMIC)
- RISK CATEGORY II
- SUPERIMPOSED DEAD LOADING:
  - DEAD LOAD ..... N/A
  - COLLATERAL LOAD ..... N/A
- LIVE LOADING: (TABLE 1607.1, 2018 IBC)
  - ROOF LIVE LOAD ..... 20.00 PSF
  - FLOOR LIVE LOAD ..... 100.00 PSF
- SNOW LOADING:
  - GROUND SNOW LOAD (WORST CASE) ..... 30.00 PSF (FIGURE 7.2-1, ASCE 7-16)
  - IMPORTANCE FACTOR,  $I_s$  ..... 1.00 (TABLE 1.5-2, ASCE 7-16)
- WIND LOADING: (MWFRS - DIRECTIONAL PROCEDURE)
  - BASIC WIND SPEED,  $V$  ..... 130 MPH
  - EXPOSURE CATEGORY ..... C (SECTION 26.7.3, ASCE 7-16)
- SEISMIC LOADING:
  - SEISMIC DESIGN CATEGORY ..... C
  - SPECTRAL RESPONSE ACCELERATION  
 SHORT PERIOD:  $S_s = \underline{\hspace{1cm}}$  %g       $S_{D5} = \underline{\hspace{1cm}}$  %g  
 1-SECOND PERIOD:  $S_1 = \underline{\hspace{1cm}}$  %g       $S_{D1} = \underline{\hspace{1cm}}$  %g
  - SITE CLASSIFICATION ..... D
  - BASIC STRUCTURAL SYSTEM:
 

<input checked="" type="checkbox"/> BEARING WALL	<input type="checkbox"/> DUAL W/ SPECIAL MOMENT FRAME
<input type="checkbox"/> BUILDING FRAME	<input type="checkbox"/> DUAL W/ INTERM. R/C OR SPECIAL STEEL
<input type="checkbox"/> MOMENT FRAME	<input type="checkbox"/> INVERTED PENDULUM
  - ANALYSIS PROCEDURE:
 

<input type="checkbox"/> SIMPLIFIED	<input checked="" type="checkbox"/> EQUIVALENT LATERAL FORCE
<input type="checkbox"/> MODAL	
- ARCHITECTURAL, MECHANICAL, COMPONENTS ANCHORED?  YES
- LATERAL DESIGN CONTROL:  SEISMIC       WIND

## C. CONCRETE

- CONCRETE WORK SHALL CONFORM TO THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE," ACI 318-99, INCLUDING SUPPLEMENTS.
- CONCRETE SHALL REACH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS, NORMAL WEIGHT, FOR SLABS, AND 3,000 PSI FOR FOOTINGS.

## D. FOUNDATIONS:

- MAXIMUM ALLOWABLE SOIL PRESSURE - 2,000 PSF (PRESUMPTIVE). THIS SHALL BE VERIFIED BY A QUALIFIED GEOTECHNICAL ENGINEER BEFORE FOOTING CONSTRUCTION.
- ALL FILL INSIDE BUILDING SHALL BE SELECT MATERIAL FREE FROM ROOTS, TRASH, WOOD SCRAPS, AND OTHER EXTRANEIOUS MATERIAL. PLACE FILL IN LIFTS NOT EXCEEDING 12 INCHES AND COMPACT EACH EXCEEDING LIFT TO 95% DENSITY AT OPTIMUM MOISTURE CONTENT AS MEASURED BY ASTM D-698.

## E. SLAB.

- FLOOR SLAB CONCRETE THICKNESS SHALL BE AS SHOWN ON PLAN AND REINFORCED WITH FIBER MESH AND/OR 6X6 1.4WX1.4W WELDED WIRE MESH, INSTALLED OVER A 6 MIL. VAPOR BARRIER OVER 4-INCH CRUSHED STONE FLOOR.
- PROVIDE CONSTRUCTION OR CONTROL JOINTS IN SLAB-ON-GRADE AT OFFSETS, COLUMN GRIDS, CHANGES IN DIRECTION AND AT 15 FEET MAXIMUM, OR AS SHOWN ON PLANS.
- SAW CUT JOINTS SOON AFTER CONCRETE HARDENED JUST ENOUGH TO PREVENT RAVELING OUT OF THE AGGREGATE AND DAMAGE TO EDGES, BUT NOT LATER THAN 36 HOURS AFTER THE CONCRETE WAS PLACED. AT CONSTRUCTION JOINTS WHERE BOND IS BROKEN BETWEEN TWO POURS, SAW CUTTING MAY BE DELAYED AS NECESSARY.
- AFTER SAW CUTTING, CLEAN ALL THE CONTAMINANTS IN THE JOINTS WITH A MINIMUM 1000 PSI PRESSURE WATER BLASTER.
- JOINT SEALANT TO BE SUITABLE FOR OCCUPANCY LOADING. SEALANT TO BE INSTALLED IN ACCORDANCE TO MANUFACTURER'S RECOMMENDATIONS.

## F. REINFORCING STEEL:

- BARS SHALL BE ROLLED FROM NEW BILLET-STEEL CONFORMING TO THE "STANDARD SPECIFICATION FOR DEFORMED AND PLAIN BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT," ASTM A-615, GRADE 60, AND SUPPLEMENTARY REQUIREMENT S1.
- WELDED WIRE FABRIC SHALL CONFORM TO THE "STANDARD SPECIFICATION FOR WELDED STEEL WIRE FABRIC FOR CONCRETE REINFORCEMENT," ASTM A-185.
- DETAIL AND FABRICATE REINFORCING STEEL IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE, "ACI DETAILING MANUAL - 1988," PUBLICATION SP-66(88).
- MINIMUM CONCRETE COVER, UNLESS NOTED OTHERWISE:
 

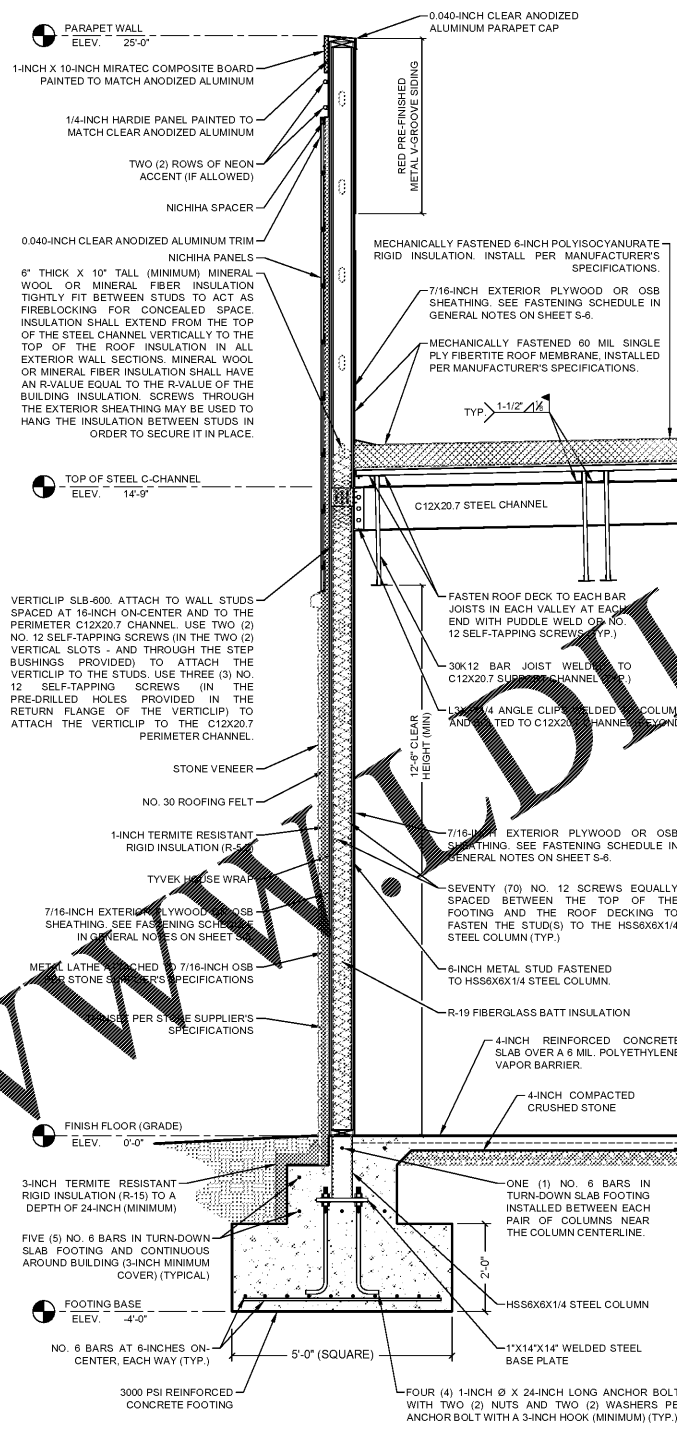
A) UNFORMED SURFACES IN CONTACT WITH THE GROUND	3.0"
B) FORMED SURFACES EXPOSED TO EARTH OR WEATHER	2.0"
C) FORMED SURFACES NOT EXPOSED TO EARTH OR WEATHER	1.5"
- PROVIDE BARS AT CORNERS AND INTERSECTIONS OF THE SAME NUMBER AND SIZE AS LONGITUDINAL BARS IN FOOTINGS AND WALLS.
- MINIMUM LAP OF REINFORCING BARS SHALL BE 30 X BAR DIAMETER.

## G. DIMENSIONS:

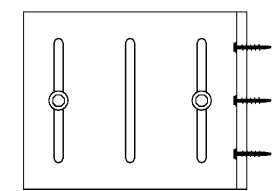
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING THE DIMENSIONS OF THE STRUCTURAL DRAWINGS AND ADVISING THE ENGINEER OF ANY DIFFERENCES IN DIMENSIONS BETWEEN THE ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO COMMENCING CONSTRUCTION.

## H. CONSTRUCTION SAFETY:

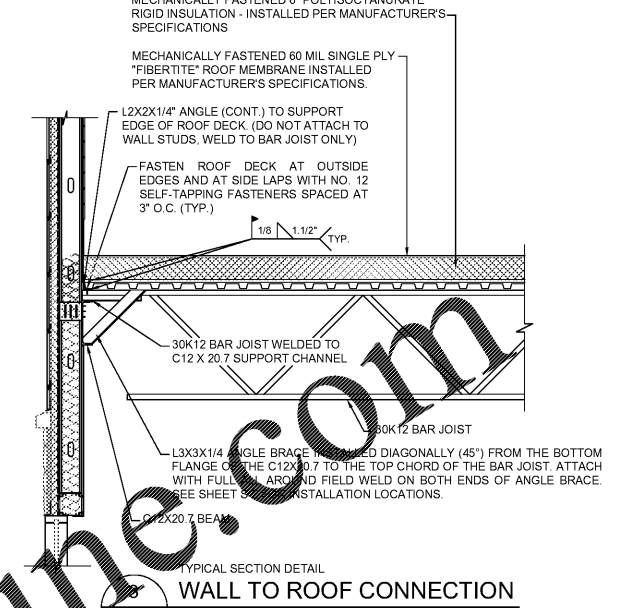
- THESE STRUCTURAL DRAWINGS DO NOT CONTAIN NECESSARY COMPONENTS FOR SAFETY DURING CONSTRUCTION. BRACE ALL WALLS DURING CONSTRUCTION TO PREVENT DAMAGE FROM WIND AND WATER AND FROM CONSTRUCTION LOADS UNTIL ALL SUPPORTING WALLS AND ROOF DIAPHRAGM ARE IN PLACE.



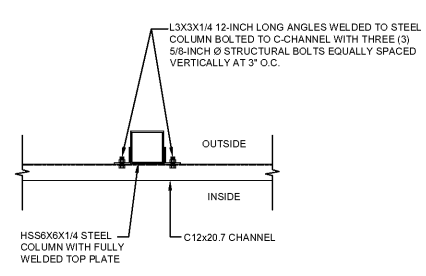
**1 TYPICAL WALL SECTION**  
SCALE: 1/2" = 1'-0"



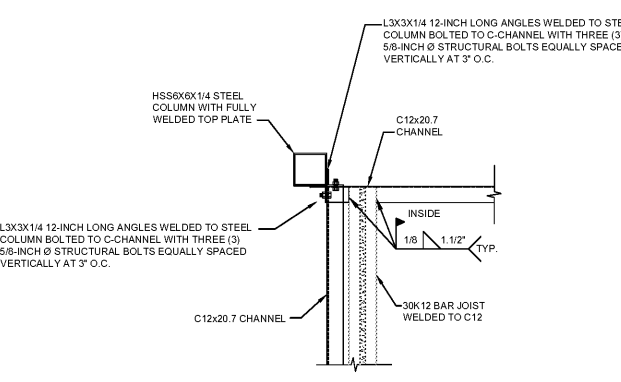
**2 DETAIL OF VERTICLIP**  
SCALE: 3/4" = 1'-0"



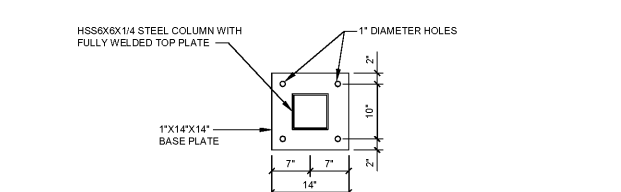
**3 TYPICAL SECTION DETAIL WALL TO ROOF CONNECTION**  
SCALE: 1/2" = 1'-0"



**4 TYPICAL CONNECTION INTERNAL COLUMN DETAIL**  
SCALE: 3/4" = 1'-0"



**5 TYPICAL CONNECTION CORNER COLUMN DETAIL**  
SCALE: 3/4" = 1'-0"



**6 TYPICAL CONNECTION HSS6X6X1/4 COLUMN BASE PLATE**  
SCALE: 3/4" = 1'-0"

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		Job No.: E-5450
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