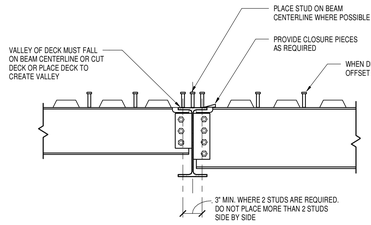
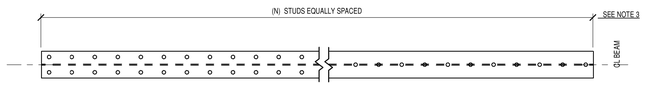
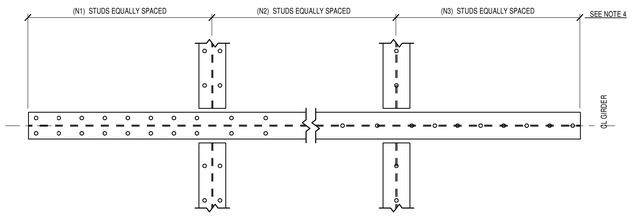


TYPICAL SECTION



UNIFORM SPACING



SEGMENTED SPACING

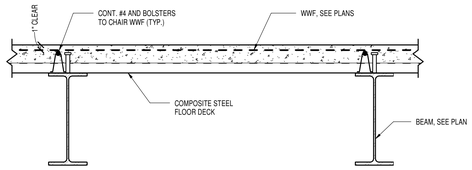
1 TYPICAL STUD PLACEMENT DETAILS

3/4" = 1'-0"

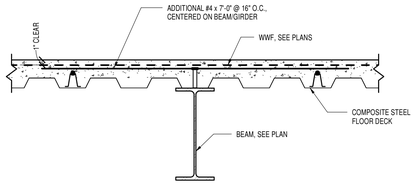
PLACEMENT INSTRUCTION FOR HEADED STUD TYPE SHEAR CONNECTORS FOR COMPOSITE BEAMS

1. STUD SIZE AND HEIGHT AFTER WELDING:
   A. 2" DECK.....3/4" DIA. x 0'-4"
2. WHEN A SINGLE NUMBER IN PARENTHESIS (N) IS INDICATED ON THE FRAMING PLAN BESIDE A BEAM OR GIRDER, THAT NUMBER IS THE QUANTITY OF SHEAR STUDS TO BE PLACED ALONG THE BEAM LENGTH. WHEN MORE THAN ONE NUMBER IN PARENTHESIS (N1,N2,N3) ETC. IS SHOWN BESIDE A BEAM OR GIRDER, EACH NUMBER INDICATES THE NUMBER OF SHEAR STUDS TO BE PLACED WITHIN THAT SEGMENT OF THE BEAM OR GIRDER (I.E. SEGMENTS OF GIRDER AS DEFINED BY THE INTERSECTING BEAMS).
3. WHEN DECK RIBS ARE PARALLEL AND THE STUD SPACING IS UNIFORM, SPACE STUDS EQUALLY ALONG GIRDER CENTERLINE.
4. WHEN THE DECK RIBS ARE PARALLEL AND THE STUD SPACING IS SEGMENTED, SPACE STUDS EQUALLY ALONG THE GIRDER CENTERLINE OVER THAT SEGMENT. WHEN THE SPACING OF A SINGLE ROW OF STUDS BECOME LESS THAN 6", PROVIDE DOUBLE STUDS SPACED EQUALLY.
5. CHALK BEAM CENTERLINE WHEN DECK SPAN IS PERPENDICULAR.
6. PREPARE STUD PLACEMENT DRAWING AND INCLUDE:
   1. TOTAL NUMBER OF STUDS REQUIRED FOR EACH BEAM.
   2. LOCATION OF STUDS.
   3. DEMENSION FROM BEAM OR COLUMN CENTERLINE.

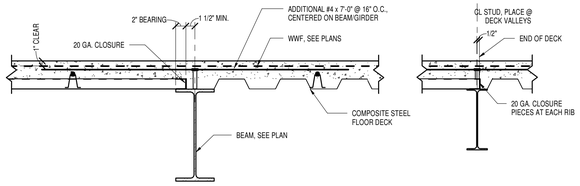
   DRAWING SHALL BE COMPLETE ENOUGH TO ALLOW INSTALLATION INDEPENDENT OF CONTRACT DRAWINGS. PROVIDE ARCHITECT/ENGINEER ONE (1) COPY FOR FILE.
7. ALL BEAMS WITH MOMENT CONNECTION ENDS AND BEAMS AT BRACED FRAMES SHALL HAVE STUDS SPACED AT 3'-0" O.C., UNO.



DECKING PERPENDICULAR TO BEAM



DECKING PARALLEL TO BEAM

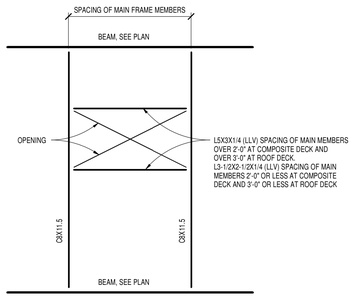


WHERE DECKING CHANGES DIRECTION AT FLANGE WIDTH > 5"

AT FLANGE WIDTH < 5"

2 TYPICAL COMPOSITE SLAB REINFORCING

1" = 1'-0"

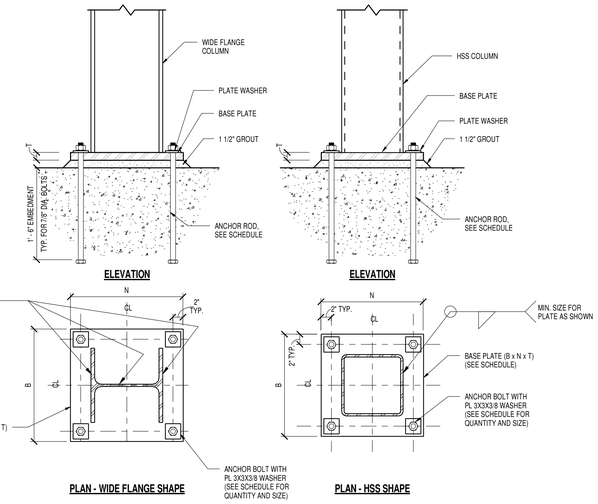


NOTES:

1. AT OPENINGS LESS THAN 6" IN EACH DIRECTION, NO REINFORCEMENT OF DECK IS REQD.
2. AT OPENINGS OF 6" TO 12" IN EITHER DIRECTION, REINFORCE OPENING IN ROOF DECK WITH AN ADDITIONAL SHEET OF MATCHING DECK MATERIAL AT LEAST 18" LARGER THAN OPENING IN BOTH DIRECTIONS. ATTACH ADDITIONAL SHEET TO DECK WITH #10 SCREWS @ 6" EACH WAY.
3. AT OPENINGS OF 6" TO 12" IN EITHER DIRECTION IN COMPOSITE DECK REINFORCE OPENING WITH 2-#4 BARS IN EACH DIRECTION, EACH SIDE OF OPENING. IN THE DIRECTION OF DECK SPAN, PLACE ONE BAR 4'-6" LONG IN THE FIRST AND SECOND RIB EACH SIDE OF THE OPENING, 3/4" CLEAR FROM BOTTOM OF DECK. IN DIRECTION TRANSVERSE TO DECK SPAN, PLACE 3'-6" LONG BARS 3" CLEAR OF OPENING AND 4" O.C. DIRECTLY OVER TOP OF WWF. CENTER ALL BARS ON CENTER OF OPENING. AT OPENING OF 8" TO 12" IN EITHER DIRECTION WITH FANS, BOILER STACKS OR OTHER EQUIPMENT SUPPORTED ON DECK AT OPENING, REINFORCE OPENINGS AS FOR OPENING LARGER THAN 12", SEE NOTE 4.
4. FOR OPENINGS LARGER THAN 12" IN EITHER DIRECTION, FRAME OPENING WITH ANGLES AS SHOWN ABOVE.
5. OPENINGS THRU CONCRETE SLAB ON COMPOSITE DECK SHALL BE FORMED OR SLEEVED BEFORE PLACING CONCRETE, EXCEPT WHERE OPENING IS FRAMED WITH ANGLES. DO NOT CUT OPENING THRU COMPOSITE DECK UNTIL AFTER CONCRETE IS PLACED AND CURED.
6. AT MULTIPLE OPENINGS LESS THAN 6", PROVIDE MINIMUM 6" CLEAR BETWEEN OPENINGS OR CONSIDER AS OPENING OF WIDTH EQUAL TO OVERALL WIDTH FROM OUTSIDE FACES OF OPENINGS.

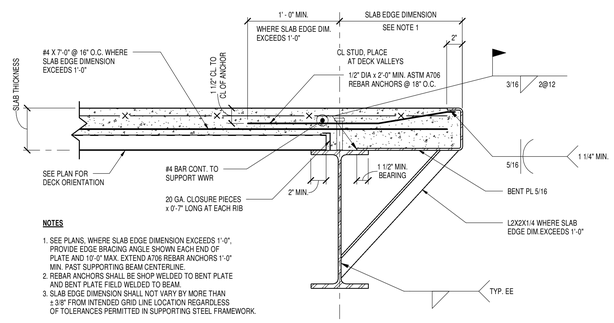
3 ROOF AND COMPOSITE FLOOR OPENING DETAIL

1" = 1'-0"



4 TYPICAL COLUMN BASE PLATE DETAIL

1" = 1'-0"

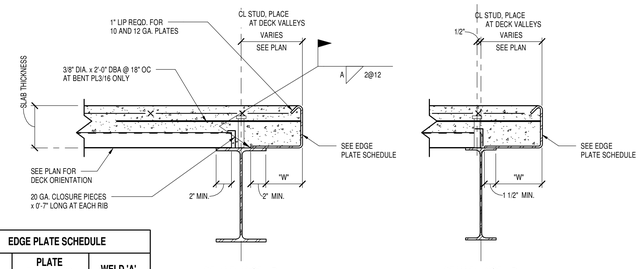


NOTES

1. SEE PLANS, WHERE SLAB EDGE DIMENSION EXCEEDS 1'-0", PROVIDE EDGE BRACING ANGLE SHOWN EACH END OF PLATE AND 18'-0" MAX. EXTEND A706 REBAR ANCHORS 1'-0" MIN. PAST SUPPORTING BEAM CENTERLINE.
2. REBAR ANCHORS SHALL BE SHOP WELDED TO BENT PLATE AND BENT PLATE FIELD WELDED TO BEAM.
3. SLAB EDGE DIMENSION SHALL NOT VARY BY MORE THAN ± 3/8" FROM INTENDED GRID LINE LOCATION REGARDLESS OF TOLERANCES PERMITTED IN SUPPORTING STEEL FRAMEWORK.

5 TYPICAL EXTERIOR SLAB EDGE DETAIL

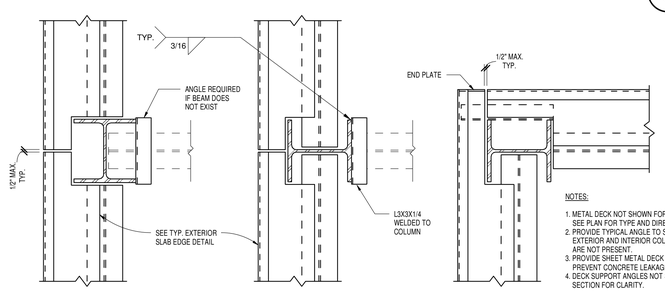
1 1/2" = 1'-0"



EDGE PLATE SCHEDULE		
W	PLATE THICKNESS	WELD 'A'
0" TO 4"	12 GAGE	1/8"
4" TO 8"	10 GAGE	1/8"
OVER 8"	PL 5/16	3/16"

6 TYPICAL INTERIOR SLAB EDGE DETAIL

1 1/2" = 1'-0"



NOTES:

1. METAL DECK NOT SHOWN FOR CLARITY. SEE PLAN FOR TYPE AND DIRECTION OF SPAN
2. PROVIDE TYPICAL ANGLE TO SUPPORT DECK AT EXTERIOR AND INTERIOR COLUMNS WHERE BEAMS ARE NOT PRESENT.
3. PROVIDE SHEET METAL DECK CLOSURE PIECE TO PREVENT CONCRETE LEAKAGE AT COLUMNS
4. DECK SUPPORT ANGLES NOT SHOWN ON OTHER SECTION FOR CLARITY.

7 TYPICAL DECK SUPPORT AT COLUMNS

1" = 1'-0"

FOR CONSTRUCTION
FULLY SPRINKLERED

Revisions:	Date

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ARCHITECT/ENGINEERS:

ARCHITECTURE ENGINEERING INTERIOR DESIGN DESIGN/BUILD

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Drawing Title: **TYPICAL STEEL SECTIONS AND DETAILS**

Approved: Project Director

Project Title: **VA CARES CONSOLIDATION VAMC, PITTSBURGH, PA, RESEARCH OFFICE BLDG.**

Location: **VAPHS UNIVERSITY DRIVE**

Date: **08-18-2010** | Checked: **JHC** | Drawn: **RAW**

Project Number: **646CA2500R**

Building Number: **30**

Drawing Number: **SS5-102**

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Department of Veterans Affairs

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