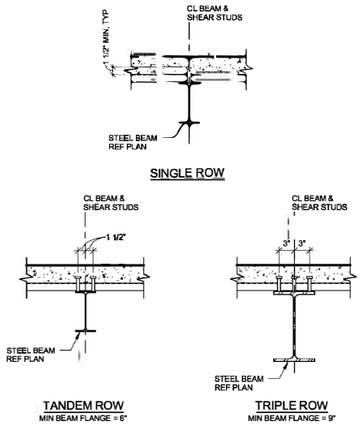
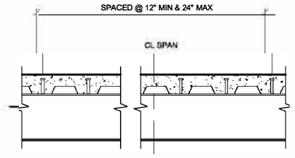


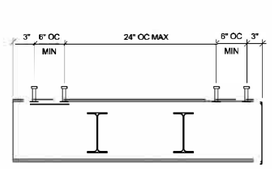
01 TYPICAL STUD WELDING DETAILS
SCALE: 1" = 1'-0"



NOTES:

1. STUDS ARE MORE THAN DECK RIBS:
   a. SPACE STUDS 1 PER RIB (12" OC) STARTING EACH END OF BEAM.
   b. PLACE REMAINING STUDS IN TANDEM PAIRS AT 12" OC EVENLY FROM EACH END OF BEAM.
   c. PLACE REMAINING STUDS IN TRIPLE ROWS IF APPLICABLE.
2. DECK RIBS ARE MORE THAN STUDS:
   a. PLACE STUDS 1 EVERY OTHER RIB (24" OC) STARTING EACH END OF BEAM.
   b. PLACE REMAINING STUDS IN EMPTY RIBS, STARTING EACH END OF BEAM
3. MAXIMUM STUD SPACING 24" OC. PROVIDE ADDITIONAL STUDS IF NOT ENOUGH SHOWN.
4. LOCATE HEADED STUD IN CENTER OF RIB IN DECKS WHERE CENTER STIFFENING RIB DOES NOT OCCUR.

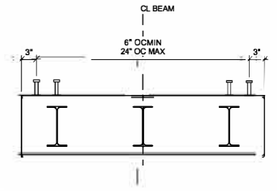
02 TYPICAL COMPOSITE SIMPLE BEAM SPACING
SCALE: 3/4" = 1'-0"



NOTES:

1. SPACE STUDS SCHEDULED EVENLY (6" MINIMUM OC) STARTING EACH END OF GIRDER TO BEAM INTERSECTIONS.
2. PLACE REMAINING STUDS IN TANDEM PAIRS OR TRIPLE ROWS EVENLY STARTING EACH END OF GIRDERS TO BEAM INTERSECTIONS IF APPLICABLE.
3. PLACE ADDITIONAL (NOT SCHEDULED) STUDS AT 24" OC MAXIMUM BETWEEN INTERSECTIONS.

03 TYPICAL GIRDER WITH BEAMS AT 1/3 POINTS
SCALE: 1" = 1'-0"

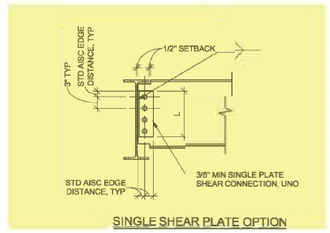


NOTES:

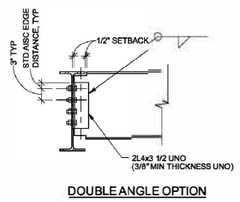
I. ONE INDICATION OF SHEAR CONNECTORS SHOWN:
   1. STUDS EVENLY ACROSS BEAM WITH MINIMUM SPACING 6" OC MAX SPACING 24" OC STARTING EACH END OF BEAM.
   2. PLACE REMAINING STUDS IN TANDEM PAIRS AND/OR IN TRIPLE ROWS EVENLY FROM EACH END OF BEAM IF APPLICABLE

II. MORE THAN ONE INDICATION OF SHEAR CONNECTORS SHOWN:
   1. SPACE STUDS SCHEDULED EVENLY BETWEEN END OF BEAM AND/OR BEAM INTERSECTIONS
   2. PLACE REMAINING STUDS IN TANDEM PAIRS AND/OR IN TRIPLE ROWS EVENLY BETWEEN END OF BEAM AND/OR BEAM INTERSECTIONS IF APPLICABLE.

04 TYPICAL GIRDER WITH 1, 3, OR MORE BEAMS
SCALE: 1" = 1'-0"

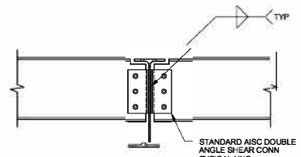


SINGLE SHEAR PLATE OPTION



DOUBLE ANGLE OPTION

07 TYPICAL BEAM TO BEAM SHEAR CONNECTION
SCALE: 3/4" = 1'-0"

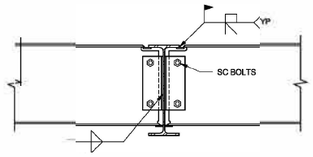


08 TYPICAL BEAM TO BEAM SHEAR CONNECTION
SCALE: 1" = 1'-0"

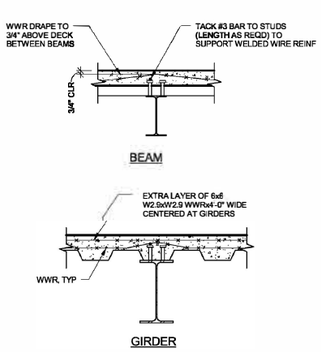
NOTES:

1. SPACE STUDS AS DETAILED FOR SIMPLE BEAM EXCEPT 1/2 OF TOTAL NUMBER OF STUDS SHALL OCCUR EACH SIDE OF CENTERLINE SPECIFIED.

05 TYPICAL ECCENTRIC STUD GROUP
SCALE: 1" = 1'-0"



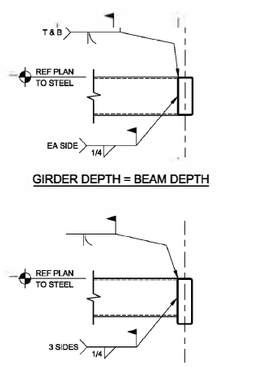
06 TYPICAL BEAM TO BEAM MOMENT CONNECTION
SCALE: 1" = 1'-0"



NOTES:

1. METHOD OF WWF SUPPORT SHOWN IS OPTIONAL. SUBMIT FOR APPROVAL IF DIFFERENT METHOD IS USED

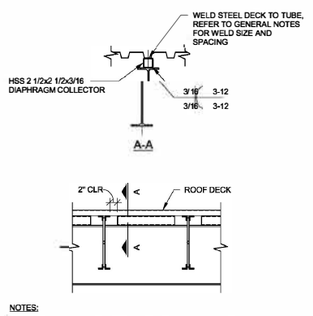
12 TYPICAL COMPOSITE SLAB REINFORCEMENT
SCALE: 1" = 1'-0"



GIRDER DEPTH = BEAM DEPTH

GIRDER DEPTH > BEAM DEPTH

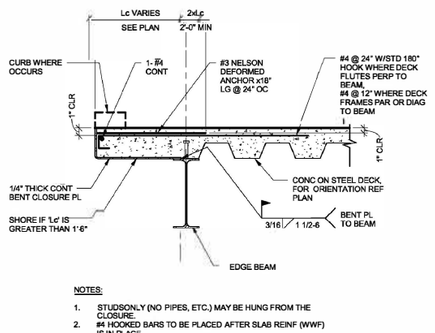
09 TYPICAL HSS BEAM TO GIRDER CONNECTION
SCALE: 3/4" = 1'-0"



NOTES:

1. REFER TO PLAN FOR BEAMS REQUIRING COLLECTORS.

10 TYPICAL DIAPHRAM COLLECTOR AT STEEL BEAM
SCALE: 3/4" = 1'-0"



NOTES:

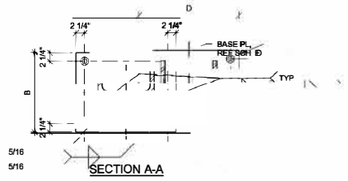
1. STUDSONLY (NO PIPES, ETC.) MAY BE HUNG FROM THE CLOSURE.
2. #4 HOOKED BARS TO BE PLACED AFTER SLAB REINF (WWF) IS IN PLACE.

11 TYPICAL EXTERIOR SLAB EDGE
SCALE: 1" = 1'-0"

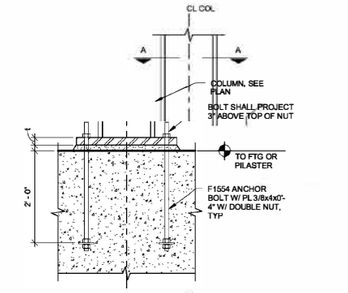
SAMPLE PROJECT

S012

ST EE FRA MING TY PIC L DETAILS



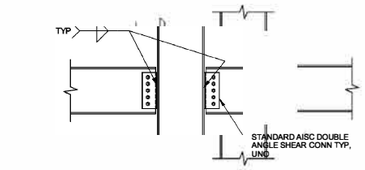
SECTION A-A



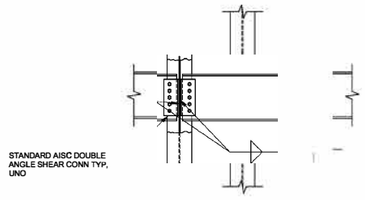
01 TYPICAL BASE PLATE
SCALE: 3/4" = 1'-0"

BASE PLATE SCHEDULE					
MARK	DETAIL	B (IN)	D (IN)	t (IN)	ANCHOR BOLTS
BP-1		18	18	1 1/4	4 - 1" DIA
BP 2		18	18	1 1/2	4 - 1" DIA
BP-3		19	19	1 1/2	4 - 1" DIA
BP-4		12	12	1	4 - 1" DIA
BP-5					
BP-6					
BP-7					

02 BASE PLATE SCHEDULE
SCALE: NO SCALE

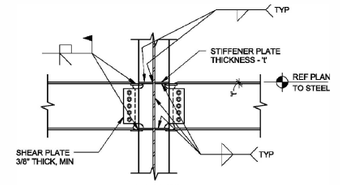


TO FLANGE

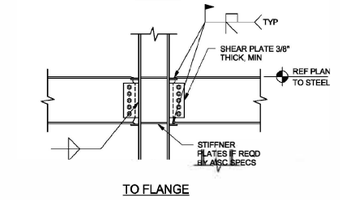


TO WEB

03 TYPICAL BEAM TO COLUMN SHEAR CONNECTION
SCALE: 3/4" = 1'-0"



TO WEB



TO FLANGE

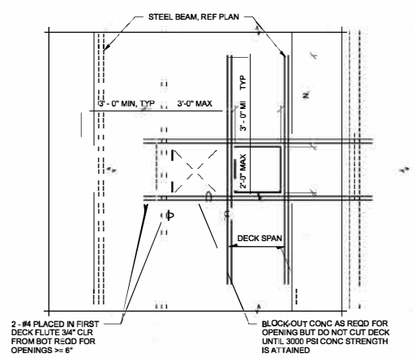
04 TYPICAL BEAM TO COLUMN MOMENT CONNECTION
SCALE: 3/4" = 1'-0"

05 TYPICAL HSS BEAM TO COLUMN CONN COLUMN WIDTH = BEAM WIDTH
SCALE: 1" = 1'-0"

06 TYPICAL HSS BEAM TO COLUMN CONN COLUMN WIDTH > BEAM WIDTH
SCALE: 1" = 1'-0"

07 TYPICAL BEAM CONNECTION AT TUBE COLUMN CAP PLATE
SCALE: 3/4" = 1'-0"

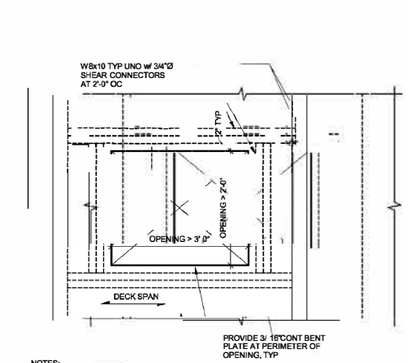
08 TYPICAL CHANGE IN DIRECTION OF COMPOSITE STEEL DECK
SCALE: 1" = 1'-0"



NOTES:

MULTIPLE SMALL OPENINGS SUCH AS SLEEVE CLUSTERS, RECESSED BOXES, CONDUITS, ETC, OCCURRING WITHIN MAXIMUM DIMENSIONS INDICATED SHALL BE TREATED AS UNFRAMED OPENINGS.
SQUARE / RECTANGULAR OPENINGS SHOWN. MAXIMUM UNFRAMED ROUND OPENING IS 24'0

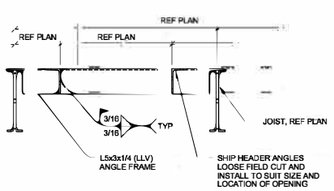
09 TYPICAL UNFRAMED COMPOSITE FLOOR/ ROOF OPENING
SCALE: 1/2" = 1'-0"



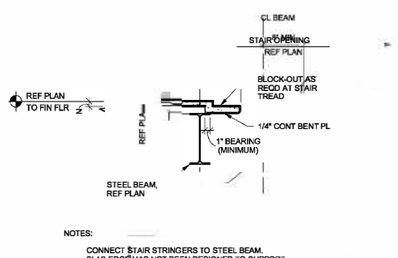
NOTES:

REFER TO PLAN FOR BEAM SIZES.
REFER TO ARCHITECTURAL AND MECHANICAL DRAWINGS FOR SIZES OF OPENINGS.
PROVIDE FRAMING AT OPENINGS PER THIS DETAIL AND WHERE OPENINGS EXCEED DIMENSIONS SHOWN

10 TYPICAL FRAMED COMPOSITE FLOOR/ ROOF OPENING
SCALE: 3/4" = 1'-0"



11 TYPICAL ROOF OPENING
SCALE: 1" = 1'-0"



NOTES:

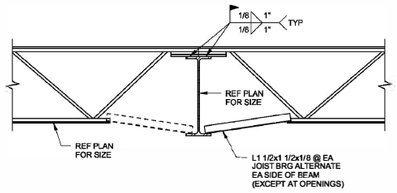
CONNECT STAIR STRINGERS TO STEEL BEAM.
SLAB EDGE HAS NOT BEEN DESIGNED TO SUPPORT CONCENTRATED POINT LOADS FROM STAIR STRINGERS.

12 TYPICAL STAIR AT LANDING
SCALE: 1" = 1'-0"

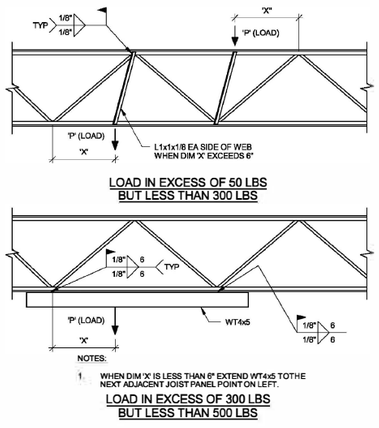
SAMPLE PROJECT

S013

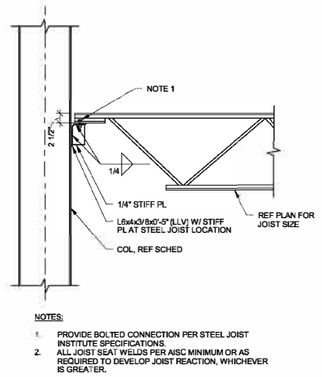
ST EE FRA MING TY PIC L DETAILS



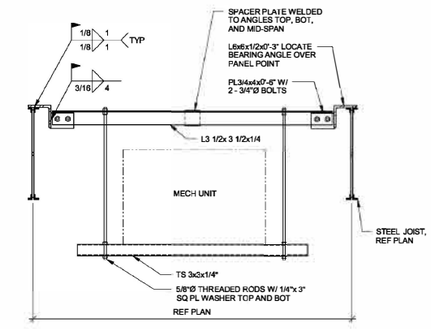
01 TYPI CALJOI STCONNECTION AT INTERIOR STEEL BEAM
SCALE: 3/4" = 1'-0"



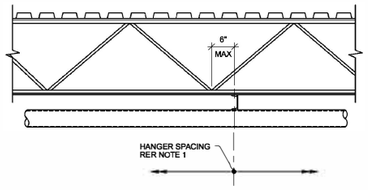
02 TYPI CALSTEEL JOI STWI TH CONCENTRATED LOAD
SCALE: 3/4" = 1'-0"

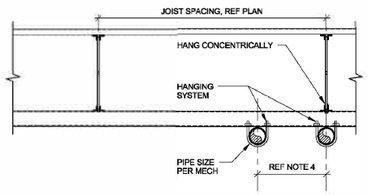


03 TYPI CALJOIST TO COLUMN CONNECTION
SCALE: 3/4" = 1'-0"



04 TYPICA LHANGIN GMECHANICAL UNI T
SCALE: 3/4" = 1'-0"

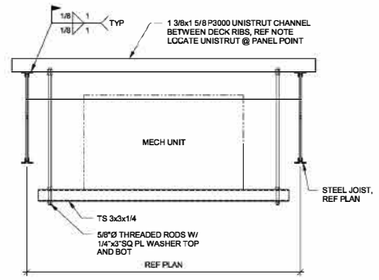




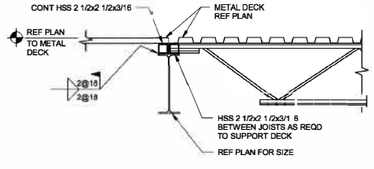
NOTES:
1. PIPING GREATER THAN 4"Ø SHALL BE HUNG FROM A MINIMUM OF TWO JOISTS FOR PIPING RUNNING PARALLEL TO JOIST. HANGERS SHALL BE SPACED AT A MAXIMUM OF 12'-0"
2. PIPING RUNNING NORMAL TO JOIST SHALL BE SUPPORTED FROM ALTERNATE JOIST AND SUPPORTS FOR ADJACENT PIPES SHALL BE STAGGERED.
3. PIPING SHALL BE HUNG CONCENTRICALLY FROM THE BOTTOM CHORD OR WITH 'C' CLAMPS FROM THE TOP CHORD, OR FROM AUXILIARY STEEL SPANNING BETWEEN TWO JOISTS. HANGERS SHALL BE PLACED AT JOIST PANEL POINTS.
4. PIPING SHALL BE PLACED APART NO CLOSER THAN IN THE FOLLOWING TABLE:

PIPE SIZE	MIN SPACING
16"	5'-0"
14"	4'-0"
12"	4'-0"
10"	3'-0"
8"	2'-0"
6"	1'-0"

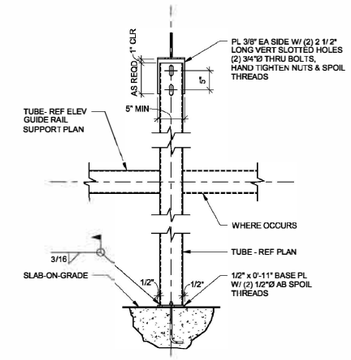
09 TYPICAL PIPE HANGING CONNECTION
SCALE: 3/4" = 1'-0"



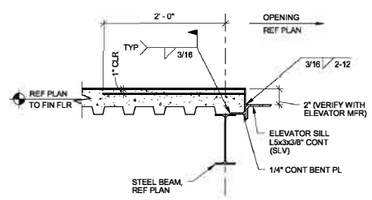
06 TYPICAL HANGING MECHANICAL UNIT
SCALE: 3/4" = 1'-0"



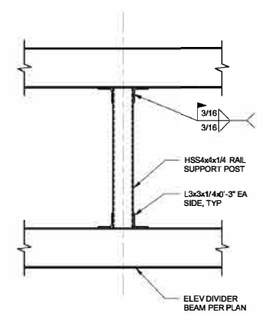
07 TYPI CALDECK SUPPORT AT CHANGE IN DECK SPAN DIRECTION
SCALE: 3/4" = 1'-0"



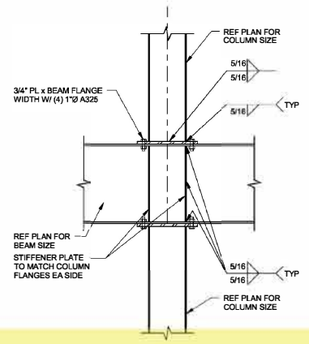
08 TYPICA LELEVATOR GUID ERAI LSUPPORT
SCALE: 3/4" = 1'-0"



10 TYPICAL ELEVATOR SILL
SCALE: 1" = 1'-0"



11 TYPI CALGUI DERAIL SUPPORT
SCALE: 1" = 1'-0"

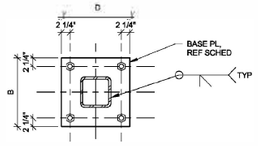


12 TYPICAL NON-FRAME COLUMN BASE TO BEAM CONNECTION
SCALE: 3/4" = 1'-0"

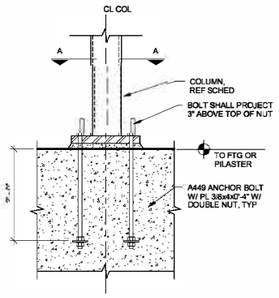
SAMPLE PROJECT

S014

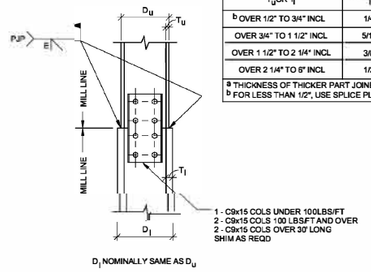
ST EE FRA MING TY PIC L DETAILS



SECTION A-A



01 TYPICAL BASE PLATE
SCALE: 3/4" = 1'-0"



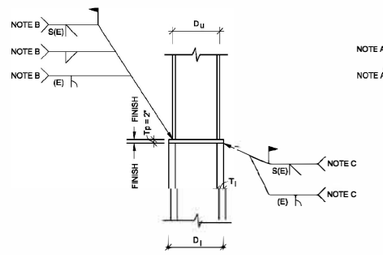
D_l NOMINALLY SAME AS D_u

TABLE A
PARTIAL PENETRATION GROOVE WELDS

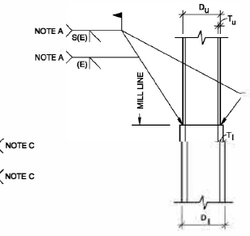
[a] THICKNESS OF COLUMN MATERIAL T_u OR T_l	MINIMUM EFFECTIVE WELD SIZE E
[b] OVER 1/2" TO 3/4" INCL	1/4"
OVER 3/4" TO 1 1/2" INCL	5/16"
OVER 1 1/2" TO 2 1/4" INCL	3/8"
OVER 2 1/4" TO 6" INCL	1/2"

[a] THICKNESS OF THICKER PART JOINED
[b] FOR LESS THAN 1/2", USE SPLICE PLATES

02 TYPICAL COLUMN SPLICE
SCALE: 3/4" = 1'-0"



D_l NOMINALLY 2" LESS THAN D_u



D_l NOMINALLY SAME AS D_u

NOTES:

A. WELD SIZE BASED ON T_l. REFER TO TABLE.

B. WELD SIZE BASED ON THE THICKER OF T_u OR T_p.

C. WELD SIZE BASED ON T_u OR T_p WHICHEVER IS THE THICKER. REFER TO TABLE.

PARTIAL PENETRATION GROOVE WELDS	
[a] THICKNESS OF COLUMN MATERIAL T_u OR T_l OR BUTT PLATE T_p	MINIMUM EFFECTIVE WELD SIZE E
[b] OVER 1/2" TO 3/4" INCL	1/4"
OVER 3/4" TO 1 1/2" INCL	5/16"
OVER 1 1/2" TO 2 1/4" INCL	3/8"
OVER 2 1/4" TO 6" INCL	1/2"
OVER 6"	5/8"

[a] THICKNESS OF THICKER PART JOINED
[b] FOR LESS THEN 1/2", USE SPLICE PLATES

03 TYPICAL COLUMN SPLICE - WF COLUMN
SCALE: 3/4" = 1'-0"

04 TYPICAL TRANSFER COLUMN BASE PLATE COLUMN PERPENDICULAR TO BEAM FLANGE
SCALE: 1" = 1'-0"

SAMPLE PROJECT

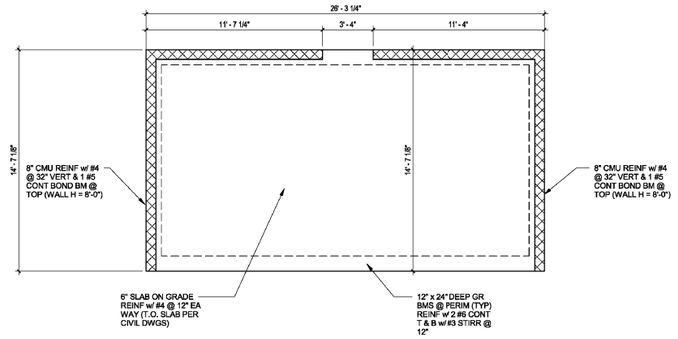
S015

ST EE FRA MING TY PIC L DETAILS

Column - W10x49 @ 13'6" - Q1 189 LF ; Q2 14 EA

Column - W10x54 @ 13'6" - Q1 54 LF ; Q2 4 EA

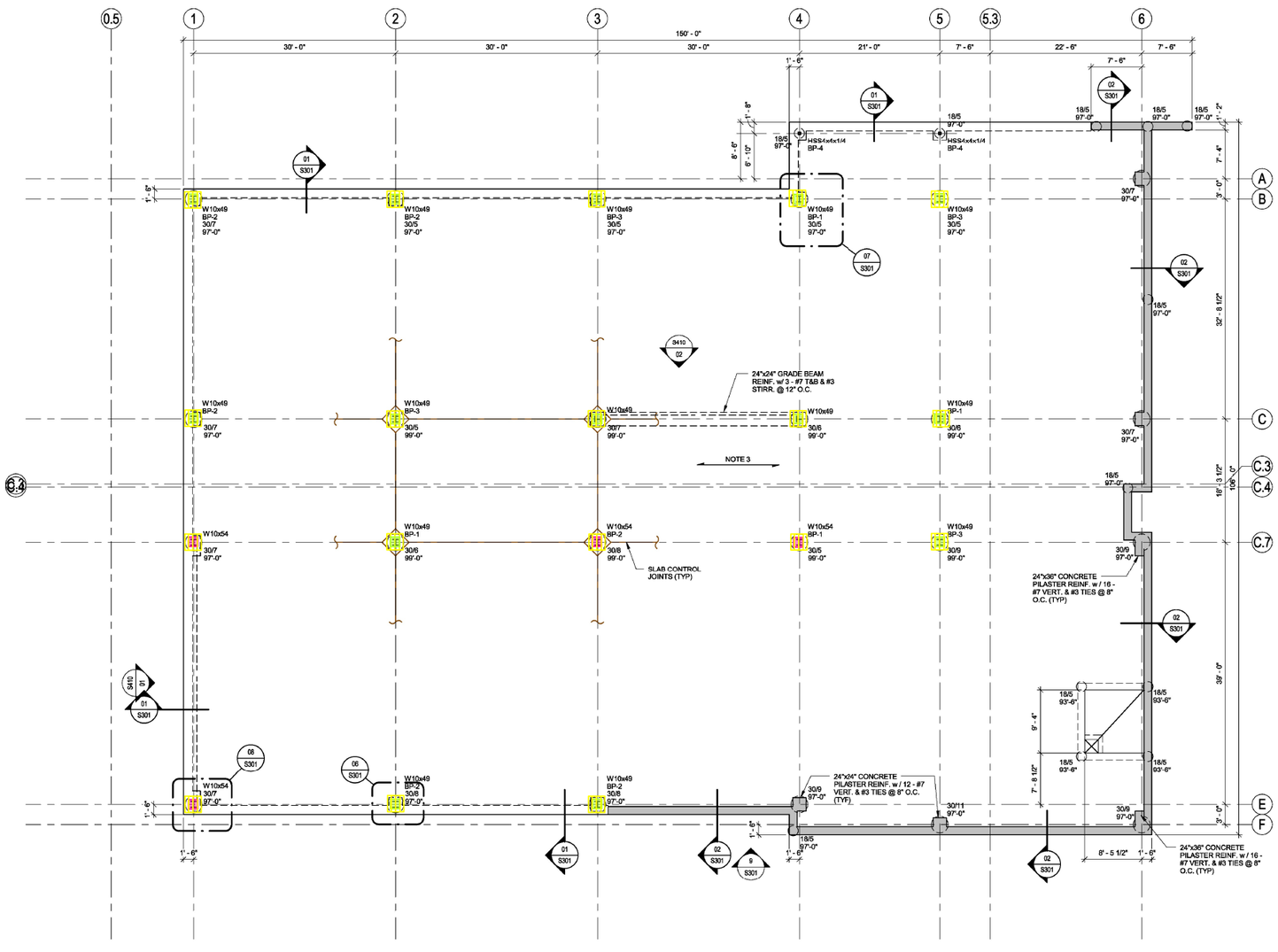
Steel Connections - 01/S015 Column Base Plate Connection - Q1 18 EA



2 S101 **DUMPSTER ENCLOSURE**
1/4" = 1'-0"

FOUNDATION PLAN NOTES:

1. TOP OF FINISHED CONCRETE ELEVATION = 100'-0" TYP UNO.
2. TOP OF FOOTING/PIER ELEVATION = 97'-0", TYP UNO.
3. THE FLOOR IS COMPOSED OF 5" THICK NWC SLAB-ON-GRADE REINFORCED WITH 6x6-W2.9xW2.9 WWF .
4. ALL FOOTINGS/PIERS ARE CENTERED ON THE WALL/COLUMN, UNO.
5. REFER TO S001-S002 FOR GENERAL NOTES, SYMBOLS AND ANNOTATIONS.
6. REFER TO S010-S015 FOR TYPICAL DETAILS.
7. REFER TO S-300 SERIES FOR FOUNDATION AND SLAB-ON-GRADE SECTIONS AND DETAILS.
8. REFER TO S010 FOR PIER SCHEDULE.
9. REFER TO ARCHITECTURAL DRAWINGS FOR INFORMATION REGARDING DEPRESSEDSLAB AREAS, SLOPES, DRAINS, CURBS, ETC.
10. REFER TO MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS TO COORDINATESLAB OPENINGS.



1 S101 **LEVEL 1 FRAMING PLAN**
1/8" = 1'-0"

SAMPLE PROJECT

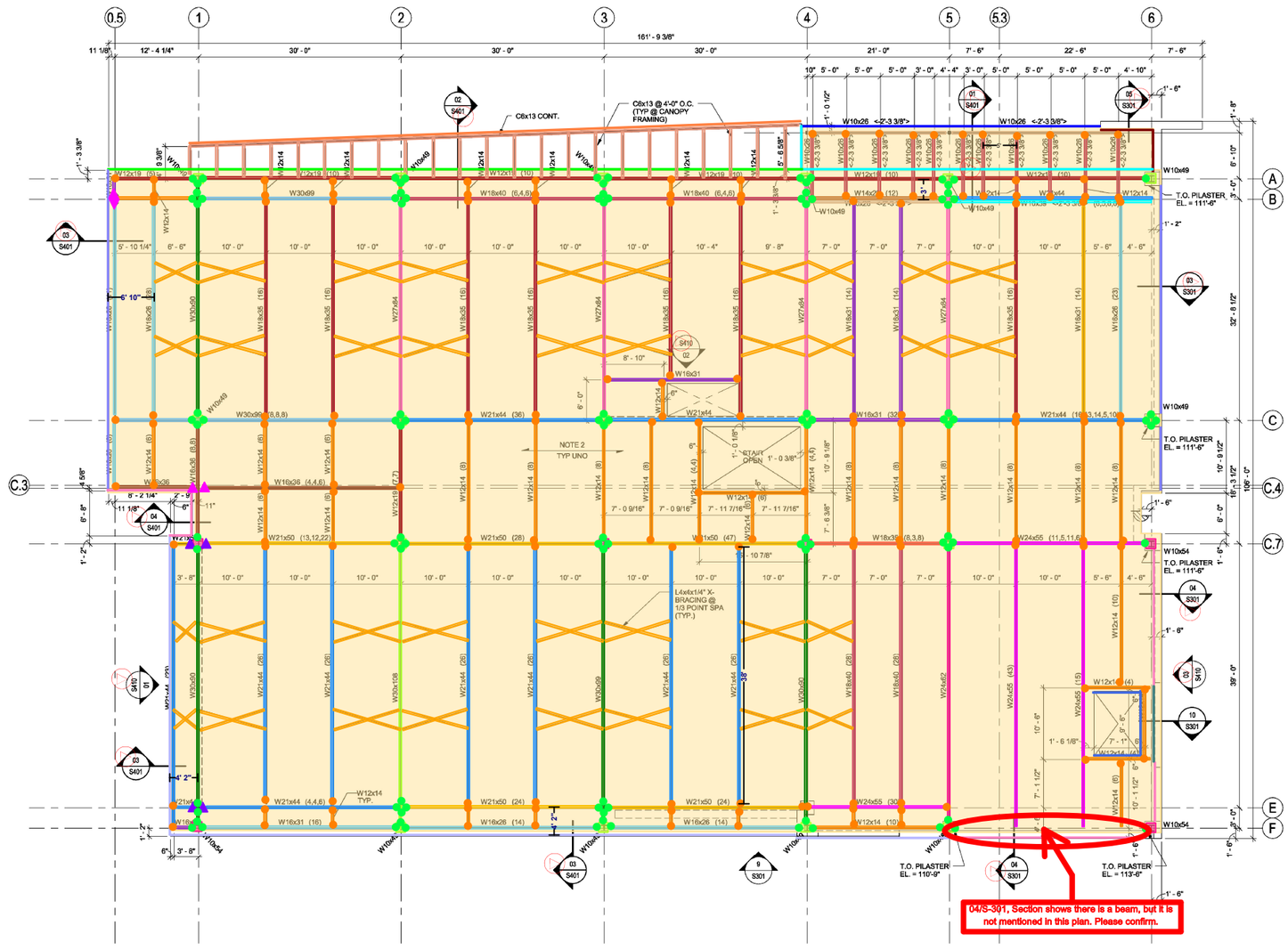
S101

LEVEL 1 FRAMING PLAN

- Angle - 5/S-301, PL1/2x8"x8" HS @ 3' O.C. - Q1 14 LF ; Q2 2 EA
- Angle - L 3x3x1/4 edge anlge - Q1 91 LF ; Q2 1 EA
- Angle - 3/S-401, Different edge angle length, See Notes - Q1 160 LF ; Q2 3 EA
- Angle - L 4x4x3/8 edge anlge - Q1 24 LF ; Q2 3 EA
- Angle - 10/S-301, L 3x3x1/4x1' @ 3' O.C. w/2 - 1/2" Dia. HS x 6" Long - Q1 11 LF ; Q2 1 EA
- Beam - W16x26 - Q1 189 LF
- Beam - W30x90 - Q1 156 LF
- Beam - W18x35 - Q1 214 LF
- Beam - W27x84 - Q1 136 LF
- Beam - W16x31 - Q1 106 LF
- Beam - W16x34 - Q1 31 LF
- Beam - W12x14 - Q1 410 LF
- Beam - W16x36 - Q1 56 LF
- Beam - W12x19 - Q1 163 LF
- Beam - W21x44 - Q1 416 LF
- Beam - W30x99 - Q1 70 LF ; Q2 2 EA
- Beam - W30x108 - Q1 42 LF
- Beam - W18x40 - Q1 134 LF
- Beam - W24x62 - Q1 40 LF
- Beam - W24x55 - Q1 131 LF
- Beam - W21x50 - Q1 143 LF
- Beam - W18x35 - Q1 19 LF
- Beam - W14x22 - Q1 20 LF
- Beam - W10x16 - Q1 102 LF
- Beam - W10x26 - Q1 65 LF
- Beam - C6x13 - Q1 230 LF
- Beam - W10x39 - Q1 29 LF
- Bracing - L 4x4x1/4" Bracing - Q1 654 LF
- Column - W10x49 @ 13'6" - Q1 243 LF ; Q2 18 EA
- Column - W10x54 @ 13'6" - Q1 81 LF ; Q2 6 EA
- Roffing and deck - 2" 18 GA Galv Deck - Q1 15,070 SF
- Section Assembly - 1/S-401, See Notes - Q1 44 LF ; Q2 1 EA
- Section Assembly - 1/S-401, See Notes - Q1 59 LF ; Q2 2 EA
- Section Assembly - 2/S-401, See Notes - Q1 103 LF ; Q2 1 EA
- Section Assembly - 3/S-401, See Notes - Q1 91 LF ; Q2 3 EA
- Section Assembly - 4/S-401, See Notes - Q1 80 LF ; Q2 6 EA
- Steel Connections - 06/S012 Beam to Beam Moment Connection - Q1 4 EA
- Steel Connections - 04/S013 Column to Beam Moment Connection - Q1 4 EA
- Steel Connections - 07/S012 Beam to Beam Shear Connection - Q1 147 EA
- Steel Connections - 03/S013 Column to Beam Shear Connection - Q1 105 EA

LEVEL 2 PLAN NOTES:

1. TOP OF FINISHED CONCRETE DECK ELEVATION = 114'-0".
2. LEVEL 2 SLAB IS COMPOSED OF 3" NWC SLAB ON 2" 18 GA GALV COMPOSITE STEEL DECK (5" TOTAL) REINFORCED WITH 6X6-W2.9xW2.9 WWF.
4. REFER TO S-001 - S-002 FOR GENERAL NOTES, SYMBOLS AND ANNOTATIONS.
5. REFER TO S-010 - S-014 FOR TYPICAL DETAILS.
6. REFER TO S-400 SERIES FOR FRAMING SECTIONS AND DETAILS.
7. REFER TO ARCHITECTURAL DRAWINGS FOR INFORMATION REGARDING DEPRESSED SLAB AREAS, SLOPES, DRAINS, CURBS, ETC.
8. REFER TO MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS TO COORDINATE SLAB OPENINGS.



1 S102 **LEVEL 2 FRAMING PLAN**
1/8" = 1'-0"

SAMPLE PROJECT

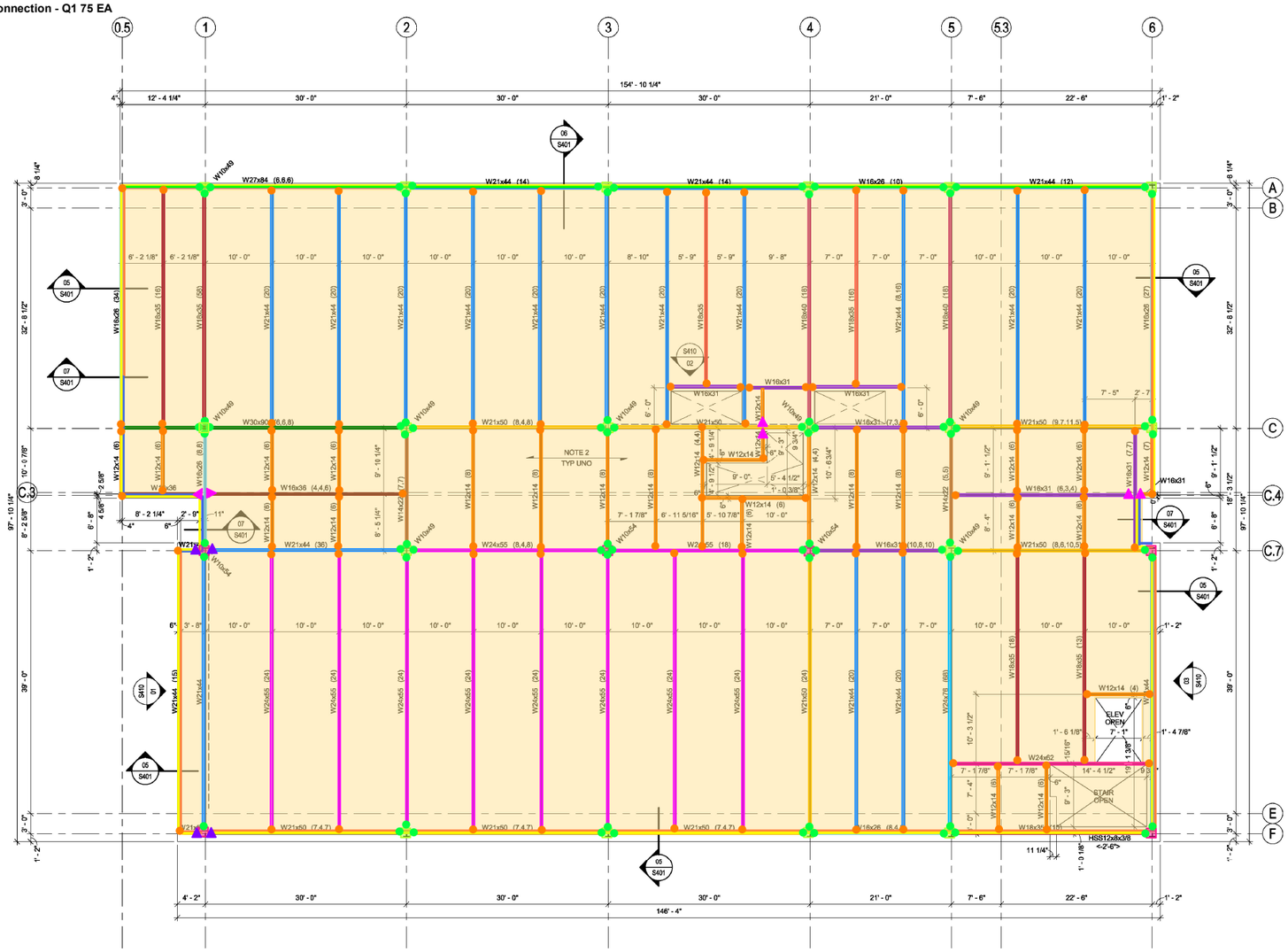
S102

LEVEL 2 FRAMING PLAN

- Angle - L 3x3x1/4 edge anlge - Q1 298 LF ; Q2 6 EA
- Angle - L 4x4x3/8 edge anlge - Q1 50 LF ; Q2 6 EA
- Angle - L5x5x1/4 edge anlge - Q1 502 LF ; Q2 13 EA
- Angle - L5x3x1/4 edge anlge @ 4' O.C. - Q1 153 LF ; Q2 1 EA
- Beam - W16x26 - Q1 123 LF
- Beam - W30x90 - Q1 42 LF
- Beam - W18x35 - Q1 158 LF
- Beam - W27x84 - Q1 41 LF
- Beam - W16x31 - Q1 113 LF
- Beam - W12x14 - Q1 303 LF
- Beam - W16x36 - Q1 39 LF
- Beam - W21x44 - Q1 697 LF
- Beam - W18x40 - Q1 68 LF
- Beam - W24x62 - Q1 29 LF
- Beam - W24x55 - Q1 382 LF
- Beam - W21x50 - Q1 238 LF
- Beam - W18x35 - Q1 58 LF
- Beam - W14x22 - Q1 33 LF
- Beam - W24x76 - Q1 40 LF
- Column - W10x49 @ 13'6" - Q1 243 LF ; Q2 18 EA
- Column - W10x54 @ 13'6" - Q1 81 LF ; Q2 6 EA
- Roffing and deck - 2" 18 GA Galv Deck - Q1 14,150 SF
- Steel Connections - 06/S012 Beam to Beam Moment Connection - Q1 6 EA
- Steel Connections - 04/S013 Column to Beam Moment Connection - Q1 4 EA
- Steel Connections - 07/S012 Beam to Beam Shear Connection - Q1 105 EA
- Steel Connections - 03/S013 Column to Beam Shear Connection - Q1 75 EA

LEVEL 3 PLAN NOTES:

1. TOP OF FINISHED CONCRETE DECK ELEVATION = 127'-6".
2. LEVEL 3 SLAB IS COMPOSED OF 3" NWC SLAB ON 2" 18 GA GALV COMPOSITE STEEL DECK (5" TOTAL) REINFORCED WITH 6X6-W2.9xW2.9 WWF.
3. REFER TO S001 - S002 FOR GENERAL NOTES, SYMBOLS AND ANNOTATIONS.
4. REFER TO S010 - S015 FOR TYPICAL DETAILS.
5. REFER TO S-400 SERIES FOR FRAMING SECTIONS AND DETAILS.
6. REFER TO ARCHITECTURAL DRAWINGS FOR INFORMATION REGARDING DEPRESSED SLAB AREAS, SLOPES, DRAINS, CURBS, ETC.
7. REFER TO MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS TO COORDINATE SLAB OPENINGS.



1 S103 **LEVEL 3 FRAMING PLAN**
1/8" = 1'-0"

SAMPLE PROJECT

S103

LEVEL 3 FRAMING PLAN