GENERAL NOTES

1. USE STRUCTURAL DRAWINGS IN CONJUNCTION WITH ALL OTHER DRAWINGS. COORDINATE THE WORK OF OTHER TRADES INCLUDING, BUT NOT LIMITED TO THE REQUIREMENTS FOR SLEEVES, INSERTS, HOLES, HANGERS, AND ANCHORS.
2. ELEVATIONS ON THE STRUCTURAL DRAWINGS ARE DENOTED AS [±X'-X"] REFERENCED TO THE FINISHED GROUND FLOOR ELEVATION DATUM.
3. REPORT DISCREPANCIES IN DIMENSIONS BETWEEN DIFFERENT DRAWINGS TO THE OWNER'S REPRESENTATIVE PRIOR TO BEGINNING WORK IN AREAS THAT WILL BE AFFECTED.
4. DETAILS ENTITLED OR NOTED AS "TYPICAL" APPLY NOT ONLY WHERE SPECIFICALLY INDICATED OR REFERENCED, BUT ALSO IN ALL OTHER CASES WHERE THE NATURE OF THE CONSTRUCTION REQUIRES THEIR USE. DETERMINE APPLICABILITY OF TYPICAL DETAILS FROM DESCRIPTIVE TITLES OR FROM THE SIMILARITY OF A CONSTRUCTION CONDITION TO ANOTHER CONDITION WHERE THE DETAIL IS SPECIFICALLY INDICATED OR REFERENCED.
5. THE STRUCTURAL DRAWINGS CONTAINED HEREIN REPRESENT THE FINISHED STRUCTURE. PROVIDE ALL TEMPORARY GUYING AND BRACING REQUIRED TO ERECT AND HOLD THE STRUCTURE IN PROPER ALIGNMENT UNTIL ALL STRUCTURAL WORK, INCLUDING CONNECTIONS, IS COMPLETE. THE ANALYSIS, DESIGN, SAFETY, ADEQUACY, AND INSPECTION OF ERECTION BRACING, SHORING, AND OTHER TEMPORARY SUPPORTS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
6. CONSTRUCTION MEANS, METHODS, TECHNIQUES, AND SEQUENCES AND SUPERVISION OF THE WORK ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
7. REPRODUCTION OF CONTRACT DRAWINGS SHALL NOT BE USED AS SHOP DRAWINGS UNDER ANY CIRCUMSTANCE.

DESIGN NOTES

1. STRUCTURAL DESIGN IS IN ACCORDANCE WITH THE FOLLOWING CODES AND SPECIFICATIONS:
   - A. "PENNSYLVANIA UNIFORM CONSTRUCTION CODE" DATED DECEMBER 31, 2009
   - B. 2009 INTERNATIONAL BUILDING CODE (IBC)
   - C. ASCE 7-05, MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
   - D. AISC "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS" DATED MARCH 9, 2005
   - E. AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" DATED MARCH 18, 2005
   - F. ACI 318-08, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
   - G. ACI 530-08, BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES
   - H. AISI "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS" 2007 EDITION
2. DESIGN LOAD CRITERIA:
   - A. LIVE LOADS (UNIFORM)

ROOF	30 PSF
ATTIC WALKWAYS	40 PSF
PARTITION ALLOWANCE	15 PSF
PRIVATE ROOMS AND CORRIDORS SERVING THEM	40 PSF
PUBLIC ROOMS AND CORRIDORS SERVING THEM	100 PSF
STAIRS AND EXITS	100 PSF
STORAGE	125 PSF
MECHANICAL/ELECTRICAL ROOMS	125 PSF
TOILETS	100 PSF

NOTE: LIVE LOAD REDUCTION WAS USED IN THE DESIGN OF THIS STRUCTURE

   - B. SNOW LOAD:

GROUND SNOW LOAD, Pg	30 PSF
SNOW EXPOSURE FACTOR, Ce	0.9
THERMAL FACTOR, Ct	1.1
SNOW LOAD IMPORTANCE FACTOR, Is	1.0
FLAT ROOF SNOW LOAD, Pf	21 PSF
SLOPED-ROOF SNOW LOAD, Ps	21 PSF

   - C. WIND LOADS:

BASIC WIND SPEED, V	90 MPH
OCCUPANCY CATEGORY	II
WIND IMPORTANCE FACTOR, I	1.00
WIND EXPOSURE CATEGORY	B
GUST EFFECT FACTOR, G	0.85
INTERNAL PRESSURE COEFFICIENTS, GCpi	±0.18

   - D. COMPONENTS AND CLADDING WIND PRESSURES:

DESIGN WIND PRESSURE FOR ROOF COMPONENTS (PSF)

ROOF ZONE	COMPONENT TRIBUTARY AREA (ft2)					
	0 - 20		21 - 100		101 +	
1	17.2	-18.8	16.7	-17.7	15.6	-15.6
2	17.2	-21.9	16.7	-20.9	15.6	-18.7
3	17.2	-21.9	16.7	-20.9	15.6	-18.7
OVERHANG ZONE	COMPONENT TRIBUTARY AREA (ft2)					
	0 - 20		21 - 100		101 +	
2	10.0	-34.7	10.0	-33.6	10.0	-31.5
3	10.0	-34.7	10.0	-33.6	10.0	-31.5

DESIGN WIND PRESSURE FOR WALL COMPONENTS (PSF)

WALL ZONE	COMPONENT TRIBUTARY AREA (ft2)					
	0 - 20		21 - 100		101 +	
4	18.8	-20.3	17.9	-19.4	15.9	-17.5
5	18.8	-25.1	17.9	-23.3	15.9	-19.5

NOTES:

1. POSITIVE AND NEGATIVE SIGNS SIGNIFY PRESSURES ACTING TOWARD AND AWAY FROM THE SURFACES, RESPECTIVELY
2. BUILDING ZONES ARE DEFINED IN ASCE 7

DESIGN WIND PRESSURE FOR PARAPETS (PSF)

WALL ZONE	STRENGTH	DEFLECTION
4	53.4	37.7
5	53.4	37.7

NOTES:

1. STRENGTH DESIGN BASED ON 50-YEAR MEAN RECURRENCE INTERVAL
2. DEFLECTION (SERVICEABILITY) DESIGN BASED ON 10-YEAR MEAN RECURRENCE INTERVAL
3. DEFLECTION CRITERIA FOR COLD-FORMED STEEL STUDS IS H/600 (SIMPLY SUPPORTED) AND H/300 (CANTILEVERED)

   - E. SEISMIC LOADS:

OCCUPANCY CATEGORY	II
SEISMIC IMPORTANCE FACTOR, Ie	1.0
SPECTRAL RESPONSE ACCELERATION, Ss	0.147g
SPECTRAL RESPONSE ACCELERATION, S1	0.049g
SPECTRAL RESPONSE COEFFICIENT, SDs	0.118g
SPECTRAL RESPONSE COEFFICIENT, SD1	0.055g
SITE CLASS	C
SEISMIC DESIGN CATEGORY	A
BASIC SEISMIC FORCE-RESISTING SYSTEM	STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE (IN COMBINATION WITH ORDINARY REINFORCED CONCRETE SHEAR WALLS AT GROUND STORY)
RESPONSE MODIFICATION FACTOR, R	3
DESIGN BASE SHEAR, V=CsW	0.01W
ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE FOLLOWING DESIGN REQUIREMENTS OF ASCE 7-05 SECTION 11.7

   - F. DESCRIPTION OF LATERAL LOAD-RESISTING SYSTEM:

LATERAL LOAD-RESISTING SYSTEM AND STABILITY OF THE COMPLETED STRUCTURE IS PROVIDED BY STRUCTURAL STEEL BRACED FRAMES AT ALL FLOOR LEVELS AND ROOF LEVEL, IN COMBINATION WITH ORDINARY REINFORCED CONCRETE SHEAR WALLS AT THE GROUND FLOOR LEVEL.

COMPOSITE CONCRETE SLABS AT FLOOR LEVELS ARE HORIZONTAL DIAPHRAGMS THAT DISTRIBUTE LATERAL WIND AND SEISMIC FORCES HORIZONTALLY TO THE COLLECTING ELEMENTS FOR THE BRACED FRAMES AND SHEAR WALLS. AT ROOF LEVEL, STEEL DECK SERVES AS A HORIZONTAL DIAPHRAGM THAT DISTRIBUTES HORIZONTAL LOADS TO COLLECTING ELEMENTS AND INTO THE BRACED FRAMES AT THE ROOF AND INTO THE MOMENT FRAMES AT THE VESTIBULE CANOPIES.

CONCRETE NOTES

1. ALL CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE PROVISIONS OF THE AMERICAN CONCRETE INSTITUTE (ACI) SPECIFICATIONS FOR STRUCTURAL CONCRETE (ACI 301-08).
2. CAST-IN-PLACE CONCRETE SHALL ATTAIN THE FOLLOWING MINIMUM 28-DAY COMPRESSIVE STRENGTHS (f'c):

A. WALLS AND PIERS	4000 PSI
B. COMPOSITE DECK FILL (LIGHTWEIGHT CONCRETE)	4000 PSI
C. SLAB-ON-GRADE	3000 PSI
D. FOOTINGS	3000 PSI
E. ALL OTHER CONCRETE	3000 PSI

3. CONCRETE DENSITY SHALL BE NORMAL WEIGHT UNLESS SPECIFICALLY OTHERWISE NOTED.
4. CONCRETE REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A615/A615M, GRADE 60.
5. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185. PROVIDE SHEET-TYPE WELDED WIRE FABRIC. SHEET LAPS SHALL BE TIED AND LAPPED ONE FULL MESH SPACING PLUS 2".
6. CONCRETE REINFORCING STEEL SHALL BE CONTINUOUS UNLESS OTHERWISE INDICATED. CONTINUOUS REINFORCING STEEL SHALL BE LAPPED IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 318 AND SHEET SB502.
7. MINIMUM CONCRETE COVER FOR REINFORCING STEEL SHALL BE AS INDICATED. IN NO CASE SHALL REINFORCING COVER BE LESS THAN THE REQUIREMENTS OF ACI 301.

A. CONCRETE DEPOSITED AGAINST THE GROUND	3"
B. CONCRETE EXPOSED TO EARTH OR WEATHER	2"
C. BEAMS AND COLUMNS	1 1/2"
D. SLABS AND WALLS NOT EXPOSED TO EARTH OR WEATHER	1"

8. CONCRETE REINFORCING STEEL MARKED STANDARD HOOK SHALL HAVE A 90-DEGREE HOOK UNLESS OTHERWISE NOTED. STIRRUPS, TIES, 180-DEGREE HOOKS, AND 90-DEGREE HOOKS SHALL CONFORM TO THE REQUIREMENTS OF ACI 318.
9. PROVIDE 1/2" THICK JOINT FILLER MATERIAL WHERE SLABS-ON-GRADE ABUT VERTICAL SURFACES.
10. ALL EMBEDDED ITEMS SHALL BE PROPERLY PLACED, ACCURATELY POSITIONED, AND MAINTAINED SECURELY IN PLACE PRIOR TO AND DURING CONCRETE PLACEMENT.
11. REINFORCING STEEL SHALL BE SPREAD AT SLEEVES, TIEBACKS, RECESSES, AND OTHER EMBEDDED ITEMS UNLESS OTHERWISE INDICATED. REINFORCING SHALL NOT BE CUT TO FACILITATE PLACEMENT OF EMBEDDED ITEMS.
12. NO CONCRETE SHALL BE PLACED UNTIL THE OWNER OR THE OWNER'S DESIGNATED REPRESENTATIVE HAS INSPECTED ALL EMBEDDED WORK, INCLUDING REINFORCING.
13. ALL EXPOSED CONCRETE EDGES SHALL BE CHAMFERED 3/4" OR AS INDICATED.
14. ALUMINUM SHALL NOT BE PLACED IN DIRECT CONTACT WITH CONCRETE UNLESS EFFECTIVELY COATED OR COVERED TO PREVENT ALUMINUM-CONCRETE REACTION AND ELECTROLYTIC ACTION BETWEEN ALUMINUM AND STEEL.
15. PROVIDE ADDITIONAL CONCRETE REQUIRED TO ACHIEVE SPECIFIED FLOOR FLATNESS CRITERIA.

MASONRY NOTES

1. ALL MASONRY CONSTRUCTION SHALL BE IN ACCORDANCE WITH "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES" (ACI 530-08/ASCE 5-08/TMS 402-08) AND "SPECIFICATION FOR MASONRY STRUCTURES" (ACI 530.1-08/ASCE 6-08/TMS 402-08).
2. DESIGN MASONRY ASSEMBLAGE STRENGTH, f'm = 1500 PSI. NET AREA COMPRESSIVE STRENGTH OF CONCRETE MASONRY UNITS SHALL BE A MINIMUM OF 1900 PSI.
3. CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90 AND BE MANUFACTURED WITH NORMAL WEIGHT AGGREGATE (OVEN-DRY UNIT WEIGHT=135 PCF, MAX).
4. GROUT SHALL CONFORM TO ASTM C476 AND SHALL NOT CONTAIN ADMIXTURES. GROUT SHALL ATTAIN A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 2000 PSI.
5. GROUT POURS SHALL BE STOPPED 1-1/2 INCHES BELOW THE TOP OF A COURSE TO FORM A KEY AT POURED JOINTS.
6. REINFORCING SHALL BE DEFORMED BARS CONFORMING TO ASTM A615/A615M, GRADE 60 AND SHALL HAVE FABRICATION TOLERANCES IN ACCORDANCE WITH ACI 315. SHOP FABRICATE REINFORCING BARS WHICH ARE INDICATED TO BE BENT OR HOOKED.
7. JOINT REINFORCING SHALL BE LADDER-TYPE HOT-DIP GALVANIZED STEEL WIRE, LAPPED 8" AT ENDS.
8. LOCATE JOINT REINFORCING 16 INCHES ON CENTER VERTICALLY. PROVIDE ADDITIONAL REINFORCING AT THE TOP OF ALL FOUNDATIONS AND IN THE TWO JOINTS IMMEDIATELY ABOVE AND BELOW ALL OPENINGS. EXTEND JOINT REINFORCING A MINIMUM OF 24 INCHES BEYOND THE OPENING ON EACH SIDE.
9. PLACE PIPES AND CONDUITS PASSING HORIZONTALLY THROUGH MASONRY IN STEEL OR PVC SLEEVES OR CORED HOLES UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
10. ALUMINUM CONDUITS, PIPES, AND ACCESSORIES SHALL NOT BE EMBEDDED IN MASONRY GROUT, OR MORTAR, UNLESS EFFECTIVELY COATED OR COVERED TO PREVENT ALUMINUM-CEMENT CHEMICAL REACTION OR ELECTROLYTIC REACTION BETWEEN ALUMINUM AND STEEL.
11. UNLESS OTHERWISE NOTED OR DETAILED, CENTER WALL REINFORCING IN BLOCK CELLS. USE NONMETALLIC BAR POSITIONERS.
12. PROVIDE DOWEL REINFORCING FROM FOUNDATION OF SAME SIZE AND SPACING AS VERTICAL WALL REINFORCING. LAP WALL REINFORCING A MINIMUM OF 48 BAR DIAMETERS.
13. HORIZONTAL JOINT REINFORCING SHALL BE DISCONTINUOUS AT ALL CONTROL JOINTS.
14. HORIZONTAL BOND BEAM REINFORCING SHALL BE CONTINUOUS THROUGH ALL CONTROL JOINTS.

FOUNDATION NOTES

1. FOUNDATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT PREPARED BY CMT LABORATORIES AND DATED OCTOBER 10, 2011 WITH MARCH 21, 2012 REVISIONS.
2. FOUNDATIONS HAVE BEEN DESIGNED TO BEAR ON EXISTING NATURAL BEDROCK, CAPABLE OF SUPPORTING A NET ALLOWABLE DESIGN BEARING PRESSURE OF 8000 PSF. WHERE COMPETENT BEDROCK IS NOT ENCOUNTERED AT A FOOTING LOCATION, CONTACT STRUCTURAL ENGINEER OF RECORD FOR DESIGN OF A FOOTING ON FIRM NATURAL SOIL OR ENGINEERED FILL.
3. PRIOR TO PLACING FOUNDATION CONCRETE, THE CONTRACTOR SHALL ENSURE THAT THE FOUNDATION EXCAVATIONS ARE INSPECTED BY AN INDEPENDENT TESTING LABORATORY AND GEOTECHNICAL ENGINEER REGISTERED IN THE COMMONWEALTH OF PENNSYLVANIA TO EVALUATE THE EXTENT OF LOOSE, SOFT OR OTHERWISE UNSATISFACTORY SOIL MATERIAL AND TO VERIFY THE DESIGN BEARING CAPACITY. SOILS NOT SUITABLE FOR FOUNDATION SUPPORT SHALL BE UNDERCUT AND REPLACED WITH ENGINEERED FILL AS RECOMMENDED IN THE GEOTECHNICAL REPORT.
4. ADEQUATELY PROTECT FOUNDATION EXCAVATIONS TO PREVENT WATER FROM ACCUMULATING AND STANDING IN THE EXCAVATION BOTTOMS.
5. FROST PROTECTION SHALL BE PROVIDED BY ERECTING FOOTINGS ON SOLID ROCK. WHERE SOLID ROCK IS NOT ENCOUNTERED, BOTTOM OF FOOTING SHALL EXTEND BELOW FROST LINE ELEVATION OF 42" BELOW GRADE.
6. DO NOT PLACE FOUNDATION CONCRETE ON FROZEN OR SATURATED SUBGRADES.
7. ENSURE THAT EARTH-FORMED FOOTINGS CONFORM TO THE SHAPE, LINES, AND THICKNESSES INDICATED ON THE FOUNDATION PLAN. EXCAVATION WIDTHS SHALL BE A MINIMUM OF 4 INCHES GREATER THAN DIMENSIONS INDICATED.
8. PLACE FOUNDATION CONCRETE THE SAME DAY EXCAVATIONS ARE MADE OR AS SOON AS PRACTICAL THEREAFTER.
9. DO NOT INSTALL FOUNDATIONS UNTIL FOUNDATION WORK HAS BEEN COORDINATED WITH ADJACENT UNDERGROUND UTILITIES AND STRUCTURES.
10. FOOTINGS SHALL BE LOWERED AS REQUIRED TO PASS UNDER UTILITY LINES. STEP CONTINUOUS FOOTINGS DOWN AS SHOWN IN THE "TYPICAL STEPPED FOOTING" DETAIL ON SHEET SB501.

DELEGATED ENGINEERED SYSTEMS

1. THE DESIGN RESPONSIBILITY FOR THE FOLLOWING ENGINEERED SYSTEMS AND COMPONENTS IS DELEGATED TO A QUALIFIED ENGINEER SELECTED BY THE CONTRACTOR. THESE SYSTEMS AND COMPONENTS INCLUDE, BUT ARE NOT LIMITED TO:
   - A. STRUCTURAL STEEL CONNECTIONS, INCLUDING BRACED FRAME CONNECTIONS
   - B. COLD-FORMED STEEL FRAMING AND CONNECTIONS
   - C. METAL STAIRS AND STAIR FRAMING
   - D. PERMANENT LADDERS
   - E. HANDRAILS AND GUARDRAILS
   - F. GLAZING SYSTEMS
   - G. FALL-PROTECTION SYSTEMS
2. SUBMIT SHOP DRAWINGS FOR ALL DELEGATED ENGINEERED SYSTEMS AND COMPONENTS TO THE STRUCTURAL ENGINEER OF RECORD.
3. ALL SUBMITTALS FROM THE DELEGATED ENGINEER MUST BE SUBMITTED TO THE ENGINEER OF RECORD PRIOR TO THE START OF FABRICATION OF THE SYSTEM OR COMPONENT PART AND PRIOR TO ANY FIELD CONSTRUCTION THAT MAY BE AFFECTED BY THE SYSTEM OR COMPONENT PART.
4. DELEGATED ENGINEERED SYSTEMS SHALL MEET ASCE 7-05 REQUIREMENTS FOR WIND, SEISMIC, AND LIVE LOADS.
5. REFERENCE APPLICABLE SPECIFICATIONS FOR REQUIRED SUBMITTALS TO BE SIGNED AND SEALED BY QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR DELEGATED ENGINEERED SYSTEMS AND COMPONENTS.

STEEL NOTES

1. FABRICATION AND ERECTION OF STRUCTURAL STEEL AND DESIGN OF CONNECTIONS SHALL BE IN ACCORDANCE WITH THE AISC "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS," DATED MARCH 9, 2005 AND THE AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES," DATED MARCH 18, 2005.
2. UNLESS OTHERWISE NOTED, STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE ABOVE-LISTED AISC SPECIFICATION AND THE FOLLOWING:

A. SQUARE AND RECTANGULAR HSS	ASTM A500, GRADE B, Fy = 46 KSI
B. ROUND HSS	ASTM A500, GRADE B, Fy = 42 KSI
C. WIDE FLANGE SHAPES AND TEES	ASTM A992
D. CHANNELS AND S-SHAPES	ASTM A36/A36M
E. PLATES AND ANGLES	ASTM A36/A36M
F. HIGH STRENGTH BOLTS	ASTM F1852
G. ANCHOR RODS W/ NUT AND WASHER	ASTM F1554, GRADE 36
H. THREADED ROD	ASTM A36/A36M

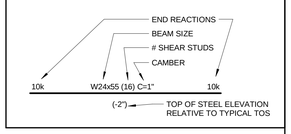
3. ALL SHOP AND FIELD WELDING SHALL BE BY CERTIFIED WELDERS AND SHALL CONFORM TO AWS STANDARDS. USE E70XX ELECTRODES UNLESS NOTED OTHERWISE. CURRENT AWS CERTIFICATIONS SHALL BE AVAILABLE AT THE JOB SITE FOR REVIEW BY THE OWNER'S REPRESENTATIVE.
4. ALL BOLTED CONNECTIONS. UNLESS OTHERWISE NOTED, SHALL USE HIGH-STRENGTH BOLTS WITH HARDENED CARBON STEEL WASHERS AS REQUIRED FOR THE CONNECTION LOADS. FOR CONNECTIONS NOT DETAILED AND OTHERS REQUIRED BY THE ERECTION PROCEDURES, THE FABRICATOR SHALL SUBMIT DETAILS AND CALCULATIONS TO THE ENGINEER OF RECORD FOR APPROVAL.
5. FIELD CUTTING OF STRUCTURAL STEEL MEMBERS BY ANY TRADE SHALL NOT BE PERMITTED. BOLT HOLES SHALL NOT BE CUT OR ENLARGED BY FLAME CUTTING IN THE FIELD.
6. ALL FIELD-BOLTED SHEAR CONNECTIONS SHALL BE PRE-TENSIONED CONNECTIONS, THREADS INCLUDED IN THE SHEAR PLANE.
7. CONNECTION DESIGN IS DELEGATED TO THE CONTRACTOR. SUBMIT CALCULATIONS SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE COMMONWEALTH OF PENNSYLVANIA ALONG WITH THE SHOP DRAWINGS FOR CONNECTIONS OTHER THAN SIMPLE SHEAR CONNECTIONS.
8. SHEAR CONNECTIONS FOR BEAMS SUPPORTING FLOOR AND ROOF GRAVITY LOADS SHALL BE DESIGNED FOR THE FACTORED REACTIONS SHOWN ON THE DRAWINGS. FOR CONDITIONS WHERE REACTIONS ARE NOT INDICATED ON THE DRAWINGS, SHEAR CONNECTIONS SHALL BE DESIGNED FOR 50 PERCENT OF THE MAXIMUM TOTAL UNIFORM LOAD AS INDICATED IN THE LOAD TABLES OF PART 3 OF THE AISC "STEEL CONSTRUCTION MANUAL," 13TH EDITION, FOR THE BEAM SIZE, SPAN AND GRADE OF STEEL SPECIFIED. IN NO CASE SHALL THE MINIMUM NUMBER OF BOLTS IN A SHEAR CONNECTION BE LESS THAN THAT INDICATED IN NOTE #10.
9. MOMENT CONNECTIONS SHALL BE DESIGNED FOR THE MOMENTS INDICATED ON THE DRAWINGS AND THE SHEAR CAPACITY AS INDICATED IN NOTE #8, UNLESS OTHERWISE NOTED. MOMENT CONNECTIONS MAY BE WELDED OR BOLTED WITH SLIP-CRITICAL CONNECTIONS AT THE FABRICATOR'S OPTION.
10. BOLTED SHEAR CONNECTIONS FOR BEAMS SUPPORTING FLOOR, ROOF, AND STAIR GRAVITY LOADS SHALL CONTAIN A MINIMUM NUMBER OF HIGH STRENGTH BOLTS AS FOLLOWS. THE MINIMUM BOLT DIAMETER IS 3/4".

BEAM SIZE	MINIMUM NUMBER OF ROWS OF BOLTS
W10	2
W12, W14	3
W16, W18	4
W21, W24	5
W27	6
W30	7

11. THE CONTRACTOR SHALL SUBMIT FOR APPROVAL DRAWINGS AND DESIGN CALCULATIONS FOR ANY ALTERNATE DETAILS AND MEMBER SPLICES.
12. SHOP OR FIELD SPLICES OF STRUCTURAL STEEL MEMBERS ARE PROHIBITED EXCEPT AS DETAILED ON THE DRAWINGS, PERMITTED IN THE SPECIFICATIONS, AS INDICATED ON APPROVED SUBMITTALS, AND AS SPECIFICALLY APPROVED ON SHOP DRAWINGS PRIOR TO FABRICATION.
13. PAINT ALL STEEL BELOW GRADE WITH TWO COATS OF COAL TAR EPOXY.

STRUCTURAL LEGEND

SYMBOL	DESCRIPTION
Wn	WALL TYPE
DN	SLOPE DIRECTION
[±X'-X"]	SPOT ELEVATION
	DECK OR BAR GRATING SPAN
[±X'-X"]	INDICATES ELEVATION REFERENCED TO FINISHED GROUND FLOOR
X	KEYED CONSTRUCTION NOTE
X	COLUMN REFERENCE LINE (CENTERLINE OF COLUMN)
	BRICK
	CONCRETE
	EARTH FILL
	GROUT
	CONCRETE MASONRY UNIT (CMU)
	SLAB DEPRESSION
	MOMENT CONNECTION
x——x——x	WELDED WIRE FABRIC



STRUCTURAL ABBREVIATIONS

SYMBOL	DESCRIPTION
AB	ANCHOR BOLT
AFF	ABOVE FINISHED FLOOR
APPROX	APPROXIMATELY
ARCH	ARCHITECTURAL
BOC	BOTTOM OF CONCRETE
BOS	BOTTOM OF STEEL
BRG	BEARING
CFS	COLD-FORMED STEEL
CJ	SLAB CONSTRUCTION JOINT
CL	CENTER LINE
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONN	CONNECTION
CONC	CONCRETE
CONT	CONTINUOUS
DCJ	DOWELED CONSTRUCTION JOINT
DIA, ø	DIAMETER
DN	DOWN
DWG	DRAWING
EA	EACH
EF	EACH FACE
EJ	EXPANSION JOINT
ELEV	ELEVATION
EOC	EDGE OF CORBEL
EOS	EDGE OF SLAB
EQ	EQUAL
EW	EACH WAY
FFE	FINISHED FLOOR ELEVATION
FOB	FACE OF BRICK
FS	FAR SIDE
FST	FOOTING
GA	GAGE
GALV	GALVANIZED
HORIZ	HORIZONTAL
KIP (k)	1000 LBS
LG	LONG
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LSH	LONG SIDE HORIZONTAL
LSV	LONG SIDE VERTICAL
MAX	MAXIMUM
MFR	MANUFACTURER
MIN	MINIMUM
MOW	MIDDLE OF WALL
NIC	NOT IN CONTRACT
NO.	NUMBER
NOM	NOMINAL
NS	NEAR SIDE
NTS	NOT TO SCALE
OC	ON CENTER
OPP	OPPOSITE
PJF	PREMOLDED JOINT FILLER
PL	PLATE
PLF	POUNDS PER LINEAR FOOT
PSF	POUNDS PER SQUARE FOOT
REINF	REINFORCING
REQD	REQUIRED
SCHED	SCHEDULE
SD	SLAB DEPRESSION
SF	STEPPED FOOTING
SIM	SIMILAR
SJ	SLAB SAWED (CONTRACTION) JOINT
SOG	SLAB-ON-GRADE
STD	STANDARD
T&B	TOP AND BOTTOM
TOC	TOP OF CONCRETE
TOF	TOP OF FOOTING
TOM	TOP OF MASONRY
TOS	TOP OF STEEL
TS	THICKENED SLAB
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
VERT	VERTICAL
WP	WORKING POINT
WWF	WELDED WIRE FABRIC

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PENN STATE NEW RESIDENCE HALL
THE PENNSYLVANIA STATE UNIVERSITY
UNIVERSITY PARK, PA 16802

CN NO: 4046
DATE: 06/29/2012
DESIGN: BSP
DRAWN: BJT
REVIEW: ECW

REVISIONS

No.	Date	Description

LEGEND, NOTES, AND ABBREVIATIONS

S-001

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STEEL DECK NOTES

1. COMPOSITE FLOOR DECK SHALL BE GALVANIZED STEEL CONFORMING TO ASTM A653-07 WITH A MINIMUM YIELD STRENGTH OF 50 KSI. COMPOSITE FLOOR DECK SHALL BE 2" DEEP WITH 3.5" OF LIGHTWEIGHT CONCRETE TOPPING, MINIMUM; TOTAL SLAB THICKNESS = 5.5" MINIMUM. DECK RIBS SHALL BE SPACED AT 12" ON CENTER. COMPOSITE FLOOR DECK SHALL HAVE THE FOLLOWING MINIMUM SECTION PROPERTIES:

   A. t=0.0358 in (20 Gage)
   B. Ip=0.406 in4/ft
   C. Sp=0.341 in3/ft
   D. Sn=0.346 in3/ft

   ATTACH DECK TO SUPPORTS USING 3/4"ø x 4 3/16" LONG HEADED STUDS AT THE QUANTITY INDICATED ON THE FRAMING PLANS. WHERE STUD SPACING EXCEEDS 12" ON CENTER, WELD DECK TO SUPPORTS USING 5/8"ø PUDDLE WELDS AT 12" ON CENTER. SIDE LAP CONNECTIONS SHALL BE MADE WITH (3) #10 SCREW CONNECTIONS PER SPAN. FASTEN DISCONTINUOUS SIDE OF FLOOR DECK TO SUPPORTING STRUCTURE WITH 5/8"ø PUDDLE WELDS AT 12" ON CENTER UNLESS OTHERWISE NOTED.

2. COMPOSITE ROOF DECK SHALL BE GALVANIZED STEEL CONFORMING TO ASTM A653-07 WITH A MINIMUM YIELD STRENGTH OF 50 KSI. COMPOSITE ROOF DECK SHALL BE 2" DEEP WITH 2" OF LIGHTWEIGHT CONCRETE TOPPING, MINIMUM; TOTAL SLAB THICKNESS = 5" MINIMUM. DECK RIBS SHALL BE SPACED AT 12" ON CENTER. COMPOSITE ROOF DECK SHALL HAVE THE FOLLOWING MINIMUM SECTION PROPERTIES:

   A. t=0.0358 in (20 Gage)
   B. Ip=0.406 in4/ft
   C. Sp=0.341 in3/ft
   D. Sn=0.346 in3/ft

3. ROOF DECK SHALL BE GALVANIZED STEEL CONFORMING TO ASTM A653-07 WITH A MINIMUM YIELD STRENGTH OF 33 KSI. STEEL ROOF DECK SHALL BE 1 1/2" DEEP WIDE RIB DECK WITH THE FOLLOWING MINIMUM SECTION PROPERTIES:

   A. t=0.0358 in (20 Gage)
   B. Ip=0.201 in4/ft
   C. Sp=0.234 in3/ft
   D. Sn=0.247 in3/ft

   ROOF DECK SHALL BE FASTENED TO THE SUPPORTING STRUCTURE WITH #12 SELF-DRILLING SCREWS AT A 36/7 PATTERN. SIDE LAP CONNECTIONS SHALL BE MADE WITH #10 SELF-TAPPING SCREWS WITH FIVE SCREWS PER SPAN. FASTEN DISCONTINUOUS SIDE OF ROOF DECK TO SUPPORTING STRUCTURE WITH #12 SELF-DRILLING SCREWS, TWO PER DECK RIB, IN EACH DECK RIB.

4. WHERE 4 OR MORE SUPPORTS ARE PROVIDED, STEEL DECK SHALL SPAN CONTINUOUSLY OVER A MINIMUM OF 4 SUPPORTS (3-SPAN CONDITION), UNLESS OTHERWISE NOTED.

5. ALL COMPOSITE STEEL FLOOR DECK IS DESIGNED AS UNSHORED CONSTRUCTION, UNLESS OTHERWISE NOTED.

6. CONSTRUCTION JOINTS RUNNING PARALLEL TO BEAMS OR GIRDERS SHALL NOT COINCIDE WITH THE CENTER LINE OF THE BEAM OR GIRDER. CONSTRUCTION JOINTS RUNNING PERPENDICULAR TO BEAMS OR GIRDERS SHALL BE LOCATED AT APPROXIMATELY THE 1/3 POINT OF THE BEAM OR GIRDER SPAN.

7. 14 GAGE RIDGE PLATES, VALLEY PLATES, AND MISCELLANEOUS METAL DECK ACCESSORIES SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH THE DECK MANUFACTURER'S RECOMMENDATIONS.

8. PERMANENT SUSPENDED LOADS SHALL NOT BE SUPPORTED BY STEEL ROOF DECK.

COLD-FORMED STEEL FRAMING NOTES

1. COLD-FORMED STEEL DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE AMERICAN IRON AND STEEL INSTITUTE (AISI) "COLD-FORMED STEEL DESIGN MANUAL," 2008 EDITION, AND THE NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS, 2007 EDITION.

2. ALL MATERIAL 18 GAGE OR LESS IN THICKNESS SHALL HAVE A MINIMUM YIELD STRENGTH OF 33 KSI.

3. ALL MATERIAL 16 GAGE OR GREATER IN THICKNESS SHALL HAVE A MINIMUM YIELD STRENGTH OF 50 KSI.

4. ALL COLD-FORMED STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A924.

5. ALL CONNECTION SCREWS SHALL BE ZINC COATED.

6. WELDING SHALL BE IN ACCORDANCE WITH AWS D1.3, "STRUCTURAL WELDING CODE-SHEET STEEL."

7. SAW CUT STUDS AND JOISTS SQUARE AND SET WITH FIRM BEARING AGAINST THE CONNECTING MEMBER.

8. THE CONTRACTOR SHALL PROVIDE TEMPORARY BRACING AND GUYING OF COLD-FORMED STEEL FRAMING TO PROVIDE FOR THE SAFETY OF THE STRUCTURE AND WORK PERSONNEL. BRACING SHALL REMAIN UNTIL NO LONGER REQUIRED FOR SAFE SUPPORT OF FRAMING.

9. FIELD MODIFICATIONS OF COLD-FORMED STEEL SYSTEMS SHALL NOT BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL OF THE ENGINEER OF RECORD.

10. CONNECTION REQUIREMENTS FOR COLD-FORMED MEMBERS ARE AS FOLLOWS, UNLESS OTHERWISE NOTED:

CONDITION	CONNECTION
STUD-TO-TRACK	(2) #10-16 SELF -DRILLING SCREWS WITH STUD SECURELY INTO TRACK
TRACK TO STEEL BEAM	1/8" WELD EACH SIDE, 2" LONG SPACED AT 32" OC OR (2) 0.145" DIA POWDER ACTUATED FASTENERS AT 16" OC
EXTERIOR STUD TRACK TO CONCRETE SLAB OR FOUNDATION	(2) 0.145" DIA POWDER ACTUATED FASTENERS THROUGH TRACK AT EACH STUD. PROVIDE 1 1/2" MINIMUM EMBEDMENT. MINIMUM SPACING = 4". CONCRETE EDGE DISTANCE = 3"

11. MAINTAIN 3/4" MINIMUM DISTANCE BETWEEN CENTERS OF CONNECTION SCREWS AND 3/4" MINIMUM DISTANCE FROM THE CENTER OF SCREW TO EDGE OF CONNECTED PART. INSTALL FASTENERS FROM THINNER THROUGH THICKER MATERIAL.

12. SUBMIT SHOP DRAWINGS TO THE DESIGN PROFESSIONAL FOR APPROVAL INDICATING ALL COLD-FORMED STEEL MEMBERS, CONNECTIONS, FASTENERS, OPENINGS AND OTHER COLD-FORMED STEEL RELATED ITEMS.

13. STUD MATERIAL INDICATED ON THE DRAWINGS SHALL HAVE A MINIMUM OF 1 5/8" FLANGES AND 1/2" STIFFENING RETURN LIPS. TRACK MATERIAL SHALL HAVE A MINIMUM OF 1 1/4" FLANGES (NO STIFFENING RETURN LIP).

14. MECHANICAL BRIDGING AT INTERVALS NOT EXCEEDING 4'-0" ON CENTER SHALL BRACE ALL LOAD-BEARING AND CURTAIN TYPE COLD-FORMED STEEL WALLS. BRIDGING SHALL BE IN PLACE PRIOR TO PLACING ANY LOADS ON THE STUD WALL.

15. CALCULATIONS FOR COLD-FORMED STEEL FRAMING ELEMENTS SHALL BE PREPARED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE COMMONWEALTH OF PENNSYLVANIA AND SUBMITTED TO THE ENGINEER OF RECORD.

PREFABRICATED COLD-FORMED STEEL TRUSS NOTES

1. TOP AND BOTTOM CHORDS SHALL CONFORM TO THE PROFILE AS INDICATED. THE TRUSS MANUFACTURER MAY VARY TRUSS TYPE AND MEMBER SIZE AS REQUIRED TO ACHIEVE SPAN AND ROOF PITCH SPECIFIED.

2. DESIGN COLD-FORMED STEEL TRUSSES FOR THE FOLLOWING SUPERIMPOSED LOADS IN ADDITION TO THE LOADS INDICATED IN "DESIGN NOTES":

   A. TOP CHORD DEAD LOAD: 12 PSF
   B. BOTTOM CHORD DEAD LOAD: 12 PSF
   C. BOTTOM CHORD LIVE LOAD: 10 PSF + ATTIC WALKWAY LOADING

   INCLUDE SECONDARY BENDING STRESSES DUE TO SUPERIMPOSED LOADS IN DESIGN OF CHORD MEMBERS.

3. LIMIT MIDSPAN DEFLECTION OF THE BOTTOM CHORD OF EACH TRUSS DUE TO LIVE LOAD TO SPAN/360 WITH A MAXIMUM OF 1". LIMIT MIDSPAN DEFLECTION OF THE BOTTOM CHORD OF EACH TRUSS DUE TO TOTAL LOAD TO SPAN/240 WITH A MAXIMUM OF 1".

4. WHERE OVERLAY FRAMING IS INDICATED ON DRAWINGS, DESIGN TRUSSES SUPPORTING OVERLAY FRAMING FOR ADDITIONAL SUPERIMPOSED DEAD LOADS OF OVERLAY FRAMING. USE ACTUAL DEAD LOAD OF FRAMING AND SHEATHING (MINIMUM 10 PSF).

5. PROVIDE PERMANENT CONTINUOUS LATERAL BRACING OF THE WEB AND CHORD MEMBERS IN ACCORDANCE WITH THE TYPICAL DETAIL ON SHEET SF502 IN THE LOCATIONS SPECIFIED BY THE TRUSS DESIGNER ON THE TRUSS SHOP DRAWINGS.

6. DESIGN ROOF TRUSSES TO SUPPORT LOAD OF FALL PROTECTION SYSTEM. COORDINATE WITH FALL PROTECTION SYSTEM SHOWN ON SHEET AE141 AND LOADS PROVIDED BY FALL PROTECTION SUPPLIER.

POST-INSTALLED ANCHORS

1. ALL POST-INSTALLED ANCHORS (IN CONCRETE OR CMU) ARE TO BE INSTALLED IN STRICT CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS (INCLUDING BUT NOT LIMITED TO DRILL BIT SIZE, PROPER CLEANING OF HOLES, INSTALLATION TORQUE, AND TEMPERATURE CONSTRAINTS). WHEN ADHESIVE ANCHORS ARE USED, REMOVE EXCESS ADHESIVE AT THE TOP OF THE HOLE BEFORE IT HARDENS.

2. POST-INSTALLED ANCHORS SHALL BE INSTALLED AT NOT LESS THAN MINIMUM EDGE DISTANCES AND SPACINGS INDICATED IN THE MANUFACTURER'S LITERATURE.

3. CONTRACTOR TO HAVE MANUFACTURER'S REPRESENTATIVE PERFORM PRODUCT INSTALLATION TRAINING ON SELECTED SYSTEMS.

4. THE INDEPENDENT TESTING AGENCY SHALL PROVIDE THE INSPECTION OF ALL ANCHORS DURING INSTALLATION TO VERIFY CONFORMANCE WITH THE MANUFACTURER'S INSTALLATION RECOMMENDATIONS.

5. CONFIRM THE ABSENCE OF REINFORCING STEEL BY DRILLING A 1/4" DIAMETER PILOT HOLE FOR EACH ANCHOR OR BY NONDESTRUCTIVE METHODS. DO NOT CUT REINFORCING STEEL WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD.

6. POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE CONSTRUCTION DOCUMENTS. CONTRACTOR SHALL OBTAIN APPROVAL FROM STRUCTURAL ENGINEER OF RECORD PRIOR TO USING POST-INSTALLED ANCHORS FOR MISSING OR MISPLACED CAST-IN-PLACE ANCHORS OR FOR SUBSTITUTIONS. CALCULATIONS FOR SUBSTITUTION REQUESTS SHALL DEMONSTRATE THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT USING THE APPROPRIATE DESIGN PROCEDURE AND STANDARDS AS REQUIRED BY THE BUILDING CODE.

7. POST-INSTALLED ANCHORS IN CONCRETE SHALL BE SPECIFIED IN ACCORDANCE WITH ACI 318 APPENDIX D AND APPROPRIATE MANUFACTURER'S TABLES FOR ANCHOR PERFORMANCE VALUES AS DETERMINED FROM TESTING IN ACCORDANCE WITH ICC-ES ACCEPTANCE CRITERIA.

8. CALCULATIONS FOR THE SELECTED ANCHOR SYSTEM SHALL BE PREPARED AND SEALED BY A REGISTERED PROFESSIONAL ENGINEER AND SUBMITTED TO THE STRUCTURAL ENGINEER OF RECORD. CALCULATIONS SHALL INCLUDE ANCHOR DIAMETER, EMBEDMENT DEPTH, ANCHOR MATERIAL, ADHESIVE MATERIAL (IF APPLICABLE), AND ANCHOR SYSTEM CAPACITY.

9. AN ICC-ES-REPORT (ESR-XXXX) SHALL BE SUBMITTED THAT INDICATES ANCHORS HAVE BEEN DESIGNED AND TESTED FOR USE IN CRACKED CONCRETE. ALL ICC-APPROVED ANCHORS SHALL BE SUITABLE FOR SEISMIC AND WIND LOADS.

10. MASONRY ANCHOR INSTALLATIONS ARE LIMITED TO ONE PER MASONRY CELL.

11. CONCRETE ANCHORS:
    A. MECHANICAL AND SCREW ANCHORS FOR USE IN CRACKED CONCRETE SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ACI 355.2 AND ICC-ES AC193.
    B. ADHESIVE ANCHORS FOR USE IN CRACKED CONCRETE SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ICC-ES AC308.
    C. GAS AND POWDER-ACTUATED FASTENERS FOR USE IN CONCRETE SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ICC-ES AC70.

12. MASONRY ANCHORS:
    A. ANCHORAGE TO SOLID-GROUTED CONCRETE MASONRY:
       i. MECHANICAL AND SCREW ANCHORS FOR USE IN SOLID-GROUTED CONCRETE MASONRY SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ICC-ES AC01 OR AC106, RESPECTIVELY.
       ii. ADHESIVE ANCHORS FOR USE IN SOLID-GROUTED CONCRETE MASONRY SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ICC-ES AC58.
    B. ANCHORAGE TO HOLLOW CONCRETE MASONRY/UNREINFORCED CLAY BRICK MASONRY:
       i. SCREW ANCHORS FOR USE IN HOLLOW CONCRETE MASONRY SHALL HAVE BEEN TESTED AND QUALIFIED IN ACCORDANCE WITH ICC-ES AC106.
    C. ADHESIVE ANCHORS WITH SCREEN TUBES SHALL BE TESTED AND QUALIFIED IN ACCORDANCE WITH ICC-ES AC58 OR AC60, AS APPROPRIATE. THE APPROPRIATE SCREEN TUBE SHALL BE USED AS RECOMMENDED BY THE ADHESIVE MANUFACTURER.
    D. ANCHORS SHALL BE CHOSEN TO RESIST MIN ALLOWABLE STRESS DESIGN (ASD) LOADS INDICATED ON DRAWINGS. ASD LOADS INDICATED TO NOT INCLUDE LOAD ADJUSTMENT FACTORS.

13. GAS AND POWDER-ACTUATED FASTENERS FOR USE IN CONCRETE, CMU, OR STEEL SHALL HAVE BEEN TESTED AND QUALIFIED FOR USE IN ACCORDANCE WITH ICC-ES AC70.

NOTE:

COORDINATE LOCATIONS OF WALL REINFORCEMENT WITH LOCATIONS OF POST-INSTALLED ANCHORS TO AVOID CONFLICT WHEN PLACING ANCHORS.

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PENN STATE NEW RESIDENCE HALL
THE PENNSYLVANIA STATE UNIVERSITY
UNIVERSITY PARK, PA 16802

CN NO: 4046
DATE: 06/29/2012
DESIGN: BSP
DRAWN: BJT
REVIEW: ECW

REVISIONS

No.	Date	Description

GENERAL NOTES

S-002

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STATEMENT OF SPECIAL INSPECTIONS

PROJECT: PENN STATE NEW RESIDENCE HALL
LOCATION: THE PENNSYLVANIA STATE UNIVERSITY, PENNSYLVANIA
OWNER'S REPRESENTATIVE: BARTON MALOW COMPANY
OWNER'S ADDRESS: UNIVERSITY PARK, PA 16802
ARCHITECT OF RECORD: CLARK NEXSEN ARCHITECTURE & ENGINEERING
STRUCTURAL ENGINEER OF RECORD: CLARK NEXSEN ARCHITECTURE & ENGINEERING

THIS STATEMENT OF SPECIAL INSPECTIONS IS SUBMITTED AS A CONDITION FOR PERMIT ISSUANCE IN ACCORDANCE WITH THE SPECIAL INSPECTION REQUIREMENTS (CHAPTER 17) OF THE INTERNATIONAL BUILDING CODE. THE STATEMENT INCLUDES A SCHEDULE OF SPECIAL INSPECTIONS APPLICABLE TO THIS PROJECT AS WELL AS THE REQUIRED QUALIFICATIONS FOR THE SPECIAL INSPECTOR AND AGENTS OF THE SPECIAL INSPECTOR TO PERFORM ON THIS PROJECT.

THE SPECIAL INSPECTOR SHALL KEEP RECORDS OF ALL INSPECTIONS, FURNISH INSPECTION REPORTS, AND IDENTIFY DISCREPANCIES AS DETAILED BY PROJECT SPECIFICATIONS AND RFP.

A FINAL REPORT OF SPECIAL INSPECTIONS, DOCUMENTING THE COMPLETION OF ALL REQUIRED SPECIAL INSPECTIONS AND CONFIRMING THE CORRECTION OF ANY DISCREPANCIES, WILL BE SUBMITTED PRIOR TO ISSUANCE OF A CERTIFICATE OF USE AND OCCUPANCY.

THE SPECIAL INSPECTIONS PROGRAM DOES NOT RELIEVE THE CONTRACTOR OF HIS OR HER RESPONSIBILITIES. JOB SITE SAFETY AND MEANS AND METHODS OF CONSTRUCTION ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.

SCHEDULE OF SPECIAL INSPECTION

THE FOLLOWING SHEETS COMPRISE THE REQUIRED SCHEDULE OF SPECIAL INSPECTIONS FOR THIS PROJECT. THE CONSTRUCTION DIVISIONS WHICH REQUIRE SPECIAL INSPECTIONS FOR THIS PROJECT ARE AS FOLLOWS.

- ☒ SOILS
- ☐ SPECIAL FOUNDATIONS
- ☒ CAST-IN-PLACE CONCRETE
- ☐ STRUCTURAL LOAD BEARING PRECAST CONCRETE
- ☐ POST TENSIONED CONCRETE
- ☒ STRUCTURAL MASONRY
- ☐ WOOD SHEAR WALLS
- ☒ STRUCTURAL STEEL
- ☒ SITE RETAINING WALLS
- ☒ COLD-FORMED STEEL FRAMING
- ☐ WALL PANELS AND VENEERS
- ☒ SPRAYED FIRE-RESISTANT MATERIALS
- ☐ EXTERIOR INSULATION & FINISH SYSTEM (EIFS)
- ☐ PROGRESSIVE COLLAPSE
- ☐ BLAST RESISTANCE
- ☐ QUALITY ASSURANCE FOR PROGRESSIVE COLLAPSE
- ☒ POST-INSTALLED CONCRETE AND MASONRY ANCHORS

SEISMIC DESIGN CATEGORY: A
BASIC WIND SPEED: 90 MPH
WIND EXPOSURE CATEGORY: B

QUALIFICATIONS OF INSPECTORS AND AGENTS OF SPECIAL INSPECTORS

THE QUALIFICATIONS OF ALL PERSONNEL PERFORMING SPECIAL INSPECTION ACTIVITIES ARE SUBJECT TO THE APPROVAL OF THE BUILDING OFFICIAL. THE CREDENTIALS OF ALL INSPECTORS SHALL BE PROVIDED IF REQUESTED. WHEN THE STRUCTURAL ENGINEER OF RECORD DEEMS IT APPROPRIATE THAT THE INDIVIDUAL PERFORMING A STIPULATED TEST OR INSPECTION HAVE A SPECIFIC CERTIFICATION OR LICENSE AS INDICATED BELOW, SUCH DESIGNATION WILL APPEAR ON THE SCHEDULE OF SPECIAL INSPECTIONS.

THE SPECIAL INSPECTOR (SI) SHALL BE A LICENSED PROFESSIONAL ENGINEER WITH A MINIMUM OF 3 YEARS OF EXPERIENCE AS A SPECIAL INSPECTOR.

1. SE — STRUCTURAL ENGINEER: A LICENSED PE OR SE SPECIALIZING IN THE DESIGN OF BUILDING STRUCTURES.
2. GE — GEOTECHNICAL ENGINEER: A LICENSED PE SPECIALIZING IN SOIL MECHANICS AND FOUNDATIONS.
3. S-EIT — STRUCTURAL ENGINEER-IN-TRAINING: A GRADUATE ENGINEER WHO HAS PASSED THE FUNDAMENTALS OF ENGINEERING EXAMINATION, WITH EXPERIENCE IN THE DESIGN OF BUILDING STRUCTURES AND WORKING UNDER THE SUPERVISION OF A LICENSED STRUCTURAL PE OR SE.
4. G-EIT — GEOTECHNICAL ENGINEER-IN-TRAINING: A GRADUATE ENGINEER WHO HAS PASSED THE FUNDAMENTALS OF ENGINEERING EXAMINATION, WITH EXPERIENCE IN SOIL MECHANICS AND FOUNDATIONS AND WORKING UNDER THE SUPERVISION OF A LICENSED GEOTECHNICAL PE.
5. G-TECH 1 — GEOTECHNICAL TECHNICIAN 1: AN EXPERIENCED TECHNICIAN WITH NATIONAL INSTITUTE FOR CERTIFICATION IN ENGINEERING TECHNOLOGIES (NICET): LEVEL 2 – SOILS CERTIFICATION.
6. G-TECH 2 — GEOTECHNICAL TECHNICIAN 2: AN EXPERIENCED TECHNICIAN WITH NATIONAL INSTITUTE FOR CERTIFICATION IN ENGINEERING TECHNOLOGIES (NICET): LEVEL 2 – GEOTECHNICAL ENGINEERING CERTIFICATION.
7. C-TECH 1 — CONCRETE TECHNICIAN 1: AN EXPERIENCED TECHNICIAN WITH AMERICAN CONCRETE INSTITUTE – GRADE I CONCRETE FIELD TESTING TECHNICIAN OR GRADE I CONCRETE LABORATORY TESTING TECHNICIAN CERTIFICATION.
8. C-TECH 2 — CONCRETE TECHNICIAN 2: AN EXPERIENCED TECHNICIAN WITH AMERICAN CONCRETE INSTITUTE – GRADE II CONCRETE LABORATORY TESTING TECHNICIAN OR ICBO REINFORCED CONCRETE SPECIAL INSPECTOR CERTIFICATION.
9. S-TECH 1 — STEEL TECHNICIAN 1: AN EXPERIENCED AMERICAN WELDING SOCIETY – CERTIFIED ASSOCIATE WELDING INSPECTOR (CAWI) OR NON-DESTRUCTIVE TESTING TECHNICIAN ASNT-TC-1A LEVEL I.
10. S-TECH 2 — STEEL TECHNICIAN 2: AN EXPERIENCED AMERICAN WELDING SOCIETY – CERTIFIED WELDING INSPECTOR (CWI) OR NON-DESTRUCTIVE TESTING TECHNICIAN ASNT-TC-1A LEVEL II OR ICBO CERTIFIED STRUCTURAL STEEL AND BOLTING SPECIAL INSPECTOR.
11. S-TECH 3 — STEEL TECHNICIAN 3: AN EXPERIENCED TECHNICIAN WHO IS AN AMERICAN WELDING SOCIETY – CERTIFIED WELDING INSPECTOR (CWI) WITH A MINIMUM OF10 YEARS OF WELD INSPECTION EXPERIENCE OR A NON-DESTRUCTIVE TESTING TECHNICIAN ASNT-TC-1A LEVEL III OR ICBO CERTIFIED STRUCTURAL WELDING SPECIAL INSPECTOR.
12. SMSI — STRUCTURAL MASONRY SPECIAL INSPECTOR: AN EXPERIENCED MASONRY INSPECTOR WHO IS AN ICBO CERTIFIED STRUCTURAL MASONRY SPECIAL INSPECTOR.
13. SFSI — ICBO CERTIFIED SPRAY-APPLIED FIREPROOFING SPECIAL INSPECTOR.
14. PCSI — ICBO CERTIFIED PRESTRESSED CONCRETE SPECIAL INSPECTOR.
15. PTI — CONCRETE TECHNICIAN WITH POST TENSIONING INSTITUTE – LEVEL 2 CERTIFICATION.
16. SCSI — INSPECTION/TESTING COMPANY WITH FIRE PROTECTION ENGINEERING EXPERIENCE, MECHANICAL ENGINEERING EXPERIENCE, AND CERTIFICATION AS AIR BALANCERS.

SCHEDULE OF SPECIAL INSPECTION - SOILS

(SPECIAL INSPECTION OF SOILS IS ONLY REQUIRED FOR SUBGRADE AND FILL PLACEMENT UNDER STRUCTURES REQUIRING SPECIAL INSPECTIONS.)

ITEM	QUALIFICATIONS	SCOPE
1. SITE PREPARATION	SI G-TECH S-EIT G-EIT GE SE	- COLLECT TESTING AGENCY'S FIELD AND LABORATORY TEST REPORTS DURING SITE PREPARATION AND VERIFY THE FOLLOWING COMPLIES WITH THE PROJECT SPECIFICATIONS/GEOTECHNICAL REPORT: - SITE STRIPPING AND SUBGRADE PREPARATION - FILL MATERIAL (ON-SITE AND/OR IMPORTED) CLASSIFICATION - FILL MATERIAL PLACEMENT (LIFT THICKNESS, MOISTURE CONTENT AND COMPACTION) - ALLOWABLE BEARING CAPACITY FOR FOOTINGS AND FOUNDATIONS - PERIODIC INSPECTION OF TESTING OF FILL MATERIAL PLACEMENT INCLUDING PERIODIC OBSERVATION OF TESTING AGENCY'S DENSITY TESTING METHODS AND FREQUENCY OF TESTING TO VERIFY COMPLIANCE WITH PROJECT SPECIFICATIONS/GEOTECHNICAL REPORT.

SCHEDULE OF SPECIAL INSPECTION - CAST-IN-PLACE CONCRETE

ITEM	QUALIFICATIONS	SCOPE
1. MIX DESIGN VERIFICATION	SI C-TECH 1 C-TECH 2 S-EIT SE	- COLLECT ACCEPTED MIX DESIGNS AND VERIFY APPROPRIATE MIX IS USED DURING SPECIFIC INSTALLATION
2. REINFORCEMENT INSTALLATION	SI C-TECH 2 S-EIT SE	- PERIODIC INSPECTION OF REINFORCING STEEL AND WELDED WIRE FABRIC TO CONFIRM SIZE, SPACING, AND DETAILS CONFORM TO CONTRACT DOCUMENTS AT FOLLOWING FREQUENCY: - FOOTINGS AND FOUNDATIONS – 50% OF ALL - FOUNDATION WALLS, BASEMENT WALLS, AND PEDESTALS – 75% OF ALL - SLABS ON METAL DECK – 50% OF ALL - COLUMNS AND SHEARWALLS – 75% OF ALL - ELEVATED SLABS, JOISTS, AND BEAMS – 75% OF ALL
3. CONCRETE PLACEMENT/MONITORING FRESH CONCRETE, SAMPLING, & PREP OF TEST SAMPLES	SI C-TECH 2 S-EIT SE	- CONTINUOUS INSPECTION OF CAST-IN-PLACE CONCRETE PLACEMENT - CONTINUOUS MONITORING OF SAMPLING OF FRESH CONCRETE, SLUMP TEST, AIR CONTENT TEST, TEMPERATURE OF CONCRETE, AND CREATION OF STRENGTH TEST SPECIMENS
4. CURING & PROTECTION	SI C-TECH 2 S-EIT SE	- PERIODIC INSPECTIONS OF CURING TECHNIQUES - PERIODIC INSPECTIONS OF COLD AND HOT WEATHER CONCRETING TECHNIQUES
5. CONCRETE STRENGTH VERIFICATION	SI C-TECH 2 S-EIT SE	- VERIFY WITH TESTING AGENCY REPORTS IN-SITU CONCRETE STRENGTH OF ELEVATED BEAMS AND SLABS PRIOR TO REMOVAL OF SHORINGS AND FORMS.

SCHEDULE OF SPECIAL INSPECTION - MASONRY

ITEM	QUALIFICATIONS	SCOPE
1. MATERIAL CERTIFICATIONS	SI	- COLLECT MIX DESIGN FOR MORTAR - COLLECT MIX DESIGN FOR GROUT - CERTIFICATES OF COMPLIANCE FOR MASONRY CONSTITUENTS
2. MIXING OF MORTAR & GROUT	SI SMSI C-TECH1 S-EIT	- VERIFY: PROPORTIONS OF SITE-PREPARED MORTAR - PERIODIC INSPECTION OF SITE PREPARED MORTAR AND BATCHING PROCEDURE
3. INSTALLATION OF MASONRY	SI SMSI C-TECH1 S-EIT	- INSPECTION OF CONSTRUCTION OF MORTAR JOINTS, PRIOR TO BEGINNING MASONRY CONSTRUCTION - PERIODIC VERIFICATION OF MORTAR JOINT CONSTRUCTION PROCEDURES, SIZE, CONFIGURATION, AND TOOLING - VERIFICATION OF SIZE, LOCATION, AND EXTENT OF GROUTING OF STRUCTURAL ELEMENTS, INCLUDING BOND BEAMS, LINTELS, REINFORCED CELLS, BEAMS, HEADERS, CORNERS, INTERSECTIONS, AND CORBELS
4. REINFORCEMENT INSTALLATION	SI SMSI C-TECH1 S-EIT	- PERIODIC INSPECTION OF JOINT REINFORCING IN MASONRY WALLS - PERIODIC INSPECTION OF LAP LENGTHS OF REINFORCING IN MASONRY WALLS - PRIOR TO GROUTING, VERIFY LOCATION, SIZE, EXTENT, AND LAPS OF REINFORCEMENT IN WALLS, INCLUDING REINFORCEMENT AT CORNERS, INTERSECTIONS, EACH SIDE OF OPENINGS, ABOVE AND BELOW OPENINGS, AT WALL ENDS, AT CONTROL JOINTS, AND WITHIN BOND BEAMS - PRIOR TO GROUTING, VERIFY TYPE, SIZE, AND LOCATION OF ALL ANCHORS, EMBEDS, AND OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES, OR OTHER CONSTRUCTION - INSPECTOR SHALL TAKE NOTE OF ANY LOCATIONS WHERE REINFORCING STEEL PLACEMENT CONFLICTS WITH INSTALLATION OF OTHER ELEMENTS SHOWN ON DRAWINGS, AND REPORT THESE BEFORE GROUTING
5. GROUTING OPERATIONS	SI SMSI C-TECH1 S-EIT	- PRIOR TO GROUTING, PERIODICALLY VERIFY CLEANLINESS OF GROUT SPACE - CONTINUOUS OBSERVATION OF THE PLACEMENT OF ALL GROUTING OF REINFORCED BUILDING WALLS, VERIFYING CORRECT EXTENT OF GROUTING - PERIODIC INSPECTION OF FULLY-GROUTED FOUNDATION WALLS AND WALL CAVITIES AT FOUNDATION, WHICH NEED NOT MEET REQUIREMENTS FOR CLEANLINESS OF GROUT SPACE
6. WEATHER PROTECTION	SI SMSI C-TECH1 S-EIT	- PERIODICALLY VERIFY PROTECTION TECHNIQUES FOR MASONRY CONSTRUCTION BELOW 40ºF AND ABOVE 90ºF
7. OBSERVATION - EVALUATION OF MASONRY STRENGTH	SI SMSI C-TECH1 S-EIT	- CONTINUOUS OBSERVATION OF THE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS AND/OR PRISMS
8. WELDING REBAR	SI AWS-CWI	- CONTINUOUS INSPECTION BY AWS-CWI OF REBAR WELDING, VERIFYING THAT WELDABLE REINFORCING IS USED AND APPROPRIATE PROCEDURES ARE FOLLOWED

SCHEDULE OF SPECIAL INSPECTION - STRUCTURAL STEEL

ITEM	QUALIFICATIONS	SCOPE
1. FABRICATOR CERTIFICATION/ QUALITY CONTROL PROCEDURES	S-TECH 1 S-TECH 2 S-TECH 3 S-EIT SE SI	- ENSURE FABRICATOR IS AISC CERTIFIED PER CONTRACT DOCUMENTS TO SATISFY REQUIREMENTS OF IBC 1704.2.2 - COLLECT CERTIFICATE OF COMPLIANCE FROM FABRICATOR AT COMPLETION OF FABRICATION
2. WELDING	S-TECH 1 S-TECH 2 S-TECH 3 S-EIT SE SI	- COLLECT CERTIFICATE OF COMPLIANCE FOR WELD FILLER MATERIAL AND CONFIRM COMPLIANCE WITH CONTRACT DOCUMENTS - CONFIRM WELD FILLER MATERIAL IDENTIFICATION MARKINGS CONFORM TO AWS SPECIFICATION IN THE CONTRACT DOCUMENTS - CONTINUOUS VISUAL INSPECTION OF ALL COMPLETE AND PARTIAL PENETRATION WELDS - CONTINUOUS VISUAL INSPECTION OF ALL MULTIPLE PASS FILLET WELDS - CONTINUOUS VISUAL INSPECTION OF ALL SINGLE FILLET WELDS GREATER THAN 5/16" - PERIODIC (25% OF ALL) VISUAL INSPECTION OF FILLET WELDS 5/16" OR SMALLER - PERIODIC (25% OF ALL) VISUAL INSPECTION OF ROOF AND FLOOR DECK WELDS - PERIODIC (50% OF ALL) VISUAL INSPECTION OF WELDED REINFORCING STEEL
3. STRUCTURAL DETAILS	S-TECH 1 S-TECH 2 S-TECH 3 S-EIT SE SI	- PERIODIC INSPECTION OF STEEL FRAMING JOINT DETAILS TO CONFIRM MEMBER SIZES AND CONNECTION DETAILS PER THE FOLLOWING: o 10% OF ALL BEAM-TO-BEAM CONNECTIONS o 25% OF ALL BEAM-TO-COLUMN CONNECTIONS o 50% OF ALL COLUMN SPLICE CONNECTIONS o 100% OF ALL CONNECTIONS OF MEMBERS WITHIN VERTICAL FRAMES
4. METAL DECK	S-TECH 1 S-TECH 2 S-TECH 3 S-EIT SE SI	- COLLECT MATERIAL DATA SHEETS FOR DECKING AND CONNECTORS OR FASTENERS - PERIODIC INSPECTION OF CONNECTIONS OF DECKING
5. BOLTING	S-TECH 1 S-TECH 2 S-TECH 3 S-EIT SE SI	- COLLECT MATERIAL DATA SHEETS FOR A325 AND A490 BOLTS, NUTS, AND WASHERS, AND CONFIRM COMPLIANCE WITH CONTRACT DOCUMENTS - COLLECT CERTIFICATE OF COMPLIANCE FROM BOLT SUPPLIER AT COMPLETION OF FABRICATION - PERIODIC (10% OF ALL) INSPECTION OF BOLTED CONNECTIONS TO CONFIRM BOLT MARKINGS CONFORM TO ASTM STANDARDS - PERIODIC (50% OF ALL) INSPECTION OF A325/A490 BOLTED (BEARING TYPE) CONNECTIONS - CONTINUOUS INSPECTION OF INSTALLATION OF A325/A490 BOLTED (SLIP CRITICAL) CONNECTIONS - CONTINUOUS INSPECTION OF ALL PRE-TENSIONED BOLTS TO CONFIRM TENSIONING CONFORMS TO CONTRACT DOCUMENTS
6. MATERIAL CERTIFICATION	S-TECH 1 S-TECH 2 S-TECH 3 S-EIT SE SI	- COLLECT CERTIFIED MILL TEST REPORTS FOR ALL TYPES OF STRUCTURAL STEEL SPECIFIED IN THE CONTRACT DOCUMENTS AND CONFIRM COMPLIANCE WITH CONTRACT DOCUMENTS

SCHEDULE OF SPECIAL INSPECTION SERVICES - SITE RETAINING WALLS

ITEM
ALL SITE RETAINING WALLS RETAINING MORE THAN 5'-0" OF EARTH REQUIRE SPECIAL INSPECTIONS. THIS INCLUDES FOOTINGS AND WALLS. SEE APPROPRIATE MATERIAL SPECIAL INSPECTION SCHEDULES FOR SPECIFIC REQUIREMENTS.

SCHEDULE OF SPECIAL INSPECTION - COLD-FORMED STEEL FRAMING

ITEM	QUALIFICATIONS	SCOPE
1. PLANT CERTIFICATION/ QUALITY CONTROL PROCEDURES	S-EIT SE SI	- ENSURE FABRICATOR IS AISI AND SSMA CERTIFIED PER CONTRACT DOCUMENTS TO SATISFY REQUIREMENTS OF IBC 1704.2.2 - COLLECT CERTIFICATE OF COMPLIANCE FROM FABRICATOR AT COMPLETION OF FABRICATION
2. MECHANICAL CONNECTIONS	S-EIT SE SI	- PERIODIC INSPECTION (50% OF ALL) OF FIELD CONNECTIONS INCLUDING ANCHORAGE TO THE STRUCTURAL FRAME
3. FRAMING DETAILS	S-EIT SE SI	- PERIODIC INSPECTION FRAMING AND DETAILS

SCHEDULE OF SPECIAL INSPECTION - SPRAYED FIRE-RESISTANT MATERIALS

ITEM	QUALIFICATIONS	SCOPE
1. MATERIAL VERIFICATION AND QUALITY CONTROL	SCSI SFSI S-EIT SE SI	- COLLECTING PRODUCT DATA ON SPRAY-APPLIED FIREPROOFING MATERIALS USED ONSITE AND VERIFYING THAT MATERIAL USED MATCHES APPROVED PRODUCT - COLLECTING ANY MATERIAL CERTIFICATIONS AND ACQUIRING ICC-ES FOR PRODUCT TO GUIDE SPECIAL INSPECTIONS
2. VERIFYING COMPLIANCE WITH APPROVED CONSTRUCTION DOCUMENTS - SPRAY APPLIED FIREPROOFING MATERIALS	SCSI SFSI SE	- ENSURE THAT SUBSTRATES MATCH SURFACE PREPARATION AND CONDITION SPECIFIED BY FIREPROOFING MANUFACTURER'S INSTRUCTIONS – 100% VISUAL INSPECTION AND PERIODIC VERIFICATION OF SUBSTRATE TEMPERATURE - VERIFY THICKNESS AND DENSITY OF APPLICATION ON NOT LESS THAN 25% OF PROTECTED STRUCTURAL MEMBERS PER FLOOR, AND NO FEWER THAN 2 MEMBERS PER FLOOR. MEASUREMENTS SHALL BE MADE AT 9 LOCATIONS AROUND EACH BEAM AT EACH END OF A 12-INCH LENGTH. FOR APPLICATIONS <1" THICK, MINIMUM ALLOWABLE THICKNESS AT ANY POINT SHALL BE 25% LESS THAN SPECIFIED. FOR THICKNESSES OF 1" OR MORE, MINIMUM ALLOWABLE SHALL BE ½" LESS THAN SPECIFIED. THICKNESS SHALL BE DETERMINED ACCORDING TO ASTM E605 - VERIFY BOND STRENGTH/ADHESION OF SPRAY-APPLIED FIREPROOFING (NOT LESS THAN 150 PSF) THROUGH PERIODIC PULLOFF TESTING, ACCORDING TO ASTM E 736. RATE OF TESTING SHALL BE ONE MEMBER PER 2500 SQUARE FEET OF SPRAYED AREA IN EACH STORY, BUT NOT LESS THAN ONE PER STORY - OBSERVING CONDITION OF FINISHED APPLICATION
3.INTUMESCENT AND MASTIC FIRE-RESISTANT COATINGS	SCSI SFSI S-EIT SE	* TESTING SHALL BE IN ACCORDANCE WITH AWCI 12-B

SCHEDULE OF SPECIAL INSPECTION - POST-INSTALLED ANCHORS FOR MASONRY OR CONCRETE

ITEM	QUALIFICATIONS	SCOPE
1. MATERIAL VERIFICATION	S-TECH 1 S-EIT SE SI	- VERIFY AND RECORD PRODUCT DATA FOR 100% OF POST-INSTALLED ANCHORS, AND VERIFY THAT PRODUCT INSTALLED MATCHES APPROVED PRODUCT
2. POST-INSTALLED ANCHOR INSTALLATION	S-TECH 1 S-EIT SE SI	- VERIFY DRILL BIT TO BE USED, HOLE DEPTH, PREPARATION, AND CLEANING ACCORDING TO MANUFACTURER'S INSTRUCTIONS CONTAINED IN ICC-ES REPORT – 100% OF ANCHORS - OBSERVE PROCEDURES USED IN ANCHOR INSTALLATION, CHECK AMBIENT TEMPERATURE AND SURFACE TEMPERATURE PERIODICALLY, VERIFY THAT ANCHORS ARE INSTALLED ACCORDING TO MANUFACTURER'S INSTRUCTIONS – 100% OF ANCHORS
3. ANCHOR TORQUE	S-TECH 1 S-EIT SE SI	- WHERE ANCHOR TORQUE IS SPECIFIED, VERIFY TORQUE – 100% OF ANCHORS

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THE PENNSYLVANIA STATE UNIVERSITY
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SPECIAL INSPECTIONS

S-003

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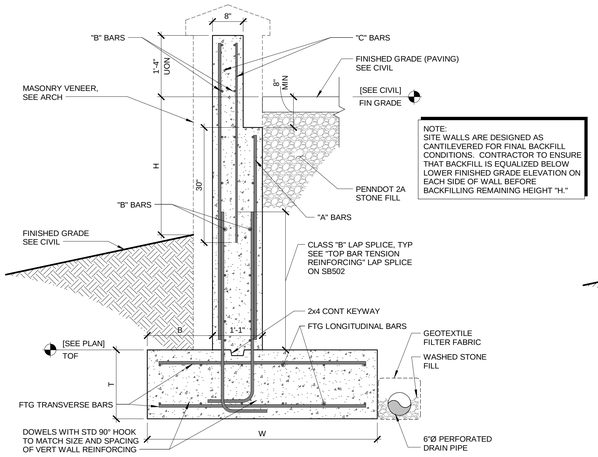
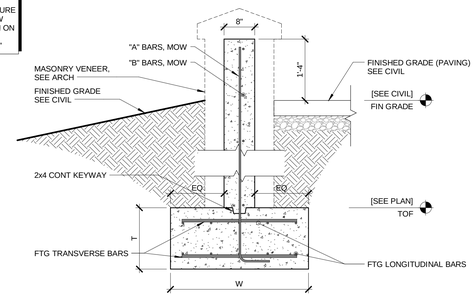


NOTE:
SITE WALLS ARE DESIGNED AS CANTILEVERED FOR FINAL BACKFILL CONDITIONS. CONTRACTOR TO ENSURE THAT BACKFILL IS EQUALIZED BELOW LOWER FINISHED GRADE ELEVATION ON EACH SIDE OF WALL BEFORE BACKFILLING REMAINING HEIGHT "H."

TYPE 1

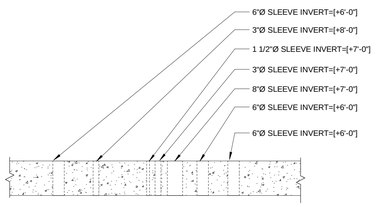


TYPE 2

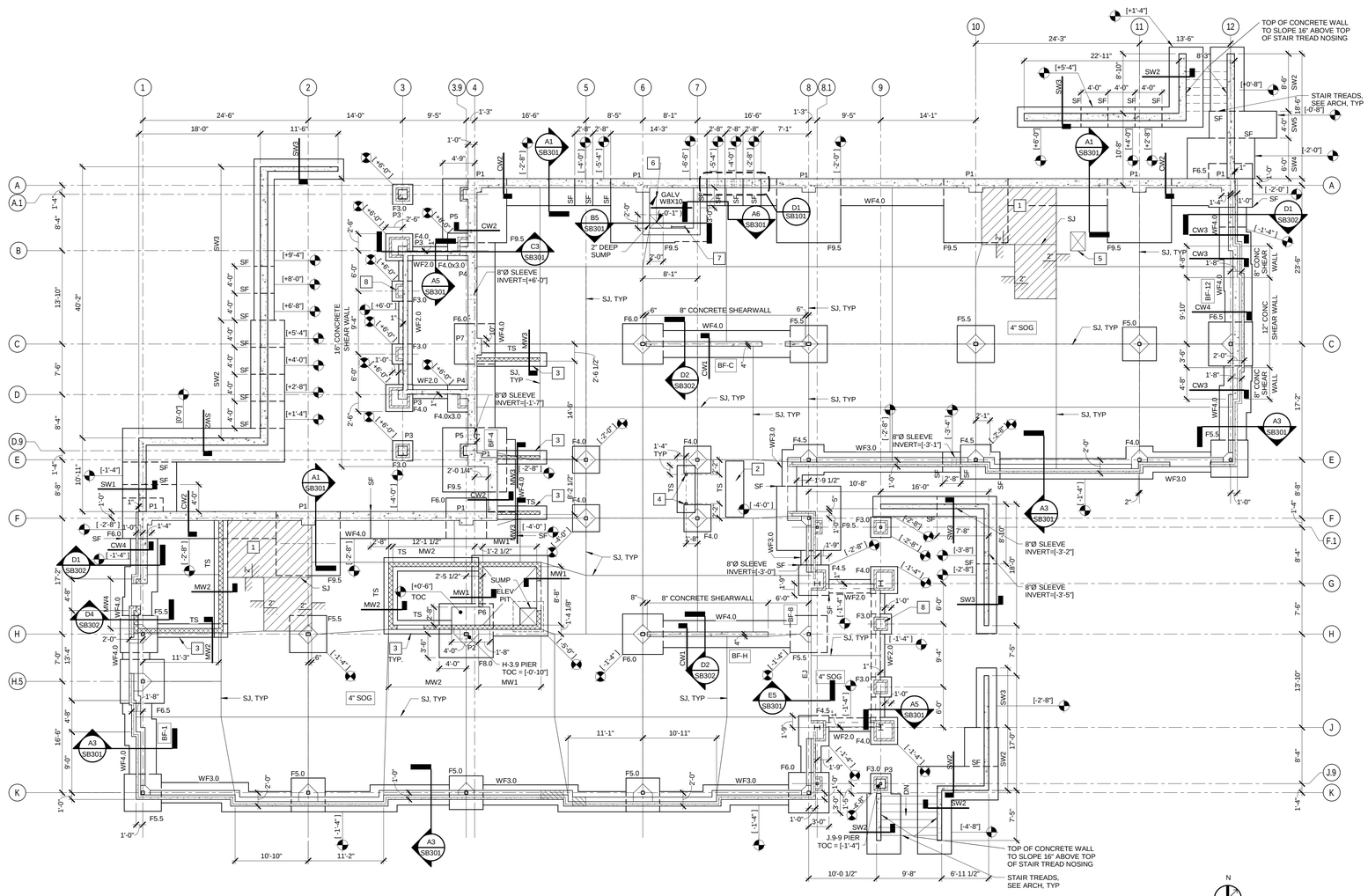
SITE WALL SCHEDULE										
						FOOTING REINFORCING		WALL REINFORCING		
MARK	TYPE	H (MAX)	W	B	T	LONGITUDINAL	TRANSVERSE	A	B	C
SW1	1	7'-6"	8'-0"	2'-5"	1'-10"	#4 AT 10" OC	#6 AT 6" OC	#6 AT 12" OC	#4 AT 14" OC	#4 AT 10" OC
SW2	1	4'-0"	5'-0"	1'-5"	1'-6"	#4 AT 12" OC	#6 AT 8" OC	#6 AT 12" OC	#4 AT 14" OC	#4 AT 10" OC
SW3	2	-	3'-0"	-	1'-4"	#4 AT 12" OC	#4 AT 12" OC	#4 AT 12" OC	#4 AT 12" OC	-
SW4	1	10'-0"	10'-0"	3'-0"	1'-10"	#4 AT 10" OC	#6 AT 6" OC	#6 AT 12" OC	#4 AT 14" OC	#4 AT 10" OC
SW5	1	8'-0"	10'-0"	6'-3"	1'-10"	#4 AT 10" OC	#6 AT 6" OC	#6 AT 12" OC	#4 AT 14" OC	#4 AT 10" OC

TYPICAL RETAINING WALL DETAILS

NOT TO SCALE



D1 PLAN DETAIL
NOT TO SCALE



FOUNDATION PLAN

1/8" = 1'-0"

PLAN NOTES

1. ALL ELEVATIONS REFERENCED FROM GROUND FLOOR ELEVATION 1120'-0" = [0'-0"].
2. TOP OF FOOTING ELEVATION SHALL BE [-1'-4"] UNLESS OTHERWISE NOTED.
3. SPREAD FOOTINGS AND WALL FOOTINGS ARE NOTED ON PLAN AS FX.X AND WFX.X, RESPECTIVELY. SEE FOOTING SCHEDULES ON SFB501 FOR SIZE AND REINFORCING.
4. SLAB ON GRADE SHALL BE 4" THICK REINFORCED WITH 6x6 – W2.1xW2.1 WWF PLACED 1 1/2" BELOW TOP OF SLAB. PLACE SLAB ON 10 MIL VAPOR RETARDER OVER 6" OF COMPACTED PENNDOT 2A STONE.
5. FOR TYPICAL FOUNDATION DETAILS, SEE SHEETS SB501 AND SB502.
6. STEP FOOTINGS SO THAT UTILITIES PASS OVER TOP OF FOOTING AS PER TYPICAL DETAIL ON SHEET SB501. COORDINATE ALL FOOTING LOCATIONS WITH CIVIL, PLUMBING, AND ELECTRICAL DRAWINGS.
7. SEE SF601 FOR COLUMN SCHEDULE AND WALL REINFORCING SCHEDULES.
8. SAWED CONTROL JOINTS SPACED AT 15'-0" OC MAX WITH 1.5 MAX GRID ASPECT RATIO. JOINTS (SJ) MAY OPTIONALLY BE CONSTRUCTION JOINTS (CJ). SEE SHEETS SB501 AND SB502 FOR TYPICAL DETAILS.
9. SEE "TYP REINFORCING AT RE-ENTRANT CORNERS, SLAB OPENINGS, AND DEPRESSION CORNERS" ON SF501.
10. SEE SHEETS SF201 AND SF202 FOR BRACED FRAME "BF-X" ELEVATIONS.

KEY NOTES

1 DEPRESSED SLAB. SEE "TYPICAL SLAB ON GRADE DEPRESSION" ON SB502

2 SEE "TYPICAL THICKENED SLAB AT STAIR LANDING" ON SB502

3 SEE "TYPICAL THICKENED SLAB UNDER CMU WALL" ON SB502

4 HSS4x4x1/4 POST UNDER STAIR STRINGER BY STAIR ENGINEER. SEE "TYPICAL THICKENED SLAB AT STAIR LANDING" ON SB502 FOR SLAB THICKNESS AND REINFORCING

5 OPENING IN SLAB FOR LINT TRAP, SEE PLUMBING DRAWINGS FOR SIZE AND LOCATION

6 GALVANIZED STEEL BAR GRATING WITH 1"x1/8" BEARING BARS AT 1 3/16" MAX SPACING AND 1/4"Ø CROSS BARS AT 4" SPACING. SEPARATE BAR GRATING INTO FOUR REMOVABLE, EQUAL SECTIONS

7 GALVANIZED STEEL LADDER IN MECHANICAL PIT, SEE ARCH

8 FILL CAVITY BELOW GRADE WITH 3000 PSI CONCRETE, TYPICAL AT VESTIBULE

GRAPHIC SCALE(S)

1/8" = 1' - 0" 0 5' 10' 15' 30'

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FOUNDATION PLAN

SB101

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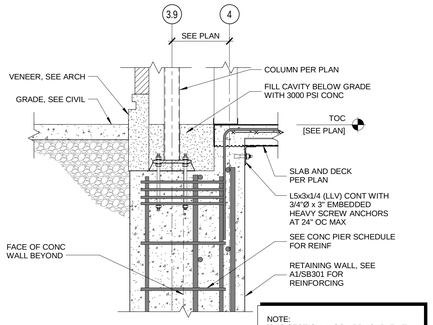

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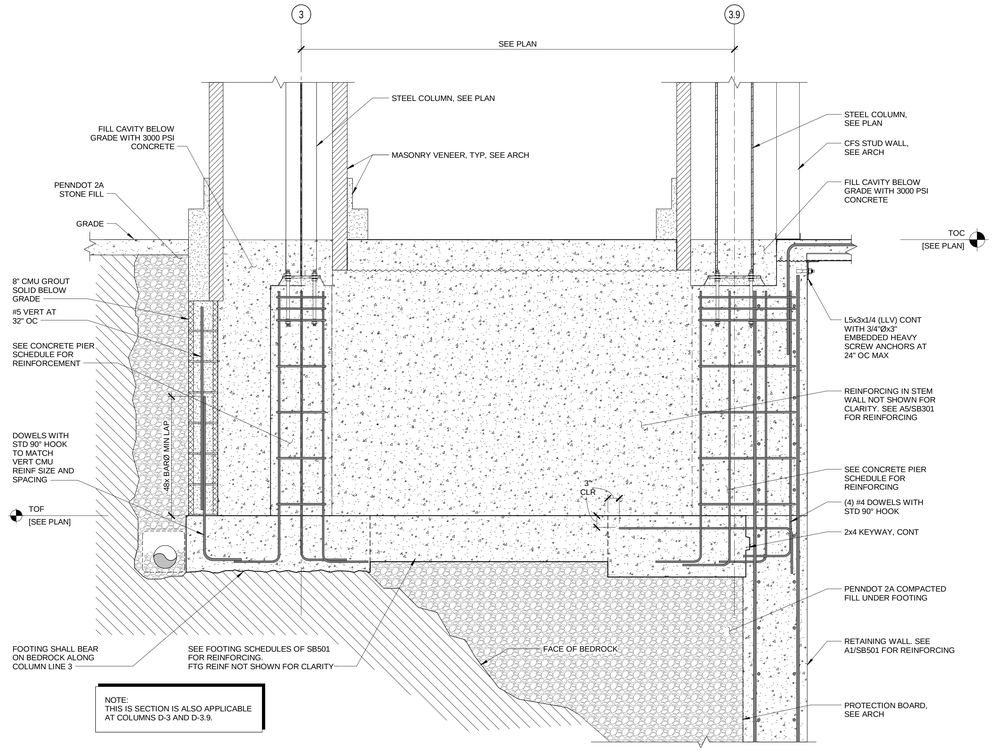
3/4" = 1'-0"



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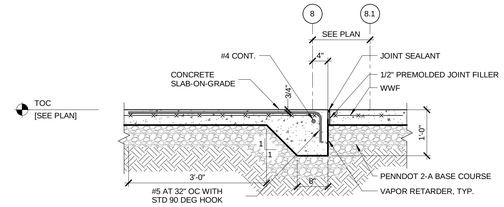

E5 SECTION
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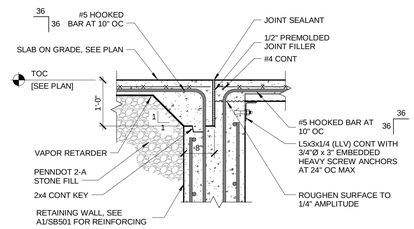

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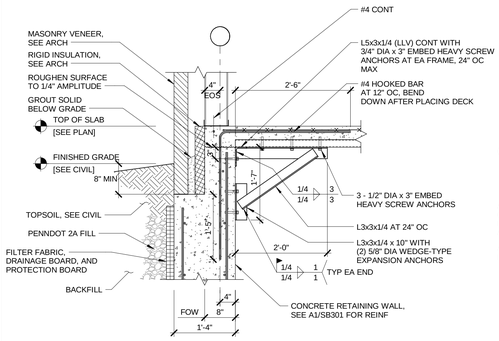

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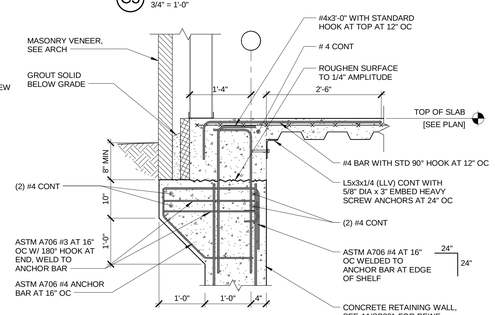

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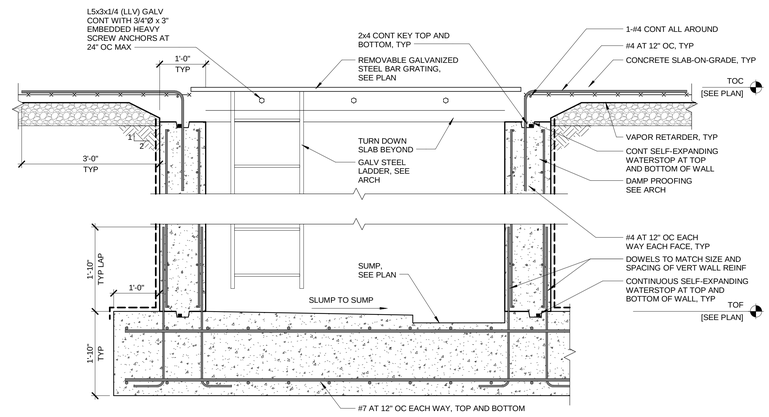

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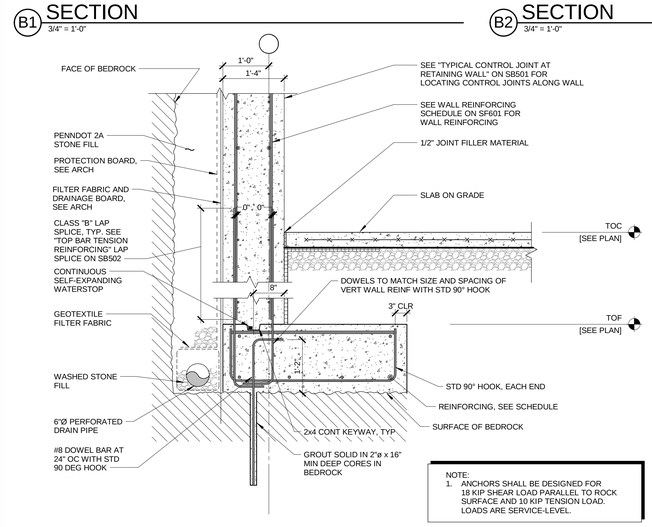
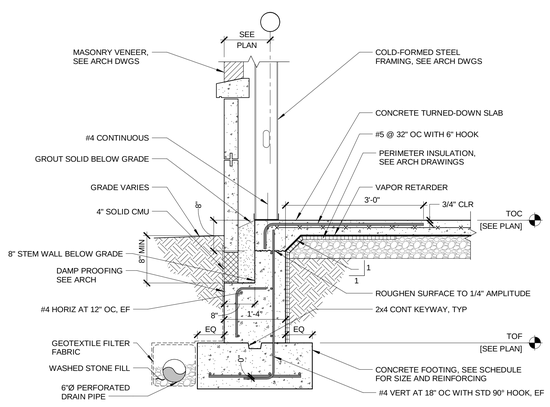


A1 GROUND FLOOR RETAINING WALL
3/4" = 1'-0"



A3 EXTERIOR WALL SECTION
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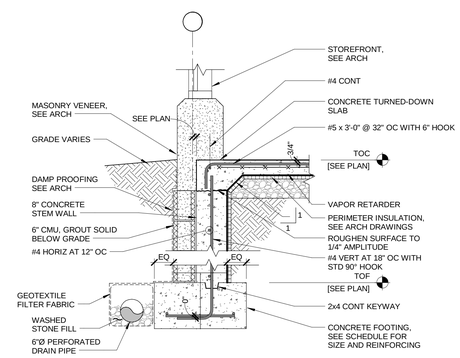

A5 VESTIBULE SLAB SECTION
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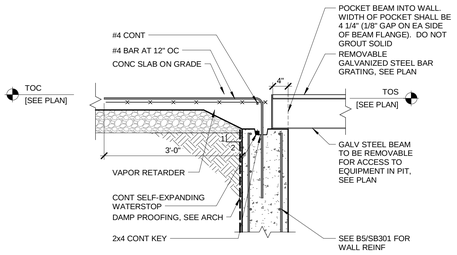

A6 SECTION
3/4" = 1'-0"

GRAPHIC SCALE(S)
3/4" = 1' - 0"

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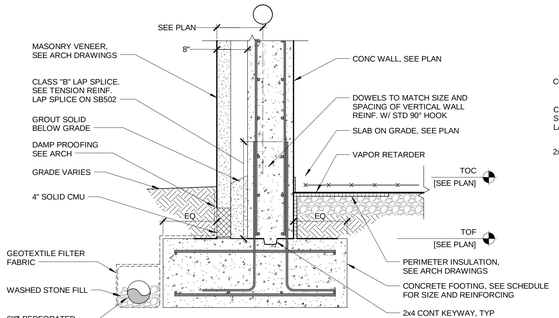

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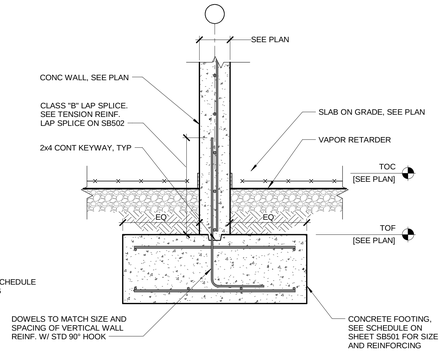

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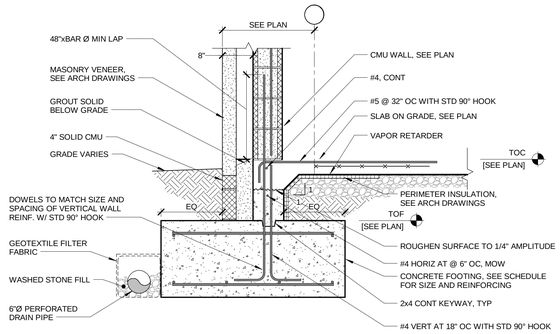

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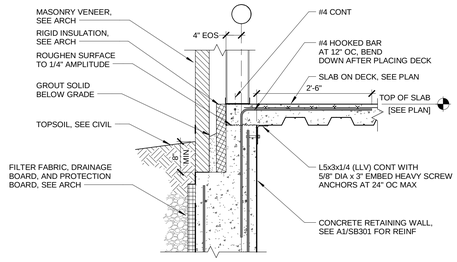

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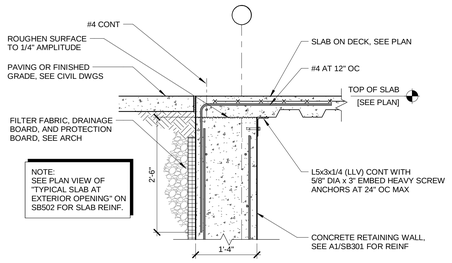

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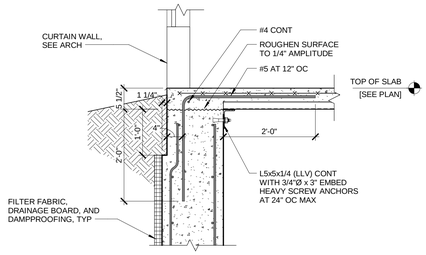

C2 SECTION
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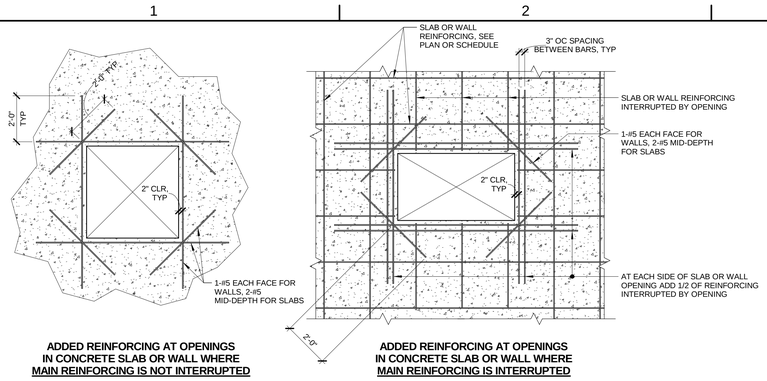


ADDED REINFORCING AT OPENINGS IN CONCRETE SLAB OR WALL WHERE MAIN REINFORCING IS NOT INTERRUPTED

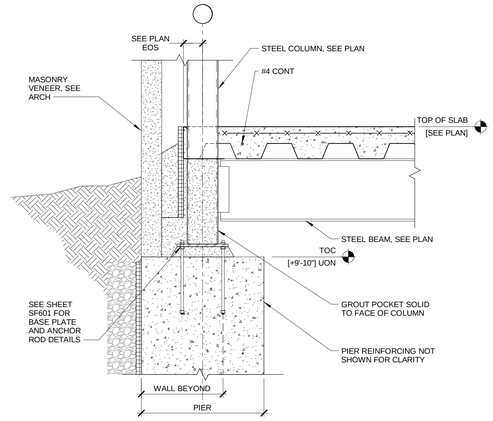
ADDED REINFORCING AT OPENINGS IN CONCRETE SLAB OR WALL WHERE MAIN REINFORCING IS INTERRUPTED

NOTES:

1. COORDINATE OPENING SIZE AND LOCATION WITH MECHANICAL DWGS.
2. NO SPECIAL REINFORCING REQUIRED FOR OPENINGS 4" OR LESS.
3. REINFORCING FOR ROUND OPENINGS SIMILAR.

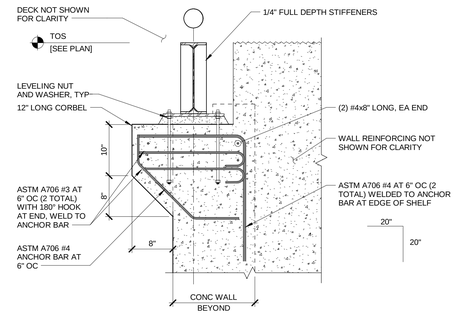
TYPICAL SLAB OR WALL OPENING

NOT TO SCALE



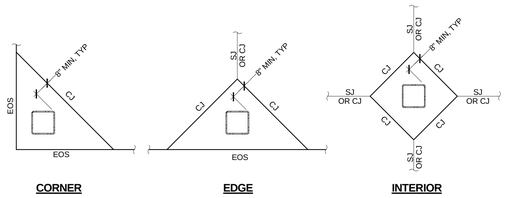
TYPICAL COLUMN BEARING ON PIER

NOT TO SCALE



TYPICAL BEAM BEARING ON CORBEL

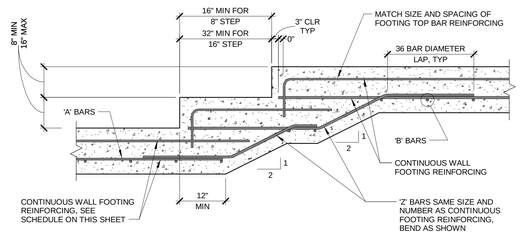
NOT TO SCALE



CORNER **EDGE** **INTERIOR**

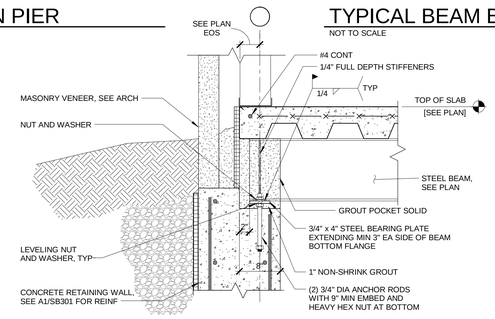
TYPICAL COLUMN ISOLATION JOINT

NOT TO SCALE



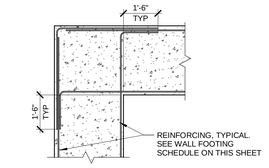
TYPICAL STEPPED FOOTING

NOT TO SCALE

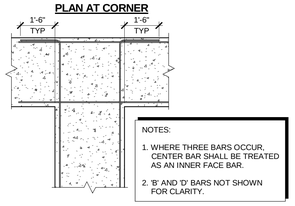


TYPICAL BEAM BEARING ON WALL

NOT TO SCALE



PLAN AT CORNER



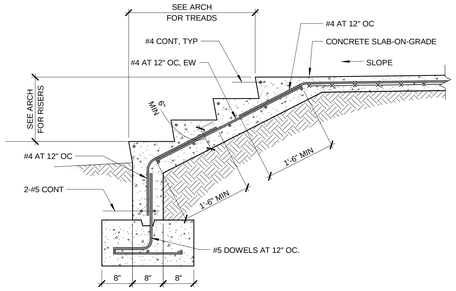
NOTES:

1. WHERE THREE BARS OCCUR, CENTER BAR SHALL BE TREATED AS AN INNER FACE BAR.
2. 'B' AND 'D' BARS NOT SHOWN FOR CLARITY.

PLAN AT INTERSECTION

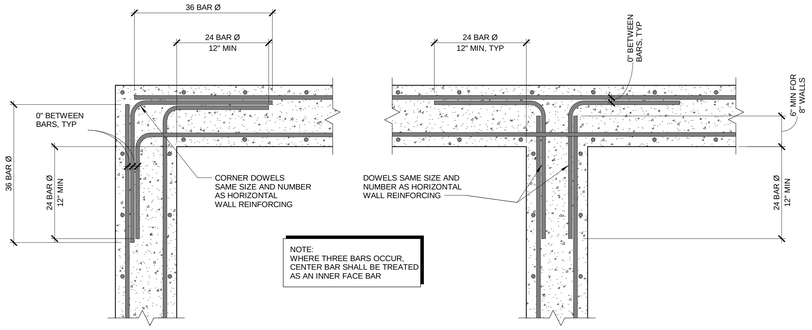
TYPICAL CONTINUOUS FOOTING REINFORCING

NOT TO SCALE



TYPICAL CONCRETE EXTERIOR STAIR SECTION

NOT TO SCALE

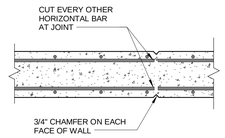


NOTE:
WHERE THREE BARS OCCUR, CENTER BAR SHALL BE TREATED AS AN INNER FACE BAR

PLAN AT CORNER **PLAN AT INTERSECTION**

TYPICAL CONTINUOUS WALL REINFORCING

NOT TO SCALE

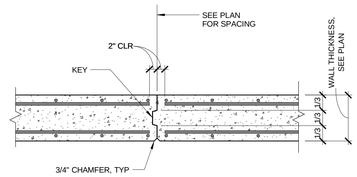


NOTES:

1. PROVIDE JOINTS AT 25'-0" OC ALONG WALL.
2. PROVIDE JOINTS 12'-0" FROM WALL CORNERS.

TYPICAL CONTROL JOINT AT RETAINING WALL

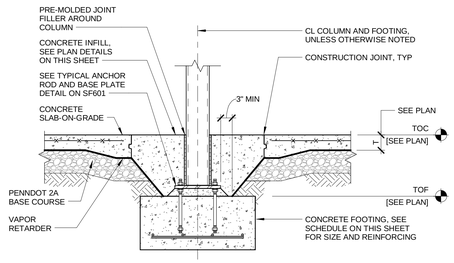
NOT TO SCALE



EXTERIOR FACE

TYPICAL CONCRETE WALL CONSTRUCTION JOINT

NOT TO SCALE



TYPICAL COLUMN FOOTING

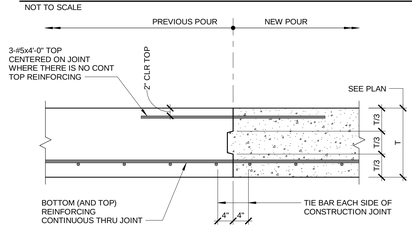
NOT TO SCALE

FOOTING SCHEDULE - COLUMN							
	DIMENSIONS			REINFORCING			
MARK	W	L	T	'A' BARS	'B' BARS	'C' BARS	'D' BARS
F3.0	3'-0"	3'-0"	1'-4"	(5) #5	(5) #5	-	-
F4.0	4'-0"	4'-0"	1'-4"	(7) #5	(7) #5	-	-
F4.0x3.0	3'-0"	4'-0"	1'-4"	(5) #5	(7) #5	-	-
F4.5	4'-6"	4'-6"	1'-4"	(8) #5	(8) #5	-	-
F5.0	5'-0"	5'-0"	1'-6"	(7) #6	(7) #6	-	-
F5.5	5'-6"	5'-6"	1'-10"	(7) #7	(7) #7	-	-
F6.0	6'-0"	6'-0"	1'-10"	(8) #7	(8) #7	-	-
F6.5	6'-6"	6'-6"	1'-10"	(8) #7	(8) #7	(8) #7	(8) #7
F8.0	8'-0"	8'-0"	1'-10"	(10) #7	(10) #7	-	-
F9.5	9'-6"	9'-6"	1'-10"	(12) #7	(12) #7	(12) #7	(12) #7

FOOTING SCHEDULE - WALL						
	DIMENSIONS		REINFORCING			
MARK	W	T	'A' BARS	'B' BARS	'C' BARS	'D' BARS
WF2.0	2'-0"	1'-0"	(2) #5 CONT	#5 @ 11" OC	-	-
WF3.0	3'-0"	1'-4"	(4) #5 CONT	#5 @ 7" OC	-	-
WF4.0	4'-0"	1'-6"	(4) #6 CONT	#6 @ 9" OC	(2) #6 CONT	#6 @ 18" OC

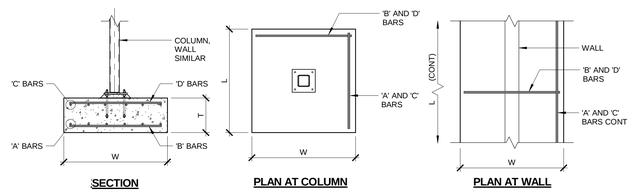
PIER SCHEDULE					
	DIMENSIONS		REINFORCING		
MARK	W	D	VERTICAL	TIES	NOTES
P1	2' - 0"	2' - 0"	(8) #8	#4 TIES @ 16" OC MAX AND (3) SETS @ 3" OC TOP	TYPE 1
P2	1' - 5"	1' - 10"	(8) #7	#4 TIES @ 14" OC MAX AND (3) SETS @ 3" OC TOP	TYPE 1
P3	1' - 4"	1' - 4"	(8) #6	#4 TIES @ 12" OC MAX AND (3) SETS @ 3" OC TOP	TYPE 1
P4	1' - 4"	2' - 6"	(12) #6	#4 TIES @ 12" OC MAX AND (3) SETS @ 3" OC TOP	TYPE 2
P5	2' - 0"	2' - 6"	(8) #7	#4 TIES @ 14" OC MAX AND (3) SETS @ 3" OC TOP	TYPE 1
P6	2' - 8"	5' - 8"	(18) #8	#4 TIES @ 16" OC MAX	TYPE 3
P7	2' - 0"	2' - 6"	(12) #8	#4 TIES @ 16" OC MAX AND (3) SETS @ 3" OC TOP	TYPE 2

NOTE:
PROVIDE TYPICAL CONTINUOUS HORIZONTAL WALL REINFORCING THROUGH CONCRETE PIERS.



TYPICAL CONCRETE FOOTING CONSTRUCTION JOINT

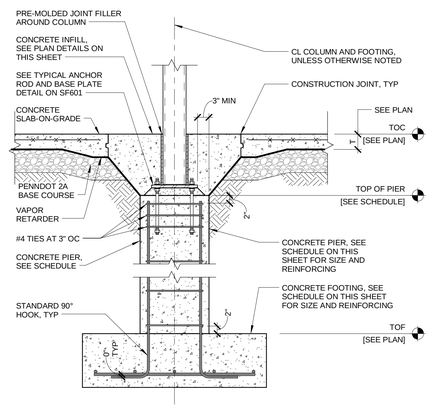
NOT TO SCALE



SECTION **PLAN AT COLUMN** **PLAN AT WALL**

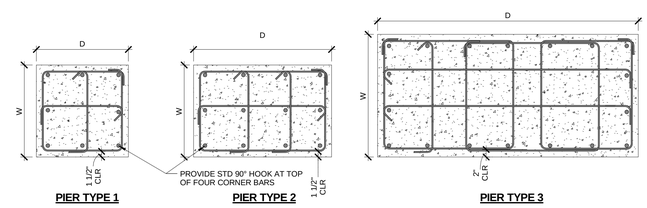
TYPICAL FOOTING REINFORCING DIAGRAM AND SCHEDULES

NOT TO SCALE



TYPICAL COLUMN PIER ON FOOTING

NOT TO SCALE



PIER TYPE 1 **PIER TYPE 2** **PIER TYPE 3**

TYPICAL PIER REINFORCING DETAIL AND SCHEDULE

NOT TO SCALE

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PENN STATE NEW RESIDENCE HALL
THE PENNSYLVANIA STATE UNIVERSITY
UNIVERSITY PARK, PA 16802

CN NO: 4046
DATE: 06/29/2012
DESIGN: BSP
DRAWN: BJT
REVIEW: ECW

REVISIONS

No.	Date	Description

TYPICAL FOUNDATION/SLAB DETAILS

SB501

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DEVELOPMENT LENGTH (Ld)			
SIZE	CONCRETE f'c		
	3000 PSI	4000 PSI	5000 PSI
#3	17"	15"	13"
#4	22"	19"	17"
#5	28"	24"	22"
#6	33"	29"	26"
#7	48"	42"	37"
#8	55"	48"	43"
#9	62"	54"	48"
#10	70"	61"	54"
#11	78"	67"	60"
#14	93"	81"	72"
#18	124"	107"	96"

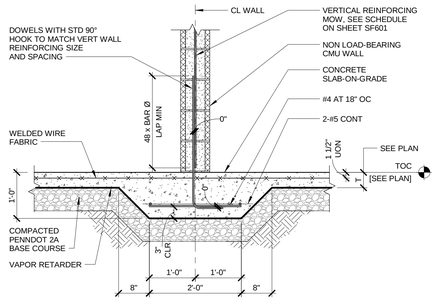
LAP SPLICE (Ls)						
SIZE	CONCRETE f'c					
	3000 PSI		4000 PSI		5000 PSI	
	CLASS A	CLASS B	CLASS A	CLASS B	CLASS A	CLASS B
#3	17"	22"	15"	19"	13"	17"
#4	22"	29"	19"	25"	17"	22"
#5	28"	36"	24"	31"	22"	28"
#6	33"	43"	29"	37"	26"	33"
#7	48"	63"	42"	54"	37"	49"
#8	55"	72"	48"	62"	43"	55"
#9	62"	81"	54"	70"	48"	63"
#10	70"	91"	61"	79"	54"	70"
#11	78"	101"	67"	87"	60"	78"
#14	93"	121"	81"	105"	72"	94"
#18	124"	161"	107"	140"	96"	125"

BOTTOM BAR TENSION REINFORCING

DEVELOPMENT LENGTH (Ld)			
SIZE	CONCRETE f'c		
	3000 PSI	4000 PSI	5000 PSI
#3	22"	19"	17"
#4	29"	25"	22"
#5	36"	31"	28"
#6	43"	37"	33"
#7	63"	54"	49"
#8	72"	62"	55"
#9	81"	70"	63"
#10	91"	79"	70"
#11	101"	87"	78"
#14	121"	105"	94"
#18	161"	140"	125"

LAP SPLICE (Ls)						
SIZE	CONCRETE f'c					
	3000 PSI		4000 PSI		5000 PSI	
	CLASS A	CLASS B	CLASS A	CLASS B	CLASS A	CLASS B
#3	22"	28"	19"	24"	17"	22"
#4	29"	37"	25"	32"	22"	29"
#5	36"	47"	31"	40"	28"	36"
#6	43"	56"	37"	48"	33"	43"
#7	63"	81"	54"	71"	49"	63"
#8	72"	93"	62"	81"	55"	72"
#9	81"	105"	70"	91"	63"	81"
#10	91"	118"	79"	102"	70"	91"
#11	101"	131"	87"	113"	78"	101"
#14	121"	157"	105"	136"	94"	122"
#18	161"	209"	140"	181"	125"	162"

TOP BAR TENSION REINFORCING



TYPICAL THICKENED SLAB (TS) UNDER CMU WALL

NOT TO SCALE

DEVELOPMENT LENGTH					
SIZE	STANDARD HOOKS			BEND DIAMETERS	
	90° L=12 d_b	180° L=4 d_b	STIRRUPS AND TIES L=6 d_b/12 d_b	TYP d	STIRRUPS AND TIES d
#3	4 1/2"	2 1/2"	2 1/2"	2 1/4"	1 1/2"
#4	6"	2 1/2"	3"	3"	2"
#5	7 1/2"	2 1/2"	4"	3 3/4"	2 1/2"
#6	9"	3"	9"	4 1/2"	4 1/2"
#7	10 1/2"	3 1/2"	10 1/2"	5 1/4"	5 1/4"
#8	12"	4"	12"	6"	6"
#9	13 1/2"	4 1/2"	N/A	9 1/2"	N/A
#10	15"	5"	N/A	10 3/4"	N/A
#11	16 1/2"	5 1/2"	N/A	12"	N/A
#14	21"	7"	N/A	18 1/4"	N/A
#18	27"	9"	N/A	24"	N/A

HOOKED TENSION REINFORCING

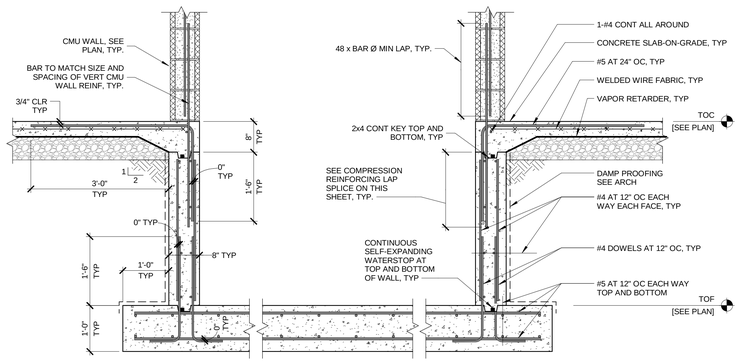
DEVELOPMENT OF HOOKED BARS (Ldh)		
SIZE	CONCRETE f'c	
	3000 PSI	4000 PSI	5000 PSI
#3	7"	6"	5"
#4	8"	7"	7"
#5	10"	9"	8"
#6	12"	11"	10"
#7	14"	12"	11"
#8	16"	14"	12"
#9	18"	16"	14"
#10	20"	18"	16"
#11	22"	19"	17"
#14	27"	24"	21"
#18	35"	31"	28"

DEVELOPMENT LENGTH (Ld)				LAP SPLICE (Ls)
SIZE	CONCRETE f'c			ALL f'c
	3000 PSI	4000 PSI	5000 PSI	
#3	9"	8"	7"	13"
#4	11"	10"	9"	15"
#5	14"	12"	12"	19"
#6	17"	14"	14"	23"
#7	20"	17"	16"	27"
#8	22"	19"	18"	30"
#9	25"	22"	21"	34"
#10	28"	24"	23"	39"
#11	31"	27"	26"	43"
#14	37"	33"	31"	51"
#18	50"	43"	41"	68"

COMPRESSION REINFORCING

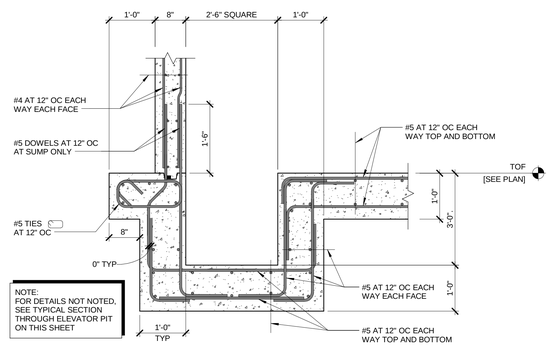
NOTES:

1. DESIGN METHOD IS BASED ON ACI 318-08.
2. TOP BAR IS WHERE HORIZONTAL REINFORCING IS PLACED SUCH THAT MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST BELOW THE DEVELOPMENT LENGTH OR SPLICE.
3. BOTTOM BAR IS WHERE HORIZONTAL REINFORCING IS PLACED SUCH THAT LESS THAN 12 INCHES OF FRESH CONCRETE IS CAST BELOW THE DEVELOPMENT LENGTH OR SPLICE.
4. LAP SPLICES OF DEFORMED BARS AND DEFORMED WIRE IN TENSION SHALL BE CLASS B SPLICES EXCEPT THAT CLASS A SPLICES ARE ALLOWED WHEN:
   A. THE AREA OF REINFORCEMENT PROVIDED IS AT LEAST TWICE THAT REQUIRED BY ANALYSIS OVER THE ENTIRE LENGTH OF THE SPLICE. TWICE THE AREA OF REQUIRED REINFORCING CANNOT BE ASSUMED UNLESS SPECIFICALLY INDICATED OTHERWISE ON THE DRAWINGS; AND
   B. ONE-HALF OR LESS OF THE TOTAL REINFORCING IS SPLICED WITHIN THE REQUIRED LAP LENGTH.
5. MINIMUM LENGTHS AND BENDS INDICATED, BENDS SHALL COMPLY WITH ACI 318.
6. INDICATED BEND DIAMETERS ARE MEASURED ON THE INSIDE OF THE BAR.



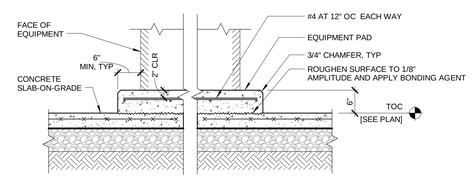
TYPICAL SECTION THROUGH ELEVATOR PIT

NOT TO SCALE



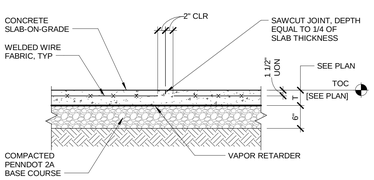
TYPICAL ELEVATOR SUMP

NOT TO SCALE



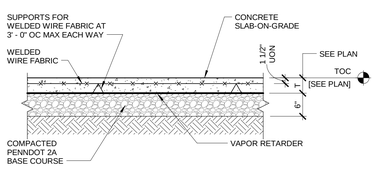
TYPICAL CONCRETE SLAB-ON-GRADE EQUIPMENT PAD

NOT TO SCALE



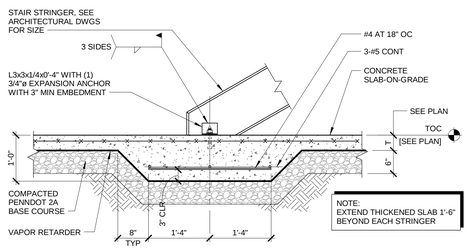
TYPICAL SLAB-ON-GRADE SAWED (CONTRACTION) JOINT (SJ)

NOT TO SCALE



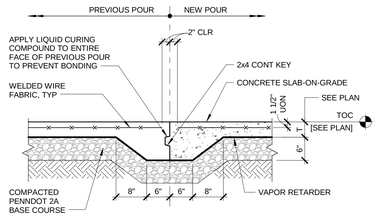
TYPICAL SLAB-ON-GRADE (SOG)

NOT TO SCALE



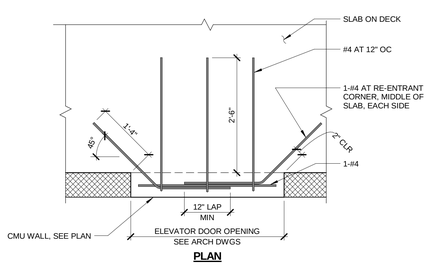
TYPICAL THICKENED SLAB (TS) AT STAIR LANDING

NOT TO SCALE



TYPICAL SLAB-ON-GRADE CONSTRUCTION JOINT (CJ)

NOT TO SCALE



TYPICAL ELEVATED SLAB AT ELEVATOR DOOR

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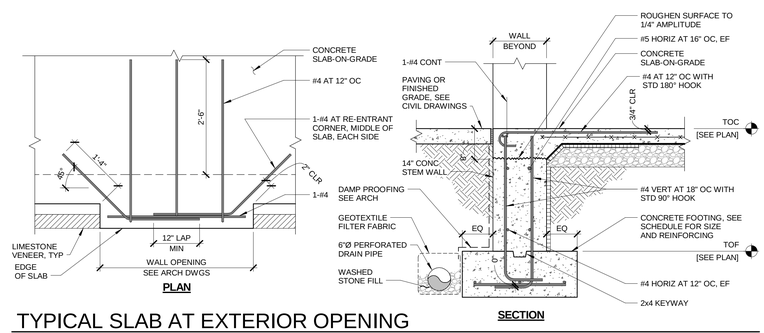
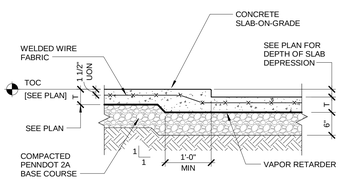


TYPICAL SLAB AT EXTERIOR OPENING

NOT TO SCALE



TYPICAL SLAB ON GRADE DEPRESSION (SD)

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PENN STATE NEW RESIDENCE HALL
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UNIVERSITY PARK, PA 16802

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DATE: 06/29/2012
DESIGN: BSP
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TYPICAL FOUNDATION/SLAB DETAILS

SB502

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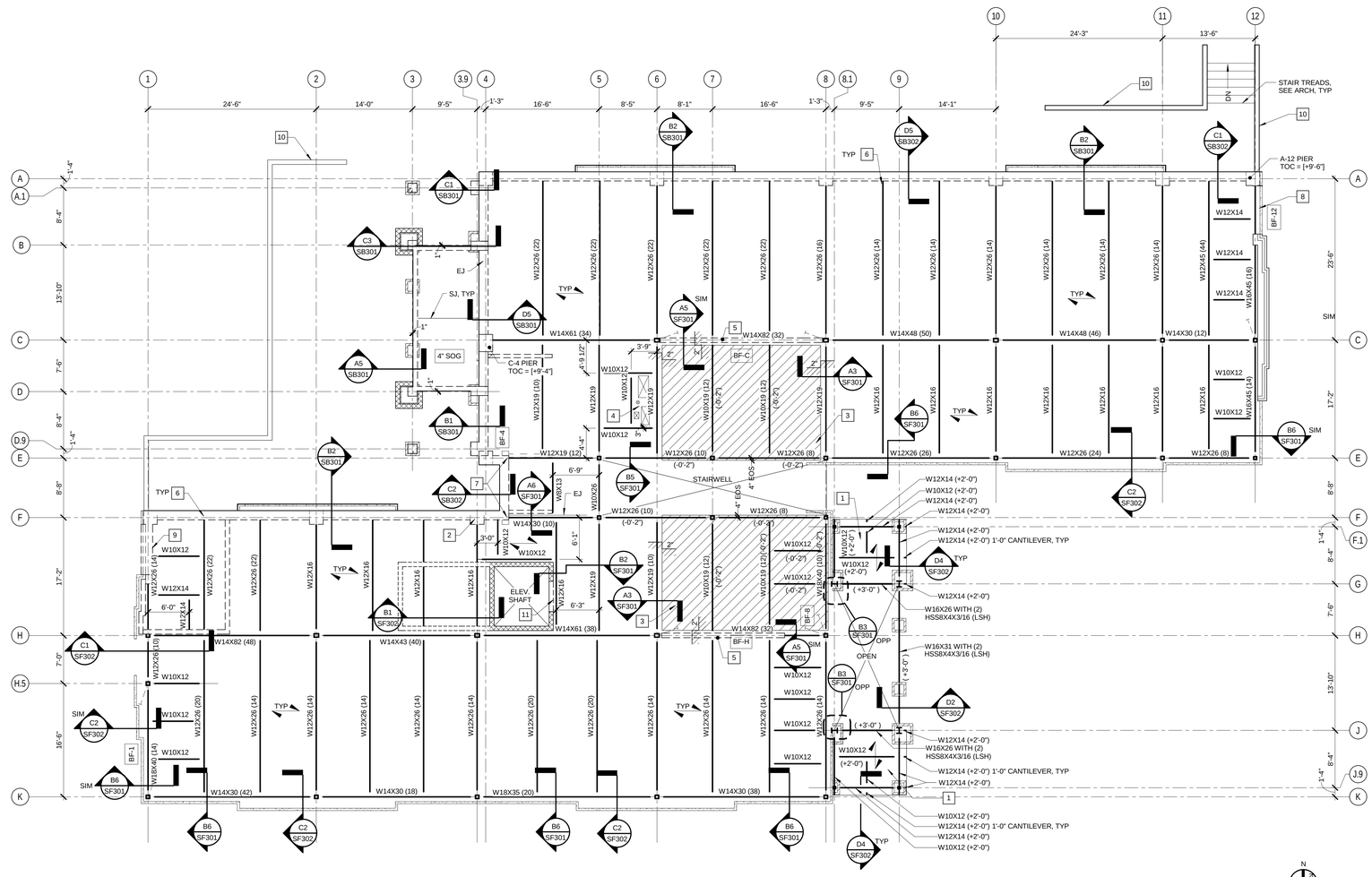

FIRST FLOOR FRAMING PLAN

1/8" = 1'-0"

PLAN NOTES

1. TYPICAL FLOOR CONSTRUCTION IS 3.5" LIGHTWEIGHT CONCRETE ON 2" DEEP COMPOSITE STEEL DECK WITH TOTAL MINIMUM SLAB THICKNESS EQUAL TO 5.5". REINFORCE SLAB WITH 6x6 – W2.1xW2.1 WWF PLACED 3/4" CLEAR OF TOP OF SLAB, FULLY SUPPORTED.
2. COMPOSITE SLAB ON DECK IS DESIGNED AS UNSHORED COMPOSITE CONSTRUCTION.
3. TOP OF STRUCTURAL STEEL ELEVATION IS 5.5" BELOW TOP OF SLAB, UNLESS OTHERWISE NOTED. TOP OF STEEL, WHERE NOTED THUS (+/-X'-X"), IS RELATIVE TO TOP OF STEEL ELEVATION AT THIS FLOOR.
4. TOP OF FLOOR SLAB ELEVATION = [+12'-0"].
5. LOW-SLOPE ROOF AREAS ARE 1 1/2" WIDE RIB, 20 GAGE STEEL ROOF DECK SUPPORTED ON STRUCTURAL STEEL FRAMING.
6. UNLESS OTHERWISE NOTED, FLOOR BEAMS ARE EQUALLY SPACED BETWEEN COLUMN LINES.
7. SLAB ON GRADE SHALL BE 4" THICK REINFORCED WITH 6x6 W2.1xW2.1 WWF PLACED 1 1/2" BELOW TOP OF SLAB. PLACE SLAB ON 6" OF COMPACTED PENNDOT 2A STONE.
8. SEE SHEETS SF201 AND SF202 FOR BRACED FRAME "BF-X" ELEVATIONS.
9. SEE SHEET SF601 FOR COLUMN SCHEDULE AND WALL REINFORCING SCHEDULES.
10. SEE "TYP REINFORCING AT RE-ENTRANT CORNERS, SLAB OPENINGS AND DEPRESSION CORNERS" ON SF501.
11. CMU ELEVATOR SHAFT WALLS ARE TYPE MW1. SEE WALL REINFORCING SCHEDULE ON SHEET SF601.

KEY NOTES

1. LOW SLOPE ROOF AREA
2. POCKET COLUMN INTO WALL. WIDTH OF POCKET SHALL EQUAL WIDTH OF PIER. SEE "TYPICAL COLUMN BEARING ON PIER "DETAIL ON SB501
3. DEPRESSED SLAB
4. COORDINATE OPENINGS WITH ARCH AND MECH. SEE "TYPICAL DECK SUPPORT AT FLOOR OPENING" ON SHEET SF502
5. TOP OF CONCRETE ELEVATION AT SHEAR WALL BELOW = [+9'-10"]. SEE BRACED FRAME ELEVATIONS ON SF202
6. POCKET BEAM INTO WALL. WIDTH OF POCKET SHALL EXTEND MIN 4" EA. SIDE OF BEAM FLANGE. SEE "TYPICAL BEAM BEARING ON WALL" DETAIL ON SB501
7. SEE "TYPICAL BEAM BEARING ON CORBEL" DETAIL ON SB501
8. TOP OF CONCRETE WALL ELEVATION = [+5'-8"]. SEE B5/SF201 FOR ELEVATION OF THE WALL
9. TOP OF CONCRETE WALL ELEVATION = [+10'-3"]
10. SITE WALL, SEE SB101 FOR DESIGN
11. SEE "TYPICAL ELEVATED SLAB AT ELEVATOR DOOR" ON SHEET SB502

GRAPHIC SCALE(S)

1/8" = 1' - 0" 0 5' 10' 15' 30'

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FIRST FLOOR FRAMING PLAN

SF101

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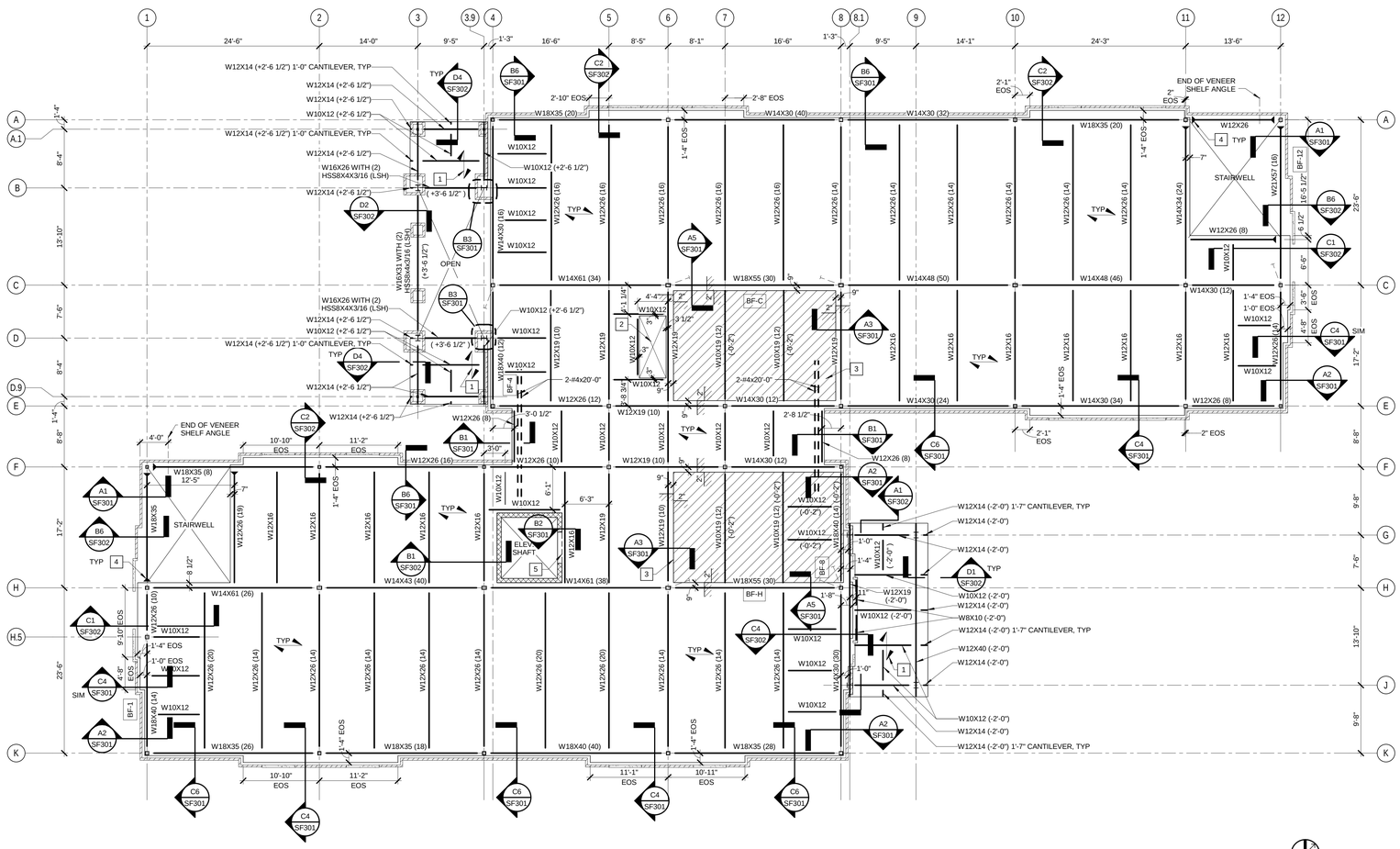

SECOND FLOOR FRAMING PLAN

1/8" = 1'-0"

PLAN NOTES

1. TYPICAL FLOOR CONSTRUCTION IS 3.5" LIGHTWEIGHT CONCRETE ON 2" DEEP COMPOSITE STEEL DECK WITH TOTAL MINIMUM SLAB THICKNESS EQUAL TO 5.5". REINFORCE SLAB WITH 6x6 – W2.1xW2.1 WWF PLACED 3/4" CLEAR OF TOP OF SLAB, FULLY SUPPORTED.
2. COMPOSITE SLAB ON DECK IS DESIGNED AS UNSHORED COMPOSITE CONSTRUCTION.
3. TOP OF STRUCTURAL STEEL ELEVATION IS 5.5" BELOW TOP OF SLAB, UNLESS OTHERWISE NOTED. TOP OF STEEL, WHERE NOTED THUS (+/-X'-X"), IS RELATIVE TO TOP OF STEEL ELEVATION AT THIS FLOOR.
4. TOP OF FLOOR SLAB ELEVATION = [+24'-0"].
5. LOW-SLOPE ROOF AREAS ARE 1 1/2" WIDE RIB, 20 GAGE STEEL ROOF DECK SUPPORTED ON STRUCTURAL STEEL FRAMING.
6. UNLESS OTHERWISE NOTED, FLOOR BEAMS ARE EQUALLY SPACED BETWEEN COLUMN LINES.
7. SEE SF601 FOR COLUMN SCHEDULE AND WALL REINFORCING SCHEDULES.
8. SEE "TYP REINFORCING AT RE-ENTRANT CORNERS, SLAB OPENINGS, AND DEPRESSION CORNERS" ON SF501.
9. CMU ELEVATOR SHAFT WALLS ARE TYPE MW1. SEE WALL REINFORCING SCHEDULE ON SHEET SF601.

KEY NOTES

1 LOW SLOPE ROOF AREA

2 COORDINATE OPENINGS WITH ARCH AND MECH. SEE "TYPICAL DECK SUPPORT AT FLOOR OPENING" ON SHEET SF502

3 DEPRESSED SLAB

4 SEE "TYPICAL BEAM END CONNECTION - TORSION CLIP" ON SF302, WHERE INDICATED IN STAIRWELLS, TYP

5 SEE "TYPICAL ELEVATED SLAB AT ELEVATOR DOOR" ON SHEET SB502

GRAPHIC SCALE(S)

1/8" = 1' - 0" 0 5' 10' 15' 30'

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SECOND FLOOR FRAMING PLAN

SF102

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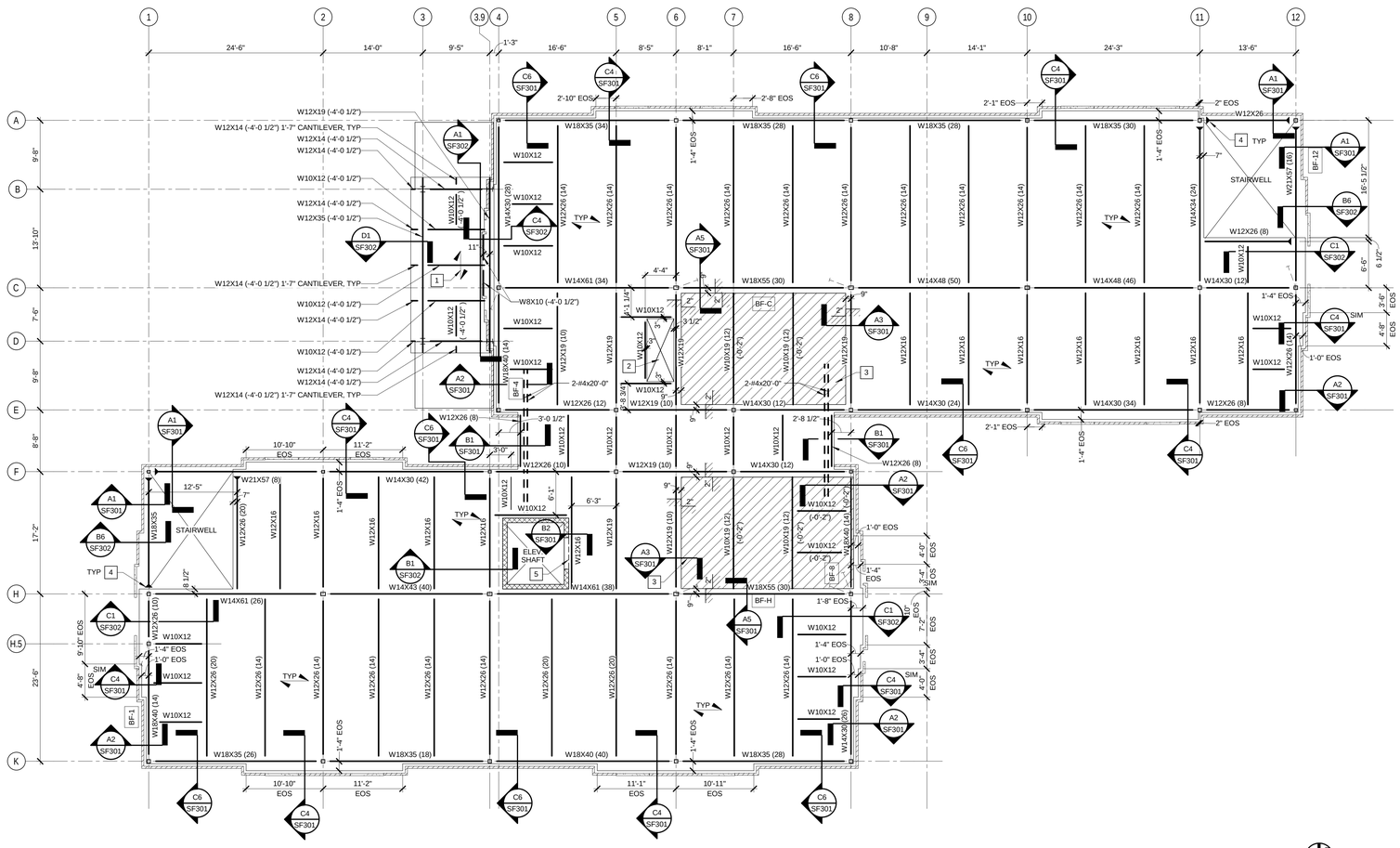

THIRD FLOOR FRAMING PLAN

1/8" = 1'-0"

PLAN NOTES

1. TYPICAL FLOOR CONSTRUCTION IS 3.5" LIGHTWEIGHT CONCRETE ON 2" DEEP COMPOSITE STEEL DECK WITH TOTAL MINIMUM SLAB THICKNESS EQUAL TO 5.5". REINFORCE SLAB WITH 6x6 – W2.1xW2.1 WWF PLACED 3/4" CLEAR OF TOP OF SLAB, FULLY SUPPORTED.
2. COMPOSITE SLAB ON DECK IS DESIGNED AS UNSHORED COMPOSITE CONSTRUCTION.
3. TOP OF STRUCTURAL STEEL ELEVATION IS 5.5" BELOW TOP OF SLAB, UNLESS OTHERWISE NOTED. TOP OF STEEL, WHERE NOTED THUS (+/-X'-X"), IS RELATIVE TO TOP OF STEEL ELEVATION AT THIS FLOOR.
4. TOP OF FLOOR SLAB ELEVATION = [+36'-0"].
5. LOW-SLOPE ROOF AREAS ARE 1 1/2" WIDE RIB, 20 GAGE STEEL ROOF DECK SUPPORTED ON STRUCTURAL STEEL FRAMING.
6. UNLESS OTHERWISE NOTED, FLOOR BEAMS ARE EQUALLY SPACED BETWEEN COLUMN LINES.
7. SEE SF501 FOR COLUMN SCHEDULE AND WALL REINFORCING SCHEDULES.
8. SEE "TYP REINFORCING AT RE-ENTRANT CORNERS, SLAB OPENINGS, AND DEPRESSION CORNERS" ON SF501.
9. CMU ELEVATOR SHAFT WALLS ARE TYPE MW1. SEE WALL REINFORCING SCHEDULE ON SHEET SF601.

KEY NOTES

1 LOW SLOPE ROOF AREA

2 COORDINATE OPENINGS WITH ARCH AND MECH. SEE "TYPICAL DECK SUPPORT AT FLOOR OPENING" ON SHEET SF502

3 DEPRESSED SLAB

4 SEE "TYPICAL BEAM END CONNECTION - TORSION CLIP" ON SF302, WHERE INDICATED IN STAIRWELLS, TYP

5 SEE "TYPICAL ELEVATED SLAB AT ELEVATOR DOOR" ON SHEET SB502

GRAPHIC SCALE(S)

1/8" = 1' - 0" 0 5' 10' 15' 30'

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THIRD FLOOR FRAMING PLAN

SF103

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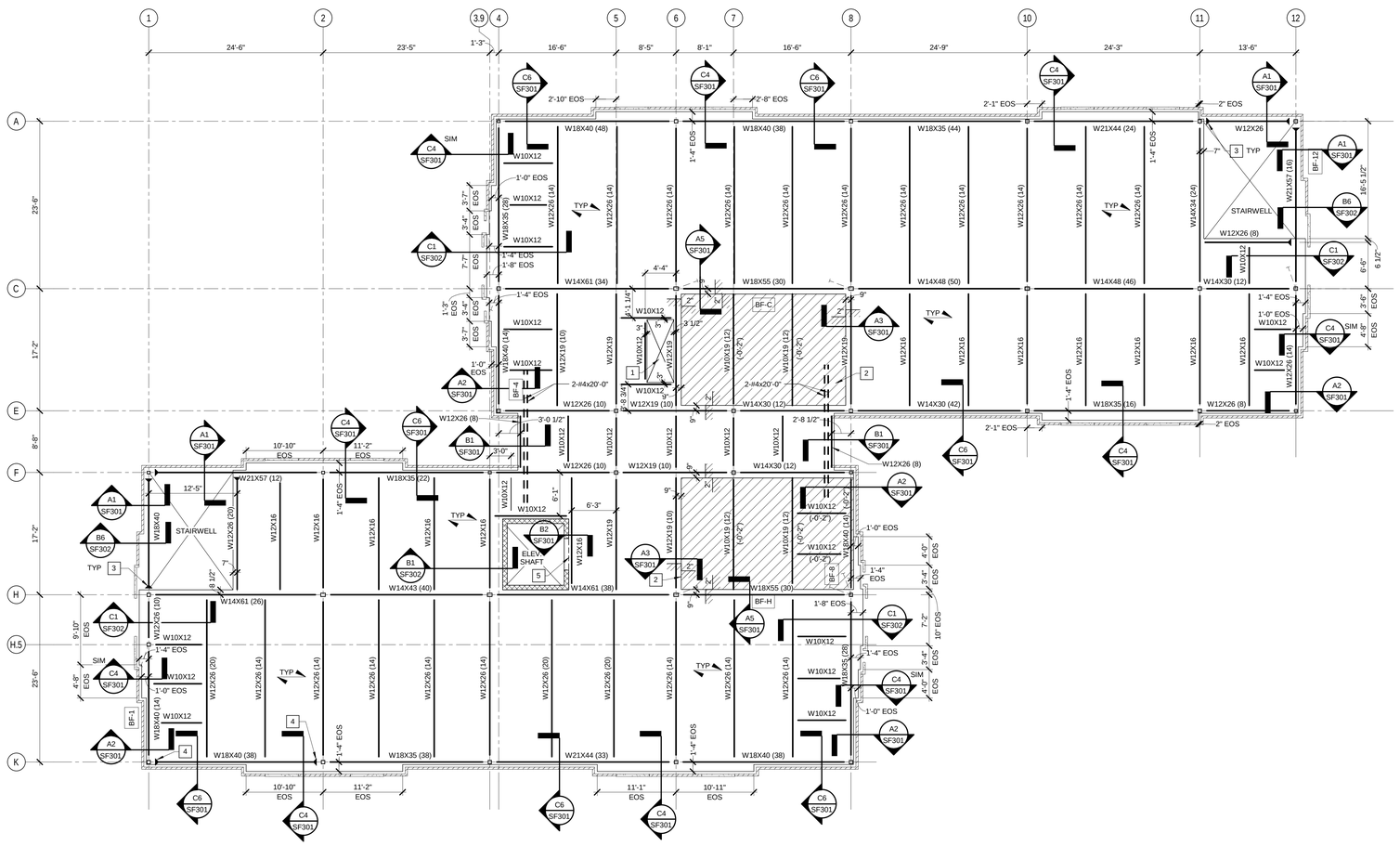

FOURTH FLOOR FRAMING PLAN

1/8" = 1'-0"

PLAN NOTES

1. TYPICAL FLOOR CONSTRUCTION IS 3.5" LIGHTWEIGHT CONCRETE ON 2" DEEP COMPOSITE STEEL DECK WITH TOTAL MINIMUM SLAB THICKNESS EQUAL TO 5.5" REINFORCE SLAB WITH 6x6 – W2.1xW2.1 WWF PLACED 3/4" CLEAR OF TOP OF SLAB, FULLY SUPPORTED.
2. COMPOSITE SLAB ON DECK IS DESIGNED AS UNSHORED COMPOSITE CONSTRUCTION.
3. TOP OF STRUCTURAL STEEL ELEVATION IS 5.5" BELOW TOP OF SLAB, UNLESS OTHERWISE NOTED. TOP OF STEEL, WHERE NOTED THUS (+/-X'-X"), IS RELATIVE TO TOP OF STEEL ELEVATION AT THIS FLOOR.
4. TOP OF FLOOR SLAB ELEVATION = [+48'-0"].
5. UNLESS OTHERWISE NOTED, FLOOR BEAMS ARE EQUALLY SPACED BETWEEN COLUMN LINES.
6. SEE SF601 FOR COLUMN SCHEDULE AND WALL REINFORCING SCHEDULES.
7. SEE "TYP REINFORCING AT RE-ENTRANT CORNERS, SLAB OPENINGS, AND DEPRESSION CORNERS" ON SF501.
8. CMU ELEVATOR SHAFT WALLS ARE TYPE MW1. SEE WALL REINFORCING SCHEDULE ON SHEET SF601.

KEY NOTES

1 COORDINATE OPENINGS WITH ARCH AND MECH. SEE "TYPICAL DECK SUPPORT AT FLOOR OPENING" ON SHEET SF502

2 DEPRESSED SLAB

3 SEE "TYPICAL BEAM END CONNECTION - TORSION CLIP" ON SF302, WHERE INDICATED IN STAIRWELLS, TYP

4 SEE "TYPICAL MOMENT CONNECTION AT COLUMN" ON SHEET SF501

5 SEE "TYPICAL ELEVATED SLAB AT ELEVATOR DOOR" ON SHEET SB502

GRAPHIC SCALE(S)

1/8" = 1' - 0" 0 5' 10' 15' 30'

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FOURTH FLOOR FRAMING PLAN

SF104

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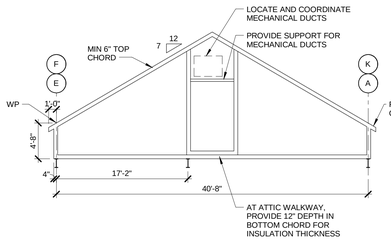
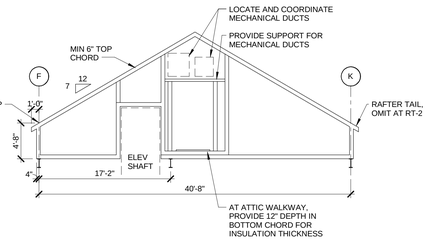
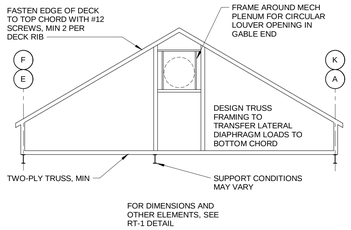


RT-1 AND RT-2



RT-3



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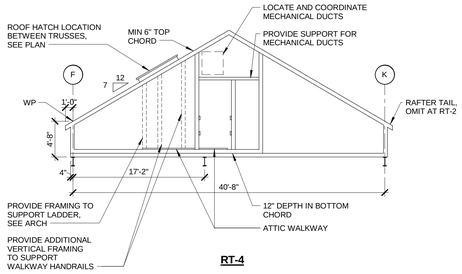
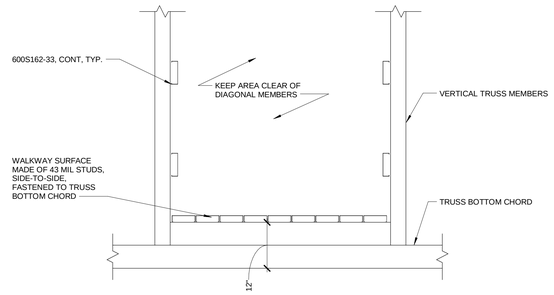


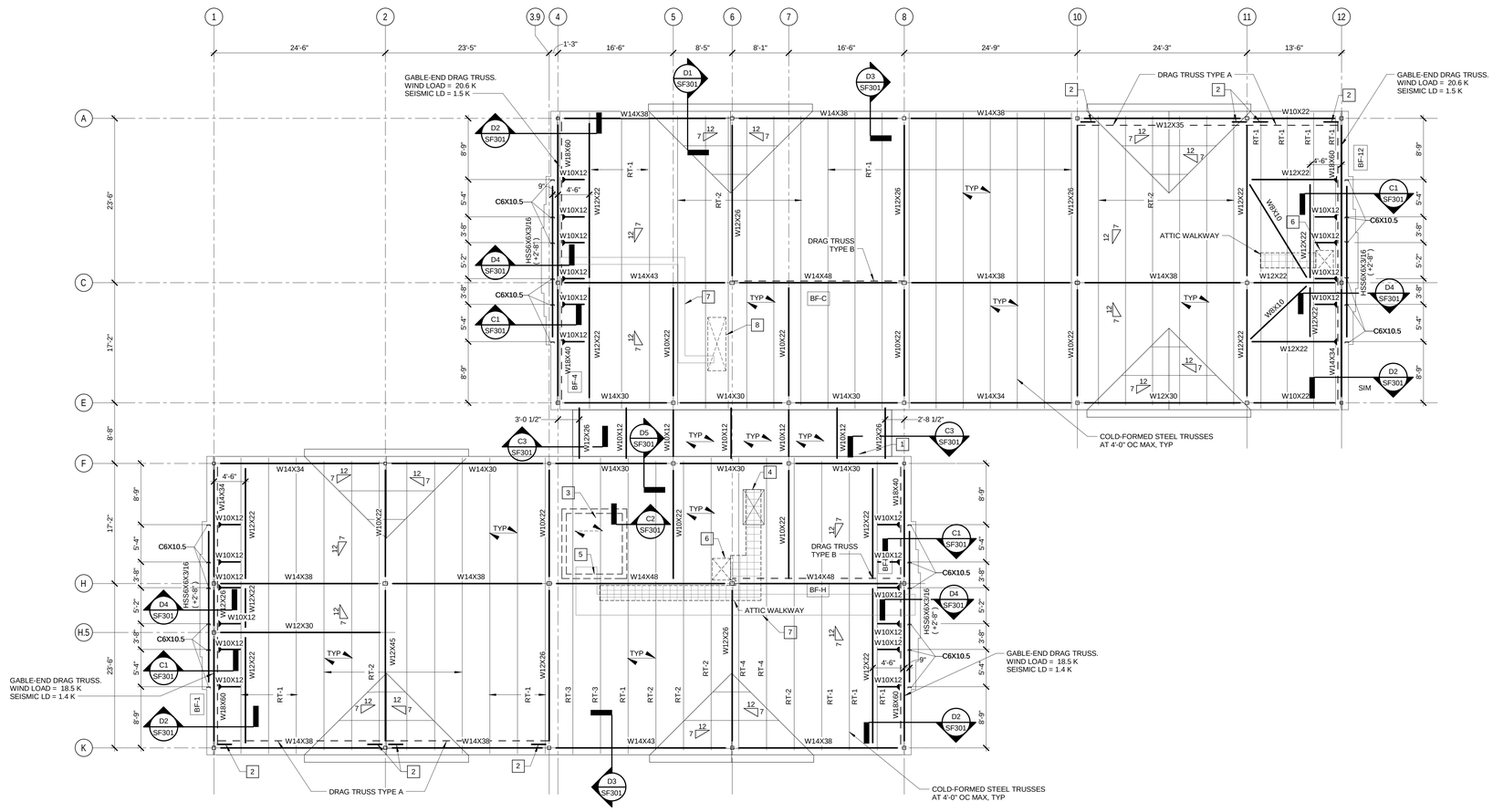
RT-4



ATTIC WALKWAY

TRUSS PROFILES

NOT TO SCALE



ROOF FRAMING PLAN

1/8" = 1'-0"

PLAN NOTES

1. TYPICAL ROOF FRAMING IS 1 1/2" WIDE RIB, 20 GAGE, STEEL ROOF DECK ON ENGINEERED COLD-FORMED STEEL TRUSSES, SUPPORTED ON STRUCTURAL STEEL FRAMING.
2. LOW-SLOPE ROOF AREA AND ELEVATOR CAP ARE 3" LIGHTWEIGHT CONCRETE ON 2" DEEP COMPOSITE STEEL DECK WITH TOTAL MINIMUM SLAB THICKNESS EQUAL TO 5". REINFORCE SLAB WITH 6x6-W2.1xW2.1 WWF PLACED 3/4" CLEAR OF TOP OF SLAB, FULLY SUPPORTED.
3. MAXIMUM TRUSS SPACING IS 4'-0" UON. COORDINATE LAYOUT OF COLD-FORMED TRUSSES WITH MECHANICAL DRAWINGS.
4. TYP TOS AND TRUSS BEARING ELEVATION = [+60'-0"].
5. SEE SF601 FOR COLUMN SCHEDULE AND WALL REINFORCING SCHEDULE.
6. RT-X = ROOF TRUSS TYPE. SEE ROOF TRUSS PROFILES THIS SHEET.
7. SEE "TYPICAL DRAG TRUSS TYPE A" ON SF501 AND "TYPICAL DRAG TRUSS TYPE B" ON SF502

KEY NOTES

1 LOW-SLOPE ROOF AREA

2 STEEL KNEE-BRACED FRAME. SEE "TYPICAL STEEL-FRAMED KNEE BRACE" ON SHEET SF501

3 SLAB-ON-DECK ELEVATOR CAP. TOC = 6'-8" ABOVE TOP OF STEEL. SEE AE421 FOR ELEVATOR SUPPORT MEMBERS PROVIDED BY ELEVATOR SUPPLIER

4 ROOF ACCESS HATCH. SEE DETAIL ON SHEET AE106 AND "TYPICAL DECK SUPPORT AT ROOF OPENING" ON SF502

5 OPENING IN CMU WALL FOR MECHANICAL DUCT. COORDINATE SIZE AND LOCATION WITH MECH DRAWINGS

6 ATTIC ACCESS, SEE ARCH. SEPARATE TRUSSES AROUND OPENING

7 MECHANICAL DUCTWORK IN ATTIC. COORDINATE LOCATIONS AND SIZES WITH MECHANICAL PLANS

8 MECHANICAL SHAFT THROUGH ATTIC. LOCATE TRUSSES ON BOTH SIDES OF SHAFT (MANTAIN CLEAR AREA ABOVE SHAFT)

GRAPHIC SCALE(S)

1/8" = 1' - 0" 0 5' 10' 15' 30'

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ROOF FRAMING PLAN

SF105

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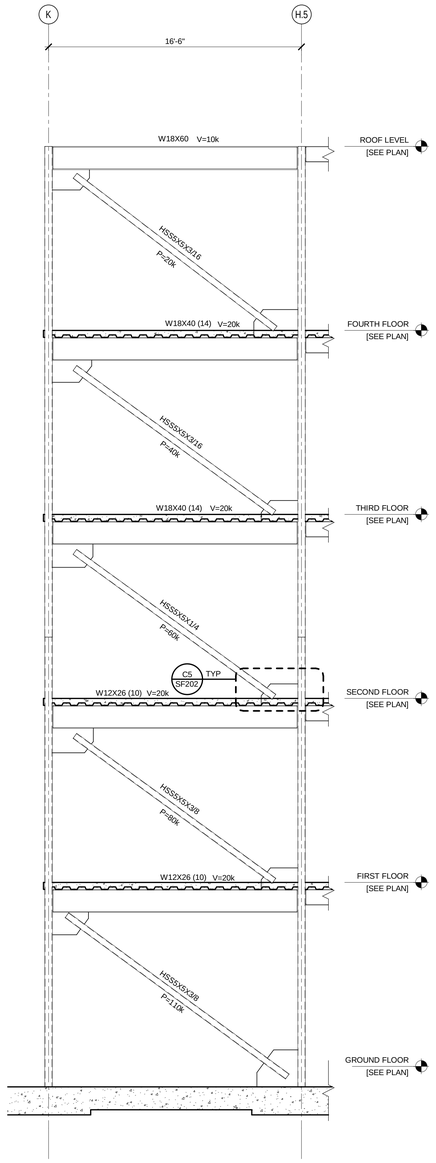
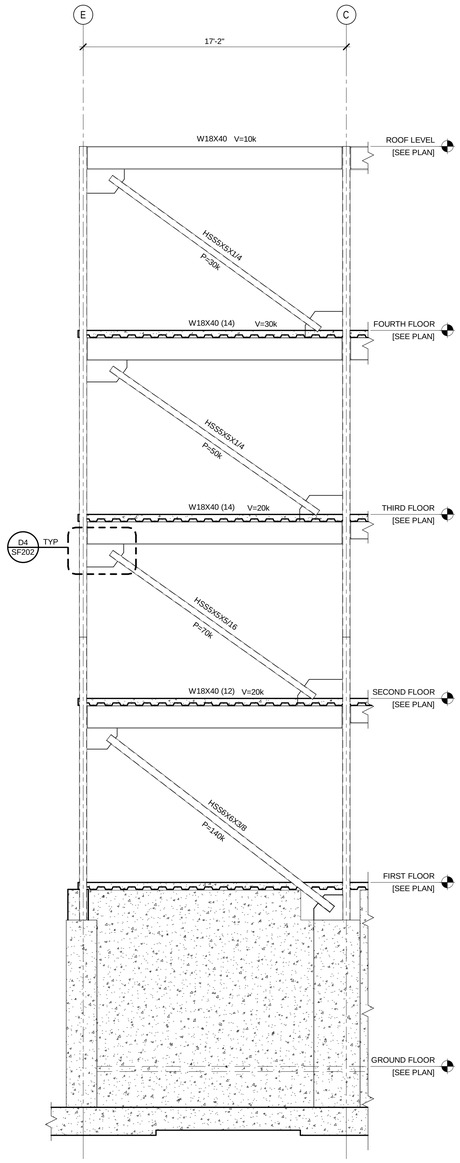
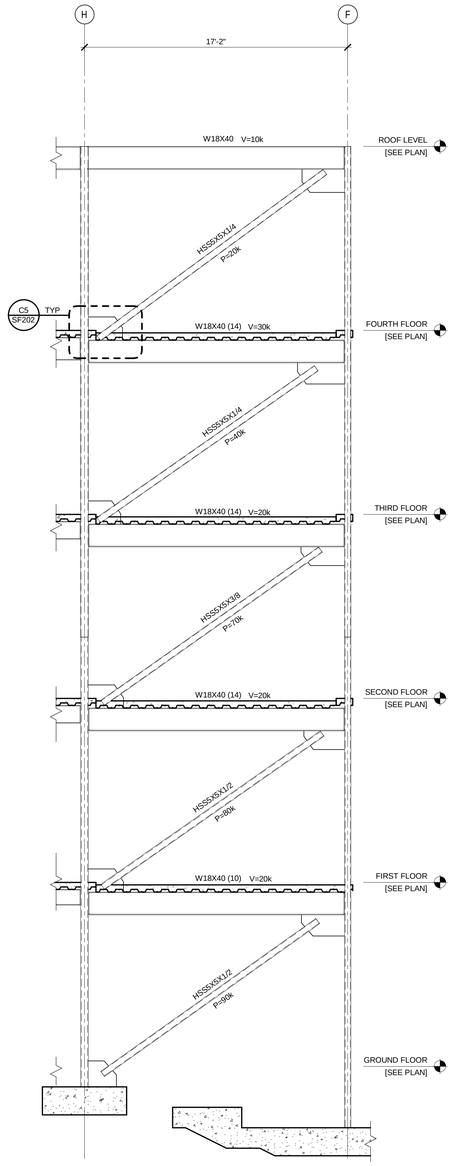


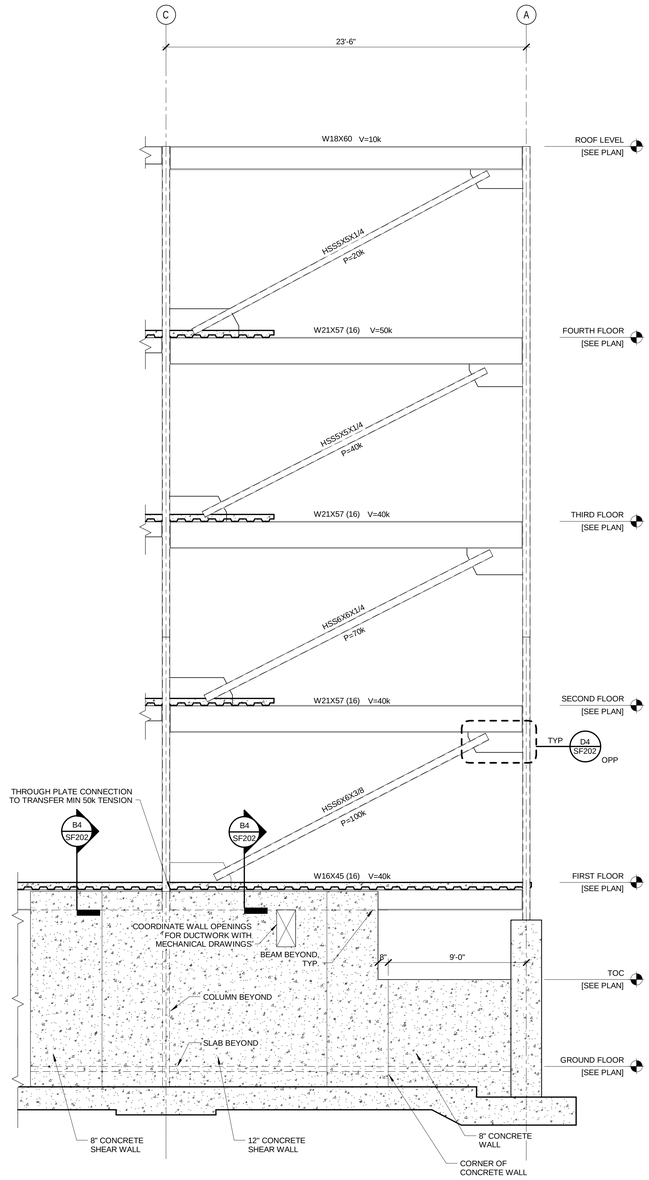
B1 BRACED FRAME "BF-1" ELEVATION
1/4" = 1'-0"



B2 BRACED FRAME "BF-4" ELEVATION
1/4" = 1'-0"



B4 BRACED FRAME "BF-8" ELEVATION
1/4" = 1'-0"



B5 BRACED FRAME "BF-12" ELEVATION
1/4" = 1'-0"

NOTES:

1. BRACED FRAME CONNECTION DESIGN IS DELEGATED TO THE CONTRACTOR.
2. AXIAL LOAD INDICATED AS P=x. DESIGN CONNECTION FOR TENSION AND COMPRESSION. VERTICAL SHEAR REACTION INDICATED AS V=x.
3. FORCES ARE IN KIPS. FORCES SHOWN ARE FACTORED.

GRAPHIC SCALE(S)

1/4" = 1' - 0" 0 1' 5' 10' 15'

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PENN STATE NEW RESIDENCE HALL
THE PENNSYLVANIA STATE UNIVERSITY
UNIVERSITY PARK, PA 16802

CN NO: 4046
DATE: 06/29/2012
DESIGN: BSP
DRAWN: BJT
REVIEW: ECW

REVISIONS

No.	Date	Description

BRACED FRAME ELEVATIONS

SF201

SHEET OF

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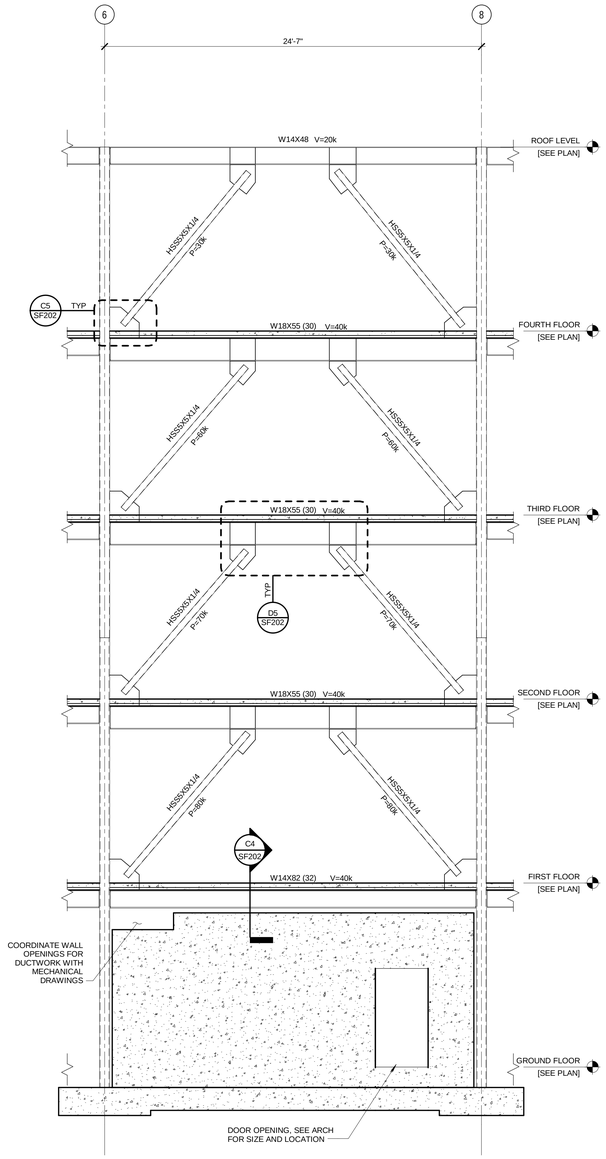
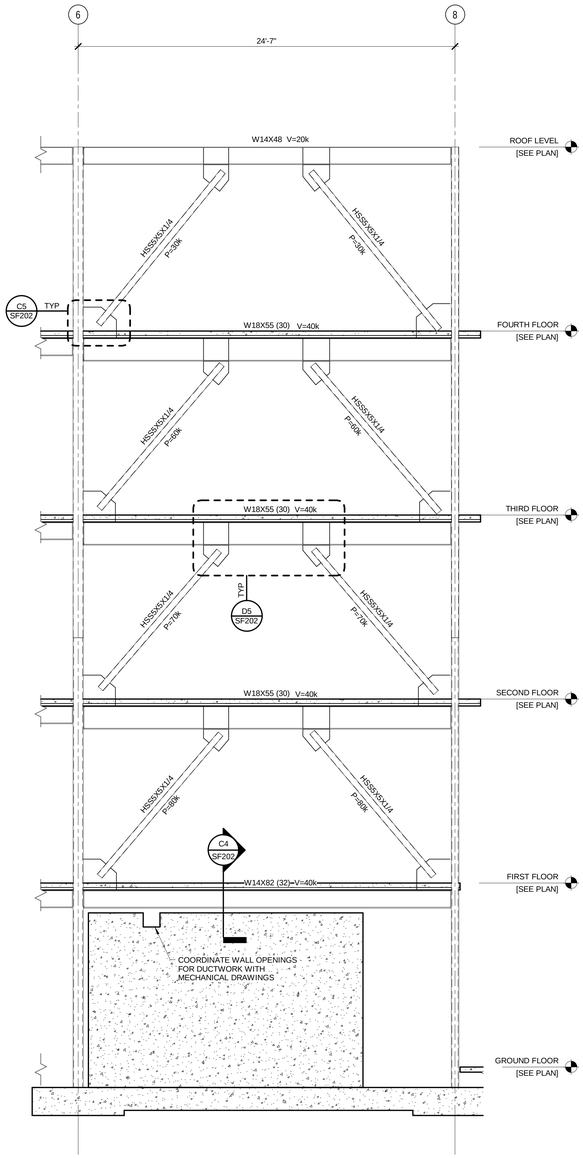
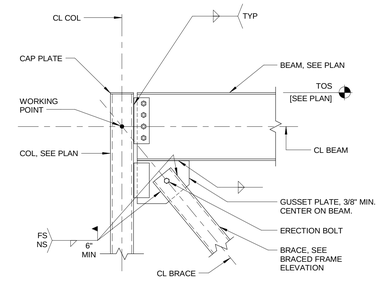


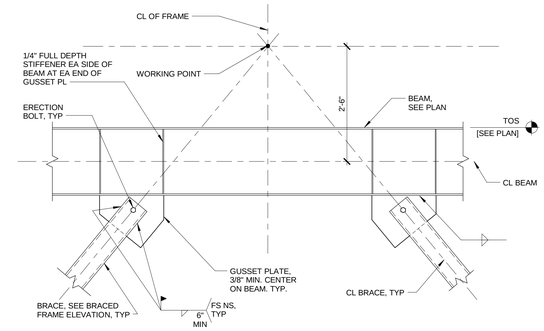
B1 BRACED FRAME "BF-C" ELEVATION
1/4" = 1'-0"



B2 BRACED FRAME "BF-H" ELEVATION
1/4" = 1'-0"



D4 CONCENTRICALLY BRACED FRAME CONNECTION
NOT TO SCALE



D5 ECCENTRIC BRACED FRAME CONNECTION
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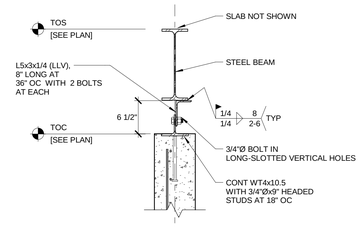
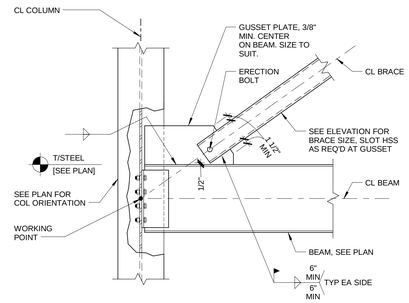
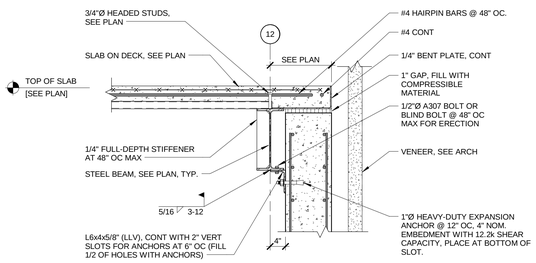


C4 BRACED FRAME CONNECTION AT TOP OF CONCRETE SHEAR WALL
1" = 1'-0"



C5 BRACED FRAME CONNECTION
NOT TO SCALE



B4 SECTION
3/4" = 1'-0"

NOTES:

1. BRACED FRAME CONNECTION DESIGN IS DELEGATED TO THE CONTRACTOR.
2. AXIAL LOAD INDICATED AS P=x. DESIGN CONNECTION FOR TENSION AND COMPRESSION. VERTICAL SHEAR REACTION INDICATED AS V=x.
3. FORCES ARE IN KIPS. FORCES SHOWN ARE FACTORED.

GRAPHIC SCALE(S)

1/4" = 1' - 0" 0 1' 5' 10' 15'
3/4" = 1' - 0" 0 6" 1' 2' 3' 4' 5'
1" = 1' - 0" 0 6" 1' 2' 3'

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UNIVERSITY PARK, PA 16802

CN NO: 4046
DATE: 06/29/2012
DESIGN: BSP
DRAWN: BJT
REVIEW: ECW

REVISIONS
No. Date Description

BRACED FRAME ELEVATIONS AND DETAILS

SF202
SHEET OF

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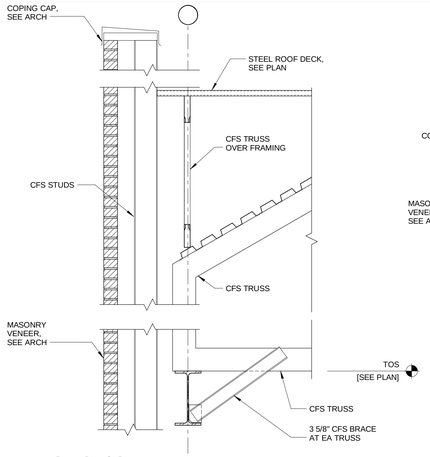
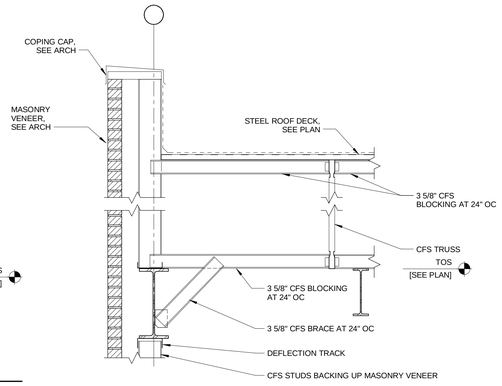
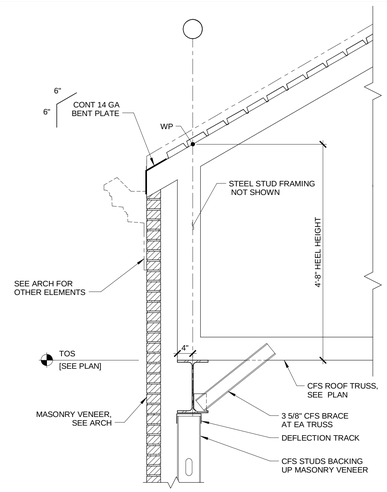


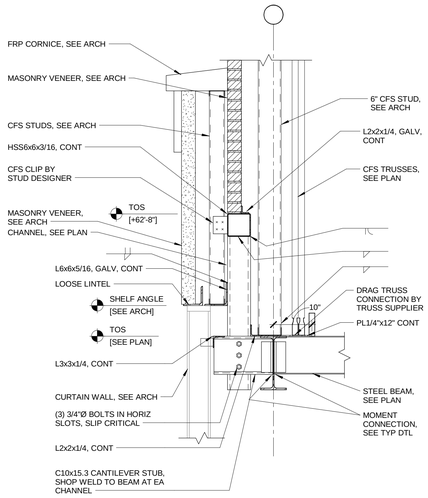
D1 SECTION
3/4" = 1'-0"



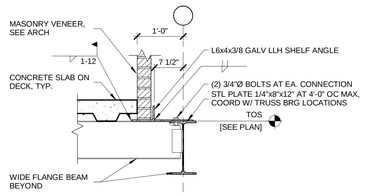
D2 SECTION
3/4" = 1'-0"



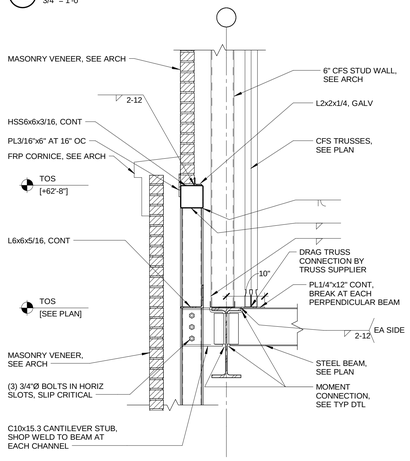
D3 SECTION
3/4" = 1'-0"



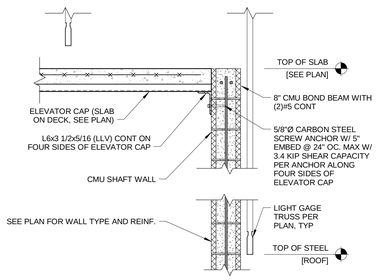
D4 SECTION
3/4" = 1'-0"



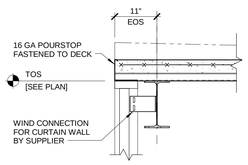
D5 SECTION - FLAT ROOF
3/4" = 1'-0"



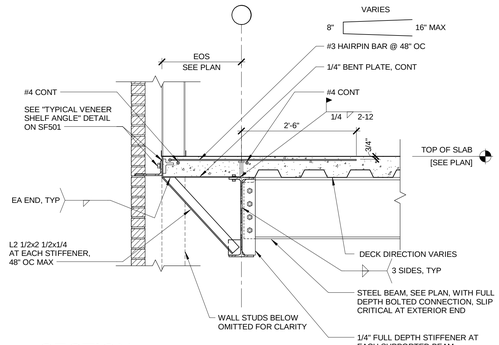
C1 SECTION
3/4" = 1'-0"



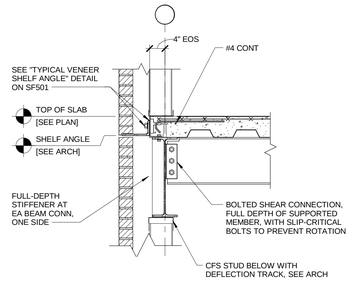
C2 SECTION
3/4" = 1'-0"



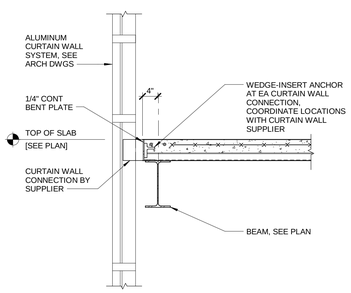
C3 SECTION
3/4" = 1'-0"



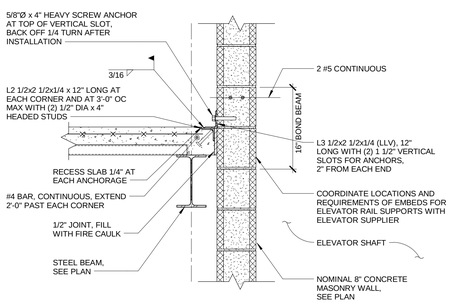
C4 SECTION
3/4" = 1'-0"



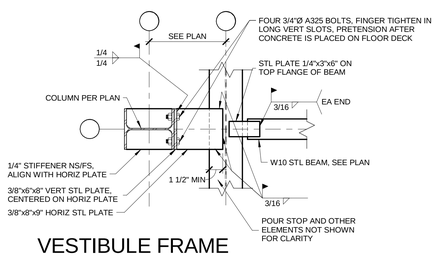
C6 SECTION - SLAB EDGE
3/4" = 1'-0"



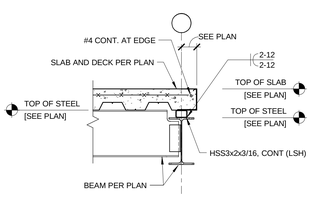
B1 SECTION
3/4" = 1'-0"



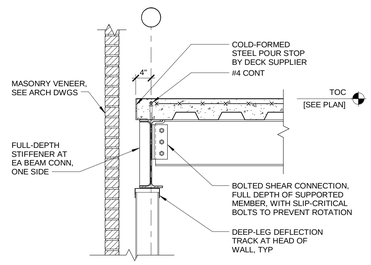
B2 ELEVATOR SHAFT SECTION
1" = 1'-0"



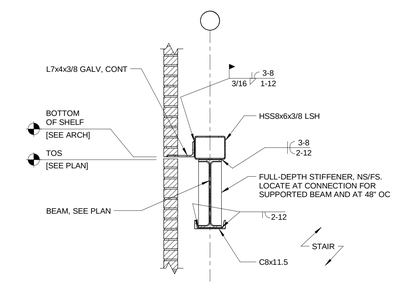
B3 VESTIBULE FRAME LATERAL CONNECTION
1" = 1'-0"



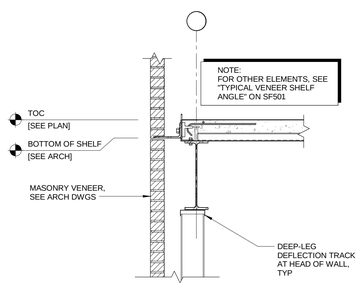
B5 SECTION
3/4" = 1'-0"



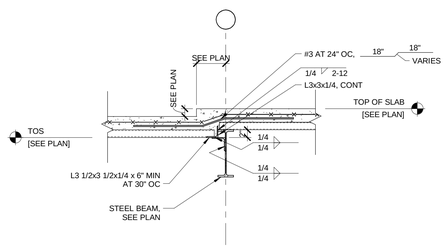
B6 SECTION
3/4" = 1'-0"



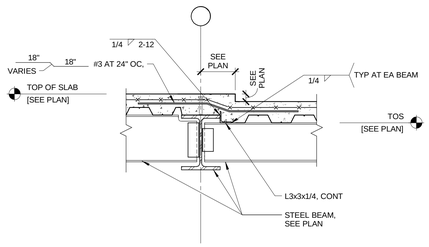
A1 SECTION
3/4" = 1'-0"



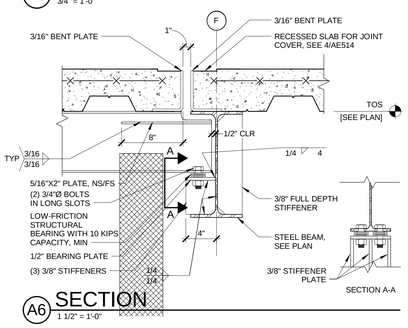
A2 SECTION
3/4" = 1'-0"



A3 SECTION
3/4" = 1'-0"



A5 SECTION
3/4" = 1'-0"



A6 SECTION
1 1/2" = 1'-0"

GRAPHIC SCALE(S)

3/4" = 1' - 0" 0 6" 1' 2' 3' 4' 5'
1" = 1' - 0" 0 6" 1' 2' 3'
1 1/2" = 1' - 0" 0 3" 6" 9" 1' 2'

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UNIVERSITY PARK, PA 16802

CN NO: 4046
DATE: 06/29/2012
DESIGN: BSP
DRAWN: BJT
REVIEW: ECW

REVISIONS

No.	Date	Description

FRAMING SECTIONS AND DETAILS

SF301

SHEET OF

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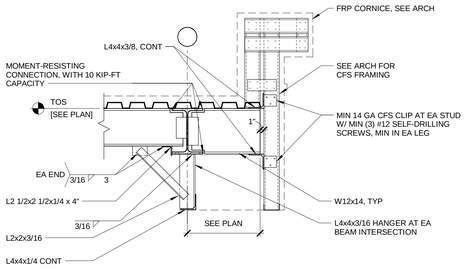
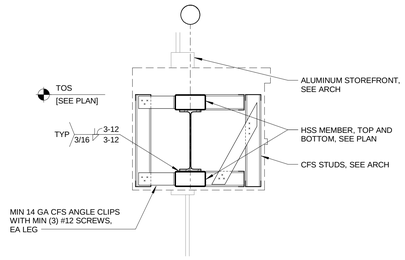
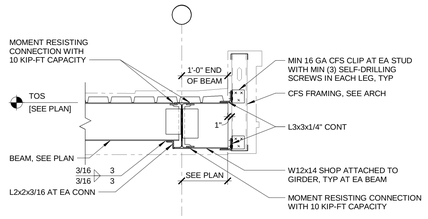


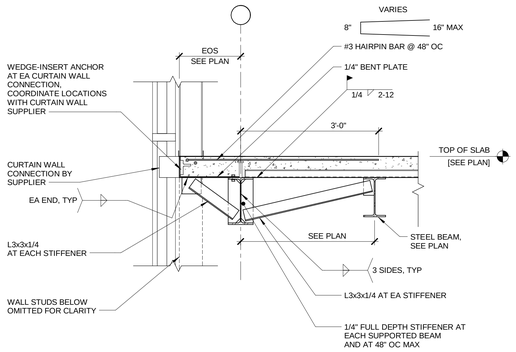
D1 SECTION
3/4" = 1'-0"



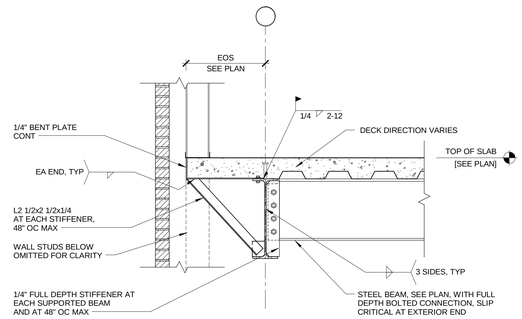
D2 SECTION
3/4" = 1'-0"



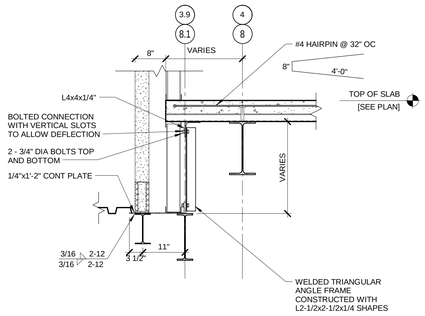
D4 SECTION
3/4" = 1'-0"



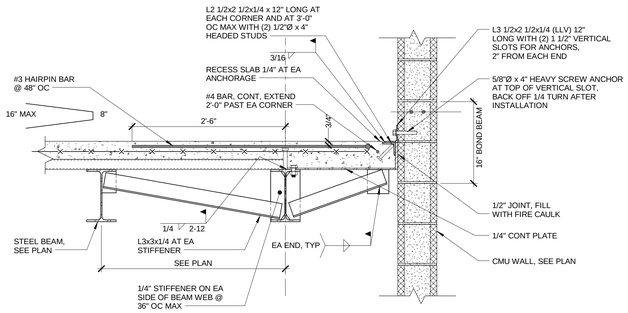
C1 SECTION
3/4" = 1'-0"



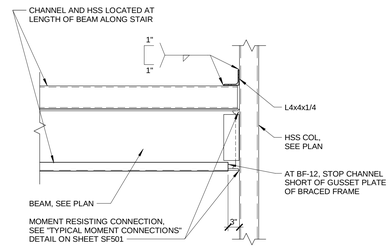
C2 SECTION
3/4" = 1'-0"



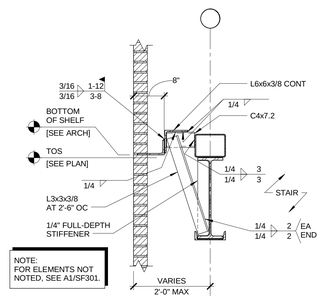
C4 SECTION
3/4" = 1'-0"



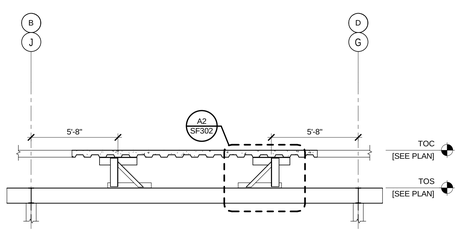
B1 ELEVATOR SHAFT SECTION
1" = 1'-0"



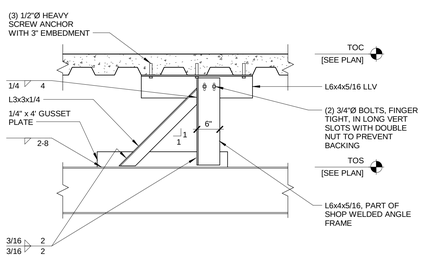
B2 TYPICAL BEAM END CONNECTION - TORSION CLIP
NOT TO SCALE



B6 SECTION
3/4" = 1'-0"



A1 ELEVATION - VESTIBULE BRACING TO BUILDING
1/4" = 1'-0"



A2 ELEVATION DETAIL
3/4" = 1'-0"

GRAPHIC SCALE(S)

1" = 1' - 0" 0 6" 1' 2' 3'

1/8" = 1' - 0" 0 5' 10' 15' 30'

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CN NO: 4046
DATE: 06/29/2012
DESIGN: BSP
DRAWN: BJT
REVIEW: ECW

REVISIONS

No.	Date	Description

FRAMING SECTIONS AND DETAILS

SF302

SHEET OF

7/2/2012 9:17:36 AM
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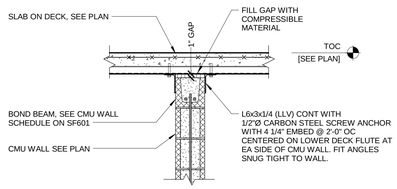
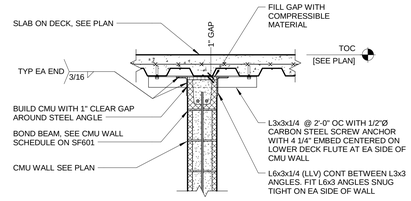


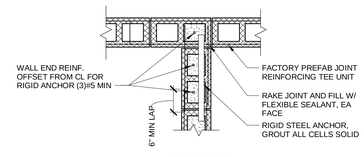
TYP. INT. NON-BEARING CMU WALL BRACING (WALL PERPENDICULAR TO DECK)

NOT TO SCALE

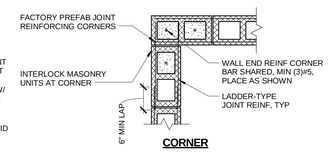


TYP. INT. NON-BEARING CMU WALL BRACING (WALL PARALLEL TO DECK)

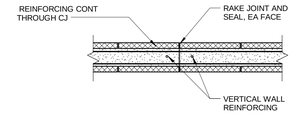
NOT TO SCALE



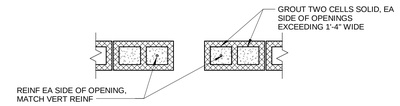
INTERSECTION



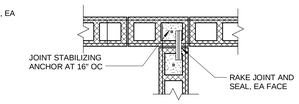
CORNER



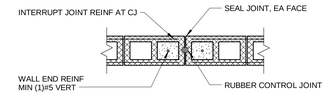
AT BOND BEAM



WALL OPENING



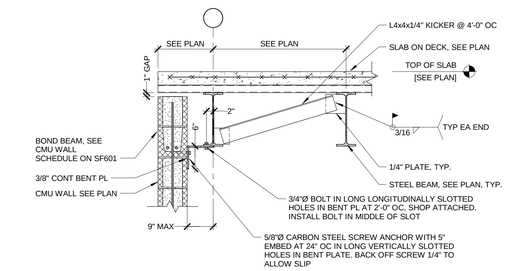
CJ AT WALL INTERSECTION WHERE INDICATED



CONTROL JOINT

TYPICAL CONCRETE MASONRY WALL DETAILS

NOT TO SCALE



TYP EXT NON-BEARING CMU WALL BRACING

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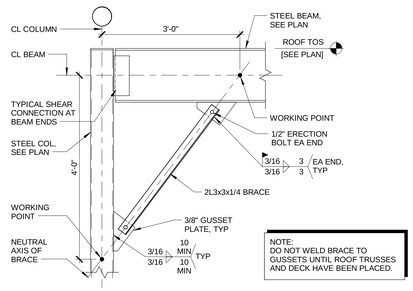
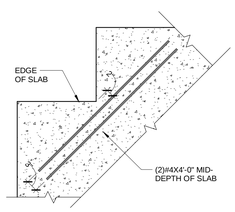


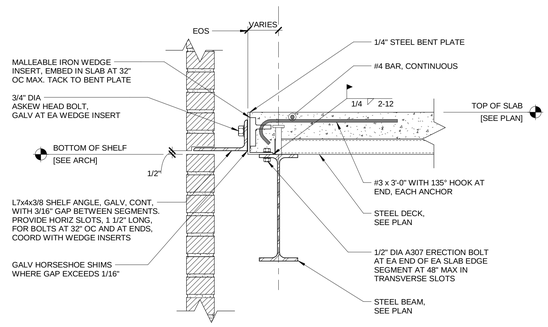
TYPICAL STEEL FRAMED KNEE BRACE

NOT TO SCALE



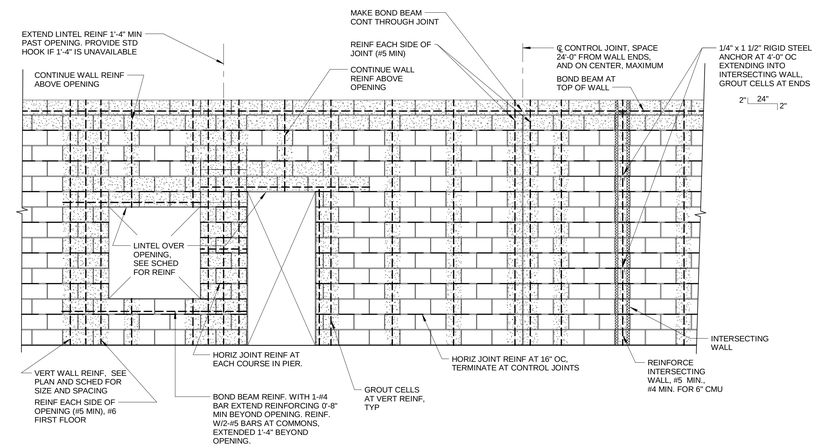
TYP REINFORCING AT RE-ENTRANT CORNERS, SLAB OPENINGS AND DEPRESSION CORNERS

NOT TO SCALE



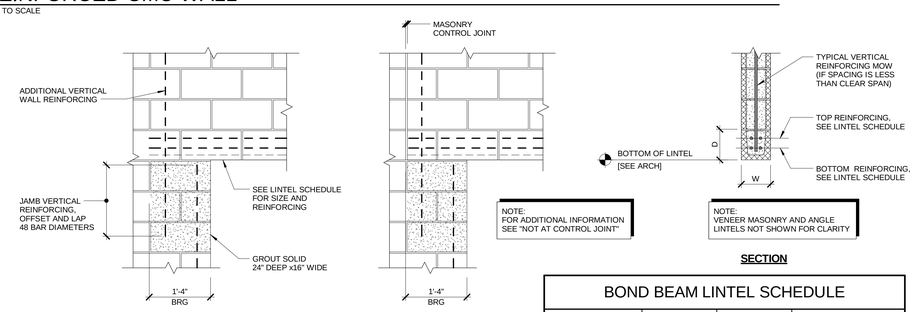
TYPICAL VENEER SHELF ANGLE

NOT TO SCALE



REINFORCED CMU WALL

NOT TO SCALE

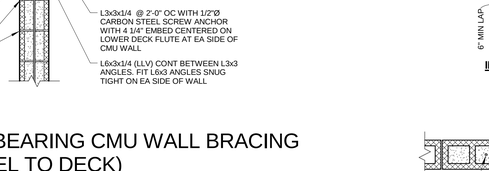


NOT AT CONTROL JOINT **AT CONTROL JOINT** **SECTION**

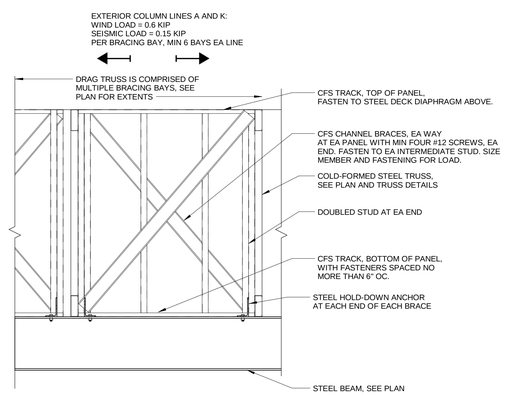
BOND BEAM LINTEL SCHEDULE			
CLEAR SPAN	DEPTH 'D'	WIDTH 'W'	REINFORCING
0' — 3' - 4"	8"	8"	2-#4 BOTTOM
3' - 5" — 5' - 4"	8"	8"	2-#6 BOTTOM

TYPICAL BOND BEAM LINTEL

NOT TO SCALE

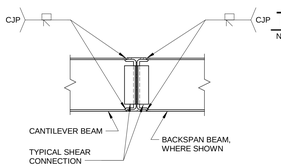


PLAN AT CORNER **PLAN AT INTERSECTION**

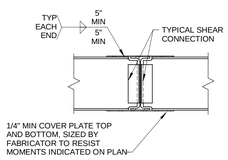


TYPICAL DRAG TRUSS TYPE A

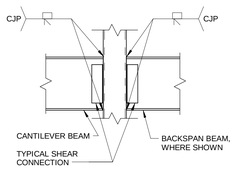
NOT TO SCALE



AT BEAM/GIRDER - TYPE 1



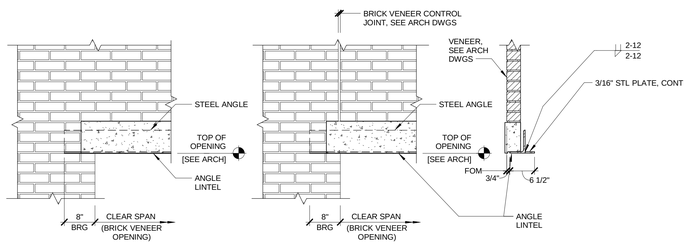
AT BEAM/GIRDER - TYPE 2



AT COLUMN

TYPICAL BOND BEAM REINFORCING

NOT TO SCALE



ELEVATION **ELEVATION AT BRICK VENEER CONTROL JOINT** **SECTION**

ANGLE LINTEL SCHEDULE FOR BRICK VENEER	
CLEAR SPAN	ANGLE
0' — 5'-0"	L4x4x5/16
5'-1" — 8'-0"	L6x4x5/16 (LLV)

NOTES:

1. PROVIDE 8" MINIMUM BEARING AT EACH END OF ANGLE.
2. TOE OF ANGLE SHALL BE LOCATED 3/4" FROM FACE OF BRICK.
3. FOR EXACT SIZE AND LOCATION OF WALL OPENINGS, COORDINATE WITH ARCHITECTURAL DRAWINGS.
4. ANGLE LINTEL SCHEDULE APPLIES ONLY TO ANGLE LINTELS NOT OTHERWISE SHOWN ON THE STRUCTURAL DRAWINGS.
5. ANGLE LINTELS IN EXTERIOR WALLS SHALL BE HOT-DIP GALVANIZED.
6. AT BRICK VENEER CONTROL JOINT, FORM SLIP PLANE BY PLACING FLASHING ABOVE AND BELOW ANGLE. PROVIDE 1/4" GAP AT EACH END OF ANGLE FOR THERMAL EXPANSION.

TYPICAL MOMENT CONNECTIONS

NOT TO SCALE

TYPICAL BRICK ANGLE LINTEL

NOT TO SCALE

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PENN STATE NEW RESIDENCE HALL
THE PENNSYLVANIA STATE UNIVERSITY
UNIVERSITY PARK, PA 16802

CN NO: 4046
DATE: 06/29/2012
DESIGN: BSP
DRAWN: BJT
REVIEW: ECW

REVISIONS
No. Date Description

TYPICAL FRAMING DETAILS

SF501
SHEET OF

7/2/2012 9:17:42 AM
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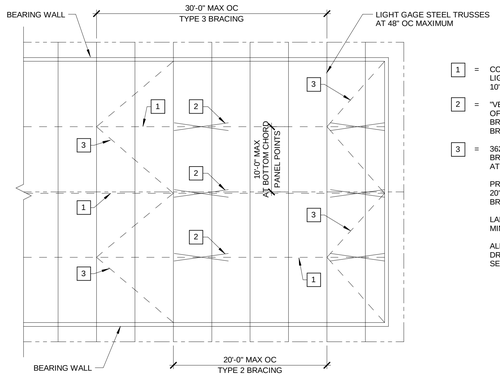


1 = CONTINUOUS 362S162-43 STEEL STUD BRACING FOR LIGHT GAGE STEEL TRUSS BOTTOM CHORD (SPACE 10'-0" OC MAX AT BOTTOM CHORD PANEL POINTS)

2 = "VERT" 362S162-43 STEEL STUD CROSS BRACING OF WEB MEMBERS AT EACH ROW OF BOTTOM CHORD BRACING. LOCATE AT ENDS OF THE BOTTOM CHORD BRACING AND REPEAT AT 20'-0" OC (MAX) INTERVALS.

3 = 362S162-43 STEEL STUD BOTTOM CHORD DIAGONAL BRACING. LOCATE AT END OF BUILDING AND REPEAT AT 30'-0" OC (MAX) INTERVALS.

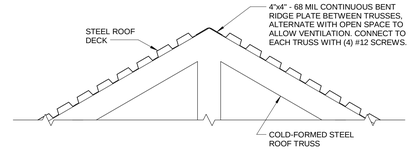
PROVIDE 362S162-43 STEEL STUD CROSS BRACING AT 20'-0" OC AT PERMANENT CONTINUOUS LATERAL BRACING AS SPECIFIED BY THE TRUSS ENGINEER.

LAP ALL LATERAL BOTTOM CHORD BRACES OVER A MINIMUM OF 2 TRUSSES.

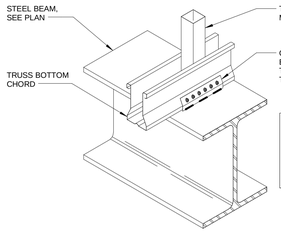
ALL CONNECTIONS SHOULD BE MADE WITH (3) SELF DRILLING SCREWS FOR DIAGONAL BRACING, AND (2) SELF DRILLING SCREWS FOR LATERAL BRACING.

NOTE:
TRUSS MANUFACTURER SHALL DESIGN COMPLETE BRACING SYSTEM AND PROVIDE PLANS AND DETAILS OF BRACING AS PART OF SHOP DRAWING SUBMITTAL.

MINIMUM LIGHT GAGE STEEL TRUSS BRACING DIAGRAM (PLAN VIEW)
NOT TO SCALE

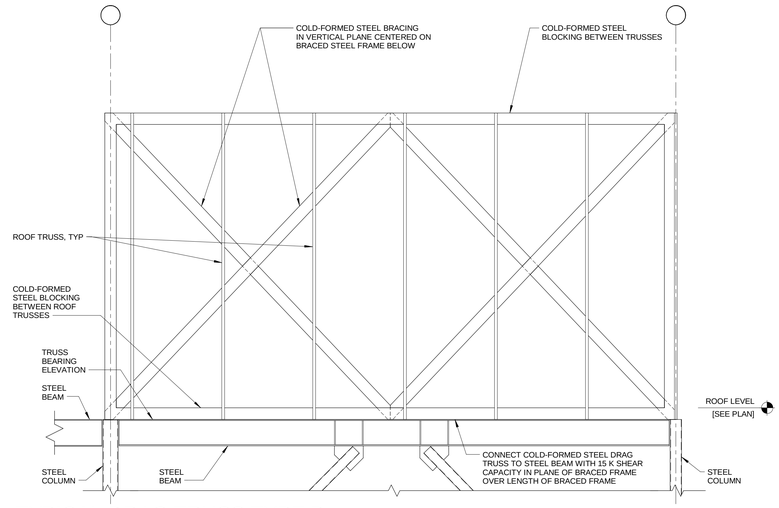


TYPICAL SLOPED ROOF PEAK
NOT TO SCALE

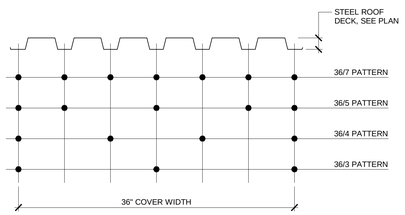


NOTE:
TRUSS MANUFACTURER SHALL DESIGN TRUSS-TO-BEARING CONNECTIONS FOR UPLIFT AS WELL AS 500 LBS MIN SHEAR AT EACH TRUSS-TO-BEARING CONNECTION ALONG EXTERIOR SUPPORTS

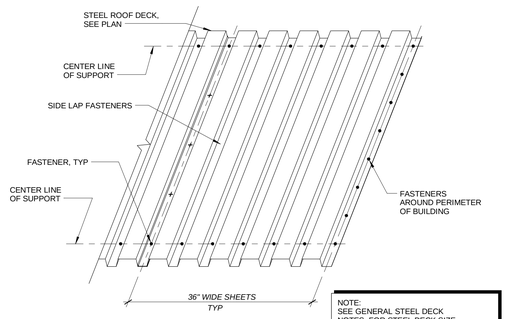
TYPICAL TRUSS-TO-BEARING AT STRUCTURAL STEEL
NOT TO SCALE



TYPICAL DRAG TRUSS TYPE B
NOT TO SCALE

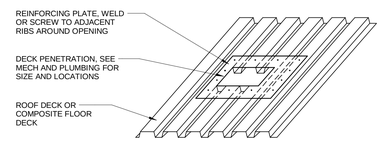


ROOF DECK FASTENING PATTERNS
NOT TO SCALE



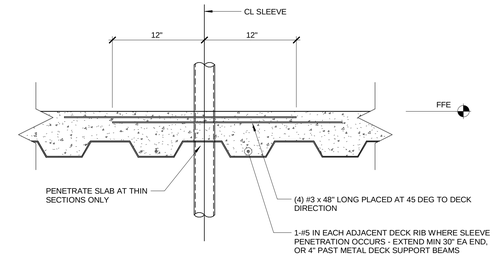
NOTE:
SEE GENERAL STEEL DECK NOTES FOR STEEL DECK SIZE, GAGE, FASTENER SIZE, TYPE, AND PATTERN, AND SIDE LAP CONNECTIONS

TYPICAL ROOF DECK ATTACHMENT
NOT TO SCALE



OPENING SIZE	REINFORCING	NOTES
UP TO 6" DIA	NOT REQUIRED	NOT REQUIRED
6" TO 14"	16 GA. PLATE	SEE DETAIL ABOVE
OVER 14"	SEE TYPICAL SLAB OPENING DETAIL, THIS SHEET	

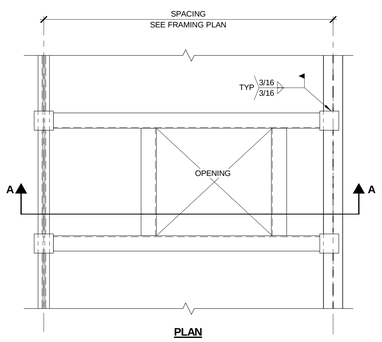
TYPICAL DECK REINFORCEMENT
NOT TO SCALE

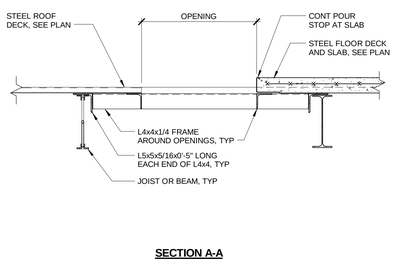


NOTE:

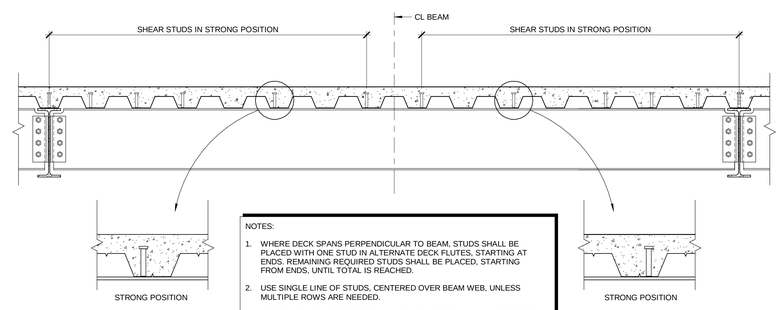
PENETRATIONS THROUGH SLAB IN THE OTHER DIRECTION (ALL WITHIN METAL DECK RIB) SHALL BE SPACED AT 3x PIPE (OR SLEEVE) DIAMETER ON CENTER, MINIMUM, EXCEPT AS PROVIDED IN "TYPICAL SLAB PENETRATION - MULTIPLE OPENINGS" DETAIL, THIS SHEET. PROVIDE STRUCTURAL SUPPORT FOR METAL DECK WHERE REQUIRED DUE TO CONDUIT OR SLEEVE PENETRATIONS.

TYPICAL SLAB PENETRATION
NOT TO SCALE





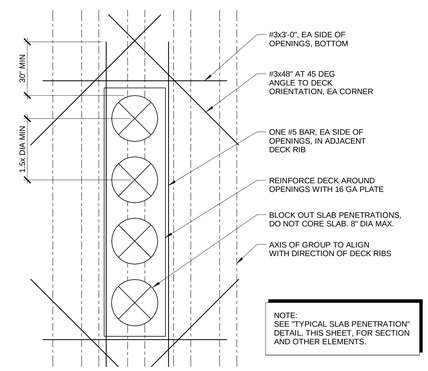
TYPICAL DECK SUPPORT AT ROOF/FLOOR OPENING
NOT TO SCALE



NOTES:

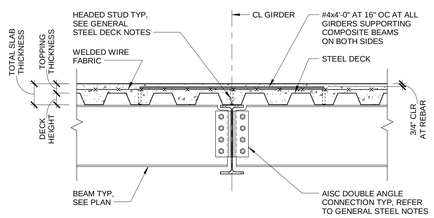
1. WHERE DECK SPANS PERPENDICULAR TO BEAM, STUDS SHALL BE PLACED WITH ONE STUD IN ALTERNATE DECK FLUTES, STARTING AT ENDS. REMAINING REQUIRED STUDS SHALL BE PLACED, STARTING FROM ENDS, UNTIL TOTAL IS REACHED.
2. USE SINGLE LINE OF STUDS, CENTERED OVER BEAM WEB, UNLESS MULTIPLE ROWS ARE NEEDED.
3. STUD SPACING AT GIRDERS SHALL BE NO MORE THAN 24", NO LESS THAN 4 1/2", DISTRIBUTED EVENLY.
4. WHERE MULTIPLE ROWS ARE NEEDED ON GIRDERS, STUDS SHALL BE STAGGERED 3" MIN.

COMPOSITE BEAM DIAGRAM
NOT TO SCALE

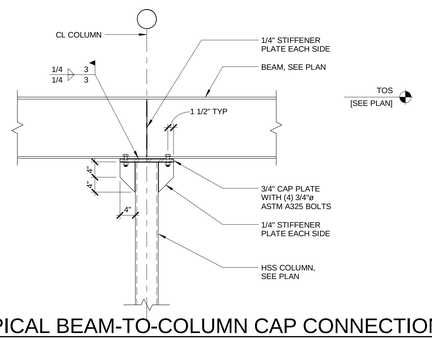


NOTE:
SEE "TYPICAL SLAB PENETRATION" DETAIL, THIS SHEET, FOR SECTION AND OTHER ELEMENTS.

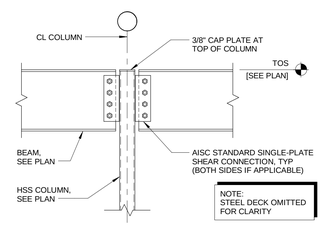
TYPICAL SLAB PENETRATION - MULTIPLE OPENINGS
NOT TO SCALE



TYPICAL COMPOSITE BEAM-TO-GIRDER CONNECTION AND SLAB REINFORCING
NOT TO SCALE

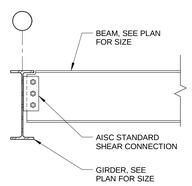


TYPICAL BEAM-TO-COLUMN CAP CONNECTION
NOT TO SCALE

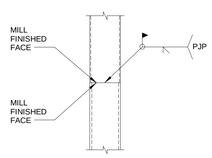


NOTE:
STEEL DECK OMITTED FOR CLARITY

TYPICAL BEAM-TO-COLUMN SHEAR CONNECTION
NOT TO SCALE



TYPICAL BEAM-TO-GIRDER CONNECTION
NOT TO SCALE



TYPICAL COLUMN SPLICE
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PENN STATE NEW RESIDENCE HALL
THE PENNSYLVANIA STATE UNIVERSITY
UNIVERSITY PARK, PA 16802

CN NO: 4046
DATE: 06/29/2012
DESIGN: BSP
DRAWN: BJT
REVIEW: ECW

REVISIONS

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TYPICAL FRAMING DETAILS

SF502

SHEET OF

7/2/2012 9:17:46 AM
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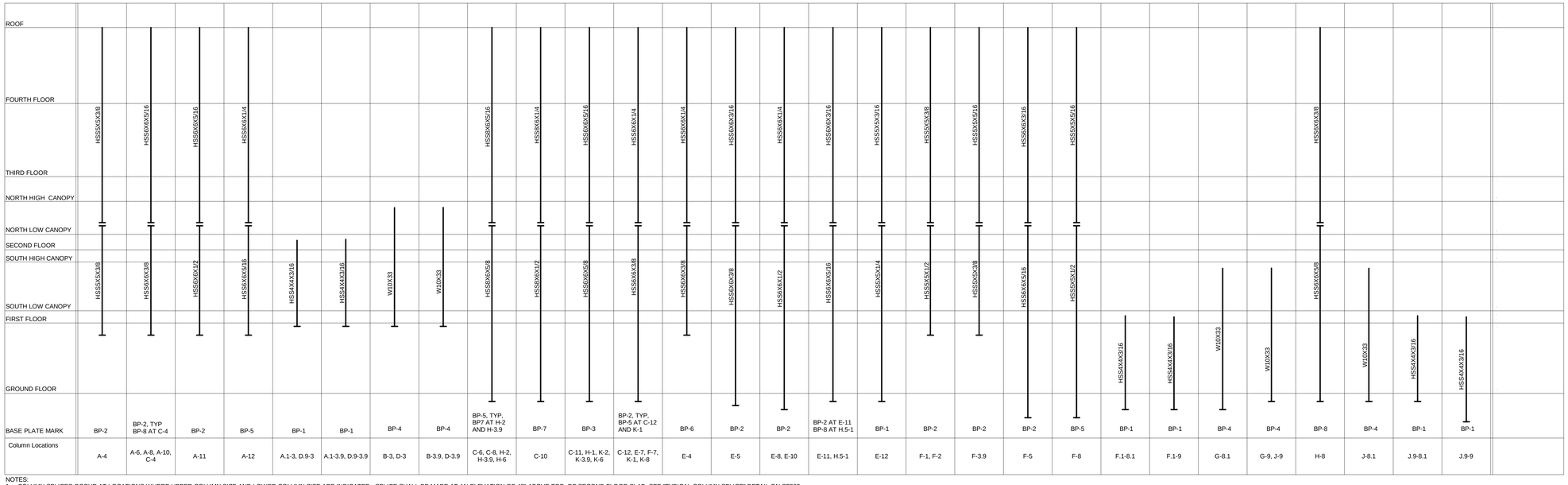


NOTES:
1. COLUMN SPLICES OCCUR AT LOCATIONS WHERE UPPER COLUMN SIZE AND LOWER COLUMN SIZE ARE INDICATED. SPLICE SHALL BE MADE AT AN ELEVATION OF 48" ABOVE TOP OF SECOND FLOOR SLAB. SEE "TYPICAL COLUMN SPLICE" DETAIL ON SF502.
2. SEE ANCHOR ROD AND BASE PLATE SCHEDULE ON SB501 FOR BASE PLATE TYPE.

GRAPHICAL COLUMN SCHEDULE

NOT TO SCALE

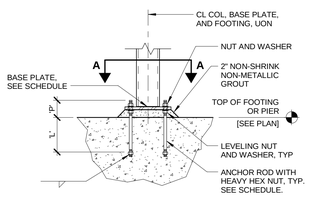
ANCHOR ROD AND BASE PLATE SCHEDULE

MARK	BASE PLATE			ANCHOR RODS			
	WIDTH 'B'	LENGTH 'N'	THICKNESS 't'	ROD DIAMETER	EMBEDMENT 'L'	PROJECTION 'P'	BASE PLATE TYPE
BP1	11	11	3/4	3/4	9	6"	TYPE I
BP2	12	12	3/4	3/4	9	6"	TYPE I
BP3	12	12	1	1	12	6"	TYPE I
BP4	16	16	1-1/4	1	12	7"	TYPE I
BP5	14	14	1	1	16	6"	TYPE III
BP6	14	14	1-1/4	1	24	8"	TYPE III
BP7	14	14	1-1/2	1	24	8"	TYPE I
BP8	14	26	2	1	16	8"	TYPE II

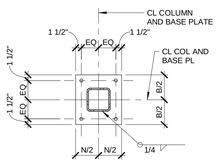
CMU WALL REINFORCING SCHEDULE

MARK	CMU NOMINAL THICKNESS	VERTICAL REINFORCING AND GROUT SPACING	HORIZONTAL JOINT REINFORCING	BOND BEAM DEPTH	BOND BEAM SPACING	BOND BEAM REINFORCING
MW1	8"	#5 AT 8" OC	(2) W1.7	16'	SEE NOTES 2&3	(2) #5
MW2	8"	#5 AT 48" OC	(2) W1.7	8"	SEE NOTES 3	(2) #5
MW3	6"	#5 AT 48" OC	(2) W1.7	8"	SEE NOTES 3	(1) #5
MW4	8"	#5 AT 8" OC	(2) W1.7	16"	SEE NOTES 3	(2) #5

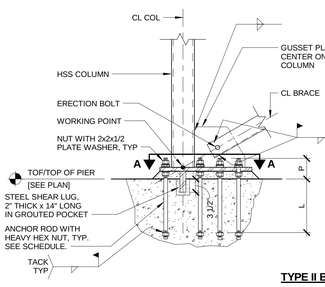
NOTES:
1. SEE TYP. DETAILS ON SHEET SF501 FOR REINFORCING AT WALL ENDS, WALL OPENINGS, CONTROL JOINTSINTERSECTIONS.
2. AT ELEVATOR SHAFTS, CONTINUOUS REINFORCED BOND BEAMS SHALL BE LOCATED AT FLOOR LEVELS AND AT ANCHORAGE LOCATIONS FOR ELEVATOR RAIL SUPPORTS. COORDINATE WITH ELEVATOR DRAWINGS.
3. BOND BEAM SHALL BE LOCATED AT TOP OF WALL.



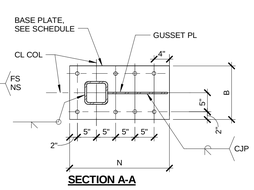
TYPE I BASE PLATE



PLAN A-A

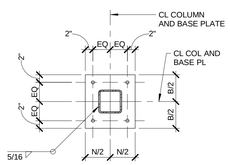


TYPE II BASE PLATE



SECTION A-A

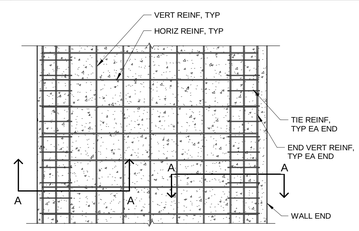
NOTE:
PROVIDE 2x2x1/2 PLATE WASHERS WITH STANDARD HOLE AT EACH ANCHOR ROD

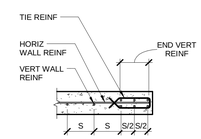


TYPE III BASE PLATE

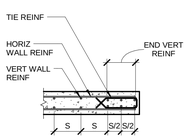
CONCRETE WALL REINFORCING SCHEDULE

MARK	CONCRETE WALL THICKNESS	VERTICAL REINFORCING	HORIZONTAL REINFORCING	END REINFORCING
CW1	8"	#5 AT 14" OC, MOW	#5 AT 14" OC, MOW	(6) #5, 1/2 EACH FACE WITH #3 TIES AT 8" OC
CW2	16"	#6 AT 9" OC, EF	#6 AT 18" OC, EF	N/A
CW3	8"	#5 AT 10" OC, EF	#5 AT 10" OC, EF	(4) #5, 1/2 EACH FACE WITH #3 TIES AT 8" OC
CW4	12"	#5 AT 10" OC, EF	#5 AT 10" OC, EF	(4) #5, 1/2 EACH FACE WITH #3 TIES AT 8" OC





SECTION A-A, (1 LAYER OF REINF, MOW)



SECTION A-A, (2 LAYER OF REINF)

TYPICAL REINFORCING AT CONCRETE WALL

NOT TO SCALE

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PENN STATE NEW RESIDENCE HALL
THE PENNSYLVANIA STATE UNIVERSITY
UNIVERSITY PARK, PA 16802

CN NO: 4046
DATE: 06/29/2012
DESIGN: BSP
DRAWN: BJT
REVIEW: ECW

REVISIONS
No. Date Description

SCHEDULES

SF601
SHEET OF

7/2/2012 9:17:48 AM
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