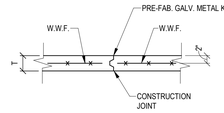
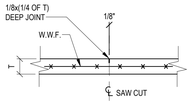
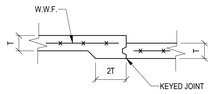


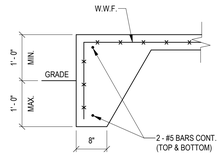
FORMED JOINT - SLAB ON GRADE



SAW CUT - SLAB ON GRADE

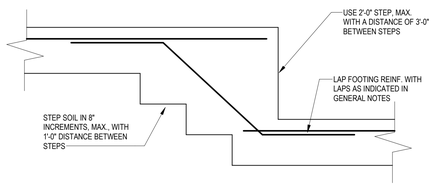


TYP. DEPRESSED SLAB ON GRADE

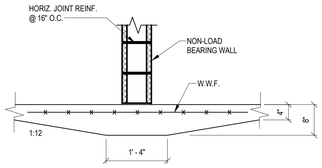


TYP. TURNED DOWN SLAB

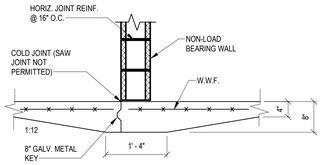
TYP. CONTROL JOINTS



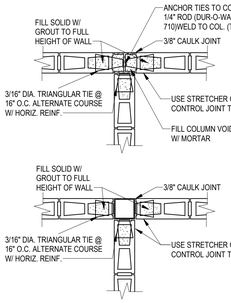
TYP. FOOTING STEP



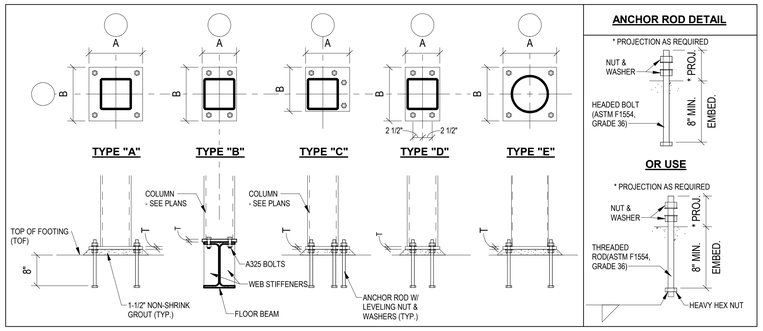
THICKENED SLAB AT NON-LOAD BEARING WALL LESS THAN 14'-0" HIGH



THICKENED SLAB & CONTROL JOINT AT NON-LOAD BEARING WALL LESS THAN 14'-0" HIGH



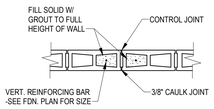
STANDARD MASONRY ANCHORS AT WALLS ABUTTING COLUMNS



BASE PLATE SCHEDULE					
	DIMENSIONS			ANCHOR BOLT DIAMETER	PLATE TYPE
MARK	A	B	T		
BP-1	1' - 0"	1' - 0"	0' - 0 3/4"	0' - 0 3/4"	A

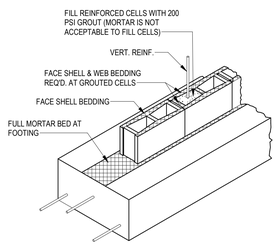
FOOTING SCHEDULE		
MARK	DIMENSIONS	REINFORCEMENT
F-4	4'-0" x 4'-0" x 1'-0"	6-#4 EACH WAY, BOT

BEAM & PLATE LINTEL SCHEDULE			
MARK	BEAM SIZE	PLATE SIZE	DETAIL
L-1	W8x18	3/8" x 13"	3/S301

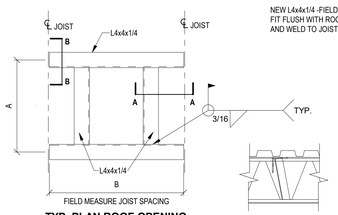


1. CONTROL JOINT SPACING NOT TO EXCEED 30'-0".
2. SEE ARCH. DRAWINGS FOR CONTROL JOINT LOCATION.
3. HORIZ. JOINT REINFORCEMENT TO TERMINATE AT EACH SIDE OF CONTROL JOINT.

TYPICAL LOAD BEARING CMU CONTROL JOINT



TYPICAL MORTAR REQUIREMENTS



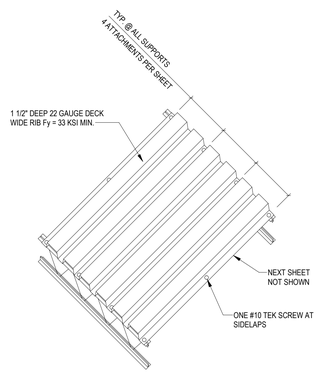
TYP. PLAN ROOF OPENING AND CURB SUPPORT
(COORDINATE SIZE W/ MECH. DRAWINGS)

NOTE:
WHEN JOIST BRIDGING INTERFERES W/ ROOF OPENING FRAMES, STOP BRIDGING AT EACH SIDE OF OPENING & REPLACE W/ 2 RUNS OF BRIDGING AT EACH SIDE OF OPENING

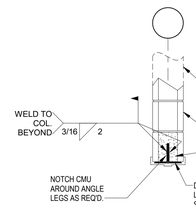
SECTION A-A

SECTION B-B

NOTE:
WHERE CURB SUPPORT IS LOCATED BETWEEN TOP CHORD PANEL POINTS ON JOIST, ADD L2x2x1/8 WELD TO TOP CHORD & NEAREST BOTTOM CHORD PANEL POINT



TYPICAL STEEL DECK ATTACHMENT DETAIL

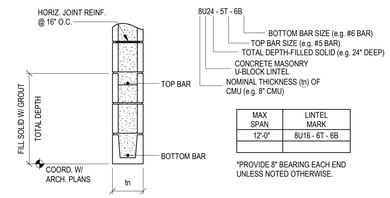


NOTES:

1. USE DETAIL FOR SPANS BETWEEN 8'-0" AND 10'-0", OR WHEN THERE IS LESS THAN 8" BEARING FOR A U-BLOCK LINTEL.

2. WELD STEEL LINTEL TO COLUMN WHEN THERE IS LESS THAN 8" BEARING.

TYPICAL INTERIOR STEEL LINTEL



MAX SPAN	LINTEL MARK
12'-0"	8U16 - 6T - 6B

*PROVIDE 8" BEARING EACH END UNLESS NOTED OTHERWISE.

DEEP U-BLOCK LINTEL DETAIL

U-BLOCK LINTELS (NON-LOAD BEARING WALLS)						
	6" LIGHT WEIGHT BLOCK		8" LIGHT WEIGHT BLOCK		12" LIGHT WEIGHT BLOCK	
MAX SPAN	BOTT. REINF.	TOP REINF.	BOTT. REINF.	TOP REINF.	BOTT. REINF.	TOP REINF.
4'-0"	1 - #4	----	1 - #4	----	1 - #4	----
6'-0"	1 - #4	1 - #4	1 - #4	1 - #4	1 - #5	1 - #4
8'-0"	1 - #6	1 - #6	1 - #6	1 - #6	2 - #5	2 - #5
>8'-0"	SEE "DEEP U-BLOCK LINTEL DETAIL"					

TOP REINF. / BOTT. REINF. / 1/2" CLR. / TYPICAL	8" DEEP LINTELS
	8" MIN. BEARING FILL CELLS OF BLOCK W/ GROUT DOWN TO TOP OF FOOTING
	FILL U-BLOCK W/ 2000 PSI GROUT
	REINF. - ASTM 615 GRADE 60 MORTAR - TYPE "S"
	WHERE VERT. C.J. ARE ON EITHER SIDE OF OPENING, IF HEIGHT OF WALL EXCEEDS 6'-0" ABOVE LINTEL, NOTIFY ENGINEER
CAST-CRETE PRECAST U-LINTELS (UNFILLED) MAY BE USED FOR ALL SPANS UP TO 8'-0" IN PLACE OF CONVENTIONAL U-BLOCK LINTELS	

STEEL LINTELS (NON-LOAD BEARING WALLS)				
MAX SPAN	PER 4" THICKNESS BRICK OR BLOCK	6" LIGHT WEIGHT BLOCK	8" LIGHT WEIGHT BLOCK	12" LIGHT WEIGHT BLOCK
5'-0"	L3 1/2x3 1/2x1/4	(2)L3x2 1/2x1/4	(2)L3 1/2x2 1/2x1/4	(2)L5x5x5/16
6'-0"	L5x3 1/2x1/4	(2)L3 1/2x2 1/2x1/4	(2)L4x3 1/2x1/4	(2)L5x5x5/16
7'-0"	L5x3 1/2x1/4	(2)L3 1/2x2 1/2x3/8	(2)L5x3 1/2x1/4	(2)L5x5x5/16
8'-0"	L6x3 1/2x5/16	(2)L3 1/2x2 1/2x3/8	(2)L5x3 1/2x1/4	(2)L5x5x5/16
9'-0"	L6x3 1/2x5/16	WT 7x11	(2)L6x3 1/2x5/16	(2)L5x5x5/16
10'-0"	L7x4x3/8	WT 7x11	(2)L6x3 1/2x5/16	(2)L5x5x5/16

ALL UNEQUAL LEG ANGLES SHALL HAVE LONG LEG VERTICAL

MINIMUM BEARING 8" ON EACH END
FILL CELLS OF BLOCK W/ GROUT DOWN TO TOP OF FOOTING

NOTE:
THESE ARE MINIMUM REQUIREMENTS UNLESS NOTED OTHERWISE

GENERAL NOTES

GENERAL CONSTRUCTION NOTES

1 THESE NOTES COMPLEMENT THE DRAWINGS AND SPECS AND SHOULD NOT BE CONSIDERED INCLUSIVE OF ALL ITEMS. IF A CONFLICT EXISTS BETWEEN THE DRAWINGS AND SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT WILL APPLY.
2 WHERE A DETAIL IS SHOWN FOR ONE CONDITION, IT SHALL APPLY FOR ALL LIKE OR SIMILIAR CONDITIONS, EVEN THOUGH NOT SPECIFICALLY SHOWN ON THE DRAWINGS.
3 CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS BEFORE EXECUTING WORK.
4 ALL WALLS RELYING ON TOP SLAB FOR SUPPORT SHALL BE BRACED UNTIL SLAB HAS CURED FOR A MINIMUM OF THREE DAYS.
5 DRAWINGS ARE TO BE CAREFULLY COORDINATED AND LINTELS ACCORDING TO THE STANDARD LINTEL SCHEDULE ARE TO BE PROVIDED AT ALL MASONRY OPENINGS SHOWN ON ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND STRUCTURAL PLANS.
6 CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS BEFORE EXECUTING WORK.
7 SHOP DRAWINGS SHALL BE INDEPENDENTLY DEVELOPED. REPRODUCTION OF STRUCTURAL DESIGN DRAWINGS FOR USE AS SHOP DRAWINGS IS PROHIBITED; STEEL FABRICATION DRAWINGS SHALL BE SEALED BY AN ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED.

APPLICABLE CODES FOR DESIGN

1	INTERNATIONAL BUILDING CODE	IBC 2012, WITH 2012 GA. AMENDMENTS
2	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	AISC 14th ED
3	AMERICAN CONCRETE INSTITUTE	ACI 318-11
4	STEEL JOIST INSTITUTE	SJI 2010
5	BUILDING CODE REQUIREMENTS FOR CONCRETE MASONRY STRUCTURES	ACI 530-11

CLASSIFICATION OF BUILDING FOR RISK

1	RISK CATEGORY	II
2	SEISMIC FACTOR, Ie	1.0
3	SNOW FACTOR, Is	1.0
4	WIND FACTOR, Iw	1.0

DESIGN LOADS

1 FLOOR LIVE LOAD:

CLASSROOMS	40 PSF
RESTROOMS	40 PSF
CORRIDORS	80 PSF
STAIRS & BALCONIES	100 PSF
STORAGE	150 PSF
MECHANICAL & ELECTRICAL	150 PSF

(LIVE LOADS HAVE BEEN REDUCED AS ALLOWED BY SECTION 1607.10.1 OF THE 2012 IBC)

2 ROOF LIVE LOAD: 20 PSF (REDUCIBLE PER 2012 IBC SECTION 1067.12.2)

3 GROUND SNOW LOAD: 10 PSF

4 WIND LOAD: PER IBC 2012, ASCE 7-10
BASIC WIND SPEED: 115 MPH (Vult) (3 SECOND GUST)
WIND EXPOSURE: B
INTERNAL PRESSURE COEFFICIENTS: +0.18, -0.18
REFER TO DRAWING S601 FOR VELOCITY PRESSURE FOR CLADDING DESIGN.

5 SEISMIC DESIGN DATA:
Ss = 0.311
S1 = 0.111
Sds = 0.321
Sd1 = 0.174
SEISMIC SITE CLASS: D
SEISMIC DESIGN CATEGORY: C
SEISMIC BASE SHEAR: V= 0.092 x W @ R=3 1/2
SEISMIC FORCES DETERMINED BY: EQUIVALENT LATERAL FORCE PROCEDURE
SEISMIC RESISITNG SYSTEM:
1. BEARING WALL SYSTEM, INTERMEDIATE REINFORCED MASONRY SHEAR WALL (R=3 1/2, Cd=2 1/4)

FOUNDATION

1 IF AFTER EXCAVATION, THE CONDITION OF SOIL INDICATES A SAFE BEARING CAPACITY OF LESS THAN 2500 PSF, THE ARCHITECT/ ENGINEER SHALL BE NOTIFIED PRIOR TO PLACEMENT OF ANY FOUNDATION.
2 FOUNDATIONS AND RETAINING WALLS HAVE BEEN DESIGNED FOR ACTIVE PRESSURE OF 42 PSF, AT REST PRESSURE OF 66 PSF, PASSIVE PRESSURE OF 300 PSF, AND A COEFFICIENT OF FRICTION OF 0.50. THESE VALUES ARE BASED ON SOIL REPORTS AND TYPICAL VALUES FOR SOILS IN THIS AREA.
3 ALL BACKFILL SHALL BE COMPACTED TO THE REQUIREMENTS OF THE EARTHWORK SPECIFICATION.

CONCRETE & REINFORCING

1 ALL CONCRETE TO HAVE A 28 DAY COMPRESSIVE STRENGTH OF 3000 psi WITH A MAXIMUM AGGREGATE SIZE OF 1" UNLESS NOTED OTHERWISE ON PLANS. ALL CONCRETE IS NORMAL WEIGHT (NW) CONCRETE EXCEPT FOR THE SECOND FLOOR SLAB THAT IS TO BE LIGHTWEIGHT (LW) CONCRETE WITH A MAXIMUM UNIT DENSITY OF 110 PCF.
2 CONSTRUCTION OF CONTROL JOINTS SHALL BE PROVIDED IN FLOOR SLABS ON GRADE SUCH THAT THE MAXIMUM SPAN BETWEEN JOINTS IS 12.0 ft., OR AS NOTED ON THE DRAWINGS.
3 PROVIDE #4 BAR x 4'-0" LONG AT THE MID-DEPTH OF SLAB AT ALL RE-ENTRANT CORNERS AND INTERSECTIONS AND AT ALL DISCONTINUOUS CONTROL JOINTS IN SLAB ON GRADE.
4 ALL REINFORCING BARS SHALL BE ASTM A615, GRADE 60.
5 ALL BAR SPLICES SHALL BE AT A MINIMUM THE FOLLOWING LENGTHS (UNLESS NOTED OTHERWISE ON THE DRAWINGS): 36" FOR #6 BARS, 30" FOR #5 BARS, AND 24" FOR #4 BARS.
6 CORNER BARS ARE TO BE PROVIDED AT ALL CORNERS AND INTERSECTIONS OF REINFORCEMENT.
7 EXTEND WALL FOOTING REINFORCING BARS CONTINUOUSLY THROUGH COLUMN FOOTINGS.

CONCRETE MASONRY WALLS

1 THE DESIGN COMPRESSIVE STRENGTH, f'm, IS 1500 psi.
2 GROUT FOR MASONRY FILL SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2000 psi @ 28 DAYS. COMPLY WITH ASTM C476-02, WITH PROPORTIONS BY VOLUME OF 1 PART PORTLAND CEMENT TO 2 1/4 TO 3 PARTS FINE AGGREGATE.
3 ALL MASONRY WALLS SHALL HAVE HORIZONTAL JOINT REINFORCEMENT AT 16" O.C. VERTICALLY.
4 ALL MORTAR FOR CONCRETE MASONRY UNITS SHALL BE TYPE S.
5 REINFORCE WALLS AS SHOWN ON PLANS. REINFORCED WALLS MUST BE REINFORCED AS SHOWN IN DETAIL 7/S301 .
6 UNLESS NOTED OTHERWISE, ALL BAR SPLICES SHALL BE AS NOTED IN DETAIL 7/S301.
7 IN PLACE OF LAP SPLICES, ANY OF THE FOLLOWING MECHANICAL SPLICES MAY BE USED:
1. LENTON STANDARD COUPLERS-A2 (ERICO PRODUCTS, INC. 1-800-248-2677)
2. BAR-LOCK S-SERIES COUPLER (BAR-LOCK COUPLER SYSTEMS 1-800-755-4888)
3. DOUBLE BARREL ZAP SCREWLOK (BARSPLICE PRODUCTS, INC.- SOLID THROUGH REBAR SUPPLIER)
4. OTHER COUPLERS TO BE APPROVED BY THE ENGINEER OF RECORD.

STEEL

1 ALL WIDE FLANGE STRUCTURAL STEEL TO HAVE A MINIMUM YIELD STRENGTH OF 50 ksi (ASTM A992), UNLESS NOTED. STRUCTURAL TUBES ARE TO HAVE A MINIMUM YIELD STRENGTH OF 46 ksi (ASTM A500). ANGLES AND CHANNELS SHALL BE ASTM A36.
2 ALL WELDS ARE TO BE MADE WITH E70XX ELECTRODES.
3 ALL CONNECTIONS, EXCEPT THOSE INDICATED ON THE DRAWINGS AS "WELDED CONNECTIONS," ARE TO BE MADE USING 3/4" DIA. A325 BOLTS. CONNECTIONS DESIGNATED AS SLIP-CRITICAL SHALL BE MADE USING LOAD-INDICATING WASHERS OR TENSION-CONTROL BOLTS. DESIGN ALL CONNECTIONS FOR ASD (UNFACTORED) REACTIONS SHOWN ON THE PLANS.

METAL DECK

1 ROOF METAL DECKING SHALL BE 1 1/2", 22 GA., WIDE RIB WITH Fy = 33.0 ksi.
2 AT THE ROOF DECK ATTACHMENT, IN LIEU OF THE 5/8" PUDDLE WELDS, THE HILTI DECK FASTENING SYSTEM CAN BE USED WITH THE X-ENP-19 L15 PIN. ONE ADDITIONAL SIDELAP PER SPAN MUST BE INSTALLED WHEN THE HILTI FASTENING SYSTEM IS USED. SEE PLANS FOR THE NUMBER OF SIDELAPS REQUIRED WHEN THE DECKING IS ATTACHED USING THE 5/8" PUDDLE WELD.
3 FLOOR COMPOSITE METAL DECKING SHALL BE 1-1/2", 22 GA., MEETING THE FOLLOWING CRITERIA: I = 0.156 in.4, Sp = 0.184 in.3, Sn=0.199 in.3, Fy = 40.0 ksi.
4 AT THE COMPOSITE FLOOR DECK ATTACHMENT, IN LIEU OF THE 5/8" PUDDLE WELDS, THE HILTI DECK FASTENING SYSTEM CAN BE USED WITH X-ENP-19 L15 PIN AS AN EQUIVALENT (NO ADDITIONAL SIDELAPS REQUIRED) ATTACHMENT TO THE 5/8" PUDDLE WELD.

LIGHT GAUGE METAL ROOF TRUSSES:

1 TRUSS LOADING:
DEAD LOAD: THE FOLLOWING LOADS PLUS SELF-WEIGHT OF TRUSS
TOP CHORD: 5 PSF
BOTTOM CHORD: 13 PSF
A. BOTTOM CHORD IS NOT SHEATHED.
B. BRACING AS REQUIRED BY TRUSS MANUFACTURER.
C. DESIGN BOTTOM CHORD TO SUPPORT BULKHEADS FRAMED TO UNDERSIDE OF TRUSS; REFER TO ARCHITECTURAL PLANS & DETAILS FOR BULKHEADS.
D. REFER TO STRUCTURAL DETAILS FOR ADDITIONAL REQUIRED LOADS.
LIVE LOAD (TOP CHORD): 20 PSF (REDUCIBLE PER 2012 IBC) OR 300 LBS CONCENTRATED LOAD (WHICHEVER CONTROLS DESIGN)
SNOW LOAD: 10 PSF
WIND LOAD: REFER TO DRAWING S601 FOR COMPONENTS AND CLADDING WIND PRESSURE PLAN. ALSO, REFER TO "DESIGN LOADS" SECTION OF GENERAL NOTES.
DEFLECTION: ROOF TRUSSES SHALL BE DESIGNED TO LIMIT DEFLECTION AS SHOWN BELOW:
A. DEAD + LIVE: L/240
B. LIVE: L/360
C. WIND & SEISMIC: L/360
2 TRUSS MANUFACTURER IS RESPONSIBLE FOR ALL TEMPORARY AND PERMENENT BRACING REQUIRED FOR THE LIGHT GAUGE METAL ROOF TRUSSES.
3 TRUSS MANUFACTURER SHALL PROVIDE BLOCKING OR STRAPPING TO TRANSFER ROOF DIAPHRAGM LOADS TO THE SUPPORTING STEEL BEAMS OR LOAD BEARING WALLS. REFER TO THE FRAMING PLANS FOR DIAPHRAGM LOADS.
4 TRUSS MANUFACTURER IS RESPONSIBLE FOR THE TRUSS CONNECTION TO THE SUPPORTING STEEL BEAMS OR LOAD BEARING WALLS. CONNECTIONS SHALL BE DESIGNED FOR ASSOCIATED UPLIFT AND SHEAR LOADS DUE TO WIND AND SEISMIC LOADS.
5 TRUSS MANUFACTURER SHALL LAYOUT TRUSSES AT A MAXIMUM SPACING OF 48" ON-CENTER UNLESS NOTED OTHERWISE ON PLANS. LAYOUT TRUSSES TO ACHIEVE THE INTENT OF THE ARCHITECTURAL ROOF PLAN & DETAILS; PIGGY BACK TRUSSES CAN BE USED AT THE TRUSS MANUFACTURER'S OPTION.

SPECIAL INSPECTIONS

1 SEE SPECIFICATIONS SECTION 01 41 00 FOR REQUIREMENTS.

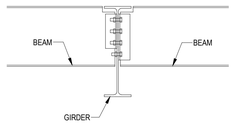
CONNECTION NOTES:

1. DESIGN BEAM CONNECTION TO GIRDER FOR REACTION SHOWN ON FRAMING PLAN. SEE FRAMING PLAN NOTES TO DETERMINE IF REACTION GIVEN IS FACTORED (LRFD) OR UNFACTORED (ASD).

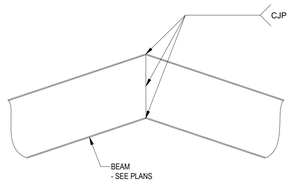
2. BOLTS SHOULD BE A MINIMUM OF 3/4" DIA., A325.

3. AN EXTRA ROW OF BOLTS SHOULD BE PROVIDED FOR ERECTION PURPOSES WHEN A DOUBLE-ANGLE CONNECTION IS USED ON BOTH SIDES OF GIRDER.

4. ALTERNATIVELY TO THE DOUBLE-ANGLE CONNECTION SHOWN, A PROPERLY DESIGNED SINGLE-PLATE OR SINGLE-ANGLE CONNECTION MAY BE USED.

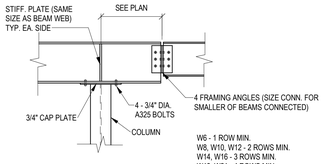


TYPICAL BEAM/GIRDER CONNECTION

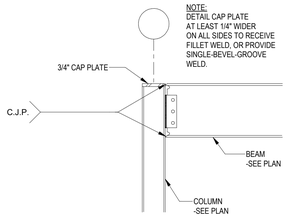


TYPICAL STEEL BEAM RIDGE MOMENT CONNECTION

PLAN SYMBOLS



BEAM & COLUMN CONNECTION DETAILS



TYPICAL MOMENT CONNECTION

SA&E PROJECT NUMBER	01-697-027
BID PACKAGE	BASE BID
ISSUED FOR CONSTRUCTION	04-08-2019

REVISIONS

R #	Doc #	Date

Southern A&E LLC
7951 Troon Circle
Austell, Ga 30168
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architects & engineers

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NEW FIELD HOUSE FOR:

UNION COUNTY FIELDHOUSE

153 PANTHER WAY, BLAIRSVILLE, GA 30512

UNION COUNTY SCHOOLS

124 HUGHES STREET BLAIRSVILLE, GA 30512

STATE OF GEORGIA
GREG SCHLANGER
CERTIFICATE No. 19618
REGISTERED ARCHITECT

GEORGIA REGISTERED No. 13785 PROFESSIONAL ENGINEER MICHAEL S. EDISON

DRAWING NUMBER

S001