



CITY OF SEDONA

SEDONA, ARIZONA

## INJECTION WELLS NO. 1 AND NO. 2 EQUIPPING DESIGN

TYPICAL DETAILS

VOLUME 4 OF 4

BID SET  
August 2015



EXPIRES 06-30-2018





**INJECTION WELLS NO. 1 AND NO. 2 EQUIPPING DESIGN**

**TABLE OF CONTENTS**

**ARCHITECTURAL**

A104	DOOR FRAME TYPES
A105	DOOR TYPES
A112	DOOR HEAD DETAILS
A120	DOOR JAMB DETAILS
A122	DOOR SILL DETAILS
A128	COILING METAL DOOR
A238	ALUMINUM STAIRWAY WITHOUT TOP TREAD WITH THREE RAIL GUARD AND SOLID RISERS FOR IBC
A401	FRP GRATING REBATE AND SEAT
A406	H-20 HEAVY DUTY HOT-DIP GALVANIZED STEEL GRATING REBATE
A500	ALUMINUM TREAD PLATE
A606	PARAPET DETAILS
A608	SINGLE-PLY ROOFING
A631	EQUIPMENT CURB @ BUILT-UP ROOFING
A724	OVERFLOW SCUPPER FOR BUILT-UP AND SINGLE PLY ROOFING
A725	ROOF DRAIN SCUPPER FOR BUILT-UP AND SINGLE PLY ROOFING
A726	CONDUCTOR HEAD
A727	DOWNSPOUT
A801	RAMP AT COILING DOOR
A802	ENTRANCE PAD
A804	CONCRETE SPLASH BLOCK

**CIVIL**

C002	CATH BASIN
C104	CROSS GUTTER
C160	GUARD POST
C180	CHAIN LINK FENCE AND GATE

**CORROSION**

D002	CORROSION MONITORING TEST STATION TYPE "I"
D062	PIPE FLANGE INSULATION

**ELECTRICAL**

E100	REINFORCED ENCASMENT FOR ELECTRICAL CONDUITS
E101	UNREINFORCED ENCASMENT FOR ELECTRICAL CONDUITS
E102	DIRECT BURIED CONDUIT OR CABLE
E103	CONDUIT, FLOOR STUB-UP
E104	ENCASED ELECTRICAL CONDUITS AT MANHOLE, HANDHOLE OR STRUCTURES
E105	PVC COATED GRS STUB UP DETAIL
E106	PCV GRS STUB UP TO LTC CONNECTION DETAIL
E107	CONDUIT SUPPORT
E108	MAGNETIC FLOW METER GROUNDING
E110	GROUND ROD INSTALLATION
E111	CONCRETE ENCASED GROUND
E112	ELECTRICAL HANDHOLE
E113	MOTOR LEAD TERMINATION
E114	MOV
E200	WELL SITE ANTENNA MOUNTING
E201	WWRP ANTENNA MOUNTING

**HVAC**

H003	CENTRIFUGAL EXHAUST FAN
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**MECHANICAL**

M214	PLAIN WEIR
M242	DUPLEX SUBMERSIBLE SUMP PUMP
M693	CHEMICAL DIFFUSER

**INSTRUMENTATION**

NA042	WET CHEMISTRY ANALYZER INSTALLATION DETAIL
NA090	SAMPLE PANEL PLUMBING DETAIL
NL109	FLOAT SWITCH MOUNTING
NL194	ULTRASONIC LEVEL TRANSDUCER MOUNTING DETAIL
NP187	DIFFERENTIAL PRESSURE TRANSMITTER 5-VALVE WITH DIAPHRAGM SEAL
NP501	MULTIPLE PRESSURE INSTRUMENTS MOUNTING DETAIL



## **PLUMBING**

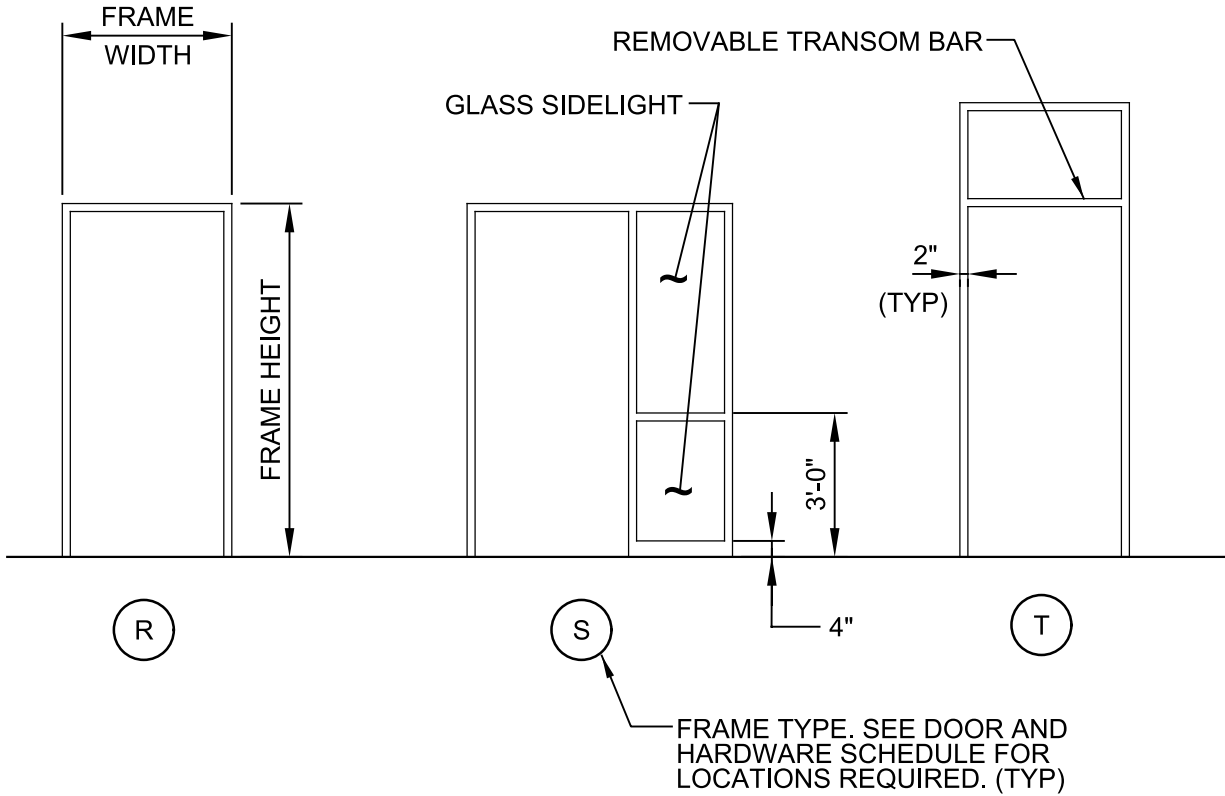
P002	PIPE INSTALLATION AND PAVEMENT REPLACEMENT
P022	VALVE BOX INSTALLATION
P040	CONCRETE ENCASEMENT OF PIPE
P110	DIP FLEXIBLE COUPLING TIE DOWN
P202	FLUSHING CONNECTION
P204	AIR VACUUM AND AIR RELEASE FOR 3" AND SMALLER VALVE ASSEMBLY
P301	PIPE PENETRATION THROUGH EXISTING TANK WALL
P302	SLEEVE INSTALLATION THROUGH DRY WALLS AND FLOOR SLABS
P304	SLEEVE INSTALLATION THROUGH WALLS AND FLOOR SLABS
P340	UNRESTRAINED DIP FLEXIBLE CONNECTION AT WALL PENETRATION
P342	RESTRAINED DIP FLEXIBLE CONNECTION AT WALL PENETRATION
P346	RESTRAINED STEEL PIPE FLEXIBLE CONNECTION AT WALL PENETRATION
P348	RCP FLEXIBLE CONNECTION AT WALL PENETRATION
P410	FLOOR DRAIN OR EQUIPMENT DRAIN WITH TRAP
P411	FLOOR DRAIN OR EQUIPMENT DRAIN
P420	FLOOR SINK
P602	CONCRETE PIPE SUPPORT
P615	PIPE SUPPORT POST WITH PERFORMED CHANNEL
P618	FLOOR PIPE SUPPORT
P624	ADJUSTABLE PIPE SUPPORT
P627	PIPE SUPPORT
P630	PIPE HANGER
P658	PIPE SUPPORT - WALL BRACKET BELOW
P660	FLUSH MOUNT PIPE SUPPORT

## **STRUCTURAL**

S110	CONSTRUCTION JOINT
S123	SAW CUT SLAB
S130	EXPANSION JOINT
S140	WALL AND SLAB JOINTS
S144	WALL REINFORCEMENT AT OPENINGS IN CONCRETE SLABS OR WALLS
S180	ADDITIONAL REINFORCING AT OPENINGS IN CONCRETE SLABS OR WALLS
S231	SUMP DETAILS
S300	EQUIPMENT SLAB
S302	EQUIPMENT BASE
S306	ISOLATED EQUIPMENT FOUNDATION

**STRUCTURAL (Cont.)**

S308	PRECAST CONC. PLANK
S332	ELECTRICAL EQUIPMENT PAD AND ANCHORAGE
S400	MASONRY NOTES
S410	REINFORCED MASONRY WALL
S412	REINFORCING AT MASONRY BOND BEAM
S430	MASONRY CONTROL JOINT
S450	8" CMU WALL ROOF BEAM TO EXTERIOR WALL CONNECTION
S520	FRAMED ROOF OPENING ASSEMBLY
S702	ROOF DECK MAKE-UP SECTION
S707	METAL DECK
S708	ROOF DECK TO WALL CONNECTION
S734	ROOF DECK ON INTERIOR MASONRY WALL



NOTES:

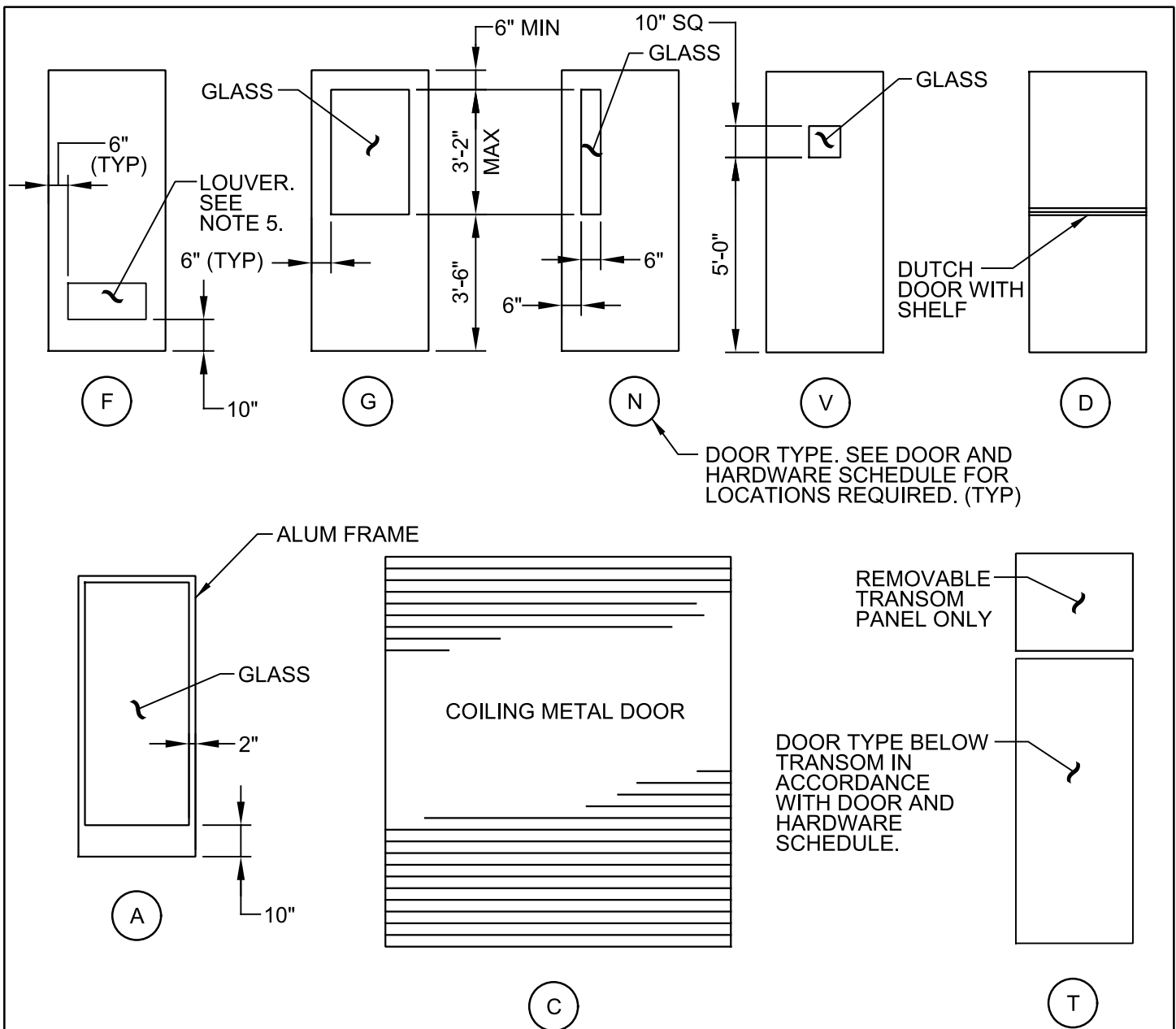
1. SEE DOOR AND HARDWARE SCHEDULE FOR FRAME SIZE, MATERIAL, AND DETAILS.
2. SIDELIGHT MAY BE ON EITHER SIDE OF DOOR. SEE DRAWINGS FOR REQUIRED SIDELIGHT LOCATION.
3. GLASS AT SIDELIGHTS SHALL BE TEMPERED.
4. GLASS AT INTERIOR SIDELIGHTS SHALL BE CLEAR. GLASS AT EXTERIOR SIDELIGHTS SHALL BE TINTED INSULATING GLASS.

A104

DOOR FRAME TYPES

TYP

08/01/05

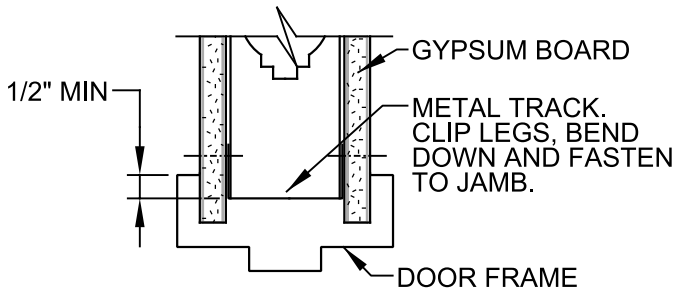


**NOTES:**

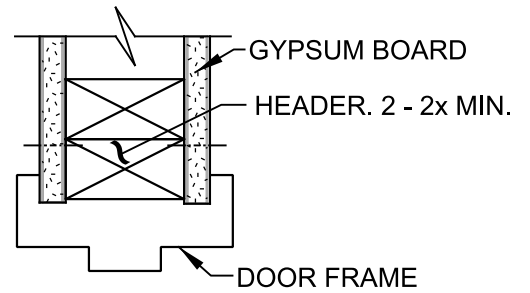
1. DOOR SIZE AND TYPE SHALL BE IN ACCORDANCE WITH DOOR AND HARDWARE SCHEDULE.
2. GLASS AT DOORS SHALL BE TEMPERED UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
3. GLASS AT INTERIOR DOORS SHALL BE CLEAR. GLASS AT EXTERIOR DOORS SHALL BE TINTED.
4. PROVIDE WIRE GLASS AT LABELED DOORS.
5. LOUVER MAY BE REQD AT ANY DOOR TYPE. SEE DOOR AND HARDWARE SCHEDULE FOR SIZE AND REQUIRED LOCATION.
6. PROVIDE LABELED DOORS IN ACCORDANCE WITH DOOR AND HARDWARE SCHEDULE.

**A105**  
TYP

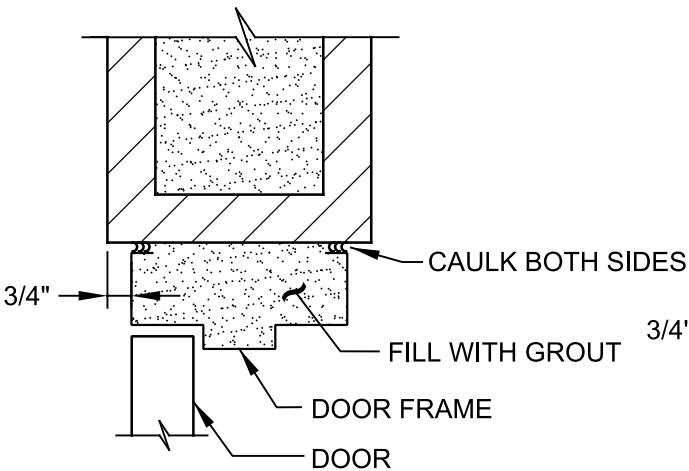
**DOOR TYPES**



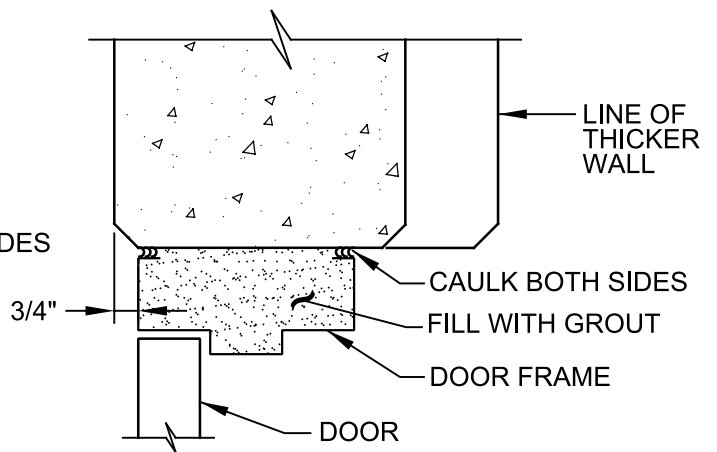
**A** METAL FRAMING



**B** WOOD FRAMING

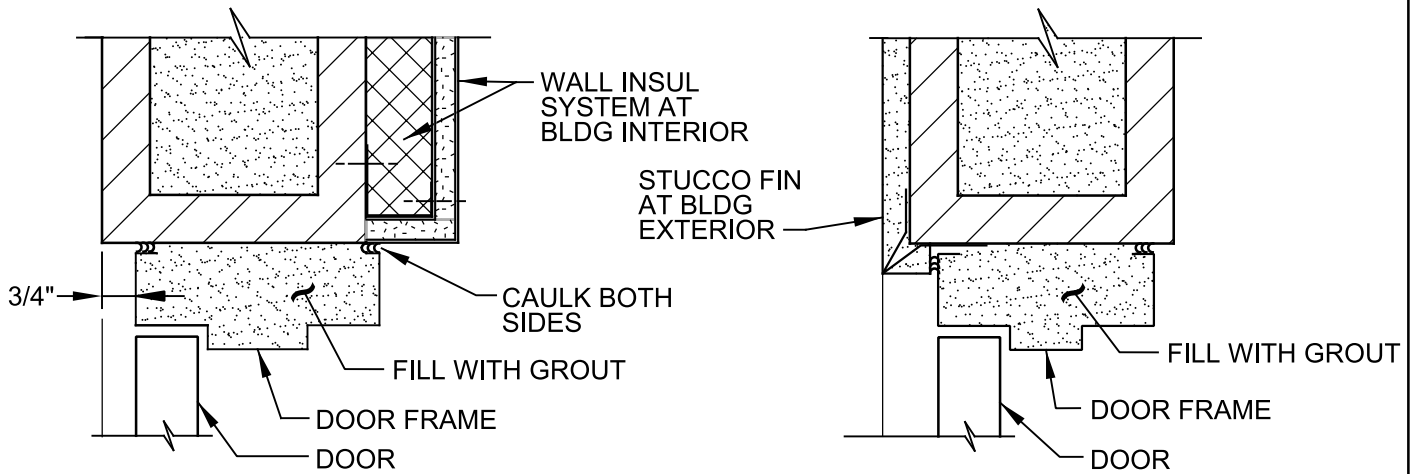


**C** MASONRY



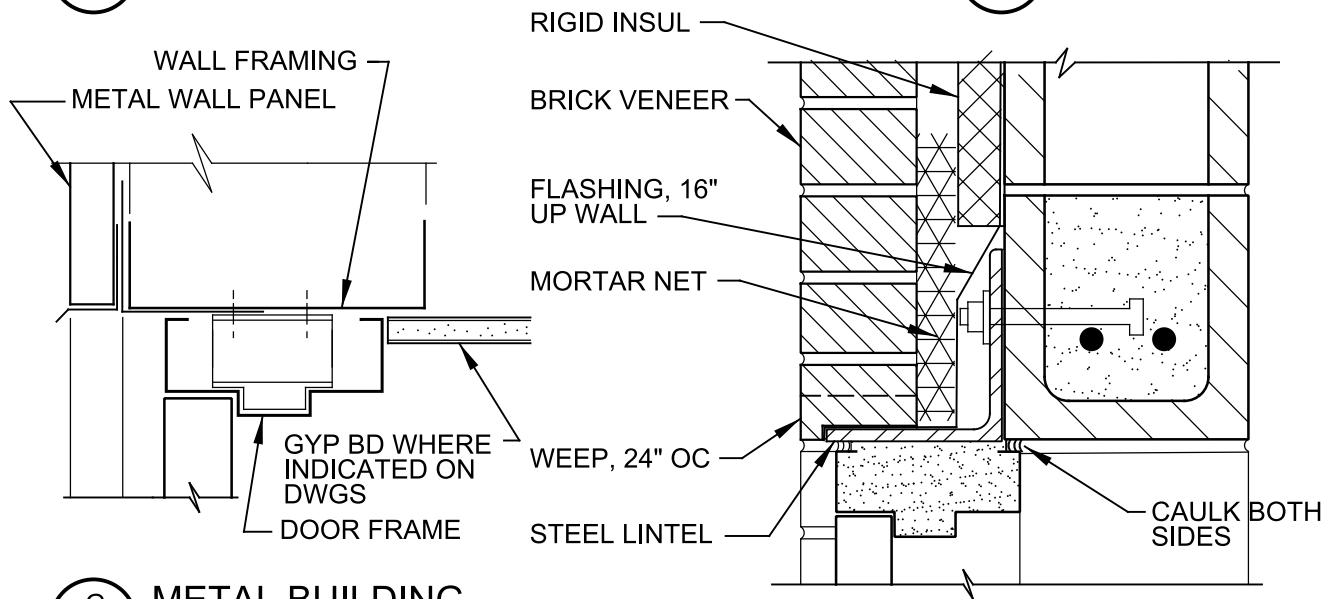
**D** CONCRETE

**A112** DOOR HEAD DETAILS  
TYP



**E** WALL INSULATION

**F** STUCCO



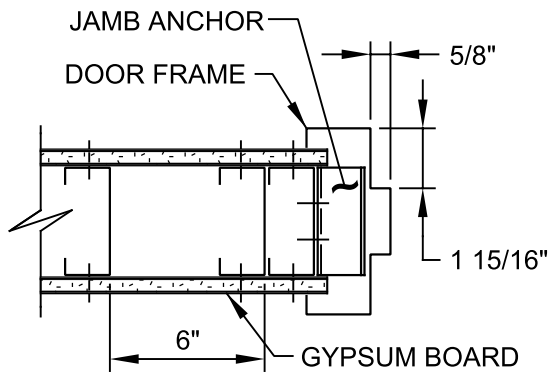
**G** METAL BUILDING

**H** BRICK VENEER

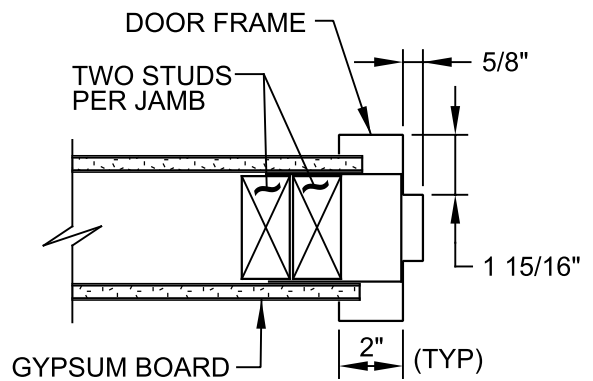
**NOTE:**

1. DOOR AND FRAME SIZE AND MATERIAL SHALL BE IN ACCORDANCE WITH DOOR AND HARDWARE SCHEDULE.
2. FRAME DIMENSIONS SHALL MATCH THOSE OF JAMB DETAILS ON A120  
TYP.
3. SEE SPEC FOR WALL INSULATION SYSTEM DETAILS.

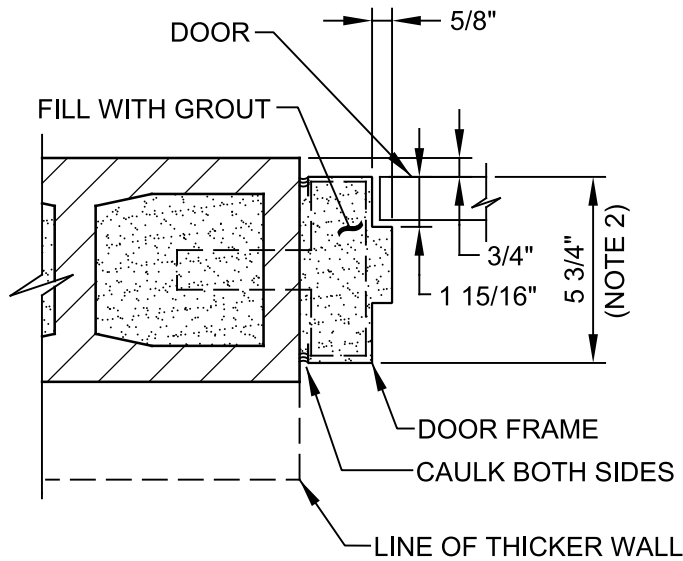
A112  
TYP DOOR HEAD DETAILS



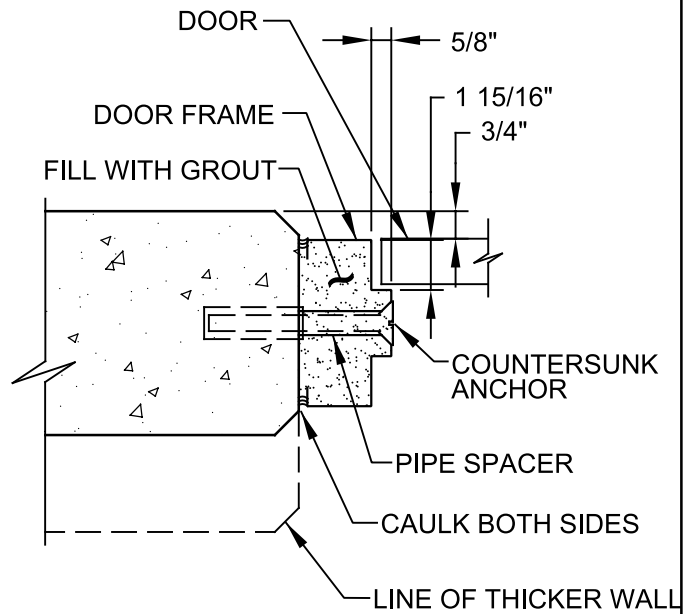
**A** METAL FRAMING



**B** WOOD FRAMING

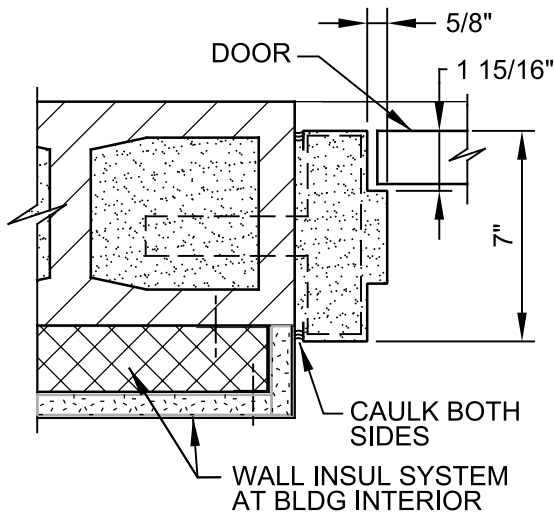


**C** MASONRY

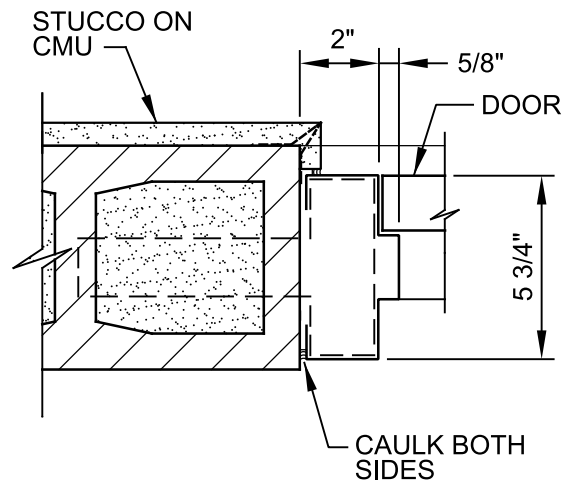


**D** CONCRETE

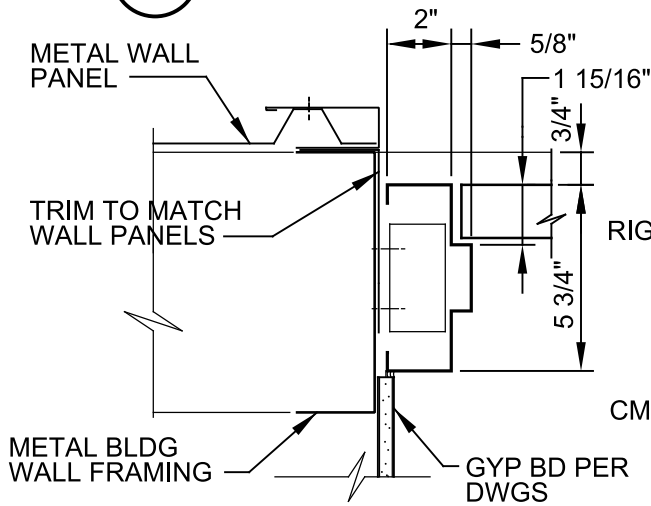
**A120** DOOR JAMB DETAILS  
TYP



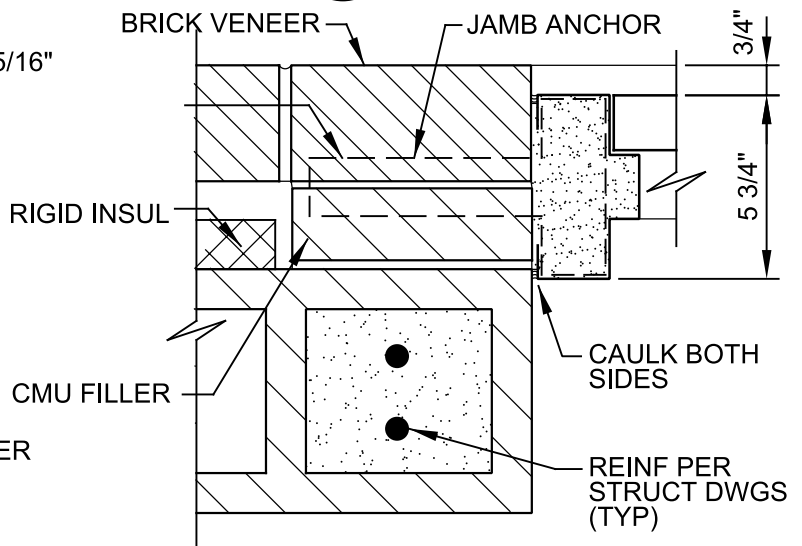
**E FURRED MASONRY**



**F STUCCO**



**G METAL BUILDING**



**H BRICK VENEER**

NOTES:

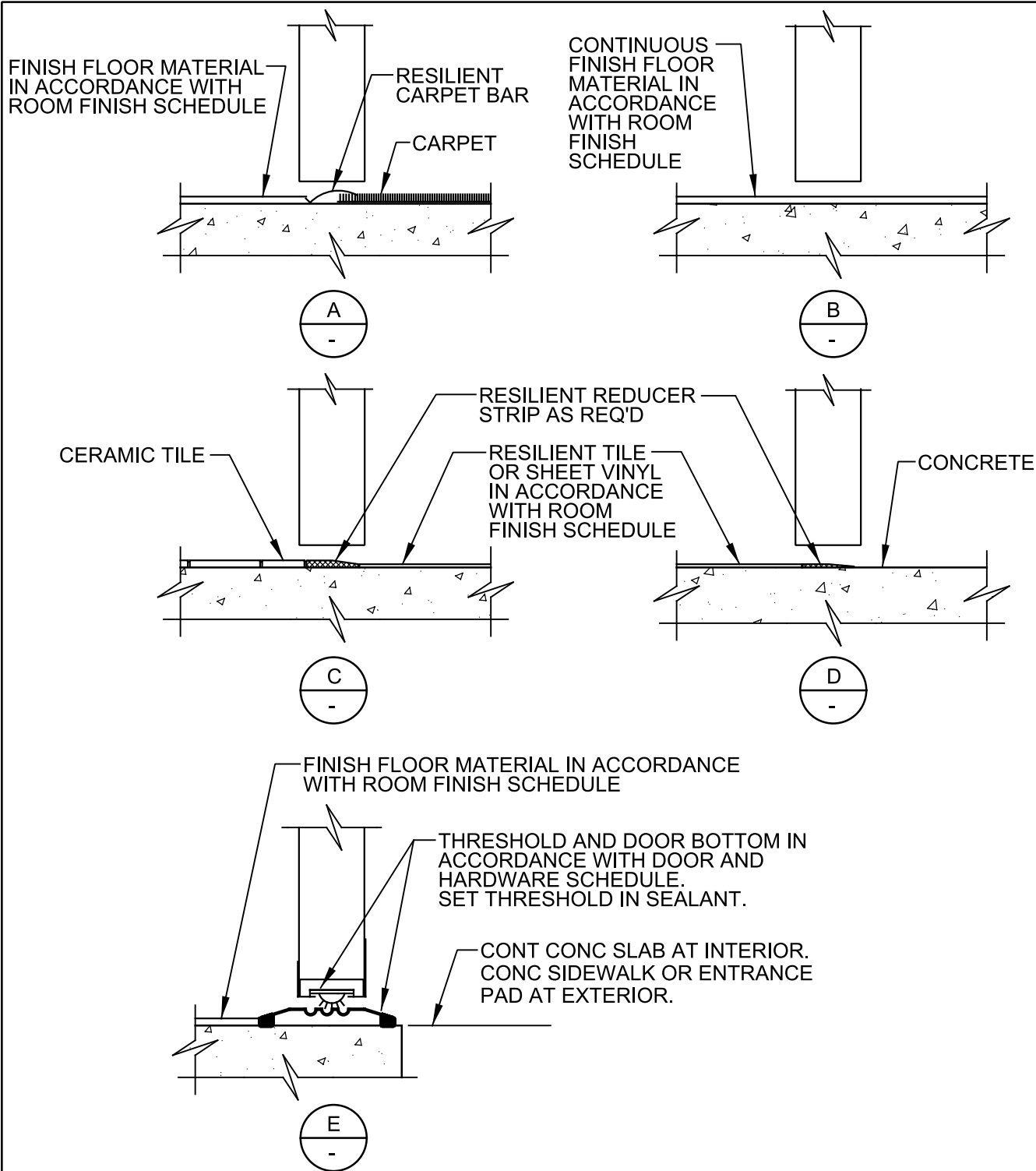
1. DOOR AND FRAME SIZE AND MATERIAL SHALL BE IN ACCORDANCE WITH DOOR AND HARDWARE SCHEDULE.
2. PROVIDE 2" FRAME WIDTH, 5 3/4" FRAME DEPTH AND 1/2" BACKBEND TYPICAL UNLESS OTHERWISE SHOWN OR SCHEDULED.
3. PROVIDE MINIMUM 3 ANCHORS PER JAMB AT MASONRY AND 4 ANCHORS PER JAMB AT STUD OR CONCRETE CONSTRUCTION. FILL FRAMES IN MASONRY WITH GROUT.

A120

**DOOR JAMB DETAILS**

TYP





**NOTE:**

1. DOOR CLEARANCE AT BOTTOM OF DOOR SHALL BE 1/4" MIN AND 3/8" MAX.

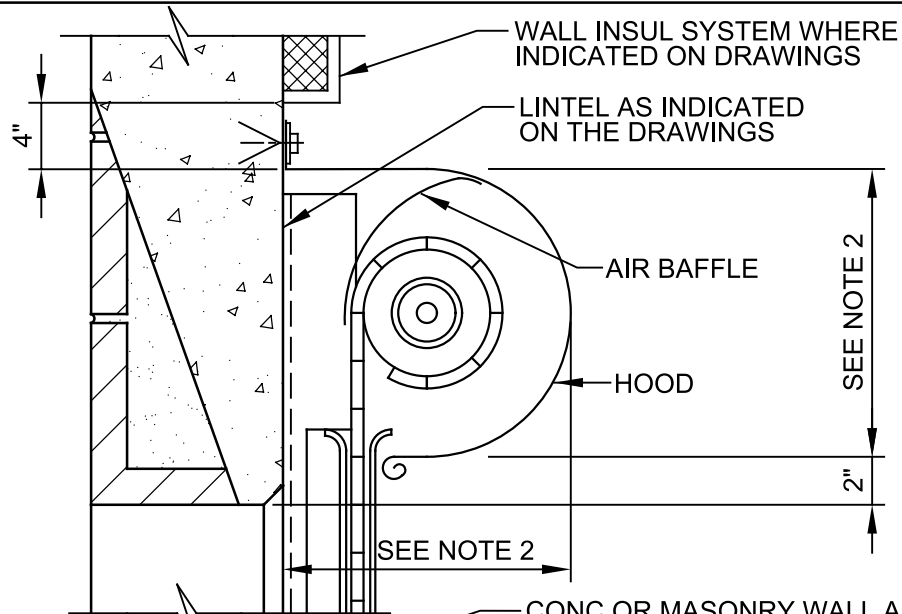
**A122**  
TYP

**DOOR SILL DETAILS**

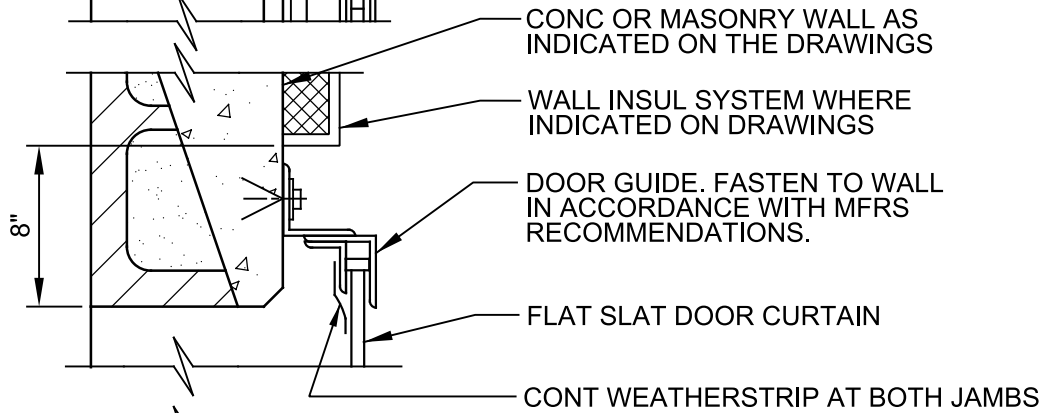
08/01/05



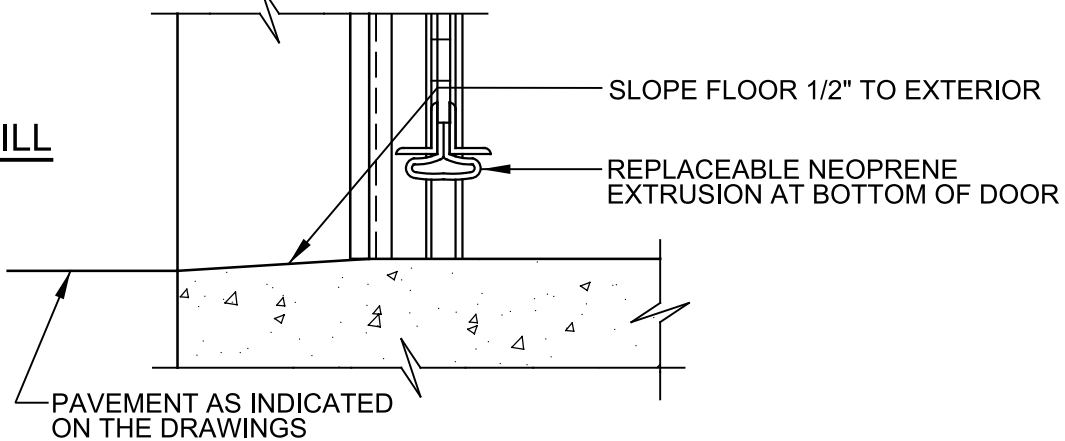
HEAD



JAMB



SILL



NOTES:

1. SEE DRAWINGS FOR OPERATOR TYPE AND LOCATION.
2. DIM VARIES WITH MFR. SEE SHOP DWGS FOR ACTUAL SIZE.

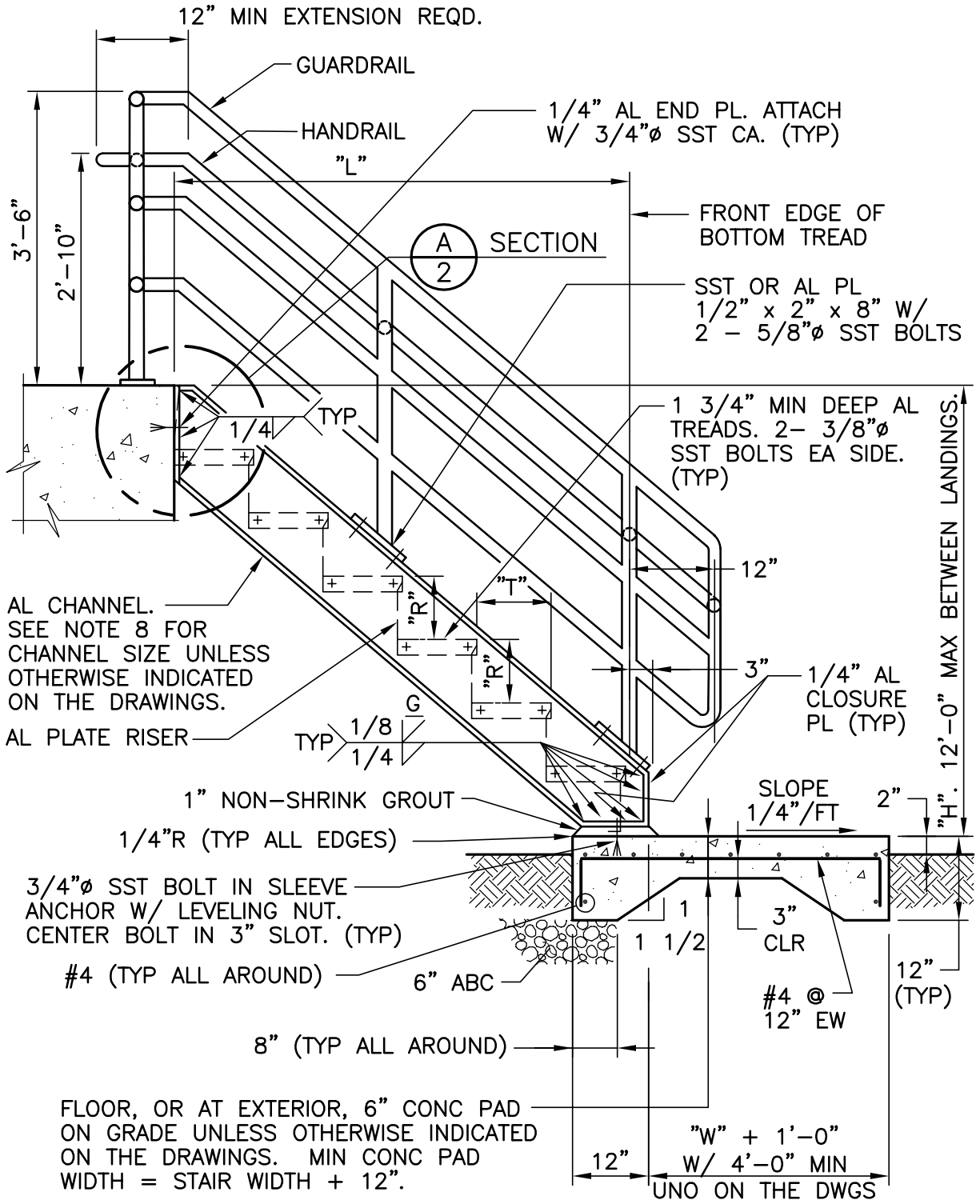
A128

COILING METAL DOOR

TYP

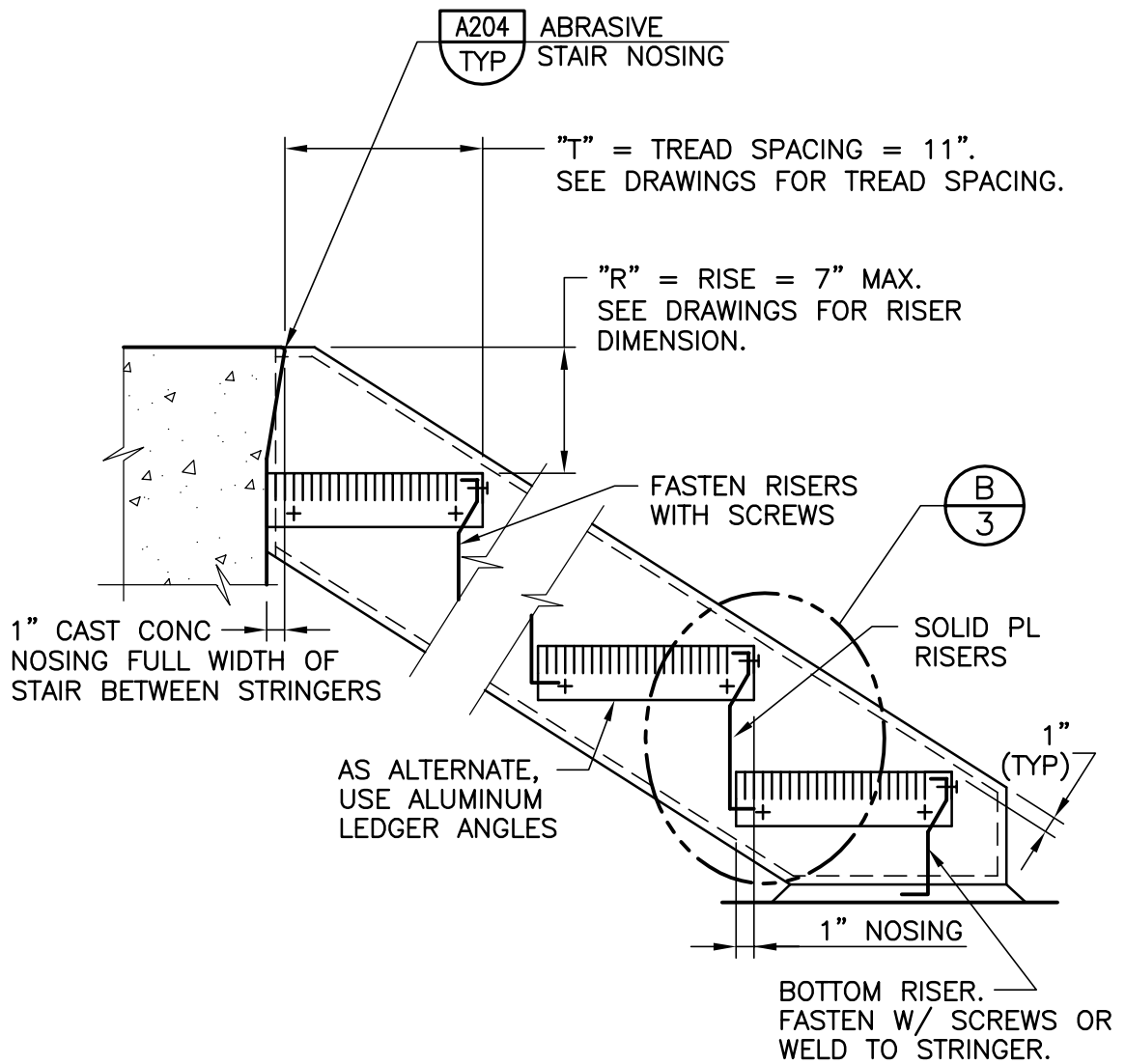
08/01/05





**ALUMINUM STAIRWAY W/O TOP TREAD  
W/ THREE RAIL GUARDRAIL AND SOLID  
RISERS FOR IBC**

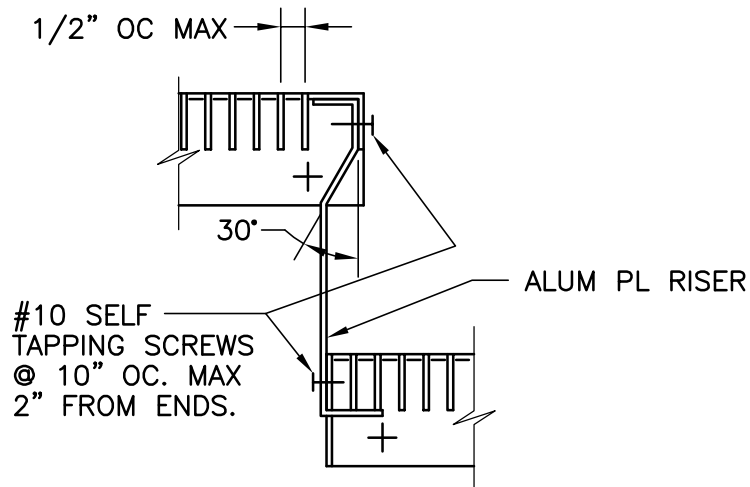
**A238**  
TYP



A SECTION

ALUMINUM STAIRWAY W/O TOP TREAD  
W/ THREE RAIL GUARDRAIL AND SOLID  
RISERS FOR IBC

A238  
TYP



(B) DETAIL  
2

NOTES:

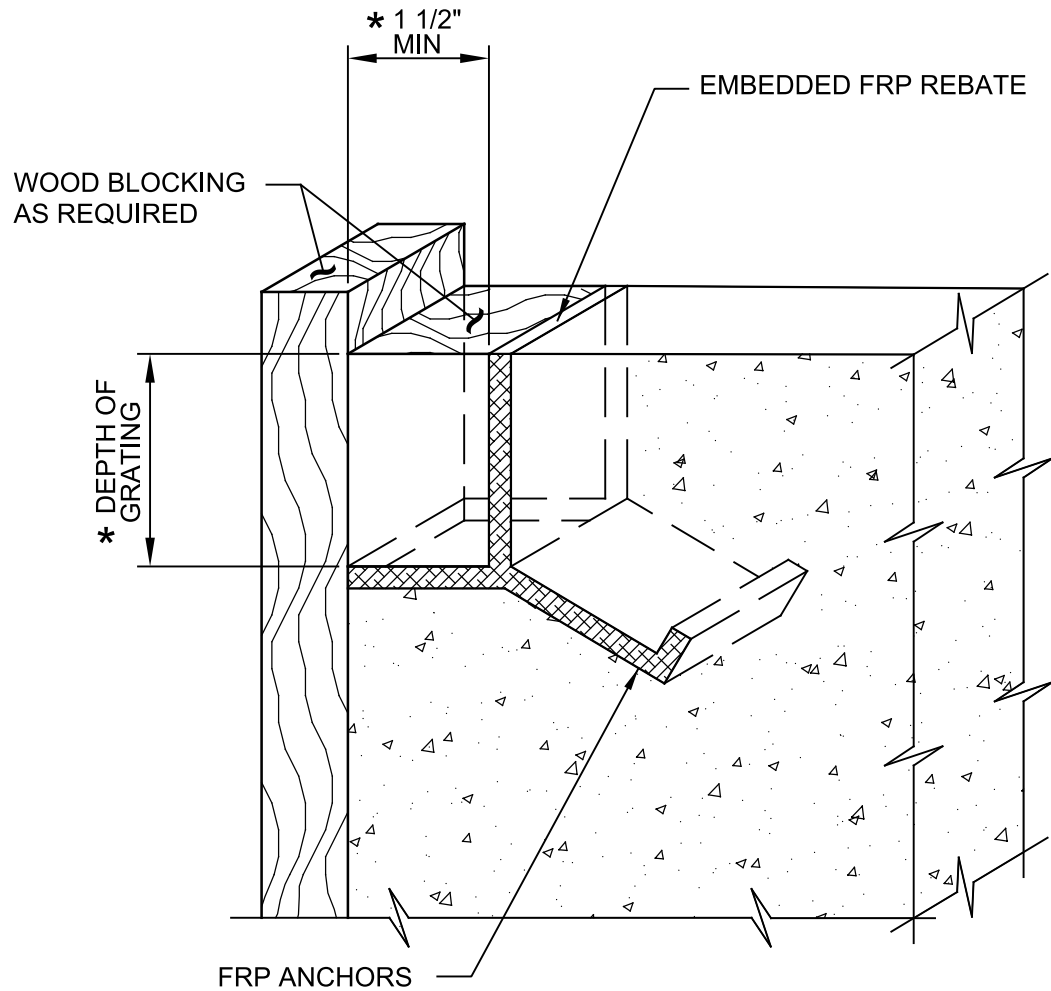
1. SEE DWGS FOR DIMENSIONS "H", "L", "R", "T", AND STAIR WIDTH "W". STAIR WIDTH = 3'-0" CLR BETWEEN CHANNELS UNO ON THE DWGS.
2. SEE 

A340
TYP

 FOR GUARDRAIL NOTES.
3. RISERS SHALL BE 3/16" ALUMINUM.
4. COAT ALL AL SURFACES IN CONTACT W/CONC PER SPECIFICATIONS.
5. AL CS10 x 6.14 FOR "L" LESS THAN OR EQUAL TO 14'-0". AL CS12 x 8.27 FOR "L" GREATER THAN 14'-0" AND LESS THAN OR EQUAL TO 18'-0".
6. TREAD WIDTH = TREAD SPACING + 1" (TYP ALL TREADS).
7. FOR PROJECTS LOCATED IN CALIFORNIA PROVIDE WARNING STRIPS FOR THE TOP AND BOTTOM TREAD ON INTERIOR STAIRS, AND FOR ALL TREADS ON EXTERIOR STAIRS. STRIPS SHALL BE OF CLEARLY CONTRASTING COLOR AT LEAST 2" WIDE. PLACE STRIP PARALLEL TO AND NOT MORE THAN 1" FROM THE NOSE OF THE STEP OR LANDING TO ALERT THE VISUALLY IMPAIRED.

**ALUMINUM STAIRWAY W/O TOP TREAD  
W/ THREE RAIL GUARDRAIL AND SOLID  
RISERS FOR IBC**

**A238**  
TYP



## GRATING REBATE

NOTES:

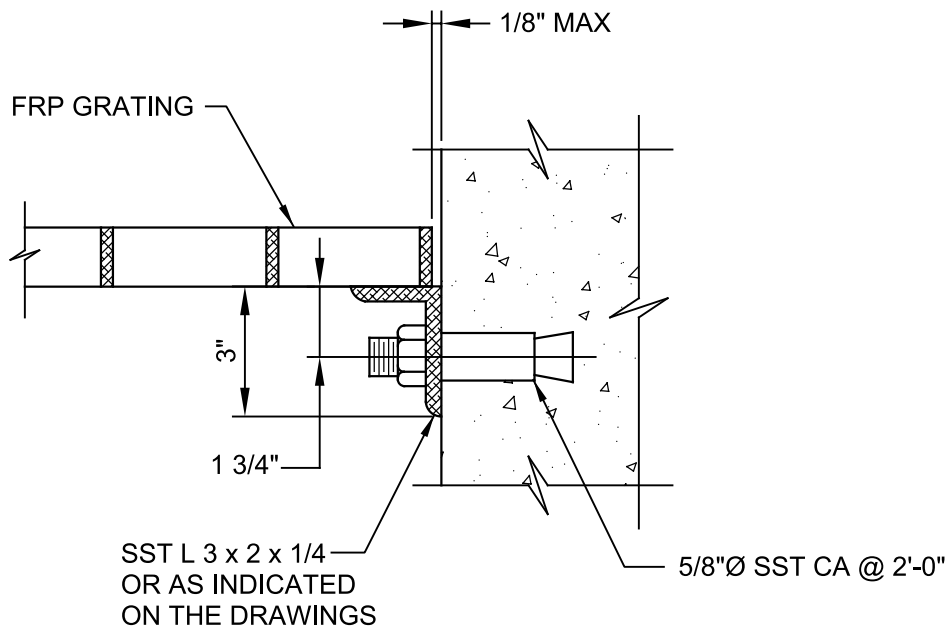
1. FOR FRP GRATING, SEE SPECIFICATIONS.
2. REBATE ANGLE SHALL BE CONTINUOUS AROUND ENTIRE OPENING.
3. REBATE ANGLE SHALL BE 1/4" MINIMUM THICKNESS.
4. REBATE MAY BE EXTRUDED.
5. \* = DIMENSION AS REQUIRED BY GRATING MANUFACTURER.

A401

TYP

S

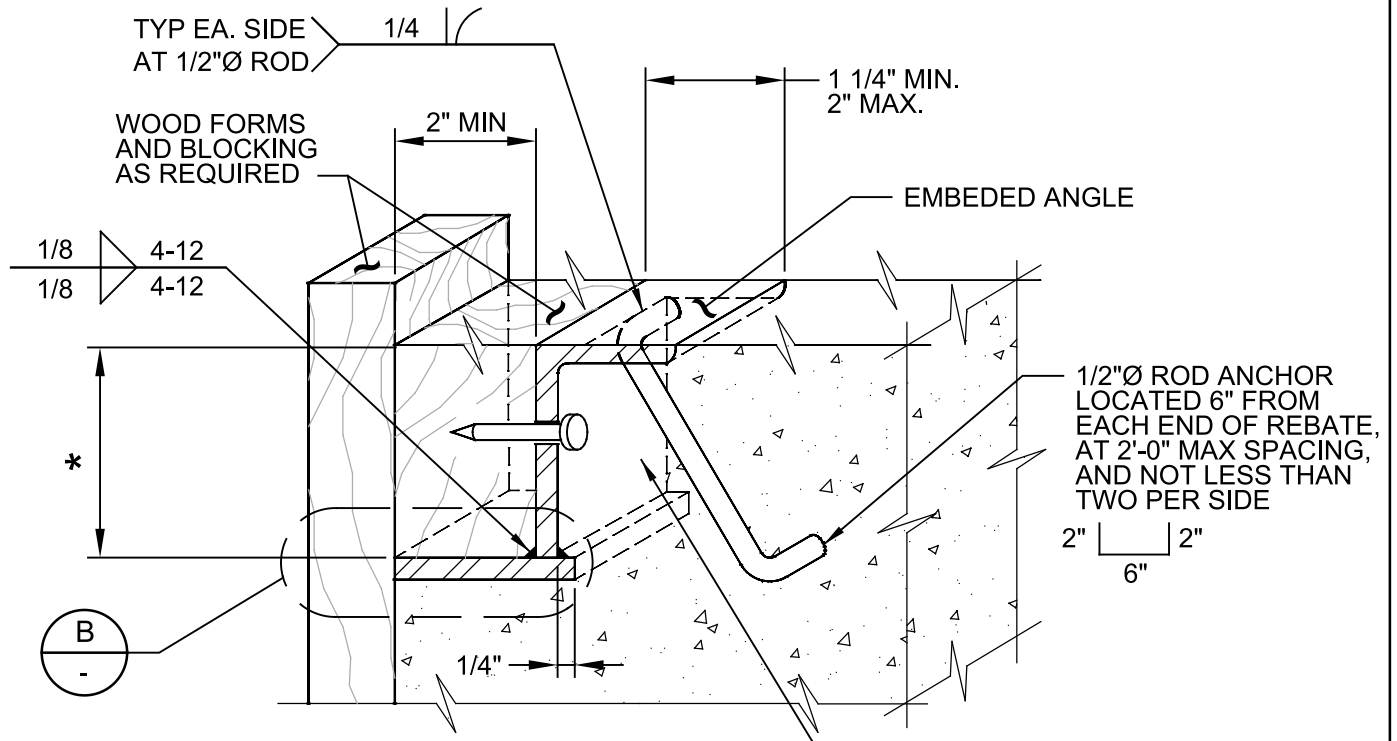
## FRP GRATING REBATE AND SEAT



GRATING SEAT

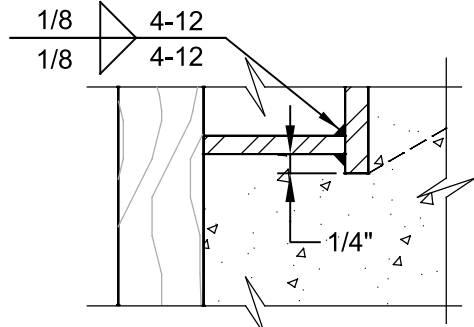
A401  
TYP  
S

FRP GRATING REBATE AND SEAT



**A** DETAIL - GRATING REBATE

NAIL @ 2'-0" OC. CUT NAIL OFF AND GRIND SMOOTH AFTER FORM REMOVAL. RESTORE GALVANIZING ON CUT SURFACE PER SPECIFICATIONS.



**B** DETAIL - ALTERNATE GRATING REBATE

**NOTES:**

1. SEE SPECIFICATIONS FOR H-20 HEAVY DUTY HOT-DIP GALVANIZED STEEL GRATING.
2. REBATE SHALL BE CONTINUOUS AROUND OPENING.
3. ANGLE AND BEARING PLATE SHALL BE 1/4" MIN THICK.
4. HOT-DIP GALVANIZED AFTER FABRICATION.
5. \* = DIMENSION AS REQUIRED BY GRATING MANUFACTURER.

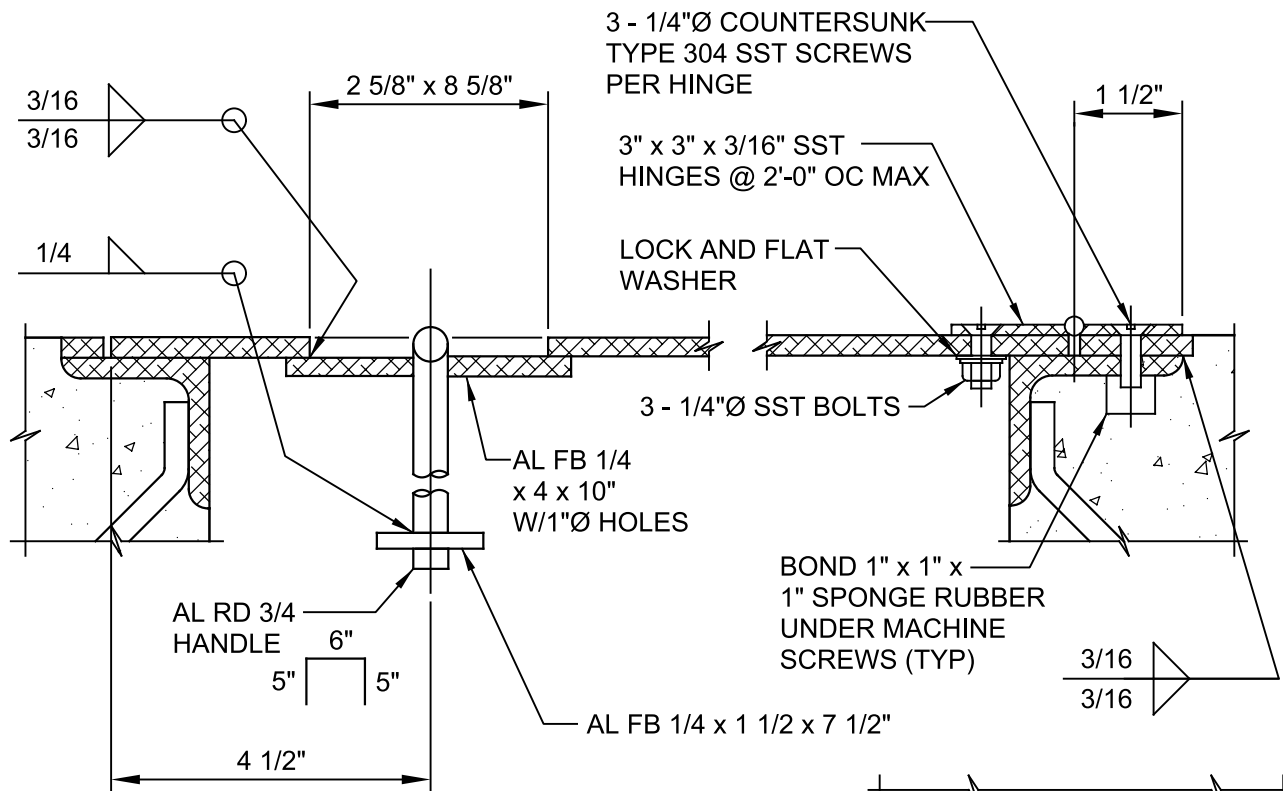
**A406**  
TYP  
N

**H-20 HEAVY DUTY HOT-DIP GALVANIZED STEEL GRATING REBATE**

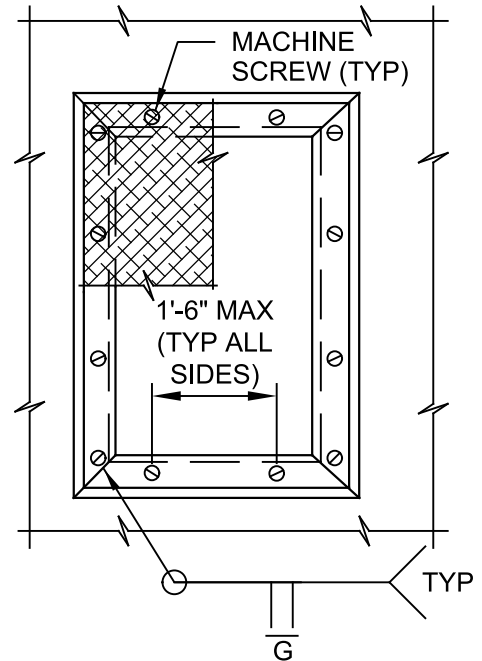
08/24/15







**HINGE & HANDLE DETAIL**



**SEAT PLAN**

THICKNESS OF TREAD PLATE "T" (INCH)						
LIVE LOAD (PSF)	SHORTER SPAN "L" (FT-IN)					
	12"	1'-6"	2'-0"	2'-6"	3'-0"	4'-0"
100	3/16	1/4	3/8	1/2	1/2	3/8 *
150	1/4	3/8	1/2	1/2	3/8 *	3/8 *
200	1/4	3/8	1/2	3/8 *	3/8 *	3/8 *
250	1/4	3/8	1/2	3/8 *	3/8 *	3/8 *
300	1/4	3/8	1/2	3/8 *	3/8 *	3/8 *
350	3/8	1/2	3/8 *	3/8 *	3/8 *	3/8 *
400	3/8	1/2	3/8 *	3/8 *	3/8 *	3/8 *

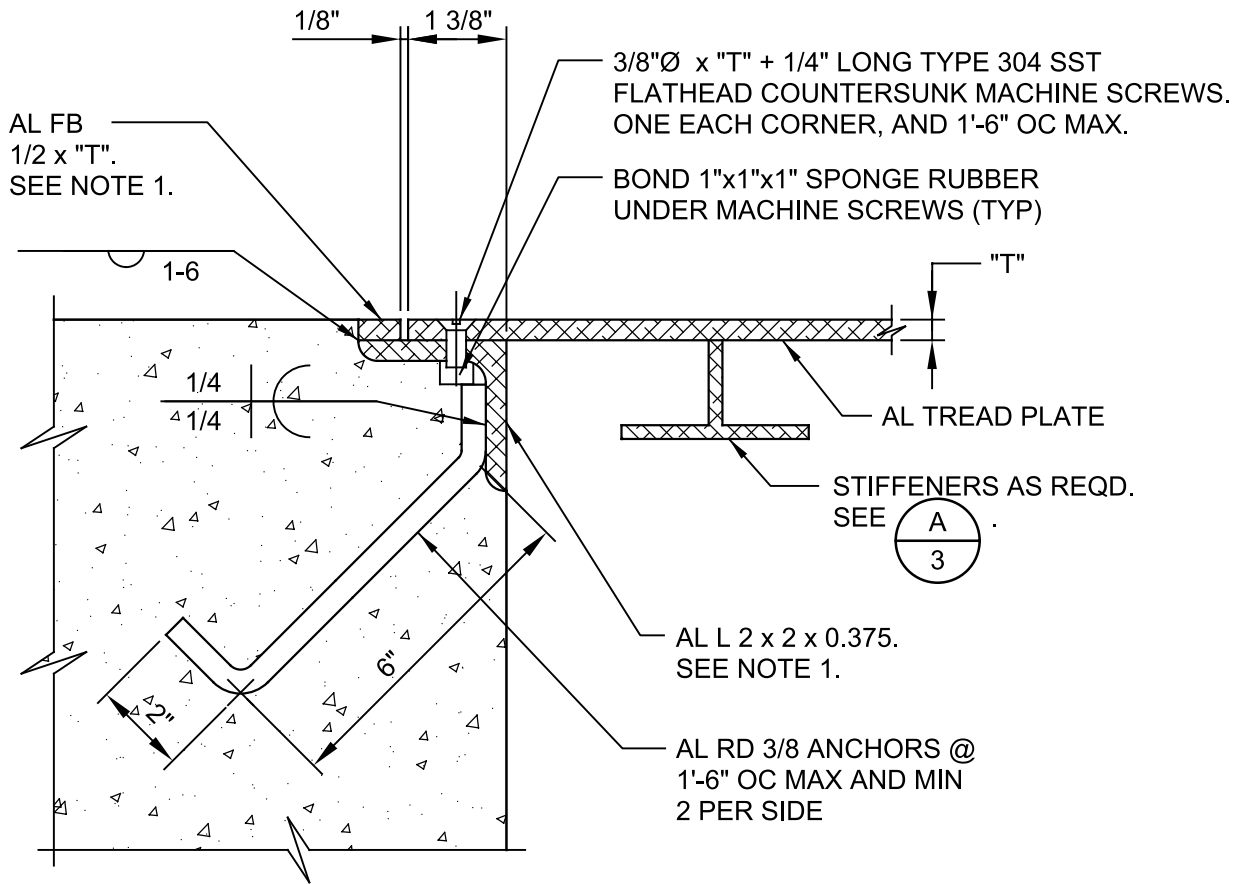
**SCHEDULE FOR TREAD PLATE**

**NOTE:**

1. \* 3/8" PLATE W/ AL T 3.00 x 3.00 x 2.55 STIFFENERS. SEE SECTION, A  
3, B  
3, AND C  
3.

**A500**  
TYP  
NS

**ALUMINUM TREAD PLATE**



### SECTION - REBATE

#### NOTES:

1. ALUMINUM ANGLE AND BAR MAY BE EXTRUDED.
2. COAT ALUMINUM SURFACE IN CONTACT WITH CONCRETE AS SPECIFIED.
3. OMIT PERIMETER MACHINE SCREWS WHERE HINGE IS INDICATED ON THE DRAWINGS.
4. HINGE AND HANDLE DETAIL SHALL APPLY WHERE INDICATED ON THE DRAWINGS.
5. TREAD PLATE LIVE LOAD SHALL BE SAME AS FLOOR LIVE LOAD.
6. TREAD PLATE SHALL BE FABRICATED IN UNITS THAT DO NOT WEIGH MORE THAN 75 POUNDS.

A500

ALUMINUM TREAD PLATE

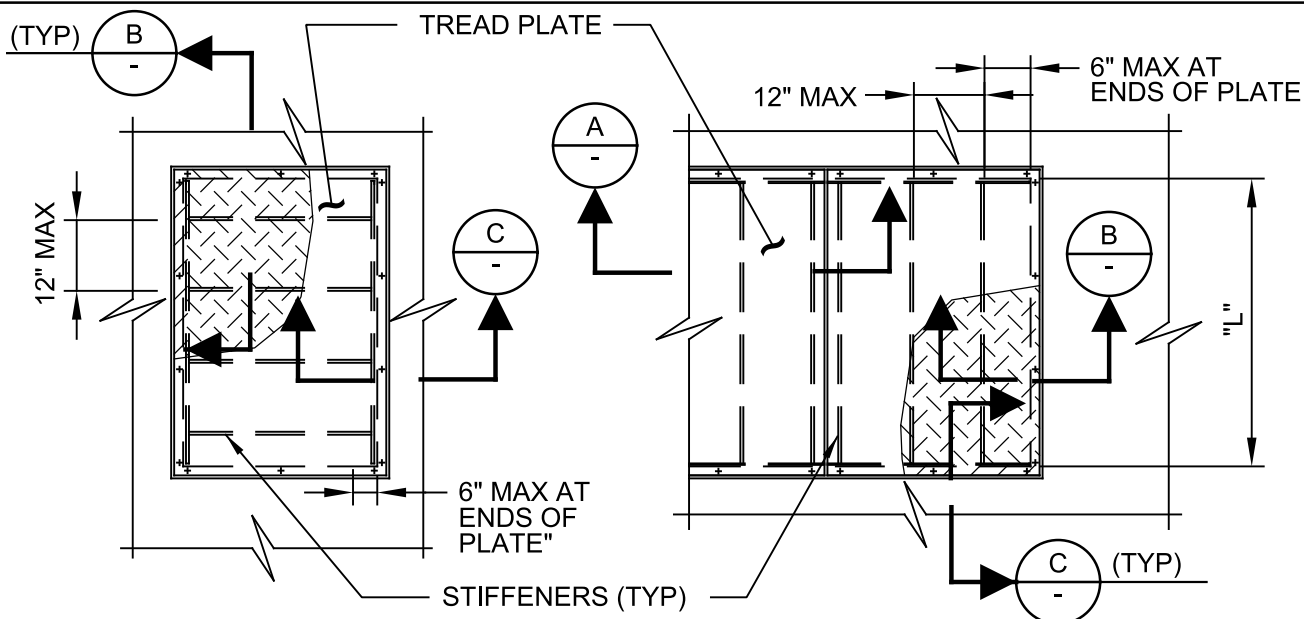
TYP

NS

SHEET 2 OF 3

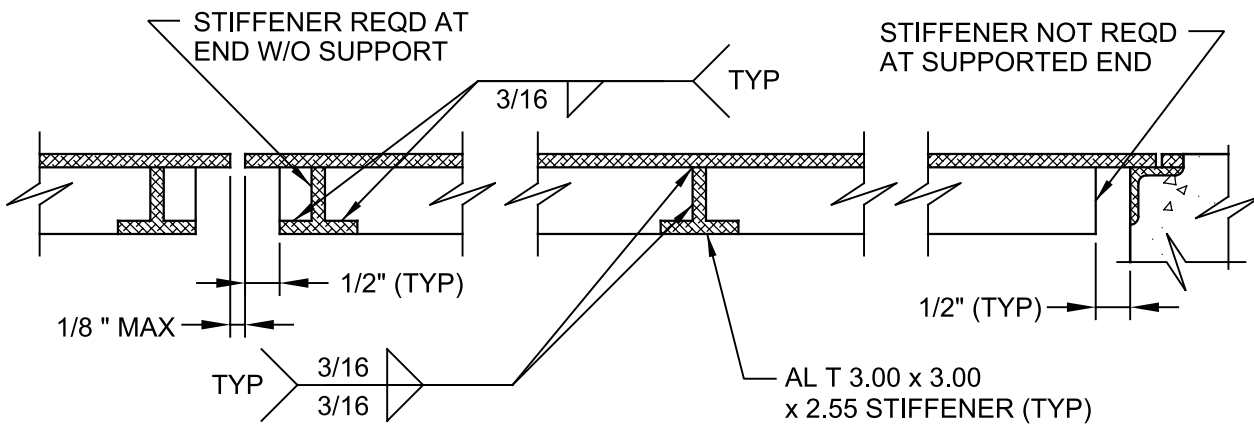
07/31/08

**carollo**



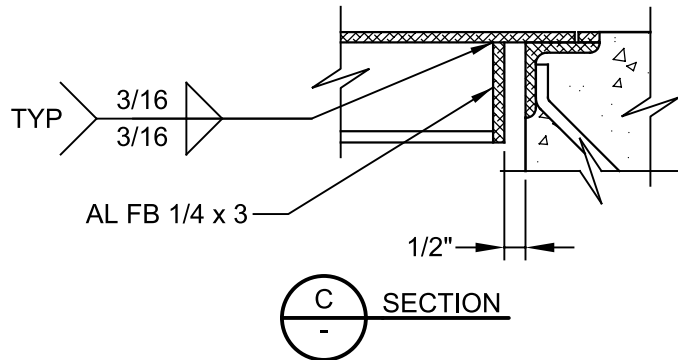
**PLAN - PLATE SUPPORTED ON 4 SIDES**

**PLAN - PLATE SUPPORTED ON 2 SIDES**



**SECTION A**

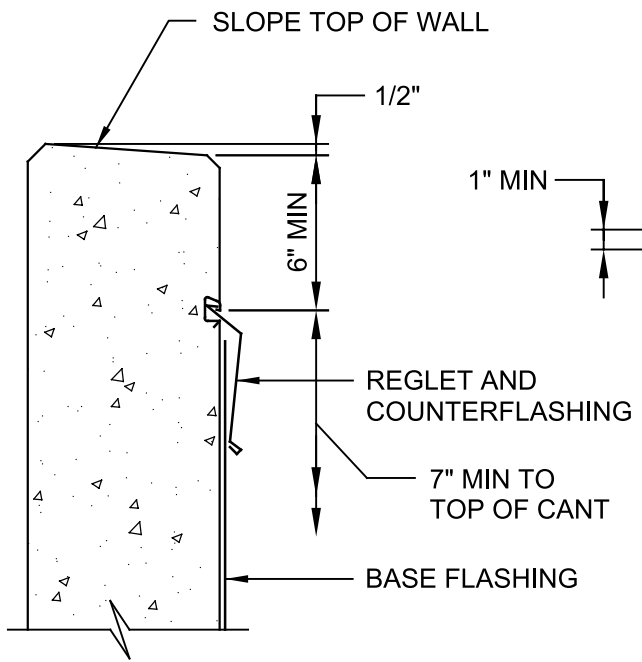
**SECTION B**



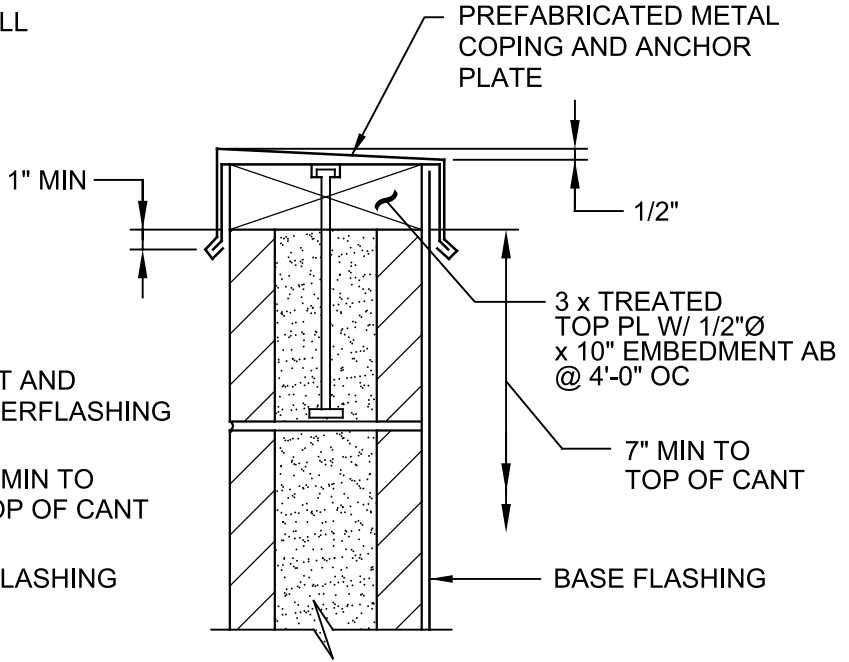
**SECTION C**

**A500**  
TYP  
NS

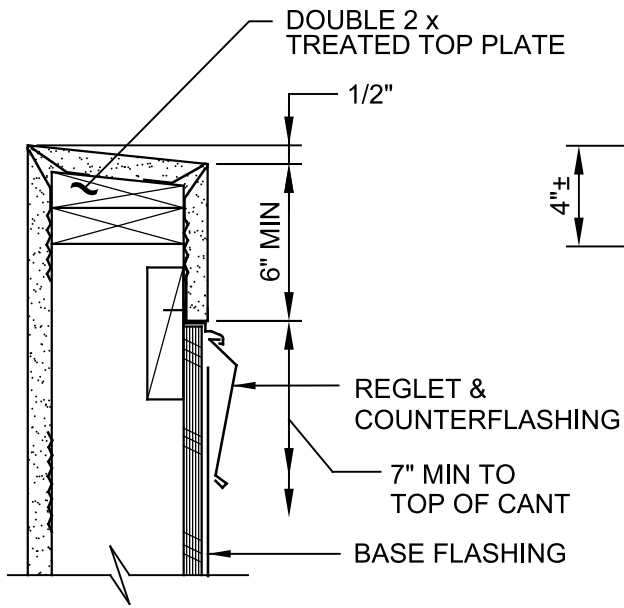
**ALUMINUM TREAD PLATE**



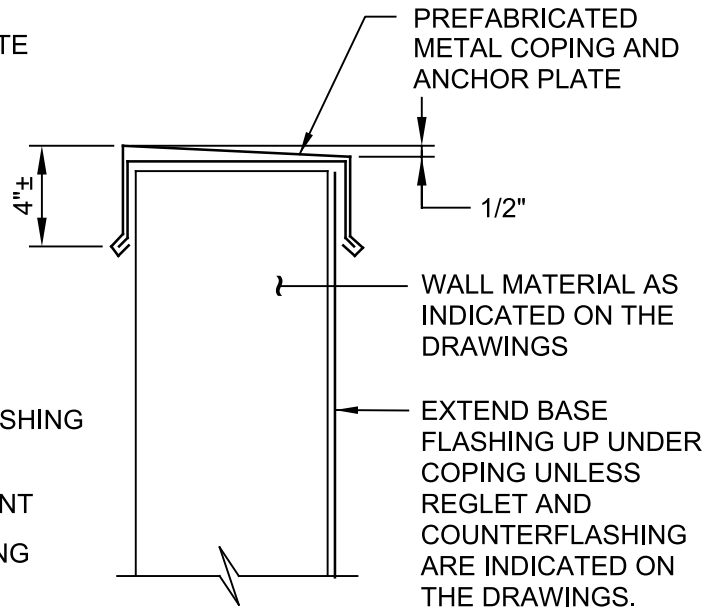
**A** CONCRETE WALL  
- W/ REGLET



**B** MASONRY WALL  
- W/ METAL COPING

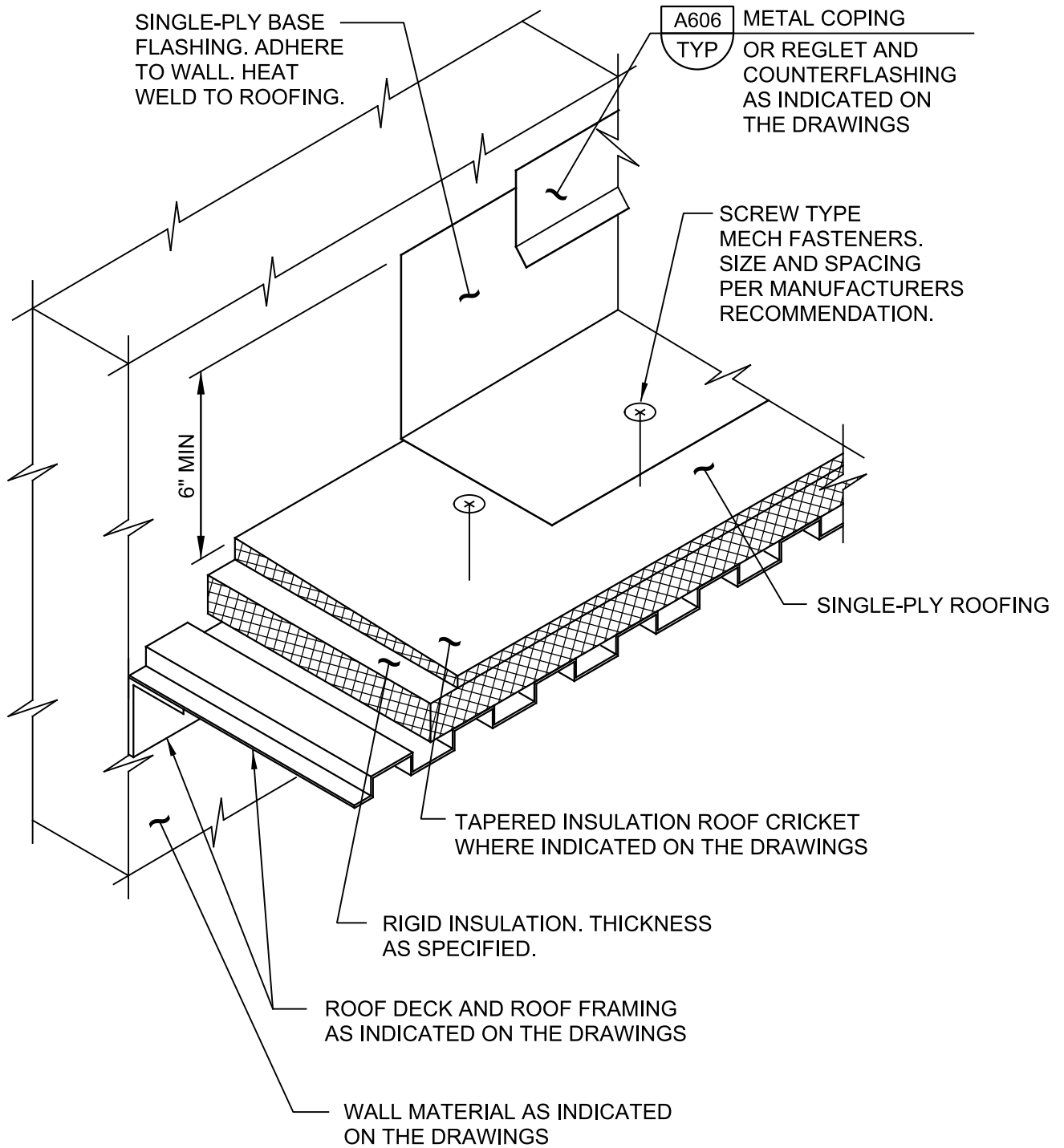


**C** STUCCO FINISH  
- W/ REGLET



**D** PREFABRICATED  
- METAL COPING

**A606** PARAPET DETAILS  
TYP

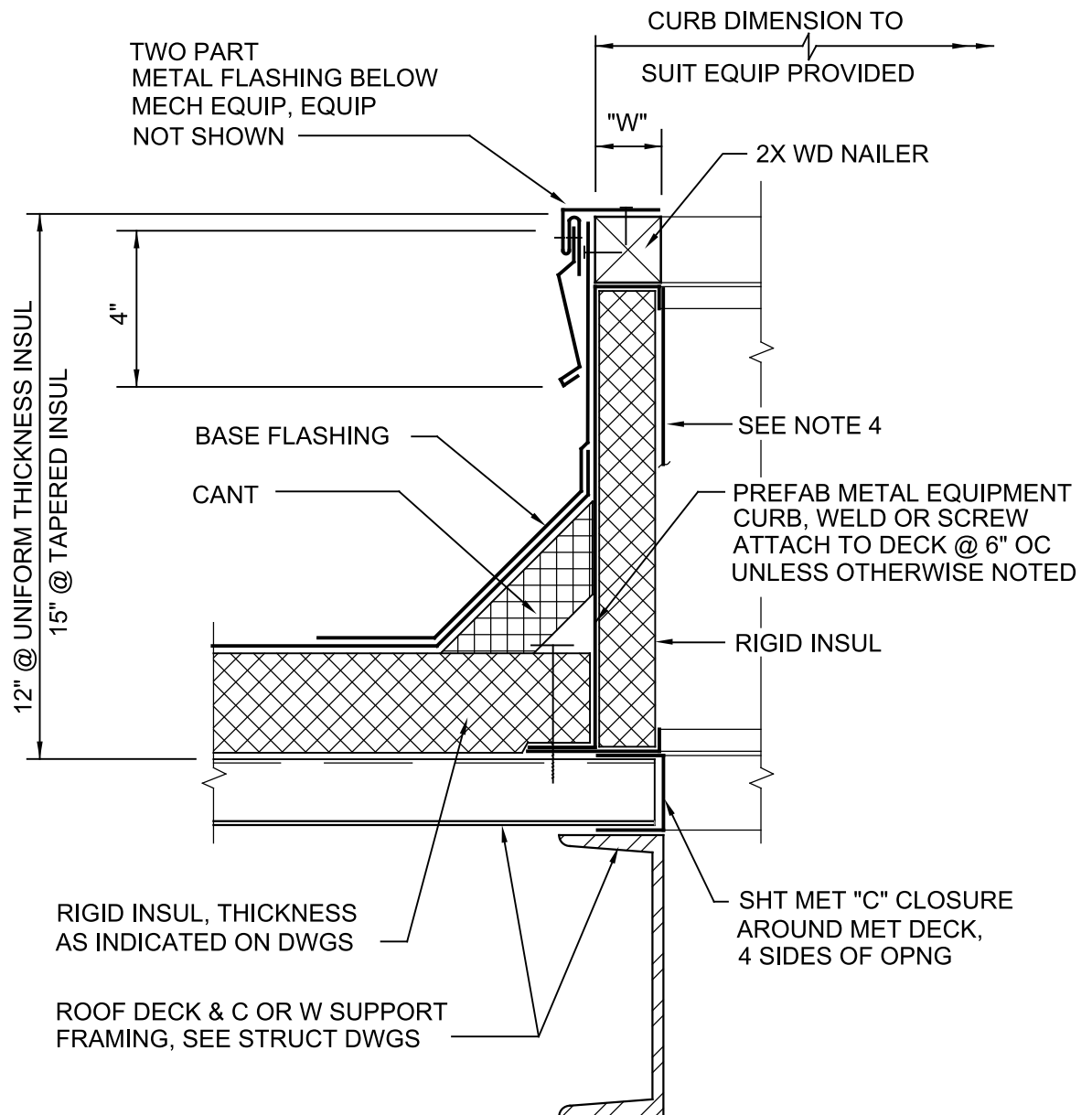


A608

SINGLE-PLY ROOFING

TYP

08/01/05



**NOTES:**

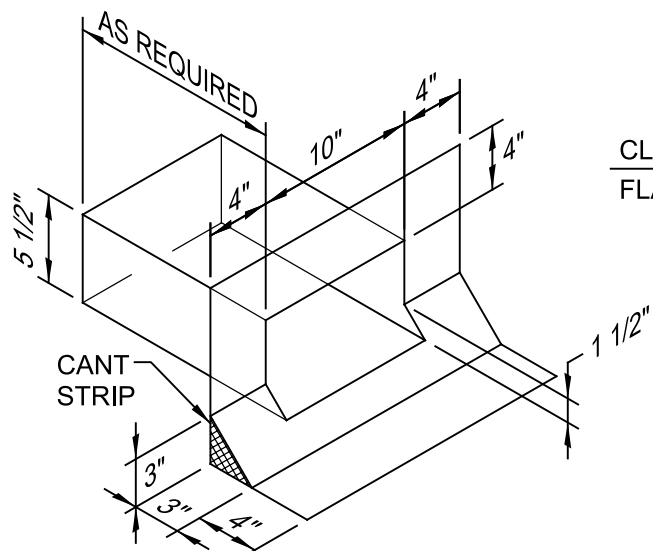
1. "W" DIMENSION SHALL BE AS REQD BY EQUIP SUPPORTED. CURB MFR TO VERIFY "W" PRIOR TO FABRICATION.
2. SLOPE SIDES OF CURB TO COMPENSATE FOR ROOF SLOPE, PROVIDING LEVEL TOP ON WHICH TO MOUNT EQUIP, UNLESS OTHERWISE NOTED.
3. CURB IS SHOWN @ EDGE OF DECK OPNG, CURB MAY BE LARGER THAN DECK OPNG OR DECK OPNG MAY NOT EXIST. SEE ROOF PLAN.
4. WHERE A PLATFORM IS INDICATED OR REQD FOR SLED MTD EQUIP, PROVIDE A 3/4" PLYWOOD TOP WITH 20 GA GALV CAP FLASHING, WELDED WATERTIGHT. FSTN EQUIP TO PLATFORM W/ LAG BOLTS THROUGH RUBBER WASHERS.
5. WHERE CURB IS EXPOSED TO VIEW FROM BELOW, CURB MFR SHALL PROVIDE AN INTERIOR METAL LINER, MATCHING MATERIAL OF CURB, TO CONCEAL INSUL.

**A631**

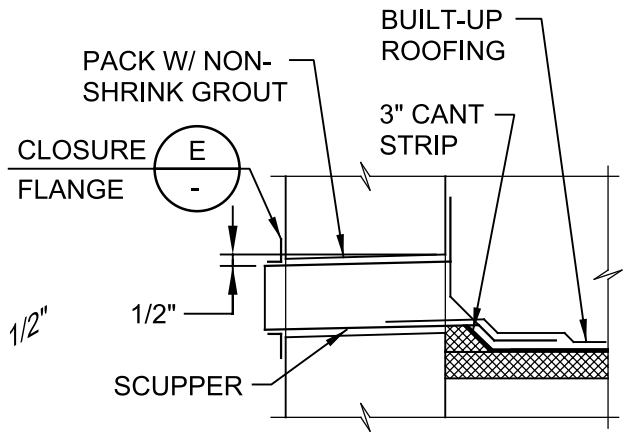
**EQUIPMENT CURB @ BUILT-UP ROOFING**

TYP

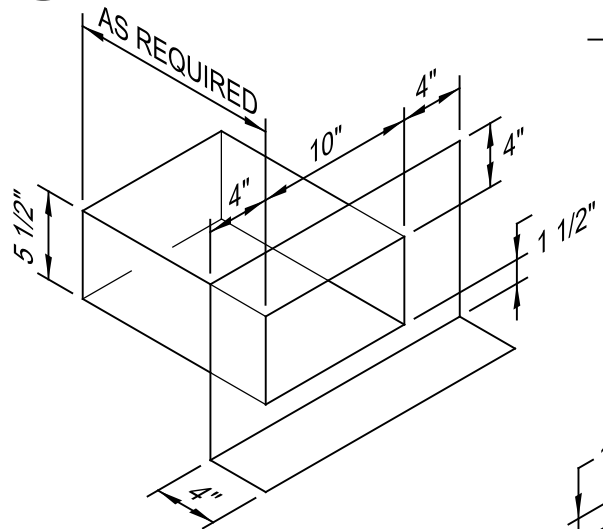
10/25/13



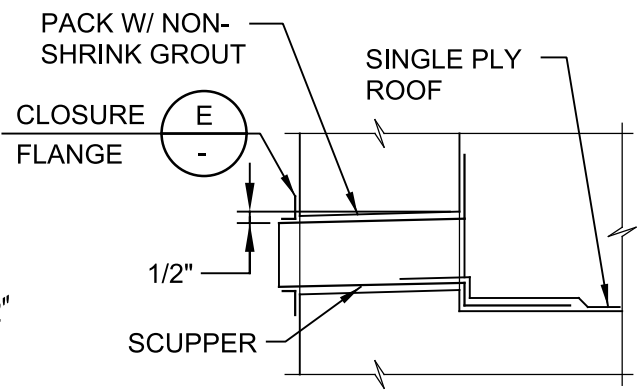
**A**  
ISOMETRIC -  
BUILT-UP ROOFING



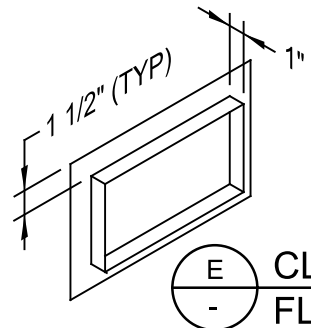
**B**  
SECTION



**C**  
ISOMETRIC -  
SINGLE PLY ROOFING



**D**  
SECTION

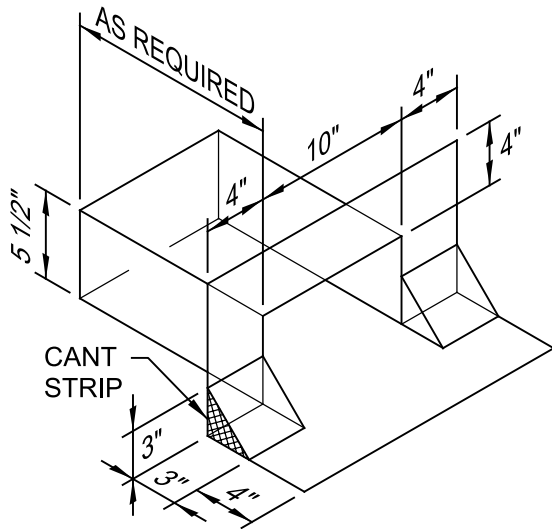


**E**  
CLOSURE  
FLANGE

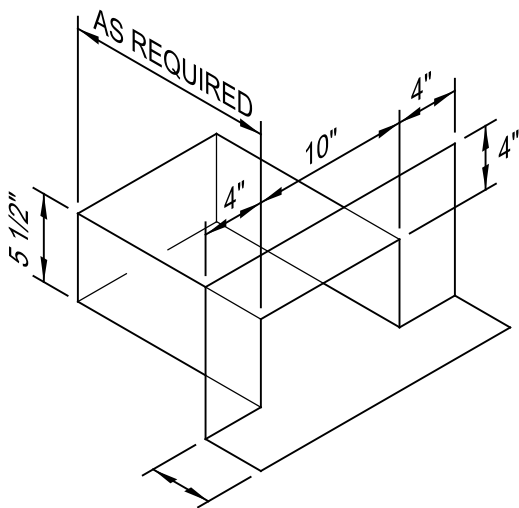
**NOTES:**

1. PROVIDE SCUPPER AS DETAILED AND ADHERE TO SURROUNDING STRUCTURE UNLESS OTHERWISE RECOMMENDED BY ROOFING MANUFACTURER.
2. FABRICATE SCUPPER AND FLANGE FROM MIN 0.032" THICK PRE-FINISHED AL. FINISH SHALL BE KYNAR. COLOR SHALL BE ENGINEER SELECTED FROM STANDARD COLOR OFFERINGS. COAT AL IN CONTACT WITH CONC AND CMU AS SPECIFIED.
3. LOCATE INVERT OF SCUPPER 2" ABOVE ADJACENT ROOF DRAIN INLET.
3. PROVIDE CLOSURE FLANGE AT EXTERIOR WALL. SET FLANGE IN SEALANT.

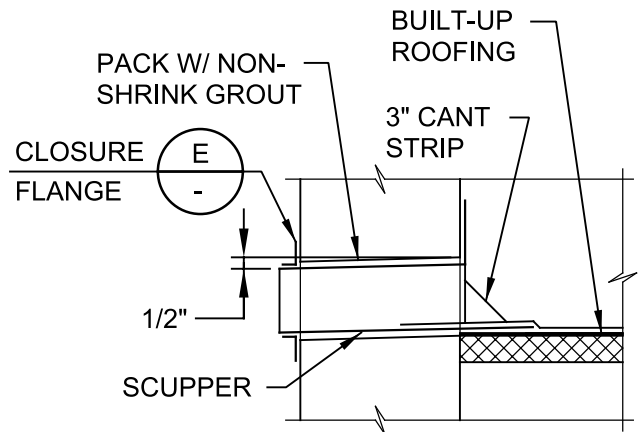
<b>A724</b>	<b>OVERFLOW SCUPPER FOR BUILT-UP AND SINGLE PLY ROOFING</b>
TYP	



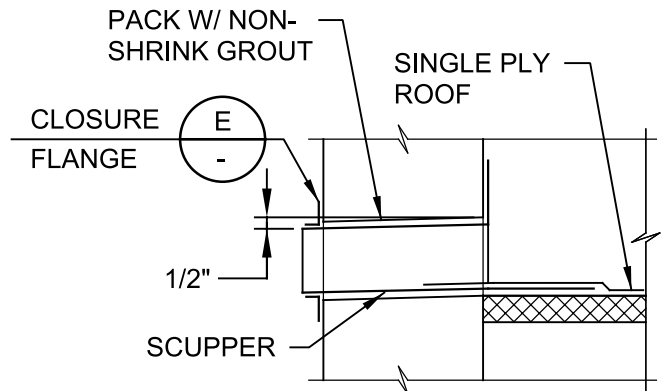
**A** ISOMETRIC -  
BUILT-UP ROOFING



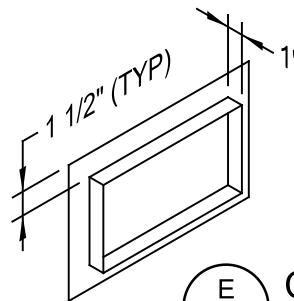
**C** ISOMETRIC -  
SINGLE PLY ROOFING



**B** SECTION



**D** SECTION



**E** CLOSURE  
FLANGE

**NOTES:**

1. PROVIDE SCUPPER AS DETAILED AND ADHERE TO SURROUNDING STRUCTURE UNLESS OTHERWISE RECOMMENDED BY ROOFING MANUFACTURER.
2. FABRICATE SCUPPER AND FLANGE FROM MIN 0.032" THICK PRE-FINISHED AL. FINISH SHALL BE KYNAR. COLOR SHALL BE ENGINEER SELECTED FROM STANDARD COLOR OFFERINGS. COAT AL IN CONTACT WITH CONC AND CMU AS SPECIFIED.
3. PROVIDE CLOSURE FLANGE AT EXTERIOR WALL. SET FLANGE IN SEALANT.

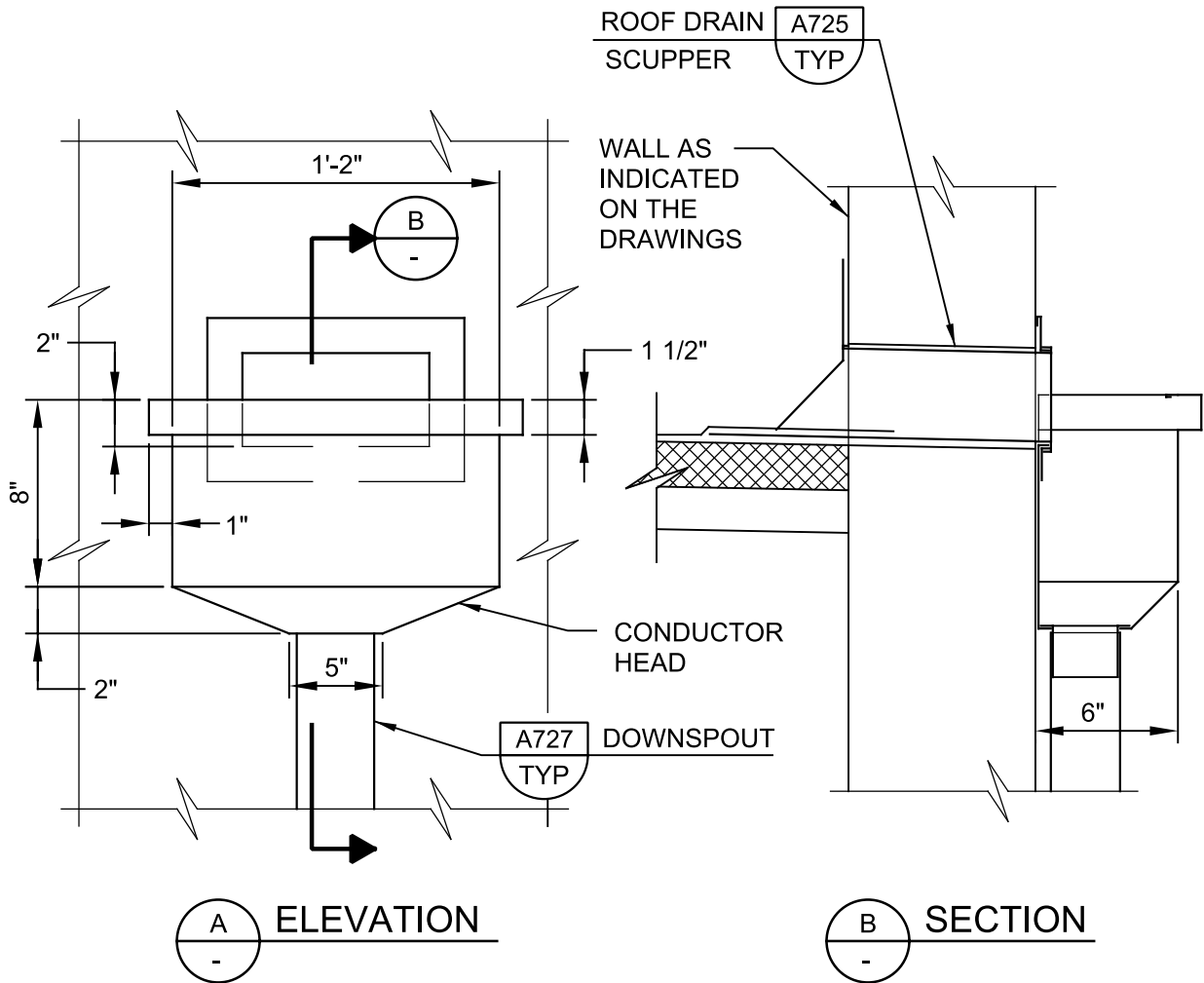
A725

TYP

**ROOF DRAIN SCUPPER FOR BUILT-UP AND  
SINGLE-PLY ROOFING**

08/30/13



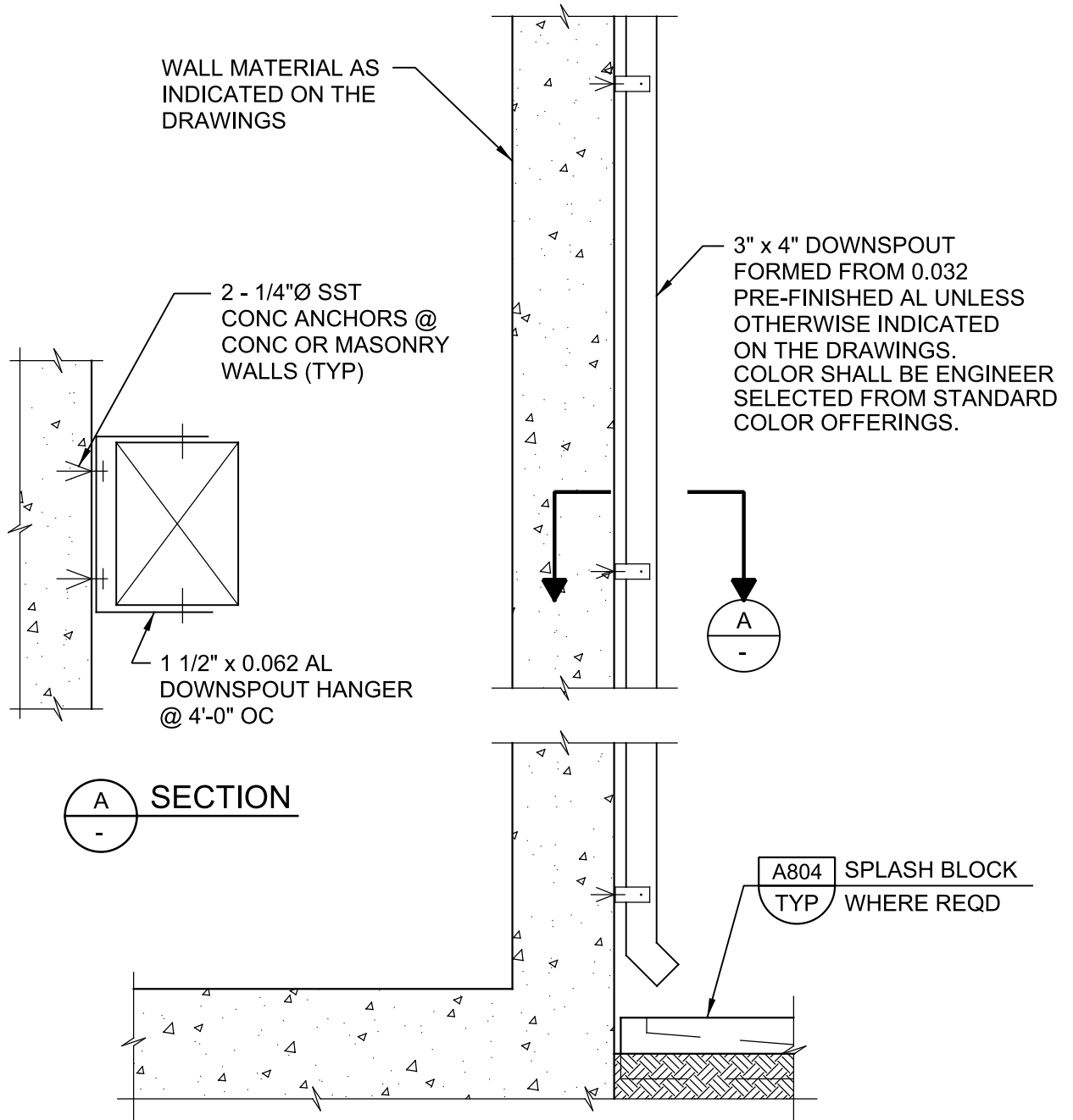


**NOTES:**

1. PROVIDE CONDUCTOR HEAD AS DETAILED UNLESS OTHERWISE RECOMMENDED BY ROOFING MANUFACTURER.
2. FABRICATE CONDUCTOR HEAD FROM MIN 0.032" THICK PRE-FINISHED AL. FINISH SHALL BE KYNAR. COLOR SHALL BE ENGINEER SELECTED FROM STANDARD COLOR OFFERINGS. COAT AL IN CONTACT WITH CONC OR CMU AS SPECIFIED. SEAL ALL JOINTS.
3. SEE SPEC FOR SPECIFIC ROOFING AND INSULATION MATERIAL. SCUPPER SHAPE WILL VARY WITH ROOFING TYPE.

**A726** CONDUCTOR HEAD  
TYP

08/30/13



**NOTE:**

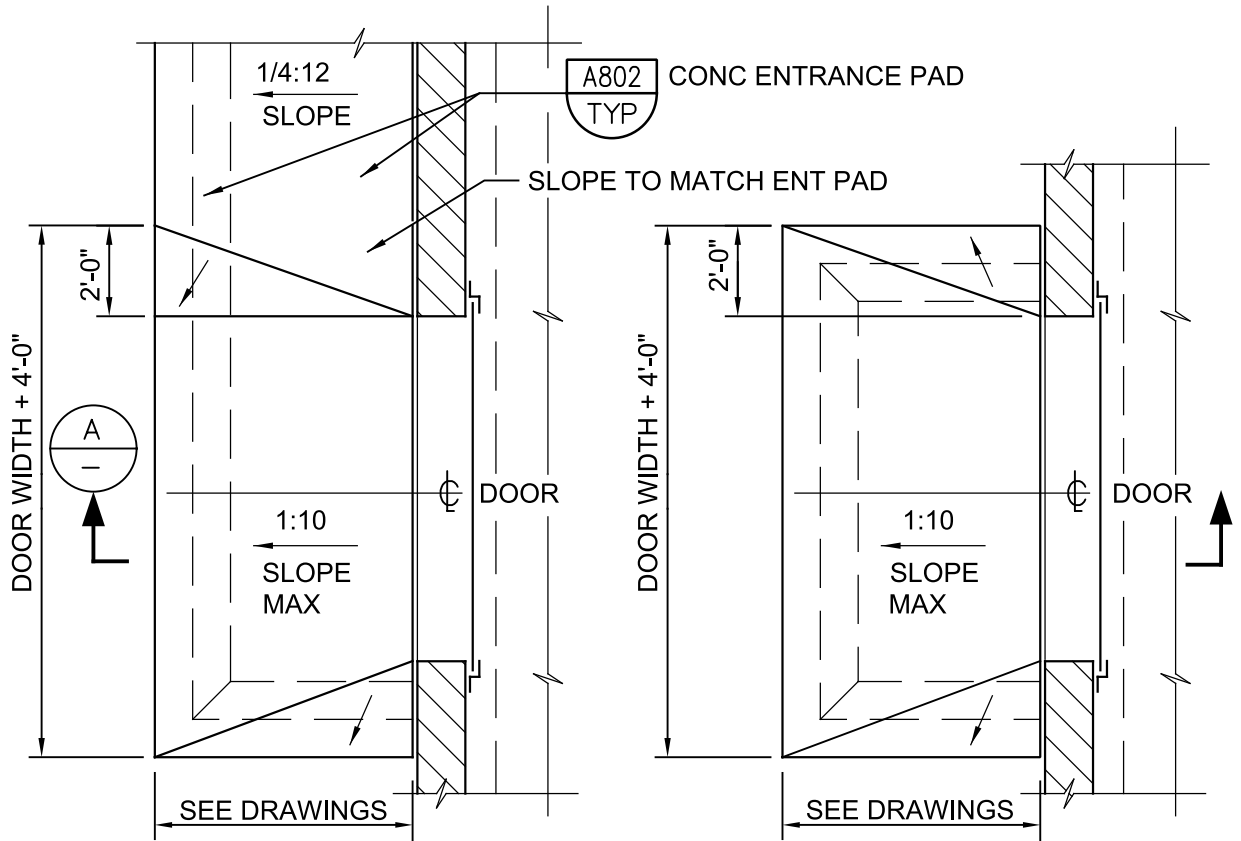
1. PROVIDE SPLASH BLOCK AS SHOWN EXCEPT AT PAVING AND SIDEWALKS.
2. ALTERNATE SIZE DOWNSPOUTS WILL BE REQUIRED, IF SO INDICATED ON THE DRAWINGS.
3. COAT AL IN CONTACT WITH CONC AND CMU AS SPECIFIED.

**A727**

**DOWNSPOUT**

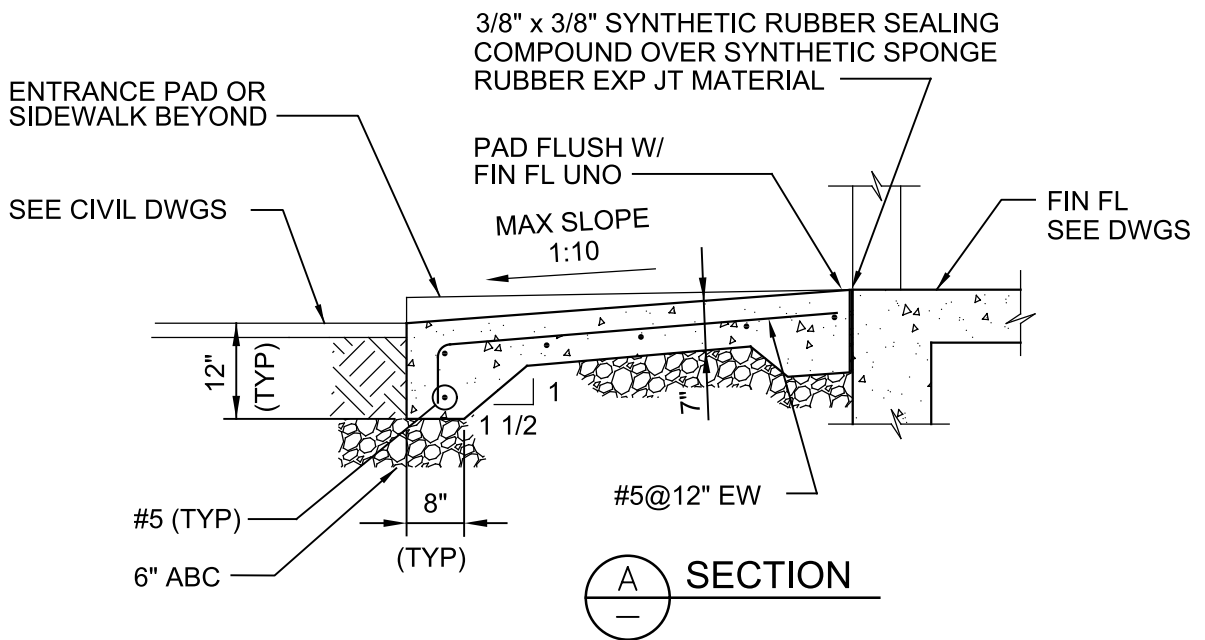
TYP

08-30-13



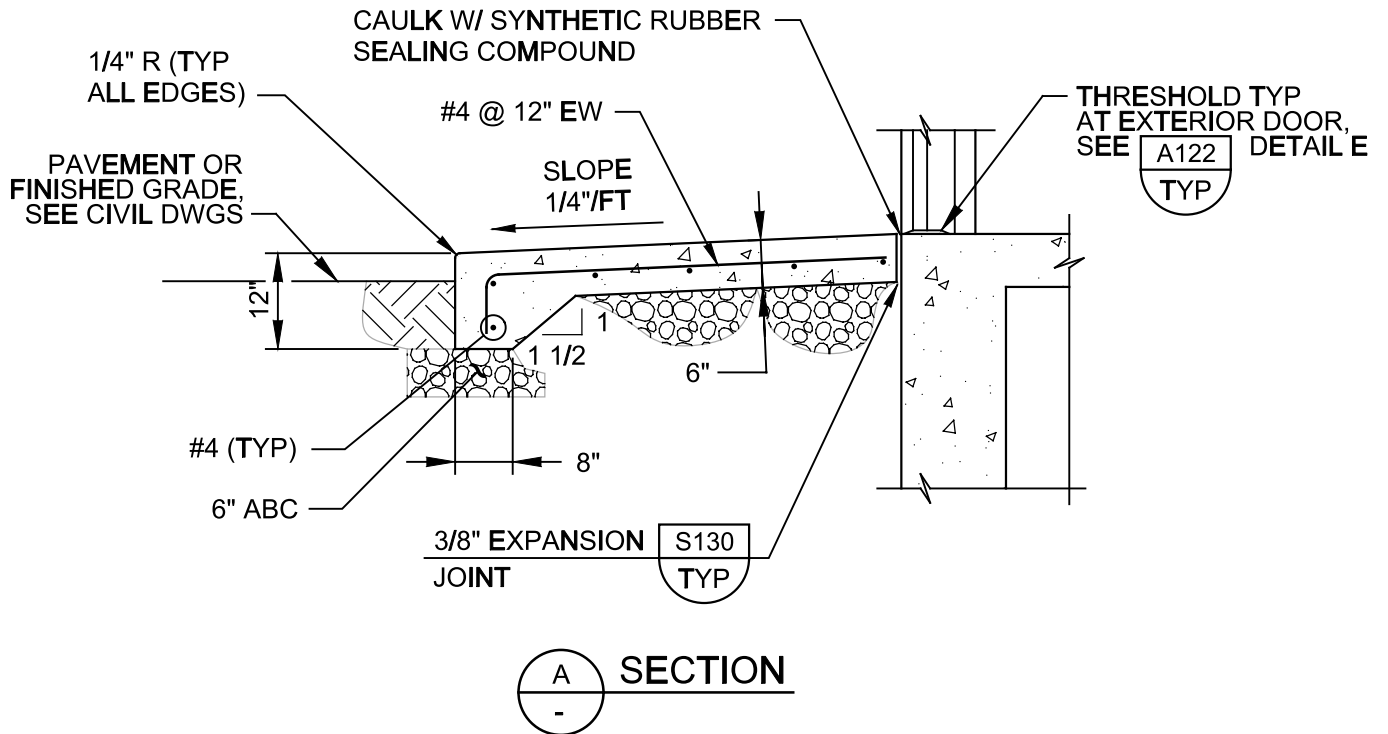
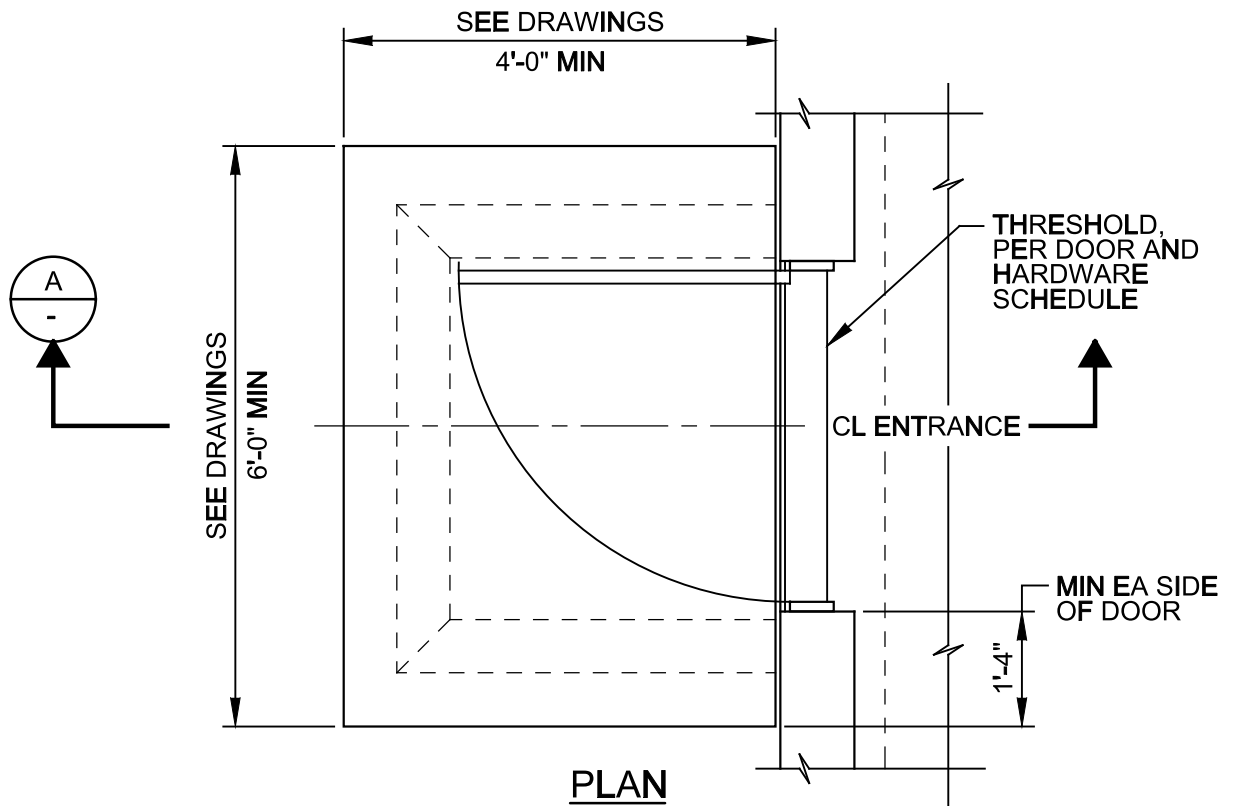
PLAN @ RAMP/ENT PAD

PLAN @ RAMP



**A801**  
RAMP AT COILING DOOR  
TYP

10/24/13

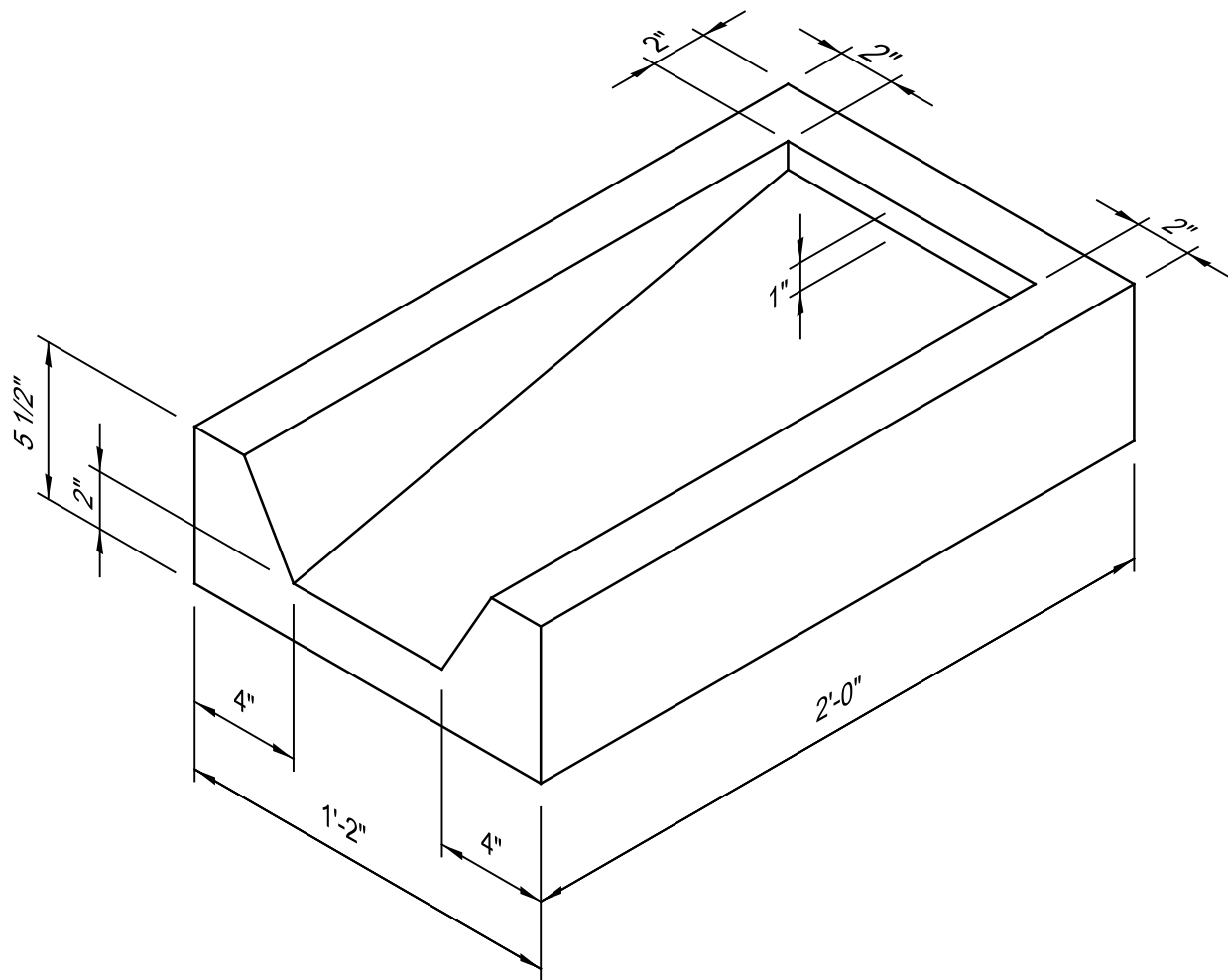


**A802**  
TYP

**ENTRANCE PAD**

09/13/11





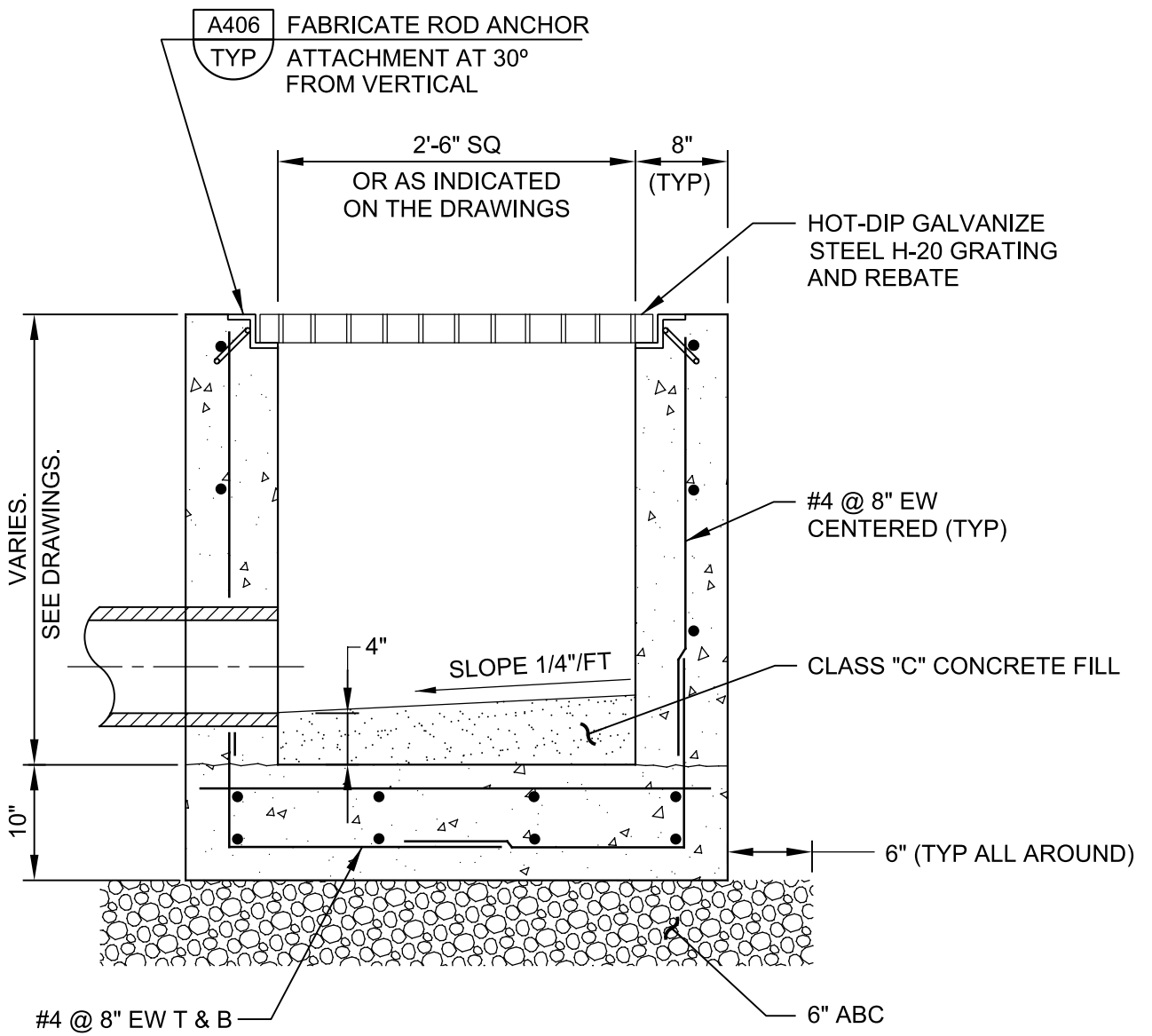
A804

CONCRETE SPLASH BLOCK

TYP

08/01/05

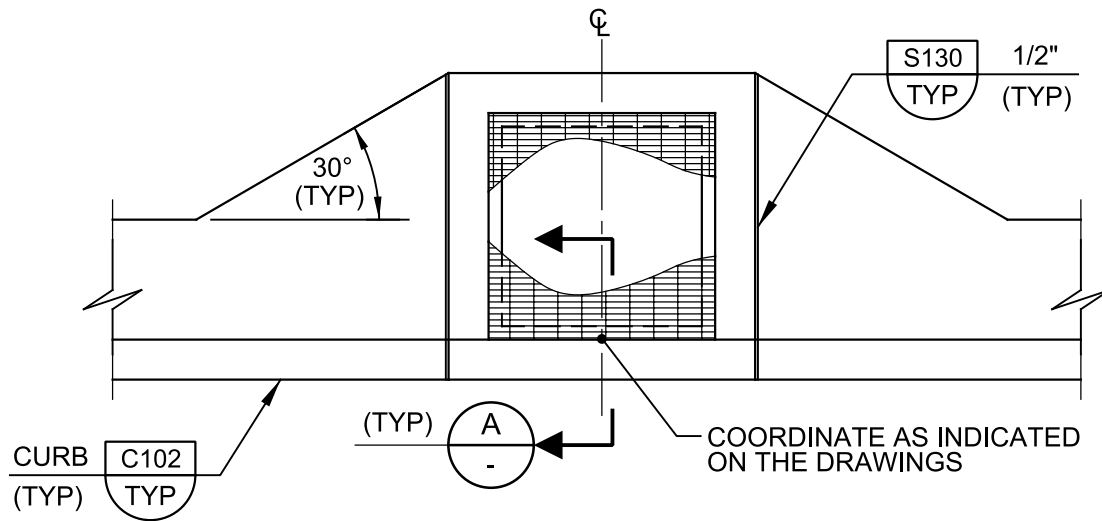
 **carollo**



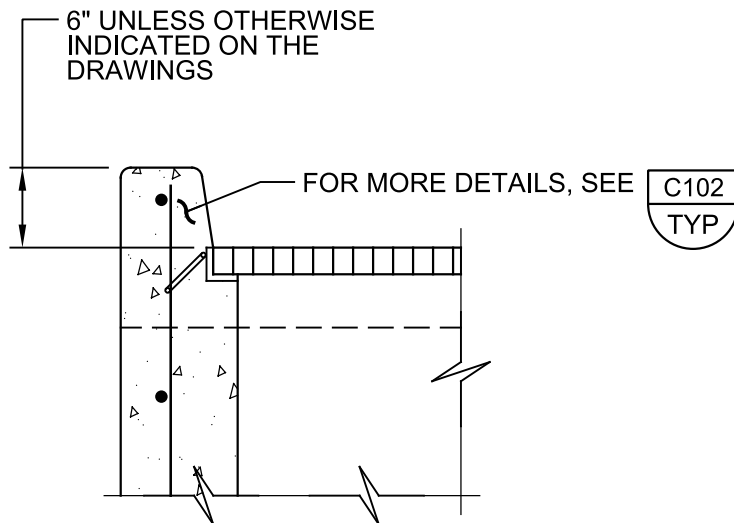
C002

CATCH BASIN

TYP



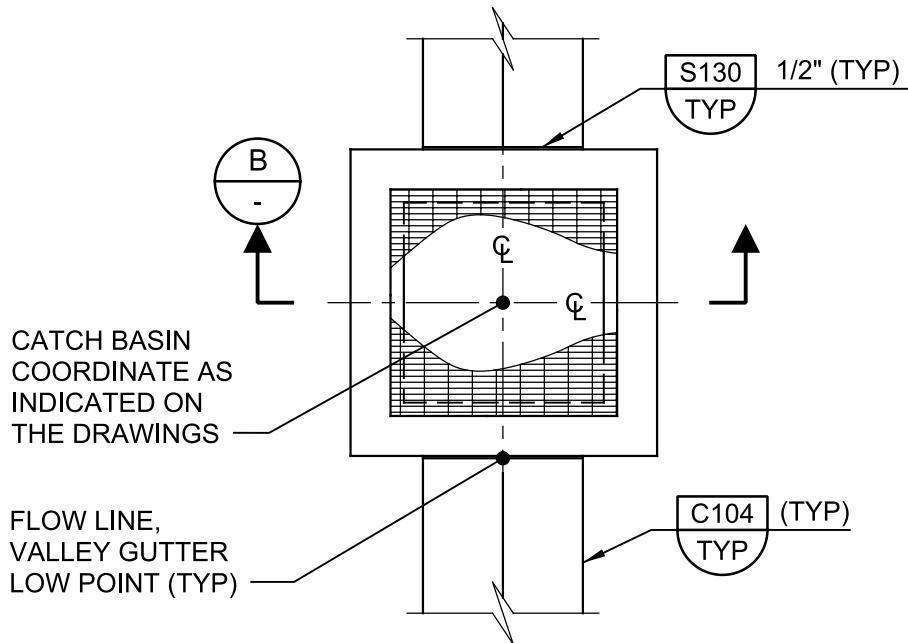
**TYPE 1 - CATCH BASIN AT CURB AND GUTTER**



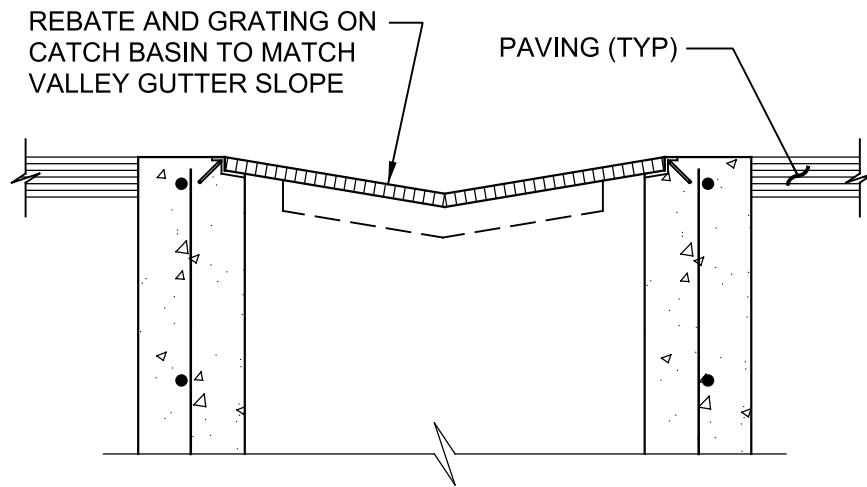
**A SECTION**

**C002**  
TYP

**CATCH BASIN**



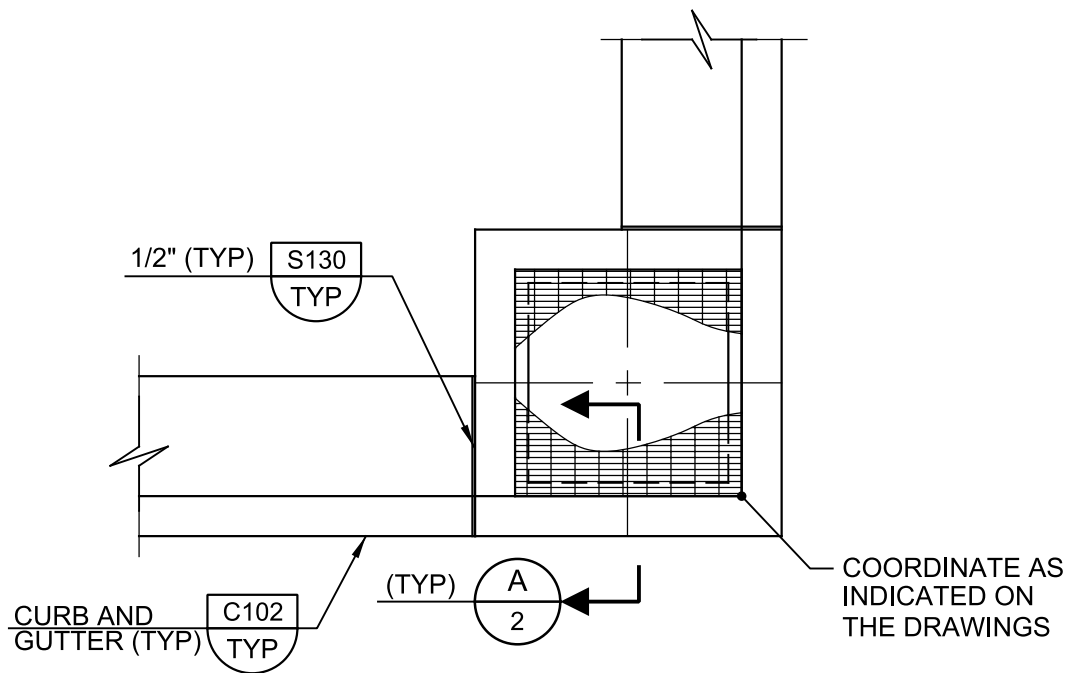
**TYPE 2 - CATCH BASIN AT VALLEY GUTTER**



**B SECTION**

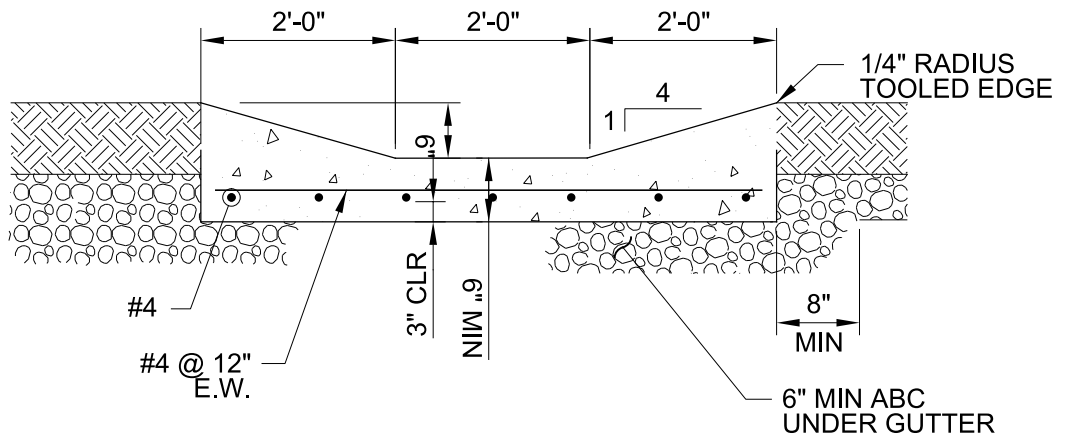
**C002** CATCH BASIN  
TYP





TYPE 3 - CATCH BASIN AT CURB AND GUTTER CORNER

C002 CATCH BASIN  
TYP



A SECTION - CROSS GUTTER

NOTES:

1. PROVIDE 3/4" EXPANSION JOINTS AT ENDS OF CONCRETE PLACEMENT, AT POINTS OF CURVATURE, AT INTERSECTIONS, AND AT MAXIMUM SPACING OF 30 FEET. EXPANSION JOINTS SHALL BE 3/4" WIDE WITH 1/4" RADIUS CONCRETE EDGES AT BOTH SIDES OF JOINT. USE BITUMINOUS FIBER EXPANSION JOINT MATERIAL.
2. DO NOT PASS REINFORCING BARS THROUGH EXPANSION JOINTS.
3. PROVIDE WEAKENED PLANE JOINTS AT 10 FEET OC MAXIMUM. AT FRONT, TOP AND BACK FACES, PROVIDE 1/2" RADIUS EDGE EACH SIDE AT JOINTS.

C104

CROSS GUTTER

TYP

07/25/13

**carollo**

ROUNDED CONCRETE CAP

1/2"

4"Ø GALV SCH 40 STEEL POST. FILL WITH CONCRETE. PAINT SAFETY YELLOW PER ANSI Z535.1.

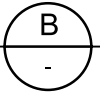
FINISHED GRADE OR AC PAVEMENT. SEE DRAWINGS.

4'-0"

1"

3'-6"

AT CONC PAVEMENT



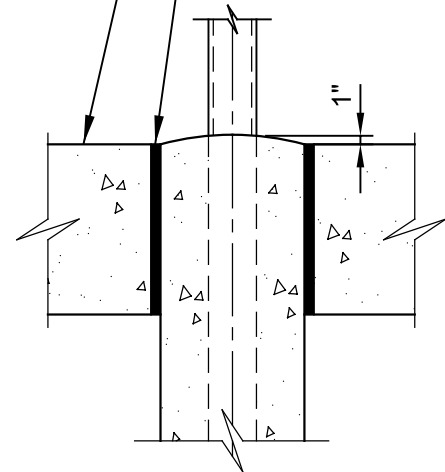
CLASS "C" CONCRETE

6"

1'-3"Ø

CONCRETE PAVEMENT

3/8" BITUMINOUS FIBER EXP JOINT MATERIAL ALL AROUND (UNLESS OTHERWISE INDICATED ON THE DRAWINGS)



CONCRETE PAVEMENT



AC PAVEMENT OR FINISHED GRADE

C160

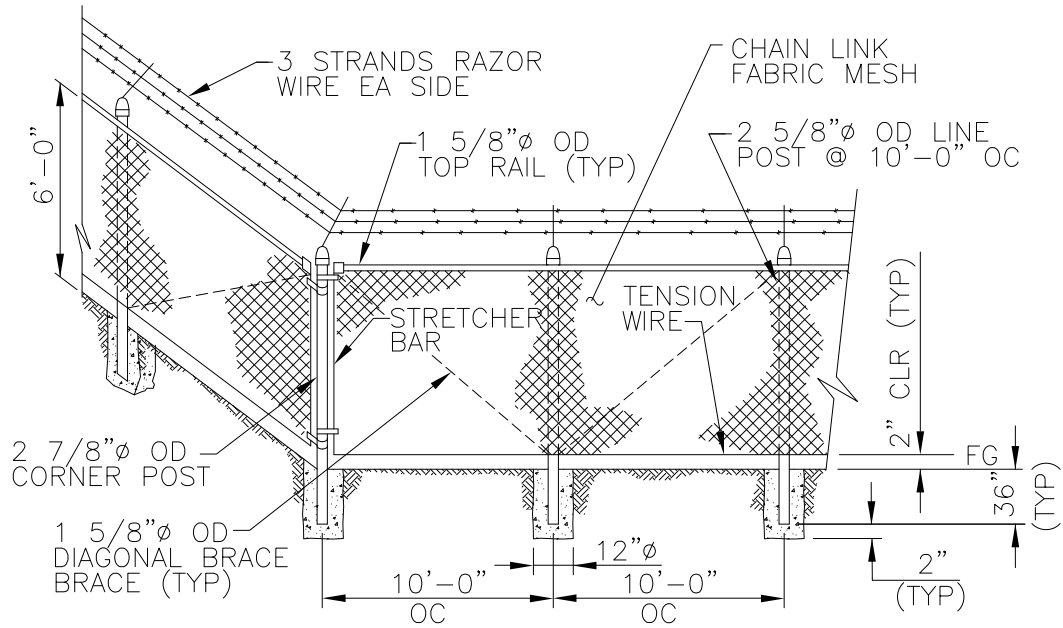
GUARD POST

TYP

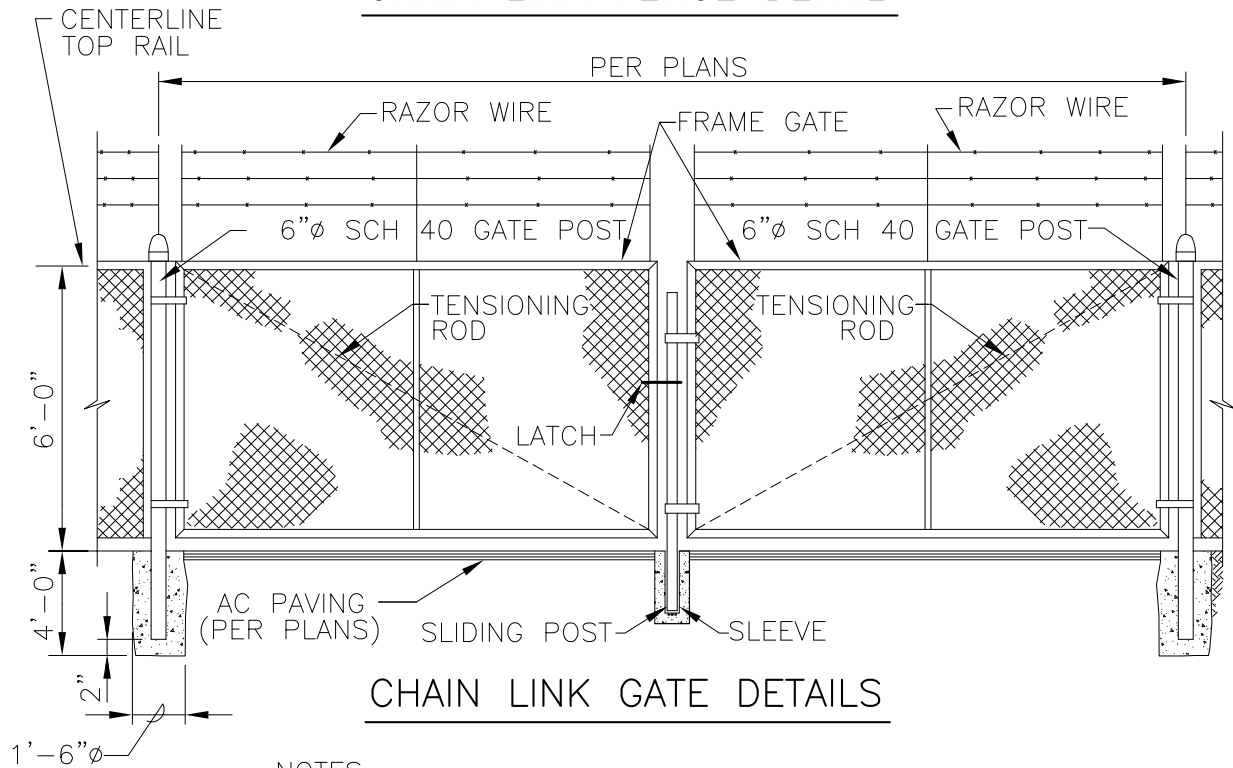
N

01/13/14

carollo



**CHAIN LINK FENCE DETAIL**



**CHAIN LINK GATE DETAILS**

**NOTES:**

1. SEE SPECIFICATION 02821.
2. ALL GATES TO INCLUDE PAD LOCK COMPATIBLE LATCHES.

TOP OF COVER TO BE IMPRINTED WITH LOGO "CP TEST"

D020 TEST BOARD ASSEMBLY TYP

FINISH GRADE

PROVIDE SUFFICIENT SLACK IN ALL WIRES TO ALLOW TEST BOARD TO BE LIFTED 2'-0" OUT OF TEST BOX

SERVICE BOX 1'-2" x 1'-2" x 12" DEEP WITH OPEN BASE AND HEAVY DUTY STEEL COVER OR CAST IRON COVER

2" DIA x 3'-0" LONG SCH 40 PVC PIPE

SET BOX IN 6" MINIMUM PEA GRAVEL

PROVIDE 12" MINIMUM SLACK IN LOOPS IN WIRES

2 - #10 AWG COPPER TEST LEAD WIRES WITH WHITE XHHW INSULATION FROM PIPELINE

2 - #10 AWG COPPER TEST LEAD WIRES WITH BLACK XHHW INSULATION FROM PIPELINE

1 - #10 AWG COPPER TEST LEAD WIRE WITH YELLOW XHHW INSULATION FROM REFERENCE ELECTRODE

PROVIDE 12" MINIMUM SLACK IN LOOPS IN WIRES

REFERENCE ELECTRODE. LOCATE 12" MAX FROM OUTSIDE EDGE OF PIPELINE.

INSULATED FLANGE OR INSULATING TYPE FLEXIBLE COUPLING

PROVIDE 12" MINIMUM SLACK IN LOOPS IN WIRES

PIPELINE

CONNECT WIRES TO PIPE IN ACCORDANCE WITH

D030 D036 TYP TYP

FLOW

NOTE:

- 1. IF ABOVE-GROUND POST MOUNTED TEST STATION IS REQUIRED, SEE D012 TYP

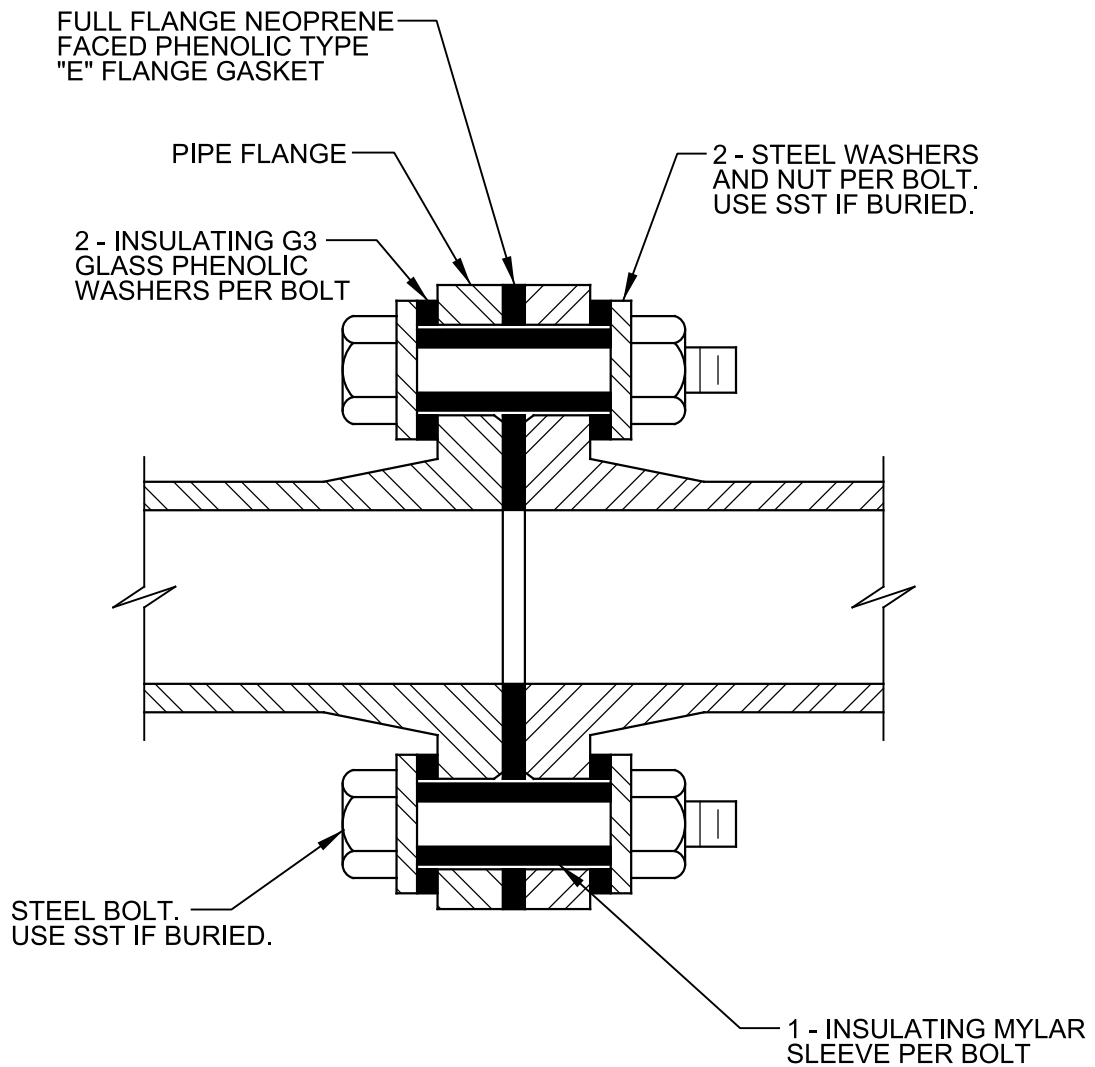
D002

TYP

CORROSION MONITORING TEST STATION - TYPE "I"

08/01/05





NOTE:

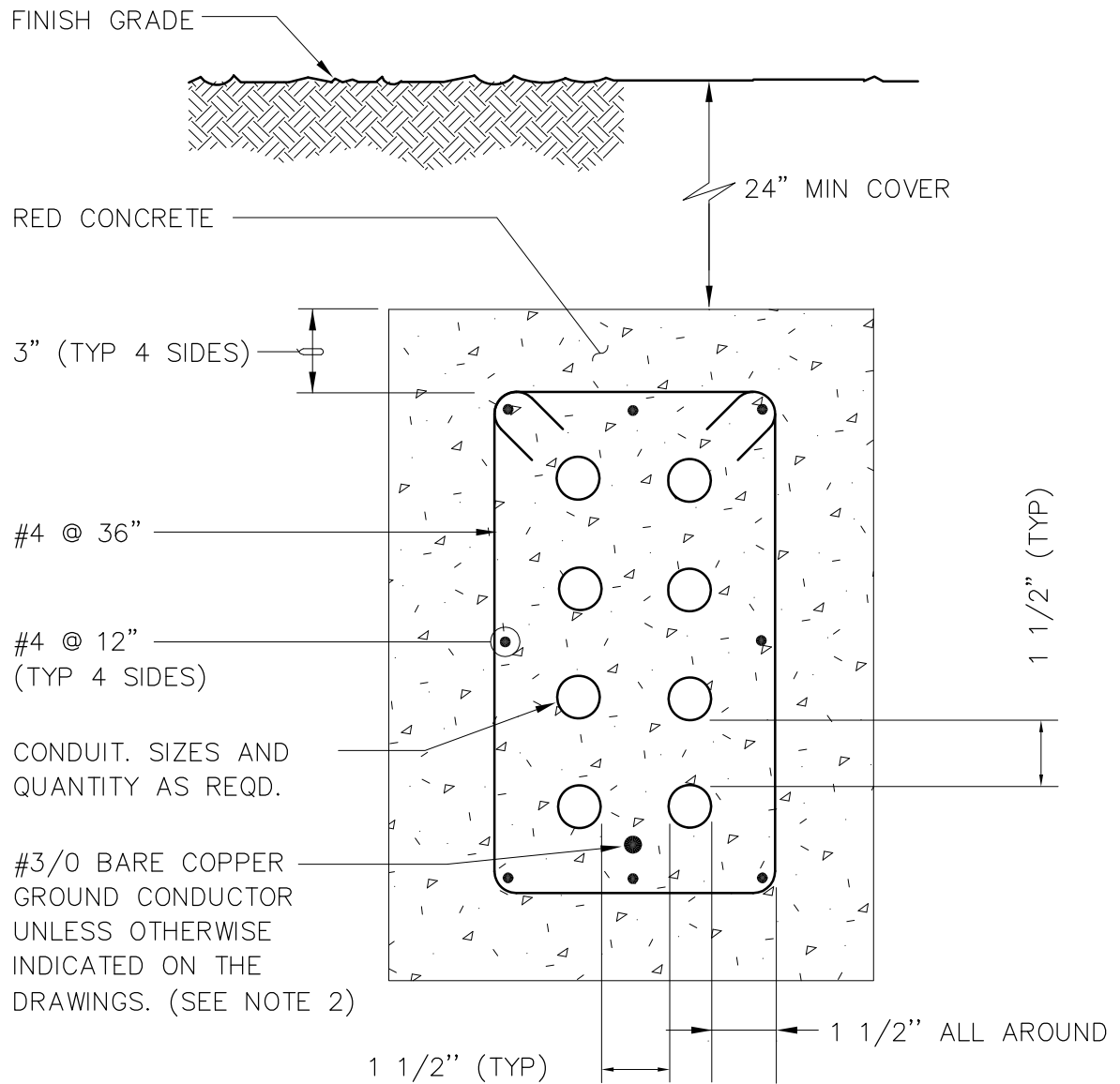
1. IF FLANGE IS TO BE BURIED, COAT ENTIRE ASSEMBLY WITH PETROLATUM SATURATED FABRIC TAPE WRAP SYSTEM IN ACCORDANCE WITH THE SPECIFICATIONS.

D062  
TYP  
N

PIPE FLANGE INSULATION

08/01/05

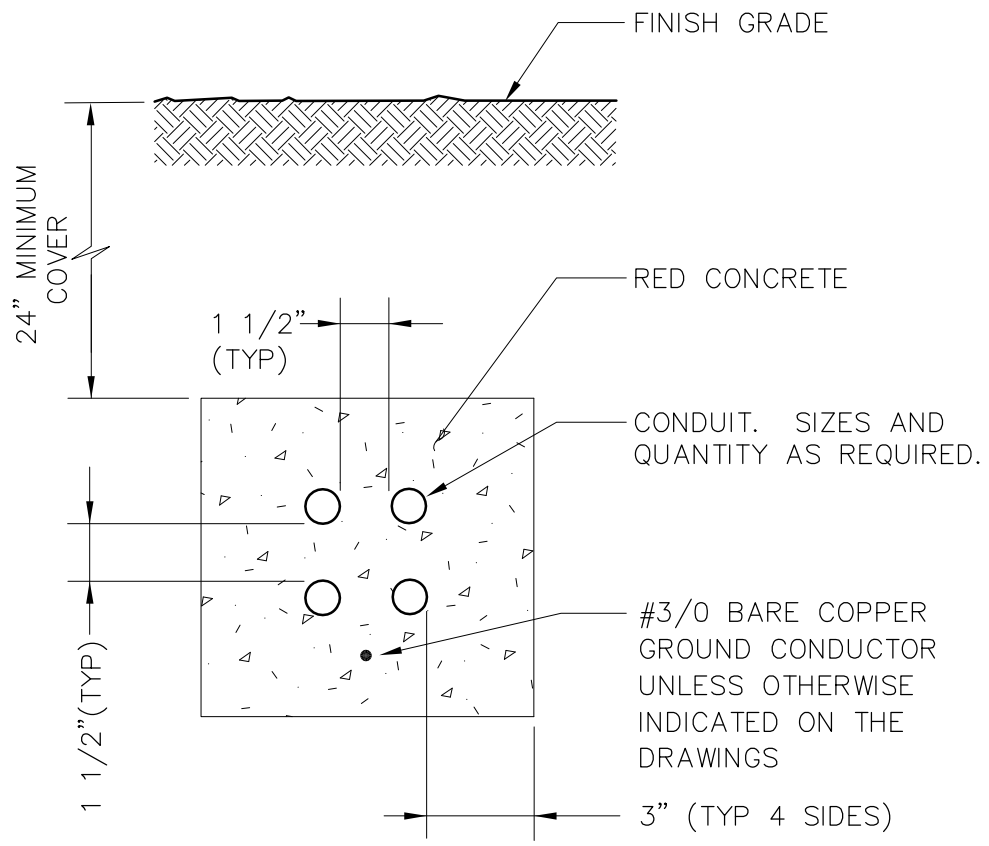




NOTE:

1. ALL DIMENSIONS ARE MINIMUM UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
2. PROVIDE 250 KCMIL BARE COPPER IN ALL MEDIUM VOLTAGE DUCTBANKS.
3. SPACING SHALL BE 7-1/2" ON CENTER FOR MEDIUM VOLTAGE DUCTBANKS.

E100 REINFORCED ENCASEMENT FOR  
 TYP ELECTRICAL CONDUITS

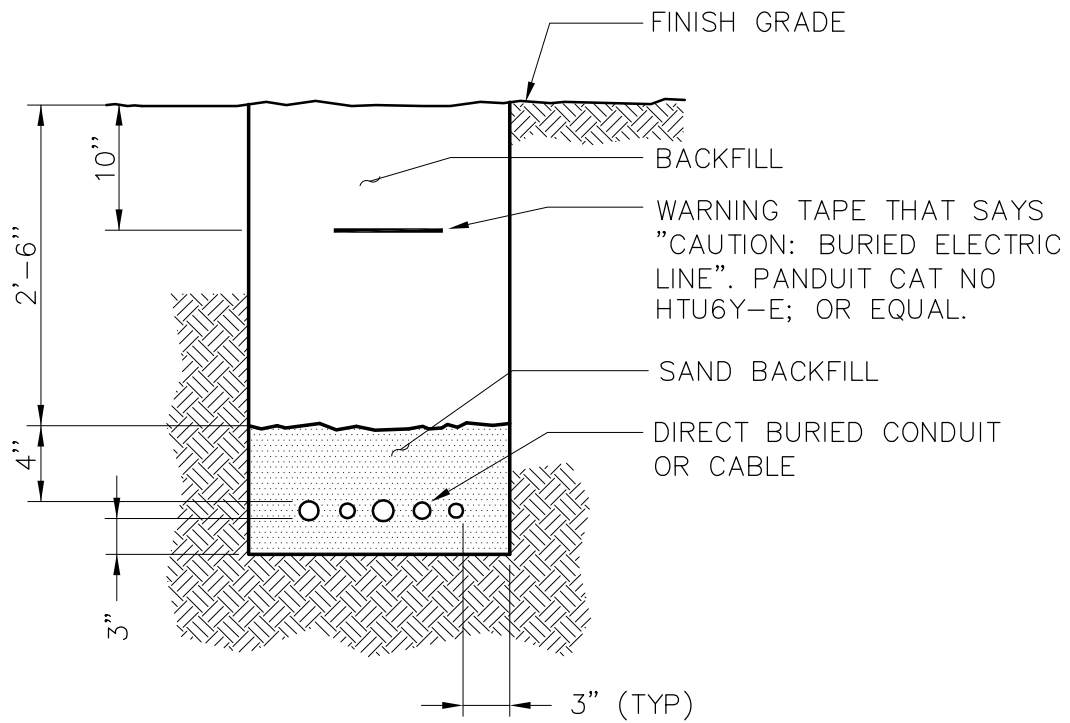


NOTES:

1. ALL DIMENSIONS ARE MINIMUM UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
2. THIS ENCASEMENT IS FOR NON-TRAFFIC AREAS ONLY, OR WHERE SPECIFICALLY INDICATED ON THE DRAWINGS.

E101 UNREINFORCED ENCASEMENT  
 TYP FOR ELECTRICAL CONDUITS





NOTES:

1. ALL DIMENSIONS ARE MINIMUM UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
2. REFER TO SPECIFICATIONS FOR TRENCH BACKFILL REQUIREMENTS.

E102  
TYP

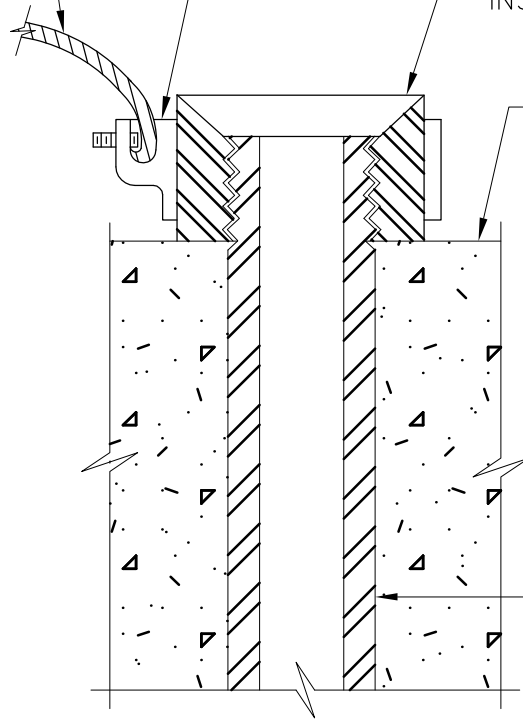
DIRECT BURIED CONDUIT OR CABLE

BONDING JUMPER TO  
METAL ENCLOSURE,  
OR GROUND BUS.  
SEE NOTE 1.

BONDING  
LUG

METAL GROUNDING  
BUSHING WITH  
INSULATED THROAT.

FINISH FLOOR



PVC COATED GRS

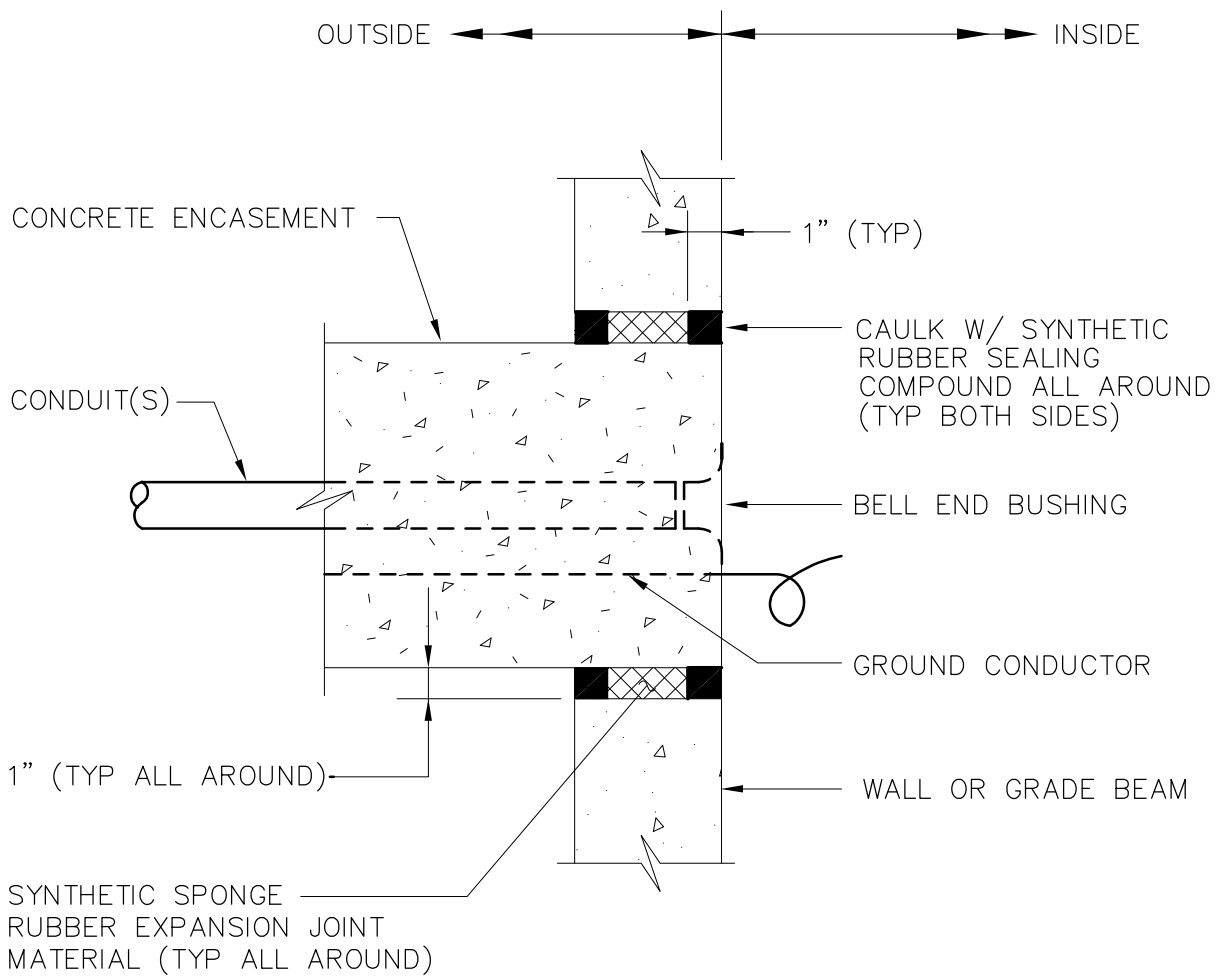
FLOOR STUB-UP INTO ELECTRICAL  
ENCLOSURES

NOTE:

1. SIZE BONDING JUMPER PER NEC, ARTICLE 250.

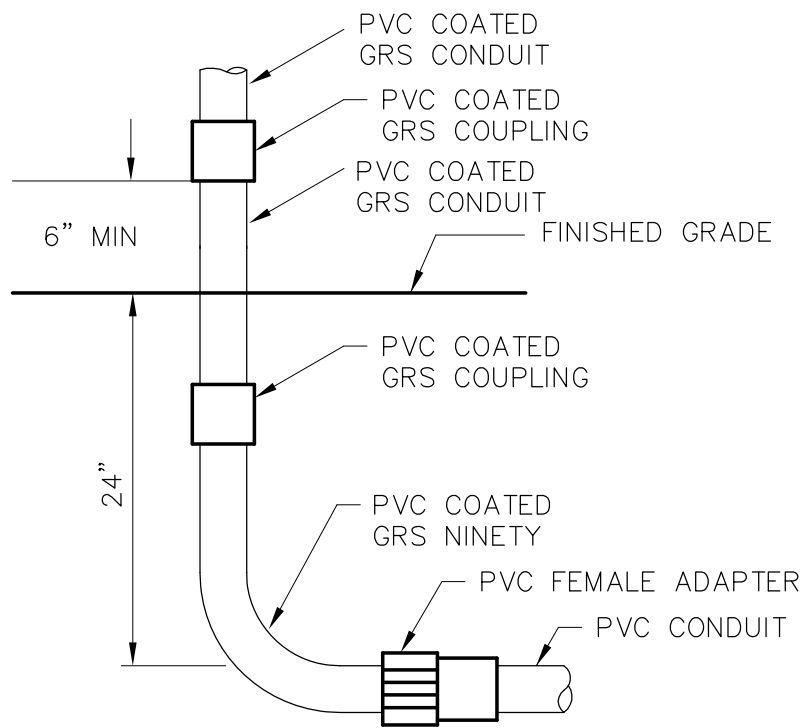
E103  
TYP

CONDUIT, FLOOR STUB-UP



E104  
TYP

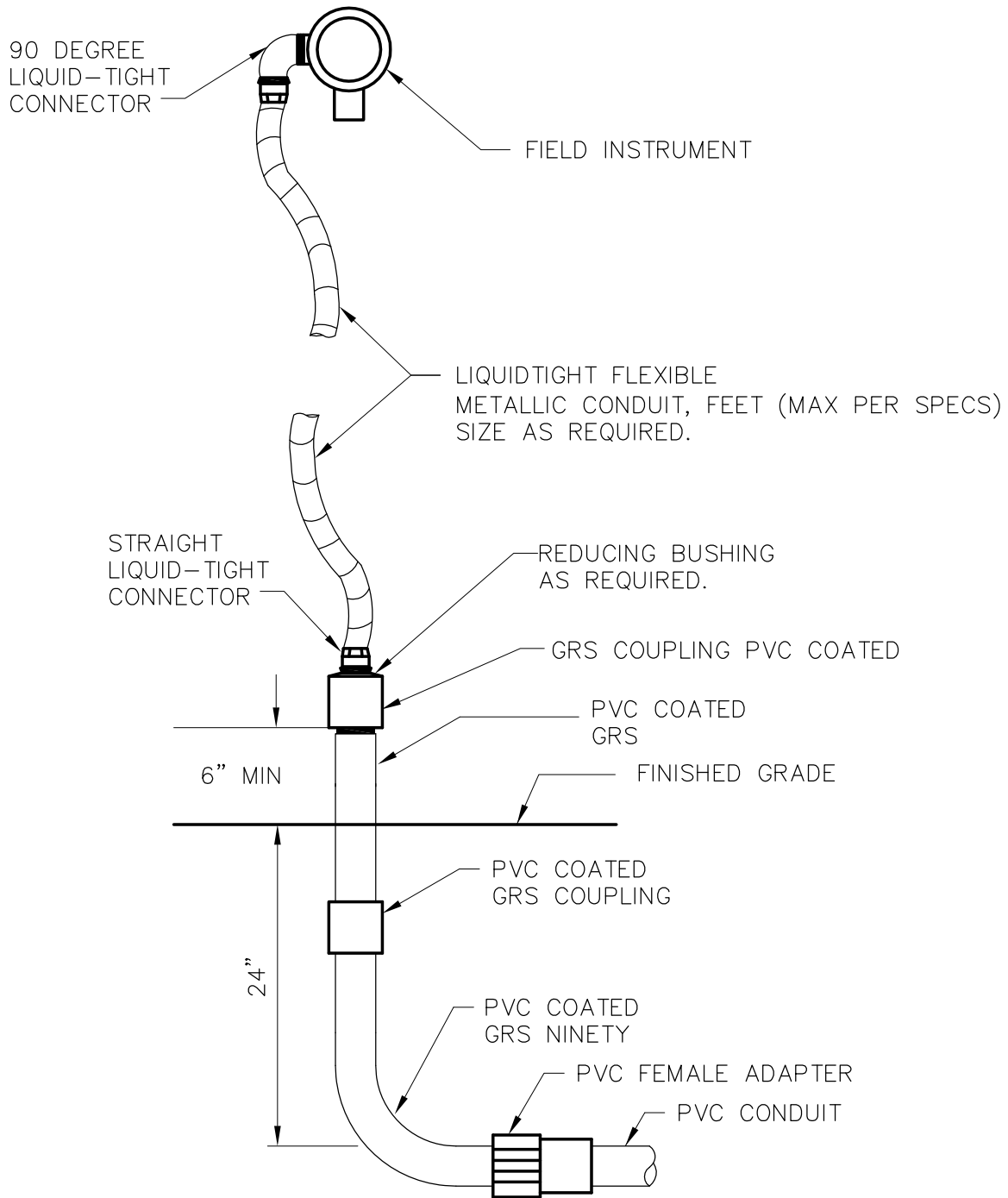
ENCASED ELECTRICAL CONDUITS  
AT MANHOLE, HANDHOLE, OR STRUCTURES  
WITHOUT WATERSTOP



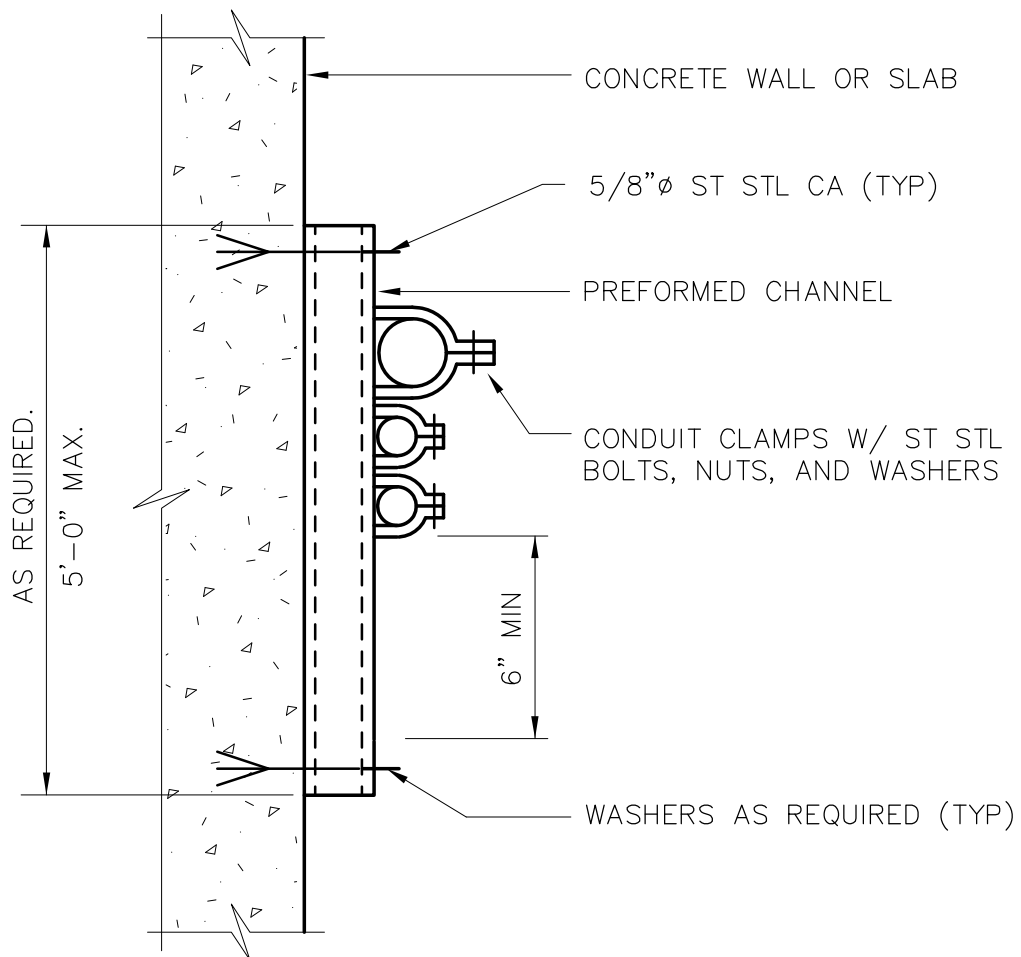
E105  
 TYP

PVC COATED GRS STUB UP DETAIL

N.T.S.



E106  
 TYP
 
 PVC GRS STUB UP TO  
 LTC CONNECTION DETAIL  
 N.T.S.

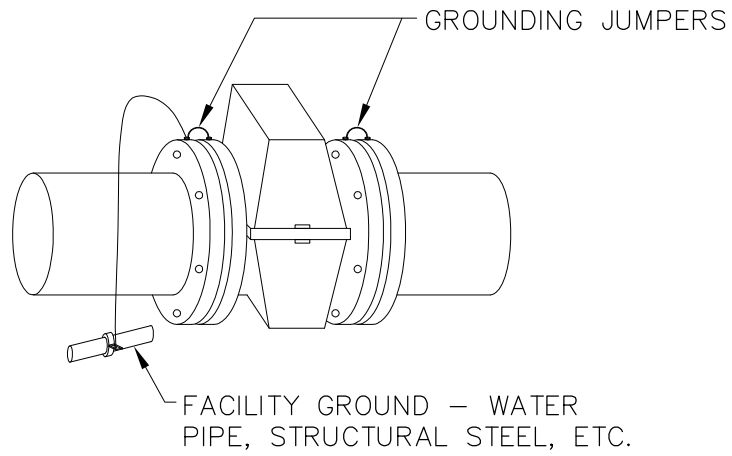


ELEVATION

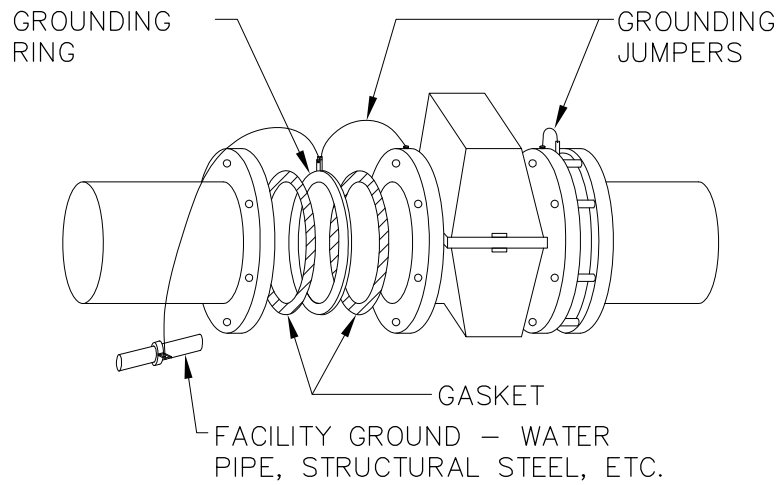
NOTES:

1. THIS DETAIL TYPICAL FOR BOTH VERTICAL AND HORIZONTAL MOUNTING.
2. PREFORMED CHANNEL, FITTINGS, AND CLAMPS SHALL BE HOT-DIP GALVANIZED STEEL. FIELD COAT ALL CUTS PER SPECIFICATIONS.
3. CHANNELS TO BE SPACED AT 5'-0" OC MAXIMUM.

E107 CONDUIT SUPPORT  
TYP



a) ELECTRICALLY CONDUCTIVE PIPE

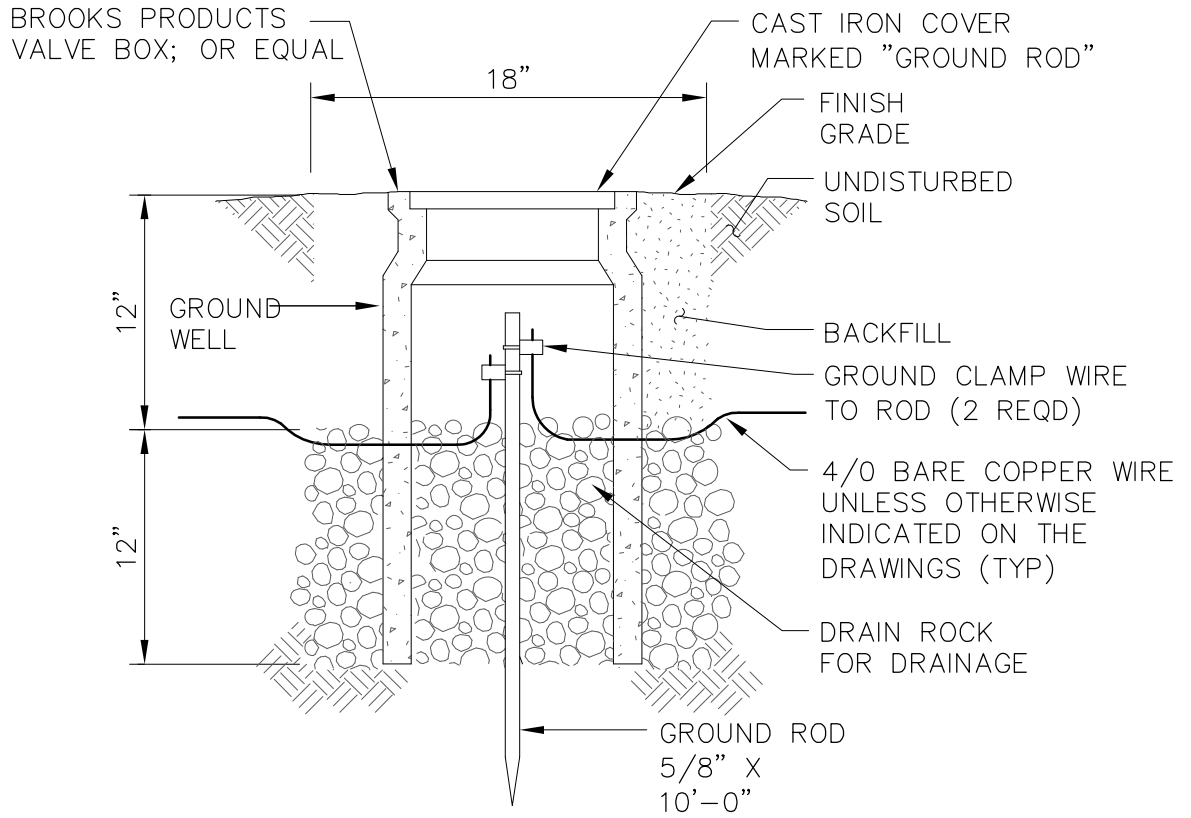


b) ELECTRICALLY INSULATING PIPE

E108  
TYP

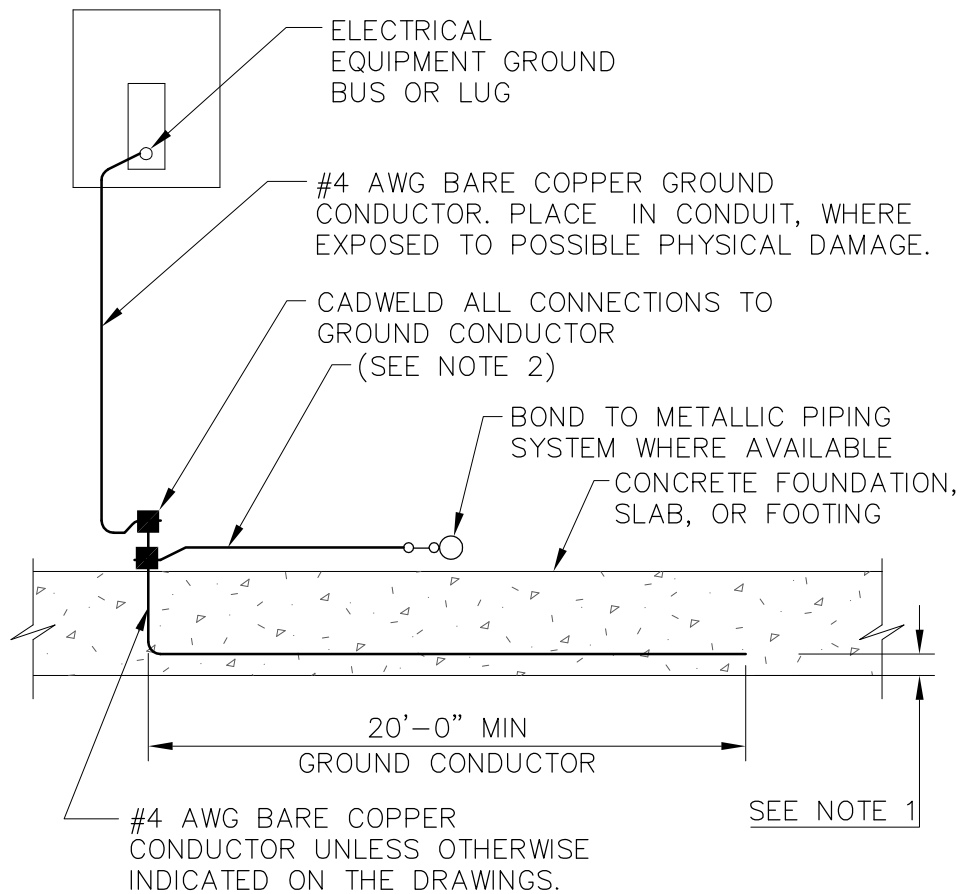
MAGNETIC FLOW METER GROUNDING

N.T.S.



E110 GROUND ROD INSTALLATION  
 TYP N.T.S.





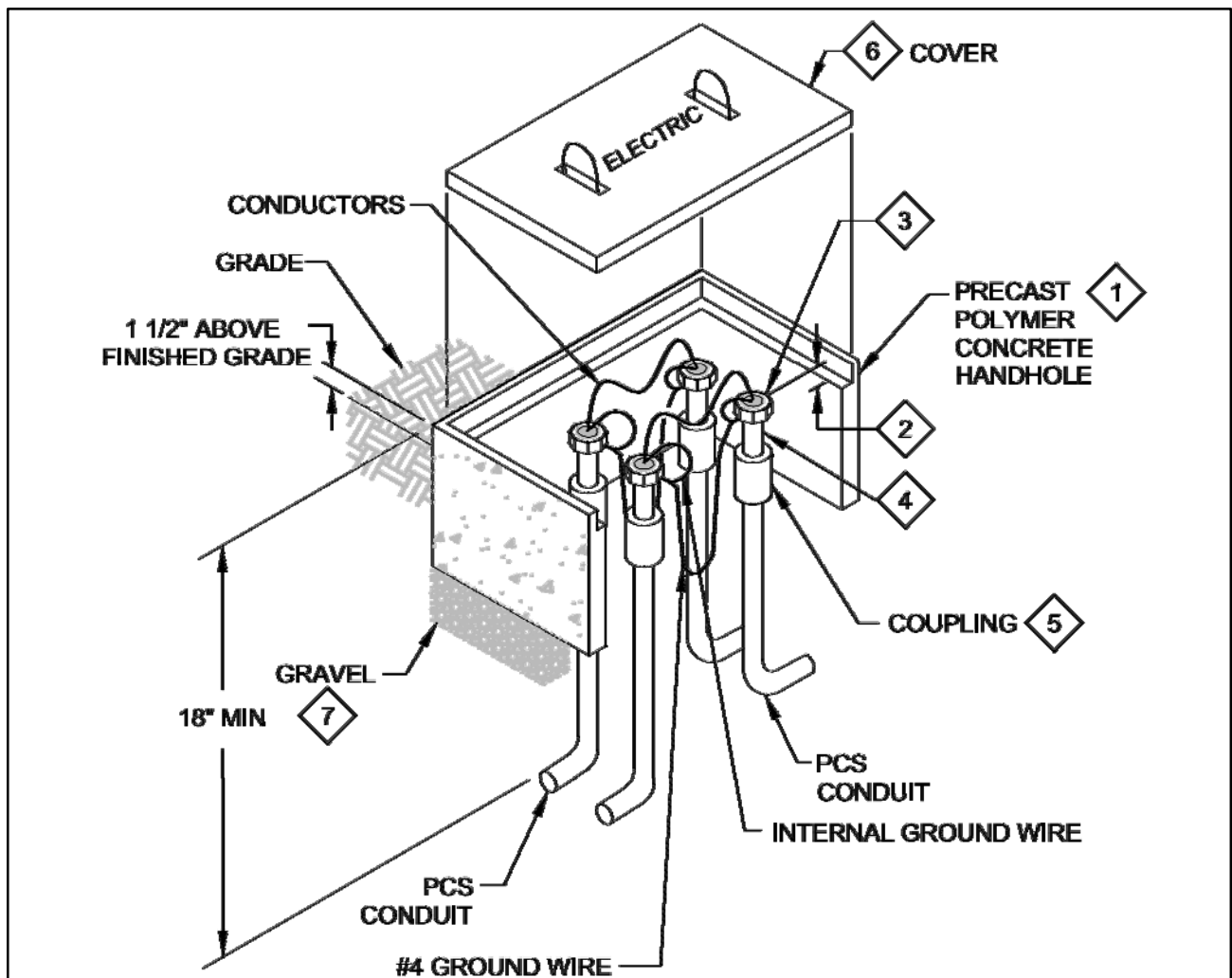
NOTE:

1. 1" CLEAR FOR ELEVATED SLABS. 3" CLEAR FOR SLABS ON GRADE OR FOOTING.
2. PLACE IN CONDUIT WHERE EXPOSED TO POSSIBLE PHYSICAL DAMAGE.

E111  
TYP

CONCRETE ENCASED GROUND

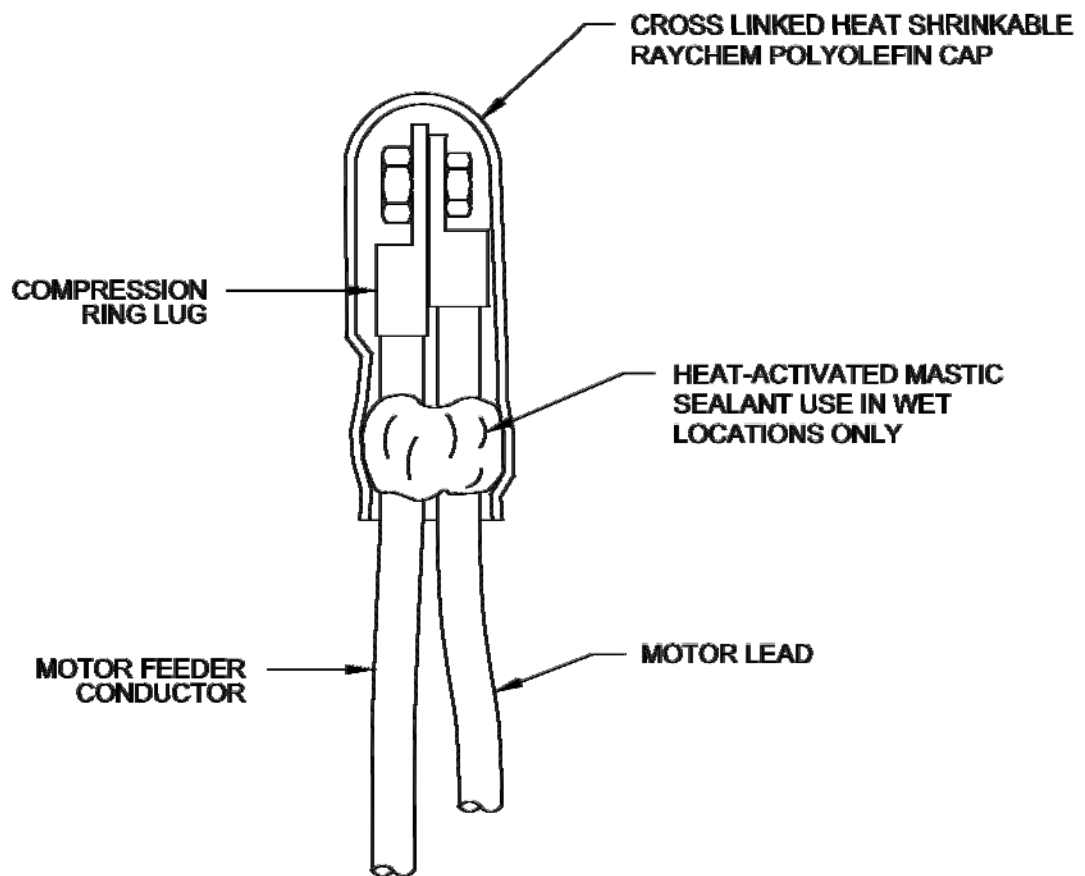
N.T.S.



**KEY NOTES:**

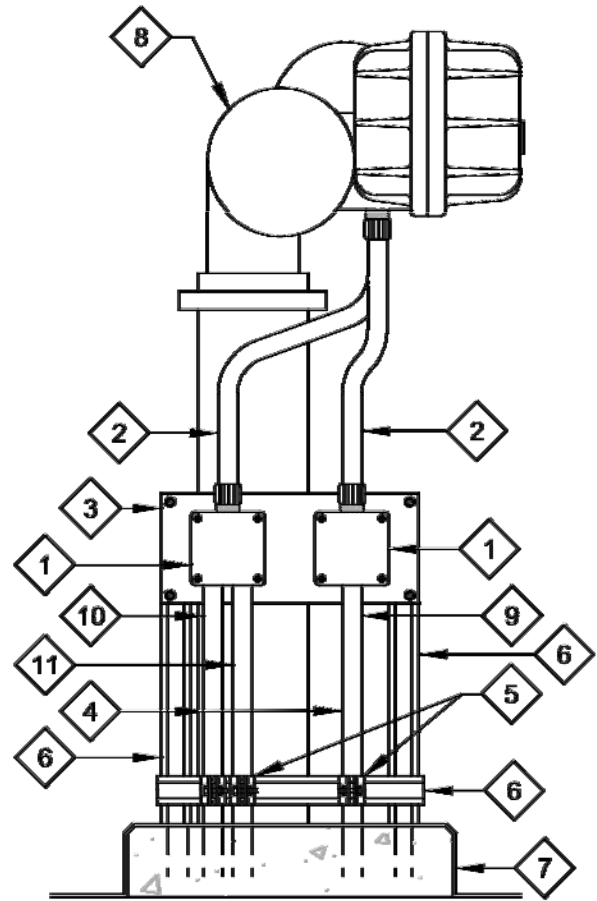
- 1 PRECAST POLYMER CONCRETE HANDHOLE WITH OPEN BOTTOM FOR DRAINAGE. DO NOT INSTALL POLYMER CONCRETE HANDHOLES IN ROADWAYS.
- 2 ALLOW SUFFICIENT SPACE BETWEEN THE CONDUIT AND HANDHOLE LID FOR BENDING RADIUS OF WIRES AND CABLES.
- 3 INSULATED GROUNDING BUSHINGS. BOND BUSHINGS TO EACH OTHER WITH #4 WIRE AND TO GROUND CONDUCTORS IN EACH CONDUIT.
- 4 NIPPLE (USED TO COMPACT DUCT SEAL IN COUPLING).
- 5 PACK COUPLING AREA WITH DUCT SEAL BY MANVILLE OR APPROVED EQUAL.
- 6 PROVIDE "TIER"-RATED COVER PER MANHOLE AND HANDHOLE SCHEDULE.
- 7 GRAVEL BED FOR LEVELING & DRAINAGE. MINIMUM 12" DEEP & EXTENDING AT LEAST 6" EACH WAY PAST OUTSIDE LIMITS OF HANDHOLE.

E 112 ELECTRICAL HANDHOLE  
 TYP N.T.S.



E 113  
TYP

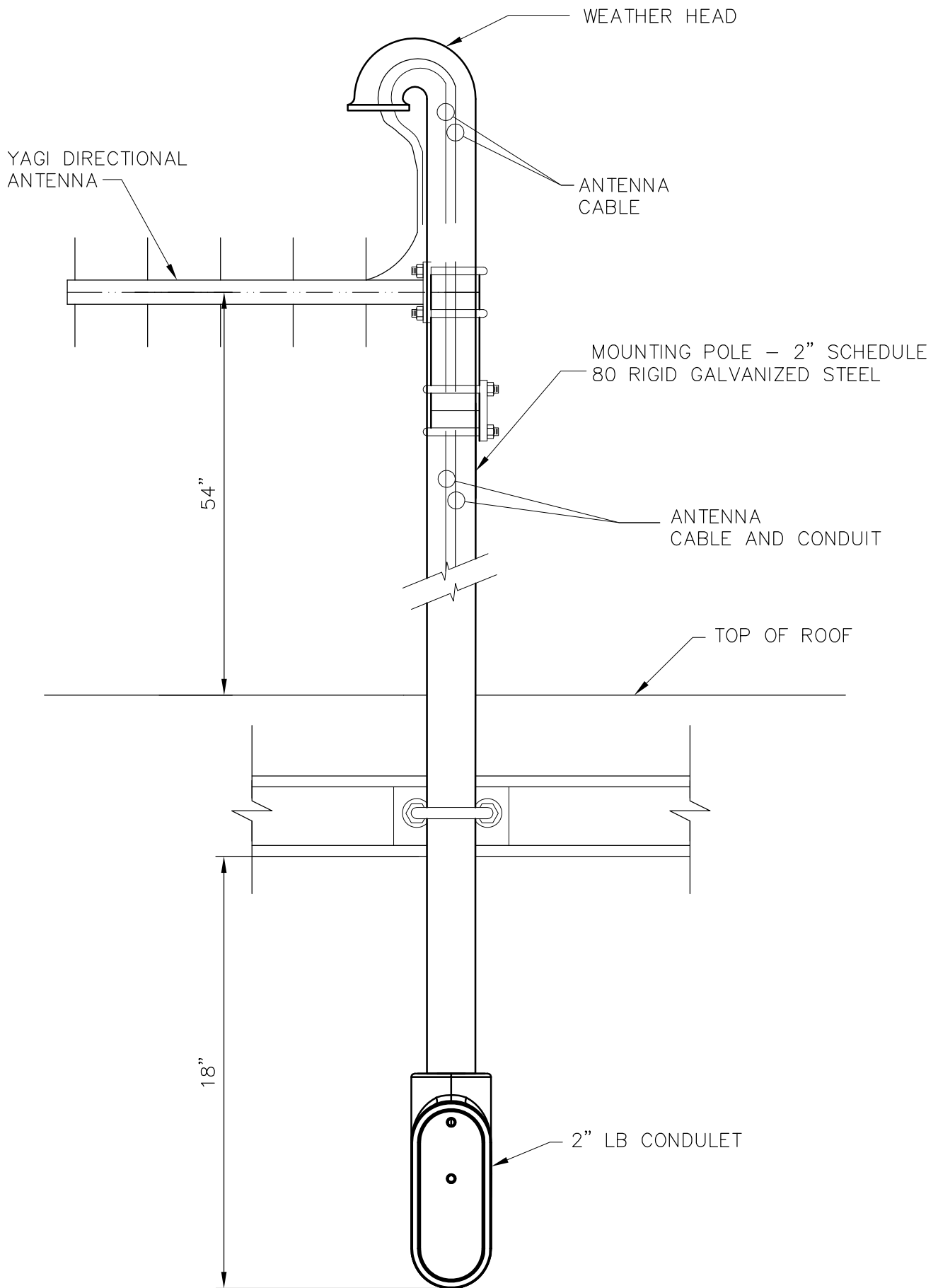
MOTOR LEAD TERMINATION



**KEY NOTES:**

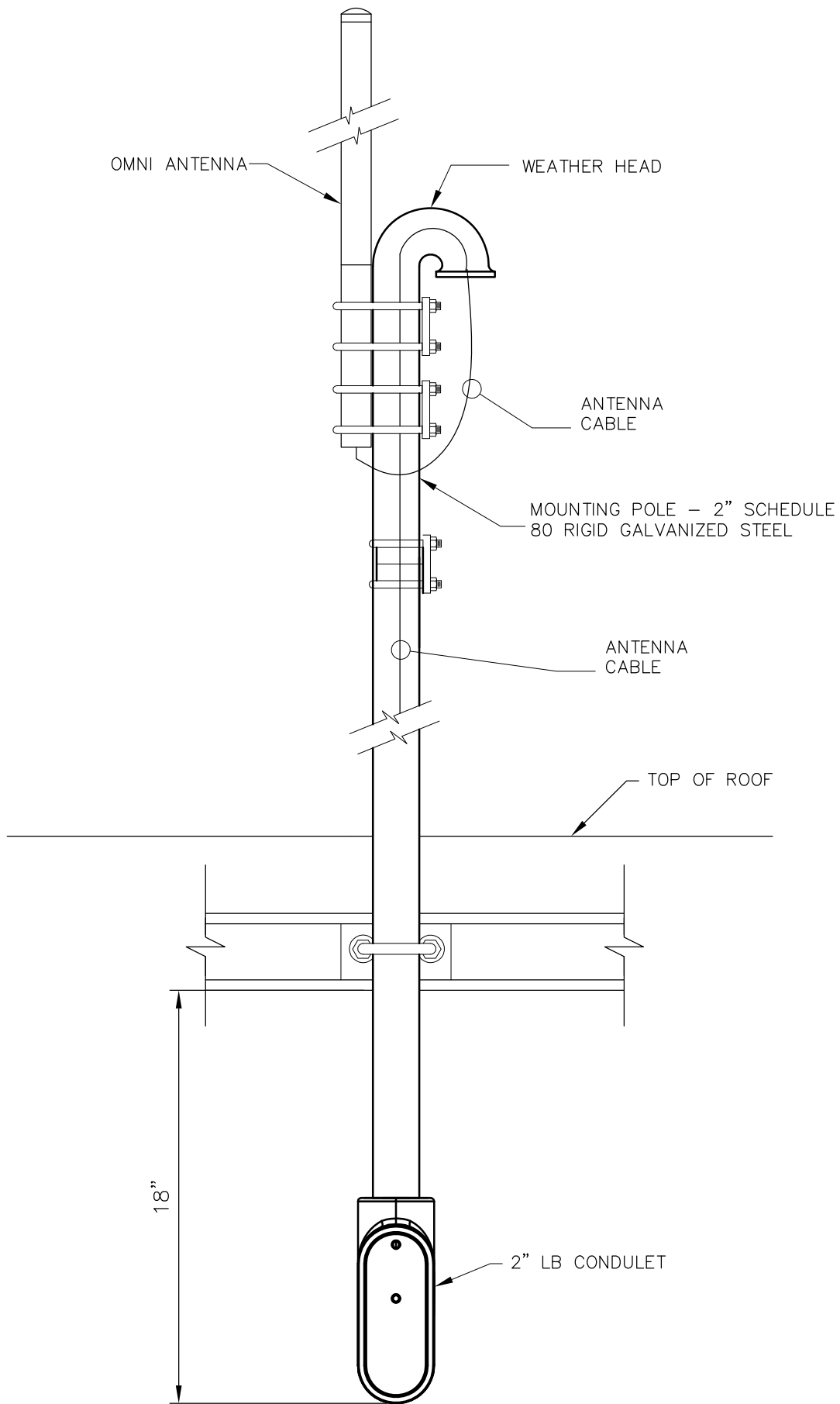
- 1 NONMETALLIC MOLDED JUNCTION BOX WITH GASKETED SCREW DOWN COVER.
- 2 LIQUIDTIGHT FLEXIBLE CONDUIT, SIZE PER PLANS
- 3 GALVANIZED STEEL MOUNTING PLATE, SIZE TO SUIT.
- 4 GRC, SIZE PER PLANS
- 5 CONDUIT CLAMP
- 6 GALVANIZED PREFORMED CHANNEL
- 7 CONCRETE PAD WITH EPOXY FLOOR COVERING
- 8 VALVE OPERATOR
- 9 POWER CONDUIT
- 10 SIGNAL CONDUIT (WHEN NEEDED)
- 11 CONTROL CONDUIT

E114	MOV
TYP	N.T.S.



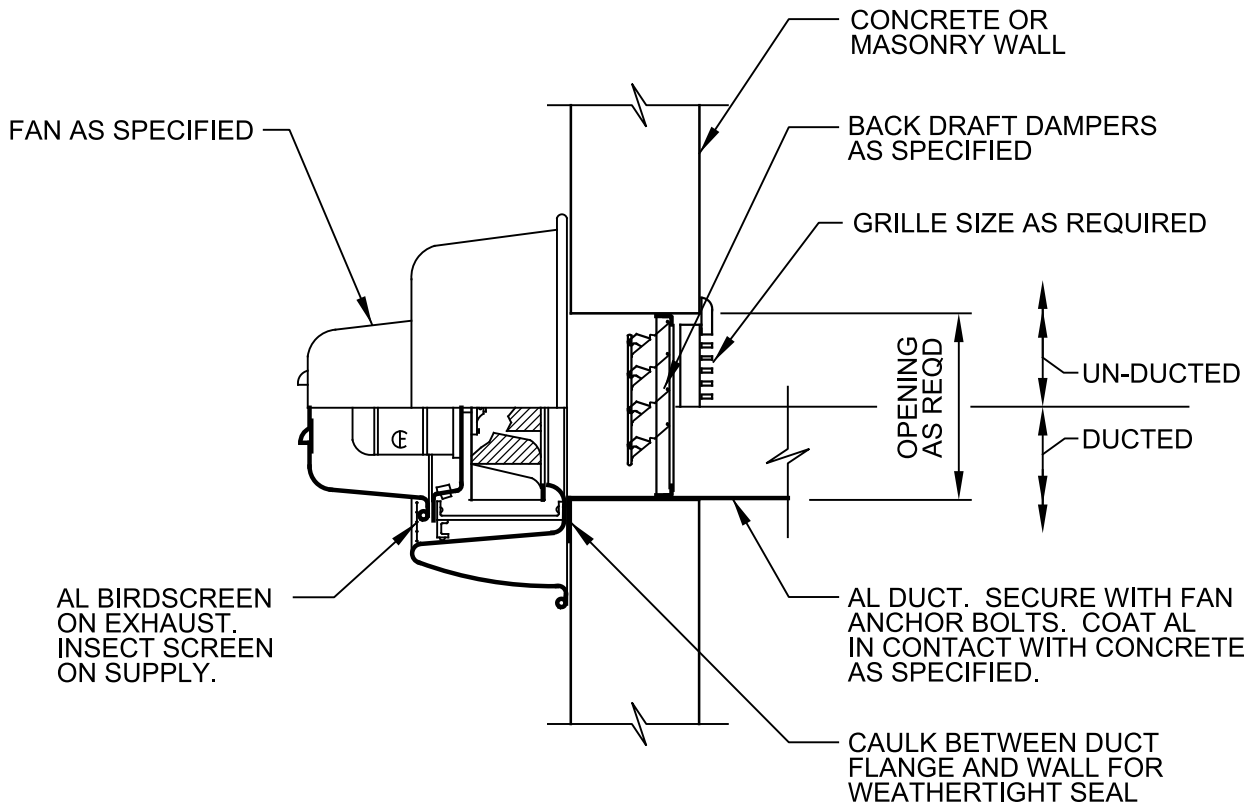
E200  
TYP

WELLSITE ANTENNA MOUNTING  
N.T.S.



E201  
TYP

WWRP ANTENNA MOUNTING  
N.T.S.



NOTES:

1. MOUNT ON WALL WITH STAINLESS STEEL CONCRETE ANCHORS.
2. SEE SPECIFICATIONS FOR ANCHOR BOLT SIZE.
3. FOR SPLIT-FACE BLOCK, GRIND OR GROUT FACE TO PROVIDE A SMOOTH, PLANAR MOUNTING SURFACE.

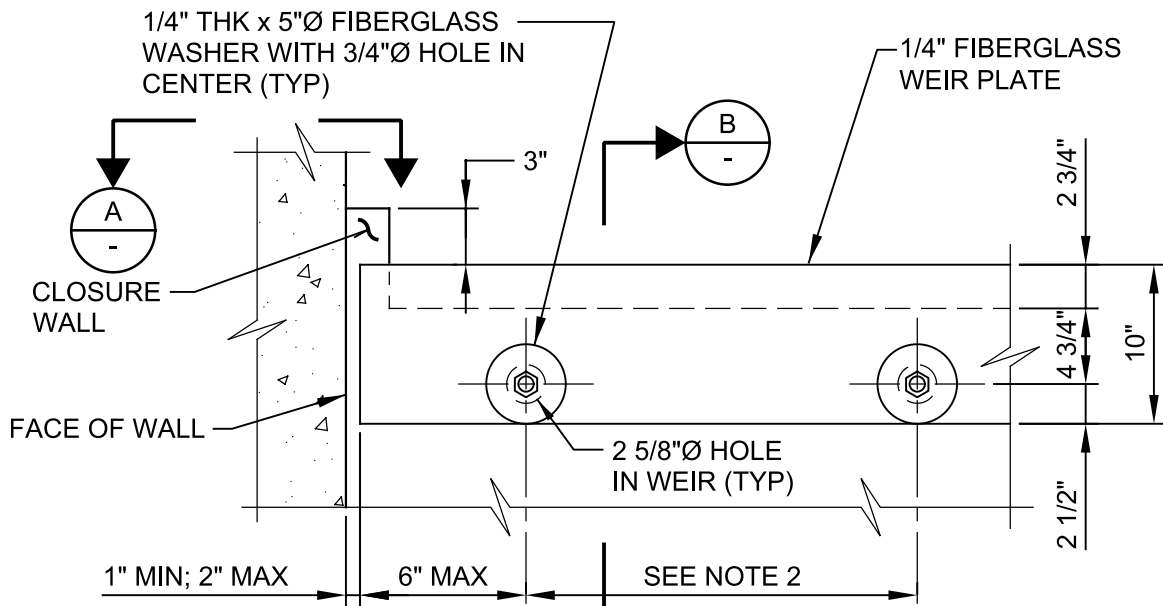
H003

CENTRIFUGAL EXHAUST FAN

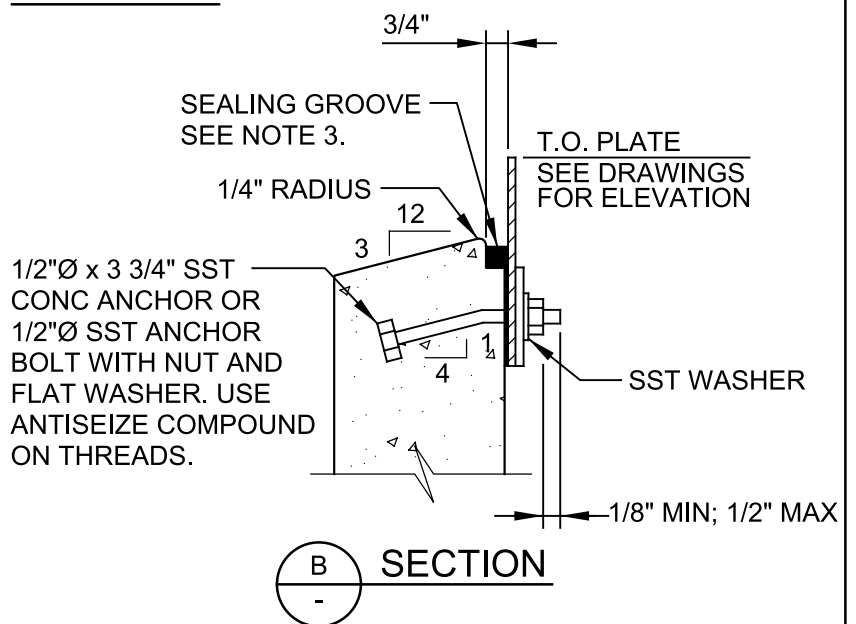
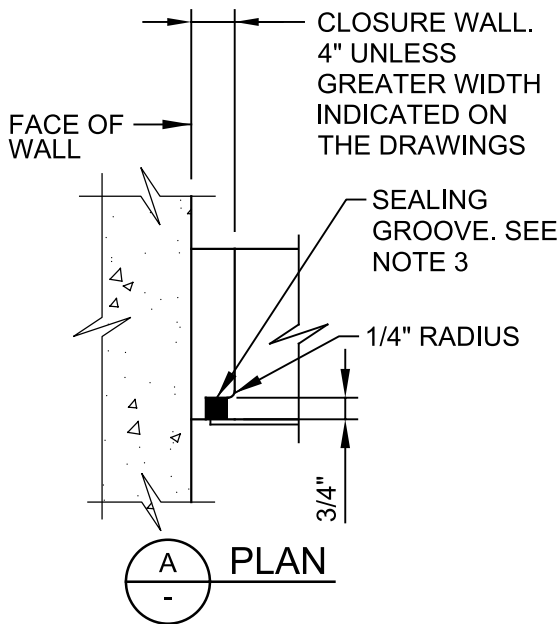
TYP

08/01/05

**carollo**



**ELEVATION**



**NOTES:**

1. ALL EDGES, VOIDS, AND SPLICES SHALL BE SEALED WATERTIGHT WITH SYNTHETIC RUBBER SEALING COMPOUND.
2. ANCHOR BOLT SPACING = 12" OC MAX FOR STRAIGHT WEIRS AND 2'-0" OC MAX FOR CIRCULAR WEIRS.
3. AT BOTTOM AND ENDS OF CONCRETE OPENING FOR WEIR, CONSTRUCT 1" DEEP x 3/4" WIDE SEALING GROOVE. PLACE BOND BREAK TAPE ON BOTTOM (HORIZONTAL) AND BACK (VERTICAL) FACES OF GROOVE. FILL GROOVE WITH 3/4" DEEP SYNTHETIC RUBBER SEALING COMPOUND TO BOTTOM RADIUSED CORNERS.

**M214**

**PLAIN WEIR**

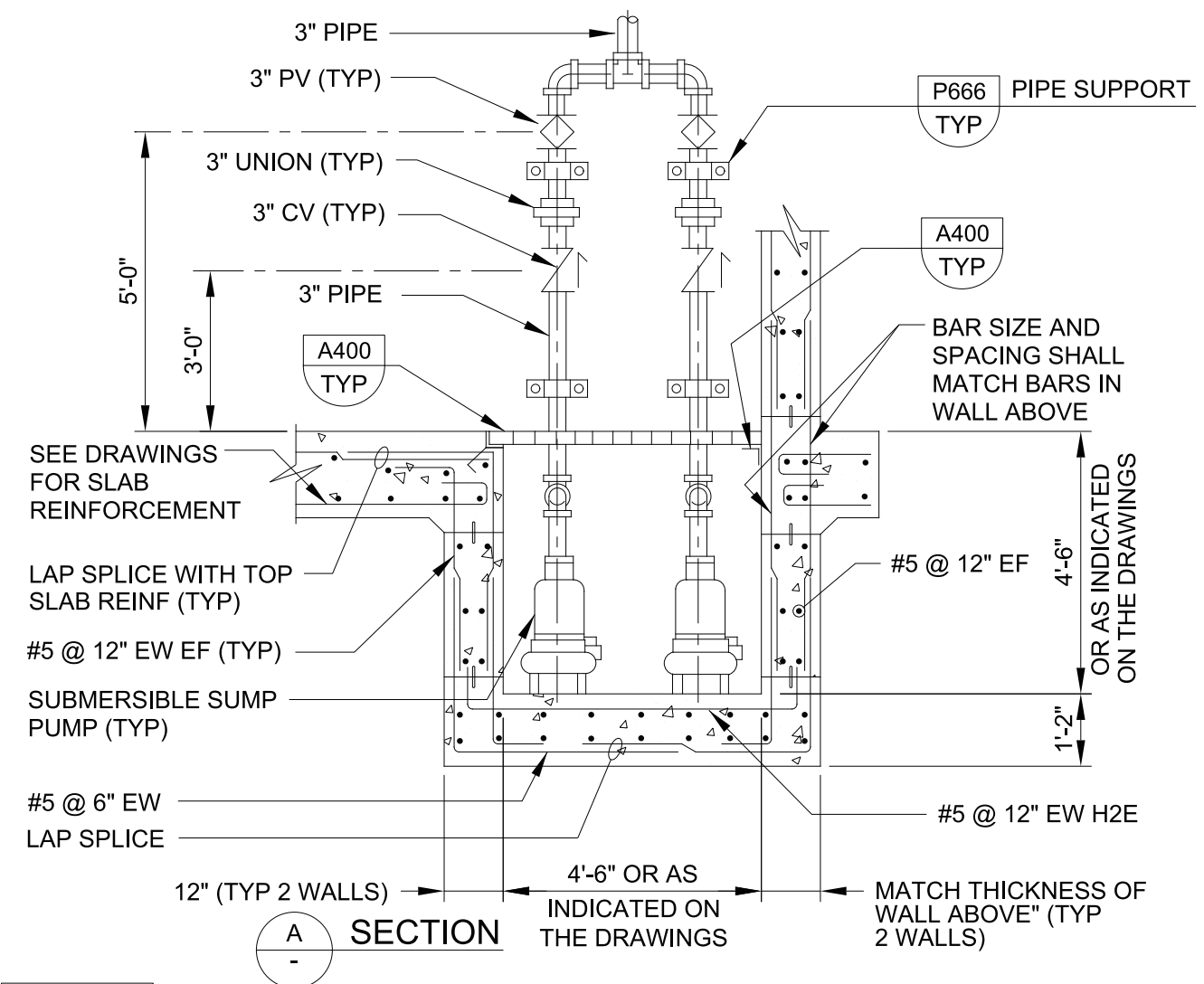
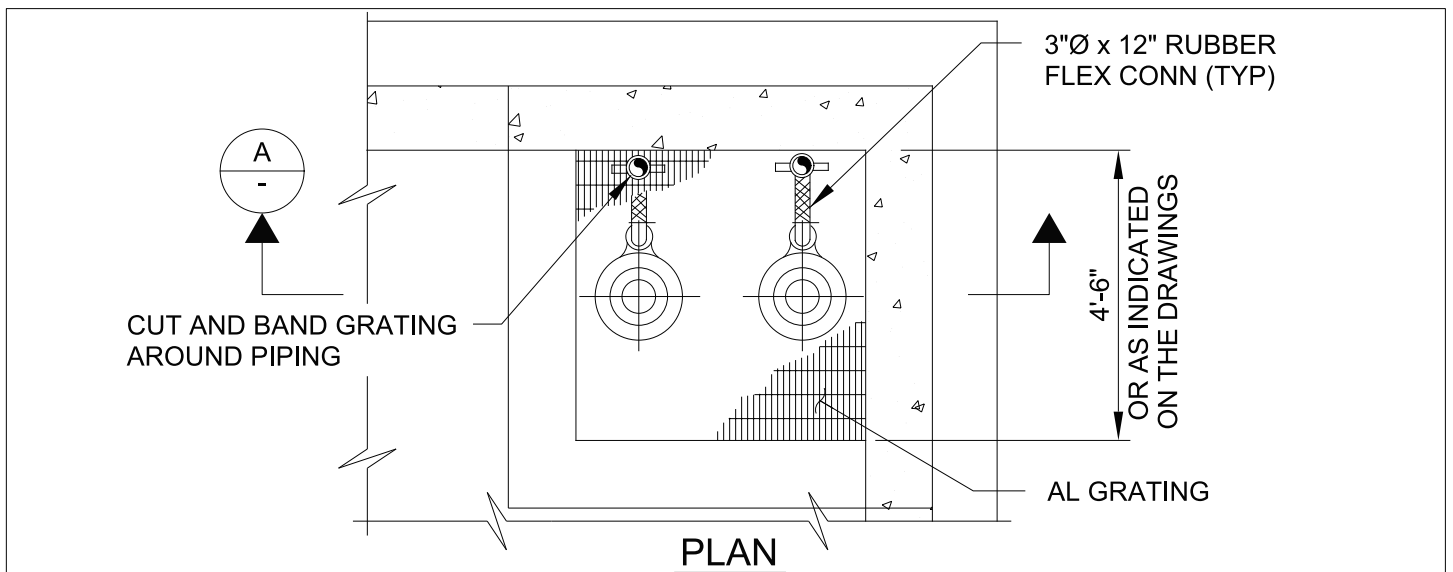
TYP

NS

08/05/13

**carollo**



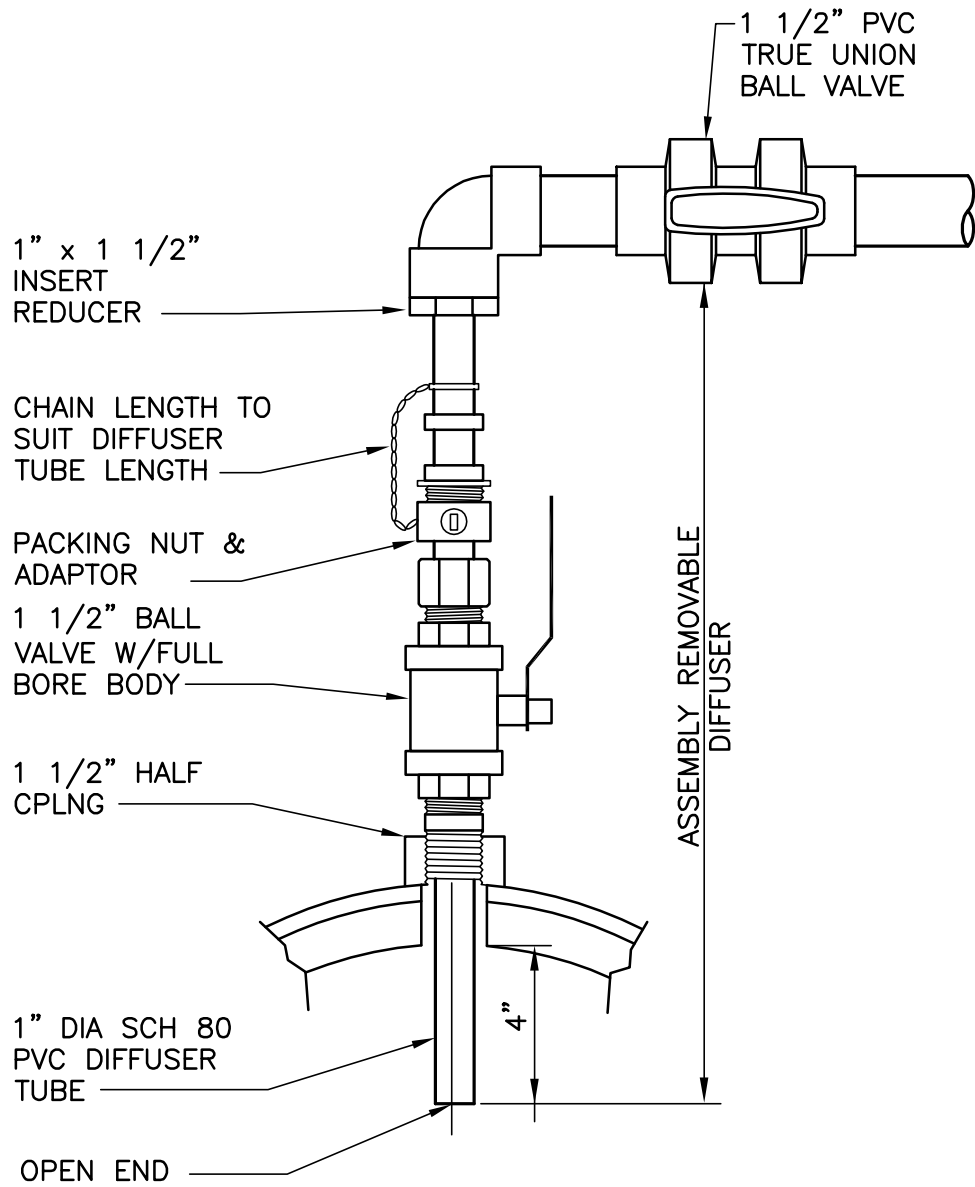


**M242**  
TYP

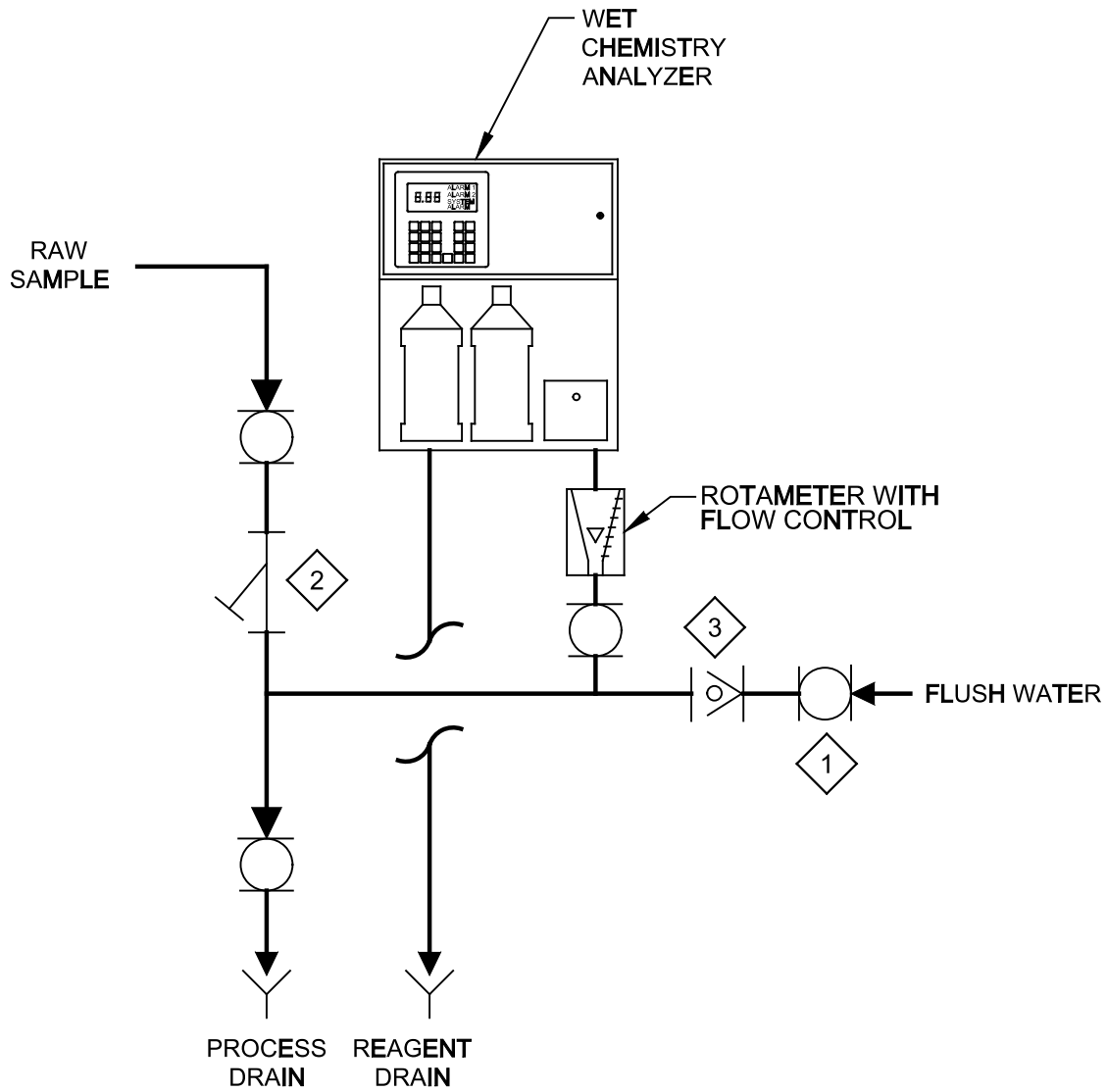
**DUPLEX SUBMERSIBLE SUMP PUMP**

04/30/07





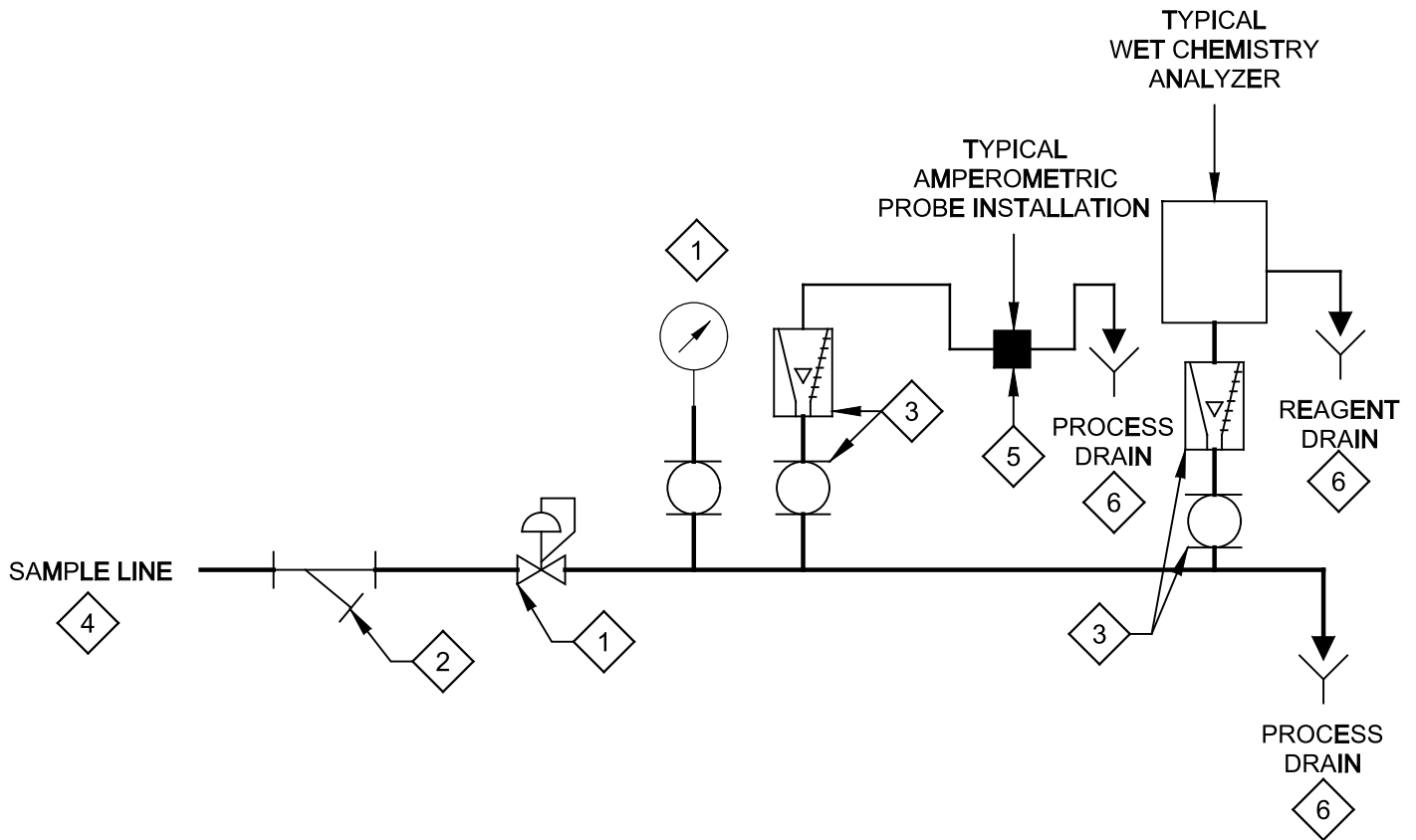
**M693** CHEMICAL DIFFUSER  
 TYP N M693-N-P 12-18-08



**KEY NOTES:**

- 1 FLUSH WATER LINE REQUIRED ON RAW WATER SYSTEMS. PROVIDE ISOLATION BALL VALVE.
- 2 STRAINERS REQUIRED ON ALL RAW WATER INSTALLATIONS.
- 3 CHECK VALVE.

**NA042** WET CHEMISTRY ANALYZER  
**TYP** INSTALLATION DETAIL  
 S



**KEY NOTES:**

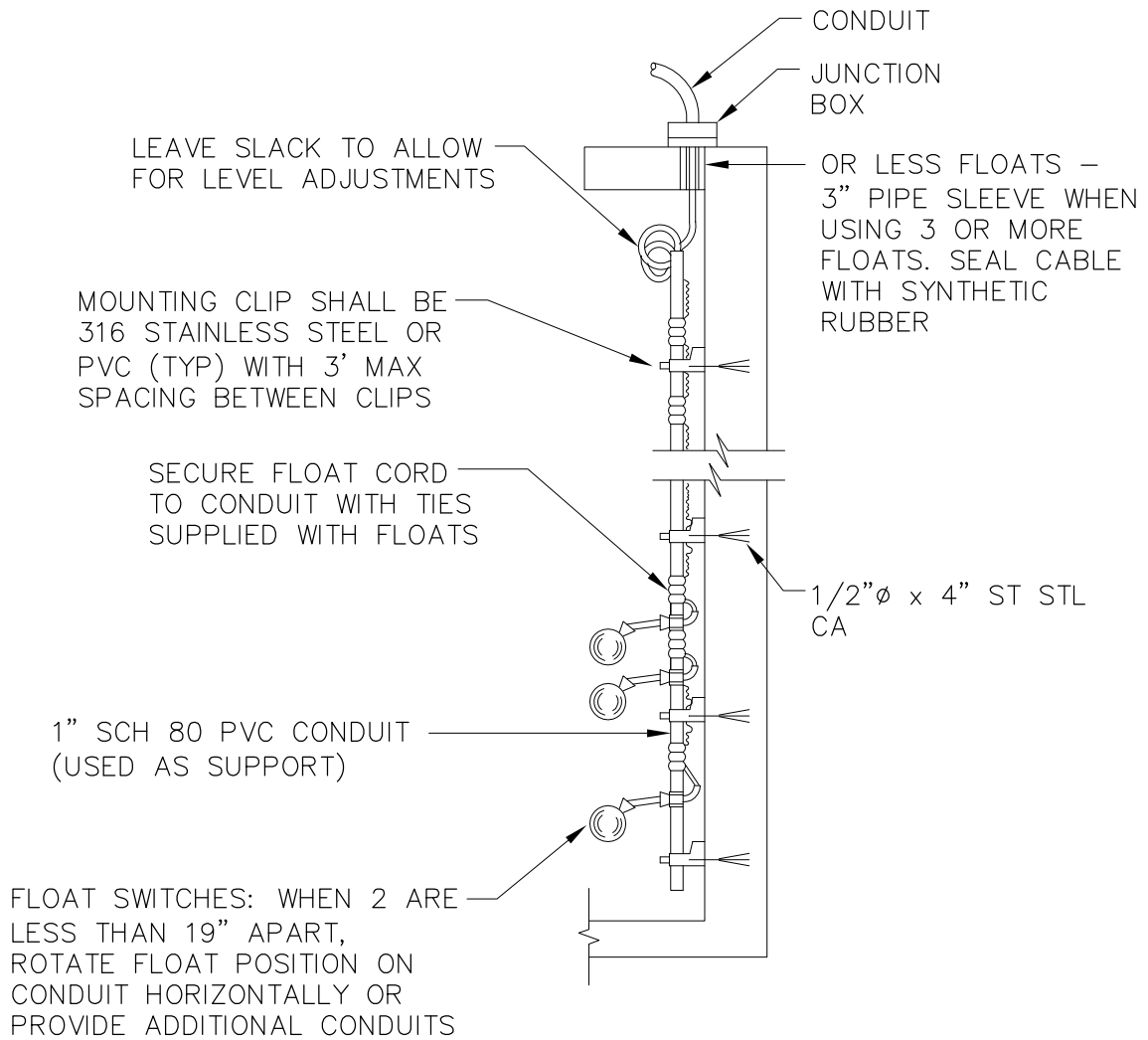
- 1 PRESSURE CONTROL VALVE AND GAUGE ARE REQUIRED AT PRESSURE EXCEEDING 40 PSI.
- 2 PROVIDE STRAINER ON ALL RAW WATER SAMPLE PANELS.
- 3 PROVIDE ISOLATION VALVE AND ROTAMETER WITH FLOW CONTROL FOR EACH INSTRUMENT.
- 4 MINIMIZE SAMPLE LINE LENGTH TO KEEP SAMPLE FLOW LAG TO A MINIMUM.
- 5 INSTALL PROBES AND TEES IN SUCH A MANNER THAT IT WILL REMAIN SUBMERGED UNDER ALL CONDITIONS.
- 6 PROVIDE AIR GAPS FOR ALL DRAINS.

NA090

**SAMPLE PANEL PLUMBING DETAIL**

TYP

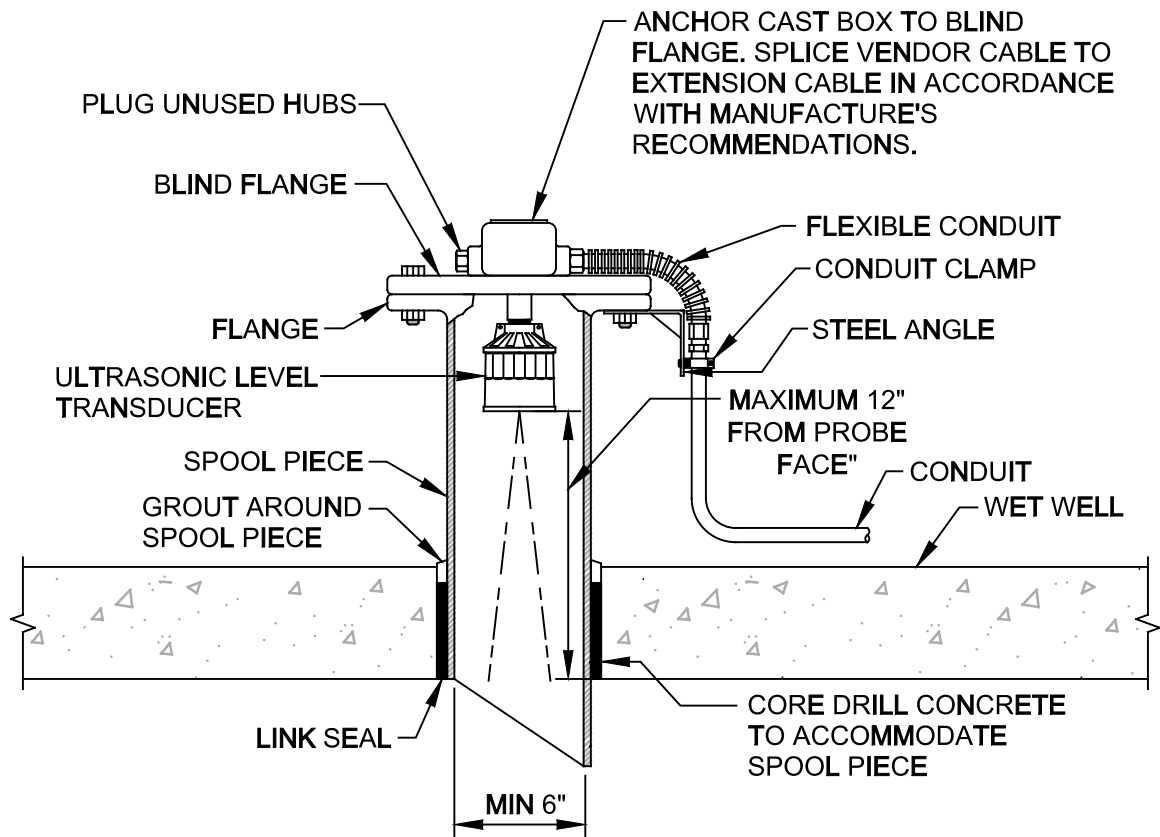
S



NOTES:

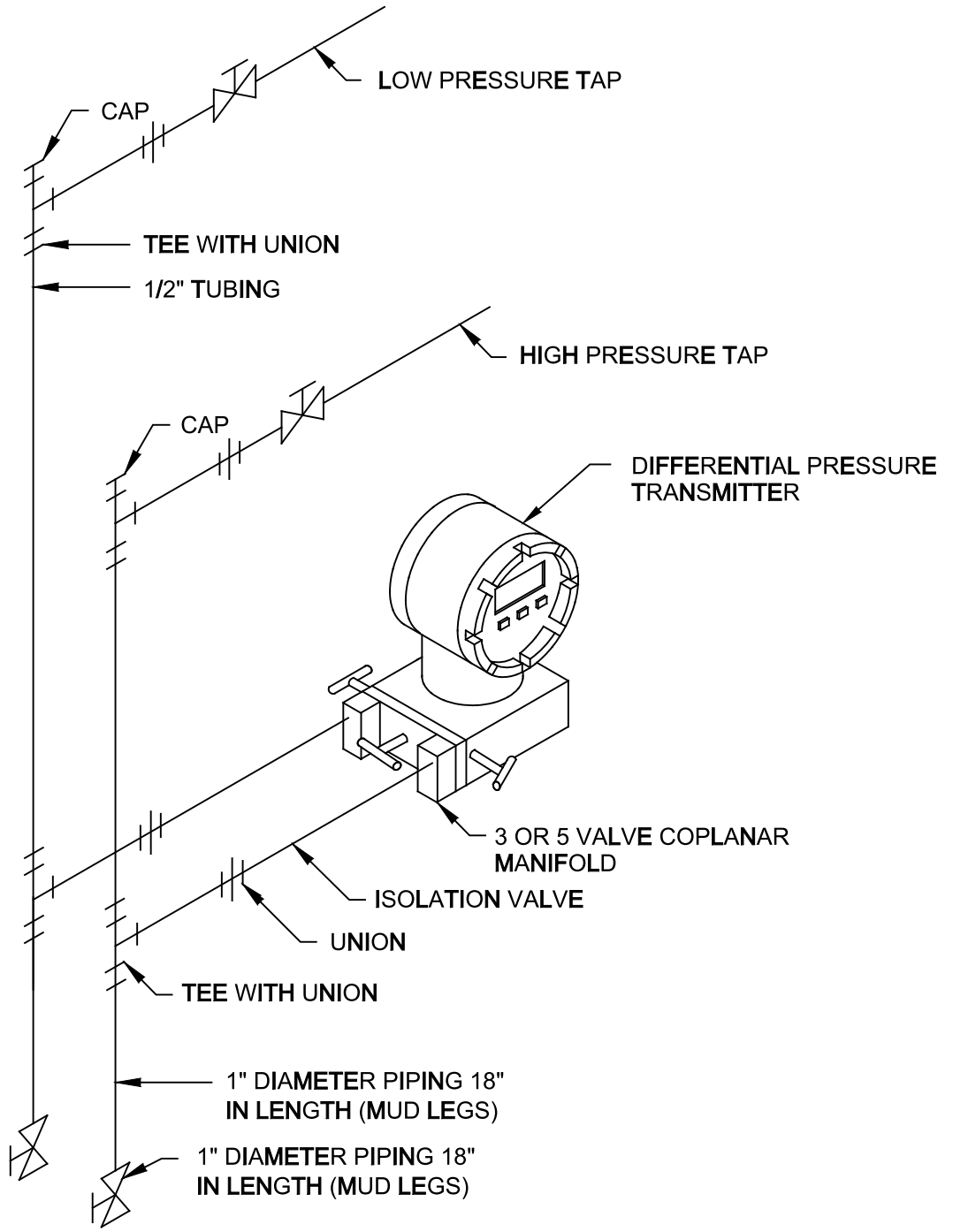
1. ATTACH CABLE TO JUNCTION BOX WITH NYLON FITTING, STAINLESS STEEL CORD GRIP: HUBBELL SERIES 74 OR EQUAL.

NL109	FLOAT SWITCH MOUNTING
TYP	N.T.S.



NL194  
TYP  
S

ULTRASONIC LEVEL TRANSDUCER  
MOUNTING DETAIL

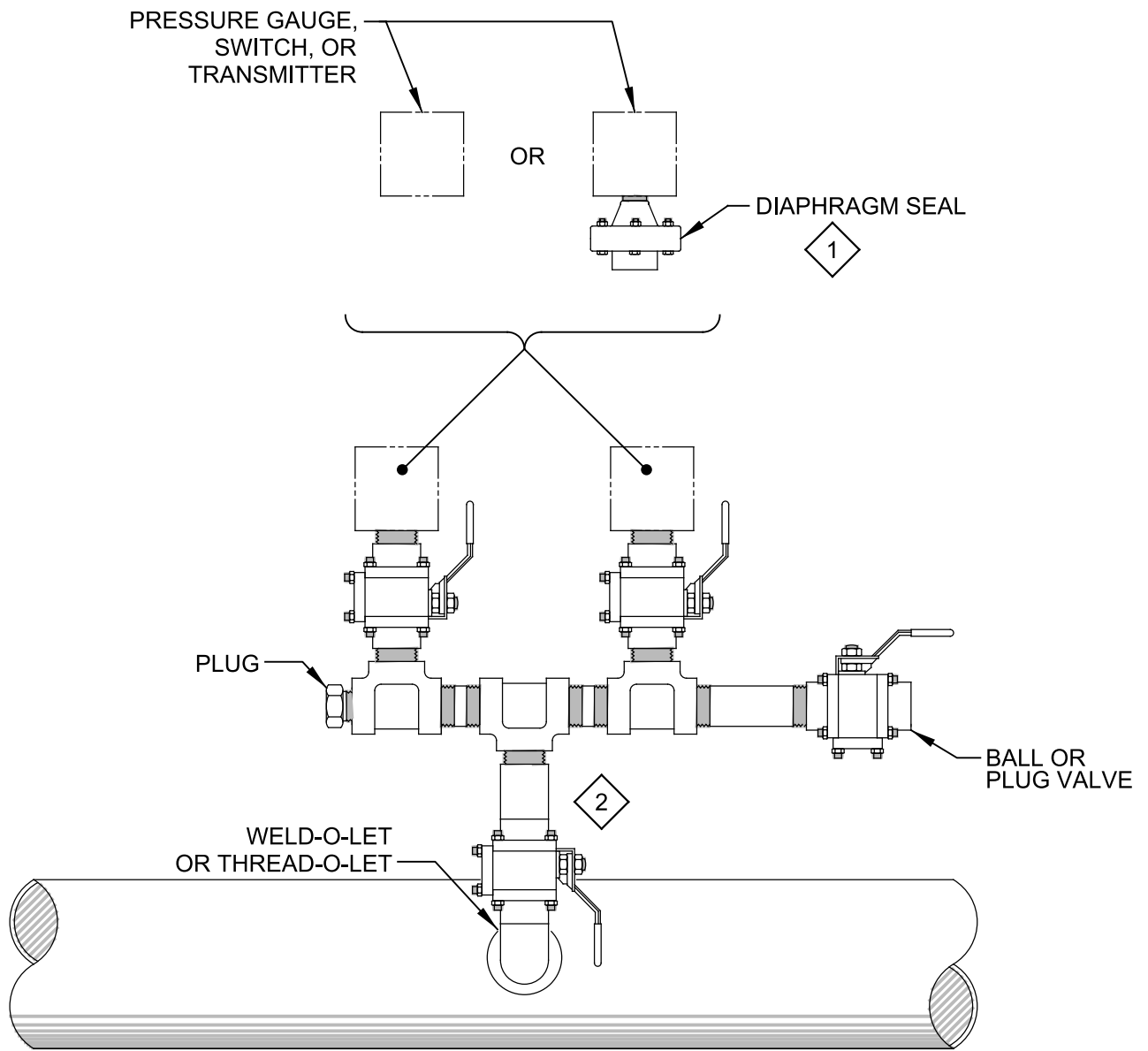


SLOPE ALL HORIZONTAL RUNS AT LEAST 1" PER 1'- 0"

NP187  
TYP  
S

**DIFFERENTIAL PRESSURE TRANSMITTER  
5-VALVE WITH DIAPHRAGM SEAL**





NOTES:

- 1 USE THE INSTRUMENT DATA SHEETS IN DIVISION 17 OR DIVISIONS 40 SPECS TO IDENTIFY INDIVIDUAL REQUIREMENTS FOR DIAPHRAGM SEALS.
- 2 ALL VALVE AND PIPE MATERIAL SHALL BE COMPATIBLE WITH PROCESS FLUID.

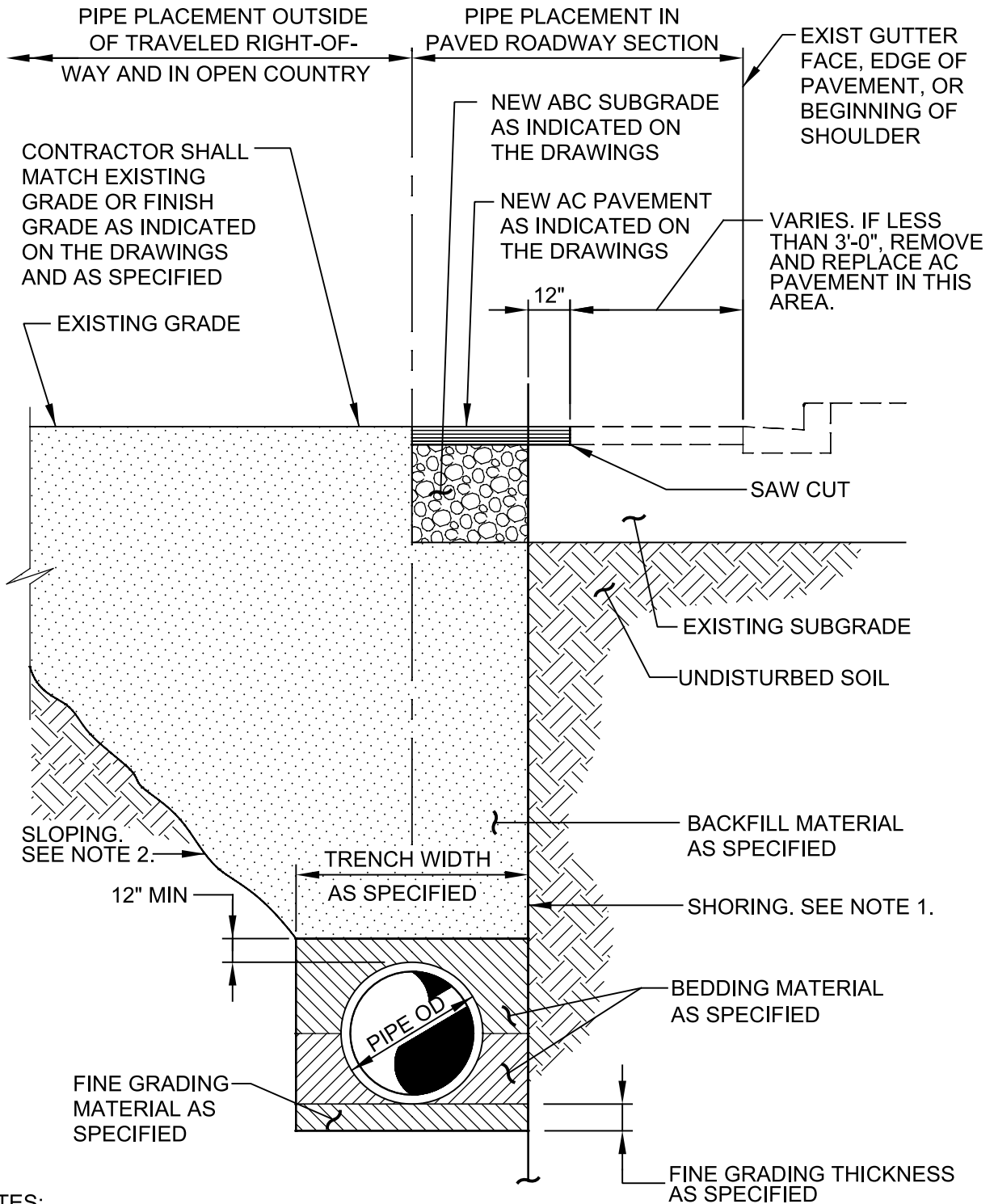
NP501

TYP

S

MULTIPLE PRESSURE INSTRUMENTS  
MOUNTING DETAIL





**NOTES:**

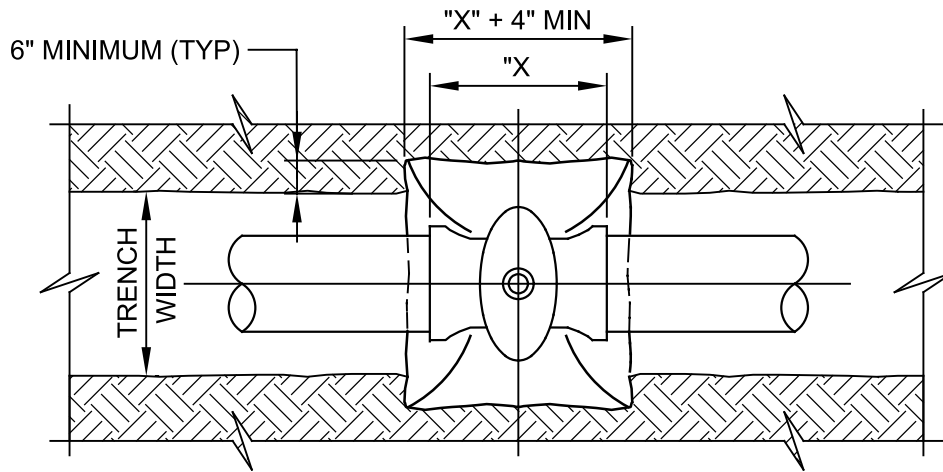
1. SEE SPECIFICATIONS FOR SHORING REQUIREMENTS.
2. SEE SPECIFICATIONS FOR SLOPING REQUIREMENTS.

P002  
TYP  
N

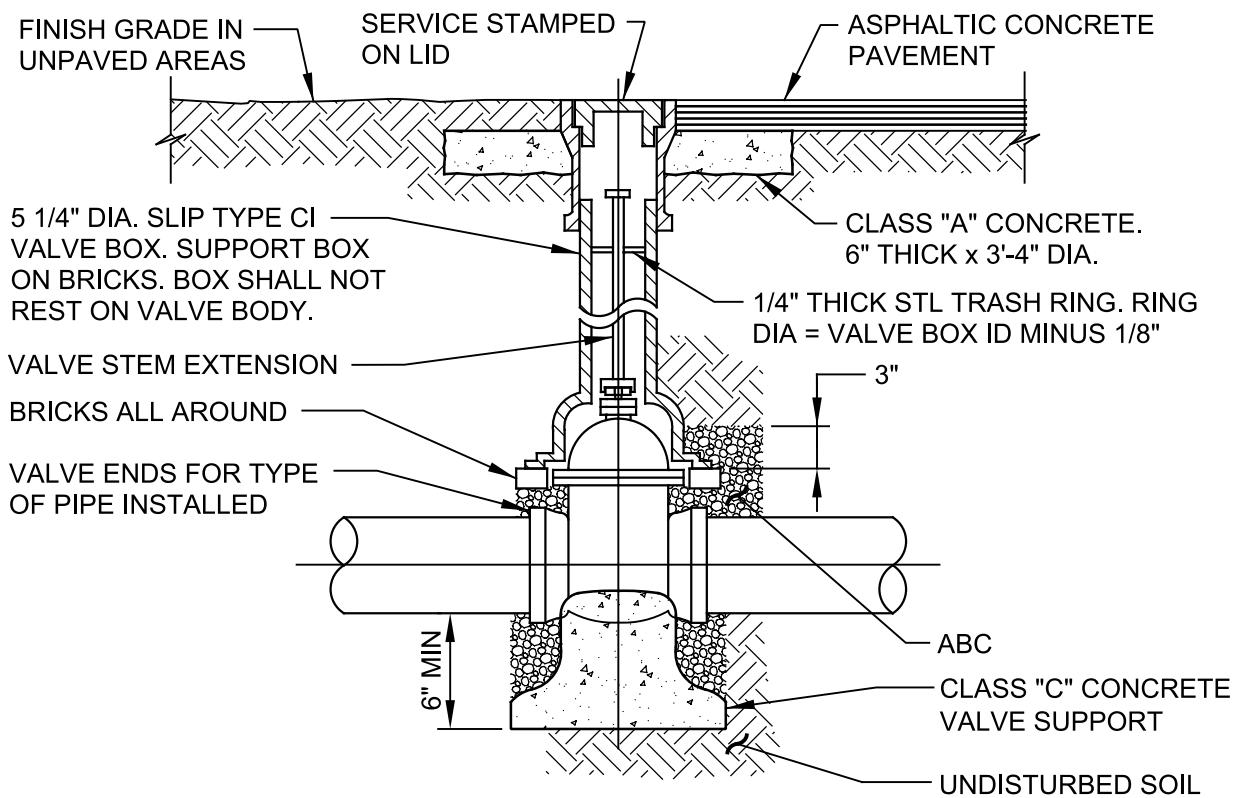
**PIPE INSTALLATION AND PAVEMENT REPLACEMENT**

09/06/13





**PLAN**



**SECTION**

**NOTES:**

1. ALL BURIED VALVES SHALL BE PROVIDED WITH EXTENSION STEM OPERATION WITH 2" SQUARE AWWA NUT WITHIN 36" OF VALVE BOX COVER. NUT IS TO INDICATE DIRECTION OF ROTATION TO OPEN VALVE.
2. COAT BURIED PIPE AND VALVE BOX AS SPECIFIED.
3. CLEAN VALVE BOX OF ALL DEBRIS AND SOIL.
4. VALVE TYPE AS INDICATED ON THE DRAWINGS.

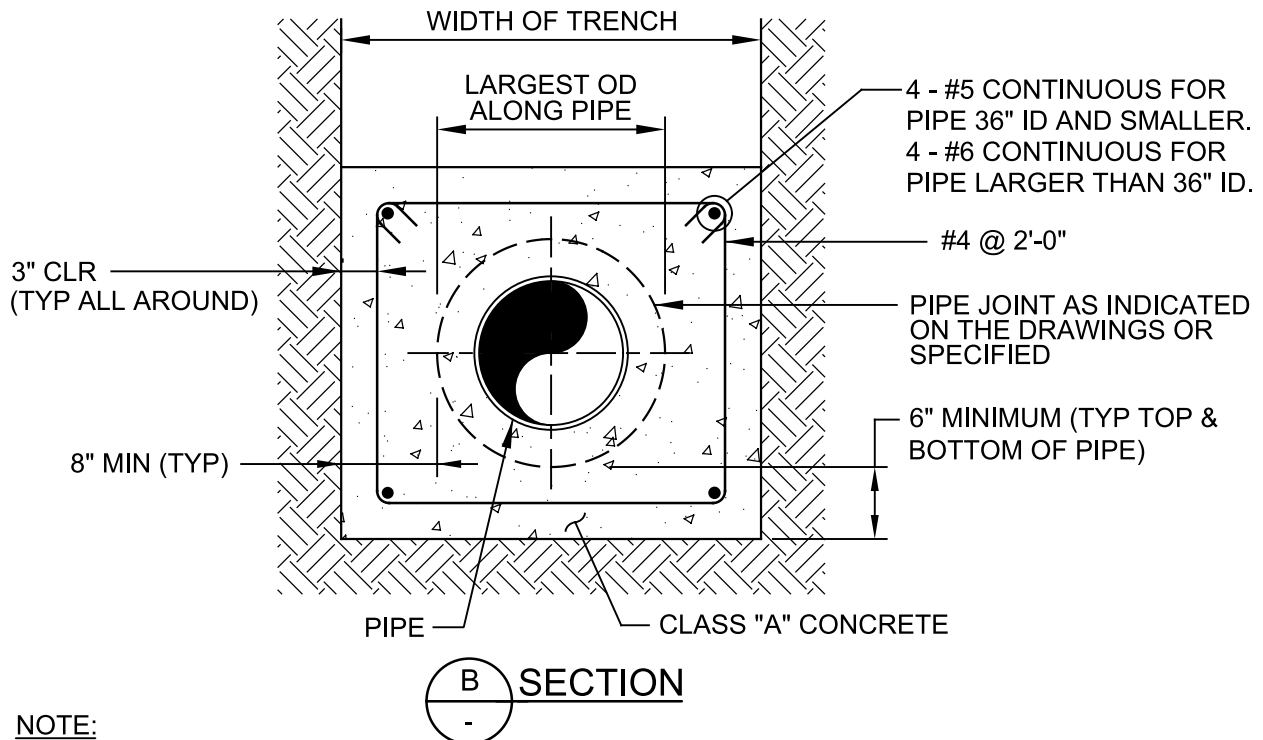
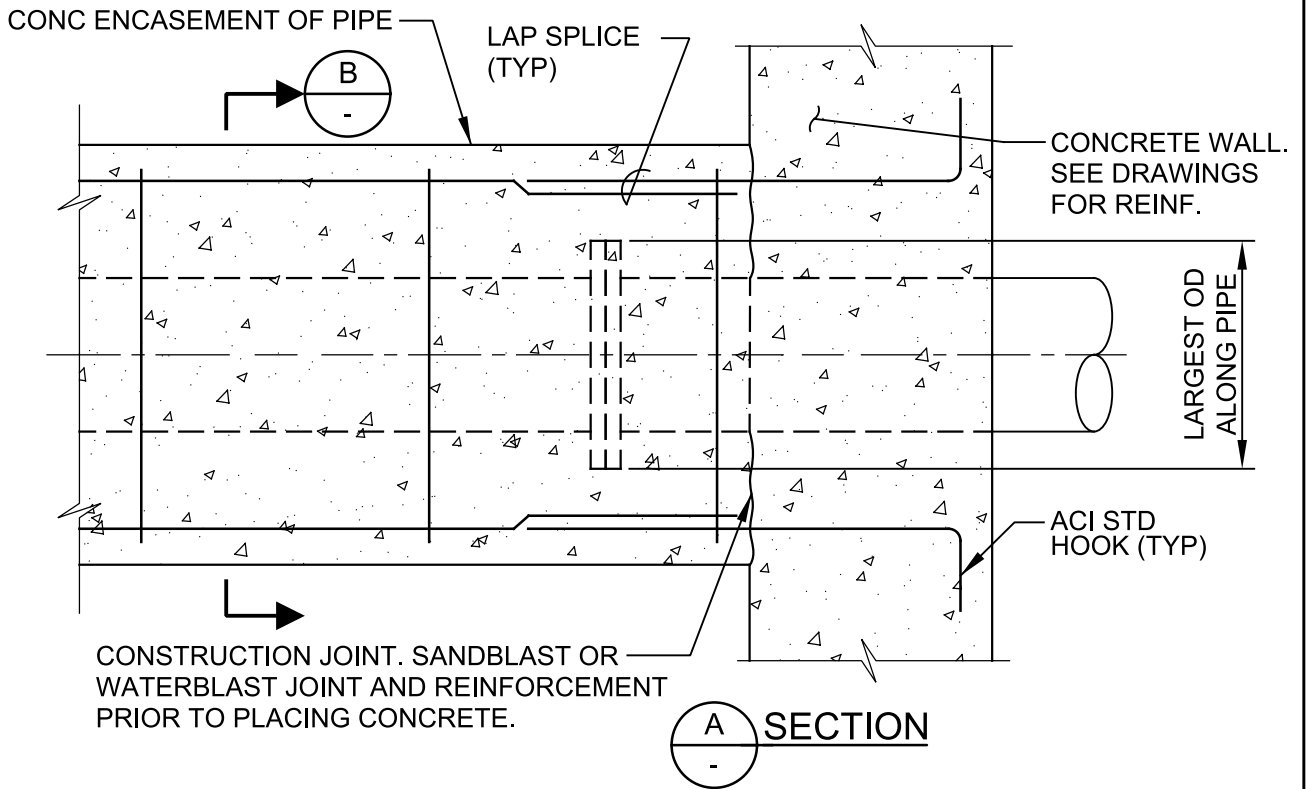
P022

**VALVE BOX INSTALLATION**

TYP

08/01/05





**NOTE:**

1. TYPE OF PIPE AND TYPE OF PIPE JOINT OR COUPLER AS INDICATED ON THE DRAWINGS.

**P040**

**CONCRETE ENCASEMENT OF PIPE**

TYP

NS

CONSTRUCTION JOINT. SANDBLAST OR WATERBLAST JOINT AND REINFORCEMENT PRIOR TO PLACING CONCRETE.

ACI STD HOOK (TYP)

CONCRETE SLAB

3" COVER (TYP ALL AROUND)

LAP SPLICE

TIES (TYP)

PIPE

3" COVER (TYP ALL AROUND)

C SECTION

P040

# CONCRETE ENCASEMENT OF PIPE

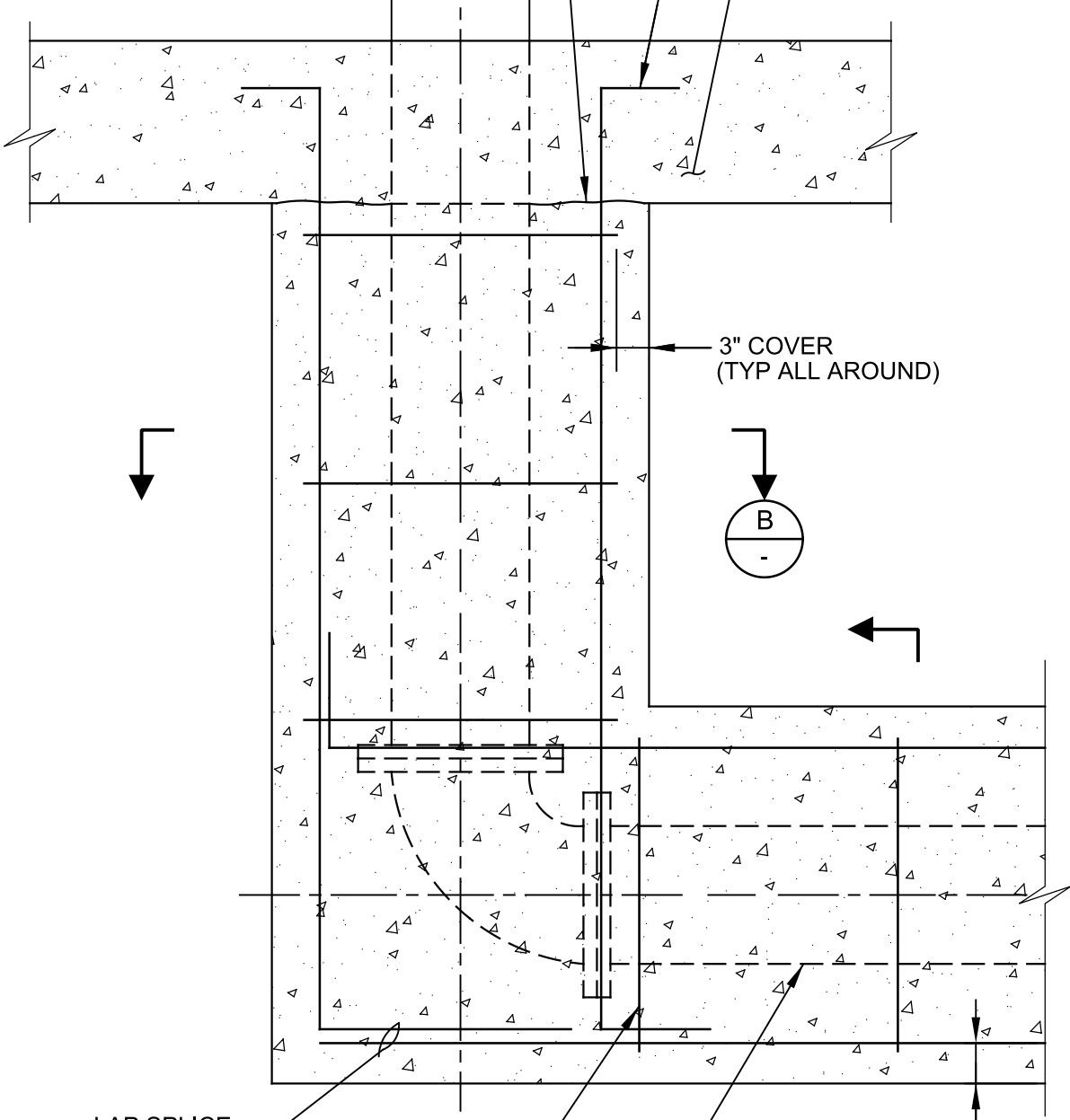
TYP

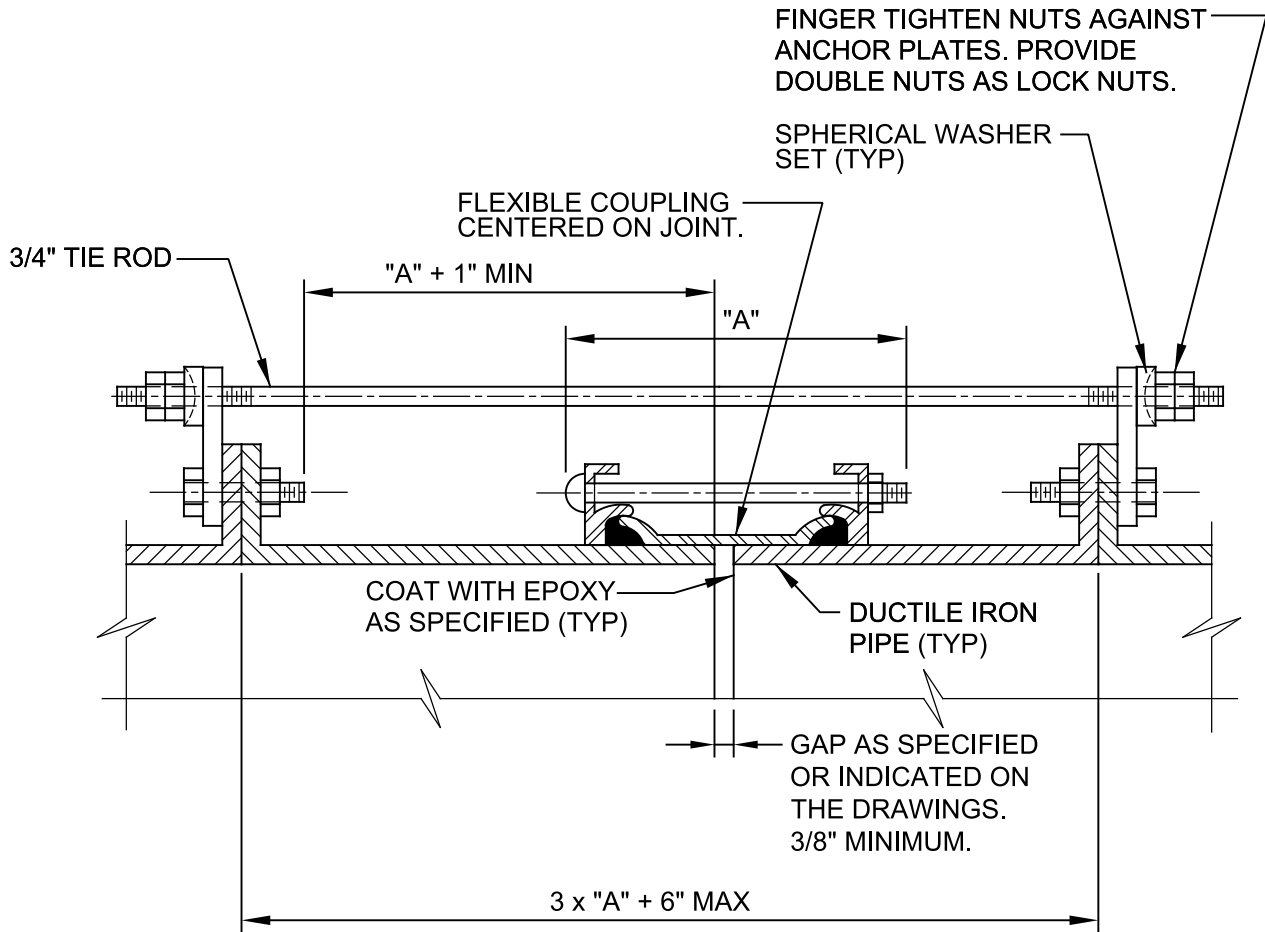
NS

SHEET 2 OF 2

03/24/15

**carollo**

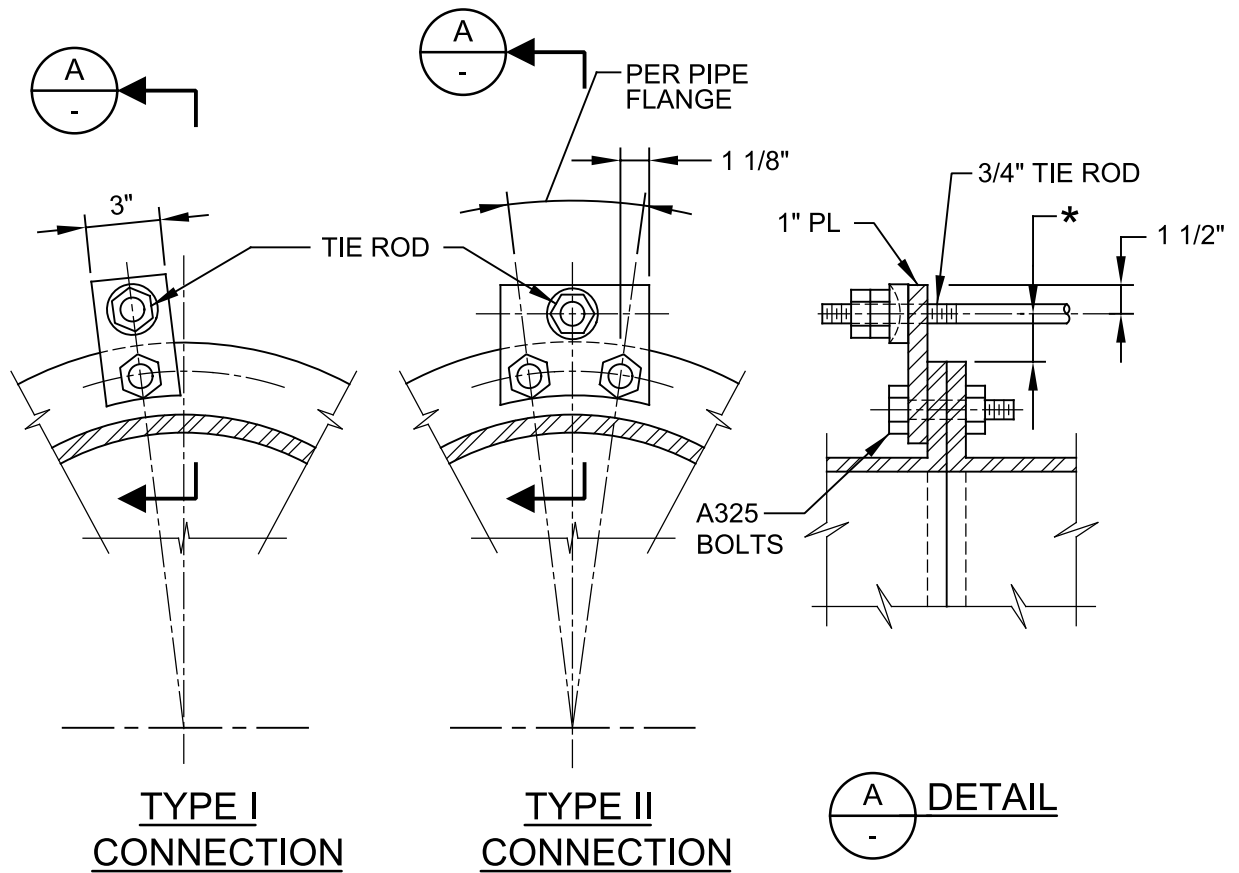




ROD SCHEDULE		
PIPE THRUST. SEE NOTE 2.	TYPE OF CONNECTION	NO. OF RODS
0-6,000#	I	2
6,001 - 12,000#	II	2
12,001 - 18,000#	II	3
18,001 - 24,000#	II	4
24,001 - 30,000#	II	5

P110  
TYP  
N

DIP FLEXIBLE COUPLING TIE DOWN



NOTES:

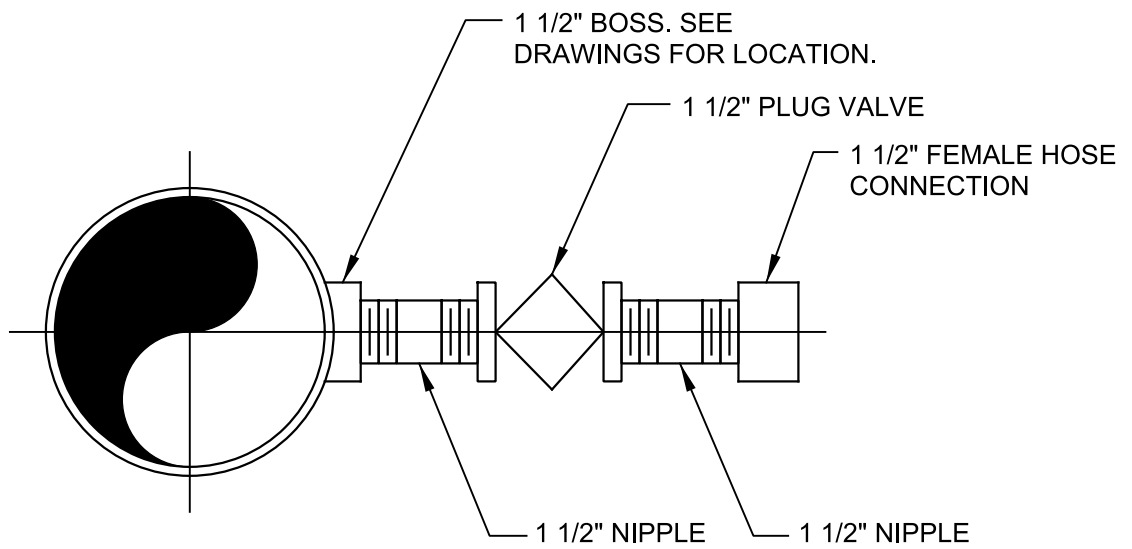
1. ALL EXPOSED FLEXIBLE COUPLINGS SHALL HAVE TIE RODS UNLESS SPECIFICALLY INDICATED OTHERWISE ON THE DRAWINGS.
2. PIPE THRUST SHALL BE BASED ON TEST PRESSURE.
3. PIPE THRUST =  $0.7854 \times D^2 \times \text{TEST PRESSURE}$ , WHERE "D" IS PIPE OD.
4. MINIMUM TIE ROD YIELD = 48,000 PSI.
5. FOR THRUSTS GREATER THAN 30,000 POUNDS, ADD ONE 3/4 INCH DIAMETER TIE ROD FOR EVERY 6,000 POUNDS INCREASE IN THRUST.
6. ALL ROD CONNECTIONS SHALL BE TYPE II FOR THRUSTS GREATER THAN 30,000 POUNDS.
7. GRIND ALL CORNERS SMOOTH.
8. \* = AS REQUIRED TO CLEAR FLEXIBLE COUPLING. 3/4" MINIMUM AND 1 1/2" MAXIMUM.

P110

DIP FLEXIBLE COUPLING TIE DOWN

TYP

N



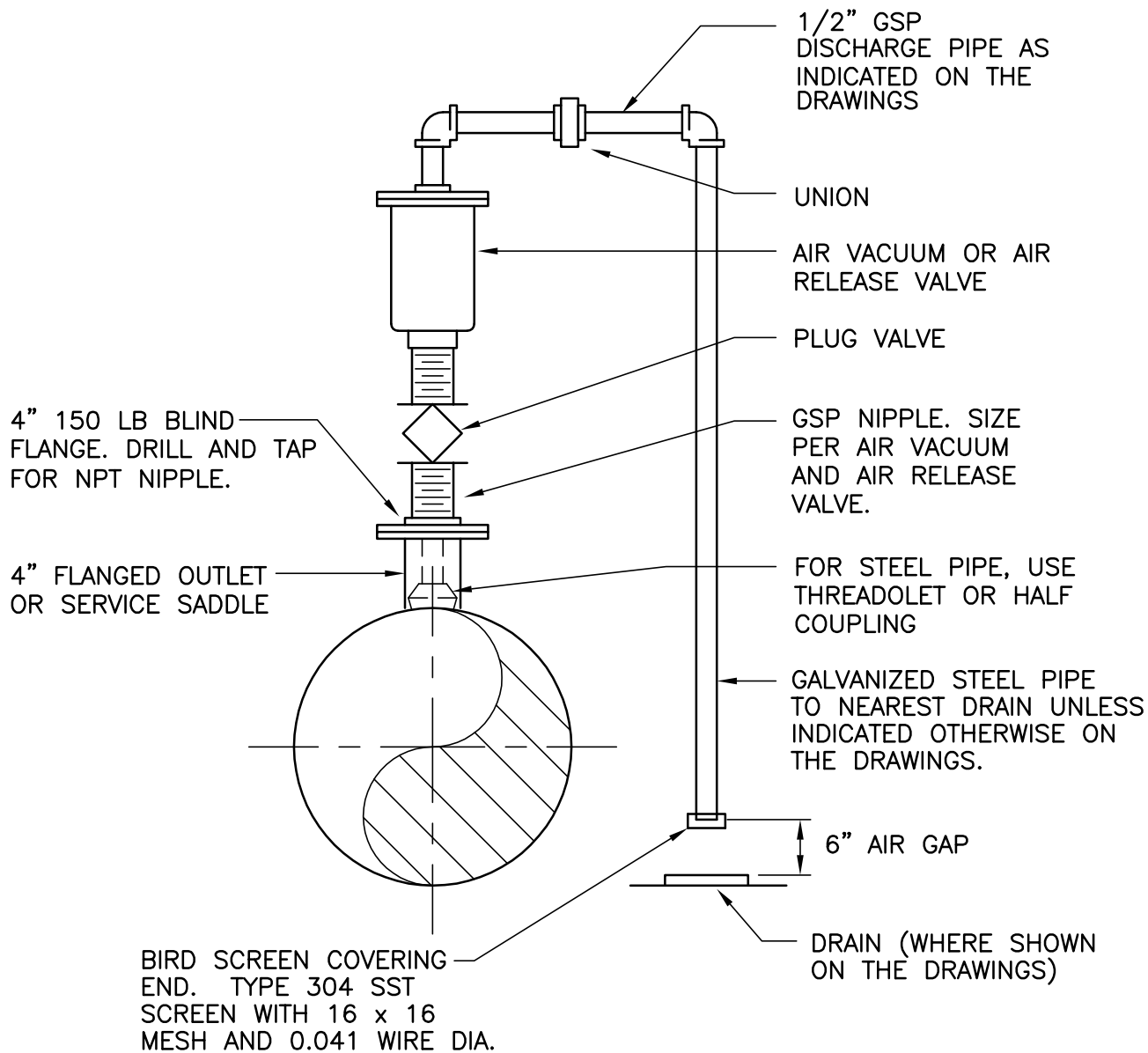
P202

FLUSHING CONNECTION

TYP

03/01/10

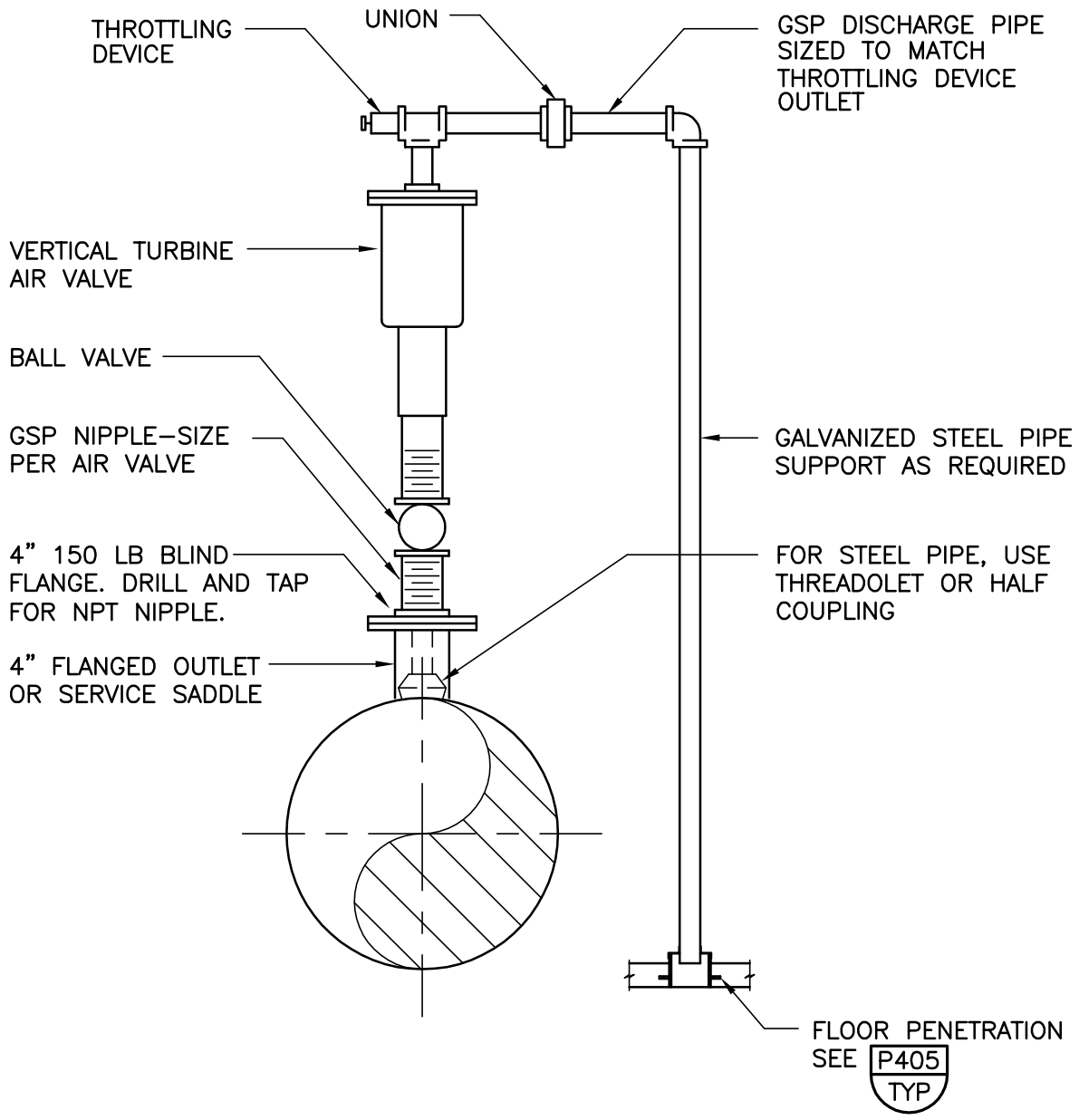
 **carollo**



NOTES:

1. VALVE SIZE SHALL BE AS INDICATED ON THE DRAWINGS.
2. SERVICE TAP AND PLUG VALVE SHALL MATCH VALVE INLET SIZE.





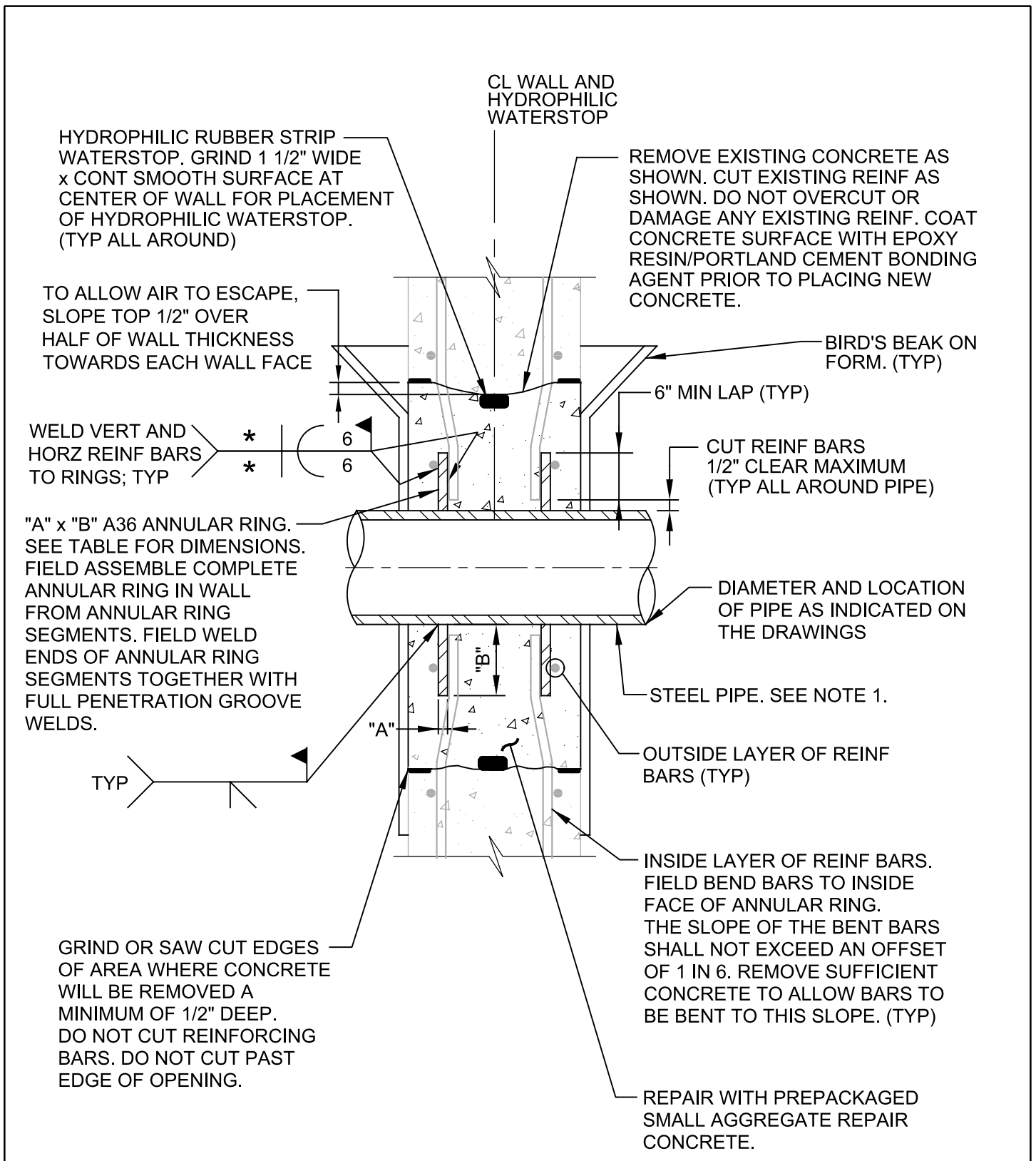
NOTES:

1. VALVE SIZE SHALL BE AS INDICATED ON THE DRAWINGS.
2. SERVICE TAP AND ISOLATION VALVE SHALL MATCH VALVE INLET SIZE.

**P204**  
TYP

**VERTICAL TURBINE AIR VALVE FOR 3" AND SMALLER VALVE ASSEMBLY**

P204-R2P 01-19-05



P301  
TYP

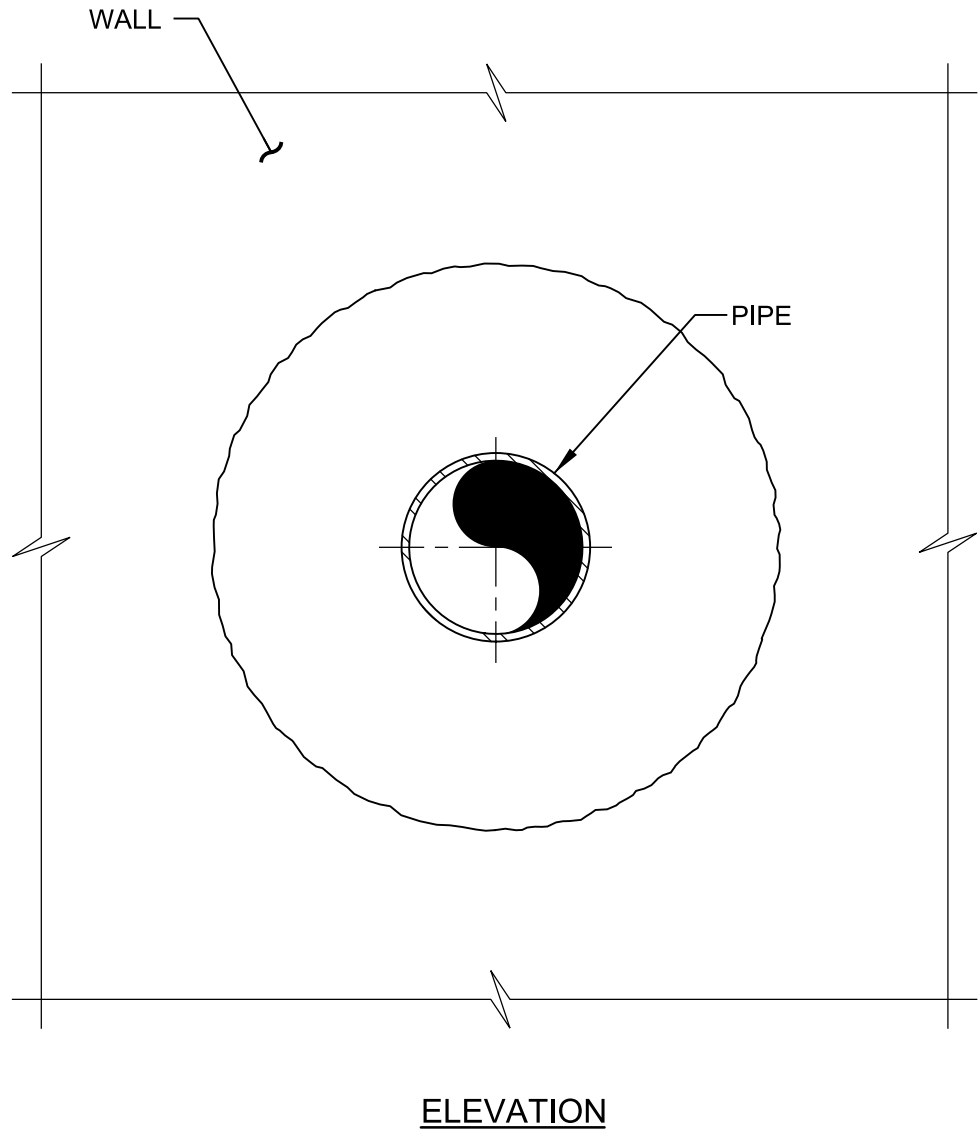
PIPE PENETRATION THROUGH EXISTING TANK WALL

NS

SHEET 1 OF 3

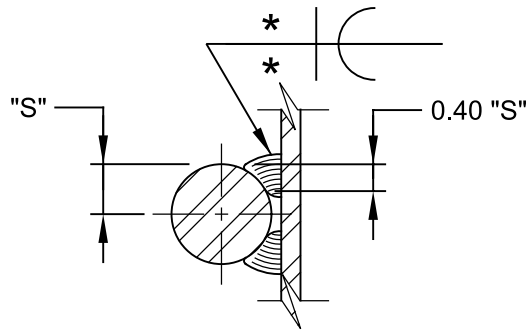
09/04/13





P301  
TYP  
N

PIPE PENETRATION THROUGH EXISTING TANK WALL



**WELDED SPLICE BAR**

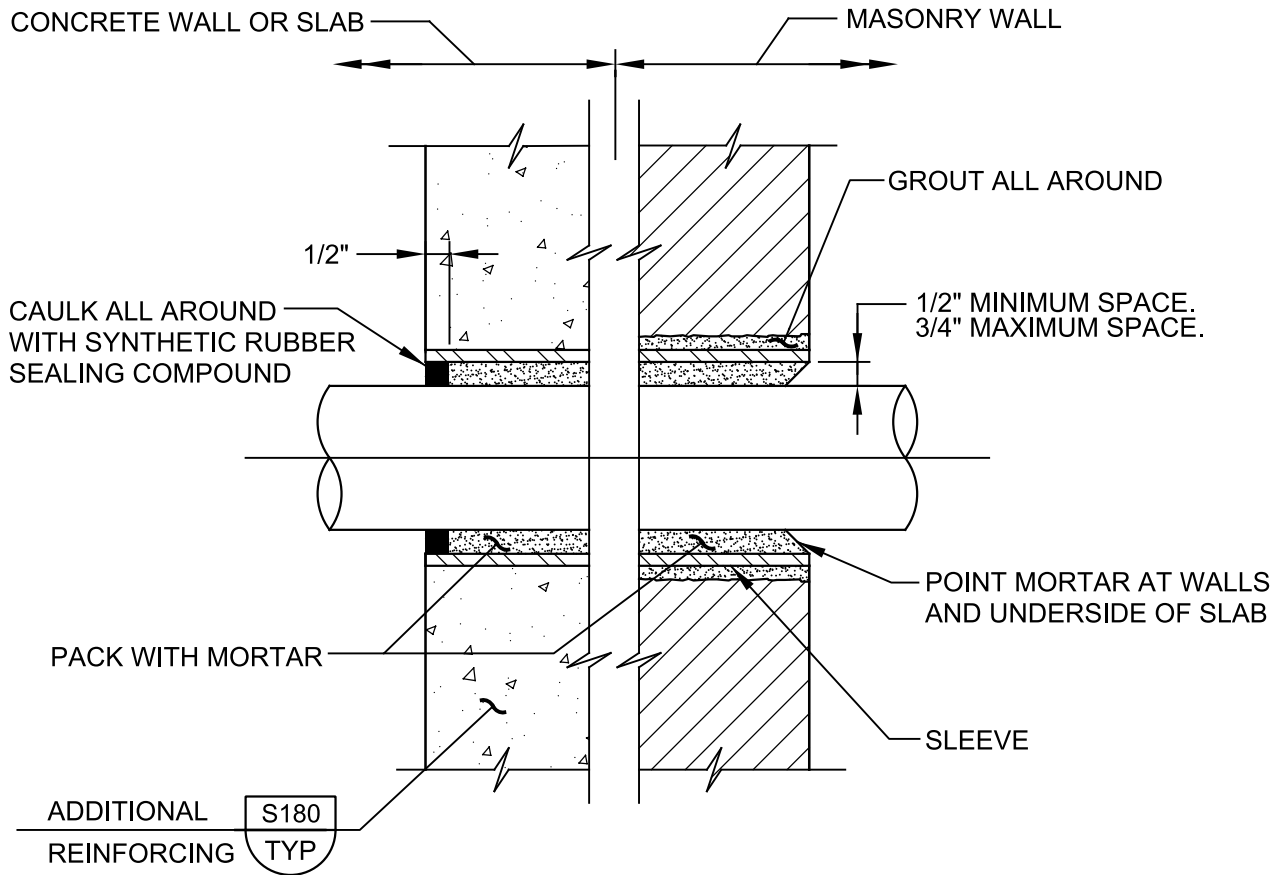
LOCATION OF PIPE PENETRATION	THICKNESS OF ANNULAR RING "A"	WIDTH OF ANNULAR RING "B"

**NOTES:**

1. FIELD APPLY LINING AFTER WELDING IS COMPLETE.
2. CUT WALL REINFORCING THAT INTERFERES WITH PIPE. DO NOT CUT OR DAMAGE ANY OTHER BARS.
3. \* = 0.40 "S" REINFORCING BAR RADIUS.
4. E 70 ELECTRODE FOR GRADE 40 REINF BARS; E 90 ELECTRODE FOR GRADE 60 REINF BARS.
5. SEE AWS D1.4 FOR WELDING PROCESS, PREHEAT REQUIREMENTS, AND OTHER DETAILS. SUBMIT WELDING PROCEDURE PER AWS.
6. USE FORMING WITH "BIRDS PEAK" ON BOTH WALL FACES FOR ACCESS FOR VIBRATOR AND TO ALLOW CONCRETE TO BE PLACED UNDER SLIGHT PRESSURE. AFTER FORMS ARE REMOVED, REMOVE PROJECTING CONCRETE AND FINISH TO MATCH FINISH OF EXISTING WALL.
7. WATER CURE REPAIRED CONCRETE FOR MINIMUM OF 7 DAYS. KEEP REPAIRED AREA CONTINUOUSLY WET.

**P301**  
TYP

**PIPE PENETRATION THROUGH EXISTING TANK WALL**



**NOTES:**

1. 6"Ø DIAMETER SLEEVES AND SMALLER SHALL BE SCHEDULE 40 STEEL PIPE OR SCHEDULE 80 PVC PIPE.
2. SLEEVES LARGER THAN 6"Ø SHALL BE 1/4" THICK STEEL PIPE.
3. STEEL SLEEVE SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.
4. SLEEVES FOR ELECTRICAL CONDUIT SHALL BE SCHEDULE 80 PVC.

**P302**

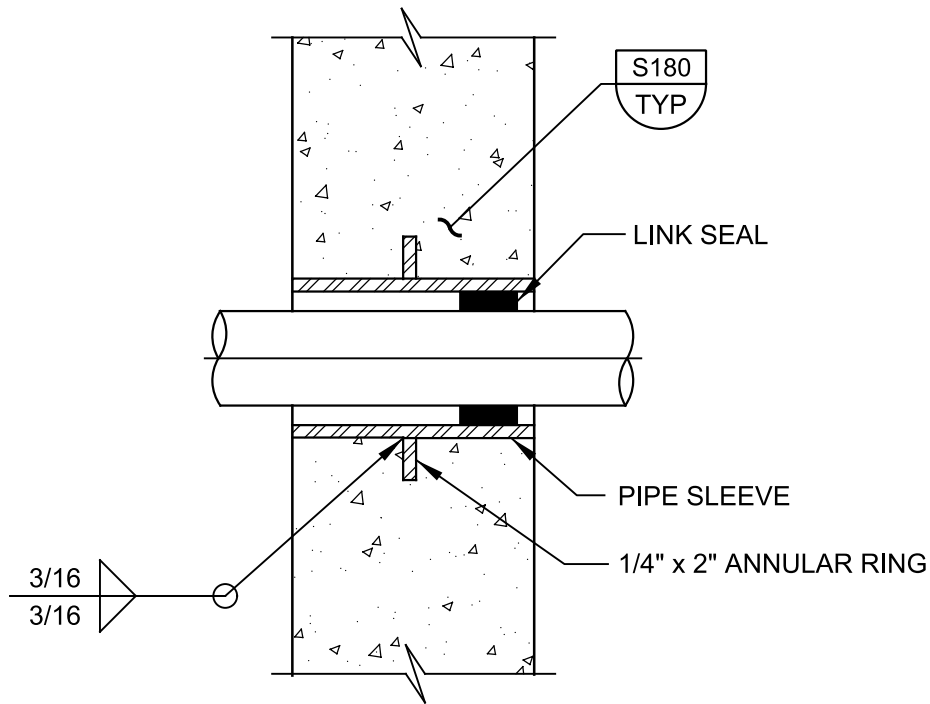
TYP

NS

**SLEEVE INSTALLATION THROUGH DRY WALLS AND FLOOR SLABS**

08/01/05





NOTES:

1. 6"Ø SLEEVES AND SMALLER SHALL BE SCH 40 STEEL PIPE.
2. SLEEVES LARGER THAN 6"Ø SHALL BE 1/4" THICK STEEL PIPE.
3. IN WALLS THICKER THAN 12", LINK SEAL SHALL BE INSTALLED AT BOTH ENDS OF WALL SLEEVE. SLEEVE DIAMETER SHALL BE PER LINK SEAL MANUFACTURER'S RECOMMENDATION.
4. SLEEVE SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.

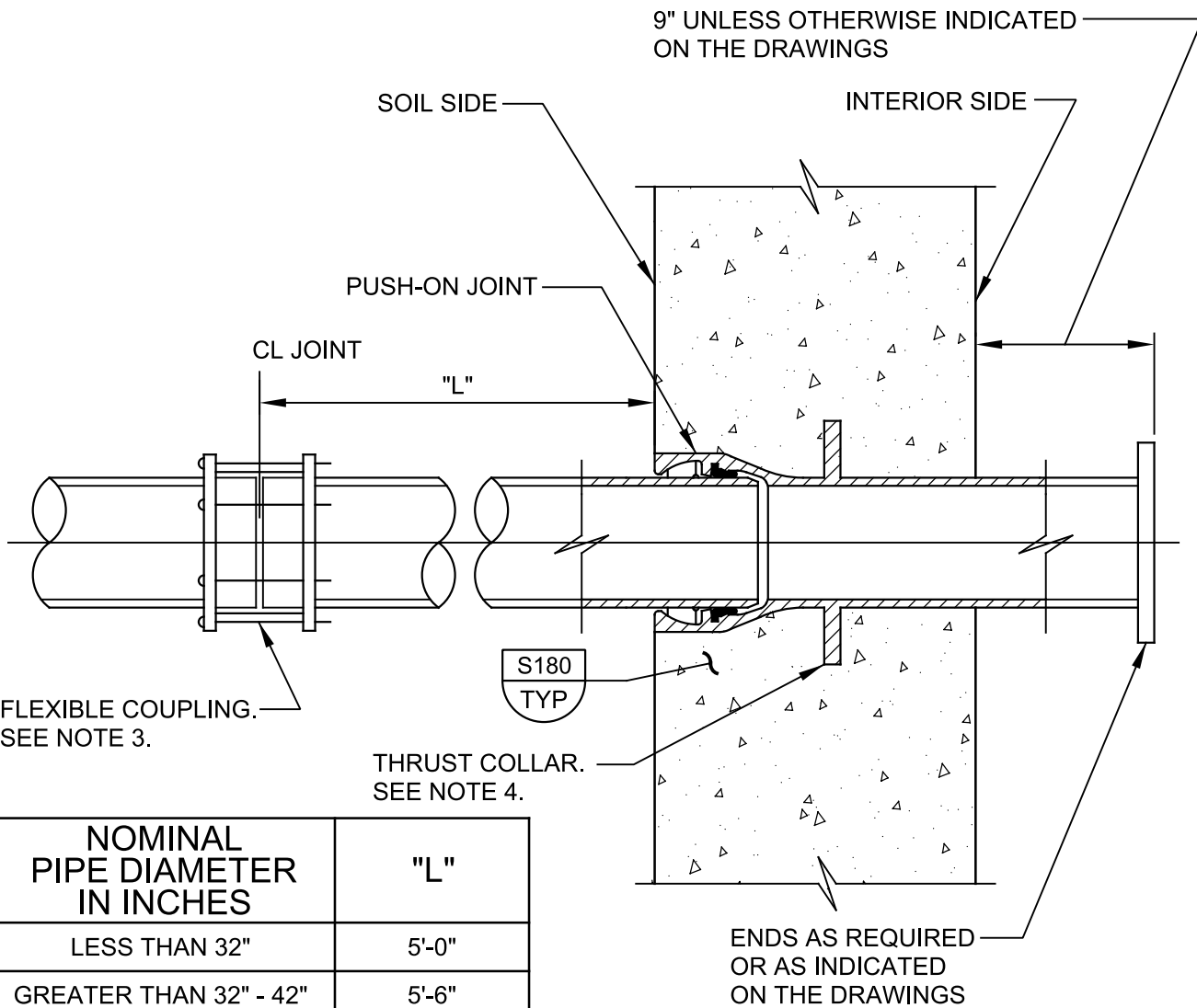
P304

TYP

NS

SLEEVE INSTALLATION THROUGH WALLS AND FLOOR SLABS

08/01/05



FLEXIBLE COUPLING.  
SEE NOTE 3.

THRUST COLLAR.  
SEE NOTE 4.

NOMINAL PIPE DIAMETER IN INCHES	"L"
LESS THAN 32"	5'-0"
GREATER THAN 32" - 42"	5'-6"
GREATER THAN 42" - 54"	6'-6"
GREATER THAN 54" - 64"	7'-9"

**NOTES:**

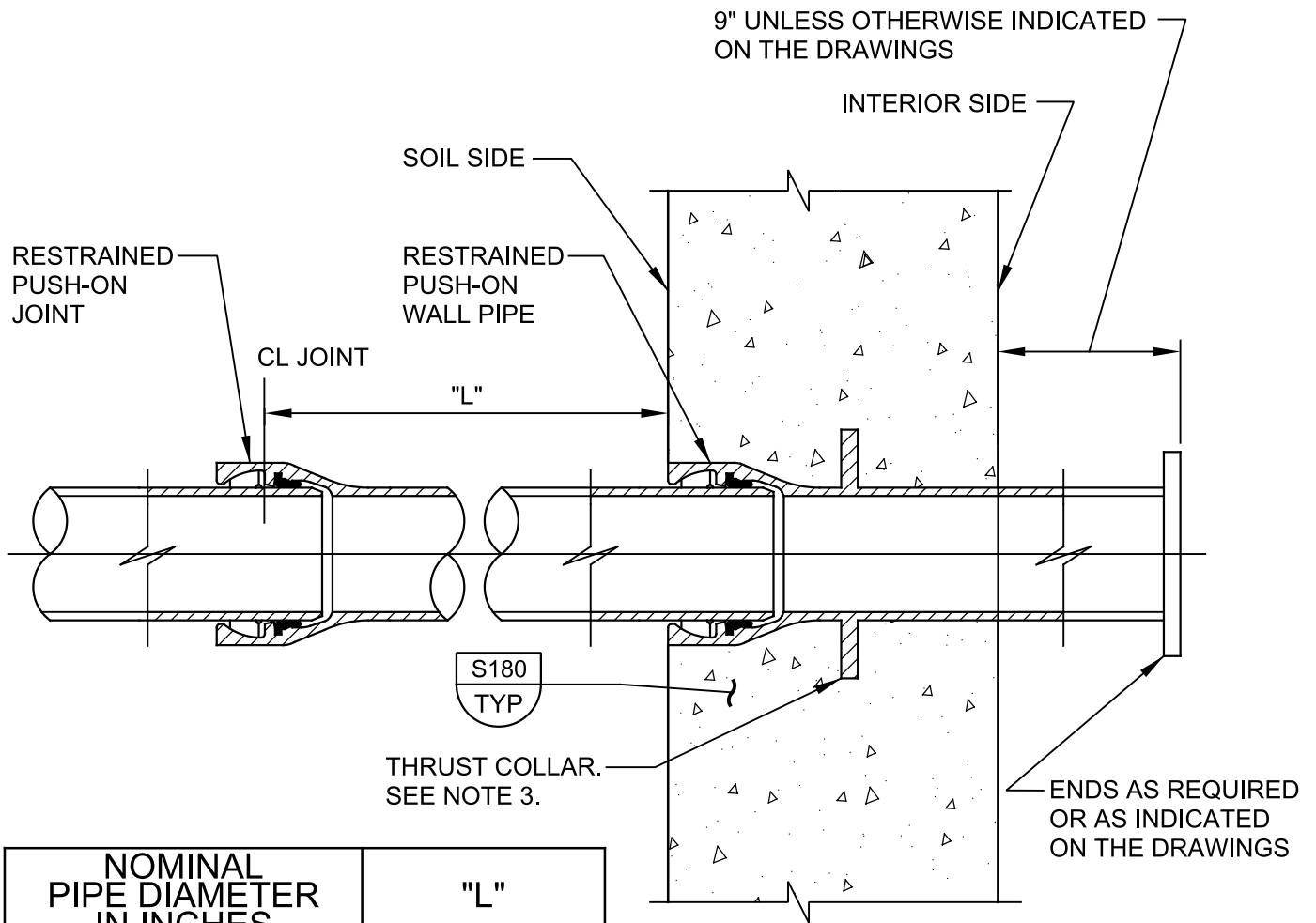
1. FLEXIBLE CONNECTION IS DESIGNED TO ACCOMMODATE SETTLEMENT AND EARTHQUAKE MOVEMENT.
2. PIPES SHALL BE INSTALLED STRAIGHT WITHOUT HORIZONTAL OR VERTICAL OFFSET. DO NOT USE JOINT ANGULAR DEFLECTION TO MAKE UP FOR MISALIGNED PIPE.
3. IN LIEU OF FLEXIBLE COUPLING, A MECHANICAL OR PUSH ON JOINT MAY BE UTILIZED.
4. WALL PIPE WITH WEEP RING (THRUST COLLAR) SHALL BE CAPABLE OF RESISTING THRUST.

P340  
TYP  
N

**UNRESTRAINED DIP FLEXIBLE CONNECTION AT WALL PENETRATION**

08/01/05





NOMINAL PIPE DIAMETER IN INCHES	"L"
LESS THAN 12"	5'-0"
GREATER THAN 12"- 18"	6'-6"
GREATER THAN 18"- 24"	7'-9"
GREATER THAN 24"- 36"	12'-9"
GREATER THAN 36"	STANDARD PIPE LENGTH

**NOTES:**

1. FLEXIBLE CONNECTION IS DESIGNED TO ACCOMMODATE SETTLEMENT AND EARTHQUAKE MOVEMENT.
2. PIPES SHALL BE INSTALLED STRAIGHT WITHOUT HORIZONTAL OR VERTICAL OFFSET. DO NOT USE JOINT ANGULAR DEFLECTION TO MAKE UP FOR MISALIGNED PIPE.
3. WALL PIPE WITH WEEP RING (THRUST COLLAR) SHALL BE CAPABLE OF RESISTING THRUST.

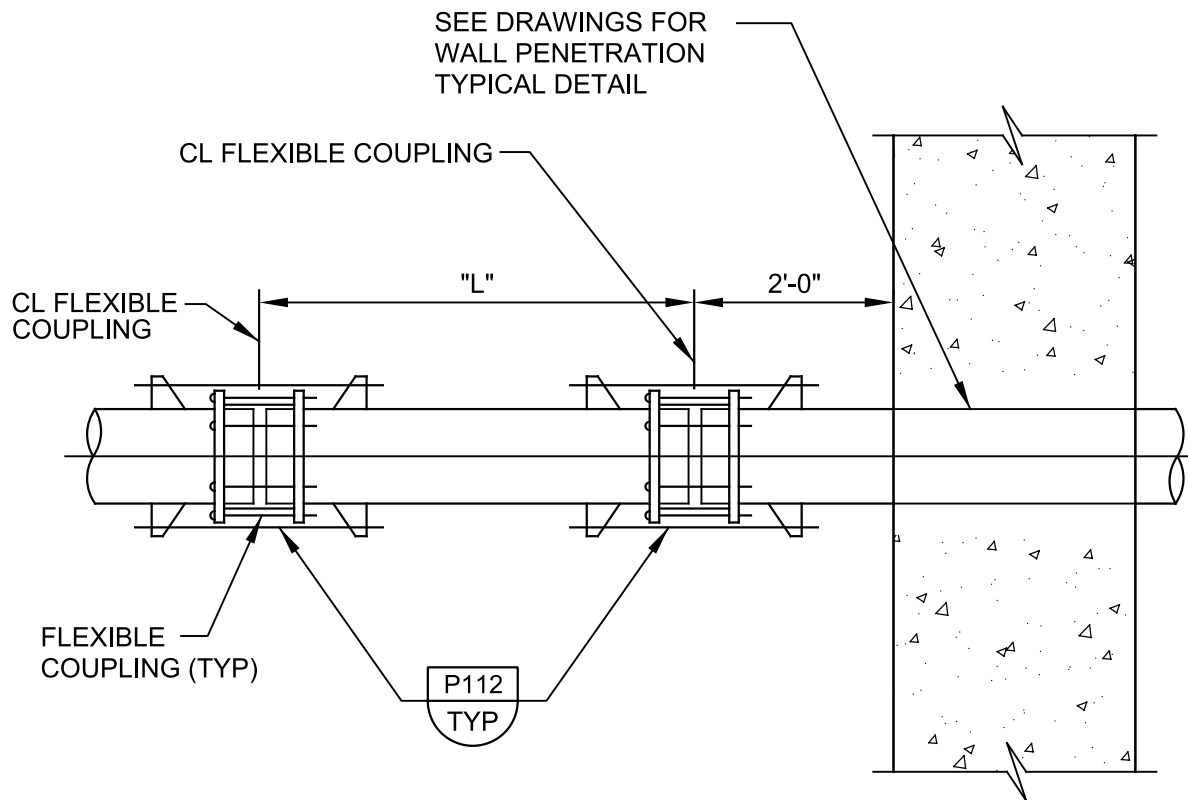
**P342**  
TYP  
N

**RESTRAINED DIP FLEXIBLE CONNECTION AT WALL PENETRATION**

07/31/08







NOMINAL PIPE DIAMETER IN INCHES	"L"
LESS THAN 31"	5'-0"
GREATER THAN 31" - 42"	5'-6"

**NOTE:**

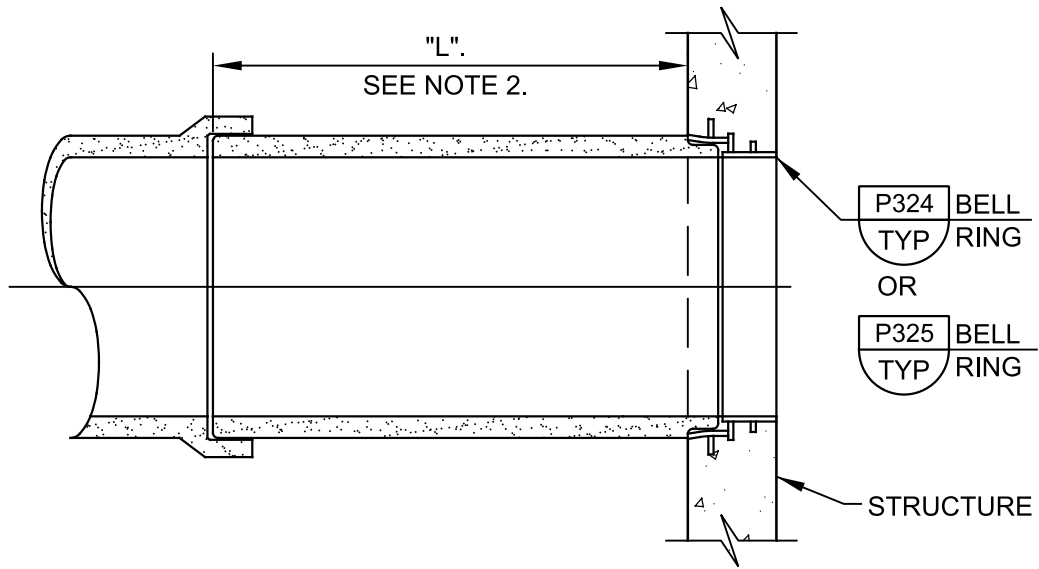
1. PIPES SHALL BE INSTALLED STRAIGHT WITHOUT HORIZONTAL OR VERTICAL OFFSET. DO NOT USE JOINT ANGULAR DEFLECTION TO MAKE UP FOR MISALIGNED PIPE.

**P346**  
TYP  
N

**RESTRAINED STEEL PIPE FLEXIBLE CONNECTION AT WALL PENETRATION**

08/01/05





NOMINAL PIPE DIAMETER IN INCHES	"L"
24" THROUGH 30"	7'-0"
36"	8'-0"
42" THROUGH 48"	9'-0"
54"	10'-0"
60"	11'-0"

NOTES:

1. PIPES SHALL BE INSTALLED STRAIGHT WITHOUT HORIZONTAL OR VERTICAL OFFSET. DO NOT USE JOINT ANGULAR DEFLECTION TO MAKE UP FOR MISALIGNED PIPE.
2. DO NOT LOCATE FIELD CLOSURE ON FIRST SECTION OF PIPE.

P348  
TYP  
N

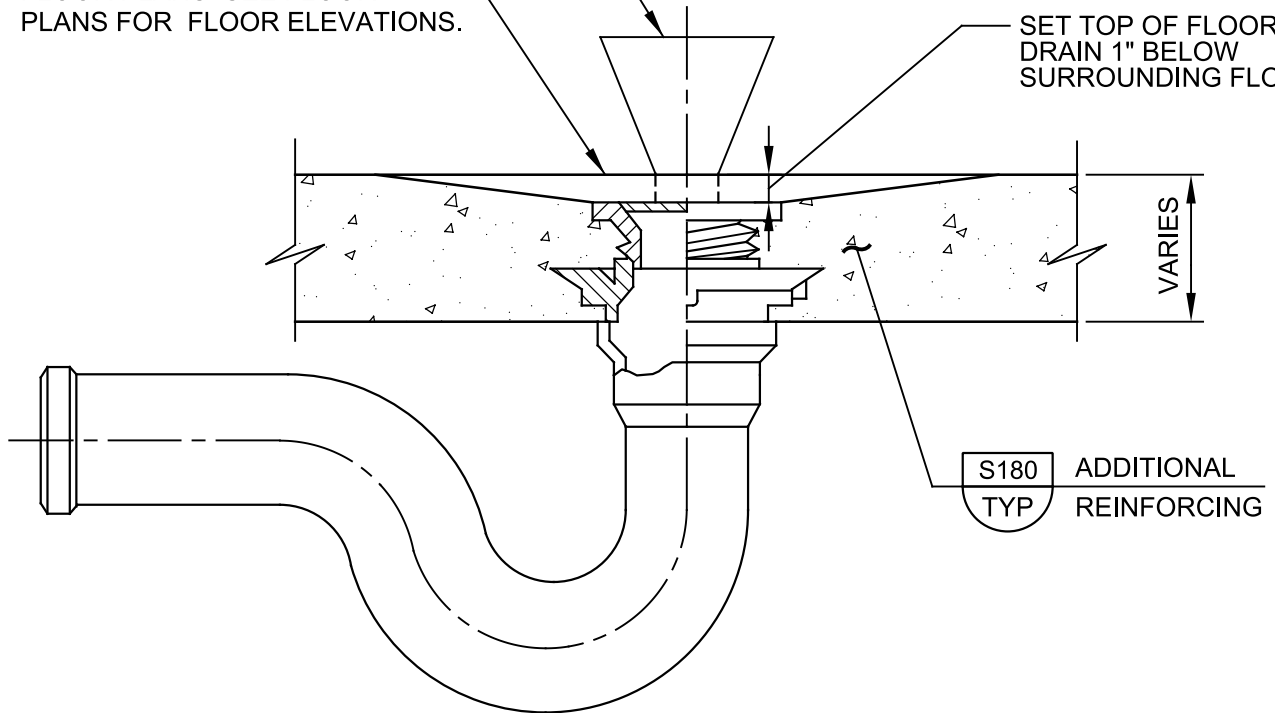
RCP FLEXIBLE CONNECTION AT WALL  
PENETRATION

08/01/05

FUNNEL ON EQUIPMENT  
DRAIN ONLY

FINISH FLOOR TO SLOPE  
TO FLOOR DRAIN AS  
INDICATED ON THE  
FLOOR PLANS. SEE FLOOR  
PLANS FOR FLOOR ELEVATIONS.

SET TOP OF FLOOR  
DRAIN 1" BELOW  
SURROUNDING FLOOR



NOTE:

1. PROVIDE 12" RADIUS SLOPE TO EQUIPMENT DRAINS WHERE FLOOR DOES NOT SLOPE TO DRAIN.

P410

TYP

S

FLOOR DRAIN OR EQUIPMENT DRAIN WITH TRAP

08/01/05

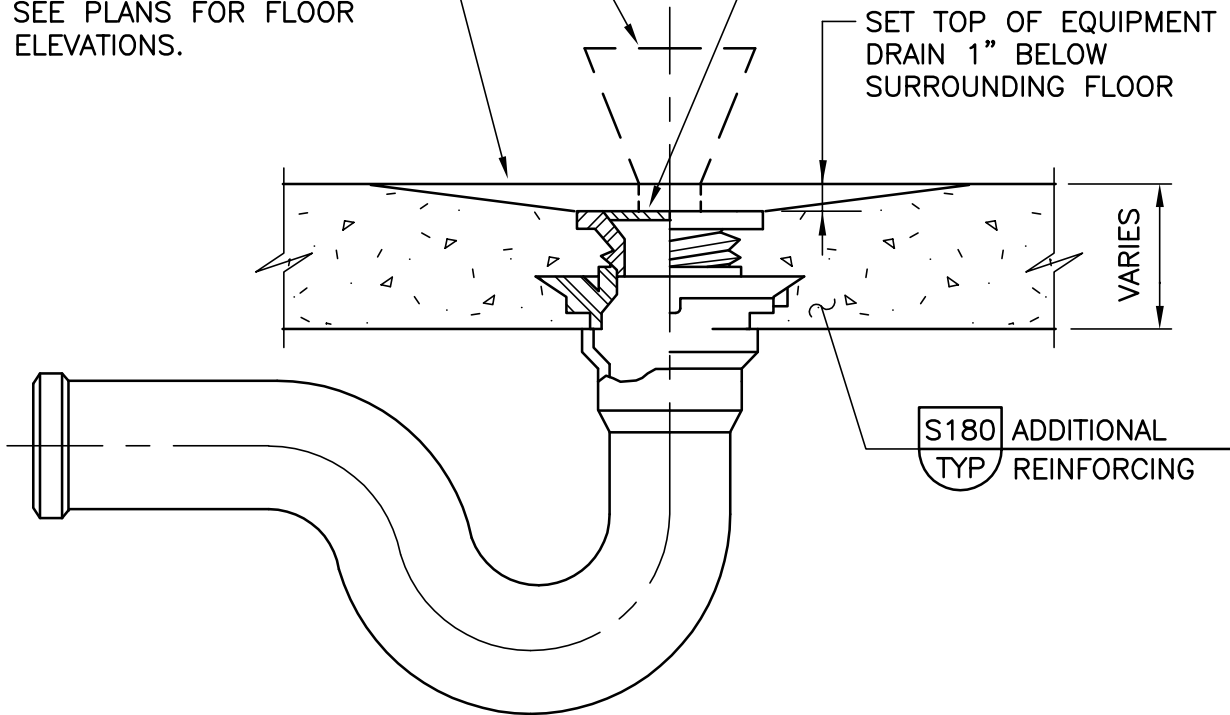
**carollo**

FUNNEL ON EQUIPMENT  
DRAIN ONLY

FINISH FLOOR TO SLOPE  
TO FLOOR DRAIN AS  
SHOWN ON PLANS.  
SEE PLANS FOR FLOOR  
ELEVATIONS.

PROVIDE COVER  
IF CALLED OUT  
ON PLANS.

SET TOP OF EQUIPMENT  
DRAIN 1" BELOW  
SURROUNDING FLOOR



NOTE:

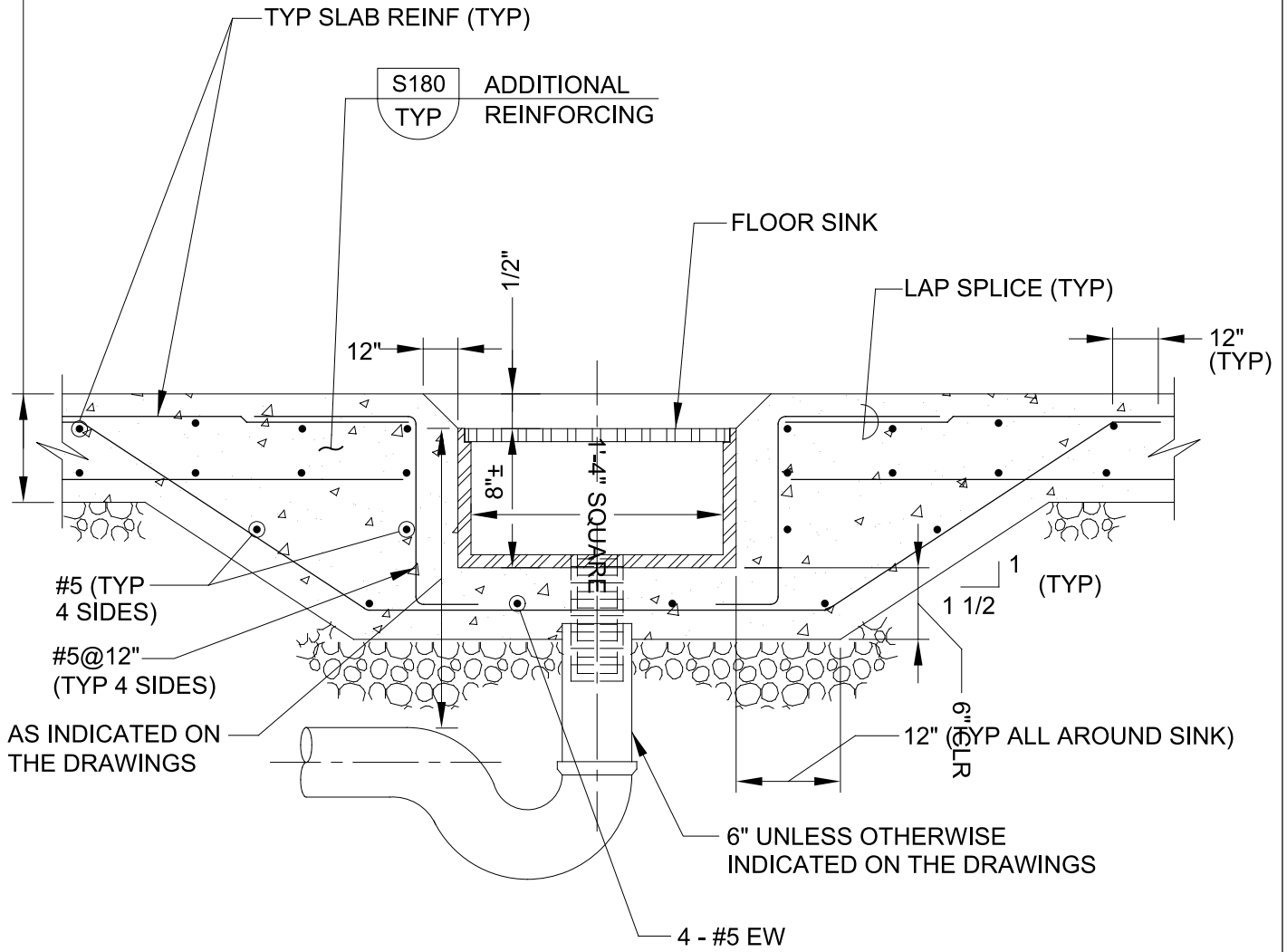
1. PROVIDE 12" RADIUS SLOPE TO EQUIPMENT DRAINS WHERE FLOOR DOES NOT SLOPE TO DRAIN.

P411  
TYP

FLOOR DRAIN OR EQUIPMENT  
DRAIN

P411-R1P 5-14-98

SLAB DIMENSIONS AND REINFORCING  
STEEL AS INDICATED ON THE DRAWINGS



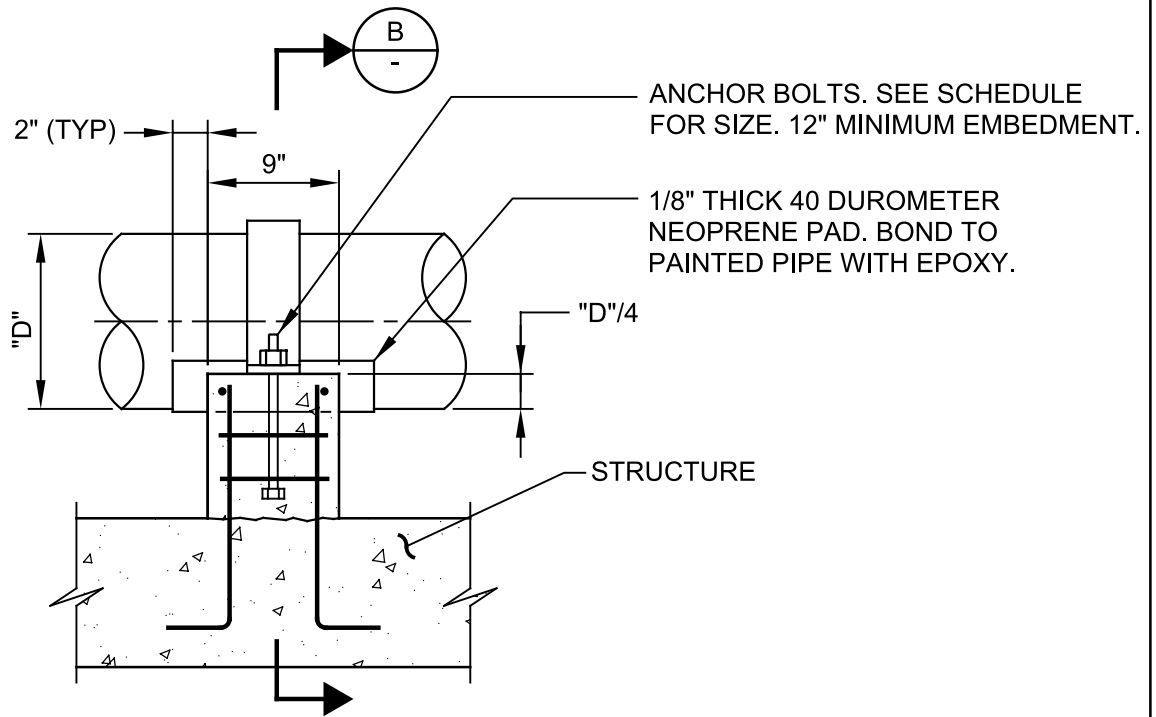
P420

FLOOR SINK

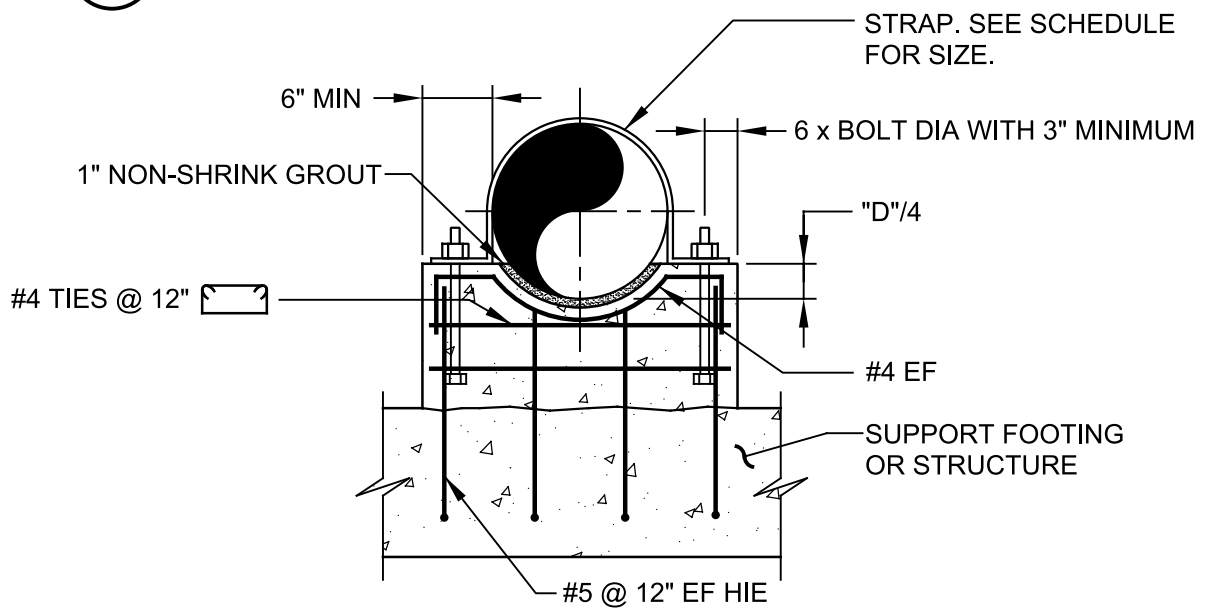
TYP

07/31/08

**carollo**



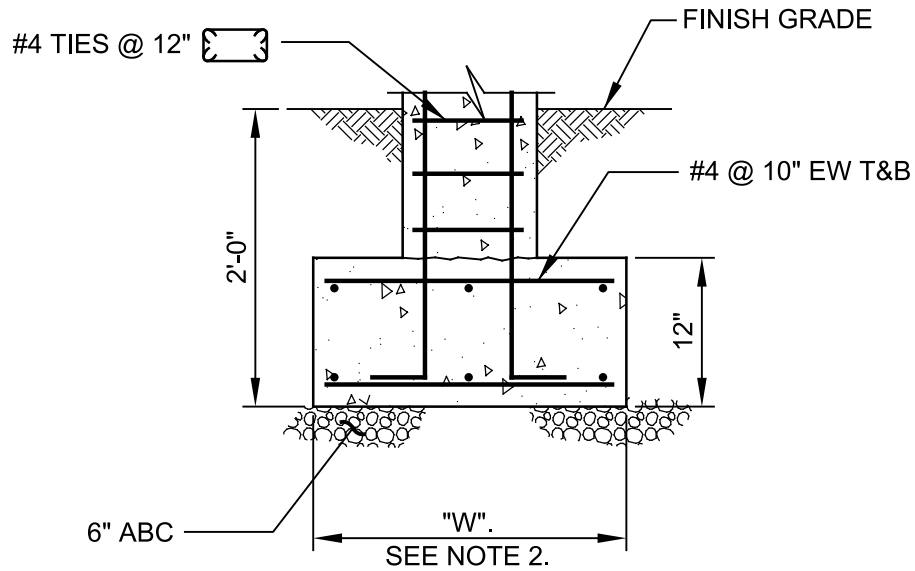
**A** SECTION-SUPPORT AT STRUCTURE



**B** SECTION

P602  
TYP  
N

CONCRETE PIPE SUPPORT



C SECTION-ISOLATED  
 SUPPORT WITH FOOTING

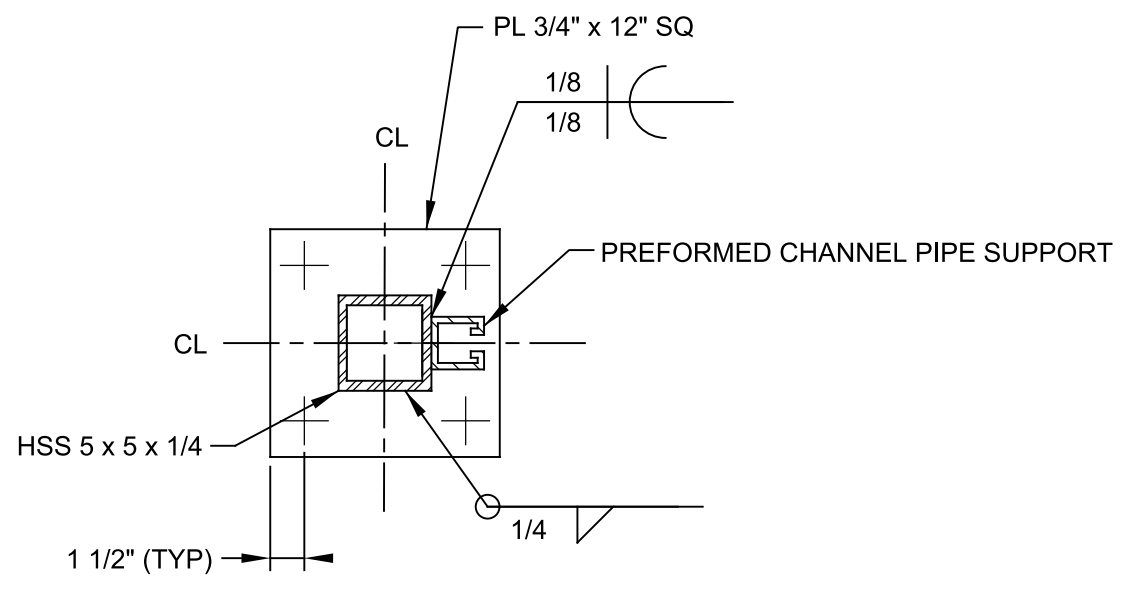
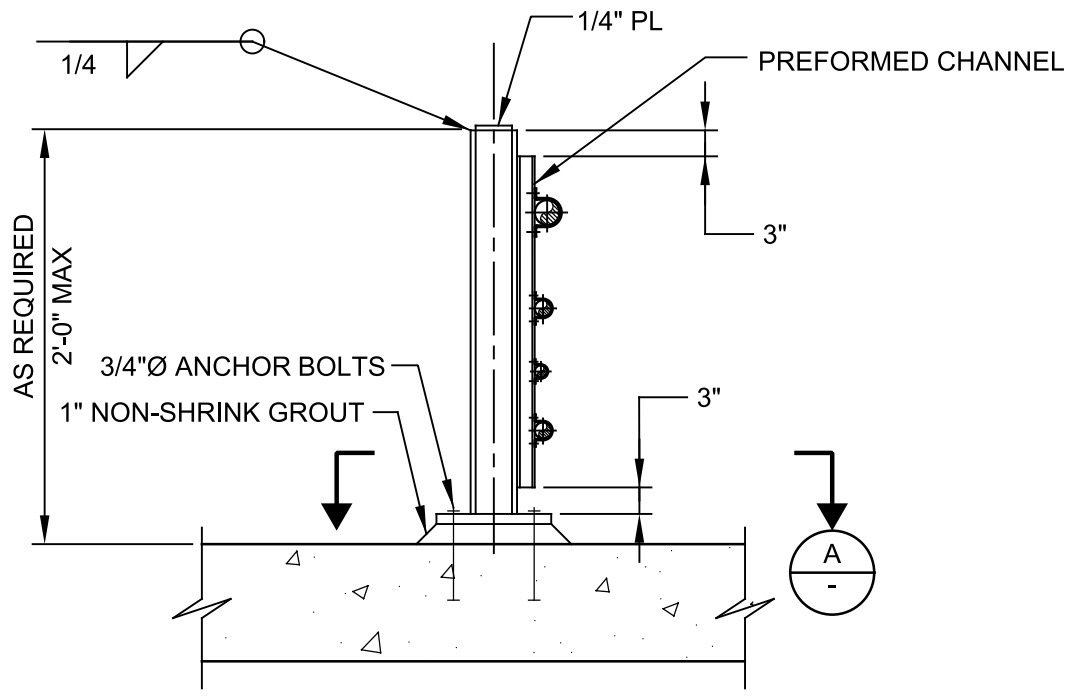
SCHEDULE		
PIPE SIZE	STRAP SIZE	ANCHOR BOLT DIA
8" - 12"	FB 1/4" x 4"	1/2"
14" - 24"	FB 5/16" x 4"	5/8"
26" - 36"	FB 3/8" x 4"	3/4"

**NOTES:**

1. IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF WALL IN WATER BEARING STRUCTURE, MATERIAL FOR ANCHOR BOLTS AND STRAP SHALL BE STAINLESS STEEL. IN ALL OTHER AREAS, THE MATERIAL FOR ANCHOR BOLTS AND STRAP SHALL BE HOT-DIP GALVANIZED STEEL UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
2. THE WIDTH OF THE FOOTING "W" = 2'-6". THE LENGTH OF THE FOOTING = "D" + 2'-0".

P602  
TYP  
N

## CONCRETE PIPE SUPPORT



A

**SECTIONAL PLAN**

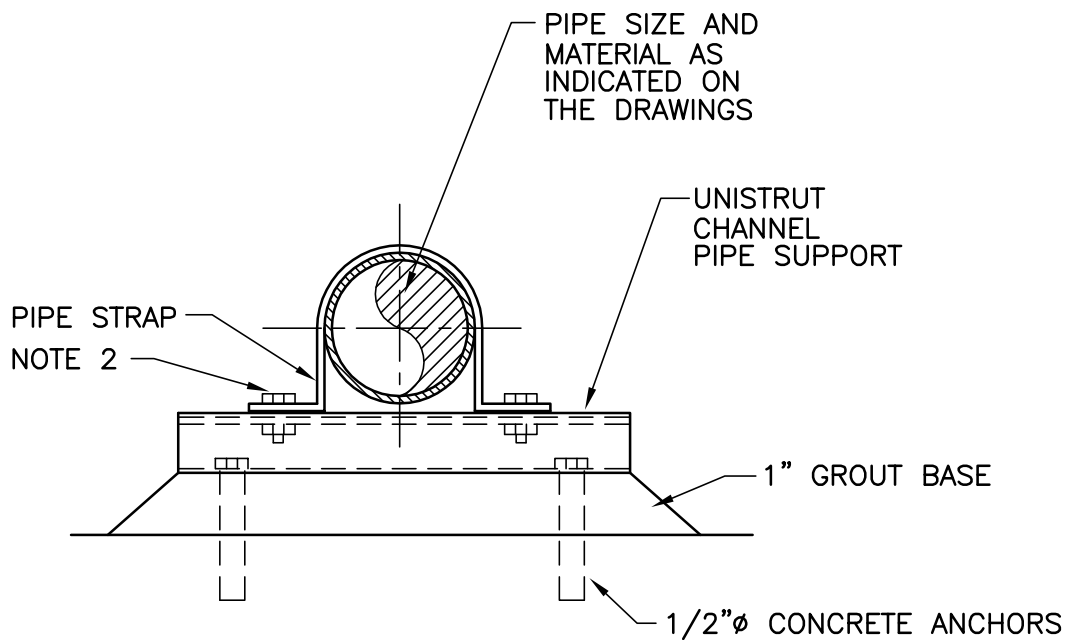
**P615**  
**TYP**  
N

**PIPE SUPPORT  
POST WITH PREFORMED CHANNEL**

08/22/08







(A) SECTION

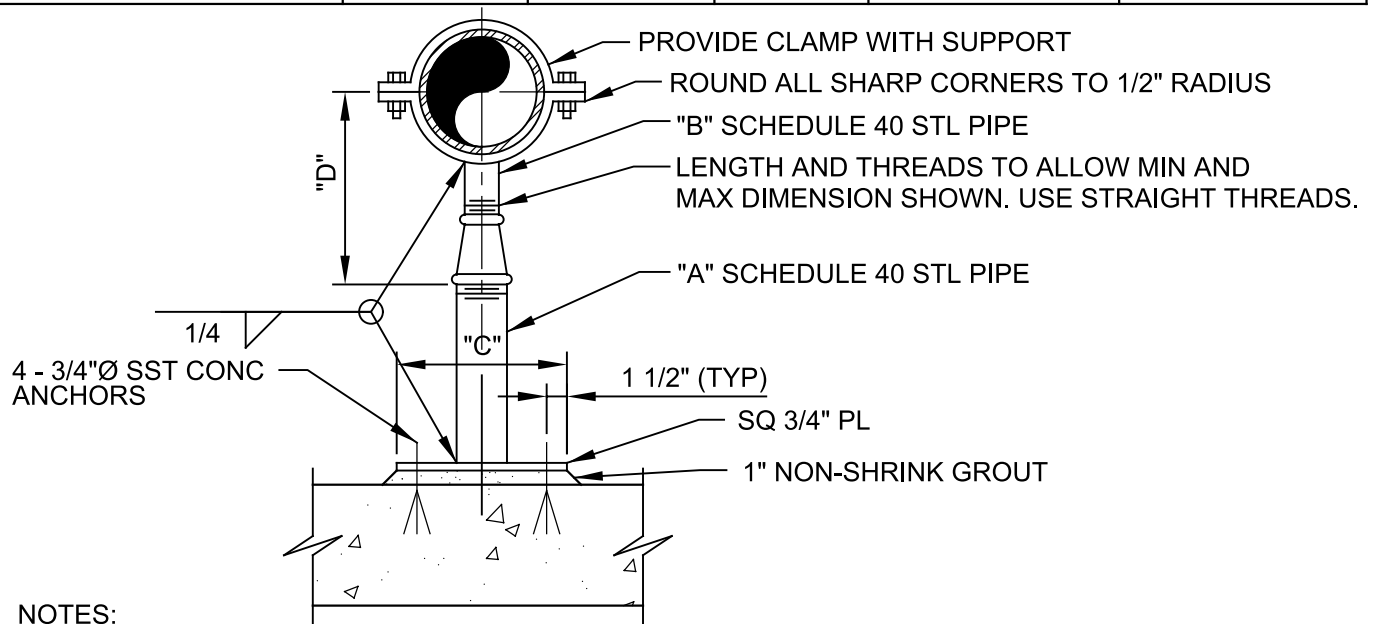
NOTES

1. CHANNELS SHALL BE HOT DIPPED GALVANIZED UNLESS NOTED OTHERWISE.
2. BOLTS & CHANNEL NUTS SHALL BE STAINLESS STEEL HARDWARE AND NON-STAINLESS STEEL CHANNEL AND STRAPS UNLESS OTHERWISE NOTED.

<b>P618</b>	<b>FLOOR PIPE SUPPORT</b>
TYP	P618-N-P 06-01-99

**ADJUSTABLE PIPE SADDLE SUPPORT SCHEDULE  
(INCHES)**

SIZE OF SUPPORTED PIPE **	PIPE SIZE "A" **	PIPE SIZE "B" **	"C"	"D"	
				MINIMUM	MAXIMUM
2 1/2 *	2 1/2	1 1/2	12	8	13
3	2 1/2	1 1/2	12	8 1/2	13 1/2
3 1/2	2 1/2	1 1/2	12	8 1/2	13 1/2
4	3	2 1/2	12	9 1/2	14
6	3	2 1/2	12	10 1/2	15 1/2
8	3	2 1/2	12	11 1/2	16 1/2
10	3	2 1/2	12	13 1/2	18 1/2
12	3	2 1/2	12	15	19 1/2
14	4	3	12	16 1/2	20 1/2
16	4	3	12	17 1/2	22 1/2
18	6	3 1/2	14	19 1/2	24
20	6	3 1/2	14	21	25 1/2
24	6	4	14	23 1/2	28 1/2
30	6	4	14	27	31 1/2
32	6	4	14	28 1/2	32 1/2
36	6	4	14	30 1/2	34 1/2



**NOTES:**

1. HOT-DIP GALVANIZE SUPPORT AFTER FABRICATION.
2. \* = USE 2 1/2" SUPPORTS FOR PIPES LESS THAN 2 1/2"Ø.
3. \*\* = NOMINAL PIPE SIZE.

**P624**

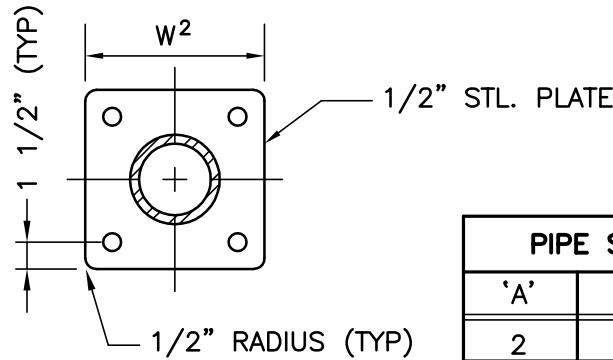
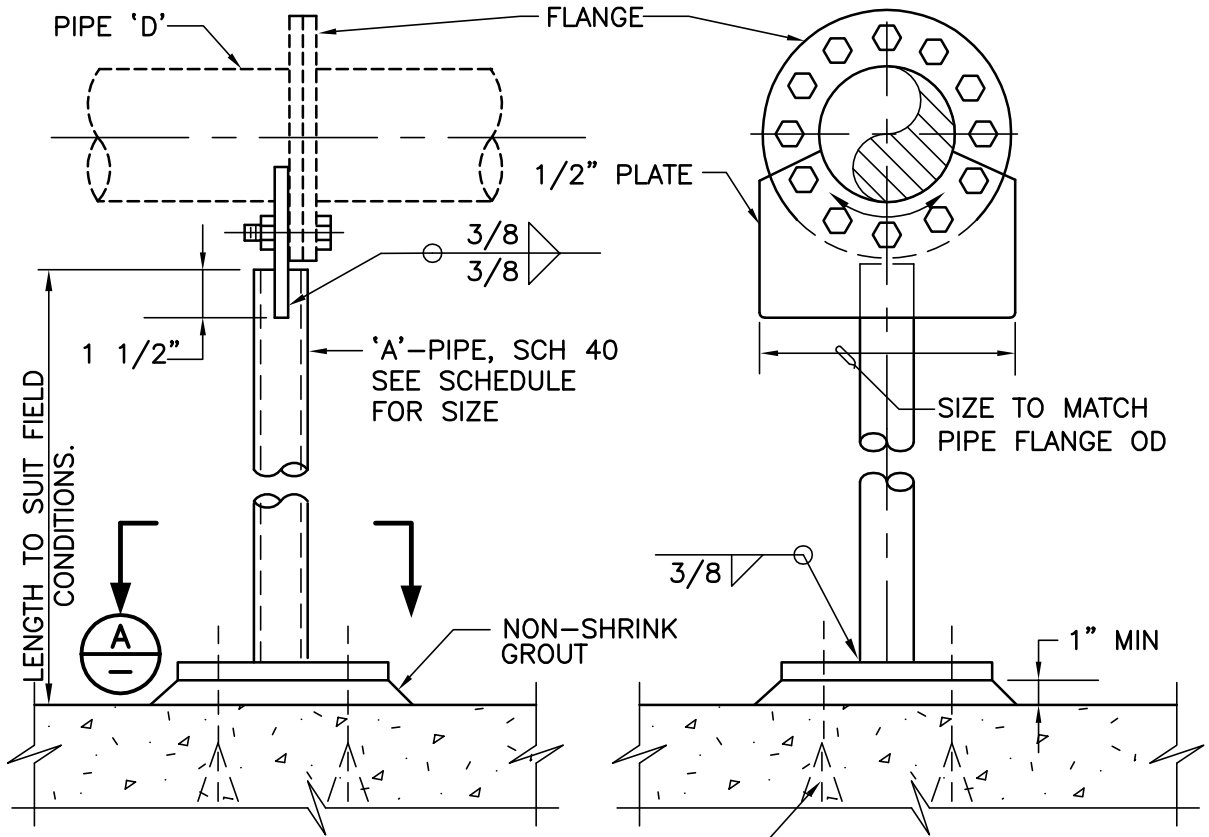
**ADJUSTABLE PIPE SUPPORT**

TYP

NS

09/04/13

**carollo**



**A** SECTION

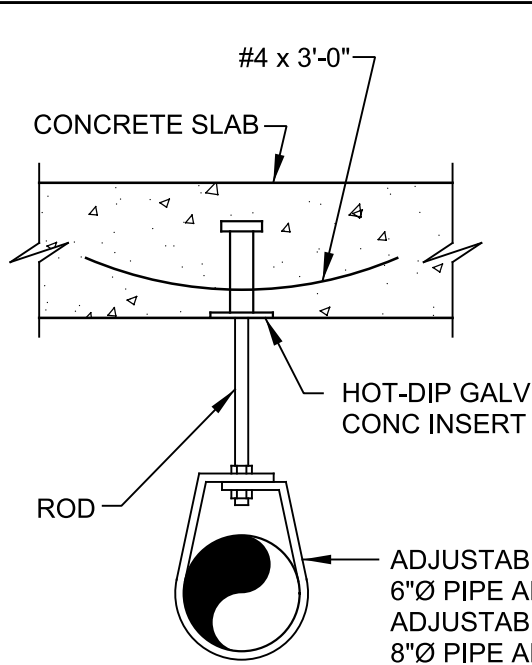
(4) 3/4"Ø THREADED RODS  
W/LEVELING NUTS &  
WASHERS IN FLUSH SHELLS.

PIPE SIZE		MAX LOAD (LBS)	"W"
'A'	'D'		
2	4	3000	6
2 1/2	6	3000	8
4	8,10	3700	8
6	12,14,16	4500	10
8	18,20,24	5000	14
12	30,36	6000	18

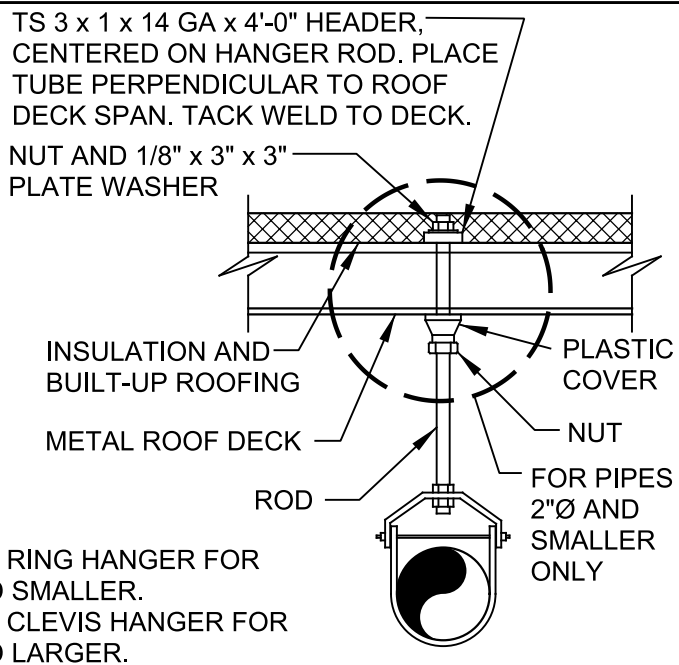
**NOTES:**

1. HOT-DIP GALVANIZE AFTER FABRICATION.
2. MAXIMUM VERTICAL LOAD- SEE TABLE
3. CHEMICAL ANCHORS MAY BE SUBSTITUTED FOR FLUSH SHELLS & ALL THREAD RODS.
4. IF SUPPORT IS SUBMERGED OR BELOW TOP OF WALL OF HYDRAULIC STRUCTURE, ALL MATERIAL SHALL BE 316 STAINLESS STEEL.

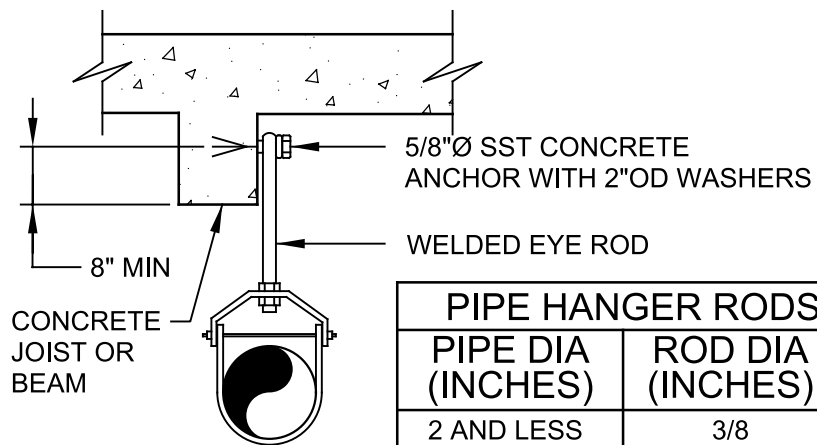
P627
PIPE SUPPORT  
TYP
P627-R2P 05-11-07



**AT CONC SLAB**



**AT METAL DECK**



**AT CONC JOIST OR BEAM**

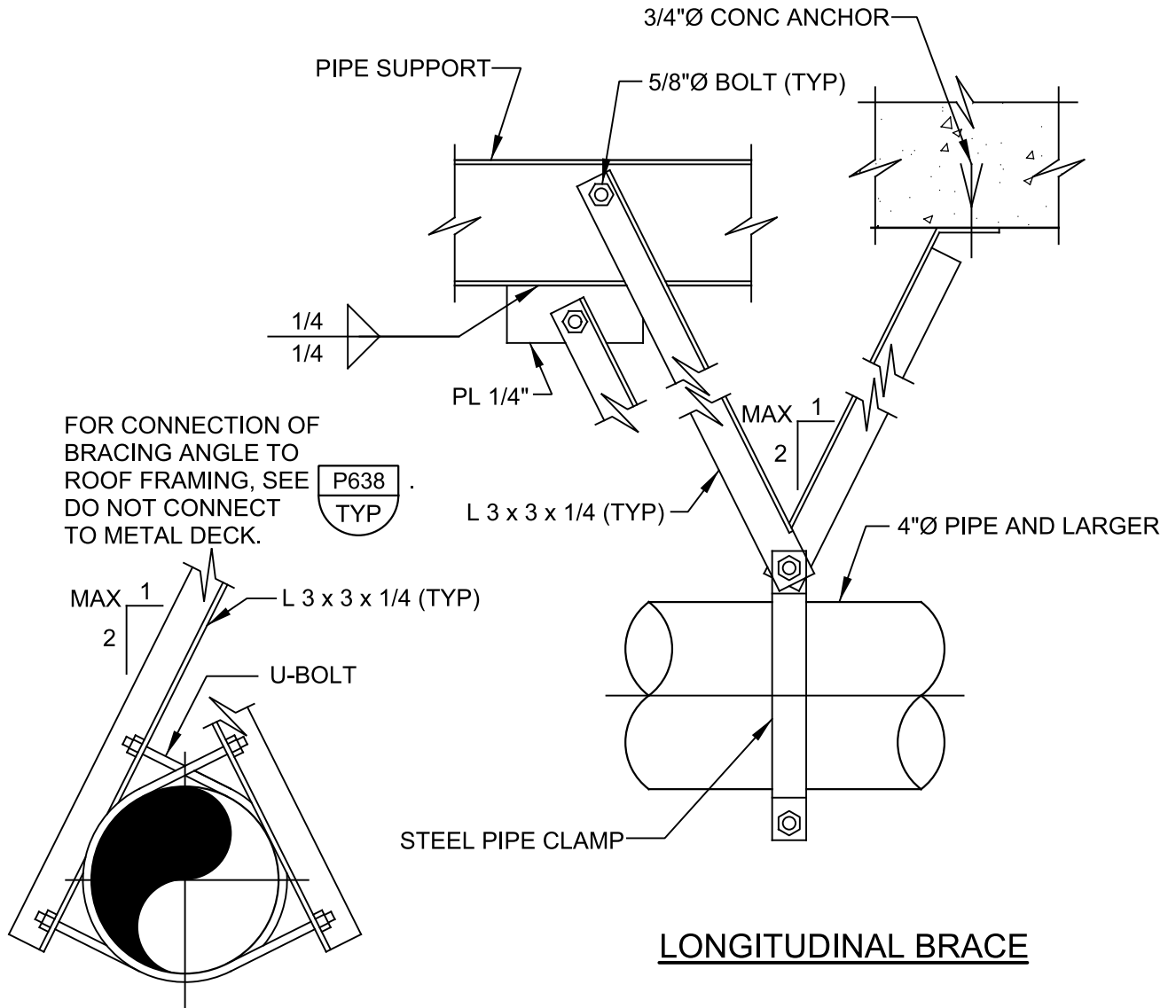
PIPE HANGER RODS AND SUPPORT SPACING		
PIPE DIA (INCHES)	ROD DIA (INCHES)	MAX SUPPORT SPACING
2 AND LESS	3/8	5 FEET
2 1/2 TO 3 1/2	1/2	10 FEET
4 TO 5	5/8	10 FEET
6	3/4	10 FEET
8	7/8	10 FEET
10	7/8	10 FEET
12	7/8	10 FEET

**NOTES:**

1. ISOLATE ALL COPPER PIPE FROM SUPPORT WITH PVC TAPE.
2. ALL MATERIALS SHALL BE HOT-DIP GALVANIZED.
3. PROVIDE ADDITIONAL HANGER AT EACH SIDE OF ALL VALVES 4 INCHES AND LARGER.

**P630**  
TYP  
N

**PIPE HANGER**

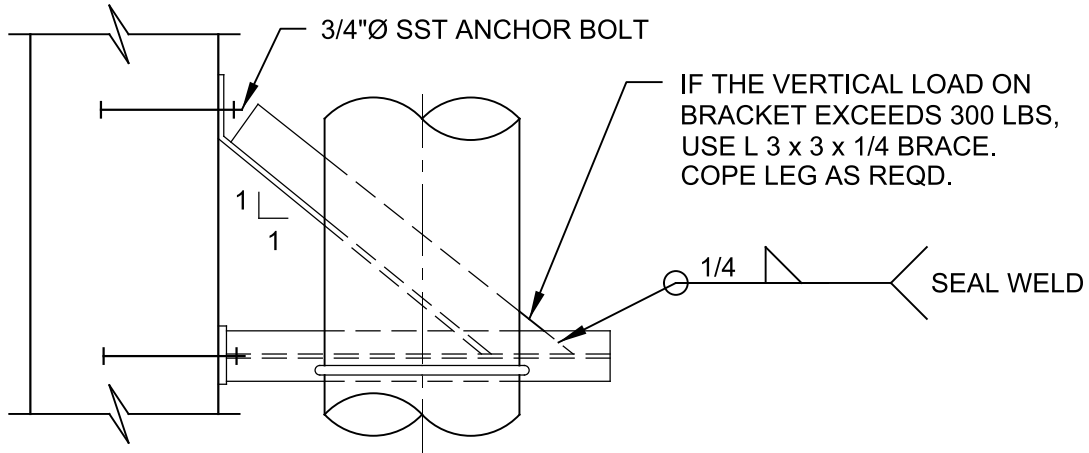


NOTES:

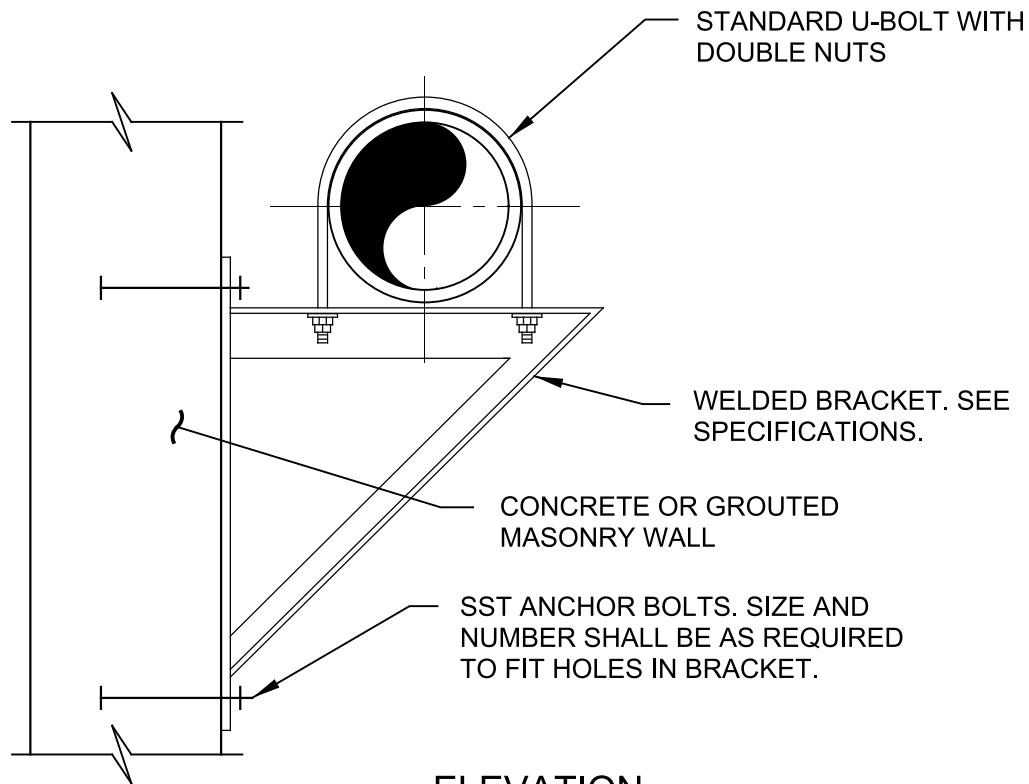
1. MAXIMUM LONGITUDINAL BRACE SPACING = 20'-0".
2. MAXIMUM TRANSVERSE BRACE SPACING = 20'-0".
3. DO NOT CONNECT BRACE TO BOTTOM OF ROOF BEAM OR C8 PIPE SUPPORT, EXCEPT AS SHOWN IN **P638 TYP**.
4. USE LONGITUDINAL AND TRANSVERSE BRACES FOR PIPES 4" AND LARGER.

<b>P630</b>	<b>PIPE HANGER</b>
<b>TYP</b>	

N



PLAN



ELEVATION

NOTES:

1. HOT-DIP GALVANIZE SUPPORT AFTER FABRICATION.
2. ISOLATE ALL COPPER PIPE WITH PVC TAPE.

P658

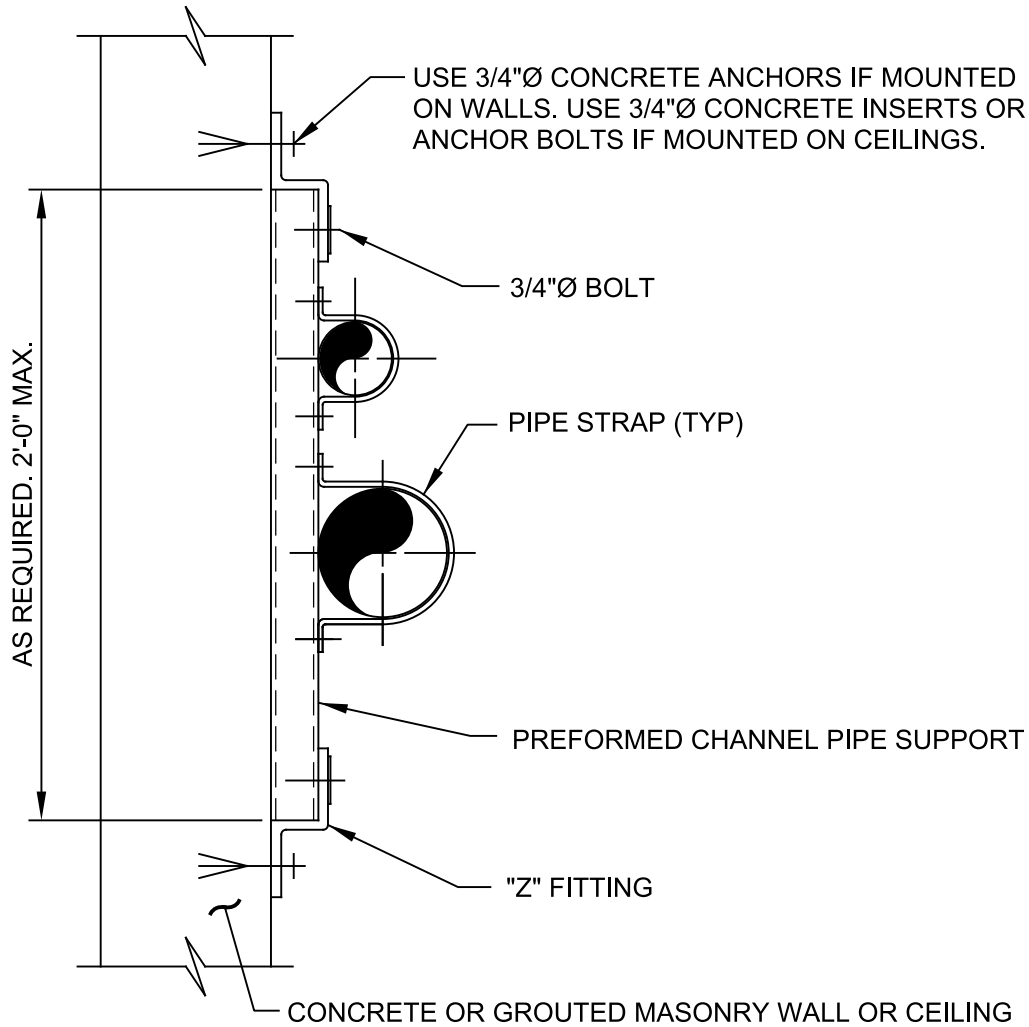
PIPE SUPPORT - WALL BRACKET BELOW

TYP

N

06/26/13

**carollo**



**NOTES:**

1. IF SUPPORT IS SUBMERGED OR LOCATED BELOW THE TOP OF WALL IN WATER BEARING STRUCTURE, ALL MATERIAL SHALL BE STAINLESS STEEL. IN ALL OTHER AREAS, THE MATERIALS SHALL BE HOT-DIP GALVANIZED STEEL UNLESS OTHERWISE INDICATED ON THE DRAWINGS. HOT-DIP GALVANIZE AFTER FABRICATION.
2. SPACE PREFORMED CHANNEL PIPE SUPPORTS AT MAXIMUM 5'-0" O.C.

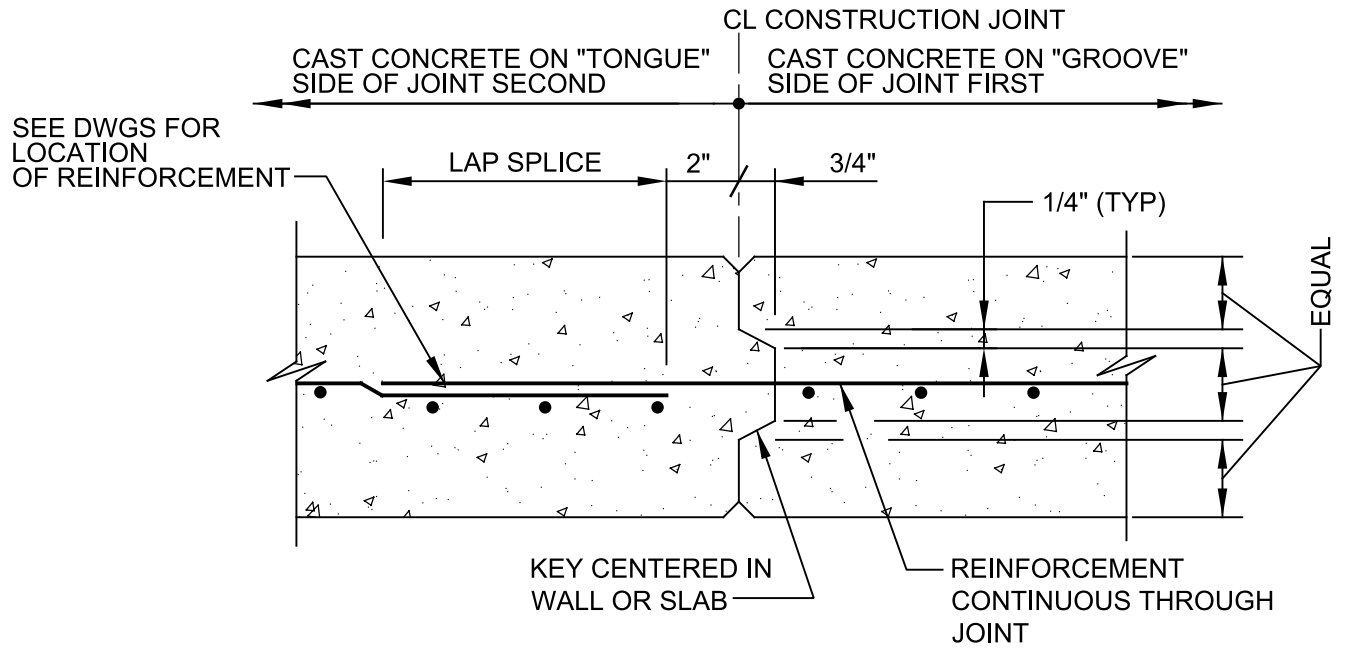
P660

**FLUSH MOUNT PIPE SUPPORT**

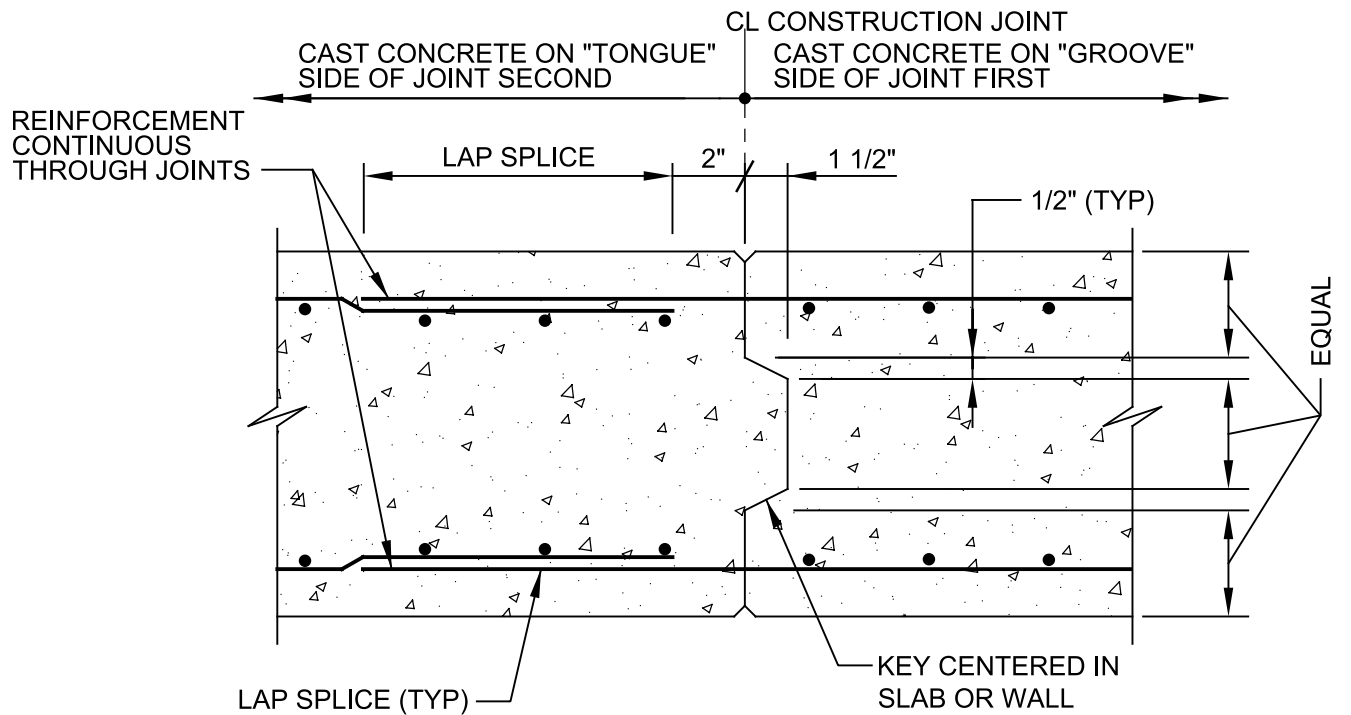
TYP

N

09/06/13



**NON-WATER BEARING WALL OR SLAB**

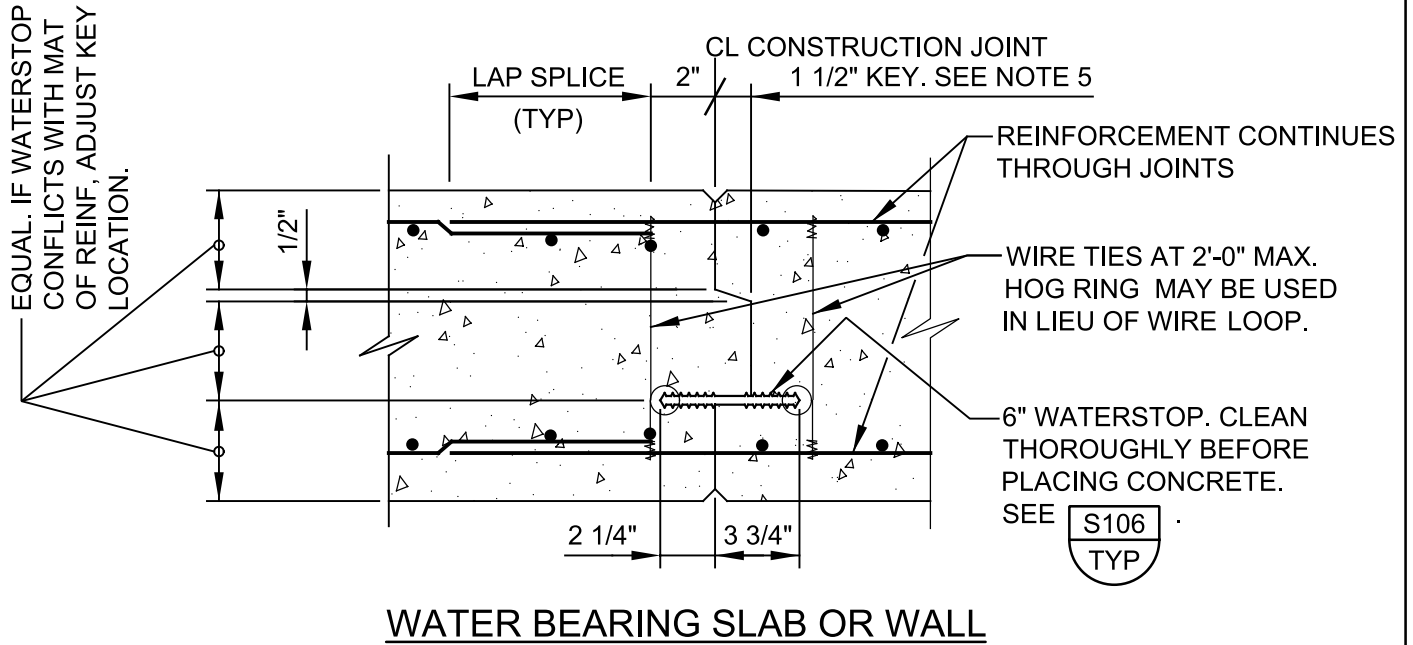
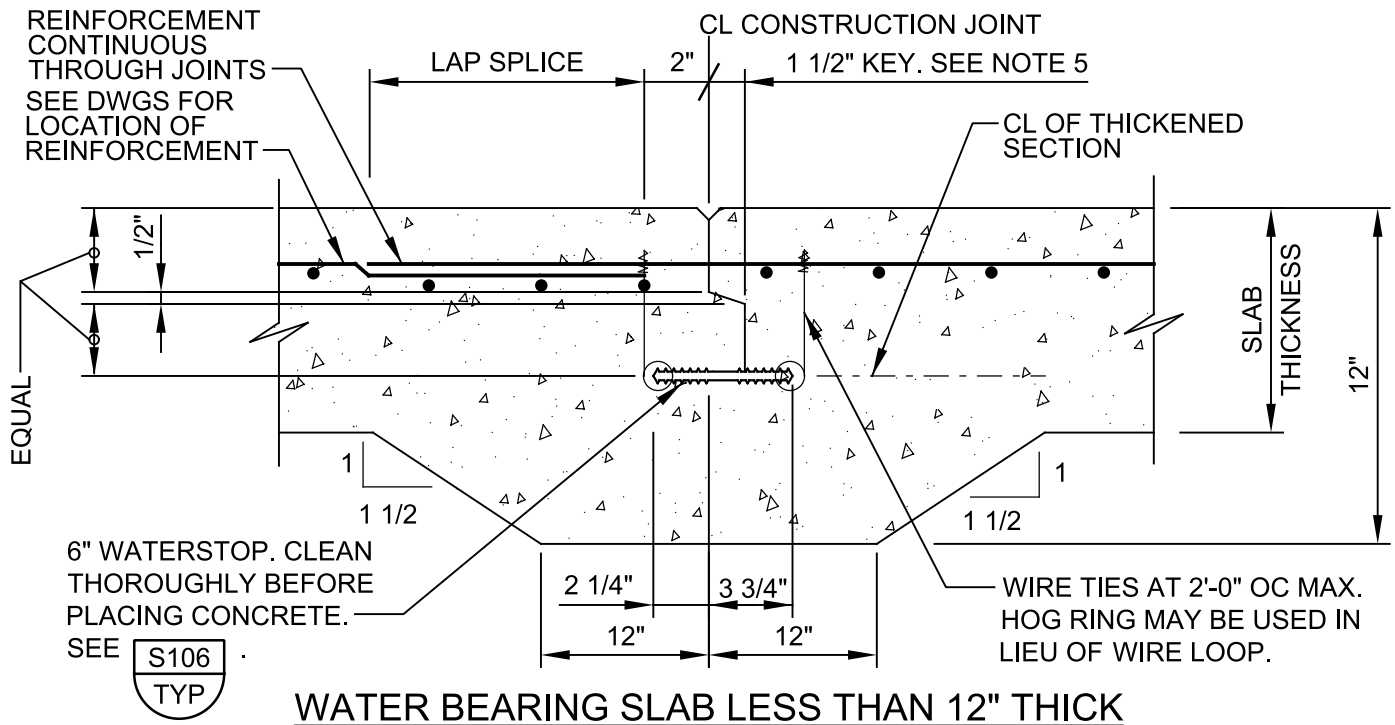


**NON-WATER BEARING SLAB OR WALL**

S110  
TYP  
S

**CONSTRUCTION JOINT**



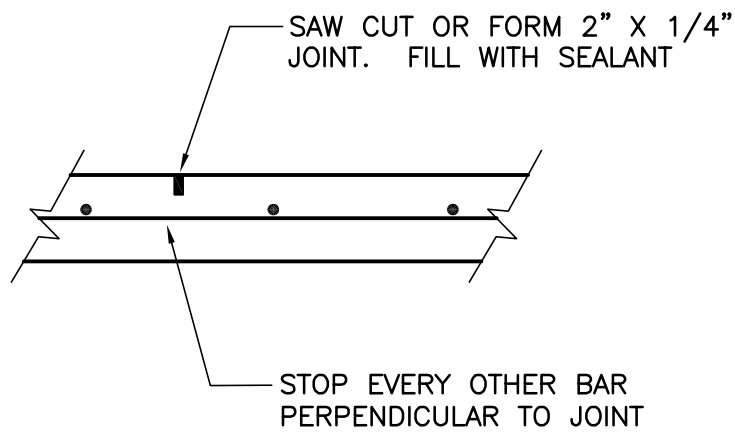


**NOTES:**

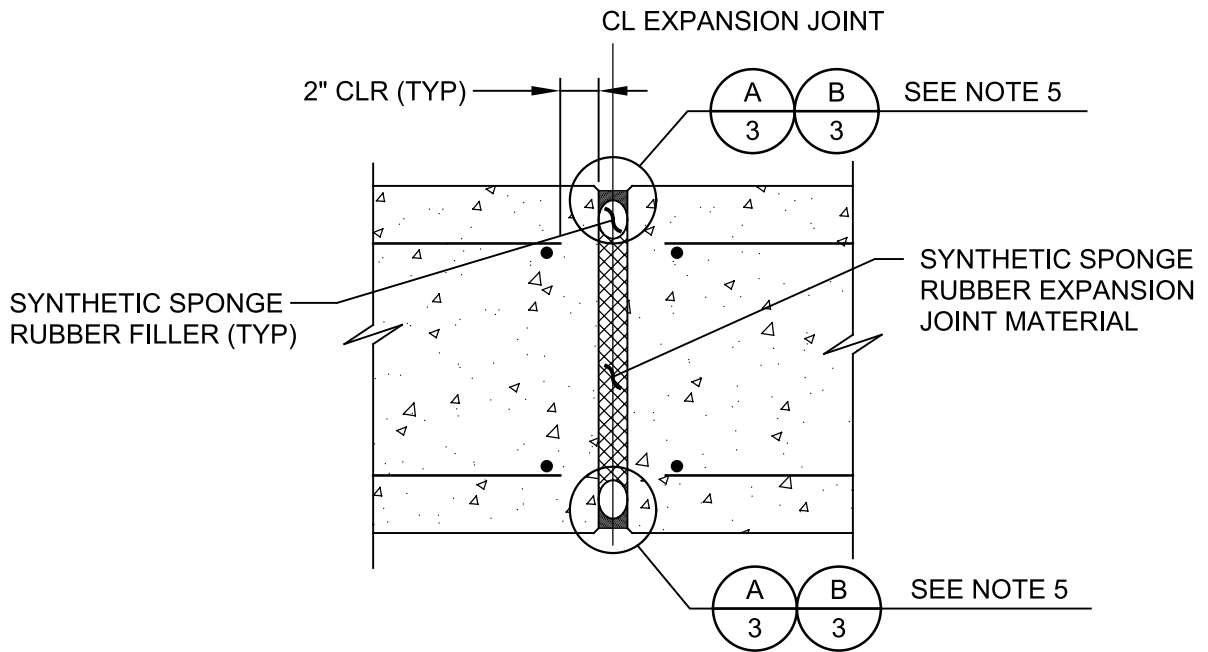
1. SANDBLAST OR WATERBLAST JOINT AND REINFORCEMENT PRIOR TO PLACING CONCRETE FOR NEXT SLAB OR WALL.
2. FOR WALLS, FORM ALL JOINT EDGES WITH 1/4" CHAMFER.
3. FOR SLABS, EDGE TOP OF EXPOSED SLAB JOINT EDGES TO 1/4" RADIUS.
4. FOR UNDERSIDE OF EXPOSED SLABS, FORM JOINT EDGES WITH 1/4" CHAMFER.
5. KEYED JOINT CONSISTS OF CONCRETE TONGUE AND GROOVE. CAST "GROOVE" SIDE OF JOINT FIRST. CAST "TONGUE" SIDE OF JOINT SECOND.

**S110**  
TYP  
S

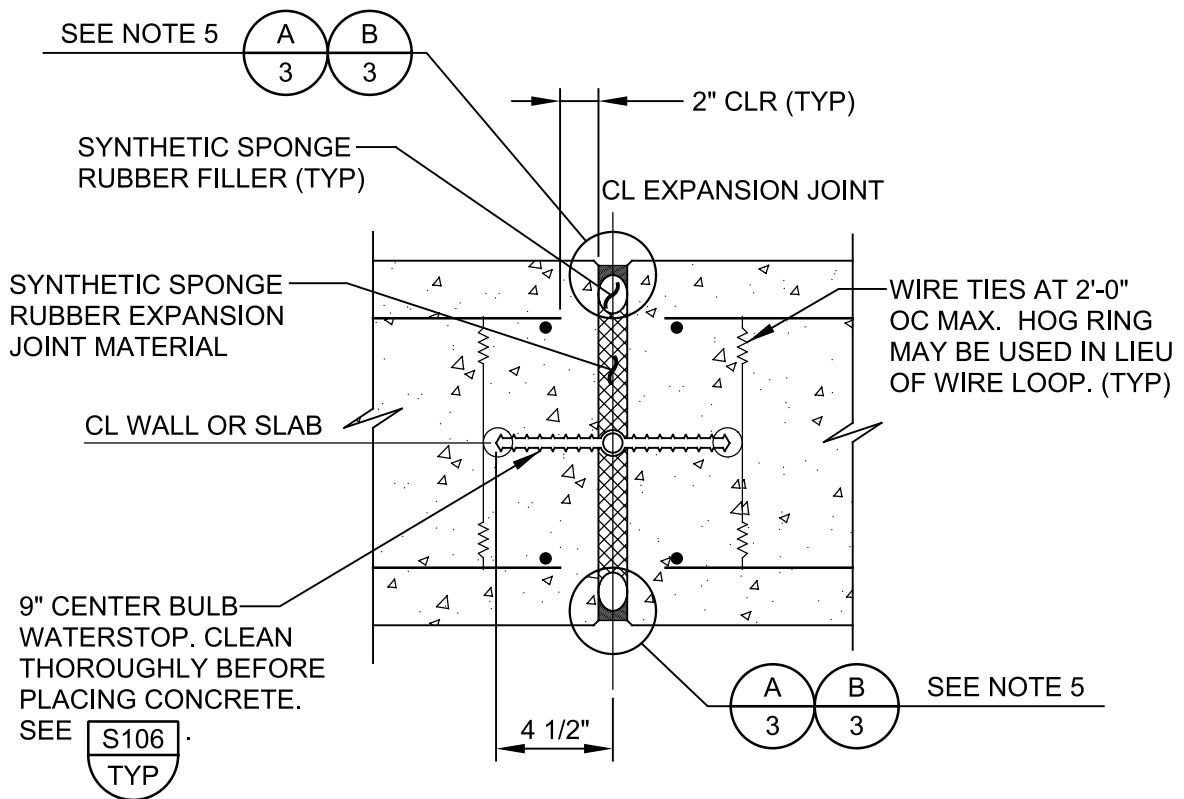
**CONSTRUCTION JOINT**



**S123** SAW CUT SLAB  
TYP S123-N-P 11-16-01



**NON-WATER BEARING SLAB OR WALL**

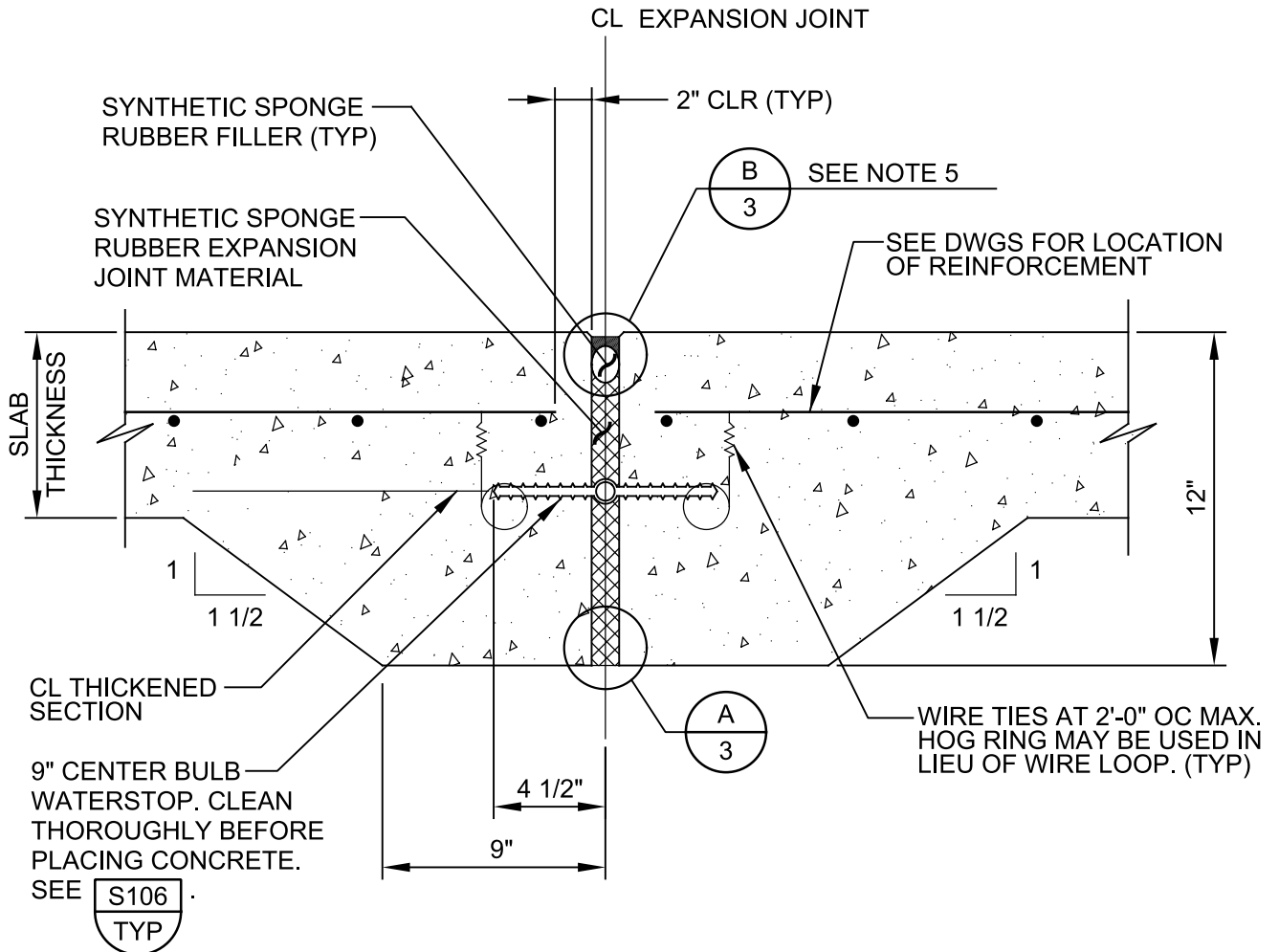


**WATER BEARING SLAB OR WALL**

**S130**  
TYP

**EXPANSION JOINT**

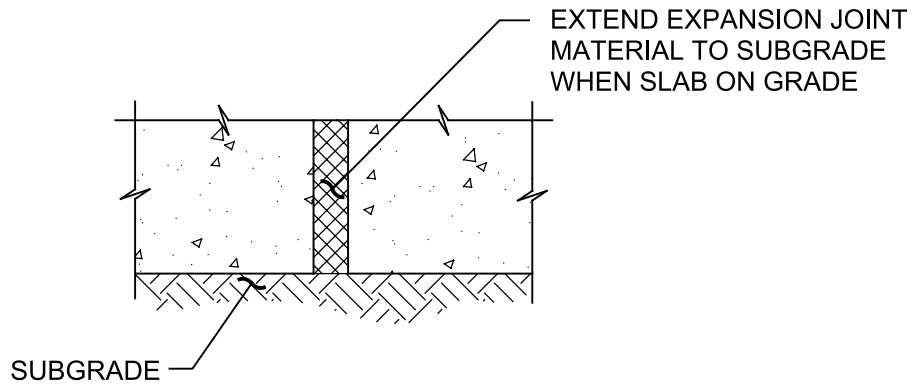
NS



WATER BEARING SLAB LESS THAN 12" THICK

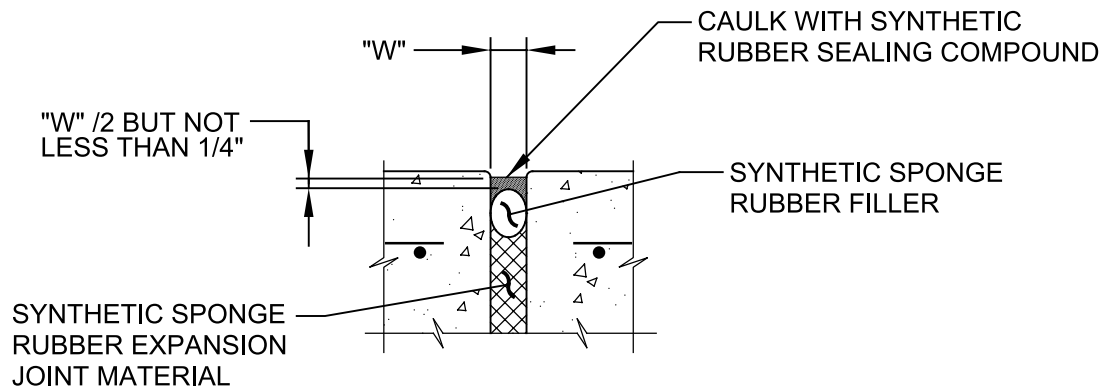
S130  
TYP  
NS

EXPANSION JOINT



**A**  
1

**DETAIL - SLAB ON GRADE**



**B**  
1

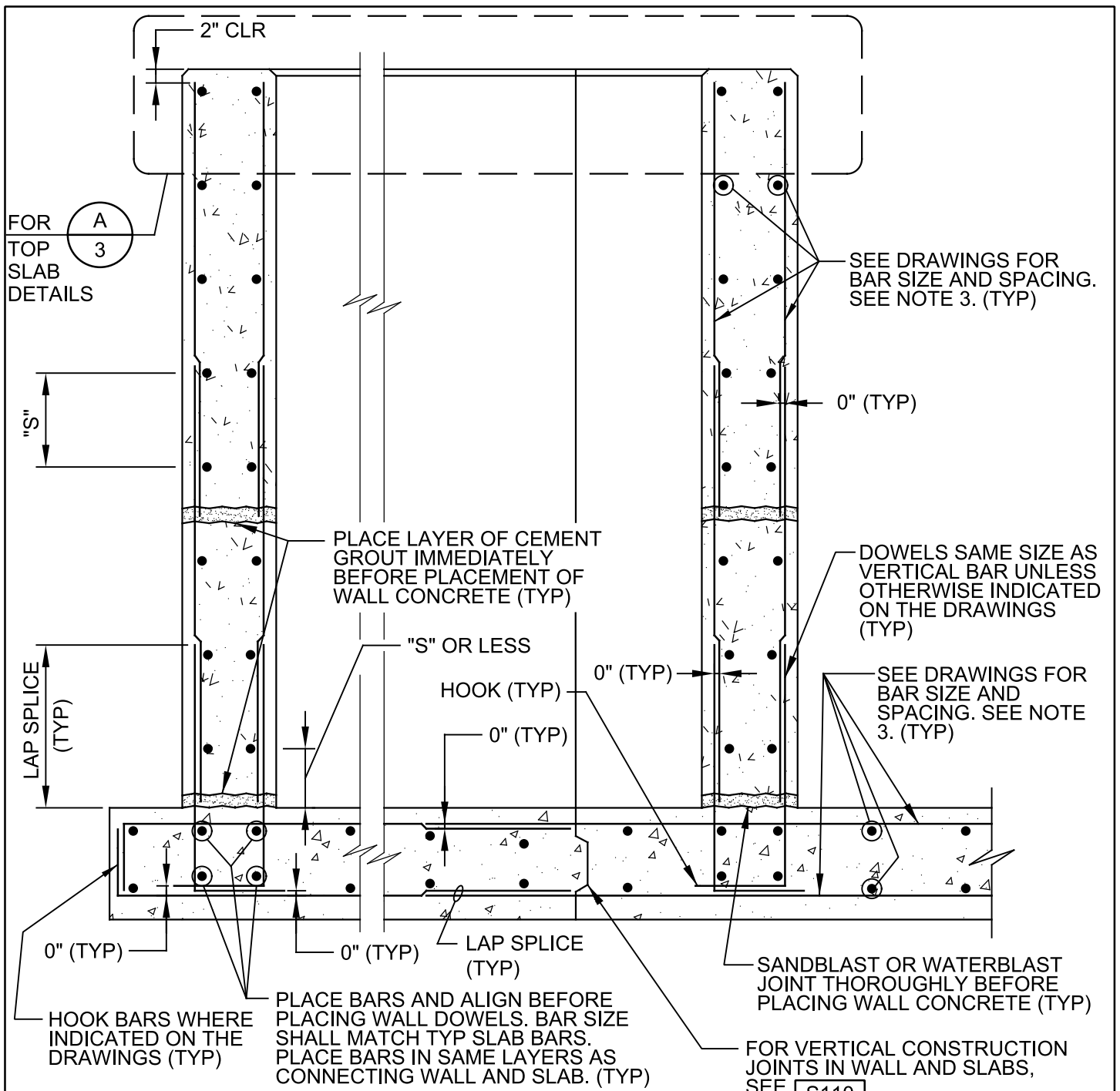
**DETAIL**

**NOTES:**

1. FOR WALLS, FORM ALL JOINT EDGES AT 1/4" CHAMFER.
2. FOR SLABS, EDGE TOP OF EXPOSED SLAB JOINT EDGES AT 1/4" RADIUS.
3. FOR UNDERSIDE OF EXPOSED SLABS, FORM JOINT EDGES AT 1/4" CHAMFER.
4. "W" = 1" UNLESS OTHERWISE INDICATED ON THE DRAWINGS. MIN JOINT WIDTH = 3/8". MIN JOINT WIDTH = 3/8".
5. USE **A** AT UNDERSIDE OF SLABS ON GRADE ONLY. USE **B** AT ALL OTHER LOCATIONS.

<b>S130</b>	<b>EXPANSION JOINT</b>
<b>TYP</b>	

NS



**NOTES:**

**WITHOUT WATERSTOP**

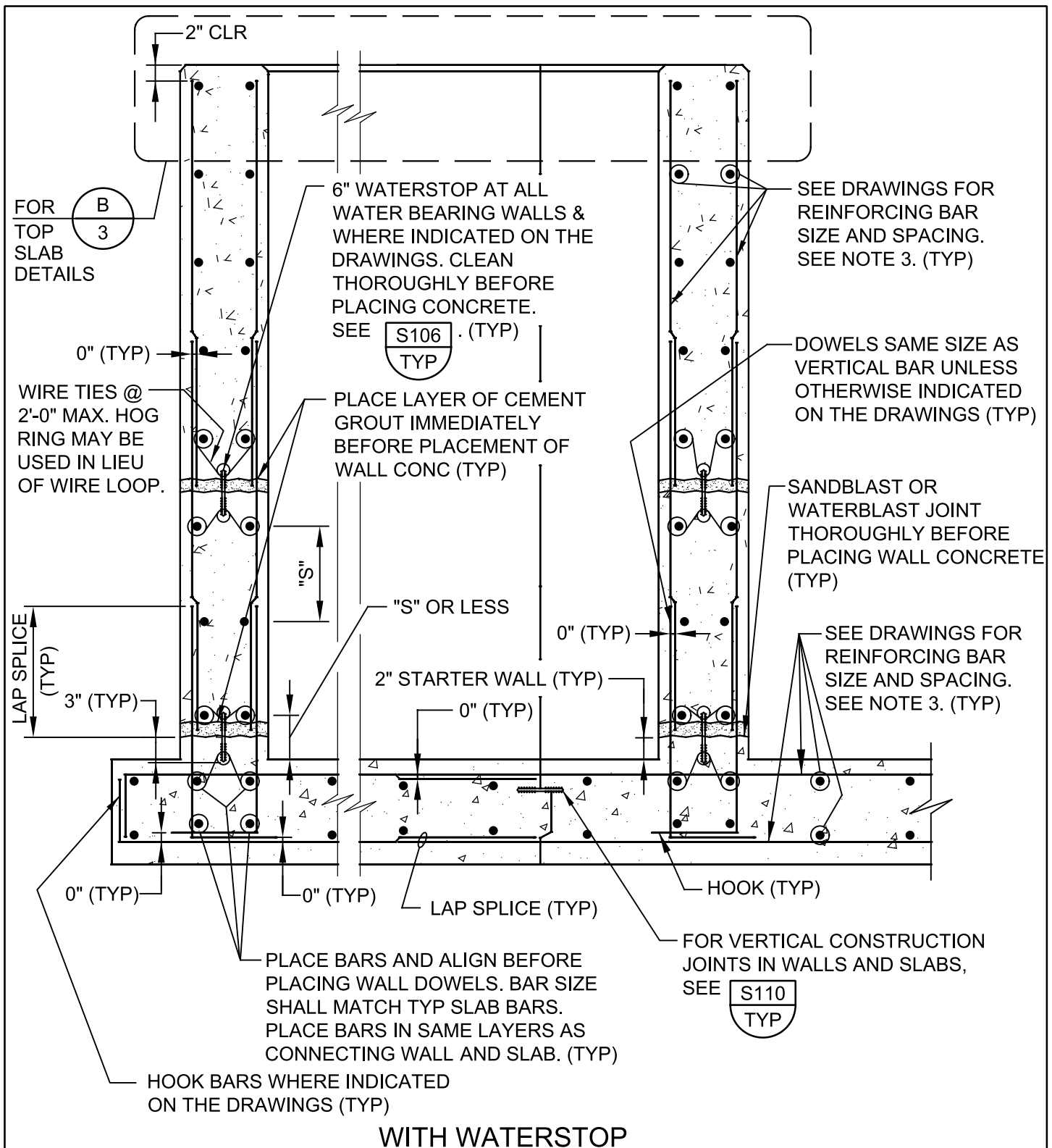
1. "S" = BAR SPACING INDICATED ON THE DRAWINGS.
2. HOOKS SHALL BE ACI STD 90 DEGREE HOOKS.
3. ORIENTATION OF BARS IN LAYERS SHALL BE AS INDICATED ON THE DRAWINGS.

**S140**

**WALL AND SLAB JOINTS**

TYP

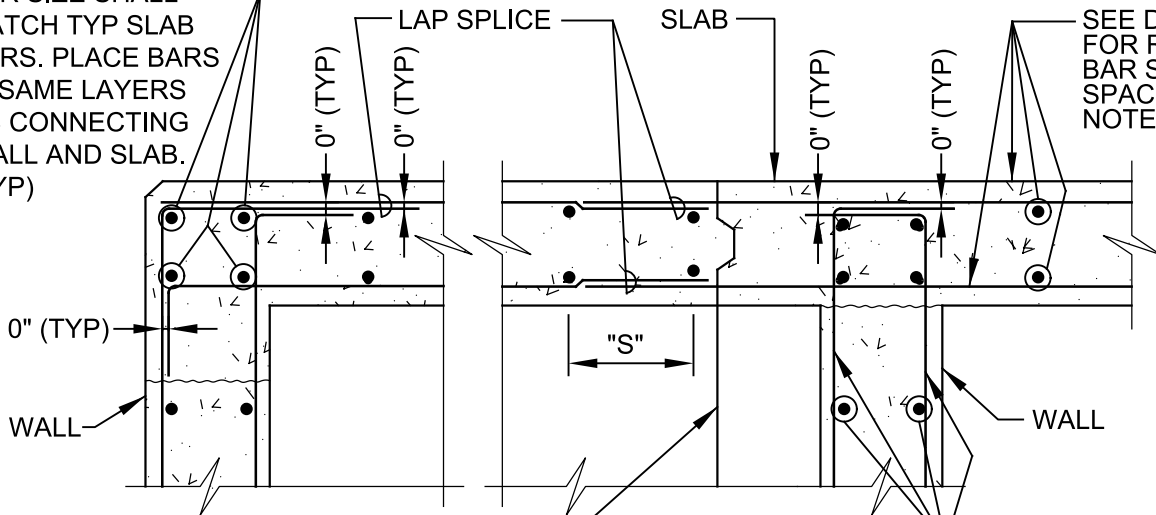
S



S140  
TYP  
S

WALL AND SLAB JOINTS

BAR SIZE SHALL MATCH TYP SLAB BARS. PLACE BARS IN SAME LAYERS AS CONNECTING WALL AND SLAB. (TYP)



SEE DRAWINGS FOR REINFORCING BAR SIZE AND SPACING. SEE NOTE 3. (TYP)

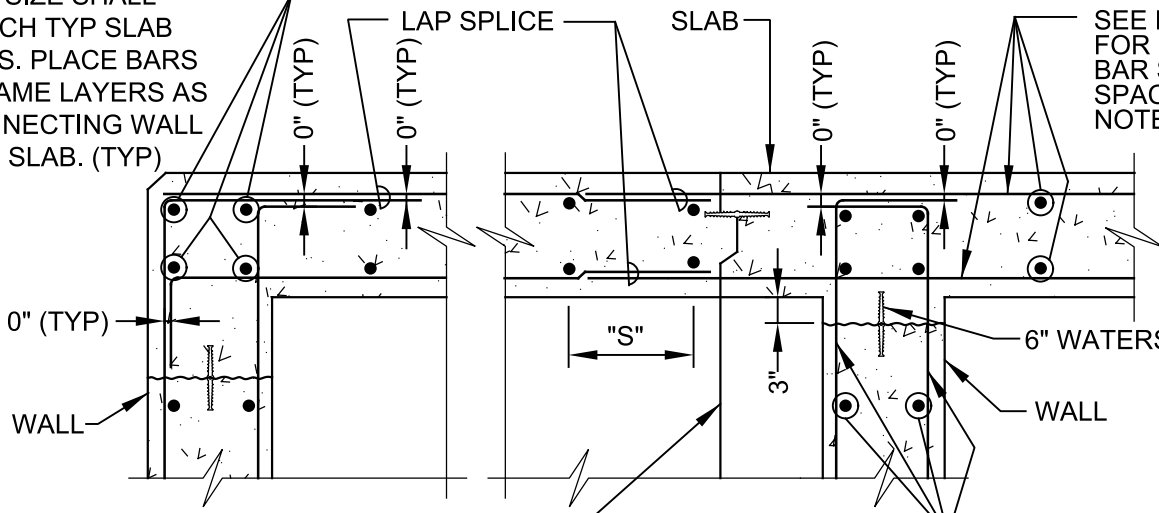
FOR VERT CONSTRUCTION JOINTS IN WALLS AND SLABS, SEE

S110  
TYP

SEE DRAWINGS FOR REINFORCING BAR SIZE AND SPACING. SEE NOTE 3. (TYP)

A  
1 TOP SLAB WITHOUT WATERSTOP

BAR SIZE SHALL MATCH TYP SLAB BARS. PLACE BARS IN SAME LAYERS AS CONNECTING WALL AND SLAB. (TYP)



SEE DRAWINGS FOR REINFORCING BAR SIZE AND SPACING. SEE NOTE 3. (TYP)

FOR VERT CONSTRUCTION JOINTS IN WALLS AND SLABS, SEE

S110  
TYP

SEE DRAWINGS FOR REINFORCING BAR SIZE AND SPACING. SEE NOTE 3. (TYP)

B  
2 TOP SLAB WITH WATERSTOP

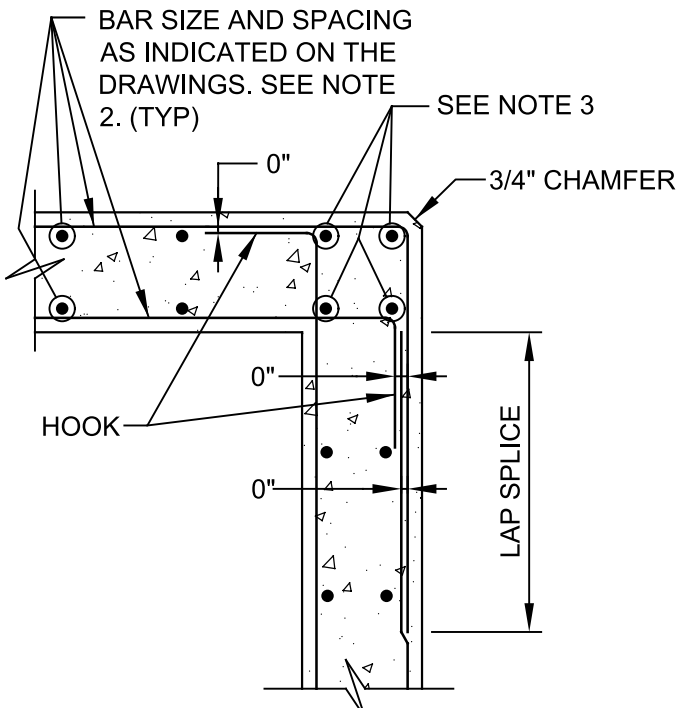
S140

WALL AND SLAB JOINTS

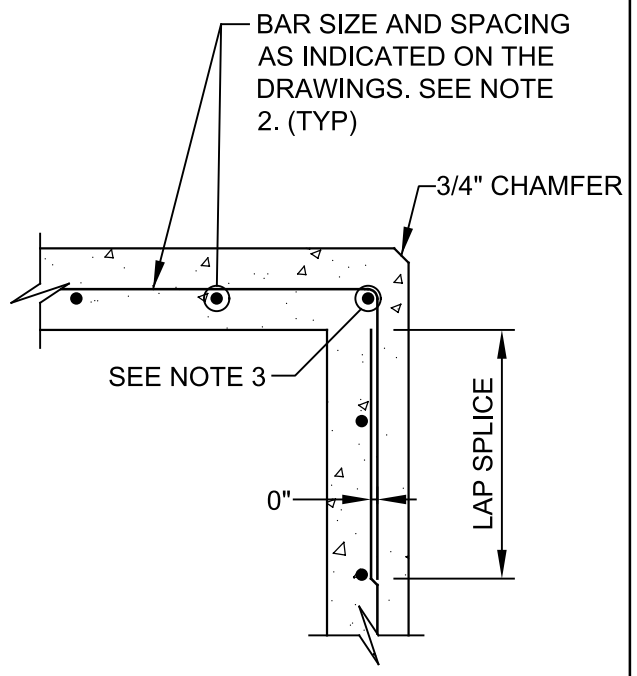
TYP

S

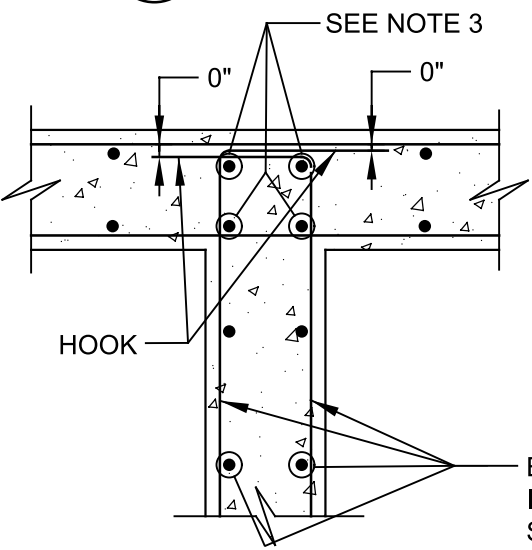




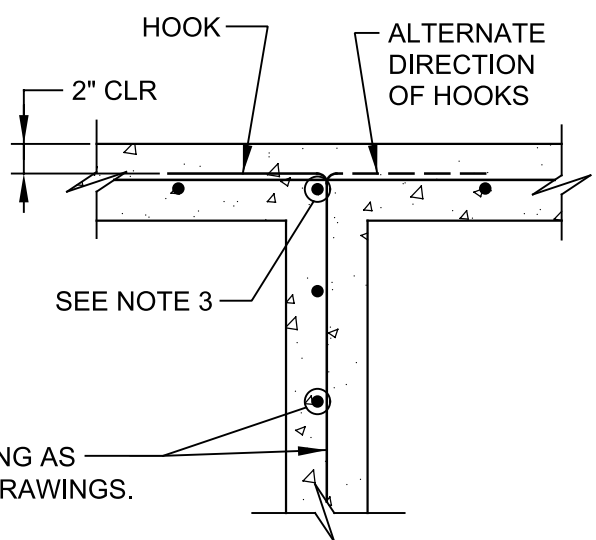
**A** DETAIL - CORNER  
- FOR DOUBLE MAT



**B** DETAIL - CORNER  
- FOR SINGLE MAT



**C** DETAIL - INTERSECTION  
- FOR DOUBLE MAT



**D** DETAIL - INTERSECTION  
- FOR SINGLE MAT

**NOTES:**

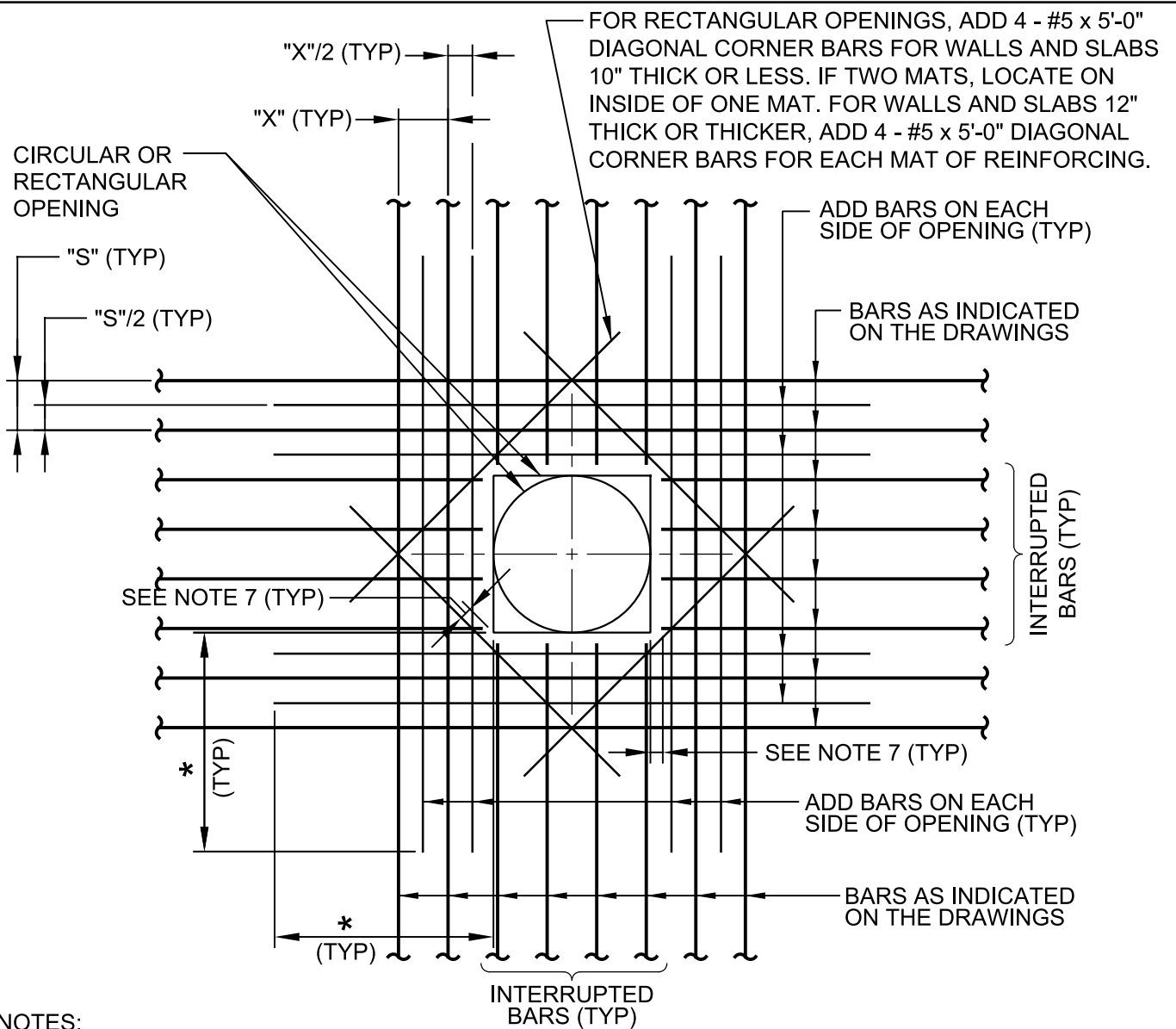
1. HOOKS SHALL BE ACI STANDARD 90-DEGREE HOOKS.
2. ORIENTATION OF BAR LAYERS SHALL BE AS INDICATED ON THE DRAWINGS.
3. BAR SIZE SHALL MATCH LARGEST BARS IN CONNECTING WALLS. PLACE BAR IN SAME LAYERS AS CONNECTING WALLS. (TYP)

**S144**  
TYP  
NS

**WALL REINFORCEMENT AT CORNERS AND INTERSECTIONS**

07/31/14





**NOTES:**

1. ADD BARS SHALL BE SAME SIZE AS PARALLEL BARS BEING CUT.
2. AREA OF ADD BARS AT EACH EDGE OF OPENING IN EACH DIRECTION SHALL BE EQUAL TO OR GREATER THAN 1/2 THE CROSS SECTIONAL AREA OF THE INTERRUPTED BARS.
3. PROVIDE STANDARD ACI HOOKS ON BARS IF STRAIGHT EXTENSION PAST THE OPENING, CANNOT BE ACHIEVED.
4. PLACE ADD BARS IN SAME PLANES AS INTERRUPTED REINFORCING.
5. PLACE #5 DIAGONAL BARS ON INSIDE MAT OF REINFORCING.
6. \* = DIMENSION EQUALS OPENING DIMENSION MEASURED PERPENDICULAR TO ADD BARS PLUS LAP SPLICE LENGTH.
7. 2" CLEAR TO CONCRETE OPENINGS OR OUTSIDE FACE OF PIPES AND PIPE SLEEVES. DO NOT OVERCUT REINFORCEMENT FOR EASIER PLACEMENT OF WEEP RINGS AND FLANGES.

S180

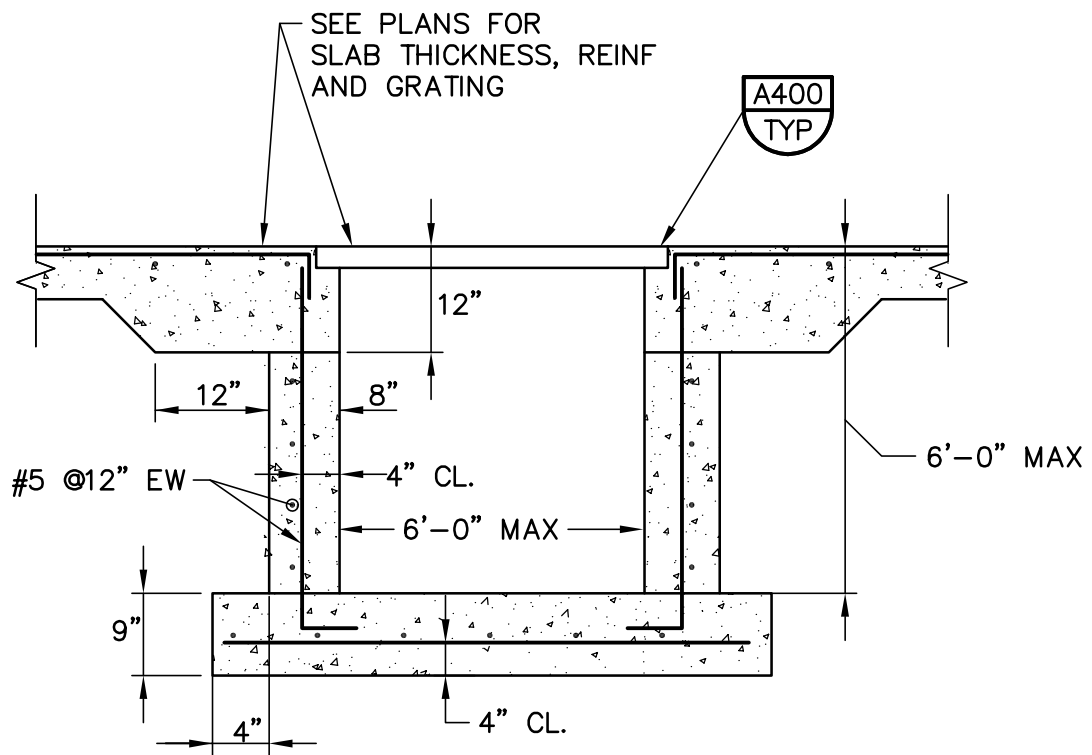
TYP

NS

**ADDITIONAL REINFORCING AT OPENINGS IN  
CONCRETE SLABS OR WALLS**

07/11/13

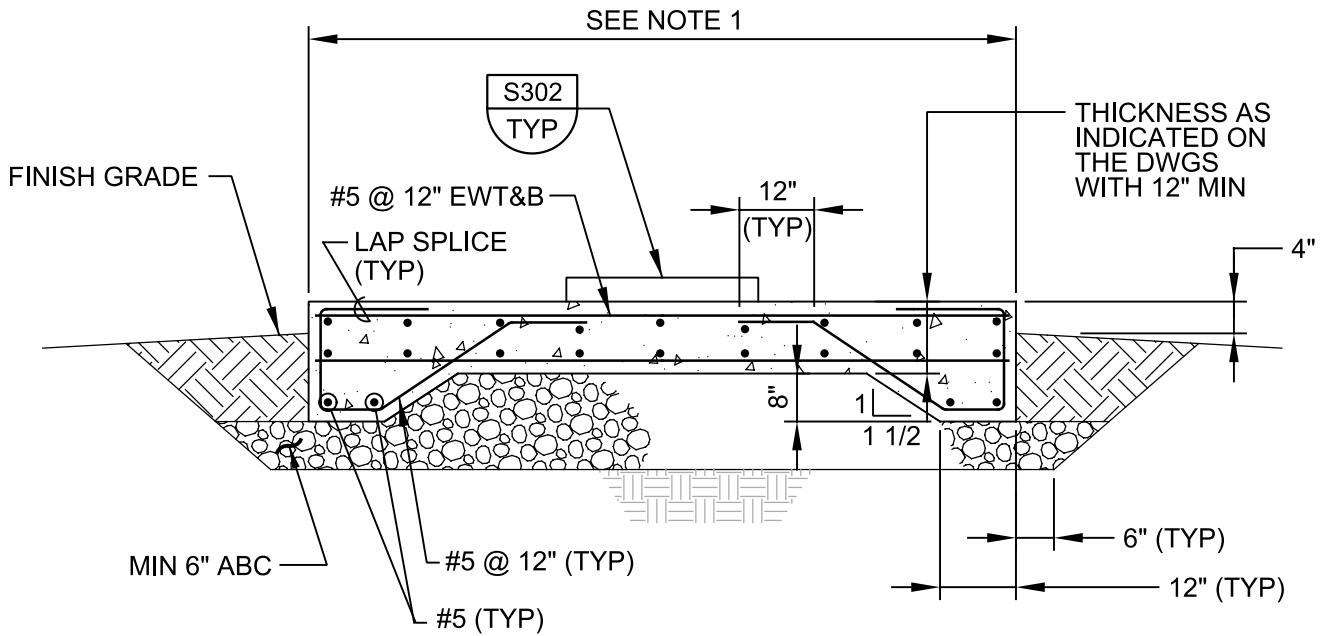
**carollo**



NOTE: SEE S144  
TYP FOR ADD'L REIN @ CORNERS

S231  
TYP SUMP DETAIL

04-19-06



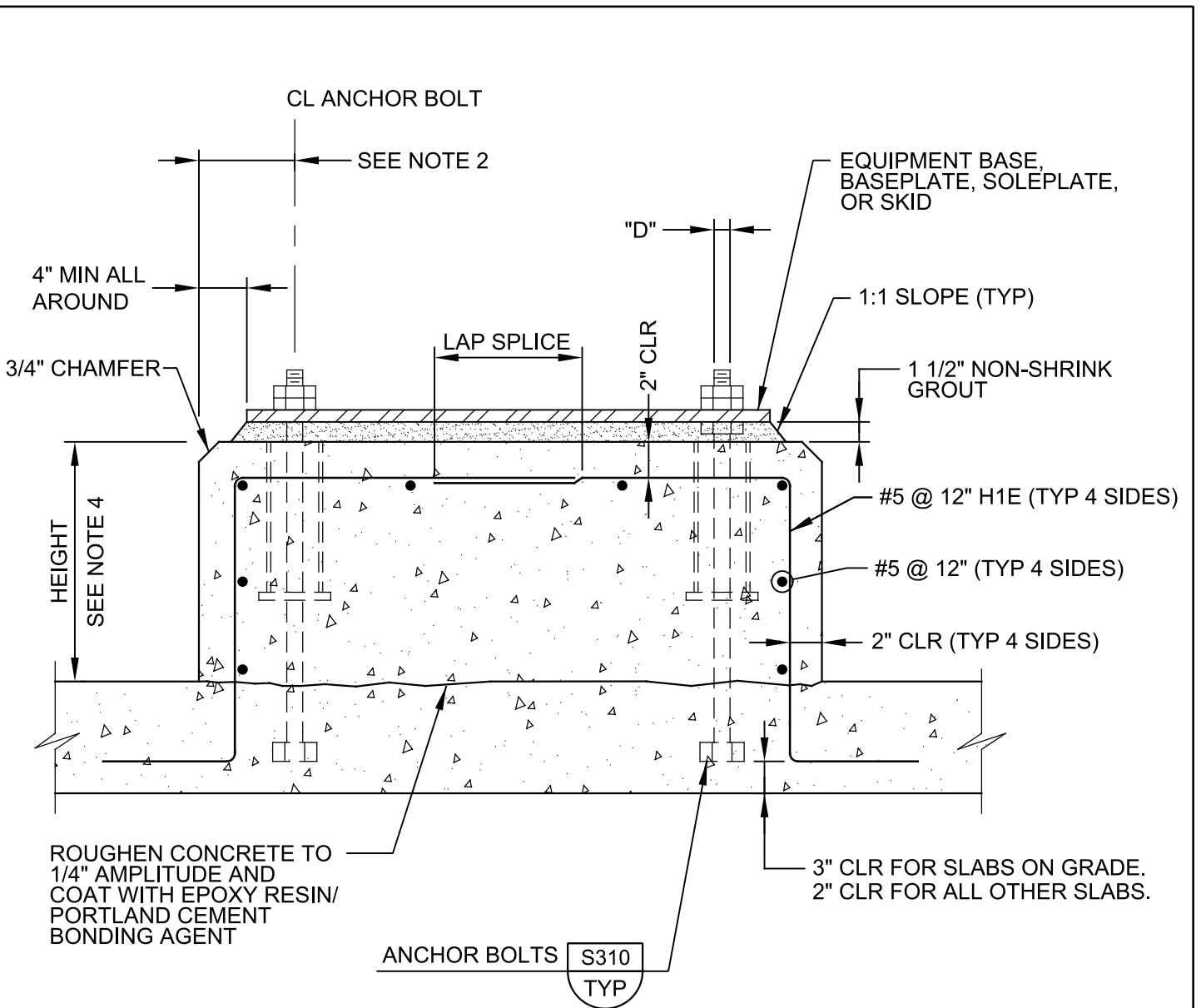
**NOTE:**

1. DIMENSIONS AS REQUIRED TO SUIT EQUIPMENT OR AS INDICATED ON THE DRAWINGS.

<div style="border: 1px solid black; border-radius: 50%; padding: 5px; width: 40px; margin: 0 auto;"> <p>S300 TYP</p> </div>	<p><b>EQUIPMENT SLAB</b></p>
--	------------------------------

02/02/2015





**NOTES:**

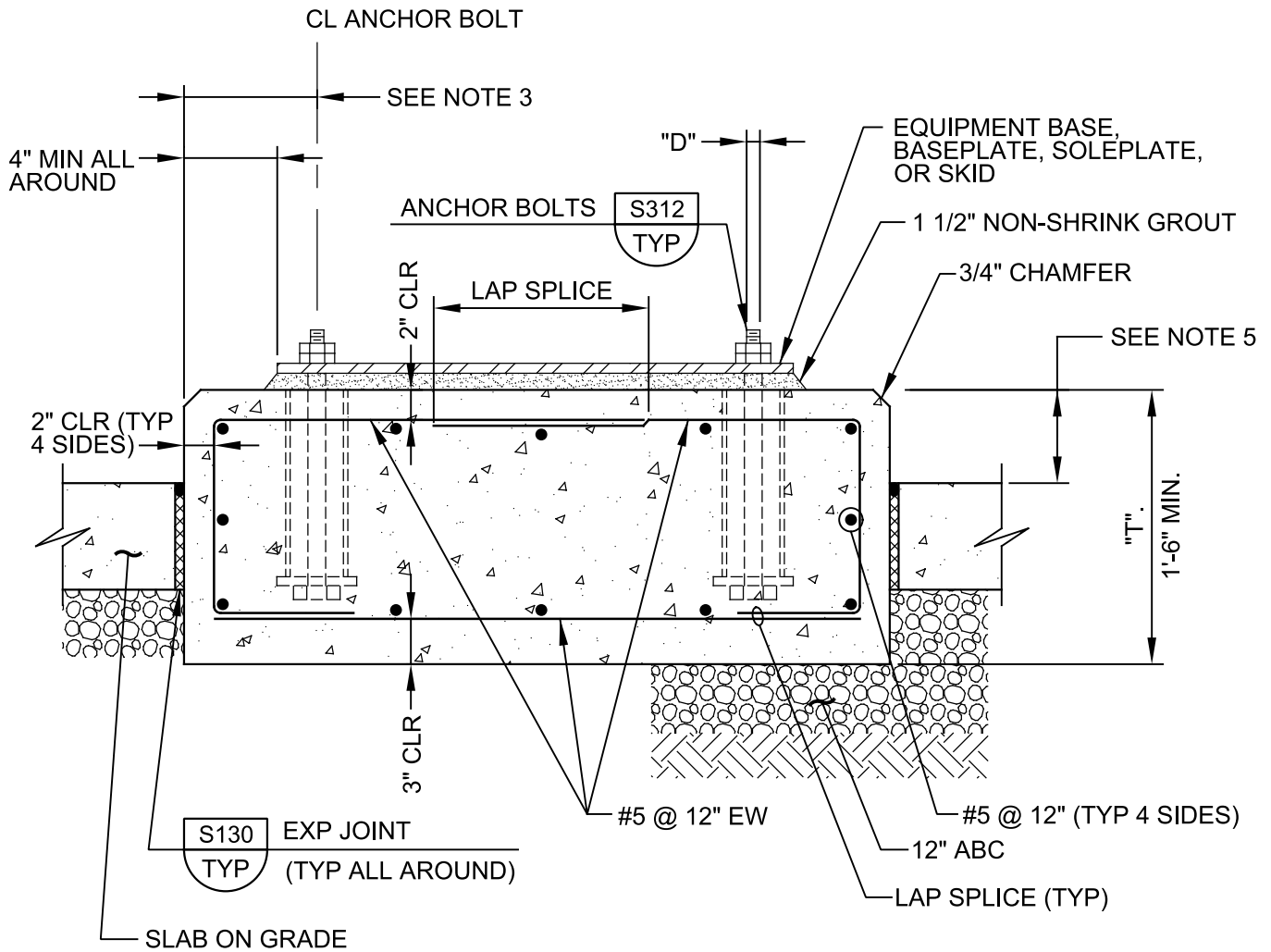
1. "D" = DIAMETER OF ANCHOR BOLT.
2. THE EDGE DISTANCE ON THE ANCHOR BOLTS SHALL NOT BE LESS THAN 6" OR 8 x "D".
3. PAD DIMENSIONS AND ANCHOR BOLT SIZE SHALL CONFORM TO EQUIPMENT MANUFACTURER'S REQUIREMENTS.
4. VARIES TO SUIT EQUIPMENT FURNISHED OR AS INDICATED ON THE DRAWINGS.
5. WHERE CONCRETE SLAB OR BEAM THICKNESS WILL NOT ACCOMMODATE THE ANCHOR BOLT, PROVIDE EXTRA THICKNESS FOR SLAB OR BEAM.

S302  
TYP  
N

**EQUIPMENT BASE**

02/02/2015





**NOTES:**

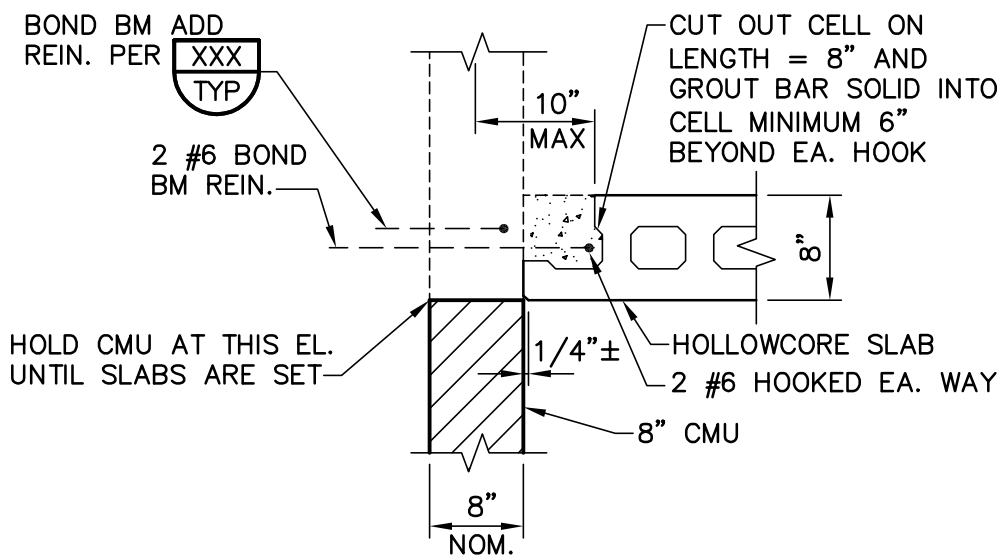
1. "D" = DIAMETER OF ANCHOR BOLT.
2. "T" = FOUNDATION THICKNESS.
3. THE EDGE DISTANCE ON THE ANCHOR BOLTS SHALL NOT BE LESS THAN 6" OR 8 x "D".
4. PAD DIMENSIONS AND ANCHOR BOLT SIZE SHALL CONFORM TO EQUIPMENT MANUFACTURER'S REQUIREMENTS.
5. HEIGHT VARIES TO SUIT EQUIPMENT FURNISHED OR AS INDICATED ON THE DRAWINGS.

**S306**  
TYP  
N

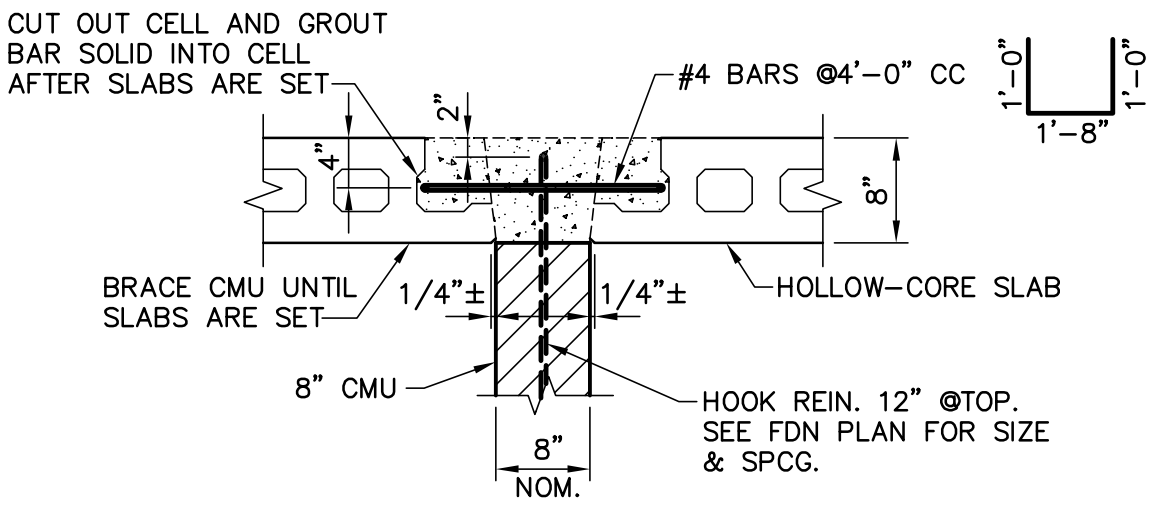
**ISOLATED EQUIPMENT FOUNDATION**

02/02/2015

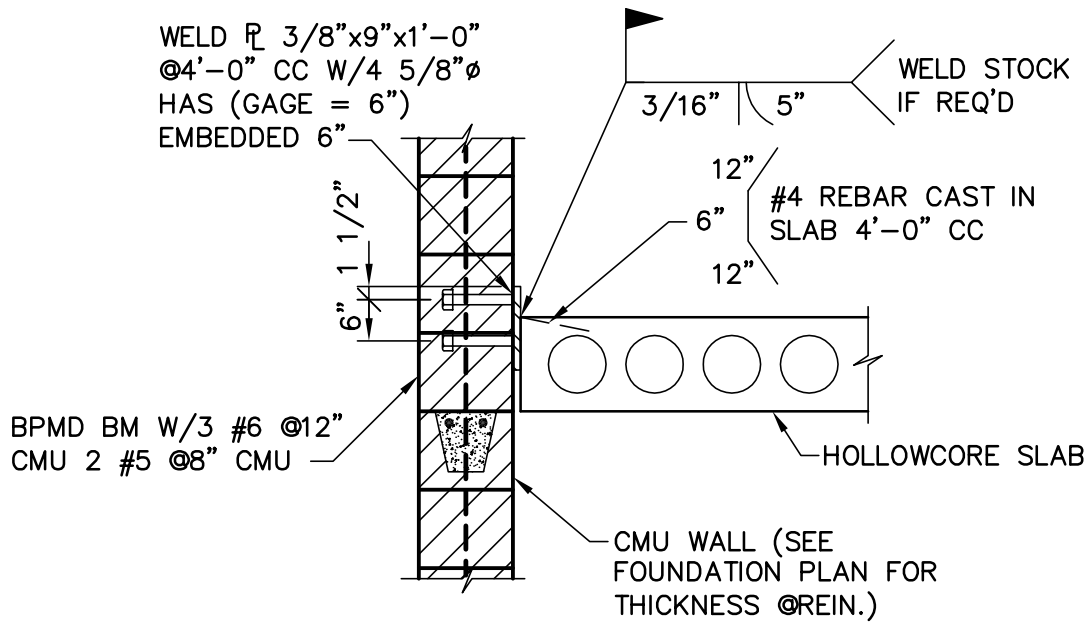




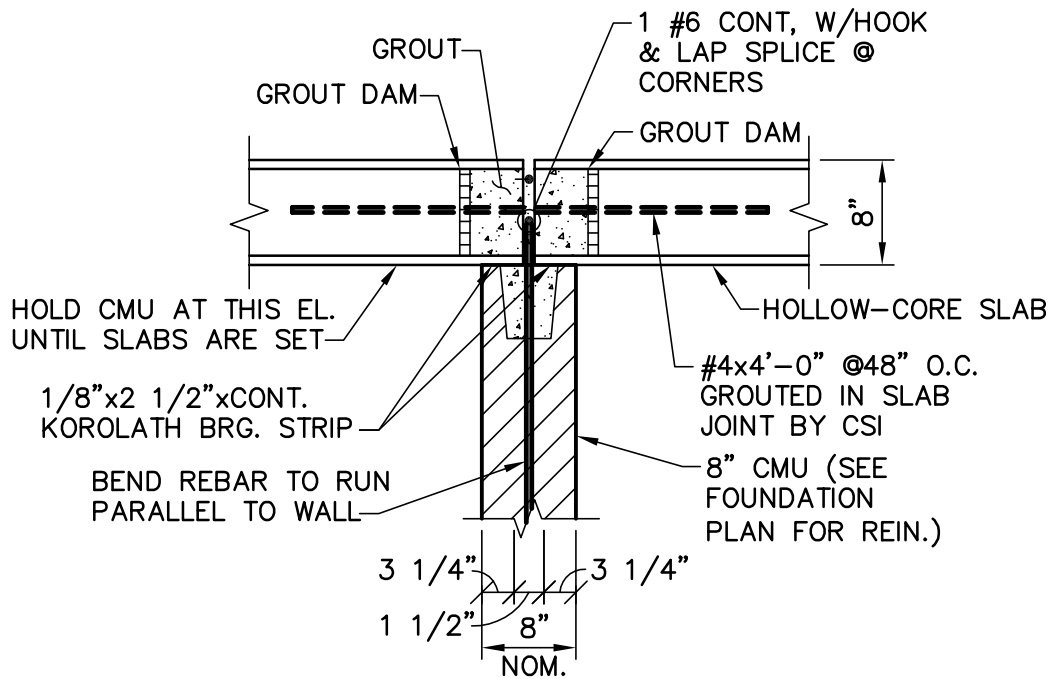
**PRECAST PLANK  
@ BOND BM  
INTERSECTION**



**PRECAST @ INTERIOR  
NON-BEARING SHEAR  
WALL**



**PRECAST**  
**@NON-BEARING WALL**

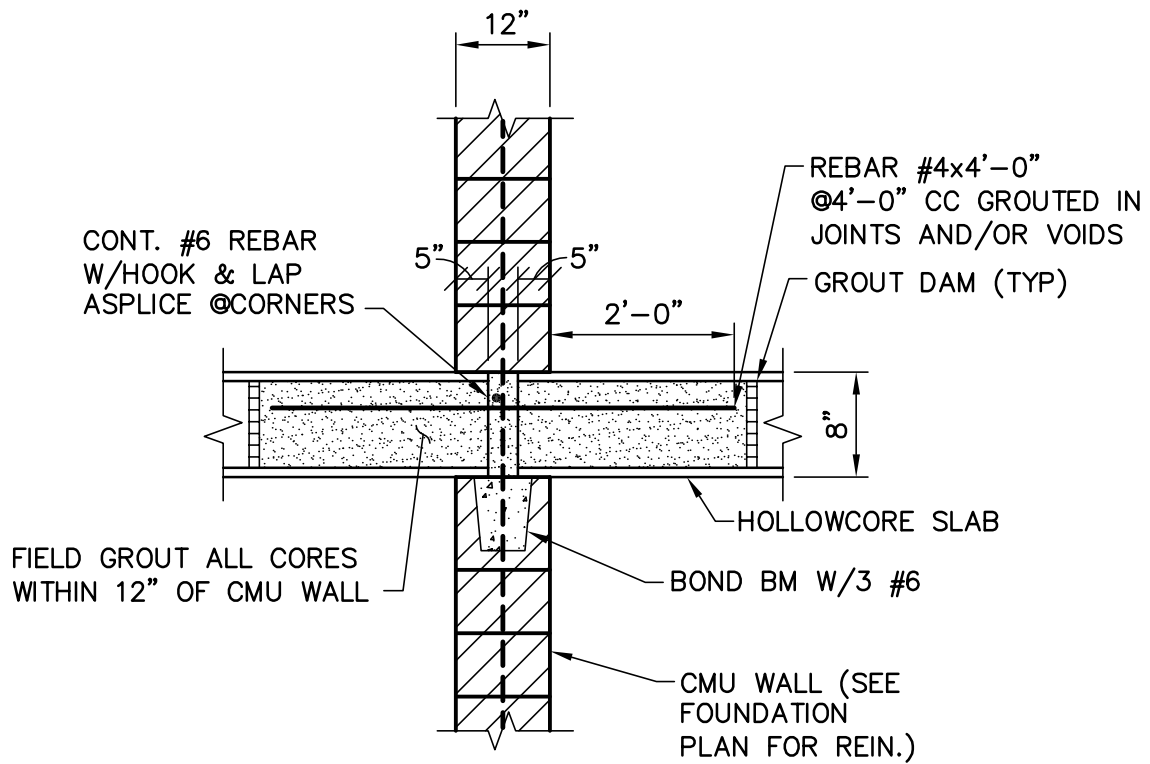


**PRECAST @INTERIOR 8"**  
**BEARING WALL**

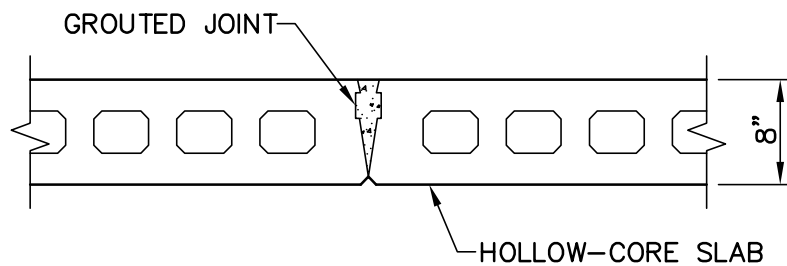


**PRECAST CONC. PLANK**





**PRECAST @INTERIOR 12"**  
**BEARING WALL**

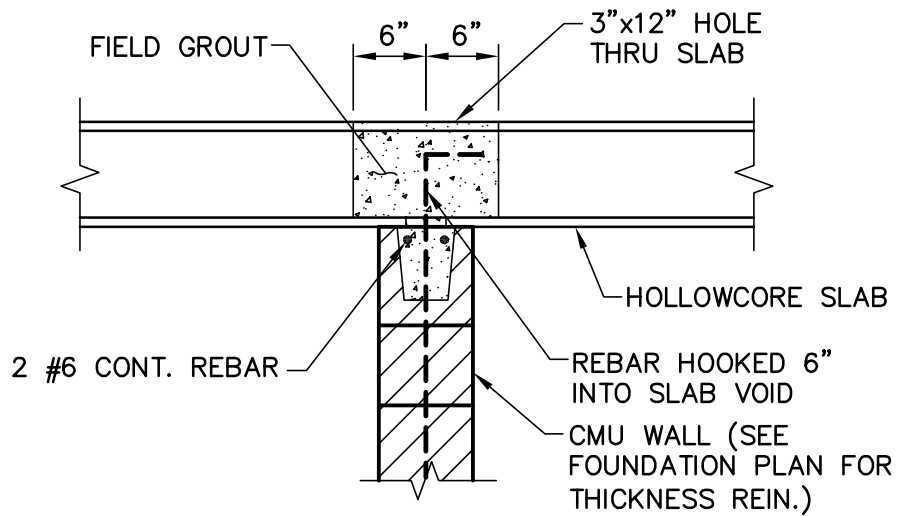


**PRECAST JOINT**

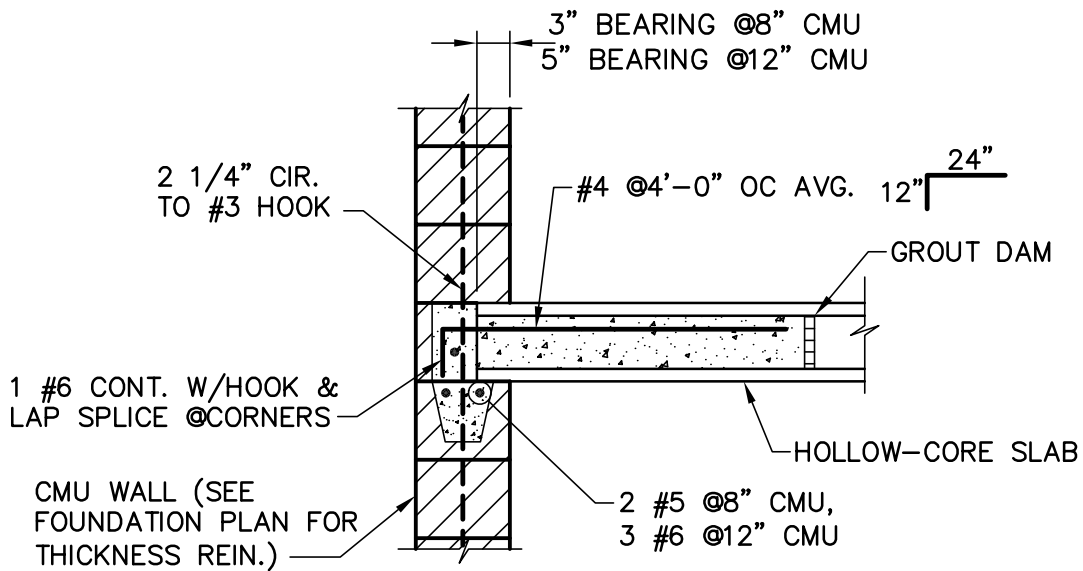


**PRECAST CONC. PLANK**

SHEET 3 OF 5 S308c-N-P 02-02-06  
N.T.S.



**PRECAST BEARING**  
**@INTERMEDIATE WALL**

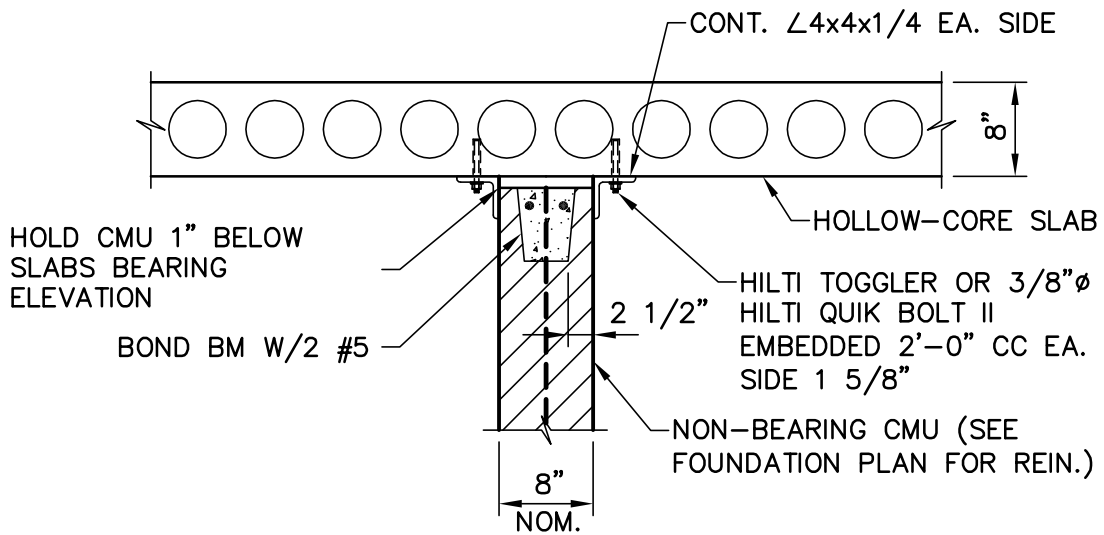


**PRECAST BEARING**  
**@EXTERIOR WALL**



**PRECAST CONC. PLANK**

SHEET 4 OF 5 S308d-N-P 02-02-06  
N.T.S.



**NON-SHEAR WALL**  
**BRACING @PRECAST**



**PRECAST CONC. PLANK**

SHEET 5 OF 5    S308e-N-P    02-02-06  
 N.T.S.

1. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, ALL WALLS SHALL BE REINFORCED WITH A MINIMUM OF #5 VERTICAL REINFORCING BARS AT 2'-8" O.C. IN GROUDED CELLS, AND #5 HORIZONTAL REINFORCING BARS AT 4'-0" IN GROUDED BOUND BEAMS. SEE NOTE 2 FOR ADDITIONAL REINFORCING BARS.
2. A VERTICAL BAR SHALL BE PLACED AT ALL WALL CORNERS, AT EACH SIDE OF CONTROL JOINTS, AND AT WALL INTERSECTIONS. A VERTICAL BAR SHALL BE PLACED IN EACH OF THE FIRST TWO CELLS AT EACH JAMB OF ALL WALL OPENINGS. BAR SIZE SHALL NOT BE SMALLER THAN THAT OF THE TYPICAL VERTICAL WALL REINFORCING BARS.
3. LAP SPLICES:
  - A. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, THE BARS AT A LAP SPLICE SHALL BE IN CONTACT WITH EACH OTHER.
  - B. BAR LAP SPLICES NOT SPECIFIED ON THE DRAWINGS OR IN THE FOLLOWING TABLE SHALL NOT BE LESS THAN 72 BAR DIAMETERS.
  - C. THE MASONRY SIDE COVER OVER THE REINFORCING BARS SHALL NOT BE LESS THAN 2 INCHES FROM FACE OF MASONRY TO THE EXTERIOR FACE OF THE BAR.

REINFORCING BAR LAP SPLICES: $f_m = 1500\text{psi}$ , $F_y = 60,00\text{psi}$				
BAR SIZE	LAP SPLICE LENGTH (INCHES)			
	8" CMU: BAR CENTERED IN WALL	8" CMU: BAR @ FACE OF WALL	12" CMU: BAR CENTERED IN WALL	12" CMU: BAR @ FACE OF WALL
#4	21"	26"	21"	26"
#5	26"	40"	26"	40"
#6	42"	54"	40"	54"
#7	58"	63"	46"	63"

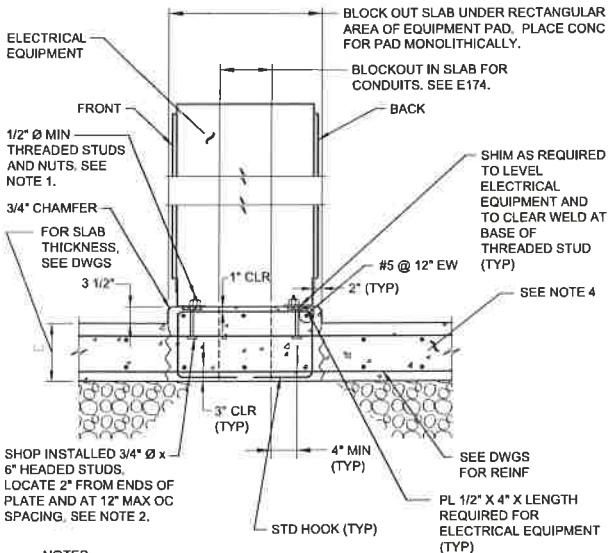
S400

TYP

## MASONRY NOTES

03/04/14

 **carollo**



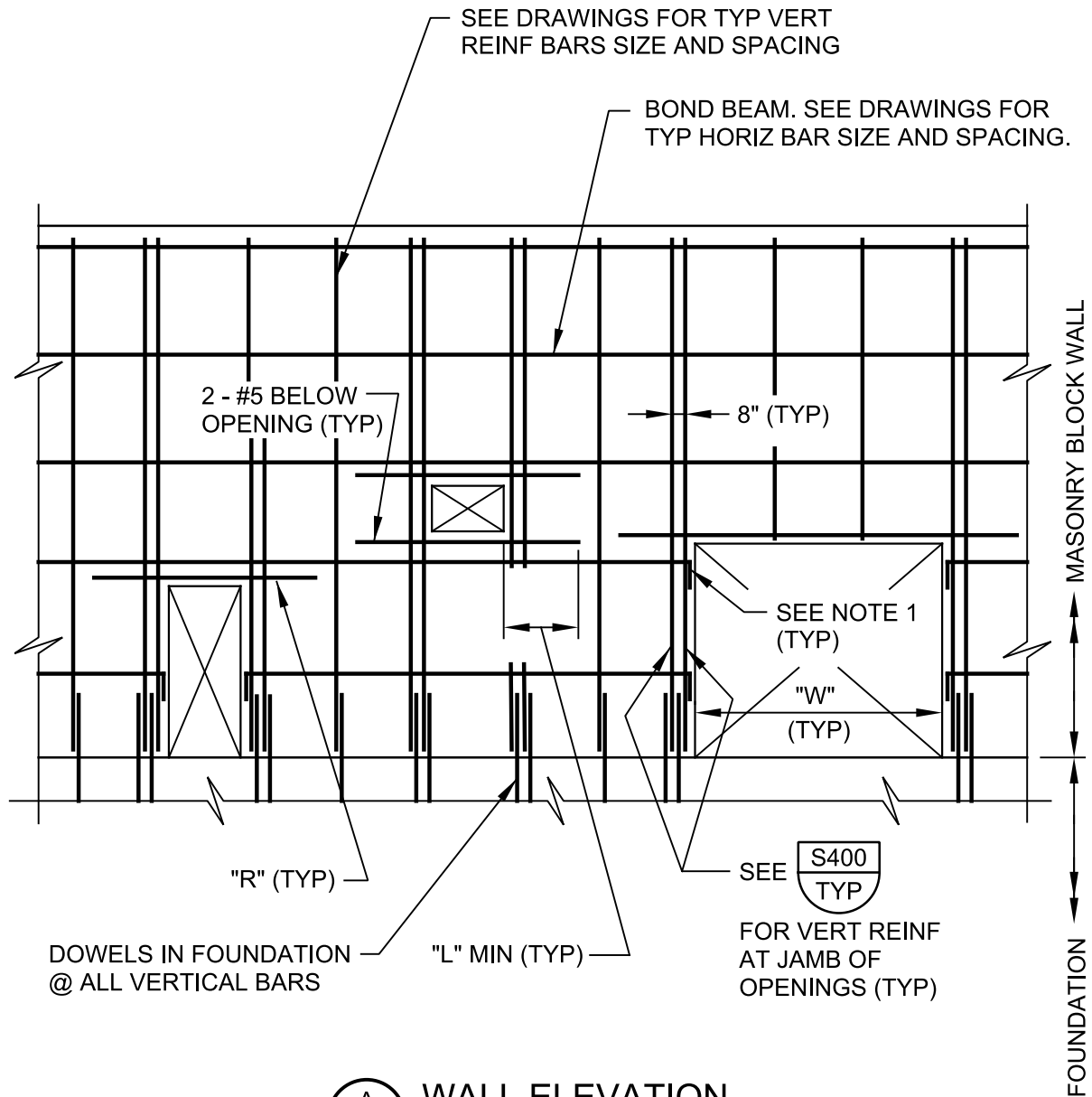
**NOTES:**

1. FIELD INSTALL THREADED STUDS. LOCATE STUDS TO SUIT EQUIPMENT. THREADED STUD DIA AS REQUIRED FOR ELECTRICAL EQUIPMENT.
2. THE SPACING OF HEADED STUDS ON THE PLATE SHALL BE REDUCED AS REQUIRED TO PREVENT OVERSTRESS OF THE PLATE AND HEADED STUDS DUE TO SEISMIC LOAD FROM THE ELECTRICAL EQUIPMENT SUPPLIED.
3. THE INSTALLED PLATE SHALL NOT DEVIATE FROM A STRAIGHT LINE BY MORE THAN 1/8" IN 10 FEET.
4. PLACE CONCRETE FOR ELECTRICAL EQUIPMENT CONCRETE PAD AFTER REST OF SLAB HAS BEEN PLACED. ADJUST SLAB REINFORCEMENT AS REQUIRED FOR HEADED STUD PLACEMENT.



**ELECTRICAL EQUIPMENT PAD AND ANCHORAGE**

02-05-10



(A) WALL ELEVATION

**NOTES:**

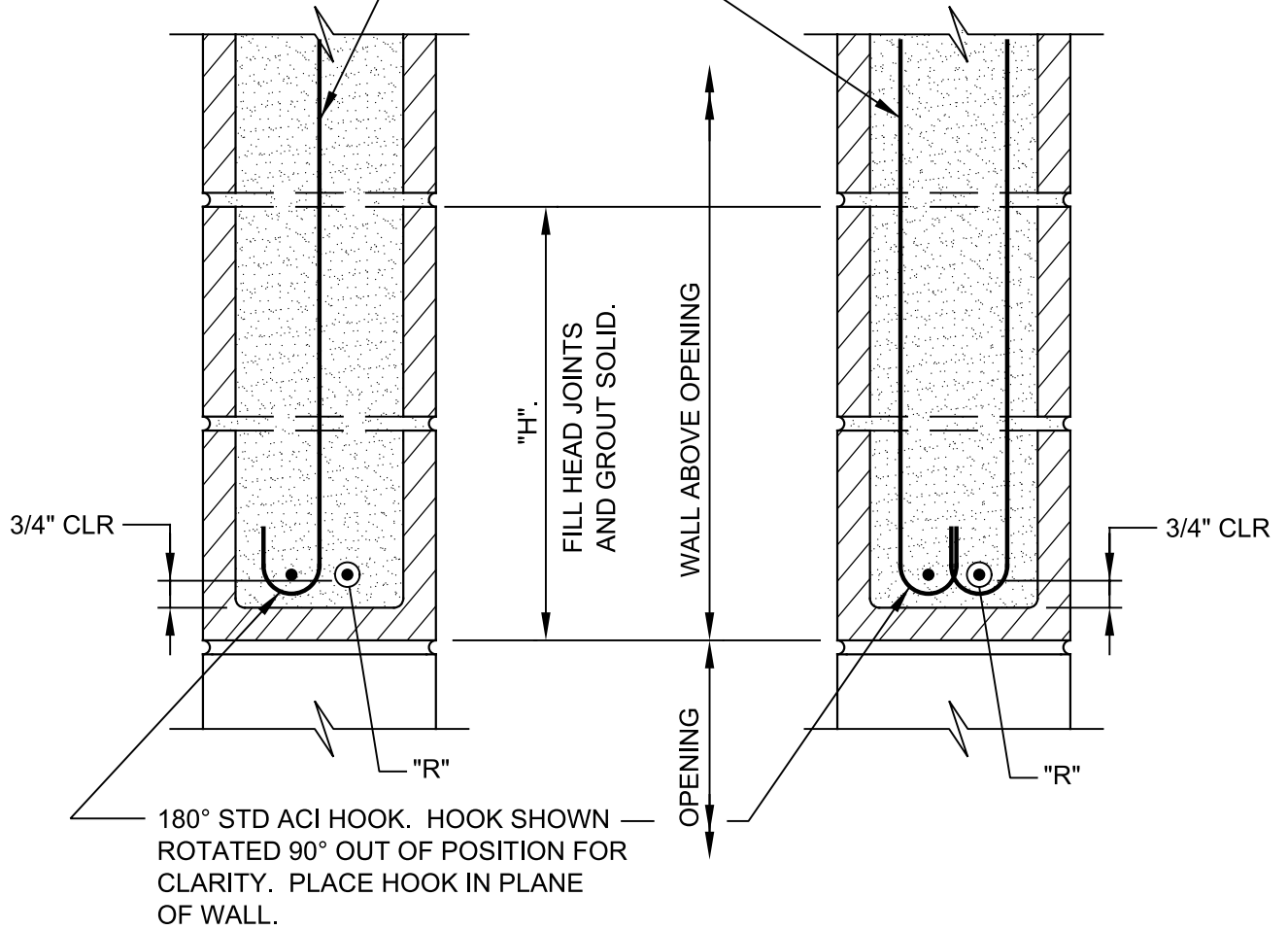
1. ACI STANDARD 90° HOOK ON HORIZONTAL BARS AT OPENINGS.
2. FOR ADDITIONAL REINFORCING, SEE DRAWINGS.
3. DO NOT PLACE VERTICAL CONDUITS IN CELLS WITH VERTICAL REINFORCING BARS.

S410  
TYP

**REINFORCED MASONRY WALL**

NS

TYPICAL WALL REINF BARS  
UNLESS OTHERWISE  
INDICATED ON THE  
DRAWINGS. SEE  
DRAWINGS FOR BAR  
SIZE AND SPACING.



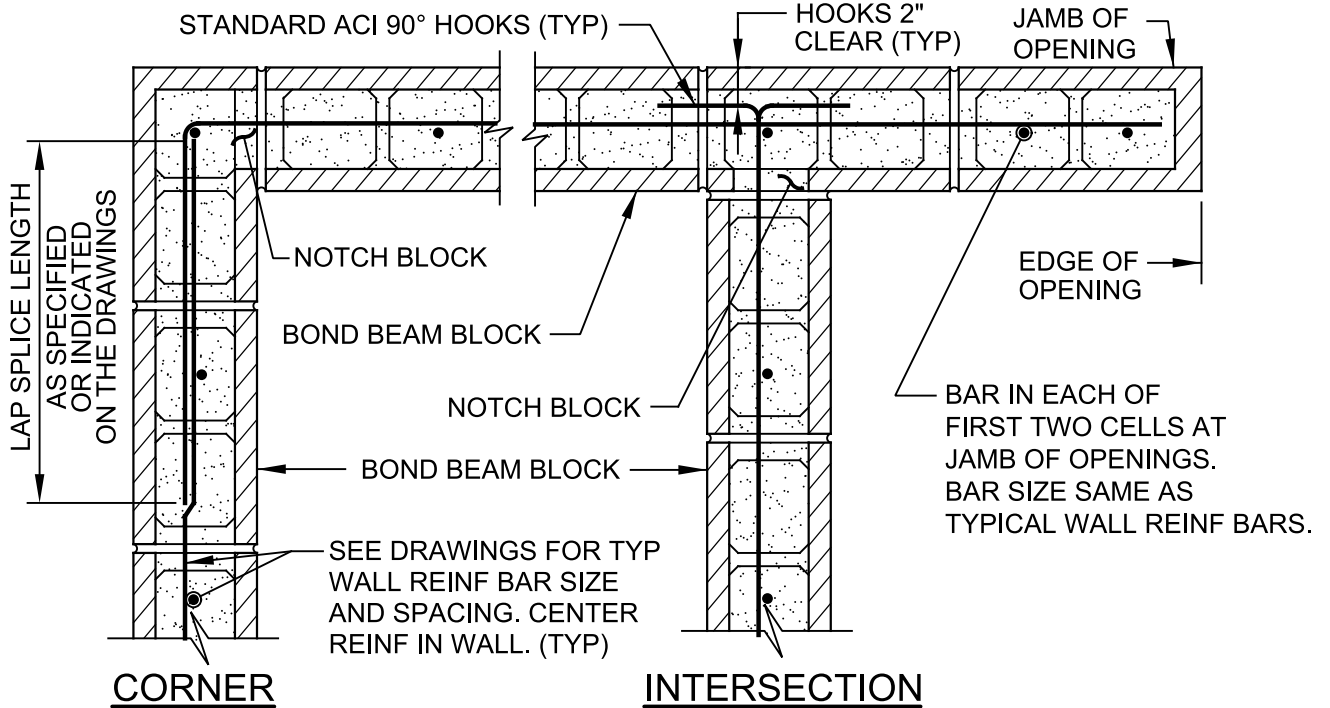
**B**  
-  
**LINTEL AT OPENING  
WITH SINGLE WALL  
REINF MAT**

**C**  
-  
**LINTEL AT OPENING  
WITH DOUBLE WALL  
REINF MAT**

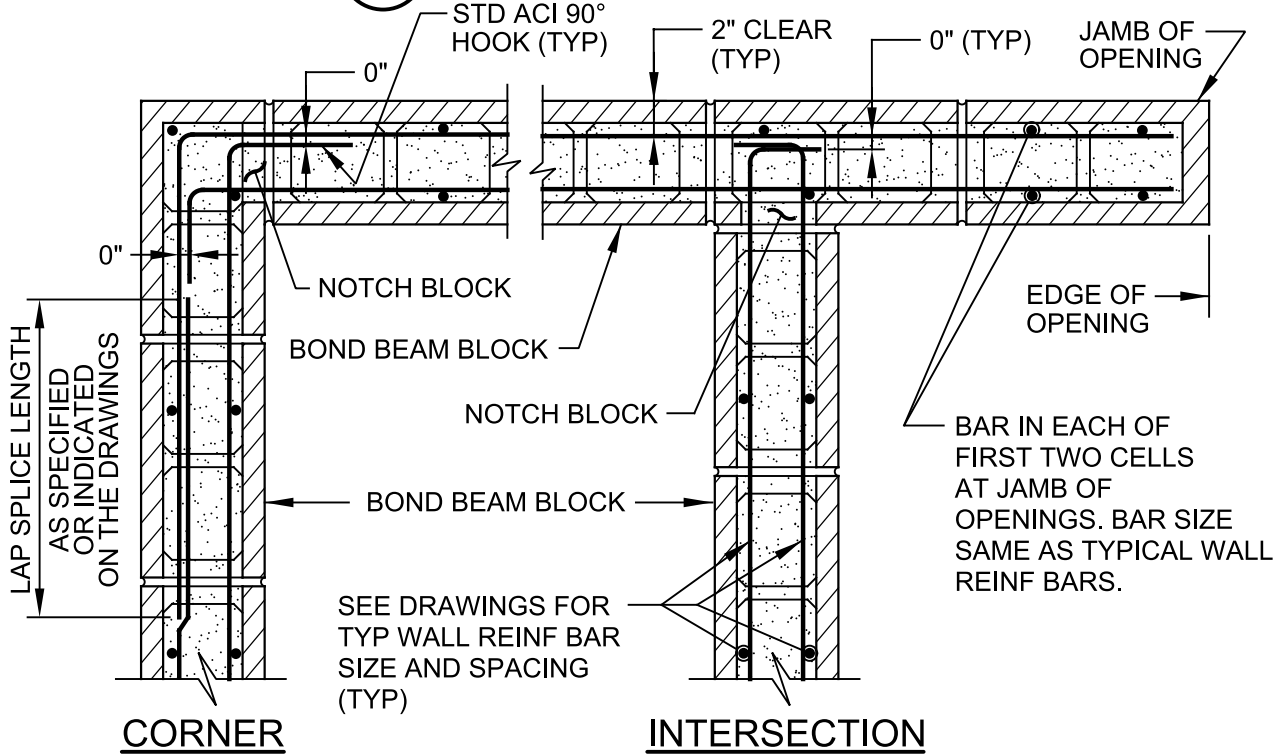
LINTEL REINFORCEMENT SCHEDULE			
"W"	"R"	"L"	"H"
LESS THAN 5'-0"	2 - #5	2'-6"	16"
GREATER THAN 5'-0" TO 7'-0"	2 - #6	3'-0"	32"
GREATER THAN 7'-0" TO 12'-0"	2 - #7	3'-6"	40"

**S410**  
TYP  
NS

**REINFORCED MASONRY WALL**



**A** SINGLE BAR BOND BEAM



**B** DOUBLE BAR BOND BEAM

S412

TYP

S

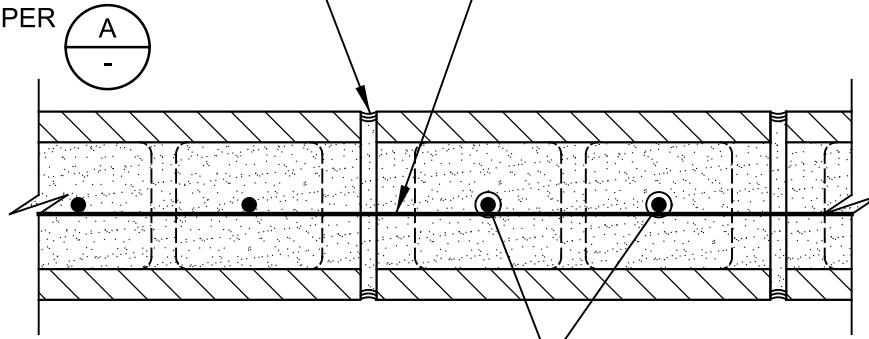
REINFORCING AT MASONRY BOND BEAM

08/01/05



RAKE MORTAR 1/2" DEEP FROM CONTROL JOINT AND CAULK PER

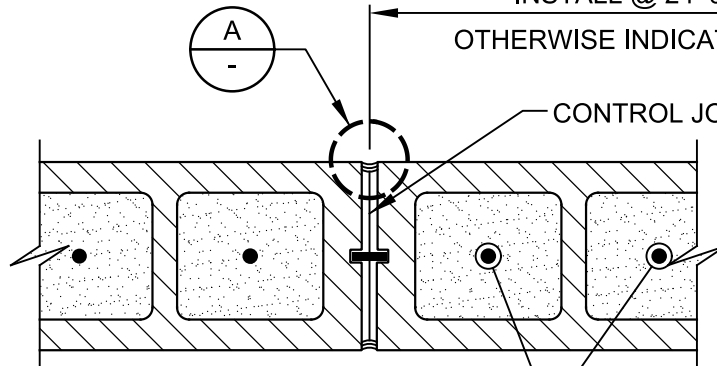
CONTINUOUS HORIZ REINF BARS IN GROUTED BOND BEAM



**SECTION AT BOND BEAM WITH SINGLE WALL REINF MAT**

#5 MIN. SEE DRAWINGS FOR BAR SIZE AND SPACING. (TYP EACH SIDE OF CONTROL JOINT)

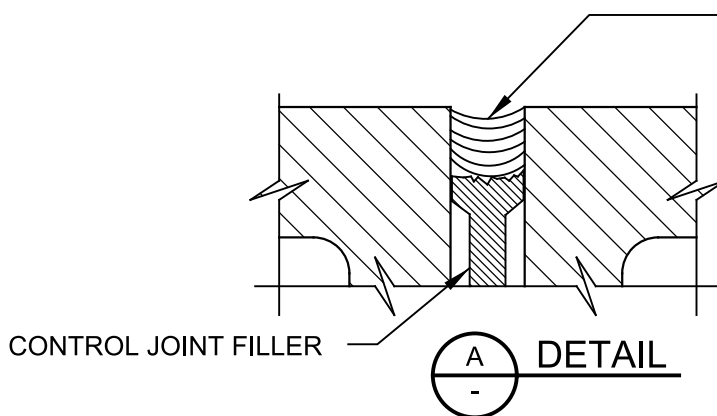
INSTALL @ 24'-0" UNLESS OTHERWISE INDICATED ON DRAWINGS



#5 MIN. SEE DRAWINGS FOR BAR SIZE AND SPACING. (TYP EACH SIDE OF CONTROL JOINT)

**SECTION ABOVE OR BELOW BOND BEAM WITH SINGLE WALL REINF MAT**

CAULK EXPOSED WALLS AFTER THOROUGH CLEANING. CAULKING SHALL MATCH MASONRY COLOR OR COATING COLOR.



CONTROL JOINT FILLER

DETAIL

S430

MASONRY CONTROL JOINT

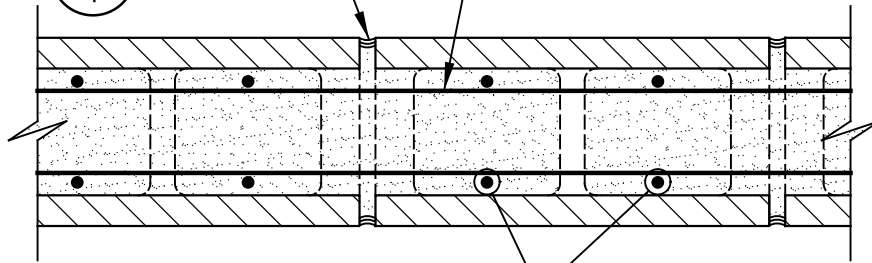
TYP

S

RAKE MORTAR 1/2" DEEP FROM CONTROL JOINT AND CAULK PER



CONTINUOUS HORIZ REINF BARS IN GROUDED BOND BEAM



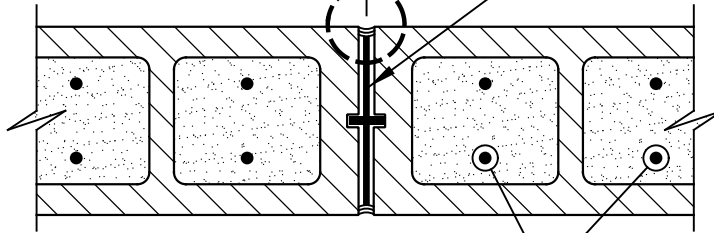
#5 EF MIN. SEE DRAWINGS FOR BAR SIZE AND SPACING. (TYP EACH SIDE OF CONTROL JOINT)

SECTION AT BOND BEAM  
WITH DOUBLE WALL REINF MAT

INSTALL @ 24'-0" UNLESS OTHERWISE INDICATED ON DRAWINGS



CONTROL JOINT FILLER



#5 MIN. SEE DRAWINGS FOR BAR SIZE AND SPACING. (TYP EACH SIDE OF CONTROL JOINT)

SECTION ABOVE OR BELOW BOND BEAM  
WITH DOUBLE WALL REINF MAT

S430

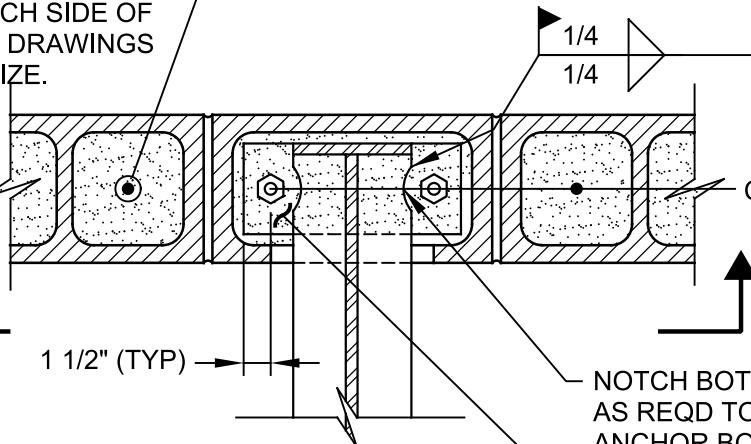
MASONRY CONTROL JOINT

TYP

S

LOCATE TYP WALL BAR  
IN CELL EACH SIDE OF  
BEAM. SEE DRAWINGS  
FOR BAR SIZE.

B  
-



1 1/2" (TYP)

1/4

1/4

CL WALL, AB, AND PL

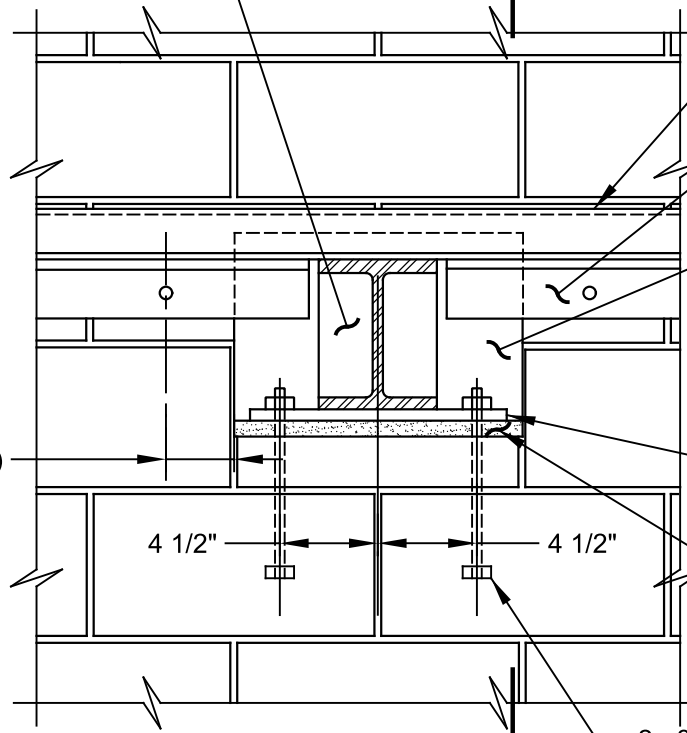
NOTCH BOTTOM FLANGE  
AS REQD TO CLEAR  
ANCHOR BOLTS

GROUT BEAM POCKET  
SOLID AFTER ROOF  
IS INSTALLED

A PLAN

1/4" STIFFENER PL (TYP)

C  
2



STEEL ROOF DECK

LEDGER ANGLE (TYP)

GROUT BEAM POCKET  
SOLID AFTER ROOF  
IS INSTALLED

PL 1" x 4 1/2" x 12"

1" NON-SHRINK GROUT

2 - 3/4" Ø ANCHOR BOLTS WITH  
LEVELING NUTS AND 12" EMBED.

4" (TYP)

4 1/2"

4 1/2"

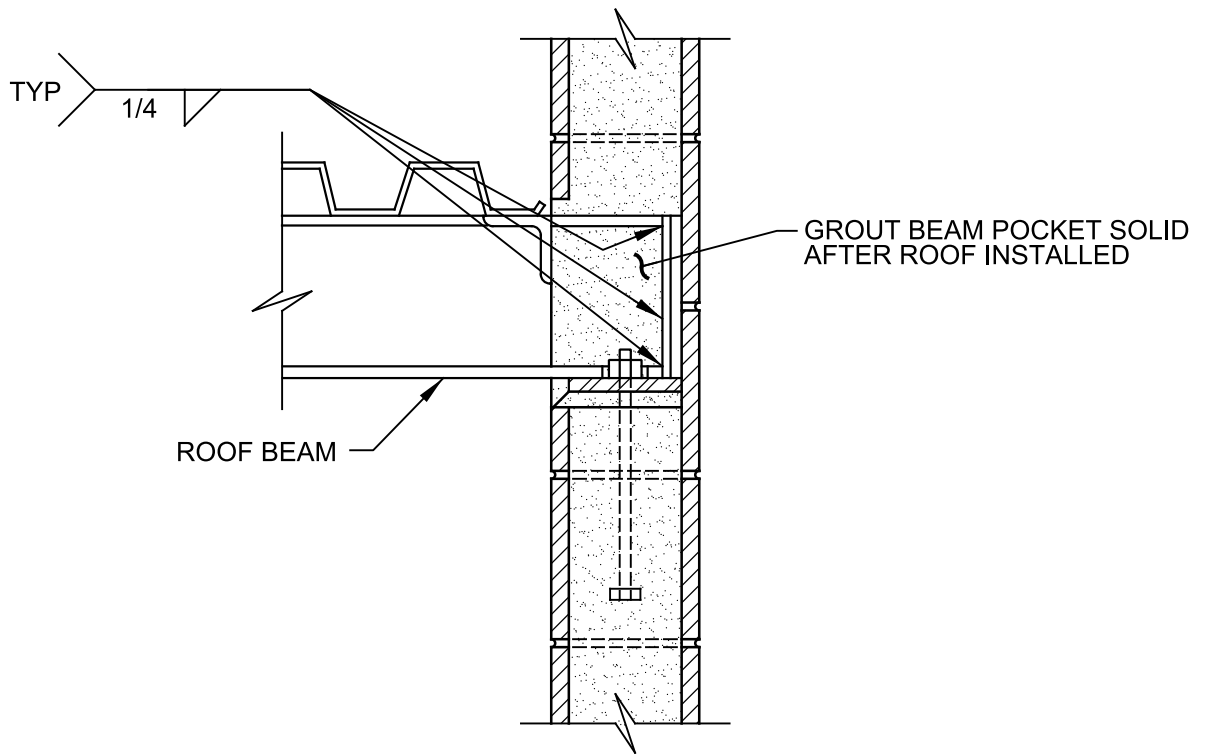
B SECTION

S450

TYP

NS

# 8" CMU WALL ROOF BEAM TO EXTERIOR WALL CONNECTION



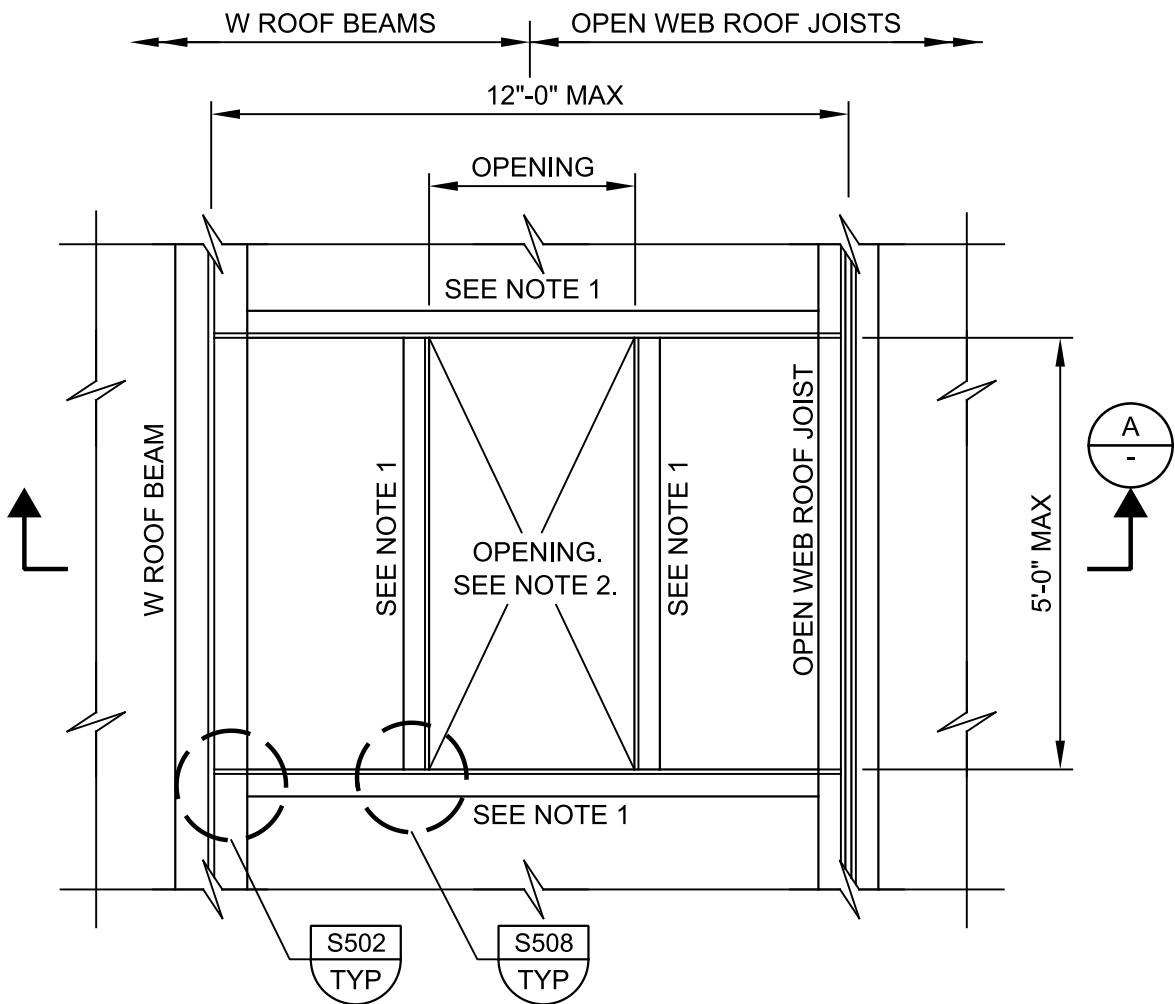
C SECTION  
1

**NOTE:**

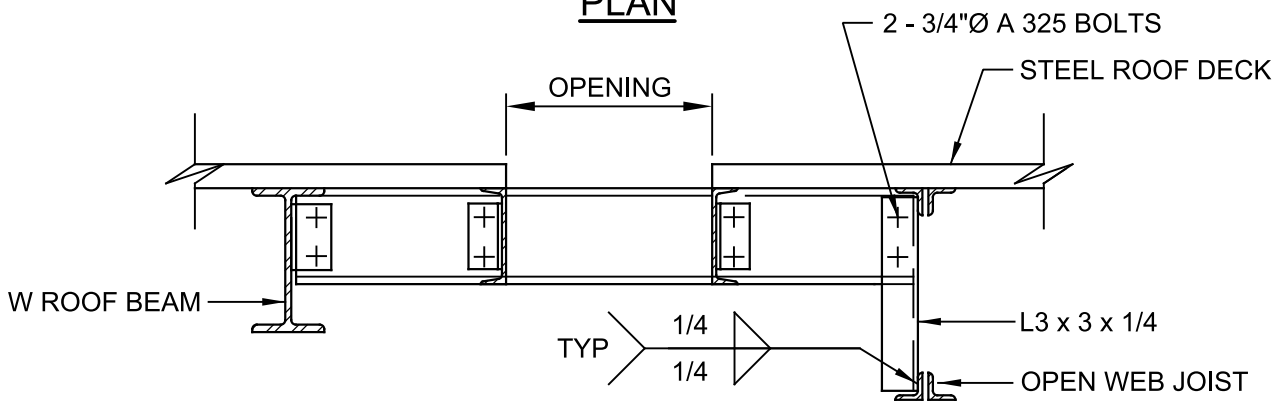
1. GROUT WALL SOLID FULL HEIGHT OVER 4'-0" WIDTH CENTERED ON BEAM. WHERE OPENING OCCURS BELOW THE BEAM, FILL HEAD JOINTS AND GROUT SOLID FOR FULL HEIGHT ABOVE OPENING.

S450  
 TYP  
 NS

## 8" CMU WALL ROOF BEAM TO EXTERIOR WALL CONNECTION



**PLAN**



**SECTION A-A**

**NOTES:**

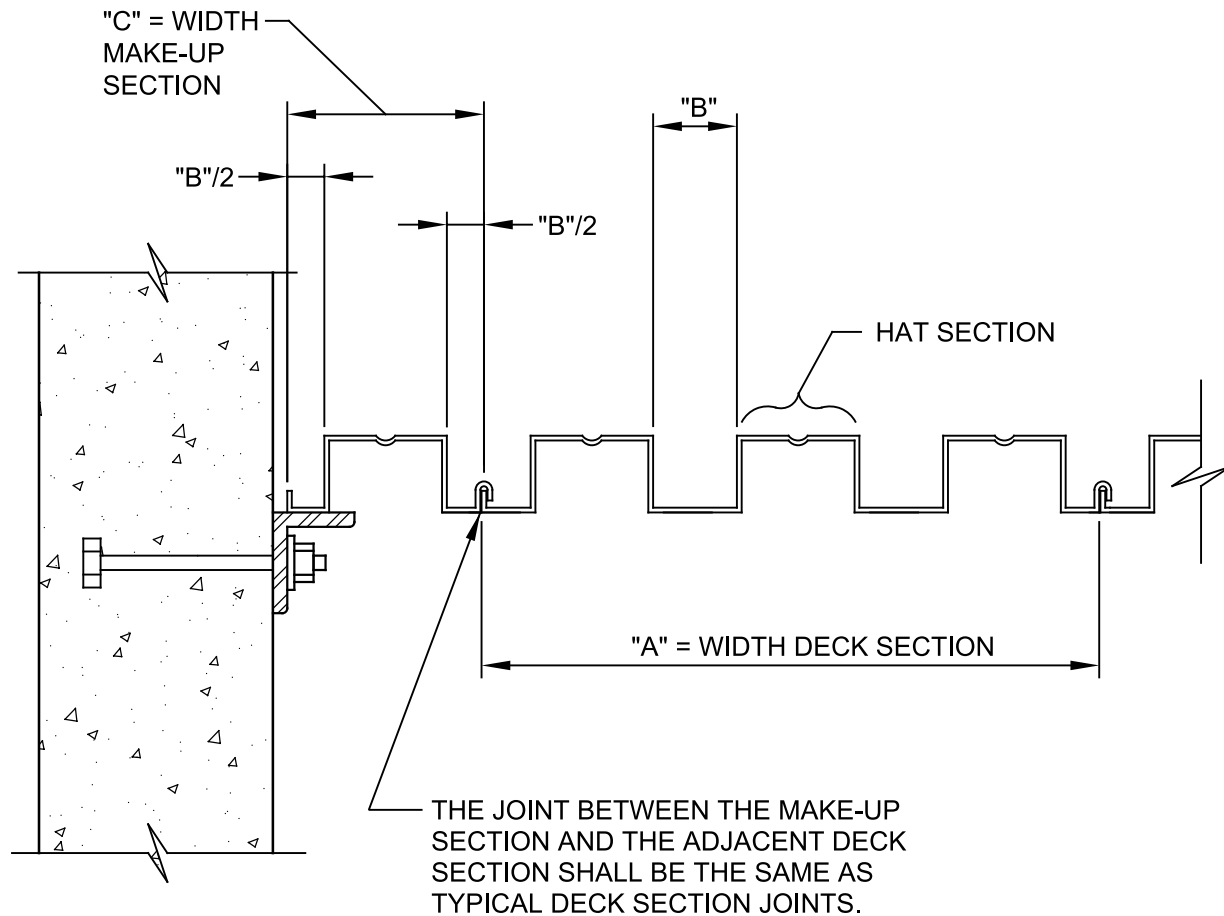
1. SEE ROOF FRAMING PLAN FOR BEAM SIZE.
2. PROVIDE OPENING SIZE TO SUIT EQUIPMENT PROVIDED.

**S520**  
TYP  
N

**FRAMED ROOF OPENING ASSEMBLY**

08/31/09





**NOTES:**

1. GAUGE OF MAKE-UP SECTION SHALL BE THE SAME AS THE ROOF DECK SECTION GAUGE AS INDICATED ON THE DRAWINGS. IF "C" IS GREATER THAN 2/3 "A", THE MAKE-UP SECTION SHALL CONSIST OF THREE HAT SECTIONS. TWO HAT SECTIONS ARE REQUIRED WHEN "C" IS GREATER THAN "A"/3, AND ONE HAT SECTION IS REQUIRED WHEN "C" IS LESS THAN "A"/3.
2. SEE ROOF FRAMING PLAN FOR DECK WELDING.
3. ROOFING AND INSULATION NOT SHOWN FOR CLARITY.

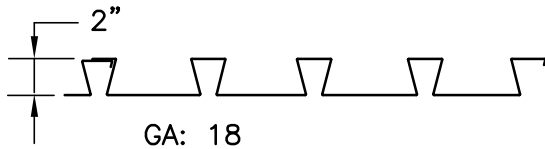
S702

**ROOF DECK MAKE-UP SECTION**

TYP

N

08/31/09

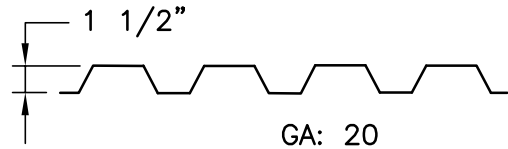


GA: 18

MIN S = 0.430 IN<sup>3</sup>/FT

MIN I = 0.628 IN<sup>4</sup>/FT

DECK TYPE 2

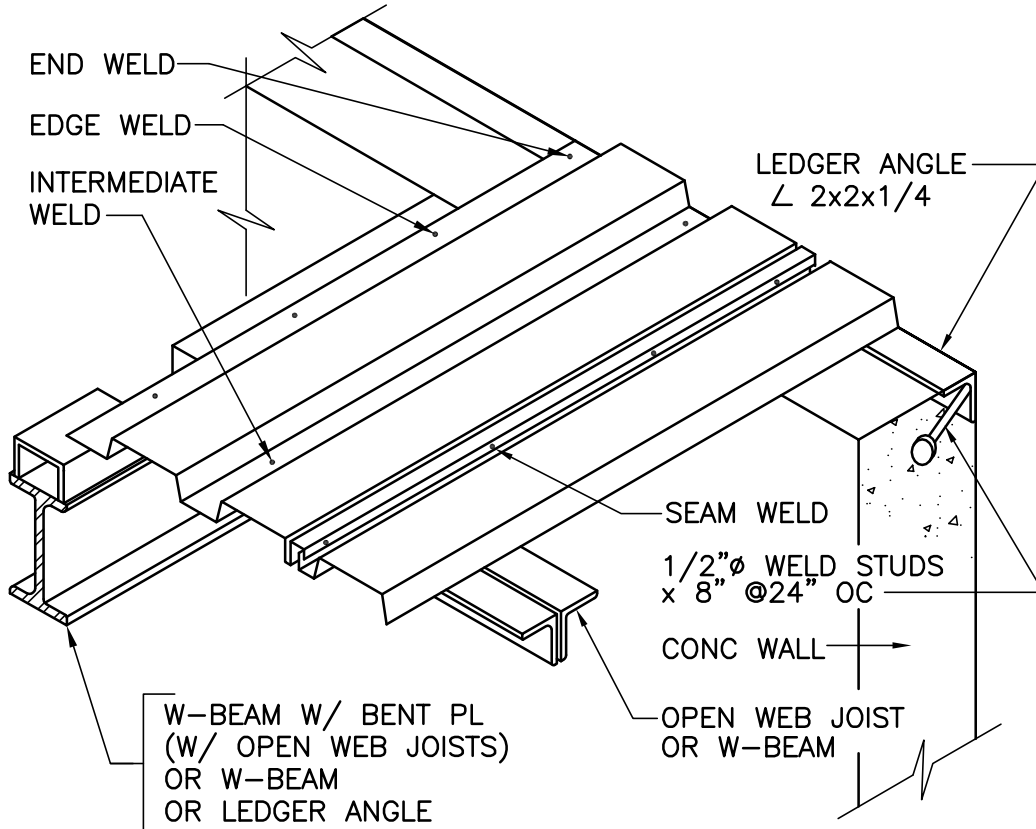


GA: 20

MIN S = 0.233 IN<sup>3</sup>/FT

MIN I = 0.252 IN<sup>4</sup>/FT

DECK TYPE 1

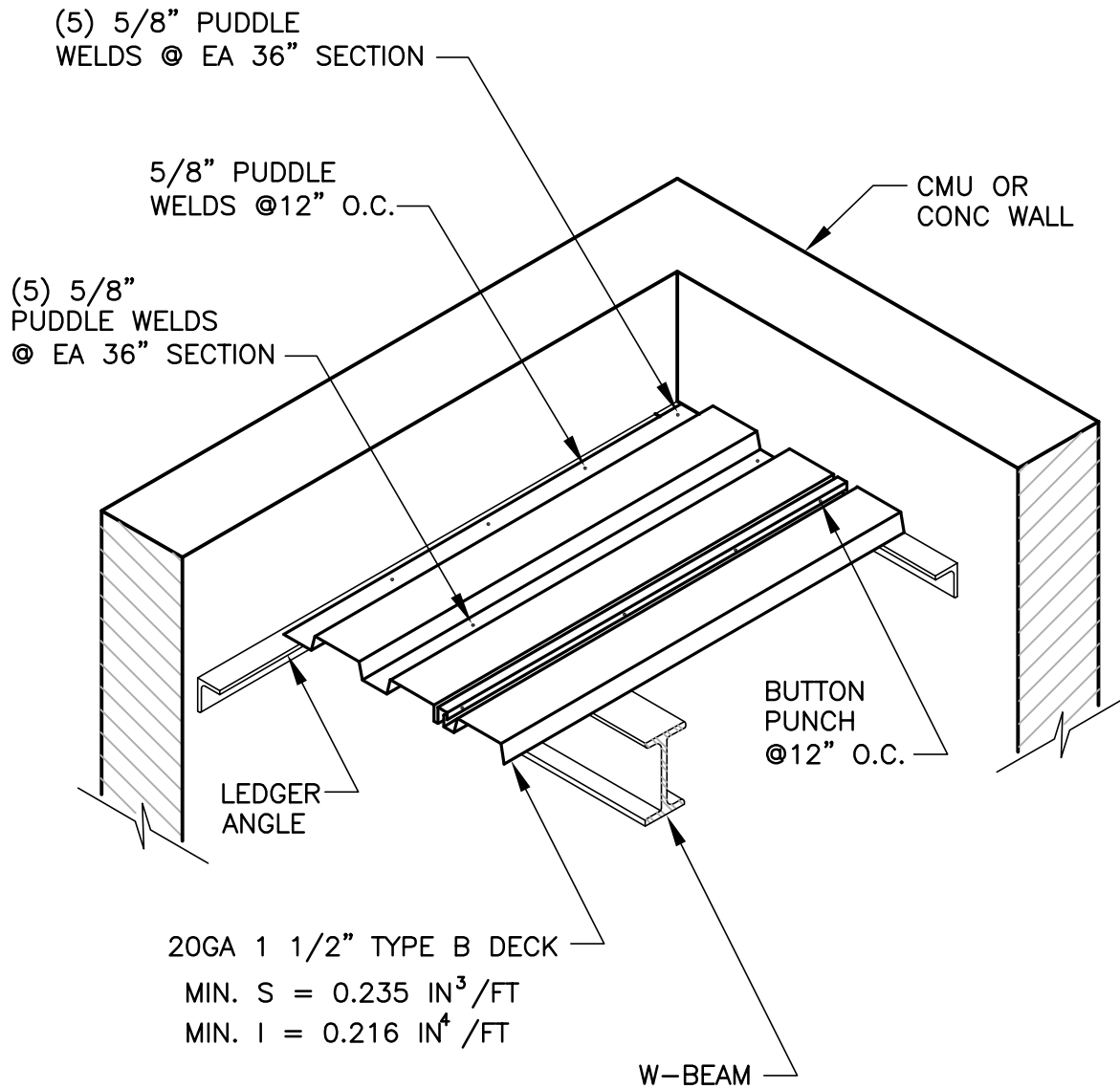


DECK TYPE	SUPPORT PERPENDICULAR TO DECK SPAN		SUPPORT PARALLEL TO DECK SPAN		REMARKS
	END WELD	INTERMEDIATE WELD	EDGE WELD	SEAM WELD	
1	3-1/2" EFFECTIVE DIA PUDDLE WELDS PER 24" UNIT	3-1/2" EFFECTIVE DIA PUDDLE WELDS PER 24" UNIT	1/2" EFFECTIVE DIA PUDDLE WELDS @ 24" OC	1 1/2" LONG FILLET WELDS @ 24" OC	
2	4-1/2" EFFECTIVE DIA PUDDLE WELDS PER 24" UNIT	4-1/2" EFFECTIVE DIA PUDDLE WELDS PER 24" UNIT	1/2" EFFECTIVE DIA PUDDLE WELDS @ 24" OC	1 1/2" LONG FILLET WELDS @ 24" OC	



# METAL DECK

S707-N-P 05-15-98



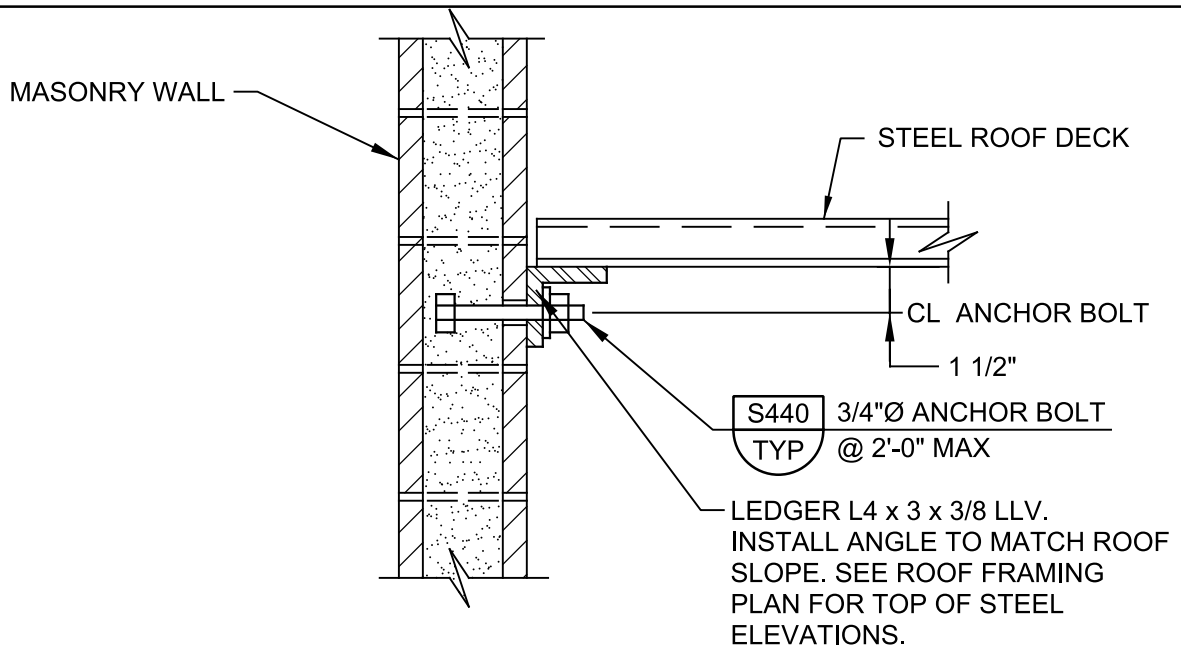
ALLOW SHEAR = 440 PLF

**S707**  
TYP

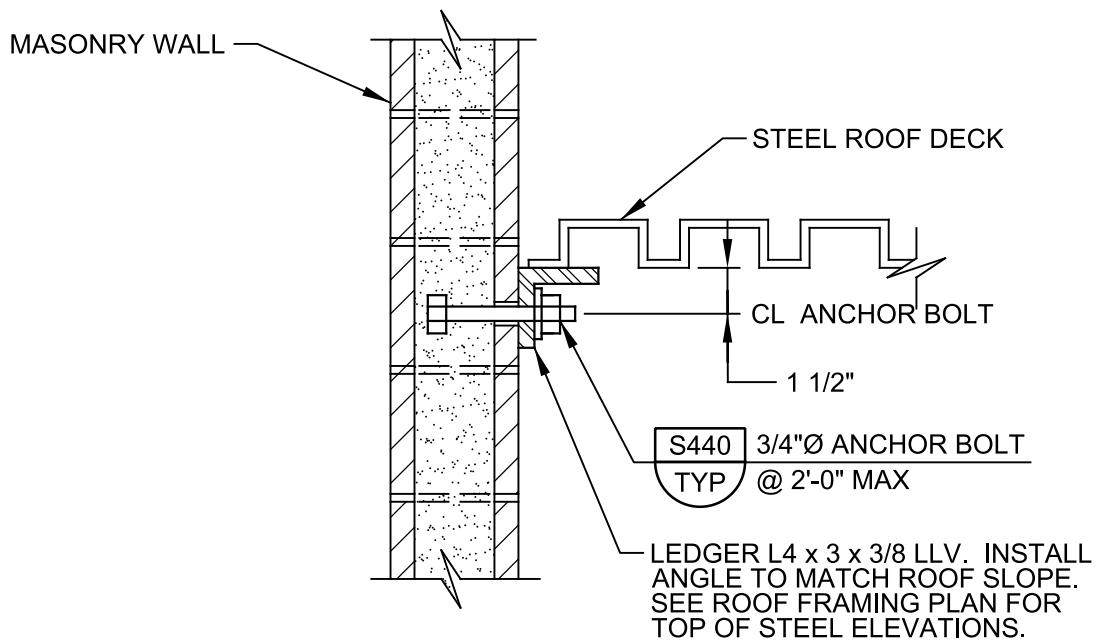
**ROOF DECK TO WALL CONNECTION**

S707-R1P 01-17-05





**ROOF DECK RIBS PERPENDICULAR TO WALL**



**ROOF DECK RIBS PARALLEL TO WALL**

**NOTES:**

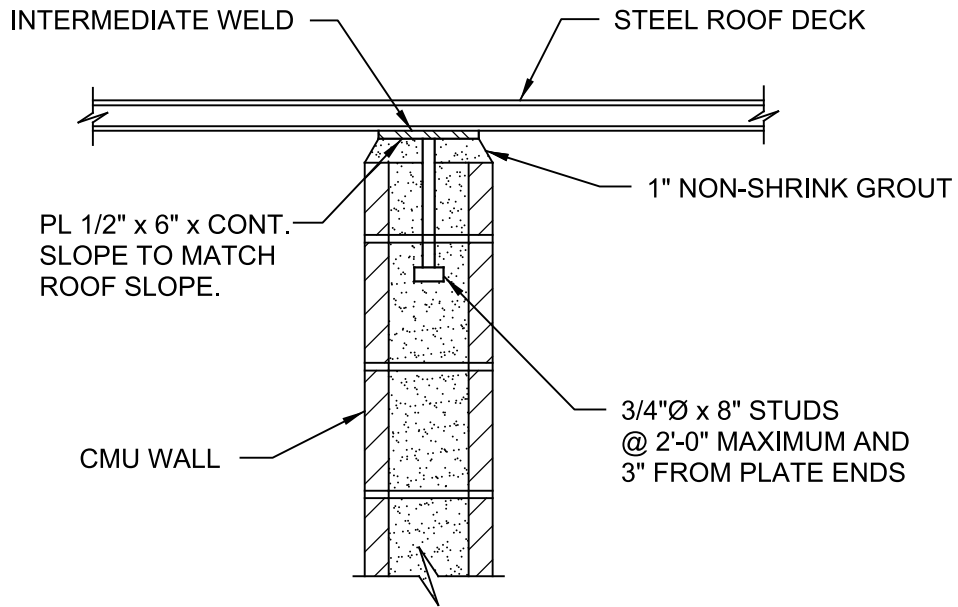
1. FIRST ANCHOR BOLT AT EACH END OF SECTION OF ANGLE SHALL BE 6" OR LESS FROM END OF ANGLE.
2. ANGLE SHALL STOP AT EACH SIDE OF CONTROL AND EXPANSION JOINTS. GAP BETWEEN ENDS OF ANGLES SHALL EQUAL WIDTH OF JOINT.

S708  
TYP  
N

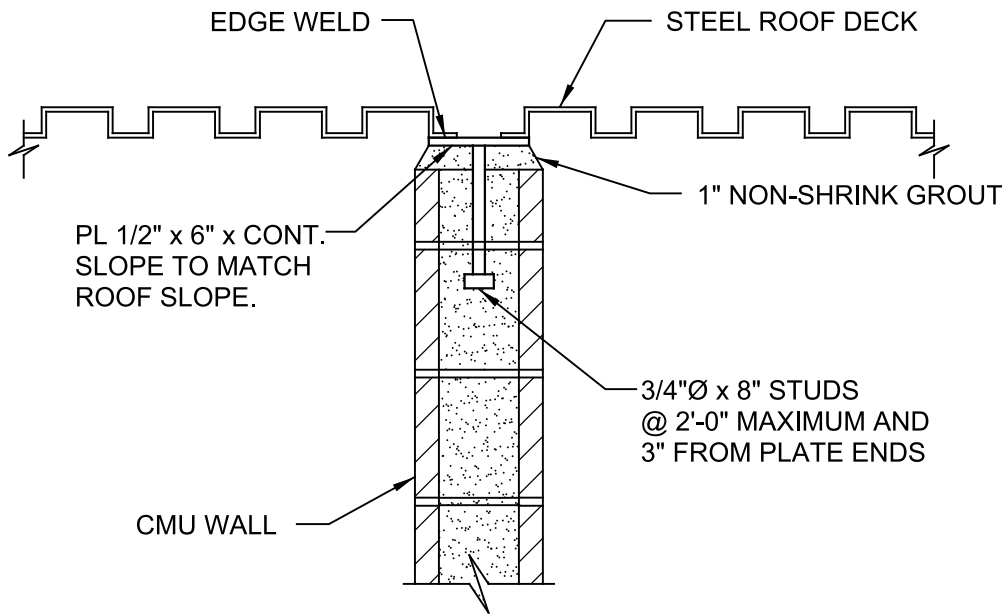
**ROOF DECK TO WALL CONNECTION**

08/31/09





RIBS PERPENDICULAR TO WALL



RIBS PARALLEL TO WALL

S734

ROOF DECK ON INTERIOR MASONRY WALL

TYP

08/01/05

carollo

