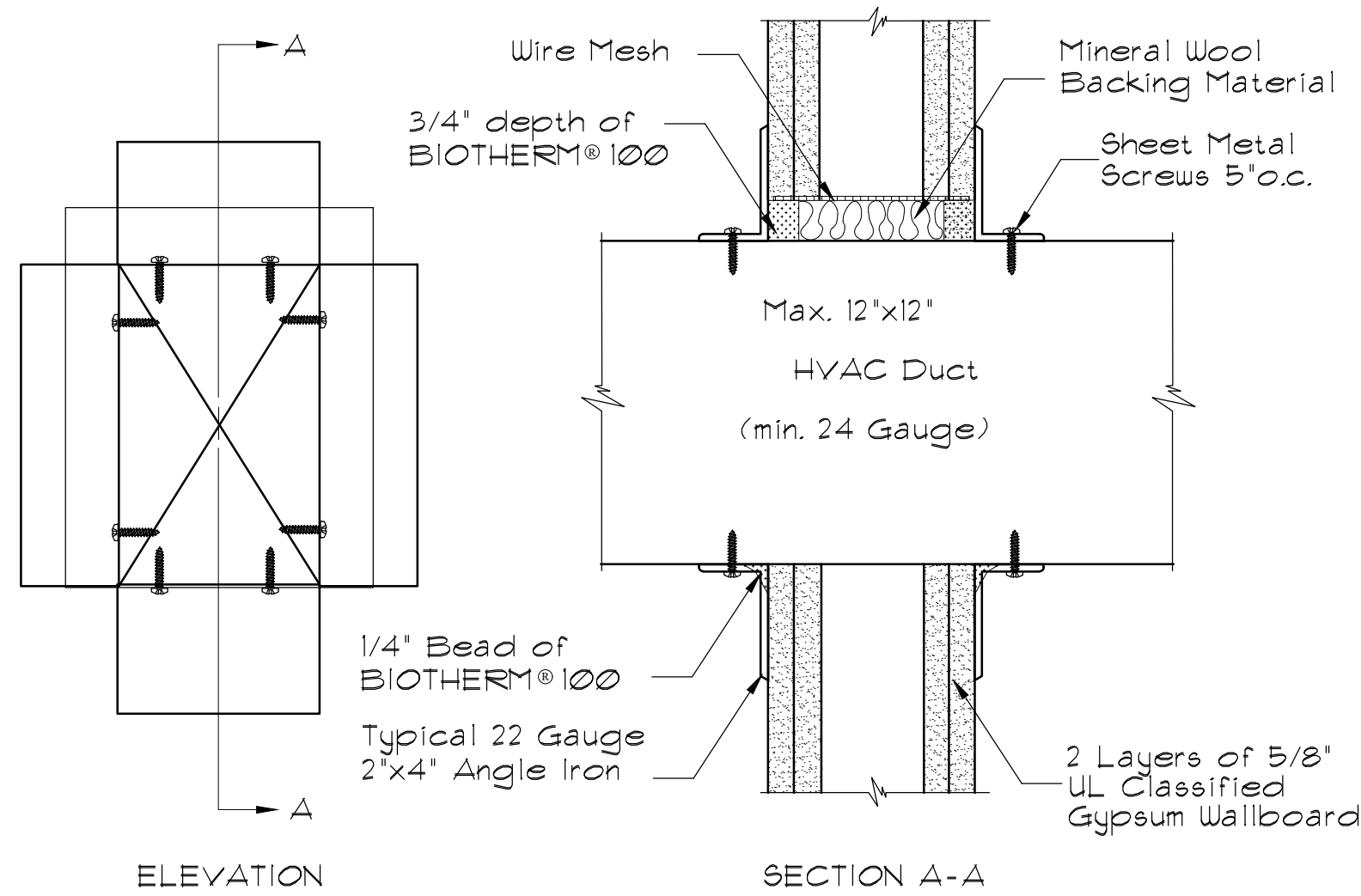
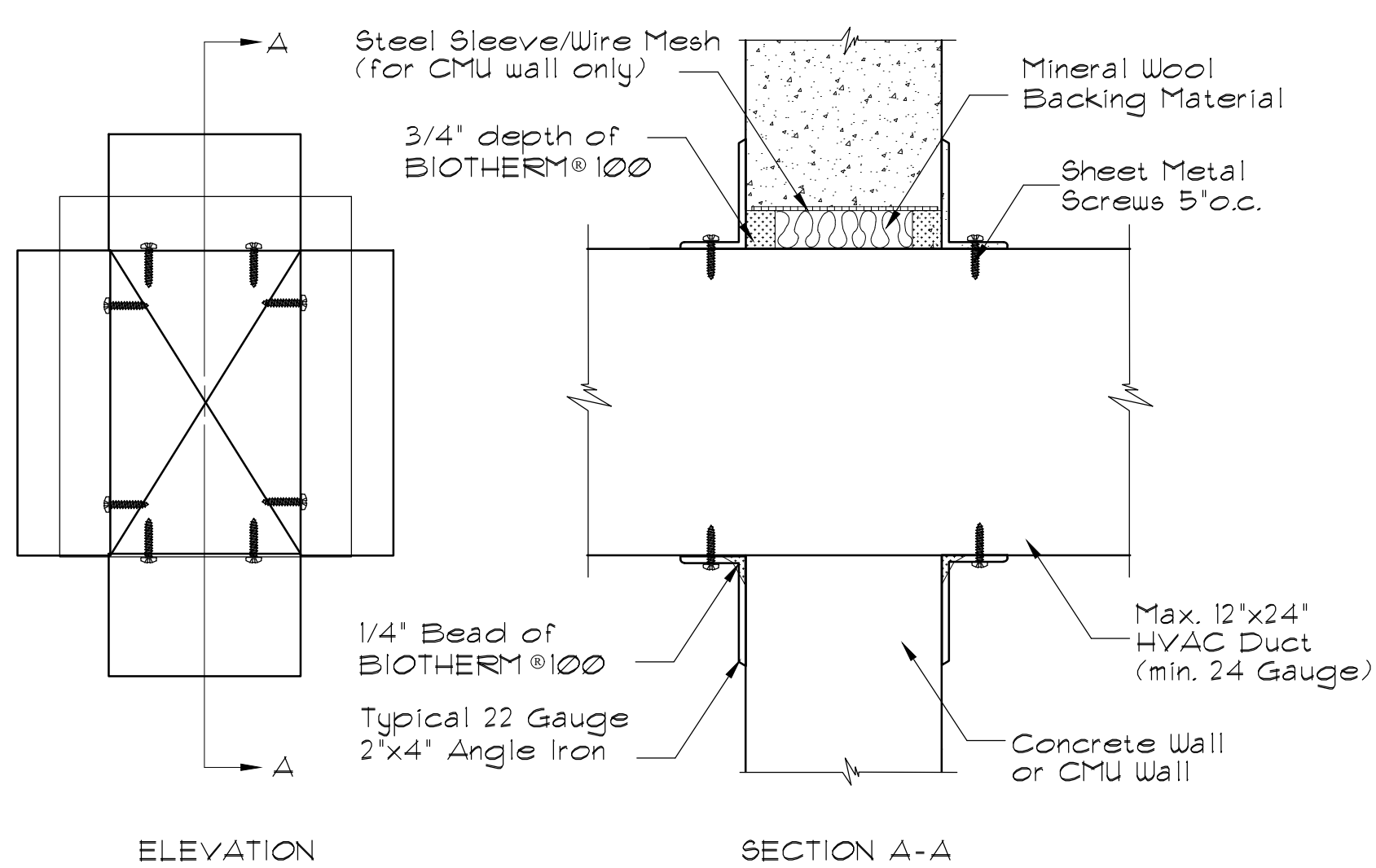
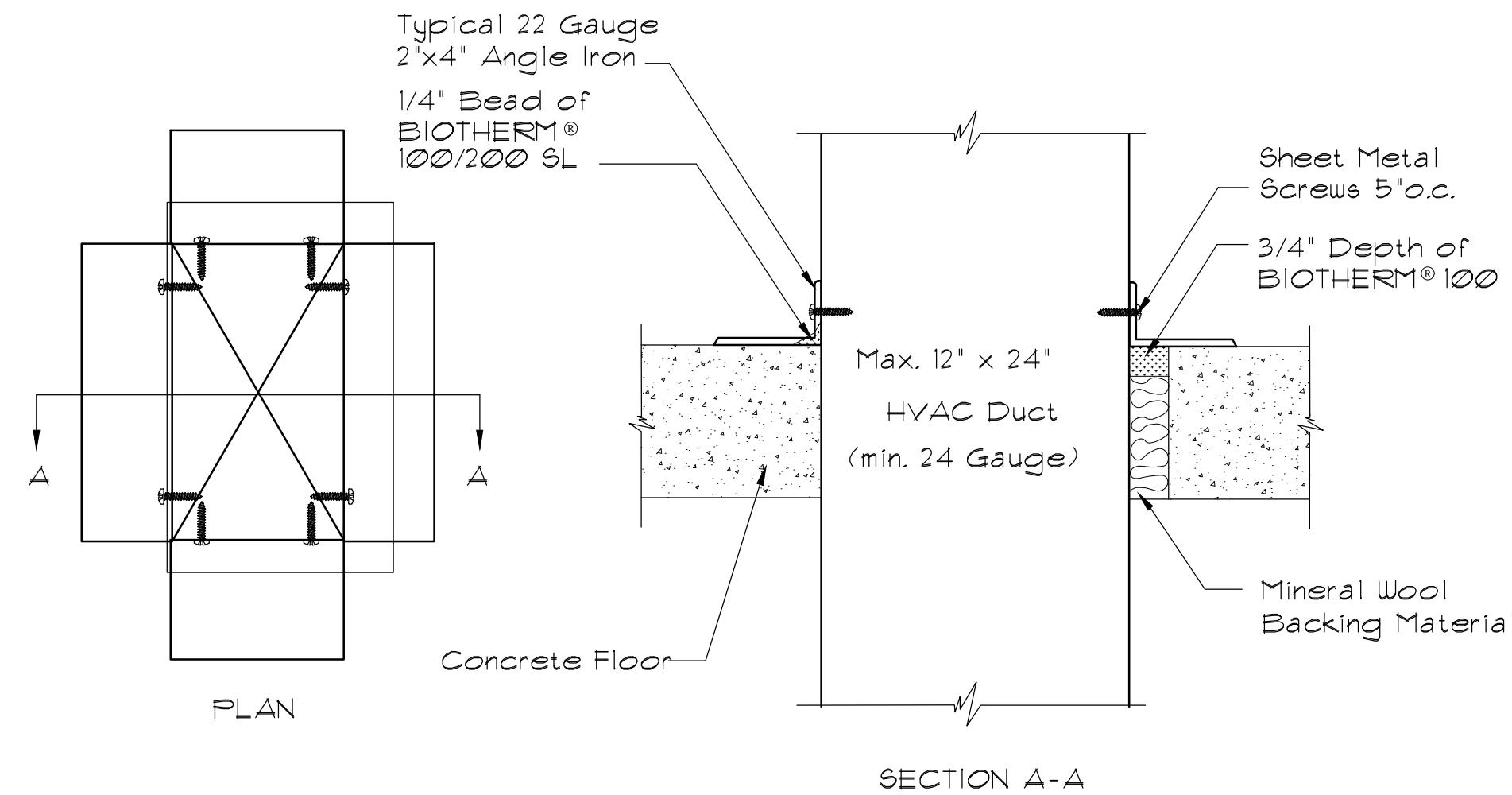




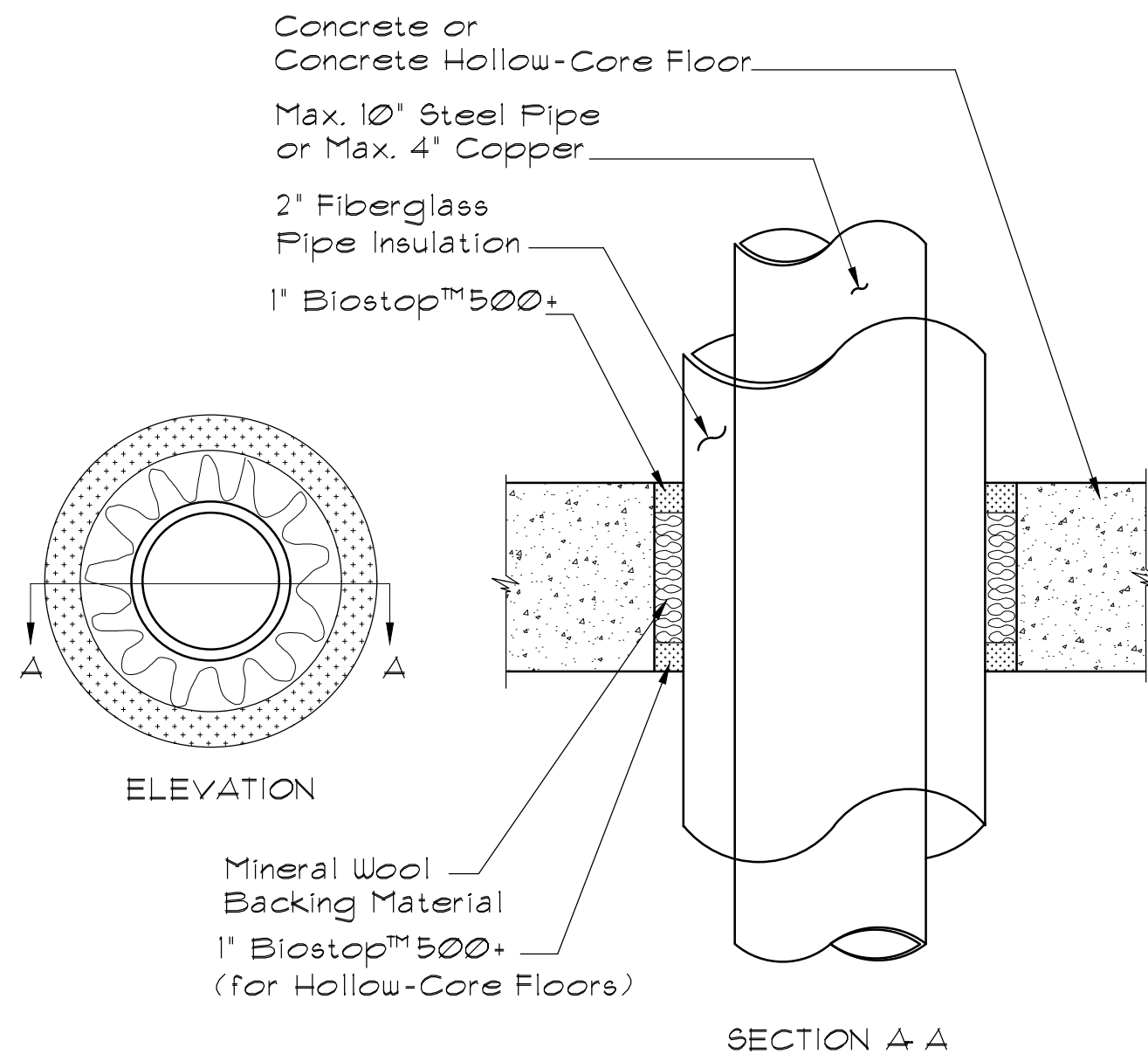
1 TYPICAL HVAC DUCT PENETRATION
GYPSUM BOARD PARTITION
Bio Fireshield Biostop-
100GWI1- UL, WL1022
Max. 12'x12' HVAC Duct (min.24 gauge)- (2Hr.)



2 TYPICAL HVAC DUCT PENETRATION
CONCRETE/ CMU PARTITION
Bio Fireshield Biostop-
100CFI2- UL, CAJ1036
Max. 12'x24' HVAC Duct (min.24 gauge)- (2Hr.)



3 TYPICAL HVAC DUCT PENETRATION
CONCRETE FLOOR
Bio Fireshield Biostop-
100CFI2- UL, CAJ1036
Max. 12'x24' HVAC Duct (min.24 gauge)- (2Hr.)

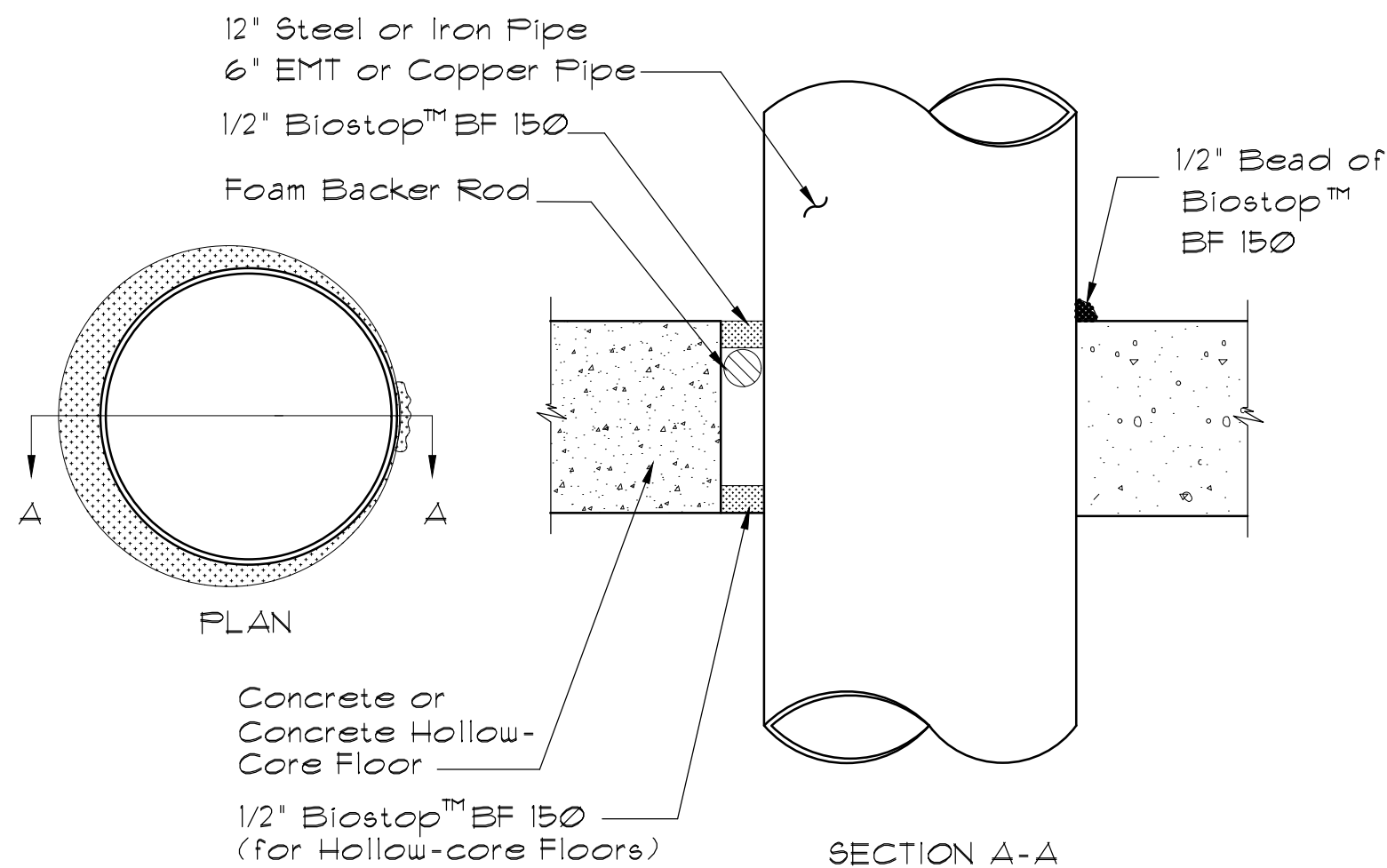


4 TYPICAL CENTERED PENETRATION
CONCRETE/ CONC. HOLLOW-CORE FLOOR
Bio Fireshield Biostop-
500CFI8- UL, CAJ5083
Max. 10' Steel/ Max. 4' Copper pipe (2Hr.)

4a) 100CFI4- UL, CAJ1254
Max. 8' Steel pipe (2Hr.)

4b) 100CFI3- UL, CAJ1253
Max. 4' EMT pipe (2Hr.)

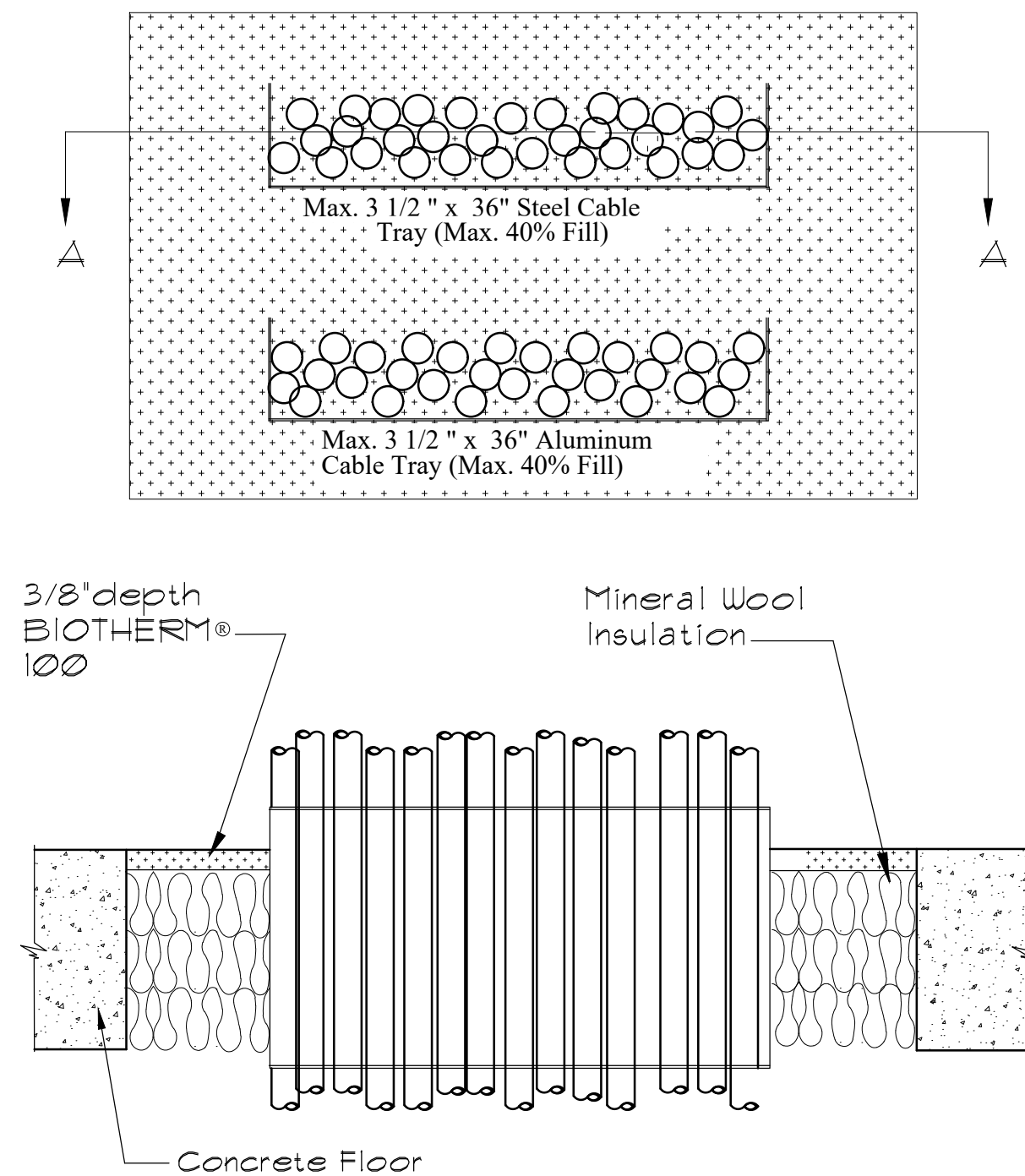
4c) 500CF21- UL, CAJ2130
1 1/2' PVC/ CPVC pipe (2Hr.)



5 TYPICAL OFF-CENTER PENETRATION
CONCRETE/ CONC. HOLLOW-CORE FLOOR
Bio Fireshield Biostop-
150CF04- UL, CAJ1213
12' Steel/ Iron/4' EMT, Copper pipe (2Hr.)

5a) 100CFI5- UL, CAJ1255
Max. 10' Steel pipe (2Hr.)

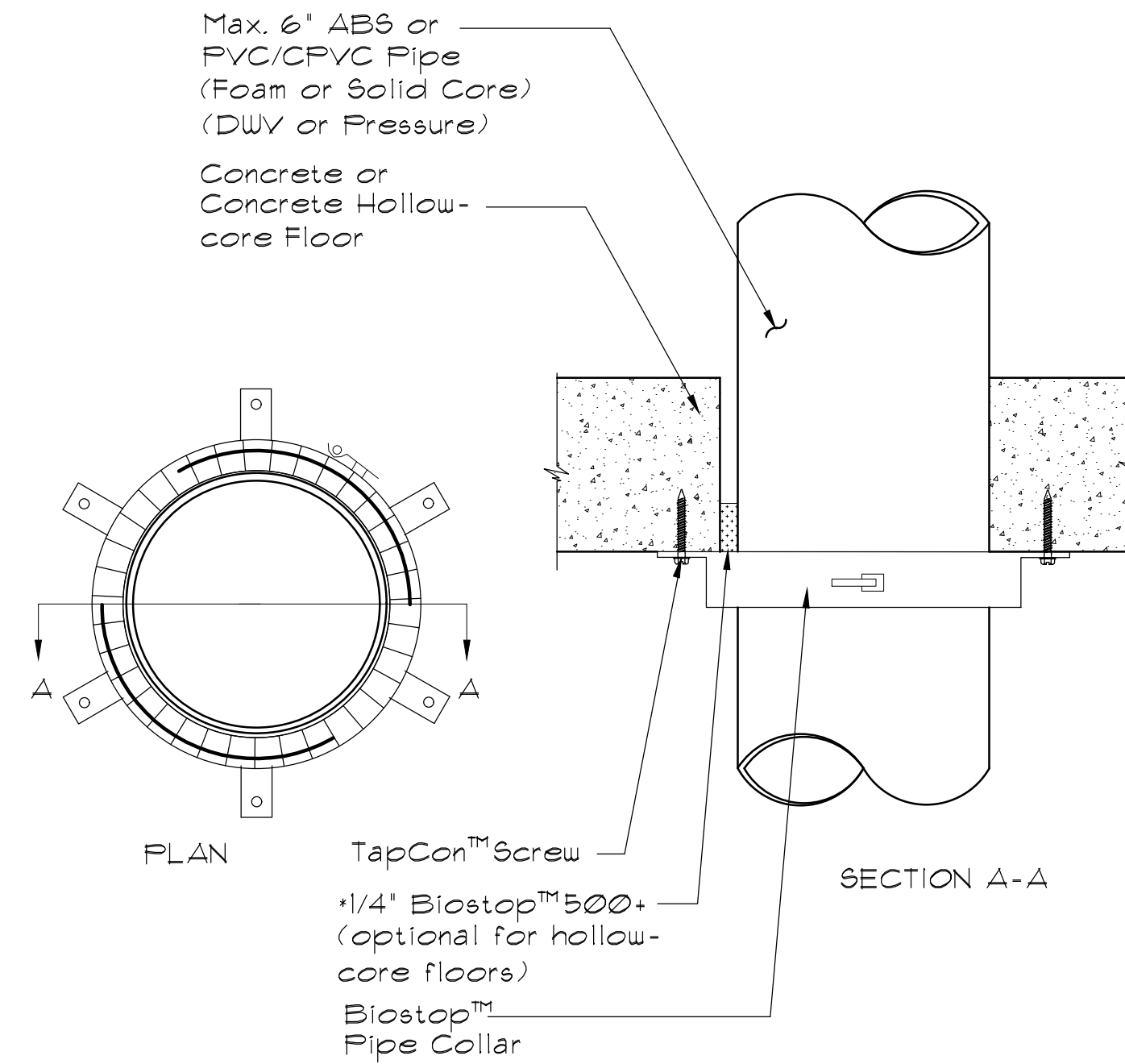
5b) 100CF33- UL, CAJ8066
Max. 24' Steel/ Cast Iron/ 4' EMT pipe (2Hr.)



6 TYPICAL MIXED/ MULTIPLE PENETRATION
CONCRETE/ CONC. HOLLOW-CORE FLOOR
Bio Fireshield Biostop-
100CF21- UL, CAJ4038
Max. 3.5'x 36\"/>

6a) 500CF01- UL, CBJ3003
Telephone/ Power Cables/ No.14 Wire (3Hr.)

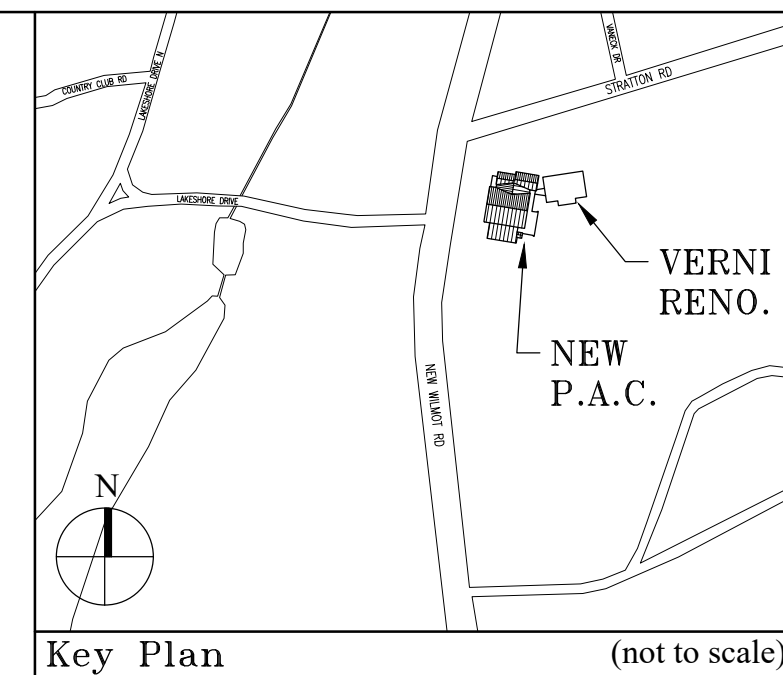
6b) 150CFI1- UL, CAJ3135
(5) 25 Pair Telephone Cables (2Hr.)



7 TYPICAL PENETRATION
CONCRETE/ CONC. HOLLOW-CORE FLOOR (Pipe Collar)
Bio Fireshield Biostop-
COLLAR-CF06- UL, CAJ2152
Max. 6' ABS, PVC/CPVC/Polypropilene
Pipe (2Hr.)

7a) COLLAR-CF-10- UL, CAJ2156
Max. 4' Polypropilene Pipe (2Hr.)

7b) COLLAR-CF-17- UL, CAJ2158
Max. 6' Polypropilene Pipe (2Hr.)



Key Plan (not to scale)