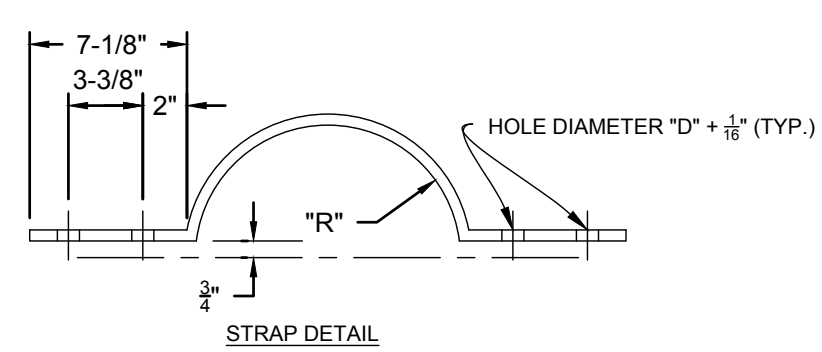


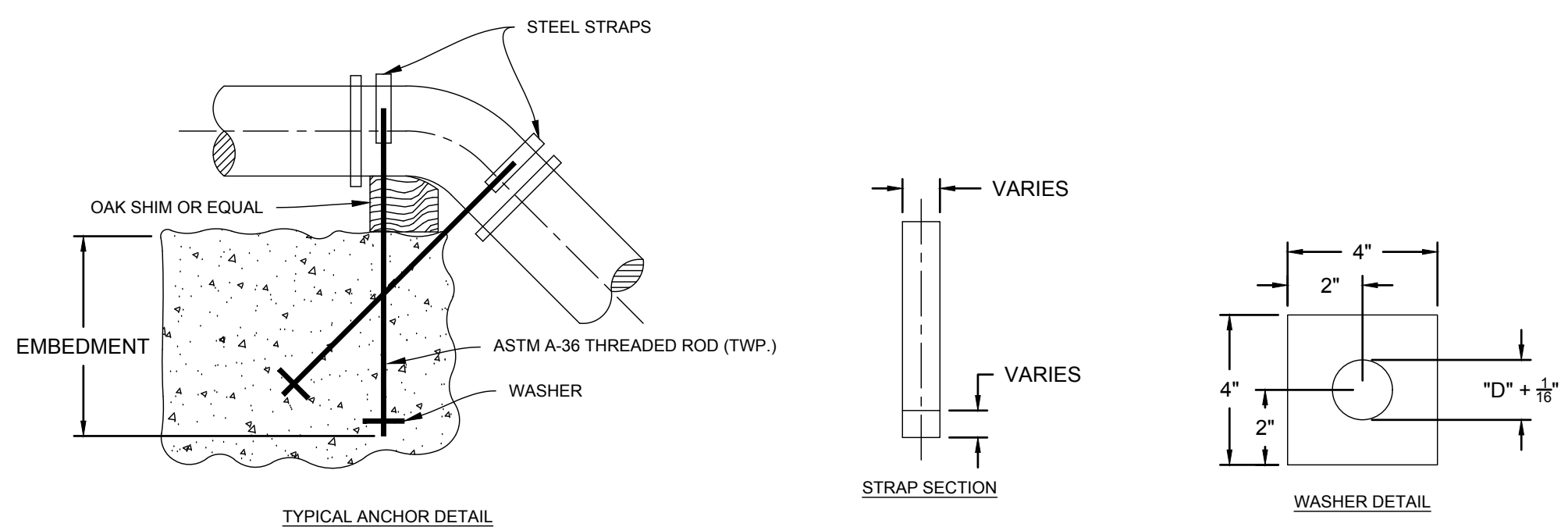
FIRE HYDRANT DETAIL
NOT TO SCALE

KEY	PIPE DIAMETER	PRESSURE (P.S.I.)	BEND ANGLE	CONCRETE REQUIRED (CU. YD.)	STEEL STRAP SIZE	"R" STRAP RADIUS	ANCHOR BOLT DIAMETER "D" AND NUMBER REQUIRED PER STRAP	EMBEDMENT LENGTH
A	6"	0-100	ALL	1.0	1/4" x 2 1/2"	3 5/8"	(2) 3/4"	24"
A-1	6"	101-150	ALL	2.5	1/4" x 2 1/2"	3 5/8"	" (2) 1"	36"
B	8"	0-100	ALL	2.0	3/8" x 3"	4 3/4"	" (2) 1"	36"
B-1	8"	101-150	45°	3.0	3/8" x 3"	4 3/4"	" (2) 1"	36"
B-2	8"	101-150	90°	4.0	3/8" x 3"	4 3/4"	(4) 1"	36"
C	12"	0-100	ALL	4.5	1/2" x 3"	6 3/4"	(4) 1"	36"
C-1	12"	101-150	45°	6.0	(2) 1/2" x 3"	6 3/4"	(4) 1"	36"
C-2	12"	101-150	90°	8.5	(2) 1/2" x 3"	6 3/4"	(4) 1"	36"

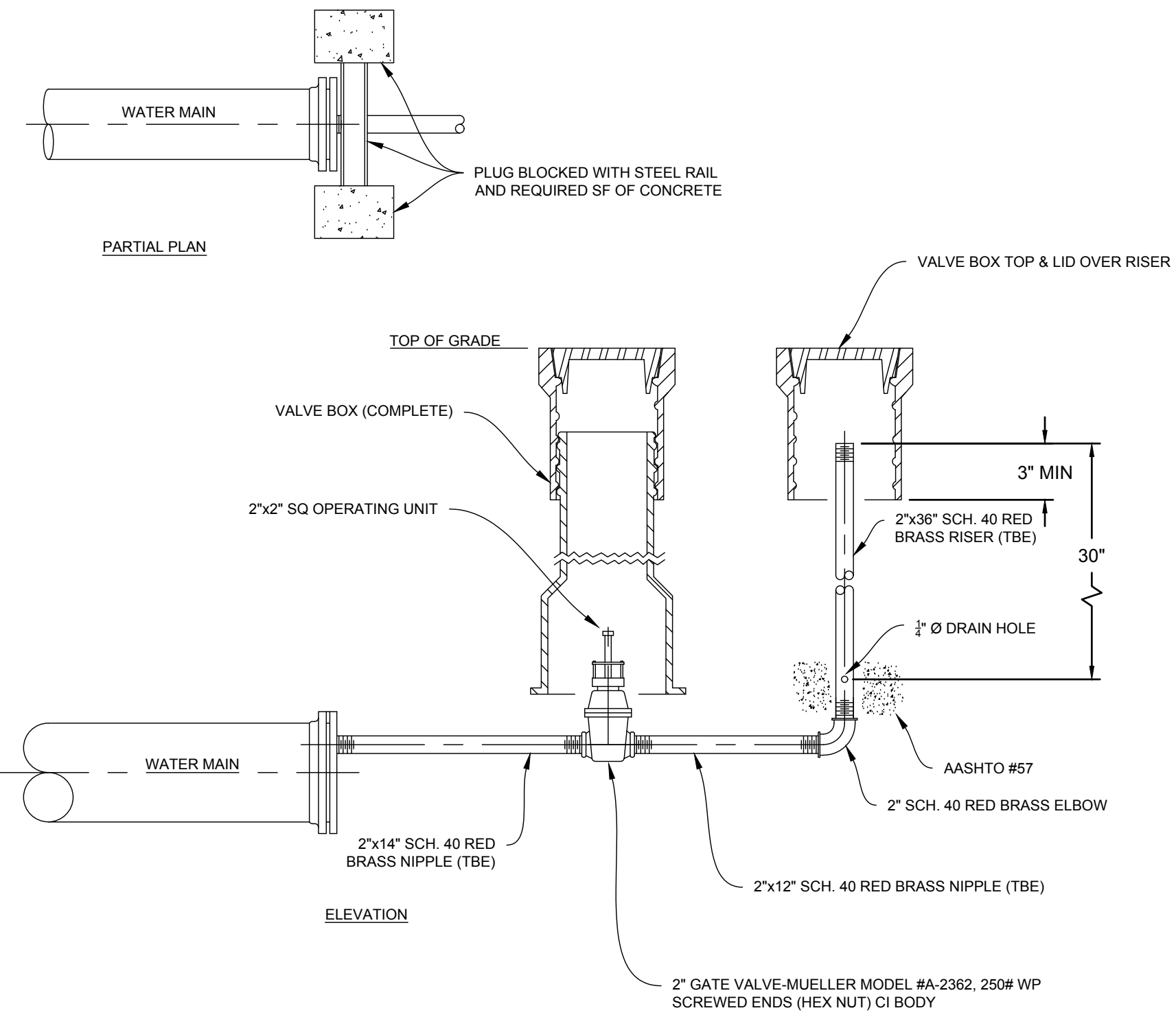


* - WHERE (2) 1" DIAMETER BOLTS ARE REQUIRED (4) 2" DIAMETER BOLTS MAY BE USED

- NOTES:
1. ALL STEEL SHALL CONFORM TO ASTM A-36
 2. (2) STRAPS ARE REQUIRED, EACH WITH (4) 1" DIAMETER ANCHOR BOLTS FOR CASES C-1 AND C-2
 3. REFER TO AQUA DRAWING E-443 FOR USE AS POPE AND VALVE CLAMP
 4. CONTRACT ENGINEERING DEPARTMENT FOR DESIGN ON PRESSURE EXCEEDING 200 P.S.I. OR OF PIPE SIZE IS LARGER THAN 12"
 5. COAT ALL EXPOSED METAL WITH 12 MILS OF ROBKOTE.
 6. BOLT LENGTH WILL EQUAL EMBEDMENT LENGTH + SHIM + 1/2" O.D. OF PIPE + 3/16"



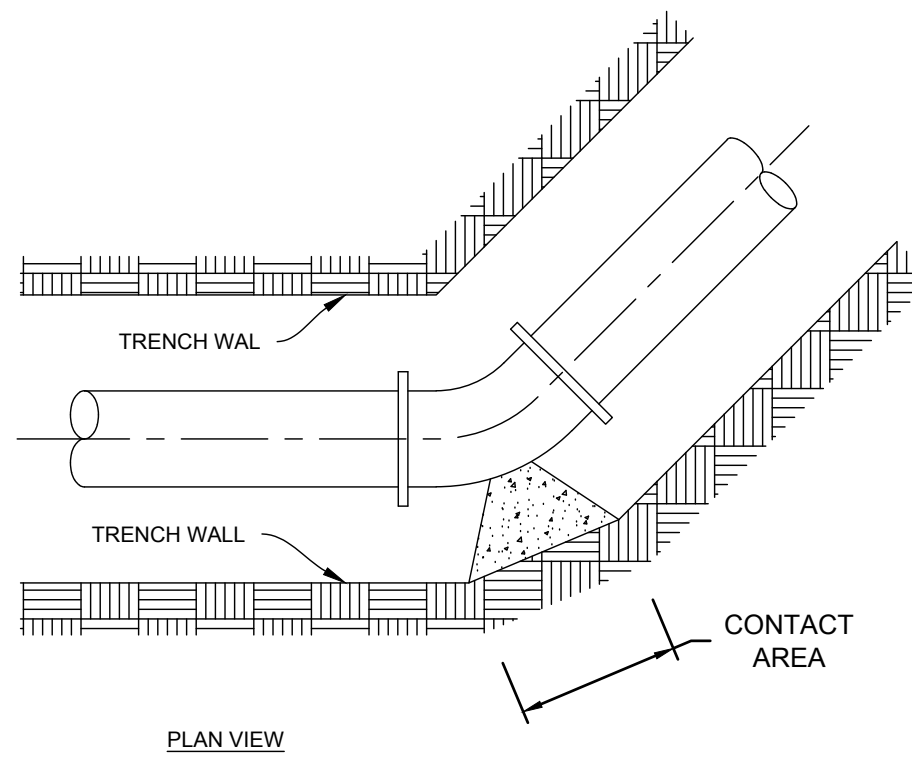
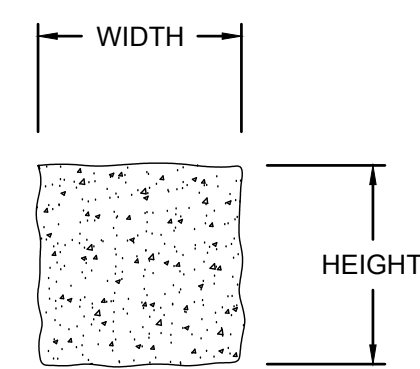
MINIMUM CONCRETE VOLUMES AND STEEL STRAP SIZES REQUIRED FOR BLOCKING 6", 8", & 12" VERTICAL BENDS
NOT TO SCALE



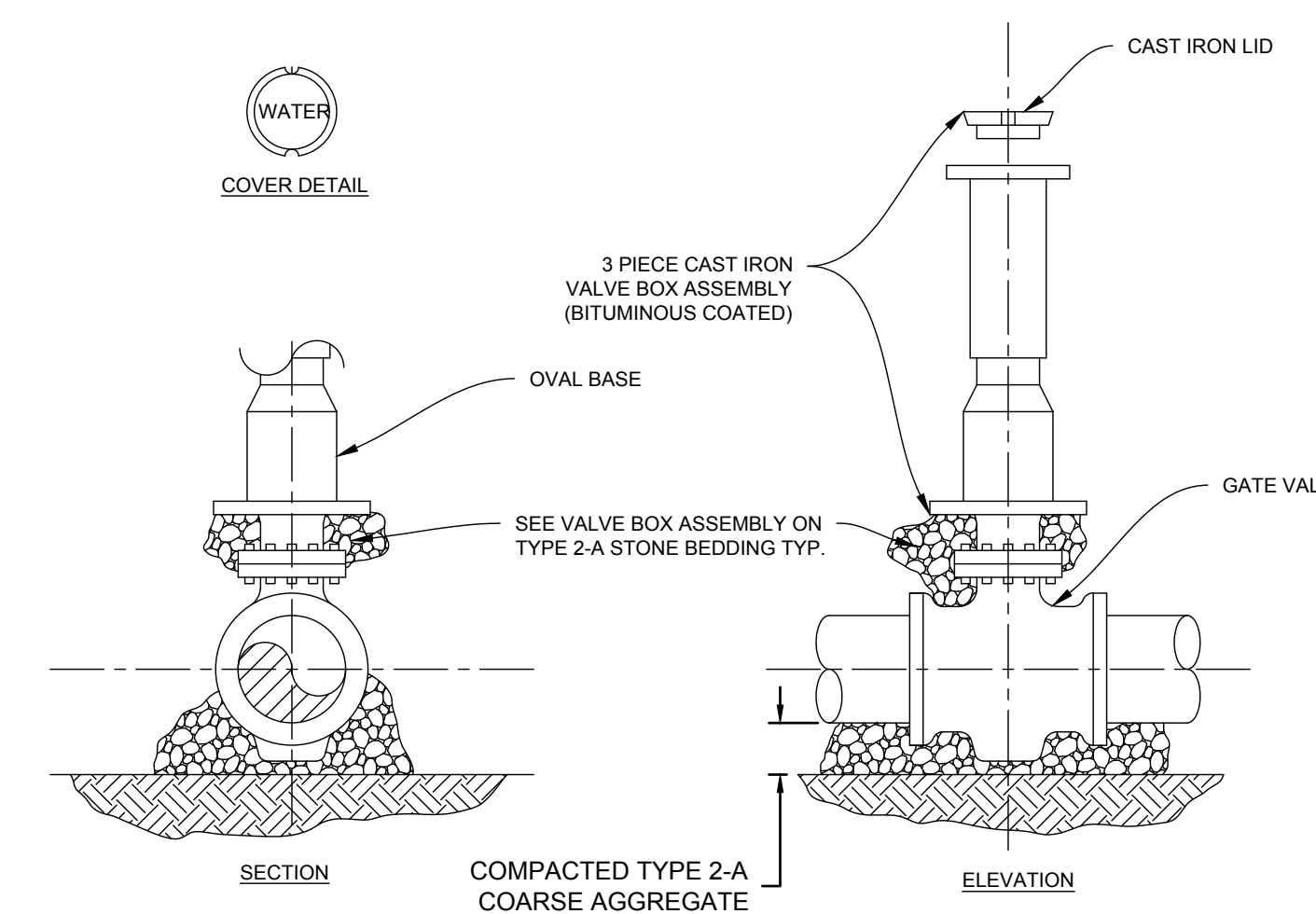
STANDARD 2" BLOW-OFF
NOT TO SCALE

PIPE DIAMETER (INCHES)	HYDRANTS, TEES & BLOW-OFFS			90° BENDS			45° BENDS			11 1/4° & 22 1/2° BENDS		
	0-100 P.S.I.	101-150 P.S.I.	151-200 P.S.I.	0-100 P.S.I.	101-150 P.S.I.	151-200 P.S.I.	0-100 P.S.I.	101-150 P.S.I.	151-200 P.S.I.	0-100 P.S.I.	101-150 P.S.I.	151-200 P.S.I.
6	3	4	5	3	5	6	2	3	4	1	2	2
8	4	6	8	6	8	11	3	5	6	2	3	3
12	9	13	17	12	18	24	7	10	13	4	5	7
16	15	23	30	21	32	43	12	17	23	6	9	12

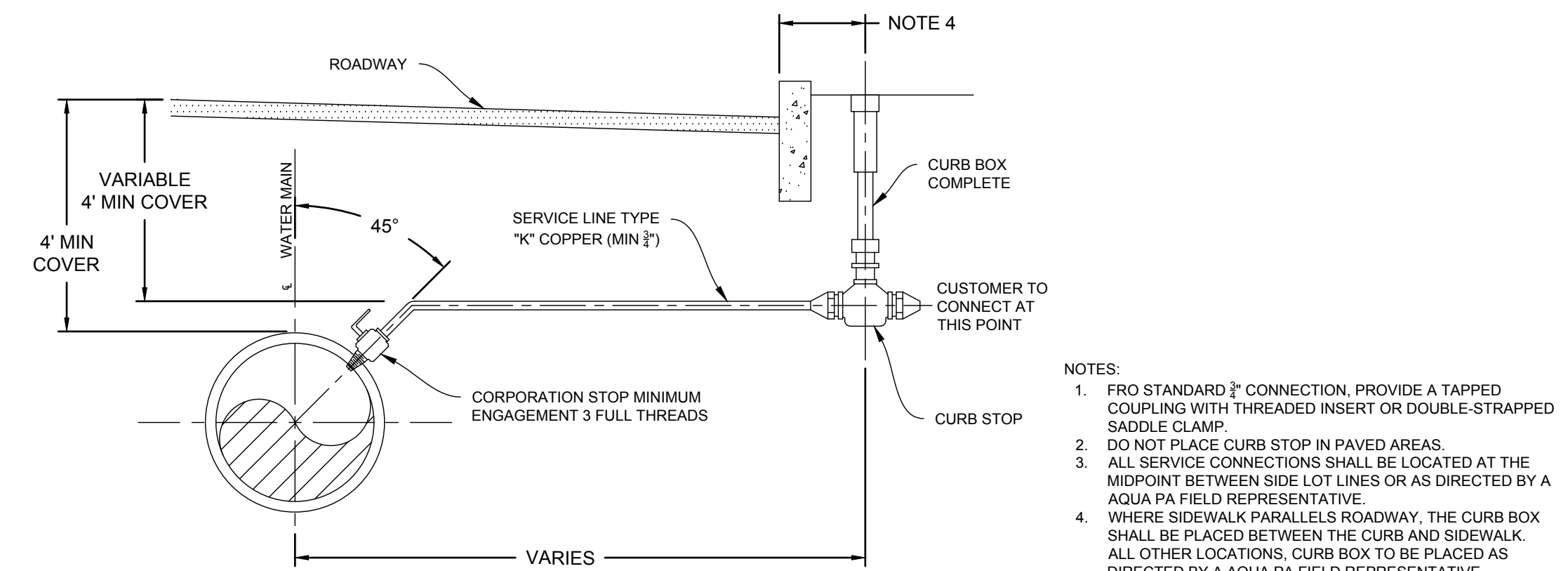
NOTE: REFER TO ENGINEERING DEPT. FOR ALL VERTICAL BENDS AND HORIZONTAL BENDS HAVING ANGLES. PRESSURES OR PIPE DIAMETERS NOT LISTED ABOVE.



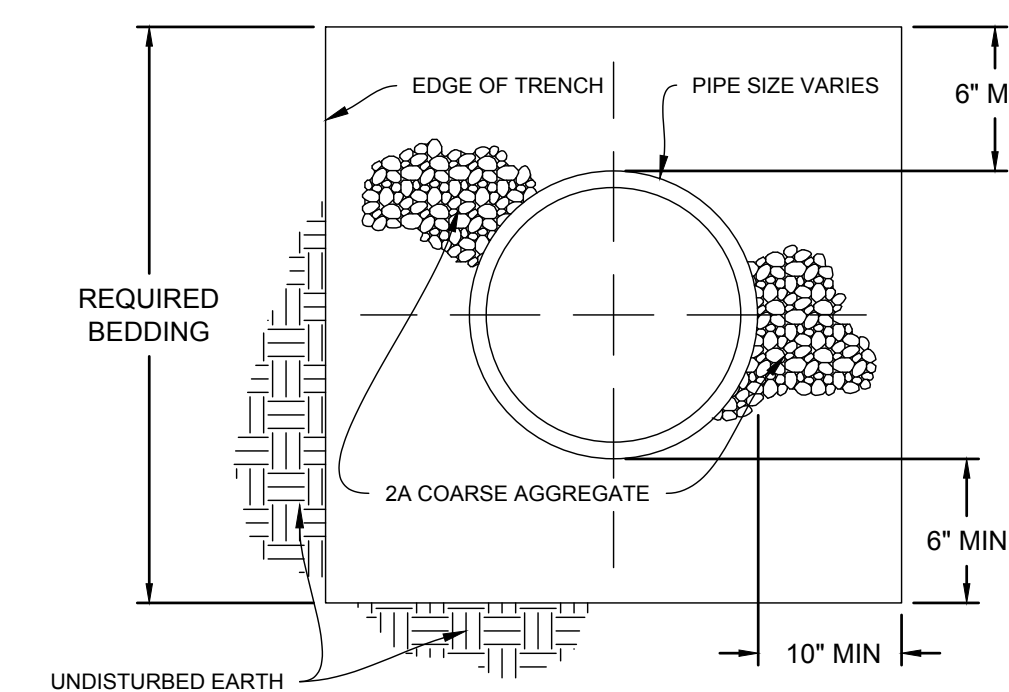
MINIMUM THRUST BLOCK AREAS REQUIRED (SQUARE FEET OF CONTACT SURFACE AREA ALONG TRENCH WALL)
NOT TO SCALE



STANDARD GATE VALVE AND VALVE BOX ASSEMBLY DETAIL
NOT TO SCALE



STANDARD SERVICE CONNECTION
NOT TO SCALE



STANDARD PIPE BEDDING DETAIL
NOT TO SCALE



PENNONI ASSOCIATES INC.
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PRJ #	REV	COMPANY	INITIALS	DATE	DESCRIPTION

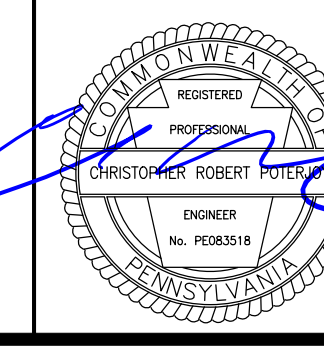
LONGWOOD GARDENS NURSERY GREENHOUSE



WATER DETAILS

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