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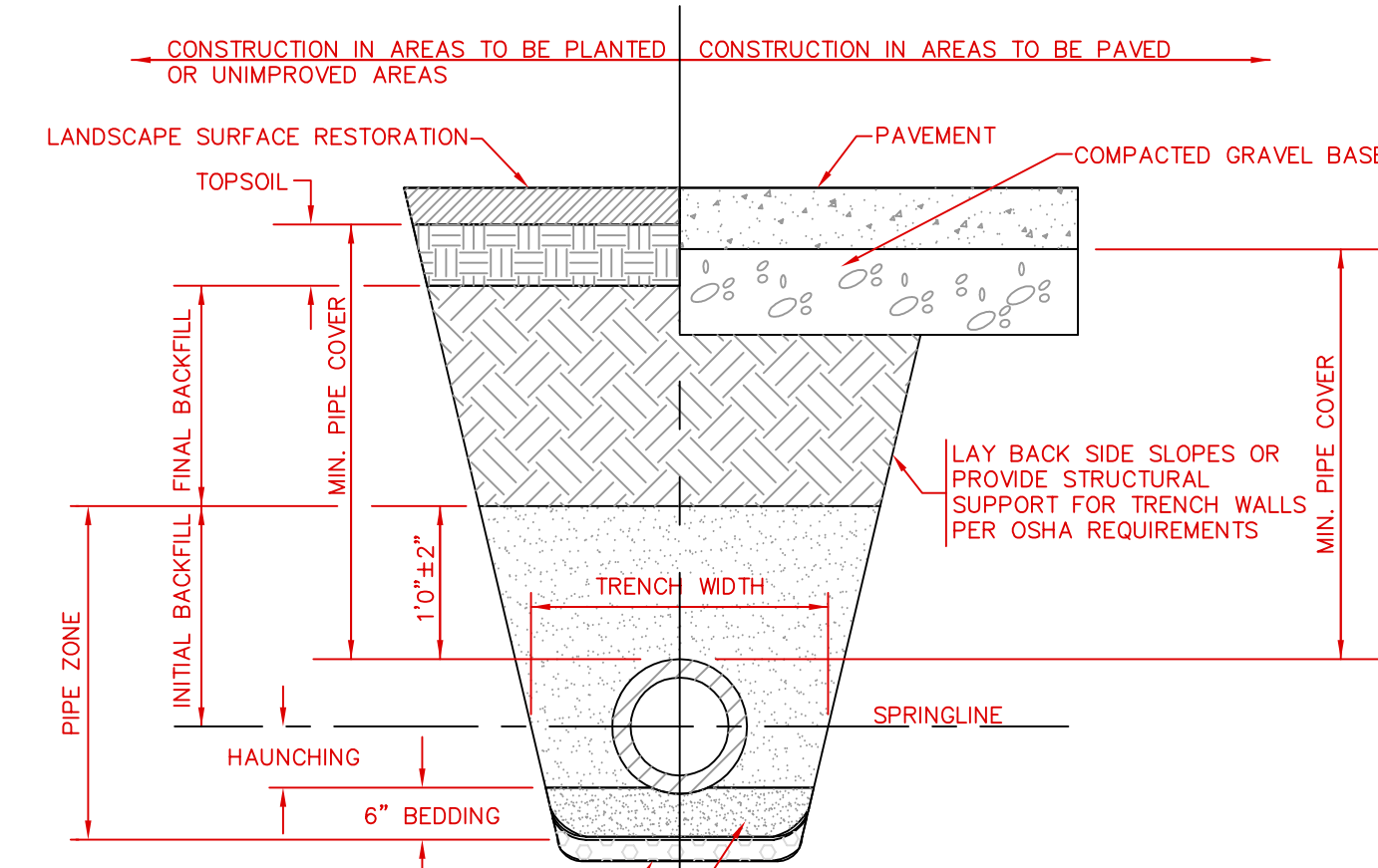
PROJECT:
 WATER SUPPLY DETAILS

PREPARED FOR:
 DEMONSTRATION

PROJECT No.: **N/A**
 FILE NAME: Water Details.DWG

No.	Revision	Date

WATER SUPPLY
 EXAMPLES



FOUNDATION STABILIZATION WHEN REQUIRED BY ENGINEER. OTHERWISE, PLACE BEDDING ON UNDISTURBED NATURAL SOIL.
 SHAPE BEDDING BY HAND TO FIT BOTTOM OF PIPE. INSTALL PIPE ON STABLE BEDDING WITH UNIFORM BEARING UNDER FULL LENGTH OF PIPE BARREL.

TRENCH WIDTH:

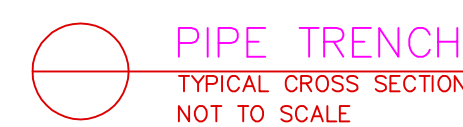
[1] MINIMUM WIDTH OF TRENCH MEASURED AT SPRINGLINE OF PIPE, INCLUDING ANY NECESSARY SHEATHING:

PIPE I.D.	WIDTH
LESS THAN 21"	O.D. + 12"
21" TO 42"	O.D. + 24"
GREATER THAN 42"	O.D. + 30"

MINIMUM PIPE COVER:

[1] MINIMUM SOIL COVER OVER TOP OF PIPE.

PIPE MATERIAL	HDPE, PVC	RC, DI
WATER	5' - 0"	5' - 0"
SEWER	4' - 0"	4' - 0"
DRAIN	2' - 0"	1' - 0"



PIPE TRENCH
 TYPICAL CROSS SECTION
 NOT TO SCALE

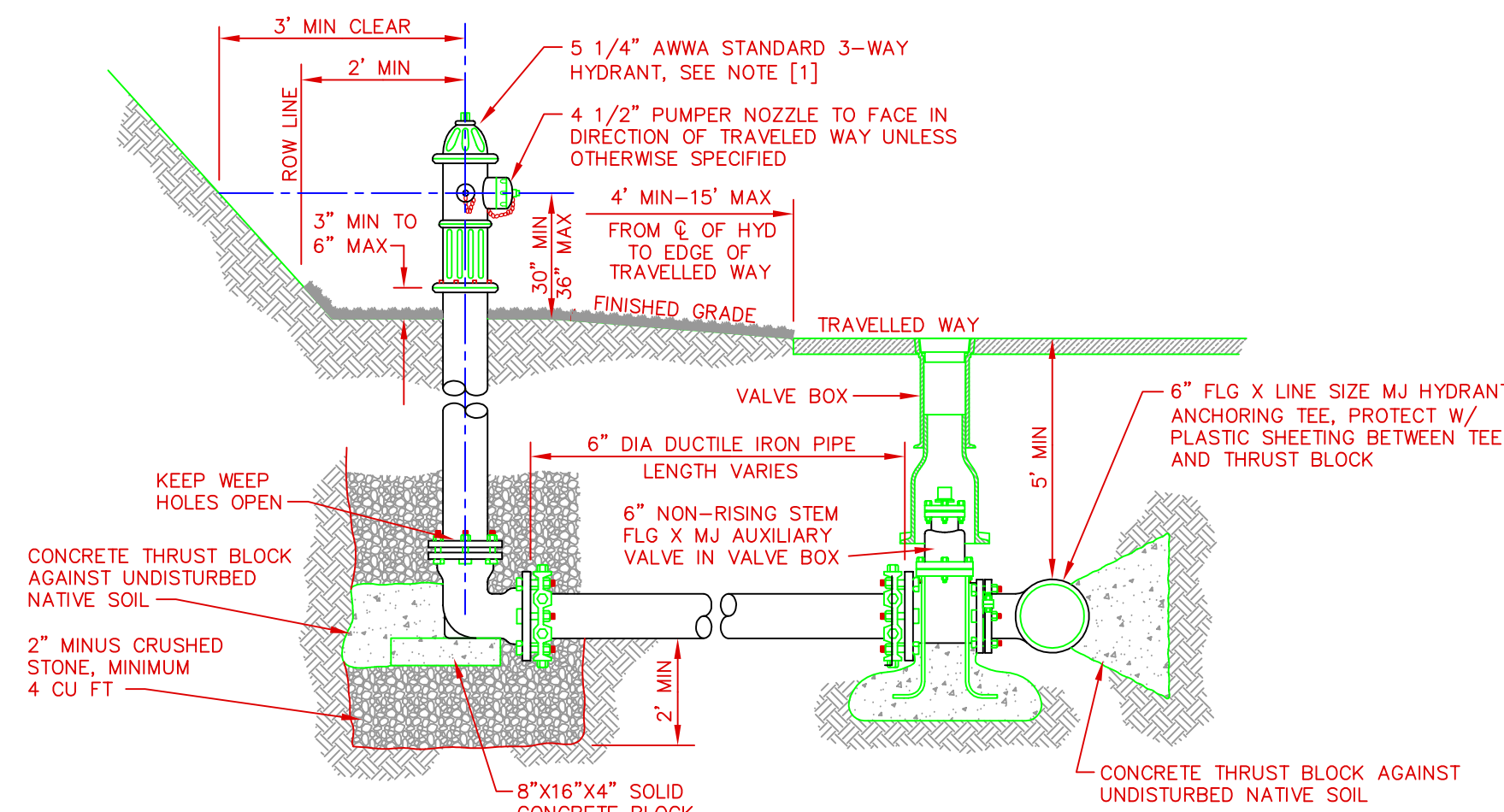
MATERIAL KEY NOTES:

FOUNDATION, BEDDING AND BACKFILL MATERIALS	
FOUNDATION STABILIZATION	[NOTE 1]
BEDDING	[NOTE 2]
HAUNCHING	[NOTE 2]
INITIAL BACKFILL	[NOTE 2]
FINAL BACKFILL	[NOTE 3]

[1] PLACE 2" MINUS CRUSHED STONE.

[2] PLACE 1/2" MINUS SAND BORROW (MHD M1.04.1), AT OPTIMUM MOISTURE IN HORIZONTAL 8" DEEP LOOSE LAYERS, COMPACT TO 95% PER ASTM D-1557 MODIFIED PROCTOR METHOD.

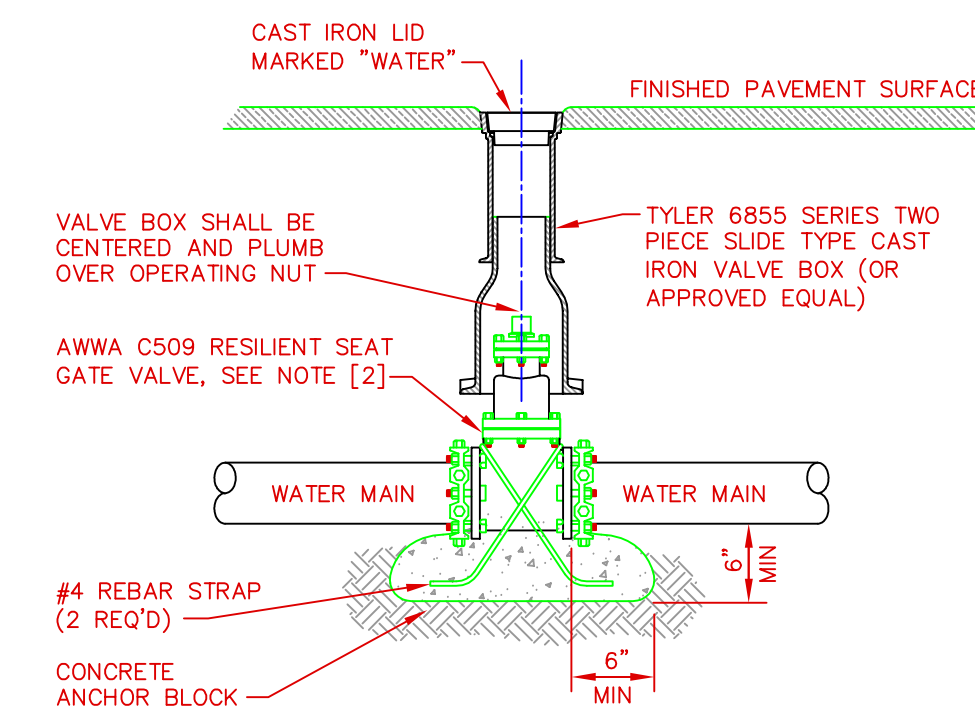
[3] IN PLANTED OR UNIMPROVED AREAS, USE 2-INCH MINUS ON-SITE EXCAVATED MATERIAL. OBTAIN ENGINEER APPROVAL OF 2-INCH MINUS ON-SITE EXCAVATED MATERIALS IN PAVED AREAS. COMPACT TO 95% PER ASTM D-1557.



NOTES:
 [1] HYDRANT SHALL MEET ALL TOWN AND AWWA STANDARDS AND BE UL/FM APPROVED AND EQUIPPED WITH (1) 4 1/2" PUMPER NOZZLE AND (2) 2 1/2" HOSE NOZZLES.
 [2] HYDRANT SHALL OPEN IN DIRECTION AS SPECIFIED BY THE LOCAL FIRE DEPARTMENT.
 [3] WHERE HYDRANT IS SHOWN BEHIND SIDEWALK, SET CENTER OF HYDRANT 2'-FEET BEHIND SIDEWALK.



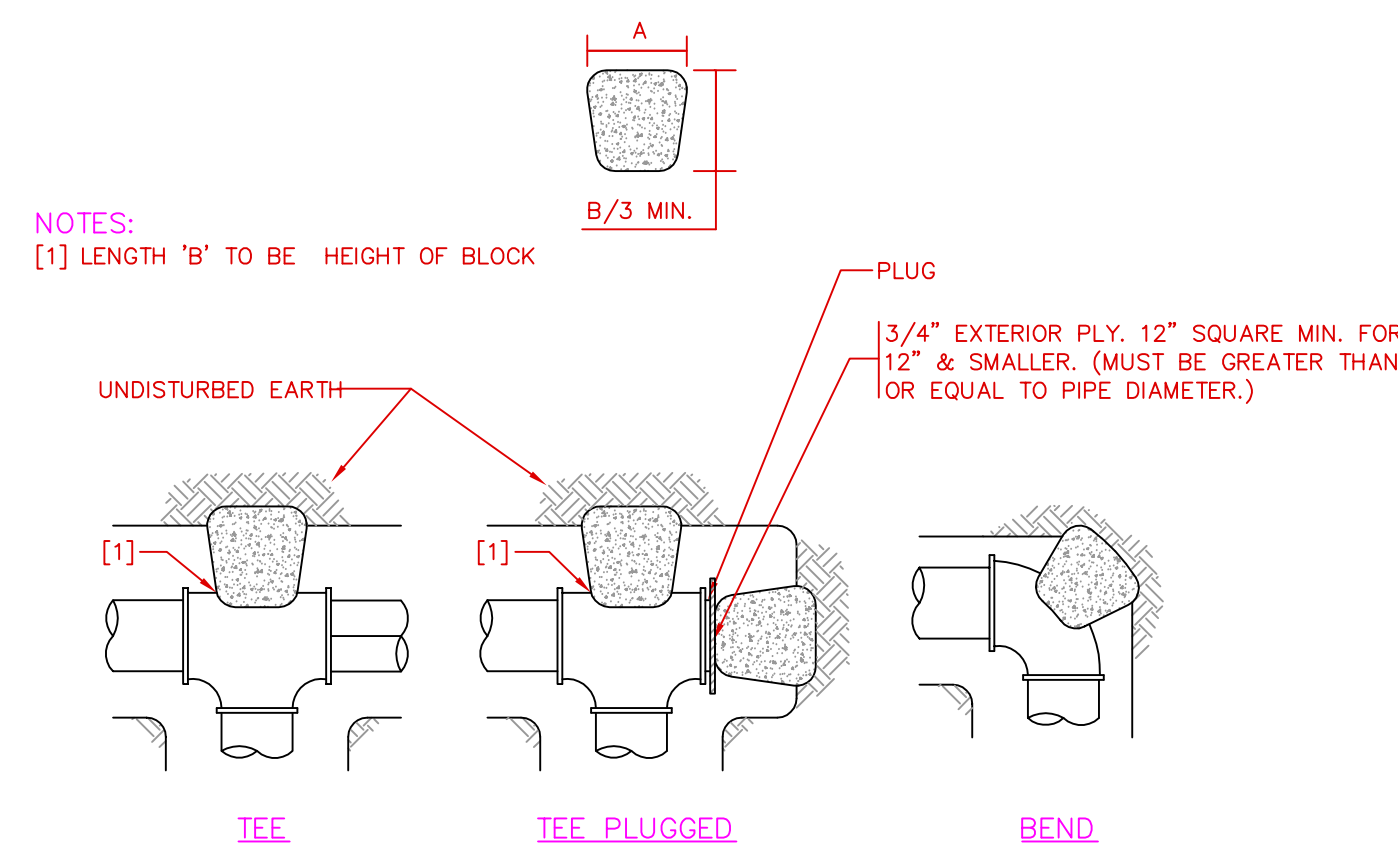
FIRE HYDRANT ASSEMBLY
 TYPICAL CROSS SECTION
 NOT TO SCALE



NOTES:
 [1] SET LID AND CONCRETE COLLAR 1/4" TO 1/2" BELOW GRADE IN PAVEMENT OR OTHER AREAS TO BE PLOWED. SET LID 1.5" ABOVE FINISHED GRADE ELSEWHERE.
 [2] VALVE SHALL OPEN IN DIRECTION AS SPECIFIED BY THE LOCAL WATER DEPARTMENT.



GATE VALVE AND BOX
 TYPICAL CROSS SECTION
 NOT TO SCALE

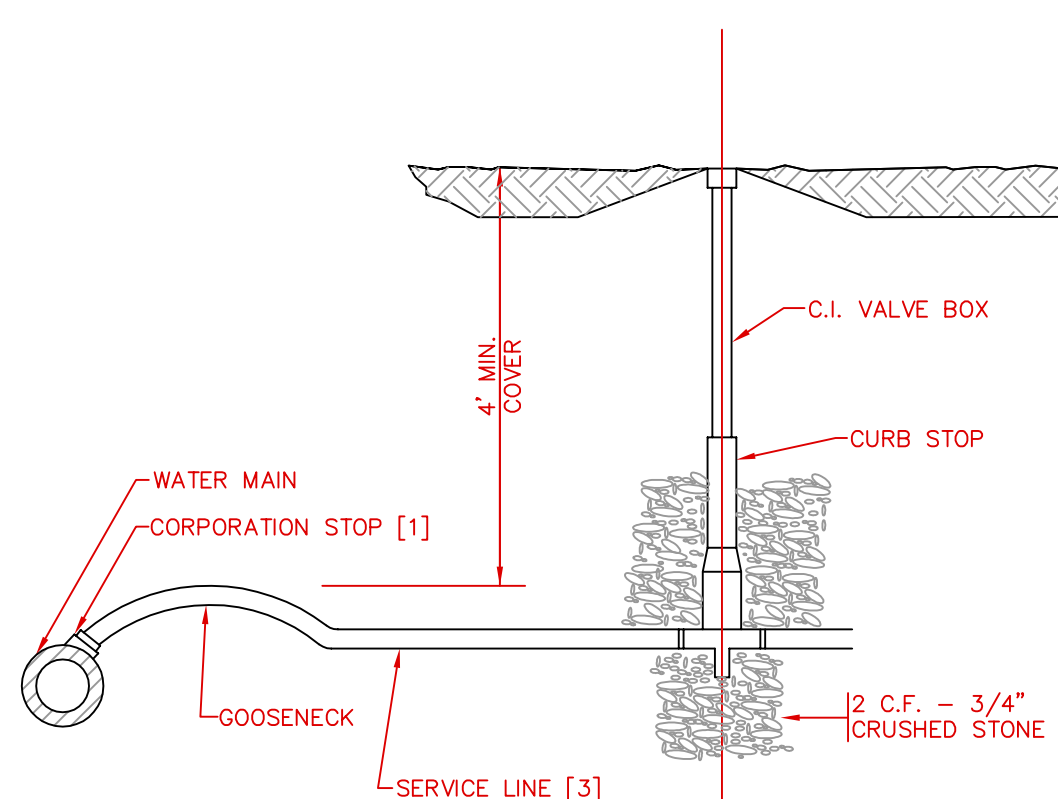


FITTING SIZES	DIMENSION FOR THRUST BLOCKING							
	TEES & PLUGS [2]		90° BENDS		45° BENDS & "Y" S		22 1/2° BENDS	
	A	B	A	B	A	B	A	B
4"	1'-6"	1'-6"	1'-6"	1'-9"	1'-3"	0'-6"	1'-0"	0'-6"
6"	2'-0"	1'-0"	2'-0"	2'-0"	1'-3"	1'-6"	1'-0"	1'-5"
8"	2'-0"	1'-6"	2'-3"	2'-3"	1'-6"	1'-6"	1'-0"	1'-3"
10"	2'-6"	2'-3"	2'-9"	2'-10"	2'-3"	1'-10"	1'-3"	2'-0"
12"	3'-0"	2'-9"	3'-6"	3'-3"	2'-6"	2'-4"	2'-0"	1'-6"
14"	3'-5"	3'-0"	4'-0"	3'-8"	3'-6"	2'-4"	2'-0"	2'-3"
16"	4'-0"	3'-6"	5'-0"	4'-0"	3'-6"	3'-0"	2'-6"	2'-3"
18"	4'-0"	4'-3"	6'-0"	4'-0"	4'-0"	3'-3"	2'-9"	2'-6"
20"	5'-0"	4'-3"	6'-0"	5'-0"	4'-3"	4'-0"	3'-0"	2'-9"
24"	6'-0"	5'-3"	8'-0"	5'-6"	6'-0"	4'-0"	4'-0"	3'-0"

[2] FOR TEE PROVIDE THRUST BLOCKING FOR BRANCH SIZE.
 [3] THIS TABLE IS BASED ON 200 P.S.I. MAIN PRESSURE AND 2000 P.S.F. SOIL BEARING PRESSURE. ADJUST BEARING AREAS IN ACCORDANCE WITH SOIL CONDITIONS AND PRESSURES ENCOUNTERED.
 [4] USE VISQUEEN BARRIER BETWEEN PIPE AND CONCRETE.
 [5] CONCRETE SHALL HAVE A COMPRESSIVE STRENGTH OF 2500 P.S.I. AT 28 DAYS.
 [6] BLOCKING SIZE/FREQUENCY SHALL BE INCREASED IF REQUIRED BY ENGINEER.



THRUST BLOCK SCHEDULE
 TYPICAL CROSS SECTION
 NOT TO SCALE

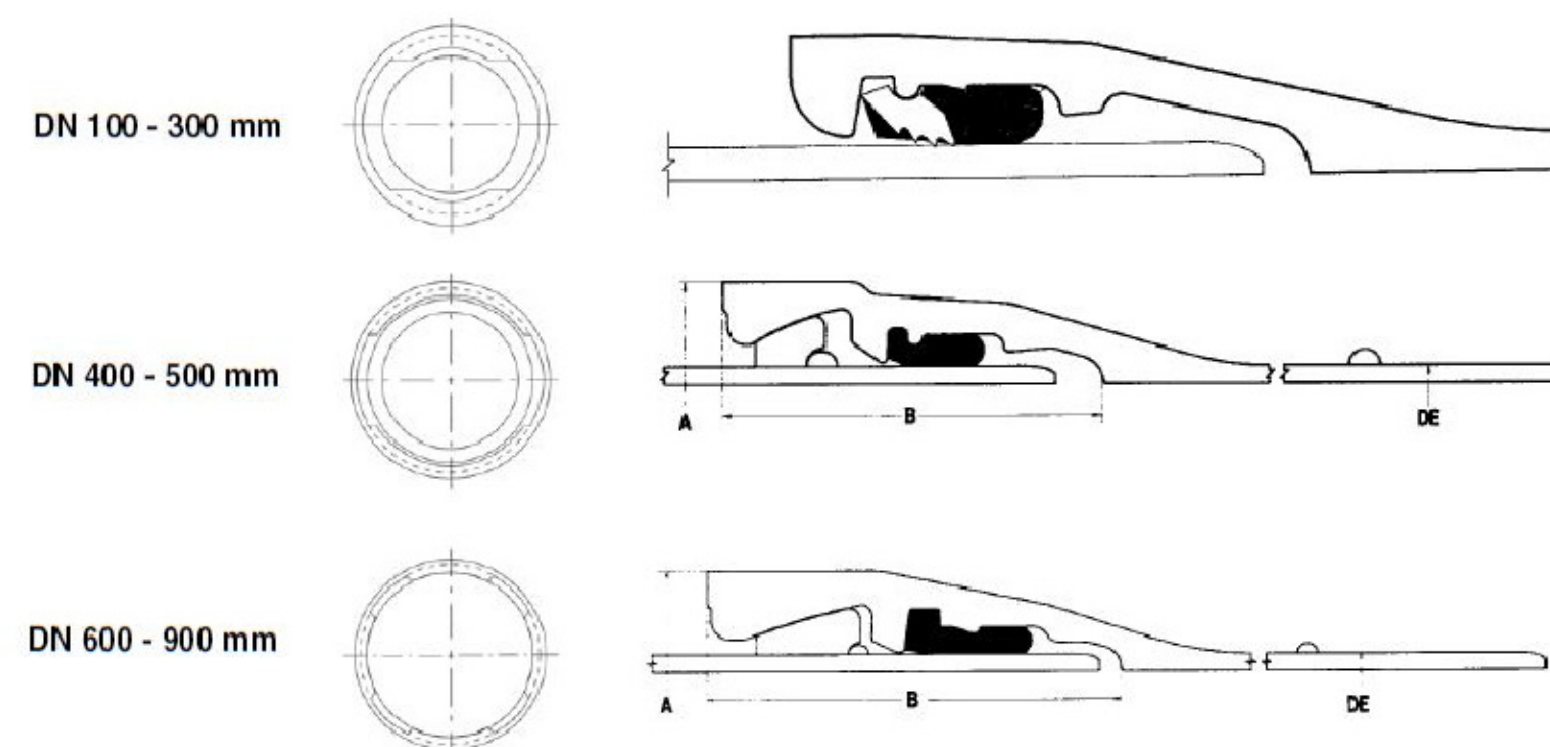


NOTES:
 [1] WATER SERVICES LARGER THAN 1" ARE TO BE RESTRAINED TO MAIN WITH APPROVED SADDLE.
 [2] COORDINATE BUILDING CONNECTION WITH PLUMBING DRAWINGS.
 [3] ALL MATERIALS PER MUNICIPAL STANDARDS.



WATER SERVICE
 TYPICAL CROSS SECTION
 NOT TO SCALE

Restrained Push On Joint Pipe and Fittings



Size	O.D. Barrel	O. D. Bell Pipe	O.D. Bell Fitting	Socket Depth	Locking Segments Number	Rubber Retainers Number	Accessory Weights	Wall Thickness					
								K7	K8	K9	K10	K11	K12
DN 100*	118	177	177	80	---	---	---	---	6.1	6.1	6.6	7.2	
150*	170	232	233	88	---	---	---	---	6.3	6.5	7.2	7.8	
200*	222	291	293	94	---	---	---	---	6.4	7.0	7.7	8.4	
250*	274	351	351	95	---	---	---	---	6.8	7.5	8.3	9.0	
300*	326	408	408	95	---	---	---	---	7.2	8.0	8.8	9.6	
400	429	513	513	202	4	2	6.4	---	8.1	9.0	9.9	10.8	
450*	480	569	582	208	4	2	7.7	---	8.6	9.5	10.5	11.4	
500	532	625	637	213	4	2	9.1	---	8.0	9.0	10.0	11.0	
600	635	748	738	225	8	4	14.5	---	8.8	9.9	11.0	12.1	
700	738	845	860	256	8	4	22.7	8.4	9.6	10.8	12.0	13.2	
800	842	953	974	261	8	4	22.7	9.1	10.4	11.7	13.0	14.3	
900	945	1073	1086	276	8	4	30.8	9.8	11.2	12.6	14.0	15.4	

Dimensions in millimeters
 Masses in kilograms



"PUSH ON" JOINT RESTRAINT
 TYPICAL CROSS SECTION
 NOT TO SCALE