# SECTION IV- WATER DETAILS

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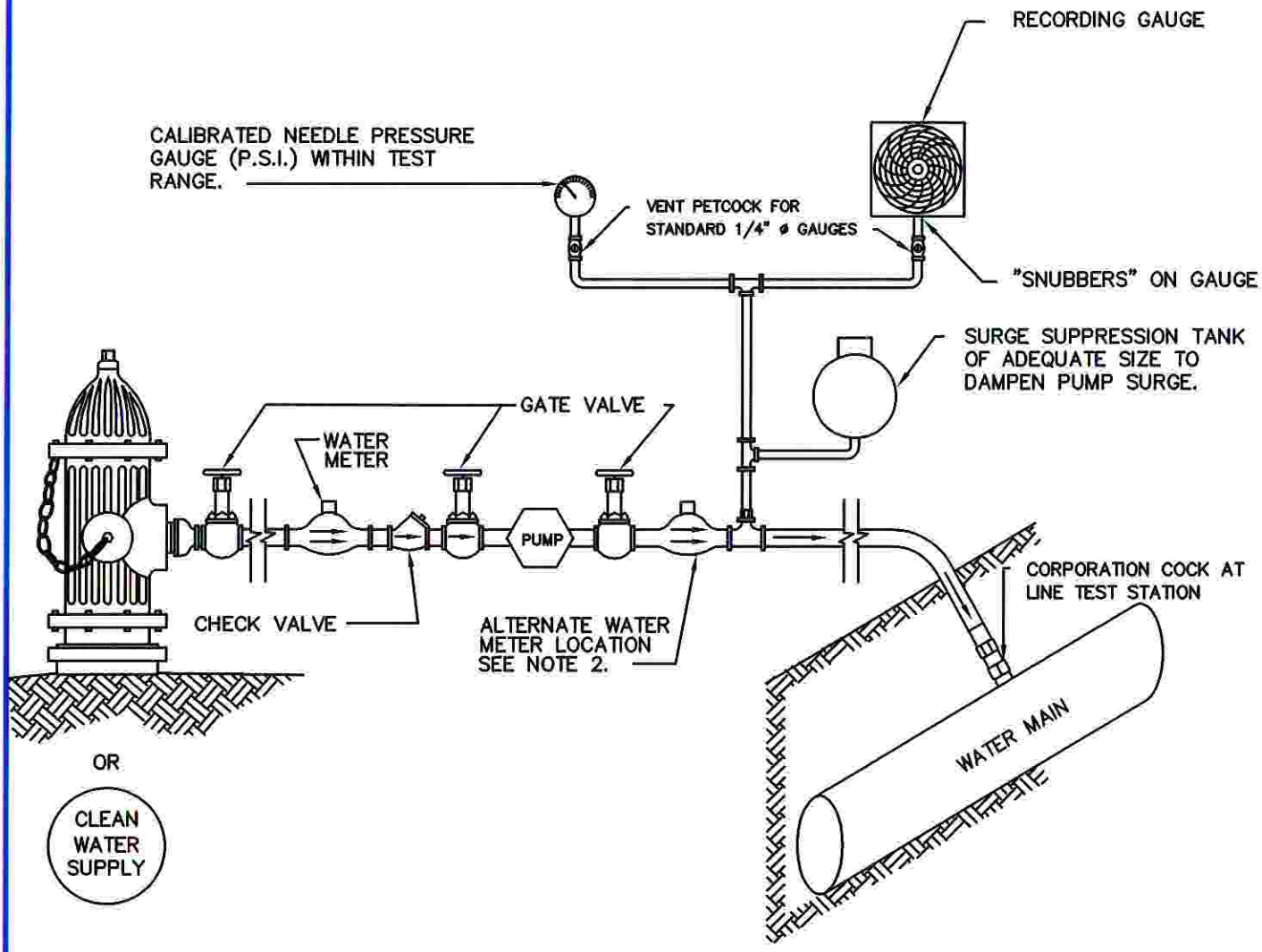


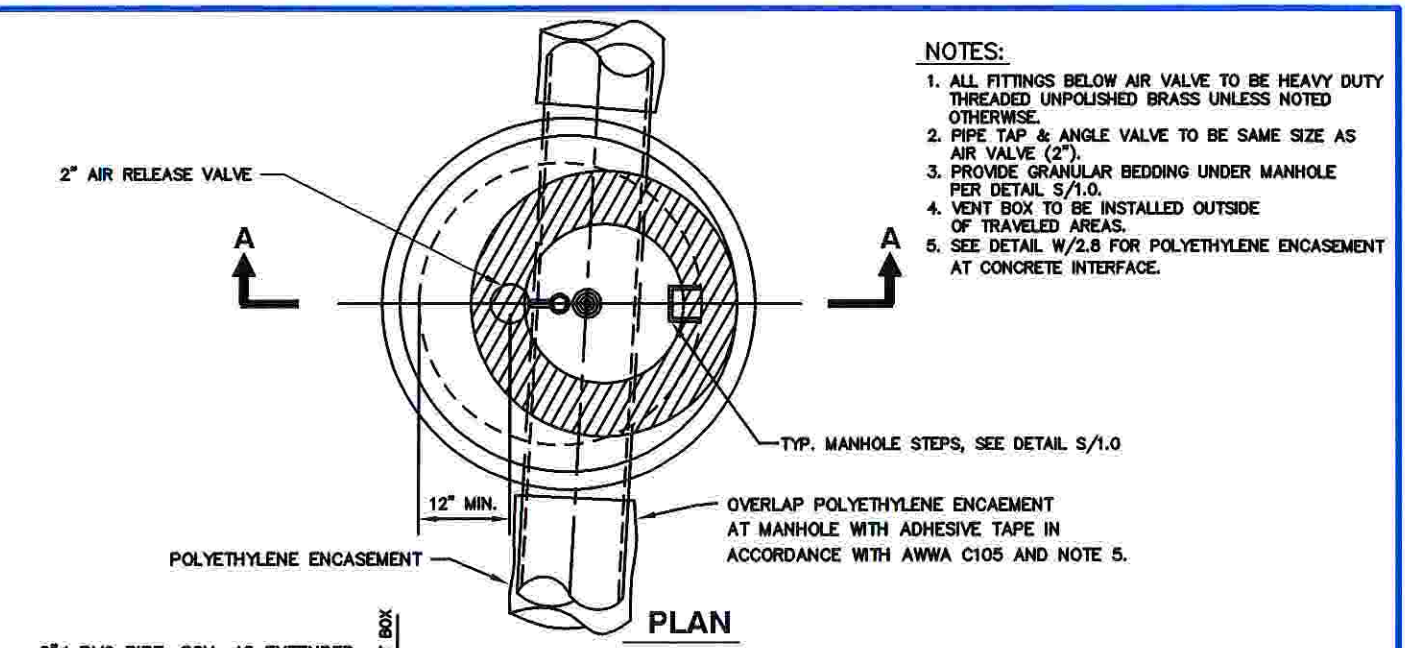

NOTES:

1. ALL LINES, FITTINGS AND TEST APPURTENANCES SHALL BE CAPABLE OF WITHSTANDING MAXIMUM TEST PRESSURE.
2. WHEN TEST PRESSURE IS LESS THAN PRESSURE RANGE OF METER, INSTALL METER AT ALTERNATE LOCATION SHOWN.
3. PROVIDE ADEQUATE PROTECTION TO ALL LINES, FITTINGS AND TEST APPURTENANCES WHEN TESTING DURING FREEZING WEATHER.
4. PUMP MUST BE CAPABLE OF APPLYING PRESSURE WITHIN TEST RANGE (PROVIDE FOR PRESSURE RELIEF ON PUMP).
5. ELEVATION OF TEST GAUGES MUST BE KNOWN

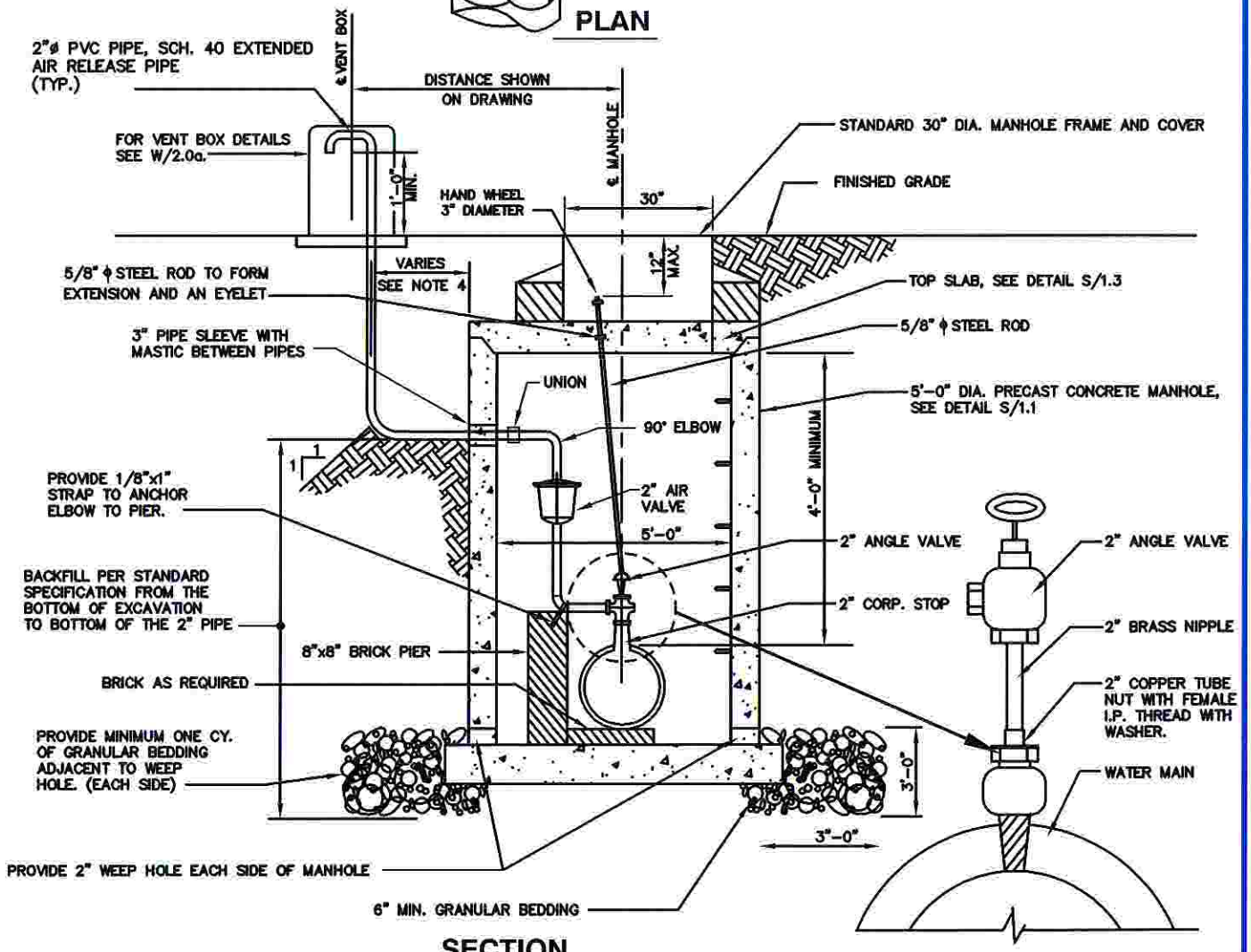
| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>METHOD OF TESTING WATER MAINS | W<br>1.0 |

NOTES:

1. ALL FITTINGS BELOW AIR VALVE TO BE HEAVY DUTY THREADED UNPOLISHED BRASS UNLESS NOTED OTHERWISE.
2. PIPE TAP & ANGLE VALVE TO BE SAME SIZE AS AIR VALVE (2").
3. PROVIDE GRANULAR BEDDING UNDER MANHOLE PER DETAIL S/1.0.
4. VENT BOX TO BE INSTALLED OUTSIDE OF TRAVELED AREAS.
5. SEE DETAIL W/2.8 FOR POLYETHYLENE ENCASEMENT AT CONCRETE INTERFACE.

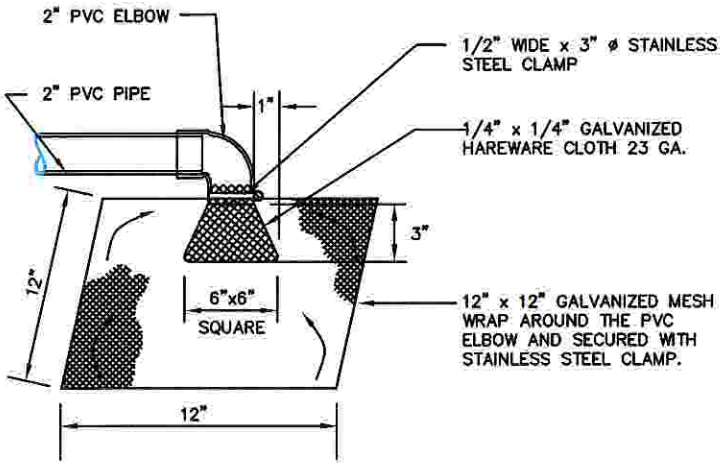



PLAN

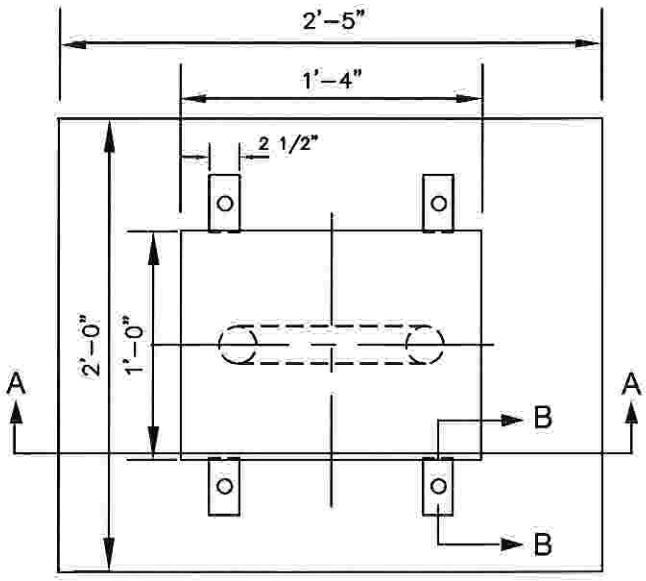



SECTION

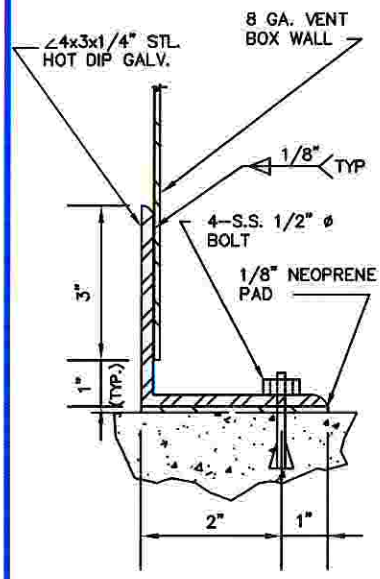
| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>2" AIR VALVE IN MAN-HOLE FOR 24" DIAMETER AND SMALLER PIPE | W<br>2.0 |




## BIRD SCREEN DETAIL

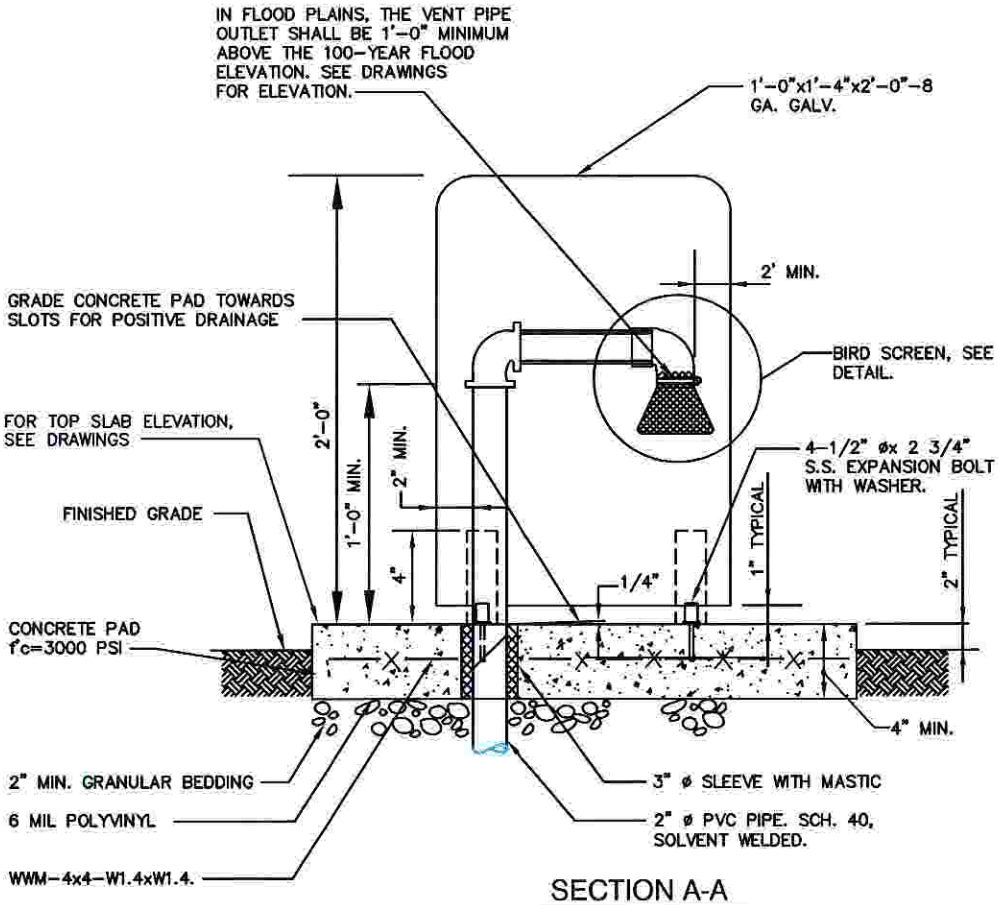



## PLAN




## SECTION B-B

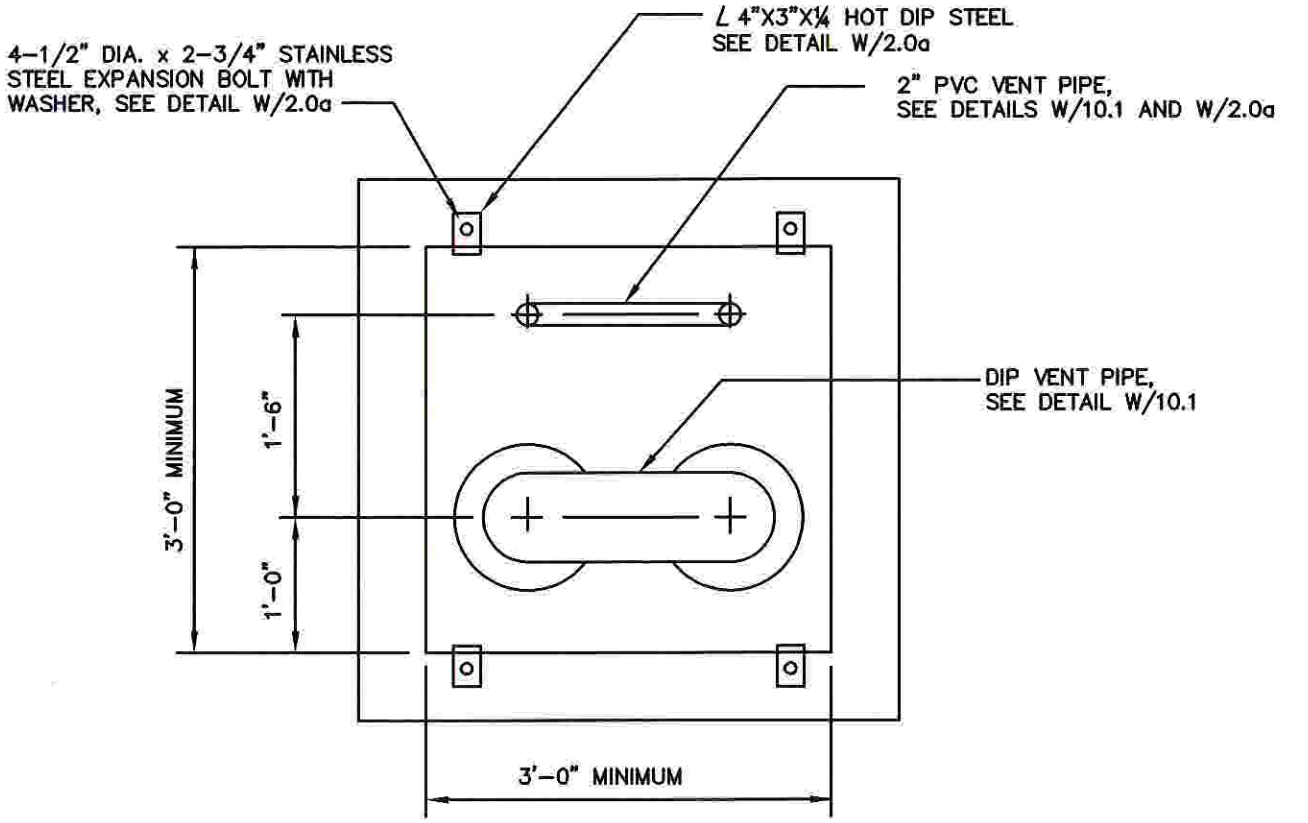
1. ALL METAL FABRICATION SHALL BE DONE IN ACCORDANCE WITH SPECIFICATION.
2. ALL WELDED JOINTS SHALL BE CONTINUOUS COMPLETE PENETRATION WELDS UNLESS OTHERWISE NOTED.
3. THE BOX ASSEMBLY SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.




## SECTION A-A

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>VENT BOX FOR EXTENDED AIR RELEASE PIPE | W<br>2.0a |

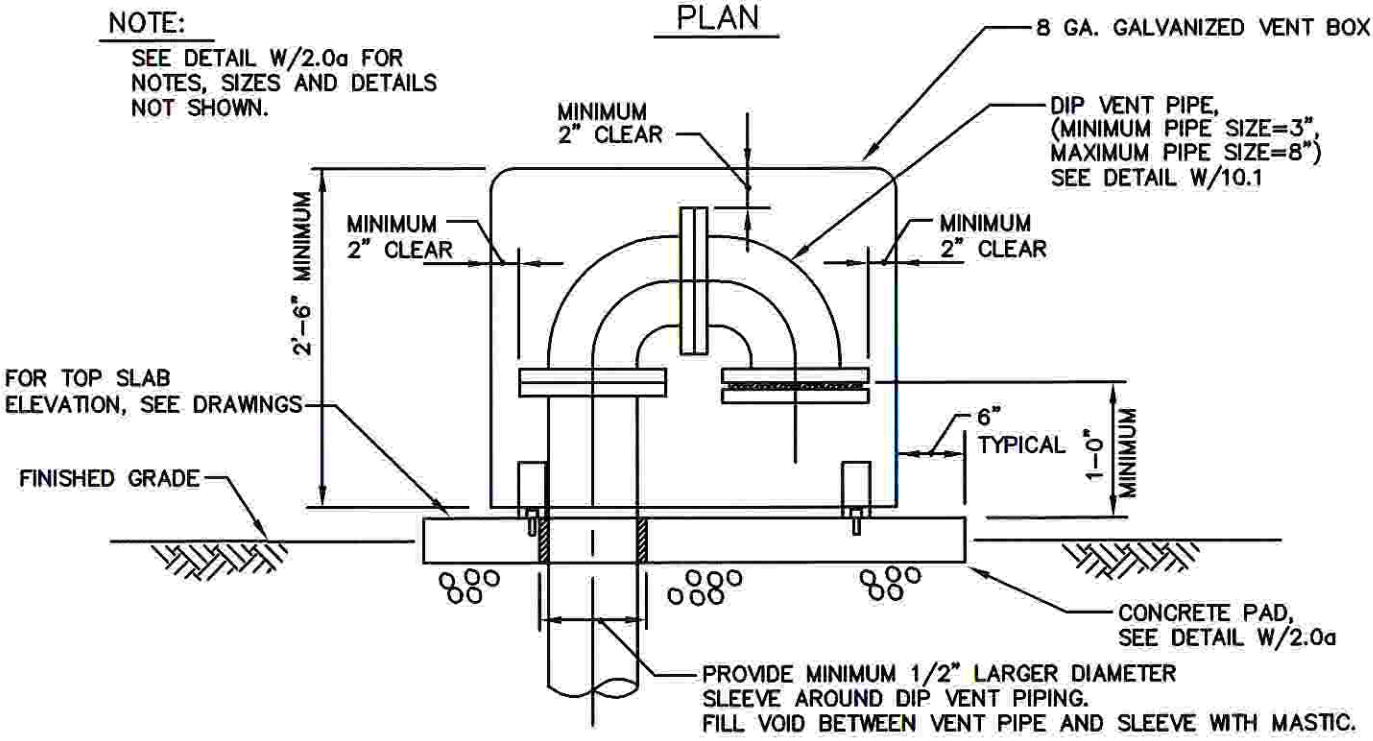
W20a




PLAN

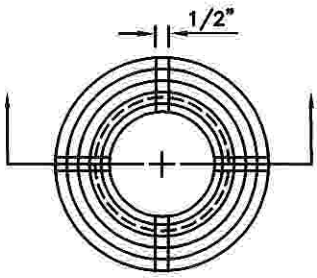
NOTE:

SEE DETAIL W/2.0a FOR NOTES, SIZES AND DETAILS NOT SHOWN.

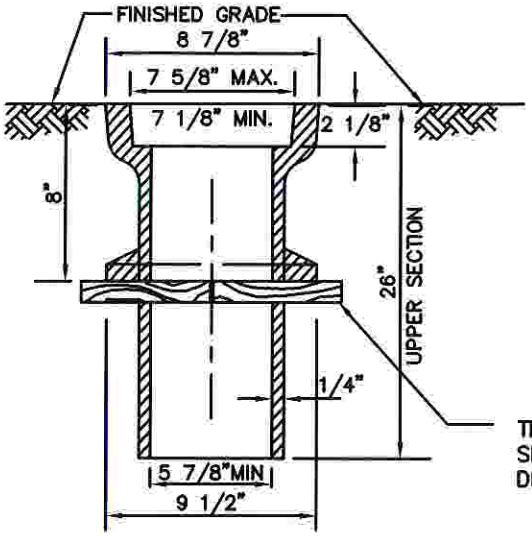


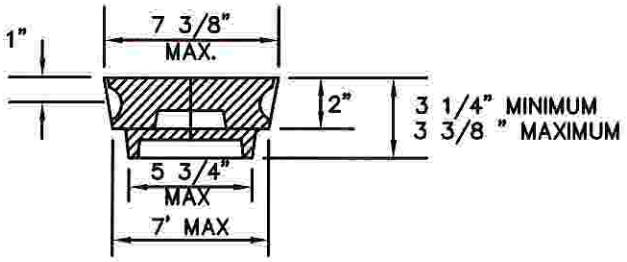

SECTION

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005 Chief Engineer | STANDARD DETAIL VENT BOX FOR AIR/VACUUM VALVE VAULT ON 30" DIAMETER AND LARGER PIPES | W 2.0b |



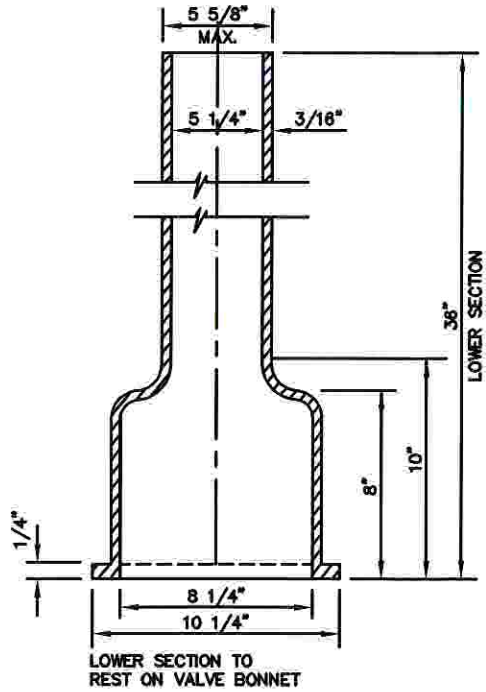





COVER

THE FLANGE SHALL BE LOCATED 8" BELOW TOP OF TOP SECTION & SHALL REST UPON NOTCHED BOARDS (SEE DETAIL BELOW)

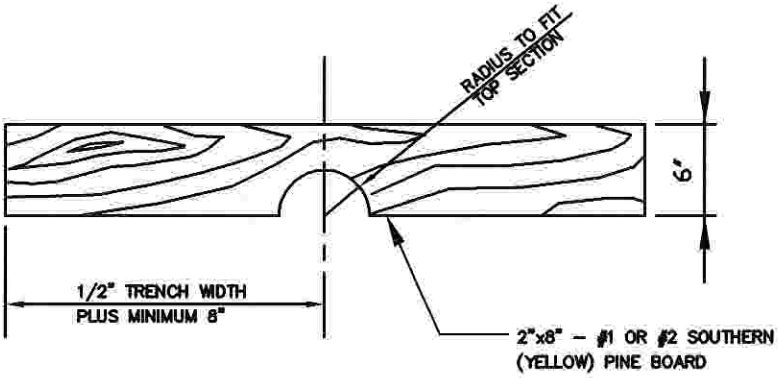



NOTE:

ALL SECTIONS SHOWN TO BE GRAY.
IRON CASTINGS, CLASS NO. 25 ASTM A-48

WEIGHTS:

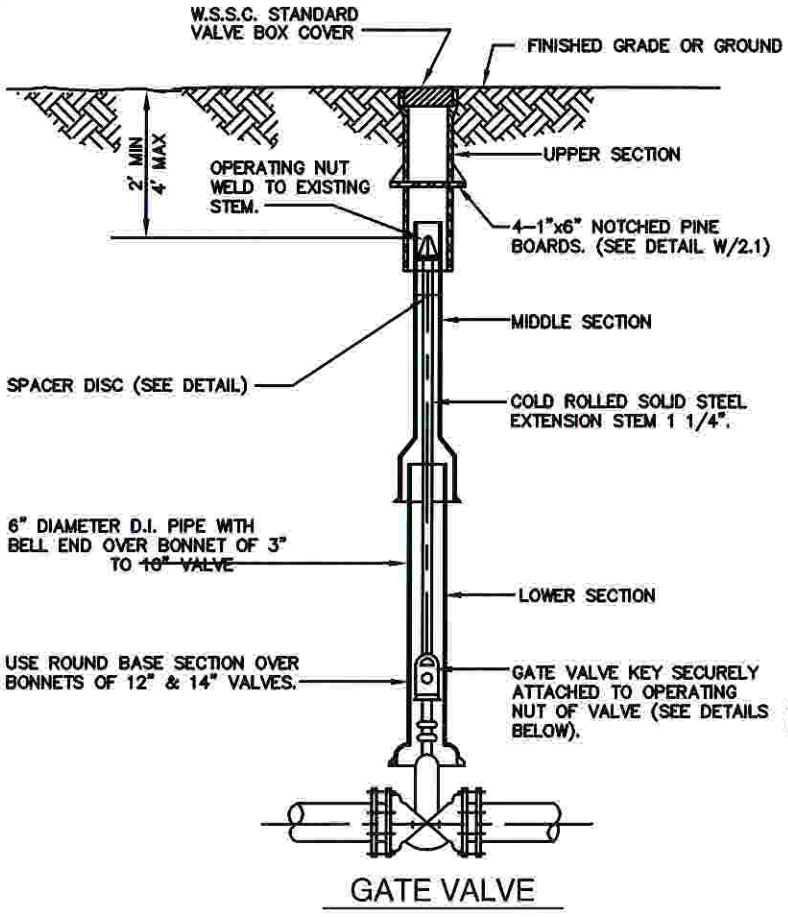
LID – 15 LBS.
TOP SECTION – 52 LBS.
BOTTOM SECTION – 48 LBS
TOTAL – 115
MINUS WEIGHT TOLERANCE 5%




## UPPER AND LOWER VALVE BOX SECTION

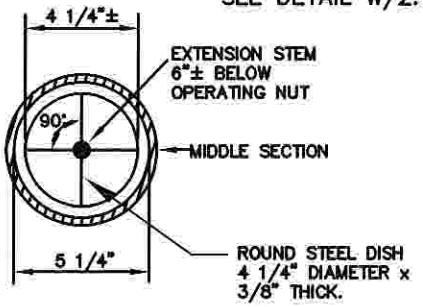
| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JUNE 17, 2004<br>Chief Engineer | STANDARD DETAIL<br>ADJUSTABLE VALVE BOX ROUND HEAD SLIDING TYPE | W<br>2.1 |

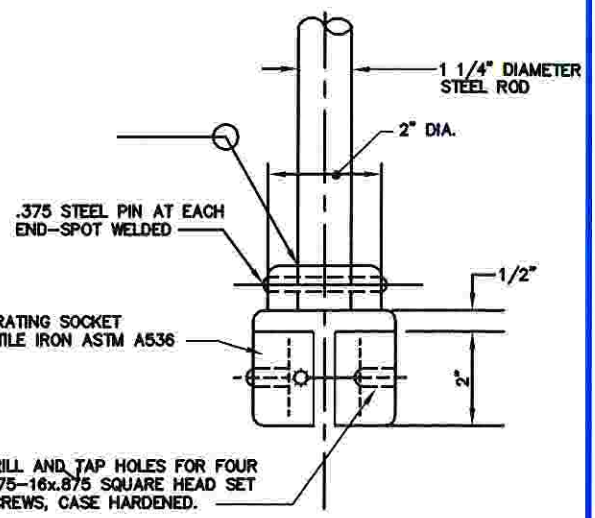
W21.dwg



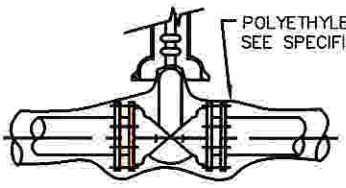

GATE VALVE

FOR UPPER SECTION SEE DETAIL W/2.1.

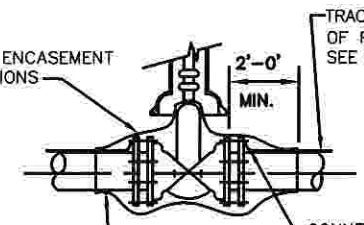


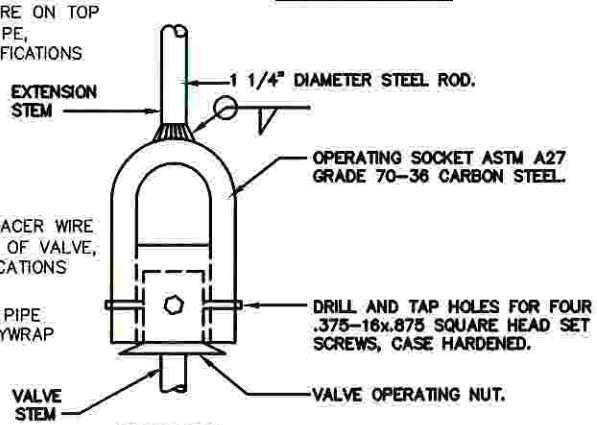

STANDARD




GATE VALVE ON D.I. PIPE




GATE VALVE ON PVC PIPE

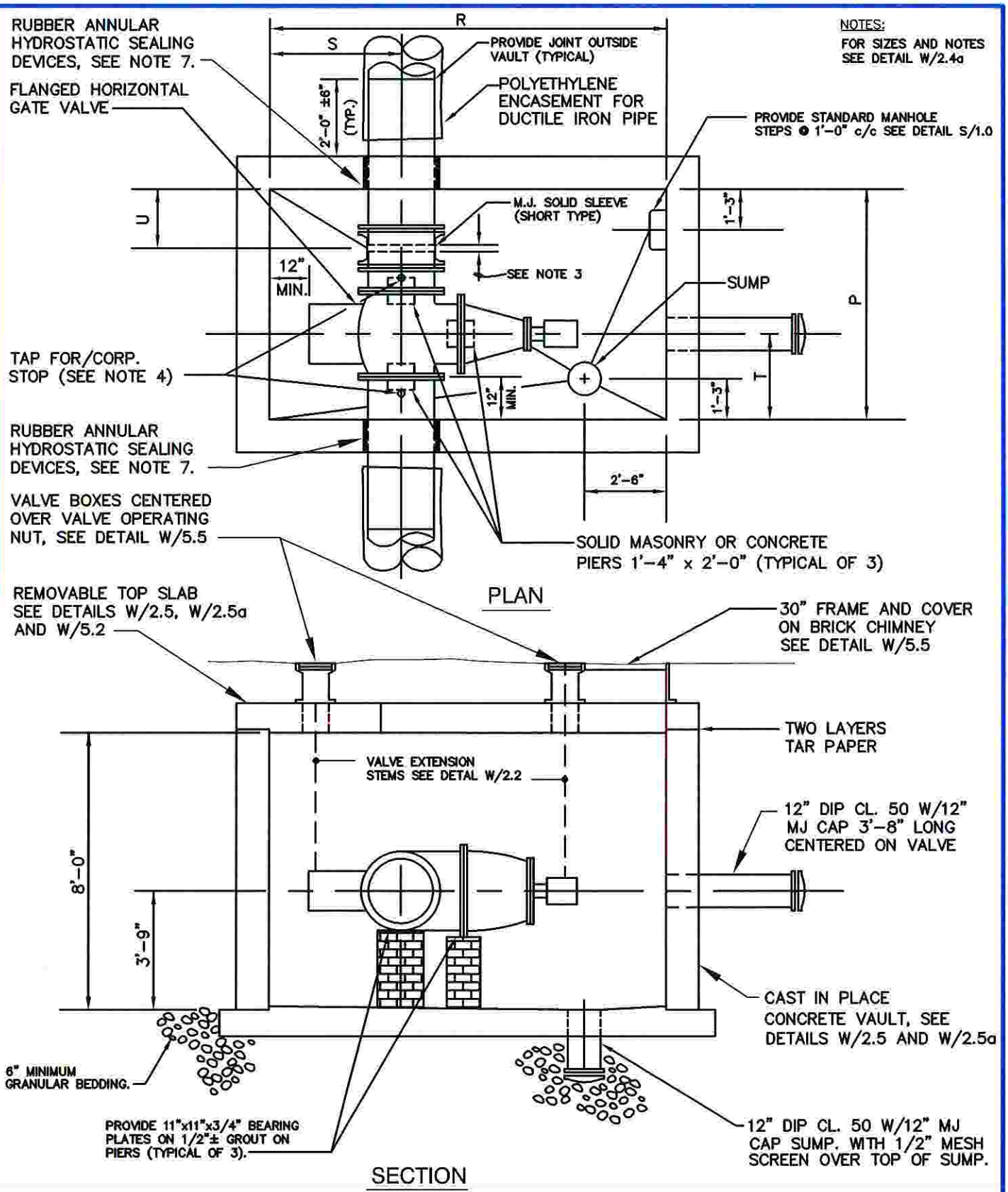



OPTION

NOTES:

1. EXTENSION TO BE SECURELY WELDED TO GATE VALVE KEY. STEM MATERIAL COMPOSITION SHALL COMPLY WITH ASTM A108.
2. LENGTH OF STEM TO BE SUCH THAT OPERATING NUT WILL BE LOCATED AS INDICATED ABOVE.
3. WELD STEEL DISH 4-1/4" DIAMETER x3/8" THICK TO EXTENSION STEM TO INSURE OPERATING NUT IS CENTERED WITHIN VALVE BOX.
4. COAT EXTENSION STEM WITH FIELD APPLIED COATING, SPECIFICATIONS.
5. USE THIS DETAIL WHEN DISTANCE FROM TOP OF OPERATING NUT OF VALVE TO FINISHED GRADE EXCEEDS 4'-0".
5. USE THIS DETAIL WHEN DISTANCE FROM TOP OF OPERATING NUT OF VALVE

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>EXTENSION STEMS AND VALVE BOXES FOR DEEP VALVE SETTINGS | W<br>2.2 |

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|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>20", 24",30" AND 36" HORIZONTAL VALVE INSTALLATIONS | W<br>2.4 |

| PIPE SIZE | VALVE SIZE | R | S | P | T | U |
|---|---|---|---|---|---|---|
| 20" | 20" | 11'–0" | 3'–6" | 7'–0" | 2'–6" | 1'–3" |
| 24" | 24" | 12'–0" | 4'–0" | 7'–0" | 2'–6" | 1'–3" |
| 30" | 30" | 14'–0" | 4'–6" | 8'–6" | 2'–9" | 1'–10" |
| 36" | 36" | 16'–0" | 5'–0" | 8'–6" | 2'–9" | 1'–10" |

NOTES:

1. THIS VALVE VAULT IS NOT FOR ELECTRICALLY OPERATED VALVES.

2. CONTRACTOR MAY USE PRECAST CONCRETE VAULT. SEE SPECIFICATIONS FOR SUBMITTAL REQUIREMENTS.
   a. WALL AND BASE SHOULD BE CAST MONOLITHIC WITH FLOOR.
   b. IF THE BOTTOM SLAB IS NOT SLOPED, PROVIDE A MINIMUM 1" THICK CEMENT MORTAR WEARING COURSE SLOPE TO SUMP @ 1/4"/LF.
   c. PROVIDE 18" DIAMETER SUMP HOLE FOR THE 12" ø DUCTILE IRON PIPE INSTALLATION. THE VOID BETWEEN THE HOLE AND THE PIPE SHALL BE FILLED WITH NON–SHRINK GROUT.

3. PROVIDE SHORT TYPE MJ SOLID SLEEVE WITH RESTRAINED JOINTS, SEE DETAIL B/2.7. TOLERANCE BETWEEN PIPE ENDS SHALL NOT EXCEED 1/2". DO NOT USE PIPE SPACERS, SEE SPECIFICATIONS.

4. TAP SIZES FOR CORPORATION STOPS: 1–1/2" FOR 20" DIAMETER PIPE, 2" FOR 24" DIAMETER PIPE AND LARGER.

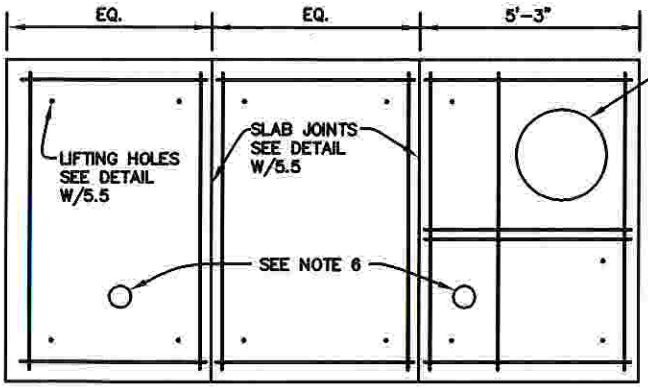
5. FOR STRUCTURAL DETAILS SEE DETAILS W/2.5 AND W/2.5a.

6. PROVIDE FLANGE BOLT END PROTECTION FOR ALL FLANGED JOINTS IN VAULTS, SEE SPECIFICATIONS.

7. PROVIDE RUBBER ANNUAL HYDROSTATIC SEALING DEVICES FOR PIPE THROUGH WALL CONNECTIONS, SEE SPECIFICATIONS.

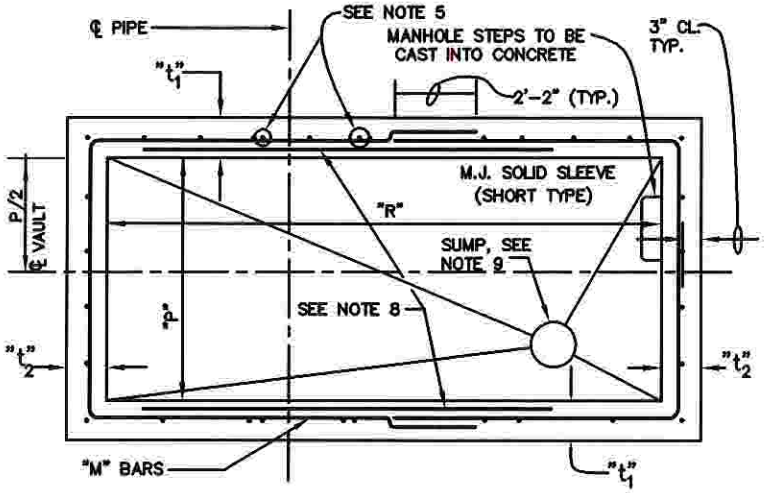
8. SEE DETAIL W/2.8 FOR POLYETHYLENE ENCASEMENT AT CONCRETE INTERFACE.

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>20", 24", 30" AND 36" HORIZONTAL VALVE INSTALLATIONS | W<br>2.4a |

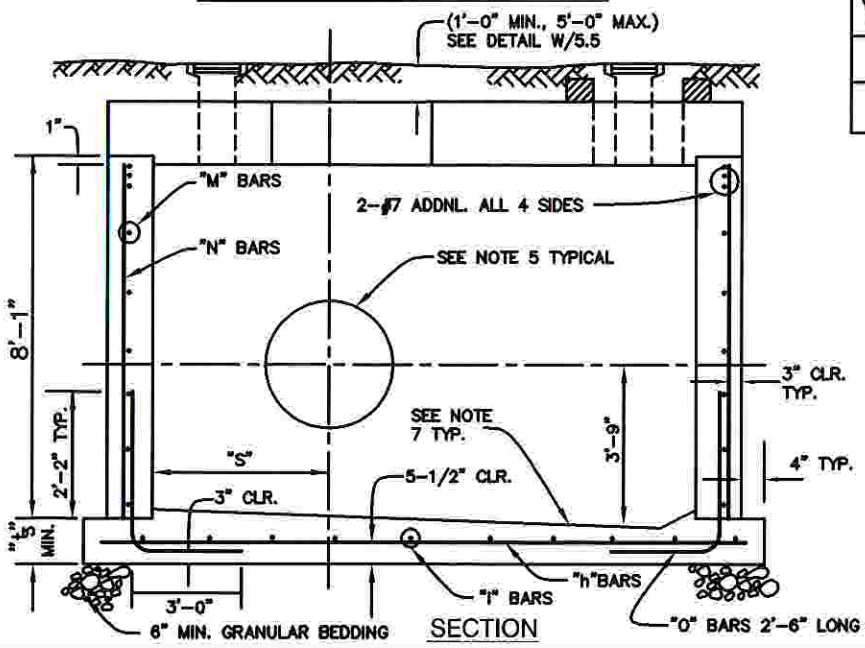



SEE DETAIL W/5.2 FOR TOP SLAB THICKNESS AND REINFORCEMENT

## TOP SLAB-PLAN




## PLAN-TOP SLAB REMOVED




## CAST IN PLACE CONCRETE VAULT NOTES

1. f'c =4000 PSI. @ 28 DAYS
2. fy= 60,000 PSI.
3. VAULTS ARE DESIGNED FOR THE FOLLOWING CONDITIONS
   A. H20 LOADING & 1'-0" COVER + IMPACT
   B. 5'-0" COVER & 2'-0" SURCHARGE. WATER TABLE 4'-0" BELOW FINISHED GRADE FOR CASES (A) & (B).
4. CONTRACTOR MAY USE PRECAST VAULT. SEE SPECS. FOR SUBMITTAL REQUIREMENTS.
5. PROVIDE ADDNL "N" BARS 6'-0" LONG EACH SIDE OF ALL PIPES PASSING THROUGH WALLS.
6. PROVIDE 5" ø HOLE IN TOP SLAB CENTERED OVER VALVE OPERATING NUTS. PROVIDE VALVE BOXES PER DETAIL W/5.5.
7. SLOPE BASE OF VAULT TO DRAIN @ 1/4"LF.
8. PROVIDE ADDNL. "M" BARS x 6'-0" LONG TOP & BOTTOM OF ALL PIPES PASSING THRU WALL.
9. FOR SUMP SEE DETAILS W/2.4 AND W/2.4A.
10. FOR PIPING AND VALVE CONFIGURATION AND ADDITIONAL DETAILS, SEE DETAILS W/2.4 AND W/2.4a.
11. PROVIDE RUBBER ANNUAL HYDROSTATIC SEALING DEVICES FOR PIPE THROUGH WALL CONNECTIONS, SEE SPECIFICATIONS.

| VALVE SIZE | $t_1$ | $t_2$ | $t_3$ | "P" | "R" | "S" |
|---|---|---|---|---|---|---|
| 20" | 8" | 8" | 8" | 7'-0" | 11'-0" | 3'-6" |
| 24" | 8" | 8" | 8" | 7'-0" | 12'-0" | 4'-0" |

| | REINFORCING BAR SIZES | | | | |
|---|---|---|---|---|---|
| VALVE SIZE | "h" | "i" | "M" | "N" | "O" |
| 20" | #4@12" | #4@12" | #5@12" | #5@6" | #6@6" |
| 24" | #4@12" | #4@12" | #5@12" | #5@6" | #6@6" |

WASHINGTON SUBURBAN SANITARY COMMISSION

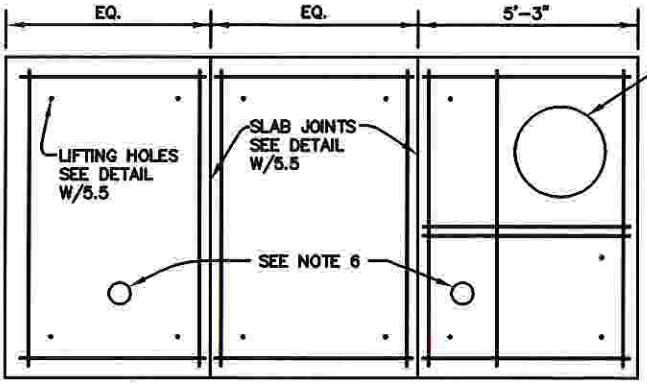
APPROVED: JULY 1, 2005

Chief Engineer

STANDARD DETAIL

CAST IN PLACE CONCRETE VAULT FOR 20" AND 24" HORIZONTAL VALVES

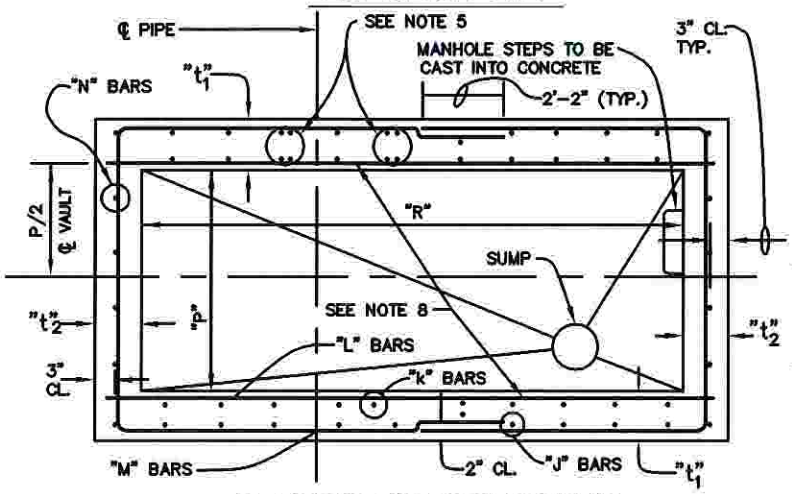
W 2.5



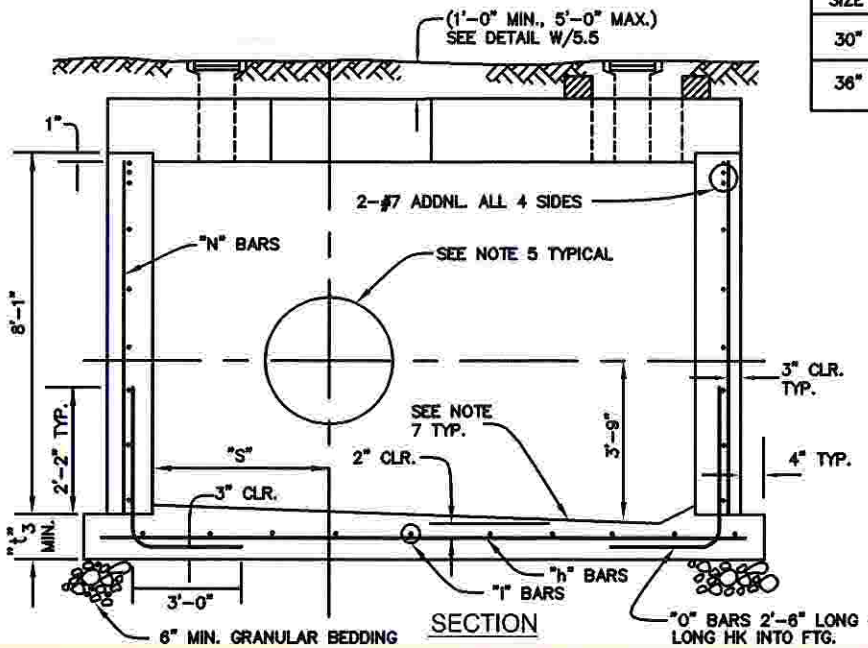

SEE DETAIL W/5.2 FOR TOP SLAB THICKNESS AND REINFORCEMENT

NOTE: FOR 30" AND 36" VALVES VAULTS REFER TO DETAIL W/5.21, "Q" 9'-0", THICKNESS AND REINFORCING

TOP SLAB-PLAN




PLAN-TOP SLAB REMOVED




SECTION

## CAST IN PLACE CONCRETE VAULT NOTES

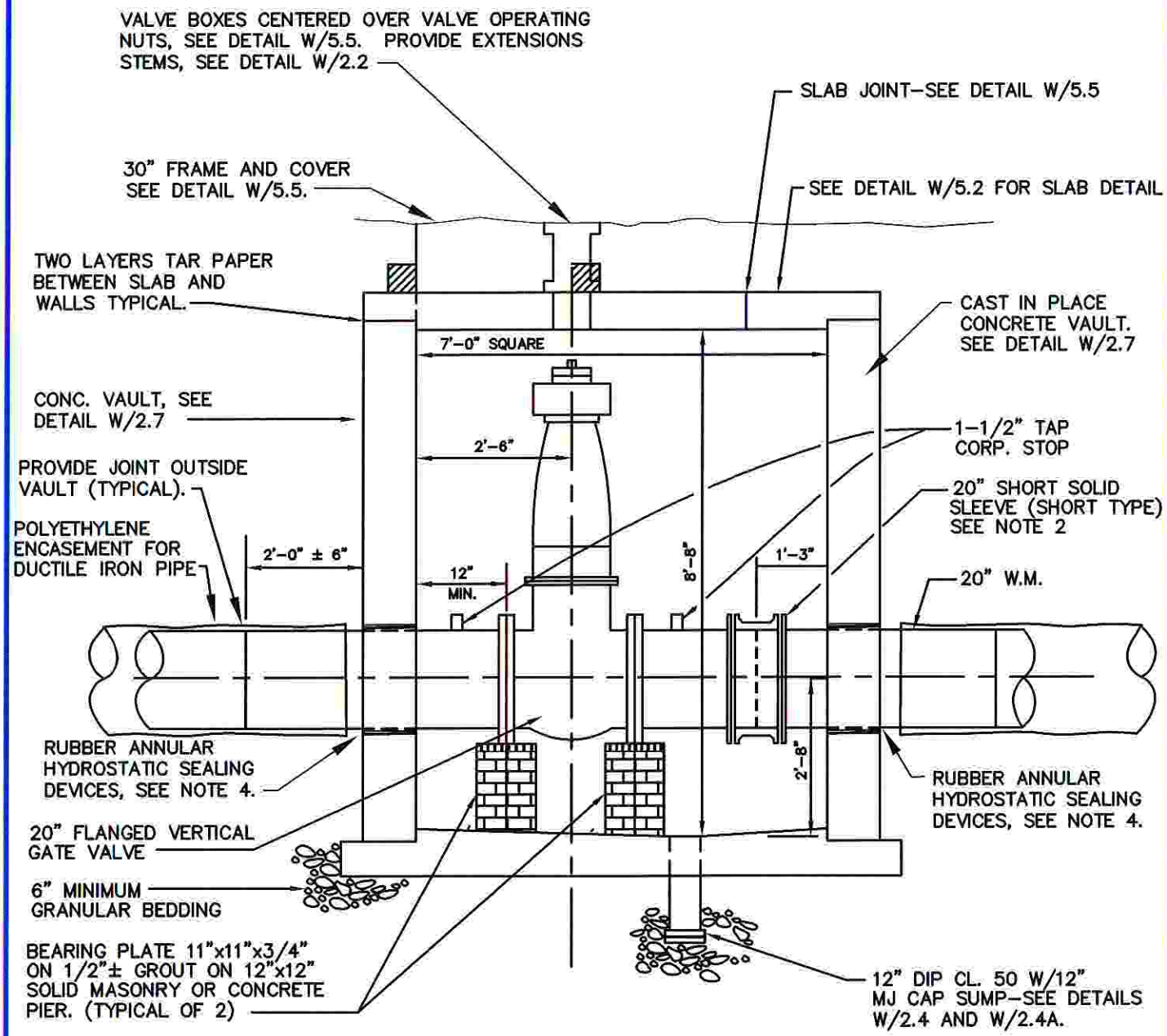
1. f'c =4000 PSI. @ 28 DAYS
2. fy= 60,000 PSI.
3. VAULTS ARE DESIGNED FOR THE FOLLOWING CONDITIONS
   A. H20 LOADING & 1'-0" COVER + IMPACT
   B. 5'-0" COVER & 2'-0" SURCHARGE. WATER TABLE 4'-0" BELOW FINISHED GRADE FOR CASES (A) & (B).
4. CONTRACTOR MAY USE PRECAST VAULT. SEE SPECS. FOR SUBMITTAL REQUIREMENTS.
5. PROVIDE ADDNL "N" BARS 6'-0" LONG EACH SIDE OF ALL PIPES PASSING THROUGH WALLS.
6. PROVIDE 5" ø HOLE IN TOP SLAB CENTERED OVER VALVE OPERATING NUTS. PROVIDE VALVE BOXES PER DETAIL W/5.5.
7. SLOPE BASE OF VAULT TO DRAIN @ 1/4"LF.
8. PROVIDE ADDNL. "M" BARS x 6'-0" LONG TOP & BOTTOM OF ALL PIPES PASSING THRU WALL.
9. FOR SUMP SEE DETAILS W/2.4 AND W/2.4A.
10. FOR PIPING AND VALVE CONFIGURATION AND ADDITIONAL DETAILS, SEE DETAILS W/2.4 AND W/2.4a.
11. PROVIDE RUBBER ANNUAL HYDROSTATIC SEALING DEVICES FOR PIPE THROUGH WALL CONNECTIONS, SEE SPECIFICATIONS.

| VALVE SIZE | $t_1$ | $t_2$ | $t_3$ | "P" | "R" | "S" |
|---|---|---|---|---|---|---|
| 30" | 10" | 8" | 8" | 8'-6" | 14'-0" | 4'-6" |
| 36" | 12" | 8" | 8" | 8'-6" | 16'-0" | 5'-0" |

| REINFORCING BAR SIZES | | | | |
|---|---|---|---|---|
| VALVE SIZE | "h" | "I" | "J" | "K" |
| 30" | #4@12" | #5@5" | #5@7" | #4@12" |
| 36" | #4@12" | #5@5" | #5@6" | #4@10" |

| REINFORCING BAR SIZES | | | | |
|---|---|---|---|---|
| VALVE SIZE | "L" | "M" | "N" | "O" |
| 30" | #4@10" | #5@7" | #5@7" | #5@7" |
| 36" | #4@12" | #5@6" | #5@6" | #5@6" |

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>CAST IN PLACE CONCRETE VAULT FOR 30" AND 36" HORIZONTAL VALVES | W<br>2.5a |



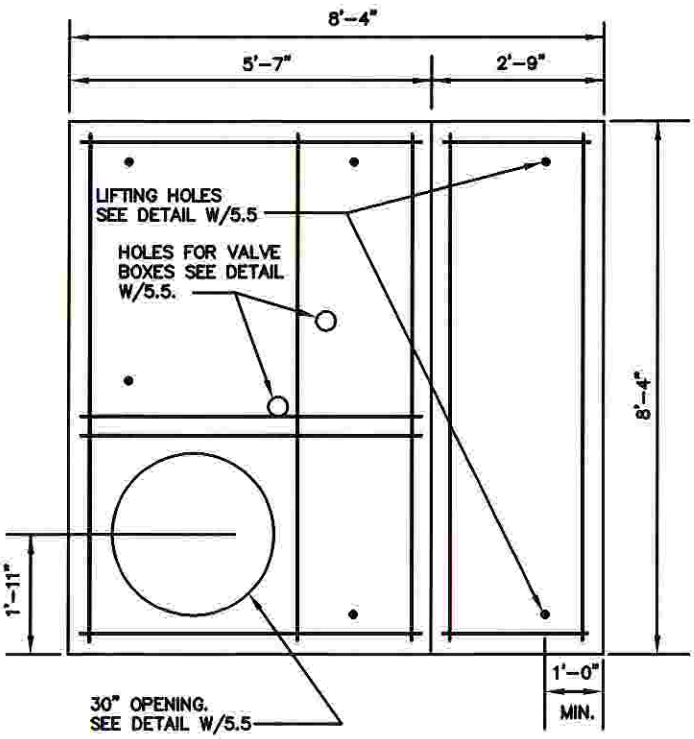

## NOTES:

1. THIS VALVE VAULT IS NOT FOR ELECTRICALLY OPERATED VALVES.
2. PROVIDE SHORT TYPE MJ SOLID SLEEVE WITH RESTRAINED JOINTS, SEE DETAIL B/2.7. TOLERANCE BETWEEN SHALL NOT EXCEED 1/2". DO NOT USE PIPE SPACERS, SEE SPECIFICATIONS.
3. PROVIDE FLANGE BOLT END PROTECTION FOR ALL FLANGED JOINTS IN VAULTS, SEE SPECIFICATIONS.
4. PROVIDE RUBBER ANNUAL HYDROSTATIC SEALING DEVICES FOR PIPE THROUGH WALL CONNECTIONS, SEE SPECIFICATIONS.
5. SEE DETAIL W/2.8 FOR POLYETHYLENE ENCASEMENT AT CONCRETE INTERFACE.

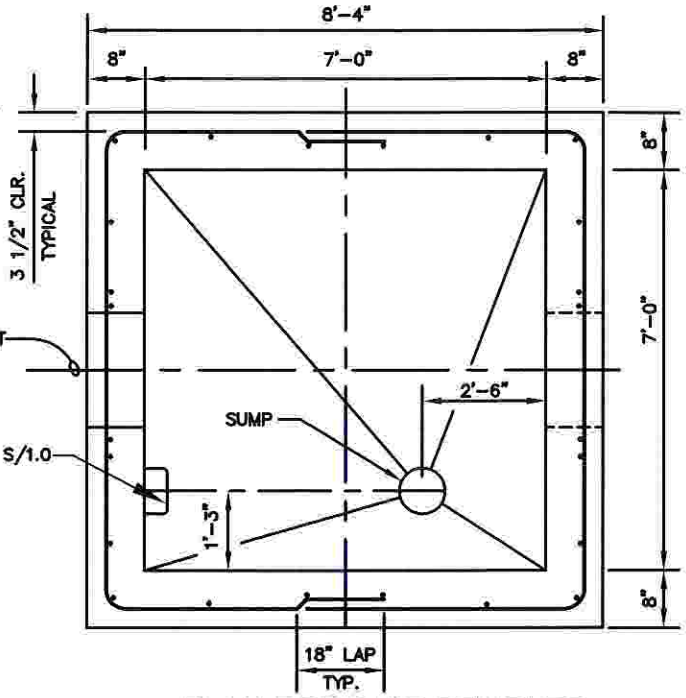
| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>20" VERTICAL VALVES INSTALLATION | W<br>2.6 |

## CAST IN PLACE CONCRETE VAULT NOTES

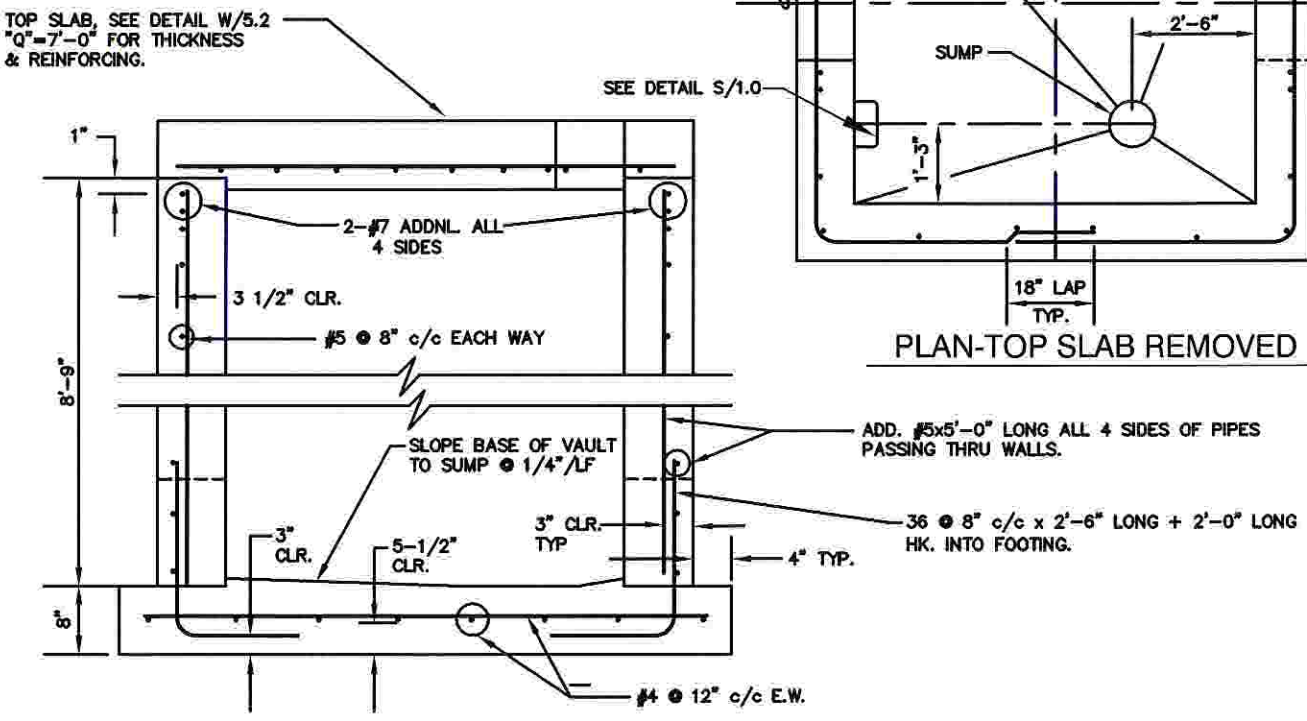
1. f'c =4000 PSI. @ 28 DAYS
2. fy= 60,000 PSI.
3. VAULTS ARE DESIGNED FOR THE FOLLOWING CONDITIONS
   A. H20 LOADING & 1'–0" COVER + IMPACT
   B. 5'–0" COVER & 2'–0" SURCHARGE. WATER TABLE 4'–0" BELOW FINISHED GRADE FOR CASES (A) & (B).
4. CONTRACTOR MAY USE PRECAST VAULT. SEE SPECS. FOR SUBMITTAL REQUIREMENTS.
5. FOR SUMP SEE DETAIL W/2.6
6. FOR PIPING AND VALVE CONFIGURATION AND
7. PROVIDE RUBBER ANNUAL HYDROSTATIC SEALING DEVICES FOR PIPE THROUGH WALL CONNECTIONS, SEE SPECIFICATIONS.




PLAN-TOP SLAB

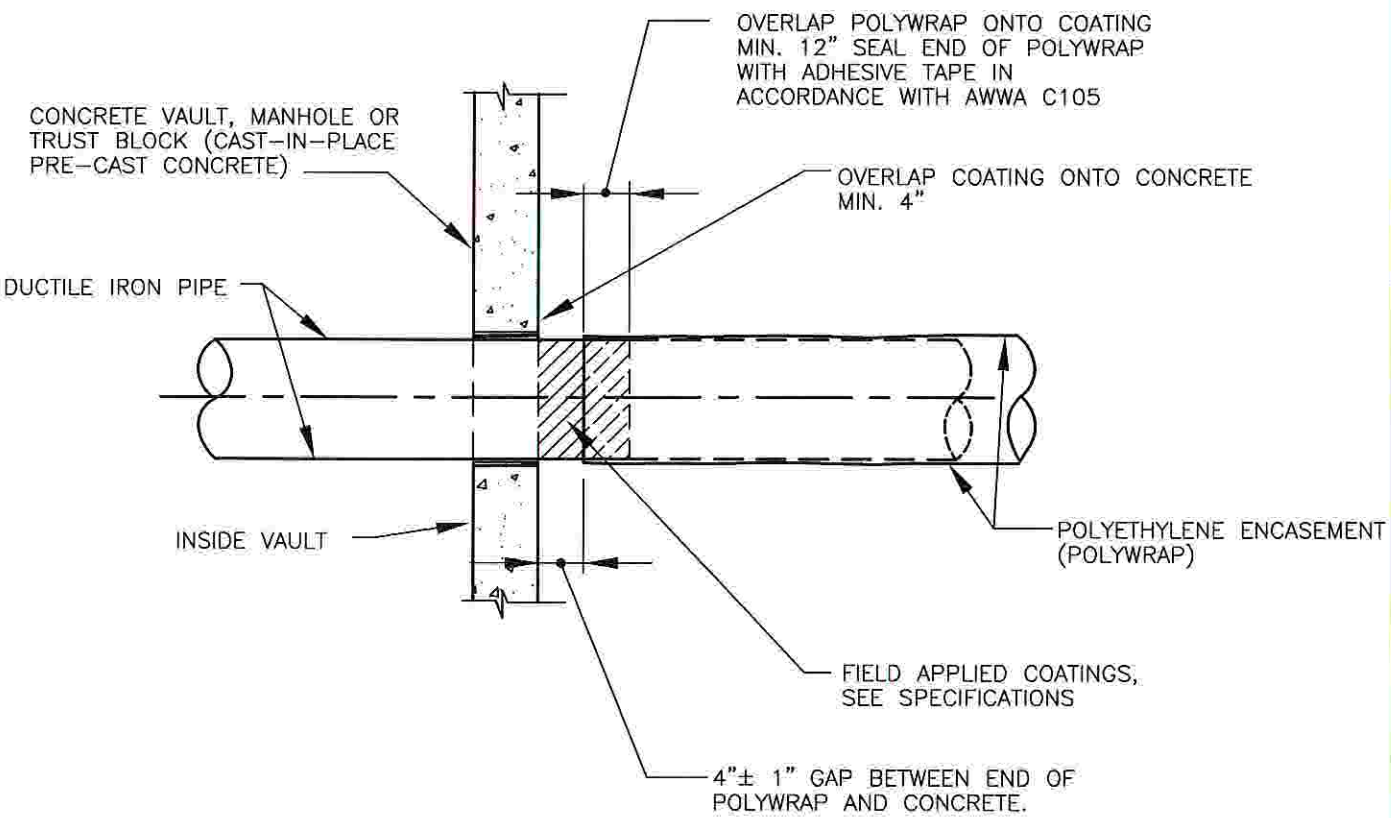



PLAN-TOP SLAB REMOVED

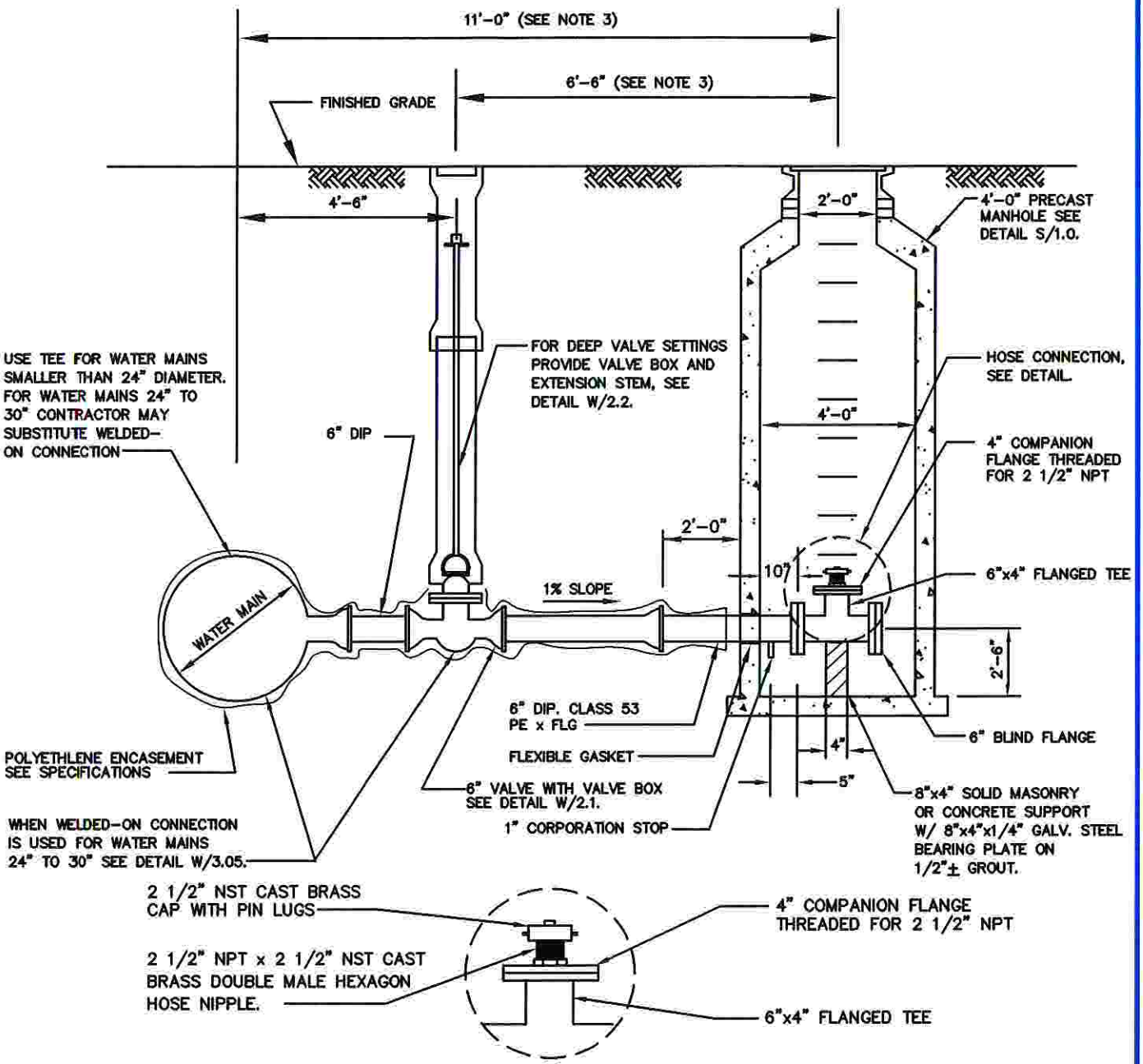



SECTION

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>CAST IN PLACE CONCRETE VAULT FOR 20" VERTICAL VALVES | W<br>2.7 |




| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>POLYETHYLENE ENCASEMENT AT CONCRETE INTERFACE | W<br>2.8 |

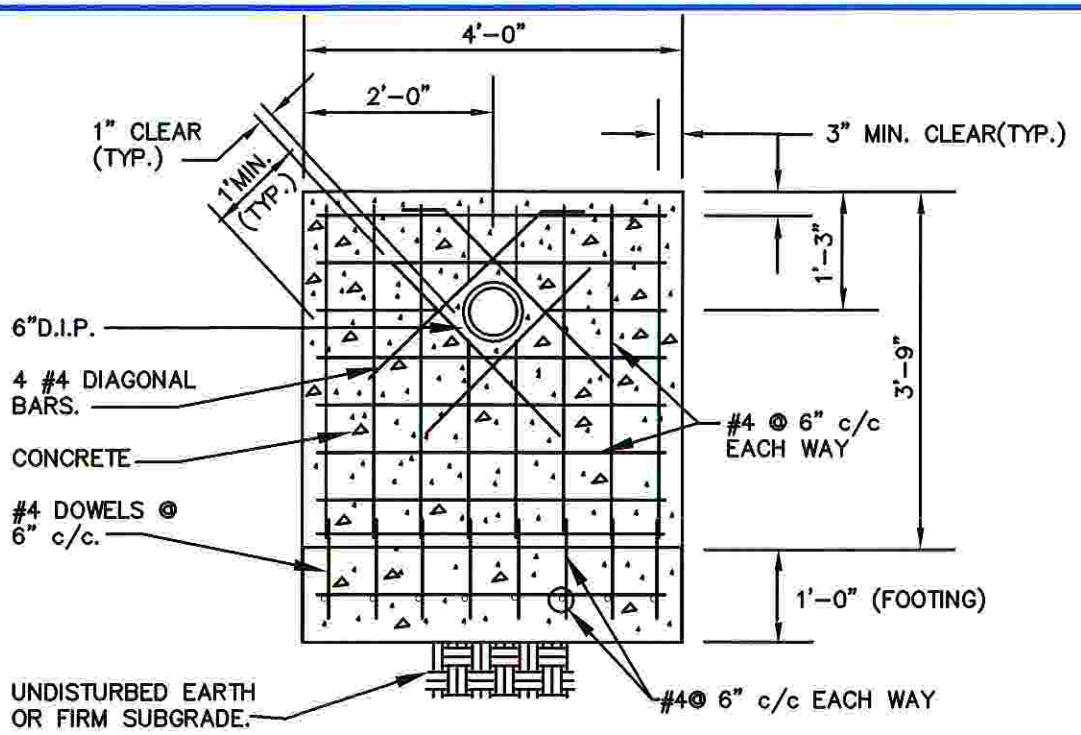



HOSE CONNECTION DETAIL

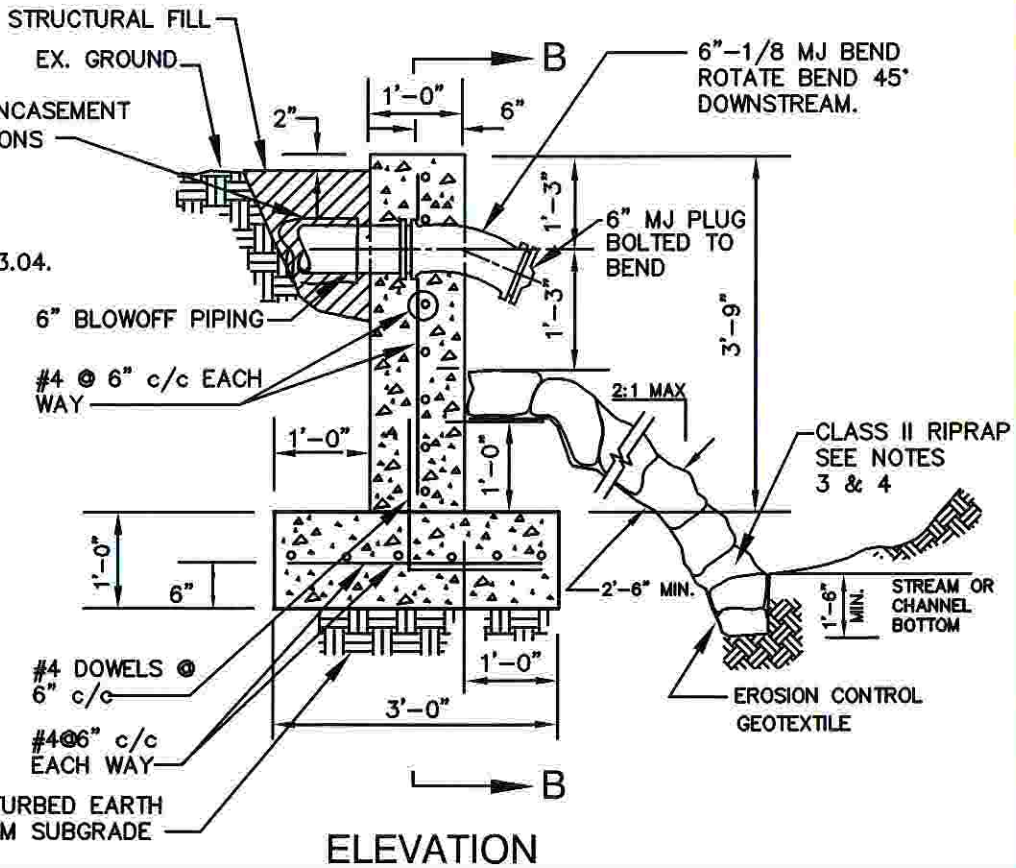
NOTES:

1. RESTRAIN ALL JOINTS ON 6" BLOWOFF PIPING.
2. SET VALVE BOX AND MANHOLE RIM TO FINISHED GRADE OR AS SHOWN ON THE DRAWINGS.
3. MANHOLE SHALL BE LOCATED AS SHOWN UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
4. SEE DETAIL W/2.8 FOR POLYETHLENE ENCASEMMENT AT MANHOLE INTERFACE.

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>TYPE "A" BLOWOFF FOR WATER MAINS 16" TO 30" | W<br>3.0 |




## SECTION 'B-B'



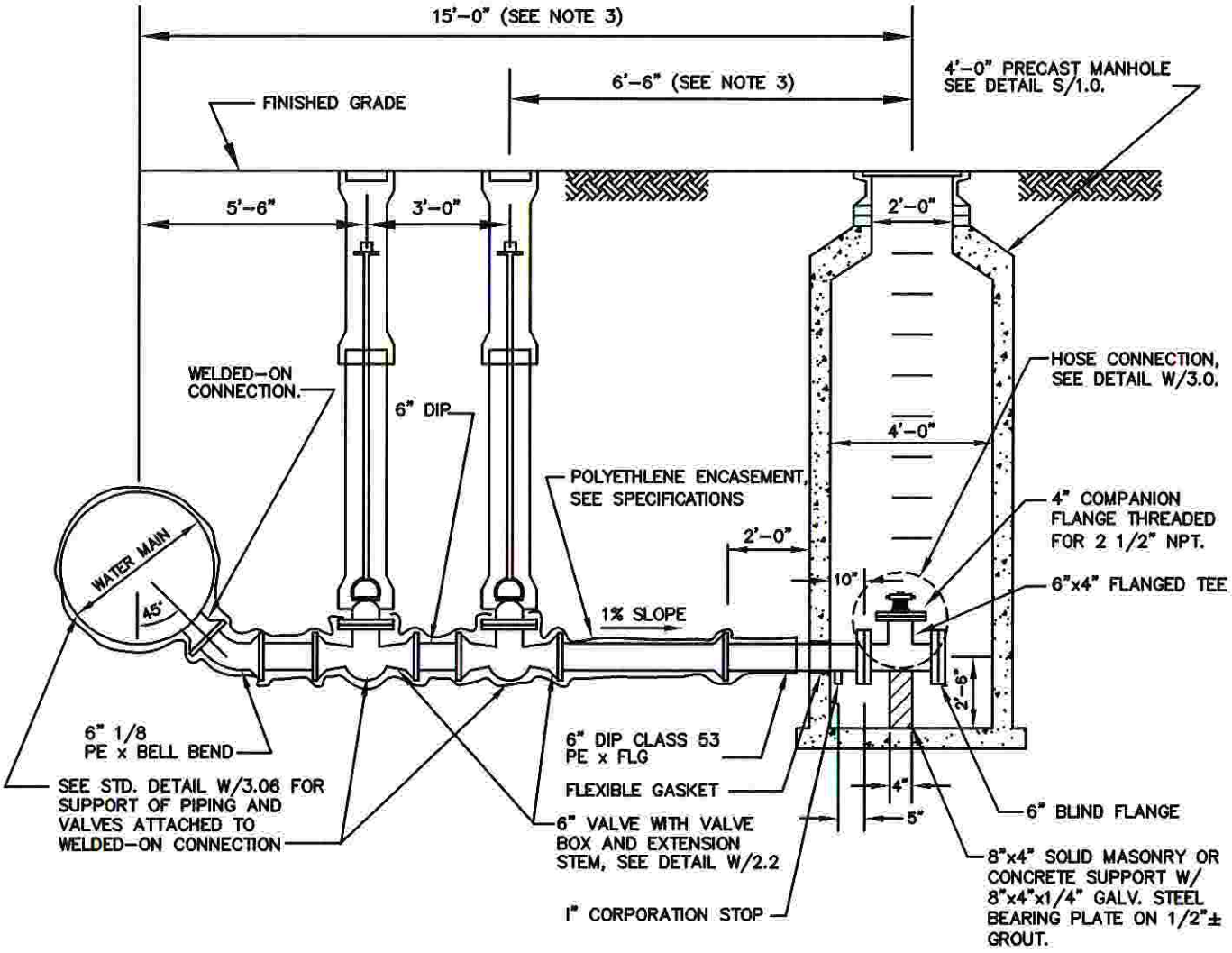

## ELEVATION

NOTES:

1. SEE THE DRAWINGS FOR ACTUAL PROFILE OF THE BLOWOFF PIPING. FOR OTHER DETAILS, SEE STD. DETAIL W/3.04.
2. RESTRAIN ALL JOINTS ON 6" BLOWOFF PIPING.
3. PLACE RIPRAP 4'-0" MINIMUM BEYOND DISTURBED AREA OR 6'-0" MIN. EACH SIDE OF PIPE, WHICHEVER IS GREATER.
4. RIPRAP SHALL EXTEND TO BOTTOM OF STREAM OR CHANNEL AS SHOWN.
4. SEE DETAIL W/2.8 FOR POLYETHLENE ENCASEMENT AT END WALL INTERFACE.

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>ENDWALL FOR TYPE "B" BLOWOFF | W<br>3.01 |

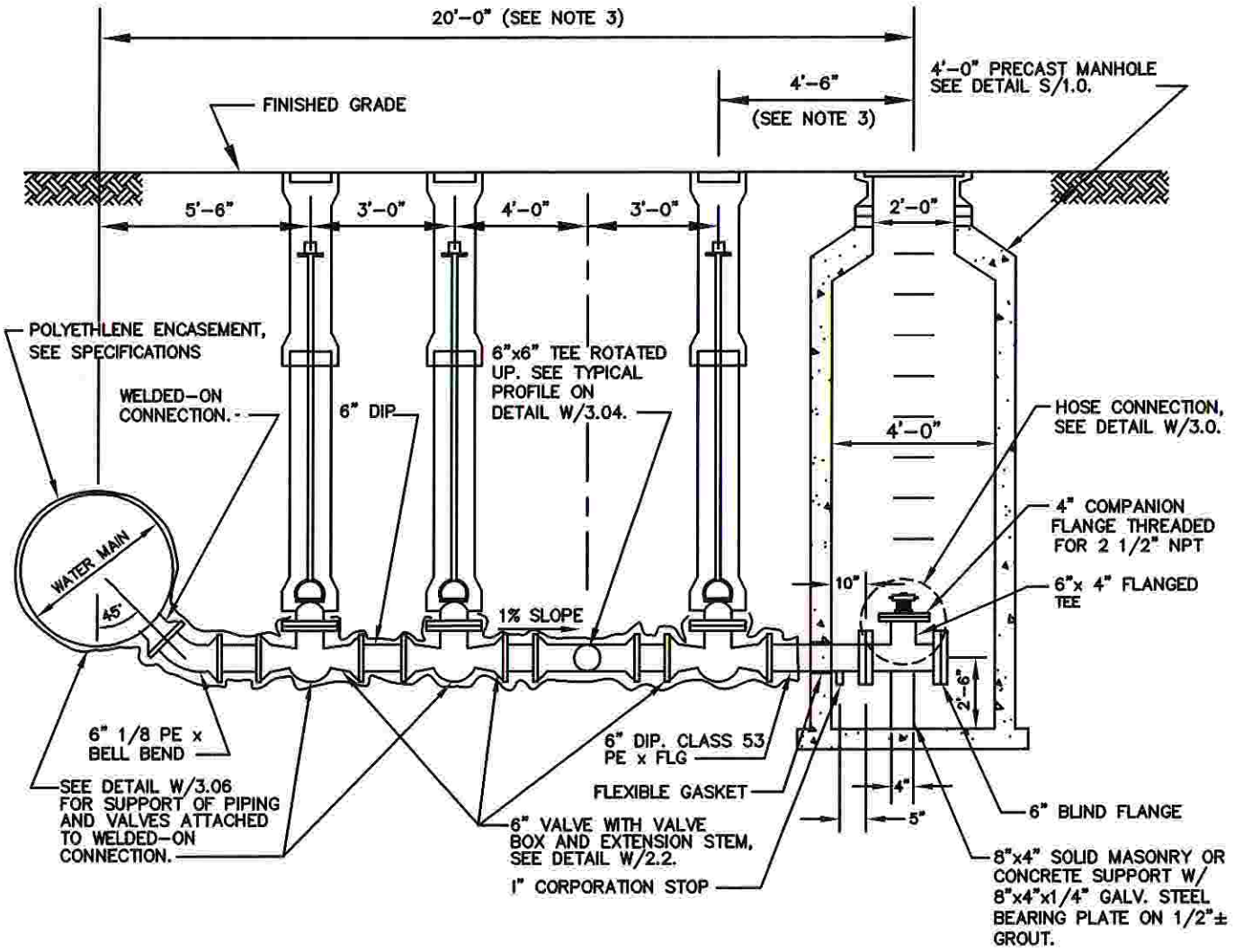
W301




NOTES:

1. RESTRAIN ALL JOINTS ON 6" BLOWOFF PIPING.
2. SET VALVE BOX AND MANHOLE RIM TO FINISHED GRADE OR AS SHOWN ON THE DRAWINGS.
3. MANHOLE SHALL BE LOCATED AS SHOWN UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
4. SEE DETAIL W/2.8 FOR POLYETHLENE ENCASEMENT AT MANHOLE INTERFACE.

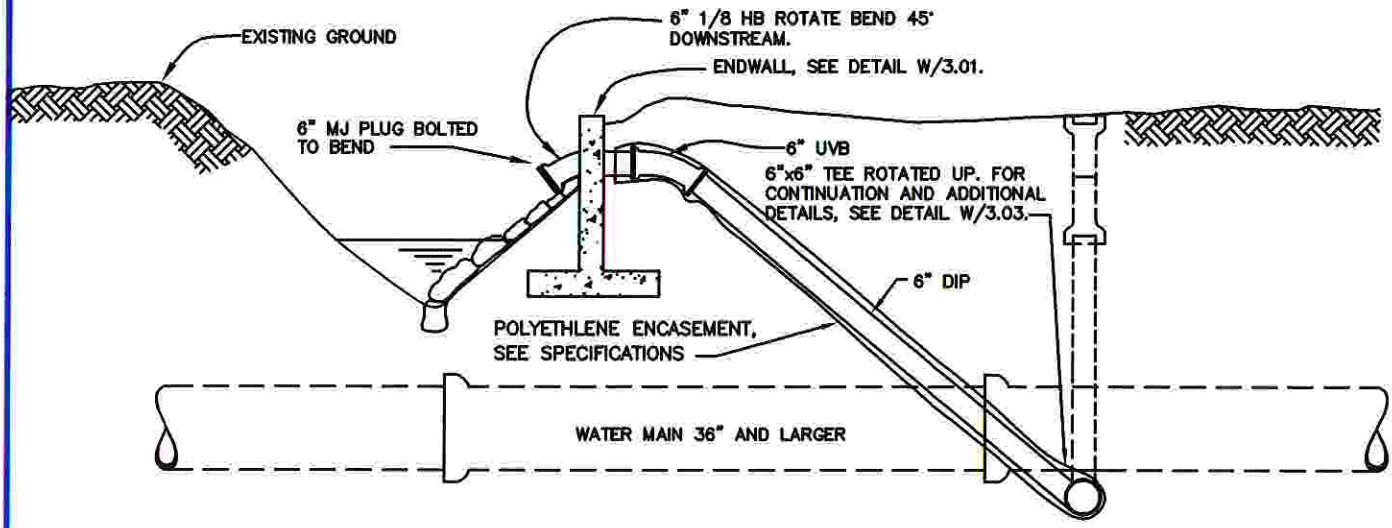
| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>TYPE "A" BLOWOFF FOR WATER MAINS 36" AND LARGER | W<br>3.02 |



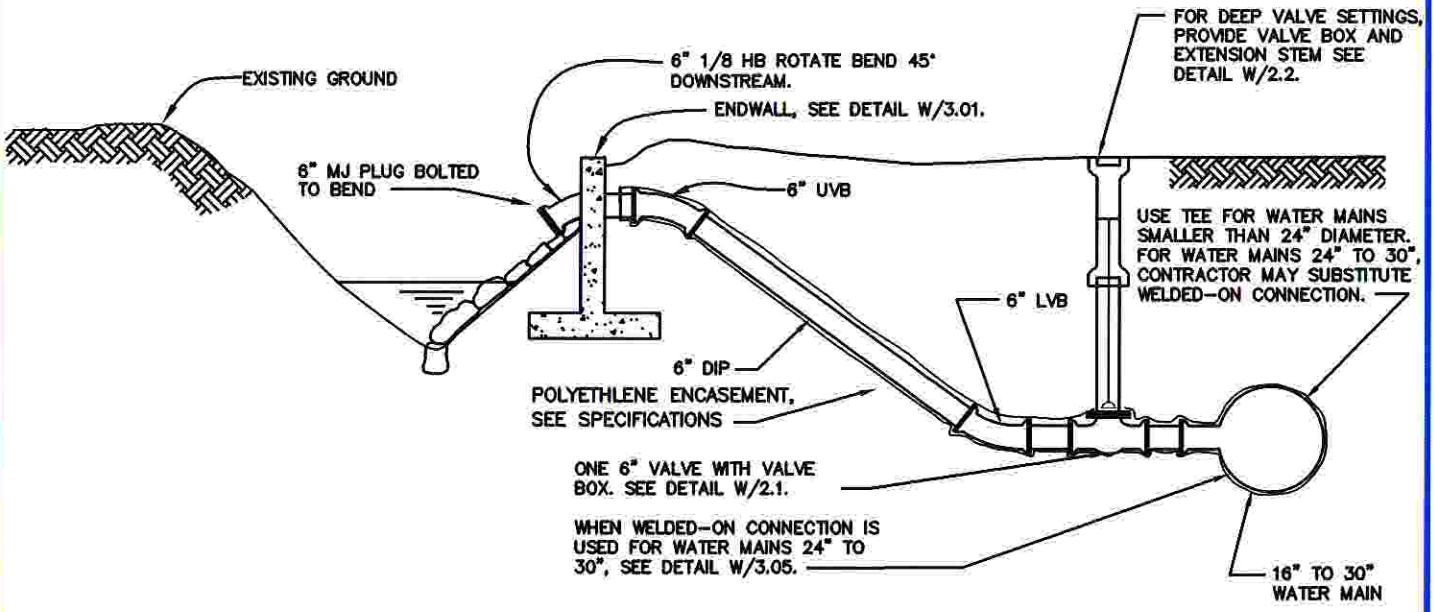

NOTES:

1. RESTRAIN ALL JOINTS ON 6" BLOWOFF PIPING.
2. SET VALVE BOX AND MANHOLE RIM TO FINISHED GRADE OR AS SHOWN ON THE DRAWINGS.
3. MANHOLE SHALL BE LOCATED AS SHOWN UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
4. SEE DETAIL W/2.8 FOR POLYETHLENE ENCASEMENT AT MANHOLE INTERFACE.

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>TYPE "B" BLOWOFF FOR WATER MAINS 36" AND LARGER | W<br>3.03 |




TYPICAL PROFILE FOR TYPE "B" BLOWOFF FOR MAINS 36" AND LARGER

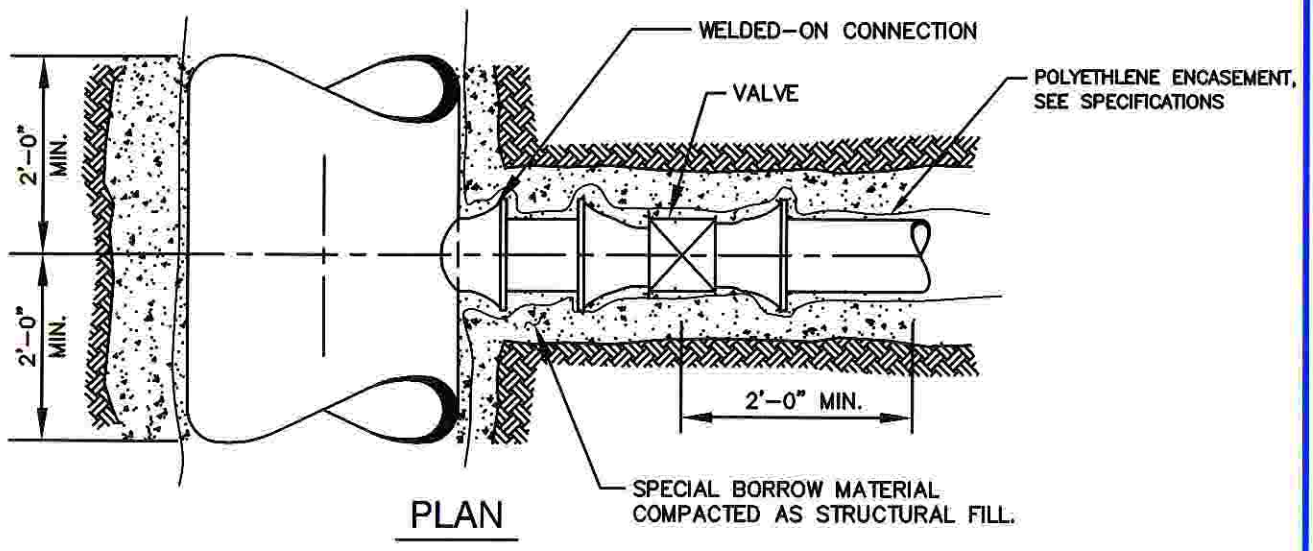



TYPICAL PROFILE FOR TYPE "B" BLOWOFF FOR MAINS 16" TO 30"

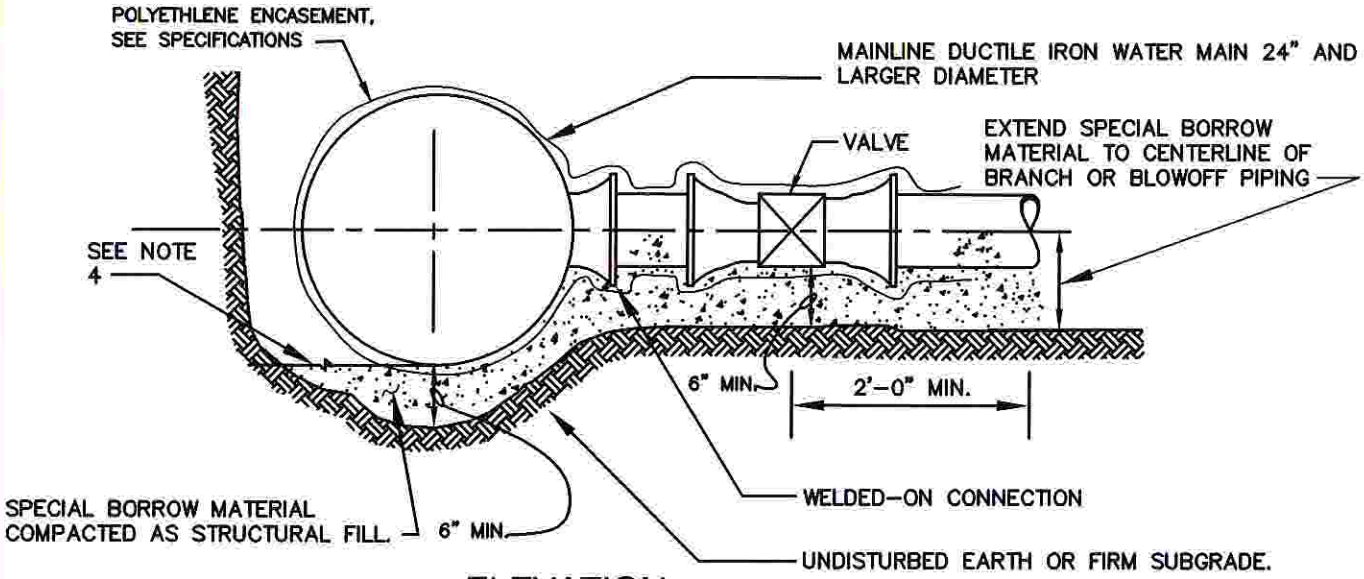
## NOTES:

1. THESE ARE TYPICAL PROFILES ONLY. FOR ACTUAL ELEVATIONS AND LOCATIONS OF FITTINGS, SEE DRAWINGS.
2. RESTRAIN ALL JOINTS ON 6" BLOWOFF PIPING.
3. SEE DETAIL W/2.8 FOR POLYETHLENE ENCASEMENT AT MANHOLE INTERFACE.

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>TYPE "B" BLOWOFF PROFILES FOR WATER MAINS 16" AND LARGER | W<br>3.04 |




PLAN

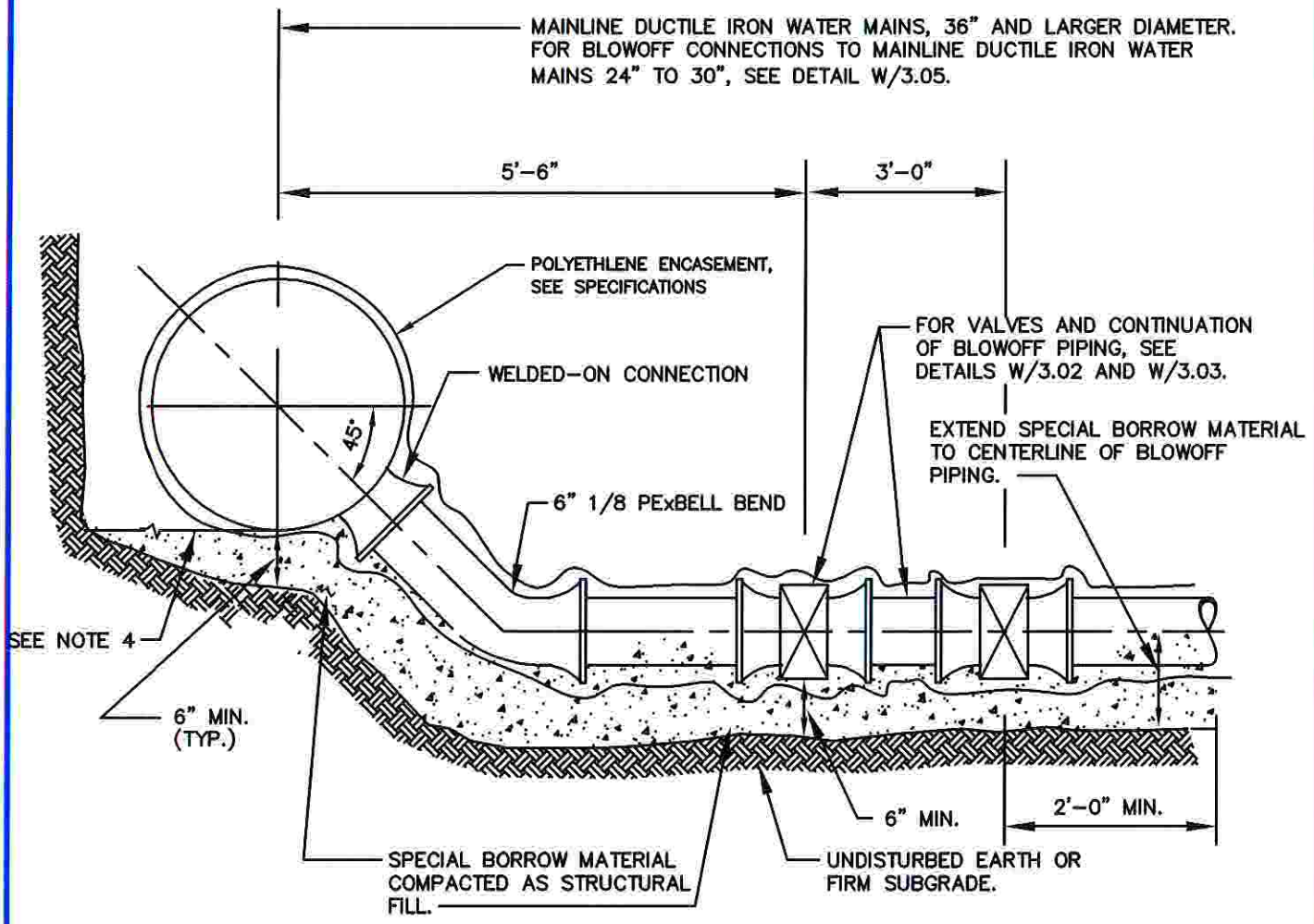



ELEVATION

NOTES:

1. THIS DETAIL SHALL BE USED WHEN WELDED–ON CONNECTIONS ARE PROVIDED FOR WATER MAIN BRANCH CONNECTIONS ON DUCTILE IRON WATER MAINS 24" AND LARGER AND FOR BLOWOFF CONNECTIONS TO WATER MAINS 24" TO 30" INSTALLED ACCORDING TO DETAILS W/3.0 AND W/3.04.
2. DO NOT ATTACH PIPE OR FITTINGS TO THE WELDED–ON CONNECTION UNTIL MAINLINE PIPE WITH THE CONNECTION IS SUPPORTED IN PLACE.
3. SUPPORT ALL PIPING ATTACHED TO THE WELDED–ON CONNECTION IMMEDIATELY AFTER INSTALLATION TO MINIMIZE LOAD TRANSMISSION TO THE CONNECTION.
4. FOR PIPE EMBEDMENT REQUIREMENTS FOR MAINLINE PIPE, SEE DETAIL M/8.1a AND M/8.1b..

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>PIPING SUPPORT AT WELDED-ON CONNECTION | W<br>3.05 |

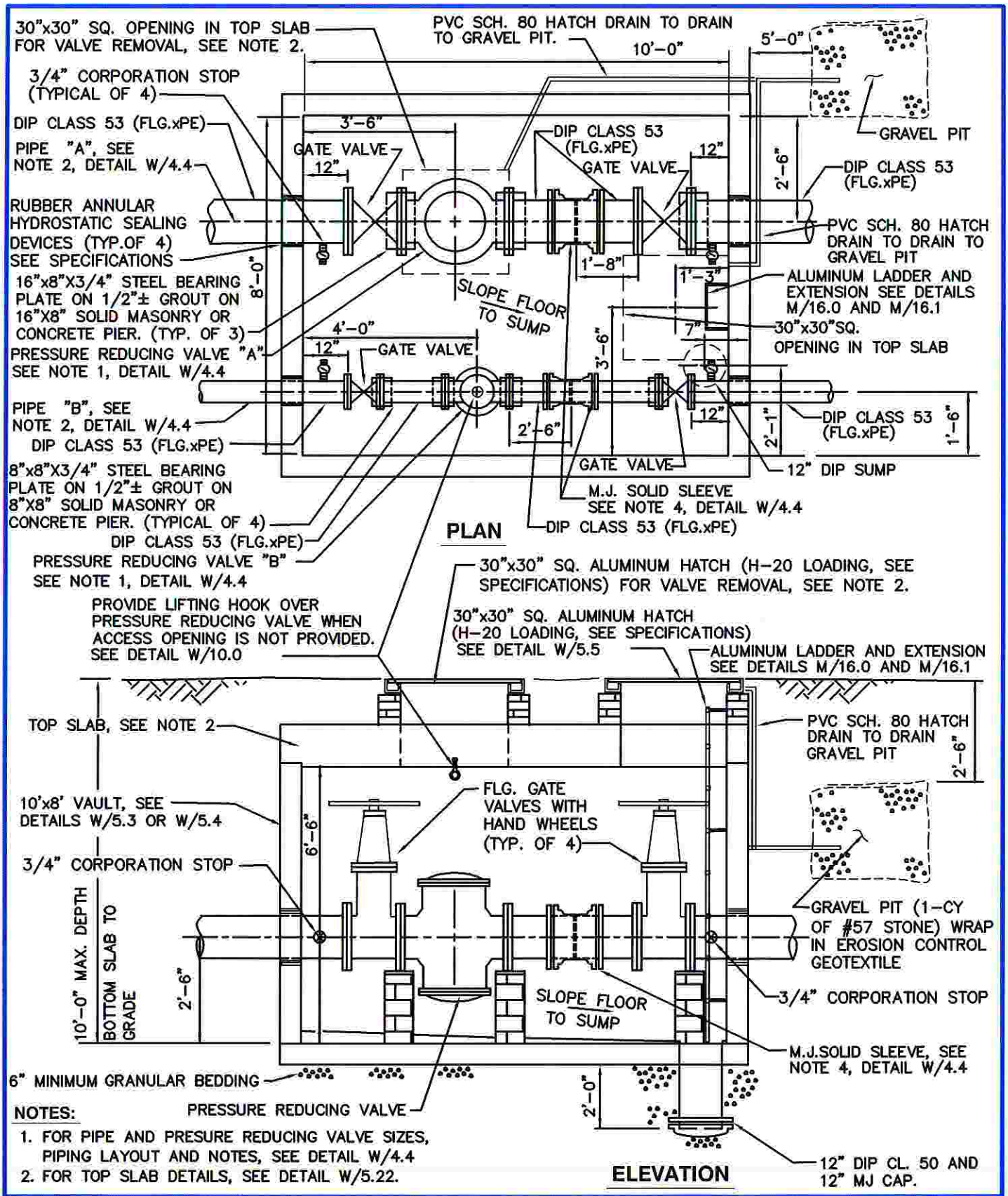



ELEVATION

NOTES:

1. DO NOT ATTACH PIPE OR FITTINGS TO THE WELDED-ON CONNECTION UNTIL MAINLINE PIPE WITH THE CONNECTION IS SUPPORTED IN PLACE.
2. SUPPORT ALL PIPING ATTACHED TO THE WELDED-ON CONNECTION IMMEDIATELY AFTER INSTALLATION TO MINIMIZE LOAD TRANSMISSION TO THE CONNECTION.
3. RESTRAIN ALL JOINTS ON BLOWOFF PIPING.
4. FOR PIPE EMBEDMENT REQUIREMENTS FOR MAINLINE PIPE, SEE DETAIL M/8.1aAND M/8.1b.

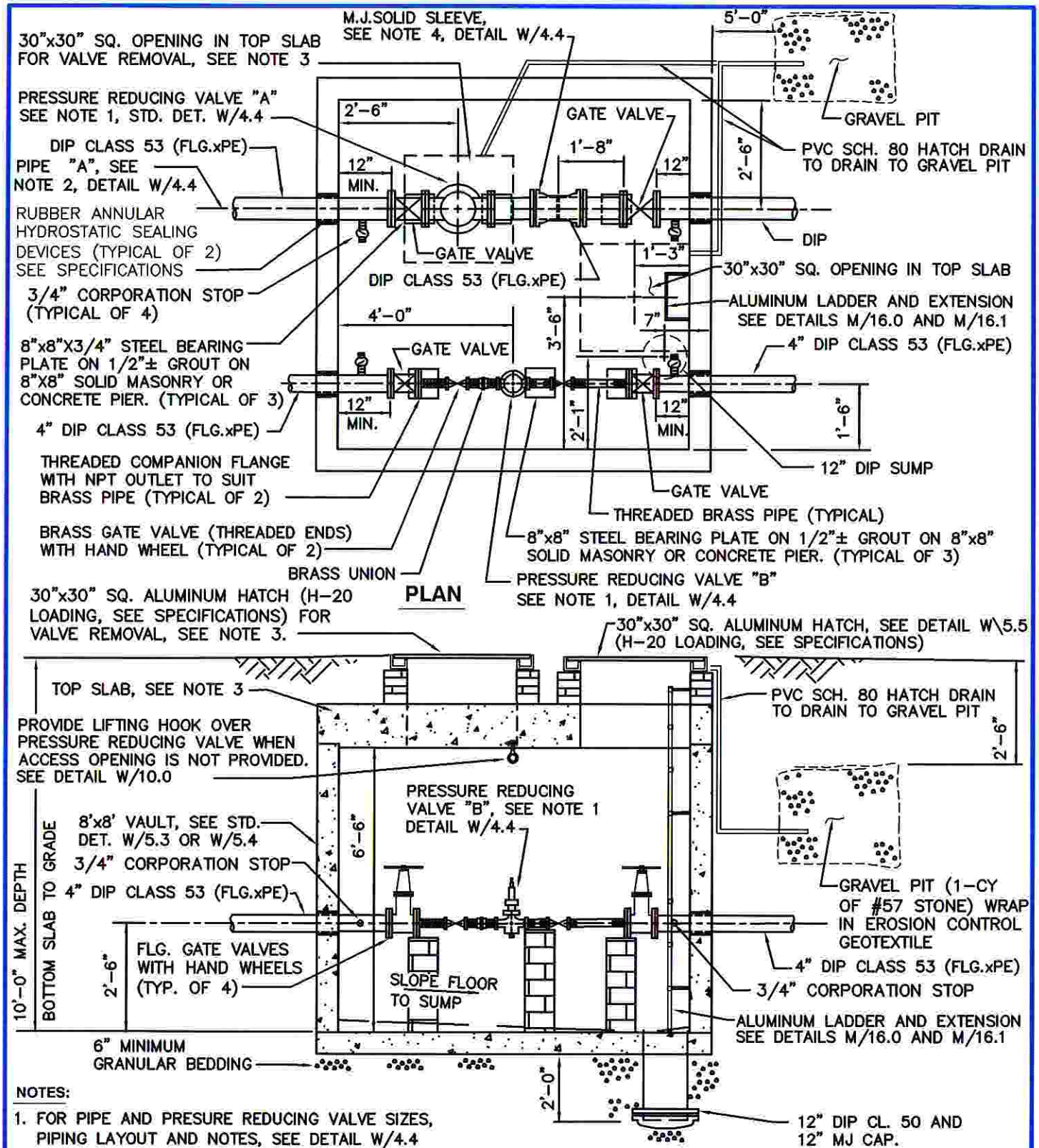
| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>WELDED-ON CONNECTION FOR BLOWOFFS ON MAINS 36" AND LARGER | W<br>3.06 |




**NOTES:**

1. FOR PIPE AND PRESURE REDUCING VALVE SIZES, PIPING LAYOUT AND NOTES, SEE DETAIL W/4.4
2. FOR TOP SLAB DETAILS, SEE DETAIL W/5.22.

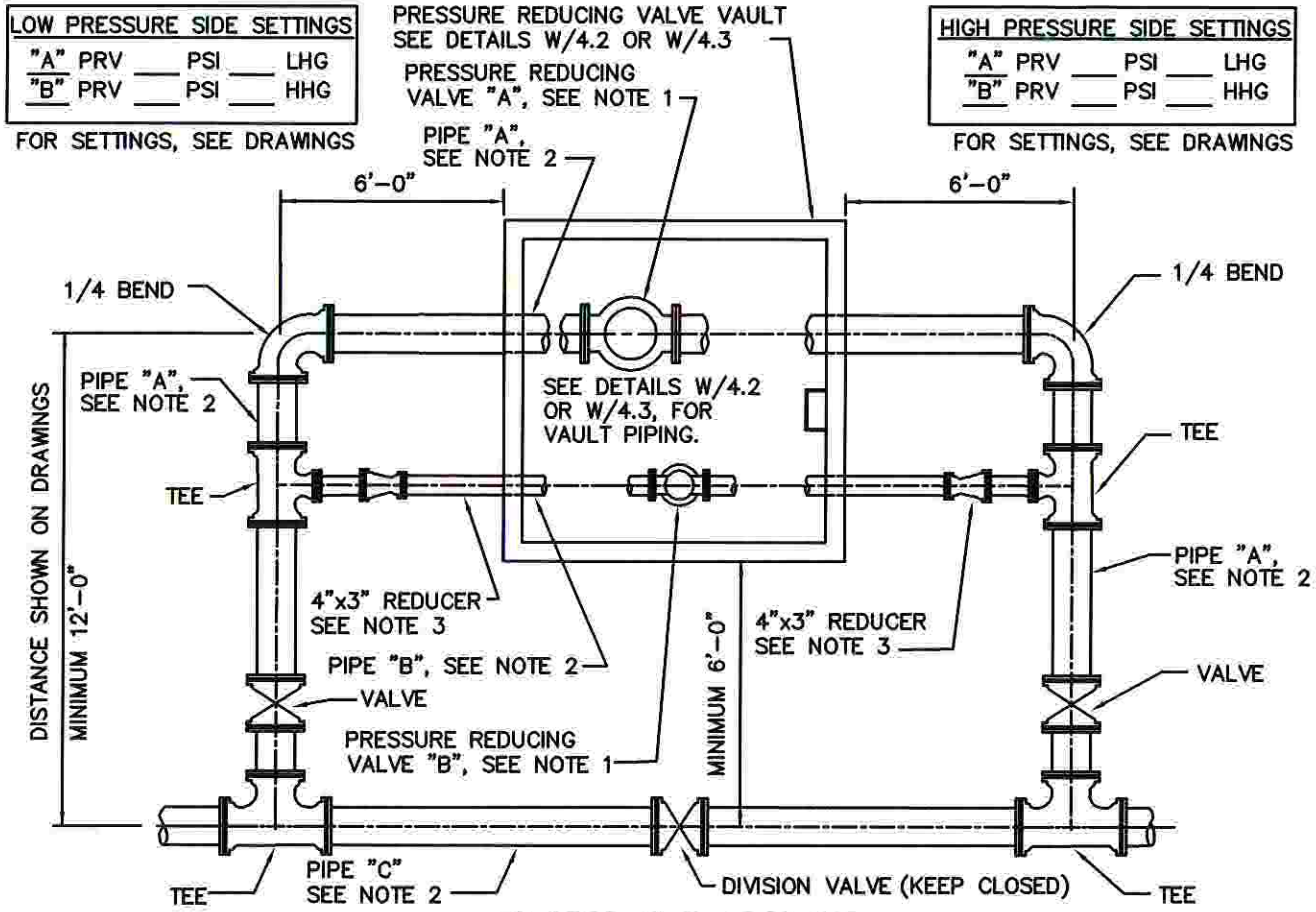
| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>PRESSURE REDUCING VALVE VAULT TYPE "1" LAYOUT | W<br>4.2 |




NOTES:

1. FOR PIPE AND PRESURE REDUCING VALVE SIZES, PIPING LAYOUT AND NOTES, SEE DETAIL W/4.4
2. FOR PIPE AND PRESURE REDUCING VALVE "A" ELEVATION, SEE DETAIL W/4.2
3. FOR TOP SLAB DETAILS, SEE DETAIL W/5.23.

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>PRESSURE REDUCING VALVE VAULT TYPE "2" LAYOUT | W<br>4.3 |

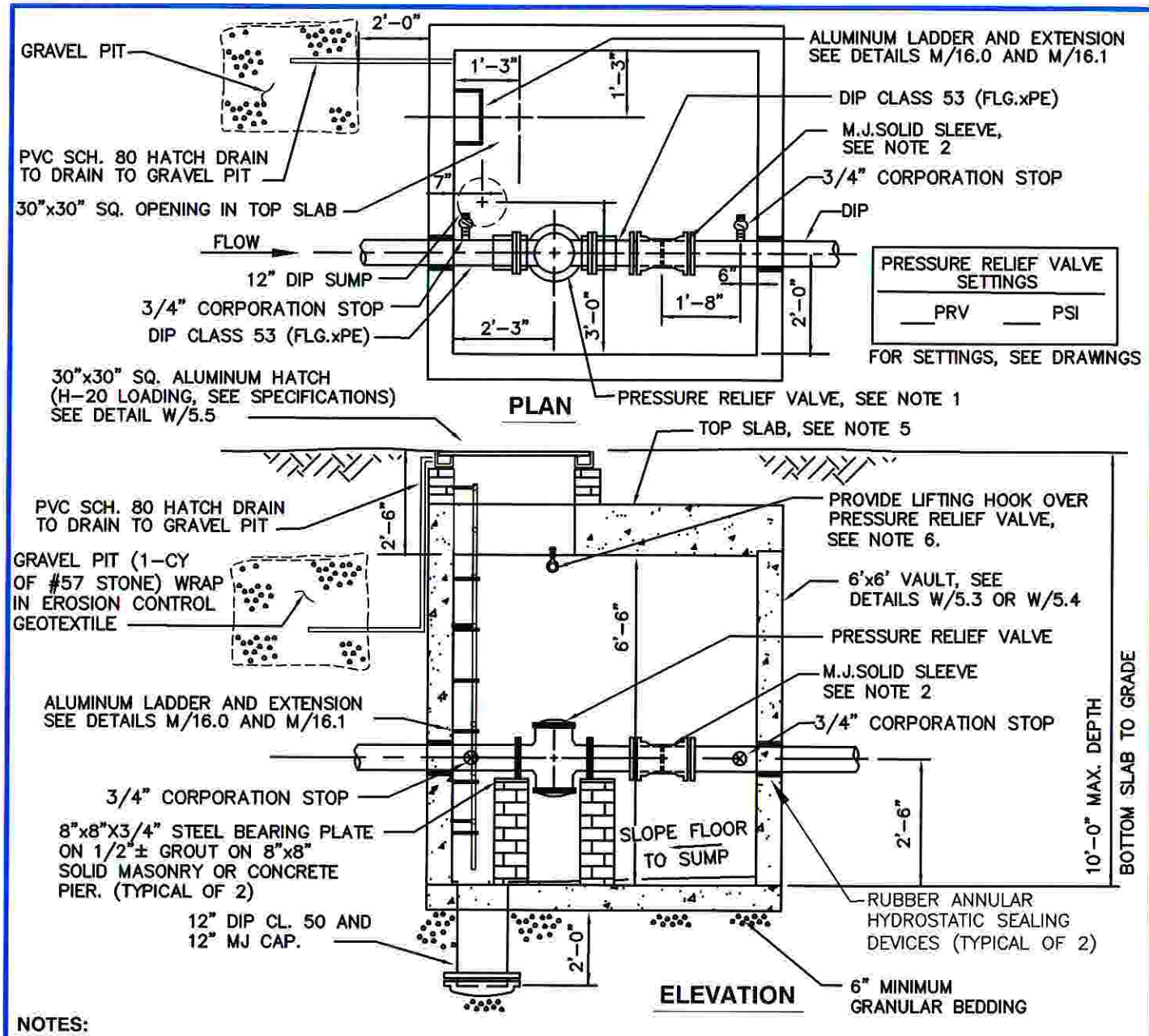



## TYPICAL PIPING LAYOUT

## NOTES:

1. PRESSURE REDUCING VALVE "A", AS SHOWN ON DETAIL W/4.2: MAXIMUM DIA. 12", MINIMUM DIA. 4".
   PRESSURE REDUCING VALVE "A", AS SHOWN ON DETAIL W/4.3: MAXIMUM DIA. 6", MINIMUM DIA. 4".
   PRESSURE REDUCING VALVE "B", AS SHOWN ON DETAIL W/4.2: MAXIMUM DIA. 6", MINIMUM DIA. 3".
   PRESSURE REDUCING VALVE "B", AS SHOWN ON DETAIL W/4.3: SMALLER THAN 3" DIA.
2. PIPE "A" SHALL BE SAME SIZE AS PRESSURE REDUCING VALVE "A", UNLESS NOTED ON DRAWINGS.
   PIPE "B" SHALL BE SAME SIZE AS PRESSURE REDUCING VALVE "B", EXCEPT MINIMUM SIZE SHALL BE 4"DIA.
   PIPE "C", SEE DRAWINGS.
3. PROVIDE 4"x3" REDUCER FOR 3" PRESSURE REDUCING VALVE.
   SEE DETAIL W/4.3 FOR SMALLER THAN 3" PRESSURE REDUCING VALVES.
4. PROVIDE M.J. SOLID SLEEVE WHERE SHOWN WITH WEDGE ACTION RESTRAINER GLAND, SEE STD. DET. B/2.7.
   TOLERANCE BETWEEN PIPE ENDS SHALL NOT EXCEED 1/2". DO NOT USE PIPE SPACERS, SEE SPECIFICATIONS.
5. ONLY DUCTILE IRON PIPE AND FITTINGS ONLY, SEE DRAWINGS FOR SIZES.
6. RESTRAIN ALL JOINTS ON PIPE "A" FROM TEE TO TEE AND PIPE "B" WITH WEDGE ACTION RESTRAINER GLANDS, SEE DETAIL B/2.7.
7. PROVIDE EXTENSION STEMS AND VALVE BOXES FOR ALL BURIED VALVES, SEE DETAIL W/2.2.
8. THIS VALVE VAULT IS NOT FOR ELECTRICALLY CONTROLLED OR OPERATED VALVES.
9. STANDARD PRESSURE REDUCING VAULT IS BASED ON THE ASSUMPTIONS AND LIMITATIONS.
   IF THESE CONDITIONS ARE NOT MET, SPECIAL DESIGN IS REQUIRED.
   a). ELEVATION OF GROUNDWATER TABLE IS ASSUMED TO BE 2'-0" BELOW BOTTOM SLAB ELEVATION.
   b). LOCATION OF THE VAULT IS ASSUMED TO BE LOCATED OUTSIDE THE ROAD RIGHT OF WAY.
10. POLYETHYENE EASEMENT FOR ALL DUCTILE IRON PIPE AND FITTINGS. SEE DETAIL W/2.8 AT CONCRETE INTERFACE.
11. PROVIDE RUBBER ANNUAL HYDROSTATIC SEALING DEVISES FOR ALL PIPE THROUGH WALL CONNECTIONS, SEE SPECIFICATIONS.

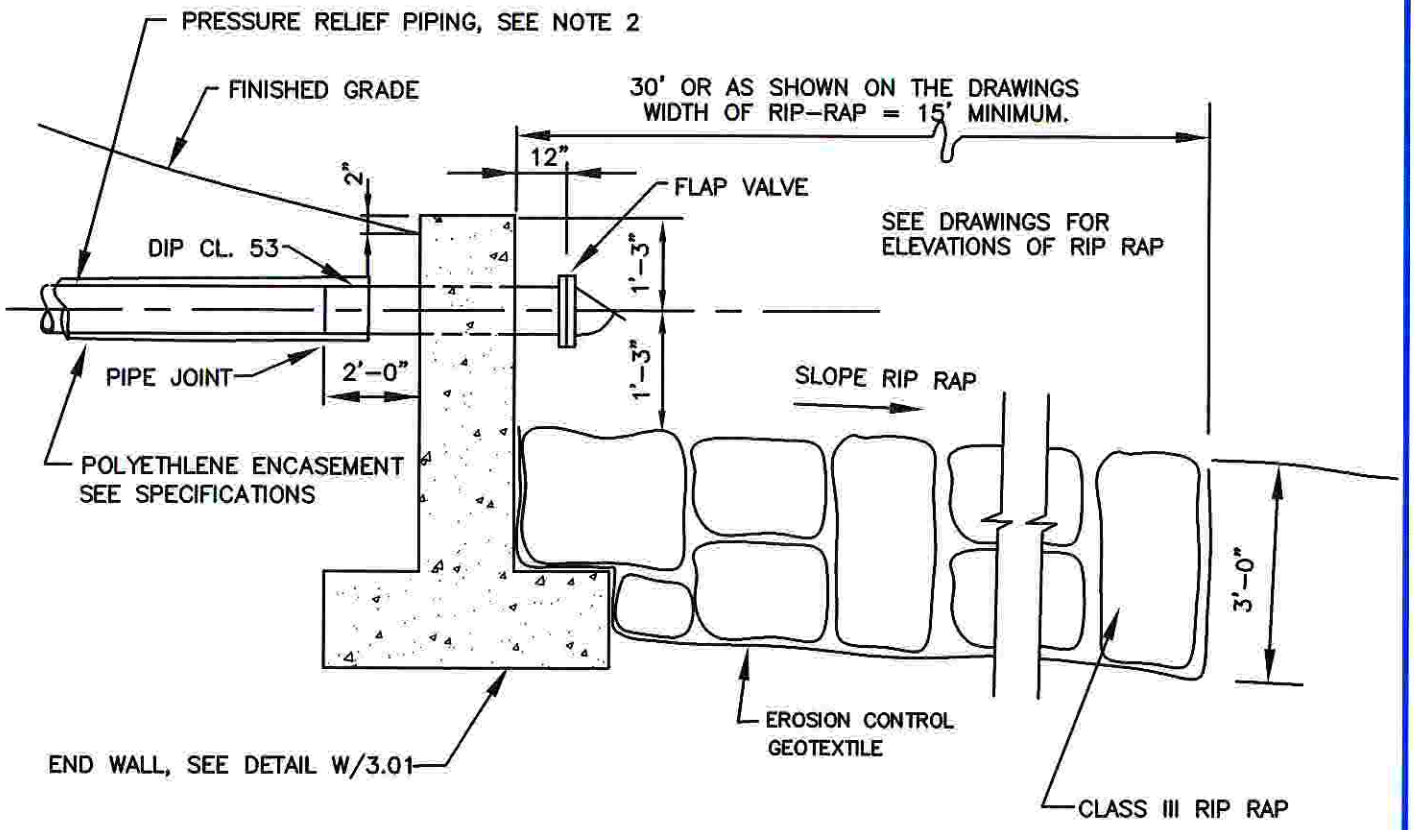
| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>TYPE 1 AND 2 PRESSURE REDUCING VALVE VAULT PIPING LAYOUT | W<br>4.4 |




**NOTES:**

1. SIZE OF PRESSURE RELIEF VALVE SHALL BE 6" OR SMALLER, SEE DRAWINGS.
2. PROVIDE M.J. SOLID SLEEVE WITH WEDGE ACTION RESTRAINER GLANDS, SEE DETAIL B/2.7. TOLERANCE BETWEEN PIPE ENDS SHALL NOT EXCEED 1/2". DO NOT USE A PIPE SPACER.
3. THIS VALVE VAULT IS NOT FOR ELECTRICALLY CONTROLLED OR OPERATED VALVES.
4. STANDARD PRESSURE RELIEF VAULT IS BASED ON THE ASSUMPTIONS AND LIMITATIONS. IF THESE CONDITIONS ARE NOT MET, SPECIAL DESIGN IS REQUIRED.
   a). ELEVATION OF GROUNDWATER TABLE IS ASSUME TO BE 2'-0" BELOW BOTTOM SLAB ELEVATION.
   b). LOCATION OF THE VAULT IS ASSUMED TO BE LOCATED OUTSIDE THE ROAD RIGHT OF WAY.
5. ONE PIECE TOP SLAB SIMULAR TO DETAIL W/5.2
6. LIFTING HOOKS FOR 6" AND SMALLER PRESSURE RELIEF VALVES, SEE DETAIL W/10.0.
7. RESTRAIN ALL JOINTS, SEE SPECIFICATIONS AND BLOCK ALL FITTINGS.
8. FOR DUCTILE IRON PIPE AND FITTINGS ONLY.
9. POLYETHYENE EASEMENT FOR ALL DUCTILE IRON PIPE AND FITTINGS. SEE DETAIL W/2.8 AT CONCRETE INTERFACE.
10. PROVIDE RUBBER ANNUAL HYDROSTATIC SEALING DEVISES FOR ALL PIPE THROUGH WALL CONNECTIONS, SEE SPECIFICATIONS.

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>PRESSURE RELIEF VALVE VAULT | W<br>4.5 |

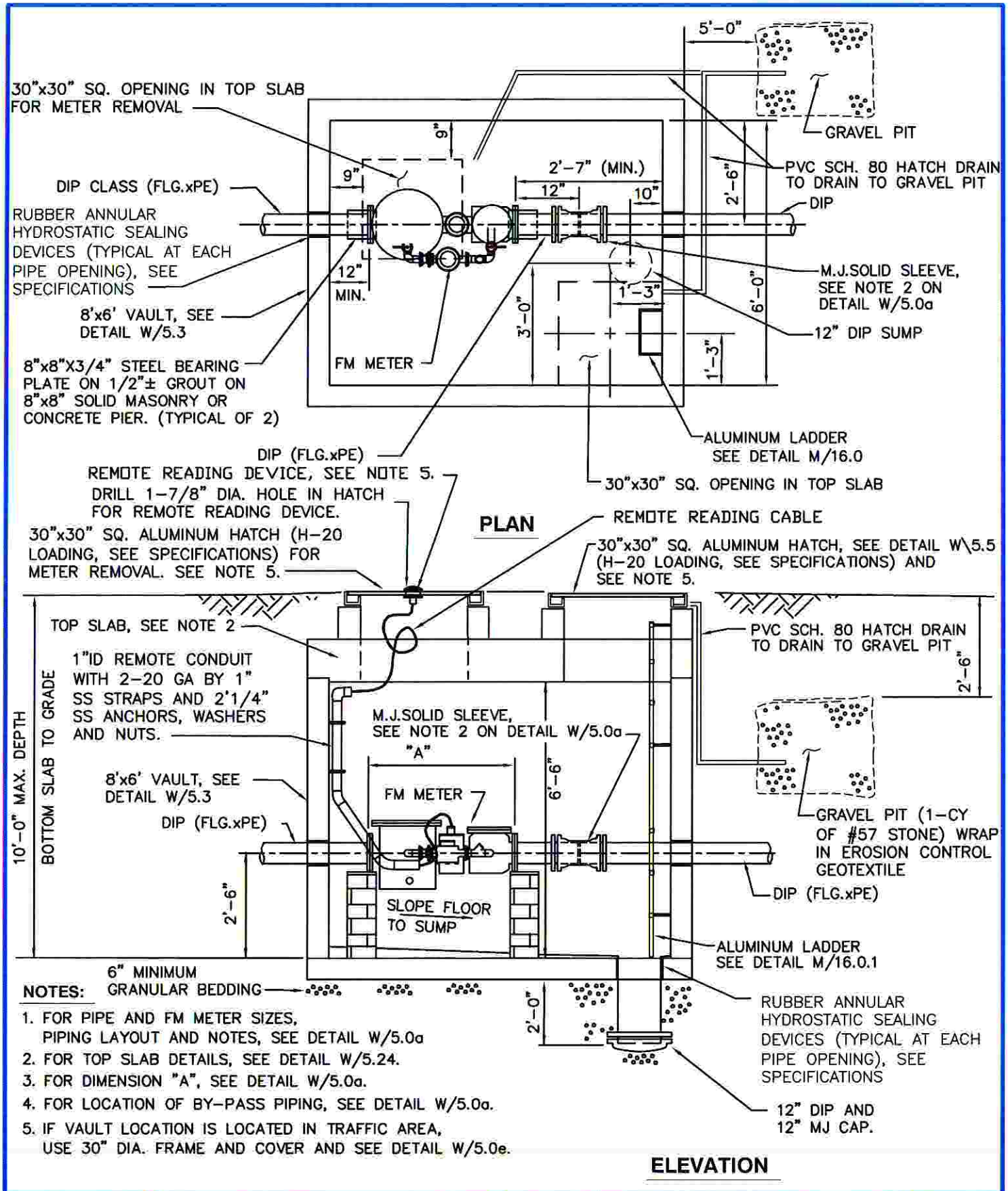



## ELEVATION

## NOTES

1. RESTRAIN ALL JOINTS ON PRESSURE RELIEF PIPING, SEE DETAIL W/4.5 NOTE 7.
2. SEE DRAWINGS FOR PROFILE OF PRESSURE RELIEF PIPING.
3. ONLY DUCTILE IRON PIPE AND FITTINGS ONLY.
4. POLYETHYENE EASEMENT FOR ALL DUCTILE IRON PIPE AND FITTINGS. SEE DETAIL W/2.8 AT CONCRETE INTERFACE.

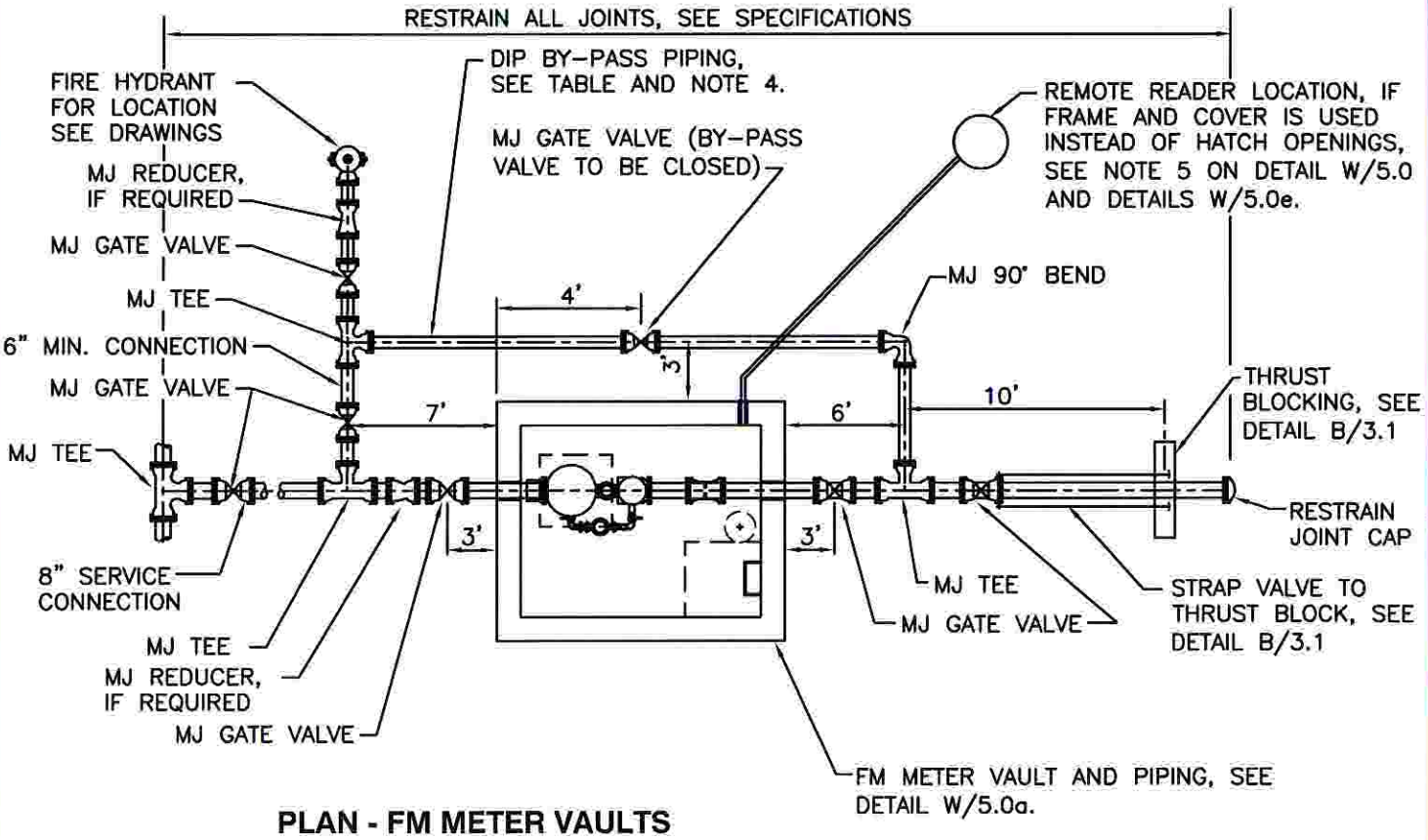
| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>ENDWALL FOR PRESSURE RELIEF VALVE PIPING | W<br>4.6 |




**NOTES:**

1. FOR PIPE AND FM METER SIZES, PIPING LAYOUT AND NOTES, SEE DETAIL W/5.0a
2. FOR TOP SLAB DETAILS, SEE DETAIL W/5.24.
3. FOR DIMENSION "A", SEE DETAIL W/5.0a.
4. FOR LOCATION OF BY-PASS PIPING, SEE DETAIL W/5.0a.
5. IF VAULT LOCATION IS LOCATED IN TRAFFIC AREA, USE 30" DIA. FRAME AND COVER AND SEE DETAIL W/5.0e.

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: June 12, 2009 Chief Engineer | STANDARD DETAIL<br>4-INCH, 6-INCH AND 8-INCH F.M. METER VAULT | W / 5.0 |




## PLAN - FM METER VAULTS
## TYPICAL PIPING LAYOUT

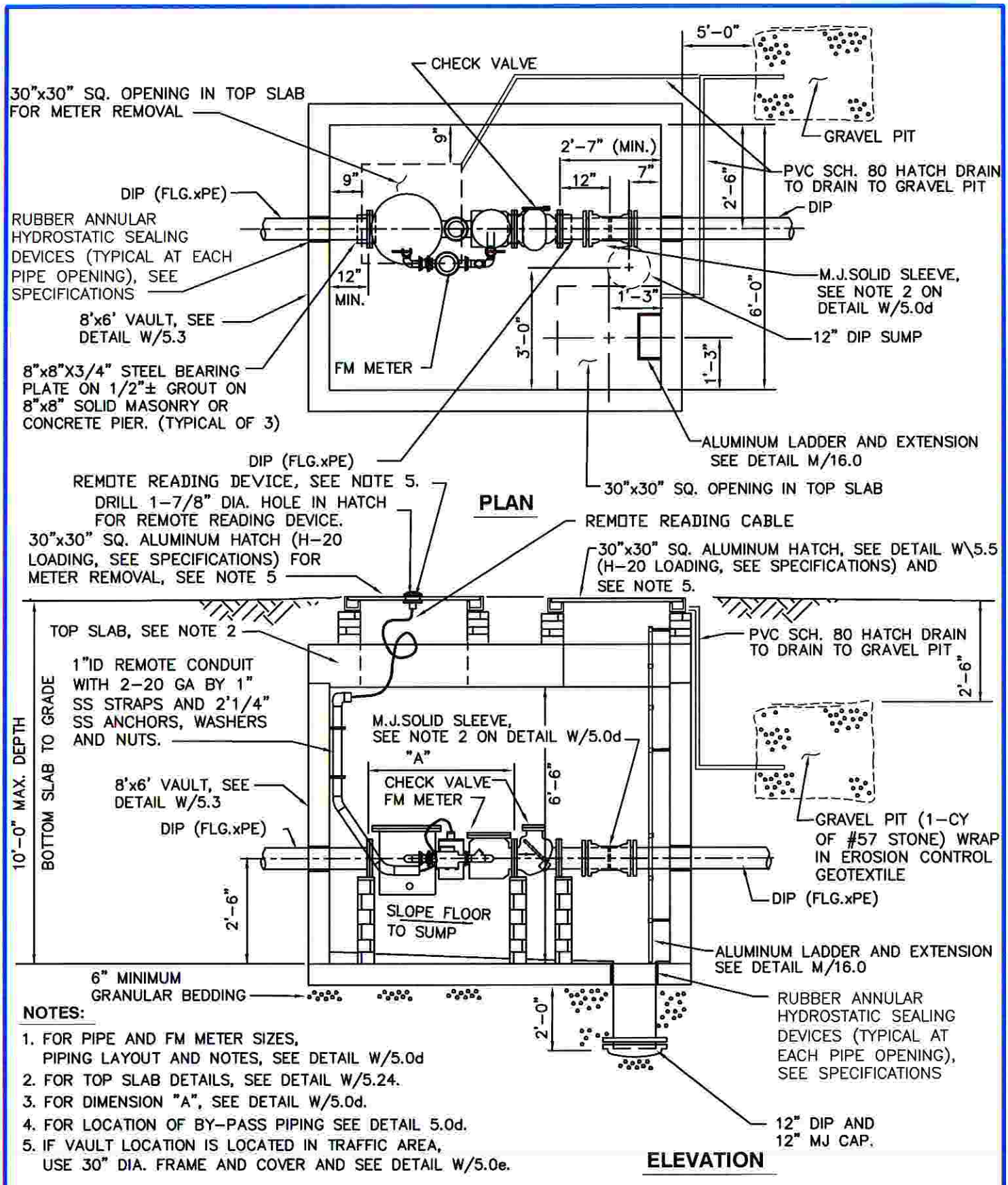
**NOTES:**

1. FOR FM METER VAULT AND PIPING DETAILS, SEE DETAIL W/5.0.
2. PROVIDE M.J. SOLID SLEEVE WHERE SHOWN WITH WEDGE ACTION RESTRAINER GLAND, SEE STD. DET. B/2.7. TOLERANCE BETWEEN PIPE ENDS SHALL NOT EXCEED 1/2". DO NOT USE PIPE SPACERS, SEE SPECIFICATIONS.
3. ONLY DUCTILE IRON PIPE AND FITTINGS ONLY, EXCEPT AS NOTED. SEE DRAWINGS FOR SIZES.
4. RESTRAIN ALL JOINTS DIP BY-PASS PIPING, FROM TEE TO TEE WITH WEDGE ACTION RESTRAINER GLANDS, SEE DETAIL B/2.7.
5. PROVIDE EXTENSION STEMS AND VALVE BOXES FOR ALL BURIED VALVES, SEE DETAIL W/2.2.
6. POLYETHYENE EASEMENT FOR ALL DUCTILE IRON PIPE AND FITTINGS. SEE DETAIL W/2.8 AT CONCRETE INTERFACE.
7. PROVIDE RUBBER ANNUAL HYDROSTATIC SEALING DEVISES FOR ALL PIPE THROUGH WALL CONNECTIONS, SEE SPECIFICATIONS.

| BY-PIPE SIZE | |
|---|---|
| FM METER SIZE | BY-PASS PIPE SIZE |
| 4" | 4" |
| 6" | 6" |
| 8" | 8" |

| "A" DIMENSION (SEE DETAIL W/5.0a) | |
|---|---|
| FM METER SIZE | "A" (LENGTH OF METER) |
| 4" | 33" |
| 6" | 45" |
| 8" | 53" |

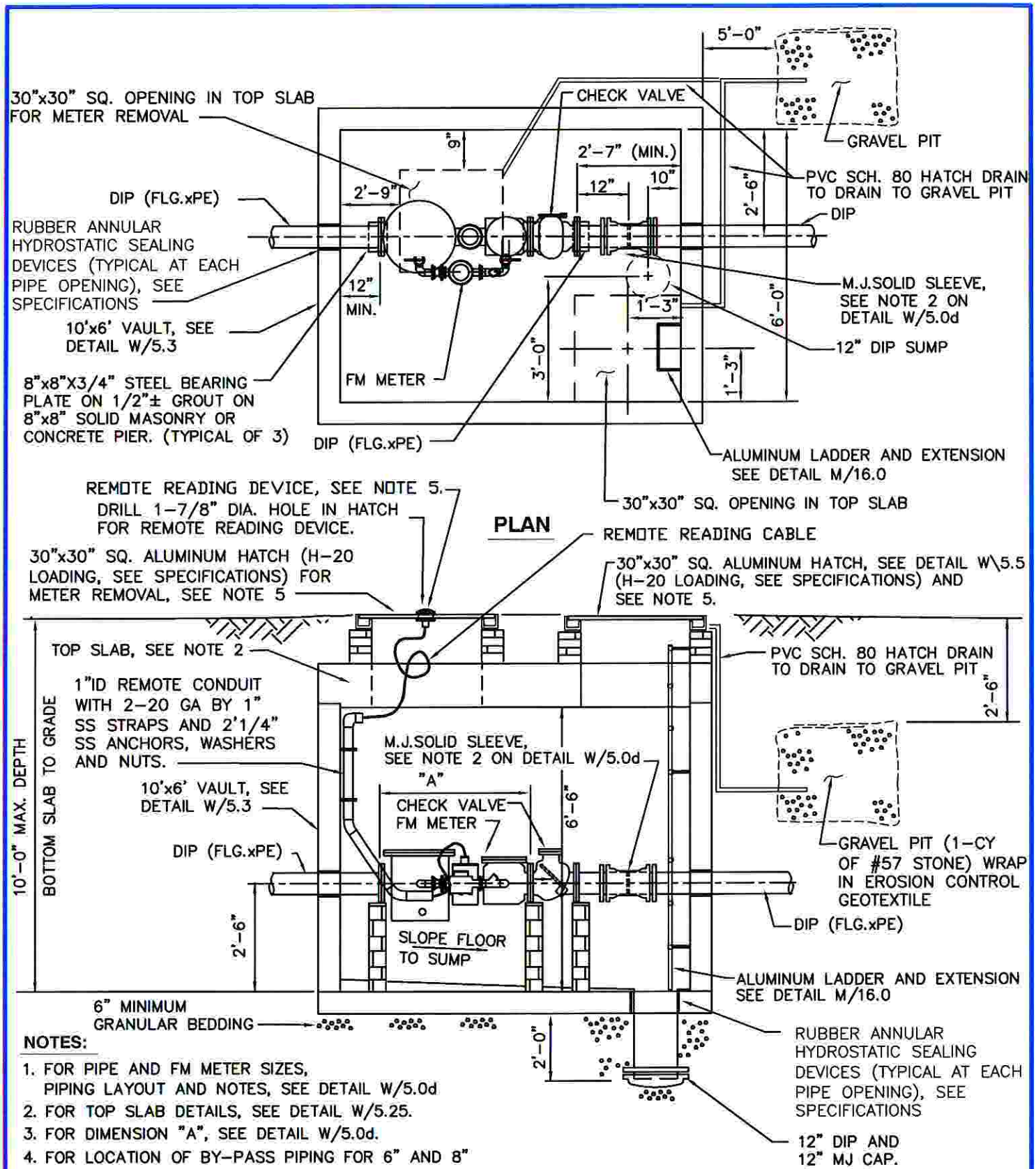
| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: June 12, 2009<br>Chief Engineer | STANDARD DETAIL<br>4-INCH, 6-INCH AND 8-INCH F.M. METER VAULT PIPING LAYOUT | W<br>5.0a |




**NOTES:**

1. FOR PIPE AND FM METER SIZES, PIPING LAYOUT AND NOTES, SEE DETAIL W/5.0d
2. FOR TOP SLAB DETAILS, SEE DETAIL W/5.24.
3. FOR DIMENSION "A", SEE DETAIL W/5.0d.
4. FOR LOCATION OF BY-PASS PIPING SEE DETAIL 5.0d.
5. IF VAULT LOCATION IS LOCATED IN TRAFFIC AREA, USE 30" DIA. FRAME AND COVER AND SEE DETAIL W/5.0e.

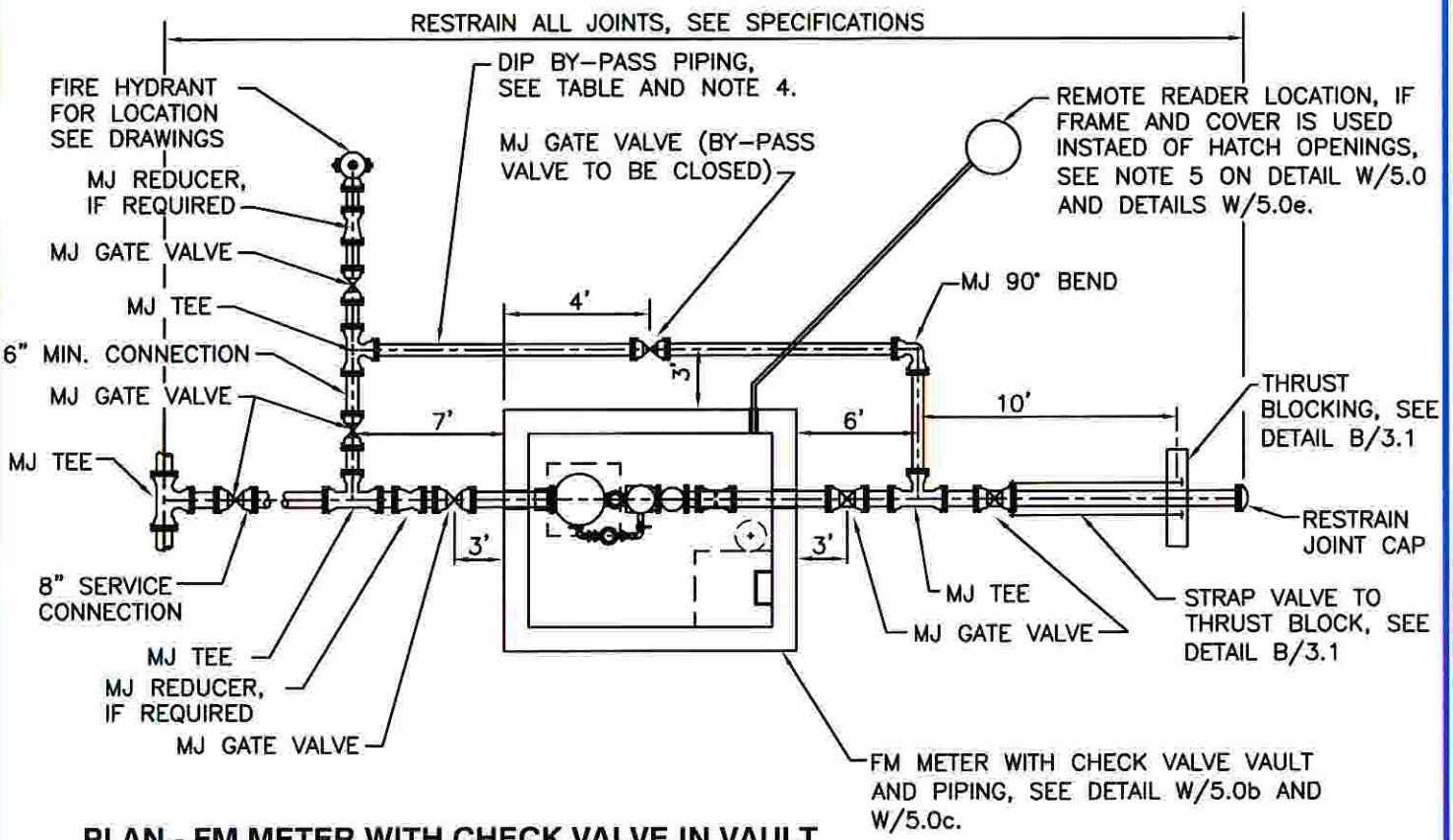
| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: June 12, 2009<br>Chief Engineer | SANDARD DETAIL<br>4-INCH FM METER WITH CHECK VALVE VAULT | W<br>5.0b |




**NOTES:**

1. FOR PIPE AND FM METER SIZES, PIPING LAYOUT AND NOTES, SEE DETAIL W/5.0d
2. FOR TOP SLAB DETAILS, SEE DETAIL W/5.25.
3. FOR DIMENSION "A", SEE DETAIL W/5.0d.
4. FOR LOCATION OF BY-PASS PIPING FOR 6" AND 8" SEE DETAIL W/5.0d.
5. IF VAULT LOCATION IS LOCATED IN TRAFFIC AREA, USE 30" DIA. FRAME AND COVER AND SEE DETAIL W/5.0e.

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: June 12, 2009<br>Chief Engineer | STANDARD DETAIL<br>6-INCH AND 8-INCH FM METER WITH CHECK VALVE VAULT | W<br>5.0c |




## PLAN - FM METER WITH CHECK VALVE IN VAULT TYPICAL PIPING LAYOUT

**NOTES:**

1. FOR FM METER WITH CHECK VALVE VAULT AND PIPING DETAILS, SEE DETAIL W/5.0b and w/5.0c.
2. PROVIDE M.J. SOLID SLEEVE WHERE SHOWN WITH WEDGE ACTION RESTRAINER GLAND, SEE STD. DET. B/2.7. TOLERANCE BETWEEN PIPE ENDS SHALL NOT EXCEED 1/2". DO NOT USE PIPE SPACERS, SEE SPECIFICATIONS.
3. ONLY DUCTILE IRON PIPE AND FITTINGS ONLY, EXCEPT AS NOTED. SEE DRAWINGS FOR SIZES.
4. RESTRAIN ALL JOINTS DIP BY-PASS PIPING, FROM TEE TO TEE WITH WEDGE ACTION RESTRAINER GLANDS, SEE DETAIL B/2.7.
5. PROVIDE EXTENSION STEMS AND VALVE BOXES FOR ALL BURIED VALVES, SEE DETAIL W/2.2.
6. POLYETHYENE EASEMENT FOR ALL DUCTILE IRON PIPE AND FITTINGS. SEE DETAIL W/2.8 AT CONCRETE INTERFACE.
7. PROVIDE RUBBER ANNUAL HYDROSTATIC SEALING DEVISES FOR ALL PIPE THROUGH WALL CONNECTIONS, SEE SPECIFICATIONS.

| BY-PIPE SIZE | |
|---|---|
| FM METER SIZE | BY-PASS PIPE SIZE |
| 4" | 4" |
| 6" | 6" |
| 8" | 8" |

| "A" DIMENSION (SEE DETAIL W/5.0b and W/5.0c) | |
|---|---|
| FM METER SIZE | "A" (LENGTH OF METER) |
| 4" | 33" |
| 6" | 45" |
| 8" | 53" |

WASHINGTON SUBURBAN SANITARY COMMISSION

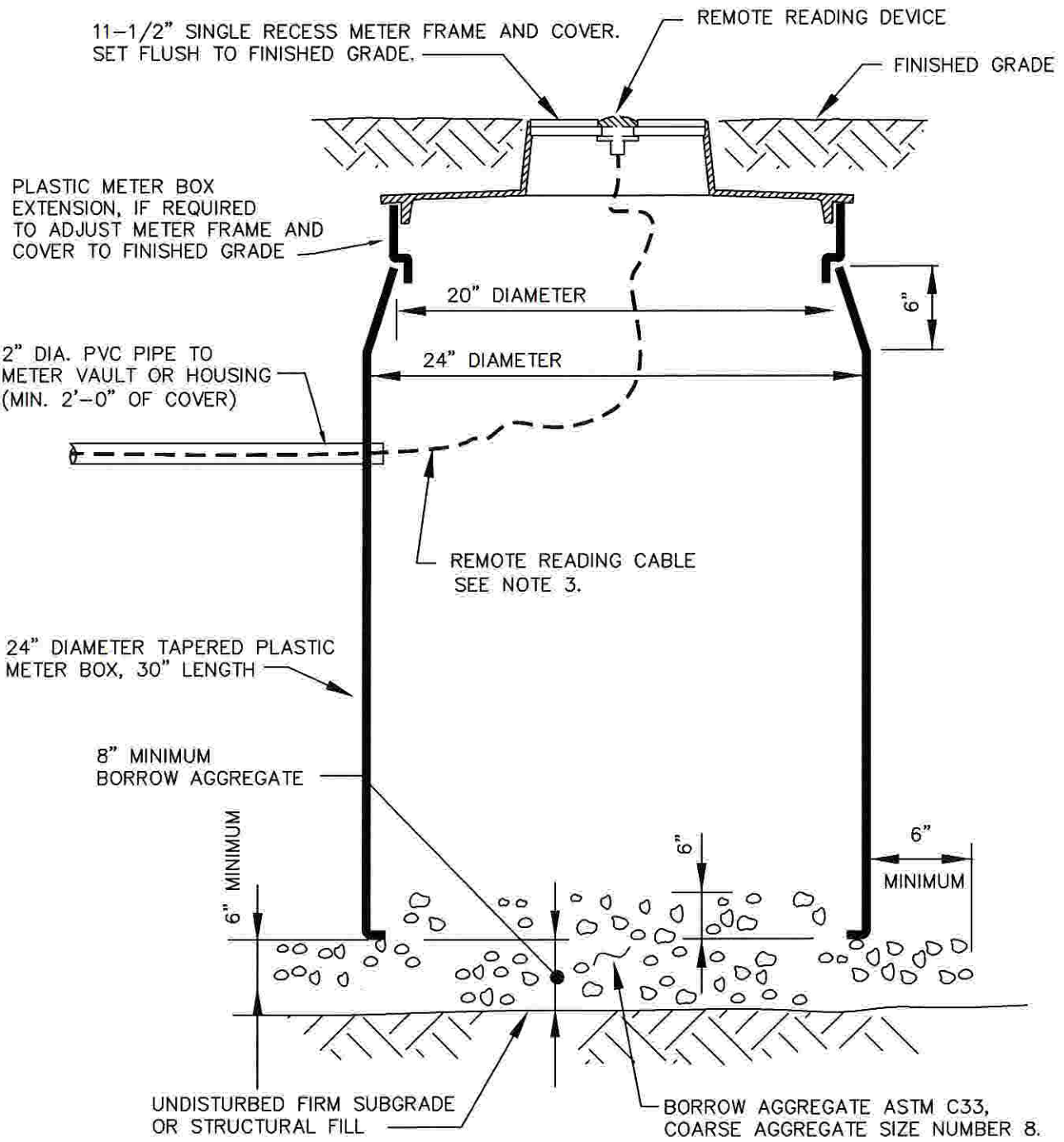
APPROVED: June 12, 2009

Chief Engineer

STANDARD DETAIL

4-INCH, 6-INCH AND 8-INCH F.M. METER WITH CHECK VALVE IN VAULT PIPING LAYOUT

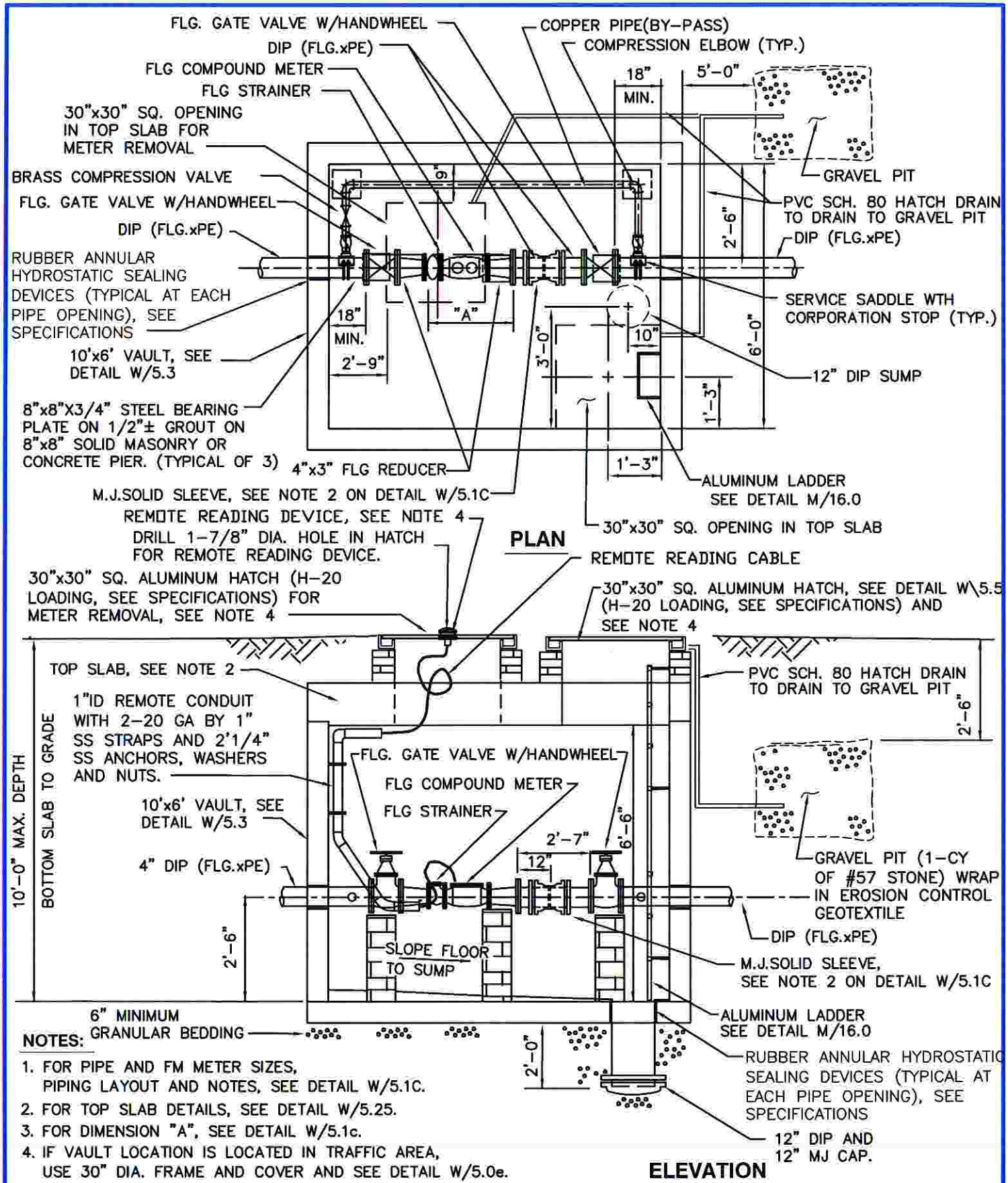
W 5.0d




## NOTES:

1. METER SETTING FOR NON–TRAFFIC AREAS ONLY. DO NOT LOCATE IN SIDEWALK OR DRIVEWAY, UNLESS OTHERWISE NOTED ON THE DRAWINGS.
2. COMPACT BACKFILL AND AGGREGATE BASE AS STRUCTURE FILL.
3. REMOTE READING CABLE WITHOUT SPLICES THROUGH CONDUIT PIPING.
4. WHEN TWO REMOTE READING DEVICES ARE REQUIRED, USE 11–1/2" DOUBLE RECESS METER FRAME AND COVER.

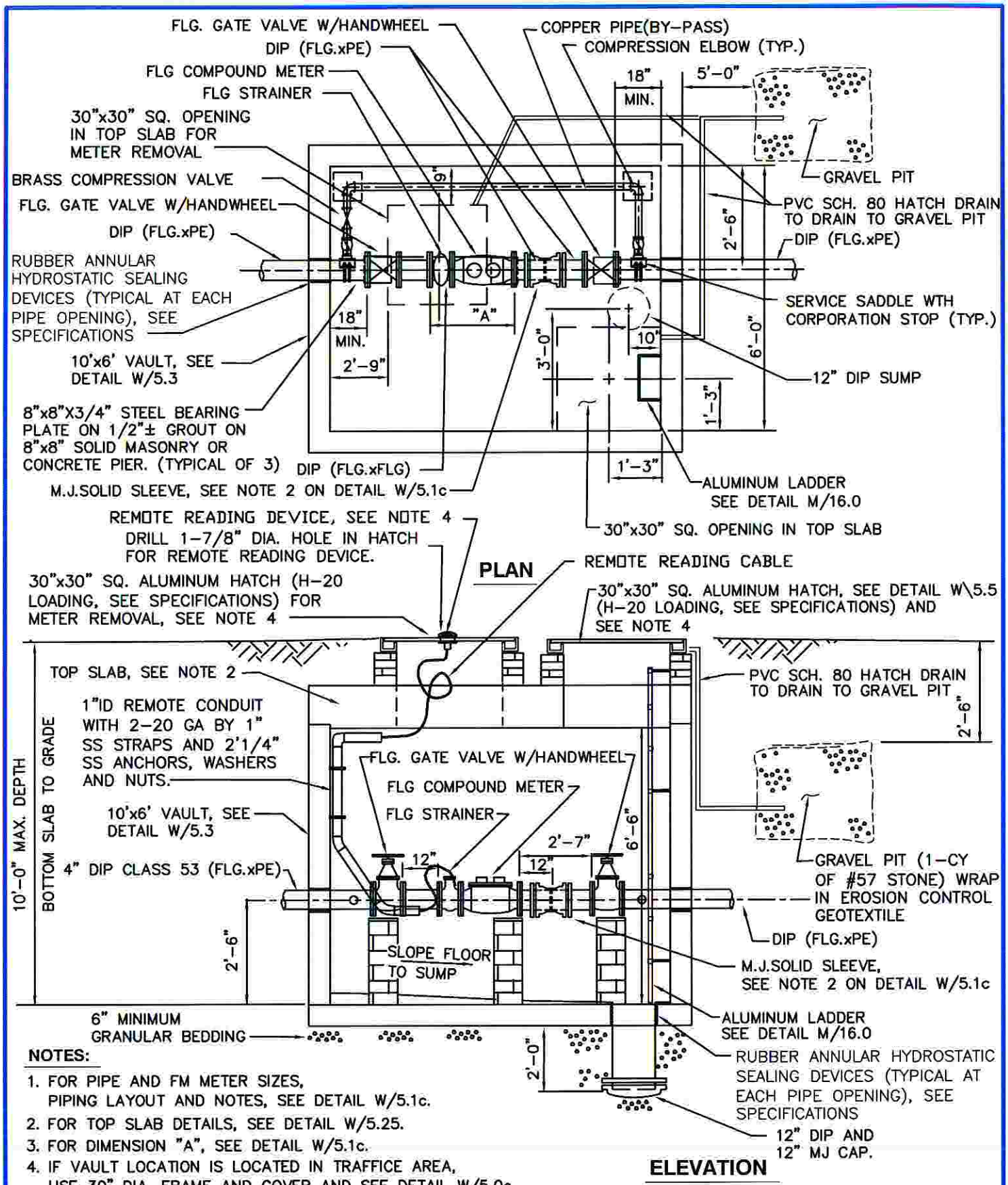
| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: June 12, 2009<br>Chief Engineer | STANDARD DETAIL<br>REMOTE READING DEVICE FOR METER LOCATION IN ROADWAYS | W<br>5.0e |




**NOTES:**

1. FOR PIPE AND FM METER SIZES, PIPING LAYOUT AND NOTES, SEE DETAIL W/5.1C.
2. FOR TOP SLAB DETAILS, SEE DETAIL W/5.25.
3. FOR DIMENSION "A", SEE DETAIL W/5.1c.
4. IF VAULT LOCATION IS LOCATED IN TRAFFIC AREA, USE 30" DIA. FRAME AND COVER AND SEE DETAIL W/5.0e.

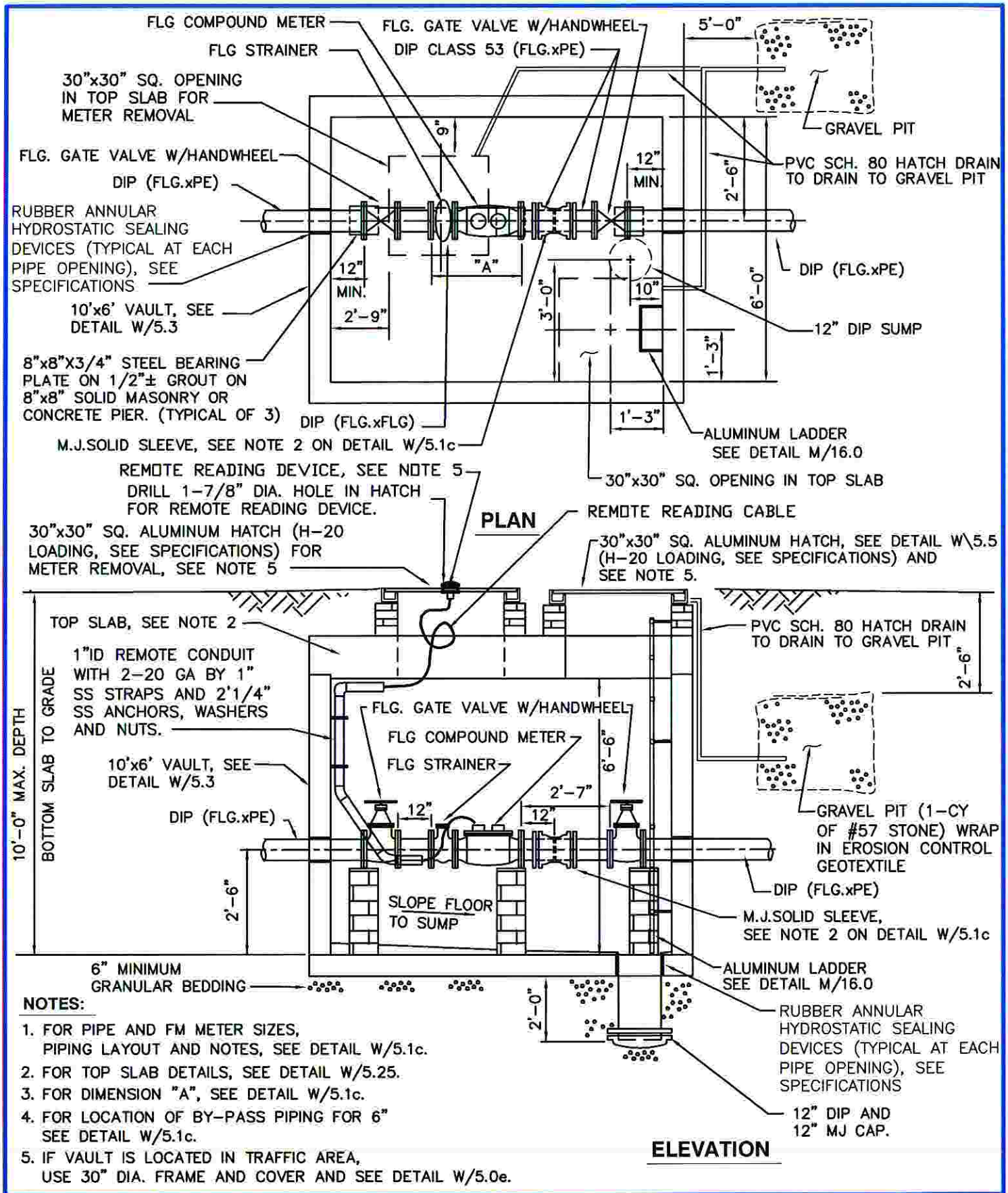
| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: June 12, 2009<br>Chief Engineer | STANDARD DETAIL<br>3-INCH COMPOUND METER VAULT<br>COMPOUND METER VAULT | W<br>5.1 |




**NOTES:**

1. FOR PIPE AND FM METER SIZES, PIPING LAYOUT AND NOTES, SEE DETAIL W/5.1c.
2. FOR TOP SLAB DETAILS, SEE DETAIL W/5.25.
3. FOR DIMENSION "A", SEE DETAIL W/5.1c.
4. IF VAULT LOCATION IS LOCATED IN TRAFFICE AREA, USE 30" DIA. FRAME AND COVER AND SEE DETAIL W/5.0e.

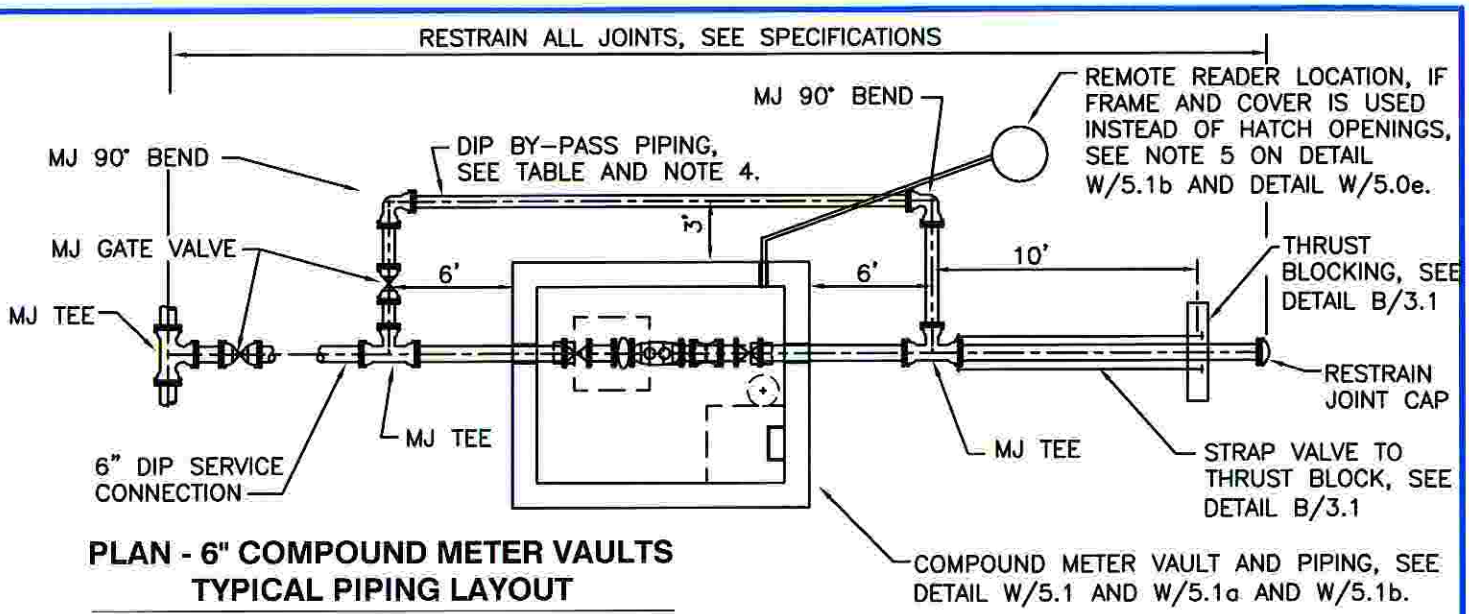
| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: June 12, 2009<br>Chief Engineer | STANDARD DETAIL<br>4-INCH COMPOUND METER VAULT | W<br>5.1a |



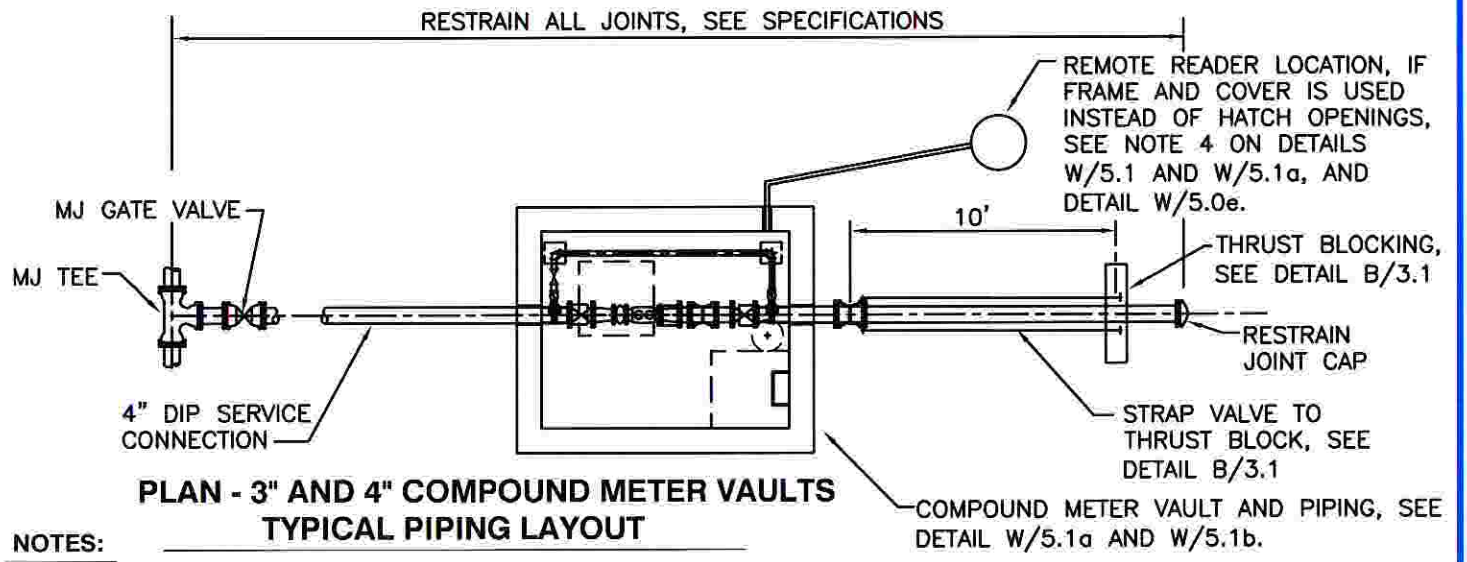

**NOTES:**

1. FOR PIPE AND FM METER SIZES, PIPING LAYOUT AND NOTES, SEE DETAIL W/5.1c.
2. FOR TOP SLAB DETAILS, SEE DETAIL W/5.25.
3. FOR DIMENSION "A", SEE DETAIL W/5.1c.
4. FOR LOCATION OF BY-PASS PIPING FOR 6" SEE DETAIL W/5.1c.
5. IF VAULT IS LOCATED IN TRAFFIC AREA, USE 30" DIA. FRAME AND COVER AND SEE DETAIL W/5.0e.

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: June 12, 2009<br>Chief Engineer | STANDARD DETAIL<br>6-INCH COMPOUND METER VAULT | W<br>5.1b |




**PLAN - 6" COMPOUND METER VAULTS**
**TYPICAL PIPING LAYOUT**




**PLAN - 3" AND 4" COMPOUND METER VAULTS**
**TYPICAL PIPING LAYOUT**

**NOTES:**

1. FOR COMPOUND METER VAULT AND PIPING DETAILS, SEE DETAIL W/5.1, W/5.a AND W/5.1b.
2. PROVIDE M.J. SOLID SLEEVE WHERE SHOWN WITH WEDGE ACTION RESTRAINER GLAND, SEE STD. DET. B/2.7. TOLERANCE BETWEEN PIPE ENDS SHALL NOT EXCEED 1/2". DO NOT USE PIPE SPACERS, SEE SPECIFICATIONS.
3. ONLY DUCTILE IRON PIPE AND FITTINGS ONLY, EXCEPT AS NOTED. SEE DRAWINGS FOR SIZES.
4. RESTRAIN ALL JOINTS DIP BY-PASS PIPING, FROM TEE TO TEE WITH WEDGE ACTION RESTRAINER GLANDS, SEE DETAIL B/2.7.
5. PROVIDE EXTENSION STEMS AND VALVE BOXES FOR ALL BURIED VALVES, SEE DETAIL W/2.2.
6. POLYETHYENE EASEMENT FOR ALL DUCTILE IRON PIPE AND FITTINGS. SEE DETAIL W/2.8 AT CONCRETE INTERFACE.
7. PROVIDE RUBBER ANNUAL HYDROSTATIC SEALING DEVISES FOR ALL PIPE THROUGH WALL CONNECTIONS, SEE SPECIFICATIONS.

| BY-PIPE SIZE | |
|---|---|
| COMPOUND METER SIZE | BY-PASS PIPE SIZE |
| 3" | 2" |
| 4" | 2" |
| 6" | 4" |

| "A" DIMENSION (SEE DETAIL W/5.1, W/5.1a AND W/5.1b) | |
|---|---|
| COMPOUND METER SIZE | "A" (LENGTH OF METER AND STRAINER) |
| 3" | 24" |
| 4" | 29" |
| 6" | 36.5" |

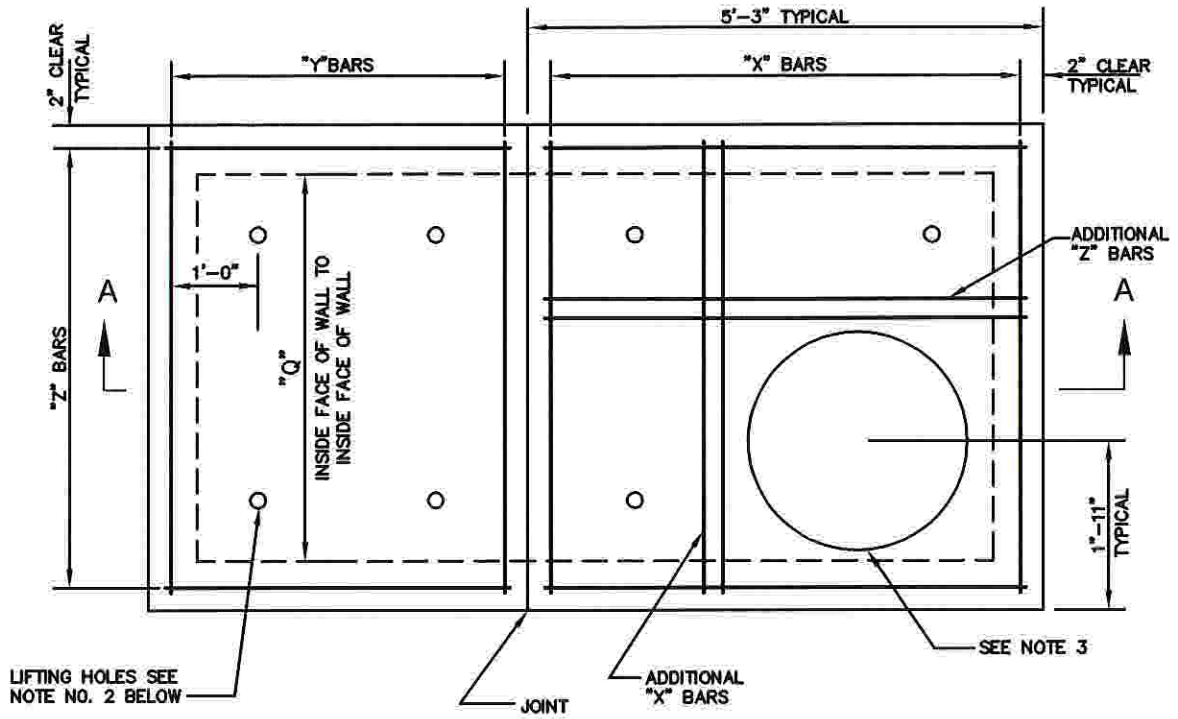
WASHINGTON SUBURBAN SANITARY COMMISSION

APPROVED: June 12 2009
Chief Engineer

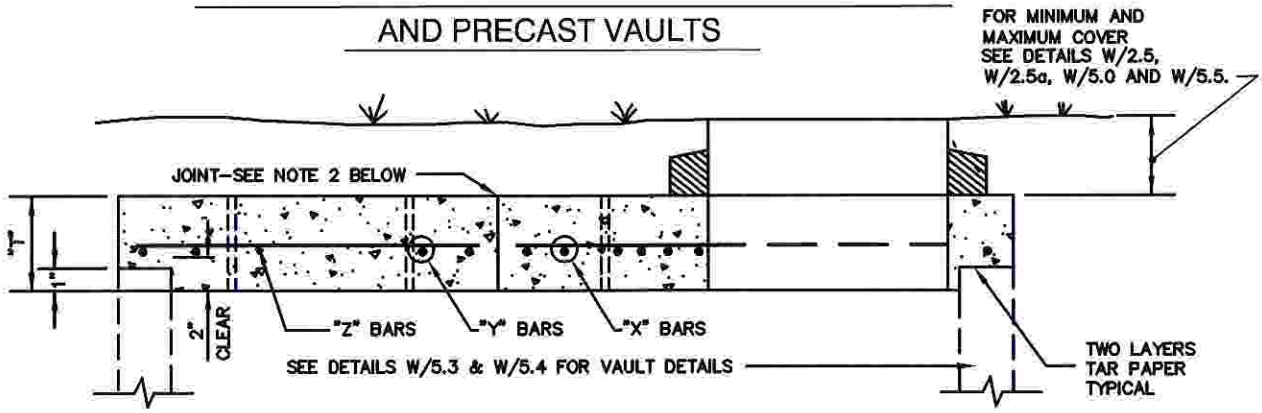
STANDARD DETAIL

3-INCH, 4-INCH AND 6-INCH COMPOUND METER VAULT PIPING LAYOUT

W / 5.1c




PLAN VIEW: TOP SLAB FOR CAST IN PLACE AND PRECAST VAULTS




SECTION A-A

NOTES:

1. FOR PRECAST & CAST IN PLACE CONCRETE TOP SLAB THICKNESS & REINFORCING SEE DETAIL W/5.21.
2. FOR JOINT, LIFTING HOLE AND HATCH DETAILS, SEE DETAIL W/5.5.
3. PROVIDE 30" ø OPENING IN TOP SLAB, SEE DETAIL W/5.5.
4. 8" W/CHECK VALVE & 10" F.M. METERS SHALL HAVE TOP SLAB IN THREE PIECES. SECTION W/ OPENING SHALL BE 5'-3". THE TWO REMAINING SECTIONS SHALL BE EQUAL.

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>CAST IN PLACE AND PRECAST CONCRETE TOP SLAB REINFORCING DETAILS | W<br>5.2 |

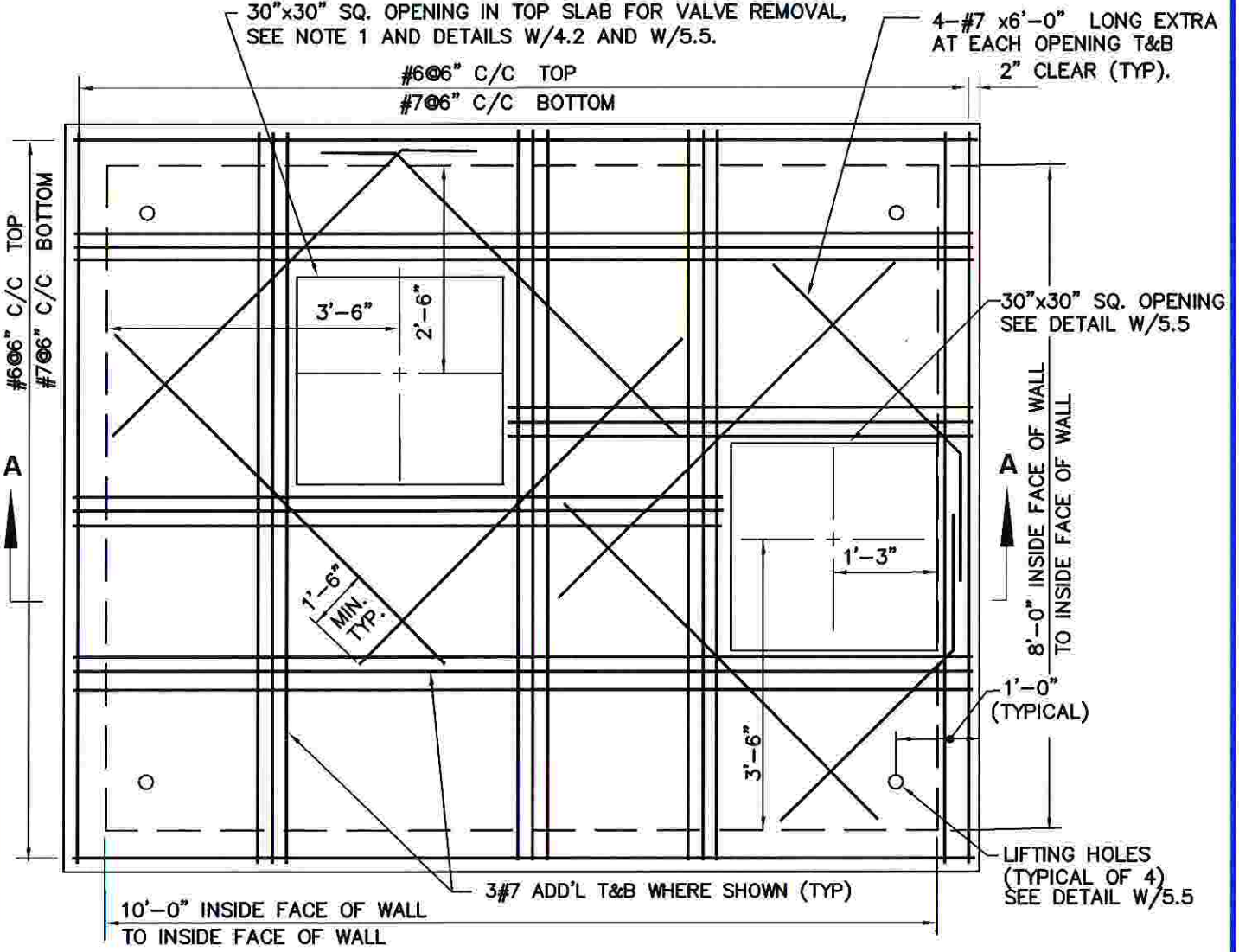
| CAST IN PLACE CONCRETE TOP SLAB THICKNESS AND REINFORCING | | | | |
|---|---|---|---|---|
| Q SEE DETAIL W/5.3 | T SEE DETAIL W/5.3 | "X" BARS SEE DETAIL W/5.2 | "Y" BARS SEE DETAIL W/5.2 | "Z" BARS SEE DETAIL W/5.2 |
| 4'–0" | 8" | #7 @ 8" C/C | #5 @ 6" C/C | #5 @ 6" C/C |
| 5'–0" | 9" | #7 @ 7" C/C | #5 @ 6" C/C | #6 @ 6" C/C |
| 6'–0" | 10" | #7 @ 7" C/C | #5 @ 6" C/C | #6 @ 6" C/C |
| 7'–0" | 11" | #7 @ 7" C/C | #5 @ 6" C/C | #6 @ 6" C/C |
| 8'–0" | 12" | #7 @ 7" C/C | #5 @ 6" C/C | #6 @ 6" C/C |
| 9'–0" | 13" | #7 @ 7" C/C | #5 @ 6" C/C | #6 @ 6" C/C |
| 10'–0" | 14" | #7 @ 6" C/C | #6 @ 8" C/C | #6 @ 6" C/C |

| PRECAST CONCRETE TOP SLAB THICKNESS AND REINFORCING | | | | |
|---|---|---|---|---|
| Q SEE DETAIL W/5.4 | T SEE DETAIL W/5.4 | "X" BARS SEE DETAIL W/5.2 | "Y" BARS SEE DETAIL W/5.2 | "Z" BARS SEE DETAIL W/5.2 |
| 4'–0" | 8" | #6 @ 7" C/C | #6 @ 9" C/C | #6 @ 8" C/C |
| 5'–0" | 8" | #7 @ 6" C/C | #6 @ 7" C/C | #6 @ 8" C/C |
| 6'–0" | 9" | #7 @ 6" C/C | #6 @ 7" C/C | #6 @ 6" C/C |
| 7'–0" | 10" | #7 @ 6" C/C | #6 @ 7" C/C | #6 @ 6" C/C |
| 8'–0" | 11" | #7 @ 6" C/C | #6 @ 7" C/C | #6 @ 6" C/C |
| 9'–0" | 11" | #8 @ 7" C/C | #6 @ 6" C/C | #6 @ 6" C/C |
| 10'–0" | 12" | #8 @ 7" C/C | #6 @ 6" C/C | #6 @ 6" C/C |

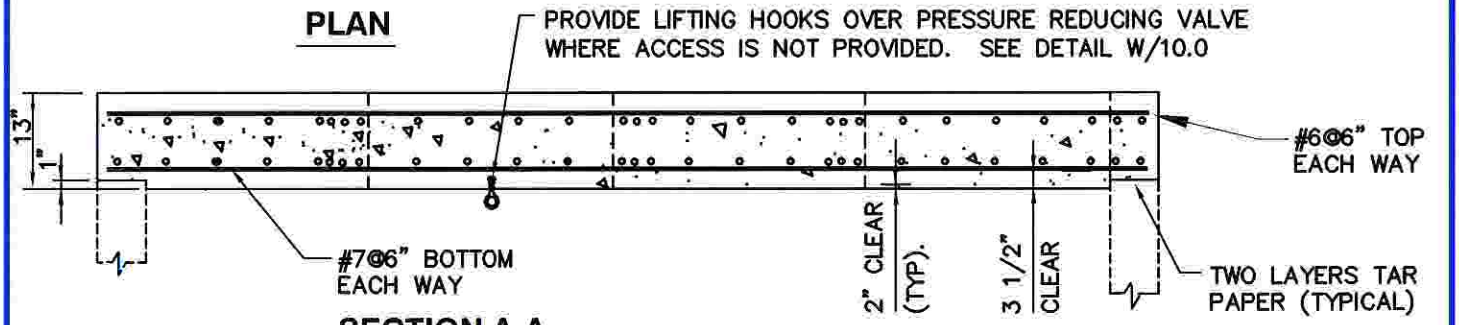
NOTES:

1. LOADING
   A. CAST IN PLACE CONCRETE: TOP SLABS HAVE BEEN DESIGNED FOR THE FOLLOWING LOADING CONDITIONS:
      1. H20LL +30% IMPACT + 1'–0" EARTH COVER.
      2. H20LL + 0% IMPACT + 8'–0" MAXIMUM EARTH COVER.
   B. PRECAST CONCRETE: TOP SLABS HAVE BEEN DESIGNED FOR THE FOLLOWING LOADING CONDITIONS:
      1. H20LL + 30% IMPACT + 1'–0" EARTH COVER.
      2. H20LL + 0% IMPACT + 5'–0" MAXIMUM EARTH COVER.
2. CAST IN PLACE CONCRETE: f'c=4000 PSI @ 28 DAYS.
3. PRECAST CONCRETE: f'c=5000 PSI @ 28 DAYS.
4. REINFORCING STEEL: ASTM A615–GRADE 60.

| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005 Chief Engineer | STANDARD DETAIL CAST IN PLACE AND PRECAST CONCRETE TOP SLAB REINFORCING DETAILS | W 5.21 |
|---|---|---|---|




## PLAN




## SECTION A-A

### VALVE REMOVAL OPENING NOTES:

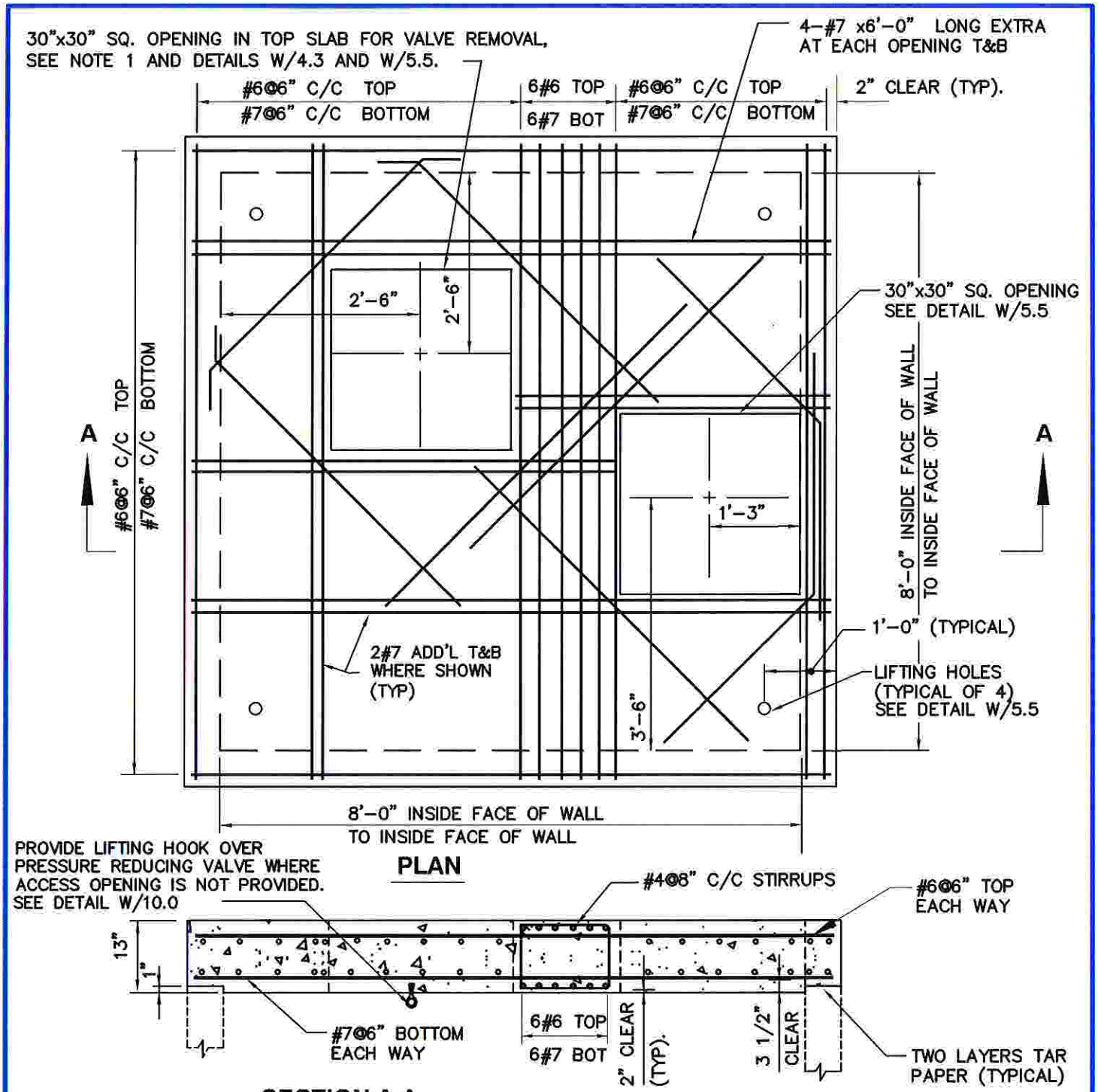
1. FOR 4" VALVE NO OPENINGS IS REQUIRED. PROVIDE 1 PIECE TOP SLAB REINFORCED AS PER DETAIL W/5.2

### STRUCTURAL NOTES:

1. REINFORCING STEEL: ASTM A615, GRADE 60
2. PRECAST CONCRETE: f'c=5,000PSI @ 28 DAYS.
3. CAST IN PLACE CONCRETE: f'c=4,000PSI @ 28 DAYS.
4. TOP SLAB HAVE BEEN DESIGNED FOR THE FOLLOWING LOADING CONDITIONS: H20LL+0% IMPACT+ 3.5' MAXIMUM EARTH COVER
   H20LL + 30% IMPACT+ 1' EARTH COVER
5. FOR PRECAST CONCRETE PROVIDE ADDITIONAL REINFORCING AS REQUIRED FOR LIFTING LOADS

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>CAST IN PLACE AND PRECAST CONCRETE TOP SLAB FOR TYPE "1" LAYOUT PRESSURE REDUCING VALVE VAULTS | W<br>5.22 |

W522




PLAN

PROVIDE LIFTING HOOK OVER PRESSURE REDUCING VALVE WHERE ACCESS OPENING IS NOT PROVIDED. SEE DETAIL W/10.0




SECTION A-A

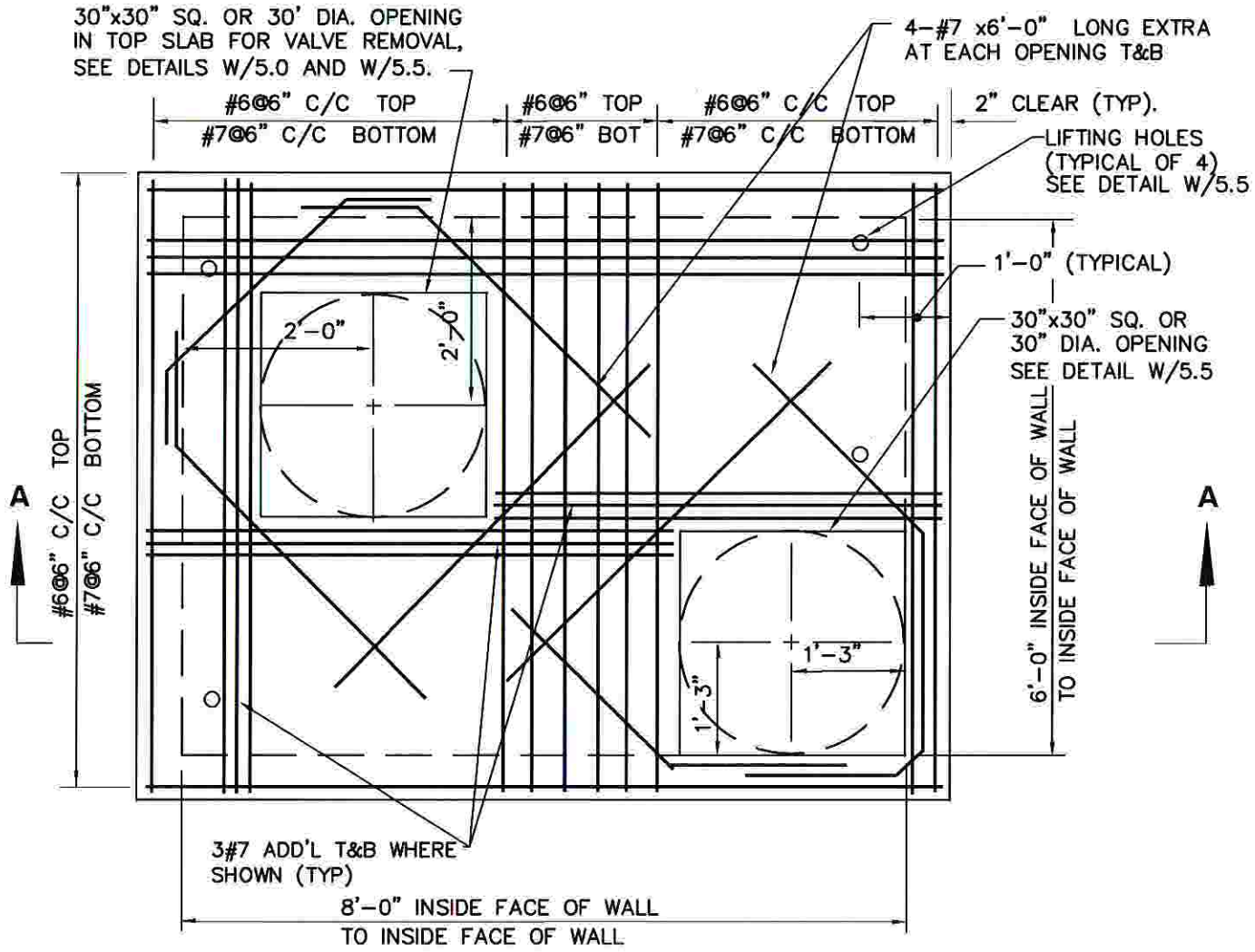
## VALVE REMOVAL OPENING NOTES:

1. FOR 4" VALVE NO OPENINGS IS REQUIRED. PROVIDE 1 PIECE TOP SLAB REINFORCED AS PER DETAIL W/5.2

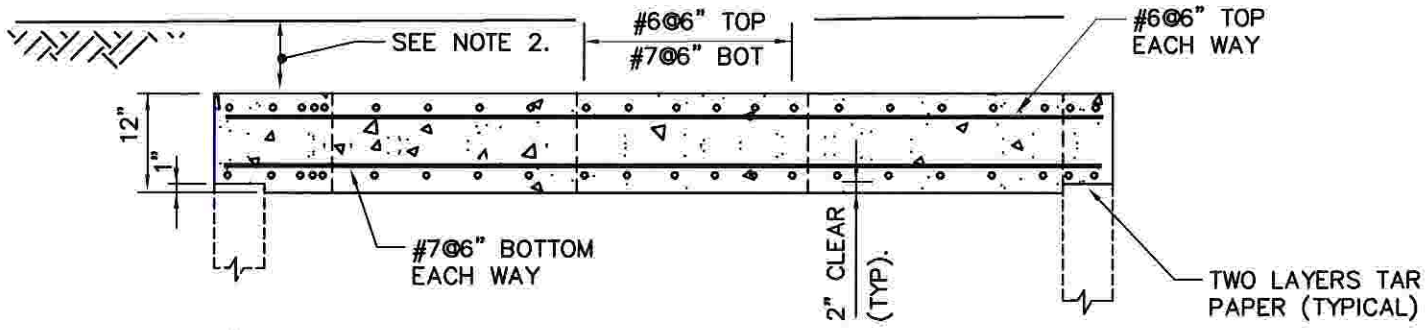
## STRUCTURAL NOTES:

1. REINFORCING STEEL: ASTM A615, GRADE 60
2. PRECAST CONCRETE: f'c=5,000PSI @ 28 DAYS.
3. CAST IN PLACE CONCRETE: f'c=4,000PSI @ 28 DAYS.
4. TOP SLAB HAVE BEEN DESIGNED FOR THE FOLLOWING LOADING CONDITIONS: H20LL+0% IMPACT+ 3.5' MAXIMUM EARTH COVER
   H20LL + 30% IMPACT+ 1' EARTH COVER
5. FOR PRECAST CONCRETE PROVIDE ADDITIONAL REINFORCING AS REQUIRED FOR LIFTING LOADS

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>CAST IN PLACE AND PRECAST CONCRETE TOP SLAB FOR TYPE "2" LAYOUT PRESSURE REDUCING VALVE VAULTS | W<br>5.23 |




## PLAN




## SECTION A-A

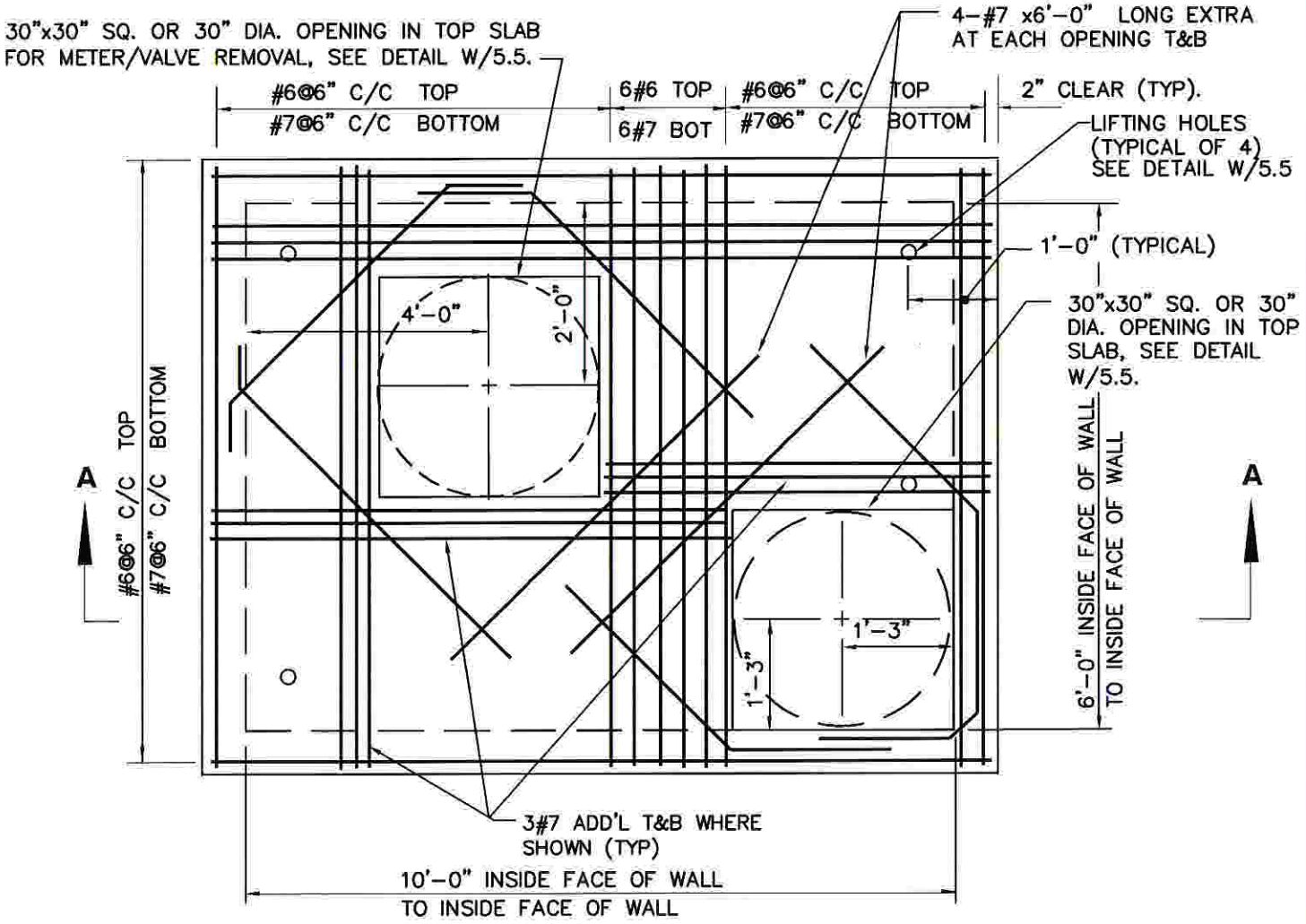
**STRUCTURAL NOTES:**

1. REINFORCING STEEL: ASTM A615, GRADE 60
2. PRECAST CONCRETE: f'c=5,000PSI @ 28 DAYS.
3. CAST IN PLACE CONCRETE: f'c=4,000PSI @ 28 DAYS.
4. TOP SLAB HAVE BEEN DESIGNED FOR THE FOLLOWING LOADING CONDITIONS: H20LL+0% IMPACT+ 5.0' MAXIMUM EARTH COVER
   H20LL + 30% IMPACT+ 1' EARTH COVER
5. FOR PRECAST CONCRETE PROVIDE ADDITIONAL REINFORCING AS REQUIRED FOR LIFTING LOADS

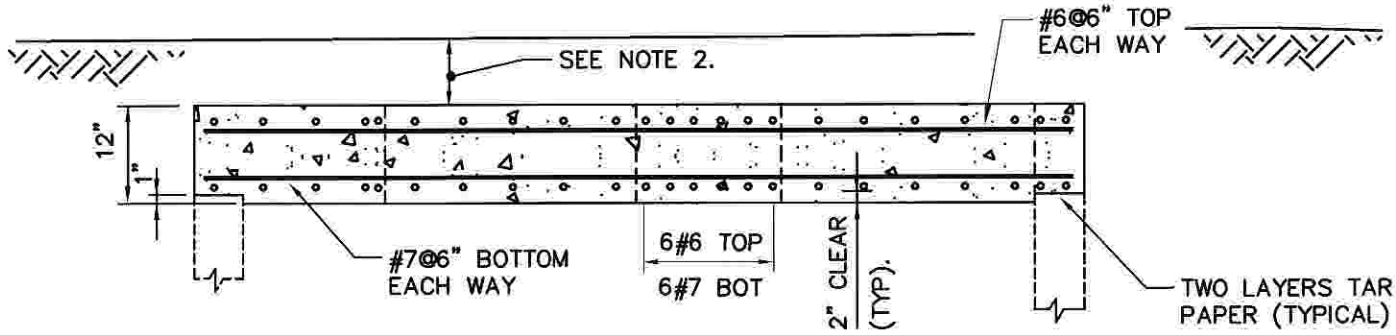
**NOTE:**

1. FOR DETAILS OF FM METERS SEE DETAILS W/5.0, FM METER WITH CHECK VALVE SEE W/5.0c AND DETECTOR CHECK VALVE SEE W/12.0.
2. 2'-6" MAXIMUM COVER OVER TOP SLAB, FOR MINIMUM COVER, SEE DETAIL W/5.5

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: June 12, 2009<br>Chief Engineer | STANDARD DETAIL<br>CAST IN PLACE AND PRECAST CONCRETE TOP SLAB FOR FM METER AND DETECTOR CHECK VAULTS | W<br>5.24 |




**PLAN**




**SECTION A-A**

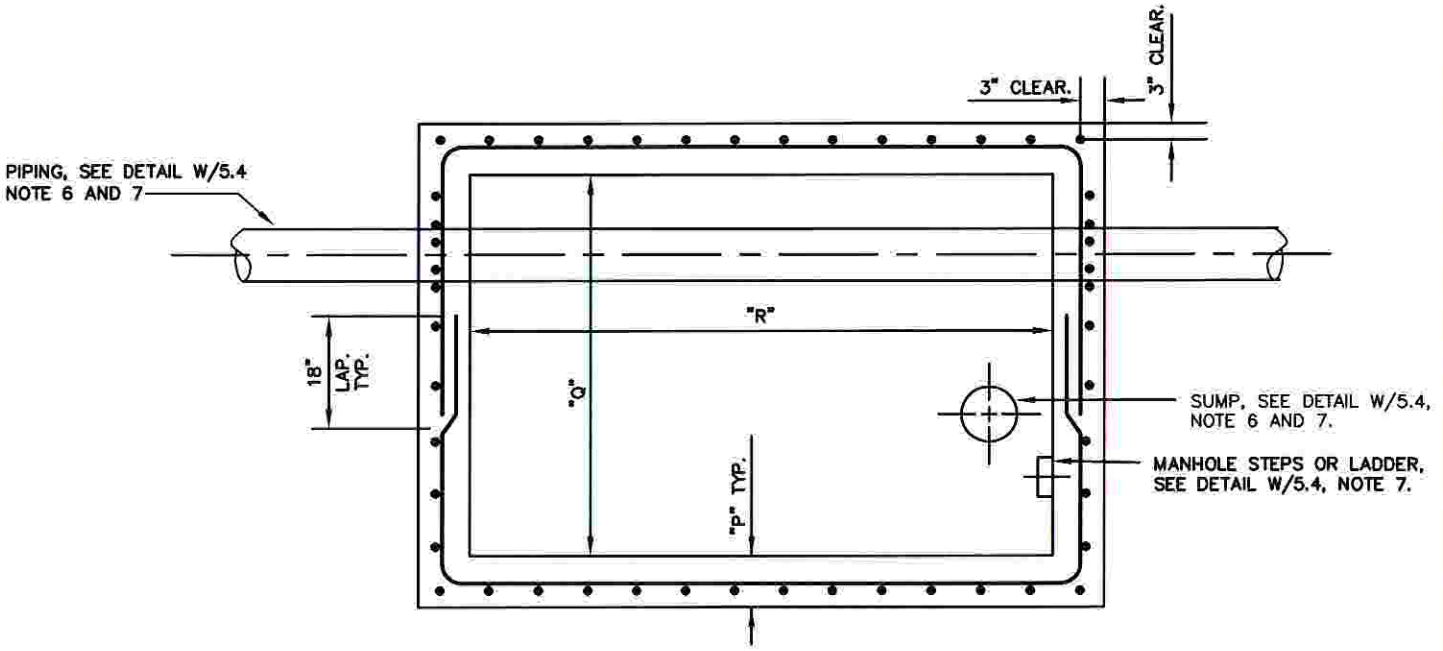
## STRUCTURAL NOTES:

1. REINFORCING STEEL: ASTM A615, GRADE 60
2. PRECAST CONCRETE: f'c=5,000PSI @ 28 DAYS.
3. CAST IN PLACE CONCRETE: f'c=4,000PSI @ 28 DAYS.
4. TOP SLAB HAVE BEEN DESIGNED FOR THE FOLLOWING LOADING CONDITIONS: H20LL+0% IMPACT+ 5.0' MAXIMUM EARTH COVER
   H20LL + 30% IMPACT+ 1' EARTH COVER
5. FOR PRECAST CONCRETE PROVIDE ADDITIONAL REINFORCING AS REQUIRED FOR LIFTING LOADS

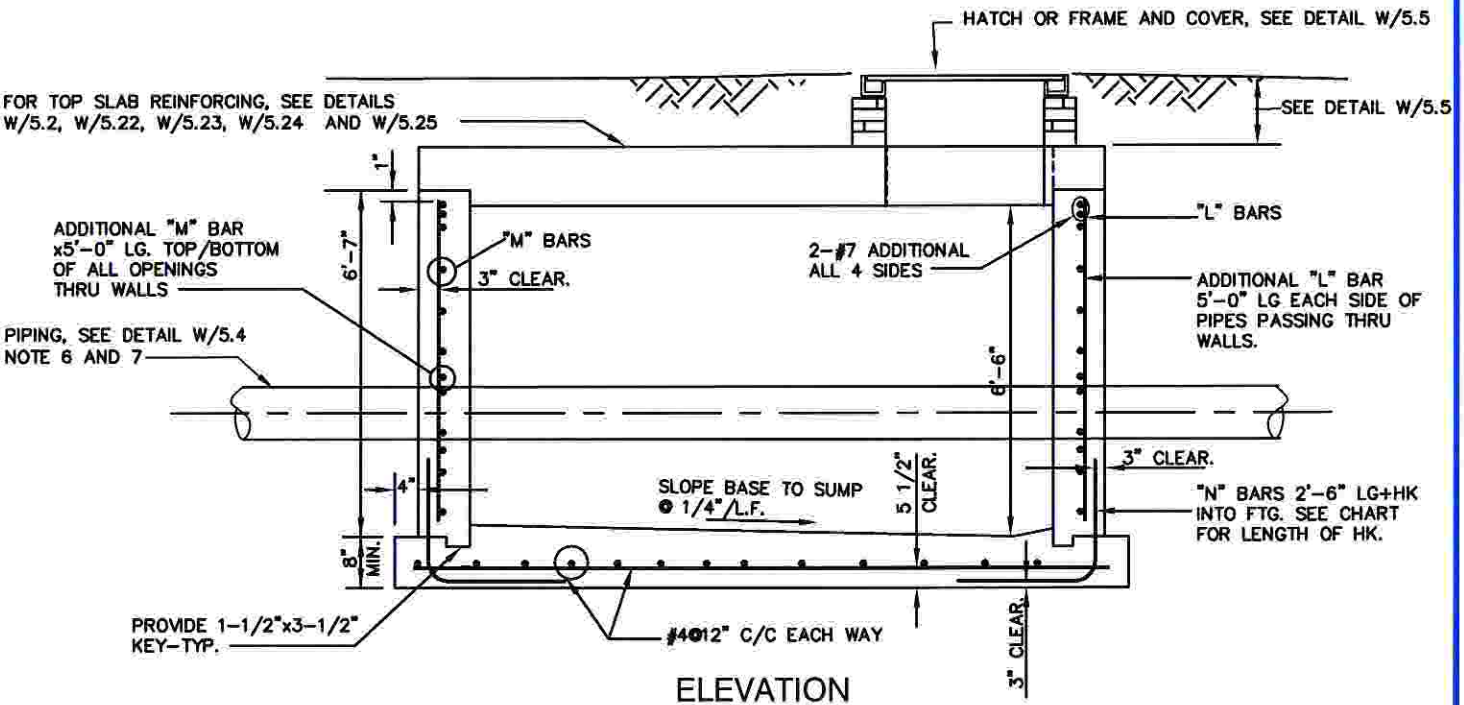
## NOTE:

1. FOR DETAILS OF COMPOUND METERS SEE DETAILS W/5.1, W/5.1a, AND W/5.1b AND FM METER WITH CHECK VALVE SEE W/5.0c.
2. 2'-6" MAXIMUM COVER OVER TOP SLAB, FOR MINIMUM COVER, SEE DETAIL W/5.5

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: June 12, 2009<br>Chief Engineer | STANDARD DETAIL<br>CAST IN PLACE AND PRECAST CONCRETE TOP SLAB FOR COMPOUND METERS AND FM METER W/ CHECK VALVE VAULT | W<br>5.25 |




PLAN OF VAULT-TOP SLAB REMOVED




ELEVATION

NOTE:

1. FOR ADDITIONAL NOTES AND REINFORCING, SEE DETAIL W/5.4.

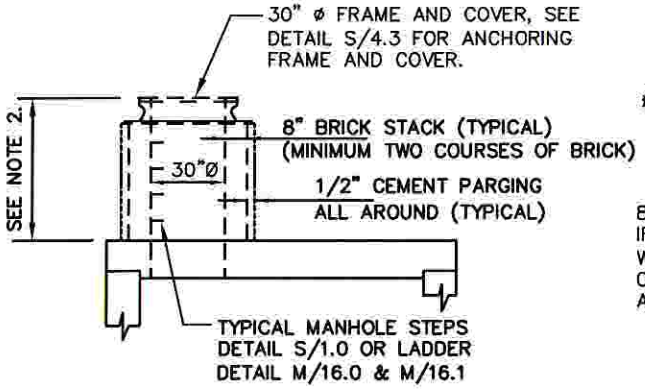
| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: June 12 2009<br>Chief Engineer | STANDARD DETAIL<br>CAST IN PLACE CONCRETE VAULT | W<br>5.3 |

| "P" | "Q" | "R" | "L" | "M" | "N" |
|---|---|---|---|---|---|
| 8" | 6'–0" | 6'–0" | #4@12" | #4@12" | #5@12"+2'–0" HK |
| 8" | 6'–0" | 8'–0" | #4@12" | #4@12" | #5@12"+3'–0" HK |
| 8" | 6'–0" | 10'–0" | #4@10" | #4@12" | #5@12"+3'–0" HK |
| 8" | 8'–0" | 8'–0" | #4@10" | #4@12" | #5@10"+3'–0" HK |
| 8" | 8'–0" | 10'–0" | #4@8" | #4@12" | #5@8"+3'–0" HK |
| 8" | 8'–0" | 12'–0" | #4@6" | #4@12" | #5@6"+4'–0" HK |

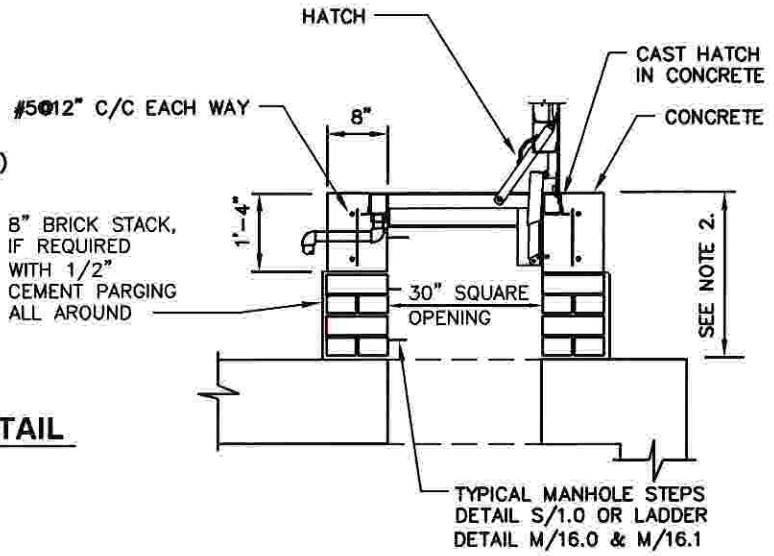
NOTES:

1. FOR VAULT DETAILS SEE DETAIL W/5.3.
2. f'c = 4,000PSI @ 28 DAYS.
3. f'y = 60,000PSI.
4. VAULTS ARE DESIGNED FOR THE FOLLOWING CONDITIONS:
   a. H20 LAODING AND 1'–0" COVER PLUS IMPACT (WATER TABLE 4'–0" BELOW FINISHED GRADE)
   b. 5'–0" COVER PLUS 2'–0" SURCHARGE (WATER TABLE 4'–0" BELOW FINISHED GRADE)
5. CONTRACTOR MAY USE PRECAST VAULTS SEE THE FOLLOWING:
   a. SEE SPECIFICATIONS FOR SUBMITTAL REQUIREMENTS.
   b. PRECAST VAULTS SHALL BE ONE PIECE UNIT FOR WALLS AND BOTTOM SLAB.
6. PROVIDE RUBBER ANNUAL HYDROSTATIC SEALING FOR ALL PIPES THROUGH WALLS AND BOTTOM SLABS CONNECTIONS, SEE SPECIFICATIONS.
7. FOR PIPING LAYOUTS AND OTHER REQUIREMENTS SEE DETAILS W/4.2, W/4.3, W/4.5, W/5.0, W/5.0a, W/5.0b, W/5.1, W/5.1a, W/5.1b, W/10.2 AND W/12.0.

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: June 12 2009<br>Chief Engineer | STANDARD DETAIL<br>CAST IN PLACE CONCRETE VAULTS | W<br>5.4 |




## MANHOLE FRAME AND COVER STACK DETAIL



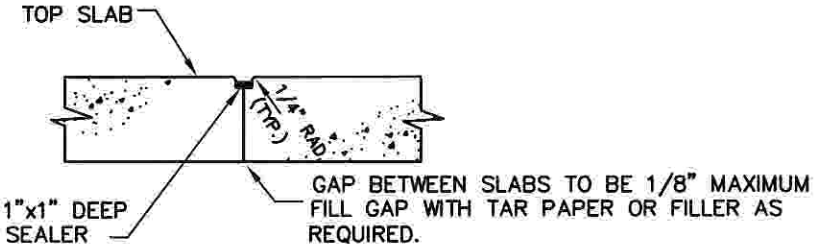

## HATCH STACK DETAIL

### STRUCTURAL NOTES:

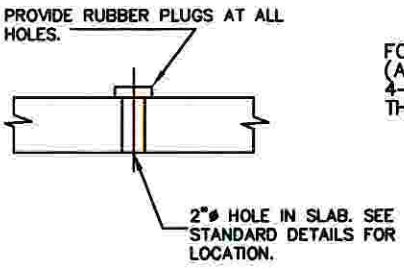
1. REINFORCING STEEL: ASTM A615, GRADE 60
2. PRECAST CONCRETE: f'c=5,000PSI @ 28 DAYS.
3. CAST IN PLACE CONCRETE: f'c=4,000PSI @ 28 DAYS.

### NOTE:

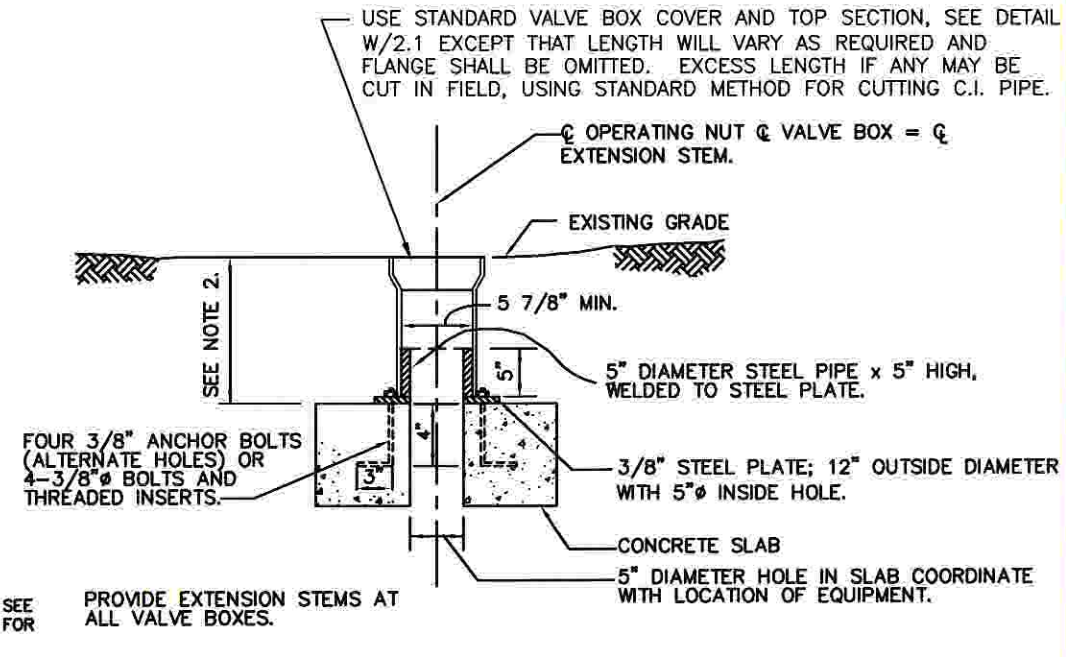
1. DO NOT USE HATCHES WHERE VAULTS ARE LOCATED IN A STREET OR OTHER LOCATIONS SUBJECTED TO DENSITY TRAFFIC
2. FOR MAXIMUM COVER OVER TOP SLAB SEE DETAILS W/2.5, W/2.5a, W/5.21, W/5.22, W/5.23, W/5.24, W/5.25 AND W/10.7.
   FOR MINIMUM COVER OVER TOP SLAB. HATCHES 1'-4" MINIMUM AND FRAME AND COVERS 1'-0" MINIMUM.




## SLAB JOINT DETAIL

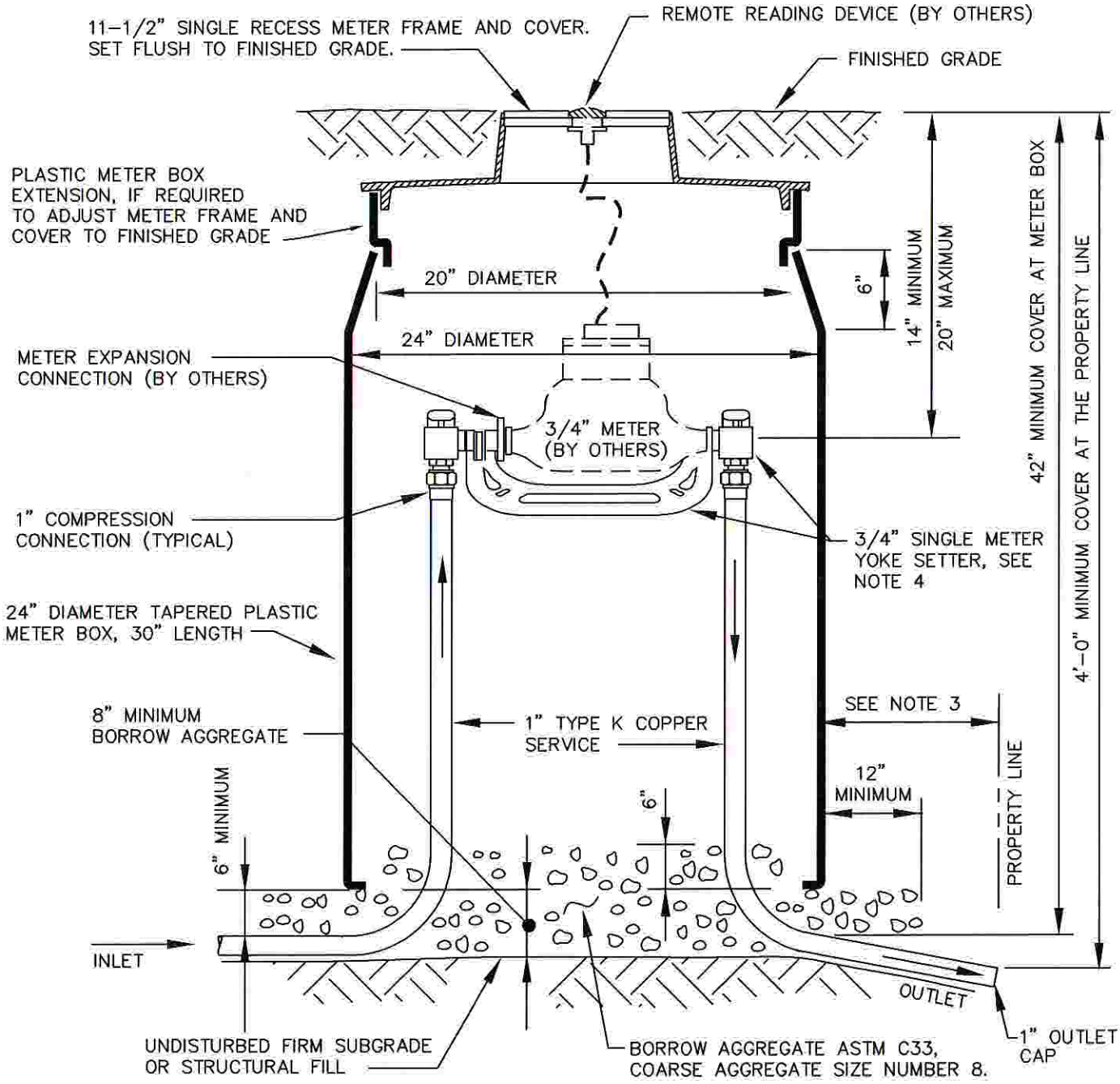



## LIFTING HOLE DETAIL




## VALVE BOX SLAB OPENING

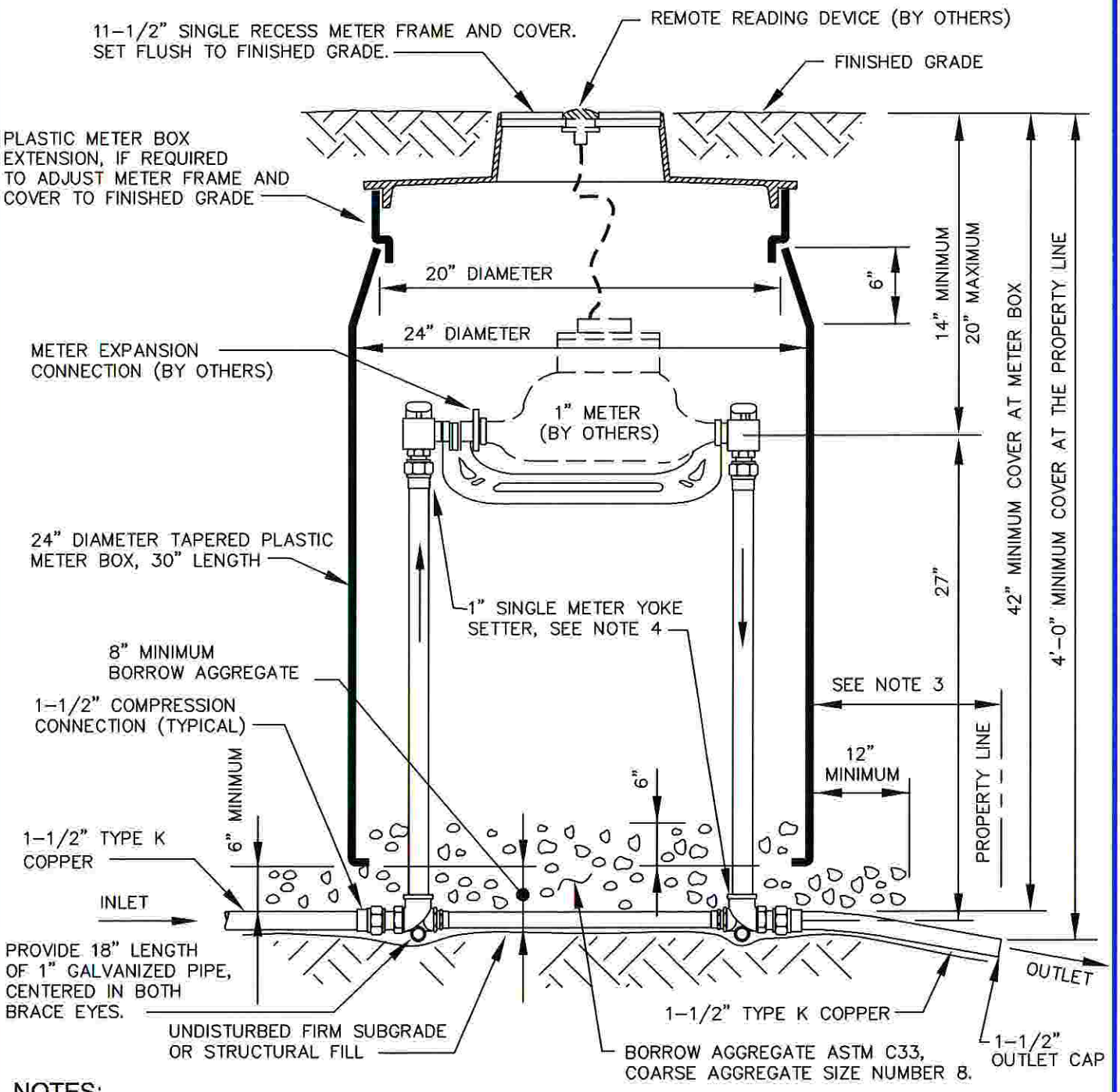
| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: June 12, 2009<br>Chief Engineer | STANDARD DETAIL<br>TOP SLAB DETAILS FOR VAULTS | W<br>5.5 |




## NOTES:

1. METER SETTING FOR NON–TRAFFIC AREAS ONLY, DO NOT LOCATE IN SIDEWALK OR DRIVEWAY, UNLESS OTHERWISE NOTED ON THE DRAWINGS.
2. COMPACT BACKFILL AND AGGREGATE BASE AS STRUCTURAL FILL.
3. EXTEND COPPER SERVICE OUTLET 3'–0" MINIMUM BEYOND METER BOX AS SHOWN OR TO THE PROPERTY LINE, WHICHEVER IS GREATER.
4. 3/4" SINGLE METER YOKE SETTER IS COMPLETE ONE–PIECE FACTORY ASSEMBLED, INCLUDING TWO ANGLE BALL VALVES AND YOKE.

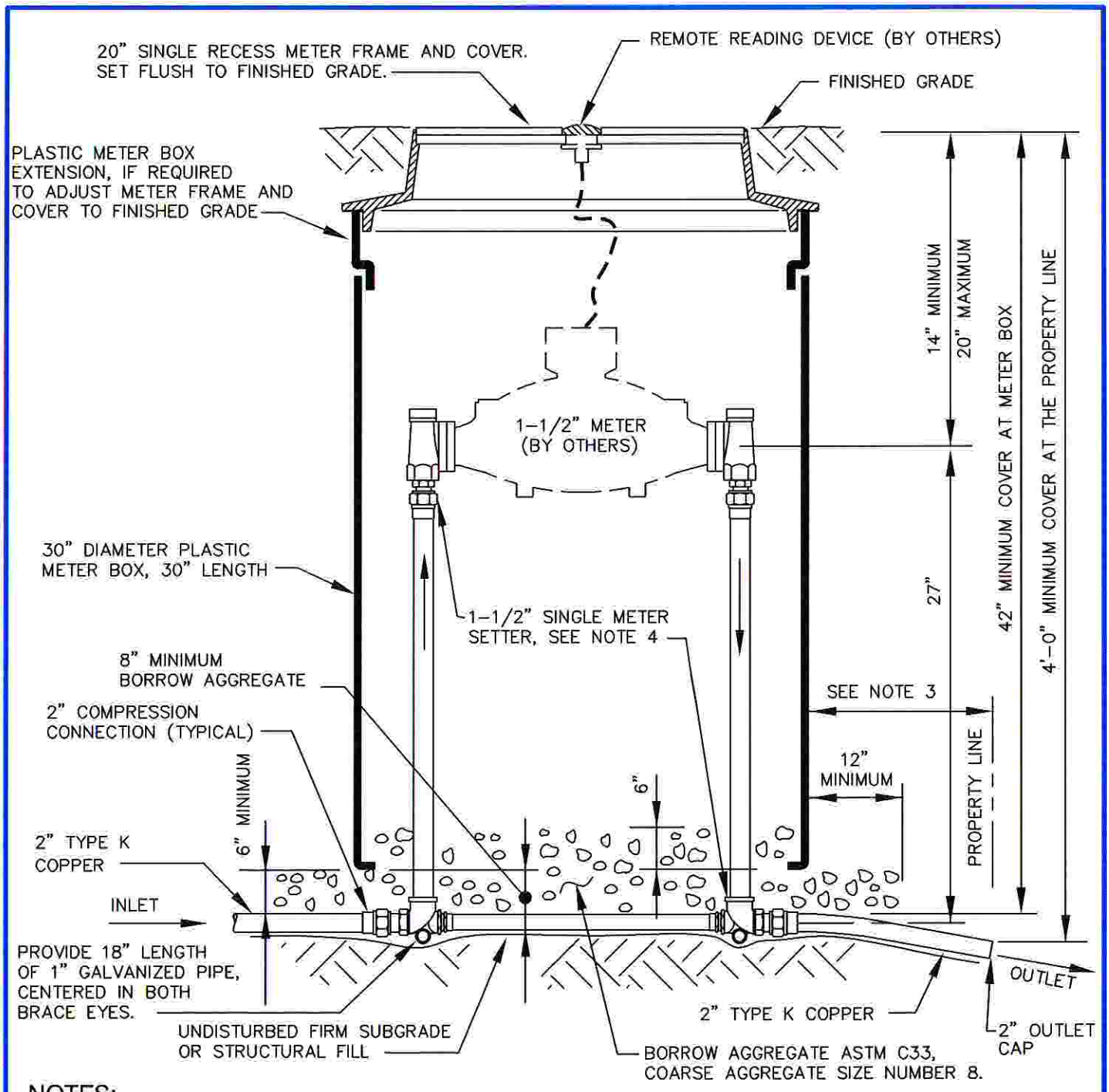
| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>3/4" METER SETTING FOR 1" SERVICE | W<br>5.6 |




## NOTES:

1. METER SETTING FOR NON–TRAFFIC AREAS ONLY, DO NOT LOCATE IN SIDEWALK OR DRIVEWAY, UNLESS OTHERWISE NOTED ON THE DRAWINGS.
2. COMPACT BACKFILL AND AGGREGATE BASE AS STRUCTURAL FILL.
3. EXTEND COPPER SERVICE OUTLET 3'–0" MINIMUM BEYOND METER BOX AS SHOWN OR TO THE PROPERTY LINE, WHICHEVER IS GREATER.
4. 1" SINGLE METER YOKE SETTER IS COMPLETE ONE–PIECE FACTORY ASSEMBLED, INCLUDING TWO ANGLE BALL VALVES, YOKE, BENDS AND COMPRESSION CONNECTIONS.

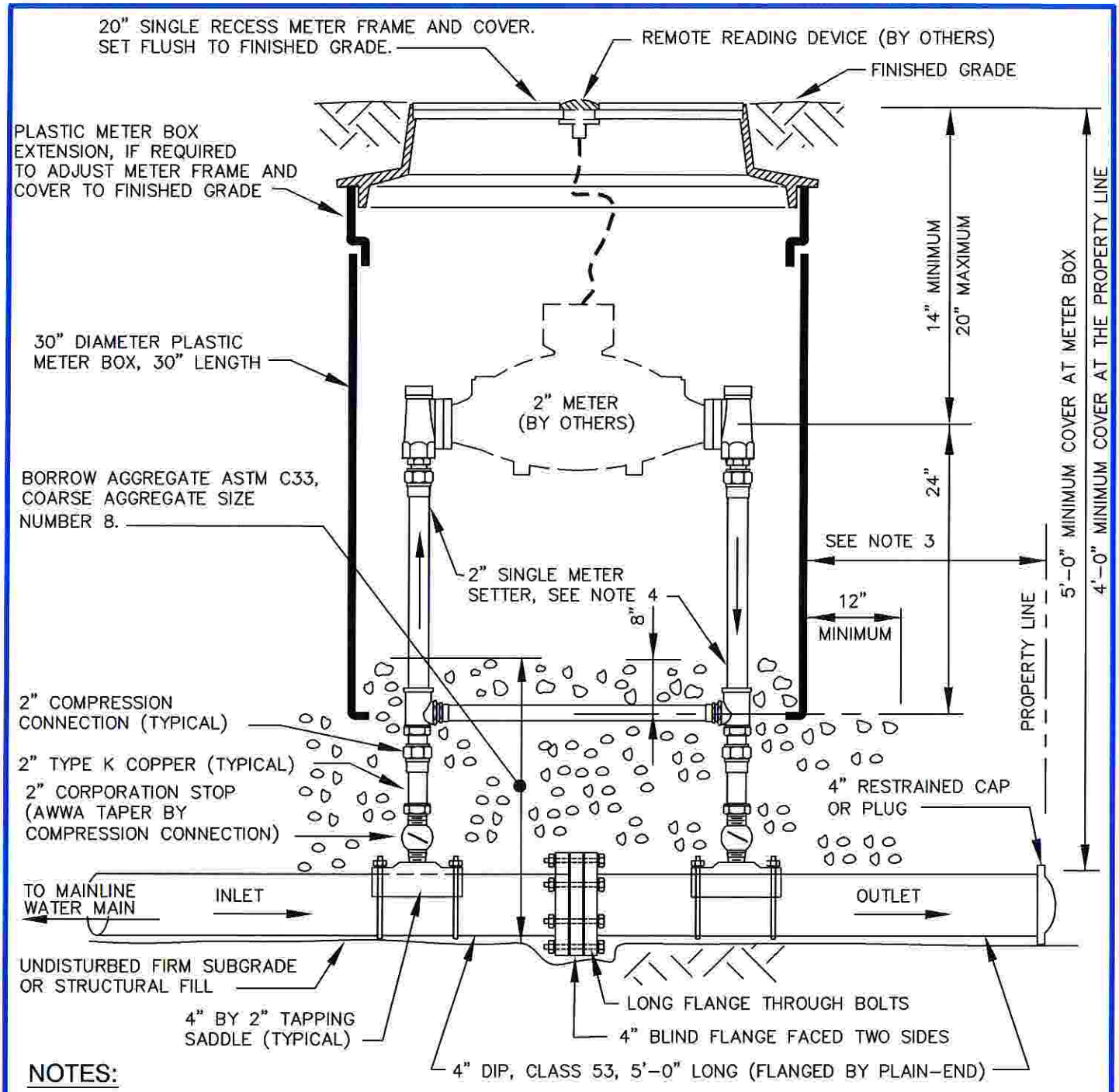
| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>1" METER SETTING FOR 1-1/2" SERVICE | W<br>5.7 |




## NOTES:

1. METER SETTING FOR NON-TRAFFIC AREAS ONLY, DO NOT LOCATE IN SIDEWALK OR DRIVEWAY, UNLESS OTHERWISE NOTED ON THE DRAWINGS.
2. COMPACT BACKFILL AND AGGREGATE BASE AS STRUCTURAL FILL.
3. EXTEND COPPER SERVICE OUTLET 3'-0" MINIMUM BEYOND METER BOX AS SHOWN OR TO THE PROPERTY LINE, WHICHEVER IS GREATER.
4. 1-1/2" SINGLE METER SETTER IS COMPLETE ONE-PIECE FACTORY ASSEMBLED, INCLUDING TWO ANGLE BALL VALVES, BENDS AND COMPRESSION CONNECTIONS.

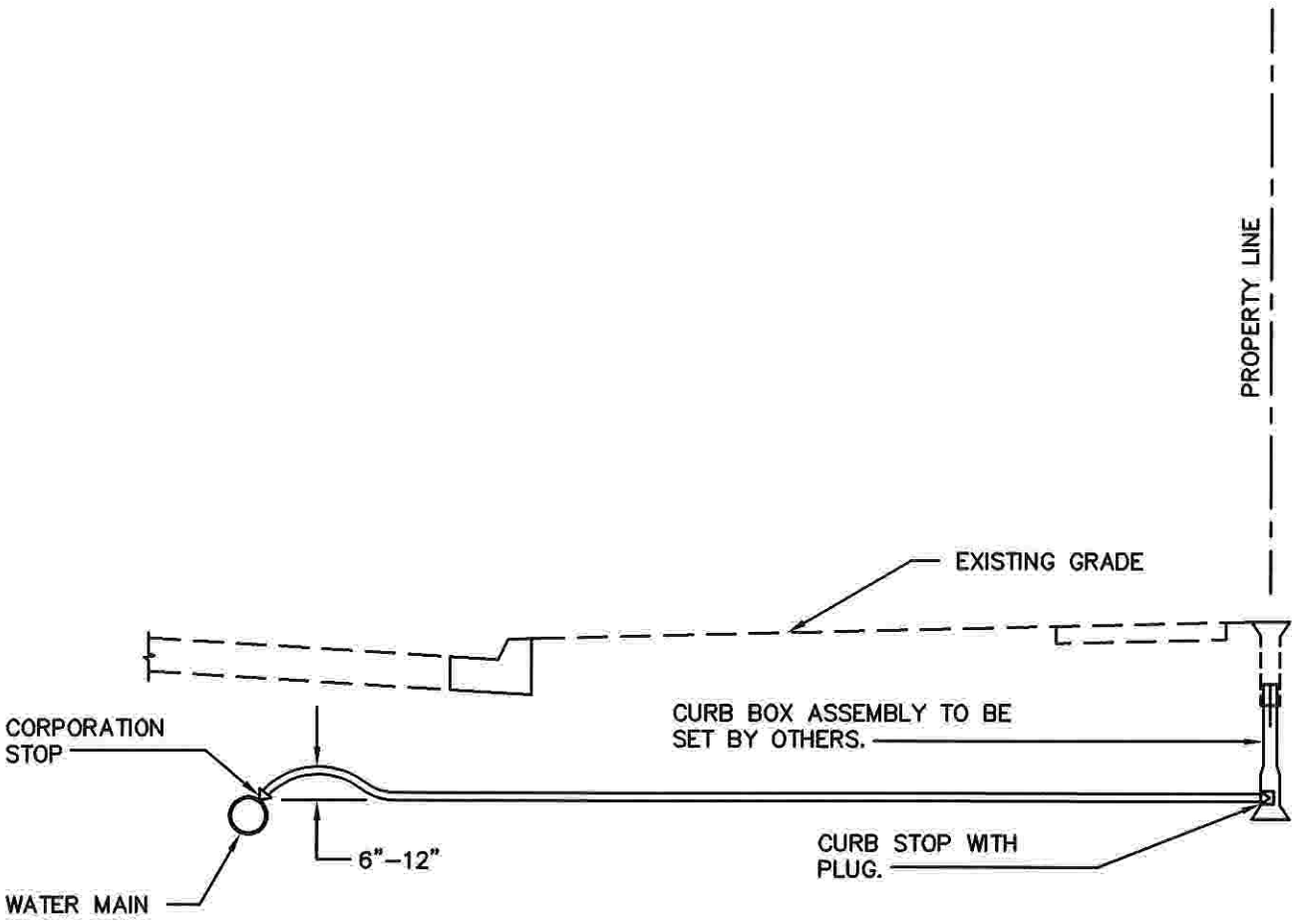
| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>1-1/2" METER SETTING FOR 2" SERVICE | W<br>5.8 |




## NOTES:

1. METER SETTING FOR NON-TRAFFIC AREAS ONLY, DO NOT LOCATE IN SIDEWALK OR DRIVEWAY, UNLESS OTHERWISE NOTED ON THE DRAWINGS.
2. COMPACT BACKFILL AND AGGREGATE BASE AS STRUCTURAL FILL.
3. EXTEND DUCTILE IRON SERVICE OUTLET 3'-0" MINIMUM BEYOND METER BOX AS SHOWN OR TO THE PROPERTY LINE, WHICHEVER IS GREATER.
4. 2" SINGLE METER SETTER IS COMPLETE ONE-PIECE FACTORY ASSEMBLED, INCLUDING TWO ANGLE BALL VALVES, FITTINGS AND COMPRESSION CONNECTIONS.
5. RESTRAIN ALL PIPE JOINTS ON 4" DUCTILE IRON SERVICE, FROM 4" RESTRAINED CAP OR PLUG AT PROPERTY LINE TO MAINLINE WATERMAIN.

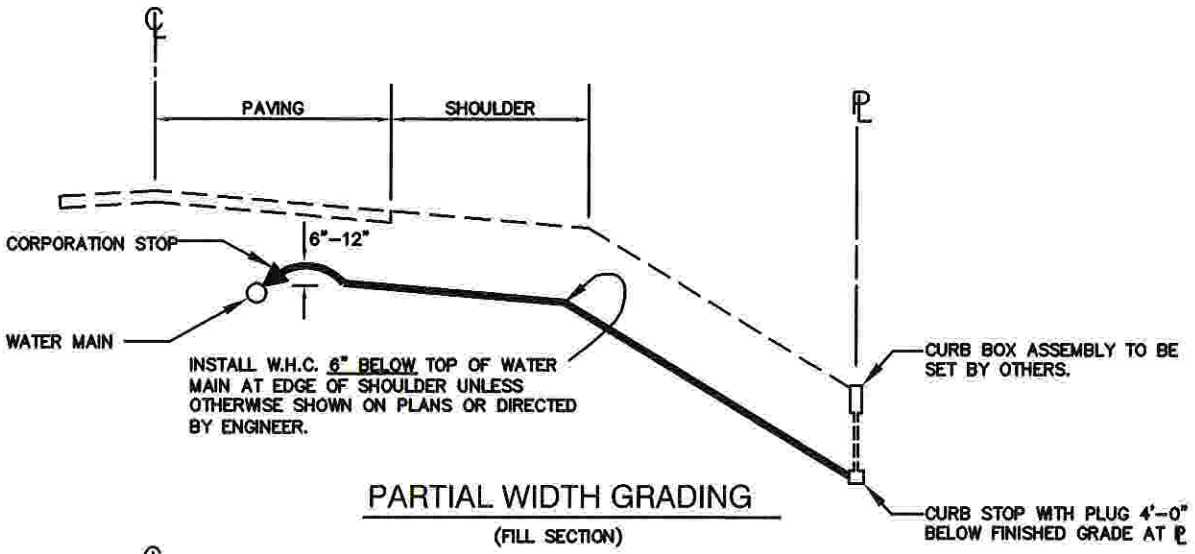
| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>2" METER SETTING FOR 4" SERVICE | W<br>5.9 |




## NOTES:

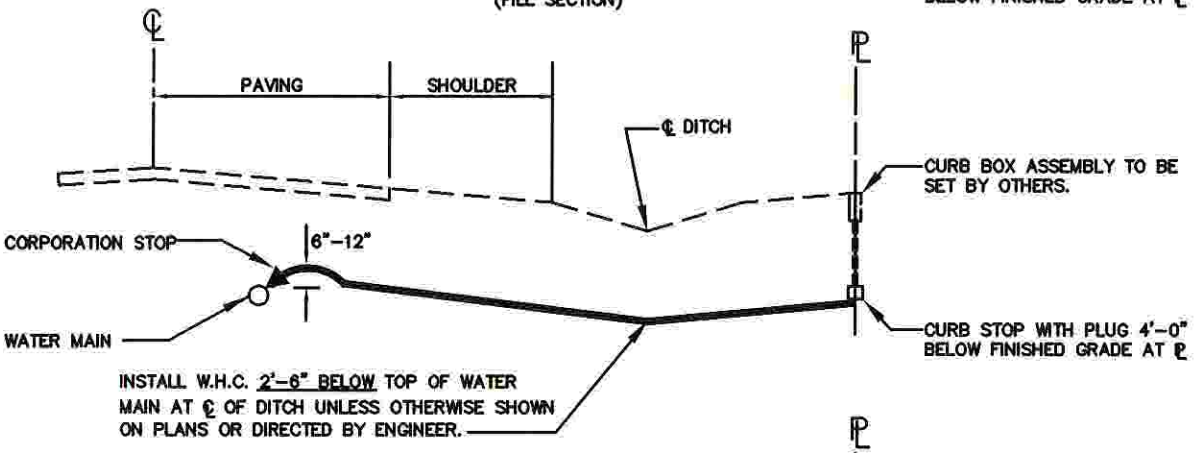
1. INSTALL W.H.C. 3.5 FT MINIMUM BELOW EXISTING GRADE UNLESS OTHERWISE SHOWN OR DIRECTED BY THE ENGINEER.
2. WHEN W.H.C. AND S.H.C. ARE INSTALLED IN THE SAME TRENCH, SEE DETAIL M/18.0.
3. END OF W.H.C. AT PROPERTY LINE SHALL BE 4'–0" BELOW FINISHED GRADE UNLESS OTHERWISE SHOWN OR DIRECTED BY THE ENGINEER.
4. CORPORATION STOP TO BE LEFT OPEN, CURB STOP CLOSED.

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>1", 1-1/2" AND 2" WATER HOUSE CONNECTIONS FOR INSIDE METERS | W<br>5.10 |

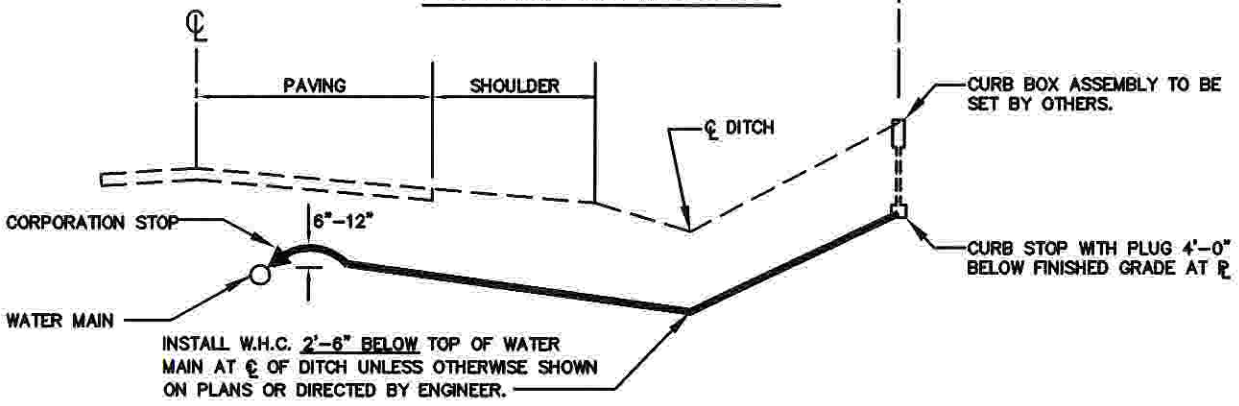



## PARTIAL WIDTH GRADING

(FILL SECTION)




## FULL WIDTH GRADING



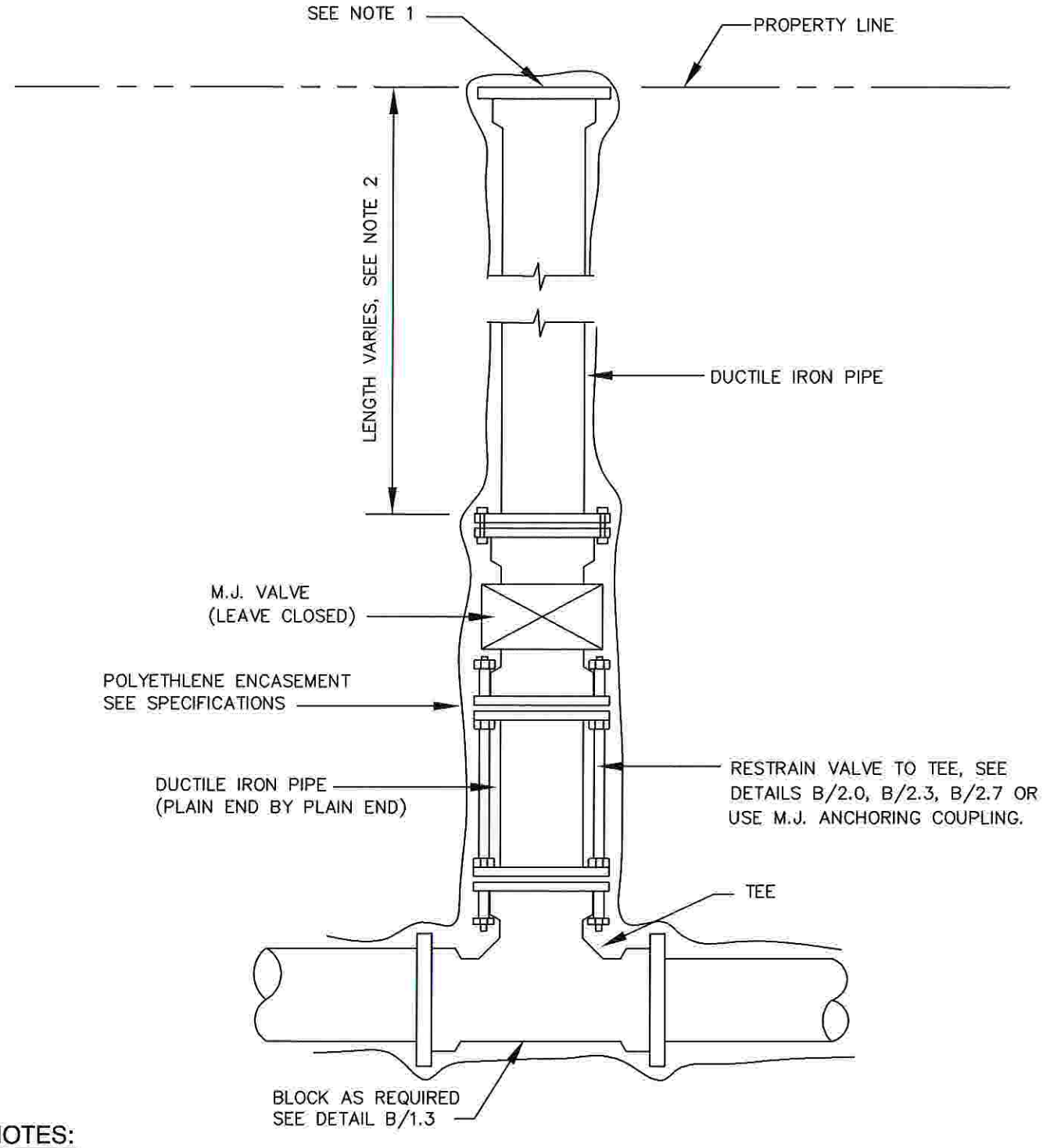

## PARTIAL WIDTH GRADING

(CUT SECTION)

NOTE:

INSTALL W.H.C. 3'–6" MINIMUM BELOW FINISHED GRADE UNLESS OTHERWISE SHOWN ON THE DRAWINGS OR DIRECTED BY THE ENGINEER.

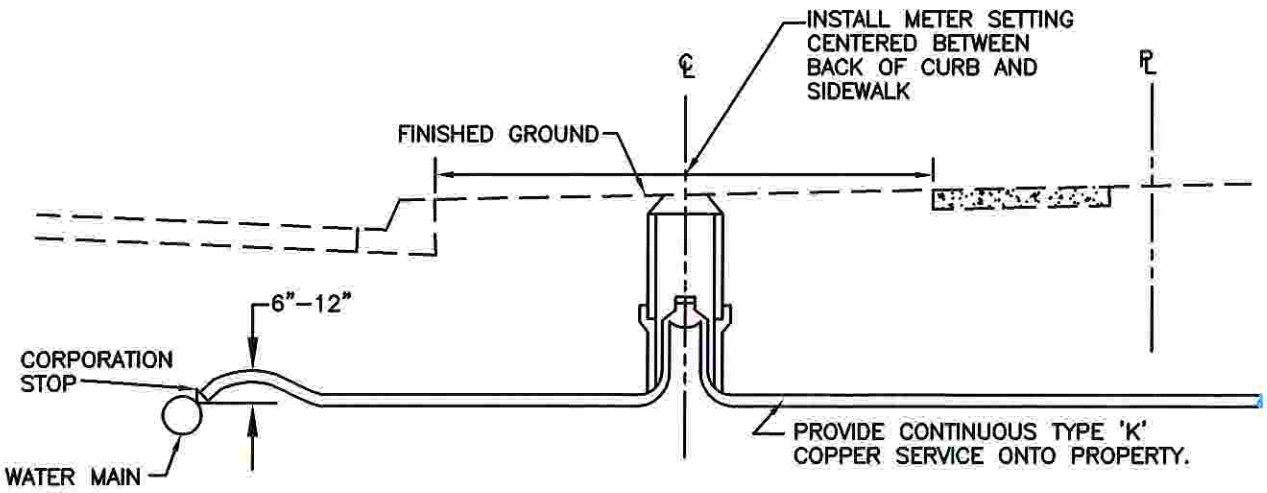
| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>1", 1-1/2" AND 2" WATER HOUSE CONNECTIONS FOR INSIDE METERS RURAL TYPE PAVING SECTION | W<br>5.11 |



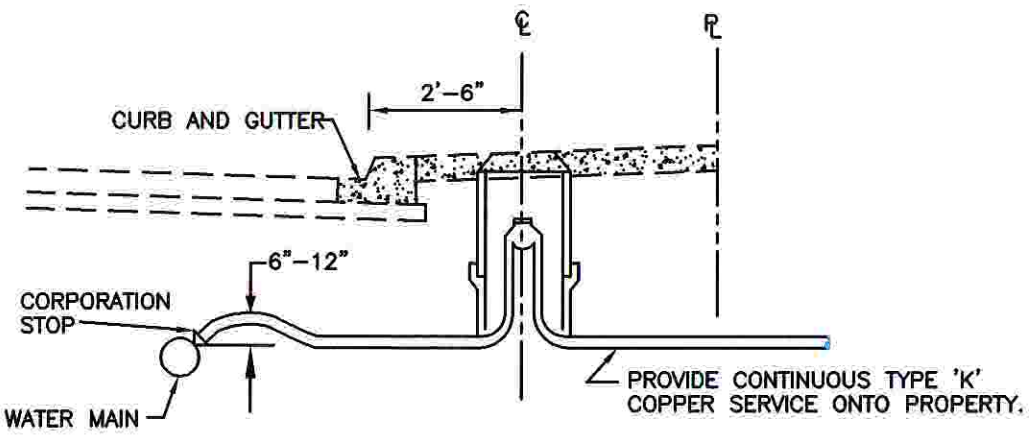

## NOTES:

1. TERMINATE WATER HOUSE CONNECTION FOR INSIDE METER SETTING WITH A CAP OR PLUG AT THE PROPERTY LINE. TERMINATE WATER HOUSE CONNECTION FOR 2" OUTSIDE METER SETTING IN ACCORDANCE WITH STANDARD DETAIL W/5.9.
2. FOR BLOCKING AND THRUST RESTRAINT, SEE DRAWINGS.
3. LAY SERVICE LEVEL UNLESS OTHERWISE NOTED ON THE DRAWINGS.

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>3" THRU 12" DUCTILE IRON WATER HOUSE CONNECTION | W<br>5.12 |




PROFILE - GRASS AREA BEHIND CURB



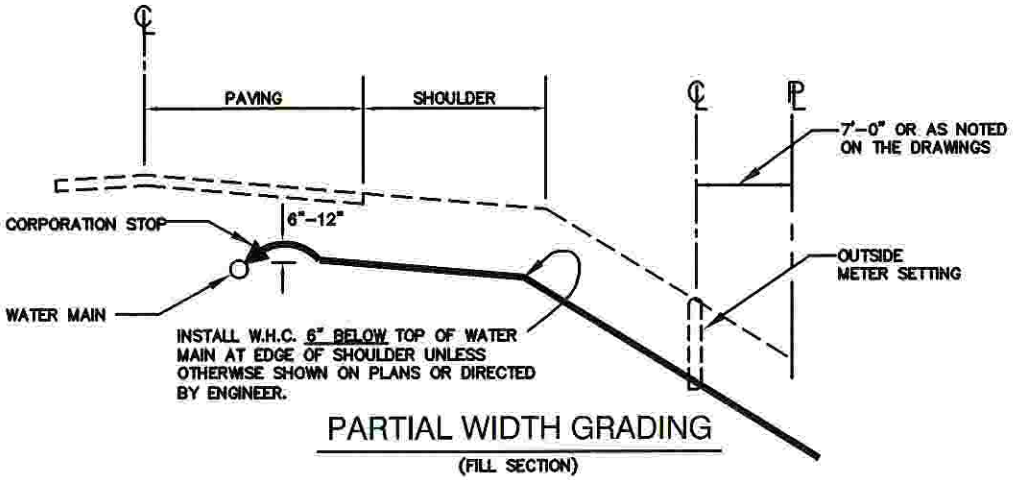

PROFILE - SIDEWALK BEHIND CURB

NOTES:

1. INSTALL W.H.C. LEVEL WITH TOP OF MAIN TO METER SETTING, A MINIMUM OF 3'–6" BELOW FINISHED GRADE, UNLESS OTHERWISE NOTED ON THE DRAWINGS.
2. WHEN W.H.C. AND S.H.C. ARE INSTALLED IN THE SAME TRENCH, SEE DETAIL M/18.0.
3. W.H.C. AT PROPERTY LINE SHALL BE 4'–0" BELOW FINISHED GRADE.
4. AN APPROVED BENDING TOOL IS REQUIRED FOR MAKING BENDS IN ALL SIZES OF TYPE 'K' COPPER PIPE.

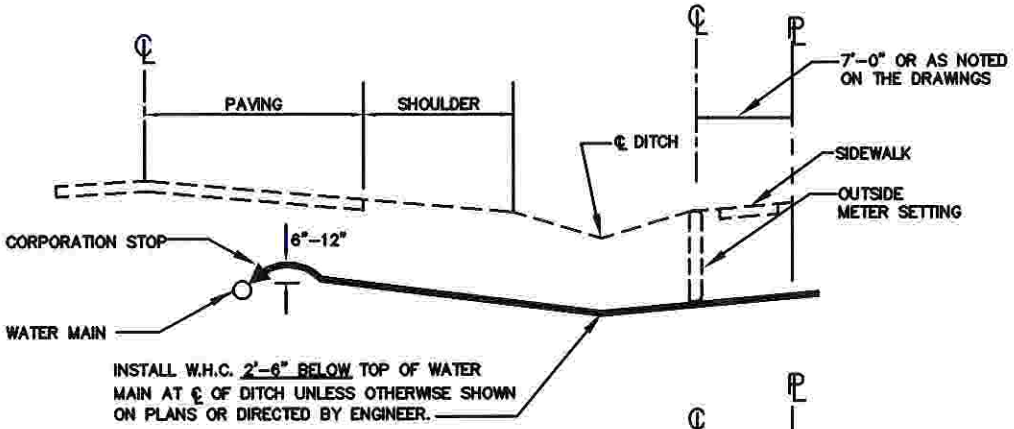
| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>LOCATION OF OUTSIDE METERS FOR 1", 1 1/2" & 2" WATER HOUSE CONNECTIONS CLOSED PAVING SECTION | W<br>5.13 |

W513

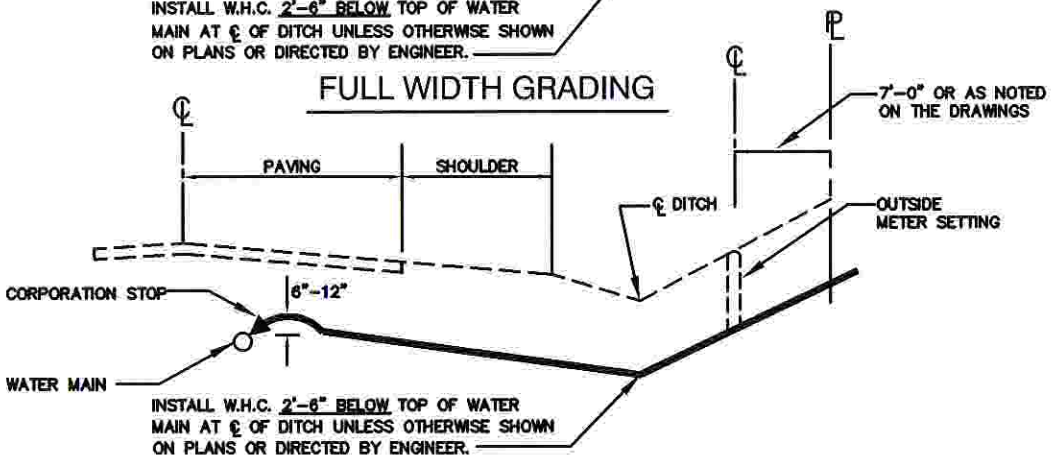



## PARTIAL WIDTH GRADING

(FILL SECTION)




## FULL WIDTH GRADING



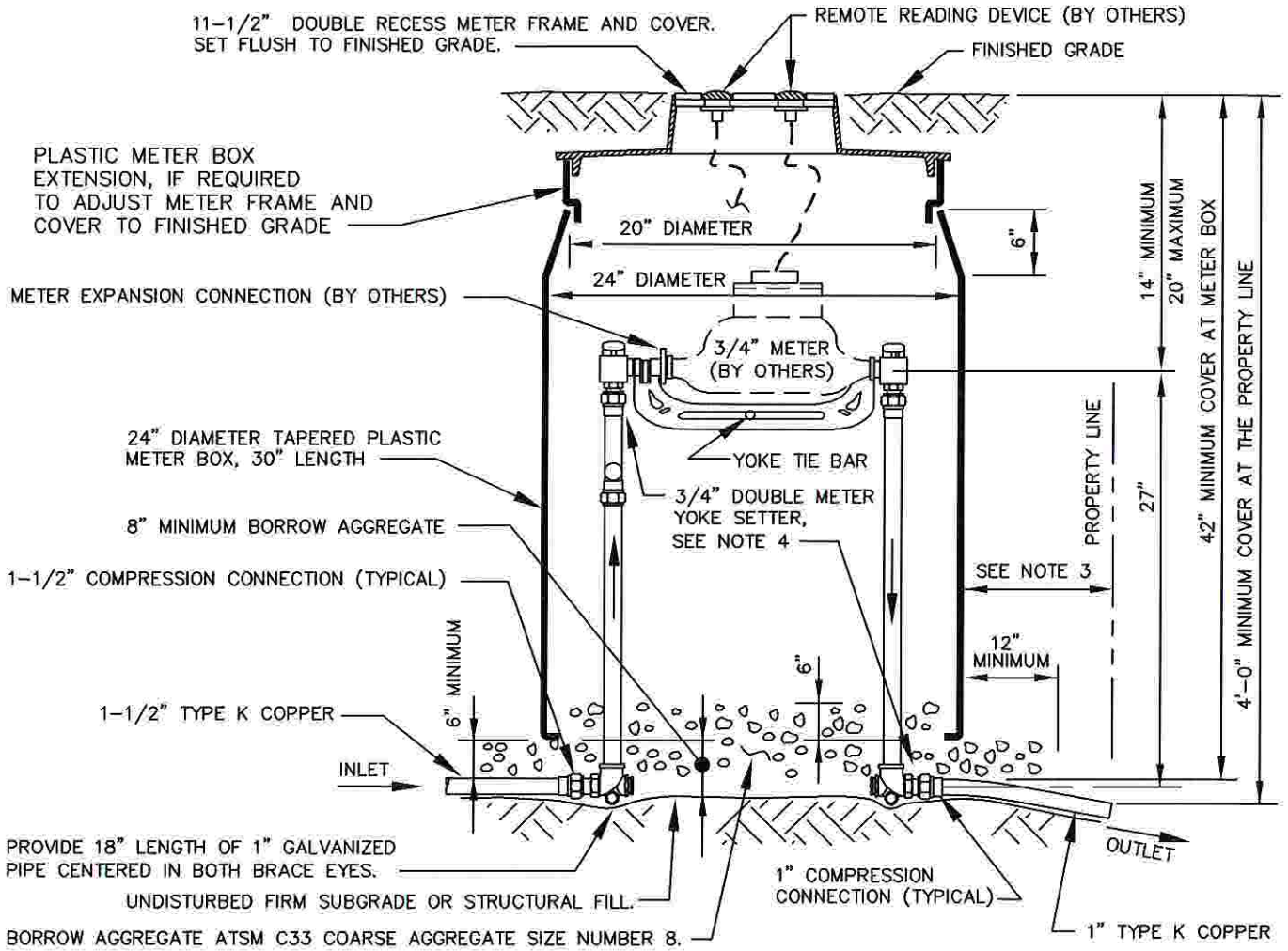

## PARTIAL WIDTH GRADING

(CUT SECTION)

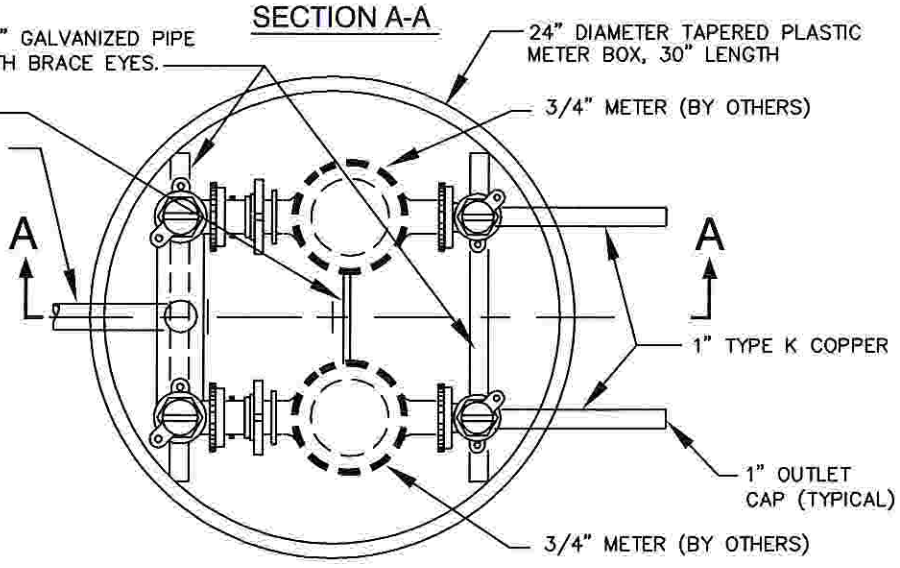
NOTE:

1. INSTALL W.H.C. LEVEL WITH TOP OF MAIN TO METER SETTING, A MINIMUM OF 3'-6" BELOW FINISHED GRADE, UNLESS OTHERWISE NOTED ON THE DRAWING.
2. WHEN W.H.C. AND S.H.C. ARE INSTALLED IN THE SAME TRENCH, SEE DETAIL M/18.0.
3. AN APPROVED BENDING TOOL IS REQUIRED FOR MAKING BENDS IN ALL SIZES OF TYPE 'K' COPPER PIPE.
4. PROVIDE CONTINUOUS TYPE 'K' COPPER SERVICE ONTO PROPERTY.

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>1", 1-1/2" AND 2" WATER HOUSE CONNECTIONS AND OUTSIDE METER LOCATIONS RURAL PAVING SECTIONS | W<br>5.14 |




## SECTION A-A



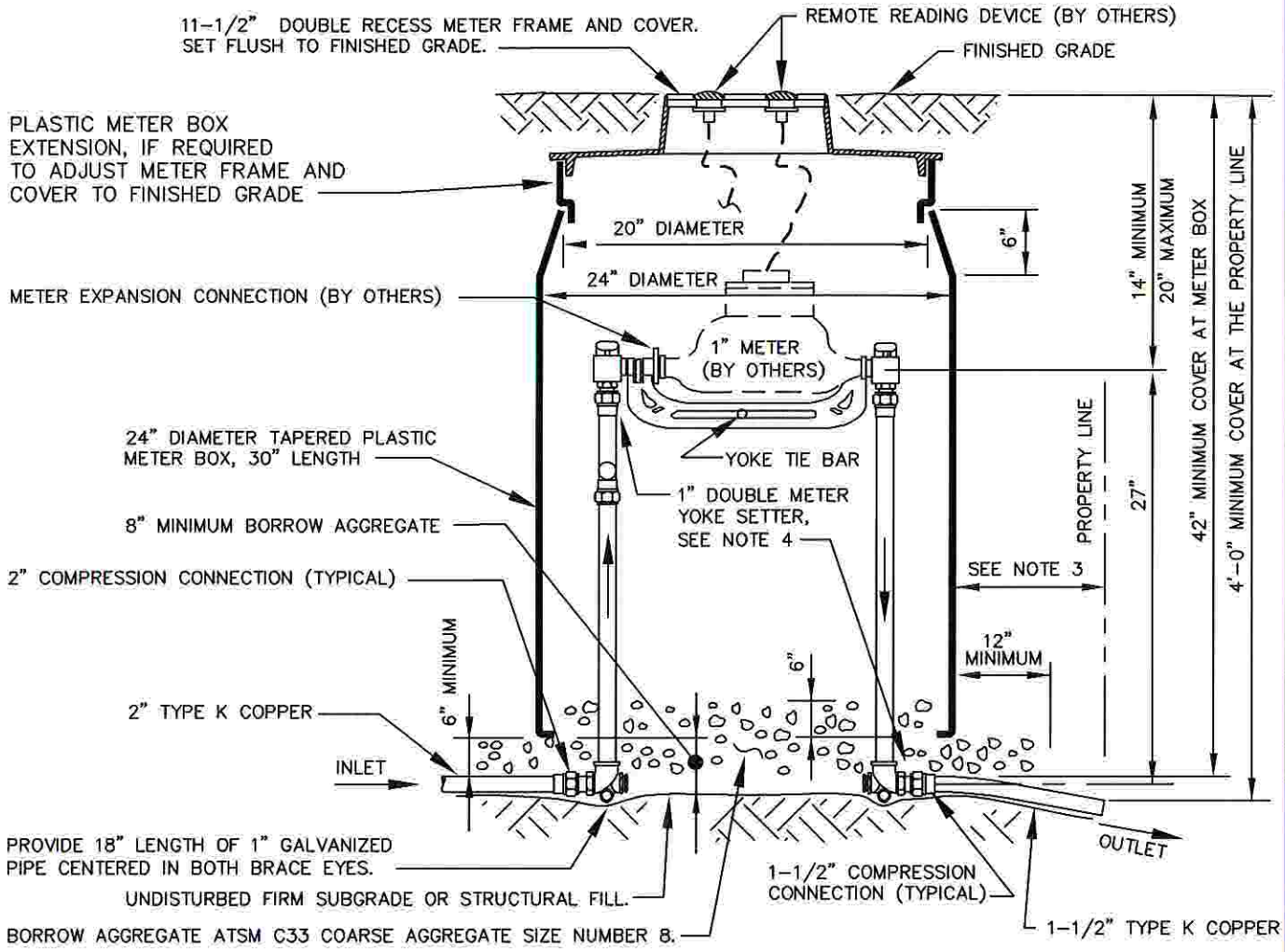

## PLAN

## NOTES:

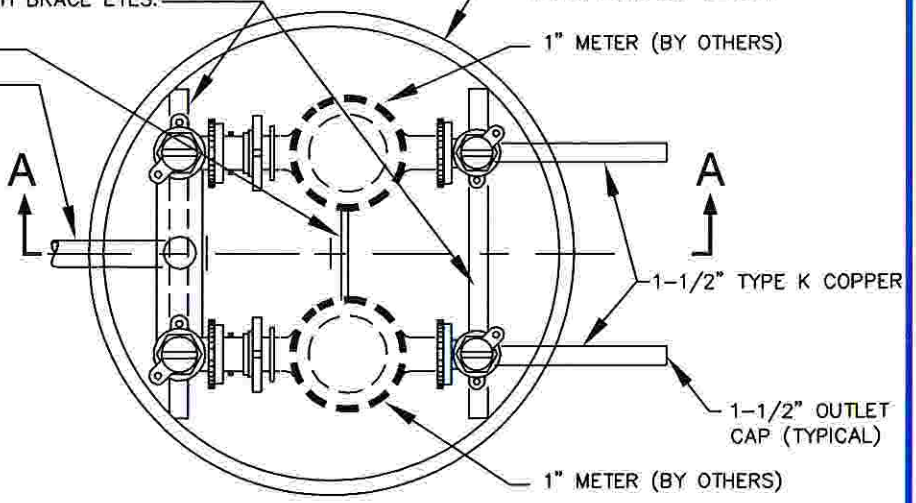
1. METER SETTING FOR NON-TRAFFIC AREAS ONLY, DO NOT LOCATE IN SIDEWALK OR DRIVEWAY, UNLESS OTHERWISE NOTED ON THE DRAWINGS.
2. COMPACT BACKFILL AND AGGREGATE BASE AS STRUCTURAL FILL.
3. EXTEND COPPER SERVICE OUTLET 3'-0" MINIMUM BEYOND METER BOX AS SHOWN OR TO THE PROPERTY LINE, WHICHEVER IS GREATER.
4. 3/4" DOUBLE METER YOKE SETTER IS COMPLETE ONE-PIECE FACTORY ASSEMBLED, INCLUDING FOUR YOKE ANGLE BALL VALVES, BENDS, TWO YOKES AND COMPRESSION COUPLINGS.

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>DOUBLE 3/4" METER SETTING | W<br>5.15 |

W515




## SECTION A-A




## PLAN

## NOTES:

1. METER SETTING FOR NON-TRAFFIC AREAS ONLY, DO NOT LOCATE IN SIDEWALK OR DRIVEWAY, UNLESS OTHERWISE NOTED ON THE DRAWINGS.
2. COMPACT BACKFILL AND AGGREGATE BASE AS STRUCTURAL FILL.
3. EXTEND COPPER SERVICE OUTLET 3'-0" MINIMUM BEYOND METER BOX AS SHOWN OR TO THE PROPERTY LINE, WHICHEVER IS GREATER.
4. 1" DOUBLE METER YOKE SETTER IS COMPLETE ONE-PIECE FACTORY ASSEMBLED, INCLUDING FOUR YOKE ANGLE BALL VALVES, BENDS, TWO YOKES AND COMPRESSION COUPLINGS.

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>DOUBLE 1" METER SETTING | W<br>5.15a |

W515a

| PIPE SIZE IN INCHES | CLASS OF PIPE | MAX. DEPTH TO INVERT |
|---|---|---|
| 3 | 51 | 98' |
| 4 | 51 | 76' |
| 6 | 51 | 49.5' |
| | 52 | 67.5' |
| 8 | 50 | 26' |
| | 51 | 37' |
| | 52 | 48' |
| 10 | 50 | 20' |
| | 51 | 28' |
| | 52 | 36' |
| 12 | 50 | 18' |
| | 51 | 24' |
| | 52 | 31' |
| | 53 | 37' |
| | 54 | 46' |
| 14 | 50 | 16' |
| | 51 | 20' |
| | 52 | 25' |
| | 53 | 31' |
| | 54 | 37' |
| 16 | 50 | 14' |
| | 51 | 17' |
| | 52 | 21' |
| | 53 | 26' |
| | 54 | 31' |
| | 55 | 36' |
| 20 | 50 | 12' |
| | 51 | 15' |
| | 52 | 18' |
| | 53 | 21' |
| | 54 | 24' |
| | 55 | 28' |
| | 56 | 32' |
| 24 | 50 | 10' |
| | 51 | 12' |
| | 52 | 15' |
| | 53 | 17' |

| PIPE SIZE IN INCHES | CLASS OF PIPE | MAX. DEPTH TO INVERT |
|---|---|---|
| 24 | 54 | 20' |
| | 55 | 22' |
| | 56 | 26' |
| 30 | 50 | 16.5' |
| | 51 | 18.5' |
| | 52 | 21.5' |
| | 53 | 23.5' |
| | 54 | 26.5' |
| | 55 | 29.5' |
| | 56 | 33.5' |
| 36 | 50 | 16' |
| | 51 | 19' |
| | 52 | 22' |
| | 53 | 24' |
| | 54 | 28' |
| | 55 | 31' |
| | 56 | 34' |
| 42 | 50 | 16.5' |
| | 51 | 18.5' |
| | 52 | 21.5' |
| | 53 | 25.5' |
| | 54 | 27.5' |
| | 55 | 31.5' |
| | 56 | 34.5' |
| 48 | 50 | 16' |
| | 51 | 18' |
| | 52 | 22' |
| | 53 | 25' |
| | 54 | 28' |
| | 55 | 32' |
| | 56 | 35' |
| 54 | 50 | 16.5' |
| | 51 | 18.5' |
| | 52 | 21.5' |
| | 53 | 25.5' |
| | 54 | 29.5' |
| | 55 | 32.5' |
| | 56 | 36.5' |

CRITERIA:

DESIGN PROCEDURE SAME AS ANSI A21.50 (AWWA C150).

WASHINGTON SUBURBAN SANITARY COMMISSION

APPROVED: JULY 1, 2005

Chief Engineer

STANDARD DETAIL

DUCTILE IRON PIPE LOAD CHART

W 6.0

W60

| 12–INCH AND SMALLER PIPE | | |
|---|---|---|
| | PVC AWWA C900 DIMENSION RATIO (DR) | |
| | DR 18 | DR 14 |
| MAXIMUM COVER OVER PIPE USING GENERAL TRENCH BACKFILL | 10' | 25' |
| MAXIMUM COVER OVER PIPE USING BORROW AGGREGRATE MATERIAL (AS NOTED ON THE DRAWINGS) | 22' | 40' |

| LARGER THAN 12–INCH PIPE | | |
|---|---|---|
| | PVC AWWA C905 DIMENSION RATIO (DR) | |
| | DR 18 | DR 14 |
| MAXIMUM COVER OVER PIPE USING GENERAL TRENCH BACKFILL | 10' | NOT AVAILABLE |
| MAXIMUM COVER OVER PIPE USING BORROW AGGREGRATE MATERIAL (AS NOTED ON THE DRAWINGS) | 22' | NOT AVAILABLE |

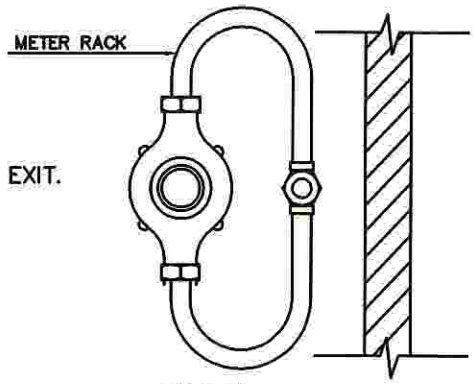
NOTE

1. FOR ADDITIONAL INFORMATION, SEE DETAIL M/8.1a AND SPECIFICATIONS.

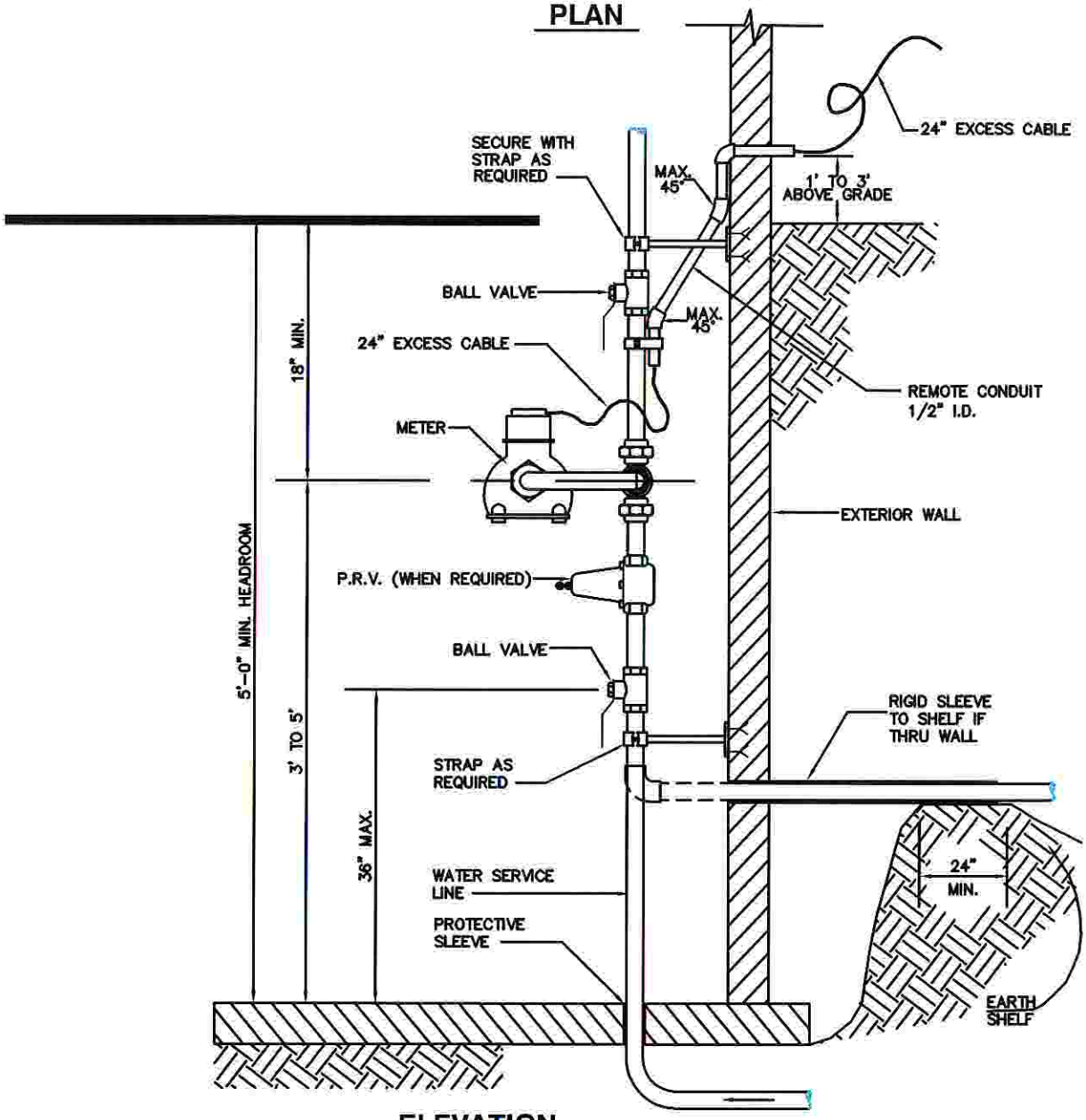
| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>POLYVINYL CHLORIDE (PVC) PIPE (AWWA C900/905) LOAD CHART | W<br>6.1 |

NOTES:

1. METER TO BE SET HORIZONTALLY.
2. BENDS IN REMOTE READER CONDUIT NO GREATER THAN 45° EXCEPT 90° PERMITTED AT EXIT.
3. REMOTE READER CABLE SUPPLIED BY OTHERS.
4. SECURE METER RACK ABOVE AND BELOW TO PREVENT STRAIN ON PIPING.




PLAN




ELEVATION

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>INSIDE WATER METER SETTING 1" AND SMALLER | W<br>7.1 |

WASHINGTON SUBURBAN SANITARY COMMISSION

APPROVED: JULY 1, 2005

Chief Engineer

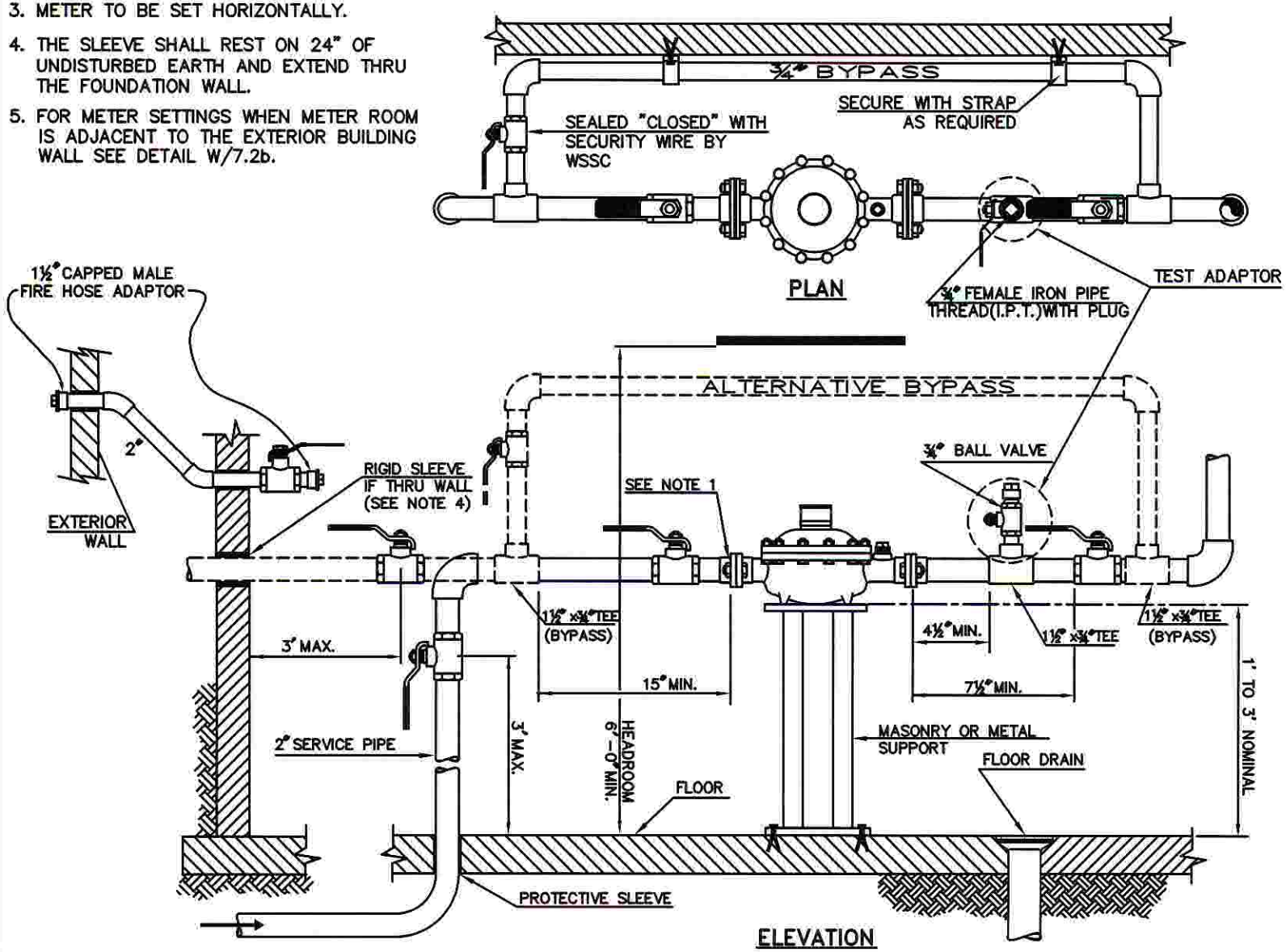
STANDARD DETAIL

# INSIDE WATER METER SETTING 1-1/2"

W / 7.2a

## NOTE:

1. FLANGE BOLTS SHALL BE READILY ACCESSIBLE.
2. ALL VALVES SHALL BE BALL TYPE.
3. METER TO BE SET HORIZONTALLY.
4. THE SLEEVE SHALL REST ON 24" OF UNDISTURBED EARTH AND EXTEND THRU THE FOUNDATION WALL.
5. FOR METER SETTINGS WHEN METER ROOM IS ADJACENT TO THE EXTERIOR BUILDING WALL SEE DETAIL W/7.2b.




W72a

WASHINGTON SUBURBAN SANITARY COMMISSION

APPROVED: JULY 1, 2005

Chief Engineer

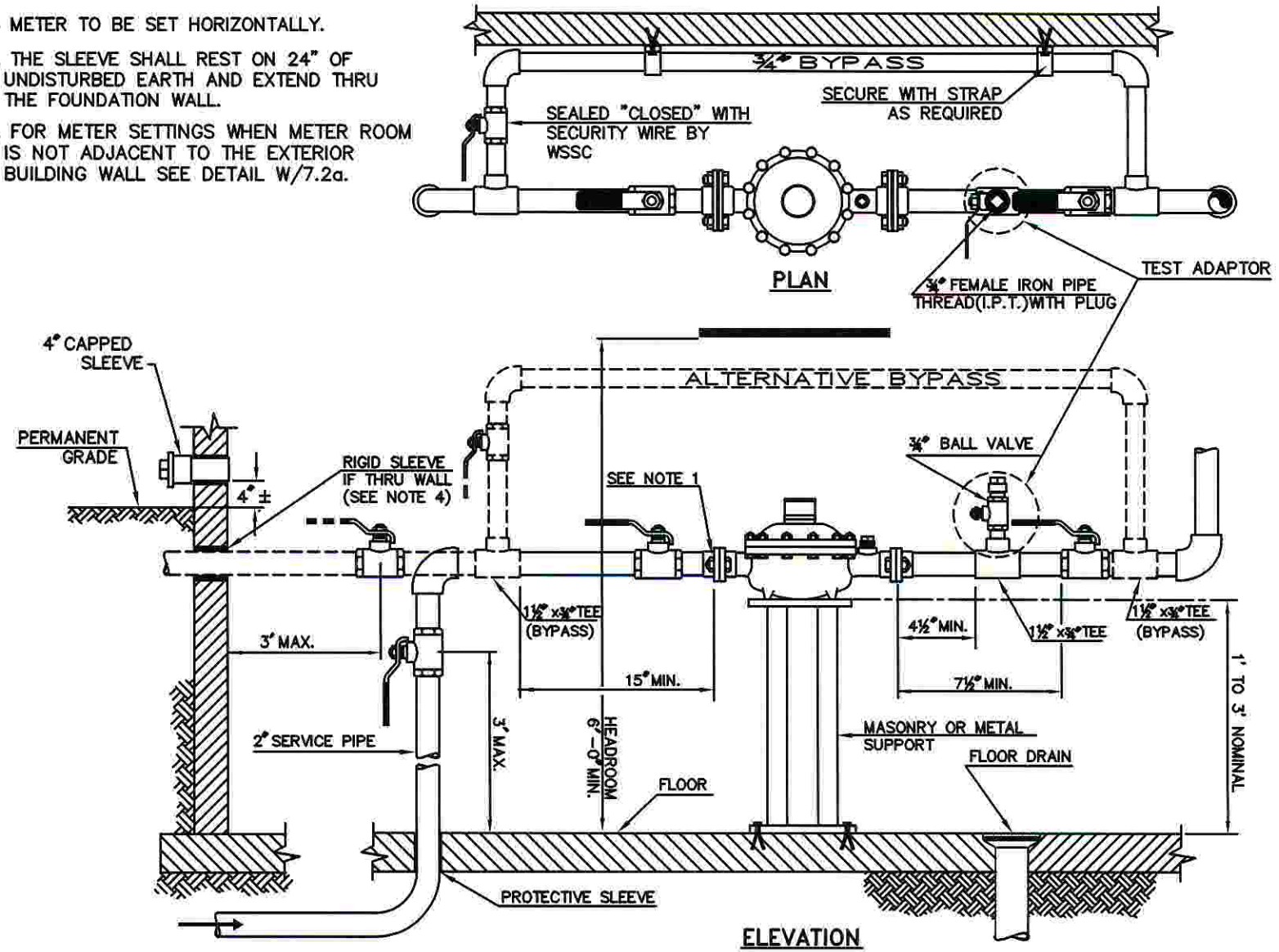
STANDARD DETAIL

# INSIDE WATER METER SETTING 1-1/2"

W 7.2b

## NOTE:

1. FLANGE BOLTS SHALL BE READILY ACCESSIBLE.
2. ALL VALVES SHALL BE BALL TYPE.
3. METER TO BE SET HORIZONTALLY.
4. THE SLEEVE SHALL REST ON 24" OF UNDISTURBED EARTH AND EXTEND THRU THE FOUNDATION WALL.
5. FOR METER SETTINGS WHEN METER ROOM IS NOT ADJACENT TO THE EXTERIOR BUILDING WALL SEE DETAIL W/7.2a.




W72b

WASHINGTON SUBURBAN SANITARY COMMISSION

APPROVED: JULY 1, 2005

Chief Engineer

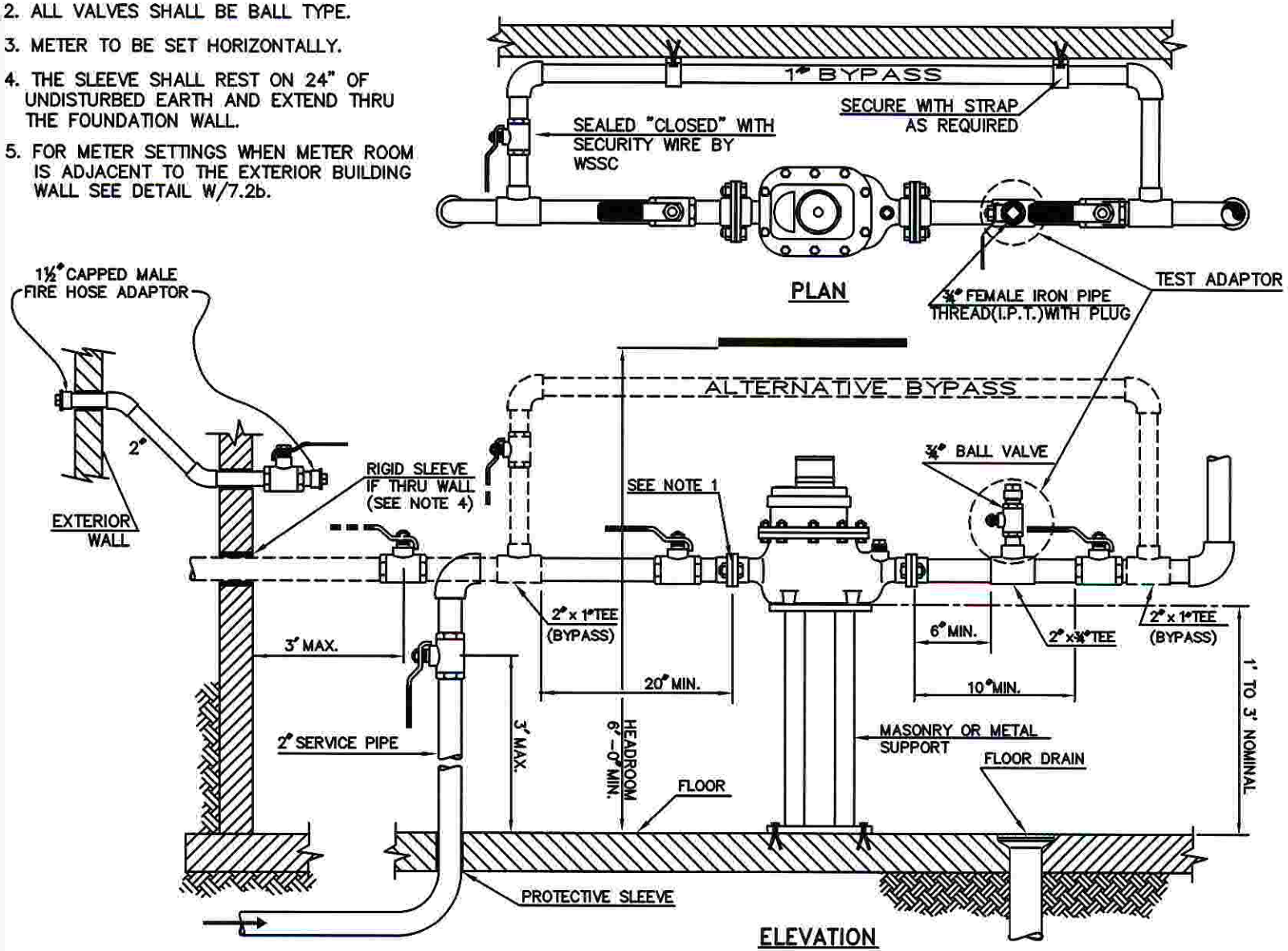
STANDARD DETAIL

# INSIDE WATER METER SETTING 2"

W / 7.3a

## NOTE:

1. FLANGE BOLTS SHALL BE READILY ACCESSIBLE.
2. ALL VALVES SHALL BE BALL TYPE.
3. METER TO BE SET HORIZONTALLY.
4. THE SLEEVE SHALL REST ON 24" OF UNDISTURBED EARTH AND EXTEND THRU THE FOUNDATION WALL.
5. FOR METER SETTINGS WHEN METER ROOM IS ADJACENT TO THE EXTERIOR BUILDING WALL SEE DETAIL W/7.2b.




W73a

WASHINGTON SUBURBAN SANITARY COMMISSION

APPROVED: JULY 1, 2005

Chief Engineer

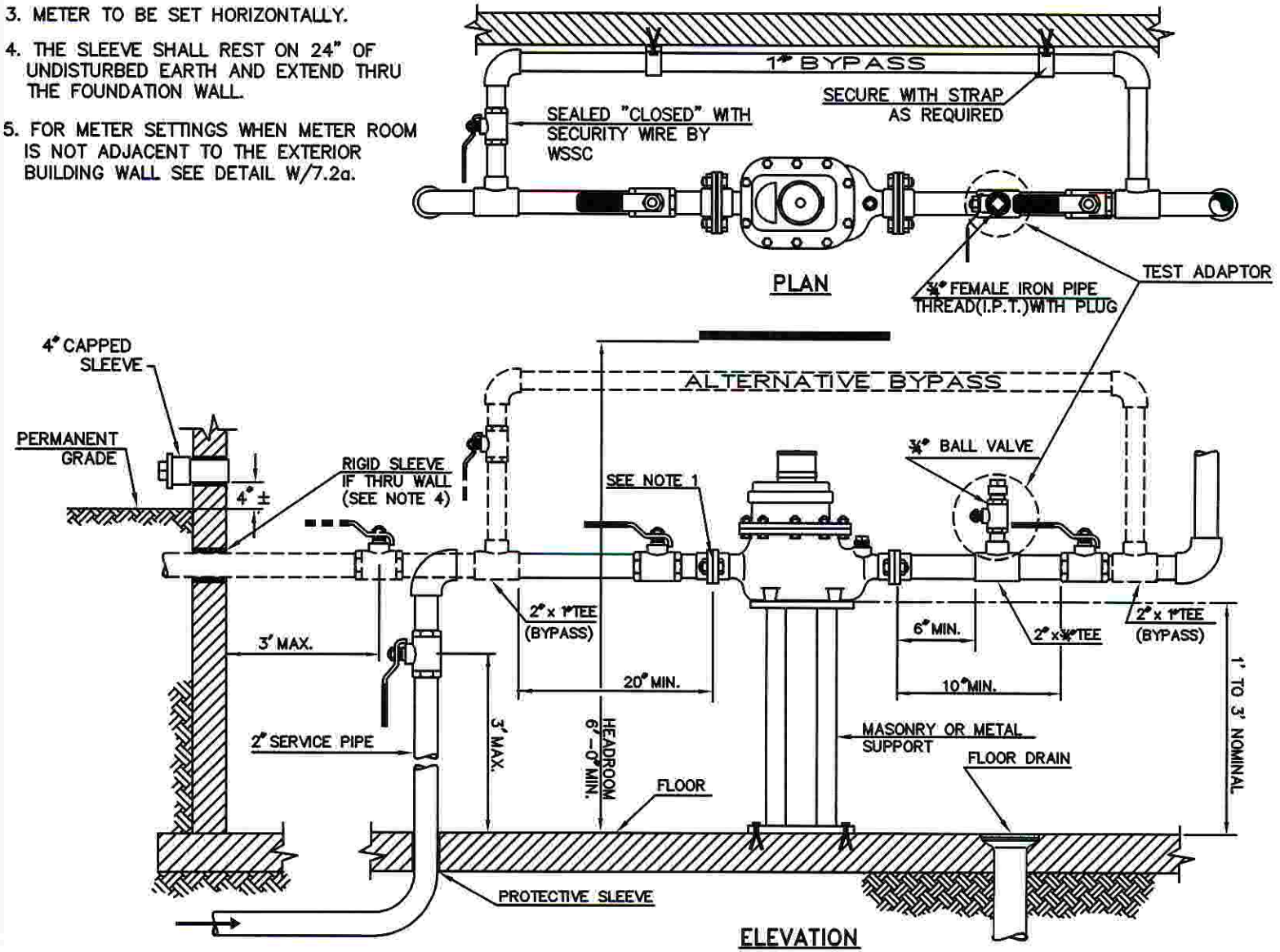
STANDARD DETAIL

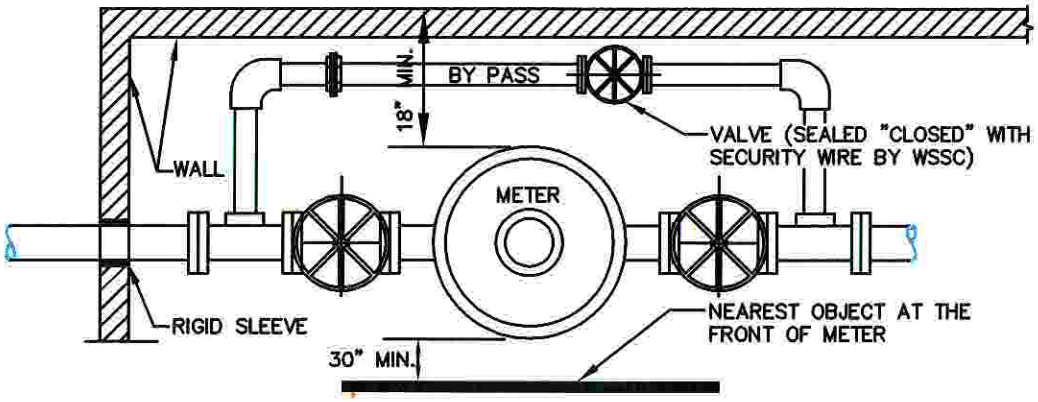
# INSIDE WATER METER SETTING 2"

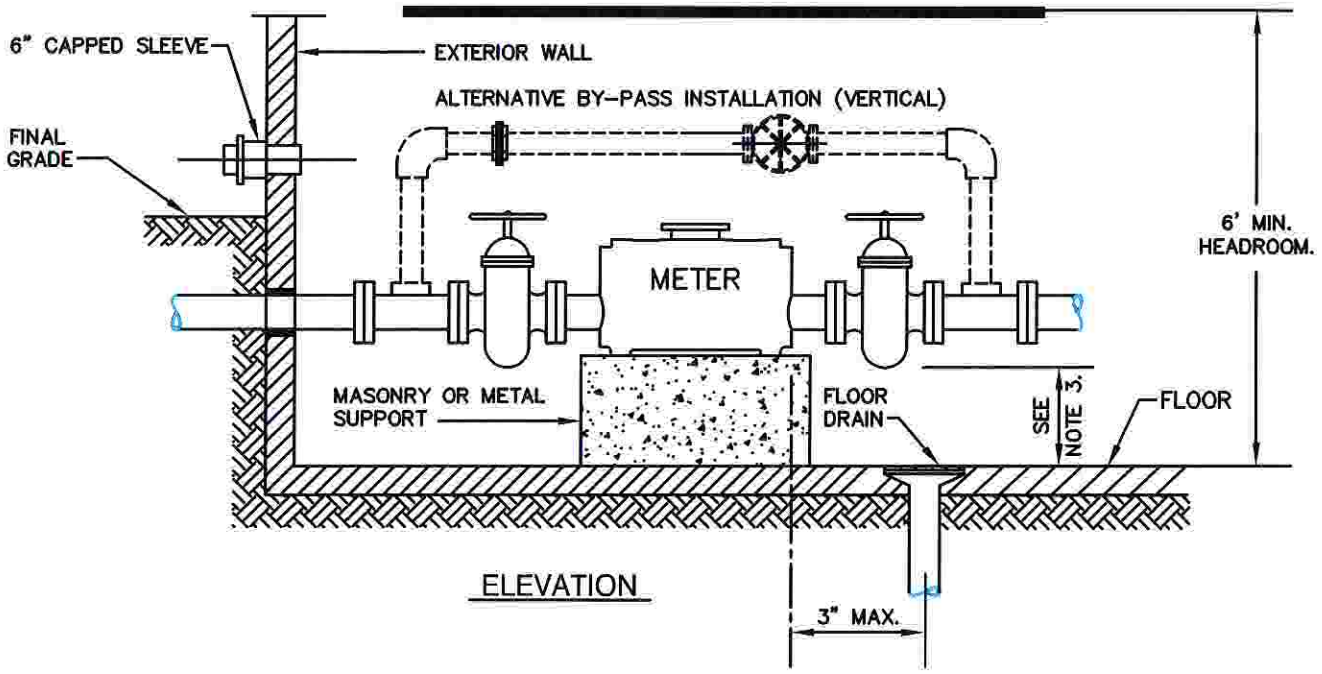
W 7.3b

## NOTE:

1. FLANGE BOLTS SHALL BE READILY ACCESSIBLE.
2. ALL VALVES SHALL BE BALL TYPE.
3. METER TO BE SET HORIZONTALLY.
4. THE SLEEVE SHALL REST ON 24" OF UNDISTURBED EARTH AND EXTEND THRU THE FOUNDATION WALL.
5. FOR METER SETTINGS WHEN METER ROOM IS NOT ADJACENT TO THE EXTERIOR BUILDING WALL SEE DETAIL W/7.2a.



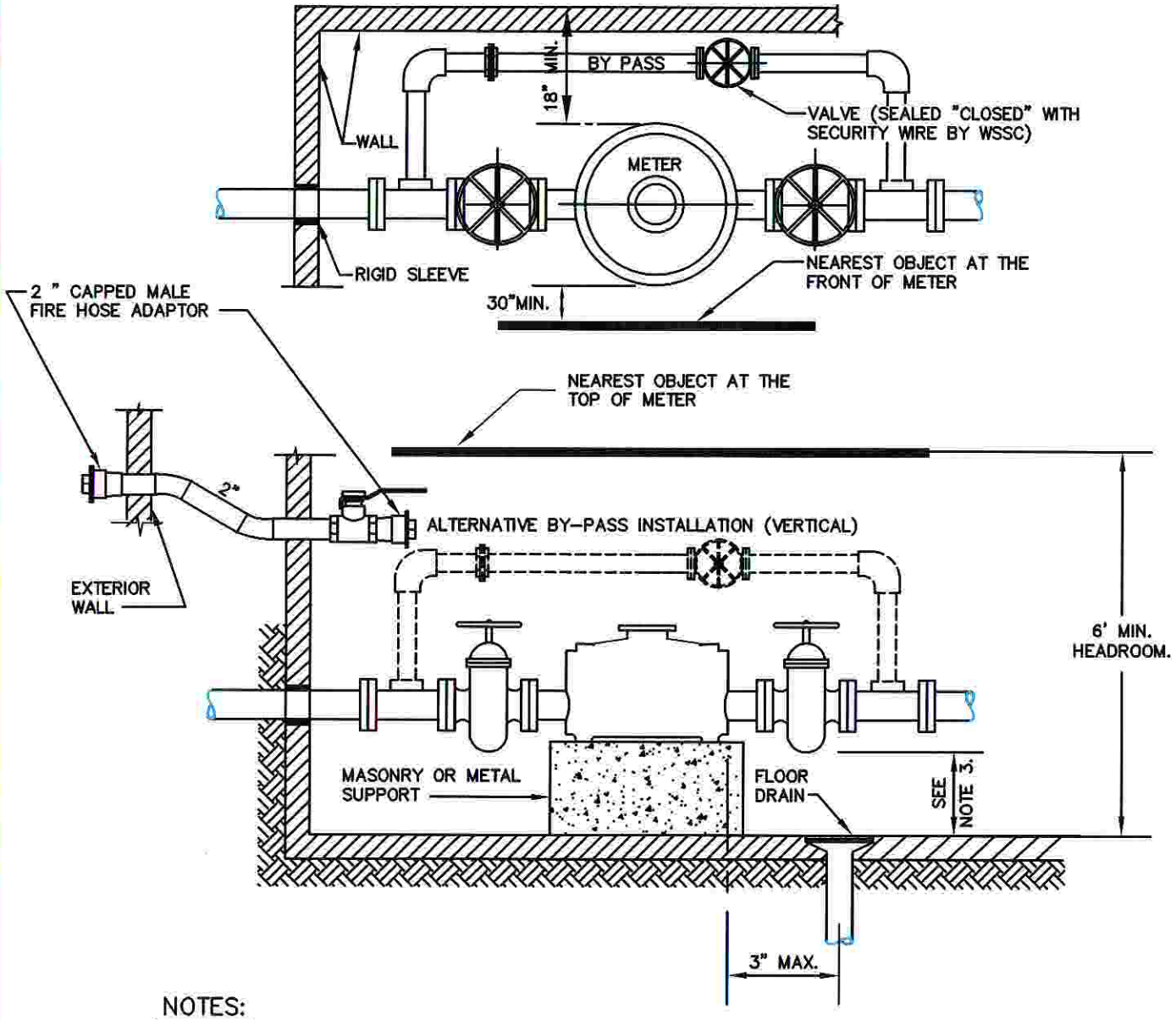



NOTES:

1. REFER TO DETAIL W/7.5 WHEN METER AREA IS ADJACENT TO AN EXTERIOR WALL.
2. METER TO BE SET HORIZONTALLY.
3. NOMINAL DIMENSION: 3" METER, 1–3 FT; 4" AND LARGER METER, 1–2 FT.
4. METER NOT TO BE SET WITHIN 10' OF ELECTRICAL DISTRIBUTION EQUIPMENT.
5. TURBULENCE COMPENSATOR MIN. 5 PIPE DIA. INLET AND OUTLET.

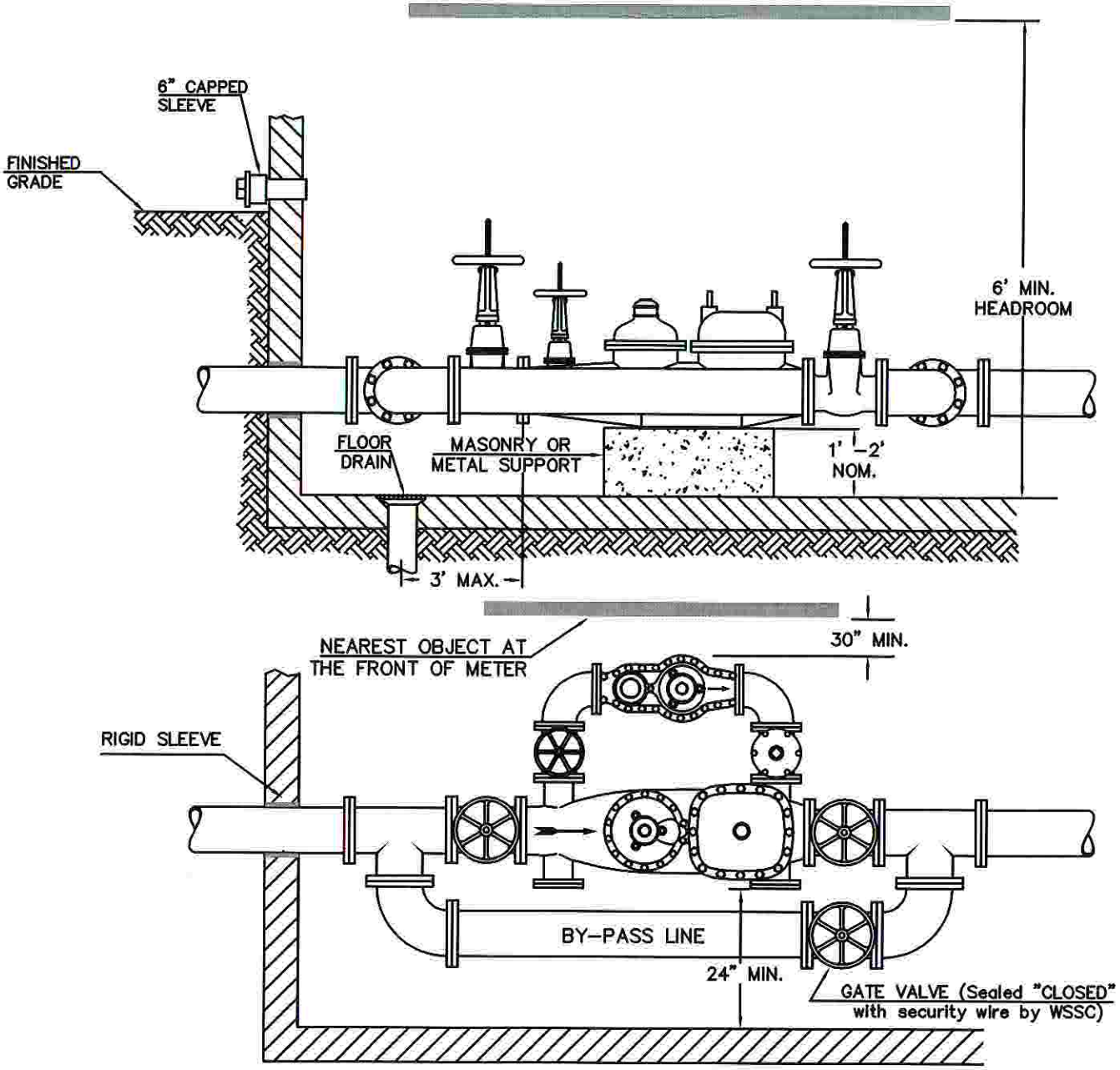
| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>3" AND LARGER INDOOR METER INSTALLATIONS | W<br>7.4 |




NOTES:

1. REFER TO DETAIL W/7.4 WHEN METER AREA IS ADJACENT TO AN EXTERIOR WALL.
2. METER TO BE SET HORIZONTALLY.
3. NOMINAL DIMENSION: 3" METER, 1–3 FT; 4" AND LARGER METER, 1–2 FT.
4. METER NOT TO BE SET WITHIN 10' OF ELECTRICAL DISTRIBUTION EQUIPMENT.
5. TURBULENCE COMPENSATOR MIN. 5 PIPE DIA. INLET AND OUTLET.

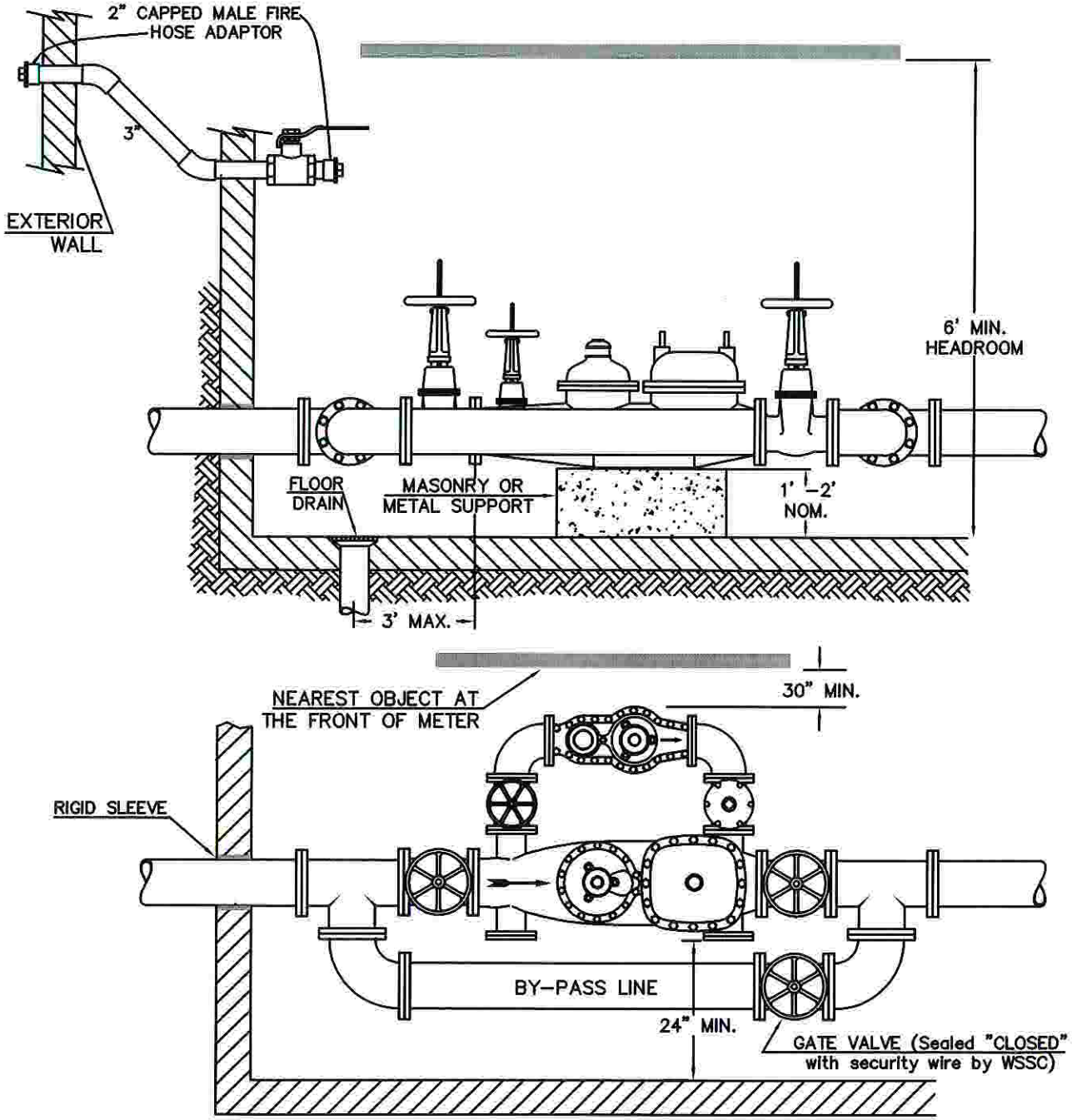
| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>3" AND LARGER INDOOR METER INSTALLATIONS | W<br>7.5 |




## NOTES:

1. REFER TO DETAIL W/7.7 WHEN METER AREA IS NOT ADJACENT TO AN EXTERIOR WALL.
2. METER TO BE SET HORIZONTALLY.
3. METER NOT TO BE SET WITHIN 10' OF ELECTRICAL DISTRIBUTION EQUIPMENT.
4. TURBULENCE COMPENSATOR MIN. 5 PIPE DIA. INLET AND OUTLET.

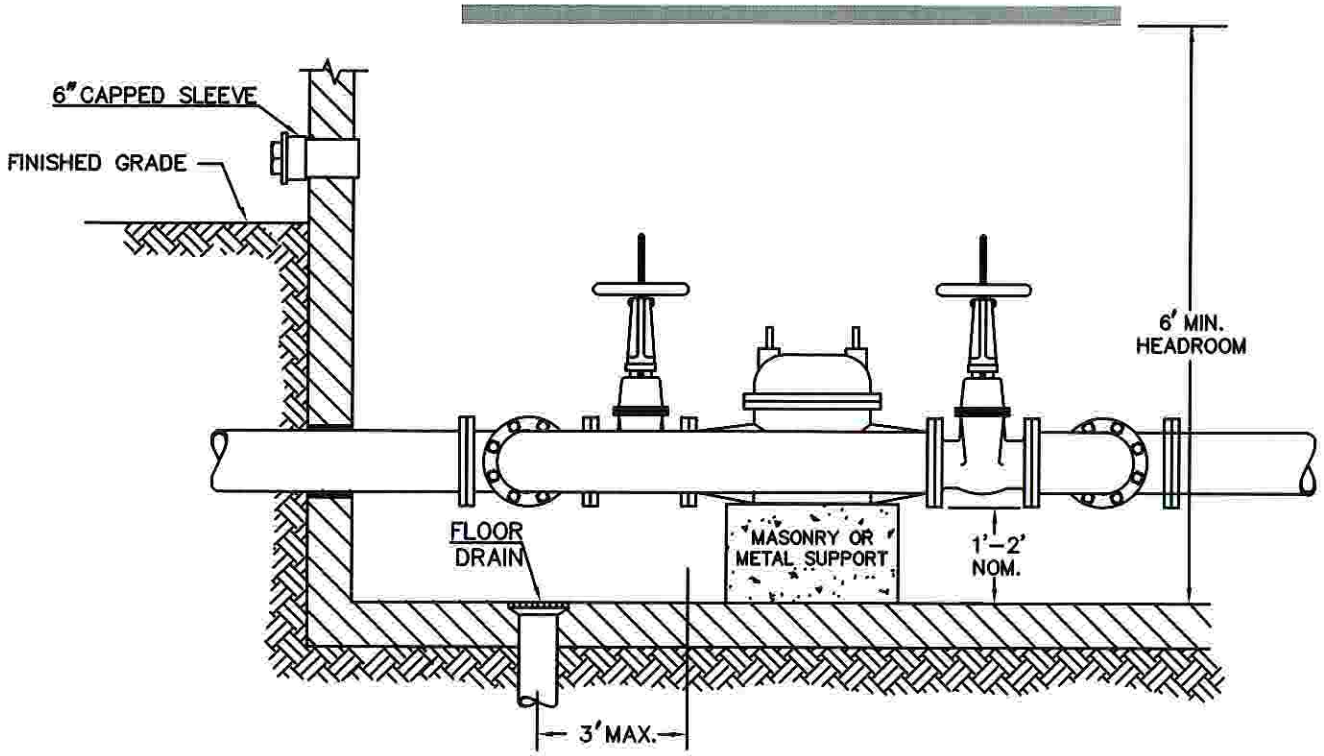
| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>INDOOR F.M. METER INSTALLATIONS | W<br>7.6 |

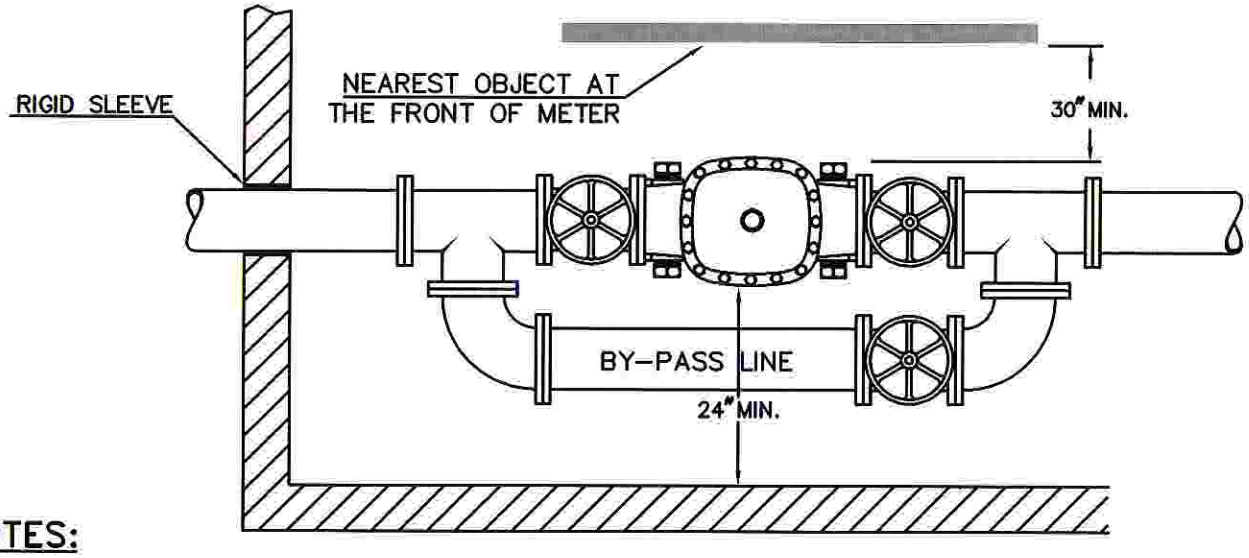



## NOTES:

1. REFER TO DETAIL W/7.6 WHEN METER AREA IS NOT ADJACENT TO AN EXTERIOR WALL.
2. METER TO BE SET HORIZONTALLY.
3. METER NOT TO BE SET WITHIN 10' OF ELECTRICAL DISTRIBUTION EQUIPMENT.
4. TURBULENCE COMPENSATOR MIN. 5 PIPE DIA. INLET AND OUTLET.

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>INDOOR F.M. METER INSTALLATIONS | W<br>7.7 |



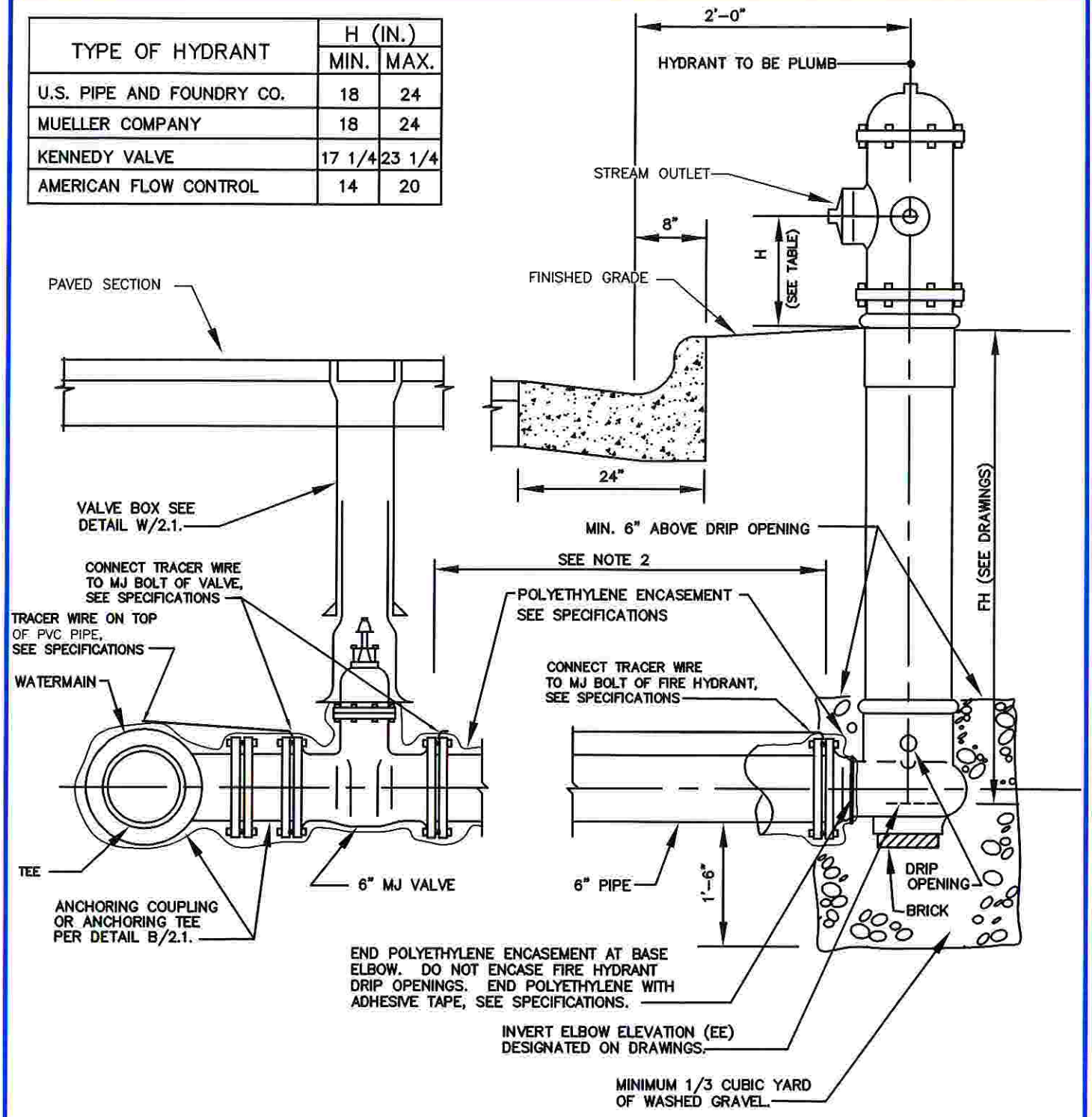




## NOTES:

1. METER TO BE SET HORIZONTALLY.
2. NOT TO BE SET WITHIN 10' OF ELECTRICAL DISTRIBUTION EQUIPMENT.
3. TURBULENCE COMPENSATOR MIN. 5 PIPE DIA. DOWNSTREAM AND 10 PIPE DIA. UPSTREAM OF METER.
4. REFER TO DETAIL W/7.7 WHEN THE METER AREA IS NOT ADJACENT TO AN EXTERIOR WALL.

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>DETECTOR CHECK METER INDOOR INSTALLATIONS | W<br>7.8 |

| TYPE OF HYDRANT | H (IN.) | |
|---|---|---|
| | MIN. | MAX. |
| U.S. PIPE AND FOUNDRY CO. | 18 | 24 |
| MUELLER COMPANY | 18 | 24 |
| KENNEDY VALVE | 17 1/4 | 23 1/4 |
| AMERICAN FLOW CONTROL | 14 | 20 |

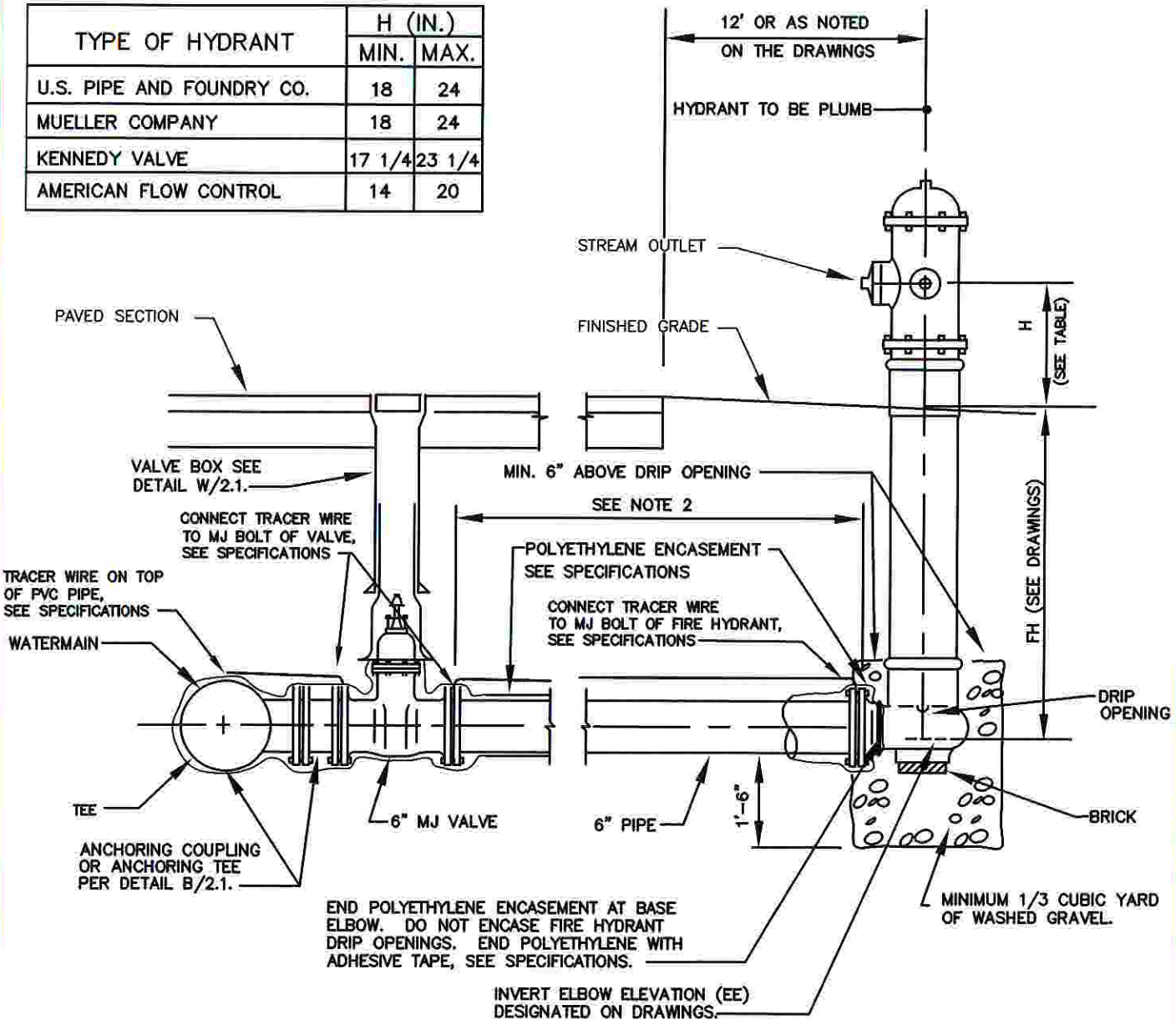



NOTES:

1. DO NOT BLOCK FIRE HYDRANT OR FIRE HYDRANT TEE.
2. FOR RESTRAINING VALVE TO FIRE HYDRANT, SEE DETAIL B/2.1.

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>FIRE HYDRANT SETTING<br>CLOSED PAVING SECTION | W<br>8.0 |

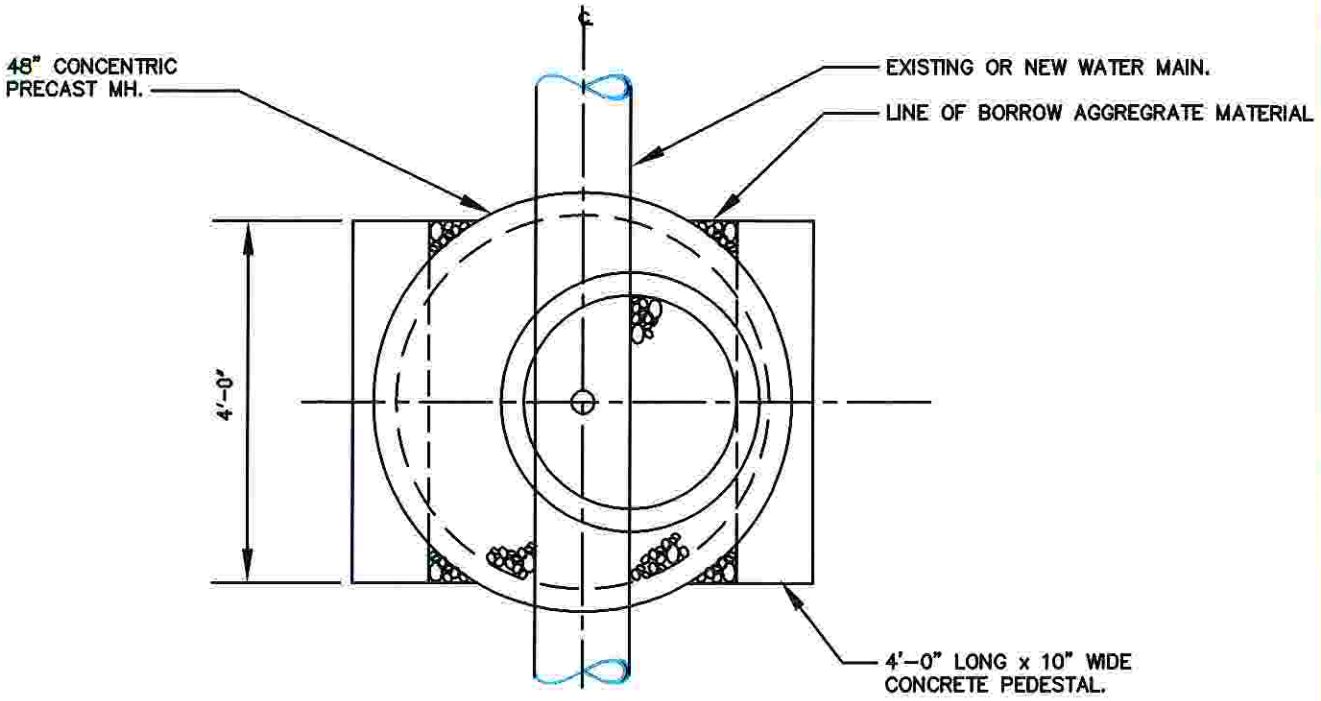
| TYPE OF HYDRANT | H (IN.) | |
|---|---|---|
| | MIN. | MAX. |
| U.S. PIPE AND FOUNDRY CO. | 18 | 24 |
| MUELLER COMPANY | 18 | 24 |
| KENNEDY VALVE | 17 1/4 | 23 1/4 |
| AMERICAN FLOW CONTROL | 14 | 20 |



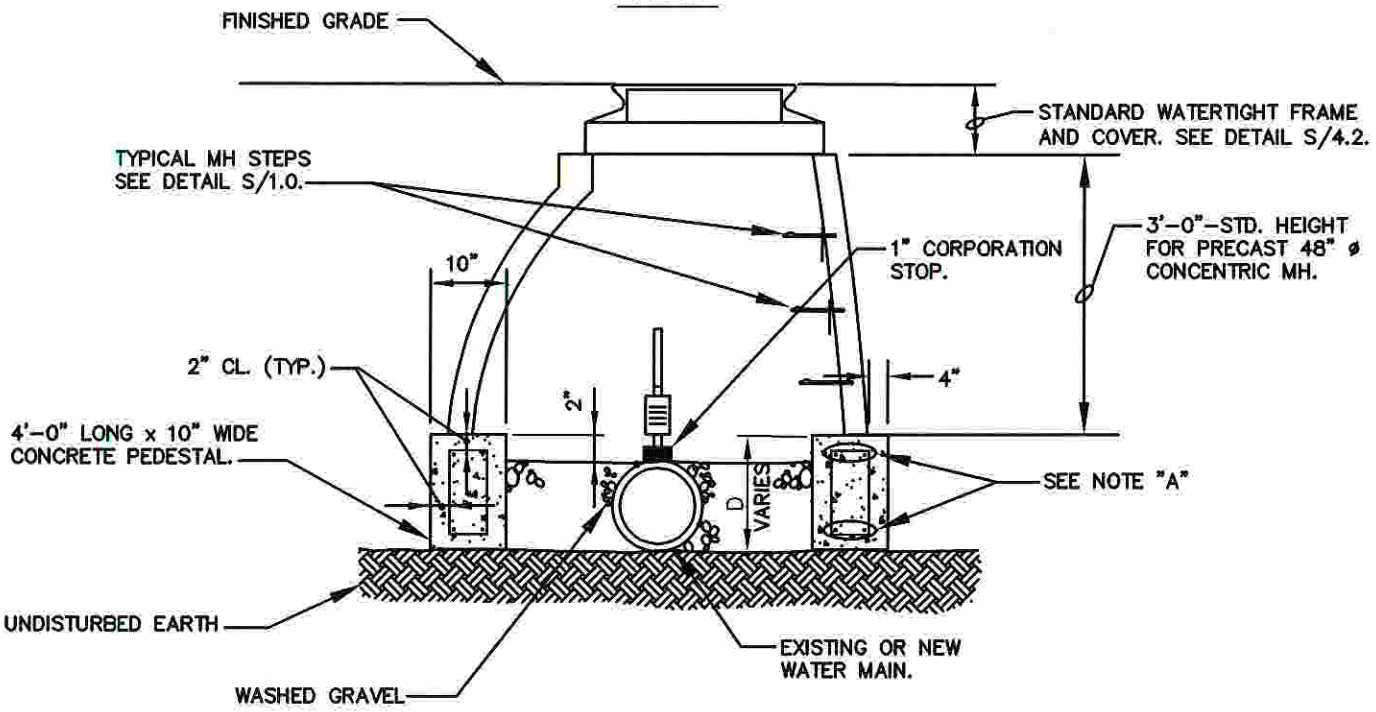

NOTES:

1. DO NOT BLOCK FIRE HYDRANT OR FIRE HYDRANT TEE.
2. FOR RESTRAINING VALVE TO FIRE HYDRANT, SEE DETAIL B/2.1.

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>FIRE HYDRANT SETTING OPEN PAVING SECTION | W<br>8.1 |




PLAN

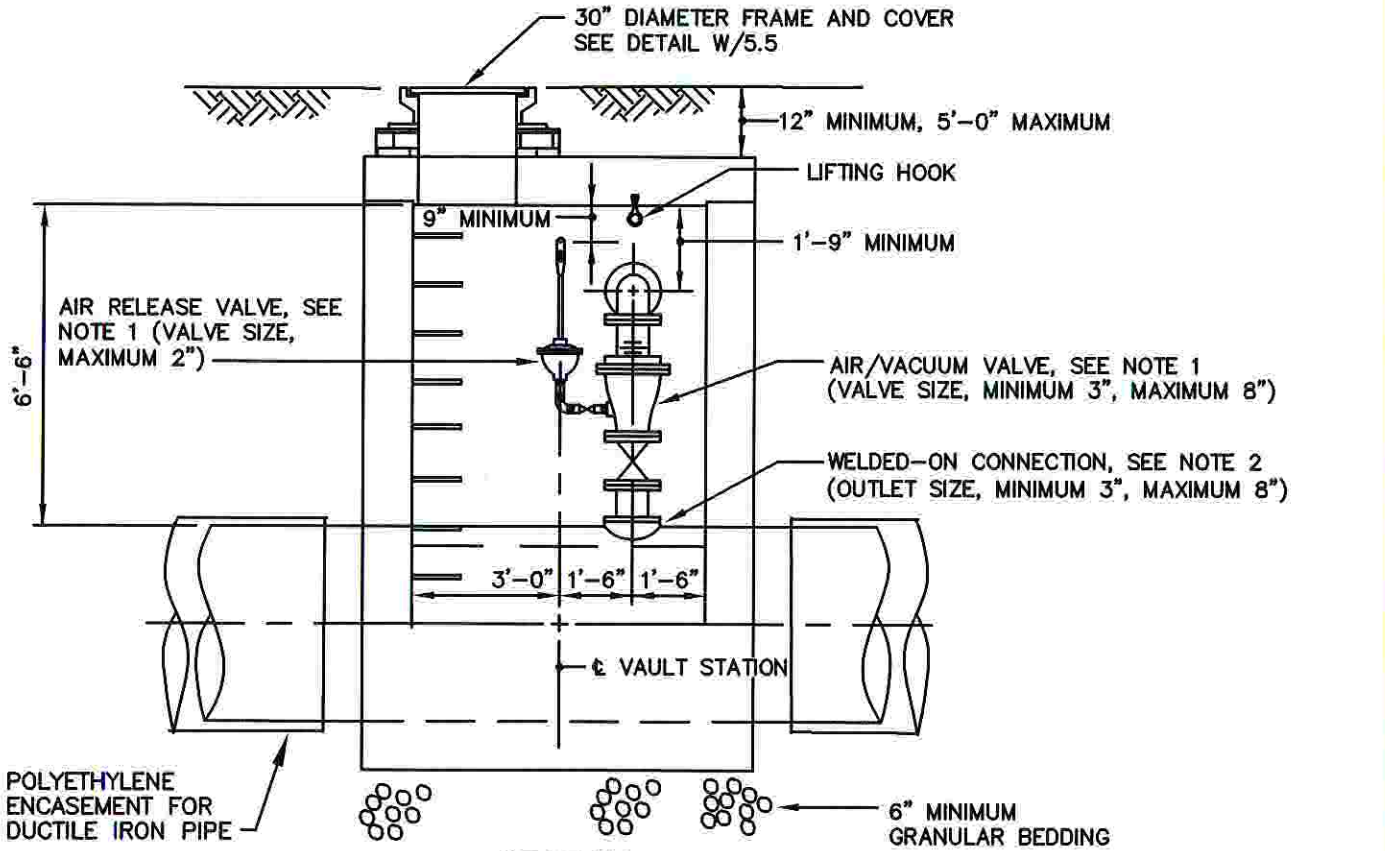



ELEVATION

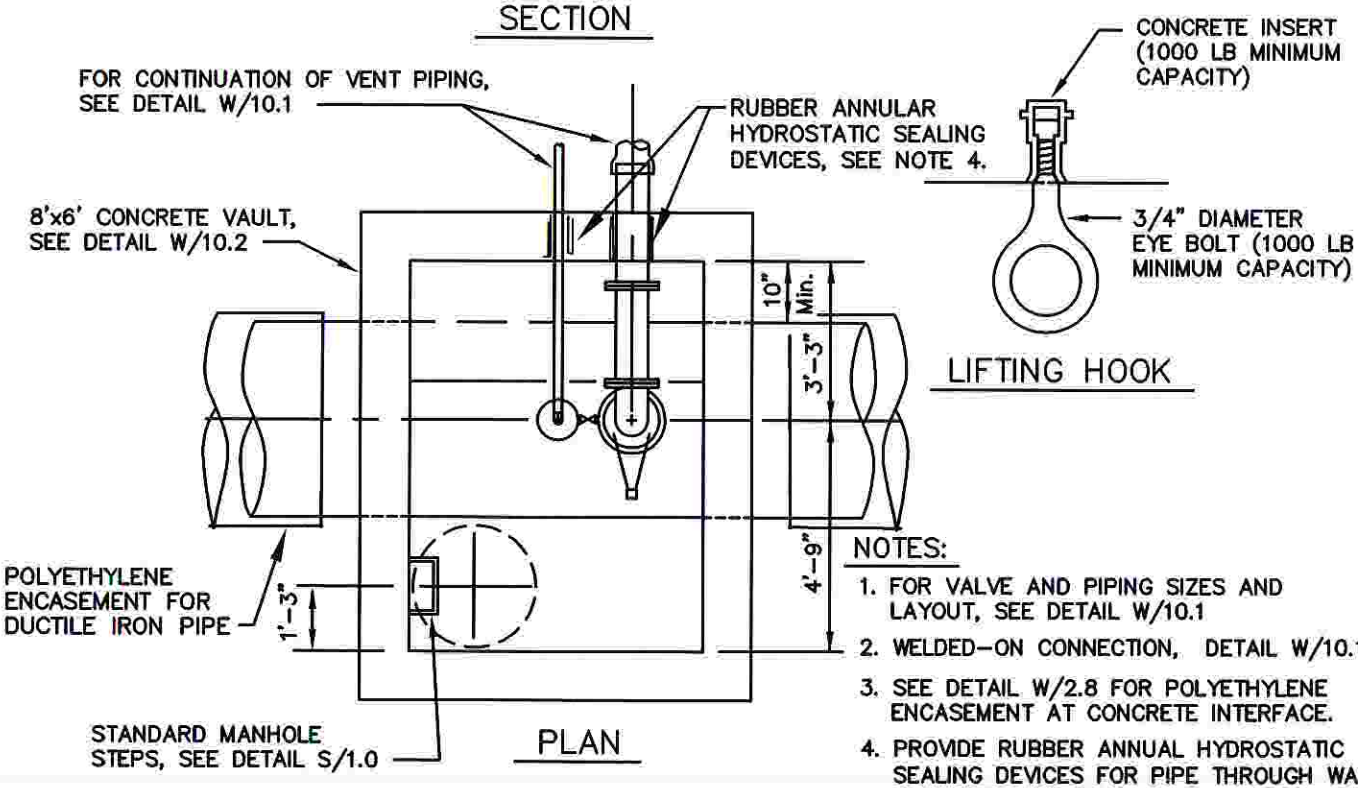
NOTE "A"

WHEN D= 6" TO 14", USE 4 #5 WITH #4 STIRRUPS @ 10" c/c.
WHEN D= 16" TO 30", USE 4 #5 WITH #4 STIRRUPS @ 10" c/c AND 2 #5 HORIZONTAL BARS @ MID-SECTION.
WHEN D= 36" AND LARGER, SEE DRAWINGS.

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>PRECAST CONCRETE MH FOR PITOMETER SURVEY | W<br>9.0 |




SECTION




PLAN

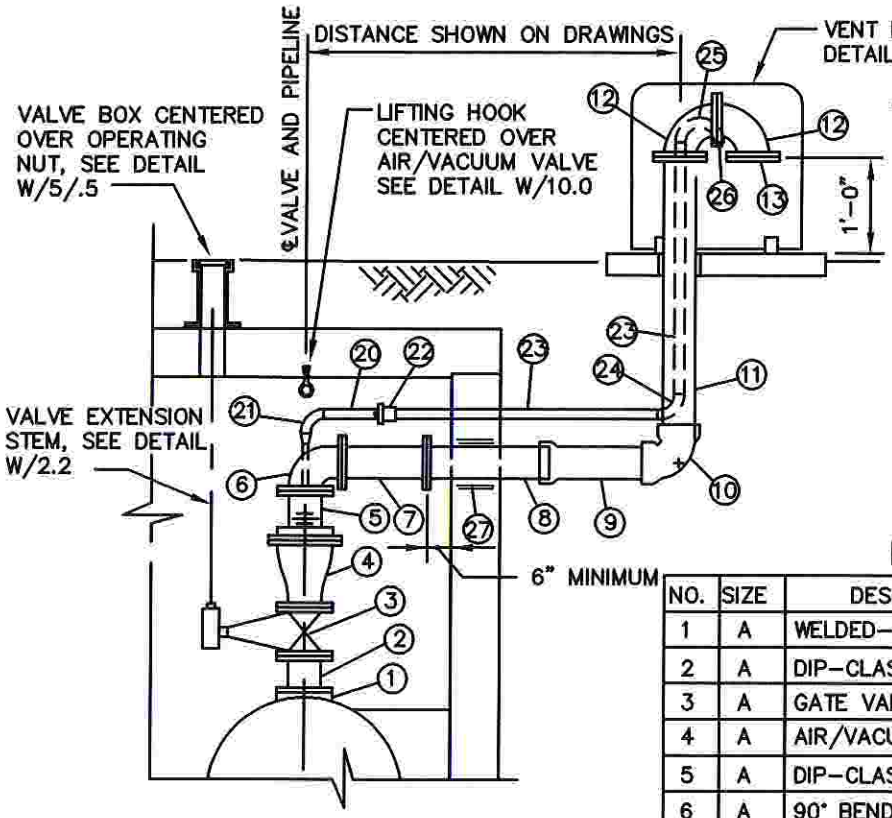


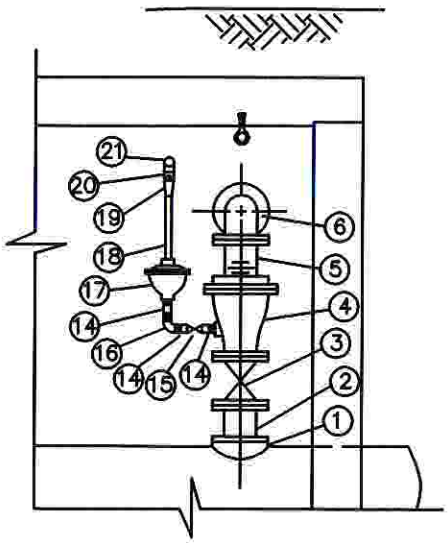

LIFTING HOOK

NOTES:

1. FOR VALVE AND PIPING SIZES AND LAYOUT, SEE DETAIL W/10.1
2. WELDED-ON CONNECTION, DETAIL W/10.1
3. SEE DETAIL W/2.8 FOR POLYETHYLENE ENCASEMENT AT CONCRETE INTERFACE.
4. PROVIDE RUBBER ANNUAL HYDROSTATIC SEALING DEVICES FOR PIPE THROUGH WALL CONNECTIONS, SEE SPECIFICATIONS.

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>AIR/VACUUM VALVE VAULT ON 30" DIAMETER AND LARGER PIPES | W<br>10.0 |



NOTES:

1. SEE DRAWING FOR:
   a. VALVE "A"
      MODEL NUMBER AND TYPE OF FLANGE (ANSI B16.1, CLASS 125 OR CLASS 250) FOR AIR/VACUUM VALVES
   b. VALVE "B"
      MODEL NUMBER, OUTLET AND ORIFICE SIZES FOR AIR RELEASE VALVES.
   c. MATERIAL LIST SIZES "A" AND "B"
      (SIZE"A", MINIMUM 3", MAXIMUM 8")
      (SIZE"B", MAXIMUM 2")
2. SEE SPECIFICATIONS FOR WELDED-ON CONNECTIONS (BOSSES OR OUTLETS) (OUTLET SIZE, MINIMUM 3", MAXIMUM 8")
3. MATERIAL LIST NUMBER 2 (9" DIP,FLGxFLG) IS REQUIRED ONLY FOR WELDED-ON BOSSES.

## MATERIAL LIST

| NO. | SIZE | DESCRIPTION | JOINT |
|---|---|---|---|
| 1 | A | WELDED-ON CONNECTION, SEE NOTE 2 | FLG |
| 2 | A | DIP-CLASS 53, 9" LONG, SEE NOTE 3 | FLGxFLG |
| 3 | A | GATE VALVE WITH BEVEL GEARING | FLG |
| 4 | A | AIR/VACUUM VALVE, SEE NOTE 1.a | FLG |
| 5 | A | DIP-CLASS 53 | FLGxNPT |
| 6 | A | 90° BEND | FLG |
| 7 | A | DIP-CLASS 53, LENGTH VARIES | FLGxFLG |
| 8 | A | DIP-CLASS 53, LENGTH VARIES | FLGxPE |
| 9 | A | DIP | BELLxPE |
| 10 | A | 90° BEND | BELL |
| 11 | A | DIP-CLASS 53, LENGTH VARIES | FLGxPE |
| 12 | A | 90° BEND | FLG |
| 13 | – | ½" SQ.-12GA. STAINLESS STEEL BIRD SCREEN WITH FLANGE | – |
| 14 | B | BRASS NIPPLE | NPT |
| 15 | B | BRASS GATE VALVE WITH HAND WHEEL | NPT |
| 16 | B | 90° BRASS ELBOW | NPT |
| 17 | B | PRESSURE AIR RELEASE VALVE, SEE NOTE 1.b | NPT |
| 18 | ½" | BRASS PIPE | NPT |
| 19 | 2"x½" | BRASS REDUCER | NPT |
| 20 | 2" | BRASS NIPPLE | NPT |
| 21 | 2" | 90° BRASS ELBOW | NPT |
| 22 | 2" | UNION, BRASSxPVC | NPT |
| 23 | 2" | PVC PIPE, SCH 40, SOLVENT WELDED | – |
| 24 | 2" | PVC 90° BEND, SOLVENT WELDED | – |
| 25 | 2" | PVC 180° BEND, SOLVENT WELDED | – |
| 26 | – | BIRD SCREEN, SEE DETAIL W/2.0b | – |
| 27 | – | RUBBER ANNUAL HYDROSTATIC SEALING DEVICE, SEE SPECIFICATIONS | – |

WASHINGTON SUBURBAN SANITARY COMMISSION

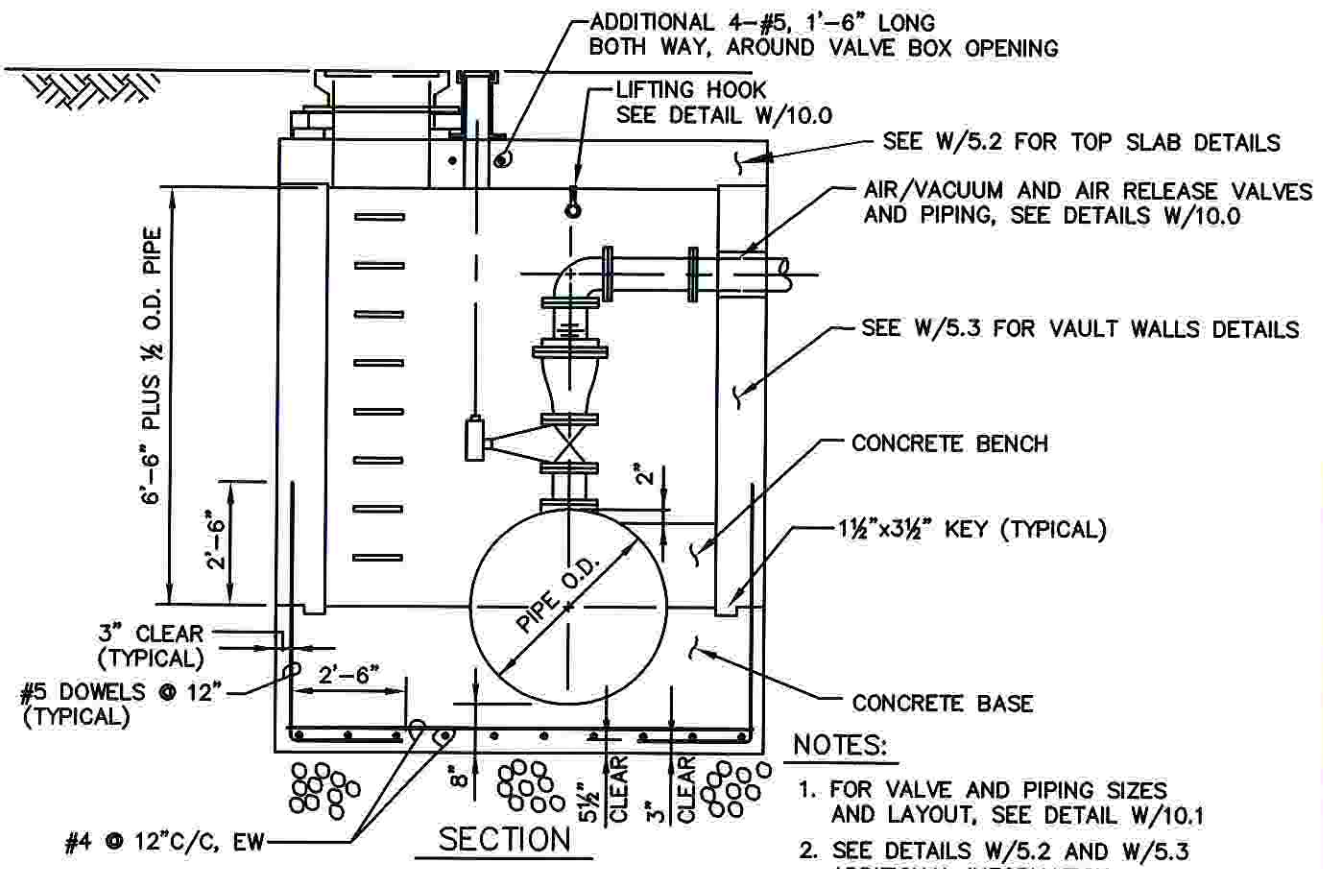
APPROVED: JULY 1, 2005

Chief Engineer

STANDARD DETAIL

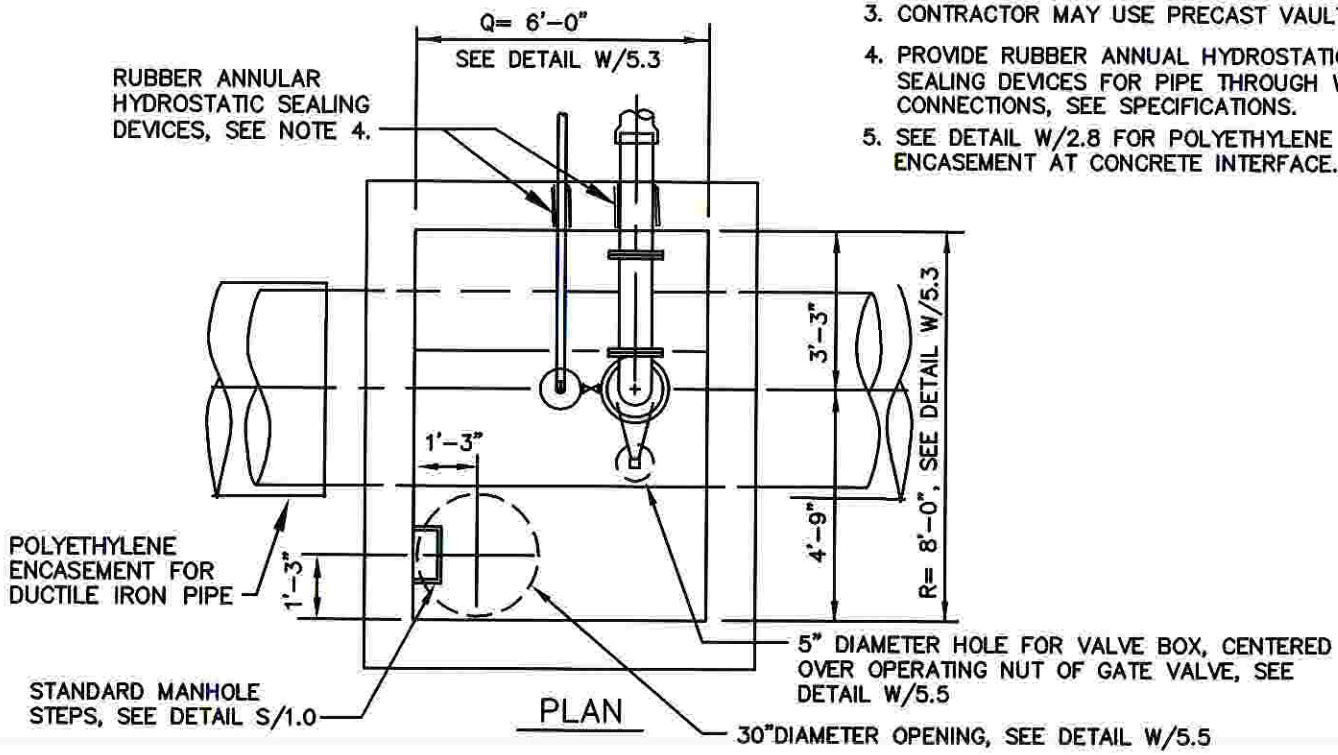
# DETAILS FOR AIR/VACUUM VALVE VAULT ON 30" DIAMETER AND LARGER PIPES

W
10.1




NOTES:

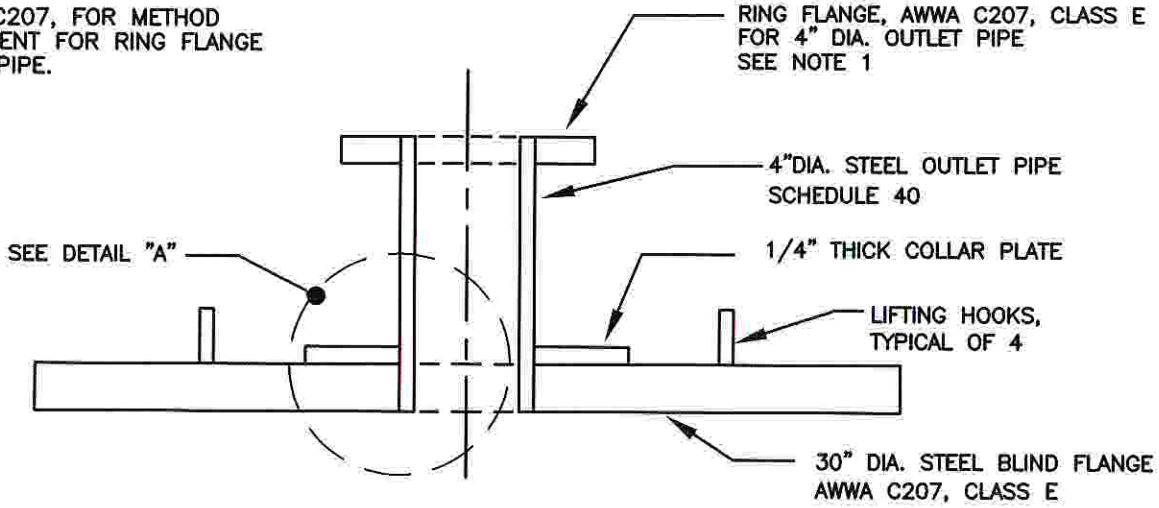
1. FOR VALVE AND PIPING SIZES AND LAYOUT, SEE DETAIL W/10.1
2. SEE DETAILS W/5.2 AND W/5.3 ADDITIONAL INFORMATION.
3. CONTRACTOR MAY USE PRECAST VAULT.
4. PROVIDE RUBBER ANNUAL HYDROSTATIC SEALING DEVICES FOR PIPE THROUGH WALL CONNECTIONS, SEE SPECIFICATIONS.
5. SEE DETAIL W/2.8 FOR POLYETHYLENE ENCASEMENT AT CONCRETE INTERFACE.



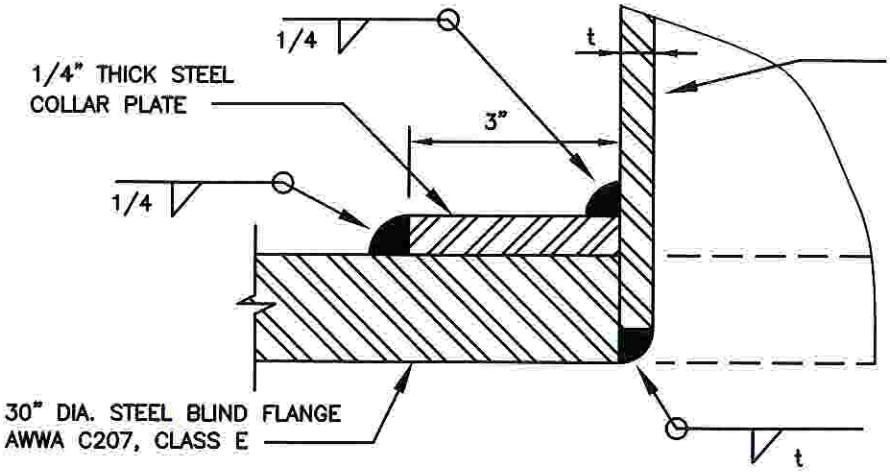

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005 Chief Engineer | STANDARD DETAIL<br>AIR/VACUUM VALVE VAULT ON 30" DIAMETER AND LARGER PIPES | W<br>10.2 |

NOTE:

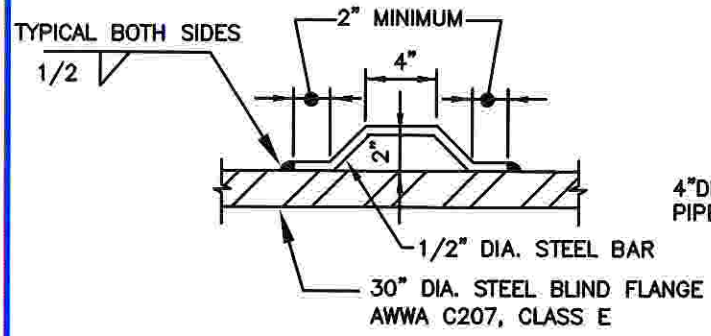
1. SEE AWWA C207, FOR METHOD OF ATTACHMENT FOR RING FLANGE TO OUTLET PIPE.



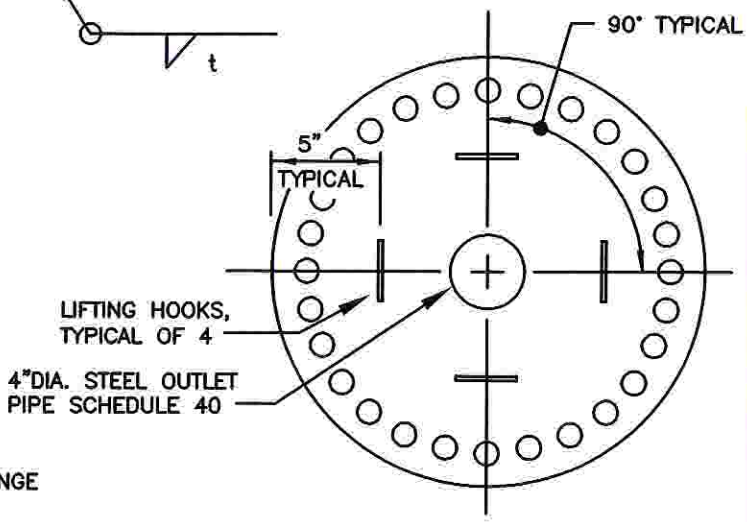

## DETAIL OF ENTRY PORT BLIND FLANGE WITH 4" OUTLET




## DETAIL "A"

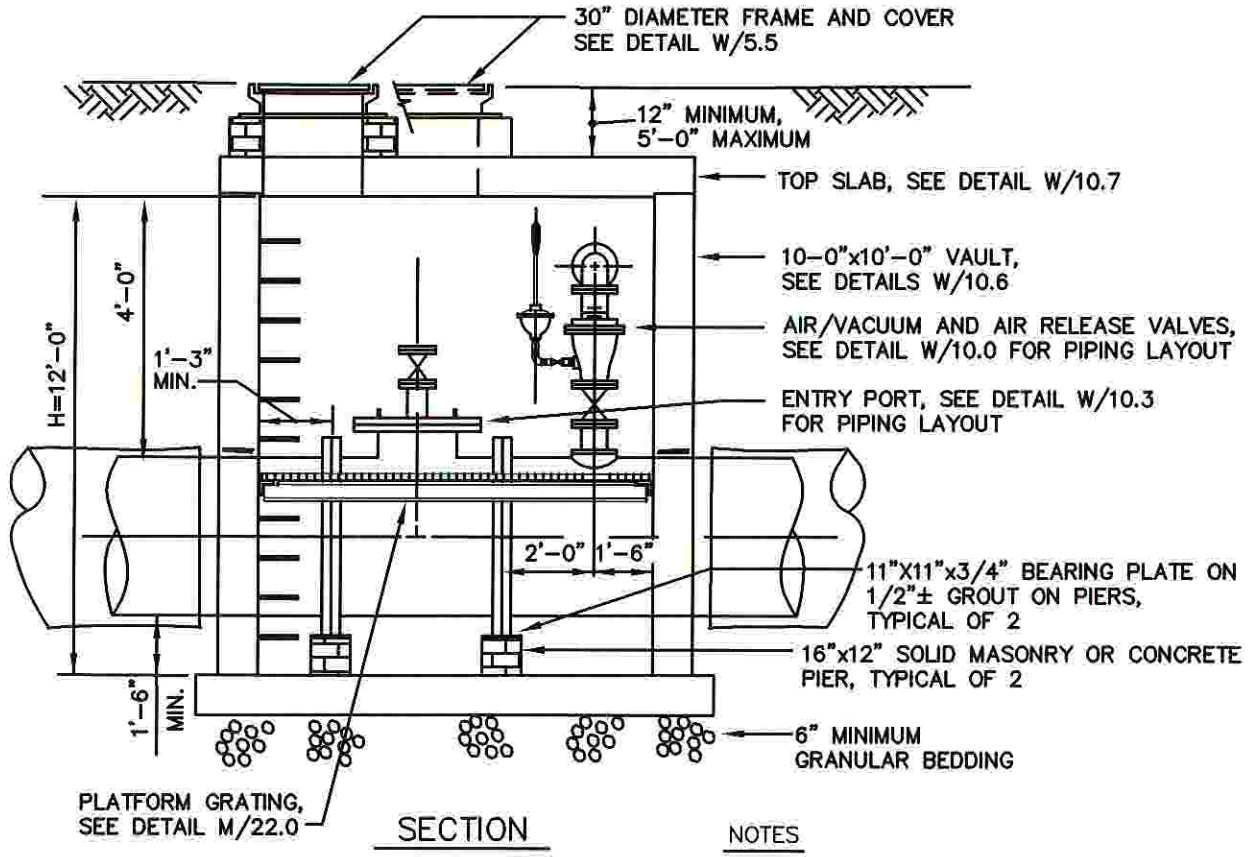



## LIFTING HOOK DETAIL




## LIFTING HOOK LOCATION DETAIL

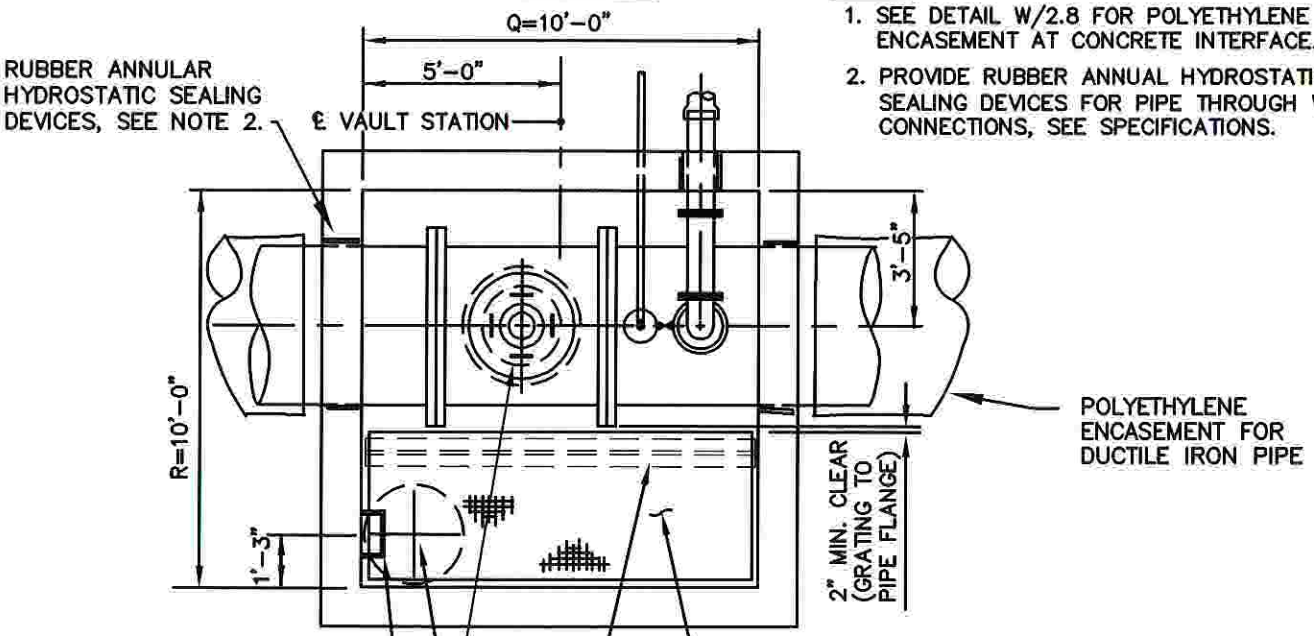
| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>BLIND FLANGE DETAILS FOR ENTRY PORT VAULTS | W<br>10.4 |




SECTION

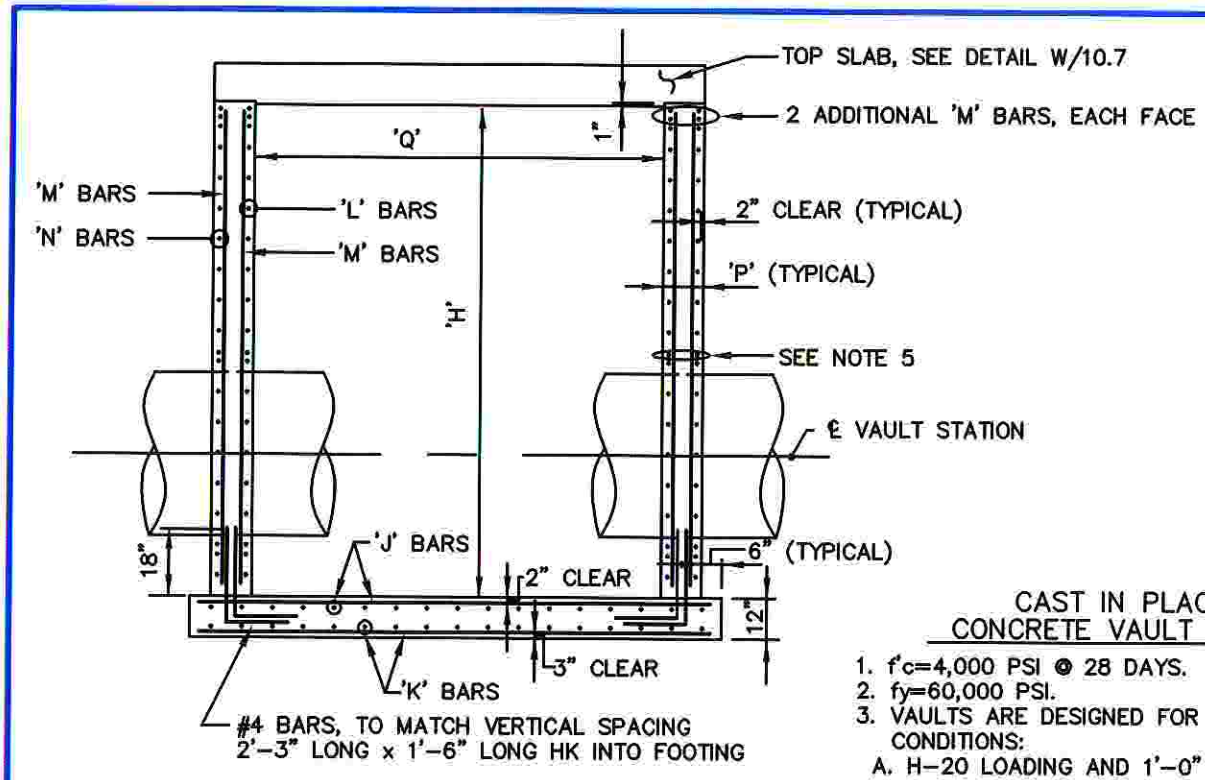
NOTES

1. SEE DETAIL W/2.8 FOR POLYETHYLENE ENCASEMENT AT CONCRETE INTERFACE.
2. PROVIDE RUBBER ANNUAL HYDROSTATIC SEALING DEVICES FOR PIPE THROUGH WALL CONNECTIONS, SEE SPECIFICATIONS.




PLAN

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>AIR/VACUUM VALVE VAULT AND ENTRY PORT VAULT FOR 36" TO 48" DIAMETER PIPES | W<br>10.5 |

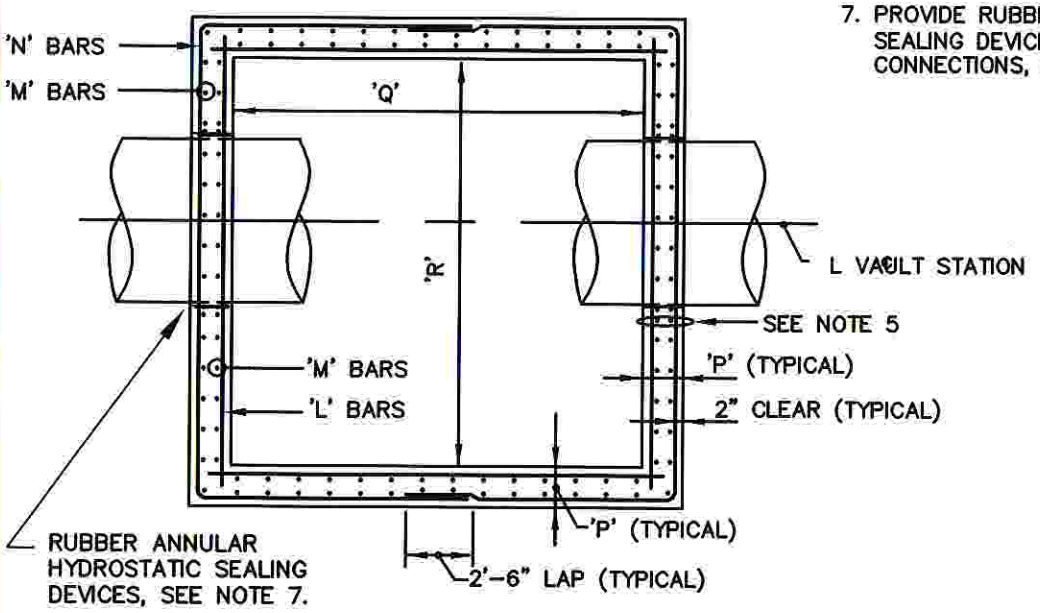



SECTION

| H | Q | R | P | J | K | L | M | N |
|---|---|---|---|---|---|---|---|---|
| 9'-6" | 8'-0" | 10'-0" | 10" | #4@9" | #5@12" | #6@8" | #4@10" | #5@10" |
| 12'-0" | 10'-0" | 10'-0" | 12" | #4@10" | #5@10" | #6@7" | #4@9" | #5@7" |

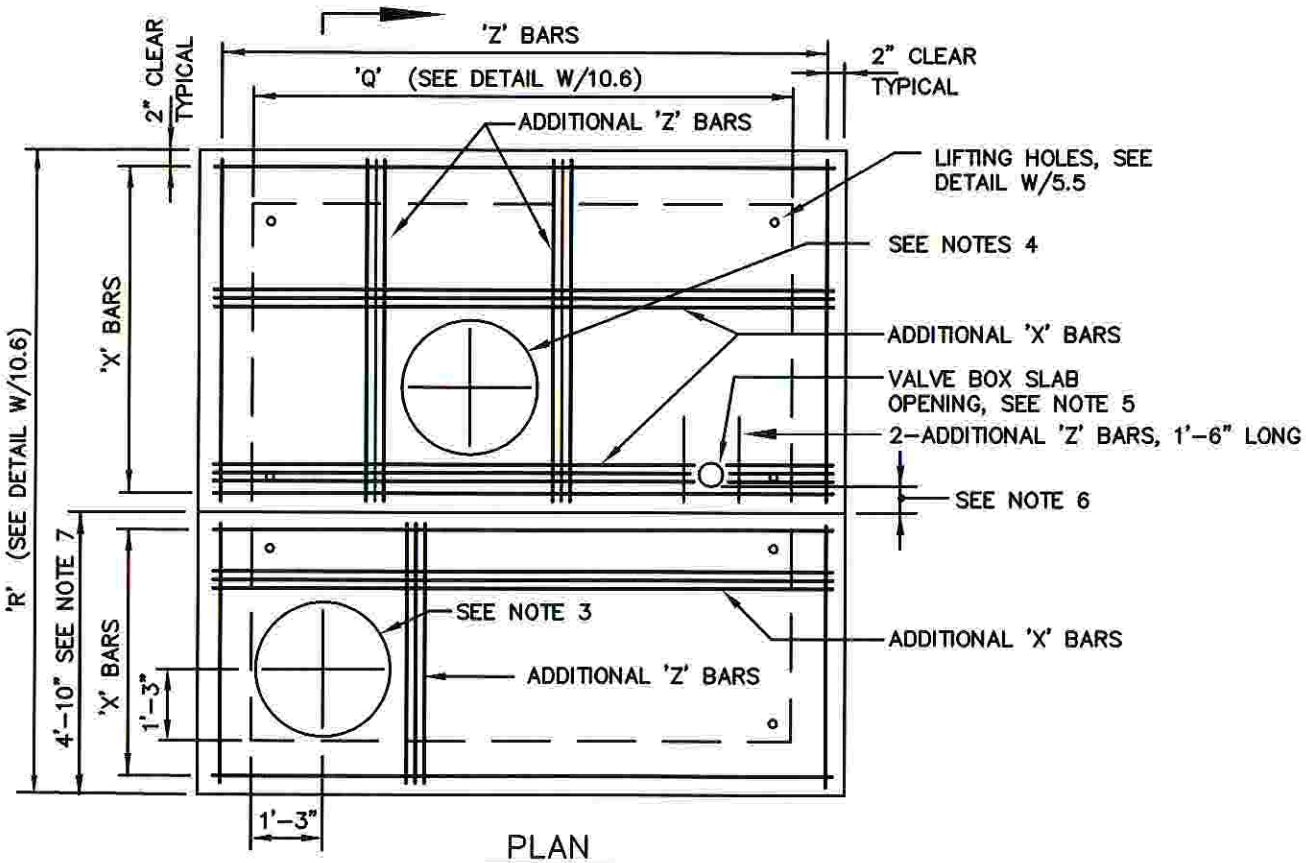
## CAST IN PLACE CONCRETE VAULT NOTES:

1. f'c=4,000 PSI @ 28 DAYS.
2. fy=60,000 PSI.
3. VAULTS ARE DESIGNED FOR THE FOLLOWING CONDITIONS:
   A. H-20 LOADING AND 1'-0" COVER PLUS IMPACT.
   B. 5'-0" COVER AND 2'-0" SURCHARGE. WATER TABLE 4'-0" BELOW FINISHED GRADE FOR (A) AND (B).
4. CONTRACTOR MAY USE PRECAST VAULT.
5. PROVIDE REQUIRED ADDITIONAL 'L', 'M' AND 'N' BARS AROUND ALL PIPE PENETRATIONS.
6. FOR PIPE CONFIGURATION AND ADDITIONAL DETAILS, SEE DETAILS W/10.3 AND W/10.5.
7. PROVIDE RUBBER ANNUAL HYDROSTATIC SEALING DEVICES FOR PIPE THROUGH WALL CONNECTIONS, SEE SPECIFICATIONS.




PLAN

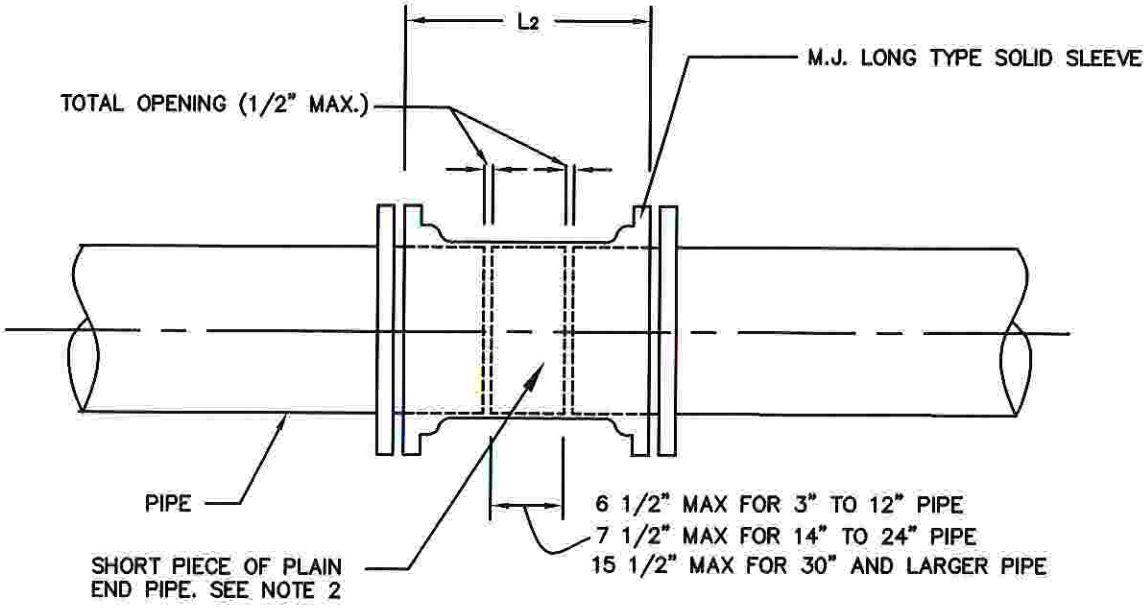
| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>CONCRETE VAULT FOR ENTRY PORTS | W<br>10.6 |



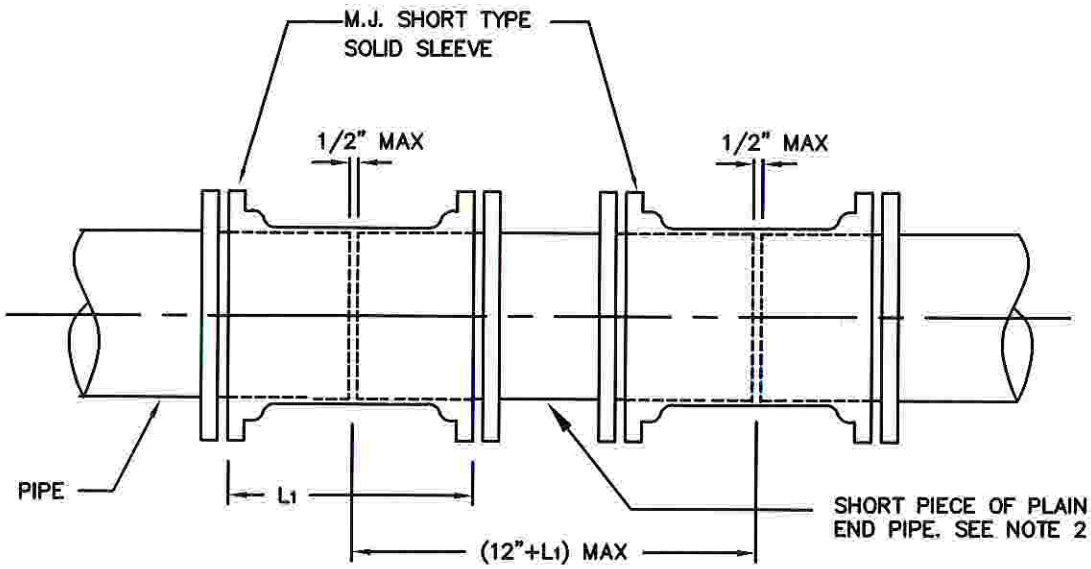

NOTES:

1. FOR PRECAST AND CAST IN PLACE CONCRETE TOP SLAB THICKNESS AND REINFORCING, SEE DETAIL W/5.21.
2. FOR JOINT, LIFTING HOLES AND FRAME AND COVER DETAIL, SEE W/5.5.
3. PROVIDE 30" OPENING IN TOP SLAB, SEE DETAIL W/5.5.
4. PROVIDE 30" OPENING IN TOP SLAB, CENTERED OVER ENTRY PORT TEE, SEE DETAIL W/5.5.
5. FOR AIR/VACUUM AND ENTRY PORT VAULTS, ONLY, CENTER 5" DIAMETER OPENING OVER OPERATING NUT OF VALVE FOR AIR/VACUUM VALVE. SEE DETAIL W/5.5.
6. PROVIDE MINIMUM 4" CLEAR, BETWEEN 5" DIAMETER OPENING AND SLAB JOINT.
7. IF MINIMUM 4" CLEAR, AS SPECIFIED IN NOTE 6, CAN NOT BE MET, THE CONTRACTOR SHALL SUBMIT WORKING DRAWINGS FOR TOP SLAB DESIGN.

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>CAST IN PLACE AND PRECAST CONCRETE TOP SLAB REINFORCING FOR ENTRY PORT VAULTS | W<br>10.7 |




## MECHANICAL JOINT SOLID SLEEVE (LONG TYPE)

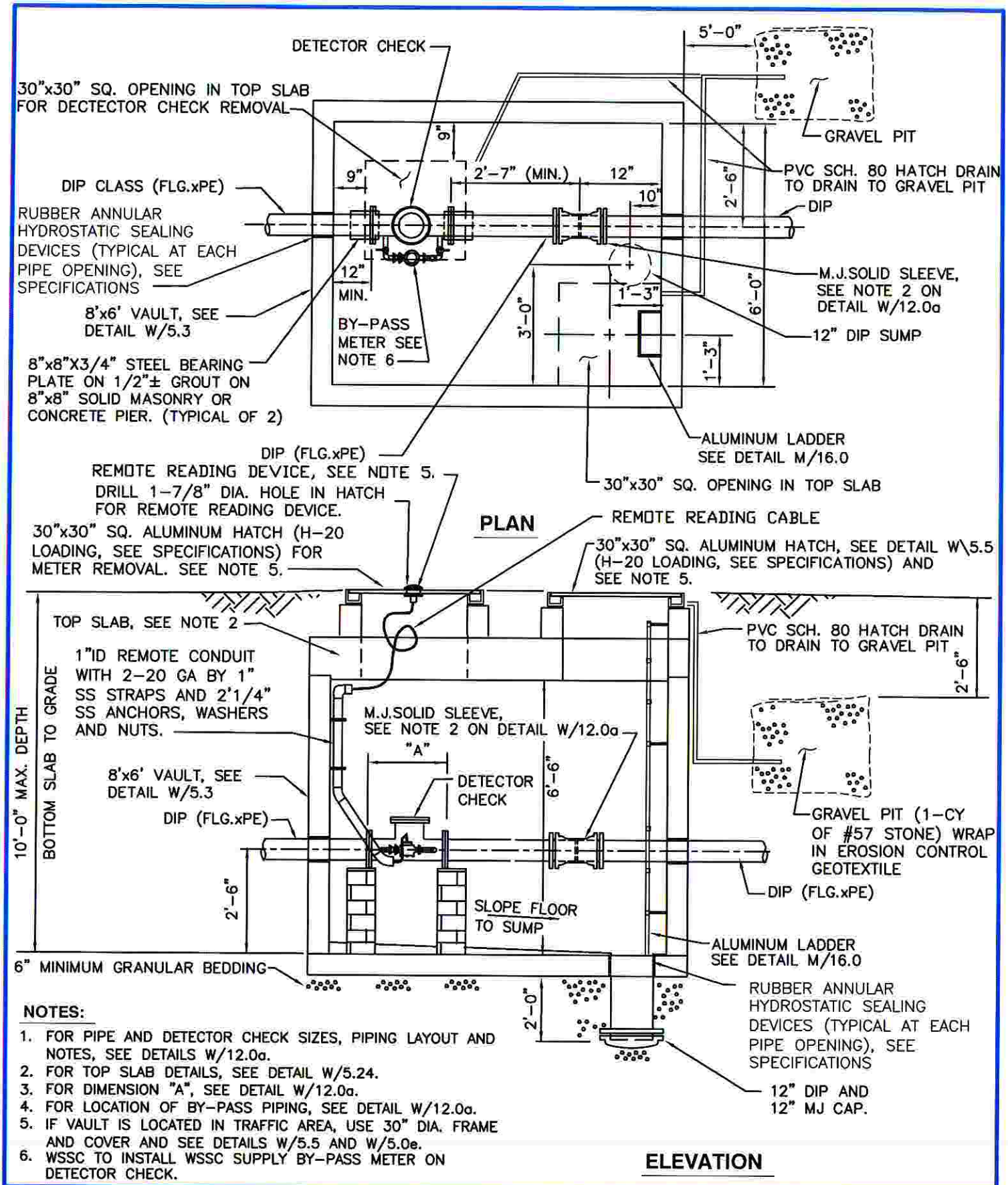



## MECHANICAL JOINT TWO SOLID SLEEVES (SHORT TYPE)

NOTES:

1. FOR $L_1$ & $L_2$ DIMENSIONS, SEE AWWA C110 AND C153 FOR MECHANICAL JOINT SLEEVES ($L_2$ FOR LONG TYPE AND $L_1$ FOR SHORT TYPE).
2. TO BE CUT FROM THE SAME TYPE AND SIZE OF PIPE BEING SLEEVED.

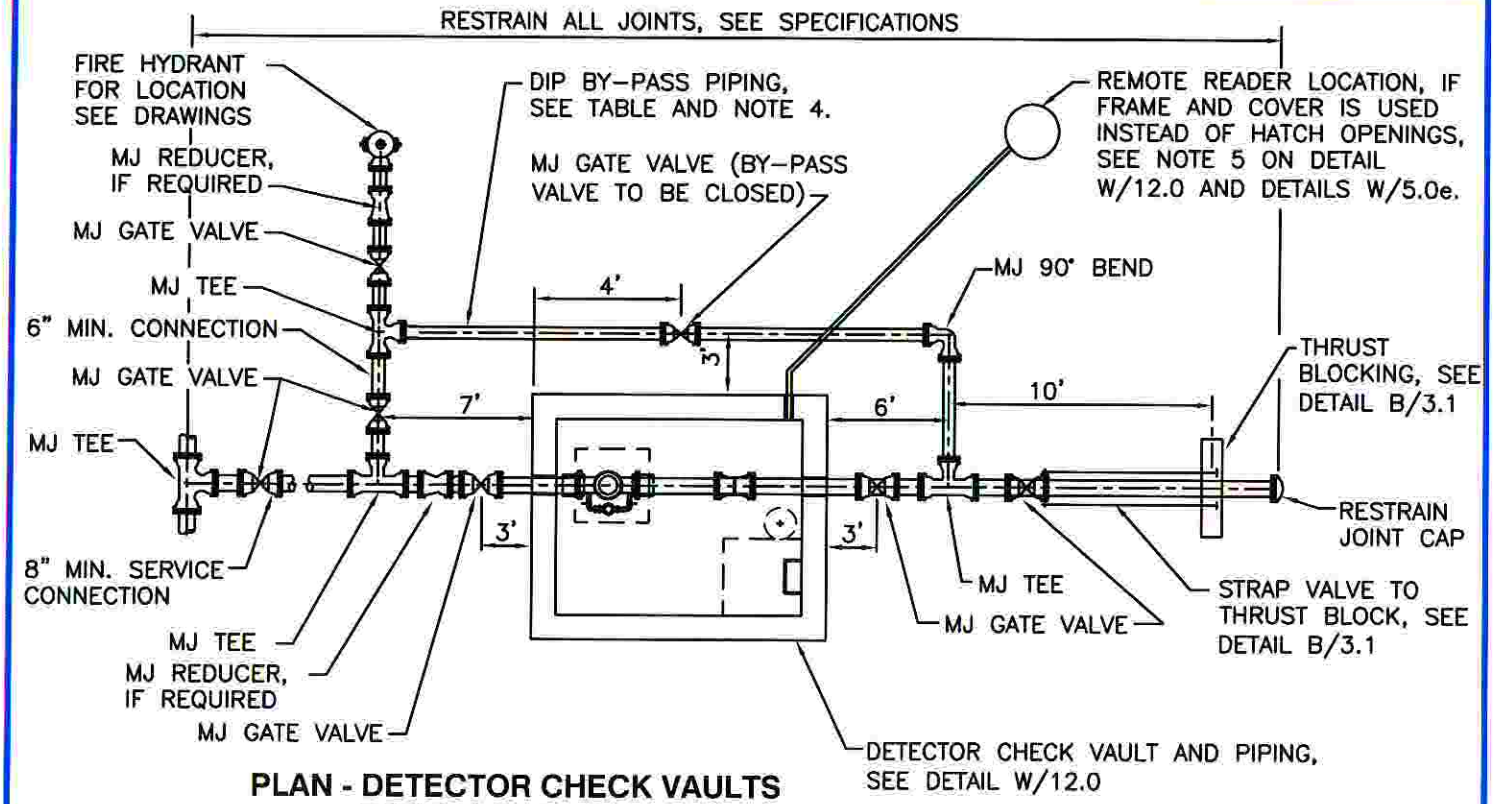
| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: JULY 1, 2005<br>Chief Engineer | STANDARD DETAIL<br>PIPE CLOSURE JOINT DETAIL USING MJ SOLID SLEEVES | W<br>11.0 |




**NOTES:**

1. FOR PIPE AND DETECTOR CHECK SIZES, PIPING LAYOUT AND NOTES, SEE DETAILS W/12.0a.
2. FOR TOP SLAB DETAILS, SEE DETAIL W/5.24.
3. FOR DIMENSION "A", SEE DETAIL W/12.0a.
4. FOR LOCATION OF BY-PASS PIPING, SEE DETAIL W/12.0a.
5. IF VAULT IS LOCATED IN TRAFFIC AREA, USE 30" DIA. FRAME AND COVER AND SEE DETAILS W/5.5 AND W/5.0e.
6. WSSC TO INSTALL WSSC SUPPLY BY-PASS METER ON DETECTOR CHECK.

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: June 12 2009<br>Chief Engineer | STANDARD DETAIL<br>4-INCH, 6-INCH, 8-INCH AND 10-INCH DETECTOR CHECK VAULT FOR THE REPLACEMENT OF EXISTING DETECTOR CHECK ONLY | W<br>12.0 |




## PLAN - DETECTOR CHECK VAULTS TYPICAL PIPING LAYOUT

**NOTES:**

1. FOR DETECTOR CHECK VAULT AND PIPING DETAILS, SEE DETAIL W/12.0.
2. PROVIDE M.J. SOLID SLEEVE WHERE SHOWN WITH WEDGE ACTION RESTRAINER GLAND, SEE STD. DET. B/2.7. TOLERANCE BETWEEN PIPE ENDS SHALL NOT EXCEED 1/2". DO NOT USE PIPE SPACERS, SEE SPECIFICATIONS.
3. ONLY DUCTILE IRON PIPE AND FITTINGS ONLY, EXCEPT AS NOTED. SEE DRAWINGS FOR SIZES.
4. RESTRAIN ALL JOINTS DIP BY-PASS PIPING, FROM TEE TO TEE WITH WEDGE ACTION RESTRAINER GLANDS, SEE DETAIL B/2.7.
5. PROVIDE EXTENSION STEMS AND VALVE BOXES FOR ALL BURIED VALVES, SEE DETAIL W/2.2.
6. POLYETHYENE EASEMENT FOR ALL DUCTILE IRON PIPE AND FITTINGS. SEE DETAIL W/2.8 AT CONCRETE INTERFACE.
7. PROVIDE RUBBER ANNUAL HYDROSTATIC SEALING DEVISES FOR ALL PIPE THROUGH WALL CONNECTIONS, SEE SPECIFICATIONS.

| BY-PIPE SIZE | |
|---|---|
| DETECTOR CHECK SIZE | BY-PASS PIPE SIZE |
| 4" | 4" |
| 6" | 6" |
| 8" | 8" |
| 10" | 10" |

| "A" DIMENSION (SEE DETAIL W/12.0) | |
|---|---|
| DETECTOR CHECK SIZE | "A" (LENGTH OF METER) |
| 4" | 15" |
| 6" | 21" |
| 8" | 25" |
| 10" | 28.75" |

| | | | |
|---|---|---|---|
| WASHINGTON SUBURBAN SANITARY COMMISSION | APPROVED: June 12, 2009<br>Chief Engineer | STANDARD DETAIL<br>DETECTOR CHECK VAULT PIPING LAYOUT FOR REPLACEMENT OF EXSITING DETECTOR CHECK VAULTS ONLY | W<br>12.0a |