

TYPICAL STREET CROSS SECTION

**TODD CREEK VILLAGE  
METROPOLITAN DISTRICT**

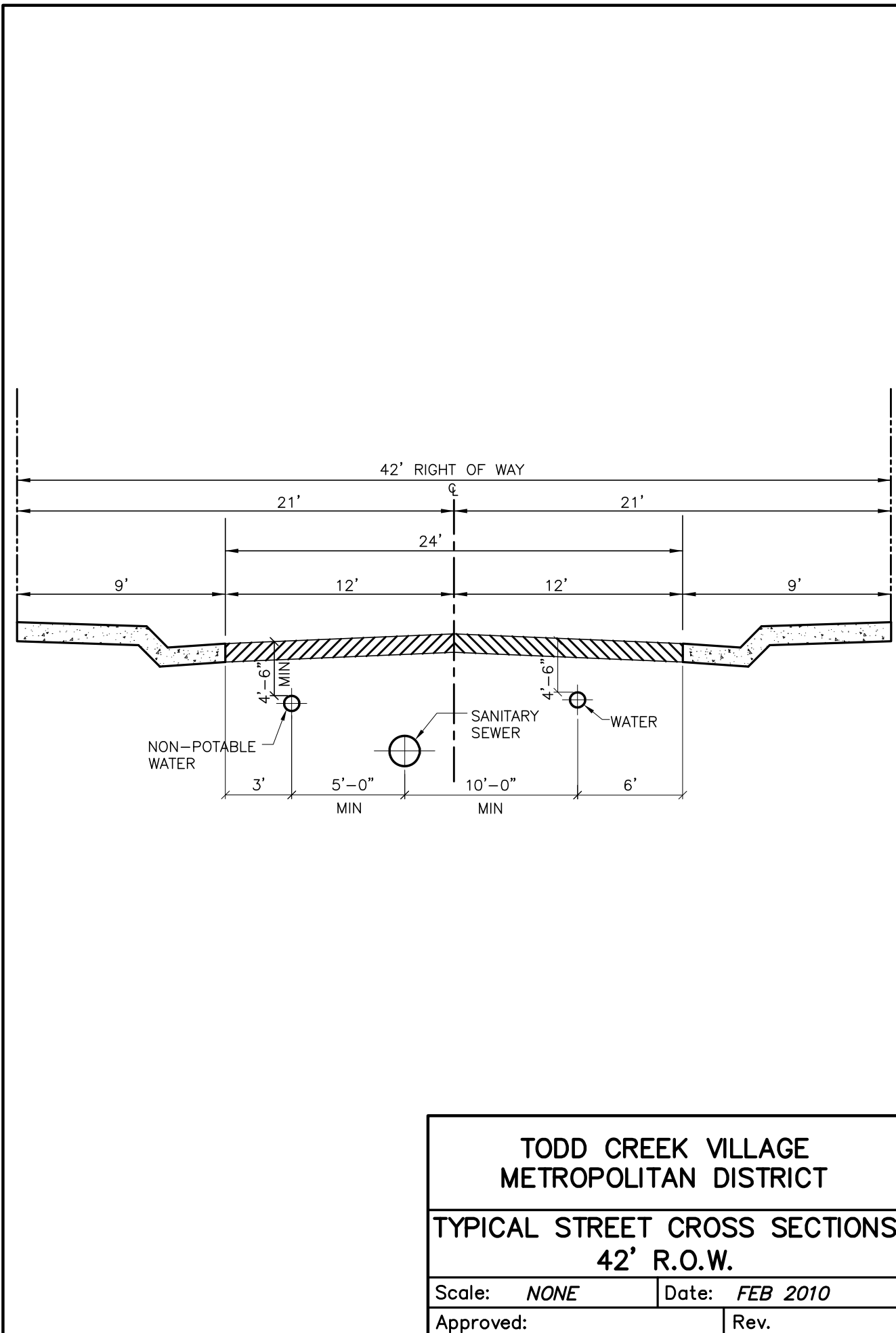
**TYPICAL STREET CROSS SECTION  
FOR WATER LINE LOCATION**

Scale: *NONE*

Date: *FEB 2010*

Approved:

Rev.



TODD CREEK VILLAGE  
METROPOLITAN DISTRICT

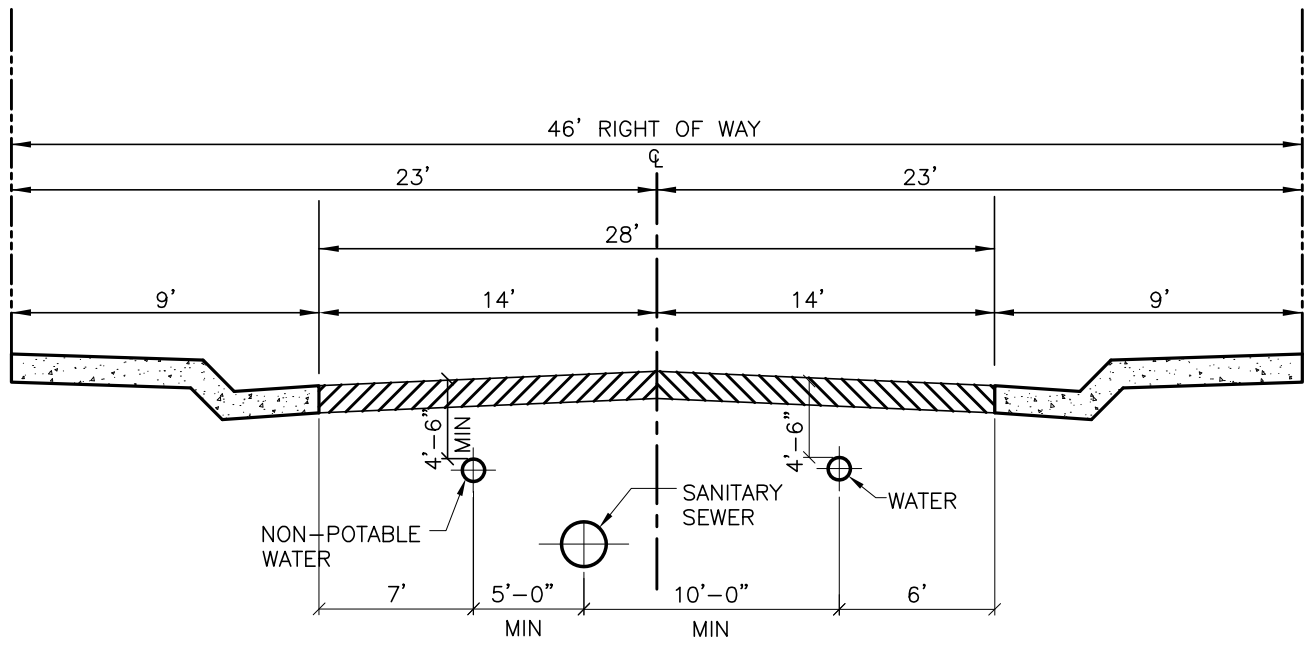
TYPICAL STREET CROSS SECTIONS  
42' R.O.W.

Scale: NONE

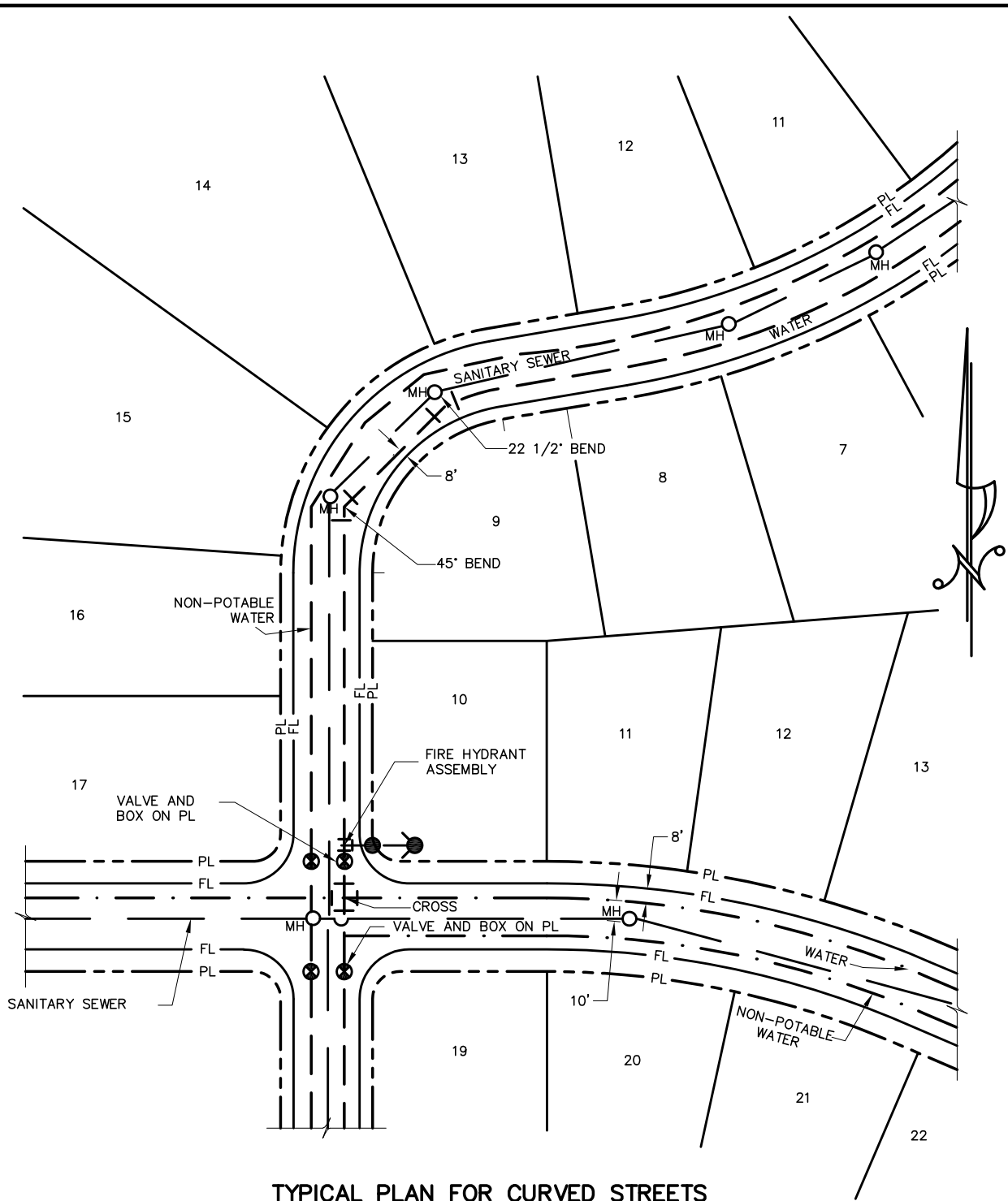
Date: FEB 2010

Approved:

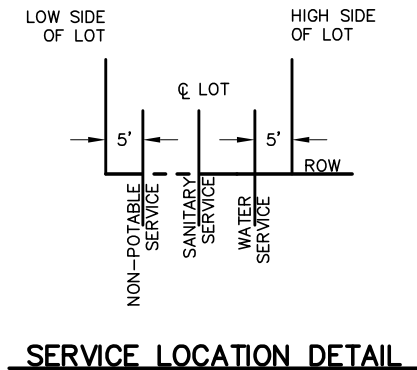
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|   |                       |
|---|-----------------------|
| <b>TODD CREEK VILLAGE<br/>METROPOLITAN DISTRICT</b> |                       |
| <b>TYPICAL STREET CROSS SECTIONS<br/>46' R.O.W.</b> |                       |
| Scale: <i>NONE</i>                                  | Date: <i>FEB 2010</i> |
| Approved:   | Rev.                  |

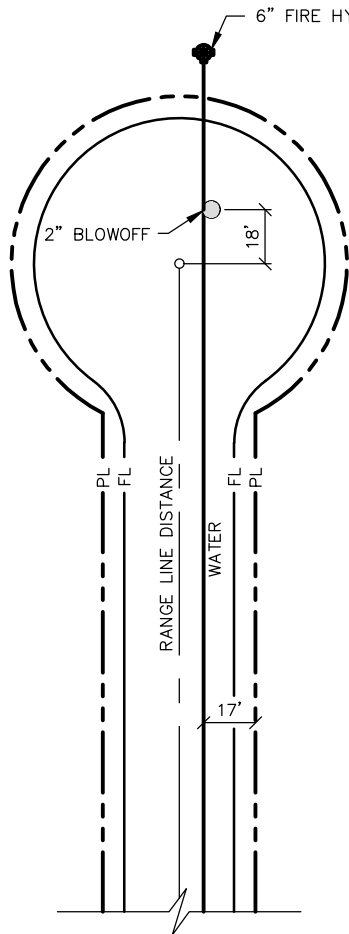


**TYPICAL PLAN FOR CURVED STREETS**



**SERVICE LOCATION DETAIL**

|  |                       |
|--|-----------------------|
| <b>TODD CREEK VILLAGE<br/>METROPOLITAN DISTRICT</b>                  |                       |
| <b>WATER DISTRIBUTION SYSTEM<br/>TYPICAL PLAN FOR CURVED STREETS</b> |                       |
| Scale: <i>NONE</i>   | Date: <i>FEB 2010</i> |
| Approved:  | Rev.                  |



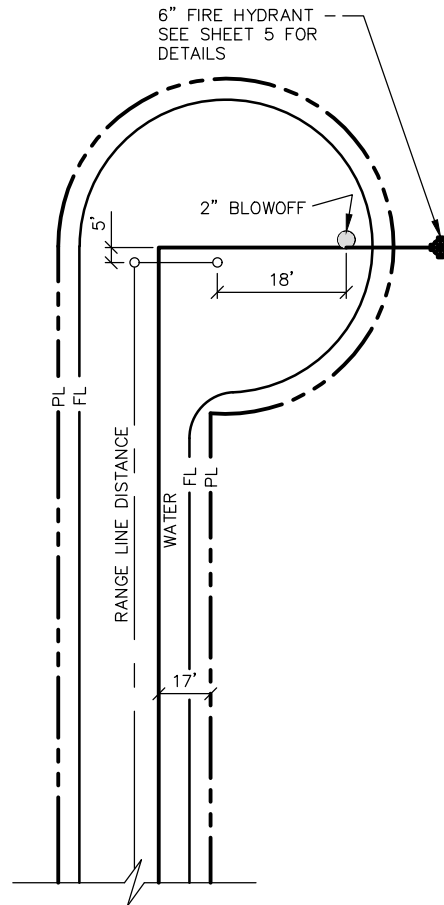
**"A"**

**"A"—STRAIGHT LINE  
CUL-DE-SAC:**

LAY PIPE TO 18'  
BEYOND THE CENTER  
(RADIUS POINT)  
OF CUL-DE-SAC.

**"B"—OFFSET  
CUL-DE-SAC:**

LAY PIPE TO 5'  
BEYOND PI THEN  
TO 18' BEYOND THE  
CENTER (RADIUS POINT)  
OF CUL-DE-SAC.



**"B"**

**NOTES:**

1. FIRE HYDRANT CAN BE USED INSTEAD OF BLOW-OFF. SEE SHEET 5 FOR DETAILS
2. PLACE FIRE HYDRANT ON PROPERTY LINE.

TYPICAL PLAN FOR CUL-DE-SACS

TODD CREEK VILLAGE  
METROPOLITAN DISTRICT

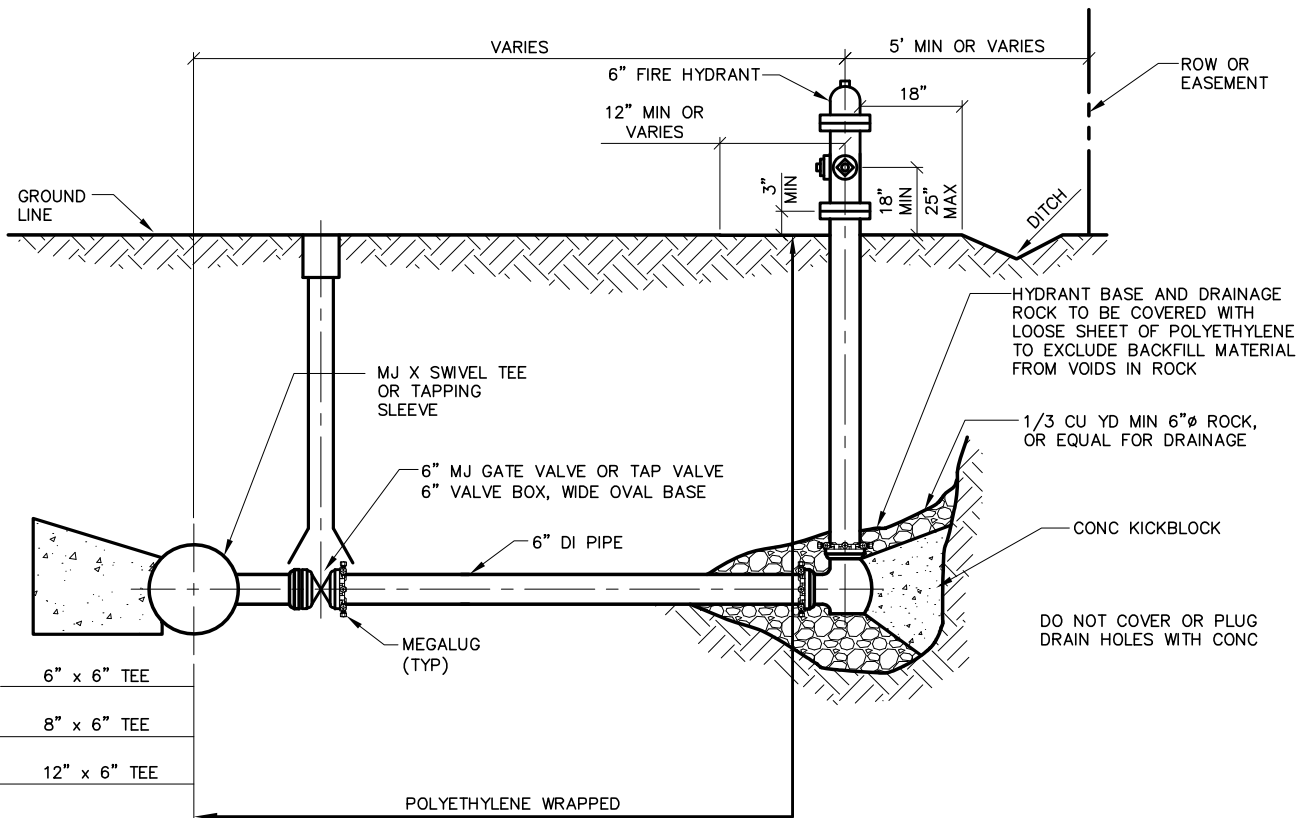
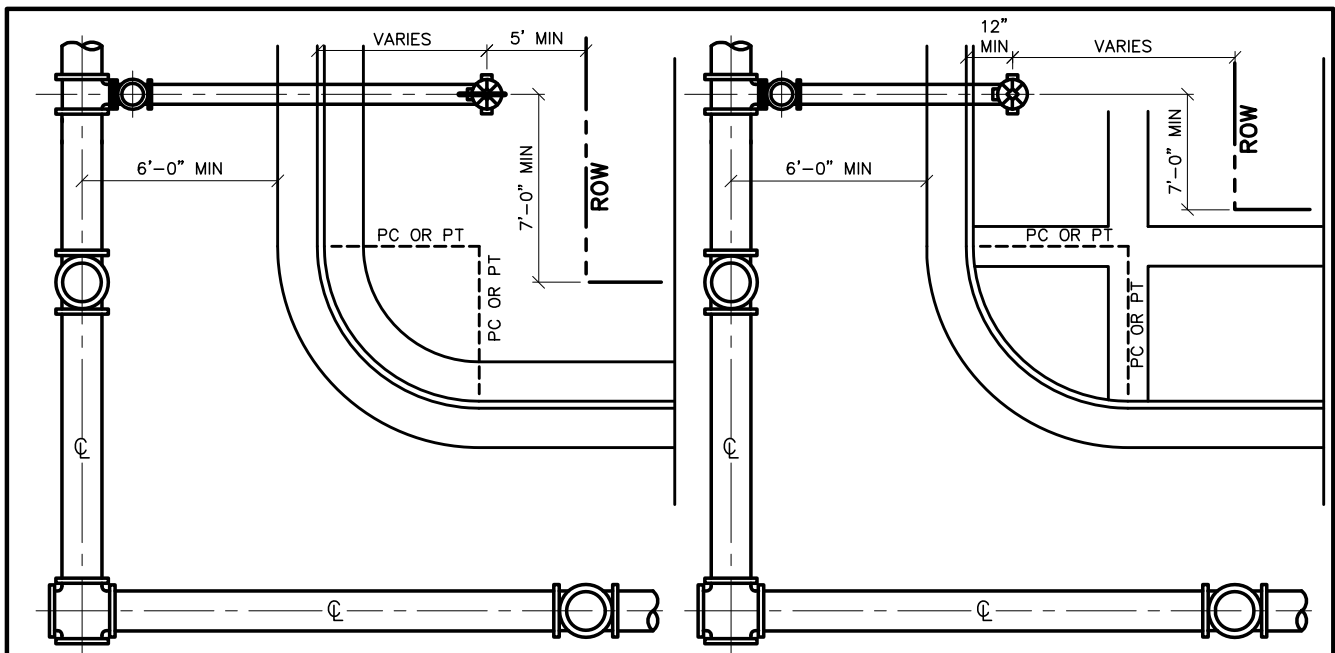
WATER DISTRIBUTION SYSTEM  
TYPICAL PLAN FOR CUL-DE-SACS

Scale: NONE

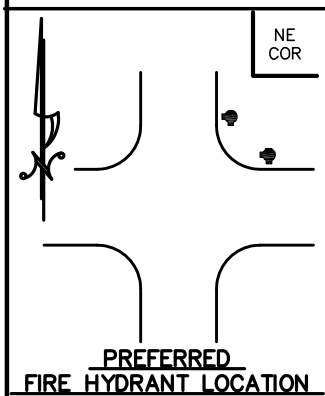
Date: FEB 16 2021

Approved:

Rev. A1

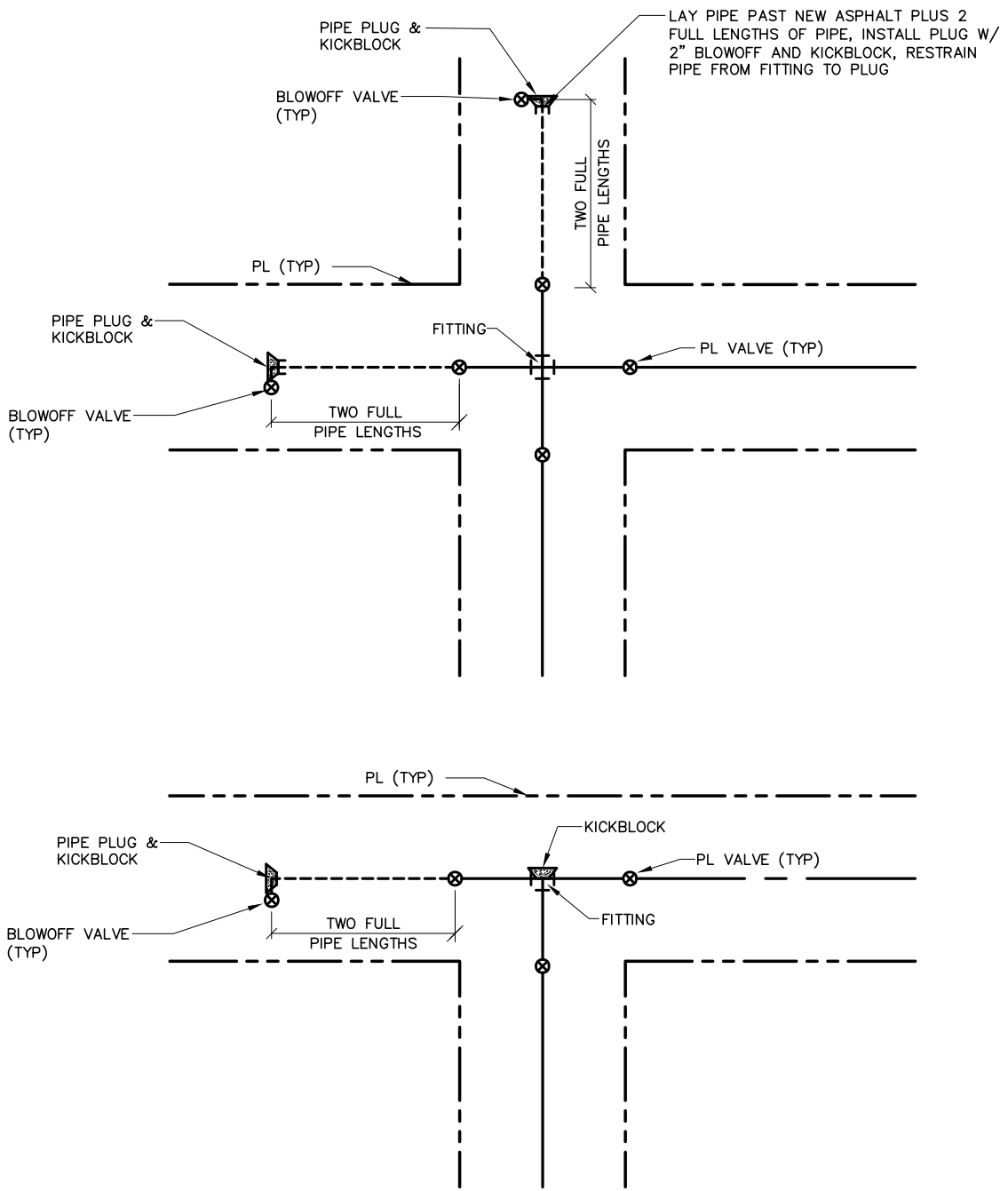


- 6" x 6" TEE
- 8" x 6" TEE
- 12" x 6" TEE



**NOTE:**  
NO HORIZONTAL OR VERTICAL BENDS ARE ALLOWED IN FIRE HYDRANT BRANCH OR SPRINKLER LINES.

|  |                       |
|--|-----------------------|
| <b>TODD CREEK VILLAGE<br/>METROPOLITAN DISTRICT</b>                            |                       |
| <b>PLAN, PROFILE &amp; LOCATIONS FOR<br/>FIRE HYDRANTS, MAINS &amp; VALVES</b> |                       |
| Scale: <i>NONE</i>   | Date: <i>FEB 2010</i> |
| Approved:  | Rev.                  |



**TODD CREEK VILLAGE  
METROPOLITAN DISTRICT**

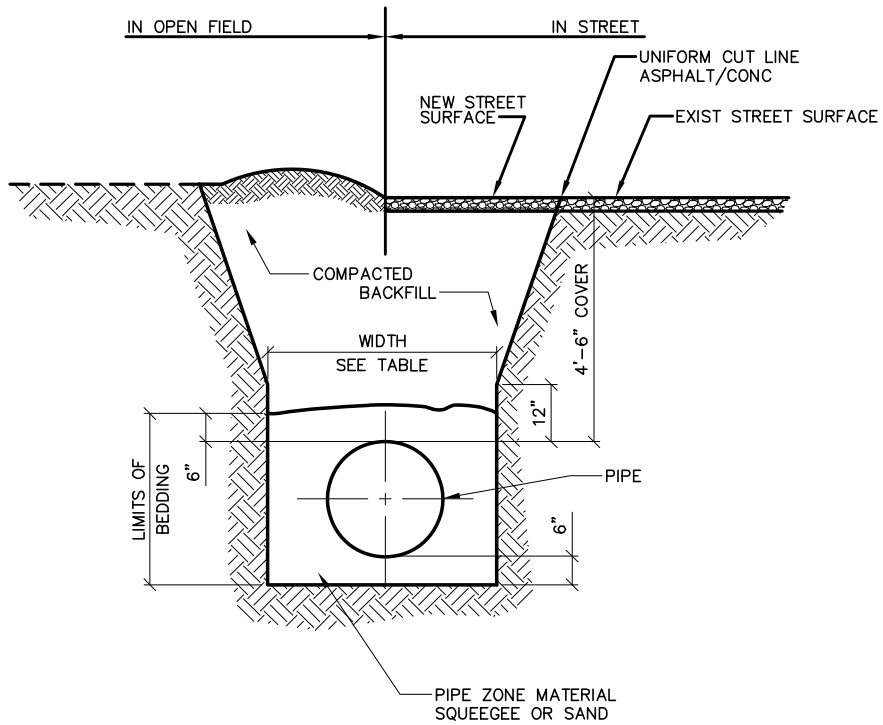
**PIPING AT STREET INTERSECTIONS  
FUTURE CONNECTIONS**

Scale: *NONE*

Date: *FEB 2010*

Approved:

Rev.



**TYPICAL TRENCH SECTION**

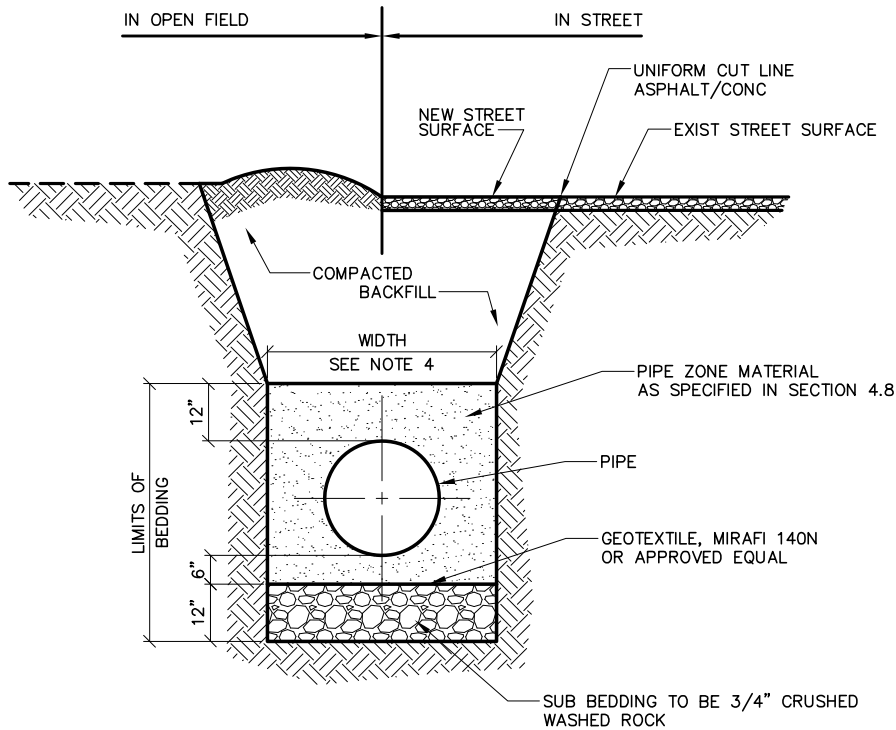
**NOTES:**

1. NEW STREET SURFACE SHALL COMPLY WITH LOCAL AUTHORITY JURISDICTION.
2. TRENCH WALLS TO BE SUPPORTED AS REQUIRED BY OSHA.
3. MIN COVER TO BE BELOW OFFICIAL STREET GRADE.

| PIPE<br>Ø | MIN<br>WIDTH | MAX<br>WIDTH |
|-----------|--------------|--------------|
| 4"        | 1'-4"        | 2'-4"        |
| 6"        | 1'-6"        | 2'-6"        |
| 8"        | 1'-8"        | 2'-8"        |
| 12"       | 2'-0"        | 3'-0"        |
| 16"       | 2'-4"        | 3'-4"        |
| 20"       | 2'-8"        | 3'-8"        |
| 24"       | 4'-0"        | 5'-0"        |

|   |                       |
|---|-----------------------|
| <b>TODD CREEK VILLAGE<br/>METROPOLITAN DISTRICT</b> |                       |
| <b>TYPICAL TRENCH SECTION<br/>PIPE PROTECTION</b>   |                       |
| Scale: <i>NONE</i>                                  | Date: <i>FEB 2010</i> |
| Approved:   | Rev.                  |





**TYPICAL TRENCH SECTION**

**NOTES:**

1. MIN COVER TO BE 4'-6" BELOW OFFICIAL STREET GRADE.
2. TRENCH WALLS TO BE SUPPORTED AS REQUIRED BY OSHA.
3. PIPE SHALL BE BEDDED FROM 18" BELOW THE BOTTOM OF THE PIPE TO 12" ABOVE THE TOP OF THE PIPE.
4. TRENCH WIDTH SHALL NOT BE MORE THAN 16" NOR LESS THAN 12" WIDER THAN THE LARGEST OD OF PIPE.
5. COMPACTION SHALL BE IN ACCORDANCE WITH SECTION 4.10.
6. TAPPING SADDLES REQUIRED IN AREAS WHERE THE BEDDING SECTION IS USED.
7. PROVIDE DISTRICT WITH SOILS REPORT DESCRIBING EXPANSIVE CHARACTERISTICS OF THE SOIL.

**TODD CREEK VILLAGE  
METROPOLITAN DISTRICT**

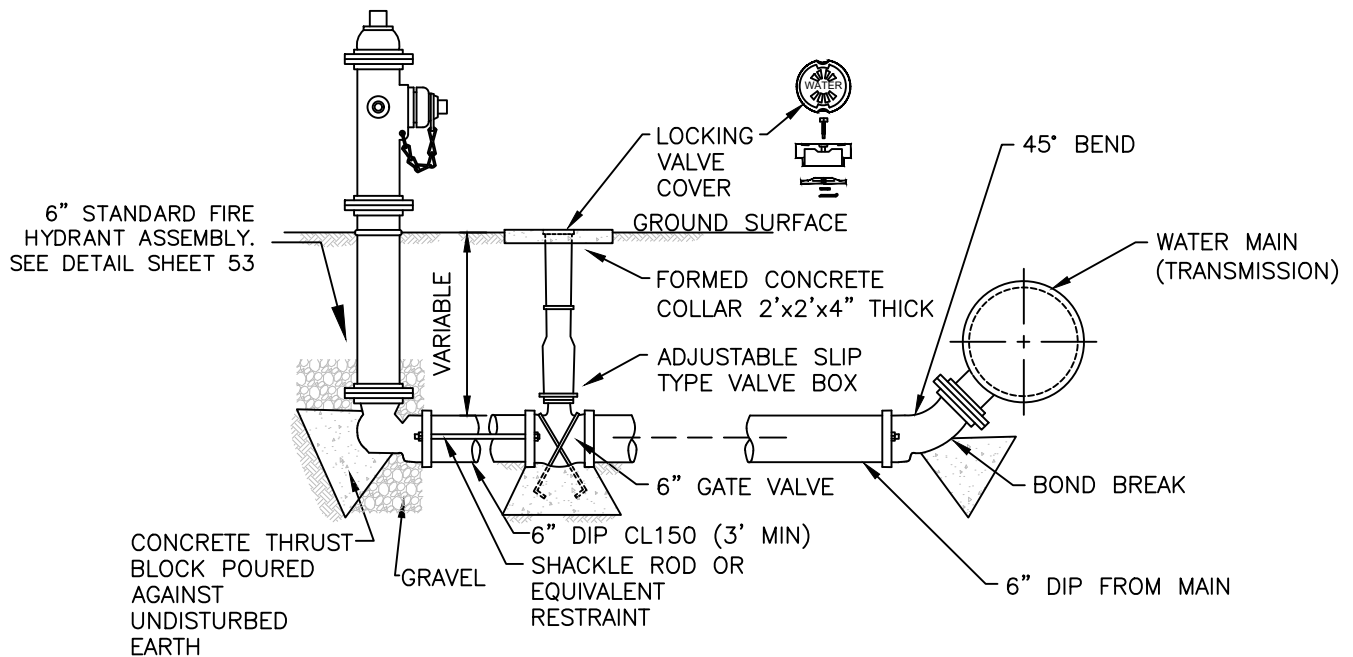
**TYPICAL TRENCH SECTION FOR  
PIPELINES IN EXPANSIVE SOILS**

Scale: *NONE*

Date: *FEB 2010*

Approved:

Rev.



NOTES:

1. THIS INSTALLATION IS FOR MAIN WITH PIPE SIZE OF 12" AND SMALLER DIAMETERS
2. FOR BLOW-OFF INSTALLATION APPLICATION FOR WATER MAIN WITH PIPE SIZE OF 16" AND LARGER DIAMETERS, APPROVAL IS REQUIRED FROM THE DISTRICT

TODD CREEK VILLAGE  
METROPOLITAN DISTRICT

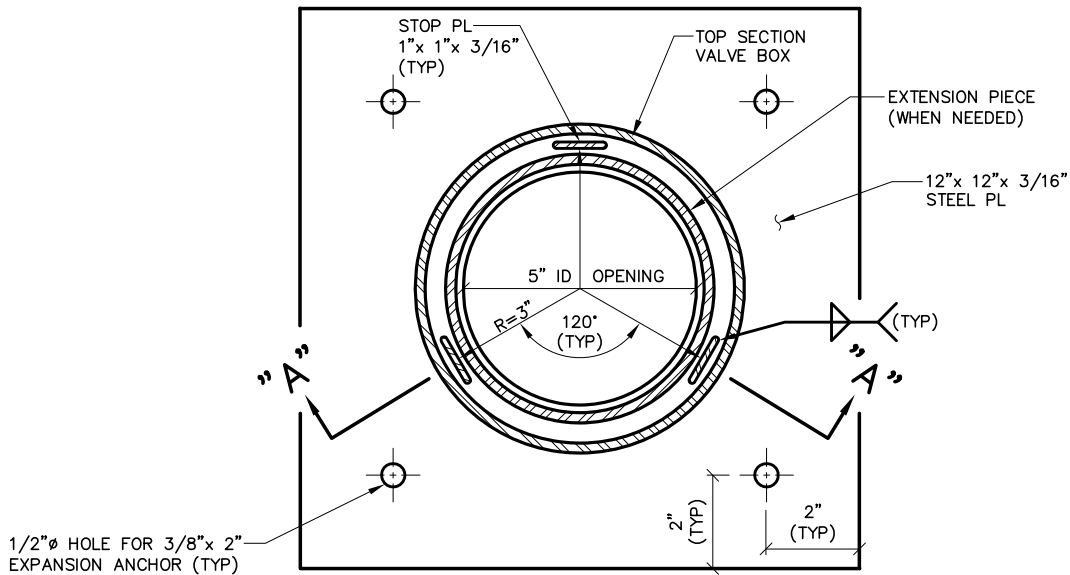
BLOWOFF VALVE INSTALLATION

Scale: NONE

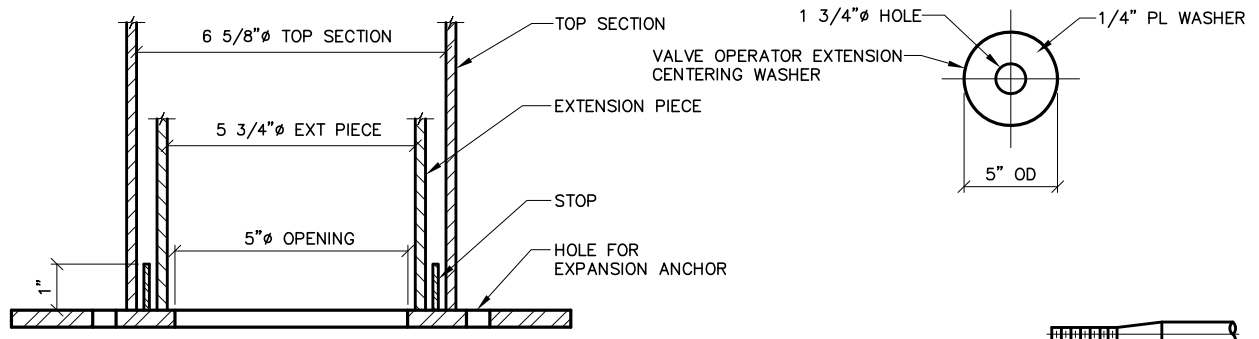
Date: FEB 16 2021

Approved:

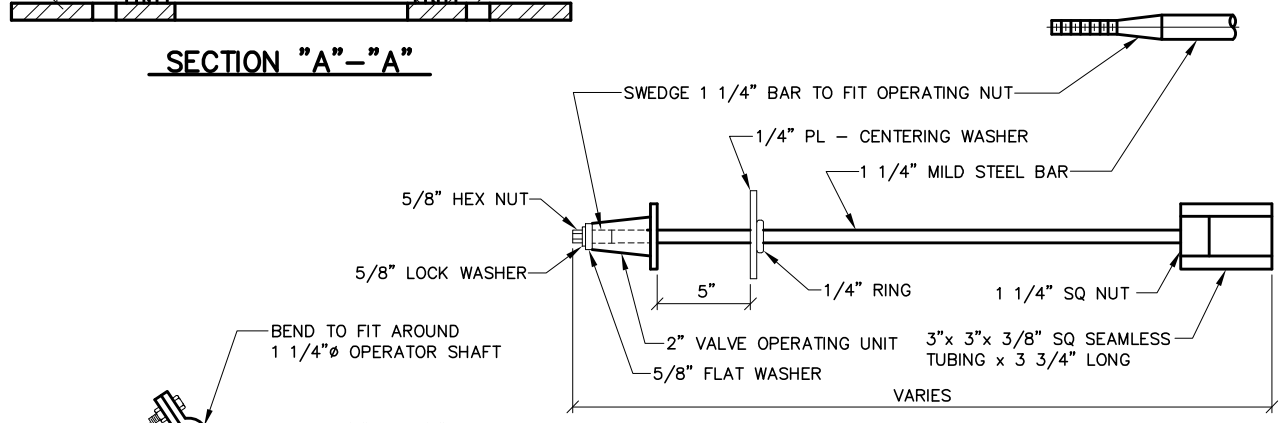
Rev. A1



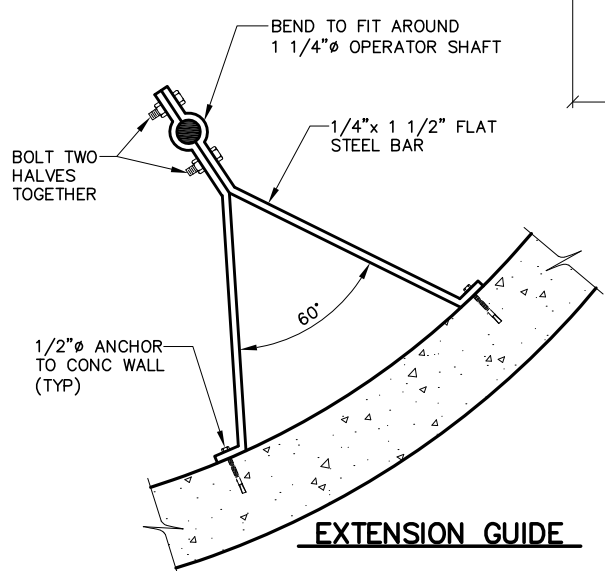
**PLAN**



**SECTION "A"- "A"**

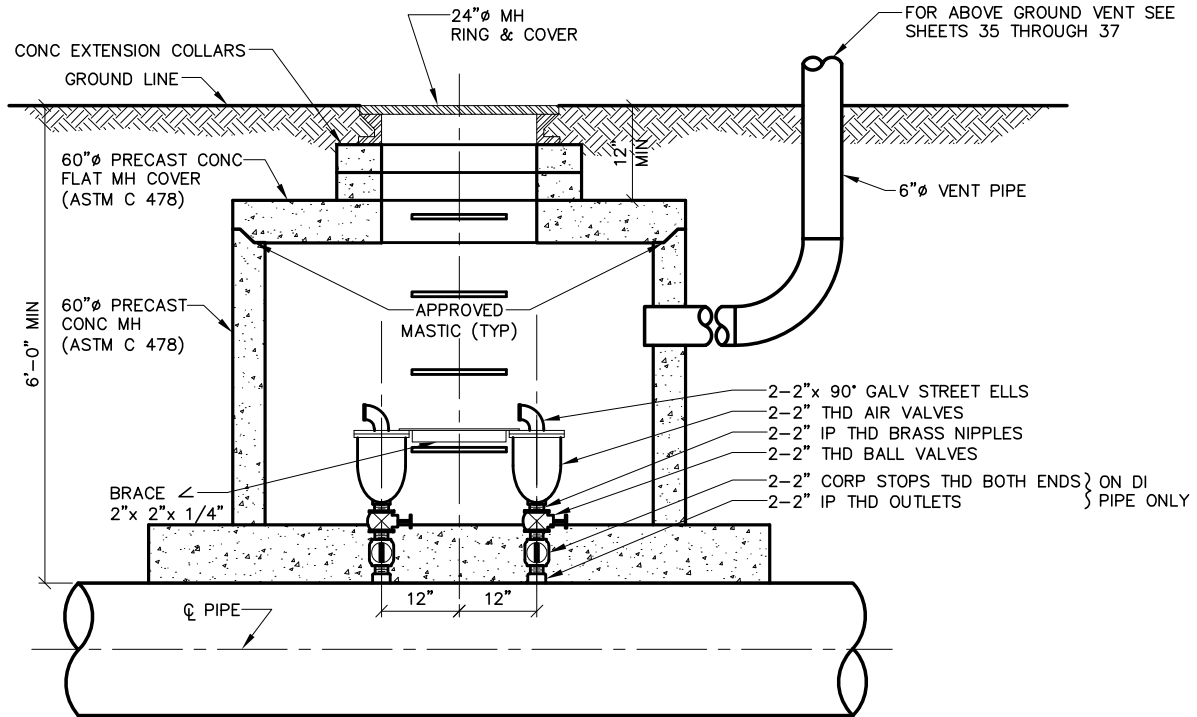


**VALVE OPERATOR EXTENSION**

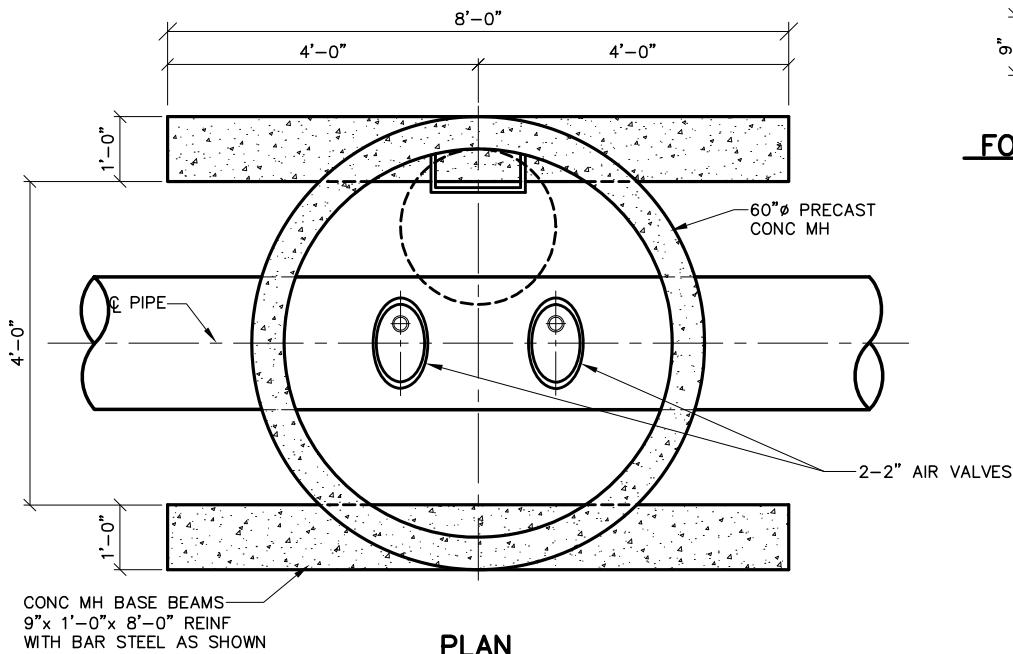


**EXTENSION GUIDE**

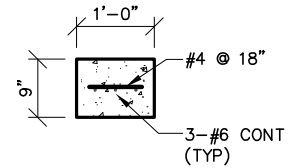
|   |                       |
|---|-----------------------|
| <b>TODD CREEK VILLAGE<br/>METROPOLITAN DISTRICT</b>                     |                       |
| <b>VALVE BOX SUPPORT PLATE<br/>&amp; VALVE OPERATOR EXTENSION GUIDE</b> |                       |
| Scale: <i>NONE</i>  | Date: <i>FEB 2010</i> |
| Approved:   | Rev.                  |



**ELEVATION**



**PLAN**



**FOOTING DETAIL**

**NOTES:**

1. USE 2" AIR VALVE ASSEMBLY ON 30" OR SMALLER PIPE.
2. THE DISTANCE BETWEEN RUNGS, CLEATS, AND STEPS SHALL NOT EXCEED 12 INCHES AND SHALL BE UNIFORM THROUGHOUT THE LENGTH OF THE LADDER.
3. LADDER RUNGS ARE REQUIRED IN PRECAST CONC MH.

**TODD CREEK VILLAGE  
METROPOLITAN DISTRICT**

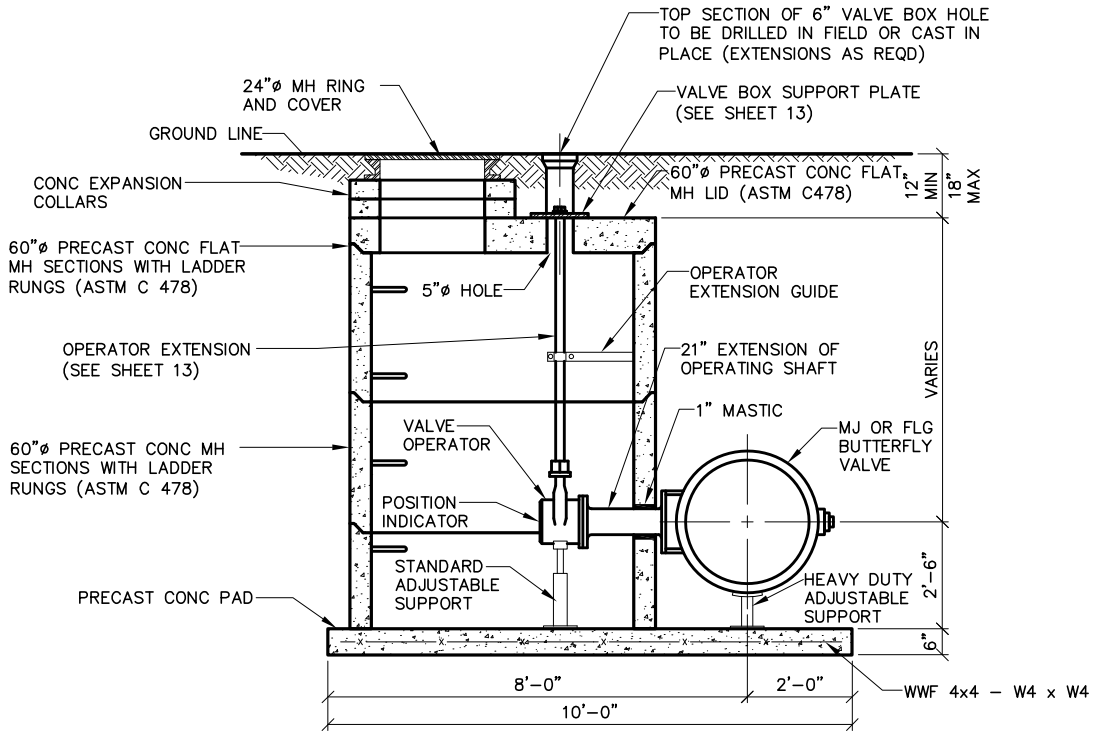
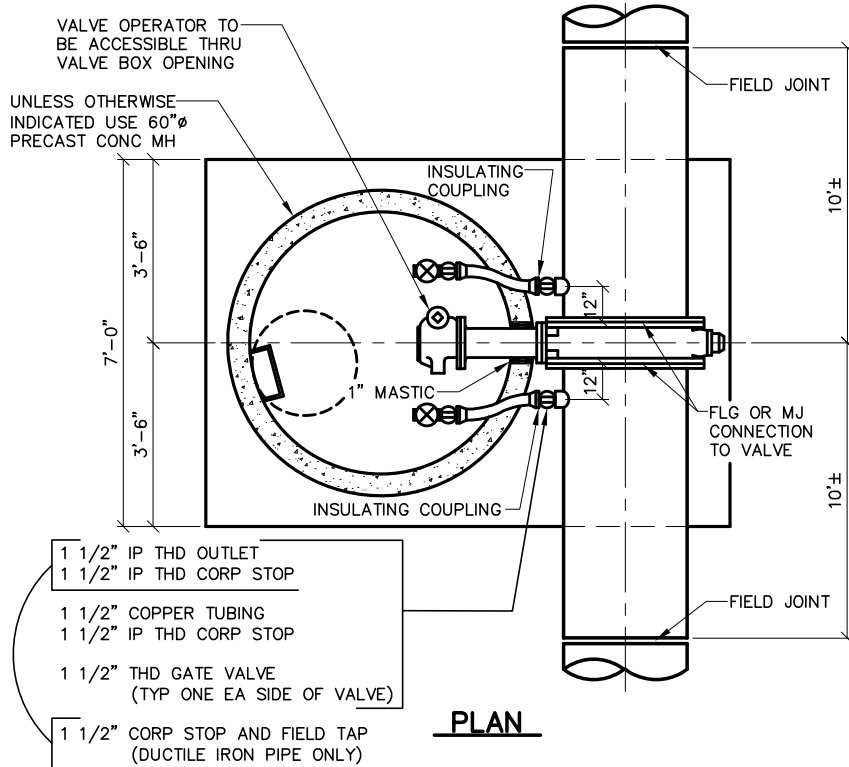
**2" AIR VALVE ASSEMBLY**

Scale: *NONE*

Date: *FEB 2010*

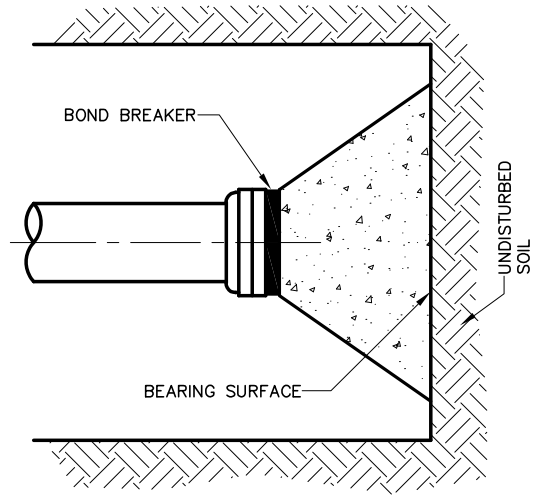
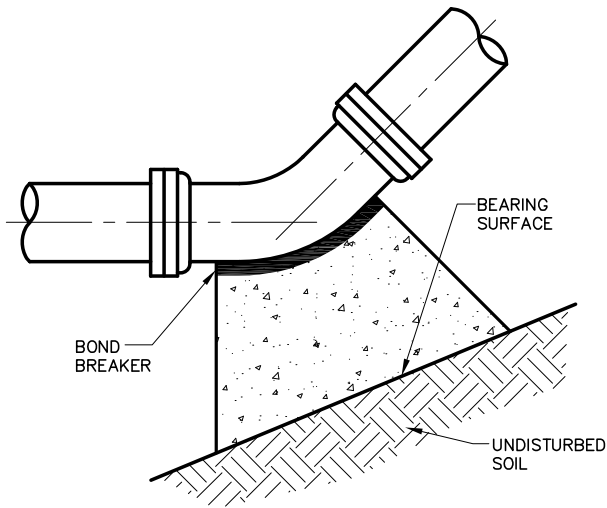
Approved:

Rev.



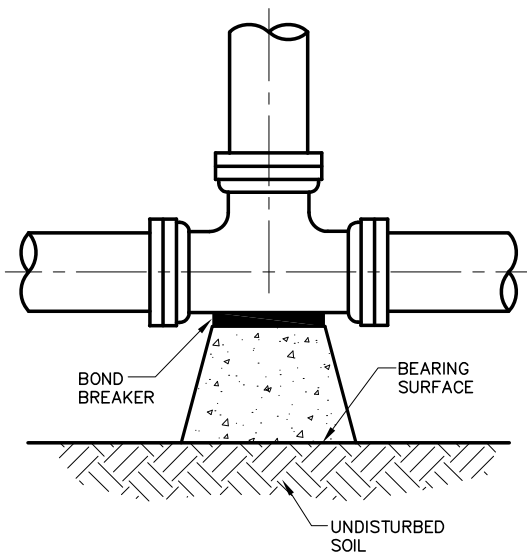
- NOTES:**
- 1 1/2" CORP STOP MAY BE DIRECT TAPPED TO 16" AND LARGER MAINS.
  - THE DISTANCE BETWEEN RUNGS, CLEATS AND STEPS SHALL NOT EXCEED 12 INCHES AND SHALL BE UNIFORM THROUGHOUT THE LENGTH OF THE LADDER.

|   |                       |
|---|-----------------------|
| <b>TODD CREEK VILLAGE<br/>METROPOLITAN DISTRICT</b>   |                       |
| <b>CONDUIT OR TRANSMISSION MAIN,<br/>MECHANICAL JOINT OR FLANGED<br/>BUTTERFLY VALVE INSTALLATION</b> |                       |
| Scale: <i>NONE</i>  | Date: <i>FEB 2010</i> |
| Approved:   | Rev.                  |

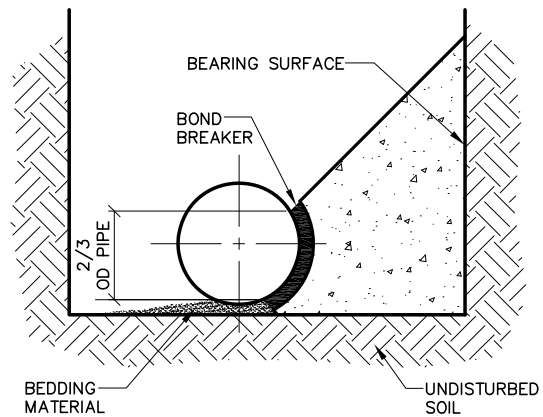


**DEAD END**

**11 1/4', 22 1/2',  
45° AND 90° BENDS**



**TEE**



**TYPICAL CROSS SECTION**

**MINIMUM BEARING SURFACE AREA  
(IN SQUARE FEET)**

| SIZE OF PIPE | BENDS   |         |       |       | TEE OR DEAD END |
|--------------|---------|---------|-------|-------|-----------------|
|              | 11 1/4' | 22 1/2' | 45°   | 90°   |                 |
| 4"           | 1.00    | 1.00    | 1.00  | N/A   | 1.50            |
| 6"           | 1.00    | 1.25    | 2.25  | N/A   | 3.00            |
| 8"           | 1.00    | 2.00    | 4.00  | N/A   | 5.25            |
| 12"          | 2.25    | 4.50    | 8.75  | N/A   | 11.25           |
| 16"          | 3.75    | 7.50    | 14.50 | 27.00 | 19.00           |
| 20"          | 5.00    | 10.00   | 19.50 | 35.50 | 25.00           |
| 24"          | 7.00    | 14.00   | 27.75 | 51.00 | 36.00           |

**NOTES:**

1. ON 16" AND 20" TRANSMISSION MAINS, ALL BENDS SHALL BE BOTH RODDED AND KICKBLOCKED.
2. BEARING SURFACES SHOWN IN CHART ARE MIN.
3. BASED ON 150 PSI INTERNAL PIPE PRESSURE PLUS WATER HAMMER.  
4", 6", 8" AND 12" WATER HAMMER = 110 PSI  
16", 20" AND 24" WATER HAMMER = 70 PSI
4. BASED ON 3,000 PSF SOIL BEARING CAPACITY.

**TODD CREEK VILLAGE  
METROPOLITAN DISTRICT**

**CONCRETE KICKBLOCKS  
BEARING SURFACES & INSTALLATION**

Scale: *NONE*

Date: *FEB 2010*

Approved:

Rev.

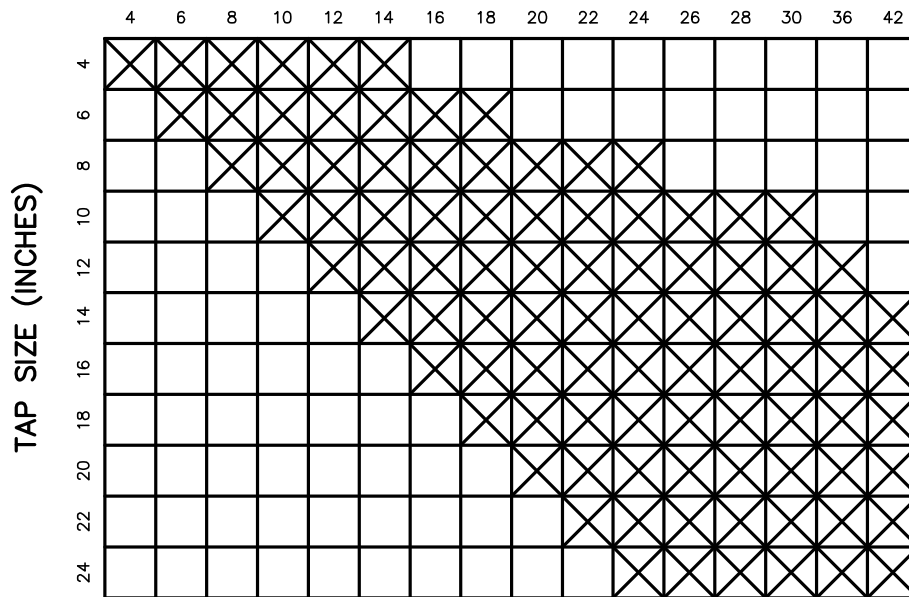
# CONCRETE KICKBLOCKS

WATER MAIN AND TAP SIZE COMBINATIONS WHICH  
REQUIRE A CONC KICKBLOCK BEHIND THE MAIN  
AT THE TAPPING SLEEVE OR SADDLE

## ALL WATER MAINS



INDICATED CONC KICKBLOCK REQD  
MAIN SIZE (INCHES)



ANY KICKBLOCK REQUIREMENTS FOR WATER MAIN AND TAP SIZE  
COMBINATIONS OTHER THAN THOSE SHOWN ABOVE WILL REQUIRE SPECIAL  
DESIGN APPROVAL BY THE DISTRICT ENGINEER.

**TODD CREEK VILLAGE  
METROPOLITAN DISTRICT**

**CONCRETE KICKBLOCKS**

Scale: *NONE*

Date: *FEB 2010*

Approved:

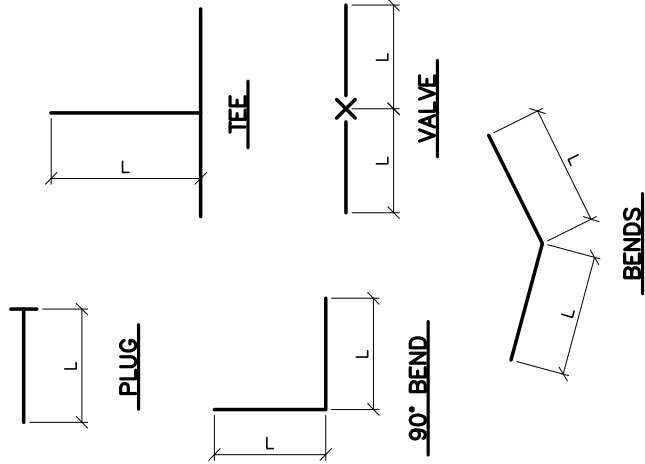
Rev.

**ROD DIAMETER, GRADE & LENGTH OF RESTRAINED PIPE**

| PIPE SIZE           | 4"   |     |    | 6"   |     |    | 8"   |     |    | 12"  |     |    | 16"  |      |      | 20"    |        |      | 24" |   |   |   |
|---------------------|------|-----|----|------|-----|----|------|-----|----|------|-----|----|------|------|------|--------|--------|------|-----|---|---|---|
|                     | D    | L   | G  | D    | L   | G  | D    | L   | G  | D    | L   | G  | D    | L    | G    | D      | L      | G    | D   | L | G |   |
| FITTING             |      |     |    |      |     |    |      |     |    |      |     |    |      |      |      |        |        |      |     |   |   |   |
| 90° BEND, TEE, PLUG | 3/4" | 30' | MS | 3/4" | 45' | MS | 3/4" | 60' | MS | 3/4" | 86' | MS | 1"   | 108' | HS   | 1 1/4" | 132'   | HS   |     |   |   |   |
| VALVE               | -    | -   | -  | -    | -   | -  | -    | -   | -  | -    | -   | -  | -    | 1"   | 108' | HS     | 1 1/4" | 132' | HS  | - | - | - |
| 45° BEND            | 3/4" | 9'  | MS | 3/4" | 13' | MS | 3/4" | 18' | MS | 3/4" | 25' | MS | 1"   | 32'  | MS   | 3/4"   | 39'    | HS   | -   | - | - | - |
| 22 1/2° BEND        | 3/4" | 1'  | MS | 3/4" | 4'  | MS | 3/4" | 5'  | MS | 3/4" | 7'  | MS | 3/4" | 8'   | MS   | 3/4"   | 10'    | MS   | -   | - | - | - |
| 11 1/4° BEND        | -    | -   | -  | -    | -   | -  | 3/4" | 1'  | MS | 3/4" | 2'  | MS | 3/4" | 2'   | MS   | 3/4"   | 3'     | MS   | -   | - | - | - |

**NOTES:**

- LENGTH OF RESTRAINED PIPE MEASURED EACH WAY FROM VALVES AND BENDS.
- CLAMPS, RODS & MEGALUGS NOT ALLOWED FOR 24" & LARGER PIPES.
- D=DIAMETER, L=LENGTH, G=GRADE, MS=MILD STEEL, HS=HIGH STRENGTH.
- MIN 4.5' GROUND COVER REQD.
- BASED ON 150 PSI INTERNAL PRESSURE.
- MS = MILD STEEL ROD ASTM A 36.
- HS = HIGH STRENGTH ROD ASTM A 193 GRADE B7.
- NUTS SHALL BE ASTM A 307 GRADE A OR B HEXAGON HEAVY SERIES. HS NUTS SHALL CONFORM TO MS-22.
- SEE TIE ROD DETAIL SHEET 18. ALSO, TIE ROD COUPLING DETAILS (19), CLAMP DETAILS (21) AND SET CLAMP DETAILS.
- LENGTH REFERS TO THE AMOUNT OF PIPE WHICH MUST BE RESTRAINED TOGETHER AND IS NOT NECESSARILY THE LENGTH OF THE RODS.
- LENGTH OF RESTRAINED PIPE CHART IS ALSO FOR THE LENGTH OF JOINT RESTRAINT FOR MEGALUGS.
- CROSSES MUST BE RESTRAINED IN ALL APPLICABLE DIRECTIONS.
- 12" AND SMALLER IN LINE VALVES AND TEES SHALL HAVE A MECHANICAL JOINT RESTRAINT DEVICE ON EACH SIDE OF THE FITTING OR VALVE. MECHANICAL JOINT RESTRAINT DEVICE SHALL BE PER MS-2.
- A SECOND VALVE WILL BE REQD TO BE CLOSED WHEN EXCAVATING NEXT TO A EXIST VALVE.
- ON PLUGS, TEES AND BENDS KICKBLOCK SHALL BE USED IN ADDITION TO RESTRAINT.
- WHEN REDUCERS ARE USED ON VALVE INSTALLATIONS THE LENGTH OF RESTRAINT SHALL BE BASED ON THE SIZE OF THE PIPE NOT THE SIZE OF THE VALVE.
- IF INTERNAL PRESSURE EXCEEDS 150 PSI, THE ENGINEER SHALL PROVIDE LENGTH OF RESTRAINED PIPE FOR REVIEW.



**TODD CREEK VILLAGE  
METROPOLITAN DISTRICT**

**LENGTH OF RESTRAINED PIPE**

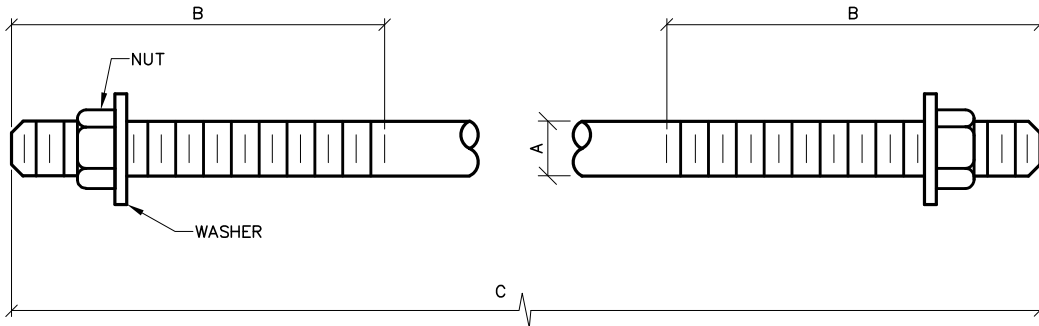
Scale: *NONE*

Date: *FEB 2010*

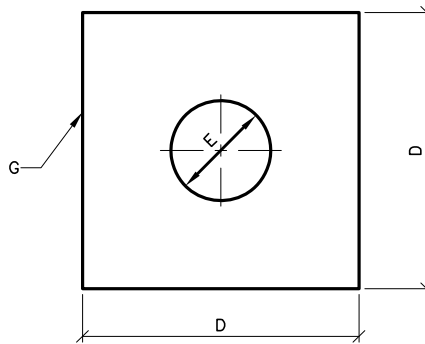
Approved:

Rev.





**TIE ROD DETAILS**



**WASHER DETAIL**

| TIE RODS     |               |                 |       |
|--------------|---------------|-----------------|-------|
| A            | B             | C               |       |
| ROD $\phi$   | THREAD LENGTH | ROD LENGTH      | GRADE |
| 3/4", 1"     | 6"            | 1' TO 11' & 20' | MS    |
| 3/4", 1 1/2" | ALL THREAD    | 1' TO 11' & 20' | HS    |

| WASHERS |                             |           |
|---------|-----------------------------|-----------|
| D       | F                           | G         |
| WIDTH   | HOLE $\phi$                 | THICKNESS |
| 5"      | 1/8" LARGER THAN ROD $\phi$ | 1/2"      |
| 6"      | 1/8" LARGER THAN ROD $\phi$ | 5/8"      |

**NOTES:**

1. SEE TIED JOINTS, ROD DIMENSIONS SHEET.
2. SEE CLAMP DETAILS AND DIMENSION (SHEET 21) FOR PROPER PLACEMENT OF WASHERS.
3. MS=MILD STEEL HS=HIGH STRENGTH

**TODD CREEK VILLAGE  
METROPOLITAN DISTRICT**

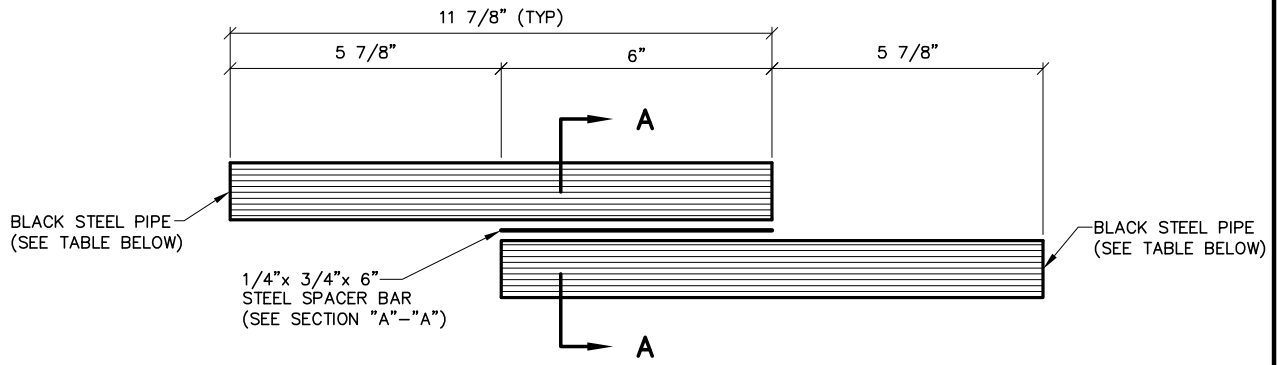
**TIE ROD & WASHER DETAILS**

Scale: *NONE*

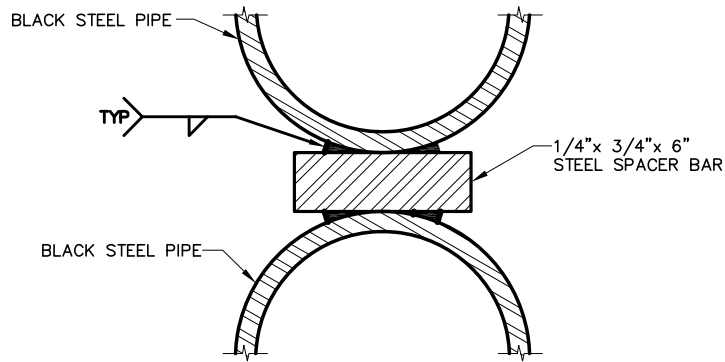
Date: *FEB 2010*

Approved:

Rev.



**TIE ROD COUPLING DETAIL**



**SECTION A - A**

| ROD SIZE | PIPE Ø     |
|----------|------------|
| 3/4"     | 1"         |
| 1"       | 1 1/4"     |
| 1 1/4"   | ALL THREAD |

**NOTE:**  
BLACK STEEL PIPE = SCHEDULE 40

**TODD CREEK VILLAGE  
METROPOLITAN DISTRICT**

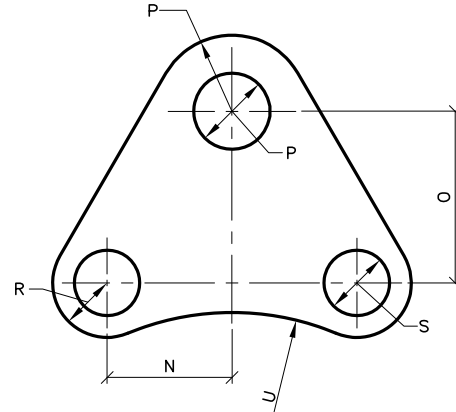
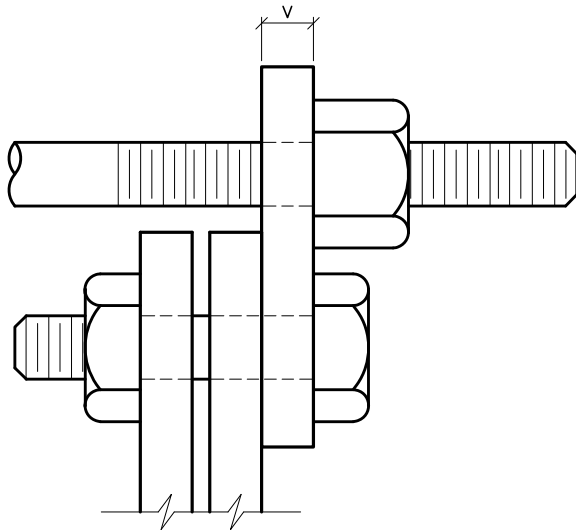
**TIE ROD COUPLING**

Scale: *NONE*

Date: *FEB 2010*

Approved:

Rev.



**FLANGE LUG DETAIL**

**DIMENSIONS**  
(IN INCHES)

| PIPE<br>Ø | N                           | O       | HS RODS |          | MS RODS |          | R     | S     | U      | V     | PIPE<br>Ø |
|-----------|-----------------------------|---------|---------|----------|---------|----------|-------|-------|--------|-------|-----------|
|           |                             |         | P       | ROD<br>Ø | P       | ROD<br>Ø |       |       |        |       |           |
| 3         | 2 1/8                       | 2 9/16" | 7/8     | 3/4      | 7/8     | 3/4      | 3/4   | 5/8   | 2 3/8  | 3/4   | 3         |
| 4         | 1 7/16                      | 2       | 7/8     | 3/4      | 7/8     | 3/4      | 3/4   | 5/8   | 3 1/8  | 3/4   | 4         |
| 6         | 1 13/16                     | 2 1/16  | 7/8     | 3/4      | 7/8     | 3/4      | 7/8   | 3/4   | 4      | 3/4   | 6         |
| 8         | 2 1/4                       | 2 1/4   | 7/8     | 3/4      | 7/8     | 3/4      | 7/8   | 3/4   | 5 1/8  | 3/4   | 8         |
| 10        | 1 7/8                       | 2 1/16  | 7/8     | 3/4      | 7/8     | 3/4      | 1     | 7/8   | 6 1/4  | 3/4   | 16"       |
| 12        | 2 1/4                       | 2 5/16  | 7/8     | 3/4      | -       | -        | 1     | 7/8   | 5 7/8  | 1     | 10        |
| 16        | 2 1/8                       | 2 7/16  | 1 1/8   | 1        | -       | -        | 1 1/8 | 1     | 9 5/8  | 1 1/8 | 12        |
| 20        | 2                           | 2 5/8   | 1 3/8   | 1 1/4    | -       | -        | 1 1/4 | 1 1/8 | 11 3/8 | 1 1/4 | 20        |
| 24        | RODS AND CLAMPS NOT ALLOWED |         |         |          |         |          |       |       |        |       | 24        |

**NOTES:**

- MS MEANS MILD STEEL ROD ASTM A 36 (NUTS SHALL BE ASTM A 307 GRADE A OR B HEXAGON HEAVY SERIES)
- HS MEANS HIGH STRENGTH STEEL ROD ASTM A 193 GRADE B7. (NUTS SHALL BE ASTM A 194 GRADE 2H)

**TODD CREEK VILLAGE  
METROPOLITAN DISTRICT**

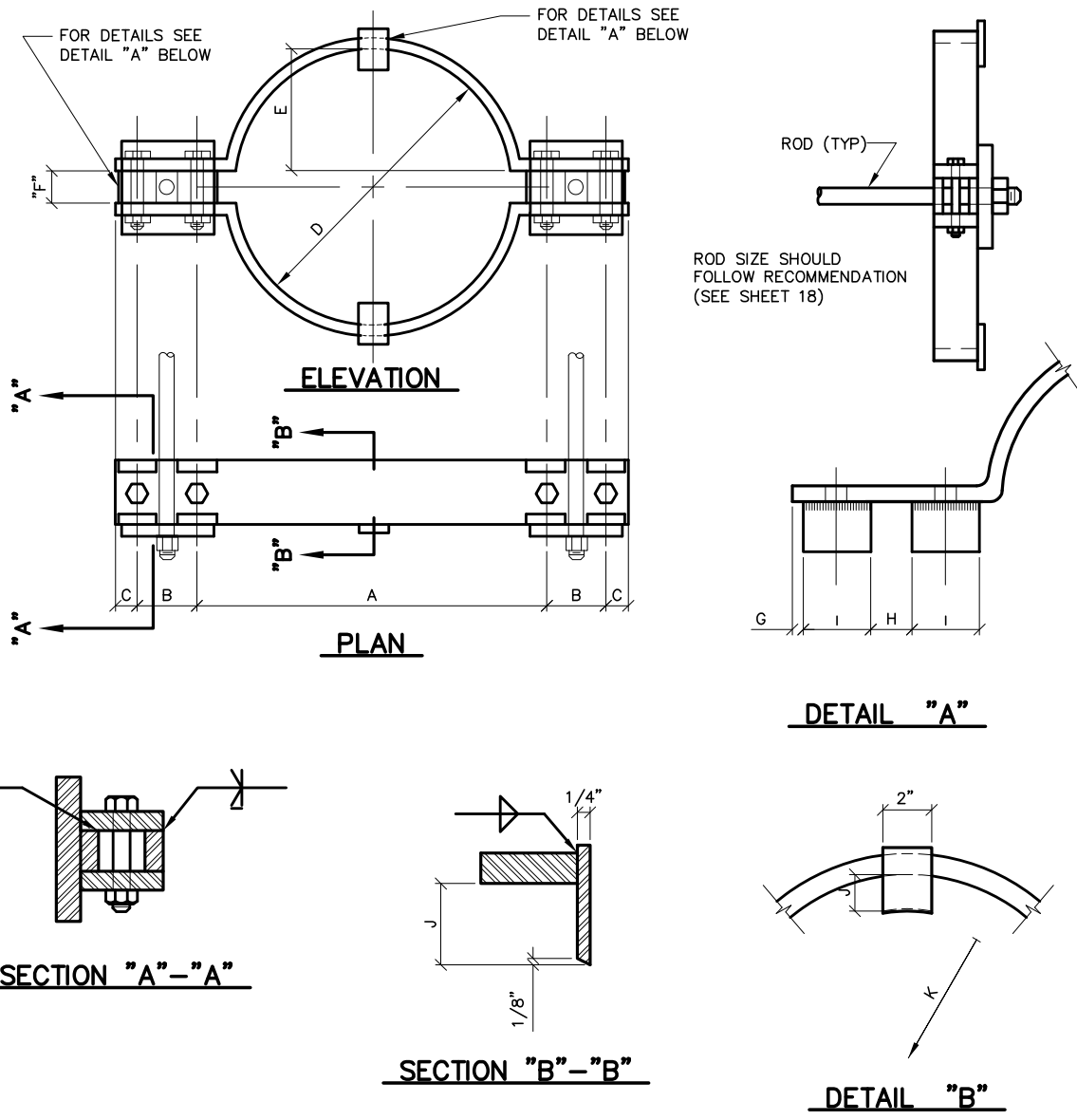
**FLANGE LUG DETAIL**

Scale: *NONE*

Date: *FEB 2010*

Approved:

Rev.



**TABLE OF DIMENSIONS FOR CLAMPS**

| PIPE SIZE | BAR SIZE   | A                            |            | B          |            | C          |            | D          |            | E          |            | F          |            | G          |            | H          |            | I          |            | J          |            | K          |            | BOLT SIZE  |            | PIPE |
|-----------|------------|------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------|
|           |            | BELL CLAMP                   | BODY CLAMP | BELL CLAMP | BODY CLAMP | BELL CLAMP | BODY CLAMP | BELL CLAMP | BODY CLAMP | BELL CLAMP | BODY CLAMP | BELL CLAMP | BODY CLAMP | BELL CLAMP | BODY CLAMP | BELL CLAMP | BODY CLAMP | BELL CLAMP | BODY CLAMP | BELL CLAMP | BODY CLAMP | BELL CLAMP | BODY CLAMP | BELL CLAMP | BODY CLAMP |      |
| 4         | 1 1/2x 1/2 | 9                            | 7 3/8      | 3          | 4          | 1 1/2      | 1 1/2      | 6 1/4      | 4 3/4      | 2 5/8      | 1 7/8      |            |            | 3/8        | 3/8        | 1 1/4      | 1 1/4      | 2 1/4      | 2 1/2      | 5/8        | 2 1/2      | 3x 1 1/2   | 2 1/2x 3/8 |            | 4          |      |
| 6         | 2 x 1/2    | 11 1/4                       | 9 5/8      | 3          | 4          | 1 1/2      | 1 1/2      | 8 1/2      | 6 7/8      | 3 3/4      | 2 15/16    |            |            |            |            |            |            | 2 1/4      | 2 1/2      | 1/2        | 3 3/4      | 3 1/2x 1/2 | 3 1/2x 1/2 |            | 6          |      |
| 8         | 2 1/2x 1/2 | 13 5/8                       | 11 7/8     | 3 1/2      | 4          | 1 1/2      | 1 1/2      | 10 3/4     | 9 1/8      | 4 7/8      | 4 1/16     |            |            |            |            |            |            | 2 1/4      | 2 1/2      | 5/8        | 4 3/4      | 4 1/2x 1/2 | 4x 1/2     |            | 8          |      |
| 12        | 2 1/2x 5/8 | 18 1/4                       | 16 3/8     | 3 1/2      | 4          | 1 1/2      | 1 1/2      | 15 1/8     | 13 1/4     | 7 1/16     | 6 1/8      |            |            |            |            |            |            | 2 1/4      | 2 1/2      | 13/16      | 6 3/4      | 4 1/2x 5/8 | 4 1/2x 5/8 |            | 12         |      |
| 16        | 3x 3/4     | 23 1/8                       | 20 5/8     | 4          | 4 1/2      | 1 1/2      | 1 1/2      | 19 3/4     | 17 3/8     | 9 1/4      | 8 1/16     | 1 1/4      | 1 1/4      | 1/4        | 1/4        | 1 1/2      | 1 1/2      | 2 1/4      | 2 3/4      | 15/16      | 8 15/16    | 5 1/2x 5/8 | 5 1/2x 5/8 |            | 16         |      |
| 20        | 3x 3/4     | 27 1/2                       | 25         | 4          | 4 1/2      | 1 1/2      | 1 1/2      | 24 1/8     | 21 5/8     | 11 5/16    | 10 1/16    | 1 1/2      | 1 1/2      | 3/8        | 3/8        | 1 3/4      | 1 3/4      | 2 1/4      | 2 1/2      | 1          | 11 1/16    | 5 1/2x 5/8 | 5 1/2x 5/8 |            | 20         |      |
| 24        |            | RODS AND CLAMPS NOT ALLOWED. |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            |            | 24         |      |

**NOTE:**  
ALL DIMENSIONS IN INCHES

**NOTE:**  
NOT FOR USE WITH 18" & 20" DI COMPACT FITTINGS.

**TODD CREEK VILLAGE  
METROPOLITAN DISTRICT**

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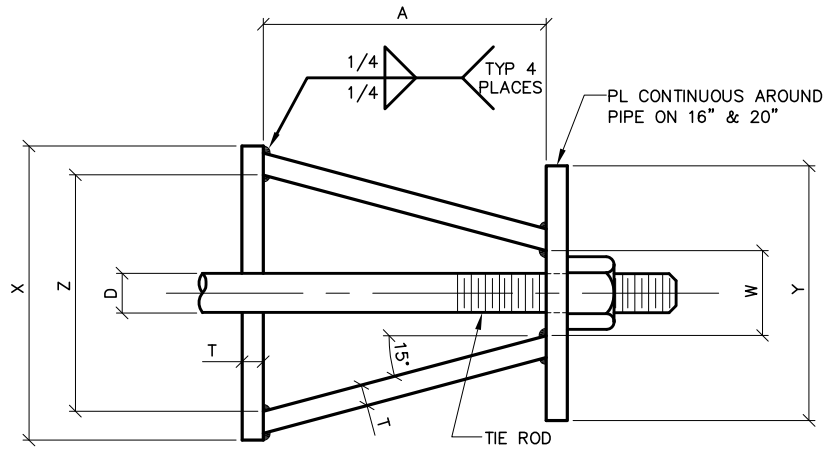
**CLAMP DETAILS & DIMENSIONS FOR  
USE WITH CI & DI FITTINGS ONLY**

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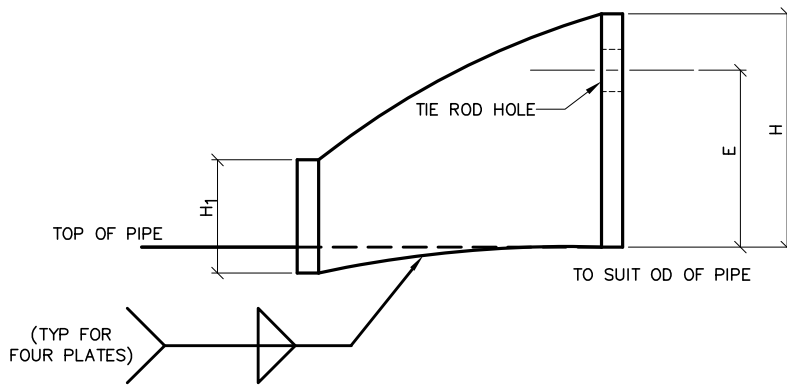
Scale: *NONE*      Date: *FEB 2010*

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Approved: \_\_\_\_\_      Rev. \_\_\_\_\_



**TOP VIEW**



**SIDE VIEW**

|                  | CARRIER PIPE NOMINAL $\phi$ | STUD $\phi$ | A      | W      | Z      | T    | H      | E      | H <sub>1</sub> | Y      | X      |
|------------------|-----------------------------|-------------|--------|--------|--------|------|--------|--------|----------------|--------|--------|
| W/O FLANGED LUGS | 4" TO 12"                   | 3/4"        | 5"     | 1 1/2" | 3 3/4" | 3/8" | 4 1/8" | 3 1/8" | 2"             | 4 1/2" | 5"     |
|                  | 16"                         | 1"          | 5 3/4" | 1 3/4" | 4 1/2" | 1/2" | 4 1/2" | 3 1/4" | 2"             | RING   | 6"     |
|                  | 20"                         | 1 1/4"      | 7 1/2" | 2"     | 5 3/4" | 5/8" | 5"     | 3 3/4" | 2 1/2"         | RING   | 7 1/2" |

**NOTES:**

1. USE TWO HS STEEL TIE RODS AT END OF CASING.
2. TIE ROD HOLE  $\phi$  1/8" LARGER THAN STUD  $\phi$ .
3. BOTTOM EDGE OF ALL PLATES SHAPED TO FIT OD OF PIPE.
4. HARNESS LUGS AS PER AWWA MANUAL M11.

**TODD CREEK VILLAGE  
METROPOLITAN DISTRICT**

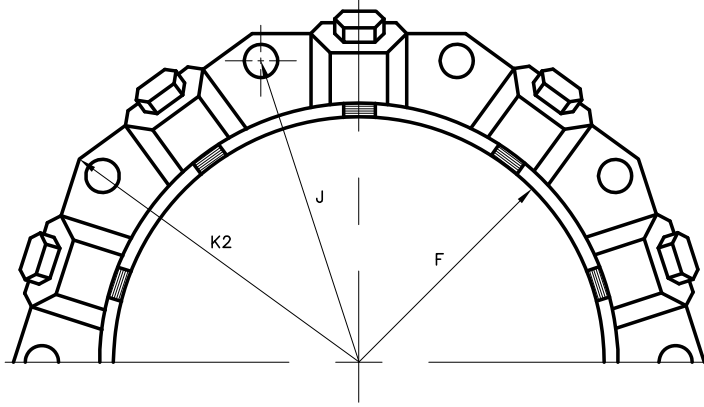
**COMBINATION FLANGED  
HARNESS LUG DETAILS**

Scale: *NONE*

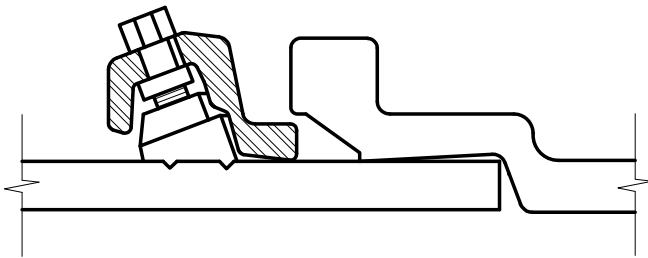
Date: *FEB 2010*

Approved:

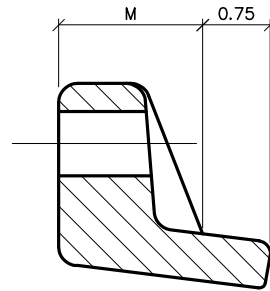
Rev.



**MECHANICAL JOINT RESTRAINT**



**WEDGE DETAIL**



**BOLT HOLE DETAIL**

**DIMENSIONS**

|                      | NOMINAL<br>PIPE SIZE | NO OF<br>BOLTS | NO OF<br>WEDGES | K2<br>INCHES | J<br>INCHES | F<br>INCHES | M<br>INCHES |                      |
|----------------------|----------------------|----------------|-----------------|--------------|-------------|-------------|-------------|----------------------|
| <b>P<br/>V<br/>C</b> | 4"                   | 2              | 2               |              |             |             |             | <b>P<br/>V<br/>C</b> |
|                      | 6"                   | 6              | 3               | 11.12        | 9.50        | 7.00        | 0.88        |                      |
|                      | 8"                   | 6              | 4               | 13.37        | 11.75       | 9.15        | 1.00        |                      |
|                      | 10"                  | 8              | 6               | 15.62        | 14.00       | 11.20       | 1.00        |                      |
|                      | 12"                  | 8              | 8               | 17.88        | 16.25       | 13.30       | 1.25        |                      |

**NOTES:**

1. OTHER MECHANICAL JOINT RESTRAINT DEVICES MUST BE APPROVED BEFORE INSTALLATION.

**TODD CREEK VILLAGE  
METROPOLITAN DISTRICT**

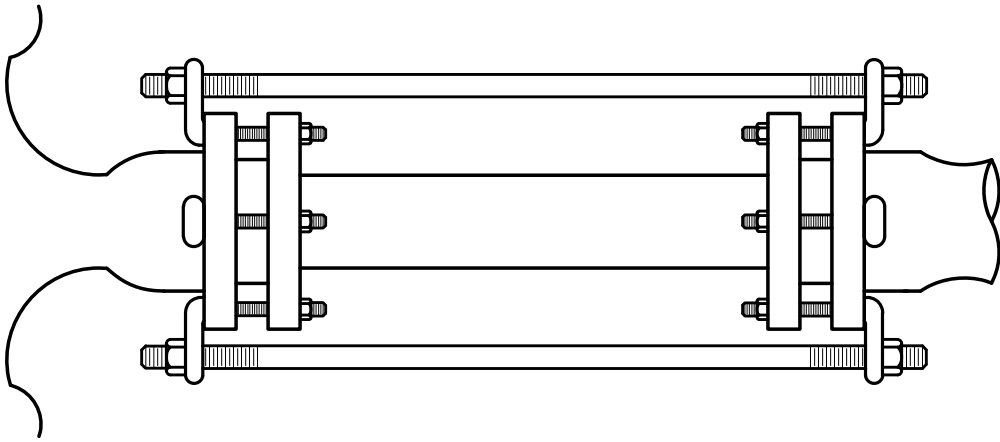
**MECHANICAL JOINT  
RESTRAINT DETAILS**

Scale: *NONE*

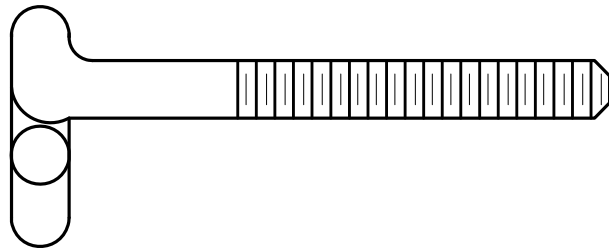
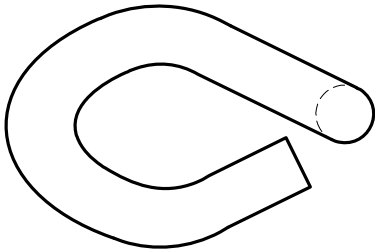
Date: *FEB 2010*

Approved:

Rev.



PLAN



DETAIL

DIMENSIONS

| ALLOWABLE<br>PIPE Ø<br>INCHES | BOLT<br>SIZE<br>INCHES | NO OF BOLTS<br>REQD |
|-------------------------------|------------------------|---------------------|
| 4                             | 3/4                    | 2                   |
| 6                             | 3/4                    | 2                   |
| 8                             | 3/4                    | 2                   |
| 10                            | 3/4                    | 4                   |
| 12                            | 3/4                    | 6                   |

**NOTES:**

1. THE BOLT SHALL BE MANUFACTURED OF "COR-TEN" OR APPROVED EQUAL.
2. THE BOLT MAY BE HEAT TREATED.

**TODD CREEK VILLAGE  
METROPOLITAN DISTRICT**

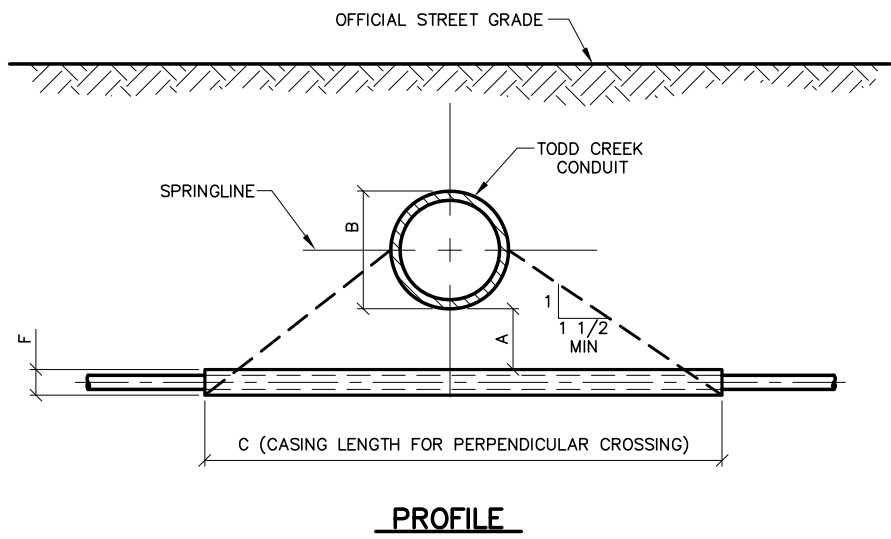
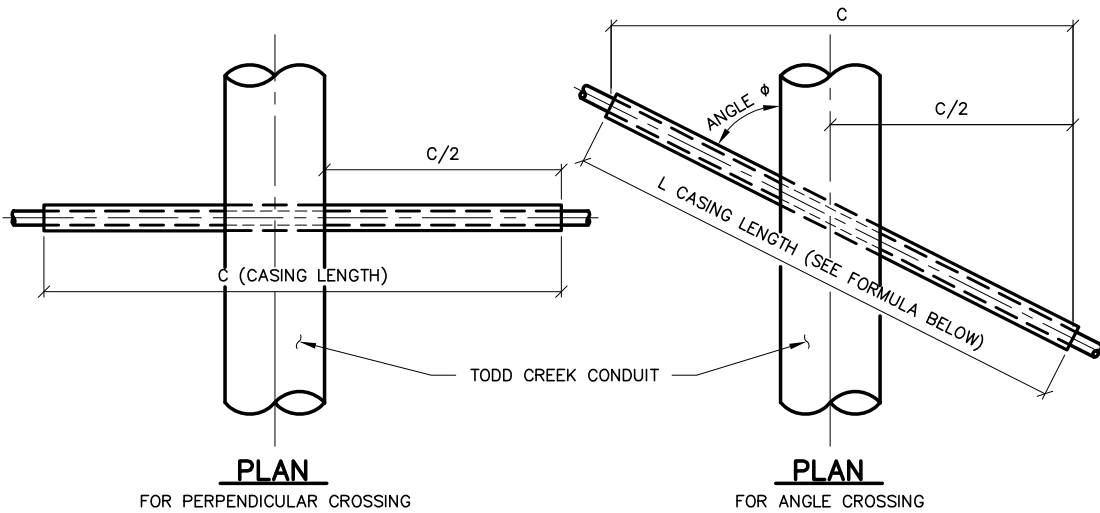
**JOINT RESTRAINT DETAIL**

Scale: *NONE*

Date: *FEB 2010*

Approved:

Rev.



FORMULA FOR FINDING C:

$$C = B + (2)(1.5) \left[ \frac{B}{2} + A + F \right]$$

PERPENDICULAR CROSSING CASING LENGTH — C  
 OD TODD CREEK CONDUIT — B  
 CONSTANT — (2)(1.5)  
 RATIO OF MIN SLOPE — 1.5  
 CASING OD —  $\frac{B}{2}$   
 VERTICAL DISTANCE BETWEEN CASING AND TODD CREEK CONDUIT — A  
 1/2 OD TODD CREEK CONDUIT — F

FORMULA FOR FINDING L:

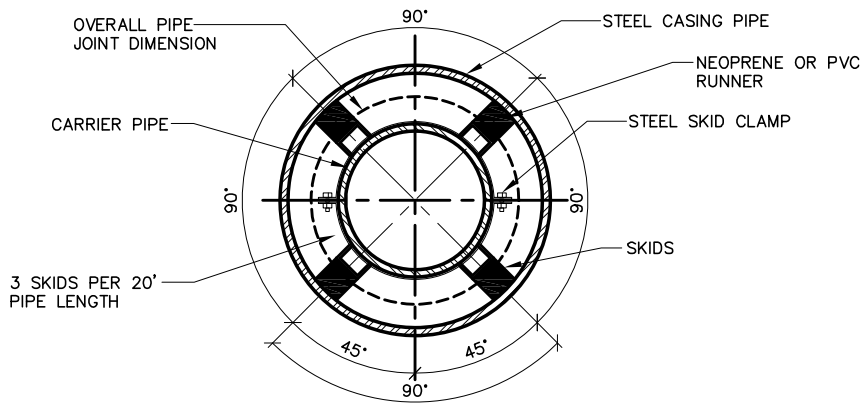
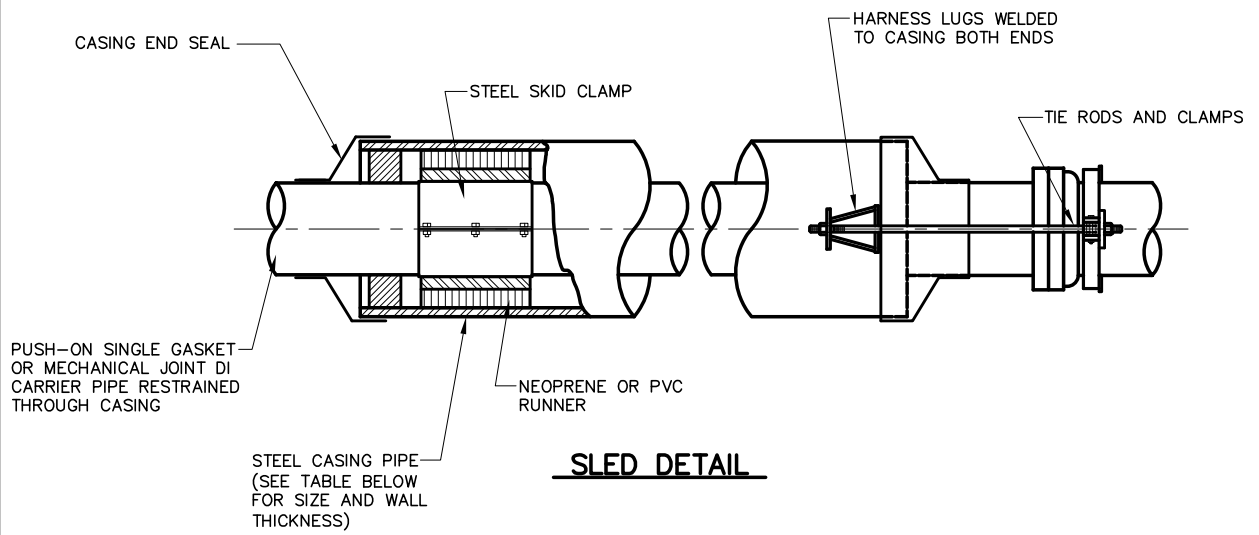
$$L = \frac{C}{\sin \phi}$$

**NOTES:**

1. FINAL APPROVAL OF BORING AND CASING METHOD AND MATERIALS SHALL BE OBTAINED FROM THE ENGINEER PRIOR TO CONSTRUCTION.
2. SOIL AT ENDS OF CASING SHALL BE STABLE AT ALL TIMES.
3. CATHODIC PROTECTION SHALL BE PROVIDED FOR STEEL CASING AS REQUIRED BY THE ENGINEER.
4. CASING PIPE SHALL BE ONE PIECE, STRAIGHT, ROUND AND OF NEW MATERIAL.

|   |                       |
|---|-----------------------|
| <b>TODD CREEK VILLAGE<br/>METROPOLITAN DISTRICT</b> |                       |
| <b>BORED CROSSING BENEATH<br/>CONDUITS</b>          |                       |
| Scale: <i>NONE</i>                                  | Date: <i>FEB 2010</i> |
| Approved:   | Rev.                  |

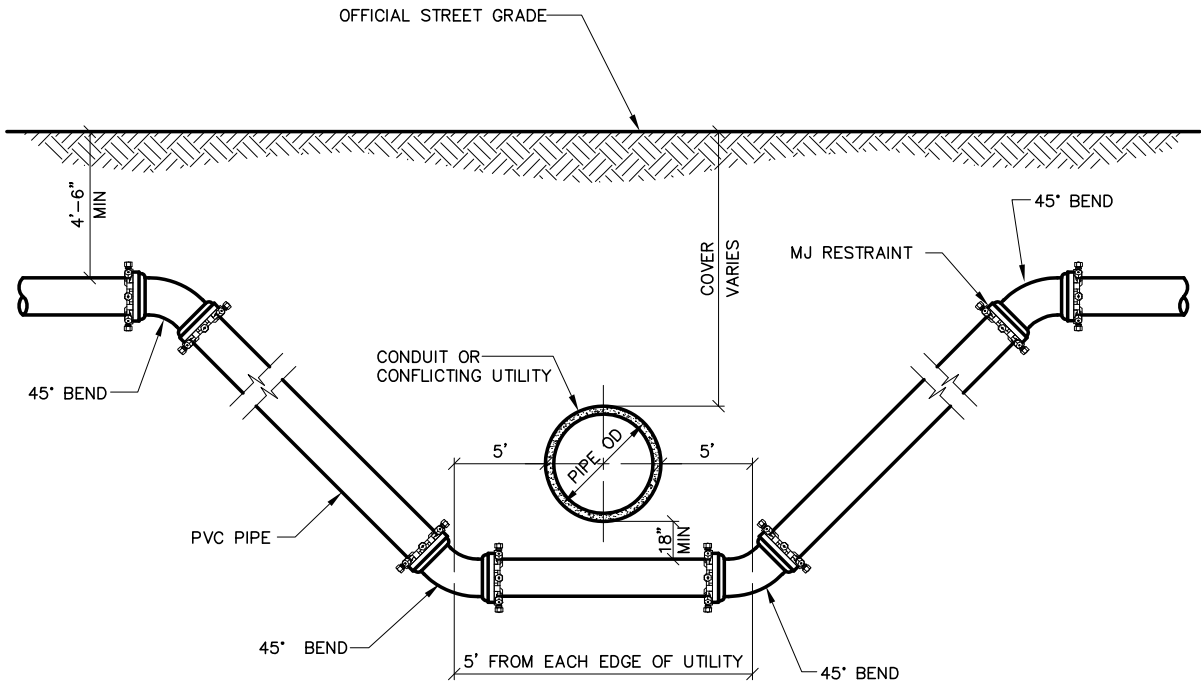




| CARRIER PIPE<br>NOMINAL Ø | CASING PIPE |                    |
|---------------------------|-------------|--------------------|
|                           | MIN OD      | MIN WALL THICKNESS |
| 4"                        | 12"         | 0.188"             |
| 6"                        | 16"         | 0.25"              |
| 8"                        | 18"         | 0.282"             |
| 12"                       | 22"         | 0.344"             |
| 16"                       | 28"         | 0.406"             |
| 20"                       | 32"         | 0.469"             |

**NOTE:**  
TRENCH LAID CASINGS SHALL BE DESIGNED AND INSTALLED TO CONDUIT STANDARDS.

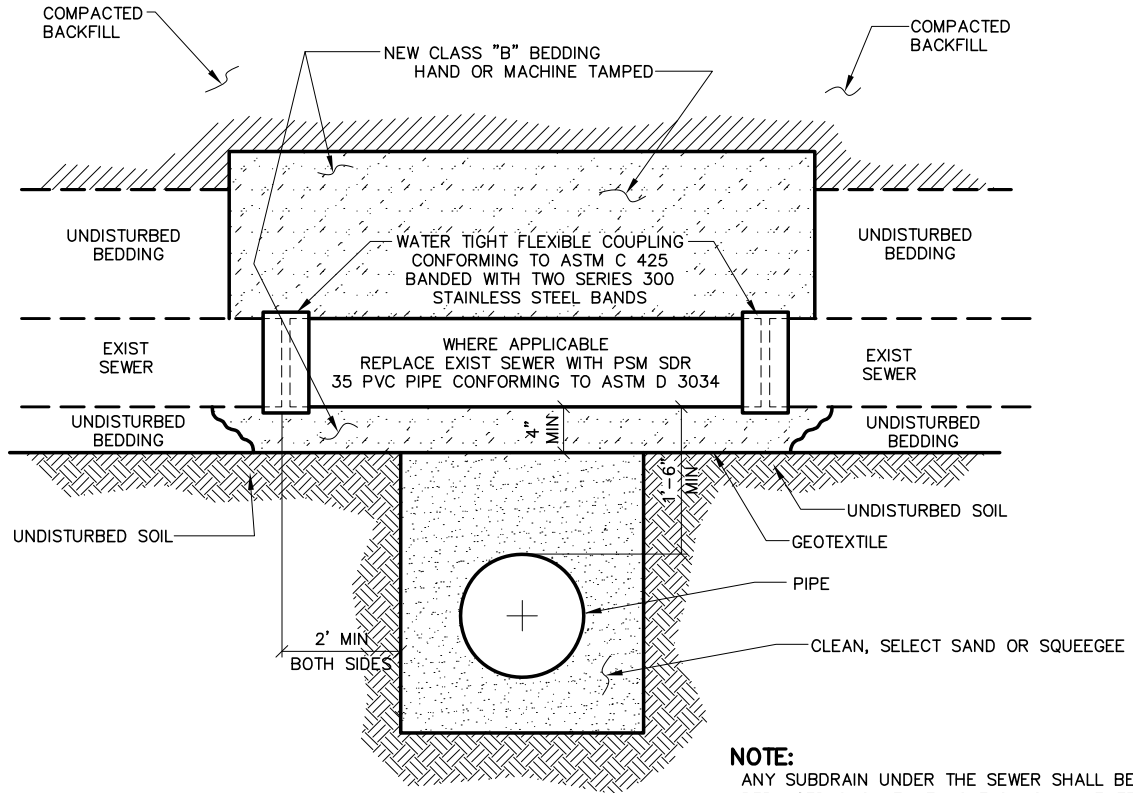
|   |                       |
|---|-----------------------|
| <b>TODD CREEK VILLAGE<br/>METROPOLITAN DISTRICT</b> |                       |
| <b>BORE CASING DETAIL</b>                           |                       |
| Scale: <i>NONE</i>                                  | Date: <i>FEB 2010</i> |
| Approved:   | Rev.                  |



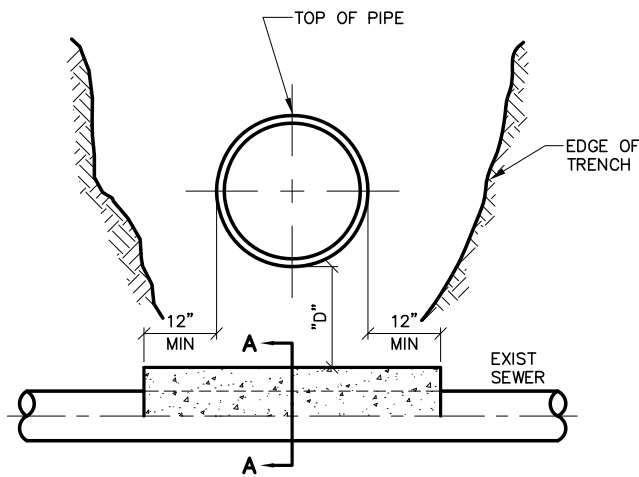
**NOTES:**

1. LENGTH OF EXTENSION OF PIPE AND RESTRAINED JOINTS SHALL BE IN ACCORDANCE WITH THESE ENGINEERING STANDARDS.
2. CATHODIC PROTECTION SHALL BE AS REQUIRED IN ACCORDANCE WITH THESE ENGINEERING STANDARDS.
3. A BORED CROSSING MAY BE REQD BY THE ENGINEER.

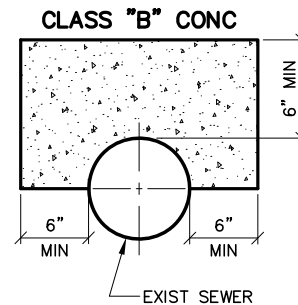
|   |                       |
|---|-----------------------|
| <b>TODD CREEK VILLAGE<br/>METROPOLITAN DISTRICT</b>                 |                       |
| <b>OPEN CUT CROSSING BENEATH<br/>CONDUIT OR CONFLICTING UTILITY</b> |                       |
| Scale: <i>NONE</i>  | Date: <i>FEB 2010</i> |
| Approved:   | Rev.                  |



**NOTE:**  
ANY SUBDRAIN UNDER THE SEWER SHALL BE REPLACED SUCH THAT NO FLOW SHALL ENTER THE WATER LINE TRENCH.



**SEWER CROSSING UNDER  
WITH "D" LESS THAN 2'**



**SECTION A-A**

**NOTE:**  
ALL EXIST SEWER DAMAGED DURING INSTALLATION  
MUST BE REPLACED WITH PVC PIPE.

**TODD CREEK VILLAGE  
METROPOLITAN DISTRICT**

**CROSSING STORM  
& SANITARY SEWERS**

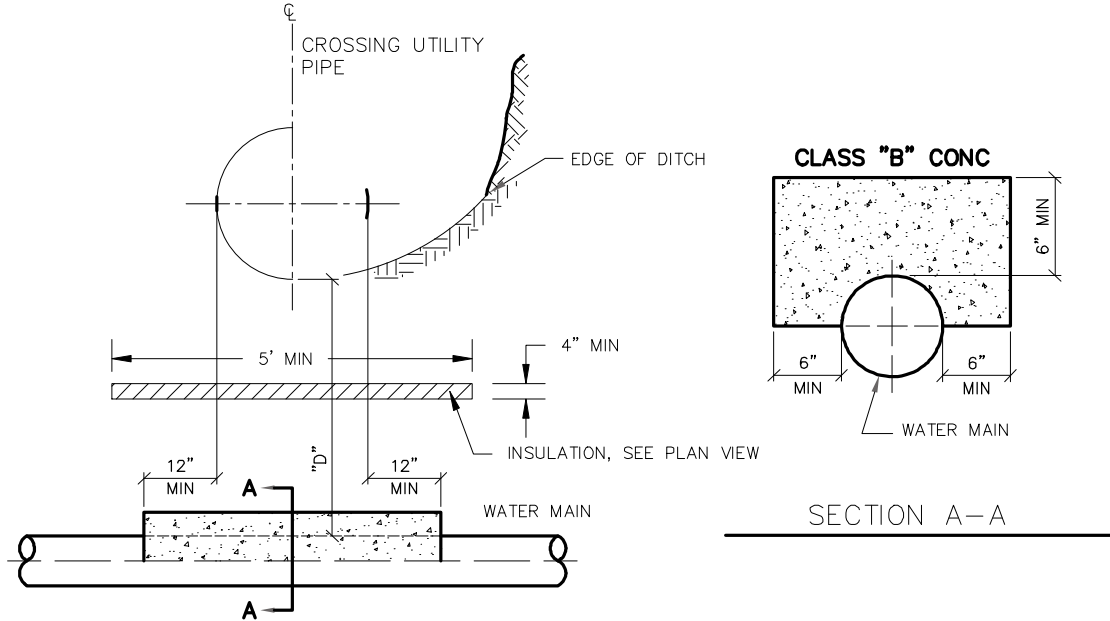
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Date: *FEB 2010*

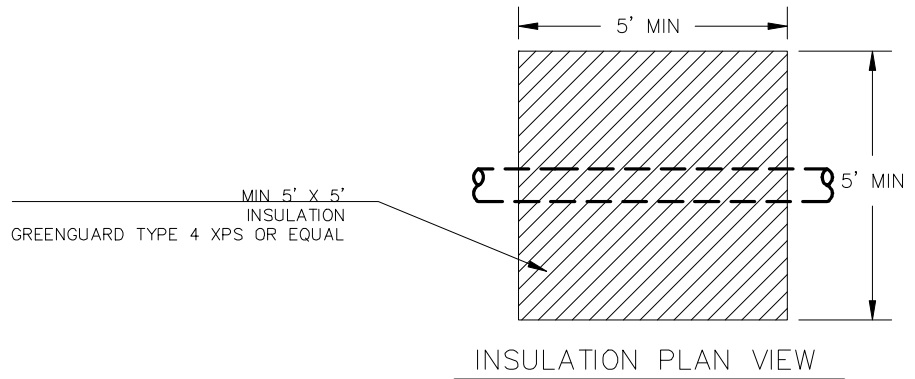
Approved:

Rev.

UTILITY OR DITCH CROSSING WITH VERTICAL  
CLEARANCE BETWEEN 18" AND 42"  
AND PIPE COVER LESS THAN 4'-6"



UTILITY OR DITCH CROSSING FROM ABOVE  
WITH "D" LESS THAN 42"



**NOTE:**

1. ALL EXIST SEWER DAMAGED DURING INSTALLATION MUST BE REPLACED WITH PVC PIPE.
2. MINIMUM VERTICAL CLEARANCE SHALL BE 18". LOWER THE WATER PIPE IF THE CLEARANCE IS LESS THAN 18".

**TODD CREEK VILLAGE  
METROPOLITAN DISTRICT**

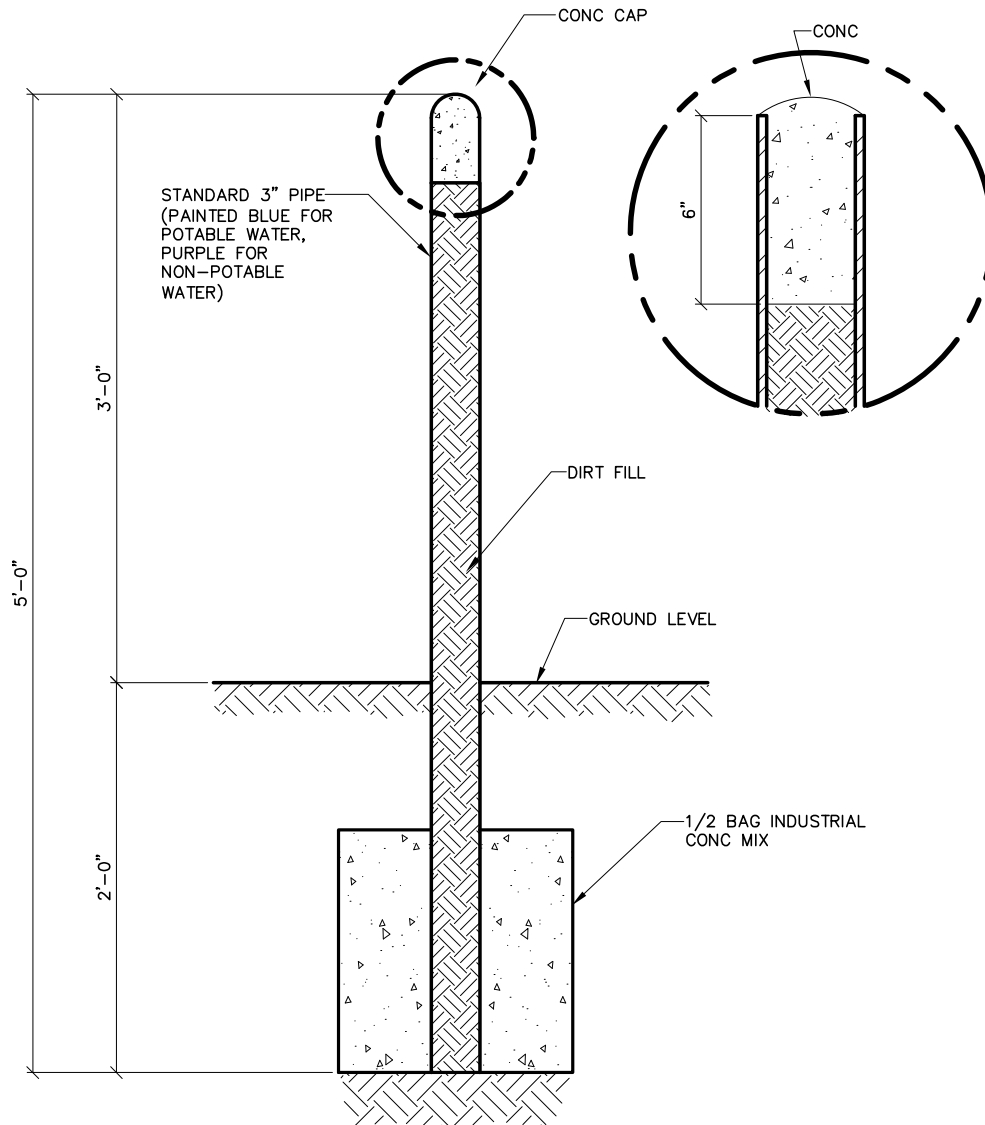
**CROSSING STORM  
& SANITARY SEWERS**

Scale: *NONE*

Date: NOV 2020

Approved:

Rev.



IDENTIFICATION MARKS ON POSTS SHALL BE 3"Ø CIRCLES BROKEN IN VERTICAL CENTER ( ) POINTING TO APPURTENANCE, WITH 1" STENCILS INSIDE CIRCLE INDICATING TYPE OF APPURTENANCE (MH, 12" GATE VALVE, ETC) AND THE DISTANCE IN FEET AND INCHES FROM POST.

**TODD CREEK VILLAGE  
METROPOLITAN DISTRICT**

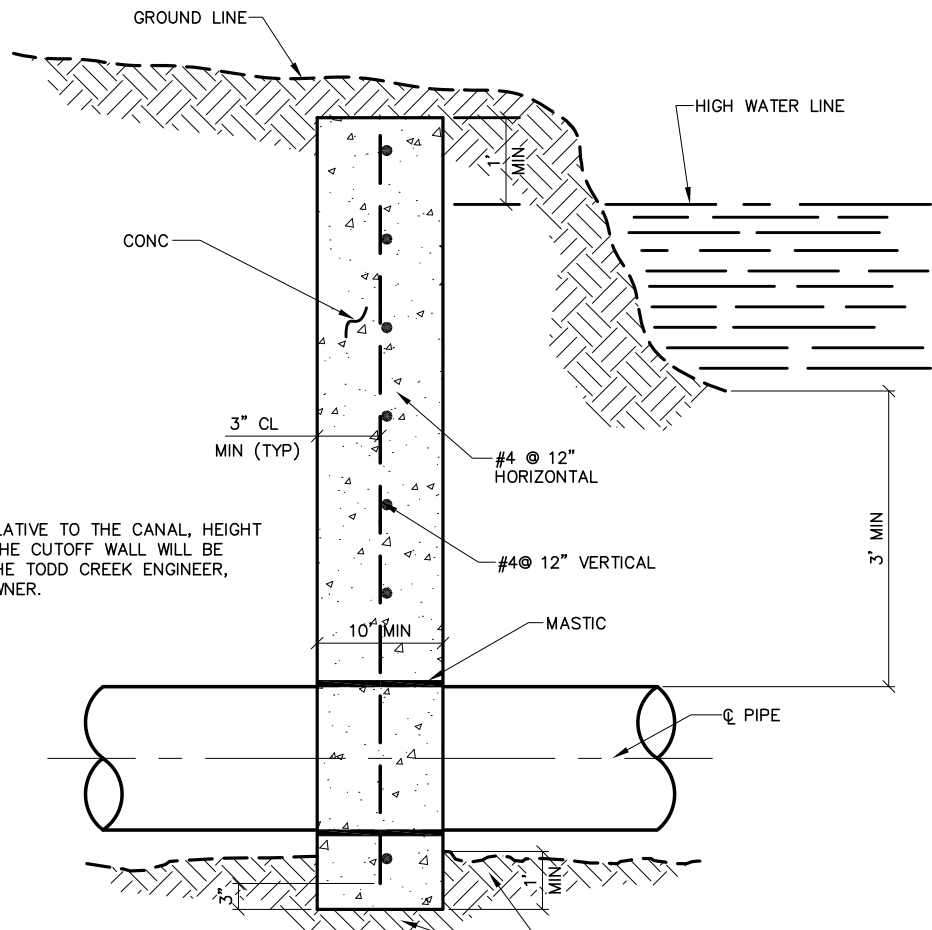
**REFERENCE POST  
TYPICAL DETAIL**

Scale: *NONE*

Date: *FEB 2010*

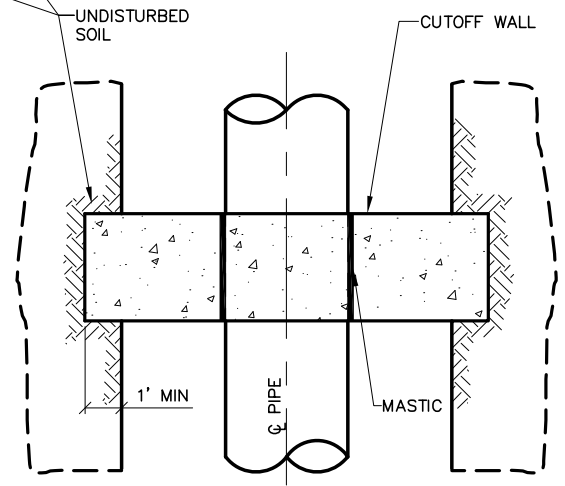
Approved:

Rev.



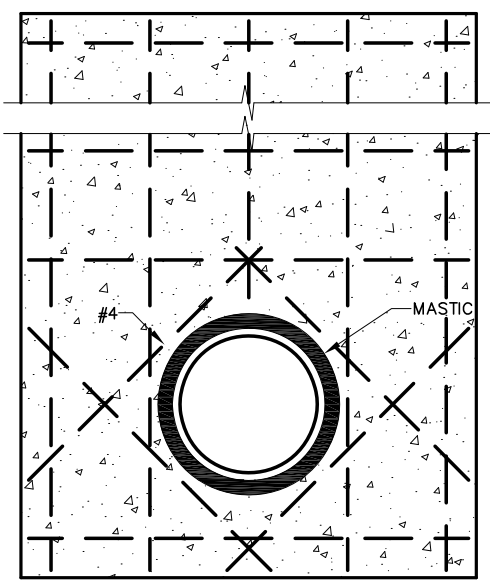
**NOTE:**  
 THE LOCATION RELATIVE TO THE CANAL, HEIGHT  
 AND LENGTH OF THE CUTOFF WALL WILL BE  
 DETERMINED BY THE TODD CREEK ENGINEER,  
 INSPECTOR, OR OWNER.

**SIDE VIEW**



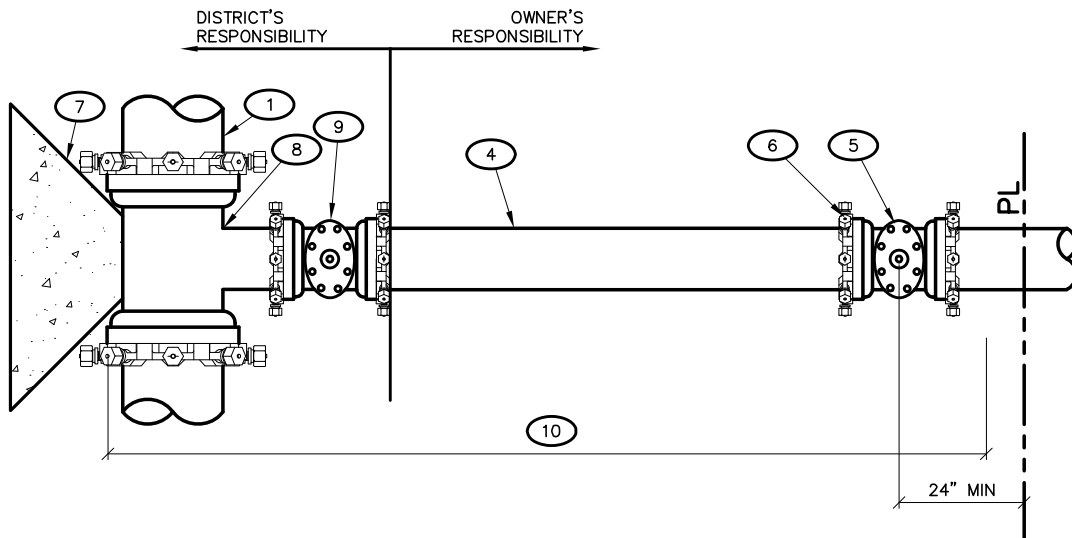
**TOP VIEW**

**NOTE:**  
 REINFORCEMENT NOT SHOWN.

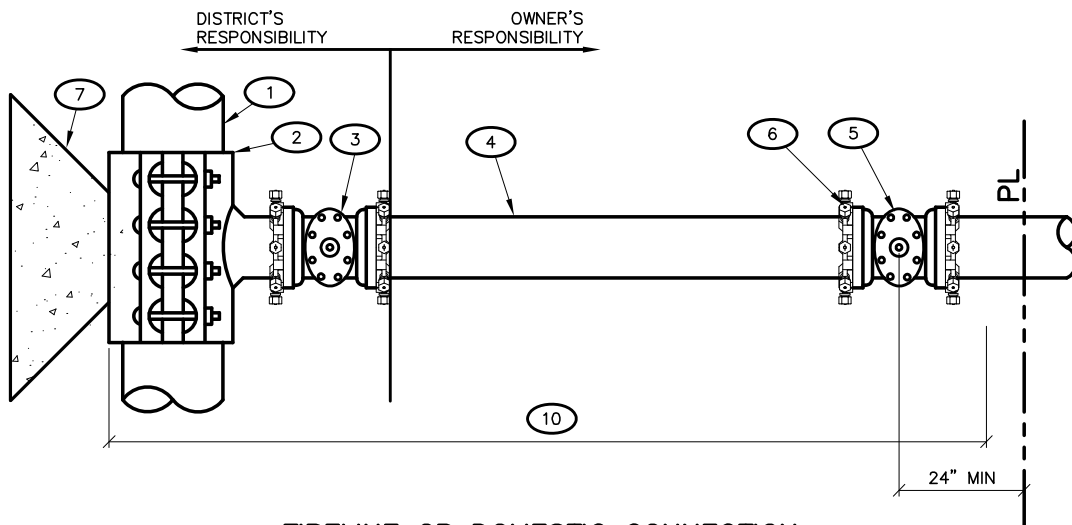


**FRONT VIEW**

|  |                       |
|--|-----------------------|
| <b>TODD CREEK VILLAGE<br/>METROPOLITAN DISTRICT</b>        |                       |
| <b>TYPICAL CUTOFF WALL<br/>FOR DITCH OR CANAL CROSSING</b> |                       |
| Scale: <i>NONE</i>   | Date: <i>FEB 2010</i> |
| Approved:  | Rev.                  |



**FIRELINE OR DOMESTIC CONNECTION WITH MAIN EXTENSION**



**FIRELINE OR DOMESTIC CONNECTION**

- ① EXIST MAIN
- ② TAPPING SLEEVE
- ③ TAPPING VALVE
- ④ DOUBLE SPIGOT PIPE FULLY RESTRAINED
- ⑤ MJ LINE VALVE 2' FROM PL
- ⑥ MECHANICAL RESTRAINT
- ⑦ CONC KICKBLOCK
- ⑧ MJ ANCHORING TEE (SWIVEL TEE WHERE APPLICABLE)
- ⑨ MJ VALVE
- ⑩ POLYETHYLENE WRAPPED

**TODD CREEK VILLAGE  
METROPOLITAN DISTRICT**

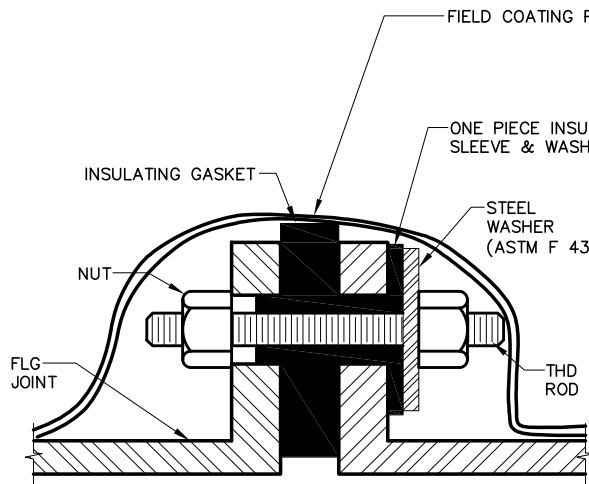
**2" & LARGER DOMESTIC &  
FIRELINE CONNECTIONS**

Scale: *NONE*

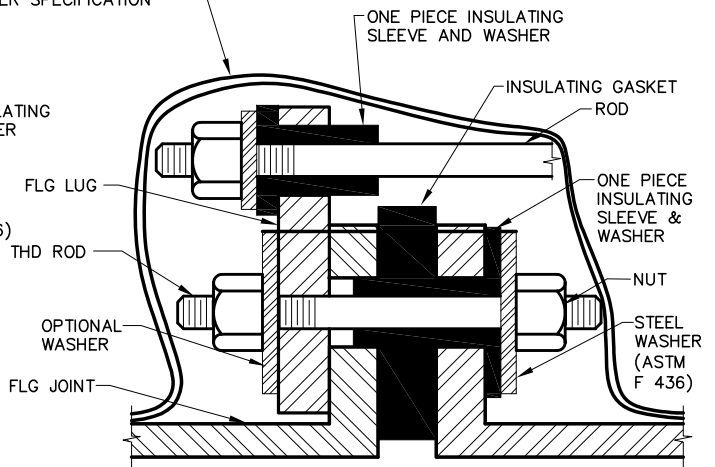
Date: *FEB 2010*

Approved:

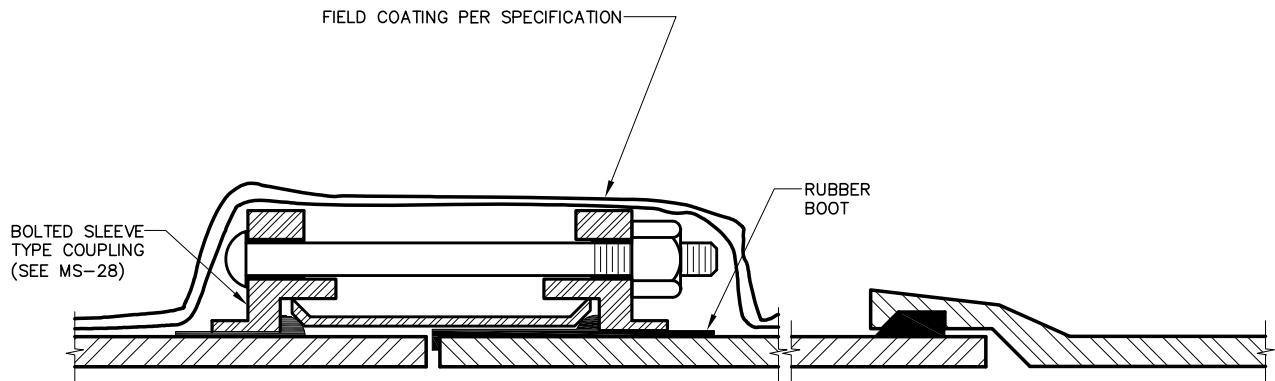
Rev.



INSULATED JOINT



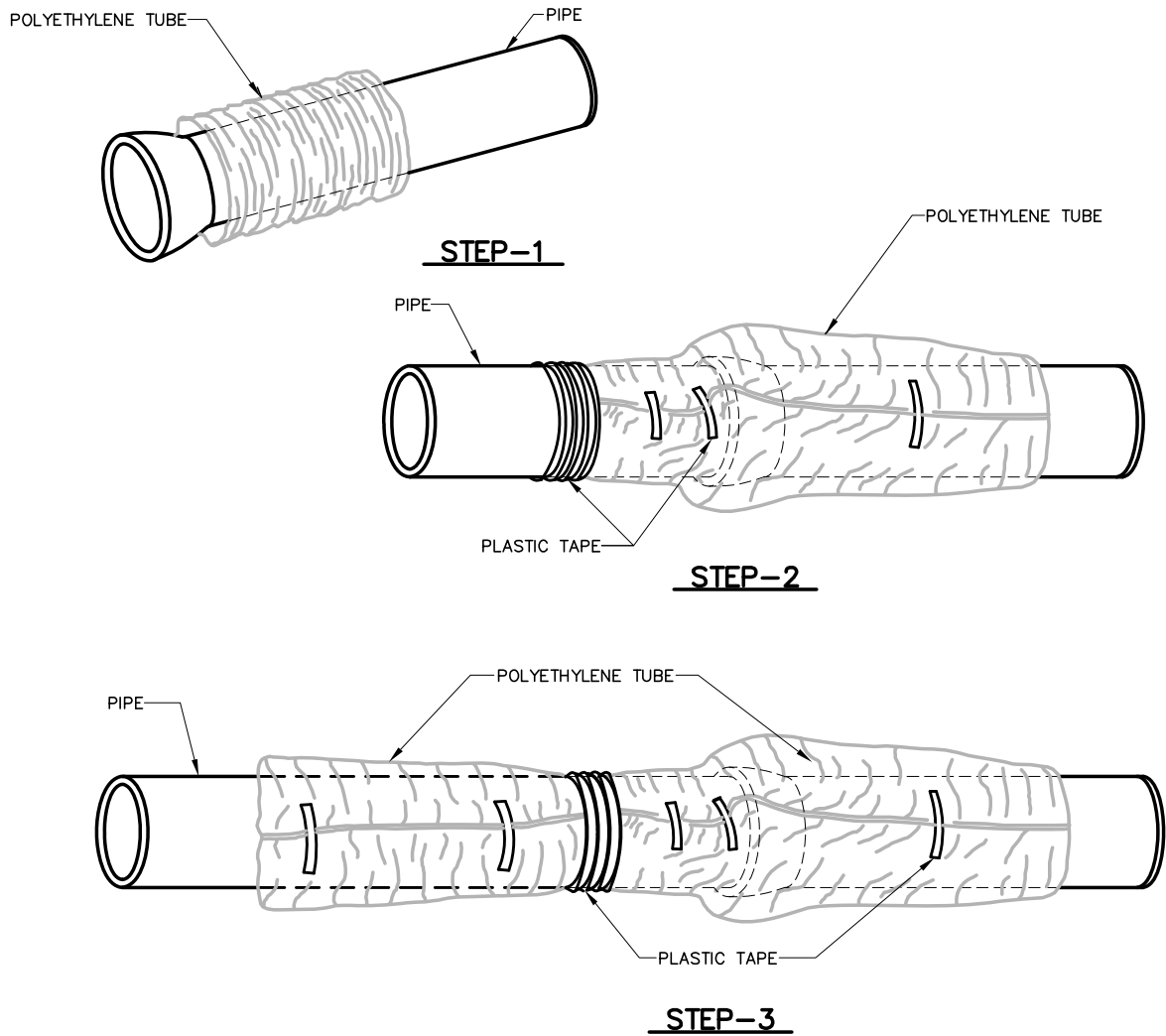
INSULATED ROD



INSULATED BOLTED SLEEVE TYPE COUPLING

|  |                       |
|--|-----------------------|
| <b>TODD CREEK VILLAGE<br/>METROPOLITAN DISTRICT</b>                  |                       |
| <b>INSULATED JOINTS, RODS &amp;<br/>BOLTED SLEEVE TYPE COUPLINGS</b> |                       |
| Scale: <i>NONE</i>   | Date: <i>FEB 2010</i> |
| Approved:  | Rev.                  |





**FIELD INSTALLATION—POLYETHYLENE WRAP**

- STEP-1 PLACE TUBE OF POLYETHYLENE MATERIAL AROUND PIPE PRIOR TO LOWERING PIPE INTO TRENCH.
- STEP-2 PULL THE TUBE OVER THE LENGTH OF THE PIPE. TAPE TUBE TO PIPE AT JOINT. FOLD MATERIAL AROUND THE ADJACENT SPIGOT END AND WRAP WITH THREE CIRCUMFERENTIAL TURNS OF TWO-INCH WIDE PLASTIC TAPE TO HOLD PLASTIC TUBE AROUND SPIGOT END.
- STEP-3 ADJACENT TUBE OVERLAPS FIRST TUBE AND IS SECURED WITH PLASTIC ADHESIVE TAPE. THE POLYETHYLENE TUBE MATERIAL COVERING THE PIPE WILL BE LOOSE. EXCESS MATERIAL SHALL BE NEATLY DRAWN UP AROUND THE PIPE BARREL, FOLDED INTO AN OVERLAP ON TOP OF THE PIPE AND HELD IN PLACE BY MEANS OF PIECES OF THE PLASTIC TAPE AT APPROXIMATELY THREE TO FIVE FT INTERVALS.

**TODD CREEK VILLAGE  
METROPOLITAN DISTRICT**

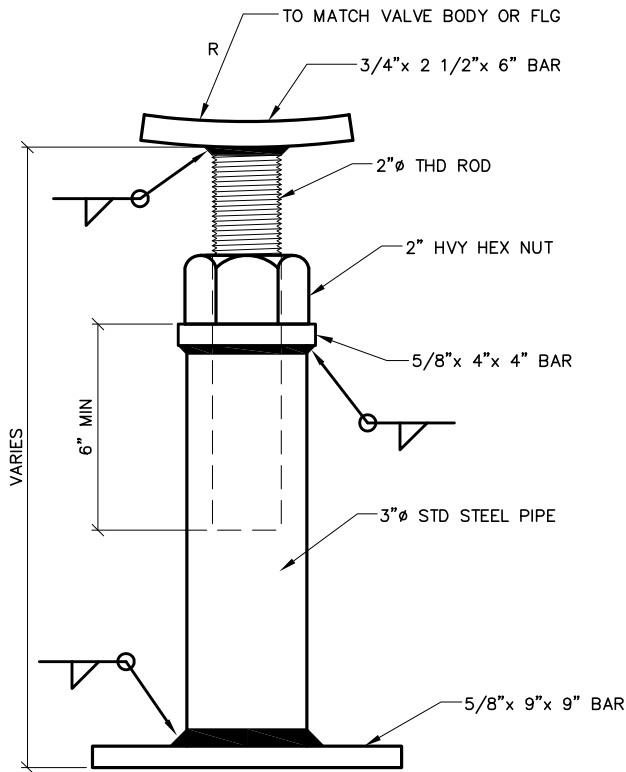
**POLYETHYLENE WRAP**

Scale: *NONE*

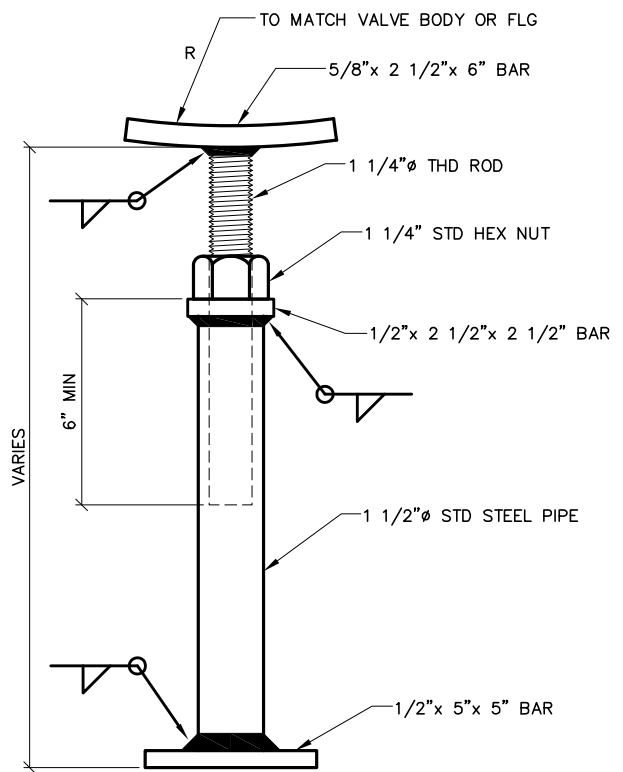
Date: *FEB 2010*

Approved:

Rev.



HEAVY DUTY



STANDARD

ADJUSTABLE - SUPPORT

TODD CREEK VILLAGE  
METROPOLITAN DISTRICT

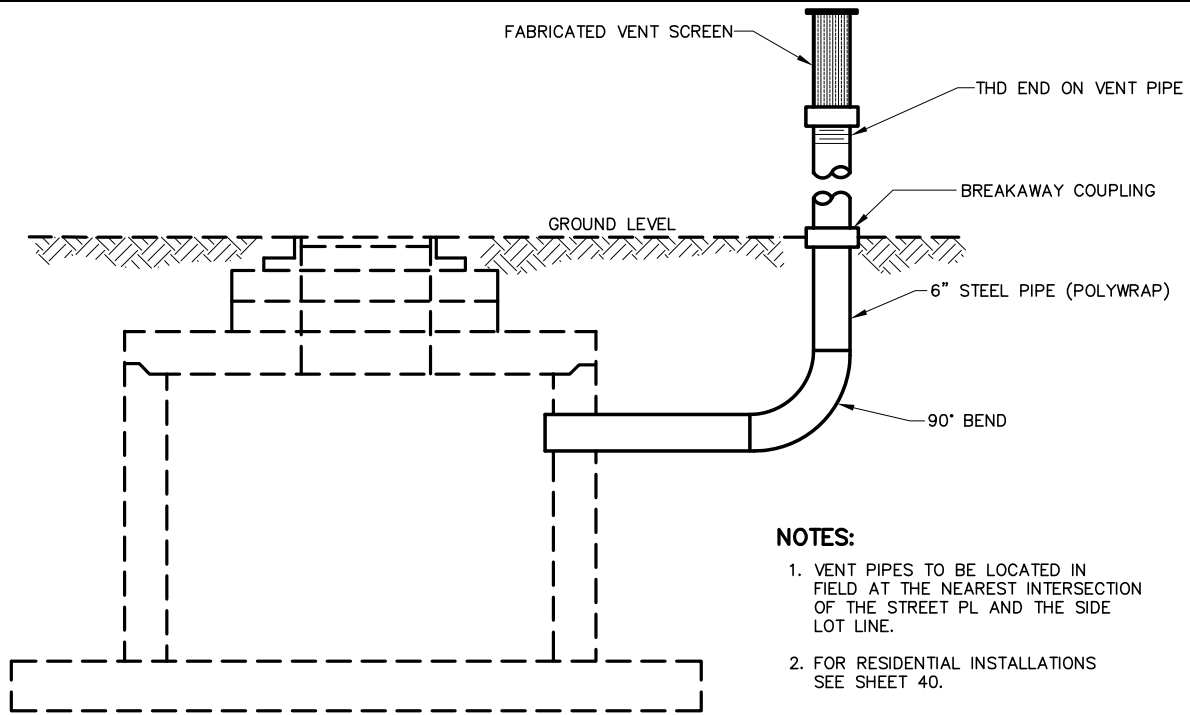
ADJUSTABLE STEEL PIPE  
VALVE SUPPORT

Scale: NONE

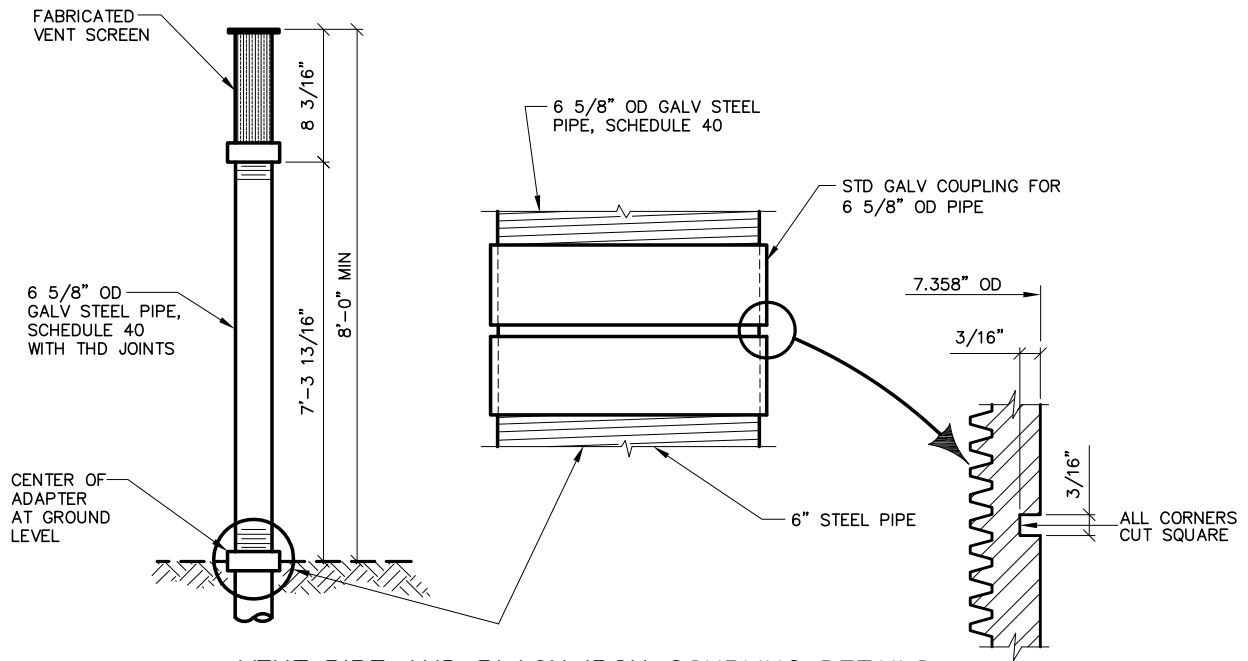
Date: FEB 2010

Approved:

Rev.



**VENT PIPE INSTALLATION**



**TODD CREEK VILLAGE  
METROPOLITAN DISTRICT**

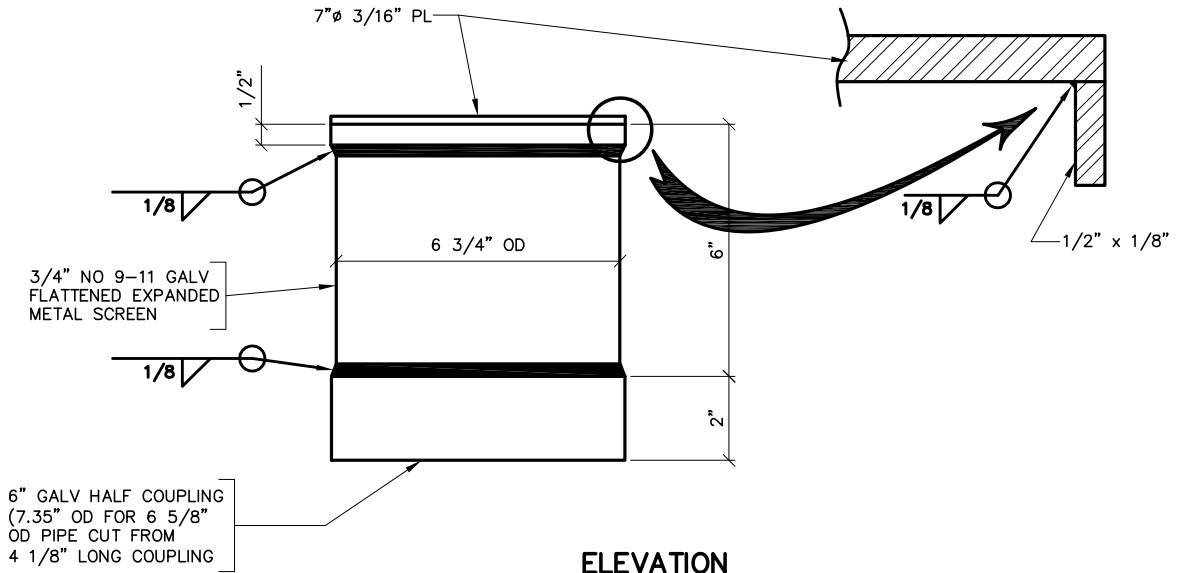
**INDUSTRIAL VENT ASSEMBLY  
INSTALLATION & DETAILS**

Scale: *NONE*

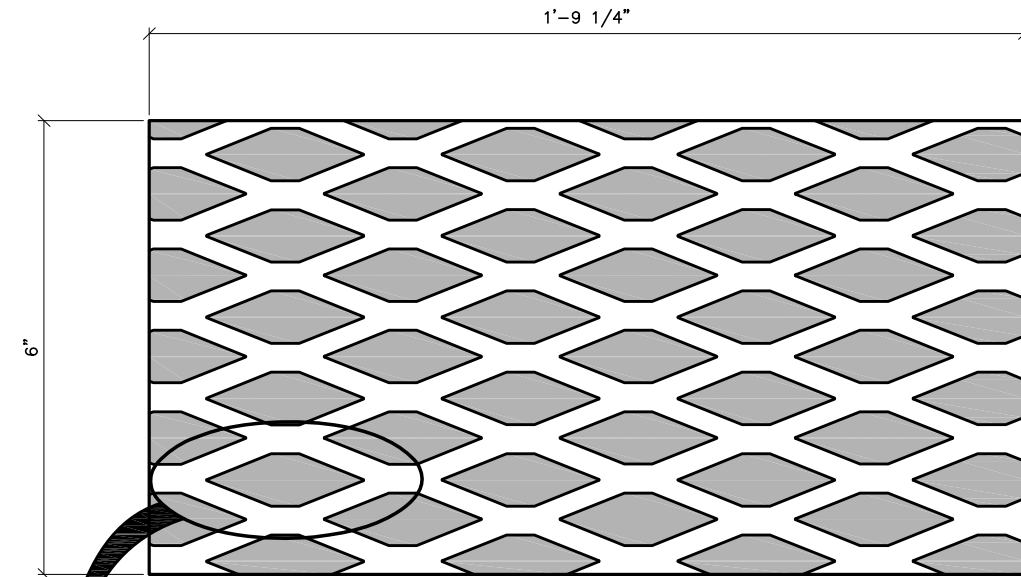
Date: *FEB 2010*

Approved:

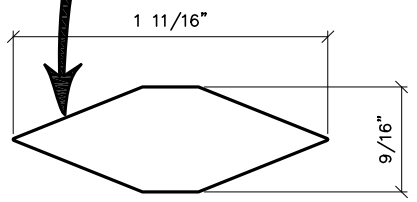
Rev.



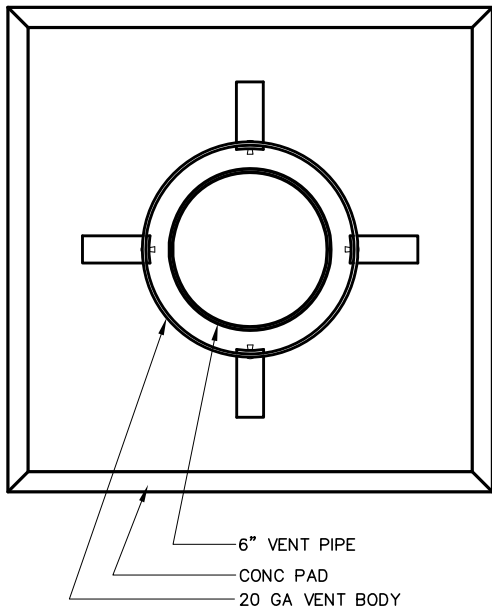
**ELEVATION**  
**SCREEN FOR 6" VENT PIPE**



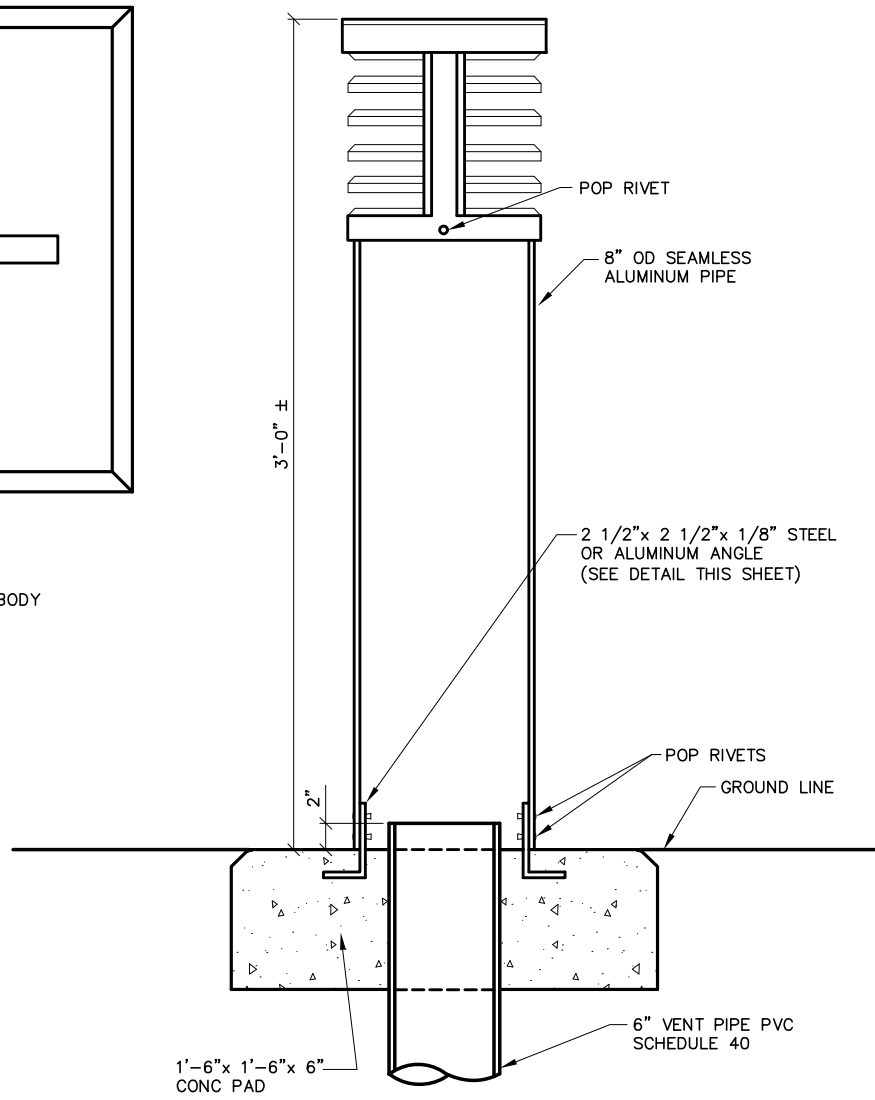
**METAL SCREEN**



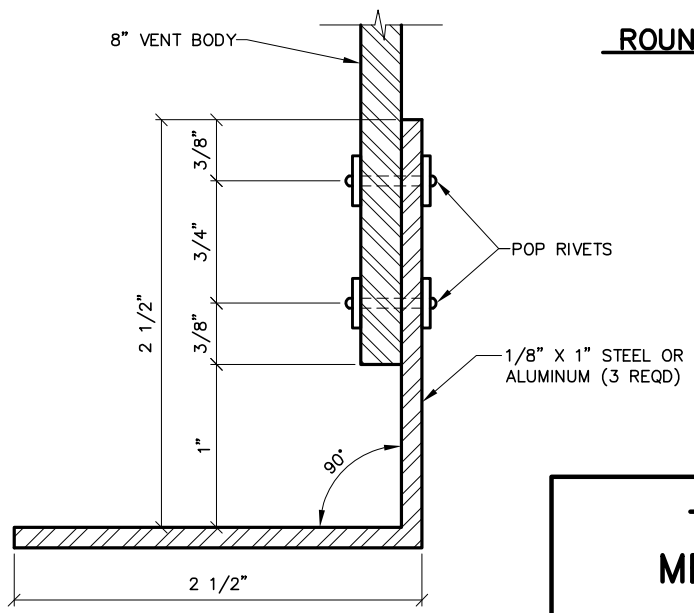
|   |                       |
|---|-----------------------|
| <b>TODD CREEK VILLAGE<br/>METROPOLITAN DISTRICT</b> |                       |
| <b>INDUSTRIAL VENT ASSEMBLY<br/>VENT SCREEN</b>     |                       |
| Scale: <i>NONE</i>                                  | Date: <i>FEB 2010</i> |
| Approved:   | Rev.                  |



**BASE DETAIL**



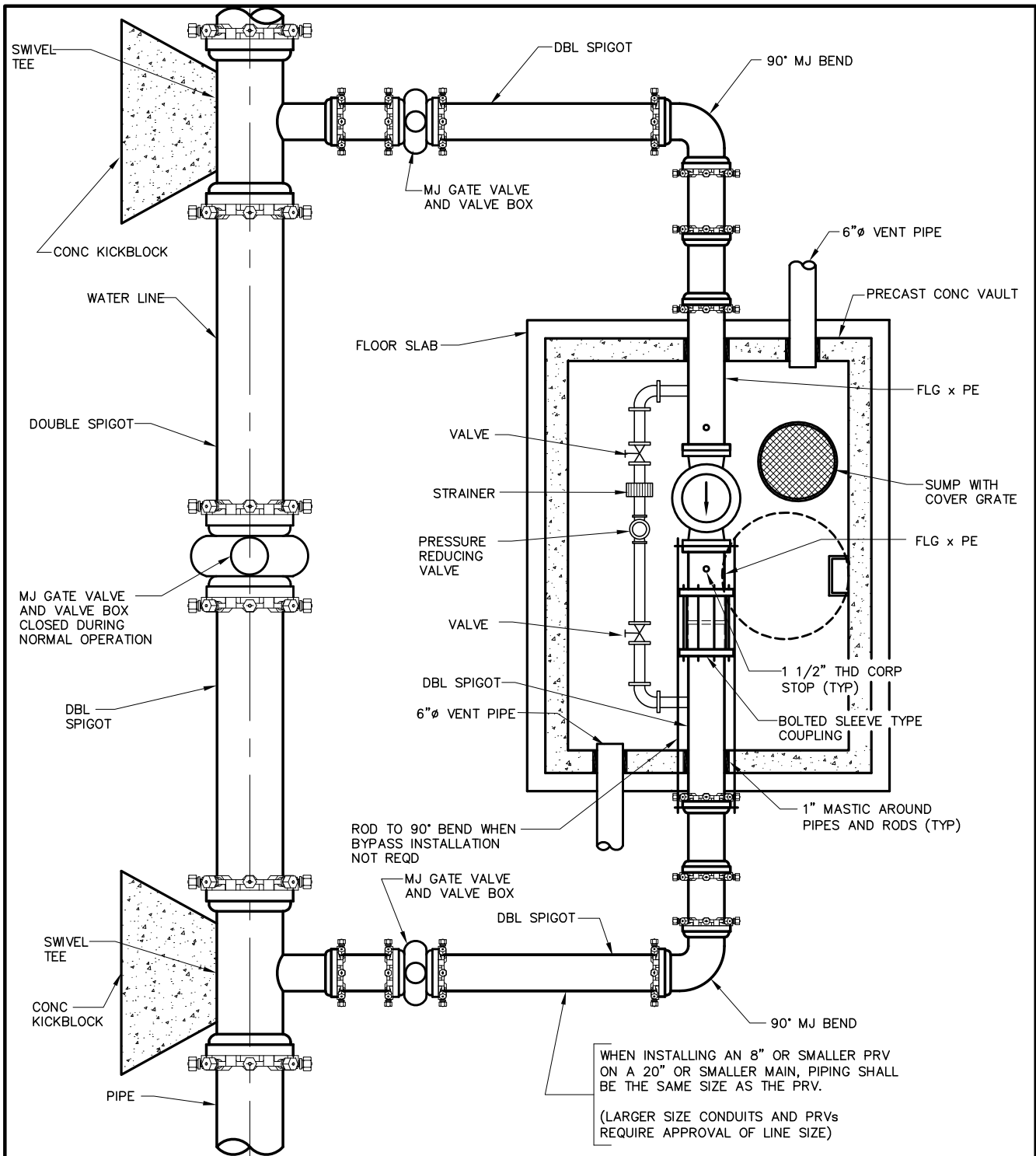
**ROUND VENT SCREEN**



**STEEL OR ALUMINUM ANGLE DETAIL**

**NOTE:**  
 COLOR SHALL BE OLIVE GREEN  
 OR FLAT BLACK TO MATCH  
 SURROUNDINGS.

|   |                       |
|---|-----------------------|
| <b>TODD CREEK VILLAGE<br/>METROPOLITAN DISTRICT</b> |                       |
| <b>RESIDENTIAL VENT ASSEMBLY</b>                    |                       |
| Scale: <i>NONE</i>                                  | Date: <i>FEB 2010</i> |
| Approved:   | Rev.                  |

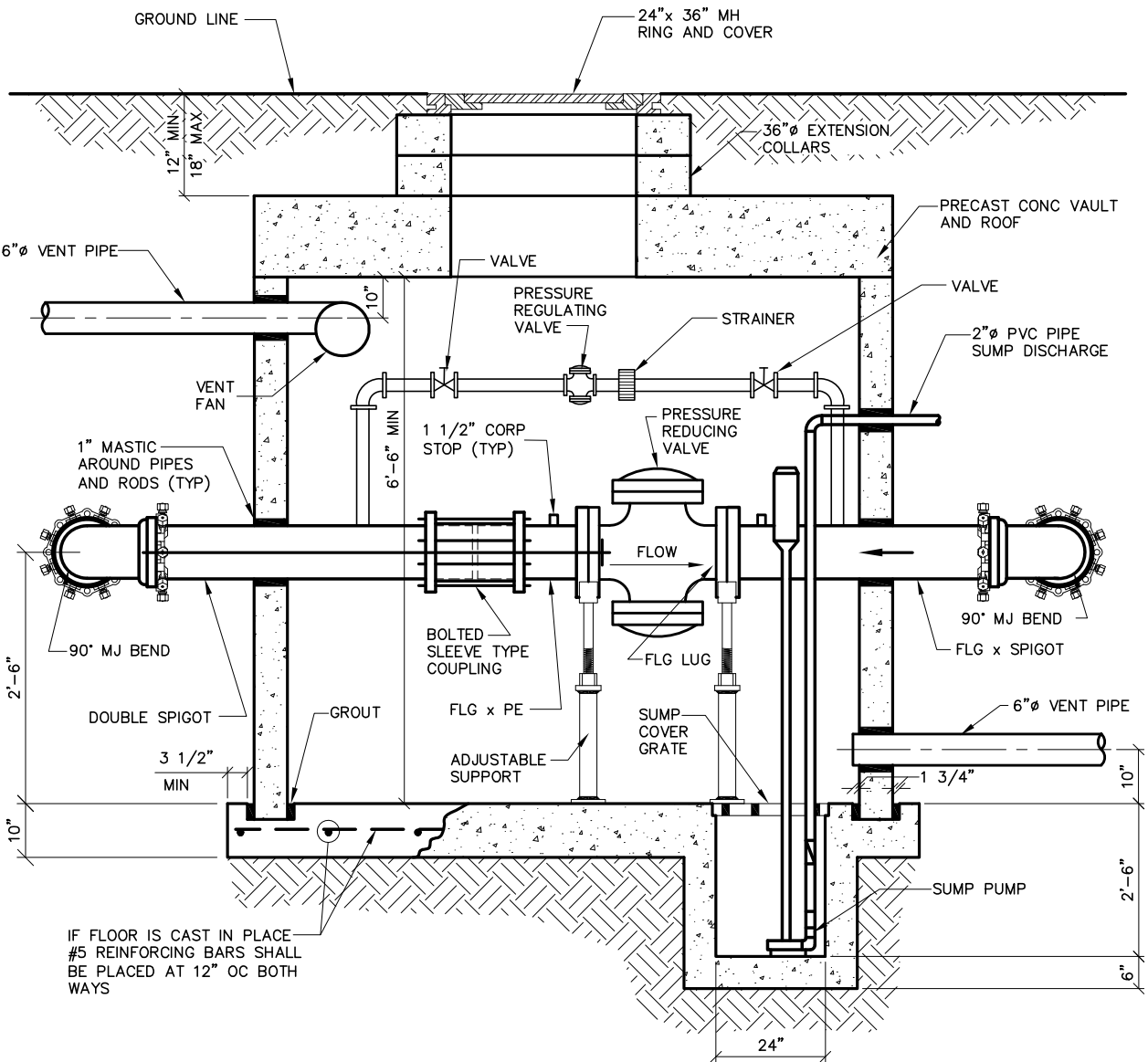


WHEN INSTALLING AN 8" OR SMALLER PRV ON A 20" OR SMALLER MAIN, PIPING SHALL BE THE SAME SIZE AS THE PRV.  
(LARGER SIZE CONDUITS AND PRVs REQUIRE APPROVAL OF LINE SIZE)

**NOTES:**

1. A RECTANGULAR VAULT IS REQD WHERE TELEMETRY OR ELECTRICAL EQUIPMENT IS ANTICIPATED INSIDE THE VAULT.
2. ACCESS STAIRS WITH DOOR OUTSIDE OF PAVEMENT MAY BE REQD ON STREETS WITH HEAVY TRAFFIC.
3. FOR CROSS SECTION VIEW, SEE CROSS SECTION SHEET 39.
4. DO NOT PLACE SUMP DIRECTLY UNDER MH.
5. THIS MH IS SUITABLE FOR CHECK VALVE INSTALLATIONS.
6. PIPING FOR PRV AND CHECK VALVE INSTALLATIONS SHALL BE DI.
7. LADDER RUNGS ARE REQD IN PRE-CAST MH. THE DISTANCE BETWEEN RUNGS, CLEATS, AND STEPS SHALL NOT EXCEED 12" AND SHALL BE UNIFORM THROUGHOUT THE LENGTH OF THE LADDER.
8. MIN. 2" BYPASS WITH PRV REQUIRED FOR LOW FLOW, SIZE DETERMINED BY WATER MODEL.

|   |                       |
|---|-----------------------|
| <b>TODD CREEK VILLAGE<br/>METROPOLITAN DISTRICT</b>                     |                       |
| <b>PRESSURE REGULATING VALVE<br/>RECTANGULAR VAULT<br/>TYPICAL PLAN</b> |                       |
| Scale: <i>NONE</i>  | Date: <i>FEB 2010</i> |
| Approved:   | Rev.                  |



IF FLOOR IS CAST IN PLACE  
#5 REINFORCING BARS SHALL  
BE PLACED AT 12" OC BOTH  
WAYS

**NOTE:**  
SEE SHEET 38 FOR PLAN  
VIEW AND ADDITIONAL NOTES.

|  |                       |
|--|-----------------------|
| <b>TODD CREEK VILLAGE<br/>METROPOLITAN DISTRICT</b>                      |                       |
| <b>PRESSURE REGULATING VALVE<br/>RECTANGULAR VAULT<br/>CROSS SECTION</b> |                       |
| Scale: <i>NONE</i>   | Date: <i>FEB 2010</i> |
| Approved:  | Rev.                  |

GENERAL METER NOTES

1. METER LOCATION SHALL BE APPROVED BY TODD CREEK VILLAGE METROPOLITAN DISTRICT. METER SETTINGS LARGER THAN THREE QUARTER (3/4) INCH SHALL BE APPROVED IN THE FIELD BY THE WATER DEPARTMENT PRIOR TO INSTALLATION OF ANY SERVICE PIPE OR TAP. CALL TO MAKE APPOINTMENT FOR ON-SITE APPROVAL MEETING.
2. METERS WILL NOT BE SET/APPROVED UNLESS METER SETTING AND SERVICE LINE ARE IN FULL COMPLIANCE WITH THE ENGINEERING STANDARDS, STANDARD DRAWINGS, AND APPROVED PROJECT DRAWINGS AS APPLICABLE.
3. DOMESTIC WATER SERVICES SHALL BE INSTALLED AT A NINETY DEGREE ANGLE FROM WATER MAIN, AND FOR A MINIMUM OF FIVE FEET PAST THE CURB STOP WITH NO BENDS, NO CHANGES IN PIPE SIZE OR PIPE MATERIAL.
4. A BYPASS IS REQUIRED ON ALL METERS ONE AND ONE HALF INCH (1-1/2) AND LARGER, EXCEPT FOR IRRIGATION SERVICES. A BYPASS IS NOT PERMITTED ON IRRIGATION SERVICES.
5. ALL MATERIALS USED FOR SERVICE PIPES, VALVES, METER SETTINGS AND METERS SHALL CONFORM TO APPLICABLE SECTIONS OF THE ENGINEERING STANDARDS, LATEST EDITION. ALL VARIANCES AND DEVIATIONS MUST BE APPROVED IN THE FIELD BY THE WATER DEPARTMENT PRIOR TO INSTALLATION. CALL TO MAKE APPOINTMENT FOR ON-SITE APPROVAL MEETING.
6. ANY METER SETTING OTHER THAN THOSE SPECIFICALLY SHOWN AND DETAILED HEREIN SHALL BE CONSIDERED NON-STANDARD AND SHALL REQUIRE PRIOR APPROVAL BY TODD CREEK VILLAGE METROPOLITAN DISTRICT, BASED ON DRAWINGS SHOWING ENTIRE SERVICE LINE, FITTINGS, METER SETTING, LOCATION OF NEAREST PUBLIC STREET, AND STRUCTURAL DESIGN OF VAULT. CURB STOPS/VALVES MAY NOT BE PLACED IN AREAS WHERE VEHICLES MAY PARK OVER THEM.
7. CHECK VALVE DEVICES ARE REQUIRED.
8. A FLOOR DRAIN IS REQUIRED WITHIN TEN FEET OF THE METER FOR ALL NEW INSIDE METER SETTINGS. INSIDE SETTINGS SHALL BE INSTALLED ONLY IN BASEMENTS OR IN UTILITY ROOMS IN BUILDINGS WITHOUT BASEMENTS.
9. ALL METERS TO BE SET BY TODD CREEK VILLAGE METROPOLITAN DISTRICT.

**TODD CREEK VILLAGE  
METROPOLITAN DISTRICT**

**GENERAL METER NOTES**

Scale: *NONE*

Date: *FEB 2012*

Approved:

Rev.

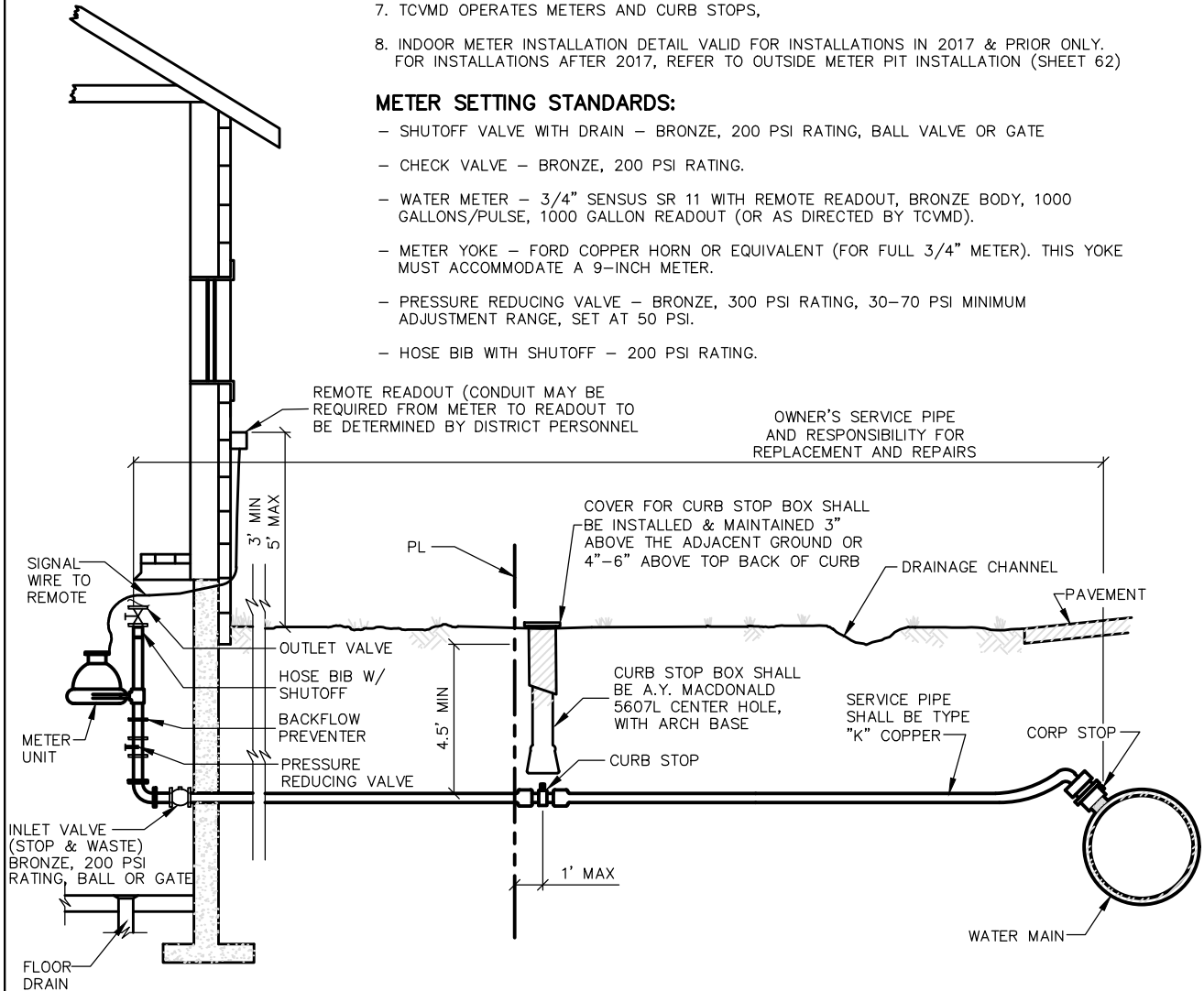


**NOTES:**

1. PLACE STOP BOX WITHIN 1 FT. OF PROPERTY LINE ON STREET SIDE.
2. INDOOR METER SHALL BE PLACED IN BASEMENT WITH FLOOR DRAIN NEARBY.
3. REMOTE READER WILL BE MOUNTED BY TODD CREEK VILLAGE METROPOLITAN DISTRICT AT THE TIME METER IS SET, REMOTE WIRE TO BE RUN BY CONTRACTOR IN CONDUIT.
4. NO BENDS, FITTINGS, CONNECTIONS, OR CHANGES IN PIPE SIZE PERMITTED ON TAP AND METER OUTLET VALVE, EXCEPT AS SHOWN.
5. REMOTE READ-OUTS SHALL BE PLACED IN A LOCATION NEAR THE GAS METER. REMOTES WILL NOT BE PLACED WITHIN A FENCED AREA. THE DISTRICT HAS THE RIGHT TO CUT AND TRIM ALL ITEMS WHICH MAY INTERFERE WITH READING THE REMOTE. USE A THREE LEAD LOW VOLTAGE WIRE - 22 GAUGE MINIMUM.
6. WATER METER FURNISHED AND INSTALLED BY TODD CREEK VILLAGE METROPOLITAN DISTRICT PERSONNEL.
7. TCVMD OPERATES METERS AND CURB STOPS,
8. INDOOR METER INSTALLATION DETAIL VALID FOR INSTALLATIONS IN 2017 & PRIOR ONLY. FOR INSTALLATIONS AFTER 2017, REFER TO OUTSIDE METER PIT INSTALLATION (SHEET 62)

**METER SETTING STANDARDS:**

- SHUTOFF VALVE WITH DRAIN - BRONZE, 200 PSI RATING, BALL VALVE OR GATE
- CHECK VALVE - BRONZE, 200 PSI RATING.
- WATER METER - 3/4" SENSUS SR 11 WITH REMOTE READOUT, BRONZE BODY, 1000 GALLONS/PULSE, 1000 GALLON READOUT (OR AS DIRECTED BY TCVMD).
- METER YOKE - FORD COPPER HORN OR EQUIVALENT (FOR FULL 3/4" METER). THIS YOKE MUST ACCOMMODATE A 9-INCH METER.
- PRESSURE REDUCING VALVE - BRONZE, 300 PSI RATING, 30-70 PSI MINIMUM ADJUSTMENT RANGE, SET AT 50 PSI.
- HOSE BIB WITH SHUTOFF - 200 PSI RATING.



ANY VARIATION FROM THIS STANDARD REQUIRES APPROVAL PRIOR TO INSTALLATION FROM TODD CREEK VILLAGE METROPOLITAN DISTRICT.

1. OWNER RESPONSIBLE FOR REPAIRS TO THE FOLLOWING:
- CORP STOP (TAP)
  - SERVICE LINE FROM CORP STOP TO HOUSE
  - INLET VALVE
  - PRESSURE REDUCING VALVE
  - BACKFLOW PREVENTER
  - METER SETTER
  - OUTLET VALVE

|  |                          |
|--|--------------------------|
| <b>TODD CREEK VILLAGE<br/>METROPOLITAN DISTRICT</b>  |                          |
| <b>WATER SERVICE LINE,<br/>STOP BOX &amp; INSIDE METER (POTABLE)<br/>INSTALLATION FOR 3/4" &amp; 1" METERS</b> |                          |
| Scale: <i>NONE</i>   | Date: <i>FEB 16 2021</i> |
| Approved:  | Rev. <i>A1</i>           |

SIGNAL WIRE  
TO REMOTE.  
THREE LEAD  
LOW VOLTAGE  
22 GAUGE WIRE

REMOTE READOUT  
(CONDUIT MAY BE  
REQUIRED FROM METER TO  
READOUT TO BE  
DETERMINED BY DISTRICT  
PERSONNEL).

3' MIN  
5' MAX

ANY VARIATION FROM THIS  
STANDARD REQUIRES APPROVAL  
PRIOR TO INSTALLATION FROM  
TODD CREEK VILLAGE  
METROPOLITAN DISTRICT.

FULL 3/4  
METER SET  
9 INCH.

METER  
UNIT

OUTLET VALVE

HOSE BIB W/  
SHUTOFF

CHECK  
VALVE

PRESSURE  
REDUCING VALVE

INLET VALVE  
MANUEL DRAIN  
BRONZE, 200PSI  
RATING, BALL.

OWNER RESPONSIBLE FOR REPAIRS TO THE FOLLOWING:

1. INLET BALL VALVE - Bronze, 200 psi rating.
2. PRESSURE REDUCING VALVE
3. CHECK VALVE
4. METER SETTER - Full 3/4 fitting; 9 Inch Meter
5. HOSE BIB W/ SHUT OFF
6. OUTLET BALL VALVE - Bronze, 200 psi rating.
7. SERVICE LINE FROM CORP STOP TO HOUSE

FLOOR  
DRAIN

ENLARGED VIEW OF SHEET 41

## TODD CREEK VILLAGE METROPOLITAN DISTRICT

### WATER SERVICE LINE, STOP BOX & INSIDE METER (POTABLE) INSTALLATION FOR 3/4" METERS

Scale: NONE

Date: FEB 2012

Approved:

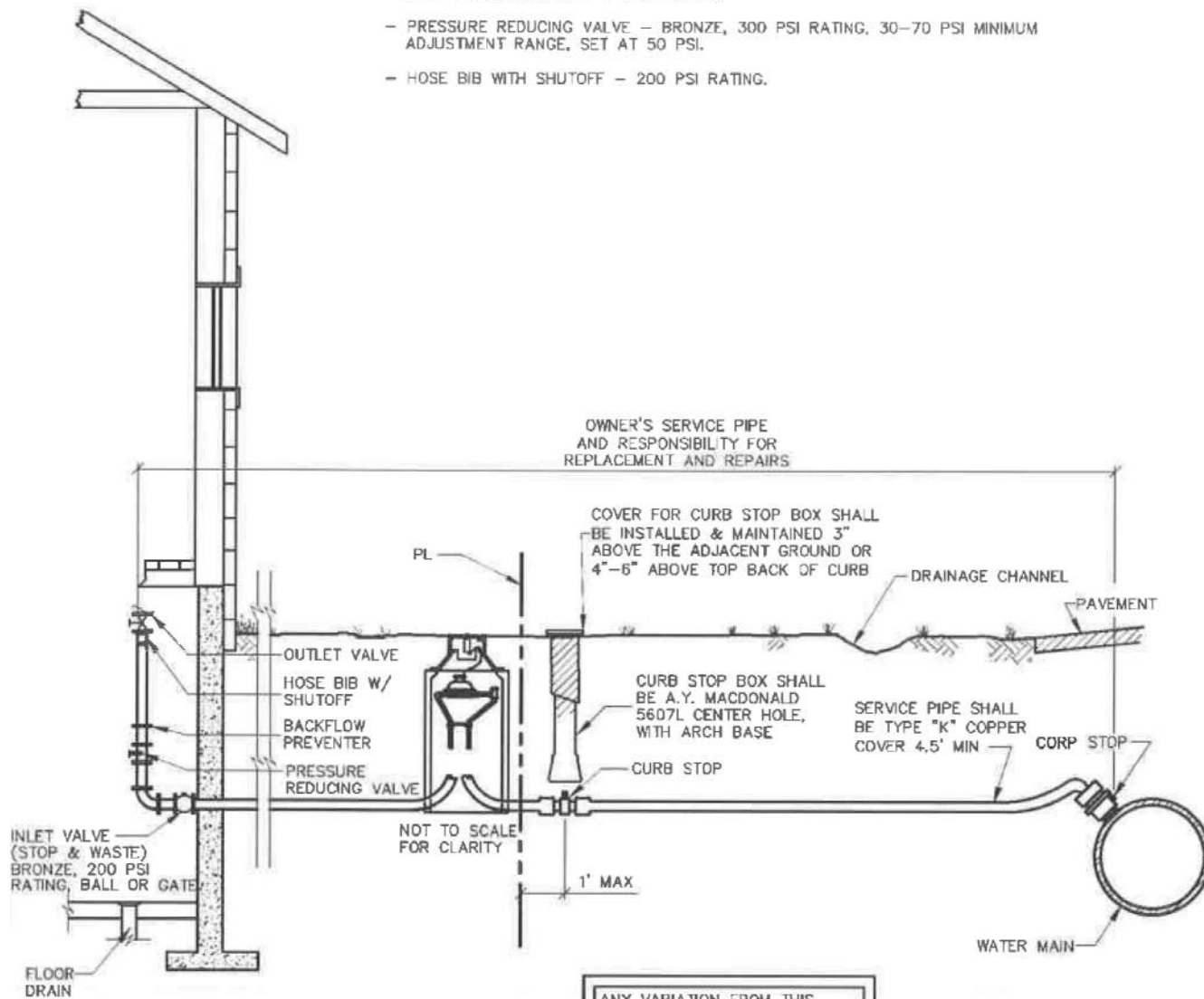
Rev.

**NOTES:**

1. WATER METER FURNISHED AND INSTALLED BY TODD CREEK VILLAGE METROPOLITAN DISTRICT PERSONNEL.
2. TCVM D OPERATES METERS AND CURB STOPS,

**METER SETTING STANDARDS:**

- SHUTOFF VALVE WITH DRAIN - BRONZE, 200 PSI RATING, BALL VALVE OR GATE
- CHECK VALVE - BRONZE, 200 PSI RATING.
- WATER METER - 3/4" SENSUS SR 11 WITH REMOTE READOUT, BRONZE BODY, 1000 GALLONS/PULSE, 1000 GALLON READOUT (OR AS DIRECTED BY TCVM D).
- METER YOKE - FORD COPPER HORN OR EQUIVALENT (FOR FULL 3/4" METER). THIS YOKE MUST ACCOMMODATE A 9-INCH METER.
- PRESSURE REDUCING VALVE - BRONZE, 300 PSI RATING, 30-70 PSI MINIMUM ADJUSTMENT RANGE, SET AT 50 PSI.
- HOSE BIB WITH SHUTOFF - 200 PSI RATING.



OWNER'S SERVICE PIPE AND RESPONSIBILITY FOR REPLACEMENT AND REPAIRS

COVER FOR CURB STOP BOX SHALL BE INSTALLED & MAINTAINED 3" ABOVE THE ADJACENT GROUND OR 4"-6" ABOVE TOP BACK OF CURB

SERVICE PIPE SHALL BE TYPE "K" COPPER COVER 4.5' MIN

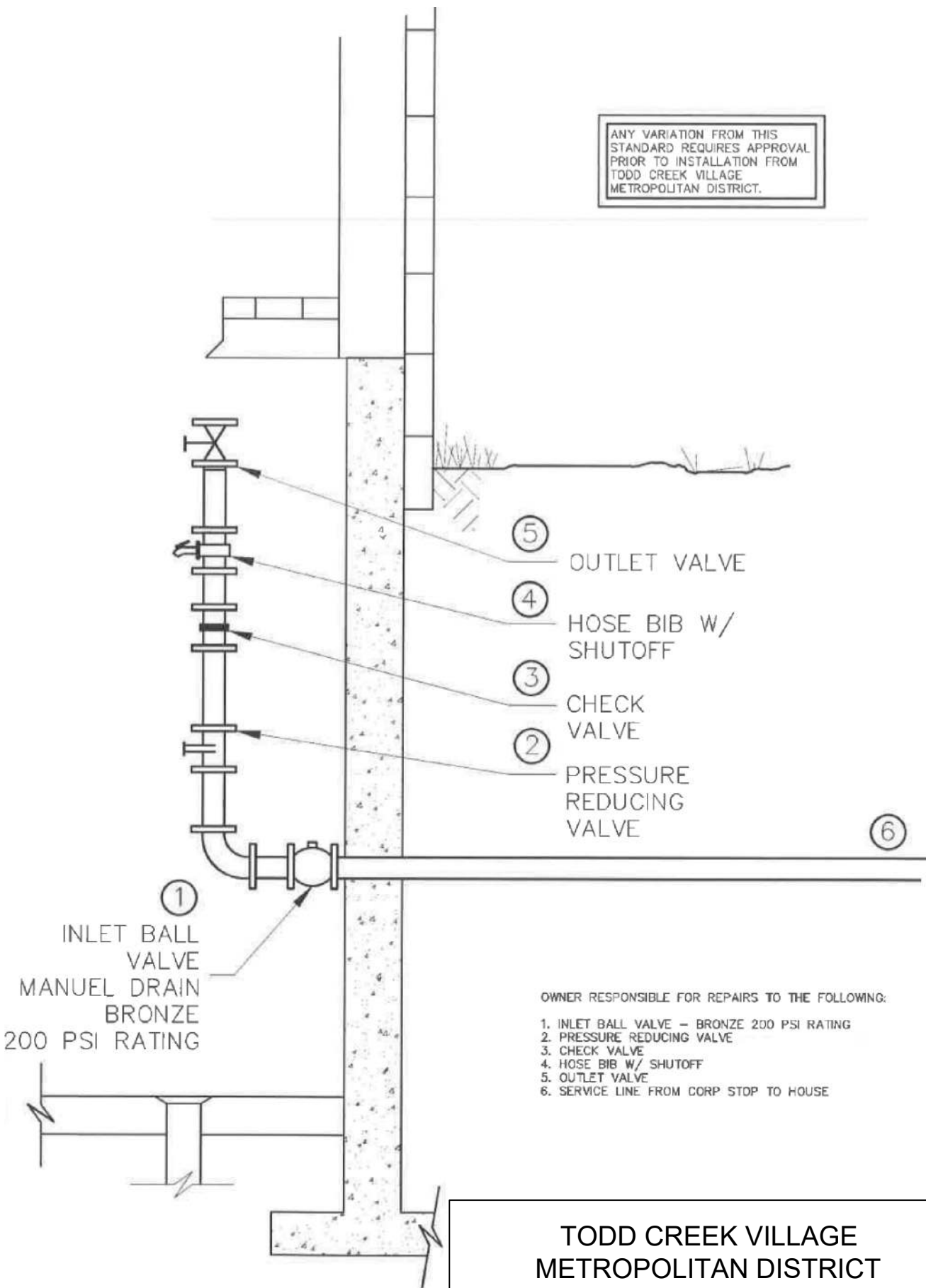
ANY VARIATION FROM THIS STANDARD REQUIRES APPROVAL PRIOR TO INSTALLATION FROM TODD CREEK VILLAGE METROPOLITAN DISTRICT.

1. OWNER RESPONSIBLE FOR REPAIRS TO THE FOLLOWING:

- CORP STOP (TAP)
- SERVICE LINE FROM CORP STOP TO HOUSE
- INLET VALVE
- PRESSURE REDUCING VALVE
- BACKFLOW PREVENTER
- METER SETTER
- OUTLET VALVE

|   |                       |
|---|-----------------------|
| <b>TODD CREEK VILLAGE METROPOLITAN DISTRICT</b>   |                       |
| <b>WATER SERVICE LINE, STOP BOX &amp; OUTSIDE METER (POTABLE) INSTALLATION FOR 3/4" &amp; 1" METERS</b> |                       |
| Scale: <i>NONE</i>  | Date: <i>JUL 2022</i> |
| Approved:   | Rev.                  |

ANY VARIATION FROM THIS STANDARD REQUIRES APPROVAL PRIOR TO INSTALLATION FROM TODD CREEK VILLAGE METROPOLITAN DISTRICT.

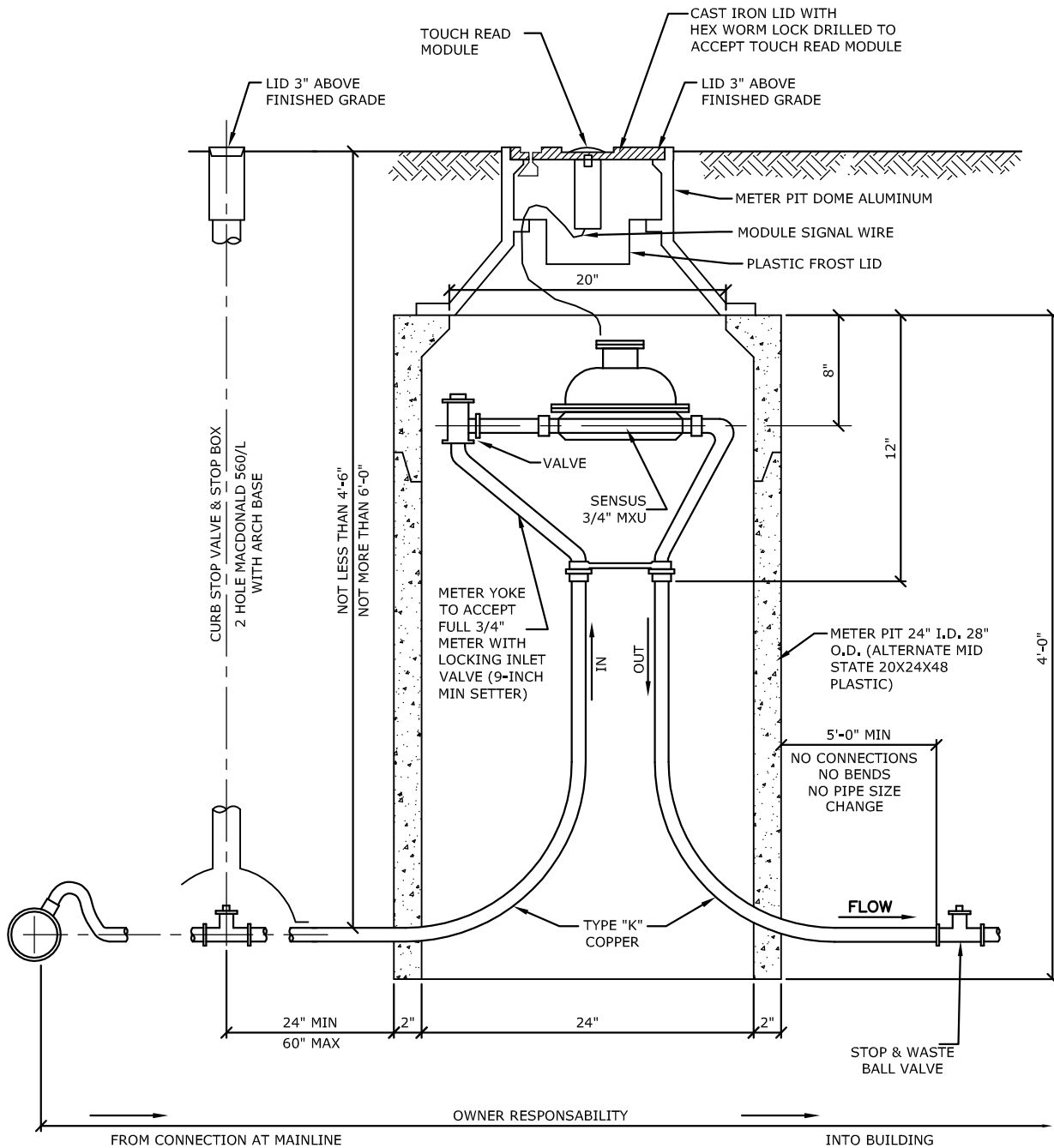


- ⑤ OUTLET VALVE
- ④ HOSE BIB W/ SHUTOFF
- ③ CHECK VALVE
- ② PRESSURE REDUCING VALVE

① INLET BALL VALVE  
MANUEL DRAIN  
BRONZE  
200 PSI RATING

- OWNER RESPONSIBLE FOR REPAIRS TO THE FOLLOWING:
1. INLET BALL VALVE – BRONZE 200 PSI RATING
  2. PRESSURE REDUCING VALVE
  3. CHECK VALVE
  4. HOSE BIB W/ SHUTOFF
  5. OUTLET VALVE
  6. SERVICE LINE FROM CORP STDP TO HOUSE

|  |                       |
|--|-----------------------|
| <b>TODD CREEK VILLAGE<br/>METROPOLITAN DISTRICT</b>                        |                       |
| <b>WATER SERVICE LINE,<br/>INSIDE HOUSE<br/>INSTALLATION FOR 3/4" LINE</b> |                       |
| Scale: <i>NONE</i>   | Date: <i>JUL 2022</i> |
| Approved:  | Rev.                  |



**GENERAL NOTES:**

1. WATER METER FURNISHED AND INSTALLED BY TODD CREEK VILLAGE METROPOLITAN DISTRICT.
2. **ONLY THE METER IS THE PROPERTY OF THE DISTRICT.**
3. ALL METER PITS SHALL BE STAKED FOR FINISHED GRADE IF INSTALLATION PRECEEDS CONSTRUCTION.
4. WATER DISTRICT PERSONNEL SHALL INSPECT THE SERVICE LINE FROM THE CURB STOP TO THE HOUSE (24 HOUR NOTICE REQUIRED FOR INSPECTION).
5. SERVICES BELOW ELEVATION 5090 MUST USE TANDEM COPPER SETTER WITH PRV.

|   |                       |
|---|-----------------------|
| <b>TODD CREEK VILLAGE<br/>METROPOLITAN DISTRICT</b>               |                       |
| <b>OUTSIDE SETTING FOR 3/4"<br/>&amp; 1" METERS (NON POTABLE)</b> |                       |
| Scale: <i>NONE</i>  | Date: <i>FEB 2010</i> |
| Approved:   | Rev.                  |

# IRRIGATION METER PIT DESCRIPTION

## Meter Pit (non-potable):

For 3/4" meters, pits shall have a circular reinforced concrete barrel. Barrel sections shall be of 5,000 psi minimum strength concrete, with a wall thickness of not less than 2 inches. Reinforcing shall not be less than No. 0 circular wire, 6 inches on center. Setting shall consist of a lower bell section with opening at the bottom to allow for entrance/exit of the service line. Barrel sections shall fit together allowing no visible gaps and the top section shall be shaped for placement of the meter box cover. Adjustable grade rings shall be of reinforced concrete or cast iron.

## Alternate Meter Pit (not-potable):

Mid States Plastic 20 x 24 x 48, molded with minimum wall thickness of .055" and vertical load test greater than 20,000 lbs. Has white interior and anti-setting flange. Meter box extensions will bring height to grade on off grade extension or uneven terrain.

TODD CREEK VILLAGE  
METROPOLITAN DISTRICT

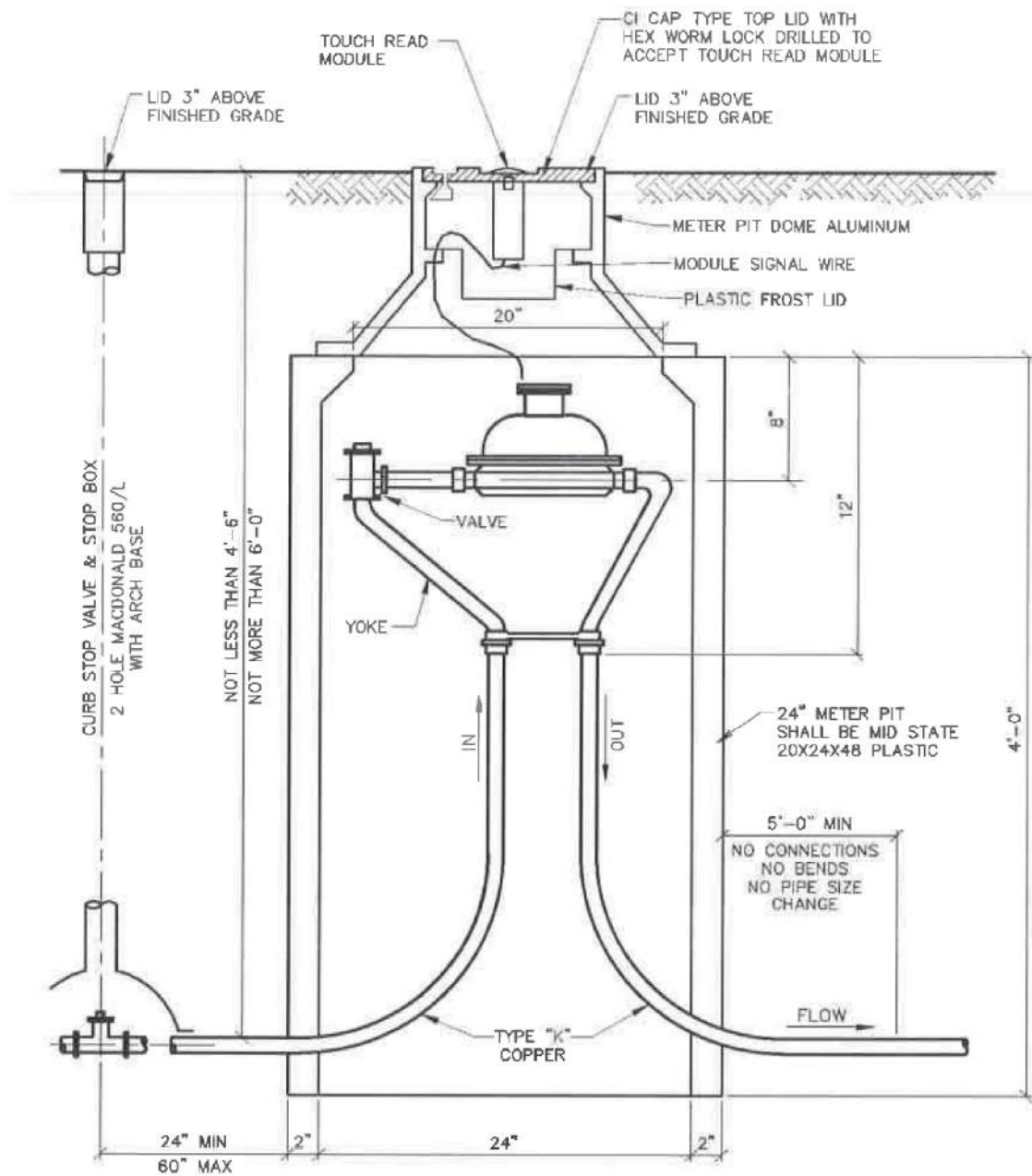
OUTSIDE SETTING FOR 3/4"  
& 1" METERS (NON POTABLE)

Scale: *NONE*

Date: *FEB 2012*

Approved:

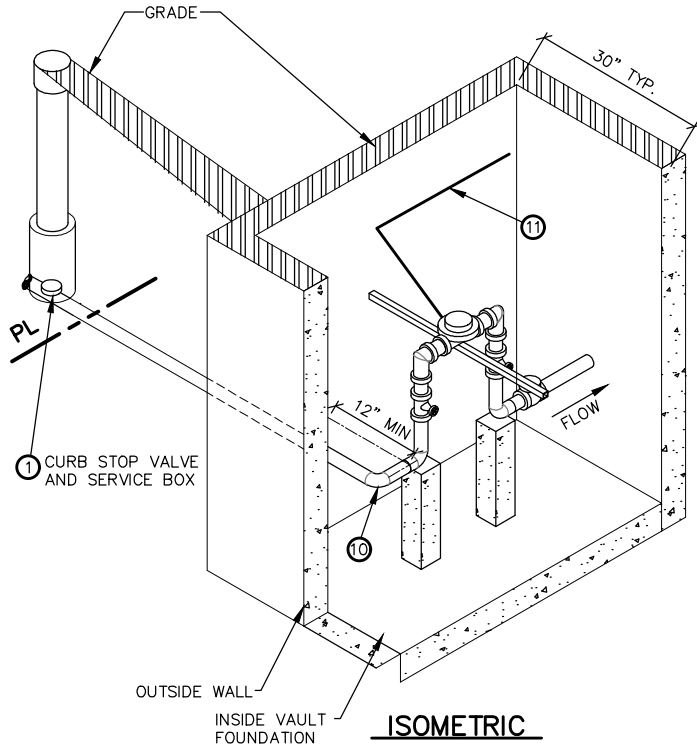
Rev.



**GENERAL NOTES:**

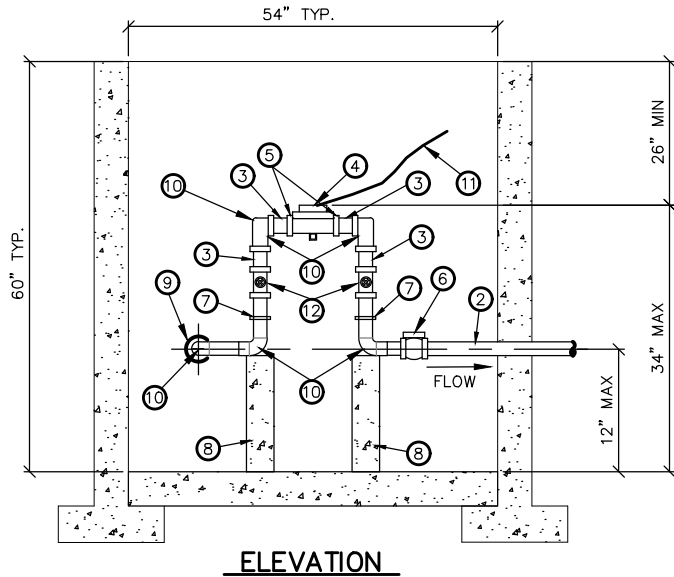
1. WATER METER FURNISHED AND INSTALLED BY TODD CREEK VILLAGE METROPOLITAN DISTRICT.
2. ONLY THE METER IS THE PROPERTY OF THE DISTRICT.
3. ALL METER PITS SHALL BE STAKED FOR FINISHED GRADE IF INSTALLATION PRECEEDS CONSTRUCTION.
4. WATER DISTRICT PERSONNEL SHALL INSPECT THE SERVICE LINE FROM THE CURB STOP TO THE HOUSE (24 HOUR NOTICE REQUIRED FOR INSPECTION).
5. SERVICES BELOW ELEVATION 5090 MUST USE TANDEM COPPER SETTER WITH PRV.

|   |                       |
|---|-----------------------|
| <b>TODD CREEK VILLAGE<br/>METROPOLITAN DISTRICT</b>           |                       |
| <b>OUTSIDE SETTING FOR 3/4"<br/>&amp; 1" METERS (POTABLE)</b> |                       |
| Scale: <i>NONE</i>  | Date: <i>JUL 2022</i> |
| Approved:   | Rev.                  |



**NOTES:**

1. PIPE JOINTS SHALL BE THREADED.
2. INSTALLATION MUST ALLOW FOR FULL ACCESS TO METER AND VALVES, AND PROVIDE PROTECTION FROM FREEZING.
3. METER SUPPORT MAY BE EITHER CONC OR UNISTRUT ATTACHED TO WALL.
4. ALL METERS MUST BE FURNISHED WITH A MECHANICALLY ENCODED REGISTER, AND WITH A REMOTE READER.
5. REMOTE WILL BE INSTALLED AT A LOCATION DETERMINED BY TODD CREEK PERSONNEL AT TIME OF METER INSPECTION. IN MOST CASES, REMOTE WILL BE INSTALLED ON THE OUTSIDE OF THE BUILDING FACING A PUBLIC STREET. OWNER MUST PROVIDE CONDUIT AND SIGNAL WIRE FROM METER TO REMOTE LOCATION.
6. FOR 3" AND LARGER METER APPLICATION, APPROVAL IS REQUIRED FROM THE DISTRICT

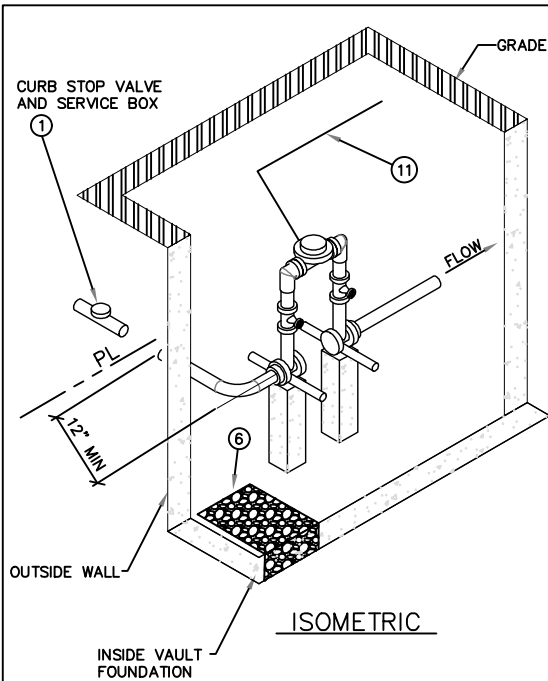


**DETAILS:**

- ① CURB STOP
- ② TYPE K COPPER TUBING
- ③ BRASS NIPPLE
- ④ METER UNIT (1-1/2" METER = 13-1/2")  
(2" METER = 17-1/2")
- ⑤ BRASS UNION
- ⑥ CHECK VALVE
- ⑦ MALE I.P.T TO FLARED FITTING
- ⑧ CONC BLOCK SUPPORTS 4"x 4"x 12"
- ⑨ 1"x 18" PIPE
- ⑩ 90° ELL
- ⑪ SIGNAL WIRE TO REMOTE READER
- ⑫ 2" GATE VALVE TYP.

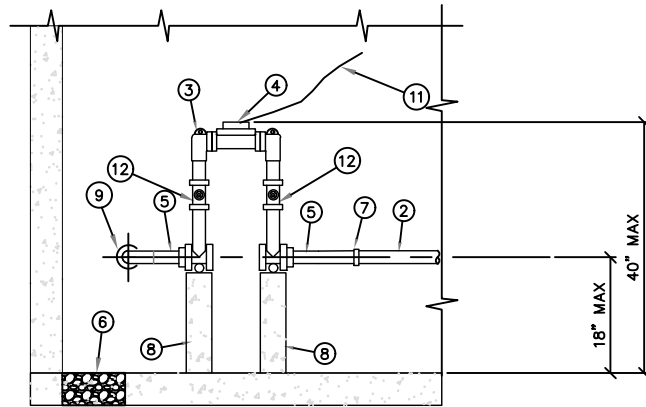
|  |                          |
|--|--------------------------|
| <b>TODD CREEK VILLAGE<br/>METROPOLITAN DISTRICT</b>                  |                          |
| <b>INSIDE SETTING FOR 1 1/2" &amp; 2"<br/>METER WITH CHECK VALVE</b> |                          |
| Scale: <i>NONE</i>   | Date: <i>FEB 16 2021</i> |
| Approved:  | Rev. <i>A1</i>           |





**NOTES:**

1. PIPE JOINT SHALL BE THRD OR SOLDERED WITH 95-5 TIN/ANTIMONY SOLDER.
2. INSTALLATION MUST ALLOW FOR FULL ACCESS TO METER AND VALVES, AND PROVIDE PROTECTION FROM FREEZING.
3. A FLOOR DRAIN SHALL BE PLACED NEAR THE METER INSTALLATION.
4. METER SUPPORT MAY BE EITHER CONC OR UNISTRUT ATTACHED TO WALL.
5. ALL METERS MUST BE FURNISHED WITH A MECHANICALLY ENCODED REGISTER, AND WITH A REMOTE READER.
6. REMOTE WILL BE INSTALLED AT A LOCATION DETERMINED BY TODD CREEK PERSONNEL AT TIME OF METER INSPECTION. IN MOST CASES, REMOTE WILL BE INSTALLED ON THE OUTSIDE OF THE BUILDING FACING A PUBLIC STREET. OWNER MUST PROVIDE CONDUIT AND SIGNAL WIRE FROM METER TO REMOTE LOCATION.
7. FOR 3" AND LARGER METER APPLICATION, APPROVAL IS REQUIRED FROM THE DISTRICT



ELEVATION

**DETAILS:**

- ① CURB STOP
- ② TYPE K COPPER TUBING
- ③ COPPERSETTER / METER YOKE / PRESSURE REDUCING VALVE
- ④ METER UNIT (1-1/2" METER = 13-1/2")  
(2" METER = 17-1/2")
- ⑤ 3" NIPPLE BETWEEN COPPERSETTER AND CHECK VALVE
- ⑥ SUMP DRAIN WITH 2" RIVER ROCK
- ⑦ IRON PIPE TO COMPRESSION COUPLING FROM INLET SIDE OF COPPERSETTER AND OUTLET SIDE OF CHECK VALVE
- ⑧ CONC BLOCK SUPPORTS 4"x 4"x 12"
- ⑨ 1"x 18" PIPE
- ⑩ 90° ELL
- ⑪ SIGNAL WIRE TO REMOTE READER
- ⑫ FLOOR DRAIN

TODD CREEK VILLAGE  
METROPOLITAN DISTRICT

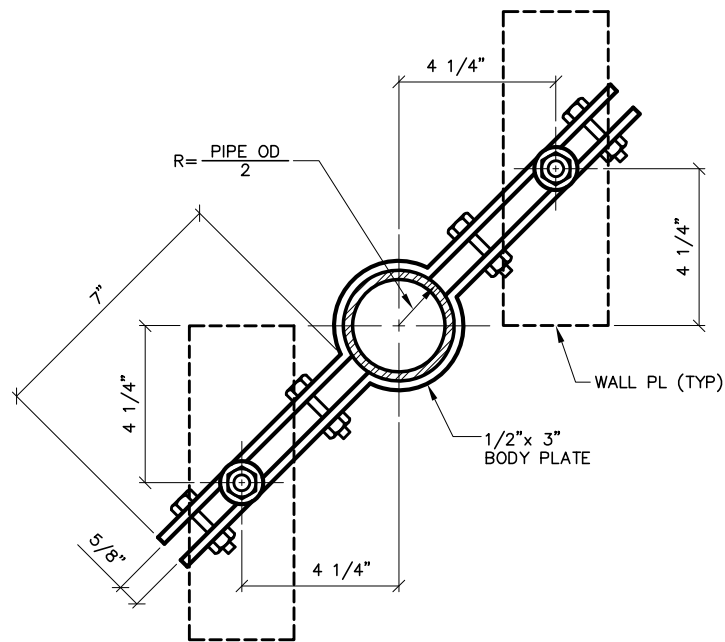
IRRIGATION INSIDE SETTING FOR 1 1/2"  
& 2" METER WITHOUT CHECK VALVE

Scale: NONE

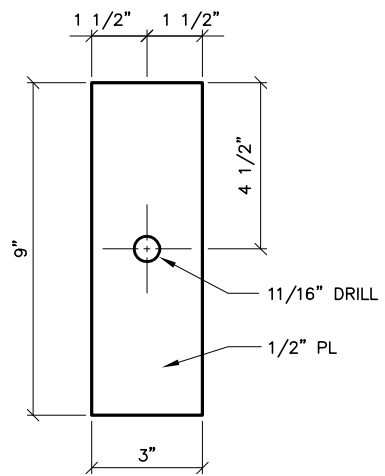
Date: FEB 16 2021

Approved:

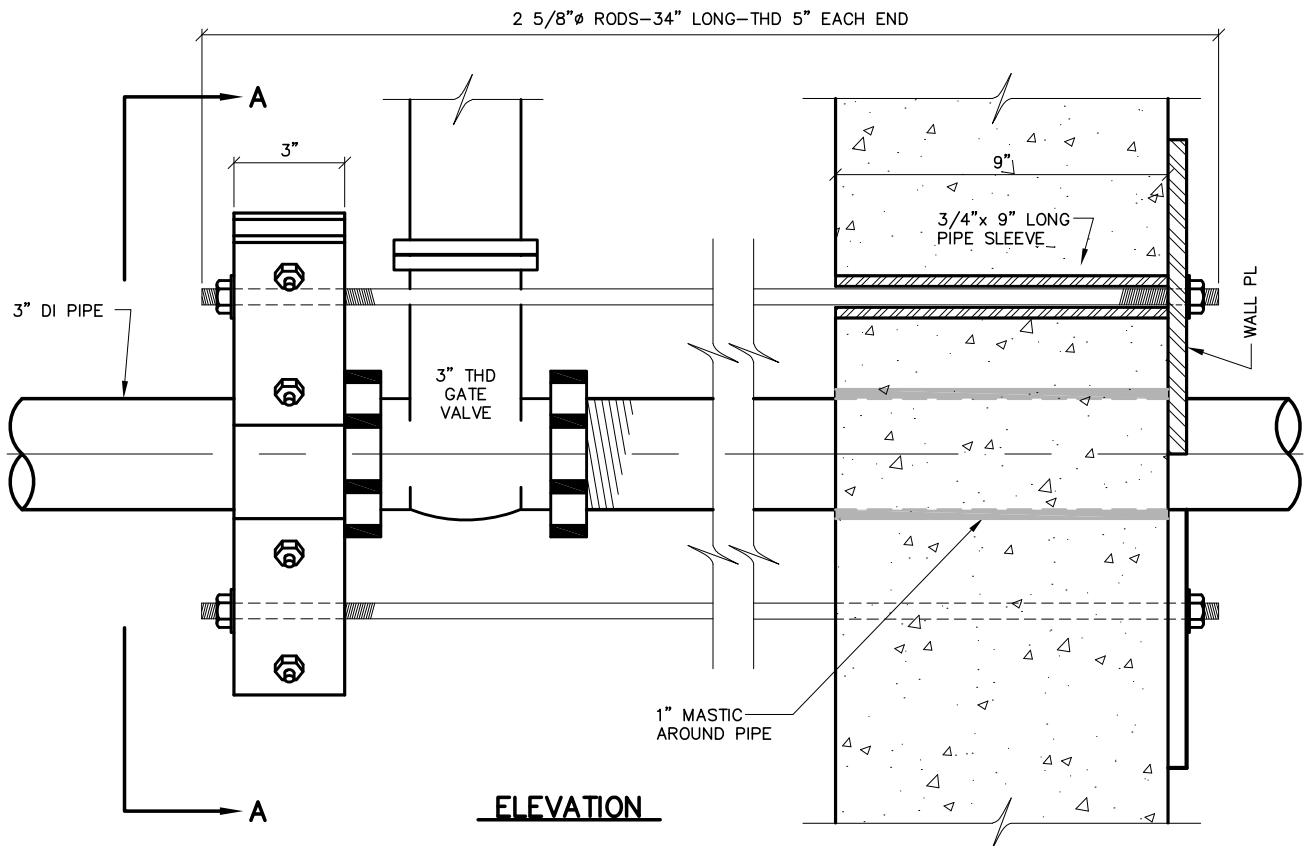
Rev. A1



**SECTION A-A**



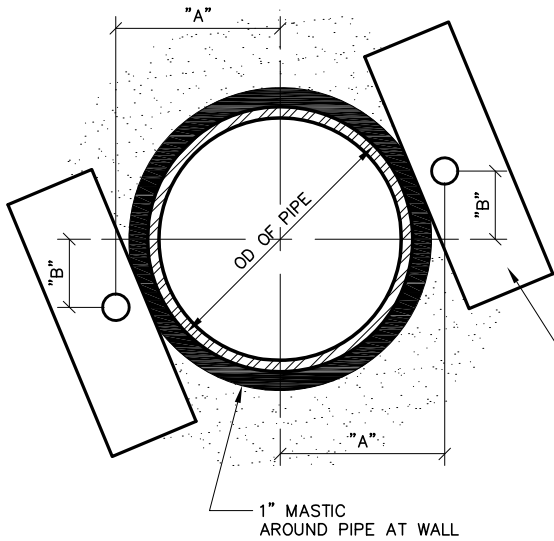
**WALL PLATE**  
4 REQUIRED



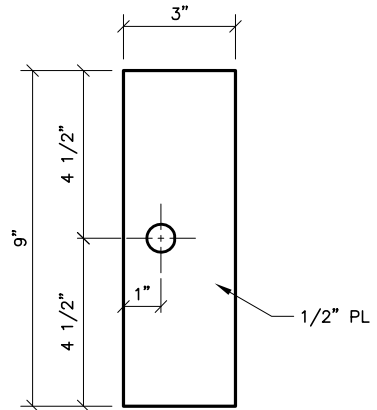
**ELEVATION**

|  |                       |
|--|-----------------------|
| <b>TODD CREEK VILLAGE<br/>METROPOLITAN DISTRICT</b>    |                       |
| <b>WALL PLATES &amp; BODY<br/>CLAMPS FOR 3\"/&gt; </b> |                       |
| Scale: <i>NONE</i>                                     | Date: <i>FEB 2010</i> |
| Approved:  | Rev.                  |

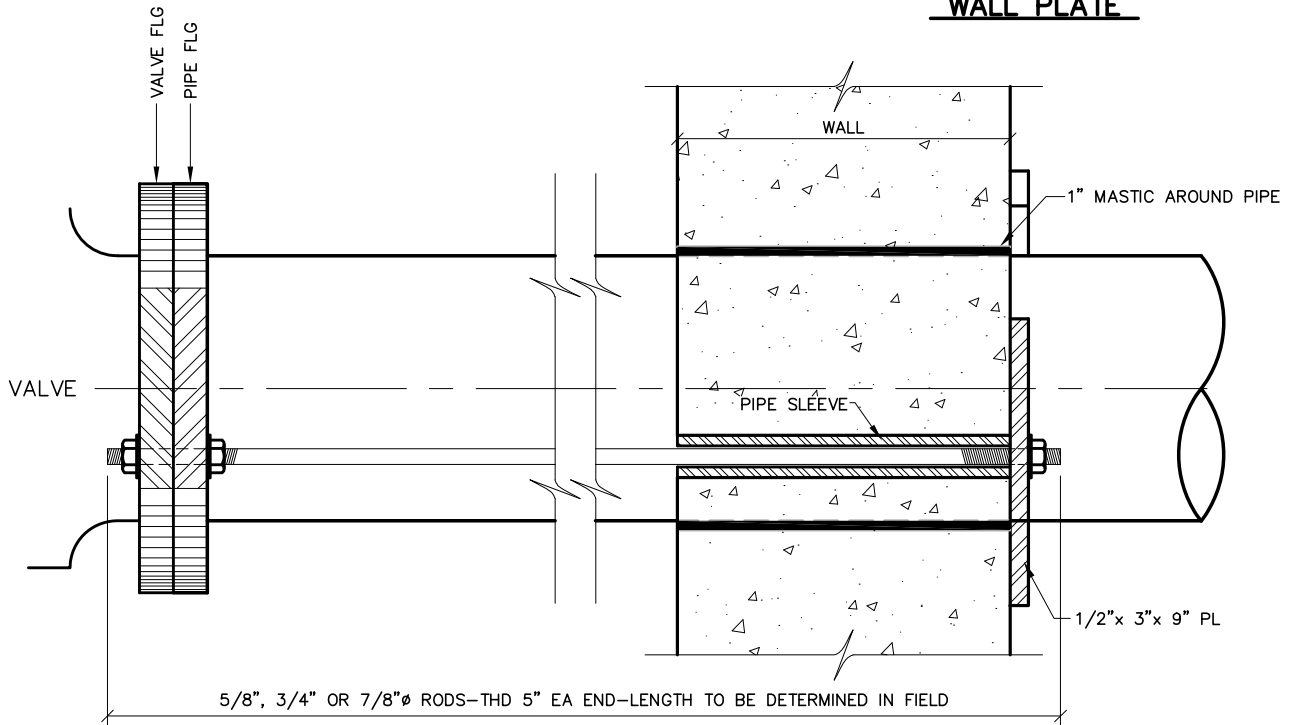
| PIPE SIZE | RODS NO & SIZE | WALL PIPE SLEEVES | "A"     | "B"      |
|-----------|----------------|-------------------|---------|----------|
| 4"        | 2 - 5/8"φ      | 3/4" x 9"         | 3 1/2"  | 1 7/16"  |
| 6"        | 2 - 5/8"φ      | 3/4" x 9"         | 4 3/8"  | 1 13/16" |
| 8"        | 2 - 3/4"φ      | 1" x 9"           | 5 7/16" | 2 1/4"   |
| 10"       | 2 - 7/8"φ      | 1 1/2" x 9"       | 5 7/8"  | 3 3/8"   |



**EXTERIOR ELEVATION**



**WALL PLATE**

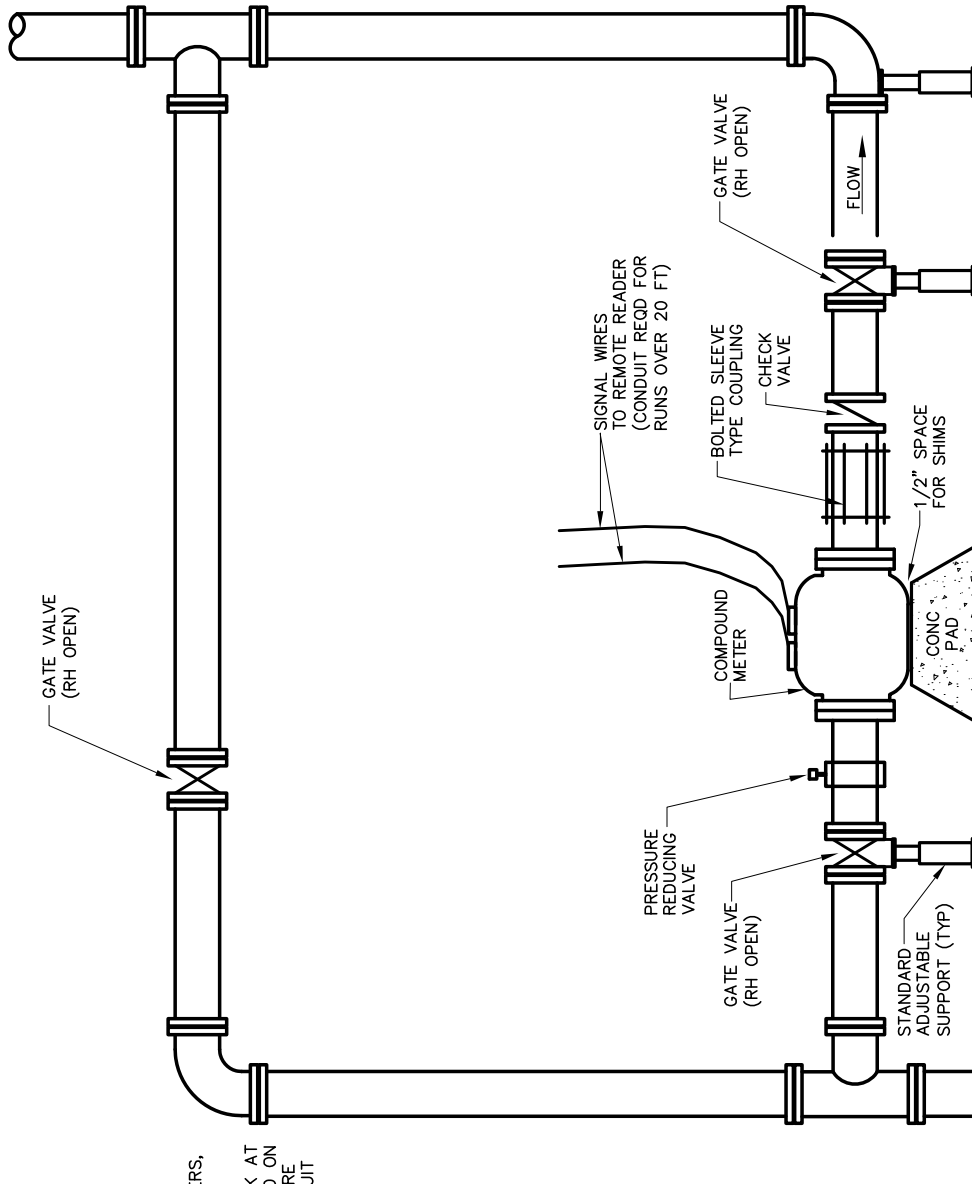


**ELEVATION**

|  |                       |
|--|-----------------------|
| <b>TODD CREEK VILLAGE<br/>METROPOLITAN DISTRICT</b>    |                       |
| <b>WALL PLATES FOR<br/>4", 6", 8" &amp; 10" METERS</b> |                       |
| Scale: <i>NONE</i>                                     | Date: <i>FEB 2010</i> |
| Approved:  | Rev.                  |

**NOTES:**

1. PIPING FOR 3" AND LARGER METERS SHALL BE DI.
2. INSTALLATION MUST ALLOW FOR FULL ACCESS TO METER AND VALVES, AND PROVIDE PROTECTION FROM FREEZING, WITH MIN 2 FT CLEARANCE TO WALL.
3. MIN DISTANCE FROM METER TO BYPASS LINE IS 2'-6"
4. A FLOOR DRAIN WITHIN 10 FT OF THE METER INSTALLATION IS REQD.
5. ALL VALVES TO BE NON-RISING STEM, RH OPEN.
6. A CHECK VALVE IS REQD IN ALL INSTALLATIONS UNLESS A BACKFLOW PREVENTION DEVICE IS INSTALLED.
7. ALL METERS MUST BE FURNISHED WITH MECHANICALLY ENCODED REGISTERS, AND A REMOTE READER FOR EACH REGISTER.
8. REMOTE WILL BE INSTALLED AT A LOCATION DETERMINED BY TODD CREEK AT TIME OF METER INSPECTION. IN MOST CASES, REMOTE WILL BE INSTALLED ON THE OUTSIDE OF THE BUILDING FACING A PUBLIC STREET. IF REMOTES ARE MORE THAN 20 FT FROM METER LOCATION, OWNER MUST PROVIDE CONDUIT AND SIGNAL WIRE FROM METER TO REMOTE LOCATION.
9. ALL FITTINGS ARE TO BE FLANGED.



**TODD CREEK VILLAGE  
METROPOLITAN DISTRICT**

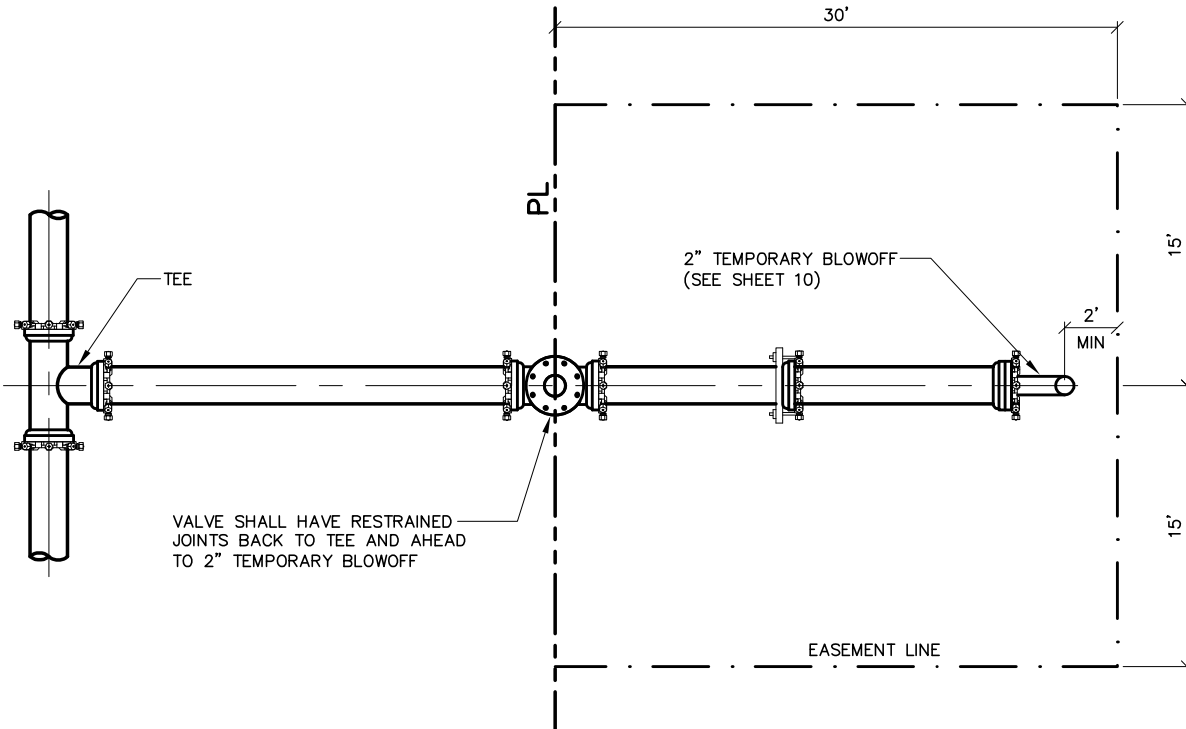
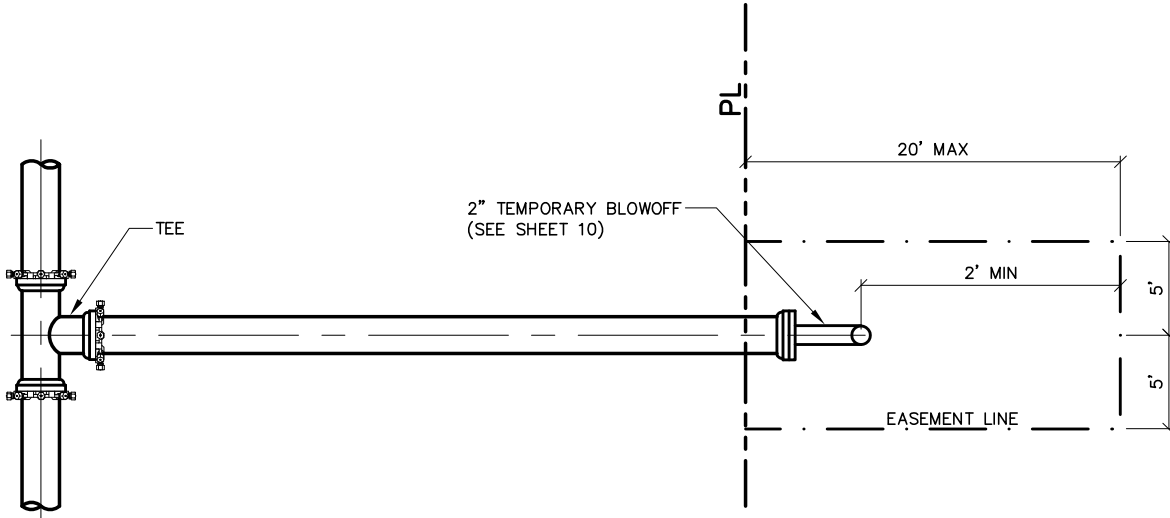
**INSIDE SETTING FOR 3" &  
LARGER COMPOUND METER**

Scale: *NONE*

Date: *FEB 2010*

Approved:

Rev.



**TODD CREEK VILLAGE  
METROPOLITAN DISTRICT**

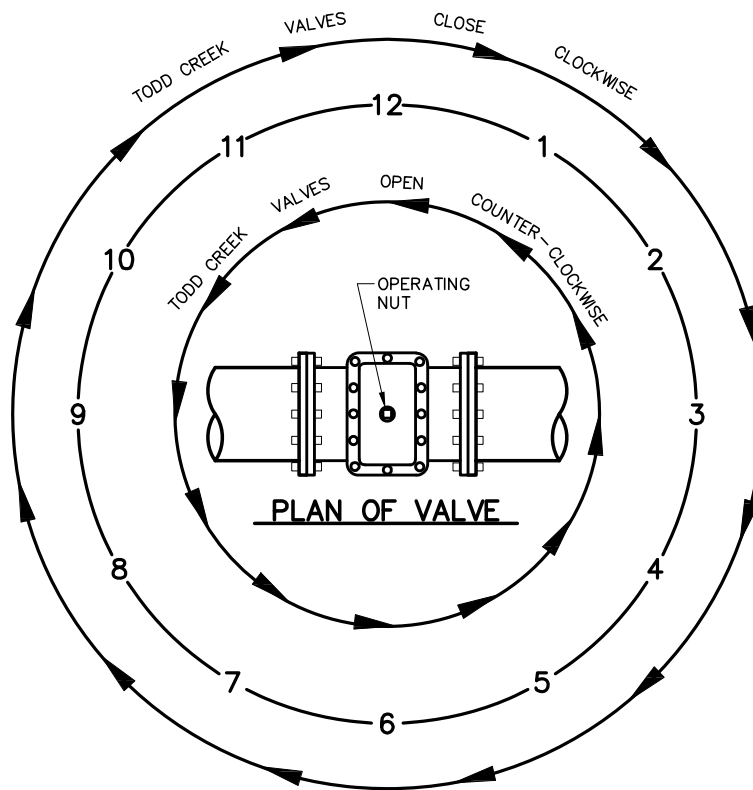
**STUB-OUT CONFIGURATIONS  
FOR FUTURE MAIN EXTENSIONS**

Scale: *NONE*

Date: *FEB 2010*

Approved:

Rev.



VALVE OPENING & CLOSING PROCEDURE

TODD CREEK VILLAGE  
METROPOLITAN DISTRICT

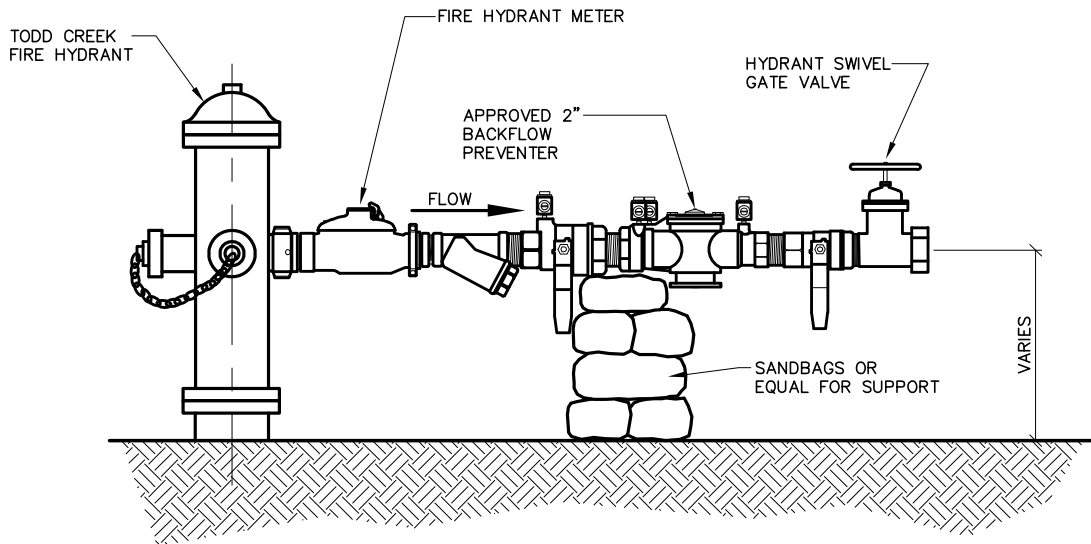
VALVE OPERATION

Scale: NONE

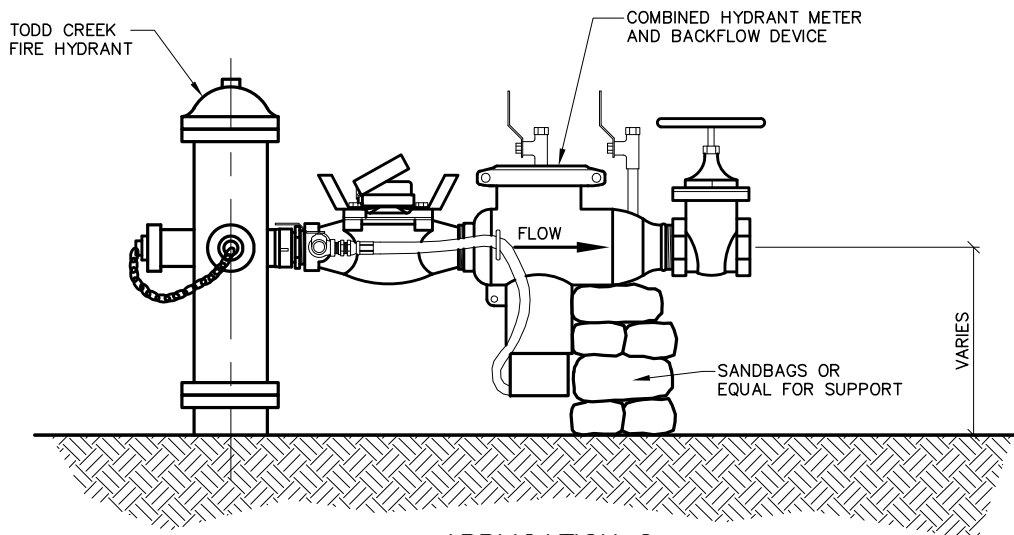
Date: FEB 2010

Approved:

Rev.



**APPLICATION 1**

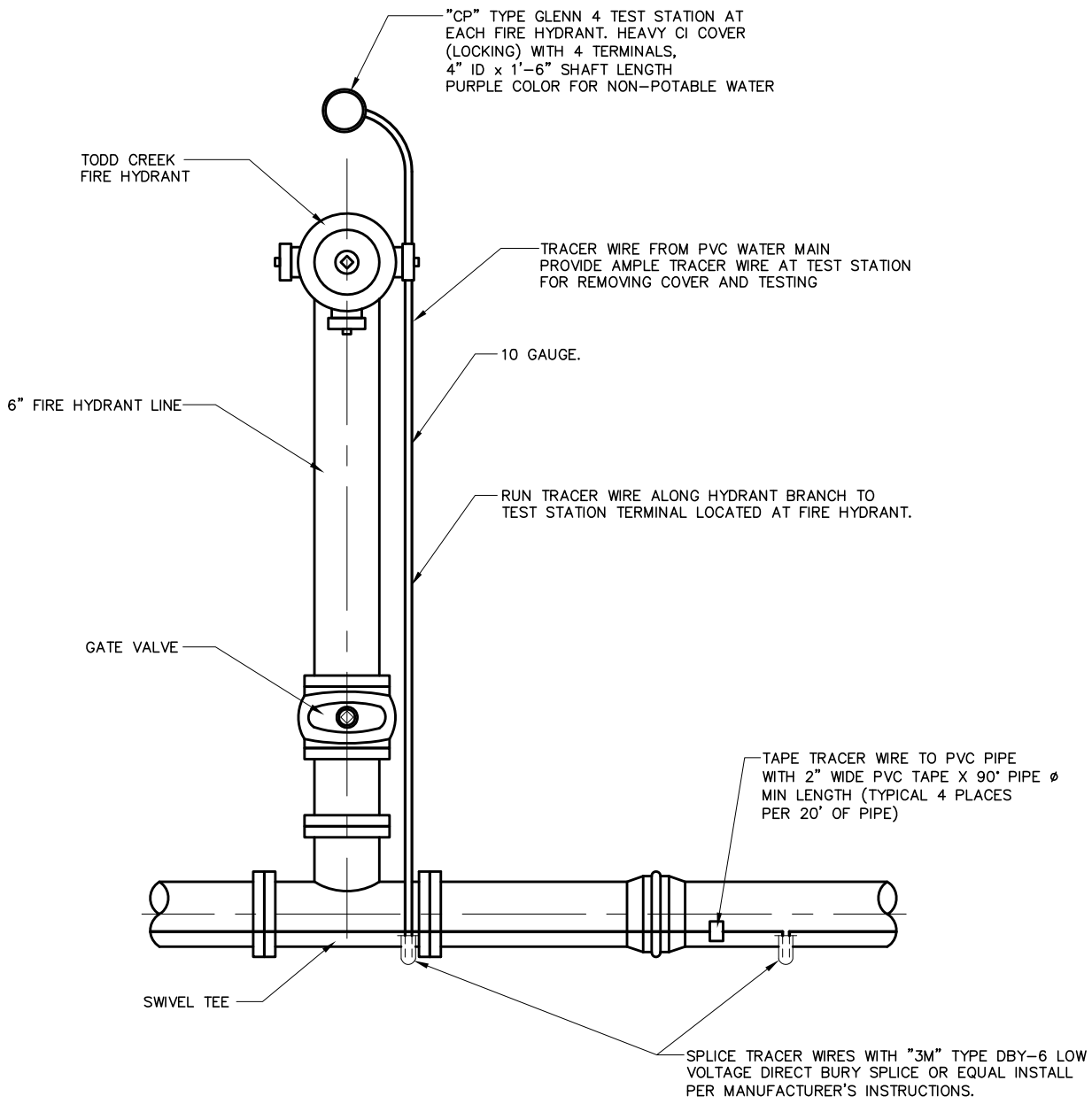


**APPLICATION 2**

**NOTES:**

1. USE OF HYDRANT REQUIRES VALID HYDRANT USE PERMIT. CONTACT TODD CREEK VILLAGE METROPOLITAN DISTRICT FOR APPLICATION.
2. METER AND RPZ BACKFLOW DEVICE SHALL BE FULLY SUPPORTED WHEN CONNECTED TO FIRE HYDRANT.
3. BACKFLOW DEVICE SHALL BE APPROVED BY TODD CREEK PERSONNEL.
4. METER SHALL BE FURNISHED BY TODD CREEK.
5. BACKFLOW DEVICE SHALL BE TESTED ANNUALLY AND COPY OF TEST SHALL BE SENT TO TODD CREEK VILLAGE METROPOLITAN DISTRICT, BEFORE USAGE WILL BE ALLOWED.
6. CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY DAMAGE TO FIRE HYDRANT AND METER DURING USE. REFER TO THE AMENDED TODD CREEK VILLAGE METROPOLITAN DISTRICT RULES AND REGULATIONS.

|   |                       |
|---|-----------------------|
| <b>TODD CREEK VILLAGE<br/>METROPOLITAN DISTRICT</b>       |                       |
| <b>STANDARD DESIGN FOR<br/>HYDRANT METER INSTALLATION</b> |                       |
| Scale: <i>NONE</i>  | Date: <i>FEB 2010</i> |
| Approved:   | Rev.                  |

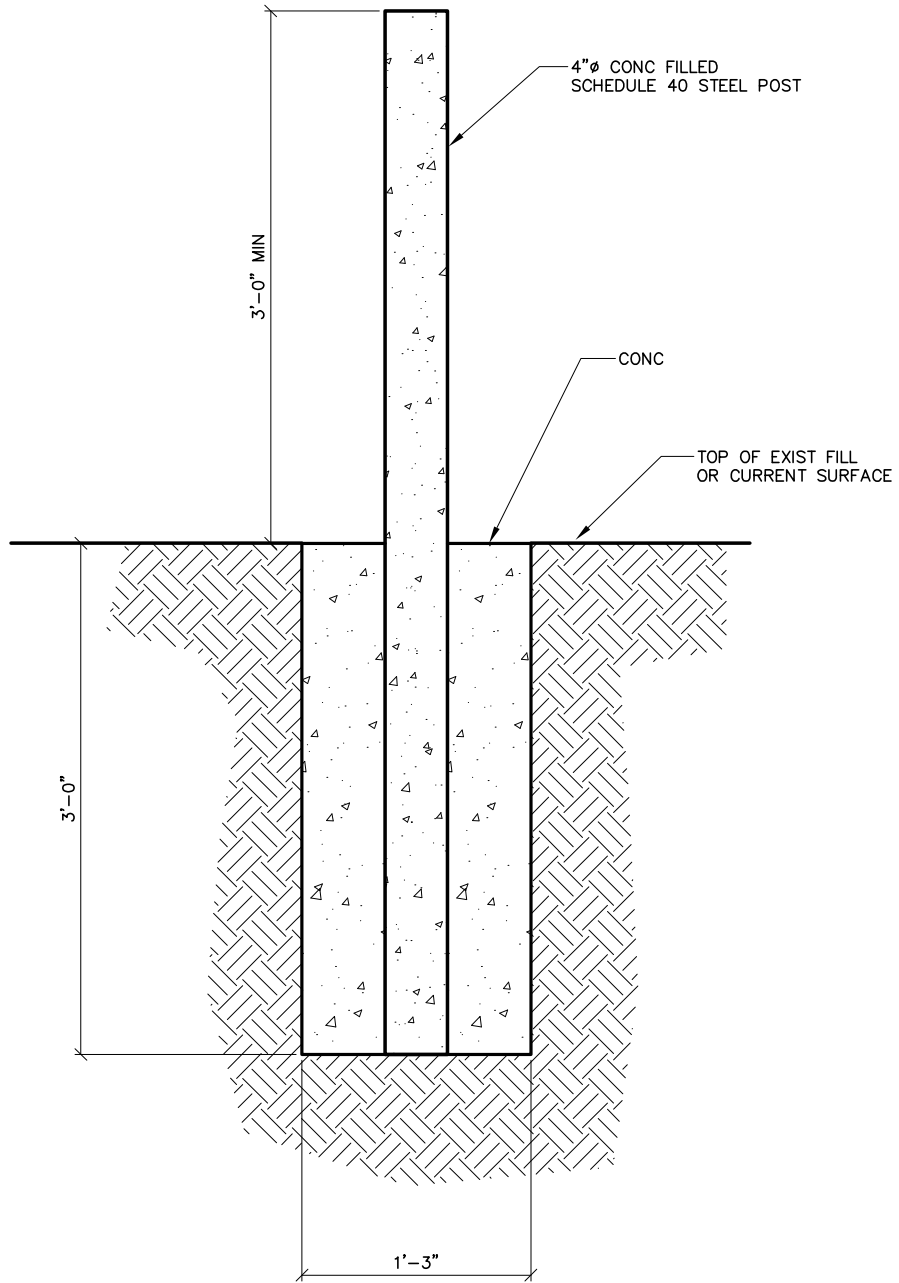


**TODD CREEK VILLAGE  
METROPOLITAN DISTRICT**

**TRACER WIRE INSTALLATION  
FOR WATER MAINS**

|                    |                       |
|--------------------|-----------------------|
| Scale: <i>NONE</i> | Date: <i>FEB 2010</i> |
| Approved:          | Rev.                  |





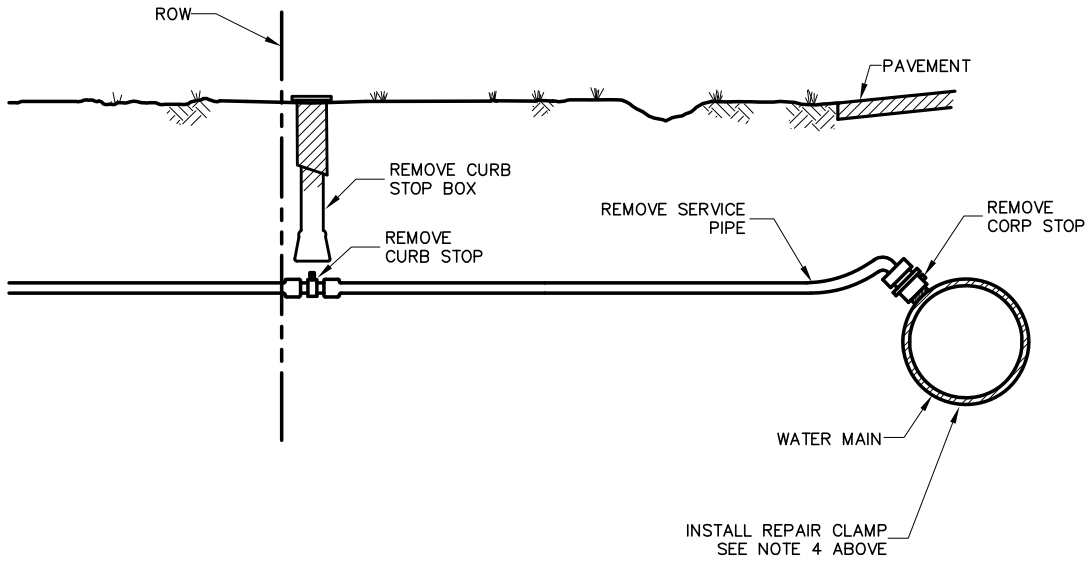
**TODD CREEK VILLAGE  
METROPOLITAN DISTRICT**

**TRAFFIC IMPEDIMENT BOLLARD**

|                    |                       |
|--------------------|-----------------------|
| Scale: <i>NONE</i> | Date: <i>FEB 2010</i> |
| Approved:          | Rev.                  |

**NOTES:**

1. NOTIFY THE TCVMD 48 HOURS PRIOR TO SERVICE REMOVAL. VALVE OPERATION WILL BE PERFORMED ONLY BY TCVMD.
2. REMOVE CURB STOP BOX, CURB STOP, SERVICE LINE, CORP STOP, AND ANY OTHER APPLICABLE ITEMS BETWEEN THE WATER MAIN AND R.O.W.
3. TCVMD HAS THE OPTION TO KEEP ANY OR ALL OF THE ITEMS REMOVED. TCVMD WILL DIRECT THE CONTRACTOR WHERE TO DELIVER REMOVED ITEMS.
4. FORD TYPE FS1 OR ROMAC TYPE SS1 REPAIR CLAMPS WILL BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
5. THE CONTRACTOR WILL CONTACT TCVMD FOR A FINAL INSPECTION OF ALL REPAIR CLAMPS PRIOR TO BACK-FILLING.
6. ADHERE TO ALL COUNTY STANDARDS FOR TRENCH PATCHING AND EROSION CONTROL, ETC.



**TODD CREEK VILLAGE  
METROPOLITAN DISTRICT**

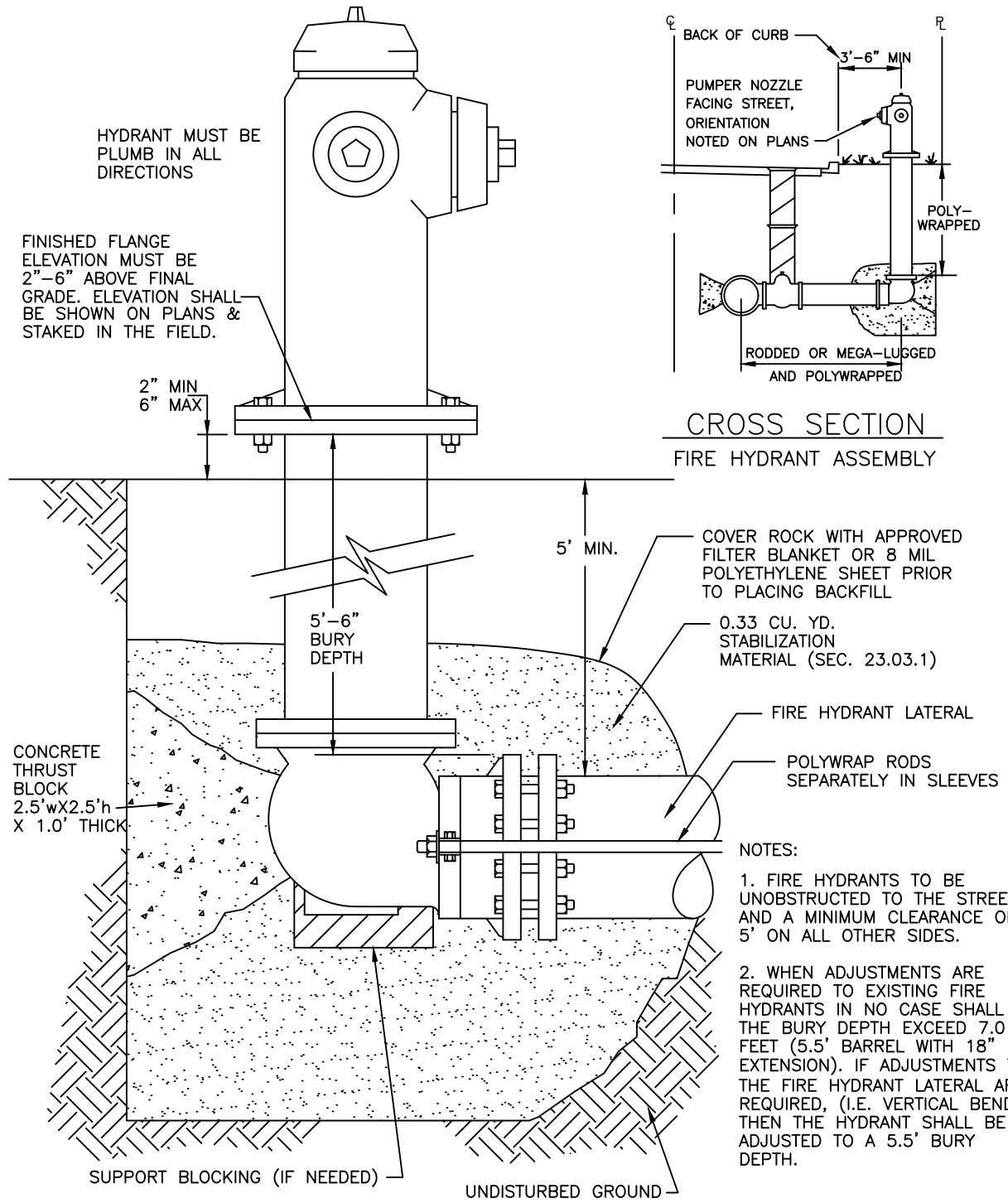
**WATER SERVICE  
LINE REMOVAL**

Scale: *NONE*

Date: *FEB 2010*

Approved:

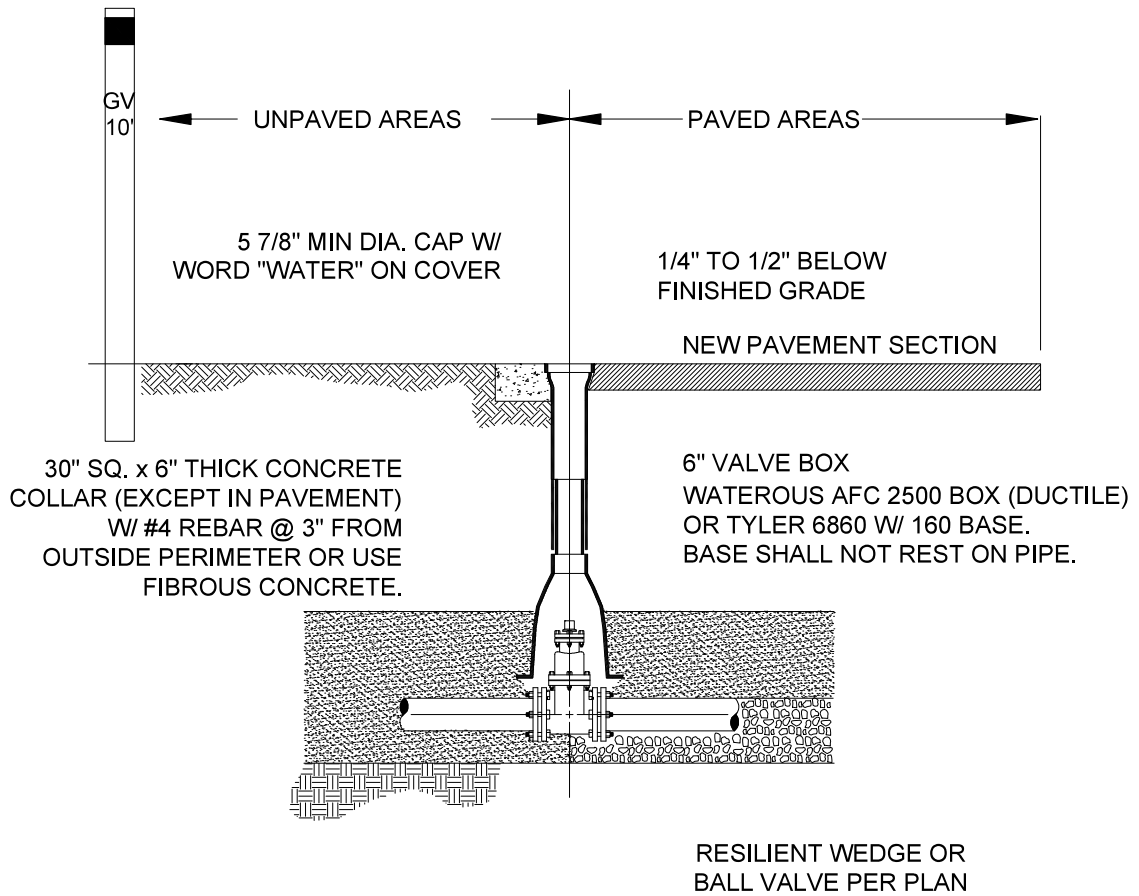
Rev.



TODD CREEK VILLAGE  
METROPOLITAN DISTRICT

FIRE HYDRANT DETAIL

|             |                |
|-------------|----------------|
| Scale: NONE | Date: FEB 2021 |
| Approved:   | Rev.           |



ACCEPTABLE MARKER  
POST ABBREVIATIONS

- 5° = 45° BEND
- 90° = 90° BEND
- 22° = 22 1/2° BEND
- 11° = 11 1/4° BEND
- GV = GATE VALVE
- MH = MANHOLE
- AR = AIR RELIEF VALVE
- AV = AIR VACUUM VALVE
- PRV = PRESSURE REDUCING VALVE
- BV = BLOW-OFF VALVE
- FM = SEWER FORCE MAIN
- RAW = RAW WATER LINE
- WTR = POTABLE WATER LINE

TODD CREEK VILLAGE  
METROPOLITAN DISTRICT

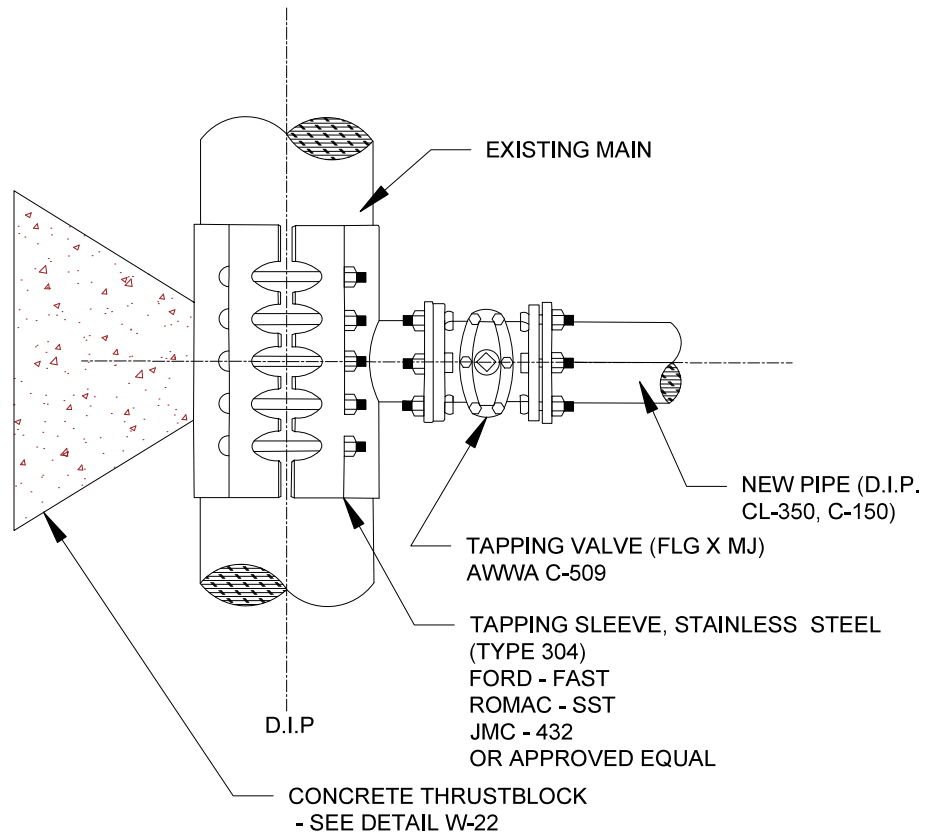
WATER VALVE BOX  
AND MARKER POST

Scale: NONE

Date: JUL 2020

Approved:

Rev.



Notes:

1. THE TOWN SHALL BE NOTIFIED AT LEAST 48 HOURS PRIOR TO TAPPING. THE TOWN'S REPRESENTATIVE SHALL BE ON SITE DURING TAPPING.
2. WET TAPPING DETAIL IS FOR USE ON DUCTILE IRON PIPE.
3. SIZE X SIZE WET TAP CONNECTIONS WILL NOT BE ALLOWED.

**TODD CREEK VILLAGE  
METROPOLITAN DISTRICT**

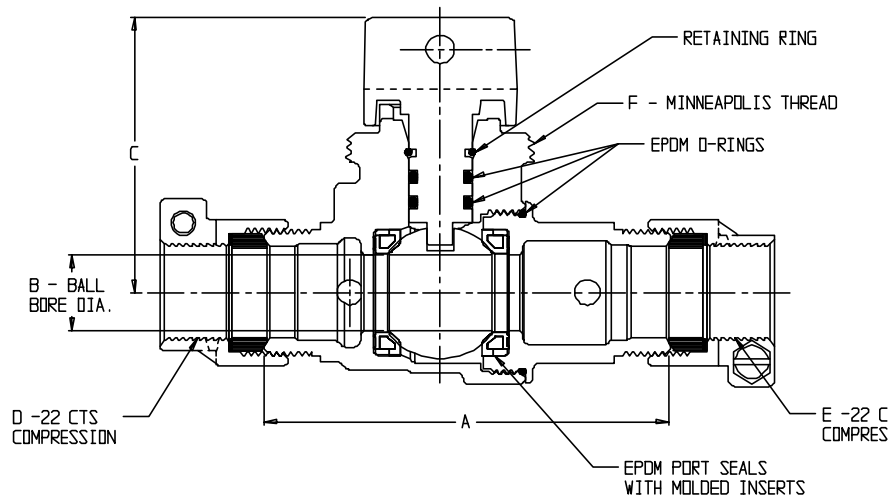
**WATER WET TAP**

Scale: *NONE*

Date: *JUL 2020*

Approved:

Rev.



| MODEL    | SIZE              | A    | B    | C    | D     | E     | F     |
|----------|-------------------|------|------|------|-------|-------|-------|
| 76104-22 | 3/4               | 3.99 | .75  | 2.72 | 3/4   | 3/4   | 1 1/2 |
| 76104-22 | 1 X 3/4 X 3/4     | 4.26 | .75  | 2.72 | 1     | 3/4   | 1 1/2 |
| 76104-22 | 1 X 3/4 X 1       | 4.48 | .75  | 2.72 | 1     | 1     | 1 1/2 |
| 76104-22 | 1                 | 4.49 | 1.00 | 2.65 | 1     | 1     | 1 1/2 |
| 76104-22 | 1 1/4 X 1 X 1     | 4.79 | 1.00 | 2.65 | 1 1/4 | 1     | 1 1/2 |
| 76104-22 | 1 1/4 X 1 X 1 1/4 | 4.79 | 1.00 | 2.65 | 1 1/4 | 1 1/4 | 1 1/2 |
| 76104-22 | 1 1/4             | 5.33 | 1.25 | 2.94 | 1 1/4 | 1 1/4 | 2     |
| 76104-22 | 1 1/2             | 6.05 | 1.50 | 3.39 | 1 1/2 | 1 1/2 | 2     |
| 76104-22 | 2                 | 6.99 | 2.00 | 3.70 | 2     | 2     | 2     |

- MANUFACTURED IN COMPLIANCE WITH ANSI/AWWA C800 (LATEST REVISION)
- BRASS COMPONENTS IN CONTACT WITH POTABLE WATER CONFORM TO ASTM B584, UNS C89833 (LATEST REVISION) AND IDENTIFIED WITH "NL"
- CERTIFIED TO NSF/ANSI 61 AND NSF/ANSI 372
- BRASS COMPONENTS NOT IN CONTACT WITH POTABLE WATER CONFORM TO ASTM B62 AND ASTM B584, UNS C83600 -85-5-5-5 (LATEST REVISION)
- PTFE COATED BRASS BALL
- RATED FOR 300 PSIG WATER PRESSURE
- BLOW OUT PROOF EPDM PORT SEALS
- END PIECE JOINT SEALED WITH AN EPDM O-RING AND THREAD LOCKER
- INSERT STIFFENERS REQUIRED ON ALL FLEXIBLE PLASTIC CONNECTIONS

TODD CREEK VILLAGE  
METROPOLITAN DISTRICT

NL BALL STYLE CURB STOP

Scale: NONE

Date: JUL 2020

Approved:

Rev.

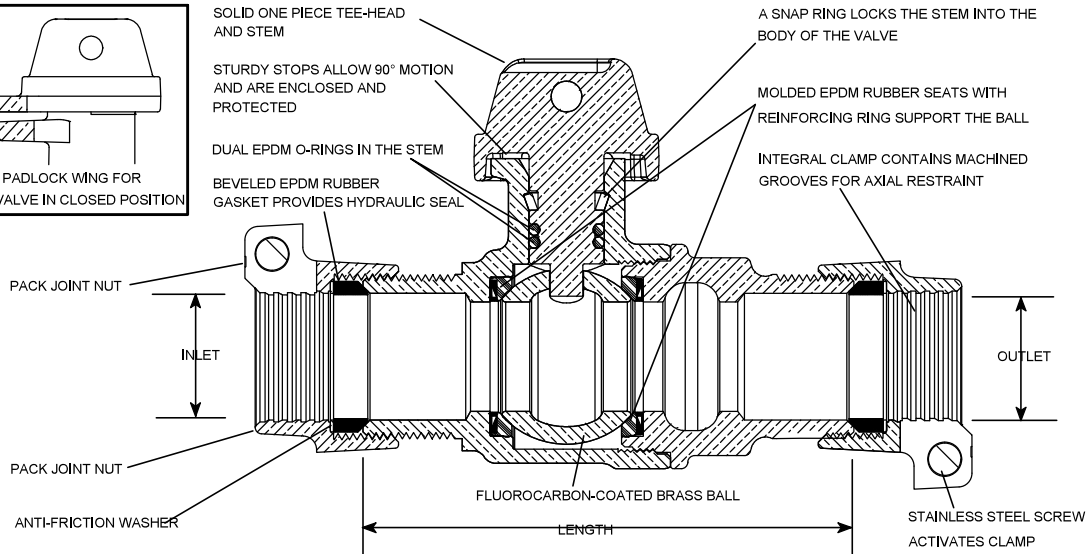
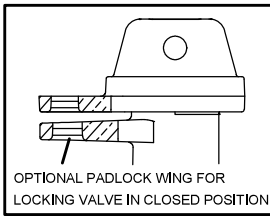


IMAGE SHOWN ABOVE IS A B44-444-NL

| VALVE SIZE | INLET SIZE | OUTLET SIZE | LENGTH   | APPROX. WT. LBS. | PART NUMBER | SUBMITTED ITEMS |
|------------|------------|-------------|----------|------------------|-------------|-----------------|
| 5/8"       | 1/2"       | 1/2"        | 3-21/32" | 1.5              | B44-211-NL  |                 |
| 5/8"       | 3/4"       | 3/4"        | 3-25/32" | 1.8              | B44-233-NL  |                 |
| 3/4"       | 3/4"       | 3/4"        | 3-45/64" | 2.1              | B44-333-NL  |                 |
| 1"         | 1"         | 1"          | 4-1/2"   | 2.8              | B44-444-NL  |                 |
| 1"         | 1-1/4"     | 1-1/4"      | 5-9/64"  | 4.0              | B44-455-NL  |                 |
| 1-1/4"     | 1-1/4"     | 1-1/4"      | 6-21/64" | 6.0              | B44-555-NL  |                 |
| 1-1/2"     | 1-1/2"     | 1-1/2"      | 5-45/64" | 7.3              | B44-666-NL  |                 |
| 1-1/2"     | 2"         | 2"          | 5-61/64" | 8.8              | B44-677-NL  |                 |
| 2"         | 2"         | 2"          | 6-47/64" | 11.5             | B44-777-NL  |                 |

NOTE: RECOMMENDED TO INSERT STIFFENERS WITH PLASTIC PIPE OR TUBING.  
 NOTE: 5/8" BALL VALVES DO NOT HAVE A REINFORCED SEAT.

**FEATURES**

- ALL BRASS THAT COMES IN CONTACT WITH POTABLE WATER CONFORMS TO AWWA STANDARD C800 (ASTM B584, UNS C89833)
- THE PRODUCT HAS THE LETTERS "NL" CAST INTO THE MAIN BODY FOR LEAD-FREE IDENTIFICATION
- CERTIFIED TO NSF/ANSI STANDARD 61 AND NSF/ANSI STANDARD 372 WHERE APPLICABLE
- BRASS COMPONENTS THAT DO NOT COME IN CONTACT WITH POTABLE WATER CONFORM TO AWWA STANDARD C800 (ASTM B62 AND ASTM B584, UNS C83600, 85-5-5-5)
- VALVE IS NON-DIRECTIONAL AND IS WATERTIGHT WITH FLOW IN EITHER DIRECTION
- ENDS ARE INTEGRAL OR SECURED WITH ADHESIVE TO PREVENT UNINTENTIONAL DISASSEMBLY
- HOLE FOR ATTACHING CURB BOX ROD OR HANDLE IS PROVIDED IN TEE-HEAD
- 300 PSI WORKING PRESSURE OPTIONAL

PADLOCK WING FOR LOCKING VALVE IN CLOSED POSITION. INSERT "W" INTO PART NUMBER. EXAMPLE: B44-777W-NL

OPTIONAL FULL 360° TEE-HEAD ROTATION. INSERT "R" INTO PART NUMBER. EXAMPLE: B44-777R-NL

TODD CREEK VILLAGE  
 METROPOLITAN DISTRICT

BALL VALVE CURB STOP

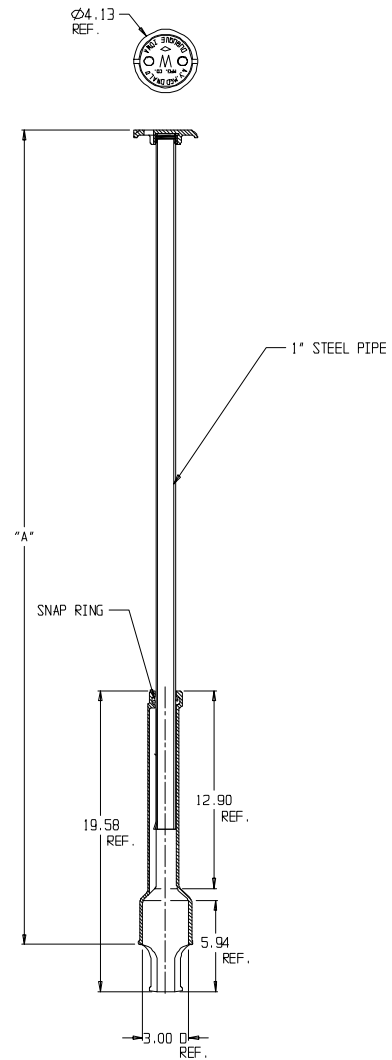
Scale: NONE

Date: JUL 2020

Approved:

Rev.

| MODEL        | "A" RANGE        |
|--------------|------------------|
| 5601LR 2 1/2 | 1 1/2' TO 2 1/2' |
| 5601LR 3     | 2' TO 3'         |
| 5601LR 3 1/2 | 2 1/2' TO 3 1/2' |
| 5601LR 4     | 3' TO 4'         |
| 5601LR 4 1/2 | 3 1/2' TO 4 1/2' |
| 5601LR 5     | 4' TO 5'         |
| 5601LR 5 1/2 | 4 1/2' TO 5 1/2' |
| 5601LR 6     | 5' TO 6'         |
| 5601LR 6 1/2 | 5 1/2' TO 6 1/2' |
| 5601LR 7     | 6' TO 7'         |
| 5601LR 7 1/2 | 6 1/2' TO 7 1/2' |
| 5601LR 8     | 7' TO 8'         |
| 5601LR 8 1/2 | 7 1/2' TO 8 1/2' |



- BRASS COMPONENTS NOT IN CONTACT WITH POTABLE WATER CONFORM TO ASTM B62 AND ASTM B584, UNS C83600-85-5-5-5 (LATEST REVISION) OR ASTM B584, UNS C84400-81-3-7-9 (LATEST REVISION)
- LID AND BASE MADE OF CAST IRON PER ASTM A48, CLASS 25
- UPPER SECTION MADE OF STEEL PIPE
- COATED WITH BLACK DIP

TODD CREEK VILLAGE  
METROPOLITAN DISTRICT

NON-POTABLE WATER CURB BOX

Scale: NONE

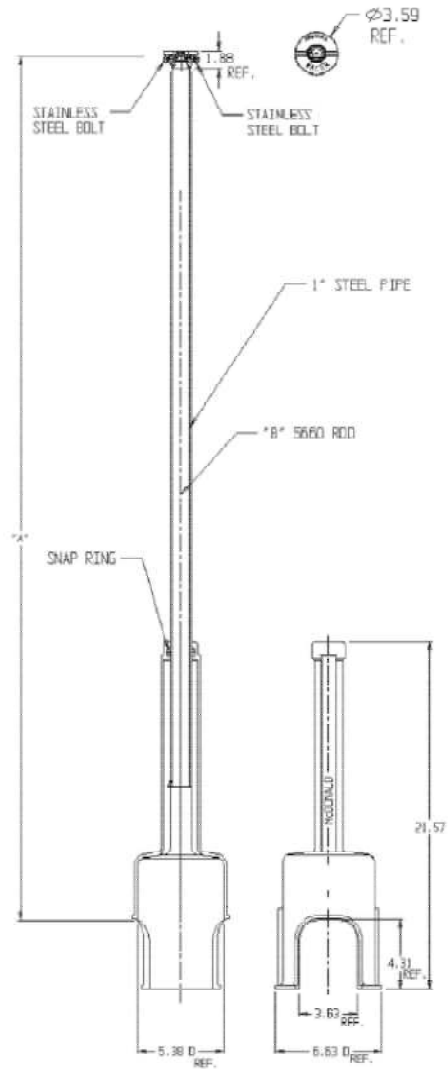
Date: JUL 2020

Approved:

Rev.



| MODEL          | "A" RANGE        |
|----------------|------------------|
| 5602LRTW 2 1/2 | 1 1/2' TO 2 1/2' |
| 5602LRTW 3     | 2' TO 3'         |
| 5602LRTW 3 1/2 | 2 1/2' TO 3 1/2' |
| 5602LRTW 4     | 3' TO 4'         |
| 5602LRTW 4 1/2 | 3 1/2' TO 4 1/2' |
| 5602LRTW 5     | 4' TO 5'         |
| 5602LRTW 5 1/2 | 4 1/2' TO 5 1/2' |
| 5602LRTW 6     | 5' TO 6'         |
| 5602LRTW 6 1/2 | 5 1/2' TO 6 1/2' |
| 5602LRTW 7     | 6' TO 7'         |
| 5602LRTW 7 1/2 | 6 1/2' TO 7 1/2' |
| 5602LRTW 8     | 7' TO 8'         |
| 5602LRTW 8 1/2 | 7 1/2' TO 8 1/2' |



- BRASS COMPONENTS NOT IN CONTACT WITH POTABLE WATER CONFORM TO ASTM B62 AND ASTM B584, UNS C83600 -85-5-5-5 (LATEST REVISION) OR ASTM B584, UNS C84400 -81-3-7-9 (LATEST REVISION)
- LID AND BASE MADE OF CAST IRON PER ASTM A48, CLASS 25
- UPPER SECTION MADE OF STEEL PIPE
- COATED WITH BLACK DIP

TODD CREEK VILLAGE  
METROPOLITAN DISTRICT

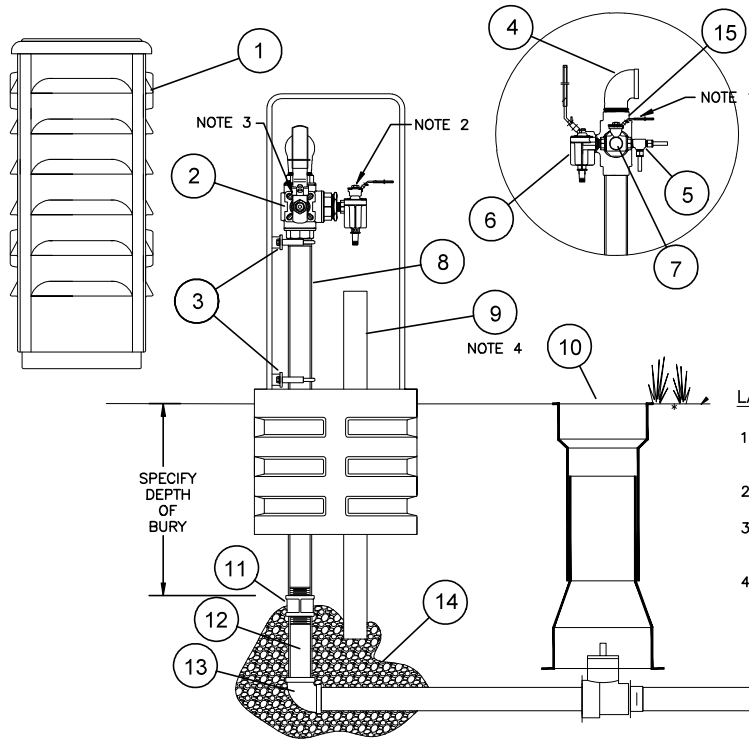
WATER CURB BOX

Scale: NONE

Date: JUL 2020

Approved:

Rev.



| ITEM | ITEM / DESCRIPTION         | BY OTHERS | OPTIONAL |
|------|----------------------------|-----------|----------|
| 1    | UV RESISTANT LOCKABLE LID  |           |          |
| 2    | 2" 3-WAY S.S. BALL VALVE   |           |          |
| 3    | MOUNTING BRACKET           |           |          |
| 4    | 2" NPT S.S. DISCHARGE      |           |          |
| 5    | S.S. SAMPLING POINT        |           |          |
| 6    | FREEZE PROTECTION VALVE    |           |          |
| 7    | 1/2" 3-WAY S.S. BALL VALVE |           |          |
| 8    | 2" S.S. WATERWAY           |           |          |
| 9    | 3" min. PVC DRAIN          | X         |          |
| 10   | VALVE BOX                  | X         |          |
| 11   | 2" S.S. COUPLING           | X         | X        |
| 12   | 2" S.S. NIPPLE             | X         | X        |
| 13   | 2" S.S. ELBOW              | X         | X        |
| 14   | 1" CLEAN ROCK              | X         |          |
| 15   | THREAD 10-32 DRAIN HOLE    |           |          |

**LAYOUT NOTES**

- 1.) 3-WAY SAMPLING VALVE SHOWN IN THE FREEZE PROTECTION POSITION.
- 2.) 3-WAY SAMPLING VALVE SHOWN IN THE SAMPLING POSITION.
- 3.) MAIN 2" 3-WAY BLOW-OFF VALVE SHOWN IN THE FREEZE PROTECTION POSITION.
- 4.) A DRAIN SHALL BE INSTALLED TO ALLOW THE FREEZE PROTECTION VALVE TO DRAIN BELOW THE FROST LINE.
  - @ 20°F - APPROXIMATELY 13 GALLONS PER DAY
  - @ -10°F - APPROXIMATELY 42 GALLONS PER DAY

THE EXACT AMOUNT OF WATER DISPENSED DEPENDS ON AMBIENT AIR TEMPERATURE, MAKE UP WATER TEMPERATURE, AND DURATION OF COLD SPELL.

THE #82 FREEZE PROOF SAMPLING STATION SHALL BE A STANDARD 20" BURY, WITH A 2" MIP INLET AND A 2" NPT THREADED DISCHARGE. A 3/8" STAINLESS STEEL T COMPRESSION SHALL BE LOCATED BEFORE THE DISCHARGE TO ALLOW FOR SAMPLING. A 2" STAINLESS STEEL BALL VALVE SHALL CONTROL THE FLOW OF WATER FOR THE MAIN DISCHARGE. THE UNIT SHALL BE FULLY ENCLOSED IN A UV RESISTANT LOCKABLE COVER AND WHEN OPENED, THE STATION SHALL REQUIRE NO KEY FOR OPERATION. ALL WATER FLOW MUST BE THRU STAINLESS STEEL AND ALL OPERATIONAL PARTS SHALL BE SERVICABLE FROM ABOVE GROUND WITHOUT ANY DIGGING. A TEMPERATURE ACTIVATED WATER RELIEF VALVE SHALL MAINTAIN A CONTROLLED WATER TEMPERATURE WITHIN THE WATERWAY BY OPENING THE VALVE PORT WHEN THE WATER TEMPERATURE REACHES 43°F AND REMAIN OPEN UNTIL WARMER WATER REACHES THE PORT, THUS CREATING A NON FREEZING ENVIRONMENT. THE FREEZE PROOF CYCLE SHALL REPEAT AS OFTEN AS NECESSARY TO PREVENT FREEZING.

UNIT MODEL # SHALL BE 82 AS MANUFACTURED BY KUPFERLE FOUNDRY COMPANY, ST. LOUIS MO (1-800-231-3990), OR APPROVED EQUAL.

**TODD CREEK VILLAGE  
METROPOLITAN DISTRICT**

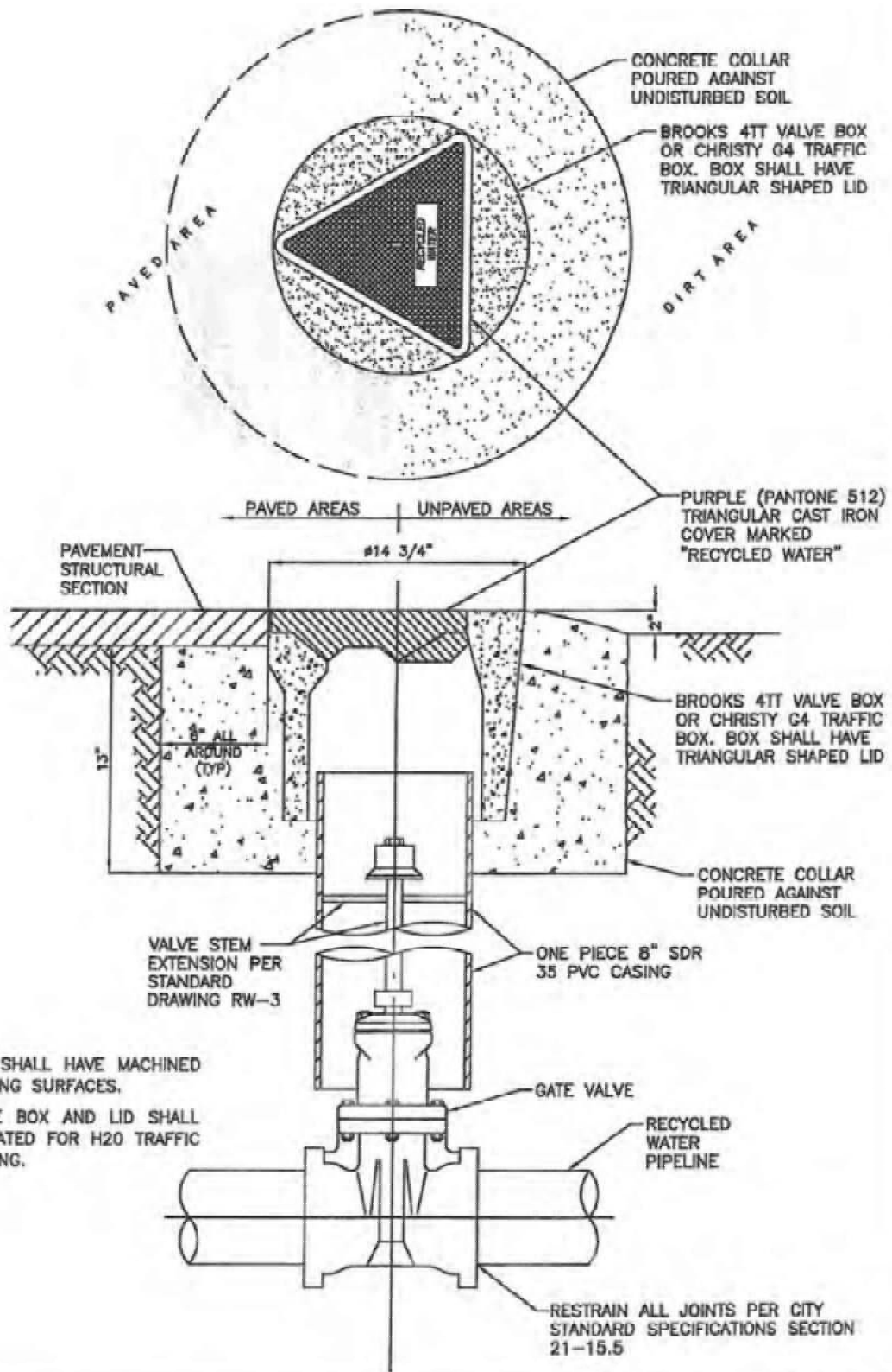
**SAMPLING HYDRANT STATION**

Scale: *NONE*

Date: *JUL 2020*

Approved:

Rev.



**NOTES:**

1. LIDS SHALL HAVE MACHINED COATING SURFACES.
2. VALVE BOX AND LID SHALL BE RATED FOR H2O TRAFFIC LOADING.

TODD CREEK VILLAGE  
METROPOLITAN DISTRICT

NON-POTABLE WATER VALVE CAP

Scale: NONE

Date: JUL 2020

Approved:

Rev.