

						
<b>PIPE</b>	<b>TEES</b>	<b>90°</b>	<b>45°</b>	<b>30°</b>	<b>22 1/2°</b>	<b>11 1/4°</b>
4"	1.50	2.00	1.00	---	---	---
6"	3.00	4.00	2.00	1.50	1.25	1.00
8"	4.00	5.25	3.00	2.75	2.75	2.75
10"	6.00	8.25	4.50	4.25	4.25	4.25
12"	8.50	12.00	6.50	6.25	6.25	6.25

FIGURES SHOWN ARE MIN. AREAS IN SQ. FT.

### WATER MAIN THRUST BLOCKS

<u>RESTRAINED JOINT TABLE</u>	
PIPE DIAMETER	LENGTH OF PIPE W/ RESTRAINED JOINTS
4"	24'
6"	34'
8"	45'
10"	54'
12"	64'

**NOTES:**

1. IN FORMING THRUST BLOCKS, KEEP ALL CONCRETE OFF RETAINER GLANDS AND EXPOSED BOLTS, ECT.
2. THRUST BLOCKS SHALL BEAR DIRECTLY ON UNDISTURBED OR THOROUGHLY COMPACTED SOIL.
3. WHERE THRUST IS UPWARD, FITTINGS SHALL BE TIED OR ANCHORED TO THRUST BLOCKS.

FILE: CP-W-1.DWG



CITY OF  
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PUBLIC WORKS DEPARTMENT

UNIFORM STANDARDS  
FOR  
PUBLIC WORKS CONSTRUCTION  
**THRUST BLOCKS**

CHECKED	DATE
APPROVED	DATE
REVISED	DATE

**W-1**

DRAWING No.

(HORIZONTAL) BEARING AREA OF THRUST BLOCKS IN SQUARE FEET									(VERTICAL) VOLUME OF THRUST BLOCK IN CUBIC YARDS			
FITTING SIZE	TEE, WYE, DEAD END AND HYDRANT	STRADDLE BLOCK	90° BEND PLUGGED CROSS	TEE PLUGGED ON RUN		45° BEND	22-1/2° BEND	11-1/4° BEND	90° BEND	45° BEND	22-1/2° BEND	11-1/4° BEND
				A-1	A-2							
4	1.0	1.6	1.4	1.9	1.4	1.0	---	---	---	---	---	---
6	2.1	3.7	3.0	4.3	3.0	1.6	1.0	---	1.3	---	---	---
8	3.8	6.5	5.3	7.6	5.4	2.9	1.5	1.0	2.3	1.1	---	---
10	5.9	10.2	8.4	11.8	8.4	4.6	2.4	1.2	3.7	1.8	---	---
12	8.5	14.7	12.0	17.0	12.0	6.6	3.4	1.7	5.5	2.8	1.2	---
14	11.5	---	16.3	23.0	16.3	8.9	4.6	2.3	7.6	3.9	1.7	---
16	15.0	26.1	21.3	30.0	21.3	11.6	6.0	3.0	9.9	5.1	2.3	0.9
18	19.0	---	27.0	38.0	27.0	14.6	7.6	3.8	---	---	---	---
20	23.5	40.8	33.3	47.0	33.3	18.1	9.4	4.7	---	---	---	---
24	34.0	58.8	48.0	68.0	48.0	26.2	13.6	6.8	---	---	---	---

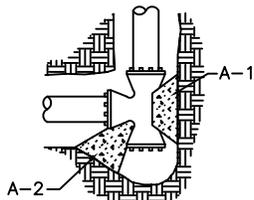
**NOTES:**

- ABOVE BEARING AREAS BASED ON TEST PRESSURE OF 150 PSI AND AN ALLOWABLE SOIL BEARING STRESS OF 2000 POUNDS PER SQUARE FOOT. TO COMPUTE BEARING AREAS FOR DIFFERENT TEST PRESSURES AND SOIL BEARING STRESSES, USE THE FOLLOWING EQUATION:

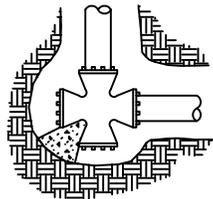
$$\text{BEARING AREA} = (\text{TEST PRESSURE} / 150) \times (2000 / \text{SOIL BEARING STRESS}) \times (\text{TABLE VALUE})$$

- ABOVE VOLUMES BASED ON TEST PRESSURE OF 150 PSI AND THE WEIGHT OF CONCRETE = 4050 POUNDS PER CUBIC YARD. TO COMPUTE FOR DIFFERENT TEST PRESSURES, USE THE FOLLOWING EQUATION:

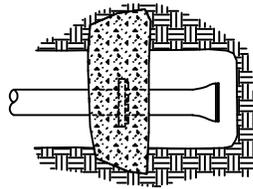
$$\text{VOLUME} = (\text{TEST PRESSURE} / 150) \times (\text{TABLE VALUE})$$



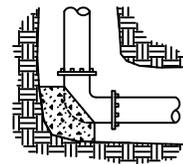
TEE



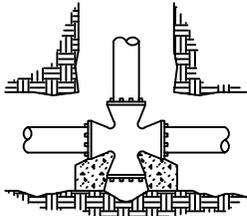
CROSS



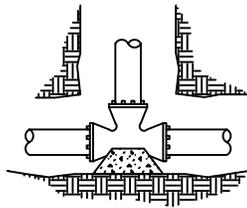
STRADDLE BLOCK



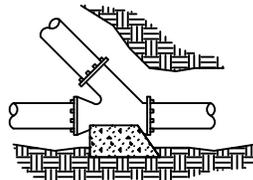
BEND



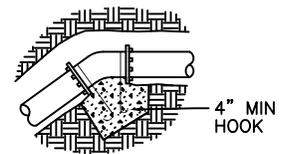
CROSS



TEE



WYE



VERTICAL BEND

**NOTES:**

- CONCRETE BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH.
- ALL CONCRETE TO BE CLASS 3300 MINIMUM.
- INSTALL 8 MIL POLYETHYLENE MEMBRANE BETWEEN PIPE AND/OR FITTINGS BEFORE POURING CONCRETE BLOCKING.
- CONCRETE SHALL BE KEPT CLEAR OF ALL JOINTS AND ACCESSORIES.
- TIE RODS SHALL BE DEFORMED GALVANIZED COLD ROLLED STEEL, 40000 PSI TENSILE STRENGTH.

RODS FOR VERTICAL BENDS		
FITTING SIZE	ROD SIZE	EMBEDMENT
12" AND LESS	#6	30"
14"-16"	#8	36"

FILE: CP-W-2.DWG



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UNIFORM STANDARDS  
FOR  
PUBLIC WORKS CONSTRUCTION

**THRUST BLOCKING**

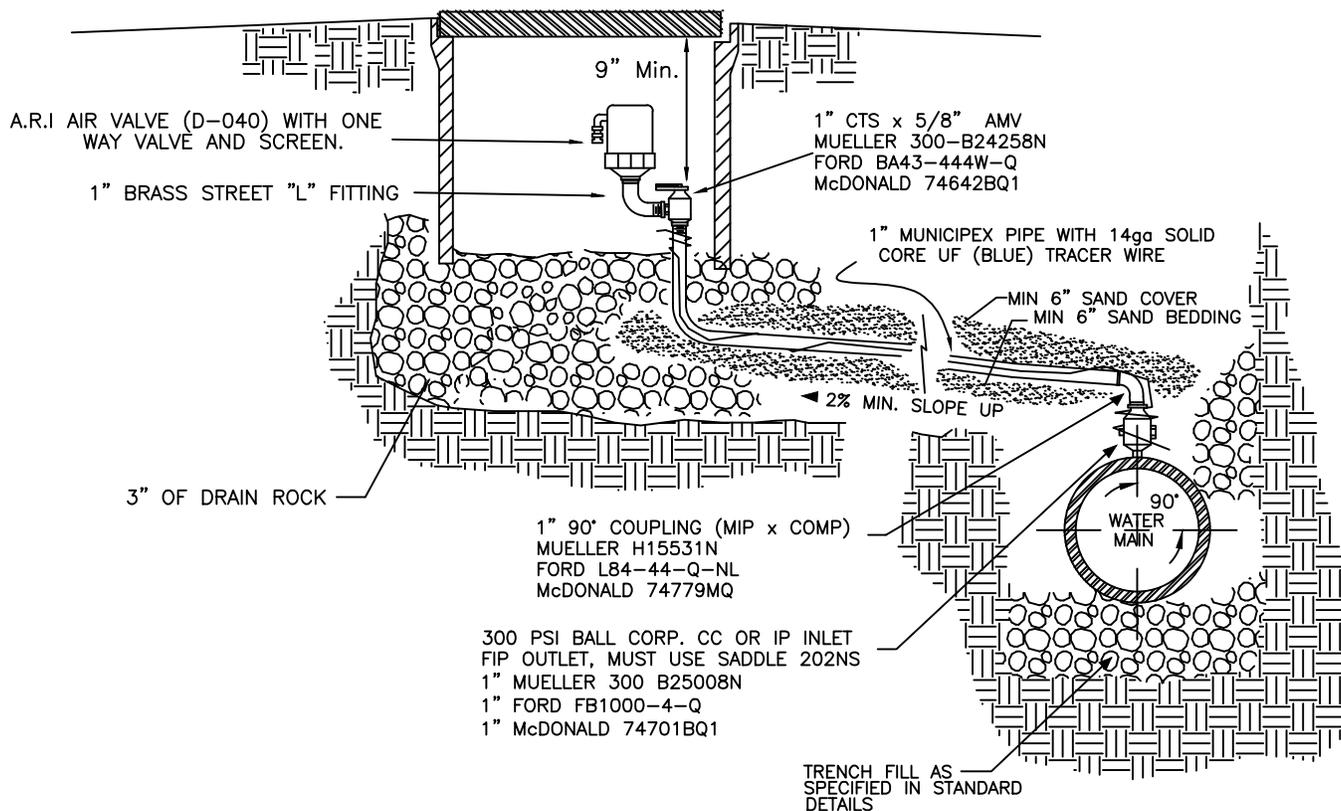
CHECKED	DATE
APPROVED	DATE
REVISED	DATE

**W-2**

DRAWING No.



ARMORCAST P6000486 10x20x12 AND LID



## AIR RELIEF VALVE

### NOTES

1. TOP OF METER BOX SHALL BE FLUSH WITH FINISH GRADE.  
SURROUNDING AREA SHALL BE GRADED TO DRAIN AWAY FROM BOX
2. PIPE AND VALVE SIZES SHALL BE SPECIFIED FOR EACH PROJECT BY THE ENGINEER.
3. AIR-RELEASE AND VALVE ASSEMBLIES SHALL BE INSTALLED AT HIGH POINTS.
4. 1" AIR RELIEF VALVE FOR WATER MAINS LESS THAN 30"  
2" AIR RELIEF VALVE FOR WATER MAINS GREATER THAN 30."
5. MUNIPEX PIPE SHALL BE INSTALLED WITH 2% (MIN) GRADE RISING FROM CORP STOP TO ANGLE STOP.
6. PACKED JOINTS NOT ALLOWED ON CORP STOPS OR ANGLE STOPS.

FILE: CP-W-4.DWG



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UNIFORM STANDARDS  
FOR  
PUBLIC WORKS CONSTRUCTION

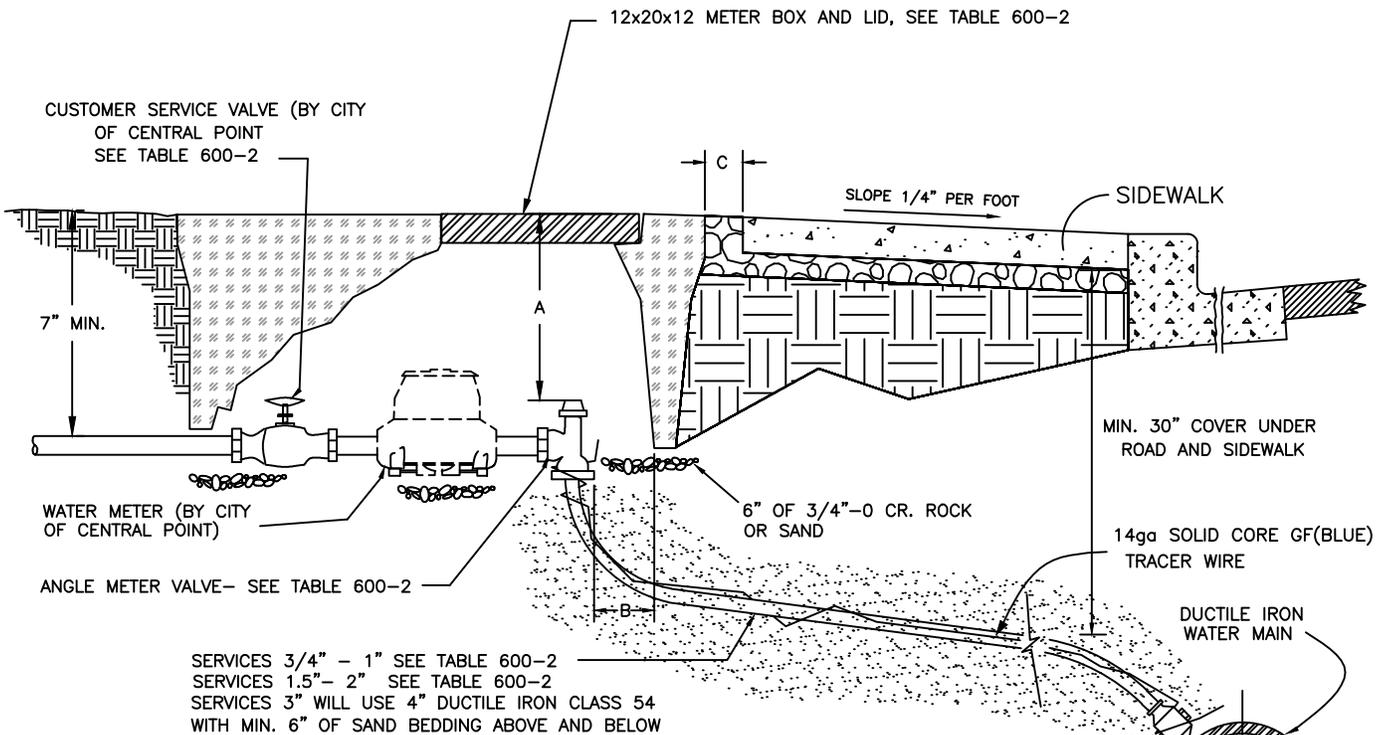
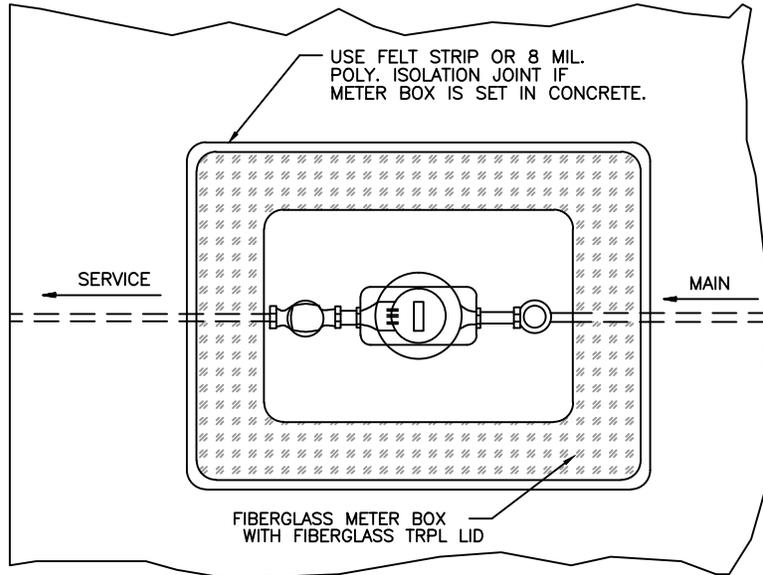
AIR RELIEF VALVE

CHECKED	DATE
APPROVED	DATE
MHO REVISÉD	1/27/14 DATE

W-4

DRAWING No.

**PLAN**  
NO SCALE



**PROFILE**  
NO SCALE

NOTES:

1. SET METER BOX 2" BEHIND CURB OR SIDEWALK AND TO CORRECT GRADE
2. BACK FLOW DEVICES MAY BE REQUIRED IN SOME INSTANCES. OWNERS TO SUBMIT PLAN FOR CITY APPROVAL.
3. METER BOXES SET IN DRIVEWAYS SHALL HAVE TRAFFIC LIDS.
4. CATHODIC PROTECTION REQUIRED WHEN SOIL PH OR CONDITIONS DICTATE, AS REQUIRED BY PUBLIC WORKS.
5. LIVE TAPS SHALL BE MADE BY CITY

METER BOX CLEARANCES

METER SIZE	A	B	C
3/4"	10"	2"	2"
1"	10"	2"	2"
1.5"	10"	3"	2"
2.0"	10"	3"	2"

FILE: CP-W-5.DWG



CITY OF  
**CENTRAL POINT**  
PUBLIC WORKS DEPARTMENT

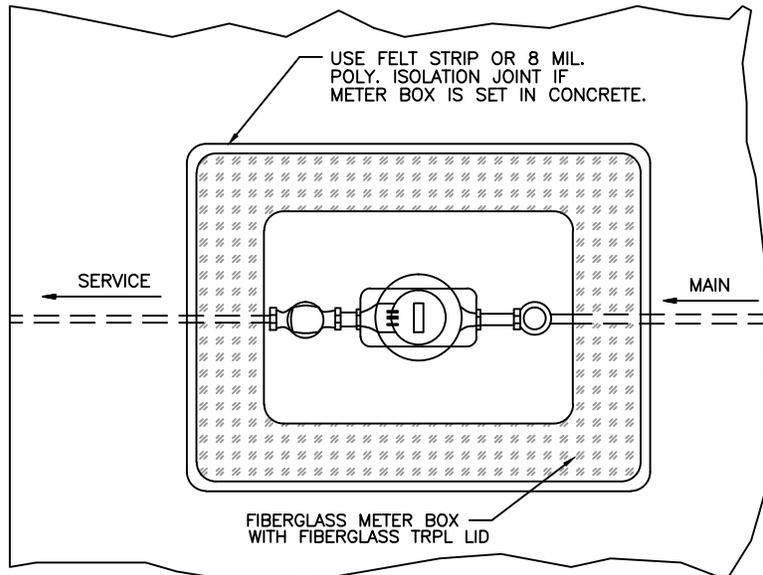
UNIFORM STANDARDS  
FOR  
PUBLIC WORKS CONSTRUCTION

**WATER SERVICE CONNECTION DETAIL**

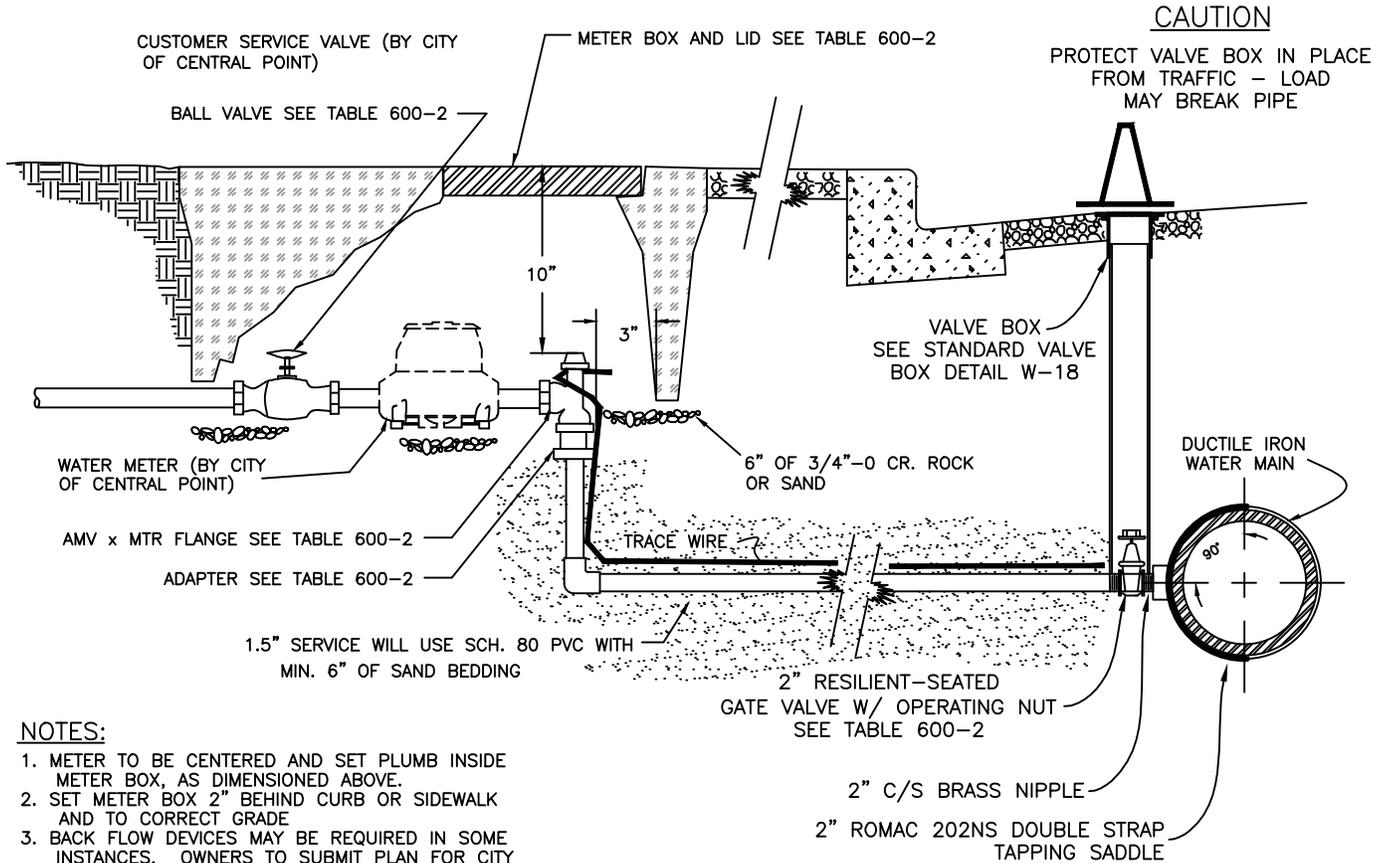
CHECKED	DATE
APPROVED	DATE
MHO	1/27/14
REVISED	DATE

**W-5**

DRAWING No.



**PLAN**  
NO SCALE



**NOTES:**

1. METER TO BE CENTERED AND SET PLUMB INSIDE METER BOX, AS DIMENSIONED ABOVE.
2. SET METER BOX 2" BEHIND CURB OR SIDEWALK AND TO CORRECT GRADE
3. BACK FLOW DEVICES MAY BE REQUIRED IN SOME INSTANCES. OWNERS TO SUBMIT PLAN FOR CITY APPROVAL.
4. METER BOXES SET IN DRIVEWAYS SHALL HAVE TRAFFIC LIDS.
5. PACK JOINTS NOT ALLOWED

**1.5" WATER SERVICE CONNECTION DETAIL**

FILE: CP-W-6.DWG



CITY OF  
**CENTRAL POINT**  
PUBLIC WORKS DEPARTMENT

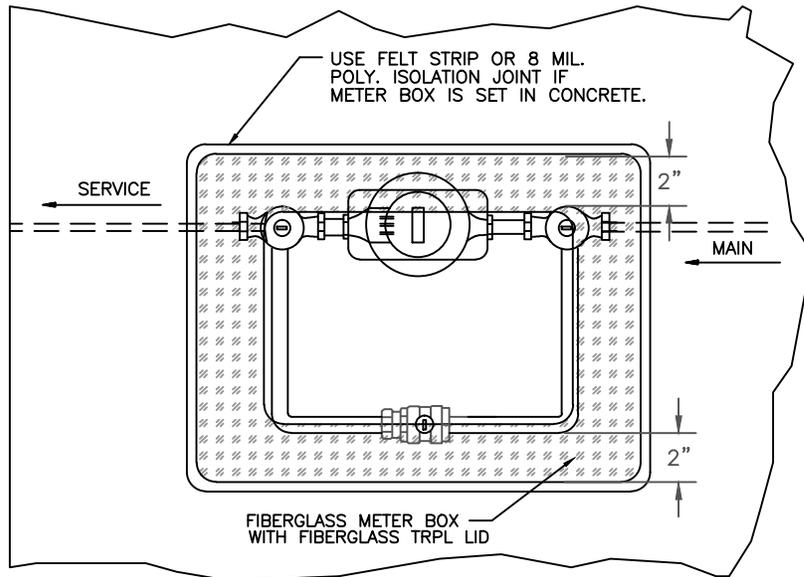
UNIFORM STANDARDS  
FOR  
PUBLIC WORKS CONSTRUCTION

1.5" WATER SERVICE CONNECTION DETAIL

CHECKED	DATE
APPROVED	DATE
MHO	1/27/14
REVISED	DATE

**W-6**

DRAWING No.

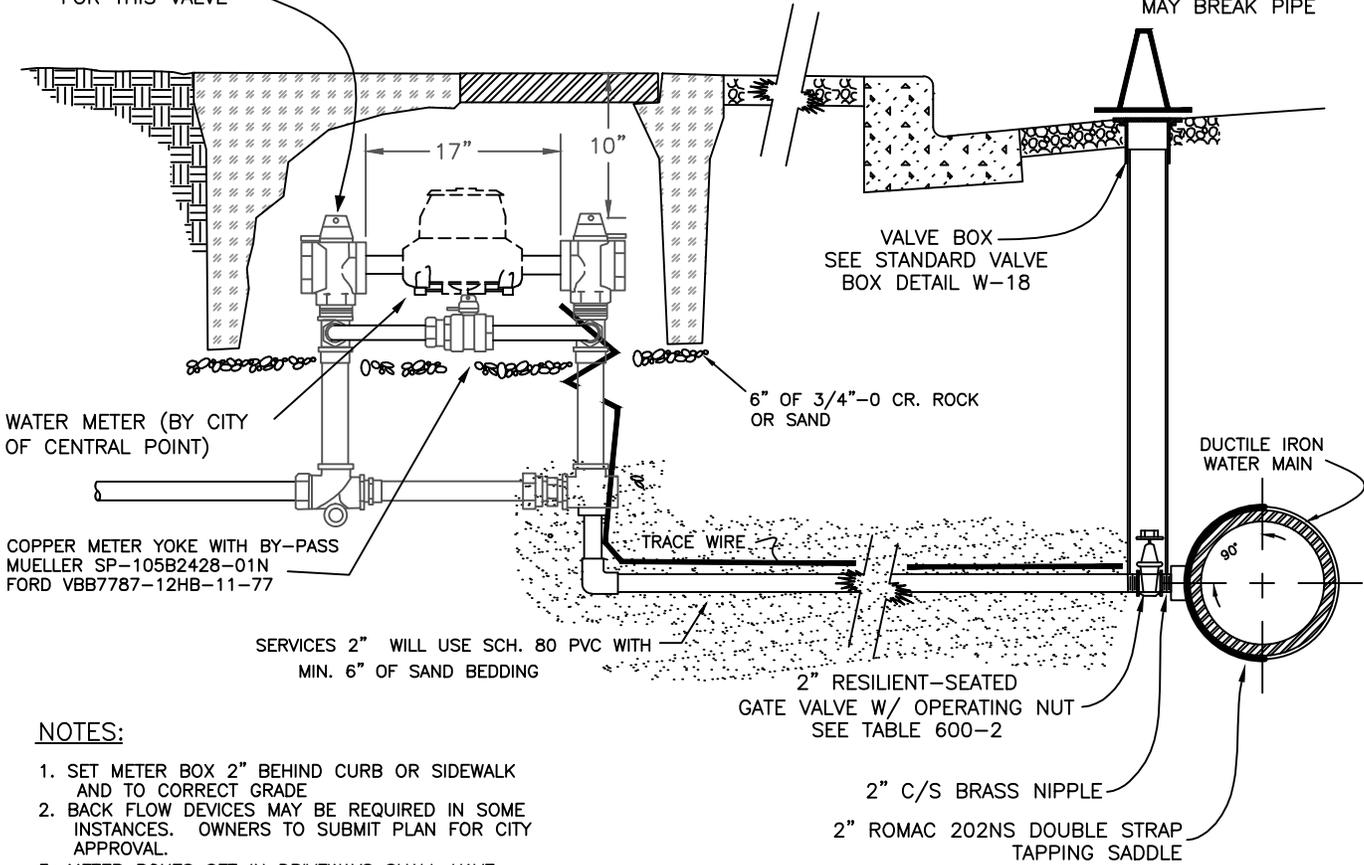


**PLAN**  
NO SCALE

**CAUTION**

PROTECT VALVE BOX IN PLACE FROM TRAFFIC - LOAD MAY BREAK PIPE

CONTRACTOR TO SUPPLY HANDLE FOR THIS VALVE



**NOTES:**

1. SET METER BOX 2" BEHIND CURB OR SIDEWALK AND TO CORRECT GRADE
2. BACK FLOW DEVICES MAY BE REQUIRED IN SOME INSTANCES. OWNERS TO SUBMIT PLAN FOR CITY APPROVAL.
3. METER BOXES SET IN DRIVEWAYS SHALL HAVE TRAFFIC LIDS.
4. PACK JOINTS NOT ALLOWED

**2" WATER SERVICE CONNECTION DETAIL**

FILE: CP-W-6A.DWG



CITY OF  
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PUBLIC WORKS DEPARTMENT

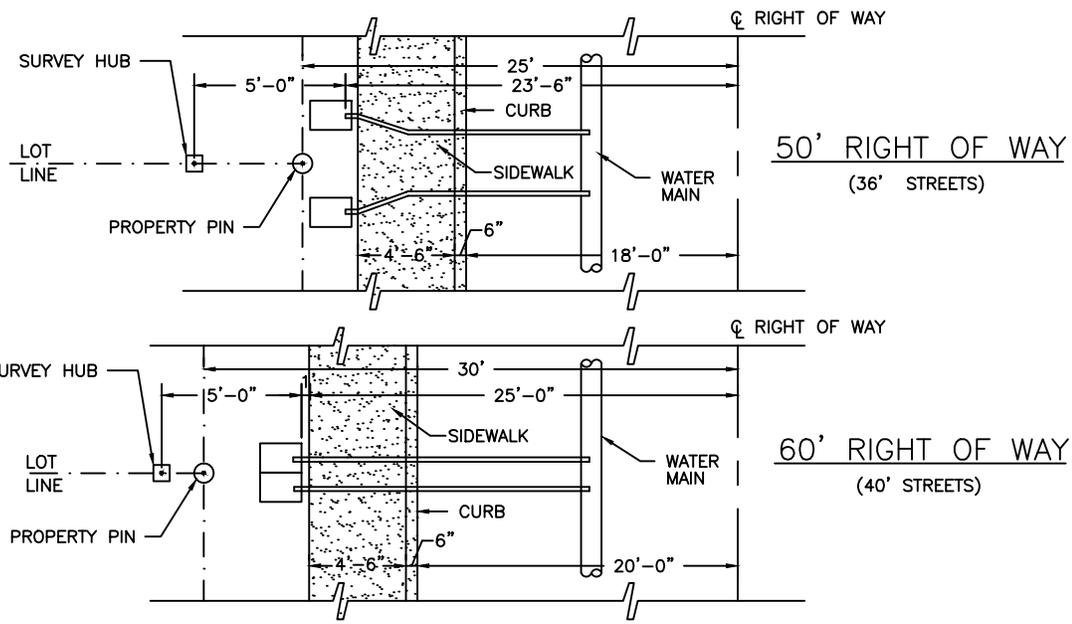
UNIFORM STANDARDS  
FOR  
PUBLIC WORKS CONSTRUCTION

2" WATER SERVICE CONNECTION DETAIL

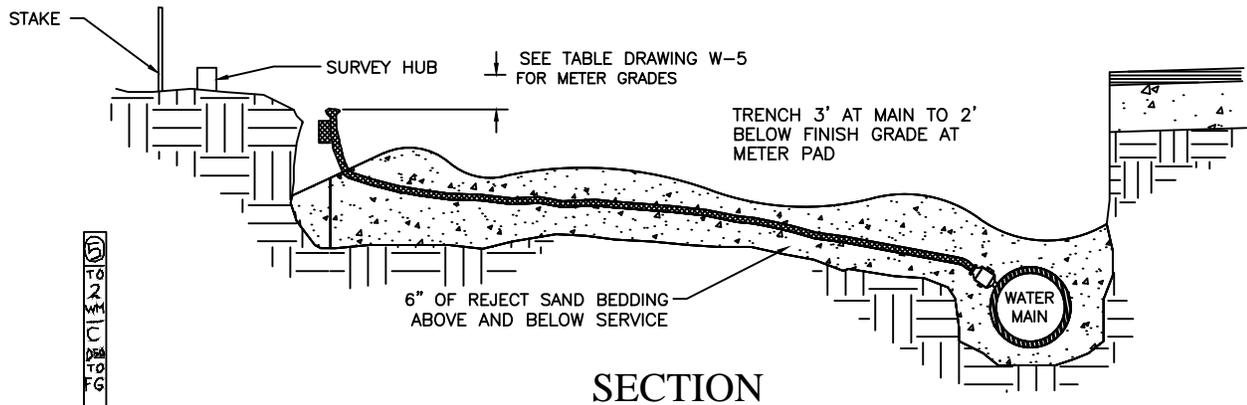
CHECKED	DATE
APPROVED	DATE
MHO	3/06/14
REVISED	DATE

**W-6A**

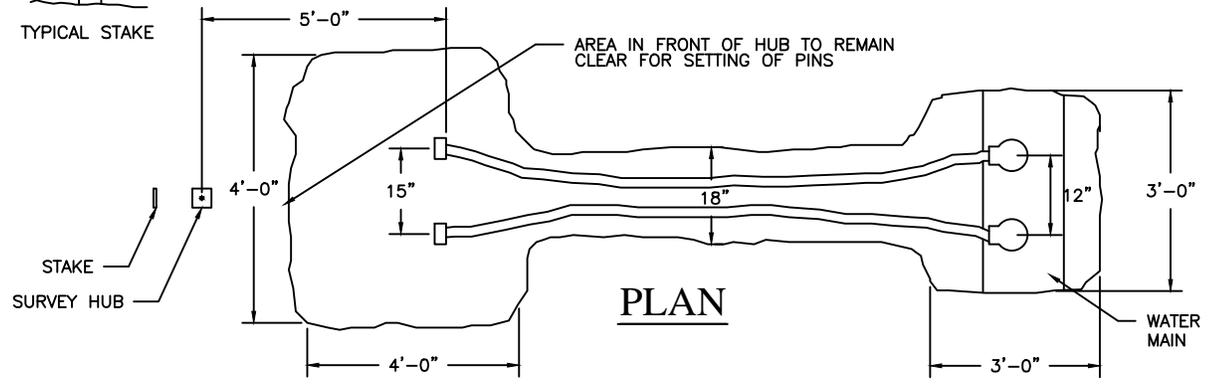
DRAWING No.



**PLAN - WATER METER LOCATIONS**



**SECTION**



**WATER METER TRENCH DETAIL**

- NOTES:**
1. FOR RIGHT OF WAY AND STREET WIDTHS OTHER THAN THOSE SHOWN, CONTACT CITY OF CENTRAL POINT PUBLIC WORKS DEPARTMENT.
  2. CONTRACTOR SHALL STAMP "W" ON TOP OF THE CURB DIRECTLY OVER THE SERVICE.
  3. WATER METER STAKE TO GIVE OFFSET, NUMBER OF METERS, AND CUT OR FILL TO FINISH GRADE (SEE TYPICAL STAKE).
  4. PROTECTION OF EXISTING PROPERTY CORNERS IS CONTRACTORS RESPONSIBILITY.

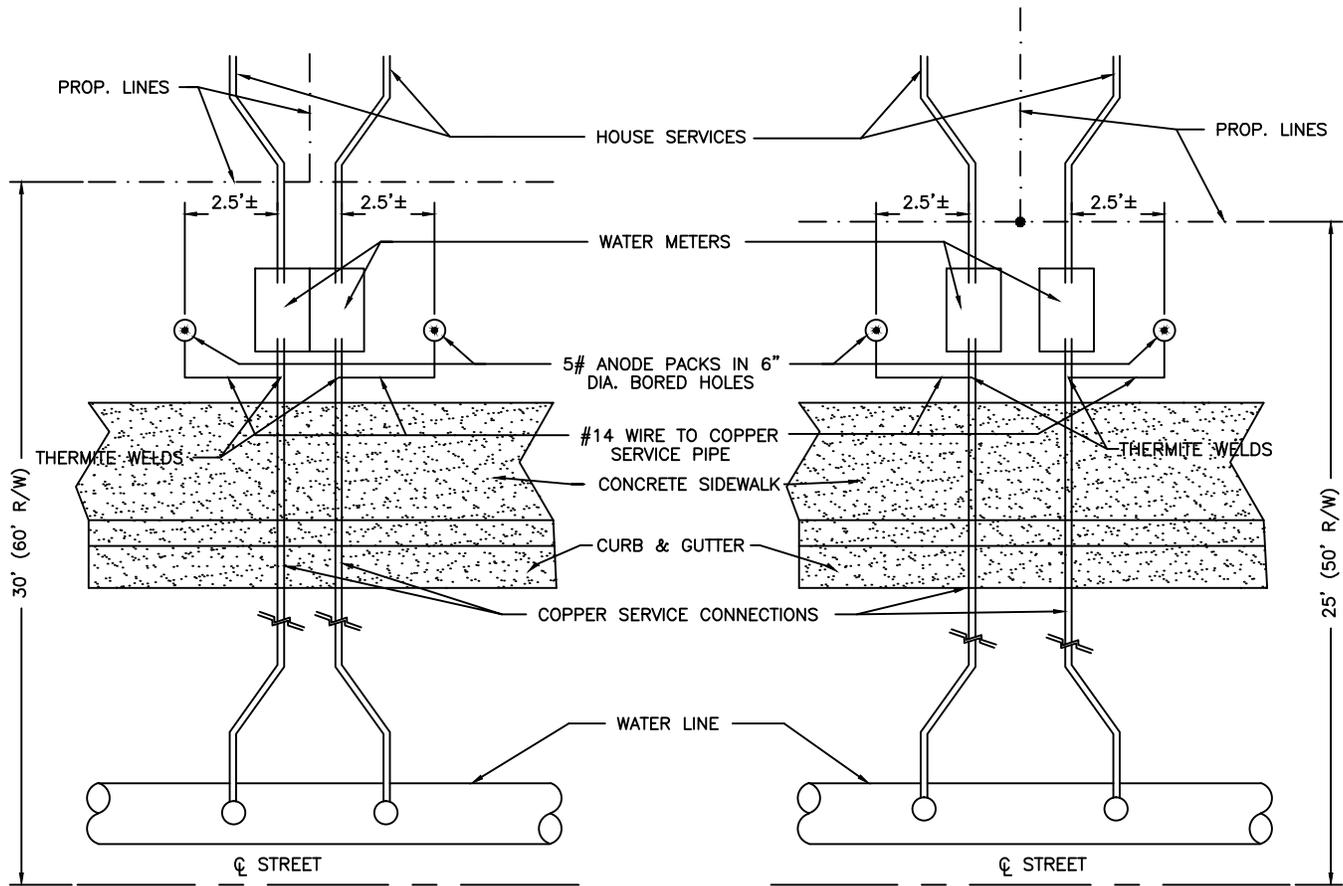
FILE: CP-W-7.DWG



UNIFORM STANDARDS FOR PUBLIC WORKS CONSTRUCTION  
**WATER SERVICE CONNECTION**

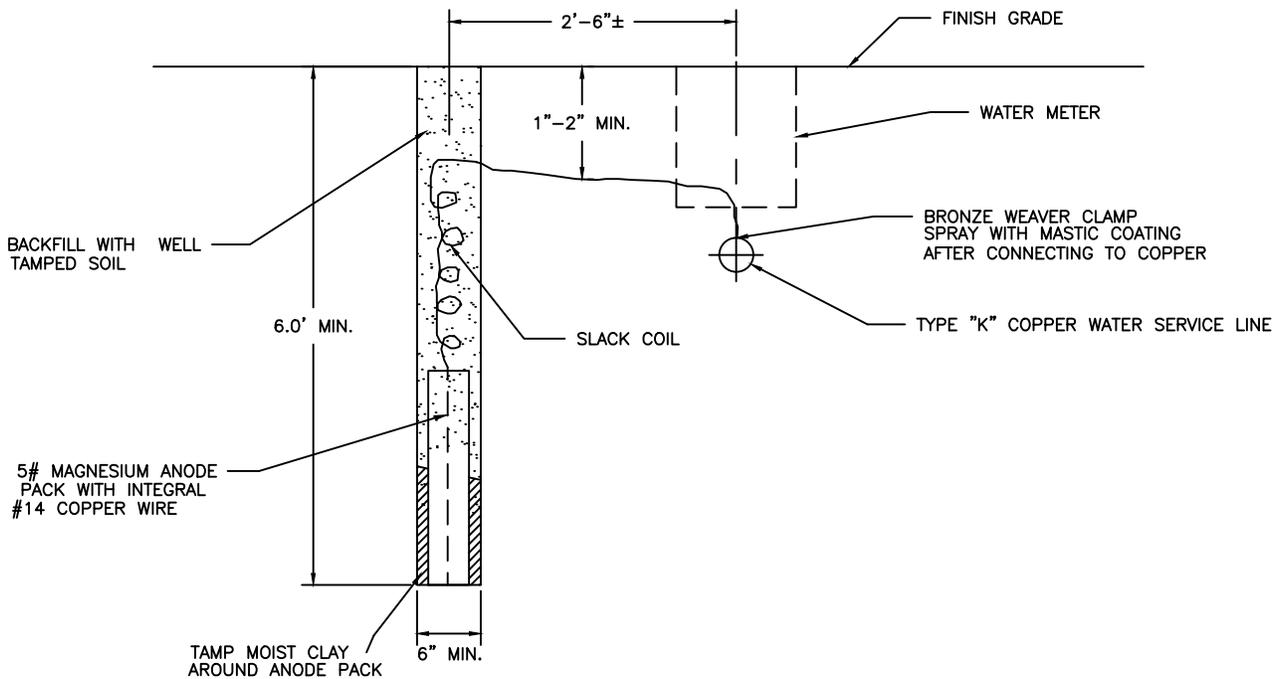
CHECKED	DATE
APPROVED	DATE
MHO REVISED	1/27/14 DATE

**W-7**  
DRAWING No.



**TYP. PLAN AT 40' STREETS**

**TYP. PLAN AT 36' STREETS**



**TYPICAL SECTION**

FILE: CP-W-8.DWG



CITY OF  
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PUBLIC WORKS DEPARTMENT

UNIFORM STANDARDS  
FOR  
PUBLIC WORKS CONSTRUCTION

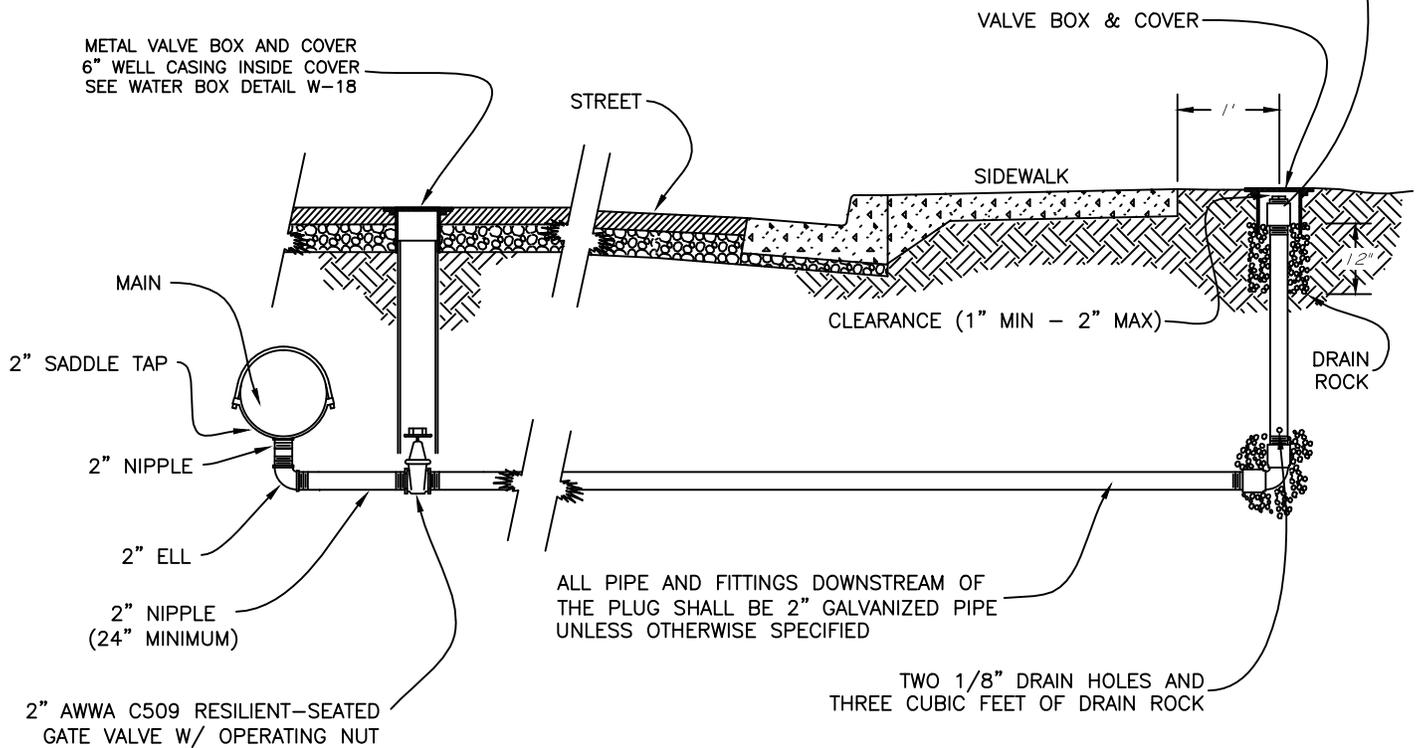
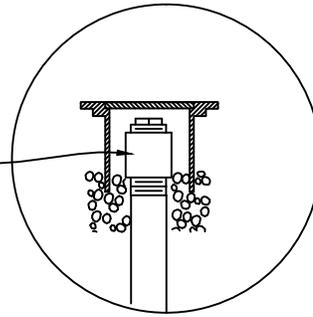
**CATHODIC PROTECTION - WATER LINES**

CHECKED	DATE
APPROVED	DATE
REVISED	DATE

**W-8**

DRAWING No.

2" SQUARE NUT PLUG ON THREADED FEMALE/FEMALE COUPLING ASSEMBLY WITH APPROVED TEFLON COMPOUND (HAND TIGHT)



## LOW POINT MAINLINE BLOWOFF ASSEMBLY

FILE: CP-W-9A.DWG



CITY OF  
**CENTRAL POINT**  
PUBLIC WORKS DEPARTMENT

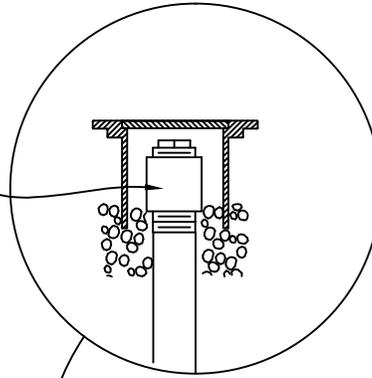
UNIFORM STANDARDS  
FOR  
PUBLIC WORKS CONSTRUCTION

LOW POINT MAIN LINE BLOWOFF ASSEMBLY

CHECKED	DATE
APPROVED	DATE
REVISED	DATE

**W-9A**  
DRAWING No.

2" SQUARE NUT PLUG ON THREADED FEMALE/FEMALE COUPLING ASSEMBLY WITH APPROVED TEFLON COMPOUND (HAND TIGHT)



METAL VALVE BOX AND COVER  
6" WELL CASING INSIDE COVER  
SEE WATER BOX DETAIL W-18

STREET

24"

VALVE BOX & COVER

CLEARANCE (2" MAX)

12"

DRAIN ROCK

MAIN

ALL PIPE AND FITTINGS DOWNSTREAM OF THE PVC SCH.80 PIPE SHALL BE GALVANIZED PIPE UNLESS OTHERWISE SPECIFIED.

SEE RESTRAINED JOINT TABLE W-1 FOR LENGTH OF PIPE WITH RESTRAINED JOINTS

TWO 1/8" DRAIN HOLES AND THREE CUBIC FEET OF DRAIN ROCK

PLUG W/ 2" TAP

2" PVC SCH.80 PIPE

2" BRASS CLOSE NIPPLE

2" AWWA C509 RESILIENT-SEATED GATE VALVE W/ OPERATING NUT

## PERMANENT MAINLINE BLOWOFF ASSEMBLY

FILE: CP-W-9B.DWG



CITY OF  
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PUBLIC WORKS DEPARTMENT

UNIFORM STANDARDS  
FOR  
PUBLIC WORKS CONSTRUCTION

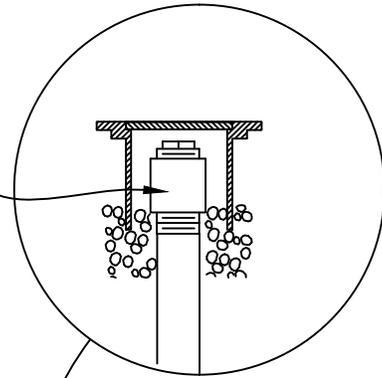
**MAIN LINE BLOWOFF ASSEMBLY**

CHECKED	DATE
APPROVED	DATE
MHO	02-14
REVISED	DATE

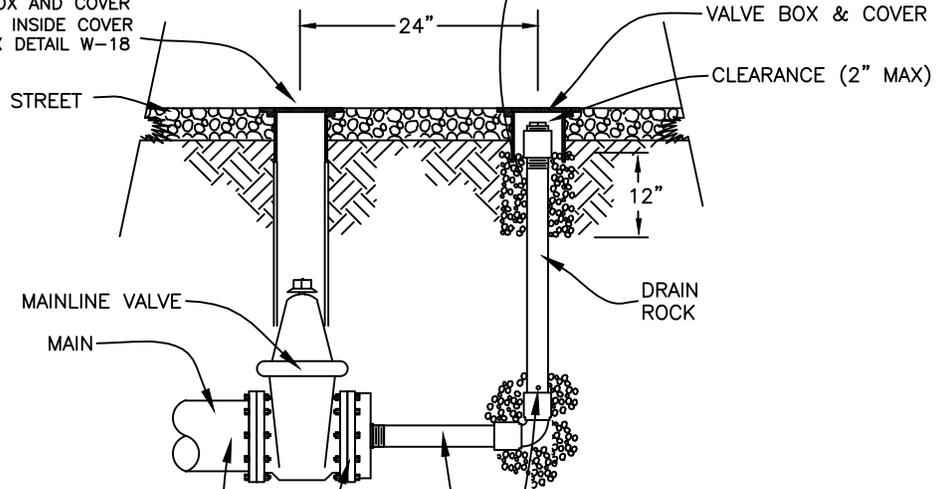
**W-9B**

DRAWING No.

2" SQUARE NUT PLUG ON THREADED FEMALE/FEMALE COUPLING ASSEMBLY WITH APPROVED TEFLON COMPOUND (HAND TIGHT)



METAL VALVE BOX AND COVER  
6" WELL CASING INSIDE COVER  
SEE WATER BOX DETAIL W-18



SEE RESTRAINED JOINT TABLE W-1 FOR LENGTH OF PIPE WITH RESTRAINED JOINTS

TWO 1/8" DRAIN HOLES AND THREE CUBIC FEET OF DRAIN ROCK

ALL PIPE AND FITTINGS DOWNSTREAM OF THE PLUG SHALL BE 2" GALVANIZED PIPE UNLESS OTHERWISE SPECIFIED

## TEMPORARY MAINLINE BLOWOFF ASSEMBLY

FILE: CP-W-10B.DWG



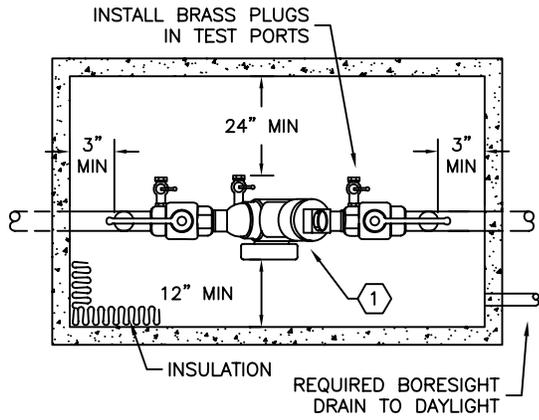
CITY OF  
**CENTRAL POINT**  
PUBLIC WORKS DEPARTMENT

UNIFORM STANDARDS  
FOR  
PUBLIC WORKS CONSTRUCTION

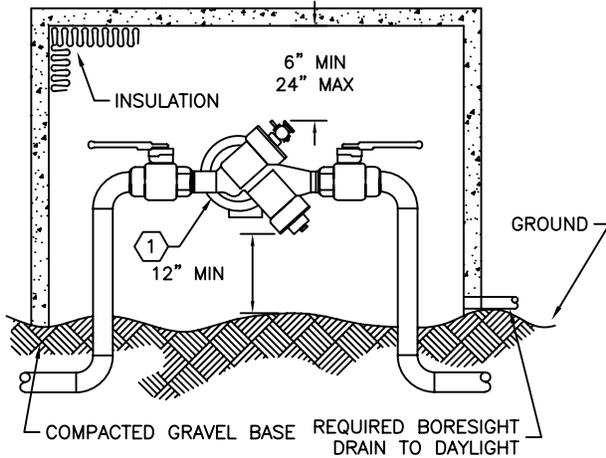
**MAIN LINE BLOWOFF ASSEMBLY**

CHECKED	DATE
APPROVED	DATE
MHO REVISED	02-14 DATE

**W-10B**  
DRAWING No.



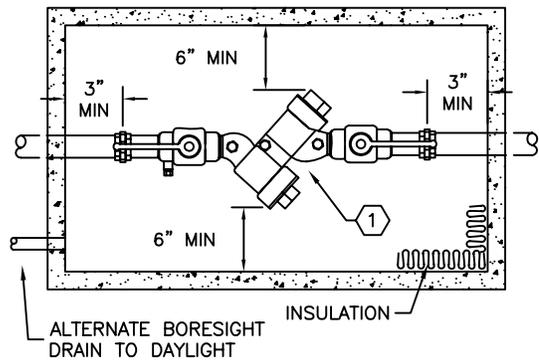
**PLAN**



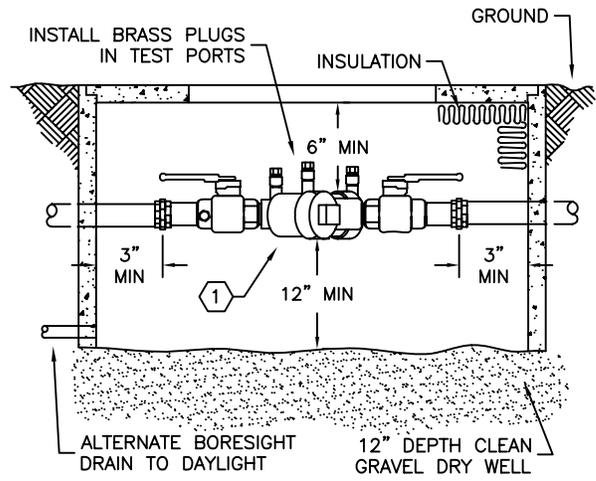
**ELEVATION**

① DHS APPROVED BPA INCLUDING  
FACTORY SUPPLIED SHUT OFF VALVES

**1/2"-2" REDUCED PRESSURE BACKFLOW ASSEMBLY  
RPBA**



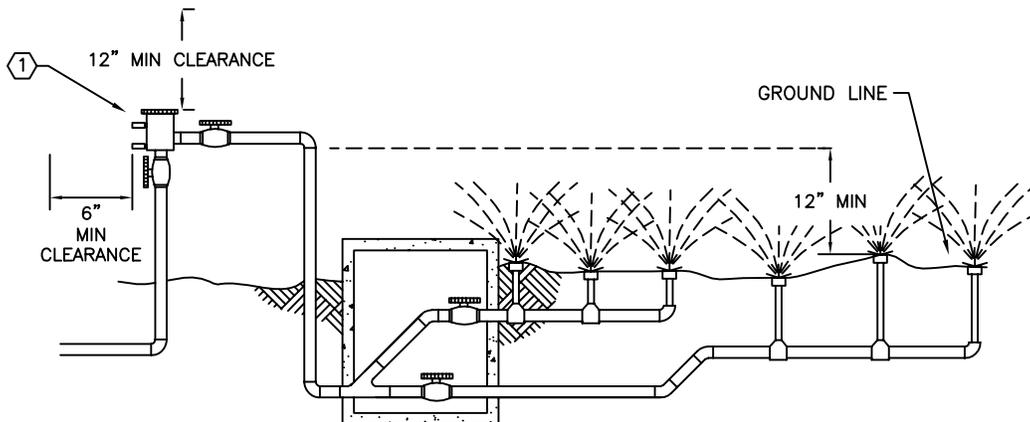
**PLAN**



**ELEVATION**

① DHS APPROVED BPA INCLUDING  
FACTORY SUPPLIED SHUT OFF VALVES

**1/2"-2" DOUBLE CHECK VALVE ASSEMBLY  
DCVA**



① DHS APPROVED BPA

**PRESSURE VACUUM  
BREAKER (PVB)**

FILE: CP-W-11.DWG



CITY OF  
**CENTRAL POINT**  
PUBLIC WORKS DEPARTMENT

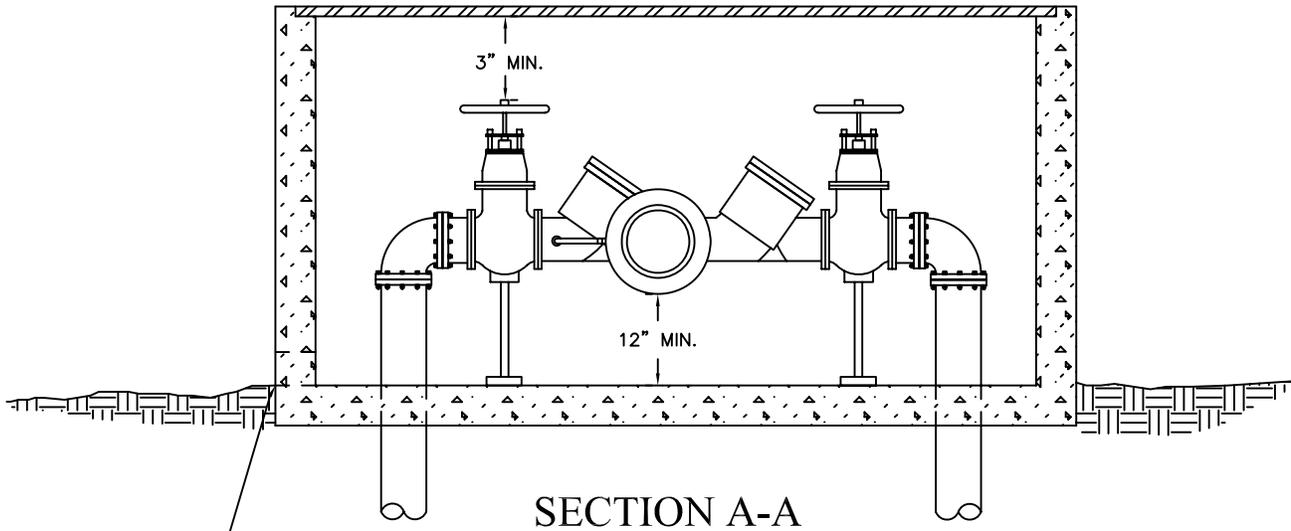
BACKFLOW PREVENTION  
ASSEMBLIES

**INSTALLATION GUIDE**

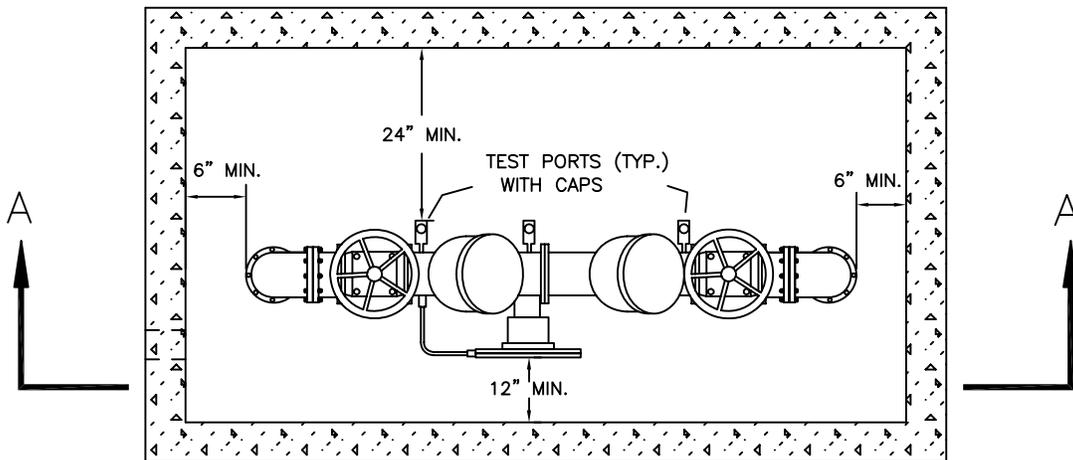
CHECKED	DATE
APPROVED	DATE
REVISED	DATE

**W-11**

DRAWING No.



DRAIN HOLE TO DAYLIGHT  
SIZE DETERMINED BY ENGINEER



PLAN

MIN. CLEARANCE FOR LARGE RPBD\* INSTALLATION

NOTES:

1. DRAWING DEPICTS TYPICAL MINIMUM DIMENSIONS FOR LARGE (2 1/2" AND LARGER) REDUCED PRESSURE BACKFLOW DEVICES.
2. DEVICE SHALL NOT BE SUBJECT TO FLOODING.
3. DRAIN LINES SHALL BE SIZED TO ACCOMMODATE FULL RELIEF VALVE DISCHARGE FLOW.
4. REDUCED PRESSURE BACKFLOW DEVICES ARE TYPICALLY INSTALLED ABOVE GRADE IN A WELL DRAINING AREAS, BUT MAY BE INSTALLED BELOW GRADE IF AN ADEQUATE DRAIN TO DAYLIGHT IS PROVIDED.

\* REDUCED PRESSURE BACKFLOW DEVICES

FILE: CP-W-12.DWG



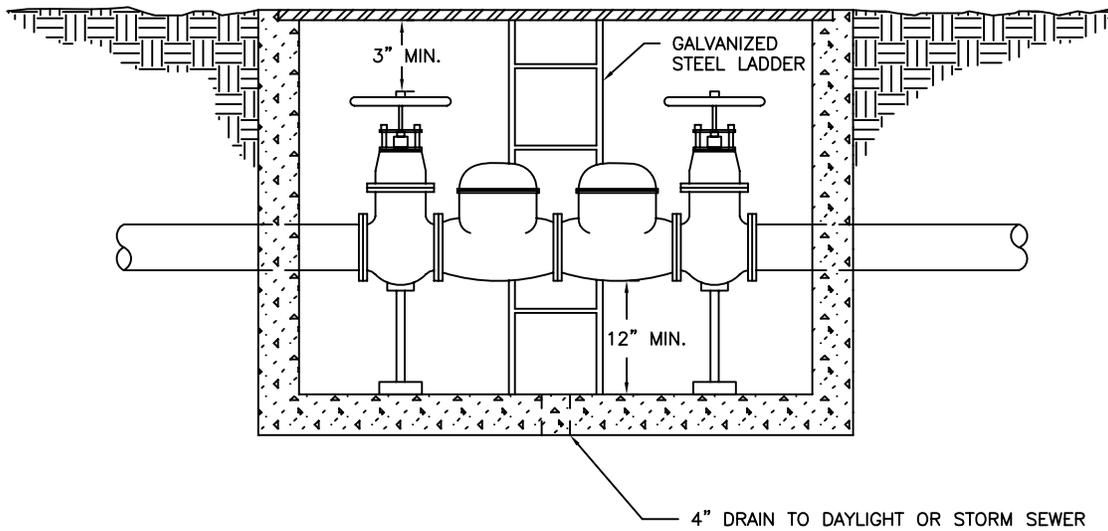
CITY OF  
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PUBLIC WORKS DEPARTMENT

UNIFORM STANDARDS  
FOR  
PUBLIC WORKS CONSTRUCTION  
**MIN. CLEARANCE FOR LARGE RPBD\* INSTALLATION**

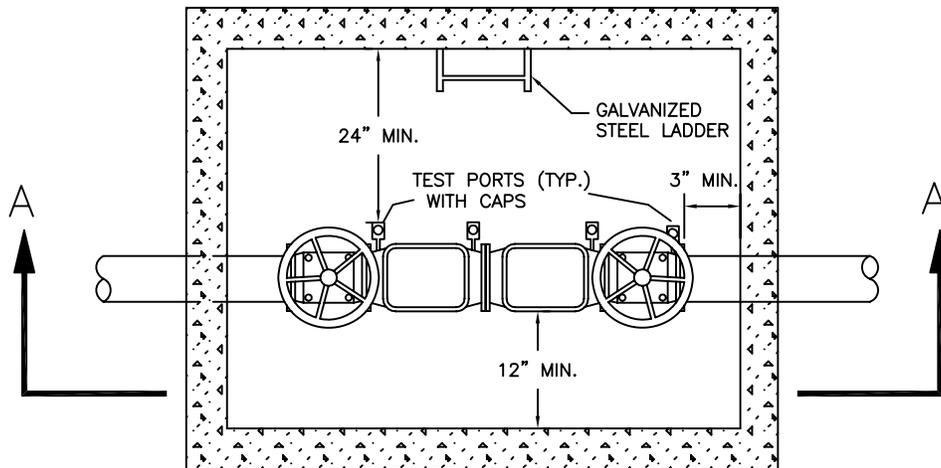
CHECKED	DATE
APPROVED	DATE
REVISED	DATE

**W-12**

DRAWING No.



**SECTION A-A**



**PLAN**

**MIN. CLEARANCE FOR LARGE DCVA\* INSTALLATION**

**NOTES:**

1. DRAWING DEPICTS TYPICAL MINIMUM DIMENSIONS FOR LARGE (2 1/2" AND LARGER) DOUBLE CHECK VALVE ASSEMBLIES.
2. ASSEMBLY SHALL NOT BE SUBJECT TO FLOODING.

\* DOUBLE CHECK VALVE ASSEMBLY

FILE: CP-W-13.DWG



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PUBLIC WORKS DEPARTMENT

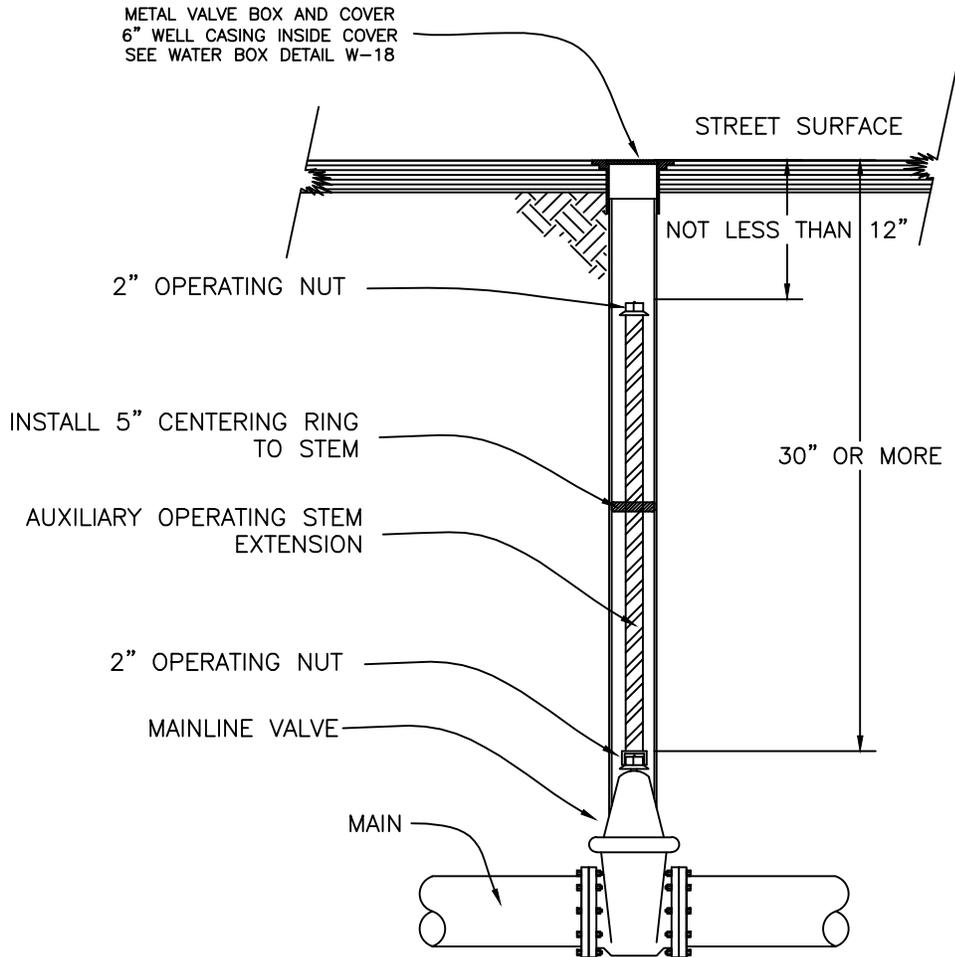
UNIFORM STANDARDS  
FOR  
PUBLIC WORKS CONSTRUCTION

MIN. CLEARANCE FOR LARGE DCVA\* INSTALLATION

CHECKED	DATE
APPROVED	DATE
REVISED	DATE

**W-13**

DRAWING No.



## WATER VALVE EXTENSION

Use when valve operating nut is greater than 30 inches  
deeper than street level

FILE: CP-W-14.DWG



CITY OF  
**CENTRAL POINT**  
PUBLIC WORKS DEPARTMENT

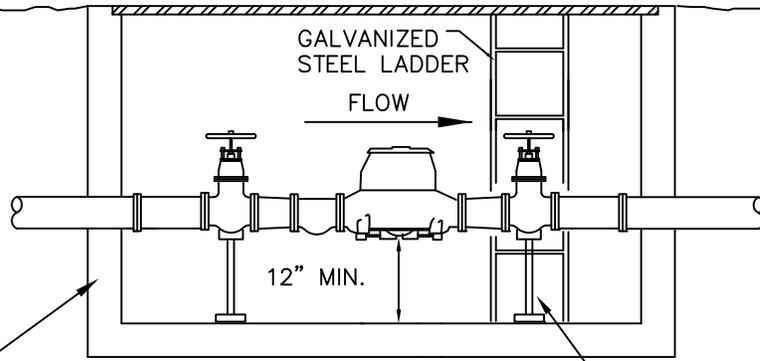
UNIFORM STANDARDS  
FOR  
PUBLIC WORKS CONSTRUCTION

**WATER VALVE EXTENSION**

CHECKED	DATE
APPROVED	DATE
MHO REVISED	1/27/14 DATE

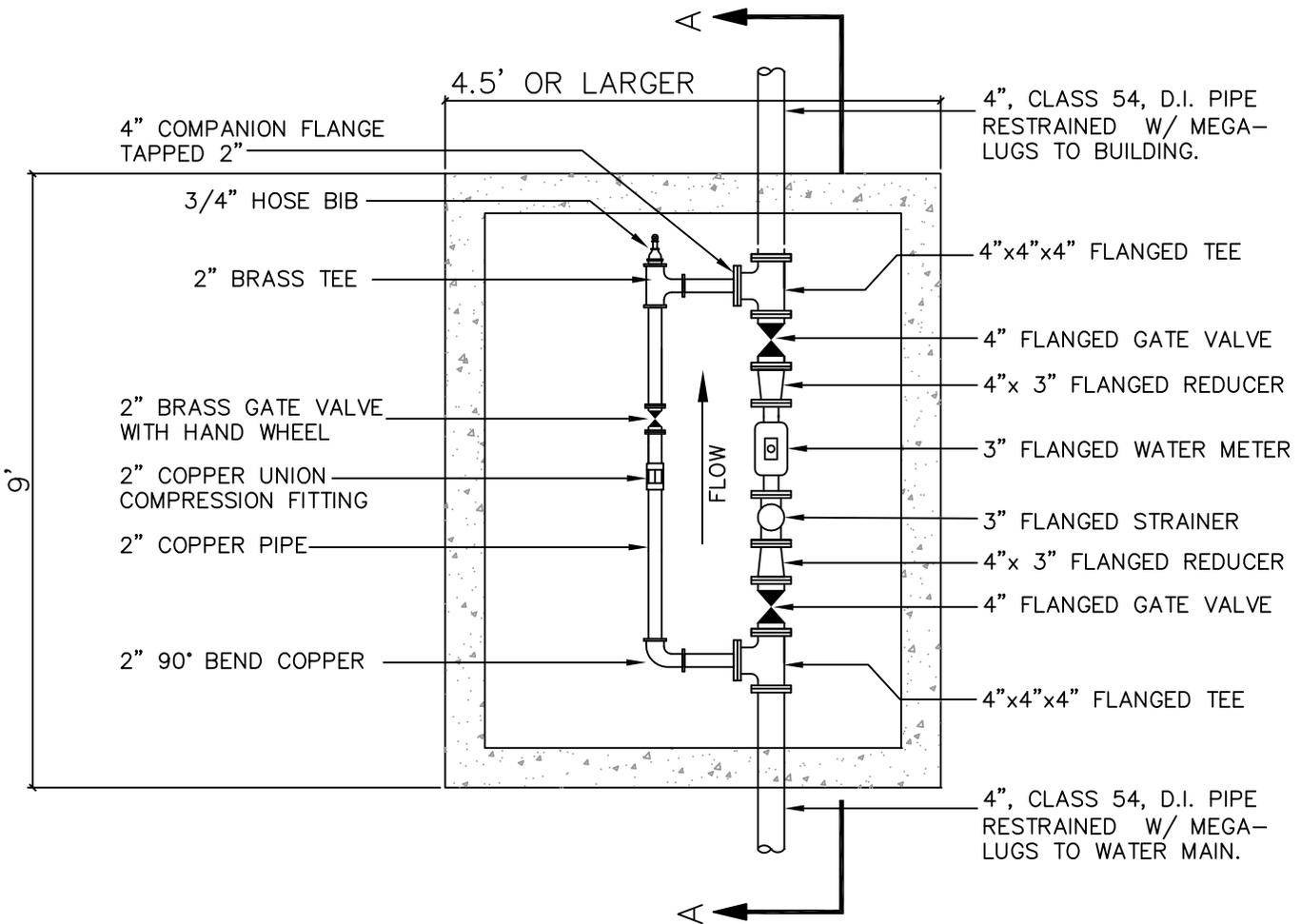
**W-14**  
DRAWING No.

CONCRETE VAULT.  
WITH STEEL LID AND  
HOLD DOWN BOLTS.  
PROVIDE A 1-7/8" HOLE  
IN THE VAULT LID FOR A  
TOUCH READ PAD.  
COOK, ALLIANCE, UTILITY  
PICOLLO CONCRETE  
VAULT ARE ACCEPTABLE  
MANUFACTURER'S.  
OR CITY APPROVED OTHER



**SECTION A-A**

INSTALL SUPPORT UNDER VALVES



CONTRACTOR TO VERIFY THAT ACTUAL  
MANUFACTURED PARTS FIT WITH THE  
SPACE OF THIS VAULT. IF THEY DO  
NOT, THEN ANOTHER VAULT MAY BE  
REQUIRED.

**3" METER CONNECTION DETAIL**

NO SCALE

FILE: CP-W-15.DWG



CITY OF  
**CENTRAL POINT**  
PUBLIC WORKS DEPARTMENT

UNIFORM STANDARDS  
FOR  
PUBLIC WORKS CONSTRUCTION

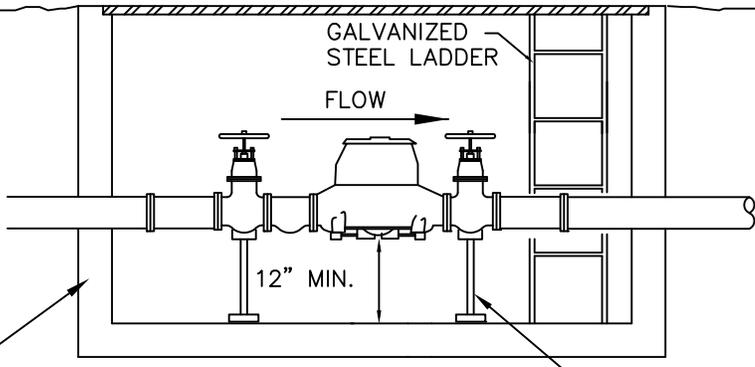
**3" METER CONNECTION DETAIL**

CHECKED	DATE
APPROVED	DATE
REVISED	DATE

**W-15**

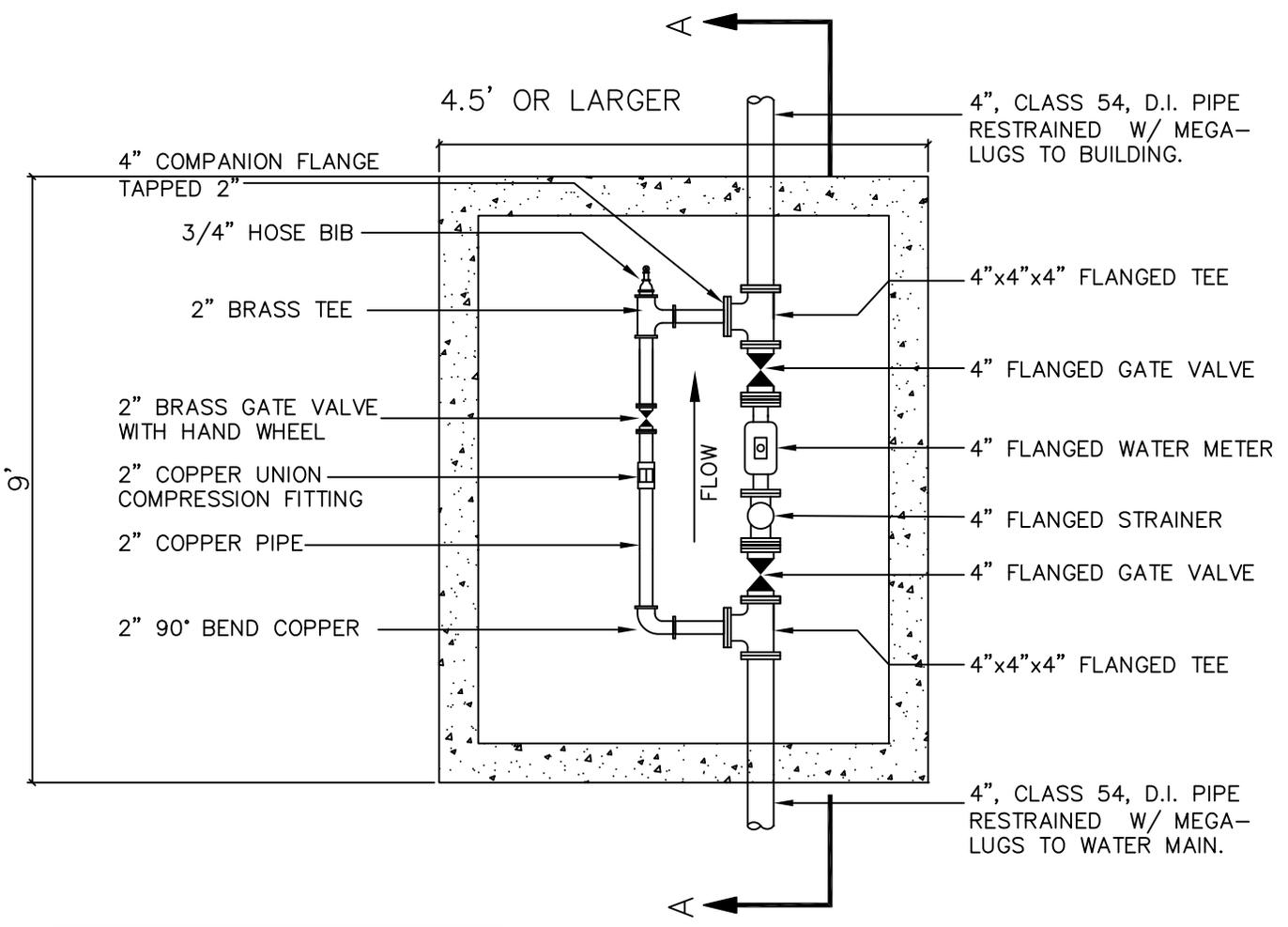
DRAWING No.

CONCRETE VAULT.  
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**SECTION A-A**

INSTALL SUPPORT UNDER VALVES



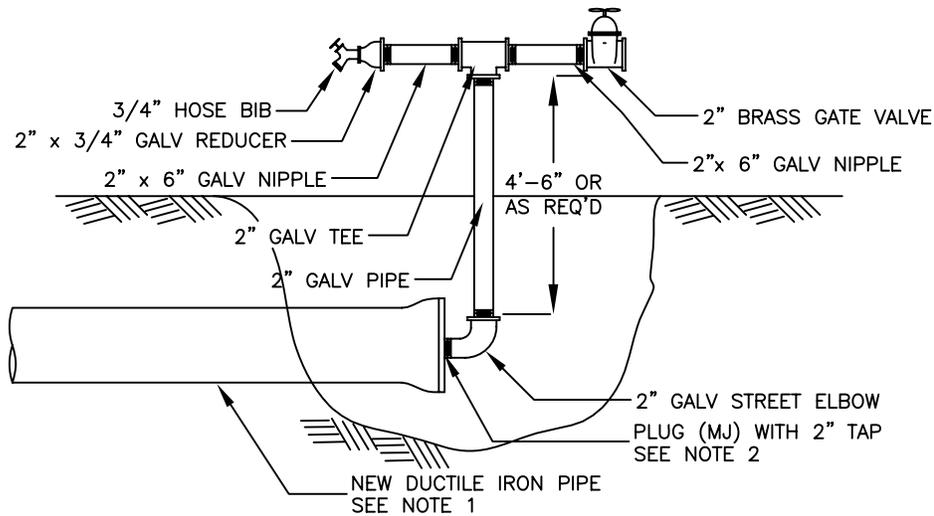
**4" METER CONNECTION DETAIL**

NO SCALE

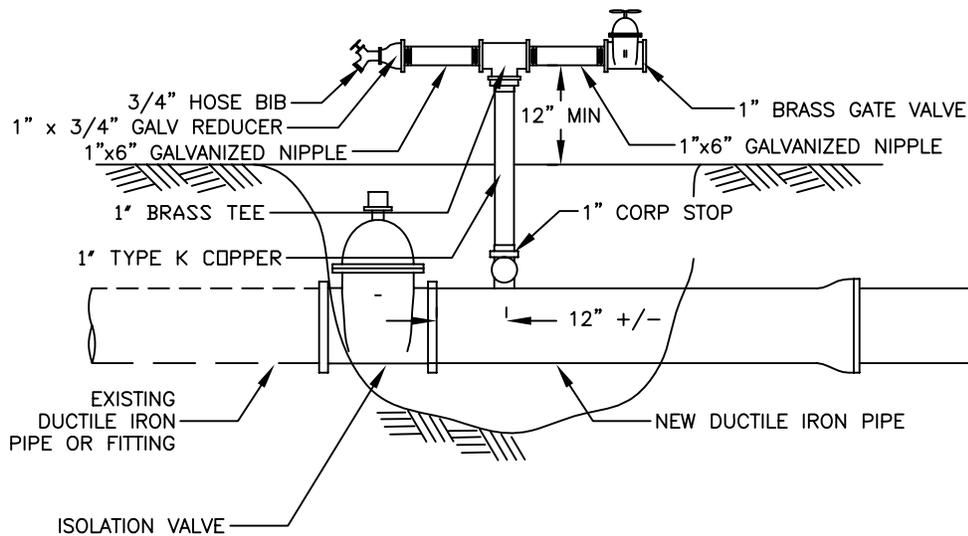
CONTRACTOR TO VERIFY THAT ACTUAL  
MANUFACTURED PARTS FIT WITH THE  
SPACE OF THIS VAULT. IF THEY DO  
NOT, THEN ANOTHER VAULT MAY BE  
REQUIRED.

FILE: CP-W-16.DWG

CHECKED	DATE
APPROVED	DATE
REVISED	DATE



## 2" SAMPLE TREE



## 1" DISINFECTION TREE

**NOTES:**

1. AT A MINIMUM, RESTRAIN THE LAST THREE FULL PIPE LENGTHS FOR 4", 6", AND 8" PIPE. RESTRAIN THE LAST 4 FULL PIPE LENGTHS FOR 12" PIPE.
2. UPON COMPLETION OF REQUIRED TESTS AND AFTER CONFIRMATION OF SAMPLE RESULTS, CONTRACTOR TO REMOVE TREE ASSEMBLY.

FILE: CP-W-17.DWG



CITY OF  
**CENTRAL POINT**  
PUBLIC WORKS DEPARTMENT

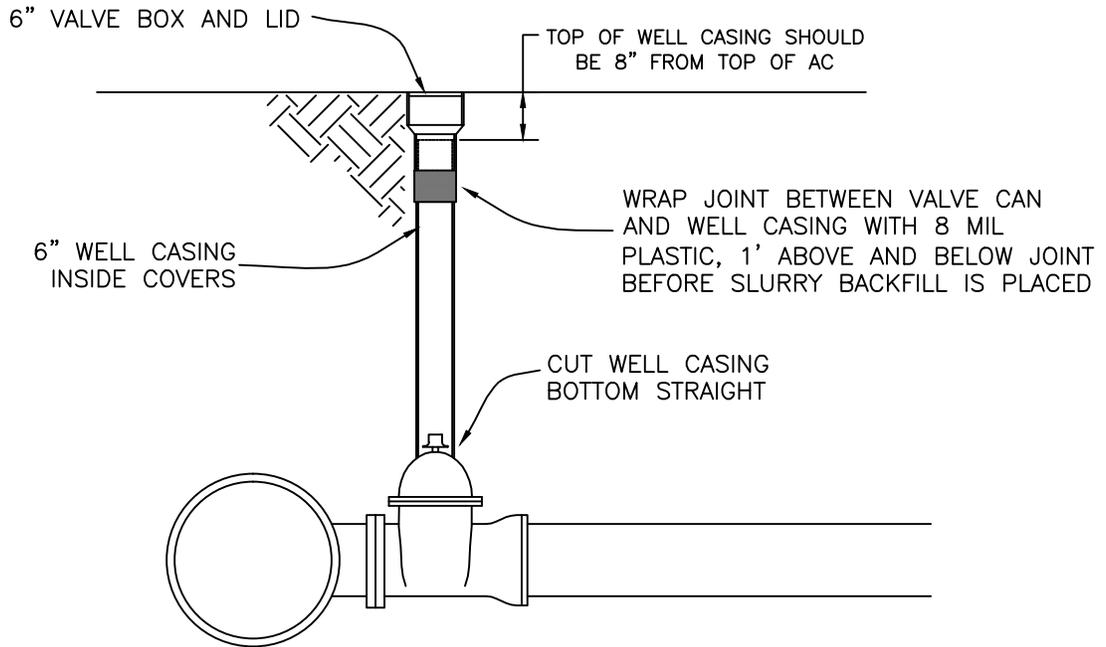
UNIFORM STANDARDS  
FOR  
PUBLIC WORKS CONSTRUCTION

**SAMPLE AND DISINFECTION TREES**

CHECKED	DATE
APPROVED	DATE
REVISED	DATE

W-17

DRAWING No.



WATER VALVE BOX DETAIL

FILE: CP-W-18.DWG



CITY OF  
**CENTRAL POINT**  
PUBLIC WORKS DEPARTMENT

UNIFORM STANDARDS  
FOR  
PUBLIC WORKS CONSTRUCTION

**WATER VALVE BOX DETAIL**

CHECKED	DATE	<b>W-18</b> DRAWING No.
APPROVED	DATE	
MHO REVISED	1/27/14 DATE	