

SPRINGFIELD WATER AND SEWER COMMISSION



STANDARD DETAILS

**Version 4 – November 1, 2020
Revised: June 28, 2021**

William E. Leonard, Commissioner
Vanessa Otero, Commissioner
Daniel Rodriguez, Commissioner

Springfield Water and Sewer Commission

Standard Detail Drawings

WATER DETAILS

1. (W-01.0) UTILITY SEPERATION DETAIL
2. (W-02.0) NON-PAVED AREA TRENCH DETAIL
3. (W-02.1) TRENCH BACKFILLING-METHOD 1 FOR LUDLOW ROADWAYS
4. (W-02.2) TRENCH BACKFILLING-METHOD 2 FOR LUDLOW ROADWAYS
5. (W-02.3) TRENCH BACKFILLING-METHOD FOR ARTERIAL STREETS IN SPRINGFIELD
6. (W-02.4) TRENCH BACKFILLING-METHOD FOR RESIDENTIAL STREETS IN SPRINGFIELD
7. (W-02.5) TEMPORARY TRENCH BACKFILLING METHOD FOR ALL STREETS IN SPRINGFIELD AND LUDLOW EXCEPT ARTERIAL STREETS IN SPRINGFIELD
8. (W-02.6) TEMPORARY TRENCH BACKFILLING METHOD FOR ARTERIAL STREETS IN SPRINGFIELD
9. (W-03.0) STANDARD AIR VALVE ASSEMBLY DETAIL
10. (W-03.1) AIR VALVE ONE PIECE ASSEMBLY DETAIL 1
11. (W-03.2) AIR VALVE ONE PIECE ASSEMBLY DETAIL 2
12. (W-04.0) END OF MAIN
13. (W-04.1) END OF MAIN DETAIL
14. (W-05.0) STANDARD TEE INSTALLATION
15. (W-05.1) ALTERNATE 1 TEE INSTALLATION
16. (W-06.0) REPAIR TO EXISTING WATER MAINS
17. (W-06.1) INSTALL VALVE OR FITTING AT A DEAD END OF A WATER MAIN



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18. (W-06.2) CUTTING-INTO EXISTING WATER MAIN TO REPLACE VALVE OR FITTING
19. (W-06.3) CUTTING-INTO EXISTING WATER MAIN WITH BELL FACING VALVE
20. (W-06.4) CUTTING-INTO EXISTING WATER MAIN WITH BELL FACING AWAY FROM VALVE
21. (W-06.5) CUTTING-INTO EXISTING WATER MAIN WITH NO BELL FOUND
22. (W-06.6) CONCRETE THRUST COLLAR
23. (W-06.7) SOCKET CLAMP DETAIL
24. (W-06.8) THREADED ROD DETAIL AND CONNECTION TO MJ DETAIL
25. (W-07.0) STANDARD FIRE HYDRANT ASSEMBLY
26. (W-07.1) ALTERNATE 1 FIRE HYDRANT ASSEMBLY
27. (W-07.2) ALTERNATE 2 FIRE HYDRANT ASSEMBLY
28. (W-07.3) RELOCATION OF FIRE HYDRANT ASSEMBLY (STRAIGHT BACK)
29. (W-08.0) VALVE BOX
30. (W-08.1) REPLACE, RAISE, OR RESET VALVE BOX
31. (W-08.2) RAISE VALVE BOX WITH RISER
32. (W-09.0) DUCTILE IRON TAPPING SLEEVE
33. (W-09.1) STAINLESS STEEL TAPPING SLEEVE
34. (W-10.0) FLUSHING DEVICE
35. (W-11.0) NEW WATER SERVICE
36. (W-11.1) REPLACEMENT WATER SERVICE
37. (W-11.2) WATER METER SEALING DETAIL
38. (W-11.3) PLASTIC METER PIT FOR 5/8" – 1" METERS



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39. (W-11.4) PLASTIC METER PIT FOR 1-1/2" – 2" METERS
40. (W-11.5) TYPICAL YARD HYDRANT
41. (W-12.0) TYPICAL SERVICE BOX DETAIL IN PAVED AREAS
42. (W-12.1) TYPICAL SERVICE BOX DETAIL IN NON-PAVED AREAS
43. (W-12.2) REPLACE, RAISE, OR RESET SERVICE BOX DETAIL
44. (W-12.3) RAISE SERVICE BOX WITH RISER DETAIL
45. (W-13.0) METER VAULT PIPING
46. (W-13.1) LARGE METER INSTALLATION
47. (W-13.2) STANDARD METER PIT FOR DUCTILE IRON WATER SERVICE PIPE
48. (W-13.3) OVERSIZE METER PIT FOR DUCTILE IRON WATER SERVICE PIPE
49. (W-13.4) TYPICAL DUCTILE IRON WATER SERVICE DETAIL THROUGH FOUNDATION WALL
50. (W-13.5) TYPICAL DUCTILE IRON WATER SERVICE DETAIL THROUGH CONCRETE FLOOR
51. (W-13.6) 32 X 8-INCH FRAME ONLY
52. (W-13.7) 32-INCH STANDARD WATER COVER
53. (W-13.8) 24-INCH REPLACEMENT WATER COVER
54. (W-13.9) 26-INCH REPLACEMENT WATER COVER
55. (W-13.10) 32-INCH COMPOSITE LOCKING COVER
56. (W-13.11) TYPICAL DUCTILE IRON FIRE SERVICE DETAIL THROUGH FOUNDATION WALL
57. (W-13.12) TYPICAL DUCTILE IRON FIRE SERVICE DETAIL THROUGH CONCRETE FLOOR
58. (W-13.13) TYPICAL DUCTILE IRON FIRE SERVICE DETAIL IN A HOT BOX



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- 59. (W-13.14) TYPICAL DIP COMMERCIAL & INDUSTRIAL SERVICE DETAIL THROUGH FOUNDATION WALL
- 60. (W-13.15) TYPICAL DIP COMMERCIAL & INDUSTRIAL SERVICE DETAIL THROUGH CONCRETE FLOOR
- 61. (W-14.0) THRUST BLOCK BEHIND FITTING
- 62. (W-14.1) THRUST BLOCKS
- 63. (W-15.0) RELATION OF VERTICAL DATUMS TO SPRINGFIELD CITY BASE DETAIL
- 64. (W-16.0) RECORD SKETCH DETAIL
- 65. (W-16.1) WATER SERVICE CARD DETAIL
- 66. (W-17.0) SEASONAL WATER SERVICE DETAIL
- 67. (W-17.1) SEASONAL WATER SERVICE BASE DETAIL
- 68. (W-17.2) SEASONAL WATER SERVICE COVER DETAIL

SEWER DETAILS

- 69. (S-01.0) TRENCH DETAIL FOR SEWER PIPES
- 70. (S-02.0) PRECAST CONCRETE SEWER MANHOLE
- 71. (S-02.1) PRECAST CONCRETE SEWER PIPE CONNECTIONS
- 72. (S-02.2) END OF SEWER MAIN
- 73. (S-02.3) EXTERIOR DROP MANHOLE
- 74. (S-02.4) INTERIOR DROP MANHOLE
- 75. (S-02.51) 24-INCH X 4-INCH FRAME ONLY
- 76. (S-02.52) 24-INCH X 6-INCH FRAME ONLY
- 77. (S-02.53) 24-INCH X 8-INCH FRAME ONLY
- 78. (S-02.54) 26-INCH X 6-INCH FRAME ONLY
- 79. (S-02.55) 32-INCH X 6-INCH FRAME ONLY



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Standard Detail Drawings

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|------|-----------|--|
| 80. | (S-02.56) | 32-INCH X 8 INCH FRAME ONLY |
| 81. | (S-02.61) | 24-INCH STANDARD SEWER COVER |
| 82. | (S-02.62) | 32-INCH STANDARD SEWER COVER |
| 83. | (S-02.63) | 26-INCH REPLACEMENT SEWER COVER |
| 84. | (S-02.64) | 30-INCH REPLACEMENT SEWER COVER |
| 85. | (S-02.65) | 24-INCH COMPOSITE LOCKING COVER |
| 86. | (S-02.66) | 32-INCH COMPOSITE LOCKING COVER |
| 87. | (S-03.0) | UTILITY CROSSING DETAIL |
| 88. | (S-04.0) | EXISTING SEWER MAIN TO BUILDING CONNECTION |
| 89. | (S-04.1) | NEW SEWER MAIN TO BUILDING CONNECTION |
| 90. | (S-04.2) | CLEAN OUT WITH SWEEP |
| 91. | (S-04.3) | SEWER SERVICE CONNECTION WITH CHIMNEY GREATER THAN 12 FT DEEP |
| 92. | (S-04.4) | BUILDING CONNECTION TO SEWER MAIN WITH CONFLICTS |
| 93. | (S-05.0) | BUILDING AND MAINLINE SEWER REPAIR |
| 94. | (S-06.0) | WETWELL AND VALVE VAULT PRECAST |
| 95. | (S-08.0) | STANDARD EXTERNAL GREASE INTERCEPTOR |
| 96. | (S-09.1) | LOW PRESSURE SANITARY SERVICE/MAIN 2-1/2" VALVE BOX IN NON-PAVED AREAS |
| 97. | (S-09.2) | LOW PRESSURE SANITARY SEWER PIPE TRENCH DETAIL |
| 98. | (S-09.3) | LPSS SERVICE LATERAL DETAIL |
| 99. | (S-09.4) | LOW PRESSURE SANITARY SEWER MAIN INLINE FLUSHING STRUCTURE DETAIL |
| 100. | (S-09.5) | LOW PRESSURE SANITARY SEWER MAIN TERMINAL FLUSHING STRUCTURE DETAIL |



Springfield Water and Sewer Commission

Standard Detail Drawings

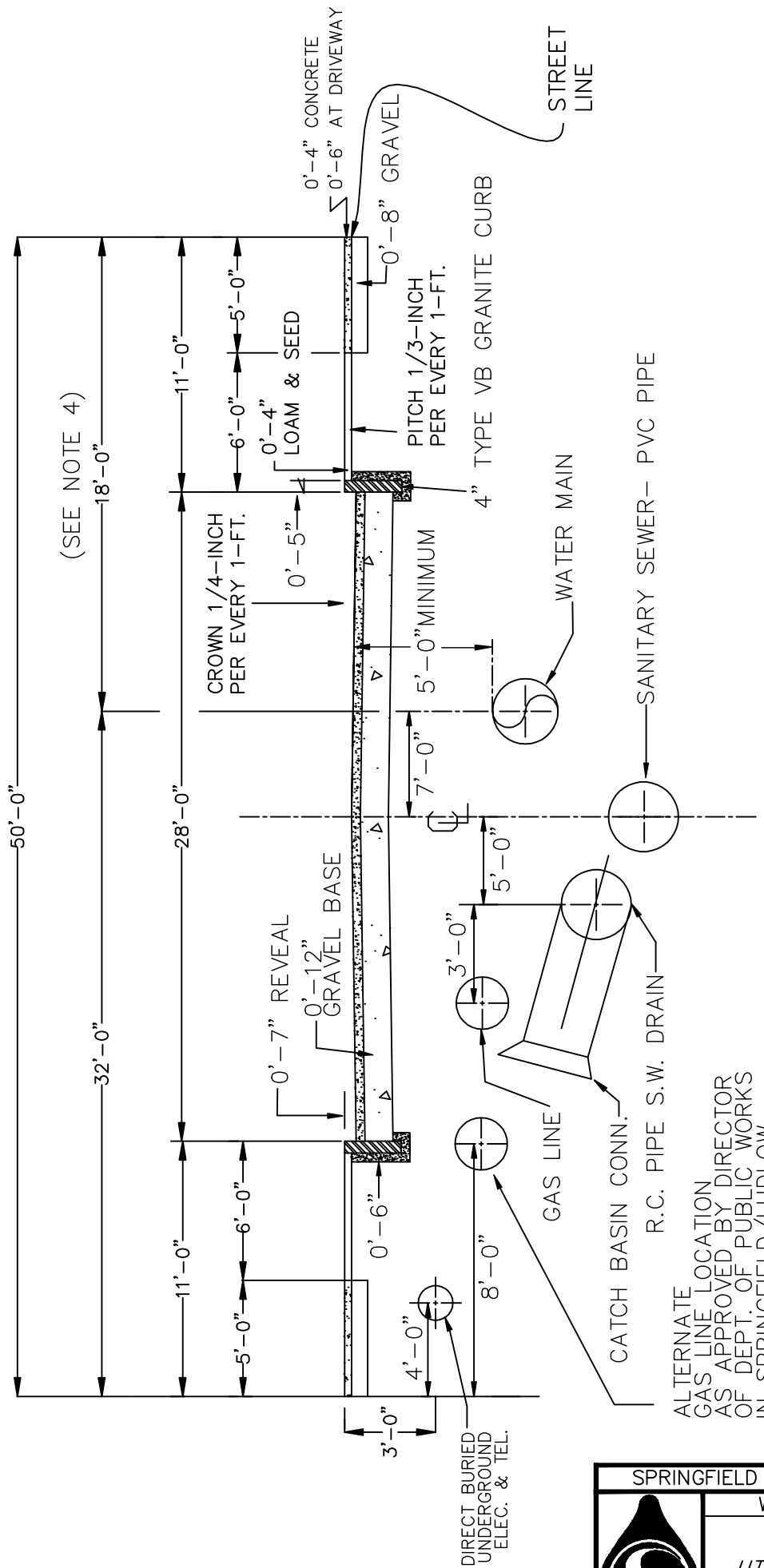
MAP DETAILS

- 101. (M-01.0) SPRINGFIELD WATER MAINS SERVICE AREA MAP
- 102. (M-02.0) LUDLOW WATER MAINS SERVICE AREA MAP
- 103. (M-03.0) WATER TRANSMISSION MAINS SERVICE AREA MAP COBBLE MOUNTAIN TO PROVIN MOUNTAIN
- 104. (M-03.1) WATER TRANSMISSION MAINS SERVICE AREA MAP PROVIN MOUNTAIN TO SPRINGFIELD
- 105. M-04.0) SPRINGFIELD SEWER MAINS SERVICE AREA MAP




Springfield Water and Sewer Commission
Standard Detail Drawings

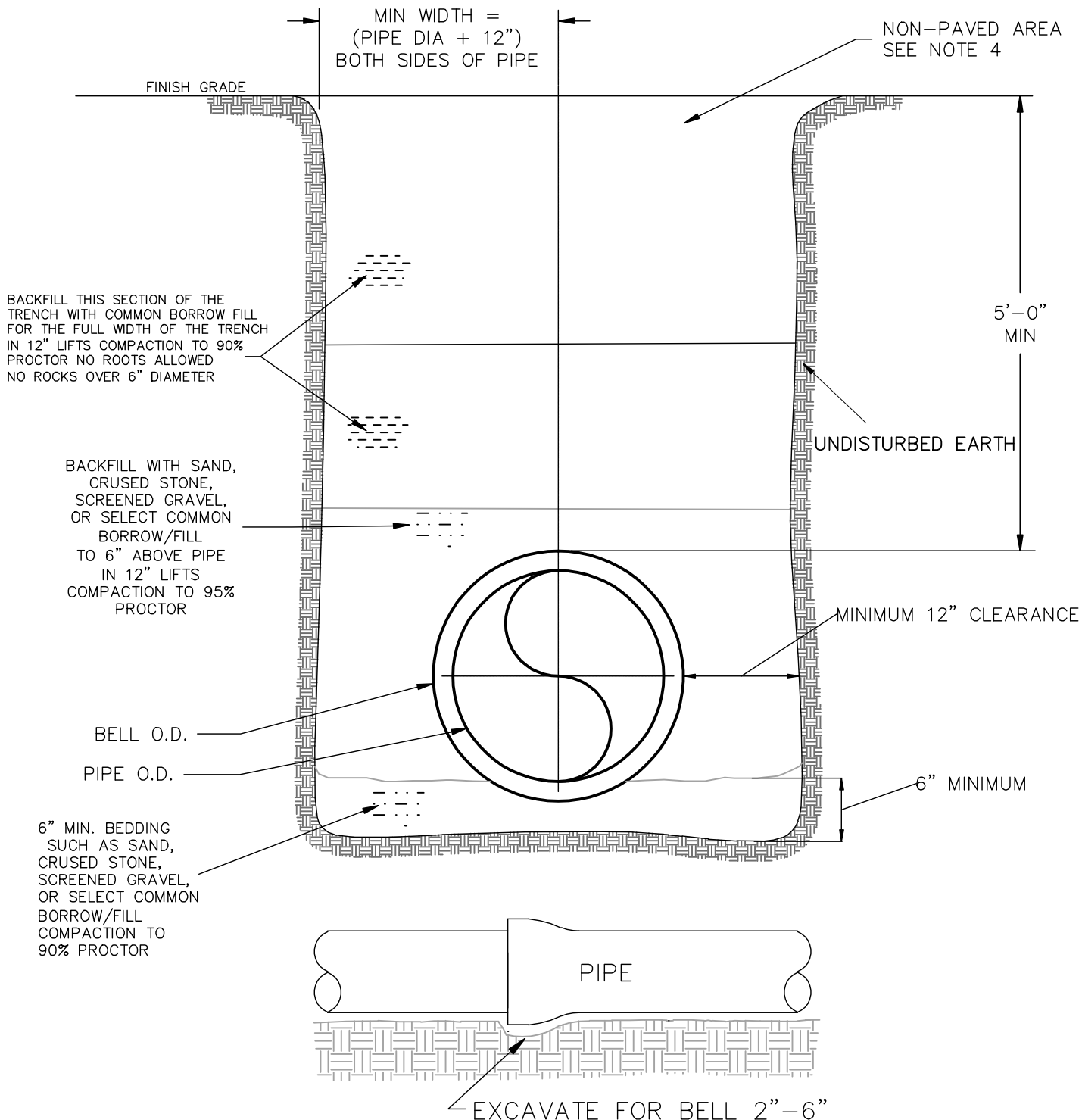




(SEE NOTE 4)

- NOTES:**
1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES AND POLICIES.
 2. ALL WATER MAIN SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISH GRADE.
 3. SEE DETAIL W-02.0, W-02.1, W-02.2, W-02.3 OR W-02.4 FOR TRENCH DETAILS.
 4. ON 50-FOOT WIDE STREETS WATER MAINS SHALL BE INSTALLED 18- FEET FROM THE NORTH OR EAST STREET LINE, ALL OTHER WIDTHS REQUIRE ENGINEERING & TECHNICAL SERVICES APPROVAL.

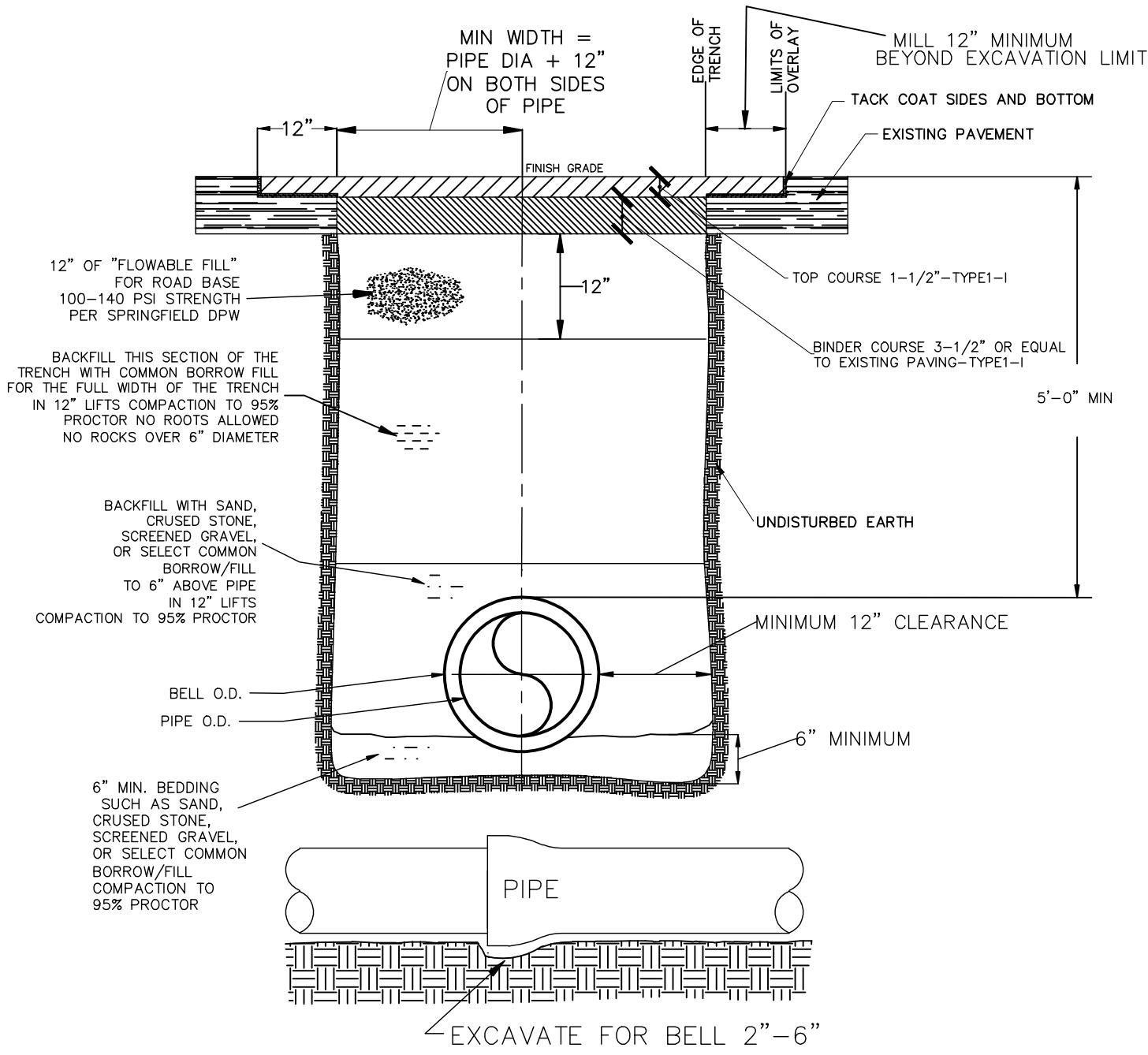
 SPRINGFIELD WATER AND SEWER COMMISSION		
WATER DETAIL W-01.0		REV. DATE 4/1/08 MAB
<i>UTILITY SEPERATION DETAIL</i>		
SCALE: NTS		



	EXISTING PAVEMENT		EXCAVATED AND REPLACED WITH BINDER COURSE
	STRUCTURAL GRAVEL		FLOWABLE FILL
	BEDDING SAND		COMMON BORROW
	MILLED AND REPLACED WITH TOP COURSE		TACK COAT
	UNDISTURBED EARTH		

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 3. SEE DETAIL W-02.0, W-02.1, W-02.2, W-02.3 OR W-02.4 FOR TRENCH DETAILS.
 4. REQUIREMENTS FOR SUBBASE AND BASE MATERIAL TYPE ARE TO BE IN ACCORDANCE WITH LOCAL AUTHORITY HAVING LOCAL JURISDICTION IN PAVED AREAS.
 5. REQUIREMENTS FOR GRAVEL, LOAM AND/OR SEED ARE TO BE IN ACCORDANCE WITH LOCAL AUTHORITY HAVING LOCAL JURISDICTION IN NON-PAVED AREAS.
 6. FOR LOCATION OF WATER MAINS SEE DTAIL (W-01.0).

SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-02.0	REV. DATE
	<u>NON-PAVED AREA</u>	4/1/08 MAB
	<u>TRENCH DETAIL</u>	
	SCALE: NTS	

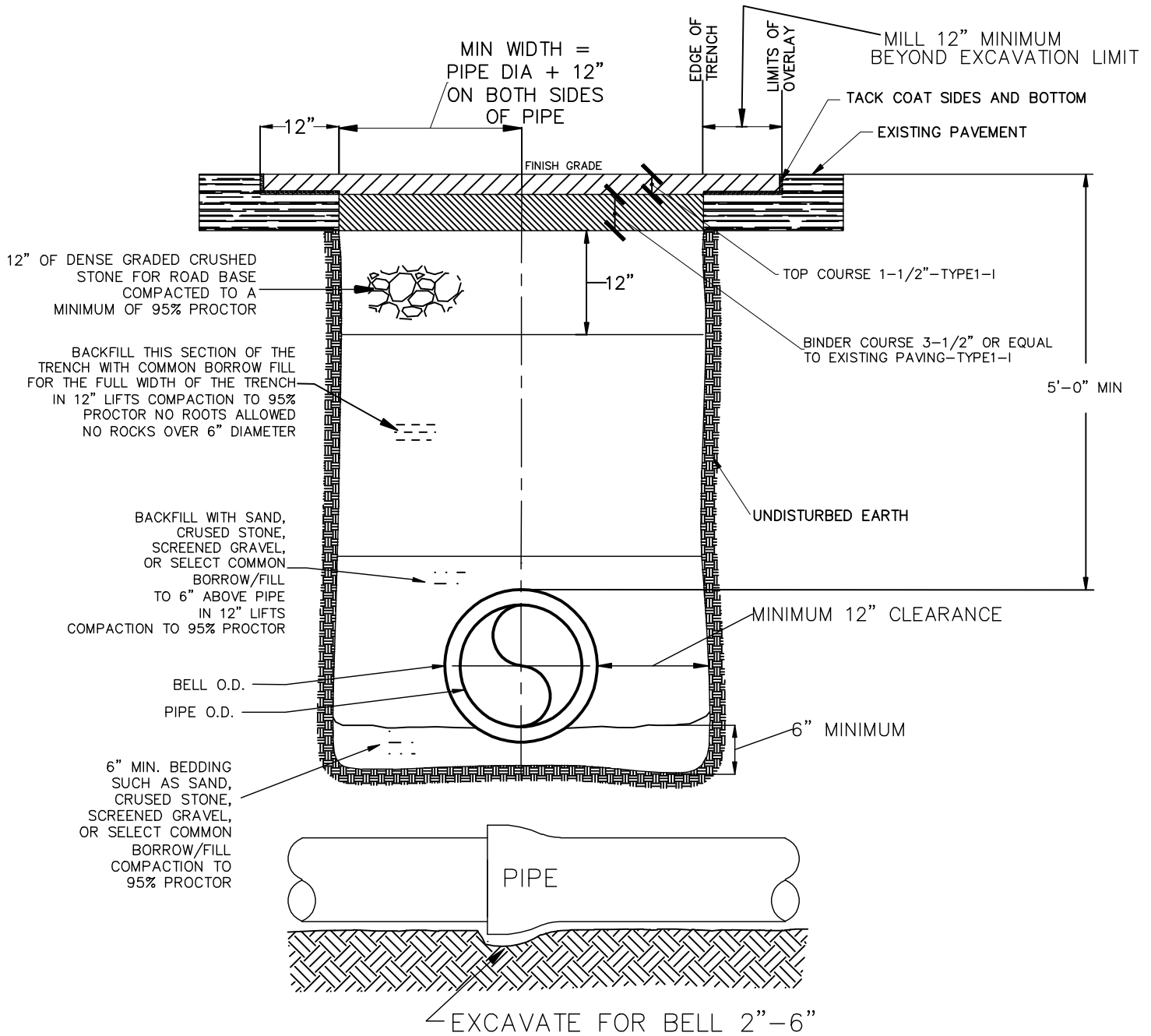


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7. REQUIREMENTS FOR GRAVEL, LOAM AND/OR SEED ARE TO BE IN ACCORDANCE WITH LOCAL AUTHORITY HAVING LOCAL JURISDICTION IN NON-PAVED AREAS.
8. REPLACE WITH SAME DEPTH OF ASPHALT OR MINIMUM 5-INCHES.
9. ALL MATERIALS USED TO MEET MASS. STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
10. SAW CUT EDGE OF UTILITY PATCH IF NO MILLING IS REQUIRED.
11. MILL TO REMOVE TOP COURSE.
12. LEAVE 12-INCH MINIMUM LIP BETWEEN EDGE OF TOP AND EDGE OF BINDER COURSE.
13. AFTER TRENCH WORK IS COMPLETED, FILL AROUND PIPE TO BOTTOM WITH GRADED GRAVEL FILL AND COMPACT IN 6-INCH LIFTS.
14. REPLACE LAYERS OF BINDER AND DEEP BASE.
15. TACK AREA OF MILLING 1 GALLON PER 25 SQUARE YARDS.
16. REPLACE TOP COURSE.
17. SEAL EDGES OF UTILITY PATCH WITH HOT POURED RUBERIZED ASPHALT SEALANT.

	EXISTING PAVEMENT		EXCAVATED AND REPLACED WITH BINDER COURSE
	BEDDING SAND		FLOWABLE FILL
	MILLED AND REPLACED WITH TOP COURSE		COMMON BORROW
	UNDISTURBED EARTH		TACK COAT

SPRINGFIELD WATER AND SEWER COMMISSION						
	WATER DETAIL W-02.3 <i>TRENCH BACKFILLING—METHOD FOR ARTERIAL STREETS IN SPRINGFIELD</i>					
SCALE: NTS	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left;">REV. DATE</th> </tr> <tr> <td style="text-align: left;">4/1/08 MAB</td> </tr> <tr> <td style="text-align: left;">6/18/08 MAB</td> </tr> <tr> <td> </td> </tr> <tr> <td> </td> </tr> </table>	REV. DATE	4/1/08 MAB	6/18/08 MAB		
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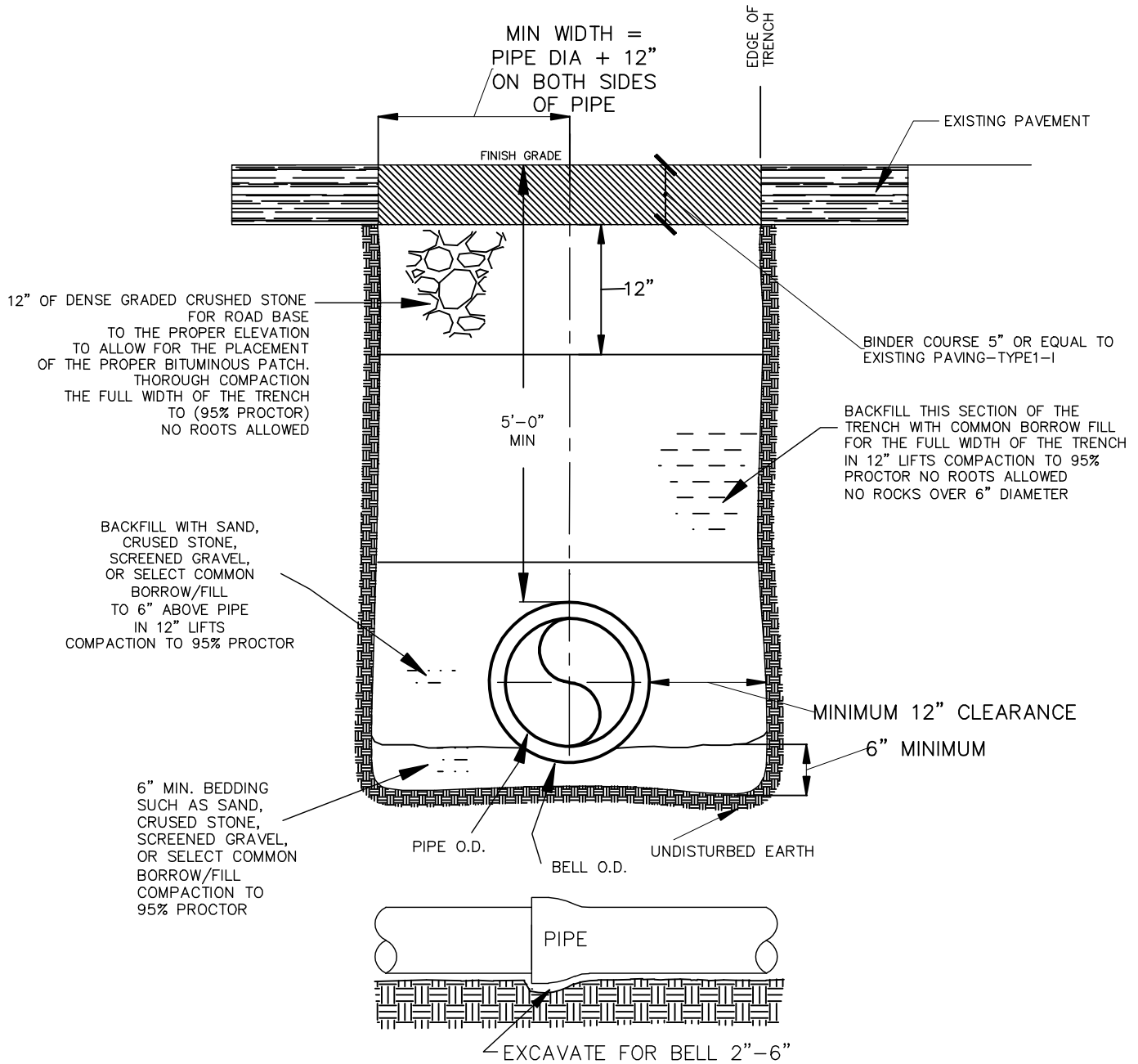


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3. TO FINISH GRADE.
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5. REQUIREMENTS FOR SUBBASE AND BASE MATERIAL TYPE ARE TO BE IN ACCORDANCE WITH LOCAL AUTHORITY HAVING LOCAL JURISDICTION IN PAVED AREAS.
6. FOR LOCATION OF WATER MAINS SEE DETAIL (W-01.0).
7. REQUIREMENTS FOR GRAVEL, LOAM AND/OR SEED ARE TO BE IN ACCORDANCE WITH LOCAL AUTHORITY HAVING LOCAL JURISDICTION IN NON-PAVED AREAS.
8. REPLACE WITH SAME DEPTH OF ASPHALT OR MINIMUM 5-INCHES.
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	EXISTING PAVEMENT		EXCAVATED AND REPLACED WITH BINDER COURSE
	DENSE GRADED CRUSHED STONE		COMMON BORROW
	BEDDING SAND		TACK COAT
	MILLED AND REPLACED WITH TOP COURSE		UNDISTURBED EARTH

SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-02.4	REV. DATE
	<i>TRENCH BACKFILLING-METHOD</i>	4/1/08 MAB
	<i>FOR RESIDENTIAL STREETS</i>	6/18/08 MAB
	<i>IN SPRINGFIELD</i>	
SCALE: NTS		

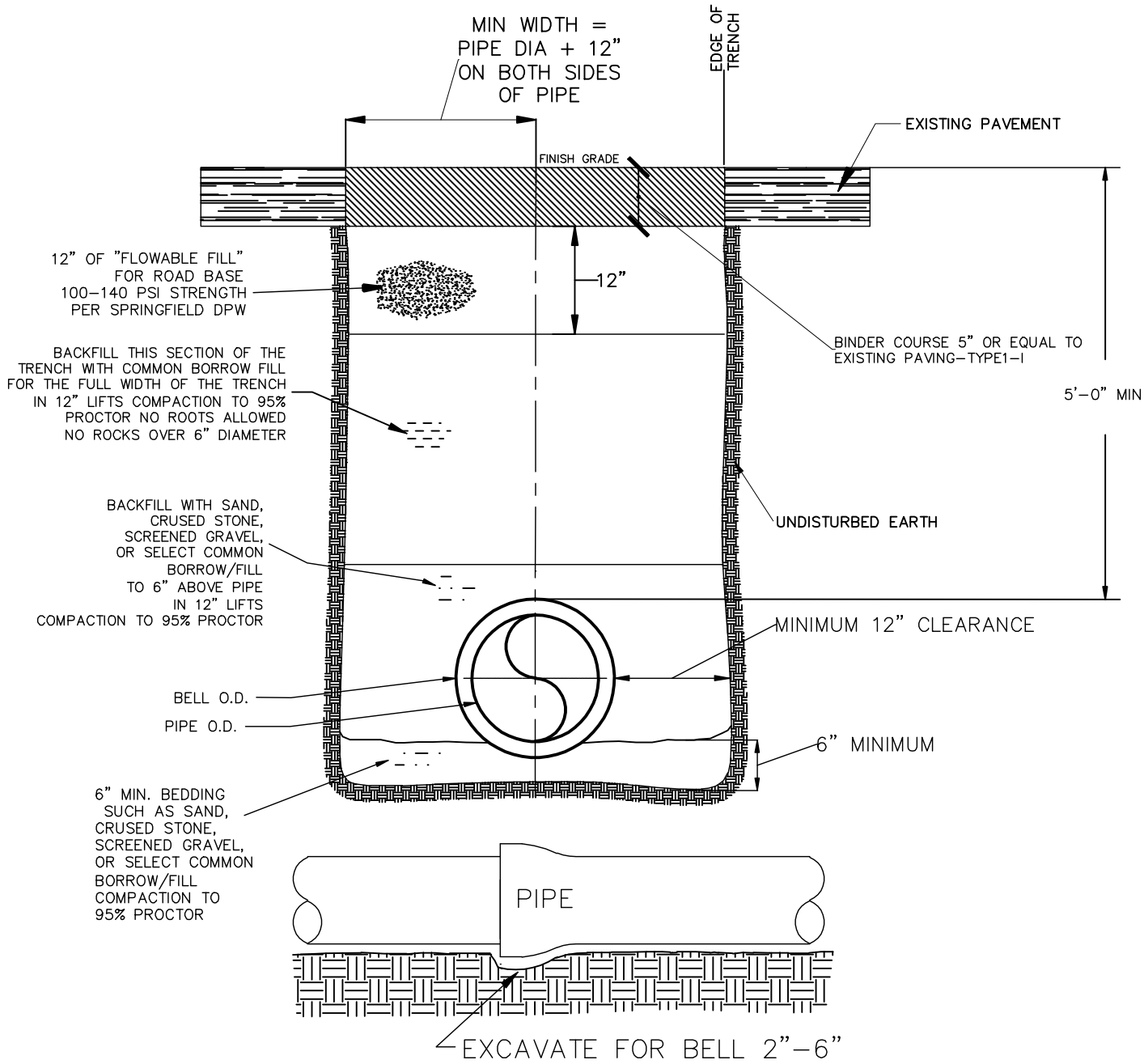


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	DENSE GRADED CRUSHED STONE		COMMON BORROW
	BEDDING SAND		UNDISTURBED EARTH

SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-02.5	REV. DATE
	<u>TEMPORARY TRENCH BACKFILLING-METHOD FOR ALL STREETS IN SPRINGFIELD & LUDLOW ACCEPT SPRINGFIELD ARTERIALS</u>	6/18/08 MAB
	SCALE: NTS	

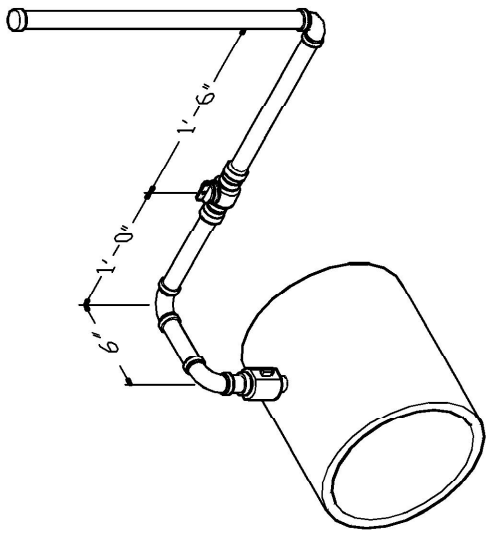


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	EXISTING PAVEMENT		EXCAVATED AND REPLACED WITH BINDER COURSE
	BEDDING SAND		FLOWABLE FILL
	UNDISTURBED EARTH		COMMON BORROW

SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-02.6	REV. DATE
	<u>TEMPORARY TRENCH BACKFILLING-METHOD FOR ALL ARTERIAL STREETS IN SPRINGFIELD</u>	
	SCALE: NTS	
	6/18/08 MAB	



DETAIL A

PAVED SURFACE LINE

LOAD-BEARING BUFFALO BOX
(SEE NOTE 4 FOR BOX POSITIONING)

1" or 2" BRASS CAP W/
FEMALE I.P. THREAD
(SEE NOTE 2)

THREADS TO BE
WRAPPED W/ TEFLON
TAPE

6" GATE VALVE BOX
USING JUST THE TOP SECTION
(SEE NOTE 4)

1" or 2" BRASS
BLOW-OFF PIPE WITH
MALE I.P. THREADS
ON BOTH ENDS

1" OR 2" BALL VALVE CURB STOP
WITH FEMALE I.P. THREADS ON BOTH
ENDS W/ STOP-&-WASTE FEATURE (SEE NOTE 1)

1" OR 2" BRASS BLOW-OFF PIPE W/ MALE
I.P. THREADS ON BOTH ENDS

TWO 1" OR 2" BRASS 90° ELBOWS W/ FEMALE
I.P. THREADS ON BOTH ENDS W/ 2"
BRASS BLOW-OFF PIPE W/ MALE I.P.
THREADS ON BOTH ENDS
(SEE DETAIL A AND NOTE 3)


1" OR 2" TAPERED INLET BALL
CORPORATION W/ FEMALE
I.P. THREADS ON THE
OUTLET & TEE HEAD ADAPTER

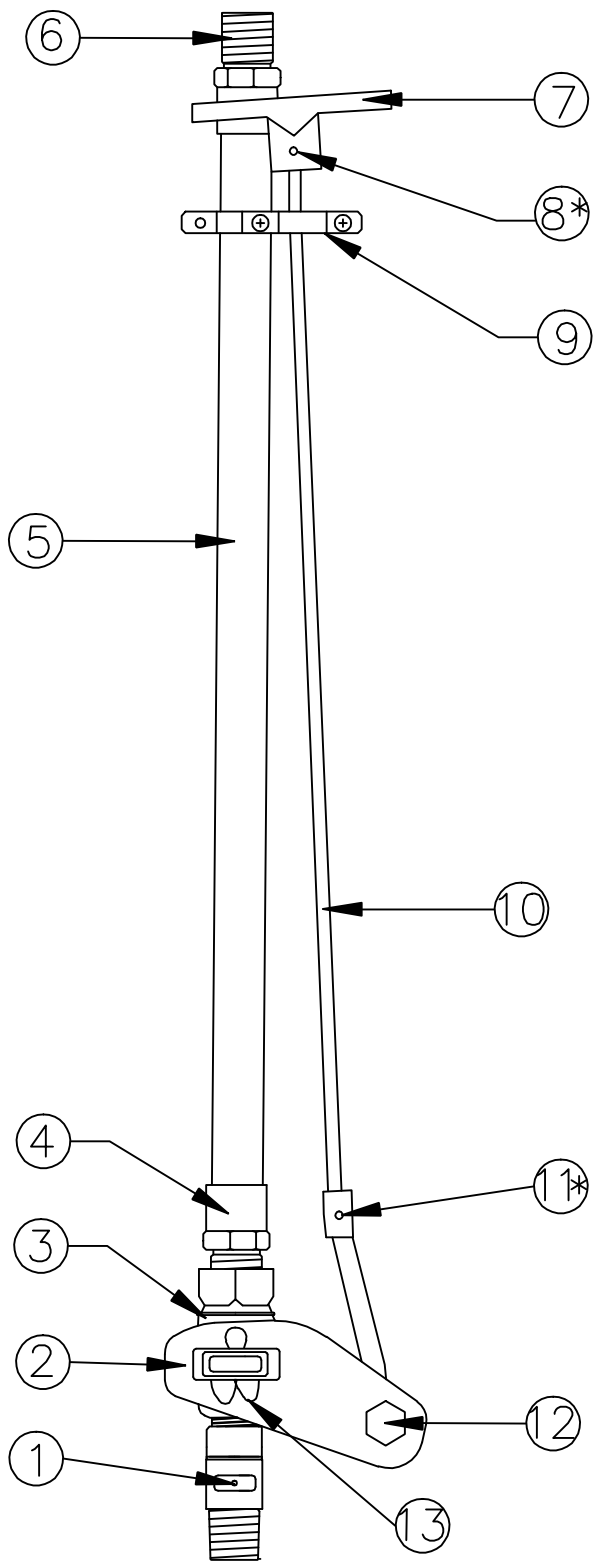
1 CU. FT. 1 1/2" Ø
ROCK OR EQUAL
STANDARD BRICK
4" x 2-2/3" x 8"

MAIN

TAPPING NOTES:
FOR 1"=USE DIRECT TAPPING
FOR 2"=MUST USE SWSC SADDLE

- NOTES:**
1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES AND POLICIES.
 2. INSTALL STOP-&-WASTE W/ DRAIN HOLE ON THE DOWNSTREAM SIDE (AWAY FROM WATER MAIN).
 3. CAP IS TO BE INSTALLED HAND TIGHT.
 4. SWING ELBOWS ALLOW FOR PIPE MOVEMENT.
 5. VALVE BOX AND BUFFALO BOX ARE TO BE SET TO GRADE IN PAVEMENT AND BURIED 6" BELOW GRADE IN UNPAVED ROADS. RISER PIPE TO BE SET 2" BELOW VALVE BOX TOP IN UNPAVED ROADS.

SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-03.0	REV. DATE
	<i>STANDARD AIR VALVE ASSEMBLY DETAIL</i>	4/1/08 MAB
SCALE: NTS		

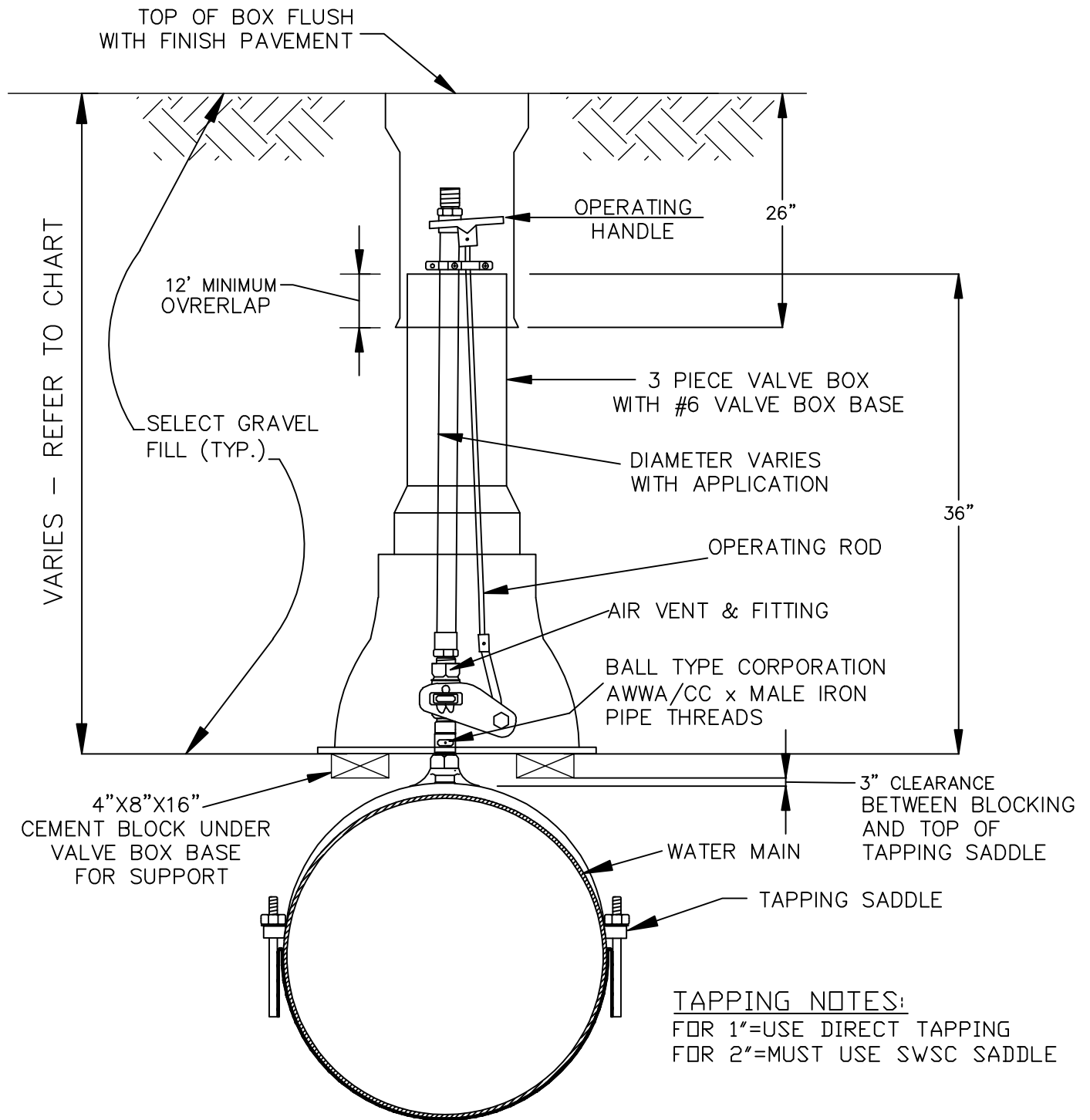


NO.	DESCRIPTION
1	BALL TYPE COPORATION: USE (Mueller B25008) OR APPROVED EQUAL. AWWA/CC X Male Iron Pipe (IP) Threads
2	LOWER OPERATING LEVER: Cast or Stamped Brass to Spec.
3	BALL TYPE CURB STOP: FOR 1" AIR VALVE: USE (FORD B11-444SW) OR APPROVED EQUAL. FOR 2" AIR VALVE: USE (FORD B11-777SW) OR APPROVED EQUAL. Female Iron Pipe (IP) Threads Both Ends and Stop and Waste on the Riser Side of Stop.
4	LOWER MALE ADAPTER: Copper (Domestic)
5	RISER: Copper Type L (Domestic)
6	UPPER MALE ADAPTER: Copper (Domestic)
7	T-HANDLE: Cast Brass
8*	OPERATING ROD T-HANDLE SECUREMENT: Stainless Steel Roll Pin
9	ROD TO RISER CONNECTION: Split Ring (By Size of Riser), Attached to 1/2" Split Ring by Coated 3/8"-16 x 1 1/4" Set Screw and Stainless Steel 3/8" Spacer Nut
10	OPERATING ROD: Brass Round (CDA 360, ASTM B-16)
11*	LOWER MECHANISM SECUREMENT: Stainless Steel Roll Pin
12	3/8" x 1/2" STAINLESS STEEL BOLT: With Nylock Safety Nut
13	LOWER LEVEL TO VALVE COTTER PIN: Marine Type Brass

NOTE:
* - VISUALLY OBSTRUCTED

*USE OF THIS DEVICE REQUIRES
APPROVAL BY THE SWSC PRIOR
TO INSTALLATION

SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-03.1	REV. DATE
	<i>AIR VALVE</i>	4/1/08 MAB
	<i>ONE PIECE ASSEMBLY DETAIL</i>	
	SCALE: NTS	



TAPPING NOTES:
 FOR 1"=USE DIRECT TAPPING
 FOR 2"=MUST USE SWSC SADDLE

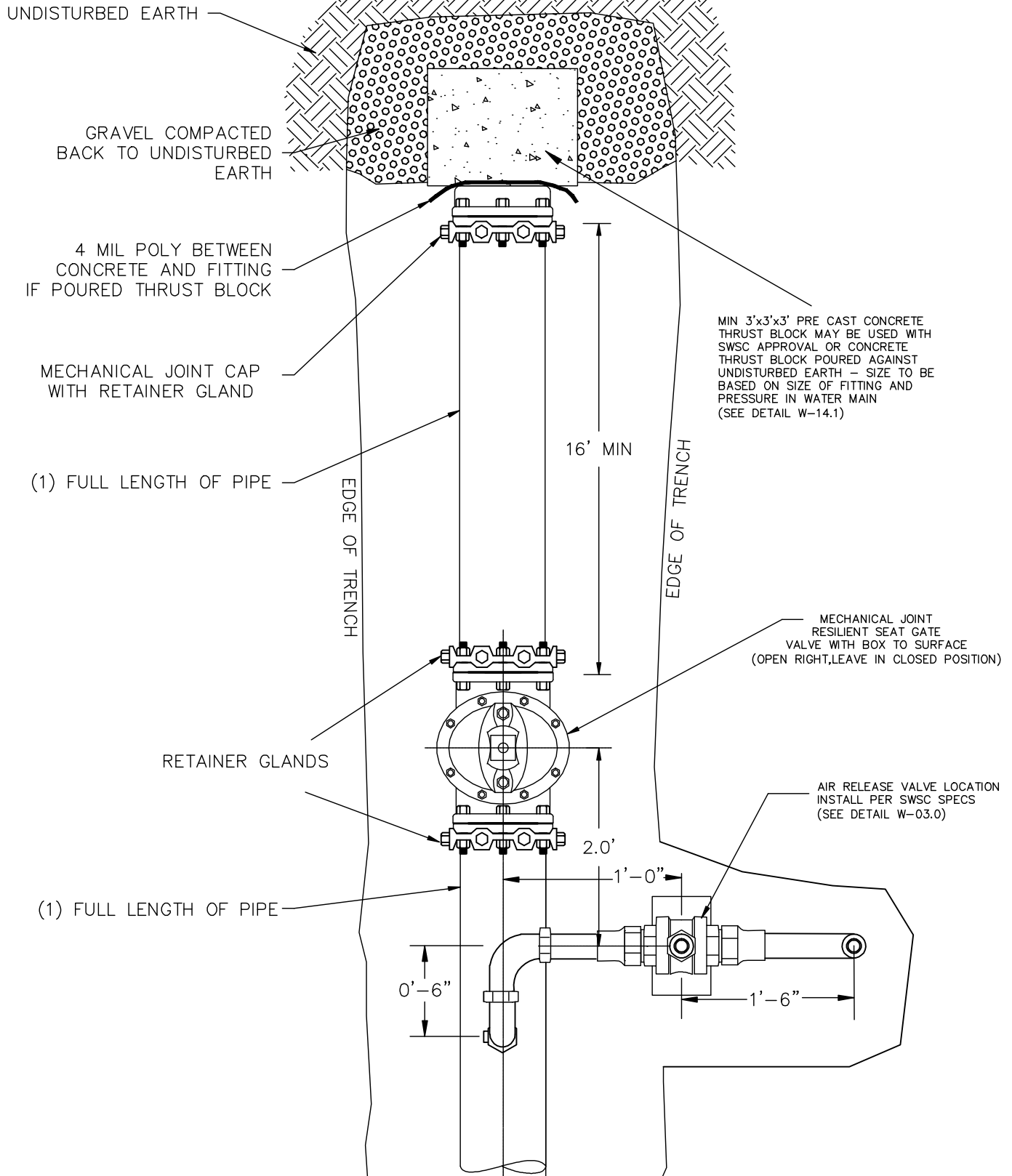
VALVE DIAMETER	PIPE LENGTH	REQUIRED COVER
1"	30"	4.0'
1"	36"	4.5'
1"	42"	5.0'
2"	30"	4.0'
2"	36"	4.5'
2"	42"	5.0'
CUSTOM	CUSTOM	AS REQUIRED BY ENGINEER

*USE OF THIS DEVICE REQUIRES APPROVAL BY THE SWSC PRIOR TO INSTALLATION

NOTES:


1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES AND OLICIES.
2. ALL WATER MAIN SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISH GRADE.
3. SEE DETAIL W-02.0, W-02.1, W-02.2, W-02.3 OR W-02.4 FOR TRENCH DETAILS.

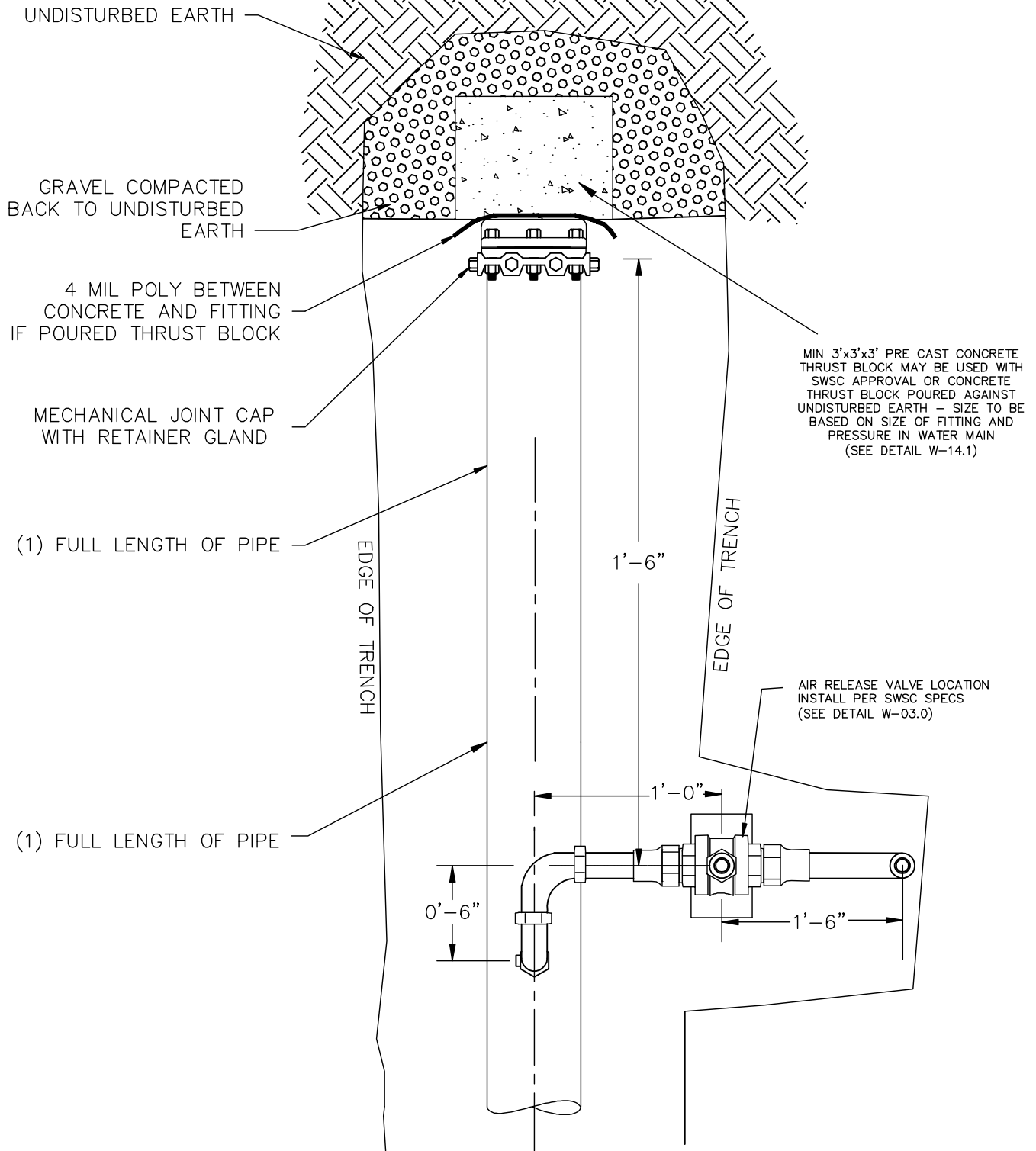
SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-03.2	REV. DATE
	<i>AIR VALVE</i>	4/1/08 MAB
	<i>ONE PIECE ASSEMBLY DETAIL</i>	
	SCALE: NTS	



NOTES:

1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. ALL WATER MAIN SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISH GRADE.
3. SEE DETAIL W-02.0, W-02.1, W-02.2, W-02.3 OR W-02.4 FOR TRENCH DETAILS.

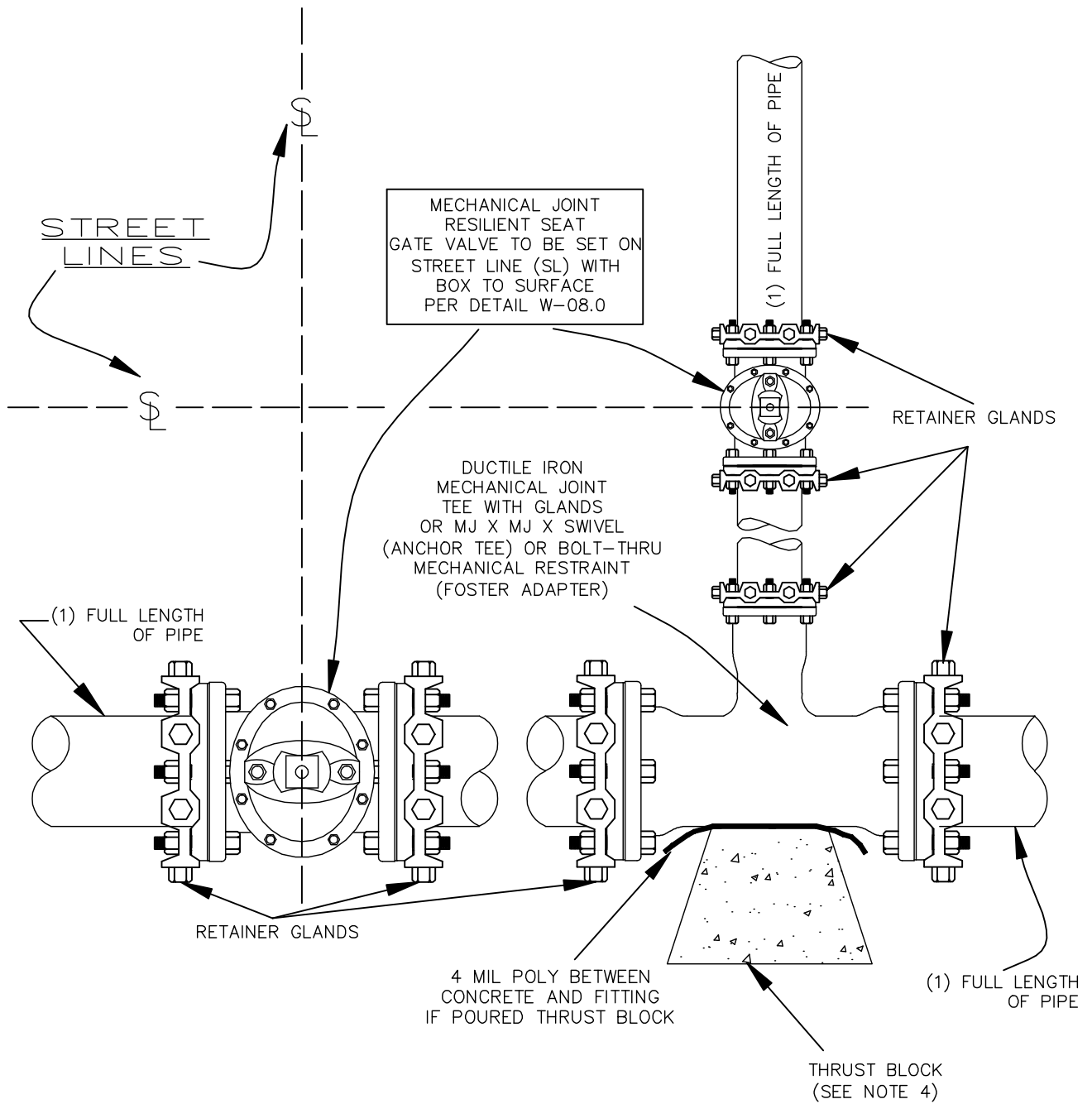
SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-04.0	REV. DATE
	<i>END OF MAIN</i>	4/1/08 MAB
	SCALE: NTS	



NOTES:


1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. ALL WATER MAIN SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISH GRADE.
3. SEE DETAIL W-02.0, W-02.1, W-02.2, W-02.3 OR W-02.4 FOR TRENCH DETAILS.

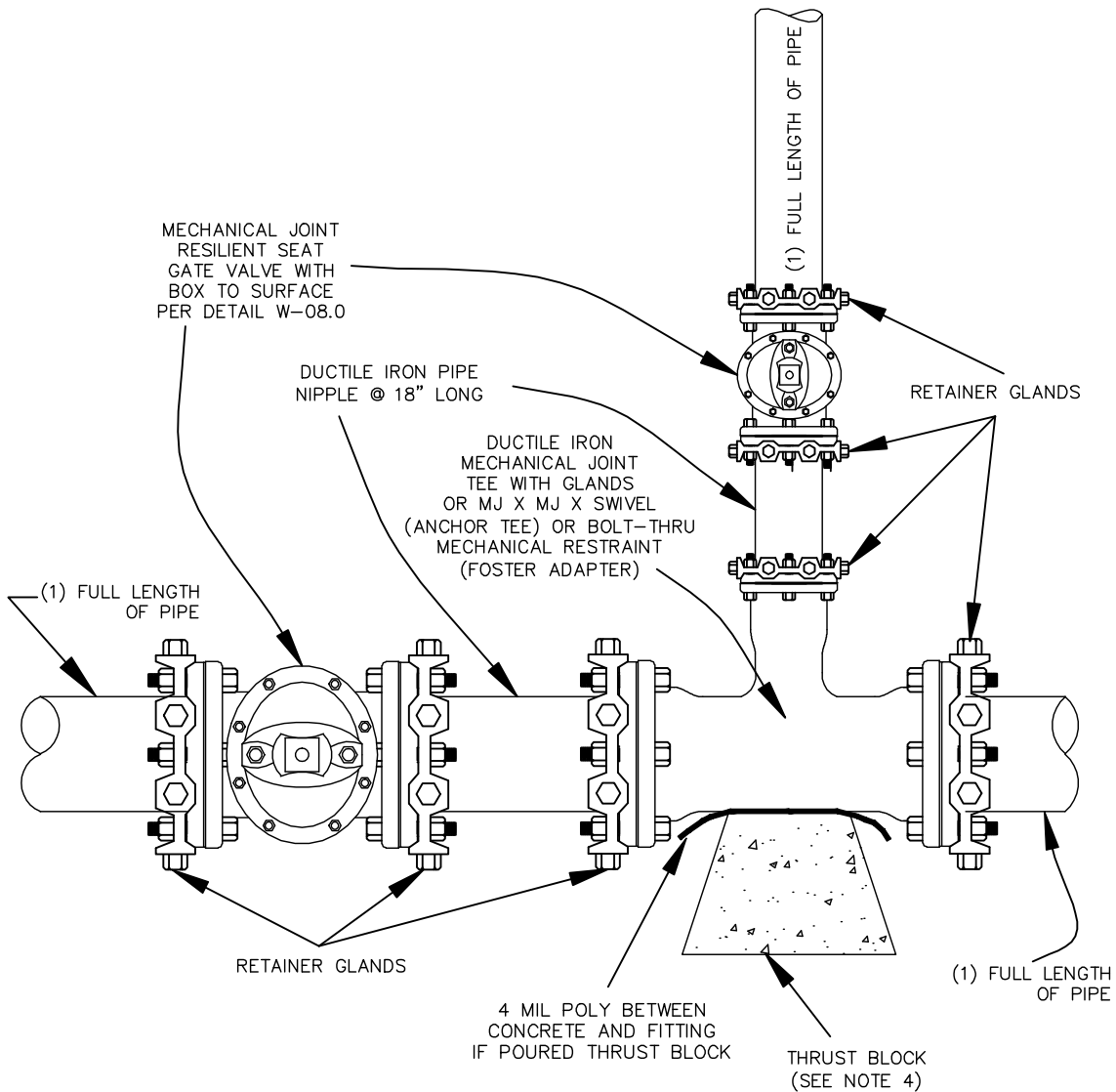
SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-04.1	REV. DATE
	<i>END OF MAIN DETAIL</i>	4/1/08 MAB
	SCALE: NTS	



NOTES:

1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. ALL PIPE SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISH GRADE.
3. SEE DETAIL W-02.0, W-02.1, W-02.2, W-02.3 OR W-02.4 FOR TRENCH DETAILS.
4. MIN 3'x3'x3' PRE CAST CONCRETE THRUST BLOCK MAY BE USED WITH SWSC APPROVAL OR CONCRETE THRUST BLOCK POURED AGAINST UNDISTURBED EARTH - SIZE TO BE BASED ON SIZE OF FITTING AND PRESSURE IN WATER MAIN SEE DETAIL (W-14.1).
5. THE MECHANICAL JOINTS OF THE PIPES BETWEEN THE VALVES AND THE FITTINGS SHALL BE RESTRAINED VIA RETAINER GLANDS. IF MORE THAN ONE SECTION IS USED, RETAINER GLAND RESTRAINTS SHALL BE USED AT ALL CONNECTIONS. (SEE DETAIL ABOVE).
6. FOR RESTRAINT METHODS OTHER THAN RETAINER GLAND SEE DETAILS (W-06.1 THRU W-06.6).


SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-05.0	REV. DATE
	<i>STANDARD TEE INSTALLATION</i>	4/1/08 MAB
	SCALE: NTS	



NOTES:

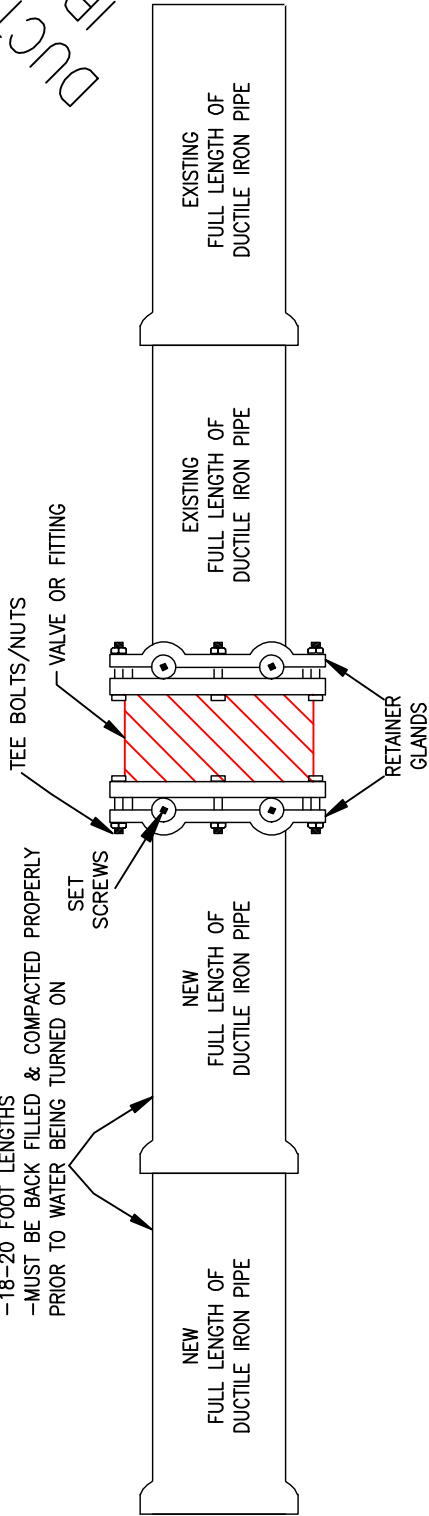
1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. ALL PIPE SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISH GRADE.
3. SEE DETAIL W-02.0, W-02.1, W-02.2, W-02.3 OR W-02.4 FOR TRENCH DETAILS.
4. MIN 3'x3'x3' PRE CAST CONCRETE THRUST BLOCK MAY BE USED WITH SWSC APPROVAL OR CONCRETE THRUST BLOCK Poured AGAINST UNDISTURBED EARTH - SIZE TO BE BASED ON SIZE OF FITTING AND PRESSURE IN WATER MAIN SEE DETAIL (W-14.1).
5. THE MECHANICAL JOINTS OF THE PIPES BETWEEN THE VALVES AND THE FITTINGS SHALL BE RESTRAINED VIA RETAINER GLANDS. IF MORE THAN ONE SECTION IS USED, RETAINER GLAND RESTRAINTS SHALL BE USED AT ALL CONNECTIONS. (SEE DETAIL ABOVE).
6. FOR RESTRAINT METHODS OTHER THAN RETAINER GLAND SEE DETAILS (W-06.1 THRU W-06.6).

**THIS DETAIL MUST
BE APPROVED FOR
USE BY THE
S.W.S.C BEFORE IT
CAN BE INSTALLED**

SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-05.1	REV. DATE
	<i>ALTERNATE 1</i>	4/1/08 MAB
	<i>TEE INSTALLATION</i>	
	SCALE: NTS	

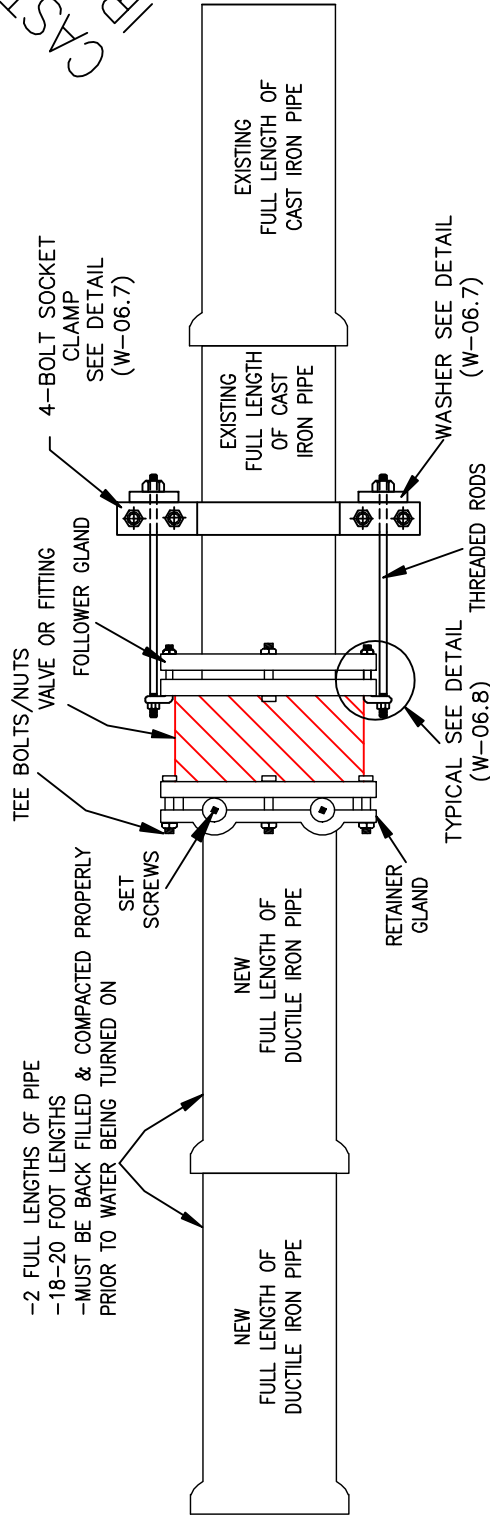
DUCTILE
IRON

-2 FULL LENGTHS OF PIPE
-18-20 FOOT LENGTHS
-MUST BE BACK FILLED & COMPACTED PROPERLY
PRIOR TO WATER BEING TURNED ON



CAST
IRON

-2 FULL LENGTHS OF PIPE
-18-20 FOOT LENGTHS
-MUST BE BACK FILLED & COMPACTED PROPERLY
PRIOR TO WATER BEING TURNED ON



NOTES:

1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES WILL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. NUMBER OF THREADED RODS IS BASED ON MAXIMUM PRESSURE OF 150 P.S.I IN MAIN.
3. THREADED RODS ARE TO BE FABRICATED FROM 4140 B-7 ALLOY STEEL.
4. STEEL THREADED RODS SHALL HAVE A YIELD STRESS OF NOT LESS THAN 105,000 P.S.I.
5. EYE-BOLTS SHALL HAVE A MINIMUM TENSILE STRENGTH OF 50,000 P.S.I EACH.
6. RESTRAINT FOR 20 INCHES AND LARGER PIPES MUST BE DESIGNED ON A CASE-BY-CASE BASIS AND APPROVED BY ENGINEERING & TECHNICAL SERVICES (ET&S).
7. ALL COMPONENTS TO BE PROTECTIVE COATED WITH PROTECTIVE COATINGS AND TAPE.

SPRINGFIELD WATER AND SEWER COMMISSION

WATER DETAIL W-06.1

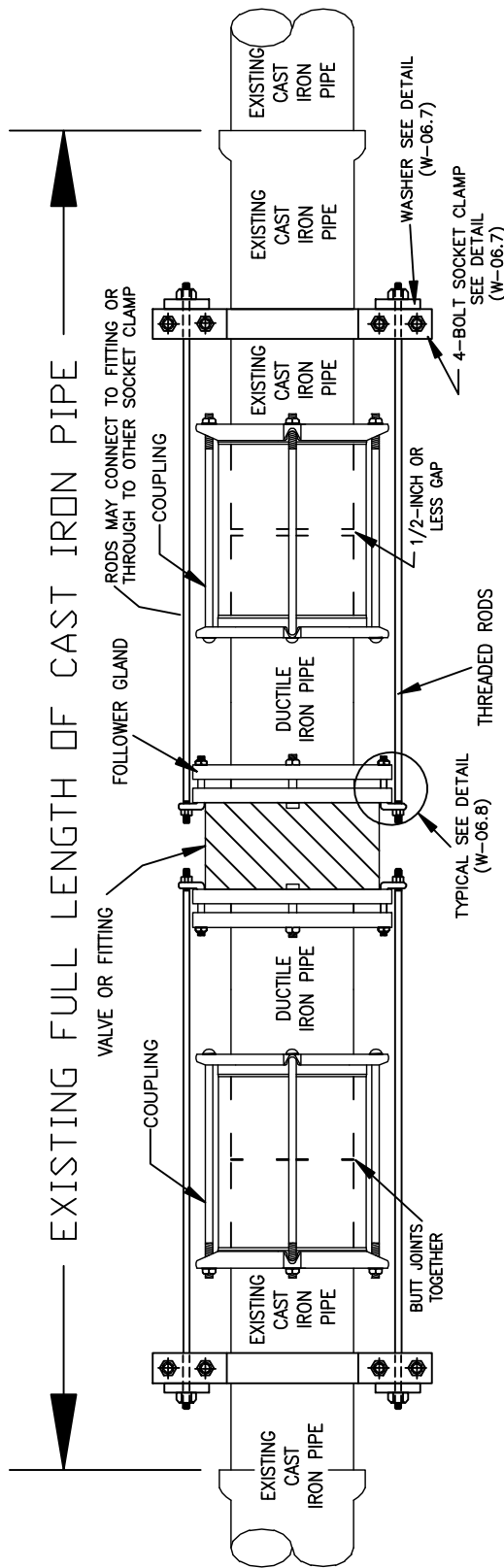
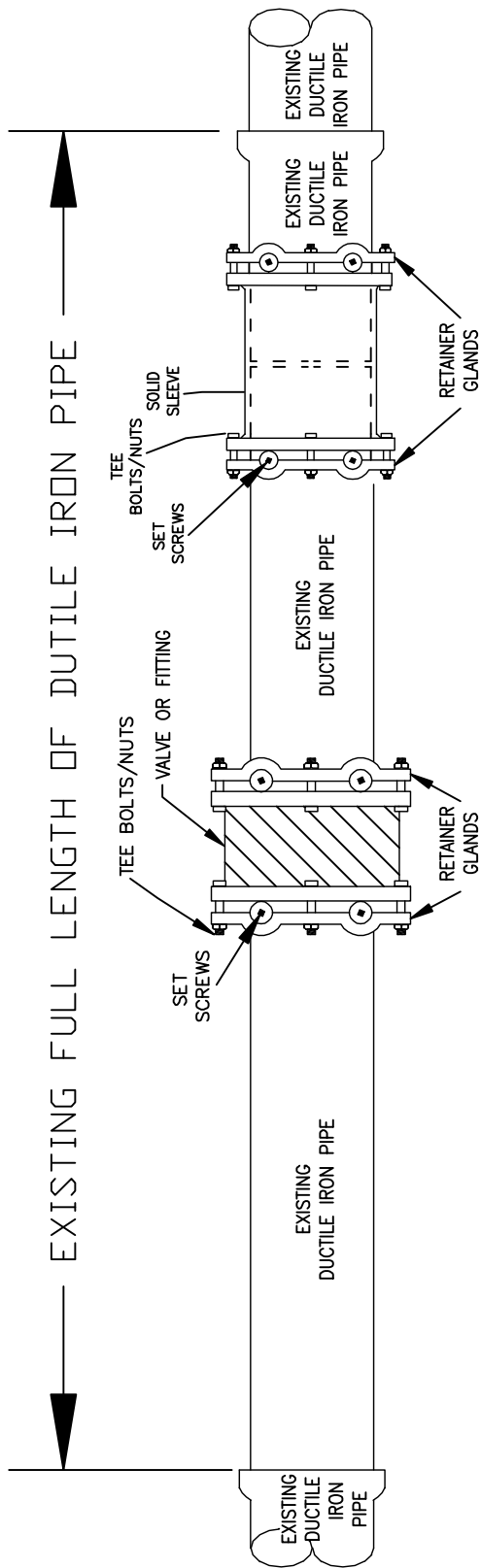
REV. DATE



INSTALL VALVE OR FITTING
AT A DEAD END
OF A WATER MAIN

4/1/08 MAB

SCALE: NTS



NOTES:

1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES WILL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. NUMBER OF THREADED RODS IS BASED ON MAXIMUM PRESSURE OF 150 P.S.I. IN MAIN.
3. THREADED RODS ARE TO BE FABRICATED FROM 4140 B-7 ALLOY STEEL.
4. STEEL THREADED RODS SHALL HAVE A YIELD STRESS OF NOT LESS THAN 105,000 P.S.I.
5. EYE-BOLTS SHALL HAVE A MINIMUM TENSILE STRENGTH OF 50,000 P.S.I. EACH.
6. RESTRAINT FOR 20 INCHES AND LARGER PIPES MUST BE DESIGNED ON A CASE-BY-CASE BASIS AND APPROVED BY ENGINEERING & TECHNICAL SERVICES (ET&S).
7. ALL COMPONENTS TO BE PROTECTIVE COATED WITH PROTECTIVE COATINGS AND TAPE.

SPRINGFIELD WATER AND SEWER COMMISSION

WATER DETAIL W-06.2

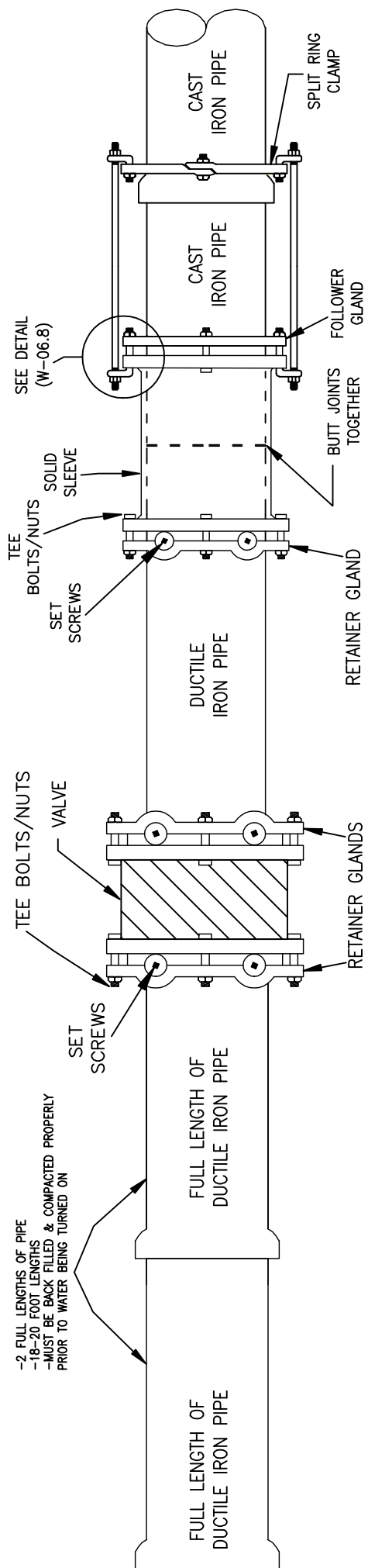
REV. DATE

4/1/08 MAB

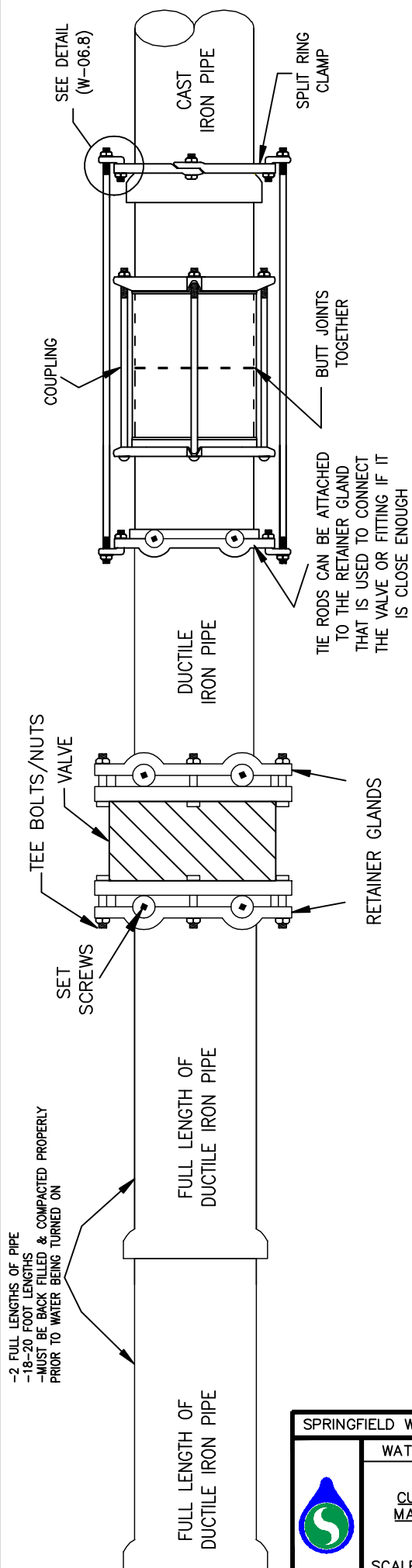


CUTTING-INTO EXISTING
WATER MAIN TO REPLACE
VALVE OR FITTING

SCALE: NTS



-2 FULL LENGTHS OF PIPE
-18-20 FOOT LENGTHS
-MUST BE BACK FILLED & COMPACTED PROPERLY
PRIOR TO WATER BEING TURNED ON




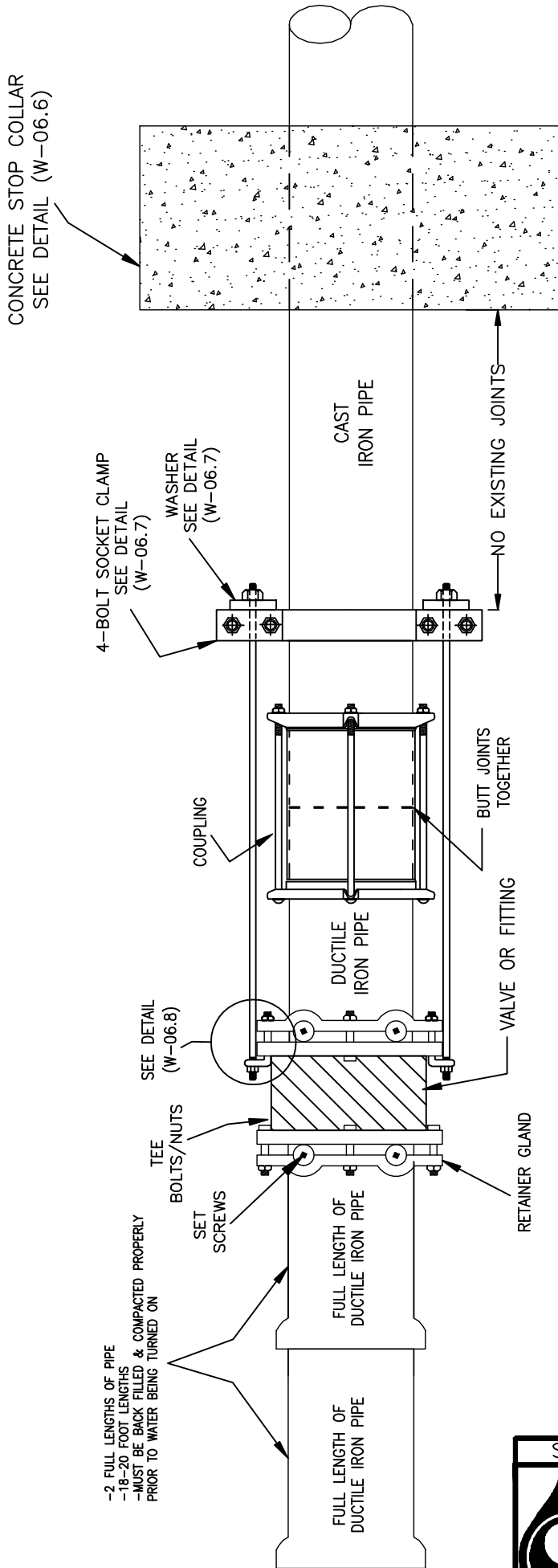
-2 FULL LENGTHS OF PIPE
-18-20 FOOT LENGTHS
-MUST BE BACK FILLED & COMPACTED PROPERLY
PRIOR TO WATER BEING TURNED ON

TIE RODS CAN BE ATTACHED TO THE RETAINER GLAND THAT IS USED TO CONNECT THE VALVE OR FITTING IF IT IS CLOSE ENOUGH

NOTES:


1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES WILL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. NUMBER OF THREADED RODS IS BASED ON MAXIMUM PRESSURE OF 150 P.S.I. IN MAIN.
3. THREADED RODS ARE TO BE FABRICATED FROM 4140 B-7 ALLOY STEEL.
4. STEEL THREADED RODS SHALL HAVE A YIELD STRESS OF NOT LESS THAN 105,000 P.S.I.
5. EYE-BOLTS SHALL HAVE A MINIMUM TENSILE STRENGTH OF 50,000 P.S.I. EACH.
6. RESTRAINT FOR 20 INCHES AND LARGER PIPES MUST BE DESIGNED ON A CASE-BY-CASE BASIS AND APPROVED BY ENGINEERING & TECHNICAL SERVICES (ET&S).
7. ALL COMPONENTS TO BE PROTECTIVE COATED WITH PROTECTIVE COATINGS AND TAPE.

SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-06.3	REV. DATE
	CUTTING INTO EXISTING WATER MAIN WITH BELL FACING VALVE	4/1/08 MAB
SCALE: NTS		

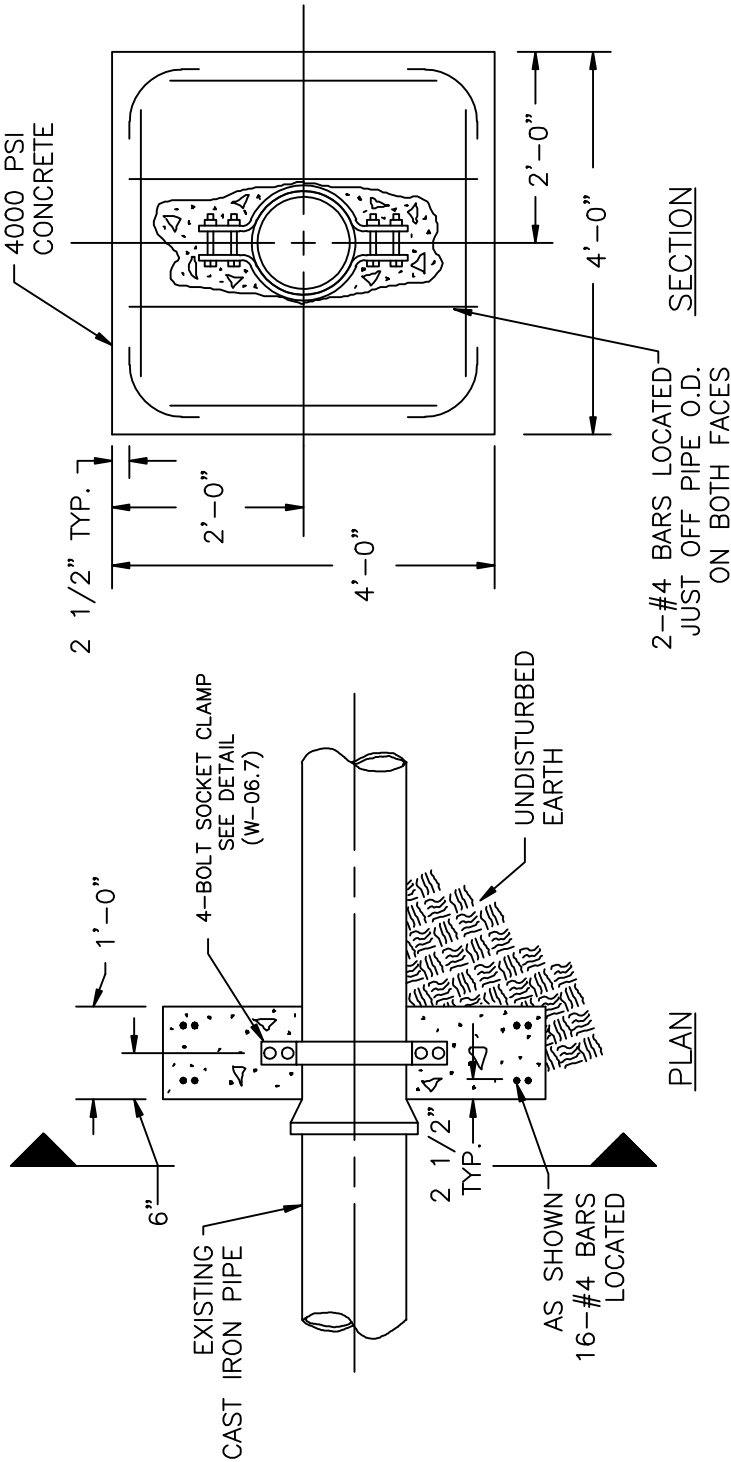


NOTES:

1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES WILL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. NUMBER OF THREADED RODS IS BASED ON MAXIMUM PRESSURE OF 150 P.S.I. IN MAIN.
3. THREADED RODS ARE TO BE FABRICATED FROM 4140 B-7 ALLOY STEEL.
4. STEEL THREADED RODS SHALL HAVE A YIELD STRESS OF NOT LESS THAN 105,000 P.S.I.
5. EYE-BOLTS SHALL HAVE A MINIMUM TENSILE STRENGTH OF 50,000 P.S.I. EACH.
6. RESTRAINT FOR 20 INCHES AND LARGER PIPES MUST BE DESIGNED ON A CASE-BY-CASE BASIS AND APPROVED BY ENGINEERING & TECHNICAL SERVICES (ET&S).
7. ALL COMPONENTS TO BE PROTECTIVE COATED WITH PROTECTIVE COATINGS AND TAPE.

		SPRINGFIELD WATER AND SEWER COMMISSION	
		WATER DETAIL W-06.5	REV. DATE
		<u>CUTTING-INTO EXISTING WATER MAIN WITH NO BELL FOUND</u>	4/1/08 MAB
		SCALE: NTS	

CONCRETE THRUST COLLAR




SPECIAL NOTE:

1. IN LIEU OF CONCRETE STOP COLLAR THE CONTRACTOR MAY MECHANICALLY RESTRAIN (BY APPROVED METHOD) THREE (3) FULL PIPE LENGTHS FROM PROPOSED LOCATION OF STOP COLLAR.

NOTES:

1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES WILL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. NUMBER OF THREADED RODS IS BASED ON MAXIMUM PRESSURE OF 150 P.S.I. IN MAIN.
3. THREADED RODS ARE TO BE FABRICATED FROM 4140 B-7 ALLOY STEEL.
4. STEEL THREADED RODS SHALL HAVE A YIELD STRESS OF NOT LESS THAN 105,000 P.S.I.
5. EYE-BOLTS SHALL HAVE A MINIMUM TENSILE STRENGTH OF 50,000 P.S.I. EACH.
6. RESTRAINT FOR 20 INCHES AND LARGER PIPES MUST BE DESIGNED ON A CASE-BY-CASE BASIS AND APPROVED BY ENGINEERING & TECHNICAL SERVICES (ET&S).
7. ALL COMPONENTS TO BE PROTECTIVE COATED WITH PROTECTIVE COATINGS AND TAPE.

SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-06.6	REV. DATE
	CONCRETE THRUST COLLAR	4/1/08 MAB
SCALE: NTS		

SOCKET CLAMP DATA CHART

Nominal Pipe Size (in inches)	Max Hydrostatic Test Pressure (in PSD)	Force (1) on Clamp (in lbs.)	Clamp (2 & 3) Inside Diameter (in inches)	Length of Clamp (2 & 3) (in inches)	Width of Clamp (2 & 3) (in inches)	Thickness of Clamp (2 & 3) (in inches)	Minimum Bolt Size (in inches)	Thickness of CI Clamp Washer (4) (in inches)	Size of CI Clamp Washer (4) (in inches)	Thickness of Steel Clamp Washer (4) (in inches)	Size of Steel Clamp Washer (4) (in inches)	Nominal Threaded Rod (7) Diameter (in inches)	Number of Nominal Threaded Rod (7)	Associated Hardware
4	250	4550	5	14 5/8	2	1/2	5/8 x 3 1/2	5/8	3 dia or 3 x 3	1/2	3 dia or 3 x 3	3/4	1	notes 2, 5, 6, 8, & 9
6	250	9340	7 1/8	16 7/8	2	1/2	5/8 x 3 1/2	5/8	3 dia or 3 x 3	1/2	3 dia or 3 x 3	3/4	1	notes 2, 5, 6, 8, & 9
8	250	16080	9 5/16	19 1/8	2 1/2	5/8	5/8 x 4	5/8	3 dia or 3 x 3	1/2	3 dia or 3 x 3	3/4	1	notes 2, 5, 6, 8, & 9
10	250	24180	11 1/2	21 3/8	2 1/2	5/8	3/4 x 4	5/8	3 dia or 3 x 3	1/2	3 dia or 3 x 3	3/4	1	notes 2, 5, 6, 8, & 9
12	250	34230	13 1/2	25 1/8	3	5/8	7/8 x 4 1/2	3/4	3-1/2 dia or 3-1/2 x 3-1/2	1/2	3 dia or 3 x 3	1	1	notes 2, 5, 6, 8, & 9
16	115	27760	17 7/8	31 3/8	4	3/4	1 x 4 1/2	1	4 dia or 4 x 4	1/2	3-1/2 dia or 3-1/2 x 3-1/2	1	2	notes 2, 5, 6, 8, & 9
1 At Max Hydrostatic Test Pressure														
2 All Socket Clamps and associated hardware shall meet the requirements of National Fire Protection Association 24														
3 Socket Clamps shall be as provided by PHD Manufacturing, Inc. Figure 590, Anvil Company, Figure 595, Cooper B-Line, Figure B3134, Carpenter and Patterson, Figure 158DB, or the equal product of another manufacturer.														
4 Socket Clamps Washers shall be as provided by PHD Manufacturing, Inc. Figure 594, Cooper B-Line, Figure B3134W, Carpenter and Patterson, Figure 258, or the equal product of another manufacturer.														
5 Bent Eye Bolts shall be constructed of high strength low alloy steel, per ASTM A 588, grade B, Unified National Coarse (UNC) rolled thread														
6 Bent Eye Bolts shall be as provided by PHD Manufacturing, Inc. - Figure 598B, Star National Products - Figures 3/4" SST747 or 3/4" SST757, Dresser Piping Specialties, Inc. - Style 442, or the equal product of another manufacturer.														
7 Threaded Rods shall be constructed of 4140-alloy steel, per ASTM A 193, grade B7, Unified National Coarse (UNC) rolled thread														
8 Washers for bent eye bolts shall be cadmium plated and constructed of case hardened C1006 steel, grade 2, Rockwell hardness B 55														
9 Heavy hex nuts shall be constructed of medium carbon steel, ASTM A 194, grade 2H, and Unified National Coarse (UNC) thread														



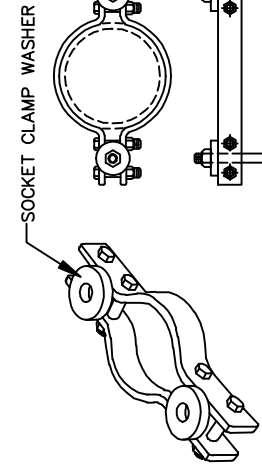
SPRINGFIELD WATER AND SEWER COMMISSION

WATER DETAIL W-06.7

SOCKET CLAMP DETAIL

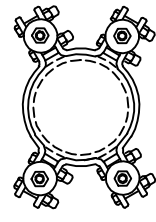
SCALE: NTS

REV. DATE
4/1/08 MAB
6/18/08 MAB



TYPICAL SINGLE 4-BOLT SOCKET CLAMP

ALL 4 BOLTS ON SOCKET CLAMP MUST BE TIGHTENED WITH A TORQUE WRENCH.
5/8" DIAMETER BOLTS = 65 FOOT-LBS
3/4" DIAMETER BOLTS = 75 FOOT-LBS

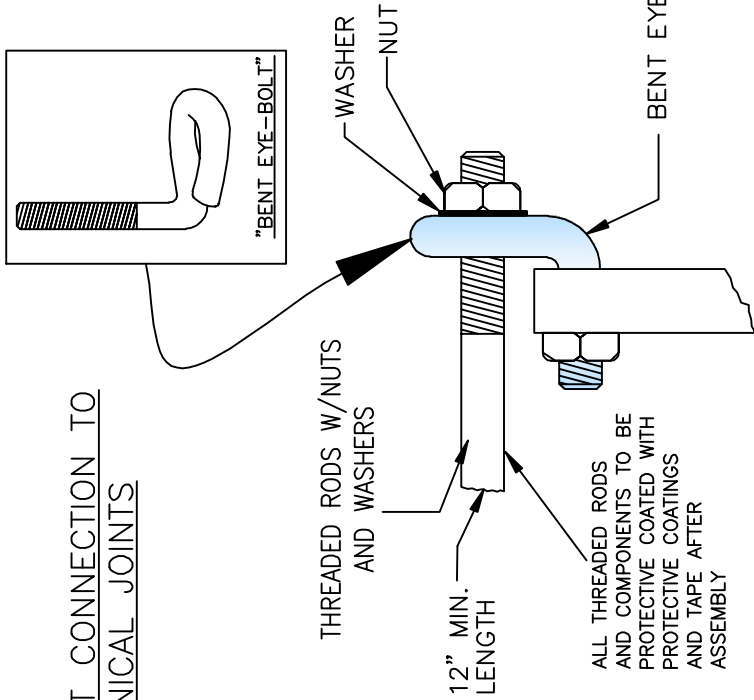


TYPICAL TWO 4-BOLT SOCKET CLAMP INSTALLATION

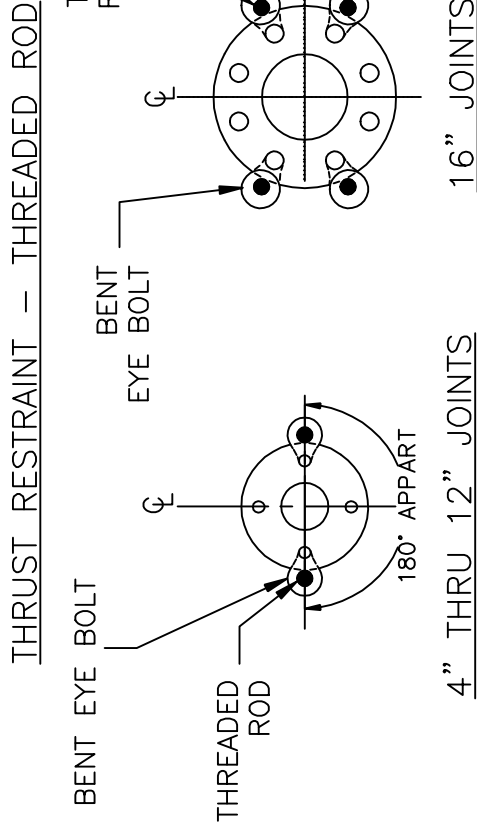
NOTES:

- ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES WILL CONFORM TO SWSC GUIDELINES AND POLICIES.
- NUMBER OF THREADED RODS IS BASED ON MAXIMUM PRESSURE OF 150 P.S.I. IN MAIN.
- THREADED RODS ARE TO BE FABRICATED FROM 4140 B-7 ALLOY STEEL.
- STEEL THREADED RODS SHALL HAVE A YIELD STRESS OF NOT LESS THAN 105,000 P.S.I.
- EYE-BOLTS SHALL HAVE A MINIMUM TENSILE STRENGTH OF 50,000 P.S.I. EACH.
- RESTRAINT FOR 20 INCHES AND LARGER PIPES MUST BE DESIGNED ON A CASE-BY-CASE BASIS AND APPROVED BY ENGINEERING & TECHNICAL SERVICES (ET&S).
- ALL COMPONENTS TO BE PROTECTIVE COATED WITH PROTECTIVE COATINGS AND TAPE.

BENT EYE BOLT CONNECTION TO MECHANICAL JOINTS



ALL THREADED RODS AND COMPONENTS TO BE PROTECTIVE COATED WITH PROTECTIVE COATINGS AND TAPE AFTER ASSEMBLY



PIPE SIZE	No. THREADED RODS*
4" THRU 10"	2 - 3/4"φ
12"	2 - 1"φ
16"	4 - 1"φ

GREATER THAN 16" APPROVAL BY ET&S

*STANDARD LENGTHS ARE 3', 6' & 12' COUPLINGS MAY BE USED FOR LONGER LENGTHS.

SEE SOCKET CLAMP DATA CHART DETAIL (W-06.7) FOR HARDWARE, MATERIAL, MANUFACTURERS AND BOLT TIGHTENING REQUIREMENTS

NOTES:

1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES WILL CONFORM TO SWSC GUIDELINES AND POLICIES.
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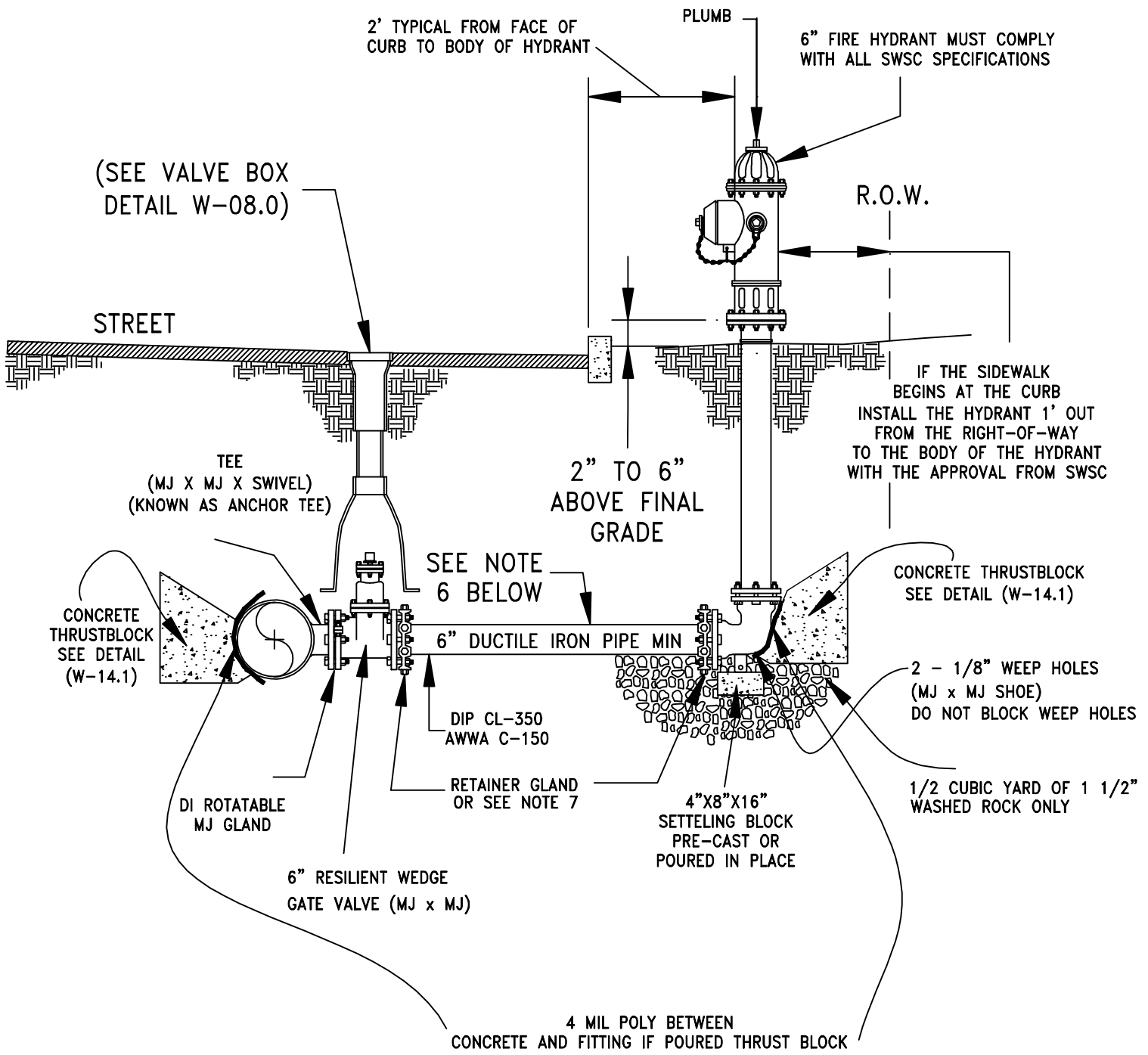
SPRINGFIELD WATER AND SEWER COMMISSION

WATER DETAIL W-06.8

REV. DATE
4/1/08 MAB


THREADED ROD DETAIL
CONNECTION TO MJ DETAIL

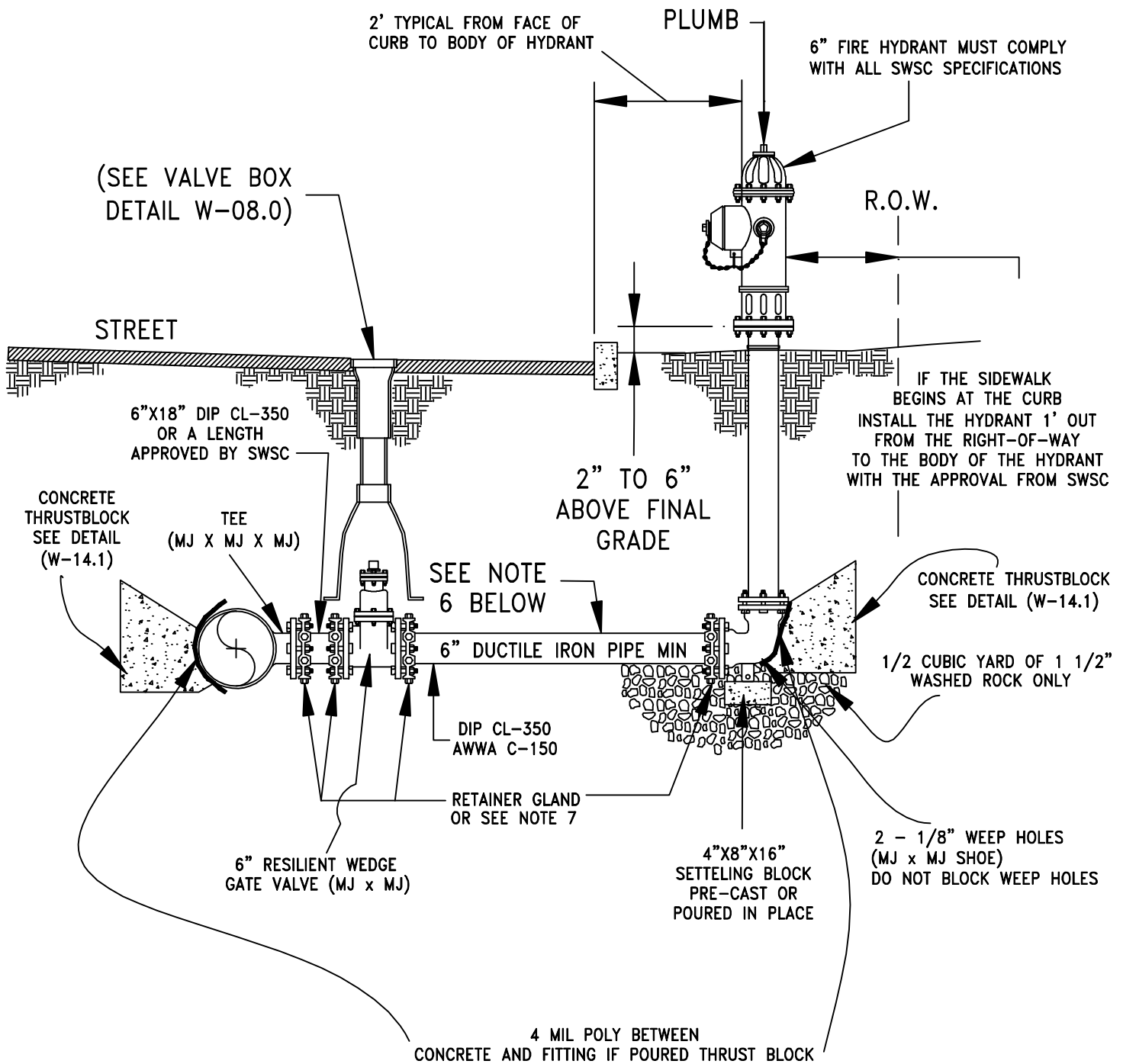
SCALE: NTS



NOTES:

1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES WILL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. ALL WATER MAIN SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISH GRADE.
3. SEE DETAIL W-02.0, W-02.1, W-02.2, W-02.3 OR W-02.4 FOR TRENCH DETAILS.
4. ALL FIRE HYDRANTS SHALL BE INSTALLED PLUMB & LOCATED ACCORDING TO PROJECT PLANS.
5. NO TAPS SHALL BE ALLOWED BETWEEN THE HYDRANT & THE VALVE.
6. THE MECHANICAL JOINTS OF THE FIRE HYDRANT ASSEMBLY SHALL BE RESTRAINED VIA RETAINER GLAND. IF MORE THAN ONE SECTION IS USED, RETAINER GLAND RESTRAINTS SHALL BE USED AT ALL CONNECTIONS.
7. FOR RESTRAINT METHODS OTHER THAN RETAINER GLAND SEE DETAILS (W-06.1 THRU W-06.6).


SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-07.0	REV. DATE
	<i>STANDARD</i>	4/1/08 MAB
	<i>FIRE HYDRANT ASSEMBLY</i>	
	SCALE: NTS	

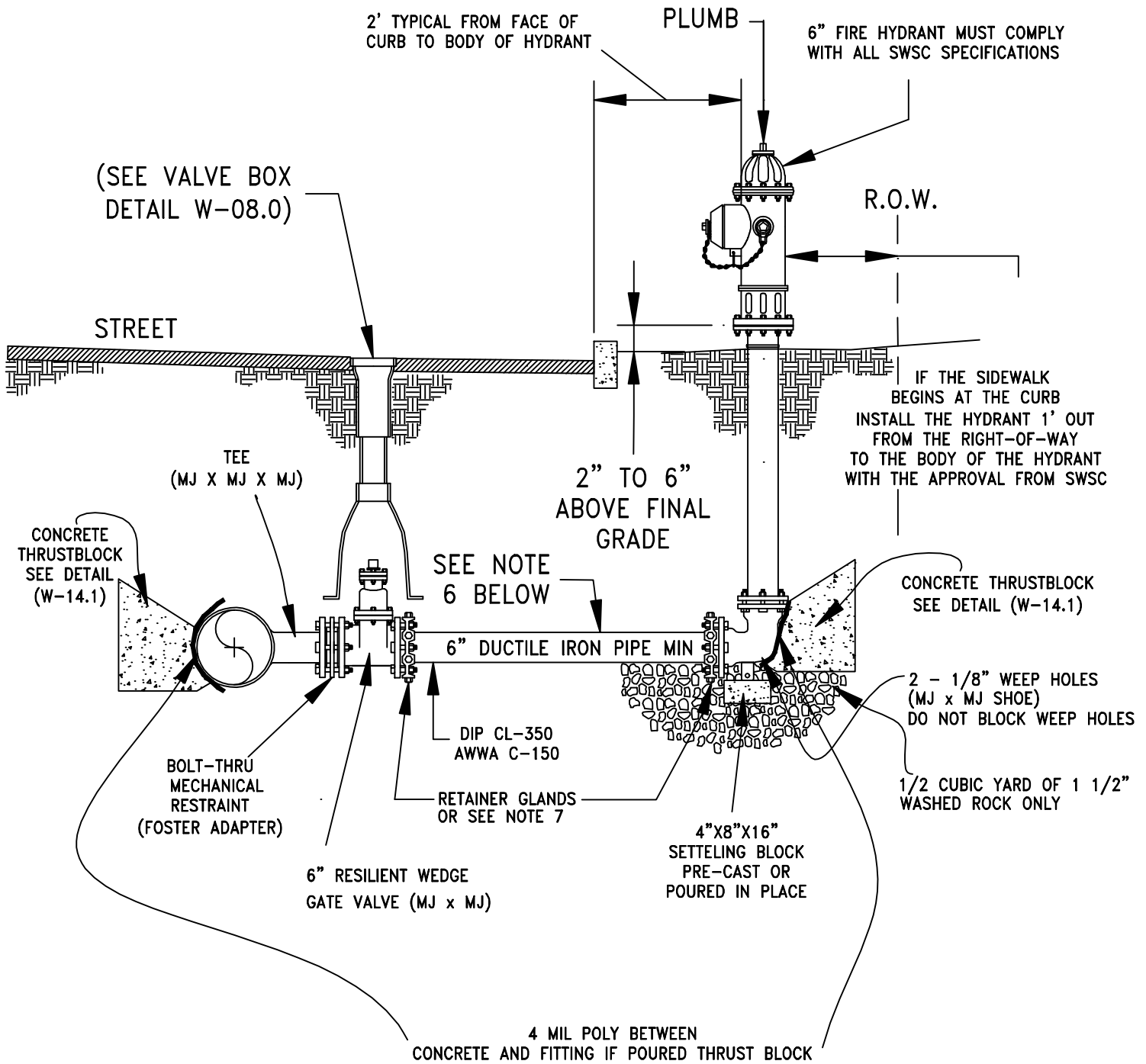


NOTES:

1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES WILL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. ALL WATER MAIN SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISH GRADE.
3. SEE DETAIL W-02.0, W-02.1, W-02.2, W-02.3 OR W-02.4 FOR TRENCH DETAILS.
4. ALL FIRE HYDRANTS SHALL BE INSTALLED PLUMB & LOCATED ACCORDING TO PROJECT PLANS.
5. NO TAPS SHALL BE ALLOWED BETWEEN THE HYDRANT & THE VALVE.
6. THE MECHANICAL JOINTS OF THE FIRE HYDRANT ASSEMBLY SHALL BE RESTRAINED VIA RETAINER GLAND. IF MORE THAN ONE SECTION IS USED, RETAINER GLAND RESTRAINTS SHALL BE USED AT ALL CONNECTIONS.
7. FOR RESTRAINT METHODS OTHER THAN RETAINER GLAND SEE DETAILS (W-06.1 THRU W-06.6).

**THIS DETAIL MUST
BE APPROVED FOR
USE BY THE
S.W.S.C BEFORE IT
CAN BE INSTALLED**

SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-07.1	REV. DATE
	<i>ALTERNATE 1</i>	4/1/08 MAB
	<i>FIRE HYDRANT ASSEMBLY</i>	
	SCALE: NTS	

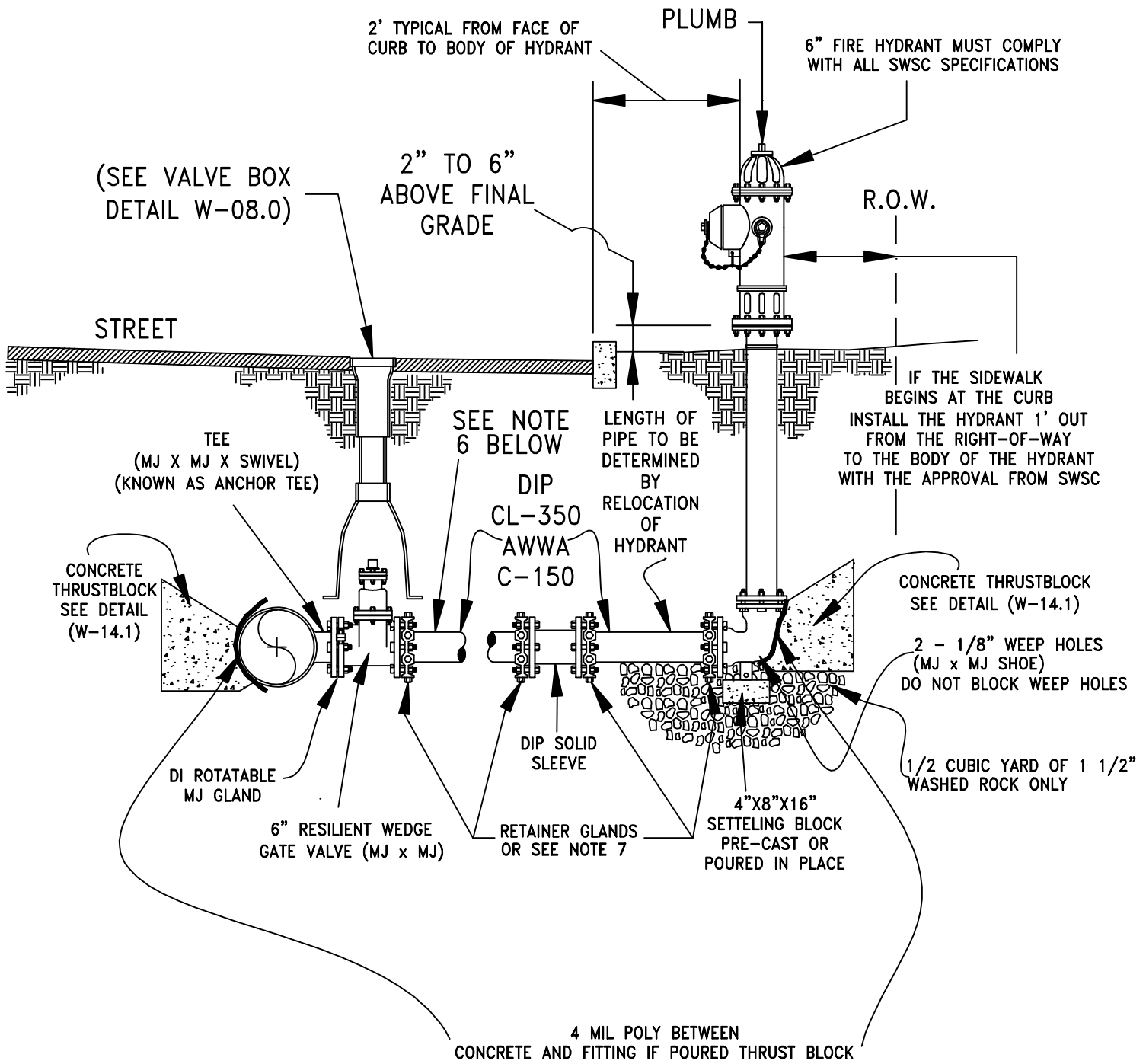


NOTES:

1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES WILL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. ALL WATER MAIN SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISH GRADE.
3. SEE DETAIL W-02.0, W-02.1, W-02.2, W-02.3 OR W-02.4 FOR TRENCH DETAILS.
4. ALL FIRE HYDRANTS SHALL BE INSTALLED PLUMB & LOCATED ACCORDING TO PROJECT PLANS.
5. NO TAPS SHALL BE ALLOWED BETWEEN THE HYDRANT & THE VALVE.
6. THE MECHANICAL JOINTS OF THE FIRE HYDRANT ASSEMBLY SHALL BE RESTRAINED VIA RETAINER GLAND. IF MORE THAN ONE SECTION IS USED, RETAINER GLAND RESTRAINTS SHALL BE USED AT ALL CONNECTIONS.
7. FOR RESTRAINT METHODS OTHER THAN RETAINER GLAND SEE DETAILS (W-06.1 THRU W-06.6).

THIS DETAIL MUST
BE APPROVED FOR
USE BY THE
S.W.S.C BEFORE IT
CAN BE INSTALLED

SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-07.2	REV. DATE
	<i>ALTERNATE 2</i>	4/1/08 MAB
	<i>FIRE HYDRANT ASSEMBLY</i>	
	SCALE: NTS	



NOTES:

1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES WILL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. ALL WATER MAIN SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISH GRADE.
3. SEE DETAIL W-02.0, W-02.1, W-02.2, W-02.3 OR W-02.4 FOR TRENCH DETAILS.
4. ALL FIRE HYDRANTS SHALL BE INSTALLED PLUMB & LOCATED ACCORDING TO PROJECT PLANS.
5. NO TAPS SHALL BE ALLOWED BETWEEN THE HYDRANT & THE VALVE.
6. THE MECHANICAL JOINTS OF THE FIRE HYDRANT ASSEMBLY SHALL BE RESTRAINED VIA RETAINER GLAND. IF MORE THAN ONE SECTION IS USED, RETAINER GLAND RESTRAINTS SHALL BE USED AT ALL CONNECTIONS.
7. FOR RESTRAINT METHODS OTHER THAN RETAINER GLAND SEE DETAILS (W-06.1 THRU W-06.6).

SPRINGFIELD WATER AND SEWER COMMISSION

WATER DETAIL W-07.3

REV. DATE

4/1/08 MAB

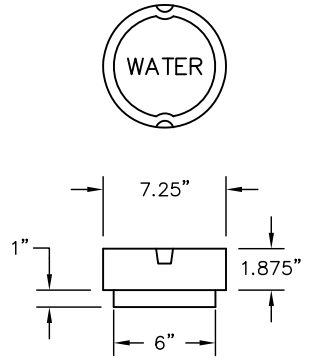
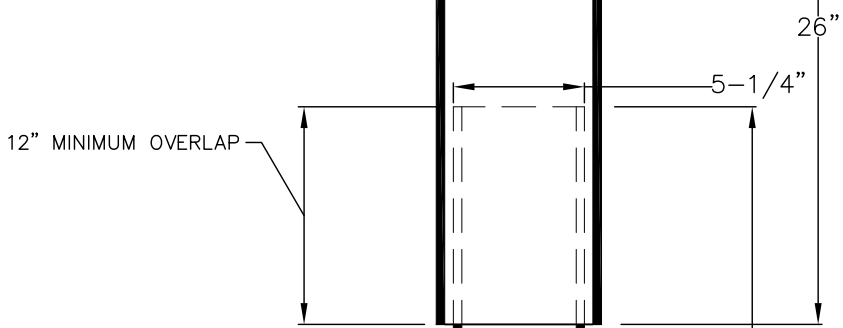
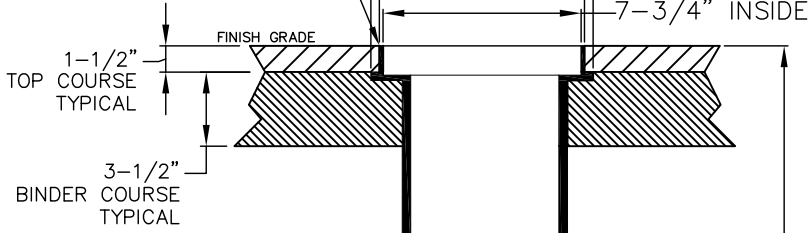
*RELOCATION OF
FIRE HYDRANT ASSEMBLY
(STRAIGHT BACK)*

SCALE: NTS



TOP OF EXISTING BOX SHALL BE FLUSH WITH FINISH GRADE

9-3/4" FLANGE DIAMETER
 8-3/4" OUTSIDE DIAMETER
 7-3/4" INSIDE DIAMETER



DROP STYLE COVER
THE WORD "WATER"
MUST BE CAST INTO COVER
AND SHALL WEIGH
NO LESS THAN 13 POUNDS

2" OPERATING NUT
 CENTERED IN VALVE
 BOX BOTTOM

BACKFILL WITH SAND,
 CRUSHED STONE, SCREENED GRAVEL,
 OR SELECT COMMON BORROW/FILL
 TO 6" ABOVE BONNET OF VALVE IN 12" LIFTS
 COMPACTION TO 95% PROCTOR

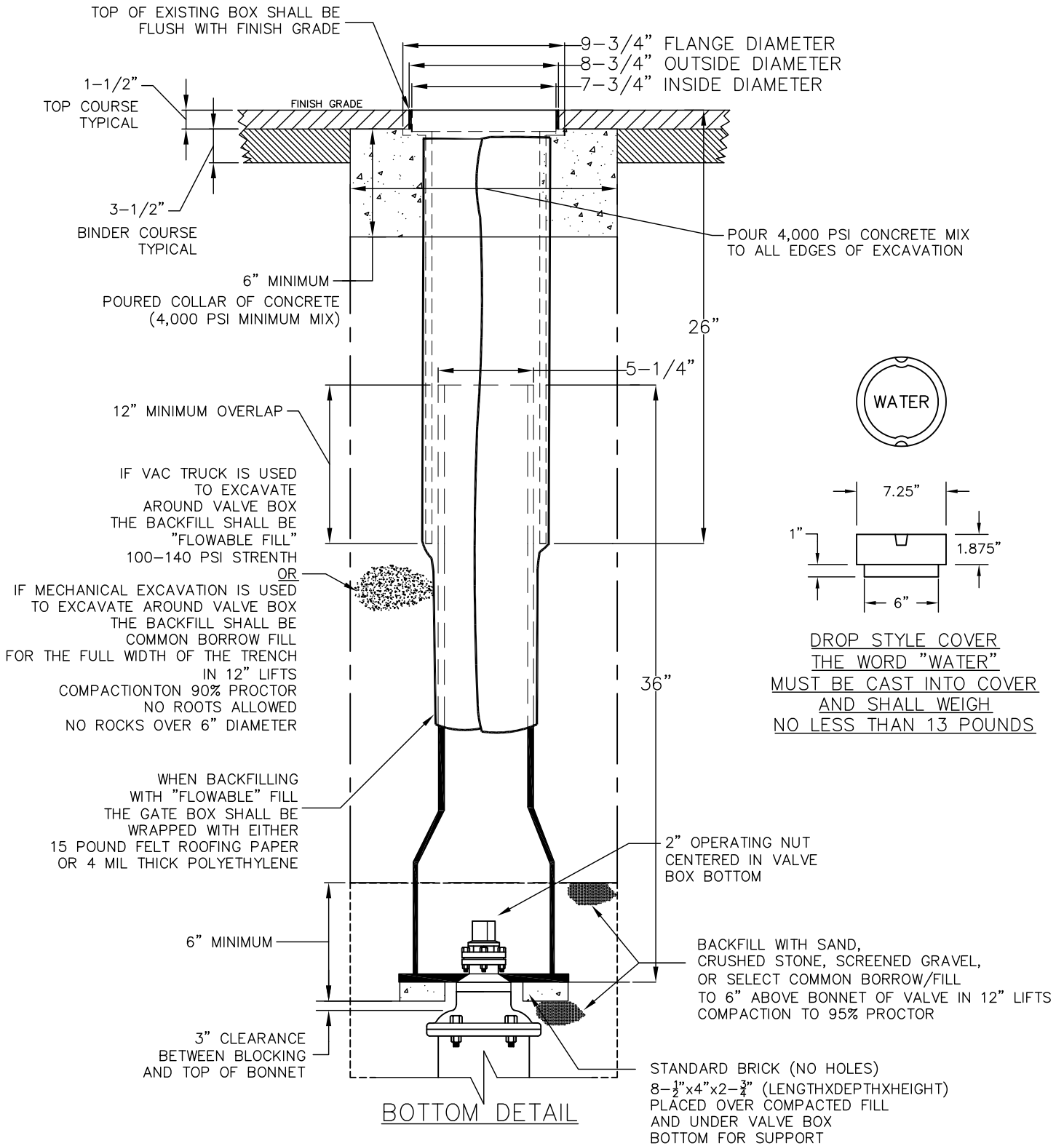
STANDARD BRICK (NO HOLES)
 8-1/2"x4"x2-3/4" (LENGTHXDEPTHXHEIGHT)
 PLACED OVER COMPACTED FILL
 AND UNDER VALVE BOX
 BOTTOM FOR SUPPORT

3" CLEARANCE
 BETWEEN BLOCKING
 AND TOP OF BONNET

BOTTOM DETAIL

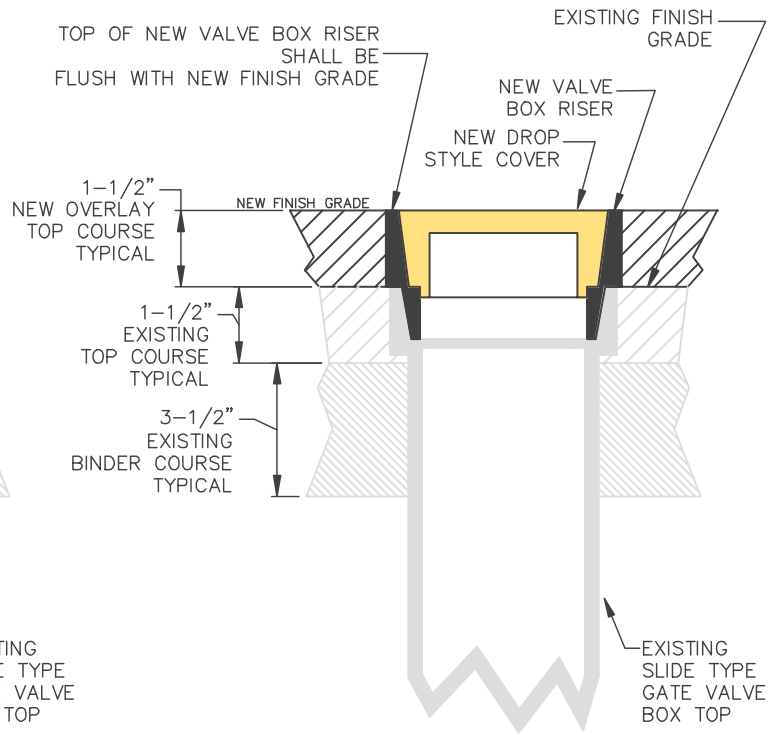
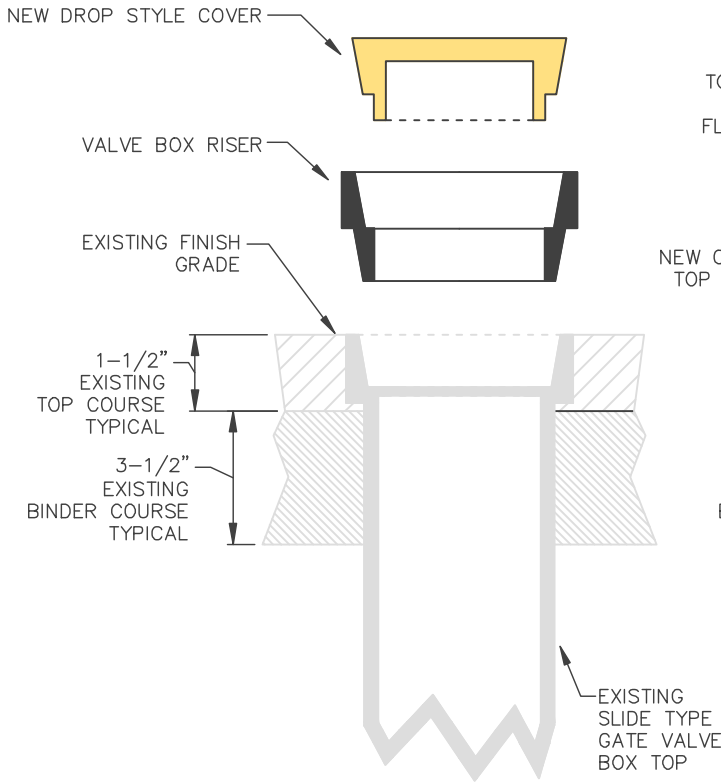
- NOTES:**
1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES WILL CONFORM TO SWSC GUIDELINES AND POLICIES.
 2. ALL WATER MAIN SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISH GRADE.
 3. SEE DETAIL W-02.0, W-02.1, W-02.2, W-02.3 OR W-02.4 FOR TRENCH DETAILS.
 4. IF BACKFILLING WITH "FLOWABLE" FILL WRAP THE VALVE BOX WITH 15 POUND FELT ROOFING PAPER OR 4 MIL THICK POLYETHYLENE IN ACCORDANCE WITH DETAIL W-08.1.

SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-08.0	REV. DATE
		4/1/08 MAB
		4/1/09 MAB
	<u>VALVE BOX</u>	4/1/10 MAB
		1/9/19 DJP
SCALE: NTS		

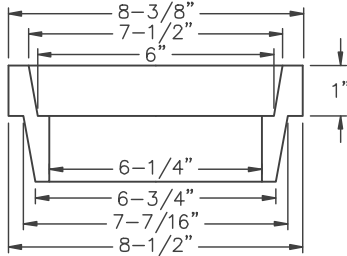


- NOTES:**
1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES WILL CONFORM TO SWSC GUIDELINES AND POLICIES.
 2. ALL WATER MAIN SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISH GRADE.
 3. SEE DETAIL W-02.0, W-02.1, W-02.2, W-02.3 OR W-02.4 FOR TRENCH DETAILS.

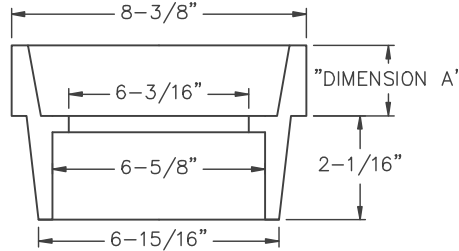
SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-08.1	REV. DATE
	<i>REPLACE, RAISE OR RESET VALVE BOX</i>	4/1/09 MAB
		1/10/19 DJP
SCALE: NTS		



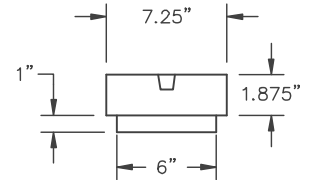
VALVE BOX RISER INSTALLED



1"
VALVE BOX RISER



1-1/2"-6"
STANDARD VALVE BOX RISER



NEW DROP STYLE COVER
THE WORD "WATER"
MUST BE CAST INTO COVER
AND SHALL WEIGH
NO LESS THAN 13 POUNDS

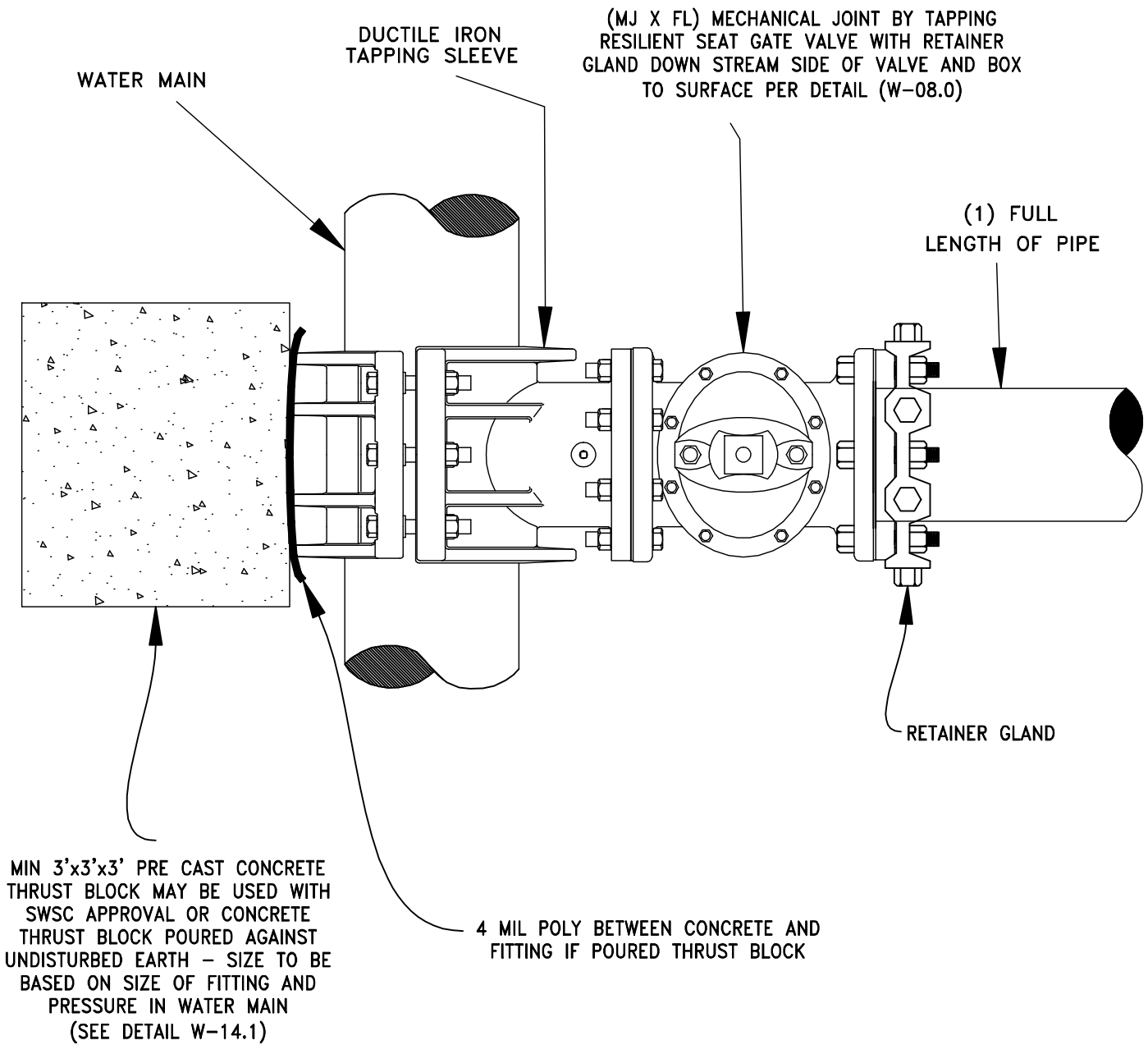
RISER HEIGHT INCREASE DIMENSION "A"
1"
1-1/2"
2"
3"
4"
6"

NOTE: THESE RISERS WILL WORK SATISFACTORILY WITH MOST 5-1/4" VALVE BOXES.

NOTES:

1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES WILL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. ALL WATER MAIN SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISH GRADE.
3. SEE DETAIL W-02.0, W-02.1, W-02.2, W-02.3 OR W-02.4 FOR TRENCH DETAILS.

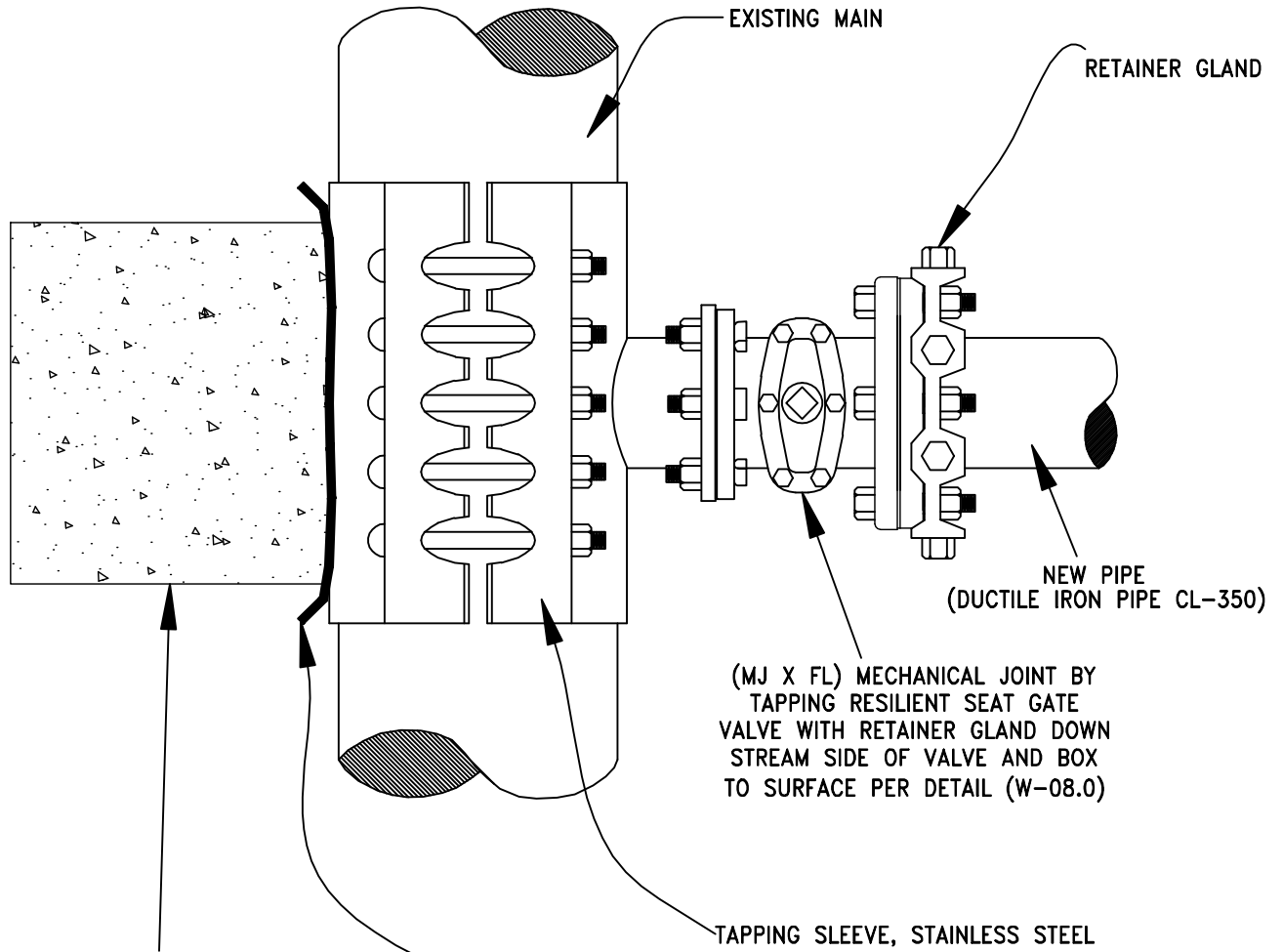
SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-08.2	REV. DATE
	<i>RAISE VALVE BOX WITH RISER</i>	4/1/09 MAB
	SCALE: NTS	



NOTES:

1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES WILL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. ALL WATER MAIN SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISH GRADE.
3. SEE DETAIL W-02.0, W-02.1, W-02.2, W-02.3 OR W-02.4 FOR TRENCH DETAILS.

SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-09.0	REV. DATE
	<i>DUCTILE IRON TAPPING SLEEVE</i>	4/1/08 MAB
	SCALE: NTS	




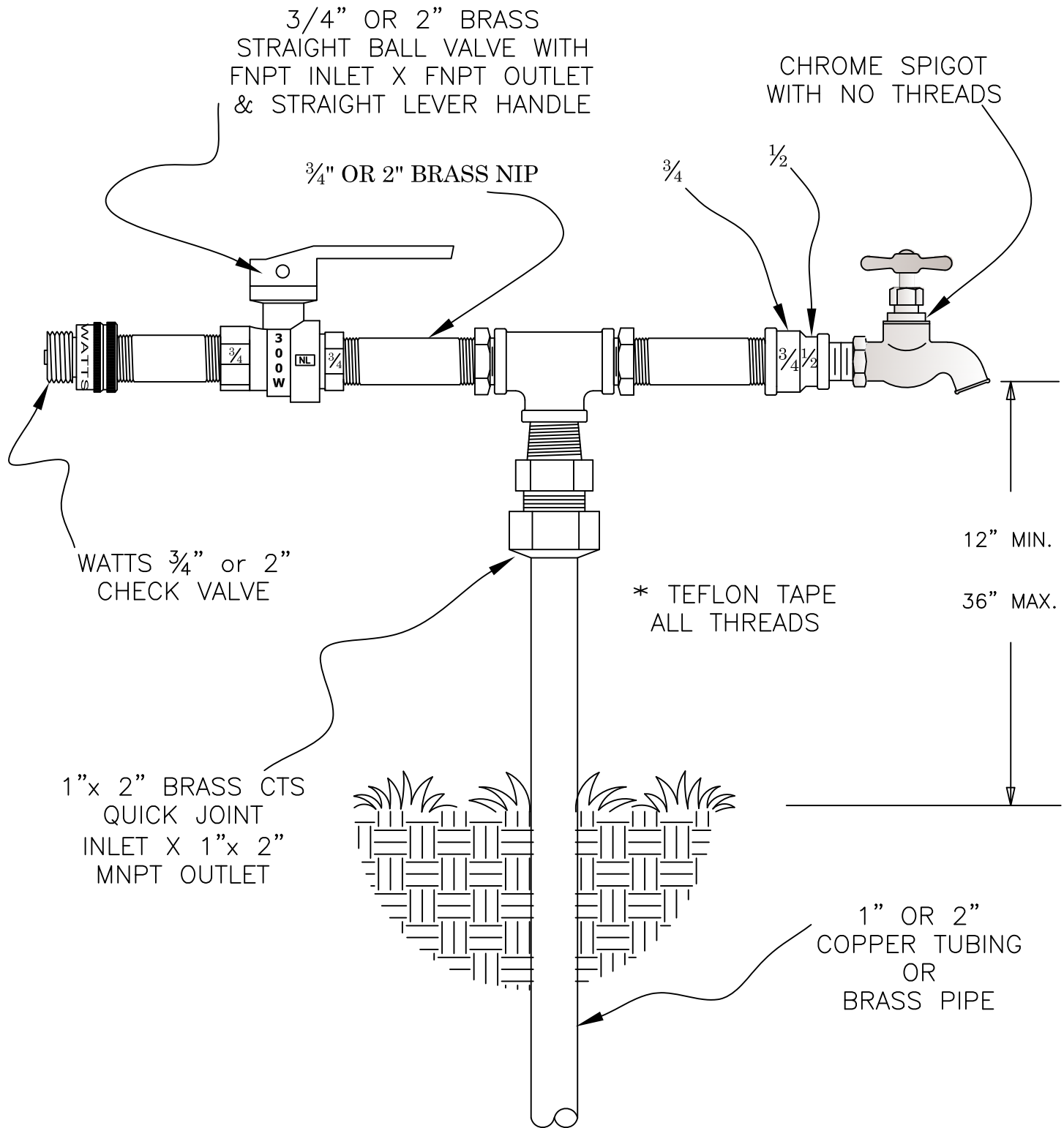
MIN 3'x3'x3' PRE CAST CONCRETE THRUST BLOCK MAY BE USED WITH SWSC APPROVAL OR CONCRETE THRUST BLOCK POURED AGAINST UNDISTURBED EARTH - SIZE TO BE BASED ON SIZE OF FITTING AND PRESSURE IN WATER MAIN (SEE DETAIL W-14.1)

4 MIL POLY BETWEEN CONCRETE AND FITTING IF POURED THRUST BLOCK

NOTES:


1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES WILL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. ALL WATER MAIN SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISH GRADE.
3. SEE DETAIL W-02.0, W-02.1, W-02.2, W-02.3 OR W-02.4 FOR TRENCH DETAILS.

SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-09.1	REV. DATE
	<i>STAINLESS STEEL TAPPING SLEEVE</i>	
	SCALE: NTS	
	4/1/08 MAB	

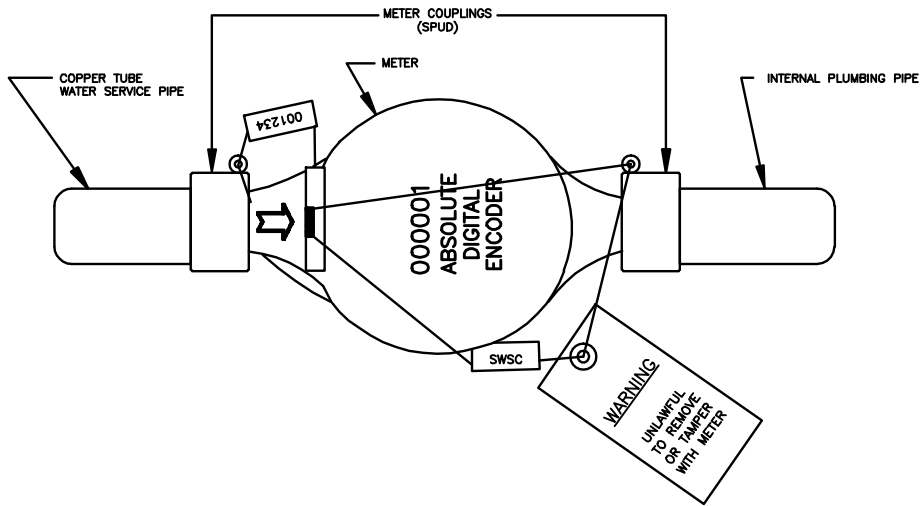


NOTES:

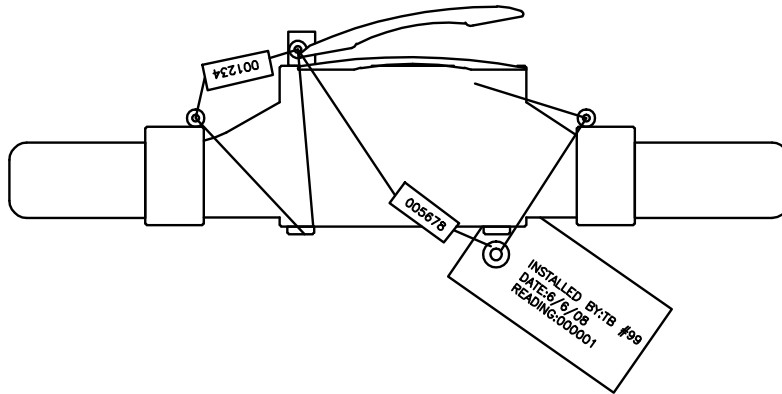
- 1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES WILL CONFORM TO SWSC GUIDELINES AND POLICIES.

SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-10.0	REV. DATE
	<i>FLUSHING DEVICE</i>	1/6/07 MJL
		4/1/08 MAB
		6/18/08 MAB
SCALE: NTS		

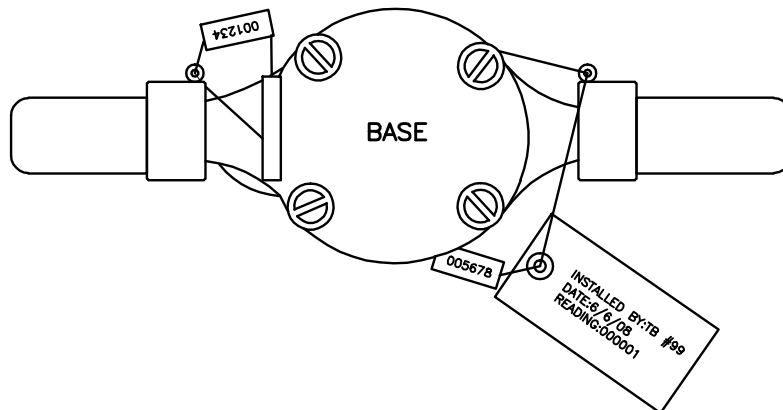
"TOP VIEW"



"SIDE VIEW"




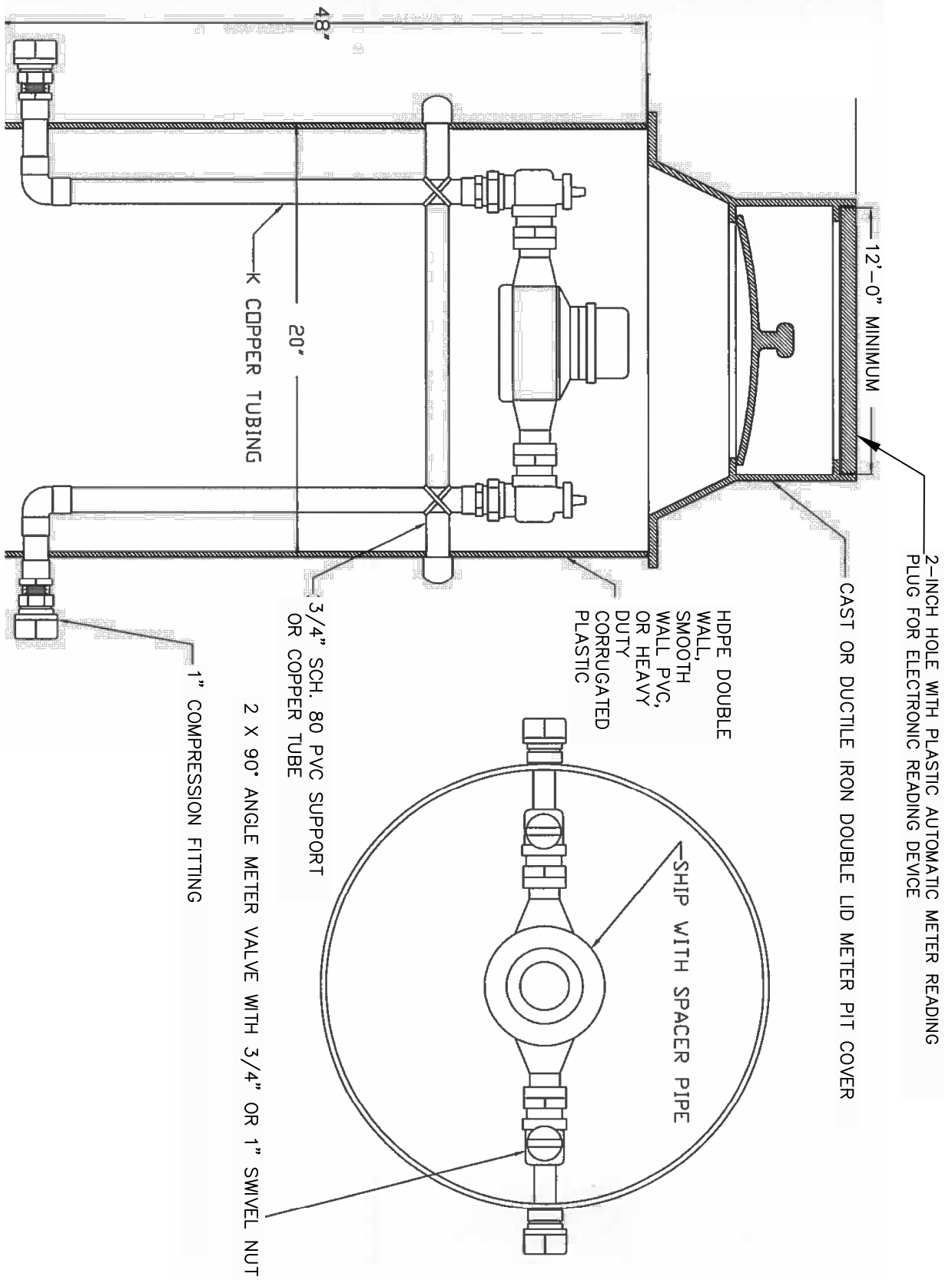
"BOTTOM VIEW"




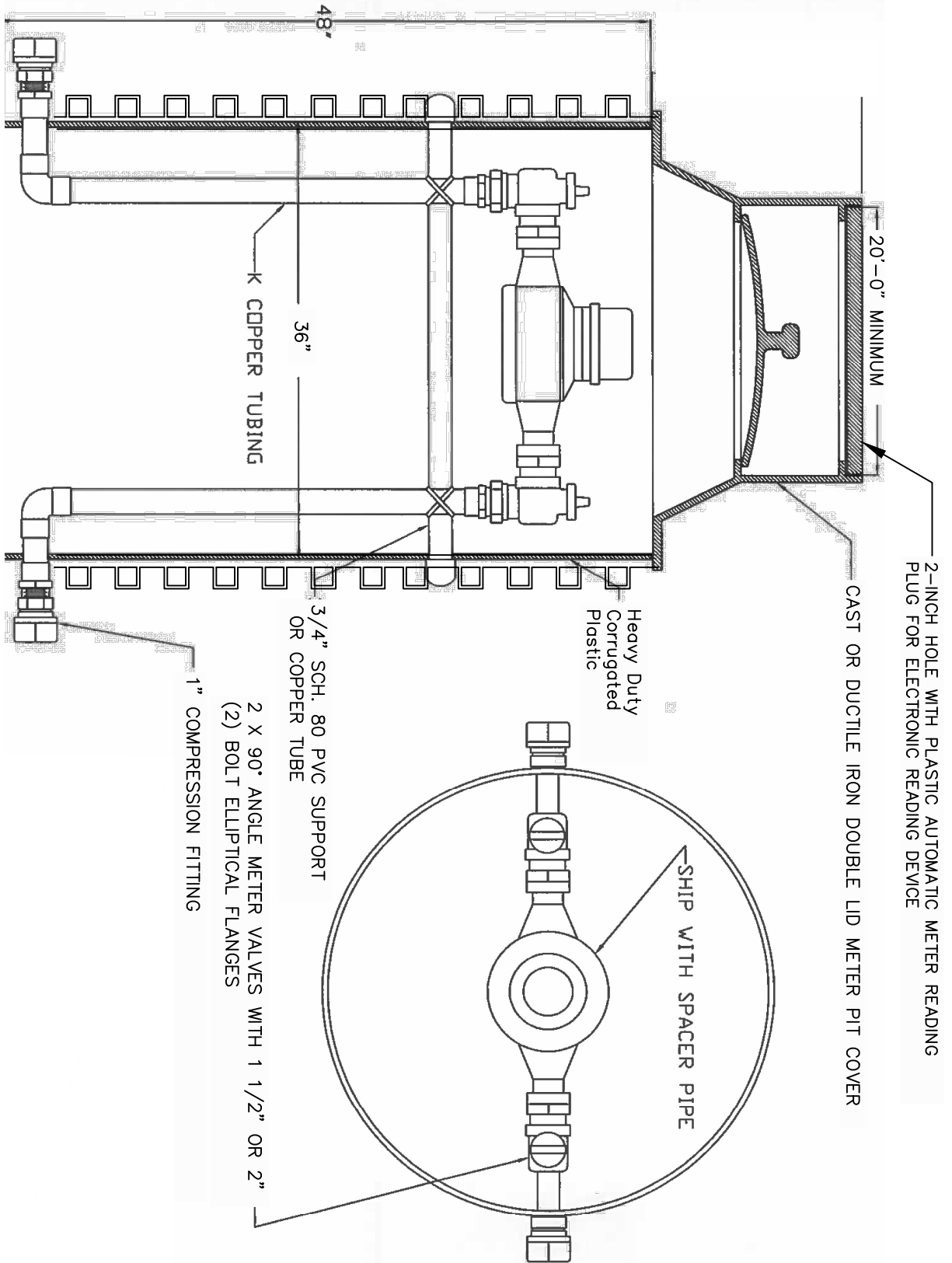
NOTES:


- METERS SHALL BE SEALED BY COMMISSION INSTALLERS & METER READERS ONLY.**

SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-11.2	REV. DATE
	<u>WATER METER SEALING DETAIL</u>	
	SCALE: NTS	
	6/18/08 MAB	



SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-11.3	REV. DATE
	PLASTIC METER PIT FOR 5/8"-1" METERS	9/18/18 DJP 7/30/20 LMB
SCALE: NTS		



SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-11.4	REV. DATE
	PLASTIC METER PIT FOR 1 1/2" - 2" METERS	9/18/18 DJP
	SCALE: NTS	7/30/20 LMB


SPRINGFIELD WATER AND SEWER COMMISSION

WATER DETAIL W-11.5

REV. DATE 10/27/20 M.J.L.

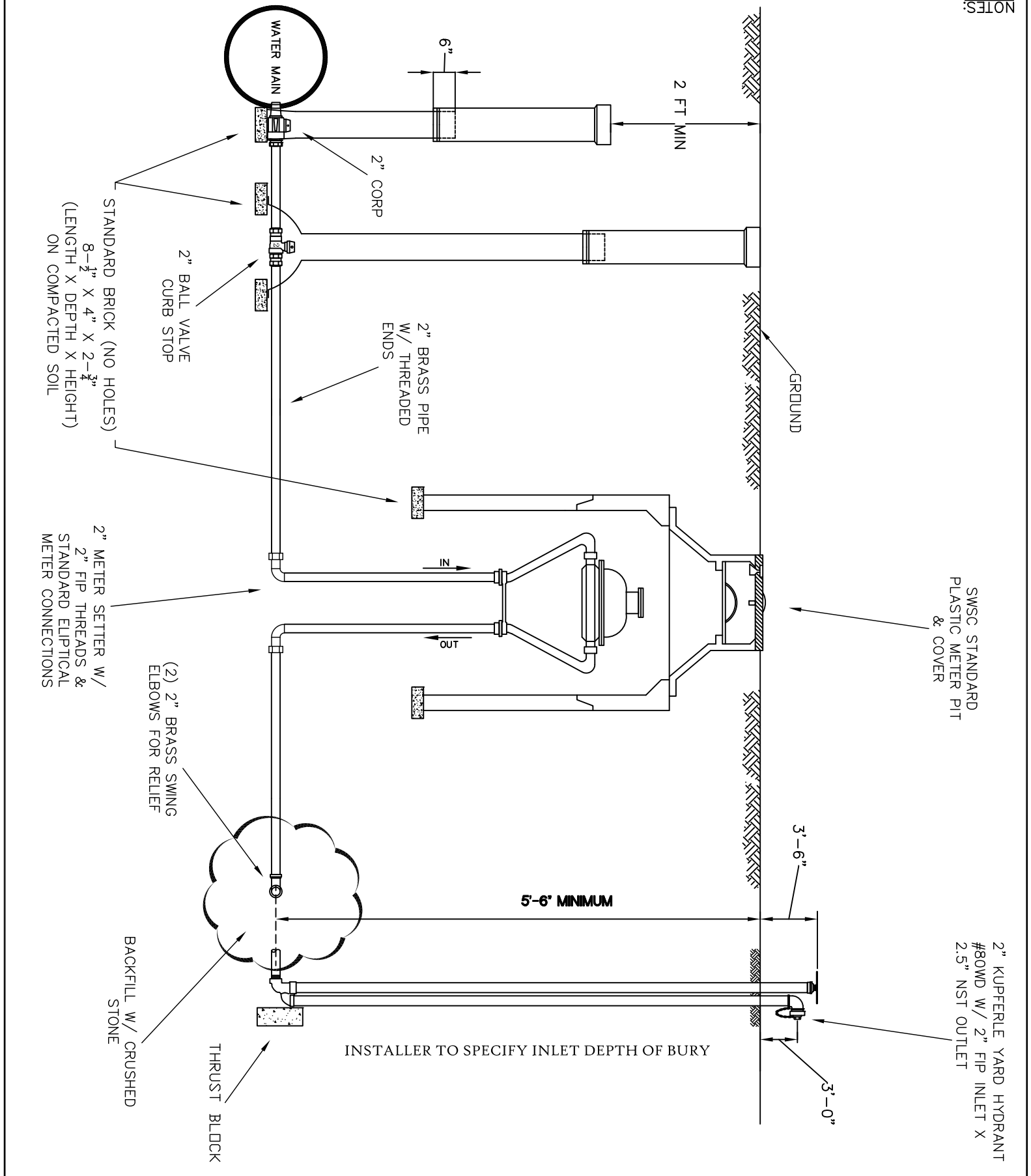
SCALE: NTS

TYPICAL YARD HYDRANT



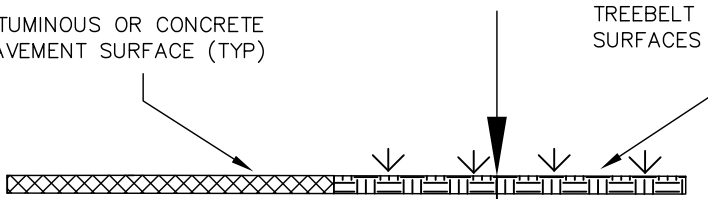
1. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND GUIDELINES & POLICIES.
2. ALL 2-INCH PIPING SHALL BE THREADED BRASS.
3. VALVE BOX AND METER PIT SHALL BE SUPPORTED USING BLOCKS.

NOTES:



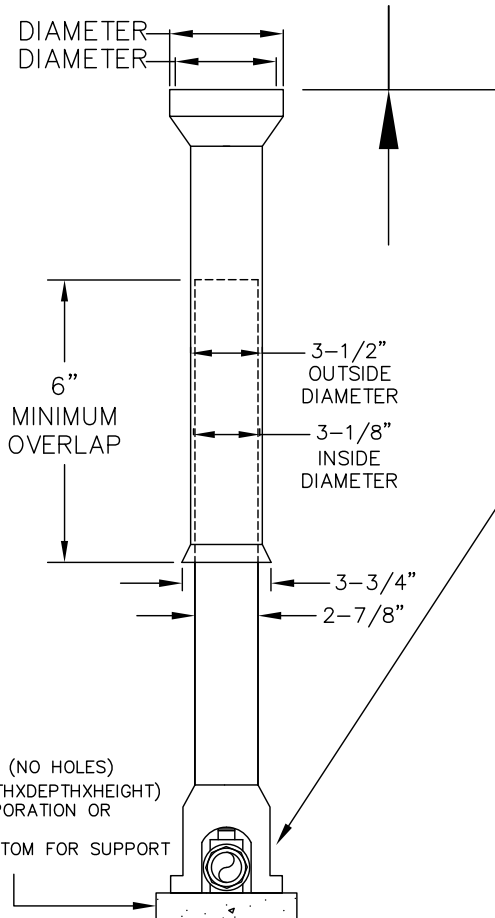
BITUMINOUS OR CONCRETE PAVEMENT SURFACE (TYP)

TREEBELT OR NON-PAVED SURFACES (TYP)



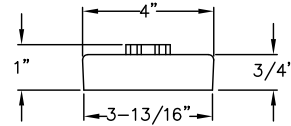
24" BELOW GRADE

4-3/4" OUTSIDE DIAMETER
4-1/8" INSIDE DIAMETER



SLIDE TYPE BUFFALO SERVICE BOX

(1) STANDARD BRICK (NO HOLES)
8-1/2"x4"x2-3/8" (LENGTHXDEPTHXHEIGHT)
PLACED UNDER CORPORATION OR CURBSTOP
AND VALVE BOX BOTTOM FOR SUPPORT



SERVICE BOX COVER
WITH BRASS PENTAGON HEAD NUT
AND THE WORD "WATER" CAST INTO COVER

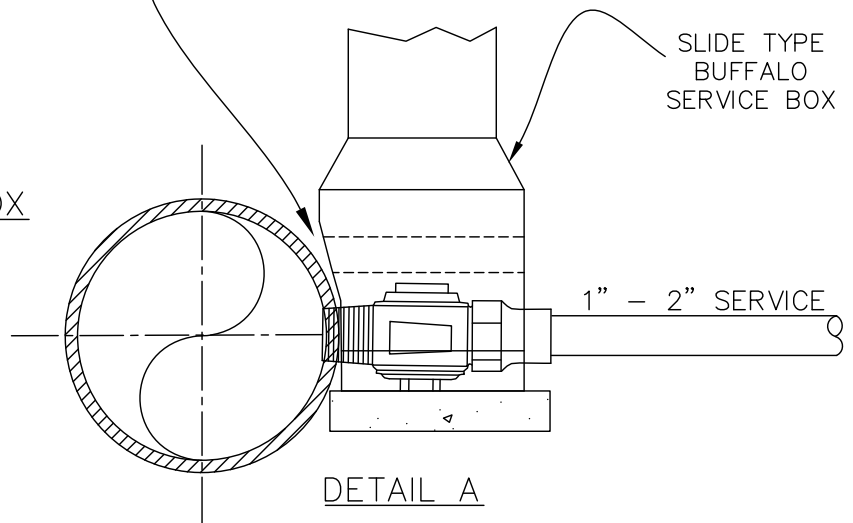
STANDARD SERVICE BOX SEE SWSC TECHNICAL SPECIFICATIONS

THE ARCH PATTERN BASE SHALL ACCOMMODATE 3/4 TO 2-INCH BALL TYPE CORPORATIONS AND BALL TYPE CURB STOPS.

A.) FOR 1-INCH BALL TYPE CORPORATIONS AND BALL TYPE CURB STOPS THE ARCH SHALL BE AT LEAST 5-INCHES TALL WITH A 3-INCH BY 3-INCH ARCH & CENTERED OVER 1-INCH BALL TYPE CORPORATION.

B.) FOR 1-1/2-INCH TO 2-INCH BALL TYPE CORPORATIONS AND BALL TYPE CURB STOPS THE ARCH SHALL BE AT LEAST 7-INCHES TALL WITH A 4-INCH BY 4-INCH ARCH.

APPROXIMATELY 1/2" TO BE REMOVED FROM SIDE OF BASE CLOSEST TO WATER MAIN IN ORDER TO CONFIRM THE BASE IS OVER THE 1-1/2"-2" BALL TYPE CURB STOPS (SEE DETAIL A).



DETAIL A

NOTES:

1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES WILL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. ALL WATER MAIN SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISH GRADE.
3. SEE DETAIL W-02.0, W-02.1, W-02.2, W-02.3 OR W-02.4 FOR TRENCH DETAILS.

SPRINGFIELD WATER AND SEWER COMMISSION



WATER DETAIL W-12.0

TYPICAL SERVICE BOX DETAIL
IN PAVED AREAS

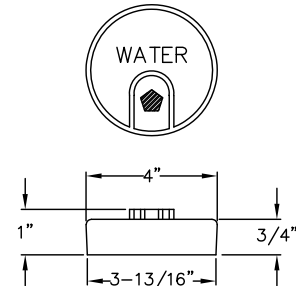
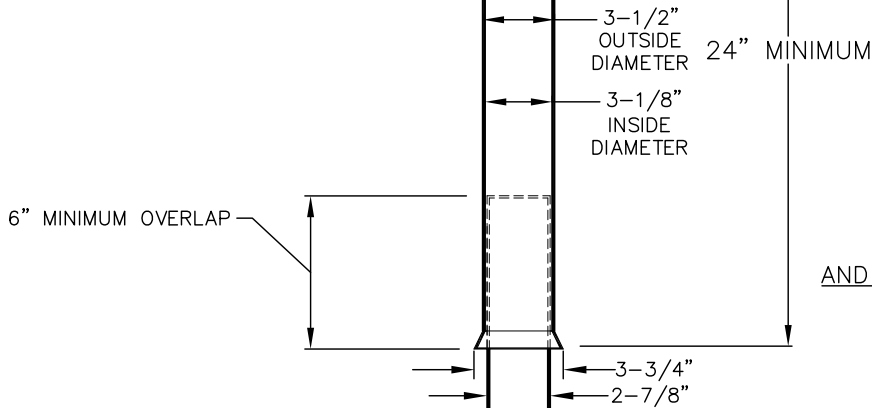
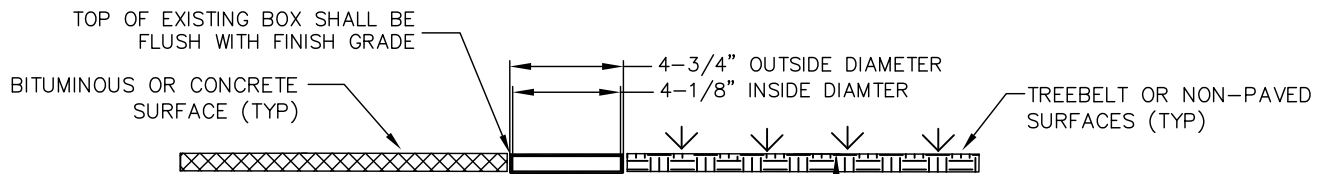
SCALE: NTS

REV. DATE

4/1/08 MAB

4/1/09 MAB

1/9/19 DJP



SERVICE BOX COVER
WITH BRASS PENTAGON HEAD NUT
AND THE WORD "WATER" CAST INTO COVER

STANDARD SERVICE BOX SEE SWSC TECHNICAL SPECIFICATIONS

THE ARCH PATTERN BASE SHALL ACCOMODATE 3/4 TO 2-INCH BALL TYPE CORPORATIONS AND BALL TYPE CURB STOPS.

A.) FOR 1-INCH BALL TYPE CORPORATIONS AND BALL TYPE CURB STOPS THE ARCH SHALL BE AT LEAST 5-INCHES TALL WITH A 3-INCH BY 3-INCH ARCH & CENTERED OVER 1-INCH BALL TYPE CORPORATION.

B.) FOR 1-1/2-INCH TO 2-INCH BALL TYPE CORPORATIONS AND BALL TYPE CURB STOPS THE ARCH SHALL BE AT LEAST 7-INCHES TALL WITH A 4-INCH BY 4-INCH ARCH.

C.) SEE DETAIL (W-12.0) IF THIS INSTALLATION IS USED AT A WATER MAIN.

BACKFILL WITH SAND, CRUSHED STONE, SCREENED GRAVEL, OR SELECT COMMON BORROW/FILL TO 6" ABOVE PIPE IN 12" LIFTS COMPACTION TO 95% PROCTOR

STANDARD BRICK (NO HOLES)
 8-1/2" x 4" x 2-3/4" (LENGTH X DEPTH X HEIGHT)
 PLACED OVER COMPACTED FILL
 AND UNDER VALVE BOX
 BOTTOM FOR SUPPORT

SLIDE TYPE
BUFFALO SERVICE BOX

NOTES:

1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES WILL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. ALL WATER MAIN SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISH GRADE.
3. SEE DETAIL W-02.0, W-02.1, W-02.2, W-02.3 OR W-02.4 FOR TRENCH DETAILS.
4. IF BACKFILLING WITH "FLOWABLE" FILL WRAP THE SERVICE BOX WITH 15 POUND FELT ROOFING PAPER OR 4 MIL THICK POLYETHYLENE IN ACCORDANCE WITH DETAIL W-12.2.

SPRINGFIELD WATER AND SEWER COMMISSION



WATER DETAIL W-12.1

TYPICAL SERVICE BOX DETAIL
IN NON-PAVED AREAS

SCALE: NTS

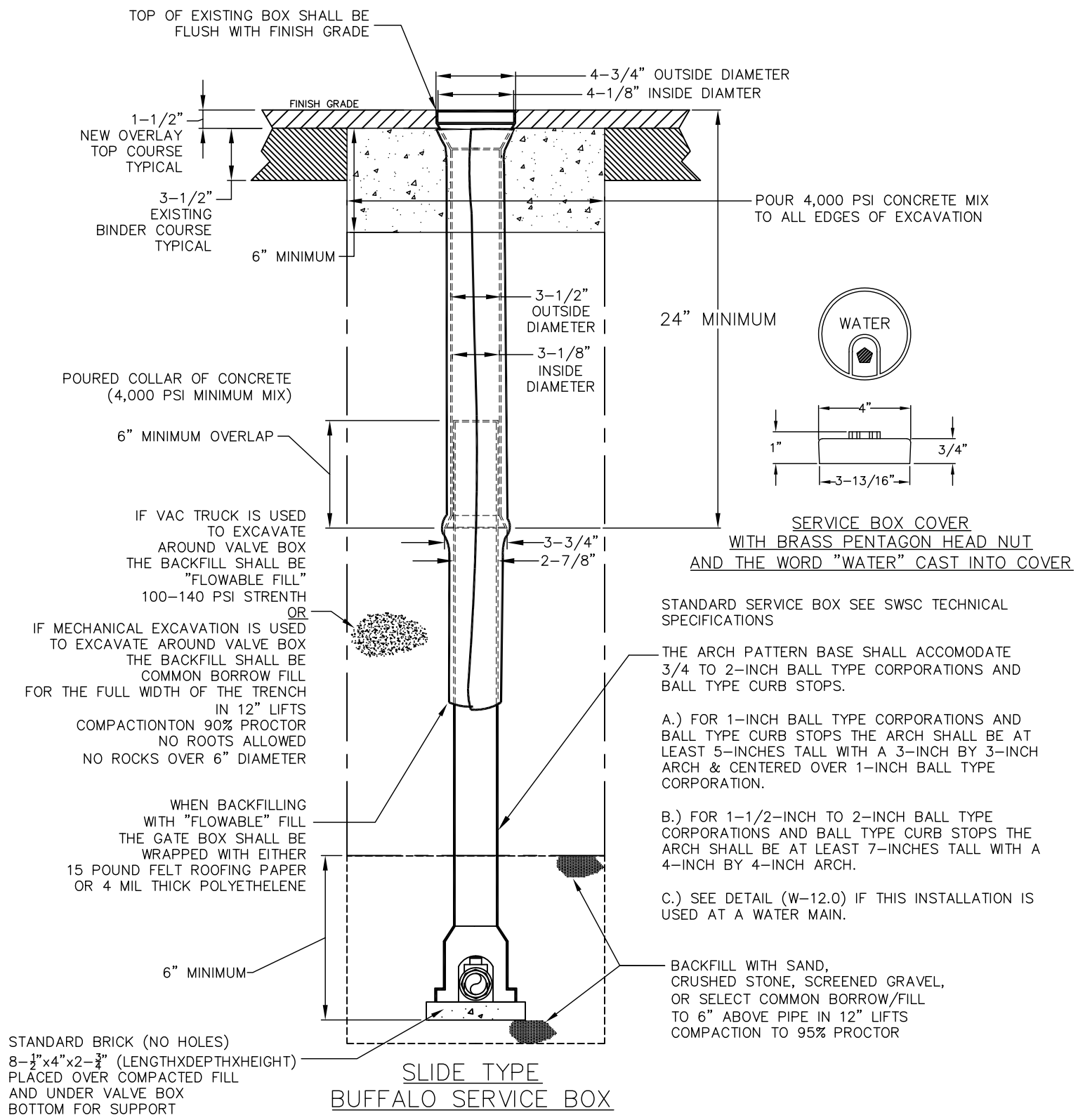
REV. DATE

4/1/08 MAB

4/1/09 MAB

4/1/10 MAB

1/9/19 DJP



TOP OF EXISTING BOX SHALL BE FLUSH WITH FINISH GRADE

4-3/4" OUTSIDE DIAMETER
4-1/8" INSIDE DIAMETER

1-1/2" NEW OVERLAY TOP COURSE TYPICAL

3-1/2" EXISTING BINDER COURSE TYPICAL

6" MINIMUM

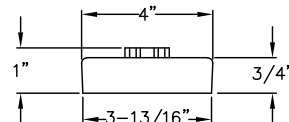
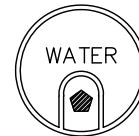
POUR 4,000 PSI CONCRETE MIX TO ALL EDGES OF EXCAVATION

24" MINIMUM

3-1/2" OUTSIDE DIAMETER
3-1/8" INSIDE DIAMETER

POURED COLLAR OF CONCRETE (4,000 PSI MINIMUM MIX)

6" MINIMUM OVERLAP



SERVICE BOX COVER WITH BRASS PENTAGON HEAD NUT AND THE WORD "WATER" CAST INTO COVER

IF VAC TRUCK IS USED TO EXCAVATE AROUND VALVE BOX THE BACKFILL SHALL BE "FLOWABLE FILL" 100-140 PSI STRENGTH OR

IF MECHANICAL EXCAVATION IS USED TO EXCAVATE AROUND VALVE BOX THE BACKFILL SHALL BE COMMON BORROW FILL FOR THE FULL WIDTH OF THE TRENCH IN 12" LIFTS COMPACTIONTON 90% PROCTOR NO ROOTS ALLOWED NO ROCKS OVER 6" DIAMETER

STANDARD SERVICE BOX SEE SWSC TECHNICAL SPECIFICATIONS

THE ARCH PATTERN BASE SHALL ACCOMODATE 3/4 TO 2-INCH BALL TYPE CORPORATIONS AND BALL TYPE CURB STOPS.

A.) FOR 1-INCH BALL TYPE CORPORATIONS AND BALL TYPE CURB STOPS THE ARCH SHALL BE AT LEAST 5-INCHES TALL WITH A 3-INCH BY 3-INCH ARCH & CENTERED OVER 1-INCH BALL TYPE CORPORATION.

B.) FOR 1-1/2-INCH TO 2-INCH BALL TYPE CORPORATIONS AND BALL TYPE CURB STOPS THE ARCH SHALL BE AT LEAST 7-INCHES TALL WITH A 4-INCH BY 4-INCH ARCH.

C.) SEE DETAIL (W-12.0) IF THIS INSTALLATION IS USED AT A WATER MAIN.

WHEN BACKFILLING WITH "FLOWABLE" FILL THE GATE BOX SHALL BE WRAPPED WITH EITHER 15 POUND FELT ROOFING PAPER OR 4 MIL THICK POLYETHELENE

BACKFILL WITH SAND, CRUSHED STONE, SCREENED GRAVEL, OR SELECT COMMON BORROW/FILL TO 6" ABOVE PIPE IN 12" LIFTS COMPACTION TO 95% PROCTOR

6" MINIMUM

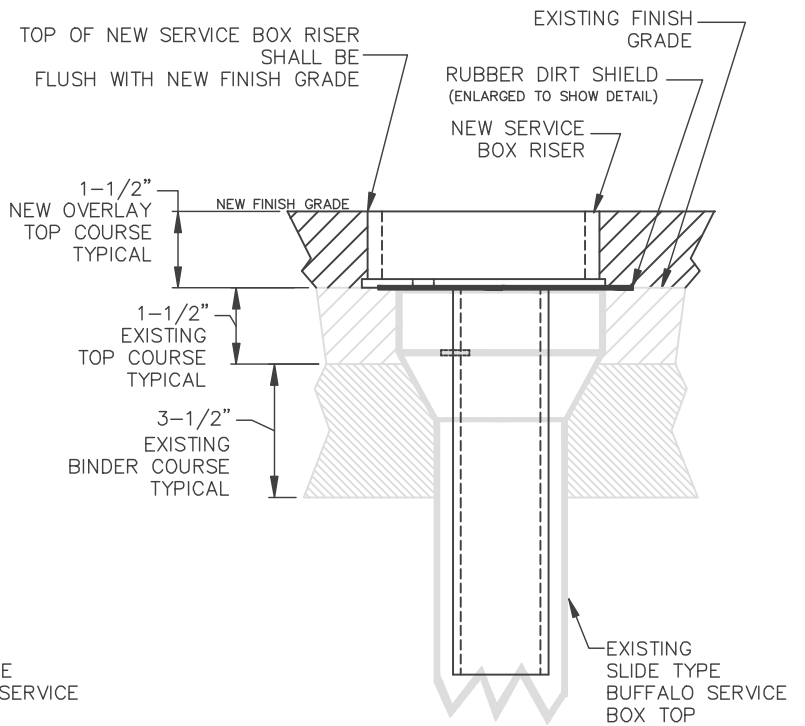
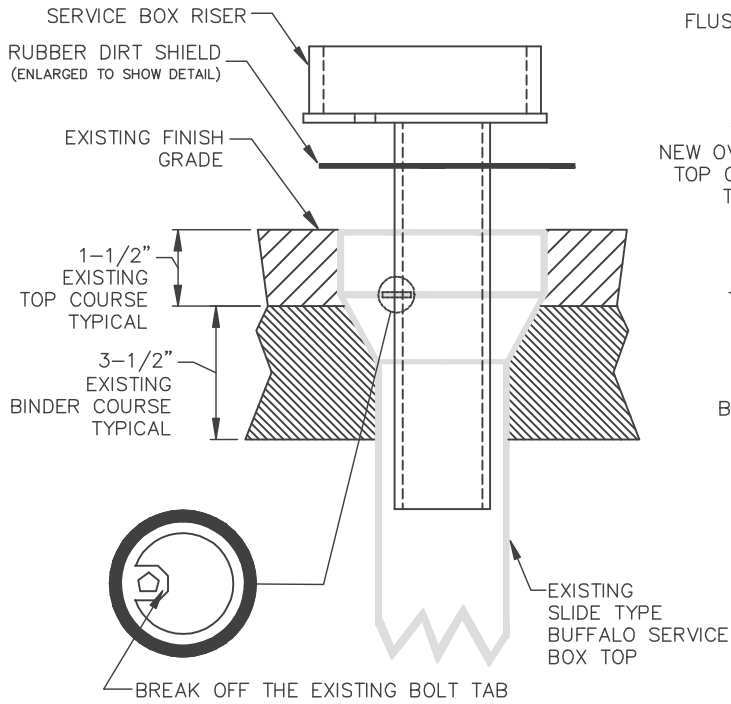
STANDARD BRICK (NO HOLES) 8-1/2"x4"x2-3/4" (LENGTHXDEPTHXHEIGHT) PLACED OVER COMPACTED FILL AND UNDER VALVE BOX BOTTOM FOR SUPPORT

SLIDE TYPE BUFFALO SERVICE BOX

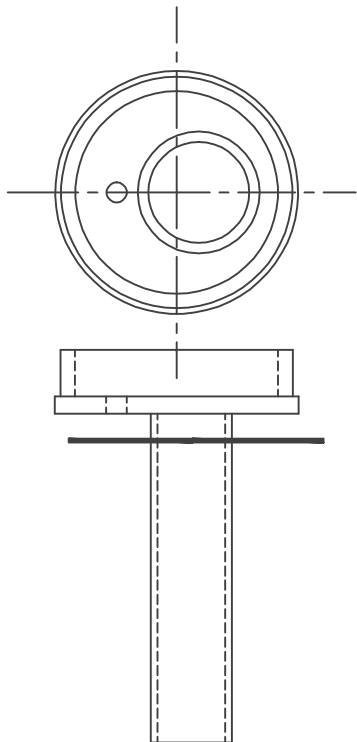
NOTES:

1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES WILL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. ALL WATER MAIN SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISH GRADE.
3. SEE DETAIL W-02.0, W-02.1, W-02.2, W-02.3 OR W-02.4 FOR TRENCH DETAILS.

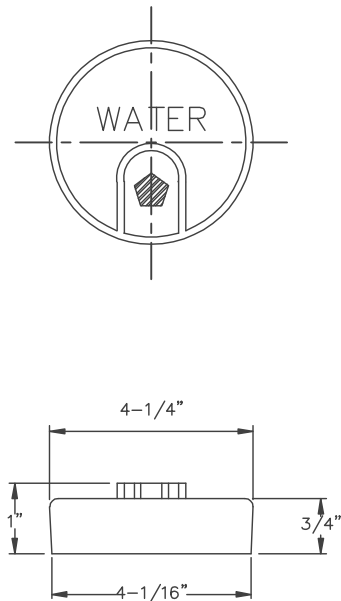
SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-12.2	REV. DATE
	<u>REPLACE, RAISE OR RESET SERVICE BOX</u>	4/1/09 MAB
		1/9/19 DJP
	SCALE: NTS	



SERVICE BOX RISER INSTALLED




SERVICE BOX RISER

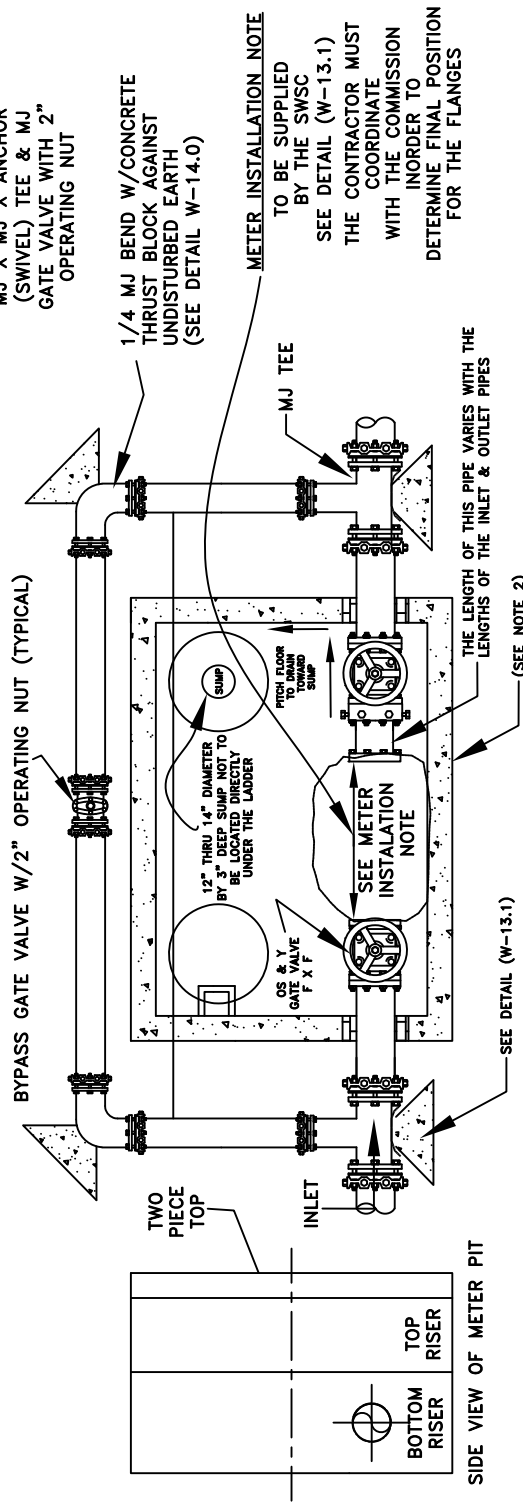
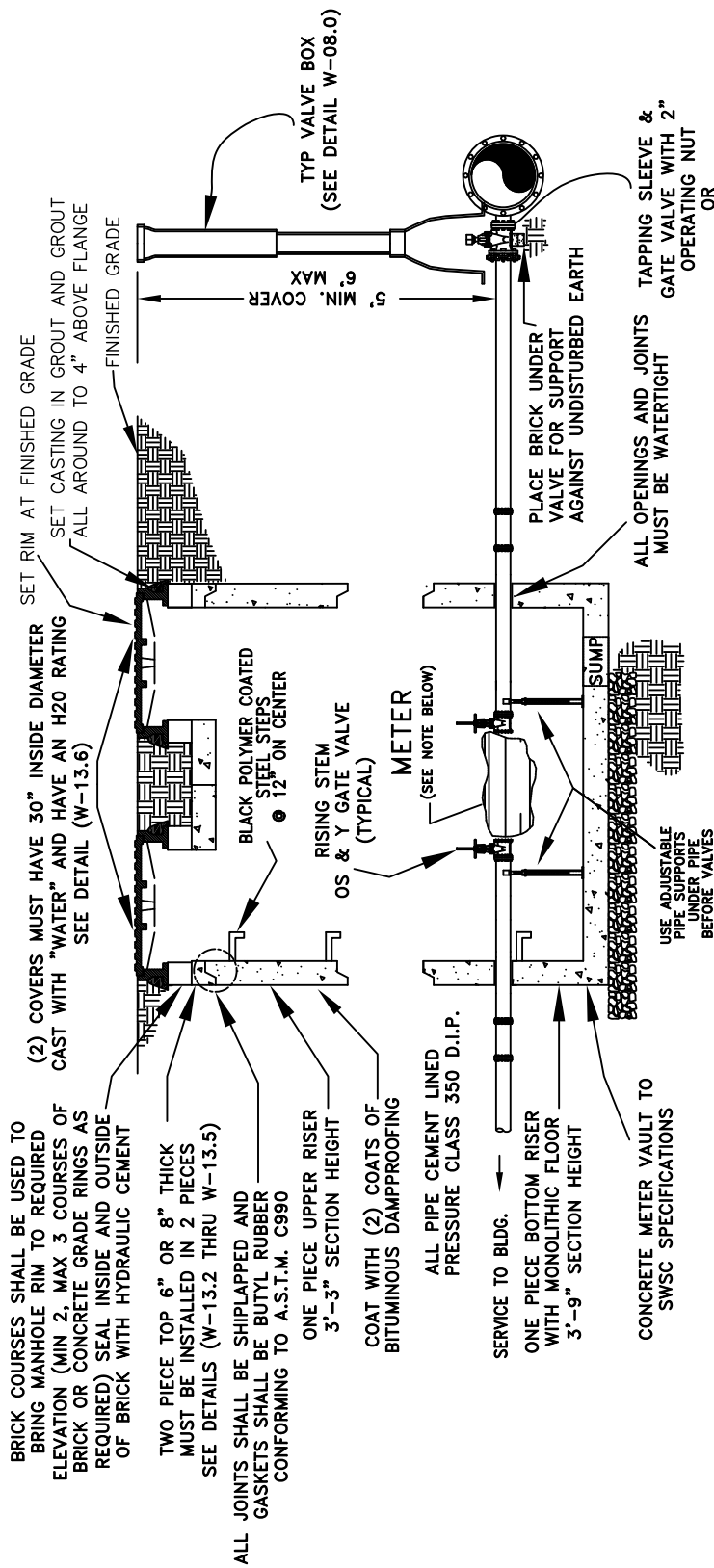


SERVICE BOX RISER COVER WITH BRASS PENTAGON HEAD NUT AND THE WORD "WATER" CAST INTO COVER


NOTES:

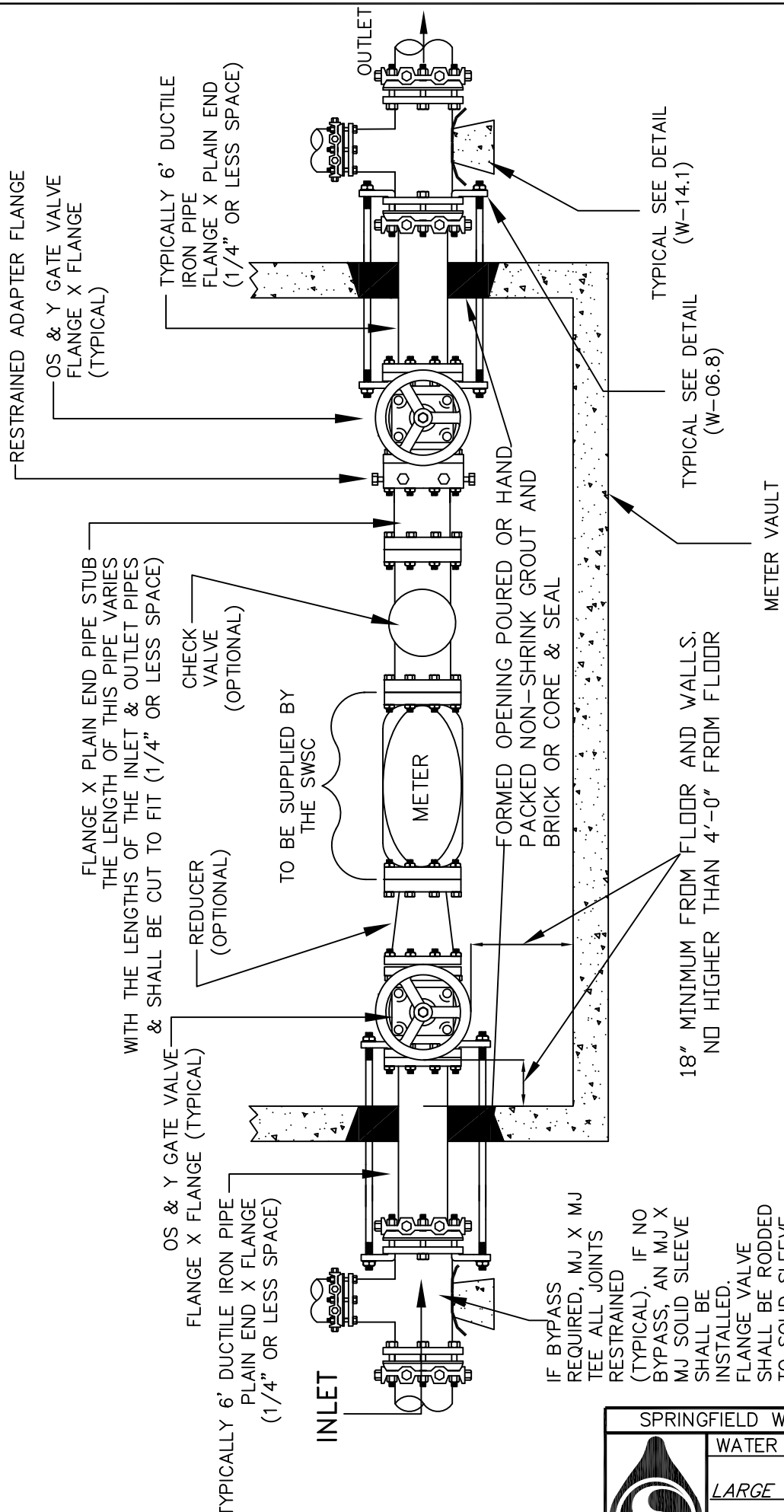
1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES WILL CONFORM TO SWSC GUIDELINES AND POLICIES.

SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-12.3	REV. DATE
	RAISE SERVICE BOX WITH RISER	4/1/09 MAB
	SCALE: NTS	




- NOTES:
1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES AND POLICIES.
 2. VAULT TOP, WALLS & FLOOR THICKNESS SHALL BE IN ACCORDANCE WITH DETAILS (W-13.2 THRU W-13.3).
 3. ALL MATERIALS INCLUDING THE CONE REDUCER (OPTIONAL, IF REQUIRED BY THE SWSC), AND CHECK VALVE (OPTIONAL, IF REQUIRED BY THE SWSC) SHALL BE SUPPLIED BY THE CONTRACTOR.
 4. ALL VALVES IN THE VAULT MUST HAVE HAND WHEELS. BYPASS VALVES MUST LOCKABLE OR CHAINABLE.
 5. BYPASS PIPE CAN RUN ON OUTSIDE OF THE VAULT WITH A SHUT OFF VALVE.
 6. ALL BURIED JOINTS SHALL BE MECHANICALLY RESTRAINED OR LOCKING GASKET. JOINTS IN VAULT OR BUILDING SHALL BE FLANGED.

SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-13.0	REV. DATE 9/18/18 DJP
	<i>METER VAULT PIPING</i>	
SCALE: NTS		



- NOTES:
1. ALL MATERIALS WILL CONFORM TO SWSC SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES AND POLICIES.
 2. ALL MATERIALS INCLUDING THE CONE REDUCER (OPTIONAL, IF REQUIRED BY THE SWSC), AND CHECK VALVE (OPTIONAL, IF REQUIRED BY THE SWSC) SHALL BE SUPPLIED BY THE CONTRACTOR.
 3. EACH OS&Y SHALL BE BOLTED TO THE INLET AND OUTLET FLANGE OF THE F X PE PIPES
 4. THE OS&Y VALVE SHALL BE RESTRAINED TO THE SOLID SLEEVE OR TEE AND SECURED FROM ANY MOVEMENT.
 5. EACH EXTERIOR BEND AND TEE MUST HAVE THRUST BLOCKS.
 6. THE INLET AND OUTLET OPENINGS ARE TO BE SEALED AND WATER TIGHT AND FLUSH WITH THE INTERIOR AND EXTERIOR WALLS.
 7. METER WILL BE SUPPLIED BY THE SWSC, CONTRACTOR TO CONFIRM WITH THE SWSC THE SPACE TO BE LEFT FOR THE METER CALL CUSTOMER FIELD SERVICES METER DIVISION AT (413-787-6207)

 SPRINGFIELD WATER AND SEWER COMMISSION	
WATER DETAIL W-13.1 LARGE METER INSTALLATION	REV. DATE 9/18/18 DJP
SCALE: NTS	

OUTSIDE DIMENSIONS

L= 11'-0"

W= 7'-0"

H= 7'-6"

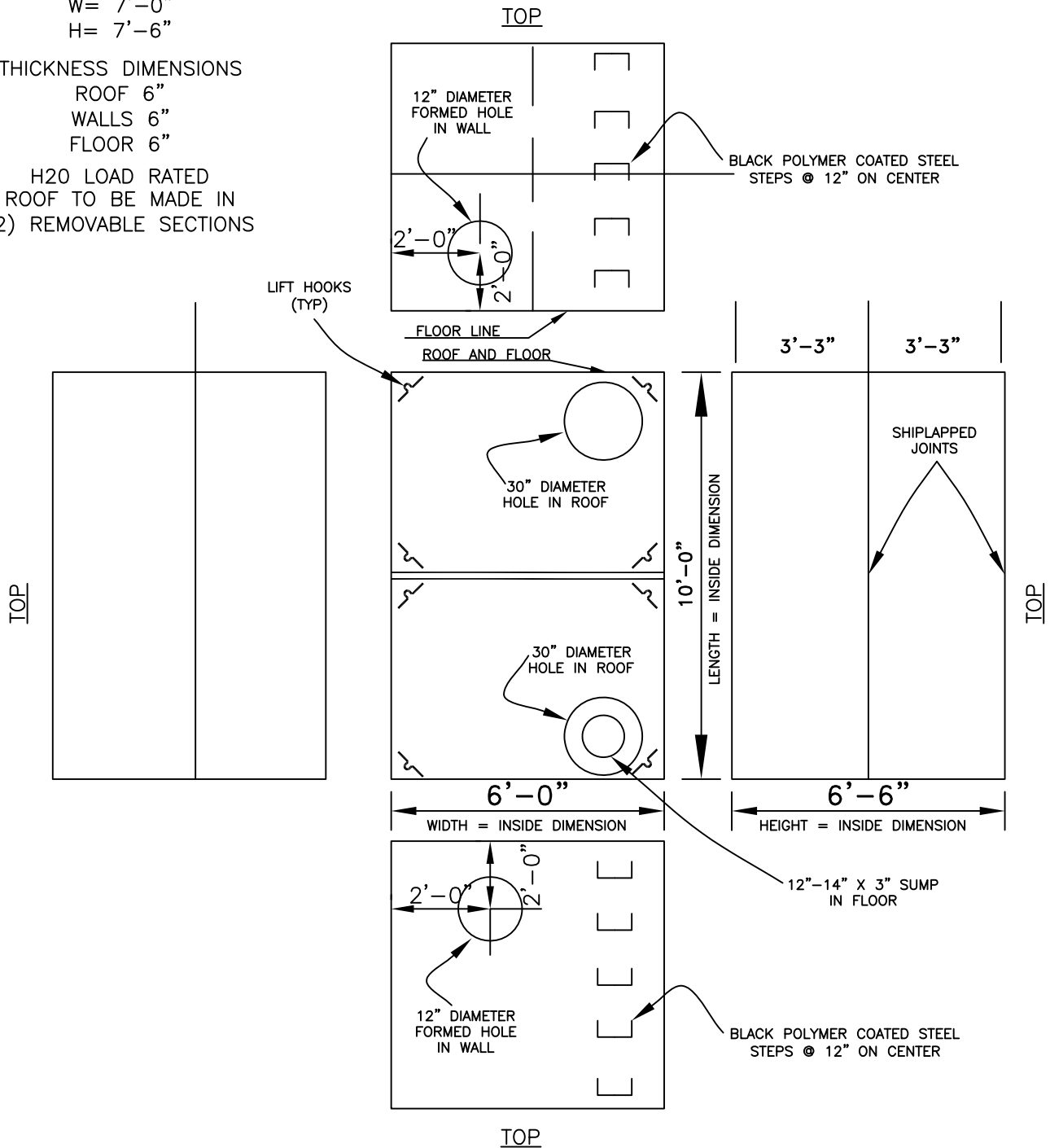
THICKNESS DIMENSIONS

ROOF 6"

WALLS 6"

FLOOR 6"

H2O LOAD RATED
ROOF TO BE MADE IN
(2) REMOVABLE SECTIONS



NOTES:

1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. VAULT TOP, WALLS & FLOOR THICKNESS SHALL BE IN ACCORDANCE WITH DETAILS (W-13.2 - W-13.5).
3. FORMED HOLES SHALL BE TAPERED TOWARD THE INSIDE OF VAULT.
4. ALL JOINTS SHALL BE SHIPLAPPED AND GASKETS SHALL BE BUTYL RUBBER CONFORMING TO A.S.T.M. C990.

SPRINGFIELD WATER AND SEWER COMMISSION			
	WATER DETAIL W-13.2	REV. DATE	
	<i>STANDARD METER VAULT FOR DUCTILE IRON WATER SERVICE PIPE</i>		9/18/18 DJP
	SCALE: NTS		

OUTSIDE DIMENSIONS

L= 12'-2"

W= 9'-0"

H= 7'-8"

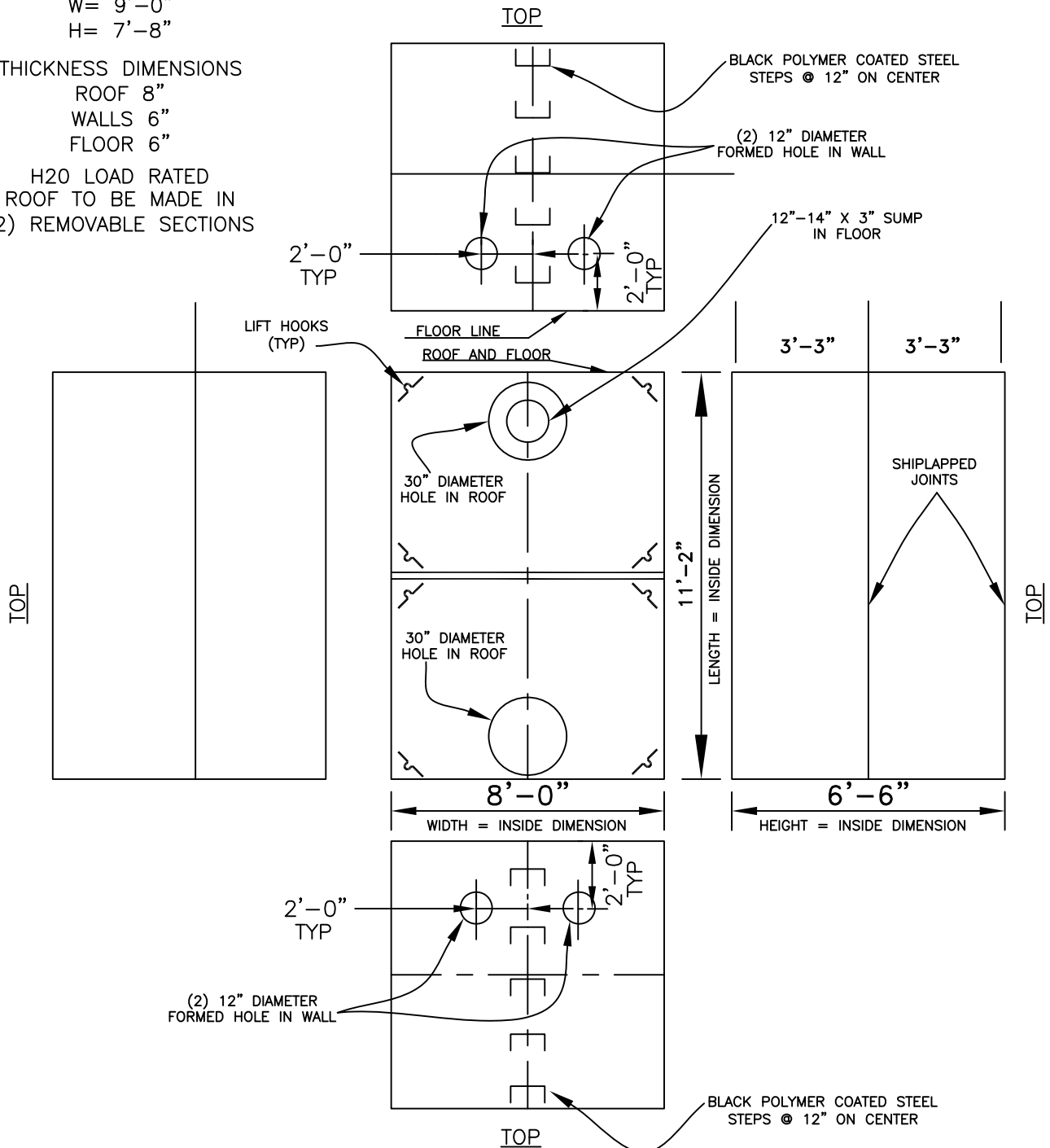
THICKNESS DIMENSIONS

ROOF 8"

WALLS 6"

FLOOR 6"

H2O LOAD RATED
ROOF TO BE MADE IN
(2) REMOVABLE SECTIONS



NOTES:

1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. VAULT TOP, WALLS & FLOOR THICKNESS SHALL BE IN ACCORDANCE WITH DETAILS (W-13.2 - W-13.5).
3. FORMED HOLES SHALL BE TAPERED TOWARD THE INSIDE OF VAULT.
4. ALL JOINTS SHALL BE SHIPLAPPED AND GASKETS SHALL BE BUTYL RUBBER CONFORMING TO A.S.T.M. C990.

SPRINGFIELD WATER AND SEWER COMMISSION



WATER DETAIL W-13.3

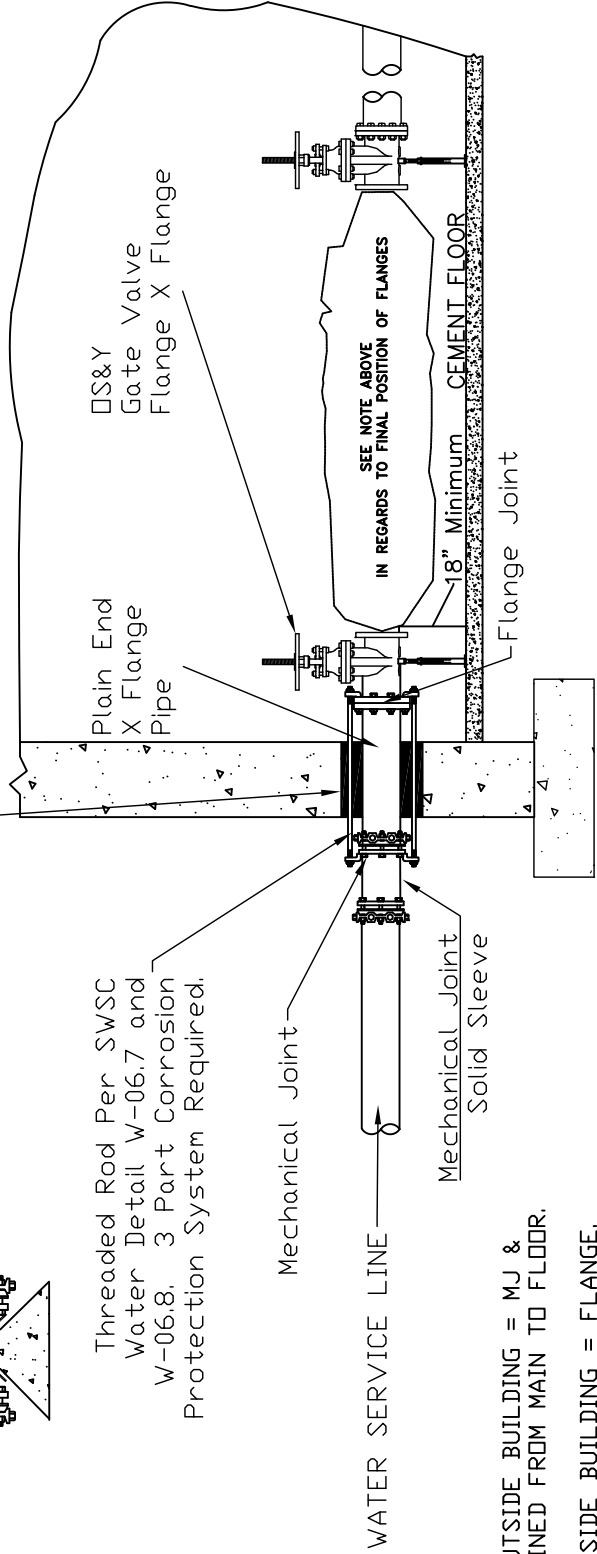
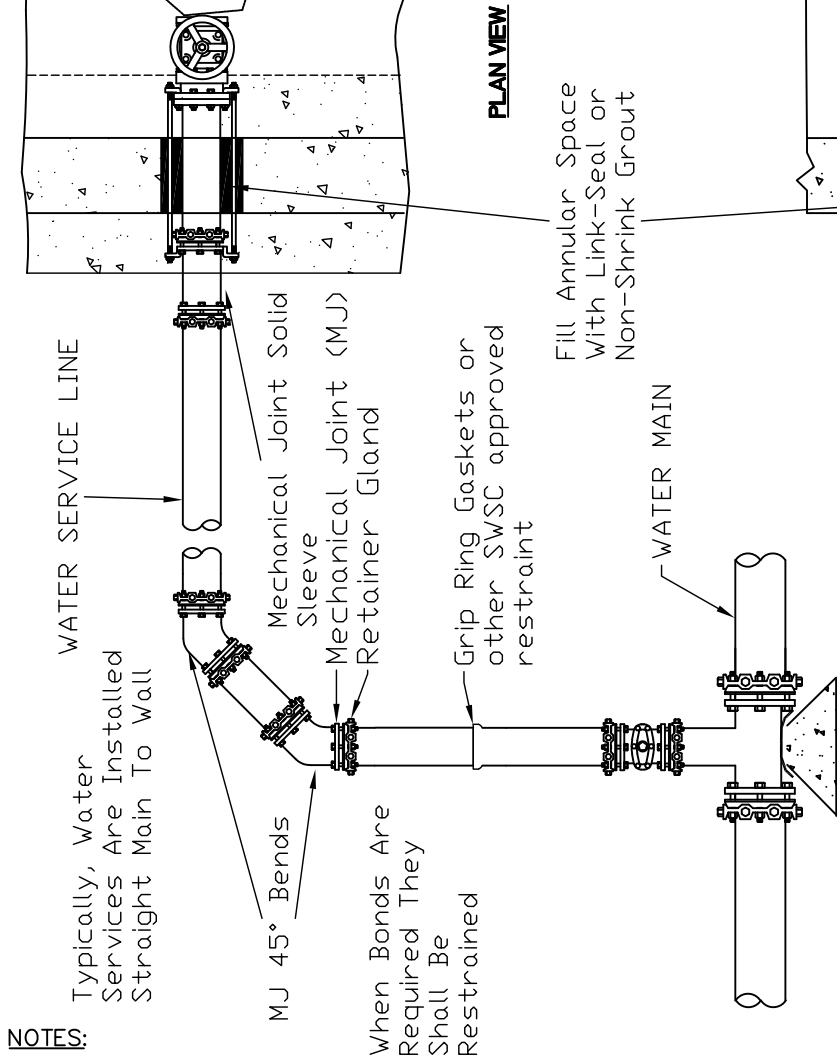
OVERSIZED METER VAULT FOR
DUCTILE IRON WATER SERVICE
PIPE

SCALE: NTS

REV. DATE


4/1/08 MAB

1/8/19 DJP

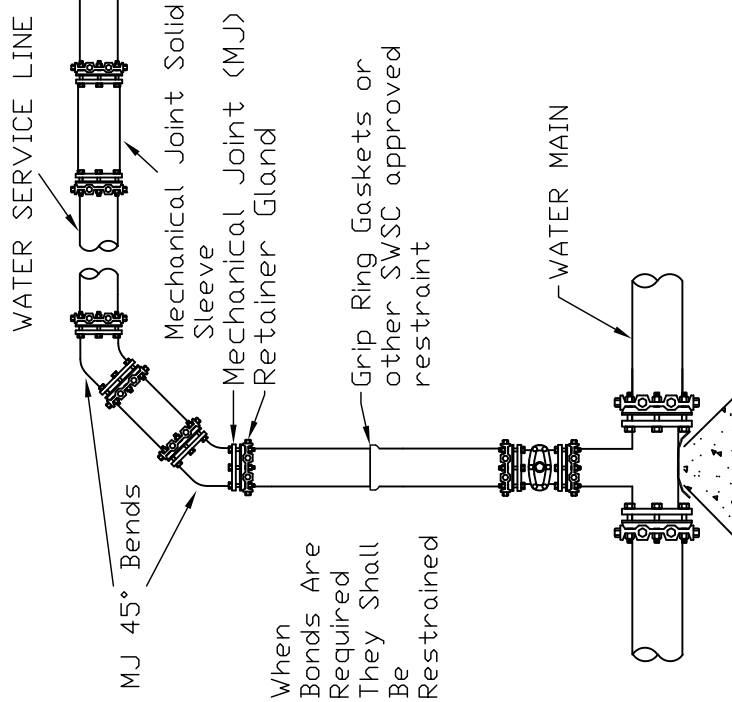


- NOTES:**
1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES AND POLICIES.
 2. ALL PIPING UP TO THE FIRST OS&Y MUST BE INSTALLED BEFORE TESTING.
 2. FLANGES THAT CONNECT METER MUST BE SUPPLIED BY THE CONTRACTOR.
 3. ALL VALVES IN THE BASEMENT/MECHANICAL ROOM MUST BE OS&Y, HAVE HAND WHEELS AND MUST LOCKABLE OR CHAIN-ABLE. NO PORT ALLOWED ON OS&Y EITHER SIDE OF THE METER.
 4. ALL PIPES SHALL BE FULLY RESTRAINED FROM 1ST OS+Y VALVE FOR 80- FEET.

ALL JOINTS OUTSIDE BUILDING = MJ & FULLY RESTRAINED FROM MAIN TO FLOOR.
 ALL JOINTS INSIDE BUILDING = FLANGE.
 FIRST FITTING INSIDE BUILDING TO BE RODDED TO FITTING OUTSIDE BUILDING.

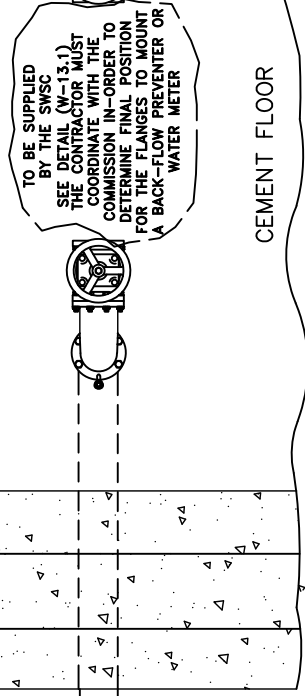
SPRINGFIELD WATER AND SEWER COMMISSION			
	WATER DETAIL W-13.4	REV. DATE	
	<i>TYPICAL DUCTILE IRON WATER SERVICE DETAIL THROUGH FOUNDATION WALL</i>		
	SCALE: NTS		1/8/19 DJP

Typically, Water Services Are Installed Straight Main To Wall

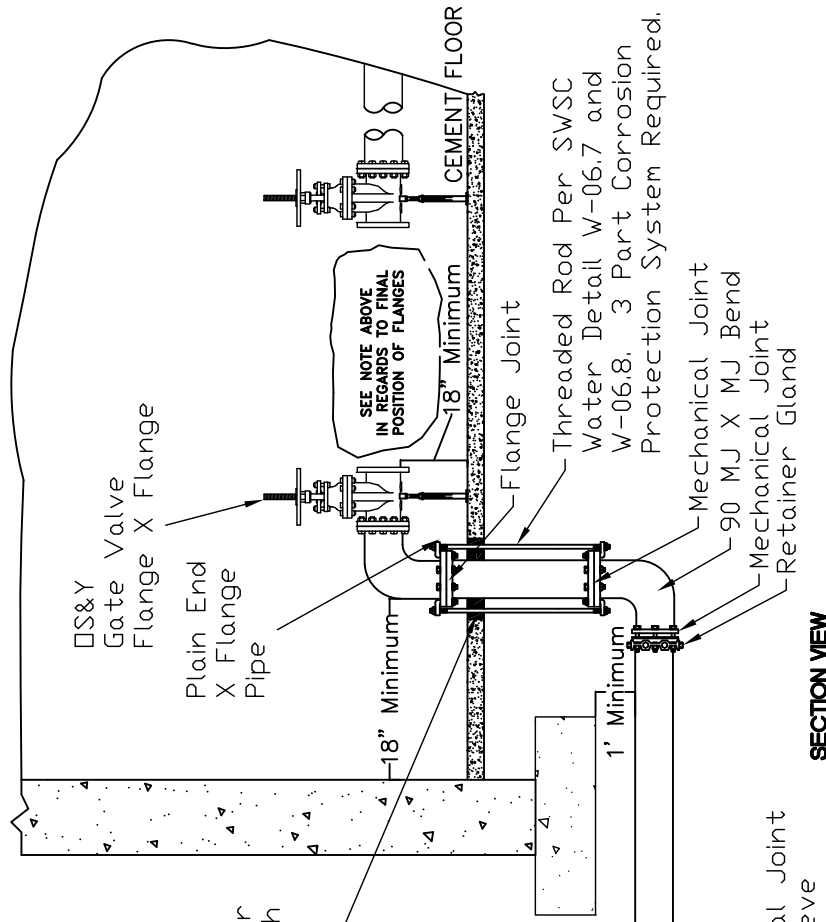


NOTES:

1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. ALL PIPING UP TO THE FIRST OS&Y MUST BE INSTALLED BEFORE TESTING.
2. FLANGES THAT CONNECT METER MUST BE SUPPLIED BY THE CONTRACTOR.
3. ALL VALVES IN THE BASEMENT/MECHANICAL ROOM MUST BE OS&Y, HAVE HAND WHEELS AND MUST LOCKABLE OR CHAIN-ABLE. NO PORT ALLOWED ON OS&Y EITHER SIDE OF THE METER.
4. ALL PIPES SHALL BE FULLY RESTRAINED FROM 1ST OS+Y VALVE FOR 80- FEET.



PLAN VIEW



SECTION VIEW


WATER SERVICE LINE

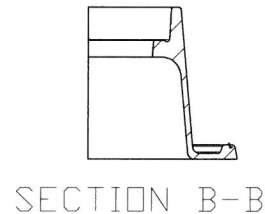
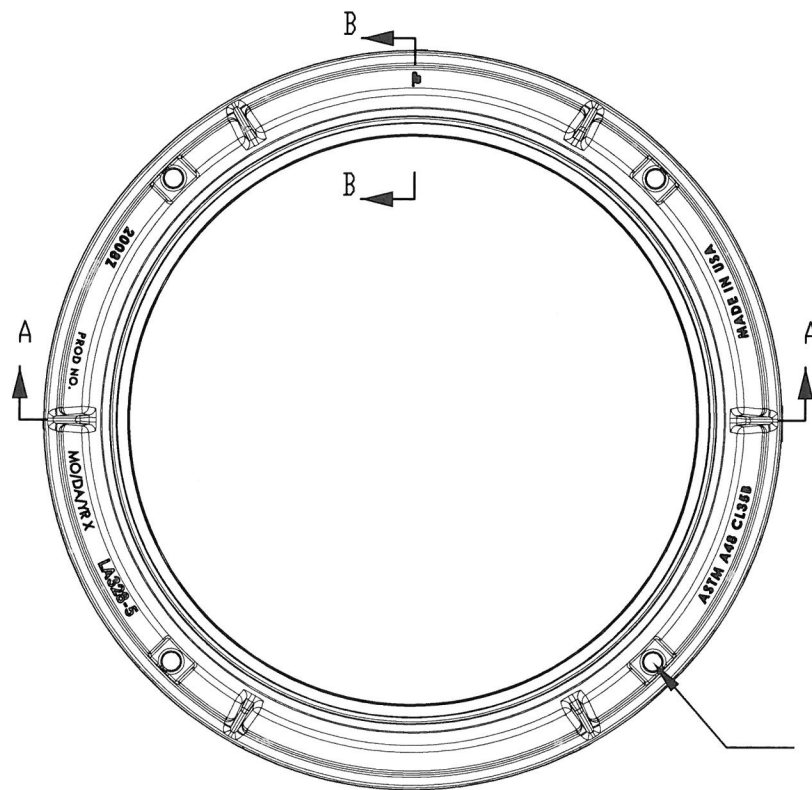
ALL JOINTS OUTSIDE BUILDING = MJ & FULLY RESTRAINED FROM MAIN TO FLOOR.

ALL JOINTS INSIDE BUILDING = FLANGE.

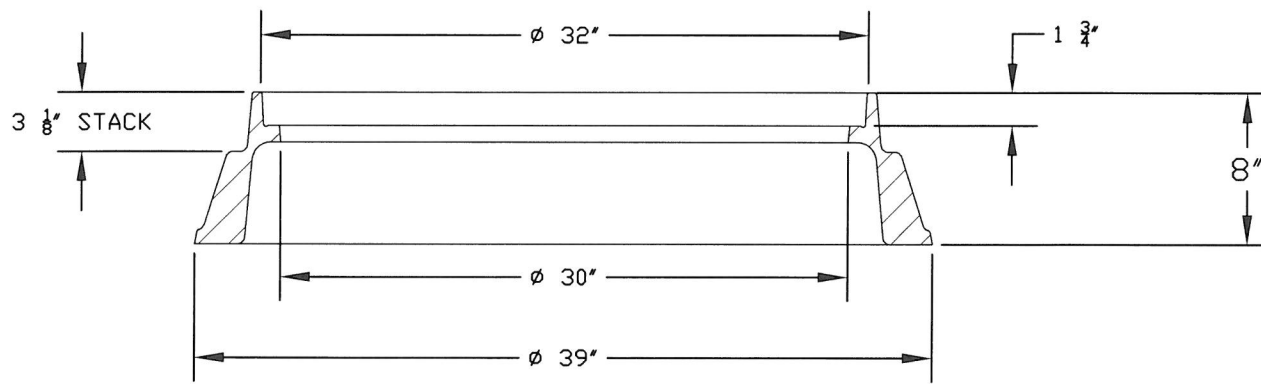
FIRST FITTING INSIDE BUILDING TO BE RODDED TO FITTING OUTSIDE BUILDING.

Mechanical Joint Solid Sleeve

SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-13.5	REV. DATE
	<i>TYPICAL DUCTILE IRON</i>	3/22/17 LMB
	<i>WATER SERVICE DETAIL</i>	1/8/19 DJP
	<i>THROUGH CONCRETE FLOOR</i>	
SCALE: NTS		




(4) 1" DIA HOLES EQUALLY SPACED ON 36" B.C.

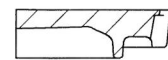
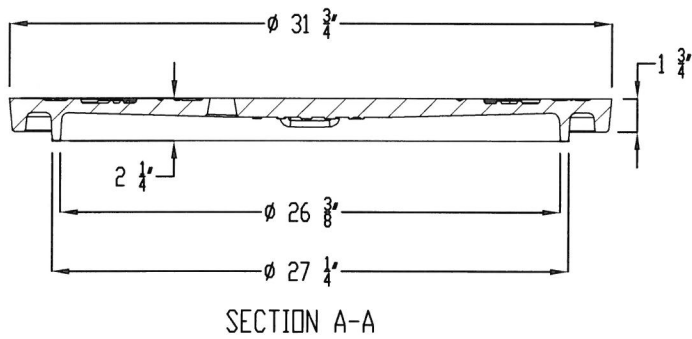
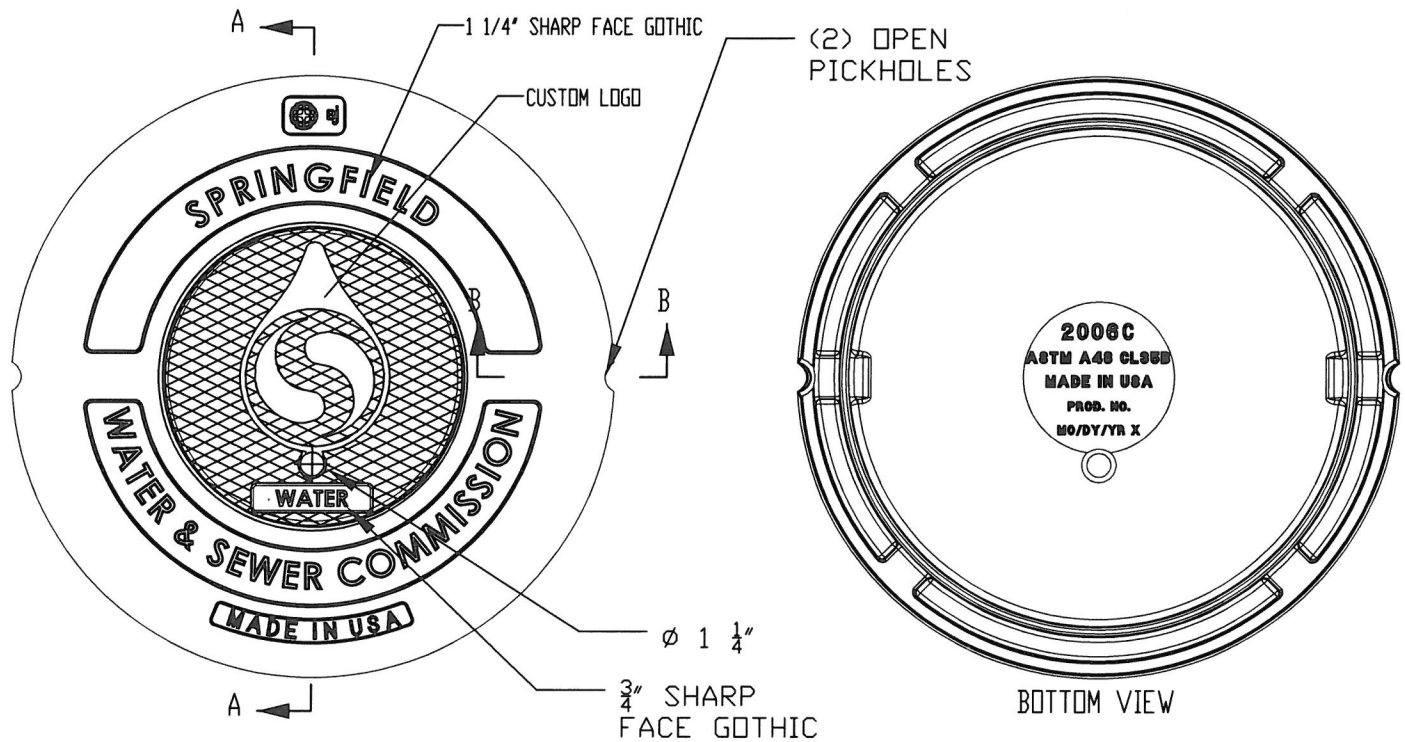


SECTION A-A

NOTES:

1. ALL MATERIALS WILL CONFORM TO SWSC SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. FRAME & COVER SHALL BE MADE FROM ASTM A48 CLASS 35B GRAY CAST IRON.
3. DIMENSIONS ARE IN INCHES-FRACTIONAL $\pm \frac{1}{16}$ ON ALL DIMENSIONS UP TO 12" AND AN ADDITIONAL $\pm \frac{1}{16}$ PER FOOT

SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-13.6	REV. DATE
	<i>32-inch by 8-inch</i> <i>Frame Only</i>	
SCALE: NTS		4/16/19 DJP

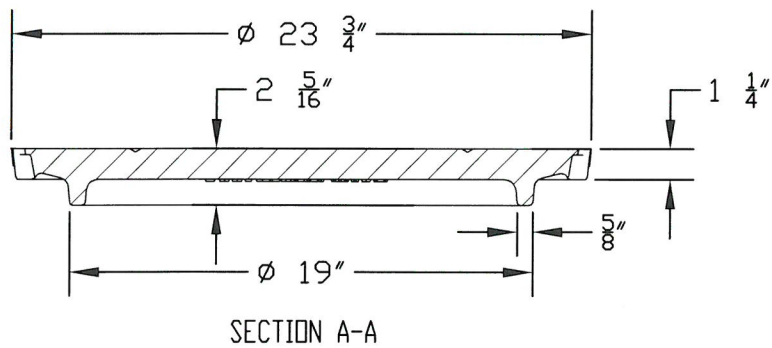
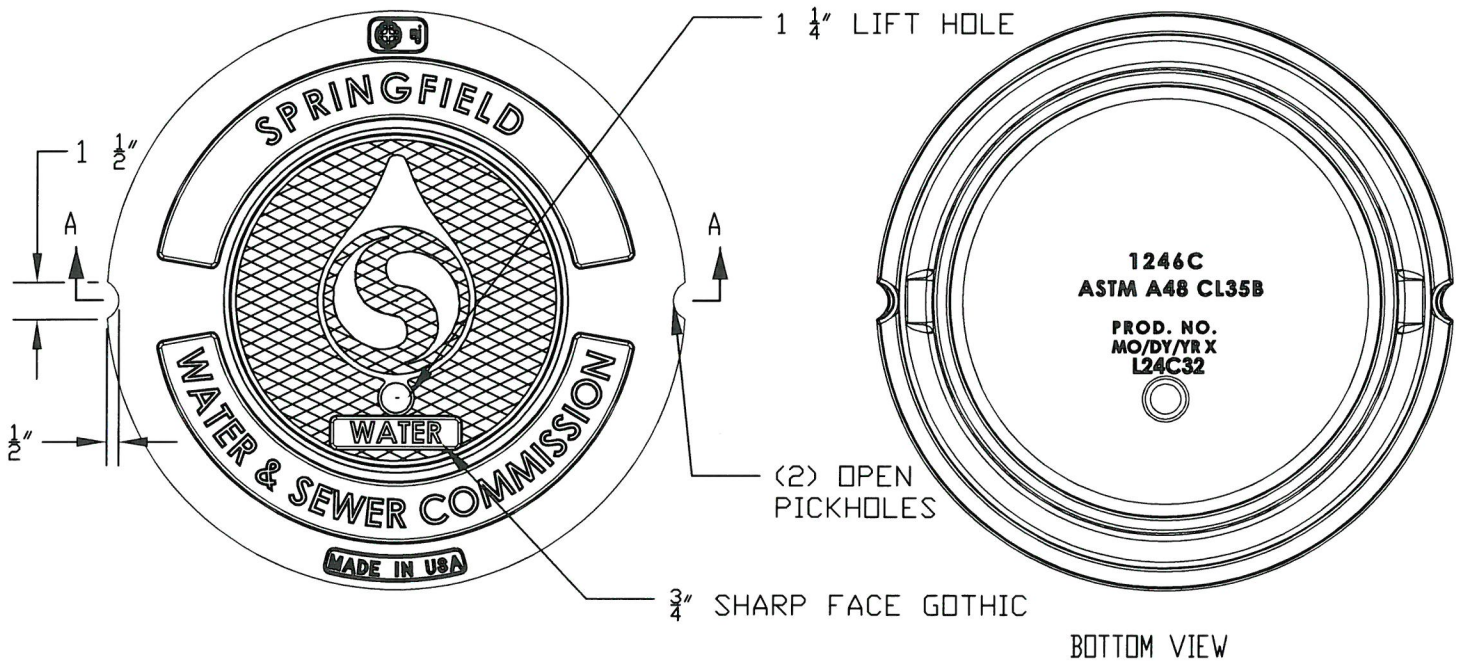


SECTION B-B
SCALE 1 : 8

NOTES:

1. ALL MATERIALS WILL CONFORM TO SWSC SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. FRAME & COVER SHALL BE MADE FROM ASTM A48 CLASS 35B GRAY CAST IRON.
3. DIMENSIONS ARE IN INCHES-FRACTIONAL $\pm \frac{1}{16}$ ON ALL DIMENSIONS UP TO 12' AND AN ADDITIONAL $\pm \frac{1}{16}$ PER FOOT

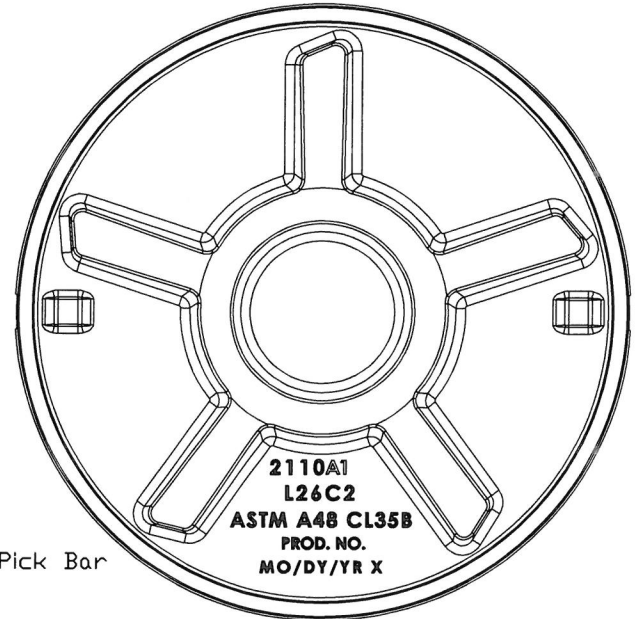
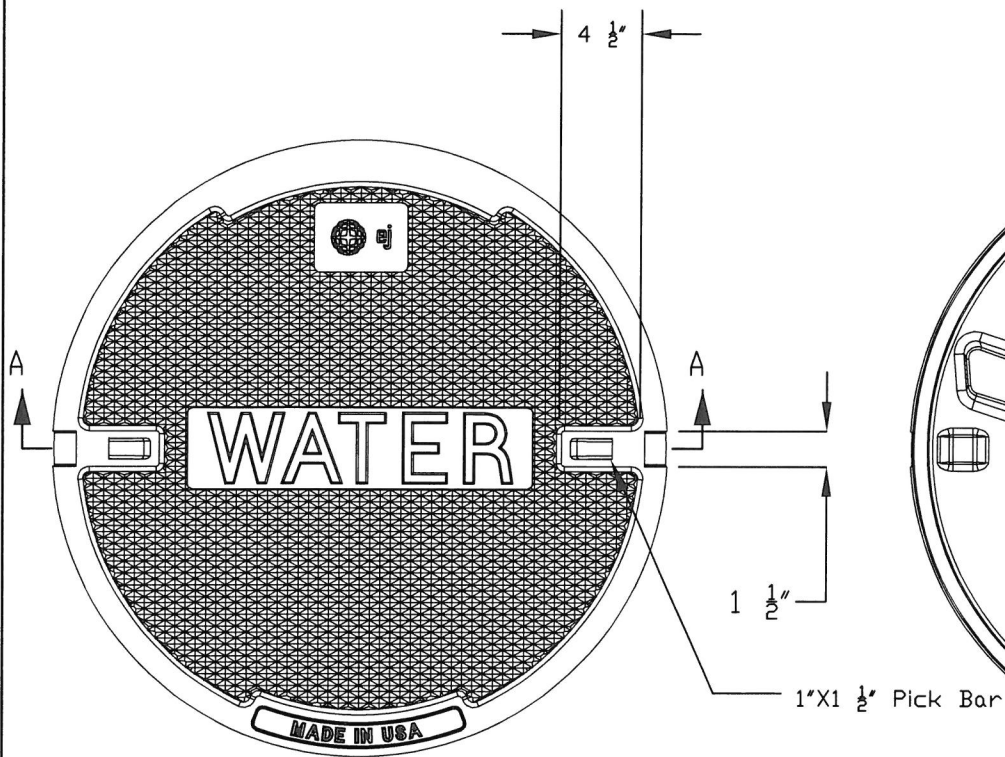
SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-13.7	REV. DATE
	32-inch Standard Water Cover	4/16/19 DJP
SCALE: NTS		



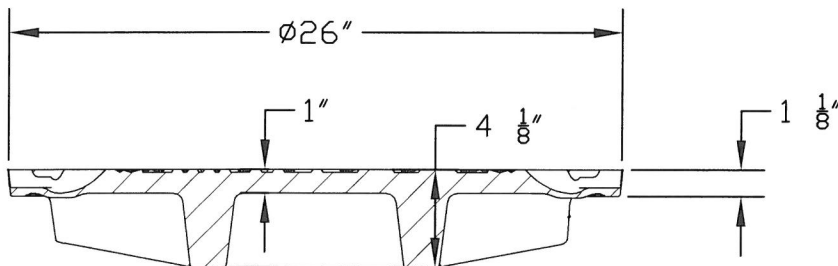
NOTES:

1. ALL MATERIALS WILL CONFORM TO SWSC SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. FRAME & COVER SHALL BE MADE FROM ASTM A48 CLASS 35B GRAY CAST IRON.
3. DIMENSIONS ARE IN INCHES-FRACTIONAL +/- 1/16" ON ALL DIMENSIONS UP TO 12" AND AN ADDITIONAL +/- 1/16" PER FOOT

SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-13.8	REV. DATE
	24-inch Replacement Water Cover	4/16/19 DJP
SCALE: NTS		



BOTTOM VIEW

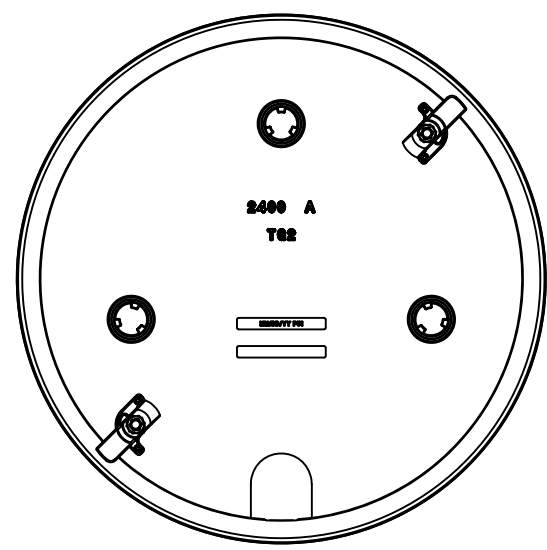
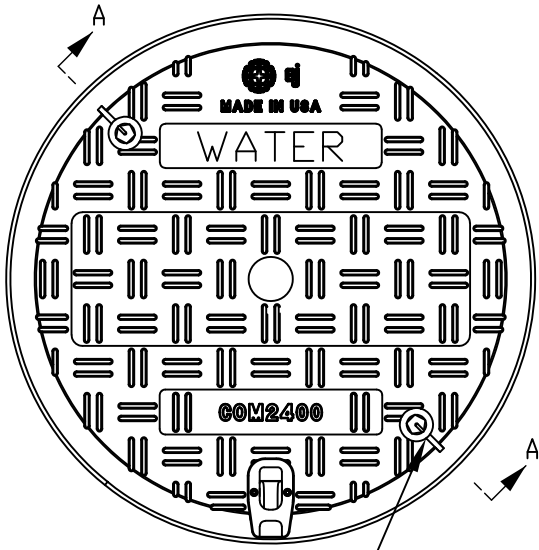


SECTION A-A

NOTES:

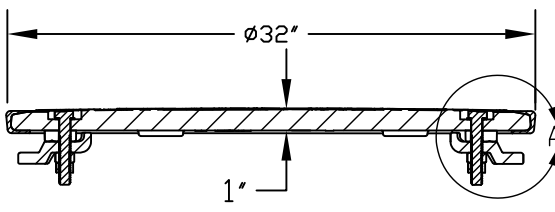
1. ALL MATERIALS WILL CONFORM TO SWSC SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. FRAME & COVER SHALL BE MADE FROM ASTM A48 CLASS 35B GRAY CAST IRON.
3. DIMENSIONS ARE IN INCHES-FRACTIONAL $\pm \frac{1}{16}$ ON ALL DIMENSIONS UP TO 12" AND AN ADDITIONAL $\pm \frac{1}{16}$ " PER FOOT

SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-13.9	REV. DATE
	26-inch Replacement Water Cover	4/16/19 DJP
SCALE: NTS		

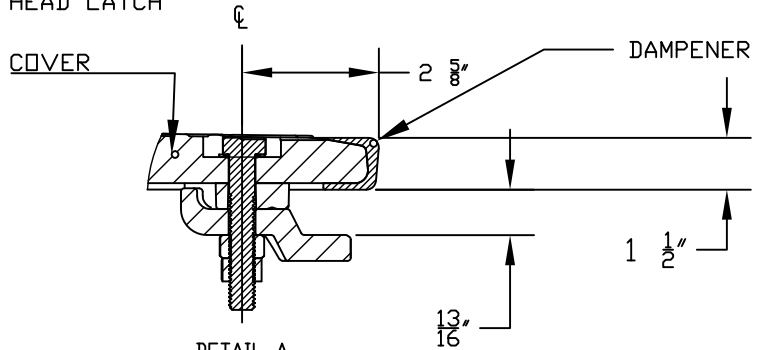


BOTTOM VIEW

¼ TURN PENTA HEAD LATCH



SECTION A-A

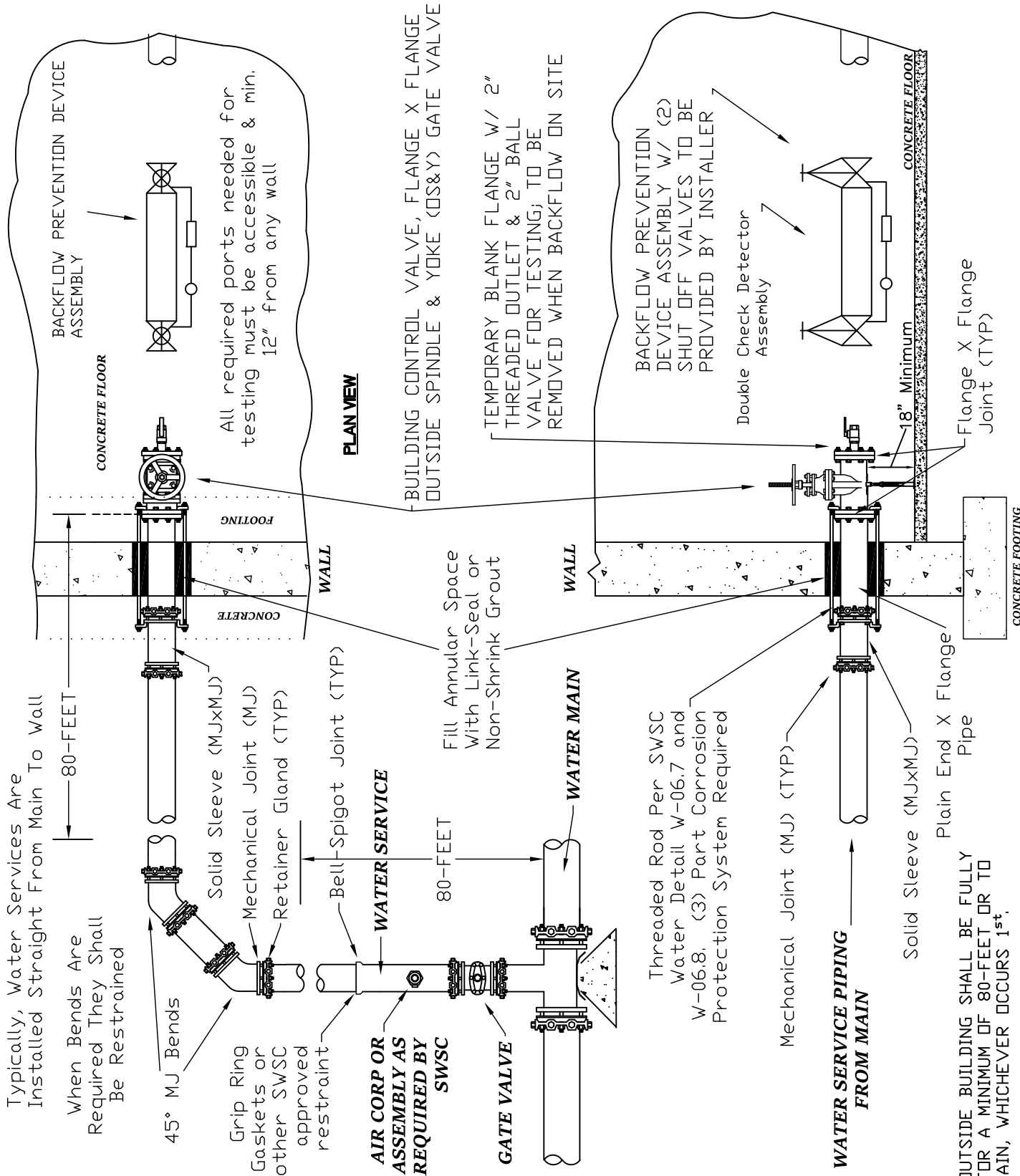


DETAIL A
SCALE 1:3

NOTES:

1. ALL MATERIALS WILL CONFORM TO SWSC SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. COVER SHALL BE MADE FROM FIBER REINFORCED POLYMER (FRP) ASTM C1028
3. DIMENSIONS ARE IN INCHES-FRACTIONAL +/- 1/16 ON ALL DIMENSIONS UP TO 12" AND AN ADDITIONAL +/- 1/16" PER FOOT

SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-13.10	REV. DATE
	32" Composite Locking Cover	4/19/19 DJP
		4/6/21 MJL
SCALE: NTS		



SECTION VIEW

NOTES:

1. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND GUIDELINES & POLICIES.
2. ALL PIPING UP TO THE 1ST OS&Y MUST BE INSTALLED BEFORE TESTING.
3. BACKFLOW PREVENTION DEVICE ASSEMBLY SHALL BE INSTALLED ONTO OS&Y BUILDING CONTROL VALVE.
4. ALL VALVES AFTER THE BUILDING CONTROL VALVE MAY BE OS&Y GATE VALVE OR BUTTERFLY VALVE W/ TAMPER SWITCH. MUST BE LOCKABLE OR CHAINABLE.
5. ANY COMBINATION OF FLANGE ON GROOVED CONNECTIONS AFTER BUILDING CONTROL VALVE ARE ALLOWED.

NOTES:

ALL JOINTS OUTSIDE BUILDING SHALL BE FULLY RESTRAINED FOR A MINIMUM OF 80-FOOT OR TO THE WATER MAIN, WHICHEVER OCCURS 1st.

ALL JOINTS INSIDE BUILDING SHALL BE FLANGE.

1ST FLANGED JOINT INSIDE BUILDING TO BE RODDED TO LAST JOINT OUTSIDE BUILDING.

	SPRINGFIELD WATER AND SEWER COMMISSION	
	WATER DETAIL W-13.11	
	<i>TYPICAL DUCTILE IRON FIRE SERVICE DETAIL THROUGH FOUNDATION WALL</i>	
	SCALE: NTS	
	REV. DATE	
	1/8/19 DJP	
	10/6/20 MAB	
	10/13/20 MJL	
	6/10/21 MJL	

Typically, Water Services Are Installed Straight From Main To Wall

80-FOOT

All Required Bends Shall Be Restrained

45° MJ Bends

Grip Ring Gaskets or other SWSC approved restraint

Solid Sleeve (MJxMJ)

Mechanical Joint (MJ)

Retainer Gland (TYP)

Bell-Spigot Joint (TYP)

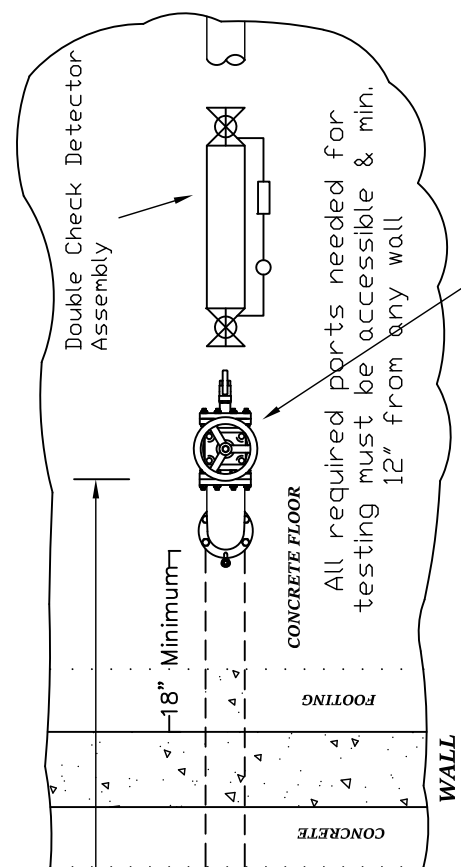
WATER SERVICE

80-FOOT

WATER MAIN

GATE VALVE

AIR CORP OR ASSEMBLY AS REQUIRED BY SWSC

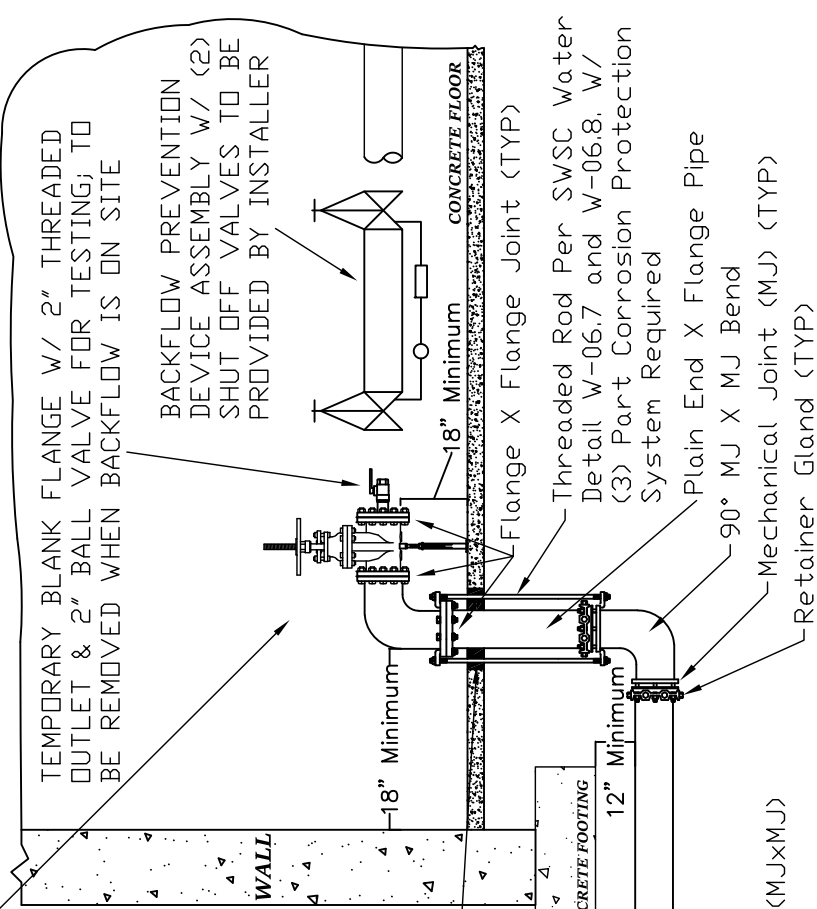


PLAN VIEW

BUILDING CONTROL VALVE, FLANGE X FLANGE OUTSIDE SPINDLE & YOKE (OS&Y) GATE VALVE

TEMPORARY BLANK FLANGE W/ 2" THREADED OUTLET & 2" BALL VALVE FOR TESTING; TO BE REMOVED WHEN BACKFLOW IS ON SITE

BACKFLOW PREVENTION DEVICE ASSEMBLY W/ (2) SHUT OFF VALVES TO BE PROVIDED BY INSTALLER




SECTION VIEW

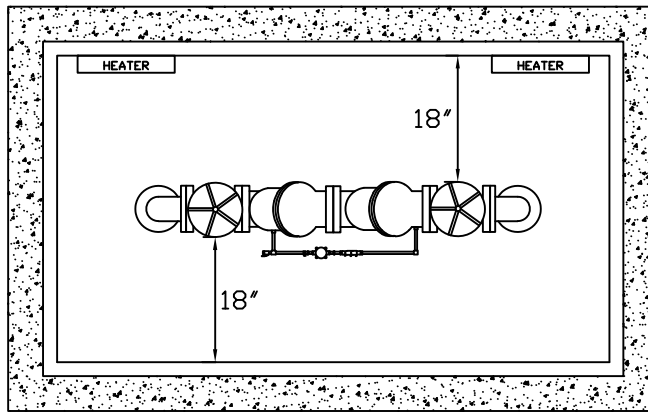
WATER SERVICE PIPING FROM MAIN

NOTES:
 ALL JOINTS OUTSIDE BUILDING SHALL BE FULLY RESTRAINED FOR A MINIMUM OF 80-FOOT OR TO THE WATER MAIN, WHICHEVER OCCURS 1st.
 ALL JOINTS INSIDE BUILDING SHALL BE FLANGE.
 1ST FLANGED JOINT INSIDE BUILDING TO BE RODDED TO LAST JOINT OUTSIDE BUILDING.

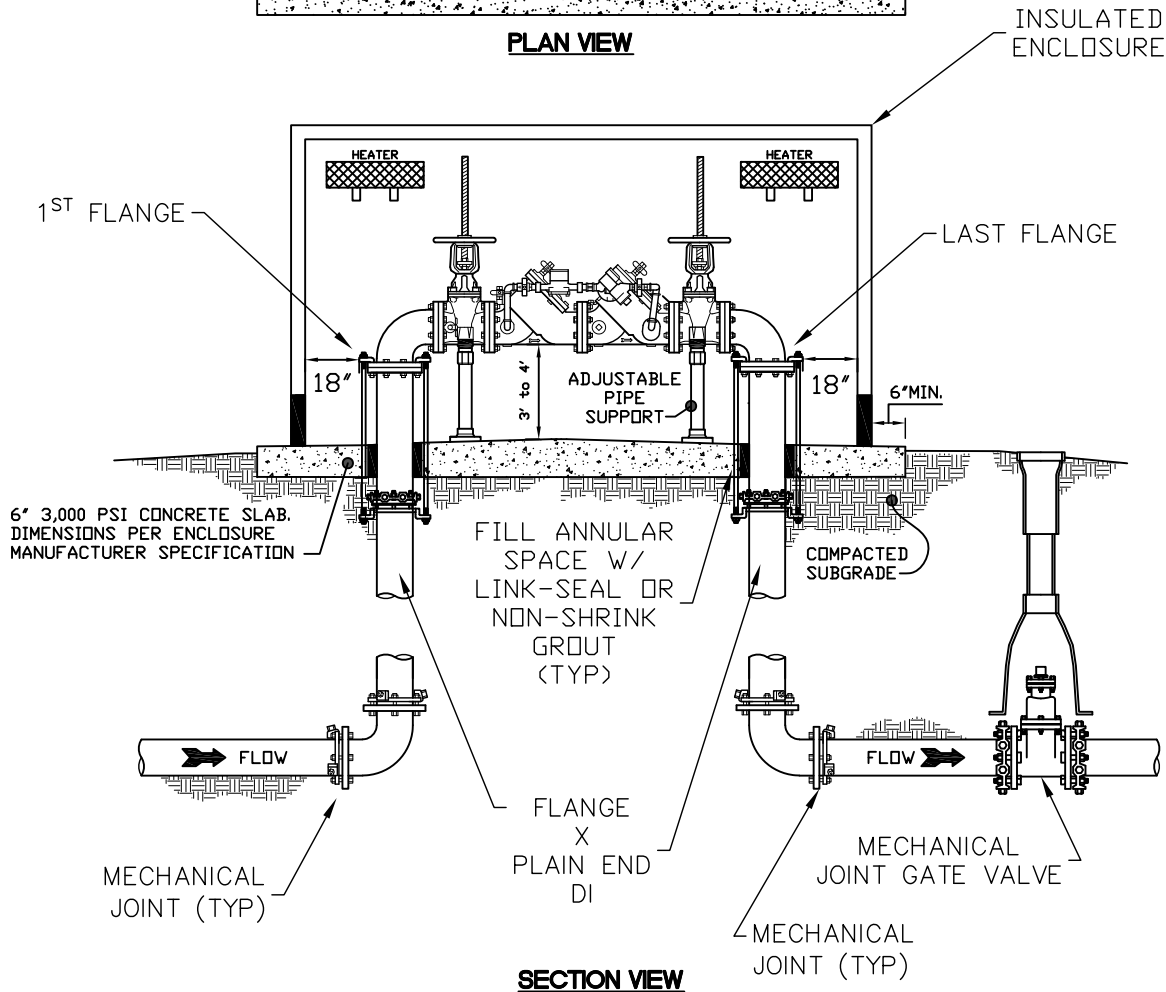
NOTES:

1. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND GUIDELINES & POLICIES.
2. ALL PIPING UP TO THE 1ST OS&Y MUST BE INSTALLED BEFORE TESTING.
3. BACKFLOW PREVENTION DEVICE ASSEMBLY SHALL BE INSTALLED ONTO OS&Y BUILDING CONTROL VALVE.
4. ALL VALVES AFTER THE BUILDING CONTROL VALVE MAY BE OS&Y GATE VALVE OR BUTTERFLY VALVE W/ TAMPER SWITCH. MUST BE LOCKABLE OR CHAINABLE.
5. ANY COMBINATION OF FLANGE ON GROOVED CONNECTIONS AFTER BUILDING CONTROL VALVE ARE ALLOWED.

	SPRINGFIELD WATER AND SEWER COMMISSION	
	WATER DETAIL W-13.12	
	TYPICAL DUCTILE IRON FIRE SERVICE DETAIL THROUGH CONCRETE FLOOR	
	SCALE: NTS	
	REV. DATE	
	3/22/17 LMB	
	1/8/19 DJP	
	10/13/20 MJL	
	6/10/21 MJL	



PLAN VIEW

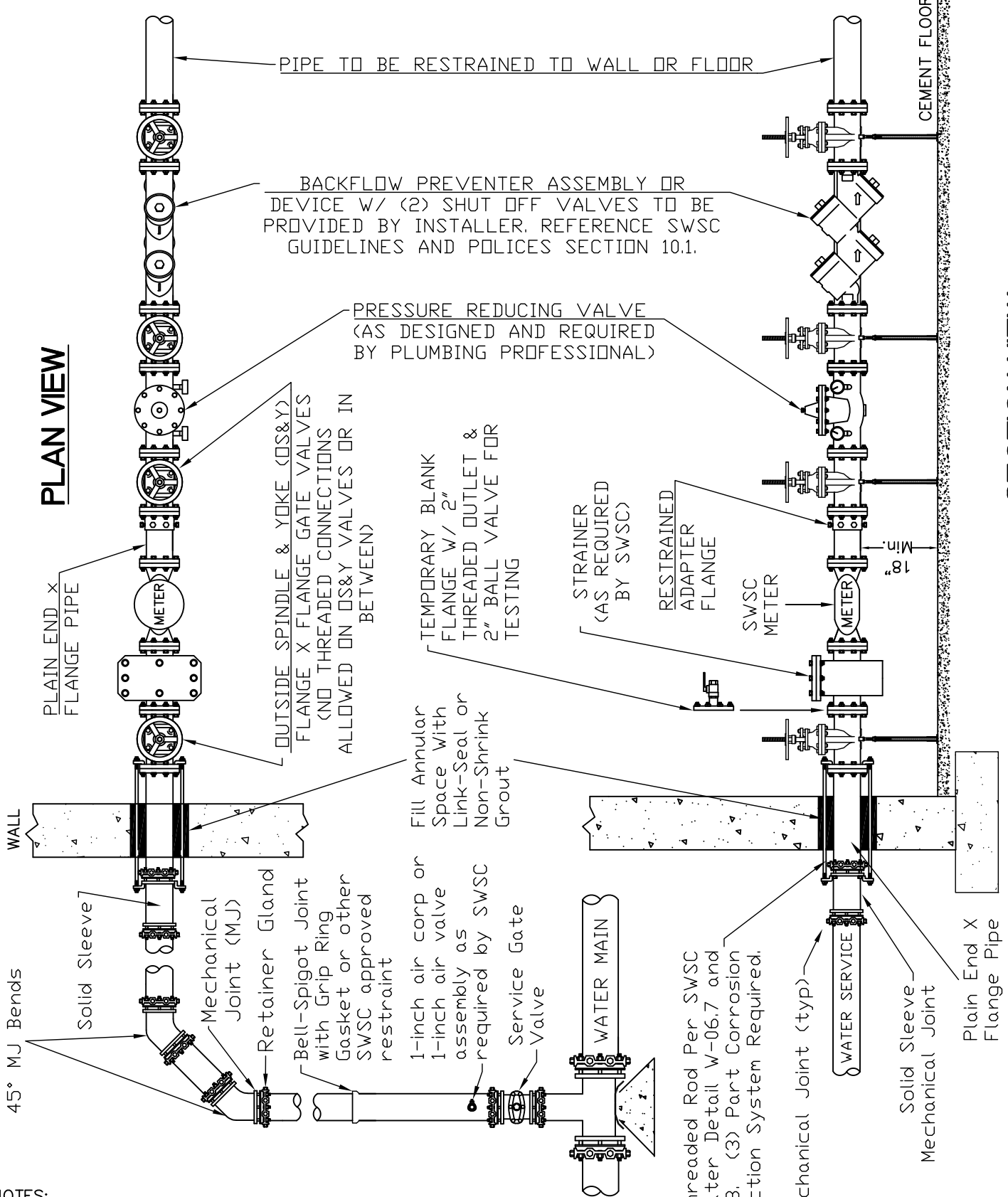


SECTION VIEW

NOTES:


1. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND GUIDELINES & POLICIES.
2. ALL PIPING UP TO THE 1ST FLANGE MUST BE INSTALLED BEFORE TESTING.
3. BACKFLOW PREVENTION ASSEMBLY SHALL BE INSTALLED ONTO 1ST FLANGE.
4. ALL VALVES AFTER THE 1ST FLANGE MAY BE OS&Y GATE VALVE OR BUTTERFLY VALVE W/ TAMPER SWITCH. MUST BE LOCKABLE OR CHAINABLE.
5. ANY COMBINATION OF FLANGE ON GROOVED CONNECTIONS BETWEEN 1ST FLANGE AND LAST FLANGE ARE ALLOWED.
6. ALL PIPING FROM 1ST FLANGED JOINT TO MAIN OUTSIDE AND FROM MAIN TOWARDS BUILDING, SHALL BE FULLY RESTRAINED FOR 80- FEET.
7. ALL JOINTS OUTSIDE HOT BOX FULLY RESTRAINED FROM MAIN TO WALL = MJ.
8. 1ST & LAST FLANGED JOINT IN HOT BOX TO BE FLANGED.
9. 1ST & LAST FLANGED JOINT INSIDE HOT BOX TO BE RODDED TO NEXT JOINTS OUTSIDE HOT BOX.

SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-13.13	REV. DATE
	<i>TYPICAL DUCTILE IRON</i>	10/28/20 MJL
	<i>FIRE SERVICE DETAIL</i>	10/29/20 DS
	<i>IN A HOT BOX</i>	
SCALE: NTS		

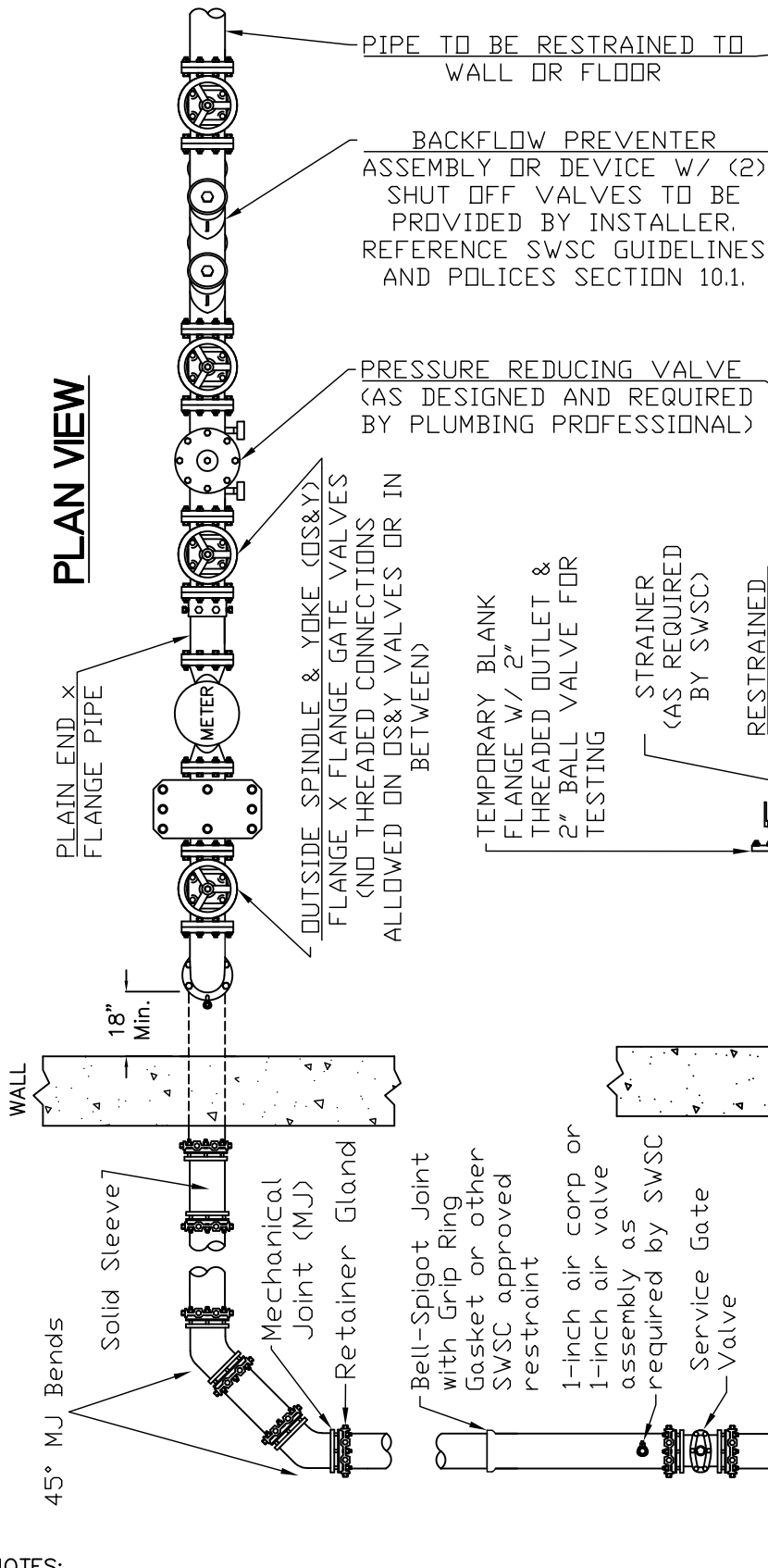


NOTES:

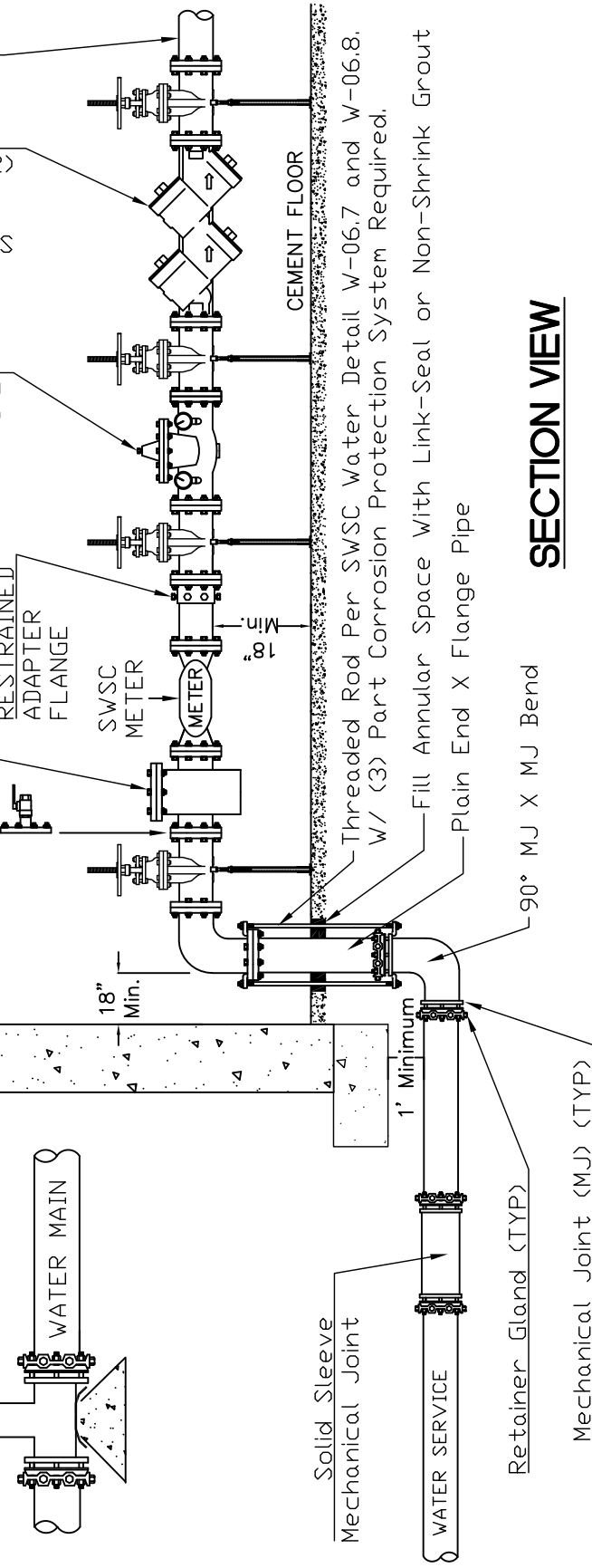
1. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND GUIDELINES & POLICES.
2. ALL PIPING UP TO THE 1ST OS&Y MUST BE INSTALLED BEFORE TESTING.
3. ALL JOINTS OUTSIDE BUILDING SHALL BE FULLY RESTRAINED FOR A MINIMUM OF 80FT OR TO THE WATER MAIN, WHICH EVER COMES FIRST.
4. JOINTS INSIDE BUILDING SHALL BE FLANGE X FLANGE. ONLY ONE ADAPTER FLANGE SHALL BE INSTALLED AS SHOWN ON DETAIL.
5. NO THREADED CONNECTIONS ALLOWED INSIDE BUILDING UP TO THE 2ND OS&Y

	SPRINGFIELD WATER AND SEWER COMMISSION	
	WATER DETAIL W-13.14	
	TYPICAL DIP COMMERCIAL & INDUSTRIAL SERVICE DETAIL THROUGH FOUNDATION WALL	
SCALE: NTS		REV. DATE 10/28/20 DS 11/5/20 DS


PLAN VIEW

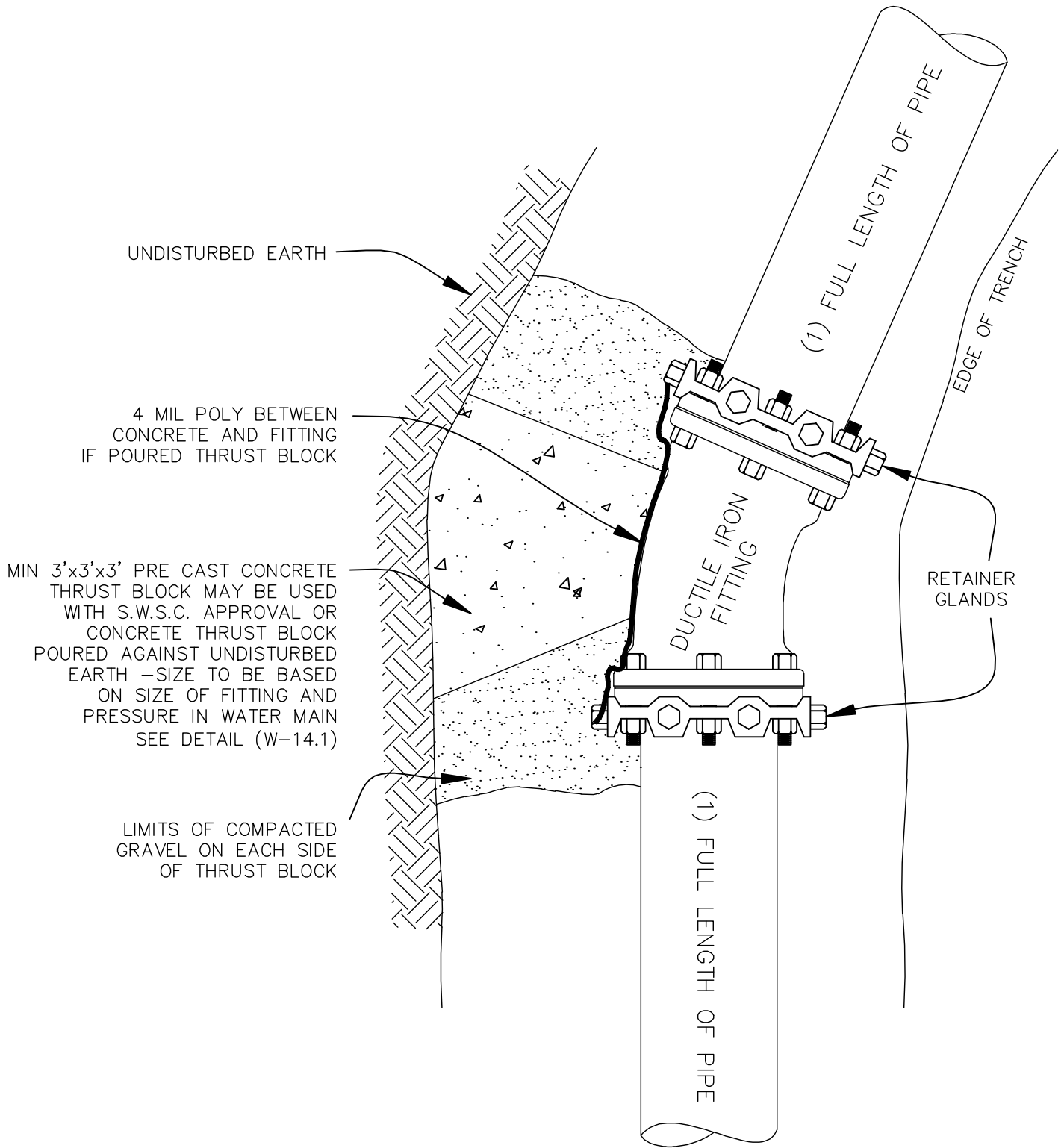


SECTION VIEW




- NOTES:**
1. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND GUIDELINES & POLICIES.
 2. ALL PIPING UP TO THE 1ST OS&Y MUST BE INSTALLED BEFORE TESTING.
 3. ALL JOINTS OUTSIDE BUILDING SHALL BE FULLY RESTRAINED FOR A MINIMUM OF 80FT OR TO THE WATER MAIN, WHICH EVER COMES FIRST.
 4. JOINTS INSIDE BUILDING SHALL BE FLANGE X FLANGE. ONLY ONE ADAPTER FLANGE SHALL BE INSTALLED AS SHOWN ON DETAIL.
 5. NO THREADED CONNECTIONS ALLOWED INSIDE BUILDING UP TO THE 2ND OS&Y

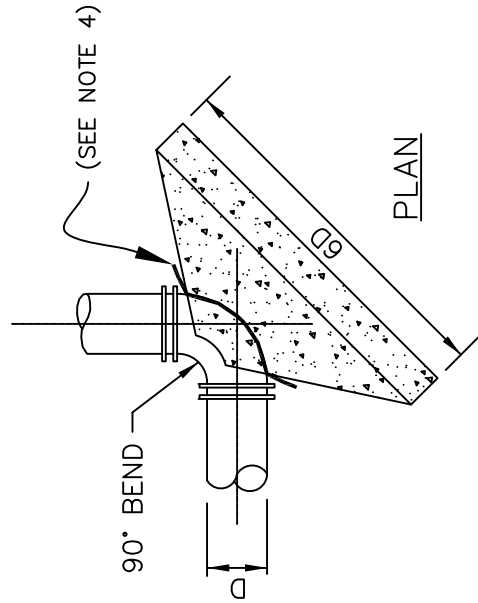
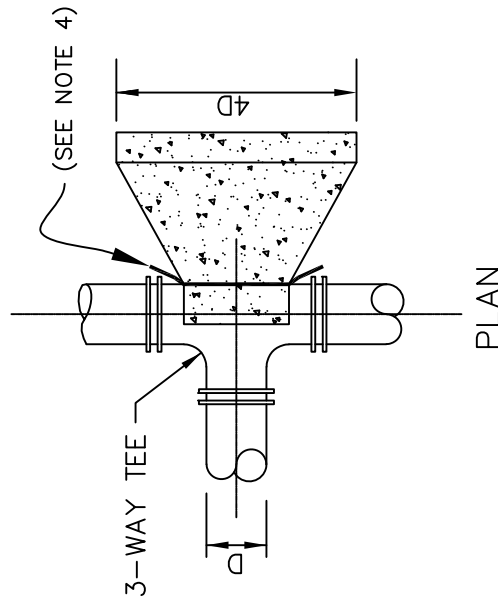
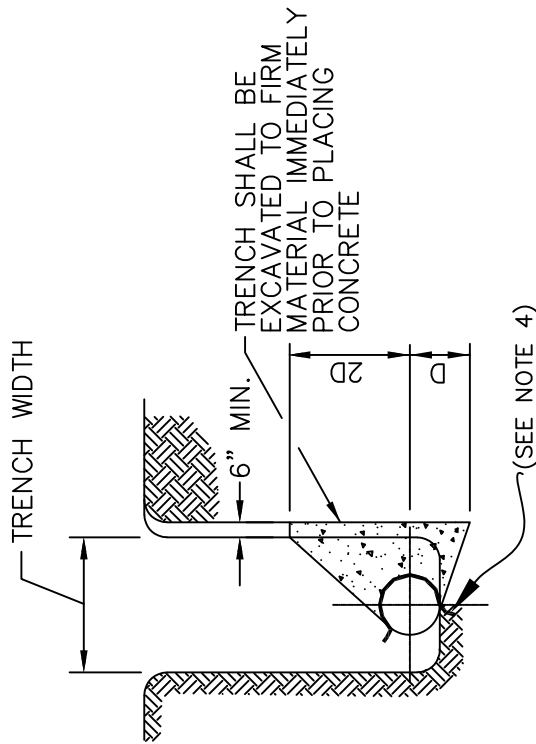
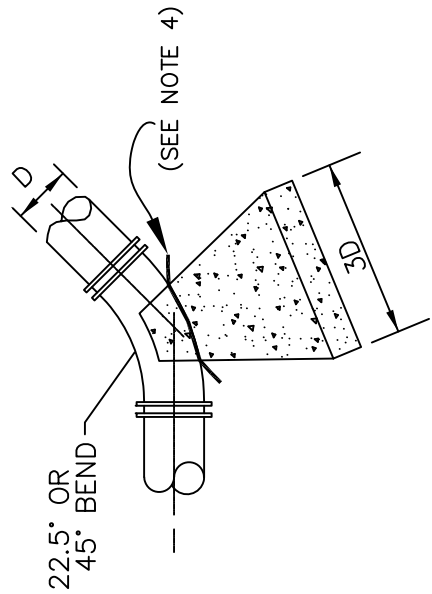
 SPRINGFIELD WATER AND SEWER COMMISSION						
WATER DETAIL W-13.15 <i>TYPICAL DIP COMMERCIAL & INDUSTRIAL SERVICE DETAIL THROUGH CONCRETE FLOOR</i>						
SCALE: NTS	<table border="1"> <tr> <th>REV. DATE</th> </tr> <tr> <td>10/29/20 DS</td> </tr> <tr> <td>11/5/20 DS</td> </tr> <tr> <td> </td> </tr> <tr> <td> </td> </tr> </table>	REV. DATE	10/29/20 DS	11/5/20 DS		
REV. DATE						
10/29/20 DS						
11/5/20 DS						



NOTES:


1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. ALL WATER MAIN SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISH GRADE.
3. SEE DETAIL W-02.0, W-02.1, W-02.2, W-02.3 OR W-02.4 FOR TRENCH DETAILS.

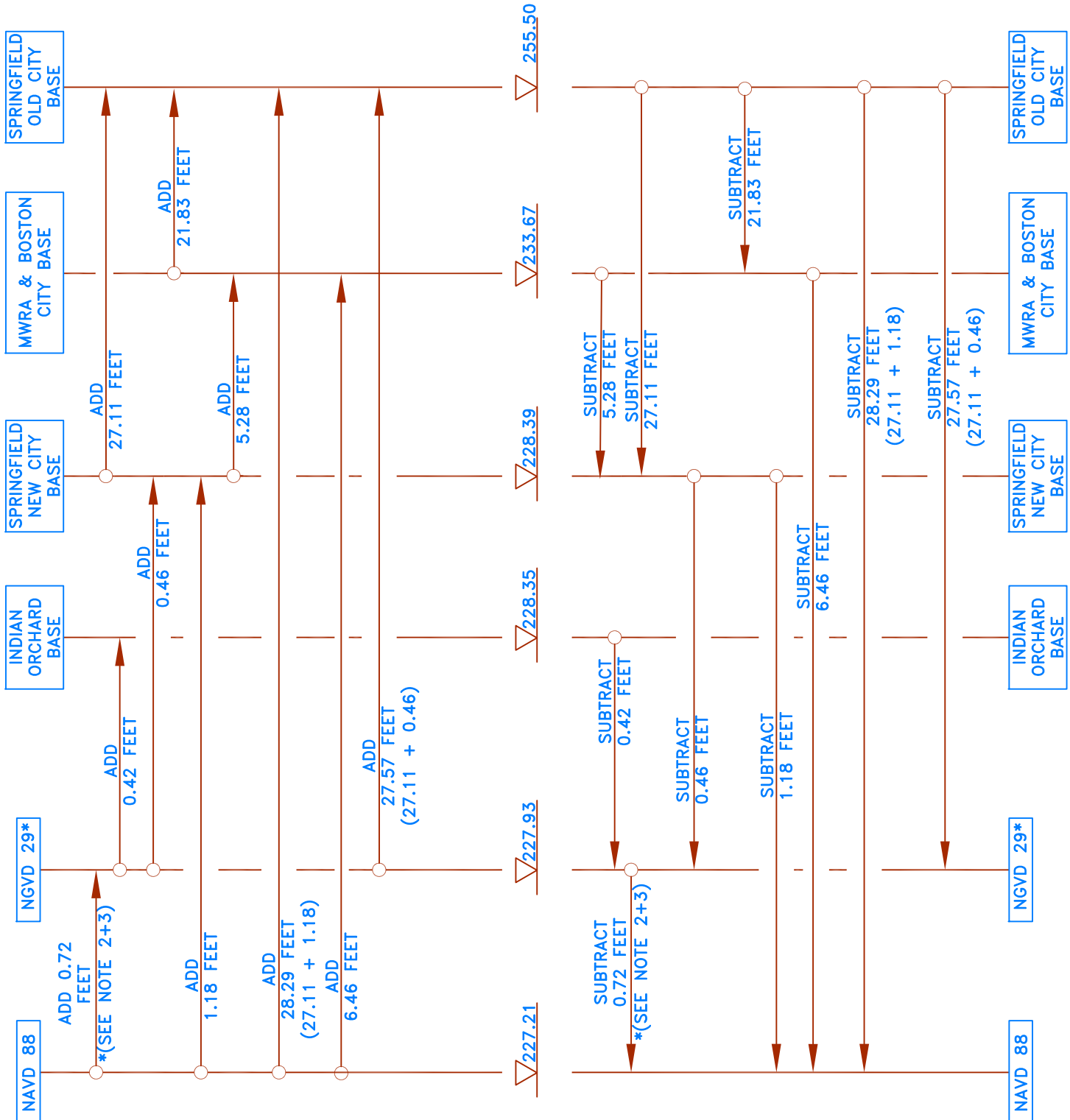
SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-14.0	REV. DATE
	<i>THRUST BLOCK BEHIND FITTINGS</i>	4/1/08 MAB
SCALE: NTS		



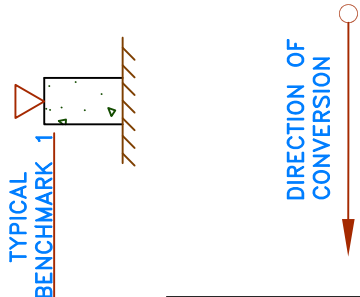
NOTES:

1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. ALL WATER MAIN SHOULD HAVE A MINIMUM DEPTH OF 5' FROM TOP OF PIPE TO FINISH GRADE.
3. SEE DETAIL W-02.0, W-02.1, W-02.2, W-02.3 OR W-02.4 FOR TRENCH DETAILS.
4. 4 MIL POLY BETWEEN CONCRETE AND FITTING IF POURED THRUST BLOCK.
5. ANCHORS BASED ON MAXIMUM ALLOWABLE WATER PRESSURE OF 125 PSI SHOULD ONLY BE USED WHEN SOIL CONDITIONS ARE STABLE

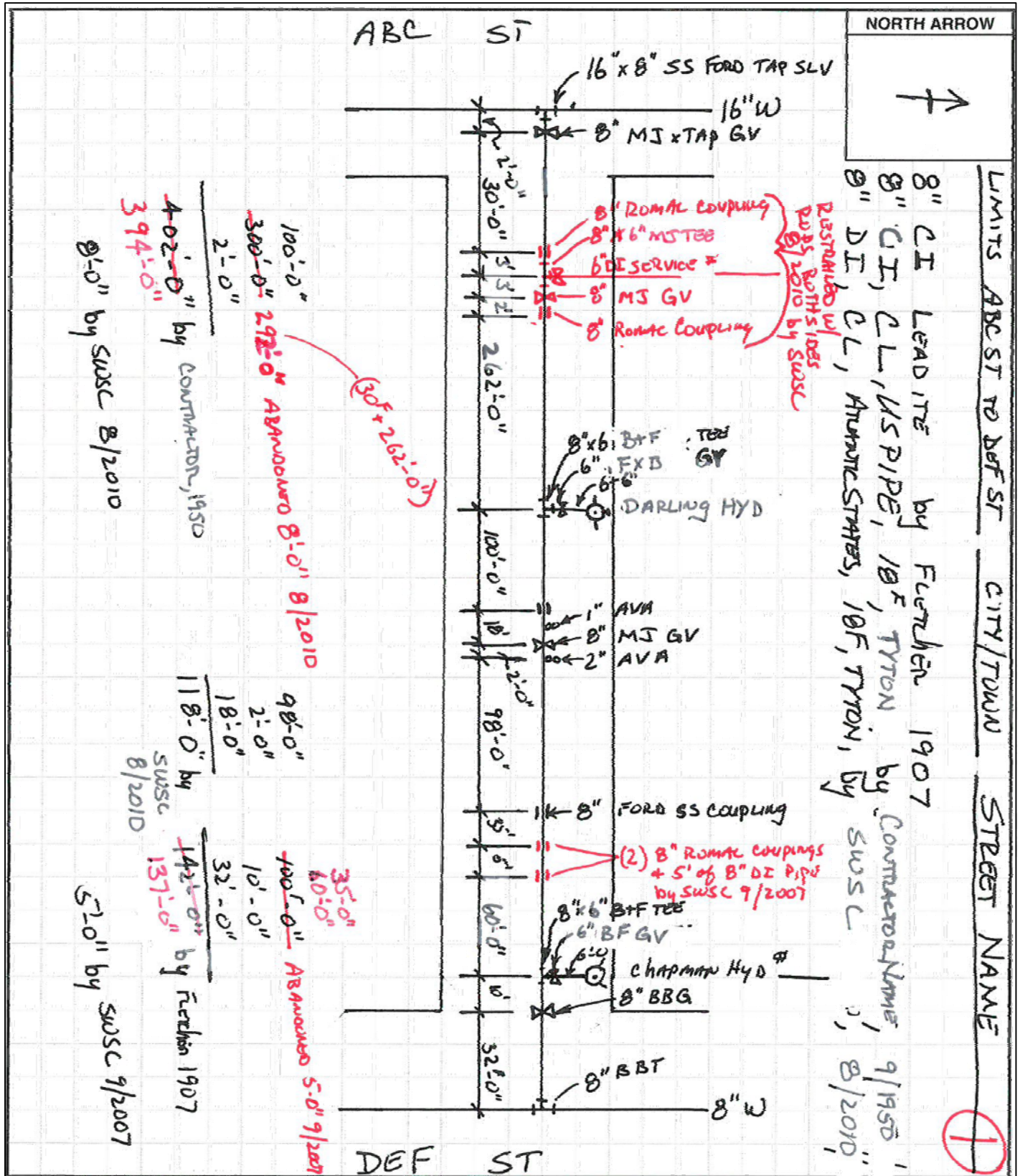
SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-14.1	REV. DATE
	<i>THRUST BLOCKS</i>	4/1/08 MAB
	SCALE: NTS	11/21/19 JFC




- NOTES:**
1. NOT FOR SURVEY, CONFIRM ALL ELEVATIONS, DATUMS, BASES, AND CONVERSIONS PRIOR TO SURVEY WORK
 2. * NGVD 29 IS NOT ALWAYS THE SAME ELEVATION, NGVD 29 IS DEPENDENT ON LOCATION IN SPRINGFIELD, LUDLOW, WESTFIELD, ETC. THE ELEVATION OF NGVD 29 CAN BE 0.65 - 0.72. ROUND TO THE HUNDREDTHS UPON CONVERSION COMPLETION
 - 3.



SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-15.0	REV. DATE
	<i>RELATION OF VERTICAL DATUMS TO SPRINGFIELD CITY BASE(S)</i>	
	SCALE: NTS	
	1/9/19 DJP	

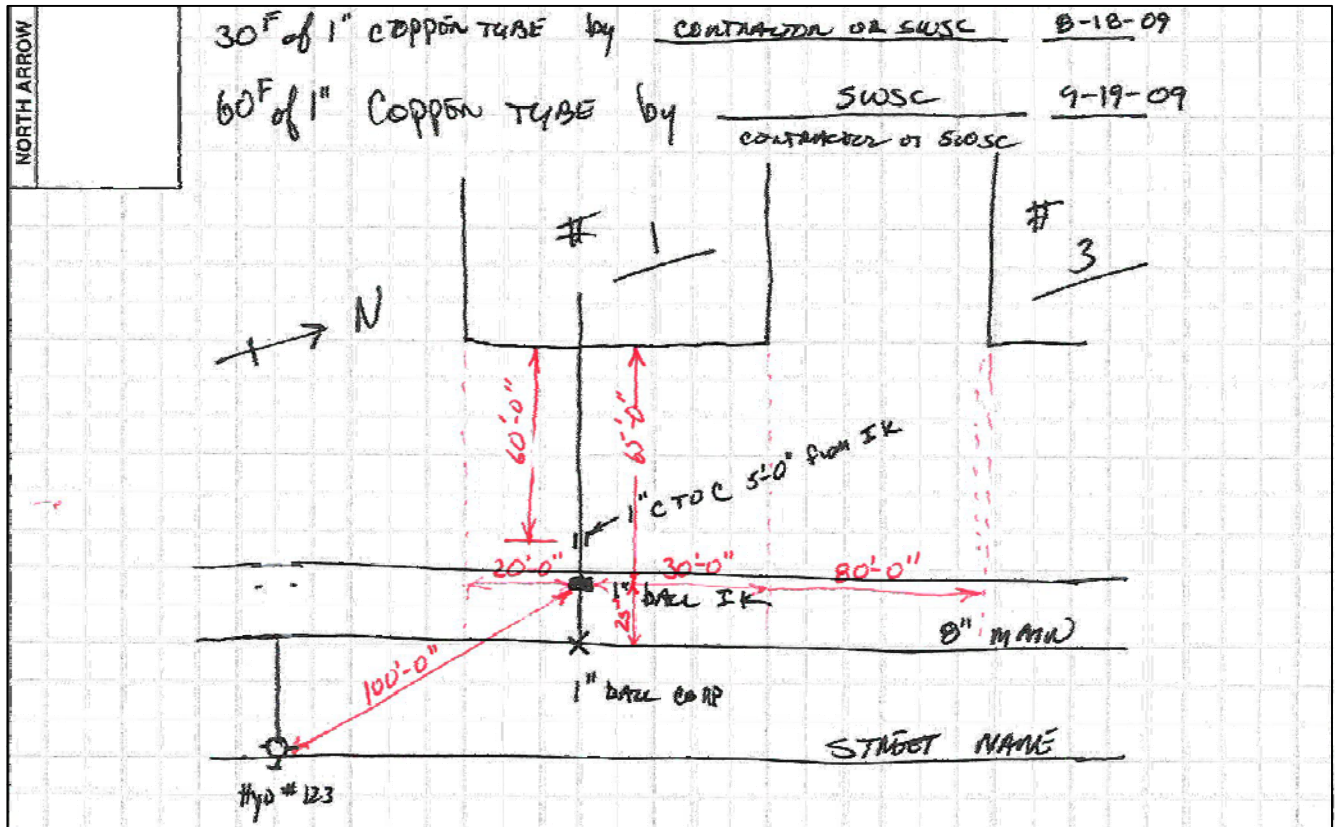


NOTES:
1.


SPRINGFIELD WATER AND SEWER COMMISSION	
	WATER DETAIL W-16.0
	RECORD SKETCH DETAIL
SCALE: NTS	REV. DATE 10/19/17 DJP

No:	STREET
OWNER	SOR
DATE	WORK DONE
8-18-09	SERVICES REPLACED BY CONTRACTOR MAIN TO TROUBLE
7-19-09	SERVICES ENTER REQUESTED BY SWSC TROUBLE TO HOUSE

BUFFALO BOX IN TROUBLE OVER 1" BALL IK
 65'-0" OUT FROM HOUSE
 20'-0" N OF S LINE OF HOUSE
 30'-0" S OF N LINE OF HOUSE
 80'-0" S OF S LINE OF HOUSE # 3
 ANOTHER BUFFALO BOX IS BURIED IN STREET OVER
 1" BALL CORP 25'-0" E OF IK
 1" C TO C IS 5'-0" FROM IK + 60'-0" OUT FROM HOUSE

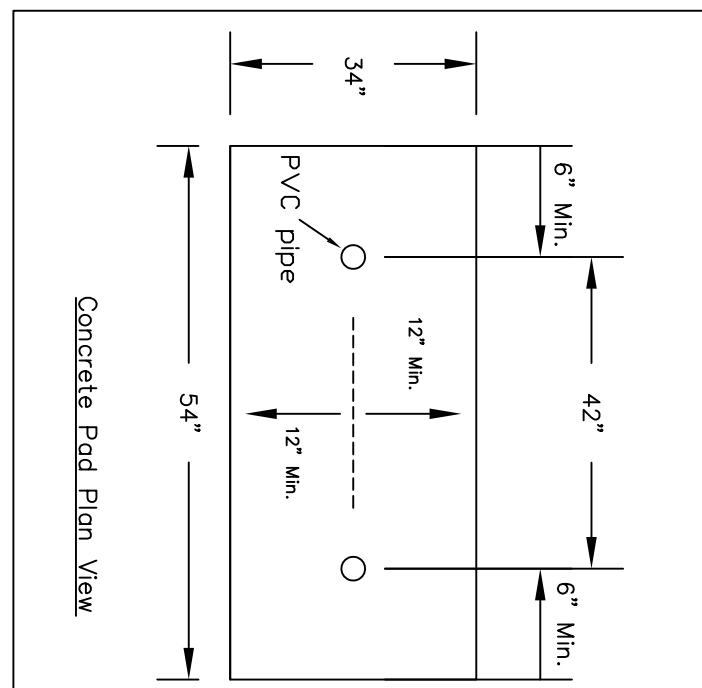
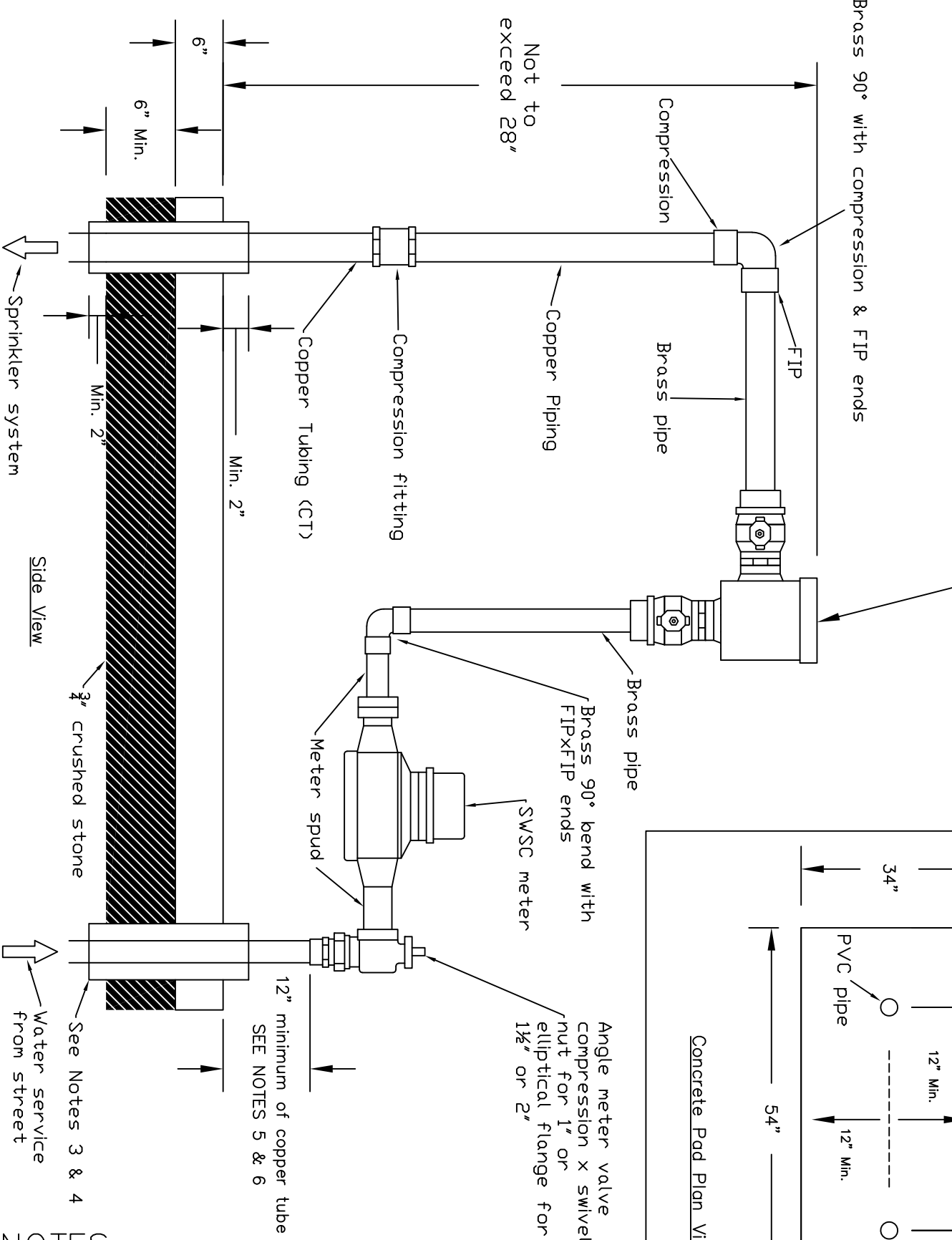


NOTES:
1.

SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-16.1	REV. DATE
	WATER SERVICES CARD DETAIL	10/19/17 DJP
SCALE: NTS		


Testable Backflow Prevention Device (BPD) using brass ball valves with FIP ends.

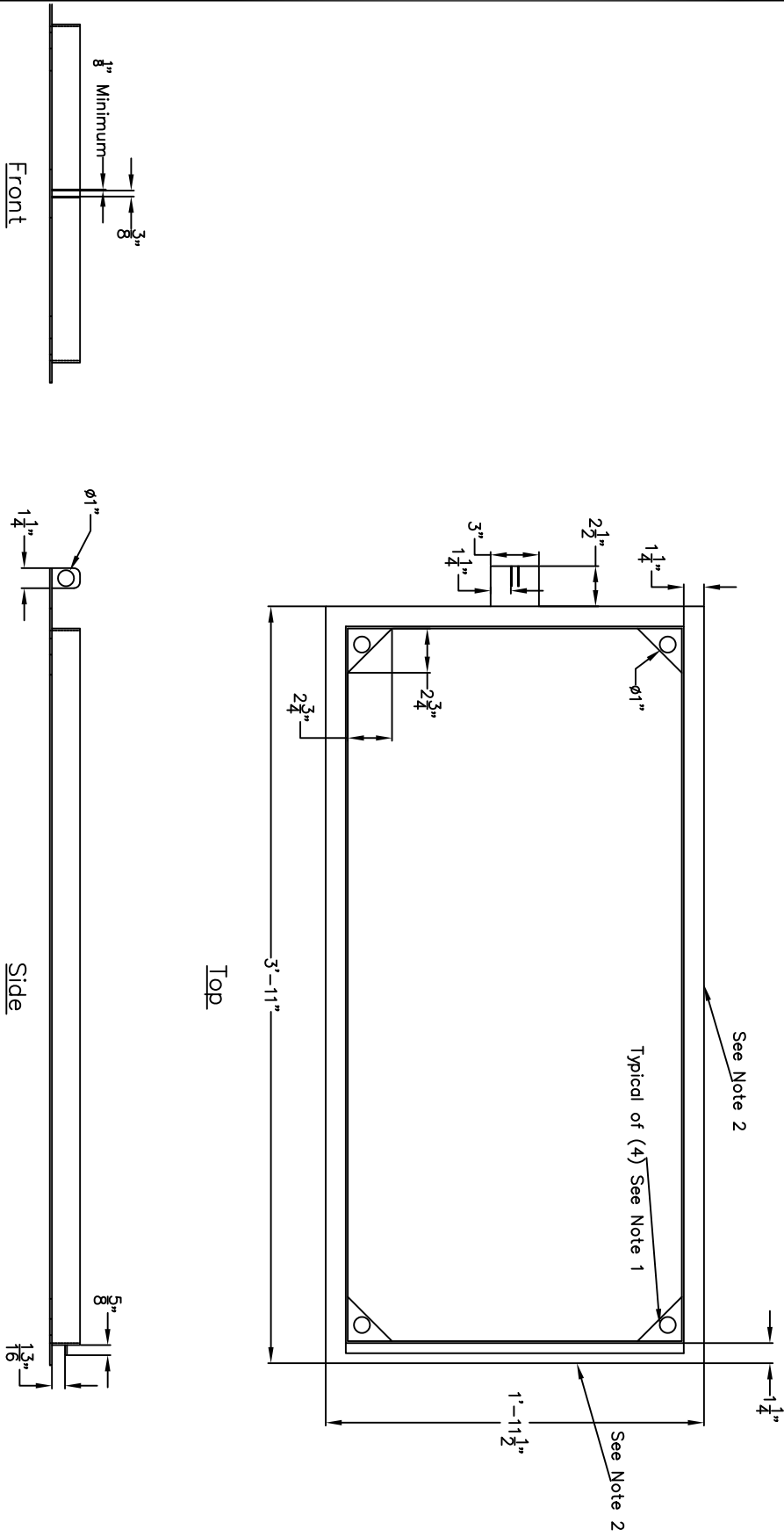
- 1) A testable pressure vacuum breaker (PVB) is allowed when the highest sprinkler head and/or fixture is 12" or greater below the PVB.
- 2) A testable RPZ is required if the highest sprinkler head and/or fixture is less than 12" below the BPD.




NOTES:

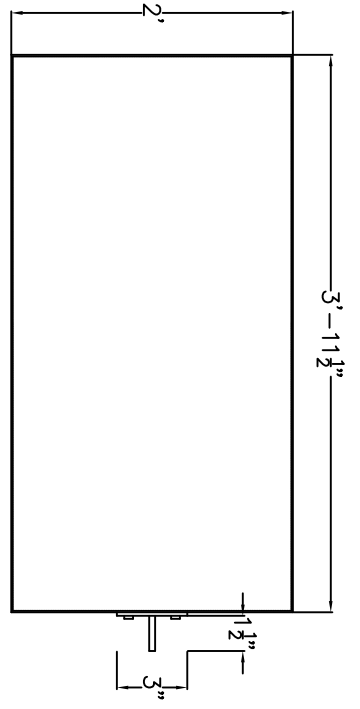
1. Seasonal services shall be 1", 1½" or 2"
2. FIP = Female Iron Pipe
3. Copper Tubing (CT) risers to be centered on concrete pad
4. For 1" CT use 1½" PVC sleeve; for 1½" CT use 2" PVC sleeve; for 2" CT use 4" PVC sleeve
5. Copper tube shall be continuous without any joints from the angle meter valve to, at a minimum, outside the perimeter of the concrete base
6. The final height to be approved by the SWSC's Meters and Cross Connection Control Program supervisors

SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-17.0	REV. DATE
	Seasonal Water Service	04/17/18 DJP 1/14/20 LMB 6/9/21 DS 6/21/21 M.JL
SCALE: NTS		

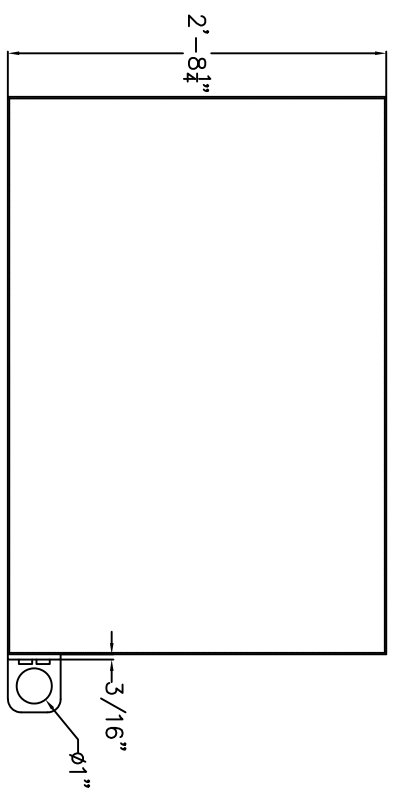


- NOTES:**
1. Plate steel shall be mild steel $\frac{3}{16}$ " thick
 2. Angle steel shall be 1"x1"x $\frac{3}{16}$ "
 3. Coating shall be Forest Green epoxy 6mils thick

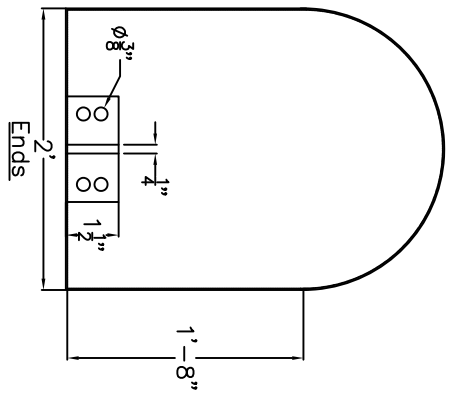
SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL W-17.1	REV. DATE
	Seasonal Water Service Base	04/17/18 DJP
		01/9/19 LMB
		1/10/19 DJP
SCALE: NTS		



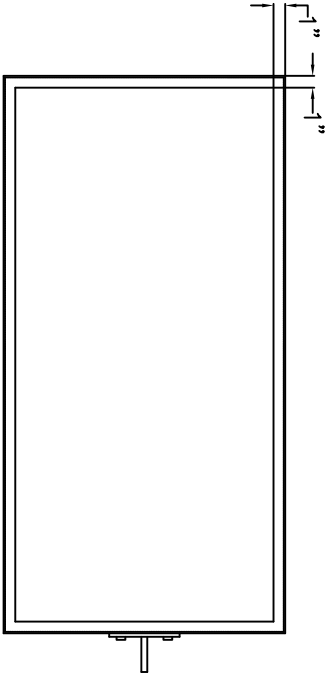
Top



Front



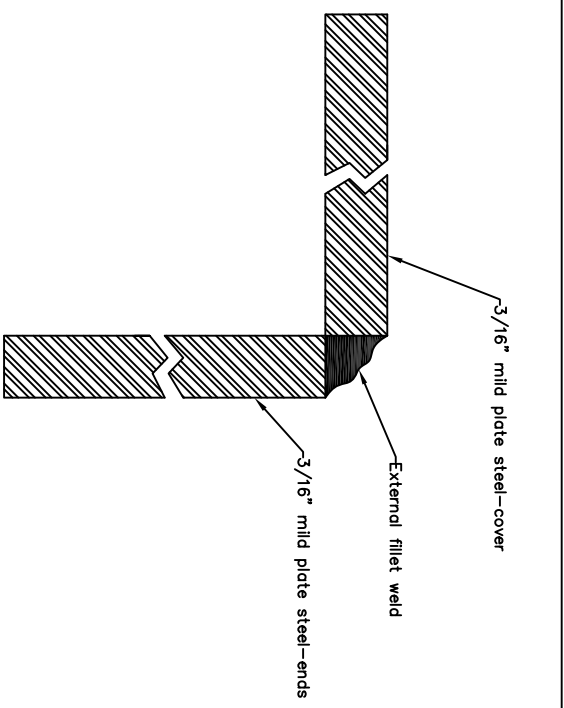
Ends



Bottom

NOTES:

1. Plate steel shall be mild steel $\frac{3}{16}$ " thick
2. Coating shall be Forest Green epoxy 6 mils thick
3. Four $\frac{5}{8}$ " x $1\frac{1}{4}$ " galvanized bolts with $\frac{5}{16}$ " flat washers, $\frac{5}{16}$ " lock washers, & $\frac{5}{16}$ " nuts




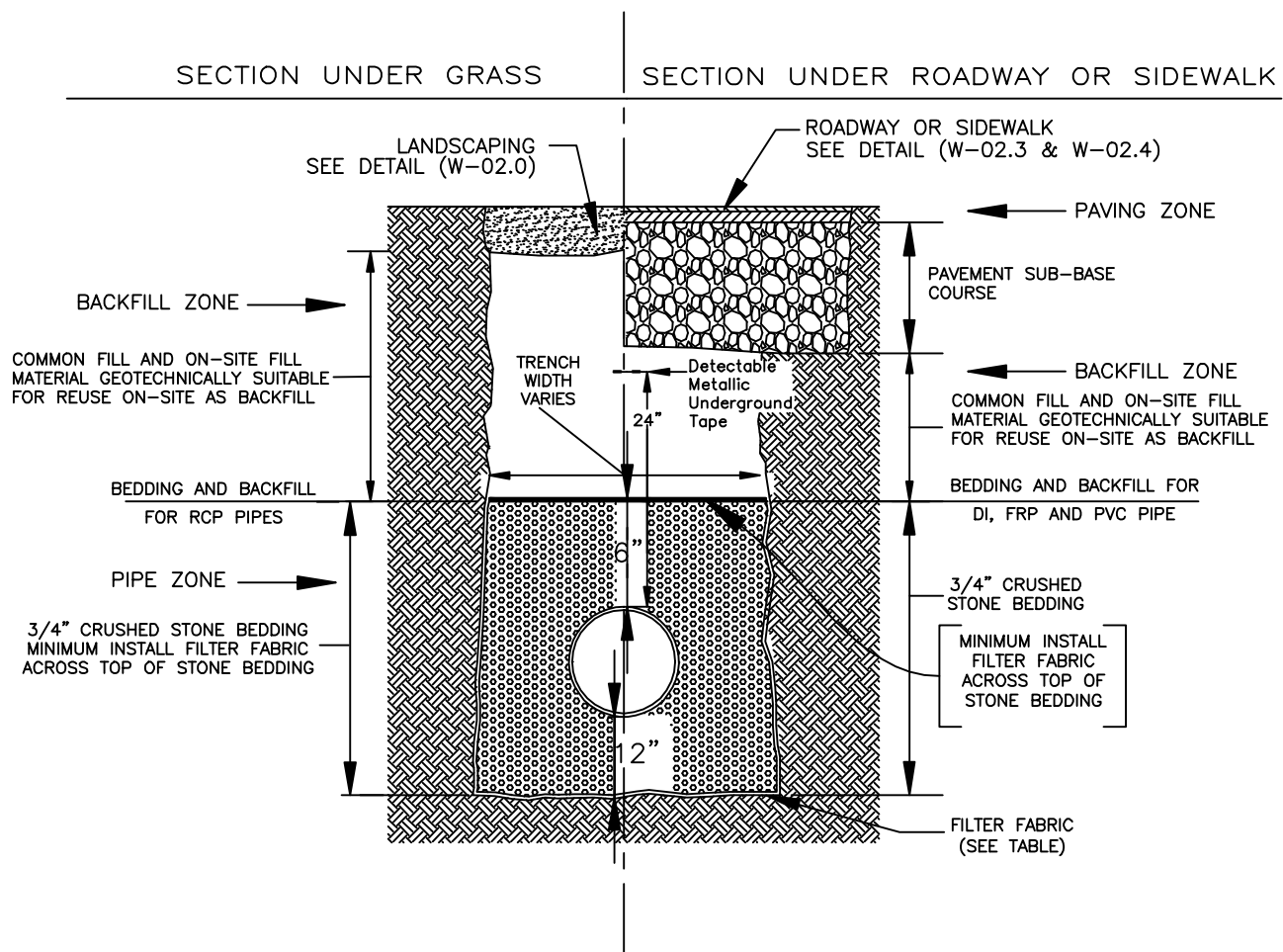
3/16" mild plate steel—cover

External fillet weld

3/16" mild plate steel—ends

Weld Detail

SPRINGFIELD WATER AND SEWER COMMISSION	
	WATER DETAIL W-17.2
	Seasonal Water Service Cover
SCALE: NTS	
REV. DATE	1/10/19 DJP




TOTAL STONE BEDDING WRAP
FILTER FABRIC REQUIREMENT

	SOIL TYPE	
	SILT OR CLAY	GRANULAR SOIL
ABOVE GROUND WATER	FILTER FABRIC NOT REQUIRED	FILTER FABRIC NOT REQUIRED
BELOW GROUND WATER	FILTER FABRIC REQUIRED	FILTER FABRIC NOT REQUIRED
2' OVERLAP MINIMUM OF FILTER FABRIC AT TOP OF BEDDING		

NOTES:

1. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES & POLICIES AND SPECIFICATIONS.
2. ALL SEWER MAIN PIPE SHOULD HAVE A MINIMUM DEPTH OF 4' FROM TOP OF PIPE TO FINISH GRADE.
3. IF 4' OF COVER IS NOT POSSIBLE PIPE SHALL BE INSULATED.
4. ALL SERVICE LINES SHALL BE PVC SDR-35 AND MUST BE A MINIMUM OF 6" DIAMETER, NO EXCEPTIONS.

SPRINGFIELD WATER AND SEWER COMMISSION		
	SEWER DETAIL S-01.0	REV. DATE
	TRENCH DETAIL FOR SEWER PIPES	4/1/08 MAB
SCALE: NTS		

ELEVATION

BRICK COURSES SHALL BE USED TO BRING MANHOLE RIM TO REQUIRED ELEVATION (MIN 2, MAX 3 COURSES OF BRICK OR CONCRETE GRADE RINGS AS REQUIRED) SEAL INSIDE AND OUTSIDE OF BRICK WITH HYDRAULIC CEMENT

COAT WITH (2) COATS OF BITUMINOUS DAMPPROOFING

MANHOLE DIAMETER	SIDE WALL MIN. THICKNESS	BOTTOM SLAB MIN. THICKNESS	MAX PIPE DIAMETER * ALLOWED	
			RCP	DI/PVC
4'	5"	6"	18"	24"
5'	6"	8"	30"	36"
6'	7"	8"	36"	48"

* PIPE DIAMETER MAY VARY DEPENDING ON NUMBER OF PENETRATIONS.

POLYPROPYLENE COATED STEEL MANHOLE STEPS 12" O.C.

STANDARD BARREL SECTION COMBINATIONS OF 1', 2', 3' OR 4' LENGTHS AS NEEDED

12" MINIMUM OF 3/4" CRUSHED STONE

FOR FILTER FABRIC USE REQUIREMENTS, SEE TRENCH DETAIL FOR SEWER PIPES DETAIL (S-01.0)

MANHOLE FRAME AND COVER SEE FRAME & COVER DETAIL (S-02.5)

SET RIM AT FINISHED GRADE

SET CASTING IN GROUT AND GROUT ALL AROUND TO 4" ABOVE FLANGE

FINISHED GRADE

STANDARD PRECAST ECCENTRIC OR CONCENTRIC CONE SECTION OR FLAT TOP (AS REQUIRED) NO BARREL BLOCK ALLOWED

TOUNGE & GROOVE GASKET SHALL BE O-RING RUBBER GASKET CONFORMING TO A.S.T.M. C443

BELL & SPIGOT GASKET SHALL BE BUTYL RUBBER GASKET JOINTS CONFORMING TO A.S.T.M. C990

SEE TABLE 1

SHELF ELEVATION SAME AS CROWN OF HIGHEST PIPE

SEE PIPE CONNECTION DETAIL (S-02.1)

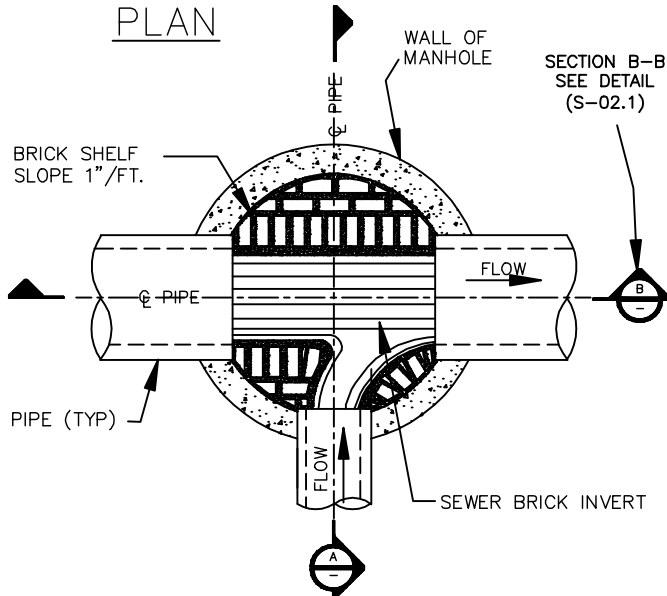
PIPE

UNDISTURBED EARTH

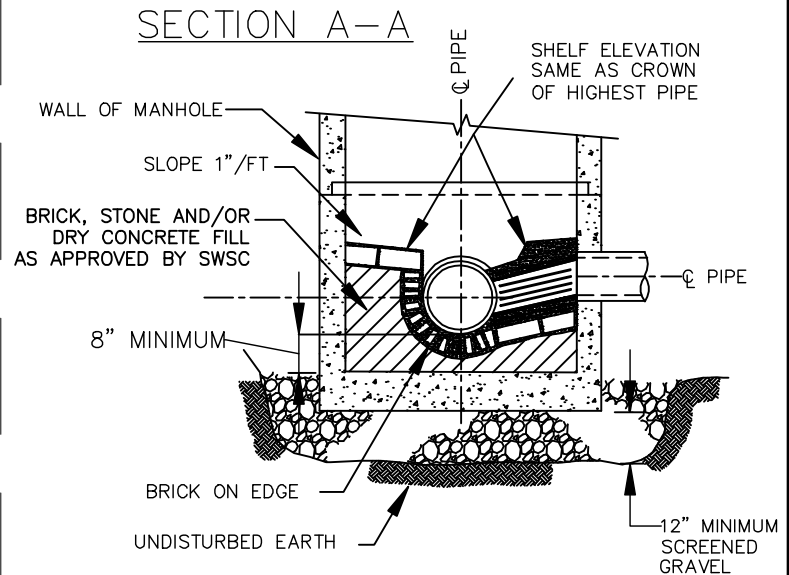
BRICK OR CONCRETE FILL

6" MINIMUM

PLAN



SECTION A-A



NOTES:

1. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES & POLICIES AND SPECIFICATIONS.
2. ALL SEWER MAIN PIPE SHOULD HAVE A MINIMUM DEPTH OF 4' FROM TOP OF PIPE TO FINISH GRADE.
3. IF 4' OF COVER IS NOT POSSIBLE PIPE SHALL BE INSULATED.
4. REINFORCED CONCRETE MANHOLE SECTIONS CONFORMING TO A.S.T.M.C478.
5. DESIGN PRECAST SECTIONS WITH FRAME AND COVER FOR AASHTO H-20 LOADING.
6. PRE-CAST CONCRETE SHALL BE 5,000 PSI @ 28 DAYS.
7. ALL BRICK SHALL BE HARD NON-POROUS CLAY.
8. ADMIXTURES, AIR & PLASTICIZERS PER ASTM C233-82.
9. REINFORCING PER ASTM A615 FOR WIRE FABRIC.
10. DESIGN LOADING PER AASHTO HS20-44, ACI 318-83; ASTM C478-82, C890-82, C913-71.

SPRINGFIELD WATER AND SEWER COMMISSION

SEWER DETAIL S-02.0

REV. DATE

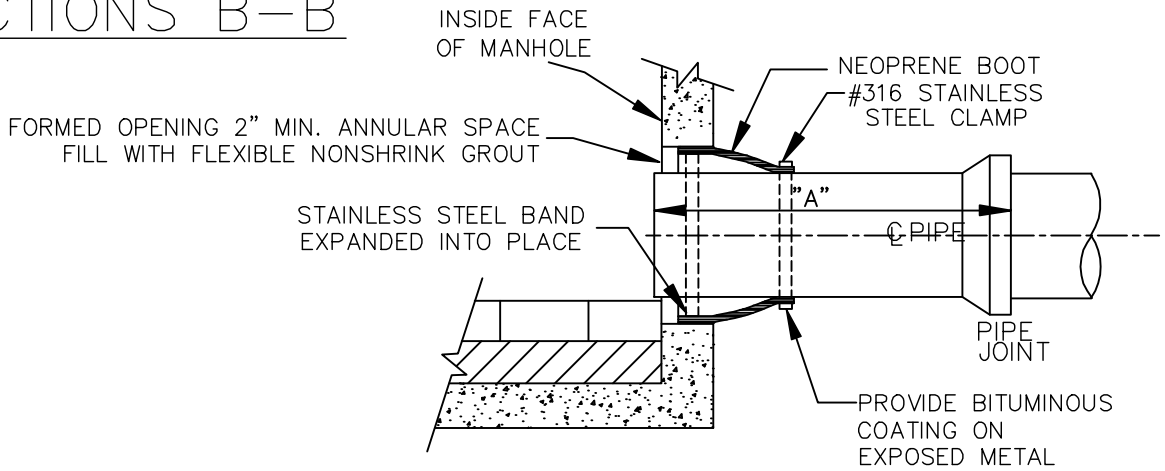
4/1/08 MAB

PRE-CAST CONCRETE
SEWER MANHOLE

SCALE: NTS

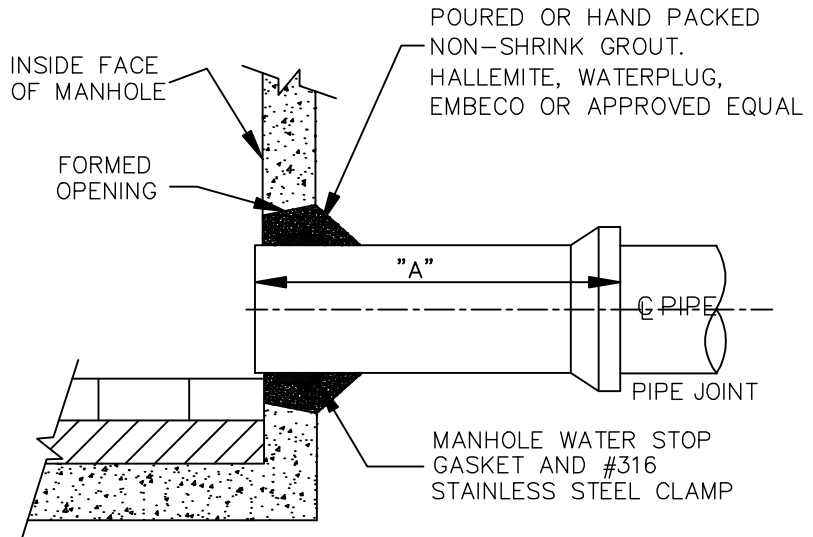


SECTIONS B-B



FLEXIBLE MANHOLE SEAL

MAXIMUM STUB LENGTH		
PIPE MATERIAL	"A"	"A"
	(MAX.)	(MIN.)
RC	4'-0"	2'-0"
PVC	3'-3"	2'-0"
DI	4'-6"	2'-0"




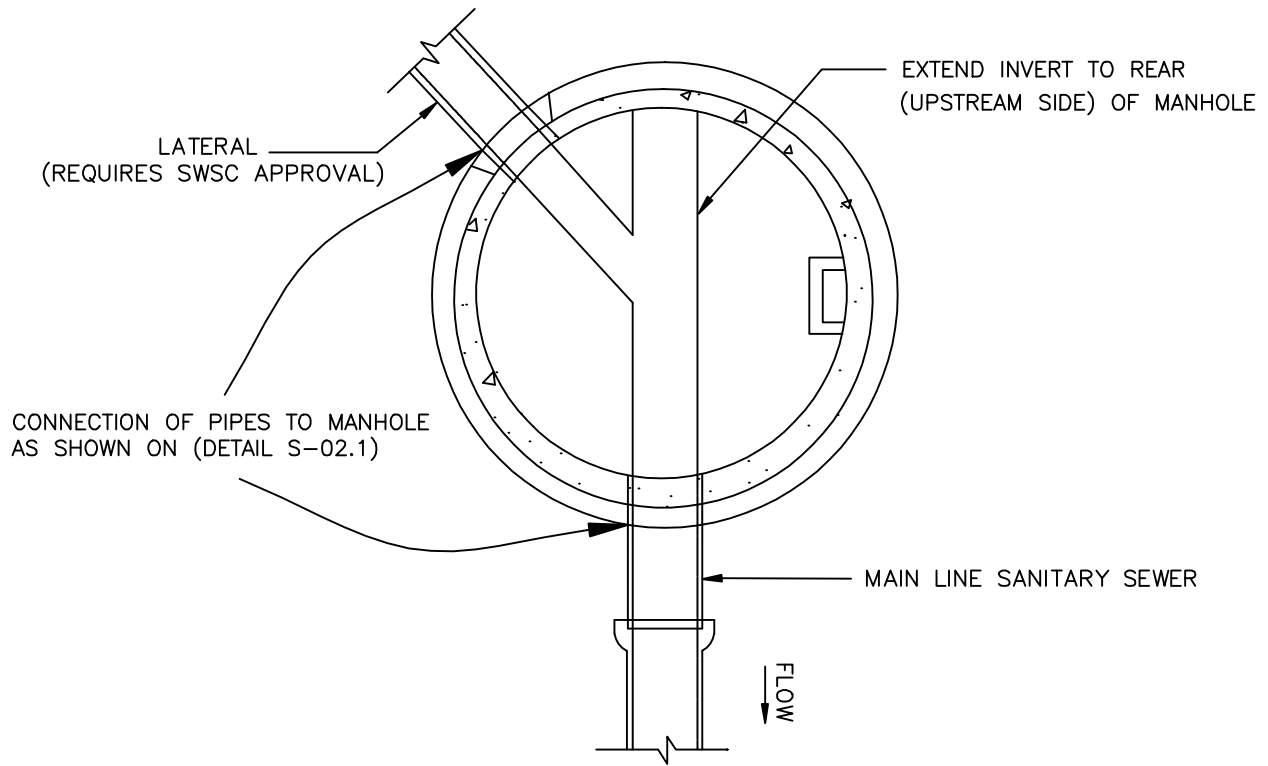
HYDRAULIC CEMENT SEAL*

*THIS METHOD REQUIRES SWSC APPROVAL

NOTES:

1. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES & POLICIES AND MATERIAL SPECIFICATIONS.
2. ALL SEWER MAIN PIPE SHOULD HAVE A MINIMUM DEPTH OF 4' FROM TOP OF PIPE TO FINISH GRADE.
3. IF 4' OF COVER IS NOT POSSIBLE PIPE SHALL BE INSULATED.
4. REINFORCED CONCRETE MANHOLE SECTIONS CONFORMING TO A.S.T.M.C478.
5. DESIGN PRECAST SECTIONS WITH FRAME AND COVER FOR AASHTO H-20 LOADING.
6. PRE-CAST CONCRETE SHALL BE 5,000 PSI @ 28 DAYS.
7. ALL BRICK SHALL BE HARD NON-POROUS CLAY.
8. ADMIXTURES, AIR & PLASTICIZERS PER ASTM C233-82.
9. REINFORCING PER ASTM A615 FOR WIRE FABRIC.
10. DESIGN LOADING PER AASHTO HS20-44, ACI 318-83; ASTM C478-82, C890-82, C913-71.

SPRINGFIELD WATER AND SEWER COMMISSION		
	SEWER DETAIL S-02.1	REV. DATE
	PRE-CAST CONCRETE SEWER PIPE CONNECTIONS	4/1/08 MAB
	SCALE: NTS	



END MANHOLE

NOTES:

1. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES & POLICIES AND MATERIAL SPECIFICATIONS.
2. ALL SEWER MAIN PIPE SHOULD HAVE A MINIMUM DEPTH OF 4' FROM TOP OF PIPE TO FINISH GRADE.
3. IF 4' OF COVER IS NOT POSSIBLE PIPE SHALL BE INSULATED.
4. ALL SERVICE LINES SHALL BE PVC SDR-35 AND MUST BE A MINIMUM OF 6" DIAMETER, NO EXCEPTIONS.

SPRINGFIELD WATER AND SEWER COMMISSION		
	SEWER DETAIL S-02.2	REV. DATE
	<u>END OF SEWER MAIN</u>	4/1/08 MAB
SCALE: NTS		

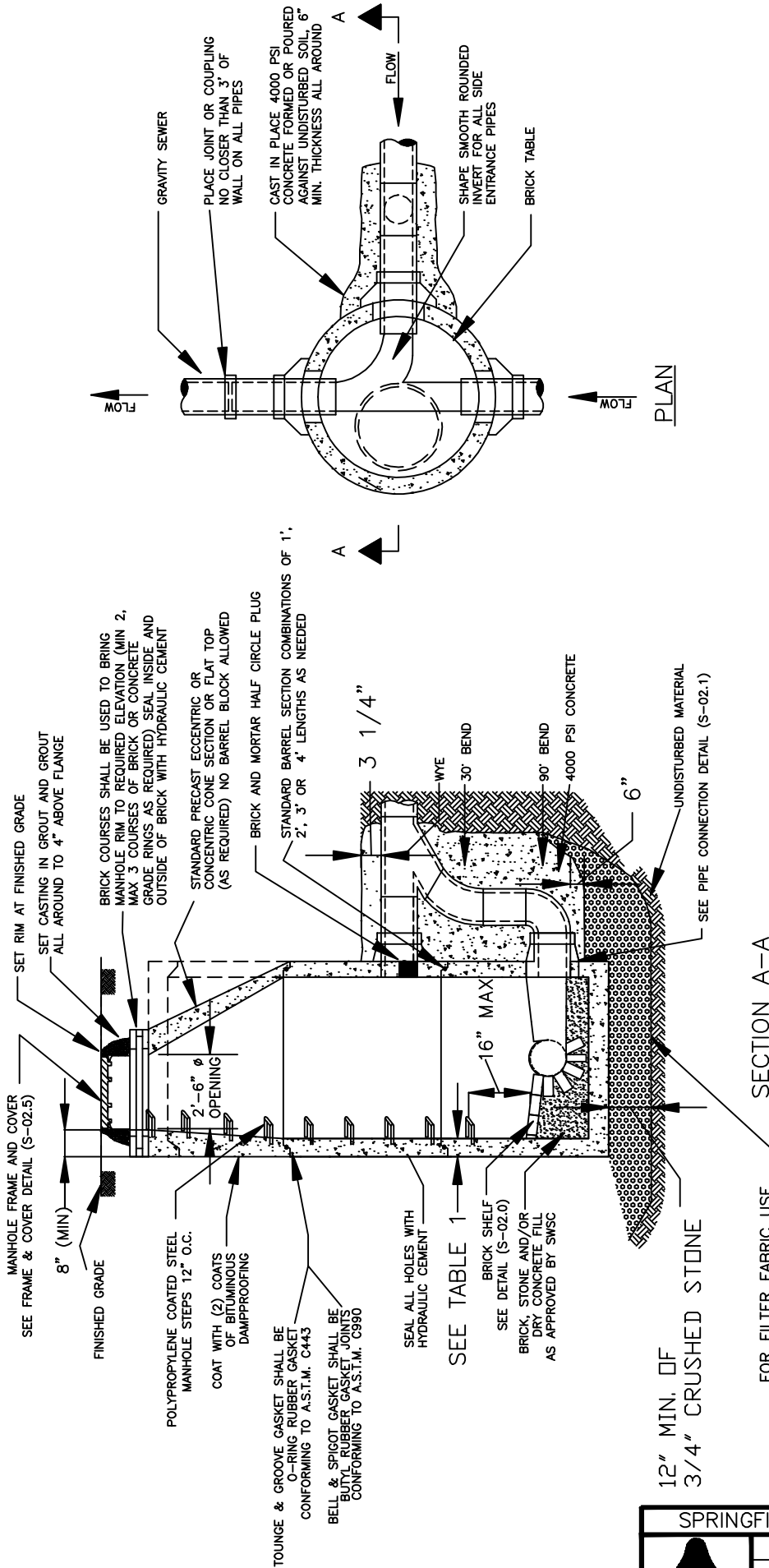



TABLE 1

MANHOLE DIAMETER	SIDE WALL MIN. THICKNESS	BOTTOM SLAB MIN. THICKNESS	MAX PIPE DIAMETER * ALLOWED DI/PVC RCP
4'	5"	6"	18"
5'	6"	8"	30"
6'	7"	8"	36"
			48"

* PIPE DIAMETER MAY VARY DEPENDING ON NUMBER OF PENETRATIONS.

NOTES:
 1. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES & POLICIES AND SPECIFICATIONS.
 2. ALL SEWER MAIN PIPE SHOULD HAVE A MINIMUM DEPTH OF 4' FROM TOP OF PIPE TO FINISH GRADE.
 3. IF 4' OF COVER IS NOT POSSIBLE PIPE SHALL BE INSULATED.
 4. REINFORCED CONCRETE MANHOLE SECTIONS CONFORMING TO A.S.T.M.C478.
 5. DESIGN PRECAST SECTIONS WITH FRAME AND COVER FOR AASHTO H-20 LOADING.
 6. PRE-CAST CONCRETE SHALL BE 5,000 PSI @ 28 DAYS.
 7. ALL BRICK SHALL BE HARD NON-POROUS CLAY.
 8. ADMIXTURES, AIR & PLASTICIZERS PER ASTM C233-82.
 9. REINFORCING PER ASTM A615 FOR WIRE FABRIC.
 10. DESIGN LOADING PER AASHTO HS20-44, ACI 318-83; ASTM C478-82, C890-82, C913-71.

		SPRINGFIELD WATER AND SEWER COMMISSION SEWER DETAIL S-02.3 <i>EXTERIOR DROP MANHOLE</i> SCALE: NTS	REV. DATE 1/1/08 MAB
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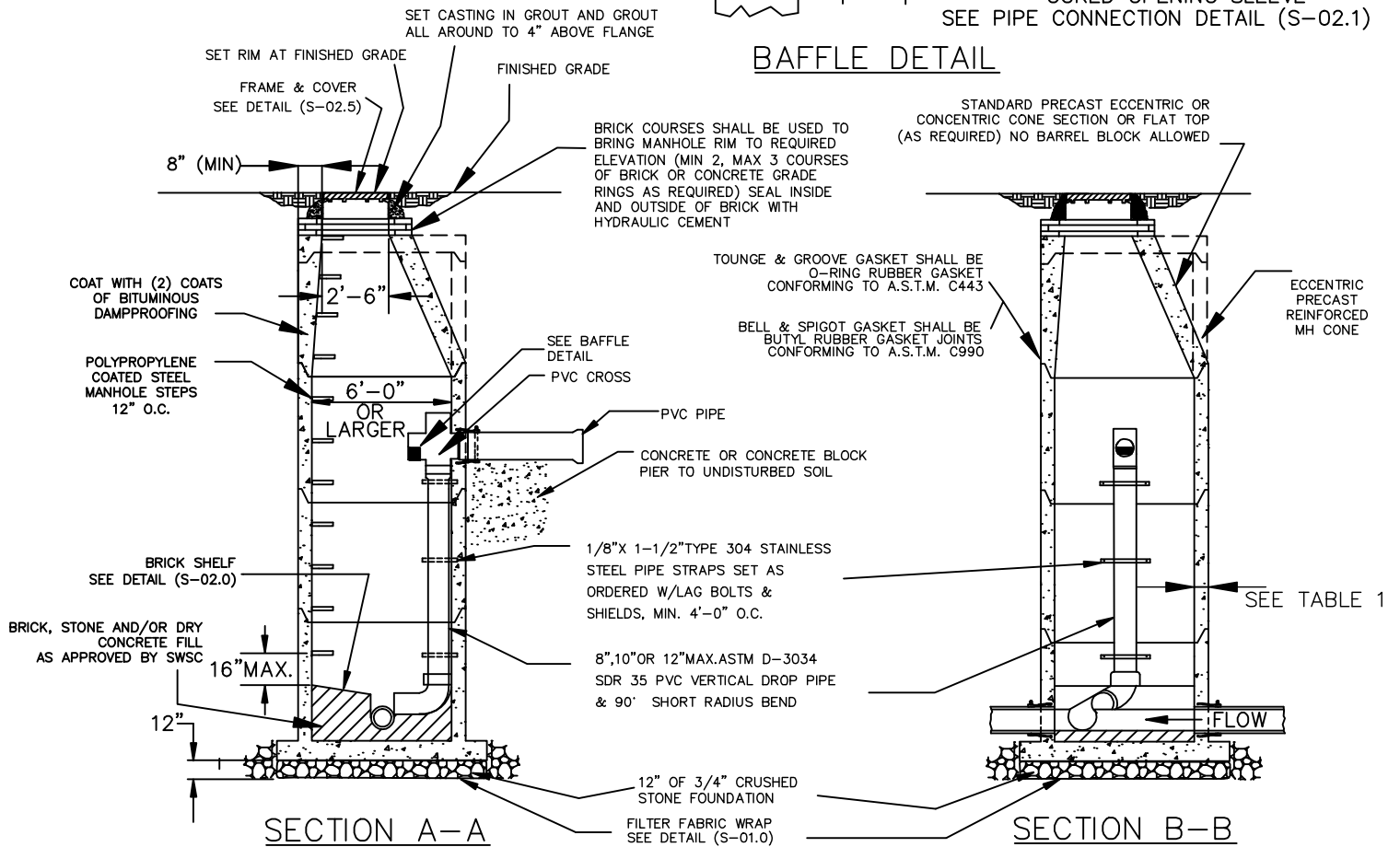
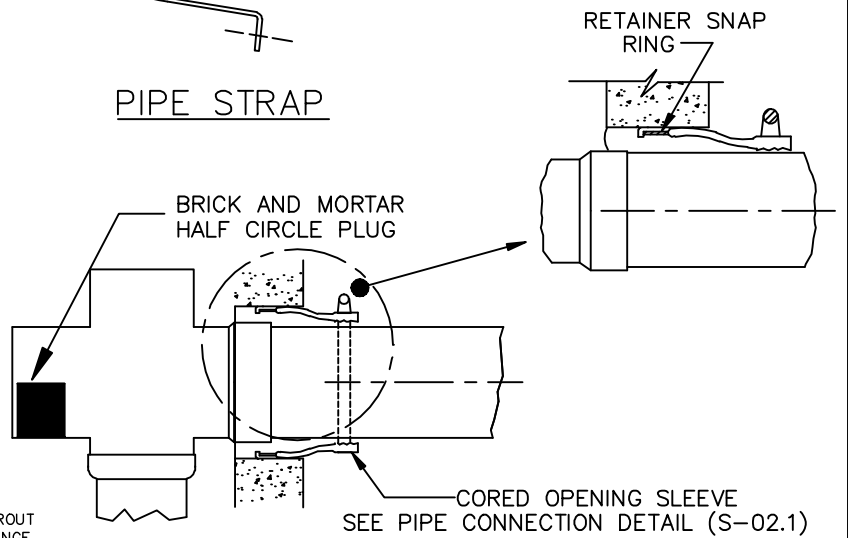
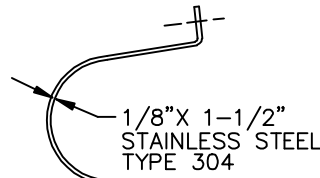
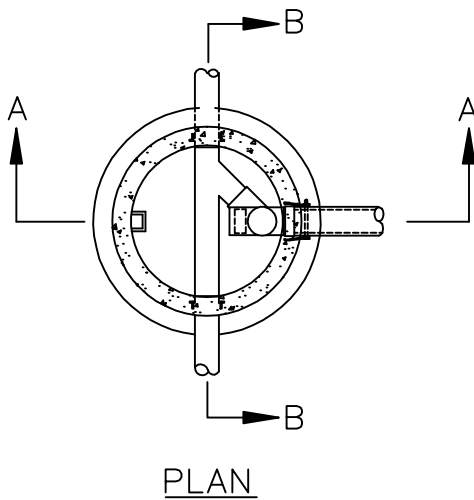


TABLE 1

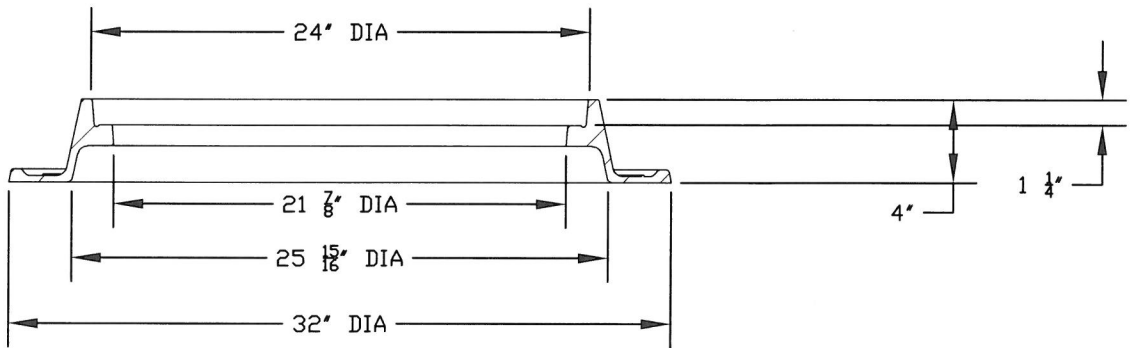
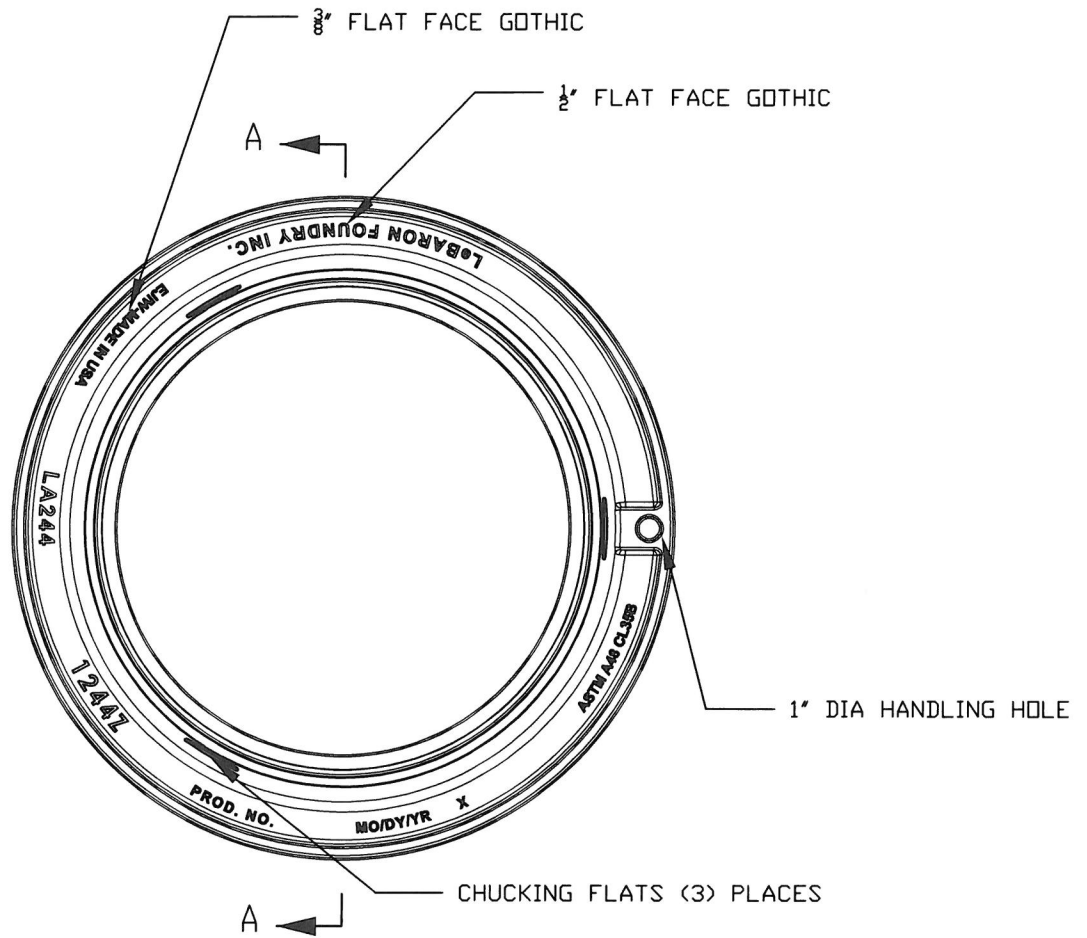
MANHOLE DIAMETER	SIDE WALL MIN. THICKNESS	BOTTOM SLAB MIN. THICKNESS	MAX PIPE DIAMETER * ALLOWED	
			RCP	DI/PVC
6'	7"	8"	18"	24"
6'	7"	8"	30"	36"
6'	7"	8"	36"	48"

NOTES:

- ALL MATERIALS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES & POLICIES AND SPECIFICATIONS.
- ALL SEWER MAIN PIPE SHOULD HAVE A MINIMUM DEPTH OF 4' FROM TOP OF PIPE TO FINISH GRADE.
- IF 4' OF COVER IS NOT POSSIBLE PIPE SHALL BE INSULATED.
- REINFORCED CONCRETE MANHOLE SECTIONS CONFORMING TO A.S.T.M.C478.
- DESIGN PRECAST SECTIONS WITH FRAME AND COVER FOR AASHTO H-20 LOADING.
- PRE-CAST CONCRETE SHALL BE 5,000 PSI @ 28 DAYS.
- ALL BRICK SHALL BE HARD NON-POROUS CLAY.
- ADMIXTURES, AIR & PLASTICIZERS PER ASTM C233-82.
- REINFORCING PER ASTM A615 FOR WIRE FABRIC.
- DESIGN LOADING PER AASHTO HS20-44, ACI 318-83; ASTM C478-82, C890-82, C913-71.

* PIPE DIAMETER MAY VARY DEPENDING ON NUMBER OF PENETRATIONS.


	SPRINGFIELD WATER AND SEWER COMMISSION	
	SEWER DETAIL S-02.4	REV. DATE
	<i>INTERIOR DROP MANHOLE</i>	4/1/08 MAB
	SCALE: NTS	6/18/08 MAB

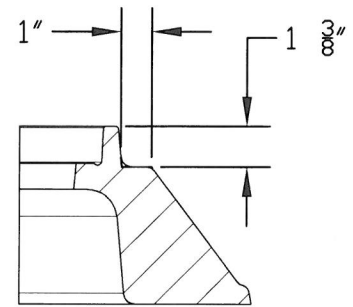
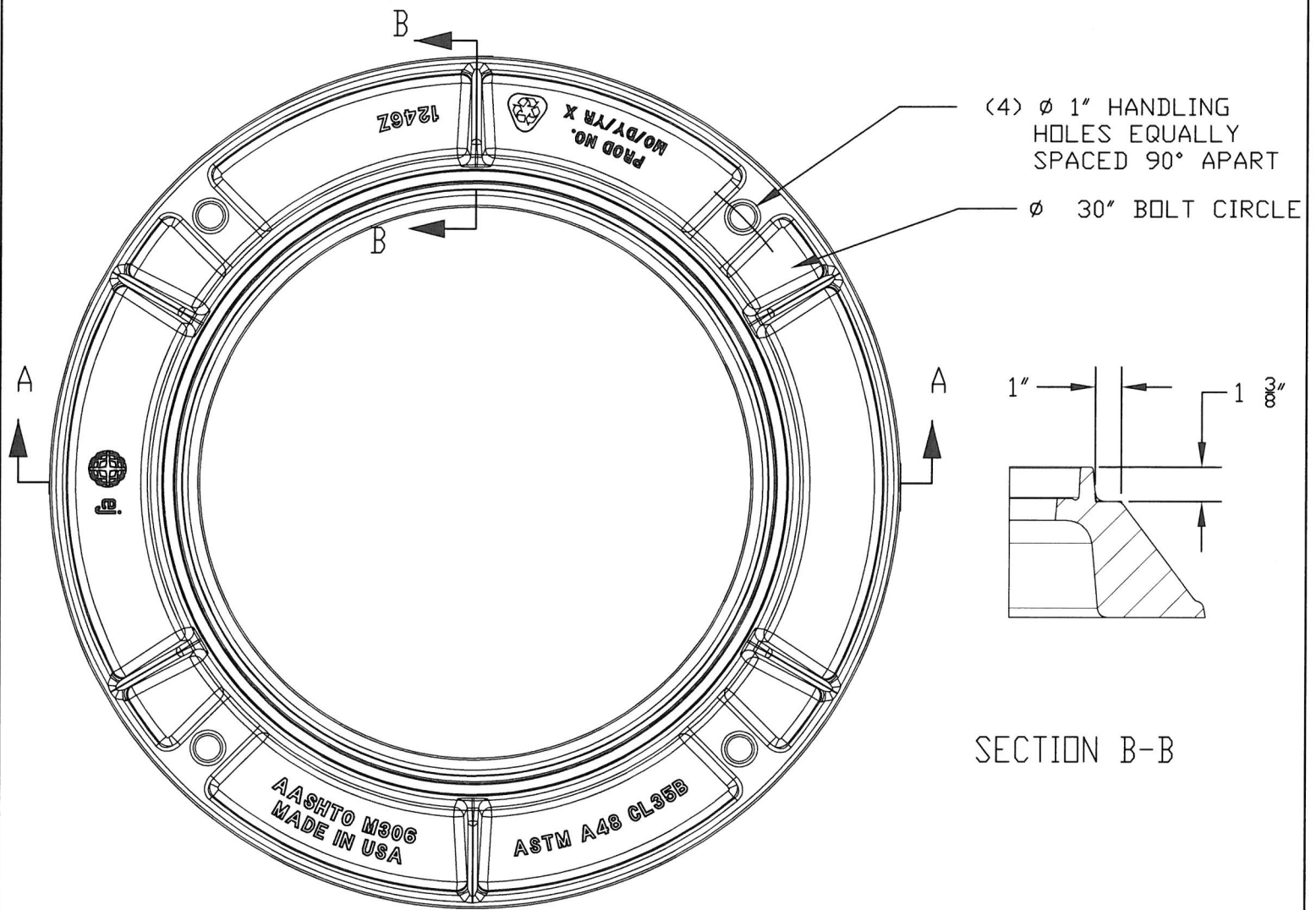


SECTION A-A
SCALE 1:10

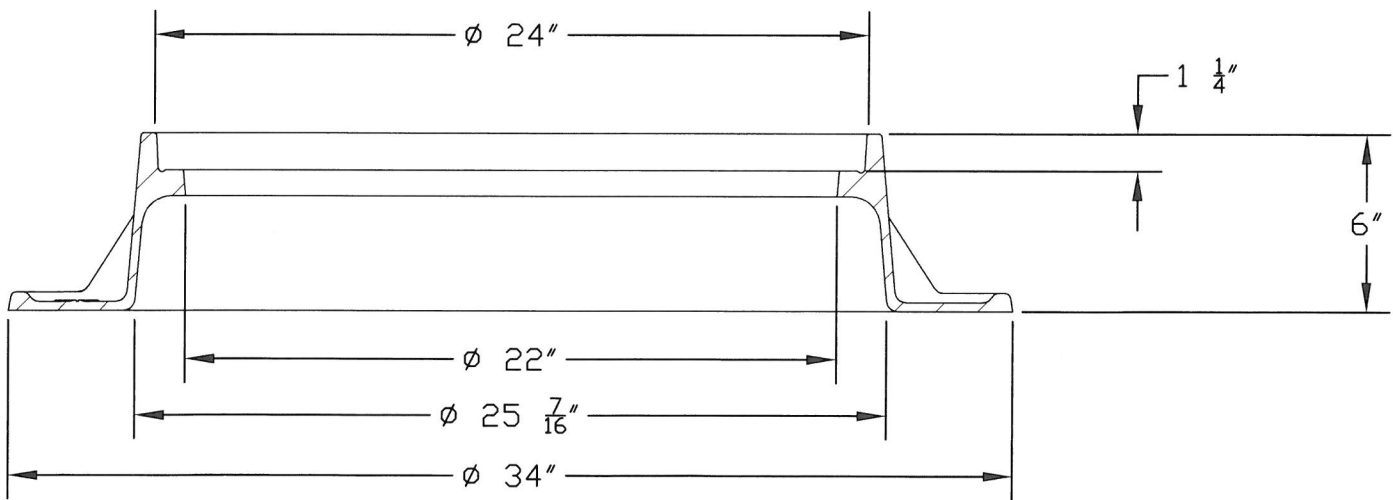
NOTES:

1. ALL MATERIALS WILL CONFORM TO SWSC SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. FRAME & COVER SHALL BE MADE FROM ASTM A48 CLASS 35B GRAY CAST IRON.
3. DIMENSIONS ARE IN INCHES-FRACTIONAL +/- 1/16" ON ALL DIMENSIONS UP TO 12" AND AN ADDITIONAL +/- 1/16" PER FOOT

SPRINGFIELD WATER AND SEWER COMMISSION		
	SEWER DETAIL S-02.51	REV. DATE
	<i>24-inch by 4-inch</i>	
	<i>Frame Only</i>	
	SCALE: NTS	
		4/16/19 DJP




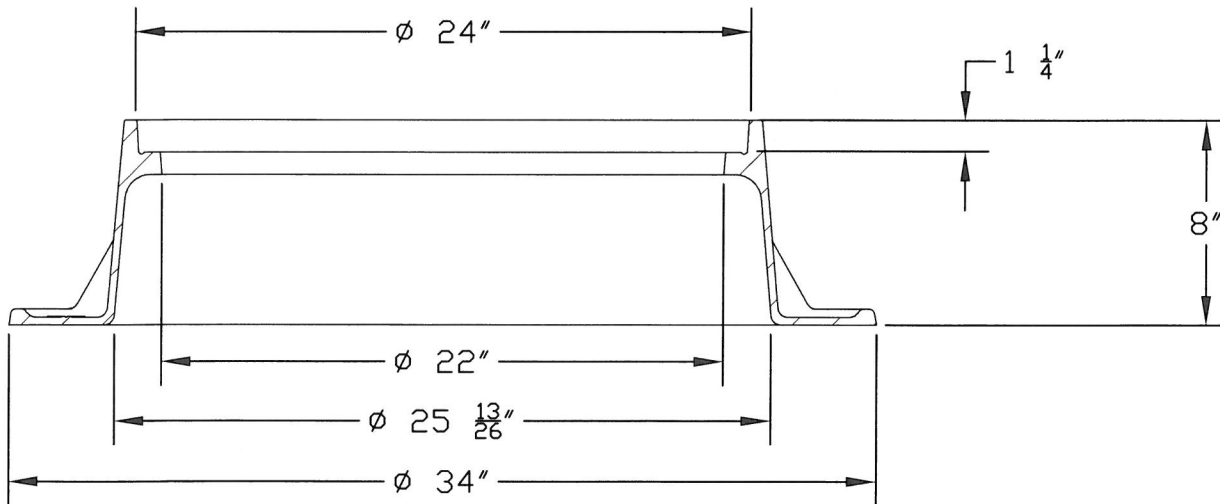
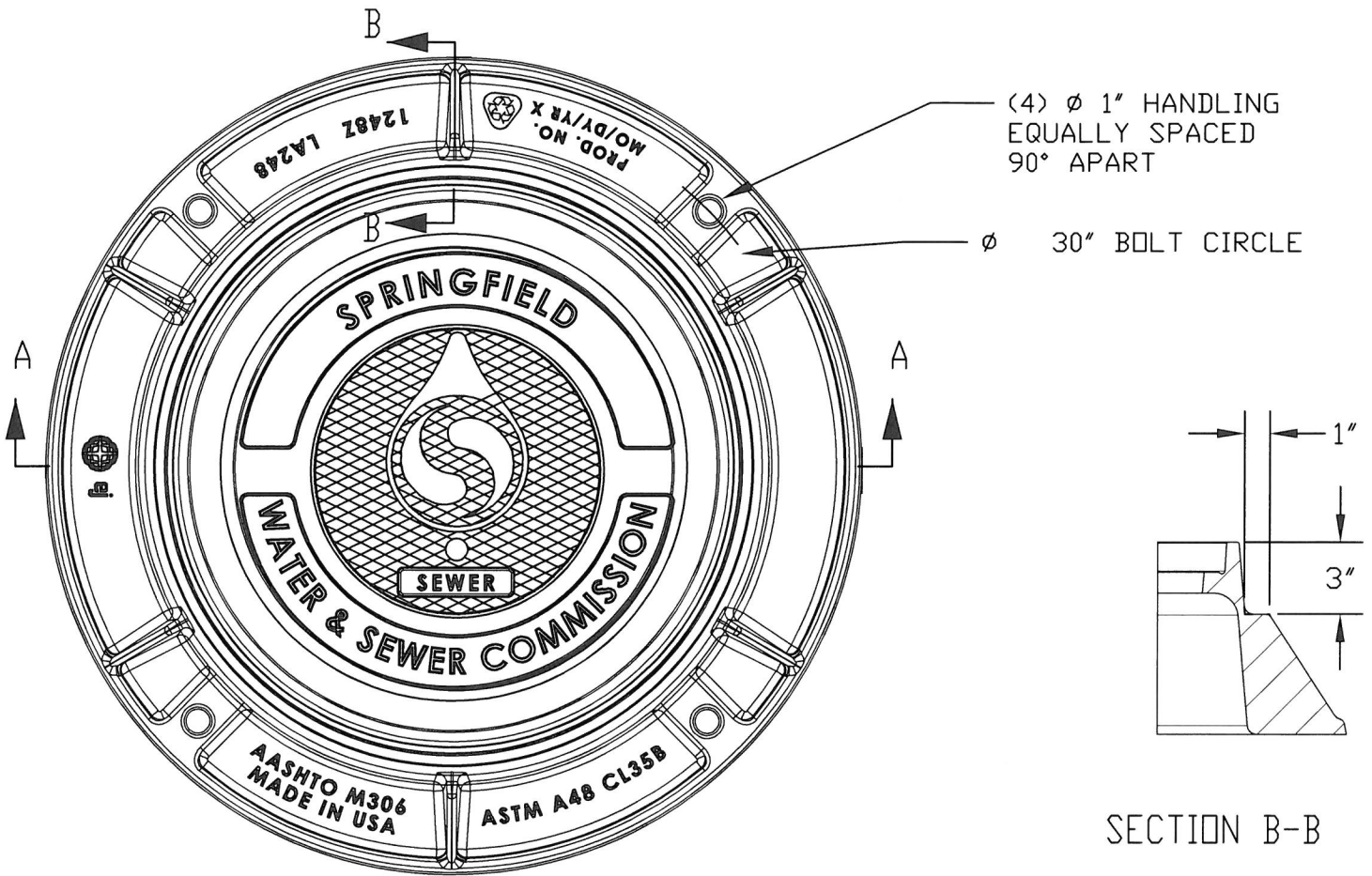
SECTION B-B



NOTES:


1. ALL MATERIALS WILL CONFORM TO SWSC SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. FRAME & COVER SHALL BE MADE FROM ASTM A48 CLASS 35B GRAY CAST IRON.
3. DIMENSIONS ARE IN INCHES-FRACTIONAL $\pm \frac{1}{16}$ ON ALL DIMENSIONS UP TO 12" AND AN ADDITIONAL $\pm \frac{1}{16}$ " PER FOOT

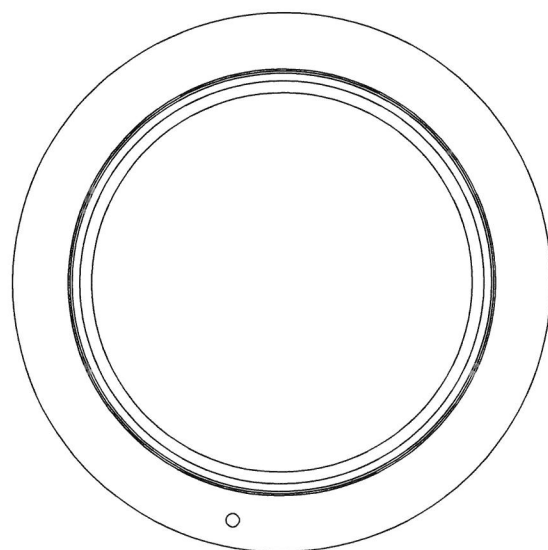
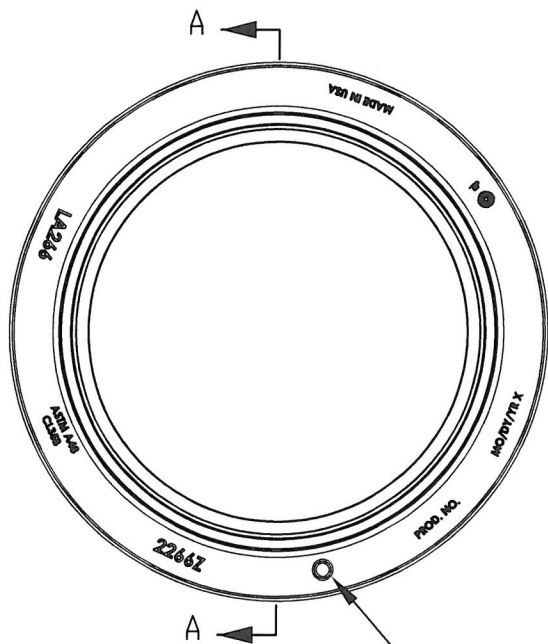
SPRINGFIELD WATER AND SEWER COMMISSION		
	SEWER DETAIL S-02.52	REV. DATE
	24-inch by 6-inch Frame Only	4/16/19 DJP
	SCALE: NTS	



NOTES:

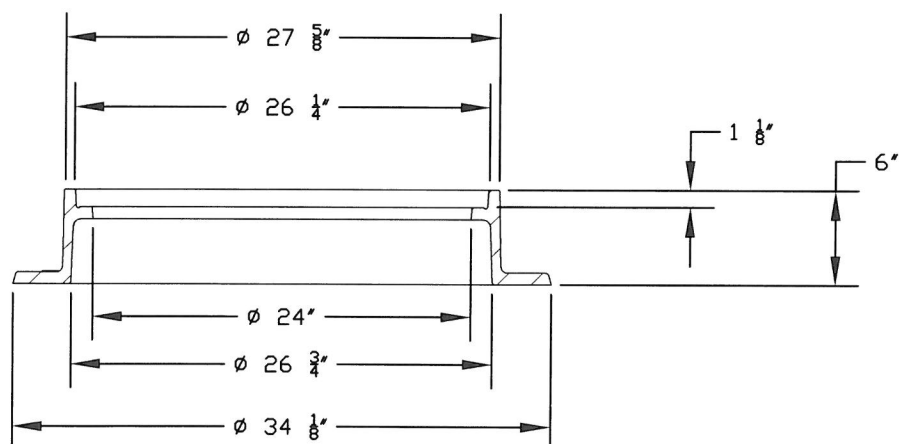
- ALL MATERIALS WILL CONFORM TO SWSC SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES AND POLICIES.
- FRAME & COVER SHALL BE MADE FROM ASTM A48 CLASS 35B GRAY CAST IRON.
- DIMENSIONS ARE IN INCHES-FRACTIONAL $\pm \frac{1}{16}$ ON ALL DIMENSIONS UP TO 12" AND AN ADDITIONAL $\pm \frac{1}{16}$ PER FOOT

SPRINGFIELD WATER AND SEWER COMMISSION		
	SEWER DETAIL S-02.53	REV. DATE
	24-inch by 8-inch Frame Only	4/16/19 DJP
SCALE: NTS		



BOTTOM VIEW

ϕ $\frac{7}{8}$ " HANDLING HOLE



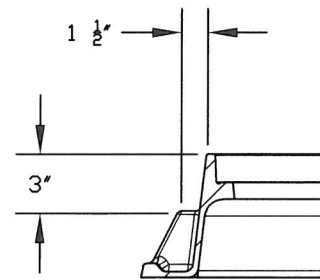
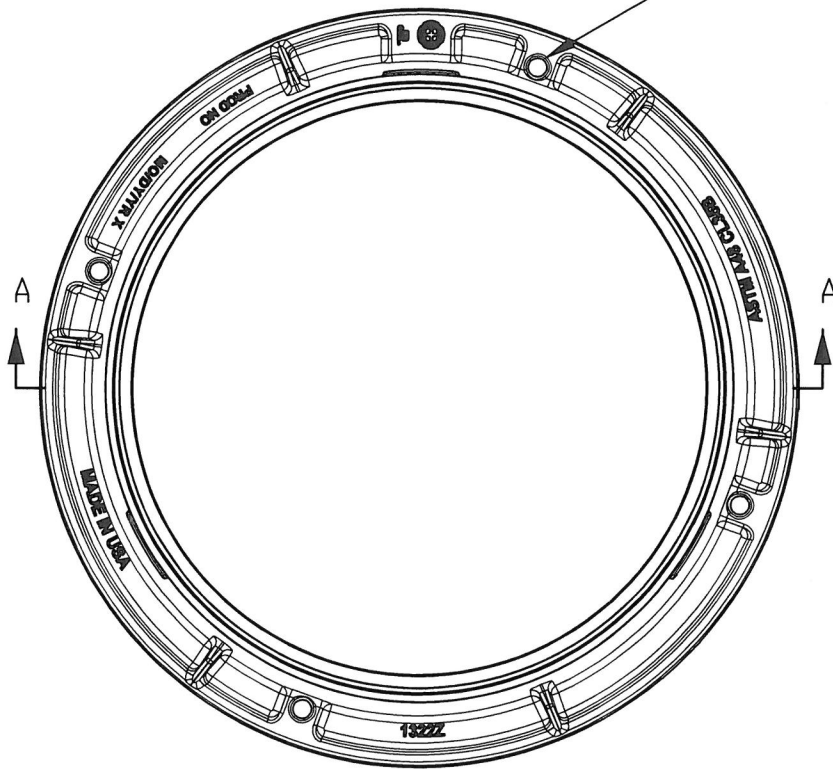
SECTION A-A

NOTES:

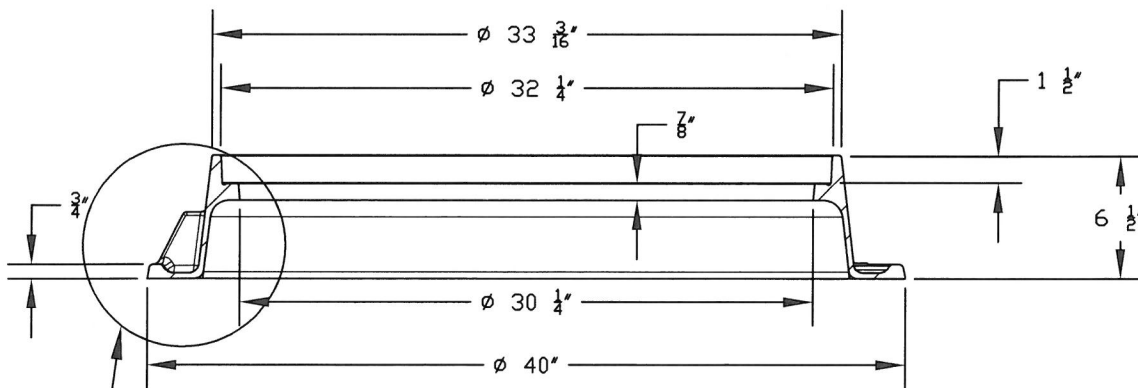
1. ALL MATERIALS WILL CONFORM TO SWSC SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. FRAME & COVER SHALL BE MADE FROM ASTM A48 CLASS 35B GRAY CAST IRON.
3. DIMENSIONS ARE IN INCHES-FRACTIONAL $\pm \frac{1}{16}$ ON ALL DIMENSIONS UP TO 12" AND AN ADDITIONAL $\pm \frac{1}{16}$ " PER FOOT

SPRINGFIELD WATER AND SEWER COMMISSION		
	SEWER DETAIL S-02.54	REV. DATE
	26-inch by 6-inch Frame Only	4/16/19 DJP
SCALE: NTS		

(4) 1" HANDLING HOLE ON A 36" DIA B.C.




GUSSET DETAIL

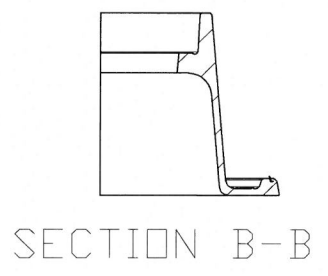
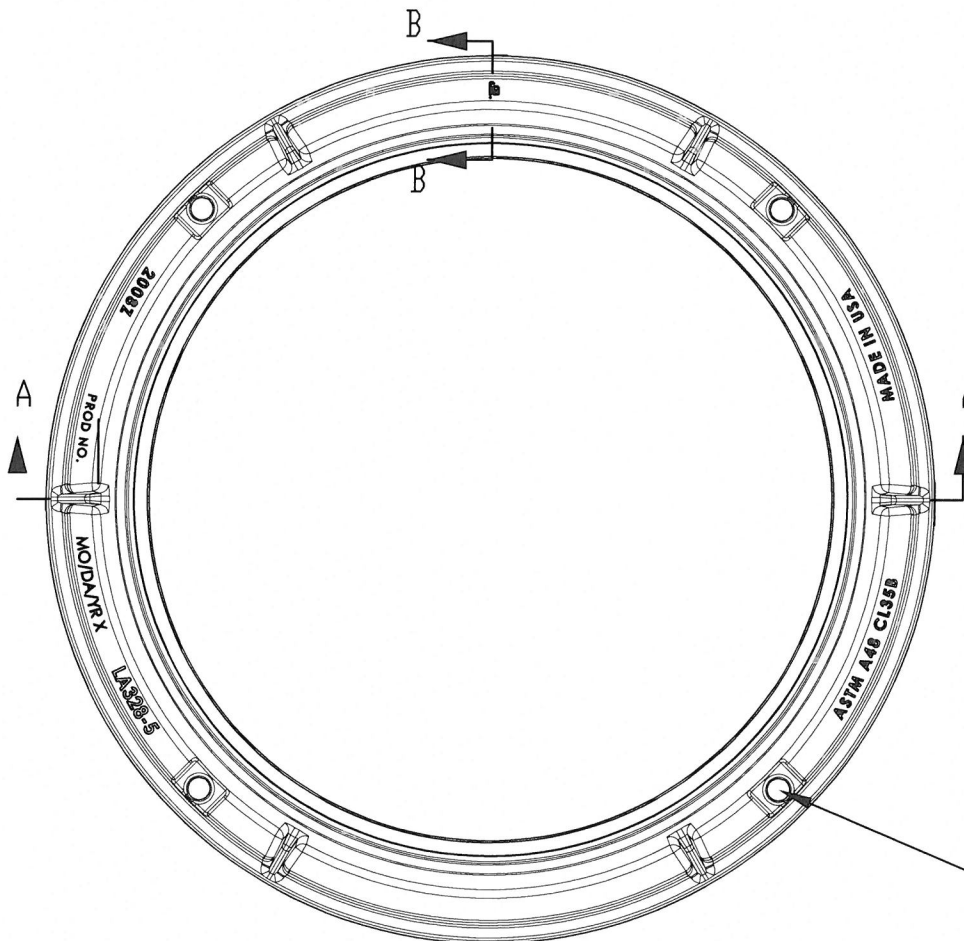


GUSSET DETAIL SECTION A-A

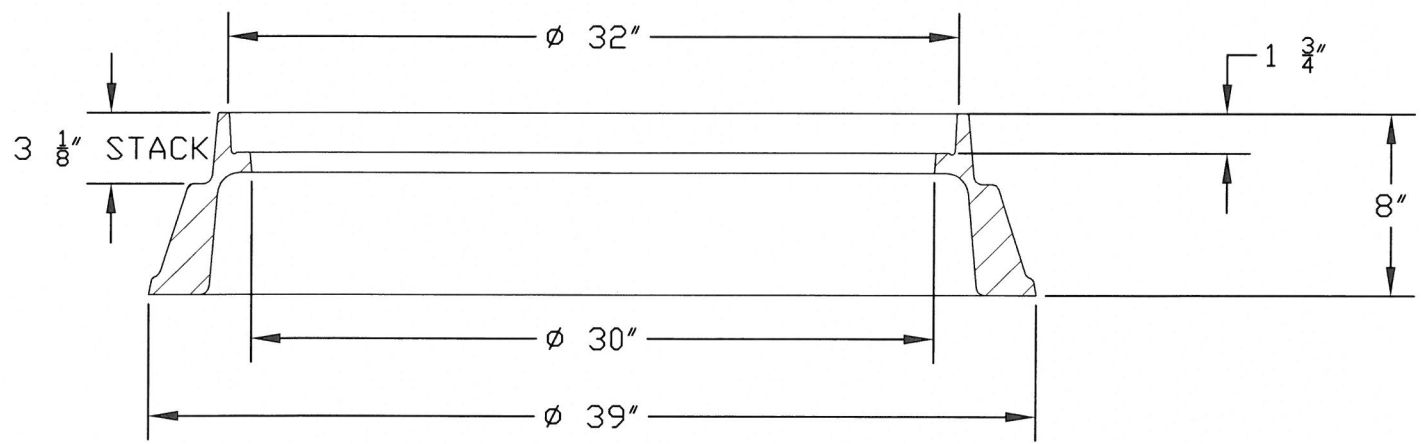
NOTES:

1. ALL MATERIALS WILL CONFORM TO SWSC SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. FRAME & COVER SHALL BE MADE FROM ASTM A48 CLASS 35B GRAY CAST IRON.
3. DIMENSIONS ARE IN INCHES-FRACTIONAL $\pm \frac{1}{16}$ ON ALL DIMENSIONS UP TO 12" AND AN ADDITIONAL $\pm \frac{1}{16}$ PER FOOT

SPRINGFIELD WATER AND SEWER COMMISSION		
	SEWER DETAIL S-02.55	REV. DATE
	<i>32-inch by 6-inch Frame Only</i>	4/16/19 DJP
SCALE: NTS		



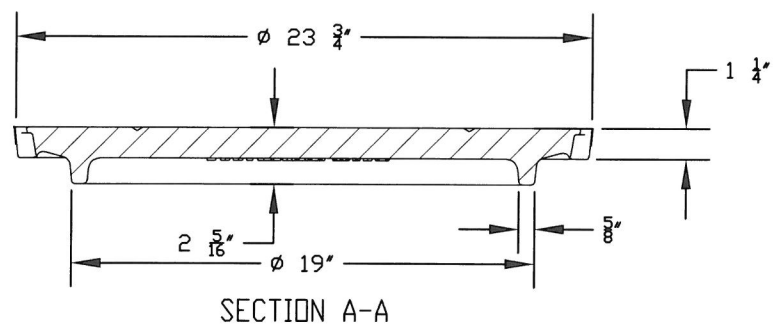
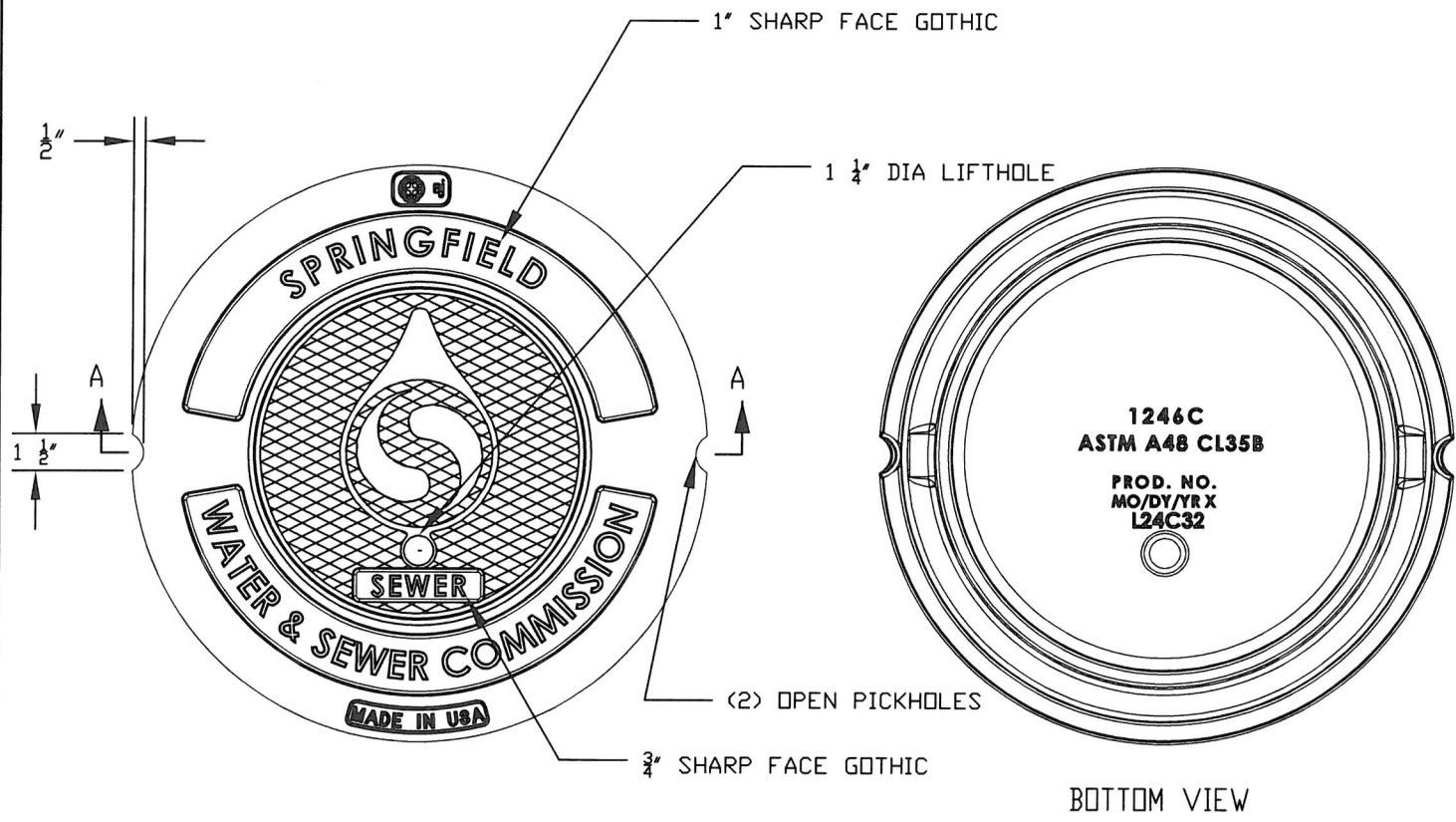
(4) ϕ 1" HOLES
EQUALLY SPACED
ON 36" B.C.




NOTES:

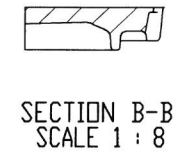
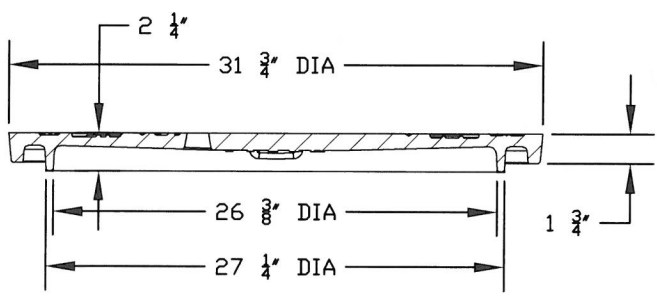
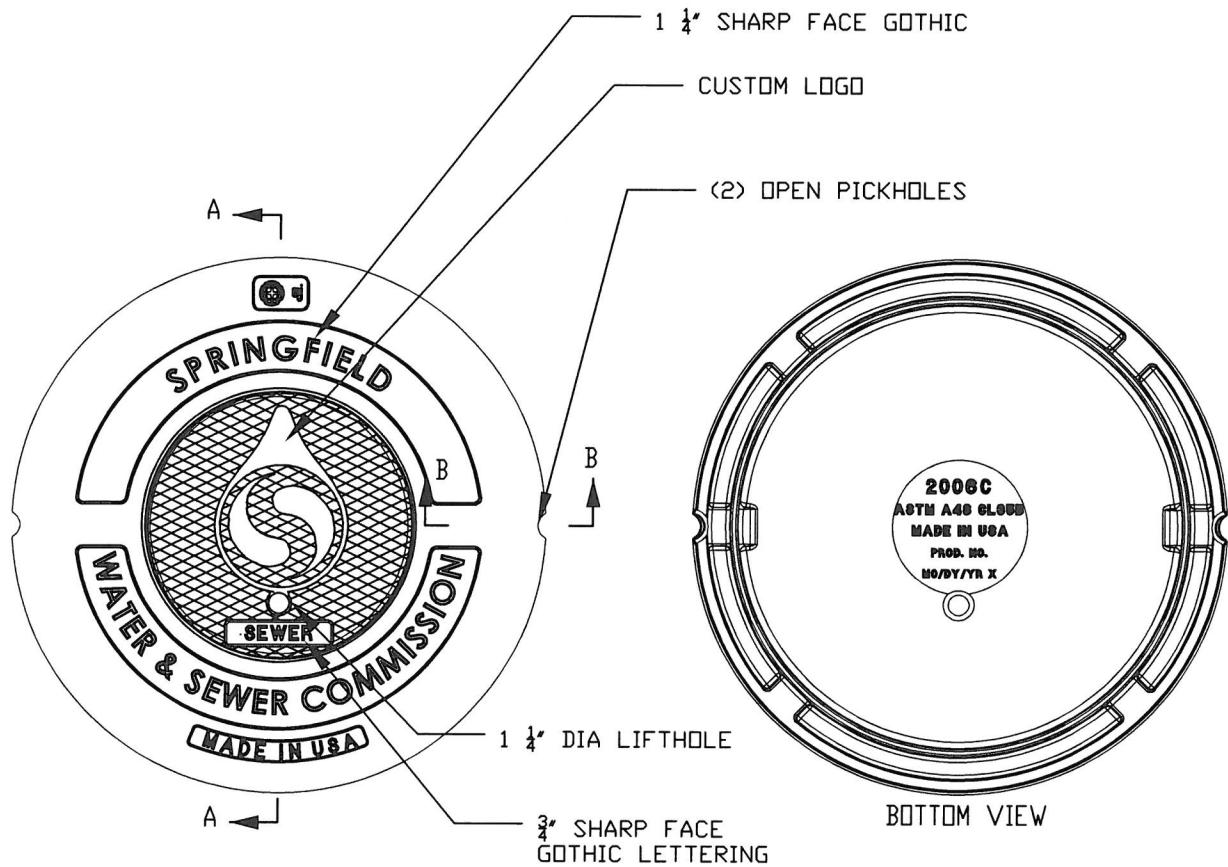
1. ALL MATERIALS WILL CONFORM TO SWSC SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. FRAME & COVER SHALL BE MADE FROM ASTM A48 CLASS 35B GRAY CAST IRON.
3. DIMENSIONS ARE IN INCHES-FRACTIONAL $\pm \frac{1}{16}$ ON ALL DIMENSIONS UP TO 12" AND AN ADDITIONAL $\pm \frac{1}{16}$ PER FOOT

SPRINGFIELD WATER AND SEWER COMMISSION		
	SEWER DETAIL S-02.56	REV. DATE
	32-inch by 8-inch Frame Only	4/16/19 DJP
SCALE: NTS		



- NOTES:**
1. ALL MATERIALS WILL CONFORM TO SWSC SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES AND POLICIES.
 2. FRAME & COVER SHALL BE MADE FROM ASTM A48 CLASS 35B GRAY CAST IRON.
 3. DIMENSIONS ARE IN INCHES-FRACTIONAL $\pm \frac{1}{16}$ ON ALL DIMENSIONS UP TO 12" AND AN ADDITIONAL $\pm \frac{1}{16}$ PER FOOT

SPRINGFIELD WATER AND SEWER COMMISSION		
	SEWER DETAIL S-02.61	REV. DATE
	24-inch Standard Sewer Cover	4/16/19 DJP
	SCALE: NTS	




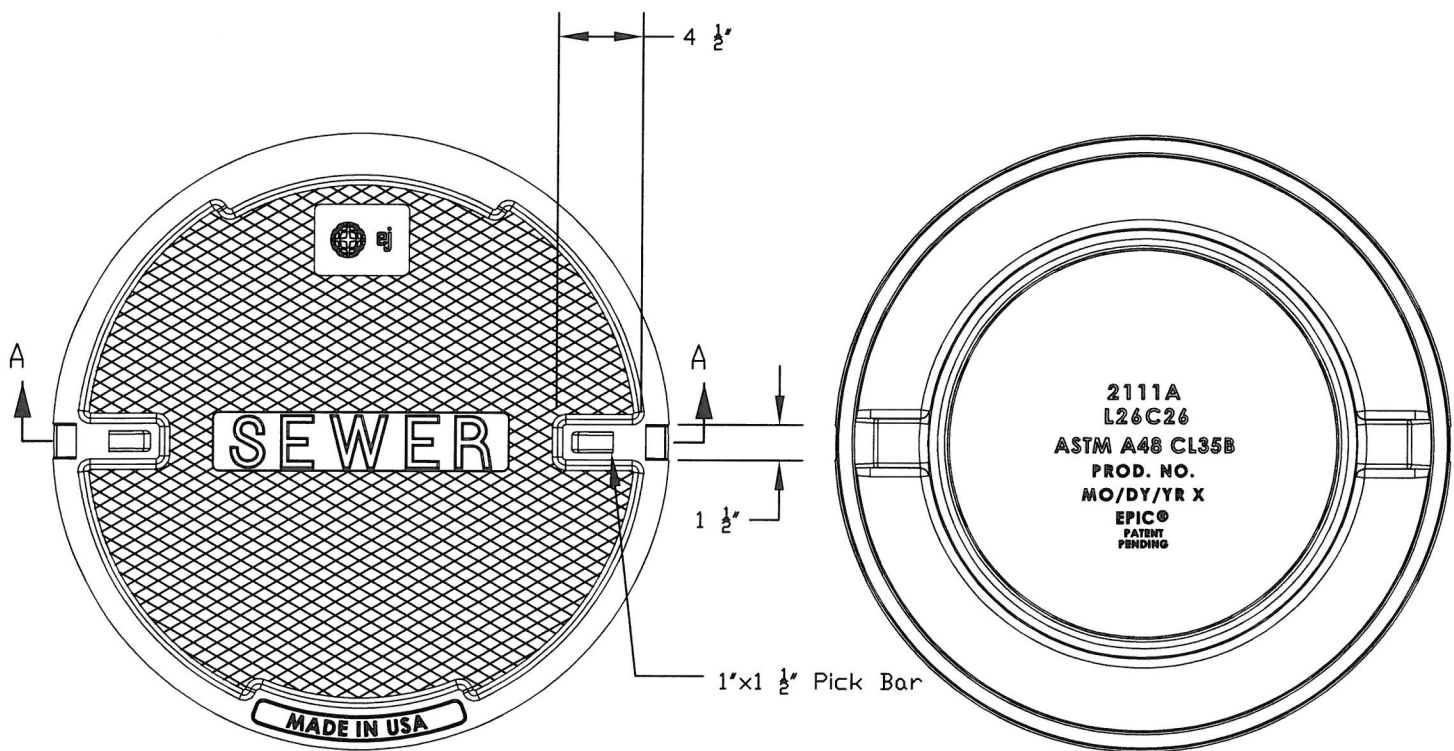
SECTION A-A

SECTION B-B
SCALE 1 : 8

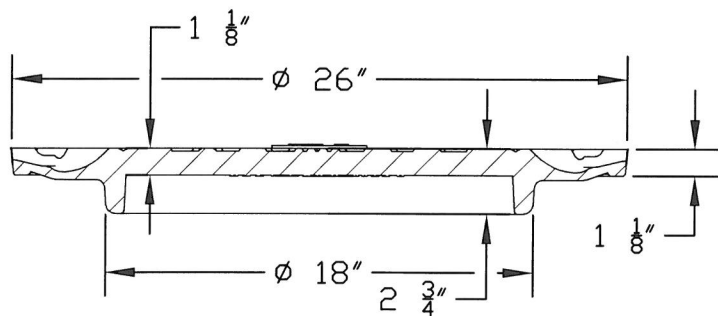
NOTES:

1. ALL MATERIALS WILL CONFORM TO SWSC SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. FRAME & COVER SHALL BE MADE FROM ASTM A48 CLASS 35B GRAY CAST IRON.
3. DIMENSIONS ARE IN INCHES-FRACTIONAL +/- 1/16 ON ALL DIMENSIONS UP TO 12" AND AN ADDITIONAL +/- 1/16" PER FOOT

SPRINGFIELD WATER AND SEWER COMMISSION		
	SEWER DETAIL S-02.62	REV. DATE
	<i>32-inch Standard Sewer Cover</i>	4/16/19 DJP
	SCALE: NTS	



BOTTOM VIEW

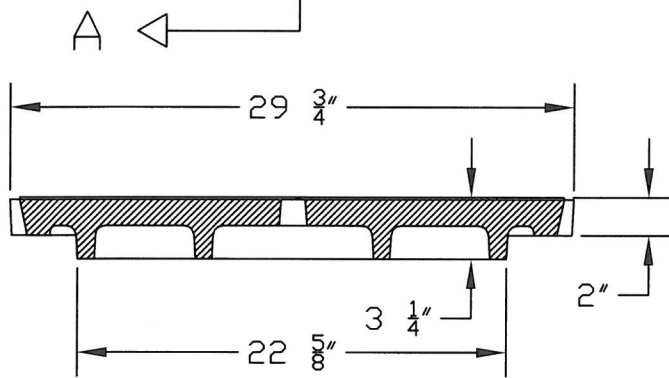
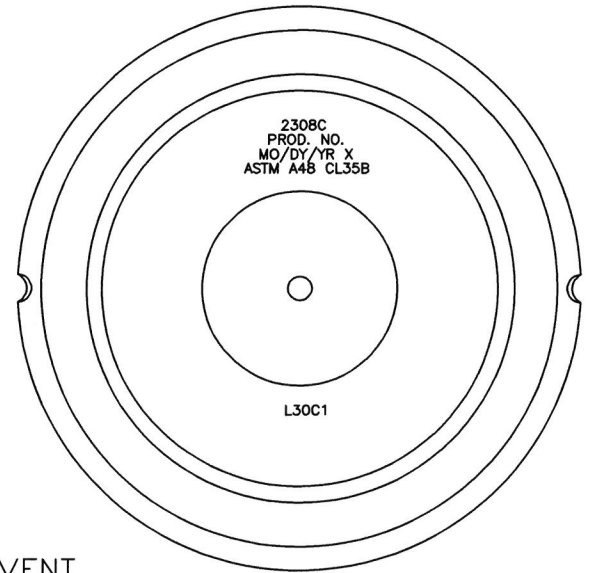
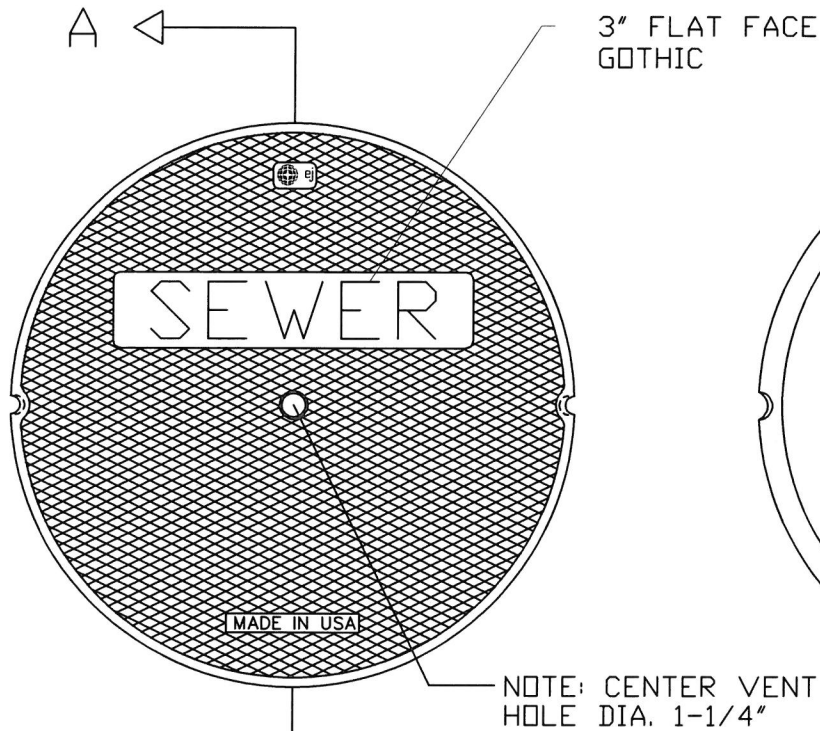


SECTION A-A

NOTES:

1. ALL MATERIALS WILL CONFORM TO SWSC SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. FRAME & COVER SHALL BE MADE FROM ASTM A48 CLASS 35B GRAY CAST IRON.
3. DIMENSIONS ARE IN INCHES-FRACTIONAL $\pm \frac{1}{16}$ ON ALL DIMENSIONS UP TO 12" AND AN ADDITIONAL $\pm \frac{1}{16}$ PER FOOT

SPRINGFIELD WATER AND SEWER COMMISSION		
	SEWER DETAIL S-02.63	REV. DATE
	26-inch Replacement Sewer Cover	4/16/19 DJP
	SCALE: NTS	

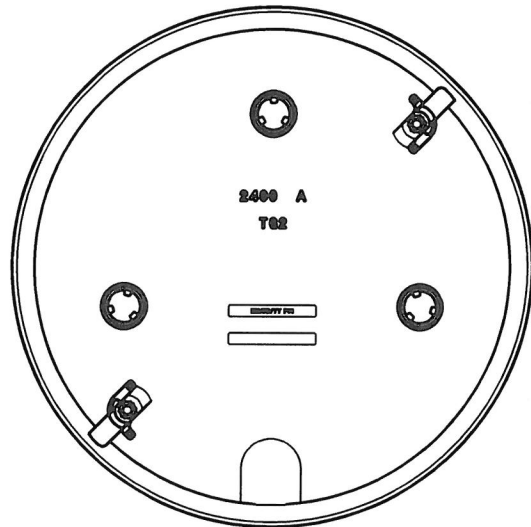
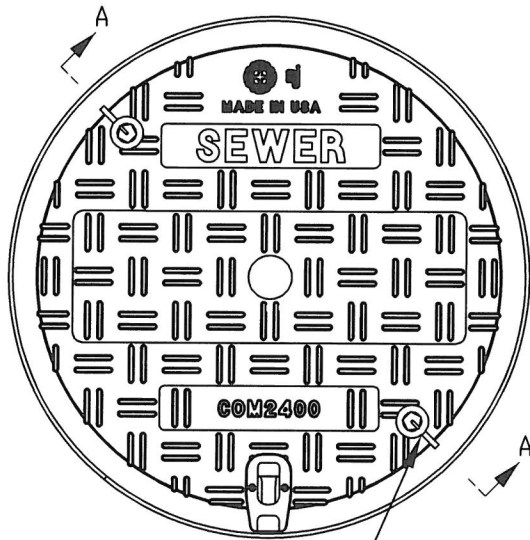


SECTION A-A

NOTES:

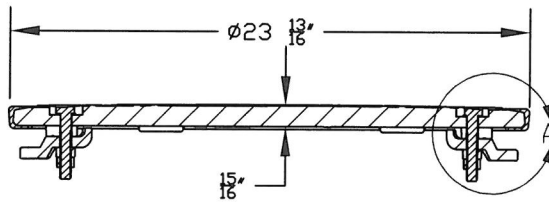
1. ALL MATERIALS WILL CONFORM TO SWSC SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. FRAME & COVER SHALL BE MADE FROM ASTM A48 CLASS 35B GRAY CAST IRON.
3. DIMENSIONS ARE IN INCHES-FRACTIONAL +/- $\frac{1}{16}$ ON ALL DIMENSIONS UP TO 12" AND AN ADDITIONAL +/- $\frac{1}{16}$ " PER FOOT

SPRINGFIELD WATER AND SEWER COMMISSION		
	SEWER DETAIL S-02.64	REV. DATE
	30-inch Replacement Sewer Cover	4/16/19 DJP
	SCALE: NTS	

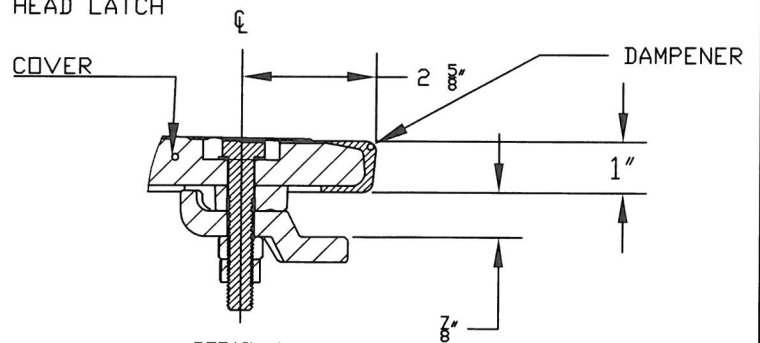


BOTTOM VIEW

¼ TURN PENTA HEAD LATCH



SECTION A-A

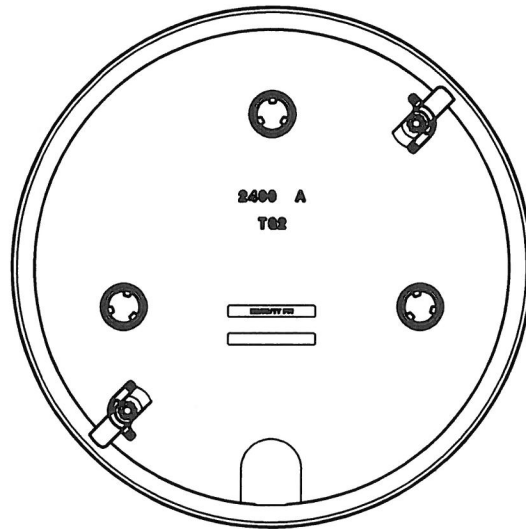
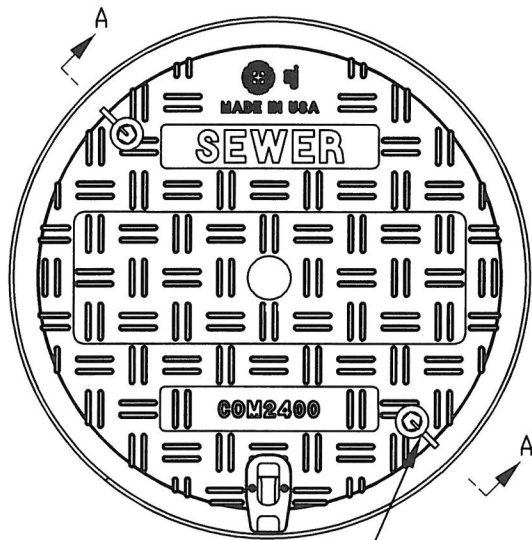


DETAIL A
SCALE 1:3

NOTES:

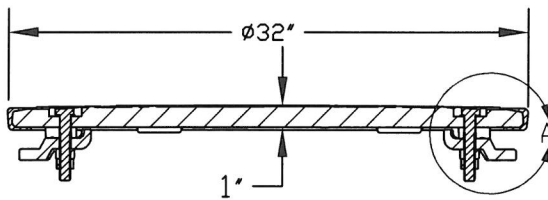
1. ALL MATERIALS WILL CONFORM TO SWSC SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. COVER SHALL BE MADE FROM FIBER REINFORCED POLYMER (FRP) ASTM C1028
3. DIMENSIONS ARE IN INCHES-FRACTIONAL +/- 1/16 ON ALL DIMENSIONS UP TO 12" AND AN ADDITIONAL +/- 1/16" PER FOOT

SPRINGFIELD WATER AND SEWER COMMISSION		
	SEWER DETAIL S-02.65	REV. DATE
	24" Composite Locking Cover	4/19/19 DJP
SCALE: NTS		

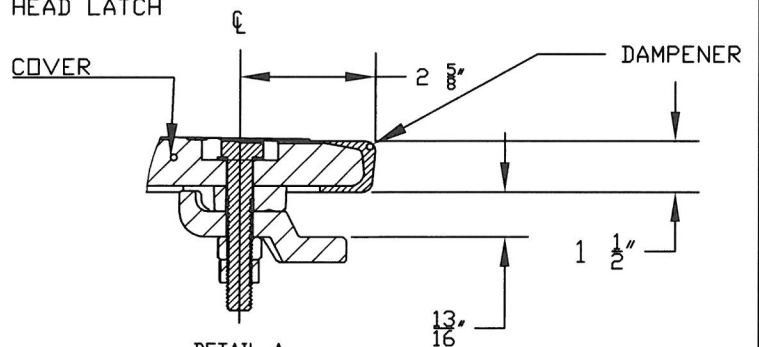


BOTTOM VIEW

¼ TURN PENTA HEAD LATCH



SECTION A-A

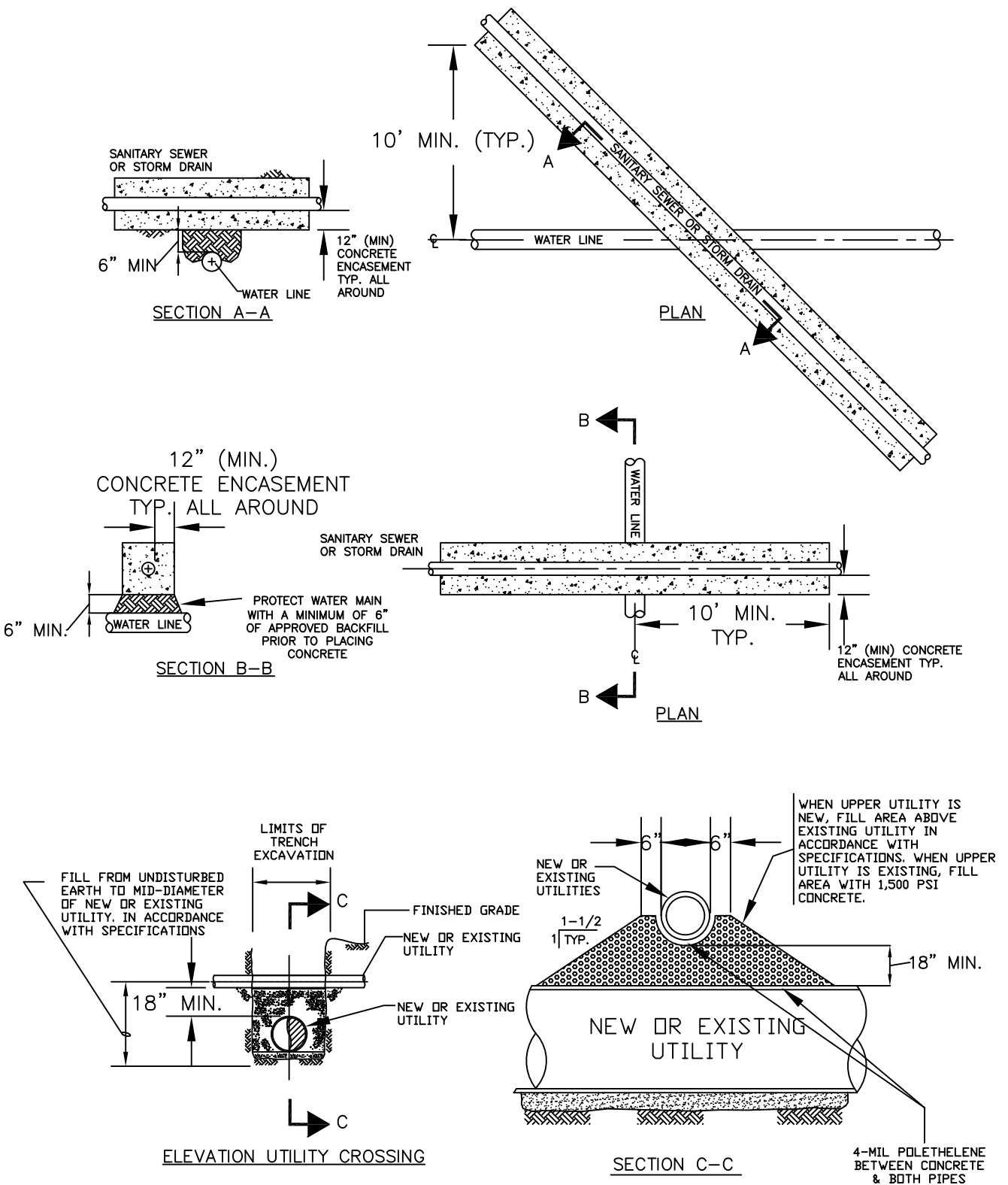


DETAIL A
SCALE 1:3

NOTES:


1. ALL MATERIALS WILL CONFORM TO SWSC SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. COVER SHALL BE MADE FROM FIBER REINFORCED POLYMER (FRP) ASTM C1028
3. DIMENSIONS ARE IN INCHES-FRACTIONAL +/- 1/16 ON ALL DIMENSIONS UP TO 12" AND AN ADDITIONAL +/- 1/16" PER FOOT

SPRINGFIELD WATER AND SEWER COMMISSION		
	SEWER DETAIL S-02.66	REV. DATE
	32-inch Composite Locking Cover	4/19/19 DJP
	SCALE: NTS	



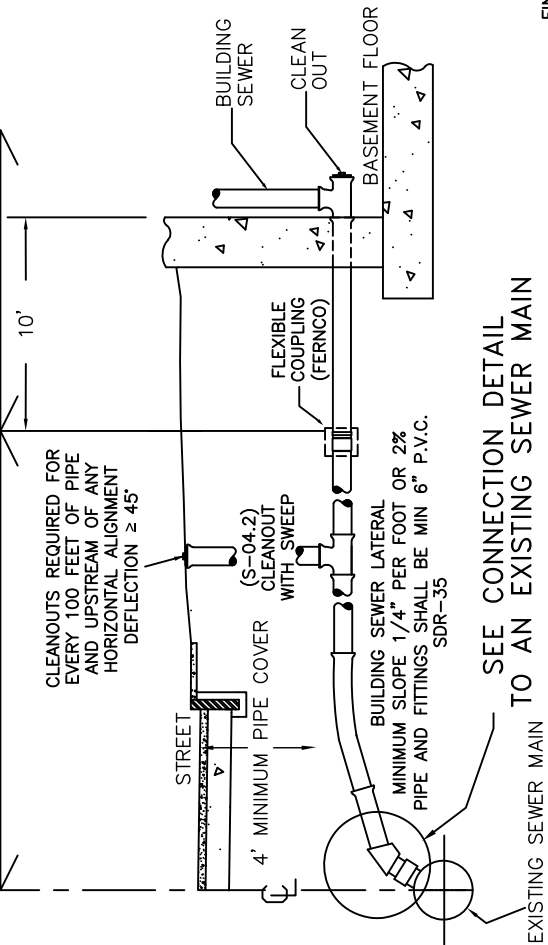
NOTES:

1. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES & POLICIES AND SPECIFICATIONS.
2. ALL SEWER MAIN PIPE SHOULD HAVE A MINIMUM DEPTH OF 4' FROM TOP OF PIPE TO FINISH GRADE.
3. IF 4' OF COVER IS NOT POSSIBLE PIPE SHALL BE INSULATED.
4. IF DEPTH OF COVER ABOVE CONCRETE ENCASEMENT IS GREATER THAN 5'-0" REINFORCEMENT STEEL SHALL BE USED.

SPRINGFIELD WATER AND SEWER COMMISSION		
	SEWER DETAIL S-03.0	REV. DATE
		4/1/08 MAB
	UTILITY CROSSING DETAIL	6/18/08 MAB
		4/6/21 MJL
SCALE: NTS		

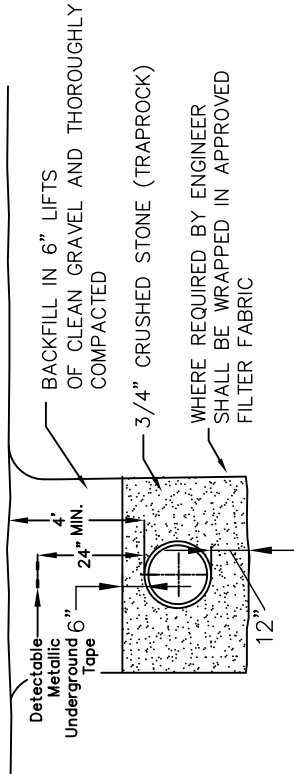
INSPECTION JURISDICTION

S.W.S.C. PLUMBING INSPECTOR

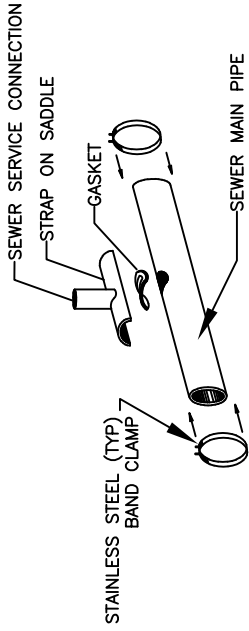


SEE CONNECTION DETAIL TO AN EXISTING SEWER MAIN

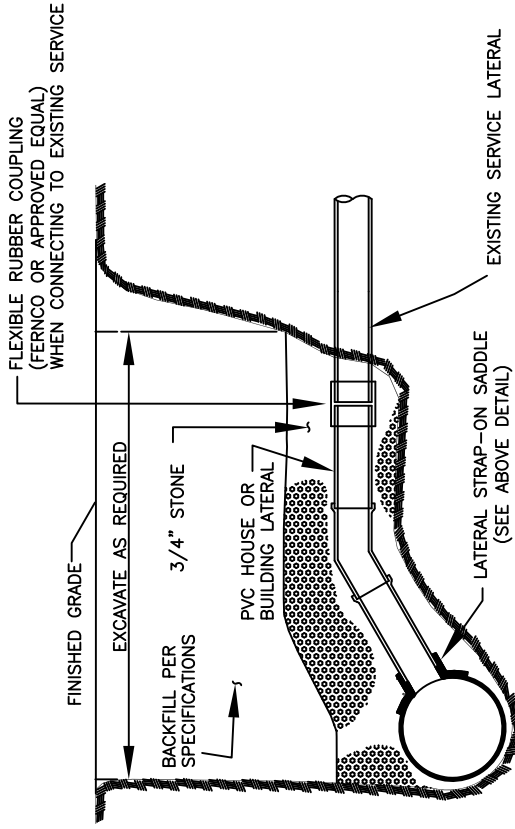
BUILDING SEWER



REFERENCE TRENCH DETAIL S-01.0




LATERAL STRAP-ON SADDLE

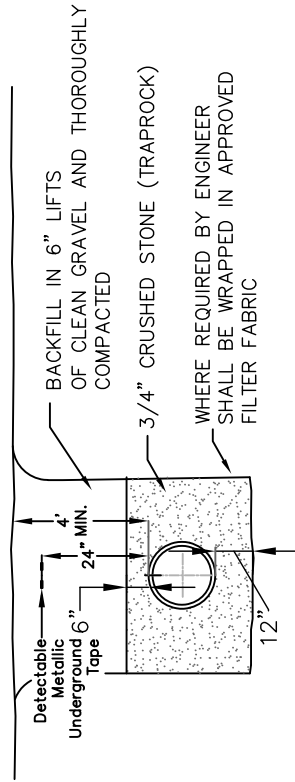
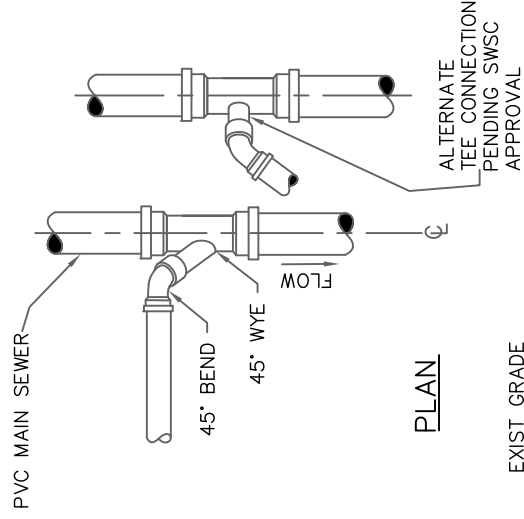
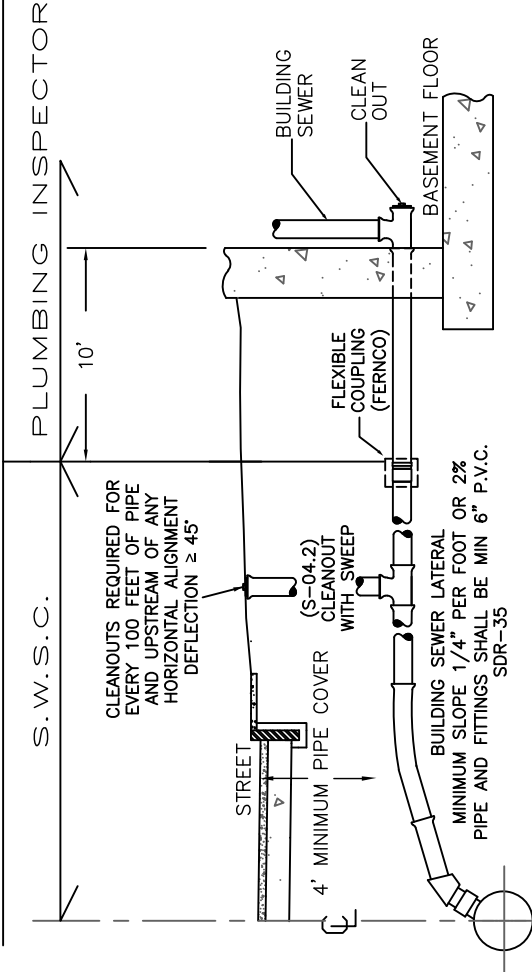


CONNECTION TO AN EXISTING SEWER LATERAL

- NOTES:
1. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES & POLICIES AND SPECIFICATIONS.
 2. ALL SEWER MAIN PIPE SHOULD HAVE A MINIMUM DEPTH OF 4' FROM TOP OF PIPE TO FINISH GRADE.
 3. IF 4' OF COVER IS NOT POSSIBLE PIPE SHALL BE INSULATED.
 4. ALL SERVICE LINES SHALL BE PVC SDR-35 AND MUST BE A MINIMUM OF 6" DIAMETER, NO EXCEPTIONS.

	SPRINGFIELD WATER AND SEWER COMMISSION	
	SEWER DETAIL S-04.0	
	<u>EXISTING SEWER MAIN TO BUILDING CONNECTION</u>	
	SCALE: NTS	REV. DATE
		4/1/08 MAB
		10/6/20 DS
		3/17/21 M.JL

INSPECTION JURISDICTION



LATERAL CONNECTION TO A NEW SEWER MAIN

REFERENCE TRENCH DETAIL S-01.0

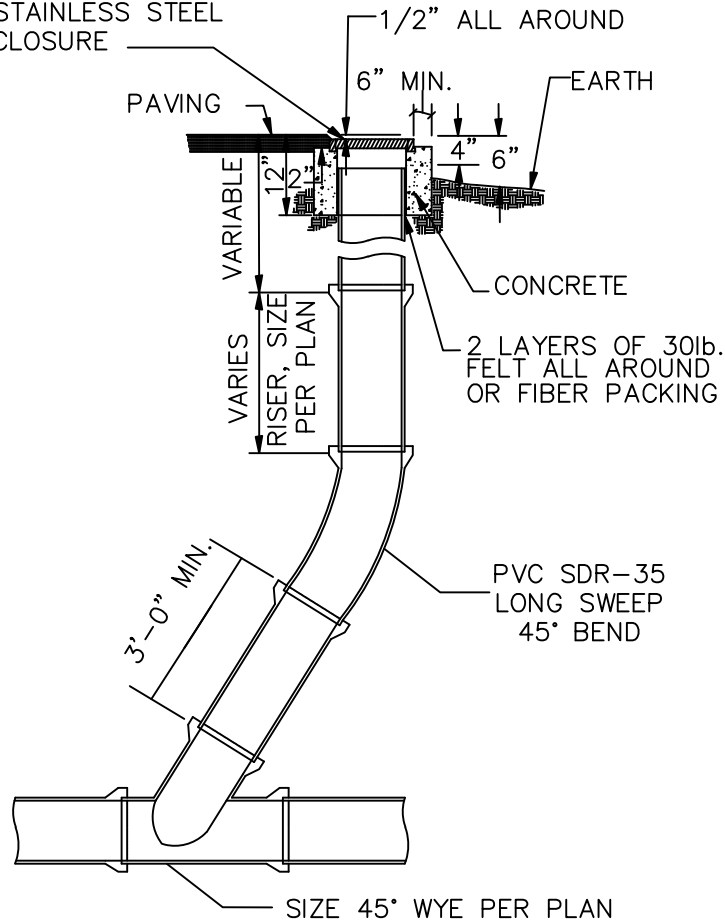
- NOTES:**
1. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES & POLICIES AND SPECIFICATIONS.
 2. ALL SEWER MAIN PIPE SHOULD HAVE A MINIMUM DEPTH OF 4' FROM TOP OF PIPE TO FINISH GRADE.
 3. IF 4' OF COVER IS NOT POSSIBLE PIPE SHALL BE INSULATED.
 4. ALL SERVICE LINES SHALL BE PVC SDR-35 AND MUST BE A MINIMUM OF 6" DIAMETER, NO EXCEPTIONS.

	SPRINGFIELD WATER AND SEWER COMMISSION	
	SEWER DETAIL S-04.1	REV. DATE
<p><i>NEW SEWER MAIN TO BUILDING CONNECTION</i></p>		4/1/08 MAB
SCALE: NTS		10/6/20 DS
		3/17/21 M.JL

DETAIL FOR CLEANOUTS
IN PAVED SURFACES

DETAIL FOR CLEAN OUTS
IN EASEMENTS

"NEENAH" R-7506 SERIES OR EQUAL
FLOOR BOX FRAME AND LID,
OR EQUAL WITH STAINLESS STEEL
CAP SCREW LID CLOSURE

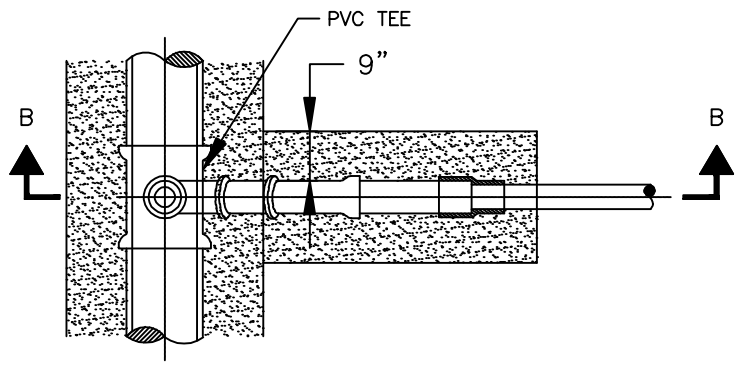


* **REQUIRED** – EVERY 100 FEET OF PIPE AND UPSTREAM OF ANY HORIZONTAL ALIGNMENT DEFLECTION GREATER THAN OR EQUAL TO 45 DEGREES

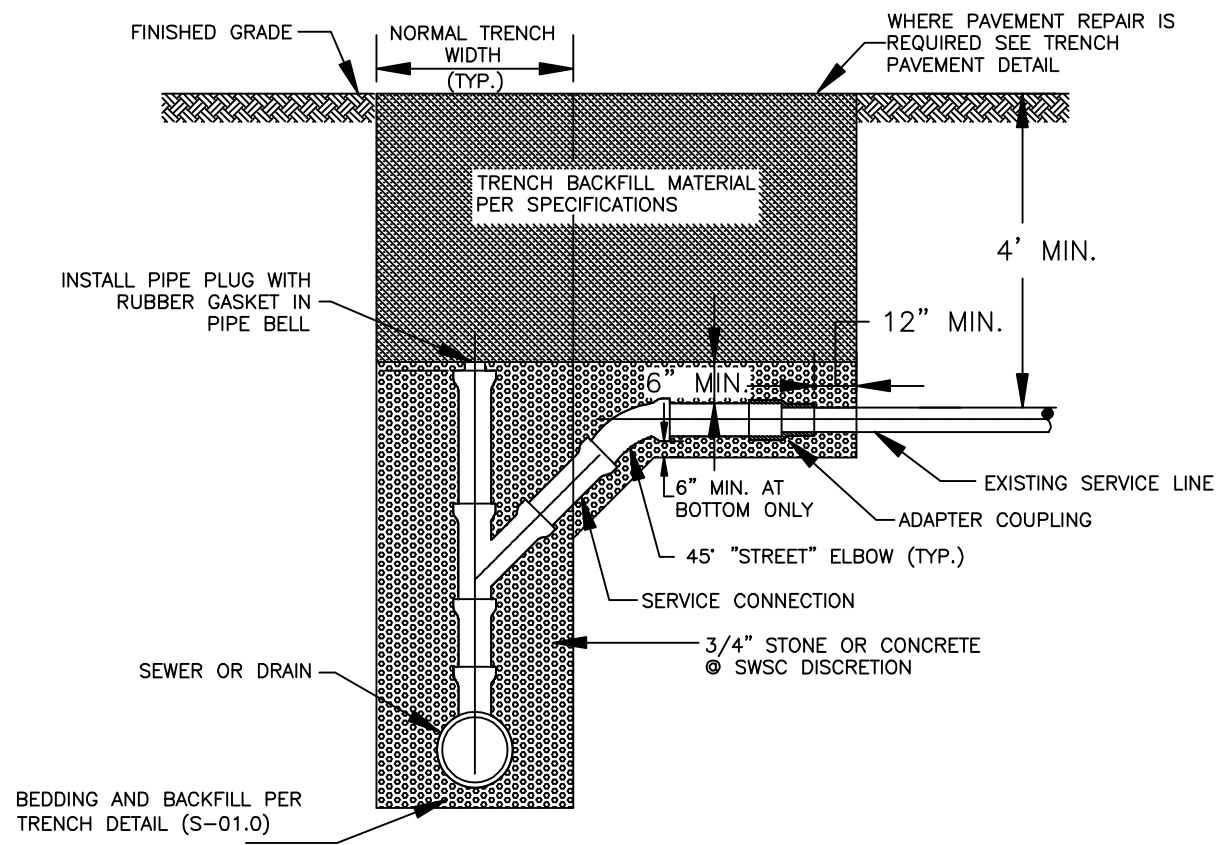
NOTES:

1. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES & POLICIES AND SPECIFICATIONS.
2. ALL SEWER MAIN PIPE SHOULD HAVE A MINIMUM DEPTH OF 4' FROM TOP OF PIPE TO FINISH GRADE.
3. IF 4' OF COVER IS NOT POSSIBLE PIPE SHALL BE INSULATED.
4. ALL SERVICE LINES SHALL BE PVC SDR-35 AND MUST BE A MINIMUM OF 6" DIAMETER, NO EXCEPTIONS.
5. CLEAN OUT PIPE DIAMETER SHALL BE THE SAME AS THE SEWER LINE AT THE WYE.

SPRINGFIELD WATER AND SEWER COMMISSION		
	SEWER DETAIL S-04.2	REV. DATE
	<u>CLEAN OUT WITH SWEEP</u>	4/1/08 MAB
		10/06/20 DS
SCALE: NTS		



PLAN



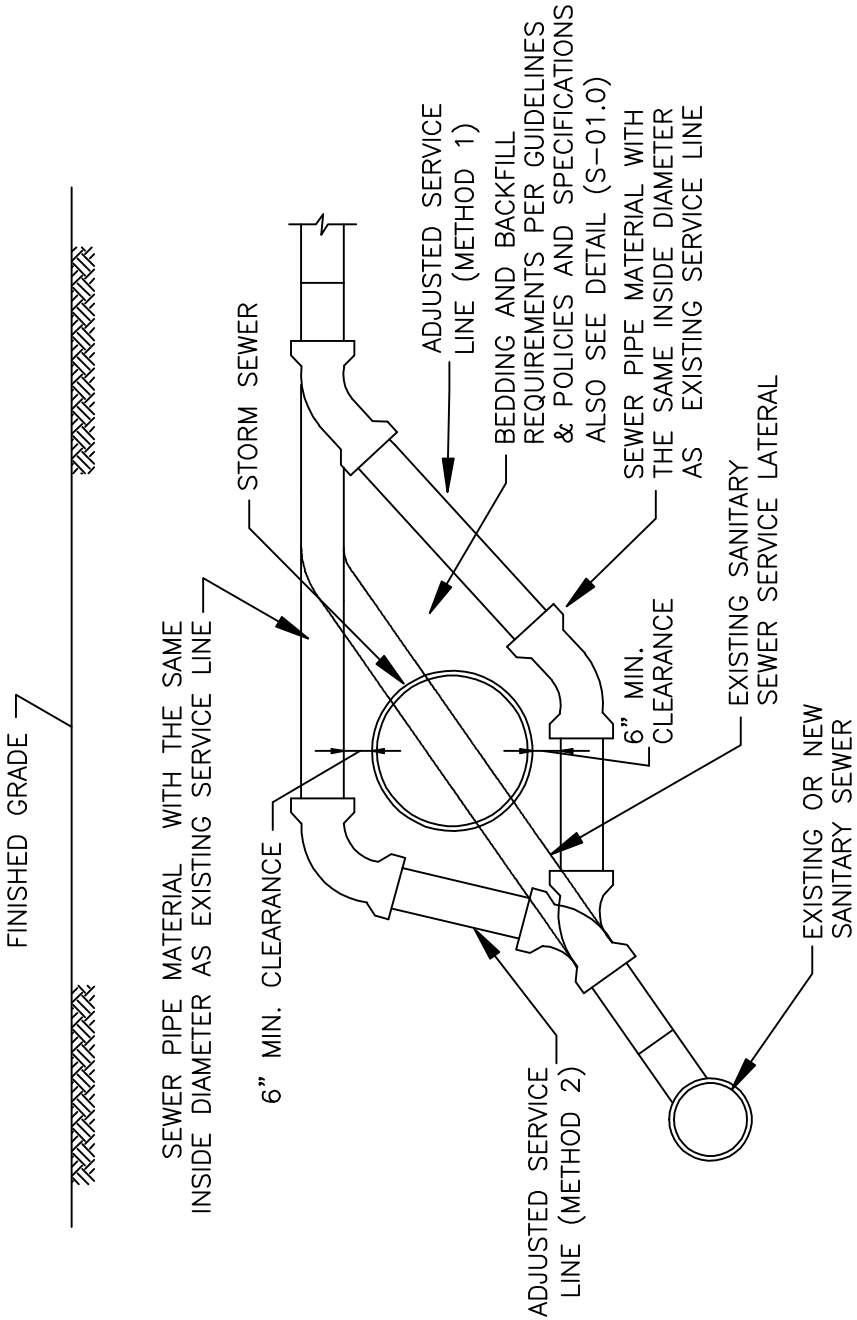
SECTION B-B

SEWER OR DRAIN SERVICE CONNECTION WITH CHIMNEY GREATER THAN 12' DEEP


NOTES:

1. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES & POLICIES AND MATERIAL SPECIFICATIONS.
2. ALL SEWER MAIN PIPE SHOULD HAVE A MINIMUM DEPTH OF 4' FROM TOP OF PIPE TO FINISH GRADE.
3. IF 4' OF COVER IS NOT POSSIBLE PIPE SHALL BE INSULATED.
4. ALL SERVICE LINES SHALL BE PVC SDR-35 AND MUST BE A MINIMUM OF 6" DIAMETER, NO EXCEPTIONS.
5. CLEAN OUT PIPE DIAMETER SHALL BE THE SAME AS THE SEWER LINE AT THE WYE.

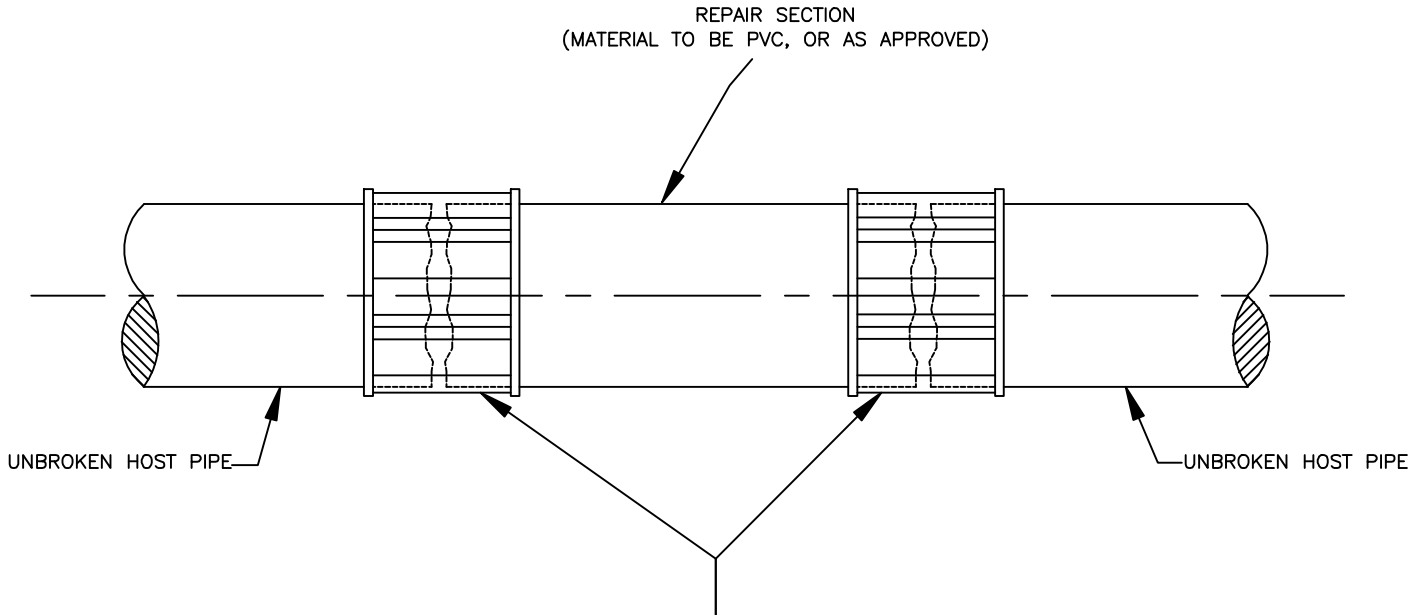
SPRINGFIELD WATER AND SEWER COMMISSION		
	SEWER DETAIL S-04.3	REV. DATE
	<i>SEWER SERVICE CONNECTION WITH CHIMNEY >12' DEEP</i>	
	SCALE: NTS	
	4/1/08 MAB	



- NOTES:**
1. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES & POLICIES AND MATERIAL SPECIFICATIONS.
 2. ALL SEWER MAIN PIPE SHOULD HAVE A MINIMUM DEPTH OF 4' FROM TOP OF PIPE TO FINISH GRADE.
 3. IF 4' OF COVER IS NOT POSSIBLE PIPE SHALL BE INSULATED.
 4. ALL SERVICE LINES SHALL BE PVC SDR-35 AND MUST BE A MINIMUM OF 6" DIAMETER, NO EXCEPTIONS.

SPRINGFIELD WATER AND SEWER COMMISSION		
	SEWER DETAIL S-04.4	REV. DATE
	BUILDING CONNECTION TO SEWER MAIN WITH CONFLICTS	4/1/08 MAB
	SCALE: NTS	

TYPICAL REPAIR




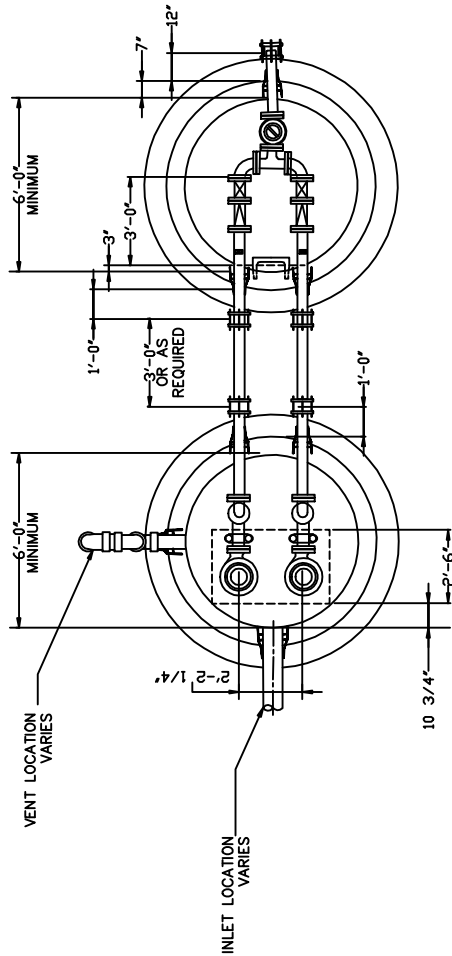
PVC SLIP COUPLINGS, RUBBER COUPLINGS (FERNCO OR APPROVED EQUAL)

BRICK OR EGG SHAPED SEWER REPAIR MAY HAVE ADDITIONAL REQUIREMENTS BY SWSC

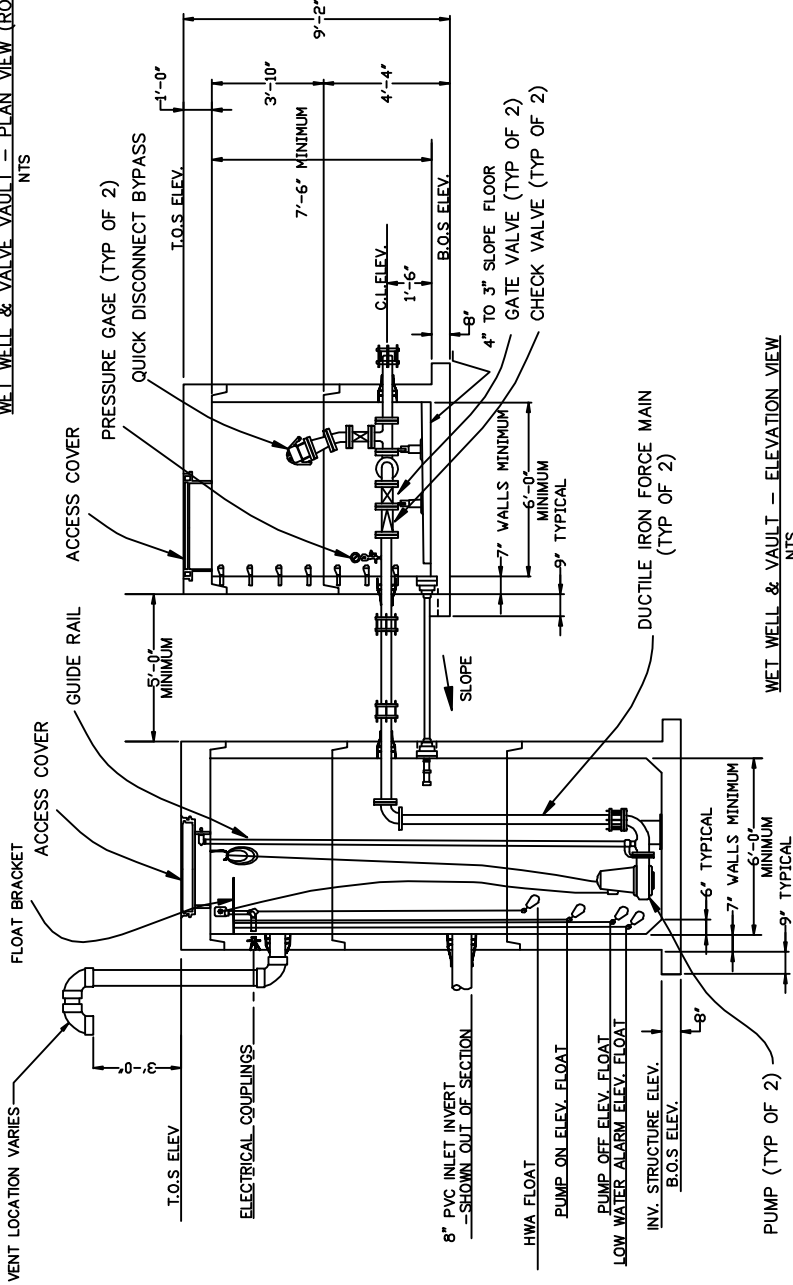
NOTES:

1. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES & POLICIES AND SPECIFICATIONS.
2. ALL SEWER MAIN PIPE SHOULD HAVE A MINIMUM DEPTH OF 4' FROM TOP OF PIPE TO FINISH GRADE.
3. IF 4' OF COVER IS NOT POSSIBLE PIPE SHALL BE INSULATED.
4. SEWER REPAIR SECTION MATERIAL SHALL BE THE SAME MATERIAL AS THE HOST PIPE, OR AS APPROVED BY SWSC.
5. REPAIR SECTION SHALL BE SIZED TO BUTT AGAINST THE HOST PIPES.

SPRINGFIELD WATER AND SEWER COMMISSION		
	SEWER DETAIL S-05.0	REV. DATE
	<i>BUILDING AND MAINLINE</i>	4/1/08 MAB
	<i>SEWER REPAIR</i>	
	SCALE: NTS	




WET WELL & VALVE VAULT - PLAN VIEW (ROOF REMOVED)
NTS

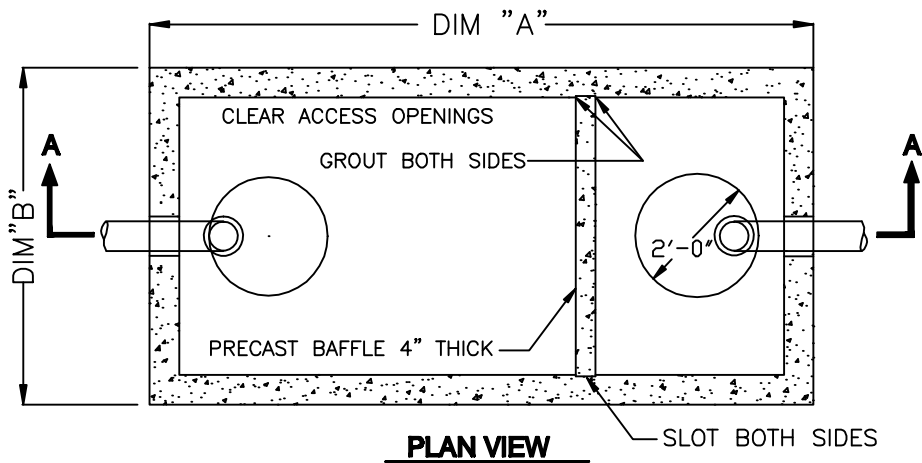


WET WELL & VALVE VAULT - ELEVATION VIEW
NTS

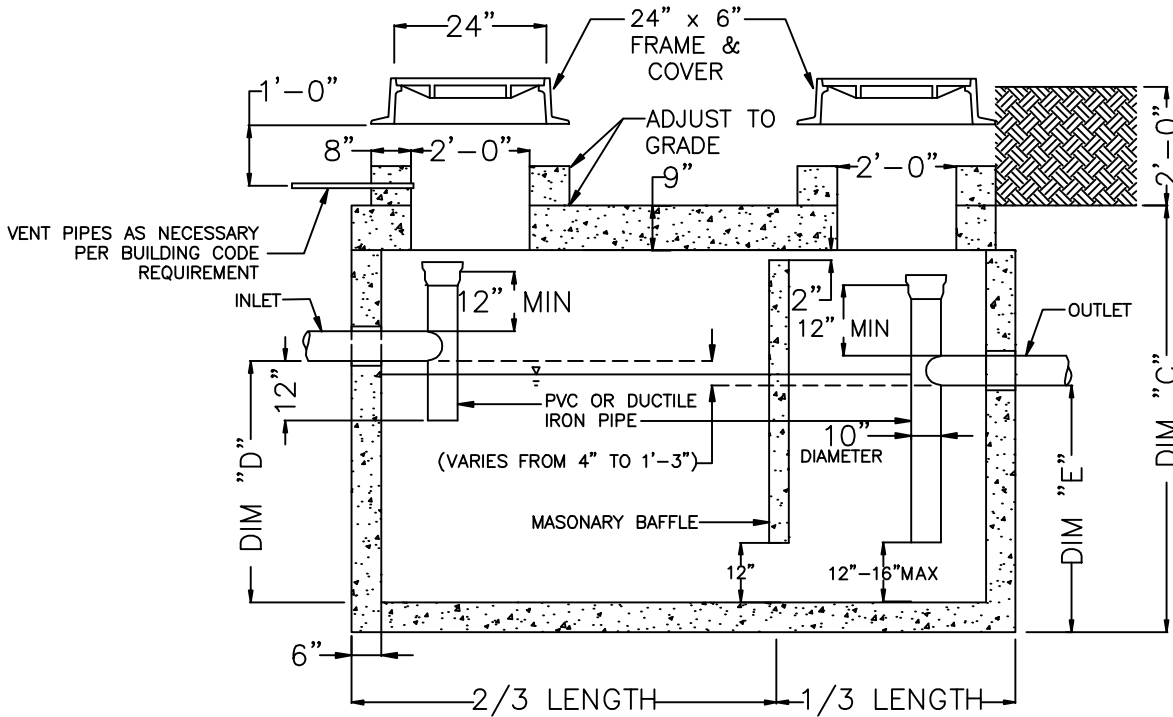
NOTES:

1. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES & POLICIES AND MATERIAL SPECIFICATIONS.
2. ALL SEWER MAIN PIPE SHOULD HAVE A MINIMUM DEPTH OF 4' FROM TOP OF PIPE TO FINISH GRADE.
3. IF 4' OF COVER IS NOT POSSIBLE PIPE SHALL BE INSULATED.

SPRINGFIELD WATER AND SEWER COMMISSION		
	SEWER DETAIL S-06.0	REV. DATE
	<i>WETWELL & VALVE VAULT PRECAST</i>	4/1/08 MAB
SCALE: NTS		



PLAN VIEW



SECTION A-A

SIZING CHART					
GALLON CAPACITY	DIM 'A'	DIM 'B'	DIM 'C'	DIM 'D'	DIM 'E'
750	7'-0"	4'-8"	7'-0"	4'-3"	3'-11"
1000	9'-0"	5'-0"	7'-2"	4'-2"	3'-10"
1250	9'-0"	5'-0"	7'-2"	5'-2"	4'-10"
1500	11'-2"	5'-8"	7'-2"	4'-4"	4'-0"
1750	11'-2"	5'-8"	7'-2"	4'-11"	4'-7"
2000	12'-8"	6'-8"	8'-0"	4'-7"	3'-10"
2500	12'-8"	6'-8"	8'-0"	5'-6"	4'-9"
2750	12'-8"	6'-8"	8'-0"	6'-0"	5'-3"
3000	15'-7"	9'-7"	8'-6.5"	5'-0"	3'-9"
4000	15'-7"	9'-7"	8'-6.5"	6'-3"	5'-0"
5000	19'-11"	9'-11"	8'-11"	6'-2"	4'-9"
6000	19'-11"	9'-11"	10'-5"	7'-2"	5'-9"

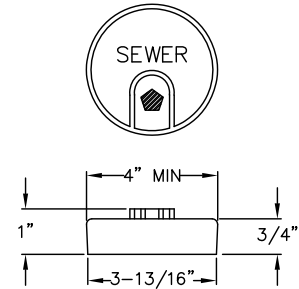
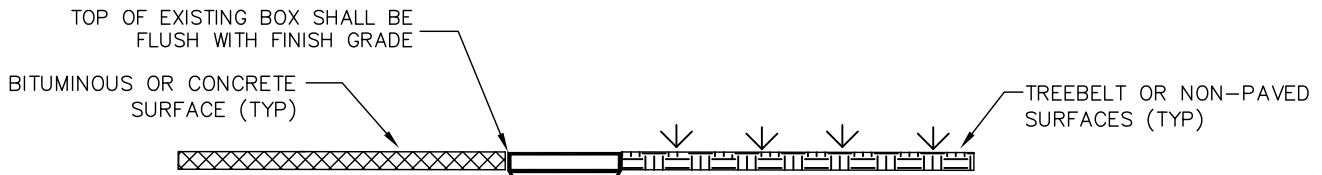
GENERAL CONSTRUCTION NOTES:

1. CONCRETE : 28 DAY F'c= 4500 psi
2. REBAR : ASTM A615 GRADE 60.
3. MESH : ASTM A-185 GRADE 65
4. DESIGN : AC1318-83 BUILDING CODE
ASTM C-857 MINIMUM STRUCTURAL DESIGN
LOADING FOR UNDERGROUND PRECAST
CONCRETE UTILITY STRUCTURES
5. LOADS : H-20 LOADING.
6. FILL w/CLEAN WATER PRIOR TO START UP OF SYSTEM.
7. CONTRACTOR TO SUPPLY AND INSTALL ALL PIPING AND
SANITARY TEES ,4 CLEAN OUTS, FOR CLEANING TOWARD
TRAP AND FOR CLEANING AWAY FROM TRAP ON BOTH THE
INLET AND OUTLET / ALT. DUAL SWEEP CLEANOUTS.
8. GRAY WATER ONLY, BLACK WATER SHALL BE CARRIED BY
SEPARATE SEWER.
9. TRAP SIZE WILL BE BASED ON 15 GPD PER SEAT OR
OTHER APPROVED SIZING CRITERIA.
10. LARGER SIZES MAY BE REQUIRED AS PER REVIEW OF
FACILITY.
11. MUST BE PRESSURE TESTED PER ASTM C163-06.
12. BALLAST/BOUYANCY CALCULATIONS REQUIRED IF AVERAGE
HIGH GROUND WATER TABLE IS ENCOUNTERED.

NOTES:

1. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL CONFORM TO
SWSC GUIDELINES & POLICIES AND SPECIFICATIONS.
2. ALL SEWER SERVICE PIPE SHOULD HAVE A MINIMUM DEPTH OF 4'
FROM TOP OF PIPE TO FINISH GRADE.
3. IF 4' OF COVER IS NOT POSSIBLE PIPE SHALL BE INSULATED.
4. SEWER REPAIR SECTION MATERIAL SHALL BE THE SAME MATERIAL AS
THE HOST PIPE, OR AS APPROVED BY SWSC.
5. REPAIR SECTION SHALL BE SIZED TO BUTT AGAINST THE HOST PIPES.

SPRINGFIELD WATER AND SEWER COMMISSION		
	SEWER DETAIL S-08.0	REV. DATE
	STANDARD EXTERNAL GREASE INTERCEPTOR	4/1/09 MAB
	SCALE: NTS	



SERVICE BOX COVER
WITH BRASS PENTAGON HEAD NUT
AND THE WORD "SEWER" CAST INTO COVER

6" MINIMUM OVERLAP

BACKFILL WITH SAND,
 CRUSHED STONE, SCREENED GRAVEL,
 OR SELECT COMMON BORROW/FILL

MINIMUM 2 1/2" I.D.

2 1/2" SLIDING BUFFALO STYLE VALVE BOX SHALL BE
 HEAVY CAST IRON EXTENSION (ADJUSTABLE) TYPE
 WITH 3 1/2" X 4 7/8" ARCH BASE

MINIMUM TOTAL BOX WEIGHT SHALL BE 41 lbs FOR
 48-66 INCH EXTENSION

UTILIZE ENLARGED BASE WITH 4 1/8" X 4 7/8" ARCH
 FOR 3" LPSS MAINS (ADD 9lbs MIN TO TOTAL BOX
 WEIGHT WHEN USING ENLARGED BASE)

THE ARCH PATTERN BASE SHALL ACCOMMODATE
 BALL TYPE CORPORATIONS AND BALL TYPE CURB
 STOPS SIZED TO MATCH LPSS MAIN AND SERVICE
 LATERALS.

THE BUFFALO STYLE SERVICE BOX SHALL HAVE A
 HEAVY COAT OF ASPHALT-BASE PAINT.


BACKFILL WITH THOROUGHLY COMPACTED
 SAND TO 6" ABOVE PIPE IN MAX 12" LIFTS
 COMPACTION TO 95% PROCTOR

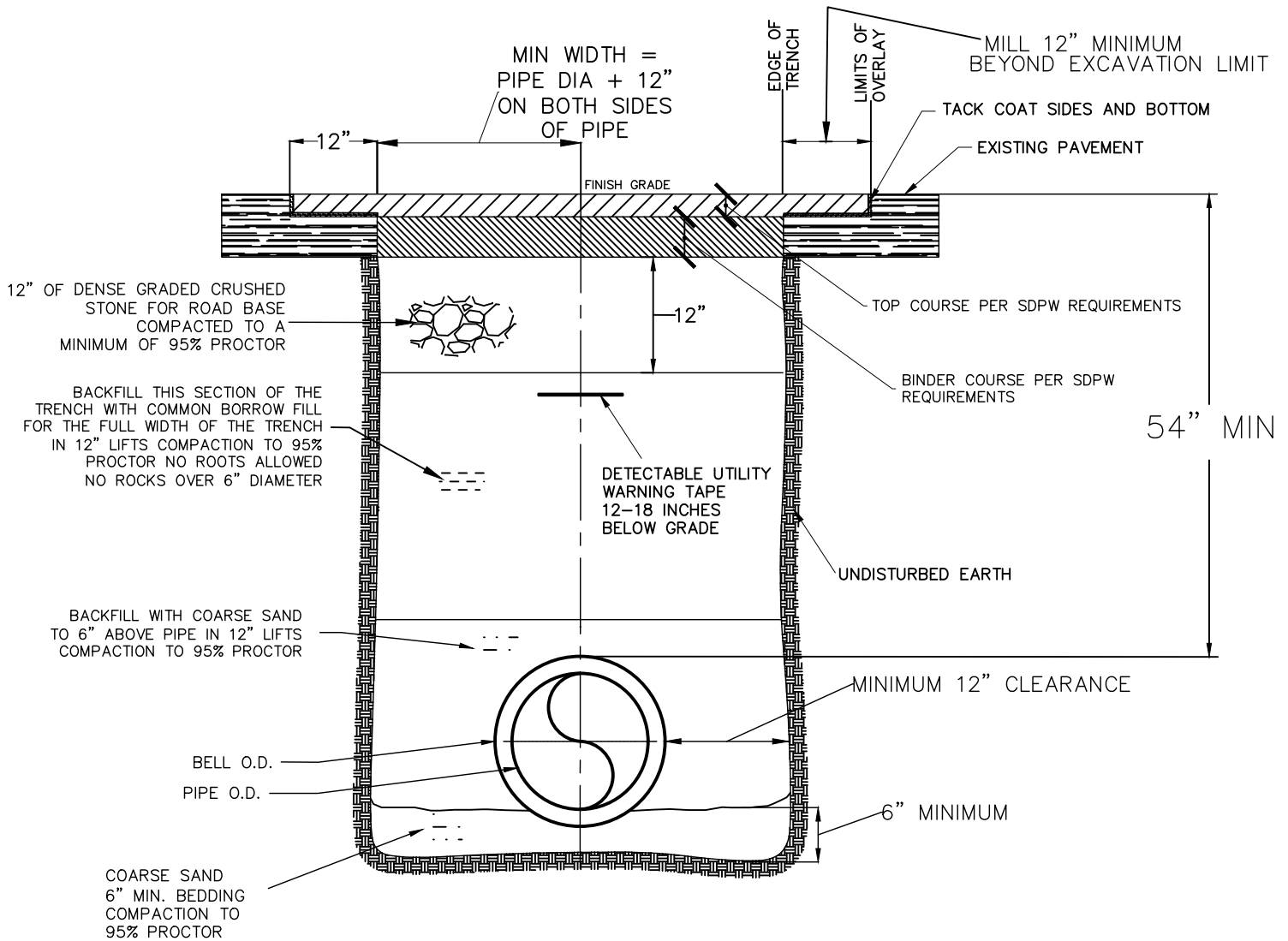
STANDARD BRICK
 4"x2-3/4"x8" NO HOLES
 PLACED OVER COMPACTED FILL
 AND UNDER VALVE BOX
 BOTTOM FOR SUPPORT

SLIDE TYPE
BUFFALO VALVE BOX

NOTES:

1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES WILL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. LPSS DEPTH SHALL BE 6 INCHES BELOW THE AVERAGE FROST DEPTH (48 INCHES) FOR A TOTAL OF 54 INCHES. PIPE SHALLOWER THAN 54 INCHES SHALL BE INSULATED.
3. SEE DETAIL S-09.3 FOR TRENCH DETAILS
4. IF BACKFILLING WITH "FLOWABLE" FILL WRAP THE SERVICE BOX WITH 15 POUND FELT ROOFING PAPER OR 4 MIL THICK POLYETHYLENE.

SPRINGFIELD WATER AND SEWER COMMISSION		
	SEWER DETAIL S-09.1	REV. DATE
	<i>LOW PRESSURE SANITARY</i>	1/18/19 DS
	<i>SERVICE / MAIN 2 1/2" VALVE</i>	10/28/20 DS
	<i>BOX IN NON-PAVED AREAS</i>	
	SCALE: NTS	



NOTES:

1. ALL MATERIALS WILL CONFORM TO SWSC MATERIAL SPECIFICATIONS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES AND POLICIES.
2. LPSS DEPTH SHALL BE 6 INCHES BELOW THE AVERAGE FROST DEPTH (48 INCHES) FOR A TOTAL OF 54 INCHES. PIPE SHALLower THAN 54 INCHES SHALL BE INSULATED.
3. DETECTABLE WARNING TAPE SHALL BE INSTALLED 12-18 INCHES BELOW GRADE TO ALLOW USE OF A METAL DETECTOR FOR FUTURE FIELD LOCATION AND UTILITY MARKOUT.
4. REQUIREMENTS FOR ROAD BASE, PAVEMENT, AND JOINT SEAL ARE TO BE IN ACCORDANCE WITH THE LATEST VERSION OF THE CITY OF SPRINGFIELD DEPARTMENT OF PUBLIC WORKS – ENGINEERING DIVISION'S "MANUAL FOR OCCUPANCY OF PUBLIC WAYS AND PRIVATE WAYS WITHIN THE CITY OF SPRINGFIELD".
5. TRENCH RESTORATION OUTSIDE OF ROADWAY LPSS ALIGNMENTS SHALL MEET REQUIREMENTS FOR GRAVEL, VEGETATION, LOAM AND/OR SEED IN ACCORDANCE WITH LOCAL AUTHORITY HAVING LOCAL JURISDICTION IN NON-PAVED AREAS.
6. FOR TYPICAL LOCATION OF SEWER MAINS SEE DETAIL (W-01.0).
7. ALL MATERIALS USED TO MEET MASS. STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.

	EXISTING PAVEMENT		EXCAVATED AND REPLACED WITH BINDER COURSE
	DENSE GRADED CRUSHED STONE		COMMON BORROW
	BEDDING SAND		TACK COAT
	MILLED AND REPLACED WITH TOP COURSE		UNDISTURBED EARTH

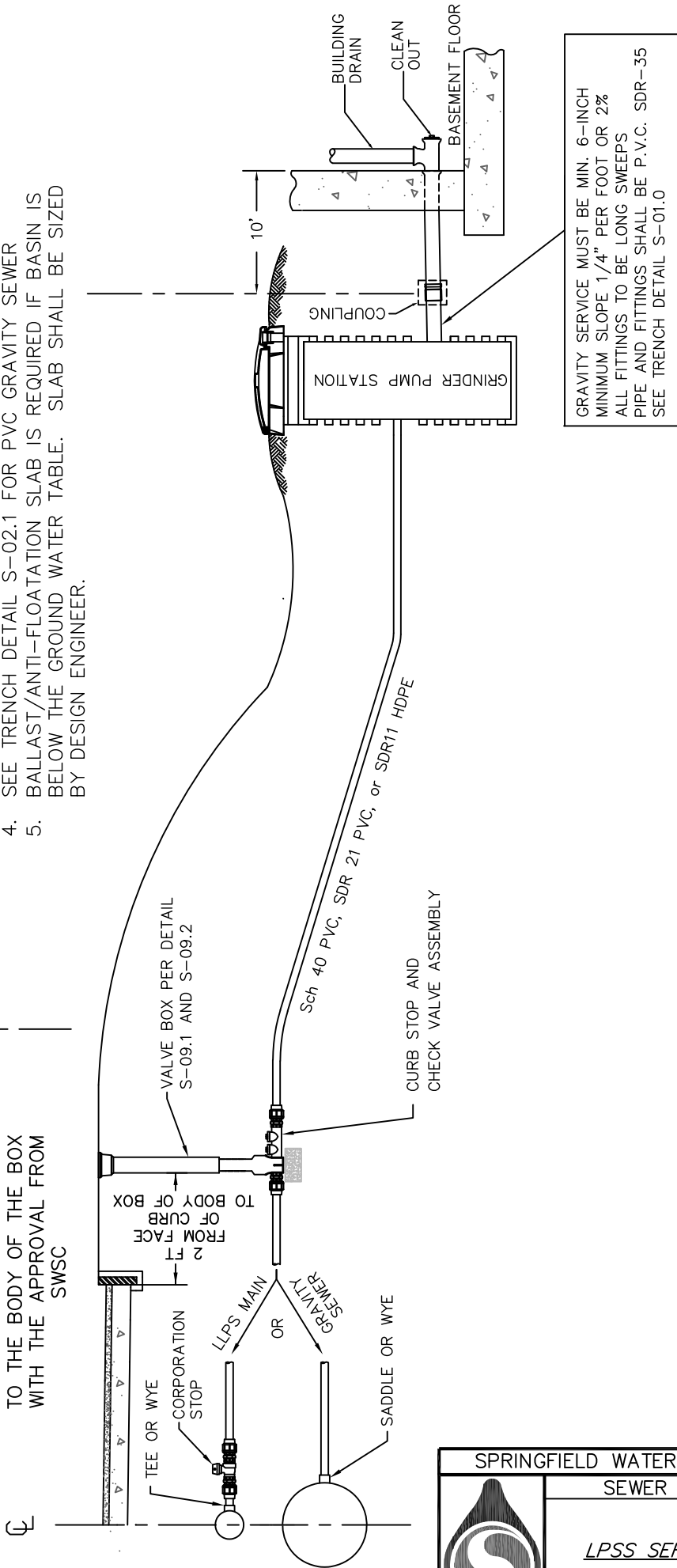
SPRINGFIELD WATER AND SEWER COMMISSION		
	WATER DETAIL S-09.2	REV. DATE
	<i>LOW PRESSURE SANITARY</i>	1-18-19 DS
	<i>SEWER PIPE TRENCH DETAIL</i>	
	SCALE: NTS	

PLUMBING INSPECTOR

S.W.S.C. INSPECTOR


- GRINDER PUMP BASIN NOTES:**
1. TOP OF GRINDER PUMP BASIN MUST BE A MINIMUM OF 4 INCHES ABOVE SURROUNDING GRADE.
 2. SURROUNDING GRADE MUST SLOPE AWAY FROM GRINDER PUMP BASIN.
 3. EPDM INLET GROMMET TO ACCEPT PVC GRAVITY SEWER PIPE FROM BUILDING.
 4. SEE TRENCH DETAIL S-02.1 FOR PVC GRAVITY SEWER BALLAST/ANTI-FLOATATION SLAB IS REQUIRED IF BASIN IS BELOW THE GROUND WATER TABLE. SLAB SHALL BE SIZED BY DESIGN ENGINEER.

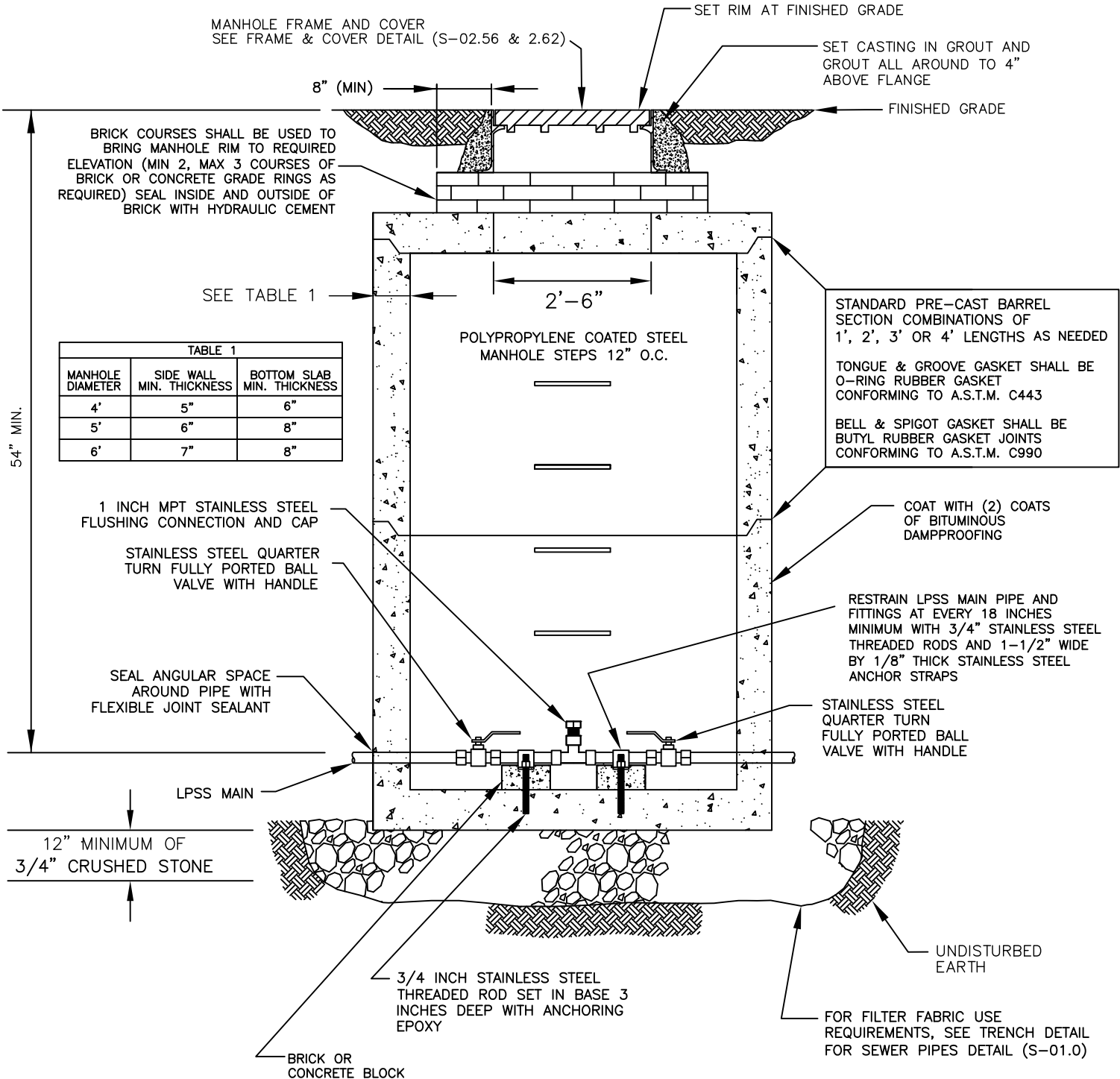
IF THE SIDEWALK BEGINS AT THE CURB INSTALL VALVE BOX 1' OUT FROM THE RIGHT-OF-WAY TO THE BODY OF THE BOX WITH THE APPROVAL FROM SWSC




NOTES:

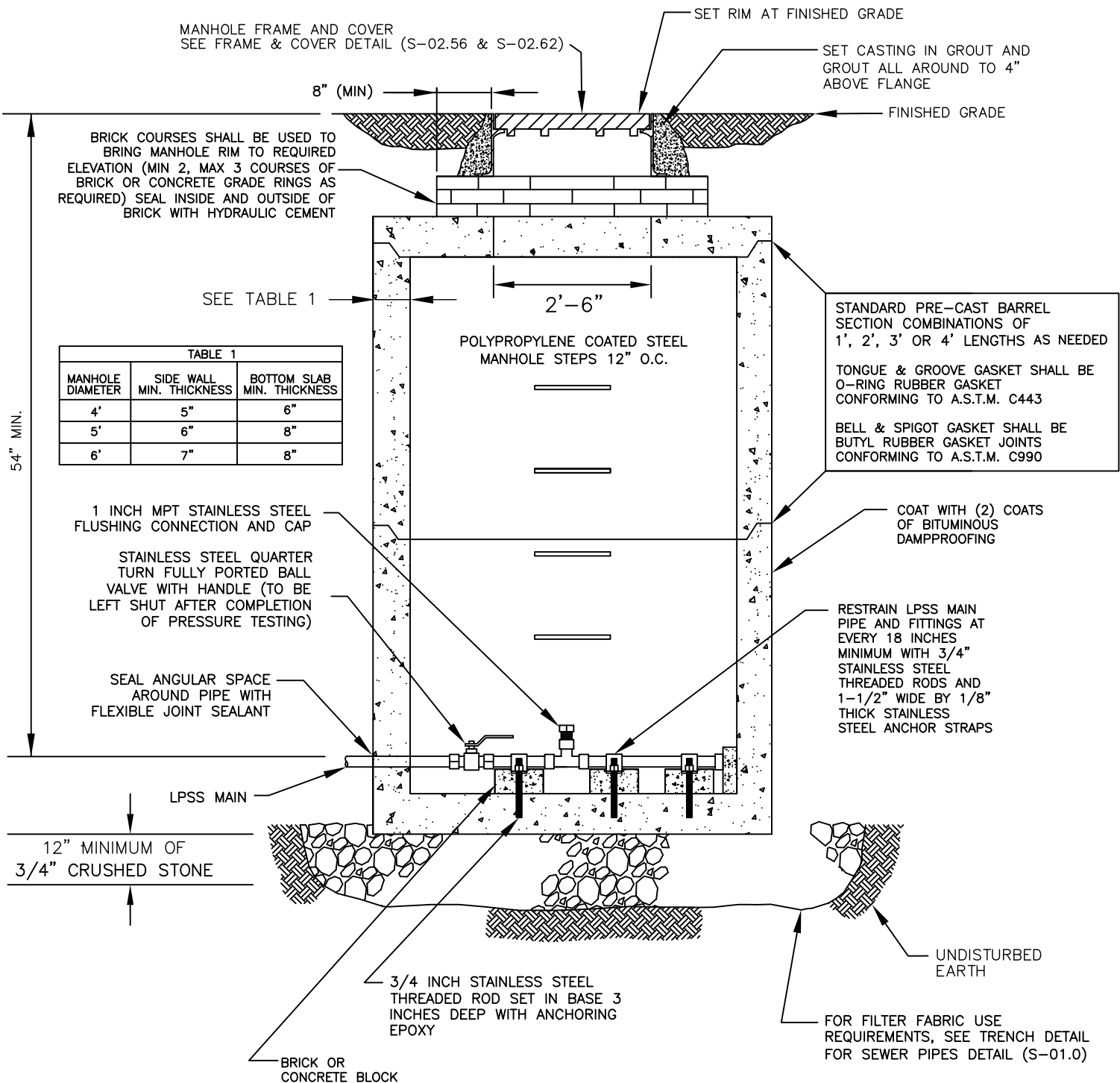
1. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES & POLICIES AND SPECIFICATIONS.
2. LPSS PIPE SHALL BE INSTALLED PER TRENCH DETAIL S-09.3
3. ALL SEWER MAIN AND SERVICE PIPE SHALL HAVE A MINIMUM DEPTH OF 4' FROM TOP OF PIPE TO FINISH GRADE.
4. FINAL DETERMINATION OF THE TYPE OF PIPE AND SIZE OF PIPE TO BE USED IS THE RESPONSIBILITY OF THE PROJECT OWNER'S CONSULTING ENGINEER (P.E. IN MASSACHUSETTS) OR THE SEWAGE GRINDER PUMP STATION'S MANUFACTURER.
5. LPSS DEPTH SHALL BE 6 INCHES BELOW THE AVERAGE FROST DEPTH (48 INCHES) FOR A TOTAL OF 54 INCHES. PIPE SHALL BE INSULATED.
6. ALL MATERIALS USED FOR THE PRESSURE PORTION OF THE SYSTEM MUST BE PRESSURE RATED FOR AT MINIMUM 160 PSI OPERATING PRESSURE AND SUITABLE FOR THE WASTEWATER ENVIRONMENT AND RESISTANT TO CORROSION.

 SPRINGFIELD WATER AND SEWER COMMISSION	
SEWER DETAIL S-09.3	
<i>LPSS SERVICE LATERAL</i>	REV. DATE 1/22/19 DS 3/17/21 M.L.
SCALE: NTS	




- NOTES:**
1. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES & POLICIES AND SPECIFICATIONS.
 2. LPSS MAIN PIPE SHOULD HAVE A MINIMUM DEPTH OF 54 INCH FROM TOP OF PIPE TO FINISH GRADE.
 3. IF 54 INCHES OF COVER IS NOT POSSIBLE PIPE SHALL BE INSULATED.
 4. PRE-CAST REINFORCED CONCRETE MANHOLE SECTIONS CONFORMING TO A.S.T.M.C478.
 5. DESIGN PRECAST SECTIONS WITH FRAME AND COVER FOR AASHTO H-20 LOADING.
 6. PRE-CAST CONCRETE SHALL BE 5,000 PSI @ 28 DAYS.
 7. ALL BRICK SHALL BE HARD NON-POROUS CLAY.
 8. ADMIXTURES, AIR & PLASTICIZERS PER ASTM C233-82.
 9. REINFORCING PER ASTM A615 FOR WIRE FABRIC.
 10. DESIGN LOADING PER AASHTO HS20-44, ACI 318-83; ASTM C478-82, C890-82, C913-71.
 11. 90 DEGREE BEND FITTINGS ARE NOT ACCEPTABLE. 45 DEGREE BENDS AT INLET AND OUTLET OF MANHOLE SHALL BE INSTALLED WHERE A 90 DEGREE ALIGNMENT CHANGE IS REQUIRED.

SPRINGFIELD WATER AND SEWER COMMISSION		
	SEWER DETAIL S-09.4	REV. DATE
	<i>LOW PRESSURE SANITARY</i>	1/23/19 DS
	<i>SEWER MAIN</i>	
	<i>INLINE FLUSHING STRUCTURE</i>	
	SCALE: NTS	



- NOTES:**
1. ALL MATERIALS AND INSTALLATION PROCEDURES SHALL CONFORM TO SWSC GUIDELINES & POLICIES AND SPECIFICATIONS.
 2. LPSS PIPE SHOULD HAVE A MINIMUM DEPTH OF 54 INCHES FROM TOP OF PIPE TO FINISH GRADE.
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 6. PRE-CAST CONCRETE SHALL BE 5,000 PSI @ 28 DAYS.
 7. ALL BRICK SHALL BE HARD NON-POROUS CLAY.
 8. ADMIXTURES, AIR & PLASTICIZERS PER ASTM C233-82.
 9. REINFORCING PER ASTM A615 FOR WIRE FABRIC.
 10. DESIGN LOADING PER AASHTO HS20-44, ACI 318-83; ASTM C478-82, C890-82, C913-71.

SPRINGFIELD WATER AND SEWER COMMISSION		
	SEWER DETAIL S-09.5	REV. DATE
	<i>LOW PRESSURE SANITARY SEWER TERMINAL FLUSHING STRUCTURE</i>	1/23/19 DS
	SCALE: NTS	



WILBRAHAM

HAMPDEN

LUDLOW

EAST LONGMEADOW

SPRINGFIELD

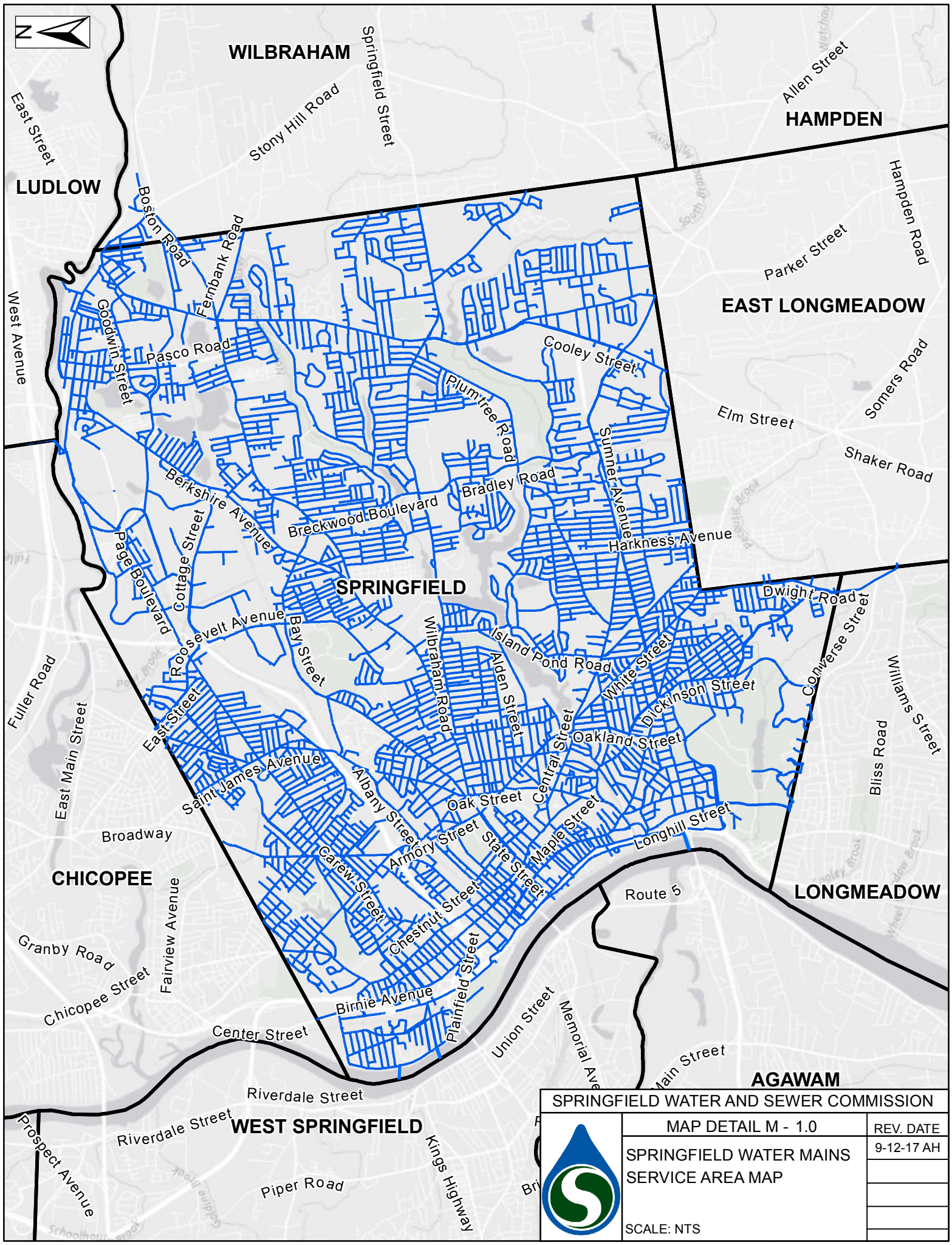
CHICOPEE

LONGMEADOW

AGAWAM

WEST SPRINGFIELD

SPRINGFIELD WATER AND SEWER COMMISSION		
	MAP DETAIL M - 1.0	REV. DATE
	SPRINGFIELD WATER MAINS SERVICE AREA MAP	9-12-17 AH
	SCALE: NTS	





Springfield Reservoir

Springfield Reservoir

Boston Road

LUDLOW

Fuller Street

West Street

Road Street

Center Street

Holyoke Street

Cady Street

West Avenue

Russell Street

Main Street

Parker Street

Goodwin Street

SPRINGFIELD

Worcester

CHICOPEE

Burns

SPRINGFIELD WATER AND SEWER COMMISSION



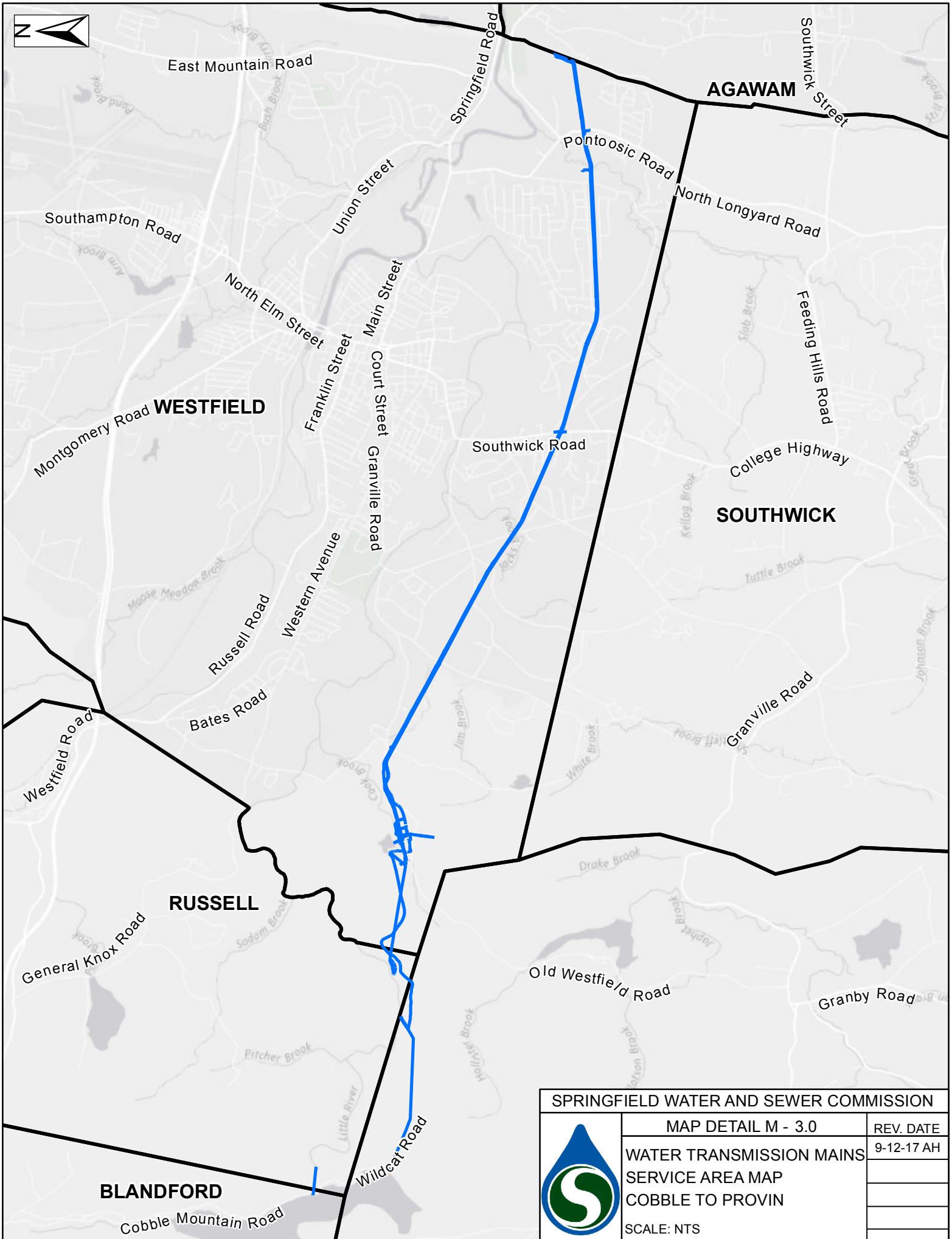
MAP DETAIL M - 2.0

LUDLOW WATER MAINS SERVICE AREA MAP

SCALE: NTS

REV. DATE

9-12-17 AH

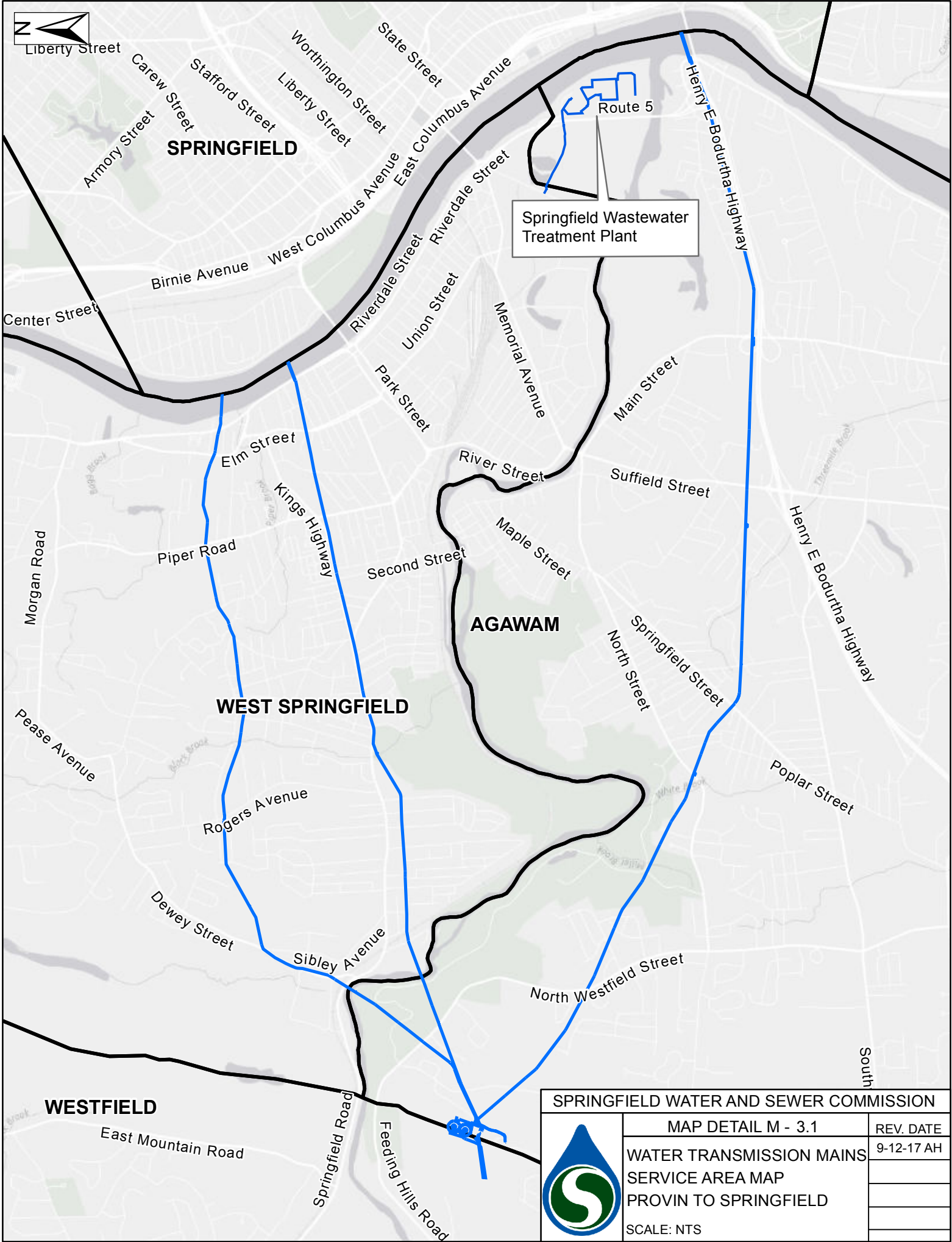


SPRINGFIELD WATER AND SEWER COMMISSION



MAP DETAIL M - 3.0	REV. DATE
WATER TRANSMISSION MAINS	9-12-17 AH
SERVICE AREA MAP	
COBBLE TO PROVIN	
SCALE: NTS	

REV. DATE
9-12-17 AH



Springfield Wastewater Treatment Plant

SPRINGFIELD WATER AND SEWER COMMISSION



MAP DETAIL M - 3.1

WATER TRANSMISSION MAINS SERVICE AREA MAP

PROVIN TO SPRINGFIELD

SCALE: NTS

REV. DATE
9-12-17 AH



LUDLOW

WILBRAHAM

HAMPDEN

EAST LONGMEADOW

SPRINGFIELD

CHICOPEE

WEST SPRINGFIELD

Stony Hill Road

Springfield Street

Allen Street

Parker Street

Pasco Road

Parker Street

Cooley Street

Berkshire Avenue

Boston Road

Plumtree Road

Bradley Road

Breckwood Boulevard

Summer Avenue

Elm Street

North Main Street

Shawinigan Drive

Page Boulevard

Cottage Street

Jasper Street

Wilbraham Road

Bradley Road

SPRINGFIELD

Island Pond Road

Summer Avenue

Elm Street

North Main Street

East Main Street

East Street

Broadway

Grove Street

CHICOPEE

Granby Road

Chicopee Street

Front Street

Fairview Avenue

Hampden Street

Center Street

Saint James Avenue

Liberty Street

Garew Street

Stafford Street

Springfield Street

Birnie Avenue

Kings Highway

Riverdale Street

SPRINGFIELD WATER AND SEWER COMMISSION



MAP DETAIL M - 4.0

SPRINGFIELD SEWER MAINS SERVICE AREA MAP

SCALE: NTS

REV. DATE

9-12-17 AH