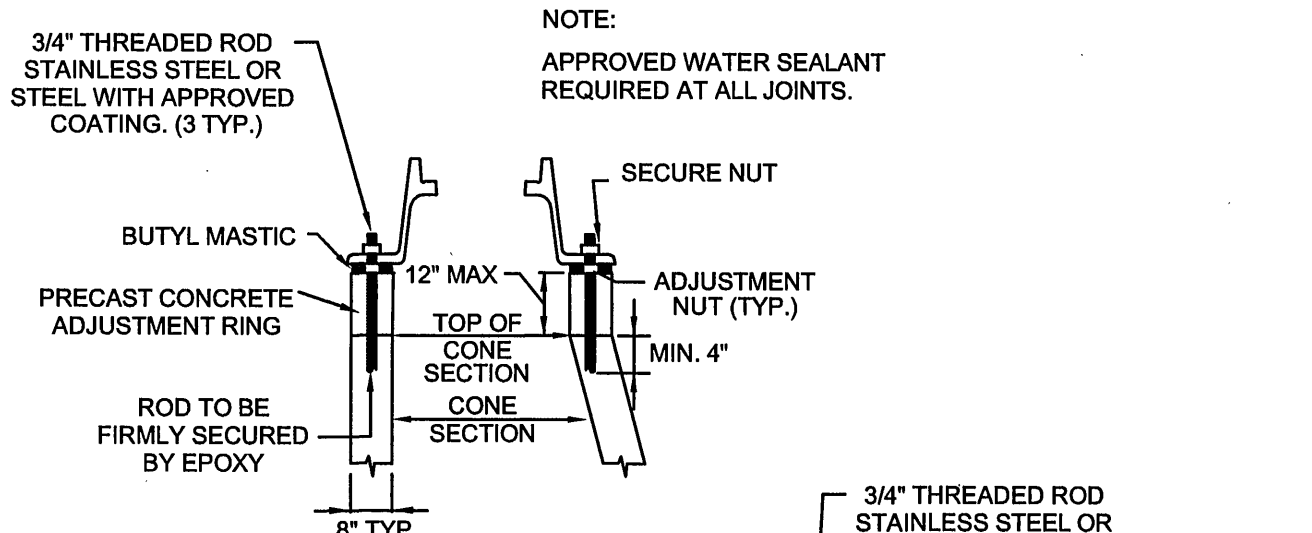
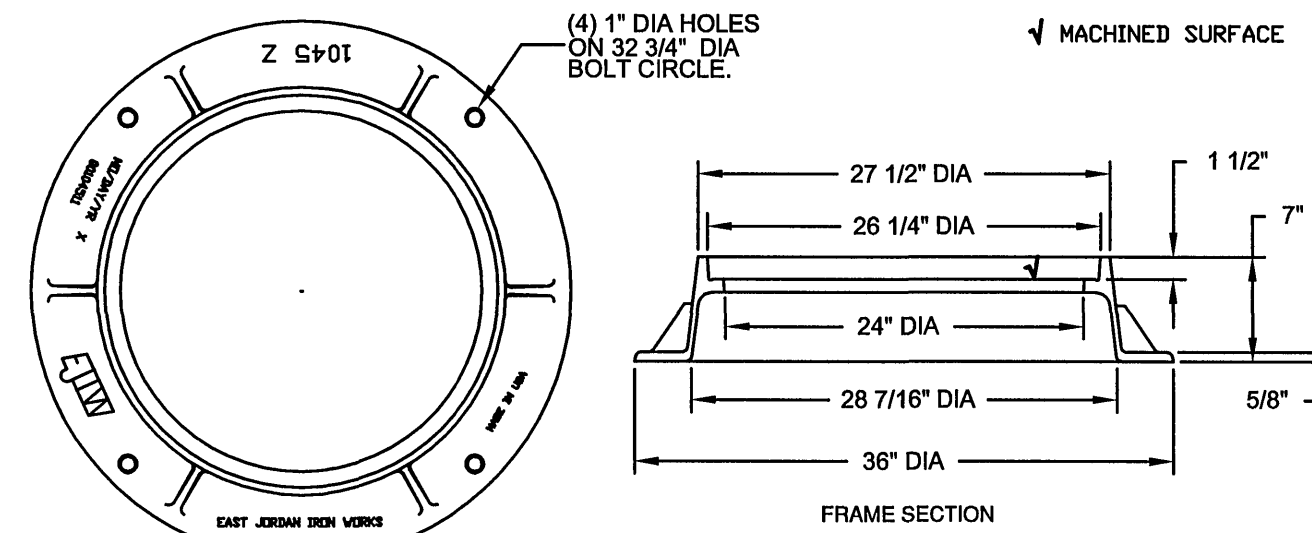
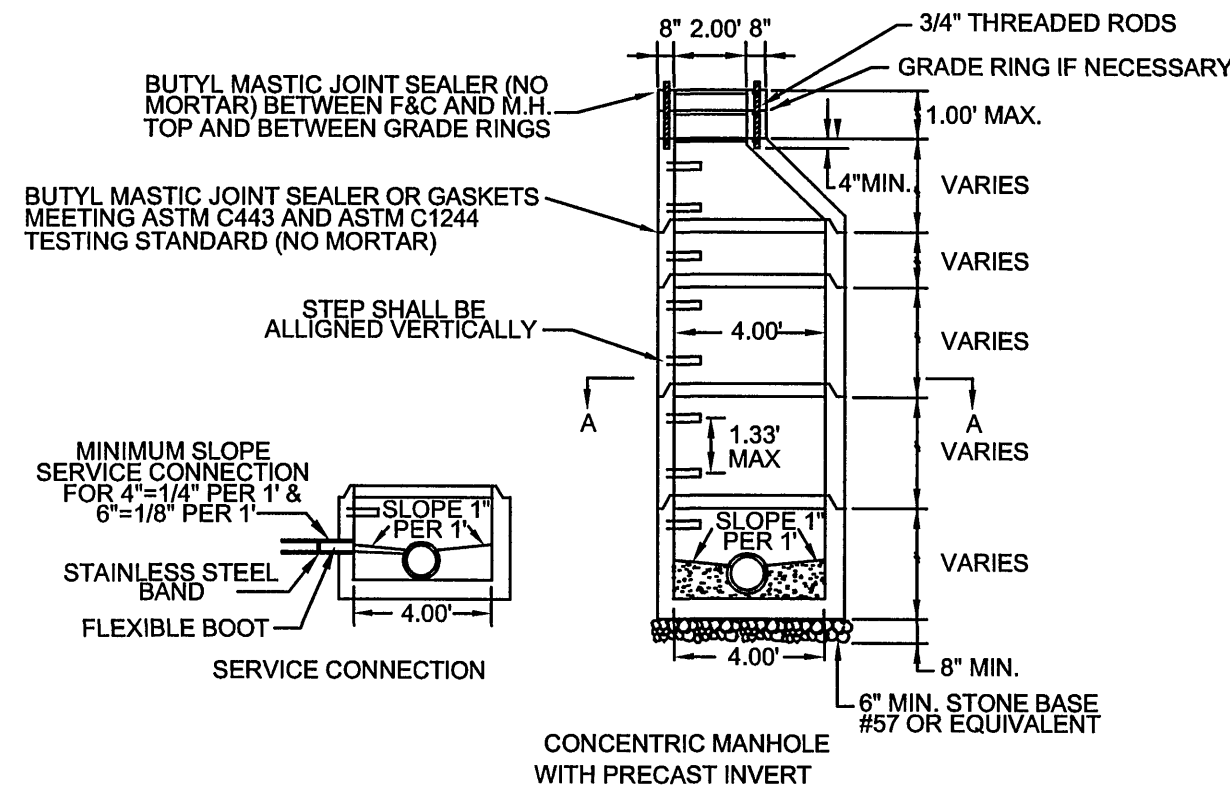
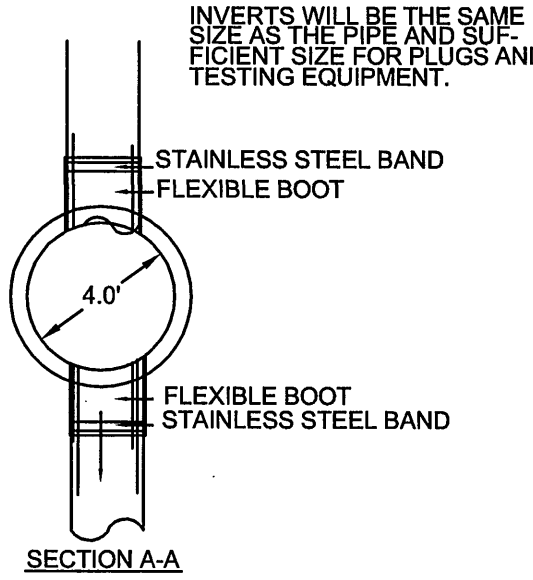
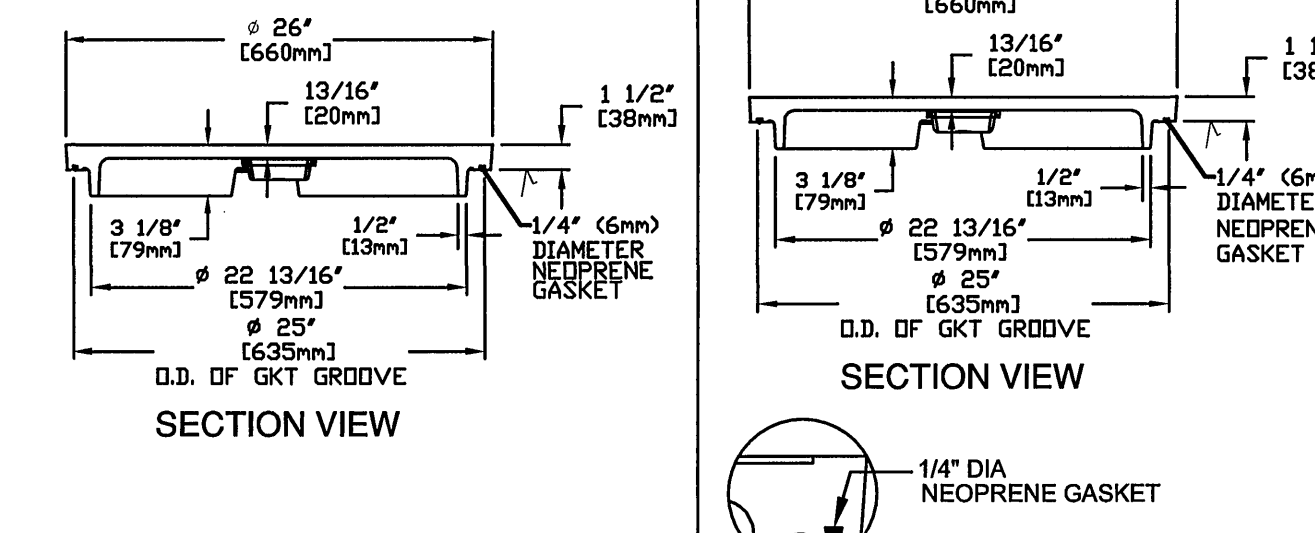
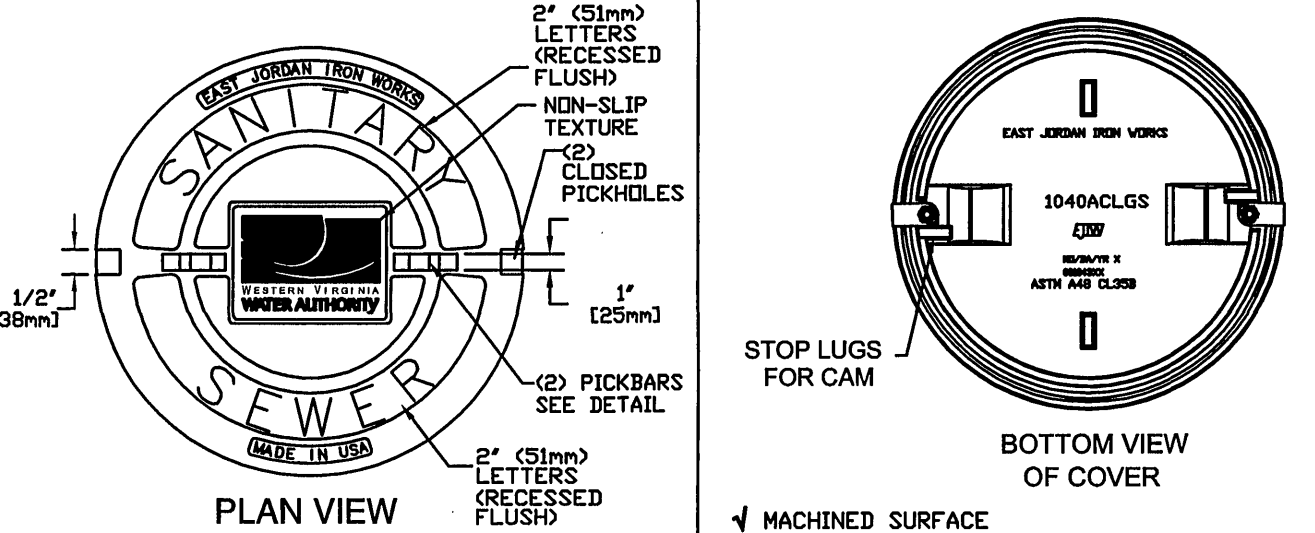


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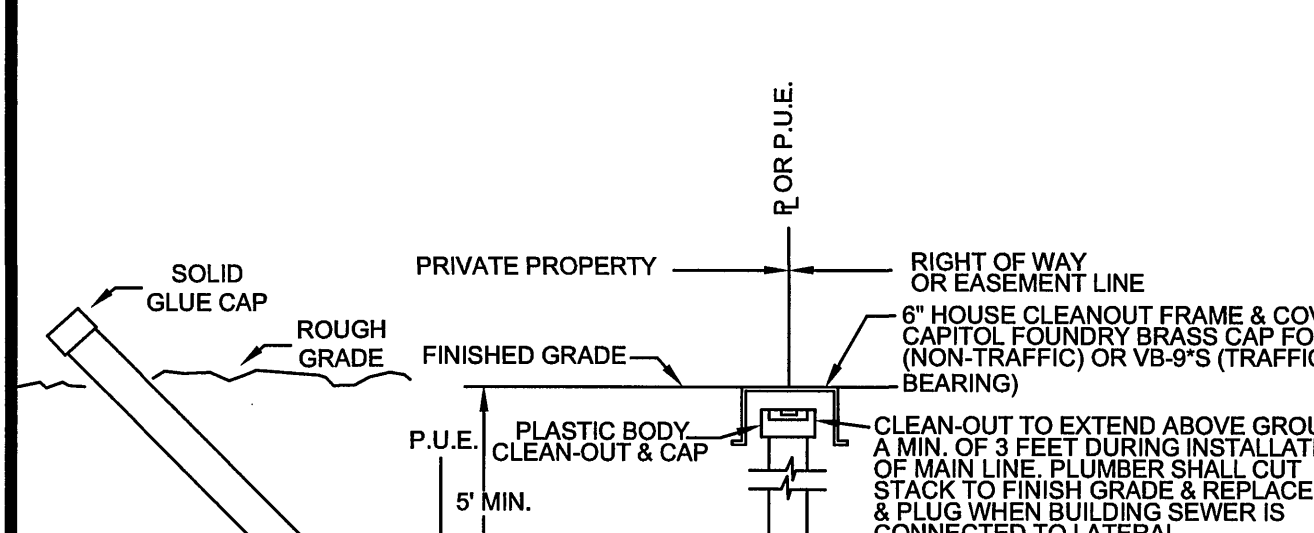
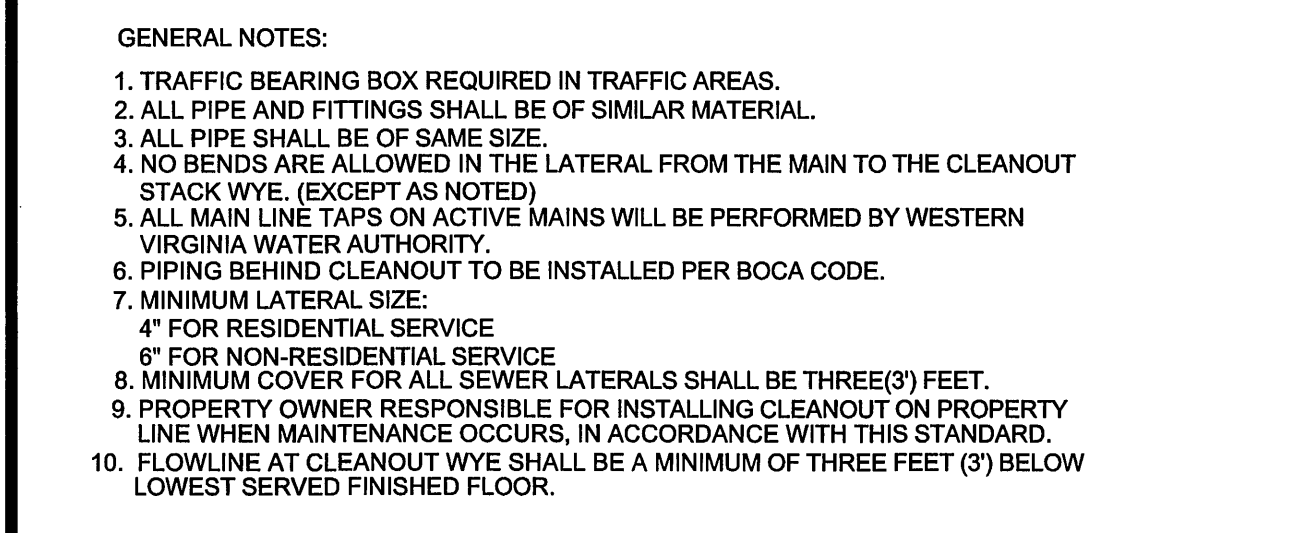
1. ALL MANHOLE FRAMES AND COVERS SHALL BE EAST JORDAN IRON WORKS, INC. WATERTIGHT MANHOLE FRAME MODEL #1045Z, WATERTIGHT COVER MODEL #1040AGS AND BOLT-DOWN MANHOLE COVER MODEL #1040ACLS, OR APPROVED EQUAL. BOLT-DOWN MODEL TO BE USED IN AREAS SUBJECT TO FLOODING OR AS DIRECTED BY THE AUTHORITY.
2. STEPS TO BE VERTICALLY ALIGNED.
3. THE FRAME AND COVER SHALL BE PROPERLY ALIGNED WITH THE 2 FOOT OPENING OF THE MANHOLE STRUCTURE AND BOLTED IN PLACE.
4. FLAT TOP MANHOLES MAY ONLY BE SUBSTITUTED WITH THE PERMISSION OF THE UTILITY DIRECTOR. WHEN USED, THE ECCENTRIC OPENING MUST LINE UP WITH THE STEPS.
5. SAMPLING MANHOLES IN TRAFFIC AREAS SHALL BE CONSTRUCTED AS PER MANHOLE DETAILS.
6. FLEXIBLE JOINT MANHOLE CONNECTION SHALL BE AS MANUFACTURED BY PRES-SEAL GASKET CORPORATION OR EQUAL.
7. GROUT ANNUAL SPACE BETWEEN PIPE AND PRECAST MANHOLE ON INSIDE OF MANHOLE.



WATERTIGHT MANHOLE FRAME MODEL #1045Z
BY EAST JORDAN IRON WORKS, INC. OR EQUIVALENT.



STANDARD MANHOLE COVER MODEL #1040AGS
BY EAST JORDAN IRON WORKS, INC. OR EQUIVALENT.



BOLT-DOWN MANHOLE COVER
BY EAST JORDAN IRON WORKS, INC. OR EQUIVALENT.

REVISION DATE	DESCRIPTION	REVISION DATE	DESCRIPTION
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03/01/06		03/01/06	

4' STANDARD MANHOLE
FOR PIPE 15"
OR SMALLER

S-01

REVISION DATE	DESCRIPTION	REVISION DATE	DESCRIPTION
07/01/04		07/01/04	
03/01/06		03/01/06	

WATERTIGHT
MANHOLE FRAME

S-05

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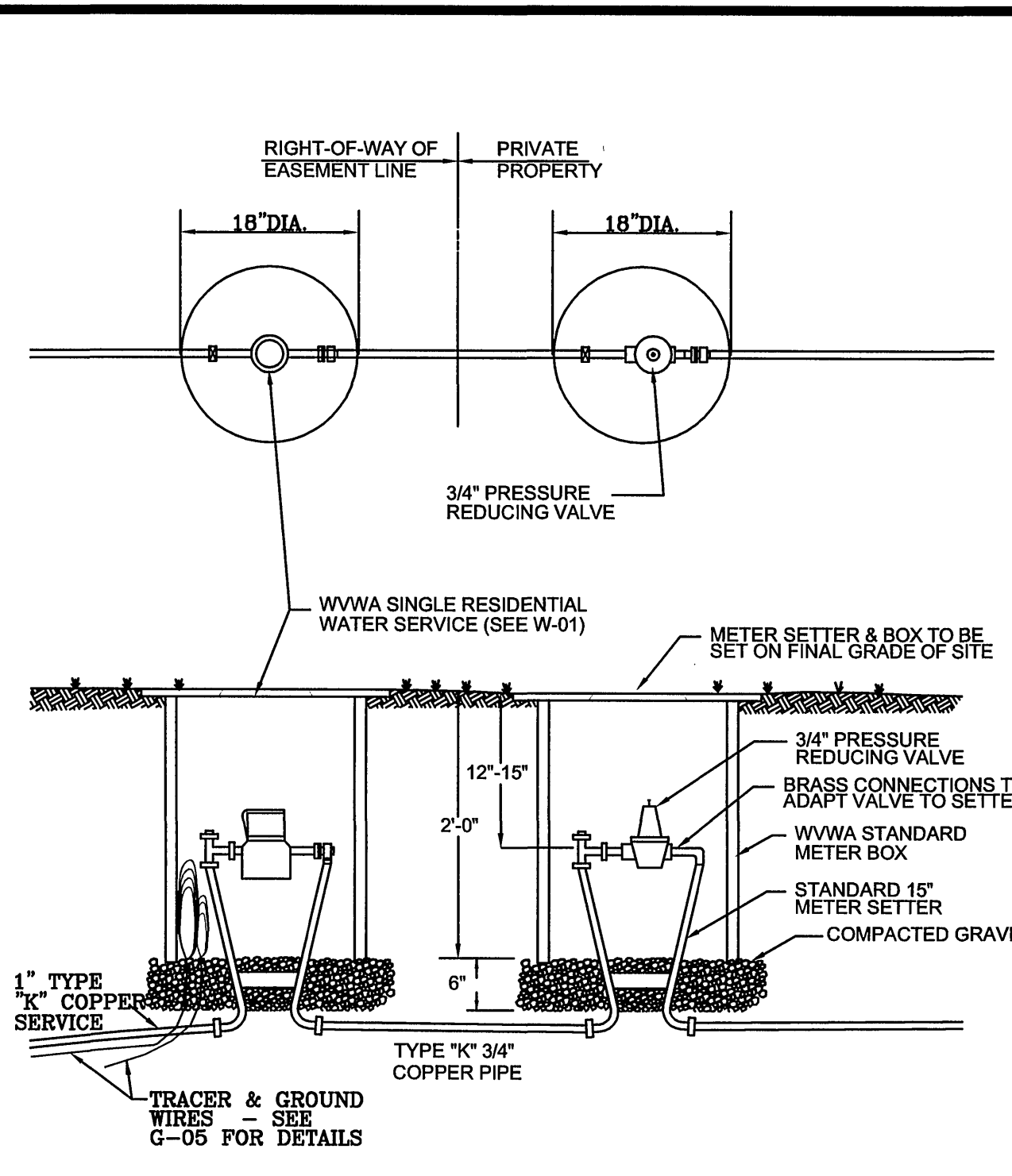
WATERTIGHT
MANHOLE COVER

S-06

REVISION DATE	DESCRIPTION	REVISION DATE	DESCRIPTION
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SANITARY SEWER LATERAL

S-08



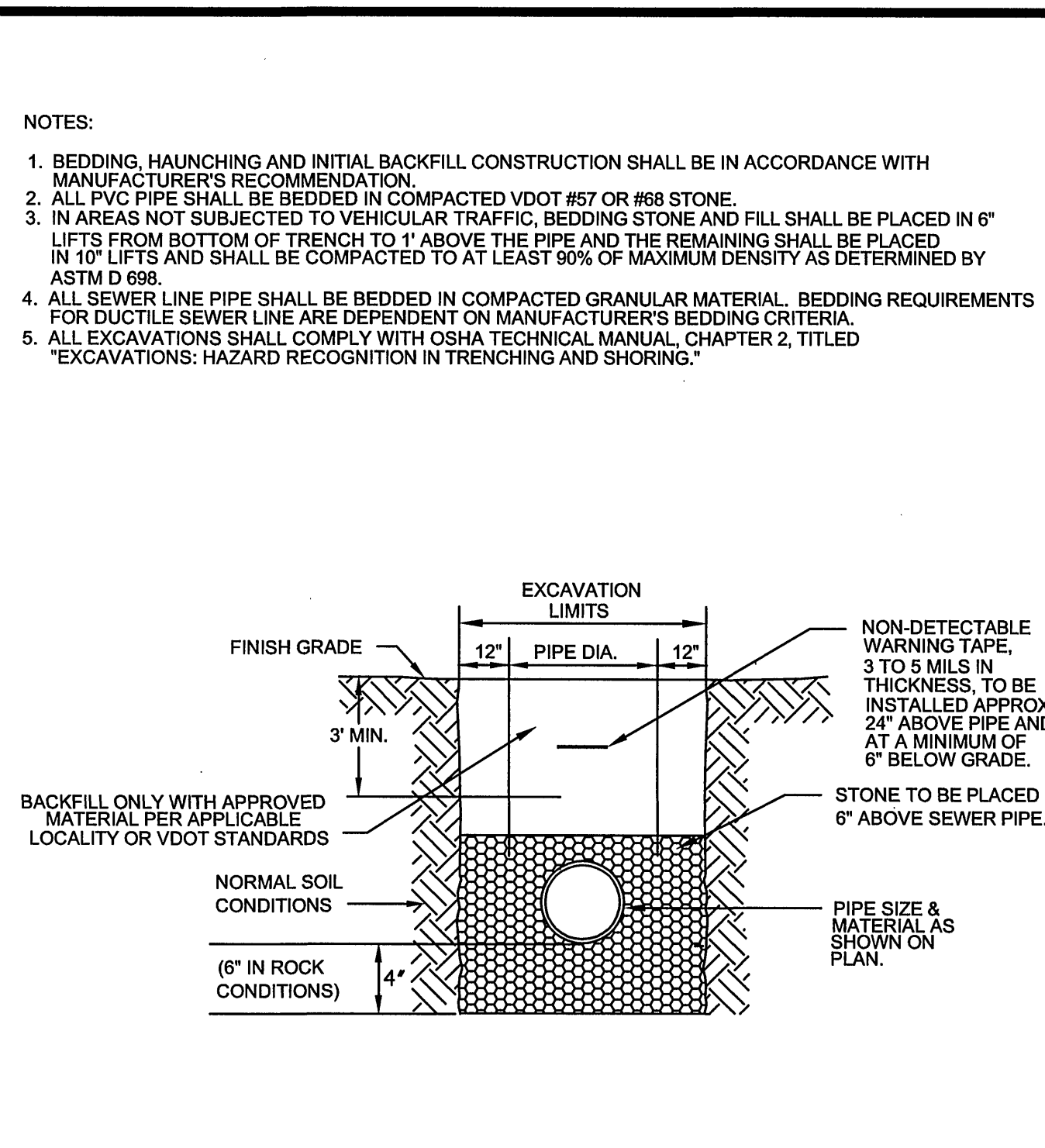
SEE W-01 NOTE #2 FOR SERVICE SADDLE DETAILS.

1. THIS CONFIGURATION REQUIRED WHEN WATER PRESSURE AT THE WATER MAIN IS BETWEEN 80 AND 120 PSI.

REVISION DATE	DESCRIPTION	REVISION DATE	DESCRIPTION
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TYPE "B"
SINGLE RESIDENTIAL
WATER SERVICE
(LINE PRESSURE UNDER 80 TO 120 PSI)

W-02



1. BEDDING, HAUNCHING AND INITIAL BACKFILL CONSTRUCTION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION.

2. ALL PVC PIPE SHALL BE BEDDED IN COMPACTED VDOT #57 OR #68 STONE.

3. IN AREAS NOT SUBJECT TO VEHICULAR TRAFFIC, BEDDING STONE AND FILL SHALL BE PLACED IN 6" LIFTS FROM BOTTOM OF TRENCH TO 1' ABOVE THE PIPE AND THE REMAINING SHALL BE PLACED IN 10" LIFTS AND SHALL BE COMPACTED TO AT LEAST 90% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D 698.

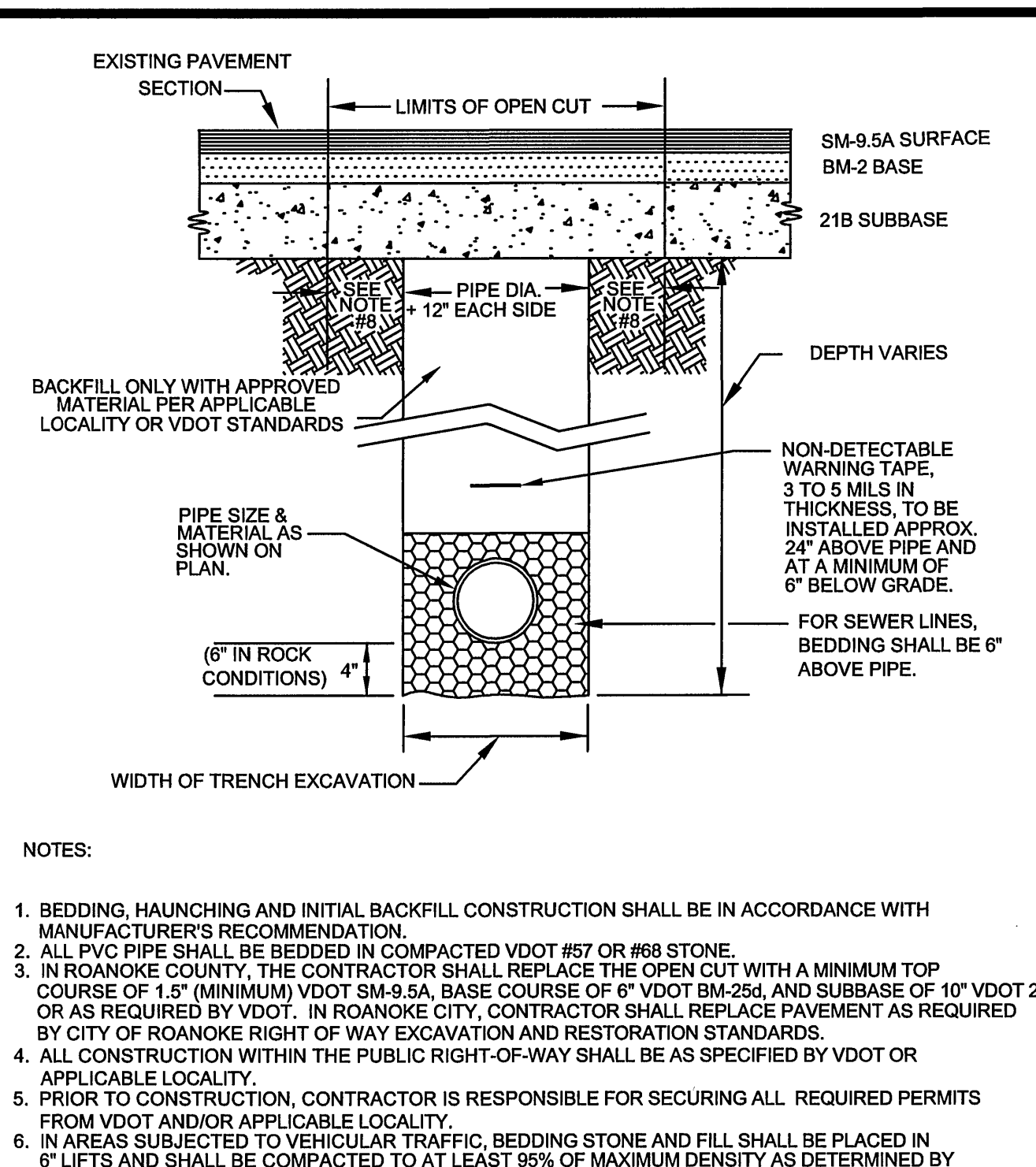
4. ALL SEWER LINE PIPE SHALL BE BEDDED IN COMPACTED GRANULAR MATERIAL. BEDDING REQUIREMENTS FOR DUCTILE SEWER LINE ARE DEPENDENT ON MANUFACTURER'S BEDDING CRITERIA.

5. ALL EXCAVATIONS SHALL COMPLY WITH OSHA TECHNICAL MANUAL, CHAPTER 2, TITLED "EXCAVATIONS: HAZARD RECOGNITION IN TRENCHING AND SHORING."

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BEDDING AND BACKFILL
OUTSIDE OF PAVED AREAS

W-24
S-30



1. BEDDING, HAUNCHING AND INITIAL BACKFILL CONSTRUCTION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION.

2. ALL PVC PIPE SHALL BE BEDDED IN COMPACTED VDOT #57 OR #68 STONE.

3. IN ROANOKE COUNTY, THE CONTRACTOR SHALL REPLACE THE OPEN CUT WITH A MINIMUM TOP COURSE OF 1.5" (MINIMUM) VDOT SM-9.5A, BASE COURSE OF 6" VDOT BM-2SD, AND SUBBASE OF 10" VDOT 21B, OR AS REQUIRED BY VDOT. IN ROANOKE CITY, CONTRACTOR SHALL REPLACE PAVEMENT AS REQUIRED BY CITY OF ROANOKE RIGHT OF WAY EXCAVATION AND RESTORATION STANDARDS.

4. ALL CONSTRUCTION WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE AS SPECIFIED BY VDOT OR APPLICABLE LOCALITY.

5. PRIOR TO CONSTRUCTION, CONTRACTOR IS RESPONSIBLE FOR SECURING ALL REQUIRED PERMITS FROM VDOT AND/OR APPLICABLE LOCALITY.

6. IN AREAS SUBJECT TO VEHICULAR TRAFFIC, BEDDING STONE AND FILL SHALL BE PLACED IN 6" LIFTS AND SHALL BE COMPACTED TO AT LEAST 95% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D 698.

7. ALL SEWER LINE PIPE SHALL BE BEDDED IN COMPACTED GRANULAR MATERIAL. BEDDING REQUIREMENTS FOR DUCTILE SEWER LINE ARE DEPENDENT ON MANUFACTURER'S BEDDING CRITERIA.

8. BENCH CUT ON EACH SIDE OF PAVEMENT: CITY OF ROANOKE EQUALS 12". VDOT RIGHT-OF-WAY EQUALS 6".

9. ALL EXCAVATIONS SHALL COMPLY WITH OSHA TECHNICAL MANUAL, CHAPTER 2, TITLED "EXCAVATIONS: HAZARD RECOGNITION IN TRENCHING AND SHORING."

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BEDDING AND BACKFILL
UNDER PAVEMENT AND RIGHT-OF-WAY

W-25
S-31

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