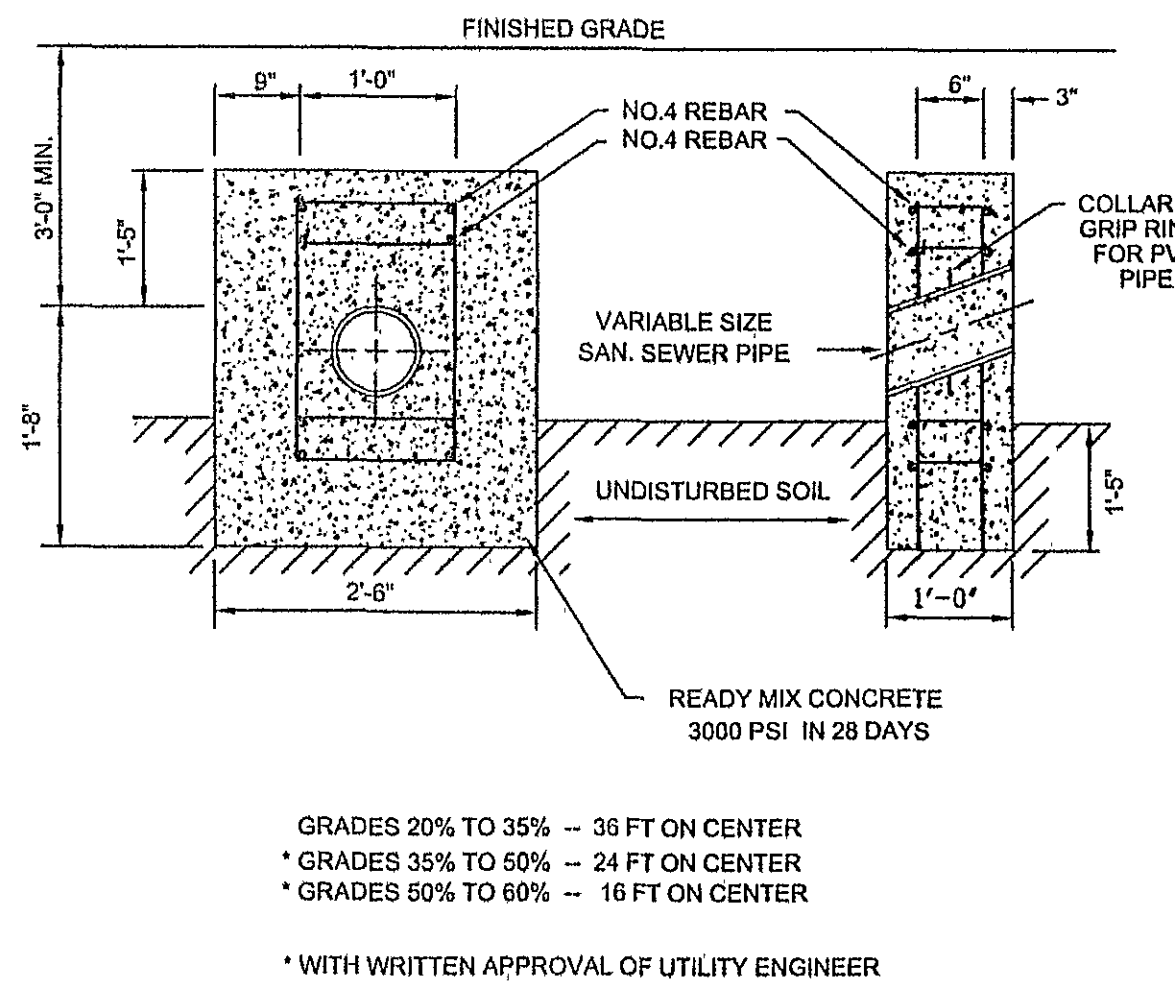
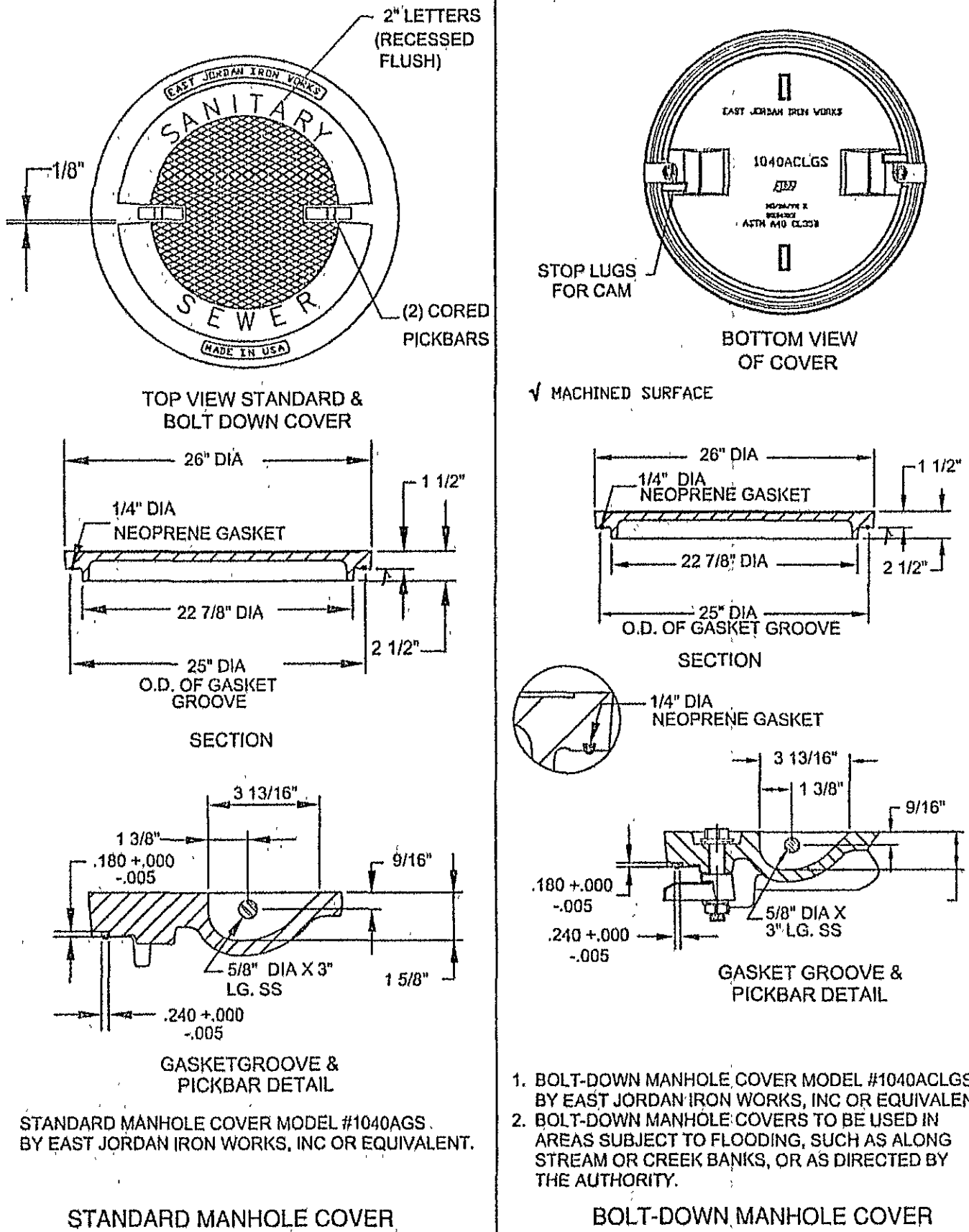
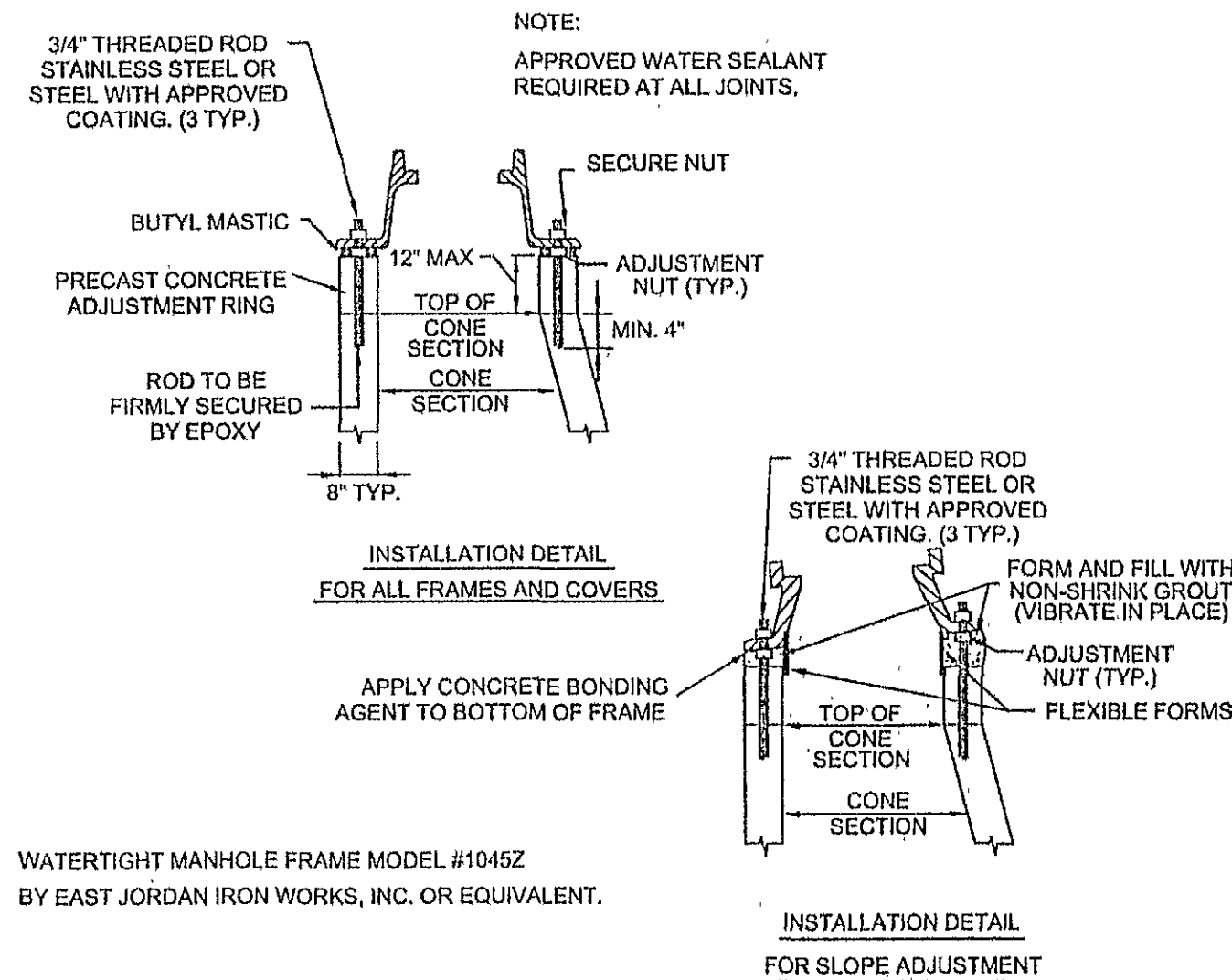
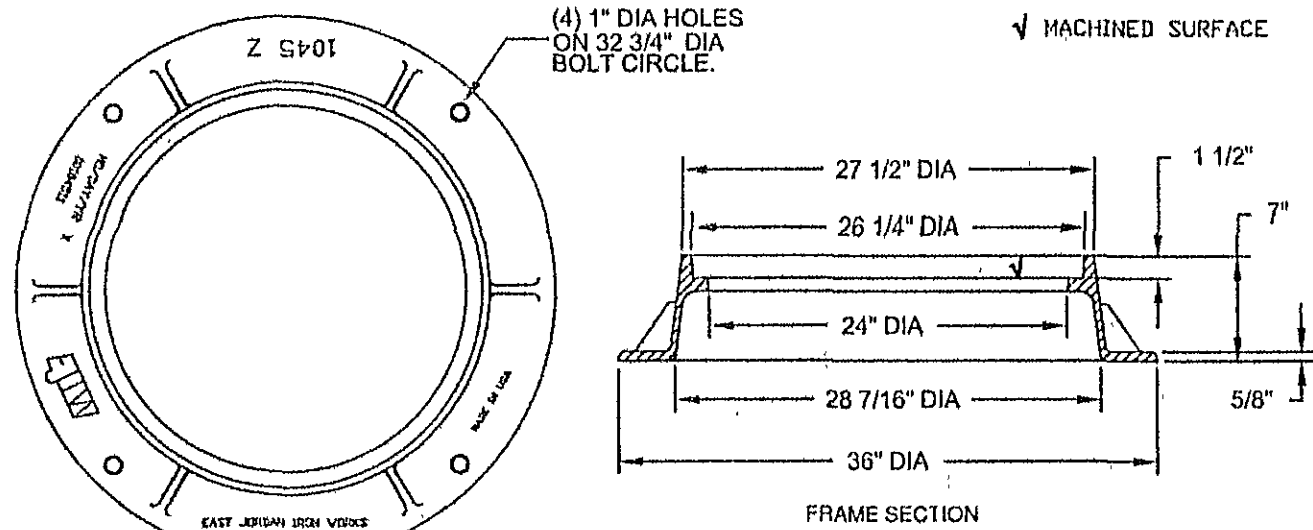
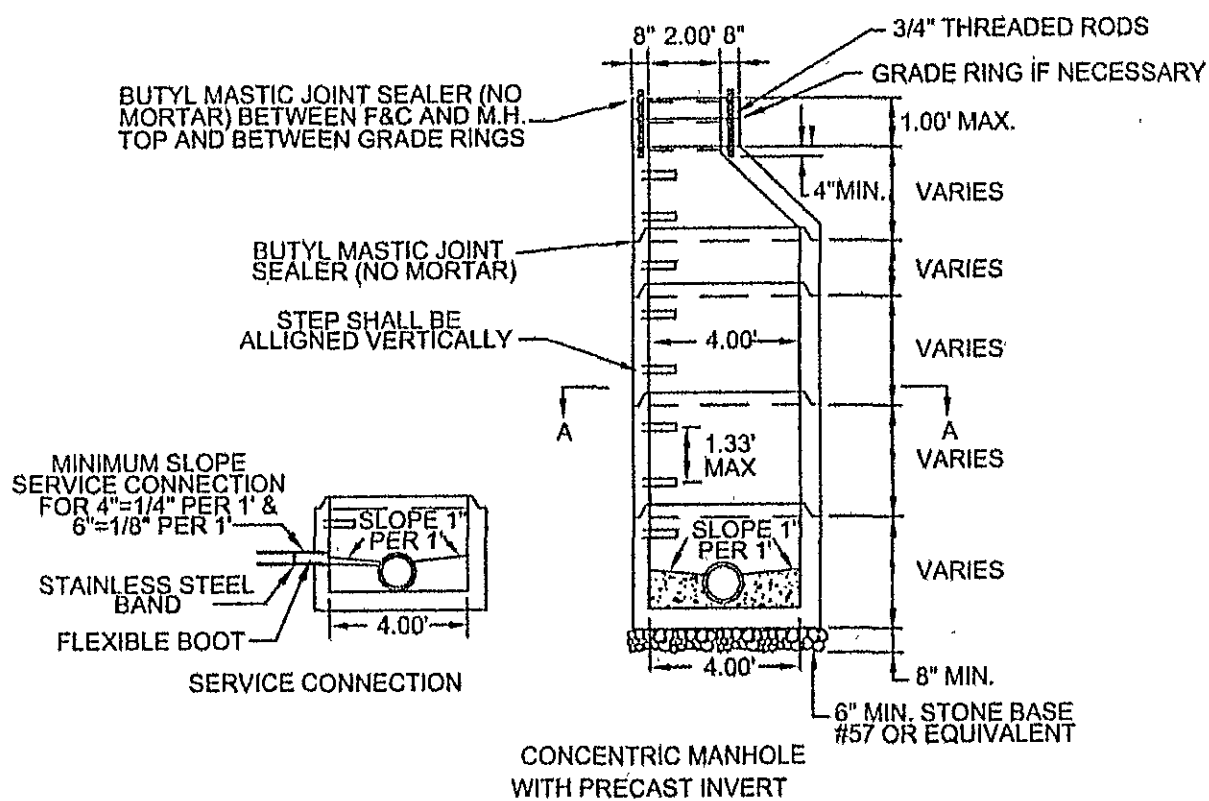
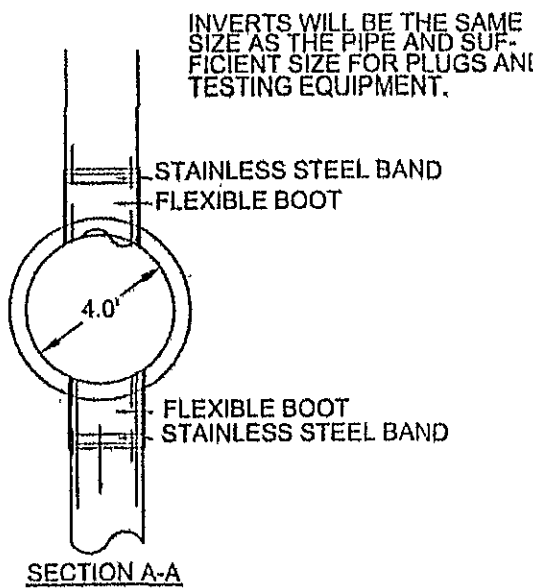


NOTES:

1. ALL MANHOLE FRAMES AND COVERS SHALL BE EAST JORDAN IRON WORKS, INC. WATERTIGHT MANHOLE FRAME MODEL #104S2, WATERTIGHT COVER MODEL #104OAGS AND BOLT-DOWN MANHOLE COVER MODEL #104OACLS, 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.



WESTERN VIRGINIA WATER AUTHORITY - CONSTRUCTION STANDARDS			
REVISION DATE	DESCRIPTION	DATE	BY
07/01/04	4' STANDARD MANHOLE FOR PIPE 15" OR SMALLER	S-01	

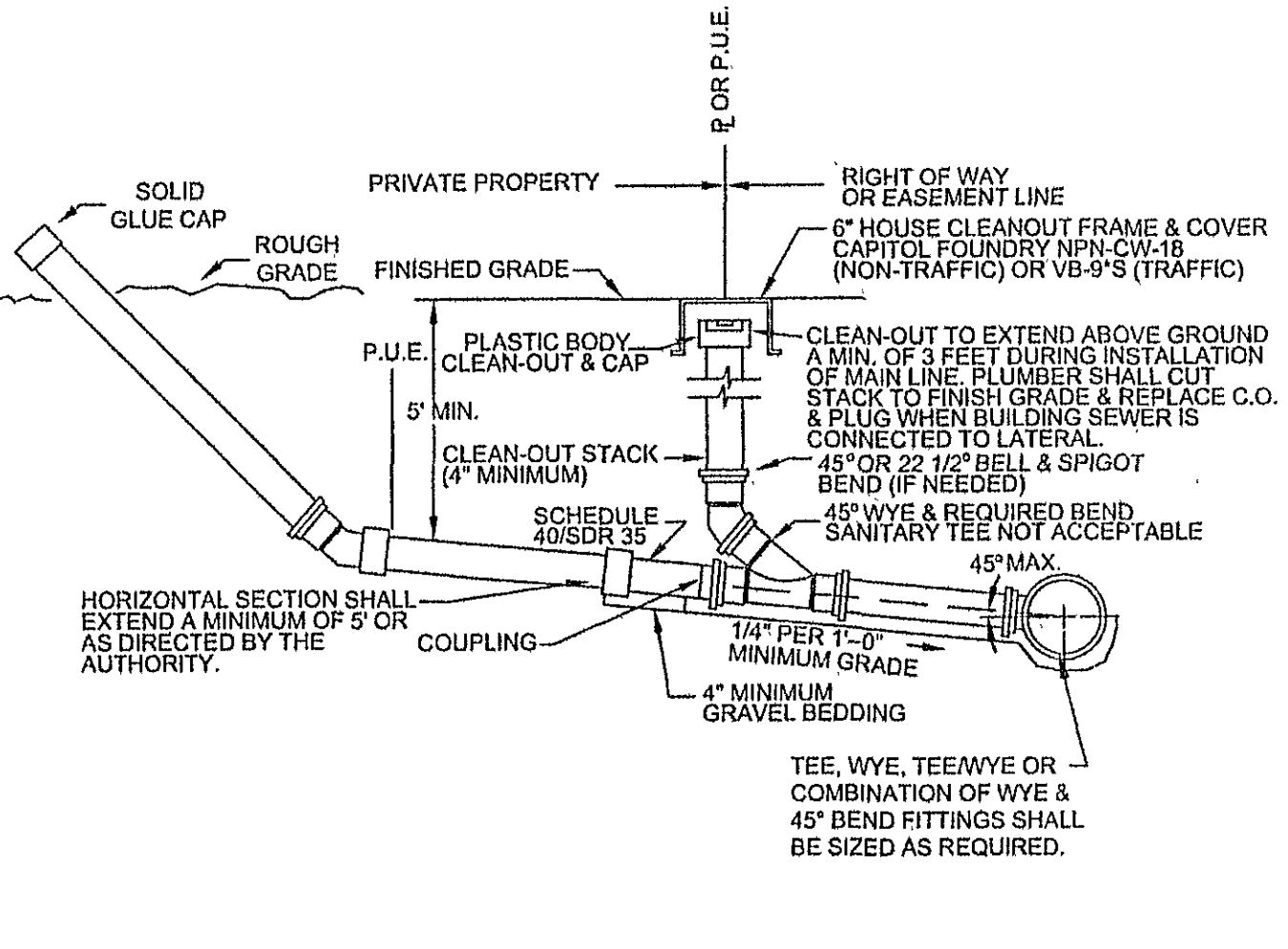
WESTERN VIRGINIA WATER AUTHORITY - CONSTRUCTION STANDARDS			
REVISION DATE	DESCRIPTION	DATE	BY
07/01/04	WATERTIGHT MANHOLE FRAME	S-05	

WESTERN VIRGINIA WATER AUTHORITY - CONSTRUCTION STANDARDS			
REVISION DATE	DESCRIPTION	DATE	BY
07/01/04	WATERTIGHT MANHOLE COVER	S-06	

WESTERN VIRGINIA WATER AUTHORITY - CONSTRUCTION STANDARDS			
REVISION DATE	DESCRIPTION	DATE	BY
07/01/04	ANCHOR BLOCK	S-18	

GENERAL NOTES:

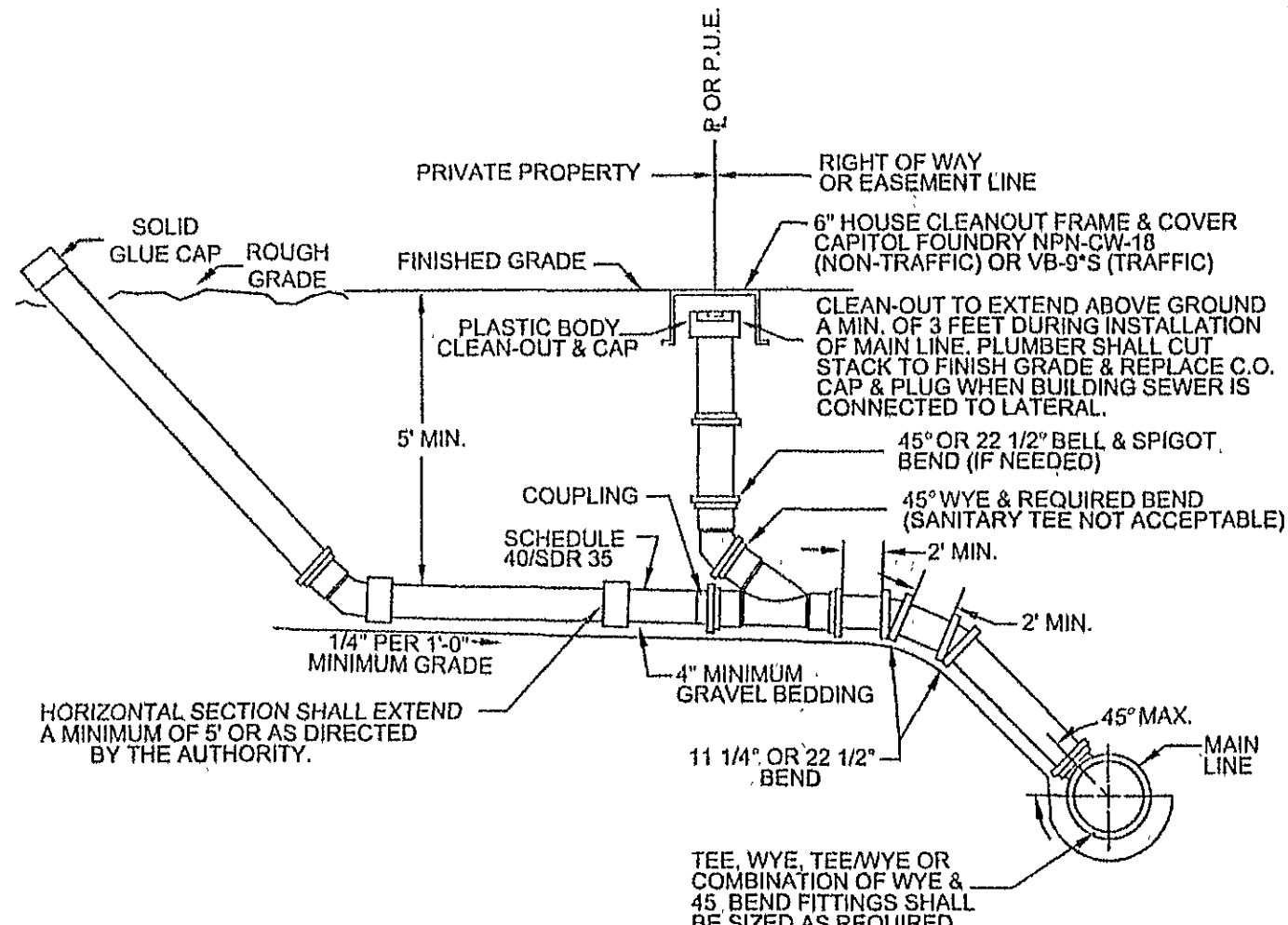
1. TRAFFIC BEARING BOX REQUIRED IN TRAFFIC AREAS.
2. ALL PIPE AND FITTINGS SHALL BE OF SIMILAR MATERIAL.
3. ALL PIPE SHALL BE OF SAME SIZE.
4. NO BENDS ARE ALLOWED IN THE LATERAL FROM THE MAIN TO THE CLEANOUT STACK WYE. (EXCEPT AS NOTED)
5. ALL MAIN LINE TAPS ON ACTIVE MAINS WILL BE PERFORMED BY WESTERN VIRGINIA WATER AUTHORITY.
6. PIPING BEHIND CLEANOUT TO BE INSTALLED PER BOCA CODE.
7. MINIMUM LATERAL SIZE:
 - 4" FOR RESIDENTIAL SERVICE
 - 6" FOR NON-RESIDENTIAL SERVICE
8. MINIMUM COVER FOR ALL SEWER LATERALS SHALL BE THREE(3) FEET.
9. PROPERTY OWNER RESPONSIBLE FOR INSTALLING CLEANOUT ON PROPERTY LINE WHEN MAINTENANCE OCCURS.



WESTERN VIRGINIA WATER AUTHORITY - CONSTRUCTION STANDARDS			
REVISION DATE	DESCRIPTION	DATE	BY
07/01/04	SANITARY SEWER LATERAL	S-08	

GENERAL NOTES:

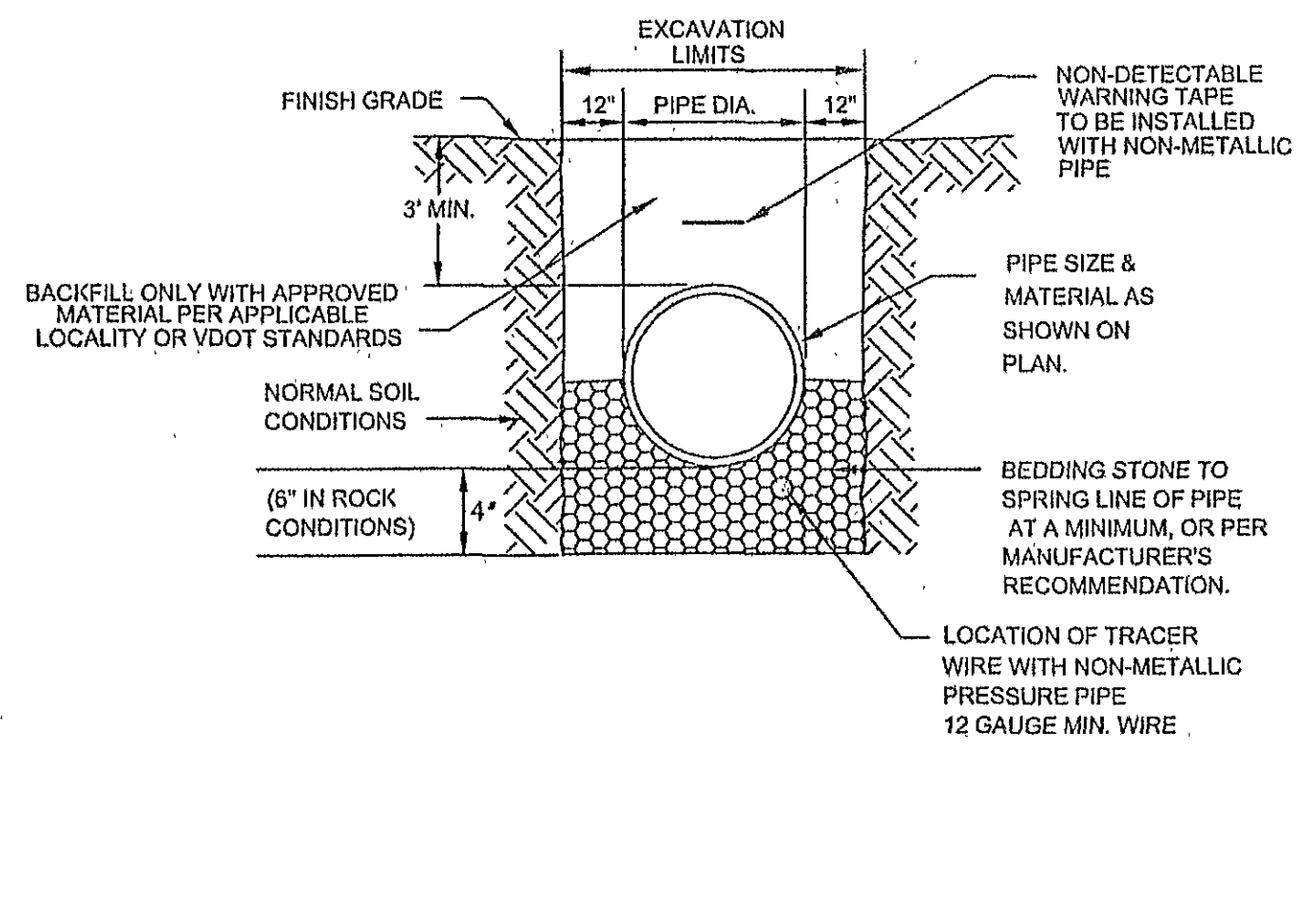
1. TRAFFIC BEARING BOX REQUIRED IN TRAFFIC AREA.
2. ALL PIPE AND FITTINGS SHALL BE OF SIMILAR MATERIAL.
3. ALL PIPE SHALL BE OF SAME SIZE.
4. NO BENDS ARE ALLOWED IN THE LATERAL FROM THE MAIN TO THE CLEAN-OUT STACK WYE (EXCEPT AS NOTED).
5. ALL MAIN LINE TAPS ON ACTIVE MAINS WILL BE PERFORMED BY THE WESTERN VIRGINIA WATER AUTHORITY.
6. PIPING BEHIND CLEANOUT TO BE INSTALLED PER BOCA CODE.
7. MINIMUM LATERAL SIZE:
 - 4" FOR RESIDENTIAL SERVICE
 - 6" FOR NON-RESIDENTIAL SERVICE
8. PROPERTY OWNER RESPONSIBLE FOR INSTALLING CLEANOUT ON PROPERTY LINE WHEN MAINTENANCE OCCURS.



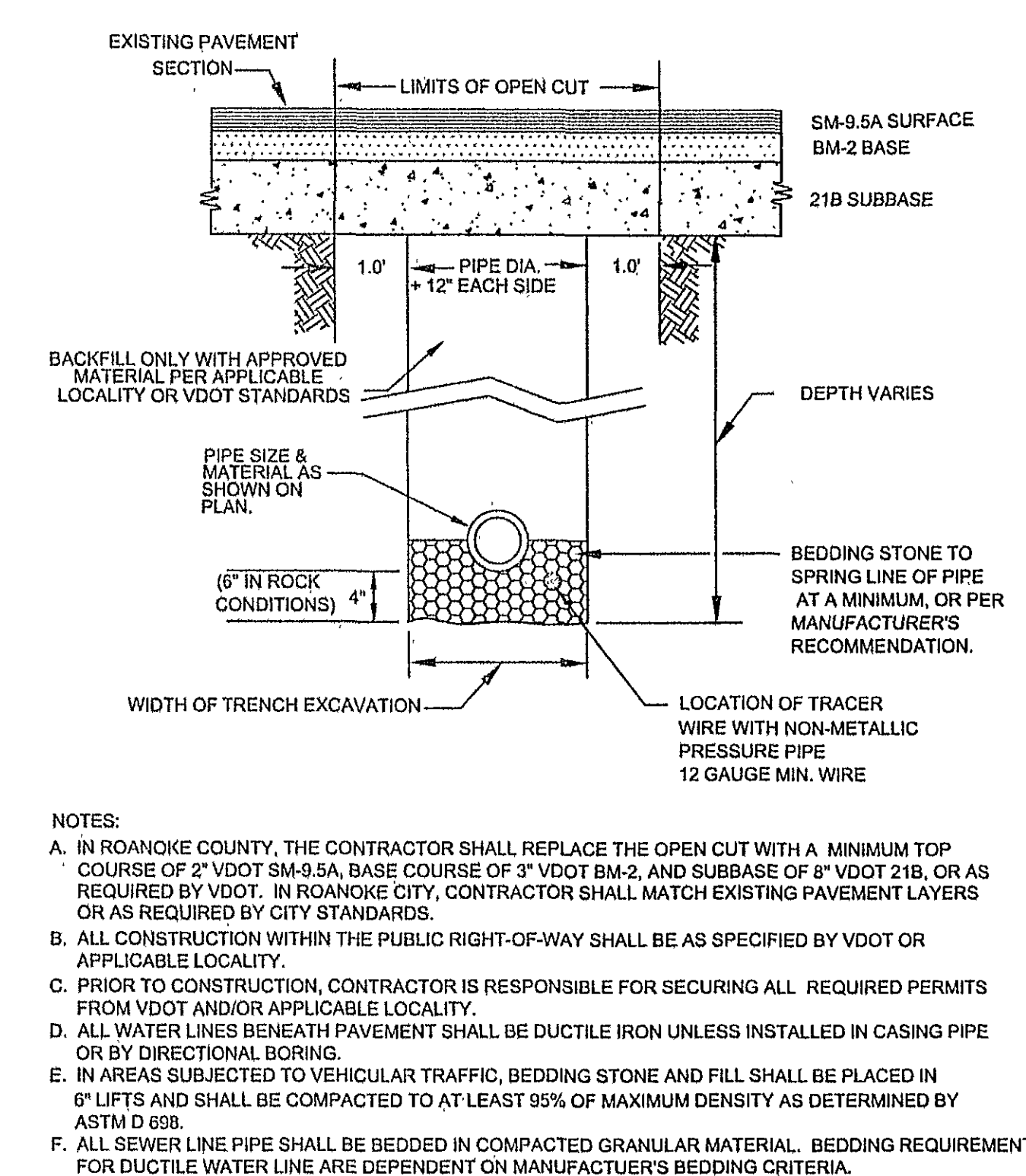
WESTERN VIRGINIA WATER AUTHORITY - CONSTRUCTION STANDARDS			
REVISION DATE	DESCRIPTION	DATE	BY
07/01/04	SANITARY SEWER LATERAL FOR DEEP SEWER	S-09	

NOTES:

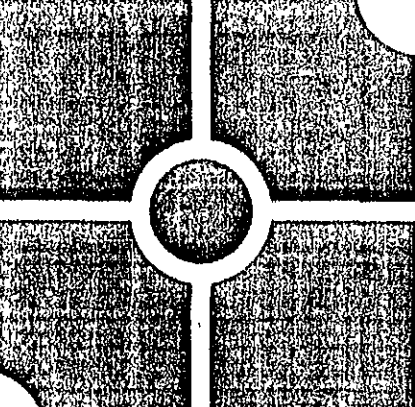
1. BEDDING, HAUNCHING AND INITIAL BACKFILL CONSTRUCTION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION.
2. WHEN INSTALLING NON-METALLIC PIPE, NON-DETECTABLE WARNING TAPE SHALL BE BURIED AT A MINIMUM 6" BELOW GRADE AND APPROXIMATELY 12" TO 18" ABOVE NON-METALLIC PIPE. IT SHALL BE 3 TO 5 MILS IN THICKNESS AND INSTALLED CONTINUOUS FROM VALVE BOX TO VALVE BOX OR MANHOLE TO MANHOLE.
3. ALL PVC PIPE SHALL BE BEDDED IN COMPACTED GRANULAR MATERIAL WHICH SHALL BE CRUSHED STONE MEETING VDOT STANDARDS FOR GRADUATION 57 OR 68 STONE.
4. IN AREAS NOT SUBJECT TO VEHICULAR TRAFFIC, BEDDING STONE AND FILL SHALL BE PLACED IN 10" LIFTS AND SHALL BE COMPACTED TO AT LEAST 90% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D 698.
5. ALL SEWER LINE PIPE SHALL BE BEDDED IN COMPACTED GRANULAR MATERIAL. BEDDING REQUIREMENTS FOR DUCTILE WATER LINE ARE DEPENDENT ON MANUFACTURER'S BEDDING CRITERIA.



WESTERN VIRGINIA WATER AUTHORITY - CONSTRUCTION STANDARDS			
REVISION DATE	DESCRIPTION	DATE	BY
07/01/04	BEDDING AND BACKFILL OUTSIDE OF PAVED AREAS	G-01	



WESTERN VIRGINIA WATER AUTHORITY - CONSTRUCTION STANDARDS			
REVISION DATE	DESCRIPTION	DATE	BY
07/01/04	BEDDING AND BACKFILL UNDER PAVEMENT	G-02	



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GREEN HILL
SEWER EXTENSION
CATANBA MAGESTERIAL DISTRICT
ROANOKE COUNTY, VIRGINIA

REVISIONS:

WVWA Comments	January 21, 2004
WVWA & VDOT Comments	March 9, 2004

DESIGNED BY: JCG
DRAWN BY: JCG
CHECKED BY: GST
SCALE: N/A

DATE: October 13, 2004

SHEET TITLE:

Sanitary Sewer
Detail Sheet

C06
06 OF 06
PROJECT NUMBER
S03046-03