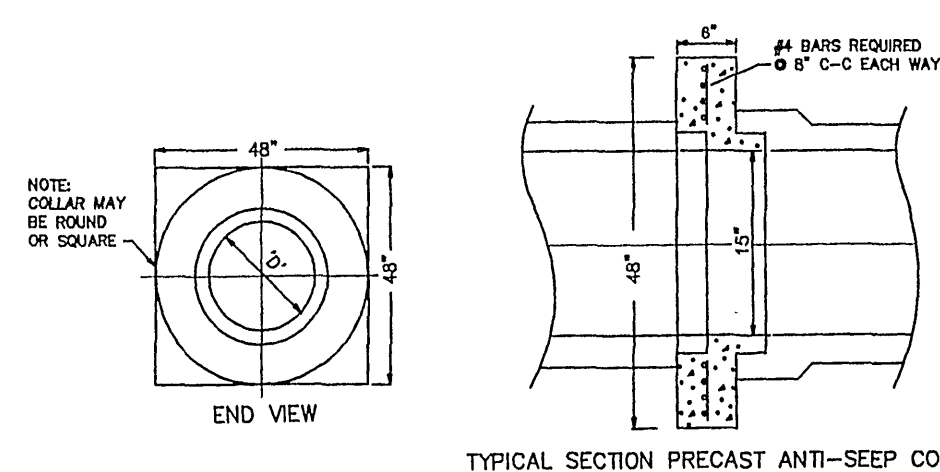
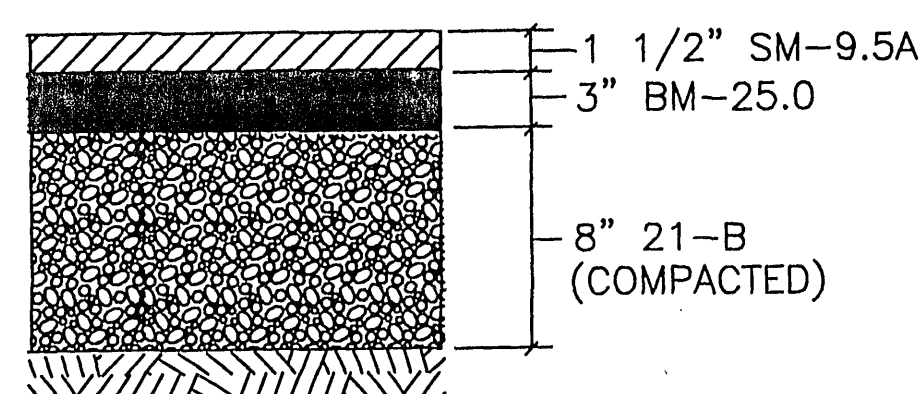


VDOT STD. MC-3 DETAIL



CONCRETE ANTI-SEEP COLLAR
NO SCALE



HEAVY-DUTY PAVEMENT SECTION

NOTE:
THE PRELIMINARY PAVEMENT DESIGNS SHOWN ARE BASED ON A PREDICTED SUB-GRADE CBR VALUE OF 10.0 AND A RESILIENCY FACTOR (RF) OF 2.0 AS SHOWN IN APPENDIX I OF THE "2000 VIRGINIA DEPARTMENT OF TRANSPORTATION PAVEMENT DESIGN GUIDE FOR SUBDIVISION AND "SECONDARY ROADS". THE SUB-GRADE SOIL IS TO BE TESTED BY AN APPROVED LABORATORY AND THE RESULTS SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL BEFORE BASE CONSTRUCTION. THESE TESTS SHALL BE DONE AT EACH CHANGE IN SUBGRADE SOILS AND AT A MAXIMUM SPACING OF 500 FEET WHERE SUBGRADE SOILS REMAIN CONSTANT. SPACING OF CBR TESTS SHALL BE IN ACCORDANCE WITH THE VDOT PAVEMENT DESIGN GUIDE, AND A MINIMUM OF TWO CBR SAMPLES WILL BE REQUIRED FOR CUL-DE-SAC OR DEAD END STREETS OF LESS THAN 500 FEET IN LENGTH. SHOULD THE SUB-GRADE CBR VALUE AND/OR THE RF VALUE BE LESS THAN THE PRELIMINARY VALUES, ADDITIONAL MATERIAL WILL BE REQUIRED ACCORDANCE WITH THE ENGINEER REQUIREMENTS. REFER TO THE SAME MANUAL FOR THE NUMBER AND LOCATIONS OF THE REQUIRED SOIL SAMPLES TO BE TESTED.

THE SUB-GRADE SHALL BE APPROVED BY ROANOKE CITY PRIOR TO PLACEMENT OF THE BASE. BASE SHALL BE APPROVED BY ROANOKE CITY FOR DEPTH, TEMPLATE AND COMPACTION BEFORE SURFACE IS APPLIED. THE SUBBASE WILL NOT BE INSPECTED BY THE CITY PRIOR TO RECEIVING THE CBR TESTS AND SOIL CLASSIFICATIONS. CONTACT THE CITY SEVEN (7) DAYS PRIOR TO SCHEDULING PLACEMENT OF AGGREGATE BASE COURSE(S) FOR AN INSPECTION.

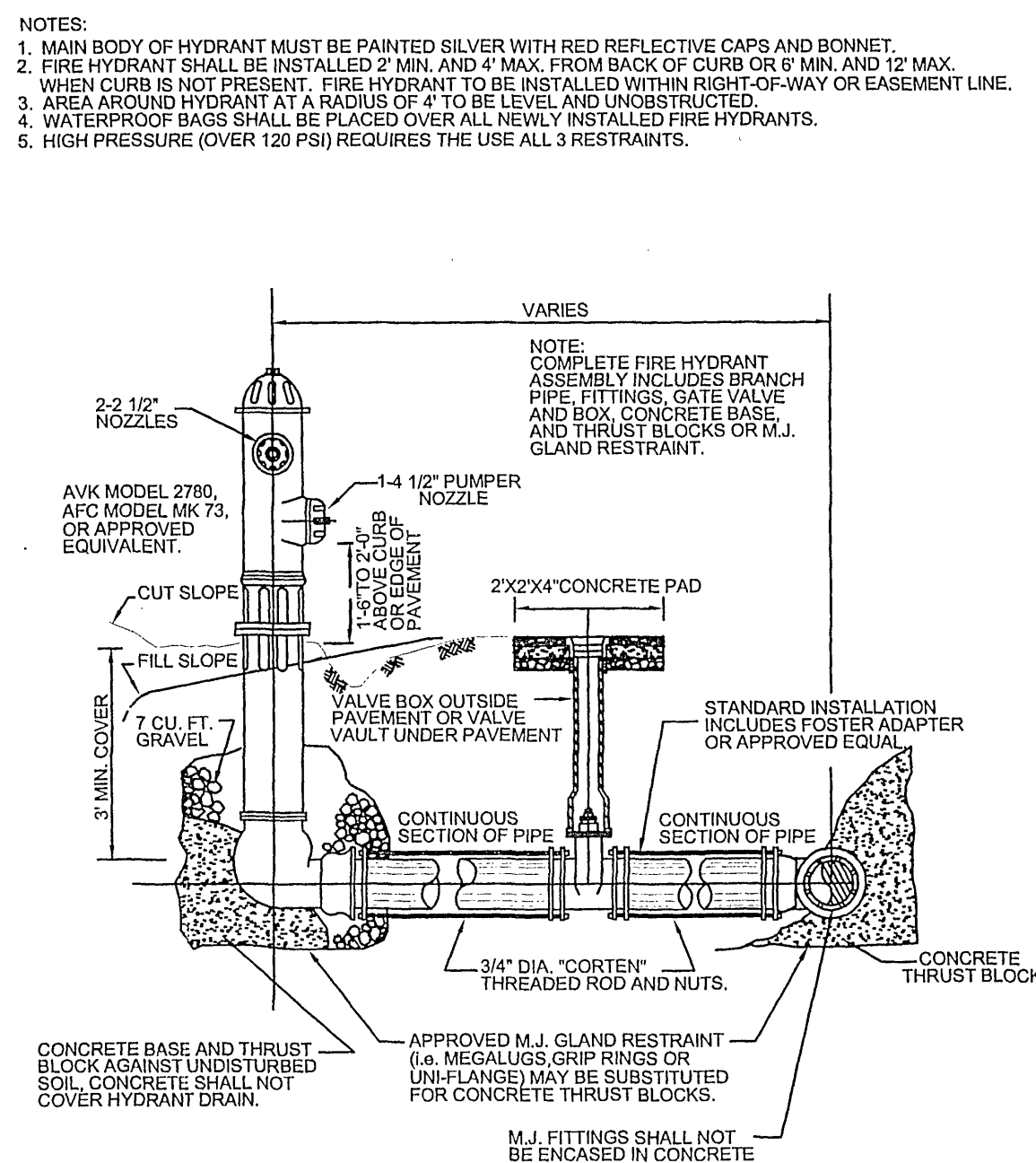
BACKFILLING AND COMPACTION:

BACKFILL MATERIAL SHALL BE A VDOT 21A AGGREGATE, PLACED IN LOOSE LIFTS NOT EXCEEDING 6", AND COMPACTED TO AT LEAST 95% MAXIMUM DRY DENSITY. (1) MOISTURE CONTENT OF OPTIMUM MOISTURE (VM-1) WITH THE USE OF MECHANICAL TAMPERS OR VIBRATORY ROLLERS. WATER COMPACTION IS NOT PERMITTED. LOCAL MATERIAL CLASSIFIED AS TYPE I SELECT MATERIAL MAY BE USED AS BACKFILL UPON PRIOR APPROVAL BY THE CITY ENGINEER. MATERIAL CLASSIFICATION SHALL BE PERFORMED ON THE ACTUAL SOIL TO VERIFY THAT SOIL MEETS VDOT SPECIFICATIONS FOR TYPE I SELECT MATERIAL BY A QUALIFIED TESTING LABORATORY. MATERIAL OBTAINED FROM A VENDOR OTHER THAN A VENDOR OF A VDOT-CERTIFIED PROFESSIONAL ENGINEER. DENSITY REQUIREMENTS ARE THE SAME AS ABOVE. HOWEVER, MOISTURE CONTENT FOR SOILS MAY BE WITHIN 2% OF OPTIMUM.

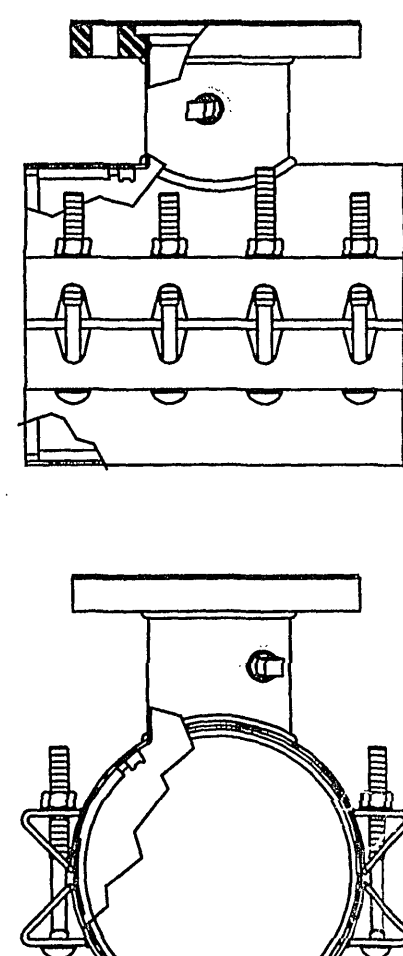
(2) DENSITY AND MOISTURE TESTING IS REQUIRED ON BOTH AGGREGATE AND SOIL BACKFILL. ALL TESTING SHALL BE PERFORMED AND CERTIFIED BY A GEOTECHNICAL ENGINEER OR A VDOT CERTIFIED TECHNICIAN. RESULTS SHALL BE PROVIDED TO THE INSPECTOR WITHIN 24-HOURS OF TESTING COMPLETION. THE COST OF ALL TESTING SHALL BE THE RESPONSIBILITY OF THE PERMITTEE. THE PERMITTEE SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING THE BACKFILL WITH ACCEPTABLE BACKFILL.

(3) FIELD DENSITY TESTING METHODS SHALL BE APPROVED BY THE CITY ENGINEER. THE PERMITTEE SHALL SUBMIT A REPORT TO THE CITY ENGINEER THAT PERFORMS MORE THAN TEN (10) EXCAVATIONS A MONTH UNDER THESE STANDARDS MAY SUBMIT A WRITTEN QUALITY CONTROL PLAN TO REDUCE THE NUMBER OF REQUIRED FIELD DENSITY TESTS. THE QUALITY CONTROL PLAN MUST INCLUDE THE EXCLUSIVE USE OF A VDOT-CERTIFIED AGGREGATE. THE QUALITY CONTROL PLAN SHALL BE SUBMITTED TO THE CITY ENGINEER FOR REVIEW AND APPROVAL.

(4) BACKFILL SHALL BE PLACED AS AN ALTERNATE TO AGGREGATE OR SELECT MATERIAL. FLOWABLE FILL SHALL MEET THE REQUIREMENTS OF VDOT SPECIAL PROVISIONS FOR FLOWABLE BACKFILL. THE MATERIAL MUST BE PLANT-CERTIFIED TO PROVIDE A 28-DAY COMPRESSIVE STRENGTH OF 2,000 PSI. A CERTIFICATE OF MIX DESIGN MUST BE SUBMITTED TO THE INSPECTOR PRIOR TO PLACING THE MATERIAL IN THE TRENCH. A MINIMUM OF FOUR 6 X 12 TEST CYLINDERS SHALL BE TAKEN EVERY 50 CY OF PLACEMENT. CYLINDERS SHALL BE TESTED BY A QUALIFIED TESTING LABORATORY FOR 28-DAY STRENGTH. RESULTS SHALL BE PROVIDED TO THE INSPECTOR'S OFFICE WITHIN 24 HOURS OF TESTING COMPLETION. THE COST OF ALL TESTING IS THE RESPONSIBILITY OF THE PERMITTEE. IF THE PERMITTEE PROVIDES A WRITTEN QUALITY CONTROL PLAN, THE PERMITTEE SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING THE BACKFILL WITH ACCEPTABLE BACKFILL AND COMPLETING THE RESTORATION OF THE STREET AT NO COST TO THE CITY.

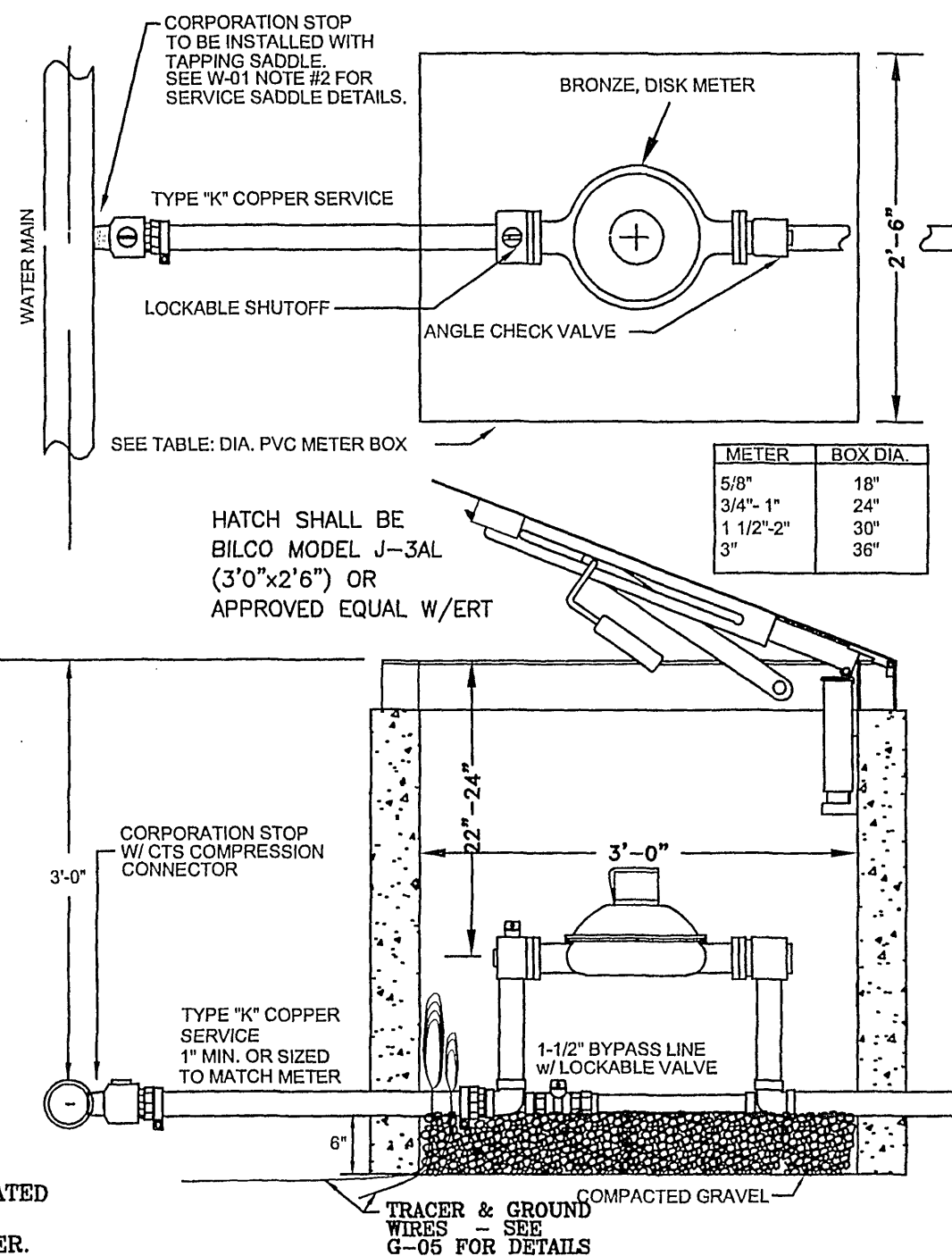


WESTERN VIRGINIA WATER AUTHORITY - CONSTRUCTION STANDARDS		
REVISION DATE	FIRE HYDRANT ASSEMBLY	W-18
8701104		

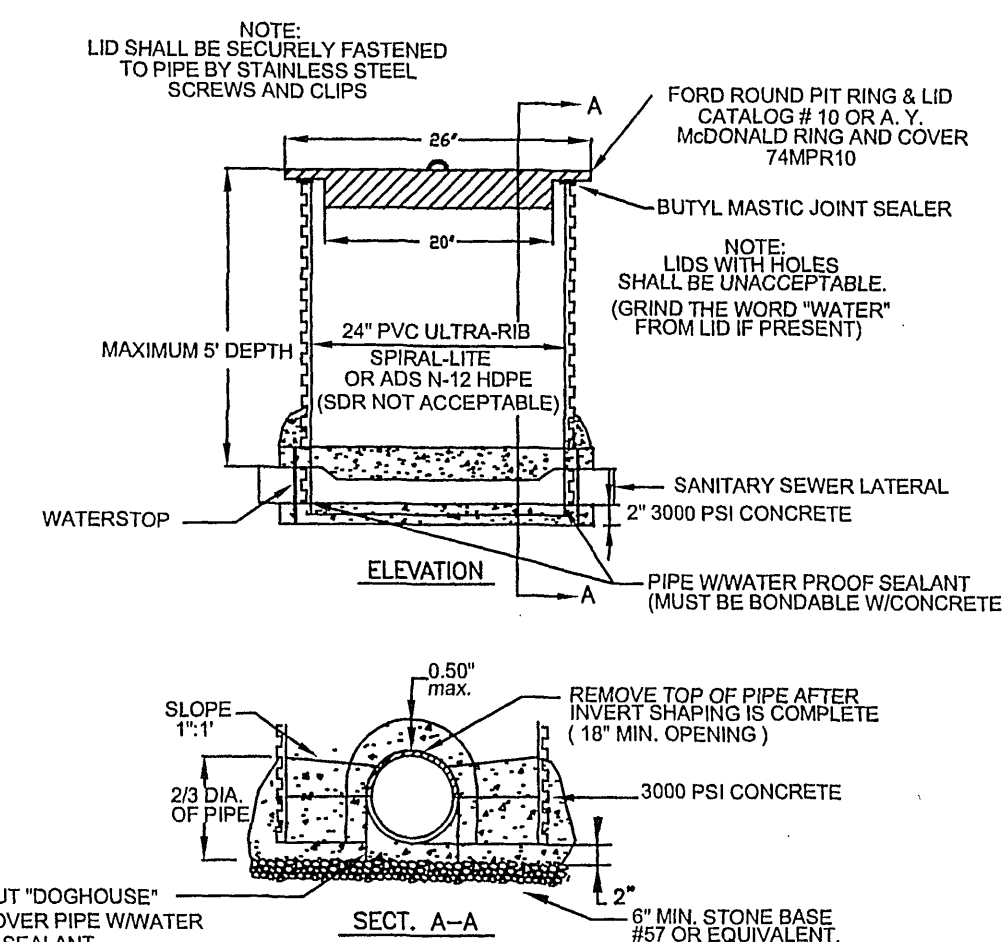


1. TAPPING SLEEVE SHALL BE POWERSEAL MODEL 3490 TYPE 304 STAINLESS STEEL WITH CARBON STEEL FLANGE, ROMAC'S MODEL SST "H" OR APPROVED EQUIVALENT. SLEEVE SHALL BE RATED AT 250 PSI AND MUST HAVE A TEST PLUG.
2. TAPPING VALVE SHALL BE AVK RESILIENT SEATED GATE VALVE SERIES 25 MJFL OR MUELLER T-2360 RESILIENT WEDGE TAPPING VALVE WITH MJFL. VALVE SHALL BE RATED AT 250 PSI.
3. TAPPING SLEEVE AND VALVE SHALL BE FULL PORT TO ACCEPT FULL SIZE SHELL CUTTING

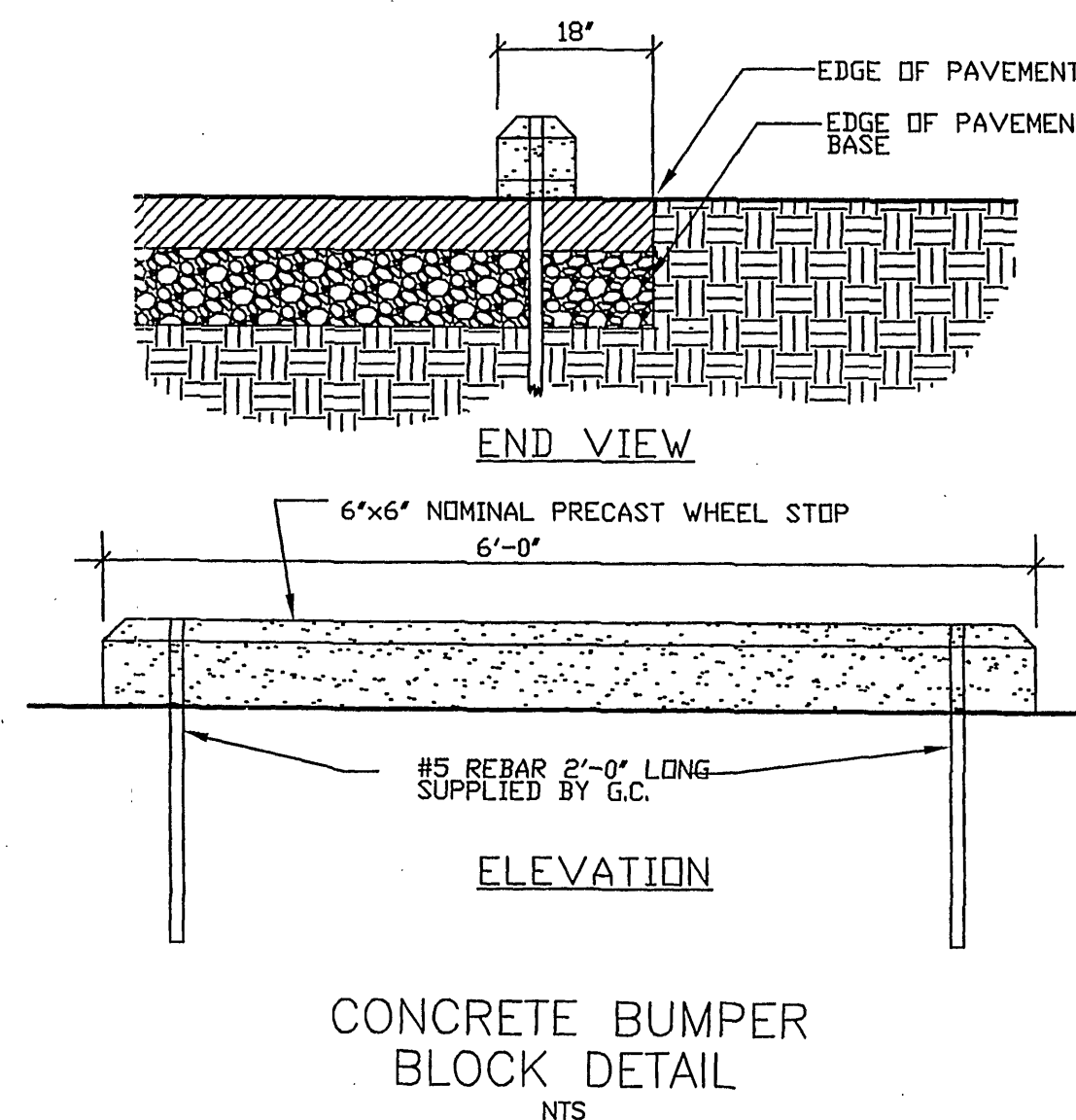
WESTERN VIRGINIA WATER AUTHORITY - CONSTRUCTION STANDARDS					
REVISION DATE		TAPPING SLEEVE AND VALVE			W-23
07/01/04					



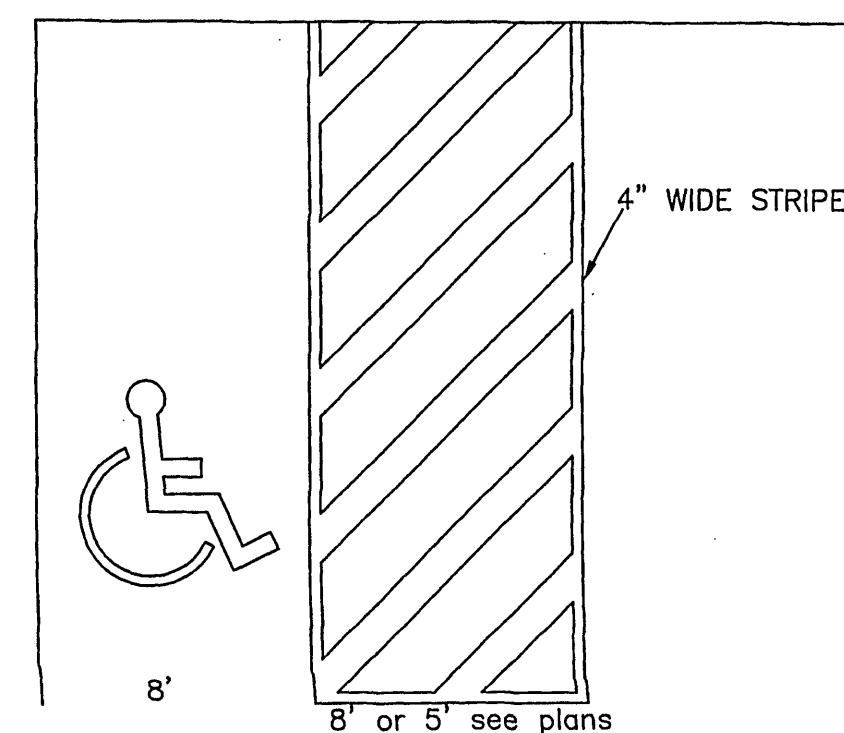
WESTERN VIRGINIA WATER AUTHORITY - CONSTRUCTION STANDARD		
REVISION DATE	<p>COMMERCIAL</p> <p>WATER SERVICE</p>	<p>W-C</p>
07/01/04		
03/01/06		



- NOTES:
- | | |
|---|--|
| 1. NOT ACCEPTABLE FOR USE IN TRAFFIC AREAS OR AREAS SUBJECT TO FLOODING. | 2. 2" DIA. CONCRETE WELL CASING 3000 PSI MAY BE SUBSTITUTED FOR 4" DIA. CONCRETE WELL CASING JOINTS IN THE CASING PIPE MUST BE BY TR-88. |
| 3. VACUUM OR EXFILTRATION TESTING SHALL BE USED. VACUUM TESTING SHALL MEET THE SAME CRITERIA AS EXFILTRATION TESTING. EXFILTRATION TESTING SHALL HAVE NO FLOW. | 4. INVERT SHAPED MANHOLE SHALL BE 180 DEGREES THROUGH COMPLETE MANHOLE. NO ACCESS RADIUS, ETC ARE ALLOWED IN SAMPLE MANHOLES. |
| 4. "AquaQuik" WASTEWATER ACCESS CHAMBERS SHALL BE USED. ACCESS CHAMBERS WILL BE REQUIRED IF INSTALLED IN TRAFFIC AREAS. TESTING OF "AquaQuik" SHALL BE BY APPROVED PLUMBER OR PLUMBER LATERALS. | |

[illegible]

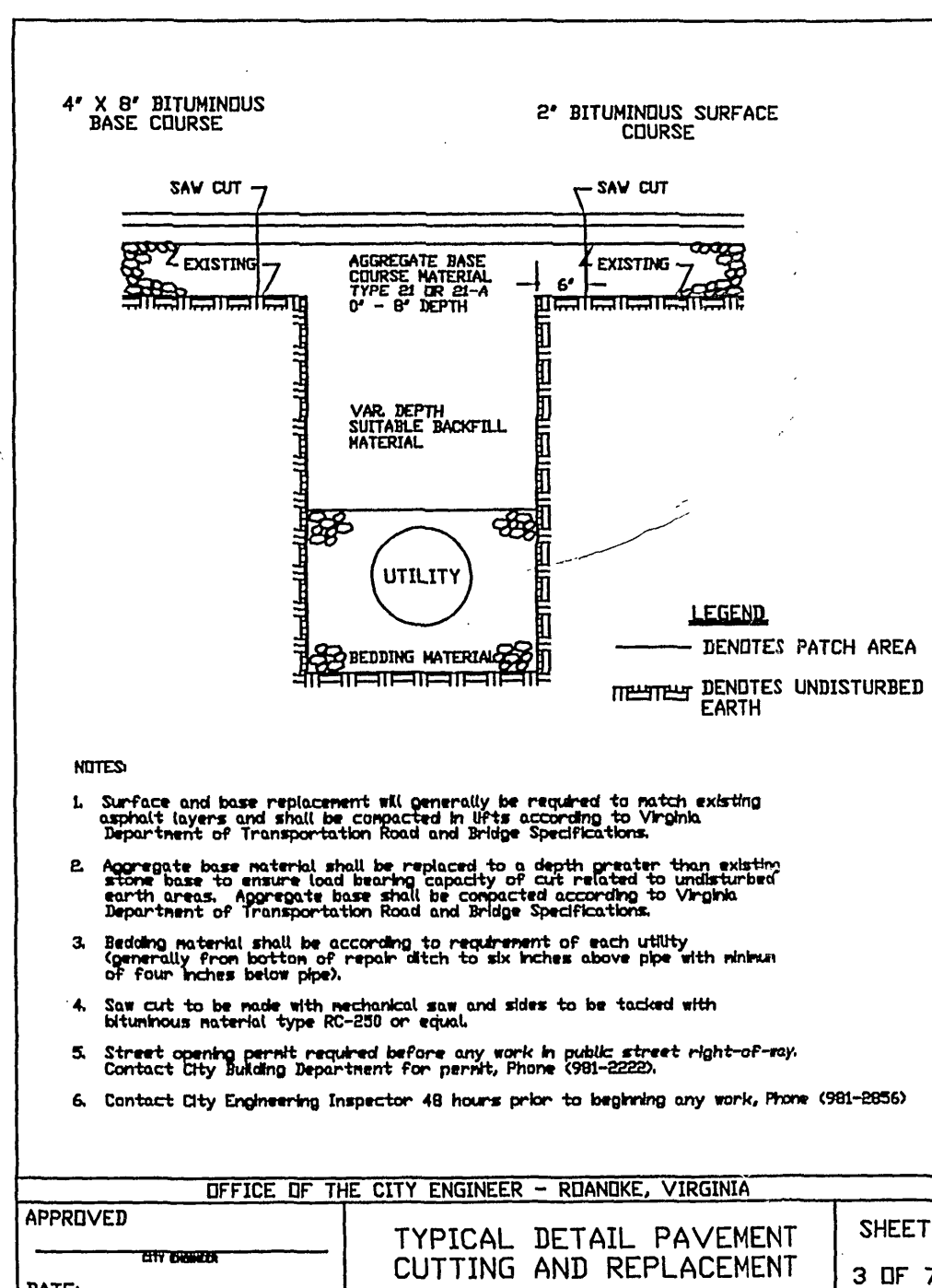
CONCRETE BUMPER
BLOCK DETAIL
NTS



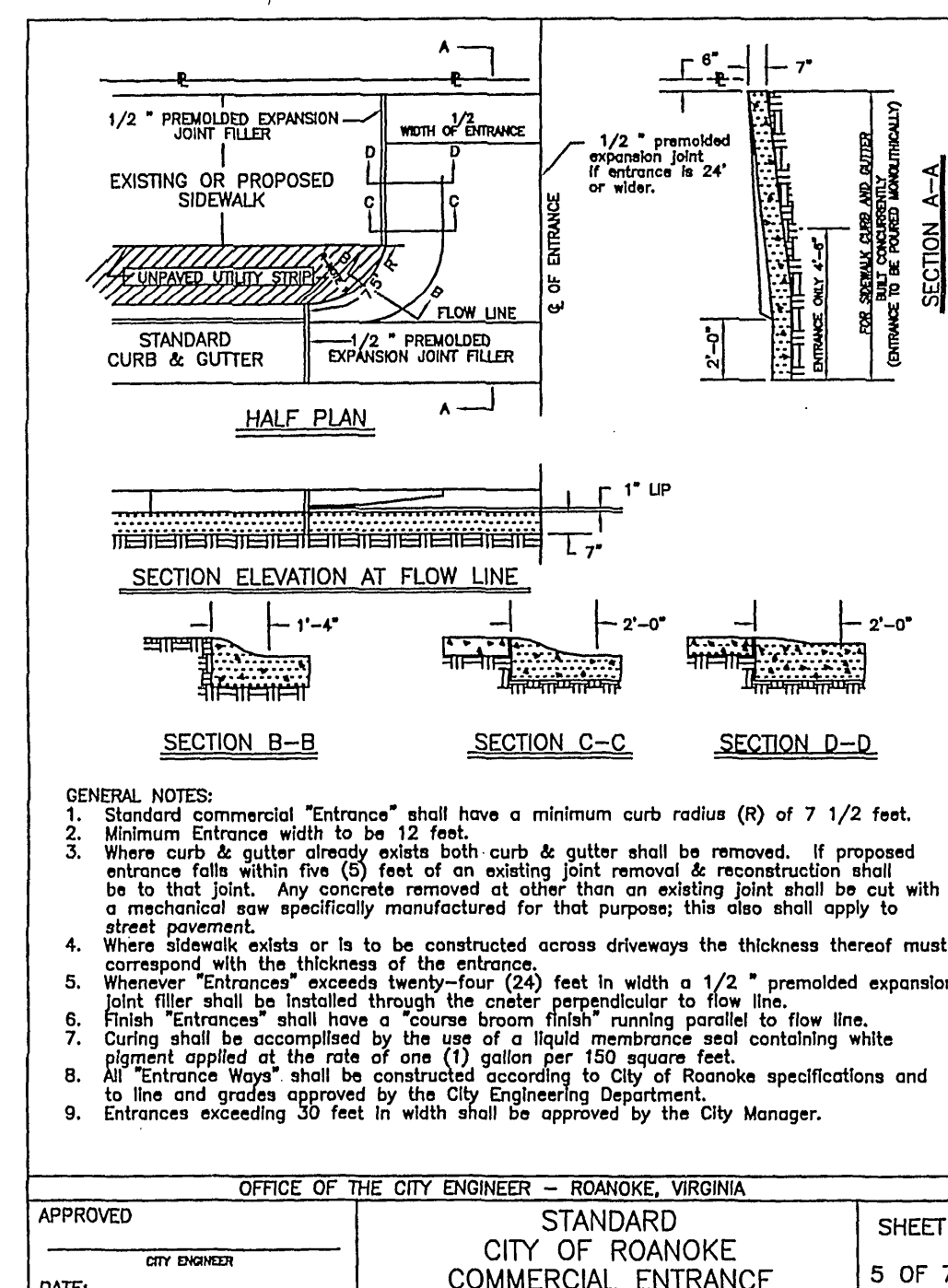
UNIVERSAL HANDICAP
SYMBOL TO CONFORM
TO ADA STANDARDS

MAX. CROSS SLOPE 2%

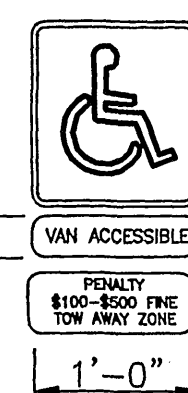
HANDICAP PARKING DETAIL



EMERGENCY SPILLWAY DETAIL
NO SCALE



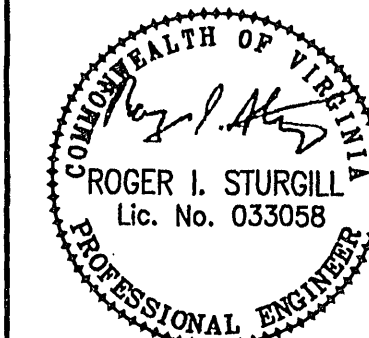
HANDICAP SIGN DETAIL



HANDICAP SIGN NOTES:

1. EACH SIGN SHALL BE MOUNTED TO THE BUILDING WITH NO SIGN EDGE LOWER THAN 4' AND NO HIGHER THAN 7' TO THE FINISHED GRADE
2. ALL SIGNS SHALL BE REFLECTORIZED

HANDICAP PARKING DETAIL



BALZER
AND ASSOCIATES INC.
ENGINEERS

REFLECTING TOMORROW
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ENGINEERS • SURVEYORS

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FARMERS
WAREHOUSE, INC.

ROANOKE CITY, VIRGINIA

DRAWN BY: AJS
DESIGNED BY: CPB
CHECKED BY: JVJ
DATE: 01/22/2008
REVISIONS:
03/06/2008
04/04/2008

SHEET NO.

JOB NO.
R0700277.00