

KNOW ALL MEN BY THESE PRESENTS TO WIT:

A. R. OVERBAY is the fee simple owner and proprietor of the land shown hereon to be subdivided, known as Section #6, Steeplechase, bounded as shown hereon in detail by Corners 1 through 10, inclusive, which comprises a portion of the land conveyed to said owner by deed from Bridgewater College, Friendship Manor Apartment Village Corporation, and Cloverdale Holdings, a Virginia Partnership, recorded in the Clerk's Office of the Circuit Court of Botetourt County in Deed Book 364, Page 153, Deed Book 364, Page 157, and Deed Book 364, Page 162, respectively.

The said owner certifies that he has subdivided this land, as shown hereon, entirely with his free will and consent and pursuant to an in compliance with Section 15.1 - 465 through 15.1 - 485 of the Virginia Code of 1950, as amended to date, and further pursuant to and in compliance with the County of Botetourt "Land Subdivision Ordinances". The said owner does by virtue of recordation of this plat, dedicate in fee simple to the County of Botetourt all the land embraced within the streets of this subdivision and all the easements are hereby dedicated for public use.

The said owner does as a condition precedent to the approval of this plat and subdivision and the acceptance of the dedication of the streets shown hereon by the Board of Supervisors of Botetourt County, on his own behalf and for and on account of his heirs, successors, devisees, and assigns, specifically releases the County and the Virginia Department of Transportation from any and all claims for damages which such owner, their heirs, successors, devisees and assigns, may have against the County and the Virginia Department of Transportation by reason of establishing proper grade lines and along such streets as shown on the plat of the land subdivided (or such changes street lines as may be agreed upon in the future) and by reason as may, from time to time, be established by said County or Virginia Department of Transportation, and said County or Virginia Department of Transportation shall not be required to construct any retaining walls along the streets and property lines thereof.

In Witness whereof are hereby placed the following signatures and seals this _____ day of _____, 1993.

By: _____
A. R. Overbay
Owner

STATE OF VIRGINIA AT LARGE

_____, OF _____
_____, A NOTARY PUBLIC IN AND FOR THE

AFORESAID _____ AND STATE, DO HEREBY CERTIFY THAT

HAVE PERSONALLY APPEARED BEFORE ME IN MY JURISDICTION AND ACKNOWLEDGED THE

SAME ON _____, 199 .

MY COMMISSION EXPIRES ON _____

NOTARY PUBLIC

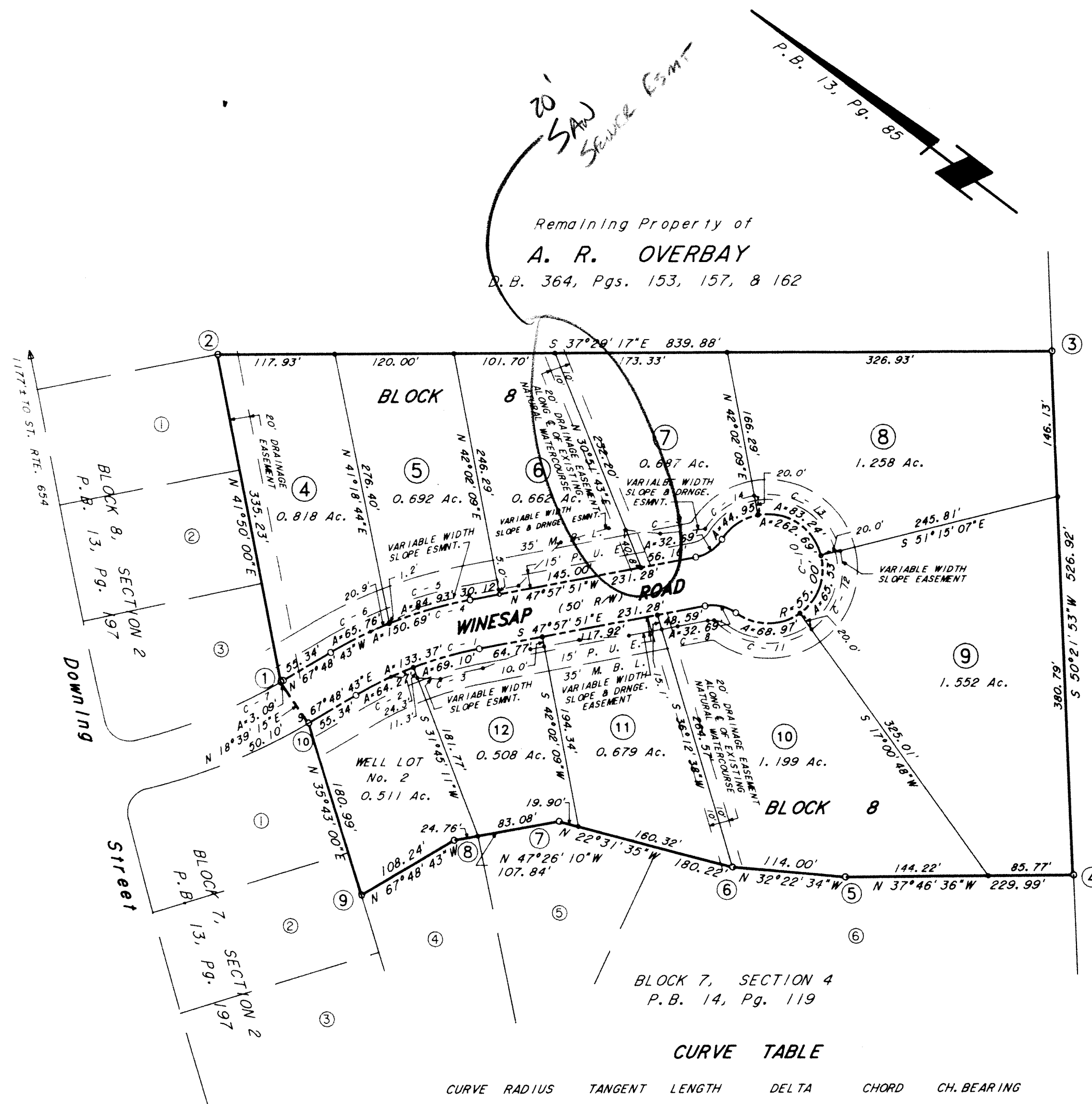
APPROVED:

J. WAYNE UTT
BOTETOURT COUNTY SUBDIVISION AGENT

IN THE CLERK'S OFFICE OF THE CIRCUIT COURT OF BOTETOURT COUNTY, VIRGINIA,
THIS PLAT, WITH THE CERTIFICATE OF ACKNOWLEDGEMENT THERETO ANNEXED IS ADMITTED
TO RECORD ON _____, 199 , AT _____ O'CLOCK _____ M.

TESTEE: _____, CLERK

DEPUTY CLERK



CURVE	RADIUS	TANGENT	LENGTH	DELTA	CHORD	CH. BEARING
C-1	385.00'	67.36'	133.37'	19°50'52"	132.70'	S 57°53'17"E
C-2	385.00'	32.21'	64.27'	9°33'54"	64.20'	S 63°01'46"E
C-3	385.00'	34.64'	69.10'	10°16'58"	69.00'	S 53°06'20"E
C-4	435.00'	76.11'	150.69'	19°50'52"	149.93'	N 57°53'17"W
C-5	435.00'	42.60'	84.93'	11°11'11"	84.79'	N 53°33'26"W
C-6	435.00'	32.94'	65.76'	8°39'41"	65.70'	N 63°28'52"W
C-7	542.54'	1.54'	3.09'	0°19'34"	3.09'	N 67°38'56"W
C-8	40.00'	17.32'	32.69'	46°49'35"	31.79'	S 24°33'04"E
C-9	40.00'	17.32'	32.69'	46°49'35"	31.79'	N 71°22'39"W
C-10	55.00'	0.00'	262.69'	273°39'10"	75.26'	N 42°02'09"E
C-11	55.00'	39.85'	68.97'	71°50'56"	64.54'	S 37°03'44"E
C-12	55.00'	37.28'	65.53'	68°15'55"	61.72'	N 72°52'51"E
C-13	55.00'	51.93'	83.24'	86°42'44"	75.52'	N 04°36'29"W
C-14	55.00'	23.82'	44.95'	46°49'35"	43.71'	N 71°22'39"W

LEGEND

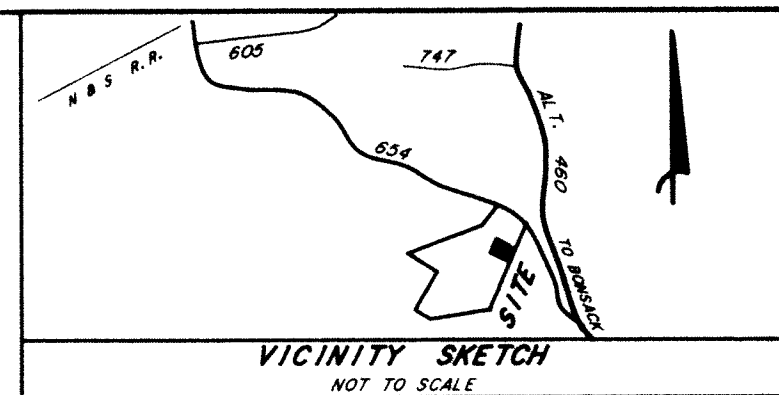
M.B.L.	Minimum Building Line
P.U.E.	Public Utility Easement
S.S.E.	Sanitary Sewer Easement
D.E.	Drainage Easement
C-14	Curve Identification
6212	House Number

AREA SUMMARY

AREA IN ROADS:	0.953 Ac.
AREA IN LOTS:	8.055 Ac.
AREA IN WELL LOT:	0.511 Ac.
TOTAL AREA:	9.519 Acres

NOTES:

- THE SUBJECT PROPERTY LIES INSIDE OF ZONE C, WHICH IS NOT WITHIN THE ONE HUNDRED YEAR FLOOD PLAIN, AS SHOWN ON COMMUNITY PANEL No. 510018 0130 A, DATED JUNE 15, 1978. RESULTS OF ANY FURTHER F.E.M.A. STUDIES ARE NOT PUBLISHED.
- THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT AND THEREFORE MAY NOT SHOW ALL ENCUMBRANCES UPON THE SUBJECT PROPERTY.
- IRON PINS SET AT ALL LOT CORNERS UNLESS OTHERWISE NOTED.



Property of
EMMA T. OLSEN
D.B. 372, Pg. 746

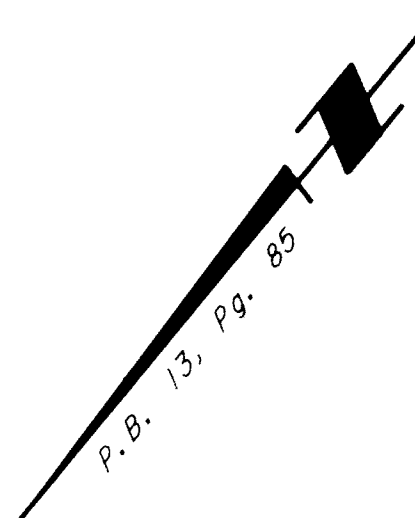
PRELIMINARY

Plat of Section 6
STEEPLECHASE
9.519 Acres

belonging to
A. R. OVERBAY
Blue Ridge Magisterial District
BOTETOURT COUNTY, VIRGINIA

SHANKS ASSOCIATES, P.C.
ENGINEERS-SURVEYORS-PLANNERS
313 Luck Avenue
Roanoke, Virginia 24016
(703) 343-6685

DATE: 02/23/93 SCALE: 1" = 100'
CREW: CARTER F.B.: N/A
CALC. BY: JRA DRWN. BY: CEG
CHECKED BY: _____
JOB NUMBER: 693003

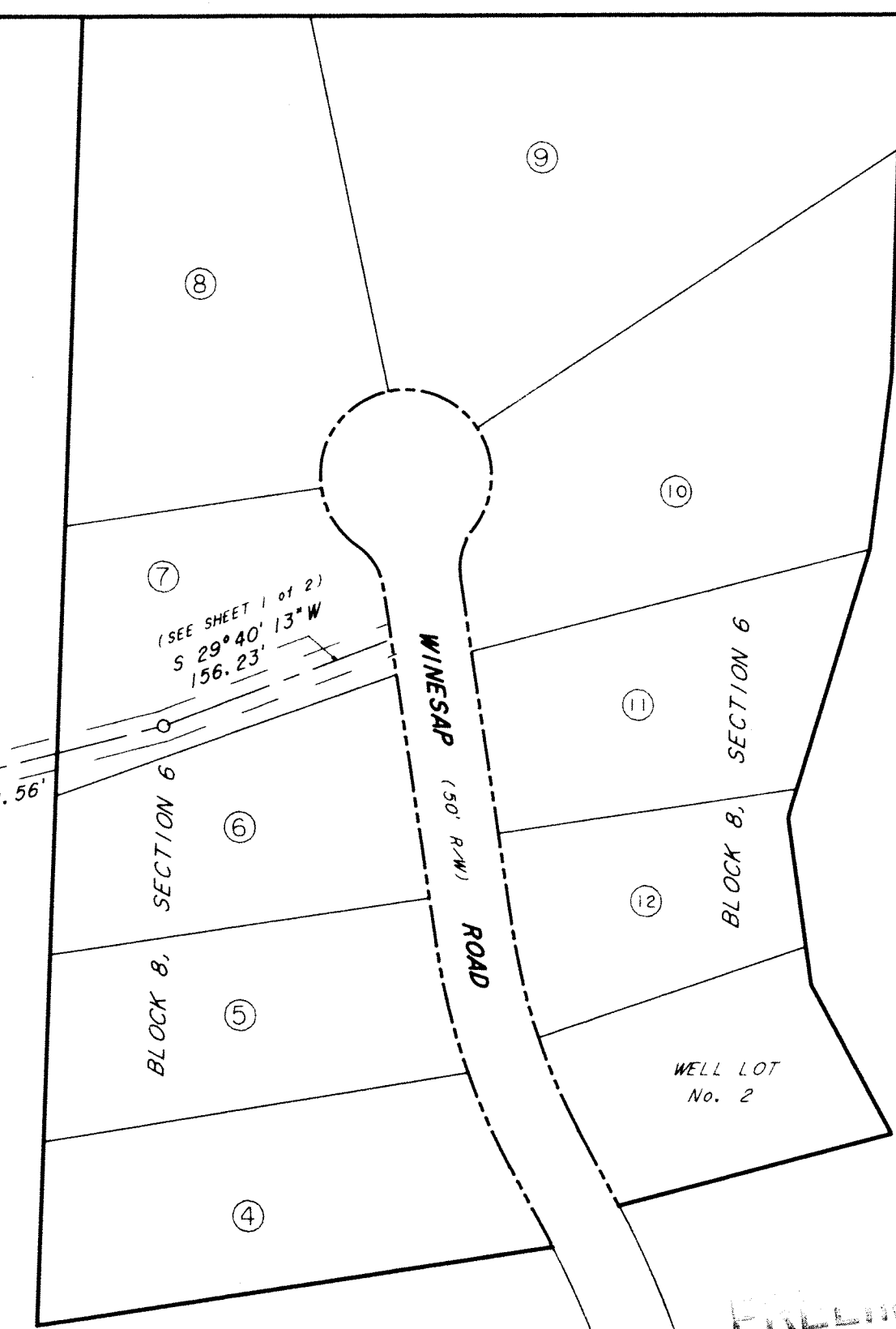


VA. SEC. RTE. 604
(VARIABLE WIDTH R/W)

VA. SEC. RTE. 654
(VARIABLE WIDTH R/W)

Remaining Property of
A. R. OVERBAY
D.B. 364, Pg. 153, 157, & 162

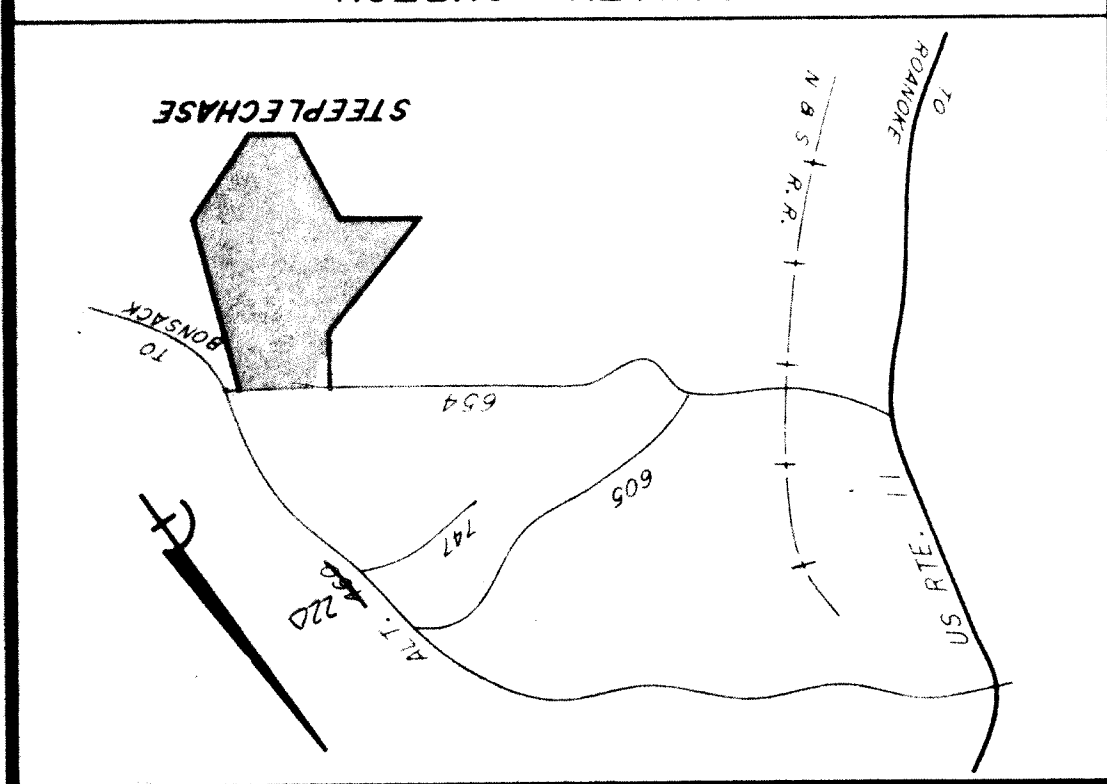
Remaining Property
A. R. OVERBAY
D.B. 364, Pg. 153, 157, & 162



Plat of Section 6
STEEPLECHASE
9.519 Acres
belonging to
A. R. OVERBAY
Blue Ridge Magisterial District
BOTETOURT COUNTY, VIRGINIA

SHANKS ASSOCIATES, P.C.
ENGINEERS-SURVEYORS-PLANNERS
313 Luck Avenue
Roanoke, Virginia 24016
(703) 343-6685
DATE: 02/23/93 SCALE: 1" = 100'
CREW: CARTER F.B.: N/A
CALC. BY: JRA DRAWN BY: CEG
CHECKED BY: ☐
JOB NUMBER: 693003

NOTES:
1. THE SUBJECT PROPERTY LIES INSIDE OF ZONE C, WHICH IS NOT WITHIN THE ONE HUNDRED YEAR FLOOD PLAIN, AS SHOWN ON COMMUNITY PANEL No. 510018 0150 A, DATED JUNE 15, 1979. RESULTS OF ANY FURTHER F.E.M.A. STUDIES ARE NOT PUBLISHED.
2. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT AND THEREFORE MAY NOT SHOW ALL ENCUMBRANCES UPON THE SUBJECT PROPERTY.



VICINITY SKETCH
NOT TO SCALE

DEVELOPMENT SUMMARY

TOTAL AREA = 172.5 ACRES
ZONING - R-1 (142.5 ACRES)
B-2 (30 ACRES)
LOT SUMMARY
59 SINGLE FAMILY LOTS (ULTIMATELY)
LARGEST LOT - 4.7 AC.
SMALL LOT - 0.50 AC.
AVG. LOT - 0.80 AC.
SUBTRACT - 35.
NEIGHBORHOOD BUSINESS PARCEL -
AREA 30 AC.
SETBACK 20'
WATER - PUBLIC AVAILABLE COMMUNITY
SERVICE
SEWER - BOYFOUT COUNTY AND
INDIVIDUAL SEPTIC

AREA TABULATION

ST. TOWN	NO. OF LOTS	AREA IN ACRES	RESERVED AREA	TOTAL
1	38	25.712	3.576	0.522
2	51	29.478	5.586	0.299
3	28	15.609	1.972	17.581
4	2	6.117	0.540	6.653
5	14	16.534	1.037	0.264
6	5	8.055	0.983	0.519
7	9	0.983	0.511	0.519
8	14	16.534	1.037	0.264
9	5	8.055	0.983	0.519
10	2	6.117	0.540	6.653
11	28	15.609	1.972	17.581
12	51	29.478	5.586	0.299
13	38	25.712	3.576	0.522
14	51	29.478	5.586	0.299
15	38	25.712	3.576	0.522
16	51	29.478	5.586	0.299
17	38	25.712	3.576	0.522
18	51	29.478	5.586	0.299
19	38	25.712	3.576	0.522
20	51	29.478	5.586	0.299
21	38	25.712	3.576	0.522
22	51	29.478	5.586	0.299
23	38	25.712	3.576	0.522
24	51	29.478	5.586	0.299
25	38	25.712	3.576	0.522
26	51	29.478	5.586	0.299
27	38	25.712	3.576	0.522
28	51	29.478	5.586	0.299
29	38	25.712	3.576	0.522
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90	51	29.478	5.586	0.299
91	38	25.712	3.576	0.522
92	51	29.478	5.586	0.299
93	38	25.712	3.576	0.522
94	51	29.478	5.586	0.299
95	38	25.712	3.576	0.522
96	51	29.478	5.586	0.299
97	38	25.712	3.576	0.522
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100	51	29.478	5.586	0.299

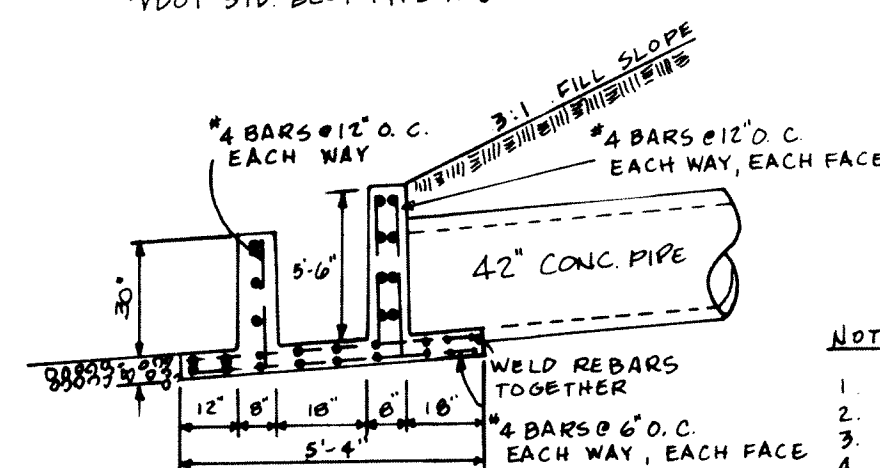
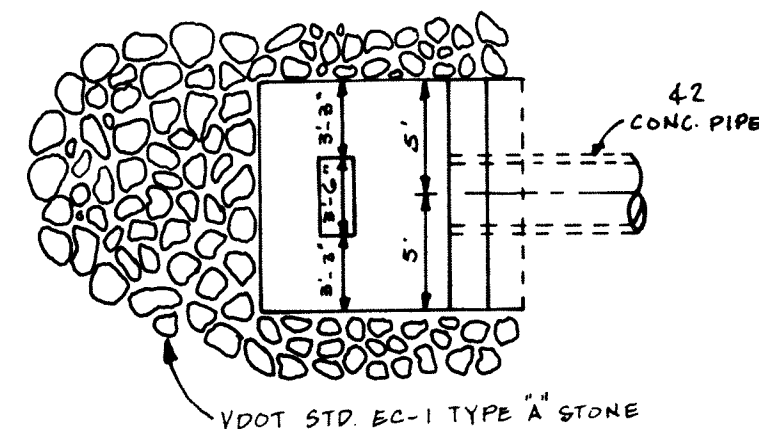


Revised Master Plan
Steeplechase
Showing Existing Sections 1 - 5
and Proposed Sections 6
of Tax Map 107-1-1-233 & 107-1-1-234
State Route 654 and State Route 604
Blue Ridge Magisterial District
Botetourt County, Virginia
SHANKS ASSOCIATES, P.C.
ENGINEERS-SURVEYORS-PLANNERS
313 Luck Avenue
Roanoke, Virginia 24011
DATE: 05/30/99
JOB NO. 693003
SCALE: 1" = 200'
SHEET 2 OF 10



5/29/99

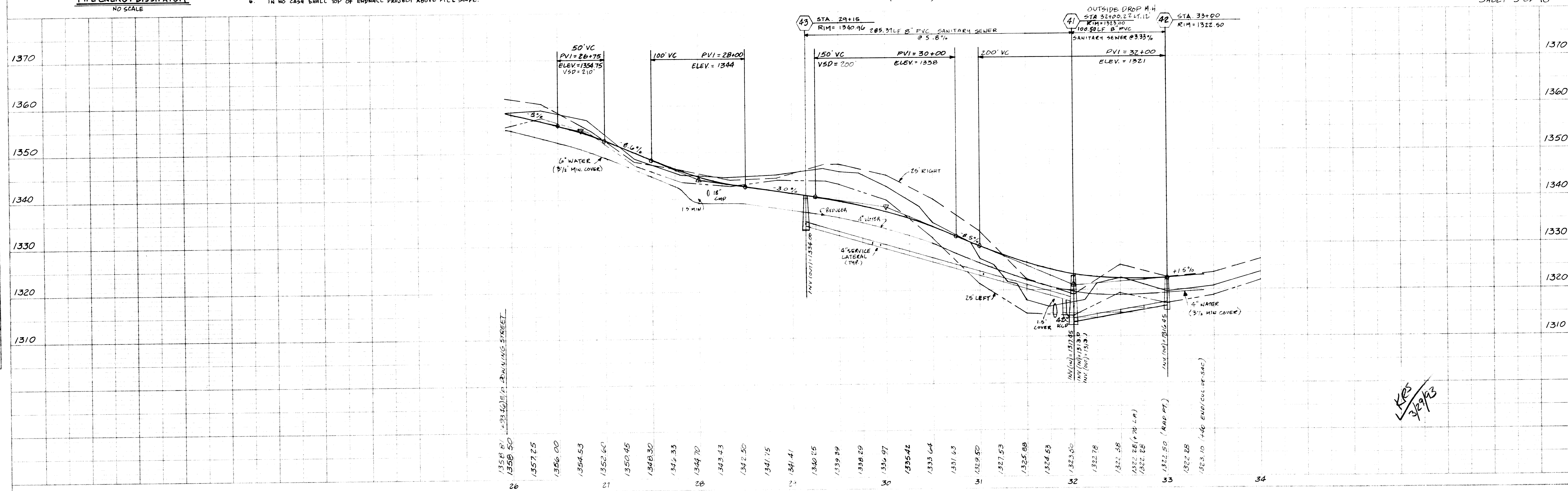
PROFILE SURVEYED _____ PLOTTED _____ GRADES CHECKED _____ B.M. NOTED _____	9"	DATE _____
		DATE _____



PIPE ENERGY DISSIPATOR
NO SCALE

NOTES

1. ITEM MAY BE PRE-CAST OR CAST IN PLACE.
2. CONCRETE TO BE 4000 PSI MINIMUM COMPRESSIVE STRENGTH.
3. REINFORCING STEEL IN ACCORDANCE WITH ASTM A-615.
4. PIPE OPENING AS REQUIRED, 4" MIN., 8" MAX., LARGER THAN PIPE DRAIN.
5. DIMENSIONS SHOWN ARE MINIMUM. ACTUAL MEASUREMENTS MAY VARY WITH MANUFACTURER'S TOLERANCES.
6. IN NO CASE SHALL TOP OF ENDWALL PROJECT ABOVE FILL SLOPE.



~~KES~~
~~3/29/92~~

STEEPLECHASE
SECTION 6
*Plan and Profile for
Road and Utility Construction
with Erosion Control Measures*

SHANKS ASSOCIATES, P. C.
ENGINEERS - SURVEYORS - PLANNERS

313 LUCK AVENUE
ROANOKE, VIRGINIA 24016

108. NUMBER: 6010X16

DATE: 2/4/93 REVISED: 2/16/93

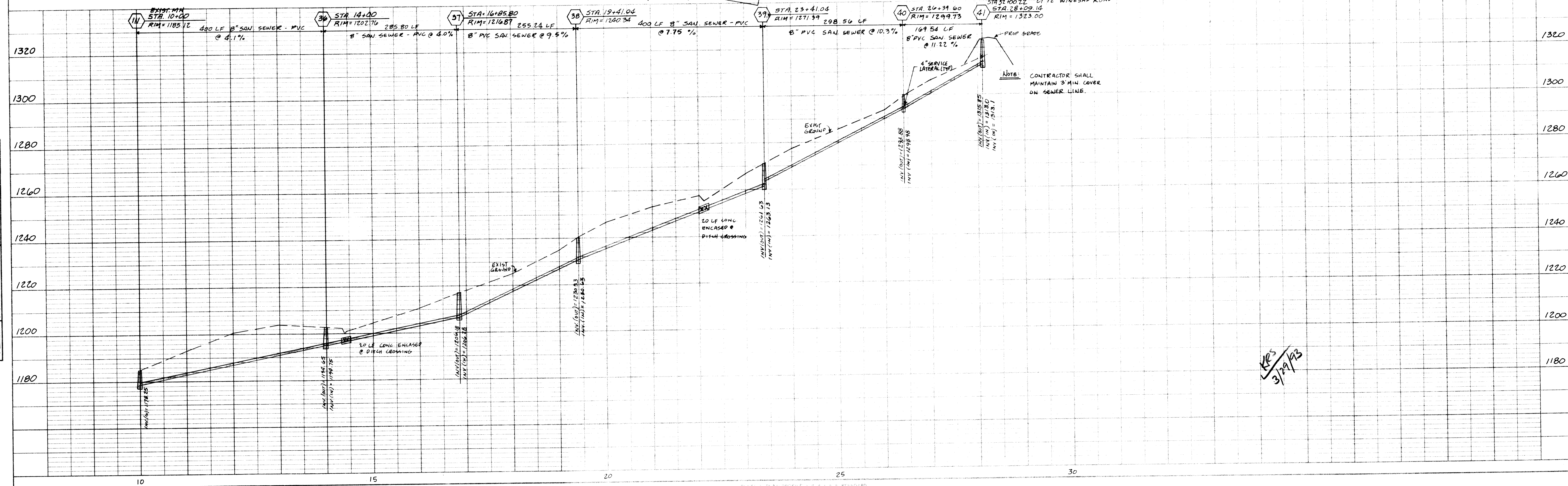
3/2/93

3/14/93

2/16/93

SHEET 3 OF 10

PROFILE	SURVEYED _____	BY _____	DATE _____
	PLOTTED _____ GRADES CHECKED _____ B. M.'s NOTED _____		



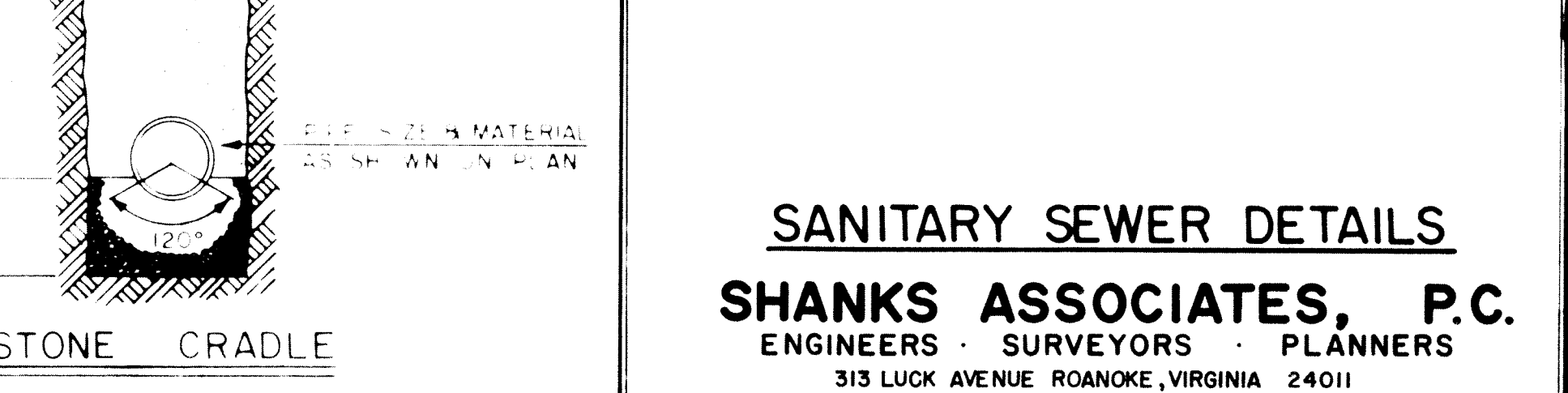
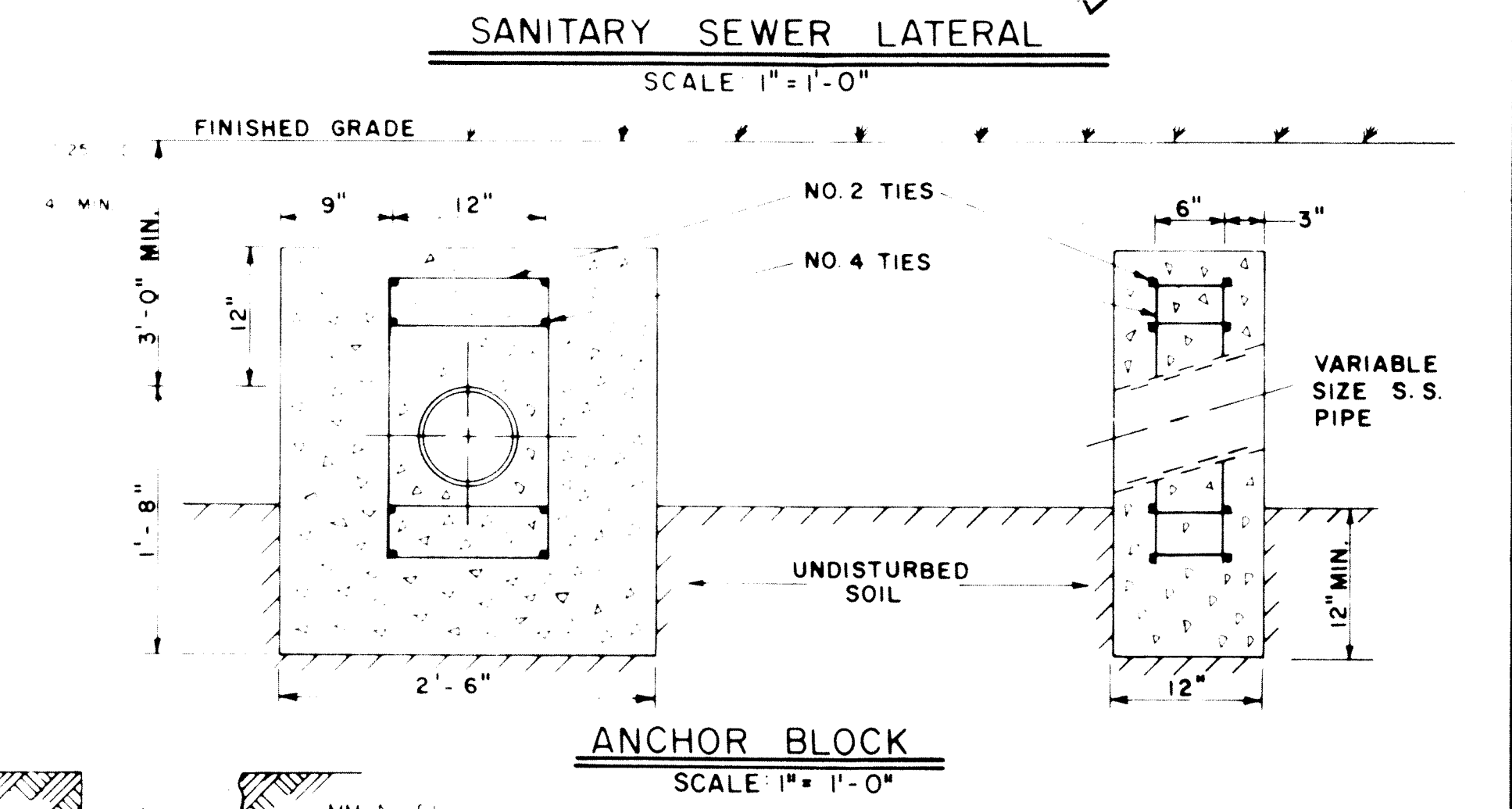
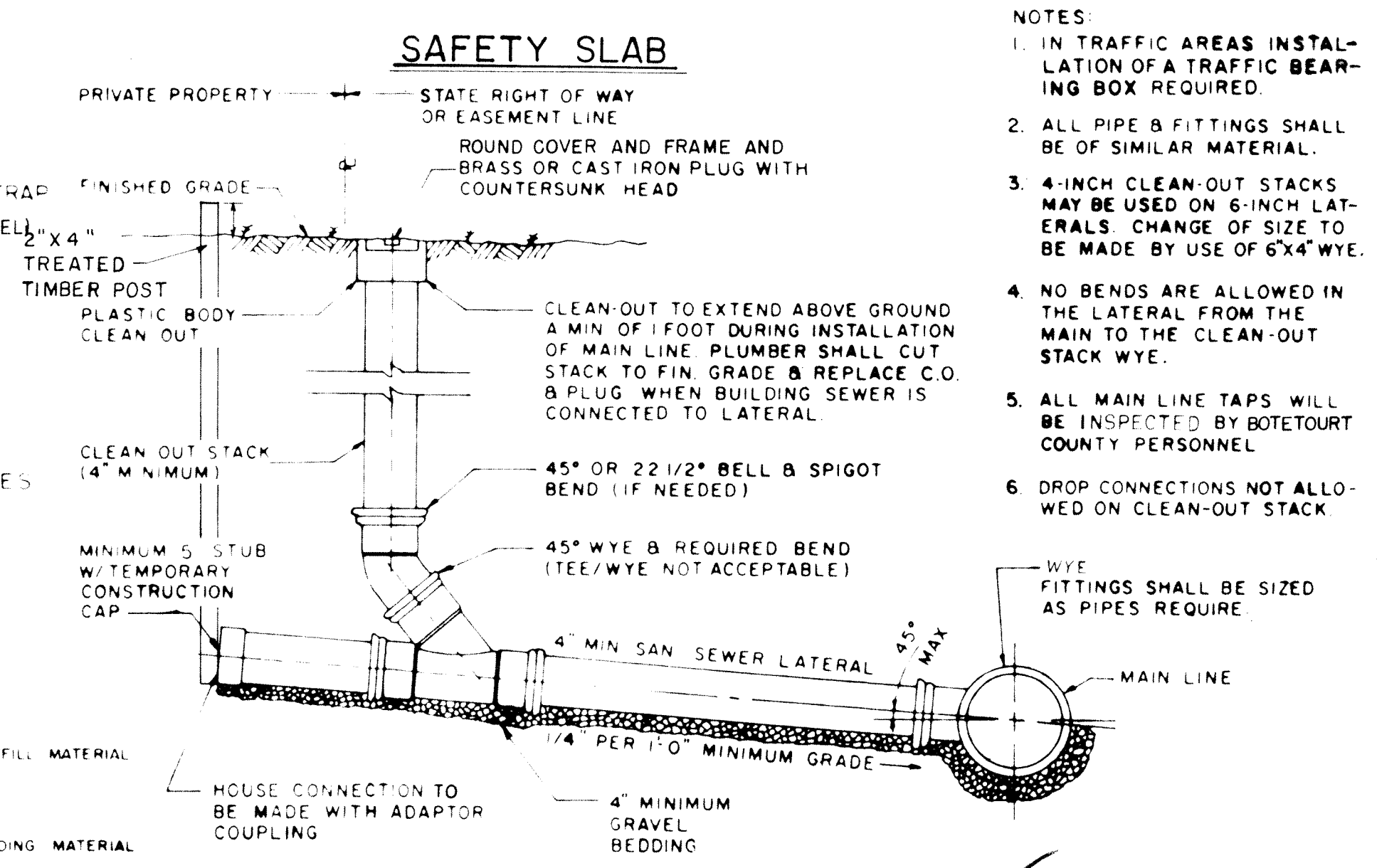
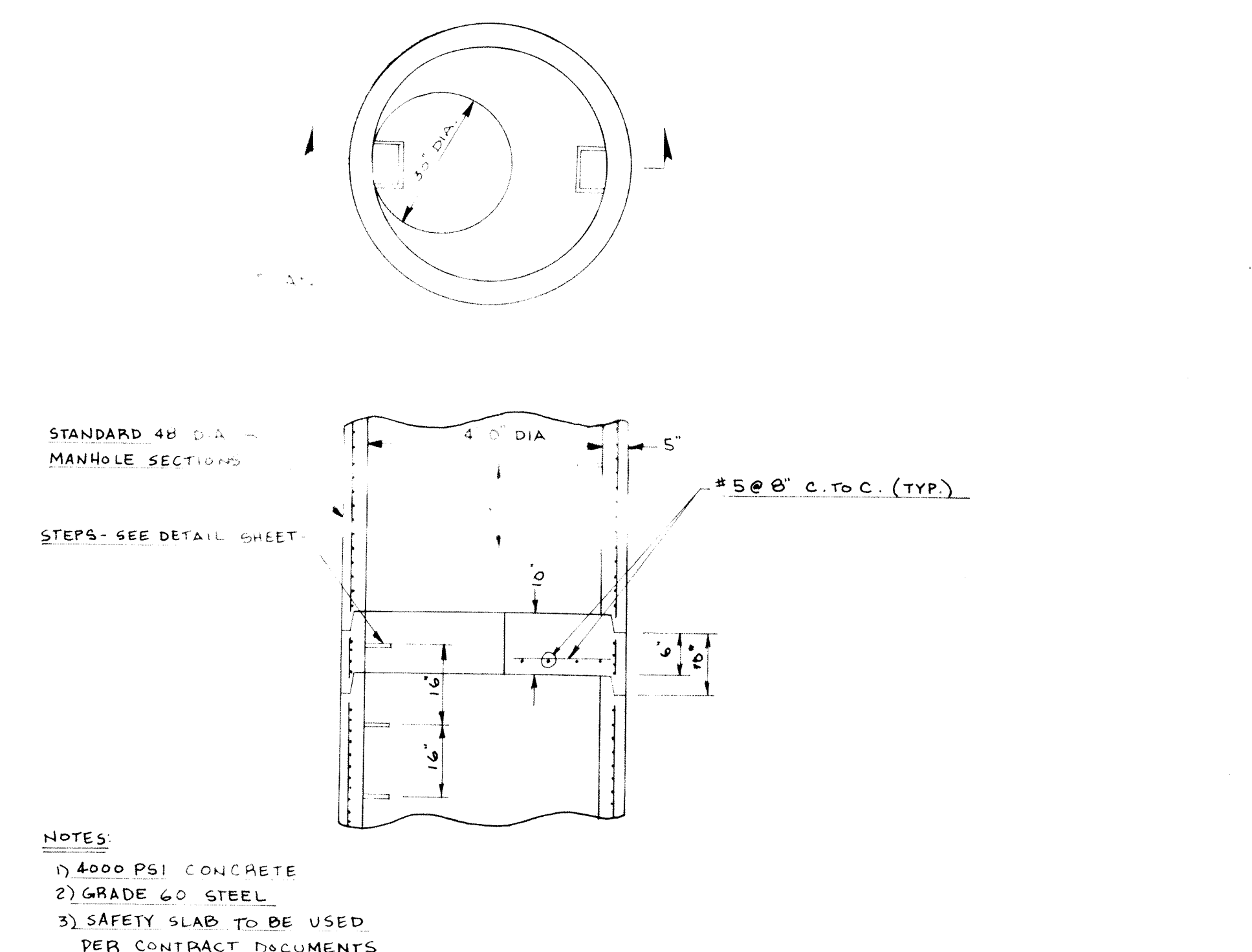
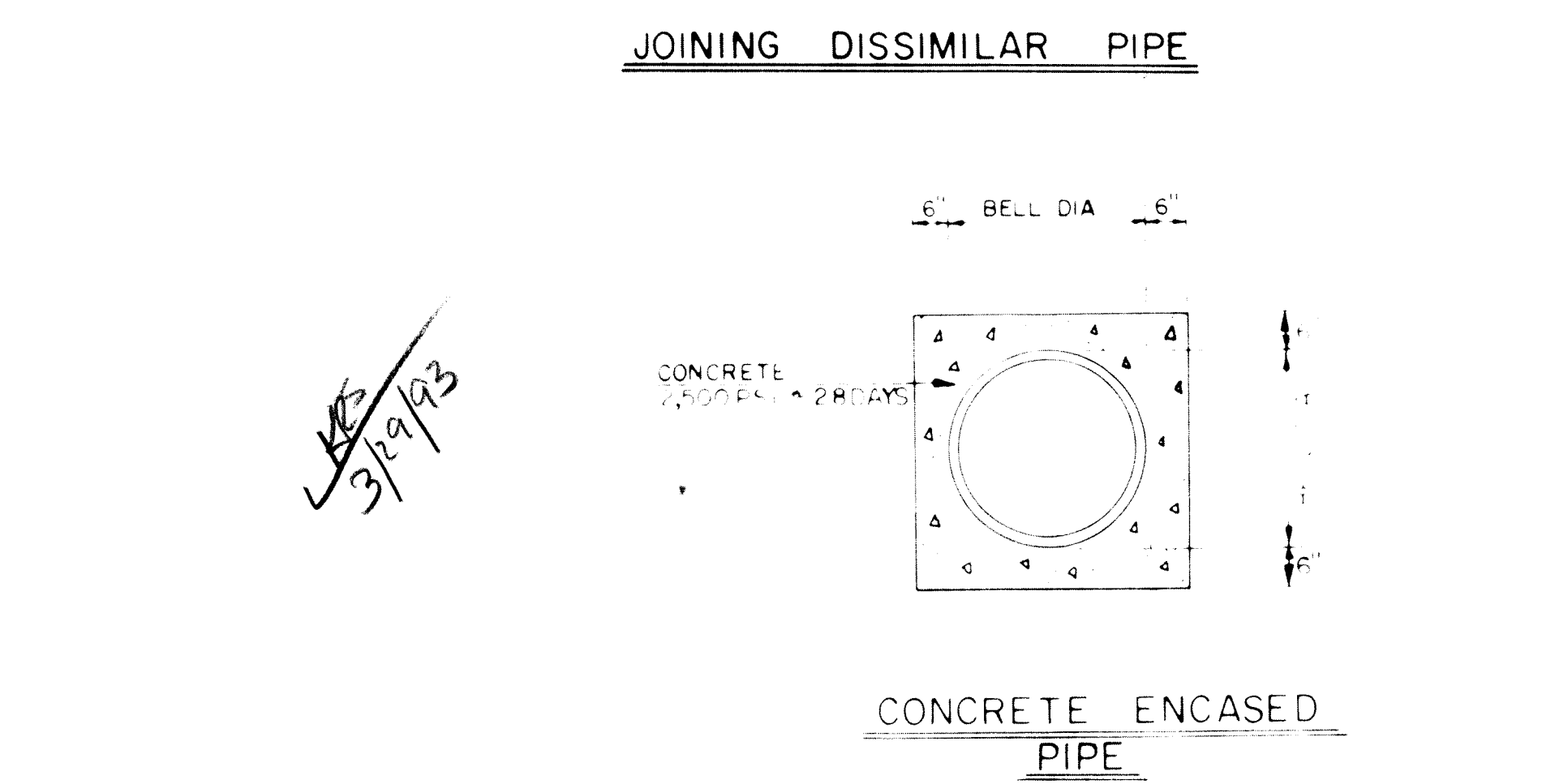
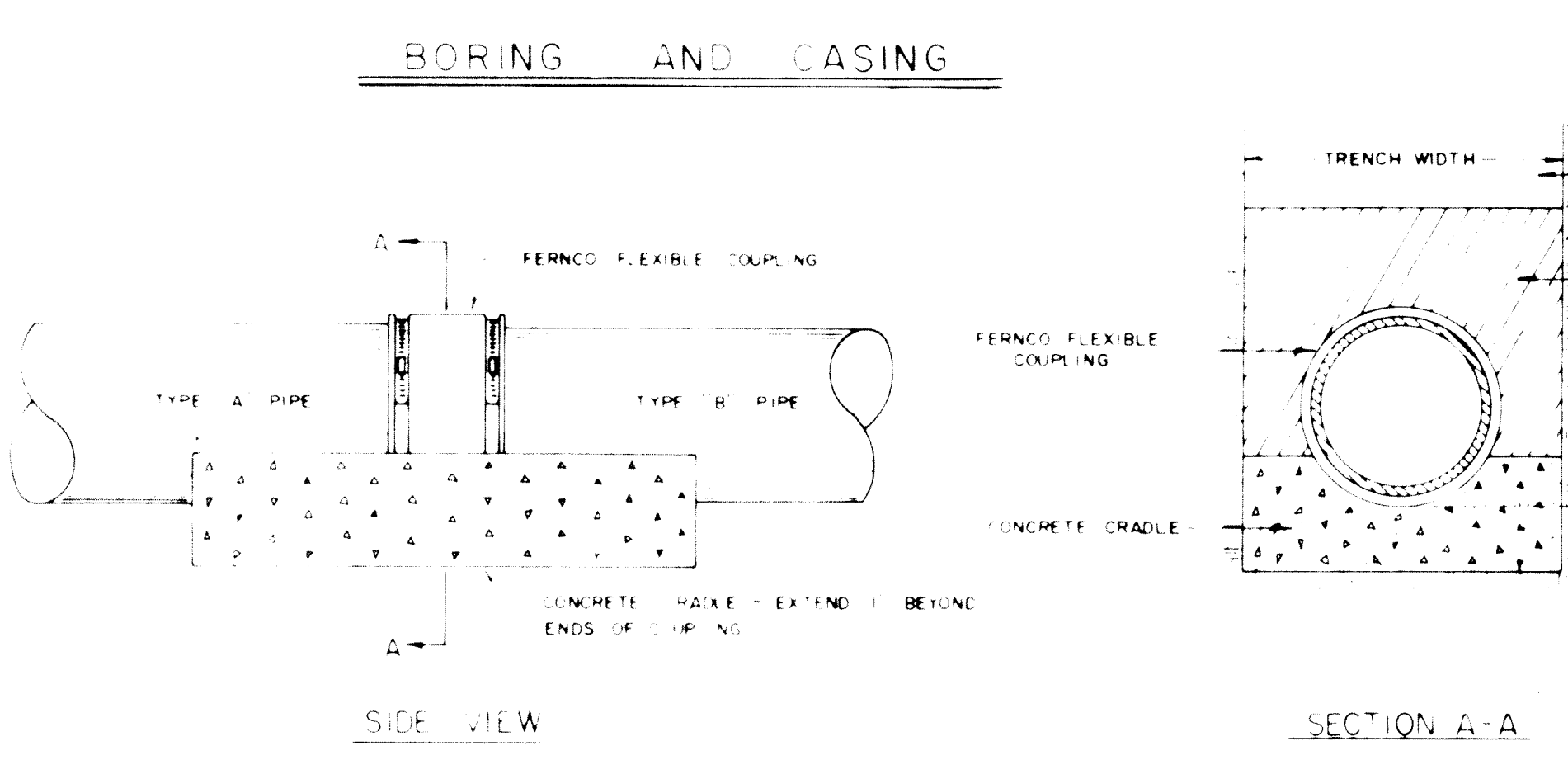
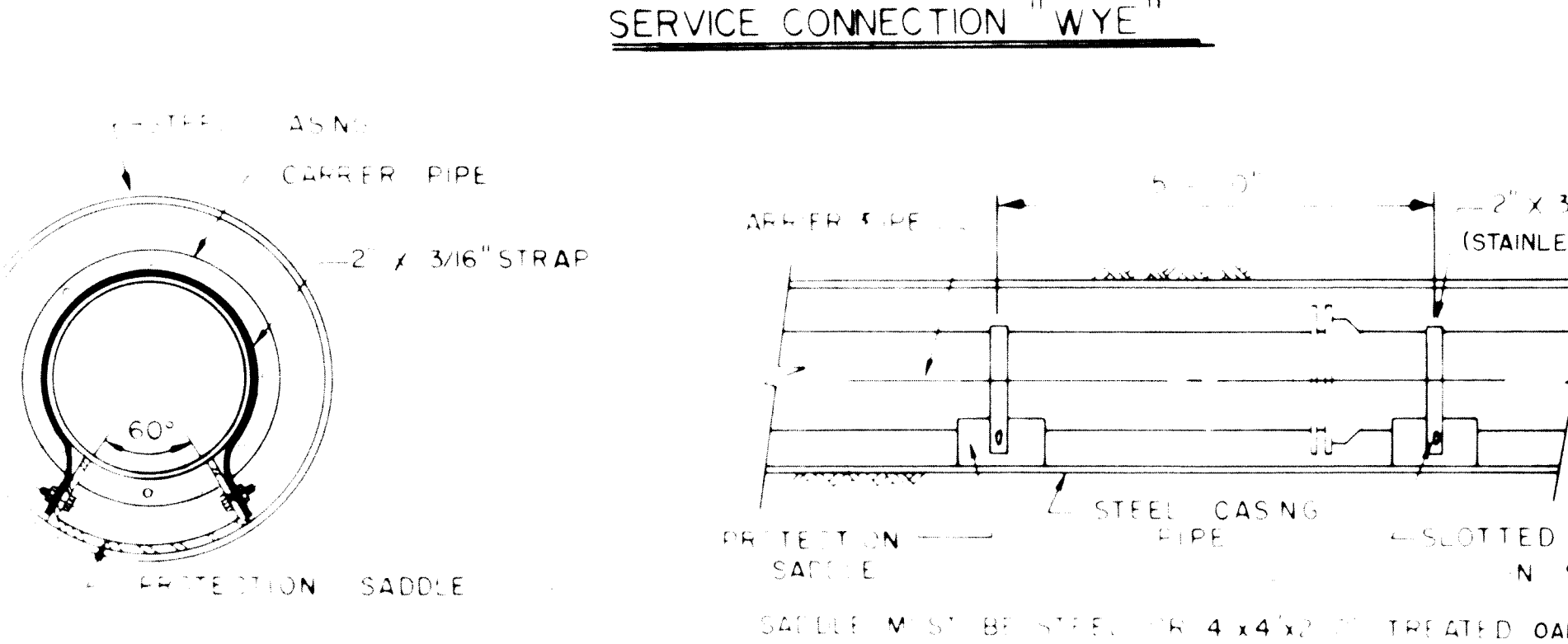
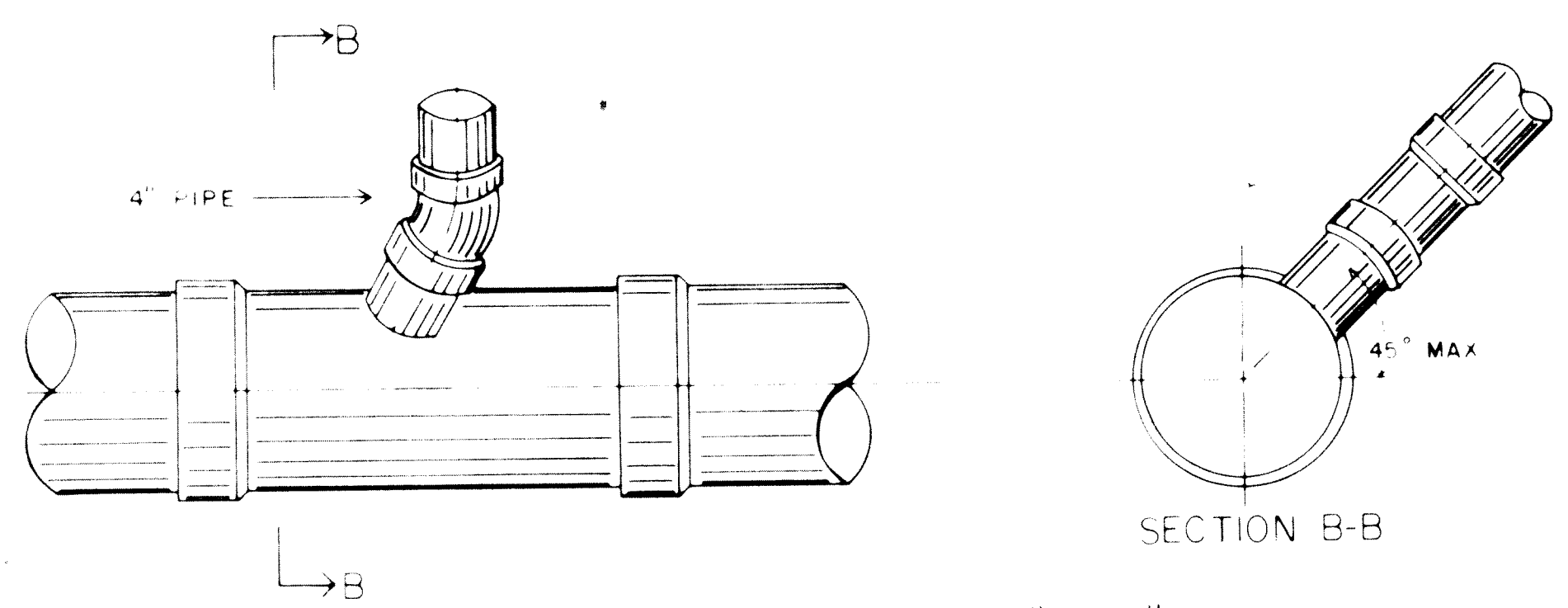
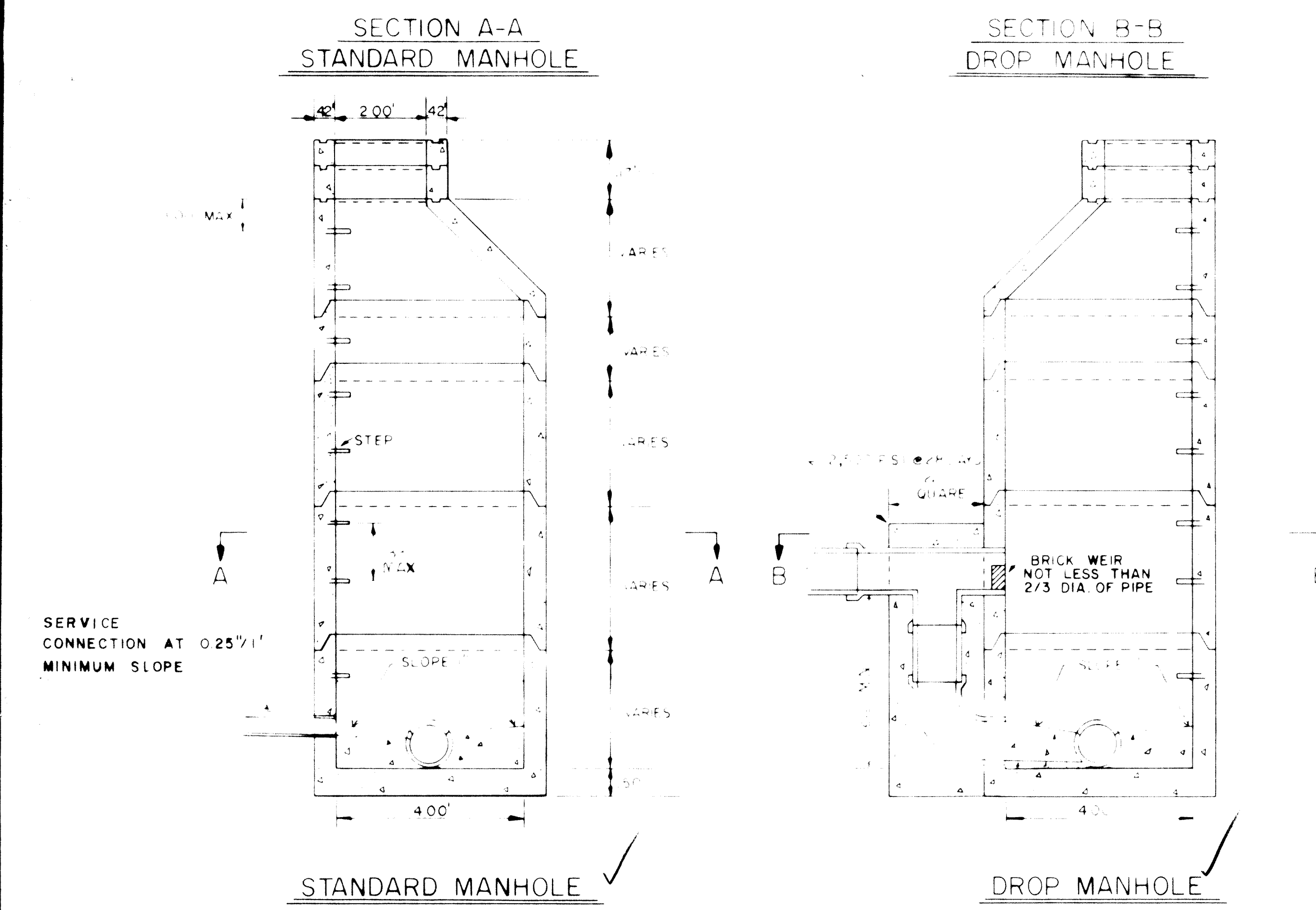
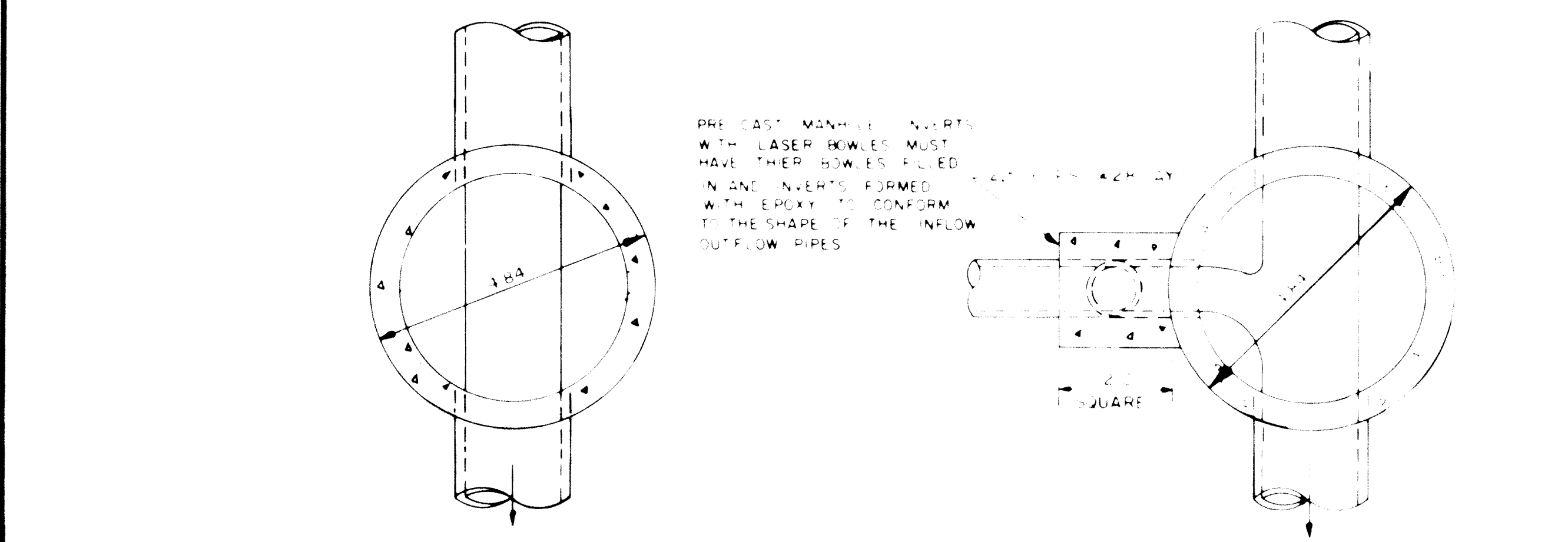
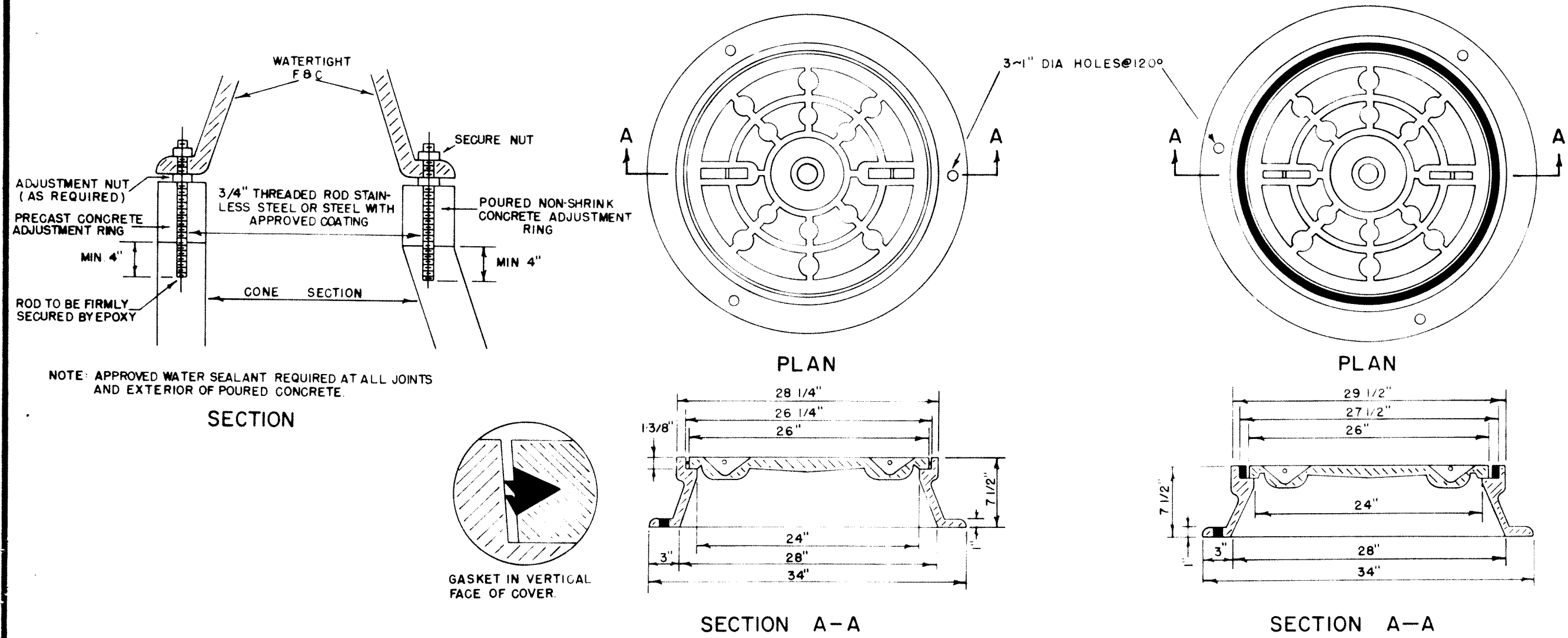
EROSION CONTROL & SEWER
PLANS for
STEEPLECHASE
SECTION 6
OFF-SITE SEWER EXTENSION
SHANKS ASSOCIATES, P.C.
ENGINEERS - SURVEYORS - PLANNERS
313 Luck Avenue
Roanoke, Virginia 24016
(703) 343 6686
DATE: 02/11/93 SCALE: 1" = 100'
JOB NO. 639003
3/14/93
3/19/93
REVISION: 1/26/93
SHEET 4 of 10

SHEET 4 OF 10

MH-RCR-3000 EC	MH-RCR-3000 W
300 lbs. FRAME	262 lbs. FRAME
170 lbs. COVER	170 lbs. COVER
470 lbs. TOTAL *	432 lbs. TOTAL *
* MINIMUM AVERAGE WEIGHTS	

MANHOLE FRAME AND COVER

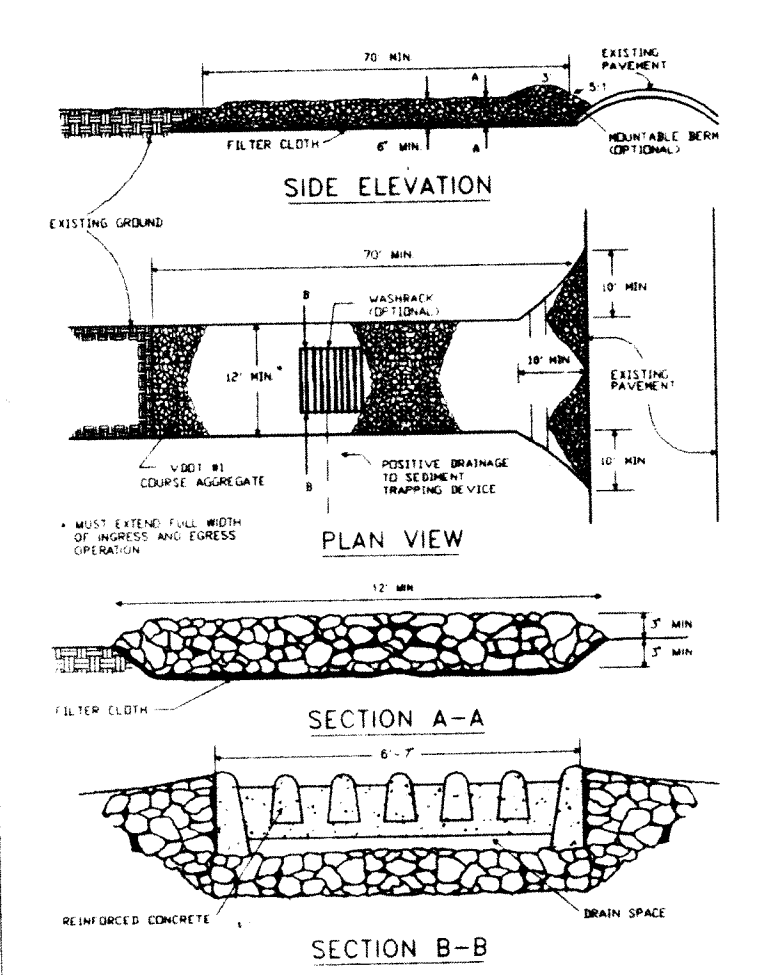
DEWEY BROTHERS, INC. MH-RCR-3000 EC OR EQUIVALENT
 DEWEY BROTHERS, INC. MH-RCR-3000 W OR EQUIVALENT
 (where watertight specified)



SANITARY SEWER DETAILS
SHANKS ASSOCIATES, P.C.
 ENGINEERS • SURVEYORS • PLANNERS
 313 LUCK AVENUE, ROANOKE, VIRGINIA 24011
 (703) 343-6685

GENERAL CONDITIONS	TRENCH STABILIZATION	SEPARATION OF POTABLE WATER AND SANITARY SEWER LINES	BACKFILLING	RESTORATION																																																												
The Contractor shall be responsible for notifying the County of any work to be started on this project. All work shall be subject to inspection by County Inspectors and design engineer. The Contractor shall obtain all necessary permits. The Contractor shall include in applicable bid price the cost of locating and uncovering all sewer manholes and all valve boxes after surface treatment of roads and adjusting them to final road grades. If necessary, the Contractor shall be responsible for cleaning out sewer mains for final inspection, if necessary. The location of existing utilities across or along the line of proposed work is not necessarily shown in the plans and where shown, is approximate. The Contractor shall be responsible for locating and adjusting all underground lines and all structures as necessary. The Contractor shall be responsible for any damage to underground lines and structures. The Contractor shall comply with the State Water Works Regulations, Section 12.05.03 where lines cross. Contractor shall call "Miss Utility" at 1-800-552-7001 prior to construction. Power lines and poles, telephone lines and poles, and all utility owners' instructions. The Contractor is responsible for contacting the utility owners, obtaining the proper protective measures for each individual construction location and for protecting utilities from damage. Any damage caused by the Contractor or the Contractor's construction operations shall be corrected by the Contractor at his expense. Existing roads, shoulders, and ditches shall be protected from damage. Damage resulting from operations under this contract shall be repaired or replaced by the Contractor at his own expense. All trenches within existing or future Virginia Department of Transportation right-of-way shall be compacted in six inch layers. Minimum cover over top of pipe shall be three (3) feet. The Contractor shall notify the County of any field revisions or corrections to the approved plans prior to such construction. All lines to be staked prior to construction. Contractor to coordinate with engineer to provide As-Built Plans. All construction shall be in accordance with approved construction practices of the applicable trades. Unless otherwise specified herein, all construction shall be in accordance with the latest edition of AWWA standards.	Trench stabilization material shall be #2 coarse aggregate as specified in Section 203 of the 1987 Virginia Department of Transportation (VDOT) Road and Bridge Specifications. Wherever excessively wet or unsuitable material is encountered in the trench bottom, such material shall be removed and backfilled with trench stabilization material, which shall be graded to allow for the compacted bedding material. COMPACTED BEDDING MATERIAL Bedding material shall be #57 coarse aggregate, or #25 or #26 Bedding aggregate, each as specified in Section 203 of the 1987 VDOT Road and Bridge Specifications. PIPE, JOINTS, FITTINGS AND APPURTENANCES GENERAL All materials and appurtenances for this work new, top quality, and shall be furnished, delivered, erected, connected, and finished in every detail as specified or indicated. All materials found defective, regardless of the circumstances, shall be replaced with new material at the expense of the Contractor. The materials specified shall comply with the latest revisions of the applicable American Society of Testing Materials (ASTM), American Water Works Association (AWWA), American National Standards Institute (ANSI), and/or the Virginia Department of Transportation (VDOT). OPTIONAL PIPE SELECTIONS The Contractor shall install only one (1) type of pipe between structures. Where existing pipe is to be replaced or extended, the same type of pipe is to be installed. All pipe is to be installed in strict accordance with the recommendations of the manufacturer. Water lines shall be either PVC AWWA C-900 DR 18 (min.) or ductile iron AWWA C104-ANSI 21.10. Joints shall be made with the smaller of Class 51 for 18" diameter and larger, at the Contractor's option, unless specified or indicated otherwise. Sanitary sewer lines shall be either PVC ASTM D-3034 RSM SDN 35 Concrete ASTM C-44, Class 2, or Ductile Iron AWWA C104-ANSI 21.10 (min.) at the Contractor's option, unless specified or indicated otherwise. JOINTS, COUPLINGS, AND APPURTENANCES PVC pipes and fittings shall be bell and spigot type joints. The bell and spigot joint shall be sealed with elastomeric gaskets conforming to ASTM D 3082. The joints shall be in strict accordance with the recommendation of the pipe manufacturer. Ductile iron pipe and fittings shall be either mechanical or bell and spigot type joints as specified or indicated. Fittings shall conform with AWWA C104-ANSI 21.10. Joints shall be made with the smaller of Class 51 for 18" diameter and larger, at the Contractor's option, unless specified or indicated otherwise. Gate valves shall be iron-body, bronze-mounted, double-disc, and shall be installed in valve vaults and equipped with a two inch square operating nut, marked with the word "OPEN" and an arrow and shall open by turning clockwise. Sanitary sewer service connections shall include all four (4) inch diameter pipe as specified or indicated. All other materials and appurtenances are to be in strict accordance with the details shown on the plans and in strict accordance with the recommendation of the manufacturer.	PARALLEL INSTALLATION Water lines shall be laid at least ten (10) feet horizontally from a sewer or sewer manhole whenever possible. Horizontal separation shall be measured outside to outside. Where ten (10) feet of horizontal separation is not practical, the water line shall be at least eighteen (18) inches above the outermost crown of the sewer. (2) The sewer shall be backfilled with approved ductile iron water pipe pressure tested at 50 p.s.i. without leakage prior to backfilling or: (3) the sewer manhole shall be of water-tight construction and tested in place. CROSSING Water lines crossing sewers shall have a vertical separation of at least eighteen (18) inches, measured outside to outside, between the bottom of the water line and the top of the sewer line. Where eighteen (18) inches of vertical separation is not practical, (1) Sewers passing over or under water lines shall be constructed of ductile iron AWWA water pipe and (2) water lines passing under sewers shall be protected by providing (a) vertical separation, measured outside to outside, between the bottom of the sewer pipe and the top of the water line and; (b) adequate structural support for the sewer to prevent excessive deflection of the joints and the settling and breaking of the water line and; (c) the joints for the water line be spaced at equal distance from the crossing point of the sewer. The Contractor shall comply with State Water Works Regulations, Section 12.05.03 where lines cross. WATER MAIN INSTALLATION The water main shall be laid and maintained at the required lines and grades and fittings and valves at the required locations. Deflection of the line of pipe, either in the vertical or horizontal plane, shall not exceed either AWWA standards or the recommendations of the manufacturer. All plugs, except mechanical joint plugs used at connection points for future access, shall be made of ductile iron. Hydraulic assemblies shall be supported by thrust blocking as indicated. Valves for connection of future lines shall be anchored in the water main with rods. DISINFECTION OF WATER MAINS All pipe shall be disinfected, tested, and flushed in accordance with AWWA Standard 2001 latest revision. Contractor shall provide all materials, equipment, and necessary materials and labor for the disinfection and flushing of the water main. No test section of water line shall be approved to deliver water service until a favorable laboratory report has been achieved. Any test section disinfected or otherwise treated shall be repaired by the Contractor at his expense and returned to the original condition within three (3) days of the test. The water main as laid and off section that has been completed and tested, shall be disinfected, tested, and flushed. After testing and before final inspection of the completed system, water mains and service laterals shall be flushed and disinfected in accordance with AWWA Specifications C-900, C-900.1, and C-900.2. The water main shall be flushed at a flow velocity in excess of 2.5 feet per second. Disinfection as described in AWWA C901 shall be used. Five (5) gram chlorine tablets per foot of pipe with 3.25 g available chlorine per tablet shall be attached at the inside top of the pipe by an adhesive such as Permatex No. 1, or equal. The following number of tablets per the given pipe size shall be used for an initial dose at 25 mg/l: chlorine residual. <table><tr><th>Pipe diameter</th><th>Tablets per 10-20 ft. pipe section</th></tr><tr><td>6"</td><td>1</td></tr><tr><td>8"</td><td>2</td></tr><tr><td>10"</td><td>3</td></tr><tr><td>12"</td><td>4</td></tr><tr><td>14"</td><td>5</td></tr><tr><td>16"</td><td>6</td></tr></table> Use of the continuous feed or slug method of disinfecting may only be used to disinfect a water pipe after the initial disinfection. When filling the pipe with the disinfectant, the rate of filling must result in a velocity less than 1 ft./sec. The disinfection solution shall remain in the pipe line for twenty-four (24) hours, after which time a chlorine residual of 1.0 ppm at all points of the line shall be required. Following disinfection, the pipe shall be thoroughly flushed and tested in accordance with the Virginia Waterworks Regulations, Section 12.03.03 and 12.04-12.04.05.	Pipe diameter	Tablets per 10-20 ft. pipe section	6"	1	8"	2	10"	3	12"	4	14"	5	16"	6	GENERAL All material for the compaction of backfill shall be in accordance with the latest revisions of the applicable American Society of Testing Materials (ASTM), American Association of State Highway and Transportation Officials (AASHTO), and Virginia Department of Transportation (VDOT) standards. The expense of obtaining and compacting earth backfill material shall be included in the Contractor's fee. The Contractor shall comply with all Local and State erosion and sediment control ordinances and requirements and approved erosion and sediment control plans and reports pertaining to this project. It is the Contractor's responsibility to obtain copies of the approved plans. Backfilling shall not be done in freezing weather and shall not be accomplished with frozen material. No fill shall be made where the material in the trench is already frozen. The Contractor shall, at all times during the construction, and at its completion for final inspection, keep the trench, excavation, or other parts of the work free from accumulated water. JOB CONDITIONS Prior to placing backfill, all organic material rubbish, debris, or other unsuitable material within the trench shall be removed. All concrete forms shall be removed. All shoring and shelling shall be removed or cut off at the elevation stipulated by the Engineer. Prior to placing backfill, the trench, the installed pipe, inlets, and manholes shall be visually inspected by the Engineer. Backfill material shall be placed in uniform horizontal layers and thoroughly compacted with proper mechanical or hand operated tampers. Backfill material shall be placed and compacted to at least 95 percent compaction, unless otherwise specified. The Contractor shall be responsible for obtaining sufficient strength to withstand the backfill pressure placed upon it. Upon completion of backfilling, all excess soil, stones, and debris shall be disposed on site as directed by the Owner and at no additional expense. BACKFILL MATERIAL Materials for backfill shall be approved excavated material or approved suitable material obtained from other sources. All material shall be approved by a Soil Engineer. Material shall consist of durable natural granular material or granular aggregates free of organic material, loam, debris, and other objectionable material. The material shall be placed in layers which cannot be thoroughly compacted. Backfilling shall be done in such a way to prevent stripping of material directly on top of the pipe through any vertical distance greater than three (3) feet and shall be deposited in horizontal layers. No backfill shall be placed in the trench until the material directly on top of the pipe through any vertical distance greater than three (3) feet and shall be deposited in horizontal layers. No backfill shall be placed in the trench until the material directly on top of the pipe through any vertical distance greater than three (3) feet and shall be deposited in horizontal layers. Excavated rock particles with a diameter of dimension greater than six (6) inches shall be considered unsuitable material. Excessively wet excavated material shall not be used as backfill material. Frozen material shall not be placed in the trench, nor shall approved backfill be placed upon frozen material. Aggregate backfill material, where indicated for trenches below paved or surfaced areas, shall be placed in layers not to exceed standard size 25 or 30 crusher run as specified in Section 206 of the VDOT Road and Bridge Specifications (latest revision). Aggregate backfill in such situation shall be placed in eight (8) inch lifts.	The Contractor shall, at his own expense, clean all refuse, rubbish, scrap material, and debris caused by his operations such that at all times the site shall not be a source of litter and shall present a neat, orderly, and workmanlike appearance. Immediately following the backfilling of the trench, the Contractor shall broom or otherwise clean the surfaces of paved streets. All surplus material shall be removed and disposed of. Final grading shall be done as required to establish the slopes indicated and to prevent low spots and pockets that do not drain. Developed property, such as walks, steps, mailboxes, driveways, culverts and the like, disturbed by the work, shall be restored or replaced to their original condition. Ditches shall be restored to their original shape and depth. The disturbed areas not covered by pavement or structures and all areas disturbed by construction activity shall be fertilized, limed, and seeded in accordance with the rates specified in the Erosion and Sediment Control Plan and Report. Restoration of pavement shall be in accordance with the pavement details indicated. Restoration of underground utilities shall be in accordance with the standards of the utility owner, with respect to labor, equipment, and materials. INSPECTION AND TESTS TESTING OF SANITARY SEWER The Contractor shall repair or replace, at his expense, any length of pipe, manhole, structure, or any material that is found or tested to be defective or deficient during the work or within one (1) year after the work has been completed. The Contractor shall prove watertightness of the sewer system or portions thereof by low pressure air testing. Test shall be made only in the presence of the County Engineer and the Engineer. The Contractor shall furnish all labor and equipment required for the test and shall make repairs necessary until test results are satisfactory. The testing equipment, procedure, and results will be subject to compliance with ASTM designation C-896, current edition. The air test is to be conducted between two (2) consecutive manholes. The test equipment shall consist of two (2) plugs (one tapered and one flat for inlet connection), a current air valve, a pressure regulating valve, a pressure reduction valve, a monitoring pressure gauge having a pressure range from 0 to 5 p.s.i., graduated in 0.1 psi with an accuracy of +0.04 psi. The test equipment shall be set up outside the manhole for easy access and reading. Air shall be supplied to the test slowly and shall be regulated to prevent the pressure inside the pipe from exceeding 5.0 p.s.i. The pipeline shall be filled until a constant internal pressure shall be maintained at 3.5 p.s.i. or higher above for a five minute stabilization period, after which time the internal pressure will be adjusted to 3.5 p.s.i. The air supply and the test began. For safety purposes, no person shall remain in the manhole while the pipe is being pressurized or throughout the test. Should the pressure drop 1.0 psi in less time than that specified below, the test segment shall have failed. If the pressure drop for the pressure to drop 1.0 psi is greater than that shown, the sewer segment shall have passed. For a more detailed description of the air test method, refer to ASTM designation C-896, current revision. An air pressure correction shall be required when the prevailing groundwater is above the sewer line being tested and shall be calculated as follows: (Groundwater Depth (ft)/2.31) + 3.5 = starting test pressure Ending test pressure = starting test pressure + 1.0 psi AIR TEST TABLE <table><tr><th>LENGTH OF TEST SEGMENT</th><th>PIPE DIAMETER</th><th>6"</th><th>8"</th></tr><tr><td>25</td><td>0.10</td><td>0.18</td></tr><tr><td>50</td><td>0.20</td><td>0.35</td></tr><tr><td>75</td><td>0.30</td><td>0.53</td></tr><tr><td>100</td><td>0.40</td><td>1.10</td></tr><tr><td>125</td><td>0.50</td><td>1.20</td></tr><tr><td>150</td><td>0.59</td><td>1.46</td></tr><tr><td>175</td><td>1.09</td><td>2.03</td></tr><tr><td>200</td><td>1.19</td><td>2.21</td></tr><tr><td>225</td><td>1.29</td><td>2.38</td></tr><tr><td>250</td><td>1.39</td><td>2.56</td></tr><tr><td>275</td><td>1.49</td><td>3.14</td></tr><tr><td>300</td><td>1.59</td><td>3.31</td></tr><tr><td>325</td><td>2.19</td><td>3.47</td></tr><tr><td>350</td><td>2.38</td><td></td></tr></table> TEST FOR DISPLACEMENTS OF BURIED SANITARY SEWERS: AFTER THE TRENCH HAS BEEN BACKFILLED AND COMPACTED AND COVER OVER THE PIPELINE HAS BEEN BROUGHT TO FINISHED GRADE, THE PIPELINE SHALL BE TESTED AS FOLLOWS: LIGHT WILL BE FLASHED BETWEEN MANHOLES; OR, IF MANHOLES HAVE NOT YET BEEN CONSTRUCTED, BETWEEN THE LOCATIONS OF THE MANHOLES, BY MEANS OF A FLASHLIGHT OR BY REFLECTING SUNLIGHT WITH A MIRROR. POOR ALIGNMENT, DISPLACED PIPE, OR OTHER DEFECTS SHALL BE REMEDIED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. Manholes shall be tested by infiltration by plugging lines with inflatable stoppers and filling the manhole with water for a twelve hour soak period. Leakage shall not exceed one-half gallon per hour in the one hour test period following the soak period. An approved air test for manholes will also be considered. TESTS FOR DEFLECTION SHALL BE MADE WITH A DEFLECTOMETER THAT PRODUCES A CONTINUOUS RECORD OF PIPE DEFLECTION, OR BY PULLING A MANROPE, SPHERE, OR PIN-TYPE GO/NO-GO DEVICE THROUGH THE PIPELINE.	LENGTH OF TEST SEGMENT	PIPE DIAMETER	6"	8"	25	0.10	0.18	50	0.20	0.35	75	0.30	0.53	100	0.40	1.10	125	0.50	1.20	150	0.59	1.46	175	1.09	2.03	200	1.19	2.21	225	1.29	2.38	250	1.39	2.56	275	1.49	3.14	300	1.59	3.31	325	2.19	3.47	350	2.38	
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EXCAVATION, STABILIZATION & BEDDING TRENCHING The Contractor shall comply with the latest revisions of the Virginia Occupational Safety and Health Standards for the Construction Industry as adopted by the Safety and Health Codes Commission of Virginia. The materials and methods of construction required for trench stabilization and pipe bedding shall be in accordance with the latest revisions of the applicable Virginia Department of Transportation and American Society for Testing Materials standards. The Contractor shall excavate all materials encountered to the lines and grades indicated and the trenches and ditches detailed on the drawings along the alignments shown. Excavation, unless otherwise specified, shall be open cut. The Contractor shall open no more than two hundred (200) feet of trench in advance of the laying of pipe unless approved by the Engineer. Any water that accumulates in the trenches shall be removed promptly. Trenches shall be excavated in straight lines and shall be accurately graded in order to establish a true elevation for the invert of the pipe. The width of trenches, from existing grade to one (1) foot above the top of the pipe shall be of sufficient width to permit the proper installation of bracing, shoring or shelling. The sides of the trenches shall be excavated as vertical as practical. Excavation for structures shall be sufficient to leave at least twelve (12) inches clearance between the structure and the sides of the trench or any required bracing, shoring or shelling. The trench bottom shall be excavated to provide a firm, stable, and uniform support for the full length of pipe. Any part of the trench bottom excavated below the required grade shall be backfilled to grade and compacted to provide firm pipe support. Loose rock, boulders, and large stones shall be removed to provide six (6) inches of soft cushion or improved bedding on all sides of the pipe, including the bottom and on all sides of structures. When an unacceptable subgrade material is encountered which will provide inadequate pipe support, additional trench depth shall be excavated and refilled with trench stabilization material. The bottom of trenches for gravity pipelines shall be excavated to a minimum overlap of four (4) inches below the bottom of the pipe to provide for improved pipe bedding material for the entire length of the pipeline, including service connections, except in bedding, where bedding shall be six inches deep. The bedding shall be shaped so that the bottom quadrant of the pipe lies on the bed. Excavated materials suitable for backfill shall be stockpiled in an orderly manner at a sufficient distance from the sides of the trench in order to avoid overloading the banks of the trench and to prevent slides or cave-ins. Unless otherwise directed by the owner or engineer, surplus excavated material shall be removed from the site and disposed of by the Contractor, at his own expense.		SANITARY SEWER INSTALLATION The installation of the sanitary sewer system shall begin at the downstream manhole and proceed upstream. The downstream sections shall be compacted, tested, and approved prior to placing sanitary sewer pipe in the system. The pipe shall be installed in accordance with the pipe manufacturer's recommendations and as directed by the Engineer. The pipe shall be laid in true straight lines with the bell ends upstream and with the invert of the pipe being in the true elevation and grade of the system. The Contractor shall be responsible for establishing and maintaining the horizontal and vertical alignment of the system in accordance with the survey measurements and plans. The horizontal alignment of the pipe shall be maintained by a transit or theodolite plumbed over the center of the downstream manhole. The vertical alignment shall be maintained by an adjustable level held mounted at the invert of the downstream manhole with a target(s) placed at the bell end of the pipe being laid. DETECTION TAPE SHALL BE PLACED 8" (24" ABOVE ALL SEWER MAINS & LATERALS JOINTING The sanitary sewer system shall be laid and joined complete-in-place in order that each length and section of pipe between the manholes have a smooth and uniform invert. The previous joint shall have been completed and the entire length of pipe shall be well bedded and firmly backfilled before jointing another length of pipe. Bell joints shall be dug of sufficient size to insure proper jointing. The Contractor shall not use excavation equipment to push the pipe into the home position, unless approved by the Engineer, and then only for one length of pipe at a time. Joints for pipes of different materials shall either be made at manholes or with standard adapter fittings. The Contractor shall join the pipe as recommended by the pipe manufacturer in order to obtain the degree of watertightness required. The use of lubricants, primers, adhesives, and similar materials shall be as recommended by the manufacturer. The pipe shall be connected to manholes through precast openings and joined with either a flexible boot adapter or pipe seal gasket.	SHANKS ASSOCIATES, P.C. ENGINEERS SURVEYORS PLANNERS 313 LUCK AVENUE ROANOKE, VIRGINIA 24015 (703) 343-6685 STEEPLECHASE SECTION 6 UTILITY SPECIFICATIONS <table><tr><th>DATE: 02/16/93</th><th>REVISIONS:</th><th>JOB NO: 693003</th></tr><tr><td>SCALE: N/A</td><td></td><td></td></tr><tr><td>DESIGNED:</td><td></td><td>SHEET 9 OF 10</td></tr><tr><td>DRAWN: FOS</td><td></td><td></td></tr><tr><td>CHECKED: FOS</td><td></td><td></td></tr></table>	DATE: 02/16/93	REVISIONS:	JOB NO: 693003	SCALE: N/A			DESIGNED:		SHEET 9 OF 10	DRAWN: FOS			CHECKED: FOS																																																
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STONE CONSTRUCTION ENTRANCE

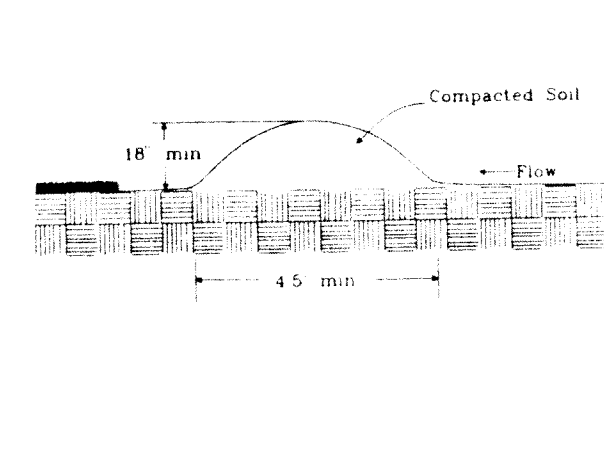


STD & SPEC 3.02

TEMPORARY STONE CONSTRUCTION ENTRANCE



TEMPORARY DIVERSION DIKE

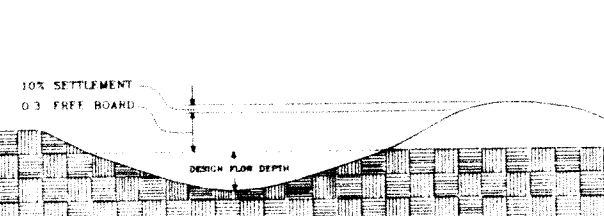


STD & SPEC 3.09

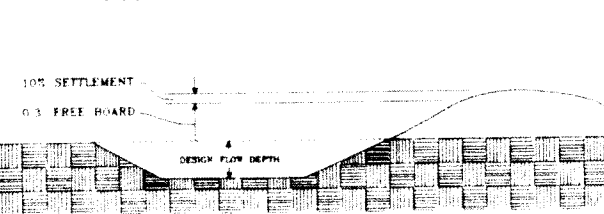
TEMPORARY DIVERSION DIKE



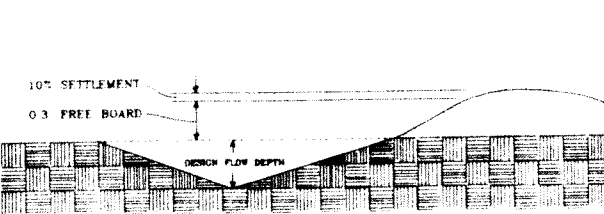
DIVERSIONS



TYPICAL PARABOLIC DIVERSION



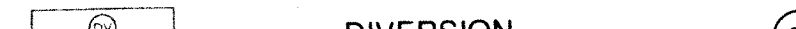
TYPICAL TRAPEZOIDAL DIVERSION



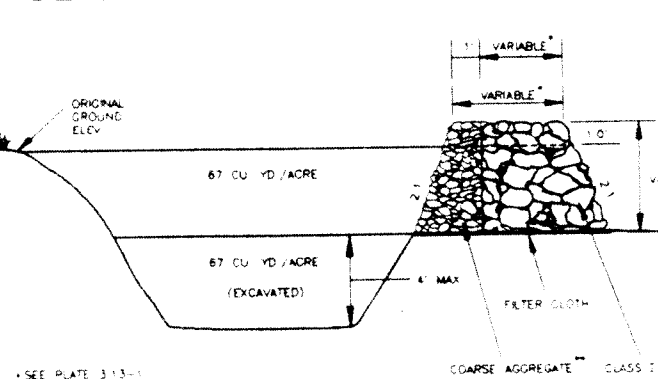
TYPICAL VEE-SHAPED DIVERSION

STD & SPEC 3.12

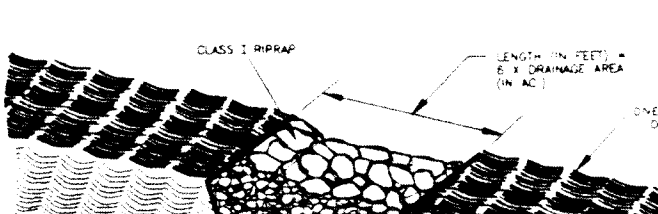
DIVERSION



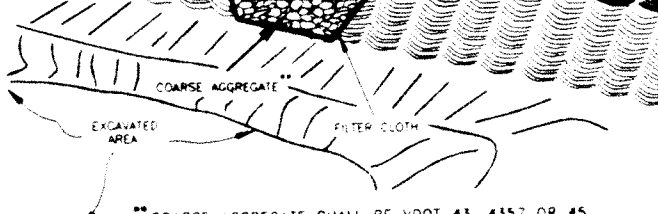
TEMPORARY SEDIMENT TRAP



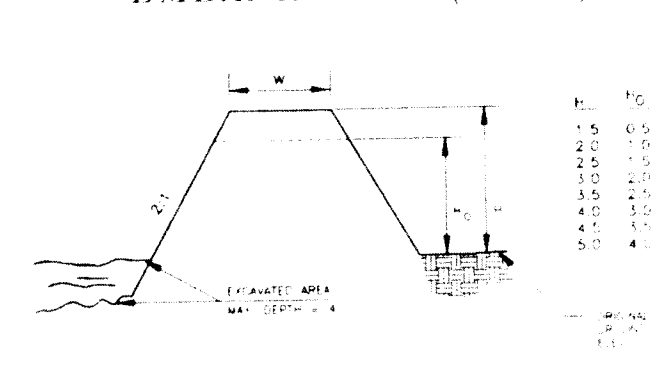
CROSS SECTION OF OUTLET



OUTLET (PERSPECTIVE VIEW)



MINIMUM TOP WIDTH (W) REQUIRED FOR SEDIMENT TRAP EMBANKMENTS ACCORDING TO HEIGHT OF EMBANKMENT (FEET)

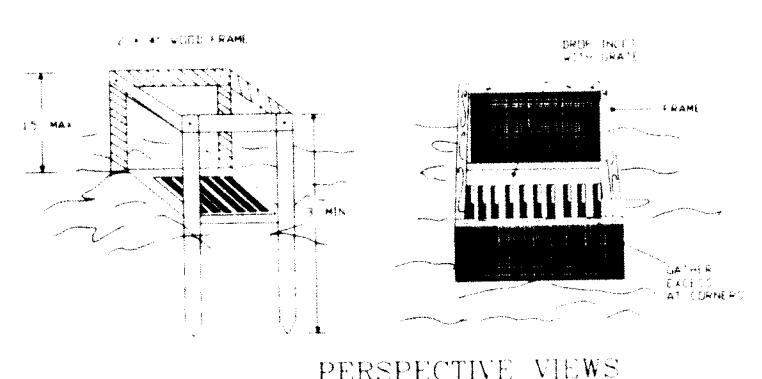


STD & SPEC 3.13

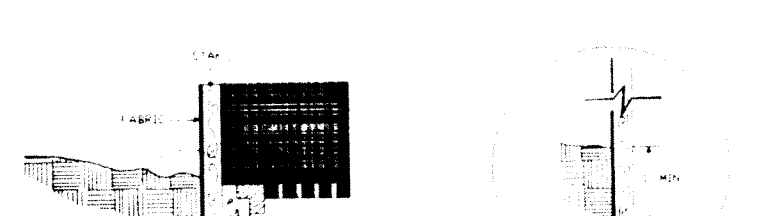
TEMPORARY SEDIMENT TRAP



SILT FENCE DROP INLET PROTECTION



PERSPECTIVE VIEWS



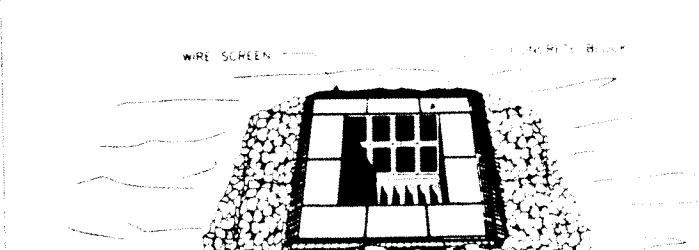
ELEVATION OF STAKE AND FABRIC ORIENTATION



SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET DRAINAGE AREA IS GREATER THAN 1/2 ACRE AND THE INLET DRAINAGE AREA IS GREATER THAN 1/2 ACRE. THE METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET DRAINAGE AREA IS GREATER THAN 1/2 ACRE AND THE INLET DRAINAGE AREA IS GREATER THAN 1/2 ACRE.

BLOCK AND GRAVEL DROP INLET SEDIMENT FILTER

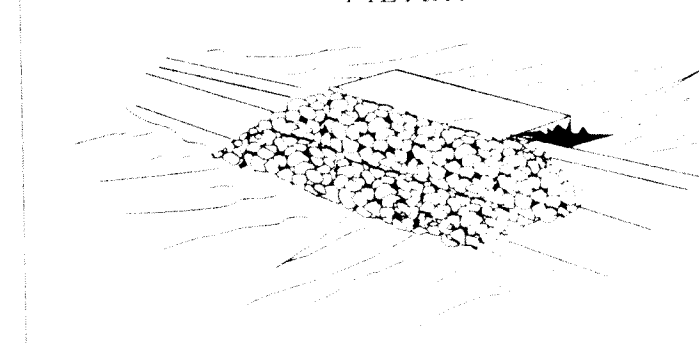


SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY FLOWS ARE EXPECTED AND WHERE AN OVERFLOW CAPACITY IS NECESSARY TO PREVENT EXCESSIVE PONDING AROUND THE STRUCTURE.

* GRAVEL SHALL BE VDOT #3 #57 OR #5 COARSE AGGREGATE.

GRAVEL CURB INLET SEDIMENT FILTER

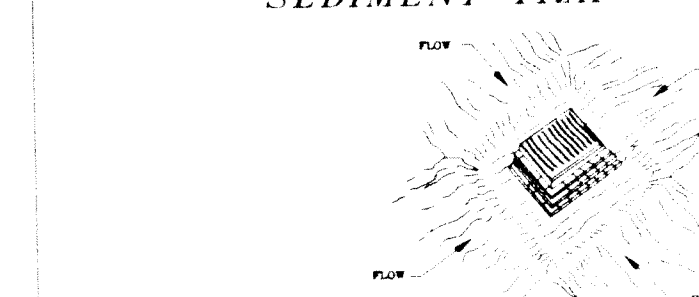


SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE AT CURB INLETS WHERE PONDING IN FRONT OF THE INLET DRAINAGE AREA IS AN OBSTACLE OR DANGEROUS TO ADJACENT DRIVEWAYS AND PARKING AREAS.

* GRAVEL SHALL BE VDOT #3 #57 OR #5 COARSE AGGREGATE.

EXCAVATED DROP INLET SEDIMENT TRAP



SPECIFIC APPLICATION

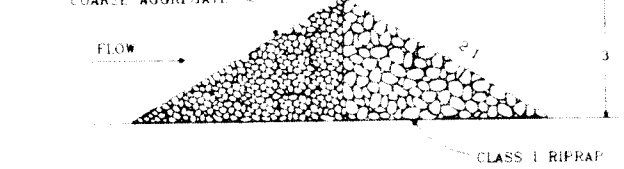
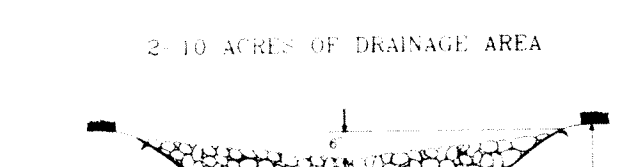
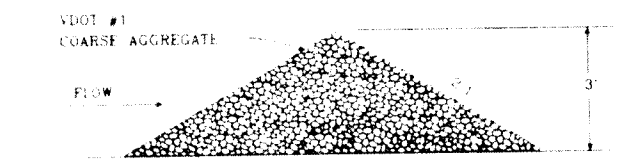
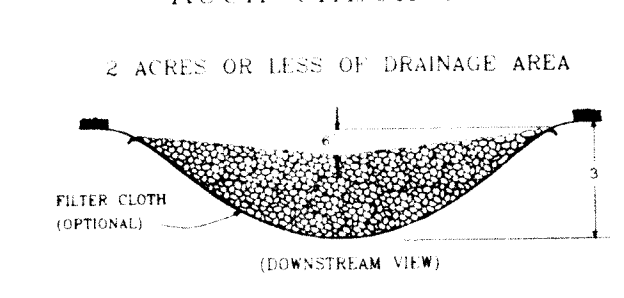
THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY FLOWS ARE EXPECTED AND WHERE AN OVERFLOW CAPACITY AND EASE OF MAINTENANCE ARE DESIRABLE.

STD & SPEC 3.07

STORM DRAIN INLET PROTECTION



ROCK CHECK DAM

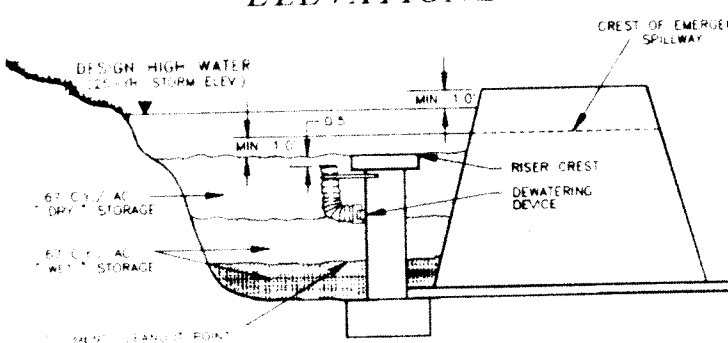


STD & SPEC 3.20

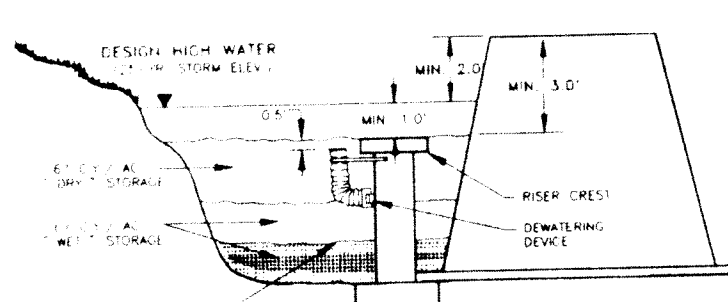
ROCK CHECK DAMS



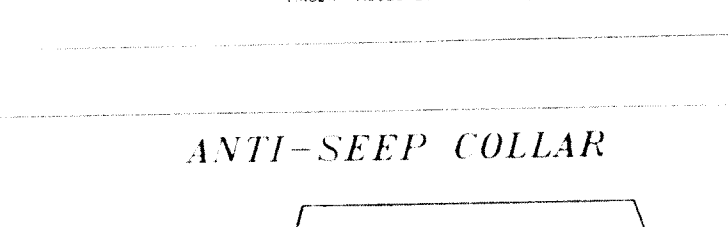
SEDIMENT BASIN SCHEMATIC ELEVATIONS



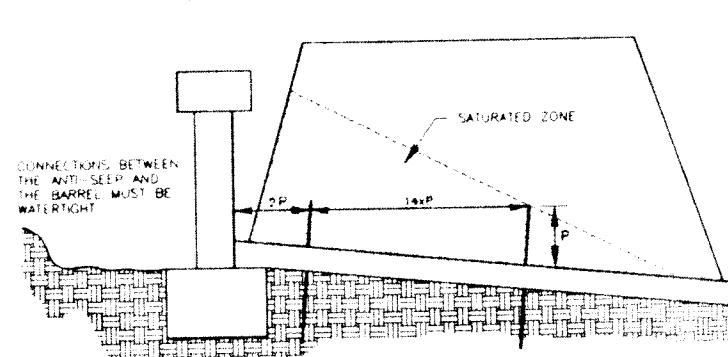
DESIGN ELEVATIONS WITH EMERGENCY SPILLWAY



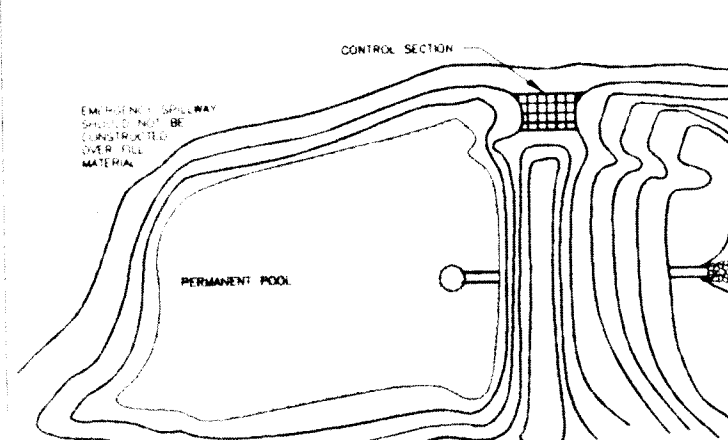
DESIGN ELEVATIONS WITHOUT EMERGENCY SPILLWAY



ANTI-SEEP COLLAR



EMERGENCY SPILLWAY

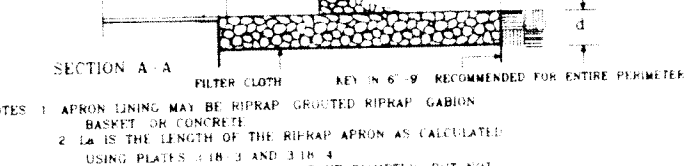
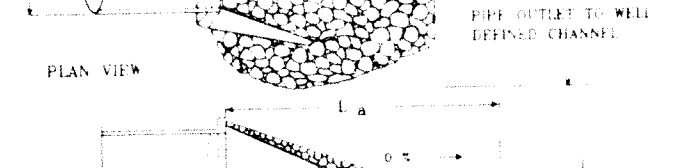
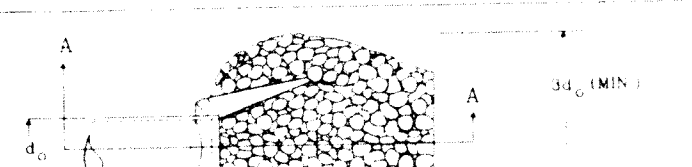
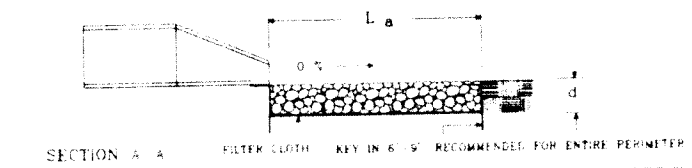
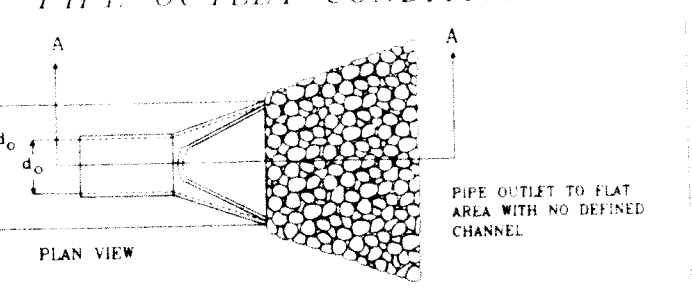


STD & SPEC 3.14

TEMPORARY SEDIMENT BASIN



PIPE OUTLET CONDITIONS

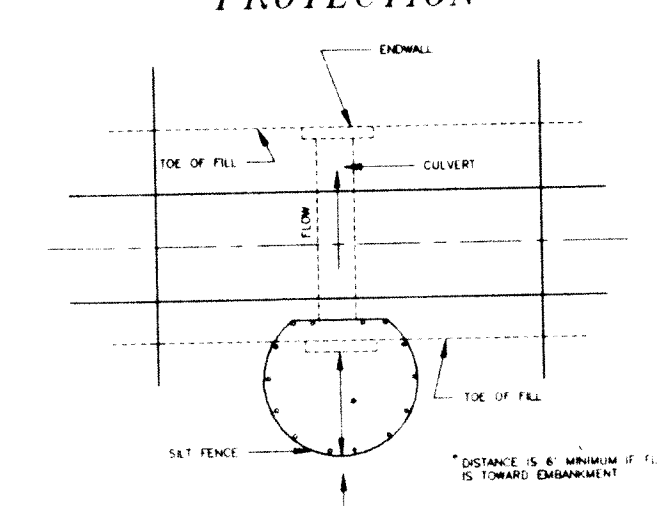


STD & SPEC 3.18

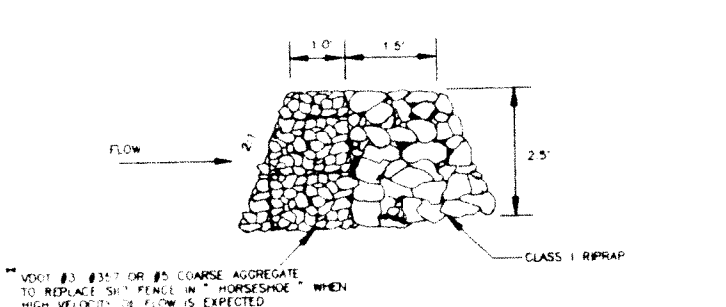
OUTLET PROTECTION



SILT FENCE CULVERT INLET PROTECTION

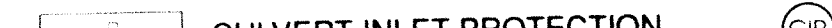


OPTIONAL STONE COMBINATION



STD & SPEC 3.08

CULVERT INLET PROTECTION



GENERAL NOTES

1. All Erosion and Sediment Control Practices and Procedures shall be in accordance with the latest edition of the Virginia Erosion and Sediment Control Handbook.
2. Owner/Developer grants Right of Entry to county personnel for the purpose of monitoring compliance with the Code of Virginia, Erosion and Sediment Control Law (Title 21, Chapter 1, Article 6).
3. Building permits will not be issued until the initial Erosion and Sediment Control measures reflected in the approved plans have been properly installed.
4. Erosion and Sediment Control measures shall be inspected after each rainfall and daily during periods of prolonged rainfall. Maintenance is the responsibility of the developer.
5. All Erosion and Sediment Controls shall be in place prior to clearing, stripping of topsoil, or grading.
6. All details are from the Virginia Erosion and Sediment Control Handbook. The handbook shall supplant this sheet, should a discrepancy exist.

No Sewer Review

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EROSION AND SEDIMENT CONTROL DETAILS	
PLAN NAME: STEEPCHASE SECTION 16	
OWNER: A.R. OVERBAY	
DEVELOPER: A.R. OVERBAY	
ENGINEER:	
ARCHITECT:	
INSTITUTIONAL DISTRICT:	
DATE: 1/93	
VCE No. 042003	
SHEET: 10 of 10	