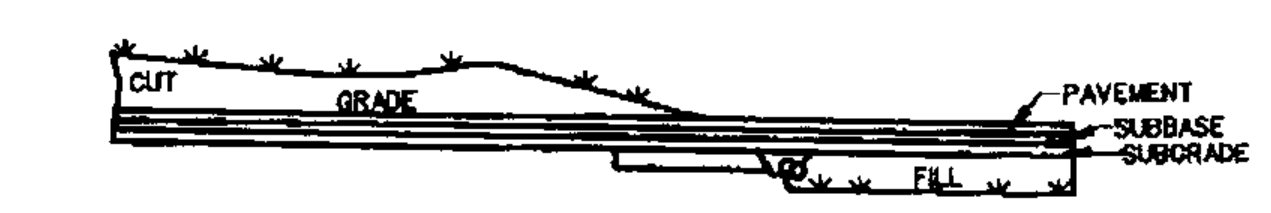
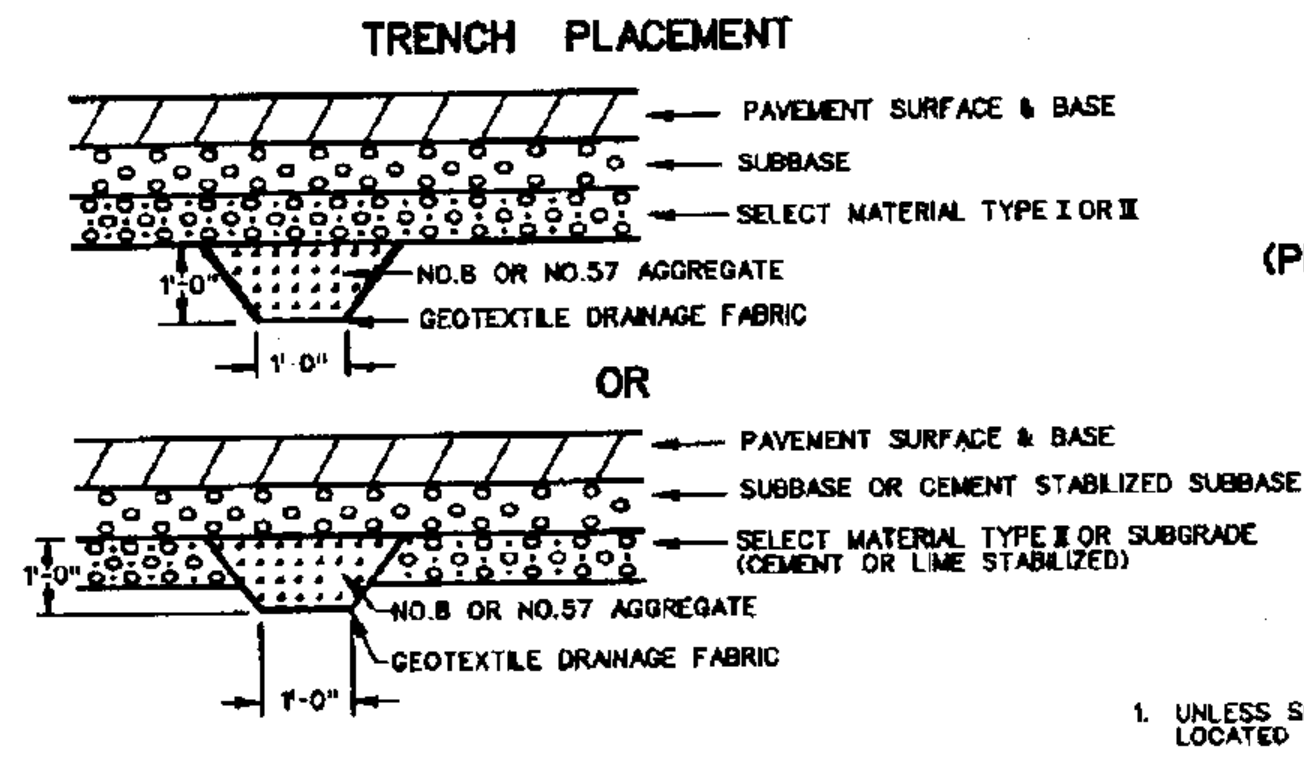
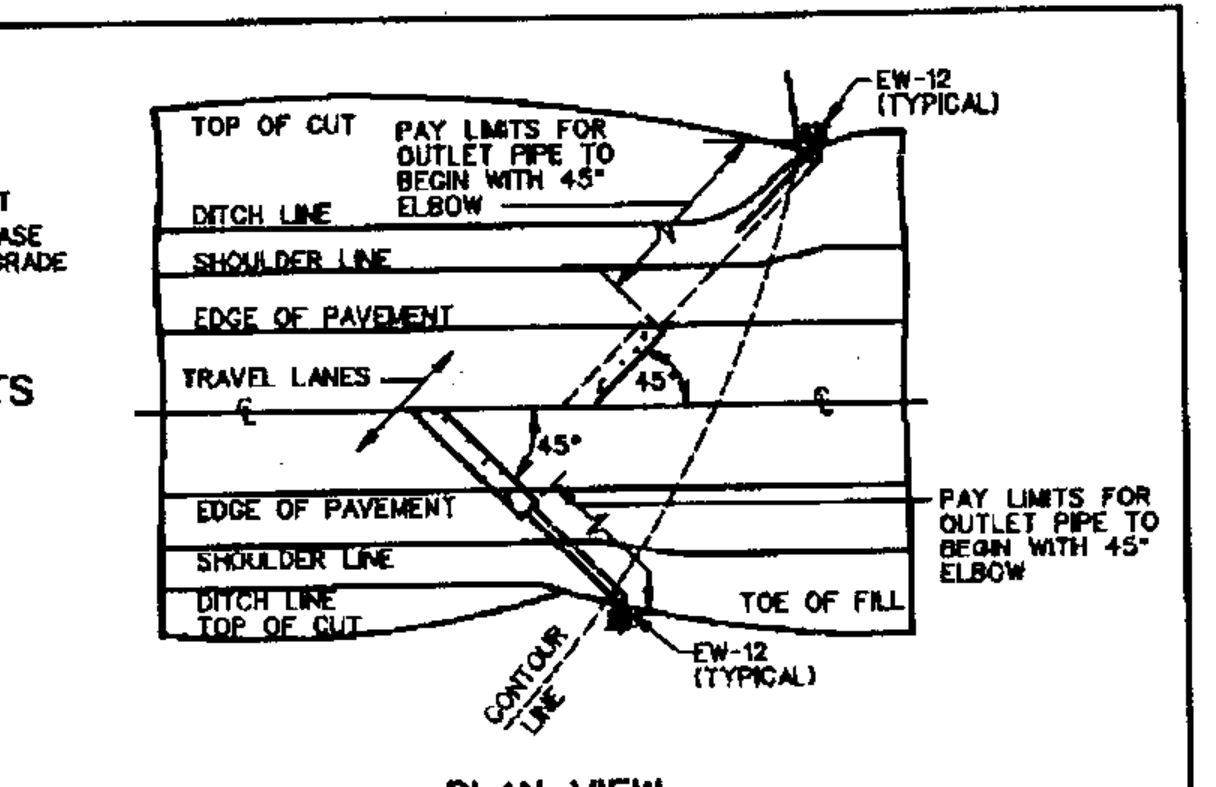
CD-1


CUT
GRADE
PAVEMENT
SUBBASE
SUBGRADE
FILL

COMBINATION UNDERDRAIN CD-1 AT LOWER END OF CUTS
CENTER LINE SECTION
(WITH TYPE 1 SELECT MATERIAL)

TRENCH PLACEMENT


PAVEMENT SURFACE & BASE
SUBBASE
SELECT MATERIAL TYPE I OR II
NO.8 OR NO.57 AGGREGATE
GEOTEXTILE DRAINAGE FABRIC
1'-0"
1'-0"
OR
PAVEMENT SURFACE & BASE
SUBBASE OR CEMENT STABILIZED SUBBASE
SELECT MATERIAL TYPE II OR SUBGRADE (CEMENT OR LIME STABILIZED)
NO.8 OR NO.57 AGGREGATE
GEOTEXTILE DRAINAGE FABRIC
1'-0"
1'-0"


TOP OF CUT
PAY LIMITS FOR OUTLET PIPE TO BEGIN WITH 45° ELBOW
EW-12 (TYPICAL)
DITCH LINE
SHOULDER LINE
EDGE OF PAVEMENT
TRAVEL LANES
45°
45°
EDGE OF PAVEMENT
SHOULDER LINE
DITCH LINE
TOP OF CUT
TOE OF FILL
PAY LIMITS FOR OUTLET PIPE TO BEGIN WITH 45° ELBOW
EW-12 (TYPICAL)
CONTOUR LINE

PLAN VIEW
(PLACEMENT OF CD-1 COMBINATION UNDERDRAIN)

NOTE: UNDERDRAIN OUTFALLS SHALL BE LOCATED UNDER THE CURB AND GUTTER.

NON-PERFORATED OUTLET PIPE

TYPE OF PIPE	CRUSHING STRENGTH			
	✱ W.T.	4" NOM. DIAMETER	✱ W.T.	6" NOM. DIAMETER
CORRUGATED ALUMINUM			0.048	
SMOOTH WALL PVC	.103		0.153	
SMOOTH WALL PE		70 PSI ✱✱✱		70 PSI ✱✱✱

✱ WALL THICKNESS (MIN) - INCHES
✱✱✱ TESTED ACCORDING TO ASTM D-2412 AT 5% DEFLECTION.

GENERAL NOTES

1. UNLESS SPECIFICALLY INDICATED, COMBINATION UNDERDRAIN WILL NOT BE LOCATED AT THIS POINT WHEN BOTH SUBBASE AND SUBGRADE ARE STABILIZED.
2. TRENCH SHALL BE FILLED WITH AGGREGATE AND THROUGHLY HAND TAMPED TO INSURE COMPACTNESS.
3. OUTLET PIPE SHALL BEGIN AT THE EDGE OF THE TRAVEL LANE PAVEMENT AND SHALL BE PLACED ON A GRADE PARALLEL TO THE SHOULDER SLOPE 2% MIN. (3% DESIRABLE) GRADE.
4. ON CURB AND GUTTER SECTIONS, WHERE IT IS IMPOSSIBLE TO OTHERWISE PROVIDE OUTLETS FOR UNDERDRAINS, THEY ARE TO BE LOCATED SO AS TO DRAIN INTO DROP INLETS OR MANHOLES.
5. ON SUPERELEVATED SECTIONS, TRENCH IS TO BE UNDER ENTIRE PAVEMENT AREA WITH OUTLET PIPE ON LOW SIDE ONLY.
6. INVERT ELEVATION AT OUTLET END OF OUTLET PIPE TO BE A MINIMUM OF 1'-0" ABOVE INVERT ELEVATION OF RECEIVING DRAINAGE DITCH OR STRUCTURE.
7. ALL CONNECTIONS (ELBOWS, WYES, ETC.) WITHIN PAY LIMITS FOR OUTLET PIPE ARE TO BE OF THE SAME CRUSHING STRENGTH AS THE OUTLET PIPE.
8. OUTLET PIPE TO BE SECURELY CONNECTED TO EW-12 OR OTHER DRAINAGE STRUCTURE.

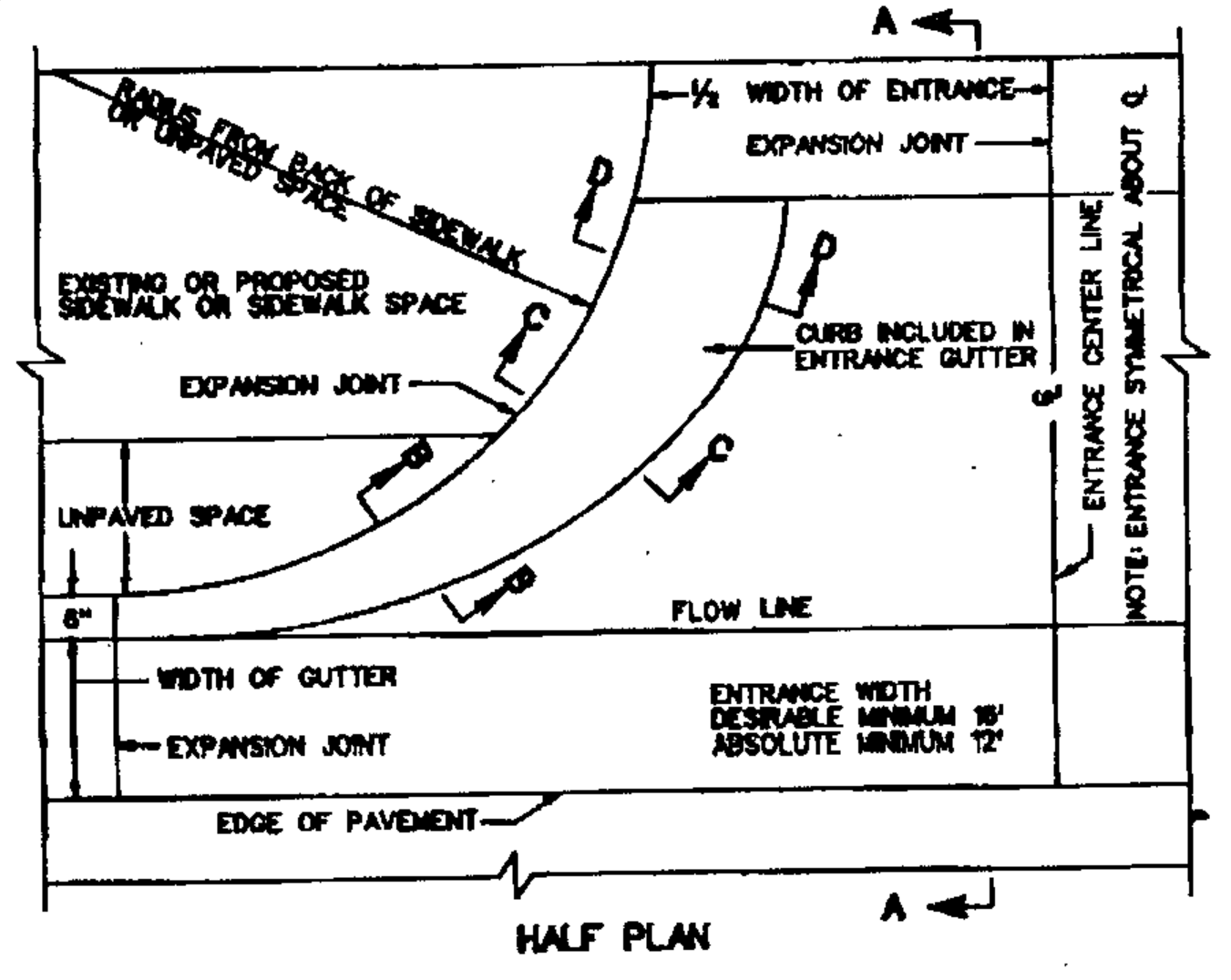
STANDARD COMBINATION UNDERDRAIN (AT LOWER END OF CUTS)

VIRGINIA DEPARTMENT OF TRANSPORTATION

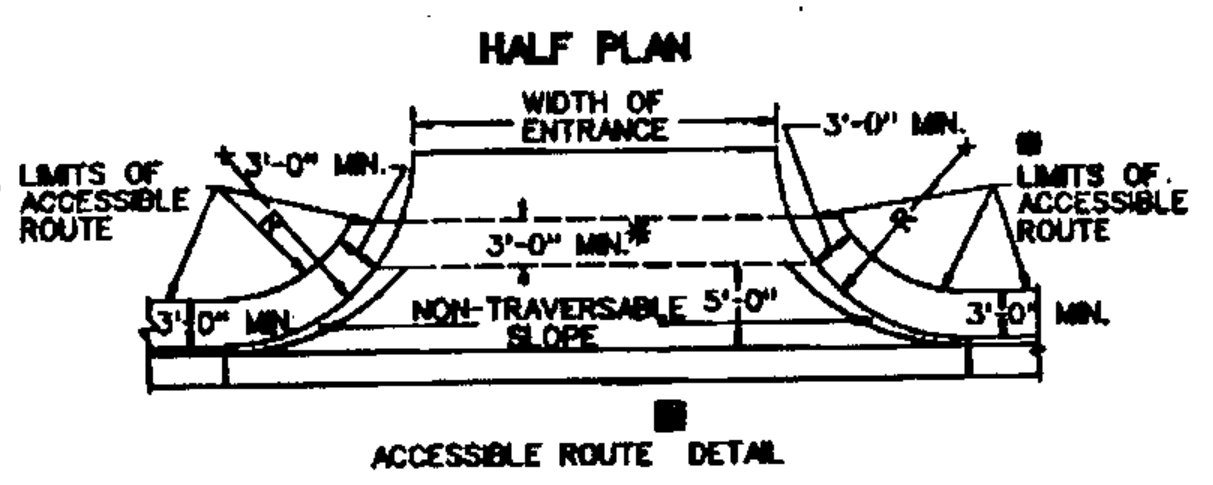
SPECIFICATION REFERENCE
232
501
701

106.04

CG-9D


A
½ WIDTH OF ENTRANCE
EXPANSION JOINT
RADIUS FROM BACK OF SIDEWALK OR UNPAVED SPACE
EXISTING OR PROPOSED SIDEWALK OR SIDEWALK SPACE
EXPANSION JOINT
D
C
D
C
B
B
CURB INCLUDED IN ENTRANCE GUTTER
UNPAVED SPACE
8"
FLOW LINE
WIDTH OF GUTTER
EXPANSION JOINT
EDGE OF PAVEMENT
ENTRANCE WIDTH DESIRABLE MINIMUM 16' ABSOLUTE MINIMUM 12'
ENTRANCE CENTER LINE
NOTE: ENTRANCE SYMMETRICAL ABOUT ℄
HALF PLAN
A

HALF PLAN


WIDTH OF ENTRANCE
3'-0" MIN.
3'-0" MIN.
3'-0" MIN.
LIMITS OF ACCESSIBLE ROUTE
LIMITS OF ACCESSIBLE ROUTE
3'-0" MIN.
NON-TRAVERSABLE SLOPE
5'-0"
3'-0" MIN.

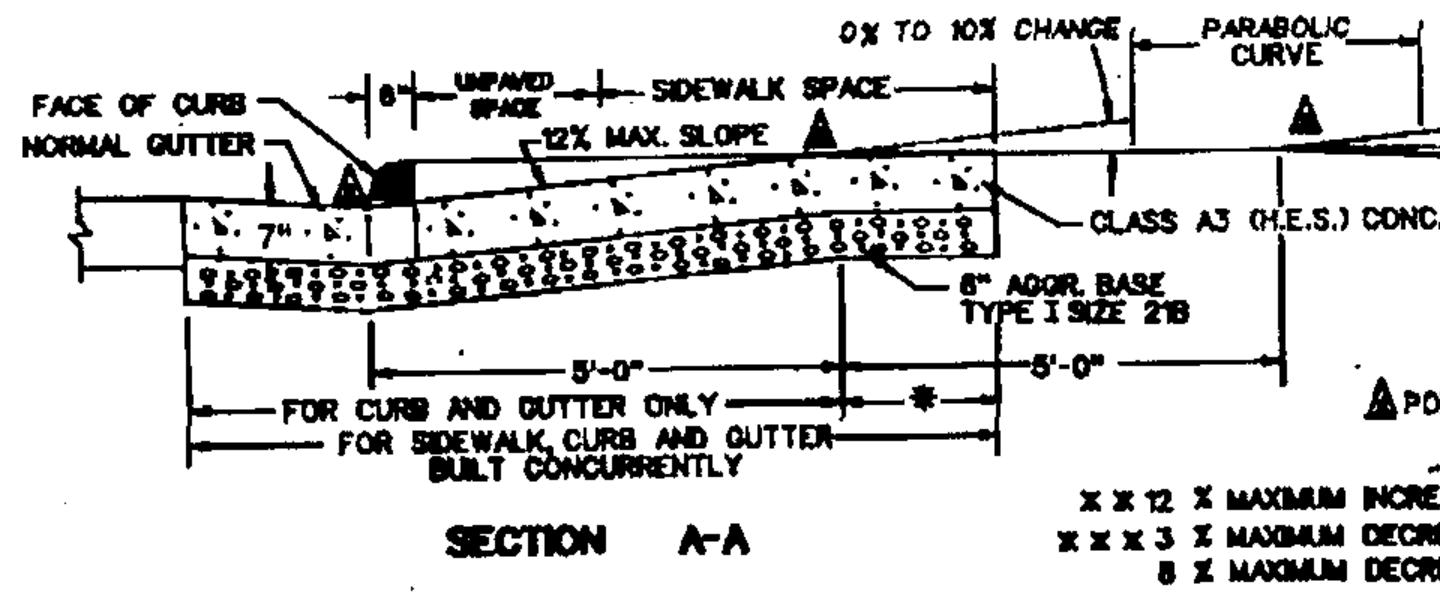
ACCESSIBLE ROUTE DETAIL

ADDITIONAL RIGHT-OF-WAY IS REQUIRED IF THE LIMITS OF ACCESSIBLE ROUTE ▦ EXTEND BEYOND EXISTING OR PROPOSED VDOT RIGHT-OF WAY.

DETAIL TO BE USED WHEN THE COMBINED WIDTH OF UNPAVED SPACE AND SIDEWALK SPACE IS LESS THAN 7'.

▦ ACCESSIBLE ROUTE IS DEFINED AS A CONTINUOUS UNOBSTRUCTED, STABLE, FIRM AND SLIP RESISTANT PATH CONNECTING ALL ACCESSIBLE ELEMENTS OF A FACILITY THAT CAN BE APPROACHED, ENTERED AND USED BY PERSONS WITH MOBILITY IMPAIRMENTS.

✱ IF ACCESSIBLE ROUTES ARE BEING PROVIDED, A MINIMUM 3' TRAVERSABLE WIDTH IS REQUIRED.

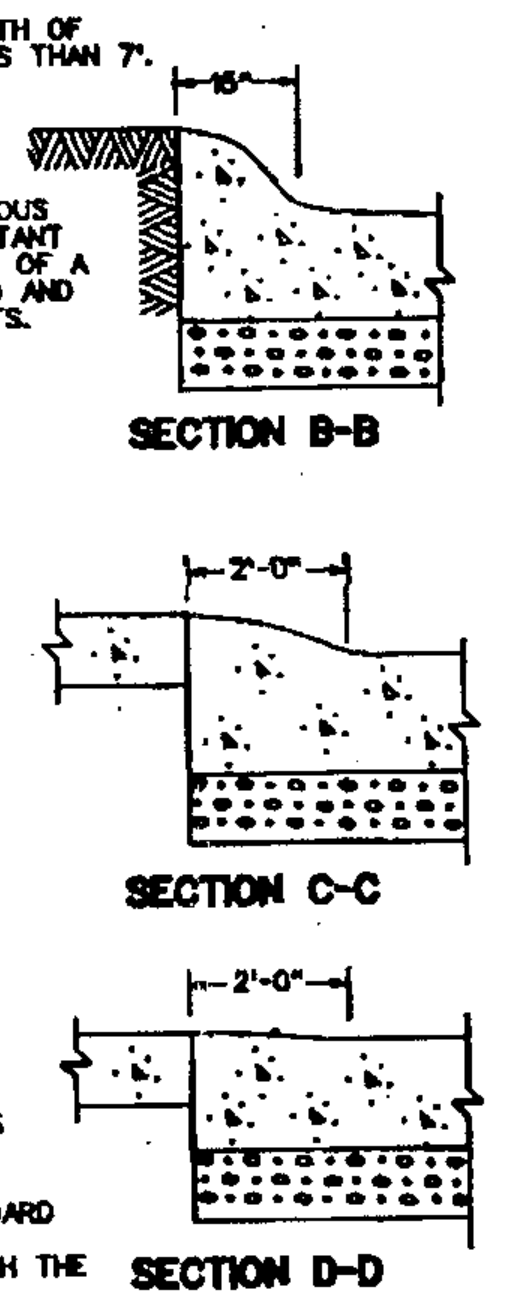

0% TO 10% CHANGE
PARABOLIC CURVE
FACE OF CURB
NORMAL GUTTER
8"
UNPAVED SPACE
SIDEWALK SPACE
12% MAX. SLOPE
7"
x x
x x x
CLASS A3 (H.E.S.) CONC.
8" AGGR. BASE TYPE I SIZE 21B
5'-0"
5'-0"
FOR CURB AND GUTTER ONLY
FOR SIDEWALK, CURB AND GUTTER BUILT CONCURRENTLY

SECTION A-A

▲ POINT OF GRADE CHANGE

x x 12 % MAXIMUM INCREASE IN SLOPE AT MINIMUM 10' INTERVALS
x x x 3 % MAXIMUM DECREASE IN SLOPE FOR FIRST 10' INTERVAL AND 8 % MAXIMUM DECREASE FOR SUCCEEDING MINIMUM 10' INTERVALS

WHEN USED IN CONJUNCTION WITH STANDARD CG-3 OR CG-7, THE CURB FACE ON THIS STANDARD IS TO BE ADJUSTED TO MATCH THE MOUNTABLE CURB CONFIGURATION.

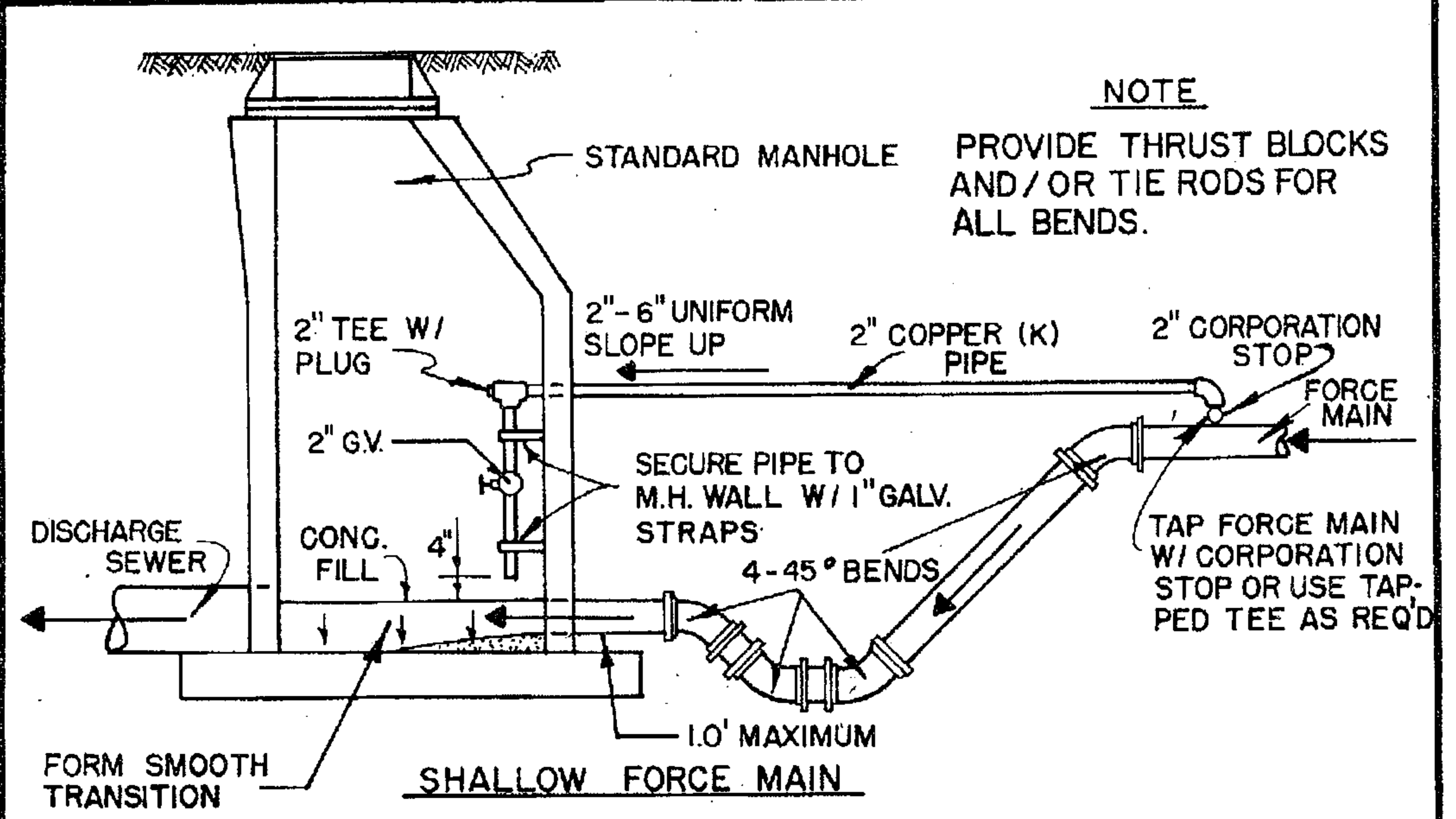

15"
SECTION B-B
2'-0"
SECTION C-C
2'-0"
SECTION D-D

STANDARD ENTRANCE GUTTER

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE
502

203.03


STANDARD MANHOLE
2" TEE W/ PLUG
2"-6" UNIFORM SLOPE UP
2" COPPER (K) PIPE
2" CORPORATION STOP
FORCE MAIN
2" G.V.
SECURE PIPE TO M.H. WALL W/ 1" GALV. STRAPS
4-45° BENDS
DISCHARGE SEWER
CONC. FILL
4"
TAP FORCE MAIN W/ CORPORATION STOP OR USE TAPPED TEE AS REQ'D
FORM SMOOTH TRANSITION
1.0' MAXIMUM
SHALLOW FORCE MAIN

NOTE

PROVIDE THRUST BLOCKS AND/OR TIE RODS FOR ALL BENDS.

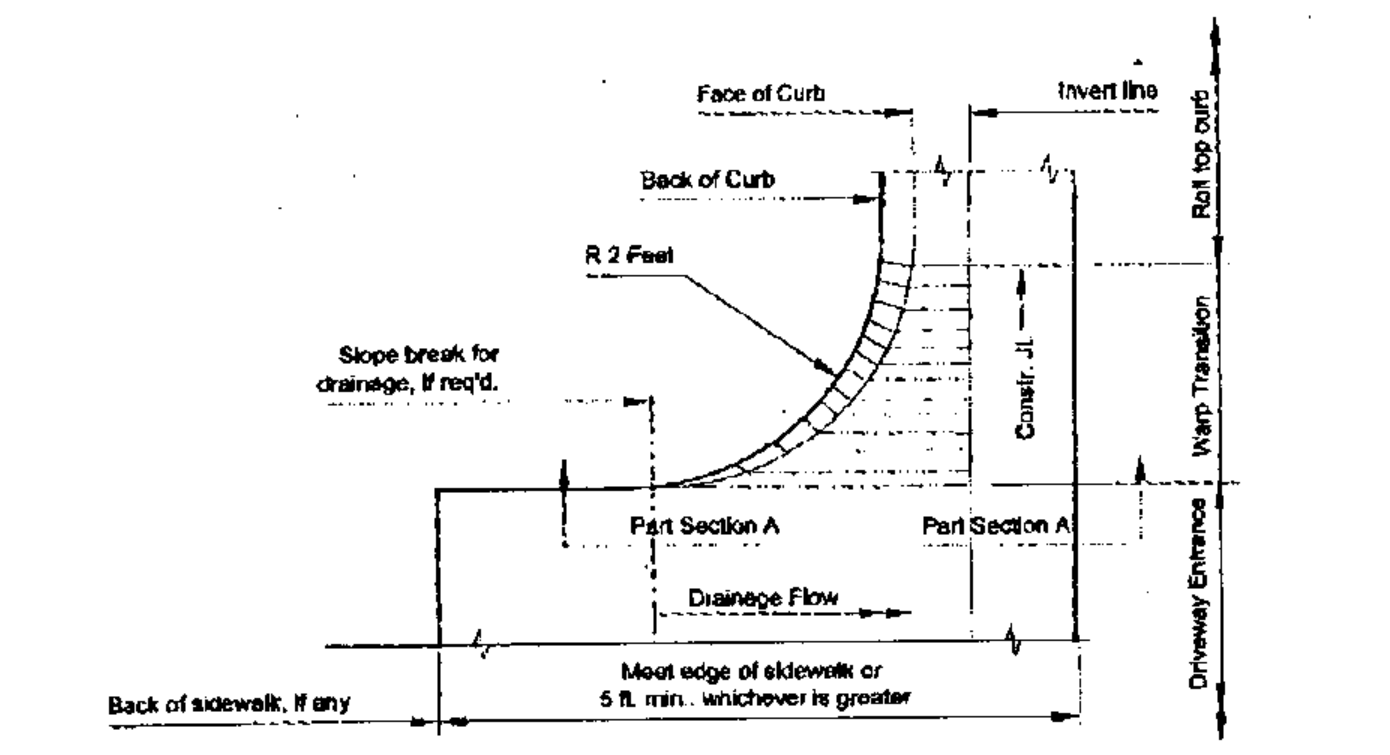
FORCE MAIN CONNECTIONS INTO MANHOLES

STANDARDS FOR

WATER AND WASTEWATER SYSTEMS

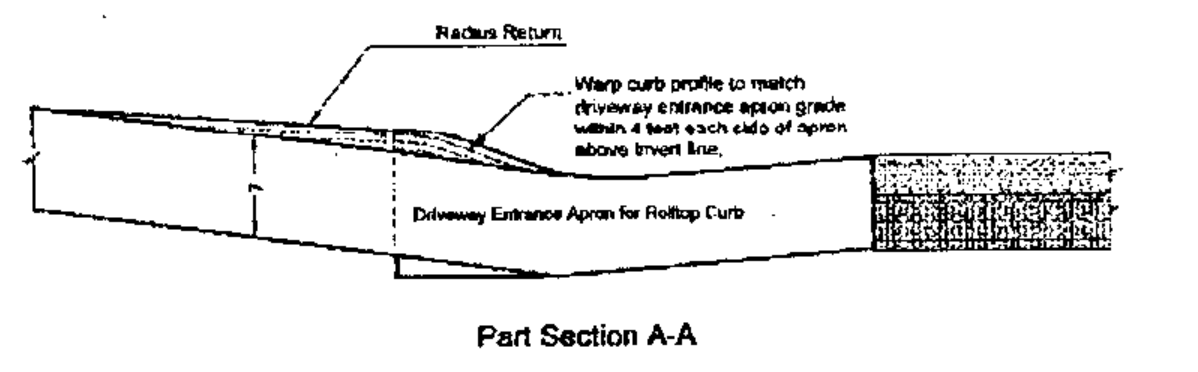
COUNTY OF PRINCE GEORGE
VIRGINIA

DATE 7-78 PLATE NO. 28


Face of Curb
Invert line
Back of Curb
R 2 Feet
Slope break for drainage, if req'd.
Constr. Jt.
Roll top curb
Warp Transition
Driveway Entrance
Part Section A
Part Section A
Drainage Flow
Back of sidewalk, if any
Meet edge of sidewalk or 5 ft. min., whichever is greater

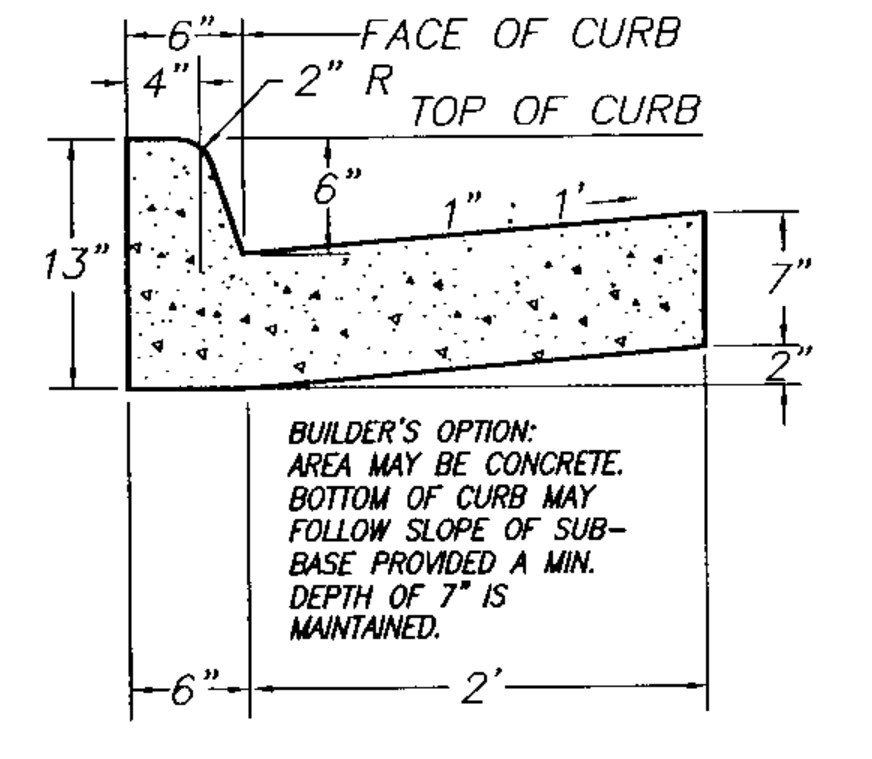
Part Plan of Entrance Transition

FIGURE 7 - ROLL TOP CURB ENTRANCE DETAIL


Radius Return
Warp curb profile to match driveway entrance apron grade within 4 feet each side of apron above invert line.
Driveway Entrance Apron for Rolltop Curb

Part Section A-A

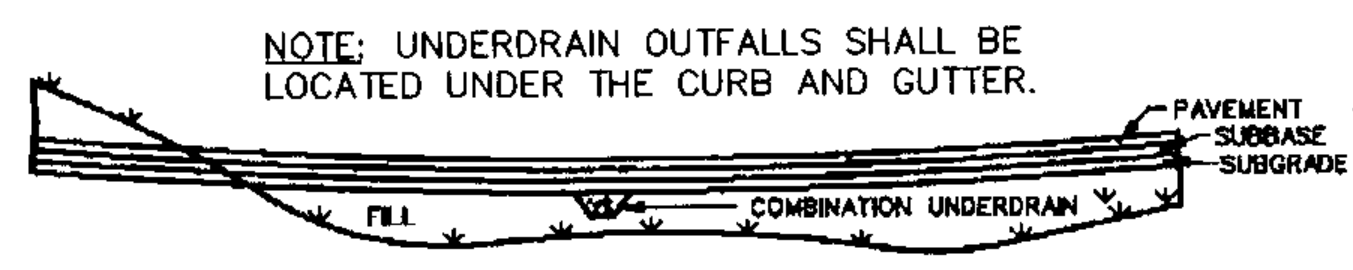
FIGURE 8 ROLLTOP CURB ENTRANCE DETAIL SECTION


6"
FACE OF CURB
4"
2" R
TOP OF CURB
6"
1" : 1'
13"
7"
2"
BUILDER'S OPTION: AREA MAY BE CONCRETE. BOTTOM OF CURB MAY FOLLOW SLOPE OF SUB-BASE PROVIDED A MIN. DEPTH OF 7" IS MAINTAINED.
6"
2'

VDOT CURB STD. CG-6

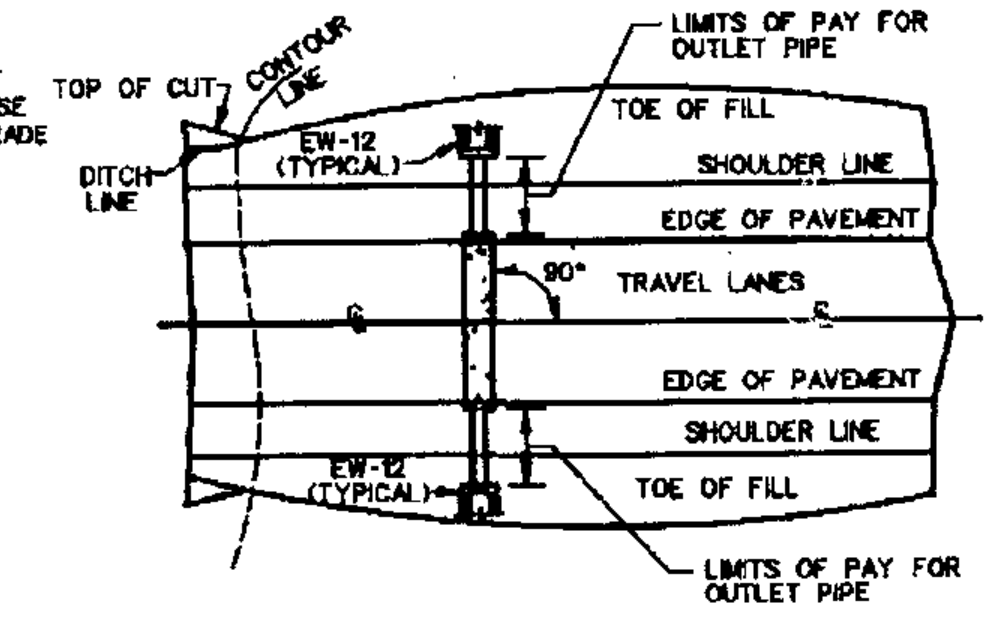
NO SCALE

CD-2


PAVEMENT
SUBBASE
SUBGRADE
FILL
COMBINATION UNDERDRAIN

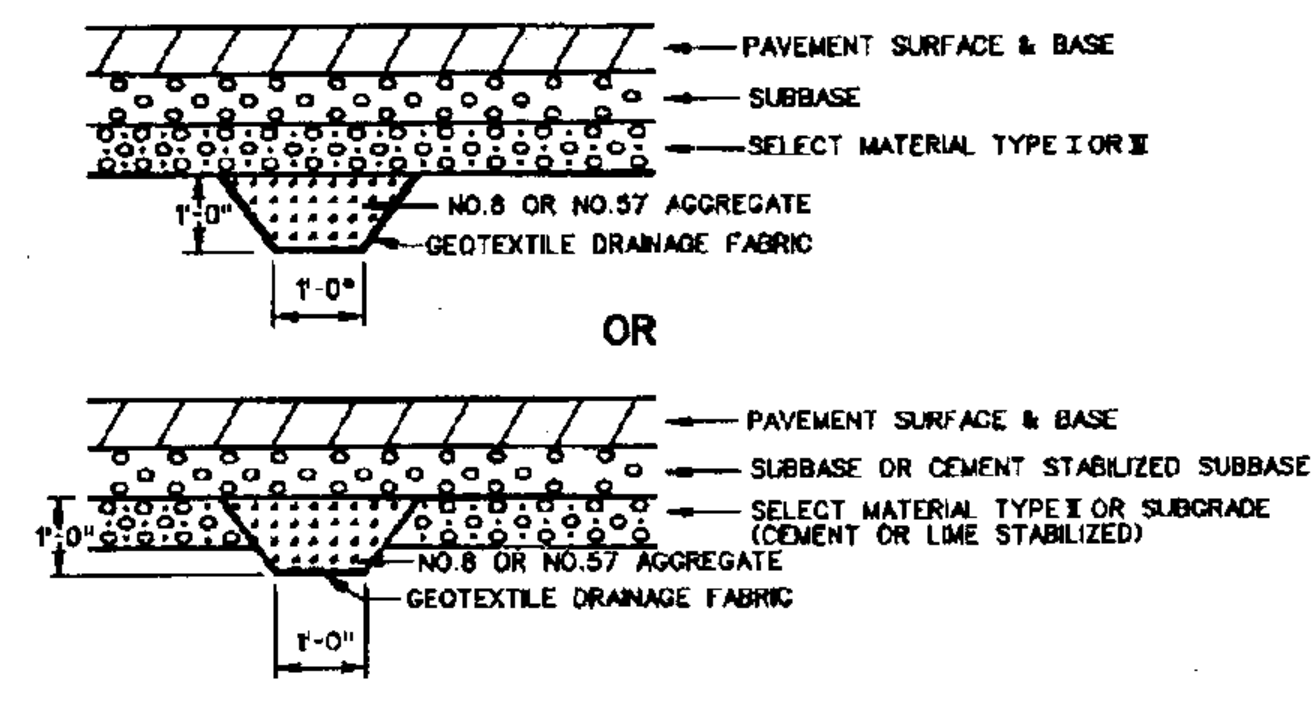
NOTE: UNDERDRAIN OUTFALLS SHALL BE LOCATED UNDER THE CURB AND GUTTER.

COMBINATION UNDERDRAIN CD-2 ON FILLS
CENTER LINE SECTION
(WITH TYPE 1 SELECT MATERIAL)


TOP OF CUT
CONTOUR LINE
LIMITS OF PAY FOR OUTLET PIPE
TOE OF FILL
DITCH LINE
EW-12 (TYPICAL)
SHOULDER LINE
EDGE OF PAVEMENT
90°
TRAVEL LANES
EDGE OF PAVEMENT
SHOULDER LINE
EW-12 (TYPICAL)
TOE OF FILL
LIMITS OF PAY FOR OUTLET PIPE

PLAN VIEW SHOWING PLACEMENT OF CD-2 UNDERDRAIN

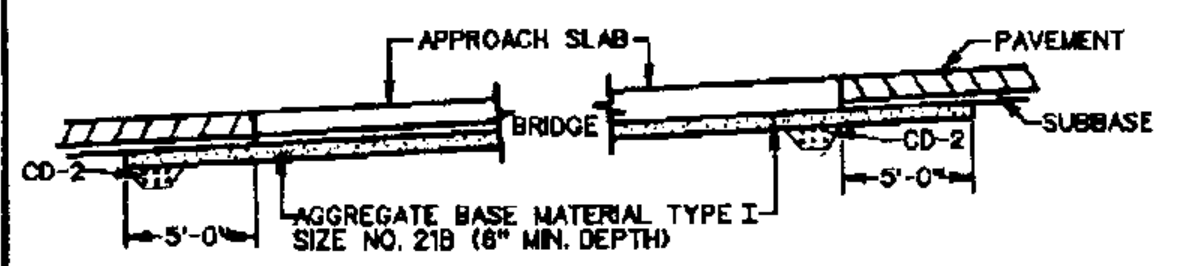
TRENCH PLACEMENT


PAVEMENT SURFACE & BASE
SUBBASE
SELECT MATERIAL TYPE I OR II
NO.8 OR NO.57 AGGREGATE
GEOTEXTILE DRAINAGE FABRIC
1'-0"
1'-0"
OR
PAVEMENT SURFACE & BASE
SUBBASE OR CEMENT STABILIZED SUBBASE
SELECT MATERIAL TYPE II OR SUBGRADE (CEMENT OR LIME STABILIZED)
NO.8 OR NO.57 AGGREGATE
GEOTEXTILE DRAINAGE FABRIC
1'-0"
1'-0"

NON-PERFORATED OUTLET PIPE

TYPE OF PIPE	CRUSHING STRENGTH			
	✱ W.T.	4" NOM. DIAMETER	✱ W.T.	6" NOM. DIAMETER
CORRUGATED ALUMINUM			0.048	
SMOOTH WALL PVC	.103		0.153	
SMOOTH WALL PE		70 PSI ✱✱✱		70 PSI ✱✱✱

✱ WALL THICKNESS (MIN) - INCHES
✱✱✱ TESTED ACCORDING TO ASTM D-2412 AT 5% DEFLECTION.


APPROACH SLAB
PAVEMENT
BRIDGE
SUBBASE
CD-2
CD-2
5'-0"
5'-0"
AGGREGATE BASE MATERIAL TYPE I-SIZE NO. 21B (6" MIN. DEPTH)

PLACEMENT OF CD-2 UNDERDRAIN AT BRIDGE APPROACH SLABS

GENERAL NOTES

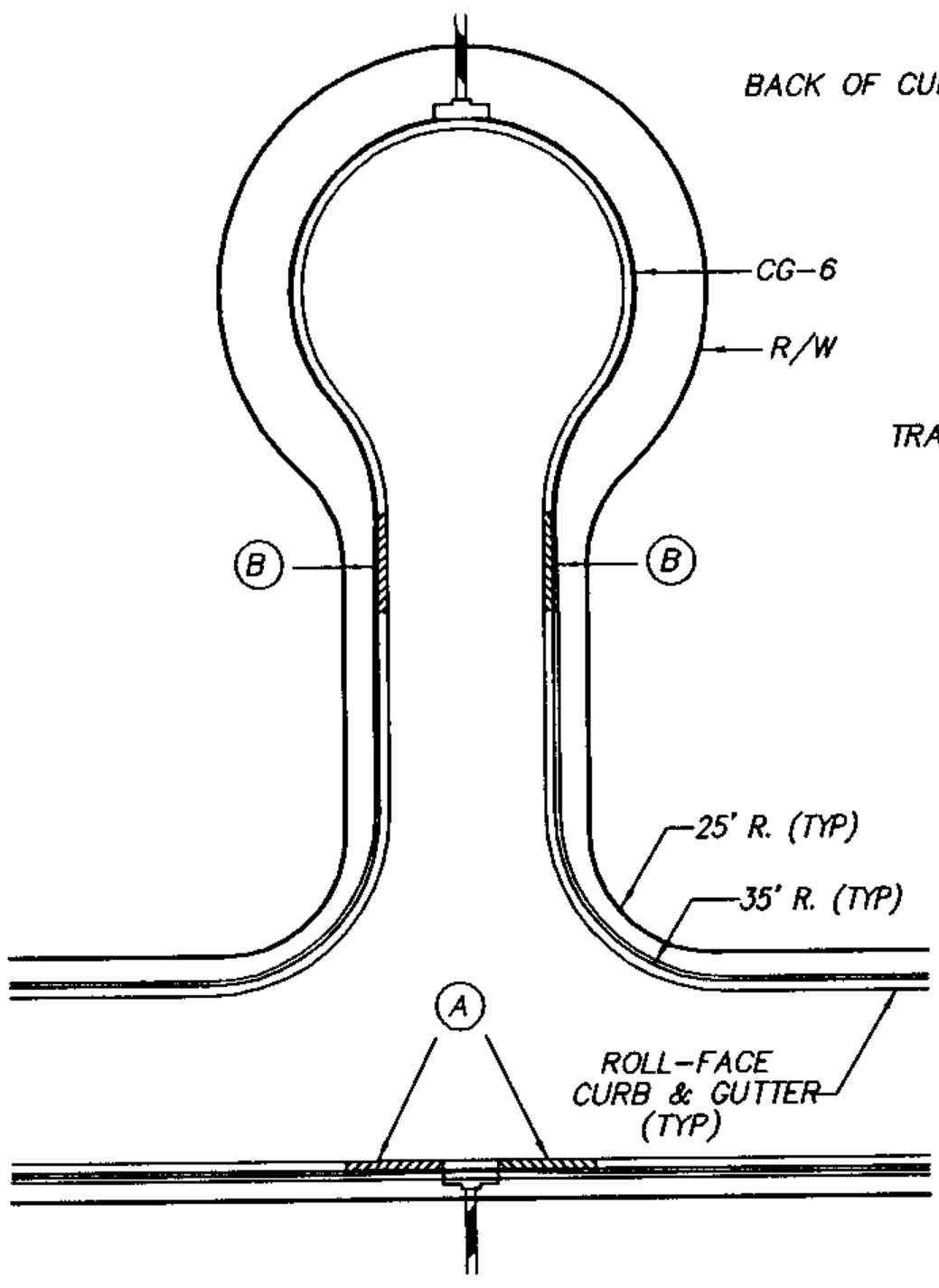
1. TRENCH SHALL BE FILLED WITH AGGREGATE AND THROUGHLY HAND TAMPED TO INSURE COMPACTNESS.
2. OUTLET PIPE SHALL BEGIN AT THE EDGE OF THE TRAVEL LANE PAVEMENT AND SHALL BE PLACED ON A GRADE PARALLEL TO THE SHOULDER SLOPE 2 % MIN. (3% DESIRABLE) GRADE.
3. ON CURB AND GUTTER SECTIONS, WHERE IT IS IMPOSSIBLE TO OTHERWISE PROVIDE OUTLETS FOR UNDERDRAINS, THEY ARE TO BE LOCATED SO AS TO DRAIN INTO DROP INLETS OR MANHOLES.
4. ON SUPERELEVATED SECTIONS, TRENCH IS TO BE UNDER ENTIRE PAVEMENT AREA WITH OUTLET PIPE ON LOW SIDE ONLY.
5. INVERT ELEVATION AT OUTLET END OF OUTLET PIPE TO BE A MINIMUM OF 1'-0" ABOVE INVERT ELEVATION OF RECEIVING DRAINAGE DITCH OR STRUCTURE.
6. ALL CONNECTIONS (ELBOWS, WYES, ETC.) WITHIN PAY LIMITS FOR OUTLET PIPE ARE TO BE OF THE SAME CRUSHING STRENGTH AS THE OUTLET PIPE.
7. OUTLET PIPE TO BE SECURELY CONNECTED TO EW-12 OR OTHER DRAINAGE STRUCTURE.

STANDARD COMBINATION UNDERDRAIN (AT GRADE SAGS AND BRIDGE APPROACHES)

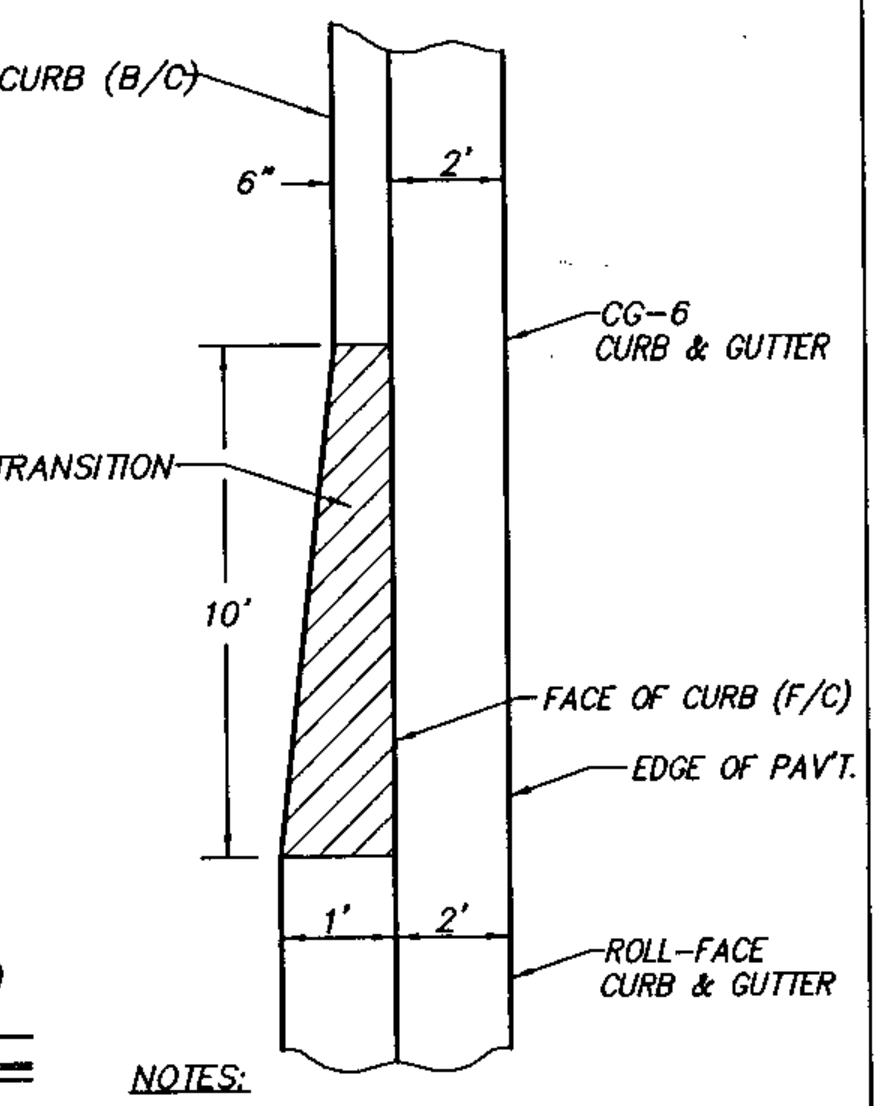
VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE
232
501
701

108.05


BACK OF CURB (B/C)
CG-6
R/W
B
B
25' R. (TYP)
35' R. (TYP)
A
ROLL-FACE CURB & GUTTER (TYP)

PLAN VIEW
N.T.S.


6"
2'
CG-6 CURB & GUTTER
TRANSITION
10'
FACE OF CURB (F/C)
EDGE OF PAV'T.
1'
2'
ROLL-FACE CURB & GUTTER

NOTES:

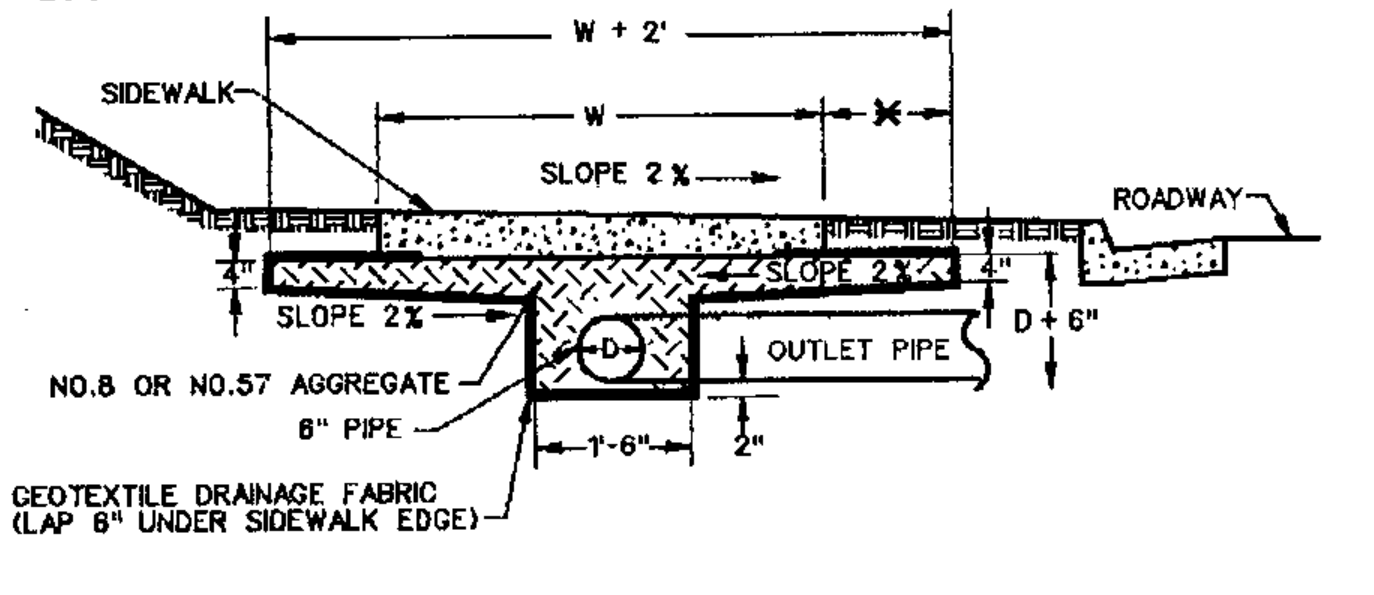
1. TRANSITIONS ARE TO BE FROM BACK OF CURB ONLY AND 10' IN LENGTH UNLESS OTHERWISE NOTED ON PLAN.
2. TRANSITION LOCATIONS:
   - A. BOTH SIDES OF ALL SAG INLETS.
   - B. FIRST TANGENT EACH SIDE OF CUL-DE-SAC BULB HAVING A SAG INLET

CURB TRANSITION

(FROM ROLL-FACE CURB TO CG-6)

UD-3

NOTE: UNDERDRAIN OUTFALLS SHALL BE LOCATED UNDER THE CURB AND GUTTER.


W + 2'
SIDEWALK
W
✱
SLOPE 2 %
ROADWAY
4"
SLOPE 2%
SLOPE 2%
4"
D + 6"
D
OUTLET PIPE
NO.8 OR NO.57 AGGREGATE
6" PIPE
1'-6"
2"
GEOTEXTILE DRAINAGE FABRIC (LAP 6" UNDER SIDEWALK EDGE)

✱ THIS PORTION TO BE DELETED WHEN SIDEWALK IS ADJACENT TO CURB OR CURB AND GUTTER WITH NO BUFFER STRIP.

NOTES:

1. WHEN THE LONGITUDINAL PIPE CONNECTS DIRECTLY INTO A DRAINAGE STRUCTURE (DROP INLET, MANHOLE, ECT.), NON-PERFORATED OUTLET PIPES ARE NOT REQUIRED.
2. INVERT ELEVATION AT OUTLET END OF OUTLET PIPE TO BE A MINIMUM OF 1'-0" ABOVE INVERT ELEVATION OF RECEIVING DRAINAGE DITCH OR STRUCTURE.
3. ALL CONNECTIONS (ELBOWS, WYES, ETC.) WITHIN PAY LIMITS FOR OUTLET PIPE ARE TO BE OF THE SAME CRUSHING STRENGTH AS THE OUTLET PIPE.
4. OUTLET PIPE ARE TO BE INSTALLED ON 2% MIN. (3% DESIRABLE) GRADE.
5. OUTLET PIPE TO BE SECURELY CONNECTED TO EW-12 OR OTHER DRAINAGE STRUCTURE.
6. SIDEWALK UNDERDRAIN IS TO BE USED WHEN THE SIDEWALK LONGITUDINAL GRADIENT IS 3% OR MORE AND WHEN THE UNDERLYING SOIL HAS 34% OR MORE PASSING THE NO. 200 SIEVE, AND HAS A PI OF 13 OR LESS, AND THE AREA HAS A HISTORY OF SIDEWALK UNDERMINING.
7. SIDEWALK UNDERDRAINS SHOULD BE TIED INTO THE STORM SEWER SYSTEM AT POINTS APPROXIMATLEY A CITY BLOCK APART. UNDERDRAIN RUNS MUST NOT EXCEED 1,000 FEET IN LENGTH WITHOUT DISCHARGING INTO THE STORM DRAIN SYSTEM OR INTO AN OPEN DRAIN.
8. WITHIN THE LIMITS OF A COMMERCIAL ENTRANCE, NON-PERFORATED PIPE SHALL BE UTILIZED IN LIEU OF PERFORATED PIPE.

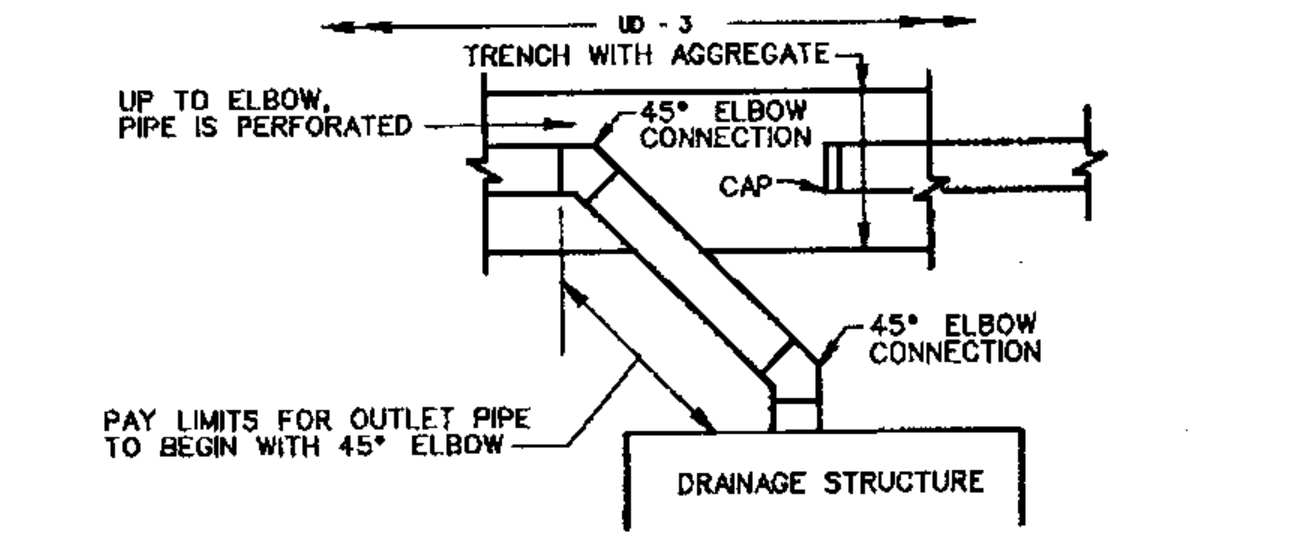
LONGITUDINAL PERFORATED PIPE

TYPE OF PIPE	CRUSHING STRENGTH	
	✱ W.T	6" NOMINAL DIAMETER
CORRUGATED ALUMINUM	0.048	
SMOOTH WALL PVC	0.153	
CORRUGATED PE		AASHTO M-252

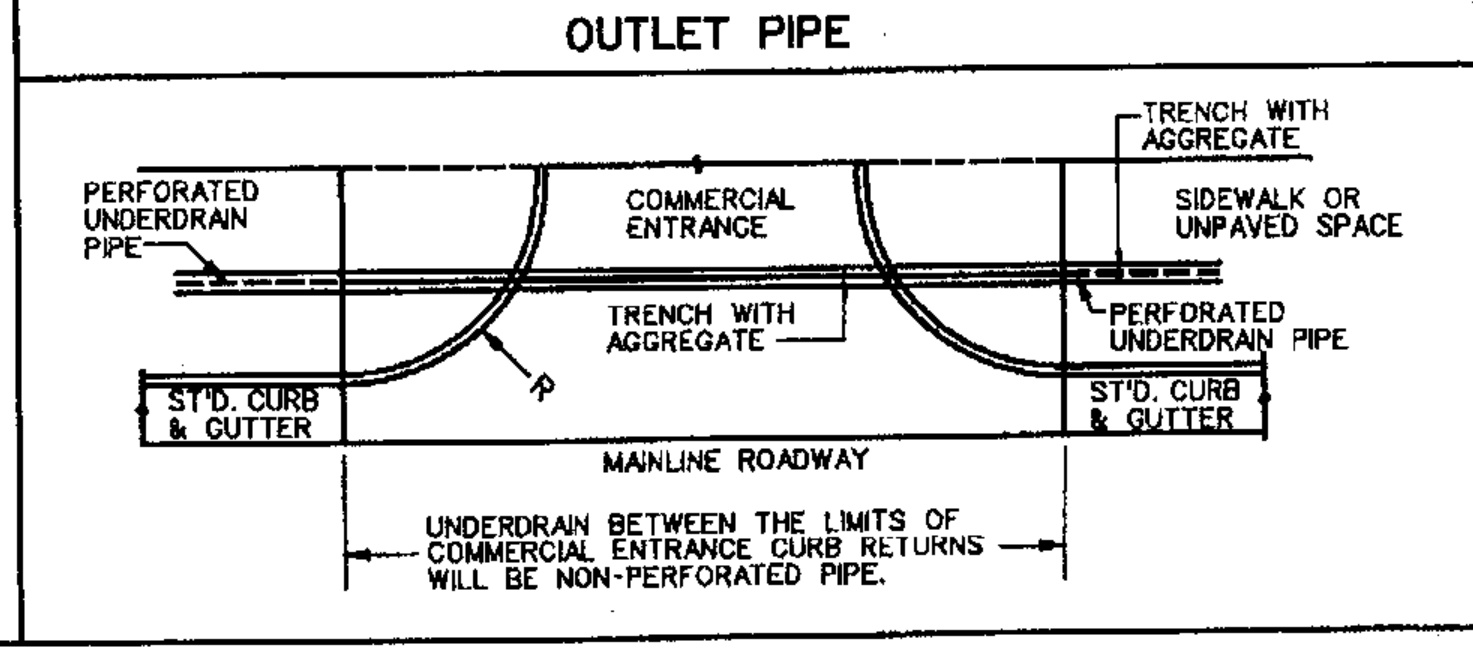
NON-PERFORATED PIPE FOR USE UNDER COMMERCIAL ENTRANCES AND FOR OUTLETS

TYPE OF PIPE	CRUSHING STRENGTH	
	✱ W.T	6" NOMINAL DIAMETER
CORRUGATED ALUMINUM	0.048	
SMOOTH WALL PVC	0.153	
SMOOTH WALL PE		70 PSI ✱✱✱

✱ WALL THICKNESS (MIN) - INCHES
✱✱✱ TESTED ACCORDING TO ASTM D-2412 AT 5% DEFLECTION.


UD - 3
TRENCH WITH AGGREGATE
UP TO ELBOW, PIPE IS PERFORATED
45° ELBOW CONNECTION
CAP
45° ELBOW CONNECTION
PAY LIMITS FOR OUTLET PIPE TO BEGIN WITH 45° ELBOW
DRAINAGE STRUCTURE

OUTLET PIPE

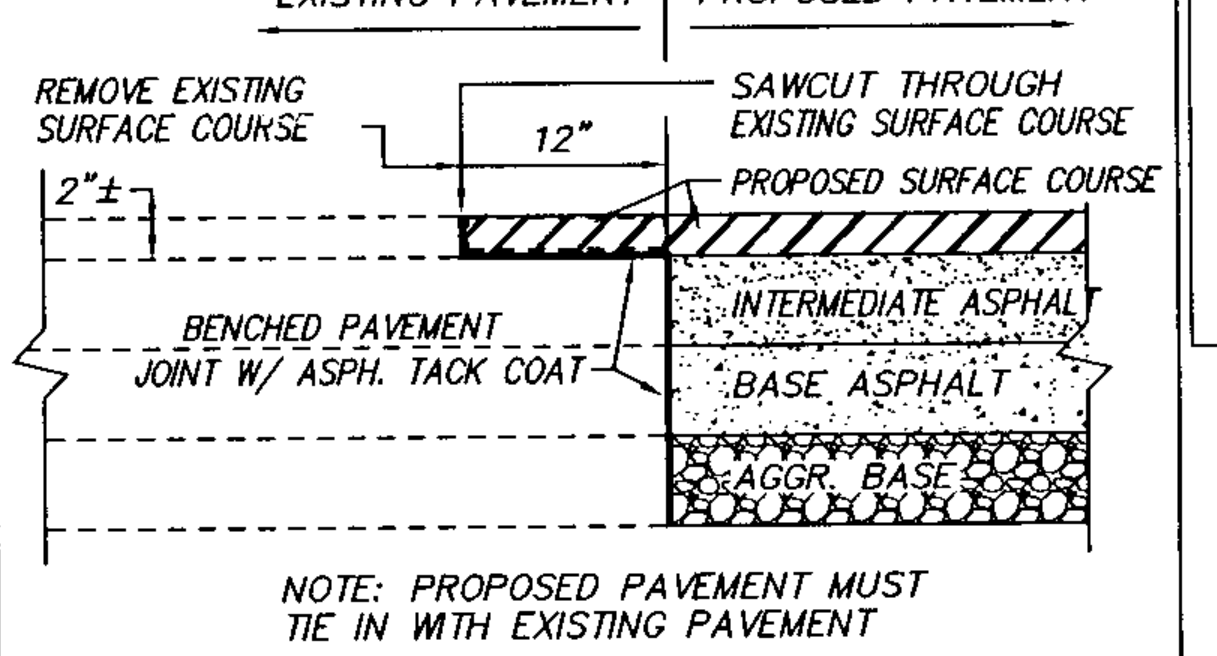

PERFORATED UNDERDRAIN PIPE
COMMERCIAL ENTRANCE
TRENCH WITH AGGREGATE
TRENCH WITH AGGREGATE
SIDEWALK OR UNPAVED SPACE
PERFORATED UNDERDRAIN PIPE
R
ST'D. CURB & GUTTER
ST'D. CURB & GUTTER
MAINLINE ROADWAY
UNDERDRAIN BETWEEN THE LIMITS OF COMMERCIAL ENTRANCE CURB RETURNS WILL BE NON-PERFORATED PIPE.

STANDARD SIDEWALK UNDERDRAIN

VIRGINIA DEPARTMENT OF TRANSPORTATION

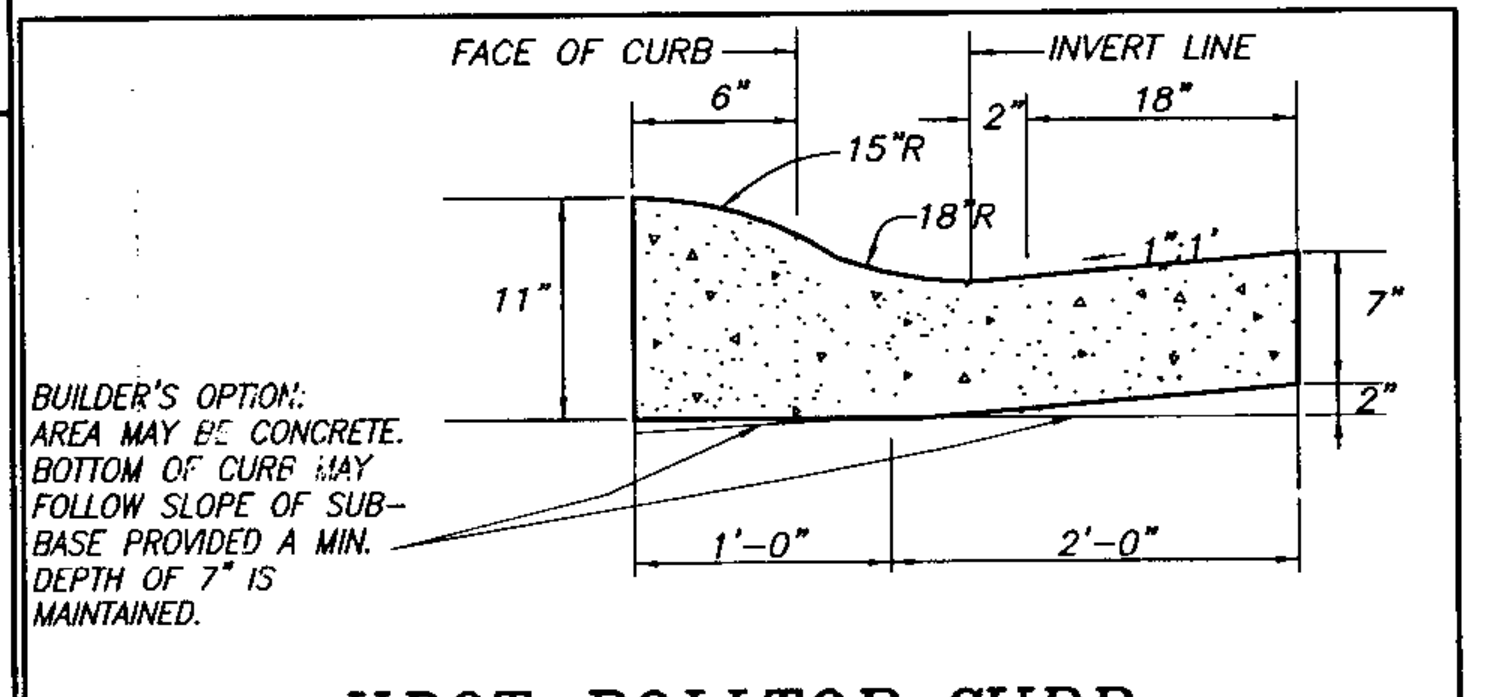
SPECIFICATION REFERENCE
232
501
701

108.03


EXISTING PAVEMENT
PROPOSED PAVEMENT
REMOVE EXISTING SURFACE COURSE
SAWCUT THROUGH EXISTING SURFACE COURSE
12"
2"±
PROPOSED SURFACE COURSE
BENCHED PAVEMENT JOINT W/ ASPH. TACK COAT
INTERMEDIATE ASPHALT
BASE ASPHALT
AGGR. BASE

NOTE: PROPOSED PAVEMENT MUST TIE IN WITH EXISTING PAVEMENT

PAVEMENT JOINT DETAIL

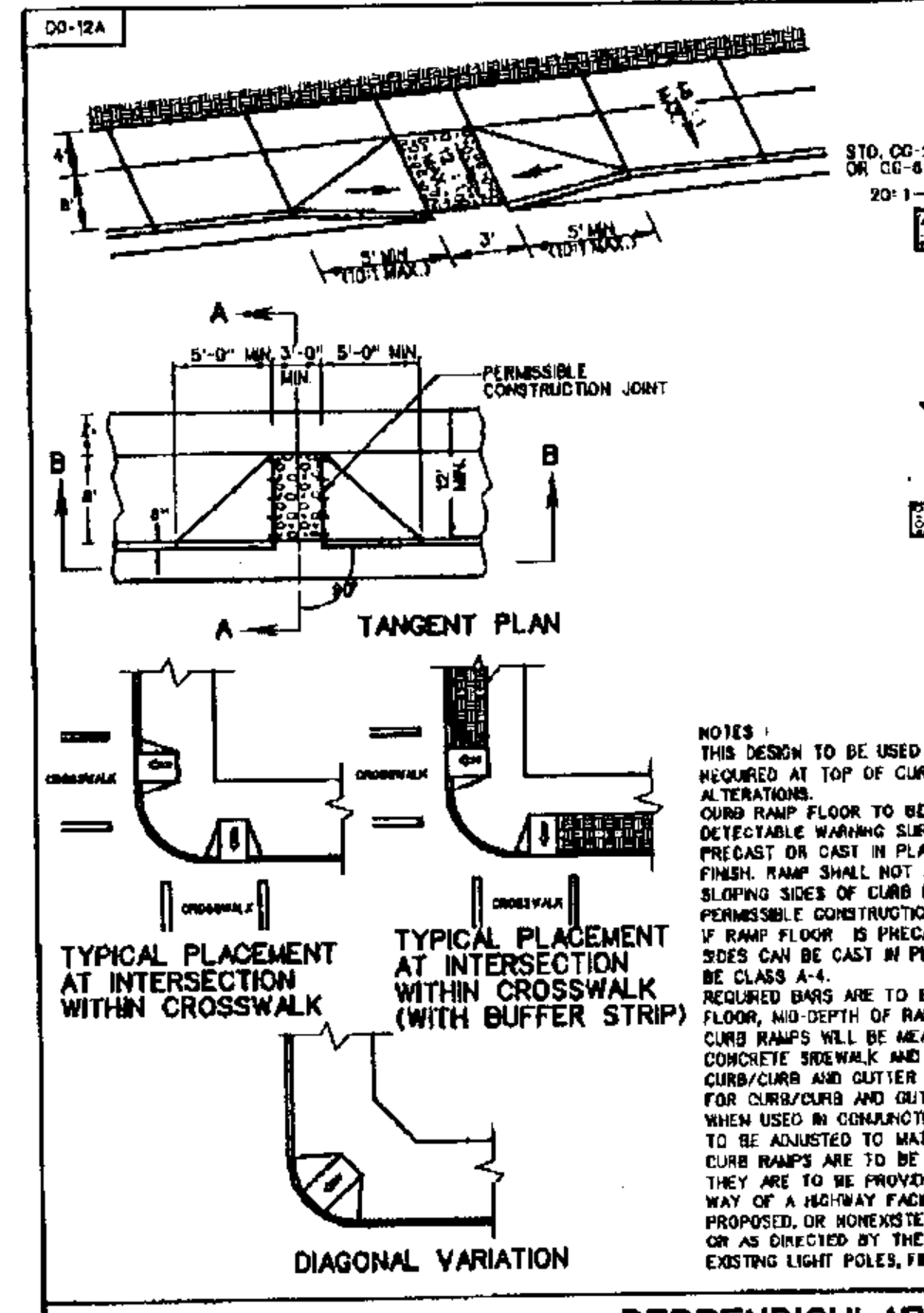

FACE OF CURB
INVERT LINE
6"
15"R
2"
18"
18"R
1":1'
11"
7"
2"
BUILDER'S OPTION: AREA MAY BE CONCRETE. BOTTOM OF CURB MAY FOLLOW SLOPE OF SUB-BASE PROVIDED A MIN. DEPTH OF 7" IS MAINTAINED.
1'-0"
2'-0"

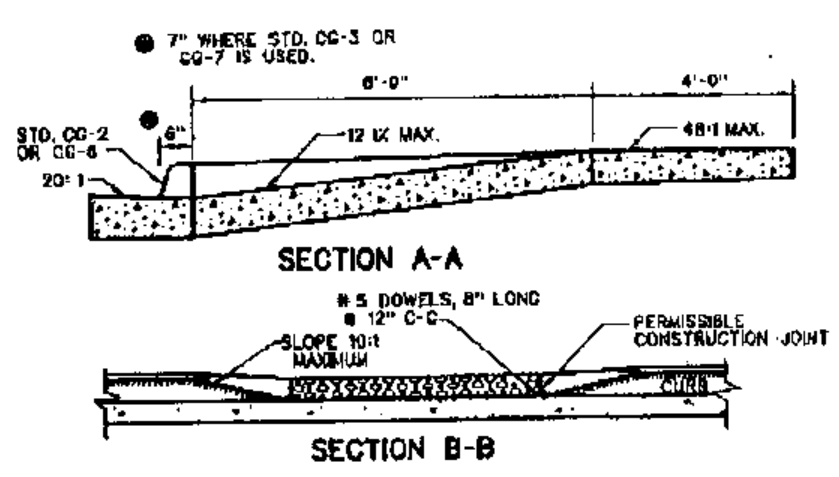
VDOT ROLLTOP CURB

NO SCALE

VDOT MUST INSPECT CURB FORMS 24 HOURS BEFORE THE PLACEMENT OF CURB & GUTTER CONCRETE.

CG-12A


4'
8'
5' MIN (10:1 MAX.)
3'
5' MIN (10:1 MAX.)
A
5'-0" MIN.
3'-0" MIN.
5'-0" MIN.
PERMISSIBLE CONSTRUCTION JOINT
B
B
8"
90°
A
TANGENT PLAN
CROSSWALK
CROSSWALK
CROSSWALK
CROSSWALK
TYPICAL PLACEMENT AT INTERSECTION WITHIN CROSSWALK
TYPICAL PLACEMENT AT INTERSECTION WITHIN CROSSWALK (WITH BUFFER STRIP)
DIAGONAL VARIATION


● 7" WHERE STD. CG-3 OR CG-7 IS USED.
6'-0"
4'-0"
STD. CG-2 OR CG-6
6"
12:1 MAX.
48:1 MAX.
20:1
SECTION A-A
#5 DOWELS, 8" LONG @ 12" C-C
SLOPE 10:1 MAXIMUM
PERMISSIBLE CONSTRUCTION JOINT
CURB
SECTION B-B

▨ LIMITS OF EXPOSED AGGREGATE SIDEWALK

▦ ACCESSIBLE ROUTE IS DEFINED AS A CONTINUOUS UNOBSTRUCTED, STABLE, FIRM AND SLIP RESISTANT, PATH CONNECTING ALL ACCESSIBLE ELEMENTS OF A FACILITY THAT CAN BE APPROACHED, ENTERED AND USED BY PERSONS WITH MOBILITY IMPAIRMENTS.

NOTES :

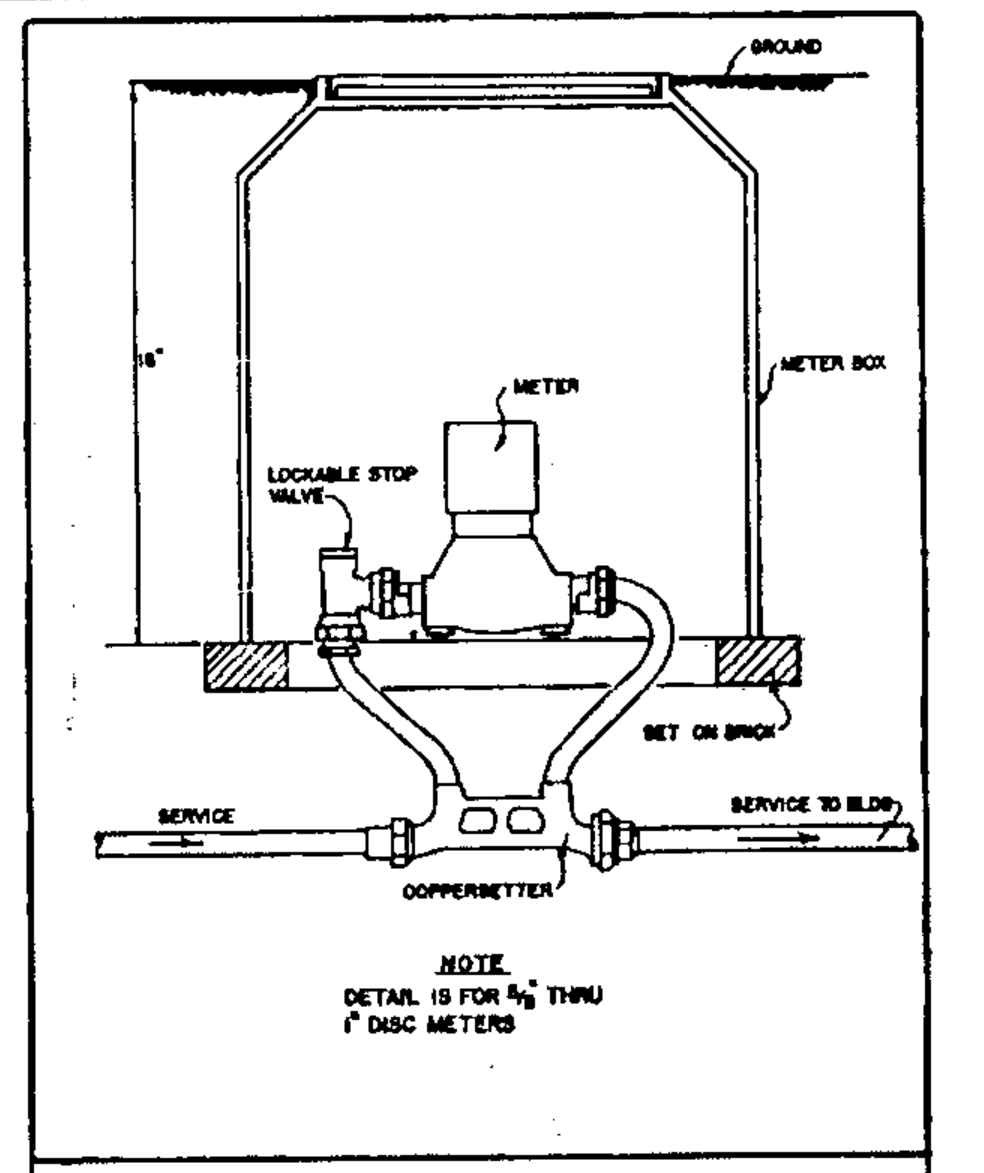
THIS DESIGN TO BE USED FOR CONSTRUCTION THAT INCORPORATES WIDER SIDEWALK. LANDING (48" WIDE) REQUIRED AT TOP OF CURB RAMP. MINIMUM CURB RAMP LENGTH 8 FT. FOR NEW CONSTRUCTION, 6 FT. FOR ALTERATIONS.
CURB RAMP FLOOR TO BE CLASS A-3 CONCRETE (CLASS A-4 IF PRECAST) WITH SLIP RESISTANT INTEGRAL DETECTABLE WARNING SURFACE COVERING THE ENTIRE WIDTH OF THE RAMP FLOOR (RAMP FLOOR MAY BE PRECAST OR CAST IN PLACE). THE DETECTABLE WARNING SHALL BE PROVIDED BY AN EXPOSED AGGREGATE FINISH. RAMP SHALL NOT EXCEED A MAXIMUM SLOPE OF 12:1.
SLOPING SIDES OF CURB RAMP MAY BE POURED MONOLITHICALLY WITH RAMP FLOOR OR BY USING PERMISSIBLE CONSTRUCTION JOINT WITH REQUIRED BARS.
IF RAMP FLOOR IS PRECAST, HOLES MUST BE PROVIDED FOR DOWEL BARS SO THAT ADJOINING FLARED SIDES CAN BE CAST IN PLACE AFTER PLACEMENT OF PRECAST RAMP FLOOR. PRECAST CONCRETE SHALL BE CLASS A-4.
REQUIRED BARS ARE TO BE NO. 5 X 8" PLACED 1' CENTER TO CENTER ALONG BOTH SIDES OF THE RAMP FLOOR, MID-DEPTH OF RAMP FLOOR. MINIMUM CONCRETE COVER 1½".
CURB RAMPS WILL BE MEASURED AND PAID FOR AT THE CONTRACT UNIT PRICES FOR HYDRAULIC CEMENT CONCRETE SIDEWALK AND EXPOSED AGGREGATE SIDEWALK, COMPLETE-IN-PLACE.
CURB/CURB AND GUTTER SLOPE TRANSITIONS ADJACENT TO TO CURB RAMPS ARE INCLUDED IN PAYMENT FOR CURB/CURB AND GUTTER.
WHEN USED IN CONJUNCTION WITH STANDARD CG-3 OR CG-7, THE CURB FACE ON THIS STANDARD IS TO BE ADJUSTED TO MATCH THE MOUNTABLE CURB AND CONFIGURATION.
CURB RAMPS ARE TO BE LOCATED AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER. THEY ARE TO BE PROVIDED AT INTERSECTIONS WHEREVER AN ACCESSABLE ROUTE ▦ WITHIN THE RIGHT OF WAY OF A HIGHWAY FACILITY CROSSES A CURB REGARDLESS OF WHETHER SIDEWALK IS EXISTING, PROPOSED, OR NONEXISTENT. THEY MUST BE LOCATED WITHIN PEDESTRIAN CROSSWALKS AS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER, AND SHOULD NOT BE LOCATED BEHIND VEHICLE STOP LINES. EXISTING LIGHT POLES, FIRE HYDRANTS, DROP INLETS, ETC. WILL ALSO AFFECT PLACEMENT.

PERPENDICULAR CURB RAMP (ACCESS FOR MOBILITY IMPAIRMENTS)

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE
105
502

203.05

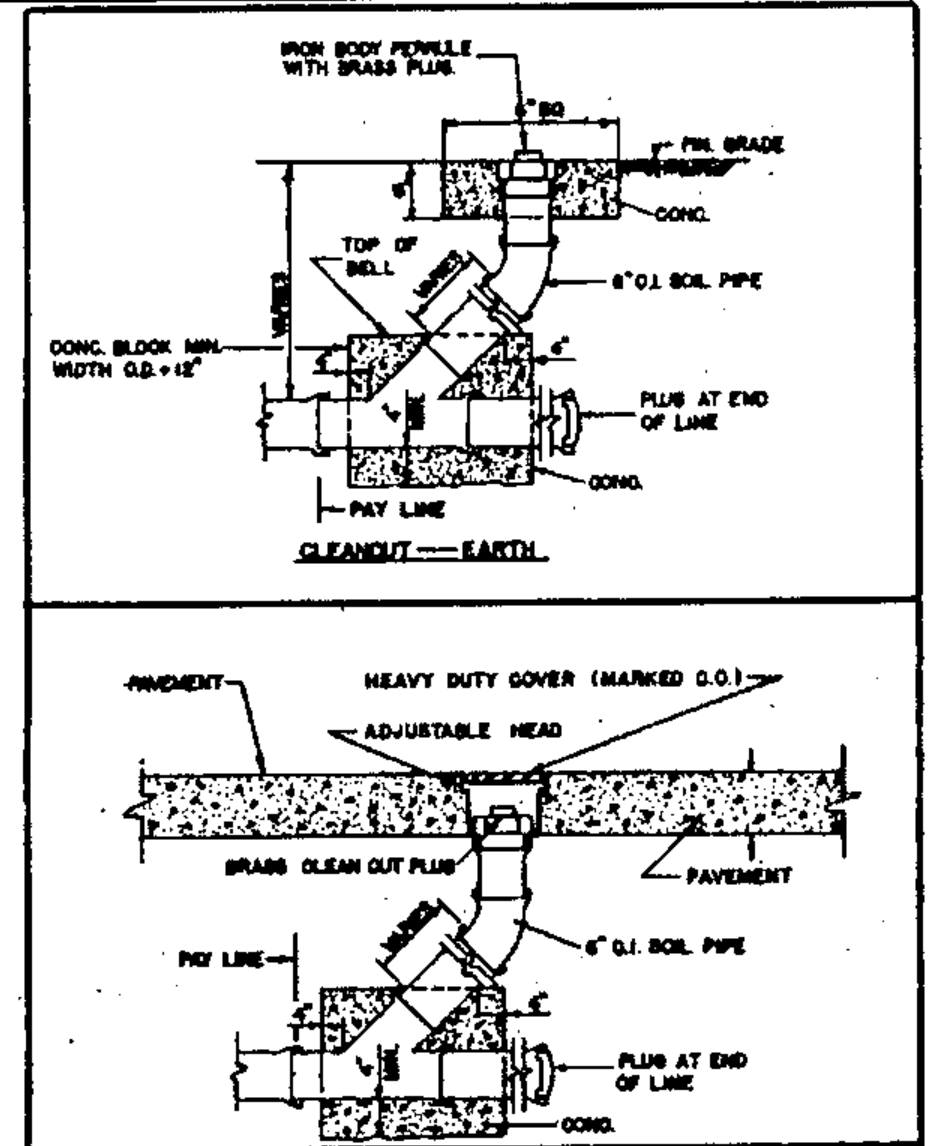

GROUND
METER BOX
METER
LOCKABLE STOP VALVE
SET ON BRICK
SERVICE
SERVICE TO BLDG.
COPPERSETTER
18"

NOTE
DETAIL IS FOR 5/8" THRU 1" DISC METERS

METER SETTING

STANDARDS FOR
WATER AND WASTEWATER SYSTEMS
COUNTY OF PRINCE GEORGE
VIRGINIA

DATE 7-78 PLATE NO. 8

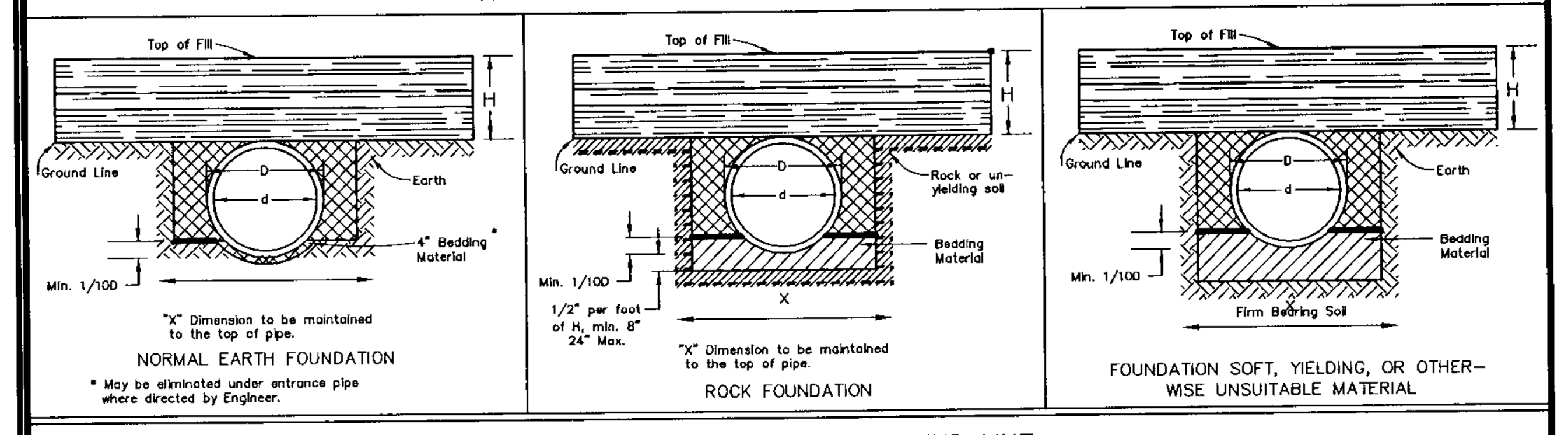

IRON BODY FERRULE WITH BRASS PLUG
FIN. GRADE
CONC.
TOP OF BELL
VARIES
6" C.I. SOIL PIPE
CONC. BLOCK MIN. WIDTH O.D.+12"
PLUG AT END OF LINE
CONC.
PAY LINE
CLEANOUT — EARTH
PAVEMENT
HEAVY DUTY COVER (MARKED C.O.)
ADJUSTABLE HEAD
BRASS CLEAN OUT PLUG
PAVEMENT
PAY LINE
6" C.I. SOIL PIPE
PLUG AT END OF LINE
CONC.

CLEANOUTS

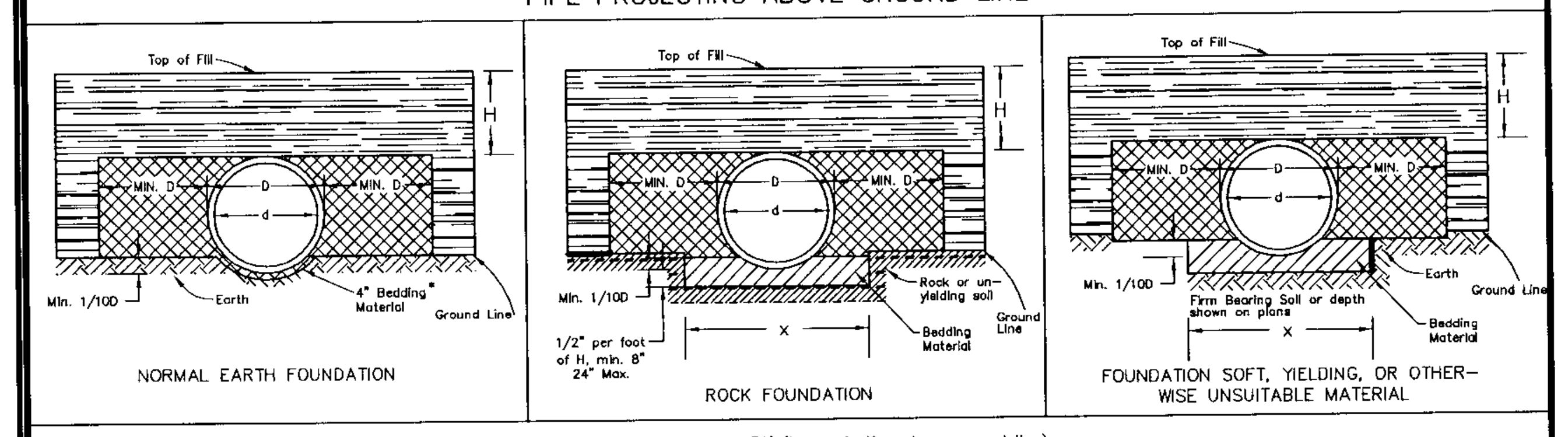
STANDARDS FOR
WATER AND WASTEWATER SYSTEMS
COUNTY OF PRINCE GEORGE
VIRGINIA

DATE 7-78 PLATE NO. 25

NO PROJECTION OF PIPE ABOVE GROUND LINE


Top of Fill
H
Ground Line
D
d
Earth
4" Bedding Material *
Min. 1/100
"X" Dimension to be maintained to the top of pipe.
NORMAL EARTH FOUNDATION
* May be eliminated under entrance pipe where directed by Engineer.
Top of Fill
H
Ground Line
Rock or unyielding soil
Bedding Material
Min. 1/100
1/2" per foot of H, min. 8" 24" Max.
X
"X" Dimension to be maintained to the top of pipe.
ROCK FOUNDATION
Top of Fill
H
Ground Line
Earth
Bedding Material
Min. 1/100
Firm Bearing Soil
FOUNDATION SOFT, YIELDING, OR OTHERWISE UNSUITABLE MATERIAL

PIPE PROJECTING ABOVE GROUND LINE


Top of Fill
H
MIN. D
D
d
MIN. D
Min. 1/100
Earth
4" Bedding Material
Ground Line
NORMAL EARTH FOUNDATION
Top of Fill
H
MIN. D
MIN. D
Min. 1/100
Rock or unyielding soil
Ground Line
Bedding Material
X
1/2" per foot of H, min. 8" 24" Max.
ROCK FOUNDATION
Top of Fill
H
MIN. D
MIN. D
Min. 1/100
Earth
Ground Line
Firm Bearing Soil or depth shown on plans
X
Bedding Material
FOUNDATION SOFT, YIELDING, OR OTHERWISE UNSUITABLE MATERIAL

Culverts less than d=36"
x=D+24"

Culverts where d=36" and over
x=D+36"

Method "a" Pipe Bedding shall be used as follows unless otherwise noted on plans:

RIGID PIPE

Fills up to 30' (No projection of pipe above ground line)

Fills up to 30' (No projection above ground line)

FLEXIBLE PIPE

As shown on tables

H= Height of cover measured from top of drainage structure to finished grade.

▨ Bedding material in accordance with Section 302.02 of the Road and Bridge Specifications.

▩ Backfill material in accordance with Section 302.02 of the Road and Bridge Specifications.

☰ Embankment
Bedding requirements detailed under Method A, Projecting Condition, are applicable to Method B1 and B2.

INSTALLATION OF PIPE CULVERTS AND STORM SEWERS

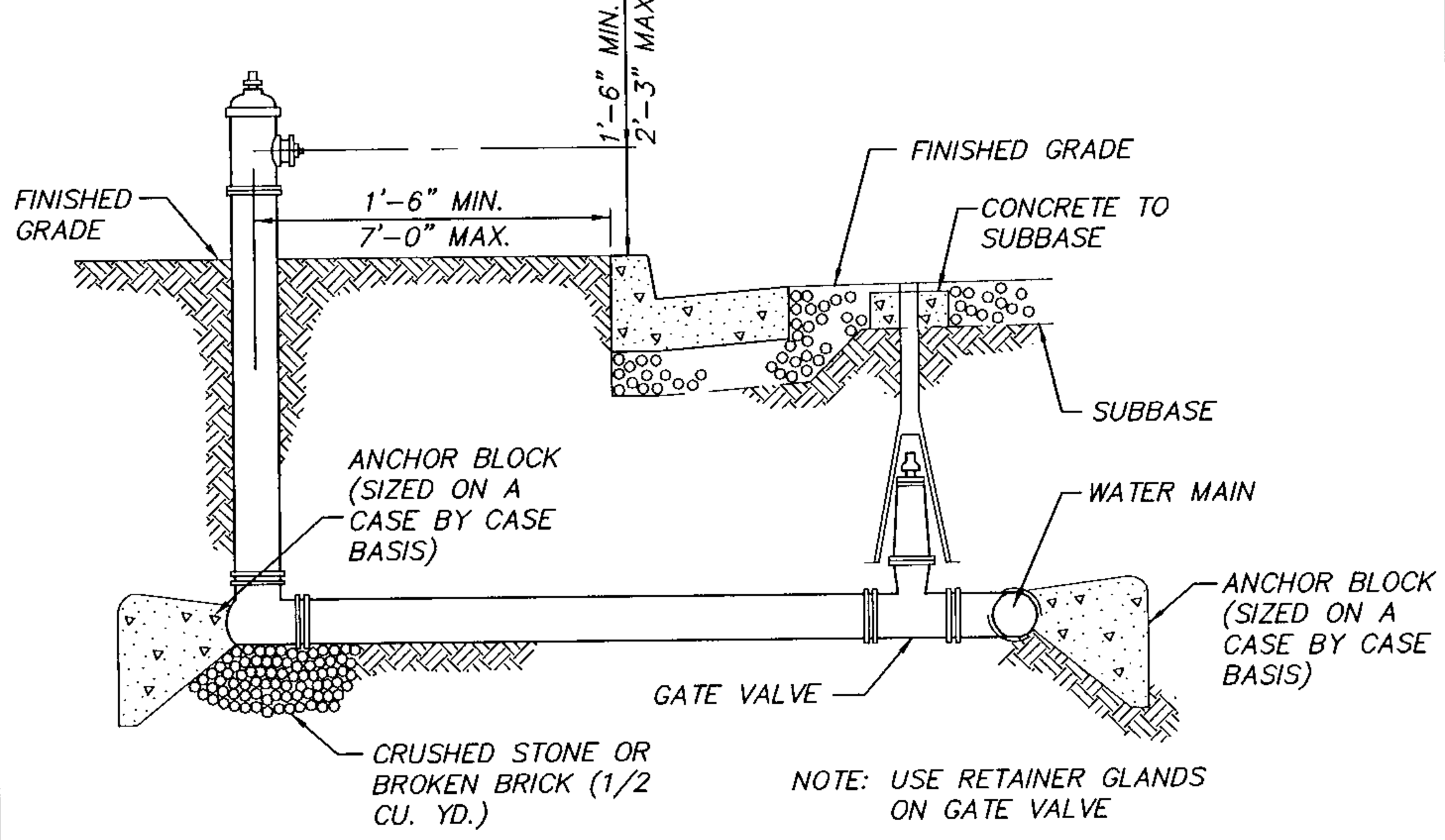
PIPE BEDDING – METHOD "A" (FILLS UP TO 30')

VIRGINIA DEPARTMENT OF TRANSPORATION

SHEET 1 OF 4

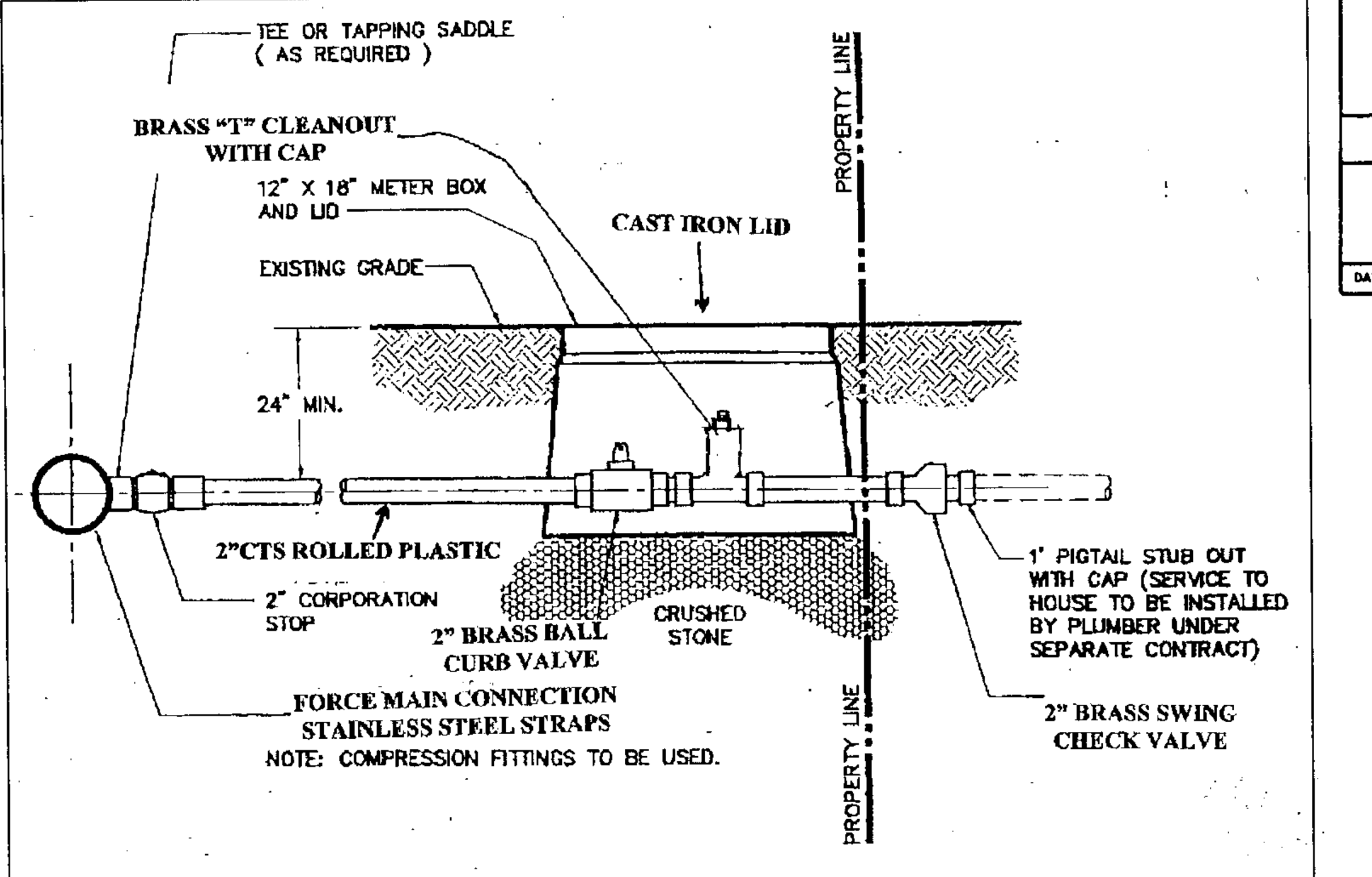
SPECIFICATION REFERENCE
302
303

107.01


1'-6" MIN.
2'-3" MAX.
FINISHED GRADE
FINISHED GRADE
1'-6" MIN.
7'-0" MAX.
CONCRETE TO SUBBASE
SUBBASE
ANCHOR BLOCK (SIZED ON A CASE BY CASE BASIS)
WATER MAIN
ANCHOR BLOCK (SIZED ON A CASE BY CASE BASIS)
GATE VALVE
CRUSHED STONE OR BROKEN BRICK (1/2 CU. YD.)

NOTE: USE RETAINER GLANDS ON GATE VALVE

FIRE HYDRANT DETAIL


TEE OR TAPPING SADDLE (AS REQUIRED)
BRASS "T" CLEANOUT WITH CAP
12" X 18" METER BOX AND LID
CAST IRON LID
EXISTING GRADE
PROPERTY LINE
24" MIN.
2"CTS ROLLED PLASTIC
2" CORPORATION STOP
2" BRASS BALL CURB VALVE
CRUSHED STONE
1' PIGTAIL STUB OUT WITH CAP (SERVICE TO HOUSE TO BE INSTALLED BY PLUMBER UNDER SEPARATE CONTRACT)
FORCE MAIN CONNECTION STAINLESS STEEL STRAPS
2" BRASS SWING CHECK VALVE
PROPERTY LINE

NOTE: COMPRESSION FITTINGS TO BE USED.

FORCE MAIN CONNECTION DETAIL

NTS

COMMONWEALTH OF VIRGINIA
DERRICK A. JOHNSON
No. 24761
4-2-07
PROFESSIONAL ENGINEER

VIRGINIA | NORTH CAROLINA | WEST VIRGINIA
THIS DRAWING PREPARED AT THE
PRINCE GEORGE OFFICE
4260 Crossings Blvd | Prince George, VA 23875
TEL 804.541.6600 FAX 804.751.0798 www.timmons.com

YOUR VISION ACHIEVED THROUGH OURS.

Site Development | Residential | Infrastructure | Technology

DATE	REVISION DESCRIPTION
4-2-2007	COUNTY REVISIONS

DATE
29 JAN 2007
DRAWN BY
S. IRBY
DESIGNED BY
K. HALPAUS
CHECKED BY
D. JOHNSON
SCALE
NONE

TIMMONS GROUP

THE MEADOWS @ PRINCE GEORGE - SECTION 2

BLAND DISTRICT * PRINCE GEORGE COUNTY, VIRGINIA

DETAILS

JOB NO.
23889
SHEET NO.
C1.2

These plans and associated documents are the exclusive property of TIMMONS GROUP and may not be reproduced in whole or in part and shall not be used for any purpose whatsoever, inclusive, but not limited to construction, bidding, and/or construction staking without the express written consent of TIMMONS GROUP.