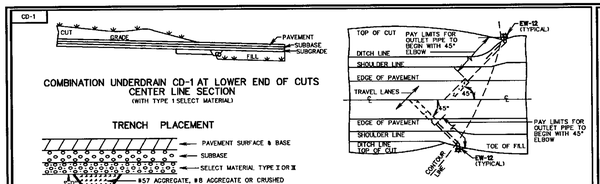
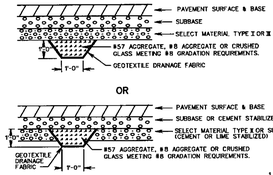
CD-1



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

TRENCH PLACEMENT



PLAN VIEW
(PLACEMENT OF CD-1 COMBINATION UNDERDRAIN)

NON-PERFORATED OUTLET PIPE

TYPE OF PIPE	CRUSHING STRENGTH			
	4" NOM. DIAMETER		6" NOM. DIAMETER	
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

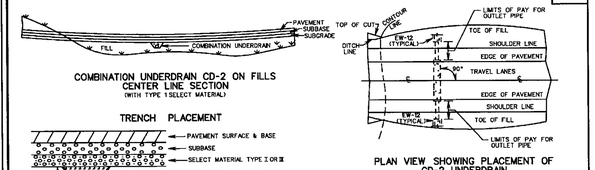
1. UNLESS SPECIFICALLY INDICATED, COMBINATION UNDERDRAIN WILL NOT BE LOCATED AT THIS POINT WHEN BOTH SUBBASE AND SUBGRADE ARE STABILIZED.
2. TRENCH SHALL BE FILLED WITH AGGREGATE AND THROUGHLY HAND TAMPED TO INSURE COMPACTNESS.
3. OUTLET PIPE SHALL BEGIN AT THE EDGE OF THE TRAVEL LANE PAVEMENT AND SHALL BE PLACED ON A GRADE PARALLEL TO THE SHOULDER SLOPE 2 % MIN. TO 5 % DESIRABLE GRADE.
4. ON CURB AND GUTTER SECTIONS, WHERE IT IS IMPOSSIBLE TO OTHERWISE PROVIDE OUTLETS FOR UNDERDRAINS, THEY ARE TO BE LOCATED 50 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-12OR OTHER DRAINAGE STRUCTURE.

REV 8/07
108.04

STANDARD COMBINATION UNDERDRAIN
(AT LOWER END OF CUTS)
VIRGINIA DEPARTMENT OF TRANSPORTATION

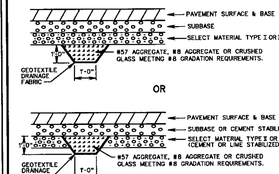
SPECIFICATION REFERENCE
232
501
701

CD- 2



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

TRENCH PLACEMENT

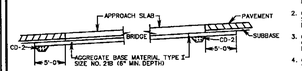


PLAN VIEW SHOWING PLACEMENT OF
CD-2 UNDERDRAIN

NON-PERFORATED OUTLET PIPE

TYPE OF PIPE	CRUSHING STRENGTH			
	4" NOM. DIAMETER		8" NOM. DIAMETER	
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.



PLACEMENT OF CD-2 UNDERDRAIN AT
BRIDGE APPROACH SLABS

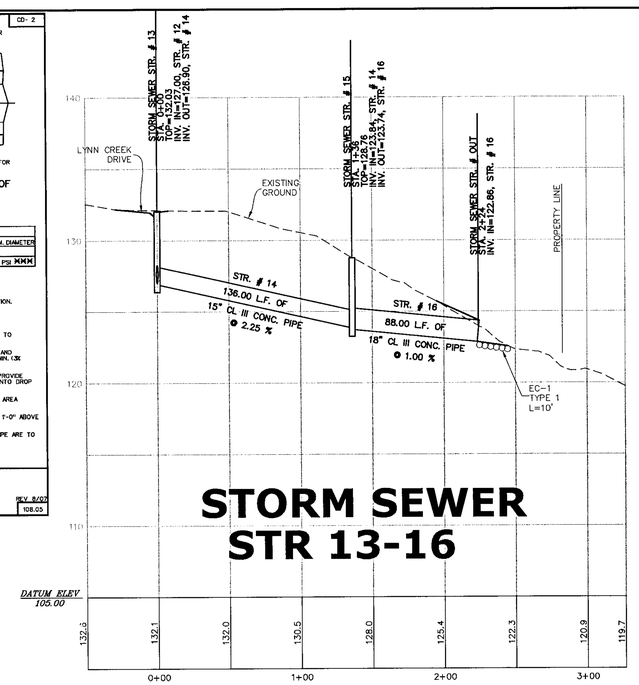
GENERAL NOTES

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 50 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-12OR OTHER DRAINAGE STRUCTURE.

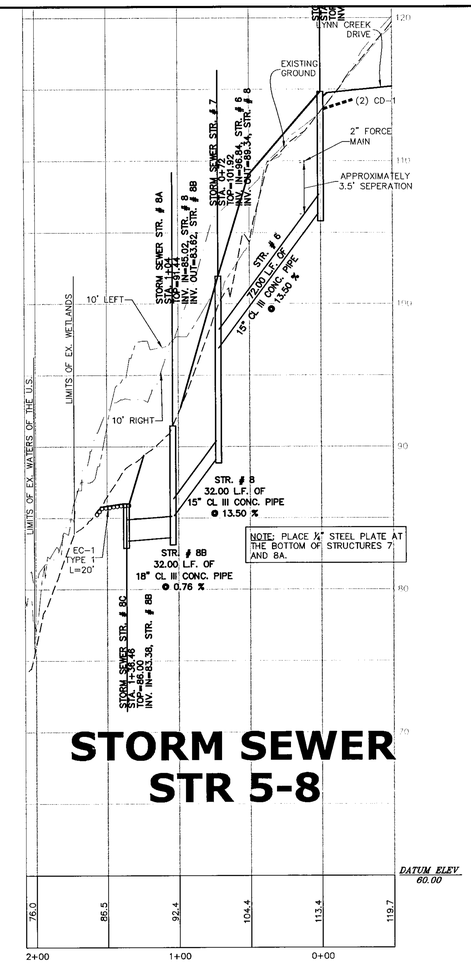
SPECIFICATION REFERENCE
232
501
701

STANDARD COMBINATION UNDERDRAIN
(AT GRADE SAGS AND BRIDGE APPROACHES)
VIRGINIA DEPARTMENT OF TRANSPORTATION

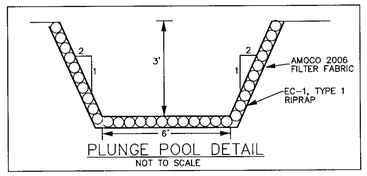
REV 8/07
108.05



STORM SEWER
STR 13-16



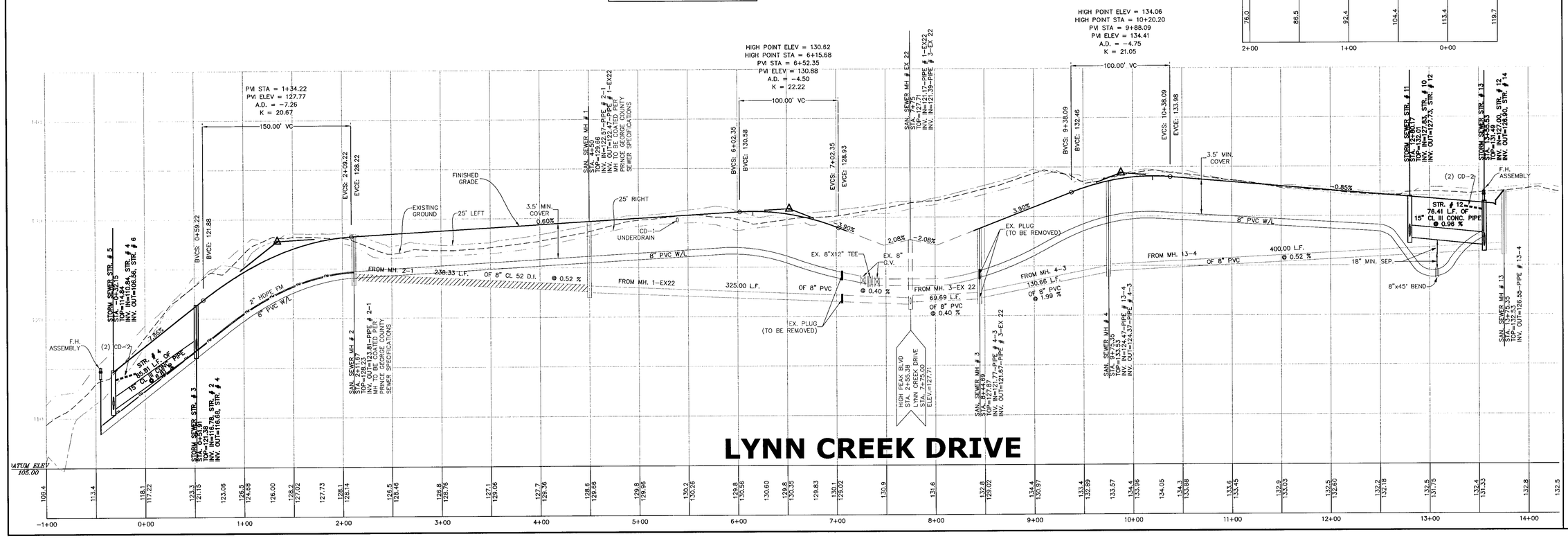
STORM SEWER
STR 5-8



PLUNGE POOL DETAIL
NOT TO SCALE

KEY
LEGEND:
25' LEFT
EXIST. GROUND @ C/L
25' RIGHT
ROAD GRADE @ C/L
SCALE:
HORIZONTAL: 1"=50'
VERTICAL: 1"=5'

NOTE:
CONTRACTOR IS TO VERIFY LOCATION OF EXISTING UTILITIES, BOTH HORIZONTALLY & VERTICALLY, PRIOR TO THE BEGINNING OF CONSTRUCTION.



LYNN CREEK DRIVE

COMMONWEALTH OF VIRGINIA
DERRICK A. JOHNSON
Lic. No. 24761
1-21-08
PROFESSIONAL ENGINEER

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YOUR VISION ACHIEVED THROUGH OURS.

Site Development | Residential | Infrastructure | Technology

DATE	REVISION DESCRIPTION
11-12-07	COUNTY COMMENTS
01-21-08	COUNTY COMMENTS

DATE	31 AUG 2007
DRAWN BY	K. HALPAUS
DESIGNED BY	K. HALPAUS
CHECKED BY	D. JOHNSON
SCALE	HORIZ:1"=50' VERT:1"=5'

TIMMONS GROUP

MEADOWS AT PRINCE GEORGE - SECTION 4
BLAND DISTRICT * PRINCE GEORGE COUNTY, VIRGINIA
PROFILES

JOB NO. 24423
SHEET NO. C3.0

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