

BURNSIDE DRIVE SIDEWALK IMPROVEMENTS

CAPITAL PROJECT K-5036

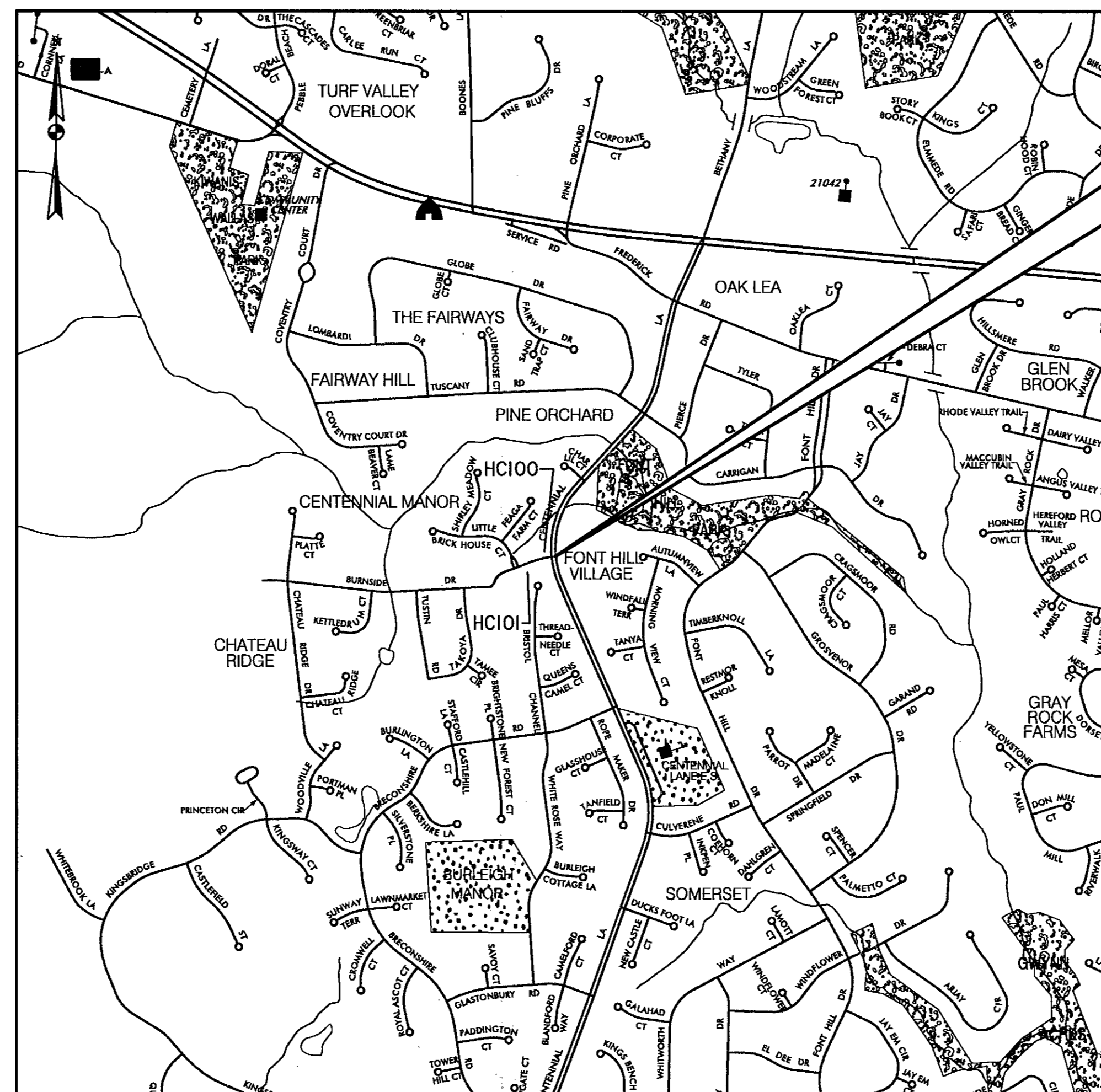
1st ELECTION DISTRICT HOWARD COUNTY, MARYLAND

INDEX OF DRAWINGS

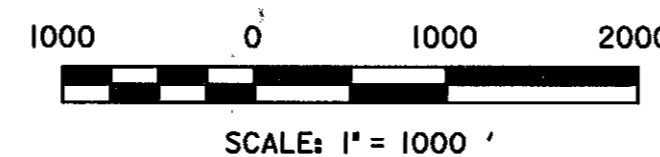
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GENERAL NOTES

1. THE CONTRACTOR SHALL NOTIFY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING CONSTRUCTION INSPECTION DIVISION AT 410-313-1880 HOWARD COUNTY PUBLIC SCHOOLS AT 410-313-6600 AND MISS UTILITY AT 1-800-257-7777 AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING WORK
2. COORDINATES SHOWN HEREON ARE BASED ON THE MARYLAND STATE REFERENCE SYSTEM NAD '83/'91 AS PROJECTED BY HOWARD COUNTY PROJECT CONTROL STATIONS 100 AND 101.
100:
N: 584,447.484
E: 1,350,448.677
ELEV: 420.13' (NAVD 88)
HOWARD COUNTY REBAR FOUND
101:
N: 584,343.412
E: 1,350,249.713
ELEV: 410.14' (NAVD 88)
HOWARD COUNTY REBAR FOUND
3. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY, INCLUDING ADA REQUIREMENTS.
4. ADA STATEMENT: THIS PROJECT HAS INCORPORATED THE INTENT AND SPIRIT OF THE 2010 UPDATE OF THE AMERICANS WITH DISABILITIES ACT (ADA) AND SECTION 405 OF THE REHABILITATION ACT OF 1973 TO THE FULLEST EXTEND POSSIBLE.
5. ALL WORK SHALL COMPLY WITH ALL APPLICABLE PROVISIONS OF THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, ISSUED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT AND THE NATURAL RESOURCES CONSERVATION SERVICE.
6. TOPOGRAPHIC SURVEYS WERE PERFORMED BY URS CORPORATION IN AUGUST 2014.
7. THE PROPERTY LINES AND EASEMENT LINES ARE APPROXIMATE.
SHOULD THE CONTRACTOR DISCOVER DISCREPANCIES BETWEEN THE PLANS AND THE FIELD CONDITIONS, THE ENGINEER IS TO BE NOTIFIED IMMEDIATELY TO RESOLVE THE SITUATION. SHOULD THE CONTRACTOR MAKE FIELD CORRECTIONS OR ADJUSTMENTS WITHOUT NOTIFYING THE ENGINEER, THEN THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR THOSE CHANGES.
8. CONTRACTOR IS SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHOD, TECHNIQUES, SEQUENCES, PROCEDURES, AND SAFETY PRECAUTIONS AND PROGRAMS.
9. APPROXIMATE UTILITIES ARE SHOWN FROM AVAILABLE RECORDS AND/OR FIELD RECONNAISSANCE. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATION SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTOR'S EXPENSE.
THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES OR AGENCIES AT LEAST FIVE (5) WORKING DAYS BEFORE STARTING WORK SHOWN ON THESE PLANS.
UTILITY CONTACTS:
AT&T 1-800-252-1133
BGE (CONSTRUCTION SERVICES) (410) 637-8713
BGE (EMERGENCY) (410) 685-0123
HOCO BUREAU OF UTILITIES (410) 313-4900
COLONIAL PIPELINE CO. (410) 795-1390
MISS UTILITY 1-800-257-7777
STATE HIGHWAY ADMINISTRATION (410) 531-5533
VERIZON 1-800-743-0033
10. ADC MAP/GRID NO.: 4815-B7
ZONING: R-20 - LOW DENSITY RESIDENTIAL
TAX MAP/GRID: 0024 / 0007
HOWARD COUNTY ELECTION DISTRICT: 1
11. WATER & SEWER CONTRACT NO.: 24-1464-D
12. A GEOTECHNICAL EXPLORATION AND REPORT WAS PERFORMED. THE REPORT DATED OCTOBER 23, 2014 WAS PREPARED BY S&LUT-TLB AND SHALL BE CONSIDERED PART OF THESE PLANS FOR INFORMATIONAL PURPOSES.



LOCATION MAP
HOWARD COUNTY



TRAVERSE POINTS AND BENCHMARK INFORMATION			
POINT NO.	NORTHING	EASTING	ELEVATION
FLY50	584,565.936	1,350,282.857	394.313
FLY51	584,428.514	1,350,077.109	407.193
FLY52	584,531.788	1,350,008.030	0.00
HC100	584,447.484	1,350,448.677	420.133
HC101	584,343.412	1,350,249.713	410.137

DEVELOPER'S CERTIFICATION

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."

Steve Shavar 4/2/15
SIGNATURE OF DEVELOPER DATE
Steve Shavar

ENGINEER'S CERTIFICATION

"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

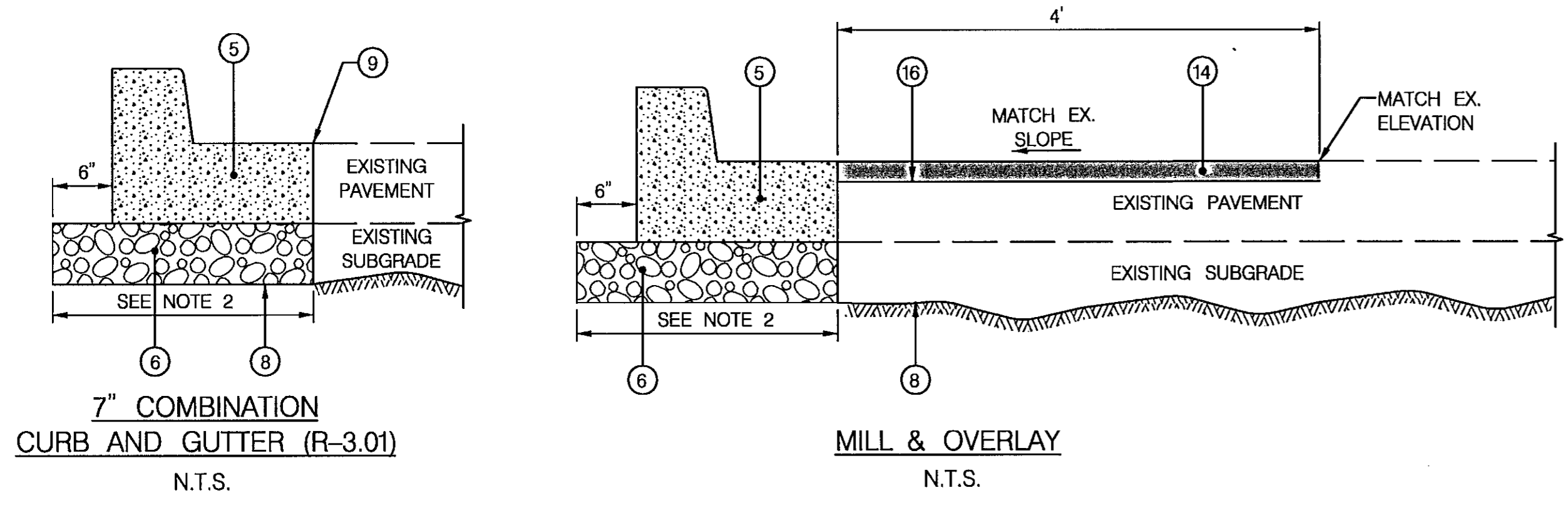
URS CORPORATION DAVID T. MORICONI 4/15/15 DATE
4 NORTH PARK DRIVE
HUNT VALLEY, MD 21030

THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY HOWARD SOIL CONSERVATION DISTRICT.
John A. Reister 4/23/15 DATE
HOWARD SOIL CONSERVATION DISTRICT

PROFESSIONAL CERTIFICATION

"I HEREBY CERTIFY THAT DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 16156 EXPIRATION DATE: 8/28/2016"

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND Director of Public Works: Steve Shavar 4/2/15 Chief, Transportation and Special Projects Division: Steve Shavar 4/2/15	PREPARED BY URS 4 NORTH PARK DRIVE HUNT VALLEY, MARYLAND TEL: (410) 785-7220		DES: JHY DRN: CDF CHK: DTM DATE: 04/2015	TITLE SHEET	SCALE AS SHOWN SHEET 1 OF 8
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7" COMBINATION CURB AND GUTTER (R-3.01)
N.T.S.

MILL & OVERLAY
N.T.S.

PERVIOUS PORTLAND CEMENT CONCRETE PAVEMENT NOTES

CONTRACTOR QUALIFICATIONS: THE USE OF AN ACI CONCRETE FLATWORK CERTIFIED FINISHER IS STRONGLY RECOMMENDED. PRIOR TO AWARD OF THE CONTRACT, THE PLACING CONTRACTOR SHALL FURNISH CONSTRUCTION MANAGER A STATEMENT ATTESTING TO QUALIFICATIONS AND EXPERIENCE AND THE FOLLOWING:

- (A) A MINIMUM OF TWO COMPLETED PROJECTS WITH ADDRESSES.
- (B) UNIT WEIGHT ACCEPTANCE DATA.
- (C) IN-SITU PAVEMENT TEST RESULTS INCLUDING VOID CONTENT AND UNIT WEIGHT.
- (D) SAMPLE OF PRODUCT (I.E., CORE OR TEST PANEL).

IF THE PLACING CONTRACTOR AND CONCRETE PRODUCER HAVE INSUFFICIENT EXPERIENCE WITH PORTLAND CEMENT PERVIOUS CONCRETE PAVEMENT, THE PLACING CONTRACTOR SHALL RETAIN AN EXPERIENCED CONSULTANT (AS QUALIFIED ABOVE) TO MONITOR PRODUCTION, HANDLING, AND PLACEMENT OPERATIONS AT THE CONTRACTOR'S EXPENSE.

CONCRETE MIX DESIGN

MATERIALS	QUANTITIES FOR ONE CUBIC YARD - DRY WEIGHTS S.S.D.	TYPE	WEIGHT (LB)	ABSOLUTE VOLUME (CF)
CEMENT	493	PORTLAND TYPE I OR II (ASTM C-150)	2.51	
SLAG CEMENT	165	GGBFS (ASTM C-989)	0.90	
SAND	260	CONCRETE SAND (ASTM C-33)	1.60	
STONE		#8 COURSE AGGREGATE- 3/8" TO NO. 16 (ASTM C-33)	2,500	14.11
WATER (19 GAL.)	158.3	POTABLE QUALITY	2.54	
ESTIMATED AIR (20%)		AIR VOIDS/AEA (ASTM C-260)	5.40	
			27.05	
THEORETICAL WEIGHT OF MIX (LBCF)	132.05 (WITH ADMIXTURE)			
DESIGN WATER CEMENT RATIO	0.24			
MAXIMUM WATER CEMENT RATIO	0.30			
SLUMP	1 INCH			
ADMIX (ASTM C-494)	TYPE D - RETARDING SET WATER REDUCER @ MANUFACTURER'S RECOMMENDED DOSAGE RATE (W.R. GRACE-RECOVER-HYDRATION STABILIZER)			

TEST PANELS: REGARDLESS OF QUALIFICATION, CONTRACTOR SHALL PLACE, JOINT AND CURE TWO TEST PANELS, EACH TO BE A MINIMUM OF 25 SQUARE FEET AT THE REQUIRED PROJECT THICKNESS TO DEMONSTRATE TO THE COUNTY'S SATISFACTION THAT IN-PLACE UNIT WEIGHTS CAN BE ACHIEVED AND A SATISFACTORY PAVEMENT CAN BE INSTALLED AT THE SITE LOCATION.

TEST PANELS MAY BE PLACED AT ANY OF THE SPECIFIED PORTLAND CEMENT PERVIOUS PAVEMENT PLACEMENT LOCATIONS. TEST PANELS SHALL BE TESTED FOR THICKNESS IN ACCORDANCE WITH ASTM C 42; VOID STRUCTURE IN ACCORDANCE WITH ASTM C 138; AND FOR CORE UNIT WEIGHT IN ACCORDANCE WITH ASTM C 140.

SATISFACTORY PERFORMANCE OF THE TEST PANELS WILL BE DETERMINED BY:

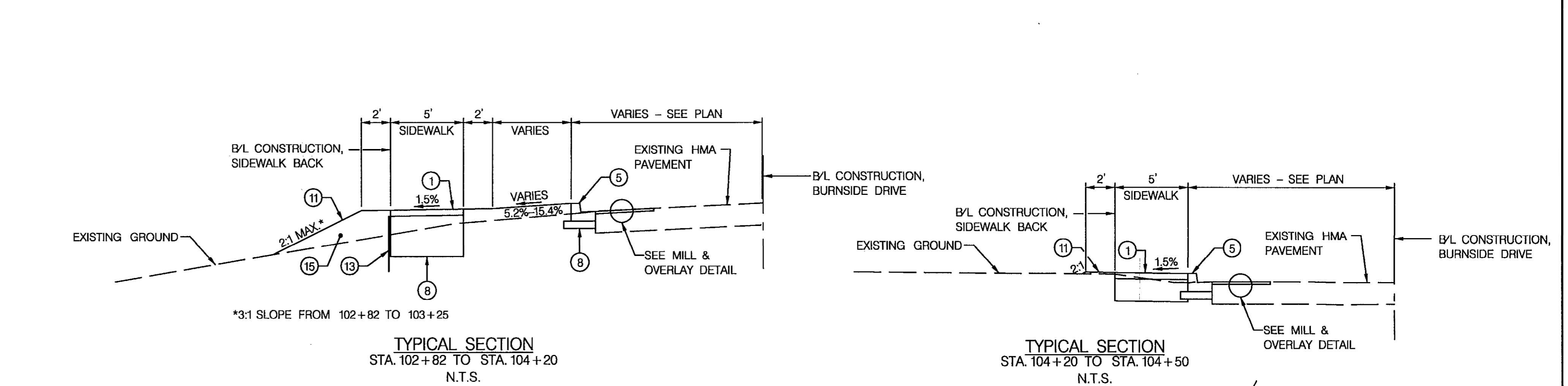
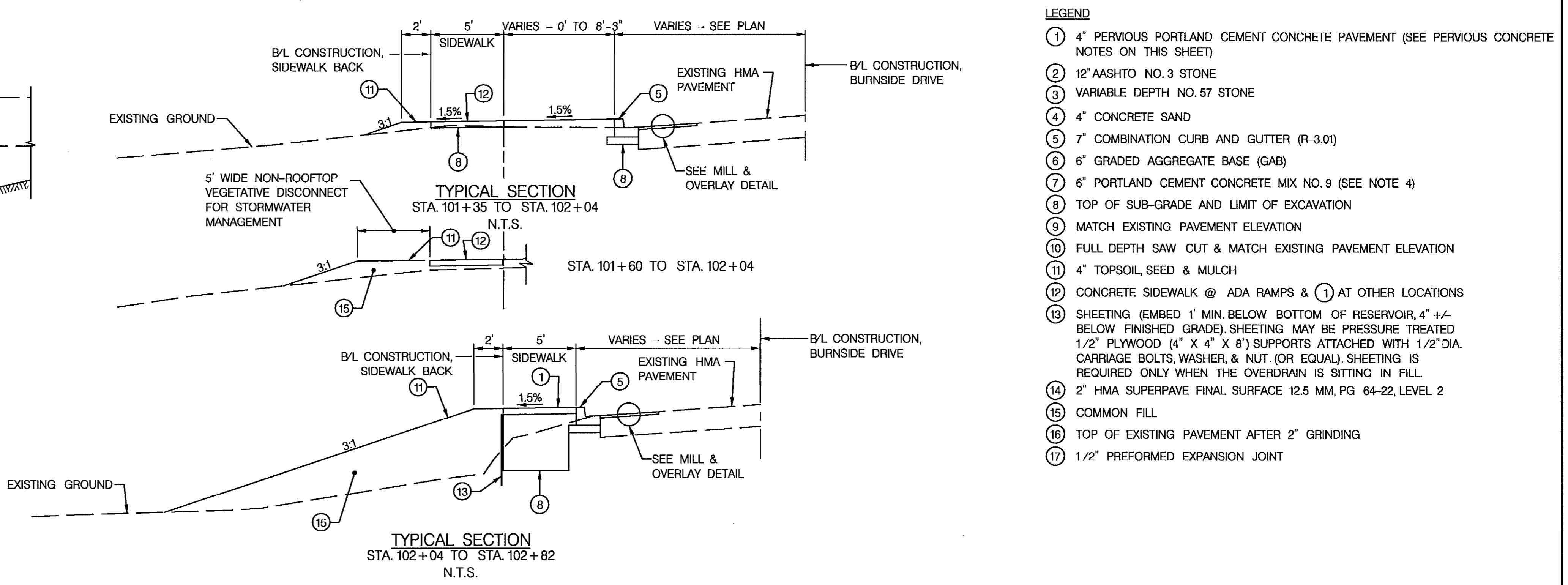
- (A) COMPACTED THICKNESS NO LESS THAN 1/4-INCH OF SPECIFIED THICKNESS.
- (B) VOID STRUCTURE: 15% MINIMUM, 21% MAXIMUM.
- (C) UNIT WEIGHT + 5 PCF OF THE DESIGN UNIT WEIGHT

IF MEASURED VOID STRUCTURE FALLS BELOW 15%, OR IF MEASURED THICKNESS IS GREATER THAN 1/4-INCH LESS THAN THE SPECIFIED THICKNESS OR IF MEASURED WEIGHT FALLS LESS THAN 5 PCF BELOW DESIGN UNIT WEIGHT, THE TEST PANEL SHALL BE REMOVED AT THE CONTRACTOR'S EXPENSE AND DISPOSED OF IN AN APPROVED LANDFILL.

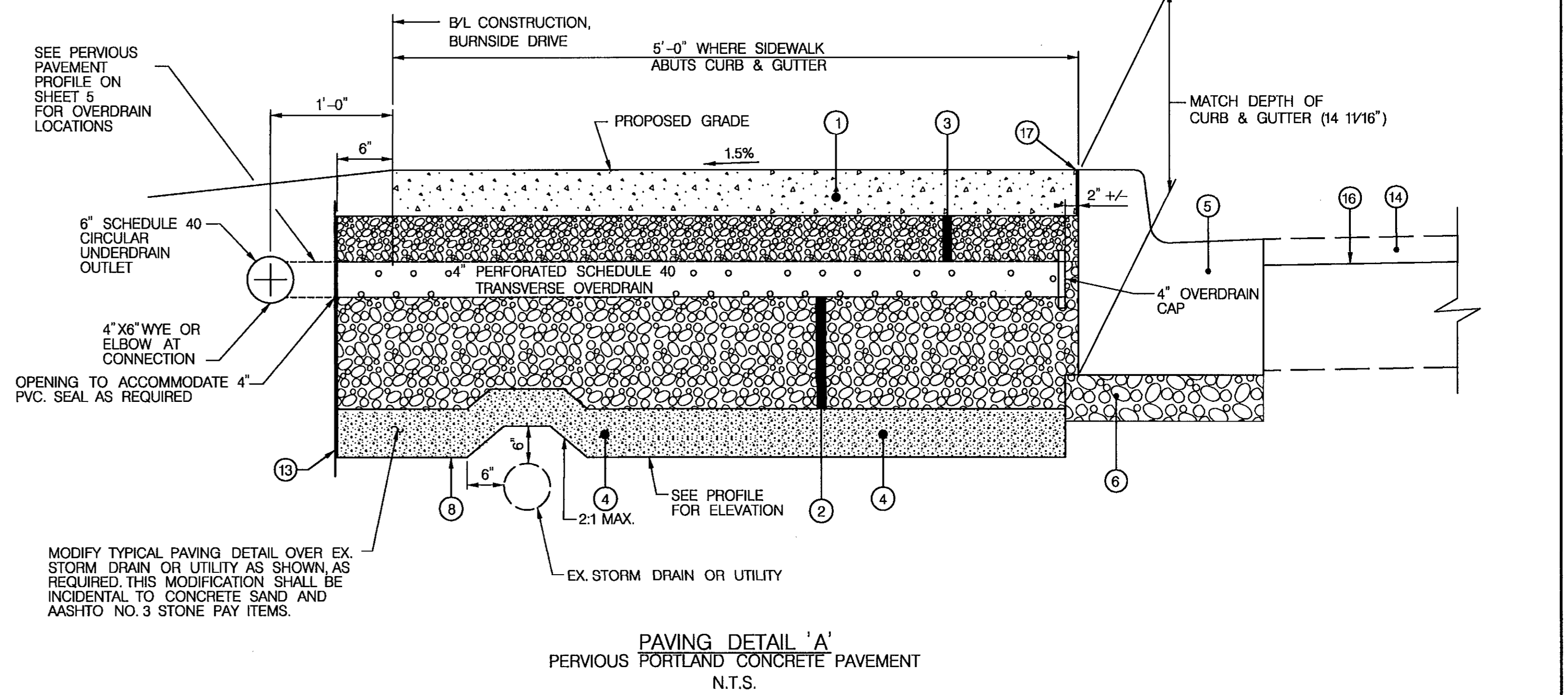
IF THE TEST PANEL MEETS THE ABOVE-MENTIONED REQUIREMENTS, IT MAY BE LEFT IN-PLACE AND INCLUDED IN THE COMPLETED WORK WHEN APPROVED BY THE COUNTY.

- NOTES:
- ALL SIDEWALK RAMPS AND OTHER LOCATION SPECIFIED IN THE PLAN SHEET SHALL BE STANDARD CONCRETE (IMPERVIOUS) SIDEWALK. SEE DETAIL R-3.05 FOR GENERAL NOTES AND DETAIL.
 - BASE COURSE USING GRADED AGGREGATE MATERIAL TO BE PLACED IN THIS AREA SHALL BE INCIDENTAL TO AND INCLUDED IN THE CURB AND GUTTER.
 - IT IS ANTICIPATED THAT PROPOSED PERVIOUS PAVEMENT AGGREGATE AND/OR CONCRETE SAND MAY CONFLICT WITH THE EXISTING UTILITY CONDUITS. CONTRACTOR MUST AVOID DAMAGE OR IMPACT TO ANY UTILITY LINES DURING CONSTRUCTION BY USE OF HAND EXCAVATION AND/OR OTHER METHODS APPROVED BY THE ENGINEER. IF DURING CONSTRUCTION THE UTILITY CONFLICTS CANNOT BE RESOLVED BY MOVING THE EXISTING UTILITY, STANDARD CONCRETE (IMPERVIOUS) SIDEWALK CAN BE USED IN THE VICINITY OF THE CONFLICT IN LIEU OF PERVIOUS PAVEMENT WITH THE APPROVAL OF THE COUNTY. THE CONTRACTOR IS RESPONSIBLE FOR ADJUSTING THE OVERDRAIN OUTLET LOCATION DESIGN ACCORDINGLY. DAMAGE TO EXISTING UTILITIES RESULTING FROM CONSTRUCTION OF THE SIDEWALK, CURB AND GUTTER, STORM DRAINAGE, OR OTHER INCIDENTAL CONSTRUCTION SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
 - THE CONTRACTOR SHALL EXCAVATE AN ADDITIONAL 1' WIDTH FOR CURB AND GUTTER FORM PLACEMENT AT LOCATIONS WHERE PROPOSED EDGE OF GUTTER PAN IS OUTSIDE THE EXISTING LIMIT OF EXISTING HMA PAVEMENT. CONTRACTOR MAY OPT TO USE THE CONCRETE SLOT FOR OTHER LOCATIONS, WHERE THE EDGE OF PROPOSED GUTTER PAN IS AT OR INTERIOR TO THE EDGE OF EXISTING HMA PAVEMENT. THE ADDITIONAL EXCAVATION IS TO BE FILLED WITH A MINIMUM OF 6" GRADED AGGREGATE BASE AND 6 INCH PORTLAND CEMENT CONCRETE MIX #9 TO THE BOTTOM OF THE FINAL HMA COURSE. THE COST SHALL BE INCIDENTAL TO THE UNIT PRICE OF LINEAR FOOT OF CURB AND GUTTER. DOWEL BARS ARE NOT NECESSARY. THE TRANSVERSE JOINTS SHALL MATCH THOSE OF THE CURB AND GUTTER.

PROFESSIONAL CERTIFICATION
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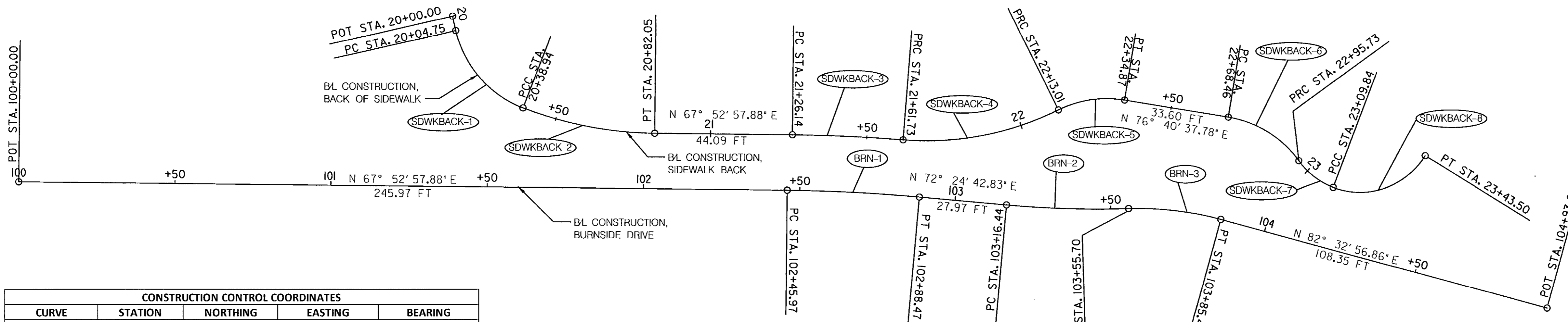
- LEGEND**
- ① 4" PERVIOUS PORTLAND CEMENT CONCRETE PAVEMENT (SEE PERVIOUS CONCRETE NOTES ON THIS SHEET)
 - ② 12" AASHTO NO. 3 STONE
 - ③ VARIABLE DEPTH NO. 57 STONE
 - ④ 4" CONCRETE SAND
 - ⑤ 7" COMBINATION CURB AND GUTTER (R-3.01)
 - ⑥ 6" GRADED AGGREGATE BASE (GAB)
 - ⑦ 6" PORTLAND CEMENT CONCRETE MIX NO. 9 (SEE NOTE 4)
 - ⑧ TOP OF SUB-GRADE AND LIMIT OF EXCAVATION
 - ⑨ MATCH EXISTING PAVEMENT ELEVATION
 - ⑩ FULL DEPTH SAW CUT & MATCH EXISTING PAVEMENT ELEVATION
 - ⑪ 4" TOPSOIL, SEED & MULCH
 - ⑫ CONCRETE SIDEWALK @ ADA RAMPS & ① AT OTHER LOCATIONS
 - ⑬ SHEETING (EMBED 1' MIN. BELOW BOTTOM OF RESERVOIR, 4" +/- BELOW FINISHED GRADE). SHEETING MAY BE PRESSURE TREATED 1/2" PLYWOOD (4" X 4" X 8') SUPPORTS ATTACHED WITH 1/2" DIA. CARRIAGE BOLTS, WASHER, & NUT (OR EQUAL). SHEETING IS REQUIRED ONLY WHEN THE OVERDRAIN IS SITTING IN FILL.
 - ⑭ 2" HMA SUPERPAVE FINAL SURFACE 12.5 MM, PG 64-22, LEVEL 2
 - ⑮ COMMON FILL
 - ⑯ TOP OF EXISTING PAVEMENT AFTER 2" GRINDING
 - ⑰ 1/2" PREFORMED EXPANSION JOINT



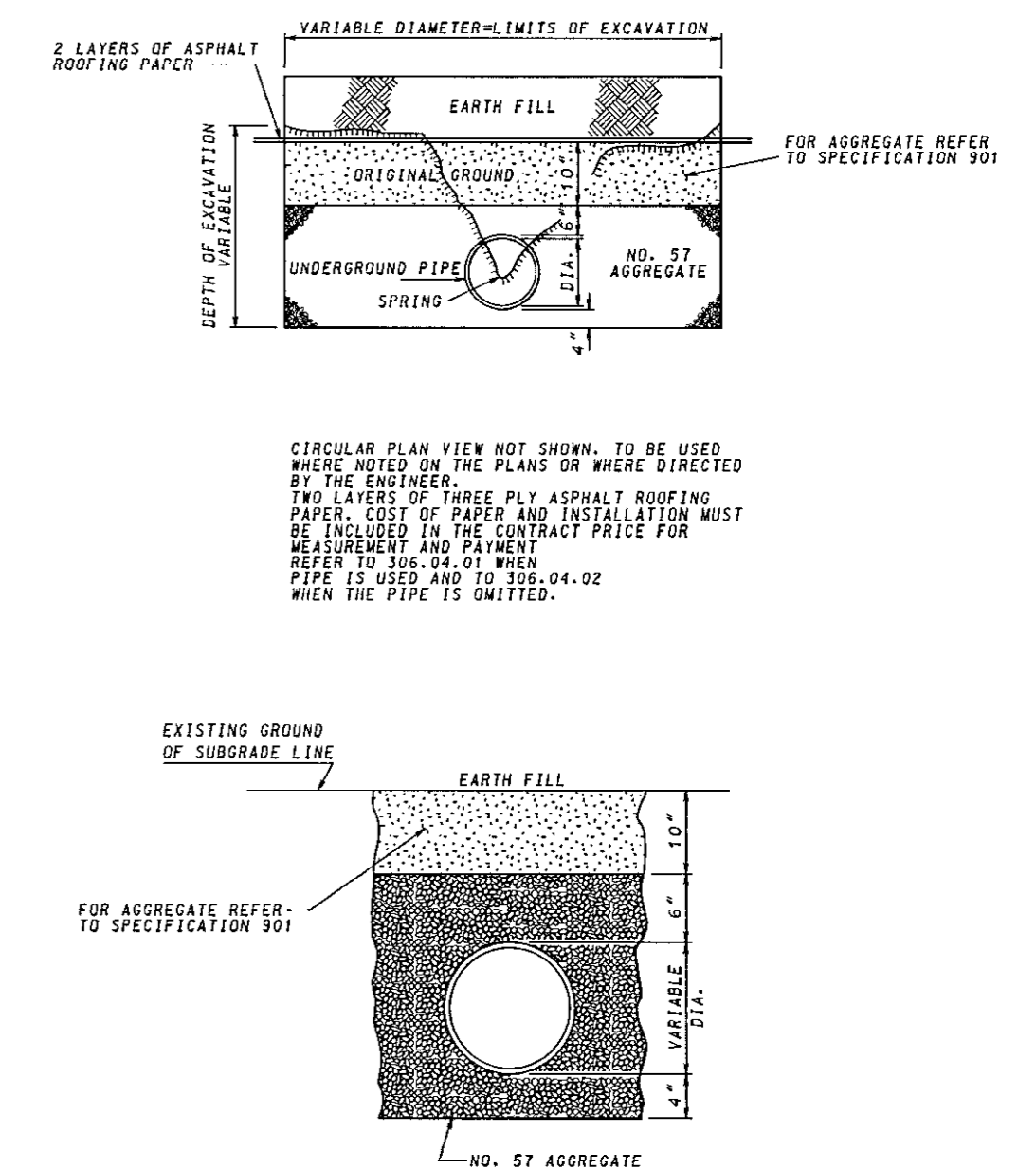
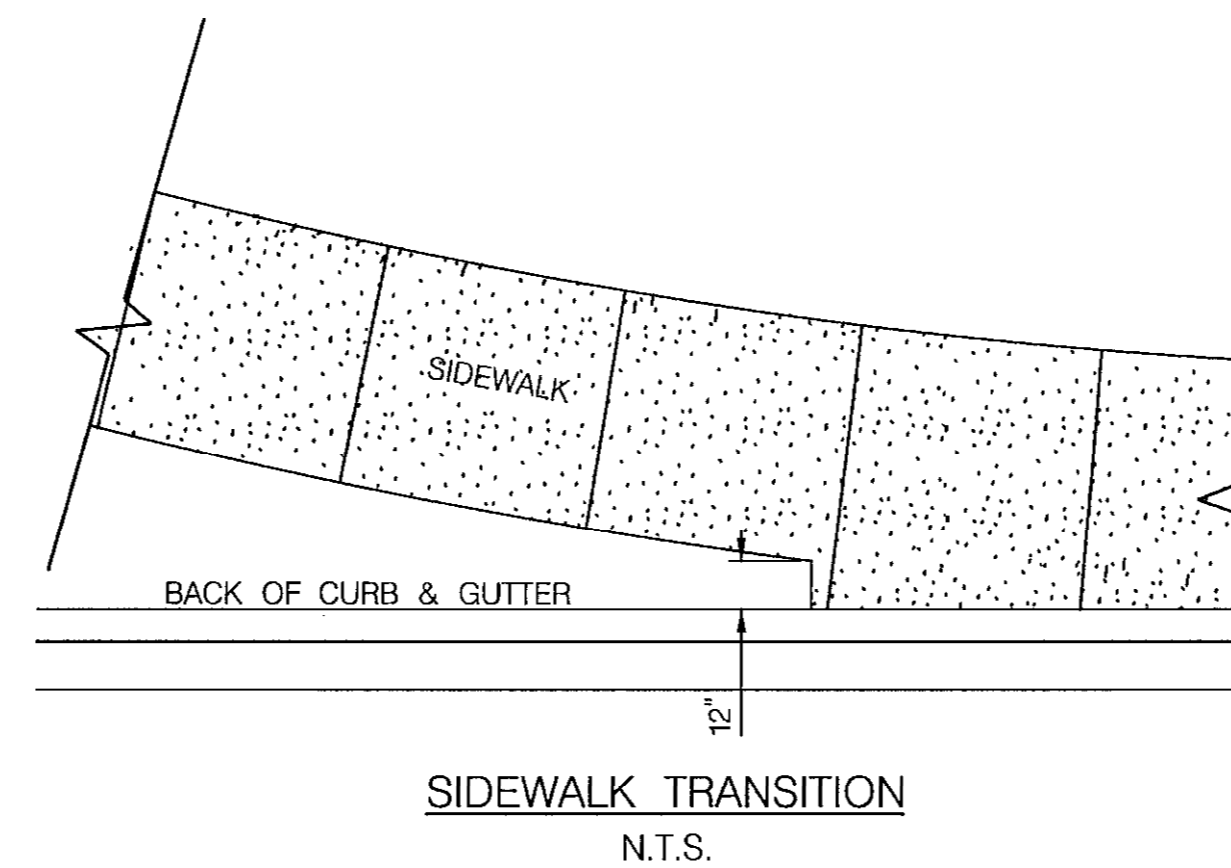
PAVING DETAIL 'A'
PERVIOUS PORTLAND CONCRETE PAVEMENT
N.T.S.

DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND DIRECTOR OF PUBLIC WORKS CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION	PREPARED BY URS 4 NORTH PARK DRIVE HUNT VALLEY, MARYLAND TEL: (410) 785-7220	THOMAS W. JOHNSON PROFESSIONAL ENGINEER LICENSE NO. 16156 EXPIRATION DATE: 8/28/2016	DES: JHY DRN: CDF CHK: DTM DATE: 04/2015	TYPICAL SECTIONS AND DETAILS I	BURNSIDE DRIVE SIDEWALK IMPROVEMENTS 1ST ELECTION DISTRICT - ELLICOTT CITY, MARYLAND CAPITAL PROJECT K-5036	SCALE 1"=5' SHEET 2 OF 8
		REVISION BY NO. DATE		SCALE MAP NO. BLOCK NO.		

CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
BRN-1	4° 31' 44.94" RT	10° 39' 28.42"	537.59	21.26	42.50	0.42
BRN-2	6° 55' 17.15" LT	17° 37' 46.09"	325.00	19.65	39.26	0.59
BRN-3	17° 03' 31.18" RT	57° 17' 44.81"	100.00	15.00	29.77	1.12
SDWKBACK-1	55° 58' 41.80" LT	163° 42' 08.02"	35.00	18.60	34.20	4.64
SDWKBACK-2	20° 34' 47.86" LT	47° 44' 47.34"	120.00	21.79	43.10	1.96
SDWKBACK-3	3° 56' 21.05" RT	11° 04' 05.10"	517.67	17.80	35.59	0.31
SDWKBACK-4	30° 55' 34.93" LT	60° 18' 40.85"	95.00	26.28	51.28	3.57
SDWKBACK-5	35° 46' 53.78" RT	163° 42' 08.02"	35.00	11.30	21.86	1.78
SDWKBACK-6	44° 37' 39.86" RT	163° 42' 08.02"	35.00	14.36	27.26	2.83
SDWKBACK-7	33° 13' 28.30" LT	235° 27' 43.59"	24.33	7.26	14.11	1.06
SDWKBACK-8	79° 15' 51.03" LT	235° 27' 43.59"	24.33	20.15	33.66	7.26



CONSTRUCTION CONTROL COORDINATES				
CURVE	STATION	NORTHING	EASTING	BEARING
B/L BURNSIDE DRIVE				
	POT 100+00.00	584,274.9299	1,350,048.5736	N 67° 52' 57.88" E
	PC 102+45.97	584,367.5402	1,350,276.4484	N 67° 52' 57.88" E
BRN-1	PI 102+67.23	584,375.5442	1,350,296.1430	
	PT 102+88.47	584,381.9681	1,350,316.4081	N 72° 24' 42.83" E
	PC 103+16.44	584,390.4206	1,350,343.0732	N 72° 24' 42.83" E
BRN-2	PI 103+36.10	584,396.3596	1,350,361.8086	
	PRC 103+55.70	584,404.5130	1,350,379.6918	N 65° 29' 25.68" E
BRN-3	PI 103+70.70	584,410.7346	1,350,393.3379	
	PT 103+85.48	584,412.6794	1,350,408.2087	N 82° 32' 56.86" E
	POT 104+93.83	584,426.7300	1,350,515.6453	N 82° 32' 56.86" E
B/L BACK OF SIDEWALK				
	POT 20+00.00	584,377.5741	1,350,156.1900	S 35° 33' 32.46" E
	PC 20+04.75	584,373.7114	1,350,158.9513	S 35° 33' 32.46" E
SDWKBACK-1	PI 20+23.35	584,358.5789	1,350,169.7687	
	PCC 20+38.94	584,359.0779	1,350,188.3633	N 88° 27' 45.75" E
SDWKBACK-2	PI 20+60.73	584,359.6624	1,350,210.1415	
	PT 20+82.05	584,367.8649	1,350,230.3244	N 67° 52' 57.88" E
	PC 21+26.14	584,384.4665	1,350,271.1739	N 67° 52' 57.88" E
SDWKBACK-3	PI 21+43.94	584,391.1691	1,350,287.6662	
	PRC 21+61.73	584,396.7229	1,350,304.5799	N 71° 49' 18.94" E
SDWKBACK-4	PI 21+88.01	584,404.9215	1,350,329.5484	
	PRC 22+13.01	584,424.7868	1,350,346.7536	N 40° 53' 44.00" E
SDWKBACK-5	PI 22+24.31	584,433.3273	1,350,354.1505	
	PT 22+34.87	584,435.9309	1,350,365.1449	N 76° 40' 37.78" E
	PC 22+68.46	584,443.6734	1,350,397.8394	N 76° 40' 37.78" E
SDWKBACK-6	PI 22+82.83	584,446.9835	1,350,411.8173	
	PRC 22+95.73	584,439.5138	1,350,424.0905	S 58° 41' 42.36" E
SDWKBACK-7	PI 23+02.99	584,439.5198	1,350,424.0905	
	PCC 23+09.84	584,435.9909	1,350,437.5490	N 88° 04' 49.34" E
SDWKBACK-8	PI 23+29.99	584,436.6660	1,350,457.6909	
	PT 23+43.50	584,456.5811	1,350,460.7797	N 8° 48' 58.31" E



PROFESSIONAL CERTIFICATION
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SPECIFICATION 306	CATEGORY CODE ITEMS	Maryland Department of Transportation	
APPROVED <i>K.E.G. McCall</i>	DIRECTOR - OFFICE OF HIGHWAY DEVELOPMENT	STATE HIGHWAY ADMINISTRATION	
APPROVAL - SHA	APPROVAL - TESSAL	STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES	
REVISIONS	REVISIONS	SPRING CONTROL METHOD & DETAIL	
APPROVAL - 8-1-57	APPROVAL - 8-4-57	STANDARD NO. MD 386.03	
REVISED - 3-18-58	REVISED - 4-5-58		
REVISED	REVISED		

DEPARTMENT OF PUBLIC WORKS
 HOWARD COUNTY, MARYLAND

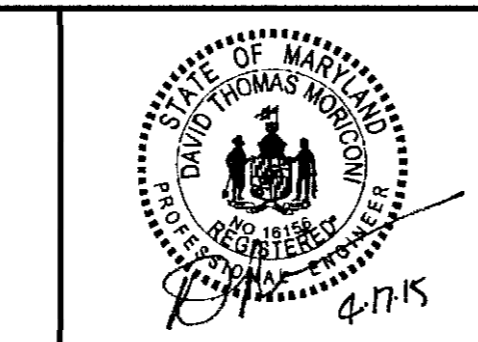
Steve Shaver 4/23/15
 DIRECTOR OF PUBLIC WORKS DATE

Thomas J. Butler 4/21/15
 CHIEF, BUREAU OF ENGINEERING DATE

Steve Shaver 4/23/15
 CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

Michael J. McKeown 4/23/2015
 CHIEF, BUREAU OF HIGHWAYS DATE

PREPARED BY
URS
 4 NORTH PARK DRIVE
 HUNT VALLEY, MARYLAND
 TEL: (410) 785-7220



DES: JHY			
DRN: CDF			
CHK: DTM			
DATE: 04/2015			
BY NO.		REVISION	DATE

GEOMETRY PLAN & TYPICAL DETAILS

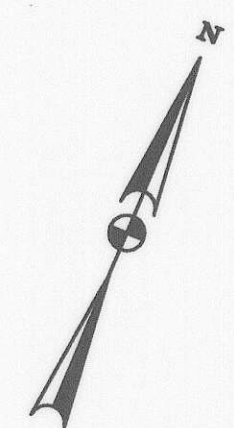
SCALE MAP NO. _____ BLOCK NO. _____

BURNSIDE DRIVE SIDEWALK IMPROVEMENTS

1ST ELECTION DISTRICT - ELLICOTT CITY, MARYLAND
 CAPITAL PROJECT K-5036

SCALE

SHEET 3 OF 8



TAX MAP 24, PARCEL 0740
ACCOUNT NO. 02-305992
HUNG PO HSLU
HUNG YU FEN LEE
01976/00075, LOT 24
#10205 LITTLE BRICK HOUSE CT.

TAX MAP 24, PARCEL 0740
ACCOUNT NO. 02-306557
GANAPATHY RAJESH
12276/00150, LOT 74
#10202 FEAGA FARM CT.
DRAINAGE & UTILITY EASEMENT
PLAT No. 6881
EASEMENT AGREEMENT TO
HOWARD COUNTY
2001/726

TAX MAP 24, PARCEL 0740
ACCOUNT NO. 02-306549
GSM SOLUTIONS LLC
15415/00183, LOT 73
#10206 FEAGA FARM CT.

TAX MAP 24, PARCEL 0740
ACCOUNT NO. 02-306530
CABANILLA JAIME R.
CABANILLA ROSEMARY B.
01775/00678
#10210 FEAGA FARM CT.

TAX MAP 24, PARCEL 0740
ACCOUNT NO. 02-306522
NGUYEN HAI DANG
NGUYEN THANH-NHIAT VU
01848/00346
#10214 FEAGA FARM CT.

TAX MAP 24, PARCEL 0740
ACCOUNT NO. 02-305984
PETTY PHILLIP A.
PETTY SANDRA M.
05419/00453, LOT 23
#10201 LITTLE BRICK HOUSE CT.

TAX MAP 24, PARCEL 1160
ACCOUNT NO. 02-277441
CHOA FOW SEN
SHYONG MENGFEW
03375/00287, LOT 288
#10273 BRISTOL CHANNEL

TAX MAP 24, PARCEL 1160
ACCOUNT NO. 02-277433
LOCKETT MICHAEL F.
LOCKETT JUDITH A.
01344/00011, LOT 287
#10272 BRISTOL CHANNEL

TAX MAP 24, PARCEL 1160
ACCOUNT NO. 02-277425
BOSWELL KIRSTEN
BOSWELL JOHN S.
11528/00117, LOT 286
#10268 BRISTOL CHANNEL

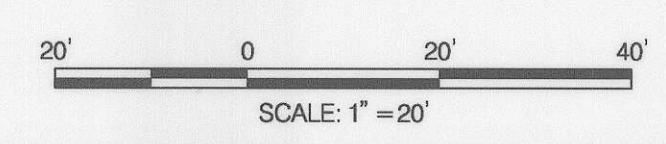
TAX MAP 24, PARCEL 1160
ACCOUNT NO. 02-277778
HOWARD COUNTY MARYLAND
DEPT. REC. AND PARKS
00000/00000, PARCEL C
N. BRECONSHIRE RD.

- LEGEND**
- (R) REMOVE
 - (A) ADJUST
 - (RR) REMOVE AND RESET
 - (2) NEW CONSTRUCTION NOTES (SEE NOTES THIS SHEET)
 - [Pattern] DETECTABLE WARNING SURFACE
 - [Pattern] PERVIOUS CONCRETE SIDEWALK WITH STONE RESERVOIR
 - [Pattern] PERVIOUS CONCRETE SIDEWALK WITHOUT STONE RESERVOIR
 - [Pattern] CONCRETE SIDEWALK
 - [Pattern] MILL & OVERLAY
 - [Pattern] TEMPORARY CONSTRUCTION EASEMENT (TCE) = 2,044 SF

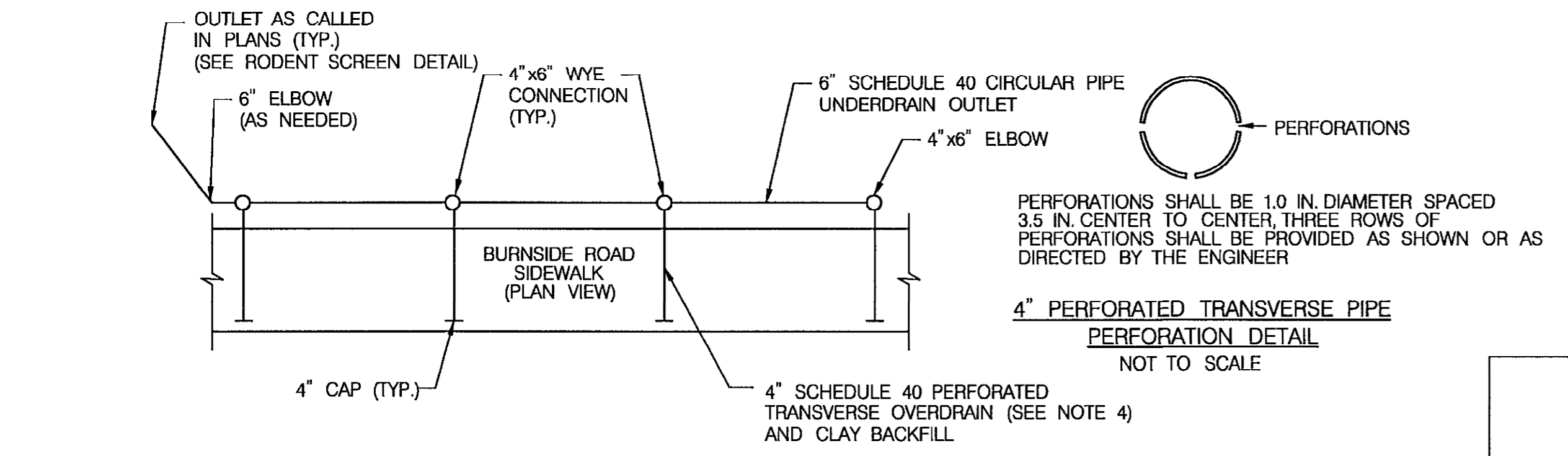
TEST HOLE DATA					
NO.	UTILITY	NORTHING	EASTING	TOP UTILITY ELEVATION	SURFACE ELEVATION
1	2" PLASTIC TELE.	584,360.6	1,350,178.4	404.65	407.60
4	8" STEEL GAS	584,386.6	1,350,257.5	403.77	404.99
5	2" PLASTIC TELE.	584,385.9	1,350,266.6	406.67	409.12
6	(3) 12" ELEC.	584,410.2	1,350,337.0	412.08	413.33
7	(2) 2" PLASTIC CABLE	584,418.5	1,350,345.0	412.22	413.67
8	(2) 2" PLASTIC CABLE	584,438.8	1,350,427.0	416.74	419.06
9	(3) 12" ELEC.	584,434.9	1,350,431.0	418.29	419.11
10	(4) 12" ELEC.	584,435.6	1,350,451.0	418.69	419.20

PROFESSIONAL CERTIFICATION
"I HEREBY CERTIFY THAT DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 16156 EXPIRATION DATE: 8/28/2016."

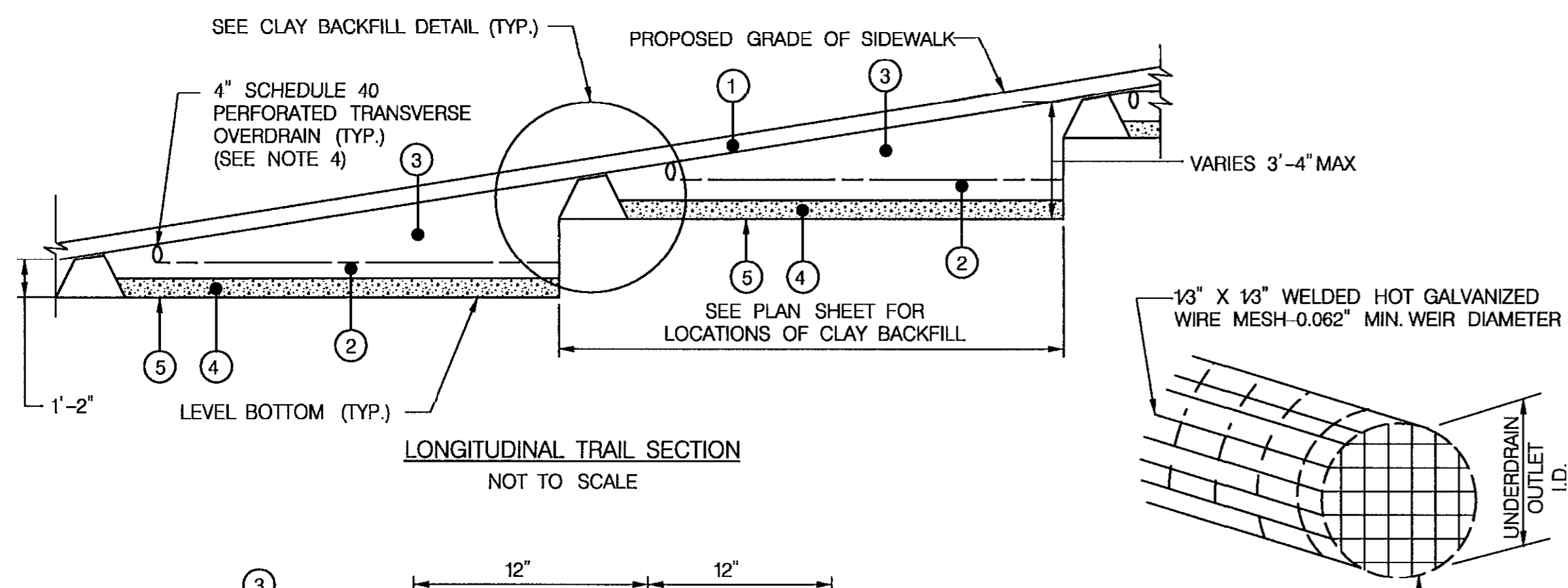
- NEW CONSTRUCTION NOTES**
- 1 TIE INTO EXISTING CURB.
 - 2 TIE SIDEWALK INTO EXISTING SIDEWALK AT NEAREST JOINT.
 - 3 7" COMBINATION CURB AND GUTTER PER DETAIL R-3.01.
 - 4 SIDEWALK RAMP PER DETAIL R-4.05. STANDARD CONCRETE SIDEWALK TO BE USED.
 - 5 SIDEWALK RAMP PER DETAIL R-4.06. STANDARD CONCRETE SIDEWALK TO BE USED.
 - 6 DETECTABLE WARNING SURFACE.
 - 7 SIDEWALK TO MEET INLET TOP SLAB.
 - 8 NOSE DOWN CURB.
 - 9 TRIM OVERHANGING TREE BRANCHES TO MAKE STOP SIGN VISIBLE.
 - 10 END 5" CONCRETE SIDEWALK.
 - 11 BEGIN END PERVIOUS CONCRETE. SEE DETAIL ON DE-01.
 - 12 PERVIOUS CONCRETE SIDEWALK TO MEET BACK CURB.
 - 13 FULL DEPTH PATCH (CONTINGENT) PER DETAIL G-4.01.
 - 14 SAVE LAST SECTION OF CURB BEFORE CURVE. REPLACE ONE CRACKED SIDEWALK PANEL BEYOND NEW CURB.
 - 15 REMOVE EXISTING STONE WALL AND BLOCK AS NECESSARY TO ACCOMMODATE CONSTRUCTION



<p>DEPARTMENT OF PUBLIC WORKS HOWARD COUNTY, MARYLAND</p> <p><i>Steve Shaner</i> DIRECTOR OF PUBLIC WORKS DATE: 4/21/15</p> <p><i>Monica S. Sullivan</i> CHIEF, BUREAU OF ENGINEERING DATE: 4/21/15</p> <p><i>M. Molinari</i> CHIEF, BUREAU OF HIGHWAYS DATE: 4/23/2015</p>	<p>PREPARED BY URS 4 NORTH PARK DRIVE HUNT VALLEY, MARYLAND TEL: (410) 785-7220</p>	<p>DES: JHY</p> <p>DRN: CDF</p> <p>CHK: DTM</p> <p>DATE: 04/2015</p>	<p>BY NO. REVISION DATE</p>	<p>SIDEWALK PLAN SHEET</p> <p>SCALE MAP NO. _____ BLOCK NO. _____</p>	<p>BURNSIDE DRIVE SIDEWALK IMPROVEMENTS</p> <p>1ST ELECTION DISTRICT - ELLICOTT CITY, MARYLAND CAPITAL PROJECT K-5036</p>	<p>SCALE 1" = 20'</p> <p>SHEET 4 OF 8</p>
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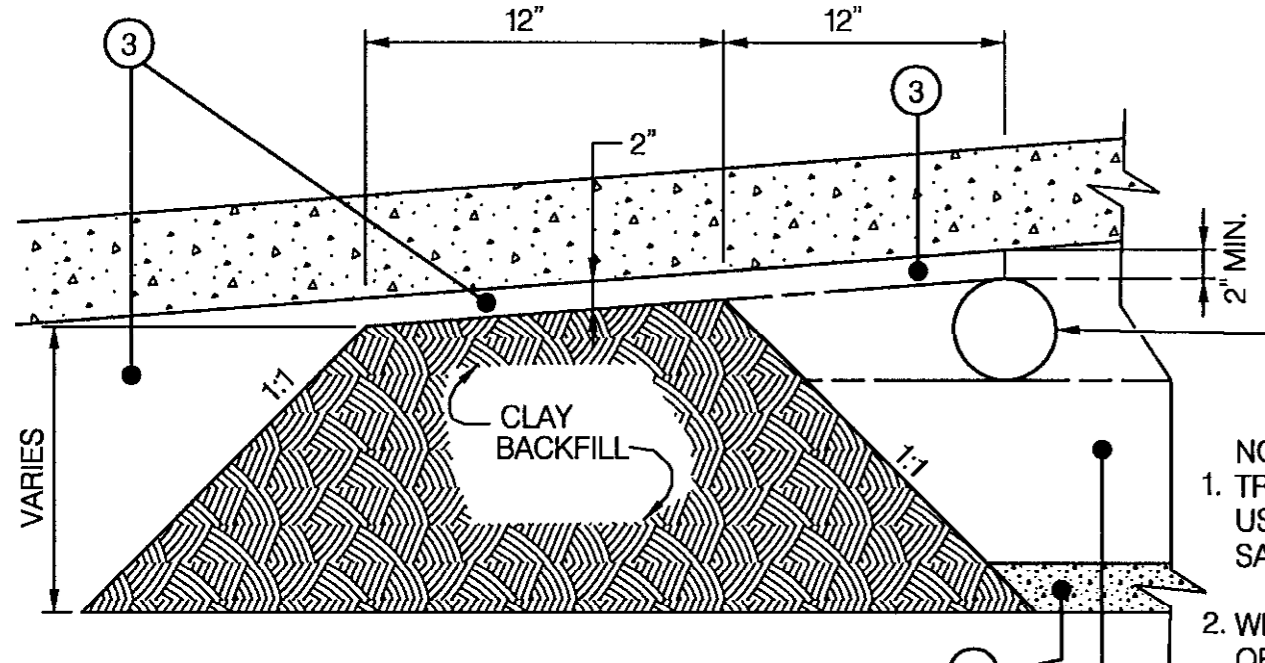


UNDEROVER DRAIN SCHEMATIC - PLAN VIEW
NOT TO SCALE



LONGITUDINAL TRAIL SECTION
NOT TO SCALE

RODENT SCREEN DETAIL
NOT TO SCALE

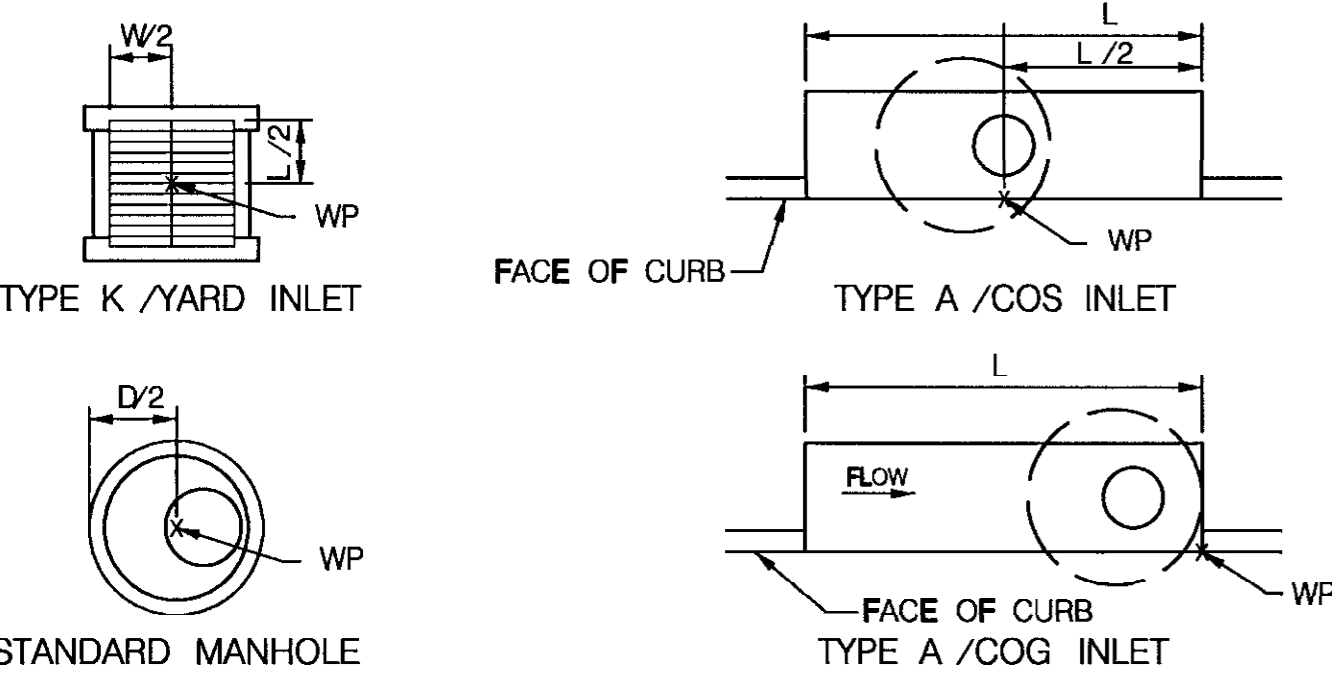


CLAY BACKFILL DETAIL
NOT TO SCALE

- NOTES:
1. TRANSVERSE CONTROL JOINTS SHALL BE INSTALLED USING A ROLLING JOINT TOOL AT 20-FOOT INTERVALS. SAWCUTTING THESE JOINTS IS NOT PERMITTED.
 2. WHERE EXCAVATION IS REQUIRED, NO COMPACTION OF THE SUBGRADE IS PERMITTED. IN EMBANKMENT AREAS, FILL MATERIAL SHALL BE PLACED IN 8-INCH MAXIMUM LAYERS AND COMPACTED TO A MINIMUM DENSITY OF 92%.
 3. SEE SPECIAL PROVISIONS FOR MORE INFORMATION ON PERVIOUS CONCRETE PAVEMENT.
 4. PAID FOR AS "4 INCH PERFORATED CIRCULAR PIPE UNDERDRAIN."

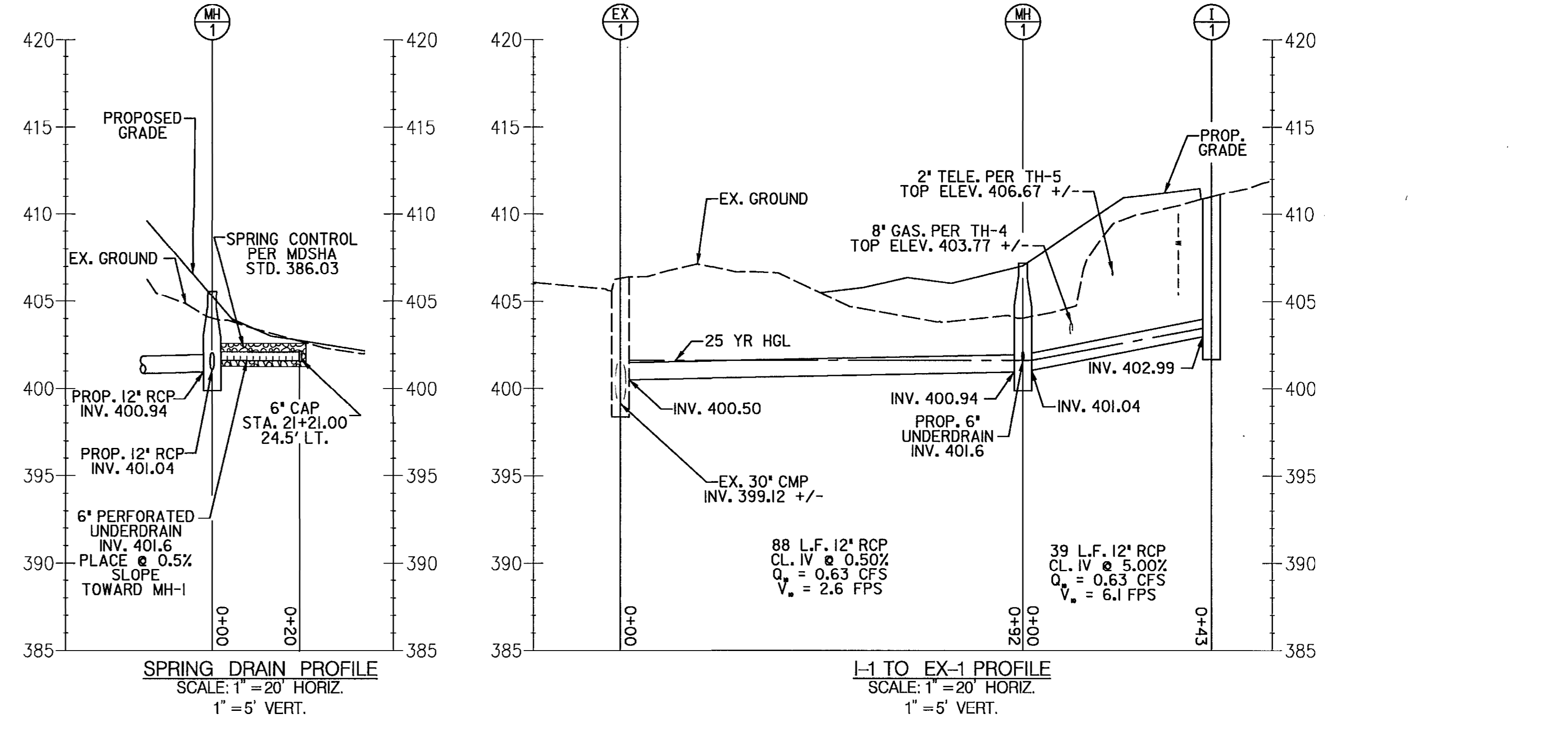
- LEGEND
- ① 4" PERVIOUS PORTLAND CEMENT CONCRETE PAVEMENT
 - ② 12" AASHTO NO. 3 STONE
 - ③ VARIABLE DEPTH NO. 57 STONE
 - ④ 4" CONCRETE SAND
 - ⑤ TOP OF SUB-GRADE AND LIMIT OF EXCAVATION

PERVIOUS PORTLAND CEMENT CONCRETE DETAILS



WORKPOINT LOCATIONS
NOT TO SCALE

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 18156 EXPIRATION DATE: 8/28/2016

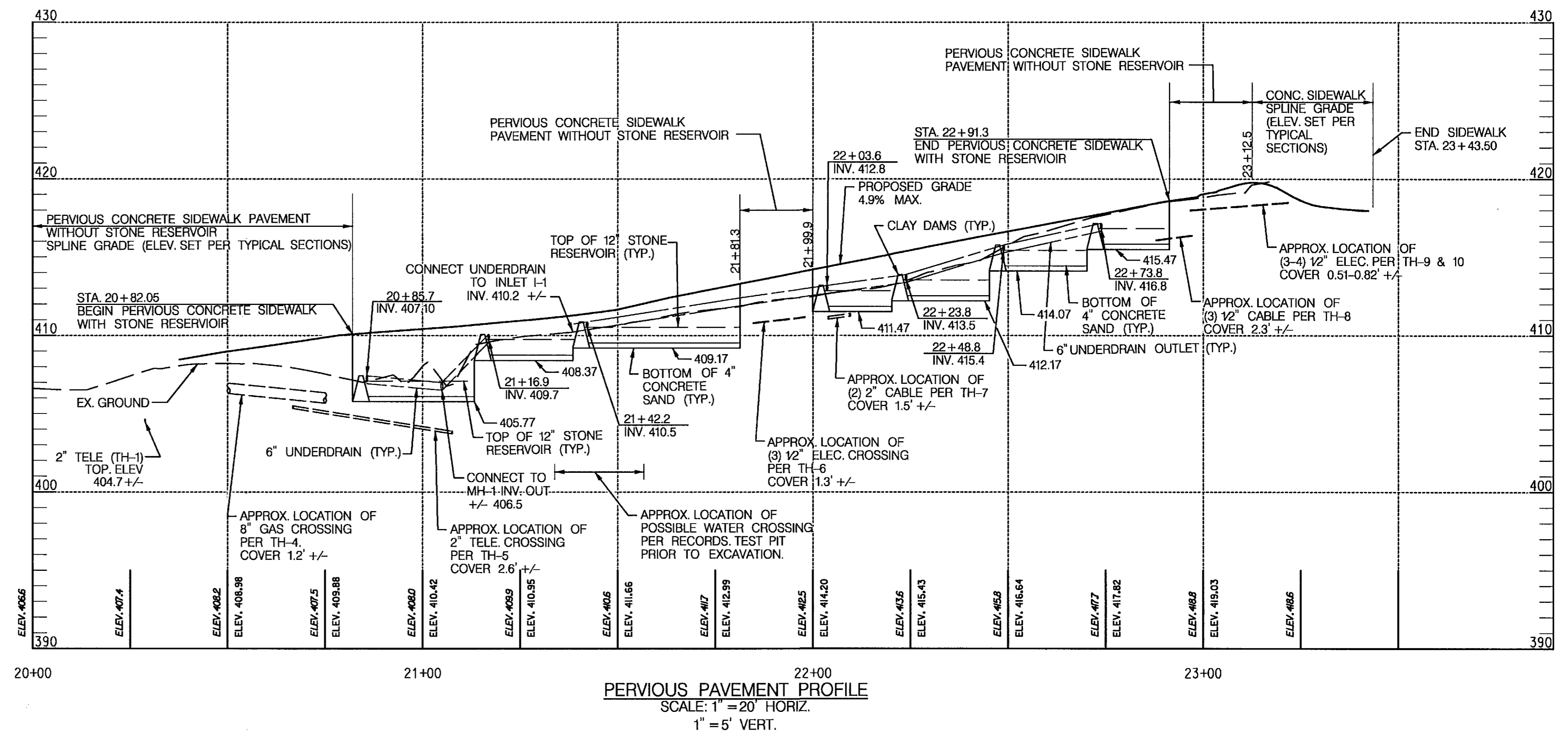


SPRING DRAIN PROFILE
SCALE: 1" = 20' HORIZ.
1" = 5' VERT.

I-1 TO EX-1 PROFILE
SCALE: 1" = 20' HORIZ.
1" = 5' VERT.

STRUCTURE DESIGNATION	WORKPOINT		STRUCTURE TYPE	HOWARD CO. DETAIL NO.	INVERT ELEVATION		TOP ELEVATION
	NORTHING	EASTING			IN	OUT	
INLET							
EX-1	584,363.35	1,350,155.88	EXISTING INLET	N/A	400.50	399.12*	406.26
I-1	584,384.44	1,360,286.70	DOUBLE WR INLET	D-4.35	---	402.99	411.12
MANHOLE							
MH-1	584,387.95	1,350,246.90	4'-0" PRECAST MANHOLE	C-5.12	401.04	400.94	407.00

*APPROX. CONTRACTOR SHALL VERIFY ELEVATIONS PRIOR TO CONSTRUCTION.



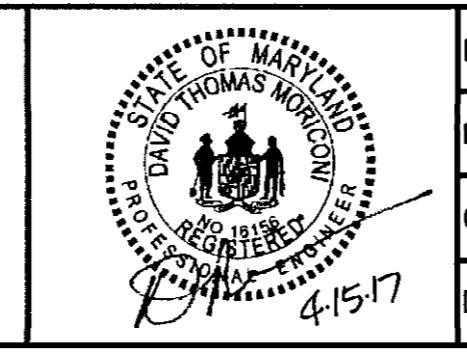
PERVIOUS PAVEMENT PROFILE
SCALE: 1" = 20' HORIZ.
1" = 5' VERT.

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Director of Public Works: *[Signature]* 4/23/15
Chief, Transportation and Special Projects Division: *[Signature]* 4/21/15

Chief, Bureau of Engineering: *[Signature]* 4/21/15
Chief, Bureau of Highways: *[Signature]* 4/23/2015

PREPARED BY
URS
4 NORTH PARK DRIVE
HUNT VALLEY, MARYLAND
TEL: (410) 785-7220



DES:	JHY				
DRN:	CDF				
CHK:	DTM				
DATE:	04/2015	BY	NO.	REVISION	DATE

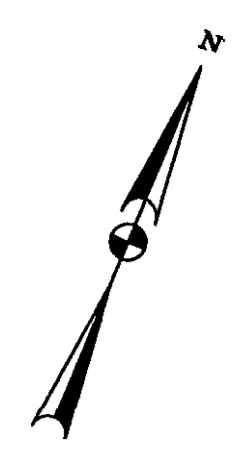
STORM DRAIN PROFILE &
PERVIOUS PAVEMENT
PROFILE/DETAILS

SCALE MAP NO. _____ BLOCK NO. _____

BURNSIDE DRIVE
SIDEWALK IMPROVEMENTS

1ST ELECTION DISTRICT - ELLICOTT CITY, MARYLAND
CAPITAL PROJECT K-5036

SCALE 1" = 5'
SHEET 5 OF 8



TAX MAP 24, PARCEL 0740
ACCOUNT NO. 02-305992
HUNG PO HSU
HUNG YU FEN LEE
01976/00075, LOT 24
#10205 LITTLE BRICK HOUSE CT.

TAX MAP 24, PARCEL 0740
ACCOUNT NO. 02-306557
GANAPATHY RAJESH
12276/00150, LOT 74
#10202 FEAGA FARM CT.
DRAINAGE & UTILITY EASEMENT
PLAT No. 6881
EASEMENT AGREEMENT TO
HOWARD COUNTY
2001/726

TAX MAP 24, PARCEL 0740
ACCOUNT NO. 02-306549
GSM SOLUTIONS LLC
15415/00183, LOT 73
#10206 FEAGA FARM CT.

TAX MAP 24, PARCEL 0740
ACCOUNT NO. 02-306530
CABANILLA JAIME R.
CABANILLA ROSEMARY B.
01775/00678
#10210 FEAGA FARM CT.

TAX MAP 24, PARCEL 0740
ACCOUNT NO. 02-306522
NGUYEN HAI DANG
NGUYEN THANH-NHIAT VU
01848/00346
#10214 FEAGA FARM CT.

TAX MAP 24, PARCEL 0740
ACCOUNT NO. 02-305984
PETTY PHILLIP A.
PETTY SANDRA M.
05419/00453, LOT 23
#10201 LITTLE BRICK HOUSE CT.

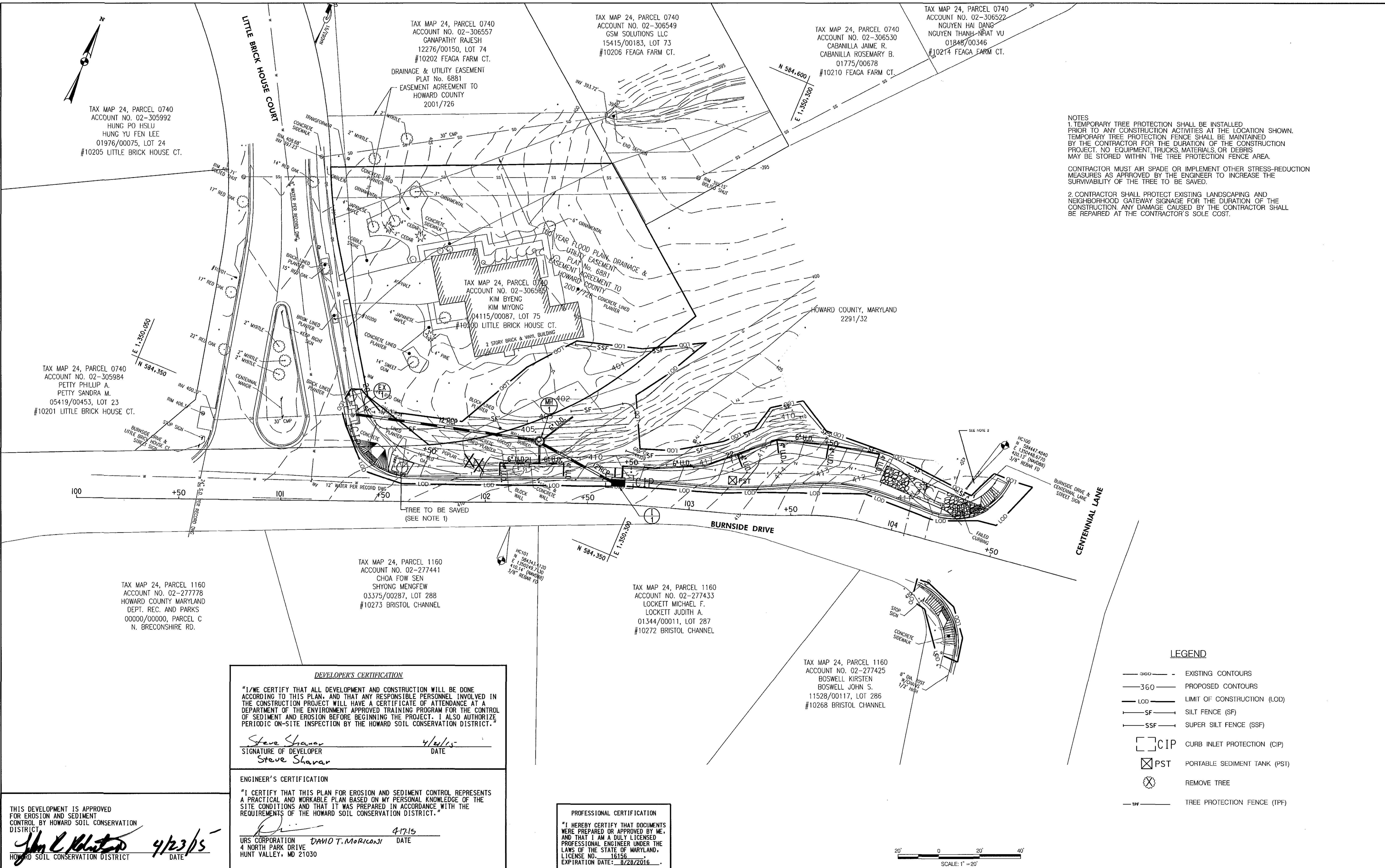
TAX MAP 24, PARCEL 0740
ACCOUNT NO. 02-306565
KIM BYENG
KIM MIYONG
04115/00087, LOT 75
#10200 LITTLE BRICK HOUSE CT.
2 STORY BRICK & VINYL BUILDING

TAX MAP 24, PARCEL 1160
ACCOUNT NO. 02-277441
CHOA FOW SEN
SHYONG MENGFEW
03375/00287, LOT 288
#10273 BRISTOL CHANNEL

TAX MAP 24, PARCEL 1160
ACCOUNT NO. 02-277433
LOCKETT MICHAEL F.
LOCKETT JUDITH A.
01344/00011, LOT 287
#10272 BRISTOL CHANNEL

TAX MAP 24, PARCEL 1160
ACCOUNT NO. 02-277425
BOSWELL KIRSTEN
BOSWELL JOHN S.
11528/00117, LOT 286
#10268 BRISTOL CHANNEL

NOTES
1. TEMPORARY TREE PROTECTION SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION ACTIVITIES AT THE LOCATION SHOWN. TEMPORARY TREE PROTECTION FENCE SHALL BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF THE CONSTRUCTION PROJECT. NO EQUIPMENT, TRUCKS, MATERIALS, OR DEBRIS MAY BE STORED WITHIN THE TREE PROTECTION FENCE AREA.
CONTRACTOR MUST AIR SPADE OR IMPLEMENT OTHER STRESS-REDUCTION MEASURES AS APPROVED BY THE ENGINEER TO INCREASE THE SURVIVABILITY OF THE TREE TO BE SAVED.
2. CONTRACTOR SHALL PROTECT EXISTING LANDSCAPING AND NEIGHBORHOOD GATEWAY SIGNAGE FOR THE DURATION OF THE CONSTRUCTION. ANY DAMAGE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED AT THE CONTRACTOR'S SOLE COST.



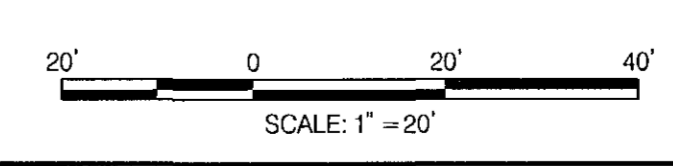
DEVELOPER'S CERTIFICATION
"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN, AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE AT A DEPARTMENT OF THE ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT. I ALSO AUTHORIZE PERIODIC ON-SITE INSPECTION BY THE HOWARD SOIL CONSERVATION DISTRICT."
Steve Shavar 4/23/15
SIGNATURE OF DEVELOPER DATE
Steve Shavar

ENGINEER'S CERTIFICATION
"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."
David T. Moriconi 4-17-15
URS CORPORATION DAVID T. MORICONI DATE
4 NORTH PARK DRIVE
HUNT VALLEY, MD 21030

PROFESSIONAL CERTIFICATION
"I HEREBY CERTIFY THAT DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 16156, EXPIRATION DATE: 8/28/2016."
David T. Moriconi 4-17-15

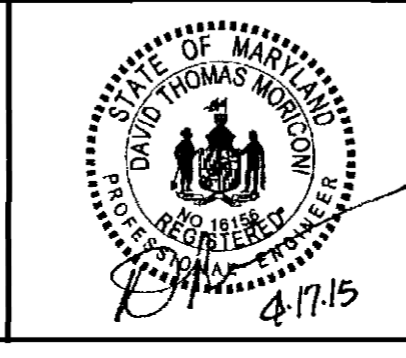
THIS DEVELOPMENT IS APPROVED FOR EROSION AND SEDIMENT CONTROL BY HOWARD SOIL CONSERVATION DISTRICT.
John C. Klotz 4/23/15
HOWARD SOIL CONSERVATION DISTRICT DATE

- LEGEND**
- 360 — EXISTING CONTOURS
 - 360 — PROPOSED CONTOURS
 - LOD — LIMIT OF CONSTRUCTION (LOD)
 - SF — SILT FENCE (SF)
 - SSF — SUPER SILT FENCE (SSF)
 - CIP CURB INLET PROTECTION (CIP)
 - ⊗ PST PORTABLE SEDIMENT TANK (PST)
 - ⊗ REMOVE TREE
 - TPF — TREE PROTECTION FENCE (TPF)



DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND
John P. Nease 4/23/15
DIRECTOR OF PUBLIC WORKS DATE
Steve Shavar 4/23/15
CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION DATE

PREPARED BY
URS
4 NORTH PARK DRIVE
HUNT VALLEY, MARYLAND
TEL: (410) 785-7220
Thomas J. Butler 4/21/15
CHIEF, BUREAU OF ENGINEERING DATE
David Moriconi 4/23/2015
CHIEF, BUREAU OF HIGHWAYS DATE



DES: JHY	BY NO.	REVISION	DATE
DRN: CDF			
CHK: DTM			
DATE: 04/2015			

GRADING, DRAINAGE, AND EROSION AND SEDIMENT CONTROL PLAN
SCALE MAP NO. _____ BLOCK NO. _____

BURNSIDE DRIVE SIDEWALK IMPROVEMENTS
1ST ELECTION DISTRICT - ELLICOTT CITY, MARYLAND
CAPITAL PROJECT K-5036
SHEET 6 OF 8

B-3 STANDARDS AND SPECIFICATIONS	B-4 STANDARDS AND SPECIFICATIONS
<p>FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS</p> <p>Definition The process of preparing the soils to sustain adequate vegetative stabilization.</p> <p>Purpose To provide a suitable soil medium for vegetative growth.</p> <p>Conditions Where Practice Applies Where vegetative stabilization is to be established.</p> <p>Criteria</p> <p>A. Soil Preparation</p> <ol style="list-style-type: none"> 1. Seeding/Planting <ul style="list-style-type: none"> a. Seeded preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or disc plows or ripers mounted on construction equipment. After the soil is loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3:1 or flatter are to be tracked with ridges running parallel to the contour of the slope. b. Apply fertilizer and lime as prescribed on the plans. c. Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means. 2. Permanent Stabilization <ul style="list-style-type: none"> a. A soil test is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are: <ul style="list-style-type: none"> i. Soil pH between 6.0 and 7.0. ii. Soluble salts less than 500 parts per million (ppm). iii. Soil contains less than 40 percent clay but enough fine grained material (grater than 30 percent silt plus clay) to have the capacity to hold a moderate amount of moisture. An exception: if revegetation will be planted, then a sandy soil (less than 30 percent silt plus clay) would be acceptable. iv. Soil contains 1.5 percent minimum organic matter by weight. v. Soil contains sufficient pore space to permit adequate root penetration. b. Application of amendments or topsoil is required if on-site soils do not meet the above conditions. c. Graded areas must be maintained in a true and even grade as specified on the approved plan, then scarified or otherwise loosened to a depth of 4 to 5 inches. <p>d. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.</p> <p>e. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seeded preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top 1 to 3 inches of soil loose and friable. Seeded loosening may be necessary on newly disturbed areas. </p>	

B-4 STANDARDS AND SPECIFICATIONS
<p>FOR PERMANENT STABILIZATION</p> <p>Definition To stabilize disturbed soils with permanent vegetation.</p> <p>Purpose To stabilize disturbed soils from erosion during and at the end of construction.</p> <p>Conditions Where Practice Applies To the surface of all perimeter contours, slopes, and any disturbed area not under active grading.</p> <p>Criteria</p> <p>A. Seeding</p> <ol style="list-style-type: none"> 1. Specifications <ul style="list-style-type: none"> a. All seed must meet the requirements of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within 6 months immediately preceding the date of application on any project. Refer to Table B-4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seedling rate. b. Match alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding mixture must be applied when the ground thaws. c. Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use the times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make the inoculant less effective. d. Seed or seed mix must be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials. 2. Application <ul style="list-style-type: none"> a. Dry Seeding: This includes use of conventional drop or broadcast spreaders. <ul style="list-style-type: none"> i. Incorporate seed into the subsoil at the rates presented on Temporary Seeding Table B.1, Permanent Seeding Table B.3, or site-specific seeding summaries. ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with a weighted roller to provide good soil to soil contact. b. Drill or Cultipack Seeding: Mechanized seeders that apply and cover seed with soil. <ul style="list-style-type: none"> i. Cultipacking rollers are required to bury the seed in such a fashion as to provide at least 1/4 inch soil covering. Seeded must be firm after planting. ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. c. Hydroseeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer). <ul style="list-style-type: none"> i. If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P₂O₅ (phosphorus), 200 pounds per acre; K₂O (potassium), 200 pounds per acre. ii. Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use a hydrated lime when hydroseeding. iii. Mix seed and fertilizer on site and seed immediately and without interruption. When hydroseeding do not incorporate seed into the soil. 3. Mulching <ul style="list-style-type: none"> a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dry. Note: Use only sterile straw mulch in areas where new grass is desired. b. Wood Cellulose Fiber Mulch (WCFCM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical form. <ul style="list-style-type: none"> i. WCFCM is to be dead green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry. ii. WCFCM, including dye, must contain no germination or growth inhibiting factors. iii. WCFCM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with soil, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a bi-layer-like ground cover, on application, having moisture absorption and porosity properties and must cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings. iv. WCFCM material must not contain elements or compounds at concentration levels that will be phytotoxic. v. WCFCM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately 1 millimeter, pH range of 6.0 to 8.5, ash content of 1.6 percent maximum and water holding capacity of 90 percent minimum.

B-4 STANDARDS AND SPECIFICATIONS																							
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ENGINEER'S CERTIFICATION

"I CERTIFY THAT THIS PLAN FOR EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THE SITE CONDITIONS AND THAT IT WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE HOWARD SOIL CONSERVATION DISTRICT."

David T. Moriconi 4/7/15
DATE

URS CORPORATION
4 NORTH PARK DRIVE
HUNT VALLEY, MD 21030

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Steve Shagan 4/21/15
DATE

SIGNATURE OF DEVELOPER

PROFESSIONAL CERTIFICATION

"I HEREBY CERTIFY THAT DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 16156. EXPIRATION DATE: 8/28/2016."

John J. ... 4/17/15
DATE

DEPARTMENT OF PUBLIC WORKS
HOWARD COUNTY, MARYLAND

Steve Shagan 4/21/15
DATE

CHIEF, TRANSPORTATION AND SPECIAL PROJECTS DIVISION

PREPARED BY
URS
4 NORTH PARK DRIVE
HUNT VALLEY, MARYLAND
TEL: (410) 785-7220

Thomas E. ... 4/21/15
DATE

CHIEF, BUREAU OF ENGINEERING

DES: JHY
DRN: CDF
CHK: DTM
DATE: 04/2015

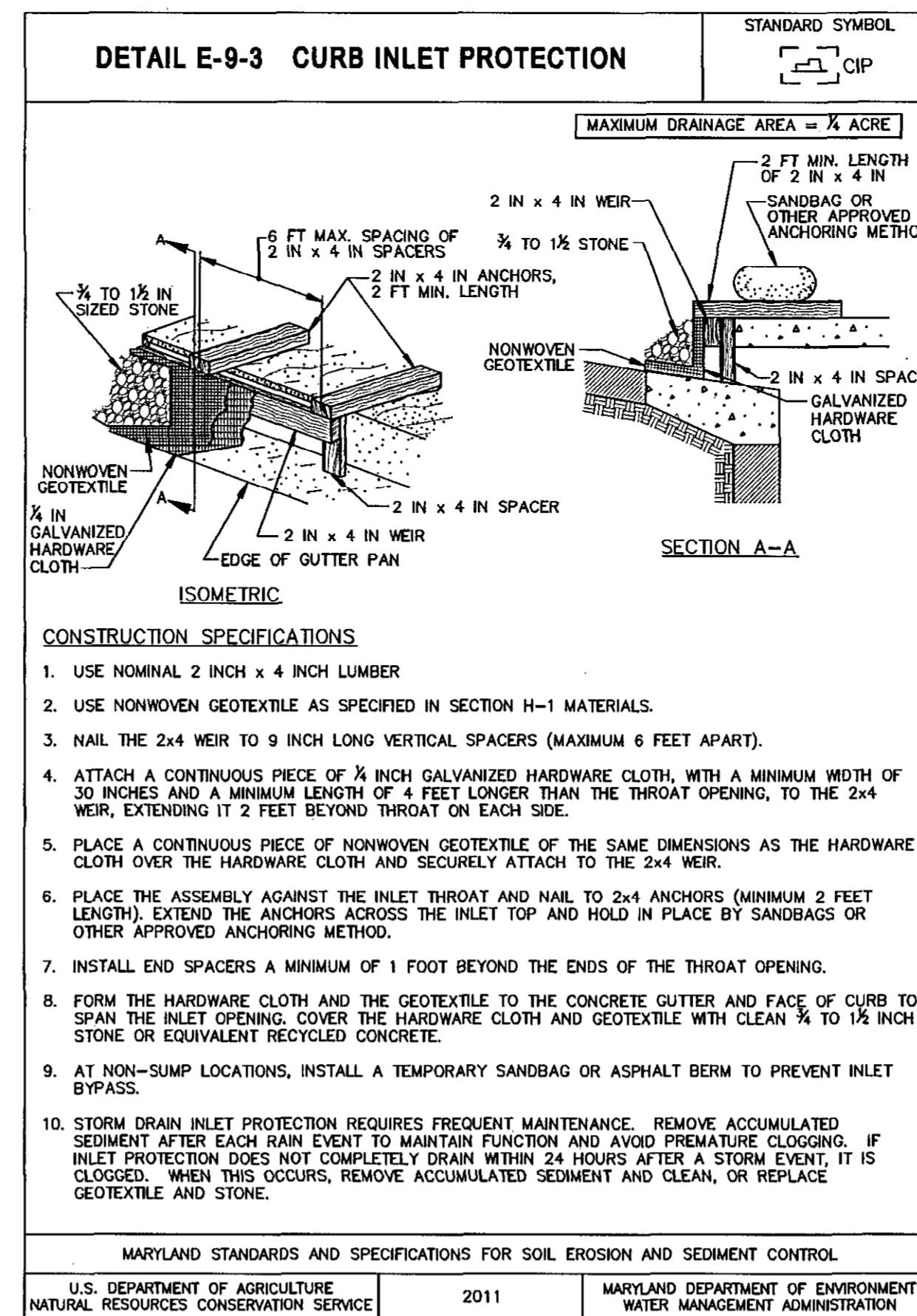
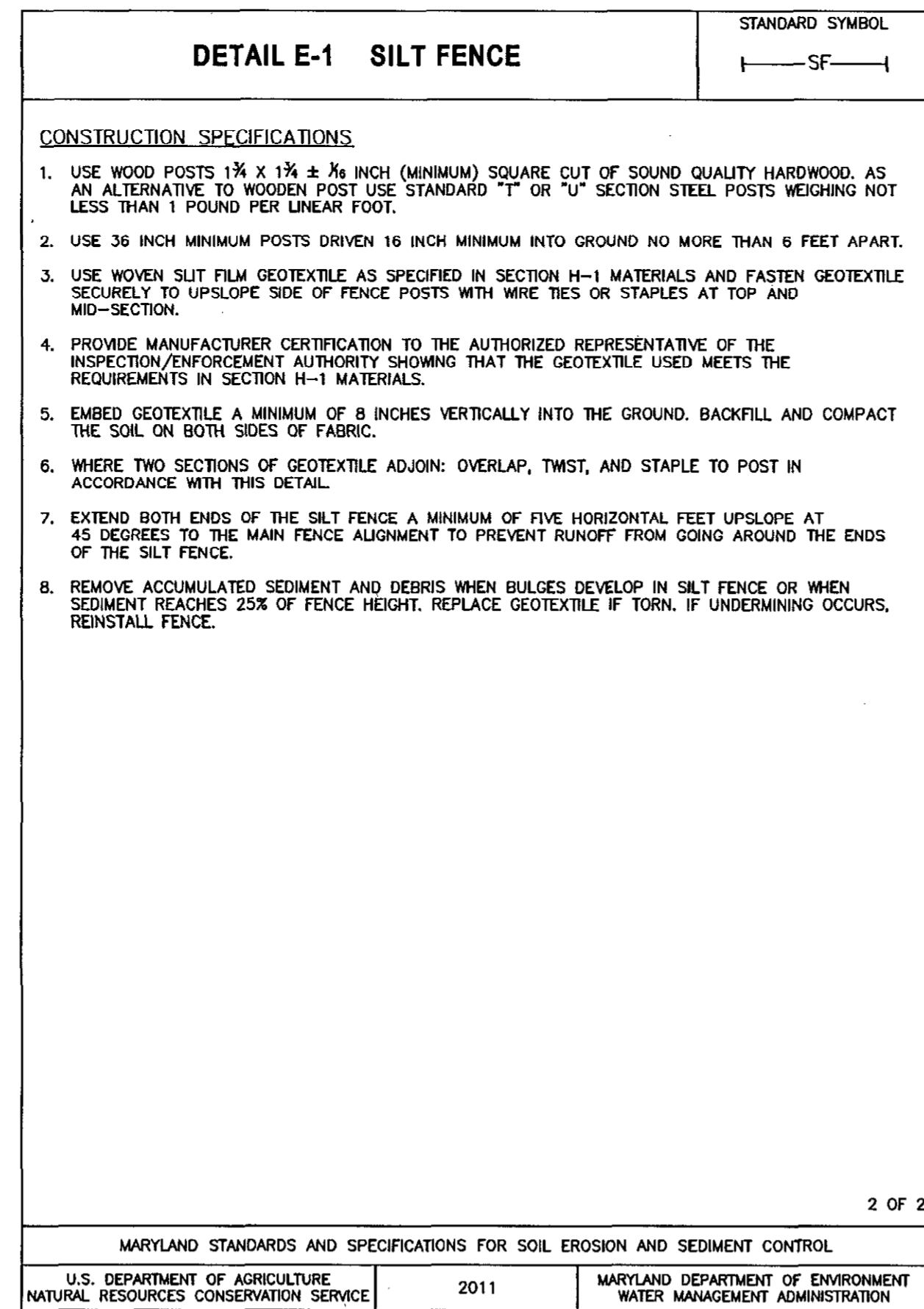
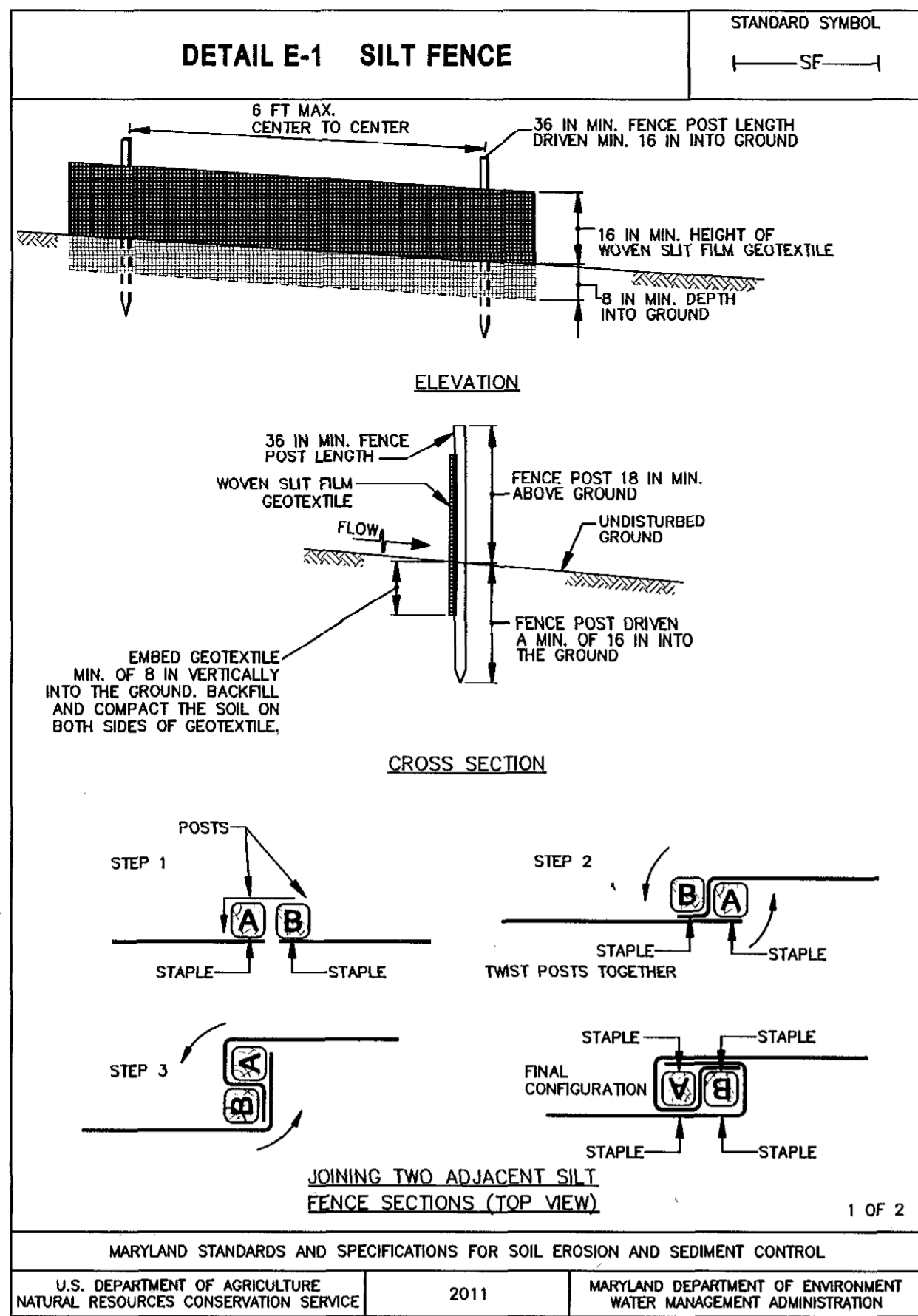
EROSION AND SEDIMENT CONTROL DETAILS AND NOTES - 1

SCALE MAP NO. _____ BLOCK NO. _____

BURNSIDE DRIVE SIDEWALK IMPROVEMENTS

1ST ELECTION DISTRICT - ELLICOTT CITY, MARYLAND
CAPITAL PROJECT K-5036

SCALE N/A
SHEET 7 OF 8



B-4-8 STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

Definition
A mound or pile of soil protected by appropriately designed erosion and sediment control measures.

Purpose
To provide a designated location for the temporary storage of soil that controls the potential for erosion, sedimentation, and changes to drainage patterns.

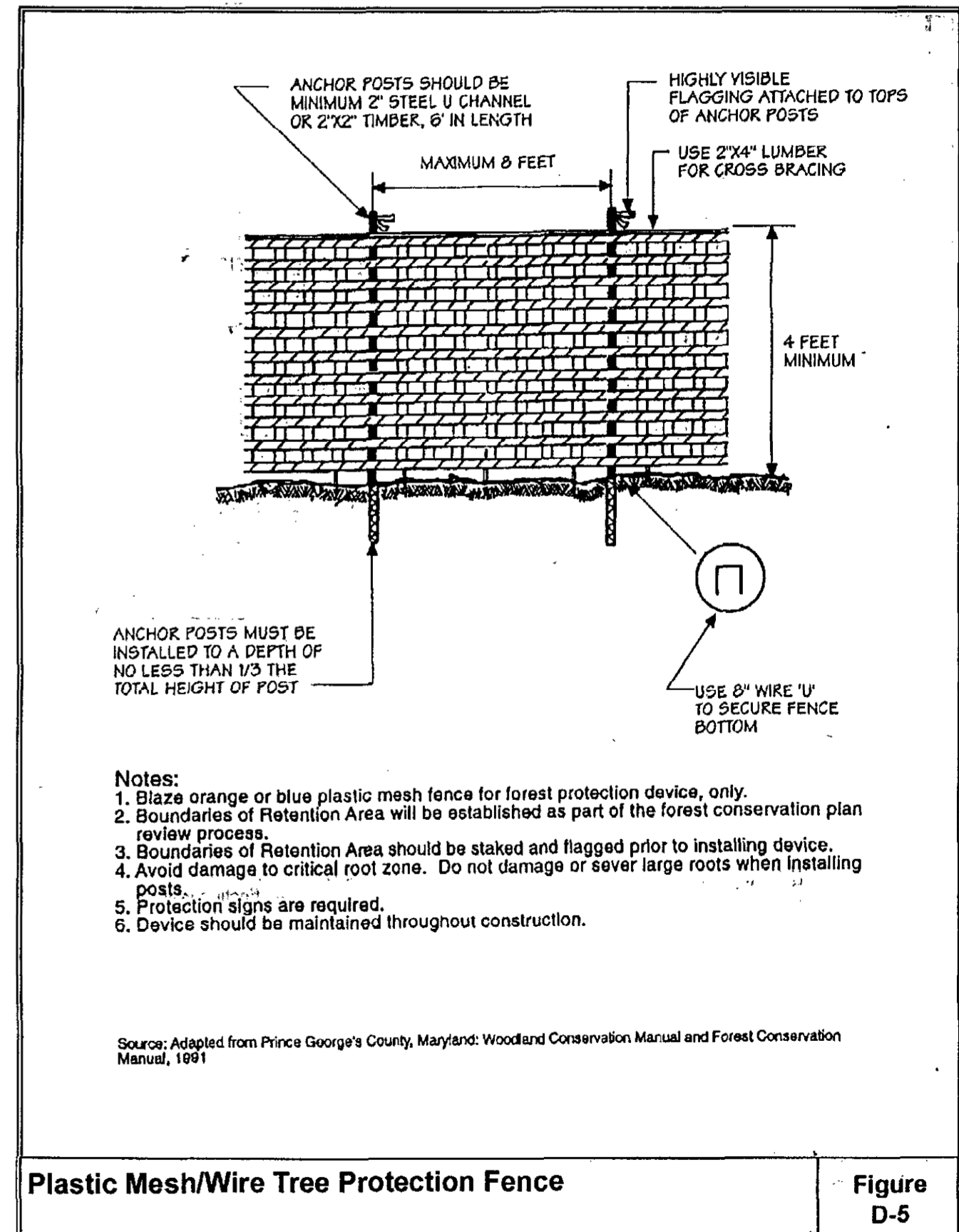
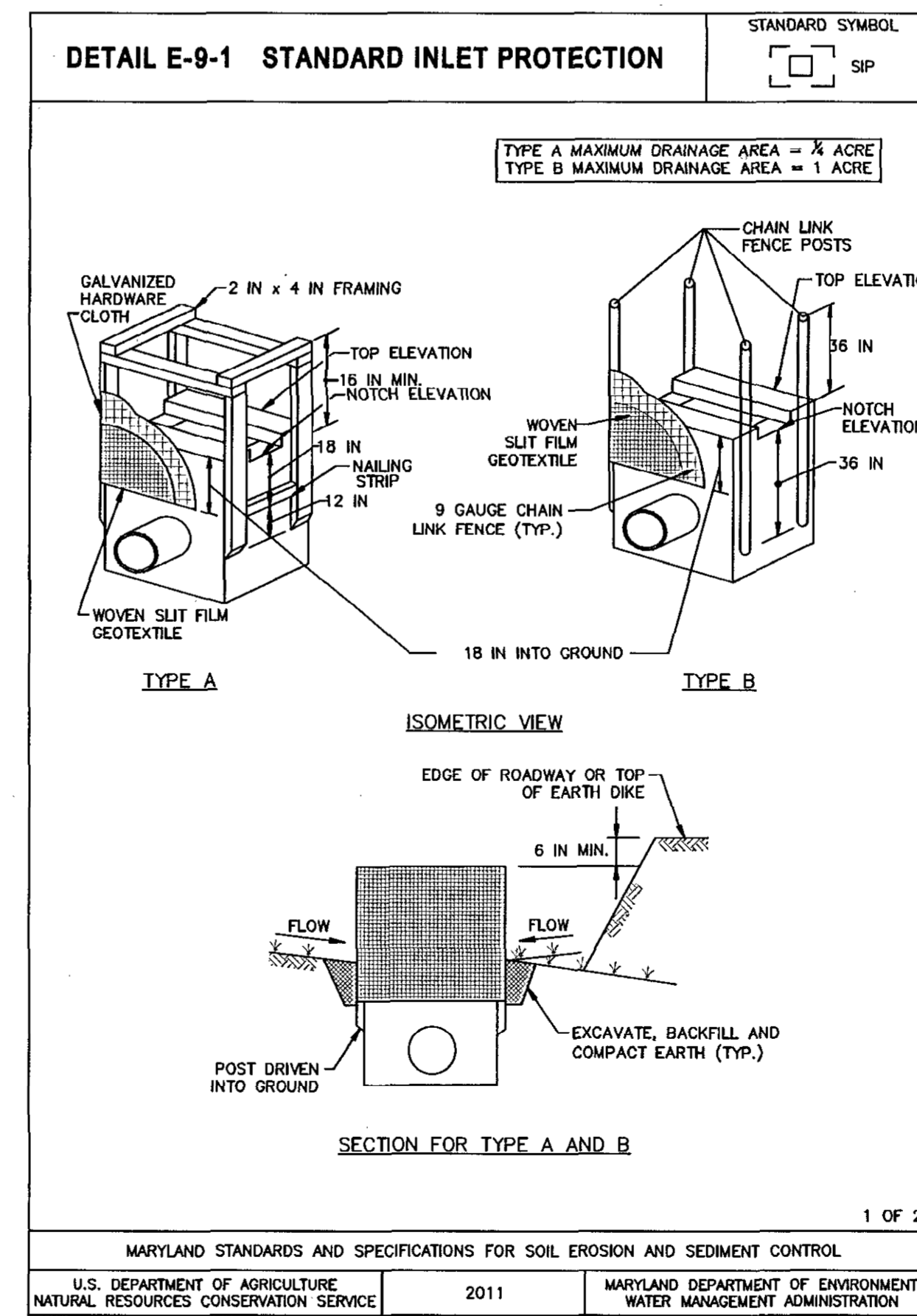
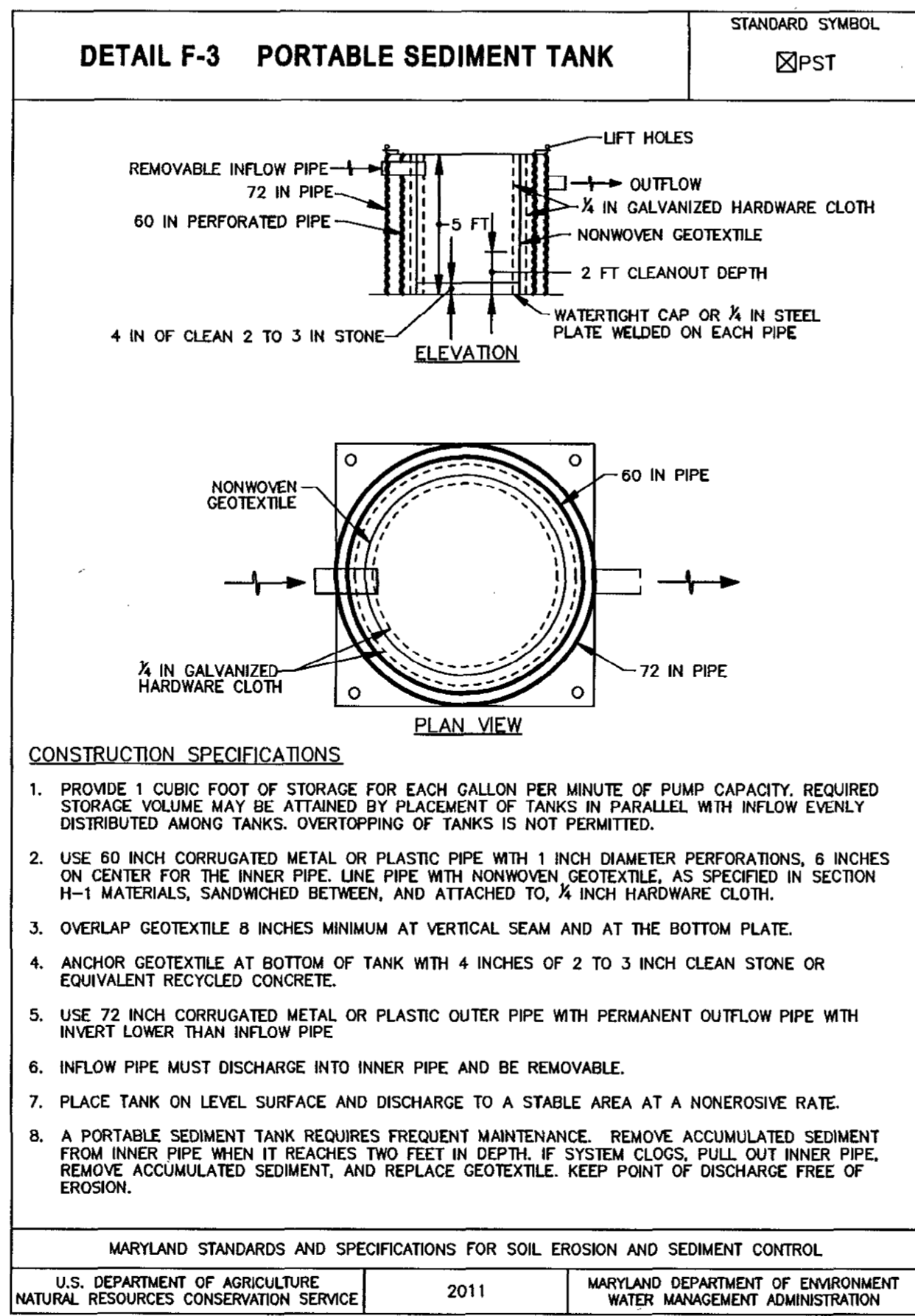
Conditions Where Practice Applies
Stockpile areas are utilized when it is necessary to salvage and store soil for later use.

Criteria

- The stockpile location and all related sediment control practices must be clearly indicated on the erosion and sediment control plan.
- The footprint of the stockpile must be sized to accommodate the anticipated volume of material and based on a side slope ratio no steeper than 2:1. Benching must be provided in accordance with Section B-3 Land Grading.
- Runoff from the stockpile area must drain to a suitable sediment control practice.
- Access the stockpile area from the upgrade side.
- Clear water runoff into the stockpile area must be minimized by use of a diversion device such as an earth dike, temporary swale or diversion fence. Provisions must be made for discharging concentrated flow in a non-erosive manner.
- Where runoff concentrates along the toe of the stockpile fill, an appropriate erosion/sediment control practice must be used to intercept the discharge.
- Stockpiles must be stabilized in accordance with the 3/7 day stabilization requirement as well as Standard B-4-1 Incremental Stabilization and Standard B-4-4 Temporary Stabilization.
- If the stockpile is located on an impervious surface, a liner should be provided below the stockpile to facilitate cleanup. Stockpiles containing contaminated material must be covered with impermeable sheeting.

Maintenance
The stockpile area must continuously meet the requirements for Adequate Vegetative Establishment in accordance with Section B-4 Vegetative Stabilization. Side slopes must be maintained at no steeper than a 2:1 ratio. The stockpile area must be kept free of erosion. If the vertical height of a stockpile exceeds 20 feet for 2:1 slopes, 30 feet for 3:1 slopes, or 40 feet for 4:1 slopes, benching must be provided in accordance with Section B-3 Land Grading.

B-43



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HOWARD COUNTY, MARYLAND

PREPARED BY
URS
4 NORTH PARK DRIVE HUNT VALLEY, MARYLAND TEL: (410) 785-7220

DES: JHY
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BY NO. REVISION DATE SCALE MAP NO. BLOCK NO.

EROSION AND SEDIMENT CONTROL DETAILS AND NOTES - 2

BURNSIDE DRIVE
SIDEWALK IMPROVEMENTS
1ST ELECTION DISTRICT - ELLICOTT CITY, MARYLAND
CAPITAL PROJECT K-5036

SCALE N/A
SHEET 8 OF 8