RITE AID CORPORATION
SITE DEVELOPMENT PLANS
ONE STORY RETAIL BUILDING
10470 FREDERICK ROAD,
ELLICOTT CITY, HOWARD COUNTY, MARYLAND 21042
TAX MAP: 23, PARCEL: A & B

LEGEND

FOR ENTIRE PLAN SET (NOT TO SCALE)

EXISTING		PROPOSED
EXISTING NOTE	TYPICAL NOTE TEXT	PROPOSED NOTE
	ONSITE PROPERTY LINE / R.O.W. LINE	
	NEIGHBORING PROPERTY LINE / INTERIOR PARCEL LINE	
	EASEMENT LINE	
	SETBACK LINE	
	CONCRETE CURB & GUTTER	CURB AND GUTTER; SPILL CURB; TRANSITION CURB; DEPRESSED CURB AND GUTTER
	TYPICAL LIGHT	
	ACORN LIGHT	
	TYPICAL SIGN	
	PARKING COUNTS	
123	CONTOUR LINE	123
TC 516.4 OR 516.4	SPOT ELEVATIONS	TC 516.00 OR 51.8; TC 516.00 BC 515.50
XXX	SANITARY LABEL	XXX
XXX	STORM LABEL	XXX
S	SANITARY SEWER LATERAL	S
W	UNDERGROUND WATER LINE	W
E	UNDERGROUND ELECTRIC LINE	E
G	UNDERGROUND GAS LINE	G
OH	OVERHEAD WIRE	OH
T	UNDERGROUND TELEPHONE LINE	T
C	UNDERGROUND CABLE LINE	C
	STORM SEWER	
	SANITARY SEWER MAIN	
	HYDRANT	
S	SANITARY MANHOLE	S
D	STORM MANHOLE	D
WM	WATER METER	
WV	WATER VALVE	
GV	GAS VALVE	
GM	GAS METER	
	TYPICAL END SECTION	
	HEADWALL OR ENDWALL	
	YARD INLET	
	CURB INLET	
CO	CLEAN OUT	
E	ELECTRIC MANHOLE	E
T	TELEPHONE MANHOLE	T
EB	ELECTRIC BOX	EB
EP	ELECTRIC PEDESTAL	EP
	MONITORING WELL	
TP	TEST PIT	TP
	BENCHMARK	
	BORING	
	UTILITY POLE W/LIGHT	
	POLE LIGHT	
	TRAFFIC LIGHT	
	UTILITY POLE	

GENERAL NOTES:

1. THE SUBJECT PROPERTY IS ZONED B-1 (BUSINESS LOCAL) PER HOWARD COUNTY ZONING MAP DATED JULY 28, 2006
2. EXISTING USE: VACANT LOT PROPOSED USE: RITE AID PHARMACY WITH DOUBLE DRIVE-THRU
3. BUILDING HEIGHT: 27'-5 5/8"± PLEASE REFER TO FRONT BUILDING ELEVATION ON SHEET 25.
4. REFUSE SHALL BE DISPOSED OF DAILY IN TRASH RECEPTACLES. TRASH REMOVAL WILL BE PRIVATELY CONTRACTED.
5. THERE SHALL BE NO TOXIC WASTE MATERIALS STORED ON SITE.
6. UTILITIES:
   WATER: PUBLIC- AN 8" WATER LINE IS LOCATED WITHIN THE FREDERICK ROAD RIGHT-OF-WAY. CONTRACT #44-1311.

   SEWER: PUBLIC- AN 8" SANITARY SEWER LINE IS LOCATED WITHIN THE FREDERICK ROAD RIGHT-OF-WAY. CONTRACT #20-3322.
7. ALL HOWARD COUNTY STORM WATER QUANTITY AND QUALITY REQUIREMENTS WILL BE MET BY A PROPOSED PRIVATELY OWNED AND MAINTAINED STORMFILTER AND EXTENDED DETENTION FACILITY CONSTRUCTED UNDER THIS SDP.
8. ELECTION DISTRICT: 2nd
9. DEED REFERENCE:
   PARCEL 10: LIBER 2590, FOLIO 94
   PARCEL 39: LIBER 828, FOLIO 68
   PARCEL 96: LIBER 540, FOLIO 455
10. TAX MAP: 23, GRID 6.
11. THIS PROPERTY IS LOCATED IN FLOODPLAIN ZONE C AREA OF MINIMAL FLOODING PER FEMA MAP NO. 24004400228 REVISED DECEMBER 4, 1986.
12. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY, MOSHA STANDARDS AND SPECIFICATIONS, AND RITE AID STANDARD SPECIFICATIONS.
13. THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF ENGINEERING/CONSTRUCTION INSPECTION DIVISION AT (410) 313-1880 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
14. THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK.
15. TRAFFIC CONTROL DEVICES, MARKINGS, AND SIGNING SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MdMUTCD). ALL STREET AND REGULATORY SIGNS SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF ANY ASPHALT.
16. ALL PLAN DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
17. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLAN COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 161A AND 161B WERE USED FOR THIS PROJECT.
18. THERE ARE WETLANDS LOCATED ON-SITE AS SHOWN IN THE WETLANDS REPORT PREPARED BY BAY ENVIRONMENTAL, INC. ENTITLED: WETLAND DELINEATION PROPOSED RITE AID - FREDERICK ROAD, ELLICOTT CITY, MARYLAND, DATED APRIL 17, 2007.
19. THERE ARE NO KNOWN BURIAL GROUNDS ON SITE.
20. THE LOCATION AND ELEVATIONS OF THE EXISTING UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY THE EXISTENCE, LOCATION, AND DEPTH OF EXISTING UTILITIES IN THE WORK AREA AND NOTIFY BOHLER ENGINEERING OF ANY DISCREPANCIES PRIOR TO BEGINNING WORK.
21. THE CONTRACTOR WILL BE RESPONSIBLE FOR NOTIFYING BOHLER ENGINEERING AT (410) 821-7900 IN THE EVENT OF ANY DISCREPANCIES ON THE PLAN OR IN THE RELATIONSHIP OF EXISTING GRADES WITH PROPOSED GRADES PRIOR TO BEGINNING WORK.
22. THE CONTRACTOR SHALL NOTE THAT IN THE CASE OF A DISCREPANCY BETWEEN A SCALED DIMENSION AND A FIGURED DIMENSION SHOWN ON THE PLANS, THE FIGURED DIMENSIONS SHALL GOVERN.
23. CONTRACTOR SHALL CONTACT THE HOWARD COUNTY CONSTRUCTION INSPECTION DIVISION 24 HOURS IN ADVANCE OF COMMENCEMENT OF WORK AT (410) 313-1880.
24. THE ADEQUATE ROAD FACILITIES EVALUATION, TRAFFIC IMPACT ANALYSIS WAS PREPARED FOR THE RITE AID LOCATED IN ELLICOTT CITY WAS PREPARED BY THE TRAFFIC GROUP, DATED FEBRUARY 3, 2009, IN ACCORDANCE WITH CHAPTERS 4 AND 5 OF THE HOWARD COUNTY DESIGN MANUAL - VOLUME III (ROAD AND BRIDGE DESIGN) AND WAS APPROVED ON AUGUST 27, 2009.
25. LANDSCAPING IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL SHALL BE PROVIDED AS SHOWN ON THE LANDSCAPE SHEET. SURETY SHALL BE POSTED WITH THE DEVELOPERS AGREEMENT FOR THIS SITE PLAN, SDP 09-44.

GENERAL NOTES (CONTINUED):

26. PERIMETER, PARKING LOT, AND TRASH PAD LANDSCAPING SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL. SURETY IN THE AMOUNT OF $16,080.00 SHALL BE POSTED WITH THE DEVELOPERS AGREEMENT FOR THIS SITE PLAN, SDP 09-44.
27. THE EXISTING ON-SITE TOPOGRAPHY IS TAKEN FROM FIELD RUN SURVEY WITH ONE FOOT CONTOUR INTERVALS PREPARED BY THE TECH GROUP, DATED: JULY 26, 2005. ADDITIONAL OFF-SITE TOPOGRAPHY WAS TAKEN FROM FIELD RUN SURVEY WITH ONE FOOT CONTOUR INTERVALS PREPARED BY BOHLER ENGINEERING.
28. A KNOX BOX IS REQUIRED TO BE PLACED ON THE FRONT OF THE BUILDING. IT SHALL BE PLACED TO THE RIGHT OF THE MAIN ENTRANCE AT A RANGE OF 4'-5' IN HEIGHT AND NO MORE THEN 6' LATERALLY FROM THE FRONT DOOR. THE KNOX BOX SHALL BE ELECTRONICALLY SUPERVISED TO NOTIFY THE OWNER THAT IT IS BEING ACCESSED. (INTEGRATED WITH THE FIRE ALARM SYSTEM). NFPA-1 10.12.1
29. BULK REQUIREMENTS:

A. MIN. STRUCTURE AND USE SETBACK REQUIREMENTS:	REQUIRED	PROPOSED
U.S. ROUTE 40	30'	40.05'
FREDERICK ROAD	30'	82.71'
CEMETERY LANE	30'	219.46'
MIN. PARKING USE SETBACK:		
U.S. ROUTE 40	10'	10.20'*
MD ROUTE 144 (FREDERICK ROAD)	10'	12.58'*
CEMETERY LANE	10'	175.87'*
MAX. BUILDING HEIGHT	40'	27'-5 5/8"

*NOTE: PLAN VIEW ANNOTATED TO THE FACE OF CURB. SETBACK NOTED ABOVE IS TO THE BACK OF CURB.

B. PARKING REQUIREMENTS PER HOWARD COUNTY ZONING REGULATION:

5 SPACES PER 1,000 S.F. OF GROSS FLOOR AREA.
14,622 S.F. / 1,000 S.F. X 5 SPACES = 74 SPACES

TOTAL SPACES PROVIDED: 74 INCLUDING 3 HANDICAP SPACES.

30. ALL LIGHTING SHALL BE IN COMPLIANCE WITH SECTION 134 OF THE HOWARD COUNTY ZONING REGULATIONS.
31. THE EXISTING HOUSE LOCATED ON THE SITE IS LISTED IN THE HISTORIC SITES INVENTORY AS HO-898. THE HISTORIC DISTRICT COMMISSION HAS REVIEWED AND APPROVED REMOVAL OF THIS STRUCTURE.
32. FOREST CONSERVATION OBLIGATIONS FOR THIS SITE IN ACCORDANCE WITH SECTION 16.1202 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION MANUAL SHALL BE FULFILLED BY: THE PLACEMENT OF 0.68 ACRES OF FOREST INTO AN EASEMENT AREA AND PAYMENT OF THE FEE-IN-LIEU FOR 0.16 ACRES OF REQUIRED REFORESTATION IN THE AMOUNT OF $5,227.50 (6,970 S.F. x $0.75). SURETY IN THE AMOUNT OF $5,750.00 FOR THE REQUIRED FOREST RETENTION AREA SHALL BE POSTED WITH THE DEVELOPERS AGREEMENT FOR THIS SITE PLAN, SDP 09-44.
33. WETLAND PETITION (WP-117) WAS APPROVED ON DECEMBER 10, 2008 TO WAIVE SECTION 16.116(a)(1). APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
   A. RETAINING WALLS SHALL BE PROVIDED ALONG THE NORTH AND SOUTH PORTION OF THE ENTRANCEWAY FROM CEMETERY LANE SO AS TO MINIMIZE DISTURBANCE OF THE WETLANDS AND WETLAND BUFFERS.
   B. APPLICATION OF ANY PERMITS AS REQUIRED BY THE MD STATE DEPARTMENT OF THE ENVIRONMENT SHALL BE APPROVED PRIOR TO FINAL APPROVAL OF THE SITE DEVELOPMENT PLAN.
   C. COMPLIANCE WITH THE ENCLOSED COMMENTS FROM THE HSCD REGARDING MITIGATION.
34. AN ACCESS CROSS EASEMENT AGREEMENT TO ALLOW VEHICULAR INGRESS/EGRESS FROM PARCEL A ACROSS PARCEL B HAS BEEN RECORDED IN THE LAND RECORDS OF HOWARD COUNTY AS L. 12181, F.293.
35. MARYLAND DEPARTMENT OF THE ENVIRONMENT PERMIT NUMBER 09-NT-3153/200961679 FOR PERMANENT IMPACTS TO 3,080 SQUARE FEET OF FORESTED NON-TIDAL WETLANDS AND 3,820 SQUARE FEET OF REGULATED BUFFER WAS APPROVED ON DECEMBER 8, 2009.

UTILITY CONTACTS:

NATURAL GAS AND ELECTRIC
BALTIMORE GAS AND ELECTRIC
7317 PARKWAY DRIVE
SOUTH HANOVER, MD 21076
PHONE: (410) 859-9383

TELEPHONE
VERIZON
7153 BUTHERFORD ROAD
BALTIMORE, MD 21244
PHONE: (410) 224-5286

STORMWATER MANAGEMENT
HOWARD COUNTY PLANNING AND ZONING DEPARTMENT
3430 COURTHOUSE DRIVE
ELLICOTT CITY, MD 21043
PHONE: (410) 313-2350

WATER AND SANITARY SEWER
HOWARD COUNTY PUBLIC WORKS
BUREAU OF UTILITIES
8250 OLD MONTGOMERY ROAD
COLUMBIA, MD 21045
PHONE: (410) 313-4910

EROSION AND SEDIMENT CONTROL
DEPARTMENT OF INSPECTIONS, LICENSES & PERMITS
3430 COURTHOUSE DRIVE
ELLICOTT CITY, MD 21043
PHONE: (410) 313-2455

PLANNING AND ZONING
HOWARD COUNTY PLANNING AND ZONING DEPARTMENT
3430 COURTHOUSE DRIVE
ELLICOTT CITY, MD 21043
PHONE: (410) 313-2350

SHEET INDEX

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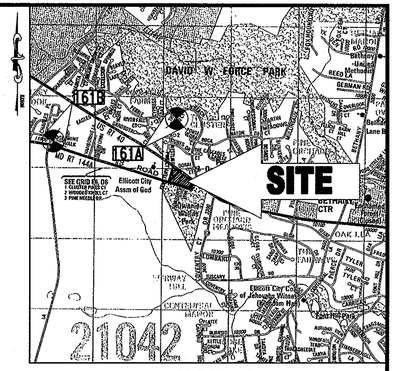


LOCATION MAP
ADC MAP NO. 11, E7
COPYRIGHT ADC THE MAP PEOPLE
PERMIT USE NO. 20602153-5
SCALE: 1"=2000'

BENCHMARK

GEODETIC SURVEY CONTROL - 161A
N 528,760.4
E 833,925.6
ELEV. 463.3'
LOCATED WITHIN THE MEDIAN OF U.S. ROUTE 40. APPROX. 0.35 MILES WEST OF MD ROUTE 144.

GEODETIC SURVEY CONTROL - 161B
N 529,726.3
E 833,925.6
ELEV. 470.600'
LOCATED WITHIN THE MEDIAN OF U.S. ROUTE 40 APPROX. 0.80 MILES EAST OF MARRIOTSVILLE ROAD

MISS UTILITY
DIG WITH CARE
BEFORE YOU DIG CALL
811 IN MD
or 1-800-257-7777
PROTECT YOURSELF, GIVE TWO WORKING DAYS NOTICE
THE CONTRACTOR TO CALL MISS UTILITY TO HAVE ALL EXISTING UTILITIES MARKED 48 HOURS PRIOR TO ANY CONSTRUCTION.

SITE ANALYSIS DATA CHART

A. TOTAL PROJECT AREA: 136,595 S.F. OR 3.136 AC.

B. AREA OF PLAN SUBMISSION (INCLUDES AREA OF OFF-SITE GRADING): 140,048 S.F. OR 3.22 AC.

C. TOTAL LIMIT OF DISTURBANCE (INCLUDES AREA OF OFF-SITE GRADING): 140,048 S.F. OR 3.22 AC.

D. PRESENT ZONING: B-1 (BUSINESS LOCAL)

E. PROPOSED USE: ONE-STORY RETAIL BUILDING/RITE AID, PHARMACY AND DOUBLE DRIVE-THRU WINDOWS

F. FLOOR AREA:

SALES FLOOR:	11,685 S.F.
PHARMACY:	918 S.F.
STORAGE/RECIEVING:	1,505 S.F.
OFFICE:	158 S.F.
RESTROOMS:	356 S.F.
TOTAL:	14,622 S.F.

G. MAXIMUM NUMBER OF EMPLOYEES: 10 (TOTAL EMPLOYEES)

H. NUMBER OF PARKING SPACES REQUIRED BY HOWARD COUNTY ZONING REGULATIONS:

5 SPACES PER 1,000 S.F.
14,622 S.F. / 1,000 S.F. x 5 SPACES = 74 SPACES

I. NUMBER OF SPACES PROVIDED: 74 SPACES INCLUDING 3 HANDICAP SPACES

J. OPEN SPACE ON SITE: N/A

K. BUILDING COVERAGE OF SITE:
   EX. 0.02 AC. OR 0.75%
   PROP. 0.33 AC. OR 10.57%

L. APPLICABLE DPZ FILE
   REFERENCES:
   WETLANDS PETITION: WP-08-117
   F 09-84

ADDRESS CHART	
LOT/PARCEL #	STREET ADDRESS
PARCEL A	10470 FREDERICK ROAD, ELLICOTT CITY HOWARD COUNTY, MD 21042

PERMIT INFORMATION CHART

SUBDIVISION NAME		SECTION/AREA		LOT/PARCEL NO.
KAULFUSS AND CALABRESE LANDS		N/A		A & B
PLAT RECORDATION	GRID#	ZONING	TAX MAP NO.	ELECT. DISTR	CENSUS TRACT
21269 & 21270	6	B-1	23	2nd	602303
WATER CODE		SEWER CODE		
H 07		5883400		

PROFESSIONAL CERTIFICATION

I, MATTHEW T. ALLEN, HEREBY CERTIFY THAT THESE 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. 28567, EXPIRATION DATE: 4/16/11

DATE:
MATTHEW T. ALLEN
PROFESSIONAL ENGINEER NO. 28567

NO.:	DATE	REVISION DESCRIPTION

OWNER:
PARCEL A
JACK M. AND LOUISE KAULFUSS
13715 OLD ROVER ROAD
WEST FRIENDSHIP MD 21794-9718
PHONE: 410-442-2011

PARCEL B
JOHN VICTOR AND MARTHA B. CALABRESE
3262 OLD FENCE ROAD
ELLICOTT CITY, MD 21042-2440
PHONE: 410-465-3519

DEVELOPER:
RITE AID CORPORATION
P.O. BOX 3165
HARRISBURG, PA 17105
ATTN.: LANCE MASON
PHONE: 804-745-6232

PROJECT
RITE AID CORPORATION
KAULFUSS AND CALABRESE LANDS
PARCELS A & B
ONE-STORY RETAIL BUILDING

AREA 3.136 AC. TAX MAP 23 GRID 6 ZONED B-1
PARCELS A & B
2ND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND 21042

TITLE
COVER SHEET

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD
SUITE 801
TOWSON, MARYLAND 21204
PH: (410) 821-7900
FX: (410) 821-7987
www.bohlerengineering.com

DESIGNED BY:	M.J.G.
DRAWN BY:	R.J.M.
PROJECT NO.:	MD072009.2
DATE:	8/20/10
SCALE:	AS NOTED
DRAWING NO.	1 OF 37

SDP 09-44

APPROVED: DEPARTMENT OF PLANNING AND ZONING

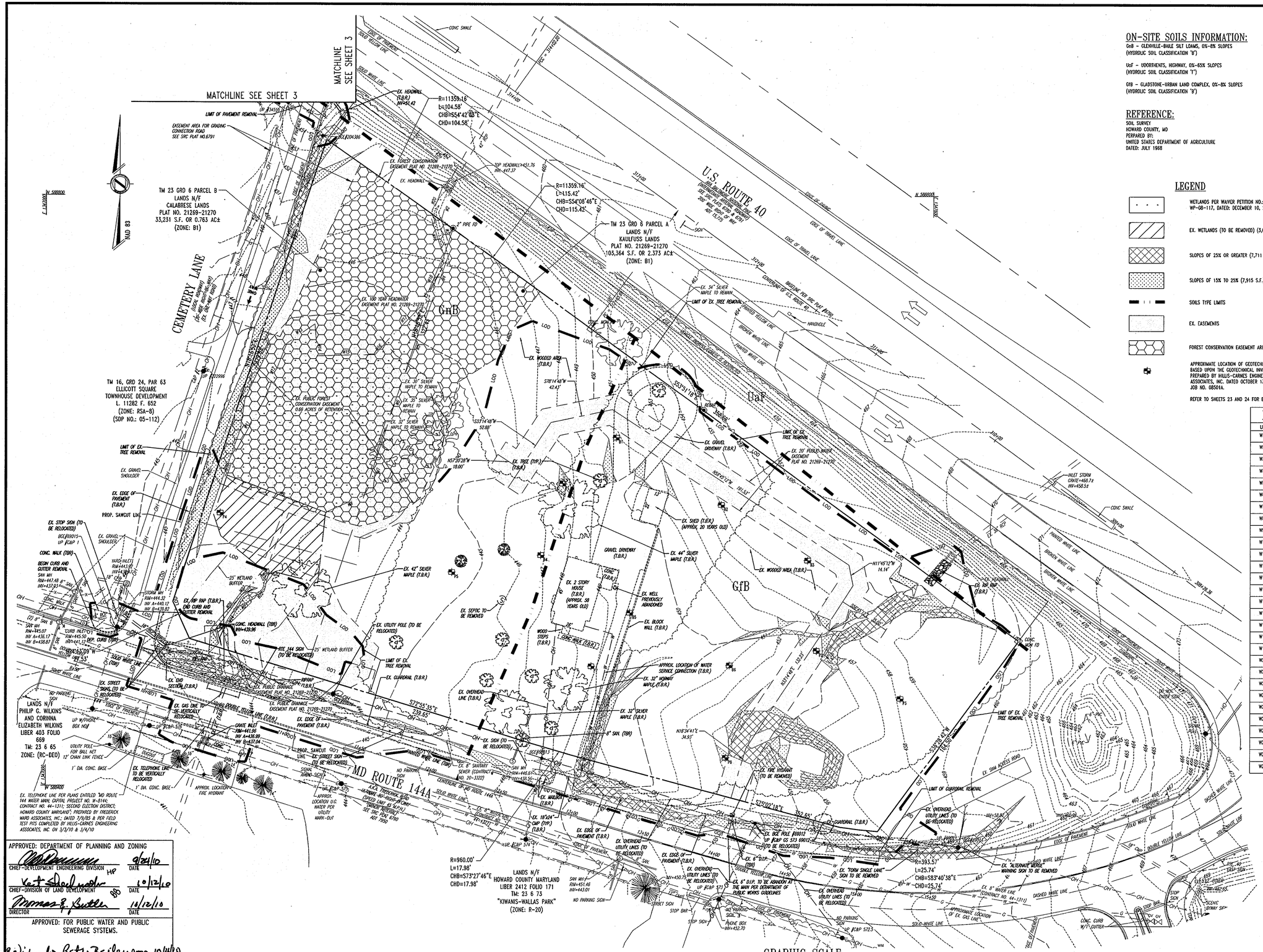
CHIEF-DEVELOPMENT ENGINEERING DIVISION	DATE 9/24/10
CHIEF-DIVISION OF LAND DEVELOPMENT	DATE 10/12/10
DIRECTOR	DATE 10/12/10

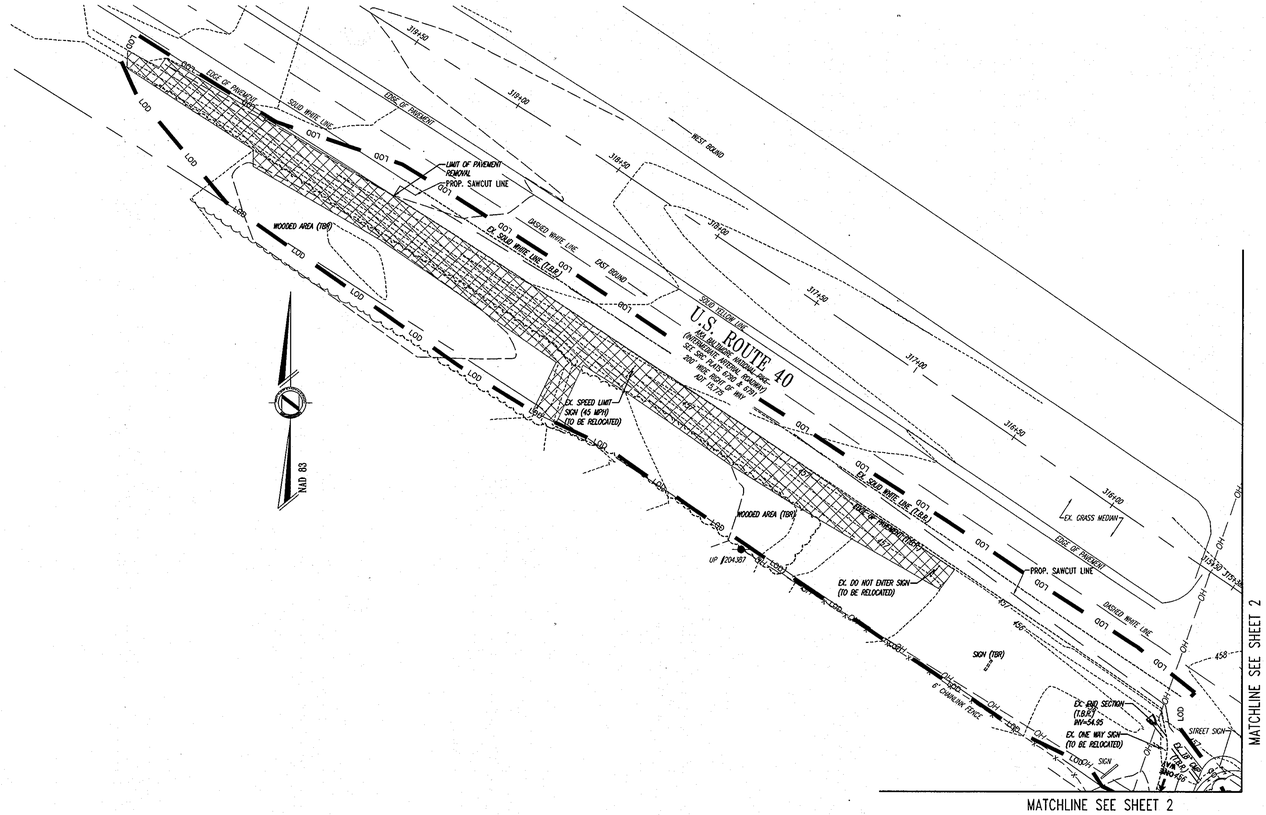
APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.

COUNTY HEALTH OFFICER — DATE 10/14/10
HOWARD COUNTY HEALTH DEPARTMENT

GENERAL NOTE:
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THIS PROJECT WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR APPLICABLE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF THE WORK AS DEFINED BY THE DRAWINGS AND IN FULL CONFORMANCE WITH LOCAL REGULATIONS AND CODES.

H:\D7\Rite Aid Corporation\MD07 2009 - 10470 Frederick Road, Ellicott City, MD\CAD\Site Plan Documents\Rev 5\MD072009SD5.dwg, 9/13/2010 1:24:50 PM, mgessell, 1:1


MATCHLINE SEE SHEET 3
U.S. ROUTE 40
MD ROUTE 144A
CEMETERY LANE
GfB
UaF
GfB
TM 23 GRD 6 PARCEL B
LANDS N/F
CALABRESE LANDS
PLAT NO. 21269-21270
33,231 S.F. OR 0.763 AC±
(ZONE: B1)
TM 23 GRD 6 PARCEL A
LANDS N/F
KAULFUSS LANDS
PLAT NO. 21269-21270
105,364 S.F. OR 2.373 AC±
(ZONE: B1)
TM 16, GRD 24, PAR 63
ELLICOTT SQUARE
TOWNHOUSE DEVELOPMENT
L. 11282 F. 652
(ZONE: RSA-8)
(SDP NO.: 05-112)
LANDS N/F
PHILIP G. WILKINS
AND CORINNA
ELIZABETH WILKINS
LIBER 403 FOLIO
669
TM: 23 6 65
ZONE: (RC-DEO)
LANDS N/F
HOWARD COUNTY MARYLAND
LIBER 2412 FOLIO 171
TM: 23 6 73
"KIWANIS-WALLAS PARK"
(ZONE: R-20)
R=11359.16'
L=104.58'
CHB=S54°42'03"E
CHD=104.58'
R=11359.16'
L=115.42'
CHB=S54°08'46"E
CHD=115.42'
R=960.00'
L=17.98'
CHB=S73°27'46"E
CHD=17.98'
R=393.57'
L=25.74'
CHB=S83°40'38"E
CHD=25.74'
S57°55'35"E
239.65'
S75°02'18"E
S35°08'43"W
N57°20'28"W
18.00'
S33°14'48"W
52.88'
S78°14'48"W
42.43'
S35°41'18"E
N57°49'17"W
19.53'
N11°45'12"W
14.14'
N18°34'41"E
34.91'
N24°13'09"W
181.53'
N11°45'12"W
14.14'
ALIGNMENT 102.33'
MATCHLINE
SEE SHEET 3
NAD 83
N 588800
N 588600
N 588200
N 588000
EX. HEADWALL (T.B.R.) INV=441.42
LIMIT OF PAVEMENT REMOVAL
EASEMENT AREA FOR GRADING CONNECTION ROAD SEE SRC PLAT NO.6791
EX. FOREST CONSERVATION EASEMENT PLAT NO. 21269-21270
TOP HEADWALL=451.76 INV=447.37
EX. HEADWALL
2" PIPE TO
EX. 100 YEAR HEADWATER EASEMENT PLAT NO. 21269-21270
EX. WOODED AREA (T.B.R.)
EX. 30" SILVER MAPLE TO REMAIN
EX. 35" SILVER MAPLE TO REMAIN
EX. 32" SILVER MAPLE TO REMAIN
EX. PUBLIC FOREST CONSERVATION EASEMENT 0.65 ACRES OF RETENTION
EX. TREE (TYP.) (T.B.R.)
LIMIT OF EX. TREE REMOVAL
EX. GRAVEL SHOULDER
EX. EDGE OF PAVEMENT (T.B.R.)
PROP. SAWCUT LINE
EX. STOP SIGN (TO BE RELOCATED)
EX. GRAVEL SHOULDER
CONC. WALK (TBR)
BEGIN CURB AND GUTTER REMOVAL
EX. 42" SILVER MAPLE (T.B.R.)
25' WETLAND BUFFER
EX. RIP RAP (T.B.R.) END CURB AND GUTTER REMOVAL
CONC. HEADWALL (TBR) INV=439.96
RTE 144 SIGN (TO BE RELOCATED)
EX. UTILITY POLE (TO BE RELOCATED)
LIMIT OF EX. TREE REMOVAL
EX. GUARDRAIL (T.B.R.)
EX. STREET SIGNS (TO BE RELOCATED)
EX. END SECTION (T.B.R.)
EX. GAS LINE TO BE VERTICALLY RELOCATED
EX. PUBLIC DRAINAGE EASEMENT PLAT NO. 21269-21270
EX. EDGE OF PAVEMENT (T.B.R.)
GRATE INLET RIM=441.96 INV A=436.99 INV B=437.04
PROP. SAWCUT LINE
EX. STREET SIGN (TO BE RELOCATED)
EX. 8" SANITARY SEWER (CONTRACT NO. 20-3322)
EX. MAILBOX (T.B.R.)
EX. 18"x24" CMP (TYP.) (T.B.R.)
EX. EDGE OF PAVEMENT (T.B.R.)
EX. OVERHEAD UTILITY LINES (TO BE RELOCATED)
EX. EDGES OF PAVEMENT (T.B.R.)
EX. OVERHEAD UTILITY LINES (TO BE RELOCATED)
EX. 6" D.I.P. TO BE ABANDONED AT THE MAIN PER DEPARTMENT OF PUBLIC WORKS GUIDELINES
EX. "FORM SINGLE LANE" SIGN TO BE REMOVED
EX. "ALTERNATE LANE" WARNING SIGN TO BE REMOVED
EX. 8" WATER LINE (CONTRACT NO. 64-1311)
APPROXIMATE LOCATION OF EX. GAS LINE
EX. SIGN ACCESS ROAD
EX. TRAFFIC BARRIER
EX. 2 STORY HOUSE (T.B.R.) (APPROX. 58 YEARS OLD)
EX. SHED (T.B.R.) (APPROX. 20 YEARS OLD)
EX. 44" SILVER MAPLE (T.B.R.)
EX. WOODED AREA (T.B.R.)
EX. WELL PREVIOUSLY ABANDONED
EX. BLOCK WALL (T.B.R.)
EX. SEPTIC TO BE REMOVED
EX. UTILITY POLE (TO BE RELOCATED)
EX. 32" WISHBONE MAPLE (T.B.R.)
EX. 32" SILVER MAPLE (T.B.R.)
EX. OVERHEAD LINE (T.B.R.)
EX. FIRE HYDRANT (TO BE REMOVED)
EX. 8" SIGN (TBR)
EX. SIGN (TO BE RELOCATED)
EX. BGE POLE #80012 UP (CAP GS 573 69012) (TO BE RELOCATED)
EX. 6" D.I.P.
EX. 8" WATER LINE
EX. 8" SIGN (TBR)
EX. 30" WISHBONE MAPLE (T.B.R.)
EX. 8" DIP (T.B.R.)
EX. 8" SIGN (TBR)
EX. 8" SIGN (TBR)
EX. 8" SIGN (TBR



LEGEND

- WETLANDS PER WAIVER PETITION NO.: WP-08-117, DATED: DECEMBER 10, 2008
- EX. WETLANDS (TO BE REMOVED) (3,080 S.F.)
- SLOPES OF 25% OR GREATER (7,711 S.F.)
- SLOPES OF 15% TO 25% (7,915 S.F.)
- EX. EASEMENTS

BENCHMARK

GEODETIC SURVEY CONTROL - 161A
N 528,760.4
E 833,925.6
ELEV. 463.7'
LOCATED WITHIN THE MEDIAN OF U.S. ROUTE 40. APPROX. 0.35 MILES WEST OF MD ROUTE 144.

GEODETIC SURVEY CONTROL - 161B
N 529,726.3
E 833,925.6
ELEV. 470.600'
LOCATED WITHIN THE MEDIAN OF U.S. ROUTE 40 APPROX. 0.80 MILES EAST OF MARRIOTTSVILLE ROAD

MISS UTILITY

BEFORE YOU DIG CALL
811 IN MD
or 1-800-257-7777
PROTECT YOURSELF, GIVE TWO WORKING DAYS NOTICE
THE CONTRACTOR TO CALL MISS UTILITY TO HAVE ALL EXISTING UTILITIES MARKED 48 HOURS PRIOR TO ANY CONSTRUCTION.

DEMOLITION NOTES

1. THIS PLAN IS BASED ON A FIELD SURVEY BY:
   THE TECH GROUP, INC.
   ENTITLED: "ALTA/ACSM LAND TITLE SURVEY, FOR PARCELS AT U.S. ROUTE 40, MD ROUTE 144, AND CEMETARY LANE."
   PROJECT NO.: 110054011
   DATED: JULY 26, 2005

   OFF-SITE SURVEY INFORMATION IS BASED ON A CAD FILE RECEIVED BY:
   BOHLER ENGINEERING
   DATED: FEBRUARY 9, 2009; JULY 10, 2009

2. BOHLER ENGINEERING IS NOT RESPONSIBLE FOR JOB SITE SAFETY OR SUPERVISION.

3. ALL DEMOLITION ACTIVITIES ARE TO BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AS WELL AS ALL FEDERAL, STATE AND LOCAL REGULATIONS. ANY DISCREPANCIES OR DEVIATIONS SHALL BE IDENTIFIED BY THE CONTRACTOR TO BOHLER ENGINEERING IN WRITING FOR RESOLUTION PRIOR TO INITIATION OF SITE ACTIVITY.

4. PRIOR TO STARTING ANY DEMOLITION CONTRACTOR IS RESPONSIBLE FOR/TO:

   A. ENSURING THAT COPIES OF ALL APPLICABLE PERMITS AND APPROVALS ARE MAINTAINED ON SITE AND AVAILABLE FOR REVIEW.

   B. INSTALLING THE REQUIRED SOIL EROSION AND SEDIMENT CONTROL AND/OR TREE PROTECTION MEASURES PRIOR TO SITE DISTURBANCE.

   C. LOCATING (VERTICALLY AND HORIZONTALLY) ALL UTILITIES AND SERVICES, INCLUDING, BUT NOT LIMITED TO GAS, WATER, ELECTRIC, SANITARY AND STORM SEWER, TELEPHONE, CABLE, FIBER OPTIC CABLE, ETC. WITHIN THE LIMITS OF DISTURBANCE. THE CONTRACTOR SHALL USE AND COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY NOTIFICATION SYSTEM TO LOCATE ALL THE UNDERGROUND UTILITIES.

   D. PROTECTING AND MAINTAINING IN OPERATION, ALL ACTIVE SYSTEM THAT ARE NOT BEING REMOVED DURING ALL DEMOLITION ACTIVITIES.

   E. FAMILIARIZING THEMSELVES WITH THE APPLICABLE UTILITY SERVICE PROVIDER AND IS RESPONSIBLE FOR ALL COORDINATION REGARDING UTILITY DEMOLITION REQUIRED FOR THE PROJECT. THE CONTRACTOR SHALL PROVIDE THE OWNER WRITTEN NOTIFICATION THAT THE EXISTING UTILITIES AND SERVICES HAVE BEEN TERMINATED AND ABANDONED IN ACCORDANCE WITH JURISDICTION AND UTILITY COMPANY REQUIREMENTS.

   F. COORDINATION WITH UTILITY COMPANIES REGARDING WORKING "OFF-PEAK" HOURS OR ON WEEKENDS AS MAY BE REQUIRED TO MINIMIZE THE IMPACT ON THE AFFECTED PARTIES.

   G. A COMPLETE INSPECTION FOR CONTAMINANTS BY A LICENSED ENVIRONMENTAL TESTING AGENCY, OF ALL BUILDINGS AND/OR STRUCTURES TO BE REMOVED. SAME SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL ENVIRONMENTAL REGULATIONS. ANY/ALL CONTAMINANTS SHALL BE REMOVED AND DISPOSED OF BY A FEDERALLY LICENSED CONTRACTOR IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS. ALL ENVIRONMENTAL WORK INCLUDING HAZARDOUS MATERIAL, SOILS, ASBESTOS, OR OTHER REFERENCED OR IMPLIED HEREIN IS THE SOLE RESPONSIBILITY OF THE OWNER'S ENVIRONMENTAL CONSULTANT.

5. THE FIRM OR ENGINEER OF RECORD IS NOT RESPONSIBLE FOR JOB SITE SAFETY OR SUPERVISION. CONTRACTOR IS TO PROCEED WITH THE DEMOLITION IN A SYSTEMATIC AND SAFE MANNER, FOLLOWING ALL THE OSHA REQUIREMENTS, TO ENSURE PUBLIC AND CONTRACTOR SAFETY.

6. THE CONTRACTOR SHALL PROVIDE ALL THE "MEANS AND METHODS" NECESSARY TO PREVENT MOVEMENT, SETTLEMENT, OR COLLAPSE OF EXISTING STRUCTURES, AND ANY OTHER IMPROVEMENTS THAT ARE REMAINING ON OR OFF SITE. THE DEMOLITION CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS OF DAMAGE TO ALL ITEMS THAT ARE TO REMAIN AS A RESULT OF HIS ACTIVITIES. ALL REPAIRS SHALL USE NEW MATERIAL. THE REPAIRS SHALL RESTORE THE ITEM TO THE PRE-DEMOLITION CONDITION.

7. IN THE ABSENCE OF SPECIFICATIONS, THE CONTRACTOR SHALL PERFORM EARTH MOVEMENT ACTIVITIES, DEMOLITION AND REMOVAL OF ALL FOUNDATION WALLS, FOOTINGS, AND OTHER MATERIALS WITHIN THE LIMITS OF DISTURBANCE IN ACCORDANCE WITH DIRECTION BY OWNER'S STRUCTURAL OR GEOTECHNICAL ENGINEER.

8. EXPLOSIVES SHALL NOT BE USED WITHOUT PRIOR WRITTEN CONSENT OF BOTH THE OWNER AND APPLICABLE GOVERNMENTAL AUTHORITIES. ALL THE REQUIRED PERMITS AND EXPLOSIVE CONTROL MEASURES THAT ARE REQUIRED BY THE FEDERAL, STATE, AND LOCAL GOVERNMENTS SHALL BE IN PLACE PRIOR TO STARTING AN EXPLOSIVE PROGRAM. THE CONTRACTOR IS ALSO RESPONSIBLE FOR ALL INSPECTION AND SEISMIC VIBRATION TESTING THAT IS REQUIRED TO MONITOR THE EFFECTS ON ALL LOCAL STRUCTURES.

9. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL AND GENERALLY ACCEPTED SAFE PRACTICES IN CONFORMANCE WITH: THE "MANUAL ON UNIFORM TRAFFIC CONTROL," AS WELL AS FEDERAL, STATE, AND LOCAL REGULATIONS WHEN DEMOLITION RELATED ACTIVITIES IMPACT ROADWAYS OR ROADWAY RIGHTS - OF - WAY.

10. CONDUCT DEMOLITION ACTIVITIES IN SUCH A MANNER TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, SIDEWALKS, WALKWAYS, AND OTHER ADJACENT FACILITIES. STREET CLOSURE PERMITS MUST BE RECEIVED FROM THE APPROPRIATE GOVERNMENTAL AUTHORITY.

11. DEMOLITION ACTIVITIES AND EQUIPMENT SHALL NOT USE AREAS OUTSIDE THE DEFINED PROPERTY LINE WITHOUT WRITTEN PERMISSION OF THE APPLICABLE PROPERTY OWNER, AND/OR APPROPRIATE GOVERNMENT AGENCY.

12. USE DUST CONTROL MEASURES TO LIMIT AIRBORNE DUST AND DIRT RISING AND SCATTERING IN THE AIR IN ACCORDANCE WITH FEDERAL, STATE, AND/OR LOCAL STANDARDS. AFTER THE DEMOLITION IS COMPLETE, ADJACENT STRUCTURES AND IMPROVEMENTS SHALL BE CLEANED OF ALL DUST AND DEBRIS CAUSED BY THE DEMOLITION OPERATIONS. THE CONTRACTOR IS RESPONSIBLE FOR RETURNING ALL ADJACENT AREAS TO THEIR "PRE-DEMOLITION" CONDITION.

13. CONTRACTOR IS RESPONSIBLE TO SAFEGUARD SITE AS NECESSARY TO PERFORM THE DEMOLITION IN SUCH A MANNER AS TO PREVENT THE ENTRY OF UNAUTHORIZED PERSONS AT ANY TIME.

14. THIS DEMOLITION PLAN IS INTENDED TO IDENTIFY THOSE EXISTING ITEMS/CONDITIONS WHICH ARE TO BE REMOVED. IT IS NOT INTENDED TO PROVIDE DIRECTION OTHER THAN THAT ALL METHODS AND MEANS ARE TO BE IN ACCORDANCE WITH STATE, FEDERAL, LOCAL, AND JURISDICTIONAL REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OSHA AND OTHER SAFETY PRECAUTIONS NECESSARY TO PROVIDE A SAFE WORK SITE.

15. DEBRIS SHALL NOT BE BURIED ON THE SUBJECT SITE. ALL DEMOLITION WASTES AND DEBRIS (SOLID WASTE) SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL TOWN, COUNTY, STATE, AND FEDERAL LAWS AND APPLICABLE CODES.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION	DATE 9/24/10
CHIEF-DIVISION OF LAND DEVELOPMENT	DATE 10/12/10
DIRECTOR	DATE 10/12/10

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.

COUNTY HEALTH OFFICER — DATE 10/4/10
HOWARD COUNTY HEALTH DEPARTMENT

GENERAL NOTE:
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THIS PROJECT WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR APPLICABLE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF THE WORK AS DEFINED BY THE DRAWINGS AND IN FULL CONFORMANCE WITH LOCAL REGULATIONS AND CODES.

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

PROFESSIONAL CERTIFICATION

I, MATTHEW T. ALLEN, HEREBY CERTIFY THAT THESE 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. 28567, EXPIRATION DATE: 4/16/11

DATE 9/14/10
MATTHEW T. ALLEN
PROFESSIONAL ENGINEER NO. 28567

NO.:	DATE	REVISION DESCRIPTION

OWNER:
PARCEL A
JACK W. AND LOUISE KAULFUSS
13715 OLD ROVER ROAD
WEST FRIENDSHIP MD 21794-9718
PHONE: 410-442-2011

PARCEL B
JOHN J. TOR AND
MARTHA J. CALABRESE
3292 OLD FENCE ROAD
ELLICOTT CITY, MD 21042-2440
PHONE: 410-465-3519

DEVELOPER:
RITE AID CORPORATION
P.O. BOX 3165
HARRISBURG, PA 17105
ATTN.: LANCE MASON
PHONE: 804-745-5222

PROJECT: RITE AID CORPORATION
KAULFUSS AND CALABRESE LANDS
PARCELS A & B
ONE-STORY RETAIL BUILDING

AREA 3.136 AC. TAX MAP 23 GRID 6 ZONED B-1
PARCELS A & B
2ND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND 21042

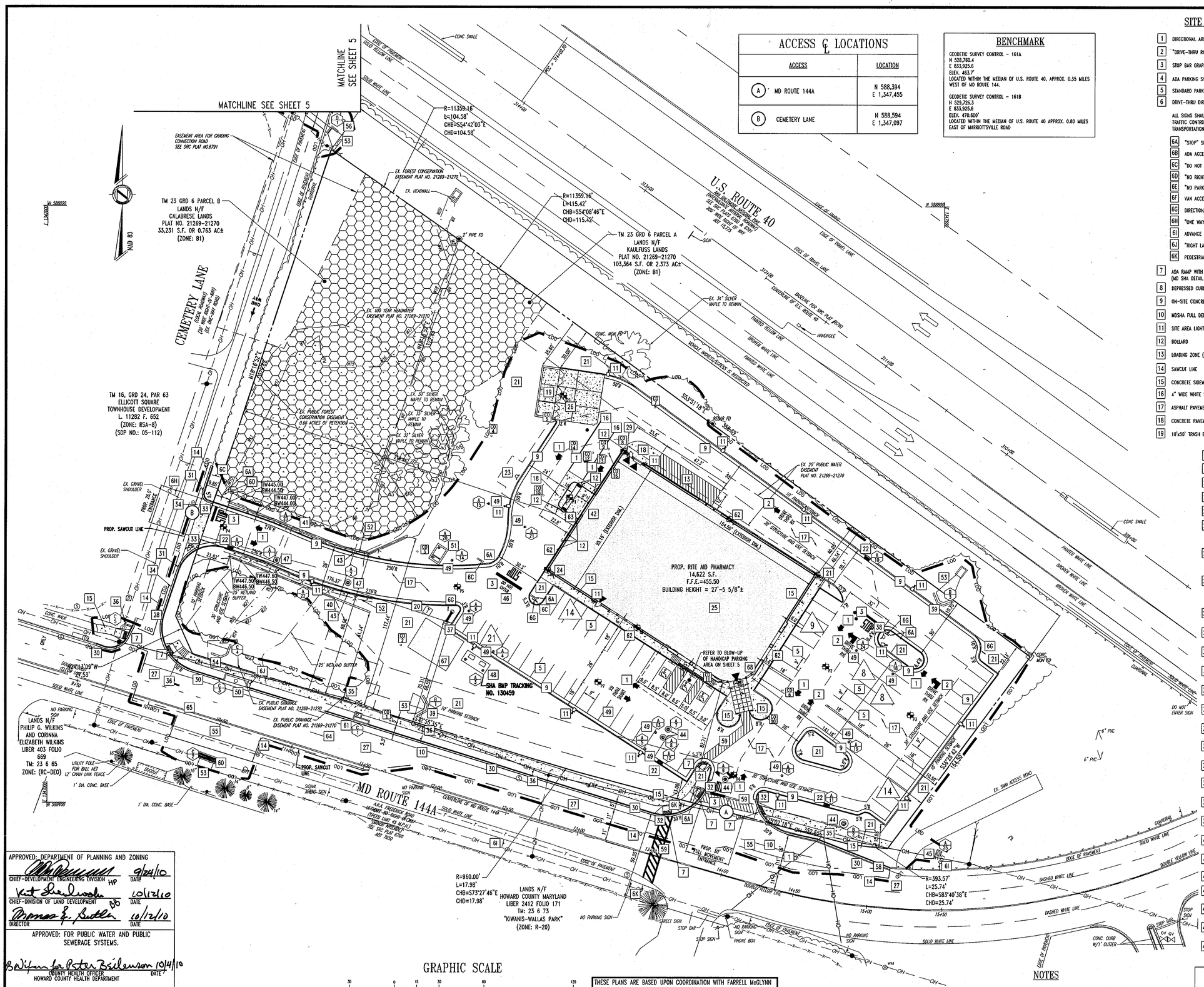
TITLE: EXISTING CONDITIONS AND DEMOLITION PLAN

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD
SUITE 801
TOWSON, MARYLAND 21204
PH: (410) 821-7900
FX: (410) 821-7987
www.bohlerengineering.com

DESIGNED BY:	M.J.G.
DRAWN BY:	R.J.M.
PROJECT NO.:	MD072009.2
DATE:	8/20/10
SCALE:	1"=30'
DRAWING NO.	3 OF 37

SDP 09-44

H:\07\Rite Aid Corporation\MD07 2009 - 10470 Frederick Road, Ellicott City, MD\CAD\Site Plan Documents\Rev 5\MD072009SS5.dwg, 9/13/2010 1:31:11 PM, mgessell, 1:1



ACCESS ℄ LOCATIONS

ACCESS	LOCATION
(A) MD ROUTE 144A	N 588,394 E 1,347,455
(B) CEMETERY LANE	N 588,594 E 1,347,097

BENCHMARK

GEODETIC SURVEY CONTROL - 161A
N 528,760.4
E 833,925.5
ELEV. 463.7'
LOCATED WITHIN THE MEDIAN OF U.S. ROUTE 40, APPROX. 0.35 MILES WEST OF MD ROUTE 144.

GEODETIC SURVEY CONTROL - 161B
N 529,726.3
E 833,925.6
ELEV. 470.600'
LOCATED WITHIN THE MEDIAN OF U.S. ROUTE 40 APPROX. 0.80 MILES EAST OF MARRIOTTSVILLE ROAD

SITE KEYNOTES

1. DIRECTIONAL ARROW
2. "DRIVE-THRU RX" GRAPHICS
3. STOP BAR GRAPHIC
4. ADA PARKING SYMBOL
5. STANDARD PARKING STALL & STRIPING DETAIL
6. DRIVE-THRU DIRECTIONAL SIGNAGE

   ALL SIGNS SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" BY THE U.S. DEPARTMENT OF TRANSPORTATION.

   - 6A "STOP" SIGN
   - 6B ADA ACCESSIBLE PARKING SIGN (BOLLARD MOUNTED)
   - 6C "DO NOT ENTER" SIGN
   - 6D "NO RIGHT TURN" SIGN
   - 6E "NO PARKING IN ACCESS AISLE" SIGN (BOLLARD MOUNTED)
   - 6F VAN ACCESSIBLE PARKING SIGN
   - 6G DIRECTIONAL "DRIVE-THRU" SIGN
   - 6H "ONE WAY" SIGN R6-1L (36"x12")
   - 6I ADVANCE PEDESTRIAN CROSSING SIGN (W11-2)
   - 6J "RIGHT LANE MUST TURN RIGHT AT ELLICOTT WAY" SIGN (R3-7(Z)(r))
   - 6K PEDESTRIAN CROSSING SIGN (W11-2 & W16-7P)
7. ADA RAMP WITH DETECTABLE WARNING SURFACE (PER LATEST ADA STANDARDS) (MD SHA DETAIL NO. 655.12)
8. DEPRESSED CURB
9. ON-SITE CONCRETE CURB AND GUTTER
10. MDSHA FULL DEPTH PAVEMENT SECTION (REFER TO ACCESS PERMIT FOR PAVEMENT SECTION)
11. SITE AREA LIGHT
12. BOLLARD
13. LOADING ZONE (12.7'x50')
14. SAWCUT LINE
15. CONCRETE SIDEWALK
16. 4" WIDE WHITE STRIPE
17. ASPHALT PAVEMENT SECTION
18. CONCRETE PAVEMENT
19. 10'x30' TRASH ENCLOSURE WITH 30'x34' CONCRETE PAD
20. ELECTRICAL TRANSFORMER ON CONCRETE PAD (REFER TO APPROVED BGE PLAN FOR EXACT LOCATION)
21. LANDSCAPE AREA
22. PRECAST DOUBLE WR INLET (HOWARD COUNTY STD. D-4.35)
23. FIRE HYDRANT
24. FIRE DEPARTMENT CONNECTION
25. SITE CONTRACTOR SHALL REFER TO ARCHITECT PLANS FOR THE EXACT DIMENSIONS OF THE BUILDING AND THE LOCATION OF DOORWAYS, UTILITIES, ETC.
26. GATES TO BE INSTALLED BY BUILDING CONTRACTOR WITH DUMPSTER STRUCTURE. COORDINATE WITH PAVEMENT INSTALLATION.
27. THE CONTRACTOR SHALL INSTALL NECESSARY TRAFFIC CONTROL, SAFETY BARRICADES, LIGHTING, AND OTHER REQUIRED CONTROL MEASURES TO SECURE THE WORK AREA FROM EXISTING TRAFFIC AND TO ASSURE PUBLIC SAFETY. (MD SHA DETAIL MD 104.02-01)
28. TRANSITION FROM SHA CURB AND GUTTER TO HOWARD COUNTY CURB AND GUTTER
29. GAS METER
30. SHA TYPE 'A' CONCRETE CURB AND GUTTER (MDSHA STD. 620.02)
31. HOWARD COUNTY STANDARD 7" CURB AND GUTTER (STD. R-3.01)
32. TRANSITION FROM SHA TYPE 'A' CONCRETE CURB AND GUTTER TO ON-SITE CURB
33. 3-FOOT TRANSITION FROM HOWARD COUNTY STANDARD 7" CURB AND GUTTER TO ON-SITE CURB AND GUTTER
34. HOWARD COUNTY STANDARD P-4 PAVING SECTION (STD. R-2.01)
35. RELOCATED UTILITY POLE (REFER TO APPROVED BGE PLAN FOR EXACT LOCATION)
36. RELOCATED STREET SIGN
37. STANDARD RITE AID PYLON SIGN (SEPARATE SIGN PERMIT REQUIRED)
38. RELOCATED FIRE HYDRANT
39. TYPE 'A' HEADWALL (HOWARD COUNTY STD. D 5.11)
40. RETAINING WALL 'A' WITH SAFETY RAIL (REFER TO SHEETS 31-33 FOR DETAILS)
41. RETAINING WALL 'B' WITH SAFETY RAIL (REFER TO SHEETS 31-33 FOR DETAILS)
42. DRIVE-THRU WINDOW
43. GUARDRAIL (MDSHA STD. NO. 605.27)
44. 72" DIAMETER PRECAST MANHOLE (MDSHA STD. NO. 384.05)
45. PRECAST TYPE 'K' INLET (MDSHA STD. NO. MD 378.03)
46. "DO NOT ENTER" GRAPHIC
47. PRECAST MANHOLE (HOWARD COUNTY STD. G-5.12)
48. STORMFILTER
49. CMP RISER
50. A-15 INLET (MONTGOMERY COUNTY STD. NO. MC-501.01)
51. PRE-CAST CONTROL STRUCTURE
52. SAFETY FENCE (REFER TO RETAINING WALL PLANS FOR DETAIL)
53. RIP-RAP (REFER TO GRADING PLAN FOR SIZES)
54. STANDARD HEADWALL (MD SHA STD. NO. MD-352.01)
55. 5" SOLID WHITE STRIPING
56. STANDARD TYPE E ENDWALL (MD SHA STD. NO. MD-356.01)
57. DOUBLE 4" SOLID YELLOW STRIPING
58. 5" DASHED WHITE STRIPING (2' DASH - 6' GAP)
59. 6' WIDE PEDESTRIAN CROSSWALK
60. INLET (SEE SHEET NO. 30)
61. 10' COG INLET (MDSHA STD. NO. MD-374.51)
62. 6" HEADER CURB
63. CANOPY LOCATED OVER DRIVE-THRU WINDOWS (SEE SHEET NO. 25)
64. 5" DASHED WHITE STRIPING (10' DASH - 30' GAP)
65. 5" DOUBLE SOLID YELLOW STRIPING
66. PROP. EDGE OF PAVEMENT
67. 30'x23'x6.05' RECHARGE TRENCH
68. KNOX BOX

MISS UTILITY

BEFORE YOU DIG CALL
811 IN MD
or 1-800-257-7777
PROTECT YOURSELF, GIVE TWO WORKING DAYS NOTICE
THE CONTRACTOR TO CALL MISS UTILITY TO HAVE ALL EXISTING UTILITIES MARKED 48 HOURS PRIOR TO ANY CONSTRUCTION.

NO.:	DATE	REVISION DESCRIPTION

OWNER:
PARCEL A
JACK M. AND LOUISE KAULFUSS
13715 OLD ROVER ROAD
WEST FRIENDSHIP MD 21794-9718
PHONE: 410-442-2011

PARCEL B
JOHN VICTOR AND
MARTHA B. CALABRESE
3262 OLD FENCE ROAD
ELLICOTT CITY, MD 21042-2440
PHONE: 410-465-3519

DEVELOPER:
RITE AID CORPORATION
P.O. BOX 3165
HARRISBURG, PA 17105
ATTN.: LANCE MASON
PHONE: 804-745-6222

PROJECT
RITE AID CORPORATION
KAULFUSS AND CALABRESE LAN S
PARCELS A & B
ONE-STORY RETAIL BUILDING

AREA 3.136 AC. TAX MAP 23 GRID 6 ZONED B-1
PARCELS A & B
2ND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND 21042

TITLE
SITE PLAN

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD
SUITE 801
TOWSON, MARYLAND 21204
PH: (410) 821-7900
FX: (410) 821-7987
www.bohlerengineering.com

DESIGNED BY:	M.J.G.
DRAWN BY:	R.J.M.
PROJECT NO.:	MD072009.2
DATE:	8/20/10
SCALE:	1"=30'
DRAWING NO.	4 OF 37

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION	DATE 9/24/10
CHIEF-DIVISION OF LAND DEVELOPMENT	DATE 10/12/10
DIRECTOR	DATE 10/12/10

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.

COUNTY HEALTH OFFICER — DATE 10/14/10
HOWARD COUNTY HEALTH DEPARTMENT

GENERAL NOTE:
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GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

THESE PLANS ARE BASED UPON COORDINATION WITH FARRELL McGLYNN ARCHITECTS, P.A., AND WERE PREPARED WITHOUT THE BENEFIT OF A FINAL SET OF ARCHITECTURAL PLANS. BOHLER ENGINEERING SHALL BE HELD HARMLESS FOR ANY DISCREPANCIES THAT MAY OCCUR BETWEEN THESE PLANS AND THE FINAL ARCHITECTURAL PLANS.

NOTES

1. REFER TO SHEET 5 FOR STANDARD SITE PLAN NOTES.
2. REFER TO COVER SHEET FOR LEGEND.
3. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.

PROFESSIONAL CERTIFICATION

I, MATTHEW T. ALLEN, HEREBY CERTIFY THAT THESE 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. 28567, EXPIRATION DATE: 4/16/11

DATE SIGNATURE
PROFESSIONAL ENGINEER NO. 28567

SDP 09-44

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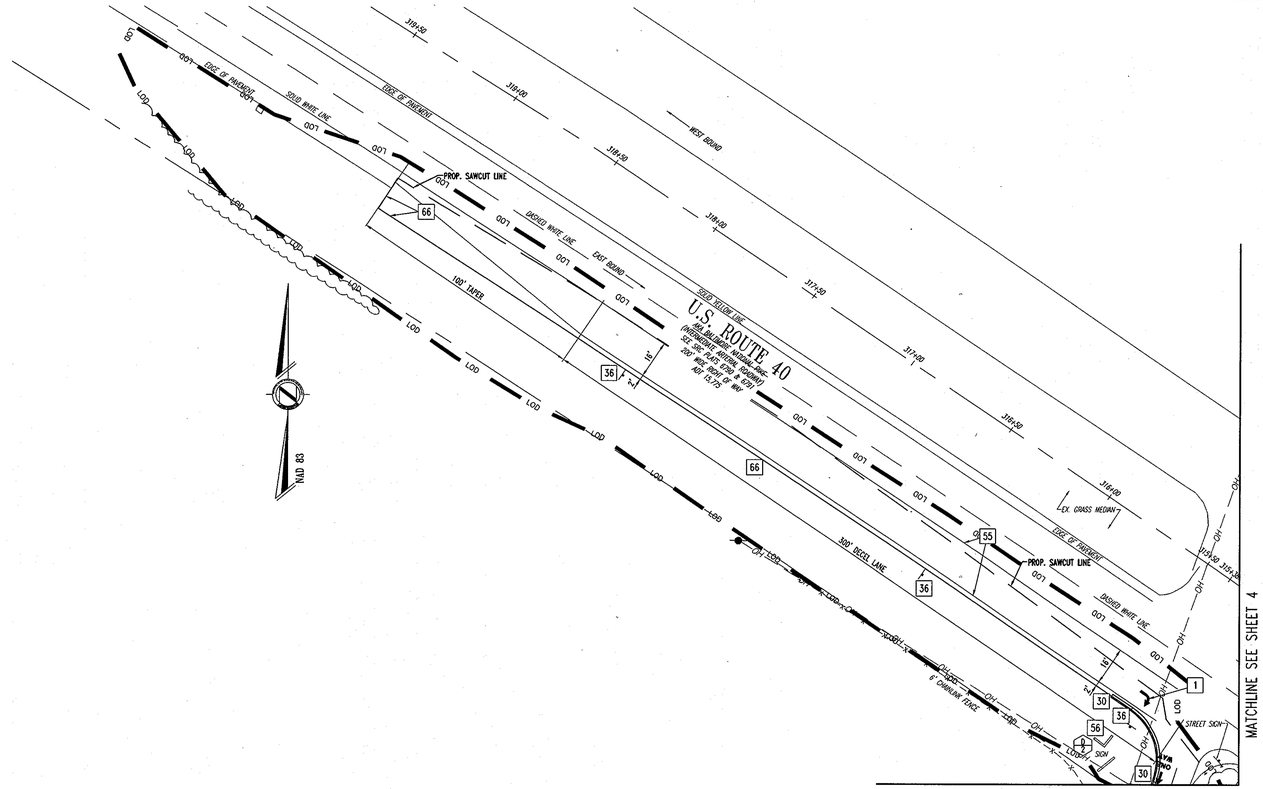

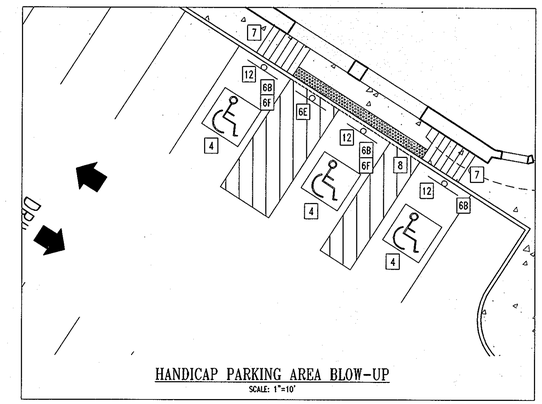

BENCHMARK

GEODETIC SURVEY CONTROL – 161A
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ELEV. 463.7'
LOCATED WITHIN THE MEDIAN OF U.S. ROUTE 40. APPROX. 0.35 MILES WEST OF MD ROUTE 144.

GEODETIC SURVEY CONTROL – 161B
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PROTECT YOURSELF, GIVE TWO WORKING DAYS NOTICE
THE CONTRACTOR TO CALL MISS UTILITY TO HAVE ALL EXISTING UTILITIES MARKED 48 HOURS PRIOR TO ANY CONSTRUCTION.

SITE PLAN GENERAL NOTES

1. THIS PLAN IS BASED ON A SURVEY PREPARED BY:
   THE TECH GROUP, INC.
   ENTITLED: "ALTA/ACSM LAND TITLE SURVEY, FOR 3 PARCELS AT U.S. ROUTE 40, MD ROUTE 144 AND CEMETERY LAND"
   DATED: JULY 26, 2005

   OFF-SITE SURVEY INFORMATION IS BASED ON A CAD FILE RECEIVED BY:
   BOHLER ENGINEERING
   DATED: FEBRUARY 9, 2009; JULY 10, 2009

2. SPECIFIC RESOURCES, TECHNICAL REPORTS, DESIGN DOCUMENTS, ETC. RELATED TO THIS PROJECT INCLUDE, BUT MAY NOT BE LIMITED TO, THE FOLLOWING:

   –GEOTECHNICAL REPORT PREPARED BY:
   HILLIS-CARNES ENGINEERING ASSOCIATES, INC.
   ENTITLED: "SITE AID: ELLICOTT CITY, MARYLAND"
   JOB NO.: G8501A
   DATED: OCTOBER 13, 2008

   –PHASE I ENVIRONMENTAL PREPARED BY:
   PROFESSIONAL SERVICES INDUSTRIES, INC.
   ENTITLED: "PHASE I ENVIRONMENTAL SITE ASSESSMENT"
   DATED: JULY 29, 2005

   –TRAFFIC IMPACT ANALYSIS PREPARED BY:
   THE TRAFFIC GROUP
   ENTITLED: "RITE AID ELLICOTT CITY, STORE NO.: 7838"
   DATED: FEBRUARY 3, 2009

   –RETAINING WALL PLANS PREPARED BY:
   CIS ENGINEERING, INC.
   ENTITLED: "CAST-IN-PLACE CONCRETE RETAINING WALLS."
   DATED: MARCH 10, 2009, LAST REVISED 07/03/09
   JOB NO.: N/A

   –PUBLIC WATER PLANS PREPARED BY:
   BOHLER ENGINEERING
   ENTITLED: "RITE AID CORPORATION; PUBLIC WATER PLAN; TAX MAP 23, GRID 6, PARCEL A; HOWARD COUNTY, MARYLAND; CONTRACT NO. 24-4619-D"
   DATED: OCTOBER 22, 2009

   CONTRACTOR IS RESPONSIBLE FOR OBTAINING THESE DOCUMENTS AND FAMILIARIZING HIMSELF WITH SAME FOR APPLICATION BOTH PRIOR TO AND DURING CONSTRUCTION.

3. ALL ELEVATIONS SHOWN ARE BASED ON THE SURVEYOR'S BENCHMARK, AS REFERENCED IN THE SURVEY, AND MUST BE VERIFIED BY THE GENERAL CONTRACTOR PRIOR TO GROUNDBREAK.

4. ALL HANDICAP PARKING SPACES SHALL BE CONSTRUCTED TO MEET ADA REQUIREMENTS.

5. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL ENSURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS BY ALL OF THE PERMITTING AUTHORITIES.

6. THE OWNER/CONTRACTOR SHALL BE FAMILIAR WITH AND RESPONSIBLE FOR ANY/ALL CERTIFICATIONS, INSPECTIONS, ETC. REQUIRED BY ALL GOVERNING JURISDICTIONAL AGENCIES DURING AND AFTER CONSTRUCTION FOR SIGN-OFF AND CERTIFICATE OF OCCUPANCY ISSUANCE, INCLUDING BUT NOT LIMITED TO PROCUREMENT OF SERVICES, SCHEDULING OF FIELD OBSERVATIONS AND COORDINATION WITH REPRESENTATIVES OF THE APPROPRIATE PARTIES.

7. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE REQUIREMENTS AND STANDARDS OF THE LOCAL GOVERNING AUTHORITY.

8. THE GEOTECHNICAL REPORT AND RECOMMENDATIONS SET FORTH THEREIN ARE A PART OF THE REQUIRED CONSTRUCTION DOCUMENTS AND IN CASE OF CONFLICT SHALL TAKE PRECEDENCE UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS. THE CONTRACTOR SHALL NOTIFY BOHLER ENGINEERING IN WRITING OF ANY SUCH DISCREPANCY BETWEEN GEOTECHNICAL REPORT AND PLANS, ETC.

9. THE PROPERTY SURVEY SHALL BE CONSIDERED A PART OF THESE PLANS.

10. THESE PLANS ARE BASED ON INFORMATION PROVIDED TO BOHLER ENGINEERING AT THE TIME OF PLAN PREPARATION. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND NOTIFY BOHLER ENGINEERING IF ACTUAL SITE CONDITIONS DIFFER FROM THOSE SHOWN ON THE PLAN, OR IF THE PROPOSED WORK WOULD BE INHIBITED BY ANY OTHER SITE FEATURES.

11. ALL DIMENSIONS SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY BOHLER ENGINEERING IN WRITING IF ANY DISCREPANCIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR WORK HAVING TO BE REDONE DUE TO DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS IF SUCH NOTIFICATION HAS NOT BEEN GIVEN.

12. CONTRACTOR SHALL REFER TO THE ARCHITECTURAL/BUILDING PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ENTRY/EXIT POINTS, ELEVATIONS, PRECISE BUILDING DIMENSIONS, EXACT BUILDING UTILITY LOCATIONS.

13. DEBRIS SHALL NOT BE BURIED ON THE SUBJECT SITE AND ALL UNSUITABLE EXCAVATED MATERIAL AND DEBRIS (SOLID WASTE) SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL TOWN, COUNTY, STATE AND FEDERAL LAWS AND APPLICABLE CODES.

SITE PLAN GENERAL NOTES (CONTINUED)

14. CONTRACTOR IS RESPONSIBLE FOR ALL SHORING REQUIRED DURING EXCAVATION (TO BE PERFORMED IN ACCORDANCE WITH CURRENT OSHA STANDARDS) AND ANY ADDITIONAL PROVISIONS TO ASSURE STABILITY OF CONTIGUOUS STRUCTURES, AS FIELD CONDITIONS DICTATE.

15. CONTRACTOR IS TO EXERCISE EXTREME CARE WHEN PERFORMING ANY WORK ACTIVITIES ADJACENT TO PAVEMENT, STRUCTURES, ETC. TO REMAIN. CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING THE APPROPRIATE MEASURES AS NECESSARY TO ENSURE THE STRUCTURAL STABILITY OF PAVEMENT, STRUCTURES, ETC. TO REMAIN, AND TO PROVIDE A SAFE WORK AREA.

16. CONTRACTOR IS RESPONSIBLE FOR DOCUMENTING ALL EXISTING DAMAGE AND FOR NOTIFYING CONSTRUCTION MANAGER PRIOR TO START OF CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR REPAIRING THE DAMAGE DONE TO ANY EXISTING ITEM DURING CONSTRUCTION SUCH AS BUT NOT LIMITED TO DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AND SHALL REPLACE ALL SIGNAL INTERCONNECT CABLE, CONDUITS, AND ANY UNDERGROUND ACCESSORY EQUIPMENT DAMAGED DURING CONSTRUCTION. REPAIR SHALL BE EQUAL TO OR BETTER THAN EXISTING CONDITIONS.

17. ALL CONCRETE SHALL HAVE THE MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS AS INDICATED IN SPECIFICATIONS UNLESS OTHERWISE NOTED ON THE PLANS, DETAILS AND/OR GEOTECHNICAL REPORT.

18. BOHLER ENGINEERING IS NOT RESPONSIBLE FOR CONSTRUCTION METHODS/MEANS FOR COMPLETION OF THE WORK DEPICTED ON THESE PLANS NOR ANY CONFLICTS/SCOPE REVISIONS WHICH RESULT FROM SAME. CONTRACTOR IS RESPONSIBLE FOR DETERMINING METHODS/MEANS FOR COMPLETION OF THE WORK PRIOR TO THE COMMENCEMENT OF CONSTRUCTION AND NOTIFICATION OF OWNER AND BOHLER ENGINEERING WHEN A CONFLICT IS IDENTIFIED.

19. BOHLER ENGINEERING IS NOT RESPONSIBLE FOR JOB SITE SAFETY NOR HAVE THEY BEEN RETAINED FOR SUCH PURPOSES.

20. ALL CONTRACTORS MUST CARRY STATUTORY WORKER'S COMPENSATION INSURANCE, EMPLOYER'S LIABILITY INSURANCE AND APPROPRIATE LIMITS OF COMMERCIAL GENERAL LIABILITY INSURANCE (CGL). ALL CONTRACTORS MUST HAVE THEIR CGL POLICIES ENDORSED TO NAME BOHLER ENGINEERING, AND ITS SUBCONSULTANTS AS ADDITIONAL INSURED AND TO PROVIDE CONTRACTUAL LIABILITY COVERAGE SUFFICIENT TO INSURE THE HOLD HARMLESS AND INDEMNITY OBLIGATIONS ASSUMED BY THE CONTRACTORS. ALL CONTRACTORS MUST FURNISH BOHLER ENGINEERING WITH CERTIFICATIONS OF INSURANCE AS EVIDENCE OF THE REQUIRED INSURANCE PRIOR TO COMMENCING WORK AND UPON RENEWAL OF EACH POLICY DURING THE ENTIRE PERIOD OF CONSTRUCTION. IN ADDITION, ALL CONTRACTORS WILL, TO THE FULLEST EXTENT PERMITTED BY LAW, INDEMNIFY AND HOLD HARMLESS BOHLER ENGINEERING AND ITS SUBCONSULTANTS FROM AND AGAINST ANY DAMAGES, LIABILITIES OR COSTS, INCLUDING REASONABLE ATTORNEYS' FEES AND DEFENSE COSTS, ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE PROJECT, INCLUDING ALL CLAIMS BY EMPLOYEES OF THE CONTRACTORS.

21. NEITHER THE PROFESSIONAL ACTIVITIES OF BOHLER ENGINEERING, NOR THE PRESENCE OF BOHLER ENGINEERING OR ITS EMPLOYEES AND SUBCONSULTANTS AT A CONSTRUCTION/PROJECT SITE, SHALL RELIEVE THE GENERAL CONTRACTOR OF ITS OBLIGATIONS, DUTIES AND RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING AND COORDINATING THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ANY EQUIVALENT OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES. BOHLER ENGINEERING AND ITS PERSONNEL HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER ANY CONSTRUCTION CONTRACTOR OR ITS EMPLOYEES IN CONNECTION WITH THEIR WORK OR ANY HEALTH OR SAFETY PROGRAMS OR PROCEDURES. THE GENERAL CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR JOBSITE SAFETY. BOHLER ENGINEERING SHALL BE INDEMNIFIED BY THE GENERAL CONTRACTOR AND SHALL BE MADE ADDITIONAL INSURED UNDER THE GENERAL CONTRACTOR'S POLICIES OF GENERAL LIABILITY INSURANCE.

22. BOHLER ENGINEERING SHALL REVIEW AND APPROVE OR TAKE OTHER APPROPRIATE ACTION ON THE CONTRACTOR SUBMITTALS, SUCH AS SHOP DRAWINGS, PRODUCT DATA, SAMPLES, AND OTHER DATA, WHICH THE CONTRACTOR IS REQUIRED TO SUBMIT, BUT ONLY FOR THE LIMITED PURPOSE OF CHECKING FOR CONFORMANCE WITH THE DESIGN CONCEPT AND THE INFORMATION SHOWN IN THE CONSTRUCTION MEANS OR METHODS, COORDINATION OF THE WORK WITH OTHER TRADES, OR CONSTRUCTION SAFETY PRECAUTIONS, ALL OF WHICH ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. BOHLER ENGINEERING'S REVIEW SHALL BE CONDUCTED WITH REASONABLE PROMPTNESS WHILE ALLOWING SUFFICIENT TIME TO PERMIT ADEQUATE REVIEW. REVIEW OF A SPECIFIC ITEM SHALL NOT INDICATE THAT BOHLER ENGINEERING HAS REVIEWED THE ENTIRE ASSEMBLY OF WHICH THE ITEM IS A COMPONENT. BOHLER ENGINEERING SHALL NOT BE RESPONSIBLE FOR ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS NOT BROUGHT TO THE ATTENTION OF BOHLER ENGINEERING IN WRITING BY THE CONTRACTOR. BOHLER ENGINEERING SHALL NOT BE REQUIRED TO REVIEW PARTIAL SUBMISSIONS OR THOSE FOR WHICH SUBMISSIONS OF CORRELATED ITEMS HAVE NOT BEEN RECEIVED.

23. IN AN EFFORT TO RESOLVE ANY CONFLICTS THAT ARISE DURING THE DESIGN AND CONSTRUCTION OF THE PROJECT OR FOLLOWING THE COMPLETION OF THE PROJECT, BOHLER ENGINEERING AND THE CONTRACTOR MUST AGREE THAT ALL DISPUTES BETWEEN THEM ARISING OUT OF OR RELATING TO THIS AGREEMENT OR THE PROJECT SHALL BE SUBMITTED TO NONBINDING MEDIATION UNLESS THE PARTIES MUTUALLY AGREE OTHERWISE.

24. THE CONTRACTOR MUST INCLUDE A MEDIATION PROVISION IN ALL AGREEMENTS WITH INDEPENDENT SUBCONTRACTORS AND CONSULTANTS RETAINED FOR THE PROJECT AND TO REQUIRE ALL INDEPENDENT CONTRACTORS AND CONSULTANTS ALSO TO INCLUDE A SIMILAR MEDIATION PROVISION IN ALL AGREEMENTS WITH THEIR SUBCONTRACTORS, SUBCONSULTANTS, SUPPLIERS AND FABRICATORS, THEREBY PROVIDING FOR MEDIATION AS THE PRIMARY METHOD FOR DISPUTE RESOLUTION BETWEEN THE PARTIES TO ALL THOSE AGREEMENTS.

25. IF THE CONTRACTOR DEVIATES FROM THE PLANS AND SPECIFICATIONS, INCLUDING THE NOTES CONTAINED THEREON, WITHOUT FIRST OBTAINING PRIOR WRITTEN AUTHORIZATION FOR SUCH DEVIATIONS FROM THE OWNER AND BOHLER ENGINEERING, IT SHALL BE RESPONSIBLE FOR THE PAYMENT OF ALL COSTS TO CORRECT ANY WORK DONE, ALL FINES OR PENALTIES ASSESSED WITH RESPECT THERETO AND ALL COMPENSATORY OR PUNITIVE DAMAGES RESULTING THEREFROM. THE CONTRACTOR SHALL INDEMNIFY AND HOLD THE OWNER AND BOHLER ENGINEERING HARMLESS FROM ALL SUCH COSTS TO CORRECT ANY SUCH WORK AND FROM ALL SUCH FINES AND PENALTIES, COMPENSATION AND PUNITIVE DAMAGES AND COSTS OF ANY NATURE RESULTING THEREFROM.

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

PROFESSIONAL CERTIFICATION

I, MATTHEW T. ALLEN, HEREBY CERTIFY THAT THESE 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. 28567, EXPIRATION DATE: 4/16/11

PROFESSIONAL ENGINEER NO. 28567

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION HP	DATE 9/24/10
CHIEF-DIVISION OF LAND DEVELOPMENT RB	DATE 10/12/10
DIRECTOR	DATE 10/2/10

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.

B Wilson for Peter Berdensen 10/4/10
COUNTY HEALTH OFFICER — DATE
HOWARD COUNTY HEALTH DEPARTMENT

GENERAL NOTE:
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THIS PROJECT WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR APPLICABLE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF THE WORK AS DEFINED BY THE DRAWINGS AND IN FULL CONFORMANCE WITH LOCAL REGULATIONS AND CODES.

NO.:	DATE	REVISION DESCRIPTION

OWNER:
PARCEL A
JACK M. AND LOUISE KAULFUSS
13715 OLD BOWER ROAD
WEST FRIENDSHIP MD 21794-9718
PHONE: 410-442-2011

PARCEL B
JOHN VICTOR AND
MARTHA B. CALABRESE
3262 OLD FENCE ROAD
ELLICOTT CITY, MD 21042-2440
PHONE: 410-465-3519

DEVELOPER:
RITE AID CORPORATION
P.O. BOX 3165
HARRISBURG, PA 17105
ATTN.: LANCE MASON
PHONE: 804-745-6222

PROJECT
RITE AID CORPORATION
KAULFUSS AND CALABRESE LANDS
PARCELS A & B
ONE-STORY RETAIL BUILDING

AREA 3.136 AC. TAX MAP 23 GRID 6 ZONED B-1
PARCELS A & B
2ND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND 21042

TITLE
SITE PLAN

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD
SUITE 801
TOWSON, MARYLAND 21204
PH: (410) 821-7900
FX: (410) 821-7987
www.bohlerengineering.com

DESIGNED BY:	M.J.G.
DRAWN BY:	R.J.M.
PROJECT NO.:	MD072009.2
DATE:	8/20/10
SCALE:	AS NOTED
DRAWING NO.	5 OF 37

SDP 09-44

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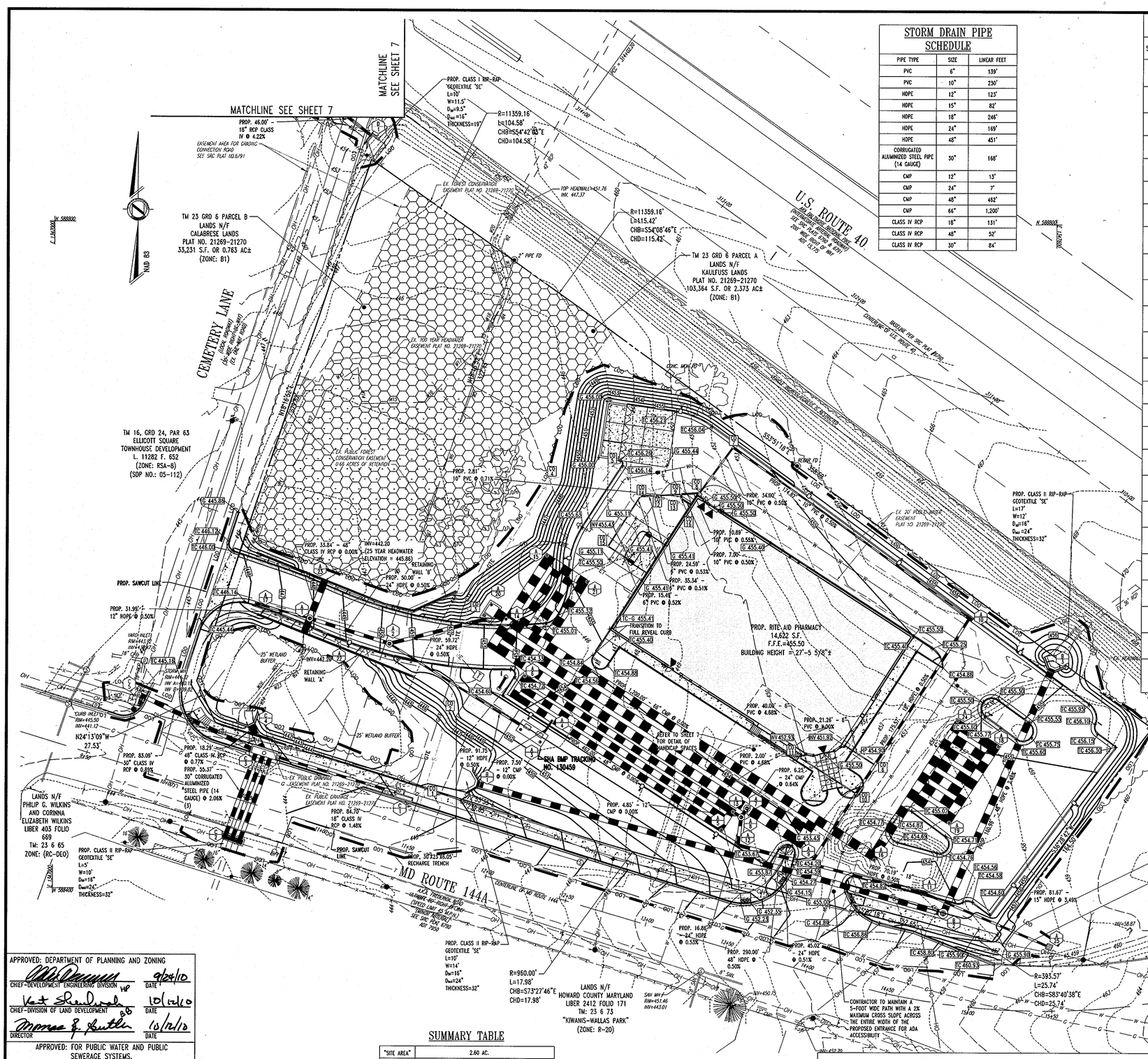


STORM DRAIN PIPE SCHEDULE

PIPE TYPE	SIZE	LINEAR FEET
PVC	6"	139'
PVC	10"	230'
HDPE	12"	123'
HDPE	15"	82'
HDPE	18"	246'
HDPE	24"	169'
HDPE	48"	451'
CORRUGATED ALUMINIZED STEEL PIPE (14 GAUGE)	30"	168'
CMP	12"	13'
CMP	24"	7'
CMP	48"	462'
CMP	66"	1,200'
CLASS IV RCP	18"	131'
CLASS IV RCP	48"	52'
CLASS IV RCP	30"	84'

STORM DRAIN STRUCTURE SCHEDULE

STRUCTURE NUMBER	DESCRIPTION	INVERT OUT	INVERT IN	INVERT IN	TOP
A 1	PROP. PRECAST MANHOLE (HOWARD COUNTY STD. D-5.12)	442.20 (48")	442.20 (24")	444.70 (12")	447.95
A 2	PROP. PRECAST MANHOLE (HOWARD COUNTY STD. D-5.12)	442.45 (24")	443.45 (12")	442.55 (24")	450.30
A 3	PROP. 8'x16' STORMFILTER	443.91 (12")	446.21 (12")	--	451.50
A 4	PROP. CMP RISER	446.21 (12")	446.21 (48")	446.21 (48")	454.00
A 5	PROP. CMP RISER	446.21 (48")	446.21 (48")	--	453.10
A 6	PROP. CMP RISER	446.21 (48")	446.21 (48")	--	454.28
A 7	PROP. CMP RISER	442.85 (66")	449.17 (24")	442.85 (66")	454.00
A 8	60" DIAMETER PRECAST MANHOLE (MOSHA STD. NO. MD-384.03)	448.21 (12") 449.21 (24")	449.30 (24")	--	453.78
A 9	PROP. PRECAST MANHOLE (HOWARD COUNTY STD. D-5.12)	449.72 (24")	450.22 (18")	450.22 (18")	454.35
A 10	PROP. PRECAST DOUBLE WR INLET (HOWARD COUNTY STD. D-4.35)	451.10 (18")	451.77 (10")	--	454.40
A 11	PROP. PRECAST DOUBLE WR INLET (HOWARD COUNTY STD. D-4.35)	450.57 (18")	450.90 (15")	--	453.75
A 12	PROP. PRECAST DOUBLE WR INLET (HOWARD COUNTY STD. D-4.35)	449.39 (24")	448.49 (24")	--	453.00
A 13	PROP. CMP RISER	446.21 (48")	446.21 (48")	448.21 (12")	453.35
A 14	PROP. CMP RISER	442.85 (66")	442.85 (66")	--	453.50
A 15	PROP. CMP RISER	442.85 (66")	442.85 (66")	--	451.50
A 16	PROP. CMP RISER	442.85 (66")	442.85 (66")	--	454.50
A 17	PROP. PRECAST DOUBLE WR INLET (HOWARD COUNTY STD. D-4.35)	445.36 (12")	--	--	446.50
A 18	PROP. CMP RISER	442.85 (66")	442.85 (66")	--	455.09
A 19	PROP. CMP RISER	442.85 (66")	442.85 (66")	--	454.38
A 20	CAST-IN-PLACE CONTROL STRUCTURE	442.85 (24")	442.85 (66")	--	451.50
A 21	PROP. CMP RISER	442.85 (66")	442.85 (66")	--	455.20
A 22	PROP. RETAINING WALL	442.20 (48")	--	--	VARIES
A 23	PROP. RETAINING WALL	442.20 (48")	--	--	VARIES
A 24	PROP. CMP RISER	442.85 (66")	442.85 (66")	--	454.80
A 25	PROP. PRECAST TYPE "K" INLET (MOSHA STD. NO. MD-378.03) (NON-TRAFFIC BEARING)	453.75 (15")	--	--	457.00

STORM DRAIN STRUCTURE SCHEDULE

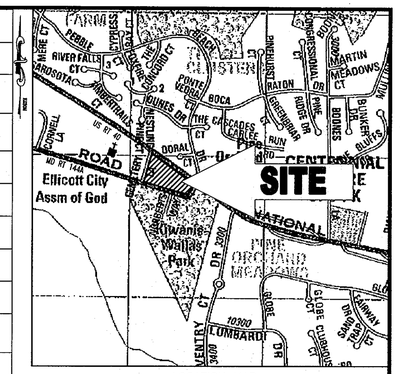
STRUCTURE NUMBER	DESCRIPTION	INVERT OUT	INVERT IN	INVERT IN	TOP
B 1	PROP. END WALL (MOSHA STD. NO. MD-352.01)	444.50 (48")	--	--	449.50
B 2	PROP. 72" DIA. PRECAST MANHOLE (MOSHA STD. NO. MD-384.05)	445.95 (48")	446.05 (48")	--	455.00
B 3	PROP. HEADWALL (MOSHA STD. NO. MD-358.01)	450.04 (48")	--	--	455.04

STORM DRAIN STRUCTURE SCHEDULE

STRUCTURE NUMBER	DESCRIPTION	INVERT OUT	INVERT IN	INVERT IN	TOP
C 1	PROP. 10' COG INLET (MOSHA STD. NO. MD-374.51 WITH 2" DEPRESSION MD-374.65)	439.75 (18")	--	444.33 (FLOW)	445.00
C 2	PRE-CAST STRUCTURE (REFER TO DETAIL ON SHEET 30)	437.04 (30")	437.84 (3-30")	-	441.96
C 3	A-15 INLET (MONTGOMERY COUNTY STD. NO. MC-501.01)	438.98 (3-30")	439.08 (48")	439.08 (30") 439.08 (18")	443.76
C 4	PROP. HEADWALL (MOSHA STD. NO. MD-352.01)	439.22 (48")	--	--	444.22
C 5	EX. MANHOLE	439.82 (24")	440.12 (18")	--	444.32

STORM DRAIN STRUCTURE SCHEDULE

STRUCTURE NUMBER	DESCRIPTION	INVERT OUT	INVERT IN	INVERT IN	TOP
D 1	PROP. TYPE 'E' HEADWALL (MOSHA STD. NO. 356.01)	--	451.58 (18")	--	453.83
D 2	PROP. TYPE 'E' HEADWALL (MOSHA STD. NO. 356.01)	453.52 (18")	--	--	455.77


SITE
Ellicott City
Assm of God
Kiwanis-Wallas
Park
NATIONAL
LOMBARDI
MD RT 144A
ROAD
PINE
ORCHARD
MEADOWS
RIVER FALLS
CYC
BOCA
CASCADES
DORAL
CENTRAL
BOONES
MARTIN
MEADOWS
BUNKER
HILL
GLOBE
CT
DR
10300
3400
3200
3300
3600
3800
3900
3900
3900

CATAGORY 300 - DRAINAGE - THERMOPLASTIC PIPE CULVERT

DESCRIPTION: THIS WORK SHALL CONSIST OF FURNISHING, INSTALLING AND INSPECTING THERMOPLASTIC PIPE. PLACE THE SIZE AND TYPE OF PIPE ON A FIRM BED TO THE SPECIFIED LINE AND GRADE; INCLUDING ALL PIPE CONNECTIONS TO EXISTING PIPES, INLETS, END WALLS, OR MANHOLES; AND INSPECT THE PIPE TO ENSURE PROPER INSTALLATION AS SPECIFIED IN THE CONTRACT DOCUMENTS OR AS DIRECTED BY THE ENGINEER.

MATERIALS:

SELECTED BACKFILL, NO. 57 AGGREGATE	302.02
FLOWABLE BACKFILL	314
CORRUGATED POLYETHYLENE PIPE, TYPE S	M 294
POLYVINYL CHLORIDE (PVC) PROFILE WALL PIPE AND FITTINGS (PPWP)	F 949

CONSTRUCTION: PIPE LENGTHS AND GRADIENTS SHALL BE VERIFIED BY THE CONTRACTOR AND SHALL BE ACCEPTABLE TO THE ENGINEER BEFORE INSTALLATION.

END WALLS, WHEN VISIBLE FROM THE ROADWAY, SHALL BE CONSTRUCTED PARALLEL TO THE ROADWAY AND ASKEW PIPE SHALL PROTRUDE THROUGH THE END WALL. END WALLS, NOT VISIBLE FROM THE ROADWAY, SHALL BE CONSTRUCTED NORMAL TO THE CENTER LINE OF THE PIPE.

EXCAVATION: WHEN A PIPE IS TO BE LAID ON EXISTING GROUND, ON OR UNDER FILL, EMBANKMENT SHALL BE CONSTRUCTED TO A HEIGHT OF AT LEAST 1 FT, BUT NOT MORE THAN 3 FT ABOVE THE PROPOSED TOP OF PIPE. THE TRENCH THEN SHALL BE EXCAVATED TO RECEIVE THE PIPE. THE WIDTH SHALL BE TWICE THE OUTSIDE DIAMETER OF THE PIPE OR THE OUTSIDE DIAMETER PLUS 18 IN. ON EACH SIDE, WHICHEVER IS LESS.

SOIL NOT MEETING THE CLASSIFICATION SPECIFIED AS SUITABLE BACKFILL SHALL BE REMOVED TO A DEPTH OF 4 INCHES BELOW THE BOTTOM OF THE PIPE ELEVATION. ROCK, BOULDERS, OR OTHER HARD, LUMPY, OR UNYIELDING MATERIAL SHALL BE REMOVED TO A DEPTH OF 12 INCHES BELOW THE BOTTOM OF THE PIPE ELEVATION. MUCK OR OTHER SOFT MATERIAL SHALL BE REMOVED TO A DEPTH NECESSARY TO ESTABLISH A FIRM FOUNDATION. WHERE THE SOILS PERMIT, ENSURE THAT THE TRENCH SIDES ARE VERTICAL UP TO AT LEAST THE MIDPOINT OF THE PIPE.

WHEN ROCK IS ENCOUNTERED, IT SHALL BE REMOVED AND REPLACED WITH A MINIMUM 8 IN. OF SELECTED BACKFILL AS DIRECTED BY THE ENGINEER.

WHEN UNSUITABLE FOUNDATION MATERIAL IS ENCOUNTERED, IT SHALL BE REMOVED AND REPLACED WITH SELECTED BACKFILL FOR THE FULL WIDTH OF THE TRENCH AS DIRECTED BY THE ENGINEER.

INSTALLATION: ALL PIPE SHALL BE UNLOADED AND HANDLED WITH REASONABLE CARE. PIPE SHALL NOT BE ROLLED OR DRAGGED OVER GRAVEL OR ROCK AND SHALL BE PREVENTED FROM STRIKING ROCK OR OTHER HARD OBJECTS DURING PLACEMENT IN TRENCH OR ON BEDDING.

PIPE SHALL BE PLACED IN THE BED STARTING AT THE DOWNSTREAM END.

JOINTS: JOINTS SHALL BE INTEGRAL BELL AND SPIGOT WITH RUBBER OR NEOPRENE GASKETS CONFORMING TO F 477.

PIPE CONNECTIONS: PIPE CONNECTIONS SHALL BE PREFABRICATED CONFORMING TO THE APPLICABLE PIPE MATERIAL SPECIFICATION.

BEDDING AND BACKFILL: EARTH FOR BEDDING AND STRUCTURAL BACKFILL SHALL MEET THE REQUIREMENTS OF M 145, A-1, A-2-4, A-2-5 OR A-3. BEDDING MATERIAL SHALL HAVE A MAXIMUM PARTICLE SIZE OF 1.25 IN. BACKFILL MATERIALS SHALL BE FREE OF ORGANIC MATERIAL, STONES LARGER THAN 1.5 IN., OR FROZEN LUMPS. MOISTURE CONTENT SHALL BE IN THE RANGE OF OPTIMUM CONTENT TO PERMIT THOROUGH COMPACTION. SELECTED BACKFILL, NO. 57 AGGREGATE MAY BE USED. FLOWABLE BACKFILL MAY BE USED PROVIDED ADEQUATE FLOTATION RESISTANCE CAN BE ACHIEVED BY RESTRAINTS, WEIGHING, OR PLACEMENT TECHNIQUE.

STRUCTURAL BACKFILL SHALL BE PLACED AND COMPACTED FOR THE FULL WIDTH OF THE TRENCH IN LAYERS NOT EXCEEDING 6 IN. LOOSE LIFT THICKNESS AND BROUGHT UP EVENLY AND SIMULTANEOUSLY ON BOTH SIDES OF THE PIPE TO AN ELEVATION NOT LESS THAN 12 IN. ABOVE THE TOP OF THE PIPE. COMPACTION SHALL CONFORM TO SECTION 210. EACH LAYER SHALL BE COMPACTED SIMULTANEOUSLY ON BOTH SIDES OF THE PIPE BY MEANS OF AN APPROVED MECHANICAL TAMPER. SPECIAL CARE SHALL BE TAKEN TO COMPACT THE BACKFILL THOROUGHLY UNDER THE HAUNCHES OF THE PIPE.

BACKFILL MATERIALS PLACED IN THE ZONE EXTENDING MORE THAN 12 IN. ABOVE THE PIPE SHALL CONFORM TO SECTION 210. THE CONTRACTOR SHALL PROTECT ALL PIPE FROM DAMAGE DUE TO CONSTRUCTION EQUIPMENT OR OTHER VEHICULAR TRAFFIC PASSING OVER THE PIPE.

MAGNETICALLY-DETECTABLE PLASTIC TAPE SHALL BE PLACED IN THE TRENCH IMMEDIATELY ABOVE THE STRUCTURAL BACKFILL. THE TAPE SHALL HAVE A MINIMUM THICKNESS OF 5.5 MILS AND A MINIMUM TENSILE STRENGTH OF 5000 POUNDS PER SQUARE INCH. THE TAPE SHALL BE MARKED AS TO ITS PURPOSE (I.E., "STORM DRAIN").

INSPECTION AND ACCEPTANCE: THE PIPE SHALL BE EVALUATED TO DETERMINE WHETHER THE INTERNAL DIAMETER OF THE BARREL HAS BEEN REDUCED MORE THAN 5 PERCENT WHEN MEASURED NOT LESS THAN 30 DAYS FOLLOWING COMPLETION OF INSTALLATION.

PIPES SHALL BE CHECKED FOR DEFLECTION USING A MANDREL OR OTHER DEVICE APPROVED BY THE ENGINEER THAT CAN PHYSICALLY VERIFY THE DIMENSIONS OF THE PIPE AND IS NOT LIMITED BY POOR LIGHTING, WATERFLOW, PIPE LENGTH, OR OTHER LIMITING CONDITIONS OF THE INSTALLED ENVIRONMENT. FOR PIPES LARGER THAN 24 IN., DEFLECTION LEVELS MAY BE MEASURED DIRECTLY.

FOR ALL PIPE INSTALLATIONS, AT LEAST 20 PERCENT OF THE TOTAL NUMBER OF PIPE RUNS REPRESENTING AT LEAST 20 PERCENT OF THE TOTAL PROJECT FOOTAGE SHALL BE RANDOMLY SELECTED BY THE ENGINEER AND INSPECTED FOR DEFLECTION. ALL OTHER PIPE SECTIONS IN WHICH DEFLECTION CAN BE VISUALLY DETECTED SHALL BE INSPECTED FOR DEFLECTION.

WHERE DIRECT MEASUREMENTS ARE MADE, MEASUREMENTS SHALL BE TAKEN AT 10 FT INTERVALS AND AT A MINIMUM OF FOUR LOCATIONS PER PIPE INSTALLATION. DEFLECTION MEASUREMENTS SHALL BE TAKEN VERTICALLY AND HORIZONTALLY AT EACH LOCATION. THE LARGER OF THE TWO MEASUREMENTS AT EACH LOCATION SHALL BE RECORDED. DEFLECTION SHALL BE CALCULATED AS FOLLOWS AND EXPRESSED TO THE NEAREST 0.1%:

% DEFLECTION = [(AASHTO MINIMUM DIAMETER - MEASURED DIAMETER) / AASHTO MINIMUM DIAMETER] X 100

IF A MANDREL IS USED FOR THE DEFLECTION TEST, IT SHALL BE A NINE (OR GREATER ODD NUMBER) ARM MANDREL, AND SHALL BE SIZED AND INSPECTED BY THE ENGINEER PRIOR TO TESTING. THE DIAMETER OF THE MANDREL AT ANY POINT SHALL NOT BE LESS THAN 95% OF THE AASHTO MINIMUM DIAMETER SIZE OF THE PIPE BEING TESTED. THE MANDREL SHALL BE FABRICATED OF METAL, FITTED WITH PULLING RINGS AT EACH END, AND STAMPED OR ENGRAVED WITH ITS DIAMETER ON SOME SEGMENT OF THE MANDREL OTHER THAN A RUNNER. ROPE WITH A MAXIMUM ELONGATION OF ONE FOOT PER 100 FEET SHALL BE USED TO PULL THE MANDREL THROUGH THE PIPE.

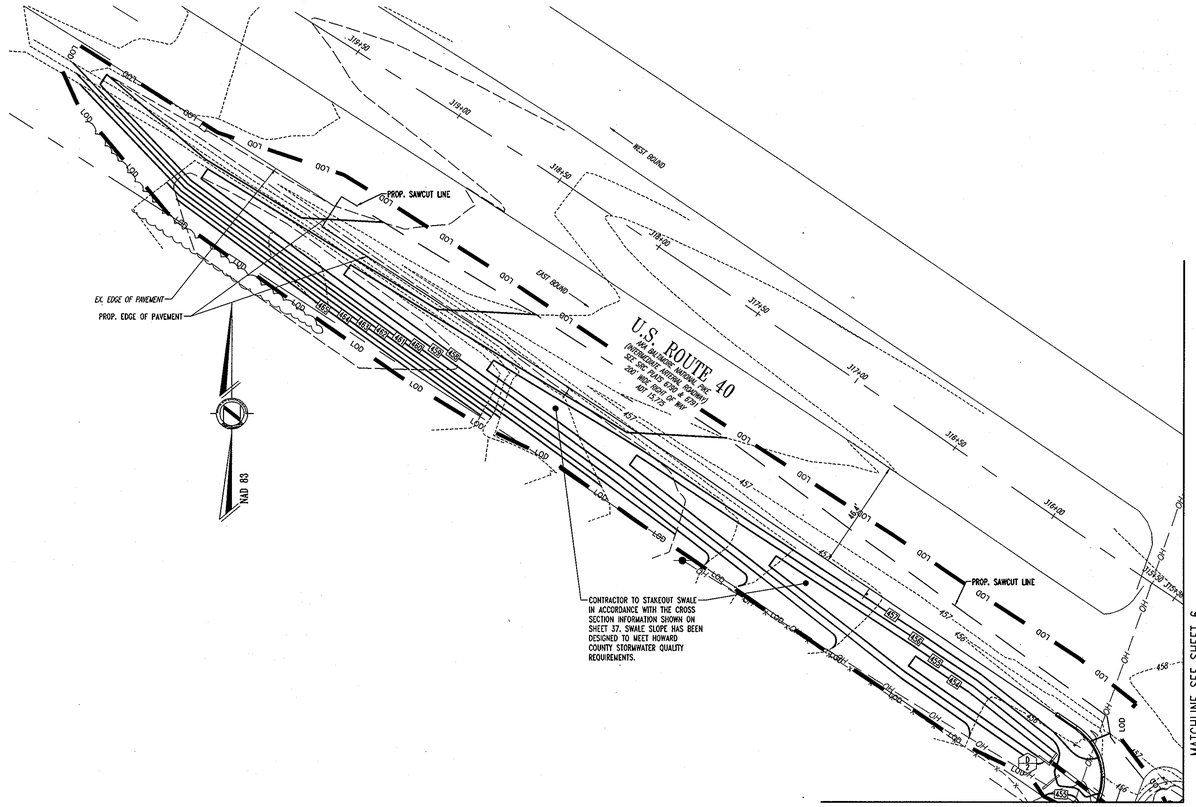
THE MANDREL SHALL BE CALIBRATED BEFORE AND AFTER EACH DAY'S TESTING BY USE OF TRUE CIRCULAR RING OF DIAMETER EQUAL TO 95% OF THE AASHTO MINIMUM INSIDE DIAMETER OF THE PIPE BEING TESTED. THE ENGINEER SHALL BE PRESENT DURING THE CALIBRATION. DEFLECTION TESTING SHALL BE PERFORMED USING A 95% DIAMETER MANDREL.

THE ROPE SHALL BE DRAWN THROUGH THE PIPE, AND THEN ATTACHED TO THE LEADING END OF THE MANDREL. THE LENGTH OF THE PIPE RUN AS MEASURED BY THE PULL ROPE SHALL BE RECORDED. A ROPE MARKED WITH ONE-FOOT INCREMENTS SHALL ALSO BE ATTACHED TO THE TRAILING END OF THE MANDREL. THE MANDREL SHALL THEN BE PULLED THROUGH THE PIPE RUN BY HAND. IF PROGRESS OF THE MANDREL IS REFUSED, THE LOCATION SHALL BE RECORDED. THE MANDREL SHALL THEN BE RUN THROUGH THE PIPE FROM THE OPPOSITE END UNTIL PROGRESS IS REFUSED. THAT LOCATION SHALL BE RECORDED.

FOR LOCATIONS WHERE PIPE DEFLECTION EXCEEDS 5 PERCENT OF THE INSIDE DIAMETER, THE PIPE SHALL BE UNCOVERED. IF NOT DAMAGED, AS DETERMINED BY THE ENGINEER, THE PIPE MAY BE REINSTALLED. DAMAGED PIPE SHALL BE REPLACED AND SHALL BE REMOVED FROM THE WORK SITE. NO OTHER METHOD OR PROCESS TO REDUCE OR CORRECT DEFLECTION SHALL BE ACCEPTABLE.

THE CONTRACTOR SHALL PREPARE A LOG OF ALL THE PIPES TESTED NOTING THE LOCATION AND THE PERCENT DEFLECTION AT EACH MEASUREMENT. MANDREL TESTING SHALL BE LOGGED NOTING THE LOCATION OF ANY REFUSALS. A COPY OF THE LOG SHALL BE FORWARDED TO:

CHIEF, HIGHWAY HYDRAULICS DIVISION.
707 N. CALVERT ST
BALTIMORE, MD 21202



GRADING NOTES

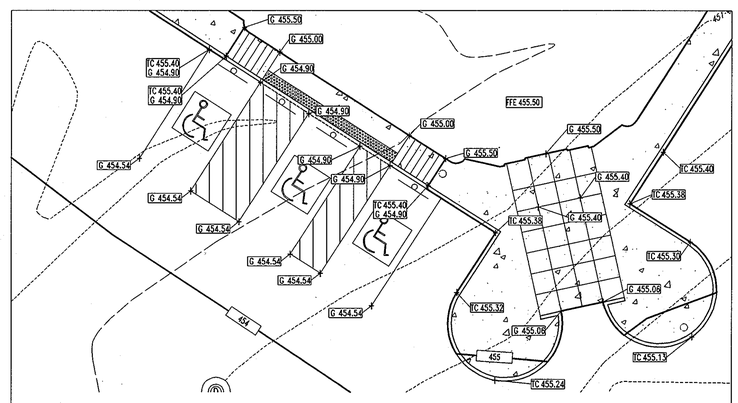
1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THE PROJECT WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR THE RELATIVE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY BOHLER ENGINEERING OF RECORD IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY BOHLER ENGINEERING SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF WORK AS DEFINED BY THE DRAWINGS AND IN FULL COMPLIANCE WITH LOCAL REGULATIONS AND CODES.
2. SITE GRADING SHALL BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT REFERENCED IN THIS PLAN SET. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND REPLACING WITH SUITABLE MATERIALS AS SPECIFIED IN THE GEOTECHNICAL REPORT. ALL EXCAVATED OR FILLED AREAS SHALL BE COMPACTED AS OUTLINED IN THE GEOTECHNICAL REPORT. MOISTURE CONTENT AT TIME OF PLACEMENT SHALL BE SUBMITTED IN COMPACTION REPORT PREPARED BY A QUALIFIED GEOTECHNICAL ENGINEER, REGISTERED WITH THE STATE WHERE THE WORK IS PERFORMED, VERIFYING THAT ALL FILLED AREAS AND SUBGRADE AREAS WITHIN THE BUILDING PAD AREA AND AREAS TO BE PAVED HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT. SUBBASE MATERIAL FOR SIDEWALKS, CURB, OR ASPHALT SHALL BE FREE OF ORGANICS AND OTHER UNSUITABLE MATERIALS. SHOULD SUBBASE BE DEEMED UNSUITABLE BY OWNER OR OWNER'S REPRESENTATIVE, SUBBASE IS TO BE REMOVED AND FILLED WITH APPROVED FILL MATERIAL COMPACTED AS DIRECTED BY THE GEOTECHNICAL REPORT.
3. ALL FILL, COMPACTION, AND BACKFILL MATERIALS REQUIRED FOR UTILITY INSTALLATION SHALL BE AS PER THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT AND SHALL BE COORDINATED WITH THE APPLICABLE UTILITY COMPANY SPECIFICATIONS.
4. THE CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH THE LATEST OSHA STANDARDS AND REGULATIONS, OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE "MEANS AND METHODS" REQUIRED TO MEET THE INTENT AND PERFORMANCE CRITERIA OF OSHA, AS WELL AS ANY OTHER ENTITY THAT HAS JURISDICTION FOR EXCAVATION AND/OR TRENCHING PROCEDURES.
5. PAVEMENT SHALL BE SAW CUT IN STRAIGHT LINES TO THE FULL DEPTH OF THE EXISTING PAVEMENT. ALL DEBRIS FROM REMOVAL OPERATIONS SHALL BE REMOVED FROM THE SITE AT THE TIME OF EXCAVATION. STOCKPILING OF DEBRIS WILL NOT BE PERMITTED.
6. THE TOPS OF EXISTING MANHOLES, INLET STRUCTURES, AND SANITARY CLEANOUT TOPS SHALL BE ADJUSTED, IF REQUIRED, TO MATCH PROPOSED GRADES IN ACCORDANCE WITH ALL APPLICABLE STANDARDS.
7. THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF EXISTING TOPOGRAPHIC INFORMATION AND UTILITY INVERT ELEVATIONS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR TO ENSURE 0.75% MINIMUM SLOPE AGAINST ALL ISLANDS, CUTTERS, AND CURBS; 1.0% ON ALL CONCRETE SURFACES; AND 1.5% MINIMUM ON ASPHALT, TO PREVENT PONDING. ANY DISCREPANCIES THAT MAY AFFECT THE PUBLIC SAFETY OR PROJECT COST MUST BE IDENTIFIED TO BOHLER ENGINEERING IN WRITING IMMEDIATELY. PROCEEDING WITH CONSTRUCTION WITHOUT NOTIFICATION IS DONE SO AT THE CONTRACTOR'S OWN RISK.
8. PROPOSED TOP OF CURB ELEVATIONS ARE GENERALLY 6" ABOVE EXISTING LOCAL ASPHALT GRADE WITHIN THE PROPERTY LIMITS. PROPOSED TOP OF CURB ELEVATIONS ARE 8" ABOVE PROPOSED GRADES ALONG MD ROUTE 144 AND 3" ABOVE PROPOSED GRADES ALONG CEMETERY LANE. FIELD ADJUST TO CREATE A MINIMUM OF 0.75% GUTTER GRADE ALONG CURB FACE. ENGINEER TO APPROVE FINAL CURBING CUT SHEETS PRIOR TO INSTALLATION.
9. REFER TO SITE PLAN FOR ADDITIONAL NOTES.
10. IN CASE OF DISCREPANCIES BETWEEN PLANS OR RELATIVE TO OTHER PLANS, THE SITE PLAN WILL TAKE PRECEDENCE. IMMEDIATELY NOTIFY BOHLER ENGINEERING IN WRITING OF ANY CONFLICTS.
11. CONTRACTOR SHALL BE REQUIRED TO SECURE ALL NECESSARY PERMITS AND APPROVALS FOR ALL OFF-SITE MATERIAL SOURCES AND DISPOSAL FACILITIES. CONTRACTOR SHALL SUPPLY A COPY OF APPROVALS TO ENGINEER AND OWNER PRIOR TO INITIATING WORK.

BENCHMARK

GEODETIC SURVEY CONTROL - 161A
N 528,760.4
E 833,925.6
ELEV. 465.7'
LOCATED WITHIN THE MEDIAN OF U.S. ROUTE 40. APPROX. 0.35 MILES WEST OF MD ROUTE 144.

GEODETIC SURVEY CONTROL - 161B
N 529,726.3
E 833,925.6
ELEV. 470.60'
LOCATED WITHIN THE MEDIAN OF U.S. ROUTE 40 APPROX. 0.80 MILES EAST OF MARRIOTTSVILLE ROAD

MISS UTILITY
DIG WITH C.A.R.E. — CONTACT · ASSESS · REPAIR · KEEP MARYLAND SAFE
BEFORE YOU DIG CALL
811 IN MD
or 1-800-257-7777
PROTECT YOURSELF, GIVE TWO WORKING DAYS NOTICE
THE CONTRACTOR TO CALL MISS UTILITY TO HAVE ALL EXISTING UTILITIES MARKED 48 HOURS PRIOR TO ANY CONSTRUCTION.



HANDICAP PARKING AREA BLOW-UP
SCALE: 1"=10'

NO.:	DATE	REVISION DESCRIPTION

OWNER:
PARCEL A
JACK W. AND LOUISE KAULFUSS
13715 OLD ROVER ROAD
WEST FRIENDSHIP MD 21794-9718
PHONE: 410-442-2011

PARCEL B
JOHN VICTOR AND
MARTHA B. CALABRESE
3262 OLD FENCE ROAD
ELLICOTT CITY, MD 21042-2440
PHONE: 410-465-3519

DEVELOPER:
RITE AID CORPORATION
P.O. BOX 3165
HARRISBURG, PA 17105
ATTN.: LANCE MASON
PHONE: 804-745-6222

PROJECT
RITE AID CORPORATION
KAULFUSS AND CALABRESE LANDS
PARCELS A & B
ONE-STORY RETAIL BUILDING

AREA 3.136 AC. TAX MAP 23 GRID 6 ZONED B-1
PARCELS A & B
2ND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND 21042

TITLE
GRADING PLAN

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD
SUITE 801
TOWSON, MARYLAND 21204
PH: (410) 821-7900
FX: (410) 821-7987
www.bohlerengineering.com

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION	DATE 9/24/10
CHIEF-DIVISION OF LAND DEVELOPMENT	DATE 10/12/10
DIRECTOR	DATE 10/12/10

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.

COUNTY HEALTH OFFICER — DATE 10/4/10
HOWARD COUNTY HEALTH DEPARTMENT

GENERAL NOTE:
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GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

PROFESSIONAL CERTIFICATION

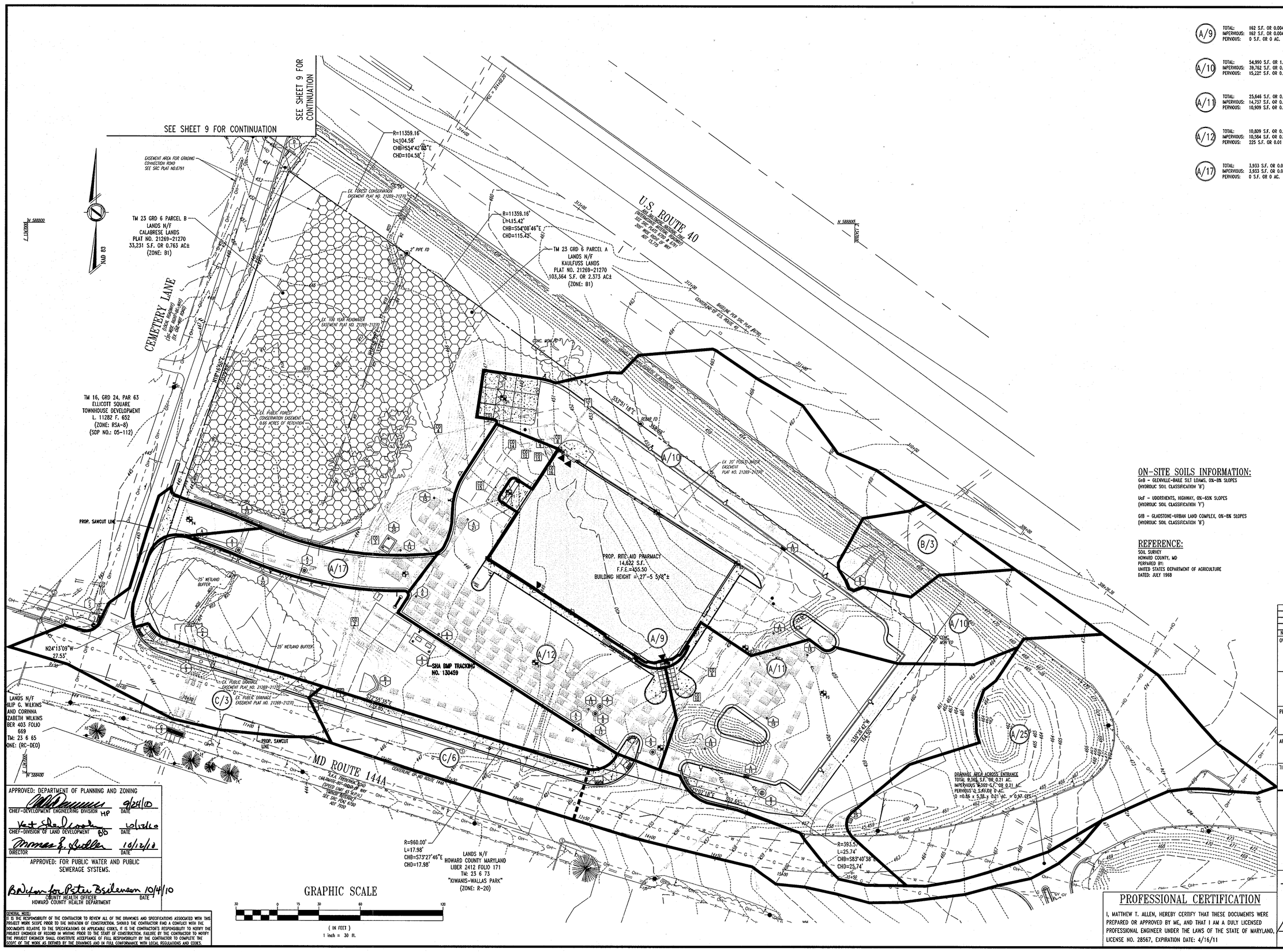
I, MATTHEW T. ALLEN, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 28567, EXPIRATION DATE: 4/16/11

PROFESSIONAL ENGINEER NO. 28567

DESIGNED BY:	M.J.G.
DRAWN BY:	R.J.M.
PROJECT NO.:	MD072009.2
DATE:	8/20/10
SCALE:	1"=30'
DRAWING NO.	7 OF 37

SDP 09-44

H:\07\Rite Aid Corporation\MD07 2009 - 10470 Frederick Road, Ellicott City, MD\Cad\Site Plan Documents\Rev 5\MD072009SS5.dwg, 9/13/2010 8:14:48 PM, mgaskill, 1:1



A/9	TOTAL:	162 S.F. OR 0.004 AC.
	IMPERVIOUS:	162 S.F. OR 0.004 AC.
	PERVIOUS:	0 S.F. OR 0 AC.
A/10	TOTAL:	54,990 S.F. OR 1.26 AC.
	IMPERVIOUS:	39,762 S.F. OR 0.91 AC.
	PERVIOUS:	15,228 S.F. OR 0.35 AC.
A/11	TOTAL:	25,646 S.F. OR 0.59 AC.
	IMPERVIOUS:	14,737 S.F. OR 0.34 AC.
	PERVIOUS:	10,909 S.F. OR 0.25 AC.
A/12	TOTAL:	10,809 S.F. OR 0.25 AC.
	IMPERVIOUS:	10,584 S.F. OR 0.24 AC.
	PERVIOUS:	225 S.F. OR 0.01 AC.
A/17	TOTAL:	3,933 S.F. OR 0.09 AC.
	IMPERVIOUS:	3,933 S.F. OR 0.09 AC.
	PERVIOUS:	0 S.F. OR 0 AC.
B/3	TOTAL:	5,085 S.F. OR 0.12 AC.
	IMPERVIOUS:	2,592 S.F. OR 0.06 AC.
	PERVIOUS:	2,493 S.F. OR 0.06 AC.
A/25	TOTAL:	27,885 S.F. OR 0.64 AC.
	IMPERVIOUS:	14,692 S.F. OR 0.34 AC.
	PERVIOUS:	13,193 S.F. OR 0.30 AC.
C/3	TOTAL:	11,377 S.F. OR 0.26 AC.
	IMPERVIOUS:	11,377 S.F. OR 0.26 AC.
	PERVIOUS:	0 S.F. OR 0 AC.
C/6	TOTAL:	17,081 S.F. OR 0.39 AC.
	IMPERVIOUS:	17,081 S.F. OR 0.39 AC.
	PERVIOUS:	0 S.F. OR 0 AC.

BENCHMARK

GEODETIC SURVEY CONTROL - 161A
N 528,760.4
E 833,925.6
ELEV. 463.7'
LOCATED WITHIN THE MEDIAN OF U.S. ROUTE 40. APPROX. 0.35 MILES WEST OF MD ROUTE 144.

GEODETIC SURVEY CONTROL - 161B
N 529,726.3
E 833,925.6
ELEV. 470.600'
LOCATED WITHIN THE MEDIAN OF U.S. ROUTE 40 APPROX. 0.80 MILES EAST OF MARRIOTTSVILLE ROAD

ON-SITE SOILS INFORMATION:

GoB - GLENVILLE-BAILE SILT LOAMS, 0%-8% SLOPES
(HYDROLIC SOIL CLASSIFICATION 'B')

UeF - UDORTHENTS, HIGHWAY, 0%-65% SLOPES
(HYDROLIC SOIL CLASSIFICATION 'F')

GfB - GLADSTONE-URBAN LAND COMPLEX, 0%-8% SLOPES
(HYDROLIC SOIL CLASSIFICATION 'B')

REFERENCE:

SOIL SURVEY
HOWARD COUNTY, MD
PERPARED BY:
UNITED STATES DEPARTMENT OF AGRICULTURE
DATED: JULY 1968

MISS UTILITY

BEFORE YOU DIG CALL
811 IN MD
or 1-800-257-7777
PROTECT YOURSELF, GIVE TWO WORKING DAYS NOTICE.
THE CONTRACTOR TO CALL MISS UTILITY TO MARK ALL EXISTING UTILITIES MARKED 48 HOURS PRIOR TO ANY CONSTRUCTION.

NO.:	DATE	REVISION DESCRIPTION

OWNER:
PARCEL A
JACK M. AND LOUISE KAULFUSS
13715 OLD ROVER ROAD
WEST FRIENDSHIP MD 21794-9718
PHONE: 410-442-2011

PARCEL B
JOHN VICTOR AND
MARTHA B. CALABRESE
3262 OLD FENCE ROAD
ELLICOTT CITY, MD 21042-2440
PHONE: 410-465-5519

DEVELOPER:
RITE AID CORPORATION
P.O. BOX 3165
HARRISBURG, PA 17105
ATTN.: LANCE MASON
PHONE: 804-745-6222

PROJECT
RITE AID CORPORATION
KAULFUSS AND CALABRESE LANDS
PARCELS A & B
ONE-STORY RETAIL BUILDING

AREA 3.136 AC. TAX MAP 23 GRID 6 ZONED B-1
PARCELS A & B
2ND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND 21042

TITLE
STORM DRAIN DRAINAGE AREA MAP

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD
SUITE 801
TOWSON, MARYLAND 21204
PH: (410) 821-7900
FX: (410) 821-7987
www.bohlerengineering.com

DESIGNED BY:	M.J.G.
DRAWN BY:	R.J.M.
PROJECT NO.:	MD072009.2
DATE:	8/20/10
SCALE:	1"=30'
DRAWING NO.	8 OF 37

PROFESSIONAL CERTIFICATION

I, MATTHEW T. ALLEN, HEREBY CERTIFY THAT THESE 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. 28567, EXPIRATION DATE: 4/16/11

10/14/10
MATTHEW T. ALLEN
PROFESSIONAL ENGINEER NO. 28567

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION HP	DATE 9/24/10
CHIEF-DIVISION OF LAND DEVELOPMENT BJS	DATE 10/12/10
DIRECTOR	DATE 10/12/10

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.

B Wilson for Peter Benkenson 10/4/10
COUNTY HEALTH OFFICER DATE
HOWARD COUNTY HEALTH DEPARTMENT

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30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

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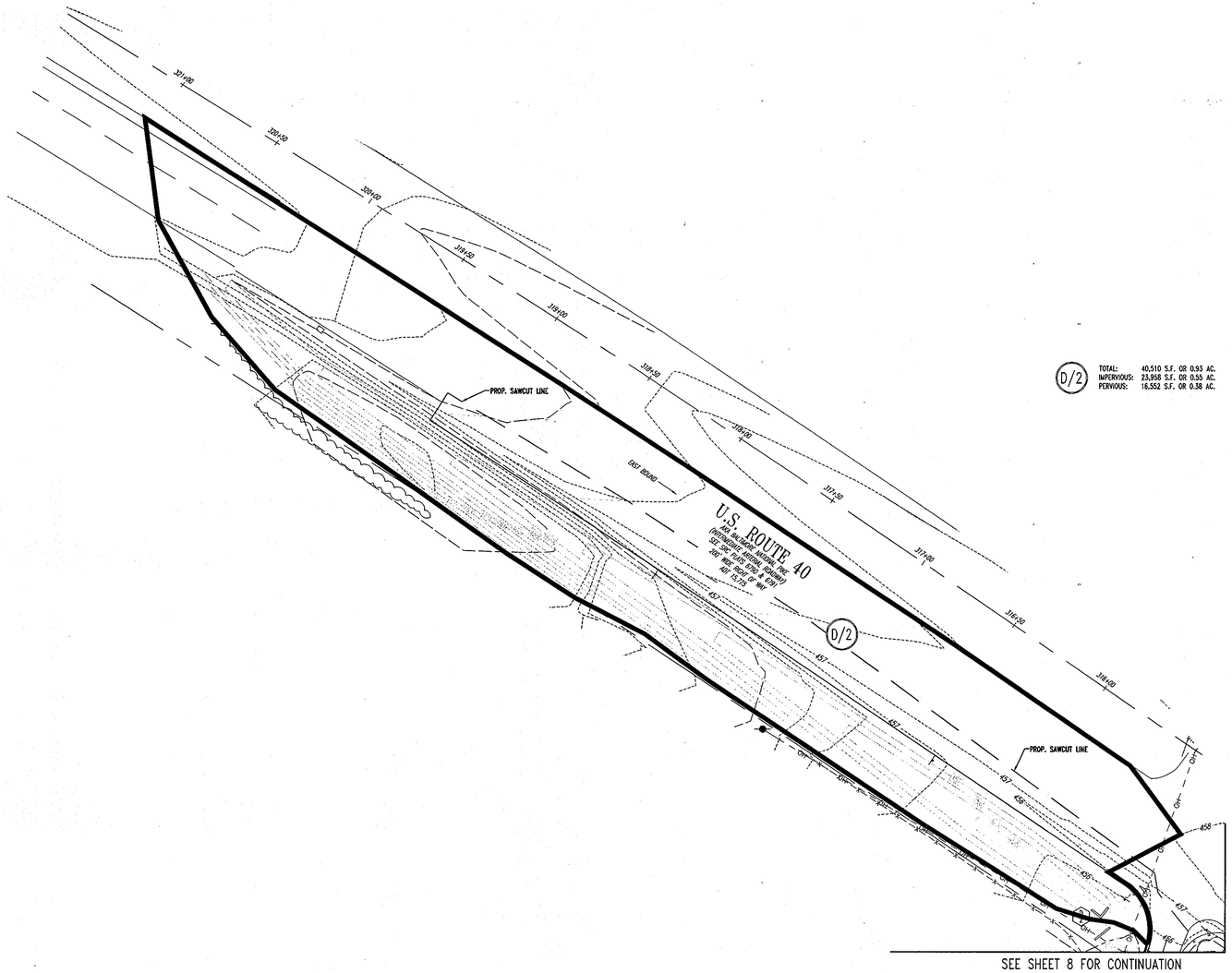

D/2

TOTAL: 40,510 S.F. OR 0.93 AC.
IMPERVIOUS: 23,958 S.F. OR 0.55 AC.
PERVIOUS: 16,552 S.F. OR 0.38 AC.

BENCHMARK

GEODETIC SURVEY CONTROL - 161A
N 528,760.4
E 833,925.6
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LOCATED WITHIN THE MEDIAN OF U.S. RCUTE 40. APPROX. 0.35 MILES WEST OF MD ROUTE 144.

GEODETIC SURVEY CONTROL - 161B
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LOCATED WITHIN THE MEDIAN OF U.S. ROUTE 40 APPROX. 0.80 MILES EAST OF MARRIOTTSVILLE ROAD

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HOWARD COUNTY, MD
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DATED: JULY 1968

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DEVELOPER:
RITE AID CORPORATION
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PROJECT
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AREA 3.136 AC. TAX MAP 23 GRID 6 ZONED B-1
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TITLE
STORM DRAIN DRAINAGE AREA MAP

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SUITE 801
TOWSON, MARYLAND 21204
PH: (410) 821-7900
FX: (410) 821-7987
www.bohlerengineering.com

8/20/10
DATE
MATTHEW T. ALLEN
PROFESSIONAL ENGINEER NO. 28567

DESIGNED BY:	M.J.G.
DRAWN BY:	R.J.M.
PROJECT NO.:	MD072009.2
DATE:	8/20/10
SCALE:	1"=30'
DRAWING	9 OF 37

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION HP	DATE 9/24/10
CHIEF-DIVISION OF LAND DEVELOPMENT	DATE 10/12/10
DIRECTOR	DATE 10/12/10

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.

B Nelson for Peter Beilenson 10/4/10
COUNTY HEALTH OFFICER DATE
HOWARD COUNTY HEALTH DEPARTMENT

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(IN FEET)
1 inch = 30 ft.

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SDP 09-44

H:\07\Rite Aid Corporation\MD07 2009 - 10470 Frederick Road, Ellicott City, MD\CAD\Site Plan Documents\Rev 5\MD072009D45.dwg,
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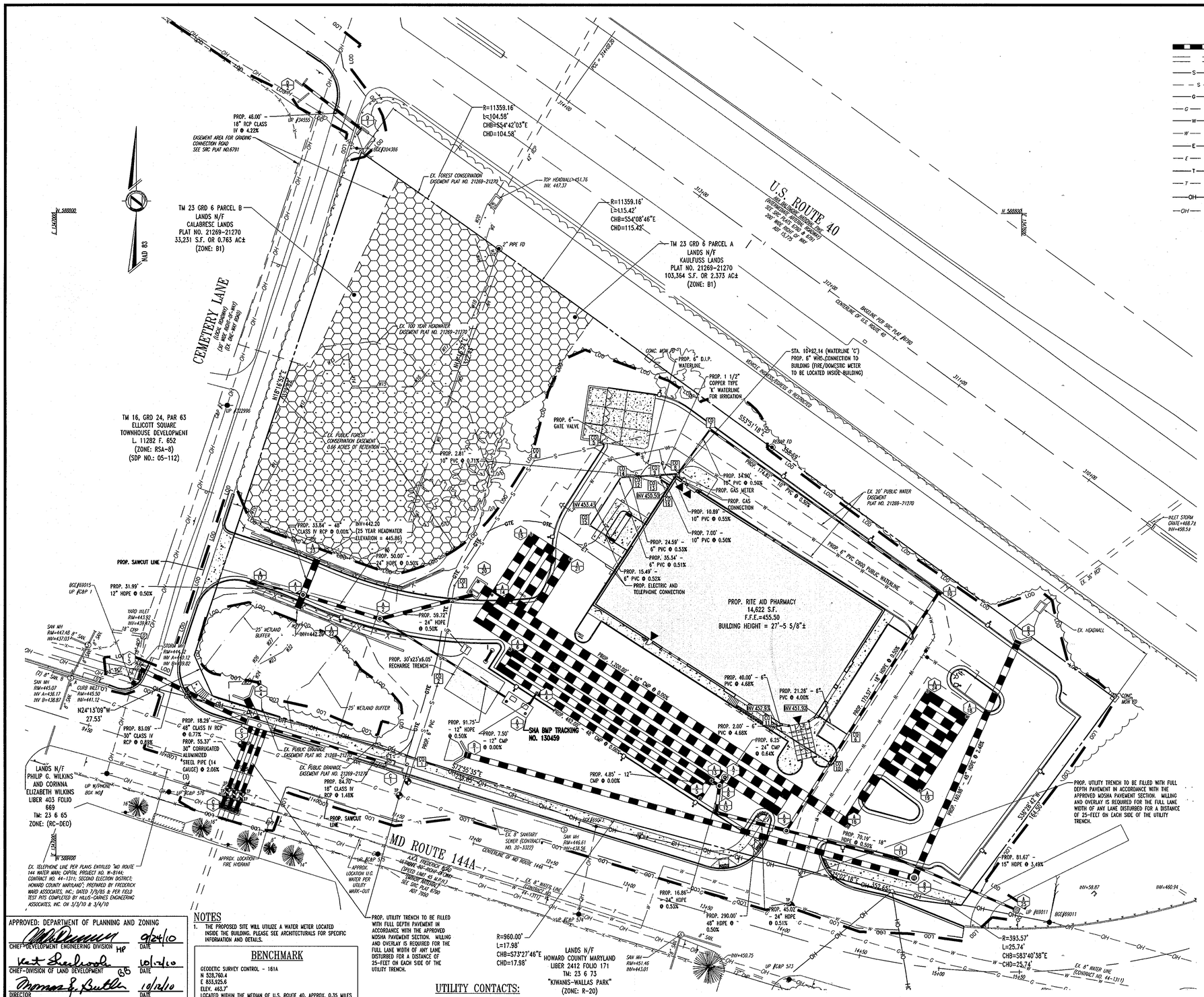

UTILITY LEGEND:

- PROPOSED STORM SEWER
- EXISTING STORM SEWER
- PROPOSED SANITARY SEWER
- EXISTING SANITARY SEWER
- PROPOSED UNDERGROUND GAS
- EXISTING UNDERGROUND GAS
- PROPOSED UNDERGROUND WATER
- EXISTING UNDERGROUND WATER
- PROPOSED UNDERGROUND ELECTRIC
- EXISTING UNDERGROUND ELECTRIC
- PROPOSED UNDERGROUND TELEPHONE
- EXISTING UNDERGROUND TELEPHONE
- PROPOSED OVERHEAD ELECTRIC WIRES
- EXISTING OVERHEAD ELECTRIC WIRES

UTILITY NOTES

1. LOCATION OF ALL EXISTING AND PROPOSED SERVICES ARE APPROXIMATE AND MUST BE CONFIRMED INDEPENDENTLY WITH LOCAL UTILITY COMPANIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION OR EXCAVATION. SANITARY SEWER AND ALL OTHER UTILITY SERVICE CONNECTION POINTS SHALL BE CONFIRMED INDEPENDENTLY BY THE CONTRACTOR IN FIELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ALL DISCREPANCIES SHALL BE REPORTED IMMEDIATELY IN WRITING TO BOHLER ENGINEERING. CONSTRUCTION SHALL COMMENCE BEGINNING AT THE LOWEST INVERT (POINT OF CONNECTION) AND PROGRESS UP GRADIENT. ALL PROPOSED INTERFACE POINTS (CROSSINGS) WITH EXISTING UNDERGROUND UTILITIES SHALL BE FIELD VERIFIED BY TEST PIT PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. ALL UTILITIES AND SERVICES INCLUDING BUT NOT LIMITED TO GAS, WATER, ELECTRIC, SANITARY AND STORM SEWER, TELEPHONE, CABLE, FIBER OPTIC CABLE, ETC. WITHIN THE LIMITS OF DISTURBANCE SHALL BE VERTICALLY AND HORIZONTALLY LOCATED. THE CONTRACTOR SHALL USE AND COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY NOTIFICATION SYSTEM TO LOCATE ALL THE UNDERGROUND UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRS OF D MAGE TO ANY EXISTING UTILITIES DURING CONSTRUCTION AT NO COST TO THE OWNER.
3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THE PROJECT WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR THE RELATIVE CODES, IT IS THE CONTRACTOR'S F'SPONSIBILITY TO NOTIFY BOHLER ENGINEERING OF RECORD IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY BOHLER ENGINEERING SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF WORK AS DEFINED BY THE DRAWINGS AND IN FULL COMPLIANCE WITH LOCAL REGULATIONS AND CODES.
4. DEFINE AND LOCATE VERTICALLY AND HORIZONTALLY ALL ACTIVE UTILITY AND/OR SERVICE SYSTEMS THAT ARE TO BE REMOVED. THE CONTRACTOR IS RESPONSIBLE TO PROTECT AND MAINTAIN ALL ACTIVE SYSTEMS THAT ARE NOT BEING REMOVED/RELOCATED DURING SITE ACTIVITY.
5. THE CONTRACTOR SHALL FAMILIARIZE THEMSELVES WITH THE APPLICABLE UTILITY SERVICE PROVIDER REQUIREMENTS AND IS RESPONSIBLE FOR ALL COORDINATION REGARDING UTILITY DEMOLITION AS IDENTIFIED OR REQUIRED FOR PROJECT. THE CONTRACTOR SHALL PROVIDE THE OWNER WRITTEN NOTIFICATION THAT THE EXISTING UTILITIES AND SERVICES HAVE BEEN TERMINATED AND ABANDONED IN ACCORDANCE WITH JURISDICTION AND UTILITY COMPANY REQUIREMENTS.
6. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF SITE PLAN DOCUMENTS AND ARCHITECTURAL DESIGN FOR EXACT BUILDING UTILITY CONNECTION LOCATIONS, GREASE TRAP REQUIREMENTS/DETAILS, DOOR ACCESS, AND EXTERIOR GRADING. THE UTILITY SERVICE SIZES ARE TO BE DETERMINED BY THE ARCHITECT. THE CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES/SERVICES WITH THE INDIVIDUAL COMPANIES, TO AVOID CONFLICTS AND ENSURE PROPER DEPTHS ARE ACHIEVED. THE JURISDICTION UTILITY REQUIREMENTS SHALL ALSO BE MET, AS WELL AS COORDINATING THE UTILITY TIE-INS/CONNECTIONS PRIOR TO CONNECTING TO THE EXISTING UTILITY/SERVICE. WHERE CONFLICTS EXIST WITH THESE SITE PLANS, BOHLER ENGINEERING IS TO BE NOTIFIED PRIOR TO CONSTRUCTION TO RESOLVE SAME.
7. WATER SERVICE MATERIALS, BURIAL DEPTH, AND COVER REQUIREMENTS SHALL BE SPECIFIED BY THE LOCAL UTILITY COMPANY. CONTRACTOR'S PRICE FOR WATER SERVICE SHALL INCLUDE ALL FEES AND APPURTENANCES REQUIRED BY THE UTILITY TO PROVIDE A COMPLETE WORKING SERVICE.
8. ALL NEW UTILITIES/SERVICES, INCLUDING ELECTRIC, TELEPHONE, CABLE TV, ETC. ARE TO BE INSTALLED UNDERGROUND. ALL NEW UTILITIES/SERVICES SHALL BE INSTALLED IN ACCORDANCE WITH THE UTILITY/SERVICE PROVIDER INSTALLATION SPECIFICATIONS AND STANDARDS.
9. THE CONTRACTOR SHALL COMPLY TO THE FULLEST EXTENT WITH THE LATEST OSHA STANDARDS AND REGULATIONS, OR ANY OTHER AGENCY HAVING JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE "MEANS AND METHODS" REQUIRED TO MEET THE INTENT AND PERFORMANCE CRITERIA OF OSHA, AS WELL AS ANY OTHER ENTITY THAT HAS JURISDICTION FOR EXCAVATION AND/OR TRENCHING PROCEDURES.
10. REFER TO SITE PLAN FOR ADDITIONAL NOTES.
11. IN CASE OF DISCREPANCIES BETWEEN PLANS OR RELATIVE TO OTHER PLANS, THE SITE PLAN WILL TAKE PRECEDENCE. IMMEDIATELY NOTIFY BOHLER ENGINEERING IN WRITING OF ANY CONFLICTS.
12. CONTRACTOR SHALL BE REQUIRED TO SECURE ALL NECESSARY PERMITS AND APPROVALS FOR ALL OFF-SITE MATERIAL SOURCES AND DISPOSAL FACILITIES. CONTRACTOR SHALL SUPPLY A COPY OF APPROVALS TO BOHLER ENGINEERING AND OWNER PRIOR TO INITIATING WORK.
13. REFER TO PUBLIC WATER PLANS PREPARED BY BOHLER ENGINEERING, DATED: 07/23/09 FOR PROP. 6" PUBLIC WATERLINE AND 6" PUBLIC SEWER LINE.

CLEANOUT SCHEDULE

STRUCTURE NUMBER	DESCRIPTION	INVERT
CO 1	PROP. SEWER HOUSE CONNECTION CLEANOUT (HOWARD COUNTY STD. NO. 5-2.22)	458.10
CO 2	PROP. SEWER HOUSE CONNECTION CLEANOUT (HOWARD COUNTY STD. NO. 5-2.22)	439.04
CO 3	PROP. SEWER HOUSE CONNECTION CLEANOUT (HOWARD COUNTY STD. NO. 5-2.22)	440.31
CO 4	PROP. SEWER HOUSE CONNECTION CLEANOUT (HOWARD COUNTY STD. NO. 5-2.22)	442.16
CO 5	PROP. SEWER HOUSE CONNECTION CLEANOUT (HOWARD COUNTY STD. NO. 5-2.22)	442.93
CO 6	PROP. CLEANOUT	451.07
CO 7	PROP. CLEANOUT	452.64
CO 8	PROP. CLEANOUT	452.81 (10")
CO 9	PROP. CLEANOUT	452.87 (10") 453.04 (6")
CO 10	PROP. CLEANOUT	450.97
CO 11	PROP. CLEANOUT	452.84
CO 12	PROP. SEWER HOUSE CONNECTION CLEANOUT (HOWARD COUNTY STD. NO. 5-2.22)	449.64
CO 13	PROP. SEWER HOUSE CONNECTION CLEANOUT (HOWARD COUNTY STD. NO. 5-2.22)	450.12
CO 14	PROP. CLEANOUT	453.17
CO 15	PROP. CLEANOUT	453.35
CO 16	PROP. CLEANOUT	452.89

PIPE SCHEDULE

PIPE TYPE	SIZE	LINEAR FEET
PVC C900 (WATER)	6"	15'
SDR-35 (SEWER)	6"	294'

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION	DATE 9/24/10
CHIEF-DIVISION OF LAND DEVELOPMENT	DATE 10/1/10
DIRECTOR	DATE 10/2/10

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.

COUNTY HEALTH OFFICER — DATE 10/4/10
HOWARD COUNTY HEALTH DEPARTMENT

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NOTES

1. THE PROPOSED SITE WILL UTILIZE A WATER METER LOCATED INSIDE THE BUILDING. PLEASE SEE ARCHITECTURALS FOR SPECIFIC INFORMATION AND DETAILS.

BENCHMARK

GEODETIC SURVEY CONTROL - 161A
N 528,760.4
E 833,925.6
ELEV. 463.7
LOCATED WITHIN THE MEDIAN OF U.S. ROUTE 40. APPROX. 0.35 MILES WEST OF MD ROUTE 144.

GEODETIC SURVEY CONTROL - 161B
N 529,726.3
E 833,925.6
ELEV. 470.600'
LOCATED WITHIN THE MEDIAN OF U.S. ROUTE 40 APPROX. 0.80 MILES EAST OF MARRIOTTSVILLE ROAD

UTILITY CONTACTS:

TELEPHONE
VERIZON
7135 RUTHERFORD ROAD
BALTIMORE, MD 21244
PHONE: (410) 224-5286

EROSION AND SEDIMENT CONTROL
DEPARTMENT OF INSPECTIONS, LICENSES & PERMITS
3430 COURTHOUSE DRIVE
ELLICOTT CITY, MD 21043
PHONE: (410) 313-2455

NATURAL GAS AND ELECTRIC
BALTIMORE GAS AND ELECTRIC
7317 PARKWAY DRIVE
SOUTH HANOVER, MD 21076
PHONE: (410) 859-9383

STORMWATER MANAGEMENT
HOWARD COUNTY PLANNING AND ZONING DEPARTMENT
3430 COURTHOUSE DRIVE
ELLICOTT CITY, MD 21043
PHONE: (410) 313-2350

PLANNING AND ZONING
HOWARD COUNTY PLANNING AND ZONING DEPARTMENT
3430 COURTHOUSE DRIVE
ELLICOTT CITY, MD 21043
PHONE: (410) 313-2350

WATER AND SANITARY SEWER
HOWARD COUNTY PUBLIC WORKS
BUREAU OF UTILITIES
8250 OLD MONTGOMERY ROAD
COLUMBIA, MD 21045
PHONE: (410) 313-4910

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

THESE PLANS ARE BASED UPON COORDINATION WITH FARRELL McGLYNN ARCHITECTS, P.A., AND WERE PREPARED WITHOUT THE BENEFIT OF A FINAL SET OF ARCHITECTURAL PLANS. BOHLER ENGINEERING SHALL BE HELD HARMLESS FOR ANY DISCREPANCIES THAT MAY OCCUR BETWEEN THESE PLANS AND THE FINAL ARCHITECTURAL PLANS.

PROFESSIONAL CERTIFICATION

I, MATTHEW T. ALLEN, HEREBY CERTIFY THAT THESE 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. 28567, EXPIRATION DATE: 4/16/11

MISS UTILITY
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811 IN MD
or 1-800-257-7777
PROTECT YOURSELF, GIVE TWO WORKING DAYS NOTICE
THE CONTRACTOR TO CALL MISS UTILITY TO HAVE ALL EXISTING UTILITIES MARKED 48 HOURS PRIOR TO ANY CONSTRUCTION.

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JACK M. AND LOUISE KAULFUSS
13715 OLD ROVER ROAD
WEST FRIENDSHIP MD 21794-9718
PHONE: 410-442-2011

PARCEL B
JOHN VICTOR AND
MARTHA B. CALABRESE
3262 OLD FENCE ROAD
ELLICOTT CITY, MD 21042-2440
PHONE: 410-465-3519

DEVELOPER:
RITE AID CORPORATION
P.O. BOX 3165
HARRISBURG, PA 17105
ATTN.: LANCE MASON
PHONE: 804-745-6222

PROJECT: RITE AID CORPORATION
KAULFUSS AND CALABRESE LANDS
PARCELS A & B
ONE-STORY RETAIL BUILDING

AREA 3.136 AC. TAX MAP 23 GRID 6 ZONED B-1
PARCELS A & B
2ND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND 21042

TITLE: UTILITY PLAN

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901 DULANEY VALLEY ROAD
SUITE 801
TOWSON, MARYLAND 21204
PH: (410) 821-7900
FX: (410) 821-7987
www.bohlerengineering.com

MATTHEW T. ALLEN
PROFESSIONAL ENGINEER NO. 28567

DESIGNED BY:	M.J.G.
DRAWN BY:	R.J.M.
PROJECT NO.:	MD072009.2
DATE:	8/20/10
SCALE:	1"=30'
DRAWING NO.	10 OF 37

SDP 09-44

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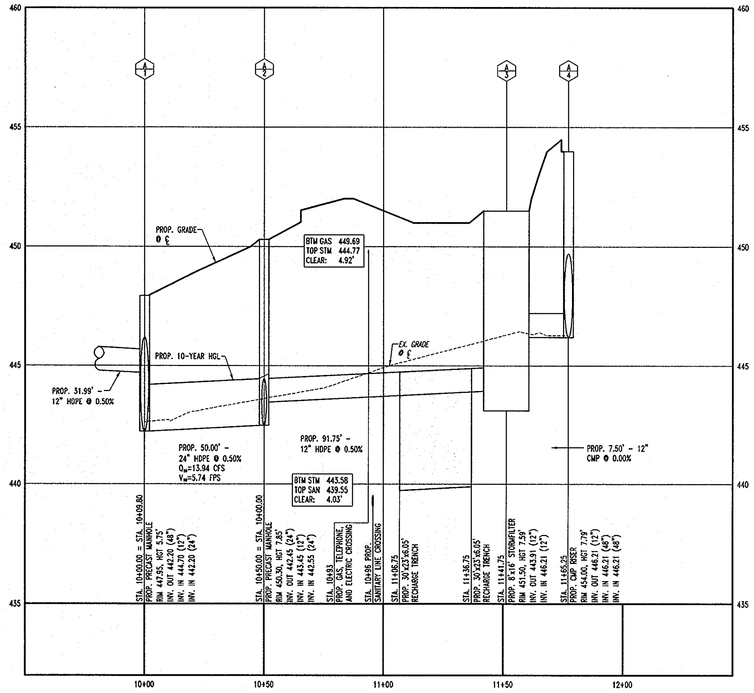
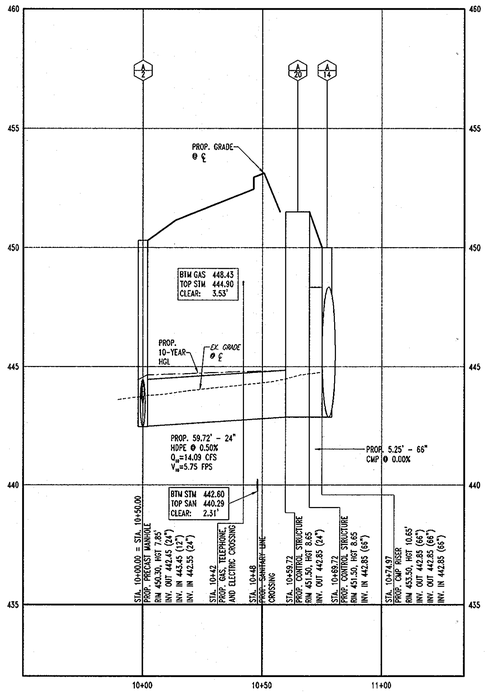


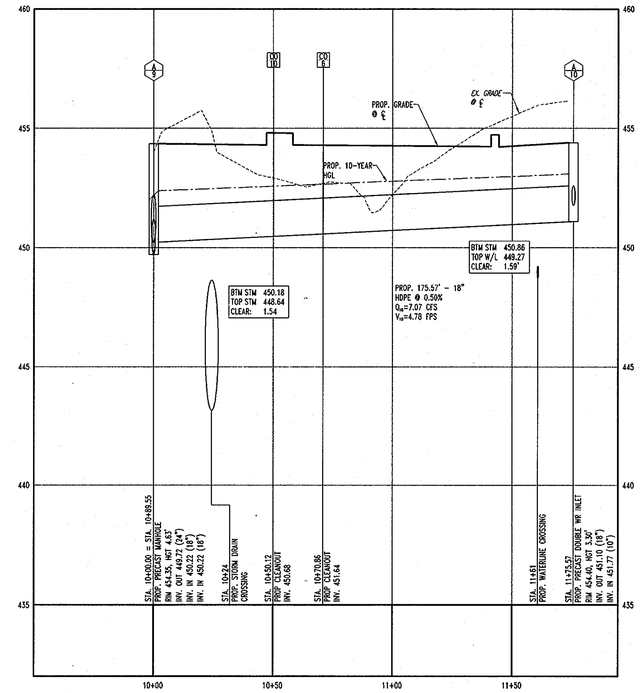
STORM DRAIN PROFILE

STR A/1 TO STR A/4
SCALE: 1"=30' HORIZONTAL
1"=3' VERTICAL



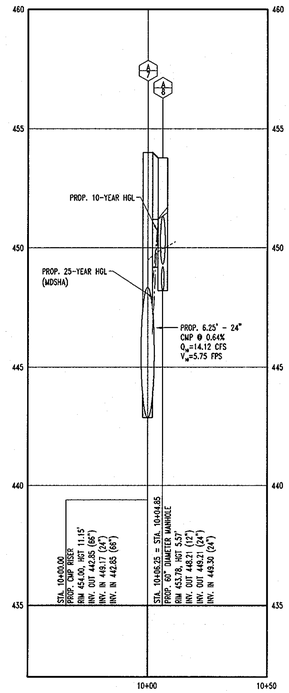
STORM DRAIN PROFILE

STR A/2 TO STR A/14
SCALE: 1"=30' HORIZONTAL
1"=3' VERTICAL



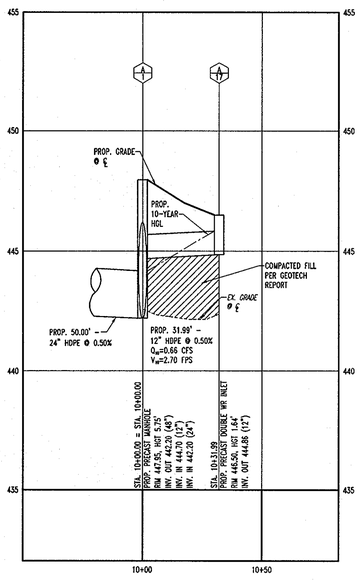
STORM DRAIN PROFILE

STR A/9 TO STR A/10
SCALE: 1"=30' HORIZONTAL
1"=3' VERTICAL



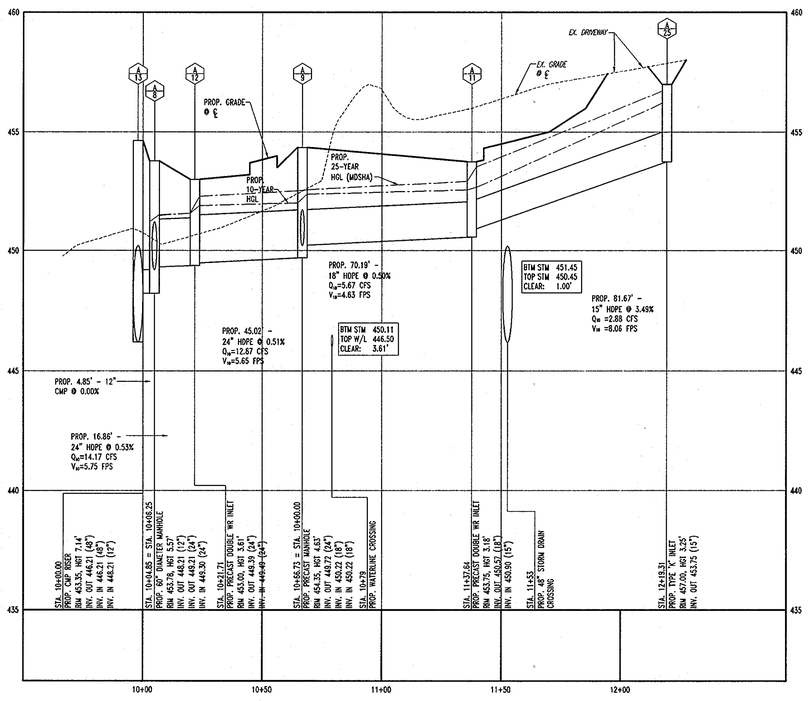
STORM DRAIN PROFILE

STR A/7 TO STR A/8
SCALE: 1"=30' HORIZONTAL
1"=3' VERTICAL



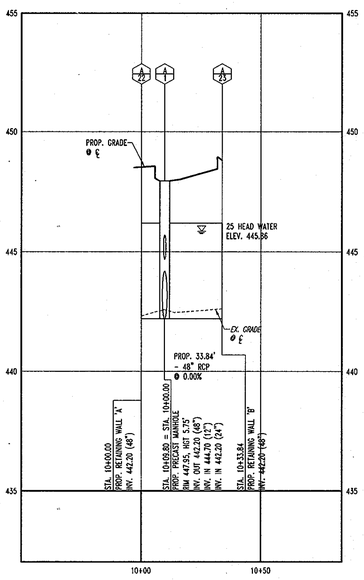
STORM DRAIN PROFILE

STR A/1 TO STR A/17
SCALE: 1"=30' HORIZONTAL
1"=3' VERTICAL



STORM DRAIN PROFILE

STR A/13 TO STR A/25
SCALE: 1"=30' HORIZONTAL
1"=3' VERTICAL



STORM DRAIN PROFILE

WALL 'A' TO WALL 'B'
SCALE: 1"=30' HORIZONTAL
1"=3' VERTICAL

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION HP — DATE 9/24/10

CHIEF-DIVISION OF LAND DEVELOPMENT GB — DATE 10/12/10

DIRECTOR — DATE 10/12/10

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.

B Wilson for Peter Bsilenson 10/4/10
COUNTY HEALTH OFFICER — DATE
HOWARD COUNTY HEALTH DEPARTMENT

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MISS UTILITY

BEFORE YOU DIG CALL
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or 1-800-257-7777
PROTECT YOURSELF, GIVE TWO WORKING DAYS NOTICE
THE CONTRACTOR TO CALL MISS UTILITY TO HAVE ALL EXISTING UTILITIES MARKED 48 HOURS PRIOR TO ANY CONSTRUCTION.

NO.:	DATE	REVISION DESCRIPTION

OWNER:
PARCEL A
JACK M. AND LOUISE KAULFUSS
13715 OLD ROVER ROAD
WEST FRIENDSHIP MD 21794-9718
PHONE: 410-442-2011

PARCEL B
JOHN VICTOR AND MARTHA B. CALABRESE
3262 OLD FENCE ROAD
ELLICOTT CITY, MD 21042-2440
PHONE: 410-465-3519

DEVELOPER:
RITE AID CORPORATION
P.O. BOX 3165
HARRISBURG, PA 17105
ATTN.: LANCE MASON
PHONE: 804-745-6222

PROJECT
RITE AID CORPORATION
KAULFUSS AND CALABRESE LANDS
PARCELS A & B
ONE-STORY RETAIL BUILDING

AREA 3.136 AC. TAX MAP 23 GRID 6 ZONED B-1
PARCELS A & B
2ND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND 21042

TITLE
UTILITY PROFILES

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD
SUITE 801
TOWSON, MARYLAND 21204
PH: (410) 821-7900
FX: (410) 821-7987
www.bohlerengineering.com

PROFESSIONAL CERTIFICATION

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MATTHEW T. ALLEN
PROFESSIONAL ENGINEER NO. 28567

DESIGNED BY:	M.J.G.
DRAWN BY:	R.J.M.
PROJECT NO.:	MD072009.2
DATE:	8/20/10
SCALE:	1"=30'
DRAWING NO.	11 OF 37

SDP 09-44

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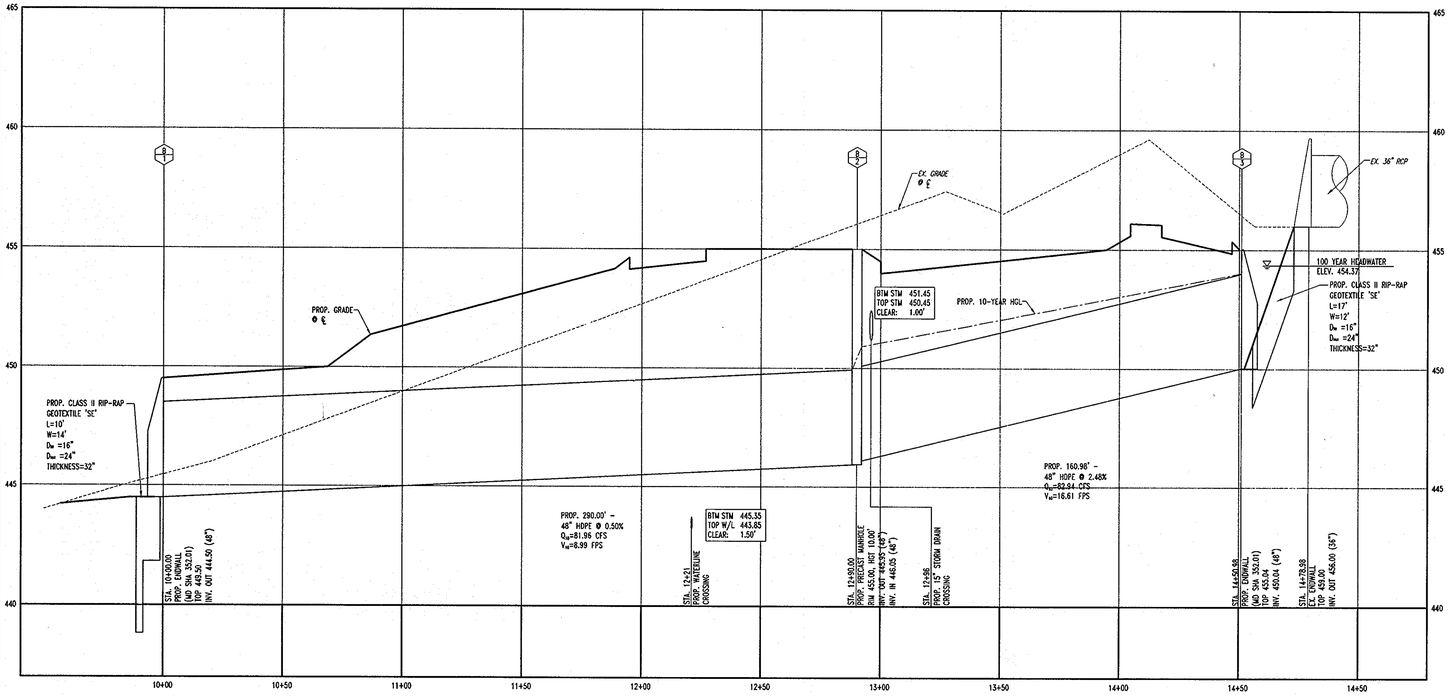
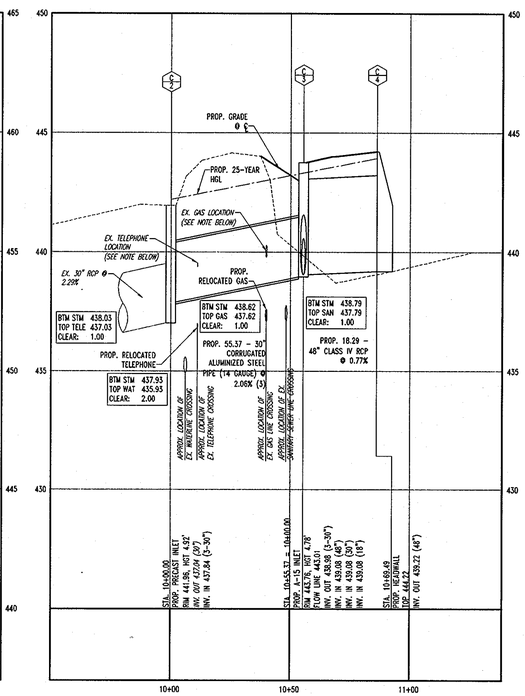


STORM DRAIN PROFILE

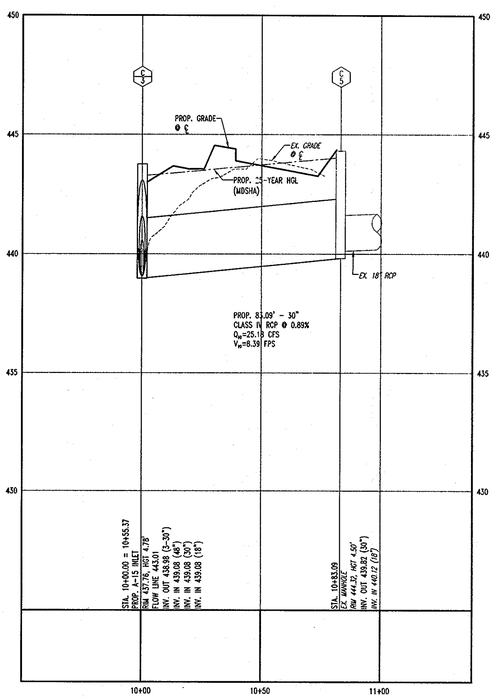
STR B/1 TO STR B/3
SCALE: 1"=30' HORIZONTAL
1"=3' VERTICAL



STORM DRAIN PROFILE

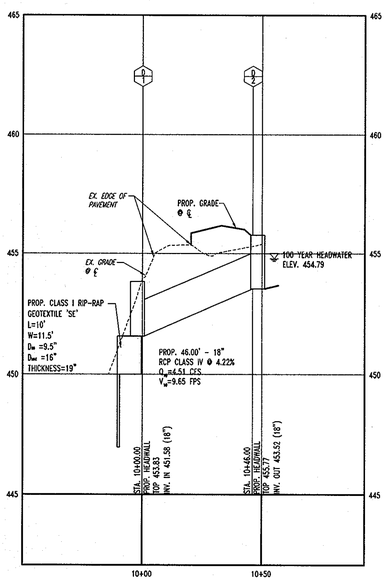
STR C/2 TO STR C/4
SCALE: 1"=30' HORIZONTAL
1"=3' VERTICAL

EXISTING UTILITY ELEVATIONS SHOWN ARE BASED UPON TEST PIT INFORMATION PROVIDED BY HILLIS-CARNES ENGINEERING ASSOCIATES, INC. FIELD TEST PITS WERE COMPLETED ON MARCH 3rd AND 4th, 2010.



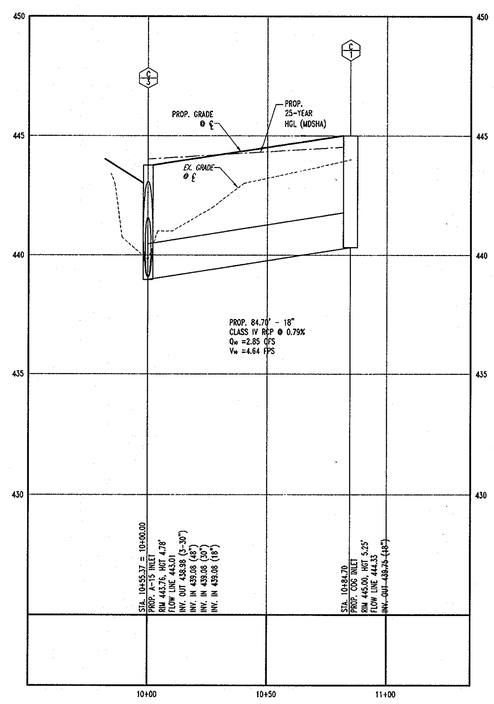
STORM DRAIN PROFILE

STR C/3 TO STR C/5
SCALE: 1"=30' HORIZONTAL
1"=3' VERTICAL



STORM DRAIN PROFILE

STR D/1 TO STR D/2
SCALE: 1"=30' HORIZONTAL
1"=3' VERTICAL



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DESIGNED BY:	M.J.G.
DRAWN BY:	R.J.M.
PROJECT NO.:	MD072009.2
DATE:	8/20/10
SCALE:	1"=30'
DRAWING NO.	12 OF 37

PROFESSIONAL CERTIFICATION

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MATTHEW T. ALLEN
PROFESSIONAL ENGINEER NO. 28567

SDP 09-44

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION	DATE 9/24/10
CHIEF-DIVISION OF LAND DEVELOPMENT	DATE 10/12/10
DIRECTOR	DATE 10/12/10

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.

COUNTY HEALTH OFFICER — DATE 10/4/10
HOWARD COUNTY HEALTH DEPARTMENT

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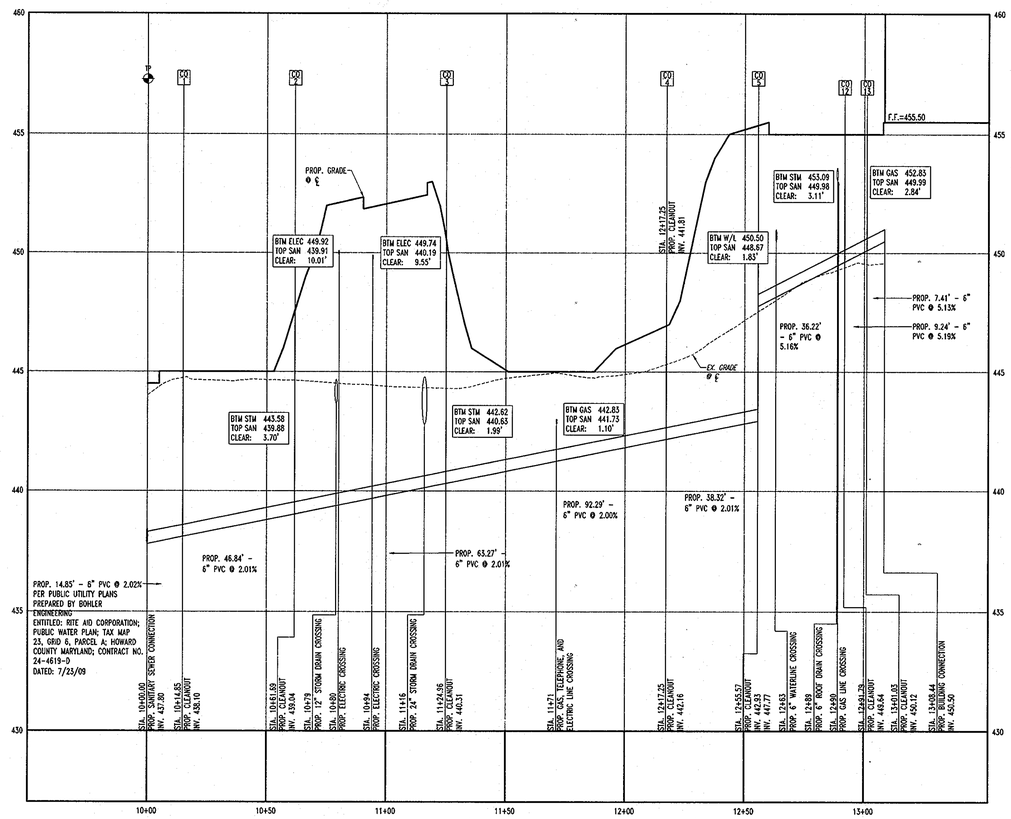

SANITARY LATERAL PROFILE

CO/1 TO BUILDING CONNECTION
SCALE: 1"=30' HORIZONTAL
1"=3' VERTICAL

MISS UTILITY

DIG WITH C.P.R.
WORKING
ABOVE MARYLAND LAW

BEFORE YOU DIG CALL
811 IN MD
or 1-800-257-7777
PROTECT YOURSELF. GIVE TWO WORKING DAYS NOTICE
THE CONTRACTOR TO CALL MISS UTILITY TO HAVE ALL EXISTING UTILITIES MARKED 48 HOURS PRIOR TO ANY CONSTRUCTION.

NO.:	DATE	REVISION DESCRIPTION

OWNER:
PARCEL A
JACK M. AND LOUISE KAULFUSS
13715 OLD ROVER ROAD
WEST FRIENDSHIP MD 21794-9718
PHONE: 410-442-2011

PARCEL B
JOHN V TOR AND
MARTHA B. CALABRESE
3262 OLD FENCE ROAD
ELLICOTT CITY, MD 21042-2440
PHONE: 410-465-3519

DEVELOPER:
RITE AID CORPORATION
P.O. BOX 3165
HARRISBURG, PA 17105
ATTN: LANCE MASON
PHONE: 804-745-6222

PROJECT
RITE AID CORPORATION
KAULFUSS AND CALABRESE LANDS
PARCELS A & B
ONE-STORY RETAIL BUILDING

AREA 3.136 AC. TAX MAP 23 GRID 6 ZONED B-1
PARCELS A & B
2ND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND 21042

TITLE
UTILITY PROFILES

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD
SUITE 801
TOWSON, MARYLAND 21204
PH: (410) 821-7900
FX: (410) 821-7967
www.bohlerengineering.com

MATTHEW T. ALLEN
PROFESSIONAL ENGINEER NO. 28567

DESIGNED BY:	M.J.G.
DRAWN BY:	R.J.M.
PROJECT NO.:	MD072009.2
DATE:	8/20/10
SCALE:	1"=30'
DRAWING	0. 13 OF 37

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION	DATE 9/24/10
CHIEF-DIVISION OF LAND DEVELOPMENT	DATE 10/12/10
DIRECTOR	DATE 10/12/10

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.

COUNTY HEALTH OFFICER — DATE 10/4/10
HOWARD COUNTY HEALTH DEPARTMENT

GENERAL NOTE:
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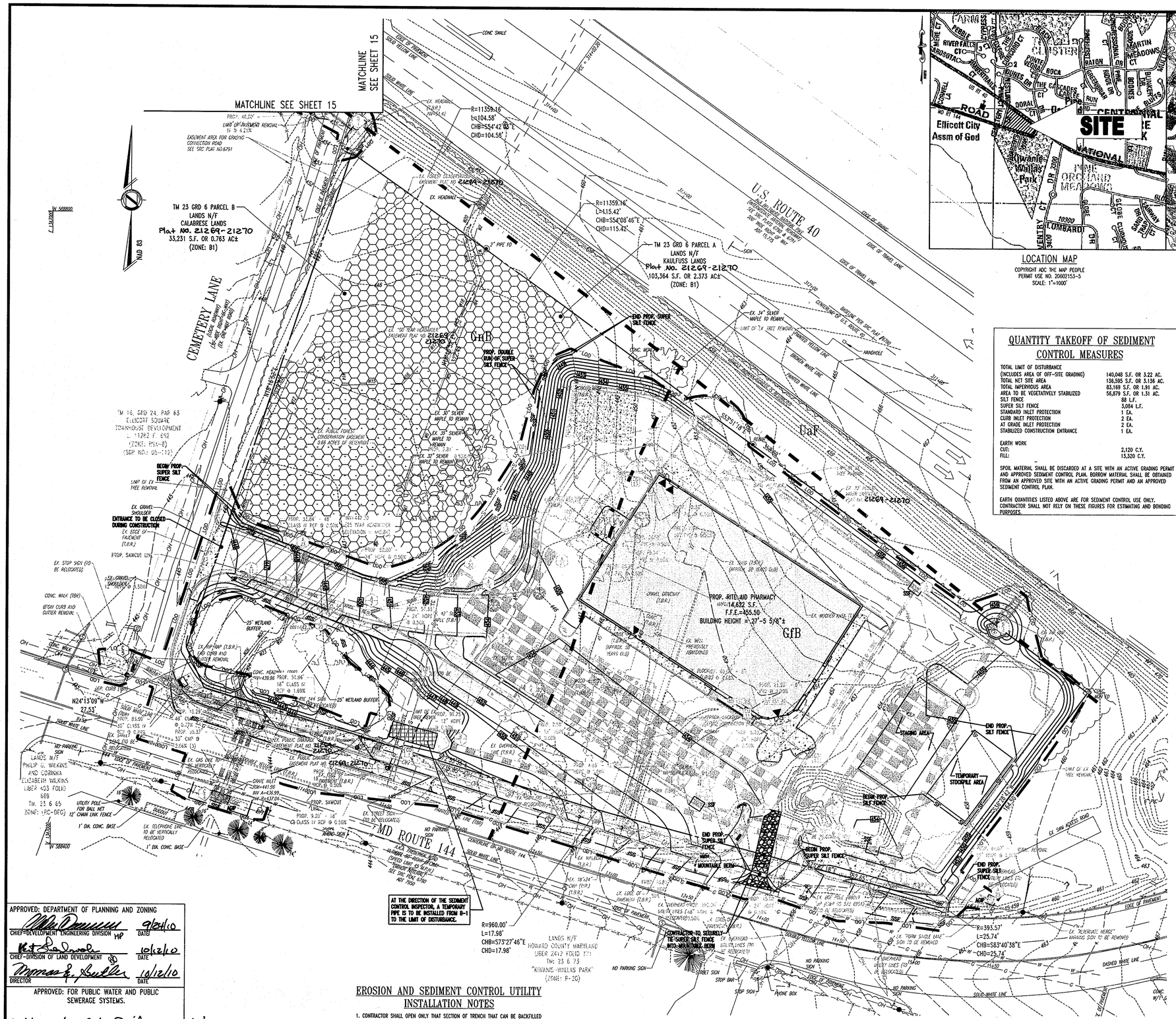
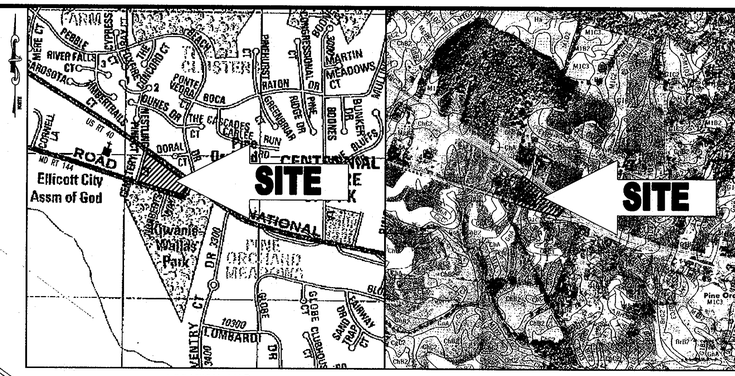
PROFESSIONAL CERTIFICATION

I, MATTHEW T. ALLEN, HEREBY CERTIFY THAT THESE 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. 28567, EXPIRATION DATE: 4/16/11

SDP 09-44

H:\07\Rite Aid Corporation\MD07 2009 - 10470 Frederick Road, Ellicott City, MD\CAD\Site Plan Documents\Ver 5\MD072009R5.dwg, 9/13/2010 1:23:54 PM, mgesell, 1:1





LOCATION MAP

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PERMIT USE NO. 20602153-5
SCALE: 1"=1000'

REVIEWED FOR HOWARD SCD AND MEETS THE TECHNICAL REQUIREMENT

USDA - NATURAL RESOURCES CONSERVATION SERVICE — DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT

HOWARD SCD — 9/24/10 DATE

ENGINEER'S CERTIFICATE

"I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL 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."

SIGNATURE OF ENGINEER — 5/6/10 DATE
MATTHEW T. ALLEN P.E.

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL 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."

SIGNATURE OF DEVELOPER — 4-29-10 DATE
LANCE A. MASON
PRINTED NAME OF DEVELOPER

ON-SITE SOILS INFORMATION:

GnB - GLENVILLE-BAILE SILT LOAMS, 0%-8% SLOPES
(HYDROLIC SOIL CLASSIFICATION "B")

UaF - UDORTHENTS, HIGHWAY, 0%-65% SLOPES
(HYDROLIC SOIL CLASSIFICATION "F")

GfB - GLADSTONE-URBAN LAND COMPLEX, 0%-8% SLOPES
(HYDROLIC SOIL CLASSIFICATION "B")

REFERENCE:

SOIL SURVEY
HOWARD COUNTY, MD
PERPARED BY:
UNITED STATES DEPARTMENT OF AGRICULTURE
DATED: JULY 1968

QUANTITY TAKEOFF OF SEDIMENT CONTROL MEASURES

TOTAL LIMIT OF DISTURBANCE (INCLUDES AREA OF OFF-SITE GRADING)	140,048 S.F. OR 3.22 AC.
TOTAL NET SITE AREA	136,595 S.F. OR 3.136 AC.
TOTAL IMPERVIOUS AREA	83,169 S.F. OR 1.91 AC.
AREA TO BE VEGETATIVELY STABILIZED	56,879 S.F. OR 1.31 AC.
SILT FENCE	88 L.F.
SUPER SILT FENCE	3,084 L.F.
STANDARD INLET PROTECTION	1 EA.
CURB INLET PROTECTION	2 EA.
AT GRADE INLET PROTECTION	2 EA.
STABILIZED CONSTRUCTION ENTRANCE	1 EA.
EARTH WORK	
CUT:	2,120 C.Y.
FILL:	13,320 C.Y.

SPOIL MATERIAL SHALL BE DISCARDED AT A SITE WITH AN ACTIVE GRADING PERMIT AND APPROVED SEDIMENT CONTROL PLAN. BORROW MATERIAL SHALL BE OBTAINED FROM AN APPROVED SITE WITH AN ACTIVE GRADING PERMIT AND AN APPROVED SEDIMENT CONTROL PLAN.

EARTH QUANTITIES LISTED ABOVE ARE FOR SEDIMENT CONTROL USE ONLY. CONTRACTOR SHALL NOT RELY ON THESE FIGURES FOR ESTIMATING AND BONDING PURPOSES.

THIS PLAN IS FOR EROSION AND SEDIMENT CONTROL PURPOSES ONLY

SEE SHEETS 16 & 17 FOR EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

INLET PROTECTION NOTE

THE CONTRACTOR IS REQUIRED TO INSTALL INLET PROTECTION ON ALL STORM DRAIN INLETS WITH THE EXCEPTION OF THE FOLLOWING:

1) ANY INLET OUTFALLING DIRECTLY INTO A SEDIMENT TRAPPING DEVICE.
2) INLETS ON PRIVATE OR PUBLIC PAVED ROAD OPEN TO THE PUBLIC.

ALL INLET PROTECTION WILL BE INSTALLED AS DIRECTED BY THE INSPECTOR IN ACCORDANCE WITH THE 1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL, PAGE E-15-1. THE REMOVAL OF ANY INLET PROTECTION DEVICES WILL REQUIRE APPROVAL FROM THE INSPECTOR.

BENCHMARK

GEODETIC SURVEY CONTROL - 161A
N 528,760.4
E 833,925.6
ELEV. 463.7'
LOCATED WITHIN THE MEDIAN OF U.S. ROUTE 40. APPROX. 0.35 MILES WEST OF MD ROUTE 144.

GEODETIC SURVEY CONTROL - 161B
N 529,726.3
E 833,925.6
ELEV. 470.600'
LOCATED WITHIN THE MEDIAN OF U.S. ROUTE 40 APPROX. 0.80 MILES EAST OF MARRIOTTSVILLE ROAD

EROSION AND SEDIMENT CONTROL LEGEND

	PROPERTY LINE
123	EXISTING CONTOUR
123	PROPOSED CONTOUR
LOD	LIMIT OF DISTURBANCE
SF	SILT FENCE
SSF	SUPER SILT FENCE
SCE	STABILIZED CONSTRUCTION ENTRANCE
MOUNTABLE BERM	MOUNTABLE BERM
CIP	CURB INLET PROTECTION
SIP	STANDARD INLET PROTECTION
AGIP	AT GRADE INLET PROTECTION
	EROSION CONTROL MATTING

UTILITY LEGEND:

	PROPOSED STORM SEWER
	EXISTING STORM SEWER
S	PROPOSED SANITARY SEWER
S	EXISTING SANITARY SEWER
G	PROPOSED UNDERGROUND GAS
G	EXISTING UNDERGROUND GAS
W	PROPOSED UNDERGROUND WATER
W	EXISTING UNDERGROUND WATER
E	PROPOSED UNDERGROUND ELECTRIC
E	EXISTING UNDERGROUND ELECTRIC
T	PROPOSED UNDERGROUND TELEPHONE
T	EXISTING UNDERGROUND TELEPHONE
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OH	EXISTING OVERHEAD ELECTRIC WIRES

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PROTECT YOURSELF, GIVE TWO WORKING DAYS NOTICE
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WEST FRIENDSHIP MD 21794-9718
PHONE: 410-442-2011

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3262 OLD FENCE ROAD
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PHONE: 410-465-3519

DEVELOPER:
RITE AID CORPORATION
P.O. BOX 3165
HARRISBURG, PA 17105
ATTN.: LANCE MASON
PHONE: 804-745-6222

PROJECT
RITE AID CORPORATION
KAULFUSS AND CALABRESE LANDS
PARCELS A & B
ONE-STORY RETAIL BUILDING

AREA 3.136 AC. TAX MAP 23 GRID 6 ZONED B-1
PARCELS A & B
2ND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND 21042

TITLE
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BOHLER ENGINEERING
901 DULANEY VALLEY ROAD
SUITE 801
TOWSON, MARYLAND 21204
PH: (410) 821-7900
FX: (410) 821-7987
www.bohlerengineering.com

DESIGNED BY:	M.J.G.
DRAWN BY:	R.J.M.
PROJECT #:	M007200 9.2
DATE:	3/5/10
SCALE:	1"=30'
DRAWING NO.	14 OF 37

PROFESSIONAL CERTIFICATION

I, MATTHEW T. ALLEN, HEREBY CERTIFY THAT THESE 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. 28567, EXPIRATION DATE: 4/16/11

MATTHEW T. ALLEN
PROFESSIONAL ENGINEER NO. 28567

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION — 9/24/10 DATE
CHIEF-DIVISION OF LAND DEVELOPMENT — 10/12/10 DATE
DIRECTOR — 10/12/10 DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.

COUNTY HEALTH OFFICER — 10/4/10 DATE
HOWARD COUNTY HEALTH DEPARTMENT

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EROSION AND SEDIMENT CONTROL UTILITY INSTALLATION NOTES

1. CONTRACTOR SHALL OPEN ONLY THAT SECTION OF TRENCH THAT CAN BE BACKFILLED AND STABILIZED EACH DAY. IF TRENCH MUST REMAIN OPEN LONGER THAN ONE DAY, SILT FENCE SHALL BE PLACED BELOW (DOWNSLOPE OF) TRENCH.
2. PLACE ALL EXCAVATED MATERIAL ON UPHILL SIDE OF TRENCH.
3. ANY SEDIMENT CONTROLS DISTURBED BY UTILITY CONSTRUCTION ARE TO BE REPAIRED IMMEDIATELY.
4. THE CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO PROTECT PEDESTRIANS AT ALL TIMES DURING UNDERGROUND UTILITY CONSTRUCTION.

GRAPHIC SCALE

30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

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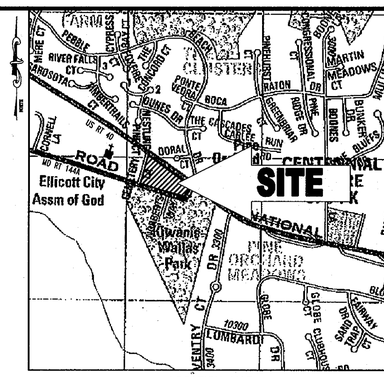

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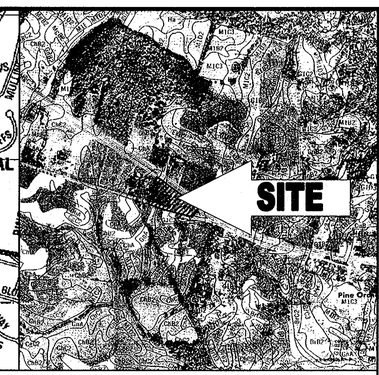

REVIEWED FOR HOWARD SCD AND MEETS THE TECHNICAL REQUIREMENT

USDA - NATURAL RESOURCES CONSERVATION SERVICE DATE

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SCD 9/24/10 DATE

ENGINEER'S CERTIFICATE

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SIGNATURE OF ENGINEER 8/6/10 DATE
MATTHEW T. ALLEN P.E.

DEVELOPER'S CERTIFICATE

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SIGNATURE OF DEVELOPER 4-29-10 DATE
LANCE A. MASON
PRINTED NAME OF DEVELOPER

ON-SITE SOILS INFORMATION:

GoB - GLENVILLE-BAILE SILT LOAMS, 0%-8% SLOPES
(HYDROLIC SOIL CLASSIFICATION 'B')

UoF - UDORTHENTS, HIGHWAY, 0%-65% SLOPES
(HYDROLIC SOIL CLASSIFICATION 'F')

GlB - GLADSTONE-URBAN LAND COMPLEX, 0%-8% SLOPES
(HYDROLIC SOIL CLASSIEICATION 'B')

REFERENCE:

SOIL SURVEY
HOWARD COUNTY, MD
PERPARED BY:
UNITED STATES DEPARTMENT OF AGRICULTURE
DATED: JULY 1968

THIS PLAN IS FOR EROSION AND SEDIMENT CONTROL PURPOSES ONLY

SEE SHEET 16 & 17 FOR EROSION AND SEDIMENT CONTROL NOTES AND DETAILS

BENCHMARK

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N 528,760.4
E 833,925.6
ELEV. 463.7'
LOCATED WITHIN THE MEDIAN OF U.S. ROUTE 40. APPROX. 0.35 MILES WEST OF MD ROUTE 144.

GEODETIC SURVEY CONTROL - 161B
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EROSION AND SEDIMENT CONTROL LEGEND

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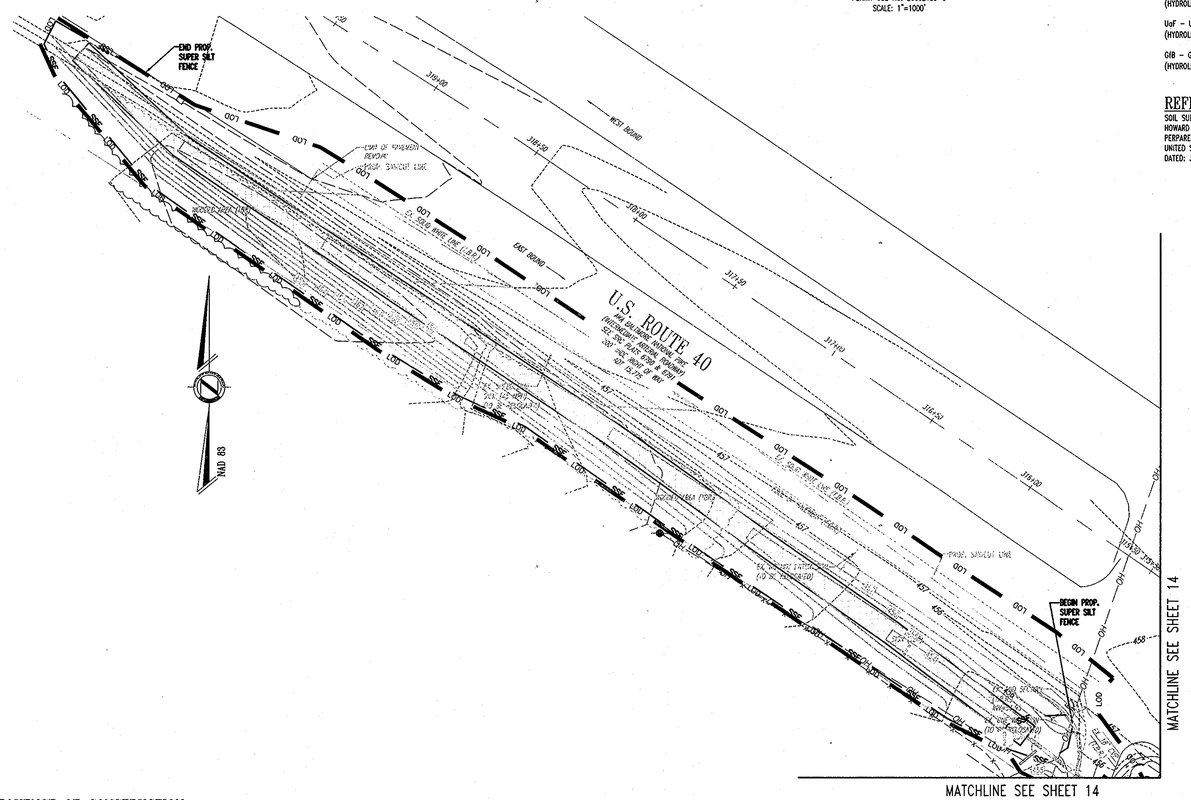

MATCHLINE SEE SHEET 14

SEQUENCE OF CONSTRUCTION

1. NOTIFY HOWARD COUNTY'S SEDIMENT CONTROL INSPECTOR AT 410-313-1855 AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION. (1 DAY)
2. THE GENERAL CONTRACTOR SHALL NOT COMMENCE ANY LAND DISTURBING ACTIVITIES PRIOR TO OBTAINING A GRADING PERMIT. (1 DAY)
3. THE CONTRACTOR SHALL HOLD A PRE-CONSTRUCTION MEETING WITH THE CONSTRUCTION MANAGER AND THE HOWARD COUNTY EROSION AND SEDIMENT CONTROL INSPECTOR PRIOR TO COMMENCING ANY LAND DISTURBANCE ACTIVITIES. (1 DAY)
4. ALL AREAS WHICH ARE TO BE DISTURBED SHALL BE CLEARLY MARKED IN THE FIELD PRIOR TO CONSTRUCTION. DISTURBED AREAS WITHIN THE SITE WHERE CONSTRUCTION ACTIVITY HAS CEASED SHALL BE PERMANENTLY OR TEMPORARILY STABILIZED WITHIN: (2 DAYS)
   - A. SEVEN CALENDAR DAYS ON SLOPES GREATER THAN 3:1, ALL WATERWAYS AND TO THE SURFACE OF ALL PERIMETER CONTROLS.
   - B. FOURTEEN CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS OF THE PROJECT.
5. INSTALL STABILIZED CONSTRUCTION ENTRANCE. ALL HARD SURFACE PUBLIC ROADS SHALL BE CLEANED AT THE END OF EACH WORK DAY. (2 DAYS)
6. INSTALL PERIMETER SUPER SILT FENCE. THIS MUST BE INSPECTED AND APPROVED BY HOWARD COUNTY'S SEDIMENT CONTROL INSPECTOR. NO ADDITIONAL CONSTRUCTION ACTIVITY WILL BE AUTHORIZED WITHOUT APPROVAL. (2 DAYS)
7. UPON APPROVAL FROM THE SEDIMENT CONTROL INSPECTOR; CLEAR AND GRAB REMAINING SITE FEATURES.
8. INSTALL STORM DRAIN STRUCTURES B-1, B-2, AND B-3 AND ASSOCIATED PIPES. CONSTRUCT THE PROPOSED RETAINING WALLS AND 42" STORM DRAIN PIPE FOR THE PROPOSED SITE ACCESS TO CEMETERY LANE. GENERAL CONTRACTOR SHALL COORDINATE WITH THE RETAINING WALL CONTRACTOR TO ALLOW FOR RETAINING WALL AND ASSOCIATED MATERIALS TO BE INSTALLED. INSTALL INLET PROTECTION ON B-2 UPON INSTALLATION. (2 WEEKS)
9. ONCE THE 42" CULVERT HAS BEEN INSTALLED, RELOCATE THE SUPER SILT FENCE FROM THE CHANNEL TO TIE INTO THE RETAINING WALL AS SHOWN.
10. INSTALL STORM DRAIN STRUCTURES C-2 THROUGH C-5 AND ASSOCIATED PIPES.
11. BEGIN TO ROUGH GRADE SITE.
12. INSTALL THE UTILITIES AND THE STORMFILTER (WITHOUT CARTRIDGES) AS SHOWN, GENERAL CONTRACTOR SHALL COORDINATE WITH THE RESPECTIVE UTILITY COMPANIES. BEGIN BUILDING CONSTRUCTION. (18 WEEKS)
13. CONTRACTOR TO INSTALL SUPER SILT FENCE AROUND INLETS A/10, A/11, AND A/12, ONCE INSTALLED.
14. INSTALL CURB AND GUTTER AND APPLY PAVEMENT FOR ALL PARKING AREAS. (4 WEEKS)
15. FLUSH THE PROPOSED STORM DRAIN SYSTEM TO REMOVE ANY SEDIMENT THIS MUST BE INSPECTED AND APPROVED BY HOWARD COUNTY'S SEDIMENT CONTROL INSPECTOR. (1 DAY)
16. INSTALL STORMFILTER CARTRIDGES. (1 DAY)
17. AS THE SITE IS BROUGHT TO FINAL GRADE, PERMANENTLY STABILIZE ALL DISTURBED AREAS WITHIN FOURTEEN (14) DAYS. (2 WEEKS)
18. INSTALL ALL PERMANENT LANDSCAPING. (2 WEEKS)
19. AFTER CONSTRUCTION OPERATIONS HAVE ENDED AND ALL DISTURBED AREAS HAVE BEEN STABILIZED, SEDIMENT CONTROL DEVICES CAN BE REMOVED UPON COORDINATION WITH RITE AID'S AND THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR. (2 DAYS)

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION 9/24/10 DATE
CHIEF-DIVISION OF LAND DEVELOPMENT 10/12/10 DATE
DIRECTOR 10/12/10 DATE

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.

COUNTY HEALTH OFFICER 10/7/10 DATE
HOWARD COUNTY HEALTH DEPARTMENT

GENERAL NOTE:
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GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

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PROFESSIONAL ENGINEER NO. 28567

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JOHN VICTOR AND
MARTHA B. CALABRESE
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PHONE: 410-465-3519

DEVELOPER:
RITE AID CORPORATION
P.O. BOX 3165
HARRISBURG, PA 17105
ATTN.: LANCE MASON
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PROJECT
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PARCELS A & B
ONE-STORY RETAIL BUILDING

AREA 3.136 AC. TAX MAP 23 GRID 6 ZONED B-1
PARCELS A & B
2ND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND 21042

TITLE
EROSION AND SEDIMENT CONTROL PLAN

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STANDARD AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION WITH SOD

SPECIFICATIONS:

1. CLASS OF TURFGRASS SOD SHALL BE MARYLAND OR VIRGINIA STATE CERTIFIED, OR MARYLAND OR VIRGINIA STATE APPROVED SOD.
2. SOD SHALL BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4 INCH PLUS OR MINUS 1/4 INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS SHALL EXCLUDE TOP GROWTH AND THATCH.
3. STANDARD SIZE SECTIONS OF SOD SHALL BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION.
4. INDIVIDUAL PIECES OF SOD SHALL BE CUT TO THE SUPPLIERS WIDTH AND LENGTH. MAXIMUM ALLOWABLE DEVIATION FROM STANDARD WIDTHS AND LENGTHS SHALL BE 5 PERCENT. BROKEN PADS AND TORN OR UNEVEN ENDS WILL NOT BE ACCEPTABLE.
5. SOD SHALL NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.
6. SOD SHALL BE HARVESTED, DELIVERED AND INSTALLED WITHIN A PERIOD OF 36 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD SHALL BE INSPECTED AND APPROVED PRIOR TO INSTALLATION.

SITE PREPARATION:

FERTILIZER AND LIME APPLICATION RATES SHALL BE DETERMINED BY SOIL TEST. UNDER UNUSUAL CIRCUMSTANCES WHERE THERE IS INSUFFICIENT TIME FOR A COMPLETE SOIL TEST, FERTILIZER AND LIME MATERIALS MAY BE APPLIED IN AMOUNTS SHOWN UNDER B, BELOW.

A. PRIOR TO SODDING, THE SURFACE SHALLBE CLEARED OF ALL TRASH, DEBRIS AND OF ALL ROOTS, BRUSH, WIRE, GRADE STAKES AND OTHER OBJECTS THAT WOULD INTERFERE WITH PLANTING, FERTILIZING OR MAINTENANCE OPERATIONS.

B. WHERE THE SOIL IS ACID OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 2 TONS PER ACRE (100 LBS./1000 SQ. FT.) IN ALL SOILS 1,000 POUNDS PER ACRE OR 25 POUNDS PER 1,000 SQUARE FEET OF 10-10-10 FERTILIZER OR EQUIVALENT SHALL BE UNIFORMLY APPLIED AND MIXED INTO THE TOP 3 INCHES OF SOIL WITH THE REQUIRED LIME.

C. ALL AREAS RECEIVING SOD SHALL BE UNIFORMLY FINE GRADED. HARD PACKED EARTH SHALL BE SCARIFIED PRIOR TO PLACEMENT OF SOD.

SOD INSTALLATION:

A. DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURE THE SOIL SHALL BE LIGHTLY IRRIGATED IMMEDIATELY PRIOR TO LAYING SOD.

B. THE FIRST ROW OF SOD SHALL BE LAID IN A STRAIGHT LINE WITH EACH OTHER. LATERAL JOINTS SHALL BE STAGGERED TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. INSURE THAT SOD IS NOT ORDER TO PREVENT VOIDS WHICH COULD CAUSE AIR DRYING OF THE ROOTS.
LAID WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERED JOINTS. SECURE THE SOD BY TAMPING AND FEGGING OR OTHER APPROVED METHODS.

D. AS SODDING IS COMPLETED IN ANY ONE SECTION, THE ENTIRE AREA SHALL BE ROLLED OR TAMPED TO INSURE SOLID CONTACT OF ROOTS WITH THE SOIL SURFACE. SOD SHALL BE WATERED IMMEDIATELY AFTER OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD SHALL BE COMPLETED WITHIN EIGHT HOURS.

SOD MAINTENANCE:

A. IN THE ABSENCE OF ADEQUATE RAINFALL, WATERING SHALL BE PERFORMED DAILY OR AS OFTEN AS NECESSARY DURING THE FIRST WEEK AND IN SUFFICIENT QUANTITIES TO MAINTAIN MOIST SOIL TO A THE DAY TO PREVENT WILTING.

B. AFTER THE FIRST WEEK, SOD SHALL BE WATERED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE AND INSURE ESTABLISHMENT.

C. FIRST MOWING SHOULD NOT BE ATTEMPTED UNTIL SOD IS FIRMLY ROOTED. NO MORE THAN 1/3 OF THE GRASS LEAF SHALL BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. GRASS HEIGHT SHALL BE MAINTAINED BETWEEN 2 AND 3 INCHES UNLESS OTHERWISE SPECIFIED.

D. MAINTENANCE OF ESTABLISHED SOD SHOULD FOLLOW SPECIFICATIONS OUTLINED IN TABLE 54-1.

TOPSOIL CONSTRUCTION AND MATERIAL SPECIFICATIONS

I. TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION.

II. TOPSOIL SPECIFICATIONS – SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:

i. TOPSOIL SHALL BE LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2" IN DIAMETER.

ii. TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACKGRASS, JOHNSON GRASS, NUTSEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.

iii. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS PER ACRE (200-400 LBS./1000 SQ. FT.) PRIOR TO PLACEMENT OF TOPSOIL. LIME SHALL BE DISTURBED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.

III. FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES:

i. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION – SECTION I – VEGETATIVE STABILIZATION METHODS AND MATERIALS.

IV. TOPSOIL APPLICATION

i. WHEN TOPSOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.

ii. GRADES ON THE AREAS TO BE TOPSOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBEIT 4" – 8" - HIGHER IN ELEVATION.

iii. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4" – 8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.

V. THESE TOPSOIL SPECIFICATIONS HAVE BEEN EDITED FROM THE 1994 EROSION AND SEDIMENT CONTROL STANDARDS TO FIT THIS PROJECT. IT IS STILL THE INTENTION TO FOLLOW THE REFERENCED 1994 EROSION AND SEDIMENT CONTROLS STANDARDS IN THEIR ENTIRETY.

STANDARDS SEDIMENT CONTROL PLAN NOTES FOR UTILITIES

1. ONLY ENOUGH TRENCH WILL BE EXCAVATED THAT CAN BE BACKFILLED DAILY.
2. EXCAVATED TRENCH MATERIALS SHALL BE PLACED ON THE HIGH SIDE OF THE TRENCH.
3. IMMEDIATELY FOLLOWING PIPE INSTALLATION, THE TRENCH SHALL BE BACKFILLED, COMPACTED AND STABILIZED AT THE END OF EACH WORKING DAY.
4. FULL TRENCH COMPACTION IS REQUIRED.
5. MULCHING TO HOWARD SCD SPECIFICATIONS OF ALL DISTURBED AREAS AND DAILY ON BACKFILL WILL BE REQUIRED.
6. SUPER SILT FENCE OR STRAW BALE DIKES SHALL BE INSTALLED TEMPORARILY IMMEDIATELY DOWNSTREAM OF ANY DISTURBED AREA INTENDED TO REMAIN DISTURBED LONGER THAN ONE (1) WORKING DAY.
7. STAGING AREAS FOR EQUIPMENT AND SUPPLIES SHALL BE PROTECTED WITH SILT FENCE.
8. ANY SEDIMENT CONTROL PRACTICES WHICH ARE DISTURBED DURING UTILITY CONSTRUCTION SHALL BE REPAIRED OR REPLACED AT THE END OF EACH WORKING DAY.
9. ANY DITCHES OR DRAINAGE WAYS DISTURBED DURING CONSTRUCTION WILL BE RESTORED TO ORIGINAL CONDITION.

PERMANENT SEEDING NOTES

APPLY TO GRADED OR CLEARED AREA NOT SUBJECT TO IMMEDIATE FURTHER DISTURBANCE WHERE A PERMANENT LONG-LIVED VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER 3 INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING (UNLESS PREVIOUSLY LOOSENED).

SOIL AMENDMENTS: IN LIEU OF SOIL TEST RECOMMENDATIONS, USE ONE OF THE FOLLOWING SCHEDULES:

1. PREFERRED – APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1000 SQ. FT.) AND 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOIL. AT TIME OF SEEDING, APPLY 400 LBS. PER ACRE 30-0-0 AREAFORM FERTILIZER (9 LBS./1000 SQ. FT.)
2. ACCEPTABLE – APPLY 2 TONS PER ACRE DOLOMITIC LIMESTONE (92 LBS./1000 SQ. FT.) AND 1000 LBS. PER ACRE 10-10-10 FERTILIZER (23 LBS./1000 SQ. FT.) BEFORE SEEDING. HARROW OR DISC INTO UPPER THREE INCHES OF SOILS.

SEEDING: FOR THE PERIODS MARCH 1 THROUGH APRIL 30, AND AUGUST 1 THROUGH OCTOBER 15, SEED WITH 60 LBS. PER ACRE (1.4 LBS./1000 SQ. FT.) OF KENTUCKY 31 TALL FESCUE PER ACRE AND 2 LBS. PER ACRE (.05 LBS./1000 SQ. FT.) OF WEEPING LOVEGRASS. DURING THE PERIOD OF OCTOBER 16 THROUGH FEBRUARY 28, PROTECT SITE BY: OPTION (1) 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING. OPTION (2) USE SOD. OPTION (3) SEED WITH 60 LBS./ACRE KENTUCKY 31 TALL FESCUE AND MULCH WITH 2 TONS/ACRE WELL ANCHORED STRAW.

MULCHING: APPLY 1 1/2 TO 2 TONS PER ACRE (70 TO 90 LBS./1000 SQ. FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GALS./1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FALT AREA. ON SLOPES 8 FEET OR HIGHER, USE 348 GALLONS PER ACRE (8 GALS./1000 SQ. FT.) FOR ANCHORING.

MAINTENANCE: INSPECT ALL SEEDED AREAS AND MAKE NEEDED REPAIRS, REPLACEMENTS AND RESEEDINGS.

TEMPORARY SEEDING NOTES

APPLY TO GRADED OR CLEARED AREA LIKELY TO REDISTURBED WHERE A SHORT-TERM VEGETATIVE COVER IS NEEDED.

SEEDBED PREPARATION: LOOSEN UPPER 3 INCHES OF SOIL BY RAKING, DISCING OR OTHER ACCEPTABLE MEANS BEFORE SEEDING (UNLESS PREVIOUSLY LOOSENED).

SOILS AMENDMENTS: APPLY 600 LBS. PER ACRE 10-10-10 FERTILIZER (14 LBS./1000 SQ. FT.)

SEEDING: FOR PERIODS MARCH 1 THROUGH APRIL 30 AND FROM AUGUST 15 THROUGH NOVEMBER 15, SEED WITH 2 1/3 BU. PER ACRE OF ANNUAL RYE (3.2 LBS./1000 SQ. FT.). FOR THE PERIOD MAY 1 THROUGH AUGUST 14, SEED WITH 3 LBS. PER ACRE OF WEEPING LOVEGRASS (.07 LBS./1000 SQ. FT.). FOR THE PERIOD NOVEMBER 16 THROUGH FEBRUARY 28, PROTECT SITE BY APPLYING 2 TONS PER ACRE OF WELL ANCHORED STRAW MULCH AND SEED AS SOON AS POSSIBLE IN THE SPRING, OR USE SOD.

MULCHING: APPLY 1 1/2 TO 2 TONS PER ACRE (70-90 LBS./1000 SQ. FT.) OF UNROTTED SMALL GRAIN STRAW IMMEDIATELY AFTER SEEDING. ANCHOR MULCH IMMEDIATELY AFTER APPLICATION USING MULCH ANCHORING TOOL OR 218 GALLONS PER ACRE (5 GALS./1000 SQ. FT.) OF EMULSIFIED ASPHALT ON FLAT AREAS. ON SLOPES, 8 FT. OR HIGHER, USE 348 GALLONS PER ACRE (8 GALS./1000 SQ. FT.) FOR ANCHORING.

GENERAL NOTES

A. THE DEVELOPER IS RESPONSIBLE FOR THE ACQUISITION OF ALL REQUIRED EASEMENTS, RIGHT AND/OR RIGHTS-OF-WAY PURSUANT TO THE DISCHARGE FROM THE SEDIMENT AND EROSION CONTROL PRACTICES, STORMWATER MANAGEMENT PRACTICES AND THE DISCHARGE OF STORMWATER ONTO OR ACROSS AND GRADING OR OTHER WORK TO BE PERFORMED ON ADJACENT OR DOWNSTREAM PROPERTIES AFFECTED BY THIS PLAN.

B. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN:
A) SEVEN (7) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN THREE HORIZONTAL TO ONE VERTICAL (3:1) AND
B) 14 DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE. THE IN-PLACE SEDIMENT CONTROL MEASURES WILL BE MAINTAINED ON A CONTINUING BASIS UNTIL THE SITE IS PERMANENTLY STABILIZED AND ALL PERMIT REQUIREMENTS ARE MET.

C. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF TWO (2) ACRES, APPROVAL OF THE INSPECTION AGENCY IS REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCES OR GRADING. OTHER GUIDING OR GRADING INSPECTION APPROVALS WILL NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.

D. APPROVAL SHALL BE REQUESTED UPON FINAL STABILIZATION OF ALL SITES WITH DISTURBED AREAS IN EXCESS OF TWO (2) ACRES BEFORE REMOVAL OF EROSION AND SEDIMENT CONTROL MEASURES.

STANDARD AND SPECIFICATIONS FOR TOPSOIL

DEFINITION

PLACEMENT OF TOPSOIL OVER A PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. PURPOSE

PURPOSE

TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATION GROWTH. SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE SOIL GRADATION.

CONDITIONS WHERE PRACTICE APPLIES

1. THIS PRACTICE IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:
A. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.
B. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.
C. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT GROWTH.
D. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

2. FOR THE PURPOSE OF THESE STANDARDS AND SPECIFICATIONS, AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND DESIGN FOR ADEQUATE STABILIZATION THAN 2:1 SHALL HAVE THE APPROPRIATE STABILIZATION SHOWN ON THE PLANS.

CONSTRUCTION AND MATERIAL SPECIFICATIONS

1. TOPSOIL SALVAGED FROM THE EXISTING SITE MAY BE USED PROVIDED THAT IT MEETS THE STANDARDS AS SPECIFIED. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY USDA-SCS IN COOPERATION WITH MARYLAND AGRICULTURAL EXPERIMENTAL STATION.

2. TOPSOIL SPECIFICATIONS– SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING:

A. TOPSOIL SHALL BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. REGARDLESS, TOPSOIL SHALL NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOIL'S AND SHALL CONTAIN LESS THAN 5% BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 1 1/2" IN DIAMETER.

B. TOPSOIL MUST BE FREE OF PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.

C. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, GROUND LIMESTONE SHALL BE SPREAD AT THE RATE OF 4-8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL. LIME SHALL BE DISTRIBUTED UNIFORMLY OVER DESIGNATED AREAS AND WORKED INTO THE SOIL IN CONJUNCTION WITH TILLAGE OPERATIONS AS DESCRIBED IN THE FOLLOWING PROCEDURES.

3. FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES.

A. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION SECTION I-VEGETATIVE STABILIZATION METHODS AND MATERIALS.

4. FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES:

A. ON SOIL MEETING TOPSOIL SPECIFICATIONS, OBTAIN TEST RESULTS DICTATING FERTILIZER AND LIME AMENDMENTS REQUIRED TO BRING THE SOIL INTO COMPLIANCE WITH THE FOLLOWING:

A.1. PH FOR TOPSOIL SHALL BE BETWEEN 6.0 THAN 7.5. IF THE TESTED SOIL DEMONSTRATES A PH OF LESS THAN 6.0, SUFFICIENT LIME SHALL BE PRESCRIBED TO RAISE THE PH TO 6.5 OR HIGHER.

A.2. ORGANIC CONTENT OF TOPSOIL SHALL BE NOT LESS THAN 1.5 PERCENT BY WEIGHT.

A.3. TOPSOIL HAVING SOLUBLE SALT CONTENT GREATER THAN 500 PARTS PER MILLION SHALL NOT BE USED.

A.4. NO SOD OR SEED SHALL 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 PHYTO-TOXIC MATERIALS.

NOTE: TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.

B. PLACE TOPSOIL (IF REQUIRED) AND APPLY SOIL AMENDMENTS AS SPECIFIED IN 20.0 VEGETATIVE STABILIZATION – SECTION I – VEGETATIVE STABILIZATION METHODS AND MATERIALS.

5. TOPSOIL APPLICATION

A. WHEN TOP SOILING, MAINTAIN NEEDED EROSION AND SEDIMENT CONTROL PRACTICES SUCH AS DIVERSIONS, GRADE STABILIZATION STRUCTURES, EARTH DIKES, SLOPE SILT FENCE AND SEDIMENT TRAPS AND BASINS.

B. GRADES ON THE AREAS TO BE TOP SOILED, WHICH HAVE BEEN PREVIOUSLY ESTABLISHED, SHALL BE MAINTAINED, ALBEIT 4" – 8" HIGHER IN ELEVATION.

C. TOPSOIL SHALL BE UNIFORMLY DISTRIBUTED IN A 4"-8" LAYER AND LIGHTLY COMPACTED TO A MINIMUM THICKNESS OF 4". SPREADING SHALL BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE RESULTING FROM SURFACE TOP SOILING OR OTHER OPERATIONS SHALL BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.

D. TOPSOIL SHALL NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

6. ALTERNATIVE FOR PERMANENT SEEDING – INSTEAD OF APPLYING THE FULL AMOUNTS OF LIME AND COMMERCIAL FERTILIZER, COMPOSTED SLUDGE AND AMENDMENTS COMMERCIAL BELOW:

A. COMPOSTED SLUDGE MATERIAL FOR USE AS A SOIL CONDITIONER FOR SITES HAVING DISTURBED AREAS OVER 5 ACRES SHALL BE TESTED TO PRESCRIBE AMENDMENTS AND FOR SITES HAVING DISTURBED AREAS UNDER 5 ACRES SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

A.1. COMPOSTED SLUDGE SHALL BE SUPPLIED BY, OR ORIGINATE FROM, A PERSON OR PERSONS THAT ARE PERMITTED (AT THE TIME OF ACQUISITION OF THE COMPOST) BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT UNDER COMAR 26.04.06.

A.2. COMPOSTED SLUDGE SHALL CONTAIN AT LEAST 1 PERCENT NITROGEN, 1.5 PERCENT PHOSPHORUS, AND 0.2 PERCENT POTASSIUM AND HAVE A PH OF 7.0 TO 8.0. IF COMPOST DOES NOT MEET THESE REQUIREMENTS, THE APPROPRIATE CONSTITUENTS MUST BE ADDED TO MEET THE REQUIREMENTS PRIOR TO USE.

A.3. COMPOSTED SLUDGE SHALL BE APPLIED AT A RATE OF 1 TON/1,000 SQUARE FEET.

B. COMPOSTED SLUDGE SHALL BE AMENDED WITH A POTASSIUM FERTILIZER APPLIED AT THE RATE OF 4LB/1,000 SQUARE FEET, AND 1/3 THE NORMAL LIME APPLICATION RATE.

REFERENCES: GUIDELINE SPECIFICATIONS, SOIL PREPARATION AND SODDING. MD-VA, PUB. #1, COOPERATIVE EXTENSION SERVICE, UNIVERSITY OF MARYLAND AND VIRGINIA POLYTECHNIC INSTITUTE. REVISED 1973.

HOWARD SOIL CONSERVATION DISTRICT STANDARD SEDIMENT CONTROL NOTES

1. A MINIMUM OF 48 HOURS NOTICE MUST BE GIVEN TO THE HOWARD COUNTY DEPARTMENT OF INSPECTIONS, LICENSES AND PERMITS, SEDIMENT CONTROL DIVISION, PRIOR TO THE START OF ANY CONSTRUCTION. (313-1855)
2. ALL VEGETATIVE AND STRUCTURAL PRACTICES ARE TO BE INSTALLED ACCORDING TO THE PROVISIONS OF THIS PLAN AND ARE TO BE IN CONFORMANCE WITH THE "1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", AND REVISIONS THERETO.
3. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A) 7 CALENDAR DAYS FOR ALL PERIMETER SEDIMENT CONTROL STRUCTURES, DIKES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3:1, B) 14 DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
4. ALL SEDIMENT TRAPS/BASINS SHOWN MUST BE FENCED AND WARNING SIGNS POSTED AROUND THE PERIMETER IN ACCORDANCE WITH VOL. 1, CHAPTER 7 OF "HOWARD COUNTY DESIGN MANUAL", STORM DRAINAGE.
5. ALL DISTURBED AREAS MUST BE STABILIZED WITHIN THE TIME PERIOD SPECIFIED ABOVE IN ACCORDANCE WITH THE "1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" FOR PERMANENT SEEDING, SOD, TEMPORARY SEEDING, AND MULCHING (SEC. G) TEMPORARY STABILIZATION WITH MULCH ALONE SHALL ONLY BE DONE WHEN RECOMMENDED SEEDING DATES DO NOT ALLOW FOR PROPER GERMINATION AND ESTABLISHMENT OF GRASSES.
6. ALL SEDIMENT CONTROL STRUCTURES ARE TO REMAIN IN PLACE AND ARE TO BE MAINTAINED IN OPERATIVE CONDITION UNTIL PERMISSION FOR THEIR REMOVAL HAS BEEN OBTAINED FROM THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
7. SITE ANALYSIS:

TOTAL LIMIT OF DISTURBANCE (INCLUDES AREA OF OFF-SITE GRADING) – 140,048 S.F. OR 3.22 AC.
TOTAL NET SITE AREA – 136,595 S.F. OR 3.136 AC.
TOTAL CUT – 2,120 CU. YDS.
TOTAL FILL – 13,320 CU. YDS.
OFFSITE WASTE/BORROW LOCATION – ALL OFFSITE BORROW SHALL COME FROM A SITE WITH AN APPROVED GRADING PERMIT.

8. ANY SEDIMENT CONTROL PRACTICE WHICH IS DISTURBED BY GRADING ACTIVITY FOR PLACEMENT OF UTILITIES MUST BE REPAIRED ON THE SAME DAY OF DISTURBANCE.
9. ADDITIONAL SEDIMENT CONTROL MUST BE PROVIDED, IF DEEMED NECESSARY BY THE HOWARD COUNTY SEDIMENT CONTROL INSPECTOR.
10. ON ALL SITES WITH DISTURBED AREAS EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE.
11. TRENCHES FOR THE CONSTRUCTION OF UTILITIES IS LIMITED TO THREE PIPE LENGTHS OR THAT WHICH SHALL BE BACK FILLED AND STABILIZED WITHIN ONE WORKING DAY, WHICHEVER IS SHORTER.

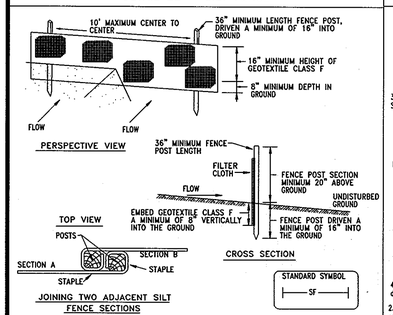
BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, AND 100-YEAR FLOODPLAINS

1. NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILED OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
2. PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
3. DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL BACKFILL IS REQUIRED, USE CLEAN MATERIAL FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE.
4. PLEASE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE 100-YEAR FLOODPLAIN.
5. REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, OR WATERWAYS, OR PERMANENT MODIFICATION OF THE 100-YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER THE ORIGINALLY AUTHORIZED STRUCTURE OF FILL.
6. RECTIFY ANY NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, OR 100-YEAR FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.
7. ALL STABILIZATION IN THE NONTIDAL WETLAND AND NONTIDAL WETLAND BUFFER SHALL CONSIST OF THE FOLLOWING SPECIES: ANNUAL RYEGRASS (LOLIUM MULTIFLORUM), MILLET (SETARIA ITALICA), BARLEY (HORDEUM SP.), OATS (UNIOLA SP.), AND/OR RYE (SECALE CEREALE). THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES. OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS AND WATERWAYS DIVISION. **KENTUCKY 31 FESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS.** THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.
8. AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST-CONSTRUCTION GRADES AND ELEVATIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARILY IMPACTED AREAS.
9. TO PROTECT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETERMINED BY THE CLASSIFICATION OF THE STREAM:

USE I WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR.
USE III WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD OCTOBER 1 THROUGH APRIL 30, INCLUSIVE, DURING ANY YEAR.
USE IV WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH 1 THROUGH MAY 31, INCLUSIVE, DURING ANY YEAR.

10. STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHAL

DETAIL 22 – SILT FENCE



Construction Specifications

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 11/2" x 11/2" square (minimum) cut, or 13/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pond per linear foot.

2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

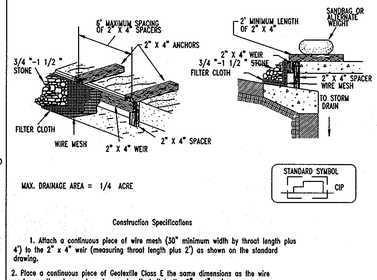
Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal ft²/ minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.

4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E - 15 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 23C – CURB INLET PROTECTION (COG OR COS INLETS)



MAX. DRAINAGE AREA = 1/4 ACRE

Construction Specifications

1. Attach a continuous piece of wire mesh (30" minimum width by throat length plus 4") to the 2" x 4" weir (measuring throat length plus 2") as shown on the standard drawing.

2. Place a continuous piece of Geotextile Class E the same dimensions as the wire mesh over the wire mesh and securely attach it to the 2" x 4" weir.

3. Securely nail the 2" X 4" weir to a 9" long vertical spacer to be located between the weir and the inlet face (max. 4' apart).

4. Place the assembly against the inlet throat and nail (minimum 2' lengths of 2" x 4" to the top of the weir at spacer locations). These 2" x 4" anchors shall extend across the inlet top and be held in place by sandbags or alternate weight.

5. The assembly shall be placed so that the end spacers are a minimum 1' beyond both ends of the throat opening.

6. Form the 1/2" x 1/2" wire mesh and the geotextile fabric to the concrete gutter and against the face of the curb on both sides of the inlet. Place clean 3/4" x 1 1/2" stone over the wire mesh and geotextile in such a manner to prevent water from entering the inlet under or around the geotextile.

7. This type of protection must be inspected frequently and the filter cloth and stone replaced when clogged with sediment.

8. Assure that storm flow does not bypass the inlet by installing a temporary earth or asphalt dike to direct the flow to the inlet.

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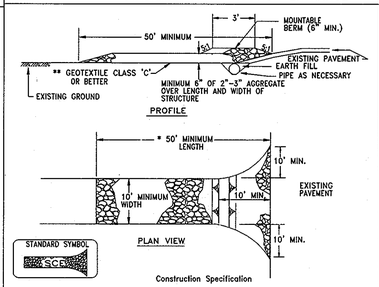
DETAIL 24 – STABILIZED CONSTRUCTION ENTRANCE



Construction Specification

1. Length – minimum of 50' (*30' for single residence lot).

2. Width – 10' minimum, should be flared at the existing road to provide a turning radius.

3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.

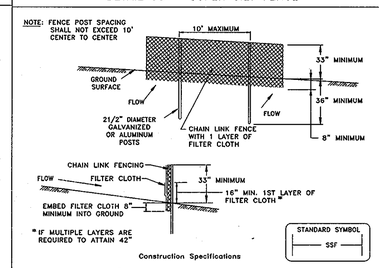
4. Stone – crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.

5. Surface Water – all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.

6. Location – A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E - 17 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 33 – SUPER SILT FENCE



Construction Specifications

1. Fencing shall be 42" in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6' fence shall be used, substituting 42" fabric and 6' length posts.

2. Chain link fence shall be fastened securely to the fence posts with wire ties. The lower tension wire, brace and truss rods, drive anchors and post caps are not required except on the ends of the fence.

3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.

4. Filter cloth shall be embedded a minimum of 8" into the ground.

5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.

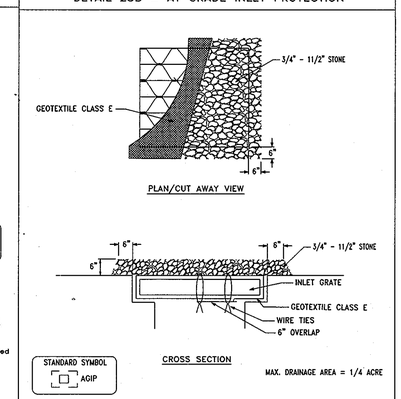
6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence, or when silt reaches 50% of fence height

7. Filter cloth shall be fastened securely to each fence post with wire ties or staples at top and mid section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal/ft²/minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE H - 26 - 3	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 23B – AT GRADE INLET PROTECTION



Construction Specifications

1. Lift grate and wrap with Geotextile Class E to completely cover all openings, then set grate back in place.

2. Place 3/4" to 11/2" stone, 4"–6" thick on the grate to secure the fabric and provide additional filtration.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E - 18 - 5A	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

THIS DEVELOPMENT PLAN IS APPROVED FOR SOIL EROSION AND SEDIMENT CONTROL BY THE HOWARD SOIL CONSERVATION DISTRICT.

HOWARD SCD — DATE 9/21/10

ENGINEER'S CERTIFICATE

"I CERTIFY THAT THIS PLAN FOR SEDIMENT AND EROSION CONTROL 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."

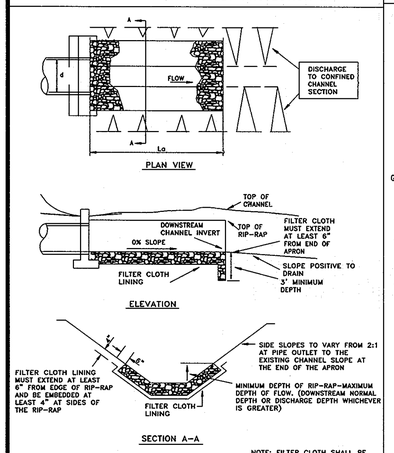
SIGNATURE OF ENGINEER — DATE 5/6/10
MATTHEW T. ALLEN P.E.

DEVELOPER'S CERTIFICATE

"I/WE CERTIFY THAT ALL DEVELOPMENT AND CONSTRUCTION WILL BE DONE ACCORDING TO THIS PLAN FOR SEDIMENT AND EROSION CONTROL, AND THAT ALL 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."

SIGNATURE OF DEVELOPER — DATE 4-29-10
LANCE H. MASON
PRINTED NAME OF DEVELOPER

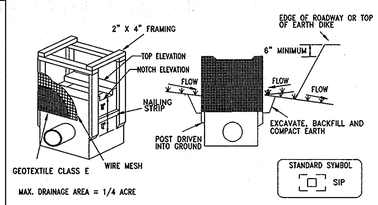
DETAIL 26 – ROCK OUTLET PROTECTION II



NOTE: FILTER CLOTH SHALL BE GEOTEXTILE CLASS C

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE F - 18 - 5	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 23A – STANDARD INLET PROTECTION



MAX. DRAINAGE AREA = 1/4 ACRE

Construction Specifications

1. Excavate completely around the inlet to a depth of 18" below the notch elevation.

2. Drive the 2" x 4" construction grade lumber posts 1' into the ground at each corner of the inlet. Place nail strips between the posts on the ends of the inlet. Assemble the top portion of the 2" x 4" frame using the overlap joint shown on Detail 23A. The top of the frame (weir) must be 6" below adjacent roadways where flooding and safety issues may arise.

3. Stretch the 1/2" x 1/2" wire mesh tightly around the frame and fasten securely. The ends must meet and overlap at a post.

4. Stretch the Geotextile Class E tightly over the wire mesh with the geotextile extending from the top of the frame to 18" below the inlet notch elevation. Fasten the geotextile firmly to the frame. The ends of the geotextile must meet at a post, be overlapped and folded, then fastened down.

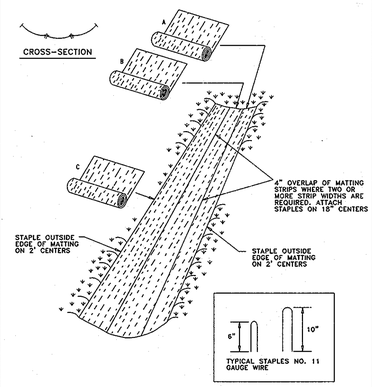
5. Backfill around the inlet in compacted 6" layers until the layer of earth is level with the notch elevation on the ends and top elevation on the sides.

6. If the inlet is not in a sump, construct a compacted earth dike across the ditch line directly below it. The top of the earth dike should be at least 6" higher than the top of the frame.

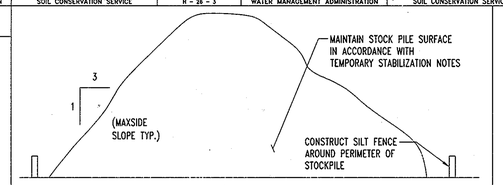
7. The structure must be inspected periodically and after each rain and the geotextile replaced when it becomes clogged.

U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE E - 18 - 5	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 30 – EROSION CONTROL MATTING



U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE	PAGE G - 22 - 2	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION



TEMPORARY STOCKPILE DETAIL

NOT TO SCALE

BENCHMARK

GEODETIC SURVEY CONTROL – 161A
N 528,760.4
E 833,925.6
ELEV. 463.7'
LOCATED WITHIN THE MEDIAN OF U.S. ROUTE 40. APPROX. 0.35 MILES WEST OF MD ROUTE 144.

GEODETIC SURVEY CONTROL – 161B
N 529,726.3
E 833,925.6
ELEV. 470.600'
LOCATED WITHIN THE MEDIAN OF U.S. ROUTE 40 APPROX. 0.80 MILES EAST OF MARRIOTTSVILLE ROAD

MISS UTILITY

DIG WITH C.A.R.E. (CALL ARTS ENGINEERS MARYLAND SAFE)

BEFORE YOU DIG CALL
811 IN MD
or 1-8 0-257-7777
PROTECT YOURSELF, GIVE TWO WORKING DAYS NOTICE
THE CONTRACTOR TO CALL MISS UTILITY TO HAVE ALL EXISTING UTILITIES MARKED 48 HOURS PRIOR TO ANY CONSTRUCTION.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION	DATE 9/21/10
CHIEF-DIVISION OF LAND DEVELOPMENT	DATE 10/12/10
DIRECTOR	DATE 10/12/10

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.

COUNTY HEALTH OFFICER — DATE 10/14/10
HOWARD COUNTY HEALTH DEPARTMENT

GENERAL NOTE:
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THIS PROJECT WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR APPLICABLE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF THE WORK AS DEFINED BY THE DRAWINGS AND IN FULL CONFORMANCE WITH LOCAL REGULATIONS AND CODES.

PROFESSIONAL CERTIFICATION

I, MATTHEW T. ALLEN, HEREBY CERTIFY THAT THESE 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. 28567, EXPIRATION DATE: 4/16/11

PROFESSIONAL ENGINEER NO. 28567

NO.:	DATE	REVISION DESCRIPTION

OWNER:
JACK M. AND LOUISE KAULFUSS
13715 OLD ROVER ROAD
WEST FRIENDSHIP MD 21794-9718
PHONE: 410-442-2011

JOHN VICTOR AND MARTHA B. CALABRESE
3282 OLD FENCE ROAD
ELLICOTT CITY, MD 21042-2440
PHONE: 410-465-3519

DEVELOPER:
RITE AID CORPORATION
P.O. BOX 3165
HARRISBURG, PA 17105
ATTN: LANCE MASON
PHONE: 804-745-6222

PROJECT
RITE AID CORPORATION
KAULFUSS AND CALABRESE LANDS
PARCELS A & B
ONE-STORY RETAIL BUILDING

AREA 3.136 AC. TAX MAP 23 GRID 6 ZONED B-1
PARCELS A & B
2ND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND 21042

TITLE
EROSION AND SEDIMENT CONTROL DETAILS

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD
SUITE 801
TOWSON, MARYLAND 21204
PH: (410) 821-7900
FX: (410) 821-7987
www.bohlerengineering.com

DESIGNED BY:	M.J.G.
DRAWN BY:	R.J.M.
PROJECT NO.:	MD072009.2
DATE:	3/5/10
SCALE:	N/A
DRAWING NO.	17 OF 37

SDP 09-44

H:\07\Rite Aid Corporation\MD07 2009 - 10470 Frederick Road, Ellicott City, MD\CAD\Site Plan Documents\Rev 4\MD072009SD4.dwg, 4/28/2010 12:48:50 PM, mgasell, 1:1

Operation and Maintenance

The Stormwater Management StormFilter®

Vault, Cast-In-Place, and Linear Units

Important: These guidelines should be used as a part of your site stormwater management plan.

Description

The Stormwater Management StormFilter® (StormFilter) is a passive, flow-through, stormwater filtration system. The system is comprised of one or more vaults that house rechargeable, media-filled, filter cartridges. The StormFilter works by passing stormwater through the media-filled cartridges, which trap particulates and adsorb materials such as dissolved metals and hydrocarbons. Once filtered through the media, the treated stormwater is directed to a collection pipe or discharged into an open channel drainage way.

The StormFilter is offered in multiple configurations, including vault, linear, catch basin, manhole, and cast-in-place. The vault, linear, manhole, and catch basin models utilize pre-manufactured units to ease the design and installation processes. The cast-in-place units are customized for larger flows and may be either covered or uncovered underground units.

Purpose

The StormFilter is a passive, flow-through, stormwater filtration system designed to improve the quality of stormwater runoff from the urban environment before it enters receiving waterways. It is intended to function as a Best Management Practice (BMP) to meet federal, state, and local requirements for treating runoff in compliance with the Clean Water Act.

Through independent third party studies, it has been demonstrated that the StormFilter is highly effective for treatment of first flush flows and for treatment of flow-paced flows during the latter part of a storm. In general, the StormFilter's efficiency is highest when pollutant concentrations are highest. The primary non-point source pollutants targeted for removal by the StormFilter are: suspended solids (TSS), oil and grease, soluble metals, nutrients, organics, and trash and debris.

Sizing

The StormFilter is sized to treat the peak flow of a water quality design storm. The peak flow is determined from calculations based on the contributing watershed hydrology and from a design storm magnitude set by the local stormwater management agency. The particular size of a StormFilter unit is determined by the number of filter cartridges (see Figure 1) required to treat this peak flow.

The flow rate through each filter cartridge is adjustable, allowing control over the amount of contact time between the influent and the filter media. The maximum flow rate through each cartridge can be adjusted to between 5 and 15 gpm using a calibrated restrictor disc at the base of each filter cartridge. Adjustments to the cartridge flow rate will affect the number of cartridges required to treat the peak flow.

Basic Function

The StormFilter is designed to siphon stormwater runoff through a filter cartridge containing media. A variety of filter media is available and can be customized for each site to target and remove the desired levels of sediments, dissolved phosphorus, dissolved metals, organics, and oil and grease. In many cases, a combination of media is recommended to maximize the effectiveness of the stormwater pollutant removal.

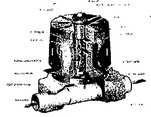


Figure 1. The StormFilter Cartridge

Priming System Function

When stormwater in the StormFilter unit enters a StormFilter cartridge, it percolates horizontally through the cartridge's filter media and collects in the center tube of the cartridge, where the float in the cartridge is in a closed (downward) position.

Water continues to pass through the filter media and into the cartridge's center tube. The air in the cartridge is displaced by the water and purged from beneath the filter hood through the one-way check valve located in the cap. Once the center tube is filled with water (approximately 18 inches deep), there is enough buoyant force on the float to open the float valve and allow the treated water in the center tube to flow into the under-drain manifold. This causes the

check valve to close, initiating a siphon that draws polluted water throughout the full surface area and volume of the filter. Thus, the entire filter cartridge is used to filter water throughout the duration of the storm, regardless of the water surface elevation in the unit. This siphon continues until the water surface elevation drops to the elevation of the hood's scrubbing regulators.

The cartridges are connected to the under-drain manifold with a plastic connector. Since some media used is potentially buoyant, a threaded connector affixed to the under-drain manifold (with glue or other adhesive) is necessary to ensure that the cartridge isn't lifted out of place. For the heavier compost media, a slip connector is used.

The StormFilter is also equipped with flow spreaders that trap floating debris and surface films, even during overflow conditions. Depending on individual site characteristics, some systems are equipped with high and/or base flow bypasses. High flow bypasses are installed when the calculated peak storm event generates a flow that overcomes the overflow capacity of the system. This is especially important for precast systems. Base flow bypasses are sometimes installed to bypass continuous inflows caused by ground water seepage, which usually do not require treatment. All StormFilter units are designed with an overflow. The overflow operates when the inflow rate is greater than the treatment capacity of the filter cartridges.

Maintenance Guidelines

The primary purpose of the StormFilter is to filter out and prevent pollutants from entering our waterways. Like any effective filtration system, periodically these pollutants must be removed to restore the StormFilter to its full efficiency and effectiveness.

Maintenance requirements and frequency are dependent on the pollutant load characteristics of each site.

Maintenance activities may be required in the event of a chemical spill or due to excessive sediment loading from site erosion or extreme storms. It is also good practice to inspect the system after severe storm events.

Types of Maintenance

Presently, procedures have been developed for two levels of maintenance:

- Inspection/minor maintenance
- Major maintenance.

Inspection/minor maintenance activities are combined since minor maintenance does not require special equipment and typically little or no materials are in need of disposal.

Inspection/minor maintenance typically involves:

- Inspection of the vault itself
- Removal of vegetation and trash and debris.

Major maintenance typically includes:

- Cartridge replacement
- Sediment removal

Important: Applicable safety (OSHA) and disposal regulations should be followed during all maintenance activities.

Maintenance Activity Timing

Two scheduled inspections/maintenance activities should take place during the year.

First, an inspection/minor maintenance activity should be done. During the minor maintenance activity (routine inspection, debris removal), the need for major maintenance should be determined and, if disposal during major maintenance will be required, samples of the sediments and media should be obtained.

Second, if required, a major maintenance activity (replacement of the filter cartridges and associated sediment removal) should be performed.

In addition to these two scheduled activities, it is important to check the condition of the StormFilter unit after major storms for damage caused by high flows and for high sediment accumulation that may be caused by localized erosion in the drainage area. It may be necessary to adjust the maintenance activity schedule depending on the actual operating conditions encountered by the system.

In general, minor maintenance activities will occur late in the rainy season, and major maintenance will occur in late summer to early fall when flows into the system are not likely to be present.

Maintenance Activity Frequency

The primary factor controlling timing of maintenance for the StormFilter is sedimentation.

A properly functioning system will remove solids from water by trapping particulates in the porous structure of the filter media. The flow through the system will naturally decrease as more and more solids are trapped. Eventually the flow through the system will be low enough to require replacement of the cartridges. It may be possible to extend the usable span of the cartridges by removing sediment from upstream trapping devices on an as-needed basis in order to prevent material from being re-suspended and discharged to the system.

Site conditions greatly influence maintenance requirements. StormFilter units located in areas with erosion or active construction should be inspected and maintained more often than those in fully stabilized areas.

The maintenance frequency may be adjusted as additional monitoring information becomes available during the inspection program. Areas that develop known problems should be inspected more frequently than areas that demonstrate no problems, particularly after large storms.

Ultimately, inspection and maintenance activities should be scheduled based on the historic records and characteristics of an individual StormFilter system. It is recommended that the maintenance agency develop a database to properly manage StormFilter maintenance programs.

Prior to the development of the maintenance database, the following maintenance frequencies should be followed:

Inspection/minor maintenance

- One time per year
- After Major Storms

Major maintenance

- One time per year
- In the event of a chemical spill

Frequencies should be updated as required.

The recommended initial frequency for inspection/minor maintenance is two times per year for precast units. StormFilter units should be inspected after all major storms. Sediment removal and cartridge replacement on an annual basis is recommended until further knowledge is gained about a particular system.

Once an understanding of site characteristics has been established, maintenance may not be needed for one to two years, but inspection is warranted.

Maintenance Methods

Inspection/Minor Maintenance

The primary goal of a maintenance inspection is to assess the condition of the cartridges relative to the level of sediment loading. It may be desirable to conduct this inspection during a storm to observe the relative flow through the filter cartridges. If the submerged cartridges are severely plugged, large amounts of sediments will be present and very little flow will be discharged from the drainage pipes. If this is the case, it is likely that the cartridges need to be replaced.

Warning: In the case of a spill, the worker should abort maintenance activities until the proper guidance is obtained. Notify the local hazard control agency and Stormwater360. immediately.

To conduct an inspection and/or minor maintenance:

Important: Maintenance must be performed by a utility worker familiar with StormFilter units.

1. If applicable, set up safety equipment to protect pedestrians from fall hazards due to open vault doors or when work is being done near walkways or roadways.
2. Visually inspect the external condition of the unit and take notes concerning defects/problems.
3. Open the doors to the vault and allow the system to air out for 5-10 minutes.
4. Without entering the vault, inspect the inside of the unit, including components.
5. Take notes about the external and internal condition of the vault.

   Be sure to record the level of sediment build-up on the floor of the vault, in the forebay, and on top of the cartridges. If flow is occurring, note the level of water and estimate the flow rate per drainage pipe. Record all observations.
6. Remove large loose debris and trash using a pole with a grapple or net on the end.
7. Close and fasten the door.
8. Remove safety equipment.
9. Make notes about the local drainage area relative to ongoing construction, erosion problems, or high loading of other materials to the system.
10. Finally, review the condition reports from the previous minor and major maintenance visits, and schedule cartridge replacement if needed.

Major Maintenance

Depending on the configuration of the particular system, a worker may be required to enter the vault to perform some tasks.

Important: If vault entry is required, OSHA rules for confined space entry must be followed.

Filter cartridge replacement should occur during dry weather. It may be necessary to plug the filter inlet pipe if base flows exist. Standing water present in the vault should be regarded as polluted and should be contained during this operation by temporarily capping the manifold connectors.

Replacement cartridges will be delivered to the site. Information concerning how to obtain the replacement cartridges is available from Stormwater360.

Warning: In the case of a spill, the worker should abort maintenance activities until the proper guidance is obtained. Notify the local hazard control agency and Stormwater360 immediately.

To conduct cartridge replacement and sediment removal maintenance:

1. If applicable, set up safety equipment to protect pedestrians from fall hazards due to open vault doors or when work is being done near walkways or roadways.
2. Visually inspect the external condition of the unit and take notes concerning defects/problems.
3. Open the doors to the vault and allow the system to air out for 5-10 minutes.
4. Without entering the vault, give the inside of the unit, including components, a general condition inspection.
5. Make notes about the external and internal condition of the vault.

   Give particular attention to recording the level of sediment build-up on the floor of the vault, in the forebay, and on top of the internal components.
6. Remove large loose debris and trash using a pole with a grapple or net on the end.
7. Using a boom, crane, or other device (poly and ramp), offload the replacement cartridges (up to 150 lbs. each) and set aside.
8. Remove used cartridges from the vault using one of the following methods:

   Important: This activity will require that workers enter the vault to remove the cartridges from the drainage system.

Method 1:

a. Using an appropriate sling, attach the cable from the boom, crane, or tripod to the cartridge being removed. Contact SMI for specifications on appropriate attachment devices.

This activity will require that workers enter the vault to remove the cartridges from the drainage system and place them under the vault opening for lifting.

Important: Note that cartridges containing media other than the leaf media require unscrewing from their threaded connectors. Take care not to damage the manifold connectors. This connector should remain installed in the manifold and capped if necessary.

d. Empty the cartridge onto the vault floor.

e. Set the empty, used cartridge aside or load onto the hauling truck.

f. Continue steps a through e until all cartridges have been removed.

b. Remove the used cartridges (250 lbs. each) from the vault.

Important: Care must be used to avoid damaging the cartridges during removal and installation. The cost of repairing components damaged during maintenance will be the responsibility of the owner unless Stormwater360 performs the maintenance activities and damage is not related to discharges to the system.

c. Set the used cartridge aside or load onto the hauling truck.

d. Continue steps a through c until all cartridges have been removed.

Method 2:

a. Unscrew the cartridge cap.

b. Remove the cartridge hood.

c. Tip the cartridge on its side.

Important: Note that cartridges containing media other than the leaf media require unscrewing from their threaded connectors. Take care not to damage the manifold connectors. This connector should remain installed in the manifold and capped if necessary.

d. Empty the cartridge onto the vault floor.

e. Set the empty, used cartridge aside or load onto the hauling truck.

f. Continue steps a through e until all cartridges have been removed.

9. Remove deposited sediment from the floor of the vault and, if large amounts are present, from the forebay. This can usually be accomplished by shoveling the sediment into containers, which, once full, are lifted mechanically from the vault and placed onto the hauling truck. If Method 2 in Step 8 is used to empty the cartridges, or in cases of extreme sediment loading, a vactor truck may be required.
10. Once the sediments are removed, assess the condition of the vault and the condition of the manifold and connectors. The connectors are short sections of 2-inch schedule 40 PVC, or threaded schedule 80 PVC that should protrude above the floor of the vault.
    a. If required, apply a light coating of FDA approved silicon grease to the outside of the exposed portion of the connectors. This ensures a watertight connection between the cartridge and the drainage pipe.
    b. Replace any damaged connectors.
11. Using the boom, crane, or tripod, lower and install the new cartridges. Once again, take care not to damage connections.
12. Close and fasten the door.
13. Remove safety equipment.
14. Make notes about the local drainage area relative to ongoing construction, erosion problems, or high loadings of other materials to the system.
15. Finally, dispose of the residual materials in accordance with applicable regulations. Make arrangements to return the used cartridges to Stormwater360.

Related Maintenance Activities

(Performed on an as-needed basis)

StormFilter units are often just one of many components in a more comprehensive stormwater drainage and treatment system. The entire system may include catch basins, detention vaults, sedimentation vaults and manholes, detention/retention ponds, swales, artificial wetlands, and other miscellaneous components.

In order for maintenance of the StormFilter to be successful, it is imperative that all other components be properly maintained. The maintenance/repair of upstream facilities should be carried out prior to StormFilter maintenance activities.

In addition to considering upstream facilities, it is also important to correct any problems identified in the drainage area. Drainage area concerns may include: erosion problems, heavy oil and grease loading, and discharges of inappropriate materials.

Material Disposal

The accumulated sediment found in stormwater treatment and conveyance systems must be handled and disposed of in a manner that will not allow the material to affect surface or ground water. It is possible for sediments to contain measurable concentrations of heavy metals and organic chemicals (such as pesticides and petroleum products). Areas with the greatest potential for high pollutant loading include industrial areas and heavily traveled roads.

Sediments and water must be disposed of in accordance with all applicable waste disposal regulations. It is not appropriate to discharge untreated materials back to the stormwater drainage system.

Part of arranging for maintenance to occur should include coordination of disposal of solids (landfill coordination) and liquids (municipal vacuum truck decant facility, local wastewater treatment plant, on-site treatment and discharge).

Owners should contact the local public works department and inquire about how the department disposes of their street waste residuals. Stormwater360 will determine disposal methods or reuse of the media contained in the cartridges. If the material has been contaminated with any unusual substance, the cost of special handling and disposal will be the responsibility of the owner.

The Stormwater Management StormFilter® Specifications
PRECAST FILTER UNIT

PART 1 GENERAL

1.1 Description

The Contractor shall furnish and install the Stormwater Management StormFilter® stormwater treatment system, complete and operable as shown and as specified herein, in accordance with the requirements of the plans and contract documents.

StormFilter stormwater treatment system shall consist of an underground Precast structure that houses passive siphon-actuated, radial-flow media-filled filter cartridges.

The siphon actuated radial flow filter cartridges shall be rechargeable and shall incorporate a self actuated surface cleaning mechanism to increase the effective life of the filter media and to reduce the accumulation of material on the cartridge surface.

Each radial flow filter cartridge shall operate at a predetermined flow rate through the use of an integrated flow control orifice located within each filter cartridge outlet manifold.

1.2. Manufacturer

The StormFilter stormwater treatment system shall be of a type that has been installed and in use successfully for a minimum of five (5) or more years. StormFilter stormwater treatment system shall be supplied by Stormwater360™, 12021-B NE Airport Way, Portland, OR 97220 (800/548-4667), without exception.

1.3 Related Sections

A. Section [ ]:

1.4 Submittals

A. Submit shop drawings for StormFilter stormwater treatment system vault with filter cartridges and accessory equipment. Drawings shall include principal dimensions, filter placement, location of piping and unit foundation.

B. Submit StormFilter stormwater treatment system Operation and Maintenance Manual upon request.

PART 2 PRODUCTS

2.1 Internal Components

All internal components including ABS and PVC manifold piping, filter cartridge(s), filter media (as specified on the plans in the StormFilter data block or by the Engineer), flow spreaders, and energy dissipators shall be provided by Stormwater Management, Inc.

A. ABS manifold pipe and fittings shall meet ASTM F628. PVC manifold pipe and fittings shall meet ASTM D1785.

B. Filter cartridge bottom pan, inner ring, and hood shall be constructed from linear low-density polyethylene (LLDPE). Filter cartridge screen shall consist of galvanized 1" x ½" welded wire fabric (16 gauge minimum) with a bonded PVC coating. Internal parts shall consist of ABS or PVC material. Siphon-priming float shall be constructed from linear high-density polyethylene. All miscellaneous nuts, bolts, screws, and other fasteners shall be stainless steel or aluminum.

An orifice plate shall be supplied with each cartridge to restrict flow rate to a maximum of 15 gpm at system design head.

C. Filter media shall be provided by STORMWATER360 or approved alternate source. Filter media shall consist of one or more of the following, as specified in the StormFilter data block, or by the Engineer:

1. Perlite Media: Perlite media shall be made of natural siliceous volcanic rock free of any debris or foreign matter. The perlite media shall have a bulk density ranging from 6.5 to 8.5 lb/ft³ and particle sizes ranging from that passing through a 0.50 inch screen and retained on a U.S. Standard #8 sieve.
2. CSF Media: CSF media shall be made exclusively of composted fallen deciduous leaves. Filter media shall be granular. Media shall be dry at the time of installation. The CSF leaf media shall have a bulk density ranging from 40 to 50 lb/ft³ and particle sizes ranging from that passing through a 0.50 inch screen to that retained on a U.S. Standard #8 sieve.
3. Metal Rx Media: Metal Rx media shall be made exclusively of composted fallen deciduous leaves. Filter media shall be granular. Media shall be dry at the time of installation. The Metal Rx media shall have a bulk density ranging from 40 to 50 lb/ft³ and particle sizes ranging from that passing through a U.S. Standard #8 sieve to that retained on a U.S. Standard #14 sieve.
4. Zeolite Media: Zeolite media shall be made of naturally occurring clinoptilolite, which has a geological structure of potassium-calcium-sodium aluminosilicate. The zeolite media shall have a bulk density ranging from 44 to 48 lb/ft³, particle sizes ranging from that passing through a U.S. Standard #4 sieve to that retained on a U.S. Standard #6 sieve, and a cation exchange capacity ranging from 1.0 to 2.2 meq/g.
5. Granular Activated Carbon: Granular activated carbon (GAC) shall be made of lignite coal that has been steam activated. The GAC media shall have a bulk density ranging from 28 to 31 lb/ft³ and particle sizes ranging from that passing through a U.S. Standard #4 sieve to that retained on a U.S. Standard #8 sieve.
6. Zeolite-Perlite-Granular Activated Carbon (ZPG): ZPG is a mixed media that shall be composed of a 1.3 ft³ outer layer of 100% Perlite (see above) and a 1.3 ft³ inner layer consisting of a mixture of 90% Zeolite (see above) and 10% Granular Activated Carbon (see above).
7. Zeolite-Perlite (Zeo/Perl): Zeo/Perl is a mixed media that shall be composed of a 1.3 ft³ outer layer of 100% Perlite (see above) and a 1.3 ft³ inner layer consisting of 100% Zeolite.
8. CSF – Granular Activated Carbon (CSF/GAC): CSF/GAC is a mixed media that shall be composed of a 1.3 ft³ outer layer of 100% CSF media (see above) and a 1.3 ft³ inner layer consisting of 100% Granular Activated Carbon (see above).
9. Perlite – Metal Rx : Perlite/Metal Rx is a mixed media that shall be composed of a 1.3 ft³ outer layer of 100% Perlite (see above) and a 1.3 ft³ inner layer consisting of 100% Metal Rx (see above).

D. Flow spreader shall be constructed of LLDPE.

E. Energy dissipater shall be constructed of polyolefins.

2.2 Precast Concrete Vault Components

A. Precast concrete vault shall be provided according to ASTM C857 and C858.

B. Vault joint sealant shall be Conseal CS-101 or approved equal.

C. If interior concrete baffle walls are provided, baffle walls shall be sealed to the interior vault walls and floor with a polyurethane construction sealant rated for use below the waterline, SikaFlex 1a or equal. Contractor to provide sealant material and installation unless completed prior to shipment.

D. Frames and covers shall be gray cast iron and shall meet AASHTO H-20 loading requirements, and shall be provided according to ASTM A48.

E. Doors shall have hot-dipped galvanized frame and covers. Covers shall have diamond plate finish. Each door to be equipped with a recessed lift handle. Doors shall meet H-20 loading requirements for incidental traffic at a minimum.

F. Steps shall be constructed of copolymer polypropylene conforming to ASTM D-4101. Steps shall be driven into preformed or drilled holes once concrete is cured. Steps shall meet the requirements of ASTM C-478 and AASHTO M-199. The ½" Grade 60 deformed reinforcing bar shall meet ASTM A-615.

G. Ladders shall be constructed of aluminum and steel reinforced copolymer polypropylene conforming to ASTM D-4101. Ladder shall bolt in place. Ladder shall meet all ASTM C-497 load requirements. Ladders provided upon request or where required.

2.3 Contractor Provided Components

All contractor-provided components shall meet the requirements of this section, the plans specifications and contract documents. In the case of conflict, the more stringent specification shall apply.

A. Crushed rock base material shall be six-inch minimum layer of ¾-inch minus rock. Compact undisturbed sub-grade materials to 95% of maximum density at +/-2% of optimum moisture content. Unsuitable material below sub-grade shall be replaced to engineer's approval.

B. Concrete shall have an unconfined compressive strength at 28 days of at least 3000 psi, with ¾-inch round rock, a 4-inch slump maximum, and shall be placed within 90 minutes of initial mixing.

C. Silicone Sealant shall be pure RTV silicone conforming to Federal Specification Number TT S001543A or TT S00230C or Engineer approved.

D. Grout shall be non-shrink grout meeting the requirements of Corps of Engineers CRD-C588. Specimens molded, cured and tested in accordance with ASTM C-109 shall have minimum compressive strength of 6,200 psi. Grout shall not exhibit visible bleeding.

E. Backfill material shall be ¾-inch minus crushed rock, or approved equal.

PART 3 EXECUTION

3.1 Precast Concrete Vault

A. Set precast vault on crushed rock base material that has been placed in maximum 12-inch lifts, loose thickness, and compacted to at least 95-percent of the maximum dry density as determined by the standard Proctor compaction test, ASTM D698, at moisture content of +/-2% of optimum water content.

B. Vault floor shall slope 1/4 inch maximum across the width and slope downstream 1 inch per 12 foot of length. Vault top finish grade shall be even with surrounding finish grade surface unless otherwise noted on plans.

C. Inlet and outlet pipes shall be stubbed in and connected to precast concrete vault according to Engineer's requirements and specifications.

D. If grout is used, Contractor to grout all inlet and outlet pipes flush with or protruding up to 2 inches into interior of vault.

3.2 Ballast

A. When required, ballast shall be placed to the dimensions specified by the engineer and noted on the data block. Ballast shall not encase the inlet and/or outlet piping. Provide 12" clearance from outside diameter of pipes.

3.3 Clean Up

A. Remove all excess materials, rocks, roots, or foreign material, leaving the site in a clean, complete condition approved by the engineer. All filter components shall be free of any foreign materials including concrete and excess sealant.

3.4 Filter Cartridges

A. Filter cartridges shall be delivered with the vault. Contractor shall take appropriate action to protect the cartridges from sediment and other debris during construction. Methods for protecting the cartridges include but are not limited to:

1. Remove cartridges from the vault and store appropriately. Cartridges shall be reinstalled to operate according to 3.4 B (see below).
2. If vault is equipped with underdrain bypass piping, Contractor may leave cartridges in the vault and allow stormwater entering collection system to bypass filter bay through underdrain bypass piping.
3. Leave cartridges in the vault and plug inlet and outlet pipe to prevent stormwater from entering the vault.

The method ultimately selected shall be at Contractor's discretion and Contractor's risk.

B. Filter cartridges shall not be placed in operation until the vault is clean and the project site is clean and stabilized. The project site includes any surface that contributes storm drainage to the StormFilter. All impermeable surfaces shall be clean and free of dirt and debris. All catch basins, manholes and pipes shall be free of dirt and sediments. Contact Stormwater360 to assist with system activation and/or inspect the system for proper installation once site is clean and stabilized.

END OF SECTION

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION	DATE 9/24/10
CHIEF-DIVISION OF LAND DEVELOPMENT	DATE 10/12/10
DIRECTOR	DATE 10/12/10

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.

COUNTY HEALTH OFFICER — DATE 10/4/10
HOWARD COUNTY HEALTH DEPARTMENT

GENERAL NOTE:
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THIS PROJECT WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR APPLICABLE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF THE WORK AS DEFINED BY THE DRAWINGS AND IN FULL CONFORMANCE WITH LOCAL REGULATIONS AND CODES.

PROFESSIONAL CERTIFICATION

I, MATTHEW T. ALLEN, HEREBY CERTIFY THAT THESE 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. 28567, EXPIRATION DATE: 4/16/11

MISS UTILITY
BEFORE YOU DIG CALL
811 IN MD
or 1-800-257-7777
PROTECT YOURSELF, GIVE TWO WORKING DAYS NOTICE
THE CONTRACTOR TO CALL MISS UTILITY TO HAVE ALL EXISTING UTILITIES MARKED 48 HOURS PRIOR TO ANY CONSTRUCTION.

NO.:	DATE	REVISION DESCRIPTION

OWNER:
PARCEL A — JACK M. AND LOUISE KAUFUSS, 13715 OLD ROVER ROAD, WEST FRIENDSHIP MD 21794-9718, PHONE: 410-442-2011
PARCEL B — JOHN VICTOR AND MARTHA B. CALABRESE, 3262 OLD FENCE ROAD, ELLICOTT CITY, MD 21042-2440, PHONE: 410-465-3519

DEVELOPER:
RITE AID CORPORATION
P.O. BOX 3165
HARRISBURG, PA 17105
ATTN.: LANCE MASON
PHONE: 804-745-6222

PROJECT: RITE AID CORPORATION
KAUFUSS AND CALABRESE LAND'S
PARCELS A & B
ONE-STORY RETAIL BUILDING

AREA 3.136 AC. TAX MAP 23 GRID 6 ZONED B-1
PARCELS A & B
2ND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND 21042

TITLE: STORMWATER MANAGEMENT NOTES

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD
SUITE 801
TOWSON, MARYLAND 21204
PH: (410) 821-7900
FX: (410) 821-7987
www.bohlerengineering.com

MATTHEW T. ALLEN, PROFESSIONAL ENGINEER NO. 28567

DESIGNED BY:	M.J.G.
DRAWN BY:	R.J.M.
PROJECT NO.:	MD072009.2
DATE:	8/20/10
SCALE:	N/A
DRAWING NO.	18 OF 37

SDP 09-44

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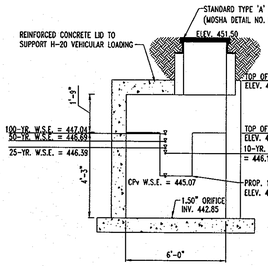

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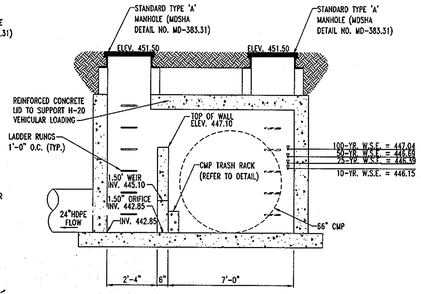

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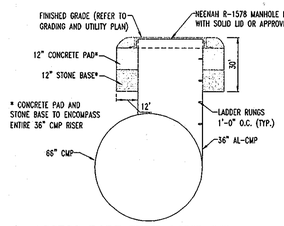
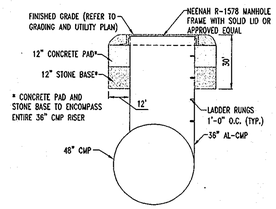


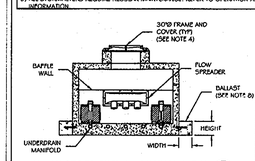
ACCESS PORT WITH SOLID LID DETAIL
NOT TO SCALE



ACCESS PORT WITH SOLID LID DETAIL
NOT TO SCALE

GENERAL NOTES

1) STORMFILTER BY CONTECH STORMWATER SOLUTIONS; PORTLAND, OR (800) 548-4047; SCARBOROUGH, ME (877) 707-8676; ELKRIDGE, MD (866) 740-5316.
2) FILTER CARTRIDGE(S) TO BE SIPHON ACTUATED AND SELF-CLEANING. STANDARD DETAIL DRAWING SHOWS MAXIMUM NUMBER OF CARTRIDGES. ACTUAL NUMBER REQUIRED TO BE SPECIFIED ON SITE PLANS OR IN DATA TABLE BELOW.
3) PRECAST VAULT TO BE CONSTRUCTED IN ACCORDANCE WITH ASTM C857 AND C858. DETAIL DRAWING REFLECTS DESIGN INTENT ONLY. ACTUAL DIMENSIONS AND CONFIGURATION OF STRUCTURE WILL BE SHOWN ON PRODUCTION SHOP DRAWING.
4) STRUCTURE AND ACCESS COVERS TO MEET AASHTO HS-20 LOAD RATING.
5) STORMFILTER REQUIRES 2.3 FEET OF DROP FROM INLET TO OUTLET. IF LESS DROP IS AVAILABLE, CONTACT CONTECH STORMWATER SOLUTIONS.
6) INLET AND OUTLET PIPING TO BE SPECIFIED BY ENGINEER AND PROVIDED BY CONTRACTOR. PRECAST STORMFILTER VAULT EQUIPPED WITH EITHER CORED OPENINGS OR KNOCKOUTS AT INLET AND OUTLET LOCATIONS.
7) PROVIDE MINIMUM CLEARANCE FOR MAINTENANCE ACCESS. IF A SHALLOWER SYSTEM IS REQUIRED, CONTACT CONTECH STORMWATER SOLUTIONS FOR OTHER OPTIONS.
8) ANTI-FLOTATION BALLAST TO BE SPECIFIED BY ENGINEER AND PROVIDED BY CONTRACTOR, IF REQUIRED. BALLAST TO BE SET ALONG ENTIRE LENGTH OF BOTH SIDES OF THE STRUCTURE.
9) ALL STORMFILTERS REQUIRE REGULAR MAINTENANCE. REFER TO OPERATION AND MAINTENANCE GUIDELINES FOR MORE INFORMATION.



8' x 16' STORMFILTER - SECTION VIEW (B/2)

8' x 16' PRECAST STORMFILTER DATA

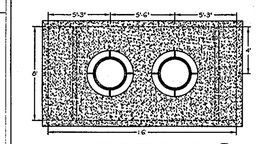
STRUCTURE ID	X13
WATER QUALITY FLOW RATE (cfs)	5.148
PEAK FLOW RATE (cfs)	
ANNUAL PERCENT OF PEAK FLOW (yrs)	
# OF CARTRIDGES REQUIRED	22
CARTRIDGE FLOW RATE (1.5 OR 7.5 gpm)	15gpm
MEDIA TYPE (CSF, PERLITE, ZPG)	CSF

PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE #1	300.00'	XXX	30"
INLET PIPE #2			
OUTLET PIPE	448.21	HDPE	12"

RIM

448.21 FLOW 443.91

LADDER:	VERIFIED
ANTI-FLOTATION BALLAST	WIDTH / HEIGHT
	N/A / N/A
NOTES/SPECIAL REQUIREMENTS:	



8' x 16' STORMFILTER - TOP VIEW (1/2)

THE STORMWATER MANAGEMENT STORMFILTER
U.S. PATENT No. 5,322,629, No. 5,607,587, No. 5,698,079, No. 6,027,642, No. 6,524,476, AND OTHER U.S. AND FOREIGN PATENTS PENDING

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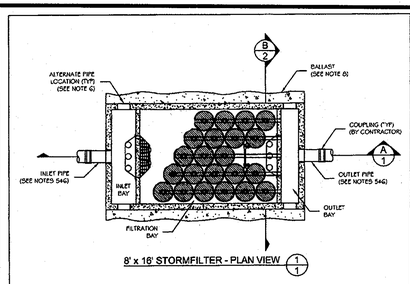
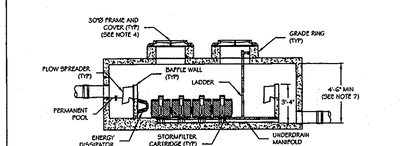
CONTECH STORMWATER SOLUTIONS
contechstormwater.com

8' x 16' PRECAST STORMFILTER TOP AND SECTION VIEWS, NOTES AND DATA STANDARD DETAIL				DRAWING 2 OF 2
DATE: 08/20/05	SCALE: NONE	FILE NAME: SFX8-PCDT.	DRAWN: MJW	CHECKED: ARD



8' x 16' STORMFILTER - PLAN VIEW (1/1)



8' x 16' STORMFILTER - SECTION VIEW (A/1)

THE STORMWATER MANAGEMENT STORMFILTER
U.S. PATENT No. 5,322,629, No. 5,607,587, No. 5,698,079, No. 6,027,642, No. 6,524,476, AND OTHER U.S. AND FOREIGN PATENTS PENDING

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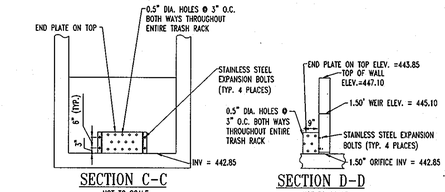
8' x 16' PRECAST STORMFILTER PLAN AND SECTION VIEWS STANDARD DETAIL				DRAWING 1 OF 2
DATE: 08/20/05	SCALE: NONE	FILE NAME: SFX8-PCDT.	DRAWN: MJW	CHECKED: ARD



SECTION C-C
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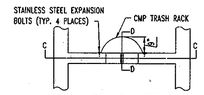
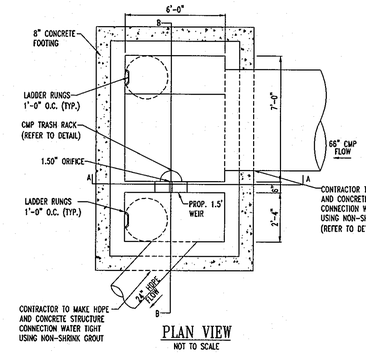
SECTION D-D
NOT TO SCALE



PLAN VIEW
NOT TO SCALE

TRASH RACK DETAIL
NOT TO SCALE



PLAN VIEW
NOT TO SCALE

OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED UNDERGROUND STORMWATER FILTRATION SYSTEMS

1. THE SEDIMENT CHAMBER OUTLET DEVICES SHALL BE CLEANED AND/OR REPAIRED WHEN DRAWDOWN TIMES WITHIN THE CHAMBER EXCEED 36 HOURS.
2. DEBRIS AND LITTER SHALL BE REMOVED AS NECESSARY TO INSURE PROPER OPERATION OF THE SYSTEM.
3. SEDIMENT SHALL BE CLEANED OUT OF THE SEDIMENTATION CHAMBER WHEN IT ACCUMULATES TO A DEPTH OF 6 INCHES. VEGETATION WITHIN THE SEDIMENT CHAMBER SHALL BE LIMITED TO A HEIGHT OF 18 INCHES.
4. WHEN WATER PONDS ON THE SURFACE OF THE FILTER BED FOR MORE THAN 72 HOURS, THE TOP FEW INCHES OF DISCOLORED MATERIAL SHALL BE REPLACED WITH FRESH MATERIAL. PROPER CLEANING AND DISPOSAL OF THE REMOVED MATERIALS AND LIQUID MUST BE FOLLOWED BY THE OWNER.
5. A LOGBOOK SHALL BE MAINTAINED TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
6. THE MAINTENANCE LOGBOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
7. ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION SYSTEM HAVE BEEN VERIFIED, THE MONITORING SCHEDULE CAN BE REDUCED TO AN ANNUAL BASIS UNLESS THE PERFORMANCE DATA INDICATES THAT A MORE FREQUENT SCHEDULE IS REQUIRED.

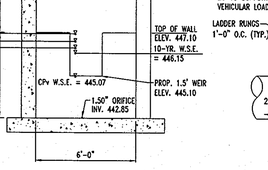
SOILS NOTES

1. FOOTING DESIGN BASES ON ASSUMED MAXIMUM ALLOWABLE SOILS BEARING CAPACITY OF 2,000 PSF. CONTRACTOR RESPONSIBLE TO VERIFY ADEQUACY OF ASSUMED BEARING CAPACITY PRIOR TO CONSTRUCTION ENGINEER TO BE NOTIFIED IF INCONSISTENCIES EXIST.
2. SUBGRADE TO BE FREE OF ORGANICS AND BE SUITABLE, COMPACTED MATERIAL.
3. BACKFILL SHALL BE PERFORMED IN 6" LIFTS COMPACTED TO 95% OPTIMUM PROCTOR DRY DENSITY.

CONCRETE NOTES

1. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS WITH A MINIMUM CEMENT CONTENT OF 600 POUNDS PER CUBIC YARD FOR ALL FOOTINGS.
2. ALL CONCRETE SHALL HAVE A SLUMP OF NO GREATER THAN 4" TO WITHIN A TOLERANCE OF 1'-0".
3. ALL EXPOSED CONCRETE SHALL BE AIR-ENTRAINED, 6% (WITHIN 1% TOLERANCE), CONFORMING TO ASTM C260.
4. ALL FRAMEWORK, AND PLACEMENT OF CONCRETE SHALL COMPLY WITH GOOD CONSTRUCTION PRACTICES AND BE IN ACCORDANCE WITH ALL LOCAL GOVERNING CODES, AND REGULATIONS AS WELL AS THE ACI AND UNIFORM BUILDING CODE.
5. CONTRACTOR TO PROVIDE SIGNED AND SEALED STRUCTURAL CALCULATIONS PRIOR TO CONSTRUCTION.

OUTLET STRUCTURE #A-20
NOT TO SCALE



DETENTION FACILITY TYPICAL SECTION
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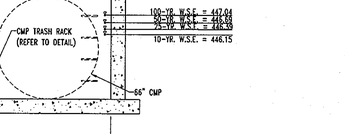
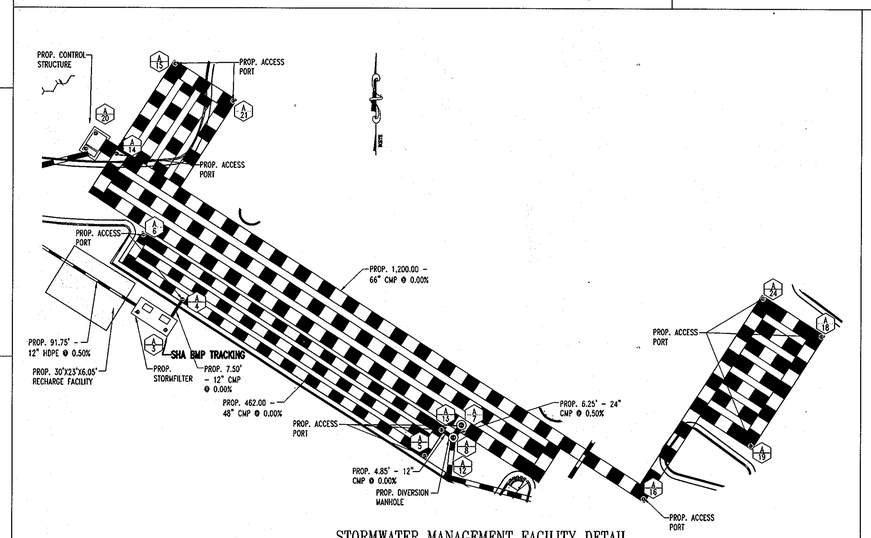
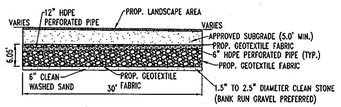


WATER QUALITY PRE-TREATMENT TYPICAL SECTION
NOT TO SCALE



STORMWATER MANAGEMENT FACILITY DETAIL
SCALE: 1"=30'



STONE RECHARGE AREA
NOT TO SCALE

MISS UTILITY
BEFORE YOU DIG CALL
811 IN MD
or 1-800-257-7777
PROTECT YOURSELF, GIVE TWO WORKING DAYS NOTICE
THE CONTRACTOR TO CALL MISS UTILITY TO HAVE ALL EXISTING UTILITIES MARKED 48 HOURS PRIOR TO ANY CONSTRUCTION.

NO.:	DATE	REVISION DESCRIPTION

OWNER: PARCEL A	PARCEL B
JACK M. AND LOUISE KAUFLUSS	JOHN VICTOR AND
13715 OLD ROVER ROAD	MARTHA D. CALABRESE
WEST FRIENDSHIP MD 21794-9718	3262 OLD FENCE ROAD
PHONE: 410-442-2011	ELLICOTT CITY, MD 21042-2440
	PHONE: 410-465-3519

DEVELOPER:
RITE AID CORPORATION
P.O. BOX 3165
HARRISBURG, PA 17105
ATTN.: LANCE MASON
PHONE: 804-745-6222

PROJECT: RITE AID CORPORATION
KAUFLUSS AND CALABRESE LANDS
PARCELS A & B
ONE-STORY RETAIL BUILDING

AREA 3.136 AC. TAX MAP 23 GRID 6 ZONED B-1
PARCELS A & B
2ND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND 21042

TITLE: STORMWATER MANAGEMENT DETAILS

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD
SUITE 801
TOWSON, MARYLAND 21204
PH: (410) 821-7900
FX: (410) 821-7987
www.bohlerengineering.com

8/20/10
MATTHEW T. ALLEN
PROFESSIONAL ENGINEER
No. 28567

DESIGNED BY:	M.J.G.
DRAWN BY:	R.J.M.
PROJECT NO.:	MD072009.2
DATE:	8/20/10
SCALE:	N/A
DRAWING NO.	19 OF 37

NOTE: FINAL DESIGN OF THE OUTLET STRUCTURE IS TO BE COMPLETED BY A LICENSED STRUCTURAL ENGINEER AND APPROVED BY BOHLER ENGINEERING TO ENSURE ADEQUATE CAPACITY PRIOR TO CONSTRUCTION.

PROFESSIONAL CERTIFICATION

I, MATTHEW T. ALLEN, HEREBY CERTIFY THAT THESE 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. 28567, EXPIRATION DATE: 4/16/11

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION	DATE 9/24/10
CHIEF-DIVISION OF LAND DEVELOPMENT	DATE 10/12/10
DIRECTOR	DATE 10/12/10

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.

COUNTY HEALTH OFFICER — DATE 10/14/10
HOWARD COUNTY HEALTH DEPARTMENT

GENERAL NOTE:
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THIS PROJECT WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR APPLICABLE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF THE WORK AS DEFINED BY THE DRAWINGS AND IN FULL CONFORMANCE WITH LOCAL REGULATIONS AND CODES.

SDP 09-44

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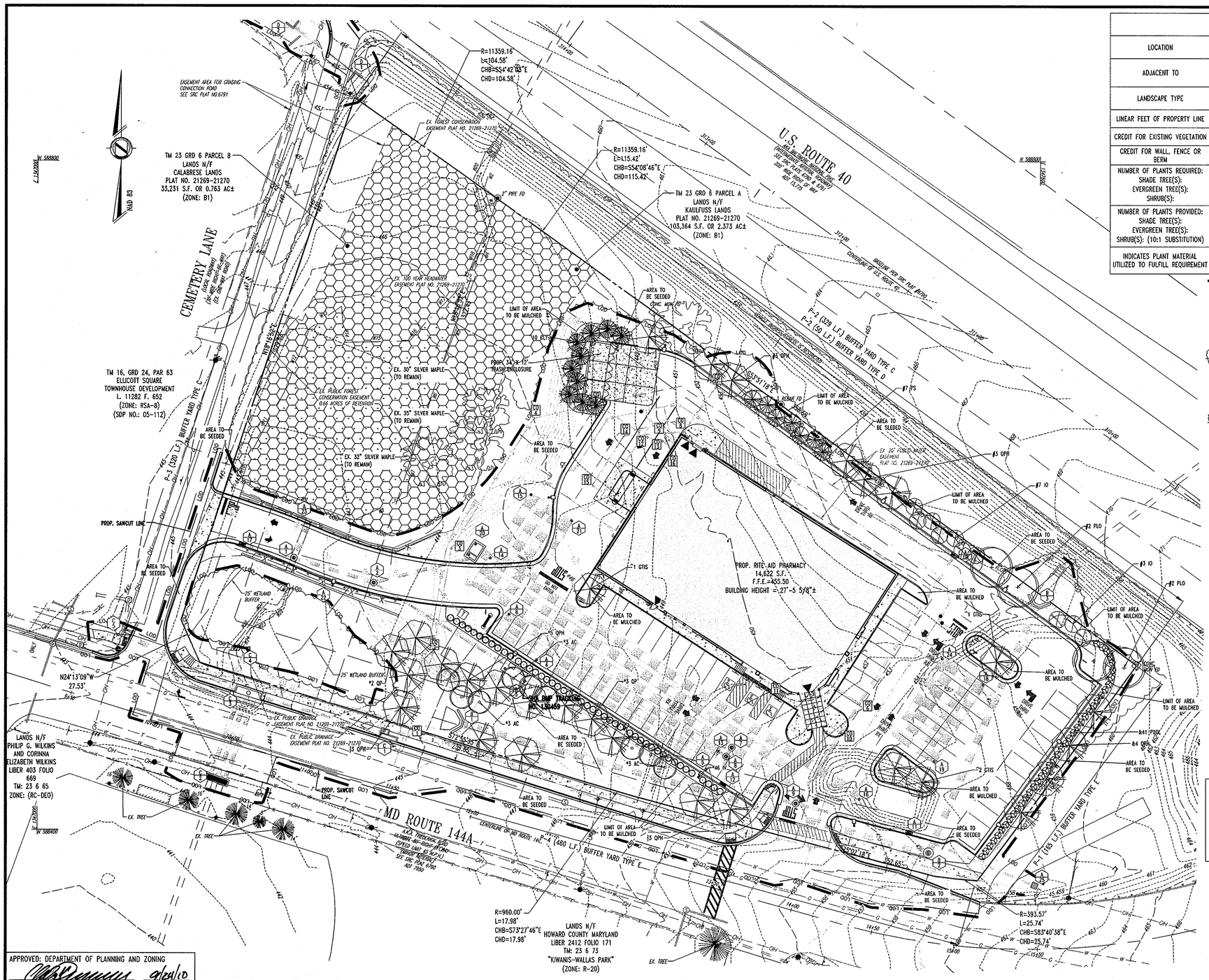

SCHEDULE A: PERIMETER LANDSCAPE EDGE

LOCATION	EAST PROPERTY LINE (P-1)	NORTH PROPERTY LINE (P-2)		WEST PROPERTY LINE (P-3)	SOUTH PROPERTY LINE (P-4)	TRASH PAD
ADJACENT TO	PERIMETER PROPERTIES NON-RESIDENTIAL TO NON-RESIDENTIAL	ROADWAYS NON-RESIDENTIAL TO U.S. ROUTE 40		ROADWAYS NON-RESIDENTIAL TO CEMETERY LANE	PERIMETER PROPERTIES NON RESIDENTIAL TO NON-RESIDENTIAL	--
LANDSCAPE TYPE	TYPE E	TYPE D	TYPE C	TYPE C	TYPE E	--
LINEAR FEET OF PROPERTY LINE	165 L.F.	50 L.F.	329 L.F.	320 L.F.	460 L.F.	50 L.F.
CREDIT FOR EXISTING VEGETATION	NO	NO	YES (200 L.F.)	YES (320 L.F.)	YES (140 L.F.)	--
CREDIT FOR WALL, FENCE OR BERM	NO	NO	NO	NO	NO	--
NUMBER OF PLANTS REQUIRED: SHADE TREE(S): EVERGREEN TREE(S): SHRUB(S):	4 SHADE TREE(S) 0 EVERGREEN TREE(S) 41 SHRUB(S)	1 SHADE TREE(S) 5 EVERGREEN TREE(S) 0 SHRUB(S)	9 SHADE TREE(S) 17 EVERGREEN TREE(S) 0 SHRUB(S)	0 SHADE TREE(S) 0 EVERGREEN TREE(S) 0 SHRUB(S)	8 SHADE TREE(S) 0 EVERGREEN TREE(S) 80 SHRUB(S)**	0 SHADE TREE(S) 10 EVERGREEN TREE(S) 0 SHRUB(S)
NUMBER OF PLANTS PROVIDED: SHADE TREE(S): EVERGREEN TREE(S): SHRUB(S): (10:1 SUBSTITUTION)	4 SHADE TREE(S) 0 EVERGREEN TREE(S) 41 SHRUB(S)	10 SHADE TREES(S) 21 EVERGREEN TREE(S) 0 SHRUBS		0 SHADE TREE(S) 0 EVERGREEN TREE(S) 0 SHRUB(S)	8 SHADE TREE(S) 0 EVERGREEN TREE(S) 46 SHRUB(S)**	0 SHADE TREE(S) 10 EVERGREEN TREE(S) 0 SHRUB(S)
INDICATES PLANT MATERIAL UTILIZED TO FULFILL REQUIREMENT	"&"	"#"		"~"	"±"	"^"

**NOTE: 9 ORNAMENTAL TREES ARE SUBSTITUTED FOR 34 SHRUBS.

LANDSCAPE SCHEDULE

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	REMARKS
SHADE TREE(S)					
GTIS	4	GLEDITSIA TRIACANTHOS VAR. INERMIS 'SHADEMASTER'	SHADEMASTER HONEYLOCUST	2 1/2-3" CAL.	B&B
PLO	4	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	2 1/2-3" CAL.	B&B
QP	5	QUERCUS PALUSTRIS	PIN OAK	2 1/2-3" CAL.	B&B
QPH	20 33	QUERCUS PHELLOS	WILLOW OAK	2 1/2-3" CAL.	B&B
ORNAMENTAL TREE(S)					
AC	9	AMELANCHIER CANADENSIS	MULTI STEM SHADBLOW SERVICEBERRY	8-10'	B&B
EVERGREEN TREE(S)					
CLY	10	X CUPRESSOCYPARIS LEYLANDII	LEYLAND CYPRESS	6-8'	B&B
IO	10	ILEX OPACA	AMERICAN HOLLY	6-8'	B&B
PS	7 27	PINUS STROBUS	EASTERN WHITE PINE	6-8'	B&B
EVERGREEN SHRUB(S)					
PXOL	40	PRUNUS LAUROCERASUS 'OTTO LUYKEN'	OTTO LUYKEN CHERRY LAUREL	24-30" (HGT.)	#3 CAN
DECIDUOUS SHRUB(S)					
IV	46	ITEA VIRGINICA 'HENRY'S GARNET'	GARNET SWEETSPIRE	24-30" (HGT.)	#5 CAN

NOTE: IF ANY DISCREPENCIES OCCUR BETWEEN AMOUNTS SHOWN IN THE PLAN AND THE PLANT LIST, THE PLAN SHALL DICTATE.

MISS UTILITY

DIG WITH CARE

BEFORE YOU DIG CALL
811 IN MD
or 1-800-257-7777
PROTECT YOURSELF, GIVE TWO WORKING DAYS NOTICE
THE CONTRACTOR TO CALL MISS UTILITY TO HAVE ALL EXISTING UTILITIES MARKED 48 HOURS PRIOR TO ANY CONSTRUCTION.

PERIMETER, PARKING LOT, AND TRASH PAD LANDSCAPING IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL SHALL BE PROVIDED AS SHOWN ON THIS LANDSCAPE PLAN SHEET. SURETY IN THE AMOUNT OF $16,080.00 FOR TWENTY-SIX (26) SHADE TREES, THIRTY-ONE (31) EVERGREEN AND ORNAMENTAL TREES, AND ONE-HUNDRED AND TWENTY-ONE (121) SHRUBS SHALL BE POSTED WITH THE DEVELOPERS AGREEMENT FOR THIS SITE DEVELOPMENT PLAN, SDP 09-44.

BENCHMARK

GEODETIC SURVEY CONTROL - 161A
N 528,760.4
E 833,925.6
ELEV. 463.7'
LOCATED WITHIN THE MEDIAN OF U.S. ROUTE 40. APPROX. 0.35 MILES WEST OF MD ROUTE 144.

GEODETIC SURVEY CONTROL - 161B
N 529,726.3
E 833,925.6
ELEV. 470.600'
LOCATED WITHIN THE MEDIAN OF U.S. ROUTE 40 APPROX. 0.80 MILES EAST OF MARRIOTTSVILLE ROAD

NO.:	DATE	REVISION DESCRIPTION

OWNER: PARCEL A	OWNER: PARCEL B
JACK M. AND LOUISE KAULFUSS 13715 OLD ROVER ROAD WEST FRIENDSHIP MD 21794-9718 PHONE: 410-442-2011	JOHN VICTOR AND MARTHA B. CALABRESE 3262 OLD FENCE ROAD ELLICOTT CITY, MD 21042-2440 PHONE: 410-465-3519

DEVELOPER:
RITE AID CORPORATION
P.O. BOX 3165
HARRISBURG, PA 17105
ATTN.: LANCE MASON
PHONE: 804-745-6227

PROJECT
RITE AID CORPORATION
KAULFUSS AND CALABRESE LANDS
PARCELS A & B
ONE-STORY RETAIL BUILDING

AREA 3.136 AC. TAX MAP 23 GRID 6 ZONED B-1
PARCELS A & B
2ND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND 21042

TITLE
LANDSCAPE PLAN

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD
SUITE 801
TOWSON, MARYLAND 21204
PH: (410) 821-7900
FX: (410) 821-7987
www.bohlerengineering.com

9/20/10
MATTHEW T. ALLEN
PROFESSIONAL ENGINEER NO. 28567

DESIGNED BY:	M.J.G.
DRAWN BY:	R.J.M.
PROJECT NO.:	WD072009.2
DATE:	8/20/10
SCALE:	1"=30'
DRAWING NO.	20 OF 37

SDP 09-44

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION	DATE 10/12/10
CHIEF-DIVISION OF LAND DEVELOPMENT	DATE 10/12/10
DIRECTOR	DATE 10/12/10

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.

COUNTY HEALTH OFFICER — DATE 10/4/10
HOWARD COUNTY HEALTH DEPARTMENT

GENERAL NOTE:
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HOWARD COUNTY, MD COMPLIANCE CHART:

SCHEDULE B — PARKING LOT INTERNAL LANDSCAPING

NUMBER OF PARKING SPACES REQUIRED:	74 SPACES
NUMBER OF PARKING SPACES PROVIDED:	74 SPACES
NUMBER OF TREES AND LANDSCAPE ISLAND REQUIRED: 1/20 SPACES	4 SHADE TREES
NUMBER OF TREES AND LANDSCAPE ISLAND PROVIDED:	
SHADE TREE(S):	4 SHADE TREES
OTHER TREE(S): (2:1 SUBSTITUTION)	
"^" INDICATES PLANT MATERIAL UTILIZED TO FULFILL REQUIREMENT	

TABLE 1 — PERIMETER LANDSCAPE TYPES - BASED ON ADJACENT LAND USE

LANDSCAPE EDGE TYPE	LANDSCAPE CHARACTER	SHADE TREE(S) PER LINEAR FEET	EVERGREEN TREE(S) PER LINEAR FEET
A	LIGHT BUFFER	1:60	0
B	MODERATE BUFFER	1:50	1:40
C	HEAVY BUFFER	1:40	1:20
D	SCREEN	1:60	1:10
E	BUFFER - PARKING ADJ. TO ROADWAY	1:40	0

GRAPHIC SCALE

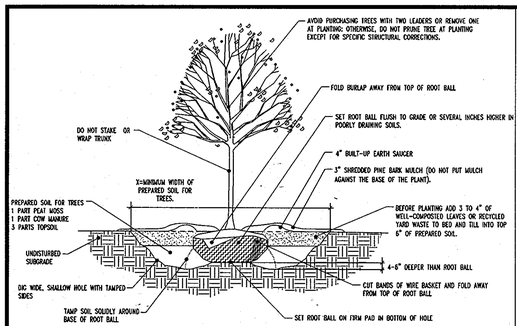
30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

PROFESSIONAL CERTIFICATION

I, MATTHEW T. ALLEN, HEREBY CERTIFY THAT THESE 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. 28567, EXPIRATION DATE: 4/16/11

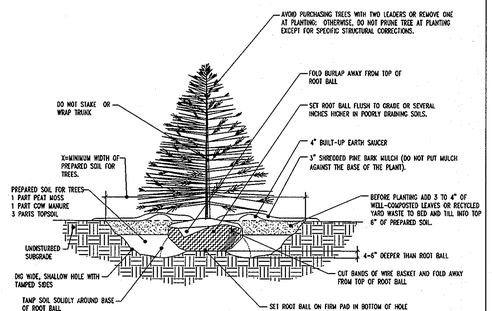
H:\07\Rite Aid Corporation\WD07 2009 - 10470 Frederick Road, Ellicott City, MD\CAD\Site Plan Documents\Rev 5\WD072009SS5.dwg, 9/15/2010 2:11:24 PM, mgassl, 1:1



REFERENCE: ARCHITECTURAL GRAPHIC STANDARDS 1998 CUMULATIVE SUPPLEMENT.

DECIDUOUS TREE PLANTING DETAIL

NOT TO SCALE



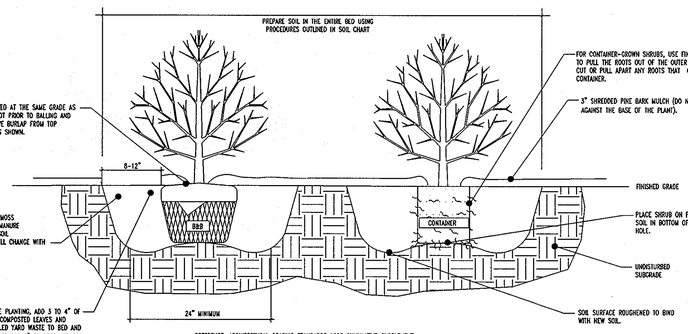
REFERENCE: ARCHITECTURAL GRAPHIC STANDARDS 1998 CUMULATIVE SUPPLEMENT.

EVERGREEN TREE PLANTING DETAIL

NOT TO SCALE

NOTES FOR DECIDUOUS AND EVERGREEN TREE PLANTINGS:

1. NO SOIL OR MULCH SHALL BE PLACED AGAINST ROOT COLLAR OF PLANT.
2. REMOVE ALL ROPE FROM TRUNK & TOP OF ROOT BALL. FOLD BURLAP BACK 1/3 FROM TOP OF ROOT BALL.
3. PLANTING DEPTH SHALL BE THE SAME AS GROWN IN NURSERY.
4. THOROUGHLY SOAK THE TREE ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING THE FIRST MONTH AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.
5. THE BOTTOM OF PLANTING PIT EXCAVATIONS SHOULD BE ROUGH TO AVOID MATTING OF SOIL LAYERS AS NEW SOIL IS ADDED. IT IS PREFERABLE TO TILL THE FIRST LIFT (2 TO 3 IN.) OF PLANTING SOIL INTO THE SUBSOIL.



REFERENCE: ARCHITECTURAL GRAPHIC STANDARDS 1998 CUMULATIVE SUPPLEMENT.

DECIDUOUS AND EVERGREEN SHRUB PLANTING DETAIL

NOT TO SCALE

GENERAL RANGE OF SOIL MODIFICATIONS & VOLUMES FOR VARIOUS SOIL CONDITIONS

POST-CONSTRUCTION SOIL CONDITION	MIN./ WIDTH PREPARED SOIL FOR TREES (X)	TYPE OF PREPARATION
GOOD SOIL (NOT PREVIOUSLY GRADED OR COMPACTED, TOPSOIL LAYER INTACT)	6 FT. OR TWICE THE WIDTH OF THE ROOT BALL, WHICHEVER IS GREATER	LOOSEN THE EXISTING SOILS TO THE WIDTHS AND DEPTHS SHOWN IN DETAILS ABOVE.
COMPACTED SOIL (NOT PREVIOUSLY GRADED, TOPSOIL LAYER DISTURBED BUT NOT ELIMINATED)	15 FT.	LOOSEN THE EXISTING SOILS TO THE WIDTHS AND DEPTHS SHOWN IN DETAILS ABOVE; ADD COMPOSTED ORGANIC CONTENT UP TO 5% DRY WEIGHT.
GRADED SUBSOILS AND CLEAN FILLS WITH CLAY CONTENT BETWEEN 5 & 35%	20 FT.	MINIMUM TREATMENT: LOOSEN EXISTING SOIL TO WIDTHS AND DEPTHS SHOWN, ADD COMPOSTED ORGANIC MATTER TO BRING ORGANIC CONTENT UP TO 5% DRY WEIGHT. OPTIMUM TREATMENT : REMOVE TOP 8-10 IN. OR THE EXISTING SOILS TO THE WIDTHS AND DEPTHS SHOWN, ADD 8-10 IN. OF LOAM TOPSOIL.
POOR QUALITY FILLS, HEAVY CLAY SOILS, SOILS CONTAMINATED WITH RUBBLE OR TOXIC MATERIAL	20 FT.	REMOVE EXISTING SOILS TO THE WIDTHS AND DEPTHS CONTAMINATED WITH RUBBLE OR TOXIC MATERIAL

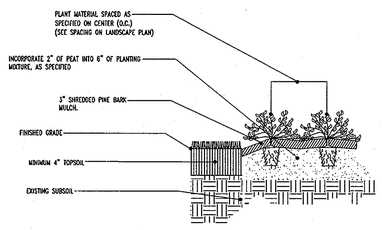
REFERENCE: ARCHITECTURAL GRAPHIC STANDARDS 1998 CUMULATIVE SUPPLEMENT.

SEEDING SPECIFICATIONS

1. PRIOR TO SEEDING, AREA IS TO BE TOPSOILED, FINE GRADED, AND RAKED OF ALL DEBRIS LARGER THAN 2" DIAMETER.
2. PRIOR TO SEEDING, CONSULT MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS.
3. SEEDING RATES:

PERENNIAL RYEGRASS	1/2 LB/1,000 SQ FT
KENTUCKY BLUEGRASS	1 LB/1,000 SQ FT
RED FESCUE	1 1/2 LBS/1,000 SQ FT
SPREADING FESCUE	1 1/2 LBS/1,000 SQ FT
FERTILIZER (20:10:10)	14 LBS/1,000 SQ FT
MULCH	90 LBS/1,000 SQ FT

4. GERMINATION RATES WILL VARY AS TO TIME OF YEAR FOR SOWING. CONTRACTOR TO IRRIGATE SEEDED AREA UNTIL AN ACCEPTABLE STAND OF COVER IS ESTABLISHED BY OWNER.



PERENNIAL/GROUND COVER PLANTING DETAIL

NOT TO SCALE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION	DATE 9/24/10
CHIEF-DIVISION OF LAND DEVELOPMENT	DATE 10/12/10
DIRECTOR	DATE 10/12/10

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.

COUNTY HEALTH OFFICER — DATE 10/4/10
HOWARD COUNTY HEALTH DEPARTMENT

GENERAL NOTE:
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THIS PROJECT WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR APPLICABLE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF THE WORK AS DEFINED BY THE DRAWINGS AND IN FULL CONFORMANCE WITH LOCAL REGULATIONS AND CODES.

LANDSCAPE SPECIFICATIONS

1. SCOPE OF WORK:
THE LANDSCAPE CONTRACTOR SHALL BE REQUIRED TO PERFORM ALL CLEARING, FINISHED GRADING, SOIL PREPARATION, PERMANENT SEEDING OR SODDING, PLANTING AND MULCHING INCLUDING ALL LABOR, MATERIALS, TOOLS AND EQUIPMENT NECESSARY FOR THE COMPLETION OF THIS PROJECT, UNLESS OTHERWISE CONTRACTED BY THE GENERAL CONTRACTOR.

2. MATERIALS
A. GENERAL – ALL HARDSCAPE MATERIALS SHALL MEET OR EXCEED SPECIFICATIONS AS OUTLINED IN THE STATE DEPARTMENT OF TRANSPORTATION'S SPECIFICATIONS.

B. TOPSOIL – NATURAL, FRIABLE, LOAMY SILT SOIL HAVING AN ORGANIC CONTENT NOT LESS THAN 5%, A PH RANGE BETWEEN 4.5-7.0. IT SHALL BE FREE OF DEBRIS, ROCKS LARGER THAN ONE INCH (1"), WOOD, ROOTS, VEGETABLE MATTER AND CLAY CLODS.

C. LAWN – ALL DISTURBED AREAS ARE TO BE TREATED WITH A MINIMUM SIX INCH (6") THICK LAYER OF TOPSOIL, OR AS DIRECTED BY THE LOCAL ORDINANCE OR CLIENT, AND SEEDED OR SODDED IN ACCORDANCE WITH THE PERMANENT STABILIZATION METHODS INDICATED WITHIN THE SOIL EROSION AND SEDIMENT CONTROL NOTES.
I. LAWN SEED MIXTURE SHALL BE FRESH, CLEAN NEW CROP SEED.
II. SOD SHALL BE STRONGLY ROOTED, WEED AND DISEASE/PEST FREE WITH A UNIFORM THICKNESS. SOD INSTALLED ON SLOPES GREATER THAN 4:1 SHALL BE PEGGED TO HOLD SOD IN PLACE.

D. MULCH – ALL PLANTING BEDS SHALL BE MULCHED WITH A 3" THICK LAYER OF DOUBLE SHREDDED HARDWOOD BARK MULCH, UNLESS OTHERWISE STATED ON THE LANDSCAPE PLAN.

E. FERTILIZER
I. FERTILIZER SHALL BE DELIVERED TO THE SITE MIXED AS SPECIFIED IN THE ORIGINAL UNOPENED STANDARD BAGS SHOWING WEIGHT, ANALYSIS AND NAME OF MANUFACTURER. FERTILIZER SHALL BE STORED IN A WEATHERPROOF PLACE SO THAT IT CAN BE KEPT DRY PRIOR TO USE.
II. FOR THE PURPOSE OF BIDDING, ASSUME THAT FERTILIZER SHALL BE 10% NITROGEN, 6% PHOSPHORUS AND 4% POTASSIUM BY WEIGHT. A FERTILIZER SHOULD NOT BE SELECTED WITHOUT A SOIL TEST PERFORMED BY A CERTIFIED SOIL LABORATORY.

F. PLANT MATERIAL
I. ALL PLANTS SHALL IN ALL CASES CONFORM TO THE REQUIREMENTS OF THE "AMERICAN STANDARD FOR NURSERY STOCK" (ANSI Z60.1), LATEST EDITION, AS PUBLISHED BY THE AMERICAN NURSERY & LANDSCAPE ASSOCIATION.
II. IN ALL CASES, BOTANICAL NAMES SHALL TAKE PRECEDENCE OVER COMMON NAMES FOR ANY AND ALL PLANT MATERIAL.
III. PLANTS SHALL BE LEGIBLY TAGGED WITH THE PROPER NAME AND SIZE. TAGS ARE TO REMAIN ON AT LEAST ONE PLANT OF EACH SPECIES FOR VERIFICATION PURPOSES DURING THE FINAL INSPECTION.
IV. TREES WITH ABRASION OF THE BARK, SUN SCALDS, DISFIGURATION OR FRESH CUTS OF LIMBS OVER 1¼", WHICH HAVE NOT BEEN COMPLETELY CALLUSED, SHALL BE REJECTED. PLANTS SHALL NOT BE BOUND WITH WIRE OR ROPE AT ANY TIME SO AS TO DAMAGE THE BARK OR BREAK BRANCHES.
V. ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY AND SHALL HAVE A NORMAL HABIT OF GROWTH: WELL DEVELOPED BRANCHES, DENSELY FOLIATED, VIGOROUS ROOT SYSTEMS AND BE FREE OF DISEASE, INSECTS, PESTS, EGGS OR LARVAE.
VI. CALIPER MEASUREMENTS OF NURSERY GROWN TREES SHALL BE TAKEN AT A POINT ON THE TRUNK SIX INCHES (6") ABOVE THE NATURAL GRADE FOR TREES UP TO AND INCLUDING A FOUR INCH (4") CALIPER SIZE. IF THE CALIPER AT SIX INCHES (6") ABOVE THE GROUND EXCEEDS FOUR INCHES (4") IN CALIPER, THE CALIPER SHOULD BE MEASURED AT A POINT 12" ABOVE THE NATURAL GRADE.
VII. SHRUBS SHALL BE MEASURED TO THE AVERAGE HEIGHT OR SPREAD OF THE SHRUB, AND NOT TO THE LONGEST BRANCH.
VIII. TREES AND SHRUBS SHALL BE HANDLED WITH CARE BY THE ROOT BALL.

3. GENERAL WORK PROCEDURES
A. CONTRACTOR TO UTILIZE WORKMANLIKE INDUSTRY STANDARDS IN PERFORMING ALL LANDSCAPE CONSTRUCTION. THE SITE IS TO BE LEFT IN A CLEAN STATE AT THE END OF EACH WORKDAY. ALL DEBRIS, MATERIALS AND TOOLS SHALL BE PROPERLY STORED, STOCKPILED OR DISPOSED OF.

B. WASTE MATERIALS AND DEBRIS SHALL BE COMPLETELY DISPOSED OF AT THE CONTRACTOR'S EXPENSE. DEBRIS SHALL NOT BE BURIED, INCLUDING ORGANIC MATERIALS, BUT SHALL BE REMOVED COMPLETELY FROM THE SITE.

4. SITE PREPARATIONS
A. BEFORE AND DURING PRELIMINARY GRADING AND FINISHED GRADING, ALL WEEDS AND GRASSES SHALL BE DUG OUT BY THE ROOTS AND DISPOSED OF IN ACCORDANCE WITH GENERAL WORK PROCEDURES OUTLINED HEREIN.

B. ALL EXISTING TREES TO REMAIN SHALL BE PRUNED TO REMOVE ANY DAMAGED BRANCHES. THE ENTIRE LIMB OF ANY DAMAGED BRANCH SHALL BE CUT OFF AT THE TRUNK. CONTRACTOR SHALL ENSURE THAT CUTS ARE SMOOTH AND STRAIGHT. ANY EXPOSED ROOTS SHALL BE CUT BACK WITH CLEAN, SHARP TOOLS AND TOPSOIL SHALL BE PLACED AROUND THE REMAINDER OF THE ROOTS. EXISTING TREES SHALL BE MONITORED ON A REGULAR BASIS FOR ADDITIONAL ROOT OR BRANCH DAMAGE AS A RESULT OF CONSTRUCTION. ROOTS SHALL NOT BE LEFT EXPOSED FOR MORE THAN ONE (1) DAY. CONTRACTOR SHALL WATER EXISTING TREES AS NEEDED TO PREVENT SHOCK OR DECLINE.

C. CONTRACTOR SHALL ARRANGE TO HAVE A UTILITY STAKE-OUT TO LOCATE ALL UNDERGROUND UTILITIES PRIOR TO INSTALLATION OF ANY LANDSCAPE MATERIAL. UTILITY COMPANIES SHALL BE CONTACTED THREE (3) DAYS PRIOR TO THE BEGINNING OF WORK.

5. TREE PROTECTION
A. CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING TREES TO REMAIN. A TREE PROTECTION ZONE SHALL BE ESTABLISHED AT THE DRIP LINE OR 15 FEET FROM THE TRUNK OR AT THE LIMIT OF CONSTRUCTION DISTURBANCE, WHICHEVER IS GREATER. LOCAL STANDARDS THAT MAY REQUIRE A MORE STRICT TREE PROTECTION ZONE SHALL BE HONORED.

B. A FORTY-EIGHT INCH (48") HIGH WOODEN SNOW FENCE OR ORANGE COLORED HIGH-DENSITY "VSI-FENCE", OR APPROVED EQUAL, MOUNTED ON STEEL POSTS SHALL BE PLACED ALONG THE BOUNDARY OF THE TREE PROTECTION ZONE. POSTS SHALL BE LOCATED AT A MAXIMUM OF EIGHT FEET (8') ON CENTER OR AS INDICATED WITHIN THE TREE PROTECTION DETAIL.

C. WHEN THE TREE PROTECTION FENCING HAS BEEN INSTALLED, IT SHALL BE INSPECTED BY THE APPROVING AGENCY PRIOR TO DEMOLITION, GRADING, TREE CLEARING OR ANY OTHER CONSTRUCTION. THE FENCING ALONG THE TREE PROTECTION ZONE SHALL BE REGULARLY INSPECTED BY THE LANDSCAPE CONTRACTOR AND MAINTAINED UNTIL ALL CONSTRUCTION ACTIVITY HAS BEEN COMPLETED.

D. AT NO TIME SHALL MACHINERY, DEBRIS, FALLEN TREES OR OTHER MATERIALS BE PLACED, STOCKPILED OR LEFT STANDING IN THE TREE PROTECTION ZONE.

6. SOIL MODIFICATIONS
A. CONTRACTOR SHALL ATTAIN A SOIL TEST FOR ALL AREAS OF THE SITE PRIOR TO CONDUCTING ANY PLANTING. SOIL TESTS SHALL BE PERFORMED BY A CERTIFIED SOIL LABORATORY.

B. LANDSCAPE CONTRACTOR SHALL REPORT ANY SOIL OR DRAINAGE CONDITIONS CONSIDERED DETRIMENTAL TO THE GROWTH OF PLANT MATERIAL. SOIL MODIFICATIONS, AS SPECIFIED HEREIN, MAY NEED TO BE CONDUCTED BY THE LANDSCAPE CONTRACTOR DEPENDING ON SITE CONDITIONS.

C. THE FOLLOWING AMENDMENTS AND QUANTITIES ARE APPROXIMATE AND ARE FOR BIDDING PURPOSES ONLY. COMPOSITION OF AMENDMENTS SHOULD BE REVISED DEPENDING ON THE OUTCOME OF A TOPSOIL ANALYSIS PERFORMED BY A CERTIFIED SOIL LABORATORY.
I. TO INCREASE A SANDY SOIL'S ABILITY TO RETAIN WATER AND NUTRIENTS, THOROUGHLY TILL ORGANIC MATTER INTO THE TOP 6-12". USE COMPOSTED BARK, COMPOSTED LEAF MULCH OR PEAT MOSS. ALL PRODUCTS SHOULD BE COMPOSTED TO A DARK COLOR AND BE FREE OF PIECES WITH IDENTIFIABLE LEAF OR WOOD STRUCTURE. AVOID MATERIAL WITH A PH HIGHER THAN 7.5.
II. TO INCREASE DRAINAGE, MODIFY HEAVY CLAY OR SILT (MORE THAN 40% CLAY OR SILT) BY ADDING COMPOSTED PINE BARK (UP TO 30% BY VOLUME) AND/OR AGRICULTURAL GYPSUM. COARSE SAND MAY BE USED IF ENOUGH IS ADDED TO BRING THE SAND CONTENT TO MORE THAN 60% OF THE TOTAL MIX. SUBSURFACE DRAINAGE LINES MAY NEED TO BE ADDED TO INCREASE DRAINAGE.
III. MODIFY EXTREMELY SANDY SOILS (MORE THAN 85%) BY ADDING ORGANIC MATTER AND/OR DRY, SHREDDED CLAY LOAM UP TO 30% OF THE TOTAL MIX.

7. FINISHED GRADING
A. UNLESS OTHERWISE CONTRACTED, THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION OF TOPSOIL AND THE ESTABLISHMENT OF FINE-GRADING WITHIN THE DISTURBANCE AREA OF THE SITE.

B. LANDSCAPE CONTRACTOR SHALL VERIFY THAT SUBGRADE FOR INSTALLATION OF TOPSOIL HAS BEEN ESTABLISHED. THE SUBGRADE OF THE SITE MUST MEET THE FINISHED GRADE LESS THE REQUIRED TOPSOIL THICKNESS (1"±).

C. ALL LAWN AND PLANTING AREAS SHALL BE GRADED TO A SMOOTH, EVEN AND UNIFORM PLANE WITH NO ABRUPT CHANGE OF SURFACE AS DEPICTED WITHIN THIS SET OF CONSTRUCTION PLANS, UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER OR LANDSCAPE ARCHITECT.

D. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED TO ALLOW FREE FLOW OF SURFACE WATER IN AND AROUND THE PLANTING BEDS. STANDING WATER SHALL NOT BE PERMITTED IN PLANTING BEDS.

8. TOPSOILING
A. CONTRACTOR SHALL PROVIDE A SIX INCH (6") THICK MINIMUM LAYER OF TOPSOIL, OR AS DIRECTED BY THE LOCAL ORDINANCE OR CLIENT, IN ALL PLANTING AREAS. TOPSOIL SHOULD BE SPREAD OVER A PREPARED SURFACE IN A UNIFORM LAYER TO ACHIEVE THE DESIRED COMPACTED THICKNESS.

B. ON-SITE TOPSOIL MAY BE USED TO SUPPLEMENT THE TOTAL AMOUNT REQUIRED. TOPSOIL FROM THE SITE MAY BE REJECTED IF IT HAS NOT BEEN PROPERLY REMOVED, STORED AND PROTECTED PRIOR TO CONSTRUCTION.

C. CONTRACTOR SHALL FURNISH TO THE APPROVING AGENCY AN ANALYSIS OF BOTH IMPORTED AND ON-SITE TOPSOIL TO BE UTILIZED IN ALL PLANTING AREAS. THE PH AND NUTRIENT LEVELS MAY NEED TO BE ADJUSTED THROUGH SOIL MODIFICATIONS AS NEEDED TO ACHIEVE THE REQUIRED LEVELS AS SPECIFIED IN THE MATERIALS SECTION ABOVE.

D. ALL PLANTING AND LAWN AREAS ARE TO BE CULTIVATED TO A DEPTH OF SIX INCHES (6"). ALL DEBRIS EXPOSED FROM EXCAVATION AND CULTIVATION SHALL BE DISPOSED OF IN ACCORDANCE WITH GENERAL WORK PROCEDURES SECTION ABOVE. THE FOLLOWING SHALL BE TILLED INTO THE TOP FOUR INCHES (4") IN TWO DIRECTIONS (QUANTITIES BASED ON A 1,000 SQUARE FOOT AREA):
I. 20 POUNDS 'GROW POWER' OR APPROVED EQUAL
II. 20 POUNDS NITRO-FORM (COURSE) 38-0-0 BLUE CHIP

E. THE SPREADING OF TOPSOIL SHALL NOT BE CONDUCTED UNDER MUDDY OR FROZEN CONDITIONS.

9. PLANTING
A. INSOFAR THAT IT IS FEASIBLE, PLANT MATERIAL SHALL BE PLANTED ON THE DAY OF DELIVERY. IN THE EVENT THAT THIS IS NOT POSSIBLE, LANDSCAPE CONTRACTOR SHALL PROTECT UNINSTALLED PLANT MATERIAL. PLANTS SHALL NOT REMAIN UNPLANTED FOR LONGER THAN A THREE DAY PERIOD AFTER DELIVERY. PLANTS THAT WILL NOT BE PLANTED FOR A PERIOD OF TIME GREATER THAN THREE DAYS SHALL BE HEALED IN WITH TOPSOIL OR MULCH TO HELP PRESERVE ROOT MOISTURE.

B. PLANTING OPERATIONS SHALL BE PERFORMED DURING PERIODS WITHIN THE PLANTING SEASON WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE AND IN ACCORDANCE WITH ACCEPTED LOCAL PRACTICE. PLANTS SHALL NOT BE INSTALLED IN TOPSOIL THAT IS IN A MUDDY OR FROZEN CONDITION.

C. ANY INJURED ROOTS OR BRANCHES SHALL BE PRUNED TO MAKE CLEAN-CUT ENDS PRIOR TO PLANTING UTILIZING CLEAN, SHARP TOOLS. ONLY INJURED OR DISEASED BRANCHING SHALL BE REMOVED.

D. ALL PLANTING CONTAINERS, BASKETS AND NON-BIODEGRADABLE MATERIALS SHALL BE REMOVED FROM ROOT BALLS DURING PLANTING. NATURAL FIBER BURLAP MUST BE CUT FROM AROUND THE TRUNK OF THE TREE AND FOLDED DOWN AGAINST THE ROOT BALL PRIOR TO BACKFILLING.

E. POSITION TREES AND SHRUBS AT THEIR INTENDED LOCATIONS AS PER THE PLANS AND SECURE THE APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO EXCAVATING PITS, MAKING NECESSARY ADJUSTMENTS AS DIRECTED.

F. PRIOR TO THE ISSUANCE OF ANY CERTIFICATE OF OCCUPANCY, THE PROPOSED LANDSCAPE, AS SHOWN ON THE APPROVED LANDSCAPE PLAN, MUST BE INSTALLED, INSPECTED AND APPROVED BY THE APPROVING AGENCY. THE APPROVING AGENCY SHALL TAKE INTO ACCOUNT SEASONAL CONSIDERATIONS IN THIS REGARD AS FOLLOWS. THE PLANTING OF TREES, SHRUBS, VINES OR GROUND COVER SHALL OCCUR ONLY DURING THE FOLLOWING PLANTING SEASONS:
I. PLANTS: MARCH 15 TO DECEMBER 15
II. LAWN: MARCH 15 TO JUNE 15 OR SEPT. 1 TO DECEMBER 1

PLANTINGS REQUIRED FOR A CERTIFICATE OF OCCUPANCY SHALL BE PROVIDED DURING THE NEXT APPROPRIATE SEASON AT THE MUNICIPALITY'S DISCRETION. CONTRACTOR SHOULD CONTACT APPROVING AGENCY FOR POTENTIAL SUBSTITUTIONS.

G. FURTHERMORE, THE FOLLOWING TREE VARIETIES ARE UNUSUALLY SUSCEPTIBLE TO WINTER DAMAGE. WITH TRANSPLANT SHOCK AND THE SEASONAL LACK OF NITROGEN AVAILABILITY, THE RISK OF PLANT DEATH IS GREATLY INCREASED. IT IS NOT RECOMMENDED THAT THESE SPECIES BE PLANTED DURING THE FALL PLANTING SEASON:

ACER RUBRUM	PLATANUS X ACERIFOLIA
BETULA VARIETIES	POPULOUS VARIETIES
CARPINUS VARIETIES	PRUNUS VARIETIES
CRATAEGUS VARIETIES	PYRUS VARIETIES
KOELREUTERIA	QUERCUS VARIETIES
LIQUIDAMBER STYRACIFLUA	TILIA TOMENTOSA
LIRIODENDRON TULIPIFERA	ZELKOVA VARIETIES

H. PLANTING PITS SHALL BE DUG WITH LEVEL BOTTOMS, WITH THE WIDTH TWICE THE DIAMETER OF ROOT BALL. THE ROOT BALL SHALL REST ON UNDISTURBED GRADE. EACH PLANT PIT SHALL BE BACKFILLED IN LAYERS WITH THE FOLLOWING PREPARED SOIL MIXED THOROUGHLY:
I. 1 PART PEAT MOSS
II. 1 PART COMPOSTED COW MANURE BY VOLUME
III. 3 PARTS TOPSOIL BY VOLUME
IV. 21 GRAMS 'AGRIFORM' PLANTING TABLETS (OR APPROVED EQUAL) AS FOLLOWS:
A) 2 TABLETS PER 1 GALLON PLANT
B) 3 TABLETS PER 5 GALLON PLANT
C) 4 TABLETS PER 15 GALLON PLANT
D) LARGER PLANTS: 2 TABLETS PER ¼" CALIPER OF TRUNK

I. FILL PREPARED SOIL AROUND BALL OF PLANT HALF-WAY AND INSERT PLANT TABLETS. COMPLETE BACKFILL AND WATER THOROUGHLY.

J. ALL PLANTS SHALL BE PLANTED SO THAT THE TOP OF THE ROOT BALL, THE POINT AT WHICH THE ROOT FLARE BEGINS, IS SET AT GROUND LEVEL AND IN THE CENTER OF THE PIT. NO SOIL IS TO BE PLACED DIRECTLY ON TOP OF THE ROOT BALL.

K. ALL PROPOSED TREES DIRECTLY ADJACENT TO WALKWAYS OR DRIVEWAYS SHALL BE PRUNED AND MAINTAINED TO A MINIMUM BRANCHING HEIGHT OF 7' FROM GRADE.

L. GROUND COVER AREAS SHALL RECEIVE A ¼" LAYER OF HUMUS RAKED INTO THE TOP 1" OF PREPARED SOIL PRIOR TO PLANTING. ALL GROUND COVER AREAS SHALL BE WEEDED AND TREATED WITH A PRE-EMERGENT CHEMICAL AS PER MANUFACTURER'S RECOMMENDATION.

M. NO PLANT, EXCEPT GROUND COVERS, GRASSES OR VINES, SHALL BE PLANTED LESS THAN TWO FEET (2') FROM EXISTING STRUCTURES AND SIDEWALKS.

N. ALL PLANTING AREAS AND PLANTING PITS SHALL BE MULCHED AS SPECIFIED HEREIN TO FILL THE ENTIRE BED AREA OR SAUCER. NO MULCH IS TO TOUCH THE TRUNK OF THE TREE OR SHRUB.

O. ALL PLANTING AREAS SHALL BE WATERED IMMEDIATELY UPON INSTALLATION IN ACCORDANCE WITH THE WATERING SPECIFICATIONS AS LISTED HEREIN.

10. TRANSPLANTING (WHEN REQUIRED)
A. ALL TRANSPLANTS SHALL BE DUG WITH INTACT ROOT BALLS CAPABLE OF SUSTAINING THE PLANT.

B. IF PLANTS ARE TO BE STOCKPILED BEFORE REPLANTING, THEY SHALL BE HEALED IN WITH MULCH OR SOIL, ADEQUATELY WATERED AND PROTECTED FROM EXTREME HEAT, SUN AND WIND.

C. PLANTS SHALL NOT BE DUG FOR TRANSPLANTING BETWEEN APRIL 10 AND JUNE 30.

D. UPON REPLANTING, BACKFILL SOIL SHALL BE AMENDED WITH FERTILIZER AND ROOT GROWTH HORMONE.

E. TRANSPLANTS SHALL BE GUARANTEED FOR THE LENGTH OF THE GUARANTEE PERIOD SPECIFIED HEREIN.

F. IF TRANSPLANTS DIE, SHRUBS AND TREES LESS THAN SIX INCHES (6") DBH SHALL BE REPLACED IN KIND. TREES GREATER THAN SIX INCHES (6") DBH MAY BE REQUIRED TO BE REPLACED IN ACCORDANCE WITH THE MUNICIPALITY'S TREE REPLACEMENT GUIDELINES.

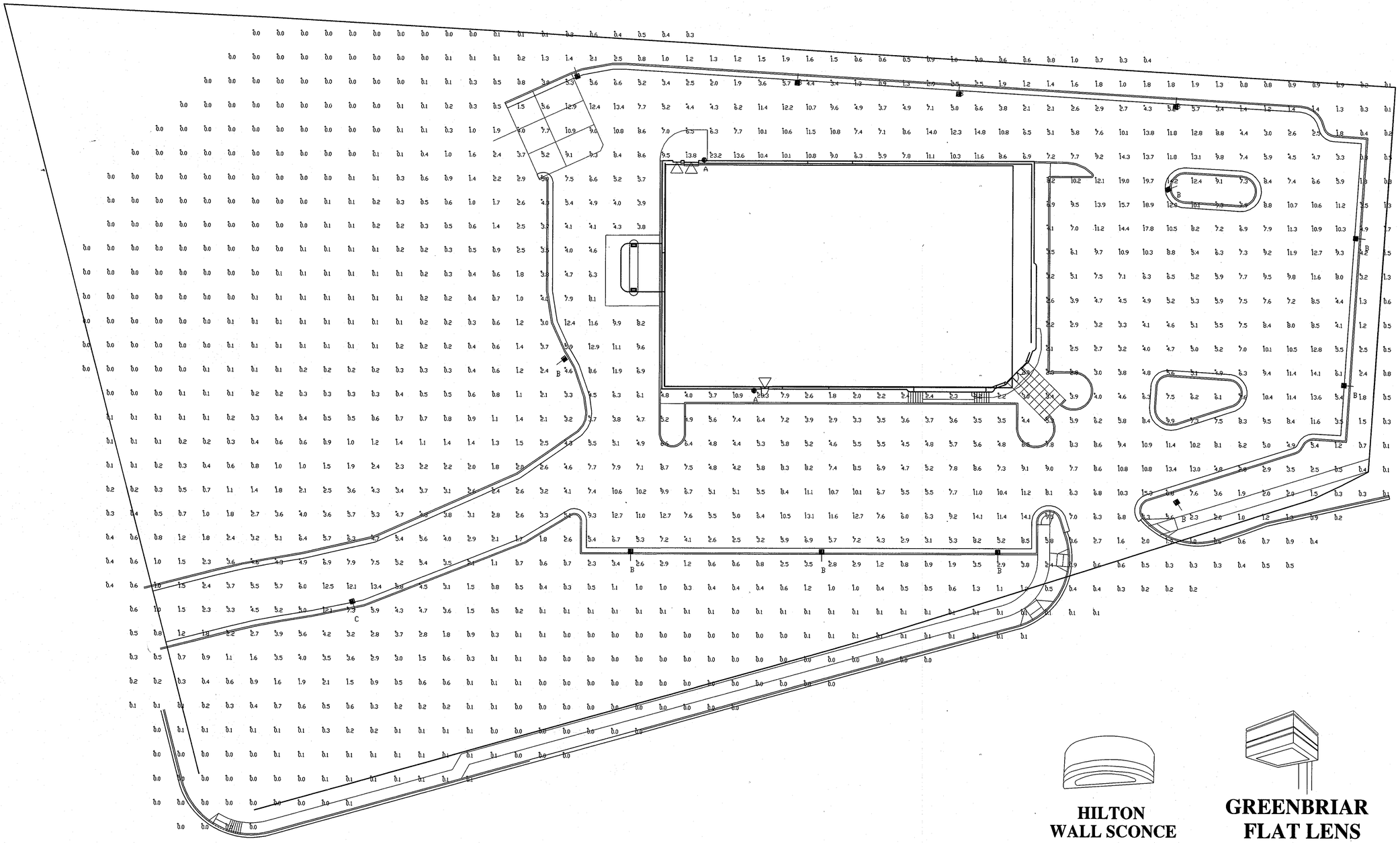
11. WATERING
A. NEW PLANTINGS OR LAWN AREAS SHALL BE ADEQUATELY IRRIGATED BEGINNING IMMEDIATELY AFTER PLANTING. WATER SHALL BE APPLIED TO EACH TREE AND SHRUB IN SUCH MANNER AS NOT TO DISTURB BACKFILL AND TO THE EXTENT THAT ALL MATERIALS IN THE PLANTING HOLE ARE THOROUGHLY SATURATED. WATERING SHALL CONTINUE AT LEAST UNTIL PLANTS ARE ESTABLISHED.

B. SITE OWNER SHALL PROVIDE WATER IF AVAILABLE ON SITE AT TIME OF PLANTING. IF WATER IS NOT AVAILABLE ON SITE, CONTRACTOR SHALL SUPPLY ALL NECESSARY WATER. THE USE OF WATERING BAGS IS RECOMMENDED FOR ALL NEWLY PLANTED TREES.

C. IF AN IRRIGATION SYSTEM HAS BEEN INSTALLED ON THE SITE, IT SHALL BE USED TO WATER PROPOSED PLANT MATERIAL, BUT ANY FAILURE OF THE SYSTEM DOES NOT ELIMINATE THE CONTRACTOR'S RESPONSIBILITY OF MAINTAINING THE DESIRED MOISTURE LEVEL FOR VIGOROUS, HEALTHY GROWTH.

12. GUARANTEE
A. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL PLANTS FOR A PERIOD OF ONE (1) YEAR FROM APPROVAL OF LANDSCAPE INSTALLATION BY THE APPROVING AGENCY. CONTRACTOR SHALL SUPPLY THE OWNER WITH A MAINTENANCE BOND FOR TEN PERCENT (10%) OF THE VALUE OF THE LANDSCAPE INSTALLATION WHICH WILL BE RELEASED AT THE CONCLUSION OF THE GUARANTEE PERIOD AND WHEN A FINAL INSPECTION HAS BEEN COMPLETED AND APPROVED BY THE OWNER OR AUTHORIZED REPRESENTATIVE.

B. ANY DEAD OR DYING PLANT MATERIAL SHALL BE REPLACED FOR THE LENGTH OF THE GUARANTEE PERIOD. REPLACEMENT OF PLANT MATERIAL SHALL BE CONDUCTED AT THE FIRST SUCCEEDING PLANTING SEASON. ANY DEBRIS SHALL BE DISPOSED OF OFF-SITE, WITHOU



HILTON WALL SCONCE

GREENBRIAR FLAT LENS
IESNA FULL CUTOFF

Maintained Footcandle levels.

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
SUMMARY	Illuminance	Fc	3.18	23.3	0.0	N.A.	N.A.
MAIN LOT SUMMARY	Illuminance	Fc	7.35	23.3	1.3	5.65	17.92

Luminaire Schedule							
Symbol	Qty	Label	Arrangement	Total Lumens	LLF	Description	Total Watts
	2	A	SINGLE	13000	0.700	HIWSD-3-150-CMH-F	188
	12	B	SINGLE	120000	0.800	GFR FP 1000 PSMV F 3HSS 27' PDLE 3' BASE	1070
	1	C	SINGLE	120000	0.800	GFR 3 1000 PSMV F 27' PDLE 3' BASE	1070

NOTE: ALL LIGHTING SHALL CONFORM TO SECTION 134 OF THE HOWARD COUNTY ZONING REGULATIONS.

THIS PLAN WAS PREPARED BY LSI INDUSTRIES. BOHLER ENGINEERING TO BE HELD HARMLESS IF FAILURES OR DISCREPANCIES ARE ENCOUNTERED.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION HP	DATE 9/24/10
CHIEF-DIVISION OF LAND DEVELOPMENT	DATE 10/12/10
DIRECTOR	DATE 10/12/10

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.

B Wilson for Peter Beilenson 10/4/10
COUNTY HEALTH OFFICER DATE
HOWARD COUNTY HEALTH DEPARTMENT

GENERAL NOTE:
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THIS PROJECT WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR APPLICABLE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF THE WORK AS DEFINED BY THE DRAWINGS AND IN FULL CONFORMANCE WITH LOCAL REGULATIONS AND CODES.

MISS UTILITY

BEFORE YOU DIG CALL
811 IN MD
or 1-800-257-7777
PROTECT YOURSELF. GIVE TWO WORKING DAYS NOTICE
THE CONTRACTOR TO CALL MISS UTILITY TO HAVE ALL EXISTING UTILITIES MARKED 48 HOURS PRIOR TO ANY CONSTRUCTION.

NO.:	DATE	REVISION DESCRIPTION

OWNER:
PARCEL A
JACK M. AND LOUISE KAUFUSS
13715 OLD ROVER ROAD
WEST FRIENDSHIP MD 21794-9718
PHONE: 410-442-2011

PARCEL B
JOHN VICTOR AND
MARTHA B. CALABRESE
3262 OLD FENCE ROAD
ELLICOTT CITY, MD 21042-2440
PHONE: 410-465-3519

DEVELOPER:
RITE AID CORPORATION
P.O. BOX 3165
HARRISBURG, PA 17105
ATTN: LANCE MASON
PHONE: 804-745-6222

PROJECT
RITE AID CORPORATION
KAUFUSS AND CALABRESE LANDS
PARCELS A & B
ONE-STORY RETAIL BUILDING

AREA 3.136 AC. TAX MAP 23 GRID 6 ZONED B-1
PARCELS A & B
2ND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND 21042

TITLE
LIGHTING PLAN

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD
SUITE 801
TOWSON, MARYLAND 21204
PH: (410) 821-7900
FX: (410) 821-7987
www.bohlerengineering.com

PROFESSIONAL CERTIFICATION
I, MATTHEW T. ALLEN, HEREBY CERTIFY THAT THESE 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. 28567, EXPIRATION DATE: 4/16/11

9/10/10
MATTHEW T. ALLEN
PROFESSIONAL ENGINEER NO. 28567

DESIGNED BY:	M.J.G.
DRAWN BY:	R.J.M.
PROJECT NO.:	M0072009.2
DATE:	8/20/10
SCALE:	
DRAWING NO.	22 OF 37

SDP 09-44

H:\07\Rite Aid Corporation\M007 2009 - 10470 Frederick Road, Ellicott City, MD\CAD\Site Plan Documents\Rev 5\M0072009P5.dwg, 9/13/2010 1:23:28 PM, mgessil, 1:1

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Project Name: Rite Aid-Ellicott City | Boring No. B-1
Location: Howard County, Maryland | Job #: 08501A

SAMPLER
Datum: | Hammer Wt. 140 lbs. | Hole Diameter 6" | Foreman: L. Smith
Surf. Elev.: Ft. | Hammer Drop 30 in. | Rock Core Diameter: | Inspector:
Date Started 10/08/08 | Pipe Size 2 in. | Boring Method HSA | Date Completed 10/08/08

Elevation/ Depth	SOIL SYMBOLS/ SAMPLE CONDITIONS	Description	Boring and Sampling Notes	Rec.	NM	SPT Blows	N	SPT Blows/Foot Curve (10 30 50)
0	D	Reddish brown, moist, loose, clayey SAND (SC)	Topsoil-4"	15"		2-4-3	7	
	I	Brown, damp, medium stiff, micaceous sandy SILT (ML)	No groundwater encountered while drilling.	18"		3-3-4	7	
5	D			18"		3-4-5	9	
	D			18"		4-5-5	10	
10	I	Brown, damp, loose to medium dense, micaceous silty SAND (SM)		18"		3-3-5	8	
	D			18"		7-8-8	16	
15	D			15"		13-13-16	29	
20		Bottom of Boring at 20.0'						
25								
30								

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE; PT - PRESSED SHELBY TUBE; CA - CONTINUOUS FLIGHT AUGER; RC - ROCK CORE
SAMPLE CONDITIONS: D - DISINTEGRATED; I - INTACT; U - UNDISTURBED; L - LOST
GROUND WATER: AT COMPLETION Dry ft. / 14.0 ft.; AFTER 24 HRS. 12.0 ft. / 13.5 ft.; AFTER ___ HRS. ___ ft. / ___ ft.
BORING METHOD: HSA - HOLLOW STEM AUGERS; CFA - CONTINUOUS FLIGHT AUGERS; DC - DRIVING CASING; MD - MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS.

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Project Name: Rite Aid-Ellicott City | Boring No. B-2
Location: Howard County, Maryland | Job #: 08501A

SAMPLER
Datum: | Hammer Wt. 140 lbs. | Hole Diameter 6" | Foreman: L. Smith
Surf. Elev.: Ft. | Hammer Drop 30 in. | Rock Core Diameter: | Inspector:
Date Started 10/09/08 | Pipe Size 2 in. | Boring Method HSA | Date Completed 10/09/08

Elevation/ Depth	SOIL SYMBOLS/ SAMPLE CONDITIONS	Description	Boring and Sampling Notes	Rec.	NM	SPT Blows	N	SPT Blows/Foot Curve (10 30 50)
0	D	Brown, damp, medium stiff, SILT (ML)	Topsoil-4"	14"		2-3-3	6	
	I	Brown, moist, medium dense to very dense, micaceous silty SAND, no to some rock fragments (SM)	No groundwater encountered while drilling.	18"		3-6-7	13	
5	D			18"		6-8-11	19	
	D			16"		8-10-15	25	
10	D			18"		35-27-20	47	
	D			3"		51/3"	100+	
15	D	Auger Refusal at 13. 5' Bottom of Boring at 13.8'						
20								
25								
30								

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE; PT - PRESSED SHELBY TUBE; CA - CONTINUOUS FLIGHT AUGER; RC - ROCK CORE
SAMPLE CONDITIONS: D - DISINTEGRATED; I - INTACT; U - UNDISTURBED; L - LOST
GROUND WATER: AT COMPLETION Dry ft. / 10.0 ft.; AFTER 24 HRS. Dry ft. / 9.6 ft.; AFTER ___ HRS. ___ ft. / ___ ft.
BORING METHOD: HSA - HOLLOW STEM AUGERS; CFA - CONTINUOUS FLIGHT AUGERS; DC - DRIVING CASING; MD - MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS.

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Project Name: Rite Aid-Ellicott City | Boring No. B-4
Location: Howard County, Maryland | Job #: 08501A

SAMPLER
Datum: | Hammer Wt. 140 lbs. | Hole Diameter 6" | Foreman: L. Smith
Surf. Elev.: Ft. | Hammer Drop 30 in. | Rock Core Diameter: | Inspector:
Date Started 10/08/08 | Pipe Size 2 in. | Boring Method HSA | Date Completed 10/08/08

Elevation/ Depth	SOIL SYMBOLS/ SAMPLE CONDITIONS	Description	Boring and Sampling Notes	Rec.	NM	SPT Blows	N	SPT Blows/Foot Curve (10 30 50)
0	D	Brown, moist, medium stiff, SILT (ML)	Topsoil-4"	7"		1-3-4	7	
	I	Tan, moist, medium dense, clayey SAND and GRAVEL (GC-SC)		15"		6-7-10	17	
5	D			18"		4-4-6	10	
	D	Brown, moist, medium stiff, micaceous sandy SILT (ML)		18"		3-4-5	9	
10	I	Brown, damp, loose to medium dense, micaceous silty SAND (SM)	Groundwater encountered at 11.0' while drilling.	18"		3-4-11	15	
	D			18"		4-6-11	17	
15	D			15"		3-4-6	10	
20		Bottom of Boring at 20.0'						
25								
30								

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE; PT - PRESSED SHELBY TUBE; CA - CONTINUOUS FLIGHT AUGER; RC - ROCK CORE
SAMPLE CONDITIONS: D - DISINTEGRATED; I - INTACT; U - UNDISTURBED; L - LOST
GROUND WATER: AT COMPLETION 10.5 ft. / 13.0 ft.; AFTER 24 HRS. 9.5 ft. / 10.7 ft.; AFTER ___ HRS. ___ ft. / ___ ft.
BORING METHOD: HSA - HOLLOW STEM AUGERS; CFA - CONTINUOUS FLIGHT AUGERS; DC - DRIVING CASING; MD - MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS.

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Project Name: Rite Aid-Ellicott City | Boring No. B-4
Location: Howard County, Maryland | Job #: 08501A

SAMPLER
Datum: | Hammer Wt. 140 lbs. | Hole Diameter 6" | Foreman: L. Smith
Surf. Elev.: Ft. | Hammer Drop 30 in. | Rock Core Diameter: | Inspector:
Date Started 10/08/08 | Pipe Size 2 in. | Boring Method HSA | Date Completed 10/08/08

Elevation/ Depth	SOIL SYMBOLS/ SAMPLE CONDITIONS	Description	Boring and Sampling Notes	Rec.	NM	SPT Blows	N	SPT Blows/Foot Curve (10 30 50)
0	D	Brown, moist, medium stiff, SILT (ML)	Topsoil-4"	7"		1-3-4	7	
	I	Tan, moist, medium dense, clayey SAND and GRAVEL (GC-SC)		15"		6-7-10	17	
5	D			18"		4-4-6	10	
	D	Brown, moist, medium stiff, micaceous sandy SILT (ML)		18"		3-4-5	9	
10	I	Brown, damp, loose to medium dense, micaceous silty SAND (SM)	Groundwater encountered at 11.0' while drilling.	18"		3-4-11	15	
	D			18"		4-6-11	17	
15	D			15"		3-4-6	10	
20		Bottom of Boring at 20.0'						
25								
30								

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE; PT - PRESSED SHELBY TUBE; CA - CONTINUOUS FLIGHT AUGER; RC - ROCK CORE
SAMPLE CONDITIONS: D - DISINTEGRATED; I - INTACT; U - UNDISTURBED; L - LOST
GROUND WATER: AT COMPLETION 10.5 ft. / 13.0 ft.; AFTER 24 HRS. 9.5 ft. / 10.7 ft.; AFTER ___ HRS. ___ ft. / ___ ft.
BORING METHOD: HSA - HOLLOW STEM AUGERS; CFA - CONTINUOUS FLIGHT AUGERS; DC - DRIVING CASING; MD - MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS.

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Project Name: Rite Aid-Ellicott City | Boring No. B-5
Location: Howard County, Maryland | Job #: 08501A

SAMPLER
Datum: | Hammer Wt. 140 lbs. | Hole Diameter 6" | Foreman: L. Smith
Surf. Elev.: Ft. | Hammer Drop 30 in. | Rock Core Diameter: | Inspector:
Date Started 10/09/08 | Pipe Size 2 in. | Boring Method HSA | Date Completed 10/09/08

Elevation/ Depth	SOIL SYMBOLS/ SAMPLE CONDITIONS	Description	Boring and Sampling Notes	Rec.	NM	SPT Blows	N	SPT Blows/Foot Curve (10 30 50)
0	D	Brown, moist, soft, micaceous SILT (ML)	Topsoil-4"	10"		1-2-2	4	
	I	Brown, moist, medium dense, clayey SAND and GRAVEL (GC-SC)	No groundwater encountered while drilling.	18"		5-5-7	12	
5	D			18"		6-8-12	20	
	D	Brown, moist, medium dense to very dense, micaceous silty SAND (SM)		18"		6-10-17	27	
10	I			18"		27-28-31	59	
	D			0"		51/0"	100+	
15	D	Auger Refusal at 12. 0' Bottom of Boring at 12.0'						
20								
25								
30								

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE; PT - PRESSED SHELBY TUBE; CA - CONTINUOUS FLIGHT AUGER; RC - ROCK CORE
SAMPLE CONDITIONS: D - DISINTEGRATED; I - INTACT; U - UNDISTURBED; L - LOST
GROUND WATER: AT COMPLETION Dry ft. / 10.0 ft.; AFTER 24 HRS. Dry ft. / 9.7 ft.; AFTER ___ HRS. ___ ft. / ___ ft.
BORING METHOD: HSA - HOLLOW STEM AUGERS; CFA - CONTINUOUS FLIGHT AUGERS; DC - DRIVING CASING; MD - MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS.

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Project Name: Rite Aid-Ellicott City | Boring No. B-6
Location: Howard County, Maryland | Job #: 08501A

SAMPLER
Datum: | Hammer Wt. 140 lbs. | Hole Diameter 6" | Foreman: L. Smith
Surf. Elev.: Ft. | Hammer Drop 30 in. | Rock Core Diameter: | Inspector:
Date Started 10/09/08 | Pipe Size 2 in. | Boring Method HSA | Date Completed 10/09/08

Elevation/ Depth	SOIL SYMBOLS/ SAMPLE CONDITIONS	Description	Boring and Sampling Notes	Rec.	NM	SPT Blows	N	SPT Blows/Foot Curve (10 30 50)
0	D	Brown, moist, medium stiff, SILT (ML)	Topsoil-3"	14"		2-4-5	9	
	I	Brown and tan to brown, moist to damp, medium dense to very dense, micaceous silty SAND, some to trace rock fragments (SM)	No groundwater encountered while drilling.	18"		7-8-13	21	
5	D			18"		8-10-11	21	
	D			18"		7-8-11	19	
10	I			16"		6-4-9	13	
	D	Auger Refusal at 12.0' Bottom of Boring at 12.0'		0"		51/0"	100+	
15								
20								
25								
30								

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE; PT - PRESSED SHELBY TUBE; CA - CONTINUOUS FLIGHT AUGER; RC - ROCK CORE
SAMPLE CONDITIONS: D - DISINTEGRATED; I - INTACT; U - UNDISTURBED; L - LOST
GROUND WATER: AT COMPLETION Dry ft. / 9.5 ft.; AFTER 24 HRS. Dry ft. / 9.5 ft.; AFTER ___ HRS. ___ ft. / ___ ft.
BORING METHOD: HSA - HOLLOW STEM AUGERS; CFA - CONTINUOUS FLIGHT AUGERS; DC - DRIVING CASING; MD - MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS.

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Project Name: Rite Aid-Ellicott City | Boring No. P-1
Location: Howard County, Maryland | Job #: 08501A

SAMPLER
Datum: | Hammer Wt. 140 lbs. | Hole Diameter 6" | Foreman: L. Smith
Surf. Elev.: Ft. | Hammer Drop 30 in. | Rock Core Diameter: | Inspector:
Date Started 10/08/08 | Pipe Size 2 in. | Boring Method HSA | Date Completed 10/08/08

Elevation/ Depth	SOIL SYMBOLS/ SAMPLE CONDITIONS	Description	Boring and Sampling Notes	Rec.	NM	SPT Blows	N	SPT Blows/Foot Curve (10 30 50)
0	D	Brown, moist, soft to stiff, SILT (ML)	Topsoil-3"	12"		2-2-3	5	
	I		No groundwater encountered while drilling.					
5	D	Light brown and light gray, damp, medium stiff, micaceous SILT, trace sand and rock fragments (ML)		18"		3-4-7	11	
	D			18"		4-3-4	7	
10	I	Brown, damp, loose, micaceous silty SAND (SM)		24"		3-4-4-4	8	
	D	Bottom of Boring at 10.0'						
15								
20								
25								
30								

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE; PT - PRESSED SHELBY TUBE; CA - CONTINUOUS FLIGHT AUGER; RC - ROCK CORE
SAMPLE CONDITIONS: D - DISINTEGRATED; I - INTACT; U - UNDISTURBED; L - LOST
GROUND WATER: AT COMPLETION Dry ft. / 6.0 ft.; AFTER 24 HRS. Dry ft. / 5.5 ft.; AFTER ___ HRS. ___ ft. / ___ ft.
BORING METHOD: HSA - HOLLOW STEM AUGERS; CFA - CONTINUOUS FLIGHT AUGERS; DC - DRIVING CASING; MD - MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS.

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Project Name: Rite Aid-Ellicott City | Boring No. P-2
Location: Howard County, Maryland | Job #: 08501A

SAMPLER
Datum: | Hammer Wt. 140 lbs. | Hole Diameter 6" | Foreman: L. Smith
Surf. Elev.: Ft. | Hammer Drop 30 in. | Rock Core Diameter: | Inspector:
Date Started 10/09/08 | Pipe Size 2 in. | Boring Method HSA | Date Completed 10/09/08

Elevation/ Depth	SOIL SYMBOLS/ SAMPLE CONDITIONS	Description	Boring and Sampling Notes	Rec.	NM	SPT Blows	N	SPT Blows/Foot Curve (10 30 50)
0	D	Light brown to tan, moist, loose to medium dense, clayey SAND, trace to some rock fragments (SC)	Topsoil-5"	18"		3-2-3	5	
	I		No groundwater encountered while drilling.					
5	D			18"		8-9-11	20	
	D	Brown, damp, stiff, micaceous sandy SILT (ML)		18"		4-6-7	13	
10	I	Gray, damp, loose, micaceous silty SAND (SM)		24"		2-3-4-5	7	
	D	Bottom of Boring at 10.0'						
15								
20								
25								
30								

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE; PT - PRESSED SHELBY TUBE; CA - CONTINUOUS FLIGHT AUGER; RC - ROCK CORE
SAMPLE CONDITIONS: D - DISINTEGRATED; I - INTACT; U - UNDISTURBED; L - LOST
GROUND WATER: AT COMPLETION Dry ft. / 6.5 ft.; AFTER 24 HRS. Dry ft. / 6.0 ft.; AFTER ___ HRS. ___ ft. / ___ ft.
BORING METHOD: HSA - HOLLOW STEM AUGERS; CFA - CONTINUOUS FLIGHT AUGERS; DC - DRIVING CASING; MD - MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS.

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Project Name: Rite Aid-Ellicott City | Boring No. P-3
Location: Howard County, Maryland | Job #: 08501A

SAMPLER
Datum: | Hammer Wt. 140 lbs. | Hole Diameter 6" | Foreman: L. Smith
Surf. Elev.: Ft. | Hammer Drop 30 in. | Rock Core Diameter: | Inspector:
Date Started 10/09/08 | Pipe Size 2 in. | Boring Method HSA | Date Completed 10/09/08

Elevation/ Depth	SOIL SYMBOLS/ SAMPLE CONDITIONS	Description	Boring and Sampling Notes	Rec.	NM	SPT Blows	N	SPT Blows/Foot Curve (10 30 50)
0	I	Brown, moist, medium stiff, SILT, trace sand and rock fragments (ML)	Topsoil-4"	16"		2-3-5	8	
	D	Brown to tan, moist, medium dense, silty SAND, some rock fragments (SM)	No groundwater encountered while drilling.	18"		9-8-11	19	
5	D			16"		8-9-7	16	
	D	Brown, damp, loose, micaceous silty SAND		22"		2-2-3-4	5	
10		Bottom of Boring at 10.0'						
15								
20								
25								
30								

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE; PT - PRESSED SHELBY TUBE; CA - CONTINUOUS FLIGHT AUGER; RC - ROCK CORE
SAMPLE CONDITIONS: D - DISINTEGRATED; I - INTACT; U - UNDISTURBED; L - LOST
GROUND WATER: AT COMPLETION Dry ft. / 6.0 ft.; AFTER 24 HRS. Dry ft. / 5.5 ft.; AFTER ___ HRS. ___ ft. / ___ ft.
BORING METHOD: HSA - HOLLOW STEM AUGERS; CFA - CONTINUOUS FLIGHT AUGERS; DC - DRIVING CASING; MD - MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION HP — DATE 9/24/10
CHIEF-DIVISION OF LAND DEVELOPMENT — DATE 10/12/10
DIRECTOR — DATE 10/12/10

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.

B Wilson for Peter Beilenson 10/4/10
COUNTY HEALTH OFFICER — DATE
HOWARD COUNTY HEALTH DEPARTMENT

GENERAL NOTE:
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THIS PROJECT WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR APPLICABLE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF THE WORK AS DEFINED BY THE DRAWINGS AND IN FULL CONFORMANCE WITH LOCAL REGULATIONS AND CODES.

MISS UTILITY
BEFORE YOU DIG CALL
811 IN MD
or 1-800-257-7777
PROTECT YOURSELF, GIVE TWO WORKING DAYS NOTICE
THE CONTRACTOR TO CALL MISS UTILITY TO HAVE ALL EXISTING UTILITIES MARKED 48 HOURS PRIOR TO ANY CONSTRUCTION.

NO.:	DATE	REVISION DESCRIPTION

OWNER:
PARCEL A — JACK M. AND LOUISE KAULFUSS, 13715 OLD ROVER ROAD, WEST FRIENDSHIP MD 21794-9718, PHONE: 410-442-2011
PARCEL B — JOHN VICTOR AND MARTHA B. CALABRESE, 3262 OLD FENCE ROAD, ELLICOTT CITY, MD 21042-2440, PHONE: 410-465-3519

DEVELOPER:
RITE AID CORPORATION
P.O. BOX 3165
HARRISBURG, PA 17105
ATTN.: LANCE MASON
PHONE: 804-745-6222

PROJECT: RITE AID CORPORATION
KAULFUSS AND CALABRESE LANDS
PARCELS A & B
ONE-STORY RETAIL BUILDING

AREA 3.136 AC. TAX MAP 23 GRID 6 ZONED B-1
PARCELS A & B
2ND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND 21042

TITLE: BORING LOGS

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD
SUITE 801
TOWSON, MARYLAND 21204
PH: (410) 821-7900
FX: (410) 821-7987
www.bohlerengineering.com

PROFESSIONAL CERTIFICATION
I, MATTHEW T. ALLEN, HEREBY CERTIFY THAT THESE 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. 28567, EXPIRATION DATE: 4/16/11

MATTHEW T. ALLEN
PROFESSIONAL ENGINEER, NO. 28567

DESIGNED BY:	M.J.G.
DRAWN BY:	R.J.M.
PROJECT NO.:	MD072009.2
DATE:	8/20/10
SCALE:	N/A
DRAWING NO.	23 OF 37

SDP 09-44

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HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Project Name: Rite Aid-Ellicott City — Boring No.: P-4
Location: Howard County, Maryland — Job #: 08501A

SAMPLER
Datum: — Hammer Wt.: 140 lbs. — Hole Diameter: 6" — Foreman: L. Smith
Surf. Elev.: — Ft. — Hammer Drop: 30 in. — Rock Core Diameter: — Inspector:
Date Started: 10/08/08 — Pipe Size: 2 in. — Boring Method: HSA — Date Completed: 10/08/08

Elevation/ Depth	Description	Boring and Sampling Notes	Rec.	NM	SPT Blows	N
	Brown to brown and light gray, damp, soft to stiff, SILT (ML)	Topsoil-3"	11"		2-2-3	5
		No groundwater encountered while drilling.	18"		2-2-2	4
			18"		5-7-8	15
	Brown, damp, medium dense, micaceous silty SAND, some rock fragments (SM)		17"		8-7-10-12	17
	Bottom of Boring at 10.0'					

SPT Blows/Foot Curve

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE; PT - PRESSED SHELBY TUBE; CA - CONTINUOUS FLIGHT AUGER; RC - ROCK CORE

SAMPLE CONDITIONS: D - DISINTEGRATED; I - INTACT; U - UNDISTURBED; L - LOST

	GROUND WATER	CAVE IN DEPTH
AT COMPLETION	Dry ft.	6.0 ft.
AFTER 24 HRS.	Dry ft.	6.0 ft.
AFTER ___ HRS.	___ ft.	___ ft.

BORING METHOD: HSA - HOLLOW STEM AUGERS; CFA - CONTINUOUS FLIGHT AUGERS; DC - DRIVING CASING; MD - MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1' WITH 140# HAMMER FALLING 30": COUNT MADE AT 6" INTERVALS.

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Project Name: Rite Aid-Ellicott City — Boring No.: P-5
Location: Howard County, Maryland — Job #: 08501A

SAMPLER
Datum: — Hammer Wt.: 140 lbs. — Hole Diameter: 6" — Foreman: L. Smith
Surf. Elev.: — Ft. — Hammer Drop: 30 in. — Rock Core Diameter: — Inspector:
Date Started: 10/08/08 — Pipe Size: 2 in. — Boring Method: HSA — Date Completed: 10/08/08

Elevation/ Depth	Description	Boring and Sampling Notes	Rec.	NM	SPT Blows	N
	Brown, damp, very loose, silty SAND, with mica (SM; Possible FILL)	Topsoil-3"	7"		2-1-2	3
	Light brown, moist, stiff, SILT, trace sand (ML)	No groundwater encountered while drilling.	18"		3-5-6	11
	Gray, moist, stiff, sandy SILT, some rock fragments (ML)		18"		4-6-9	15
	Brown, moist, loose, micaceous silty SAND (SM)		19"		6-4-4-5	8
	Bottom of Boring at 10.0'					

SPT Blows/Foot Curve

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE; PT - PRESSED SHELBY TUBE; CA - CONTINUOUS FLIGHT AUGER; RC - ROCK CORE

SAMPLE CONDITIONS: D - DISINTEGRATED; I - INTACT; U - UNDISTURBED; L - LOST

	GROUND WATER	CAVE IN DEPTH
AT COMPLETION	Dry ft.	6.5 ft.
AFTER 24 HRS.	Dry ft.	6.6 ft.
AFTER ___ HRS.	___ ft.	___ ft.

BORING METHOD: HSA - HOLLOW STEM AUGERS; CFA - CONTINUOUS FLIGHT AUGERS; DC - DRIVING CASING; MD - MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1' WITH 140# HAMMER FALLING 30": COUNT MADE AT 6" INTERVALS.

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Project Name: Rite Aid-Ellicott City — Boring No.: P-6
Location: Howard County, Maryland — Job #: 08501A

SAMPLER
Datum: — Hammer Wt.: 140 lbs. — Hole Diameter: 6" — Foreman: L. Smith
Surf. Elev.: — Ft. — Hammer Drop: 30 in. — Rock Core Diameter: — Inspector:
Date Started: 10/09/08 — Pipe Size: 2 in. — Boring Method: HSA — Date Completed: 10/09/08

Elevation/ Depth	Description	Boring and Sampling Notes	Rec.	NM	SPT Blows	N
	Gray, moist, stiff, sandy SILT, trace clay and mica (ML; FILL)	Topsoil-4"	14"		3-7-5	13
	Brown, moist, stiff, micaceous sandy SILT (ML)	No groundwater encountered while drilling.	11"		4-6-7	13
	Brown, damp, loose to medium dense, micaceous silty SAND, no to some rock fragments (SM)		18"		4-3-4	7
			10"		7-11-19-20	30
	Bottom of Boring at 10.0'					

SPT Blows/Foot Curve

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE; PT - PRESSED SHELBY TUBE; CA - CONTINUOUS FLIGHT AUGER; RC - ROCK CORE

SAMPLE CONDITIONS: D - DISINTEGRATED; I - INTACT; U - UNDISTURBED; L - LOST

	GROUND WATER	CAVE IN DEPTH
AT COMPLETION	Dry ft.	7.0 ft.
AFTER 24 HRS.	Dry ft.	7.0 ft.
AFTER ___ HRS.	___ ft.	___ ft.

BORING METHOD: HSA - HOLLOW STEM AUGERS; CFA - CONTINUOUS FLIGHT AUGERS; DC - DRIVING CASING; MD - MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1' WITH 140# HAMMER FALLING 30": COUNT MADE AT 6" INTERVALS.

psi — TEST BORING LOG — BORING No.: P-7

CLIENT: Kimley-Horn and Associates, Inc
PROJECT: Proposed Rite Aid
Frederick Road and Baltimore National Pike
LOCATION: Ellicott City, Maryland
BORING LOCATION: As per plan
DRILLING METHOD: 2.25" ID HSA w/manual hammer
DRILL RIG: track-mounted SSLC DRILLER: Connelly and Assoc.

PSI PROJECT NO: 875-55128
DATE DRILLED: 06/21/05
ELEVATION (FT): N/A
BORING DEPTH (FT): 15.5

STATION:
GRID COORDINATES
N:
E:

	ON-SPOON	AT COMPLETION	AT 24 HRS.
DEPTH TO WATER (FT):	12	13	N/A*
CAVED-IN DEPTH (FT):	N/A	9	N/A*

ELEVATION/ DEPTH (FT)	SOIL SYMBOLS. SAMPLERS AND TEST DATA	USCS CLASSIFICATION	Description	Bottom	Natural Moisture Content	Liquid Limit	Plastic Limit	Plasticity Index	Dry Density PCF	Recovery	N-Value
			TOPSOIL - 12 inches of topsoil								
		ML	Dark brown, moist, loose, silt	I	19.1						
		SC	Red and brown, moist loose, clayey SAND, trace gravel	III							
			medium dense rock fragments		3.6						
			PARTIALLY WEATHERED ROCK - partially weathered gneiss	IV							
			Auger refusal at 15.5 feet bgs.								

TEST RESULTS: % Passing #200 sieve; Natural Moist. Content (%); Plastic Limit; Liquid Limit; Plasticity Index; SPT (Blows/Ft.)

*Borings backfilled at completion for safety reasons

PAGE 1 of 1 — PSI, Inc.

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Project Name: Rite Aid-Ellicott City — Boring No.: D-1
Location: Howard County, Maryland — Job #: 08501A

SAMPLER
Datum: — Hammer Wt.: 140 lbs. — Hole Diameter: 6" — Foreman: L. Smith
Surf. Elev.: — Ft. — Hammer Drop: 30 in. — Rock Core Diameter: — Inspector:
Date Started: 10/08/08 — Pipe Size: 2 in. — Boring Method: HSA — Date Completed: 10/08/08

Elevation/ Depth	Description	Boring and Sampling Notes	Rec.	NM	SPT Blows	N
	Brown, moist, medium dense, silty SAND, some rock fragments (SM; Possible Fill.)	Topsoil-4"	14"		2-6-11	17
	Light brown, moist, stiff, micaceous sandy SILT (ML)	No groundwater encountered while drilling.	18"		6-7-8	15
	Tan, damp, loose to medium dense, silty SAND (SM)		18"		9-11-13	24
			21"		4-4-6-6	10
	Bottom of Boring at 10.0'					

SPT Blows/Foot Curve

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE; PT - PRESSED SHELBY TUBE; CA - CONTINUOUS FLIGHT AUGER; RC - ROCK CORE

SAMPLE CONDITIONS: D - DISINTEGRATED; I - INTACT; U - UNDISTURBED; L - LOST

	GROUND WATER	CAVE IN DEPTH
AT COMPLETION	Dry ft.	6.5 ft.
AFTER 24 HRS.	Dry ft.	6.5 ft.
AFTER ___ HRS.	___ ft.	___ ft.

BORING METHOD: HSA - HOLLOW STEM AUGERS; CFA - CONTINUOUS FLIGHT AUGERS; DC - DRIVING CASING; MD - MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1' WITH 140# HAMMER FALLING 30": COUNT MADE AT 6" INTERVALS.

HILLIS - CARNES ENGINEERING ASSOCIATES, INC.
RECORD OF SOIL EXPLORATION

Project Name: Rite Aid-Ellicott City — Boring No.: S-1
Location: Howard County, Maryland — Job #: 08501A

SAMPLER
Datum: — Hammer Wt.: 140 lbs. — Hole Diameter: 6" — Foreman: L. Smith
Surf. Elev.: — Ft. — Hammer Drop: 30 in. — Rock Core Diameter: — Inspector:
Date Started: 10/09/08 — Pipe Size: 2 in. — Boring Method: HSA — Date Completed: 10/09/08

Elevation/ Depth	Description	Boring and Sampling Notes	Rec.	NM	SPT Blows	N
	Brown, moist, soft, SILT (ML)	Topsoil-5"	5"		2-2-3	5
	Tan, moist, stiff, sandy SILT (ML)	No groundwater encountered while drilling.	18"		8-11-17	28
	Tan, damp, medium dense, silty SAND (SM)		18"		7-8-9	17
	Brown, damp, loose, micaceous silty SAND (SM)		22"		4-3-5-6	8
	Bottom of Boring at 10.0'					

SPT Blows/Foot Curve

SAMPLER TYPE: DRIVEN SPLIT SPOON UNLESS OTHERWISE; PT - PRESSED SHELBY TUBE; CA - CONTINUOUS FLIGHT AUGER; RC - ROCK CORE

SAMPLE CONDITIONS: D - DISINTEGRATED; I - INTACT; U - UNDISTURBED; L - LOST

	GROUND WATER	CAVE IN DEPTH
AT COMPLETION	Dry ft.	6.5 ft.
AFTER 24 HRS.	Dry ft.	6.5 ft.
AFTER ___ HRS.	___ ft.	___ ft.

BORING METHOD: HSA - HOLLOW STEM AUGERS; CFA - CONTINUOUS FLIGHT AUGERS; DC - DRIVING CASING; MD - MUD DRILLING

STANDARD PENETRATION TEST-DRIVING 2" O.D. SAMPLER 1' WITH 140# HAMMER FALLING 30": COUNT MADE AT 6" INTERVALS.

MISS UTILITY

DIG WITH CARE — MISS UTILITY — MARYLAND

BEFORE YOU DIG CALL
811 IN MD
or 1-800-257-7777
PROTECT YOURSELF. GIVE TWO WORKING DAYS NOTICE
THE CONTRACTOR TO CALL MISS UTILITY TO HAVE ALL EXISTING UTILITIES MARKED 48 HOURS PRIOR TO ANY CONSTRUCTION.

NO.:	DATE	REVISION DESCRIPTION

OWNER:
PARCEL A
JACK W. AND LOUISE KAUFLUSS
13715 OLD ROVER ROAD
WEST FRIENDSHIP MD 21794-9718
PHONE: 410-442-2011

PARCEL B
JOHN VICTOR AND
MARTHA B. CALABRESE
3262 OLD FENCE ROAD
ELLICOTT CITY, MD 21042-2440
PHONE: 410-465-3519

DEVELOPER:
RITE AID CORPORATION
P.O. BOX 3165
HARRISBURG, PA 17105
ATTN.: LANCE MASON
PHONE: 804-745-5222

PROJECT: RITE AID CORPORATION
KAUFLUSS AND CALABRESE LANDS
PARCELS A & B
ONE-STORY RETAIL BUILDING

AREA 3.136 AC. TAX MAP 23 GRID 6 ZONED B-1
PARCELS A & B
2ND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND 21042

TITLE: BORING LOGS

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD
SUITE 801
TOWSON, MARYLAND 21204
PH: (410) 821-7900
FX: (410) 821-7987
www.bohlerengineering.com

MATTHEW T. ALLEN
PROFESSIONAL ENGINEER NO. 28567

DESIGNED BY:	M.J.G.
DRAWN BY:	R.J.M.
PROJECT NO.:	MD072009.2
DATE:	8/20/10
SCALE:	N/A
DRAWING NO.	24 OF 37

SDP 09-44

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION — DATE 10/4/10
CHIEF-DIVISION OF LAND DEVELOPMENT — DATE 10/7/10
DIRECTOR — DATE 10/7/10

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.

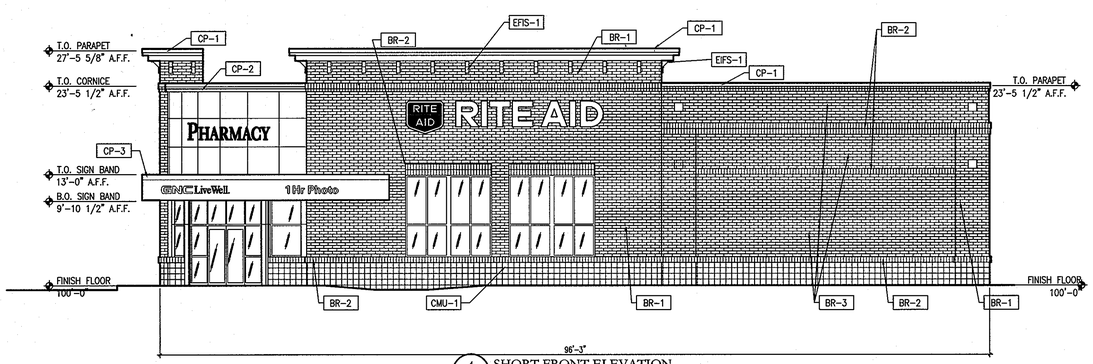
COUNTY HEALTH OFFICER — DATE 10/4/10
HOWARD COUNTY HEALTH DEPARTMENT

GENERAL NOTE:
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THIS PROJECT WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR APPLICABLE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF THE WORK AS DEFINED BY THE DRAWINGS AND IN FULL CONFORMANCE WITH LOCAL REGULATIONS AND CODES.

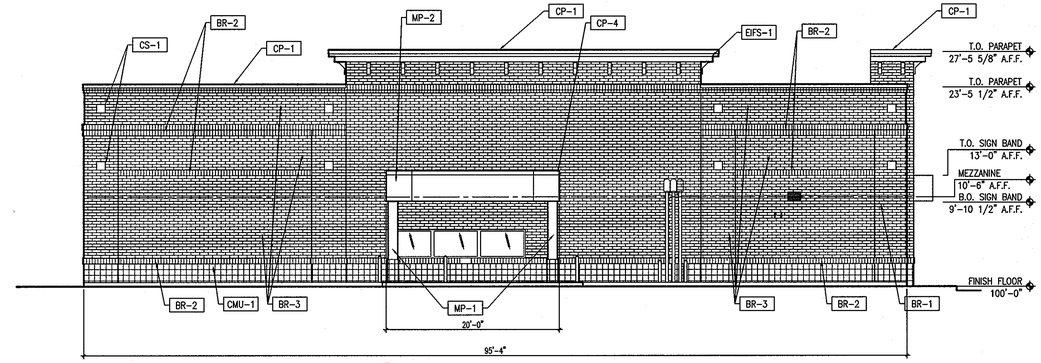
PROFESSIONAL CERTIFICATION

I, MATTHEW T. ALLEN, HEREBY CERTIFY THAT THESE 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. 28567, EXPIRATION DATE: 4/16/11

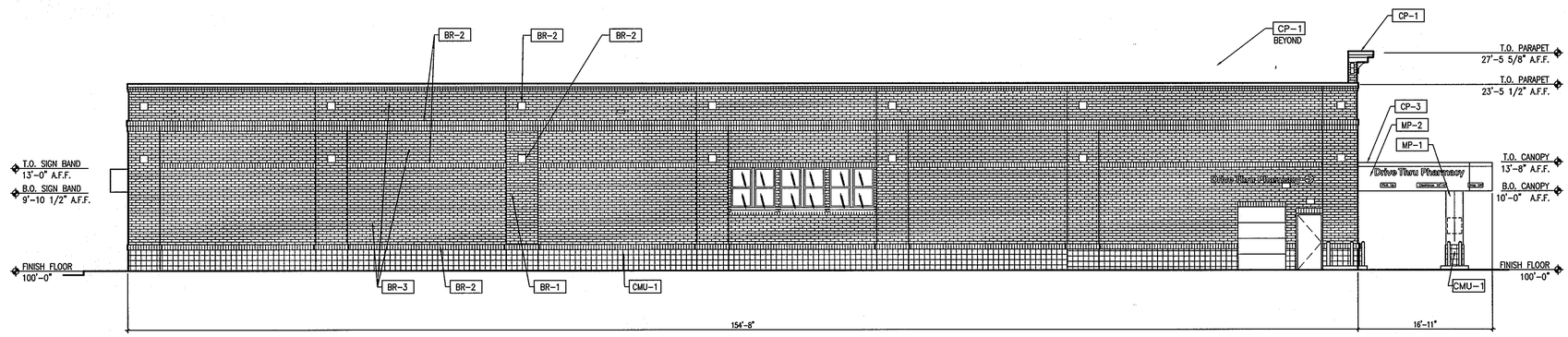
H:\07\Rite Aid Corporation\MD07 2009 - 10470 Frederick Road, Ellicott City, MD\CAD\Site Plan Documents\Rev 5\MD072009SDP.dwg, 9/13/2010 1:28:03 PM, mgessil, 1:1



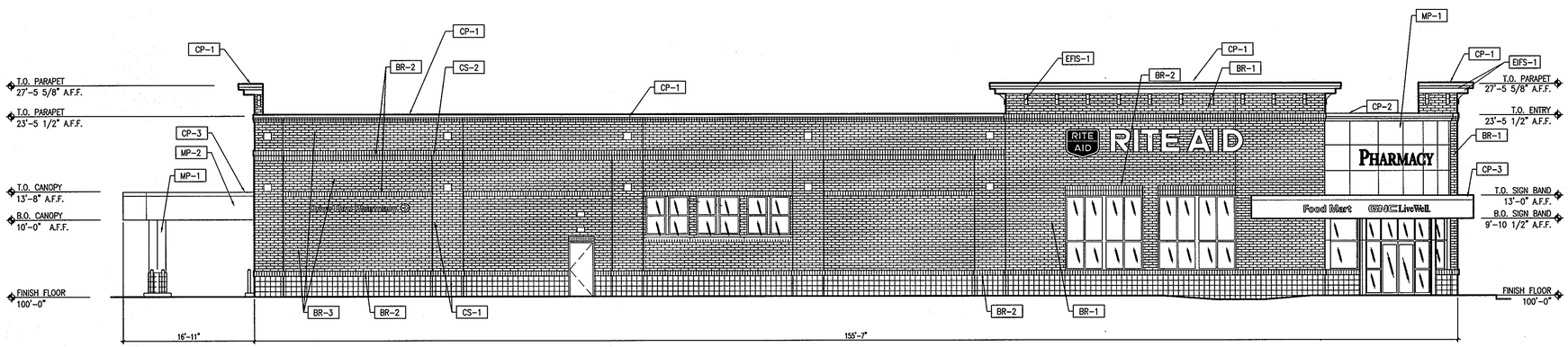
4 SK-1 SHORT FRONT ELEVATION
N.T.S.



3 SK-1 DRIVE THRU ELEVATION
N.T.S.



2 SK-1 REAR ELEVATION
N.T.S.



1 SK-1 LONG FRONT ELEVATION
N.T.S.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION	DATE 9/24/10
CHIEF-DIVISION OF LAND DEVELOPMENT	DATE 10/12/10
DIRECTOR	DATE 10/12/10

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.

COUNTY HEALTH OFFICER — DATE 10/4/10
HOWARD COUNTY HEALTH DEPARTMENT

FARRELL McGLYNN ARCHITECTS
3909 National Drive • Suite 110 • Burtonsville, Maryland 20866
t. 301.476.9164 f. 301.476.9760 w. www.farrell-mcglynn.com

BOARD OF ARCHITECTS 10907 DENNIS WILLIAM McGLYNN STATE OF MARYLAND 06.29.10

PROPOSED ELEVATIONS

RITE AID PHARMACY #7838
10470 FREDERICK ROAD
ELLICOTT CITY, MARYLAND

REV #/DATE/SUBMISSION

NO.:	DATE	REVISION DESCRIPTION

OWNER:
PARCEL A
JACK M. AND LOUISE KAULFUSS
13715 OLD ROVER ROAD
WEST FRIENDSHIP MD 21794-9718
PHONE: 410-442-2011

PARCEL B
JOHN VICTOR AND
MARTHA B. CALABRESE
3262 OLD FENCE ROAD
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PHONE: 410-465-3519

DEVELOPER:
RITE AID CORPORATION
P.O. BOX 3165
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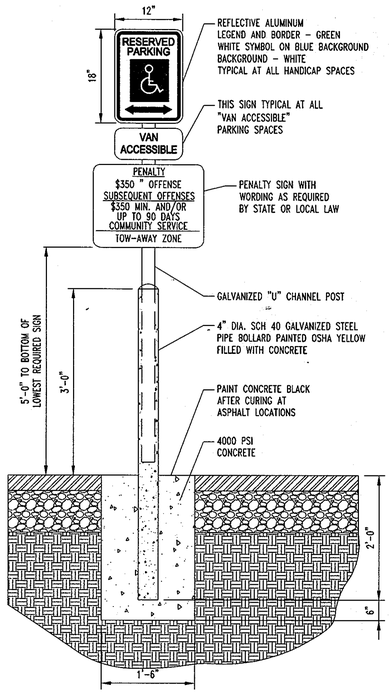
ATTN.: LANCE MASON
PHONE: 804-745-6222

PROJECT RITE AID CORPORATION
KAULFUSS AND CALABRESE LANDS
PARCELS A & B
ONE-STORY RETAIL BUILDING

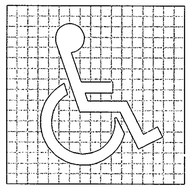
AREA 3.136 AC. TAX MAP 23 GRID 6 ZONED B-1
PARCELS A & B
2ND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND 21042

DATE: 01.25.07
SCALE: N/A
DRAWN: DWM
CHK'D: DWM
PROJECT: 050805
SHEET 1 OF 1
FILE: 7838 COLOR



NOTE:
ONE AT EACH HANDICAP SPACE. WHERE HANDICAP SPACES FACE EACH OTHER WITHOUT WALKWAY, THERE SHALL BE ONE POST WITH SIGNS MOUNTED BOTH SIDES

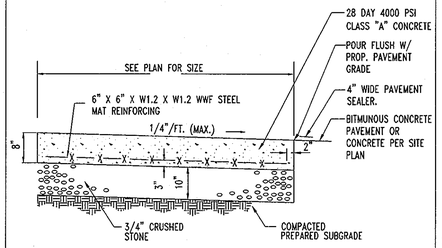
HANDICAP PARKING SIGN ON BOLLARD DETAIL
NOT TO SCALE



PROPORTIONS OF INTERNATIONAL SYMBOL OF ACCESSIBILITY

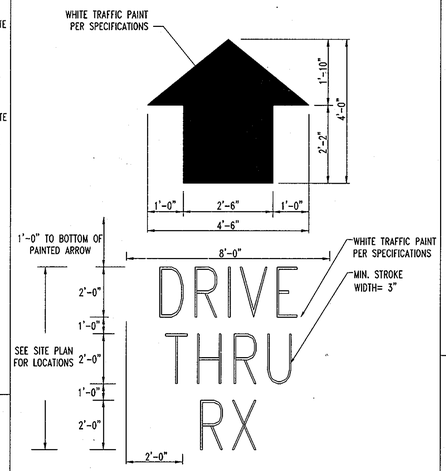
DISPLAY CONDITIONS OF INTERNATIONAL SYMBOL OF ACCESSIBILITY

HANDICAP SYMBOL DETAIL
NOT TO SCALE



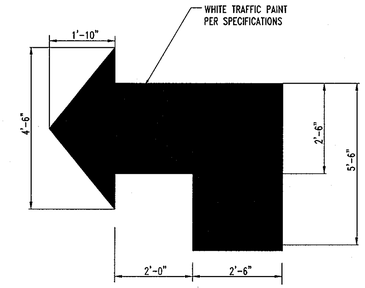
SECTION VIEW

TYPICAL SITE CONCRETE PAVEMENT
NOT TO SCALE

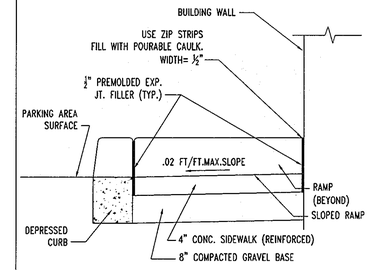


NOTE:
1. SEE SITE PLAN FOR LOCATIONS OF "DRIVE THRU RX" LEGENDS.

PAINTED TRAFFIC ARROW AND LEGEND DETAIL
NOT TO SCALE

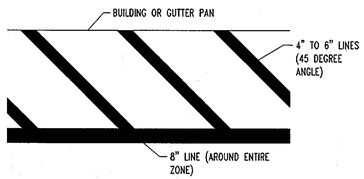


PAINTED TRAFFIC ARROW
NOT TO SCALE



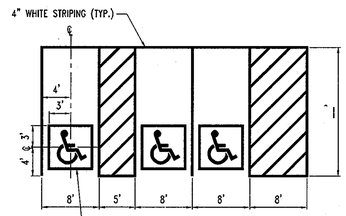
NOTE:
1. ALL CONCRETE CURBS AND SIDEWALKS TO BE 4,000 P.S.I. CONCRETE.

CURB RAMP DETAIL
NOT TO SCALE



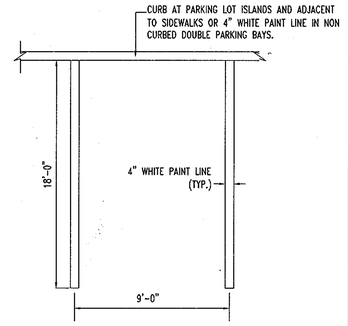
NOTE:
1. ALL LINES TO BE YELLOW PAINT OR THERMOPLASTIC, WITH THE EXCEPTION OF AREAS THAT ARE NOT TO BE ENTERED OR USED (FIRE ACCESS ZONES), WHICH SHALL BE RED.

NO PARKING/LOADING ZONE
NOT TO SCALE



NOTE:
1. ALL HANDICAP STALL MARKINGS SHALL CONFORM TO CURRENT ADA GUIDELINES AND LOCAL REGULATIONS.
2. STALL DEPTH SHALL BE BASED ON THE LOCAL JURISDICTIONAL REQUIREMENTS FOR PARKING STALL DIMENSIONS.
3. SEE HANDICAP SYMBOL DETAIL FOR PROPORTIONS AND DISPLAY CONDITIONS.

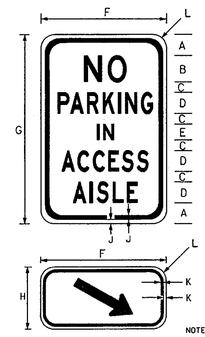
STANDARD HANDICAP STALL MARKING DETAIL
NOT TO SCALE



NOTES:
1. PROVIDE 2 COATS OF PAINT ON ALL SURFACES.
2. SEE DETAIL ON SHEET FOR ACTUAL SPACE LOCATION AND DIMENSIONS.
3. ADJUST DIMENSIONS FOR JOB SPECIFICS.

TYPICAL PARKING SPACE DETAIL
NOT TO SCALE

R8-1(2)



NOTE: APPROPRIATE ARROW PLATE MAY BE USED WHEN IT IS NECESSARY TO OFFSET INSTALLATION LOCATION DUE TO ACCESS RAMP.

SIGN SIZE	DIMENSIONS (INCHES)										
	A	B	C	D	E	F	G	H	J	K	L
STANDARD	1 3/4	2 1/2 D	1	2 C	1 1/2 D	12	18	6	3/8	1/4	1 1/2

REFERENCES
MUTCD SECTION - 2B-35
MUTCD SUPPLEMENT - 2B-31

COLORS
LEGEND - RED
BACKGROUND - WHITE

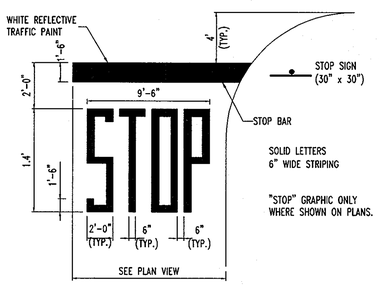
APPROVED 7/24/01
DIRECTOR - TRAFFIC & SAFETY DATE

REVISIONS:		
DATE	APPROVAL	FEDERAL HIGHWAY ADMINISTRATION

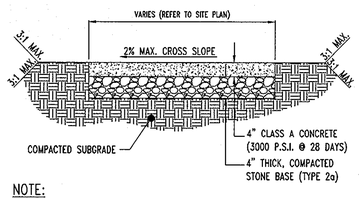
MARYLAND DEPARTMENT OF TRANSPORTATION
State Highway Administration
OFFICE OF TRAFFIC & SAFETY

NO PARKING IN ACCESS AISLE

Section: SIGNING
Drawn By: C. STRAIN. Date: 6/20/01
Standard No. R8-1(2)



STOP BAR DETAIL
NOT TO SCALE



NOTE:
1. EXPANSION JOINTS 1/2" WIDE PREMOLDED BIT. MATERIAL SHALL BE INSTALLED AT 30' INTERVALS, CRACK CONTROL JOINTS TO BE SPACED AT INTERVALS EQUAL TO SIDEWALK WIDTH.

ON-SITE CONCRETE SIDEWALK DETAIL
NOT TO SCALE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION	DATE 9/24/10
CHIEF-DIVISION OF LAND DEVELOPMENT	DATE 10/12/10
DIRECTOR	DATE 10/12/10

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.

BN for Peter Beilenson 10/4/10
COUNTY HEALTH OFFICER DATE
HOWARD COUNTY HEALTH DEPARTMENT

GENERAL NOTE:
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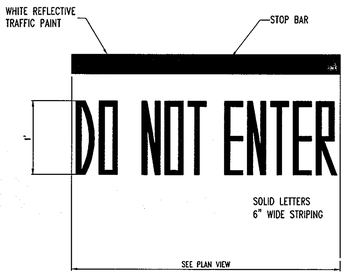
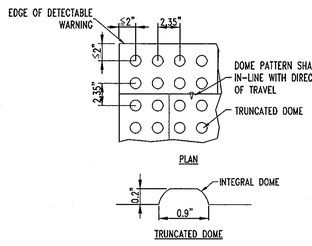


DO NOT ENTER DETAIL
NOT TO SCALE



NOTES

1. CURB RAMP RUNNING SLOPES SHALL NOT BE STEEPER THAN 1:13 AND CROSS SLOPE SHALL BE 2% OR FLATTER.
2. DETECTABLE WARNING SURFACES SHALL BE CONSTRUCTED BY TEXTURING PRODUCTS CONFORMING TO PROWAG R304. TRANSITION SLOPES ARE NOT TO HAVE DETECTABLE WARNINGS. CONTRACTOR SHALL CONFIRM LOCAL CODES ARE MET.
3. WHERE A CURB RAMP IS CONSTRUCTED WITHIN AN EXISTING CURB, CURB & GUTTER AND/OR SIDEWALK, THE EXISTING CURB & GUTTER SHALL BE REMOVED TO THE NEAREST JOINT BEYOND THE CURB TRANSITIONS OR TO THE EXTENT THAT NO REMAINING SECTION OF CURB OR CURB & GUTTER IS LESS THAN 5' LONG. THE EXISTING SIDEWALK SHALL BE REMOVED TO THE NEAREST JOINT BEYOND THE TRANSITION SLOPE WALK AROUND OR TO THE EXTENT THAT NO REMAINING SECTION OF SIDEWALK IS LESS THAN 5'.
4. THE PLAN MUST PROVIDE FOR DETECTABLE WARNING SURFACE COLORS OR MATERIALS THAT PROVIDE THE NECESSARY CONTRAST, EITHER DARK-ON-LIGHT, OR LIGHT-ON-DARK.
5. TRUNCATED DOMES TO BE INSTALLED USING PREFORMED PAVERS (RUNNING BOND PATTERN) OR TOPMARK PREFORMED THERMOPLASTIC WARNING MATERIAL. PREFERRED MANUFACTURER: PAVESTONE COMPANY DETECTABLE WARNING PAVER, RAY CLARK (678)471-1019; ALTERNATIVE MANUFACTURER: ENGINEERED PLASTICS, INC. (ARMOR TILE) OLYMPIC TOWERS, 300 PEARL STREET, SUITE 200, BUFFALO, NY 14202. PHONE (800)682-2525. CONTRACTOR TO VERIFY HANDICAP RAMPS MEET LOCAL CODES.

TRUNCATED DOME PATTERN FOR A.D.A. CONCRETE DETECTABLE WARNING SURFACES
NOT TO SCALE

MISS UTILITY
BEFORE YOU DIG CALL
811 IN MD
or 1-800-257-7777
PROTECT YOURSELF, GIVE TWO WORKING DAYS NOTICE
THE CONTRACTOR TO CALL MISS UTILITY TO HAVE ALL EXISTING UTILITIES MARKED 48 HOURS PRIOR TO ANY CONSTRUCTION.

NO.:	DATE	REVISION DESCRIPTION

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JACK M. AND LOUISE KAUFUSS
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WEST FRIENDSHIP MD 21794-9718
PHONE: 410-442-2011

PARCEL B
JOHN VICTOR AND MARTHA B. CALABRESE
3262 OLD FENCE ROAD
ELLICOTT CITY, MD 21042-2440
PHONE: 410-465-3519

DEVELOPER:
RITE AID CORPORATION
P.O. BOX 3165
HARRISBURG, PA 17105
ATTN.: LANCE MASON
PHONE: 804-745-6222

PROJECT
RITE AID CORPORATION
KAUFUSS AND CALABRESE LANDS
PARCELS A & B
ONE-STORY RETAIL BUILDING

AREA 3.136 AC. TAX MAP 23 GRID 6 ZONED B-1
PARCELS A & B
2ND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND 21042

TITLE
SITE DETAILS

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD
SUITE 801
TOWSON, MARYLAND 21204
PH: (410) 821-7900
FX: (410) 821-7987
www.bohlerengineering.com

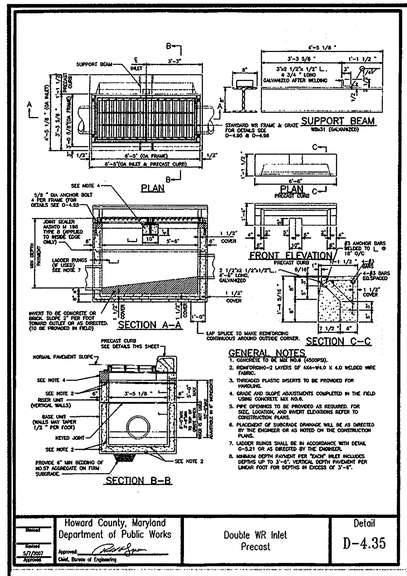
PROFESSIONAL CERTIFICATION
I, MATTHEW T. ALLEN, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE NO. 28567, EXPIRATION DATE: 4/16/11

9/24/10
DATE
MATTHEW T. ALLEN
PROFESSIONAL ENGINEER NO. 28567

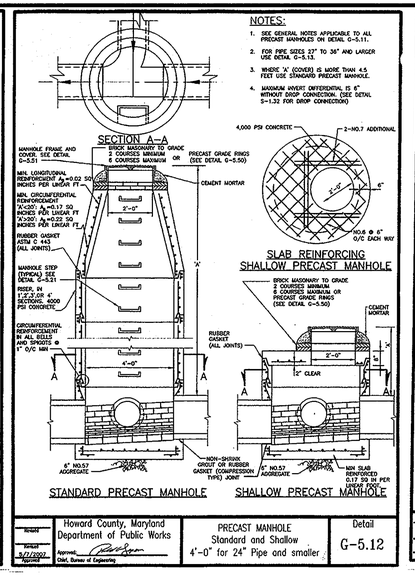
DESIGNED BY:	M.J.G.
DRAWN BY:	R.J.M.
PROJECT NO.:	WD072009.2
DATE:	8/20/10
SCALE:	N/A
DRAWING NO.	26 OF 37

SDP 09-44

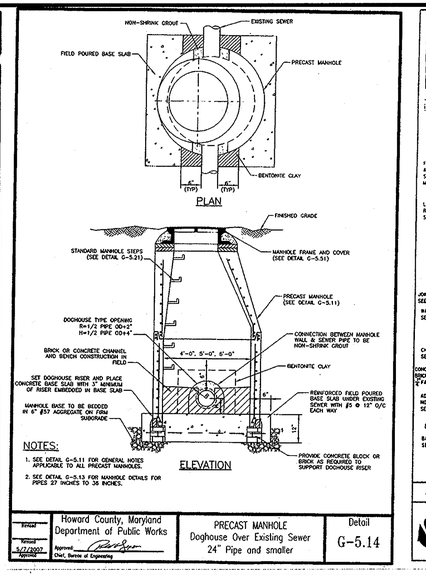
H:\07\Rite Aid Corporation\WD07 2009 - 10470 Frederick Road, Ellicott City, MD\CAD\Site Plan Documents\Rev 5\WD072009SDS.dwg, 9/15/2010 1:28:21 PM, mgessli 1:1



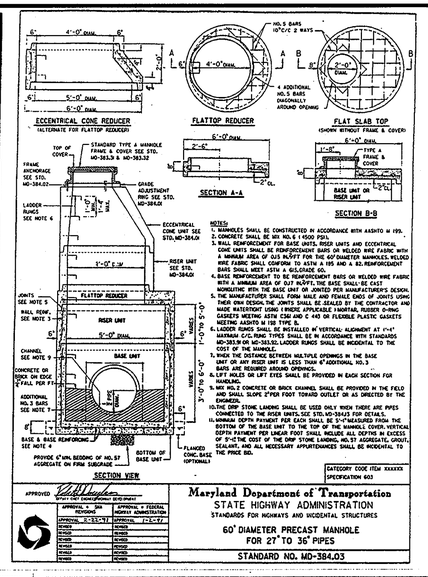
Howard County, Maryland Department of Public Works	Double WR Inlet Precast	Detail D-4.35
Approved: Chief, Bureau of Engineering		



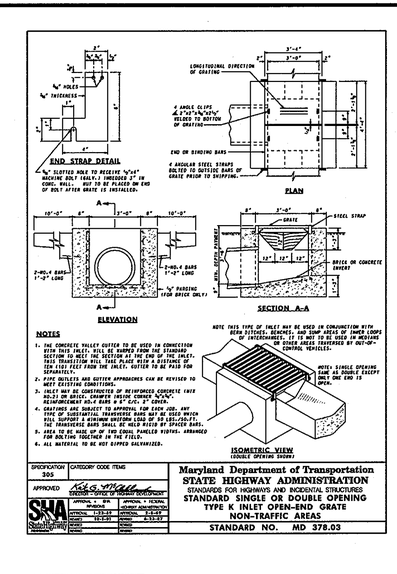
Howard County, Maryland Department of Public Works	PRECAST MANHOLE Standard and Shallow 4'-0" for 24" Pipe and smaller	Detail G-5.12
Approved: Chief, Bureau of Engineering		



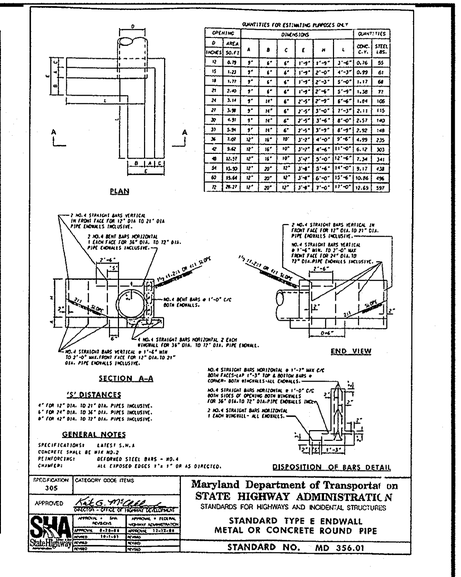
Howard County, Maryland Department of Public Works	PRECAST MANHOLE Doghouse Over Existing Sewer 24" Pipe and smaller	Detail G-5.14
Approved: Chief, Bureau of Engineering		



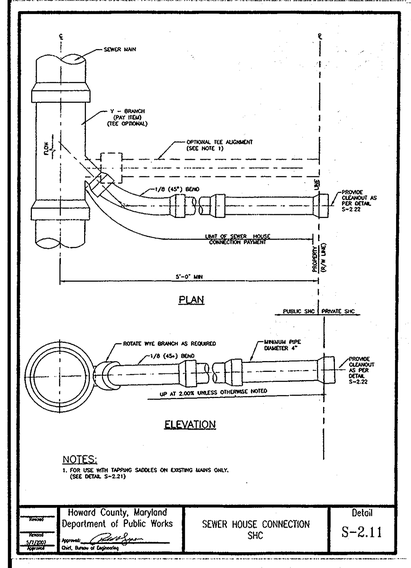
Howard County, Maryland Department of Public Works	Maryland Department of Transportation STATE HIGHWAY ADMINISTRATION STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES 60' DIAMETER PRECAST MANHOLE FOR 27" TO 36" PIPES	Detail
Approved: Chief, Bureau of Engineering		STANDARD NO. MD-384.03



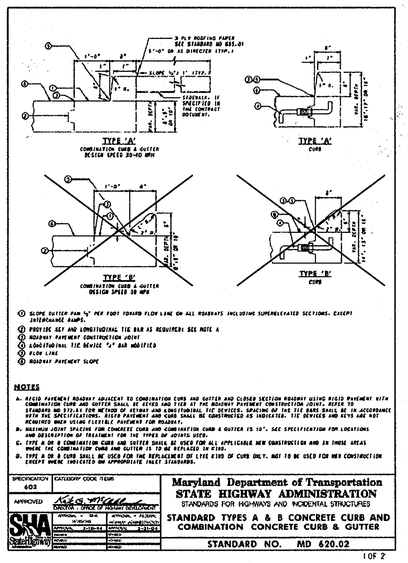
Howard County, Maryland Department of Public Works	TYPE 'A' INLET OPEN-END GRATE NON-TRAFFIC AREAS	Detail
Approved: Chief, Bureau of Engineering		STANDARD NO. MD 378.03



Howard County, Maryland Department of Public Works	Maryland Department of Transportation STATE HIGHWAY ADMINISTRATION STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES STANDARD TYPE E ENDWALL METAL OR CONCRETE ROUND PIPE	Detail
Approved: Chief, Bureau of Engineering		STANDARD NO. MD 356.01

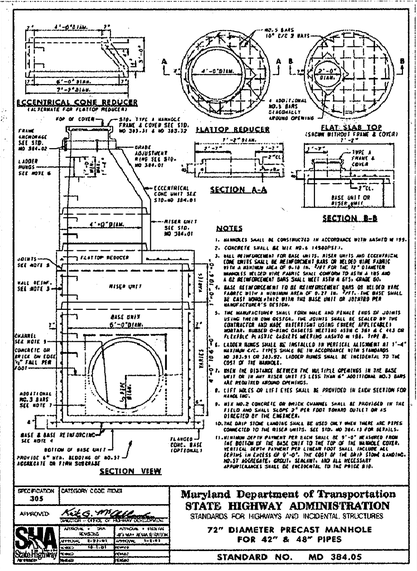


Howard County, Maryland Department of Public Works	SEWER HOUSE CONNECTION SHC	Detail S-2.11
Approved: Chief, Bureau of Engineering		

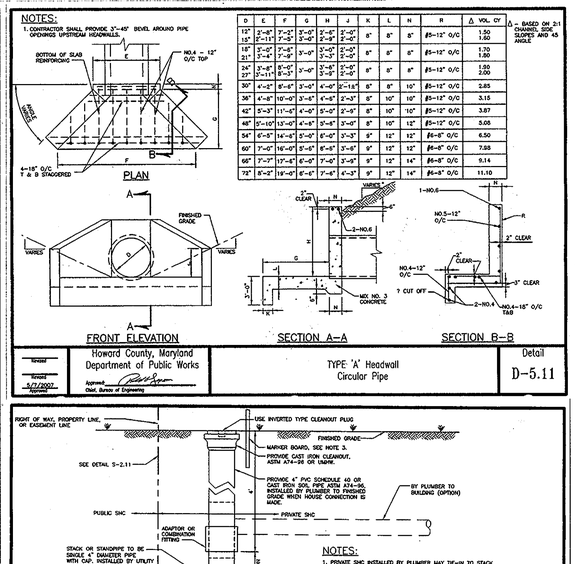


Maryland Department of Transportation STATE HIGHWAY ADMINISTRATION STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES STANDARD TYPES A & B CONCRETE CURB AND COMBINATION CONCRETE CURB & GUTTER	STANDARD NO. MD 620.02

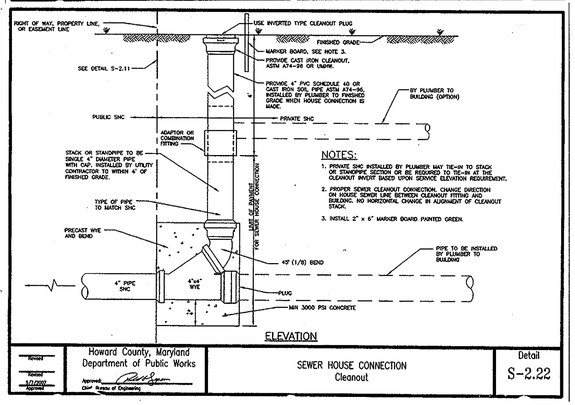
1 OF 2



Maryland Department of Transportation STATE HIGHWAY ADMINISTRATION STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES 72" DIAMETER PRECAST MANHOLE FOR 42" & 48" PIPES	STANDARD NO. MD 384.05



Howard County, Maryland Department of Public Works	TYPE 'A' Headwall Circular Pipe	Detail D-5.11
Approved: Chief, Bureau of Engineering		



Howard County, Maryland Department of Public Works	SEWER HOUSE CONNECTION Cleanout	Detail S-2.22
Approved: Chief, Bureau of Engineering		

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION — DATE 9/24/10

CHIEF-DIVISION OF LAND DEVELOPMENT — DATE 10/12/10

DIRECTOR — DATE 10/12/10

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.

COUNTY HEALTH OFFICER — DATE 10/14/10
HOWARD COUNTY HEALTH DEPARTMENT

GENERAL NOTE:
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THIS PROJECT WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR APPLICABLE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF THE WORK AS DEFINED BY THE DRAWINGS AND IN FULL CONFORMANCE WITH LOCAL REGULATIONS AND CODES.

MISS UTILITY
BEFORE YOU DIG CALL
611 IN MD
or 1-800-257-7777
PROTECT YOURSELF, GIVE TWO WORKING DAYS NOTICE
THE CONTRACTOR TO CALL MISS UTILITY TO HAVE ALL EXISTING UTILITIES MARKED 48 HOURS PRIOR TO ANY CONSTRUCTION.

NO.:	DATE	REVISION DESCRIPTION

OWNER:
PARCEL A — JACK M. AND LOUISE KAULFUSS, 13715 OLD ROVER ROAD, WEST FRIENDSHIP MD 21794-9718, PHONE: 410-442-2011
PARCEL B — JOHN VICTOR AND MARTHA B. CALABRESE, 3262 OLD FENCE ROAD, ELLICOTT CITY, MD 21042-2440, PHONE: 410-465-3519

DEVELOPER:
RITE AID CORPORATION
P.O. BOX 3165
HARRISBURG, PA 17105
ATTN.: LANCE MASON
PHONE: 804-745-6222

PROJECT: RITE AID CORPORATION
KAULFUSS AND CALABRESE LANDS
PARCELS A & B
ONE-STORY RETAIL BUILDING

AREA 3.136 AC. TAX MAP 23 GRID 6 ZONED B-1
PARCELS A & B
2ND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND 21042

TITLE: SITE DETAILS

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PROFESSIONAL CERTIFICATION
I, MATTHEW T. ALLEN, HEREBY CERTIFY THAT THESE 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. 28567, EXPIRATION DATE: 4/16/11
MATTHEW T. ALLEN, PROFESSIONAL ENGINEER NO. 28567

DESIGNED BY:	M.J.G.
DRAWN BY:	R.J.M.
PROJECT NO.:	MD072009.2
DATE:	8/20/10
SCALE:	N/A
DRAWING NO.	27 OF 37

SDP 09-44

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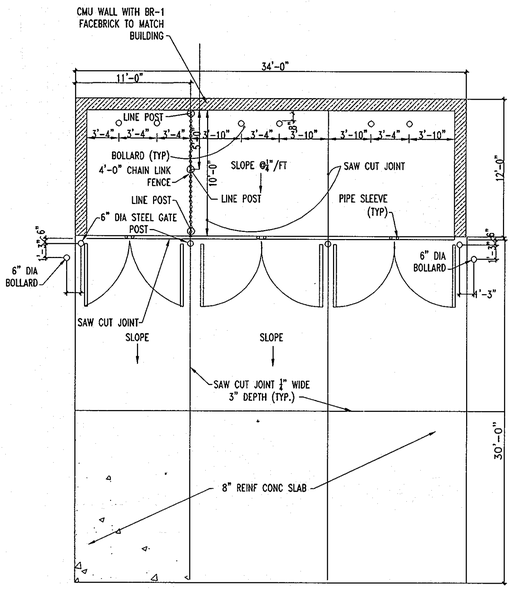
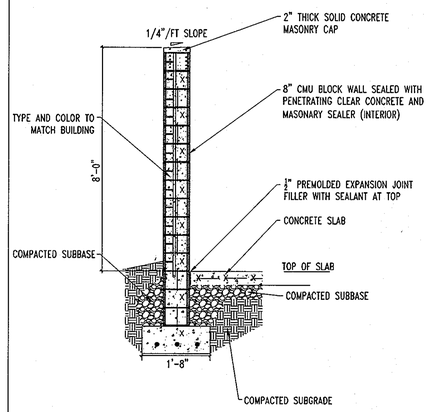


TRASH ENCLOSURE PLAN

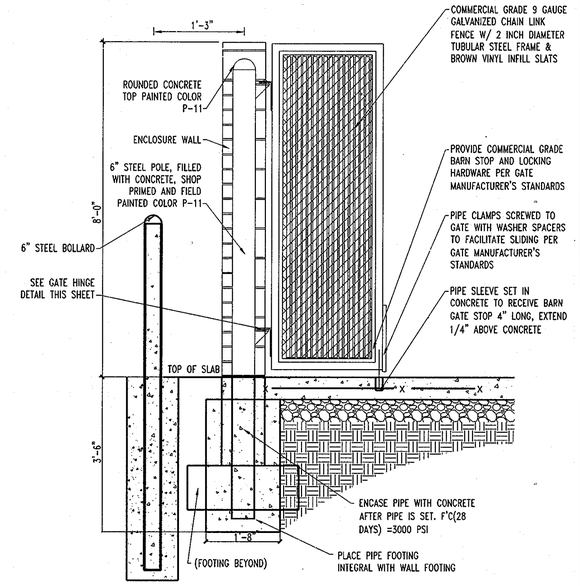
NOT TO SCALE



NOTE:
1. INDICATE DEPTH AS REQUIRED BY CODE AND SOIL CONDITIONS.

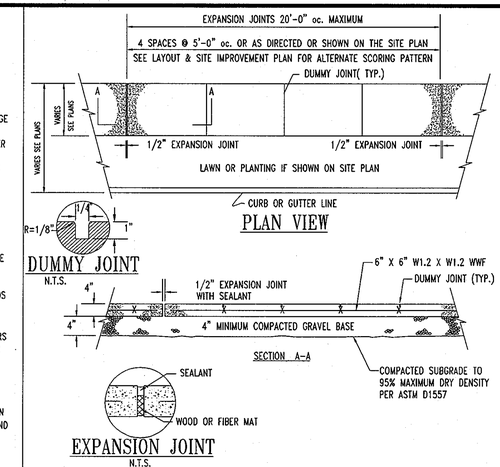
TRASH ENCLOSURE SECTION

NOT TO SCALE



TRASH ENCLOSURE GATE - PARTIAL SECTION

NOT TO SCALE



NOTE:
1. ALL CONCRETE CURBS AND SIDEWALKS TO BE 4,000 P.S.I. CONCRETE.
2. REVISE TO MEET OB AND LOCAL JURISDICTION REQUIREMENTS AND GEOTECHNICAL REPORT REQUIREMENTS. THE MINIMUM REQUIRED THICKNESS ARE SHOWN IN THE DETAIL.

ON-SITE CONCRETE SIDEWALK DETAIL

NOT TO SCALE

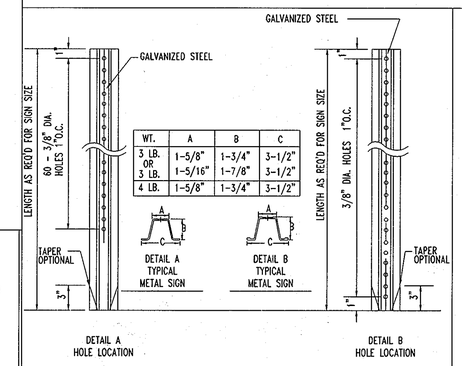
CURB RAMP DIMENSIONS NEW CONSTRUCTION				
* RISE OF RAMP	MAX. RAMP SLOPE	NOMINAL RAMP LENGTH (1 : 12)	SIDE FLARE DIMENSION AT CURB (1 : 10)	SIDE FLARE DIMENSION AT CURB (1 : 12)
3"	1 : 12	3.0 FT.	2.5 FT.	3.0 FT.
4"	1 : 12	4.0 FT.	3.3 FT.	4.0 FT.
5"	1 : 12	5.0 FT.	4.2 FT.	5.0 FT.
6"	1 : 12	6.0 FT.	5.0 FT.	6.0 FT.
7"	1 : 12	7.0 FT.	5.8 FT.	7.0 FT.
8"	1 : 12	8.0 FT.	6.7 FT.	8.0 FT.
9"	1 : 12	9.0 FT.	7.5 FT.	9.0 FT.
10"	1 : 12	10.0 FT.	8.4 FT.	10.0 FT.
11"	1 : 12	11.0 FT.	9.2 FT.	11.0 FT.
12"	1 : 12	12.0 FT.	10.0 FT.	12.0 FT.
** CURB RAMP DIMENSIONS EXISTING CONDITION				
* MAX. RISE OF RAMP	MAX. RAMP SLOPE	NOMINAL RAMP LENGTH	SIDE FLARE DIMENSION AT CURB (1 : 10)	SIDE FLARE DIMENSION AT CURB (1 : 12)
3"	1 : 8	2.0 FT.	2.5 FT.	3.0 FT.
4"	1 : 10	3.3 FT.	3.3 FT.	4.0 FT.
5"	1 : 10	4.2 FT.	4.2 FT.	5.0 FT.
6"	1 : 10	5.0 FT.	5.0 FT.	6.0 FT.

* CURB HEIGHT PLUS RISE OF SIDEWALK CROSS SLOPE
** USE ONLY WHEN SPACE LIMITATIONS PROHIBIT THE CONSTRUCTION OF 1 : 12 OR FLATTER SLOPES.

NOTE:
1. REFER TO LOCAL CODE REQUIREMENTS FOR LIMITATIONS ON RAMP SLOPE, LENGTH, RISE, AND SIDE FLARE.

TABLE A

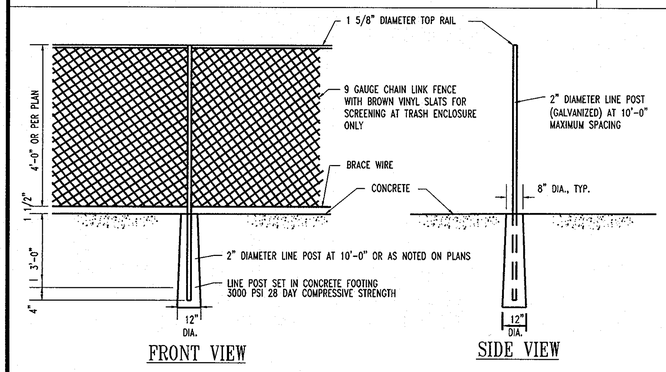
NOT TO SCALE



NOTES:
1. STEEL FOR POSTS SHALL CONFORM TO THE MECHANICAL REQUIREMENTS OF ASTM A 499-81 GRADE 60 AND TO THE CHEMICAL REQUIREMENTS OF ASTM AI-76 CARBON STEEL TEE RAIL HAVING NOMINAL WEIGHT OF "30 LB. OR GREATER PER LINEAR FOOT.
2. AFTER FABRICATION ALL STEEL POSTS SHALL BE GALVANIZED TO MEET THE REQUIREMENTS OF ASTM A-123.
3. SIGN MOUNTING HEIGHT TO BE PER MUTCD REQUIREMENTS.
4. ALL SIGN POSTS SHALL HAVE "BREAK AWAY" FEATURES THAT MEET AASHTO REQUIREMENTS CONTAINED IN "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS". THE "BREAK AWAY" FEATURES SHALL BE STRUCTURALLY ADEQUATE TO CARRY THE SIGN SHOWN ON THE PLANS AT 60 MPH WIND LOADINGS. INSTALLATIONS SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

TYPICAL METAL SIGN POSTS

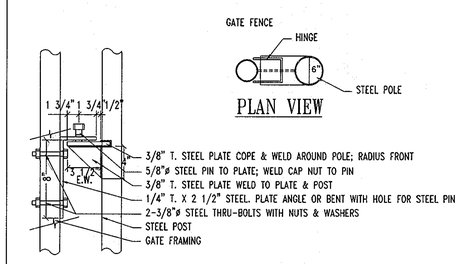
NOT TO SCALE



NOTE:
1. PROVIDE DETAIL IF REQUIRED FOR SPECIFIC SITE APPLICATIONS AND FOR USE IN TRASH ENCLOSURE.

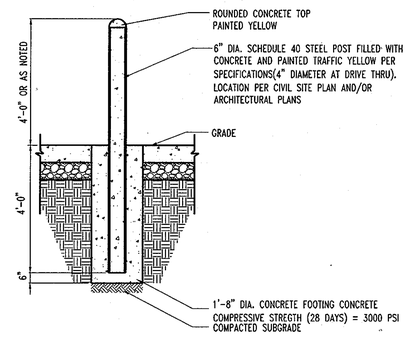
CHAIN LINK FENCE DETAIL

NOT TO SCALE



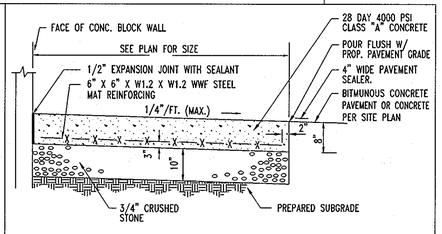
GATE HINGE

NOT TO SCALE



BOLLARD DETAIL

NOT TO SCALE



SECTION VIEW

DUMPSTER PAD AND CONCRETE PAVEMENT

NOT TO SCALE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION	DATE 9/24/10
CHIEF-DIVISION OF LAND DEVELOPMENT	DATE 10/12/10
DIRECTOR	DATE 10/12/10

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.

COUNTY HEALTH OFFICER — DATE 10/4/10
HOWARD COUNTY HEALTH DEPARTMENT

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NOTE: DETAILS ON THIS SHEET PROVIDED BY RITE AID. BOHLER ENGINEERING SHALL BE HELD HARMLESS IN THE CASE OF STRUCTURAL FAILURE. ALL CONSTRUCTION TECHNIQUES SHALL CONFORM TO ALL LOCAL, STATE, AND FEDERAL REQUIREMENTS.

PROFESSIONAL CERTIFICATION

I, MATTHEW T. ALLEN, HEREBY CERTIFY THAT THESE 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. 28567, EXPIRATION DATE: 4/16/11

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or 1-800-257-7777
PROTECT YOURSELF, GIVE TWO WORKING DAYS NOTICE
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DEVELOPER:
RITE AID CORPORATION
P.O. BOX 3165
HARRISBURG, PA 17105
ATTN: LANCE MASON
PHONE: 804-745-6222

PROJECT: RITE AID CORPORATION
KAULFUSS AND CALABRESE LANDS
PARCELS A & B
ONE-STORY RETAIL BUILDING

AREA 3.136 AC. TAX MAP 23 GRID 6 ZONED B-1
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2ND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND 21042

TITLE: SITE DETAILS

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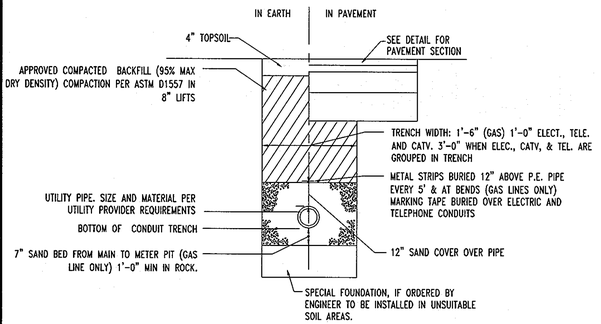
SUITE 801
TOWSON, MARYLAND 21204
PH: (410) 821-7900
FX: (410) 821-7987
www.bohlerengineering.com

8/24/10
MATTHEW T. ALLEN
PROFESSIONAL ENGINEER NO. 28567

DESIGNED BY:	M.J.G.
DRAWN BY:	R.J.M.
PROJECT NO.:	MD072009.2
DATE:	8/20/10
SCALE:	N/A
DRAWING NO.	28 OF 37

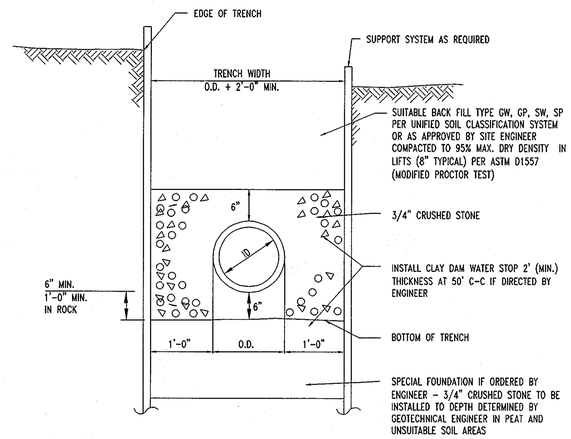
SDP 09-44

H:\07\Rite Aid Corporation\MD07 2009 - 10470 Frederick Road, Ellicott City, MD\CAD\Site Plan Documents\Rev 5\MD072009SD5.dwg, 9/15/2010 1:28:52 PM, mgessli, 1:1

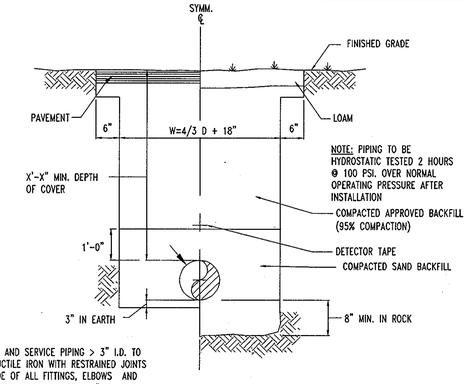


NOTE:
1. DEPTHS AS REQUIRED BY UTILITY COMPANYS.

ELECTRICAL, TELEPHONE, AND GAS TRENCH
NOT TO SCALE



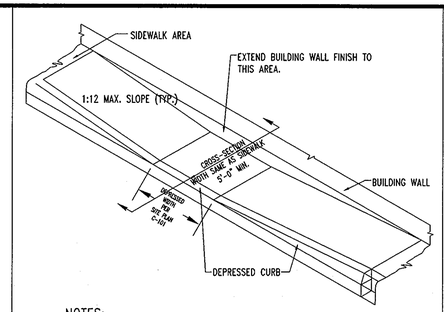
TYPICAL SANITARY SEWER TRENCH SECTION
NOT TO SCALE



NOTE: PIPING TO BE HYDROSTATIC TESTED 2 HOURS @ 100 PSI. OVER NORMAL OPERATING PRESSURE AFTER INSTALLATION

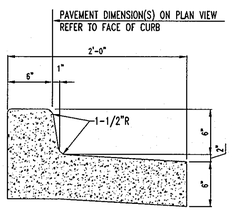
NOTE:
FIRE LINE PIPING AND SERVICE PIPING > 3" I.D. TO BE CLASS 53 DUCTILE IRON WITH RESTRAINED JOINTS 40 FT. EACH SIDE OF ALL FITTINGS, ELBOWS AND APPURTENANCES. DOMESTIC PIPING < 3" I.D. TO BE TYPE K COPPER PER ASTM B 88.

WATER MAIN AND SERVICE TRENCH DETAIL
NOT TO SCALE

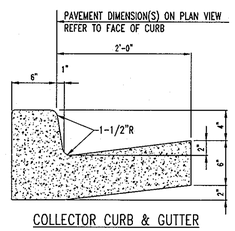


NOTES:
1. ALL CONCRETE CURBS AND SIDEWALKS TO BE 4,000 P.S.I. CONCRETE.
2. PROVIDE EXPANSION JOINT MATERIAL WHERE CURB RAMP ADJOINS ANY RIGID PAVEMENT, SIDEWALK OR STRUCTURE WITH THE TOP OF JOINT FILLER PLUS SEALANT FLUSH WITH ADJACENT CONCRETE SURFACE.
3. SEAL JOINTS WITH AN APPROVED SEALING MATERIAL.
4. PROVIDE SLIP RESISTANT TEXTURE ON CURB RAMP BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP. EXTEND TEXTURE THE FULL WIDTH AND LENGTH OF THE CURB RAMP INCLUDING FLARED SIDE RAMPS.
5. CURB RAMP AND SIDE FLARE LENGTHS ARE VARIABLE AND BASED ON CURB HEIGHT AND THE SIDEWALK PITCH. SEE TABLE A FOR TYPICAL RAMP DIMENSIONS.
6. WHENEVER POSSIBLE, CONSTRUCT THE TRANSITION SLOPE FROM THE CURB RAMP AND FLARE SIDES TO ADJOINING SURFACES WITH A GRADUAL CURVE RATHER THAN AN ABRUPT ANGLE.

CURB RAMP DETAIL AND RAMP DETAIL
NOT TO SCALE



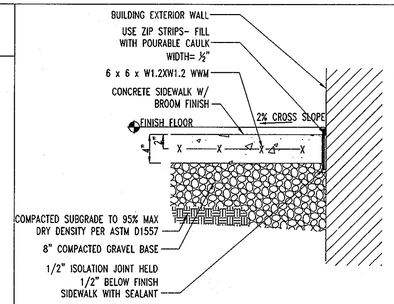
SPILL CURB & GUTTER



COLLECTOR CURB & GUTTER

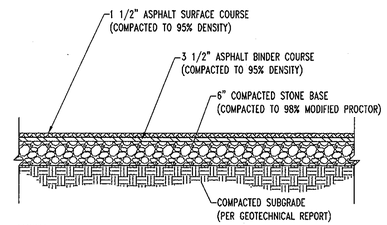
NOTE:
1. CONCRETE FOR CURBING SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 P.S.I. @ 28 DAYS.
2. CONSTRUCTION STAKING FOR CURB INSTALLATION SHALL BE REFERENCED (CUT OR FILL) TO THE TOP OF CURB.
3. AT CONTRACTOR'S OPTION, THE GUTTER THICKNESS MAY BE INCREASED AT THE EDGE OF PAVEMENT TO MAKE BOTTOM OF GUTTER CONTIGUOUS WITH BOTTOM OF ASPHALT PAVEMENT.
4. CONTRACTION JOINTS SHALL BE PLACED @ 10'-0" O.C. TOOLED 1/4" (±1/16") WIDE, 1" DEEP. EXPANSION JOINTS SHALL BE PLACED @ 40'-0" INTERVALS, MAXIMUM, AND ALL P.C.'S.

ON-SITE CONCRETE CURB & GUTTER DETAIL
NOT TO SCALE



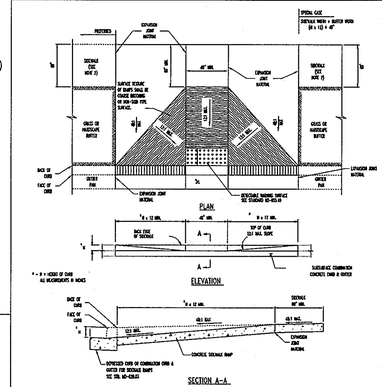
NOTE:
1. ALL CONCRETE CURBS AND SIDEWALKS TO BE 4,000 P.S.I. CONCRETE.

SIDEWALK DETAIL
NOT TO SCALE



NOTE:
1. SECTION SHOWN IS BASED ON AN ANTICIPATED CBR OF 10 PER GEOTECHNICAL REPORT PREPARED BY PROFESSIONAL SERVICES INDUSTRIES, INC., ENTITLED SUBSURFACE EXPLORATION AND GEOTECHNICAL EVALUATION, DATED JULY 5, 2005. FINAL DESIGN TO BE PROVIDED ONCE FINAL CBR'S ARE AVAILABLE ON COMPACTED SUB-BASE.

ASPHALT PAVEMENT SECTION
NOT TO SCALE



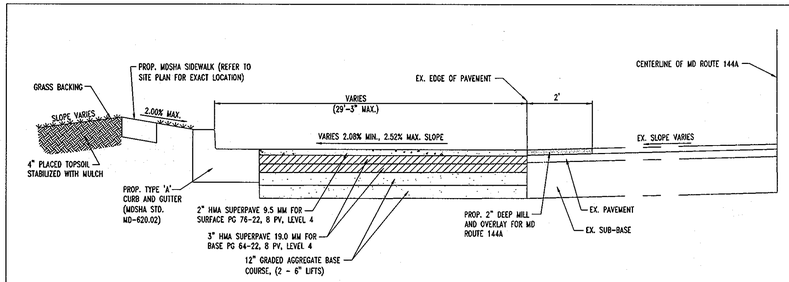
NOTES

SPECIFICATION	CATEGORY CODE ITEMS
655 & 611	

APPROVED: SHEETING - OFFICE OF HIGHWAY DEVELOPMENT

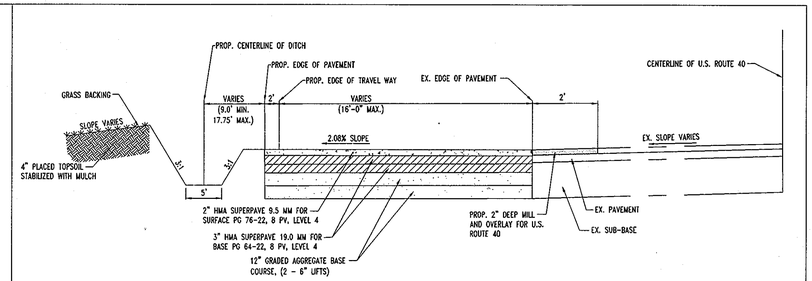
APPROVAL	3-30-04	APPROVAL	3-31-04
REVISED	3-25-04	REVISED	4-13-09
REVISED		REVISED	

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND NONCAPITAL STRUCTURES
SIDEWALK RAMPS PERPENDICULAR
STANDARD NO. MD 655.11



NOTE: THESE DESIGN VALUES MUST BE VERIFIED PRIOR TO CONSTRUCTION BY PERFORMING CBR LABORATORY TESTING ON ACTUAL PAVEMENT SUB GRADE SOILS.

TYPICAL SECTION (MD ROUTE 144A)
NOT TO SCALE



NOTE: THESE DESIGN VALUES MUST BE VERIFIED PRIOR TO CONSTRUCTION BY PERFORMING CBR LABORATORY TESTING ON ACTUAL PAVEMENT SUB GRADE SOILS.

TYPICAL SECTION (U.S. ROUTE 40)
NOT TO SCALE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION	DATE 9/24/10
CHIEF-DIVISION OF LAND DEVELOPMENT	DATE 10/12/10
DIRECTOR	DATE 10/12/10

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.

COUNTY HEALTH OFFICER — DATE 8/4/10
HOWARD COUNTY HEALTH DEPARTMENT

GENERAL NOTE:
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THIS PROJECT WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR APPLICABLE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF THE WORK AS DEFINED BY THE DRAWINGS AND IN FULL CONFORMANCE WITH LOCAL REGULATIONS AND CODES.

MISS UTILITY
BEFORE YOU DIG CALL
811 IN MD
or 1-800-257-7777
PROTECT YOURSELF, GIVE TWO WORKING DAYS NOTICE
THE CONTRACTOR TO CALL MISS UTILITY TO HAVE ALL EXISTING UTILITIES MARKED 48 HOURS PRIOR TO ANY CONSTRUCTION.

NO.:	DATE	REVISION DESCRIPTION

OWNER:
PARCEL A
JACK M. AND LOUISE KAULFUSS
13715 OLD ROVER ROAD
WEST FRIENDSHIP MD 21794-9718
PHONE: 410-442-2011

PARCEL B
JOHN VICTOR AND MARTHA B. CALABRESE
3982 OLD FENICE ROAD
ELLICOTT CITY, MD 21042-2440
PHONE: 410-465-3519

DEVELOPER:
RITE AID CORPORATION
P.O. BOX 3165
HARRISBURG, PA 17105
ATTN.: LANCE MASON
PHONE: 804-745-6222

PROJECT
RITE AID CORPORATION
KAULFUSS AND CALABRESE LANDS
PARCELS A & B
ONE-STORY RETAIL BUILDING

AREA 3.136 AC. TAX MAP 23 GRID 6 ZONED B-1
PARCELS A & B
2ND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND 21042

TITLE
SITE DETAILS

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD
SUITE 801
TOWSON, MARYLAND 21204
PH: (410) 821-7900
FX: (410) 821-7987
www.bohlerengineering.com

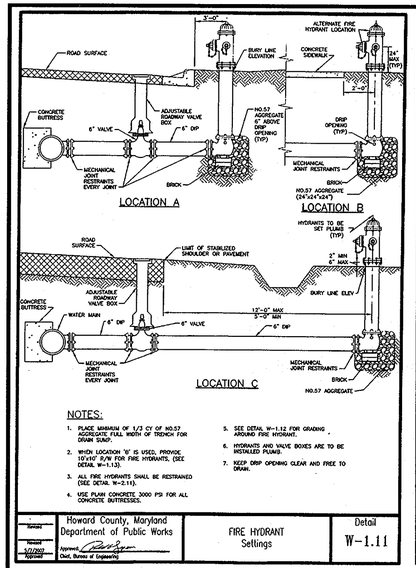
PROFESSIONAL CERTIFICATION
I, MATTHEW T. ALLEN, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE NO. 28567, EXPIRATION DATE: 4/16/11

MATTHEW T. ALLEN
PROFESSIONAL ENGINEER NO. 28567

DESIGNED BY:	M.J.G.
DRAWN BY:	R.J.M.
PROJECT NO.:	MD072009.2
DATE:	8/20/10
SCALE:	N/A
DRAWING NO.	29 OF 37

SDP 09-44

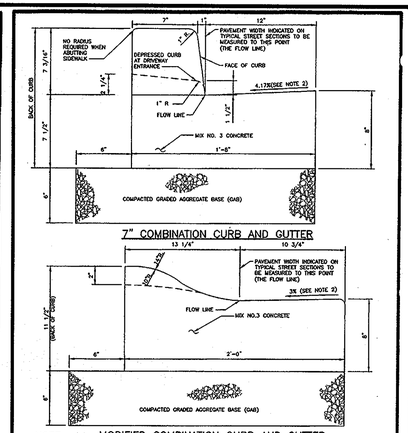
H:\07\Rite Aid Corporation\MD072009 - 10470 Frederick Road, Ellicott City, MD\CAD\Site Plan Documents\Rev 5\MD072009SD5.dwg, 9/15/2010 1:28:07 PM, mgesell, 1:1



Howard County, Maryland
Department of Public Works
Approved: Chief, Bureau of Engineering
Revised / Revised / Approved 5/1/2002

FIRE HYDRANT Settings

Detail W-1.11



NOTE: MODIFIED COMBINATION CURB AND GUTTER

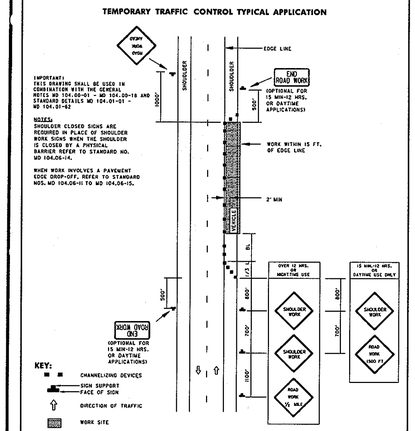
1. A REVERSE GUTTER PAN SHALL HAVE A GUTTER SLOPE OF 4.17% AWAY FROM THE FLOW LINE, AND SHALL NOT BE USED WHERE THIS DRAINAGE CREATES A HAZARDOUS CONDITION.
2. GUTTER PAN AT THE MEDIAN EDGE OF INTERMEDIATE ARTERIALS OR THE HIGH SIDE OF SUPERELEVATED SECTIONS SHALL BE SLOPED AT THE SAME RATE AND IN THE SAME DIRECTION AS THE PAVEMENT. WATER PAVEMENT CROSS SLOPE WHEN CURB IS LOCATED ON THE LOW SIDE OF SUPERELEVATED SECTION AND THE RATE OF SUPERELEVATION IS GREATER THAN 3% FOR MODIFIED CURB & GUTTER.
3. A MINIMUM OF TWO (2) FEET OF COMPACTED STABILIZED EARTH, OR EQUIVALENT, SHALL SUPPORT THE ENTIRE BACK OF CURB.
4. POSITIVE DRAINAGE SHALL BE PROVIDED BOTH BEHIND THE CURB AND ALONG THE GUTTER AND FLOW LINE.

Howard County, Maryland
Department of Public Works
Approved: Chief, Bureau of Engineering
Revised / Revised / Approved 5/1/2002

CURB AND GUTTER 7" & Modified

Detail R-3.01

TEMPORARY TRAFFIC CONTROL TYPICAL APPLICATION



IMPORTANT: THIS DRAWING SHALL BE USED IN COMBINATION WITH THE GENERAL NOTES MD 104.02-01 - MD 104.02-14 AND STANDARD DETAILS MD 104.01-01 - MD 104.01-02

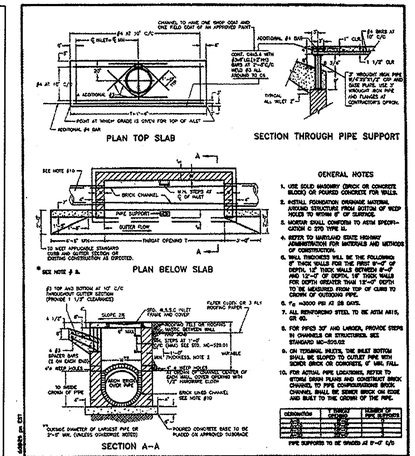
NOTES: SHOULDER CLOSED SIGNS ARE REQUIRED IN PLACE OF SHOULDER WORK SIGNS WHEN THE SHOULDER IS CLOSED BY A PHYSICAL BARRIER REFER TO STANDARD NO. MD 104.04-14.

WHEN WORK INVOLVES A PAVEMENT EDGE DROP-OFF, REFER TO STANDARD NOS. MD 104.06-11 TO MD 104.06-15.

SPECIFICATION 104 | CATEGORY CODE ITEMS | APPROVED: DIRECTOR - OFFICE OF TRAFFIC AND SAFETY | APPROVAL + FEDERAL REVISIONS | SHA STATE HIGHWAY ADMINISTRATION

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
SHOULDER WORK (2-LANE, 2-WAY GREATER THAN 40 MPH

STANDARD NO. MD 104.02-01


PLAN TOP SLAB
SECTION THROUGH PIPE SUPPORT
PLAN BELOW SLAB
SECTION A-A
GENERAL NOTES
1. USE SOLID MASONRY (BRICK OR CONCRETE BLOCK) OR POURED CONCRETE FOR WALLS.
2. INSTALL FOUNDATION DRAINAGE MATERIAL AROUND STRUCTURE FROM BOTTOM OF WCEP HOLES TO WITHIN 9" OF SURFACE.
3. MORTAR SHALL CONFORM TO ASTM SPECIFICATION C 270 TYPE SL.
4. REFER TO MARYLAND STATE HIGHWAY ADMINISTRATION FOR MATERIALS AND METHODS OF CONSTRUCTION.
5. WALL THICKNESS WILL BE THE FOLLOWING: 8" THICK WALLS FOR THE FIRST 8'-0" OF DEPTH. 12" THICK WALLS BETWEEN 8'-0" AND 12'-0" OF DEPTH. 18" THICK WALLS FOR DEPTH GREATER THAN 12'-0" DEPTH TO BE MEASURED FROM TOP OF CURB TO CROWN OF OUTGOING PIPE.
6. F'_c =4000 PSI @ 28 DAYS.
7. ALL REINFORCING STEEL TO BE ASTM A615, GR 60.
8. FOR PIPES 30" AND LARGER, PROVIDE STEPS IN CHANNELS OR STRUCTURES. SEE STANDARD MC-350.02
9. ON TERMINAL INLETS, THE INLET BOTTOM SHALL BE SLOPED TO OUTLET PIPE WITH SOLID BRICK OR CONCRETE, 6" MIN. FILL.
10. FOR ACTUAL PIPE LOCATIONS, REFER TO STORM DRAIN PLANS AND CONSTRUCT BRICK CHANNEL TO PIPE CONFIGURATIONS. BRICK CHANNEL SHALL BE SOLID BRICK ON EDGE AND BUILT TO THE CROWN OF THE PIPE.

DESIGNATION	'F' SHAPE PIPE SUPPORTS	'T' SHAPE PIPE SUPPORTS
24"	2	1
30"	2	1
36"	2	1
42"	2	1
48"	2	1

PIPE SUPPORTS TO BE SPACED AT 2'-0" C/S

SECTION A-A

APPROVED JAN 5 1996 DATE — DIRECTOR, DEPT. OF TRANS. — CHIEF, DIV. OF ENG. SERVICES

REVISED

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION

"A" INLET

STANDARD NO. MC-501.01

SECTION NUMBER	ROAD AND STREET CLASSIFICATION	PAVEMENT MATERIAL (INCHES)	CALIFORNIA BEARING RATIO (CBR) 3 TO <5	5 TO <7	≥ 7	3 TO <5	5 TO <7	≥ 7
			HMA WITH CAB			HMA WITH CONSTANT CAB		
P-1	PARKING BAYS: RESIDENTIAL AND NON-RESIDENTIAL	9.5 MM, PG 64-22, LEVEL 1 (EDAL)	1.5	1.5	1.5	1.5	1.5	1.5
	PARKING DRIVE AISLES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 2 HEAVY TRUCKS PER DAY	HMA SUPERPAVE INTERMEDIATE-SURFACE (IM)	NA	NA	NA	NA	NA	NA
		HMA SUPERPAVE BASE	2.0	2.0	2.0	3.5	3.0	2.5
		19.0 MM, PG 64-22, LEVEL 1 (EDAL)	2.0	2.0	2.0	3.5	3.0	2.5
		GRADED AGGREGATE BASE (GAB)	6.0	5.0	4.0	4.0	4.0	4.0
P-2	PARKING DRIVE AISLES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY. LOCAL ROADS: ACCESS PLACE, ACCESS STREET CUL-DE-SACS: RESIDENTIAL	HMA SUPERPAVE FINAL SURFACE 9.5 MM, PG 64-22, LEVEL 1 (EDAL)	1.5	1.5	1.5	1.5	1.5	1.5
		HMA SUPERPAVE INTERMEDIATE SURFACE 9.5 MM, PG 64-22, LEVEL 1 (EDAL)	1.0	1.0	1.0	1.0	1.0	1.0
		HMA SUPERPAVE BASE 19.0 MM, PG 64-22, LEVEL 1 (EDAL)	2.0	2.0	2.0	3.5	3.0	2.5
		GRADED AGGREGATE BASE (GAB)	8.0	7.0	6.0	4.0	4.0	4.0
P-3	PARKING DRIVE AISLES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY. LOCAL ROADS: ACCESS PLACE, ACCESS STREET CUL-DE-SACS: NON-RESIDENTIAL MINOR COLLECTORS: RESIDENTIAL	HMA SUPERPAVE FINAL SURFACE 9.5 MM, PG 64-22, LEVEL 1 (EDAL)	1.5	1.5	1.5	1.5	1.5	1.5
		HMA SUPERPAVE INTERMEDIATE SURFACE 9.5 MM, PG 64-22, LEVEL 1 (EDAL)	1.0	1.0	1.0	1.0	1.0	1.0
		HMA SUPERPAVE BASE 19.0 MM, PG 64-22, LEVEL 1 (EDAL)	3.0	3.0	3.0	4.5	3.0	2.0
		GRADED AGGREGATE BASE (GAB)	10.0	9.0	8.0	6.0	6.0	6.0
P-4	MINOR COLLECTORS: NON-RESIDENTIAL MAJOR COLLECTORS:	HMA SUPERPAVE FINAL SURFACE 12.5 MM, PG 64-22, LEVEL 3 (LOW ESAL)	2.0	2.0	2.0	2.0	2.0	2.0
		HMA SUPERPAVE INTERMEDIATE SURFACE 12.5 MM, PG 64-22, LEVEL 3 (LOW ESAL)	2.0	2.0	2.0	2.0	2.0	2.0
		HMA SUPERPAVE BASE 19.0 MM, PG 64-22, LEVEL 2 (LOW ESAL)	4.0	4.0	3.0	6.0	5.0	3.0
		GRADED AGGREGATE BASE (GAB)	13.0	7.0	4.0	6.0	6.0	6.0

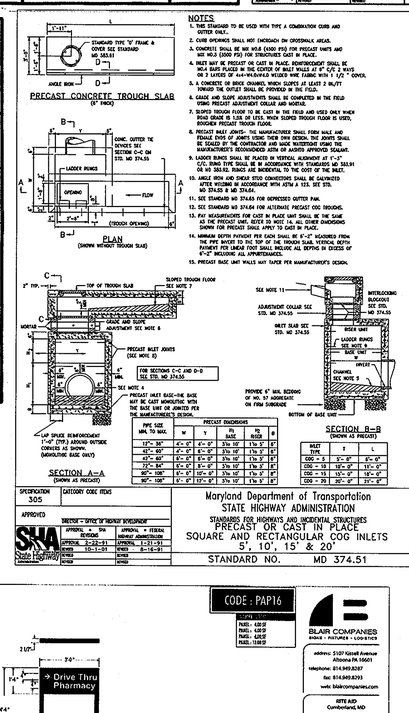
Notes:
1) HEAVY TRUCKS ARE DEFINED AS THOSE WITH SIX (6) WHEELS OR MORE INCLUDING GARBAGE TRUCKS.
2) HMA SUPERPAVE LAYERS SHALL BE PLACED IN APPROPRIATE COMPACTED LIFT THICKNESS: 19.0 MM BASE (2.0" MIN TO 4.0" MAX), 12.5 MM SURFACE (1.5" MIN TO 3.0" MAX), AND 9.5 MM SURFACE (1.0" MIN TO 2.0" MAX)
3) GRADED AGGREGATE BASE (GAB) TO BE PLACED AND COMPACTED IN 6" MAX COMPACTED THICKNESS LAYERS.
4) THE FINAL SURFACE LAYER OF HMA PAVEMENT MUST BE PLACED WITHIN 2 WEEKS OF PLACEMENT OF BASE COURSE, AND IS REQUIRED PRIOR TO SUBSTANTIAL COMPLETION REGARDLESS OF ROAD CLASSIFICATION.
5) IN LIEU OF PLACING THE INTERMEDIATE SURFACE COURSE LAYER FOR COMMERCIAL/INDUSTRIAL ENTRANCE APRONS WITHIN THE COUNTY RIGHT-OF-WAY WHERE AUXILIARY LANES ARE NOT REQUIRED, THE THICKNESS OF THE INTERMEDIATE PAVEMENT LAYER CAN BE ADDED TO THE REQUIRED THICKNESS OF THE BASE ASPHALT LAYER.
6) THE CONSTRUCTION DRAWINGS SHALL SHOW THE PAVING SECTION, ROAD CLASSIFICATION AND CRD VALUE FOR EACH ROADWAY

HMA SUPERPAVE FINAL SURFACE
HMA SUPERPAVE INTERMEDIATE SURFACE
HMA SUPERPAVE BASE
GRADED AGGREGATE BASE (GAB)

Howard County, Maryland
Department of Public Works
Approved: Chief, Bureau of Engineering
Revised / Revised / Approved 5/1/2002

PAVING SECTIONS P-1 to P-4

Detail R-2.01



PIPE SIZE MIN. TO MAX.	W	Y	Y1 BASE	Y2 BASE	W
12"- 36"	4'- 0"	5'- 0"	3'to 10'	1'to 3'	8"
42"- 60"	4'- 0"	5'- 0"	3'to 10'	1'to 3'	8"
63"- 84"	5'- 0"	5'- 0"	3'to 10'	1'to 3'	8"
72"- 84"	5'- 0"	5'- 0"	3'to 10'	1'to 3'	8"
90"- 108"	5'- 0"	11'- 0"	3'to 10'	1'to 3'	8"
90"- 108"	5'- 0"	11'- 0"	3'to 10'	1'to 3'	8"

PRECAST DIMENSIONS

INLET TYPE	T	L
COG - 8	5'- 0"	6'- 0"
COG - 10	10'- 0"	11'- 0"
COG - 15	15'- 0"	16'- 0"
COG - 20	20'- 0"	21'- 0"

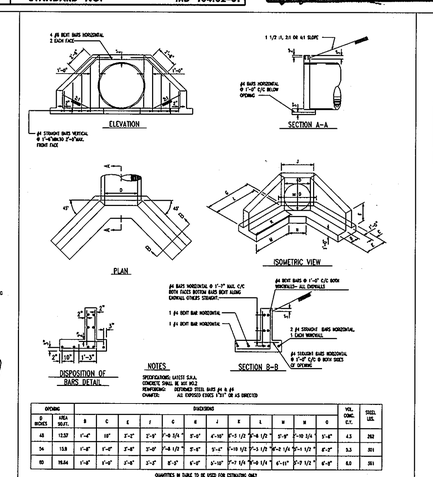
NOTES

1. THIS STANDARD TO BE USED WITH TYPE A COMBINATION CURB AND GUTTER ONLY.
2. CURB OPENINGS SHALL NOT EXCEEDED ON DIVIDERNAL AREAS.
3. CONCRETE SHALL BE MIX NO.6 (4000 PSI) FOR PRECAST UNITS AND MIX NO.3 (3000 PSI) FOR STRUCTURES CAST IN PLACE.
4. INLET MAY BE PRECAST OR CAST IN PLACE. REINFORCEMENT SHALL BE #5A BARS PLACED IN THE CENTER OF INLET WALLS AT 6" C/C, 2 WAYS OR 2 LAYERS OF 6x6-W4.0x4.0 WELDED WIRE FABRIC WITH 1 1/2" COVER.
5. A CONNECTION IN BOXED CHANNEL MUST BE PROVIDED AT LEAST 2' OR/FT TOWARD THE OUTLET SHALL BE PROVIDED IN THE FIELD.
6. GRADE AND SLOPE ADJUSTMENTS SHALL BE COMPLETED IN THE FIELD USING PRECAST ADJUSTMENT COLLAR AND MORTAR.
7. SLOPED TROUGH FLOOR TO BE CAST IN THE FIELD AND USED ONLY WHEN ROAD GRADE IS 12% OR LESS. WHEN SLOPED TROUGH FLOOR IS USED, BOXCHER PRECAST TROUGH FLOOR.
8. PRECAST INLET JOINTS- THE MANUFACTURER SHALL FORM MALE AND FEMALE ENDS OF JOINTS USING THEIR OWN DESIGN. THE JOINTS SHALL BE SEALED BY THE CONTRACTOR AND MADE WATERTIGHT USING THE MANUFACTURER'S RECOMMENDED ASTM OR AASHTO APPROVED SEALANT.
9. LADDER RUNGS SHALL BE PLACED IN VERTICAL ALIGNMENT AT 1'-3" C/C. RUNG TYPE SHALL BE IN ACCORDANCE WITH STANDARDS NO 383.91 OR NO 383.92. RUNGS ARE INCIDENTAL TO THE COST OF THE INLET.
10. ANGLE IRON AND SHOP CONNECTORS SHALL BE GALVANIZED AFTER WELDING IN ACCORDANCE WITH ASTM A 123. SEE STD. NO 374.03 & 374.04.
11. SEE STANDARD NO 374.65 FOR DEPRESSED GUTTER PAN.
12. SEE STANDARD NO 374.04 FOR ALTERNATE PRECAST COG TROUGHS.
13. PAV MEASUREMENTS FOR CAST IN PLACE UNIT SHALL BE THE SAME AS THE PRECAST UNIT. REFER TO NOTE 14. ALL OTHER DIMENSIONS SHOWN FOR PRECAST SHALL APPLY TO CAST IN PLACE.
14. MINIMUM DEPTH PAVEMENT PER GUTTER SHALL BE 8"-0" MEASURED FROM THE PVC BUCKET TO THE TOP OF THE TROUGH SLAB. VERTICAL DEPTH PAVEMENT PER LINEAR FOOT SHALL INCLUDE ALL DEPTHS IN EXCESS OF 8"-0" INCLUDING ALL APPURTENANCES.
15. PRECAST BASE UNIT WALLS MAY TAPER PER MANUFACTURER'S DESIGN.

SPECIFICATION 305 | CATEGORY CODE ITEMS | APPROVED: DIRECTOR - OFFICE OF HIGHWAY DEVELOPMENT | APPROVAL + SHA REVISIONS | APPROVAL + FEDERAL HIGHWAY ADMINISTRATION | SHA STATE HIGHWAY ADMINISTRATION

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
PRECAST OR CAST IN PLACE SQUARE AND RECTANGULAR COG INLETS 5', 10', 15' & 20'

STANDARD NO. MD 374.51



DIMENSIONS															VOL. CONC. C.Y.	STEEL LBS.
D INCHES	AREA SQ.FT.	B	C	E	J	G	H	J	K	L	M	N	O			
48	12.57	1'-4"	10"	3'-6"	3'-6"	1'-4 1/2"	5'-6"	4'-10"	1'-3 1/2"	1'-4 1/2"	1'-4 1/2"	5'-6"	1'-10 1/4"	3'-4"	4.5	292
54	15.9	1'-4"	1'-4"	3'-6"	3'-6"	1'-4 1/2"	5'-6"	5'-4"	1'-10 1/2"	1'-3 1/2"	1'-4 1/4"	1'-4 1/2"	5'-6"	3'-4"	5.3	351
60	19.64	1'-4"	1'-4"	3'-6"	3'-6"	1'-4"	5'-6"	5'-10"	1'-7 1/2"	1'-3 1/2"	1'-4 1/4"	1'-7 1/2"	5'-6"	3'-4"	6.0	351

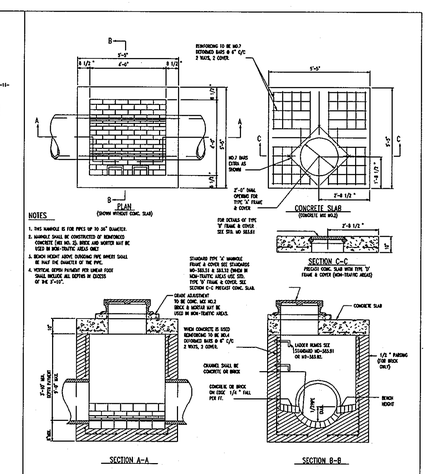
NOTE

TRAFFIC BARRIER W BEAM BARRICADE SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE PER LINEAR FOOT. THE CONTRACT PRICE BID SHALL INCLUDE THE FURNISHING AND INSTALLATION OF ALL POSTS, W BEAM, POST AND SPACE BLOCK, WITH NUTS, AND FASTENERS, ELEVATORS, THE COST OF ALL EXCAVATION, BACKFILLING AND CURBING, PAVEMENT REPAIR, ANCHORS, ANCHOR BOLTS, ANCHOR PLATES, ANCHOR CABLE, ANCHOR CABLE FITTINGS, AND ANCHORING PAVEMENT WHERE NECESSARY, AS WELL AS THE COST OF ALL LABOR, APPROVED TOOLS AND EQUIPMENT INCIDENTAL TO FURNISHING AND INSTALLING THE BARRICADE AT LOCATIONS NOTED ON THE PLANS OR WHERE DIRECTED BY THE ENGINEER. FOR MATERIAL SEE LATEST S.H.A. SPECIFICATIONS FOR TRAFFIC BARRIER W BEAM.

SPECIFICATION 605 | CATEGORY CODE ITEMS | APPROVED: DIRECTOR - OFFICE OF HIGHWAY DEVELOPMENT | APPROVAL + SHA REVISIONS | APPROVAL + FEDERAL HIGHWAY ADMINISTRATION

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
STANDARD HEADWALLS 8-48 B-54 8-60

STANDARD NO. MD 352.01



SPECIFICATION 305 | CATEGORY CODE ITEMS | APPROVED: DIRECTOR - OFFICE OF HIGHWAY DEVELOPMENT | APPROVAL + SHA REVISIONS | APPROVAL + FEDERAL HIGHWAY ADMINISTRATION | SHA STATE HIGHWAY ADMINISTRATION

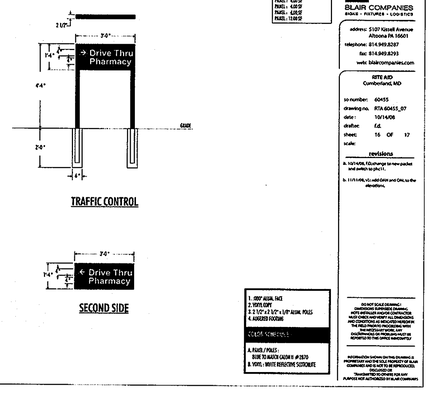
Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
TRAFFIC BARRIER W BEAM BARRICADE

STANDARD NO. MD 605.27

SPECIFICATION 305 | CATEGORY CODE ITEMS | APPROVED: DIRECTOR - OFFICE OF HIGHWAY DEVELOPMENT | APPROVAL + SHA REVISIONS | APPROVAL + FEDERAL HIGHWAY ADMINISTRATION | SHA STATE HIGHWAY ADMINISTRATION

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
48" SQUARE STANDARD SHALLOW MANHOLE

STANDARD NO. MD. 383.00



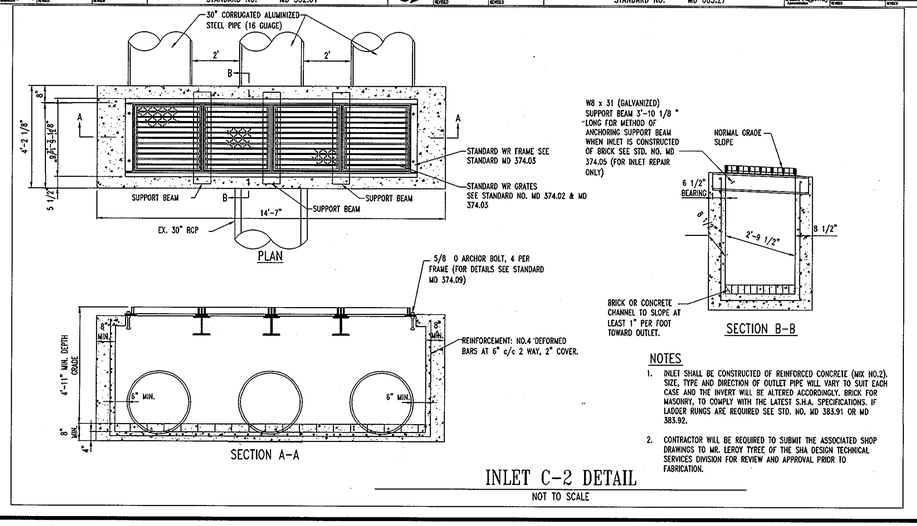
APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION — DATE 9/24/10
CHIEF-DIVISION OF LAND DEVELOPMENT — DATE 10/12/10
DIRECTOR — DATE 10/12/10

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.

COUNTY HEALTH OFFICER — DATE 10/14/10
HOWARD COUNTY HEALTH DEPARTMENT

GENERAL NOTE:
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THIS PROJECT WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR APPLICABLE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF THE WORK AS DEFINED BY THE DRAWINGS AND IN FULL CONFORMANCE WITH LOCAL REGULATIONS AND CODES.



NOTES

1. INLET SHALL BE CONSTRUCTED OF REINFORCED CONCRETE (MIX NO.2). SIZE, TYPE AND DIRECTION OF OUTLET PIPE WILL VARY TO SUIT EACH CASE AND THE INVERT WILL BE ALTERED ACCORDINGLY. BRICK FOR MASONRY, TO COMPLY WITH THE LATEST S.H.A. SPECIFICATIONS. IF LADDER RUNGS ARE REQUIRED SEE STD. NO. MD 383.91 OR MD 383.92.
2. CONTRACTOR WILL BE REQUIRED TO SUBMIT THE ASSOCIATED SHOP DRAWINGS TO MR. LEROY TYREE OF THE SHA DESIGN TECHNICAL SERVICES DIVISION FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.

INLET C-2 DETAIL
NOT TO SCALE

PROFESSIONAL CERTIFICATION

I, MATTHEW T. ALLEN, HEREBY CERTIFY THAT THESE 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. 28567, EXPIRATION DATE: 4/16/11

MATTHEW T. ALLEN — PROFESSIONAL ENGINEER, NO. 28567

NO.:	DATE	REVISION DESCRIPTION

OWNER: PARCEL A — JACK M. AND LOUISE KAULFUSS, 13715 OLD ROVER ROAD, WEST FRIENDSHIP MD 21794-9718, PHONE: 410-442-2011
PARCEL B — JOHN VICTOR AND MARTHA B. CALABRESE, 3262 OLD FENCE ROAD, ELLICOTT CITY, MD 21042-2440, PHONE: 410-465-3519

DEVELOPER: RITE AID CORPORATION, P.O. BOX 3165, HARRISBURG, PA 17105, ATTN.: LANCE MASON, PHONE: 804-745-6222

PROJECT: RITE AID CORPORATION
KAULFUSS AND CALABRESE LANDS
PARCELS A & B
ONE-STORY RETAIL BUILDING

AREA 3.136 AC. TAX MAP 23 GRID 6 ZONED B-1
PARCELS A & B
2ND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND 21042

TITLE: SITE DETAILS

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD, SUITE 801, TOWSON, MARYLAND 21204
PH: (410) 821-7900
FX: (410) 821-7987
www.bohlerengineering.com

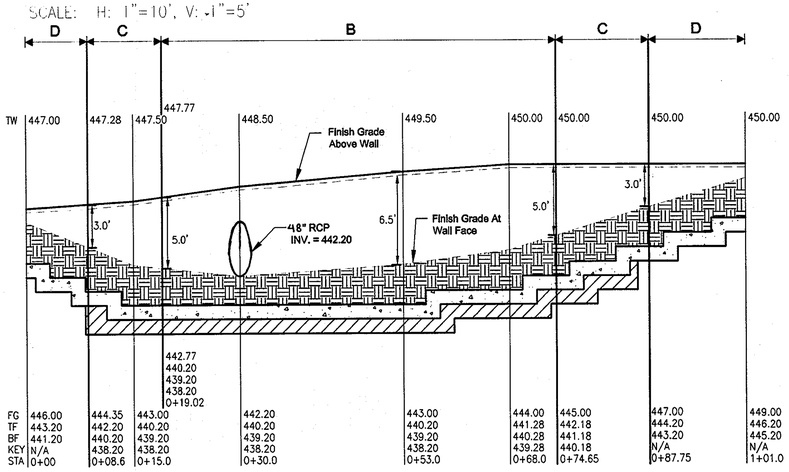
DESIGNED BY:	M.J.G.
DRAWN BY:	R.J.M.
PROJECT NO.:	MD072009.2
DATE:	8/20/10
SCALE:	N/A
DRAWING NO.	30 OF 37

SDP 09-44

H:\07\Rite Aid Corporation\MD07 2009 - 10470 Frederick Road, Ellicott City, MD\CAD\Site Plan Documents\Rev 5\MD072009SDS.dwg, 9/13/2010 1:29:24 PM, mgassell, 1:1

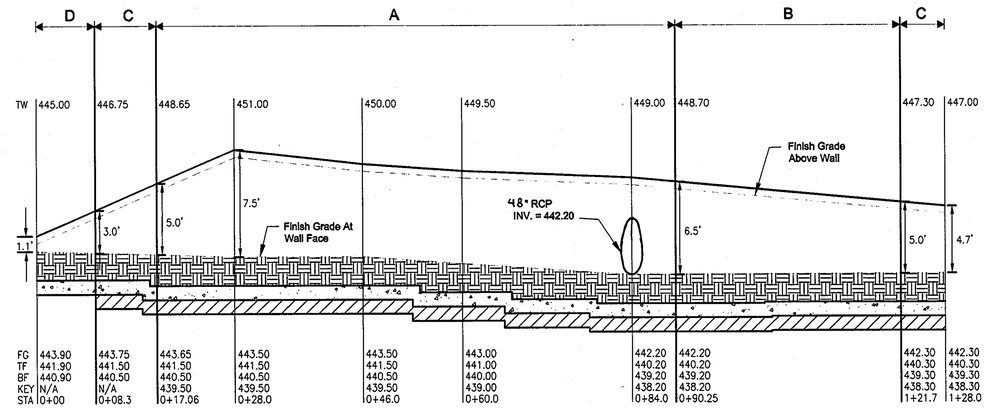
WALL A: ELEVATION VIEW

SCALE: H: 1"=10', V: 1"=5'



WALL B: ELEVATION VIEW

SCALE: H: 1"=10', V: 1"=5'

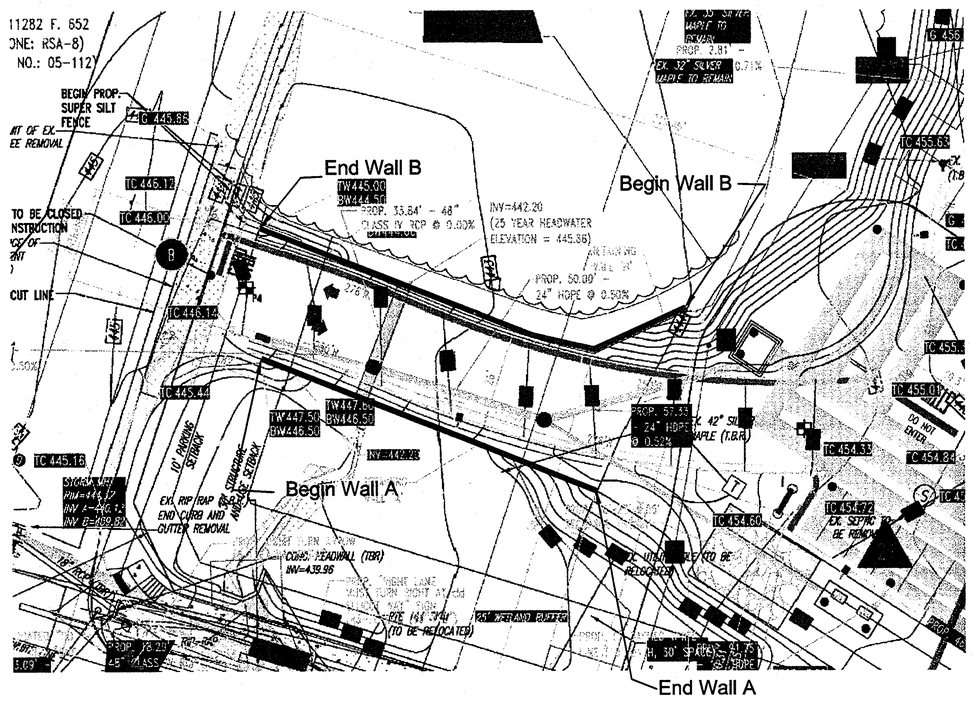


TW = TOP OF WALL
FG = PROPOSED FINISHED GRADE AT WALL FACE
TF = TOP OF FOOTING
BF = BOTTOM OF FOOTING
KEY = BOTTOM OF FOOTING KEY
STA = WALL STATION

BURIED WALL STEM

FOOTING

FOOTING KEY



WALL LOCATION PLAN VIEW

SCALE: 1"=20'

NO.:	DATE	REVISION DESCRIPTION

OFF-SITE PROPERTY OWNER:
HOWARD COUNTY MARYLAND
DEPARTMENT OF PUBLIC WORKS
3430 COURT HOUSE DRIVE
ELLICOTT CITY, MD 21042-4500
PHONE: 410-313-3440

OWNER:
JACK W. AND LOUISE KAUFFUSS
13715 OLD FENTON ROAD
WEST FRENCHTOWN MD 21794-9118
PHONE: 410-442-2011

JOHN VICTOR AND
MARTHA D. CALABRESE
3262 OLD FENCE ROAD
ELLICOTT C

CELL: 804-745-9222

PROJECT RITE AID CORPORATION
KAUFFUSS AND CALABRESE LANDS
PLAT NO.: F 09-54
ONE-STORY RETAIL BUILDING

AREA 3.1135 AC. TAX MAP 23 GRID 6 ZONED B-1
PARCEL A
2ND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND 21042

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION — DATE 9/24/10

CHIEF-DIVISION OF LAND DEVELOPMENT — DATE 10/12/10

DIRECTOR — DATE 10/12/10

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.

COUNTY HEALTH OFFICER — DATE 10/4/10
HOWARD COUNTY HEALTH DEPARTMENT

* WALL LOCATION PLAN IS AN ALTERED REPRODUCTION OF PART OF A SITE PLAN BY BOHLER ENGINEERING. ITIS PROVIDED ONLY TO DEPICT THE RETAINING WALL LOCATIONS. NO OTHERSITE FEATURES OR GRADES ARE INTENDED. REFER TO LATEST SITE PLANS BY OTHERS FOR ANY SITE INFORMATION.

Howard County File #SDP-09-044

CIS ENGINEERING, INC.
A division of CIS, Inc.
31 Sycolin Road, S.E.
Leesburg, VA 20175
Phone: (703) 669-9052
Fax: (703) 534-2107

REVISION #	REMARKS	DATE	BY	CHKD
1	ADDED REVISED PLAN AND WALL A ELEVATION	5/11/09	JLW	TMG
2	REVISED PER COMMENTS FROM HOWARD COUNTY	7/3/09	JLW	TMG
3	REVISED WALL A PER REVISED PLANS	7/07/10	JWP	TMG

STATE OF MARYLAND — TIMOTHY MICHAEL GRAY — No. 22104 — PROFESSIONAL ENGINEER

Stamp & Signature

RITE AID
10470 FREDERICK ROAD
ELLICOTT CITY, MD

CAST-IN-PLACE CONCRETE
RETAINING WALLS
PLAN VIEW & WALL ELEVATION VIEWS

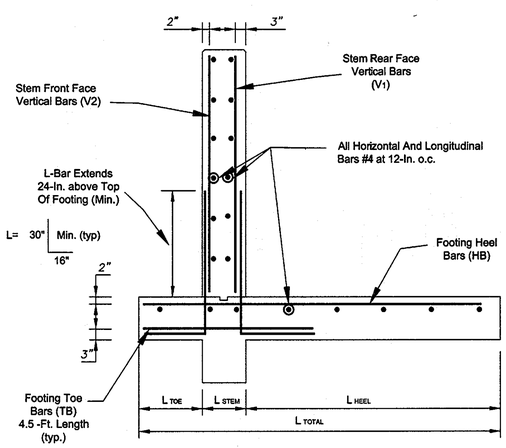
SHEET 31 OF 37

03/10/2009 TMG

PLOT DATE: 070710

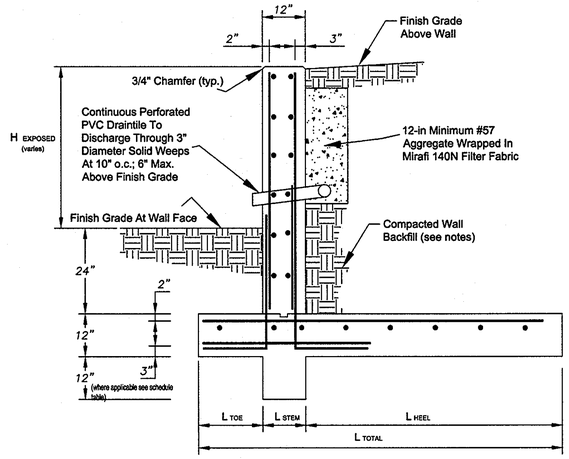
TYPICAL REINFORCEMENT STEEL DETAIL*

(*SEE CONCRETE RETAINING WALL SCHEDULE TABLES)
SCALE: 1"=20'



TYPICAL RETAINING WALL SECTION *

(*SEE CONCRETE RETAINING WALL SCHEDULE TABLES)
SCALE: 1"=20'



APPROVED: DEPARTMENT OF PLANNING AND ZONING
CHIEF-DEVELOPMENT ENGINEERING DIVISION — DATE 9/24/10
CHIEF-DIVISION OF LAND DEVELOPMENT — DATE 10/12/10
DIRECTOR — DATE 10/12/10
APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.
COUNTY HEALTH OFFICER, HOWARD COUNTY HEALTH DEPARTMENT — DATE 10/4/10

CONCRETE RETAINING WALL SCHEDULE TABLES

Section #	Exposed Wall Height ($H_{EXPOSED}$)	Footing Toe Length (L_{TOE})	Wall Stem Width (L_{STEM})	Footing Heel Length (L_{HEEL})	Footing Total Length (L_{TOTAL})	Footing Key
A	6.5-7.5 (ft)	1.5-ft	1.0-ft	6.0-ft	8.5-ft	YES
B	5.0-6.5 (ft)	1.5-ft	1.0-ft	4.5-ft	7.0-ft	YES
C	3.0-5.0 (ft)	1.5-ft	1.0-ft	3.0-ft	5.5-ft	YES
D	≤3.0 (ft)	1.5-ft	1.0-ft	2.0-ft	4.5-ft	NO

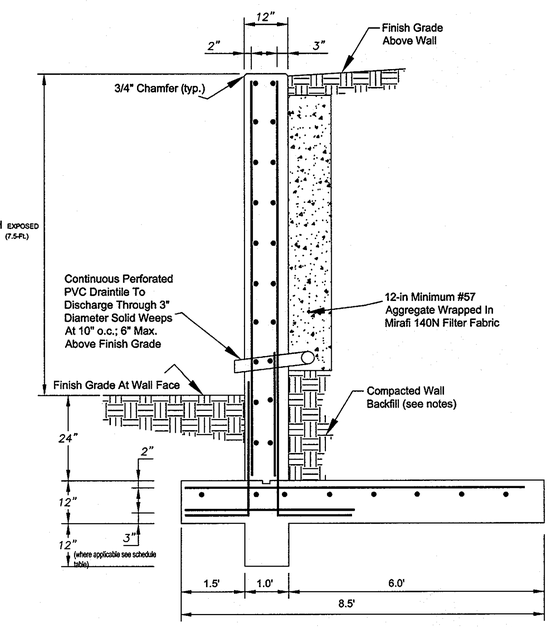
Section #	Exposed Wall Height ($H_{EXPOSED}$)	Stem Rear Face Vertical Bars (V1)	Stem Front Face Vertical Bars (V2)	Footing Toe Bars (TB)[1]	Footing Heel Bars (HB)[2]
A	6.5-7.5 (ft)	#5 @ 8-in	#4 @ 12-in	#5 @ 12-in	#5 @ 8-in
B	5.0-6.5 (ft)	#5 @ 10-in	#4 @ 12-in	#5 @ 12-in	#5 @ 10-in
C	3.0-5.0 (ft)	#5 @ 12-in	#4 @ 12-in	#4 @ 12-in	#5 @ 12-in
D	≤3.0 (ft)	#4 @ 16-in	#4 @ 16-in	-	-

[1] (TB) Toe bars length = 4.0-ft (typical); 3.0-in clear cover from bottom of footing.

[2] (HB) Heel bars extend full length of footing minus 3.0-in clear cover at each end. Size and spacing of heel bars matches stem rear face vertical bars (V1). Heel bars placed 3.0-in clear cover below top of footing.

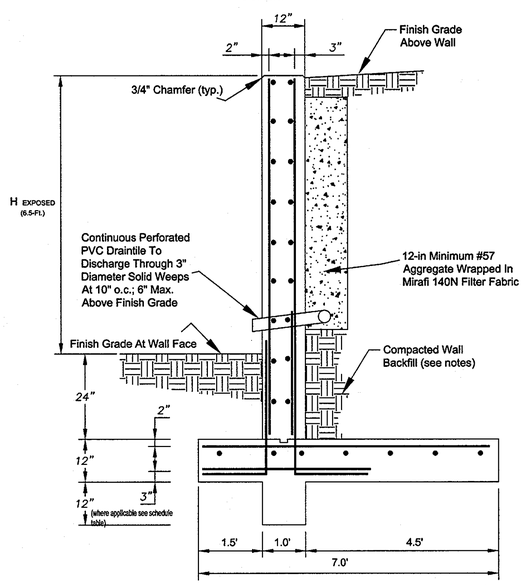
RETAINING WALL SECTION A
WALL B STA. 0+28

(*SEE CONCRETE RETAINING WALL SCHEDULE TABLES)
SCALE: 1"=20'



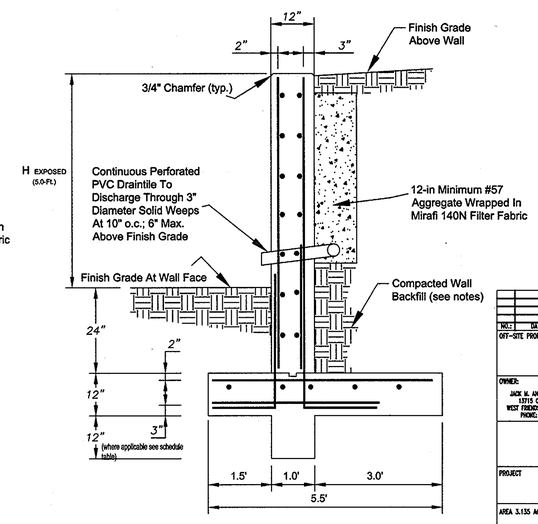
RETAINING WALL SECTION B
WALL A STA. 0+30
WALL B STA. 0+90.25

(*SEE CONCRETE RETAINING WALL SCHEDULE TABLES)
SCALE: 1"=20'



RETAINING WALL SECTION C
WALL A STA. 0+19.02 & STA. 0+74.65
WALL B STA. 0+17.06 & STA. 1+21.07

(*SEE CONCRETE RETAINING WALL SCHEDULE TABLES)
SCALE: 1"=20'



NO.:	DATE:	REVISION DESCRIPTION:

OFF-SITE PROPERTY OWNER:
HOWARD COUNTY MARYLAND
DEPARTMENT OF PUBLIC WORKS
3430 COURT HOUSE DRIVE
ELLICOTT CITY, MD 21043-4300
PHONE: 410-313-3440

OWNER:
JACK M. AND LOUISE KAKAFUOS
13715 OLD BOYDS ROAD
WEST FRIENDSHIP MD 21794-9715
PHONE: 410-442-2511

JOHN VICTOR AND MARTHA B. CALABRESE
5363 OLD FENCE ROAD
ELLICOTT CITY, MD 21042-2440
PHONE: 410-465-3519

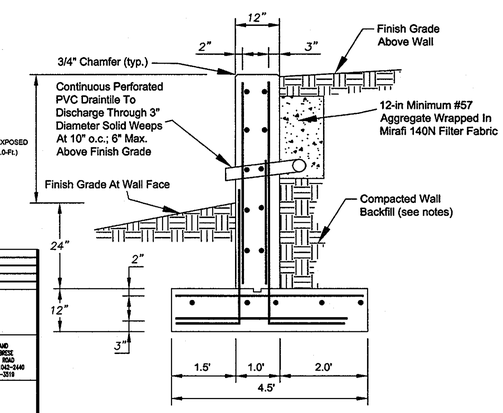
DEVELOPER:
RITE AID CORPORATION
P.O. BOX 3165
HARRISBURG, PA 17105
ATTN.: LARRY MASON
PHONE: 804-762-6222

PROJECT: RITE AID CORPORATION
KAKAFUOS AND CALABRESE LANDS
PLAT NO.: F 09-84
ONE-STORY RETAIL BUILDING

AREA 3.135 AC. TAX MAP 23 GRID 6 ZONED B-1
PARCEL A
2ND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND 21042

RETAINING WALL SECTION D
WALL A STA. 0+08.6 & STA. 0+87.75
WALL B STA. 0+08.3

(*SEE CONCRETE RETAINING WALL SCHEDULE TABLES)
SCALE: 1"=20'



Howard County File #SDP-09-044

CIS ENGINEERING, INC.
A division of CIS, Inc.
31 Sycolin Road, S.E.
Leesburg, VA 20175
Phone: (703) 669-9052
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REVISION #	REMARKS	DATE	BY	CHKD
1	ADDED REVISED PLAN AND WALL A ELEVATION	5/11/09	JLW	TMG
2	REVISED PER COMMENTS FROM HOWARD COUNTY	7/3/09	JLW	TMG
3	REVISED WALL A PER REVISED PLANS	7/07/10	JWP	TMG

STATE OF MARYLAND — TIMOTHY MICHAEL GRAY — No. 22195 — PROFESSIONAL ENGINEER

Stamp & Signature

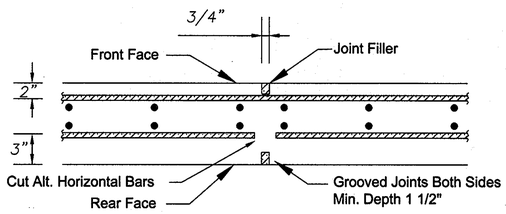
RITE AID
10470 FREDERICK ROAD
ELLICOTT CITY, MD

CAST-IN-PLACE CONCRETE
RETAINING WALLS
RETAINING WALL SECTIONS & TABLE

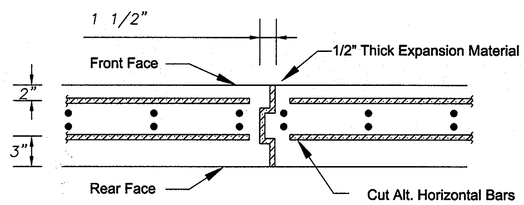
SHEET 32 OF 37

03/10/2009 TMG

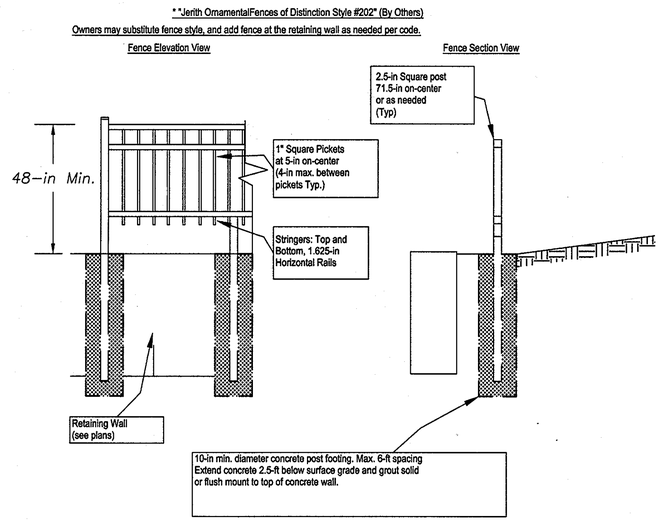
PLOT DATE: 070710



WEAKENED PLANE CONTROL JOINT, 25' o.c.



CONTRACTION JOINT, 100' o.c.



TYPICAL FENCE DETAIL*

N. T. S.

Section #	Exposed Wall Height ($H_{EXPOSED}$)	Stem Rear Face Vertical Bars (V1)	Stem Front Face Vertical Bars (V2)	Footing Toe Bars (TB)[1]	Footing Heel Bars (HB)[2]
A	6.5-7.5 (ft)	#5 @ 8-in	#4 @ 12-in	#5 @ 12-in	#5 @ 8-in
B	5.0-6.5 (ft)	#5 @ 10-in	#4 @ 12-in	#5 @ 12-in	#5 @ 10-in
C	3.0-5.0 (ft)	#5 @ 12-in	#4 @ 12-in	#4 @ 12-in	#5 @ 12-in
D	≤3.0 (ft)	#4 @ 16-in	#4 @ 16-in	-	-

[1] (TB) Toe bars length = 4.0-ft (typical); 3.0-in clear cover from bottom of footing.

[2] (HB) Heel bars extend full length of footing minus 3.0-in clear cover at each end. Size and spacing of heel bars matches stem rear face vertical bars (V1). Heel bars placed 3.0-in clear cover below top of footing.

1. BUILDING CODES

A. ALL WORK TO BE CONSTRUCTED IN ACCORDANCE WITH LATEST NCMA, ACI, IBC, AND APPLICABLE BUILDING AND SAFETY CODES.
B. IN ADDITION ALL CONSTRUCTION SHALL CONFORM WITH THE GOVERNING LOCAL BUILDING CODES.

2. MISCELLANEOUS

A. THE CONTRACTOR SHALL REVIEW THE CIVIL DRAWINGS FOR LOCATION AND DIMENSION OF UTILITIES WHICH IMPACT THE STRUCTUAL COMPONENTS.
B. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS SHOWN ON THE CONTRACT DRAWINGS BEFORE PROCEEDING WITH CONSTRUCTION. ALL DESCREPANCIES AND OMISSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
C. SCALES SHOWN ON THE STRUCTURAL CONTRACT DRAWINGS ARE FOR GENERAL INFORMATION ONLY. DIMENSIONAL INFORMATION SHALL NOT BE OBTAINED BY SCALING THE DRAWINGS.

3. FOUNDATIONS

A. THE BOTTOM OF ALL FOOTINGS SHALL BE A MINIMUM OF 36" BELOW FINISHED GRADE AT WALL.
B. ALL FOOTINGS HAVE BEEN DESIGNED FOR AN ASSUMED NET ALLOWABLE SOIL BEARING PRESSURE OF 3,000 PSF. THE ALLOWABLE SOIL BEARING PRESSURE SHALL BE VERIFIED BY A REGISTERED GEOTECHNICAL ENGINEER AND APPROVED PRIOR TO PLACING FOUNDATIONS. SHOULD THE ACTUAL SOIL BEARING PRESSURE BE LESS THAN 3,000 PSF, THE CONTRACTOR SHALL IMMEDIATLEY NOTIFY THE ENGINEER.
C. ALL FILL PLACED UNDER SPREAD FOOTINGS SHALL BE COMPACTED TO A DRY DENSITY OF AT LEAST 95 PERCENT OF MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D 698.
D. ALL EXCAVATION AND BACKFILLING OPERATIONS WITHIN THE RETAINING WALL FOOTPRINT INCLUDING ALL COMPACTION TESTS AND INSPECTIONS SHALL BE DONE UNDER DIRECTION AND SUPERVISION OF A REGISTERED GEOTECHNICAL ENGINEER.
E. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ALL FOUNDATION AND SOIL CONDITIONS WHICH DIFFER FROM THOSE ANTICIPATED OR INDICATED IN THE CONTRACT DOCUMENTS.
F. ALL EXISTING SOIL CONTAINING CONSTRUCTION OR DEMOLITION DEBRIS, ORGANIC SUBASTANCES, OR OTHER FOREIGN OBJECTS SHALL BE REMOVED FROM THE REGION WITHIN THE FOOTPRINT OF THE STRUCTURE.

4. CAST - IN - PLACE CONCRETE

A. ALL CONCRETE CONSTRUCTION SHALL CONFORM TO THE "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS (ACI 301)'; AND TO THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318)".
B. IN ADDITION TO THE ABOVE, ALL CONCRETE WORK SHALL CONFORM TO THE FOLLOWING:
   1. RECOMMENDED PRACTICE FOR HOT WEATHER CONCRETING (ACI 305).
   2. RECOMMENDED PRACTICE FOR COLD WEATHER CONCRETING (ACI 306).
   3. RECOMMENDED PRACTICE FOR CONCRETE FORMWORK (ACI 347).
C. ALL CONCRETE EXPOSED TO PUBLIC VIEW SHALL CONFORM TO THE REQUIREMENTS FOR ARCHITECTURAL CONCRETE CONTAINED IN ACI 301.
D. ALL CONCRETE, UNLESS NOTED OTHERWISE, SHALL BE STONE AGGREGATE CONCRETE HAVING A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3,500 PSI. ALL CONCRETE EXPOSED TO WEATHER SHALL HAVE AN AIR ENTRAINMENT OF 5% ±1%. NO ADMIXTURES CONTAINING CALCIUM CHLORIDE SHALL BE PERMITTED. MAXIMUM AGGREGATE SIZE SHALL BE 1", AND MAXIMUM SLUMP SHALL BE 5", 4" FOR SLABS ON GRADE. ALL CONCRETE, EXCEPT FOOTINGS, SHALL CONTAIN A WATER REDUCING ADMIXTURE. PORTLAND CEMENT SHALL CONFORM TO ASTM C 150 AND NORMAL WEIGHT AGGREGATES SHALL CONFORM TO ASTM C 33.
E. ALL REINFORCING BARS SHALL BE NEW BILLETT STEEL CONFORMING TO ASTM A 615 GRADE 60. ALL WELDED WIRE FABRIC (W.W.F.) SHALL CONFROM TO ASTM A 185. LAP ALL REINFORCING BARS A MINIMUM OF 30 BAR DIAMETERS AND ALL W.W.F. A MINIMUM OF TWO FULL GRIDS UNLESS OTHERWIDE INDICATED.
F. ALL REINFORCING BARS SHALL BE DETAILED, FABRICATED AND PLACED IN ACCORDANCE WITH THE CRSI :MANUAL OF STANDARD PRACTICE", ACI 315 "DETSILS AND DETAILING OF CONCRETE REINFORCEMENT", ACI SP 66 "DETAILING MANUAL.
G. ALL CONCRETE SHALL BE SAMPLED AND TESTED BY THE TESTING AGENCY. THE CONTRACTOR SHALL NOTIFY THE TESTING AGENCY 48 HOURS TO THE PLACING OF ANY CONCRETE.
H. MINIMUM COVER FOR ALL REINFORCING SHALL BE AS FOLLOWS INLESS OTHERWISE INDICATED:

FOUNDATIONS AND INTERIOR WALL FACE	3.0 INCHES
EXTERIOR WALL FACE	2.0 INCHES
WALLS BELOW GRADE	3.0 INCHES

Retaining Wall Design Information

Retained Soil Unit Weight (γ):	125 pcf	Foundation Bearing Capacity:	3,000 psf
Wall Backfill Unit Weight (γ):	125 pcf	Internal Angle of Backfill Friction (Φ):	30°
Uniform Vertical Pedestrian Load:	100 psf	Internal Angle of Retained Friction (Φ):	30°
Uniform Vertical Traffic Load:	250 psf	Soil Cohesion (c):	0 psf
Concrete Compressive Strength	fc' = 3,500 ps	Reinforcement Steel fy	60 ksi

Seismic Factors

A=0.20 Kh=0.10g

- All F.S. reduced to 75% of Static Loading F.S. for seismic conditions with minimum F.S.(seismic) = 1.1

External Stability

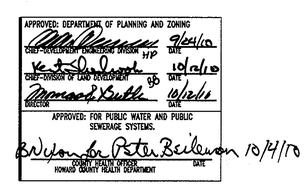
F.S. Sliding (min.):	2.0
F.S. Overturning (min.):	2.0
F.S. Bearing (min.):	2.0

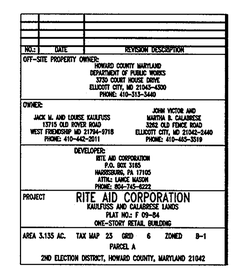
Global Stability

F.S. Circular Failure (min.) 1.5

SPECIAL HOWARD COUNTY RETAINING WALL SPECIFICATIONS:

A. RETAINING WALLS SHALL ONLY BE CONSTRUCTED UNDER THE OBSERVATION OF A REGISTERED PROFESSIONAL ENGINEER AND A (NICET, WACEL, OR EQUIVALENT) CERTIFIED SOILS TECHNICIAN.
B. THE REQUIRED BEARING PRESSURE BENEATH THE FOOTING OF THE WALL SHALL BE VERIFIED IN THE FIELD BY A CERTIFIED SOILS TECHNICIAN. TESTING DOCUMENTATION SHALL BE PROVIDED TO THE HOWARD COUNTY INSPECTOR PRIOR TO THE START OF CONSTRUCTION. THE REQUIRED TEST PROCEDURE AT A MINIMUM SHALL BE THE DYNAMIC CONE PENETROMETER TEST (DCP) PER ASTM STP-399.
C. THE SUITABILITY OF FILL MATERIAL SHALL BE CONFIRMED BY THE ON-SITE SOILS TECHNICIAN. EACH EIGHT INCH LIFT MUST BE COMPACTED TO 95% STANDARD PROCTOR DENSITY. AND THE TESTING REPORT SHALL BE MADE AVAILABLE TO THE HOWARD COUNTY INSPECTOR UPON COMPLETION OF CONSTRUCTION.
D. FOR "CRITICAL" WALLS, ONE SOIL BORING SHALL BE REQUIRED EVERY 100 FEET ALONG THE ENTIRE LENGTH OF THE WALL. COPIES OF ALL BORING REPORTS SHALL BE PROVIDED TO THE HOWARD COUNTY INSPECTOR PRIOR TO THE START OF CONSTRUCTION.





Howard County File #SDP-09-044

CIS ENGINEERING, INC.
A division of CIS, Inc.
31 Sycolin Road, S.E.
Leesburg, VA 20175
Phone: (703) 669-9052
Fax: (703) 534-2107

REVISION #	REMARKS	DATE	BY	CHKD
1	ADDED REVISED PLAN AND WALL A ELEVATION	5/11/09	JLW	TMG
2	REVISED PER COMMENTS FROM HOWARD COUNTY	7/3/09	JLW	TMG
3	REVISED WALL A PER REVISED PLANS	7/07/10	JWP	TMG

STATE OF MARYLAND TIMOTHY MICHAEL GARY No. 22 PROFESSIONAL ENGINEER

Stamp & Signature

RITE AID
10470 FREDERICK ROAD
ELLICOTT CITY, MD

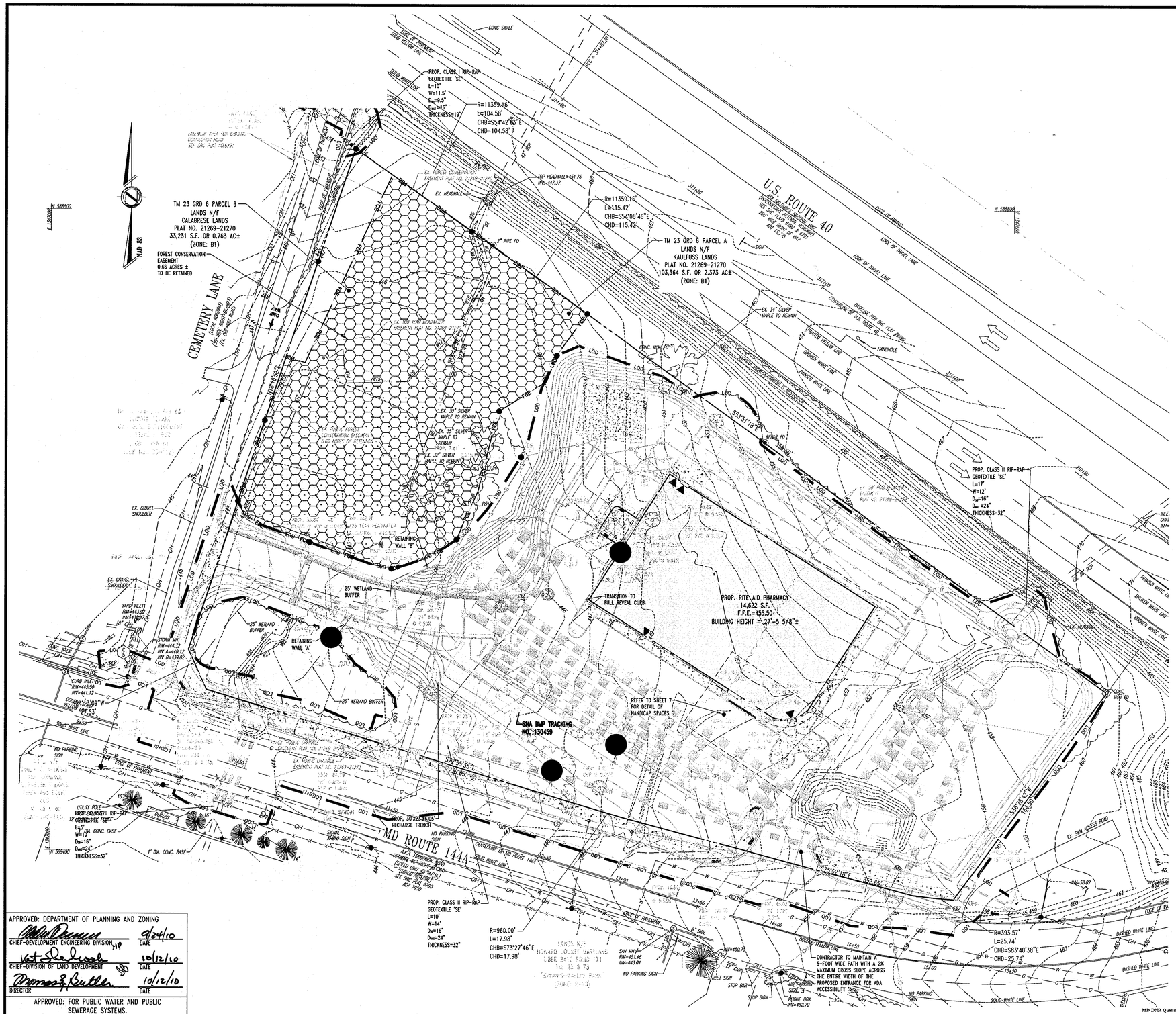
CAST-IN-PLACE CONCRETE
RETAINING WALLS

DETAILS & CONSTRUCTION NOTES & SPECIFICATIONS

SHEET 33 OF 37

03/10/2009 TMG

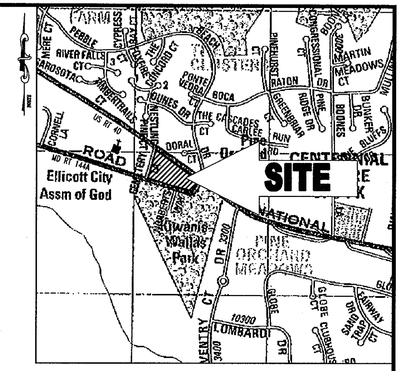
PLOT DATE: 070710



FOREST CONSERVATION WORKSHEET
Version 1.0

Project: Rite Aid Ellicott City
Date: Revised JULY 17, 2009

NET TRACT AREA	Acres
A. Total tract area	3.14
B. Area within 100 Year Floodplain	0.00
C. Area of lot previously developed	0.00
D. Net Tract Area	3.14
LAND USE CATEGORY: (from table 3.2.1, page 40, Manual) ARA MDR IDA HDR MPD CIA X	
E. Afforestation Threshold (15%)	0.47
F. Conservation Threshold (15%)	0.47
EXISTING FOREST COVER:	
G. Existing forest cover (excluding floodplain)	2.07
H. Area of forest above afforestation threshold	1.60
I. Area of forest above conservation threshold	1.60
BREAK EVEN POINT:	
J. Forest retention above threshold with no mitigation	0.32
Break-Even Point	0.79
K. Clearing permitted without mitigation	1.29
PROPOSED FOREST CLEARING	
L. Total area of forest to be Cleared or Retained Outside FCE	1.41
M. Total area of forest to be Retained in FCE	0.66
PLANTING REQUIREMENTS	
N. Reforestation for clearing above Conservation Threshold	0.35
P. Reforestation for clearing below Conservation Threshold	0.00
Q. Credit for retention above conservation threshold	0.19
R. Total reforestation required	0.16
S. Total afforestation required	0.00
T. Total reforestation and afforestation required	0.16



LOCATION MAP
COPYRIGHT ADC THE MAP PEOPLE
PERMIT USE NO. 20602153-5
SCALE: 1"=1000'

Sequence of Construction

1. Pre-construction meeting shall be held between developer, contractor, and County Inspector.
2. Sediment control shall be installed in accordance with general construction plan for site. Temporary protective fencing and forest conservation signage shall be installed as per forest conservation plan.
3. Site shall be graded, infrastructure installed, and houses constructed. Disturbed areas shall be stabilized. Permanent signage in poor condition shall be replaced
4. Post construction meeting shall be held with County Inspector to ensure compliance with development plan. Sediment control and temporary protective fencing shall be removed upon stabilization of site and completion of construction activities.
6. Certification of forest retention paperwork shall be submitted to the County.

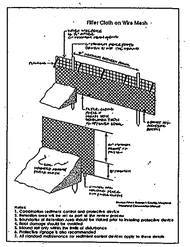
REFORESTATION NOTE:

FOREST CONSERVATION OBLIGATIONS FOR THIS SITE IN ACCORDANCE WITH SECTION 16.1202 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION MANUAL SHALL BE FULFILLED BY: THE PLACEMENT OF 0.66 ACRES OF FOREST INTO AN EASEMENT AREA AND PAYMENT OF THE FEE-IN-LIEU FOR 0.16 ACRES OF REQUIRED REFORESTATION IN THE AMOUNT OF $5,227.50 (6,970 S.F. x $0.75). SURETY IN THE AMOUNT OF $5,750.00 FOR THE REQUIRED FOREST RETENTION AREA SHALL BE POSTED WITH THE DEVELOPERS AGREEMENT FOR THIS SITE PLAN, SDP 09-44.

SITE AREA COMPUTATIONS

Gross Tract Area - 3.14 acres
100 Year Floodplain - 0.00 acres
Net Tract Area - 3.14 acres
Zoning B-1
D.C.
FOREST CLEARING

Forest to be Cleared - 1.41 acres



K — 11" — K

K — 15" — K

Forest Conservation Easement

Unauthorized disturbances of vegetation is prohibited. Violators are subject to fines as imposed by the Maryland Forest Conservation Act of 1991

Trees for Your Future

FCP NOTES

1. Any Forest Conservation Easement (FCE) area shown hereon is subject to protective covenants which may be found in the Land Records of Howard County and which restrict the disturbance and use of these areas.
2. There shall be no clearing, grading, construction or disturbance of vegetation in the Forest Conservation Easement except as permitted by Howard County.
3. No stockpiles, parking areas, equipment cleaning areas, etc. shall occur within areas designated as Forest Conservation Easements.
4. Permanent signage shall be placed 100' apart along the boundaries of all areas included in Forest Conservation Easements.

MISS UTILITY

BEFORE YOU DIG CALL
811 IN MD
or 1-800-257-7777
PROTECT YOURSELF, GIVE TWO WORKING DAYS NOTICE.
THE CONTRACTOR TO CALL MISS UTILITY TO HAVE ALL EXISTING UTILITIES MARKED 48 HOURS PRIOR TO ANY CONSTRUCTION.

FCP LEGEND

	PROPERTY LINE
123	EXISTING CONTOUR
123	PROPOSED CONTOUR
LOD	LIMIT OF DISTURBANCE
	WETLAND BUFFER LIMITS
SSF	SUPER SILT FENCE
	SPECIMEN TREE (TO BE REMOVED)
	SPECIMEN TREE (TO REMAIN)
	FOREST CONSERVATION SIGNAGE
FCE	FOREST CONSERVATION EASEMENT
	FOREST CONSERVATION EASEMENT AREA

NO.:	DATE	REVISION DESCRIPTION

OWNER:
PARCEL A
JACK M. AND LOUISE KAULFUSS
13715 OLD ROVER ROAD
WEST FRIENDSHIP MD 21794-9718
PHONE: 410-442-2011

PARCEL B
JOHN VICTOR AND
MARTHA B. CALABRESE
3262 OLD FENCE ROAD
ELLICOTT CITY, MD 21042-2440
PHONE: 410-465-3519

DEVELOPER:
RITE AID CORPORATION
P.O. BOX 3165
HARRISBURG, PA 17105
ATTN.: LANCE MASON
PHONE: 804-745-6222

PROJECT
RITE AID CORPORATION
KAULFUSS AND CALABRESE LANDS
PARCELS A & B
ONE-STORY RETAIL BUILDING

AREA 3.136 AC. TAX MAP 23 GRID 6 ZONED B-1
PARCELS A & B
2ND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND 21042

TITLE
FOREST CONSERVATION PLAN

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD
SUITE 801
TOWSON, MARYLAND 21204
PH: (410) 821-7900
FX: (410) 821-7987
www.bohlerengineering.com

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION	DATE 9/24/10
CHIEF-DIVISION OF LAND DEVELOPMENT	DATE 10/12/10
DIRECTOR	DATE 10/12/10

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.

COUNTY HEALTH OFFICER — DATE 10/14/10
HOWARD COUNTY HEALTH DEPARTMENT

GENERAL NOTE:
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MD DNR Qualified Professional
USACOE Wetland Delineator
Certification # WDCP93MD0310006A
Henry A. Eckleen

Eco-Science Professionals, Inc.
Consulting Ecologists
P.O. Box 5006 Glen Arm, Maryland 21057 Telephone (410) 833-2400 Fax (410) 833-2405

PROFESSIONAL CERTIFICATION

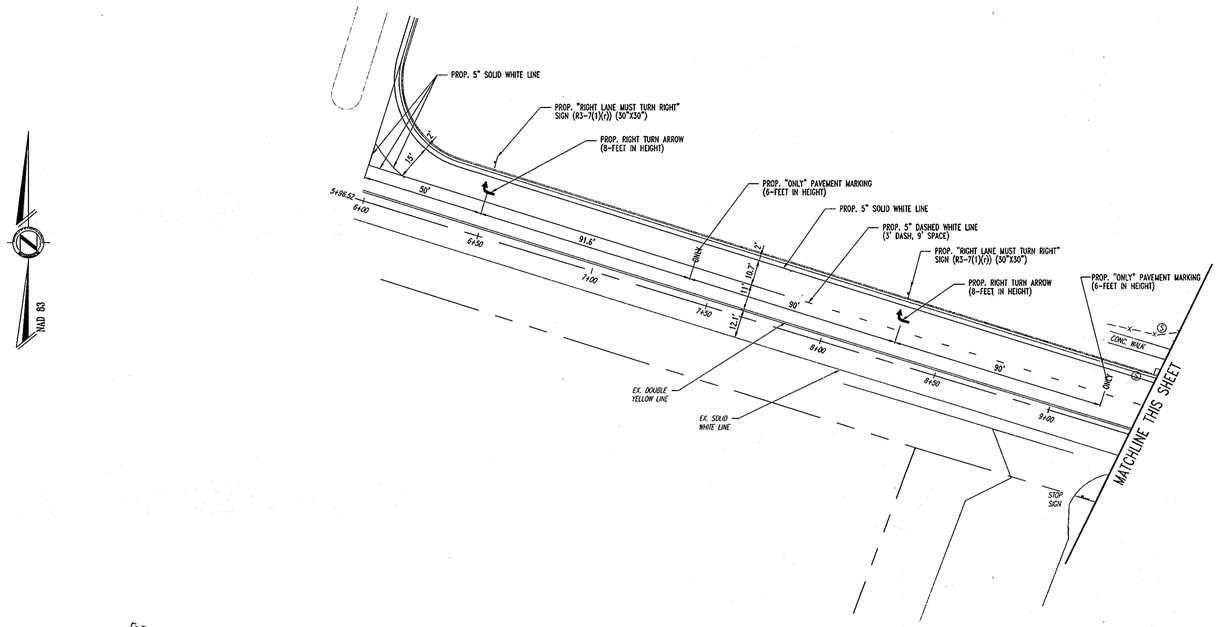
I, MATTHEW T. ALLEN, HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE NO. 28567, EXPIRATION DATE: 4/16/11

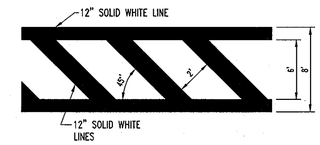
MATTHEW T. ALLEN
PROFESSIONAL ENGINEER NO. 28567

DESIGNED BY:	M.J.G.
DRAWN BY:	R.J.M.
PROJECT NO.:	MD072009.2
DATE:	8/20/10
SCALE:	1"=30'
DRAWING NO.	34 OF 37

SDP 09-44

H:\07\Rite Aid Corporation\MD07 2009 - 10470 Frederick Road, Ellicott City, MD\CAD\Site Plan Documents\Rev 5\MD072009SS5.dwg, 9/15/2010 2:11:59 PM, mgeseli, 1:1

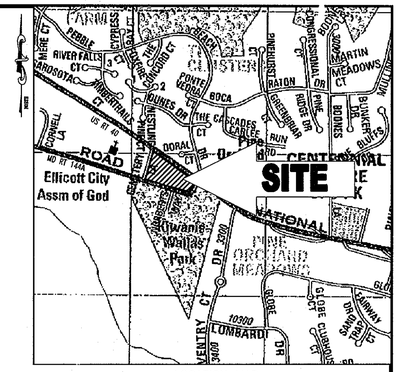




NOTES:
1. ALL LINES TO BE WHITE PAINT OR THERMOPLASTIC.
2. ALL DETAILS NOT SHOWN SHALL CONFORM TO MdMUTCD MANUAL.

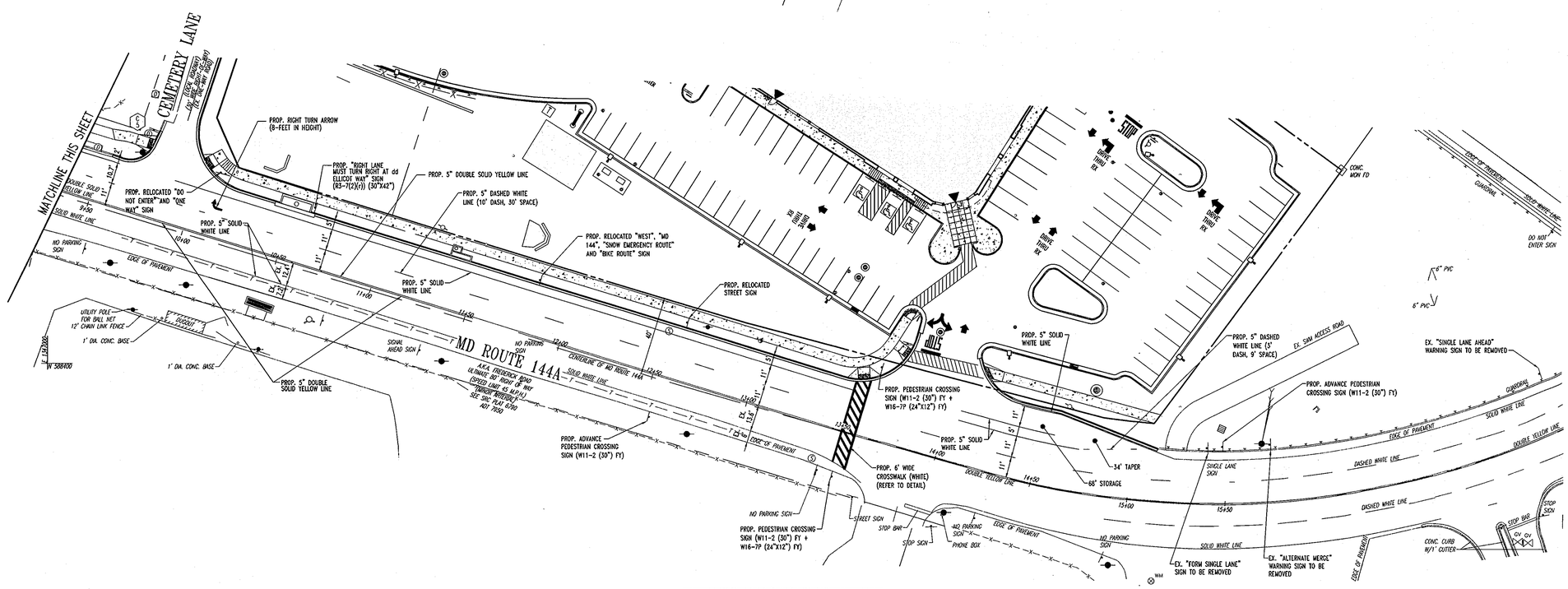
CROSSWALK DETAIL

NOT TO SCALE



LOCATION MAP

COPYRIGHT ADC THE MAP PEOPLE
PERMIT USE NO. 20602153-5
SCALE: 1"=1000'



ALL PAVEMENT MARKINGS SHALL BE THERMOPLASTIC

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION	DATE 9/24/10
CHIEF-DIVISION OF LAND DEVELOPMENT	DATE 10/06/10
DIRECTOR	DATE 10/12/10

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.

COUNTY HEALTH OFFICER HOWARD COUNTY HEALTH DEPARTMENT	DATE 10/14/10

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MATTHEW T. ALLEN
PROFESSIONAL ENGINEER NO. 28567

MISS UTILITY

BEFORE YOU DIG CALL
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or 1-800-257-7777
PROTECT YOURSELF, GIVE TWO WORKING DAYS NOTICE
THE CONTRACTOR TO CALL MISS UTILITY TO HAVE ALL EXISTING UTILITIES MARKED 48 HOURS PRIOR TO ANY CONSTRUCTION.

NO.:	DATE	REVISION DESCRIPTION

OWNER:
PARCEL A
JACK M. AND LOUISE KAUFUSS
13715 OLD ROVER ROAD
WEST FRIENDSHIP MD 21794-9718
PHONE: 410-442-2011

PARCEL B
JOHN VICTOR AND MARTHA B. CALABRESE
3262 OLD FENCE ROAD
ELLICOTT CITY, MD 21042-2440
PHONE: 410-465-3519

DEVELOPER:
RITE AID CORPORATION
P.O. BOX 3165
HARRISBURG, PA 17105
ATTN.: LANCE MASON
PHONE: 804-745-6222

PROJECT: RITE AID CORPORATION
KAUFUSS AND CALABRESE LANDS
PARCELS A & B
ONE-STORY RETAIL BUILDING

AREA 3.136 AC. TAX MAP 23 GRID 6 ZONED B-1
PARCELS A & B
2ND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND 21042

TITLE: PAVEMENT MARKING AND SIGNAGE PLAN

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD
SUITE 801
TOWSON, MARYLAND 21204
PH: (410) 821-7900
FX: (410) 821-7987
www.bohlerengineering.com

DESIGNED BY:	M.J.G.
DRAWN BY:	R.J.M.
PROJECT NO.:	MD072009.2
DATE:	8/20/10
SCALE:	1"=30'
DRAWING NO.	35 OF 37

SDP 09-44

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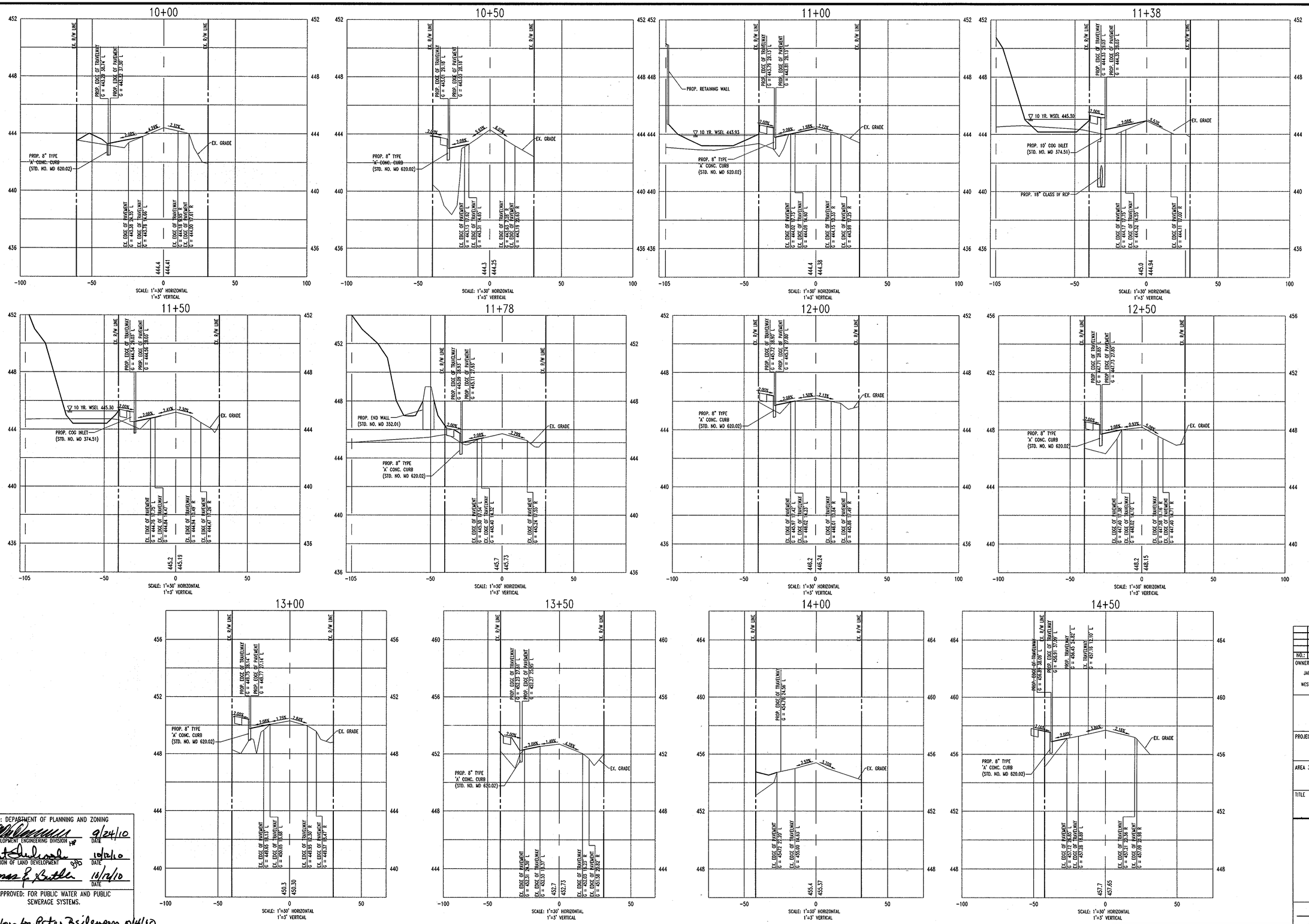

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION	DATE 9/24/10
CHIEF-DIVISION OF LAND DEVELOPMENT	DATE 10/21/10
DIRECTOR	DATE 10/21/10

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.

COUNTY HEALTH OFFICER — DATE 10/4/10
HOWARD COUNTY HEALTH DEPARTMENT

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ELLICOTT CITY, MD 21042-2440
PHONE: 410-465-3519

DEVELOPER:
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P.O. BOX 3165
HARRISBURG, PA 17105
ATTN.: LANCE MASON
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PROJECT
RITE AID CORPORATION
KAUFUSS AND CALABRESE LANDS
PARCELS A & B
ONE-STORY RETAIL BUILDING

AREA 3.136 AC. TAX MAP 23 GRID 6 ZONED B-1
PARCELS A & B
2ND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND 21042

TITLE
MD ROUTE 144A CROSS SECTIONS

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD
SUITE 801
TOWSON, MARYLAND 21204
PH: (410) 821-7900
FX: (410) 821-7987
www.bohlerengineering.com

PROFESSIONAL CERTIFICATION

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MATTHEW T. ALLEN
PROFESSIONAL ENGINEER NO. 28567

DESIGNED BY:	M.J.G.
DRAWN BY:	R.J.M.
PROJECT NO.:	MD072009.2
DATE:	8/20/10
SCALE:	1"=30'
DRAWING NO.	36 OF 37

SDP 09-44

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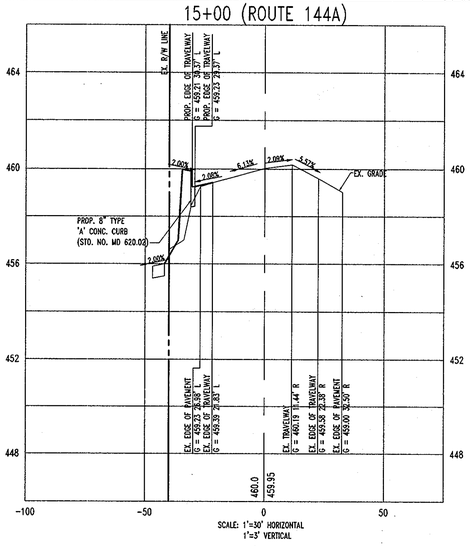
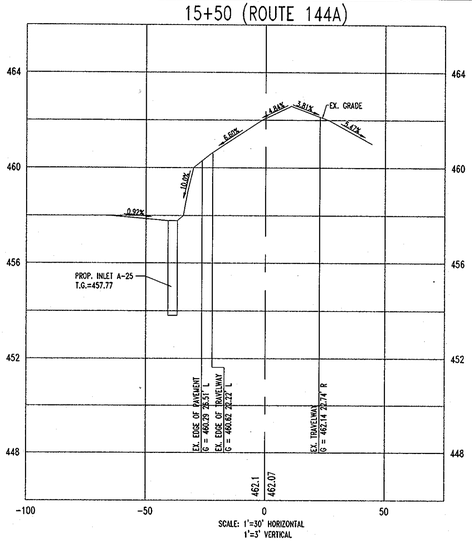
15+00 (ROUTE 144A)



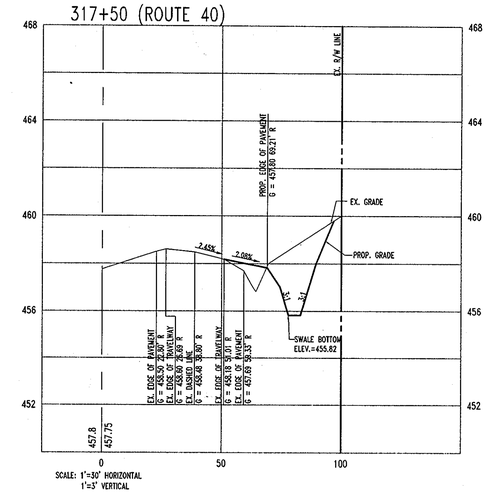
SCALE: 1"=30' HORIZONTAL
1"=3' VERTICAL

15+50 (ROUTE 144A)



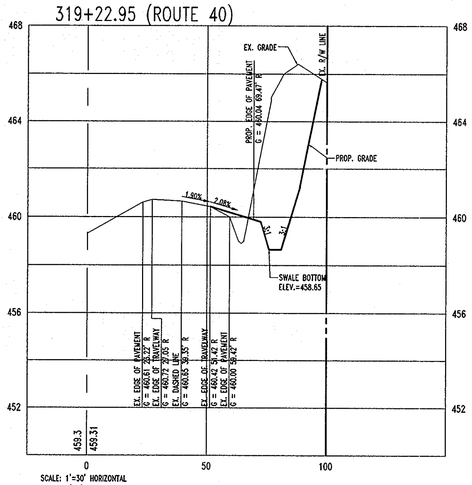
SCALE: 1"=30' HORIZONTAL
1"=3' VERTICAL

317+50 (ROUTE 40)



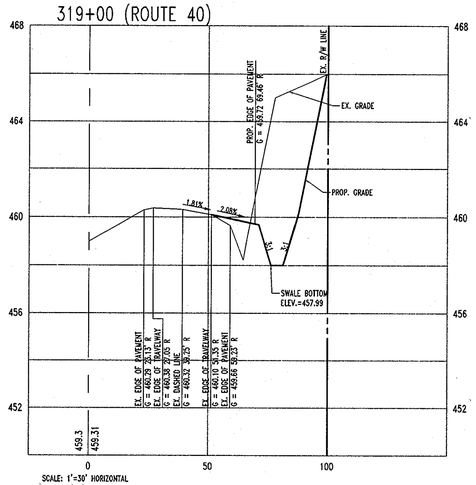
SCALE: 1"=30' HORIZONTAL
1"=3' VERTICAL

319+22.95 (ROUTE 40)



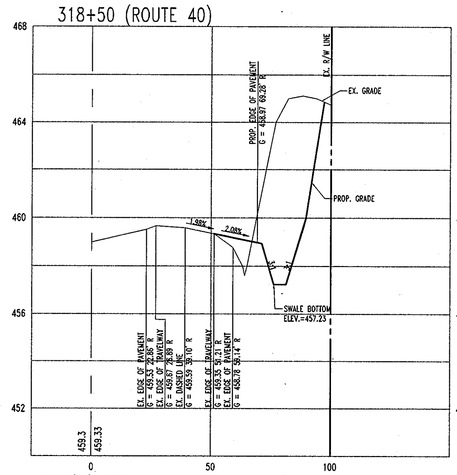
SCALE: 1"=30' HORIZONTAL
1"=3' VERTICAL

319+00 (ROUTE 40)



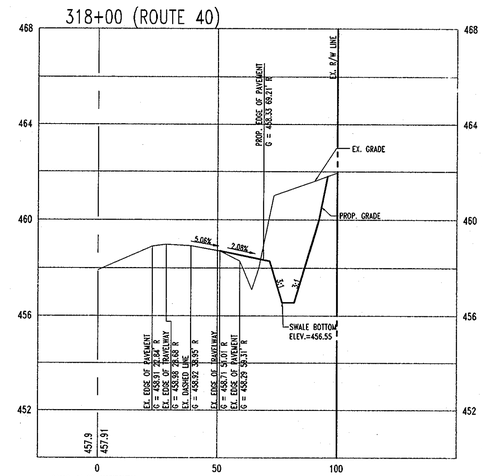
SCALE: 1"=30' HORIZONTAL
1"=3' VERTICAL

318+50 (ROUTE 40)



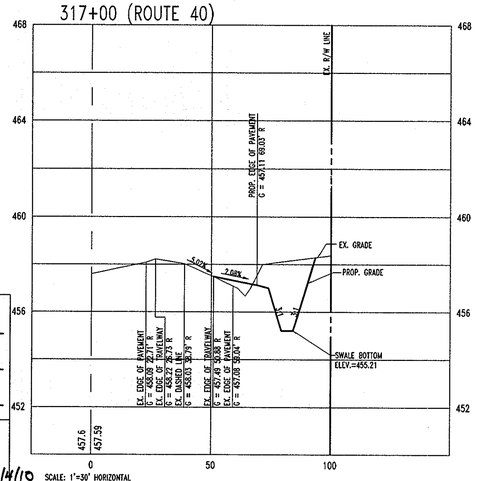
SCALE: 1"=30' HORIZONTAL
1"=3' VERTICAL

318+00 (ROUTE 40)



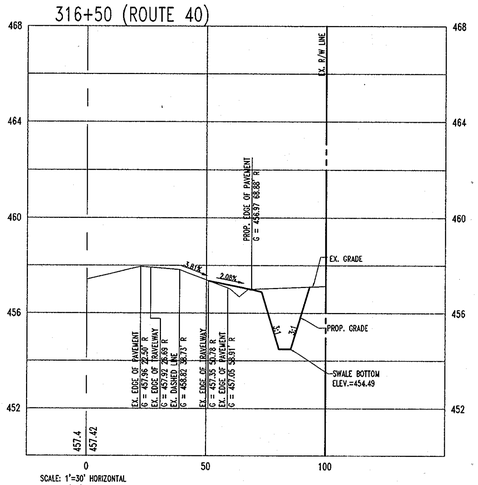
SCALE: 1"=30' HORIZONTAL
1"=3' VERTICAL

317+00 (ROUTE 40)



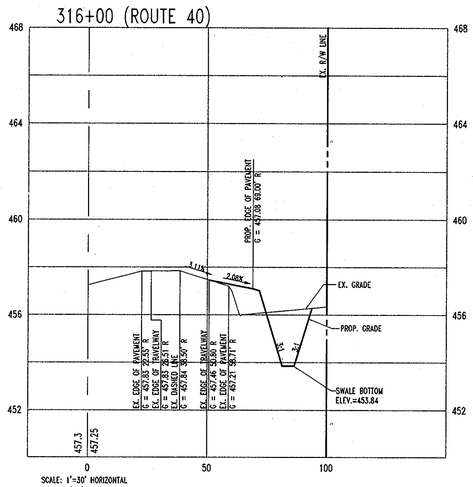
SCALE: 1"=30' HORIZONTAL
1"=3' VERTICAL

316+50 (ROUTE 40)



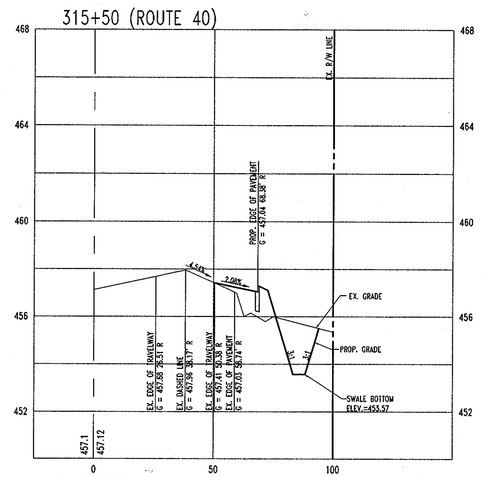
SCALE: 1"=30' HORIZONTAL
1"=3' VERTICAL

316+00 (ROUTE 40)



SCALE: 1"=30' HORIZONTAL
1"=3' VERTICAL

315+50 (ROUTE 40)



SCALE: 1"=30' HORIZONTAL
1"=3' VERTICAL

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF-DEVELOPMENT ENGINEERING DIVISION	DATE 9/24/10
CHIEF-DIVISION OF LAND DEVELOPMENT	DATE 10/12/10
DIRECTOR	DATE 10/12/10

APPROVED: FOR PUBLIC WATER AND PUBLIC SEWERAGE SYSTEMS.

COUNTY HEALTH OFFICER HOWARD COUNTY HEALTH DEPARTMENT	DATE 10/4/10

GENERAL NOTE:
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THIS PROJECT WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR APPLICABLE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD IN WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF THE WORK AS DEFINED BY THE DRAWINGS AND IN FULL CONFORMANCE WITH LOCAL REGULATIONS AND CODES.

MISS UTILITY

BEFORE YOU DIG CALL
811 IN MD
or 1-800-257-7777
PROTECT YOURSELF, GIVE TWO WORKING DAYS NOTICE
THE CONTRACTOR TO CALL MISS UTILITY TO HAVE ALL EXISTING UTILITIES MARKED 48 HOURS PRIOR TO ANY CONSTRUCTION.

NO.:	DATE	REVISION DESCRIPTION

OWNER:
PARCEL A
JACK M. AND LOUISE KAUFUSS
13715 OLD ROVER ROAD
WEST FRIENDSHIP MD 21794-9718
PHONE: 410-442-2011

PARCEL B
JOHN VICTOR AND
MARTHA B. CALABRESE
3262 OLD FENCE ROAD
ELLICOTT CITY, MD 21042-2440
PHONE: 410-465-3519

DEVELOPER:
RITE AID CORPORATION
P.O. BOX 3165
HARRISBURG, PA 17105
ATTN.: LANCE MASON
PHONE: 804-745-6222

PROJECT
RITE AID CORPORATION
KAUFUSS AND CALABRESE LANDS
PARCELS A & B
ONE-STORY RETAIL BUILDING

AREA 3.136 AC. TAX MAP 23 GRID 6 ZONED B-1
PARCELS A & B
2ND ELECTION DISTRICT, HOWARD COUNTY, MARYLAND 21042

TITLE
U.S. ROUTE 40 & MD ROUTE 144A CROSS SECTIONS

BOHLER ENGINEERING
901 DULANEY VALLEY ROAD
SUITE 801
TOWSON, MARYLAND 21204
PH: (410) 821-7900
FX: (410) 821-7987
www.bohlerengineering.com

9/14/10
DATE
MATTHEW T. ALLEN
PROFESSIONAL ENGINEER NO. 28567

DESIGNED BY:	M.J.G.
DRAWN BY:	R.J.M.
PROJECT NO.:	ND072009.2
DATE:	8/20/10
SCALE:	1"=30'
DRAWING NO.	37 OF 37

PROFESSIONAL CERTIFICATION

I, MATTHEW T. ALLEN, HEREBY CERTIFY THAT THESE 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. 28567, EXPIRATION DATE: 4/16/11

SDP 09-44

H:\07\Rite Aid Corporation\ND07 2009 - 10470 Frederick Road, Ellicott City, MD\CAD\Site Plan Documents\Rev 5\ND072009CS5.dwg, 9/13/2010 11:53:53 PM, mgessell, 1:1