

GENERAL STORM DRAIN NOTES

- 1) INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATION OF THE MAINS BY DIGGING TEST PITS, BY HAND OR MEANS OF UTILITY CROSSINGS WELL IN ADVANCE OF TRENCHING. IF CLEARANCES TO WATER AND SEWER LINES ARE LESS THAN SHOWN ON THIS PLAN, OR LESS THAN THIRTY (30) INCHES, CONTACT THE DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION (DPW&T) INSPECTOR BEFORE PROCEEDING WITH CONSTRUCTION.
- 2) ALL STORM DRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE STORMWATER MANAGEMENT STANDARDS AND SPECIFICATIONS OF PRINCE GEORGE'S COUNTY DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION.
- 3) FOR TYPES OF STORM DRAIN STRUCTURES, REFER TO THE LATEST STANDARD DETAILS OF PRINCE GEORGE'S COUNTY DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION, UNLESS OTHERWISE NOTED.
- 4) ALL STORM DRAIN CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE DPW & T SPECIFICATIONS & STANDARDS AND THE PRINCE GEORGE'S COUNTY POLICY AND SPECIFICATION FOR UTILITY INSTALLATION AND MAINTENANCE.
- 5) PRIOR TO DIGGING WITHIN THE ROADWAY, CALL "MISS UTILITY" TOLL FREE AT (800)257-7777 FOR UTILITY LOCATION AT LEAST 48 HOURS BEFORE BEGINNING CONSTRUCTION.
- 6) PRIOR TO STARTING ANY WORK SHOWN ON THIS PLAN, THE PERMITTEE SHALL ARRANGE A PRE-CONSTRUCTION MEETING WITH THE DPW&T INSPECTOR BY CALLING (301) 883-3700.
- 7) ALL ELEVATIONS SHOWN ON THIS PLAN ARE IN ACCORDANCE WITH THE FOLLOWING: HORIZONTAL - MARYLAND COORDINATE SYSTEM (STATE PLANE GRID) BASED ON NORTH AMERICAN DATUM OF 1983 (NAD 83); VERTICAL - NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD83).
- 8) IT SHALL BE THE RESPONSIBILITY OF THE PERMITTEE TO ARRANGE FOR THE ADJUSTMENT OR RELOCATION OF ALL UTILITIES.
- 9) ALL UNSUITABLE MATERIAL MUST BE REMOVED AND REPLACED WITH SUITABLE MATERIAL TO A DEPTH AS DIRECTED BY THE GEOTECHNICAL ENGINEER, THE DPW&T INSPECTOR AND/OR THE DEPARTMENT'S ENGINEER.
- 10) EXCAVATION AND PLACEMENT OF FILL MATERIAL SHALL BE PERFORMED UNDER THE SUPERVISION OF A MARYLAND-LICENSED ENGINEER.
- 11) THE PERMITTEE WILL BE REQUIRED TO FURNISH COMPACTION REPORTS CERTIFIED BY A MARYLAND-LICENSED ENGINEER ON EACH LAYER OF FILL MATERIAL PRIOR TO PLACING SUBSEQUENT LAYERS.
- 12) BRICK CHANNELIZATION IS REQUIRED IN ALL PUBLIC DPW&T STORM DRAIN STRUCTURES. CONCRETE CHANNELIZATION IS NOT ALLOWED.
- 13) POSITIVE DRAINAGE SHALL BE MAINTAINED THROUGHOUT THE AREA COVERED BY THIS PERMIT AND THROUGH ADJACENT PROPERTY FRONTAGES.
- 14) WASHINGTON SUBURBAN SANITARY COMMISSION 200 FOOT SHEET NO. : 207NE02
- 15) DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION STORMWATER CONCEPT APPROVAL NUMBER: 17286-2012
- 16) SEDIMENT CONTROL APPROVAL NUMBER: 162-12
- 17) PRELIMINARY PLAN APPROVAL NUMBER:
- 18) RECORD PLAN RECORDING NUMBER:
- 19) AT THE TIME OF PERMIT RELEASE, THE FOLLOWING MINIMUM SUBMITTAL REQUIREMENTS WHERE APPLICABLE SHALL APPLY:
 - WASHINGTON SUBURBAN SANITARY COMMISSION PAVING CLEARANCE CERTIFICATION;
 - BITUMINOUS CONCRETE CORE CERTIFICATIONS, ALL PAVEMENT COURSES;
 - PROPERTY MARKER CERTIFICATION;
 - DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION LETTER APPROVING STORM DRAIN AS-BUILT;
 - TREE APPROVAL AND TREE BOND POSTED, IF NECESSARY;
 - STREET LIGHT PROOF OF PAYMENT (MUST BE ACCOMPANIED BY A MEMORANDUM FROM DPW&T'S TRAFFIC SAFETY DIVISION ACCEPTING THE PROOF OF PAYMENT); AND
 - PROOF/STATEMENT THAT ALL FINANCIAL MATTERS HAVE BEEN SETTLED.

SITE NOTES

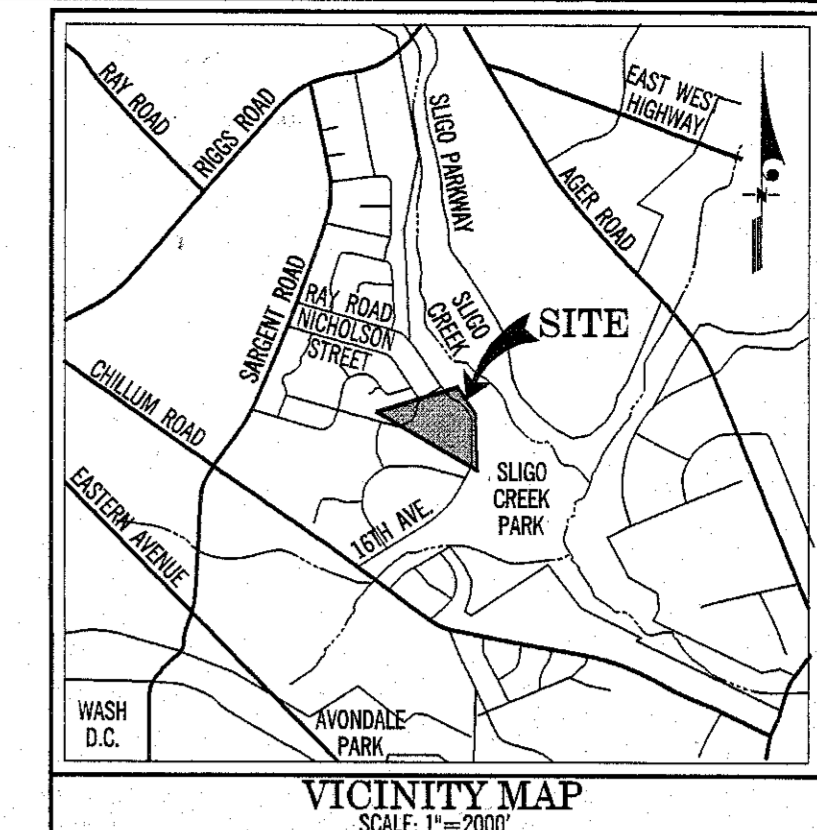
- 1- RECORDED ADDRESS: 1514 MADISON ST., HYATTSVILLE, MD 20782
- 2- TAX ACCOUNT #: 1927466
- 3- ASSC 200' SHEET #: 207NE02
- 4- ZONING: R-1B
- 5- AEC MAP: 5409 D-7
- 6- FLOOD ZONE DESIGNATION: C (MINIMAL FLOODING)
- 7- SMC APPROVAL #: 17286-2012-00
- 8- WATERSHED: CYPRESS CREEK
- 9- BOUNDARY & TOPOGRAPHY OBTAINED FROM ALTA SURVEY PERFORMED BY BOHLER ENGINEERING DATED 08/29/2006.

MAINTENANCE

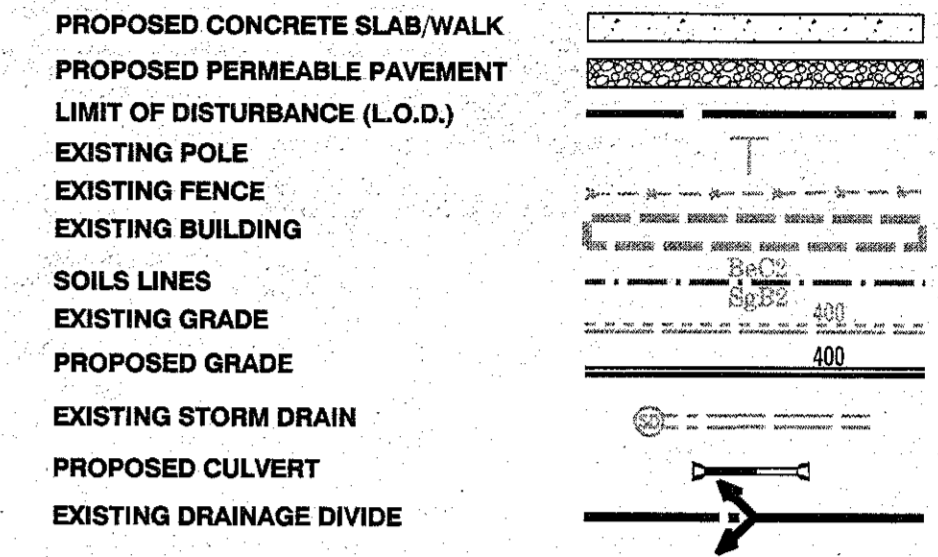
PAVEMENT SURFACES SHOULD BE SWEPT AND VACUUMED TO REDUCE SEDIMENT ACCUMULATION AND ENSURE CONTAINED SURFACE POROSITY. SWEEPING SHOULD BE PERFORMED AT LEAST TWICE ANNUALLY WITH A COMMERCIAL CLEANING UNIT. WASHING SYSTEMS AND COMPRESSED AIR UNITS SHOULD NOT BE USED TO PERFORM SURFACE CLEANING. DEICERS SHOULD BE USED IN MODERATION, WHEN USED, DEICERS SHOULD BE NON-TOXIC AND ORGANIC AND CAN BE APPLIED EITHER AS CALCIUM MAGNESIUM ACETATE OR AS PRETREATED SALT.

ESD TO MEP SUMMARY

- Total Disturbed Area: 21708 sf
- Soil Type: CdD & RuB, HSG "C"
- Existing Impervious Area: 1600 sf
- Proposed Impervious Area: 2647 sf
- Net Increase in Impervious Area: 2647 sf
- Determine RCN for "Woods in good condition": For HSG "C" = 70
- Determine ESD Targets:
 - Target $P_e = 1"$
 - $R_v = 23$
 - ESD_v = 416 ft
- Design, Use Permeable Pavement
 - Use 3441 sf of permeable pavement w/ 12" thick stone subbase (With maximum 2% cross slope and 5% longitudinal slope)
 - Treated ESD_v = 550 ft³ > 416 ft³ ESD_v requirement is met



LEGEND



STORM DRAIN SYSTEM	INSPECTION BY
S. D. PIPES	DPW&T
S. D. FLOOD CONTROL	
WATER QUALITY SYSTEM	
INFILTRATION	
RETENTION POND	
GIL GRIT SEP.	
EXT. DET. POND	
UNDERGROUND STORAGE	
OTHERS:	
PERMEABLE PAVEMENT WITH	
12" THICK STONE SUBBASE	

DPW&T CASE #: 38569-2012
PROJECT NAME: OVERLOOK APARTMENTS

PRINCE GEORGE'S COUNTY, MD.
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
DEVELOPMENT SERVICES BRANCH
PERMITS AND REVIEW SECTION
APPROVED for Stormwater Management Only

M. Abdulla 3/14/13
Date

() Public stormdrain/SWM system permits required prior to construction.

(X) Private stormdrain/SWM system. A recorded maintenance agreement is required for aesthetic maintenance of Pond Libers 34418 Folio 165.

(X) Preconstruction meeting is required for all DPW&T inspected stormwater management/storm drain systems. Call (301) 883-5830 to arrange.

Revision _____

Approval _____

Date _____

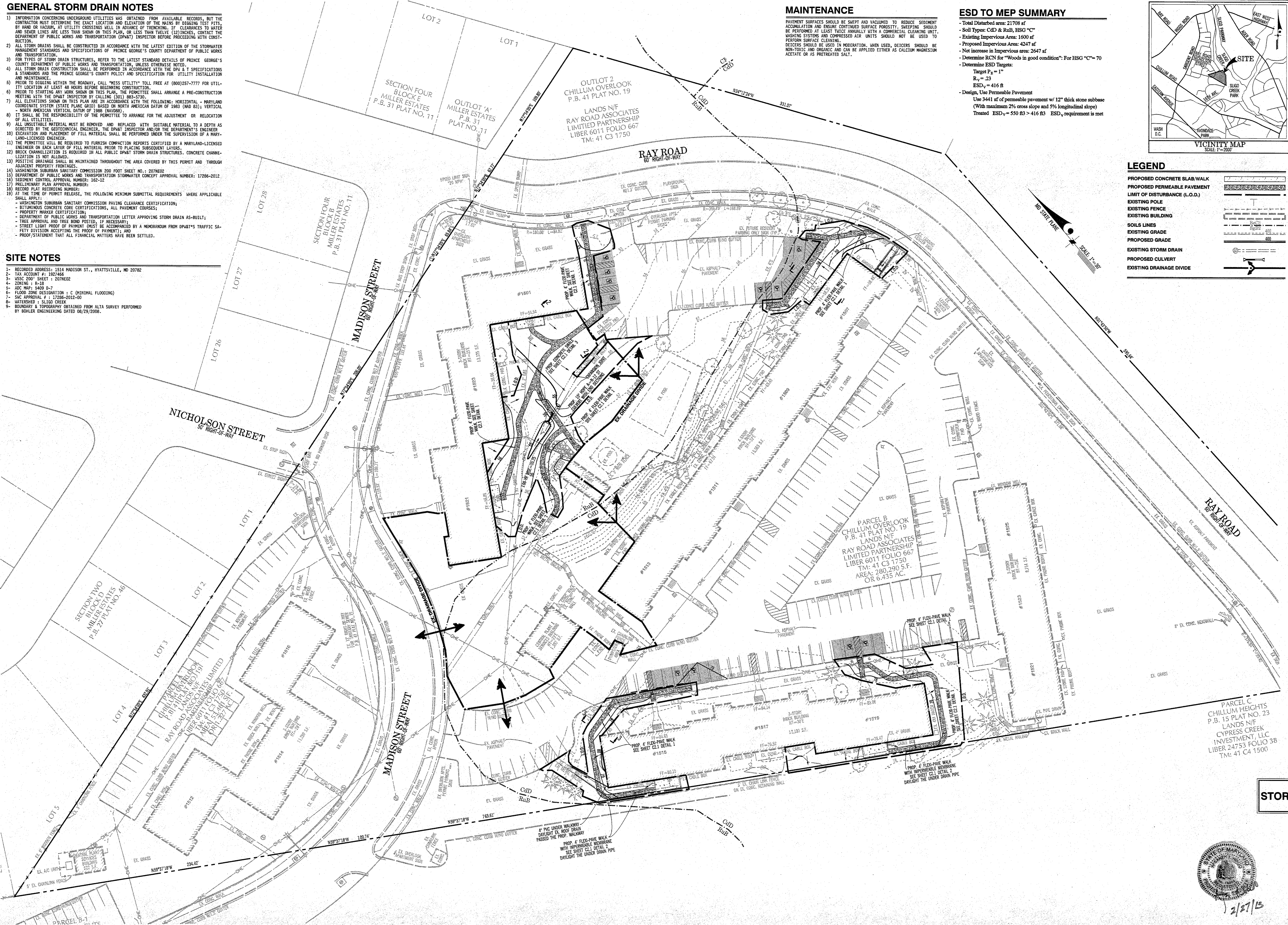
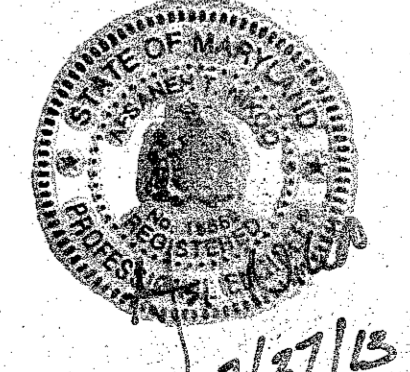
Description _____

DPW&T PERMIT NO. 38569-2012

THIS PLAN IS FOR STORMWATER MANAGEMENT/STORM DRAIN ONLY

SCALE: 1"=30'

BEFORE BEGINNING CONSTRUCTION CONTACT
"MISS UTILITY"
AT
1-800-257-7777
AT LEAST 48 HOURS PRIOR TO EXCAVATION



OWNER/DEVELOPER
RAY ROAD ASSOC LTD PARTNERSHIP
C/O REALTY MANAGEMENT SERV INC
7910 WOODMONT AVE., SUITE 350
BETHESDA, MD 20814-2031
CONTACT: JASON KLIPPEL, (240) 235 1207

No.	REVISION	DATE	BY

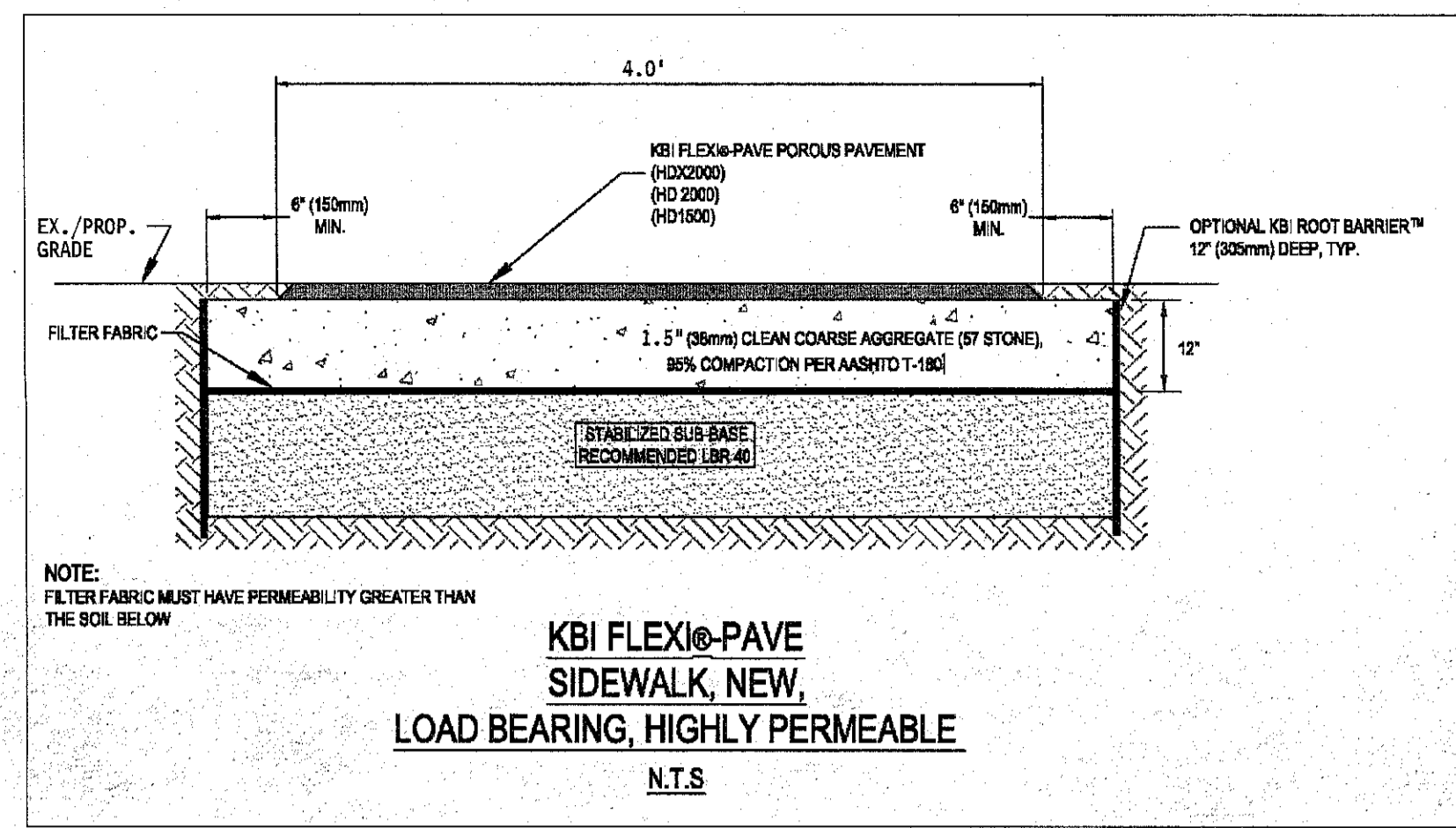


GREENHORNE & O'MARA
CONSULTING ENGINEERS
20410 CENTURY BOULEVARD, SUITE 200, GERMANTOWN, MARYLAND 20874
PHONE: (301) 444-8282 FAX: (301) 444-8181
www.g-and-o.com
FLORIDA • GEORGIA • MARYLAND • NORTH CAROLINA • PENNSYLVANIA • VIRGINIA • WEST VIRGINIA

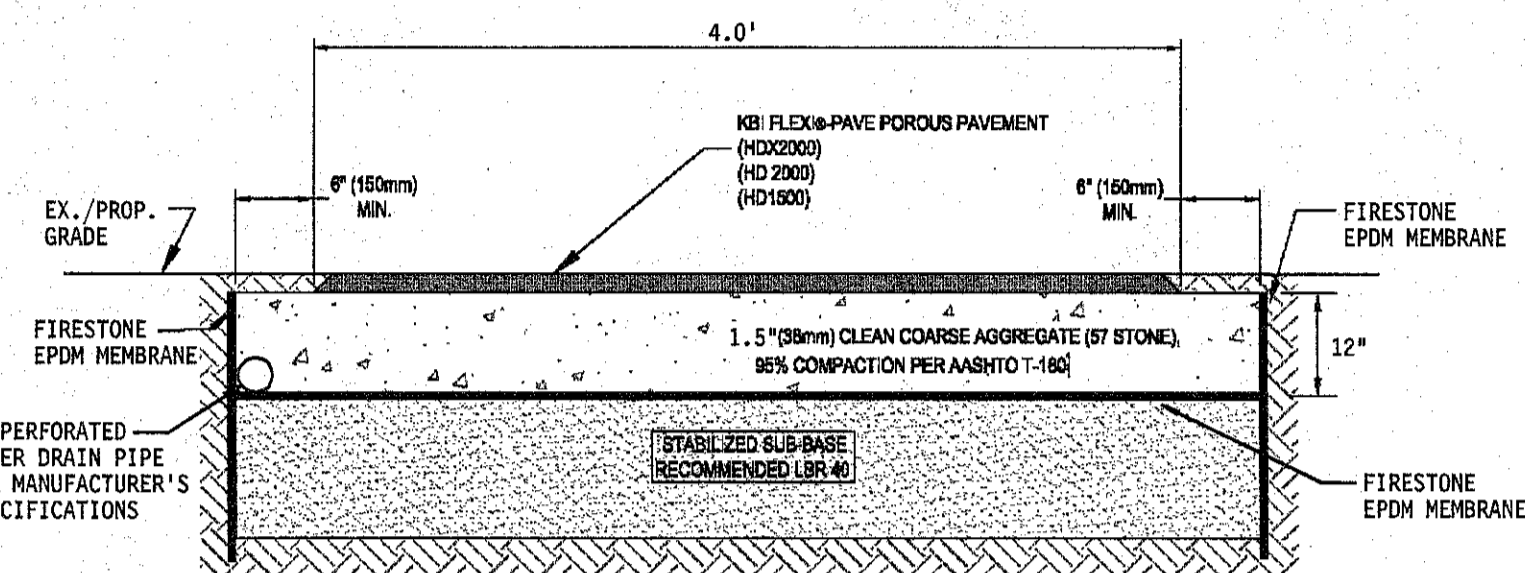
STORMWATER MANAGEMENT PLAN
OVERLOOK APARTMENTS
PARCEL B
17TH ELECTION DISTRICT
PRINCE GEORGE'S COUNTY, MARYLAND

AA	SCALE	1" = 30'
DESIGN		
AA		
DRAWN		
MAH		
CHECKED		
SHEET		
02/26/13	072244	072244
DATE	PROJ No.	FILE No.

DATE: 2/26/2013 10:03 AM; DGN: P:\072244\072244_SWM_01.dgn; PLOT: P:\072244\072244_SWM_01.plt; TBL: P:\072244\072244_SWM_01.tbl; PLOT: P:\072244\072244_SWM_01.plt; PLOT: P:\072244\072244_SWM_01.plt; PLOT: P:\072244\072244_SWM_01.plt

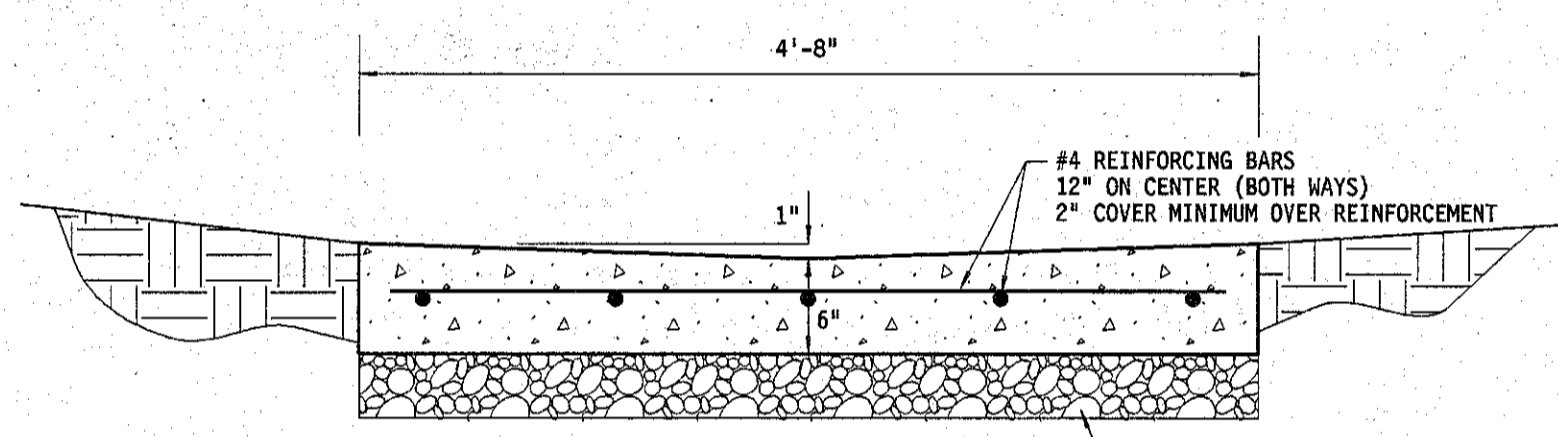


DETAIL #1
FOR ALL PROPOSED WALKWAYS EXCEPT THE ONES BEHIND BUILDINGS 1515 & 1519



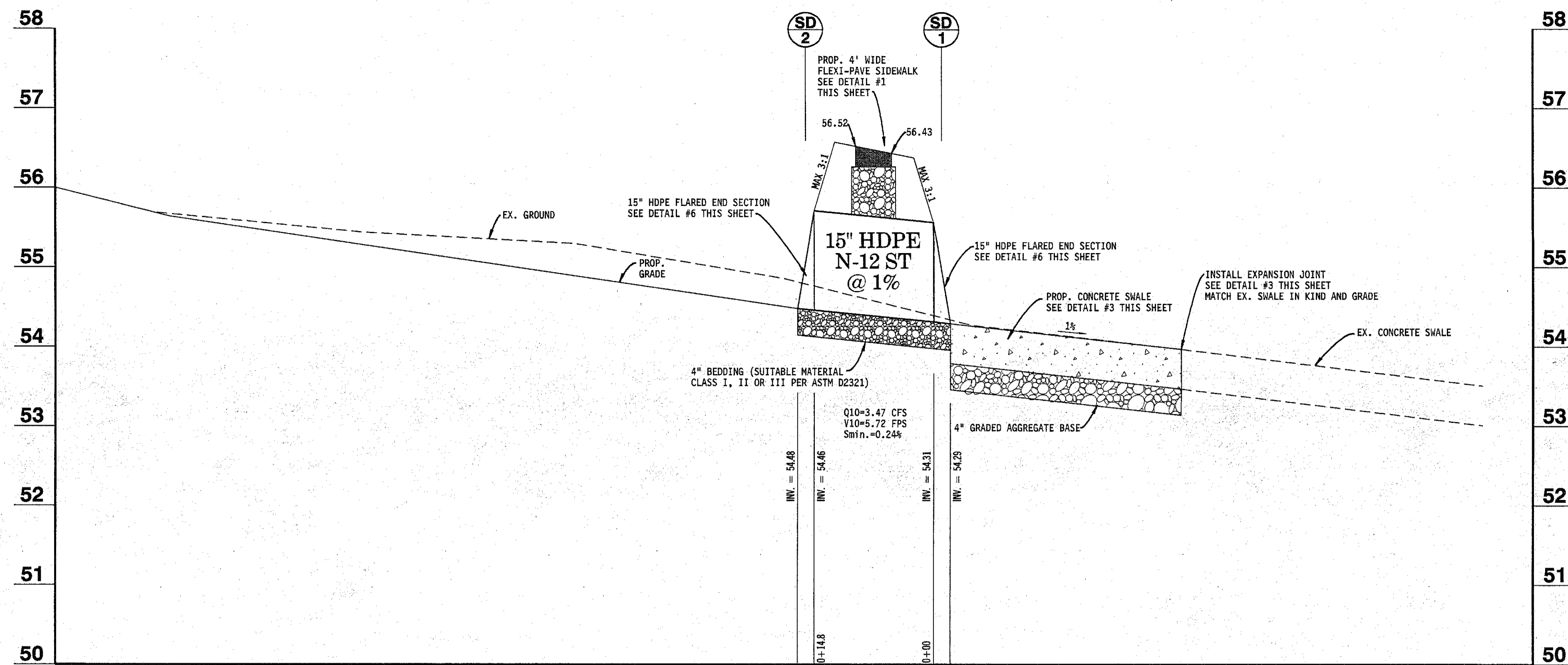
KBI FLEXiO-PAVE SIDEWALK, NEW, LOAD BEARING, HIGHLY PERMEABLE
N.T.S.

DETAIL #2
FOR PROPOSED WALKWAYS BEHIND BUILDINGS 1515 & 1519



DETAIL #3
CONCRETE SWALE
NOT TO SCALE

- 1- ALL CONCRETE SHALL BE CLASS I (MSHA MIX NO.3) AIR-ENTRAINED. SURFACE SHALL BE BROOM FINISHED.
- 2- INSTALL EXPANSION JOINT USING 1/2" PREFORMED NON-EXTRUDING JOINT FILLER CONFORMING MILS.
- 3- ALL CONTRACTION JOINTS SHALL BE LOCATED AT 4' INTERVALS. THE CONTRACTION JOINTS SHALL BE CONSTRUCTED TO A DEPTH EQUAL TO 1/4 OF THE DEPTH OF THE THICKNESS OF THE CONCRETE.



PRIVATE STORM DRAIN PROFILE
PROFILE SCALE: HORIZ: 1"=10'
VERT: 1"=1'

PRIVATE STORM DRAIN PIPE SCHEDULE

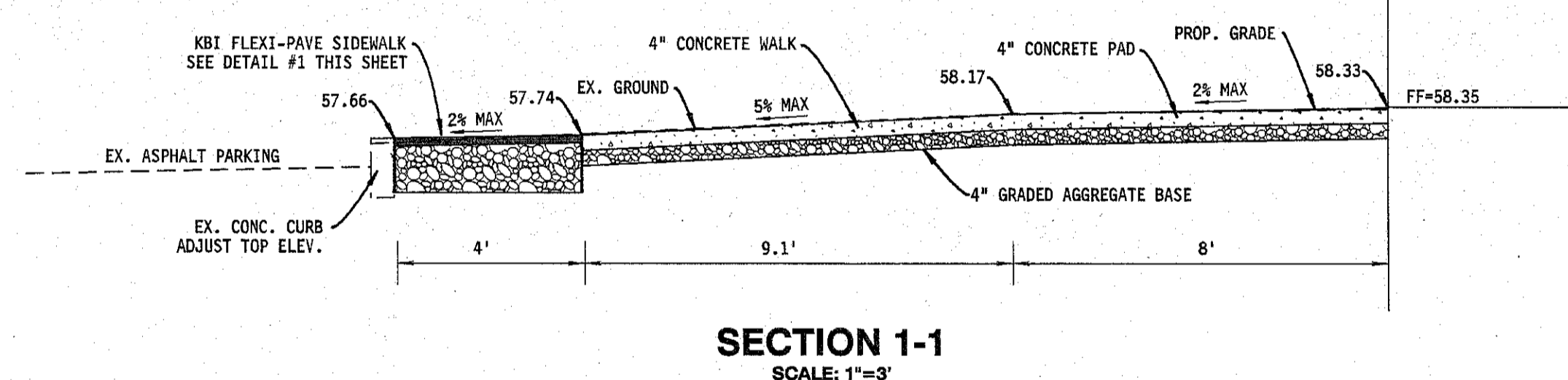
SIZE	TYPE	LENGTH	REMARKS
15"	HDPE N-12 ST	15'	PRIVATE

PRIVATE STORM DRAIN STRUCTURE SCHEDULE

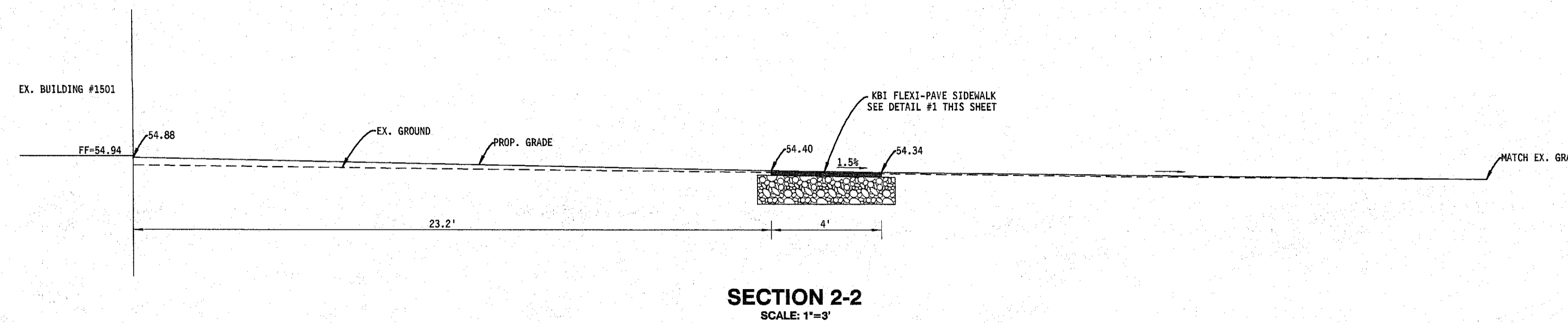
STR. NO.	TYPE	TOP ELEVATION	INVERT	INVERT	REMARKS
SD1	15" END SECTION	N/A	54.31	54.29	15" HDPE FLARED END SECTION SEE DETAIL #6 THIS SHEET
SD2	15" END SECTION	N/A	54.48	54.46	15" HDPE FLARED END SECTION SEE DETAIL #6 THIS SHEET

PIPE COMPUTATIONS

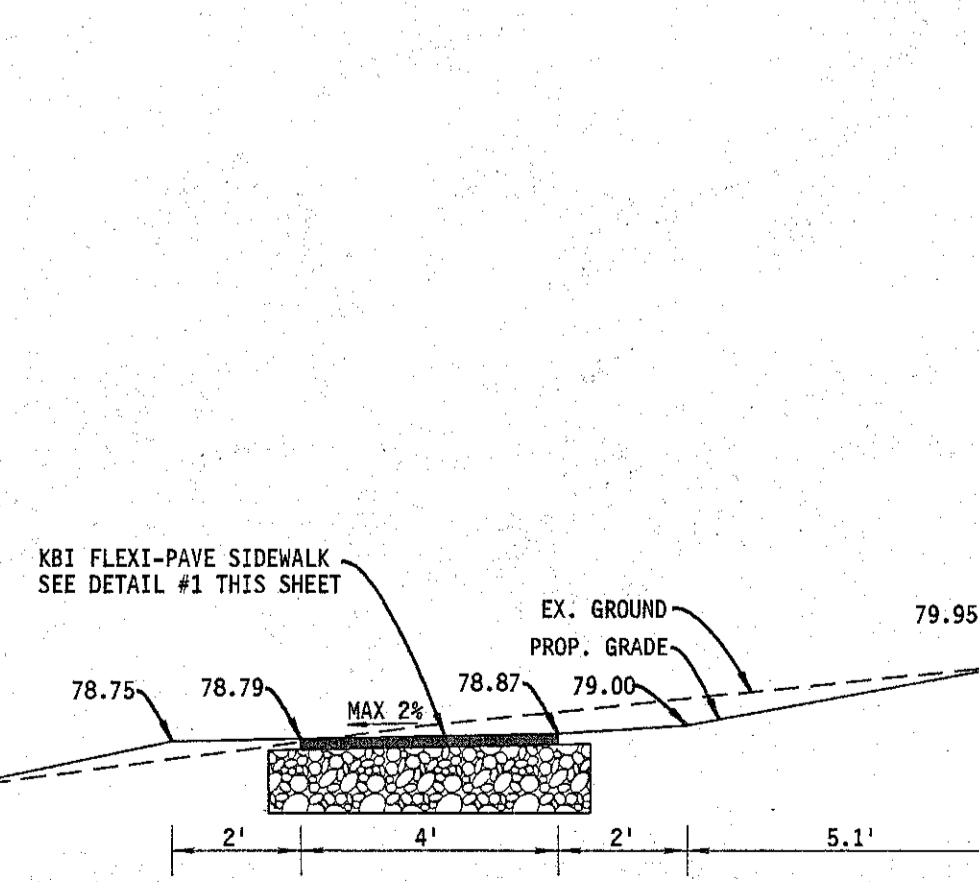
PIPE NO.	FROM STRUCTURE	TO STRUCTURE	AREA	TOTAL AREA	R = C (SUB-AREA)	A x R (SUB-AREA)	SUM OF A x R (SUB-AREA)	TC (MIN)	TC (IN./HR)	I	Q	PIPE SIZE	PIPE MATERIAL	PIPE COEFFICIENT	MIN. SLOPE	ACT. SLOPE	ACT. VELOCITY (fps)	ACT. SLOPE	PIPE LENGTH (ft)	PIPE TIME (min)
SD2	SD1		0.68	0.68	0.72	0.49	0.49	6	6	7.08	3.47	15	HDPE	0.012	0.244	5.72	14	14.8	0.04	



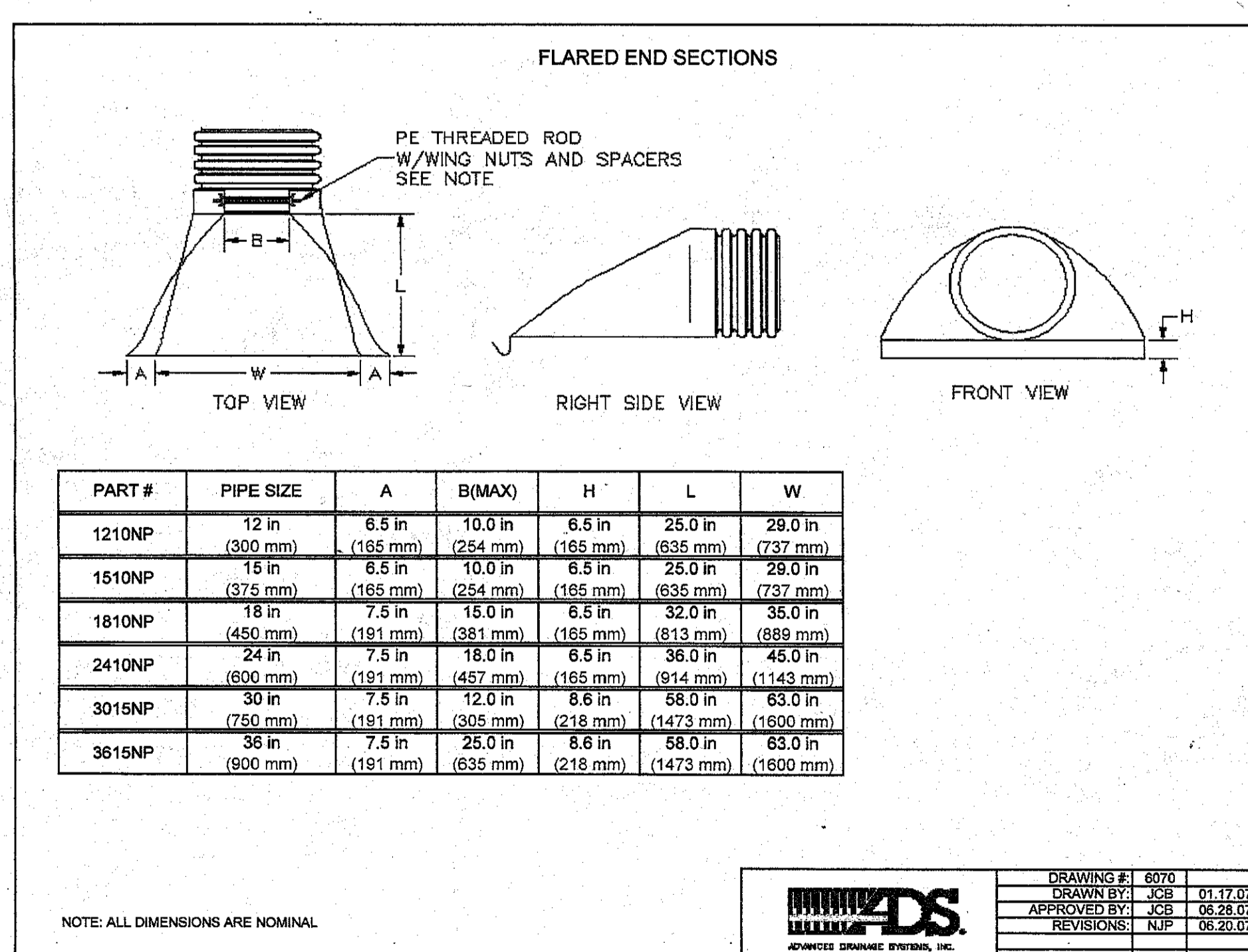
SECTION 1-1
SCALE: 1"=3'



SECTION 2-2
SCALE: 1"=3'



SECTION 3-3
SCALE: 1"=3'



DETAIL #6
HDPE FLARED END SECTION
NOT TO SCALE

PART #	PIPE SIZE	A	B(MAX)	H	L	W
1210NP	12 in (300 mm)	6.5 in (165 mm)	10.0 in (254 mm)	6.5 in (165 mm)	25.0 in (635 mm)	29.0 in (737 mm)
1510NP	15 in (376 mm)	6.5 in (165 mm)	10.0 in (254 mm)	6.5 in (165 mm)	25.0 in (635 mm)	29.0 in (737 mm)
1810NP	18 in (450 mm)	7.5 in (191 mm)	15.0 in (381 mm)	6.5 in (165 mm)	32.0 in (813 mm)	35.0 in (889 mm)
2410NP	24 in (600 mm)	7.5 in (191 mm)	18.0 in (457 mm)	6.5 in (165 mm)	38.0 in (965 mm)	45.0 in (1143 mm)
3015NP	30 in (760 mm)	7.5 in (191 mm)	25.0 in (635 mm)	6.5 in (165 mm)	48.0 in (1219 mm)	63.0 in (1600 mm)
3615NP	36 in (900 mm)	7.5 in (191 mm)	35.0 in (889 mm)	6.5 in (165 mm)	68.0 in (1727 mm)	83.0 in (2108 mm)

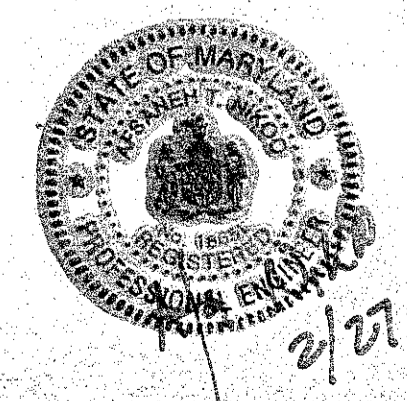
NOTE: ALL DIMENSIONS ARE NOMINAL.

DRAWING #	6070
DRAWN BY	CSB
CHECKED BY	NJB
DATE	06/20/07

DPW&T CASE# 38569-2012
PROJECT NAME OVERLOOK APARTMENTS
PRINCE GEORGE'S COUNTY, MD
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
DEVELOPMENT SERVICES BRANCH
PERMITS AND REVIEW SECTION
APPROVED For Stormwater Management and Storm Drain Only
m. abdullah 3/4/13
Date

DPW&T CASE# 38569-2012
PROJECT NAME OVERLOOK APARTMENTS
PRINCE GEORGE'S COUNTY, MD
DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
DEVELOPMENT SERVICES BRANCH
PERMITS AND REVIEW SECTION
APPROVED For Stormwater Management and Storm Drain As-Built Only
Date

DPW&T
PERMIT NO. 38569-2012



BEFORE BEGINNING CONSTRUCTION CONTACT
"MISS UTILITY"
AT
1-800-257-7777
AT LEAST 48 HOURS
PRIOR TO EXCAVATION

OWNER/DEVELOPER
RAY ROAD ASSOC LTD PARTNERSHIP
C/O REALTY MANAGEMENT SERV INC
7910 WOODMONT AVE., SUITE 350
BETHESDA, MD 20814-3031
CONTACT: JASON KUPPEL, (240) 235 1207

No.	REVISION	DATE	BY

GREENHORNE & O'MARA
CONSULTING ENGINEERS
20410 CENTURY BOULEVARD, SUITE 200, CERMANTOWN, MARYLAND 20874
PHONE: (301) 444-8282 FAX: (301) 444-8181
www.g-and-o.com
FLORIDA • GEORGIA • MARYLAND • NORTH CAROLINA • PENNSYLVANIA • VIRGINIA • WEST VIRGINIA
© LATEST DATE HEREON

STORMWATER MANAGEMENT/STORM DRAIN DETAILS
OVERLOOK APARTMENTS
PARCEL B
17TH ELECTION DISTRICT
PRINCE GEORGE'S COUNTY, MARYLAND

AA DESIGN	SCALE	AS NOTED
AA DRAWN		CSB
MAH CHECKED	SHEET	021
DATE	PROJ. No.	072244
03/26/13	FILE No.	072244