ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF HOWARD COUNTY PLUS MSHA STANDARD AND SPECIFICATIONS IF APPLICABLE.

- . THE CONTRACTOR SHALL NOTIFY THE DEPARTMENT OF PUBLIC WORKS/BUREAU OF INSPECTION AT (410) 313-1880 AT LEAST FIVE (5) MORKING DAYS PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT I-800-257-7777 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION WORK,
- THE CONTRACTOR SHALL NOTIFY THE HOWARD COUNTY DEPARTMENT OF PUBLIC WORKS, BUREAU OF UTILITIES AT (410) 313-4900 AT LEAST FIVE WORKING DAYS PRIOR TO STARTING ANY EXCAVATION WORK.
- 5. PROJECT BACKGROUND:

LOCATION: SEE VICINITY MAP IN THE UPPER RIGHT HAND CORNER OF THIS SHEET

ELECTION DISTRICT:

ZONING: R-A-15 PER THE OCTOBER 6, 2013 COMPREHENSIVE ZONING THIS PLAN IS GRANDFATHERED TO THE 1/28/06 ZONING REGULATIONS, HOWEVER THE PROJECT IS UTILIZING THE 10/6/2013 ZONING REGULATIONS FOR SETBACKS FROM VICINAL PROPERTIES

AREA OF BUILDABLE LOTS FOR THIS SITE DEVELOPMENT PLAN: 0.36 + AC.

FOR OTHER SUBMISSIONS RELATED TO THIS SITE, SEE HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING FILE NUMBERS: S 04-09, MP 04-105, F 06-019, MP 06-045, ZRA-65, F 09-088, P-10-004, F-10-048. SDP-12-45, MP-16-138, F-11-026, F-13-089, F-16-128, MP-04-105,

- THE CEMETERY INVENTORY MAP DOES NOT SHOW ANY CEMETERIES WITHIN THE PROJECT LIMITS (PHASE 8).
- THE SCENIC ROADS MAP DOES NOT INDICATE ANY SCENIC ROADS IN THE VICINITY.
- 8. THE HISTORIC SITES MAP DOES NOT SHOW ANY HISTORICAL SITES WITHIN THE PROJECT LIMITS (PHASE 8);
- 1. THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY BENCHMARKS 31GA AND 37A4 WERE USED FOR THIS PROJECT.
- IO. BOUNDARY INFORMATION IS FROM BOUNDARY SURVEYS BY GUTSCHICK, LITTLE, AND WEBER, P.A., DATED MAY, 2003.
- SOILS DATA WAS TAKEN FROM THE SOIL SURVEY OF HOWARD COUNTY, MARYLAND ISSUED MARCH, 2008.
- 12. THE EXISTING TOPOGRAPHY IS TAKEN FROM AERIAL TOPOGRAPHY PREPARED BY MCKENZIE-SNYDER DURING MARCH, 2003 AND PREVIOUS SHIPLEY'S GRANT DEVELOPMENT
- 3. THE WETLAND DELINEATION STUDY FOR THIS PROJECT WAS PREPARED BY BY EXPLORATION RESEARCH, INC. JURISDICTIONAL DETERMINATION AND VERIFICATION OF DELINEATION OF WATERS OF THE U.S. BY U.S. ARMY CORPS OF ENGINEERS ON 3/28/03. THE STUDY WAS APPROVED WITH 5-04-09 ON 2/15/05. THERE ARE NO STREAMS OR
- THE IOO-YEAR FLOODPLAIN STUDY FOR THIS PROJECT WAS PREPARED BY GUTSCHICK, LITTLE, & WEBER DATED JUNE 2006, AND WAS APPROVED IN SEPTEMBER 2006 AS PART OF F-06-019. THERE IS NO FLOODPLAIN WITH THE LIMITS OF PHASE 8.
- 19, 2017 AND INCLUDED WITH THIS 5DP SUBMISSION FOR THE SUBJECT LOTS. THE 65DBA NOISE CONTOUR LINE DRAWN ON THIS 5DP IS ADVISORY AS REQUIRED BY THE HOWARD COUNTY DESIGN MANUAL, CHAPTER 5, REVISED FEBRUARY, 1992 AND CANNOT BE CONSIDERED TO EXACTLY LOCATE THE 65 DBA NOISE EXPOSURE. THE 65DBA NOISE LINE ESTABLISHED BY HOWARD COUNTY TO ALERT DEVELOPERS, BUILDERS AND FUTURE RESIDENTS. BUILDING CONSTRUCTION MATERIALS MUST BE USED TO REDUCE INTERIOR SOUND TO 45 DBA IN RESIDENTIAL UNITS AS NEEDED WITHIN THE EXISTING 65 DBA NOISE LINE.
- A TRAFFIC STUDY WAS PREPARED BY THE TRAFFIC GROUP IN A REPORT DATED JANUARY 26, 2004 AND WAS APPROVED ON FEBRUARY 15, 2005 WITH 5-04-04. ALL OF THE REQUIRED OFF SITE IMPROVEMENTS HAVE BEEN COMPLETED WITH PREVIOUS PHASES. A LETTER FROM THE TRAFFIC GROUP DATED JANUARY 23, 2014 STATES THAT THE TOWNHOUSE UNITS SHOWN IN PHASE 7 AND 8 ON THE FORMER CHAPEL AND OFFICE PARCELS GENERATE LESS TRAFFIC THEN ASSUMED IN THE ORIGINAL TRAFFIC STUDY. THIS LETTER WAS APPROVED ON JANUARY 20, 2015 WITH S-15-003.
- 7. THE GEO-TECHNICAL REPORT WAS PROVIDED BY SPECIALIZED ENGINEERING DATED JULY 6, 2015.
- 3. EXISTING UTILITIES WERE TAKEN FROM AVAILABLE HOWARD COUNTY RECORDS AND PREVIOUS SHIPLEY'S GRANT DEVELOPMENT PLANS.
- 19. THE PROJECT IS WITHIN THE METROPOLITAN DISTRICT.
- 20. PUBLIC WATER AND SEWER SHALL BE UTILIZED (AS PROVIDED BY W&S CONTRACT No. 14-4513-D) AND THE WATER METERS IN OUTSIDE VAULTS.
- 21. ALL ROADS LABELED AS "PUBLIC" ARE PUBLICLY MAINTAINED ONCE THEY ARE DEDICATED. ALL ROADS LABELED AS "PRIVATE" ARE PRIVATELY MAINTAINED BY A HOMEOWNER ASSOCIATION.
- 22. THE FOREST CONSERVATION REQUIREMENT FOR THIS SDP IS PROVIDED BY F-06-019 AND F-16-116. FOREST CONSERVATION EASEMENTS HAVE BEEN ESTABLISH TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION ACT. NO CLEARING, GRADING OR CONSTRUCTION IS PERMITTED WITHIN THE FOREST CONSERVATION EASEMENT, HOWEVER, FOREST MANAGEMENT PRACTICES AS DEFINED IN THE DEED OF FOREST CONSERVATION EASEMENT AREA ALLOWED.
- 23. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN POSTED AS PART OF THE GRADING PERMIT APPLICATIONS AS NOTED ON SHEET 3. THE TOTAL SURETY IS IN THE AMOUNT OF \$5,550.00. THE LANDSCAPE PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE PROVISIONS OF SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL.
- 24. A PRE-SUBMISSION COMMUNITY MEETING WAS HELD FOR THIS PROJECT ON 11/26/2013 IN COMPLIANCE WITH SECTION 16.128 OF THE REGULATIONS.
- 25. STORMWATER MANAGEMENT FOR THIS THIS PHASE IS PROVIDED BY EXISTING FACILITY 'D' LOCATED ON OPEN SPACE LOT D-1. FACILITY 'D' IS A PERMANENT POOL, WET FACILITY TYPE P-2 PER MIDE 2000. THIS FACILITY PROVIDES WQ, CPV, AND SAFE PASSAGE OF THE 100 YEAR STORM. FACILITY 'D' WAS DESIGNED AND APPROVED UNDER F-09-88. FACILITY 'D' IS JOINTLY MAINTAINED BY HOWARD COUNTY AND THE HOA.
- 26. STORMWATER MANAGEMENT IS PROVIDED IN ACCORDANCE WITH THE 2000 MARYLAND STORMWATER DESIGN MANUAL, VOLUMES I AND II. A STORMWATER MANAGEMENT ADMINISTRATIVE WAIVER DATED JUNE 6, 2012 DETERMINED THAT THE PROJECT MET THE CRITERIA OUTLINED IN THE MIDE STORMWATER MANAGEMENT REGULATIONS GUIDELINES FOR IMPLEMENTATION FOR ACCEPTANCE OF THE 2000 DESIGN CRITERIA. STORMWATER MANAGEMENT FOR THIS SITE IS PROVIDED BY FACILITY 'D'. FACILITY D WAS PRELIMINARILY APPROVED WITH 5-04-09 ON 2/15/05, AND RECEIVED FINAL APPROVAL WITH F-09-88 ON 10/23/09. FACILITY D IS CURRENTLY FUNCTIONING AS A BASIN FOR TEMPORARY STORMWATER MANAGEMENT AND ALL CONSTRUCTION FOR FACILITY D WILL BE COMPLETED PRIOR TO MAY 4, 2017.
- 27. DRIVEWAYS SHALL BE PROVIDED PRIOR TO ISSUANCE OF A USE AND OCCUPANCY PERMIT FOR ANY NEW DWELLINGS TO INGURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING MINIMUM REQUIREMENTS:
- A) WIDTH 12' (16' SERVING MORE THAN ONE RESIDENCE)
- B) SURFACE 6" OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING (I-I I/2" MIN) C) GEOMETRY - MAX. 15% GRADE, MAX 10% GRADE CHANGE AND MIN. 45' TURNING RADIUS
- D) STRUCTURE (CULVERTS/BRIDGES) CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING) E) DRAINAGE ELEMENTS - SAFELY PASSING IOO-YEAR FLOOD WITH NO MORE THAN I FOOT DEPTH OVER DRIVEWAY SURFACE
- F) MAINTENANCE SUFFICIENT TO INSURE ALL WEATHER USE
- ALL OUTSIDE LIGHTING SHALL COMPLY WITH ZONING REGULATION SECTION 134 WHICH REQUIRES LIGHTS TO BE INSTALLED TO DIRECT/REFLECT LIGHT DOWNWARDS AND INWARDS ON SITE AWAY FROM ALL ADJOINING PUBLIC STREETS AND RESIDENTIAL AREAS, NO OUTDOOR PARKING LOT LIGHTING IS PROPOSED.
- 29, TRASH FOR THIS SITE SHALL BE COLLECTED BY A PRIVATE REPUSE COLLECTION COMPANY.
- 30. ALL BUILDING FOUNDATIONS MUST BE BRICK POINTED UNLESS NOTED OTHERWISE.
- 31. ANY DAMAGE TO THE ADJACENT COUNTY OWNED RIGHT-OF-WAY AND PROPERTY SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
- 32. NO GRADING, REMOVAL OF VEGETATIVE GOVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE REQUIRED WETLANDS, STREAM(S) OR THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS AND IOO YEAR FLOODPLAIN.
- 33. BAY WINDOWS, WINDOW WELLS, CHIMNEYS, HEATING OR AIR CONDITIONING UNITS, BALCONIES, ORIELS, VESTIBULES AND EXTERIOR STAIRWAYS IF NOT MORE THAN 16 FEET IN WIDTH MAY PROJECT NO MORE THAN 4 FEET INTO ANY REQUIRED SETBACK AREA IN ACCORDANCE WITH SECTION 128.A.) OF THE ZONING REGULATIONS
- 34. ALL UNITS HAVE 2 CAR GARAGES. ALL UNITS WITH DRIVEWAYS LESS THAN 9' IN LENGTH FROM THE BUILDING TO THE SIDEWALK OR CURB MUST ONLY USE THEIR GARAGE FOR
- 35. SHIPLEY'S GRANT PHASE 6 IS GRANDFATHERED TO THE EXCEPTION FOR TRADITIONAL RESIDENTIAL NEIGHBORHOOD DEVELOPMENT NOTED IN SECTION 133.C.4 OF THE 2004 ZONING REGULATIONS WHICH ALLOWS DRIVEWAYS TO BE LESS THAN 9 FEET IN LENGTH FROM THE GARAGE TO THE FLOWLINE OF THE CURB.
- 36. SEWER HOUSE CONNECTION ELEVATIONS SHOWN ARE LOCATED AT THE RIGHT-OF-WAY.

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

GLWGUTSCHICK LITTLE & WEBER, P.A.

CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS

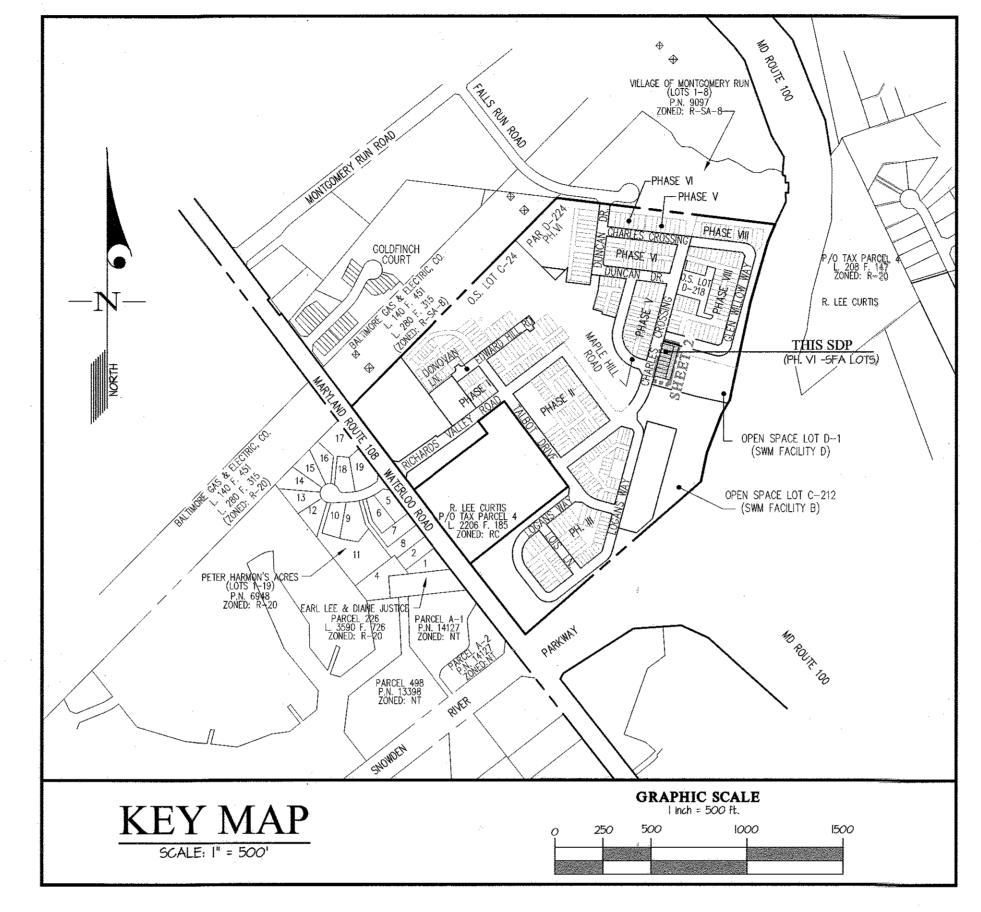
BURTONSVILLE, MARYLAND 20866

3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK

TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186

# SITE DEWELOPMENT PLAN HIPLEY'S GRA

# Phase VI - LOTS D-226 thru D-233 and COMMON OPEN SPACE LOT D-223



	DEVELOPMENT TRACKI	NG CHAR	T AND SI	TE ANALY	ISIS FOR	R-A-15 ZON	VE AREAS				
PHASE	PARCEL NUMBER OR HOWARD COUNTY FILE No.	PLAN STATUS	GROSS	100 YR. FLOODPLAIN	NET	MIN. 0/s <sup>1</sup> req'd	o/s prov.2	MIN. REC. O/S REQ'D	REC. O/S PROVIDED	MIN. REQ'D. TND 0/S <sup>4</sup>	TND O/S PROVIDED
1	F 07-043/SDP-07-047	APPROVED	13.63 AC.	1.36 AC.	12.27 AC.	.3.41 AC.	8.26 AC. (60%)	24,800 S.F. 3	57,503 S.F.	0.68 AC./29,686 S.F.	0.99 AC./43,157 S.F.
2	F 07-059/SDP-07-048	APPROVED	5.81 AC.	0.00 AC.	5.81 AC.	1.45 AC.	0.65 AC. (11%)	24,800 S.F. 3	28,248 S.F.	0.29 AC./12,654 S.F.	0.85 AC,/37,124 S.F.
3	F 08-006/SDP-10-082	APPROVED	12.94 AC.	0.50 AC.	12.44 AC.	3.24 AC.	6.19 AC. (48%)	26,000 S.F. 3	27,840 S.F.	0.65 AC./28,183 S.F.	0.37 AC./16,126 S.F.
4	F 09-088/SDP-10-082, SDP-10-87	APPROVED	5.77 AC.	0.00 AC.	5.77 AC.	1.44 AC.	1.68 AC. (30%)	26,000 S.F. <sup>③</sup>	6,591 S.F.	0.29 AC./12,567 S.F.	0.15 AC./6,591 S.F.
5	F 10-048/SDP-12-061	APPROVED	5.50 AC.	0.00 AC.	5.50 AC.	1.38 AC.	0.44 AC. (9%)	23,600 S.F. <sup>③</sup>	0 S.F.	0.28 AC./11,979 S.F.	0 AC./0 S.F.
6	F 11-026/SDP-12-061, F-16-128/SDP-16-079 & F-17-085/THIS SDP	APPROVED	4.20 AC.	0.00 AC.	4.20 AC.	1.05 AC.	0.09 AC. (2%)	28,400 S.F. <sup>③</sup>	21,146 S.F.	0.21 AC./9,148 S.F.	0 AC./0 S.F.
7	F 14-123/SDP-14-063 <sup>©</sup>	APPROVED	0.75 AC.	0.00 AC.	0.75 AC.	0.19 AC.	0.0 AC.	9,100 S.F. <sup>(5)</sup>	0 S.F.	0.04 AC./1,633 S.F.	0 AC./0 S.F.
8	PARCEL D-2/S-14-003/P-15-002/F-16-116/SDP-17-031	APPROVED	6.60 AC.	0.00 Ac.	6.60 AC.	1.65 AC.	1.77 AC. (27%)	46,300 S.F.®	24,680 S.F.	0.33 AC./14,375 S.F.	0.57 AC./24,680 S.F.
	AMENITY CREDITS (78)						. ;		45,875 S.F.	·	
	CUMULAT	VE TOTAL	55.20 AC.	1.86 AC.	53.34 AC.	13.80 AC.	19.08 AC. (35%)	209,000 S.F.	211,833 S.F.	2.76 AC./120,224 SF	2,93 AC,/127,678 S.F.

- DEVELOPMENT TRACKING CHART AND SITE ANALYSIS NOTES MINIMUM REQUIRED OPEN SPACE (0/5) IS CALCULATED AS 25% OF THE GROSS AREA.
- (2.) PERCENT OPEN SPACE PROVIDED IS OF THE GROSS AREA.
- (3) MINIMUM REQUIRED RECREATION OPEN SPACE (ROS) FOR PHASE I-VI IS CALCULATED AS 400 SF PER UNIT.
- (4) MINIMUM REQUIRED TRADITIONAL NEIGHBORHOOD 0/5 IS CALCULATED AS 20% OF THE REQUIRED OPEN SPACE.
- (5) MINIMUM REQUIRED RECREATION OPEN SPACE FOR PHASE VII (PER THE 2013 COMPREHENSIVE ZONING PLAN WHICH REQUIRES AN ADDITIONAL 300 SF ROS PER LOT FOR LOTS WITHOUT A 15 FT USABLE YARD) - 13 LOTS x 700 SF = 9,100 SF.
- (6) MINIMUM REQUIRED RECREATION OPEN SPACE FOR PHASE VIII (PER THE 2013 COMPREHENSIVE ZONING REGULATIONS EFFECTIVE 10/06/13 WHICH REQUIRES AN ADDITIONAL 300 SF ROS PER LOTS WHICH DO NOT HAVE A 15 FT USABLE YARD): 65 LOTS x 700 SF = 45,500 SF + 2 LOTS x 400 SF = 800 SF FOR A TOTAL OF 46,300 SF. SEE REQUIRED RECREATION OPEN SPACE CALCULATIONS IN SITE ANALYSIS ABOVE. THE 2 LOTS WITH A 15' USABLE YARD ARE SHOWN ON SHEET 3 WITH AN ASTERISK (\*) NEXT TO THE LOT NUMBER. THE OTHER 65 DON'T HAVE A SECTION 112E USEABLE REAR YARD (assuming all front load garage lots will get an optional rear extension).
- (1) 13,520 SF OF RECREATION OPEN SPACE HAS BEEN INCLUDED USING AMENITY FEATURE AREA CREDITS APPROVED BY DPZ (PER THE 6/15/2012 POLICY MEMO), INCLUDING 3,960 SF FOR A COMMUNITY CENTER, 3,960 SF FOR A COMMUNITY POOL, 2,000 SF FOR A GAZEBO, 2000SF FOR A TOT LOT, AND 1,600 SF FOR BENCHES AS OUTLINED IN A LETTER TO DPZ DATED 1/17/2013 CREDITS FOR THE COMMUNITY CENTER AND POOL MAY BE INCREASED IF A REGULATION OR A DPZ POLICY INCREASES THE VALUE FOR THESE MAJOR RECREATIONAL FACILITIES. IF A CREDIT VALUE IS INCREASED, A REDLINE TO THIS PLAN WILL BE REQUIRED TO UPDATE THE CHART AND THE CREDIT VALUES.
- (8) 32.355 SF OF RECREATION OPEN SPACE HAS BEEN INCLUDED USING AMENITY FEATURE AREA CREDITS APPROVED BY DPZ (PER THE 6/15/2012 POLICY MEMO), INCLUDING 5,520 SF FOR A COMMUNITY CENTER, 5,520 SF FOR A COMMUNITY POOL (4,740 SF EACH FOR THE POOL AND COMMUNITY CENTER IN PHASE 8 AND 180 SF EACH WAS ADDED FOR THE COMMUNITY CENTER AND POOL ON LOT C-135 FOR THE 78 LOTS IN PHASES 7 & 8 THAT WERE NOT INCLUDED IN THE ORIGINAL CREDIT), AND 21,315 SF FOR ASPHALT PATHWAYS AS OUTLINED IN A LETTER TO DPZ DATED 10/1/2014 CREDITS FOR THE COMMUNITY CENTER AND POOL MAY BE INCREASED IF A REGULATION OR A DPZ POLICY INCREASES THE VALUE FOR THESE MAJOR RECREATIONAL FACILITIES. IF A CREDIT VALUE IS INCREASED, A REDLINE TO THIS PLAN WILL BE REQUIRED TO UPDATE THE CHART AND THE CREDIT VALUES.

(Lots D-226 thru D-233):

Columbia, MD 21046

Phone: 410-379-5956

Attn.: Robert Grothmann

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS WERE

PREPARED OR APPROVED BY ME, AND THAT I

LICENSE NO. 12975

EXPIRATION DATE: MAY 26, 2018

AM A DULY LICENSED PROFESSIONAL ENGINEER

UNDER THE LAWS OF THE STATE OF MARYLAND,

- (4) INCLUDES ADDITIONAL TND 0/S ADDED BY REDLINE TO SDP-07-047 IN JANUARY 2013.
- (6) INCLUDES ADDITIONAL TND 0/S ADDED BY REDLINE TO 5DP-10-082 IN JANUARY 2013.

BA Waterloo Townhomes, LLC | NVR INC.

6406 lvy Lane, Suite 700

Greenbelt, MD 20770

301-220-0100

Attn.: Chris Block

c/o Bozzuto Homes, Inc. | 9720 Patuxent Woods Dr.

#### . GENERAL SITE ANALYSIS DATA

- A. PRESENT ZONING: R-A-15
- PROPOSED USE OF SITE: 8 TOWNHOUSE (SFA) UNITS & PRIVATE ALLEY PUBLIC WATER AND PRIVATE SEWER TO BE UTILIZED (CONTR. Nos. 14-4513-D & 44-4924-D). D. PARKING REQUIRED PER ZONING AND DMV III (table 2.11): (2 spaces/unit + 0.5 spaces/unit for visitors): 8 units x 2.5/unit = 20 SPACES
- PARKING PROVIDED: 2 GARAGE SPACES (2 in each unit) + 4 PARALLEL SPACES (PER F-16-116) ON GLEN WILLOW WAY = 20 SPACES TOTAL
- E. OPEN SPACE: SEE DEVELOPMENT TRACKING CHART ON THIS SHEET
- AREA TABULATION A. AREA OF BUILDABLE LOTS FOR THIS SUBMISSION: 0.36: ACRES AREA OF THIS PLAN SUBMISSION: AREA OF DISTURBANCE BY THIS SDP:

3. LOT DESIGNATION:

DEVELOPMENT TYPE	MAX. BUILDING HT.	MINIMUM LOT SIZE	MIN. LOT WIDTH AT FROM BRL
PRINCIPAL STRUCTURES	55'	N/A	N/A
ACCESSORY STRUCTURES	15'	N/A //	N/A

#### SETBACK REQUIREMENTS

PER 112.D.4 (R-A-15) AND 128.G.4 (TRADITIONAL RESIDENTIAL NEIGHBORHOODS)

PER (12.D.4 (R-A-15) AND 128.6.4 (TRADITIONAL RESIDENTIAL	. NEIGHBORHOODS
SETBACK TYPE	SETBACK
	SINGLE FAMILY ATTACHED
FROM EXTERNAL ARTERIAL OR MAJOR COLLECTOR PUBLIC STREET RIGHT OF WAY	
(1) STRUCTURES (a) FRONT OR SIDE	30'
(b) REAR(2) USES	50' 30'
FROM OTHER EXTERNAL PUBLIC STREET RIGHT OF WAY	
(1) STRUCTURES (b) SFA FRONT OR SIDE(c) REAR	20¹ 40¹
(2) USES	20'
FROM INTERNAL PUBLIC STREET RIGHT OF WAY FRONT OR SIDE	0'
FROM INTERNAL ALLEY RIGHT OF WAY SIDE OR REAR	0'
FROM VIGINAL PROPERTIES - FOR ALL STRUCTURES AND USES IN A SFA DEVELOPMENT PROJECTS	
I. FROM RC, RR, R-20, R-12, R-ED or R-SC DISTRICT OR A SINGLE FAMILY AREA OF A PGCC, NT OR MXD DISTRICT	
(a) SFA (c) OTHER STRUCTURE OR USES	75' 50'
2. FROM R-A-15 AND OTHER ZONING DISTRICT (b) SFA	25'
(c) OTHER STRUCTURE OR USES	20'
BUILDING TO BUILDING	
FACE TO FACE	30'
FACE TO SIDE/ REAR TO SIDE	30'
SIDE TO SIDE	15' 60'
REAR TO REAR ACROSS AN ALLEY	30'
REAR TO FACE	100'
\	

THIS PLAN HAS BEEN SET UP T	O ALLONIO		IO ( LIQ III
LOT GROUPS	DISTURBED AREA (Ac.)	LANDSCAPE SURETY AMOUNT	LANDSCA INSPECTION FEES PAI
LOTS D-226 thru D-233 (for house construction)	0.32±	\$3,450.00	\$100.00
C.O.S. LOT D-223 (Retaining Wall)	0.48±	\$2,400.00	\$100.00

LECTION DISTRICT No. 1

				UNI	T TABULAT	ION			
	MAXIMU	M UNITS PERMITTED			PROPOSE	D R-A-15	5 UNITS		
HASE No.	NET	MAX. UNIT DENSITY (15 Units / Net Ac.)	TOTAL UNITS ON-SITE	REQUIRED MIHU's @ 10%	MARKET RATE SFA UNITS	MIHU ON-SITE	OFF-SITE	CONDOMINIUM/ APARTMENT UNITS	PROPOSED UNIT DENSITY
PHASE I	12.27 AC.	184	62	6	54	8	0	0	5.1 UNITS/NET AC.
PHASE II	5.81 AC.	87	66 <sup>2</sup>	6	66 <sup>2</sup>	0	8	0	10.7 (11.4) UNITS/NET AC.
PHASE III	12.44 AC.	186	69 <sup>2</sup>	7	69 <sup>2</sup>	0.	6	0	5.2 (5.5) UNITS/NET AC.
PHASE IV	5.77 AC.	86	57 <sup>2</sup>	7	17	0	6	40 <sup>2</sup>	11.3 (9.9) UNITS/ NET AC.
PHASE V	5.50 AC.	82	59	6	55	4	4	0	10.5 UNITS/ NET AC.
PHASE VI	4.20 AC.	63	71 <sup>4 5</sup>	7	49	2	2	20 <sup>4 5</sup>	19.3 UNITS/ NET AC.
PHASE VII	0.75 AC.	11	13	1	12	1	0	0	17.3 UNITS/ NET AC.
PHASE VIII	6.60 AC.	98	67 <sup>4</sup>	7	61	6	0	0	10.2 UNITS/ NET AC.
TE TOTAL	53.34 AC.	797	464	47	383	21	26	60	8.7 UNITS/NET AC.
TES:					-				

GRANT 6

ADC MAP PAGE: 28 GRID A-8

31GA STANDARD DISC ON CONCRETE MONUMENT

37A4 STANDARD DISC ON CONCRETE MONUMENT

**Howard County Control Stations** 

VICINITY MAP SCALE: 1" = 2000'

N 564,925.75, E 1,367,067.65 ELEV. = 511.65

N 563,835.91, E 1,367,971.65 ELEV. = 437.28

- OF THE 4T MIHU'S THAT ARE REQUIRED, 21 ARE PROVIDED ON-SITE (on Lots B-5, C-3, C-4, C-11, C-12, C-19, C-20, C-32, C-33, D-43, D-44, D-48, D-49, D-228, D-232, D-162, D-168, D-171, D-187, D-193 & D-194) AND 26 ARE TO BE PROVIDED OFF-SITE.
- 2. AFTER THE TRANSFER OF 8 ALLOCATION UNITS FROM THE PHASE IV APARTMENTS TO 8 SFA UNITS IN PHASES II AND III (each with 4 additional SFA units). THE 8 ADDITIONAL SFA LOTS IN PHASE II AND III ARE CREATED BY PLAT Nos. 21038-41.
- THE PHASE IV APARTMENTS ARE ON SDP-10-087. . 2 UNITS WERE TRANSFERRED FROM PHASE 6 (CONDO UNITS) TO PHASE 8 WITH THE SUBMISSION OF THE PHASE 8 FINAL PLANS ON 5/16/2016
- IO UNITS WERE FORFEITED WITH THE APPROVAL OF SDP-16-079 WHEN THE MULIT FAMILY CONDO UNITS IN PHASE 6 WERE REVISED TO SINGLE FAMILY ATTACHED CONDO UNITS. AS A RESULT OF FORFEITING IO UNITS, THE TOTAL NUMBER OF MIHUS REQUIRED HAS BEEN REDUCED BY I

### SHEET INDEX

- SITE DEVELOPMENT PLAN and STORM DRAIN DRAINAGE AREA MAP LANDSCAPE PLAN
- SEDIMENT CONTROL PLAN RETAINING WALL DETAILS

	· · · · · · · · · · · · · · · · · · ·
	AD
LOT No.	STREET ADDRE

	ADDRESS CHART
LOT No.	STREET ADDRESS
D-226	5960 CHARLES CROSSING
D-227	5958 CHARLES CROSSING
D-228	5956 CHARLES CROSSING
D-229	5954 CHARLES CROSSING
D-230	5952 CHARLES CROSSING
D-23I	5950 CHARLES CROSSING
D-232	5948 CHARLES CROSSING
D-233	5946 CHARLES CROSSING
m 000 (m ) 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ECIO CI EN INIT I ON INIX (For point) mode when a property

### PERMIT INFORMATION CHART

UBDIVISION NAI SHIPLEY'S GRANT	ME:			TION/AREA HASE VI	LOTS D-226 thru D-233, \$ C.O.5. D-223	
PLAT No. 24171/19 \$ 24269/74	ZONE R-A-15	TAX MAP 31	BLOCK I # 2	ELEC. DIST.	CENSUS TRACT 6011.02	
WATER CODE:	D07		SEWER C	CODÉ: 2780000		

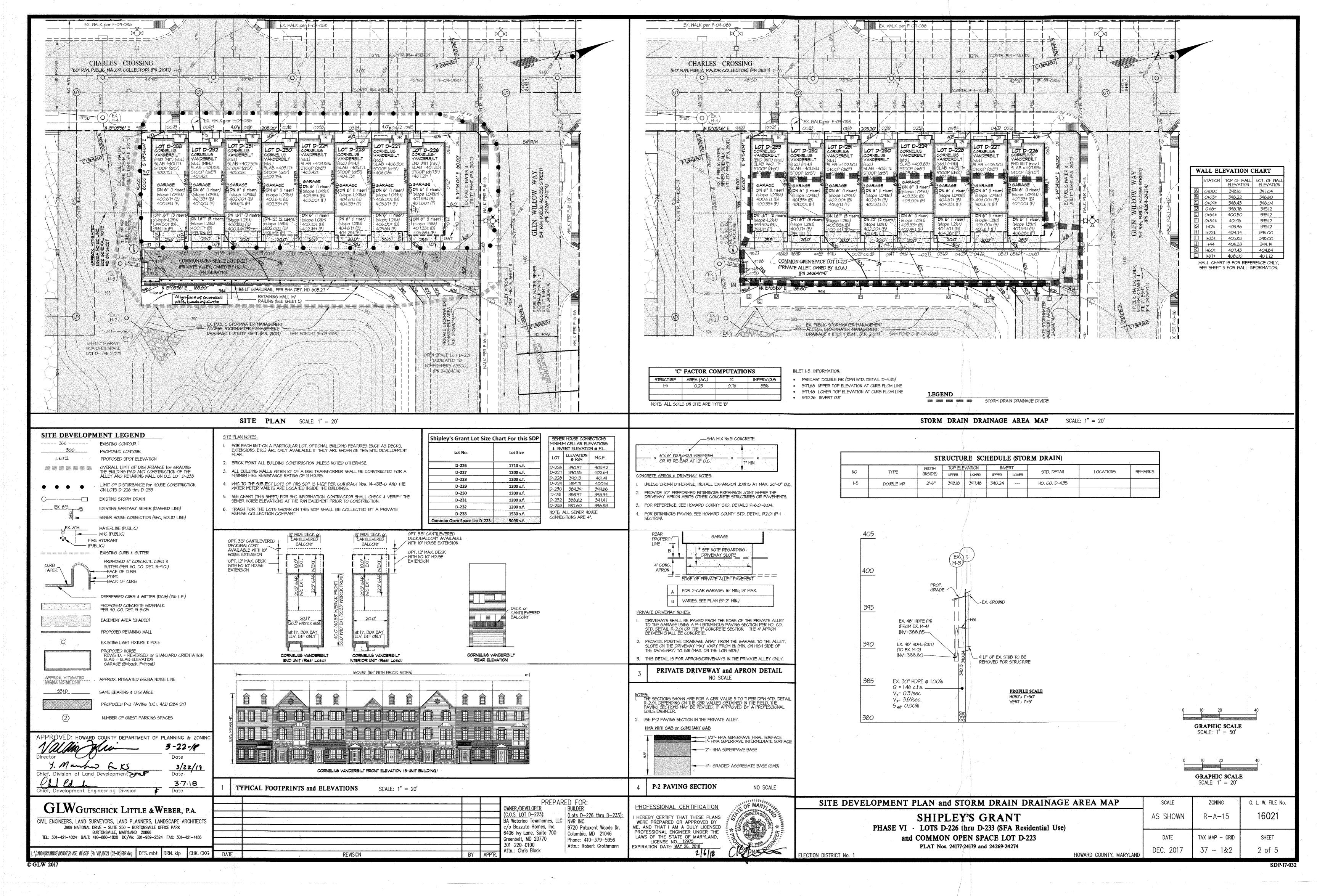
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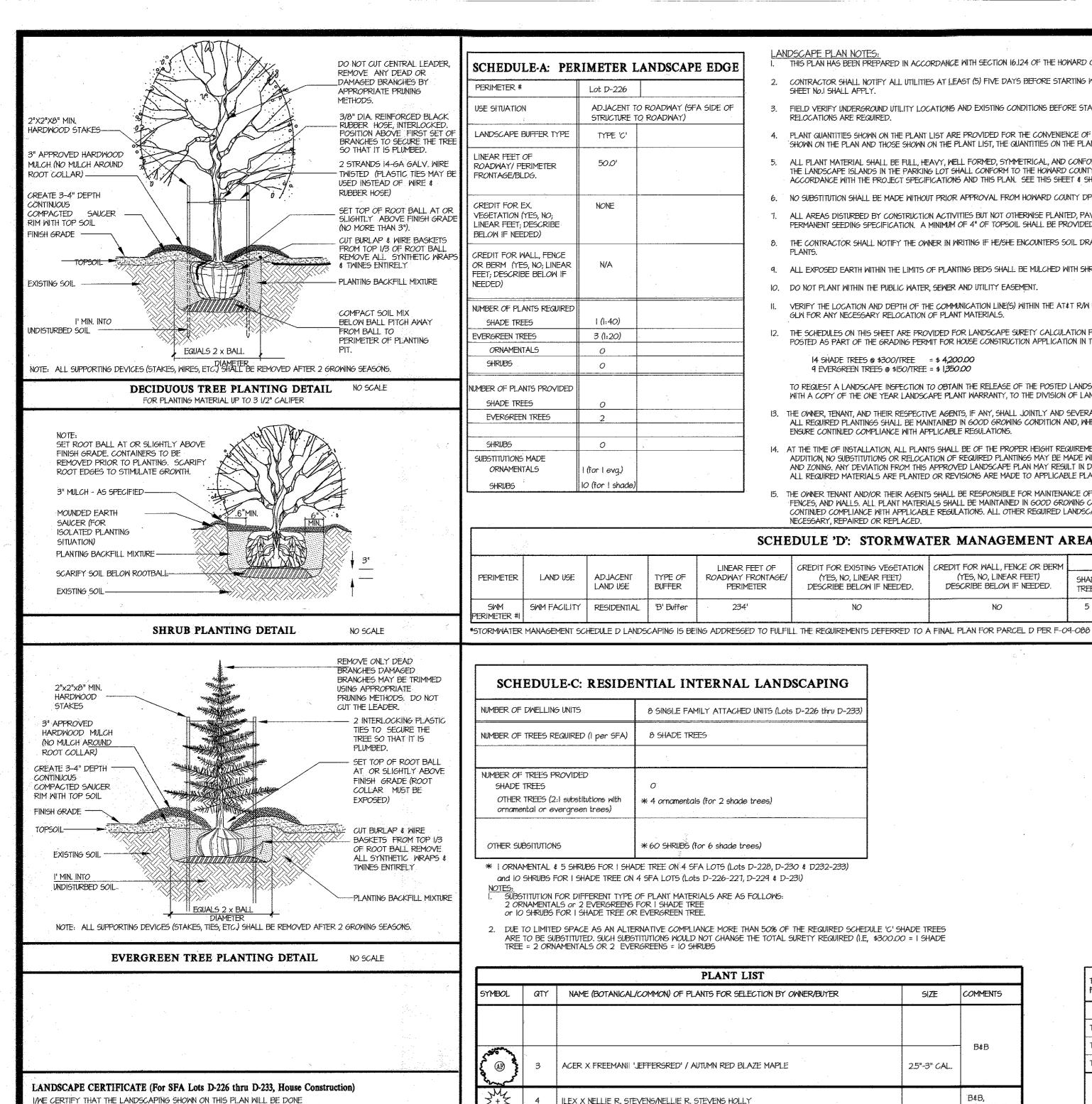
SHIPLEY'S GRANT PHASE VI - LOTS D-226 thru D-233 (SFA Residential Use) and COMMON OPEN SPACE LOT D-223

**COVER SHEET** G. L. W. FILE No. AS SHOWN R-A-15PLAT Nos. 24177-24179 and 24269-24274 37 - 1&2 1 of 5 HOWARD COUNTY, MARYLAND

\CADD\DRAWNGS\03006\PHASE VIII\SDP (Ph VI)\16021 (01) CS.dwg | DES. MBT | DRN. KLP | CHK. CKG

Chief, Development Engineering Division





NUMBER OF DWELLING UNITS	8 SINGLE FAMILY ATTACHED UNITS (Lots D-226 thru D-233
NUMBER OF TREES REQUIRED (1 per SFA)	8 SHADE TREES
NUMBER OF TREES PROVIDED SHADE TREES	O
OTHER TREES (2:1 substitutions with ornamental or evergreen trees)	* 4 ornamentals (for 2 shade trees)
OTHER SUBSITUTIONS	*60 SHRUBS (for 6 shade trees)

TYPE OF

BUFFFR

'B' Buffer

Lot D-226

TYPE 'C

50.0'

NONE

1 (1:40)

3 (1:20)

(for levg.)

LAND USE

SWM FACILITY | RESIDENTIAL

10 (for I shade)

**ADJACENT** 

LAND USE

ADJACENT TO ROADWAY (SFA SIDE OF

RELOCATIONS ARE REQUIRED

STRUCTURE TO ROADWAY)

or 10 SHRUBS FOR I SHADE TREE OR EVERGREEN TREE 2. DUE TO LIMITED SPACE AS AN ALTERNATIVE COMPLIANCE MORE THAN 50% OF THE REQUIRED SCHEDULE 'C' SHADE TREES ARE TO BE SUBSTITUTED. SUCH SUBSTITUTIONS WOULD NOT CHANGE THE TOTAL SURETY REQUIRED (I.E, \$300.00 = I SHADE TREE = 2 ORNAMENTALS OR 2 EVERGREENS = 10 SHRUBS

PLANT LIST

LINEAR FEET OF

ROADWAY FRONTAGE/

PERIMETER

		FLANI LIBI		
SYMBOL	QTY	NAME (BOTANICAL/COMMON) OF PLANTS FOR SELECTION BY OWNER/BUYER	SIZE	COMMENTS
				B*B
4 (A)	3	ACER X FREEMANII 'JEFFERSRED' / AUTUMN RED BLAZE MAPLE	2.5"-3" CAL.	B¢B
**************************************	4	ILEX X NELLIE R. STEVENS/NELLIE R. STEVENS HOLLY	8' HT. MIN.	B&B, MUST HAVE INTACT
A STATE OF THE PARTY OF THE PAR	-6	PICEA OMORIKA / SERBIAN SPRUCE	0 111.13114	CENTRAL LEADER
$\bigotimes$	5	LAGERSTROEMIA INDICA / CRAPE MYRTLE var.: PINK VELOUR OR CATAMBA	6'-8' HT.	B≰B
	2	CERCIS CANADESIS 'FOREST PANSY' / EASTERN REDBUD	1.5"-2" CAL.	
0	24	JUNIPERUS HORIZONTALIS VAR. / JUNIPER VAR.: 'BAR HARBOR', 'ANDORRA', 'MILTONI BLUE RUG' NANDINA DOMESTICA / NANDINA (VAR. 'FIREPOWER, 'DOMESTICA') ILEX CRANATA 'SOFT TOUCH' / DWARF JAPANESE HOLLY 'SOFT TOUCH' JUNIPERUS PROCUMBENS 'NANA' / DWARF JAPANESE GARDEN JUNIPER ILEX GLABRA 'COMPACTA' / DWARF INKBERRY POTENTILLA FRUTICOSA 'SUNSET' / SUNSET POTENTILLA CARYOPTERIS CLANDONENGIS/'DARK KNIGHT' BLUE BEARD	18"-24" SPR.	CONTAINER
• ⊗	18	DEUTZIA GRACILIS/ SLENDER DEUTIZIA ILEX CRENATA 'HELLEI' / DWARF JAPANESE HOLLY ILEX GLABRA 'COMPACTA' / DWARF INKBERRY MAHONIA AQUIFOLIUM / OREGON GRAPE HOLLY BUXUS SEMPERVIRENS 'SUFFRUTICOSA' / DWARF ENGLISH BOXMOOD CHAMAECYPARIS PPISIFERA / GOLD MOP FALSE CYPRESS	24"-30" SPR.	CONTAINER
0	6	MAHONIA BEALEI / LEATHERLEAF MAHONIA OSMANTHUS HETEROPHYLLUS 'GULFTIDE' / SWEET HOLLY RHODODENDRON HYBRID VAR. (CAT. ALBUM, CAT. GRANDIFLORA, 'ENGLISH ROSEUM', 'ROSEUM ELEGANS') RHODODENDRON 'PJM'/ PJM RHODODENDRON TAXUS CUSPIDATA 'NANA' / DWARF JAPANESE YEW	24" <del>;30"</del> SPR.	CONTAINER
*	22	ILEX VERTICILLATA VAR / WINTERBERRY HOLLY VAR. ('RED SPRITE', 'WINTER RED' or 'SPARKLEBER BUXUS MICROPHYLLA / WINTERGREEN BOXWOOD BUXUS 'GREEN VELVET / GREEN VELVET BOXWOOD ILEX CRENATA 'STEEDS' / STEED HOLLY NANDINA DOMESTICA / NANDINA HEAVENLY BAMBOO' PRUNUS LAUROCERASUS 'OTTO LUYKEN' / OTTO LUYKEN CHERRY LAUREL PRUNUS LAUROCERASUS 'SCHIPKAENENSIS' / SCHIP LAUREL THULA OCCIDENTALIS 'EMERAL GREEN' / EMERALD GREEN ARBORVITAE	RY') 3-4' HT.	CONTAINER

REVISION

	PLANTING LEGEND  PROPOSED  SHRUBS	STREET TR	
1.			PROPOSED ORNAMENTAL TREES
/	PROPOSED SHADE TREES	+ + + + + + + + + + + + + + + + + + +	PROPOSED EVERGREEN TREES

TABULATION OF LANDSCAPE FOR REGUIRED LANDSCAPE SURETY

for SFA LOTS D-226 thru D-233

OTAL SHADE TREES REQUIRED

PLANTS PROVIDED

SHRUBS

SUBSTITUTIONS

2 SHADE TREES

TOTAL

2 ORNs. # 2 EVGs. FOR

EVERGREEN

TREES

SHADE

TREES

SHRUBS

THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE & THE HOWARD COUNTY LANDSCAPE MANUAL

2. CONTRACTOR SHALL NOTIFY ALL UTILITIES AT LEAST (5) FIVE DAYS BEFORE STARTING WORK. ALL GENERAL NOTES, ESPECIALLY THOSE REGARDING UTILITIES, ON

4. PLANT QUANTITIES SHOWN ON THE PLANT LIST ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. IF DISCREPANCIES EXIST BETWEEN QUANTITIES

5. ALL PLANT MATERIAL SHALL BE FULL, HEAVY, WELL FORMED, SYMMETRICAL, AND CONFORM TO THE A.A.N. SPECIFICATIONS. IN ADDITION, ALL REQUIRED PLANTING FOR

THE LANDSCAPE ISLANDS IN THE PARKING LOT SHALL CONFORM TO THE HOWARD COUNTY LANDSCAPE MANUAL. ALL PLANT MATERIAL SHALL BE INSTALLED IN

ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES BUT NOT OTHERWISE PLANTED, PAVED, OR MULCHED SHALL BE SODDED OR SEEDED IN ACCORDANCE WITH THE

II. VERIFY THE LOCATION AND DEPTH OF THE COMMUNICATION LINE(S) WITHIN THE AT&T R/W PRIOR TO ANY PLANTING WITHIN THIS R/W. THE CONTRACTOR SHALL CONTACT

TO REQUEST A LANDSCAPE INSPECTION TO OBTAIN THE RELEASE OF THE POSTED LANDSCAPE SURETY, SUBMIT A WRITTEN REQUEST OF LANDSCAPE INSPECTION, ALONG

ALL REQUIRED PLANTINGS SHALL BE MAINTAINED IN GOOD GROWING CONDITION AND, WHENEVER NECESSARY, REPLACED WITH COMPARABLE NEW PLANT MATERIALS TO

ADDITION, NO SUBSTITUTIONS OR RELOCATION OF REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING

THE OWNER TENANT AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING, INCLUDING BOTH PLANT MATERIALS AND BERMS,

CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN

FENCES, AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE

PLANTS REQUIRED

TREES

SHADE EVERGREEN

TREES

AND ZONING, ANY DEVIATION FROM THIS APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS

13. THE OWNER, TENANT, AND THEIR RESPECTIVE AGENTS, IF ANY, SHALL JOINTLY AND SEVERALLY BE RESPONSIBLE FOR THE MAINTENANCE OF THE REGUIRED LANDSCAPING.

14. AT THE TIME OF INSTALLATION, ALL PLANTS SHALL BE OF THE PROPER HEIGHT REQUIREMENTS IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPING MANUAL, IN

12. THE SCHEDULES ON THIS SHEET ARE PROVIDED FOR LANDSCAPE SURETY CALCULATION PURPOSES. FINANCIAL SURETY FOR THE REQUIRED LANDSCAPING HAS BEEN

POSTED AS PART OF THE GRADING PERMIT FOR HOUSE CONSTRUCTION APPLICATION IN THE AMOUNT OF \$ 5,550,00 FOR THE FOLLOWING PLANTS:

WITH A COPY OF THE ONE YEAR LANDSCAPE PLANT WARRANTY, TO THE DIVISION OF LAND DEVELOPMENT, HO. CO. DEPT. OF PLANNING AND ZONING.

8. THE CONTRACTOR SHALL NOTIFY THE OWNER IN WRITING IF HE/SHE ENCOUNTERS SOIL DRAINAGE CONDITIONS THAT MAY BE DETRIMENTAL TO THE GROWTH OF THE

'SHOWN ON THE PLAN AND THOSE SHOWN ON THE PLANT LIST, THE GUANTITIES ON THE PLAN SHALL TAKE PRECEDENCE.

ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THIS PLAN. SEE THIS SHEET & SHEET 5 FOR PLANTING DETAILS.

PERMANENT SEEDING SPECIFICATION. A MINIMUM OF 4" OF TOPSOIL SHALL BE PROVIDED TO ALL PLANTING AREAS.

ALL REQUIRED MATERIALS ARE PLANTED OR REVISIONS ARE MADE TO APPLICABLE PLANS AND CERTIFICATES.

(YES, NO, LINEAR FEET)

DESCRIBE BELOW IF NEEDED.

PREPARED FOR:

c/o Bozzuto Homes, Inc. 9720 Patuxent Woods Dr.

(Lots D-226 thru D-233):

Columbia, MD 21046

Phone: 410-379-5956

Attn.: Robert Grothmann

DWNER/DEVELOPER

Greenbelt, MD 20770

301-220-0100

Attn.: Chris Block

6406 Ivy Lane, Suite 700

BA Waterloo Townhomes, LLC NVR INC.

IO. DO NOT PLANT WITHIN THE PUBLIC WATER, SEWER AND UTILITY EASEMENT.

GLW FOR ANY NECESSARY RELOCATION OF PLANT MATERIALS.

14 SHADE TREES @ \$300/TREE = \$ 4,200.00

9 EVERGREEN TREES @ \$150/TREE = \$ 1,350.00

ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS.

SCHEDULE 'D': STORMWATER MANAGEMENT AREA

CREDIT FOR EXISTING VEGETATION | CREDIT FOR WALL, FENCE OR BERM

NECESSARY, REPAIRED OR REPLACED.

(YES, NO, LINEAR FEET)

DESCRIBE BELOW IF NEEDED.

6. NO SUBSTITUTION SHALL BE MADE WITHOUT PRIOR APPROVAL FROM HOWARD COUNTY DPZ AND THE OWNER OR HIS REPRESENTATIVE.

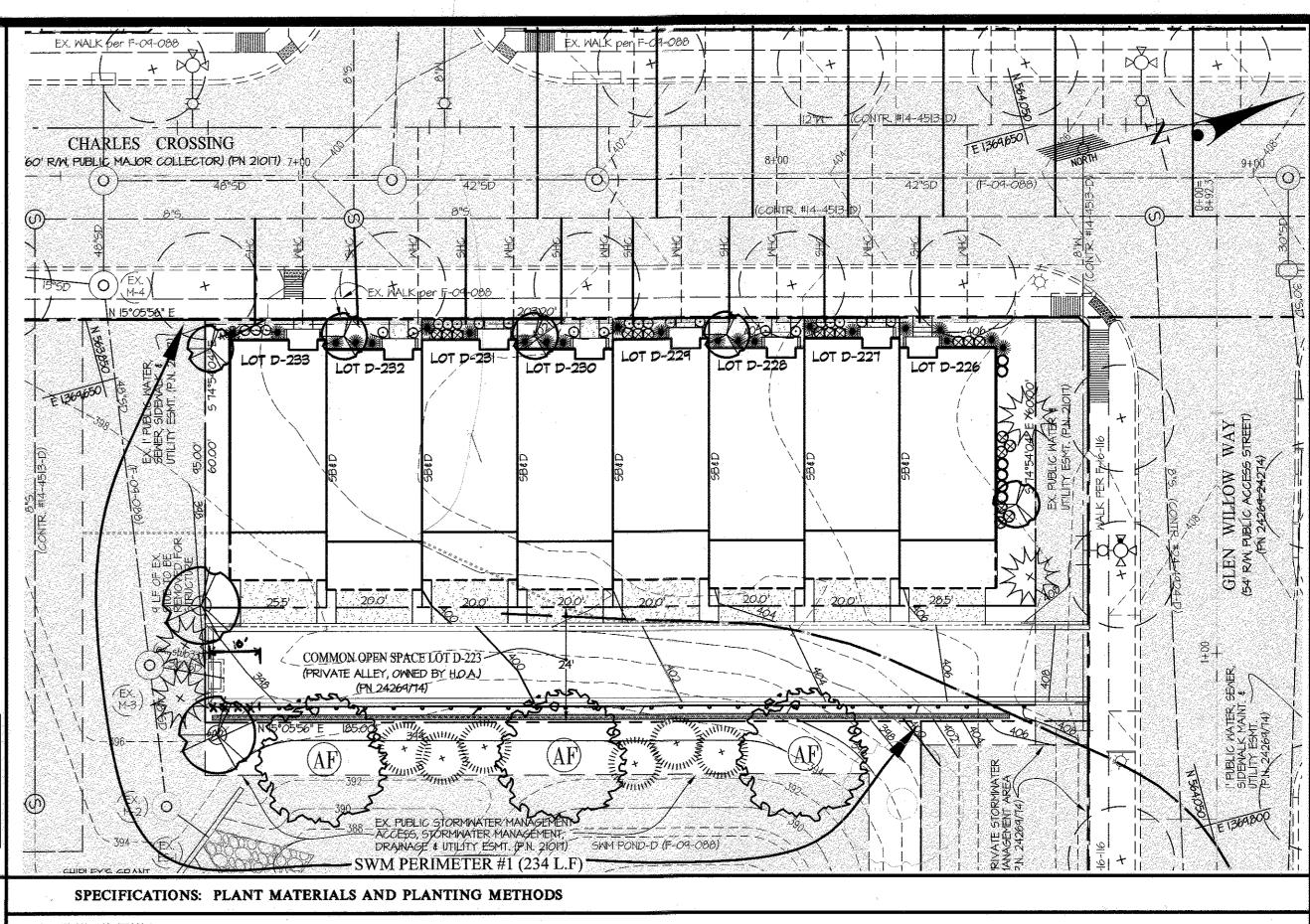
9. ALL EXPOSED EARTH WITHIN THE LIMITS OF PLANTING BEDS SHALL BE MULCHED WITH SHREDDED HARDWOOD MULCH PER THE PLANTING DETAILS.

FIELD VERIFY UNDERGROUND UTILITY LOCATIONS AND EXISTING CONDITIONS BEFORE STARTING PLANTING WORK. CONTACT CONSTRUCTION MANAGER OR OWNER IF ANY

	*	0	0	3
TOTAL SHRUBS REQUIRED	0	0	0 .	0
\$ 2,700.00 SURETY REQUIRED \$ 450.00 SURETY REQUIRED				-
\$ 3,150.00 TOTAL LANDSCAPE application for SFA lots D-226 th		IRED (to be po	sted w/ the grad	ding permit
· · · · · · · · · · · · · · · · · · ·				
			-14	
	SCHDA	SCHDC	SCHDD	TOTAL
		·	· · · · · · · · · · · · · · · · · · ·	TOTAL 5
TABULATION OF LANDSCAPE FOR for C.O.S. Lot D-223  TOTAL SHADE TREES REQUIRED  TOTAL EVGRN. TREES REQUIRED	SCHDA	SCHDC	ŚCHDD	TOTAL 5
For C.O.S. Lot D-223  TOTAL SHADE TREES REQUIRED	SCHDA	SCHDC	ŚCHDD	5

SCHD.-A SCHD.-C SCHD.-D

THE BUFFERS SHOWN IN THE SCHEDULES ARE IN ACCORDANCE WITH THE LANDSCAPE MANUAL, CHAPTER IV, TABLE-I			
<u> </u>			SHRUBS/LF
HT BUFFER	1:60	0	0
DERATE BUFFER	1:50	1:40	. 0
AVY BUFFER	1:40	l:20	· O
	HT BUFFER DERATE BUFFER	HT BUFFER 1:60 DERATE BUFFER 1:50	DERATE BUFFER 1:50 1:40



- THE LANDSCAPE CONTRACTOR SHALL FURNISH AND INSTALL AND/OR DIG, BALL, BURLAP AND TRANSPLANT ALL OF THE PLANT MATERIALS CALLED FOR ON DRAWINGS AND/OR LISTED IN THE PLANT SCHEDULE.
- PLANT NAMES:
  PLANT NAMES USED IN THE PLANT SCHEDULE SHALL CONFORM WITH "AAN" STANDARDS.
- ALL PLANT MATERIAL SHALL BE EQUAL TO OR BETTER THAN THE REQUIREMENTS OF THE "USA STANDARD FOR NURSERY STOCK" LATEST EDITION, AS PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN (HERE- AFTER REFERRED TO AS AAN STANDARDS). ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES AND VARIETY, SHALL HAVE A NORMAL HABIT OF GROWTH AND SHALL BE FIRST QUALITY, SOUND, VIGOROUS, WELL-BRANCHED AND WITH HEALTHY, WELL-FURNISHED ROOT

ALL PLANTS SHALL BE NURSERY GROWN AND SHALL HAVE BEEN GROWN UNDER THE SAME CLIMATE CONDITIONS AS THE LOCATION OF THIS PROJECT FOR AT LEAST TWO YEARS BEFORE PLANTING. NEITHER HEELED-IN PLANTS NOR PLANTS FROM COLD STORAGE WILL

LECTION DISTRICT No. 1

- 3. <u>PLANT MEASUREMENTS</u>:
  ALL PLANTS SHALL CONFORM TO THE MEASUREMENTS SPECIFIED IN THE PLANT SCHEDULE. A. CALIPER MEASUREMENTS SHALL BE TAKEN SIX INCHES (6") ABOVE GRADE FOR TREES UP TO FOUR-INCH (4") CALIPER AND
- TWELVE (12") ABOVE GRADE FOR TREES GREATER THAN FOUR INCHES (4") IN CALIPER.
- B. MINIMUM BRANCHING HEIGHT FOR ALL SHADE TREES SHALL BE SIX FEET (6'), MAXIMUM EIGHT FEET (8').
- C. CALIPER, HEIGHT, SPREAD AND SIZE OF BALL SHALL BE GENERALLY AS FOLLOWS:

YSTEMS. THEY SHALL BE FREE OF DISEASE, INSECT PESTS AND MECHANICAL INJURIES.

CALIPER HEIGHT SPREAD SIZE OF BALL 2" - 25" 14'-16' 6'-8' 32" DIAMETER 4'-16' 8'-10' 36" DIAMETER 4" - 45" 16'-18' 8'-IO' 40" DIAMETER 44" DIAMETER 16'-17' 10'-12' 45"-5" 16'-20' 10'-12' 48" DIAMETER 5" - 5.5" 18'-20' 12'-14' 52" DIAMETER 5.5"- *6*"

ALL PLANT MATERIAL SHALL GENERALLY AVERAGE THE MEDIAN FOR THE SIZE RANGES INDICATED ABOVE AS INDICATED IN THE "AAN" STANDARDS.

- 4. <u>PLANT IDENTIFICATION:</u>
  LEGIBLE LABELS SHALL BE ATTACHED TO ALL SHADE TREES, MINOR TREES, SPECIMEN SHRUBS AND BUNDLES OR BOXES OF OTHER PLANT MATERIAL GIVING THE BOTANICAL AND COMMON NAMES, SIZE AND QUANTITY OF EACH. EACH SHIPMENT OF PLANTS SHALL BEAR CERTIFICATES OF INSPECTION AS REQUIRED BY FEDERAL, STATE AND COUNTY AUTHORITIES.
- 5. PLANT INSPECTION: THE OWNER MAY REQUEST, AT LEAST TEN (IO) DAYS PRIOR TO THE INSTALLATION OF ANY PROPOSED PLANT MATERIAL, TO INSPECT ALL PROPOSED PLANT MATERIAL AT THE SOURCE OF ORIGIN.
- B. PLANTING METHODS:

  ALL PROPOSED PLANT MATERIALS THAT MEET THE SPECIFICATIONS IN SECTION A ARE TO BE PLANTED IN ACCORDANCE WITH THE FOLLOWING METHODS DURING THE PROPER PLANTING SEASONS AS DESCRIBED IN THE FOLLOWING:
  - PLANTING SEASONS:
    THE PLANTING OF DECIDUOUS TREES, SHRUBS AND VINES SHALL BE FROM MARCH IST. TO JUNE 15TH AND FROM SEPTEMBER
    THE PLANTING OF DECIDUOUS TREES, SHRUBS AND VINES SHALL BE FROM MARCH IST. TO JUNE 15TH AND FROM SEPTEMBER
    TO SUBJECT THE MAINTED MAINTING PROVIDING. 15TH TO DECEMBER 15TH, PLANTING OF DECIDIOUS MATERIAL MAY BE CONTINUED DURING THE WINTER MONTHS PROVIDING THERE IS NO FROST IN THE GROUND AND FROST-FREE TOPSOIL PLANTING MIXTURES. ARE USED.

THE PLANTING OF EVERGREEN MATERIAL SHALL BE FROM MARCH 15TH TO JUNE 15TH AND FROM AUGUST 15TH TO DECEMBER IST. NO PLANTING SHALL BE DONE WHEN THE GROUND IS FROZEN OR EXCESSIVELY MOIST. NO FROZEN OR WET TOPSOIL SHALL BE USED AT ANY TIME.

- ALL PLANT MATERIAL SHALL BE DUG, BALLED AND BURLAPPED (B&B) IN ACCORDANCE WITH THE "AAN STANDARDS".
- 3. <u>EXCAVATION OF PLANT PITS:</u>
  THE LANDSCAPING CONTRACTOR SHALL EXCAVATE ALL PLANT PITS, VINE PITS, HEDGE TRENCHES AND SHRUB BEDS IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:
- A. LOCATIONS OF ALL PROPOSED PLANT MATERIAL SHALL BE STAKED AND APPROVED IN THE FIELD BY THE LANDSCAPE ARCHITECT BEFORE ANY OF THE PROPOSED PLANT MATERIAL IS INSTALLED BY THE L'ANDSCAPE CONTRACTOR.
- B. ALL PITS SHALL BE GENERALLY CIRCULAR IN OUTLINE, VERTICAL SIDES; DEPTH SHALL NOT BE LESS THAN 6" DEEPER THAN THE ROOT BALL, DIAMETER SHALL NOT BE LESS THAN TWO TIMES THE DIAMETER OF THE ROOT BALL AS SET FORTH
- IN THE FOLLOWING SCHEDULE. C. IF AREAS ARE DESIGNATED AS SHRUB BEDS OR HEDGE TRENCHES, THEY SHALL BE EXCAVATED TO AT LEAST 18" DEPTH
- MINIMIM. AREAS DESIGNATED FOR GROUND COVERS AND VINES SHALL BE EXCAVATED TO AT LEAST 12" IN DEPTH D. DIAMETER AND DEPTH OF TREE PITS SHALL GENERALLY BE AS FOLLOWS:
- 3" 3.5"CAL 3.5"- 4" CAL. 4" - 4.5"CAL. 4.5"- 5" CAL. 5" - 5.5"CAL. 55"- 6" CAL. 52" 104"
- A 20 % COMPACTION FIGURE OF THESOIL TO BE REMOVED IS ASSUMED AND WILL BE ALLOWED IN CALCULATION OF EXTRA TOPSOIL. THE TABULATED PIT SIZES ARE FOR PURPOSES OF UNIFORM CALCULATION AND SHALL NOT OVERRIDE THE SPECIFIED DEPTHS BELOW THE BOTTOMS OF THE ROOT BALLS.

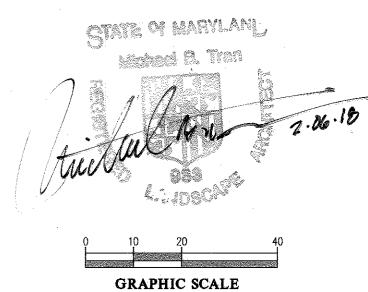
- STAKING, GLYING AND WRAPPING: ALL PLANT MATERIAL SHALL BE STAKED OR GLYED, AND WRAPPED IN ACCORDANCE WITH THE FOLLOWING SPECIFICATIONS
- A. STAKES: SHALL BE SOUND WOOD 2" X 2" ROUGH SAWN OAK OR SIMILAR DURABLE WOODS, OR LENGTHS. MINIMUM 7'-0" FOR MAJOR TREES AND 5'-0" MINIMUM FOR MINOR TREES. B. WIRE AND CABLE: WIRE SHALL BE #10 GA. GALVANIZED OR BETHANIZED ANNEALED STEEL
- WIRE. FOR TREES OVER 3" CALIPER, PROVIDE 5/16" TURN BUCKLES, EYE AND EYE WITH 4" TAKE-UP. FOR TREES OVER 5" CALIPER, PROVIDE 3/16", 7 STRAND CABLE CADMIUM PLATED STEEL, WITH GALVANIZED "EYE" THIMBLES OF WIRE AND HOSE ON TREES UP TO 3" IN CALIPER.
- C. HOSE: SHALL BE NEW, 2 PLY REINFORCED RUBBER HOSE, MINIMUM 1/2" I.D. "PLASTIC LOCK TIES OR "PAUL'S TREES BRACES" MAY BE USED IN PLACE OF WIRE AND HOSE ON TREES UP TO 3" IN
- D. ALL TREES UNDER 3" IN CALIPER ARE TO BE PLANTED AND STAKED IN ACCORDANCE WITH THE

PARTICULAR REQUIREMENTS, IN ACCORDANCE WITH ACCEPTED STANDARD PRACTICE. BROKEN

- ATTACHED PLANTING DETAILS. 5. PLANT PRUNING, EDGING AND MULCHING: A. EACH TREE, SHRUB OR VINE SHALL BE PRUNED IN AN APPROPRIATE MANNER TO ITS
- OR BRUISED BRANCHES SHALL BE REMOVED WITH CLEAN CUTS FLUSH WITH THE ADJACENT TRUNK OR BRANCHES. ALL CUTS OVER I" IN DIAMETER SHALL BE PAINTED WITH AN APPROVED ANTISEPTIC TREE WOUND DRESSING. B. ALL TRENCHES AND SHRUB BEDS SHALL BE EDGED AND CULTIVATED TO THE LINES SHOWN ON THE DRAWING. THE AREAS AROUND ISOLATED PLANTS SHALL BE EDGED AND CULTIVATED TO
- THE BUILD DIAMETER OF THE PIT SOD WHICH HAS BEEN REMOVED AND STACKED SHALL BE USED TO TRIM THE EDGES OF ALL EXCAVATED AREAS TO THE NEAT LINES OF THE PLANT PIT SAUCERS, THE EDGES OF SHRUB AREAS, HEDGE TRENCHES AND VINE POCKETS.
- C. AFTER CULTIVATION, ALL PLANT MATERIALS SHALL BE MULCHED WITH A 3" LAYER OF FINE, SHREDDED PINE BARK, PEAT MOSS, OR ANOTHER APPROVED MATERIAL OVER THE ENTIRE AREA OF THE BED OR SAUCER.
- 6. PLANT INSPECTION AND ACCEPTANCE:
  THE DESIGN REVIEW COMMITTEE SHALL BE RESPONSIBLE FOR INSPECTING ALL PLANTING PROJECTS
  ON A PERIODIC BASIS TO ASSURE THAT ALL WORK IS PROCEEDING IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS.
- PLANT GUARANTEE:
  ALL PLANT MATERIAL SHALL BE GUARANTEED FOR THE DURATION OF ONE FULL GROWING SEASON, AFTER FINAL INSPECTION AND ACCEPTANCE OF THE WORK IN THE PLANTING PROJECT. PLANTS SHALL BE ALIVE AND IN SATISFACTORY GROWING CONDITION AT THE END OF THE GUARANTEE
- A. FOR THIS PURPOSE, THE "GROWING SEASON" SHALL BE THAT PERIOD BETWEEN THE END OF THE "SPRING" PLANTING SEASON, AND THE COMMENCEMENT OF THE "FALL" PLANTING SEASON.
- B. GUARANTEE FOR PLANTING PERFORMED AFTER THE SPECIFIED END OF THE "SPRING" PLANTING SEASON, SHALL BE EXTENDED THROUGH THE END OF THE NEXT FOLLOWING "SPRING" PLANTING
- ALL SODDING SHALL BE IN ACCORDANCE TO THE "LANDSCAPE SPECIFICATION GUIDELINES FOR BALTIMORE-WASHINGTON METROPOLITAN AREAS" LATEST EDITION, APPROVED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF METROPOLITAN WASHINGTON AND THE AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS.

ALL SOD SHALL BE STRONGLY ROOTED SOD, NOT LESS THAN TWO YEARS OLD AND FREE OF WEEDS AND UNDESTRABLE NATIVE GRASSES. PROVIDE ONLY SOD CAPABLE OF GROWTH DEVELOPMENT WHEN PLANTED AND IN STRIPS NOT MORE THAN 18" WIDE X 4" LONG. PROVIDE SOD COMPOSED

PRINCIPALLY OF IMPROVED STRAIN KENTUCKY BLUEGRASS, SUCH AS, COLUMBIA, VICTÁ, OR ESCORT.



# THIS PLAN IS FOR LANDSCAPING PURPOSES ONLY

LANDSCAPE PLAN G. L. W. FILE No. SHIPLEY'S GRANT " = 20"R - A - 15PHASE VI - LOTS D-226 thru D-233 (SFA Residential Use) SHEET and COMMON OPEN SPACE LOT D-223 TAX MAP - GRID PLAT Nos. 24177-24179 and 24269-24274 37 - 1&23 of 5 HOWARD COUNTY, MARYLAND

TEL: 301-421-4024 BALT: 410-880-1820 DC/VA: 301-989-2524 FAX: 301-421-4186 :\CADD\DRAWNGS\03006\PHASE VII\SDP (Ph VI)\16021 (02-03)SDP.dwg | DES. klp | DRN. klp

GLWGUTSCHICK LITTLE & WEBER, P.A.

CIVIL ENGINEERS, LAND SURVEYORS, LAND PLANNERS, LANDSCAPE ARCHITECTS

3909 NATIONAL DRIVE - SUITE 250 - BURTONSVILLE OFFICE PARK BURTONSVILLE, MARYLAND 20866

CHK. mbt

ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE

HOWARD COUNTY LANDSCAPE MANUAL AND THE MLF LANDSCAPE DESIGN CRITERIA.

MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

I/WE FURTHER CERTIFY THAT UPON COMPLETION A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT

I/WE CERTIFY THAT THE LANDSCAPING SHOWN ON THIS PLAN WILL BE DONE ACCORDING TO THE PLAN, SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE

I/WE FURTHER GERTIFY THAT UPON COMPLETION A LETTER OF LANDSCAPE INSTALLATION, ACCOMPANIED BY AN EXECUTED ONE YEAR GUARANTEE OF PLANT

HOWARD COUNTY LANDSCAPE MANUAL AND THE MLF LANDSCAPE DESIGN CRITERIA.

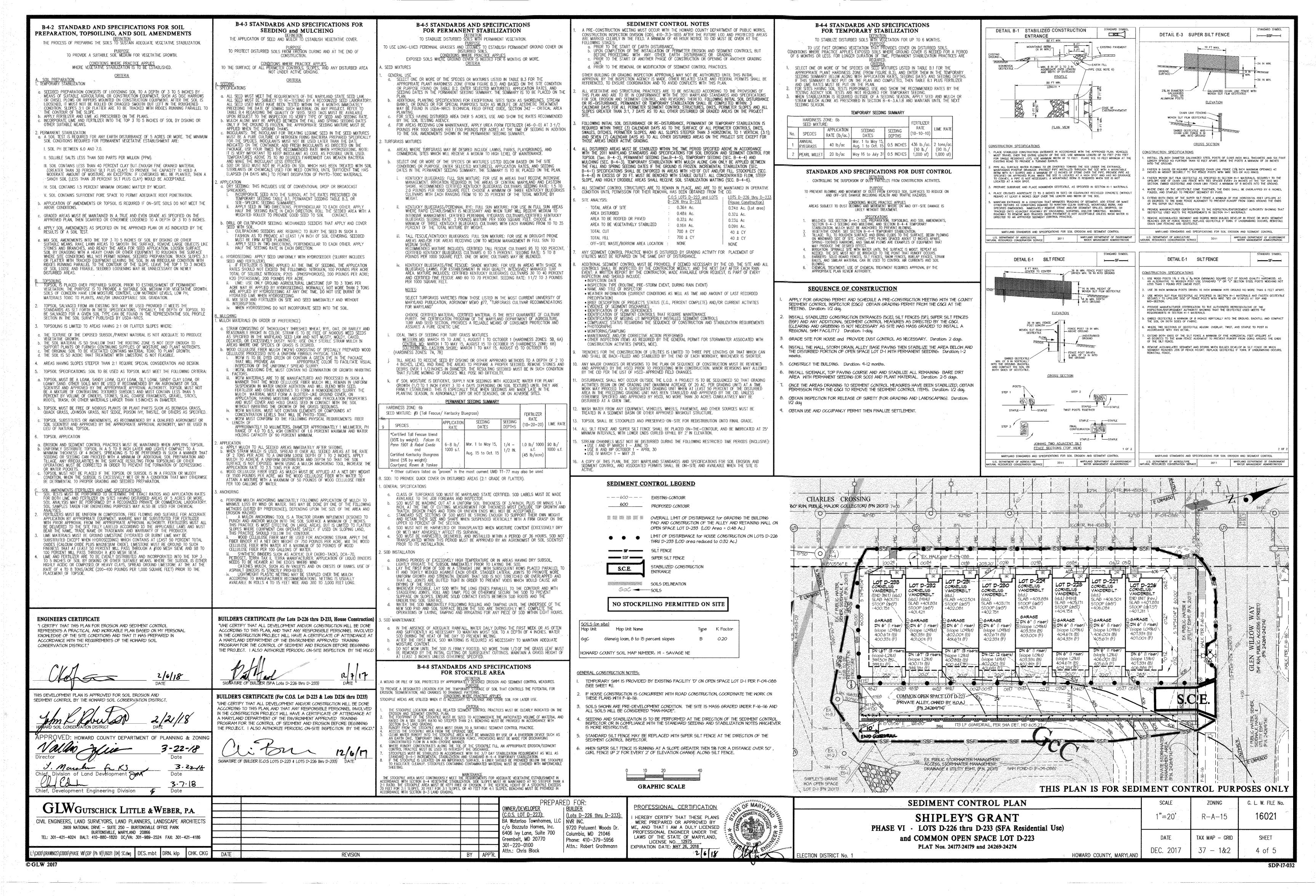
MATERIALS, WILL BE SUBMITTED TO THE DEPARTMENT OF PLANNING AND ZONING.

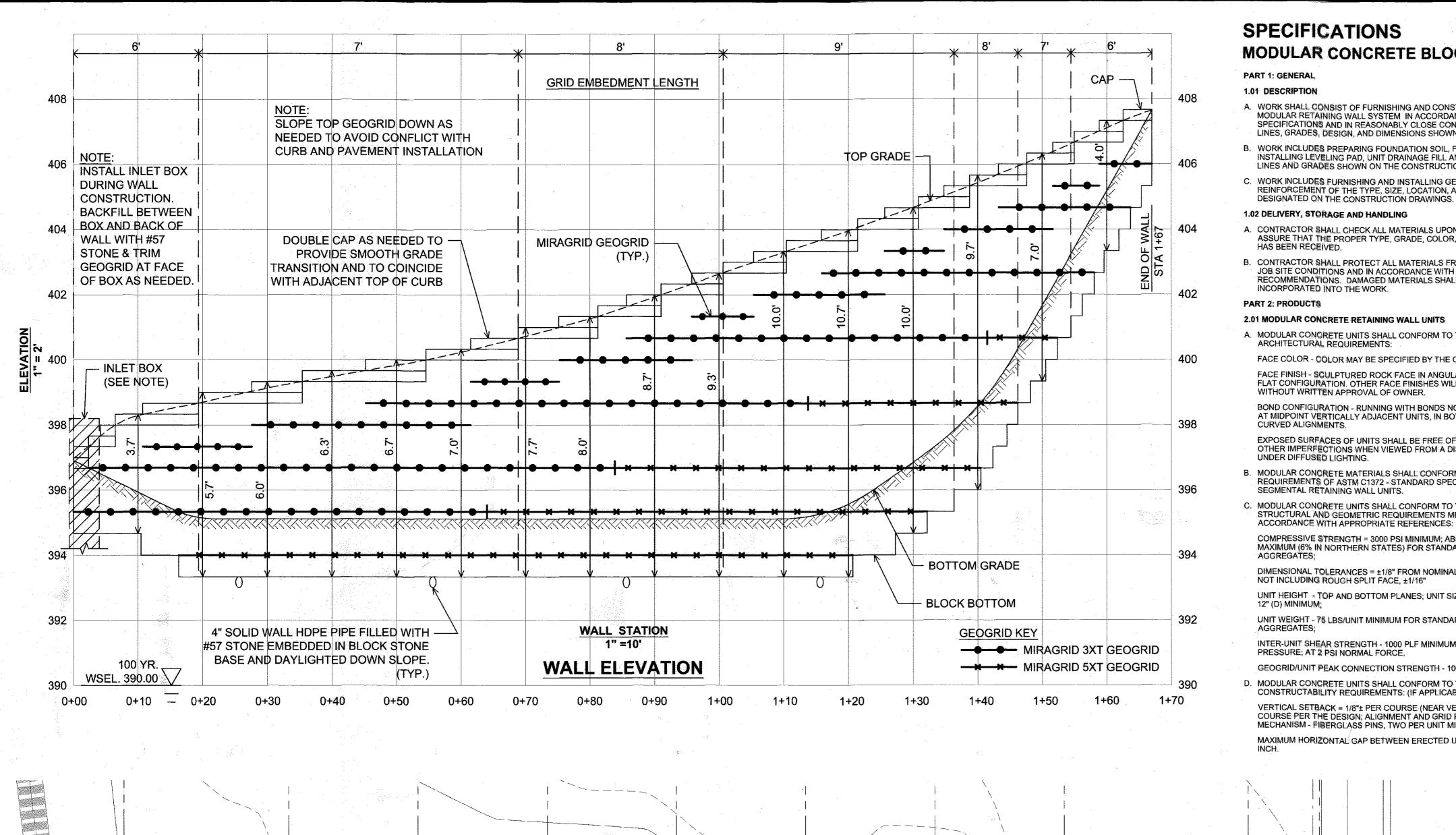
LD: HOWARD COUNTY DEPARTMENT OF PLANNING & ZONING

LANDSCAPE CERTIFICATE (For C.O.S. Lot D-223)

Chief, Development Engineering Division

SDP-17-032





REVISION

# **SPECIFICATIONS** MODULAR CONCRETE BLOCK RETAINING WALL

## PART 1: GENERAL

#### 1.01 DESCRIPTION

- A. WORK SHALL CONSIST OF FURNISHING AND CONSTRUCTION OF A MODULAR RETAINING WALL SYSTEM IN ACCORDANCE WITH THESE SPECIFICATIONS AND IN REASONABLY CLOSE CONFORMITY WITH THE LINES, GRADES, DESIGN, AND DIMENSIONS SHOWN ON THE PLANS.
- WORK INCLUDES PREPARING FOUNDATION SOIL, FURNISHING AND INSTALLING LEVELING PAD, UNIT DRAINAGE FILL AND BACKFILL TO THE LINES AND GRADES SHOWN ON THE CONSTRUCTION DRAWINGS.
- : WORK INCLUDES FURNISHING AND INSTALLING GEOGRID SOIL REINFORCEMENT OF THE TYPE, SIZE, LOCATION, AND LENGTHS

#### 1.02 DELIVERY, STORAGE AND HANDLING

- A. CONTRACTOR SHALL CHECK ALL MATERIALS UPON DELIVERY TO ASSURE THAT THE PROPER TYPE, GRADE, COLOR, AND CERTIFICATION HAS BEEN RECEIVED.
- B. CONTRACTOR SHALL PROTECT ALL MATERIALS FROM DAMAGE DUE TO JOB SITE CONDITIONS AND IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. DAMAGED MATERIALS SHALL NOT BE INCORPORATED INTO THE WORK.

#### PART 2: PRODUCTS

#### 2.01 MODULAR CONCRETE RETAINING WALL UNITS

- A. MODULAR CONCRETE UNITS SHALL CONFORM TO THE FOLLOWING ARCHITECTURAL REQUIREMENTS:
- FACE COLOR COLOR MAY BE SPECIFIED BY THE OWNER. FACE FINISH - SCULPTURED ROCK FACE IN ANGULAR TRI-PLANER OR FLAT CONFIGURATION. OTHER FACE FINISHES WILL NOT BE ALLOWED WITHOUT WRITTEN APPROVAL OF OWNER.
- BOND CONFIGURATION RUNNING WITH BONDS NOMINALLY LOCATED AT MIDPOINT VERTICALLY ADJACENT UNITS, IN BOTH STRAIGHT AND **CURVED ALIGNMENTS**
- EXPOSED SURFACES OF UNITS SHALL BE FREE OF CHIPS, CRACKS OR OTHER IMPERFECTIONS WHEN VIEWED FROM A DISTANCE OF 10 FEET UNDER DIFFUSED LIGHTING.
- MODULAR CONCRETE MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C1372 - STANDARD SPECIFICATIONS FOR SEGMENTAL RETAINING WALL UNITS.
- C. MODULAR CONCRETE UNITS SHALL CONFORM TO THE FOLLOWING STRUCTURAL AND GEOMETRIC REQUIREMENTS MEASURED IN ACCORDANCE WITH APPROPRIATE REFERENCES: COMPRESSIVE STRENGTH = 3000 PSI MINIMUM; ABSORPTION = 8%
- MAXIMUM (6% IN NORTHERN STATES) FOR STANDARD WEIGHT AGGREGATES: DIMENSIONAL TOLERANCES = ±1/8" FROM NOMINAL UNIT DIMENSIONS
- NOT INCLUDING ROUGH SPLIT FACE, ±1/16" UNIT HEIGHT - TOP AND BOTTOM PLANES; UNIT SIZE - 8" (H) x 18" (W) x 12" (D) MINIMUM:
- UNIT WEIGHT 75 LBS/UNIT MINIMUM FOR STANDARD WEIGHT AGGREGATES: INTER-UNIT SHEAR STRENGTH - 1000 PLF MINIMUM AT 2 PSI NORMAL
- PRESSURE; AT 2 PSI NORMAL FORCE. GEOGRID/UNIT PEAK CONNECTION STRENGTH - 1000 PLF MINIMUM
- D. MODULAR CONCRETE UNITS SHALL CONFORM TO THE FOLLOWING CONSTRUCTABILITY REQUIREMENTS: (IF APPLICABLE) VERTICAL SETBACK = 1/8"± PER COURSE (NEAR VERTICAL) OR 1"+ PER COURSE PER THE DESIGN; ALIGNMENT AND GRID POSITIONING MECHANISM - FIBERGLASS PINS, TWO PER UNIT MINIMUM:

ELECTION DISTRICT No. 1

MAXIMUM HORIZONTAL GAP BETWEEN ERECTED UNITS SHALL BE - 1/2

#### 2.02 SHEAR CONNECTORS

A. SHEAR CONNECTORS SHALL BE 1/2 INCH DIAMETER THERMOSET ISOPTHALIC POLYESTER RESIN-PROTRUDED FIBERGLASS REINFORCEMENT RODS OR EQUIVALENT TO PROVIDE CONNECTION BETWEEN VERTICALLY AND HORIZONTALLY ADJACENT UNITS. STRENGTH OF SHEAR CONNECTORS BETWEEN VERTICAL ADJACENT UNITS SHALL BE APPLICABLE OVER A DESIGN TEMPERATURE OF 10 DEGREES F TO + 100 DEGREES F. B. SHEAR CONNECTORS SHALL BE CAPABLE OF HOLDING THE GEOGRID IN THE PROPER DESIGN POSITION

#### DURING GRID PRE-TENSIONING AND BACKFILLING. 2.03 BASE LEVELING PAD MATERIAL

2.04 UNIT DRAINAGE FILL

- A. MATERIAL SHALL CONSIST OF A COMPACTED #57 CRUSHED STONE BASE AS SHOWN ON THE CONSTRUCTION DRAWINGS.
- A. UNIT DRAINAGE FILL SHALL CONSIST OF #57 CRUSHED STONE 2.05 REINFORCED BACKFILL
- A. REINFORCED BACKFILL SHALL BE TYPE SM, BE FREE OF DEBRIS AND MEET THE FOLLOWING GRADATION TESTED IN ACCORDANCE WITH ASTM D-422 AND MEET OTHER PROPERTIES SHOWN ON THE PLAN:

#### SIEVE SIZE **PERCENT PASSING** 2 INCH 100-75 OF GEOGRID ARE NOT PERMITTED. 3/4 INCH 100-75 NO. 40 NO. 200 0-35

- PLASTICITY INDEX (PI) <10 AND LIQUID LIMIT <35 PER ASTM D-4318.
- B. MATERIAL CAN BE SITE EXCAVATED SOILS WHERE THE ABOVE REQUIREMENTS CAN BE MET, UNSUITABLE SOILS FOR BACKFILL (HIGH PLASTIC CLAYS OR ORGANIC SOILS) SHALL NOT BE USED IN THE REINFORCED SOIL MASS.

#### 2.06 GEOGRID SOIL REINFORCEMENT

GEOSYNTHETIC REINFORCEMENT SHALL CONSIST OF GEOGRIDS MANUFACTURED SPECIFICALLY FOR SOIL REINFORCEMENT APPLICATIONS AND SHALL BE MANUFACTURED FROM HIGH TENACITY POLYESTER YARN.

#### 2.07 DRAINAGE PIPE

A. THE DRAINAGE PIPE SHALL BE PERFORATED CORRUGATED HDPE PIPE MANUFACTURED IN ACCORDANCE WITH ASTM D-1248.

#### PART 3 EXECUTION 3.01 EXCAVATION

A. CONTRACTOR SHALL EXCAVATE TO THE LINES AND GRADES SHOWN ON THE CONSTRUCTION DRAWINGS. OWNER'S REPRESENTATIVE SHALL BE RESPONSIBLE FOR INSPECTING AND APPROVING THE EXCAVATION PRIOR TO PLACEMENT OF LEVELING MATERIAL OR FILL SOILS.

#### 3.02 BASE LEVELING PAD

- A. LEVELING PAD MATERIAL SHALL BE PLACED TO THE LINES AND GRADES SHOWN ON THE CONSTRUCTION DRAWINGS. TO A MINIMUM THICKNESS OF 6 INCHES AND EXTEND LATERALLY A MINIMUM OF 6" IN FRONT AND BEHIND THE MODULAR WALL UNIT.
- B. LEVELING PAD SHALL BE PREPARED TO INSURE FULL CONTACT TO THE BASE SURFACE OF THE CONCRETE UNITS.

#### 3.03 MODULAR UNIT INSTALLATION

SHIPLEY'S GRANT

PHASE VI - LOTS D-226 thru D-233 (SFA Residential Use)

and COMMON OPEN SPACE LOT D-223

PLAT No. 24177-24179 and 24269-24274

- A. FIRST COURSE OF UNITS SHALL BE PLACED ON THE LEVELING PAD AT THE APPROPRIATE LINE AND GRADE. ALIGNMENT AND LEVEL SHALL BE CHECKED IN ALL DIRECTIONS AND INSURE THAT ALL UNITS ARE IN FULL CONTACT WITH THE BASE AND PROPERLY SEATED.
- PLACE THE FRONT OF UNITS SIDE-BY-SIDE. DO NOT LEAVE GAPS BETWEEN ADJACENT UNITS, LAYOUT OF CORNERS AND CURVES SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- C. INSTALL SHEAR/CONNECTING DEVICES PER MANUFACTURER'S

- RECOMMENDATIONS.
- D. PLACE AND COMPACT DRAINAGE FILL WITHIN AND BEHIND WALL UNITS. PLACE AND COMPACT BACKFILL SOIL BEHIND DRAINAGE FILL FOLLOW WALL ERECTION AND DRAINAGE FILL CLOSELY WITH STRUCTURE
- E. MAXIMUM STACKED VERTICAL HEIGHT OF WALL UNITS, PRIOR TO UNIT DRAINAGE FILL AND BACKFILL PLACEMENT AND COMPACTION, SHALL NOT EXCEED THREE COURSES.

#### 3.04 STRUCTURAL GEOGRID INSTALLATION

- A. GEOGRID SHALL BE ORIENTED WITH THE HIGHEST STRENGTH AXIS PERPENDICULAR TO THE WALL ALIGNMENT.
- B. GEOGRID REINFORCEMENT SHALL BE PLACED AT THE STRENGTHS, LENGTHS, AND ELEVATIONS SHOWN ON THE CONSTRUCTION DESIGN DRAWINGS OR AS DIRECTED BY THE ENGINEER.
- C. THE GEOGRID SHALL BE LAID HORIZONTALLY ON COMPACTED BACKFILL AND ATTACHED TO THE MODULAR WALL UNITS. PLACE THE NEXT COURSE OF MODULAR CONCRETE UNITS OVER THE GEOGRID. THE GEOGRID SHALL BE PULLED TAUT, AND ANCHORED PRIOR TO BACKFILL PLACEMENT ON THE GEOGRID.
- D. GEOGRID REINFORCEMENTS SHALL BE CONTINUOUS THROUGHOUT THEIR EMBEDMENT LENGTHS AND PLACED SIDE-BY-SIDE TO PROVIDE 100% COVERAGE AT EACH LEVEL. SPLICED CONNECTIONS BETWEEN SHORTER PIECES OF GEOGRID OR GAPS BETWEEN ADJACENT PIECES

#### 3.05 REINFORCED BACKFILL PLACEMENT

- A. REINFORCED BACKFILL SHALL BE PLACED, SPREAD, AND COMPACTED IN SUCH A MANNER THAT MINIMIZES THE DEVELOPMENT OF SLACK IN THE GEOGRID AND INSTALLATION DAMAGE
- B. REINFORCED BACKFILL SHALL BE PLACED AND COMPACTED IN LIFTS NOT TO EXCEED 6 INCHES WHERE HAND COMPACTION IS USED. OR 8-10 INCHES WHERE HEAVY COMPACTION EQUIPMENT IS USED. LIFT THICKNESS SHALL BE DECREASED TO ACHIEVE THE REQUIRED DENSITY
- C. REINFORCED BACKFILL SHALL BE COMPACTED TO 95% OF THE MAXIMUM DENSITY AS DETERMINED BY ASTM D698. THE MOISTURE CONTENT OF THE BACKFILL MATERIAL PRIOR TO AND DURING COMPACTION SHALL BE UNIFORMLY DISTRIBUTED THROUGHOUT EACH LAYER AND SHALL BE + 3% TO - 3% OF OPTIMUM.
- D. ONLY LIGHTWEIGHT HAND-OPERATED EQUIPMENT SHALL BE ALLOWED
- WITHIN 3 FEET FROM THE TAIL OF THE MODULAR CONCRETE UNIT. E. TRACKED CONSTRUCTION EQUIPMENT SHALL NOT BE OPERATED DIRECTLY UPON THE GEOGRID REINFORCEMENT. A MINIMUM FILL THICKNESS OF 6 INCHES IS REQUIRED PRIOR TO OPERATION OF TRACKED VEHICLES OVER THE GEOGRID. TRACKED VEHICLE TURNING

SHOULD BE KEPT TO A MINIMUM TO PREVENT TRACKS FROM

DISPLACING THE FILL AND DAMAGING THE GEOGRID.

- F. RUBBER TIRED EQUIPMENT MAY PASS OVER GEOGRID REINFORCEMENT AT SLOW SPEEDS, LESS THAN 10 MPH. SUDDEN BRAKING AND SHARP TURNING SHALL BE AVOIDED.
- G. AT THE END OF EACH DAY'S OPERATION, THE CONTRACTOR SHALL SLOPE THE LAST LIFT OF REINFORCED BACKFILL AWAY FROM THE WALL UNITS TO DIRECT RUNOFF AWAY FROM WALL FACE. THE CONTRACTOR SHALL NOT ALLOW SURFACE RUNOFF FROM ADJACENT AREAS TO ENTER THE WALL CONSTRUCTION SITE.

ALL-WEATHER ADHESIVE RECOMMENDED BY THE MANUFACTURER. 3.07 FIELD QUALITY CONTROL

A. CAP UNITS SHALL BE GLUED TO UNDERLYING UNITS WITH AN

A. THE OWNER SHALL ENGAGE INSPECTION AND TESTING SERVICES. INCLUDING INDEPENDENT LABORATORIES, TO PROVIDE QUALITY ASSURANCE AND TESTING SERVICES DURING CONSTRUCTION.

AS SHOWN

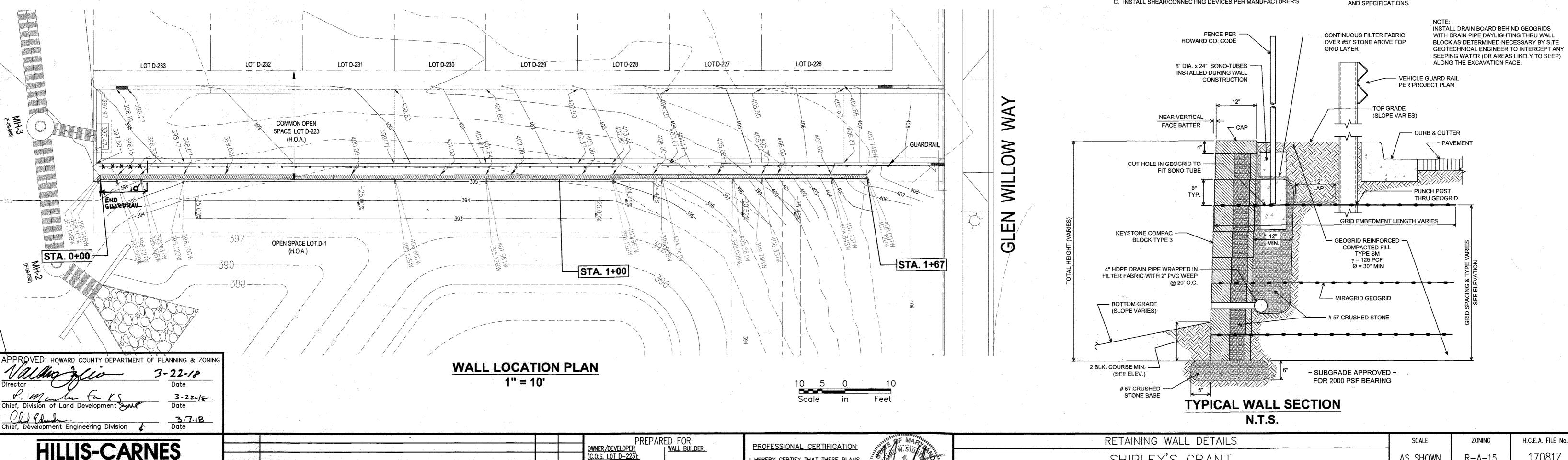
Dec. 2017

HOWARD COUNTY, MARYLAND

R-A-15

TAX MAP - GRID

B. AS A MINIMUM, QUALITY ASSURANCE TESTING SHOULD INCLUDE FOUNDATION SOIL INSPECTION, SOIL AND BACKFILL TESTING, VERIFICATION OF DESIGN PARAMETERS, AND OBSERVATION OF CONSTRUCTION FOR GENERAL COMPLIANCE WITH DESIGN DRAWINGS



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. 14434 EXPIRATION DATE: 05/13/19

C.O.S. LOT D-223)

A Waterloo Townhomes, LLC

3004 Fallston Road

Fallston, MD 21047

Phone: 410-557-8885

Attn.: Becky Schilling

c/o Bozzuto Homes, Inc.

6406 Ivy Lane, Suite 700

Greenbelt, MD 20770

301-220-0100

BY APP'R.

Attn.: Chris Block

**ENGINEERING ASSOCIATES** 

10975 Guilford Road, Suite A Annapolis Junction, Maryland

(410) 880-4788 WWW.HCEA.COM Fax: (410) 880-4098

(Viend will be Project Files) 2017 (1788) Signer: Great World LICSON 2015/198000 2016/17800 (2014-1244) DES. RWS DRN. AM CHK. RWS

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