

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	DEMOLITION PLAN
3	ENVIRONMENTAL CONCEPT PLAN
4	STORMWATER MANAGEMENT DETAILS
5	SCHEMATIC GRADING, SEDIMENT & EROSION CONTROL PLAN
6	STORMWATER DRAINAGE AREA MAP

ENVIRONMENTAL CONCEPT PLAN

WILSON VILLAGE

LOTS 1 THRU 4

(AGE RESTRICTED MULTI-PLEX)

ZONED: B-2

TAX MAP No. 7 GRID No. 6 PARCEL No. 478

GENERAL NOTES

- THE BEARINGS AND DISTANCES SHOWN ON THIS PLAN ARE BASED ON THE FIELD RUN MONUMENT BOUNDARY SURVEY PERFORMED ON SEPTEMBER 16, 2005 BY FISHER, COLLINS AND CARTER, INC.
- COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 0031 AND NO. 07CA.
- WATER AND SEWER IS PRIVATE.
- THIS AREA DESIGNATES PRIVATE SEWERAGE AREAS OF AT LEAST 10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND STATE DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWERAGE DISPOSAL IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THESE AREAS SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWERAGE AREAS. RECORDED OF A MODIFIED SEWERAGE AREAS SHALL NOT BE NECESSARY.
- SUBJECT PROPERTY IS ZONED B-2 PER THE 10/06/13 COMPREHENSIVE ZONING REGULATIONS.
- PROPERTY INFORMATION:
 - COMMUNITY: LISBON
 - TAX MAP NO.: 7
 - PARCEL NO.: 478
 - ZONING: B-2
 - ELECTION DISTRICT: FOURTH
 - GROSS AREA OF TRACT = 5.888 ACRES
 - NUMBER OF BUILDABLE LOTS: 4
 - NUMBER OF OPEN SPACE LOTS: 0
 - NUMBER OF BULK PARCELS: 0
 - AREA OF BUILDABLE LOTS: 5.088 ACRES
 - AREA OF OPEN SPACE LOTS: 0.00 ACRES
 - AREA OF BULK PARCELS: 0.00 ACRES
 - AREA OF PUBLIC ROADWAY TO BE DEDICATED: 0.00 ACRES
 - AREA OF FLOODPLAIN = 0.00 ACRES
 - AREA OF 25% OR GREATER SLOPES = 0.00 ACRES
 - NET AREA OF TRACT = 5.888 ACRES
 - THE PROPERTY ADDRESS IS 15950 OLD FREDERICK ROAD.
 - PLAT NUMBER: 3763 DEED: LIBER 8084 FOLIO 137.
 - PREVIOUS DPZ FILE NUMBERS: F-78-003, S0P-92-077, ECP-13-050, F-16-028 & S0P-14-021

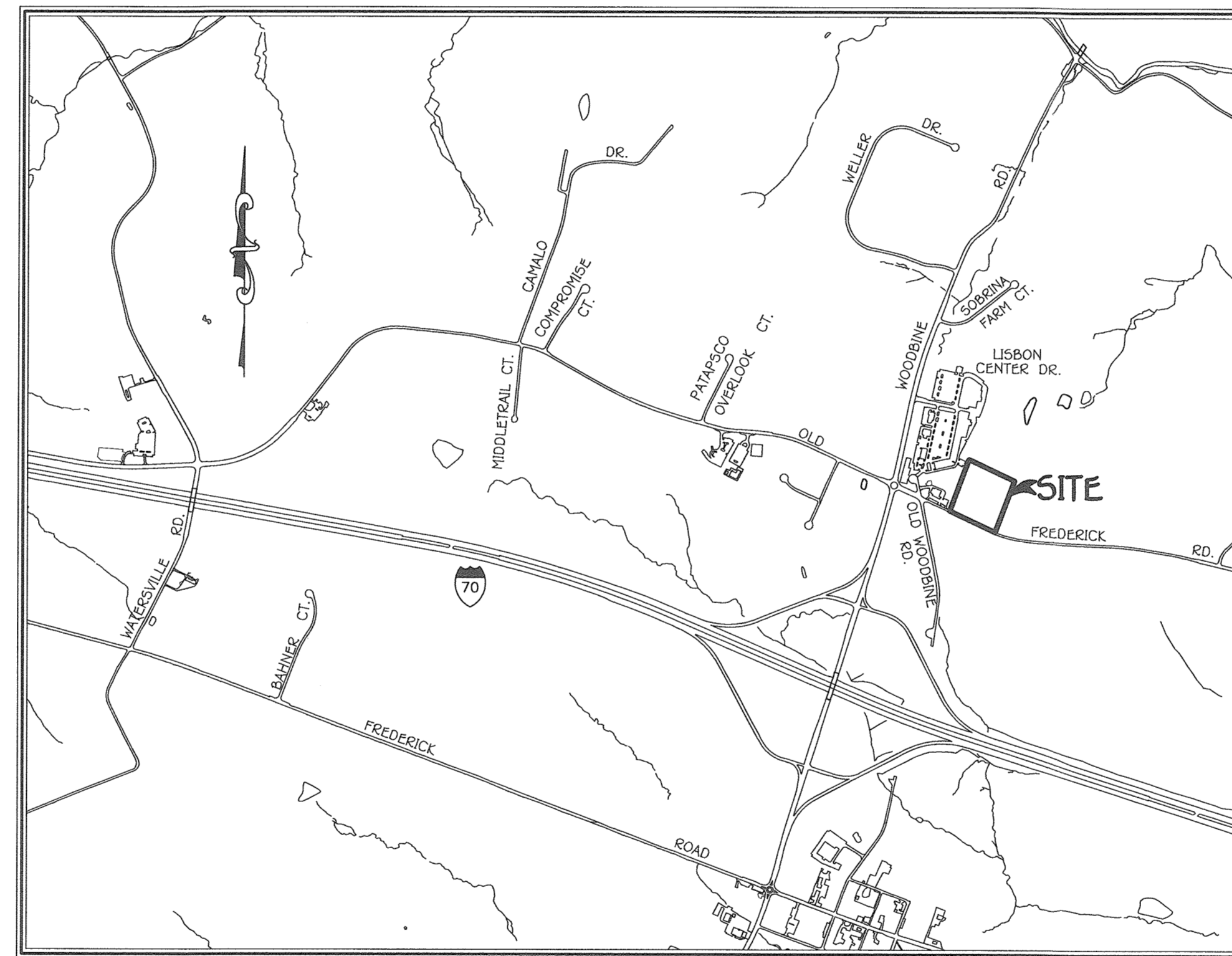
PARKING ANALYSIS

REQUIRED PARKING:	
12 UNITS X 2 SP/UNITS =	24 SPACES
GUEST PARKING 12 UNITS (0.3 SP/UNITS) =	3.6 SPACES
TOTAL REQUIRED	28 SPACES

PARKING PROVIDED:	
12 TOTAL UNITS*	
+PARKING LOT PARKING =	12 SPACES
+GARAGE AND DRIVEWAY PARKING =	16 SPACES
TOTAL PROVIDED	28 SPACES

CONDITIONAL USE AGE RESTRICTED DEVELOPMENT

- BULK REQUIREMENT**
- (A) MAXIMUM HEIGHT:
- APARTMENTS 40 FEET EXCEPT IN R-SA-B, R-A-15 AND R-APT 55 FEET
 - OTHER PRINCIPAL STRUCTURES 34 FEET
 - ACCESSORY STRUCTURES 15 FEET
- (B) MINIMUM STRUCTURE AND USE SETBACK:
- FROM PUBLIC STREET RIGHT-OF-WAY 30 FEET
 - FROM RESIDENTIAL LOTS IN RC, RR, R-ED, R-20, R-12 OR R-5C DISTRICTS: APARTMENTS 100 FEET SINGLE-FAMILY ATTACHED 75 FEET SINGLE-FAMILY DETACHED, SEMI-DETACHED, AND MULTI-PLEX 30 FEET
 - FROM OPEN SPACE, MULTI-FAMILY OR NON-RESIDENTIAL USES IN RC, RR, R-ED, R-20, R-12 OR R-5C 30 FEET
 - FROM ZONING DISTRICTS OTHER THAN RC, RR, R-ED, R-20, R-12 OR R-5C 20 FEET
- (C) MINIMUM STRUCTURE SETBACK FROM INTERIOR ROADWAY OR DRIVEWAY FOR UNITS WITH GARAGES 20 FEET
- (D) MINIMUM STRUCTURE SETBACK FROM LOT LINES FOR SINGLE-FAMILY DETACHED OR MULTI-PLEX UNITS:
- SIDE 10 FEET EXCEPT ZERO LOT LINE DWELLINGS 0 FEET A MINIMUM OF 10 FEET MUST BE PROVIDED BETWEEN STRUCTURES
 - REAR 20 FEET
- (E) MINIMUM DISTANCE BETWEEN SINGLE-FAMILY DETACHED AND/OR ATTACHED DWELLINGS:
- FOR UNITS ORIENTED FACE-TO-FACE 30 FEET
 - FOR UNITS ORIENTED SIDE-TO-SIDE 15 FEET
 - FOR UNITS ORIENTED FACE-TO-SIDE OR REAR-TO-SIDE 20 FEET
 - FOR UNITS ORIENTED REAR-TO-REAR 40 FEET
 - FOR UNITS ORIENTED FACE-TO-REAR 100 FEET



VICINITY MAP

SCALE: 1" = 1200'

REFER TO HOWARD CO. ADC MAP #9, B-4

SITE ANALYSIS DATA CHART

- TOTAL AREA OF THIS SUBMISSION = 5.888 AC.
- LIMIT OF DEVELOPABLE AREA = 5.888 AC.
- LIMIT OF DISTURBED AREA = 167,809 SQ. FT. OR 3.85 AC.
- PRESENT ZONING DESIGNATION = B-2 (PER 10/06/13 COMPREHENSIVE ZONING PLAN).
- PROPOSED USE: RESIDENTIAL SUBDIVISION (MULTI-PLEX UNITS)
- OPEN SPACE ON SITE: N/A
- RECREATIONAL AREA PROVIDED: 10,000 SQ. FT. (DOG PARK AREA)
- BUILDING COVERAGE OF SITE: 7,705 SQ. FT. OR 0.177 AC.
- PREVIOUS HOWARD COUNTY FILES: N/A
- TOTAL AREA OF FLOODPLAIN: 0.00 AC.
- TOTAL AREA OF SLOPES: 25% OR GREATER = 0.00 AC. 15% - 24.99% = 0.00 AC.
- NET TRACT AREA = 5.888 AC.
- TOTAL SITE AREA - FLOODPLAIN - STEEP SLOPES AREA = 5.888 AC.
- TOTAL AREA OF WETLANDS (INCLUDING BUFFER) = 0.00 AC.
- TOTAL AREA OF STREAMS (INCLUDING BUFFER) = 0.00 AC.
- TOTAL AREA OF FOREST = 0.989 AC.
- TOTAL GREEN OPEN AREA = 4.237 AC.
- TOTAL IMPERVIOUS AREA = 32,820 SQ. FT. OR 0.753 AC.
- AREA OF ERODIBLE SOILS = 0.00 AC.
- NUMBER OF UNITS PER MULTI-PLEX = 3 UNITS
- TOTAL NUMBER OF UNITS PER THIS PROJECT = 12 UNITS

SWM NARRATIVE:

THE PROPOSED SWM FACILITIES FOR THIS PROJECT WILL CONSIST OF MICRO BIO-RETENTION FACILITIES, DRY WELLS, AND NON-ROOFTOP DISCONNECTIONS. UTILIZING ALL OF THESE FACILITIES WILL ALLOW US TO PROVIDE THE REQUIRED Pe AND ES0V VOLUMES AND RUNOFF AMOUNTS TO MEET THE ENVIRONMENTAL SITE DESIGN TO THE MAXIMUM EXTENT POSSIBLE (ESD TO THE MEP) TO REFLECT A WOODED CONDITION FOR THIS SITE. THE SWM REPORT FOR THIS PROJECT CONTAINS A SUMMARY TABLE TO INDICATE THE VOLUMES PROVIDED TO THESE FACILITIES. THE TARGET Pe FOR THIS PROJECT IS 1.00 INCHES. THE PROVIDED AVERAGE Pe FOR THIS PROJECT IS 3.69". THE REQUIRED ES0V FOR THIS PROJECT IS 3,419 CU.FT. OF STORAGE. THE PROVIDED ES0V FOR THIS PROJECT IS 7,969 CU.FT.

DESIGN NARRATIVE:

THE NATURAL AREAS OF THIS PROJECT ARE BEING PRESERVED BY PRESERVATION PARCELS AND FOREST CONSERVATION EASEMENTS AND WILL REMAIN UNDEVELOPED. THESE AREAS WILL REMAIN UNDISTURBED EXCEPT FOR PLANTING FOR FOREST CONSERVATION OBLIGATION. THE EXISTING ON-SITE FOREST WILL BE PROTECTED BY FOREST CONSERVATION EASEMENTS. THERE ARE NO ERODIBLE SOILS LOCATED ON THIS PROJECT. THE TOTAL AREA OF THE PROJECT IS 5.888 AC. THE LIMITS OF DISTURBANCE AREA IS 5.85 AC. THE MAJORITY OF THIS SITE WILL REMAIN UNDEVELOPED AND PROVIDE 3.54 ACRES OF GREEN SPACE. THE PROPOSED IMPERVIOUS AREAS INCLUDE THE PRIVATE ROADWAYS, HOUSES AND DRIVEWAYS. THIS SUBDIVISION IS A 1 AC LOT SUBDIVISION. THE FOREST IS PROTECTED THRU THE FOREST CONSERVATION EASEMENT.

FOURTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND

APPROVED: DEPARTMENT OF PLANNING AND ZONING	
<i>Kurt Stalder</i> CHIEF, DIVISION OF LAND DEVELOPMENT	8-9-18 DATE
<i>Phil Edinger</i> CHIEF, DEVELOPMENT ENGINEERING DIVISION	8-20-18 DATE

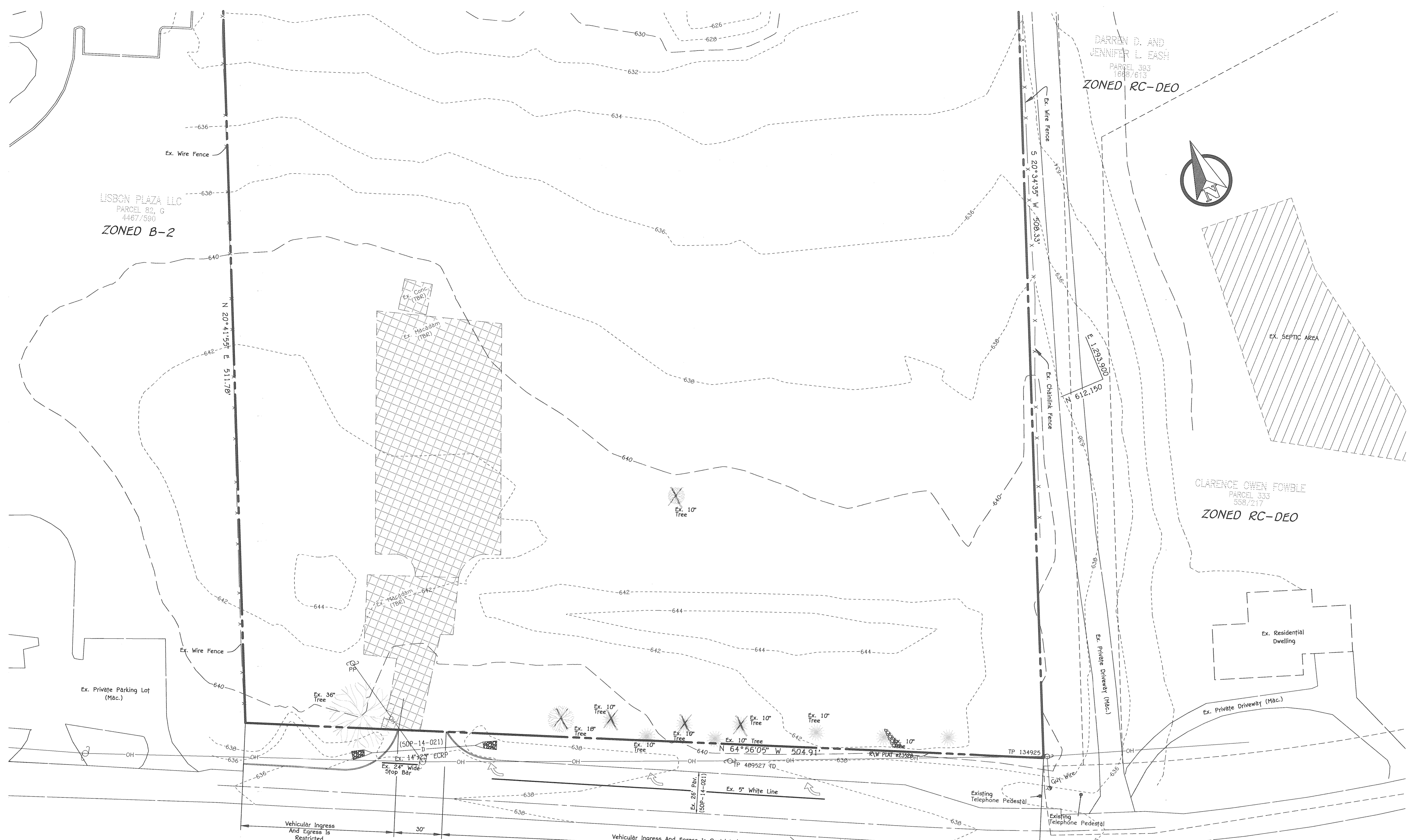
FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10272 BALDORRE NATIONAL PARK
ELLSWORTH CITY, MARYLAND 21043
(410) 461 - 2295

Owner
WOODBINE BRANTLEY, LLC
8310 FORREST STREET, SUITE 200
ELLCOTT CITY, MARYLAND 21043
(410-992-4600)

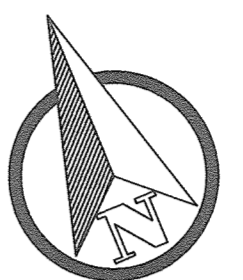


Aldo M. Vucelja, P.E.
7/27/18
I DISE
Professional Certification: I hereby certify that these documents were prepared or approved by me, and that I am a duly Licensed Professional Engineer under the laws of the State of Maryland, License No. 20748, Expiration Date 2-22-19.

WILSON VILLAGE
LOTS 1 THRU 4
(AGE RESTRICTED MULTI-PLEX)
ZONED: B-2
TAX MAP: #07 GRID: #06 PARCEL: #478
HOWARD COUNTY, MARYLAND
4TH ELECTION DISTRICT
DATE: JULY, 2018
SHEET 1 OF 6

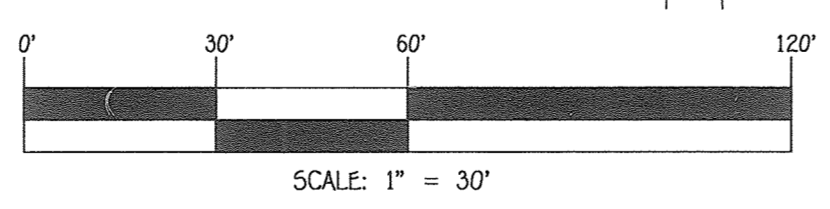


DARREN D. AND
JENNIFER L. EASH
PARCEL 393
188/813
ZONED RC-DEO



CLARENCE OWEN FOWBLE
PARCEL 333
568/217
ZONED RC-DEO

OLD FREDERICK ROAD (PUBLIC)
EXISTING PUBLIC RIGHT-OF-WAY VARIES
(MAJOR COLLECTOR)



APPROVED: DEPARTMENT OF PLANNING AND ZONING
[Signature] 8-9-18
CHIEF, DIVISION OF LAND DEVELOPMENT DATE
[Signature] 8-20-18
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

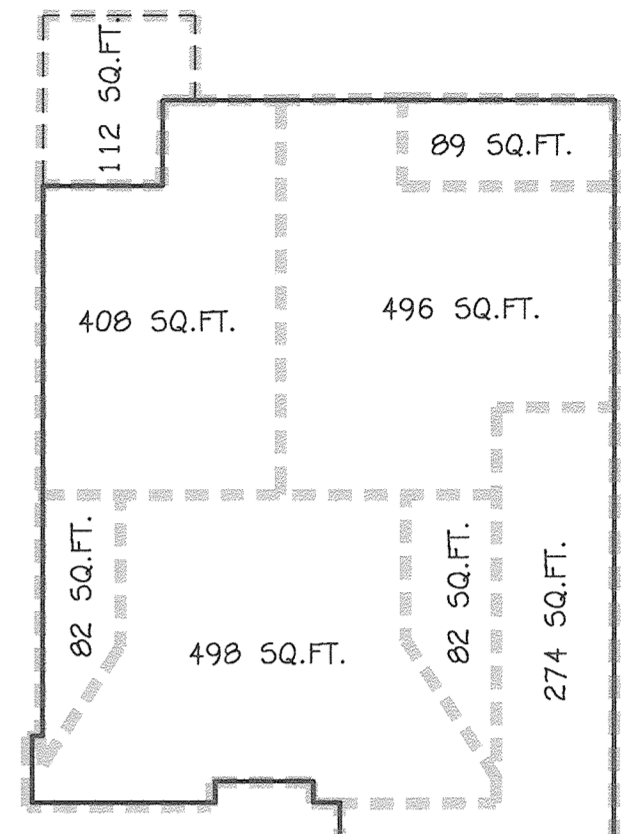
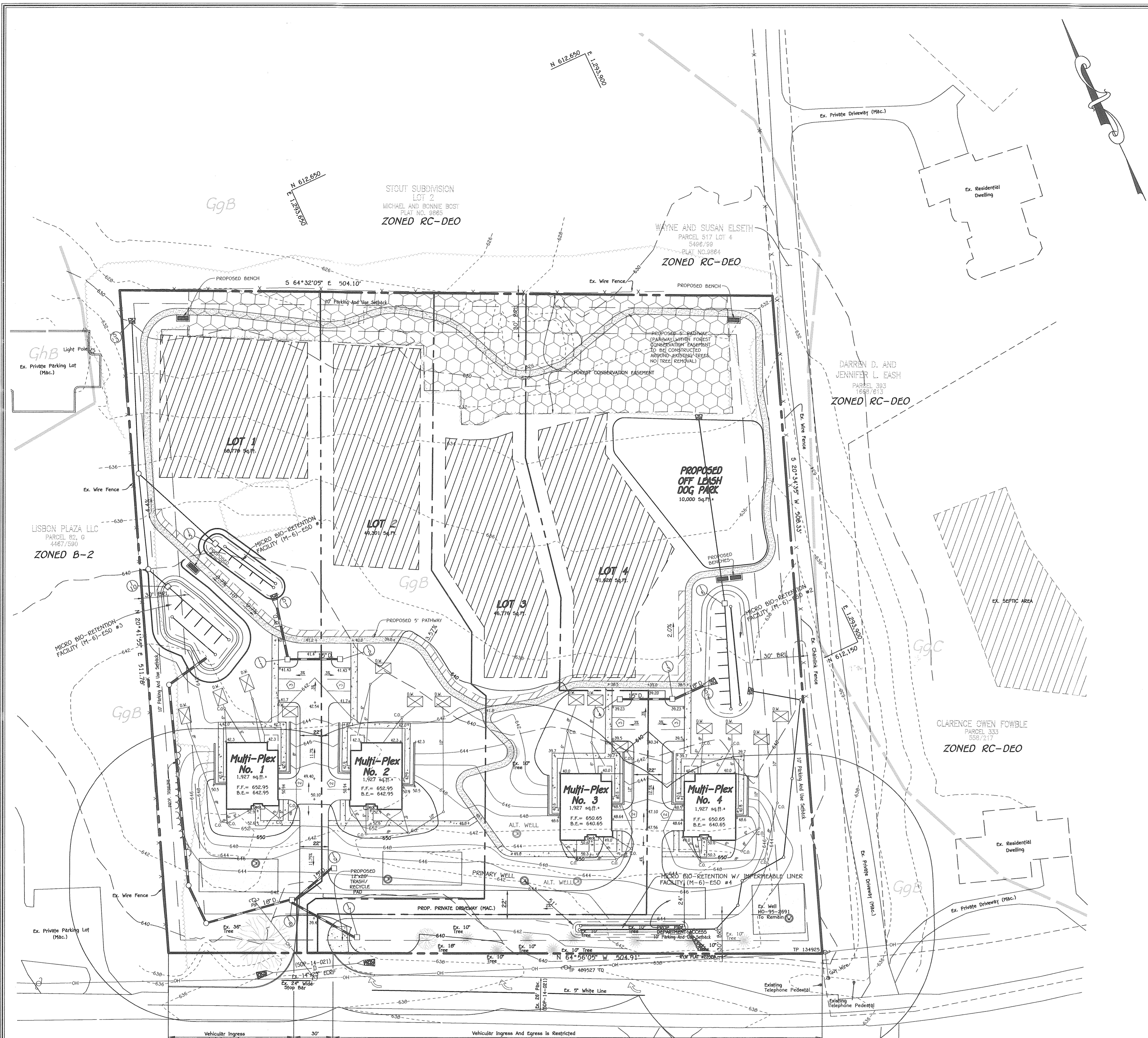
FISHER, COLLINS & CARTER, INC.
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
CENTRAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL PIKE
ELICOTT CITY, MARYLAND 21042
(410) 461-2993

Owner
WOODBINE BRANTLEY, LLC
8318 FORREST STREET, SUITE 200
ELICOTT CITY, MARYLAND 21043
(410-992-4600)



Aldo M. Vitucci, P.E.
Date: 7/27/19
Professional Certification: I 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. 20748, Expiration Date 2-22-19.

DEMOLITION PLAN
WILSON VILLAGE
LOTS 1 THRU 4
(AGE RESTRICTED MULTI-PLEX)
ZONED: B-2
TAX MAP: #07 GRID: #06 PARCEL: #478
HOWARD COUNTY, MARYLAND
4TH ELECTION DISTRICT
DATE: JULY, 2018
SHEET 2 OF 6



TYPICAL DRAINAGE PATTERN

LEGEND

- EXISTING 2' CONTOURS
- EXISTING 10' CONTOURS
- - - EXISTING TREE LINE
- GgB SOIL LINES AND TYPES
- GgC DENOTES 1500 Sq.Ft. WELL ZONE
- ||||| DENOTES SEWAGE DISPOSAL AREA
- DENOTES FAILED PERC
- DENOTES PASSED PERC
- DENOTES PROPOSED WELL
- ☼ DENOTES EXISTING TREES

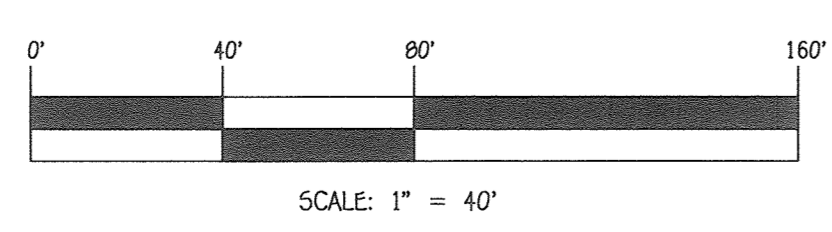
SOILS LEGEND

SOIL	NAME	Kw	CLASS
GgB	Glenelg loam, 3 to 8 percent slopes	0.20	B

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Division of Land Development
 Chief, Development Engineering Division

8-9-18
 DATE
 8-20-18
 DATE

OLD FREDERICK ROAD (PUBLIC)
 EXISTING PUBLIC RIGHT-OF-WAY VARIES
 (MAJOR COLLECTOR)



Owner
 WOODBINE BRANTLEY, LLC
 8318 FOREST STREET, SUITE 200
 ELLICOTT CITY, MARYLAND 21043
 (410-992-4600)



Aldo M. Vitucci, P.E.
 Date: 7/21/18
 "Professional Certification: I 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. 20748, Expiration Date 2-22-19."

ENVIRONMENTAL CONCEPT PLAN
WILSON VILLAGE
 LOTS 1 THRU 4
 (AGE RESTRICTED MULTI-PLEX)
 ZONED: B-2
 TAX MAP: #07 GRID: #06 PARCEL: #478
 HOWARD COUNTY, MARYLAND
 4TH ELECTION DISTRICT
 DATE: JULY, 2018
 SHEET 3 OF 6

Infiltration and Filter System Construction Specifications

Infiltration and filter systems either take advantage of existing permeable soils or create a permeable medium such as sand for VCI, and Re v. In some instances where permeability is great, these facilities may be used for Qp as well. The most common systems include infiltration trenches, infiltration basins, sand filters, and organic filters.

When properly planted, vegetation will thrive and enhance the functioning of these systems. For example, pre-treatment buffers will trap sediments that often are bound with phosphorus and metals. Vegetation planted in the facility will aid in nutrient uptake and water storage. Additionally, plant roots will provide aeration for stormwater to permeate soil for groundwater recharge. Finally, successful plantings provide aesthetic value and wildlife habitat making these facilities more desirable to the public.

- Design Considerations:**
- > Planting buffer strips of at least 20 feet will cause sediments to settle out before reaching the facility, thereby reducing the possibility of clogging.
 - > Determine areas that will be saturated with water and water table depth so that appropriate plants may be selected (hydrology will be similar to bioretention facilities, see Figure A.5 and Table A.4 for planting material guidance).
 - > Plants known to sand down deep taproots should be avoided in systems where filter fabric is used as part of facility design.
 - > Test soil conditions to determine if soil amendments are necessary.
 - > Filters shall be located so that access is possible for structure maintenance.
 - > Stabilize heavy flow areas with erosion control mats or sod.
 - > Temporary divert flows from seeded areas until vegetation is established.
 - > See Table A.5 for additional design considerations.

Bio-retention

Soil Bed Characteristics

The characteristics of the soil for the bioretention facility are perhaps as important as the facility location, size, and treatment volume. The soil must be permeable enough to allow runoff to filter through the media, while having characteristics suitable to promote and sustain a robust vegetative cover crop. In addition, much of the nutrient pollutant uptake (nitrogen and phosphorus) is accomplished through absorption and microbial activity within the soil profile. Therefore, soils must balance their chemical and physical properties to support biotic communities above and below ground.

The planting soil should be a sandy loam, loamy sand, loam (USDA), or a loam/sand mix (should be a minimum 25 to 60% sand, by volume). The clay content for these soils should be less than 25% by volume (Environmental Quality Resources (EQR), 1996; Engineering Technology Inc. and B&B&B&B, Inc. (ENR), 1993). Soils should fall within the SM, SC classifications of the Unified Soil Classification System (USCS). A permeability of at least 1.0 feet per day (0.27 ft/d) is required (a conservative value of 0.5 feet per day is used for design). The soil should be free of stones, clumps, roots or other woody material over 1" in diameter, brush or seeds from noxious weeds (e.g., Johnson Grass, Mugwort, Nutsedge, and Canada Thistle) or other noxious weeds as specified under CDPW 15.08.01.05.) should not be present in the soils. Placement of the planting soil should be in 12 to 18 lifts that are loosely compacted (tamped lightly with a backhoe bucket or traversed by dozer tracks). The specific characteristics are presented in Table A.3.

Table A.3 Planting Soil Characteristics

Parameter	Value
pH range	5.2 to 7.00
Organic matter	1.5 to 4.0% (by weight)
Magnesium	35 lbs. per acre, minimum
Phosphorus (phosphate - P205)	75 lbs. per acre, minimum
Potassium (potash - K2O)	85 lbs. per acre, minimum
Soluble salts	500 ppm
Clay	10 to 25 %
Silt	30 to 55 %
Sand	35 to 60%

Mulch Layer

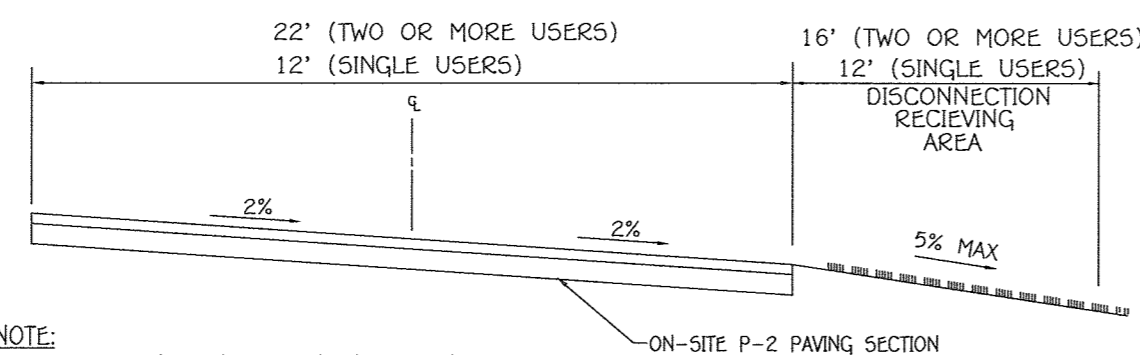
The mulch layer plays an important role in the performance of the bioretention system. The mulch layer helps maintain soil moisture and avoids surface sealing, which reduces permeability. Mulch helps prevent erosion, and provides a microenvironment suitable for soil biota at the mulch/soil interface. It also serves as a pre-treatment layer, trapping the finer sediments, which remain suspended after the primary pretreatment.

The mulch layer should be standard landscape style, single or double shredded hardwood mulch or chips. The mulch layer should be well aged (stockpiled or stored for at least 12 months), uniform in color, and free of other materials, such as weed seeds, soil, roots, etc. The mulch should be applied to a maximum depth of three inches. Grass clippings should not be used as a mulch material.

Planting Guidance

Plant material selection should be based on the goal of simulating a terrestrial forested community of native species. Bioretention simulates an upland-species ecosystem. The community should be dominated by trees, but have a distinct community of understory trees, shrubs and herbaceous materials. By creating a diverse, dense plant cover, a bioretention facility will be able to treat stormwater runoff and withstand urban stresses from insects, disease, drought, temperature, wind, and exposure.

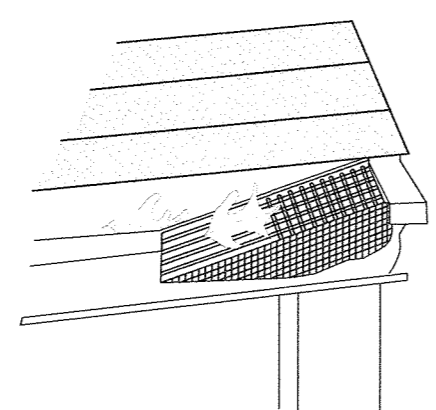
The proper selection and installation of plant materials is key to a successful system. There are essentially three zones within a bioretention facility (Figure A.5). The lowest elevation supports plant species adapted to wetting and fluctuating water levels. The middle elevation supports plants that like drier soil conditions, but can still tolerate occasional inundation by water. The outer edge is the highest elevation and generally supports plants adapted to drier conditions. A sample of appropriate plant materials for bioretention facilities are included in Table A.4. The layout of plant material should be flexible, but should follow the general principles described in Table A.5. The objective is to have a system, which resembles a random, natural plant layout, while maintaining optimal conditions for plant establishment and growth. For a more extensive bioretention plan, consult EPA, 1993 or Clepper and Schaefer, 1997.



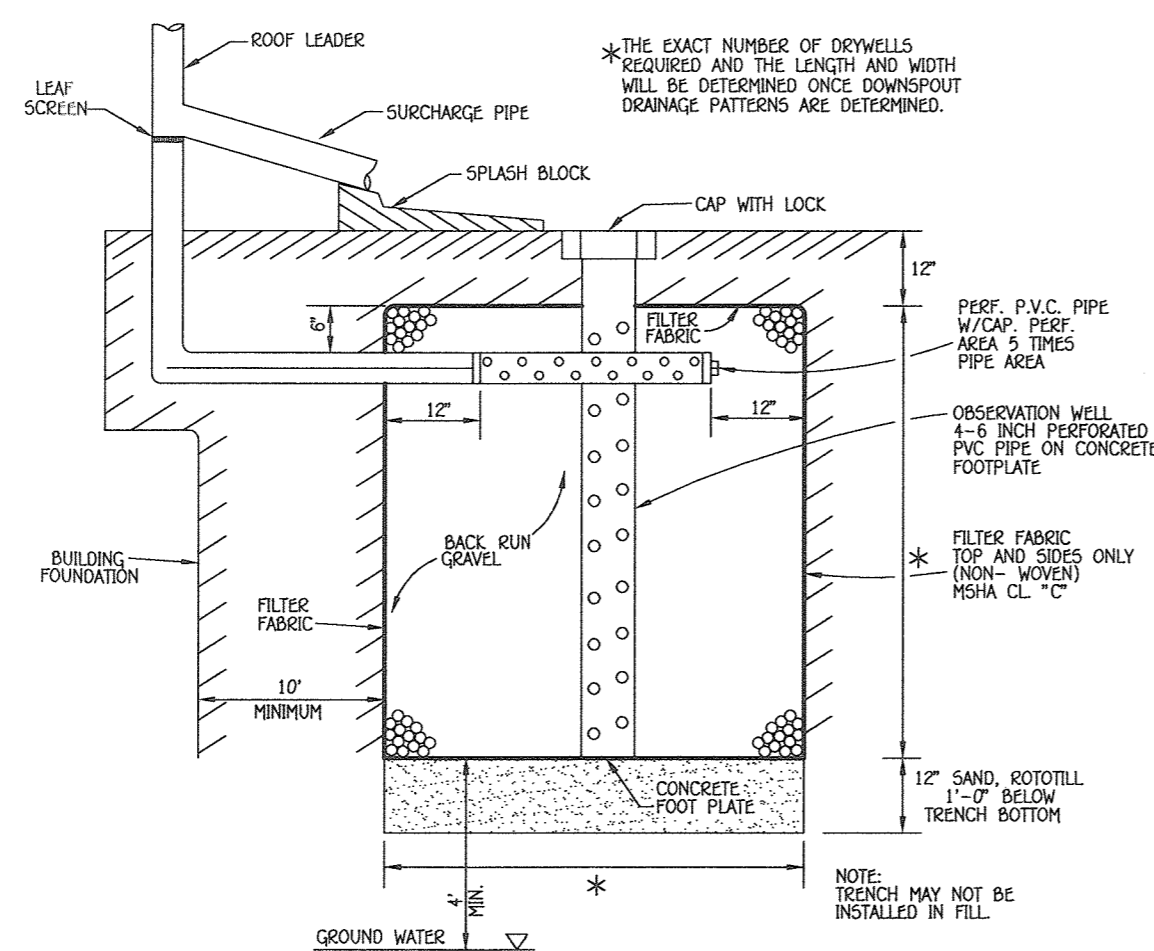
Typical Private Drive Cross Slope Section
NOT TO SCALE

Operation & Maintenance Schedule For Privately Owned And Maintained Disconnection of Nonrooftop Runoff (N-2)

- Maintenance Of Areas Receiving Disconnection Runoff Is Generally No Different Than That Required For Other Lawn Or Landscaped Areas. The Owner Shall Ensure The Areas Receiving Runoff Should Be Protected From Future Compaction Or Development Of Impervious Area. In Commercial Areas, Foot Traffic Should Be Discouraged As Well.

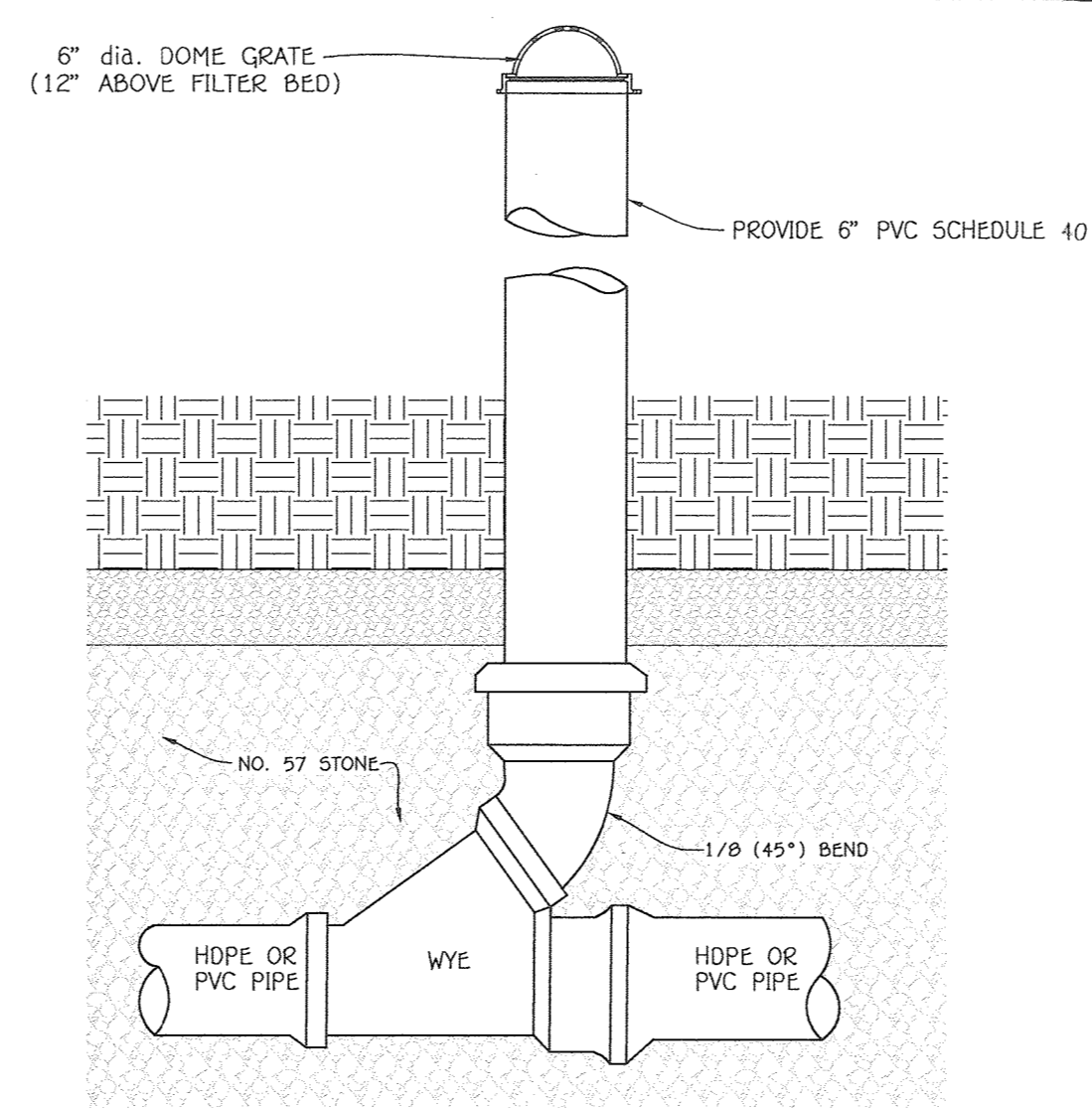


Gutter Drain Filter Detail
NOT TO SCALE

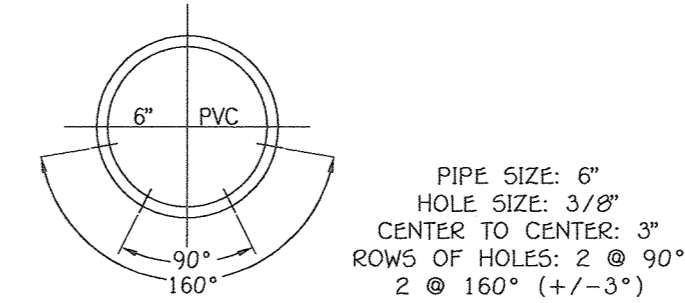


OPERATION AND MAINTENANCE SCHEDULE FOR DRYWELLS (M-5)

- THE OWNER SHALL INSPECT THE MONITORING WELLS AND STRUCTURES ON A QUARTERLY BASIS AND AFTER EVERY HEAVY STORM EVENT.
- THE OWNER SHALL RECORD THE WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS OVER A PERIOD OF SEVERAL DAYS TO INSURE TRENCH DRAINAGE.
- THE OWNER SHALL MAINTAIN A LOG BOOK TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
- WHEN THE FACILITY BECOMES CLOGGED SO THAT IT DOES NOT DRAIN DOWN WITHIN A SEVENTY TWO (72) HOUR TIME PERIOD, CORRECTIVE ACTION SHALL BE TAKEN.
- THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.
- ONCE THE PERFORMANCE CHARACTERISTICS OF THE INFILTRATION FACILITY 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.



Typical SWM Clean-out Detail
NO SCALE



SCH40 PVC PERFORATED UNDERDRAIN PIPE DETAIL FOR HORIZONTAL DRAIN PIPE
NO SCALE

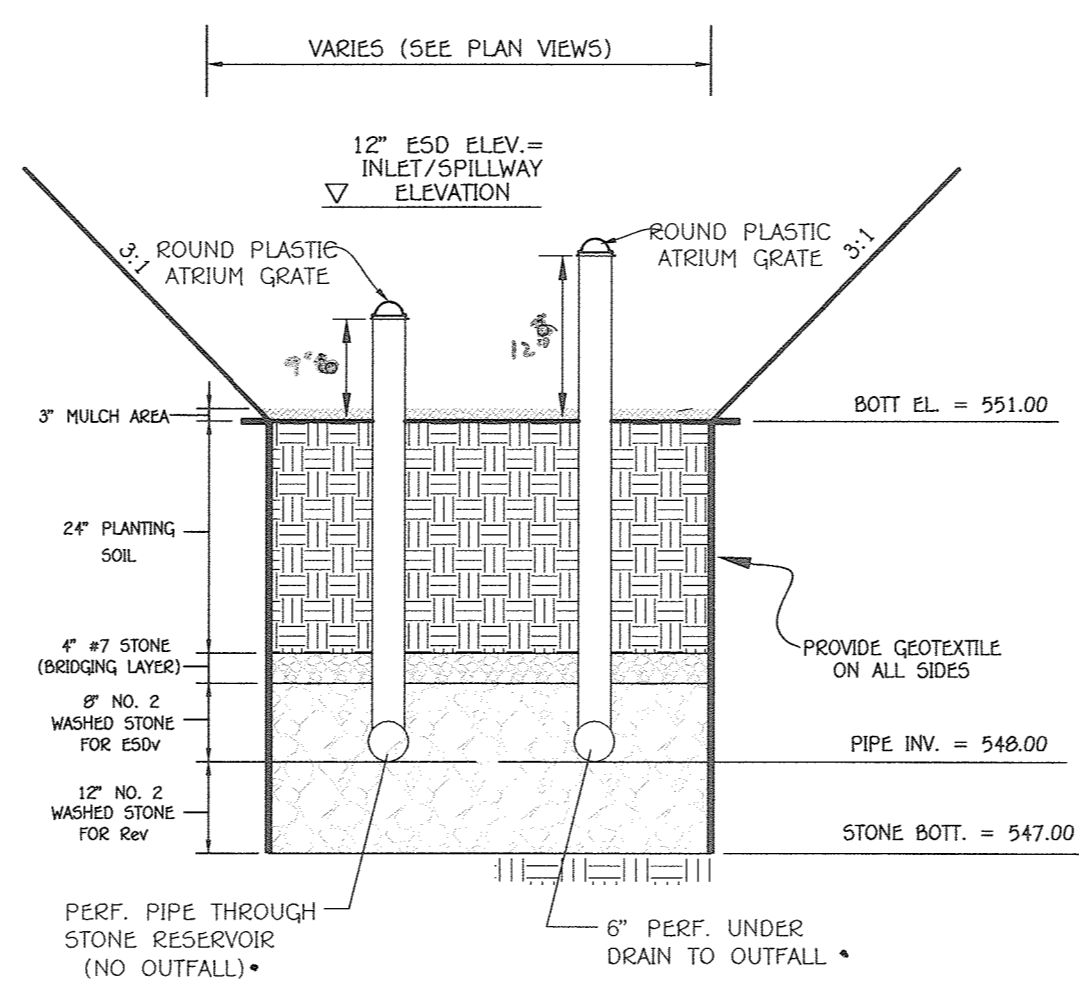
NOTES:
UNDERDRAIN PIPE SHALL BE 4" TO 6" DIAMETER, SLOTTED OR PERFORATED RIGID PLASTIC PIPE (ASTM F 758, TYPE P5 20 OR AASHTO-M-278) IN A GRAVEL LAYER. THE PREFERRED MATERIAL IS SLOTTED 4" RIGID PIPE (e.g., PVC OR HDPE).

PERFORATIONS SHALL BE 3/8" DIAMETER LOCATED 6" ON CENTER WITH A MINIMUM OF FOUR HOLES PER ROW. PIPE SHALL BE WRAPPED WITH A 1/4" (NO. 4 OR 4 x 4) GALVANIZED HARDWARE CLOTH.

GRAVEL LAYER SHALL BE (NO. 57 STONE PREFERRED) AT LEAST 3" THICK ABOVE AND BELOW THE UNDERDRAIN. THE MAIN COLLECTOR PIPE SHALL BE AT A MINIMUM 0.5% SLOPE.

A RIGID, NON PERFORATED OBSERVATION WELL MUST BE PROVIDED (ONE PER EVERY 1,000 SQ.FT.) TO PROVIDE A CLEANOUT PORT AND MONITOR PERFORMANCE OF THE FILTER.

A 4" LAYER OF PEA GRAVEL (1/8" TO 3/8" STONE) SHALL BE LOCATED BETWEEN THE FILTER MEDIA AND UNDERDRAIN TO PREVENT MIGRATION OF FINES INTO THE UNDERDRAIN. THIS LAYER MAY BE CONSIDERED PART OF THE FILTER BED WHEN BED THICKNESS EXCEEDS 24".



BIO-RETENTION SECTION (F-6)

Operation and Maintenance Schedule For Privately Owned And Maintained Bio-Retention Areas (M-6)

- The HOA shall maintain the plant material, mulch layer and soil layer annually. Maintenance of mulch and soil is limited to correcting areas of erosion or wash out. Any mulch replacement shall be done in the spring. Plant material shall be checked for disease and insect infestation and maintenance will address dead material and pruning. Acceptable replacement plant material is limited to the following: 2000 Maryland stormwater design manual volume II, table A-4.1 and 2.
- The HOA shall perform a plant in the spring and in the fall each year. During the inspection, the owner shall remove dead and diseased vegetation considered beyond treatment, replace dead plant material with acceptable replacement plant material. Treat diseased trees and shrubs and replace all deficient stakes and wires.
- The HOA shall inspect the mulch each spring. The mulch shall be replaced every two to three years. The previous mulch layer shall be removed before the new layer is applied.
- The HOA shall correct soil erosion on an as needed basis, with a minimum of once per month and after each heavy storm.

SECTION NUMBER	ROAD AND STREET CLASSIFICATION	CALIFORNIA BEARING RATIO (CBR)						
		PAVEMENT MATERIAL (INCHES)			MIN HMA WITH GAB			
P-2	PARKING DRIVE ASILES: RESIDENTIAL AND NON-RESIDENTIAL WITH NO MORE THAN 10 HEAVY TRUCKS PER DAY LOCAL ROADS: ACCESS PLACE, ACCESS STREET CUL-DE-SACS: RESIDENTIAL	SUPERPAVE ASPHALT MIX FINAL SURFACE 9.5 MM, PG 64-22S, LEVEL 1 (SEAL)	1.5	1.5	1.5	1.5	1.5	
		SUPERPAVE ASPHALT MIX INTERMEDIATE SURFACE 9.5 MM, PG 64-22S, LEVEL 1 (SEAL)	1.0	1.0	1.0	1.0	1.0	
		SUPERPAVE ASPHALT MIX BASE 19.0 MM, PG 64-22S, LEVEL 1 (SEAL)	2.0	2.0	2.0	3.5	2.0	2.0
		GRADED AGGREGATE BASE (GAB)	8.0	4.0	3.0	4.0	4.0	4.0

APPROVED: DEPARTMENT OF PLANNING AND ZONING
Karl LaLonde 8-9-18
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE
Phil Edwards 8-20-18
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

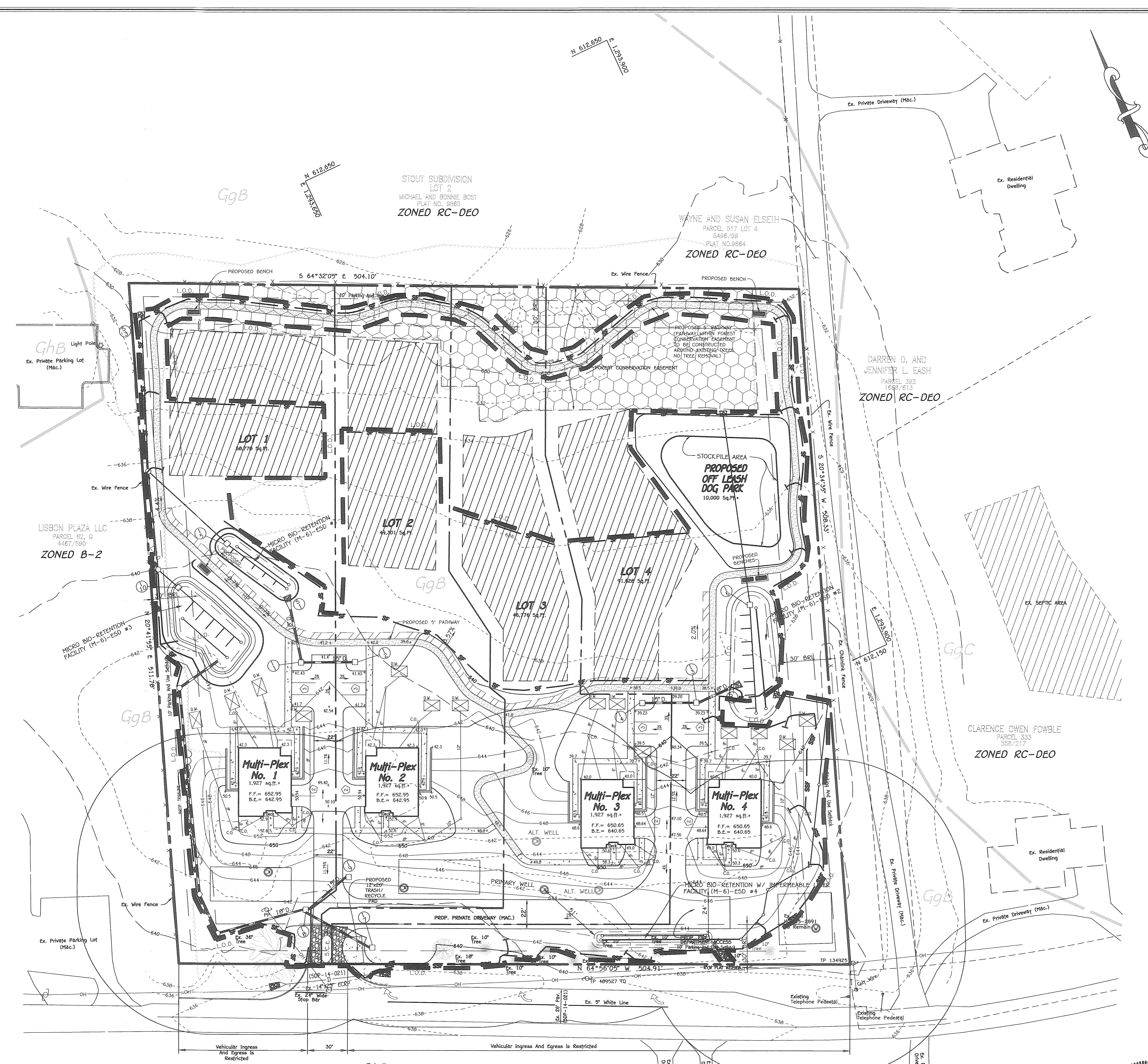
FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENAL SQUARE OFFICE PARK - 10272 MULTNOMAH NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21042
 (410) 461-2255

Owner
 WOODBINE BRANTLEY, LLC
 8318 FORREST STREET, SUITE 200
 ELLICOTT CITY, MARYLAND 21043
 (410)-992-4600



"Professional Certification: I 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. 20740, Expiration Date 2-22-19."

STORMWATER MANAGEMENT DETAILS
WILSON VILLAGE
 LOTS 1 THRU 4
 (AGE RESTRICTED MULTI-PLEX)
 ZONED: B-2
 TAX MAP: #07 GRID: #06 PARCEL: #478
 HOWARD COUNTY, MARYLAND
 4TH ELECTION DISTRICT
 DATE: JULY, 2018
 SHEET 4 OF 6



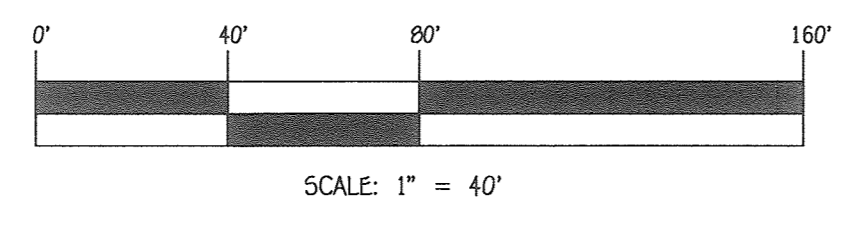
- LEGEND**
- EXISTING 2' CONTOURS
 - EXISTING 10' CONTOURS
 - - - EXISTING TREE LINE
 - SOIL LINES AND TYPES
 - DENOTES 1500 Sq.Ft. WELL ZONE
 - ▨ DENOTES SEWAGE DISPOSAL AREA
 - DENOTES FAILED PERC
 - DENOTES PASSED PERC
 - DENOTES PROPOSED WELL
 - DENOTES EXISTING TREES

- SEDIMENT CONTROL LEGEND**
- SUPER-SILT FENCE
 - SILT FENCE
 - STABILIZED CONSTRUCTION ENTRANCE
 - S.I.P. STANDARD INLET PROTECTION INLET TYPE 'A' or 'B'
 - L.O.D. LIMIT OF DISTURBANCE
 - R.P.S. REMOVABLE PUMPING STATION
 - ▨ F.B. FILTER BAG
 - TYPE A-2 EARTH DIKE

APPROVED: DEPARTMENT OF PLANNING AND ZONING

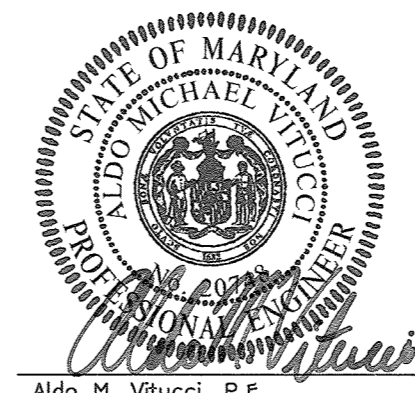
Ventura 8-9-18
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

Ed 8-20-18
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE



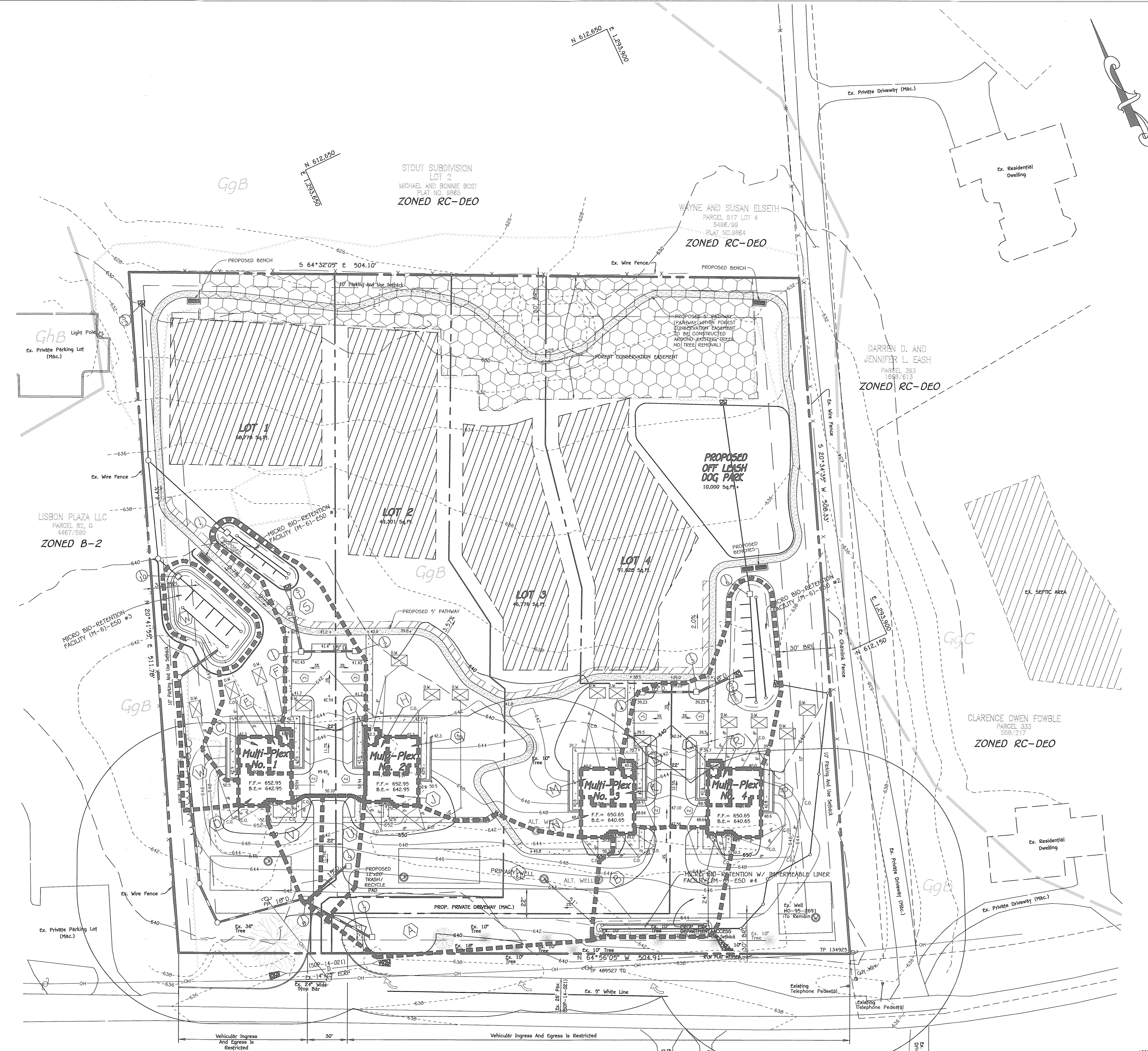
FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 GAITHERSBURG CITY, MARYLAND 20878
 (410) 461-2895

Owner
 WOODBINE BRANTLEY, LLC
 8310 FOREST STREET, SUITE 200
 ELLICOTT CITY, MARYLAND 21043
 (410) 992-4600



Aldo M. Vitucci, P.E. 7/2/18
 "Professional Certification: I 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. 20748, Expiration Date 2-22-19."

SCHMATIC GRADING, SEDIMENT & EROSION CONTROL PLAN
WILSON VILLAGE
 LOTS 1 THRU 4
 (AGE RESTRICTED MULTI-PLEX)
 ZONED: B-2
 TAX MAP: #07 GRID: #06 PARCEL: #478
 HOWARD COUNTY, MARYLAND
 4TH ELECTION DISTRICT
 DATE: JULY, 2018
 SHEET 5 OF 6

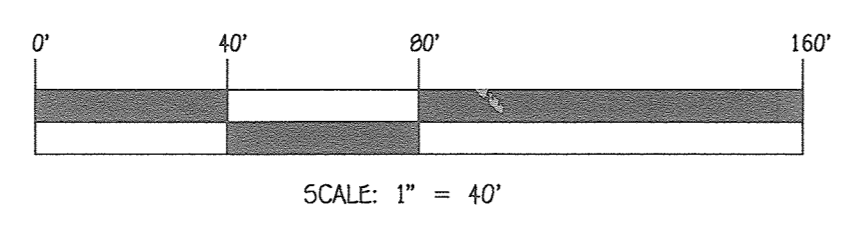


SWM DRAINAGE AREA SUMMARY TABLE			
DRAINAGE AREA	AREA AC. ±	Nomenclature	Remarks
B	0.175	M-6	MICRO BIO-RETENTION #4
C	0.0229	M-5	DRY WELL #1
D	0.0229	M-5	DRY WELLS #2 & #3
E & F	0.0229	M-5	DRY WELL #4
G	0.0229	M-5	DRY WELL #5
H & I	0.0229	M-5	DRY WELL #6
J	0.0229	M-5	DRY WELL #7
K & L	0.0229	M-5	DRY WELL #8
M	0.0229	M-5	DRY WELL #9
N	0.0229	M-5	DRY WELL #10
O	0.0459	M-5	DRY WELL #11
P	0.0229	M-5	DRY WELL #12
Q & R	0.0229	M-5	DRY WELL #13
S	0.24	M-6	MICRO BIO-RETENTION #50#1
T	0.492	M-6	MICRO BIO-RETENTION #50#2
W	0.466	M-6	MICRO BIO-RETENTION #3

- LEGEND**
- EXISTING 2' CONTOURS
 - EXISTING 10' CONTOURS
 - EXISTING TREE LINE
 - GgB SOIL LINES AND TYPES
 - DENOTES 1500 Sq.Ft. WELL ZONE
 - ▨ DENOTES FAILED PERC
 - DENOTES PASSED PERC
 - ⊙ DENOTES PROPOSED WELL
 - ⊙ DENOTES EXISTING TREES

- SEDIMENT CONTROL LEGEND**
- SUPER-SILT FENCE
 - SILT FENCE
 - ▨ STABILIZED CONSTRUCTION ENTRANCE
 - S.I.P. STANDARD INLET PROTECTION INLET TYPE ('A' or 'B')
 - L.O.D. LIMIT OF DISTURBANCE
 - ⊙ R.P.S. REMOVABLE PUMPING STATION
 - ▨ F.B. FILTER BAG
 - TYPE A-2 EARTH DIKE
 - DRAINAGE AREA

APPROVED: DEPARTMENT OF PLANNING AND ZONING
 Chief, Division of Land Development: *Vest Sledzinski* 8/9/18
 Chief, Development Engineering Division: *Chad Edmister* 8-20-18



FISHER, COLLINS & CARTER, INC.
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE
 ELLICOTT CITY, MARYLAND 21042
 (410) 461-2995

Owner
 WOODBINE BRANTLEY, LLC
 8318 FOREST STREET, SUITE 200
 ELLICOTT CITY, MARYLAND 21043
 (410) 992-4600



Aldo M. Vitucci, P.E.
 Date: 7/21/18
 "Professional Certification: I 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. 20748, Expiration Date 2-22-19."

STORM WATER MANAGEMENT DRAINAGE AREA MAP
WILSON VILLAGE
 LOTS 1 THRU 4
 (AGE RESTRICTED MULTI-PLEX)
 ZONED: B-2
 TAX MAP: #07 GRID: #06 PARCEL: #47B
 HOWARD COUNTY, MARYLAND
 4TH ELECTION DISTRICT
 DATE: JULY, 2018
 SHEET 6 OF 6