

SHEET INDEX table with columns SHEET NO. and DESCRIPTION. Rows include 1 TITLE SHEET, 2 EXISTING CONDITIONS AND DEMOLITION PLAN, 3 PRELIMINARY EQUIVALENT SKETCH PLAN AND PRELIMINARY LANDSCAPE PLAN, 4 ROAD PROFILE SHEET, 5 PRELIMINARY GRADING, SEDIMENT AND EROSION CONTROL PLAN AND SOILS MAP, 6 STORMWATER DRAINAGE AREA MAP, 7 STORMWATER MANAGEMENT NOTES AND DETAILS, 8 SIGHT DISTANCE PROFILE SHEET.

STREET SIGN CHART table with columns STREET NAME, STATION, OFFSET, POSTED SIGN, SIGN CODE. Row: WILLOWOOD COURT, 0+45, 16' L, STOP, R1-1.

BOUNDARY COORDINATE DATA TABLE with columns Number, Northing, Easting. Rows 204-200.

BOUNDARY CURVE DATA TABLE with columns Curve, Radius, Arc Length, Delta, Tangent, Bearing & Dist. Row C1.

BOUNDARY COORDINATE DATA TABLE with columns Number, Northing, Easting. Rows 204-200.

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BOUNDARY CURVE DATA TABLE with columns Curve, Radius, Arc Length, Delta, Tangent, Bearing & Dist. Row C1.

PRELIMINARY EQUIVALENT SKETCH PLAN

EDEN BROOK

(AGE-RESTRICTED ADULT HOUSING)

LOTS 1 THRU 24 AND OPEN SPACE LOTS 25 THRU 31

R-12 (RESIDENTIAL: SINGLE DISTRICT)

TAX MAP No. 42 GRID No. 7

PARCEL NO. 269

SIXTH ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

LEGEND table with columns SYMBOL and DESCRIPTION. Includes symbols for existing contours, proposed contours, spot elevations, soils lines, tree lines, existing trees, fences, paving, and proposed paving.

GENERAL NOTES

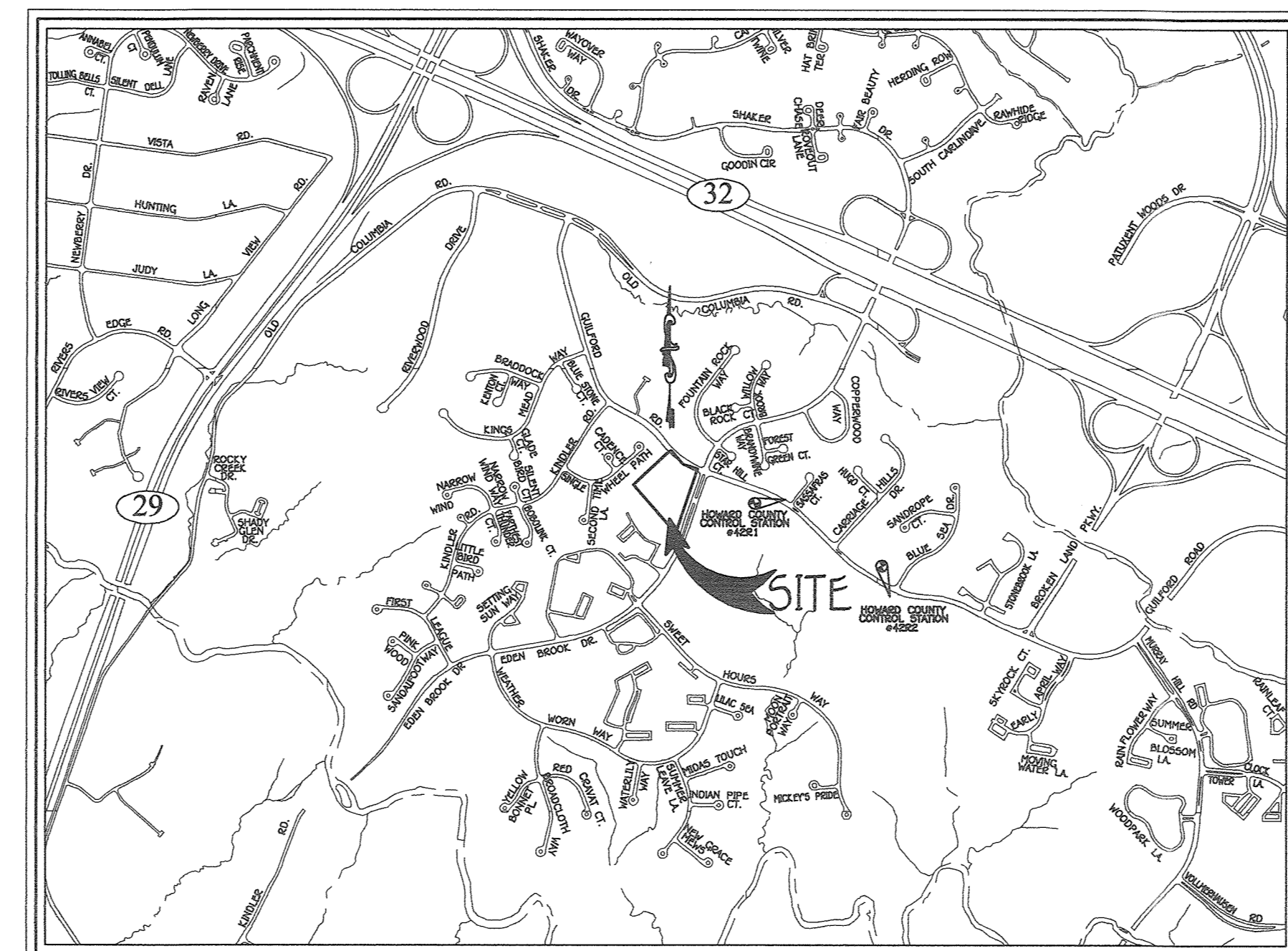
- 1. SUBJECT PROPERTY ZONED R-12 PER 10/06/13 COMPREHENSIVE ZONING PLAN.
- 2. THIS SUBDIVISION PLAN IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE 2013 ZONING REGULATIONS, DEVELOPMENT OR CONSTRUCTION ON THESE LOTS OR PARCELS MUST COMPLY WITH SETBACKS AND BUFFER REGULATIONS IN EFFECT AT THE TIME OF SUBMISSION OF A SITE DEVELOPMENT PLAN.
- 3. SITE ANALYSIS:
  - a. GROSS TRACT ACREAGE = 4.96 AC +/-
  - b. LIMIT OF DISTURBANCE = 4.67 AC +/-
  - c. FLOODPLAIN AREA = 0 AC
  - d. STEEP SLOPES AREA = 0 AC
  - e. NET TRACT AREA = 4.96 AC
- 4. PROPERTY DEED REFERENCE: LIBER 1366 AT FOLD 025
- 5. MODERATE INCOME HOUSING UNITS REQUIRED = 3 MHU (24 UNITS x 10% = 2.4 MHU)
- 6. EXISTING TOPOGRAPHIC INFORMATION SHOWN TAKEN FROM A FIELD RUN TOPOGRAPHIC SURVEY WITH (MAXIMUM TWO FOOT) CONTOUR INTERVALS PERFORMED ON OR ABOUT MAY, 2017 BY FISHER, COLLINS & CARTER, INC.
- 7. BOUNDARY INFORMATION IS BASED ON A SURVEY PERFORMED ON OR ABOUT MAY, 2017 BY FISHER, COLLINS & CARTER, INC.
- 8. COORDINATES BASED ON NAD83 MARYLAND COORDINATE SYSTEM AS PROJECTED BY HOWARD COUNTY GEODETIC CONTROL STATIONS NO. 4281 AND NO. 4282:
  - HOWARD COUNTY MONUMENT NO. 4281 N 546,820.227 FT E 1,351,171.628 FT ELEV. 375.806'
  - HOWARD COUNTY MONUMENT NO. 4282 N 546,820.227 FT E 1,352,119.601 FT ELEV. 331.466'
- 9. THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT AND PUBLIC WATER AND SEWER SHALL BE UTILIZED WITHIN THIS DEVELOPMENT.
  - a. PUBLIC SEWER FRONTAGE PROVIDED BY CONTRACT NO. 24-1334-D.
  - b. PUBLIC WATER SERVICE PROVIDED BY CONTRACT NO. 44-1578-D.
- 10. THE TRAFFIC STUDY DATED JUNE, 2017 FOR THIS PROJECT WAS PREPARED BY THE MARS GROUP.
- 11. STORMWATER MANAGEMENT WILL BE PROVIDED IN ACCORDANCE WITH CHAPTER 5 OF THE MARYLAND DEPARTMENT OF ENVIRONMENT STORM WATER DESIGN MANUAL, VOLUMES I & II, REVISED 2009. WE ARE PROVIDING STORM WATER MANAGEMENT BY THE USE OF (A-2) PERMEABLE PAVING, TEN (10) BOWLS, THREE (3) MICRO-BIORETENTION FACILITIES AND TWO (2) BIO-RETENTION FACILITIES TO MEET AND EXCEED THE REQUIRED 600 VOLUME QUANTITY MANAGEMENT IS BEING PROVIDED.
- 12. FOR FLAG OR PIPESTEM LOTS, REFUSE COLLECTION, SNOW REMOVAL AND ROAD MAINTENANCE ARE PROVIDED TO THE JUNCTION OF THE FLAG OR PIPESTEM AND THE ROAD R/W LINE AND NOT ONTO THE PIPESTEM LOT OR SIDEWALK.
- 13. NO CEMETERIES ARE LOCATED ON-SITE BASED ON THE HOWARD COUNTY CEMETERY INVENTORY MAP.
- 14. R.S.L. DENOTES BUILDING RESTRICTION LINE.
- 15. FOREST STAND DELINEATION AND A WETLAND REPORT DATED 5/25/17 WERE PREPARED BY ECO-SCIENCE PROFESSIONALS INC. AND HAVE BEEN PROVIDED.
- 16. DRIVEWAYS SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO ENSURE SAFE ACCESS FOR FIRE AND EMERGENCY VEHICLES PER THE FOLLOWING (MINIMUM) REQUIREMENTS:
  - a. WIDTH - 12 FEET (16 FEET SERVING MORE THAN ONE RESIDENCE)
  - b. SURFACE - SIX (6) INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING.
  - c. GEOMETRY - MAXIMUM 10% GRADE, MAXIMUM 10% GRADE CHANGE AND MINIMUM OF 45 TURNING RADIUS.
- 17. THE GEOTECHNICAL REPORT FOR THIS PROJECT WAS PREPARED BY HILLIS CARNES, DATED FEBRUARY 18, 2019, AND WAS APPROVED ON MAY 6, 2019.
- 18. THIS PROJECT RECEIVED A POSITIVE REVIEW FROM THE HISTORIC PRESERVATION COMMISSION ON DECEMBER 7, 2017 AND MADE ADVISORY RECOMMENDATIONS TO ENHANCE WILLOWOOD AS A DEVELOPMENT FOCAL POINT AND RECOMMENDED PETITIONERS RETAIN HISTORIC SMOKE HOUSE.
- 19. THERE IS AN HISTORIC STRUCTURE WITHIN THE LIMITS OF THIS SUBDIVISION WHICH IS DESIGNATED AS HO-267 WILLOWOOD IN THE MARYLAND INVENTORY OF HISTORIC PROPERTIES - HOWARD COUNTY. THIS STRUCTURE AND AN ASSOCIATED SMOKEHOUSE ARE TO REMAIN. ALL OTHER ACCESSORY STRUCTURES ON SITE SHALL BE RAZED.
- 20. A PRE-SUBMISSION COMMUNITY MEETING WAS HELD ON MARCH 24, 2017 AT NEW HOPE LUTHERAN CHURCH, 6975 GUILFORD ROAD, GLENLEIGH, MD 21046 FOR THIS PROJECT.
- 21. THERE ARE NO WETLANDS, STREAMS, 100 YEAR FLOODPLAIN OR STEEP SLOPES WITH A CONTIGUOUS AREA GREATER THAN 20,000 SQUARE FEET LOCATED ON THIS PROPERTY. THERE ARE NO WETLANDS ON-SITE THAT WILL BE DISTURBED OR THAT WILL REQUIRE 401 AND 404 WETLANDS PERMITS FROM THE STATE OF MARYLAND.
- 22. FOREST CONSERVATION REQUIREMENTS OF SECTION 16.1250 OF THE HOWARD COUNTY CODE AND FOREST CONSERVATION ACT WILL BE FULFILLED BY A FEE-IN-LIEU PAYMENT AT THE FINAL PLAN STAGE OF THIS PROJECT.
- 23. SITE IS NOT ADJACENT TO A SCENIC ROAD.
- 24. ALL LOT/PARCEL AREAS ARE MORE OR LESS.
- 25. DISTANCES SHOWN ARE BASED ON SURFACE MEASUREMENT AND NOT REDUCED TO NAD '83 GRID.
- 26. THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS WAIVES HAVE BEEN APPROVED.
- 27. THE SWM FACILITIES LOCATED ON H.O.A. OPEN SPACE WILL BE OWNED AND MAINTAINED BY THE HOMEOWNERS ASSOCIATION. ANY SWM FACILITY LOCATED ON A LOT WILL BE OWNED AND MAINTAINED BY THE OWNER OF THAT PARTICULAR LOT.
- 28. THE LANDSCAPING TABULATION UNDER THIS PLAN IS PRELIMINARY. FINAL LANDSCAPING WILL BE PROVIDED UNDER THE FINAL SUBDIVISION PLAN IN ACCORDANCE WITH SECTION 16.120(C) OF THE HOWARD COUNTY CODE AND LANDSCAPE MANUAL.
- 29. AN ADDRESS RANGE SIGN SHALL BE PROVIDED FOR LOTS 6-8 AND 11-16 AT THE INTERSECTION OF WILLOWOOD COURT AND THE LOTS ASSOCIATED USE-B-COMMON DRIVE. THE PRIVATE RANGE OF ADDRESS SIGNS SHALL BE FABRICATED AND INSTALLED BY HOWARD COUNTY BUREAU OF HIGHWAYS AT THE DEVELOPER'S/OWNER'S EXPENSE. CONTACT HOWARD COUNTY TRAFFIC DIVISION AT 410-313-2430 FOR DETAILS AND COST ESTIMATE.
- 30. ARTICLES OF INCORPORATION FOR THE EDEN BROOK HOMEOWNERS ASSOCIATION, INC. WILL BE FILED WITH THE STATE DEPARTMENT OF ASSESSMENTS AND TAXATION PRIOR TO RECORDATION OF THE FINAL PLAN.
- 31. TRAFFIC CONTROL DEVICES:
  - (a) THE R1-1 (STOP) SIGN AND THE STREET NAME SIGN (SNS) ASSEMBLY FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE BASE PAVING IS COMPLETED.
  - (b) THE TRAFFIC CONTROL DEVICE LOCATIONS SHOWN ON THE PLAN ARE APPROXIMATE AND MUST BE FIELD APPROVED BY HOWARD COUNTY TRAFFIC DIVISION (410-313-2430) PRIOR TO THE INSTALLATION OF ANY OF THE TRAFFIC CONTROL DEVICES.
  - (c) ALL TRAFFIC CONTROL DEVICES AND THEIR LOCATIONS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
  - (d) ALL SIGN POSTS USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED (QUICK PUNCH), SQUARE TUBE POST (1 1/2" DIA) INSERTED INTO A 2-1/2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLUVE (1 1/2" GAUGE), 3" LONG. THE ANCHOR SHALL NOT EXTEND MORE THAN TWO QUICK PUNCH HOLES ABOVE GROUND LEVEL. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON TOP OF EACH POST.
- 32. A NOISE STUDY IS NOT REQUIRED BECAUSE THE PROJECT DOES NOT FALL WITHIN THE GUIDELINES OF DESIGN MANUAL VOLUME III, ROADS AND BRIDGES, SECTION 2.2, F. 2.
- 33. OPEN SPACE LOTS 25-31 WILL BE OWNED BY THE EDEN BROOK HOMEOWNERS ASSOCIATION, INC.
- 34. THIS PROJECT RECEIVED AN ENDORSEMENT FROM THE DIRECTOR OF PLANNING AND ZONING ON OCTOBER 17, 2017 IN RESPONSE TO A DESIGN ADVISORY MEETING HELD ON AUGUST 9, 2017.
- 35. THIS PLAN IS SUBJECT TO DEPARTMENT OF PLANNING AND ZONING CASE BA-17-030C FOR A CONDITIONAL USE TO CONSTRUCT A 24-UNIT AGE-RESTRICTED ADULT HOUSING GENERAL (R-12 RESIDENTIAL SINGLE) ZONING DISTRICT PROVIDED HOWEVER THAT:
  - 35.1. THE CONDITIONAL USE SHALL BE CONDUCTED IN CONFORMANCE WITH AND SHALL APPLY ONLY TO THE PROPOSED AGE-RESTRICTED ADULT HOUSING DEVELOPMENT DESCRIBED IN THE PETITION AND DEPicted ON THE REVISED CONDITIONAL USE PLAN (EXHIBIT 2) AND NOT TO ANY NEW STRUCTURES OR USES ON THE SITE OR ANY ADDITIONAL TRIGGERS.
  - 35.2. PETITIONER SHALL RETAIN THE SMOKEHOUSE AND PUNCH BLOCK LOTS 23 AND 24 FURTHER FROM THE ROAD TO OPEN THE VIEW FROM THE ROAD TO WILLOWOOD.
  - 35.3. THE DWELLING DESIGN APPROVED ON SEPTEMBER 11, 2017 TOWNHOUSE ELEVATION PRESENTED TO DAD SHOWING COTTAGE-LIKE TOWNHOUSES AND SUBMITTED WITH THE PETITION.
  - 35.4. THE GARAGE SHALL BE RELOCATED WEST OF THE AREA INDICATED BY THE OCTAGONAL SHAPE WHERE THE CUR (EXHIBIT 3) NOTES APPEAR TO BE A W/ RESTRICTION POOL IN THE GENERAL AREA OF AN EXISTING GARAGE PROPOSED TO BE RAZED. PETITIONER SHALL CONSULT WITH DPT STAFF/ INCLUDING PARTICULARLY, HISTORIC PRESERVATION STAFF/ ABOUT ITS ORIENTATION TO MAXIMIZE THE VIEW FROM THE GARAGE TOWARD WILLOWOOD.
  - 35.5. THE GARAGE SHALL BE ACCESSIBLE TO STAFFS WITH MOBILITY OR FUNCTIONAL LIMITATIONS THROUGH A NO-STEP DESIGN AND SHALL HAVE PERMANENT SEATING AREAS, AS WELL AS SUFFICIENT AREA FOR SEVERAL PERSONS WITH MOBILITY OR FUNCTIONAL LIMITATIONS TO ACCOMMODATE ANY WALKING ASSISTANCE EQUIPMENT.
  - 35.6. ALL ROUTES BETWEEN PARKING AREAS, SIDEWALKS, DWELLING UNITS/ AND COMMON AREAS/ INCLUDING THE PROPOSED PATHWAYS/ SHALL BE ADA COMPLIANT.
  - 35.7. PETITIONER SHALL EXTEND AND TIE IN THE PROPOSED ON-SITE PATHWAY TO THE OFF-SITE COLUMBIA ASSOCIATION PATHWAY/SIDEWALK SYSTEM AND MORE WITH THE ASSOCIATION AND THE COUNTY TO BUILD A CROSSWALK FROM THE PATHWAY BETWEEN UNITS 10 AND 11 OVER EDEN BROOK DRIVE TO THE VILLAGE CENTER. PETITIONER SHALL OBTAIN ALL COLUMBIA ASSOCIATION APPROVALS, INCLUDING ALL NECESSARY EASEMENTS, ALL REQUIRED COLUMBIA ASSOCIATION APPROVALS, INCLUDING EASEMENTS, SHALL BE INCORPORATED INTO AND SHOWN ON THE SITE DEVELOPMENT PLAN.
  - 35.8. THE DESIGN SHALL BE ACCESSIBLE FOR MAKING ALL NECESSARY IMPROVEMENTS/ MODIFICATIONS TO THOSE PORTIONS OF THE COLUMBIA ASSOCIATION PATHWAY/SIDEWALK SYSTEM TO MEET CURRENT COUNTY AND ADA STANDARDS, AS INDICATED BY THE AGENCY SHOWN ON THE CUR REPRODUCED ON PG. 17 OF THIS DECISION AND ORDER.
  - 35.9. PETITIONER SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.
  - 35.10. PETITIONER SHALL OBTAIN ALL REQUIRED PERMITS.
  - 35.11. PETITIONER SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS.

SITE ANALYSIS DATA CHART

- 1. PROPERTY ZONED: R-12 PER 10/06/13.
- 2. PROPOSED CONDITIONAL USE: AGE RESTRICTED (BA-17-030C)
- 3. GROSS TRACT ACREAGE - 4.96 AC +/-
- 4. LIMIT OF DISTURBANCE - 4.67 AC +/-
- 5. FLOODPLAIN AREA = 0 AC
- 6. STEEP SLOPES AREA = 0 AC
- 7. NET TRACT AREA = 4.96 AC +/-
- 8. MAXIMUM DENSITY = 4.96 ACRES X 5 UNITS / NET ACRE = 24.8 OR 24 UNITS
- 9. OPEN SPACE TABULATION
  - A. OPEN SPACE REQUIRED = 1.74 AC +/- (4.96 AC X 35%)
  - B. TOTAL OPEN SPACE PROVIDED = 1.90 AC +/- (24 UNITS X 0.8 SPACES/UNITS) = 1.74 AC +/-
  - 2. NON CREDITED OPEN SPACE = 0.16 AC +/- (24 UNITS X 2 (2 CAR GARAGE) = 96 SPACES IN DRIVE)
  - 2. COMMUNITY BUILDING = 5 SPACES
  - 3. OVERFLOW VISITOR PARKING = 9 SPACES
- 10. COMMUNITY BUILDING AREA REQUIRED = 500 SQ.FT. (24 UNITS X 20.8 SPACES/UNITS) = 5 SPACES. COMMUNITY BUILDING PROVIDED = 1,452 SQ.FT. (see General Note 42)
- 11. PARKING TABULATION
  - A. PARKING SPACE REQUIRED = 61 SPACES (24 UNITS X 2.5 SPACES/UNIT) = 48 SPACES
  - B. OVERFLOW VISITOR PARKING (500 SQ.FT. X 10 SPACES PER 1,000 SQ. FT.) = 5 SPACES
  - C. OVERFLOW VISITOR PARKING (24 UNITS X 0.8 SPACES/UNITS) = 9 SPACES
  - D. PARKING SPACES PROVIDED = 110 SPACES (2 SPACES IN DRIVE) = 96 SPACES
  - 2. COMMUNITY BUILDING = 5 SPACES
  - 3. OVERFLOW VISITOR PARKING = 9 SPACES

GENERAL NOTES (CONT'D)

- 36. THIS PLAN IS SUBJECT TO MP-19-095 WHICH ON APRIL 4, 2019 THE PLANNING DIRECTOR APPROVED A REQUEST FOR AN ALTERNATIVE COMPLIANCE TO WARE SECTION 16.120(C)4) MINIMUM FRONTAGES AND SECTION 16.120(A)7) ON-SITE FOREST RETENTION. APPROVAL IS SUBJECT TO THE FOLLOWING CONDITIONS:
  - 36.1. THE APPROVAL OF THIS ALTERNATIVE COMPLIANCE REQUEST APPLIES TO THE 16 SPECIMEN TREES AS SHOWN TO BE REMOVED ON THE PLAN EXHIBIT. THE DEVELOPER SHALL MITIGATE THE REMOVAL OF THE 16 SPECIMEN TREES BY PLANTING A MIX OF NATIVE SHADE TREES ON-SITE AT A 2:1 RATIO, TOTALING 36 TREES. THE PLANTINGS SHALL HAVE A CALIPER OF NO LESS THAN 3" AND SHALL BE PLANTED WITHIN THE PROPOSED OPEN SPACE LOTS. THE LOCATIONS, SPECIES AND PLANTING SPECIFICATIONS WILL BE REVIEWED BY DPZ AS PART OF THE FINAL LANDSCAPING PLAN. REFERENCE THE ADDITIONAL TREES ON SP-18-003 AND ALL SUBSEQUENT SUBDIVISION AND DEVELOPMENT PLANS. THE TREES WILL BE BONDED ALONG WITH THE REQUIRED PERIMETER LANDSCAPING AS PART OF THE FINAL SUBDIVISION PLAN.
  - 36.2. THE PROPOSED PRIVATE STREET SHALL BE DESIGNED AND CONSTRUCTED TO PUBLIC ROAD STANDARDS IN ACCORDANCE WITH THE DESIGN MANUAL AS APPROVED BY THE DEVELOPMENT ENGINEERING DIVISION AND THE DEPARTMENT OF PUBLIC WORKS.
  - 36.3. THE HOMEOWNERS ASSOCIATION SHALL OWN AND MAINTAIN THE PRIVATE STREET AND SHALL BE RESPONSIBLE FOR ALL MAINTENANCE, TRASH COLLECTION AND SNOW REMOVAL.
  - 36.4. THE PROPOSED RESIDENTIAL LOTS SHALL FRONT ON AND OBTAIN ACCESS FROM THE PRIVATE STREET. THE APPLICANT SHALL BE RESPONSIBLE FOR ESTABLISHING SAFE VEHICULAR ACCESS TO ALL RESIDENTIAL LOTS.
  - 36.5. SIDEWALKS AND STREET TREES SHALL BE PROVIDED ALONG THE PRIVATE STREET IN ACCORDANCE WITH SECTIONS 16.124 AND 16.134 OF THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL.
  - 37. THE EXISTING SEPTIC SYSTEM MUST BE PROPERLY ABANDONED AND DOCUMENTATION SENT TO THE HEALTH DEPARTMENT PRIOR TO HEALTH SIGNATURE OF THE FINAL PLAN.
  - 38. STREET LIGHT PLACEMENT, FIXTURES, AND POLE TYPES SHALL ADHERE TO THE HOWARD COUNTY DESIGN MANUAL, VOLUME II (2006), SECTION 9.5.A. A MINIMUM OF 50' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.
  - 39. EXISTING UTILITIES ARE BASED ON WATER AND SEWER CONTRACT DRAWINGS, CONT. NO. 44-1578 AND CONT. NO. 24-1334-D RESPECTIVELY. EXISTING STORM DRAIN SYSTEMS SHOWN ARE BASED ON F-PLANS ON FILE AT HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING.
  - 40. PRIOR TO FINAL SUBDIVISION ACCEPTANCE (AFTE CONSTRUCTION IS COMPLETE), IT IS A REQUIREMENT TRAFFIC ENGINEERING REVIEW THE PROPOSED EBANMENT GRADING TO INSURE ADEQUATE SIGHT DISTANCE HAS BEEN PROVIDED.
  - 41. THE COMMUNITY CENTER SIZE HAS BEEN SHOWN AS 1,452 SQUARE FEET TO REFLECT THE DECISION & ORDER FOR BA-17-030C. THE REQUIRED SQUARE FOOTAGE FOR THIS PROJECT IS 500 SQUARE FEET. THE INTENTION IS TO PRESERVE AND ADAPT THE WILLOWOOD HOUSE TO MEET THE COMMUNITY CENTER REQUIREMENTS WHICH WILL INCLUDE AN EXTENSIVE ARCHITECTURAL STUDY AS PART OF THE SITE DEVELOPMENT PLAN STAGE FOR THIS PROJECT. THE FINAL SQUARE FOOTAGE PROVIDED WILL BE DETERMINED AT THAT TIME.
  - 42. THIS PLAN IS SUBJECT TO A DESIGN MANUAL WAIVER APPROVED ON APRIL 26, 2019 BY DEVELOPMENT ENGINEERING DIVISION THAT REQUESTS A WAIVER TO DESIGN MANUAL, VOLUME II, SECTION 2.5.8.1, TABLE 2.07 TO ALLOW 30% (LESS THAN REQUIRED MINIMUM 50%) OF INTERSECTION SPACING MEASURED ALONG THE THROUGH ROADWAY (GUILFORD ROAD) BETWEEN THE CENTERLINE OF THE INTERSECTION ROADWAYS SUBJECT TO THE FOLLOWING:
    - 42.1. ADEQUATE INTERSECTION SIGHT DISTANCE SHALL BE PROVIDED FOR THE PROPOSED ACCESS AT GUILFORD ROAD.



VICINITY MAP SCALE: 1" = 1200'

MINIMUM LOT SIZE CHART table with columns LOT No., GROSS AREA, PIPESTEM AREA, MINIMUM LOT SIZE. Rows 6-16.

MODERATE INCOME HOUSING UNITS (MIHU) ALLOCATION EXEMPTIONS TRACKING table with columns Total Number of Lots/Units Proposed, Number of MIHU Required, Number of MIHU Provided Onsite (exempt from APFO allocations), Number of APFO Allocations Required (remaining lots/units), MIHU Fee-in-Lieu (indicate lot/unit numbers).

TITLE SHEET EDEN BROOK LOTS 1 THRU 24, OPEN SPACE LOTS 25 THRU 31 (AGE-RESTRICTED ADULT HOUSING) 8580 GUILFORD ROAD PREVIOUS HOWARD COUNTY FILE NO. BA-17-030C, ECP 18-051, WP-19-055 TAX MAP NO.: 42 GRID NO.: 7 PARCEL NO.: 269 ZONED R-12 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND SCALE: AS SHOWN DATE: APRIL 2019 SHEET 1 OF 8 5P-18-003

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A FULLY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE: 7/14/19.

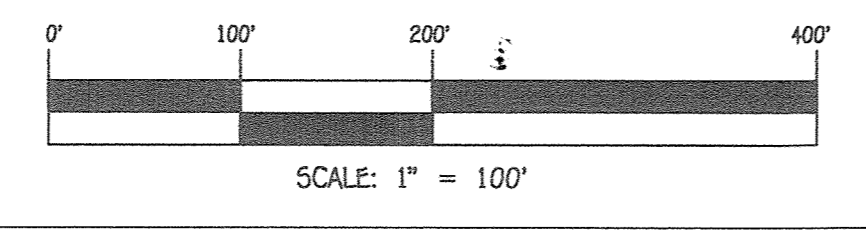


OWNER: ESTATE OF FRANCES ANNE MANIRGANG 14722 DORSEY MILL ROAD GLENLEIGH, MD 21738

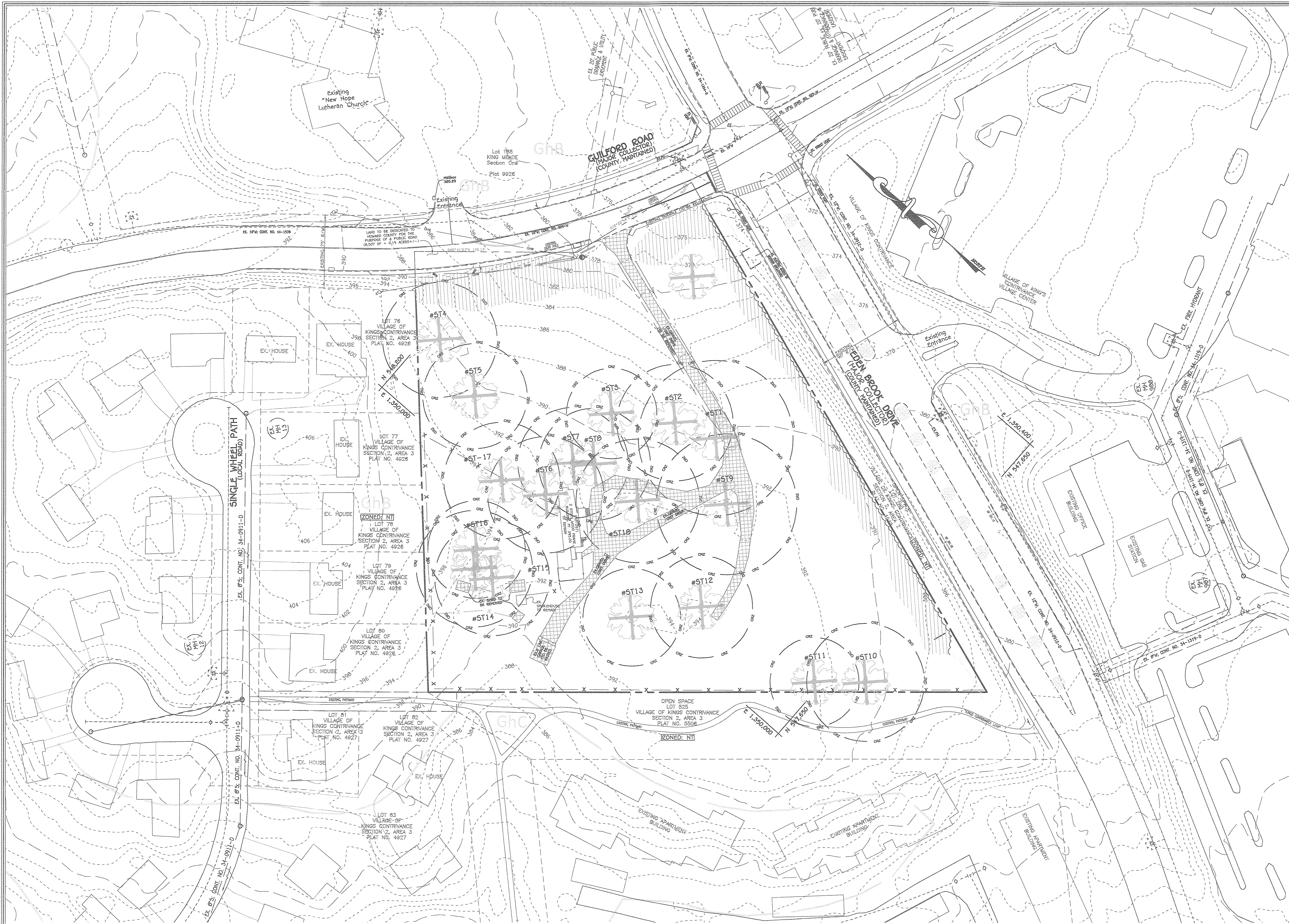
DEVELOPER: H&H ROCK COMPANIES 6800 DEERPATH ROAD #100 ELKDRIDGE, MD 21075 (410)-567-1045

FISHER, COLLINS & CARTER, INC. CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

TENTATIVELY APPROVED DEPARTMENT OF PLANNING AND ZONING HOWARD COUNTY



1/20/17/1707/Engineering/04waf/ESP/plan/Sheet/1707/FESP\_C\_01/Title\_Sheet.dwg, C:01/Title\_11

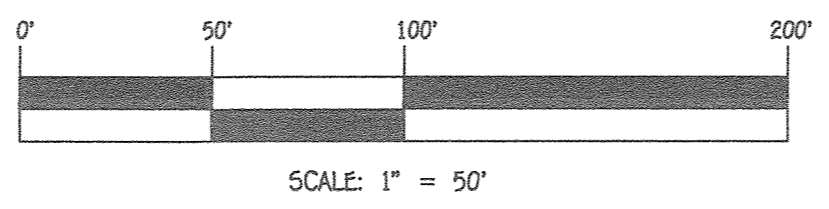


**Specimen Tree Chart**

Key (X#)	Species	Size (in dbh)	CRZ (feet radius)	Comments
1	White oak	54	81	
2	White oak	40.5	60.75	fair, trimmed
3	Hemlock	31.5	47.25	fair, one sided due to shading
4	Pignut hickory	40	60	
5	White oak	36.5	54.75	
6	White oak	40.5	60.75	fair, some rot noted
7	White oak	38.5	57.75	fair, limb damage noted
8	White oak	39	58.5	
9	White oak	49	73.5	very poor, major trunk rot
10	Norway maple	41	61.5	fair, not native
11	Sycamore	31	46.5	fair, some rot noted, limited crown
12	White oak	35.5	53.25	
13	American Beech	34	51	
14	White oak	40	60	fair, one sided canopy
15	White oak	40.5	60.75	fair, one sided canopy
16	White oak	34	51	fair, one sided canopy
17	White pine	33.5	50.25	
18	White oak	43	64.5	

**LEGEND**

SYMBOL	DESCRIPTION
---	EXISTING CONTOUR 2' INTERVAL
- - -	EXISTING CONTOUR 10' INTERVAL
---	PROPOSED CONTOUR 10' INTERVAL
---	PROPOSED CONTOUR 2' INTERVAL
x382	SPOT ELEVATION
---	LIMIT OF DISTURBANCE
---	EXISTING WATER & SEWER UTILITY EASEMENT
---	EXISTING STORM DRAIN
---	EXISTING WATER
---	EXISTING SEWER
---	BUILDING AND DRIVES TO BE REMOVED
---	SUPER SILT FENCE
---	SILT FENCE
---	DENOTES EXISTING FOREST TO BE REMOVED
---	DENOTES EXISTING TREES TO BE REMOVED
---	DENOTES EXISTING TREES TO REMAIN



**EXISTING CONDITIONS, SOILS  
AND DEMOLITION PLAN  
EDEN BROOK**

LOTS 1 THRU 24, OPEN SPACE LOTS 25 THRU 31  
(AGE-RESTRICTED ADULT HOUSING)  
8580 GUILFORD ROAD  
PREVIOUS HOWARD COUNTY FILE NO. BA-17-030C,  
ECP 10-051, WP-19-055  
TAX MAP NO.: 42 GRID NO.: 7 PARCEL NO.: 269  
ZONED R-12  
SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: APRIL 2019  
SHEET 2 OF 8

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
ELLSWORTH CITY, MARYLAND 21042  
(410) 461-2000

TENTATIVELY APPROVED  
DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY

*Walter J. ...* 6-25-19  
PLANNING DIRECTOR DATE



**PROFESSIONAL CERTIFICATION**

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE: 7/14/19.

*Frank Manalansan, II*  
FRANK MANALANSAN, II  
Date: 4/20/19

**OWNER**

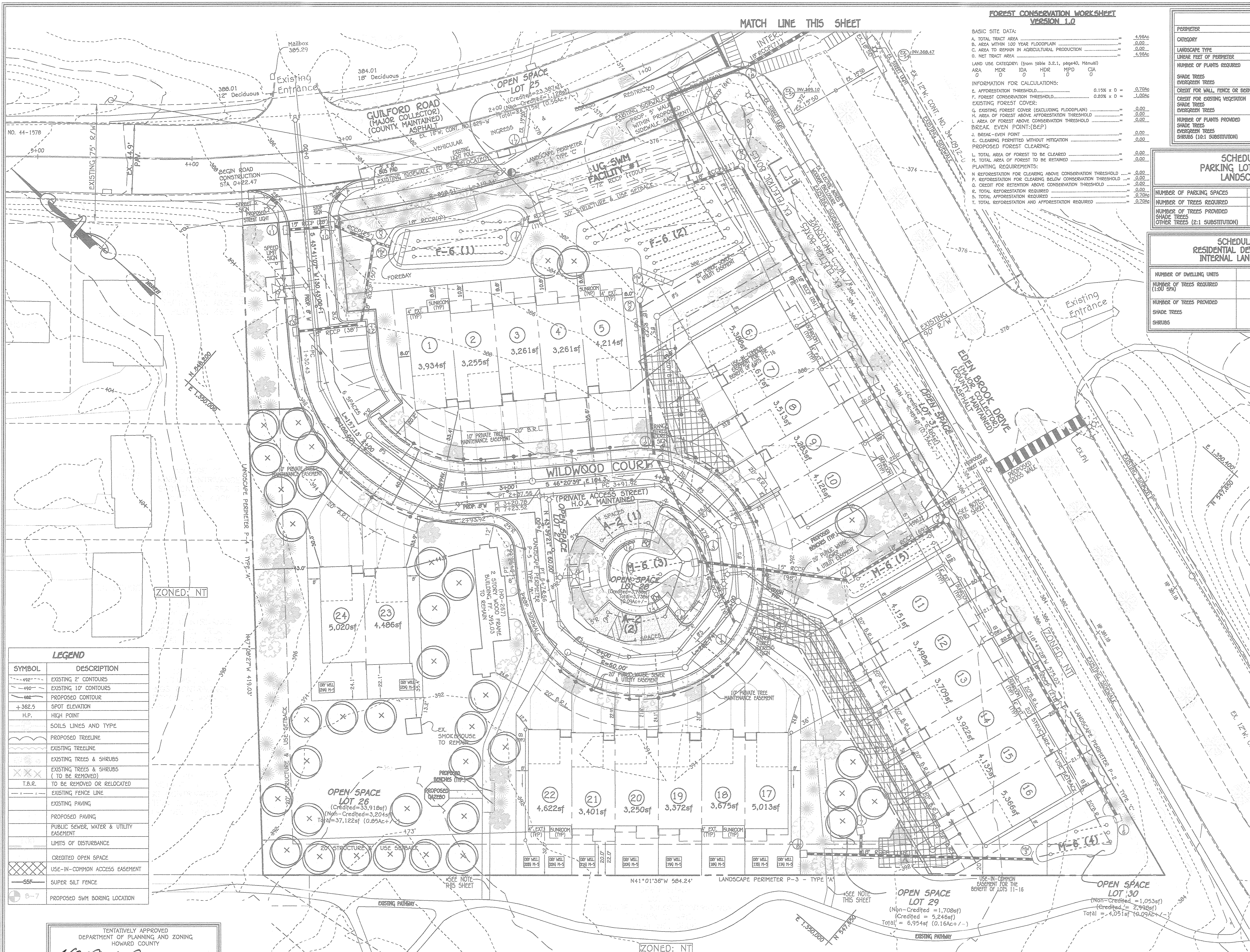
ESTATE OF  
FRANCES ANNE NAHRCANG  
14722 DORSEY HILL ROAD  
GLENELG, MD 21738

**DEVELOPER**

H&H ROCK COMPANIES  
6800 DIESERPATH ROAD #100  
ELKRIEGE, MD 21075  
(410)-567-1045

SP-10-003

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**FOREST CONSERVATION WORKSHEET**  
VERSION 1.0

BASIC SITE DATA:

A. TOTAL TRACT AREA	4.98Ac
B. AREA WITHIN 100 YEAR FLOODPLAIN	0.00
C. AREA TO REMAIN IN AGRICULTURAL PRODUCTION	0.00
D. NET TRACT AREA	4.98Ac

LAND USE CATEGORY: (from table 3.2.1, page 40, Manual)

MDR	IDA	HDR	MPD	CIA
0	1	0	0	0

INFORMATION FOR CALCULATIONS:

E. AFForestation THRESHOLD	0.11x0 = 0.00
F. FOREST CONSERVATION THRESHOLD	0.20x0 = 0.00
G. EXISTING FOREST COVER (EXCLUDING FLOODPLAIN)	0.00
H. AREA OF FOREST ABOVE AFForestation THRESHOLD	0.00
I. AREA OF FOREST ABOVE CONSERVATION THRESHOLD	0.00
J. BREAK-EVEN POINT (BEP)	0.00
K. CLEARING PERMITTED WITHOUT MITIGATION PROPOSED FOREST CLEARING	0.00
L. TOTAL AREA OF FOREST TO BE CLEARED	0.00
M. TOTAL AREA OF FOREST TO BE RETAINED	0.00
N. REFORESTATION FOR CLEARING ABOVE CONSERVATION THRESHOLD	0.00
O. CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD	0.00
P. TOTAL REFORESTATION REQUIRED	0.00
Q. TOTAL AFForestation REQUIRED	0.00
R. TOTAL REFORESTATION AND AFForestation REQUIRED	0.00

**SCHEDULE A - PERIMETER LANDSCAPE EDGE**

PERIMETER CATEGORY	P-1 SFA BEAR TO ROADWAY	P-2 SFA BEAR/SIDE TO ROADWAY	P-3 SFA TO PERIMETER PROPERTIES	P-4 SFA TO SPD	P-5 NON-RESIDENTIAL FRONT TO ROADWAY
LANDSCAPE TYPE	C	C	A	C	B
LENGTH FEET OF PERIMETER	519 L.F.	575 L.F.	584 L.F.	419 L.F.	79 L.F.
NUMBER OF PLANTS REQUIRED					
SHADE TREES	(319' / 140' = 2.28) = 2	(575' / 140' = 4.11) = 4	(584' / 140' = 4.17) = 4	(419' / 140' = 2.99) = 3	(79' / 150' = 0.53) = 0
EVERGREEN TREES	(319' / 200' = 1.59) = 1	(575' / 200' = 2.88) = 3	(584' / 200' = 2.92) = 3	(419' / 200' = 2.09) = 2	(79' / 140' = 0.56) = 0
CREDIT FOR MILL, FENCE OR BUSH	0	0	0	0	0
CREDIT FOR EXISTING VEGETATION	0	0	0	0	0
SHADE TREES	0	0	0	0	0
EVERGREEN TREES	0	0	0	0	0
NUMBER OF PLANTS PROVIDED	8	20	10	11	2
SHADE TREES	16	29	10	21	1
EVERGREEN TREES	0	0	0	0	0
SHRUBS (1:1 SUBSTITUTION)	0	0	0	0	0

**SCHEDULE B PARKING LOT INTERNAL LANDSCAPING**

NUMBER OF PARKING SPACES	14
NUMBER OF TREES REQUIRED	2 (1:10)
NUMBER OF TREES PROVIDED	2 (1:10)
OTHER TREES (2:1 SUBSTITUTION)	0

**SCHEDULE C RESIDENTIAL DEVELOPMENT INTERNAL LANDSCAPING**

NUMBER OF DWELLING UNITS	24
NUMBER OF TREES REQUIRED (1:20 SFA)	24
NUMBER OF TREES PROVIDED	24
SHRUBS	0 (2:1)

**STREET TREE SCHEDULE**

QTY.	SIZE	COMMENTS
ROW LENGTH = 735'	2 1/2" - 3" CAL.	40' APART ON PRIVATE R/W (WILLOWOOD COURT) (Provided 36 Trees)
ROW LENGTH = 519'	2 1/2" - 3" CAL.	40' APART ON PUBLIC R/W (Guilford Road) (Provided 8 Trees)

**NOTES**

- WHEN THE DISTANCE BETWEEN THE CURB AND THE SIDEWALK IS LESS THAN 6 FEET, AND WHERE TREES ARE PLANTED CLOSER THAN 3 FEET TO THE SIDEWALK, A BIOLOGIC ROOT INHIBITOR BARRIER OR PHYSICAL CONTAINER BARRIERS SHALL BE REQUIRED.
- TREES SHALL BE PLACED A MINIMUM OF 30 FEET FROM ALL SIGNS AND INTERSECTIONS WHEN PLANTED BETWEEN SIDEWALK AND CURB, AND BE LOCATED WITH CONSIDERATION OF UNDERGROUND UTILITIES AND STRUCTURES. STREET TREES MAY NOT BE PLANTED WITHIN 5 FEET OF AN OPEN SPACE ACCESS STRIP, OR 10 FEET OF A DRIVEWAY.

**STREET TREE PLANT LIST**

QTY.	KEY	NAME	SIZE
44	(Symbol)	TILIA COONATA 'GREENSPIRE' (GREENSPIRE LITTLELEAF LINDEN)	2.5" - 3" CAL. FULL CROWN, B&B

**LEGEND**

SYMBOL	DESCRIPTION
(Symbol)	EXISTING 2" CONTOURS
(Symbol)	EXISTING 10" CONTOURS
(Symbol)	PROPOSED CONTOUR
(Symbol)	SPOT ELEVATION
(Symbol)	HIGH POINT
(Symbol)	SOILS LINES AND TYPE
(Symbol)	PROPOSED TREELINE
(Symbol)	EXISTING TREELINE
(Symbol)	EXISTING TREES & SHRUBS
(Symbol)	EXISTING TREES & SHRUBS (TO BE REMOVED)
(Symbol)	TO BE REMOVED OR RELOCATED
(Symbol)	EXISTING FENCE LINE
(Symbol)	EXISTING PAVING
(Symbol)	PROPOSED PAVING
(Symbol)	PUBLIC SEWER, WATER & UTILITY EASEMENT
(Symbol)	LIMITS OF DISTURBANCE
(Symbol)	CREDITED OPEN SPACE
(Symbol)	USE-IN-COMMON ACCESS EASEMENT
(Symbol)	SUPER SILT FENCE
(Symbol)	PROPOSED SWM BORING LOCATION

**PROPOSED ALIGNMENT CURVE TABLE**

CURVE#	ROAD NAME	CL. STATION	RADIUS	LENGTH	DELTA	TANGENT	CHORD
C1	WILLOWOOD COURT	STA 1+50.45 TO STA 2+487.56	100.00'	157.13'	97°17'49"	141.46'	501'19"45.73"
C2	WILLOWOOD COURT	STA 3+91.92 TO STA 6+74.68	80.00'	282.74'	95°29'33"	84.69'	188'39"21.67"



**PROFESSIONAL CERTIFICATION**

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE: 7/14/19.

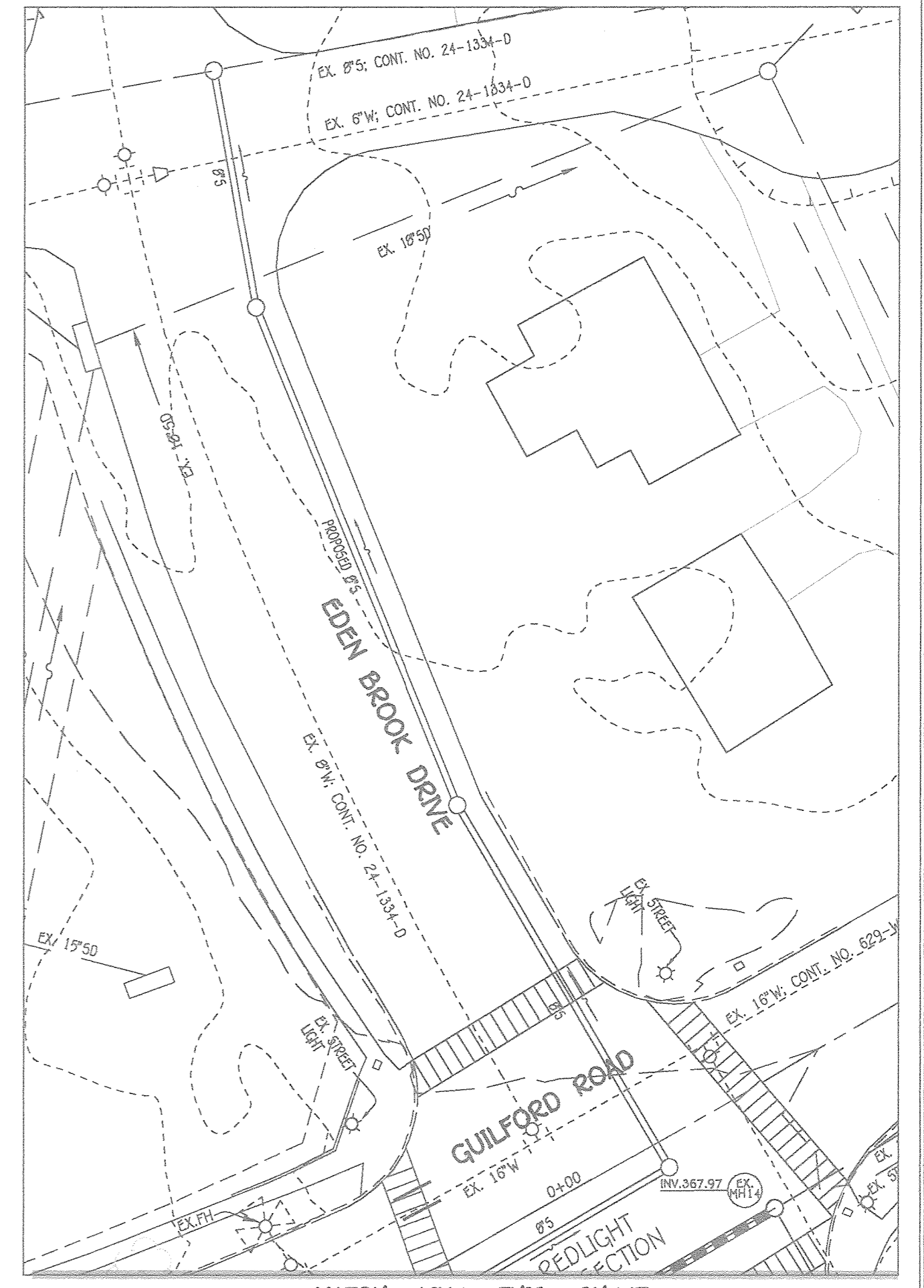
6/19/17  
Date

**OWNER**

ESTATE OF  
FRANCES ANNE MAHRGANG  
14722 DORSEY MILL ROAD  
GLENELG, MD 21738

**DEVELOPER**

H&H ROCK COMPANIES  
6800 DIESBARTH ROAD #100  
ELKRIE, MD 21075  
(410)-567-1045



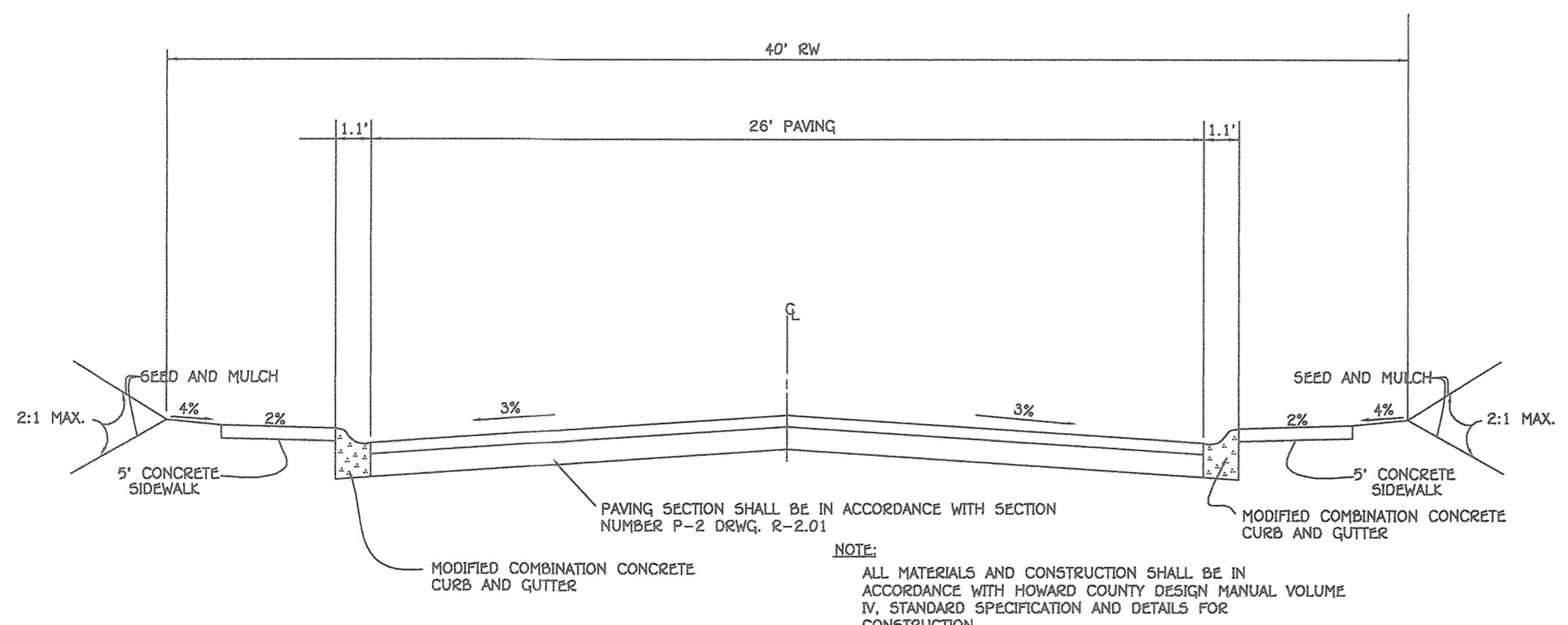
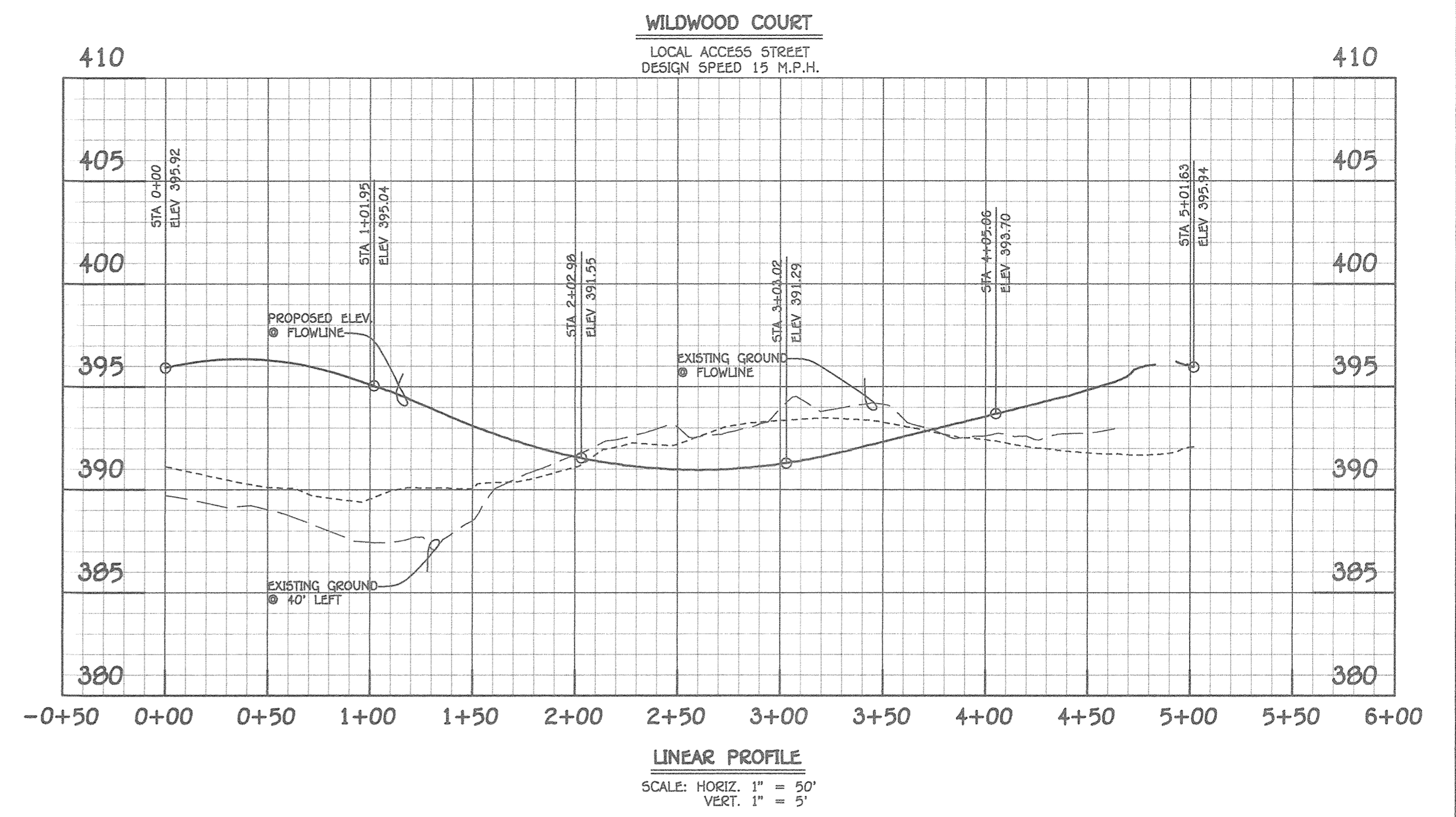
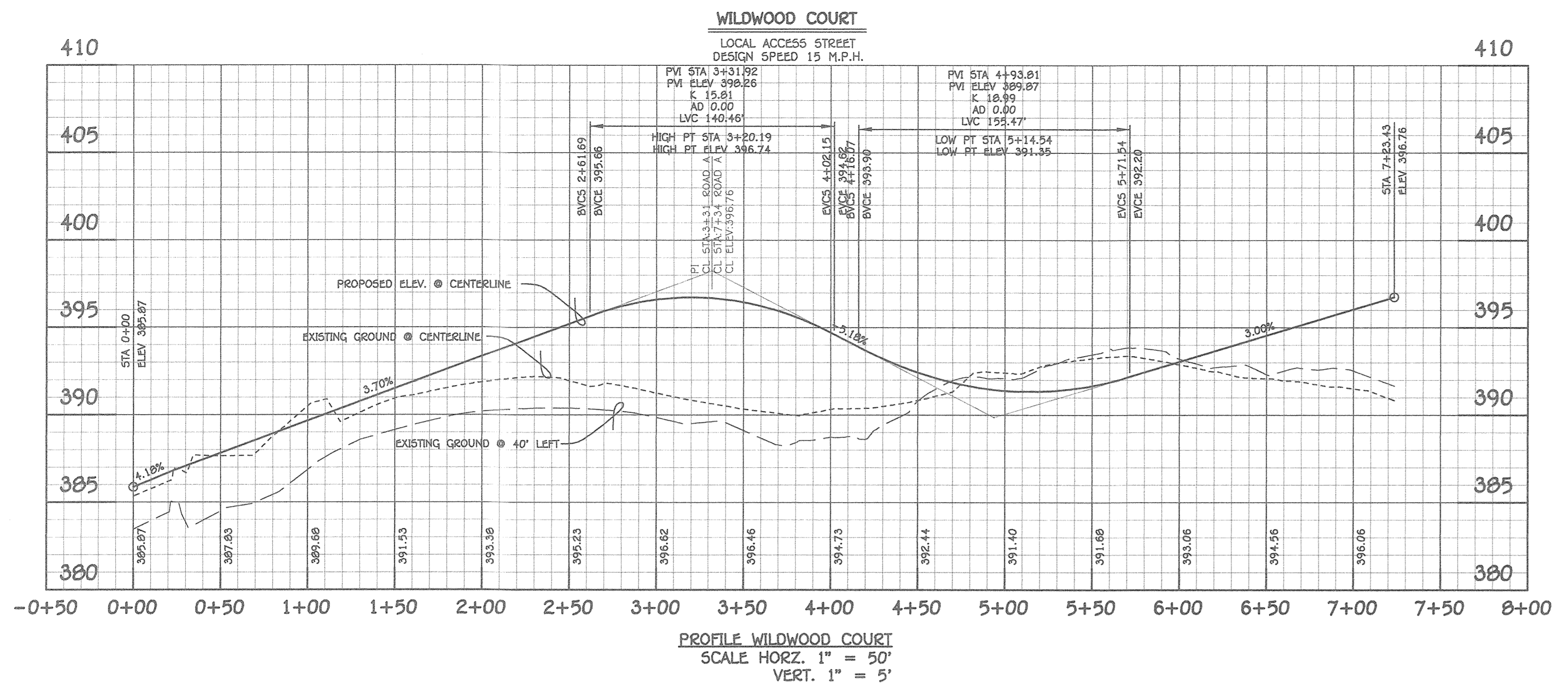
**PRELIMINARY EQUIVALENT SKETCH PLAN & PRELIMINARY LANDSCAPE PLAN**  
**EDEN BROOK**  
LOTS 1 THRU 24, OPEN SPACE LOTS 25 THRU 31  
(AGE-RESTRICTED ADULT HOUSING)  
8580 GUILFORD ROAD  
PREVIOUS HOWARD COUNTY FILE NO. BA-17-030C,  
ECP 10-051, WP-19-055  
TAX MAP NO.: 42 GRID NO.: 7 PARCEL NO.: 269  
ZONED R-12  
SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: APRIL 2019  
SHEET 3 OF 8

TENTATIVELY APPROVED  
DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY

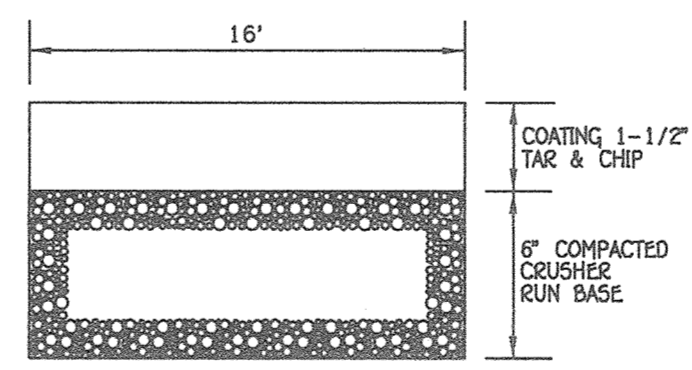
6-25-19  
DATE

**FISHER, COLLINS & CARTER, INC.**  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS

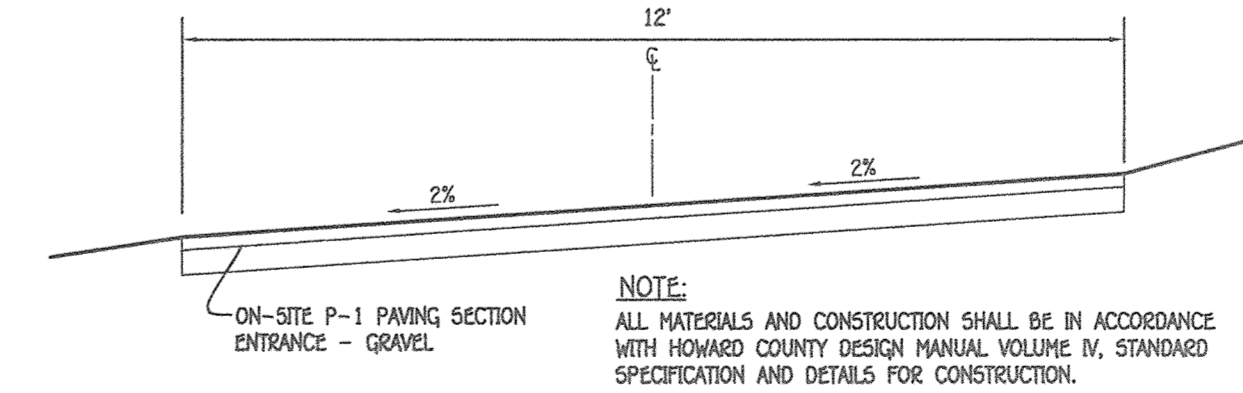
CENTRAL SOURCE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
ELICOTT CITY, MARYLAND 21042  
(410) 461-2295



**WILDWOOD COURT**  
LOCAL ACCESS STREET  
DESIGN SPEED 15 M.P.H.  
NO SCALE



**COMMON DRIVEWAY DETAIL**  
NOT TO SCALE

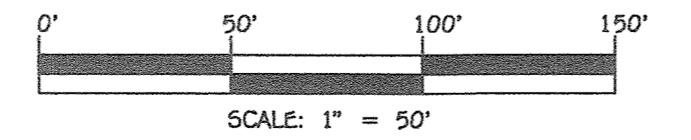


**TYPICAL PRIVATE DRIVE CROSS SLOPE SECTION**  
NOT TO SCALE

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CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTRAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
ELLSWORTH CITY, MARYLAND 21042  
(410) 461-2000

TENTATIVELY APPROVED  
DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY

*Wanda J. ...* 6-25-19  
PLANNING DIRECTOR DATE



**PROFESSIONAL CERTIFICATION**  
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE: 7/14/19.

*Frank Manalangan, II*  
FRANK MANALANGAN, II  
5/20/19  
Date

**OWNER**  
ESTATE OF  
FRANCES ANNE MAHARGANG  
14722 DORSEY MILL ROAD  
GLENELG, MD 21738

**DEVELOPER**  
H&H ROCK COMPANIES  
6800 DEERPATH ROAD #100  
ELK RIDGE, MD 21075  
(410)-567-1045

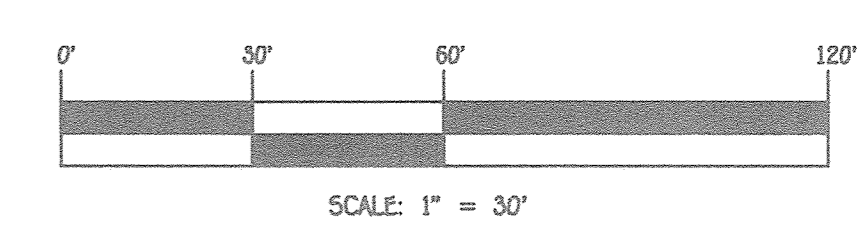
**PRELIMINARY ROAD PROFILES**  
**EDEN BROOK**  
LOTS 1 THRU 24, OPEN SPACE LOTS 25 THRU 31  
(AGE-RESTRICTED ADULT HOUSING)  
8580 GUILFORD ROAD  
PREVIOUS HOWARD COUNTY FILE No. BA-17-030C,  
ECP 18-051, WP-19-055  
TAX MAP NO.: 42 GRID NO.: 7 PARCEL NO.: 269  
ZONED R-12  
SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
SCALE: AS SHOWN DATE: APRIL 2019  
SHEET 4 OF 8 **SP-18-003**

I:\2017\170207\Engineering\Drawings\SP\plan\Sheet170207 PESP\_C\_04 Road Profiles.dwg, Road Profiles, 1:1



LEGEND	
SYMBOL	DESCRIPTION
--- (dashed)	EXISTING 2' CONTOURS
--- (dashed)	EXISTING 10' CONTOURS
---	PROPOSED CONTOUR
+	SPOT ELEVATION
H.P.	HIGH POINT
---	SOILS LINES AND TYPE
---	PROPOSED TREELINE
---	EXISTING TREELINE
X X X	EXISTING TREES & SHRUBS (TO BE REMOVED)
T.S.R.	TO BE REMOVED OR RELOCATED
---	EXISTING FENCE LINE
---	EXISTING PAVING
---	PROPOSED PAVING
---	PUBLIC SEWER, WATER & UTILITY EASEMENT
---	LIMITS OF DISTURBANCE
---	CREDITED OPEN SPACE
X X X	USE-IN-COMMON ACCESS EASEMENT
SSP	SUPER SILT FENCE
B-7	PROPOSED SWM BORING LOCATION

**NOTE:**  
 FINAL DESIGN OF PIPE OUTLET SEDIMENT TRAP AND ASSOCIATED EARTH DIKES WILL BE PROVIDED AT THE FINAL PLAN STAGE OF THIS PROJECT  
 \*PROPOSED PATHWAY CONSTRUCTED IN ACCORDANCE WITH ADA CRITERIA AND HOWARD COUNTY STANDARDS



**PRELIMINARY GRADING, SEDIMENT AND EROSION CONTROL PLAN AND SOILS MAP**  
**EDEN BROOK**  
 LOTS 1 THRU 24, OPEN SPACE LOTS 25 THRU 31  
 (AGE-RESTRICTED ADULT HOUSING)  
 8580 GUILFORD ROAD  
 PREVIOUS HOWARD COUNTY FILE No. BA-17-030C,  
 ECP 18-051, WP-19-055  
 TAX MAP NO.: 42 GRID NO.: 7 PARCEL NO.: 269  
 ZONED R-12  
 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: APRIL 2019  
 SHEET 5 OF 8

TENTATIVELY APPROVED  
 DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY  
*Valerie Davis* 6-25-19  
 PLANNING DIRECTOR DATE

SOILS LEGEND			
SOIL	NAME	CLASS	Kc VALUE
GhB	Glenelg-Urban land complex, 0 to 8 percent slopes	B	0.29
GhC	Glenelg-Urban land complex, 8 to 15 percent slopes	C	0.32

SOILS BOUNDARIES ARE BASED ON WEBSOIL SURVEY



**PROFESSIONAL CERTIFICATION**  
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*Frank Manalansan II*  
 FRANK MANALANSAN, II  
 6/12/19

**OWNER**  
 ESTATE OF  
 FRANCES ANNE WARRING  
 14722 DORSEY MILL ROAD  
 GLENELG, MD 21738

**DEVELOPER**  
 H&H ROCK COMPANIES  
 6800 DEEPATH ROAD #100  
 ELK RIDGE, MD 21075  
 (410)-567-1045

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTRAL SQUARE OFFICE PARK - 10772 BALTIMORE NATIONAL PIKE  
 ELICOTT CITY, MARYLAND 21042  
 (410) 481-2899

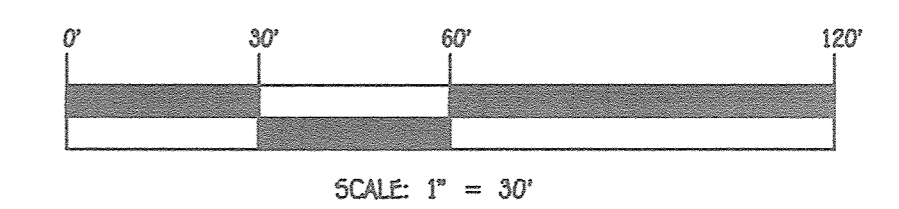
SOILS LEGEND			
SOIL	NAME	CLASS	'K' VALUE
GhB	Glenn-Urban land complex, 0 to 8 percent slopes	B	0.28
GhC	Glenn-Urban land complex, 8 to 15 percent slopes	C	0.32

SOILS BOUNDARIES ARE BASED ON WEBSOIL SURVEY

LEGEND	
SYMBOL	DESCRIPTION
---	EXISTING 2' CONTOURS
---	EXISTING 10' CONTOURS
---	PROPOSED CONTOUR
+	SPOT ELEVATION
H.P.	HIGH POINT
---	SOILS LINES AND TYPE
---	PROPOSED TREELINE
---	EXISTING TREELINE
---	EXISTING TREES & SHRUBS
XXX	EXISTING TREES & SHRUBS (TO BE REMOVED)
T.B.R.	TO BE REMOVED OR RELOCATED
---	EXISTING FENCE LINE
---	EXISTING PAVING
---	PROPOSED PAVING
---	PUBLIC SEWER, WATER & UTILITY EASEMENT
---	LIMITS OF DISTURBANCE
---	CREDITED OPEN SPACE
---	USE-IN-COMMON ACCESS EASEMENT
---	SUPER SILT FENCE
---	STORM DRAIN DRAINAGE AREA
---	STORM DRAIN DRAINAGE AREA FOR SWM CONTROL STRUCTURES

\*PROPOSED PATHWAY CONSTRUCTED IN ACCORDANCE WITH ADA CRITERIA AND HOWARD COUNTY STANDARDS

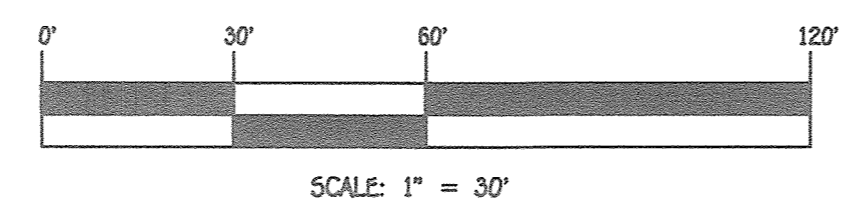
DRAINAGE AREA DATA				
STRUCTURE NO.	AREA	"C"	ZONED	% IMP.
I-1	1.80 Ac.	0.62	R-12	59%
I-2	0.16 Ac.	0.30	R-12	19%
I-3	0.28 Ac.	0.45	R-12	36%
I-4	0.54 Ac.	0.77	R-12	76%
I-5	0.33 Ac.	0.62	R-12	59%
I-6	0.36 Ac.	0.66	R-12	64%
I-7	0.27 Ac.	0.43	R-12	33%
I-8	0.59 Ac.	0.49	R-12	42%
I-9	0.03 Ac.	0.59	R-12	100%
I-10	0.08 Ac.	0.50	R-12	35%
I-11	0.20 Ac.	0.62	R-12	62%
I-12	0.35 Ac.	0.41	R-12	32%
I-13	0.04 Ac.	0.59	R-12	100%
I-14	0.09 Ac.	0.55	R-12	100%
I-15	0.05 Ac.	0.55	R-12	100%



TENTATIVELY APPROVED  
DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY

*William J. Qui* 6-25-19  
PLANNING DIRECTOR DATE

PLAN  
SCALE: 1"=30'



PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE: 7/14/19.

*Frank Manalangan, II*  
FRANK MANALANGAN, II  
6/12/19  
DATE

OWNER  
ESTATE OF  
FRANCES ANNE NAHRGANG  
14722 DORSEY MILL ROAD  
GLENELG, MD 21738

DEVELOPER  
H&H ROCK COMPANIES  
6800 DEEPSOUTH ROAD #100  
ELKRIDGE, MD 21075  
(410)-567-1045

PRELIMINARY STORM DRAIN  
DRAINAGE AREA MAP  
EDEN BROOK  
LOTS 1 THRU 24, OPEN SPACE LOTS 25 THRU 31  
(AGE-RESTRICTED ADULT HOUSING)  
8580 GUILFORD ROAD  
PREVIOUS HOWARD COUNTY FILE NO. BA-17-030C,  
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TAX MAP NO.: 42 GRID NO.: 7 PARCEL NO.: 269  
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SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
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SHEET 6 OF 8 SP-18-003

FISHER, COLLINS & CARTER, INC.  
CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
CENTENNIAL SQUARE PARK - 10772 BALTHORE NATIONAL PkE  
ELLCOTT CITY, MARYLAND 21042  
(410) 461-2909

**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 WC, 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 PHOSPHOROUS AND METALS. VEGETATION PLANTED IN THE FACILITY WILL AID IN NUTRIENT UPTAKE AND WATER STORAGE. ADDITIONALLY, PLANT ROOTS WILL PROVIDE ARTERIES 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 CONSTRAINTS:**

- > 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 SEND 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.
- > PLANTS SHALL BE LOCATED SO THAT ACCESS IS POSSIBLE FOR STRUCTURE MAINTENANCE.
- > STABILIZE HEAVY FLOW AREAS WITH EROSION CONTROL MATS OR SOO.
- > TEMPORARILY DIVERT FLOWS FROM SEEDING 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 ADSORPTION 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 CONTAIN A MINIMUM 35 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 BIOHABITATS, INC. (ET&B), 1993). SOILS SHOULD FALL WITHIN THE SM, ML, SC CLASSIFICATIONS OR THE UNIFIED SOIL CLASSIFICATION SYSTEM (USCS). A PERMEABILITY OF AT LEAST 1.0 FEET PER DAY (0.27"/HR) IS REQUIRED (A CONSERVATIVE VALUE OF 0.5 FEET PER DAY IS USED FOR DESIGN). THE SOIL SHOULD BE FREE OF STONES, STUMPS, ROOTS, OR OTHER WOODY MATERIAL OVER 1" IN DIAMETER. BRUSH OR SEEDS FROM NOXIOUS WEEDS (E.G., JOHNSON GRASS, MUDROOT, NUTSEDGE, AND CANADA THISTLE OR OTHER NOXIOUS WEEDS AS SPECIFIED UNDER COMAR 15.08.01.01.) 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 TRAVELED 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 - P2O5)	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 PRETREATMENT 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.

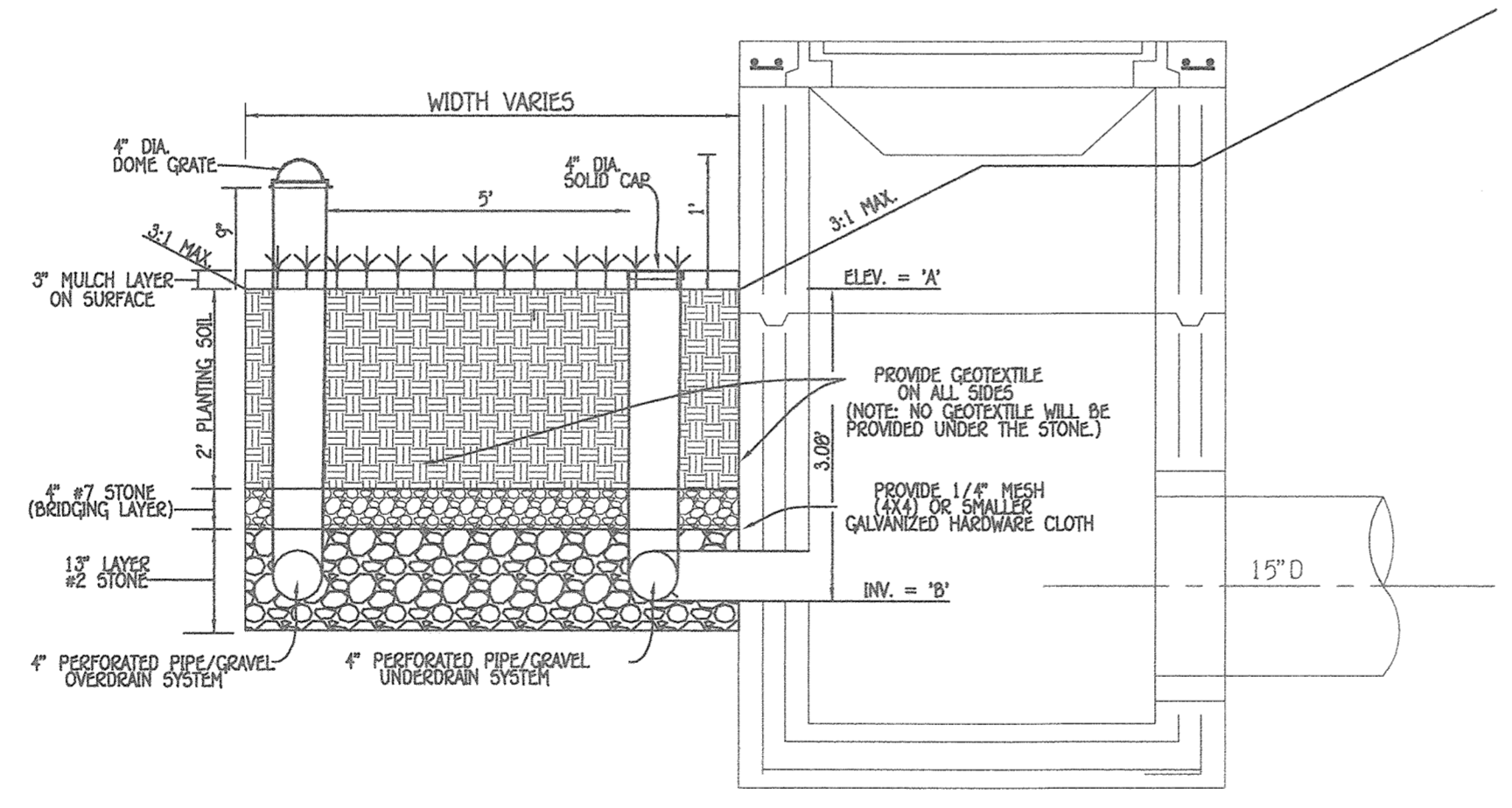
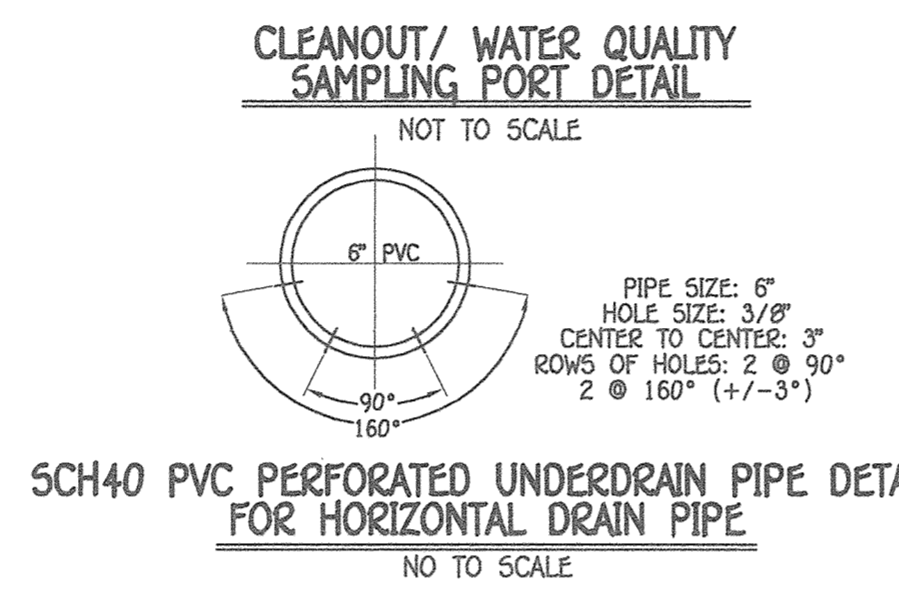
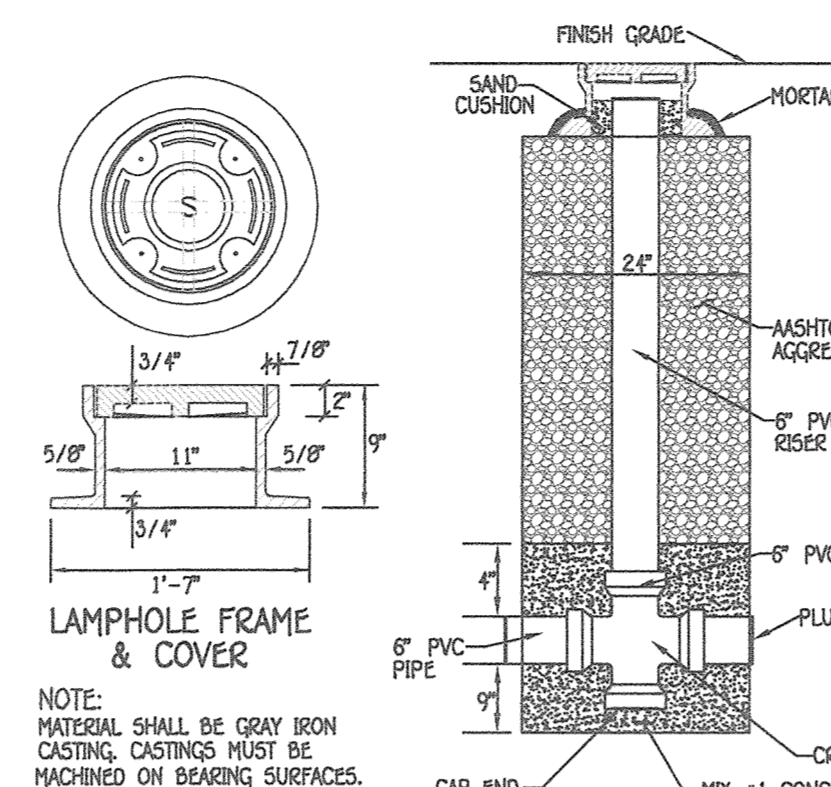
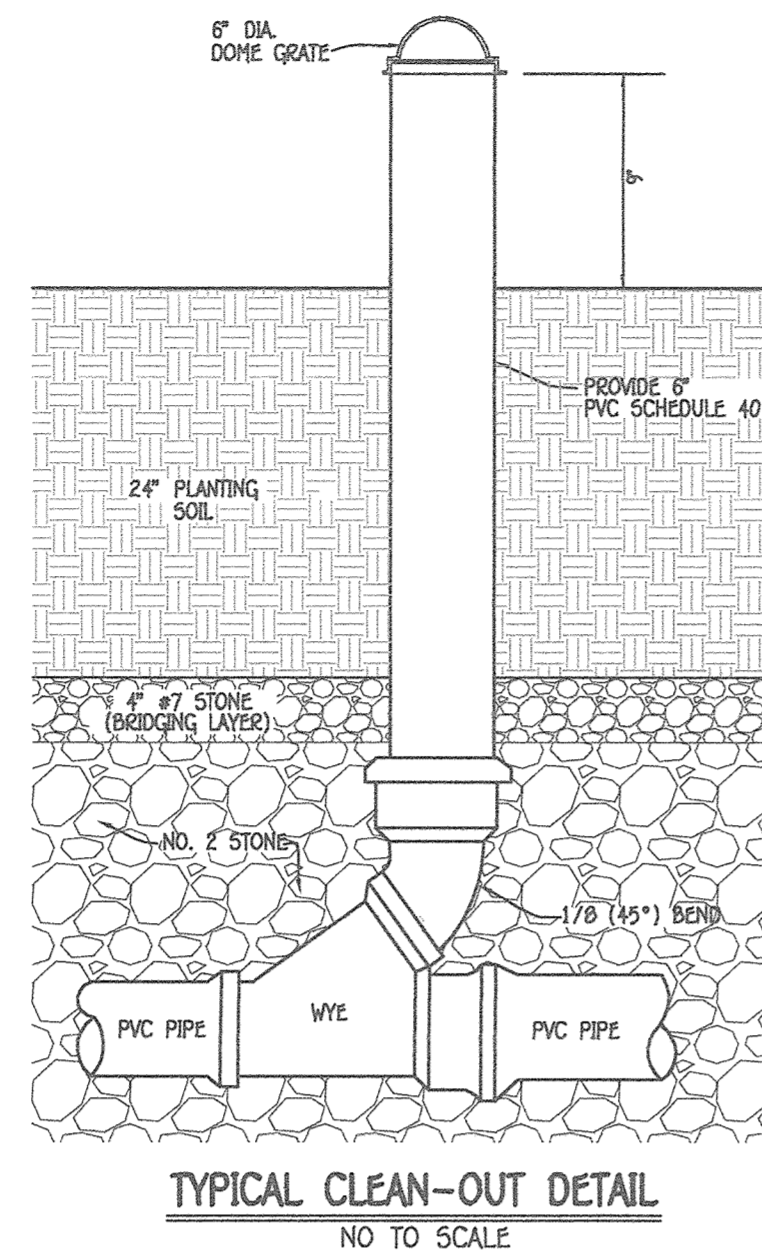
**PLANTING GUIDANCE**

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 STANDING 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 PRINCIPALS DESCRIBED IN TABLE A.5. THE OBJECTIVE IS TO HAVE A SYSTEM, WHICH RESEMBLES A RANDOM, AND NATURAL, PLANT LAYOUT, WHILE MAINTAINING OPTIMAL CONDITIONS FOR PLANT ESTABLISHMENT AND GROWTH FOR A MORE EXTENSIVE BIORETENTION PLAN, CONSULT ET&B, 1993 OR CLAYTON AND SCHUELE, 1997.

**OPERATION AND MAINTENANCE SCHEDULE FOR BIO-RETENTION AREAS (M-6) AND (F-6)**

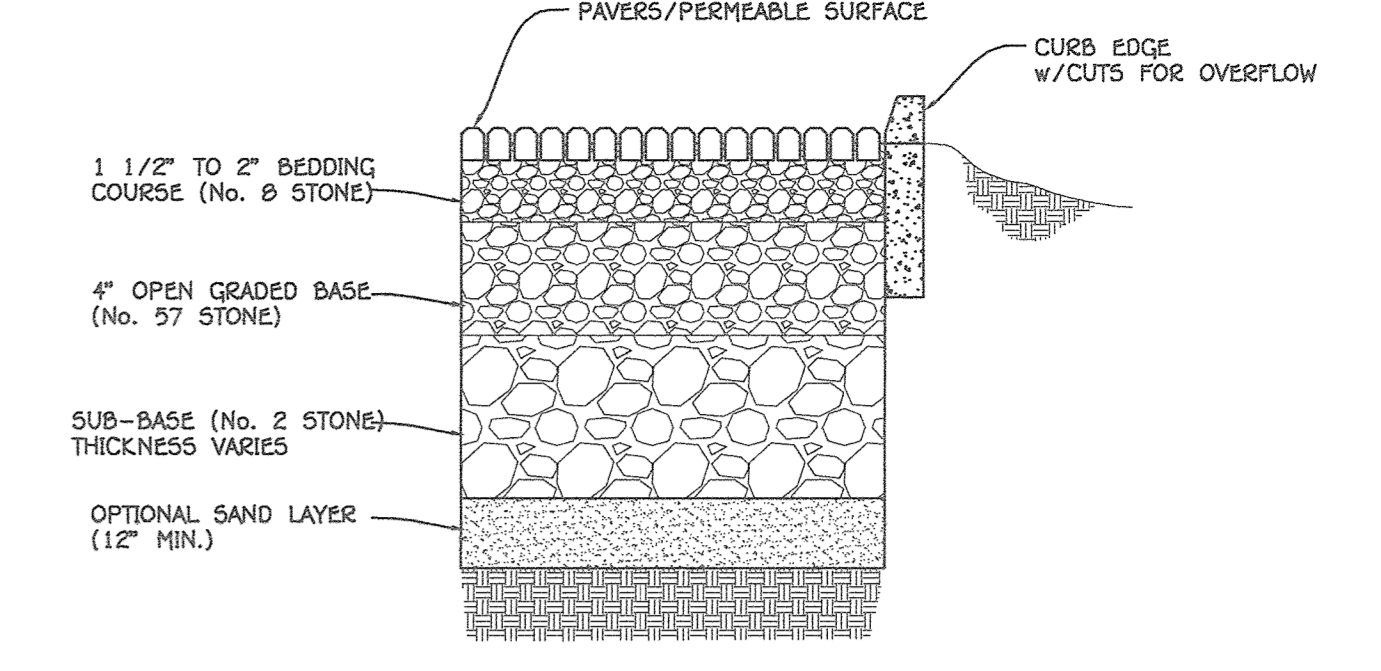
1. ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING.
2. SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDER BEYOND TREATMENT. TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRES.
3. MULCH SHALL BE INSPECTED EACH SPRING, REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
4. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

LOT NO.	DRYWELL NUMBER	NO. OF DOWNSPOUTS	AREA OF ROOF	VOLUME REQUIRED	VOLUME PROVIDED	AREA OF STORAGE	AREA OF TREATMENT	NO. OF DRYWELLS	DIMENSIONS OF DRYWELLS
17	M-5 (17A)	2	923 SqFt	132 CuFt	140 CuFt	100%	100%	1	10' X 7' X 5'
17	M-5 (17B)	2	982 SqFt	140 CuFt	140 CuFt	100%	100%	1	10' X 7' X 5'
18	M-5 (18A)	2	926 SqFt	132 CuFt	140 CuFt	100%	100%	1	10' X 7' X 5'
19	M-5 (19A)	2	982 SqFt	140 CuFt	140 CuFt	100%	100%	1	10' X 7' X 5'
20	M-5 (20A)	2	926 SqFt	132 CuFt	140 CuFt	100%	100%	1	10' X 7' X 5'
21	M-5 (21A)	2	982 SqFt	140 CuFt	140 CuFt	100%	100%	1	10' X 7' X 5'
22	M-5 (22A)	2	930 SqFt	133 CuFt	140 CuFt	100%	100%	1	10' X 7' X 5'
22	M-5 (22B)	2	979 SqFt	140 CuFt	140 CuFt	100%	100%	1	10' X 7' X 5'
23	M-5 (23A)	2	977 SqFt	140 CuFt	140 CuFt	100%	100%	1	10' X 7' X 5'
24	M-5 (24A)	2	921 SqFt	132 CuFt	140 CuFt	100%	100%	1	10' X 7' X 5'



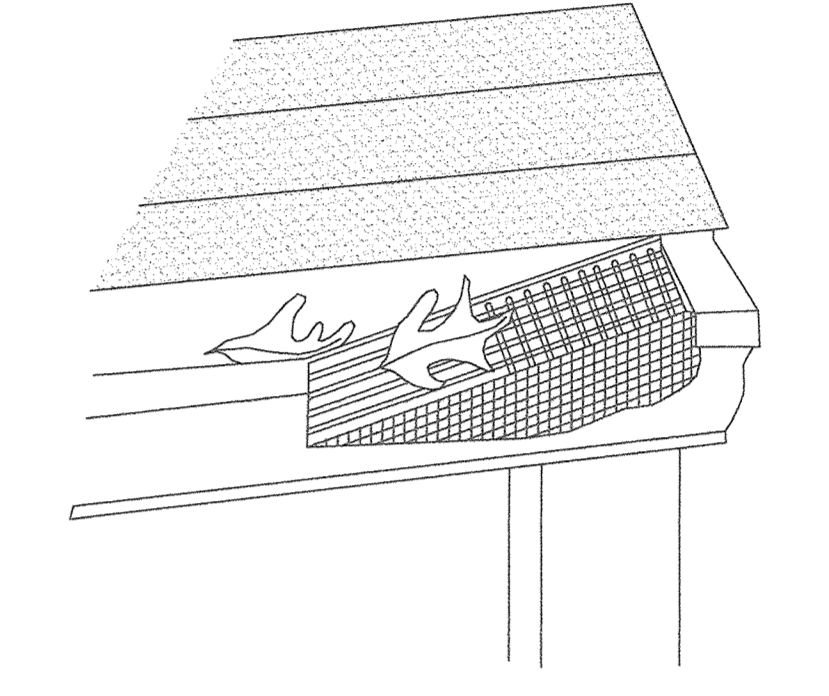
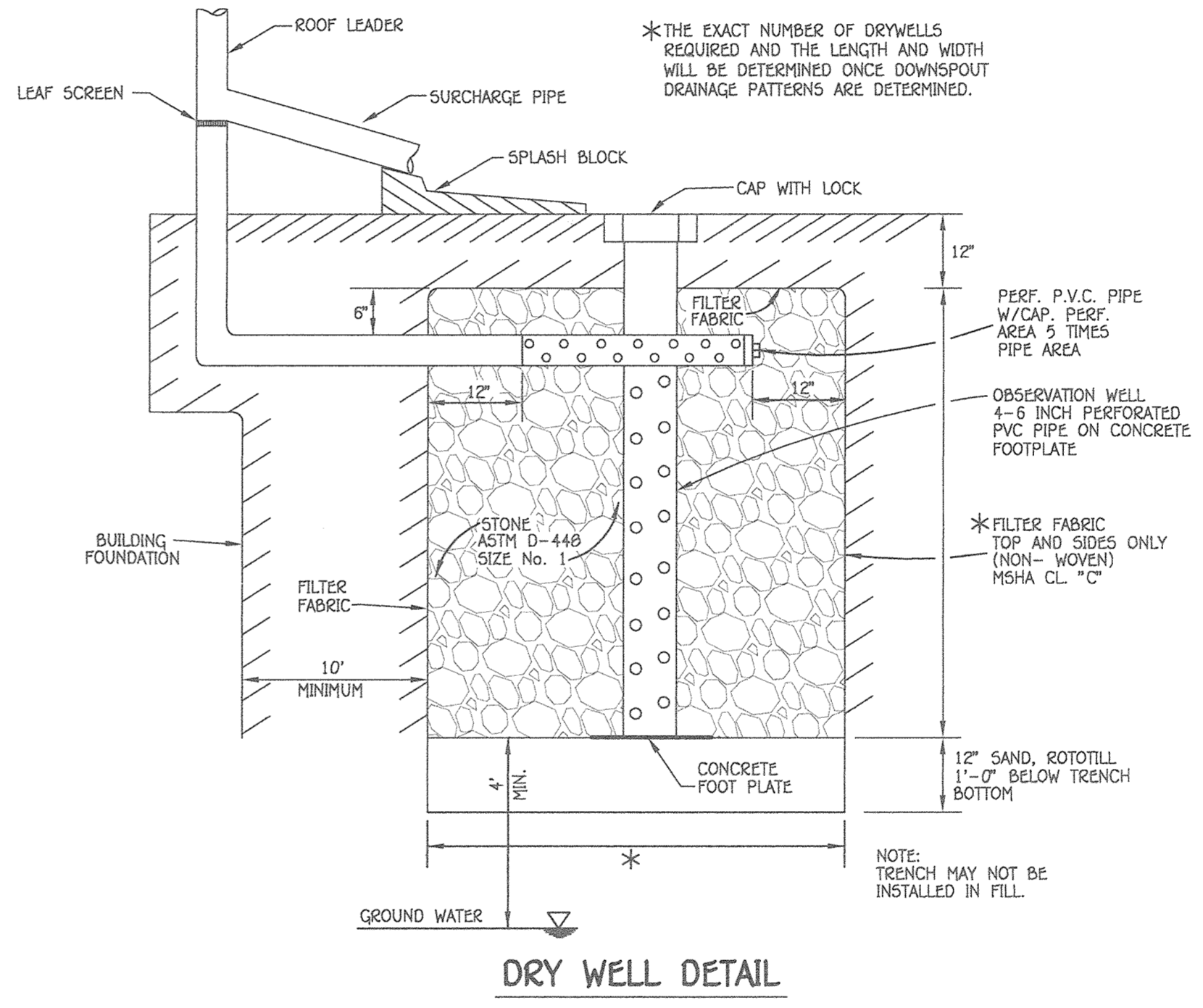
**OPERATION AND MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED PERMEABLE PAVEMENT (A-2)**

- a. The owner shall periodically sweep (or vacuum porous concrete pavement) the pavement surfaces to reduce sediment accumulation and insure continued surface porosity. Sweeping should be performed at least twice annually with a commercial cleaning unit. Washing or compressed air units should not be used to perform surface cleaning.
- b. The owner shall periodically clean drainage pipes, inlets, stone edge drains and other structures within or draining to the subbase.
- c. The owner shall use deicers in moderation. Deicers should be non-toxic and be applied either as calcium magnesium acetate or as pretreated salt.
- d. The owner shall ensure snow plowing is performed carefully with blades set one inch above the surface. Plowed snow piles and snowmelt should not be directed to permeable pavement.



**OPERATION & MAINTENANCE SCHEDULE FOR PRIVATELY OWNED AND MAINTAINED DRY WELLS (M-5)**

- A. THE OWNER SHALL INSPECT THE MONITORING WELLS AND STRUCTURES ON A QUARTERLY BASIS AND AFTER EVERY HEAVY STORM EVENT.
- B. THE OWNER SHALL RECORD THE WATER LEVELS AND SEDIMENT BUILD UP IN THE MONITORING WELLS OVER A PERIOD OF SEVERAL DAYS TO ENSURE TRENCH DRAINAGE.
- C. THE OWNER SHALL MAINTAIN A LOG BOOK TO DETERMINE THE RATE AT WHICH THE FACILITY DRAINS.
- D. 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.
- E. THE MAINTENANCE LOG BOOK SHALL BE AVAILABLE TO HOWARD COUNTY FOR INSPECTION TO INSURE COMPLIANCE WITH OPERATION AND MAINTENANCE CRITERIA.



**STORMWATER MANAGEMENT NOTES AND DETAILS SHEET EDEN BROOK**  
 LOTS 1 THRU 24, OPEN SPACE LOTS 25 THRU 31 (AGE-RESTRICTED ADULT HOUSING)  
 8580 GUILFORD ROAD  
 PREVIOUS HOWARD COUNTY FILE NO. BA-17-030C, ECP 18-051, WP-19-055  
 TAX MAP NO.: 42 GRID NO.: 7 PARCEL NO.: 269 ZONED R-12  
 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: APRIL 2019  
 SHEET 7 OF 8 **SP-18-003**

TENTATIVELY APPROVED  
 DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY  
*[Signature]* 6-25-19  
 PLANNING DIRECTOR DATE

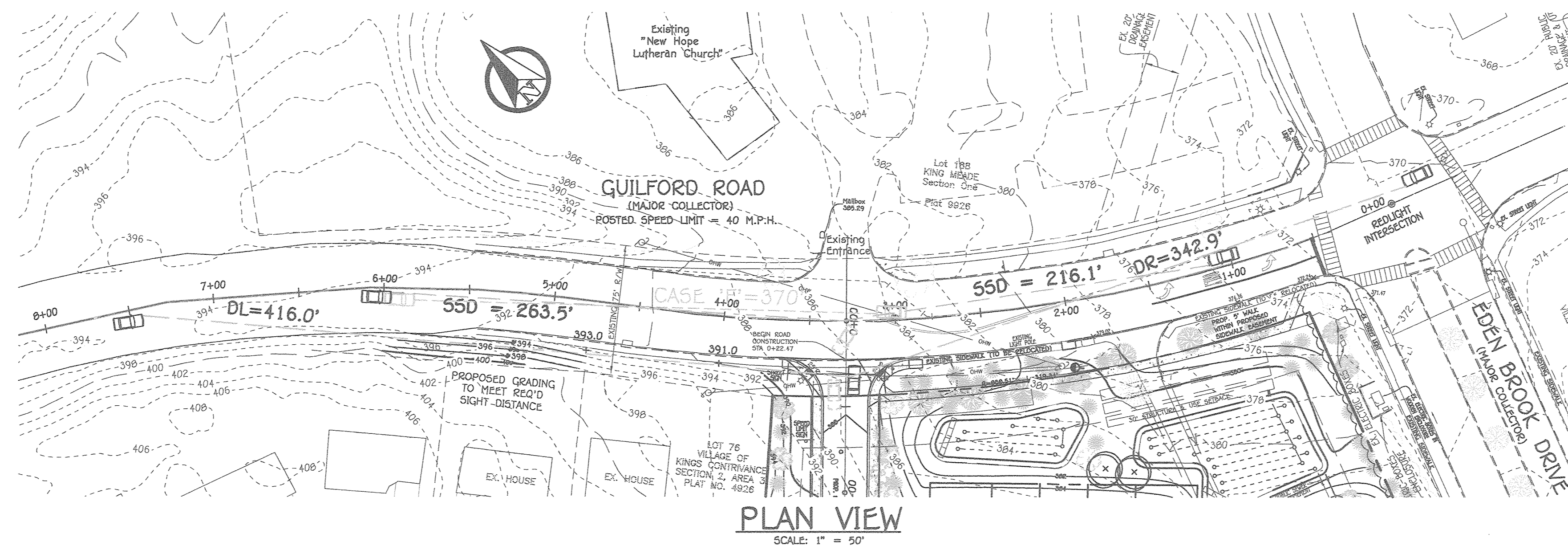


**PROFESSIONAL CERTIFICATION**  
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE: 7/14/19.  
*[Signature]*  
 FRANK MAHALANSAN, II  
 5/20/19  
 Date

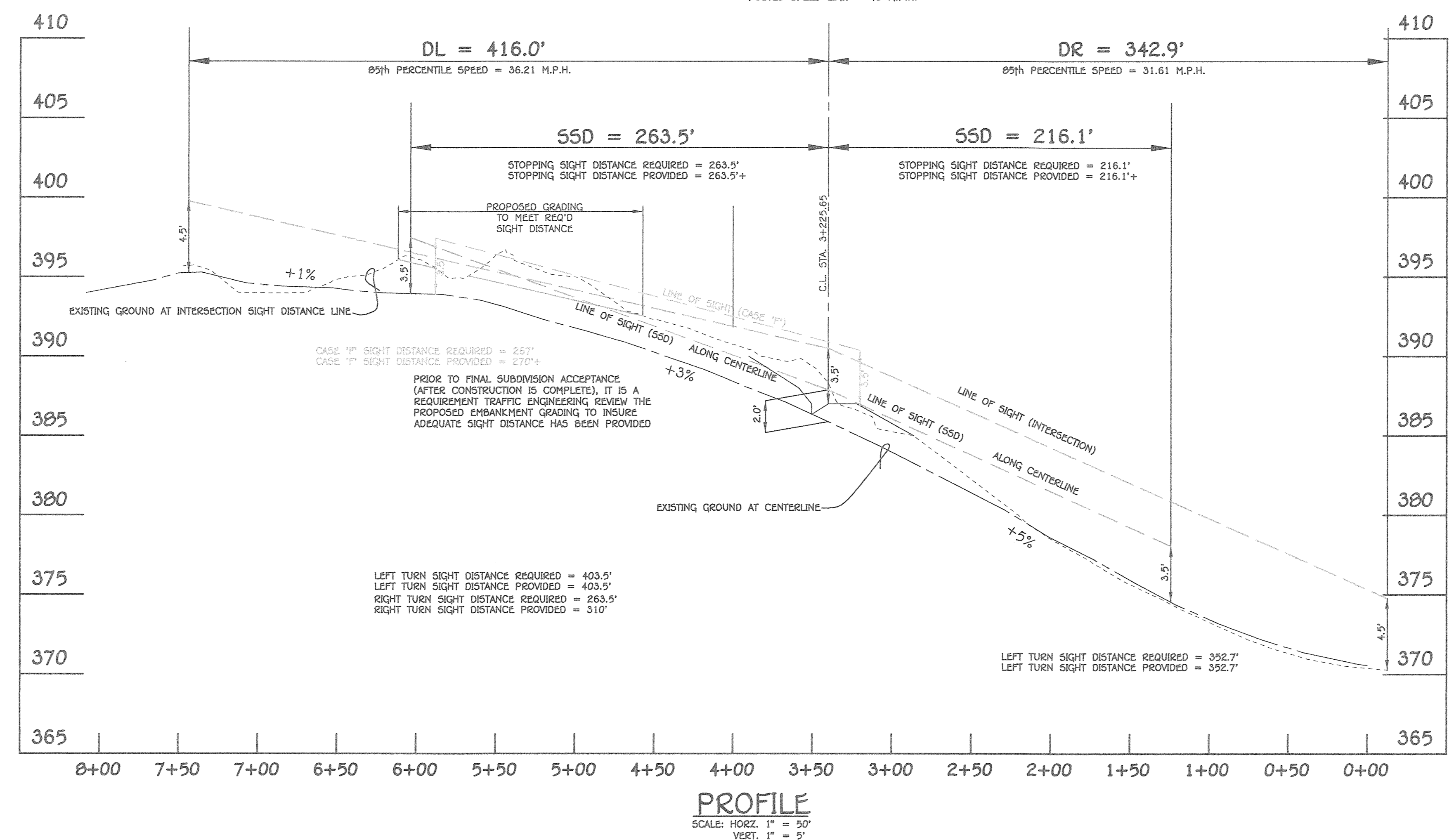
**OWNER**  
 ESTATE OF  
 FRANCES ANNE NAHRGANG  
 14722 DORSEY MILL ROAD  
 GLENELG, MD 21738

**DEVELOPER**  
 H&H ROCK COMPANIES  
 6800 DESERPATH ROAD #100  
 ELK RIDGE, MD 21075  
 (410)-567-1045

1/20/17/1707/Engineering/Output/ES/Plan Set/1707/FESP-C\_07 SWM Notes and Details.dwg, C:\G\_DETAILS\11



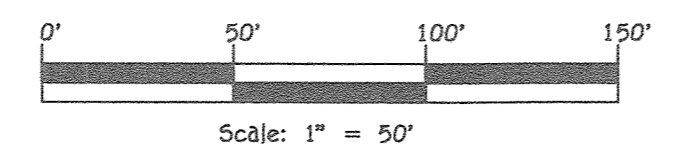
**GUILFORD ROAD**  
 MAJOR COLLECTOR  
 POSTED SPEED LIMIT = 40 M.P.H.



**SIGHT DISTANCE PLAN AND PROFILE**  
**EDEN BROOK**  
 LOTS 1 THRU 24, OPEN SPACE LOTS 25 THRU 31  
 (AGE-RESTRICTED ADULT HOUSING)  
 8580 GUILFORD ROAD  
 PREVIOUS HOWARD COUNTY FILE No. BA-17-030C,  
 ECP 18-051, WP-19-055  
 TAX MAP NO.: 42 GRID NO.: 7 PARCEL NO.: 269  
 ZONED R-12  
 SIXTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND  
 SCALE: AS SHOWN DATE: APRIL 2019  
 SHEET 8 OF 8

**FISHER, COLLINS & CARTER, INC.**  
 CIVIL ENGINEERING CONSULTANTS & LAND SURVEYORS  
 CENTENNIAL SQUARE OFFICE PARK - 10272 BALTIMORE NATIONAL PIKE  
 ELLESMERE CITY, MARYLAND 21042  
 (410) 481-2999

TENTATIVELY APPROVED  
 DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY  
*N. Williams* 6-25-19  
 PLANNING DIRECTOR DATE



**PROFESSIONAL CERTIFICATION**  
 I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21476, EXPIRATION DATE: 7/14/19.  
*Frank Mahalansan II*  
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 5/20/19  
 Date

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 ELK RIDGE, MD 21075  
 (410)-567-1045

I:\2017\17007\Engineering\Digital\PE\Plan Set\17007 FESP C\_08 Sight Distance.dwg, C-08 sight distance, 1:1