

**GENERAL NOTES**

- PROJECT BACKGROUND:
  - SUBDIVISION NAME: NORDAU SUBDIVISION - LOT 2-4, 5R, BR AND 9 (SEE NOTE 4)
  - TAX MAP 42 BLOCK 24
  - SECTION/AREA: SECTION E-4
  - LOT/PARCEL: P. 136 AND 138-140
  - ZONING: R-12
  - ZB/BA REFERENCE: N/A
  - ELECTION DISTRICT: 6TH
  - TOTAL TRACT AREA: 12.35 ACRES
  - SECTION/AREA: PHASE
  - NUMBER OF PROPOSED LOTS: 4 STD / 7 O.S. LOTS / 3 NON-BUILDABLE BULK PARCELS
  - NET AREA OF PROJECT: 11.51 ACRES± (12.35 - 0.84 = 0.00 = 11.51)
  - AREA OF PROPOSED SFD: 0.66 ACRES±
  - AREA OF PROPOSED SFA: 0.00 ACRES±
  - AREA OF R/W DEDICATION: 0.04 ACRES± (JONES ROAD)
  - AREA OF PROPOSED ROAD R/W: 1.21 ACRES±
  - OPEN SPACE REC.: 4.94 ACRES (SEE OPEN SPACE TABULATION)
  - OPEN SPACE PROVIDED: 5.11 ACRES± (3.02 AC. CREDITED)
  - PUBLIC WATER & SEWER: EXTENSION OF EXISTING WATER & SEWER CONTRACTS #24-0944-D-WATER AND #20-4108-SEWER PB. 3 FOLIO 51, CONTRACT #20-4108, #20-0944, F-11-040, (PLAT 21417), ECP-17-032, WP-15-098, S-17-005, WP-18-015
  - DPZ REF.'S
- THE PROJECT IS IN CONFORMANCE WITH THE LATEST HOWARD COUNTY STANDARDS UNLESS ALTERNATIVE COMPLIANCE REQUESTS HAVE BEEN APPROVED.
- THE EXISTING TOPOGRAPHY SHOWN HEREON IS BASED ON A TOPOGRAPHIC SURVEY PREPARED BY ROBERT H. VOGEL ENGINEERING, INC., DATED OCTOBER 2013, OFFSITE TOPOGRAPHY FROM HOWARD COUNTY GIS.
- THE PROJECT BOUNDARY IS BASED ON A BOUNDARY SURVEY PERFORMED BY ROBERT H. VOGEL ENGINEERING, INC. ON JAN. 31, 2013 AND AS AMENDED PER L.16288 F.488 & L.16288 F.502 (WP-15-098).
- THE COORDINATES SHOWN HEREON ARE BASED UPON THE HOWARD COUNTY GEODETIC CONTROL WHICH IS BASED UPON THE MARYLAND STATE PLANE COORDINATE SYSTEM. HOWARD COUNTY MONUMENT NOS. 421A AND 428B WERE USED FOR THIS PROJECT.
- THE SUBJECT PROPERTY IS ZONED "R-12" IN ACCORDANCE WITH THE 10/6/2013 COMPREHENSIVE ZONING PLAN AND IS SUBJECT TO THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS EFFECTIVE 10/2/03 PER COUNCIL BILL 75-2003.
- THIS PROPERTY IS LOCATED WITHIN THE METROPOLITAN DISTRICT.
- THE PRE-SUBMISSION COMMUNITY MEETING WAS HELD FOR THIS PROJECT ON 01/06/2016 AT THE NORTH LAUREL COMMUNITY CENTER.
- JONES ROAD IS NOT A SCENIC ROAD.
- JONES ROAD IS CLASSIFIED AS A LOCAL ROAD.
  - PROPOSED ROAD IS PUBLIC ACCESS STREET
  - THERE ARE 3 PROPOSED USE-IT-COMMON DRIVEWAYS UNDER FUTURE PHASE 2
- THE TRAFFIC STUDY FOR THIS PROJECT WAS PREPARED BY THE TRAFFIC GROUP, INC., DATED APRIL 11, 2017 AND WAS APPROVED ON NOVEMBER 2, 2017.
- THE PROPOSED UNITS SHALL HAVE AN AUTOMATIC FIRE PROTECTION SPRINKLER SYSTEM.
- WATER FOR THIS PROJECT IS TO BE PUBLIC EXTENSIONS OF CONTRACT NO. 24-0944-D.
- SEWER FOR THIS PROJECT IS TO BE PUBLIC EXTENSIONS OF CONTRACT NO. 20-4108-D.
- EXISTING UTILITIES LOCATED FROM TOPOGRAPHIC SURVEY AND AS-BUILT DRAWINGS. CONTRACTOR SHALL LOCATE EXISTING UTILITIES WELL IN ADVANCE OF CONSTRUCTION ACTIVITIES AND TAKE ALL NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND TO MAINTAIN UNINTERRUPTED SERVICE.
- THE FLOODPLAIN STUDY FOR THIS PROJECT WAS PREPARED BY ROBERT H. VOGEL ENGINEERING, DATED MARCH 2017 AND APPROVED ON JUNE 26, 2017 UNDER PLATS # S-17-005 & S-17-006.
- NO STEEP SLOPES OVER 20.00% OF CONTIGUOUS ARE LOCATED ONSITE.
- THE GEOTECHNICAL REPORT FOR THIS PROJECT WAS PREPARED BY HARDIN-KNIGHT ASSOCIATES, INC., DATED APRIL 19, 2017 AND APPROVED JUNE 2018.
- FOREST CONSERVATION EASEMENTS HAVE BEEN ESTABLISHED TO FULFILL A PORTION OF THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY FOREST CONSERVATION MANUAL.
  - 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 ARE ALLOWED.

OPEN SPACE LOT 7 WAS PREVIOUSLY KNOWN AS NORDAU SUBDIVISION - SECTION E-4, LOTS 8 & 9 (PLAT 21417). THIS PLAT CREATED A FOREST BANK TO BE USED BY AND FOR HOWARD COUNTY HOUSING COMMISSION PROJECTS. THIS BANK IS 3.5104 ACRES IN SIZE, OF WHICH 1.18 ACRES WAS PREVIOUSLY USED FOR THE QUELNS AT OULDFORD (F-09-112) AND 0.74 ACRES USED FOR AVANTI-HASLUP PROPERTY (F-15-015). THE BALANCE OF THE FOREST BANK AVAILABLE TO THIS PROJECT, GREENWOOD VILLAGE, IS 0.99 ACRES.

TOTAL FOREST CONSERVATION OBLIGATION OF THIS PROJECT TO BE FULFILLED BY:

- 0.99 ACRES OF FOREST RETENTION (NO SURETY REQ) WHICH WILL EXHAUST THE PLAT 21417 FOREST BANK REFORESTATION CREDIT = 0.99 / 2 = 0.495
- THE PURCHASE OF THE EQUIVALENT OF 4.395 ACRES OF REFORESTATION CREDIT (4.89 - .495) IN AN APPROVED FOREST BANK TO BE DETERMINED UNDER THE FUTURE FINAL PLAN SUBMISSION.
- ESTABLISHING A 0.18 ACRE FOREST RETENTION EASEMENT ON OPEN SPACE LOT 6.

IN A REPORT/PLAN TITLED "WETLAND DELINEATION & FOREST STAND DELINEATION REPORT" PREPARED BY ECO-SCIENCE PROFESSIONALS, INC., DATED DECEMBER 16, 2016 MR. JOHN CANOLES IDENTIFIED THE ONSITE FOREST, WETLANDS AND STREAMS:

- MR. CANOLES IDENTIFIED TWO (2) SPECIMEN TREES. PER PROJECT PROPOSAL, THE TREES SHALL BE REMOVED. REFER TO WP-18-015 (NOTE 39).
- A NOISE STUDY IS NOT REQUIRED.
- TO THE BEST OF THE OWNERS KNOWLEDGE, THERE ARE NO BURIAL GROUNDS, CEMETERIES LOCATED ON THE SUBJECT PROPERTY.
- THE SUBJECT PROPERTY DOES NOT CONTAIN A CEMETERY PER THE HOWARD COUNTY CEMETERY INVENTORY MAP.
- THE SUBJECT PROPERTY IS NOT A HISTORIC SITE PER THE HOWARD COUNTY HISTORIC SITE MAP.
- NO RARE, THREATENED OR ENDANGERED SPECIES WERE OBSERVED ON THE PROPERTY.
- NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE LIMITS OF WETLANDS, STREAMS, OR THEIR REQUIRED BUFFERS, FLOODPLAIN AND FOREST CONSERVATION EASEMENT AREAS.
- WETLANDS AND THEIR BUFFERS WILL NOT BE IMPACTED BY THE CONSTRUCTION OF THE SITE.
- STORMWATER MANAGEMENT FOR THE PROJECT IS PROVIDED BY THE USE OF MICRO-SCALE PRACTICES IN ACCORDANCE WITH ENVIRONMENTAL SITE DESIGN CRITERIA. MICRO-SCALE PRACTICES INCLUDE MICRO-BIORETENTION (M-8), PERVIOUS PAVING (A-2), AND DRYWELLS (4-5).
- THESE FACILITIES WILL BE PRIVATELY OWNED AND MAINTAINED.
- THE ENVIRONMENTAL CONCEPT PLAN (ECP-17-032) WAS APPROVED ON APRIL 10, 2017.
- IN ACCORDANCE WITH SECTION 109.0.E OF THE 10/06/13 COMPREHENSIVE ZONING REGULATIONS, THIS SUBDIVISION IS SUBJECT TO MODERATE INCOME HOUSING UNITS, A MIHU AGREEMENT AND MIHU COVENANTS WILL BE REQUIRED IN ACCORDANCE WITH SECTION 13.402 OF THE HOWARD COUNTY CODE. THE MIHU REQUIREMENTS FOR THIS SUBDIVISION WILL BE 4 UNITS (10% OF 31 UNITS). MIHU UNITS TO BE PROVIDED UNDER PHASE 2.
- DRIVEWAY(S) SHALL BE PROVIDED PRIOR TO RESIDENTIAL OCCUPANCY TO INSURE 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 - 6 INCHES OF COMPACTED CRUSHER RUN BASE WITH TAR AND CHIP COATING (1-3" MIN).
  - C. GEOMETRY - MAXIMUM 15% GRADE, MAXIMUM 10% CHANGE AND MINIMUM OF 45-FOOT DEPTH TURNING RADII.
  - D. STRUCTURES (CULVERTS/BRIDGES) - CAPABLE OF SUPPORTING 25 GROSS TONS (H25 LOADING).
  - E. DRAINAGE ELEMENTS - CAPABLE OF SAFELY PASSING 100-YEAR FLOOD WITH NO MORE THAN 1 FOOT DEPTH OVER DRIVEWAY SURFACE.
  - F. STRUCTURE CLEARANCES - MINIMUM 12 FEET.
  - G. MAINTENANCE - SUFFICIENT TO INSURE ALL WEATHER USE.

- TRAFFIC CONTROL DEVICES:
  - A. THE R1-(STOP) SIGNS AND STREET NAME SIGN (SNS) ASSEMBLIES FOR THIS DEVELOPMENT MUST BE INSTALLED BEFORE THE BASE PAVING IS COMPLETE.
  - B. THE TRAFFIC CONTROL DEVICE LOCATIONS SHOWN ON THE PLANS 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 POST USED FOR TRAFFIC CONTROL SIGNS INSTALLED IN THE COUNTY RIGHT-OF-WAY SHALL BE MOUNTED ON A 2" GALVANIZED STEEL, PERFORATED, "COCK PUNCH" SQUARE TUBE POST (14 GAUGE) INSERTED INTO A 1/2"-2" GALVANIZED STEEL, PERFORATED, SQUARE TUBE SLEEVE (12 GAUGE - 3" LONG). THE ANCHOR SHALL NOT EXTEND MORE THAN TWO "COCK PUNCH" HOLES ABOVE GROUND LEVEL. A GALVANIZED STEEL POLE CAP SHALL BE MOUNTED ON THE TOP OF EACH POST.
- ON THE APPROACH SIDE OF A STOP SIGN AND ALL OTHER TRAFFIC CONTROL SIGNS NOT ATTACHED TO A STREET LIGHT POLE, NO STREET TREE CAN BE PLANTED WITHIN 30' OF THE SIGN.
- IN ACCORDANCE WITH SECTION 16.121(A)(2) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, THE OPEN SPACE REQUIREMENTS FOR THIS R-12 PROJECT IS 40% OF GROSS AREA (12.35 AC. GROSS AREA X 40% = 4.94 AC.). REFER TO PROPOSED OPEN SPACE TABULATION HEREON.
- IN ACCORDANCE WITH SECTION 16.121(A)(4) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, RECREATION OPEN SPACE FOR THIS R-12 PROJECT IS 200 SF / UNIT (31 X 200 SF = 6,200 SF). SEE TABULATION HEREON.
- THE PROJECT COMPLETES SECTION 16.127 OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS, RESIDENTIAL INFILL DEVELOPMENT. SINCE THE BLOCK FACE CONSISTS OF VACANT LOTS, THE REQUIRED "R-12" ZONING DISTRICT FRONT YARD SETBACK HAS BEEN APPLIED (SECTION 16.127(C)(4)).
- THE FOLLOWING STANDARDS (CONSTRUCTION AND TEMPORARY TRAFFIC CONTROL) ARE REQUIRED FOR THIS PROJECT:
  - a. MD-104.02-02 - SHOULDER WORK/2 LANE, 2 WAY - EQL./LESS THAN 40 MPH
  - b. MD-104.02-10 - RIGHT LANE CLOSURE/2 LANE, 2 WAY - EQL./LESS THAN 40 MPH
- FOR ALL STANDARDS REFERRED TO ON THIS PLAN THE CONTRACTOR MUST GO TO THE BOOK OF STANDARDS WHICH WILL HAVE THE MOST CURRENT VERSION. THE BOOK OF STANDARDS CAN BE ACCESSSED AT: [HTTP://APPS.ROADS.MARYLAND.GOV/BUSINESSWITHSHA/BZTSZSTDSPCS/DESIGNMANUALSTDPUB/UPUBLICATIONSONLINE/OHD/BOOKSTD/index.asp](http://apps.roads.maryland.gov/businesswithsha/bztszstdspcs/DESIGNMANUALSTDPUB/UPUBLICATIONSONLINE/OHD/BOOKSTD/index.asp)
- ALL ITEMS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT VERSION OF THE REFERENCED STANDARD AT THE TIME OF CONSTRUCTION.

TENTATIVELY APPROVED  
DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY

*Robert H. Vogel*  
PLANNING DIRECTOR

10-2-18  
DATE

**SITE ANALYSIS DATA CHART**

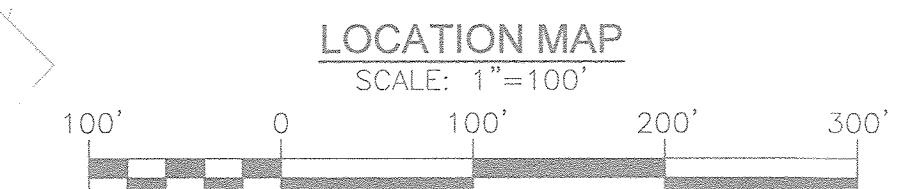
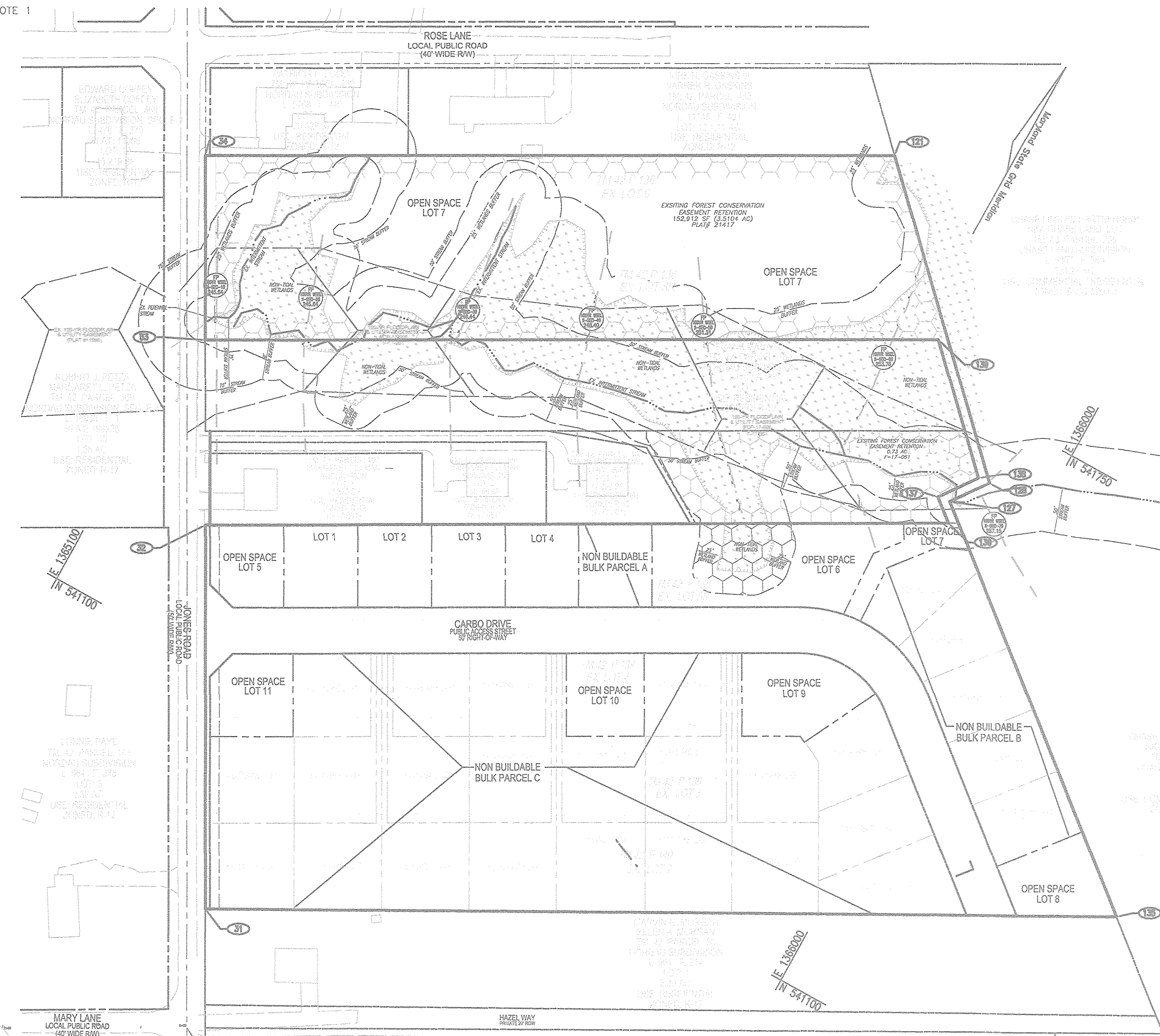
- TOTAL PROJECT AREA: 12.35 AC. +/-
- PARCELS 138-140 (P.B. 3 F. 51): 8.73 AC. +/-
- PARCEL 136 (PLAT 21417): 3.57 AC. +/-
- L.16288 F.488 (WP-15-098): 0.0303 AC. +/-
- L.16288 F.502 (WP-15-098): 0.0236 AC. +/-
- AREA OF PLAN SUBMISSION: 12.35 AC.
- AREA OF WETLANDS AND BUFFERS: 91,151 SF OR 2.09 AC. ±
- AREA OF FLOODPLAIN: 36,663.16 SF OR 0.84 AC. +/-
- AREA OF FOREST: 12.24 AC.±
- 8.73 AC. (REFER TO FSD - PARCELS 138-140)
- 3.51 AC. (PLAT 21417)
- 0.0 S.F. OR 0.0 AC.
- ERODIBLE SOILS: 12.35 AC. ±
- LIMIT OF DISTURBED AREA: 8.5 AC. +/-
- PROPOSED USES FOR SITE AND STRUCTURES: RESIDENTIAL SINGLE FAMILY DETACHED HOMES
- GREEN OPEN AREA: 5.90 AC. (GROSS-MP-FOREST)
- PROPOSED IMPERVIOUS AREA: 2.60 AC. +/-
- PRESENT ZONING DESIGNATION: R-12
- OPEN SPACE REQUIRED: 4.94 ACRES +/- (40%)
- 44 UNITS
- AREA OF STEEP SLOPES (15% & GREATER): 0.0 S.F. OR 0.0 AC.
- ERODIBLE SOILS: 12.35 AC. ±
- RESIDENTIAL SINGLE FAMILY DETACHED HOMES: 5.90 AC. (GROSS-MP-FOREST)
- GREEN OPEN AREA: 2.60 AC. +/-
- PRESENT ZONING DESIGNATION: R-12
- OPEN SPACE REQUIRED: 4.94 ACRES +/- (40%)
- 44 UNITS
- AREA OF STEEP SLOPES (15% & GREATER): 0.0 S.F. OR 0.0 AC.
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- RESIDENTIAL SINGLE FAMILY DETACHED HOMES: 5.90 AC. (GROSS-MP-FOREST)
- GREEN OPEN AREA: 2.60 AC. +/-
- PRESENT ZONING DESIGNATION: R-12
- OPEN SPACE REQUIRED: 4.94 ACRES +/- (40%)
- 44 UNITS
- AREA OF STEEP SLOPES (15% & GREATER): 0.0 S.F. OR 0.0 AC.
- ERODIBLE SOILS: 12.35 AC. ±
- RESIDENTIAL SINGLE FAMILY DETACHED HOMES: 5.90 AC. (GROSS-MP-FOREST)
- GREEN OPEN AREA: 2.60 AC. +/-
- PRESENT ZONING DESIGNATION: R-12
- OPEN SPACE REQUIRED: 4.94 ACRES +/- (40%)
- 44 UNITS

O. TOTAL NUMBER OF UNITS PROPOSED: 31 STD  
PHASE 1: 4 UNITS  
PHASE 2: 27 UNITS  
SEE GENERAL NOTE 1

# PRELIMINARY PLAN GREENWOOD VILLAGE - PHASE 1

## LOTS 1-4, NON BUILDABLE BULK PARCELS A-C AND OPEN SPACE LOTS 5-11

### A RE-SUBDIVISION OF THE "NORDAU SUBDIVISION" - SECTION E-4 LOTS 2-4, 5R (L.16288 F.488), 8R (L.16288 F.502) AND 9 HOWARD COUNTY, MARYLAND



**GREENWOOD VILLAGE  
APFO PHASING**

| PHASE NUMBER | ALLOCATION YEAR | TOTAL NO. OF ALLOCATIONS | TOTAL NO. OF CREDITS | TOTALS |
|--------------|-----------------|--------------------------|----------------------|--------|
| 1            | 2020            | 27                       | 4                    | 27     |
| 2            |                 | 27                       | 4                    | 31     |
| TOTALS       |                 | 27                       | 4                    | 31     |

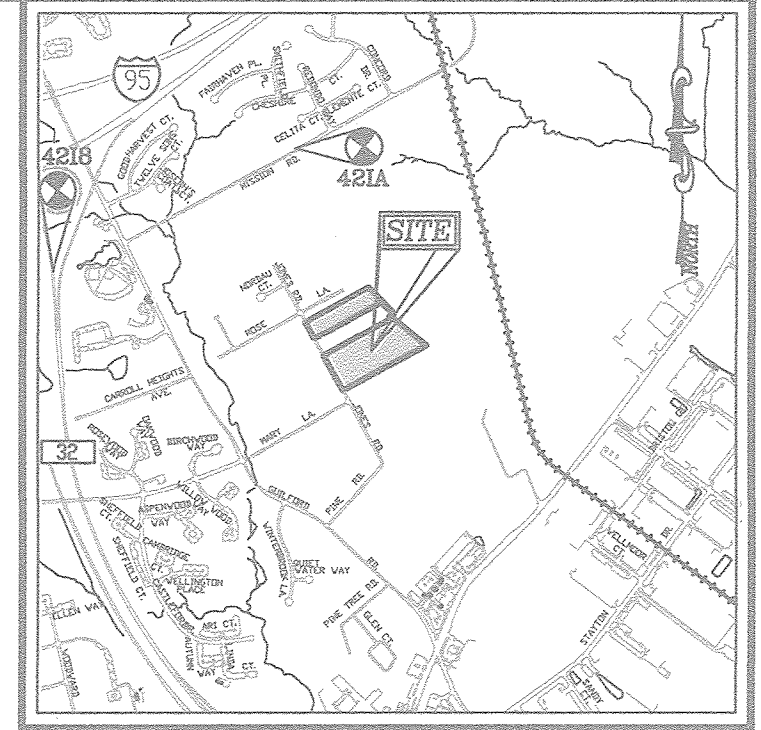
**SHEET INDEX**

| COVER SHEET  | DESCRIPTION | SHEET NO.   |
|--|-------------|-------------|
| PRELIMINARY LAYOUT PLAN  |             | 2 OF 12     |
| PRELIMINARY SOILS MAP, GRADING, SOIL EROSION AND SEDIMENT CONTROL PLAN                 |             | 3 OF 12     |
| PRELIMINARY LANDSCAPE PLAN   |             | 4 OF 12     |
| PRELIMINARY FOREST CONSERVATION PLAN   |             | 5 OF 12     |
| PRELIMINARY LANDSCAPE & FOREST CONSERVATION FOREST CONSERVATION PLAN - NOTES & DETAILS |             | 6 OF 12     |
| EXHIBIT - ROAD PROFILE, ROAD DETAILS, AND TYPICAL SECTION                              |             | 7 OF 12     |
| EXHIBIT - ROAD WIDENING JONES ROAD & TRAFFIC CONTROL                                   |             | 8-10 OF 12  |
| EXHIBIT - STORM DRAIN DRAINAGE AREA MAP  |             | 11-12 OF 12 |

**BENCHMARKS**

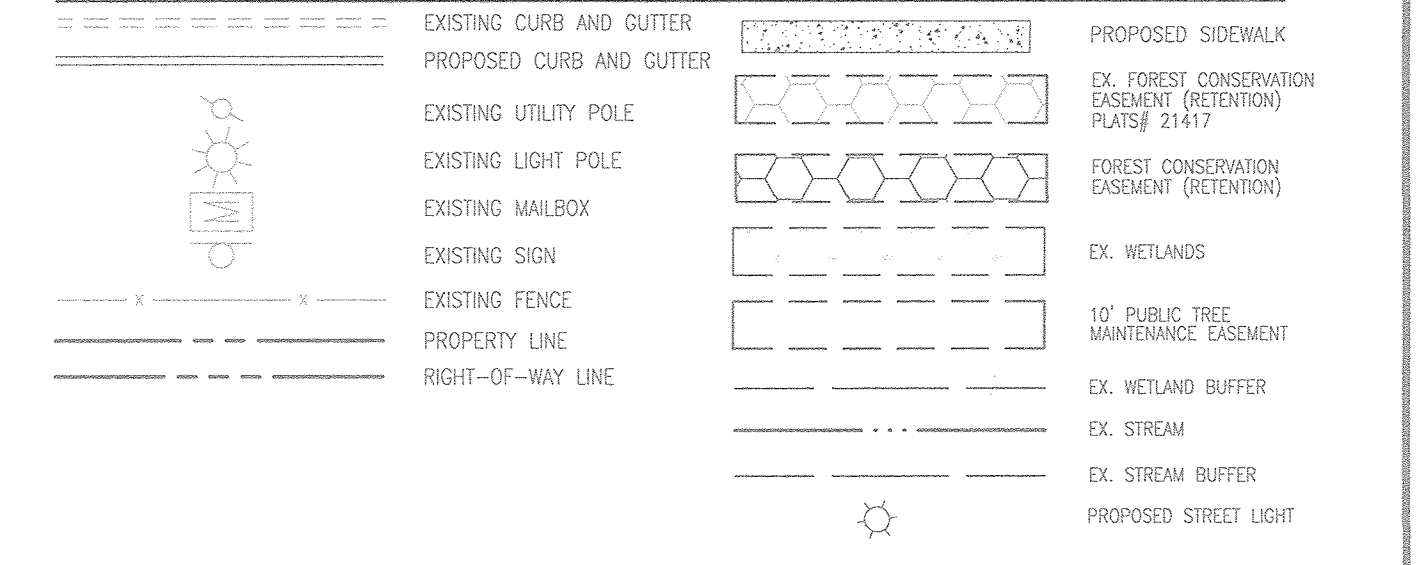
HOWARD COUNTY BENCHMARK 421A  
N 543,390.41 E 1,364,912.66 ELEV. 312.01  
3/4" REBAR - NORTH EAST SIDE OF MISSION ROAD,  
74.3' NORTH OF BG & F#2937908

HOWARD COUNTY BENCHMARK 421B  
N 542,107.89 E 1,362,386.04 ELEV. 301.47  
CONCRETE MONUMENT - BETWEEN RT.32 WEST BOUND  
AND RT. 95 NORTH RAMP



**VICINITY MAP**  
SCALE: 1"=2000'  
ADC MAP COORDINATES: PAGE: 41 BLOCK: A2

**LEGEND**



**COORDINATE TABLE**

| NO. | NORTH       | EAST         |
|-----|-------------|--------------|
| 31  | 540865.3236 | 1365414.8838 |
| 32  | 541229.1372 | 1365213.1519 |
| 33  | 541404.6901 | 1365119.6092 |
| 34  | 541579.6004 | 1365016.8228 |
| 121 | 541941.3272 | 1365674.1961 |
| 127 | 541612.2400 | 1365808.5381 |
| 128 | 541880.7598 | 1365936.4738 |
| 135 | 541336.4819 | 1366284.8978 |
| 136 | 541631.1428 | 1365916.6471 |
| 137 | 541640.4477 | 1365894.8852 |
| 138 | 541679.6995 | 1365923.3520 |
| 139 | 541789.7712 | 1365812.5537 |

**NOTES:**

- ALL WATER CONNECTIONS SHALL BE 1-1/2" WITH 1" OUTSIDE METER SETTINGS, UNLESS OTHERWISE NOTED. REFER TO HOWARD COUNTY DETAILS W-3.28 OUTSIDE METER SETTINGS.

**OPEN SPACE TABULATION:**

IN ACCORDANCE WITH SECTION 16.121(A)(2) OF THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS THE OPEN SPACE REQUIREMENTS FOR THIS R-12 PROJECT IS 40% OF GROSS AREA (2,000 SF MIN LOT) (12.35 AC. GROSS AREA X 40% = 4.94 AC.).

OPEN SPACE PROVIDED IS 5.11 AC± CREDITED

- O.S. LOT 11 0.18 AC
- O.S. LOT 10 0.17 AC
- O.S. LOT 9 0.24 AC
- O.S. LOT 8 0.18 AC
- O.S. LOT 7 3.59 AC
- O.S. LOT 6 0.50 AC
- O.S. LOT 5 0.16 AC
- NON-CREDITED 0.00 AC±
- O.S. LOT 7 0.09 AC

**PARKING TABULATION:**

TOTAL NUMBER OF DWELLING UNITS PROPOSED : 31  
SINGLE FAMILY DETACHED (STD) = 31 LOTS

**PHASE 1**

OFF-STREET PARKING SPACES REQUIRED: 2 SPACES PER UNIT  
4 x 2 = 8 SPACES REQUIRED

PARKING SPACES PROVIDED:  
2 SPACES IN GARAGE = 8 SPACES (FOR 4 UNITS)  
2 SPACES ON DRIVEWAY = 8 SPACES (FOR 4 UNITS)

TOTAL OFF STREET PARKING SPACES PROVIDED: = 16 SPACES  
REFER TO OFF-STREET EXCESS

**PHASE 2**

OFF-STREET PARKING SPACES REQUIRED: 2 SPACES PER UNIT

PARKING SPACES PROVIDED:  
2 SPACES IN GARAGE = 54 SPACES (FOR 27 UNITS)  
2 SPACES ON DRIVEWAY = 54 SPACES (FOR 27 UNITS)

TOTAL OFF STREET PARKING SPACES PROVIDED: = 108 SPACES

OVERFLOW / GUEST PARKING SPACES REQUIRED:  
SFD - 4 UNITS @ 0.5 SPACES PER UNIT  
4 x 0.5 = 2 SPACES REQUIRED

TOTAL GUEST PARKING SPACES PROVIDED: = 2 SPACES  
REFER TO OFF-STREET EXCESS

**PHASE 2**

OFF-STREET PARKING SPACES REQUIRED: 2 SPACES PER UNIT

PARKING SPACES PROVIDED:  
2 SPACES IN GARAGE = 54 SPACES (FOR 27 UNITS)  
2 SPACES ON DRIVEWAY = 54 SPACES (FOR 27 UNITS)

TOTAL OFF STREET PARKING SPACES PROVIDED: = 108 SPACES

OVERFLOW / GUEST PARKING SPACES REQUIRED:  
SFD - 27 UNITS @ 0.5 SPACES PER UNIT  
27 x 0.5 = 13.5 SPACES REQUIRED

TOTAL GUEST PARKING SPACES PROVIDED: = 14 SPACES  
REFER TO OFF-STREET EXCESS

**OWNER/DEVELOPER**

HOWARD COUNTY HOUSING COMMISSION  
9770 PATUXENT WOODS DR., SUITE 100  
COLUMBIA, MD 21146  
ATTN: PETER ENGEL  
(410) 313-6316

**RECREATION OPEN SPACE  
TABULATION:**

TOTAL RECREATION OPEN SPACE REQUIRED:  
R-12 - SINGLE FAMILY HOMES STD  
= 200 SF/UNIT X 31 UNITS = 6,200 SF

TOTAL RECREATION OPEN SPACE TO BE PROVIDED:  
LAND AREAS:  
1. P/O OPEN SPACE 10 - 3,600 SF +/-  
PLUS AMENITIES: SEE BELOW

REQUIREMENT SHALL BE MET IN COMBINATION WITH THE JUNE 2015 POLICY REGARDING THE ALLOWANCE OF A MAXIMUM SOX CREDIT FOR RECREATIONAL OPEN SPACE IN LIEU OF LAND AREA.

POSSIBLE AMENITIES INCLUDE: PLAY/TOT LOT EQUIPMENT, BENCHES  
- ADDITIONAL AMENITIES MAY INCLUDE: DOG WALKING STATION, ETC.

| NO. | REVISION | DATE |
|-----|----------|------|
|     |          |      |
|     |          |      |
|     |          |      |
|     |          |      |

PRELIMINARY PLAN  
COVER SHEET  
**GREENWOOD VILLAGE - PHASE 1**  
LOTS 1-4, NON BUILDABLE BULK PARCELS A-C  
AND OPEN SPACE LOTS 5-11  
A RE-SUBDIVISION OF THE "NORDAU SUBDIVISION" - SECTION E-4  
LOTS 2-4, 5R (L.16288 F.488), 8R (L.16288 F.502) AND 9

TAX MAP: 42 GRID: 24  
6TH ELECTION DISTRICT

ZONED: R-12

PARCEL: 138 & 138-140  
HOWARD COUNTY, MARYLAND

**ROBERT H. VOGEL ENGINEERING, INC.**  
ENGINEERS • SURVEYORS • PLANNERS  
3300 N. RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043  
TEL: 410.461.7666 FAX: 410.461.8961

DESIGN BY: RHV  
DRAWN BY: TOVE  
CHECKED BY: RHV  
DATE: SEPTEMBER 2018  
SCALE: AS SHOWN  
W.O. NO.: 12-05

PROFESSIONAL CERTIFICATE  
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. 11643 EXPIRATION DATE: 09-27-2020

1 SHEET OF 12



**NOTE:**

1. THE EXISTING PROPERTY CORNERS SHALL BE FIELD LOCATED AND REMAIN UNDISTURBED DURING THE CONSTRUCTION OF THE SIDEWALK AND RAMP.  
 2. THE SIDEWALK SHOWN HEREON FROM MARY LANE TO ROSE LANE ON THE NORTH SIDE OF JONES ROAD IS SUBJECT TO, AT MINIMUM, A REVERSIBLE GRADING EASEMENT FROM THE ADJOINING OWNERS OF LOT 1 MORGAN, LOT 7 MANAGO AND LOT 11 EDLEY.

**NOTE:**

THE SIDEWALK SHOWN HEREON ACROSS THE NORTH SIDE OF JONES ROAD IS SUBJECT TO, AT MINIMUM, A REVERSIBLE GRADING EASEMENT FROM THE ADJOINING OWNER, LOT 7 MANAGO.

**NOTES:**

1. IN THE DIRECTION FACING A TRAFFIC CONTROL SIGN:  
 A) THERE SHALL BE A MINIMUM OF 40' BETWEEN THE SIGN FACE AND CLOSEST TREE FOR ALL STOP SIGNS.  
 B) THERE SHALL BE A MINIMUM OF 35' BETWEEN THE SIGN FACE AND CLOSEST TREE FOR ALL SIGNS OTHER THAN A STOP SIGN.  
 C) A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.  
 2. REFER TO SHEETS 8-10 FOR JONES ROAD WIDENING CROSS SECTIONS AND DETAILS.

| STREET LIGHT LOCATIONS |          |             |   |
|------------------------|----------|-------------|---|
| ROAD NAME              | STATION  | OFFSET      | FIXTURE/POLE TYPE   |
| JONES ROAD             | 10+41.58 | 23.21' LEFT | 150 WATT LED PRIMER POST-TOP FIXTURE MOUNTED ON A 14' BLACK FIBERGLASS POLE |
| CARBO DRIVE            | 1+95.09  | 21' RIGHT   | LED 100 WATT COLONIAL FIXTURE MOUNTED ON A 14' BLACK FIBERGLASS POLE        |
| CARBO DRIVE            | 3+85.59  | 20.3' RIGHT | LED 100 WATT COLONIAL FIXTURE MOUNTED ON A 14' BLACK FIBERGLASS POLE        |
| CARBO DRIVE            | 5+76.67  | 20.6' RIGHT | LED 100 WATT COLONIAL FIXTURE MOUNTED ON A 14' BLACK FIBERGLASS POLE        |
| CARBO DRIVE            | 7+20.27  | 19.2' LEFT  | LED 100 WATT COLONIAL FIXTURE MOUNTED ON A 14' BLACK FIBERGLASS POLE        |
| CARBO DRIVE            | 10+40.54 | 6.3' RIGHT  | LED 100 WATT COLONIAL FIXTURE MOUNTED ON A 14' BLACK FIBERGLASS POLE        |
| CARBO DRIVE            | 0+21.58  | 178' LEFT   | 150 WATT LED PRIMER POST-TOP FIXTURE MOUNTED ON A 14' BLACK FIBERGLASS POLE |

**LEGEND:**

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJACENT PROPERTY LINE
- EXISTING PAVING
- EXISTING UTILITY POLE
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING TREELINE
- CENTERLINE OF EXISTING STREAM
- EXISTING SPECIMEN TREE
- EXISTING WETLANDS
- EXISTING WETLAND BUFFER
- PUBLIC 100-YEAR FLOOD PLAN ECP-17-006
- EXISTING FOREST CONSERVATION EASEMENT (RETENTION) (PLAT 21417)
- FOREST CONSERVATION EASEMENT (RETENTION)
- PRIVATE USE-IN-COMMON ACCESS EASEMENT
- PUBLIC SEWER, WATER & UTILITY EASEMENT
- PUBLIC WATER & UTILITY EASEMENT
- PRIVATE STORM DRAIN AND STORM WATER MANAGEMENT EASEMENT
- 10' PUBLIC TREE MAINTENANCE EASEMENT
- STORMDRAIN
- SIDEWALK
- PROPOSED TREELINE
- CURB & GUTTER
- MICRO-BORE RETENTION FACILITY (M-6)
- NON-CREDITED OPEN SPACE
- RECREATIONAL OPEN SPACE
- STREET LIGHT

| CURVE TABLE         |         |         |         |           |                     |
|---------------------|---------|---------|---------|-----------|---------------------|
| CURVE               | ARC     | RADIUS  | TANGENT | DELTA     | CHORD               |
| 6+65.87 - 8+14.30   | 148.44' | 125.00' | 84.37'  | 69°02'16" | N84°55'39"W 139.87' |
| 10+73.60 - 14+63.26 | 389.66' | 350.00' | 217.81' | 63°47'17" | S82°48'09"E 369.85' |

| SIGNAGE LOCATION CHART |          |         |                        |                  |
|------------------------|----------|---------|------------------------|------------------|
| ROAD NAME              | STATION  | OFFSET  | TYPE                   |                  |
| CARBO DRIVE            | 0+36.64  | 16.9 LT | R1-1                   | STOP SIGN        |
| CARBO DRIVE            | 0+36.64  | 16.9 LT | STREET NAME SIGN       |                  |
| CARBO DRIVE            | 1+52.96  | 20.7 RT | R2-1                   | SPEED LIMIT SIGN |
| CARBO DRIVE            | 2+00.32  | 20.7 RT | LIC ADDRESS SIGN       |                  |
| CARBO DRIVE            | 3+90.32  | 20.7 RT | LIC ADDRESS SIGN       |                  |
| CARBO DRIVE            | 5+80.84  | 20.7 RT | LIC ADDRESS SIGN       |                  |
| CARBO DRIVE            | 10+38.83 | 0.0     | DEAD END SIGN          |                  |
| CARBO DRIVE            | 10+38.83 | 0.0     | R7-1 "NO PARKING" SIGN |                  |

**OWNER/DEVELOPER**  
 HOWARD COUNTY HOUSING COMMISSION  
 9770 PATUXENT WOODS DR., SUITE 100  
 COLUMBIA, MD 21046  
 ATTN: PETER ENGEL  
 (410) 313-6316

| NO. | REVISION | DATE |
|-----|----------|------|
|     |          |      |

PRELIMINARY PLAN  
**PRELIMINARY LAYOUT PLAN**  
**GREENWOOD VILLAGE - PHASE 1**  
 LOTS 1-4, NON-BUILDABLE BULK PARCELS A-C  
 AND OPEN SPACE LOTS 5-11  
A RE-SUBDIVISION OF THE "NORWOOD SUBDIVISION", SECTION E-4  
 LOTS 2-4, 5R (L16288 F.488), 8R (L16288 F.502) AND 9

TAX MAP: 42 CRD: 24  
 6TH ELECTION DISTRICT      ZONED: R-12      PARCELS: 138 & 138-140  
 HOWARD COUNTY, MARYLAND

**ROBERT H. VOGEL ENGINEERING, INC.**  
 ENGINEERS • SURVEYORS • PLANNERS  
 3300 N. RIDGE ROAD, SUITE 110, ELICOTT CITY, MD 21043  
 TEL: 410.461.7666      FAX: 410.461.8961

DESIGN BY: RHV  
 DRAWN BY: TGVE  
 CHECKED BY: RHV  
 DATE: SEPTEMBER 2018  
 SCALE: AS SHOWN  
 W.O. NO.: 12-05

PROFESSIONAL CERTIFICATE  
 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. 11483 EXPIRATION DATE: 09-27-2020

2 SHEET OF 12

TENTATIVELY APPROVED  
 DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY

*William J. Kelly*  
 PLANNING DIRECTOR

10-2-18  
 DATE

**PRELIMINARY LAYOUT PLAN**

SCALE: 1"=50'









| SOILS LEGEND                |  |             |          |            |     |
|-----------------------------|--|-------------|----------|------------|-----|
| HOWARD COUNTY SOILS MAP #24 |  |             |          |            |     |
| SYMBOL                      | NAME / DESCRIPTION                                   | HYDRO GROUP | K FACTOR | CRS. SLOPE |     |
| CnC                         | CHILLUM LOAM, 5 TO 10 PERCENT SLOPES                 | NO          | B        | 0.37       | YES |
| RuB                         | RUSSETT AND BELTSVILLE SOILS, 2 TO 5 PERCENT SLOPES  | NO          | C        | 0.40       | NO  |
| RuC                         | RUSSETT AND BELTSVILLE SOILS, 5 TO 10 PERCENT SLOPES | NO          | C        | 0.24       | YES |
| Tg                          | FALLSINGTON SANDY LOAM, 0 TO 2 PERCENT SLOPES        | YES         | D        | 0.24       | NO  |
| WuB                         | WOODSTOWN SANDY LOAM, 2 TO 5 PERCENT SLOPES          | YES         | C        | 0.24       | NO  |
| CxD                         | CROOM AND EYEBORO SOILS, 10 TO 15 PERCENT SLOPES     | NO          | C        | 0.37       | YES |
| EyC                         | EYEBORO LOAMY SAND, 2 TO 10 PERCENT SLOPES           | NO          | A        | 0.15       | NO  |

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY  
 K-FACTOR =  $K_w \theta^{-0.4}$  DEPTH  
 NOTE:  
 HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT  
 OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH  
 A SLOPE GREATER THAN 5 PERCENT

| LEGEND: |  |
|---------|--|
|         | PROPERTY LINE  |
|         | RIGHT-OF-WAY LINE  |
|         | ADJOINING PROPERTY LINE  |
|         | EXISTING PAVING  |
|         | EXISTING UTILITY POLE  |
|         | EXISTING SANITARY MANHOLE                                      |
|         | EXISTING SANITARY LINE   |
|         | EXISTING FIRE HYDRANT  |
|         | EXISTING WATER LINE  |
|         | EXISTING TREENLINE   |
|         | CENTERLINE OF EXISTING STREAM                                  |
|         | EXISTING SPECIMEN TREE   |
|         | EXISTING WETLANDS  |
|         | EXISTING WETLAND BUFFER  |
|         | PUBLIC 100-YEAR FLOOD PLAIN ECP-17-1008                        |
|         | EXISTING FOREST CONSERVATION EASEMENT (RETENTION) (PLAT 21417) |
|         | FOREST CONSERVATION EASEMENT                                   |
|         | PRIVATE USE-IN-COMMON ACCESS EASEMENT                          |
|         | PUBLIC SEWER, WATER & UTILITY EASEMENT                         |
|         | PUBLIC WATER & UTILITY EASEMENT                                |
|         | PRIVATE STORM DRAIN AND STORM WATER MANAGEMENT EASEMENT        |
|         | 10' PUBLIC TREE MAINTENANCE EASEMENT                           |
|         | STORM DRAIN  |
|         | SIDEWALK   |
|         | PROPOSED TREENLINE   |
|         | CURB & GUTTER  |
|         | MICRO-BIORETENTION FACILITY (M-6)                              |
|         | STREET LIGHT   |
|         | SOILS BOUNDARY   |
|         | LIMIT OF DISTURBANCE   |
|         | PERIMETER LANDSCAPING  |
|         | STREET TREE  |
|         | SHRUB  |
|         | LANDSCAPE PERIMETER  |
|         | BGE GREEN ZONE   |
|         | BGE YELLOW ZONE  |
|         | WP-18-015 SPECIMEN TREE REPLACEMENT PLANTING                   |

- NOTES:
- IN THE DIRECTION FACING A TRAFFIC CONTROL SIGN:
    - THERE SHALL BE A MINIMUM OF 40' BETWEEN THE SIGN FACE AND CLOSEST TREE FOR ALL STOP SIGNS.
    - THERE SHALL BE A MINIMUM OF 35' BETWEEN THE SIGN FACE AND CLOSEST TREE FOR ALL SIGNS OTHER THAN A STOP SIGN.
    - A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.

- NOTES:
- REFER TO SHEET 6 FOR LANDSCAPE SCHEDULE A, STREET TREE REQUIREMENTS AND LANDSCAPING NOTES AND DETAILS.
  - REFER TO SHEET 6 FOR FOREST CONSERVATION COMPUTATIONS, NOTES AND DETAILS.

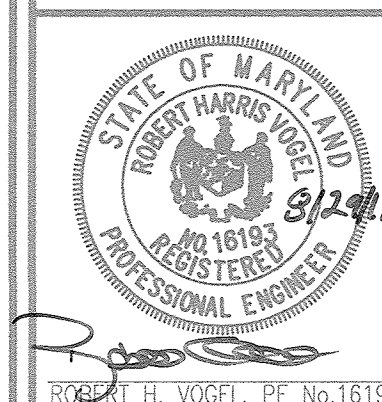
OWNER/DEVELOPER  
 HOWARD COUNTY HOUSING COMMISSION  
 9770 PATUXENT WOODS DR. SUITE 100  
 COLUMBIA, MD 21046  
 ATTN: PETER ENGEL  
 (410) 313-6316

| NO. | REVISION | DATE |
|-----|----------|------|
|     |          |      |

PRELIMINARY PLAN  
 PRELIMINARY LANDSCAPE PLAN  
**GREENWOOD VILLAGE - PHASE 1**  
 LOTS 1-4, NON-BUILDABLE BULK PARCELS A-C  
 AND OPEN SPACE LOTS 5-11  
 A RE-SUBDIVISION OF THE "NORDAW SUBDIVISION" - SECTION 5-4  
 LOTS 2-4, 5R (L-16288 F-488), 8R (L-16288 F-502) AND 9

TAX MAP: 42 GRID: 24 PARCEL: 136 & 138-140  
 8TH ELECTION DISTRICT ZONED: R-12 HOWARD COUNTY, MARYLAND

**ROBERT H. VOGEL ENGINEERING, INC.**  
 ENGINEERS • SURVEYORS • PLANNERS  
 3300 N. RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043  
 TEL: 410-461-7666 FAX: 410-461-8961



DESIGN BY: RHV  
 DRAWN BY: TCVE  
 CHECKED BY: RHV  
 DATE: SEPTEMBER 2018  
 SCALE: AS SHOWN  
 W.O. NO.: 12-05

PROFESSIONAL CERTIFICATE  
 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. MY EXPIRATION DATE IS 09-24-2020.

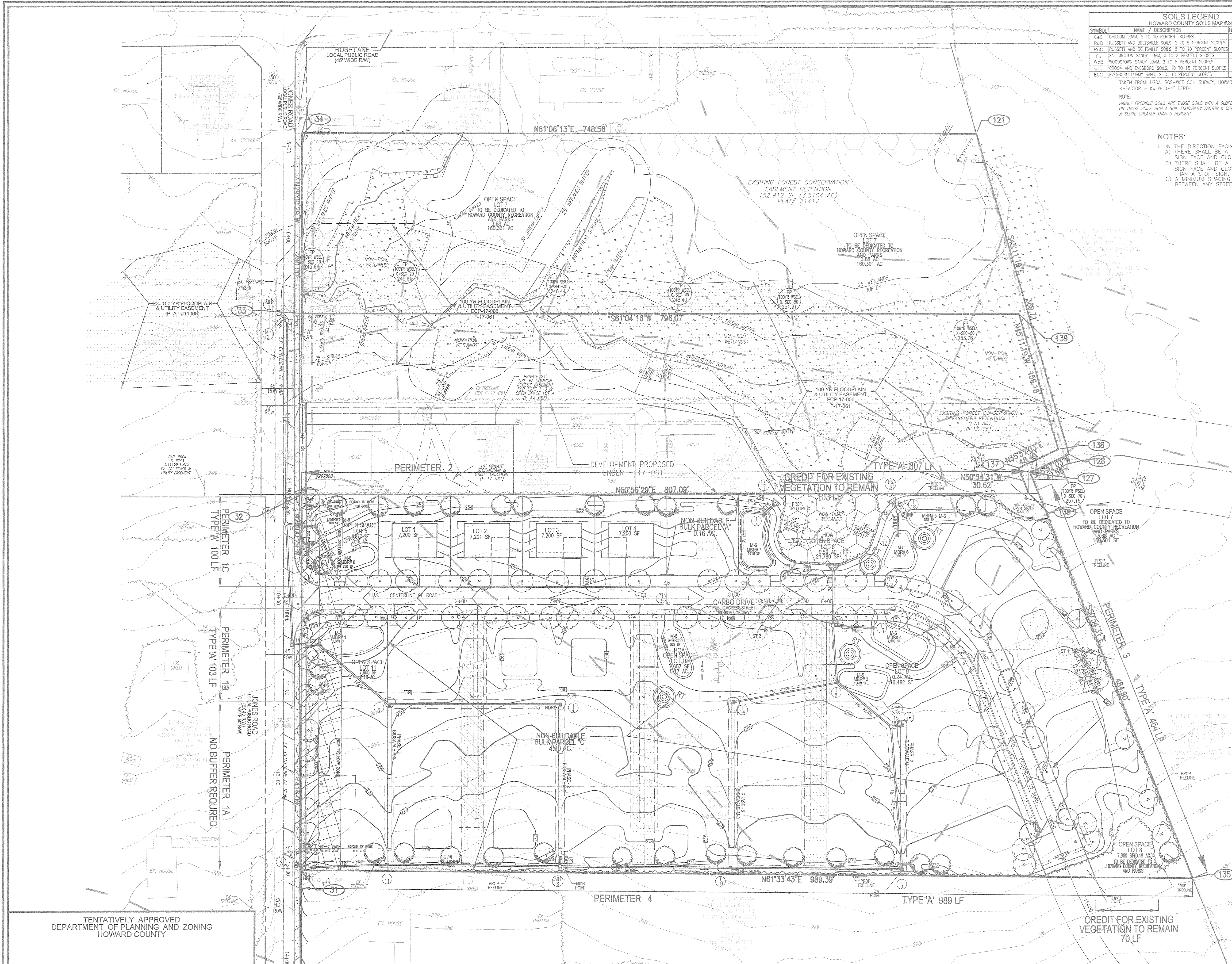
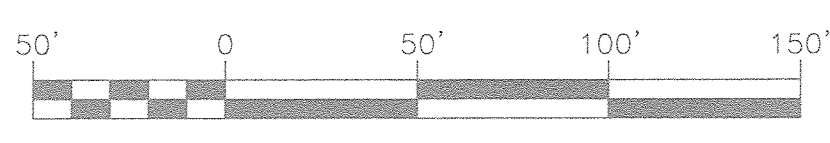
4 SHEET OF 12

TENTATIVELY APPROVED  
 DEPARTMENT OF PLANNING AND ZONING  
 HOWARD COUNTY

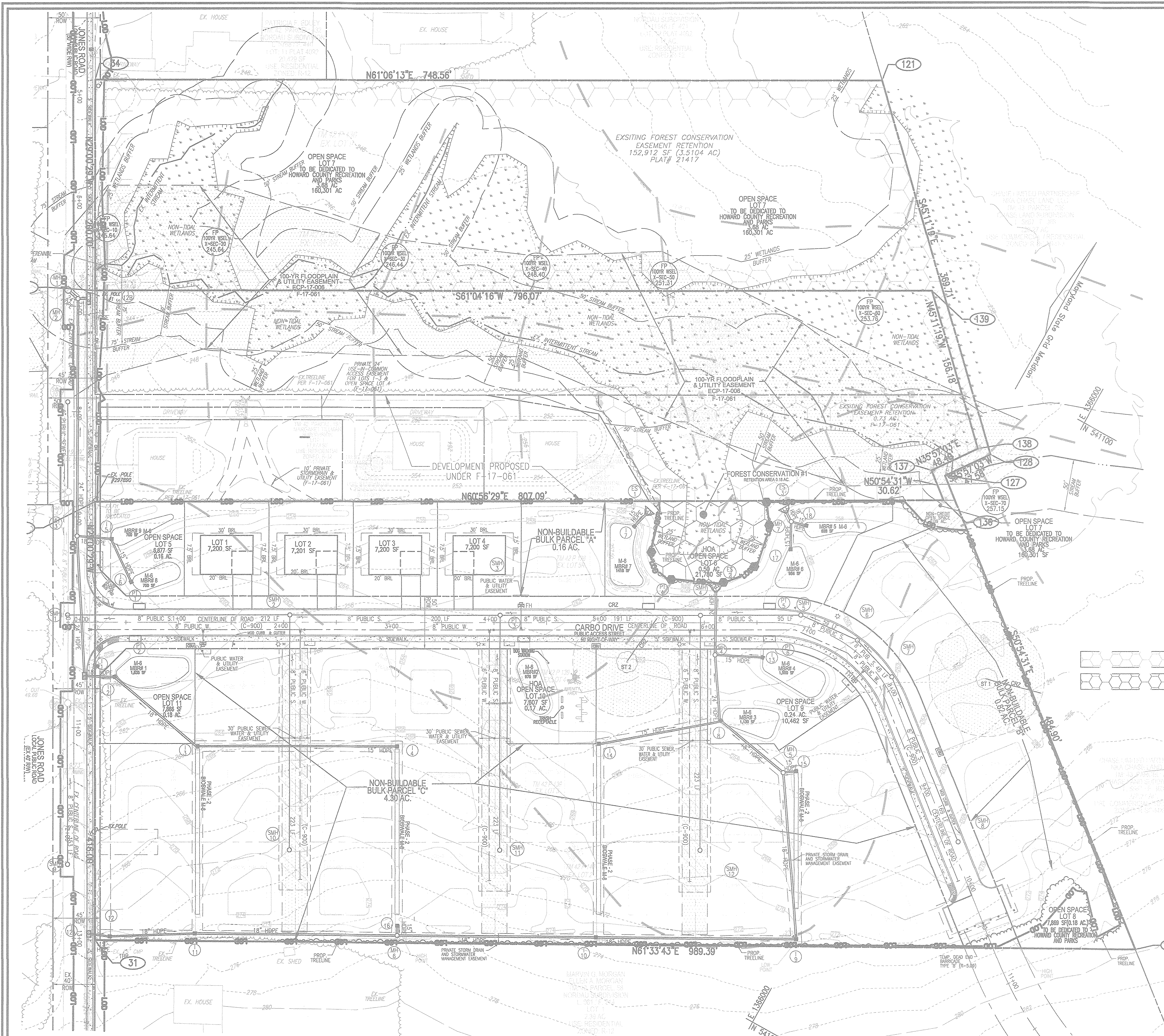
*Valerie J. ...*  
 PLANNING DIRECTOR

10-278  
 DATE

PRELIMINARY LANDSCAPE PLAN  
 SCALE: 1"=50'







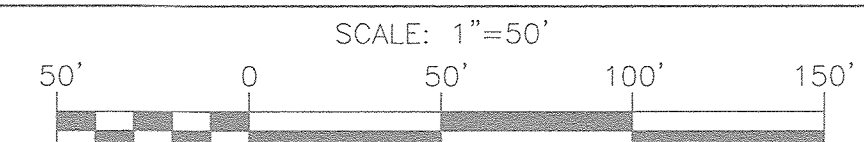
**LEGEND:**

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJACENT PROPERTY LINE
- EXISTING PAVING
- EXISTING UTILITY POLE
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
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- EXISTING WETLAND BUFFER
- PUBLIC 100-YEAR FLOOD PLAIN
- PRIVATE USE-IN-COMMON ACCESS EASEMENT
- PUBLIC SEWER, WATER & UTILITY EASEMENT
- PUBLIC WATER & UTILITY EASEMENT
- PRIVATE STORM DRAIN AND STORM WATER MANAGEMENT EASEMENT
- 10' PUBLIC TREE MAINTENANCE EASEMENT
- STORMDRAIN
- SIDEWALK
- TREELINE
- CURB & GUTTER
- SOILS BOUNDARY
- LIMIT OF DISTURBANCE
- FCE SIGN LOCATION
- EXISTING FCE SIGN LOCATION

**VICINITY MAP**  
SCALE: 1"=1,000'  
ADC MAP COORDINATE: 41-A2

- GENERAL NOTES**
- WATERSHED NAME: LITTLE PATUXENT RIVER  
WATERSHED NUMBER: 2131105
- A. GROSS SITE AREA (PROJECT SITE LOTS 2-4 & 5R = 8.73): 8.73 AC. (PROJECT SITE)
  - +0.03 Connecting piece - L16288 F.488 (WP-15-09B): 8.76 AC.
  - +0.02 Connecting piece - L16288 F.502 (WP-15-09B): 8.78 AC.
  - + LOTS 8R & 9 = 3.57= 12.35 AC.
  - NET SITE AREA (PROJECT SITE): 8.73 AC. (PROJECT SITE)
  - B. AREA OF 100-YEAR FLOODPLAIN: 0.03 AC. (PROJECT SITE)
  - C. AREA OF WETLANDS AND BUFFERS(ONSITE): 0.24 AC. (PROJECT SITE)
  - D. AREA OF > 25% STEEP SLOPES: 0.05 AC. (PROJECT SITE)
  - E. EXISTING FOREST: 8.8 AC. (FSD)
  - F. ZONED: R-12
  - G. EXISTING USE: VACANT RESIDENTIAL
  - H. PROPOSED USE:

**PRELIMINARY FOREST CONSERVATION PLAN**



**Eco-Science Professionals, Inc.**  
CONSULTING ECOLOGISTS  
1100 W. BROADWAY, SUITE 200  
COLUMBIA, MD 21046  
TEL: 410-461-7666 FAX: 410-461-8961

*[Signature]*

TENTATIVELY APPROVED  
DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY

**OWNER/DEVELOPER**  
HOWARD COUNTY HOUSING COMMISSION  
9770 PATUXENT WOODS DR., SUITE 100  
COLUMBIA, MD 21046  
ATTN: PETER ENGEL  
(410) 313-6316

10-2-18  
DATE

*[Signature]*  
PLANNING DIRECTOR

**Forest Stand Data**

| Map | Common Name | Scientific Name | Common Name | Map | Common Name | Scientific Name | Common Name |
|-----|-------------|-----------------|-------------|-----|-------------|-----------------|-------------|
| F1  | White Oak   | Quercus alba    | White Oak   | F2  | Red Oak     | Quercus rubra   | Red Oak     |

**SOILS LEGEND**  
HOWARD COUNTY SOILS MAP #24

| SYMBOL | NAME / DESCRIPTION                                   | HYDROIC GROUP | FACTOR | CLAY SLOPE (%) | EROSION RISK |
|--------|--|---------------|--------|----------------|--------------|
| C4C    | CHILLUM LOAM, 5 TO 10 PERCENT SLOPES                 | NO            | B      | 0.37           | YES          |
| R4B    | RUSSETT AND BELTSVILLE SOILS, 2 TO 4 PERCENT SLOPES  | NO            | C      | 0.40           | NO           |
| R4C    | RUSSETT AND BELTSVILLE SOILS, 5 TO 10 PERCENT SLOPES | NO            | C      | 0.24           | YES          |
| Fa     | FALLSINGTON SANDY LOAM, 0 TO 2 PERCENT SLOPES        | YES           | D      | 0.24           | NO           |
| W4B    | WOODSTOWN SANDY LOAM, 2 TO 5 PERCENT SLOPES          | YES           | C      | 0.24           | NO           |
| C4D    | CLAYTON AND EYEBROOK SOILS, 10 TO 15 PERCENT SLOPES  | NO            | C      | 0.37           | YES          |
| E4C    | EYEBROOK LOAMY SAND, 2 TO 10 PERCENT SLOPES          | NO            | A      | 0.15           | NO           |

TAKEN FROM: USDA, SCS-MEB SOIL SURVEY, HOWARD COUNTY  
K-FACTOR = Kw @ 0-4" DEPTH

**NOTE:**  
HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT

| NO. | REVISION | DATE |
|-----|----------|------|
|     |          |      |

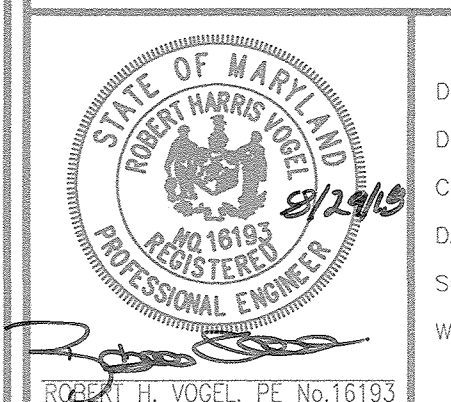
**PRELIMINARY PLAN**  
**PRELIMINARY FOREST CONSERVATION PLAN**  
**GREENWOOD VILLAGE - PHASE 1**  
LOTS 1-4, NON BUILDABLE BULK PARCELS A-C  
AND OPEN SPACE LOTS 5-11  
A RE-SUBDIVISION OF THE HOWARD SUBDIVISION - SECTION E-4  
LOTS 2-4, 5R (L-16288 F.488), 8R (L-16288 F.502) AND 9

TAX MAP: 42 GRID: 24  
6TH ELECTION DISTRICT

ZONED: R-12

PARCELS 136 & 138-140  
HOWARD COUNTY, MARYLAND

**ROBERT H. VOGEL ENGINEERING, INC.**  
ENGINEERS • SURVEYORS • PLANNERS  
3300 N. RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043  
TEL: 410-461-7666 FAX: 410-461-8961



**DESIGN BY:** RHW  
**DRAWN BY:** TGVE  
**CHECKED BY:** RHW  
**DATE:** SEPTEMBER 2018  
**SCALE:** AS SHOWN  
**W.O. NO.:** 12-05

**PROFESSIONAL CERTIFICATE**  
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. MY LICENSE NO. IS 16193. EXPIRATION DATE: 02-27-2020.

5 SHEET OF 12



HOWARD COUNTY  
FOREST CONSERVATION WORKSHEET

ZONED R-12  
NET TRACT AREA:  
A. TOTAL TRACT AREA = 8.75 AC.  
B. AREA WITHIN 100 YEAR FLOODPLAIN = 0.03 AC.  
C. AREA TO REMAIN IN AGRICULTURAL PRESERVATION = 0.00 AC.  
D. NET TRACT AREA = 8.75 AC

LAND USE CATEGORY  
INPUT THE NUMBER "1" UNDER THE APPROPRIATE LAND USE ZONING, AND LIMIT TO ONLY ONE ENTRY. ZONED R-12

|     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|
| ARA | MDR | IDA | HDR | MPD | CIA |
| 0   | 0   | 0   | 1   | 0   | 0   |

E. AFFOREST THRESHOLD = 15% X 8.75 = 1.31 AC  
F. CONSERVATION THRESHOLD = 20% X 8.75 = 1.75 AC

EXISTING FOREST COVER:  
G. EXISTING FOREST COVER (EXCLUDING FLOODPLAIN) = 8.75 AC  
H. AREA OF FOREST ABOVE AFFORESTATION THRESHOLD = 7.44 AC  
I. AREA OF FOREST ABOVE CONSERVATION THRESHOLD = 7.00 AC

BREAK EVEN POINT:  
(2 X I) + F = BREAK EVEN POINT (0 AC)  
J. FOREST RETENTION ABOVE THRESHOLD W/ NO MITIGATION = 3.15 AC  
K. CLEARING PERMITTED WITHOUT MITIGATION = 5.60 AC

PROPOSED FOREST CLEARING:  
L. TOTAL AREA OF FOREST TO BE CLEARED = 8.57 AC  
M. TOTAL AREA OF FOREST TO BE RETAINED = 0.18 AC - REMAINING WETLAND AREA

PLANTING REQUIREMENTS:  
N. REFORESTATION FOR CLEARING ABOVE CONSERVATION THRESHOLD (L X 25) = 1.75 AC  
O. REFORESTATION FOR CLEARING BELOW CONSERVATION THRESHOLD = 3.14 AC  
P. CREDIT FOR RETENTION ABOVE CONSERVATION THRESHOLD (M-F) = 0.00 AC  
Q. TOTAL REFORESTATION REQUIRED (N+P-O) = 4.89 AC  
R. TOTAL AFFORESTATION REQUIRED (M+F-Q) = 0.00 AC  
S. TOTAL AFFORESTATION REQUIRED = 0.00 AC  
T. TOTAL PLANTING REQUIREMENT (REFORESTATION AND AFFORESTATION) = 4.89 AC

FOREST CONSERVATION EASEMENTS HAVE BEEN ESTABLISHED TO FULFILL A PORTION OF THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY FOREST CONSERVATION MANUAL.  
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 ARE ALLOWED.

OPEN SPACE LOT 7 WAS PREVIOUSLY KNOWN AS NORDUW SUBDIVISION - SECTION E-4, LOTS 8 & 9 (PLAT 21417). THIS PLAT CREATED A FOREST BANK TO BE USED BY AND FOR HOWARD COUNTY HOUSING COMMISSION PROJECTS. THIS BANK IS 2.5104 ACRES IN SIZE, OF WHICH 1.98 ACRES WERE PREVIOUSLY ASSET FOR THE LOTS AT COLLENDY (F-09-112) AND 0.78 ACRES ASSET FOR JAMES-HUSUP PROPERTY (F-15-015). THE BALANCE OF THE FOREST BANK AVAILABLE TO THIS PROJECT, GREENWOOD VILLAGE, IS 0.99 ACRES.

TOTAL FOREST CONSERVATION OBLIGATION OF THIS PROJECT TO BE FULFILLED BY:  
1. 0.89 ACRES OF FOREST RETENTION (NO SURETY REQ) WHICH WILL EXHAUST THE PLAT 21417 FOREST BANK REFORESTATION CREDIT = 0.89 / 2 = 0.45 AC  
2. THE PURCHASE OF THE EQUIVALENT OF 4.306 ACRES OF REFORESTATION CREDIT (4.89 - .489) IN AN APPROVED FOREST BANK TO BE DETERMINED UNDER THE FOREST CONSERVATION EASEMENT.  
3. ESTABLISHING A 0.18 ACRE FOREST RETENTION EASEMENT ON OPEN SPACE LOT 6.

SEQUENCE OF CONSTRUCTION-FOREST CONSERVATION

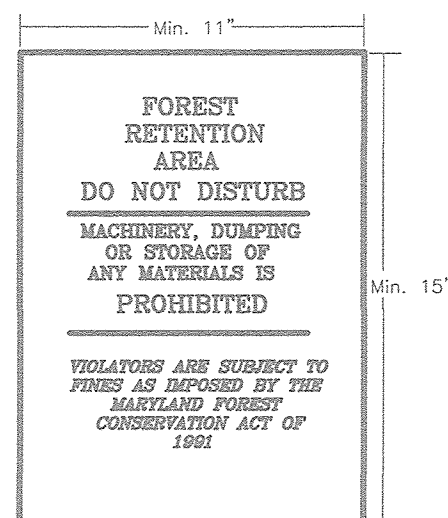
1. PRECONSTRUCTION MEETING /SITE WALK WITH CONTRACTORS AND OTHER RESPONSIBLE PARTIES TO DETERMINE PROTECTION MEASURES TO BE UTILIZED AND TO POINT OUT PARTICULAR TREES TO BE SAVED.
2. STAKE OUT LIMITS OF DISTURBANCE AND TREE PROTECTION FENCING LOCATIONS.
3. INSTALL TREE PROTECTION FENCING; FENCING TO BE INSPECTED BY THE PROJECT ENGINEER OR THE PROJECT ECOLOGIST AND HOWARD COUNTY PLANNING AND ZONING.
4. PROCEED WITH TREE REMOVAL AND SITE IMPROVEMENTS AS PER APPROVED SEDIMENT CONTROL PLAN - TO BE INSPECTED BY HOWARD COUNTY PLANNING AND ZONING.
5. TEMPORARY TREE PROTECTION DEVICES SHALL BE REMOVED AFTER ALL FINISHED GRADING AND UTILITY CONSTRUCTION HAS OCCURRED AND WITH APPROVAL FROM THE HOWARD COUNTY OFFICE OF PLANNING AND ZONING.

FOREST RETENTION AREAS AND NOTES

1. THERE ARE WETLANDS OR WETLAND BUFFERS LOCATED ONSITE.
2. NO RARE, THREATENED OR ENDANGERED SPECIES WERE OBSERVED ON THIS SITE.
3. FORESTED AREAS ADJACENT TO FLOODPLAINS AND STREAM BUFFERS ARE SUBSTANTIALLY RETAINED IN OPEN SPACE LOTS.
4. CHANGES IN GRADING AND RUNOFF WITHIN CONSTRUCTION/INSTALLATION AREAS WILL NOT ADVERSELY AFFECT THE SOILS WITHIN THE FOREST RETENTION AREA. SEDIMENT CONTROL MEASURES WILL REDIRECT CONCENTRATED FLOW RUNOFF TO STORMWATER MANAGEMENT FACILITIES, RETAIN SEDIMENT WITHIN THE CONSTRUCTION SITE, AND/OR REDIRECT CLEAN WATER AWAY FROM CONSTRUCTION AREAS.
5. THE FOREST CONSERVATION EASEMENT HAS BEEN ESTABLISHED TO FULFILL THE REQUIREMENTS OF SECTION 16.1200 OF THE HOWARD COUNTY CODE. 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 ARE ALLOWED.

CONSTRUCTION PERIOD PROTECTION AND MANAGEMENT NOTES FOR FOREST CONSERVATION

- PRE-CONSTRUCTION PHASE  
1. FOR RETENTION AREAS, INSTALL BLAZE ORANGE FENCE AND RETENTION SIGNS BEFORE CONSTRUCTION BEGINS.  
2. FENCING SHALL BE MAINTAINED IN GOOD CONDITION AND PROMPTLY REPAIRED OR RESTORED AS THE SITUATION WARRANTS.  
3. A QUALIFIED TREE CARE EXPERT SHALL DETERMINE IF ROOT PRUNING IS REQUIRED ALONG THE LIMIT OF DISTURBANCE. ROOT PRUNE TREES AS REQUIRED. WATER ANY ROOT-PRUNED TREES IMMEDIATELY AFTER ROOT-PRUNING AND MONITOR FOR SIGNS OF STRESS DURING CONSTRUCTION.
- CONSTRUCTION PHASE  
1. NO DISTURBANCE OR DUMPING IS ALLOWED INSIDE THE TREE RETENTION AREA.  
2. NO EQUIPMENT SHALL BE OPERATED INSIDE THE TREE RETENTION AREA INCLUDING TREE CANOPIES.  
3. IN THE EVENT OF DROUGHT, THE PROTECTED TREES SHALL BE MONITORED FOR SIGNS OF STRESS AND WATERED AS NEEDED.
- POST-CONSTRUCTION PHASE  
1. AT THE DIRECTION OF A QUALIFIED TREE CARE EXPERT, DAMAGES TO RETAINED TREES SHALL BE REPAIRED BY THE CONTRACTOR.  
2. FENCE REMOVAL AND STABILIZATION SHALL BE AS PER THE SEDIMENT AND EROSION CONTROL PLAN.  
3. DO NOT REMOVE SIGNS.



- NOTE:  
1. BOTTOM OF SIGNS TO BE HIGHER THAN TOP OF TREE PROTECTION FENCE.  
2. SIGNS TO BE PLACED APPROXIMATELY 50-100' FEET APART. CONDITIONS ON SITE AFFECTING VISIBILITY MAY WARRANT PLACING SIGNS CLOSER OR FARTHER APART. WHERE SIGNS ARE TO BE PLACED AT THE REAR OF PROPOSED LOTS, SPACING SHALL BE APPROX. 25-30' +/-  
3. ATTACHMENT OF SIGNS TO TREES IS PROHIBITED.  
4. ALL FOREST CONSERVATION SIGNAGE SHALL BE IN PLACE FOR PERPETUITY.  
5. SIGN LOCATION SYMBOL = ●

FOREST CONSERVATION AREA SIGNS  
IF NOT INSTALLED, PROVIDE SIGNAGE AROUND THE NORDUW SUBDIVISION - SECTION E-4, LOTS 8 & 9 (PLAT 21417) FOREST BANK.

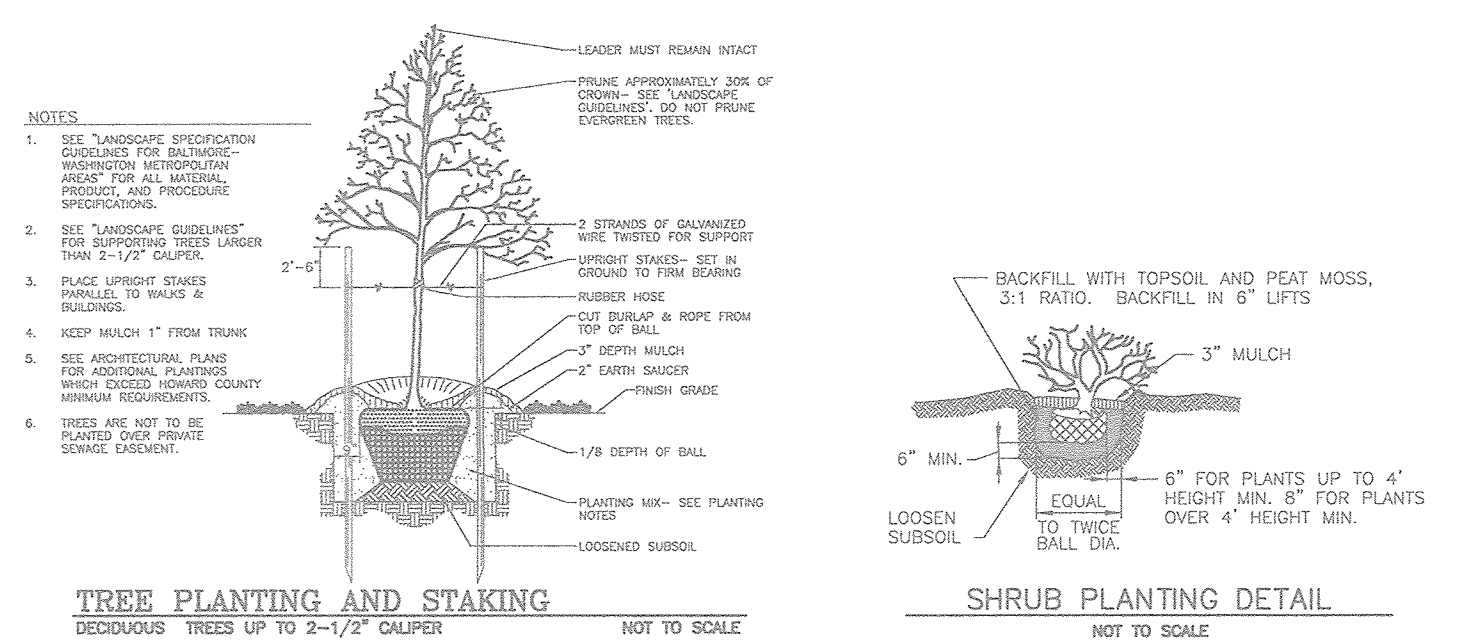
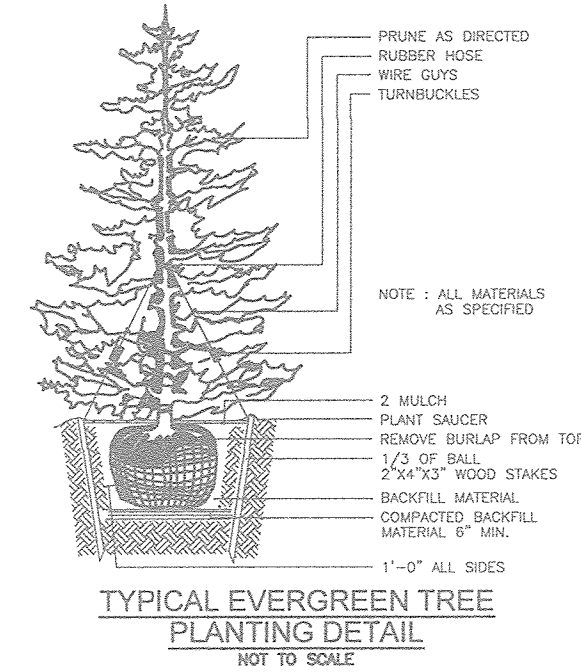
TENTATIVELY APPROVED  
DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY  
*Walter J. Jellie*  
PLANNING DIRECTOR  
10-2-18  
DATE

LANDSCAPE NOTES

1. AT THE TIME OF PLANT INSTALLATION, ALL SHRUBS AND TREES LISTED AND APPROVED ON THE LANDSCAPE PLAN SHALL COMPLY WITH THE PROPER HEIGHT REQUIREMENT IN ACCORDANCE WITH THE HOWARD COUNTY LANDSCAPE MANUAL. IN ADDITION, NO SUBSTITUTIONS OR RELOCATIONS OF THE REQUIRED PLANTINGS MAY BE MADE WITHOUT PRIOR REVIEW AND APPROVAL FROM THE DEPARTMENT OF PLANNING AND ZONING. ANY DEVIATION FROM THE APPROVED LANDSCAPE PLAN MAY RESULT IN DENIAL OR DELAY IN THE RELEASE OF LANDSCAPE SURETY UNTIL SUCH TIME AS ALL REQUIRED MATERIALS ARE PLANTED AND/OR REVISIONS ARE MADE TO THE APPLICABLE PLANS.
2. THE OWNER, TENANT AND/OR THEIR AGENTS SHALL BE RESPONSIBLE FOR MAINTENANCE OF THE REQUIRED LANDSCAPING INCLUDING BOTH PLANT MATERIALS AND BERMS, FENCES AND WALLS. ALL PLANT MATERIALS SHALL BE MAINTAINED IN GOOD GROWING CONDITION, AND WHEN NECESSARY, REPLACED WITH NEW MATERIALS TO ENSURE CONTINUED COMPLIANCE WITH APPLICABLE REGULATIONS. ALL OTHER REQUIRED LANDSCAPING SHALL BE PERMANENTLY MAINTAINED IN GOOD CONDITION, AND WHEN NECESSARY, REPAIRED OR REPLACED.
3. SHOULD ANY TREE DESIGNATED FOR PRESERVATION FOR WHICH LANDSCAPING CREDIT IS GIVEN, DIE PRIOR TO RELEASE OF BONDS, THE OWNER WILL BE REQUIRED TO REPLACE THE TREE WITH THE EQUIVALENT SPECIES OR WITH A TREE WHICH WILL OBTAIN THE SAME HEIGHT, SPREAD, AND GROWTH CHARACTERISTICS. THE REPLACEMENT TREE MUST BE A MINIMUM OF 3 INCHES IN CALIPER AND INSTALLED AS REQUIRED IN THE HOWARD COUNTY LANDSCAPE MANUAL.
4. PLANTINGS SHOWN HEREON ARE THE RESPONSIBILITY OF THE DEVELOPER TO INSTALL DURING THE CONSTRUCTION OF THE FINAL PLAN.
5. SURETY FOR THE PROPOSED LANDSCAPING SHALL BE BASED ON THE NUMBER OF PLANTINGS REQUIRED.

GENERAL NOTES:

1. THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 16.124 OF THE HOWARD COUNTY CODE AND THE LANDSCAPE MANUAL. A FINANCIAL SURETY IN THE AMOUNT OF \$12,900 FOR THE PERIMETER LANDSCAPING (REQUIRED 39 SHADE TREES \$11,700 AND 4 SHADE TREES (SPL. CLEM TREE REPLACEMENT \$1,200) SHALL BE POSTED WITH THE FINAL PLAN DEVELOPERS AGREEMENT.
2. PUBLIC STREET TREES ARE PROVIDED FOR THIS PROJECT IN ACCORDANCE WITH SECTION 16.124(e)(1) OF THE SUBDIVISION REGULATIONS AND THE LANDSCAPE MANUAL. FINANCIAL SURETY (\$ 17,250) SHALL BE POSTED AS PART OF THE FINAL PLAN DEVELOPERS AGREEMENT FOR THE REQUIRED 52 LARGE STREET TREES. AND REQUIRED 11 SMALL STREET TREES.
3. IN A REPORT/PLAN TITLED "WETLAND DELINEATION & FOREST STAND DELINEATION REPORT" PREPARED BY ECO-SCIENCE PROFESSIONALS, INC. DATED DECEMBER 16, 2016 MR. JOHN CANOLES IDENTIFIED THE ONSITE FOREST, WETLANDS AND STREAMS. MR. CANOLES IDENTIFIED TWO (2) SPECIMEN TREES. PER PROJECT PROPOSAL, THE TREES SHALL BE REMOVED.
4. NO GRADING, REMOVAL OF VEGETATIVE COVER OR TREES, PAVING AND NEW STRUCTURES SHALL BE PERMITTED WITHIN THE WETLANDS, STREAM(S) OR THEIR BUFFERS, FOREST CONSERVATION EASEMENT AREAS AND 100-YEAR FLOODPLAIN.



| CATEGORY  | SCHEDULE A<br>PERIMETER LANDSCAPE EDGE |        |        |               |        |           | TOTAL |
|---|--|--------|--------|---------------|--------|-----------|-------|
|   | 1A                                     | 1B     | 1C     | 2             | 3      | 4         |       |
| PERIMETER/FRONTAGE DESIGNATION                  | NONE                                   | A      | A      | A             | A      | A         |       |
| LANDSCAPE TYPE                                  |  |        |        |               |        |           |       |
| LINEAR FEET OF ROADWAY                          | 187                                    | 103    | 100    | 807           | 464    | 989       |       |
| FRONTAGE/PERIMETER                              |  |        |        |               |        |           |       |
| CREDIT FOR EXISTING VEGETATION                  |  |        |        |               |        |           |       |
| (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED) | NO                                     | NO     | NO     | YES<br>103 LF | NO     | YES<br>70 |       |
| CREDIT FOR WALL, FENCE OR BERM                  |  |        |        |               |        |           |       |
| (YES, NO, LINEAR FEET DESCRIBE BELOW IF NEEDED) | NO                                     | NO     | NO     | NO            | NO     | NO        |       |
| NUMBER OF PLANTS REQUIRED                       |  |        |        | 704 LF        |        | 919 LF    |       |
| SHADE TREES                                     | ---                                    | 1:60 2 | 1:60 2 | 1:60 12       | 1:60 8 | 1:60 15   | 39    |
| EVERGREEN TREES                                 | ---                                    | ---    | ---    | ---           | ---    | ---       | ---   |
| SHRUBS  | ---                                    | ---    | ---    | ---           | ---    | ---       | ---   |
| CREDIT FOR EX. INDIVIDUAL TREES                 |  |        |        |               |        |           |       |
| SHADE TREES TO REMAIN                           | ---                                    | ---    | ---    | ---           | ---    | ---       | ---   |
| EVERGREEN TREES TO REMAIN                       | ---                                    | ---    | ---    | ---           | ---    | ---       | ---   |
| NUMBER OF PLANTS PROVIDED                       |  |        |        |               |        |           |       |
| SHADE TREES                                     | ---                                    | 2      | 2      | 12            | 8      | 15        | 39    |
| EVERGREEN TREES                                 | ---                                    | ---    | ---    | ---           | ---    | ---       | ---   |
| OTHER TREES (2:1 SUBSTITUTION)                  | ---                                    | ---    | ---    | ---           | ---    | ---       | ---   |
| SHRUBS (10:1 SUBSTITUTION)                      | ---                                    | ---    | ---    | ---           | ---    | ---       | ---   |

| STREET TREE CALCULATIONS |             |              |              |
|--------------------------|-------------|--------------|--------------|
| STREET NAME              | LINEAR FEET | NO. REQUIRED | NO. PROVIDED |
| CARBO DRIVE              | 2070/40     | 52           | 52           |
| JONES ROAD               | 330/30      | 11           | 11           |

LANDSCAPE SCHEDULE NOTE:

1. ALL PLANT MATERIALS SHALL BE FULL AND HEAVY, BE WELL FORMED AND SYMMETRICAL, CONFORM TO THE MOST CURRENT AAN SPECIFICATIONS AND BE INSTALLED IN ACCORDANCE WITH AHD PLANTING SPECIFICATIONS.
2. CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO DIGGING.
3. FINAL LOCATION OF PLANT MATERIAL MAY NEED TO VARY TO MEET FINAL FIELD CONDITIONS. TREES SHALL NOT BE PLANTED IN THE BOTTOM OF DRAINAGE SWALES.
4. CONTRACTOR SHALL VERIFY PLANT QUANTITIES PRIOR TO BIDDING. IF PLAN DIFFERS FROM LANDSCAPE SCHEDULE, THE PLAN SHALL GOVERN.

OWNER/DEVELOPER

HOWARD COUNTY HOUSING COMMISSION  
9770 PATUXENT WOODS DR., SUITE 100  
COLUMBIA, MD 21046  
ATTN: PETER ENGL  
(410) 313-6316

| SPECIMEN TREE CHART |                |                 |                |  |               |
|---------------------|----------------|-----------------|----------------|--|---------------|
| NO.                 | SIZE (IN. DBH) | CRZ (FEET/BUSS) | COMMON NAME    | CONDITION  | COMMENTS      |
| ST 1                | 36.5"          | 54.75'          | AMERICAN BEECH | GOOD CONDITION   | TO BE REMOVED |
| ST 2                | 34.5"          | 51.75'          | WHITE OAK      | FAIR CONDITION, SOME LIMB DIEBACK                        | TO BE REMOVED |
|                     |                |                 |                | NOTE: A DEER FEED STATION HAS BEEN ATTACHED TO THE TRUNK |               |

NOTE: THE DEVELOPER SHALL PLANT FOUR 2-1/2" MINIMUM CALIPER NATIVE SHADE TREES IN ADDITION TO THE REQUIRED PERIMETER LANDSCAPING TO MITIGATE THE REMOVAL OF THE TWO SPECIMEN TREES. PER WP-18-015 APPROVED ON AUGUST 30, 2017, THE ADDITIONAL TREES ON ALL FUTURE SUBDIVISION PLANS WILL BE INCLUDED. THESE TREES WILL BE BONDED ALONG WITH THE REQUIRED PERIMETER LANDSCAPING AS PART OF THE FINAL SUBDIVISION PLAN.

| SPECIMEN TREE - REPLACEMENT CALCULATIONS |                          |              |
|--|--------------------------|--------------|
| NO. TO BE REMOVED                        | NO. REPLACEMENT REQUIRED | NO. PROVIDED |
| 2  | 4                        | 4            |
|  |                          | 2-1/2" CAL.  |

REFER TO WP 18-015 - 2-1/2" CALIPER NATIVE SHADE TREES REQUIRED

DPE'S POLICIES GOVERNING THE PLACEMENT OF LANDSCAPING AND STREET TREES IN PROXIMITY TO BGE'S POWER LINES OR TRANSMISSION RIGHT-OF-WAY ARE BASED ON BGE'S PUBLISHED "PLANTING ZONE CONCEPT" WHICH STIPULATES THE MAXIMUM ALLOWABLE SIZE OF PLANT MATERIALS FOR THREE DEFINED ZONES. AS THE DISTANCE FROM BGE EQUIPMENT INCREASES, SO DOES THE SIZE OF THE ALLOWABLE PLANT MATERIALS. THESE THREE ZONES ARE DEFINED AS FOLLOWS:

| ZONE   | DISTANCE FROM THE BGE POWER LINE OR TRANSMISSION RIGHT-OF-WAY | MAXIMUM HEIGHT OF VEGETATION |
|--------|---|------------------------------|
| GREEN  | UP TO 20 FEET   | 25 FEET                      |
| YELLOW | BETWEEN 20 FEET AND 45 FEET                                   | 40 FEET                      |
| RED    | BEYOND 45 FEET  | ABOVE 40 FEET                |

B G & E NOTES:

1. BGE RESERVES THE RIGHT TO TRIM, TOP OR CUT DOWN ANY TREE IN PROXIMITY TO THE LINE THAT IN THE OPINION OF BGE SHALL BE DEEMED A HAZARD TO THE SAFE AND RELIABLE DELIVERY OF ELECTRICITY.
2. THE DEPARTMENT OF PLANNING AND ZONING MAY AUTHORIZE THE TRIMMING OR REMOVAL OF TREES OR VEGETATION IMMEDIATELY ADJACENT TO THE BGE R/W OR EASEMENT, IF BGE DETERMINES THE TREES ARE COMPROMISING THE SAFETY OF A TRANSMISSION LINE LOCATED WITHIN THEIR UTILITY R/W OR EASEMENT. IF BGE INTENDS TO TRIM OR REMOVE TREES WITHIN A FOREST CONSERVATION EASEMENT, A LETTER SPECIFYING THE LOCATION AND SCOPE OF WORK NEEDS TO BE SENT TO DPE AT LEAST 30 DAYS IN ADVANCE OF UNDERSTANDING THE WORK. DPE UNDERSTANDS CONSTITUTION ENERGY'S NEED TO PROTECT ITS TRANSMISSION LINES AND WILL NOT UNDERSIGNABLE WITHIN TRANSMISSION.
3. CALL MISS UTILITY TO MARK UP THE LOCATION OF EXISTING GAS LINE BEFORE PLANTING STREET TREES ALONG JONES ROAD & PLANT STREET TREES 10' AWAY FROM EXISTING GASLINE AS REQUIRED.

NOTE:

1. IN THE DIRECTION FACING A TRAFFIC CONTROL SIGN:  
1) THERE SHALL BE A MINIMUM OF 40' BETWEEN THE SIGN FACE AND CLOSEST TREE FOR ALL STOP SIGNS.  
2) THERE SHALL BE A MINIMUM OF 35' BETWEEN THE SIGN FACE AND CLOSEST TREE FOR ALL SIGNS OTHER THAN A STOP SIGN.  
3) A MINIMUM SPACING OF 20' SHALL BE MAINTAINED BETWEEN ANY STREET LIGHT AND ANY TREE.

| NO. | REVISION | DATE |
|-----|----------|------|
|     |          |      |
|     |          |      |
|     |          |      |
|     |          |      |

PRELIMINARY PLAN  
PRELIMINARY LANDSCAPE & FOREST  
CONSERVATION PLAN - NOTES AND DETAILS  
**GREENWOOD VILLAGE - PHASE 1**  
LOTS 1-4, NON BUILDABLE BULK PARCELS A-C  
AND OPEN SPACE LOTS 5-11  
A RE-SUBDIVISION OF THE NORDUW SUBDIVISION - SECTION E-4  
LOTS 2-4, 5R (L-16288 F.488), 5R (L-16288 F.502) AND 9

TAX MAP: 42 GRID: 24  
6TH ELECTION DISTRICT  
ZONED: R-12  
PARCEL: 136 & 139-140  
HOWARD COUNTY, MARYLAND

**ROBERT H. VOGEL ENGINEERING, INC.**  
ENGINEERS • SURVEYORS • PLANNERS  
3300 N. RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043  
TEL: 410.461.7666 FAX: 410.461.8961

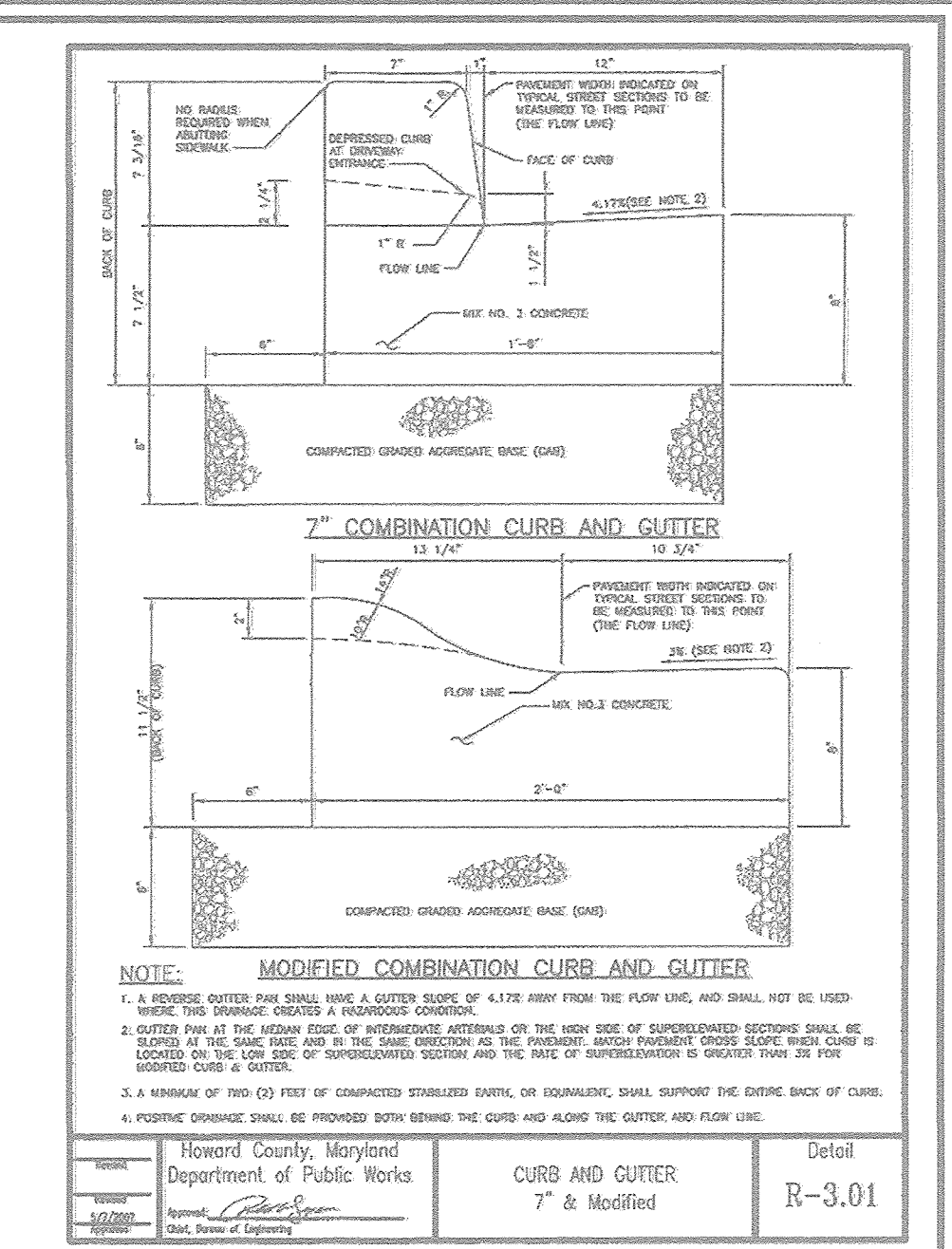
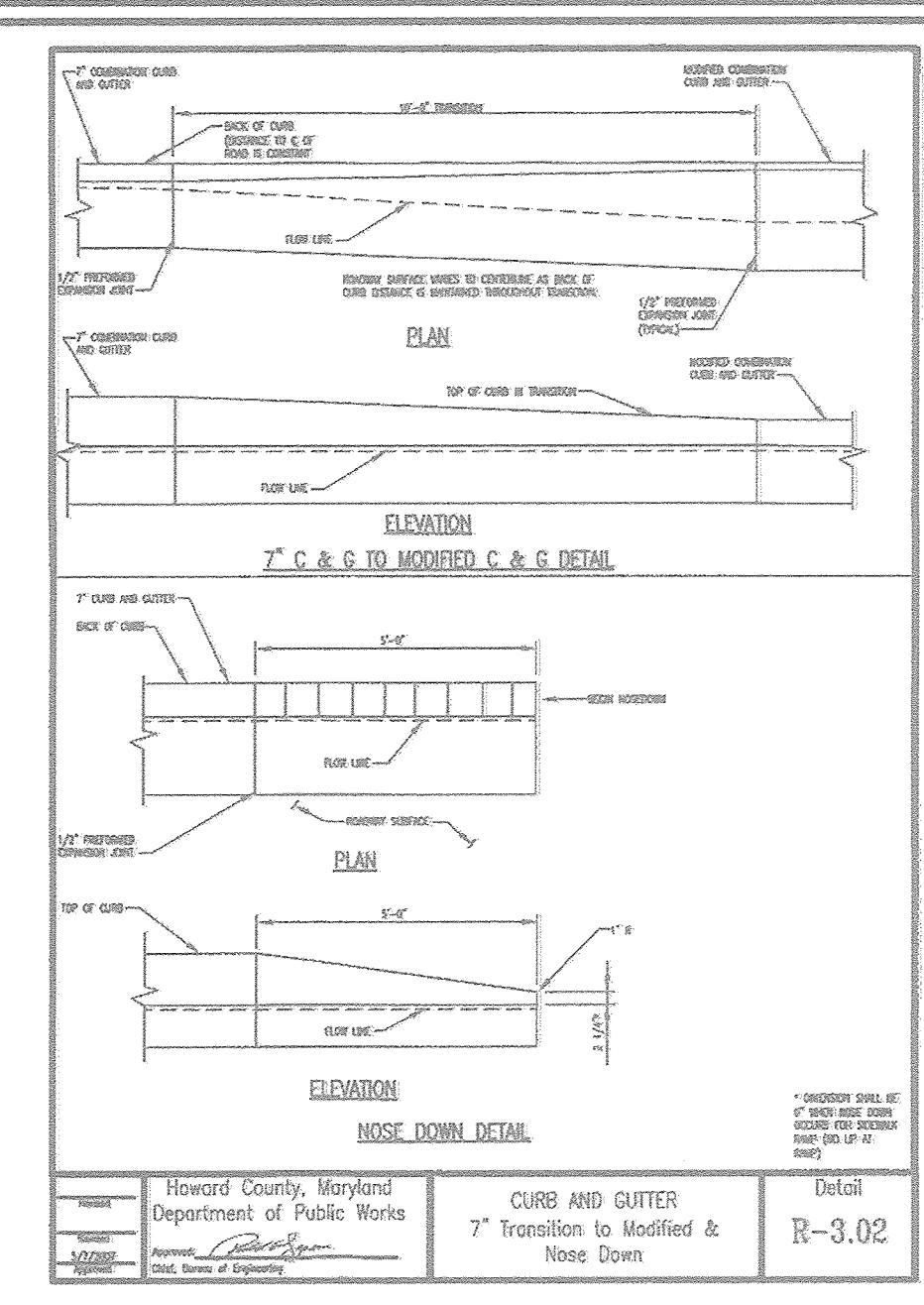
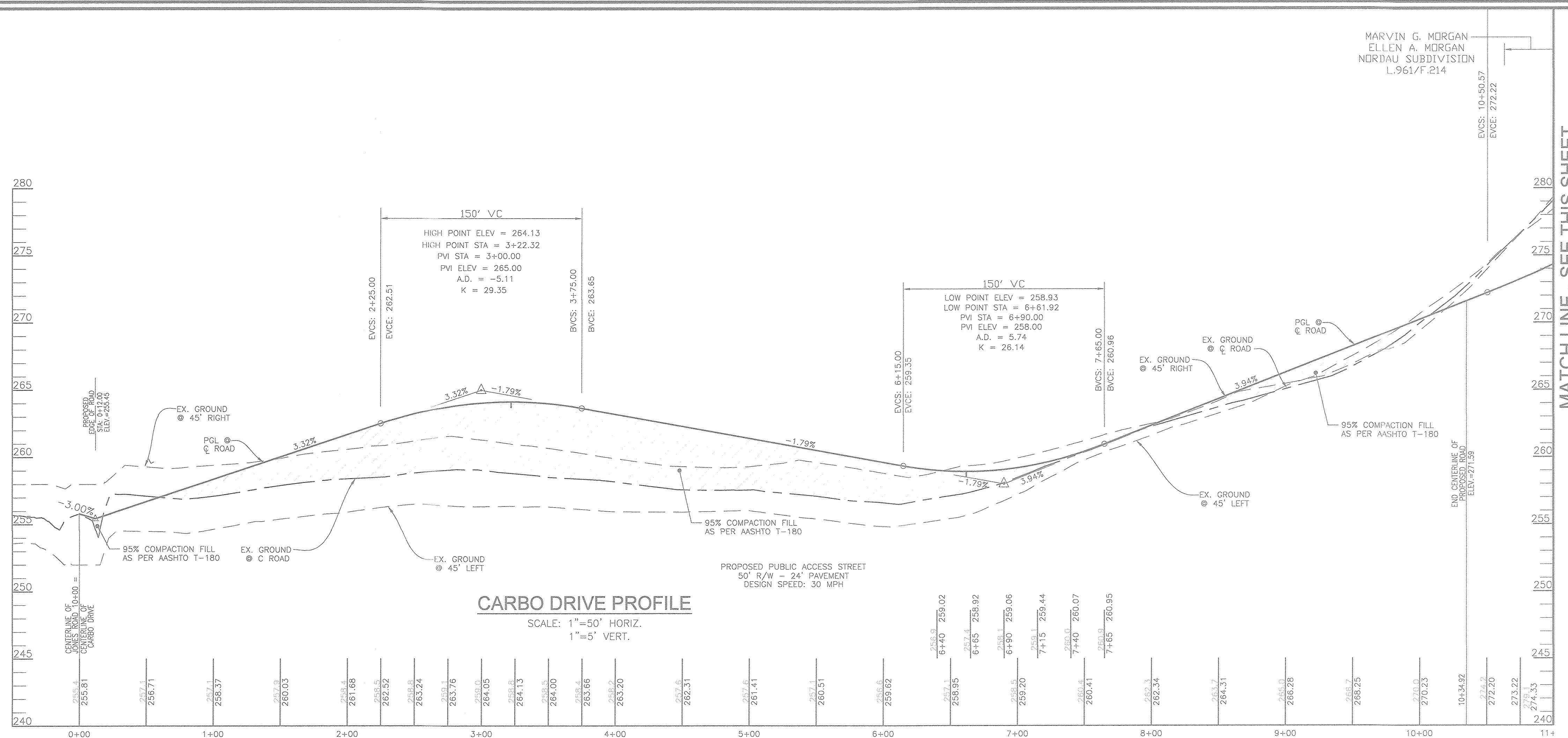
DESIGN BY: RHV  
DRAWN BY: TOVE  
CHECKED BY: RHV  
DATE: SEPTEMBER 2018  
SCALE: AS SHOWN  
W.O. NO.: 12-05

PROFESSIONAL CERTIFICATE  
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. 16193, EXPIRATION DATE: 09-27-2024

6 SHEET OF 12

ROBERT H. VOGEL, PE No.16193





|         |   |
|---------|---|
| Client  | Howard County, Maryland<br>Department of Public Works       |
| Project | CURB AND GUTTER<br>7' Transition to Modified &<br>Nose Down |
| Scale   | Detail<br>R-3.02  |

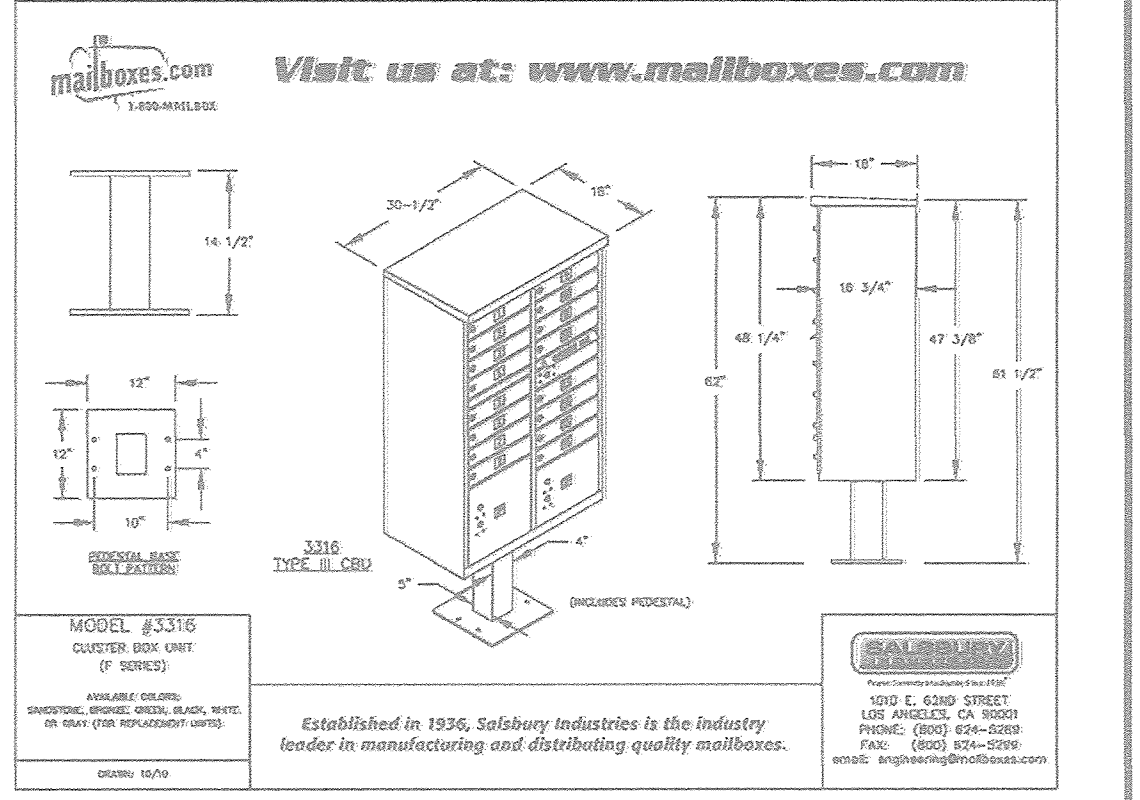
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|---------|---|
| Client  | Howard County, Maryland<br>Department of Public Works |
| Project | CURB AND GUTTER<br>7' & Modified                      |
| Scale   | Detail<br>R-3.01                                      |

**MATCH LINE - SEE THIS SHEET**

**CBU BOX LOCATIONS:** SUBJECT TO CHANGE

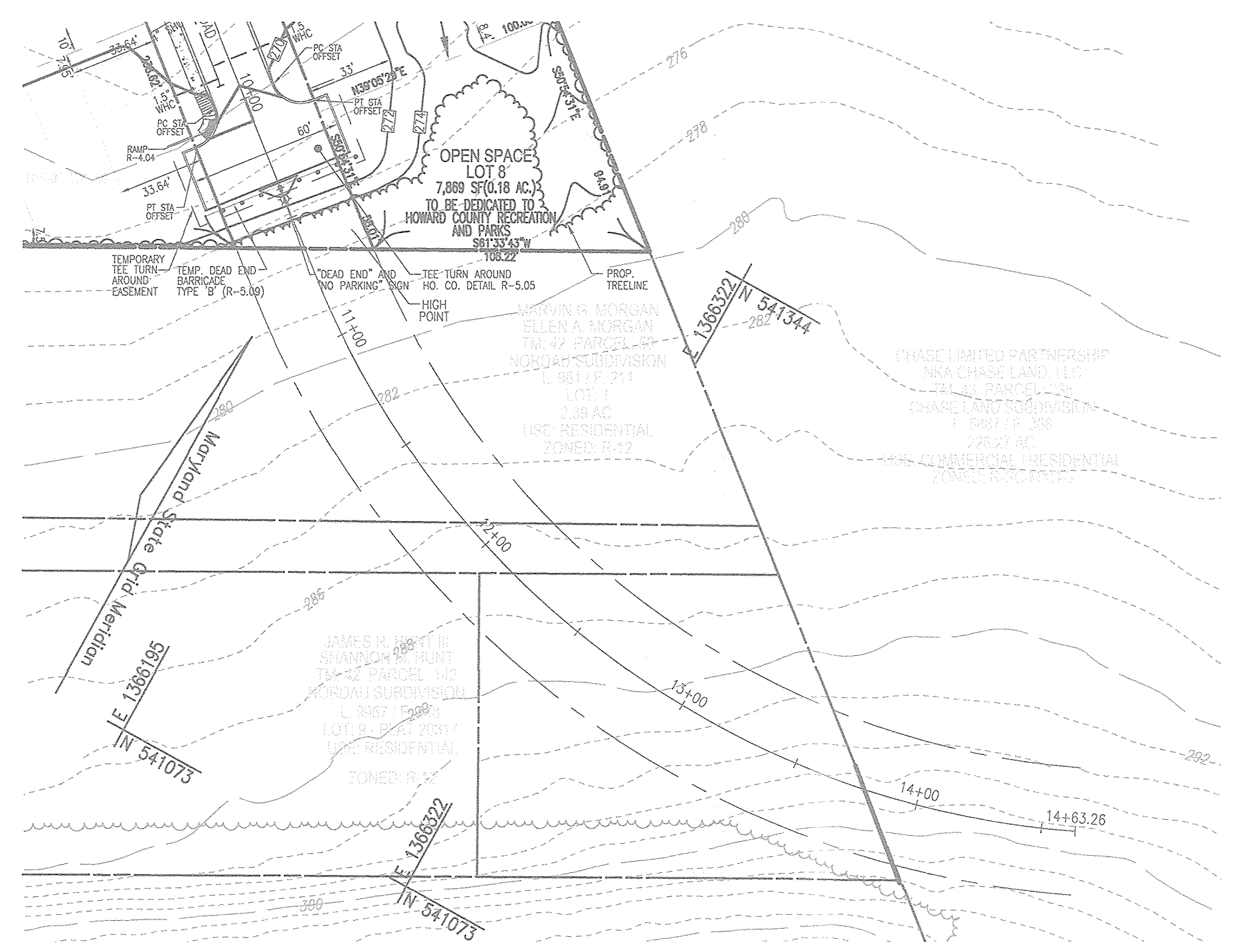
- ONE 12 UNIT "CLUSTER BOX UNIT" HAS BEEN PLACED NEAR FUTURE LOT 20/OPEN SPACE LOT 11 TO SERVE LOTS 1-4 AND FUTURE LOTS 18-25.
- ONE 12 UNIT "CLUSTER BOX UNIT" HAS BEEN PLACED NEAR FUTURE LOT 31/OPEN SPACE LOT 10 TO SERVE FUTURE LOTS 12 & 25-35.
- ONE 8 UNIT "CLUSTER BOX UNIT" HAS BEEN PLACED NEAR FUTURE LOTS 13 - 17 & 36 - 38.

**TYPICAL CENTRAL MAIL DELIVERY BOX (CBU) OR APPROVED EQUAL**



LICENSED BY THE U.S.P.S. SALSURY 3300 SERIES CLUSTER BOX UNITS ARE MANUFACTURED TO U.S.P.S. 7" SPECIFICATIONS. THEY ARE AN OFFICIALLY LICENSED PRODUCT OF THE U.S. POSTAL SERVICE FOR CENTRALIZED MAIL DELIVERY. LICENSE NUMBER 1CDSE0-08-B-0026

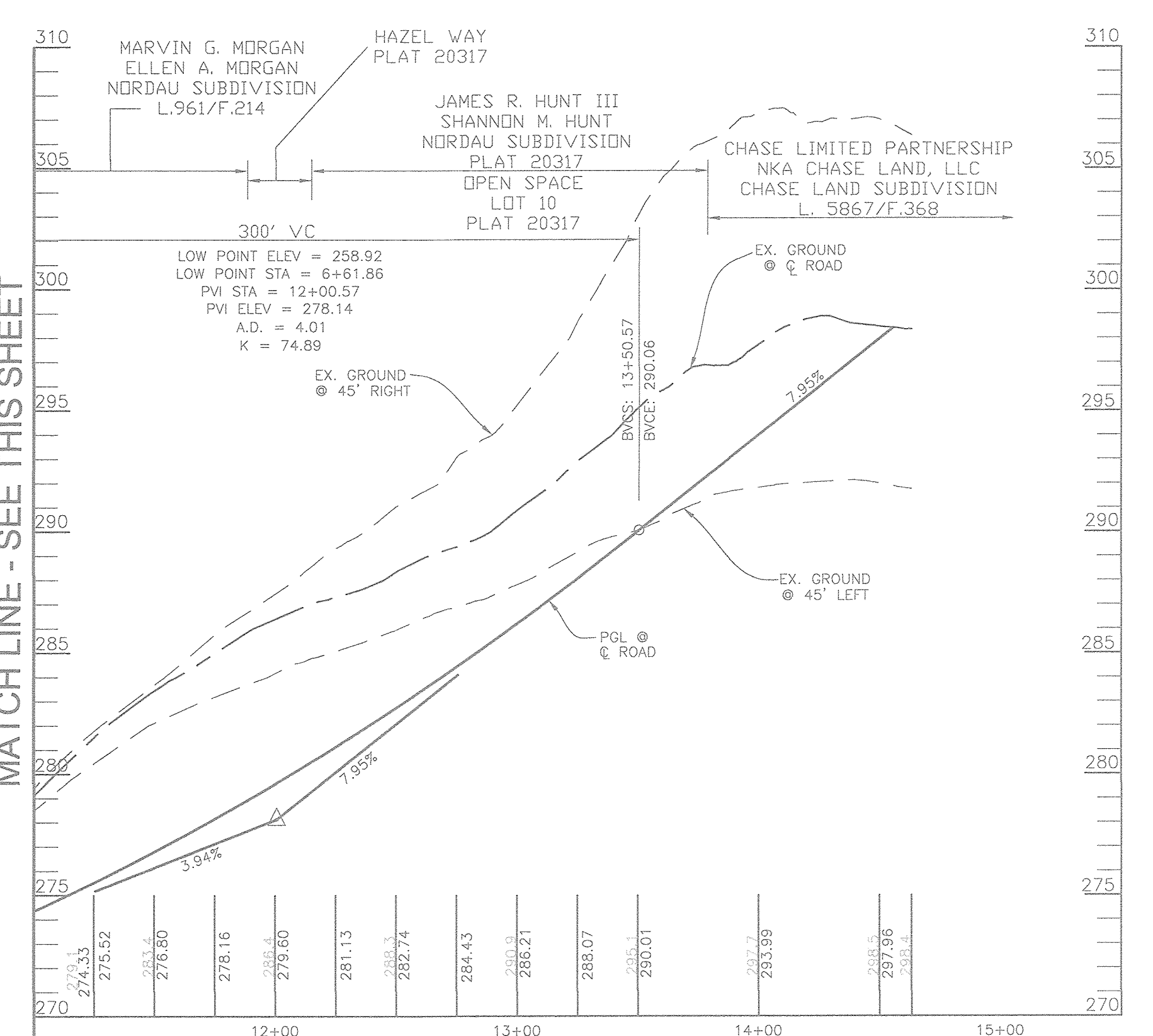
**OWNER/DEVELOPER**  
HOWARD COUNTY HOUSING COMMISSION  
9770 PATUXENT WOODS DR., SUITE 100  
COLUMBIA, MD 21046  
ATTN: PETER ENGEL  
(410) 313-6316



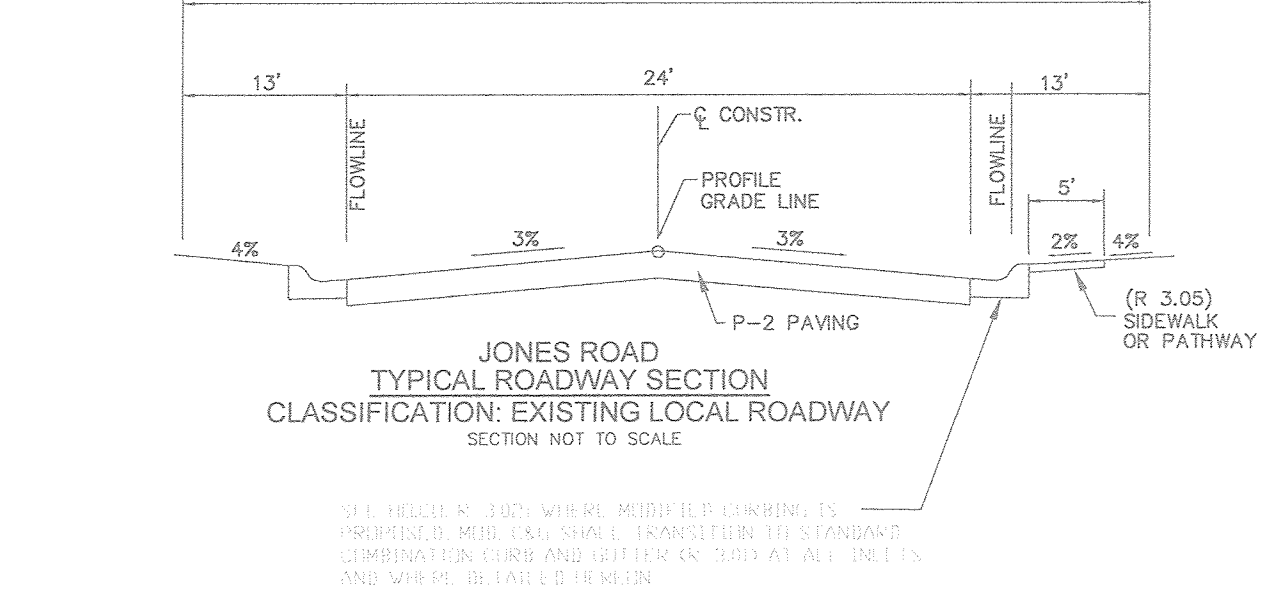
TENTATIVELY APPROVED  
DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY

*Valerie J. [Signature]*  
PLANNING DIRECTOR

10-2-18  
DATE



**MATCH LINE - SEE THIS SHEET**



| SECTION NUMBER | ROAD AND STREET         | CONSTRUCTION METHOD (INCHES) | 2 TO 4' | 4 TO 6' | 6 TO 8' | 8 TO 10' | 10 TO 12' | 12 TO 14' | 14 TO 16' |
|----------------|-------------------------|------------------------------|---------|---------|---------|----------|-----------|-----------|-----------|
| P-1            | ASPHALT AND 4" CONCRETE | ASPHALT AND 4" CONCRETE      | 1.0     | 1.0     | 1.0     | 1.0      | 1.0       | 1.0       | 1.0       |
| P-2            | ASPHALT AND 4" CONCRETE | ASPHALT AND 4" CONCRETE      | 1.0     | 1.0     | 1.0     | 1.0      | 1.0       | 1.0       | 1.0       |
| P-3            | ASPHALT AND 4" CONCRETE | ASPHALT AND 4" CONCRETE      | 1.0     | 1.0     | 1.0     | 1.0      | 1.0       | 1.0       | 1.0       |
| P-4            | ASPHALT AND 4" CONCRETE | ASPHALT AND 4" CONCRETE      | 1.0     | 1.0     | 1.0     | 1.0      | 1.0       | 1.0       | 1.0       |

|         |   |
|---------|---|
| Client  | Howard County, Maryland<br>Department of Public Works |
| Project | PRISING SECTIONS<br>P-1 to P-4                        |
| Scale   | Detail<br>R-2.01                                      |

| NO. | REVISION | DATE |
|-----|----------|------|
|     |          |      |
|     |          |      |
|     |          |      |

EXHIBIT - PRELIMINARY PLAN  
PRELIMINARY ROAD PROFILE,  
ROAD DETAILS, AND TYPICAL SECTION  
**GREENWOOD VILLAGE - PHASE 1**  
LOTS 1-4, NON BUILDABLE BULK PARCELS A-C  
AND OPEN SPACE LOTS 5-11  
A RE-SUBDIVISION OF THE "NORDAU SUBDIVISION" SECTION E-4  
LOTS 2-4, SR (L16289 F.488), BR (L16288 F.502) AND 9

TAX MAP: 42 GRID: 24  
6TH ELECTION DISTRICT

ZONED: R-12

PARCEL: 136 & 138-140  
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PROFESSIONAL CERTIFICATE

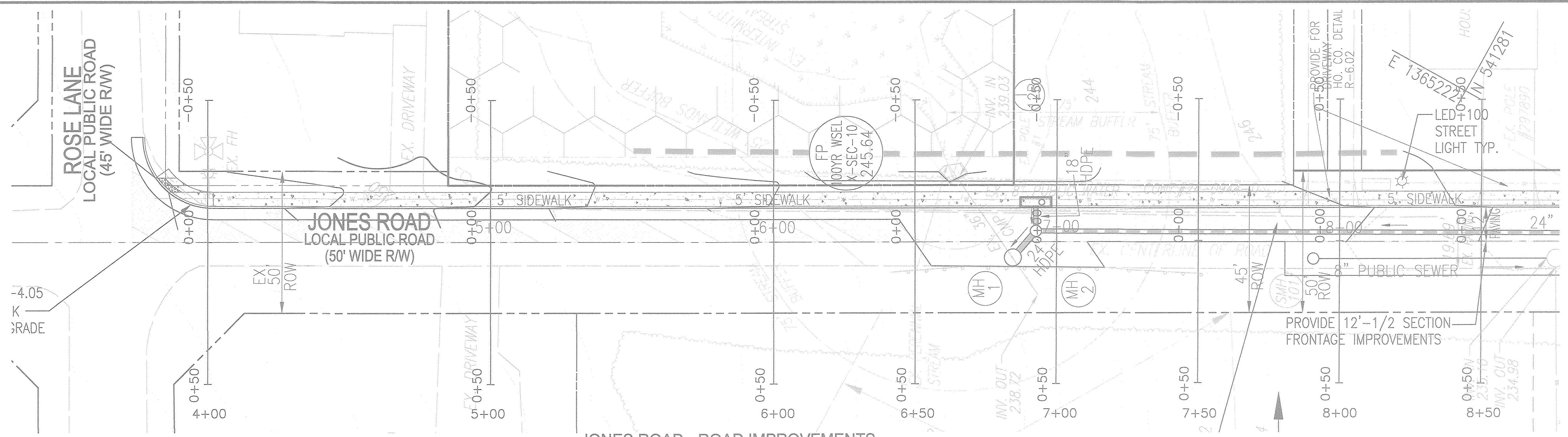
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 16163 EXPIRATION DATE: 09-27-2020

DESIGN BY: RHW  
DRAWN BY: TGOV  
CHECKED BY: RHW  
DATE: SEPTEMBER 2018  
SCALE: AS SHOWN  
W.O. NO.: 12-05

7 SHEET OF 12

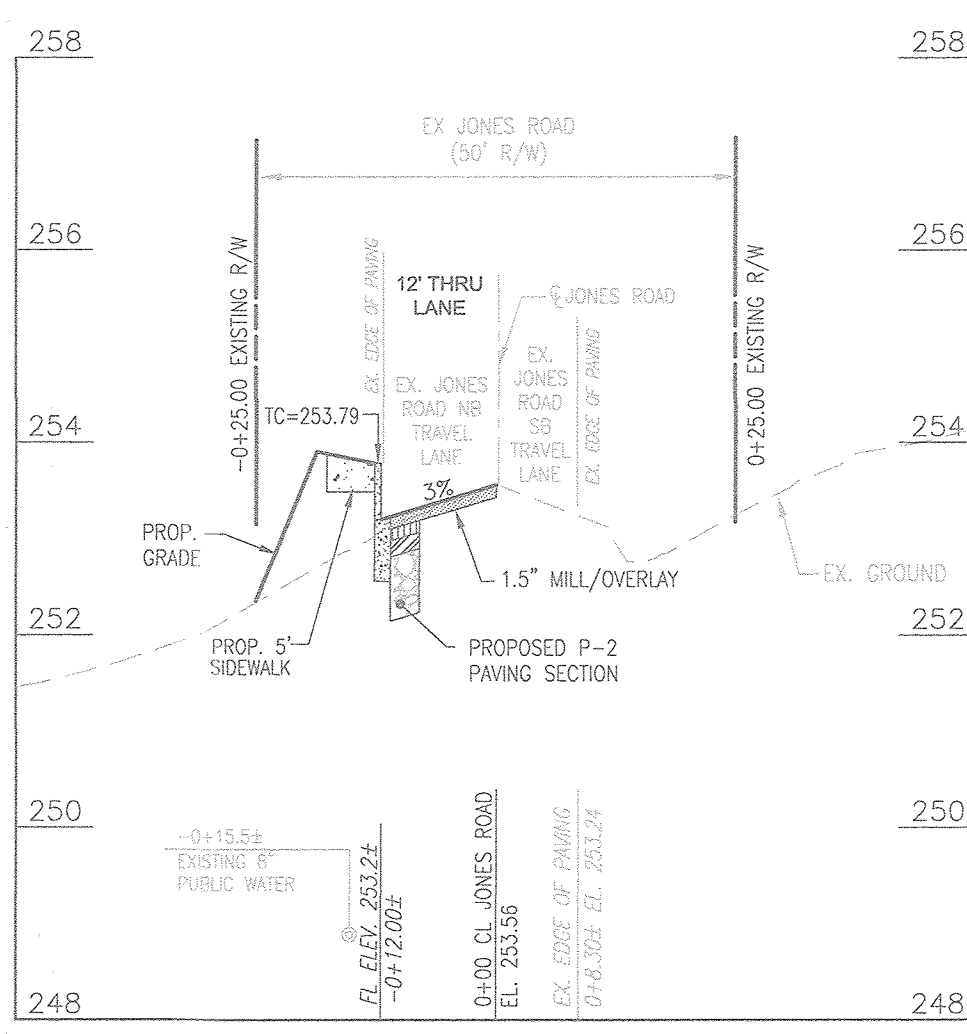
ROBERT H. VOGEL, PE No. 16163



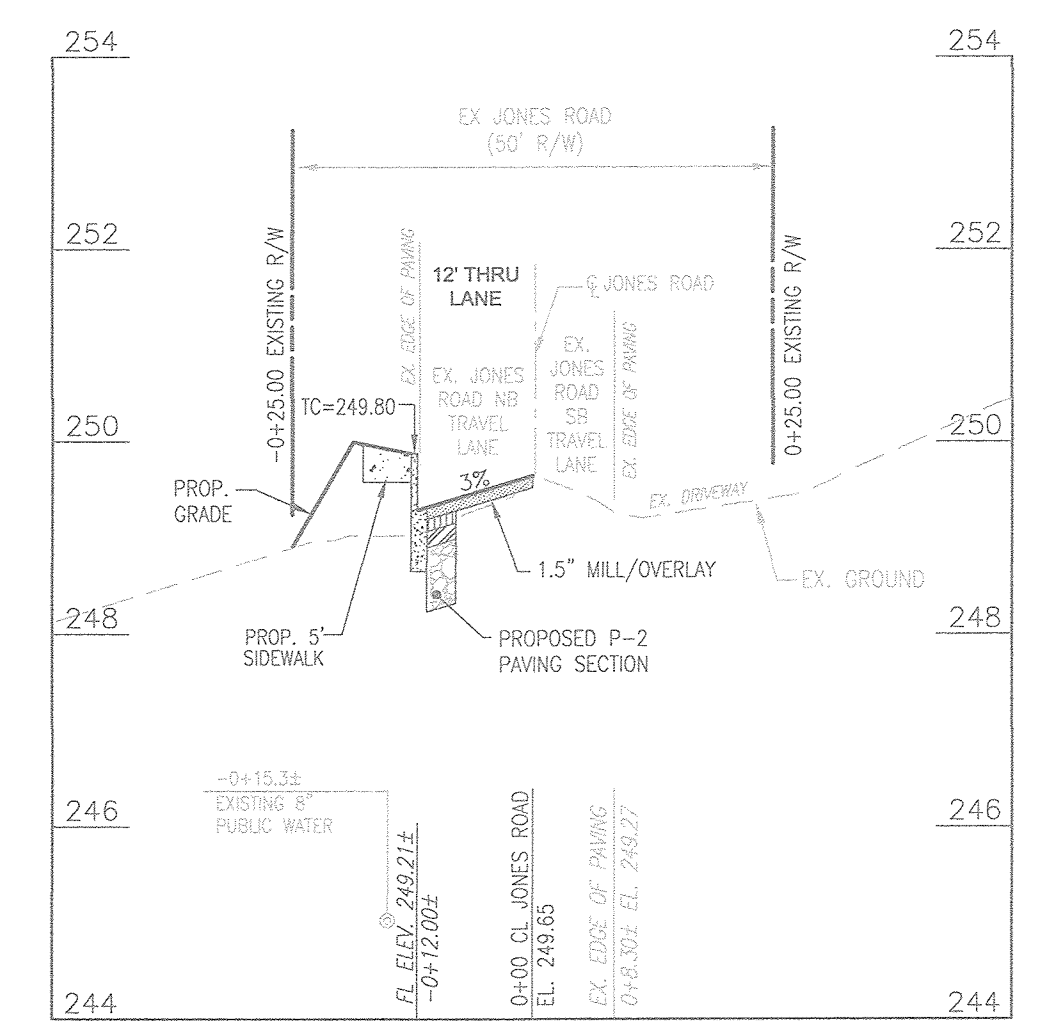


**JONES ROAD - ROAD IMPROVEMENTS**  
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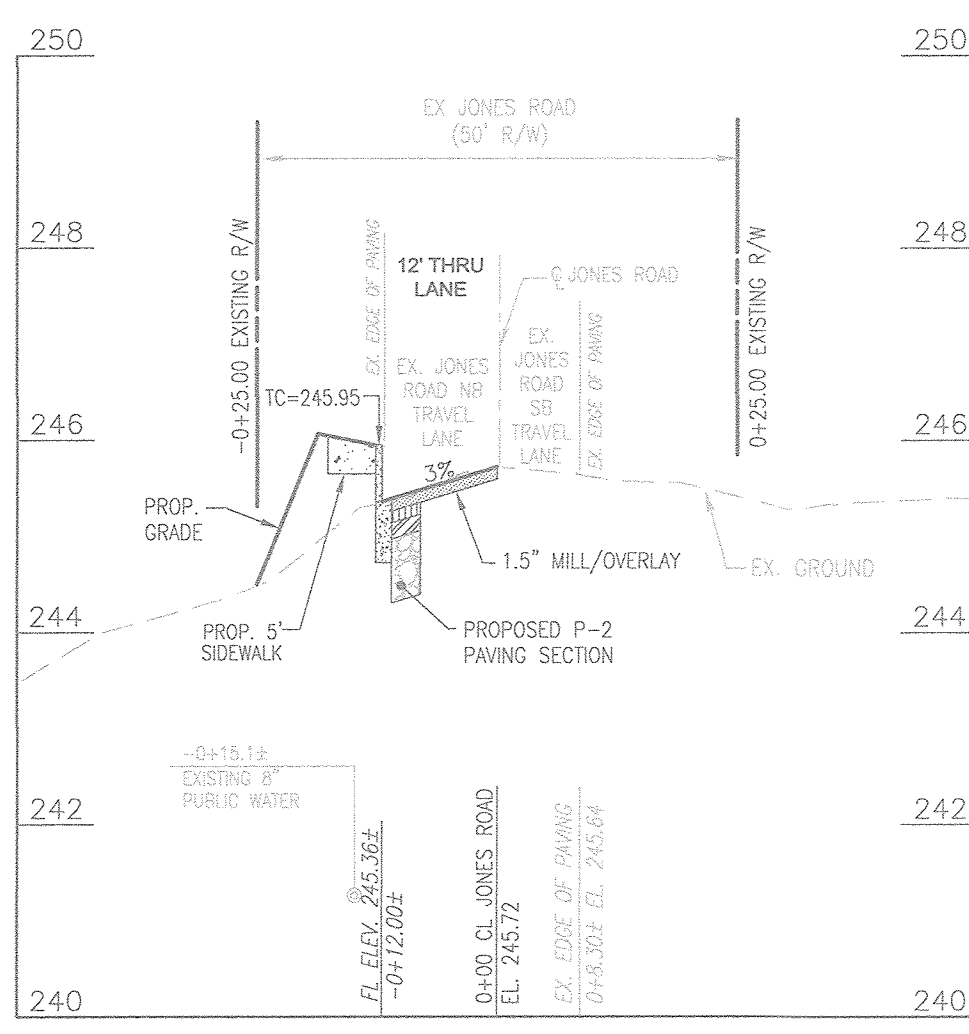
- LEGEND:**
- PROPERTY LINE
  - RIGHT-OF-WAY LINE
  - ADJACENT PROPERTY LINE
  - EXISTING PAVING
  - EXISTING UTILITY POLE
  - EXISTING SANITARY MANHOLE
  - EXISTING SANITARY LINE
  - EXISTING FIRE HYDRANT
  - EXISTING WATER LINE
  - EXISTING TREELINE
  - CENTERLINE OF EXISTING STREAM
  - EXISTING SPECIMEN TREE
  - EXISTING WETLANDS
  - EXISTING WETLAND BUFFER
  - PUBLIC 100-YEAR FLOOD PLAN ECP-17-006
  - EXISTING FOREST CONSERVATION EASEMENT (RETENTION) (PLAT Z1417)
  - PRIVATE USE-IN-COMMON ACCESS EASEMENT
  - PUBLIC SEWER, WATER & UTILITY EASEMENT
  - PUBLIC WATER & UTILITY EASEMENT
  - PRIVATE STORM DRAIN AND STORM WATER MANAGEMENT EASEMENT
  - 10' PUBLIC TREE MAINTENANCE EASEMENT
  - STORMDRAIN
  - SIDEWALK
  - PROPOSED TREELINE
  - CURB & GUTTER
  - MISC. DISCRETIONARY FACILITY (M-D)
  - STREET LIGHT
  - FULL DEPTH PAVING SECTION (REDUCED) REFER TO TYPICAL SECTION
  - 1.5" MILL & OVERLAY REFER TO TYPICAL SECTION



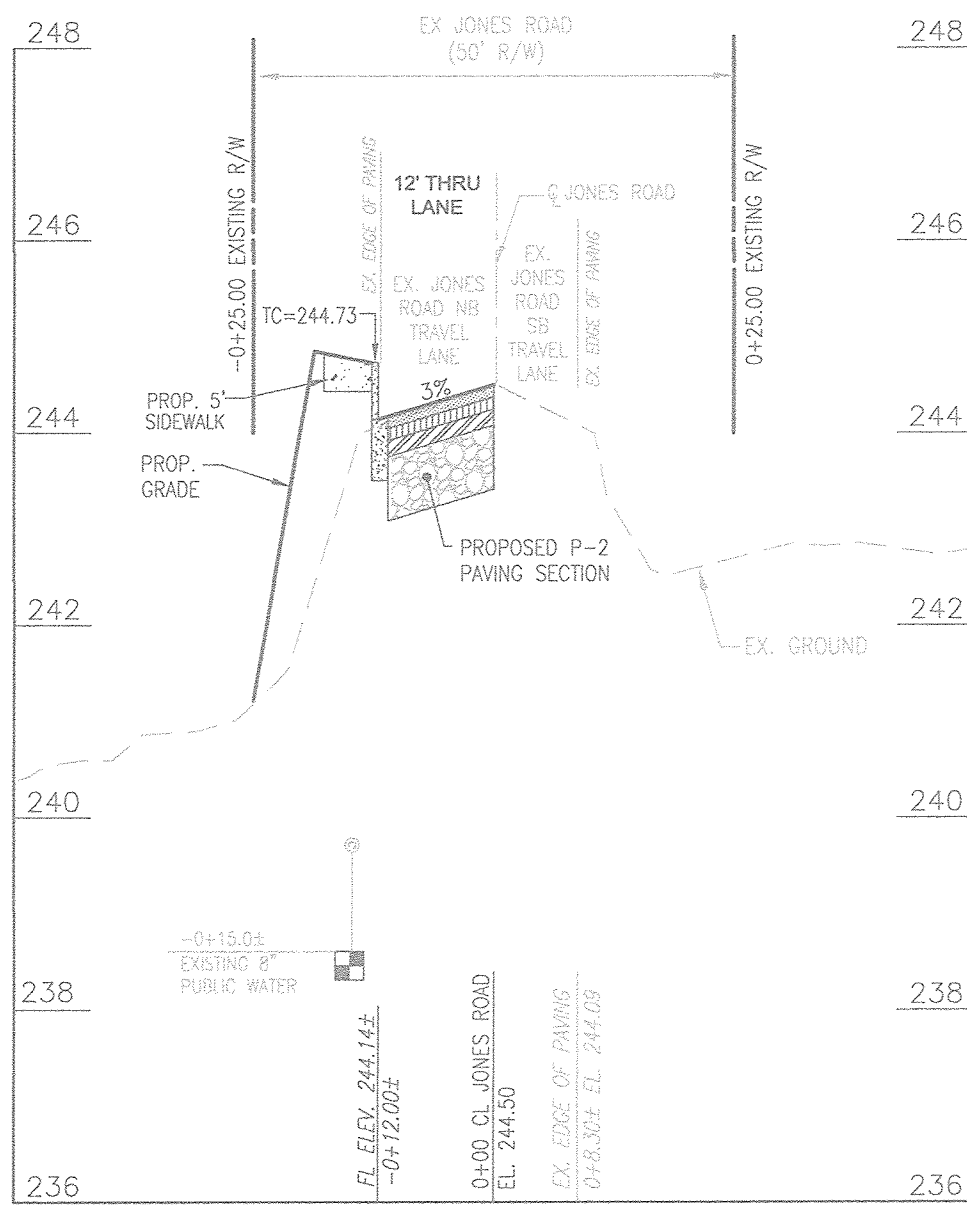
**JONES ROAD STA. 4+00**  
SCALE: HORIZONTAL - 1"=20'



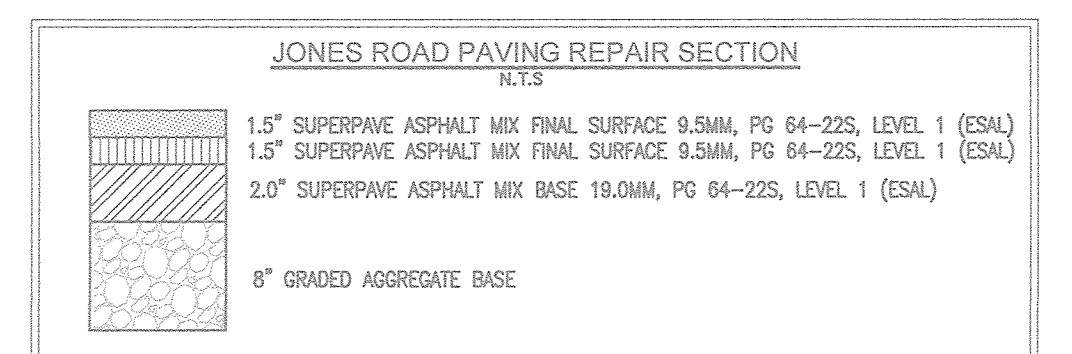
**JONES ROAD STA. 5+00**  
SCALE: HORIZONTAL - 1"=20'



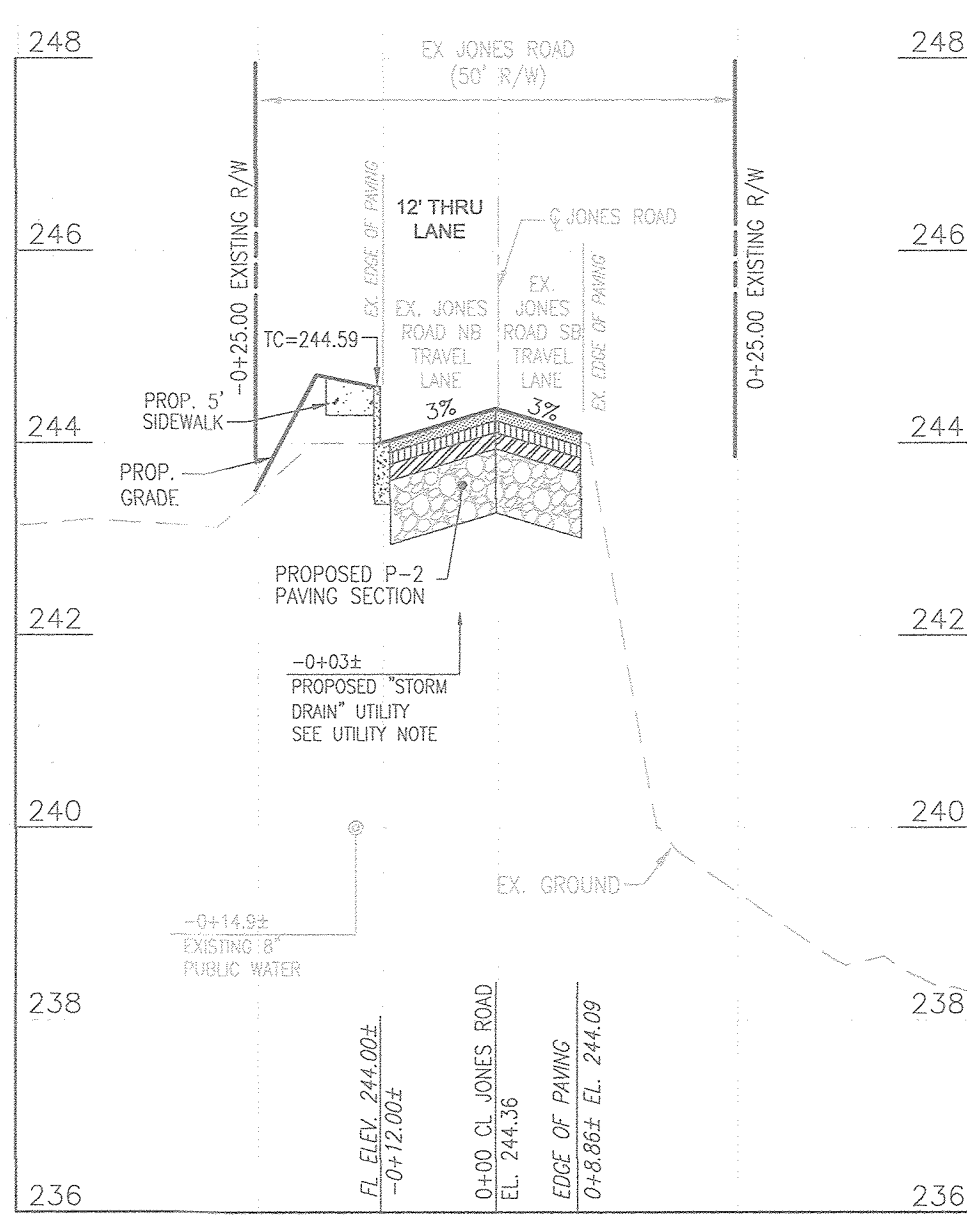
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SCALE: HORIZONTAL - 1"=20'



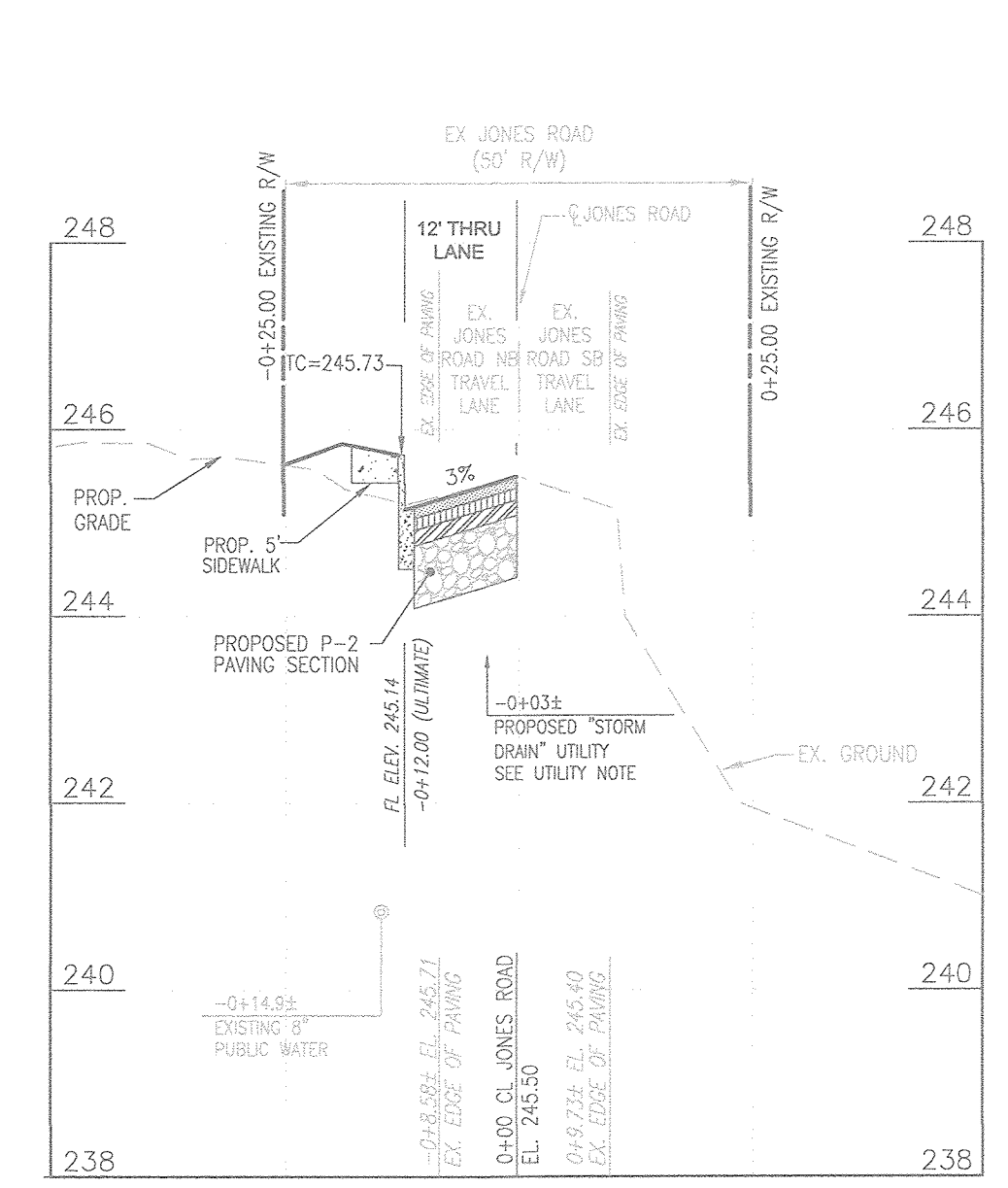
**JONES ROAD STA. 6+50**  
SCALE: HORIZONTAL - 1"=20'



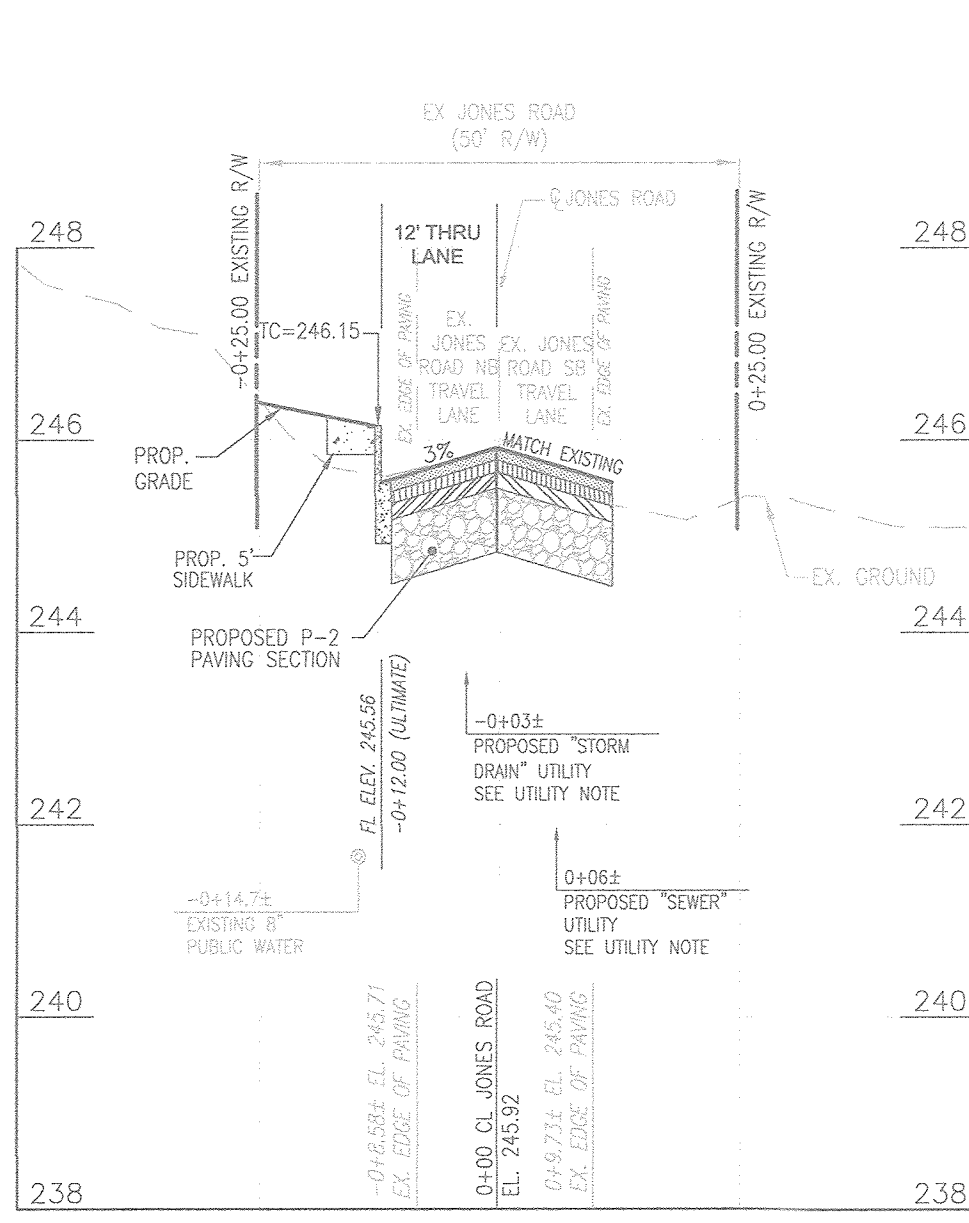
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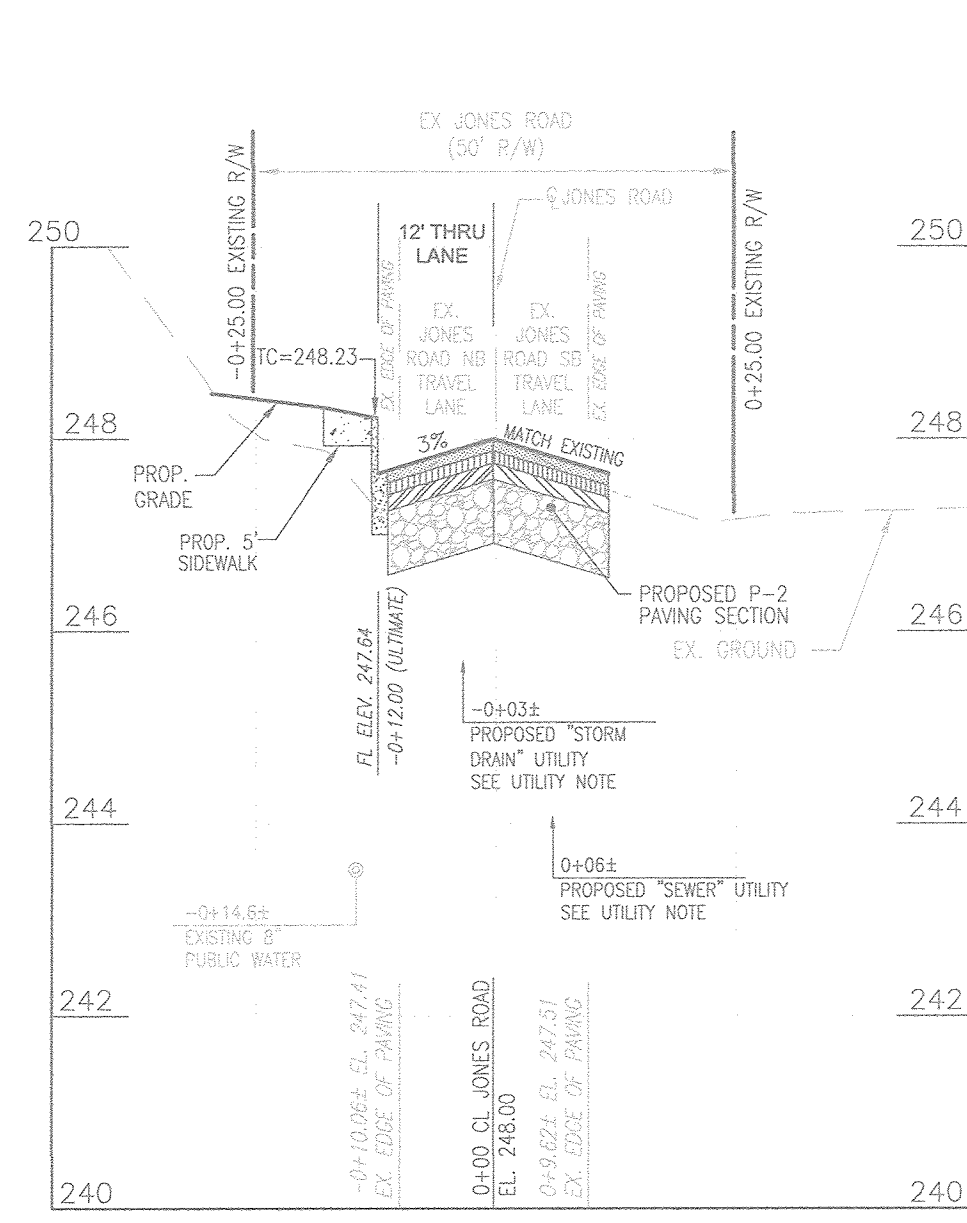
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SCALE: HORIZONTAL - 1"=20'



**JONES ROAD STA. 7+50**  
SCALE: HORIZONTAL - 1"=20'



**JONES ROAD STA. 8+00**  
SCALE: HORIZONTAL - 1"=20'



**JONES ROAD STA. 8+50**  
SCALE: HORIZONTAL - 1"=20'

TENTATIVELY APPROVED  
DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY

*Nancy J. Kelly*  
PLANNING DIRECTOR  
10-2-18  
DATE

| NO. | REVISION | DATE |
|-----|----------|------|
|     |          |      |
|     |          |      |
|     |          |      |

EXHIBIT - PRELIMINARY PLAN  
JONES ROAD - ROAD IMPROVEMENTS  
& TRAFFIC CONTROL

**GREENWOOD VILLAGE - PHASE 1**  
LOTS 1-4, NON-BUILDABLE BULK PARCELS A-C  
AND OPEN SPACE LOTS 5-11  
A RE-SUBDIVISION OF THE "NORDAU SUBDIVISION" - SECTION E-4  
LOTS 2-4, 5R (L16288 F.489), 8R (L16288 F.502) AND 9

TAX MAP: 42 GRID: 24  
6TH ELECTION DISTRICT  
ZONED: R-12  
PARCELS: 136 & 138-140  
HOWARD COUNTY, MARYLAND

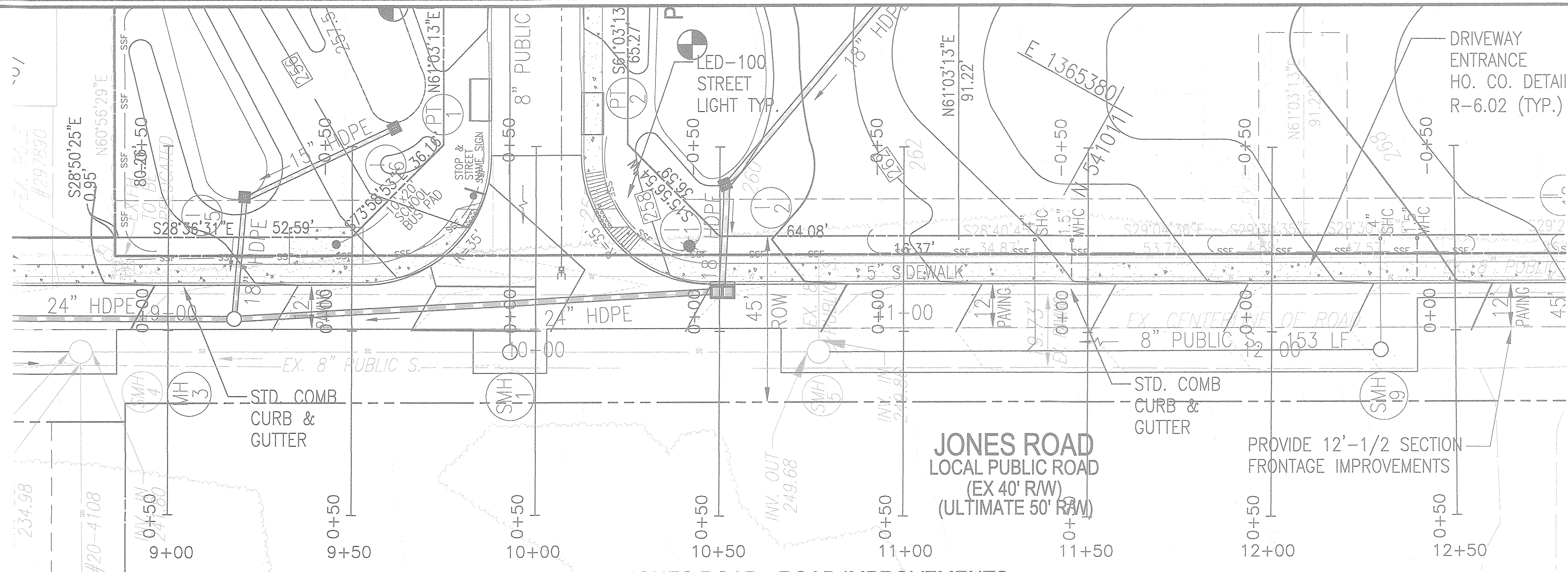
**ROBERT H. VOGEL ENGINEERING, INC.**  
ENGINEERS • SURVEYORS • PLANNERS  
3300 N. RIDGE ROAD, SUITE 110, ELLICOTT CITY, MD 21043  
TEL: 410.461.7666 FAX: 410.461.8961

DESIGN BY: RHY  
DRAWN BY: TGVE  
CHECKED BY: RHY  
DATE: SEPTEMBER 2018  
SCALE: AS SHOWN  
W.O. NO.: 12-05

PROFESSIONAL CERTIFICATE  
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE 08-27-2020

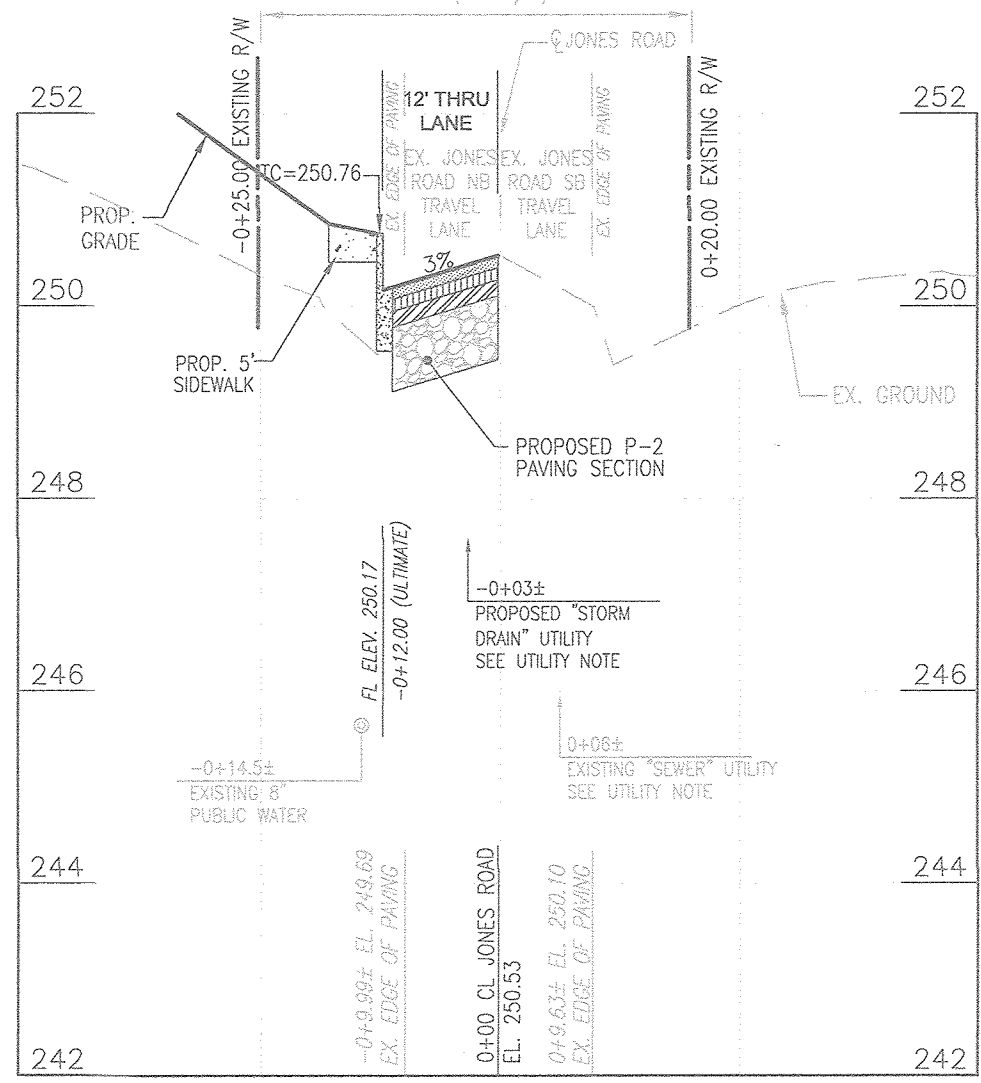
8 OF 12  
R. H. VOGEL, PE No.16193



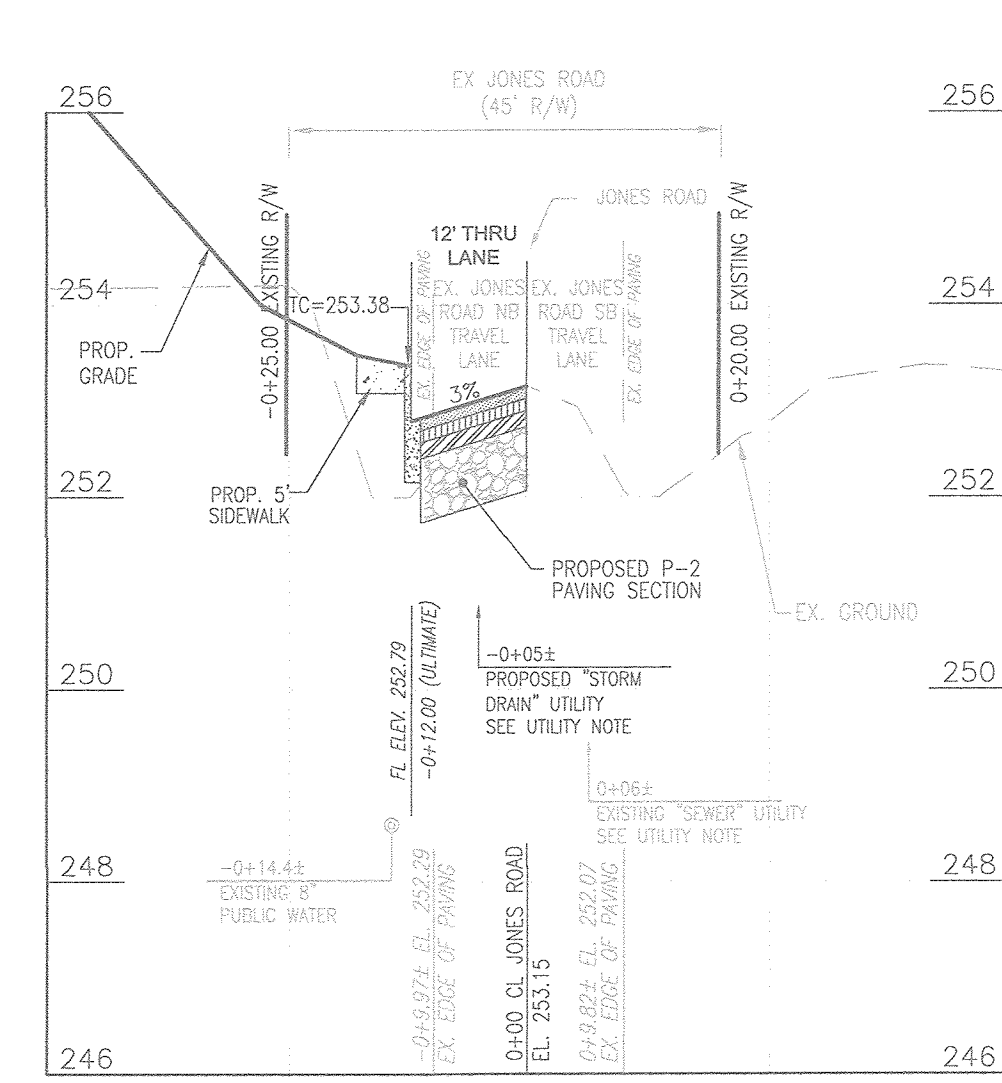


**JONES ROAD - ROAD IMPROVEMENTS**  
SCALE: 1"=20'

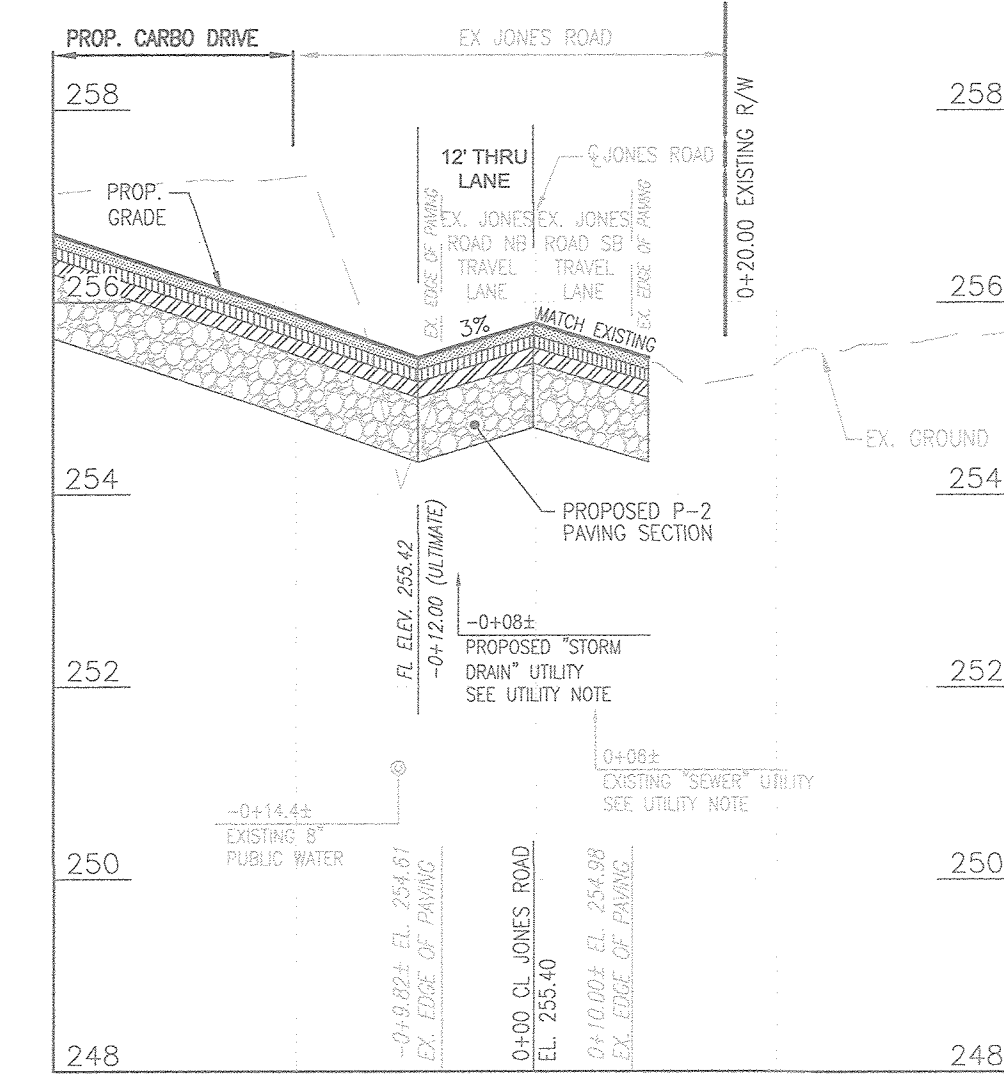
- LEGEND:**
- PROPERTY LINE
  - RIGHT-OF-WAY LINE
  - ADJACENT PROPERTY LINE
  - EXISTING PAVING
  - EXISTING UTILITY POLE
  - EXISTING SANITARY MANHOLE
  - EXISTING SANITARY LINE
  - EXISTING FIRE HYDRANT
  - EXISTING WATER LINE
  - EXISTING TREETRINE
  - CENTERLINE OF EXISTING STREAM
  - EXISTING SPECIMEN TREE
  - EXISTING WETLANDS
  - EXISTING WETLAND BUFFER
  - PUBLIC 100-YEAR FLOOD PLAIN ECP-17-006
  - EXISTING FOREST CONSERVATION EASEMENT (RETENTION) (PLAT 21417)
  - PRIVATE USE-IN-COMMON ACCESS EASEMENT
  - PUBLIC SEWER, WATER & UTILITY EASEMENT
  - PUBLIC WATER & UTILITY EASEMENT
  - PRIVATE STORM DRAIN AND STORM WATER MANAGEMENT EASEMENT
  - 10' PUBLIC TREE MAINTENANCE EASEMENT
  - STORMDRAIN
  - SIDEWALK
  - PROPOSED TREETRINE CURB & GUTTER
  - MICRO-BIORETENTION FACILITY (M-B)
  - STREET LIGHT
  - FULL DEPTH PAVEMENT SECTION REQUIRED REFER TO TYPICAL SECTION
  - GRADING, ROAD, 2" MILL, VARIABLE DEPTH WEDGE/LEVEL AND RESURFACING REFER TO TYPICAL SECTION



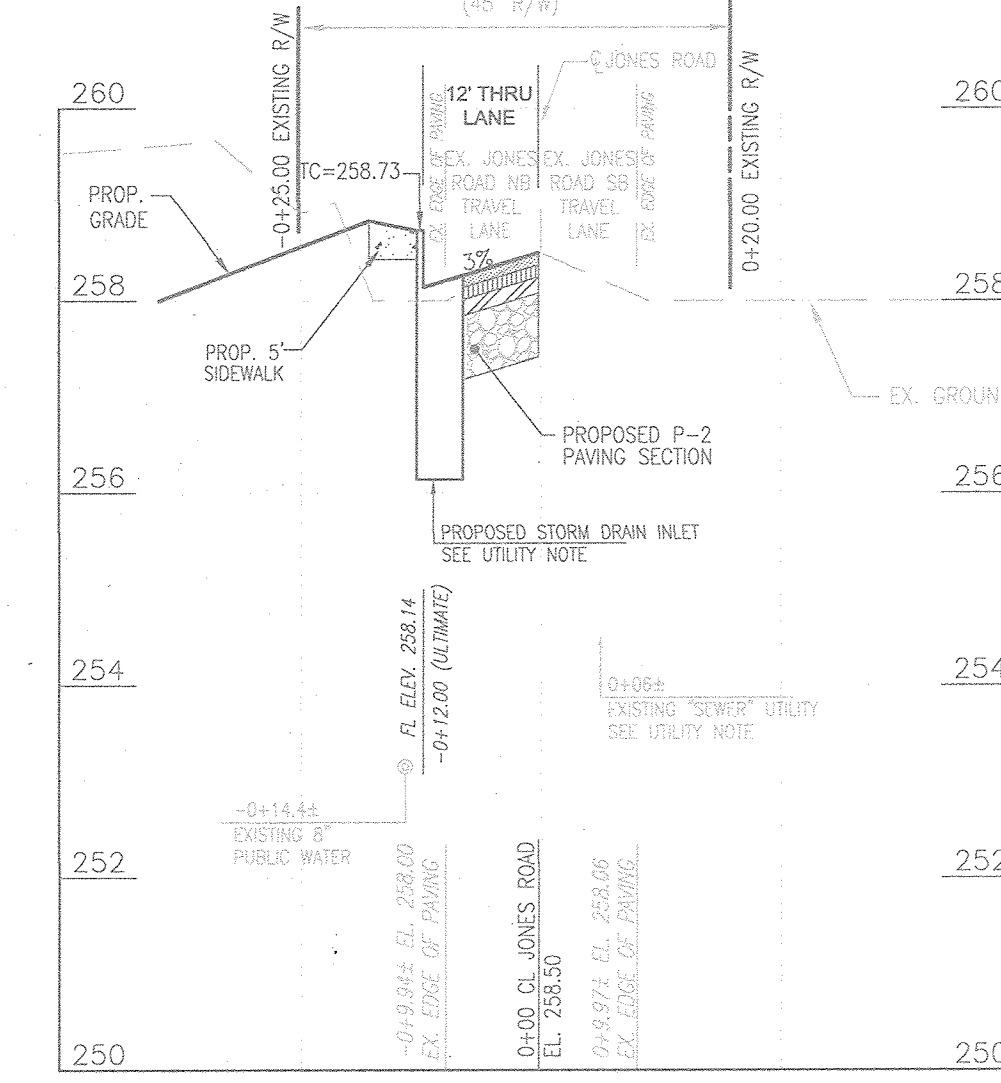
**JONES ROAD STA. 9+00**  
SCALE: HORIZONTAL - 1"=20'



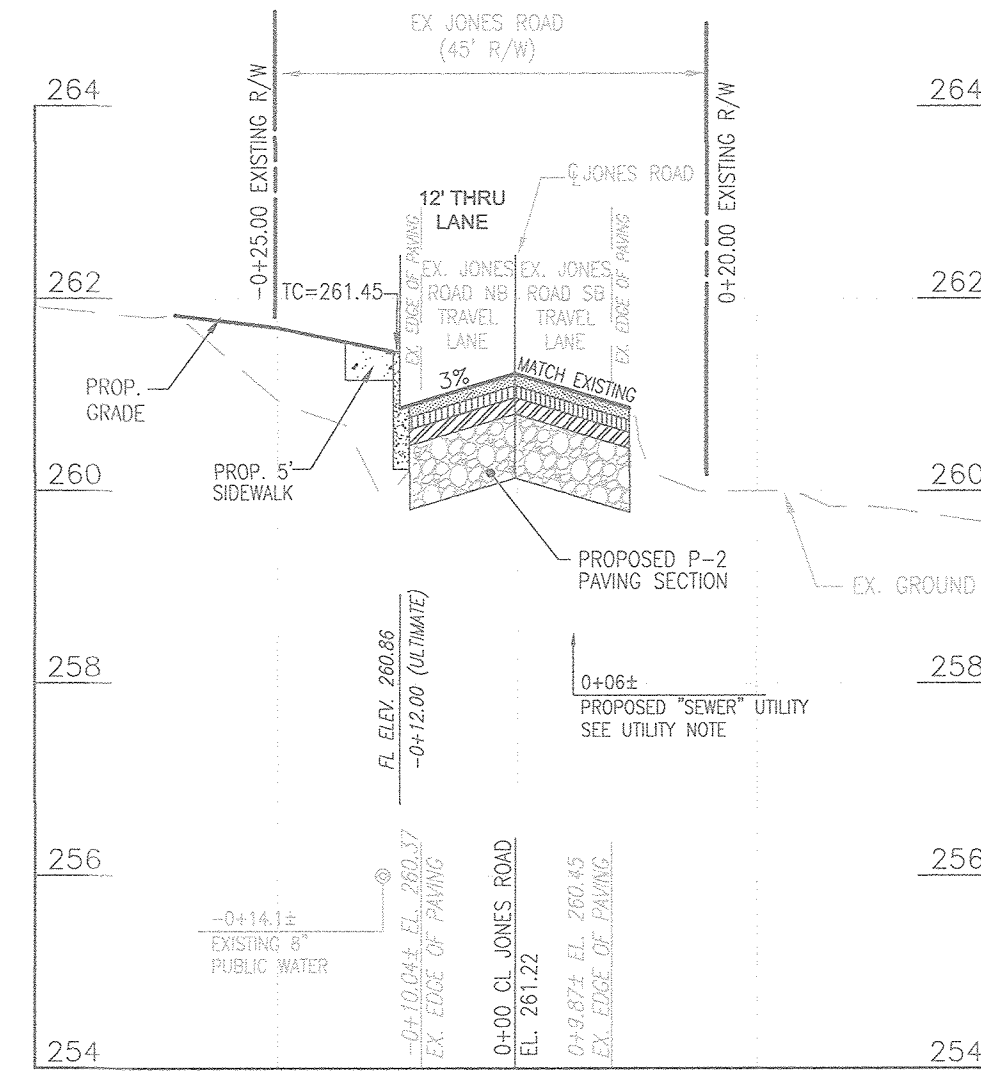
**JONES ROAD STA. 9+50**  
SCALE: HORIZONTAL - 1"=20'



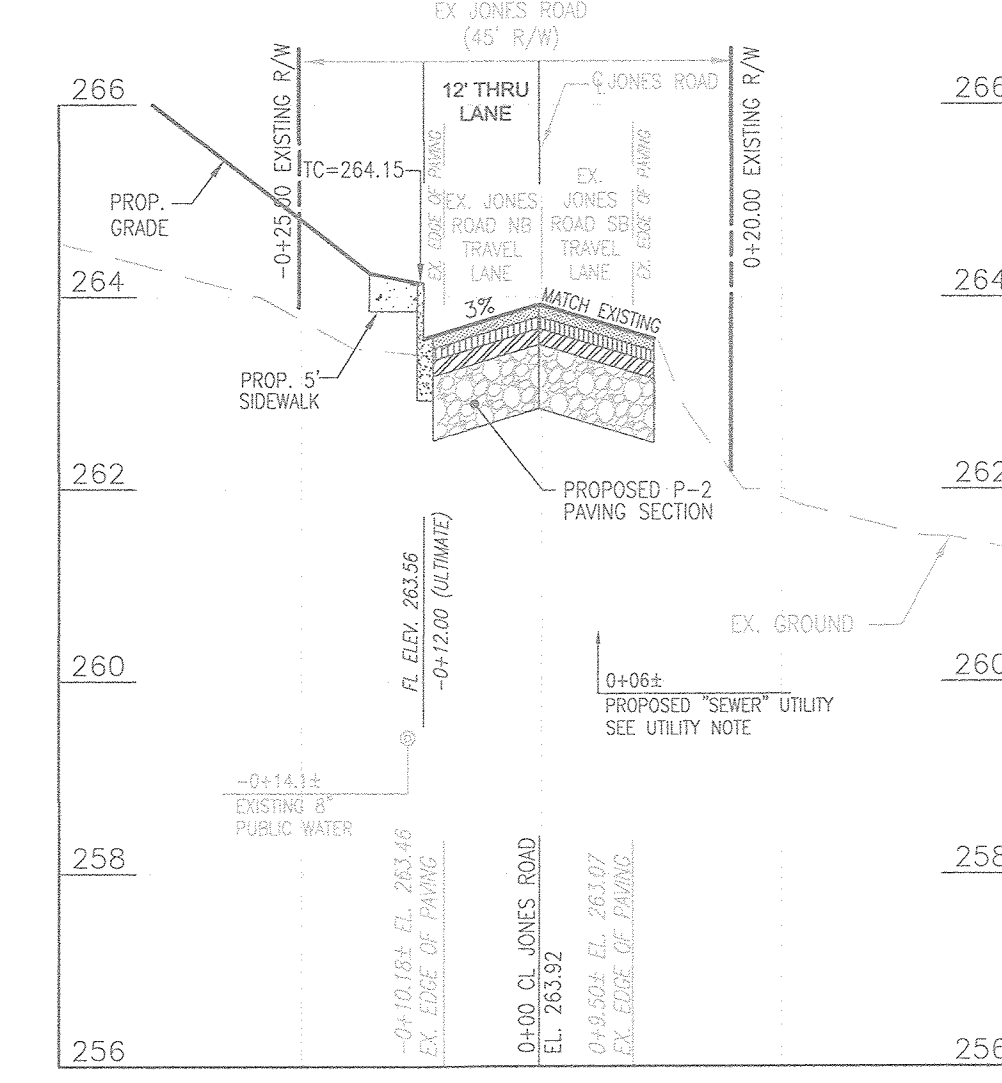
**JONES ROAD STA. 10+00**  
SCALE: HORIZONTAL - 1"=20'



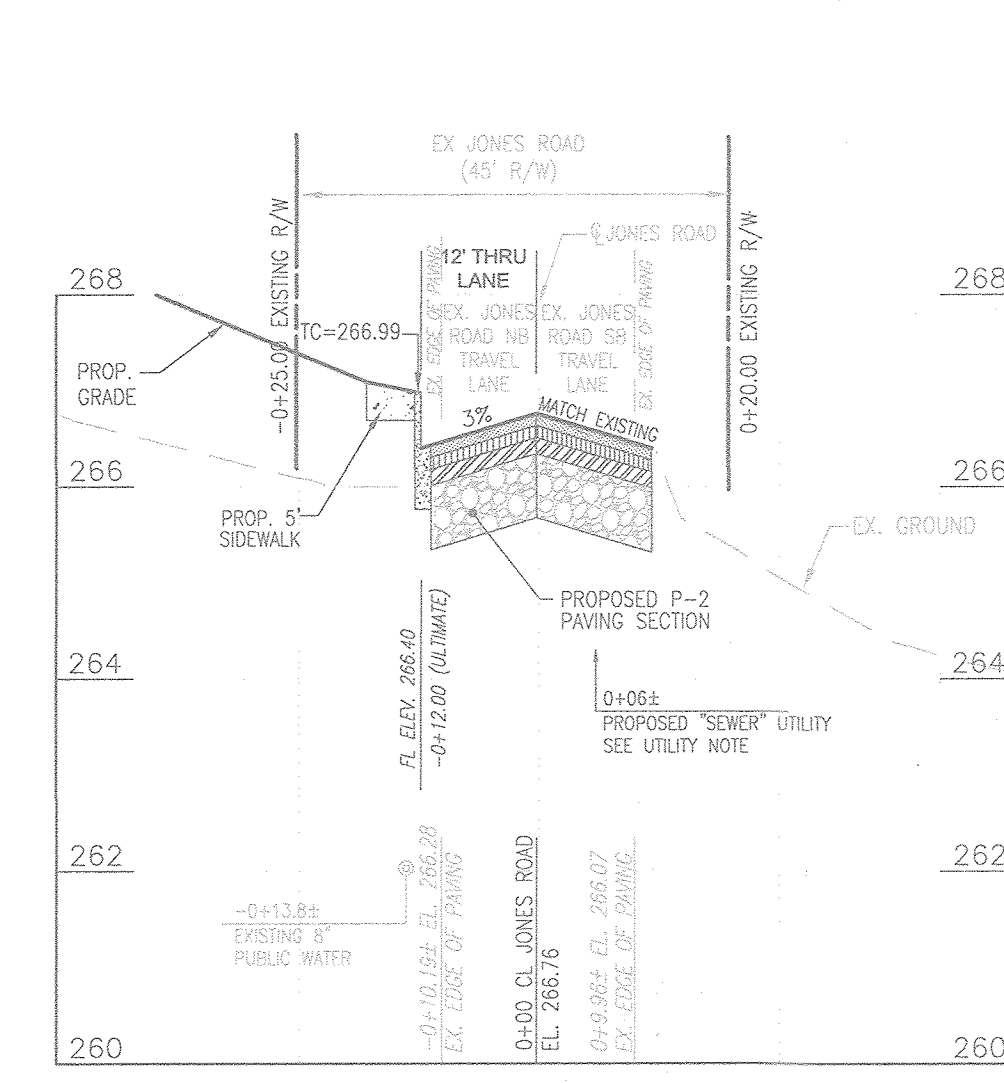
**JONES ROAD STA. 10+50**  
SCALE: HORIZONTAL - 1"=20'



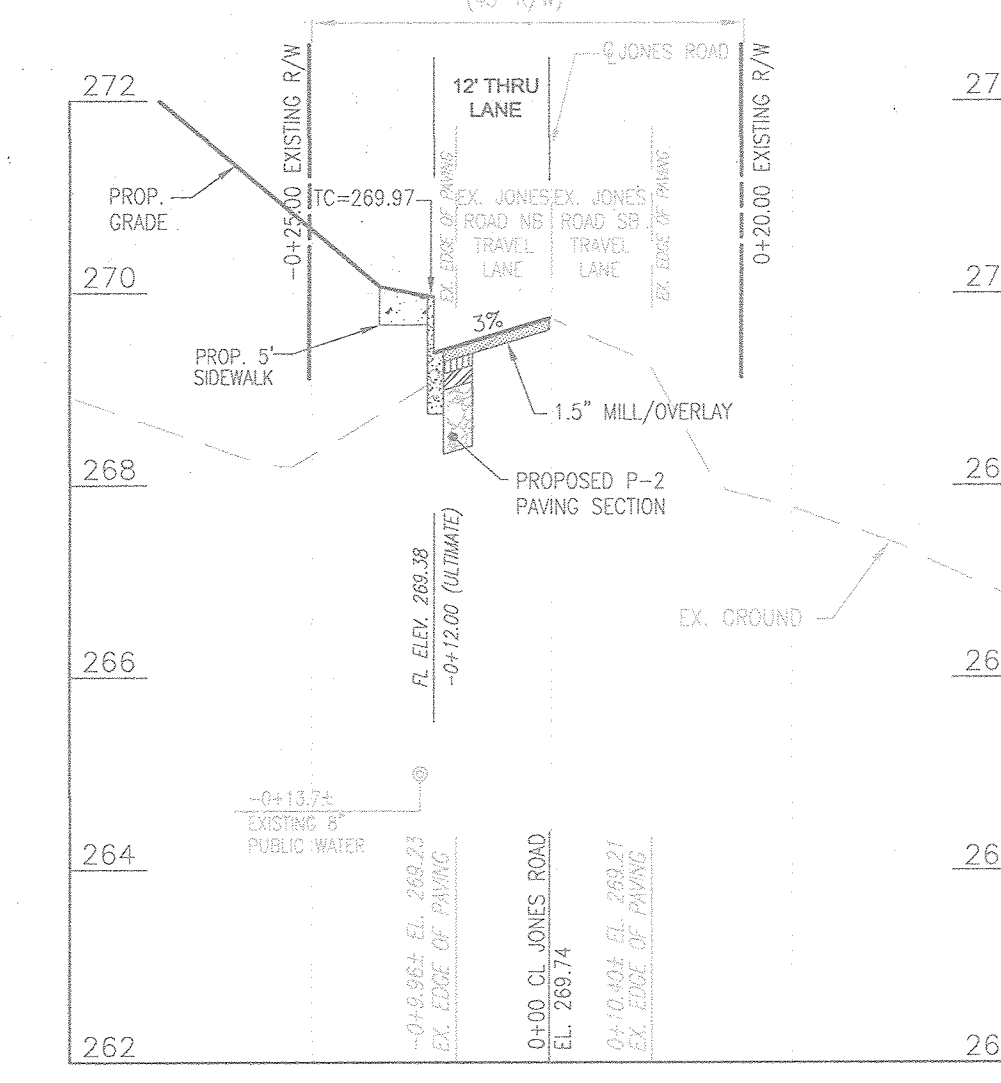
**JONES ROAD STA. 11+00**  
SCALE: HORIZONTAL - 1"=20'



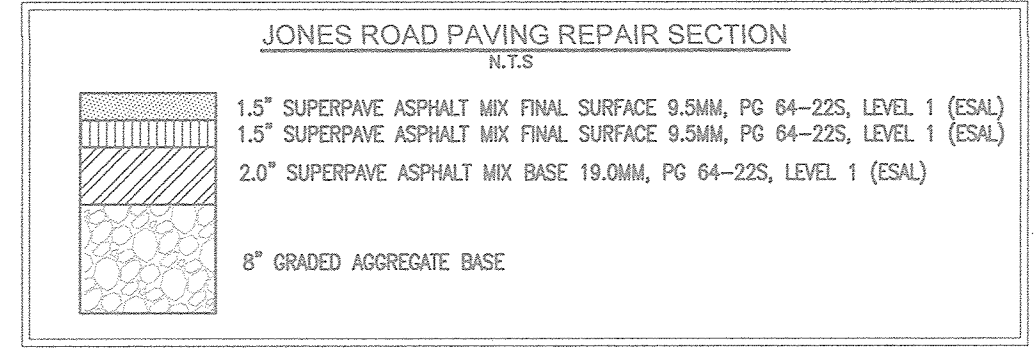
**JONES ROAD STA. 11+50**  
SCALE: HORIZONTAL - 1"=20'



**JONES ROAD STA. 12+00**  
SCALE: HORIZONTAL - 1"=20'



**JONES ROAD STA. 12+50**  
SCALE: HORIZONTAL - 1"=20'



**OWNER/DEVELOPER**  
HOWARD COUNTY HOUSING COMMISSION  
9770 PATUXENT WOODS DR., SUITE 100  
COLUMBIA, MD 21046  
ATTN: PETER ENGEL  
(410) 313-6316

| NO. | REVISION | DATE |
|-----|----------|------|
|     |          |      |
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|     |          |      |
|     |          |      |

EXHIBIT - PRELIMINARY PLAN  
JONES ROAD - ROAD IMPROVEMENTS  
& TRAFFIC CONTROL

## GREENWOOD VILLAGE - PHASE 1

LOTS 1-4, NON BUILDABLE BULK PARCELS A-C  
AND OPEN SPACE LOTS 5-11  
A RE-SUBDIVISION OF THE "NORWOOD SUBDIVISION" - SECTION E-4  
LOTS 2-4, 5R (L16288 F.488), 8R (L16288 F.502) AND 9

TAX MAP: 42 GRID: 24  
6TH ELECTION DISTRICT      ZONED: R-12      PARCELS: 136 & 138-140  
HOWARD COUNTY, MARYLAND

**PROFESSIONAL CERTIFICATE**

I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 16193, EXPIRATION DATE: 06-27-2020

DESIGN BY: RHW  
DRAWN BY: TGVE  
CHECKED BY: RHW  
DATE: SEPTEMBER 2018  
SCALE: AS SHOWN  
W.O. NO.: 12-05

9 SHEET OF 12

TENTATIVELY APPROVED  
DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY

*Valerie Spivey*  
PLANNING DIRECTOR

10-2-18  
DATE







**LEGEND:**

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJACENT PROPERTY LINE
- EXISTING PAVING
- EXISTING UTILITY POLE
- EXISTING SANITARY MANHOLE
- EXISTING SANITARY LINE
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING TREELINE
- CENTERLINE OF EXISTING STREAM
- EXISTING SPECIMEN TREE
- EXISTING WETLANDS
- EXISTING WETLAND BUFFER
- EX. PUBLIC 100-YEAR FLOOD PLAIN
- EXISTING FOREST CONSERVATION EASEMENT (RETENTION) (PLAT 21417)
- FOREST CONSERVATION EASEMENT
- PRIVATE USE-IN-COMMON ACCESS EASEMENT
- PUBLIC SEWER, WATER & UTILITY EASEMENT
- PUBLIC WATER & UTILITY EASEMENT
- PRIVATE STORM DRAIN AND STORM WATER MANAGEMENT EASEMENT
- 10' PUBLIC TREE MAINTENANCE EASEMENT
- STORMDRAIN
- STORM DRAIN INLET
- SIDEWALK
- TREELINE
- CURB & GUTTER
- MICRO-DISCRETION FACILITY (M-B)
- RUB (C)
- SOILS BOUNDARY
- SOILS C=0.41
- SOILS C=0.30
- SOILS C=0.24
- SOILS C=0.18
- SOILS C=0.12
- SOILS C=0.06
- DRAINAGE AREA DIVIDE
- STREET LIGHT

NOTE:  
FLOODPLAIN SHOWN HEREON F-17-061 AND OPEN SPACE LOT 7 IS PER FLOODPLAIN STUDY APPROVED UNDER ECP-17-006

**SOILS LEGEND**  
HOWARD COUNTY SOILS MAP #24

| SYMBOL | NAME / DESCRIPTION                                   | HYDRO GROUP | K FACTOR | <1% SLOPE | >1% SLOPE |
|--------|--|-------------|----------|-----------|-----------|
| CcC    | CHILLUM LOAM, 2 TO 10 PERCENT SLOPES                 | NO          | B        | 0.37      | YES       |
| RuB    | RUSSETT AND BELTSVILLE SOILS, 2 TO 5 PERCENT SLOPES  | NO          | C        | 0.40      | NO        |
| RuC    | RUSSETT AND BELTSVILLE SOILS, 5 TO 10 PERCENT SLOPES | NO          | C        | 0.24      | YES       |
| Fs     | FALSGATION SANDY LOAM, 0 TO 2 PERCENT SLOPES         | YES         | D        | 0.24      | NO        |
| WaB    | WOODSTOCK SANDY LOAM, 2 TO 5 PERCENT SLOPES          | YES         | C        | 0.24      | NO        |
| Cd     | CROOM AND EYEBORO SOILS, 10 TO 15 PERCENT SLOPES     | NO          | C        | 0.37      | YES       |
| Ebc    | EYEBORO LOAMY SAND, 2 TO 10 PERCENT SLOPES           | NO          | A        | 0.15      | NO        |

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY  
K-FACTOR =  $K_{soil} @ 0-4" \text{ DEPTH}$

NOTE:  
HIGHLY ERODIBLE SOILS ARE THOSE SOILS WITH A SLOPE GREATER THAN 15 PERCENT OR THOSE SOILS WITH A SOIL ERODIBILITY FACTOR K GREATER THAN 0.35 AND WITH A SLOPE GREATER THAN 5 PERCENT

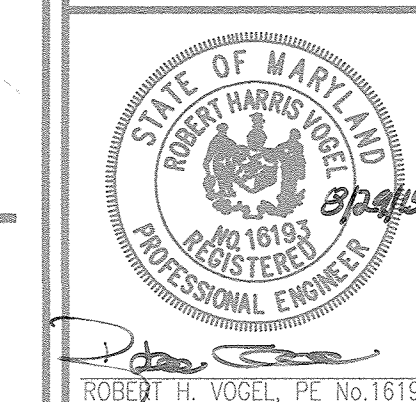
**OWNER/DEVELOPER**  
HOWARD COUNTY HOUSING COMMISSION  
9770 PATUXENT WOODS DR., SUITE 100  
COLUMBIA, MD 21045  
ATTN: PETER ENGEL  
(410) 313-6316

| NO. | REVISION | DATE |
|-----|----------|------|
|     |          |      |

EXHIBIT - PRELIMINARY PLAN  
PRELIMINARY  
STORM DRAIN DRAINAGE AREA MAP  
**GREENWOOD VILLAGE - PHASE 1**  
LOTS 1-4, NON-BUILDABLE BULK PARCELS A-C  
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A RE-SUBDIVISION OF THE "NORDAU SUBDIVISION" - SECTION E-4  
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TAX MAP: 42 GRID: 24 PARCEL: 136 & 138-140  
6TH ELECTION DISTRICT ZONED: R-12 HOWARD COUNTY, MARYLAND

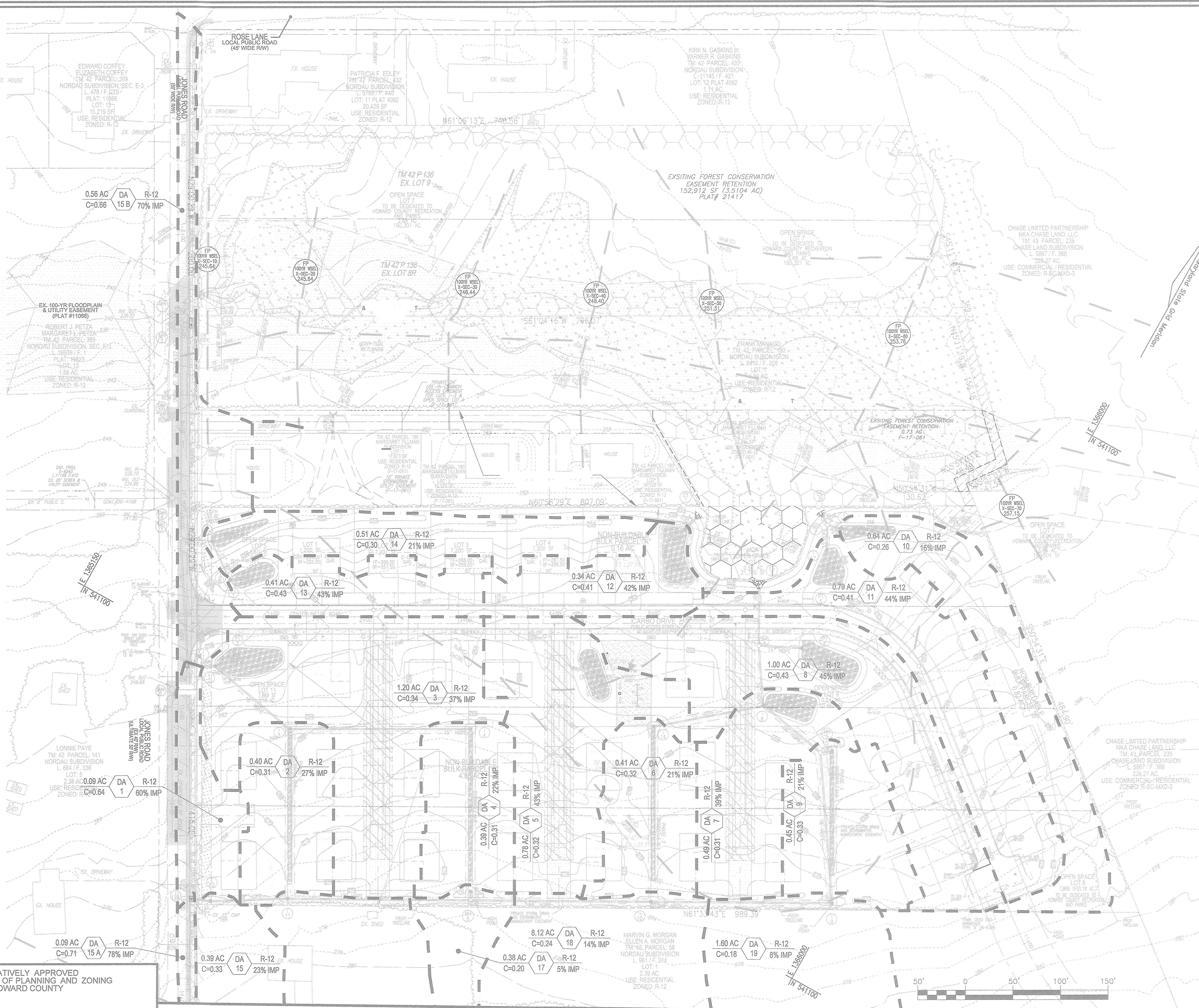
**ROBERT H. VOGEL, INC.**  
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DESIGN BY: RHW  
DRAWN BY: TGVE  
CHECKED BY: RHW  
DATE: SEPTEMBER 2018  
SCALE: AS SHOWN  
W.O. NO.: 12-05

PROFESSIONAL CERTIFICATE  
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A FULLY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. MY LICENSE NO. IS 16193. EXPIRATION DATE: 09-27-2020

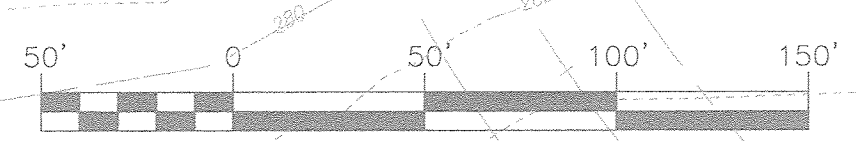
11 SHEET OF 12



TENTATIVELY APPROVED  
DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY

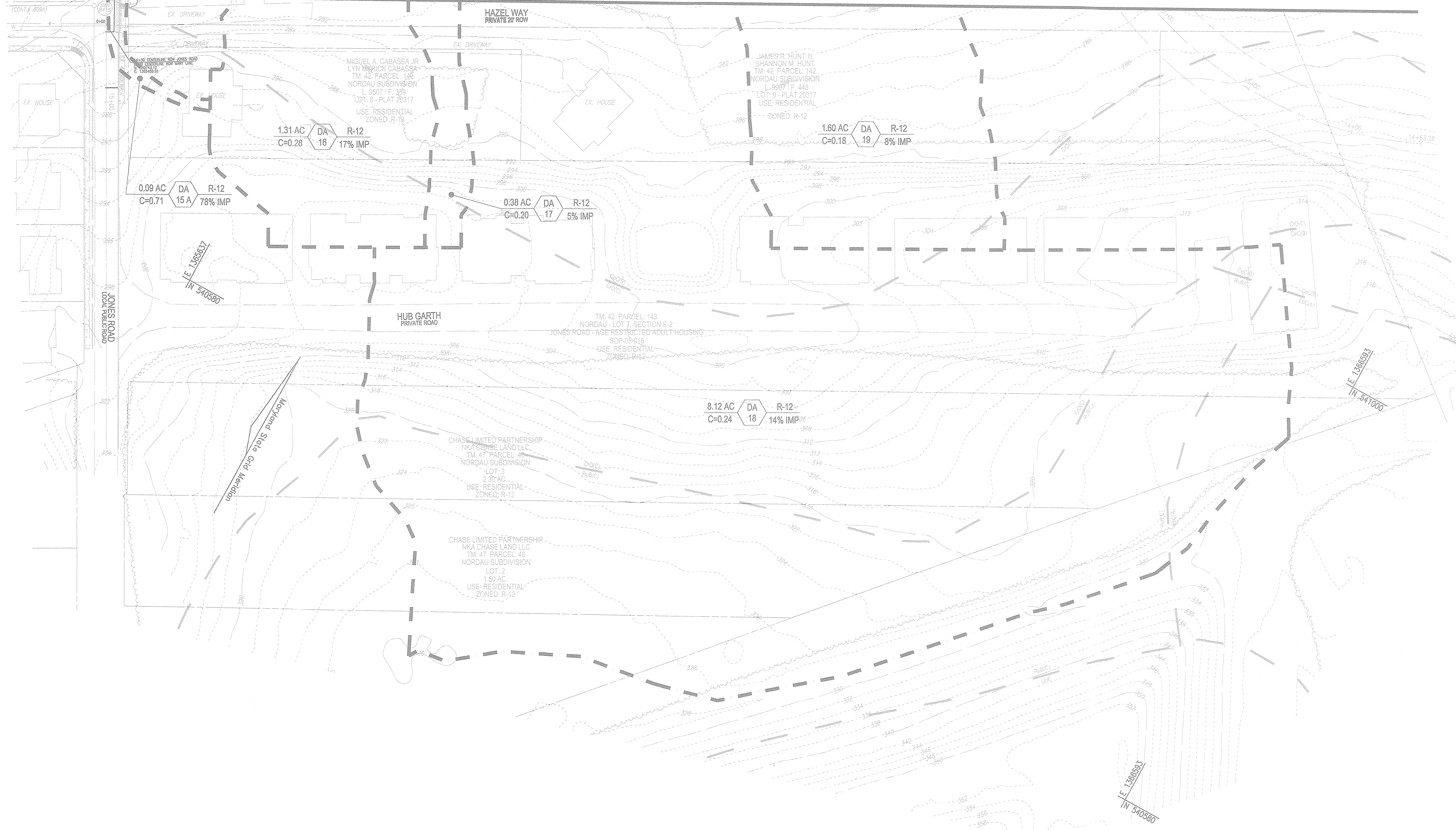
*Valerie J. DeWitt*  
PLANNING DIRECTOR  
10-2-18  
DATE

MATCH LINE - SEE SHEET 12  
**PRELIMINARY STORM DRAIN / DRAINAGE AREA MAP**  
SCALE: 1" = 50'





MATCH LINE - SEE SHEET 11



**LEGEND:**

- PROPERTY LINE
- RIGHT-OF-WAY LINE
- ADJACENT PROPERTY LINE
- EXISTING PAVING
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- EXISTING SANITARY MANHOLE
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- TREETRINE
- CURB & GUTTER
- MICRO-BIORETENTION FACILITY (M-B)

**DRAINAGE AREA INLET ZONING**

C FACTOR # % IMPERVIOUS

- Ru(B) --- SOILS BOUNDARY
- Co(C) --- SOILS BOUNDARY
- --- DRAINAGE AREA DIVIDE
- --- STREET LIGHT

**SOILS LEGEND**  
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|--------|--|-------------|----------|-----------|-----------|
| Cc(C)  | CHILLUM LOAM, 5 TO 10 PERCENT SLOPES                 | NO          | C 0.37   | NO        | YES       |
| Ru(B)  | RUSSETT AND BELLSVILLE SOILS, 2 TO 5 PERCENT SLOPES  | NO          | C 0.40   | NO        | NO        |
| Ru(C)  | RUSSETT AND BELLSVILLE SOILS, 5 TO 10 PERCENT SLOPES | NO          | C 0.24   | YES       | NO        |
| Fs     | FALLSINGTON SANDY LOAM, 0 TO 2 PERCENT SLOPES        | YES         | D 0.24   | NO        | NO        |
| Wsb    | WOODSTOWN SANDY LOAM, 2 TO 3 PERCENT SLOPES          | YES         | C 0.24   | NO        | NO        |
| Cd(D)  | CRDOM AND EVERSORO SOILS, 10 TO 15 PERCENT SLOPES    | NO          | C 0.37   | YES       | NO        |
| Ed(C)  | EVSORSO LOAMY SAND, 2 TO 10 PERCENT SLOPES           | NO          | A 0.15   | NO        | NO        |

TAKEN FROM: USDA, SCS-WEB SOIL SURVEY, HOWARD COUNTY  
K-FACTOR =  $K_w @ 0-4" \text{ DEPTH}$

NOTE:  
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|     |          |      |
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EXHIBIT - PRELIMINARY PLAN  
PRELIMINARY  
STORM DRAIN DRAINAGE AREA MAP  
**GREENWOOD VILLAGE - PHASE 1**  
LOTS 1-4, NON BUILDABLE BULK PARCELS A-C  
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LOTS 2-4, 5B (L16288 F.488), 8R (L16288 F.502) AND 9

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6TH ELECTION DISTRICT ZONED: R-12 HOWARD COUNTY, MARYLAND

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DRAWN BY: TGVE  
CHECKED BY: RHW  
DATE: SEPTEMBER 2018  
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W.O. NO.: 12-05

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. 18183, EXPIRATION DATE: 09-27-2020

12 SHEET OF 12

TENTATIVELY APPROVED  
DEPARTMENT OF PLANNING AND ZONING  
HOWARD COUNTY

*Nathan Allen*  
PLANNING DIRECTOR

10-2-18  
DATE

**PRELIMINARY STORM DRAIN / DRAINAGE AREA MAP**

