

SITE GENERAL NOTES

- A. OWNER/DEVELOPER:** ROBERT ANDREW & NORA SAYASITHSENA LACK
12945 & 12965 LINDEN CHURCH ROAD
CLARKSVILLE, MD 21029
PHONE: (443) 386-1261
- B. PLAN PREPARED BY:** DEVELOPMENT & DESIGN SOLUTIONS, LLC.
3202 ACTON ROAD
BALTIMORE, MARYLAND 21234
PHONE: (410) 905-0778
- C. SITE LOCATION:**
1. STREET ADDRESS: 12945 & 12965 LINDEN CHURCH ROAD
CLARKSVILLE, MD 21029
2. ELECTION DISTRICT: 5th
3. TAX MAP: MAP #0028, GRID 0016, PARCEL 0146 & 0155
4. MAJOR WATERSHED: 02131108
5. TAX ACCOUNT #: 356733 & 363675
6. DEED REFERENCE: LIBER 15713, FOLIO 00309 & LIBER 20024, FOLIO 00204
7. PLAT REFERENCE: N/A
- D. EXISTING SITE DATA AND ZONING:**
1. GROSS SITE AREA: 438,767 S.F. / 10.073 AC.±
EXISTING ZONING: RRR-DEO
EXISTING LAND USE: RURAL RESIDENTIAL - SINGLE FAMILY
- E. SCHOOL DISTRICT:** ELEMENTARY SCHOOL: DAYTON OAKS ELEMENTARY SCHOOL
MIDDLE SCHOOL: FOLLY QUARTER MIDDLE SCHOOL
HIGH SCHOOL: RIVER HILL HIGH SCHOOL

- F. EXISTING SITE INFORMATION:**
1. TOPOGRAPHIC AND BOUNDARY SURVEY SHOWN ON THIS PLAN WITHIN THE LIMIT OF DISTURBANCE IS BASED ON FIELD RUN SURVEY AS PREPARED BY DIETZ SURVEYING, INC. DATED 02/01/22 AND THE REMAINDER OF THE PROJECT IS BASED ON THE HOWARD COUNTY GIS SURVEY DATA.
2. SOILS INFORMATION WAS TAKEN FROM THE USDA SOIL SURVEY OF HOWARD COUNTY, MARYLAND.
3. THERE ARE NO KNOWN, CRITICAL AREAS, ARCHEOLOGICAL SITES, ENDANGERED SPECIES, HABITATS OR HAZARDOUS MATERIALS ASSOCIATED WITH THIS PROPERTY.
4. THERE ARE NO KNOWN UNDERGROUND STORAGE TANKS ON SITE.
5. THERE ARE STEEP SLOPES (15%-24.9% AND 25%+) ASSOCIATED WITH THIS SITE WITHIN THE FOREST BUFFER RETENTION AREA.
6. THERE ARE NO ERODIBLE SOILS ASSOCIATED WITH THIS SITE IN ACCORDANCE WITH THE USDA SOIL SURVEY OF HOWARD COUNTY, MARYLAND.
7. THERE ARE WETLANDS ASSOCIATED WITH THIS PROPERTY AS INDICATED ON THIS PLAN FROM THE WETLAND DELINEATION PERFORMED BY ECO-SCIENCE PROFESSIONALS, INC. AND FIELD LOCATED BY DIETZ SURVEYING, INC.
8. THERE ARE NO FLOODPLAINS ASSOCIATED WITH THIS SITE IN ACCORDANCE WITH THE FEMA FLOODPLAIN MAP #2402701300, DATED 11/06/2013, HOWEVER A FLOODPLAIN ANALYSIS WAS PERFORMED AND THE RESULTS OF A 100 YR. FLOODPLAIN IS ASSOCIATED WITH THIS SITE WHICH IS SHOWN ON THESE PLANS.
- G. PROPOSED DEVELOPMENT INFORMATION:**
1. PROPOSED DEVELOPMENT: 3 LOT - RURAL RESIDENTIAL SINGLE FAMILY SUBDIVISION.
2. ALL PROPOSED DWELLING FIRST FLOOR ELEVATIONS SHALL BE A MINIMUM OF TWO (2) FOOT ABOVE THE FLOODPLAIN ELEVATION.

H. SITE ANALYSIS DATA CHART:

| | |
|---|-------------------------|
| PROPERTY AREA | 438,767 SF / 10.07 AC.± |
| EXISTING IMPERVIOUS AREA WITHIN PROPERTY: | 13,048 SF / 0.30 AC.± |
| PROPOSED IMPERVIOUS AREA WITHIN PROPERTY: | 29,322 SF / 0.67 AC.± |
| TOTAL IMPERVIOUS AREA TO BE TREATED: | 33,181 SF / 0.76 AC.± |
| TOTAL LIMIT OF DISTURBANCE (LOD): | 85,511 SF / 1.96 AC.± |
| AREA TO BE VEGETATIVELY STABILIZED WITHIN PROPERTY: | 156,917 SF / 3.60 AC.± |
| FLOODPLAIN AREA | 63,345 SF / 1.45 AC.± |
| STEEP SLOPES (15%-24.9%) | 9,316 SF / 0.21 AC.± |
| STEEP SLOPES (25% >) | 2,797 SF / 0.06 AC.± |
| WETLANDS AREA | 33,900 SF / 0.78 AC.± |
| WETLAND BUFFERS AREA | 23,570 SF / 0.54 AC.± |
| STREAM BUFFERS AREA | 133,250 SF / 3.06 AC.± |
| EXISTING FORESTED AREA | 298,190 SF / 6.85 AC.± |
| PROPOSED FOREST CONSERVATION AREA | 184,980 SF / 4.25 AC.± |
| ERODIBLE SOILS AREA | 0 SF / 0.00 AC.± |
| GREEN OPEN AREA | 405,539 SF / 9.31 AC.± |

- NOTES:**
- ENVIRONMENTAL CONCEPT PLAN (ECP-22-075) WAS APPROVED ON APRIL 11, 2023 AND THE APPROVAL OF THIS FINAL PLANS DOES NOT CONSTITUTE AN APPROVAL OF ANY SUBSEQUENT AND ASSOCIATED SUBDIVISION PLAN/PLAT AND/OR SITE DEVELOPMENT PLAN AND/OR REDLINE REVISION PLAN. REVIEW OF THIS PROJECT FOR COMPLIANCE WITH THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS SHALL OCCUR AT THE SUBDIVISION PLAN/PLAT AND/OR SITE DEVELOPMENT PLAN STAGES AND/OR REDLINE REVISIONS PROCESS. THE APPLICANT AND CONSULTANT SHOULD EXPECT ADDITIONAL AND MORE DETAILED REVIEW COMMENTS (INCLUDING COMMENTS THAT MAY ALTER THE OVERALL SITE DESIGN) AS THIS PROJECT PROGRESSES THROUGH THE PLAN REVIEW PROCESS.
 - THE FOREST CONSERVATION PLAN AND ASSOCIATED FOREST DELINEATION WILL BE REVIEWED FOR COMPLIANCE WITH THE FOREST CONSERVATION ACT AT THE SUBDIVISION PLAN, SITE DEVELOPMENT PLAN OR GRADING PERMIT STAGES. UNDER COUNTY LAW, ONLY A MD LICENSED FORESTER, MD LICENSED LANDSCAPE ARCHITECT OR AN ISA CERTIFIED ARBORIST WHO IS ALSO A STATE QUALIFIED PROFESSIONAL MAY PREPARE FOREST STAND DELINEATIONS, FOREST CONSERVATION PLANS OR OTHER REQUIRED COUNTY FOREST CONSERVATION PROGRAM DOCUMENTS.
 - THE DEVELOPMENT OF THIS PROJECT PURPOSES TO MEET THE FOREST CONSERVATION ACT REQUIREMENTS THROUGH ONSITE RETENTION IN EXCESS OF THE BREAK-EVEN POINT. ALTERNATIVE COMPLIANCE WILL BE REQUIRED TO GAIN APPROVAL TO CREATE FOREST CONSERVATION ON LOTS LESS THAN (10) TEN ACRES. GIVEN THAT THE FOREST TO BE RETAINED IS HIGH PRIORITY DUE TO THE PRESENCE OF WETLANDS, STREAMS, BUFFERS AND SPECIMEN TREES TO BE RETAINED, AS PROPOSED, THE PROJECT WILL MEET ALL OF ITS FOREST CONSERVATION RETENTION REQUIREMENTS ONSITE WITH THE CREATION OF A 4.3 ACRE FOREST CONSERVATION EASEMENT. THE PROJECT WILL ALSO RETAIN 28 OF THE EXISTING 34 SPECIMEN TREES WHICH THE 6 SPECIMEN TREES REMOVED WILL BE REPLACED WITH 12 TREES ONSITE.
 - IN ACCORDANCE WITH THE DNR HERITAGE LETTER DATED JANUARY 5, 2023, OBTAINED FROM MARYLAND DEPARTMENT OF NATURAL RESOURCES - WILDLIFE AND HERITAGE SERVICES (MDE) HAS NO OFFICIAL RECORDS FOR STATE OR FEDERAL LISTED, CANDIDATE, PROPOSED, OR RARE PLANT OR ANIMAL SPECIES WITHIN THE PROJECT AREA. AS A RESULT, MDE HAS NO SPECIFIC CONCERNS REGARDING POTENTIAL IMPACTS TO SUCH SPECIES OR RECOMMENDATIONS FOR PROTECTION MEASURES AT THIS TIME BASED ON THE FIDS AND SENSITIVE SPECIES PROJECT REVIEW AREA.

I. STORMWATER MANAGEMENT SUMMARY

THE PROPOSED DEVELOPMENT OF THIS PROPERTY SHALL CONSISTS OF 3-LOT RESIDENTIAL SUBDIVISION THAT WILL CONSISTS OF TWO PROPOSED SINGLE FAMILY DWELLINGS WITH ASSOCIATED PAVED DRIVEWAY AND SIDEWALK ALONG WITH RETAINING THE EXISTING SINGLE FAMILY DWELLING AND DRIVEWAY. THE PROPOSED IMPERVIOUS AREA OF 33,181 SF / 0.76 AC.± WILL BE TREATED BY MEANS OF (N-2) DISCONNECT OF NON-ROOFTOP RUNOFF - GRASS SWALE, (N-3) SHEET FLOW TO FOREST CONSERVATION AREAS AND (M-5) DRYWELLS WHICH WILL MEET THE REQUIREMENTS IN ACCORDANCE WITH HOWARD COUNTY DPW - STORMWATER MANAGEMENT DIVISION AS FOLLOWS:

- STORMWATER MANAGEMENT REQUIREMENTS:**
DRAINAGE AREA #1 (N-2) DISCONNECT OF NON-ROOFTOP RUNOFF - GRASS SWALE
REQUIRED VOLUME THAT MUST BE CAPTURED AND TREATED = 555 CF.
PROVIDED VOLUME CAPTURED AND TREATED = 562 CF.
- DRAINAGE AREA #2A (N-3) SHEET FLOW TO FOREST CONSERVATION AREAS
REQUIRED VOLUME THAT MUST BE CAPTURED AND TREATED = 3,758 CF.
PROVIDED VOLUME CAPTURED AND TREATED = 3,054 CF.
- DRAINAGE AREA #2B & 2C (M-5) DRYWELLS
REQUIRED VOLUME THAT MUST BE CAPTURED AND TREATED = 704 CF.
PROVIDED VOLUME CAPTURED AND TREATED = 704 CF.
- TOTAL VOLUME REQUIRED & PROVIDED FOR DA 2A, 2B & 2C = 3758 C.F.**
TOTAL
REQUIRED VOLUME THAT MUST BE CAPTURED AND TREATED = 4,314 CF.
PROVIDED VOLUME CAPTURED AND TREATED = 4,320 CF.

STORMWATER MANAGEMENT SATISFIED BY:
(N-2) DISCONNECT OF NON-ROOFTOP RUNOFF-GRASS SWALE, (N-3) SHEET FLOW TO FOREST CONSERVATION AREAS AND (M-5) DRYWELLS FOR IMPERVIOUS AREA OF 33,181 SF. / 0.76 AC.±

DESIGN NARRATIVE

EXISTING CONDITIONS:
THE PROPERTY KNOWN AS 12945 & 12965 LINDEN CHURCH ROAD CONSISTS OF 438,720 SF./10.072 AC.± OF WOODED, AND LAWN AREAS WITH AN EXISTING SINGLE-FAMILY DWELLING AND PAVED DRIVEWAY LOCATED IN CLARKSVILLE, MARYLAND. THE PROPERTY IS CURRENTLY ZONED RR-DEO (RURAL RESIDENTIAL). THERE ARE WETLANDS, WETLAND BUFFERS, STREAM BUFFERS, FOREST CONSERVATION AREAS FLOODPLAIN AND STEEP SLOPES ASSOCIATED WITH THIS PROPERTY.

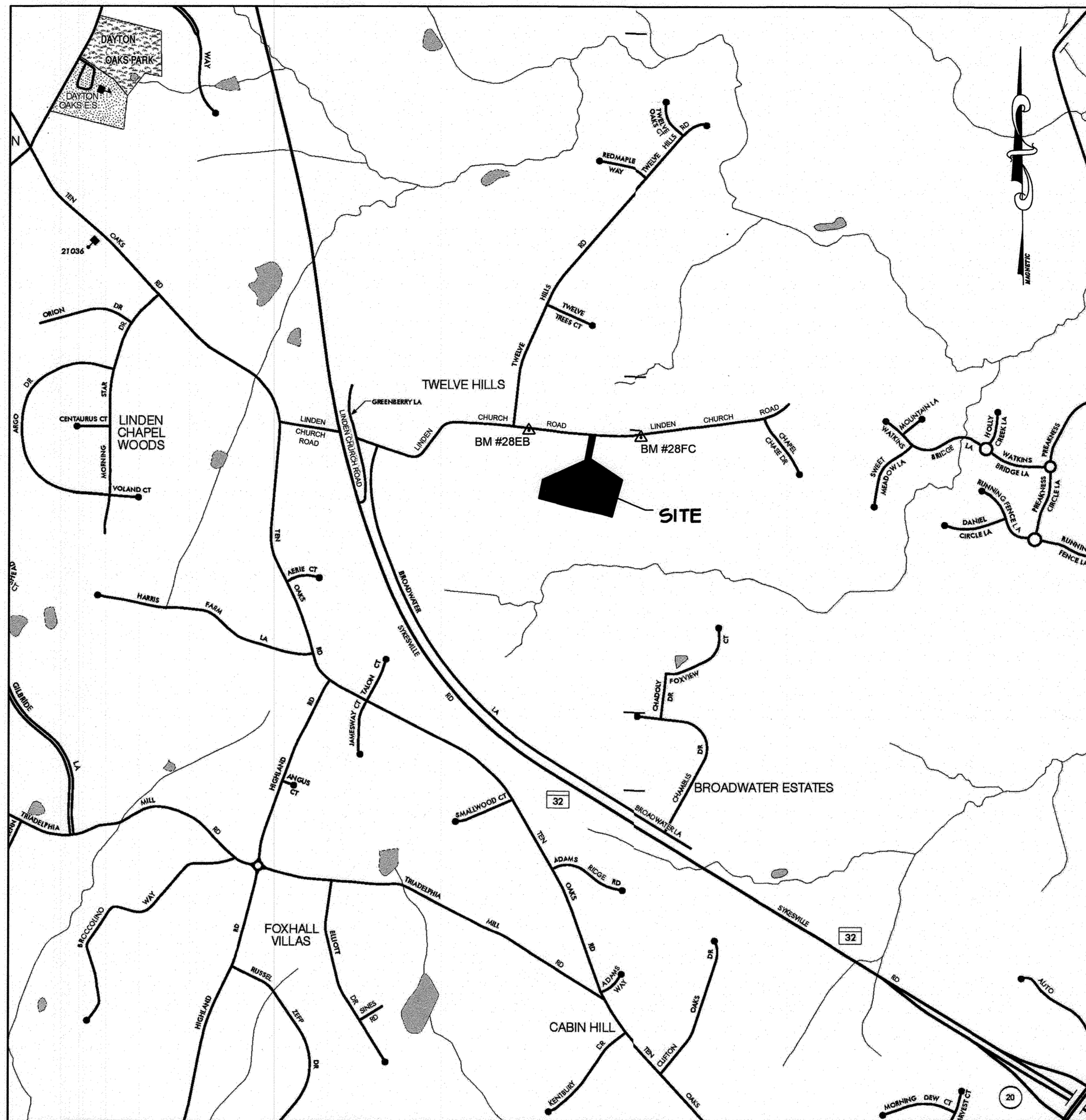
THE PROPERTY CONSISTS OF AN EXISTING SINGLE FAMILY DWELLING AND PAVED DRIVEWAY, LANDSCAPING, WELL MAINTAINED LAWN AND FORESTED AREA. THE SITE SLOPES NORTH AND SOUTH FROM AN HIGH POINT LOCATED APPROXIMATELY 350' SOUTH OF LINDEN CHURCH ROAD WITHIN THE PROPERTY.

THE SOILS CONSIST OF (cgb) GLENELG-LOAM, (cgc) GLENELG-LOAM & (McC) MANOR-LOAM AS TYPE 'B' SOIL CLASSIFICATION AND (GmB) GLENVILLE SILT LOAM & (GmB) GLENVILLE-BALLE SILT AS TYPE 'C' SOIL CLASSIFICATION.

PROPOSED CONDITIONS:
THE PROPOSED DEVELOPMENT OF THIS PROPERTY SHALL CONSISTS OF 3-LOT RESIDENTIAL SUBDIVISION THAT WILL CONSISTS OF TWO PROPOSED SINGLE FAMILY DWELLINGS WITH ASSOCIATED PAVED DRIVEWAY AND SIDEWALK ALONG WITH THE EXISTING SINGLE FAMILY DWELLING AND DRIVEWAY. THE PROPOSED IMPERVIOUS AREA OF 33,181 SF / 0.76 AC.± WILL BE TREATED BY MEANS OF (N-2) DISCONNECT OF NON-ROOFTOP RUNOFF - GRASS SWALE, (N-3) SHEET FLOW TO FOREST CONSERVATION AREAS AND (M-5) DRYWELLS.

PROPOSED STORMWATER MANAGEMENT:
DA-1 IMPERVIOUS AREA OF 6,347 SF. FORM THE PROPOSED PANHANDLE DRIVEWAY IS SATISFIED BY MEANS OF WHICH THE RUNOFF WILL FLOW INTO A GRASS SWALE AND DISCHARGE INTO AN EXISTING 18" CMP CULVERT UNDER LINDEN CHURCH ROAD.
DA-2 IMPERVIOUS AREA OF 26,834 SF. FROM THE EXISTING DWELLING ROOFTOP, EXISTING AND PROPOSED DRIVEWAYS AND SIDEWALKS IS SATISFIED BY MEANS OF WHICH THE RUNOFF WILL SHEET FLOW TO CONSERVATION AREA AND THE PROPOSED DWELLING ROOFTOPS IS SATISFIED BY MEANS OF WHICH THE RUNOFF WILL BE CAPTURED INTO DRYWELLS.

REV = SATISFIED BY PERCENT AREA METHOD
~~EXEMPTED FROM CIVIL ENGINEERING FOR DA-1 (6,347 S.F.) < 2.0 C.F.S.~~
~~EXEMPTED FROM CIVIL ENGINEERING FOR DA-2 (26,834 S.F.) < 2.0 C.F.S.~~



VICINITY MAP
SCALE: 1"=1000'

ADC MAP #49339-GRID #F4

BENCHMARKS
BM #28EB
GEODETIC SURVEY CONTROL
N 569,357.369 E 1,322,113.638
ELEV. 536.728
BM #28FC
GEODETIC SURVEY CONTROL
N 569,281.171 E 1,323,469.062
ELEV. 521.518

LEGEND

| | |
|-----|--|
| --- | EXISTING 10' CONTOUR |
| --- | EXISTING 2' CONTOUR |
| --- | PROPERTY BOUNDARY |
| --- | ADJACENT OWNER PROPERTY BOUNDARY |
| --- | RIGHT-OF-WAY BOUNDARY |
| --- | EXISTING PAVING |
| --- | PROPOSED PAVING |
| --- | EXISTING BUILDING |
| --- | PROPOSED BUILDING |
| --- | EXISTING SEPTIC RESERVE AREA |
| --- | PROPOSED SEPTIC RESERVE AREA |
| ○ | EXISTING WELL |
| ○ | PROPOSED WELL BOX AREA |
| --- | EXISTING STREAM |
| --- | STREAM BANK BUFFER |
| --- | WETLAND BUFFER |
| --- | PROPOSED FOREST CONSERVATION EASEMENT |
| --- | EXISTING WETLANDS |
| --- | EXISTING TREE LINE |
| --- | PROPOSED TREELINE |
| ○ | EXISTING TREE (DBH / TREE NUMBER) |
| ○ | EXISTING TREE CRITICAL ROOT ZONE (CRZ) |
| --- | EXISTING STEEP SLOPES 15% - 24.9% |
| --- | EXISTING STEEP SLOPES 25% < GREATER |
| --- | EXISTING SOILS |

INDEX OF DRAWINGS

| DRAWING# | DRAWING TITLE |
|----------|--|
| ECP-1 | COVER SHEET |
| ECP-2 | SITE AND GRADING PLAN |
| ECP-3 | STORMWATER MANAGEMENT PLAN |
| ECP-4 | FOREST STAND & WETLAND DELINEATION PLAN |
| ECP-5 | FOREST STAND & WETLAND DELINEATION NOTES & DETAILS |

| NO. | DATE | REVISIONS | BY |
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DRAWING:
ENVIRONMENTAL CONCEPT PLAN
COVER SHEET

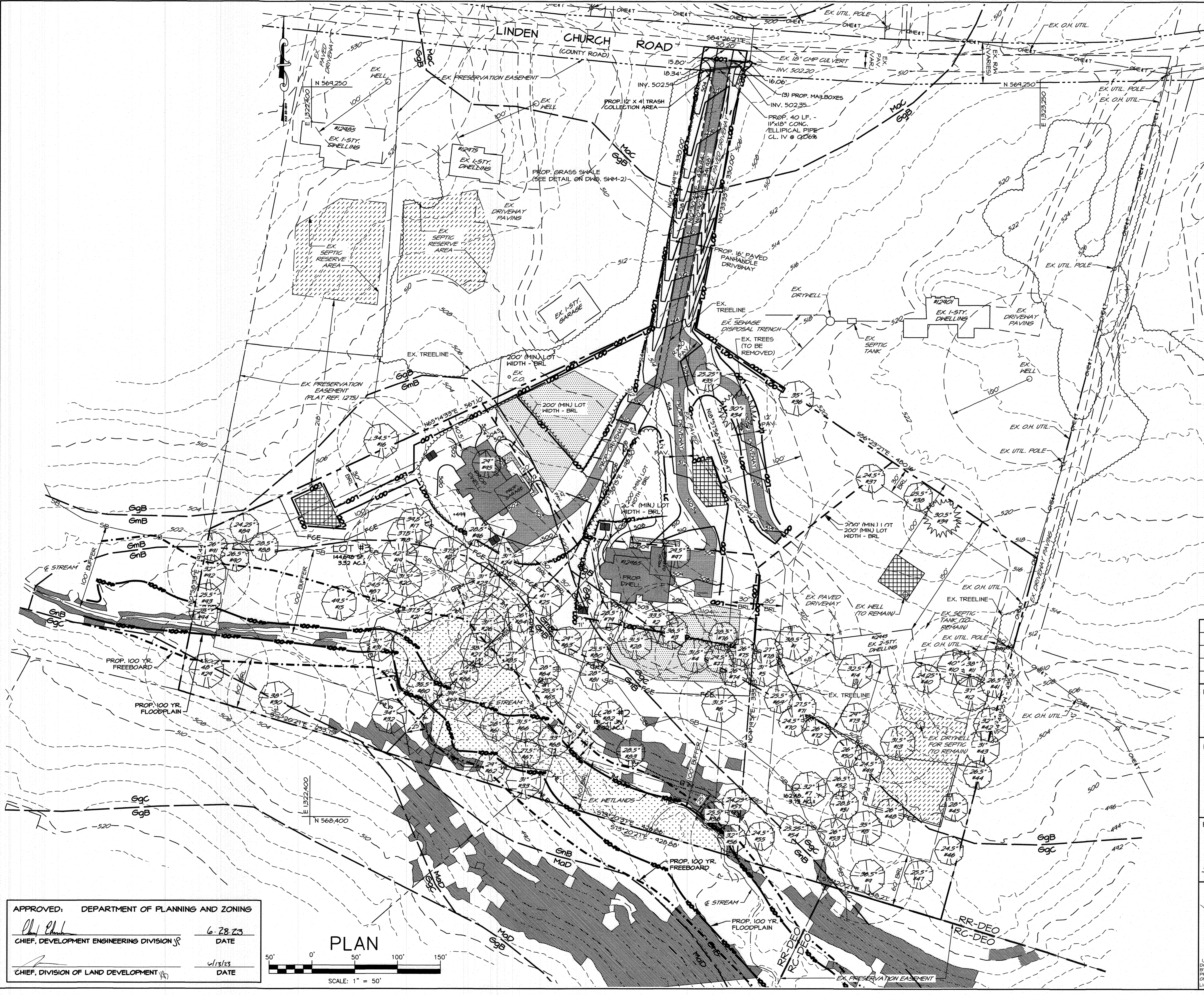
PROJECT:
**12945 & 12965
LINDEN CHURCH ROAD**
CLARKSVILLE, MARYLAND 21029
TAX MAP 26, BLOCK 16, PARCELS 146 & 155
ZONING RR-DEO
HOWARD COUNTY, MD 5th ELECTION DISTRICT

ENGINEER:
Development & Design Solutions, LLC
Consultants, Engineers and Planners
3202 Acton Road - Baltimore, Maryland 21234
Phone: (410)905-0778

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| DESIGNED: | DMB |
| DRAWN: | DMB |
| CHECKED: | DSS |
| DATE: | MAY 1, 2023 |
| SCALE: | 1"=50' |

| | | | |
|-------------|-------|-----------|--------|
| DRAWING NO: | ECP-1 | SHEET NO. | 1 of 5 |
|-------------|-------|-----------|--------|

APPROVED: DEPARTMENT OF PLANNING AND ZONING
[Signature] 7.10.23
CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE
[Signature] 6/13/23
CHIEF, DIVISION OF LAND DEVELOPMENT DATE



LEGEND

- EXISTING 10' CONTOUR
- EXISTING 2' CONTOUR
- PROPERTY BOUNDARY
- ADJACENT OWNER PROPERTY BOUNDARY
- RIGHT-OF-WAY BOUNDARY
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- EXISTING STEEP SLOPES 15% - 24.9%
- EXISTING STEEP SLOPES 25% < GREATER
- EXISTING SOILS
- EXISTING SOILS
- PROPOSED 100 YR. FLOODPLAIN
- PROPOSED 100 YR. FLOODPLAIN FREEBOARD
- PROPOSED DRYWELLS FOR STORMWATER MANAGEMENT

TOTAL AREA OF DISTURBANCE: 85,511 SF. / 1.963 Ac. ±

| NO. | DATE | REVISIONS | BY |
|-----|------|-----------|----|
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DRAWING:
ENVIRONMENTAL CONCEPT PLAN
 SITE AND GRADING

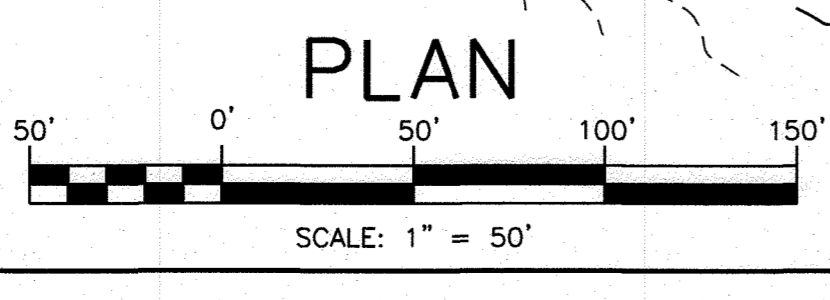
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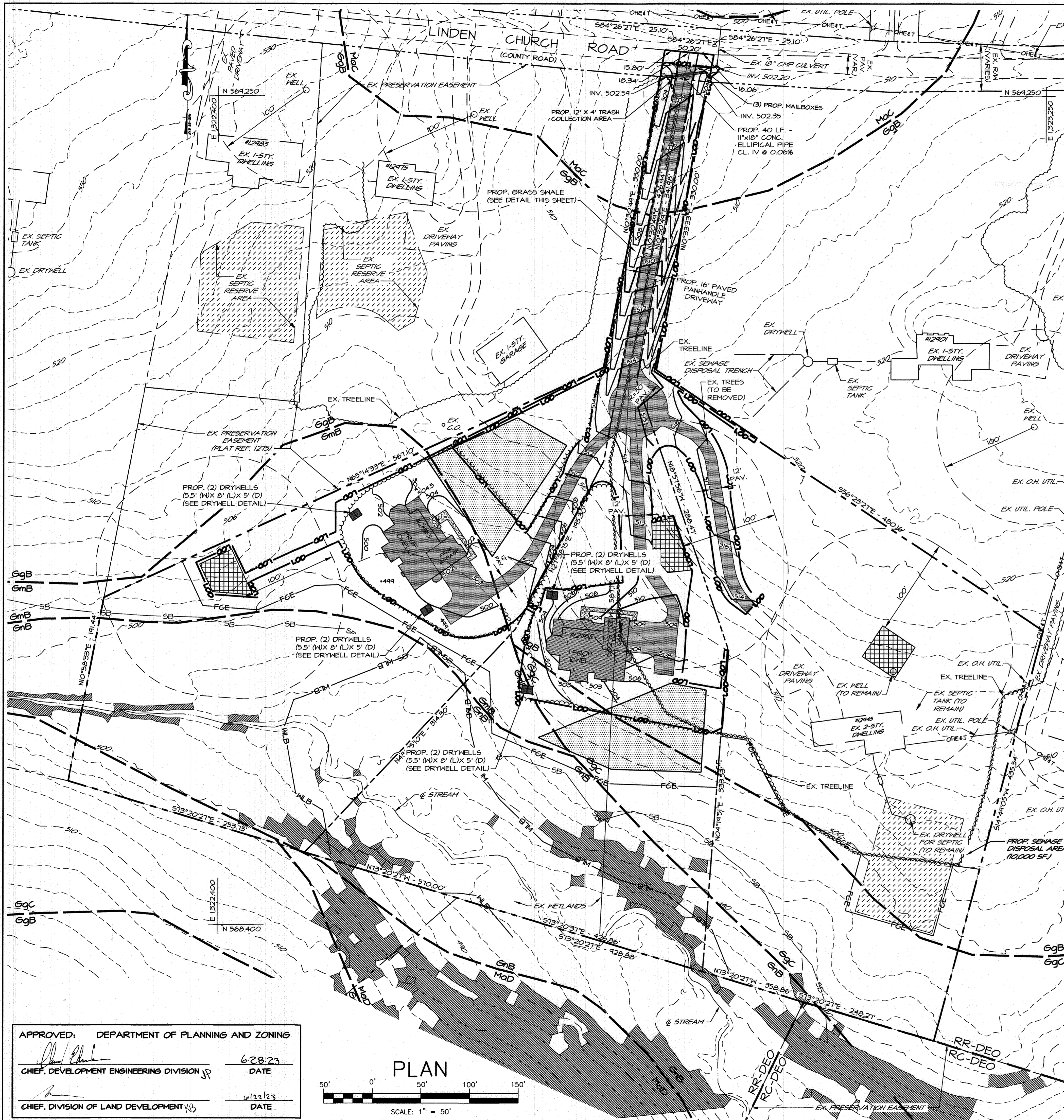
ENGINEER:
Development & Design Solutions, LLC
 Consultants, Engineers and Planners
 3202 Acton Road - Baltimore, Maryland 21234
 Phone: (410)905-0778

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| DESIGNED: | DMB |
| DRAWN: | DMB |
| CHECKED: | DSS |
| DATE: | MAY 1, 2023 |
| SCALE: | 1"=50' |
| DRAWING NO: | ECP-2 |
| SHEET NO: | 2 of 5 |

APPROVED: DEPARTMENT OF PLANNING AND ZONING

 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 6-28-23
 DATE: 6/13/23
 CHIEF, DIVISION OF LAND DEVELOPMENT





| MAP SYMBOL | MAPPING UNIT | FACTOR K' (INCH/ SOIL) | DRAINAGE RATE | HYDROLOGIC SOIL GROUP |
|------------|--|------------------------|-------------------|-----------------------|
| GgB | Glennelg Loam - 3 to 8% slopes | 0.24 | High Infiltration | B |
| GgC | Glennelg Loam - 3 to 8% slopes | 0.24 | High Infiltration | B |
| GmB | Glennville Silt Loam - 3 to 8% slopes | 0.31 | Slow Infiltration | C/D |
| GnB | Glennville Baile Silt - 3 to 8% slopes | 0.43 | Slow Infiltration | C |
| MaC | Manor Loam - 0 to 15% slopes | 0.28 | High Infiltration | B |

STORMWATER MANAGEMENT SUMMARY

STORMWATER MANAGEMENT REQUIREMENTS:

DRAINAGE AREA #1 (N-2) DISCONNECT OF NON-ROOFTOP RUNOFF - GRASS SWALE
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TOTAL VOLUME REQUIRED & PROVIDED FOR DA 2A, 2B & 2C = 3758 C.F.

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OVERVIEW:
EXISTING CONDITIONS:
 THE PROPERTY KNOWN AS 12945 & 12965 LINDEN CHURCH ROAD CONSISTS OF 438,720 SF./10.072 AC.± OF WOODED, AND LAWN AREAS WITH AN EXISTING SINGLE-FAMILY DWELLING AND PAVED DRIVEWAY LOCATED IN CLARKSVILLE, MARYLAND. THE PROPERTY IS CURRENTLY ZONED RR-DEO (RURAL RESIDENTIAL). THERE ARE WETLANDS, WETLAND BUFFERS, STREAM BUFFERS, FOREST CONSERVATION AREAS FLOODPLAIN AND STEEP SLOPES ASSOCIATED WITH THIS PROPERTY.

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THE SOILS CONSIST OF (GgB) GLENELG-LOAM, (GgC) GLENELG-LOAM & (MaC) MANOR-LOAM AS TYPE 'B' SOIL CLASSIFICATION AND (GmB) GLENVILLE SILT LOAM & (GnB) GLENVILLE-BAILE SILT AS TYPE 'C' SOIL CLASSIFICATION.

PROPOSED CONDITIONS:
 THE PROPOSED DEVELOPMENT OF THIS PROPERTY SHALL CONSIST OF 3-LOT RESIDENTIAL SUBDIVISION THAT WILL CONSIST OF TWO PROPOSED SINGLE FAMILY DWELLINGS WITH ASSOCIATED PAVED DRIVEWAY AND SIDEWALK ALONG WITH RETAINING THE EXISTING SINGLE FAMILY DWELLING AND DRIVEWAY. THE PROPOSED IMPERVIOUS AREA OF 33,181 SF. / 0.76 AC.± WILL BE TREATED BY MEANS OF (N-2) DISCONNECT OF NON-ROOFTOP RUNOFF - GRASS SWALE, (N-3) SHEET FLOW TO FOREST CONSERVATION AREAS AND (M-5) DRYWELLS.

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REV = SATISFIED BY PERCENT AREA METHOD
 EXEMPTED FROM REV. 0 YR. FOR DA-1 (0.00 CFS) < 2.0 CFS
 0 YR. FOR DA-2 (1.75 GFS) < 2.0 CFS

| LEGEND | |
|--------|---|
| | EXISTING 10' CONTOUR |
| | EXISTING 2' CONTOUR |
| | PROPERTY BOUNDARY |
| | ADJACENT OWNER PROPERTY BOUNDARY |
| | RIGHT-OF-WAY BOUNDARY |
| | EXISTING PAVING |
| | PROPOSED PAVING |
| | EXISTING BUILDING |
| | PROPOSED BUILDING |
| | EXISTING SEPTIC RESERVE AREA |
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| | EXISTING SOILS |
| | PROPOSED 100 YR. FLOODPLAIN |
| | PROPOSED 100 YR. FLOODPLAIN FREEBOARD |
| | PROPOSED DRYWELLS FOR STORMWATER MANAGEMENT |

TOTAL AREA OF DISTURBANCE: 85,511 SF. / 1.963 AC.±

| NO. | DATE | REVISIONS | BY |
|-----|------|-----------|----|
| | | | |

DRAWING: **ENVIRONMENTAL CONCEPT PLAN**
 STORMWATER MANAGEMENT PLAN
 FILE #ECP-22-075

PROJECT: **12945 & 12965 LINDEN CHURCH ROAD**
 CLARKSVILLE, MARYLAND 21029
 TAX MAP 26, BLOCK 16, PARCELS 146 & 155
 ZONING RR-DEO
 HOWARD COUNTY, MD 5th ELECTION DISTRICT

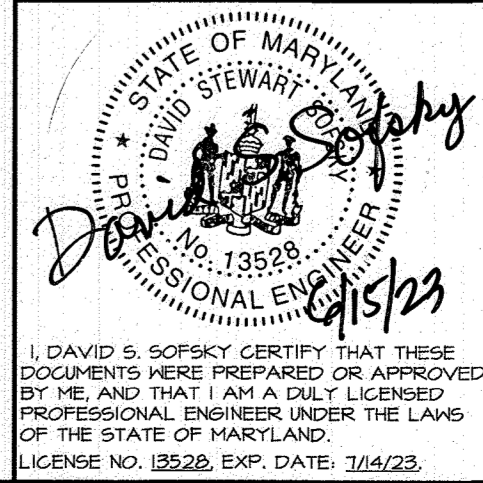
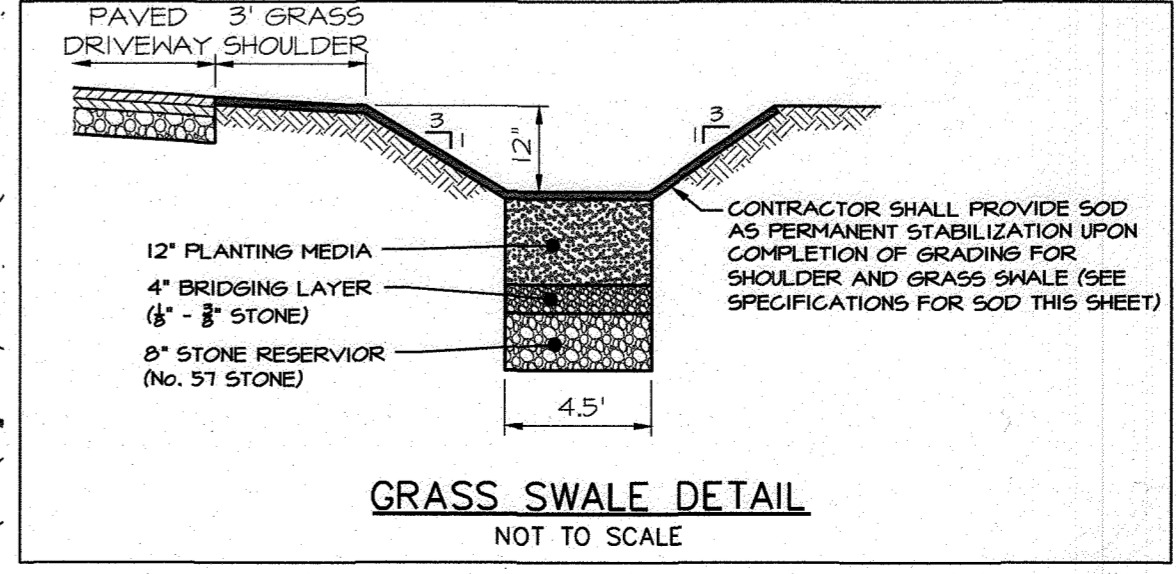
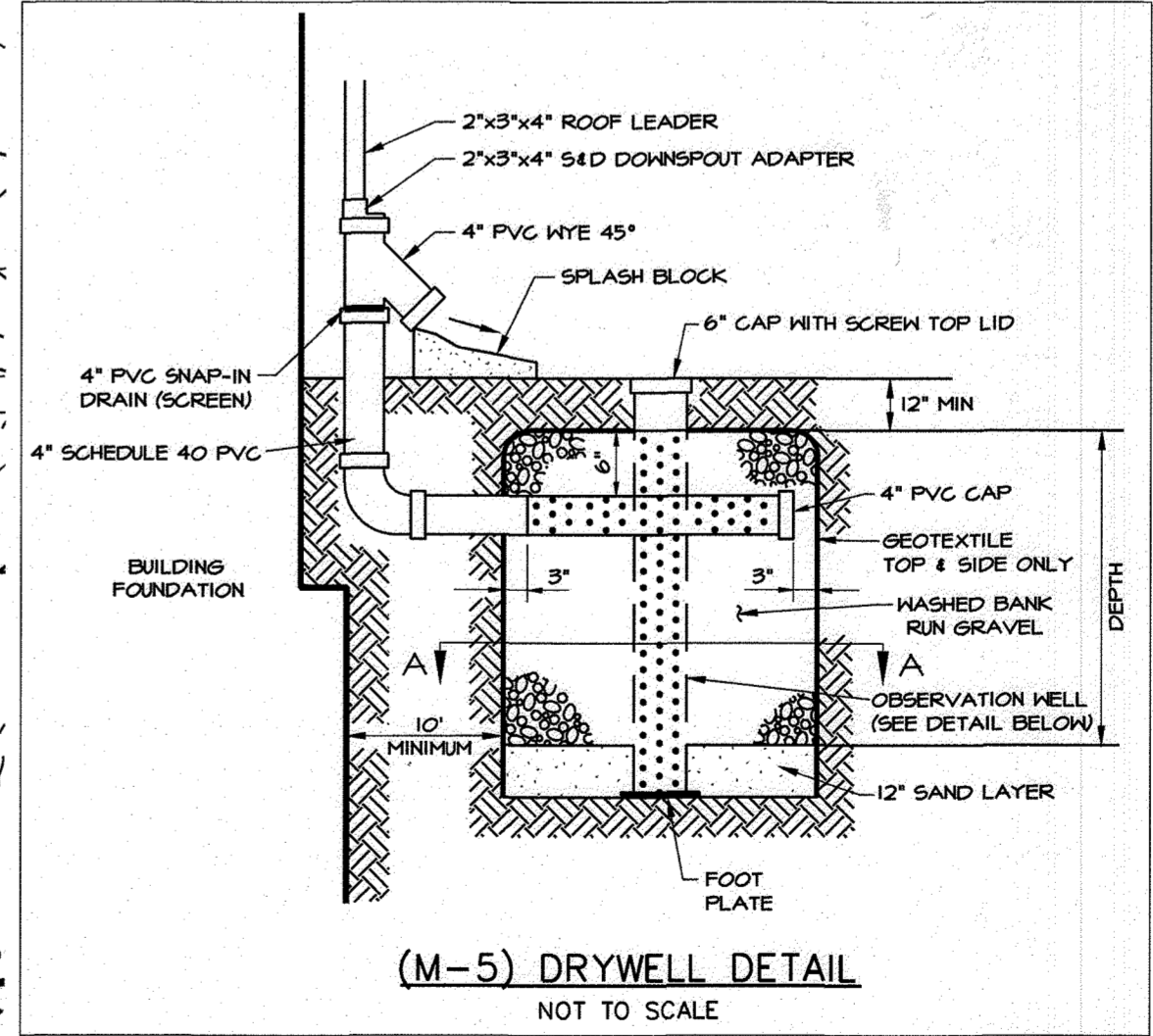
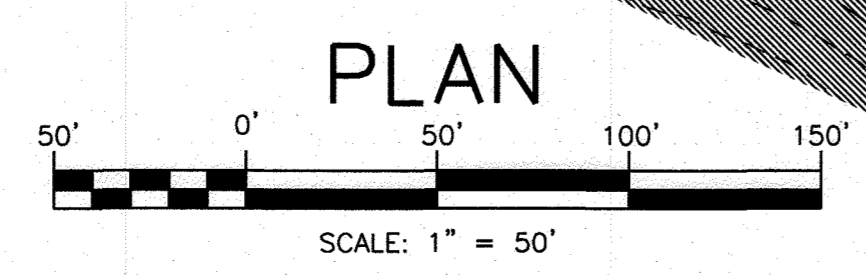
ENGINEER: **Development & Design Solutions, LLC**
 Consultants, Engineers and Planners
 3202 Acton Road - Baltimore, Maryland 21234
 Phone: (410)905-0778

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| DESIGNED: | DMB |
| DRAWN: | DMB |
| CHECKED: | DSS |
| DATE: | MAY 1, 2023 |
| SCALE: | 1"=50' |
| DRAWING NO: | ECP-3 |
| SHEET NO: | 3 of 5 |

APPROVED: DEPARTMENT OF PLANNING AND ZONING

 CHIEF, DEVELOPMENT ENGINEERING DIVISION
 DATE: 6/28/23

CHIEF, DIVISION OF LAND DEVELOPMENT
 DATE: 6/22/23



I, DAVID S. SOFSKY 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. 13552, EXP. DATE: 1/1/23.

LEGEND

| | |
|--|--|
| | EXISTING 10' CONTOUR |
| | EXISTING 2' CONTOUR |
| | PROPERTY BOUNDARY |
| | ADJACENT OWNER PROPERTY BOUNDARY |
| | RIGHT-OF-WAY BOUNDARY |
| | EXISTING PAVING |
| | PROPOSED PAVING |
| | EXISTING BUILDING |
| | PROPOSED BUILDING |
| | EXISTING SEPTIC RESERVE AREA |
| | PROPOSED SEPTIC RESERVE AREA |
| | EXISTING WELL |
| | PROPOSED WELL BOX AREA |
| | EXISTING STREAM |
| | STREAM BANK BUFFER |
| | WETLAND BUFFER |
| | PROPOSED FOREST CONSERVATION EASEMENT |
| | EXISTING WETLANDS |
| | EXISTING TREE LINE |
| | PROPOSED TREELINE |
| | EXISTING TREE (DBH / TREE NUMBER) |
| | EXISTING TREE CRITICAL ROOT ZONE (CRZ) |
| | SPECIMEN TREE |
| | EXISTING STEEP SLOPES 15% - 24.9% |
| | EXISTING STEEP SLOPES 25% < GREATER |
| | EXISTING SOILS |
| | PROPOSED 100 YR. FLOODPLAIN |
| | PROPOSED 100 YR. FLOODPLAIN FREEBOARD |



SOILS CHART

| MAP SYMBOL | MAPPING UNIT | FACTOR 'K' (WHOLE SOIL) | DRAINAGE RATE | HYDROLOGIC SOIL GROUP |
|------------|------------------------------------|-------------------------|-------------------|-----------------------|
| GgB | Glenns Loom - 3 to 8% slopes | 0.24 | High Infiltration | B |
| GgC | Glenns Loom - 3 to 8% slopes | 0.24 | High Infiltration | B |
| GmB | Glenns Silt Loom - 3 to 8% slopes | 0.37 | Slow Infiltration | C/D |
| GnB | Glenns Balle Silt - 3 to 8% slopes | 0.43 | Slow Infiltration | C |
| MaC | Manor Loom - 8 to 15% slopes | 0.28 | High Infiltration | B |

- FSD NOTES:**
- No rare, threatened or endangered species or their habitats were observed on the property.
 - Surrounding land use is rural residential development.
 - Approximately 4.0 acres of forest is present within 100 feet of the subject property.
 - The wetlands and streams on the site are part of the Use IV-P watershed of Middle Patuxent River (02-13-11).
 - 100 year floodplain is present on the site.
 - No steep slopes are present on the site.
 - No cemeteries or historic elements are known to occur on the site.
 - Specimen trees are present on the site.

| NO. | DATE | REVISIONS | BY |
|-----|------|-----------|----|
| | | | |
| | | | |
| | | | |

DRAWING:
ENVIRONMENTAL CONCEPT PLAN
FOREST STAND AND WETLAND DELINEATION PLAN

PROJECT:
**12945 & 12965
LINDEN CHURCH ROAD**
CLARKSVILLE, MARYLAND 21029
TAX MAP 26, BLOCK 16, PARCELS 146 & 155
ZONING RR-DEO

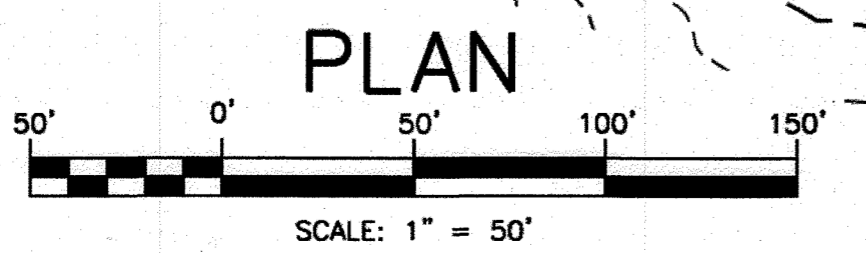
HOWARD COUNTY, MD 5th ELECTION DISTRICT
ENGINEER:
Development & Design Solutions, LLC
Consultants, Engineers and Planners
3202 Acton Road - Baltimore, Maryland 21234
Phone: (410)905-0778

| | |
|-------------|-------------|
| DESIGNED: | DMB |
| DRAWN: | DMB |
| CHECKED: | DSS |
| DATE: | MAY 1, 2023 |
| SCALE: | 1"=50' |
| DRAWING NO: | ECP-4 |
| SHEET NO: | 4 of 5 |

APPROVED: DEPARTMENT OF PLANNING AND ZONING

CHIEF, DEVELOPMENT ENGINEERING DIVISION
DATE: 7.10.23

CHIEF, DIVISION OF LAND DEVELOPMENT
DATE: 6/12/23



J. Brody McAllister
ISA Certified Arborist
Cert ID: MA6471A
MD DNR FCA Qualified Professional

Eco-Science Professionals, Inc.
CONSULTING ECOLOGISTS
100 W. BALTIMORE AVE. SUITE 100 BALTIMORE, MD 21201
www.ecosciencesolutions.com

| Key (X#) | Species | Size (in.DBH) | CRZ 1:1.5 (ft radius) | Condition (Good unless otherwise noted) |
|----------|--------------|---------------|-----------------------|---|
| 1 | Tulip Poplar | 38.5 | 57.8 | |
| 2 | Tulip Poplar | 33.5 | 50.3 | Good |
| 3 | Tulip Poplar | 36.5 | 54.8 | Good |
| 4 | Tulip Poplar | 31.5 | 47.3 | Poor, major root rot |
| 5 | Tulip Poplar | 31 | 46.5 | Good |
| 6 | Tulip Poplar | 31.5 | 47.3 | Good |
| 7 | Tulip Poplar | 32 | 48 | Good |
| 8 | Tulip Poplar | 35 | 52.5 | Good |
| 9 | Tulip Poplar | 36.5 | 54.8 | Good |
| 10 | Tulip Poplar | 40 | 60 | Good |
| 11 | Tulip Poplar | 38 | 57 | Good |
| 12 | Tulip Poplar | 37 | 55.5 | Good |
| 13 | Chestnut Oak | 31.5 | 47.3 | Good |
| 14 | Black Oak | 32.5 | 48.8 | Good |
| 15 | Tulip Poplar | 49.5 | 74.3 | Poor, major root rot |
| 16 | Tulip Poplar | 34.5 | 51.8 | Good |
| 17 | Tulip Poplar | 39.5 | 59.3 | Good |
| 18 | Tulip Poplar | 37.5 | 56.3 | Good |
| 19 | Tulip Poplar | 42 | 63 | Good |
| 20 | Tulip Poplar | 31.5 | 47.3 | Good |
| 21 | Tulip Poplar | 37.5 | 56.3 | Good |
| 22 | Tulip Poplar | 37.5 | 56.3 | Good |
| 23 | Tulip Poplar | 31 | 46.5 | Good |
| 24 | White Oak | 31 | 46.5 | Fair, tip dieback |
| 25 | Tulip Poplar | 41 | 61.5 | Good |
| 26 | Tulip Poplar | 31 | 46.5 | Good |
| 27 | Tulip Poplar | 38 | 57 | Good |
| 28 | Tulip Poplar | 31.5 | 47.3 | Good |
| 29 | Tulip Poplar | 48 | 72 | Poor, failed codominant lead, root rot |
| 30 | Tulip Poplar | 38 | 57 | Good |
| 31 | Tulip Poplar | 31 | 46.5 | Good |
| 32 | Tulip Poplar | 34 | 51 | Good |
| 33 | Tulip Poplar | 31 | 46.5 | Good |
| 34 | White Pine | 30 | 45 | Good, codominant |
| 35 | Sugar Maple | 25.25 | 37.9 | Good |
| 36 | White Pine | 35 | 52.5 | Good |
| 37 | White Pine | 24.5 | 36.8 | Good, codominant at 10' |
| 38 | White Pine | 25.5 | 38.3 | Good, codominant 7' |
| 39 | White Pine | 30.5 | 45.8 | Good, codominant at 10' |
| 40 | Tulip Poplar | 24.25 | 36.4 | Good |
| 41 | Tulip Poplar | 26.5 | 39.8 | Good, NW lean |
| 42 | Tulip Poplar | 32 | 48 | Good |
| 43 | Tulip Poplar | 31 | 46.5 | Good |
| 44 | Tulip Poplar | 28.5 | 39.8 | Good, codominant at base |
| 45 | Tulip Poplar | 28 | 42 | Good, barbed wire in base |
| 46 | Tulip Poplar | 24.5 | 36.8 | Good |
| 47 | Tulip Poplar | 25.5 | 38.3 | Good |
| 48 | Chestnut Oak | 26 | 39 | Good |
| 49 | Tulip Poplar | 24.5 | 36.8 | Good |
| 50 | Tulip Poplar | 26 | 39 | Good |
| 51 | Tulip Poplar | 28.5 | 42.8 | Good |
| 52 | Tulip Poplar | 26.5 | 39.8 | Good |
| 53 | Tulip Poplar | 26 | 39 | Fair, codominant at base, root rot |
| 54 | Tulip Poplar | 25.25 | 37.9 | Good/Fair, crook in stem at 15' |
| 55 | Tulip Poplar | 24.5 | 36.8 | Good |
| 56 | Tulip Poplar | 32 | 48 | Fair, trunk scar, codominant at base |
| 57 | Tulip Poplar | 24.25 | 36.4 | Good |
| 58 | Tulip Poplar | 25.5 | 38.3 | Good |
| 59 | Tulip Poplar | 37 | 55.5 | Good |
| 60 | Tulip Poplar | 35.5 | 53.3 | Good |
| 61 | Tulip Poplar | 28 | 42 | Good |
| 62 | Tulip Poplar | 29 | 43.5 | Good |
| 63 | Tulip Poplar | 29 | 43.5 | Good |
| 64 | Tulip Poplar | 28 | 42 | Good |
| 65 | Tulip Poplar | 25.5 | 38.3 | Good |
| 66 | Tulip Poplar | 31.5 | 47.3 | Good |
| 67 | Tulip Poplar | 27.5 | 41.3 | Good |
| 68 | Tulip Poplar | 33 | 48.5 | Good |
| 69 | Tulip Poplar | 25.5 | 38.3 | Fair, hollow base |
| 70 | Tulip Poplar | 24.5 | 36.8 | Fair, hollow at 10', potential lightning strike |
| 71 | Tulip Poplar | 27.5 | 41.3 | Good |
| 72 | Tulip Poplar | 26 | 39 | Good/Fair, potential canker |
| 73 | Tulip Poplar | 29 | 43.5 | Good |
| 74 | Tulip Poplar | 26 | 39 | Good |
| 75 | Tulip Poplar | 26 | 39 | Good |
| 76 | Tulip Poplar | 28.5 | 42.8 | Good |
| 77 | Tulip Poplar | 29.5 | 44.3 | Good |
| 78 | Tulip Poplar | 27 | 40.5 | Good |
| 79 | Tulip Poplar | 28.5 | 42.8 | Good |
| 80 | White Oak | 25.5 | 38.3 | Good |
| 81 | White Oak | 28 | 42 | Good |
| 82 | Tulip Poplar | 26 | 39 | Good |
| 83 | Tulip Poplar | 28.5 | 42.8 | Good |
| 84 | Tulip Poplar | 26 | 39 | Good |
| 85 | Tulip Poplar | 27 | 40.5 | Fair, Hollow base |
| 86 | Tulip Poplar | 29 | 43.5 | Good |
| 87 | Tulip Poplar | 24.5 | 36.8 | Poor, root rot, top broken off |
| 88 | Tulip Poplar | 28.5 | 42.8 | Good |
| 89 | Tulip Poplar | 24.25 | 36.4 | Good |
| 90 | Tulip Poplar | 26.5 | 39.8 | Good |
| 91 | Tulip Poplar | 26 | 39 | Fair, heavily codominant |
| 92 | Tulip Poplar | 32 | 48 | Good |
| 93 | Tulip Poplar | 25.5 | 38.3 | Good |
| 94 | Tulip Poplar | 28 | 42 | Good, large bittersweet growing up the tree |
| 95 | Tulip Poplar | 29 | 43.5 | Good |
| 96 | Tulip Poplar | 28.5 | 42.8 | Fair, leaning, codominant |
| 97 | Black Oak | 29.5 | 44.3 | Good |

FOREST STAND ANALYSIS TABLE

Project Name: Flack Property

| Key | Type of Community | Area (0.1 acres) | Soil Information Source: USDA Web Soil Survey | | | | Existing Vegetation (dominant species & %) | Stand Characteristics | | | Forest Area in Sensitive Environments (0.1 acres) |
|-----|-------------------|----------------------|--|--|----------------------------------|------------------------------|--|-----------------------|--|--|---|
| | | | Soil Type | Typical Forest Cover | Woodland Suitability Index | Habitat Value for Soil | | Size (dbh in.) | Age | General Condition | |
| F1 | Tulip Poplar | 6.6 gross 6.0 nta | GgB GgC GmB GnB | oak-poplar oak-poplar oak-poplar oak-poplar | 70-87 70-87 80-90 60-90 | good good good good | Liriodendron tulipifera 80% Quercus alba 10% Quercus velutina 5% Acer rubrum 5% | 16-24 100-129 | Fair - notable invasive species in the shrub and herb layers | 3.1 acres wetland, stream, buffers floodplain | |

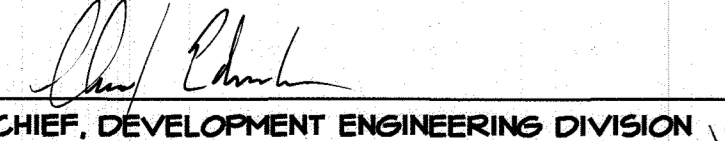
PRELIMINARY FOREST CONSERVATION WORKSHEET FOR 12945/12965 LINDEN CHURCH ROAD


| | | |
|---------------------------------------|--|----------|
| Net Tract Area | | |
| A. Total (Gross) Tract Area | | A = 10.9 |
| B. Area within 100-year Floodplain | | B = 0.6 |
| C. Other Deductions (Identify: _____) | | C = 0.2 |
| D. Net Tract Area | | D = 10.2 |


| | | |
|--|-----------------|---------------------|
| Land Use Category | | |
| Insert the number "1" under the appropriate land use (limit to only one entry) | | |
| | Resid. Rural LD | Resid. Rural MD |
| | Resid. Suburban | Inst./Retail/Office |
| | Mixed Use/ PUD | |
| | 0 | 1 |
| | 0 | 0 |
| | 0 | 0 |
| E. Afforestation Threshold (Net Tract Area x 20%) | | E = 2.0 |
| F. Reforestation Threshold (Net Tract Area x 25%) | | F = 2.6 |

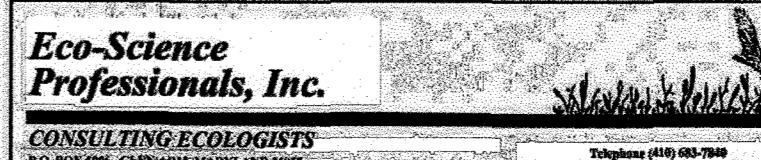
| | | |
|--|--|---------|
| Existing Forest Cover | | |
| G. Existing Forest Cover within the Net Tract Area | | G = 6.0 |
| H. Area of Forest above Afforestation Threshold | | H = 4.0 |
| I. Area of Forest above Reforestation Threshold | | I = 3.4 |

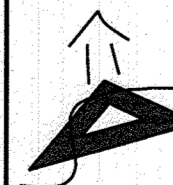
| | | |
|---|--|---------|
| Break Even Point | | |
| J. Break Even Point | | J = 3.7 |
| K. Forest Clearing Permitted without Mitigation | | K = 2.3 |

APPROVED: DEPARTMENT OF PLANNING AND ZONING

 CHIEF, DEVELOPMENT ENGINEERING DIVISION JP
 DATE 6/28/23


 CHIEF, DIVISION OF LAND DEVELOPMENT KB
 DATE 6/13/23


J. Brody McAllister
 ISA Certified Arborist
 Cert ID: 1448471A
 MD DNR FCA Qualified Professional


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 www.ecosciencenature.com

| | | | |
|--|-------------|-----------|--------|
| NO. | DATE | REVISIONS | BY |
| DRAWING: ENVIRONMENTAL CONCEPT PLAN FOREST STAND AND WETLAND DELINEATION NOTES AND DETAILS | | | |
| PROJECT: 12945 & 12965 LINDEN CHURCH ROAD CLARKSVILLE, MARYLAND 21029 TAX MAP 26, BLOCK 16, PARCELS 146 & 155 ZONING RR-DEO HOWARD COUNTY, MD 5th ELECTION DISTRICT | | | |
| ENGINEER:  Development & Design Solutions, LLC Consultants, Engineers and Planners 3202 Acton Road - Baltimore, Maryland 21234 Phone: (410)905-0778 | | | |
| DESIGNED: | DMB | | |
| DRAWN: | DMB | | |
| CHECKED: | DSS | | |
| DATE: | MAY 1, 2023 | | |
| SCALE: | 1"=50' | | |
| DRAWING NO: | ECP-5 | SHEET NO: | 5 of 5 |