

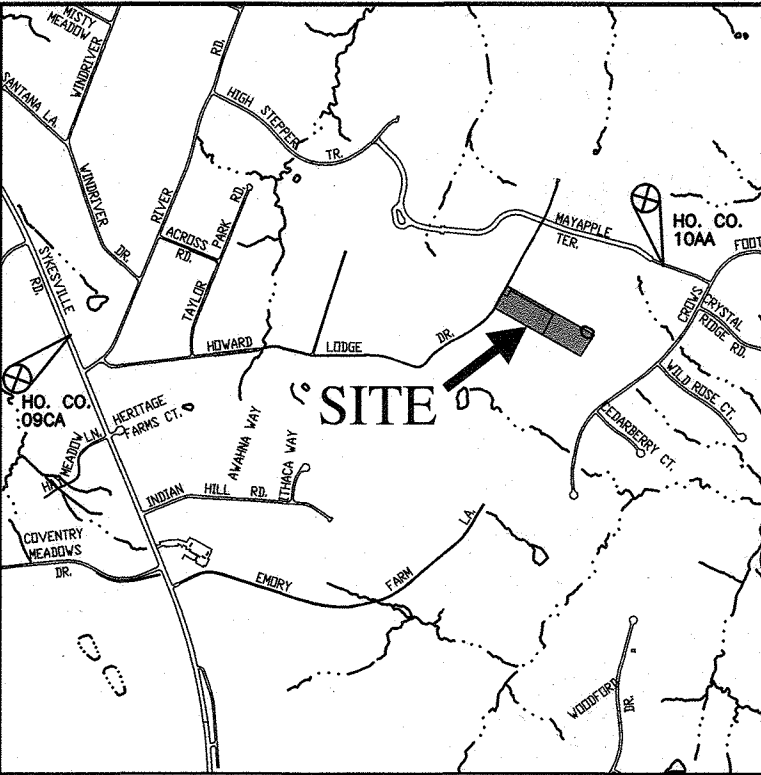
# SPANGLER PROPERTY

## 3RD ELECTION DISTRICT

### HOWARD COUNTY, MARYLAND

## ENVIRONMENTAL CONCEPT PLAN

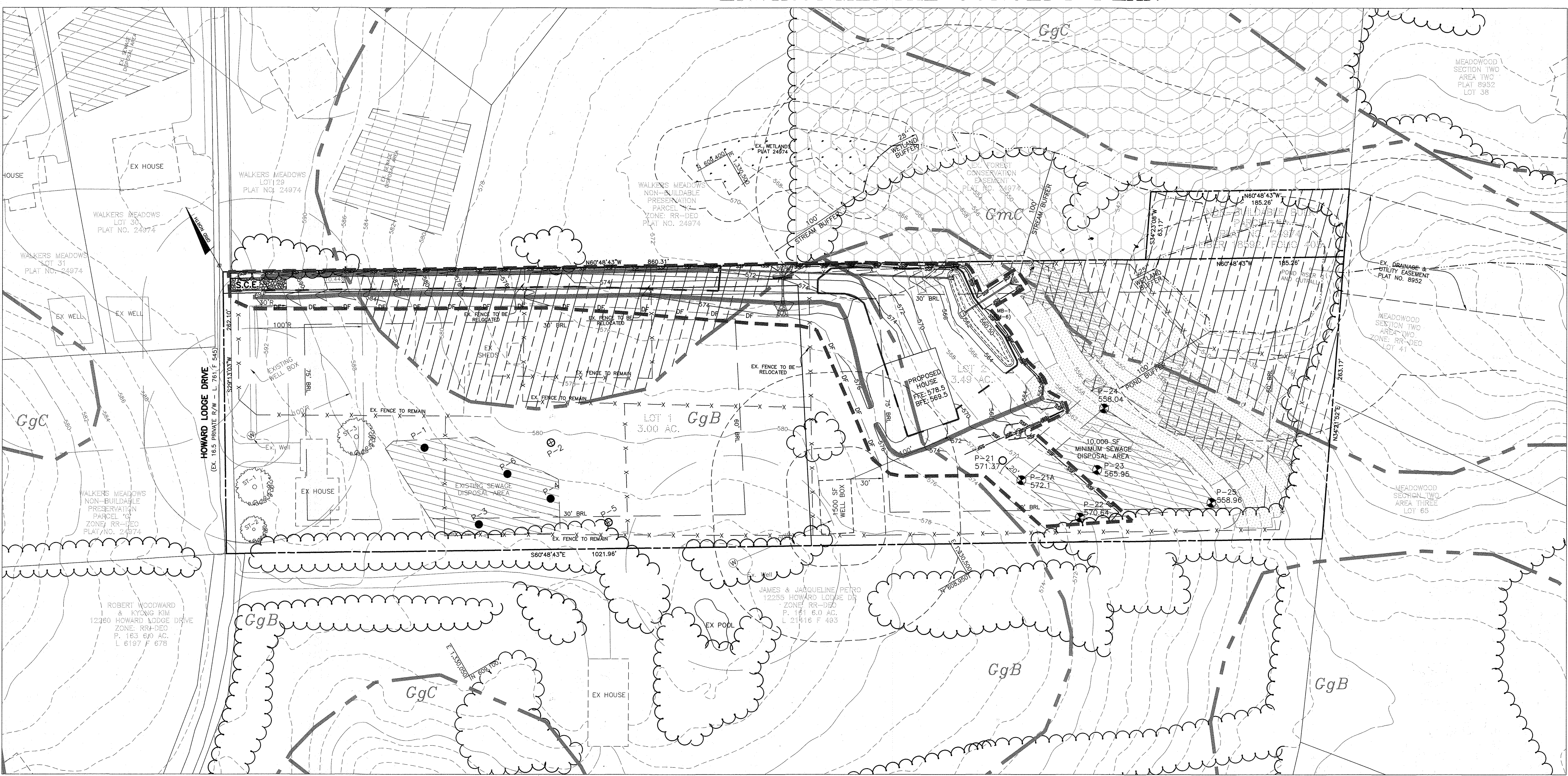
**BENCHMARKS NAD'83**  
 HO. CO. #100A ELEVATION: 563.087'  
 STAMPED BRASS DISK SET ON TOP OF  
 CONCRETE BASE. N 609753.356 E 1331668.825'  
 HO. CO. #09CA ELEVATION: 548.011'  
 STAMPED BRASS DISK SET ON TOP OF  
 CONCRETE BASE. N 60923.589' E 1325501.365'



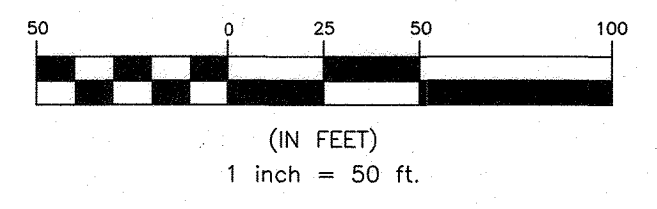
VICINITY MAP  
SCALE: 1" = 2000'

SOILS LEGEND			
SYMBOL	TYPE	K* FACTOR	NAME
GgB	C	.24	GLENELG LOAM - 3 to 8 PERCENT SLOPES
GgC	C	.24	GLENELG LOAM - 8 to 15 PERCENT SLOPES
GmC**	C	.37	GLENVILLE SILT LOAM, 8 TO 15 PERCENT SLOPES

SOIL MAPPING AND SOIL DATA TAKEN FROM NRCS WEB SOIL SURVEY, JUNE 2022.  
 \*WHOLE SOIL K FACTOR  
 \*\*HIGHLY ERODIBLE SOILS K>0.35, AND/OR 15% OR GREATER SLOPES



LEGEND	
SOILS CLASSIFICATION	GnB
SOILS DELINEATION	---
EXISTING CONTOURS	480 470
EXISTING WOODS LINE	~~~~~
EXISTING WELL	⊙
WELL BOX	⊞
PASSING PERCOLATION TEST (2020 TESTING)	● P-X
FAILING PERCOLATION TEST (2020 TESTING)	⊕ P-X
PROPOSED PERCOLATION TEST	⊙ P-X
FAILING PERCOLATION TEST (2020 TESTING)	○
EXISTING STRUCTURE	---
PROPOSED STRUCTURE	---
EXISTING SEWAGE DISPOSAL AREA	---
20% OR GREATER SLOPES	---
15-19.99% SLOPES	---
ERODIBLE SOILS	---
LIMIT OF DISTURBANCE	---
SUPER SILT FENCE	---
EROSION CONTROL MATTING	---
STABILIZED CONSTRUCTION ENTRANCE	S.C.E.



PROJECT: SPANGLER, LOT 2 DATE: 1/4/2023

**STORMWATER MANAGEMENT SUMMARY TABLE**  
Pe: 1.0 inches

FACILITY SUMMARY TABLE								
FACILITY	Drainage Area (sf)	Impervious (sf)	I(%)	Rv	ESDv (cf)	75% Pounding (cf)	Volume Stored	Pe Treated
MB-1	24498	9904	40%	0.414	845	634	824cf	1.30
TOTAL: TOTAL:							824 cf	

The facility is privately owned and maintained.

**MB-1: Micro-Bioretenion (M-6)**  
 0.56 Ac. Storage Computation:  
 Total Drainage Area: 24498 s.f.  
 Impervious Area: 9904 s.f.  
 Impervious: 40%  
 Rv = 0.414  
 ESDV = 844.9 c.f.  
 75% Req'd Pond Storage = 634 c.f.  
 Provided Storage: 824 c.f.  
 Volume Treated: 1098 c.f.  
 Provide 5 Required Rev (25% ESDV): 211 cf  
 inches of stone storage = 215 cf

**DESIGN NARRATIVE:**  
 The site was analyzed as woods in good condition and a target RCN was determined. A target rainfall depth treatment (Pe) was determined based on the measured impervious areas and HSG soil types. The target Pe for this site is 1.0 inches. The target Pe was treated using Environmental Site Design practices as outlined in Chapter 5 of the 2000 Maryland Stormwater Design Manual, as amended by Maryland's Stormwater Management Act of 2007. The selected method is Micro-bioretenion (M-6).

This site is a proposed lot in a two-lot minor subdivision. To protect the natural resources and existing development in the area, it is important to delay release of stormwater runoff from new impervious areas to avoid increasing peak runoffs, and to adequately treat the stormwater to avoid damage to sensitive species. The design incorporates a micro-bioretenion facility to treat stormwater runoff, delay stormwater release and provide recharge. The outfalls for the facilities will discharge to stabilized, undisturbed areas. The stormwater outfalls are directed toward existing release points to help to mimic the natural flow of drainage.

Forest resources will be protected by providing offsite banking or fee-in-lieu payment. There are no steep slopes (>25% slopes) on the property. There is an existing pond with fringe wetlands, and a buffer to this has been established, along with a buffer to an offsite stream. There are no streams on the property.

Sediment and erosion controls will be designed based on the 2011 Maryland Specifications for Soil Erosion and Sediment Control. Erosion control matting and super silt fence will be used to prevent runoff containing unacceptable levels of TSS from leaving the site and entering the adjacent stream and wetlands during the construction. It will be the obligation of the contractor to install, inspect and maintain these practices.

The target Pe for this site is 1.0 inches. By using Environmental Site Design practices as outlined in Chapter 5 of the 2000 Maryland Stormwater Design Manual as amended by Maryland's Stormwater Management Act of 2007, treatment of the target Pe of 1.0 was achieved for the disturbed areas, addressing the stormwater management requirements to the maximum extent practicable. Full treatment is provided for the disturbed areas, except a portion of the new pavement which can't be captured. Overtreatment is provided to address the required volume. The untreated area will flow across the adjacent non-buildable preservation parcel. This off-site area can't be 'defined' as a treatment area; however, the runoff will convey across vegetative areas and be functionally treated before reaching the wetland area. The apparent deficiency between the 'required ESDV' and the 'provided ESDV' in the report is due to the ESDV being calculated from the entire site, including areas that are currently untreated, and which will be undisturbed and will remain untreated.

- GENERAL NOTES**
- SUBJECT PROPERTY ZONED RR-DEO PER THE COMPREHENSIVE ZONING PLAN EFFECTIVE 10-6-2013.
  - THIS PROJECT IS SUBJECT TO THE AMENDED FIFTH EDITION OF THE SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE ZONING REGULATIONS EFFECTIVE APRIL 13, 2004.
  - PROJECT BOUNDARY AND TOPOGRAPHY WITHIN THE SUBDIVISION AREA ARE BASED ON FIELD RUN BOUNDARY SURVEY AND TOPO PERFORMED BY BENCHMARK ENGINEERING, INC., JULY, 2022.
  - TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO CEMETERIES LOCATED ON THIS SITE.
  - THE FOREST CONSERVATION ACT OBLIGATION FOR THIS PROJECT WILL BE ADDRESSED USING FOREST BANKING OR A FEE-IN-LIEU PROPOSAL. THE FOREST CONSERVATION WILL BE FURTHER REVIEWED WITH THE SUBMISSION OF THE SUBDIVISION PLAN FOR THIS PROJECT.
  - THERE ARE NO STEEP SLOPES (25% OR GREATER) ON THE SITE.
  - A SIMPLIFIED FOREST STAND DELINEATION AND NATURAL RESOURCES REVIEW HAS BEEN PERFORMED BY ECO-SCIENCE PROFESSIONALS, INC. A PLAN AND REPORT DATED OCTOBER, 2022 HAS BEEN SUBMITTED WITH THIS ENVIRONMENTAL CONCEPT PLAN.
  - DPZ FILE HISTORY: NONE
  - APPROVAL OF THIS ECP DOES NOT CONSTITUTE AN APPROVAL OF ANY SUBSEQUENT AND ASSOCIATED SUBDIVISION PLAN, SITE DEVELOPMENT PLAN, OR GRADING OR BUILDING PERMIT PLAN. REVIEW OF THIS PROJECT FOR COMPLIANCE WITH THE HOWARD COUNTY SUBDIVISION AND LAND DEVELOPMENT REGULATIONS AND THE HOWARD COUNTY ZONING REGULATIONS SHALL OCCUR AT THE SUBDIVISION, SITE DEVELOPMENT PLAN, OR GRADING AND BUILDING PERMIT STAGES. 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.
  - SOIL EXPLORATION BORINGS OR TEST PITS WILL BE NEEDED AT THE NEXT PLAN STAGE, TO CONFIRM ACCEPTABLE CONDITIONS FOR PLACEMENT OF MICRO-BIORETENTION FACILITY.
  - THE FOREST CONSERVATION PLAN AND ASSOCIATED FOREST STAND 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.
  - DETAILED SWALE DESIGN, INCLUDING SHEAR STRESS AND SWALE SECTIONS WILL BE PROVIDED AT FINAL DESIGN.
  - A TEMPORARY STONE OUTLET STRUCTURE MAY BE IMPLEMENTED WITH THE GRADING PLAN FOR LOT 2, IF DEEMED NECESSARY AT THAT TIME.
  - ALTERNATIVE COMPLIANCE REQUESTS WILL BE NECESSARY TO RETAIN THE ENVIRONMENTAL FEATURES ON LOTS OF LESS THAN 10 ACRES, AND TO ALLOW CREATION OF A LOT WITHOUT DIRECT ROAD FRONTAGE.
  - AT THE NEXT PLAN STAGE, EITHER PERMISSION TO DISCHARGE THE DRIVEWAY CULVERT ONTO THE ADJACENT PROPERTY, OR A REVISED ONSITE CULVERT OUTLET LOCATION WILL BE REQUIRED.
  - AT THE NEXT PLAN STAGE, THE STREAM ON WALKER MEADOWS WILL BE REEVALUATED, AND IF NECESSARY, DRIVEWAY CONSTRUCTION SHALL BE MOVED TO AVOID THE WALKER MEADOWS STREAM BUFFER.

**SITE ANALYSIS DATA/TABULATION**

A) TOTAL PROJECT AREA.....	6.49 ± ac.
B) AREA OF WETLANDS AND BUFFER.....	0.55 ± ac.
C) AREA OF 100-YR. FLOODPLAIN AND BUFFER.....	0.00 ± ac.
D) AREA OF FOREST.....	0.00 ± ac.
E) AREA OF STEEP SLOPES 15% OR GREATER.....	0.61 ± ac.
F) ERODIBLE SOILS.....	1.99 ± ac.
G) AREA OF PLAN SUBMISSION.....	3.49 ± ac.
H) LIMIT OF DISTURBED AREA.....	1.40 ± ac.
I) GREEN OPEN AREA.....	3.21 ac.
J) IMPERVIOUS COVER.....	7.82%
K) PRESENT ZONING DESIGNATION.....	RR-DEO
L) PROPOSED USES FOR THE SITE: SINGLE FAMILY DETACHED	

**Stormwater Management Information**

Lot Number	Facility Name	Practice	Public	Private	Maintenance	Misc.
2	MB-1	M-6		X		Owner

APPROVED: DEPARTMENT OF PLANNING AND ZONING

*[Signature]* 1/25/23  
 CHIEF, DEVELOPMENT ENGINEERING DIVISION DATE

*[Signature]* 1/19/23  
 CHIEF, DIVISION OF LAND DEVELOPMENT DATE

NO.	DATE	REVISION

**BENCHMARK ENGINEERING, INC.**  
 ENGINEERS & LAND SURVEYORS & PLANNERS  
 3300 NORTH RIDGE ROAD SUITE 140 BELLETT CITY, MARYLAND 21043  
 (P) 410-465-6105 (F) 410-465-6644  
 WWW.BEI-CIVILENGINEERING.COM

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**OWNER:**  
 TONY & AMY SPANGLER  
 12245 HOWARD LODGE DRIVE  
 SYKESVILLE, MD 21784  
 410-926-5124

**SPANGLER PROPERTY**  
 12245 HOWARD LODGE DRIVE  
 2-LOT SUBDIVISION INCLUDING A  
 RESUBDIVISION OF PARCEL L OF WALKER MEADOWS

TAX MAP: 0009 GRID: 0012 PARCEL: 0123  
 TAX ID 1403297349 ZONED: RR-DEO  
 ELECTION DISTRICT NO. 3 HOWARD COUNTY, MARYLAND

**ENVIRONMENTAL CONCEPT PLAN**

DATE: JANUARY, 2023	BEI PROJECT NO. 3112
DESIGN: AAM	DRAFT: AAM
SCALE: AS SHOWN	SHEET 1 OF 1