

**GENERAL NOTES:**

- SINGULAR<sup>®</sup> AERATOR AS TESTED AND ACCEPTED BY NSF, OPERATING 90 MINUTES ON IN 90 MINUTES OFF.
- FALL THROUGH SINGULAR<sup>®</sup> PLANT FROM INLET INVERT TO OUTLET INVERT IS FOUR INCHES. INLET INVERT IS TWELVE INCHES BELOW TANK TOP.
- ON DEEPER INSTALLATIONS, PRECAST RISER INLET MAY BE USED TO EXTEND AERATOR MOUNTING CASTING AND BIO-KINETIC<sup>®</sup> SYSTEM MOUNTING CASTING TO GRADE. INSPECTION COVER ON PRETREATMENT CHAMBER MUST BE DEVELOPED TO WITHIN TWELVE INCHES OF GRADE.
- TANK REINFORCED PER ACI STD. 318.
- REMOVABLE COVERS ON RISER WEIGH IN EXCESS OF SEVENTY FIVE POUNDS EACH TO PREVENT UNAUTHORIZED ACCESS.
- CONTACT THE LOCAL LICENSED SINGULAR<sup>®</sup> DISTRIBUTOR FOR ELECTRICAL REQUIREMENTS.

**PROJECT ENGINEER'S APPROVAL:**  
I (NAME) HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED FOR USE IN CONFORMITY WITH THE CONTRACT DOCUMENTS.  
DATE: \_\_\_\_\_  
NAME: \_\_\_\_\_

**CONTRACTOR'S CERTIFICATION:**  
I (NAME) HEREBY CERTIFY THAT THIS DRAWING HAS BEEN CHECKED AND IS APPROVED FOR USE IN CONFORMITY WITH THE CONTRACT DOCUMENTS.  
DATE: \_\_\_\_\_  
NAME: \_\_\_\_\_

**CRITICAL DIMENSIONS:**

A	11'-0"	10'-0"
B	12'-0"	12'-0"
C	3'-4"	3'-0"
D	12'-0"	12'-0"
E	12'-0"	12'-0"
F	12'-0"	12'-0"
G	12'-0"	12'-0"
H	12'-0"	12'-0"
I	12'-0"	12'-0"
J	12'-0"	12'-0"
K	12'-0"	12'-0"
L	12'-0"	12'-0"
M	12'-0"	12'-0"
N	12'-0"	12'-0"
O	12'-0"	12'-0"
P	12'-0"	12'-0"
Q	12'-0"	12'-0"
R	12'-0"	12'-0"
S	12'-0"	12'-0"
T	12'-0"	12'-0"
U	12'-0"	12'-0"
V	12'-0"	12'-0"
W	12'-0"	12'-0"
X	12'-0"	12'-0"
Y	12'-0"	12'-0"
Z	12'-0"	12'-0"

**NOTE:** TOTAL SYSTEM CAPACITY: 1,725 GALLONS RATED CAPACITY: 750-800 GALLONS PER DAY

Source: From Norweco local supplier/distributor - Bank River Pre-cast, LLC, PO Box 329 Glyndon, MD 21071-0329 Ph:410.833.3394

**SDA TRENCH SIZE CALCULATIONS**

**Fulton Hill Lot #6 (8229 White Pine Ct.)**

System Input Information	Initial System	Replacem't System No.1	Replacem't System No.2
Application Rate	1.2	1.2	1.2
Effective area beginning depth	4	4	4
Effective area maximum bottom depth	8	8	8
Number of Bedrooms	6	6	6
Design flow at 150 gal./day/bedroom	900	900	900

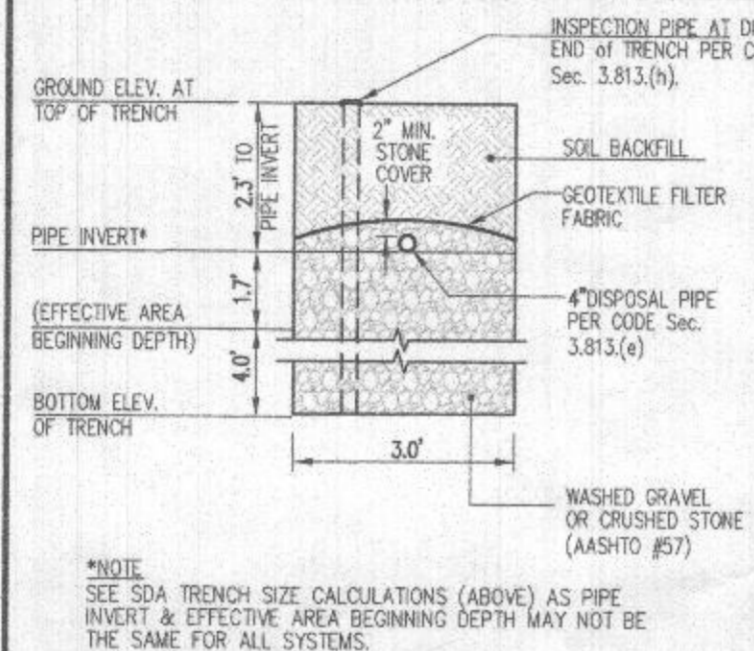
**Absorption Trench Calculations**

Drainfield area required (Design flow/application rate)	750	750	750
Effluent pipe depth to invert	2.3		
Effective sidewall depth "D"			
Depth between the effective beginning depth or pipe depth (whichever is deeper) and maximum trench bottom.	4	4	4
Trench Width "W" (2 or 3 feet)	3	3	3
SideWall Reduction Percent = $(W+2)/(W+1+2D)$	41.67%	41.67%	41.67%
Linear feet of trench required = (drainfield area x sidewall reduction)/W	104.17	104.17	104.17

**Trench Layout Information**

Approximate length available on contour & not exceeding 100-ft	91	91	91
Number of trenches to use	3	3	3
Min. length (linear feet)	34.8	34.8	34.8
Total (linear feet)	104.4	104.4	104.4
Minimum Trench Spacing:	11	11	11

For trenches with no sidewall credit the spacing is 6' for a 2' wide trench and 9' for a 3' wide trench (measured edge to edge). All trenches utilizing sidewall reduction credit must be spaced a min. of 10' for effective sidewall not over 3.5'. If >3.5' then spacing formula is 2D+W up to a maximum of 18'.



**SDA TRENCH ELEVATION CHART**

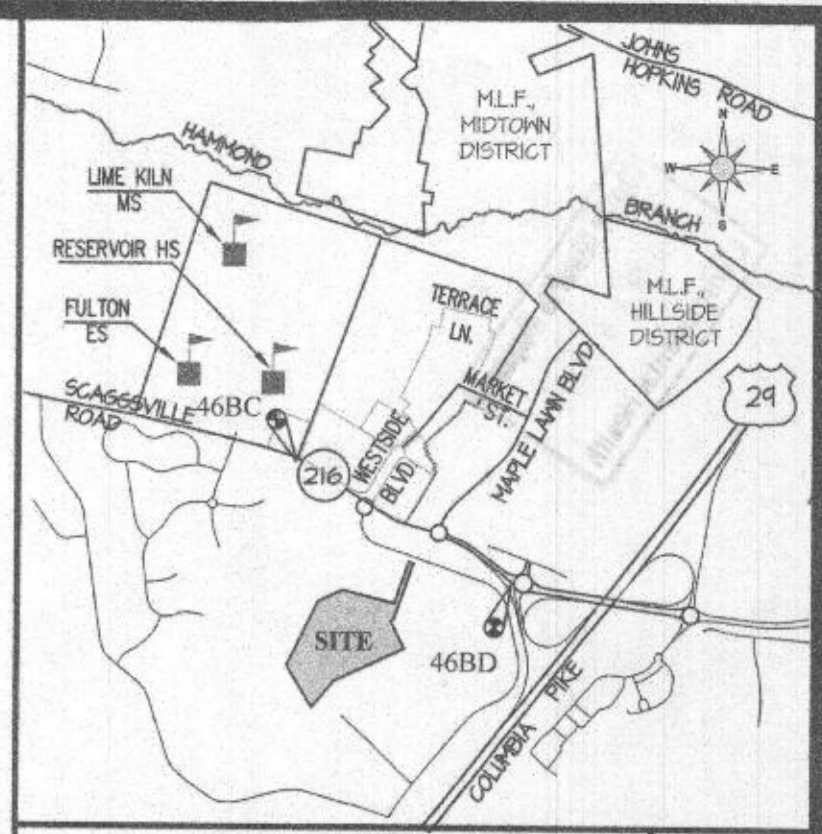
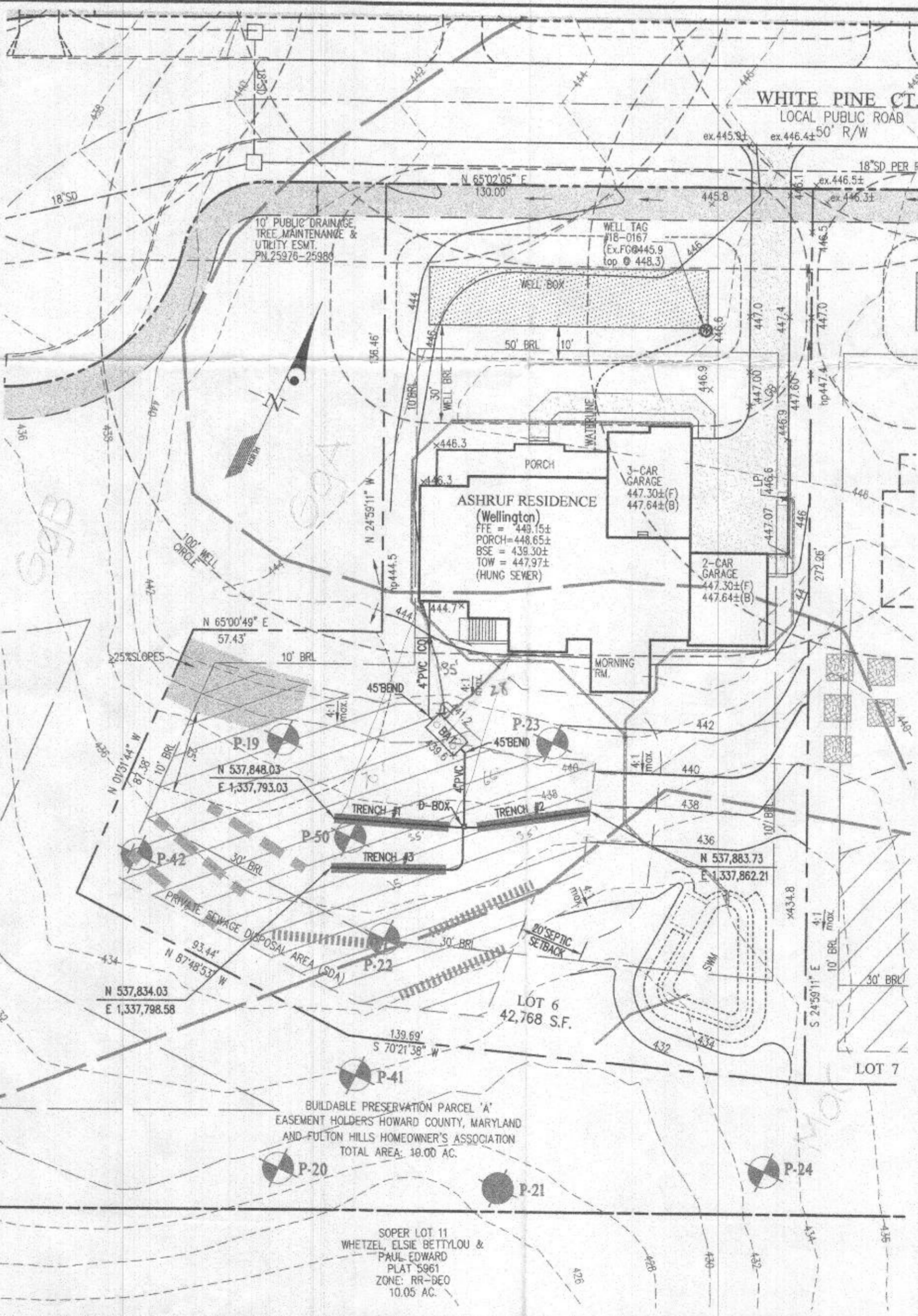
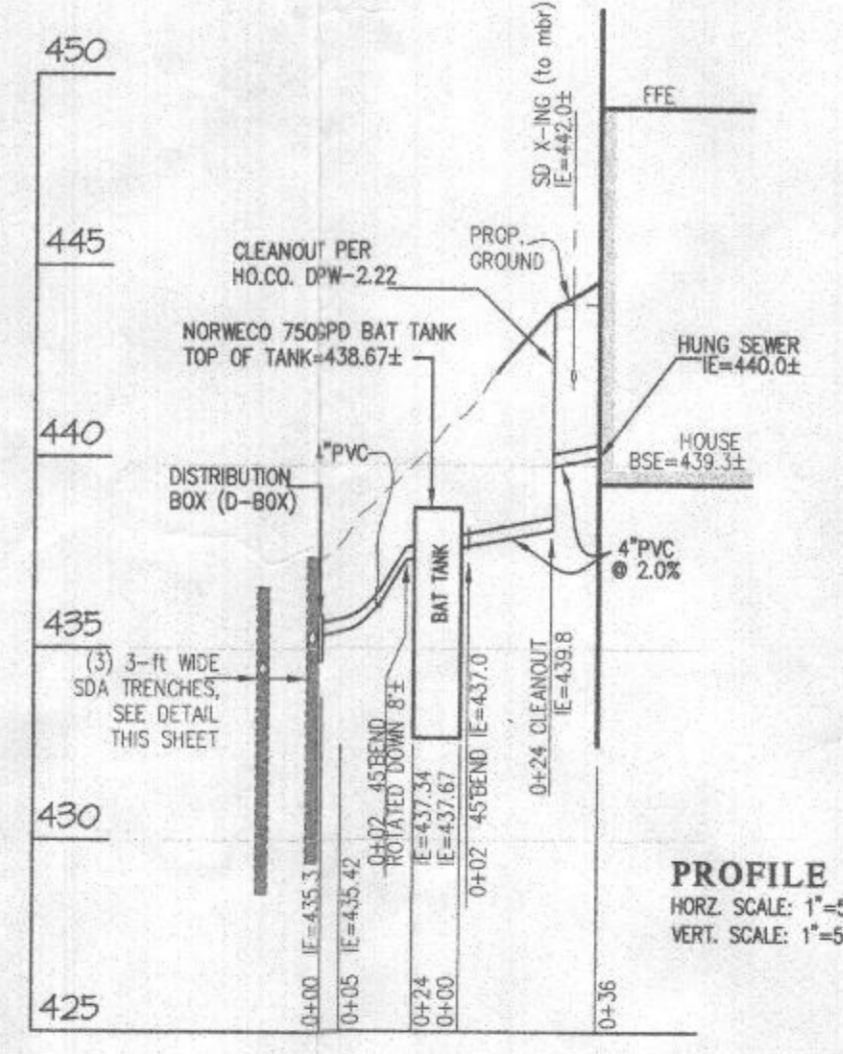
TRENCH No.	1	2	3
Ground Elevation	437.40	437.40	436.50
Pipe Invert Elevation	435.10	435.10	434.20
Effective Area Beginning Depth	433.40	433.40	432.50
Bottom of Trench	429.40	429.40	428.60

**NOTE:** SEE SDA TRENCH SIZE CALCULATIONS (ABOVE) AS PIPE INVERT & EFFECTIVE AREA BEGINNING DEPTH MAY NOT BE THE SAME FOR ALL SYSTEMS.

**SEPTIC TRENCH SECTION DETAIL NO SCALE**

**Lot 6 BAT (Norweco) Tank Elevations**

High Finished Grade above tank	441.20
Top of tank elevation	438.67
Delta (cover above tank, 3' max.)	2.53 ft.
Outside bottom of BAT tank elevation	432.67
Invert in	437.67
Invert out	437.34



**VICINITY MAP**  
SCALE: 1" = 200'

**LEGEND**

- 4.30 EXISTING CONTOUR
- 4.30 PROPOSED 2-FT CONTOUR
- WELL BOX LOCATION
- PRIVATE SEWAGE DISPOSAL AREA
- D/W EXISTING DRYWELL LOCATION
- INITIAL SYSTEM 2' WIDE TRENCH
- FIRST REPLACEMENT SYSTEM 2' WIDE TRENCH
- SECOND REPLACEMENT SYSTEM 2' WIDE TRENCH
- PT-P PERCOLATION TEST PIT FAILED BY HEALTH DEPARTMENT
- PT-P PERCOLATION TEST PIT PASSED BY HEALTH DEPARTMENT

- NOTES:**
- THE EXISTING WELLS SHOWN ON THIS PLAN (IDENTIFIED WITH THE WELL TAG # NO-18-0167) HAS BEEN FIELD LOCATED BY G.L.W. AND IS ACCURATELY SHOWN ON THIS PLAN.
  - THE MAXIMUM EARTH COVER OVER THE TANKS IS 3 FEET. GREATER EARTH COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
  - EXISTING WELLS, SEPTIC SYSTEMS AND SEWAGE DISPOSAL AREAS WITHIN 100' OF THE PROPOSED IMPROVEMENTS AND THOSE 200' DOWN GRADIENT OF EXISTING OR PROPOSED SEPTIC SYSTEMS OR SEWAGE DISPOSAL AREAS HAVE BEEN SHOWN.
  - ELECTRICAL WORK FOR THE SEPTIC SYSTEM INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
  - THE BAT SYSTEM SHALL BE MAINTAINED AND OPERATED FOR THE LIFE OF THE SYSTEM.
  - THE BAT SYSTEM SHALL BE OPERATED BY AND MAINTAINED BY A CERTIFIED SERVICE PROVIDER.
  - WITHIN ONE MONTH OF INSTALLATION, A PERSON INSTALLING THE BAT SYSTEM SHALL REPORT TO THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) IN A MANNER ACCEPTABLE TO MDE THE ADDRESS AND DATE OF COMPLETION OF THE BAT INSTALLATION AND THE TYPE OF BAT INSTALLED.
  - ELECTRICAL WORK FOR THE BAT INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
  - AN AGREEMENT AND EASEMENT MUST BE COMPLETED AND SIGNED BY ALL APPLICABLE PARTIES, AND RECORDED IN LAND RECORDS OF HOWARD COUNTY.
  - THE HEALTH DEPARTMENT REQUIRE DOCUMENTATION FOR THE START-UP CERTIFICATION FROM THE MANUFACTURER PRIOR TO FINAL APPROVAL OF THE INSTALLATION.
  - ANY CHANGE TO THE LOCATIONS OR DEPTHS TO ANY COMPONENTS MUST BE APPROVED BY THE ENGINEER AND THE HOWARD COUNTY HEALTH DEPARTMENT PRIOR TO INSTALLATION. A REVISED ISSG PLAN MAY BE REQUIRED.

Approved Septic System Plan  
Howard County Health Department  
Hank Oswald 4/10/25  
Signature Date

**GRAPHIC SCALE**

SCALE: 1" = 30'

SCALE	ZONING	G. L. W. FILE No.
1" = 30'	RR-DEO	21096
DATE	TAX MAP - GRID	SHEET
APRIL 2025	46-3	1 OF 1

**GLW**  
PLANNING | ENGINEERING | SURVEYING

3609 NATIONAL DRIVE | SUITE 250 | BURTONSVILLE, MD 20866 | GLWPA.COM  
PHONE: 301-421-4024 | BALT: 410-860-1820 | DC&VA: 301-989-2524 | FAX: 301-421-4186

DESIGNED BY: klp  
DRAWN BY: klp  
CHECKED BY: dds

DATE	REVISION	BY	APPR.

PREPARED FOR:

BUILDER: WILLIAMSBURG GROUP  
5465 HARRIS FARM RD.  
COLUMBIA, MD 21044  
ATTN: BRUCE HARVEY  
443-398-4358  
bruceharvey@williamsburg.com

CONTRACT PURCHASER/OOWNER:  
STEP LINDA ASHRUF  
FABRICA ASHRUF  
5005 TAYLOR LANE  
ELICOTT CITY, MD 21043  
Email: ashraf@glw.com  
Mobile Phone: 410-299-0429

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THESE PLANS 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. 643290  
EXPIRATION DATE: MAY 14, 2027

ELECTION DISTRICT No. 5

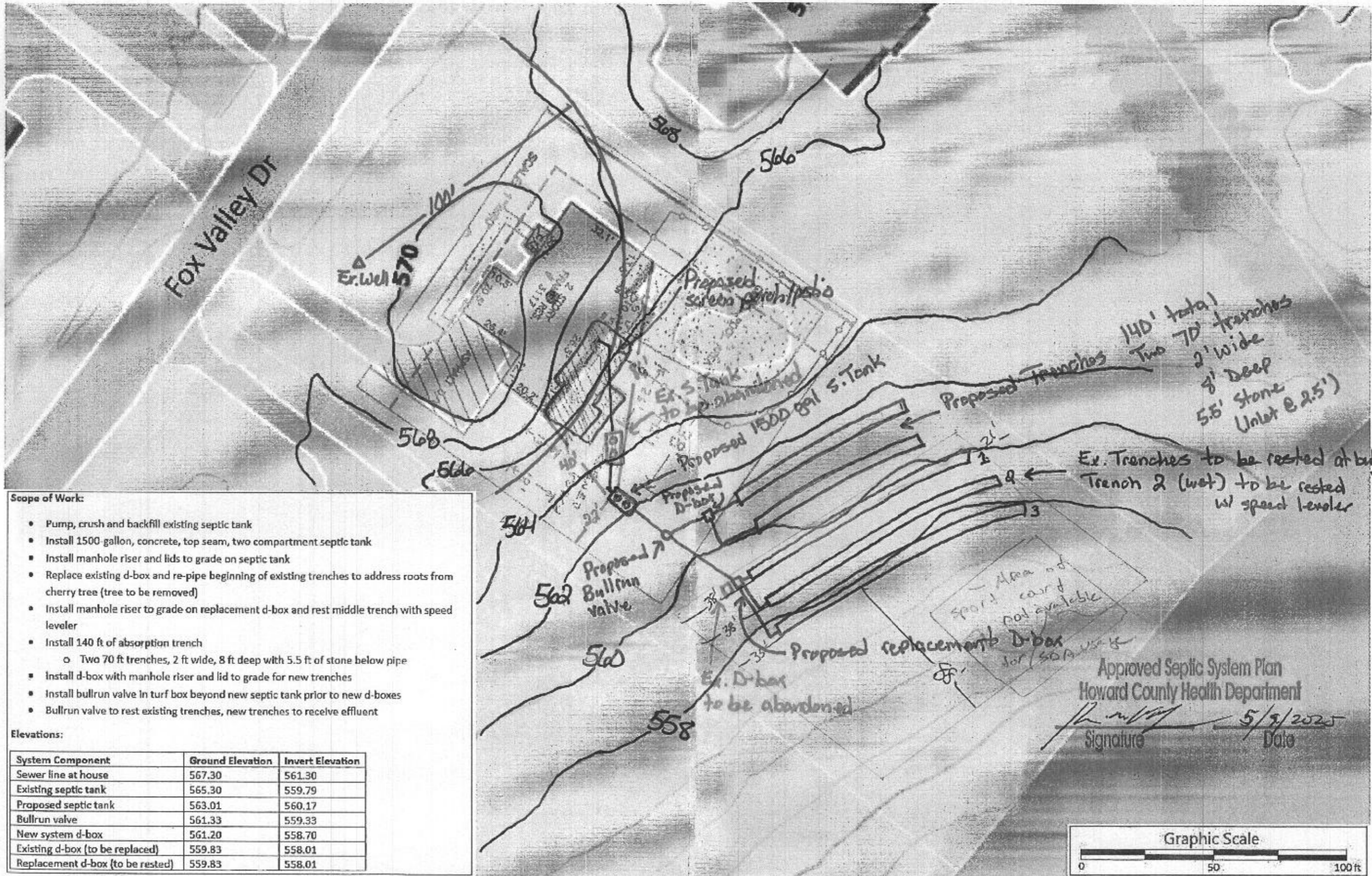
**SITE PLAN FOR BAT INSTALLATION**

**FULTON HILL**  
LOT 6 (8229 White Pine Court)  
PLAT No. 25976-25980

HOWARD COUNTY, MARYLAND

STATE OF MARYLAND  
DEPARTMENT OF THE ENVIRONMENT  
PROFESSIONAL ENGINEER

APR 10 2025




**Scope of Work:**

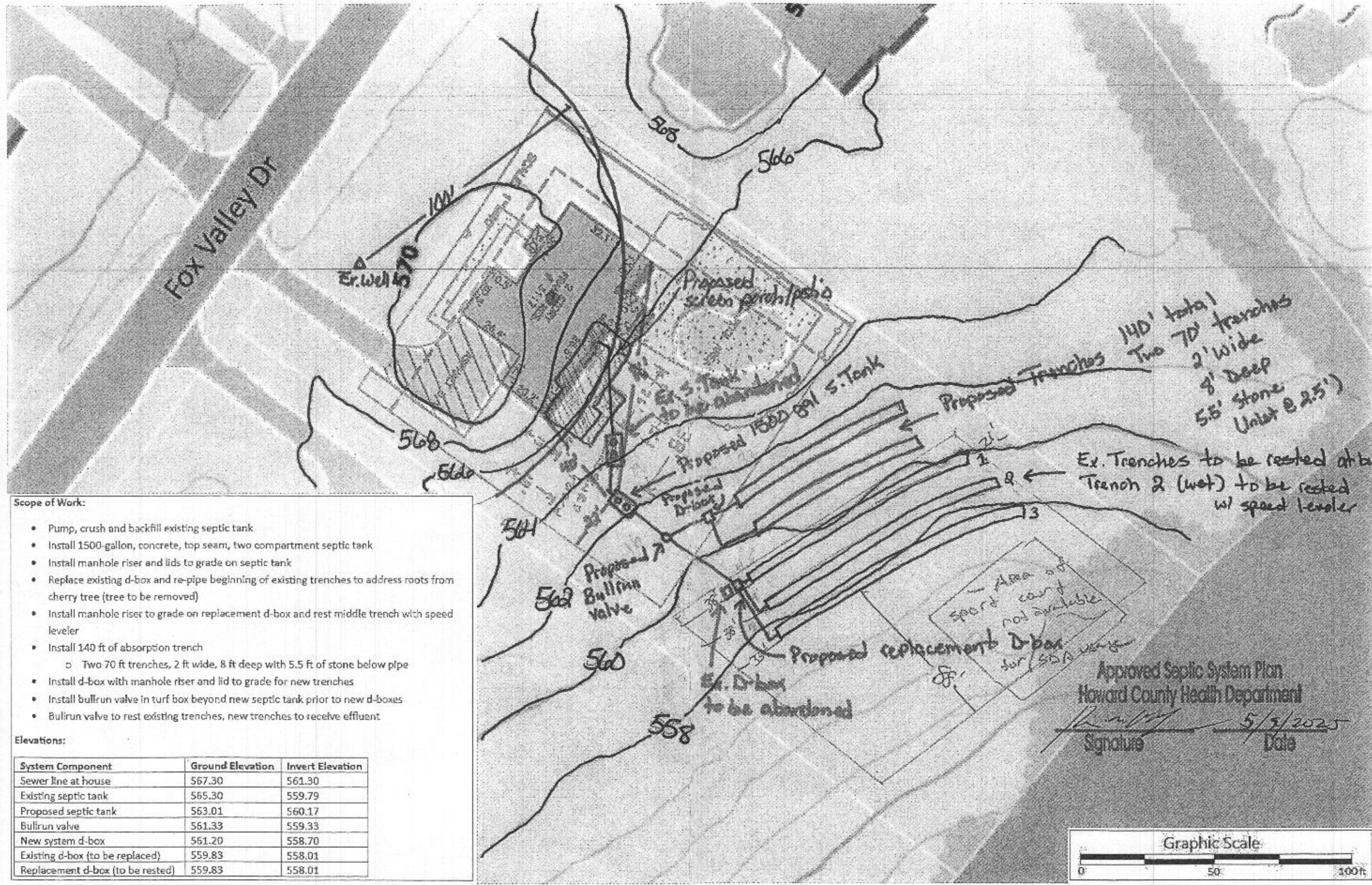
- Pump, crush and backfill existing septic tank
- Install 1500-gallon, concrete, top seam, two compartment septic tank
- Install manhole riser and lids to grade on septic tank
- Replace existing d-box and re-pipe beginning of existing trenches to address roots from cherry tree (tree to be removed)
- Install manhole riser to grade on replacement d-box and rest middle trench with speed leveler
- Install 140 ft of absorption trench
  - Two 70 ft trenches, 2 ft wide, 8 ft deep with 5.5 ft of stone below pipe
- Install d-box with manhole riser and lid to grade for new trenches
- Install bullrun valve in turf box beyond new septic tank prior to new d-boxes
- Bullrun valve to rest existing trenches, new trenches to receive effluent

**Elevations:**

System Component	Ground Elevation	Invert Elevation
Sewer line at house	567.30	561.30
Existing septic tank	565.30	559.79
Proposed septic tank	563.01	560.17
Bullrun valve	561.33	559.33
New system d-box	561.20	558.70
Existing d-box (to be replaced)	559.83	558.01
Replacement d-box (to be rested)	559.83	558.01

**Septic Tank Replacement & Drainfield Installation Design Plan**

Designer & Installer Info		Property Info	Contractor Info	Additional Info		
	Installer: Fogle's Septic Clean, Inc Address: 580 Obrecht Rd Sykesville, MD 21784	Designer: John Heatzman Phone: 410-795-5670 Email: john@foglesinc.com	Address: 3117 Fox Valley Dr West Friendship, MD 21794	Name: Chris Berarducci Phone: 443-797-9409 Email: cfuco1@hotmail.com	Perc Date: 4/17/25 Permit No.: P587978 Bedrooms: 4	Version: 2.0 Date: 5/6/25 Job No.: 844

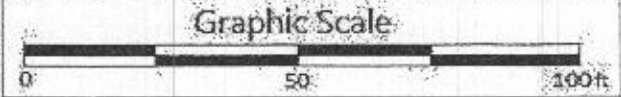


**Scope of Work:**


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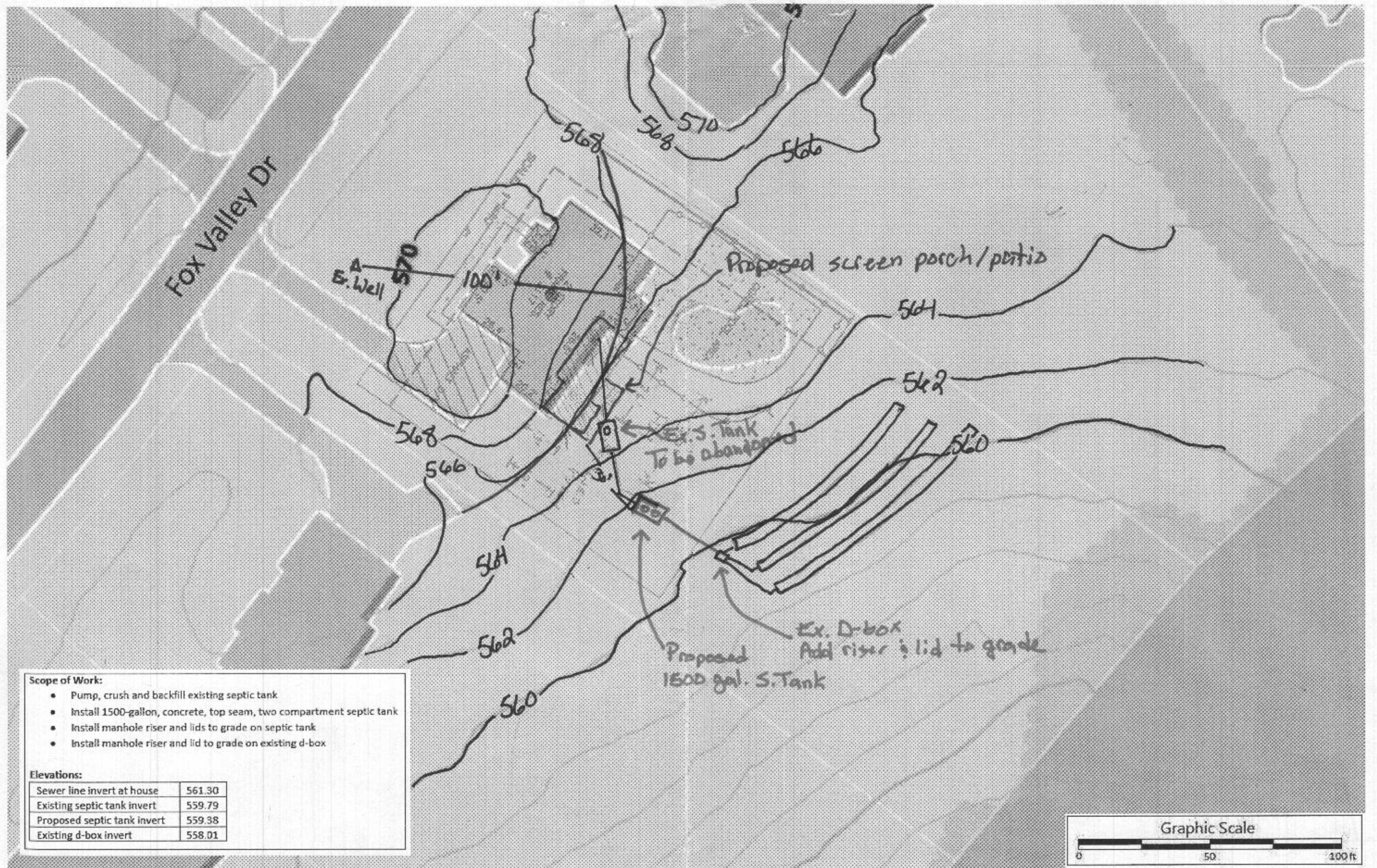
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**Scope of Work:**

- Pump, crush and backfill existing septic tank
- Install 1500-gallon, concrete, top seam, two compartment septic tank
- Install manhole riser and lids to grade on septic tank
- Install manhole riser and lid to grade on existing d-box

**Elevations:**

Sewer line invert at house	561.30
Existing septic tank invert	559.79
Proposed septic tank invert	559.38
Existing d-box invert	558.01

**Septic Tank Replacement Design Plan**

Designer & Installer Info		Property Info	Owner Info	Additional Info		
	Installer: Fogle's Septic Clean, Inc Address: 580 Obrecht Rd Sykesville, MD 21784	Designer: John Hieatzman Phone: 410-795-5670 Email: john@foglesinc.com	Address: 3117 Fox Valley Dr West Friendship, MD 21794	Name: Chris Berarducci Phone: 443-797-9409 Email: cfuco1@hotmail.com	Perc Date: n/a Permit No.: Bedrooms: 4	Version: 1.0 Date: 3/5/25 Job No.: 844