

**Bureau of Environmental Health**  
 8930 Stanford Boulevard, Columbia, MD 21045  
 Main: 410-313-2640 | Fax: 410-313-2648  
 TDD 410-313-2323 | Toll Free 1-866-313-6300  
[www.hchealth.org](http://www.hchealth.org)  
 Facebook: [www.facebook.com/hocohealth](http://www.facebook.com/hocohealth)

Maura J. Rossman, M.D., Health Officer

RECEIPT DATE: 7-10-23 **ONSITE SEWAGE DISPOSAL SYSTEM**

P 574940

APPROVAL DATE: 8/8/2023 **SP PERMIT: CONSTRUCTION**

A \_\_\_\_\_

PROPERTY ADDRESS: 14945 Old Frederick Road

SUBDIVISION: Rizvi, Property LOT: 5 TAX ID: \_\_\_\_\_

CONTRACTOR: Holler Contracting Inc. EMAIL: \_\_\_\_\_

CONTRACTOR ADDRESS: 4810 Black Ankle Road, Mount Airy, MD PHONE: 301-748-9836

PROPERTY OWNER: Askari and Syma Rizvi EMAIL: 21771

OWNER ADDRESS: 12614 Fawn Run Court, Ellicott City, MD 21042 PHONE: 240-475-3884

SEPTIC TANK SIZE (GALLONS): 1500 TANK MANUFACTURER: \_\_\_\_\_

PUMP MODEL: N/A PUMP SIZE: N/A PUMP TANK CAPACITY: N/A

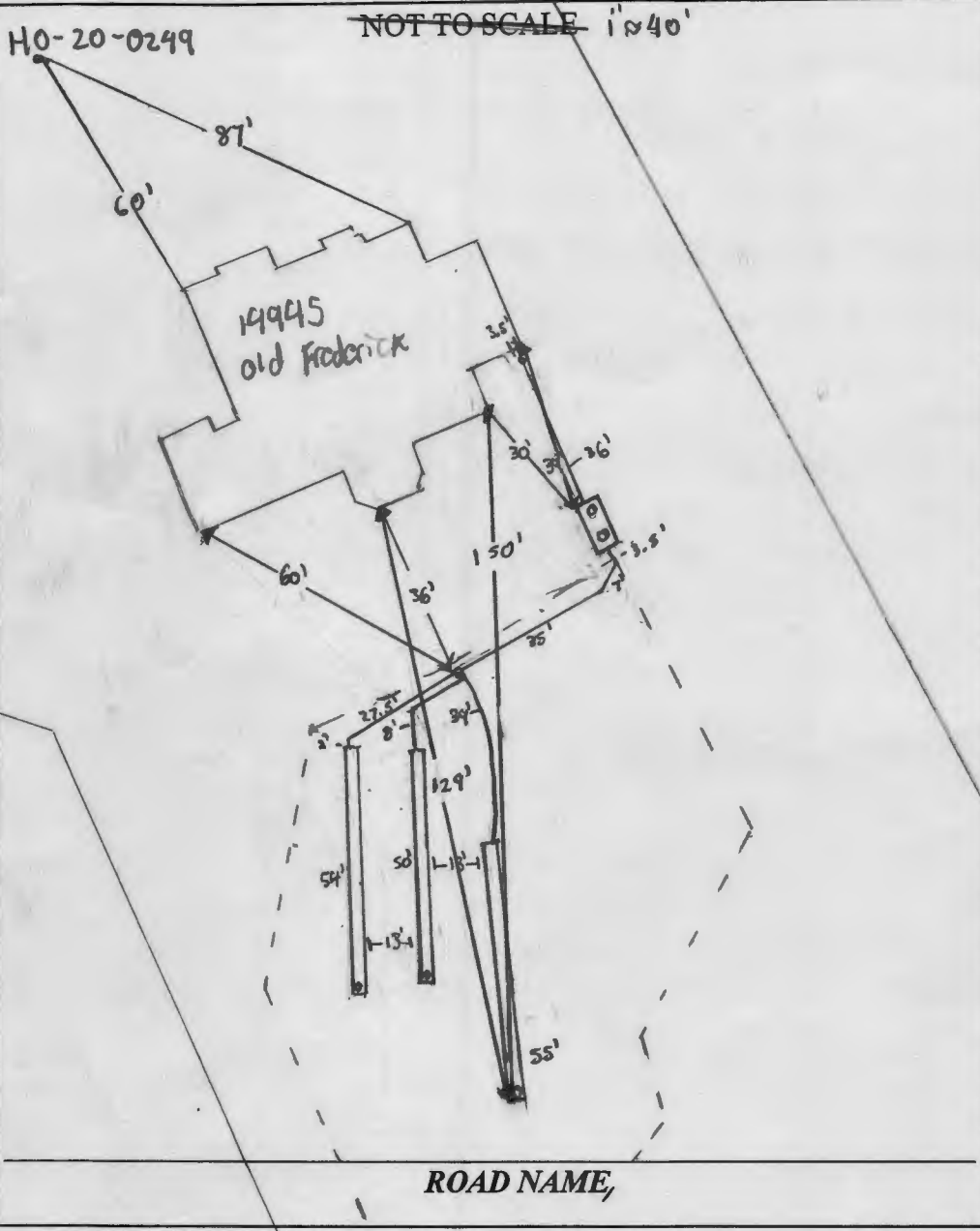
DISTRIBUTION SYSTEM:  GRAVITY  PRESSURE DOSED BEDROOMS: 5 APPLICATION RATE: 0.8

TRENCHES:	LINEAR FEET REQUIRED: <u>156</u>	INLET DEPTH: <u>4</u>
	TRENCH WIDTH: <u>3</u>	MAXIMUM BOTTOM DEPTH: <u>8</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>12</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>5</u>
LOCATION:	PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND TANK LOCATIONS MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.	
NOTES:	<u>2 trenches @ 78'</u> <u>3 @ 52' SP</u>	

ISSUED BY: ZACH S. ISSUE DATE: 7-10-23 EXPIRATION DATE: 7-10-24

- NOTE: CONTRACTOR MUST SCHEDULE A PRE-CONSTRUCTION INSPECTION PRIOR TO BEGINNING ANY INSTALLATION
- NOTE: CONTRACTOR MUST SCHEDULE AN INSPECTION AND GAIN APPROVAL OF ALL COMPONENTS PRIOR TO COVERING
- NOTE: STONE MUST BE APPROVED BY HEALTH DEPARTMENT AND GRAVEL TICKET MUST BE AVAILABLE FOR REVIEW.
- NOTE: WATERTIGHT TANKS REQUIRED
- NOTE: ALL PARTS OF SEPTIC SYSTEM SHALL BE AT LEAST 100 FEET DOWNGRADE FROM ANY WATER WELL
- NOTE: MANHOLE RISERS REQUIRED ON ALL SEPTIC TANKS AND PUMP CHAMBERS
- NOTE: AN ELECTRICAL PERMIT IS REQUIRED FOR INSTALLATION OF ANY ELECTRICAL COMPONENTS OF THE SYSTEM
- ELECTRICAL PERMIT ISSUED E \_\_\_\_\_
- NOTE: MDE RECOMMENDS SEPTIC TANKS, BAT, AND OTHER PRETREATMENT UNITS BE PUMPED AT A FREQUENCY ADEQUATE TO ENSURE THAT SOLIDS ARE NOT DISCHARGED TO THE DISPOSAL AREA

**NEITHER THE HOWARD COUNTY COUNCIL NOR THE HEALTH DEPARTMENT IS RESPONSIBLE FOR THE SUCCESSFUL OPERATION OF ANY SYSTEM. PERMITTEE RESPONSIBLE FOR OBTAINING FINAL APPROVAL ON THIS PERMIT. CALL 410-313-1771 TO SCHEDULE INSPECTIONS.**



TRENCH/DRAINFIELD DATA		
WIDTH	INLET	BOTTOM
3	5'	8'
NUMBER OF TRENCHES		3
TOTAL LENGTH		157
ABSORPTION AREA		471 ft <sup>2</sup>
DISTRIBUTION BOX LEVEL		yes
DISTRIBUTION BOX BAFFLE		yes
DISTRIBUTION BOX PORT		yes

SEPTIC TANK DATA	
SEPTIC TANK 1 LEVEL	yes
MANUFACTURER	Dayton
CAPACITY	1500 GAL
SEAM LOC	top
TANK LID DEPTH	0.5"
BAFFLES	6" front + 4" back
BAFFLE FILTER	
MANHOLE LOC	front + back
6" PORT LOC	
WATERTIGHT TEST	
SLOTTED	yes
DATE ON LID	6/14/23
PUMP/SEPTIC TANK LEVEL N/A	
MANUFACTURER	
CAPACITY	GAL
SEAM LOC	
TANK LID DEPTH	
BAFFLES	
BAFFLE FILTER	
MANHOLE LOC	
6" PORT LOC	
WATERTIGHT TEST	
SLOTTED	
DATE ON LID	

**PRE-CONSTRUCTION:**  
 7/17/2023 - tank staked, SDA staked, trenches staked. upper trench contour off by 5", lower trench contour off by 9". Contour does not match plan, curves towards bottom of site. area redefined plan. contractor not starting any work yet. (S)

8/2/2023 - Met w contractor onsite for layout. 2 upper trenches staked, lower trench not fully staked. told contractor to clear off lot to shoot trench elevations. came back onsite, 1<sup>st</sup> upper trench has less than 2" difference, 2<sup>nd</sup> upper trench less than 1" diff. lowest trench has 2"-9" difference. 15' between upper & middle trench, 18' between middle & lower trench. (S)

**INSTALLATION:**  
 8/4/2023 - tank set, inlet line has fall, plumber not coming out of house yet, reinspect for C/O. back 4" baffle installed, front 6" baffle not installed, reinspect. line from tank to D-box set, Reinspect for trenches (S)

8/7/2023 - 1<sup>st</sup> upper trench finished, length @ 54', inlet @ 5', width @ 3'. Gave ok to occupant, 6" front baffle installed. (S)

8/8/2023 - 2 lower trenches finished, lengths varied, one @ 55' & one @ 50'. space between trenches 13'. Loaded D-box. Saw C/O coming out of house told installer to place tape on old parts in lieu of caps. tank inlet @ 5'. (S)

FINAL INSPECTOR S. Pope DATE OF APPROVAL 8/8/2023



ISO 9001:2015 CERTIFIED

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

936 Ridgebrook Road • Sparks, MD 21152 • Phone 410-316-7800 • Fax 410-316-7817

Date: July 27, 2023

To: Howard County  
Bureau of Environmental Health  
8930 Stanford Blvd,  
Columbia, Maryland 21045

Re: Rizvi Property – Old Frederick Rd.  
OSDS Plan Red line

KCI J.O. No.: 271803754.112

Attention: Zack Silvast

- We are submitting
- We are forwarding
- Herewith
- We are returning
- Under separate cover
- We request

Hand Delivered

No.	Description
4	On-Site Sewage Disposal System Plans

Remarks:

- In accordance with your request
- For your review
- For processing
- Plans reviewed and accepted
- Plans reviewed and accepted as noted
- For revision by you
- For your use
- Please call when ready
- Please return to this office
- Approval requested
- Confer. requested at your convenience

For further information, please contact the writer at this office.

Very truly yours,  
KCI TECHNOLOGIES, INC.

**Frank White**  
Associate / Project Manager  
Land Development Practice

cc:  
Enclosures  
Files



ISO 9001:2015 CERTIFIED

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

936 Ridgebrook Road • Sparks, MD 21152 • Phone 410-316-7800 • Fax 410-316-7817

August 18, 2023

Environmental Health Bureau  
Howard County Health Department  
8930 Stanford Blvd  
Columbia, MD 21045

**Re: Approved OSDS**

To Whom it may concern:

My name is Frank White, and I am with KCI Technologies, Inc. we are the engineer on file for Keystone Custom Homes. The septic was installed for a new single-family home located at 14945 Old Frederick Rd, in Howard County, MD. During the installation of the trenches, the pipe was installed at lower elevations than what was approved on the plan. Even thou the elevation of the installed pipe was lower than the approved elevation, the pipe was installed above the designed effective area of the trench. The current location of the installed pipe will not have any affect on the systems function and design. The current installation of the septic trenches meets the intent of the design.

If you have any questions or concerns, please feel free to contact me at 410-316-0803 (office) or 410-627-2326 (cell) and I would be happy to answer your questions.

**KCI Technologies, Inc.**  
**936 Ridgebrook Rd.**  
**Sparks, Maryland 21152**  
**410-316-7800**

Sincerely,

Frank F. White, Jr.  
Associate / Project Manager

*Read and accepted.*

*gls 8/18/23*



ISO 9001:2015 CERTIFIED

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

936 Ridgebrook Road • Sparks, MD 21152 • Phone 410-316-7800 • Fax 410-316-7817

Date: July 27, 2023

*New Approved*

To: Howard County  
Bureau of Environmenta  
8930 Stanford Blvd,  
Columbia, Maryland 210

*OSDS Plan*

Re: Rizvi Property – Old Frederick Rd.  
OSDS Plan Red line

*redline. -ZS*

KCI J.O. No.: 271803754.112

Attention: Zack Silvast

- We are submitting
- We are forwarding
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Remarks:

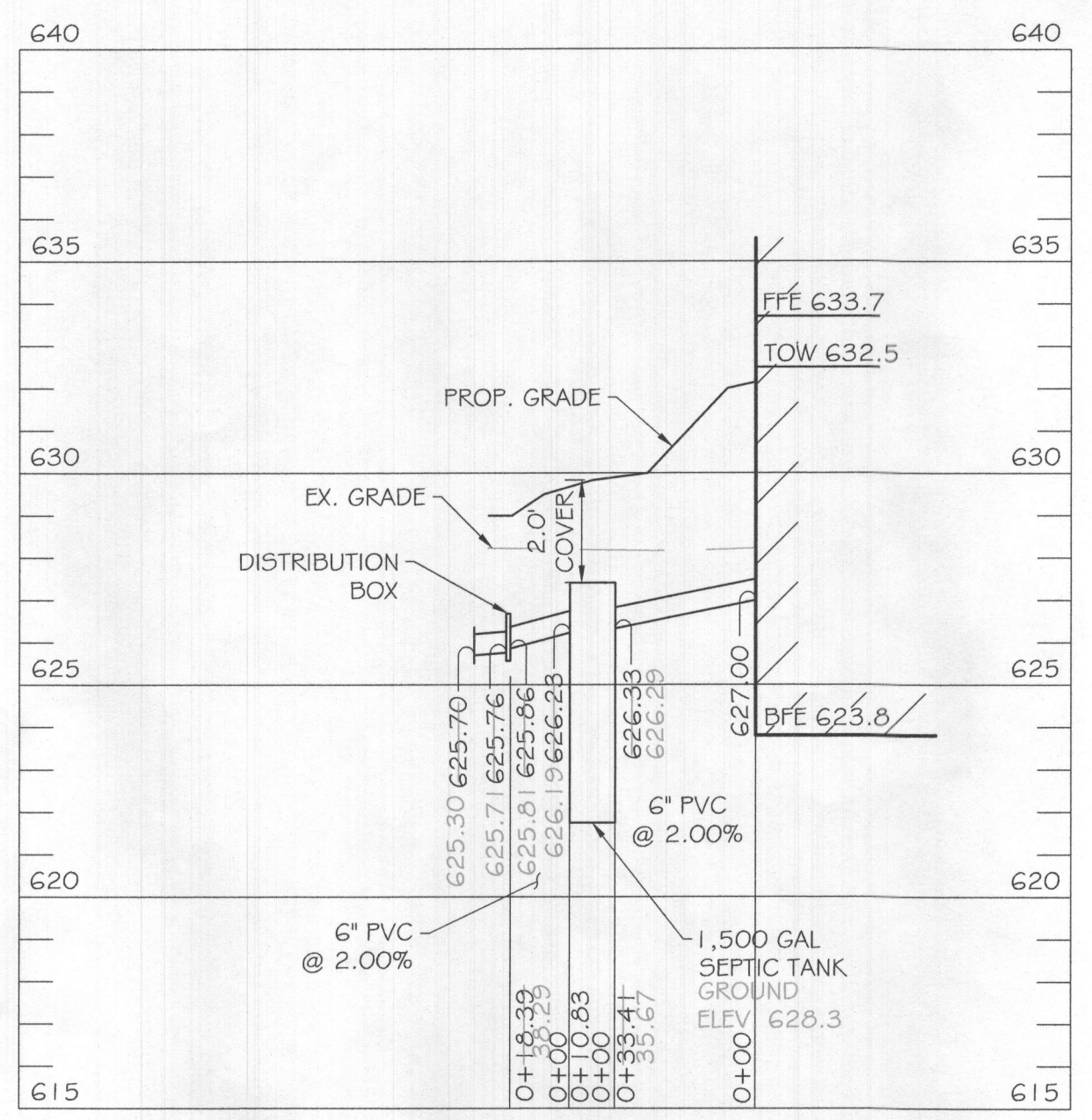
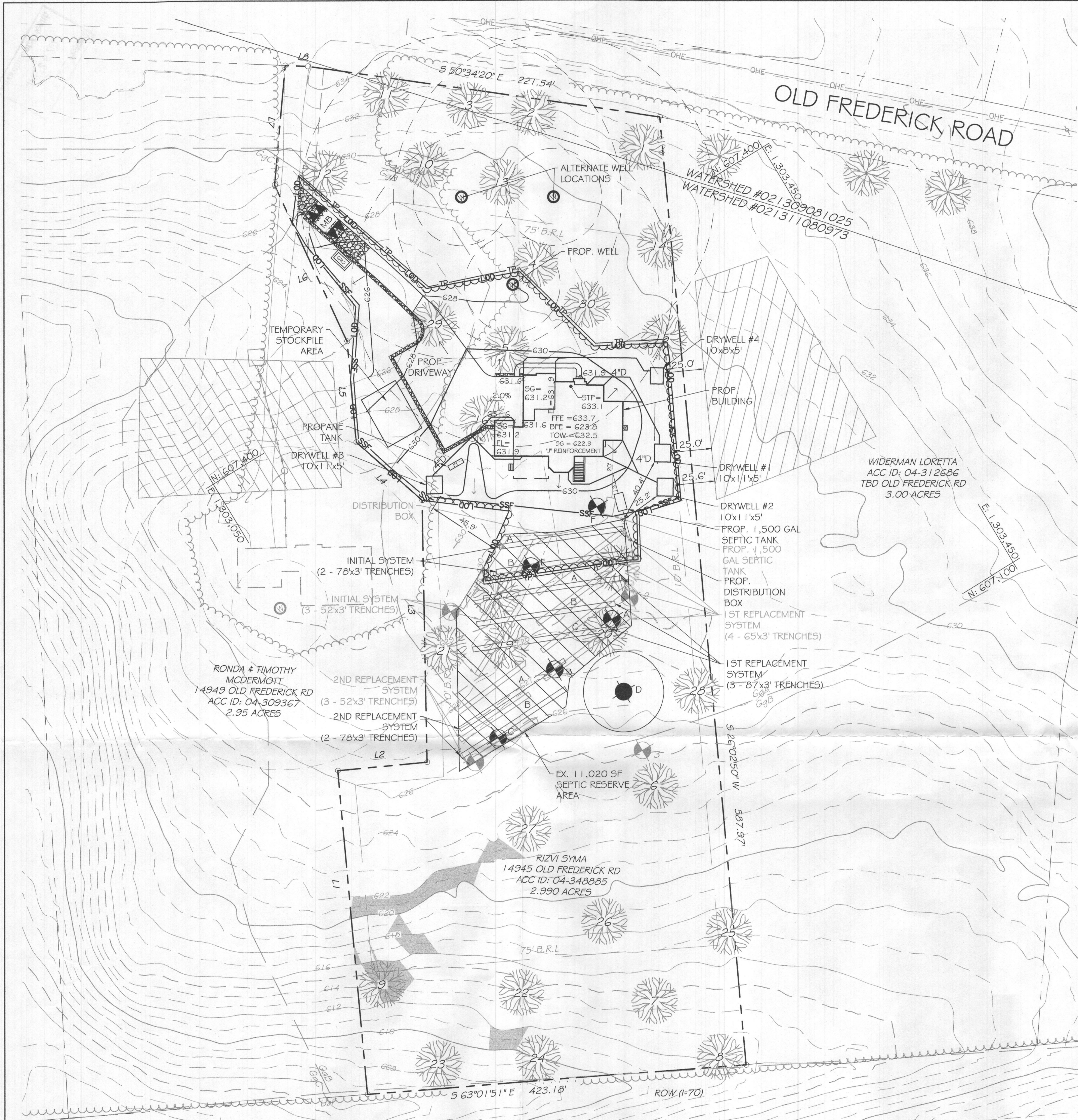
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- For your review
- For processing
- Plans reviewed and accepted
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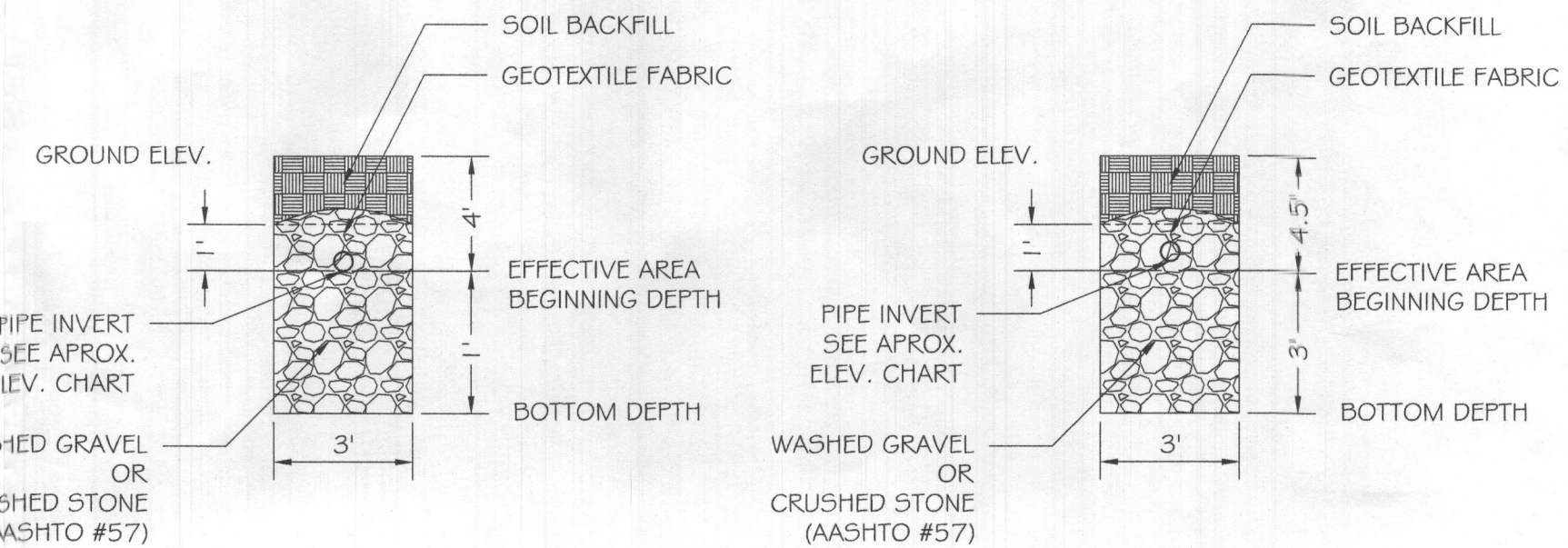
Very truly yours,  
KCI TECHNOLOGIES, INC.

Frank White  
Associate / Project Manager  
Land Development Practice

cc:  
Enclosures  
Files



EX. SEPTIC SYSTEM PROFILE  
SCALE: H. 1" = 40'  
V. 1" = 4'



1ST REPLACEMENT TRENCH DETAIL N.T.S.  
2ND REPLACEMENT TRENCH DETAIL N.T.S.

TRENCH LENGTH AND SPACING CALCULATIONS  
TRENCH DESIGN (5 BDRM X 150 GPD/BDRM = 750 GPD)

INITIAL SYSTEM  
750 GPD / 0.8 GPD/SF (APP. RATE) = 938 SF  
USE 3' WIDE TRENCH W/ 12" OF GRAVEL BELOW PIPE, EFFECTIVE AREA 5' - 8'  
938 SF / 3' WIDTH = 313 LF x 0.50 = 156 LF MIN. TRENCH  
12' MIN. SPACING BETWEEN TRENCH EDGES

1ST REPLACEMENT SYSTEM  
750 GPD / 0.8 GPD/SF (APP. RATE) = 938 SF  
USE 3' WIDE TRENCH W/ 12" OF GRAVEL BELOW PIPE, EFFECTIVE AREA 4' - 5'  
938 SF / 3' WIDTH = 313 LF x 0.83 = 260 LF MIN. TRENCH  
12' MIN. SPACING BETWEEN TRENCH EDGES

2ND REPLACEMENT SYSTEM  
750 GPD / 0.8 GPD/SF (APP. RATE) = 938 SF  
USE 3' WIDE TRENCH W/ 36" OF GRAVEL BELOW PIPE, EFFECTIVE AREA 4.5' - 7.5'  
938 SF / 3' WIDTH = 313 LF x 0.50 = 156 LF MIN. TRENCH  
12' MIN. SPACING BETWEEN TRENCH EDGES

- 2 - 78' LONG TRENCHES FOR INITIAL SYSTEM
- 4 - 65' LONG TRENCHES FOR 1ST REPLACEMENT SYSTEM
- 2 - 78' LONG TRENCHES FOR 2ND REPLACEMENT SYSTEM

TEST #	TIME FOR 1" DROP (MINUTES)
1	4
2	8
3	20
4	10
AVG.	10.5

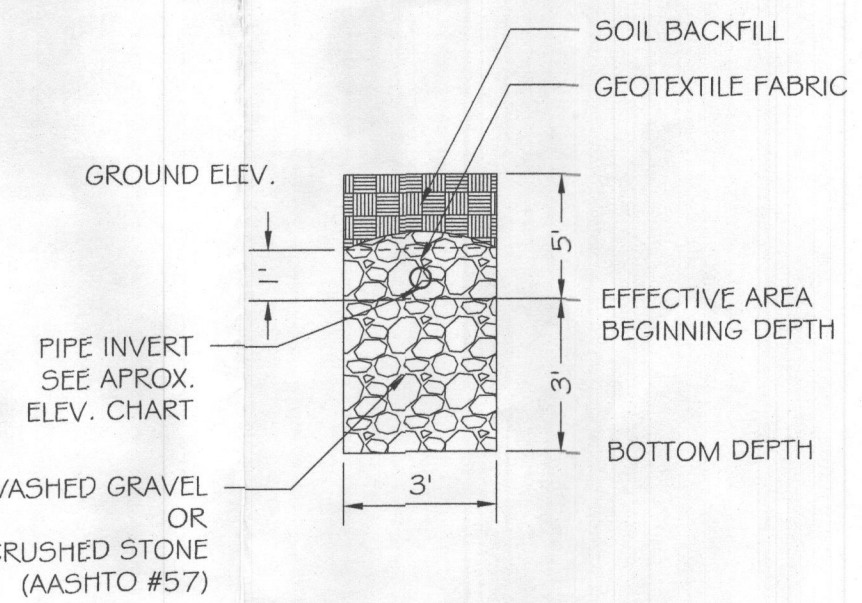
TEST #	DEPTH (FT)	TIME FOR 1ST 1" DROP TIME (MINUTES)	TIME FOR 2ND 1" DROP (MINUTES)
A	5	3	5
B	5.5	5	11
C	6	8	11
D	FAILED	FAILED	FAILED
E	6	10	15
F	5	11	16

LINE	BEARING	DISTANCE
L1	N 26°02'56" E	200.48'
L2	S 63°57'04" E	55.73'
L3	N 30°12'56" E	161.98'
L4	N 17°18'48" W	54.62'
L5	N 26°02'56" E	62.49'
L6	N 06°19'11" E	106.56'
L7	N 36°24'52" E	73.94'
L8	S 56°22'55" E	14.02'

	APPROXIMATE ELEVATIONS		
	GROUND ELEVATION	INVERT ELEVATION	BOTTOM ELEVATION
INITIAL SYSTEM TRENCH A	629.3	625.7	621.7
INITIAL SYSTEM TRENCH B	629.3	625.7	621.3
INITIAL SYSTEM TRENCH C	628.5	624.5	620.5
1ST REPLACEMENT TRENCH A	628.3	624.3	623.3
1ST REPLACEMENT TRENCH B	628.5	624.5	623.5
1ST REPLACEMENT TRENCH C	627.7	623.7	622.7
1ST REPLACEMENT TRENCH D	627.1	623.1	622.1
2ND REPLACEMENT TRENCH A	627.5	623.5	620.8
2ND REPLACEMENT TRENCH B	626.6	622.3	619.2
2ND REPLACEMENT TRENCH C	625.9	621.9	618.4

	RELATIVE DEPTHS		
	PIPE INVERT BELOW GROUND	EFFECTIVE AREA BEGINNING	MAXIMUM TRENCH BOTTOM
INITIAL SYSTEM TRENCH A&B	4.0'	5.0'	8.0'
1ST REPLACEMENT TRENCH A,B&C	4.0'	4.0'	5.0'
2ND REPLACEMENT TRENCH A&B	4.0'	4.5'	7.5'

PLAN VIEW SCALE: 1" = 40'

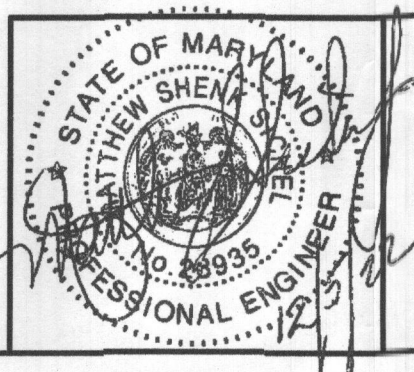


INITIAL TRENCH DETAIL N.T.S.

- LEGEND**
- 759 --- EXISTING MINOR CONTOUR (2' INTERVAL)
  - 760 --- EXISTING MAJOR CONTOUR (10' INTERVAL)
  - 307.90 --- ADJACENT PROPERTY LINE
  - N22°37'18"W --- EXISTING PROPERTY BOUNDARY
  - EXISTING ROAD / EDGE OF PAVING
  - EXISTING ROAD CENTERLINE
  - 761 --- PROPOSED MINOR CONTOUR (2' INTERVAL)
  - 760 --- PROPOSED MAJOR CONTOUR (10' INTERVAL)
  - [Symbol] --- EXISTING BUILDING
  - [Symbol] --- PROPOSED BUILDING
  - [Symbol] --- PROPOSED SPOT ELEVATION
  - [Symbol] --- LIMIT OF DISTURBANCE
  - [Symbol] --- PROPOSED SILT FENCE
  - 765.0x --- SOIL DELINEATION LINE
  - [Symbol] --- EXISTING PERCOLATION TEST HOLE

Approved Septic System Plan  
Howard County Health Department  
Signature: [Signature] Date: 7/27/23

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THE INFORMATION SHOWN HEREIN IS BASED ON FIELD WORK PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, AND IS CORRECT, TO THE BEST OF MY KNOWLEDGE AND BELIEF. LICENSE NO. 28935 EXPIRATION DATE: 1/15/2025



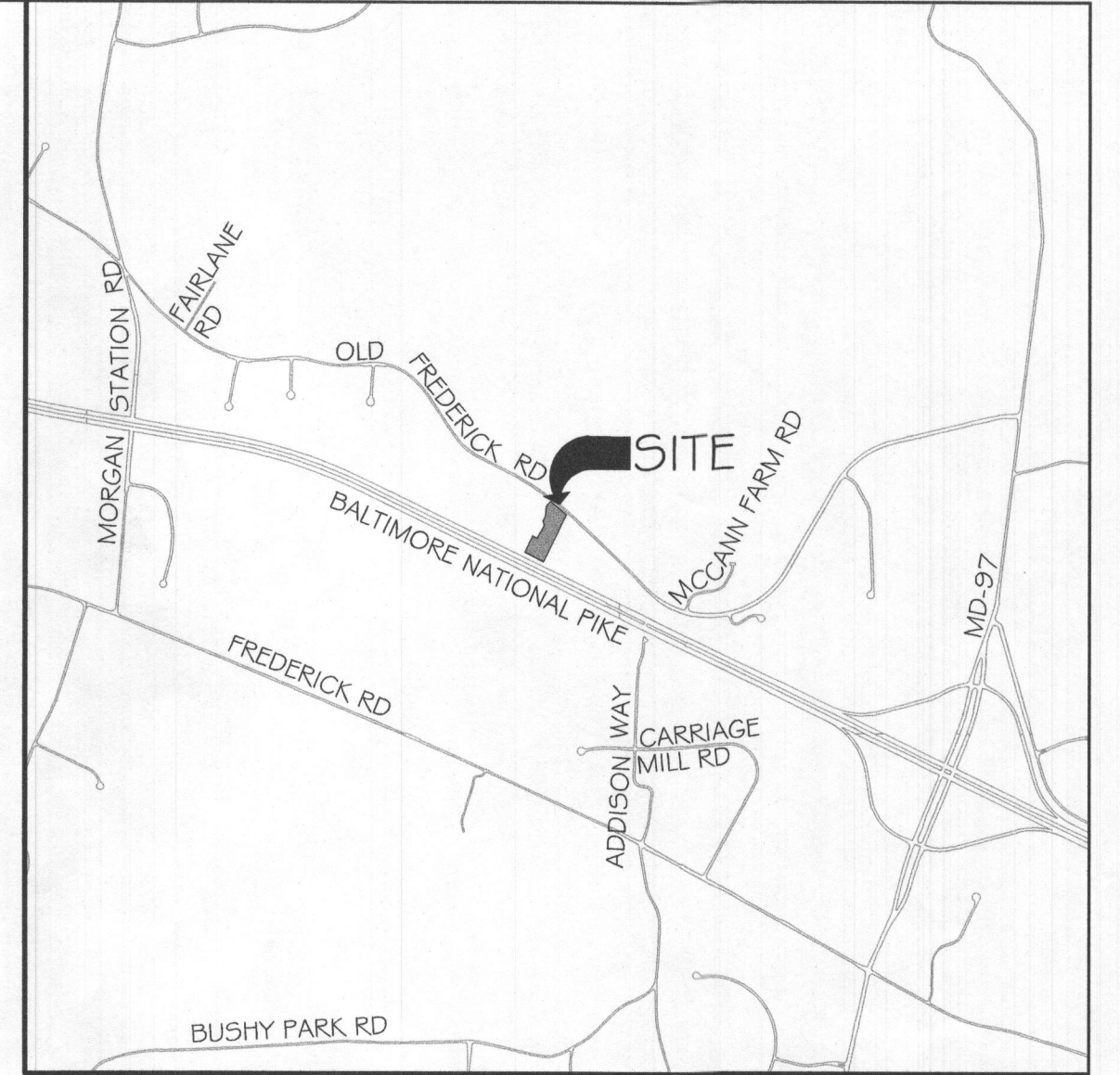
**KCI TECHNOLOGIES**  
936 RIDGEBROOK ROAD  
SPARKS, MARYLAND 21152  
TELEPHONE: (410) 316-7800  
FAX: (410) 316-7818

NO.	DATE	REVISIONS DESCRIPTION	BY

DATE: 12/05/2022  
SCALE: 1" = 30'  
DESIGNED BY: JDL  
DRAWN BY: JDL

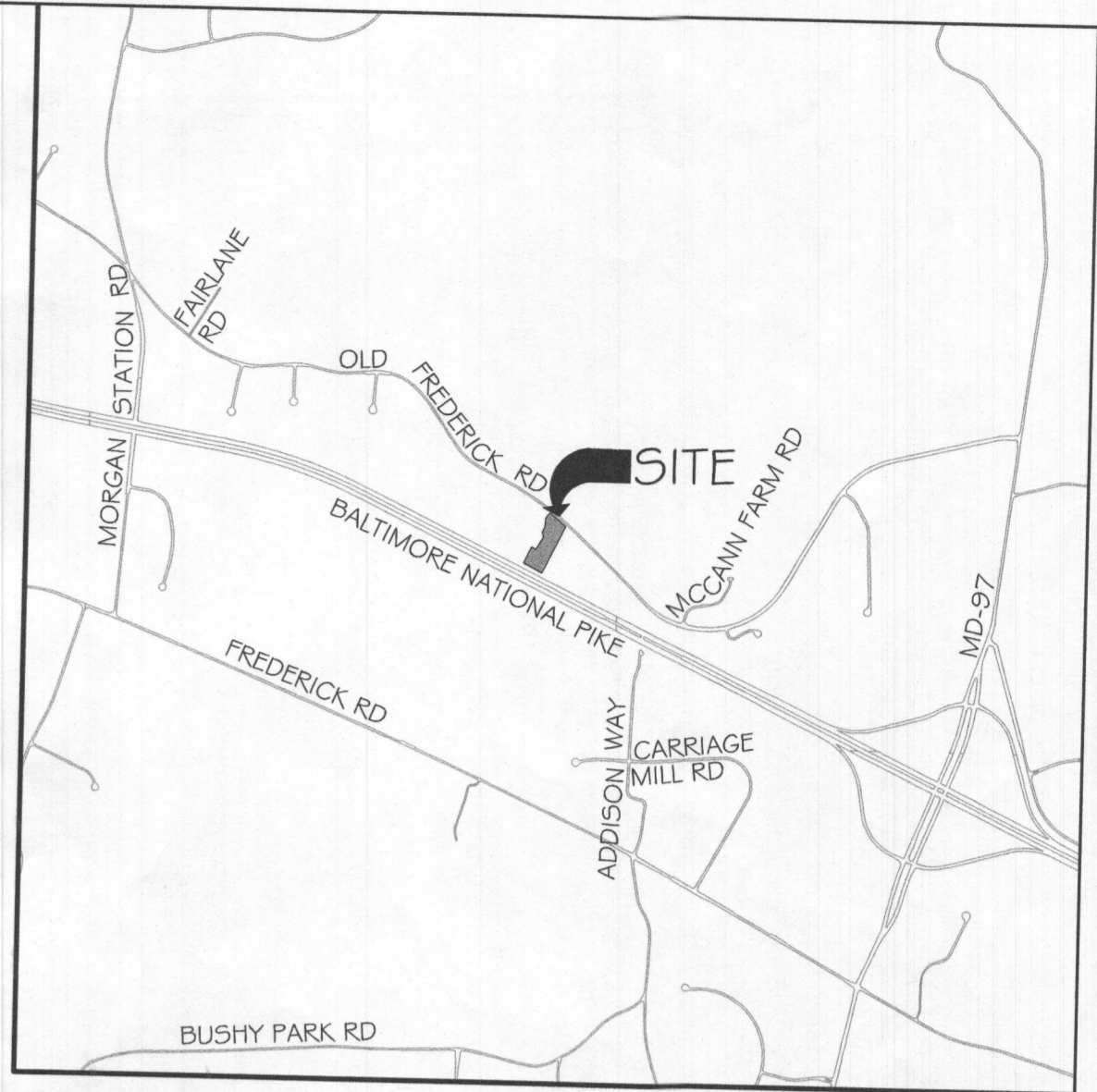
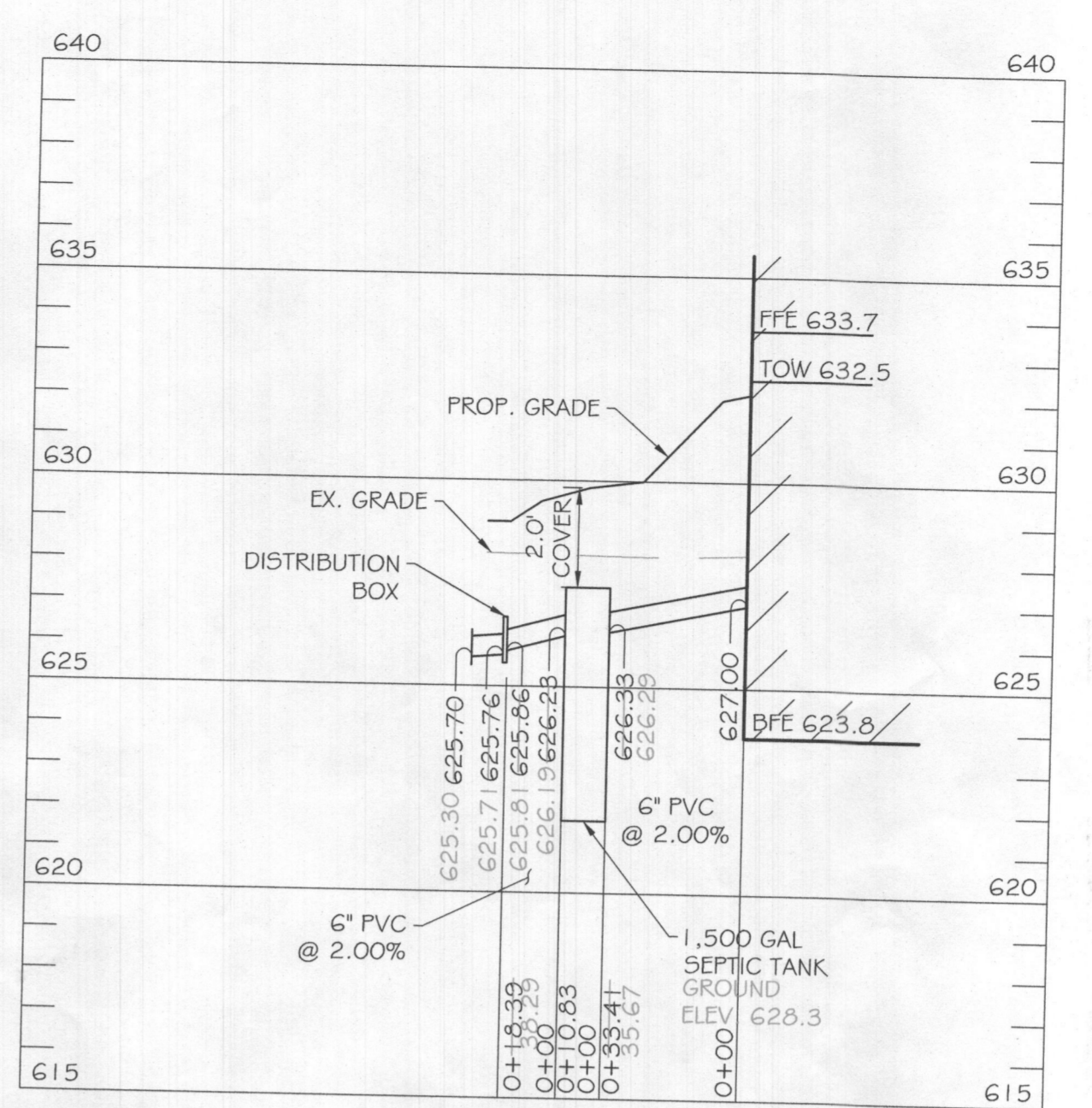
**LOT 5, RIZVI PROPERTY**  
ON-SITE SEWAGE DISPOSAL SYSTEM DESIGN PLAN  
14945 OLD FREDERICK ROAD  
WOODBINE, MD 21797  
TAX#: 348885, SUB: 1001

DRAWING NO. SHEET 1 OF 1  
KCI JOB NUMBER 271803754.112

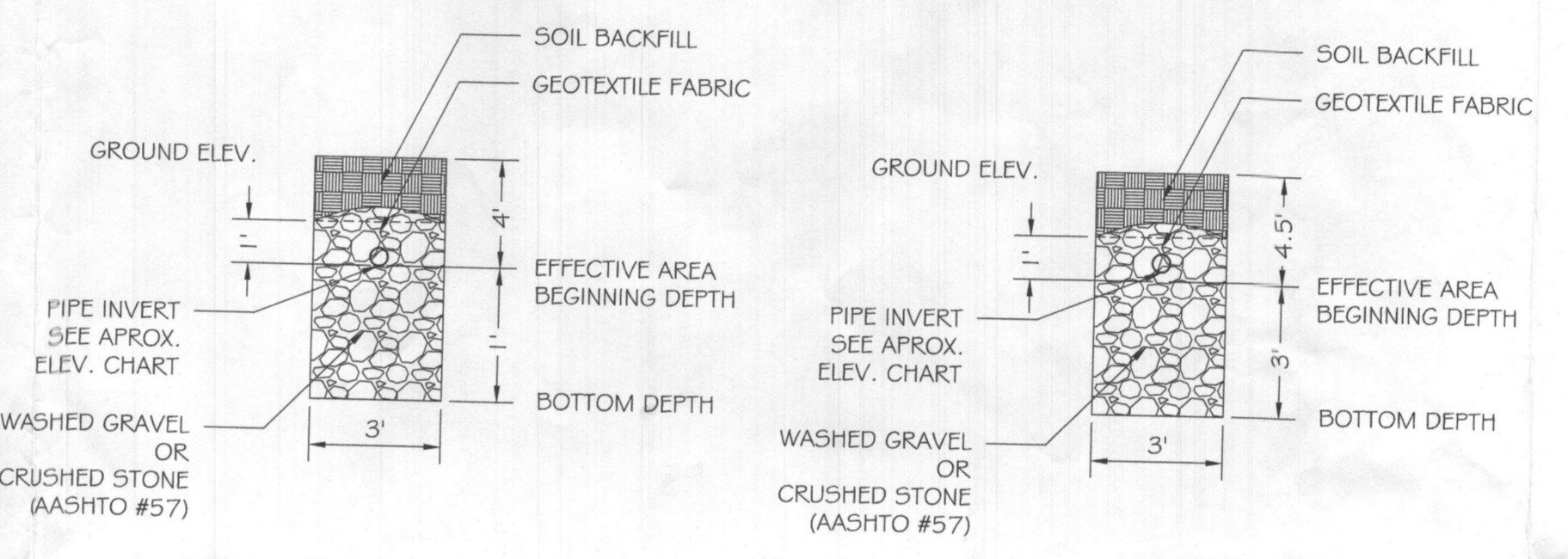


VICINITY MAP  
SCALE: 1" = 2000'

- 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 SITE PLAN MAY BE REQUIRED.
- THE MAXIMUM EARTH COVER OVER THE TANK IS 3 FEET. GREATER COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
- ELECTRICAL WORK FOR THE INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
- ALL WELLS AND SEPTIC SYSTEMS LOCATED WITHIN 100' OF THE PROPERTY BOUNDARIES AND 200' DOWN GRADIENT OF ANY WELLS AND/OR SEPTIC SYSTEMS HAVE BEEN SHOWN.
- EXISTING SYSTEM LOCATION HAVE BEEN OBTAINED FROM THE HEALTH DEPARTMENT AND THE PROPERTY OWNER.
- THIS AREA DESIGNATES A PRIVATE SEWAGE DISPOSAL AREA OF AT LEAST 10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF THIS AREA NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THIS AREA SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWAGE AREA. RECORDATION OF A MODIFIED SEWAGE AREA SHALL NOT BE NECESSARY.
- TOPOGRAPHY SHOWN IS AT TWO-FOOT CONTOUR INTERVALS (ONE-FOOT INTERVALS ARE REQUIRED FOR MOUND SYSTEMS AND SYSTEMS WITH PIPE DEPTH LESS THAN TWO FEET) AND HAS BEEN FIELD VERIFIED.
- ANY CHANGES TO A PRIVATE SEWAGE AREA SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
- THE LOT SHOWN HEREIN COMPLIES WITH THE MINIMUM OWNERSHIP, WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT.
- A PROFESSIONAL SURVEYOR OR ENGINEER MUST MARK THE PROPERTY LINE WHEN THE TRENCHES ARE BEING INSTALLED IN AREAS WHERE THE PROPERTY LINE SETBACK HAS BEEN REDUCED.



EX. SEPTIC SYSTEM PROFILE  
SCALE: H. 1" = 40'  
V. 1" = 4'



1ST REPLACEMENT TRENCH DETAIL  
N.T.S.

2ND REPLACEMENT TRENCH DETAIL  
N.T.S.

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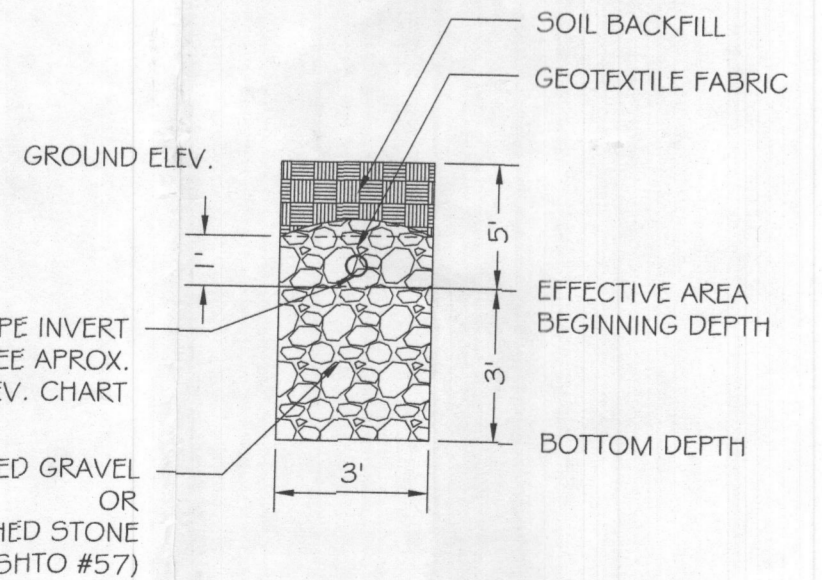
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2ND REPLACEMENT TRENCH C	625.9	621.9	618.4

	PIPE INVERT BELOW GROUND	EFFECTIVE AREA BEGINNING	MAXIMUM TRENCH BOTTOM
INITIAL SYSTEM TRENCH A+B	4.0'	5.0'	8.0'
1ST REPLACEMENT TRENCH A,B+C	4.0'	4.0'	5.0'
2ND REPLACEMENT TRENCH A+B	4.0'	4.5'	7.5'

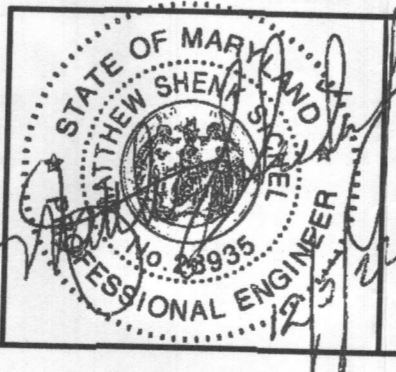
PLAN VIEW  
SCALE: 1" = 40'



INITIAL TRENCH DETAIL  
N.T.S.

Approved Septic System Plan  
Howard County Health Department  
Signature: [Signature] Date: 7/27/23

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THE INFORMATION SHOWN HEREIN IS BASED ON FIELD WORK PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, AND IS CORRECT, TO THE BEST OF MY KNOWLEDGE AND BELIEF. LICENSE NO. 28935 EXPIRATION DATE: 1/15/2025



ENGINEERS  
PLANNERS  
SCIENTISTS  
CONSTRUCTION MANAGERS  
936 RIDGEBROOK ROAD  
SPARKS, MARYLAND 21152  
TELEPHONE: (410) 316-7800  
FAX: (410) 316-7818

NO.	DATE	DESCRIPTION	BY

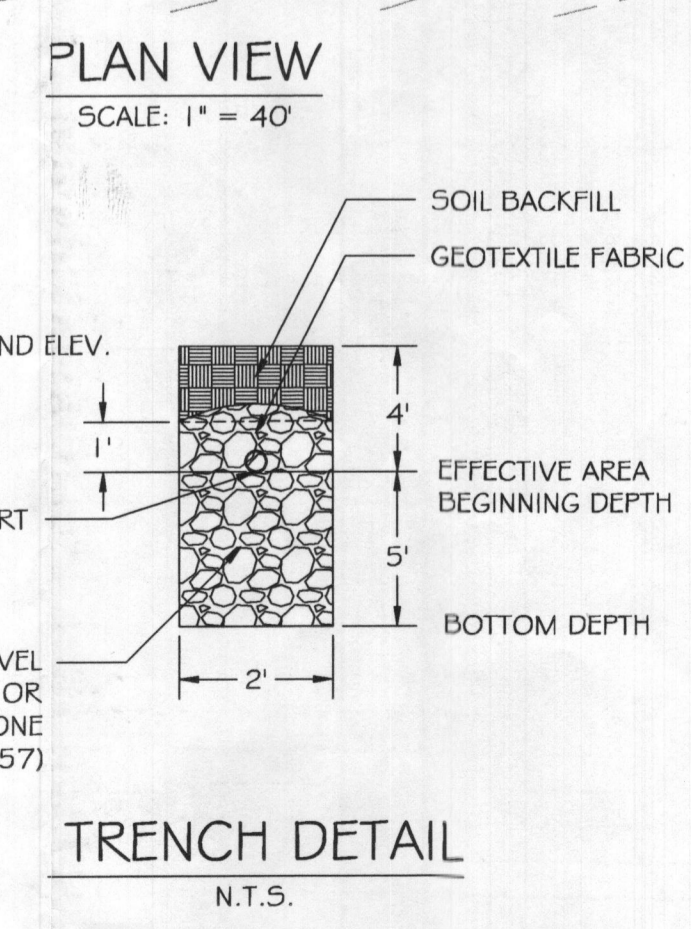
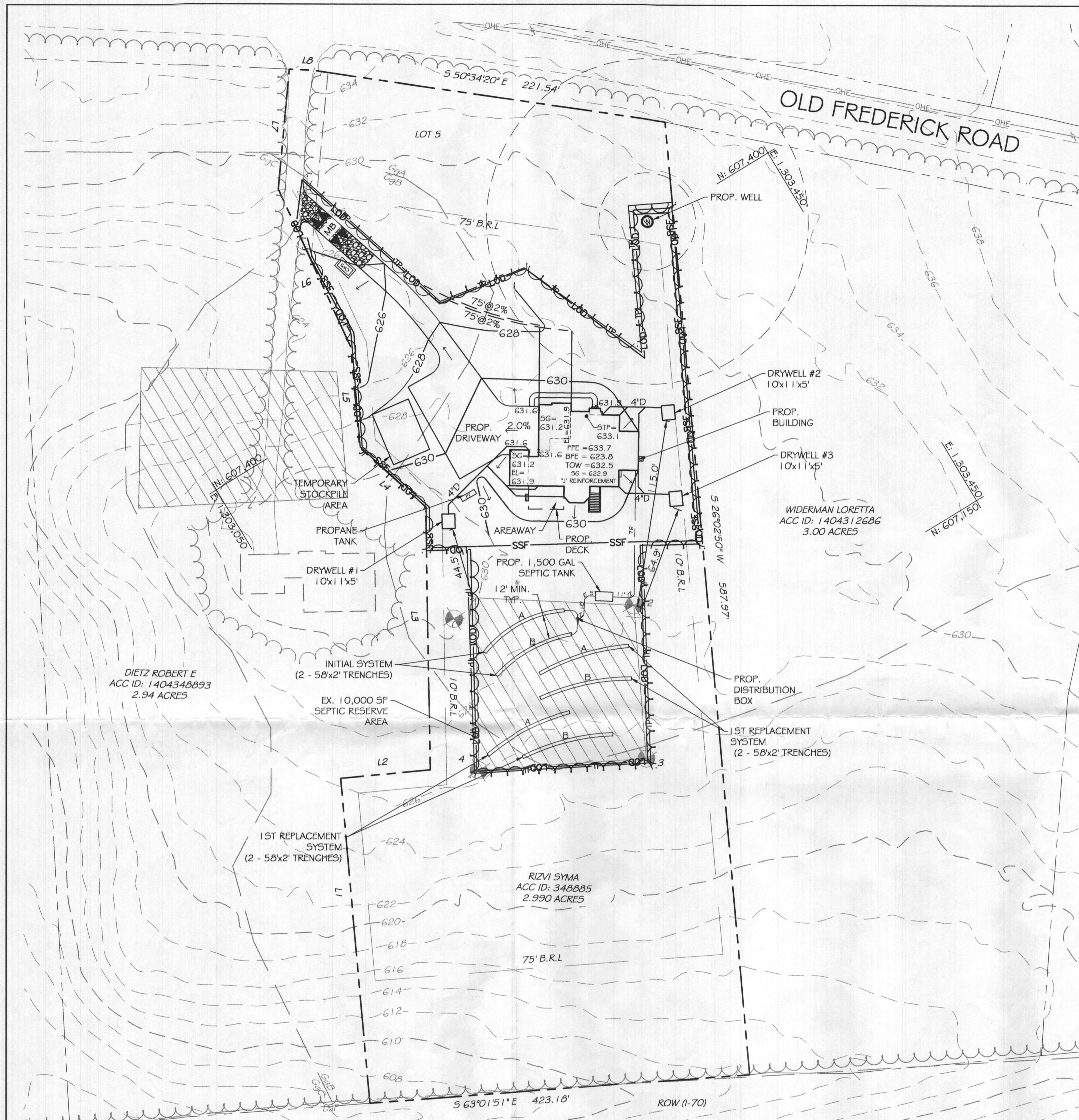
LOT 5, RIZVI PROPERTY  
ON-SITE SEWAGE DISPOSAL SYSTEM DESIGN PLAN  
14945 OLD FREDERICK ROAD  
WOODBINE, MD 21797  
TAX#: 348885, SUB: 1001

OWNER:  
ASKARI # SYMA RIZVI  
12614 FAWN RUN CT.  
ELLCOTT CITY, MD 21042  
(240) 475-3884

DEVELOPER:  
KEYSTONE CUSTOM HOMES  
GREG REINSMITH  
227 GRANITE RUN DR, SUITE 100,  
LANCASTER, PA 17601  
(717) 464-9060 EXT. 1108

DESIGNER:  
KCI TECHNOLOGIES INC.  
FRANK WHITE  
936 RIDGEBROOK RD,  
SPARKS, MD 21152  
(410) 316-0803

DRAWING NO.  
SHEET 1 OF 1  
KCI JOB NUMBER  
271803754.112

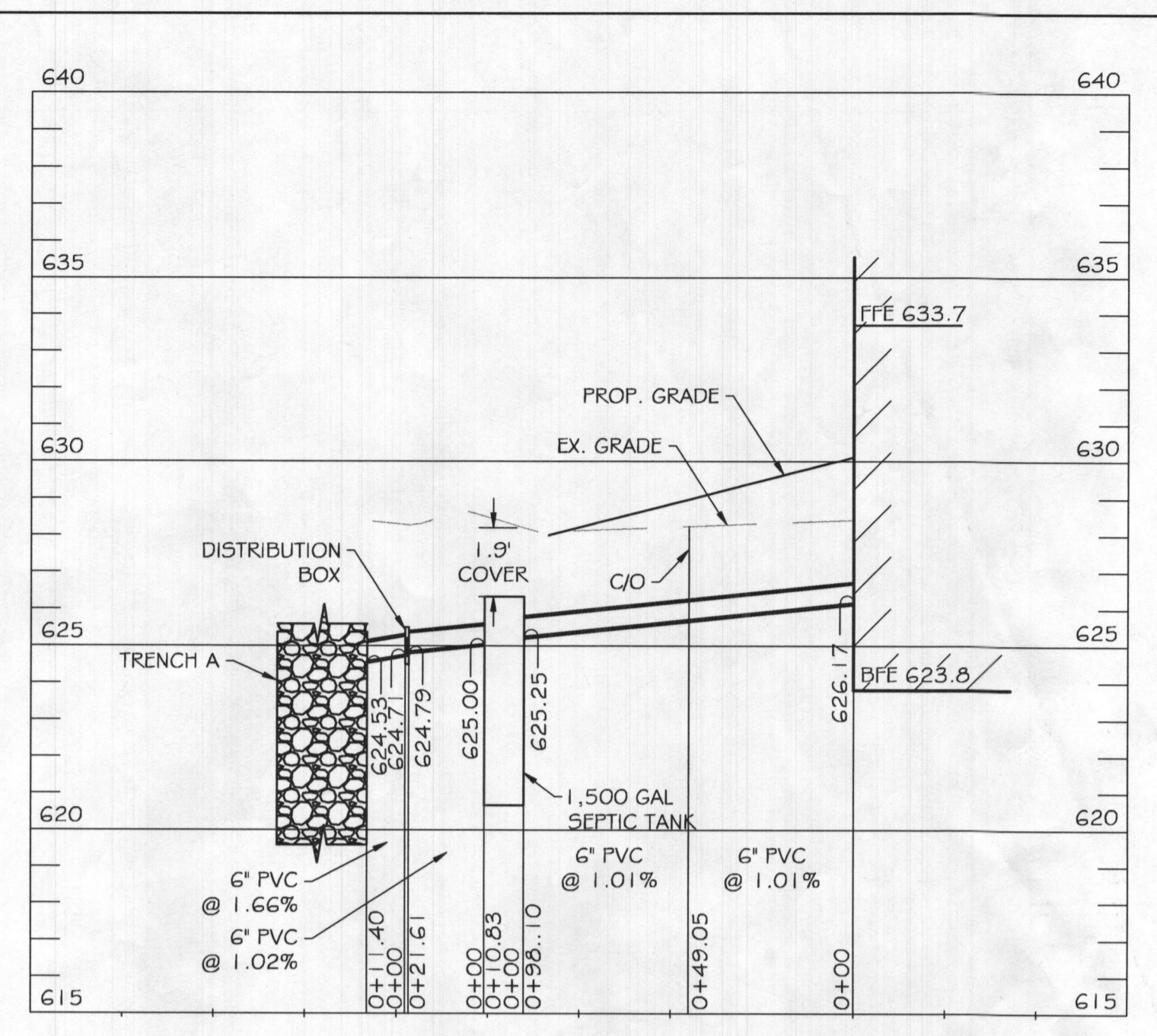


- LEGEND**
- 759- EXISTING MINOR CONTOUR (2' INTERVAL)
  - 760- EXISTING MAJOR CONTOUR (10' INTERVAL)
  - 307.90' N22°57'18"W- ADJACENT PROPERTY LINE
  - - - - EXISTING PROPERTY BOUNDARY
  - - - - EXISTING ROAD / EDGE OF PAVING
  - - - - EXISTING ROAD CENTERLINE
  - 761- PROPOSED MINOR CONTOUR (2' INTERVAL)
  - 760- PROPOSED MAJOR CONTOUR (10' INTERVAL)
  - [Symbol] EXISTING BUILDING
  - [Symbol] PROPOSED BUILDING
  - [Symbol] PROPOSED SPOT ELEVATION
  - [Symbol] LIMIT OF DISTURBANCE
  - [Symbol] PROPOSED SILT FENCE
  - [Symbol] SOIL DELINEATION LINE
  - [Symbol] EXISTING PERCOLATION TEST HOLE

*Revise*  
8/8 1/31/22

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS  
HEALTH OFFICER, HOWARD COUNTY HEALTH DEPT. DATE

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**EX. SEPTIC SYSTEM PROFILE**  
SCALE: H. 1" = 4'  
V. 1" = 4'

TRENCH LENGTH AND SPACING CALCULATIONS  
TRENCH DESIGN (4 BDRM X 150 GPD/BDRM = 600 GPD)

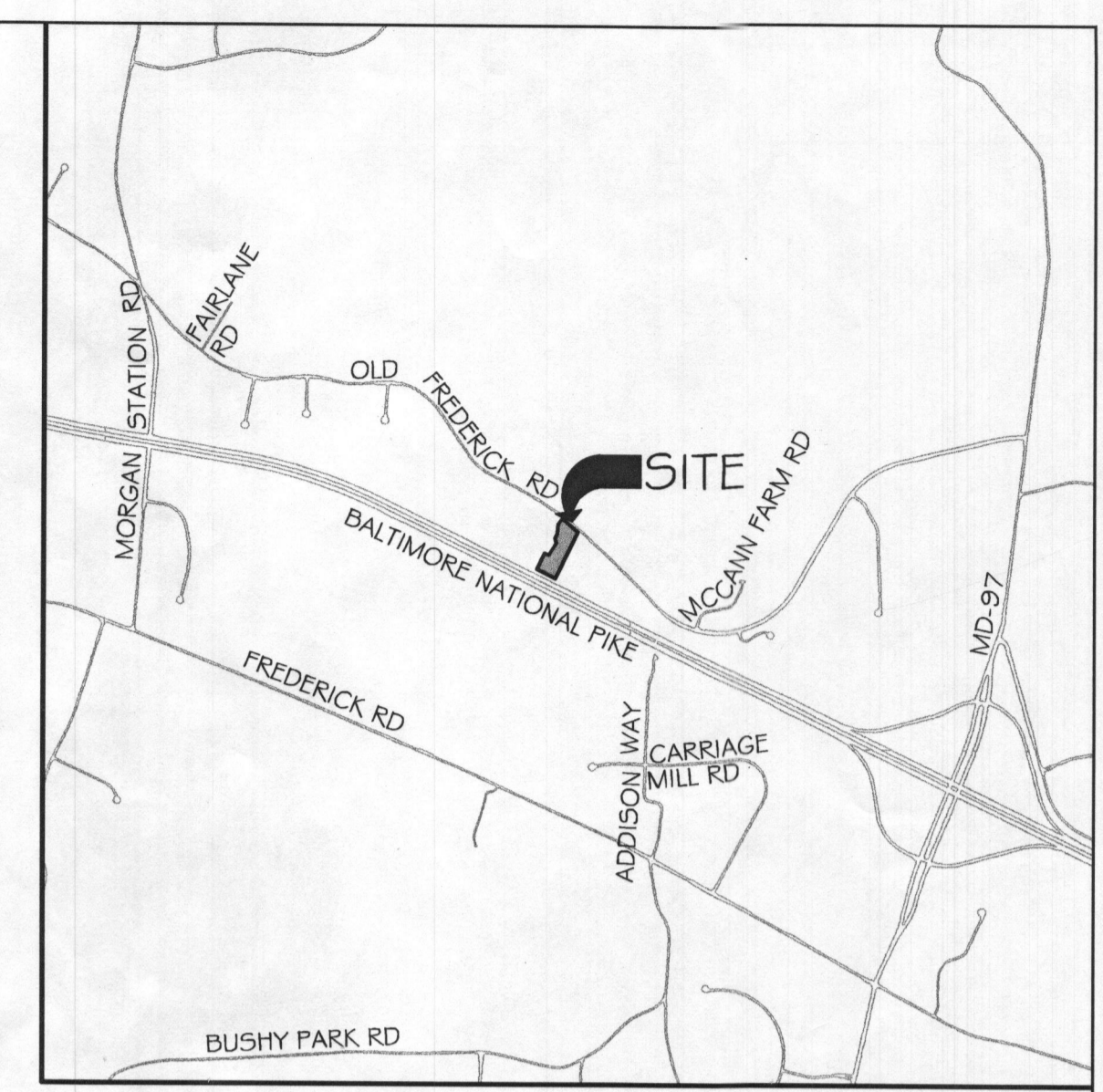
- INITIAL SYSTEM**  
600 GPD / 0.8 GPD/SF (APP. RATE) = 750 SF  
USE 2' WIDE TRENCH W/ 60" OF GRAVEL BELOW PIPE, EFFECTIVE AREA 4' - 9"  
750 SF / 2' WIDTH = 375 LF x 0.308 = 116 LF MIN. TRENCH  
12' MIN. SPACING BETWEEN TRENCH EDGES
- 1ST REPLACEMENT SYSTEM**  
600 GPD / 0.8 GPD/SF (APP. RATE) = 750 SF  
USE 2' WIDE TRENCH W/ 60" OF GRAVEL BELOW PIPE, EFFECTIVE AREA 4' - 9"  
750 SF / 2' WIDTH = 375 LF x 0.308 = 116 LF MIN. TRENCH  
12' MIN. SPACING BETWEEN TRENCH EDGES
- 2ND REPLACEMENT SYSTEM**  
600 GPD / 0.8 GPD/SF (APP. RATE) = 750 SF  
USE 2' WIDE TRENCH W/ 60" OF GRAVEL BELOW PIPE, EFFECTIVE AREA 4' - 9"  
750 SF / 2' WIDTH = 375 LF x 0.308 = 116 LF MIN. TRENCH  
12' MIN. SPACING BETWEEN TRENCH EDGES

- 2 - 58' LONG TRENCHES FOR INITIAL SYSTEM
- 2 - 58' LONG TRENCHES FOR 1ST REPLACEMENT SYSTEM
- 2 - 58' LONG TRENCHES FOR 2ND REPLACEMENT SYSTEM

LINE	TIME FOR 1" DROP (MINUTES)
1	4
2	8
3	20
4	10
AVG.	10.5

LINE	BEARING	DISTANCE
L1	N 26°02'56" E	200.48'
L2	S 63°57'04" E	55.73'
L3	N 30°12'56" E	161.98'
L4	N 17°18'48" W	54.62'
L5	N 26°02'56" E	62.49'
L6	N 06°19'11" E	106.56'
L7	N 36°24'52" E	73.94'
L8	S 56°22'55" E	14.02'

	PIPE INVERT	EFFECTIVE AREA BEGINNING	MAXIMUM TRENCH BOTTOM
INITIAL SYSTEM TRENCH A&B	4.0	4.0	9.0
1ST REPLACEMENT TRENCH A&B	4.0	4.0	9.0
2ND REPLACEMENT TRENCH A&B	4.0	4.0	9.0



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

**GENERAL NOTES:**

1. 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 SITE PLAN MAY BE REQUIRED.
2. THE MAXIMUM EARTH COVER OVER THE TANK IS 3 FEET. GREATER COVER WILL REQUIRE A HEAVY LOAD BEARING TANK.
3. ELECTRICAL WORK FOR THE INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
4. ALL WELLS AND SEPTIC SYSTEMS LOCATED WITHIN 100' OF THE PROPERTY BOUNDARIES AND 200' DOWN GRADIENT OF ANY WELLS AND/OR SEPTIC SYSTEMS HAVE BEEN SHOWN.
5. EXISTING SYSTEM LOCATION HAS BEEN OBTAINED FROM THE HEALTH DEPARTMENT AND THE PROPERTY OWNER.
6. THIS AREA DESIGNATES A PRIVATE SEWAGE AREA OF AT LEAST 10,000 SQUARE FEET AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENT OF ANY NATURE IN THIS AREA ARE RESTRICTED UNTIL PUBLIC SEWERAGE IS AVAILABLE. THIS AREA SHALL BECOME NULL AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE THE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWAGE AREA. RECORDATION OF A MODIFIED SEWAGE AREA SHALL NOT BE NECESSARY.
7. TOPOGRAPHY SHOWN IS AT TWO-FOOT CONTOUR INTERVALS (ONE-FOOT INTERVALS ARE REQUIRED FOR MOUND SYSTEMS AND SYSTEMS WITH PIPE DEPTH LESS THAN TWO FEET) AND HAS BEEN FIELD VERIFIED OR FIELD RUN.
8. ANY CHANGES TO A PRIVATE SEWAGE AREA SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
9. THE LOT SHOWN HEREIN COMPLIES WITH THE MINIMUM OWNERSHIP, WIDTH AND LOT AREA AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT.
10. THE 1ST REPLACEMENT SYSTEM WILL REQUIRE A PRESSURIZED DISTRIBUTION DESIGN AND A PUMP TANK AND PUMP WILL BE NEEDED AT TIME OF REPAIR.
11. A PROFESSIONAL SURVEYOR OR ENGINEER MUST MARK THE PROPERTY LINE WHEN THE TRENCHES ARE BEING INSTALLED IN AREAS WHERE THE PROPERTY LINE SETBACK HAS BEEN REDUCED.

	GROUND ELEVATION	INVERT ELEVATION	BOTTOM ELEVATION
INITIAL SYSTEM TRENCH A	628.5	624.5	619.5
INITIAL SYSTEM TRENCH B	628.0	624.0	619.0
1ST REPLACEMENT TRENCH A	627.9	623.9	618.9
1ST REPLACEMENT TRENCH B	627.0	623.0	618.0
2ND REPLACEMENT TRENCH A	626.4	623.4	618.4
2ND REPLACEMENT TRENCH B	625.7	622.7	617.7

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**DESIGNER:**  
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MICHAEL MARKAKIS  
936 RIDGEBROOK RD,  
SPARKS, MD 21152  
(732) 535-3605

**KCI TECHNOLOGIES**  
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FAX: (410) 316-7818

NO.	DATE	REVISIONS DESCRIPTION	BY

DATE: 12/09/2021  
SCALE: 1"=30'  
DESIGNED BY: MAM  
DRAWN BY: MAM

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**ON-SITE SEWAGE DISPOSAL SYSTEM DESIGN PLAN**  
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