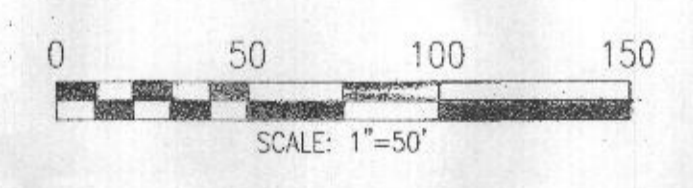
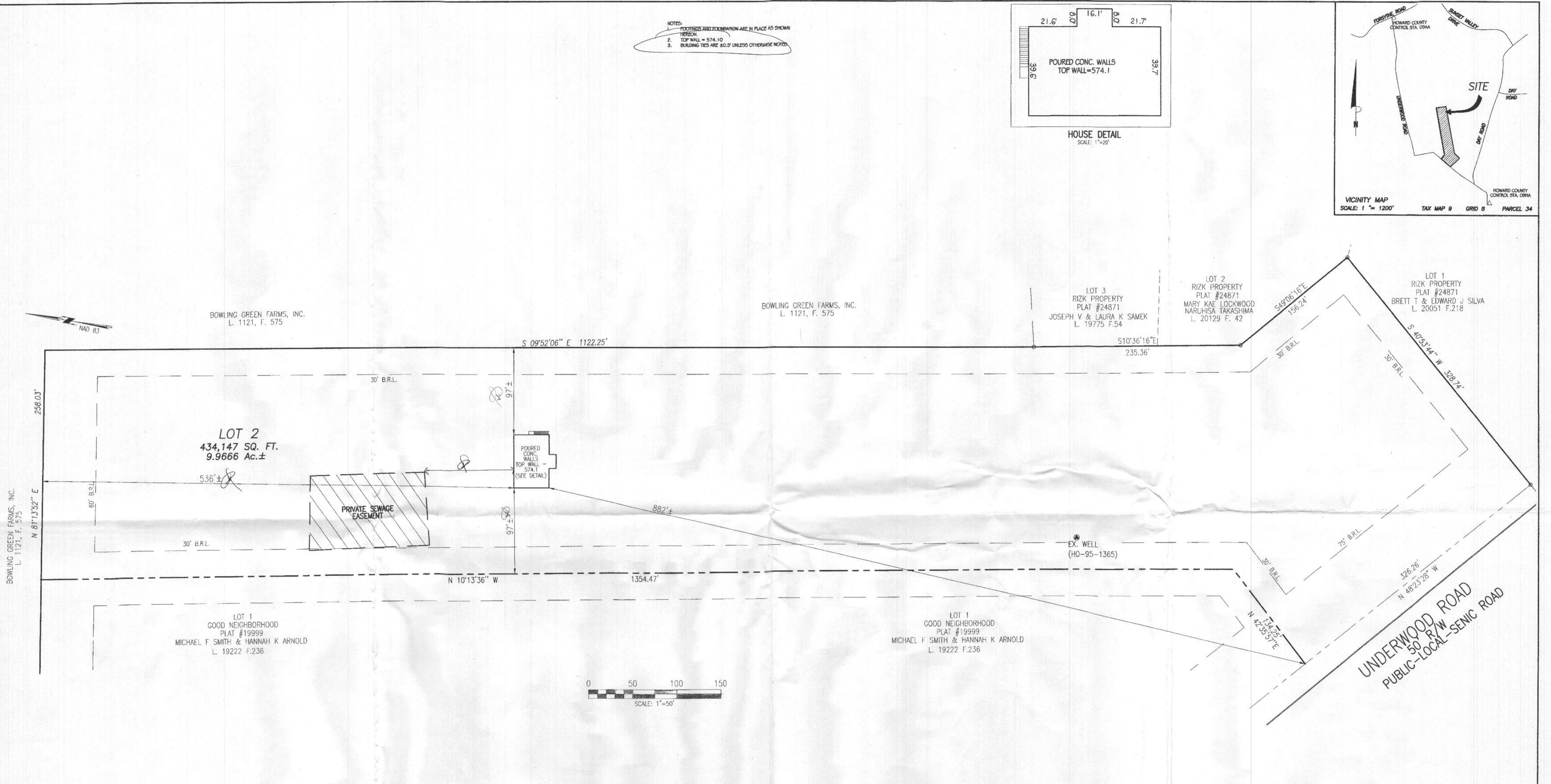
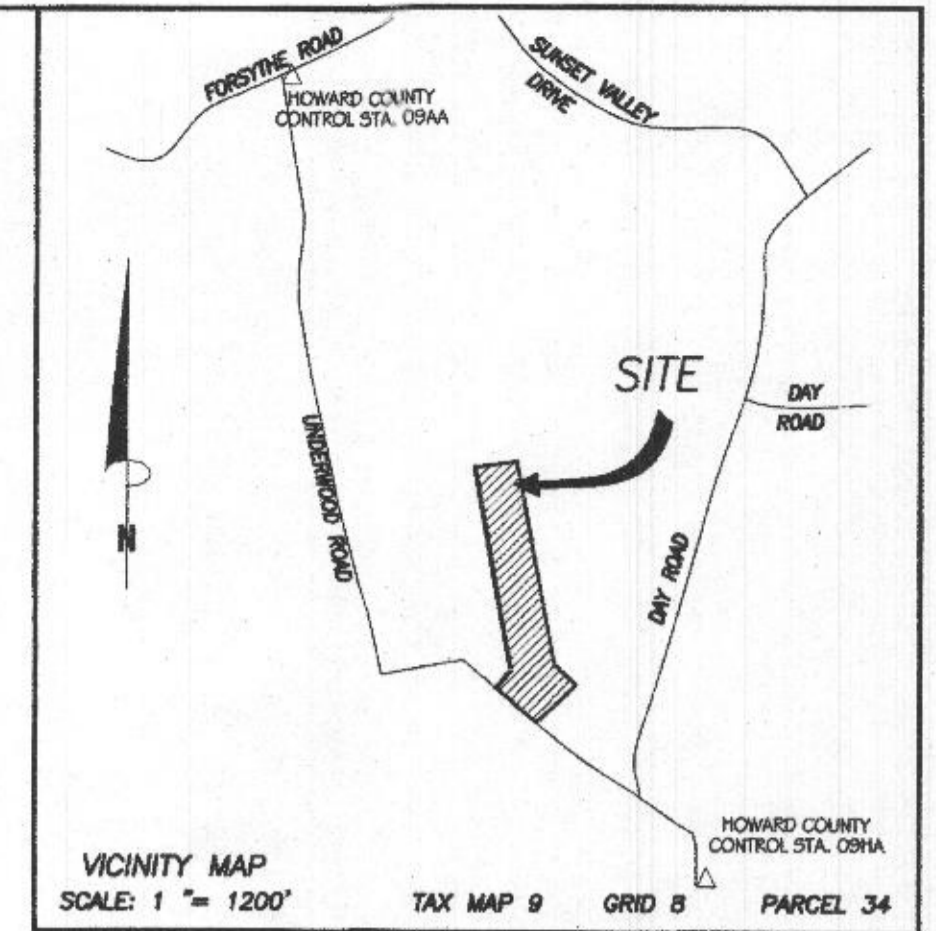
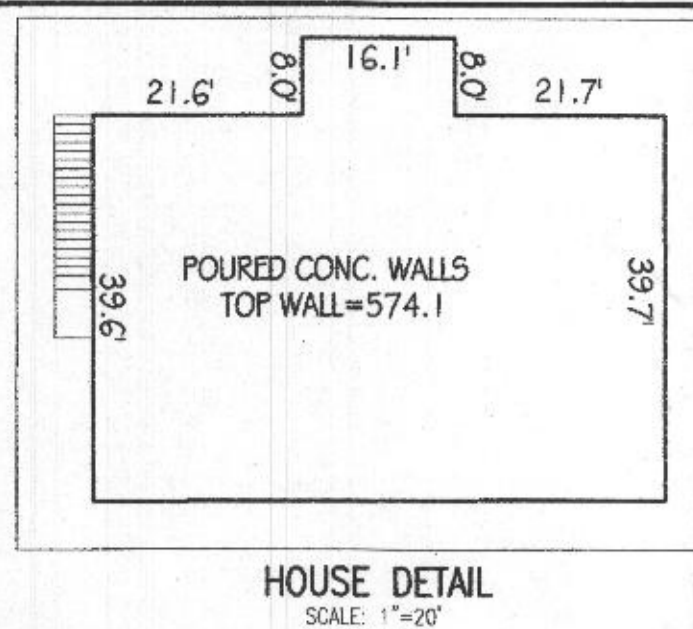


NOTES:
 1. FOOTINGS AND FOUNDATION ARE IN PLACE AS SHOWN HEREON.
 2. TOP WALL = 574.10
 3. BUILDING TIES ARE 20.5' UNLESS OTHERWISE NOTED.



APPROVED *[Signature]*
 04/21/2022



PROFESSIONAL CERTIFICATION:
 I CERTIFY THIS PLAT TO BE CORRECT; IT IS THE RESULT OF AN ACTUAL FIELD SURVEY, BASED ON DATA FOUND AMONG THE LAND RECORDS OF HOWARD COUNTY, MARYLAND, AS REFERENCED HEREON.
 I HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED BY ME OR UNDER MY RESPONSIBLE CHARGE, AND THAT I AM A DULY LICENSED PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 21512, EXPIRATION DATE AUGUST 4, 2025, IN ACCORDANCE WITH COMAR 09.13.06.12.
Jeffrey W. Elkins 9/29/2021
 For VanMar Associates, Inc. Jeffrey W. Elkins, Prof. Land Surveyor

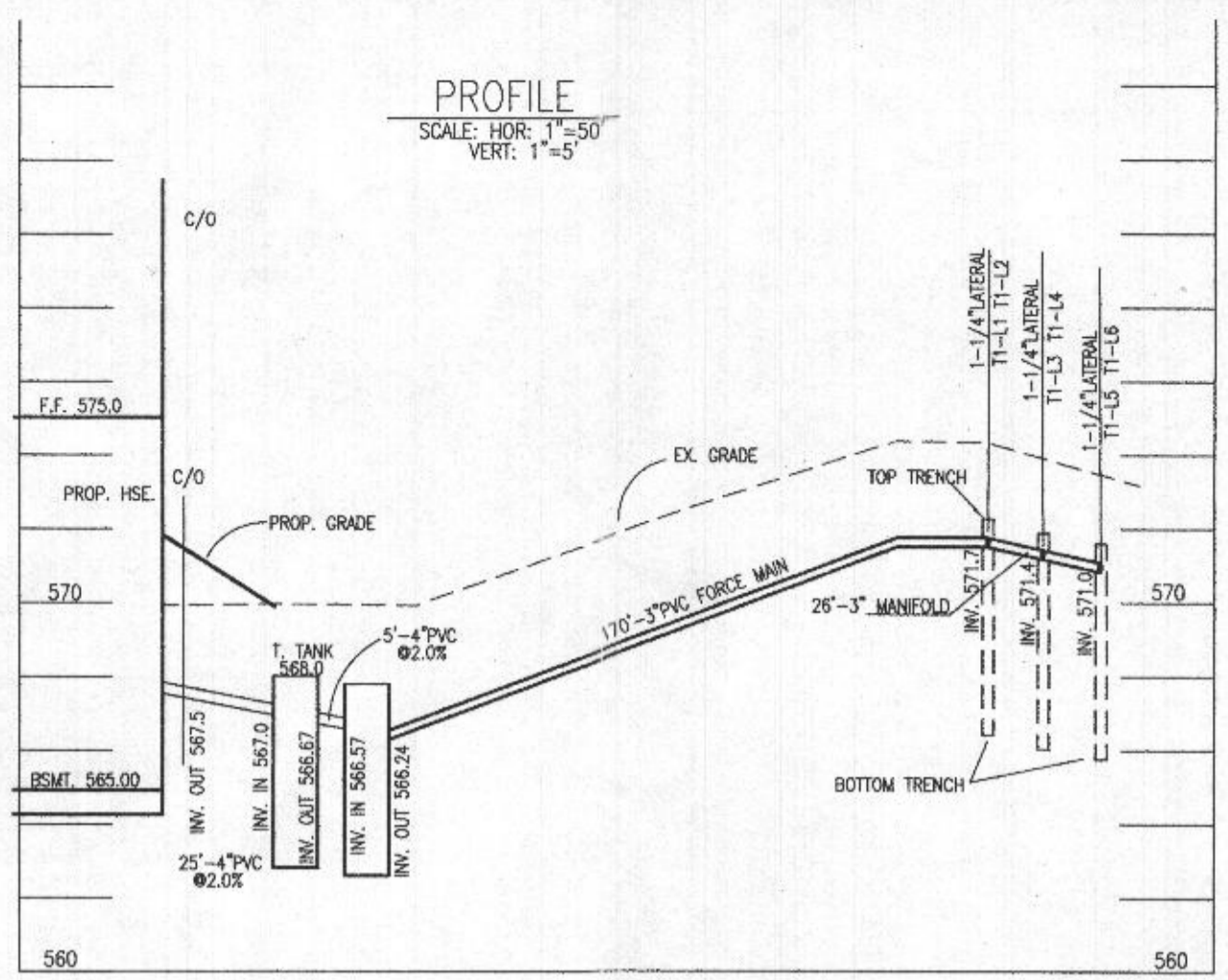
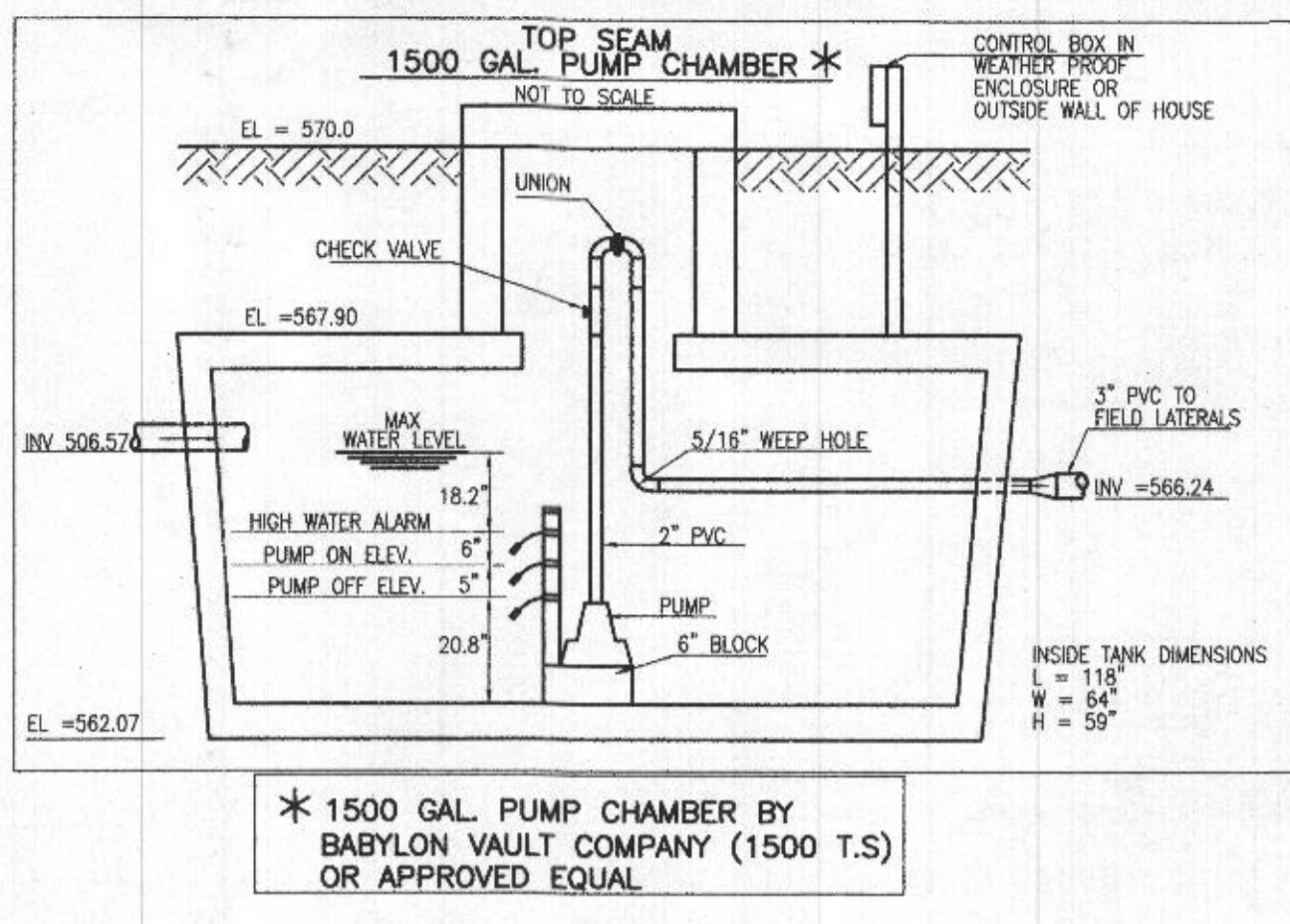
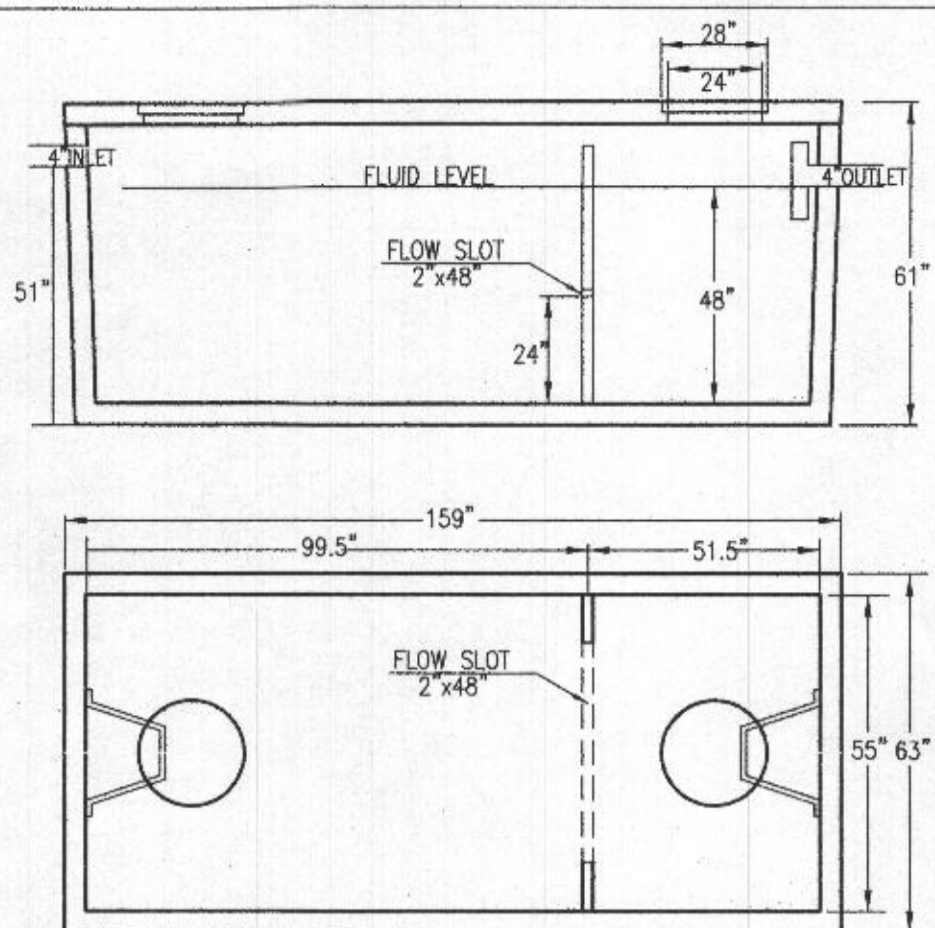
Township 10 N. R. 15 E.

WALL CHECK DRAWING
LOT 2
GOOD NEIGHBORHOOD
 PLAT #19999
 1431 UNDERWOOD ROAD

TAX MAP: 9	ELECTION DISTRICT: No. 3	SCALE: 1" = 50'
GRID NO: 8	HOWARD COUNTY, MARYLAND	DATE: SEPTEMBER, 2021
PARCEL NO: 34	EX. ZONING: RC-DEO	SHEET 1 OF 1

VANMAR ASSOCIATES, INC.
 Engineers Surveyors Planners
 310 South Main Street Mount Airy, Maryland 21771
 (301) 829-2890 (301) 831-5015 (410) 549-2751
 Fax (301) 831-5603 ©Copyright, Latest Date Shown

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SEPTIC SYSTEM TRENCH DESIGN

INITIAL NUMBER OF BEDROOMS = 4
 APPLICATION RATE = 0.6 GPD / sq.ft.
 DESIGN FLOW: 150 GPD X 4 BEDROOMS = 600 GPD
 600 GPD / 0.6 GPD/sq.ft. = 1000 sq.ft.
 1000 sq.ft. / 3 ft. WIDE TRENCH = 333 LF TRENCH

333 LF TRENCH X 0.625 REDUCTION CREDIT = 208 LF TRENCH
 TRENCH T1-1&2 EX. GRD=574.2 -INV. TRENCH=571.7 -B. TRENCH=566.2
 TRENCH T1-3&4 EX. GRD=573.9 -INV. TRENCH=571.4 -B. TRENCH=565.9
 TRENCH T1-5&6 EX. GRD=573.5 -INV. TRENCH=571.0 -B. TRENCH=565.5

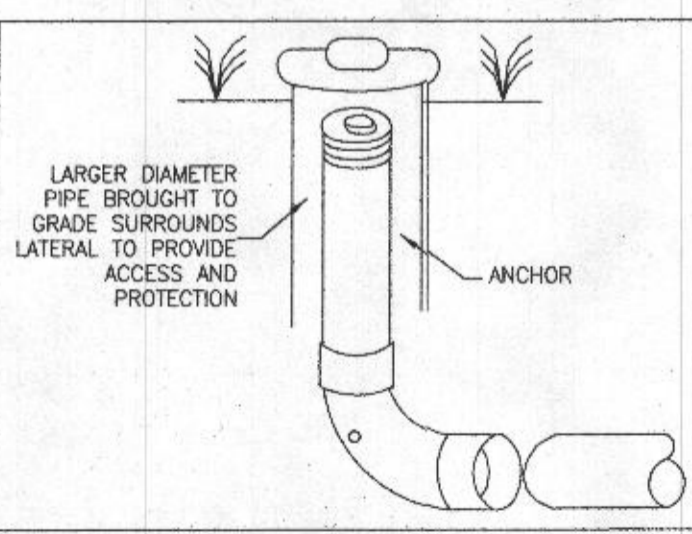
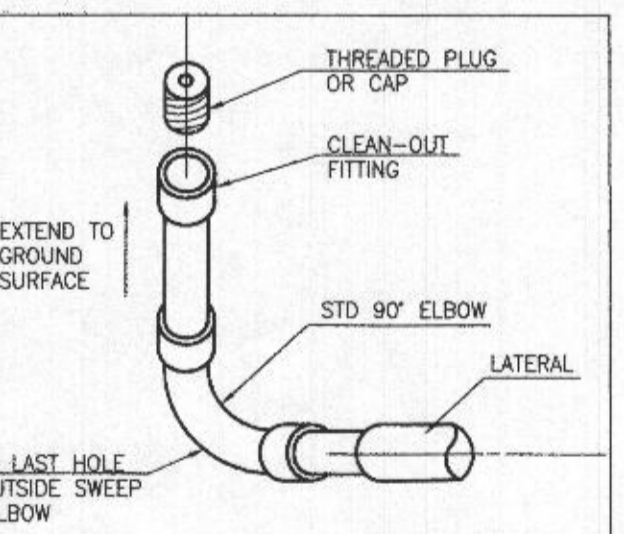
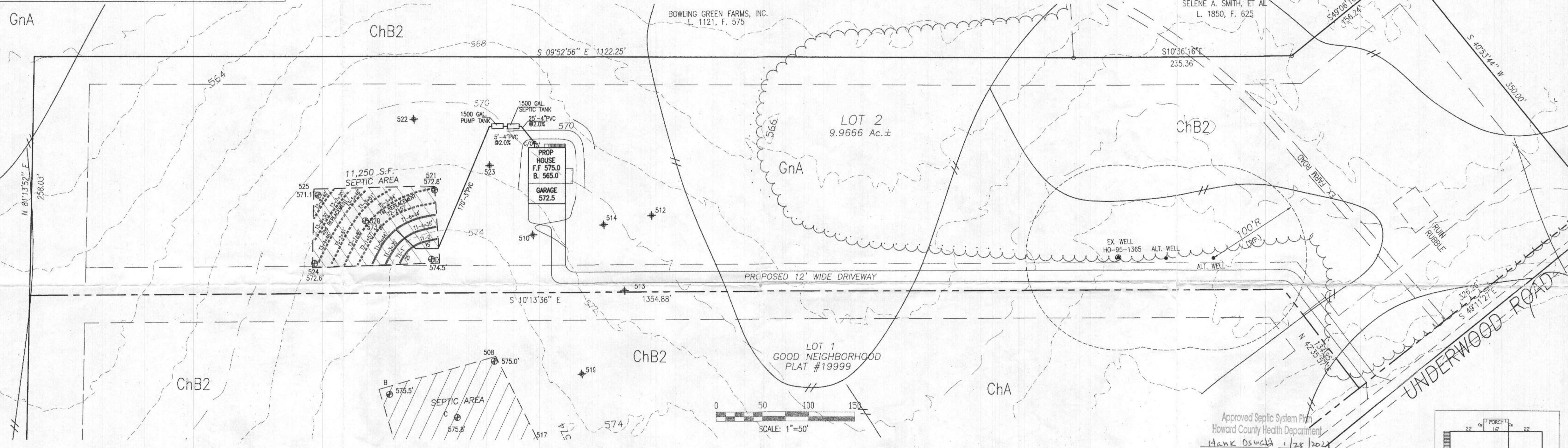
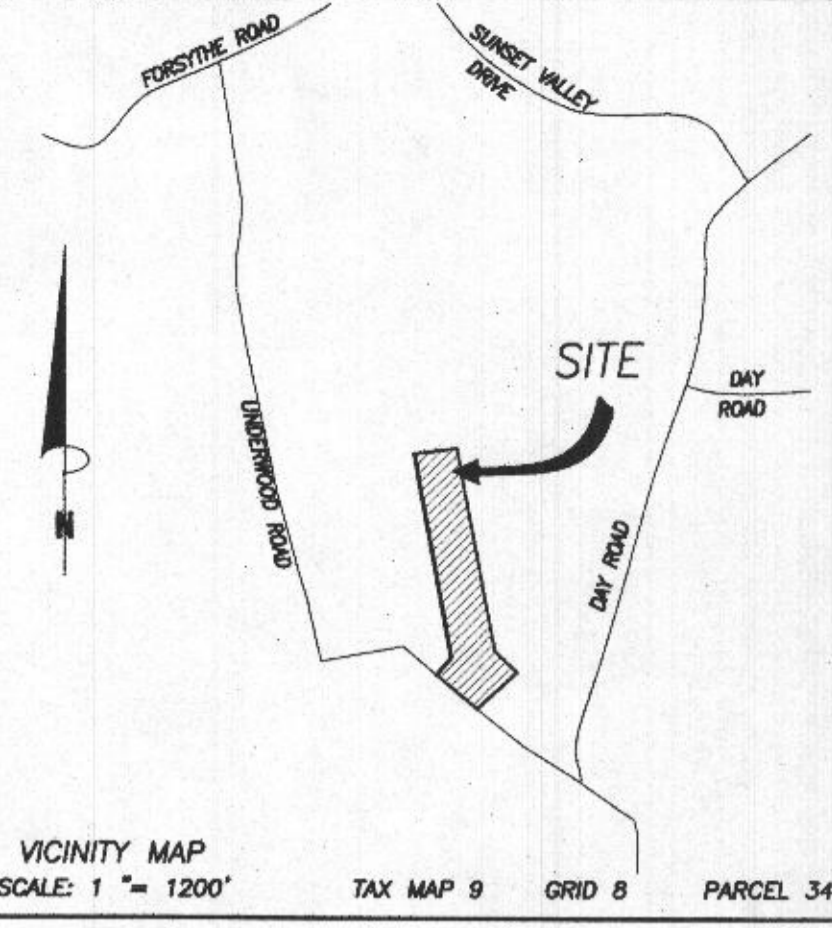
1st REPLACEMENT
 APPLICATION RATE = 0.6 GPD / sq.ft.
 DESIGN FLOW: 150 GPD X 4 BEDROOMS = 600 GPD
 600 GPD / 0.6 GPD/sq.ft. = 1000 sq.ft.
 1000 sq.ft. / 3 ft. WIDE TRENCH = 333 LF TRENCH

333 LF TRENCH X 0.625 REDUCTION CREDIT = 208 LF TRENCH
 TRENCH T2-1&2 EX. GRD=573.2 -INV. TRENCH=570.7 -B. TRENCH=565.2
 TRENCH T2-3 EX. GRD=572.9 -INV. TRENCH=570.4 -B. TRENCH=564.9

2nd REPLACEMENT
 APPLICATION RATE = 0.6 GPD / sq.ft.
 DESIGN FLOW: 150 GPD X 4 BEDROOMS = 600 GPD
 600 GPD / 0.6 GPD/sq.ft. = 1000 sq.ft.
 1000 sq.ft. / 3 ft. WIDE TRENCH = 333 LF TRENCH

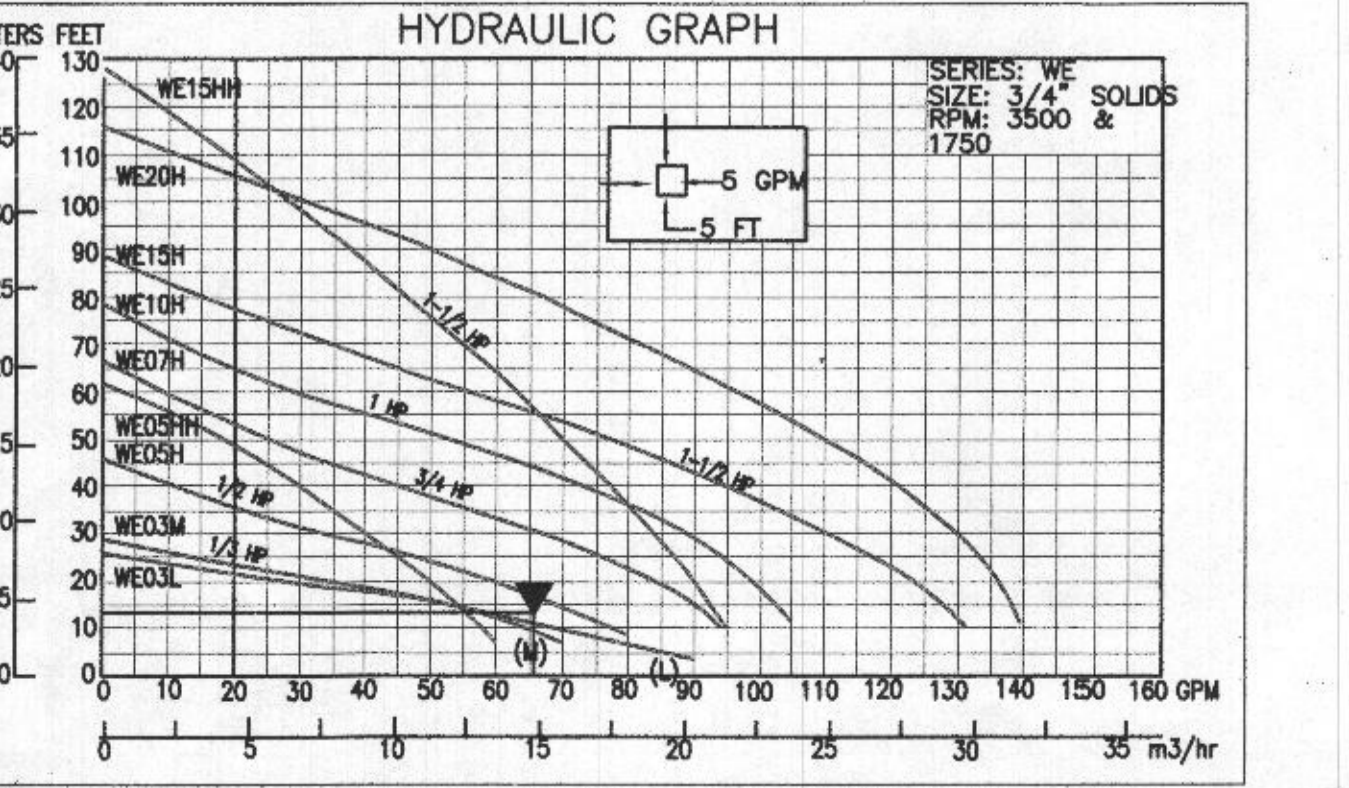
TRENCH T3-1 EX. GRD=572.9 -INV. TRENCH=570.4 -B. TRENCH=564.9
 TRENCH T3-2&3 EX. GRD=572.6 -INV. TRENCH=570.1 -B. TRENCH=564.6
 TRENCH T3-4&5 EX. GRD=572.3 -INV. TRENCH=569.8 -B. TRENCH=564.3
 TRENCH T3-6&7 EX. GRD=572.0 -INV. TRENCH=569.5 -B. TRENCH=564.0
 TRENCH T3-8 EX. GRD=571.4 -INV. TRENCH=568.9 -B. TRENCH=563.4

- GENERAL NOTES:**
- TOPOGRAPHY & PLANIMETRIC FEATURES SHOWN HEREON TAKEN FROM COPYRIGHTED GIS DATA FROM HOWARD COUNTY, SUPPLEMENTED WITH FIELD LOCATIONS BY VANMAR ASSOCIATES, INC. CONTOUR INTERVAL IS 2 FEET. VERTICAL DATUM IS NAVD88.
 - THE EXISTING WELLS SHOWN ON THIS PLAN HAVE BEEN FIELD LOCATED BY VANMAR ASSOCIATES OR TAKEN FROM AVAILABLE RECORDS AND ACCURATELY SHOWN.
 - ZONING DISTRICT: RC-DEO
 - THERE ARE NO STREAMS, PONDS, FLOODPLAINS OR WETLANDS ON THIS LOT.



LATERAL END TURN-UP
 USE ON LATERAL FARTHEST FROM PUMP AND ON LATERAL DIAGONALLY ACROSS BED NOT TO SCALE

4\"/>



INITIAL SEPTIC SYSTEM

TRENCH	GROUND ELEVATION	TOP OF STONE ELEV.	PIPE INVERT ELEV.	DEPTH OF STONE FROM GROUND	DEPTH OF TRENCH ELEV.	BEGINN. EFFECTIVE DEPTH	TRENCH WIDTH	TRENCH LENGTH
T1-1	574.2	571.70	571.43	2.50	5.50	566.2	3	25
T1-2	574.2	571.70	571.43	2.50	5.50	566.2	3	25
T1-3	573.9	571.40	571.13	2.50	5.50	565.9	3	35
T1-4	573.9	571.40	571.13	2.50	5.50	565.9	3	35
T1-5	573.5	571.00	570.73	2.50	5.50	565.5	3	44
T1-6	573.5	571.00	570.73	2.50	5.50	565.5	3	44

PUMP MANIFOLD SYSTEM

Trench	Invert Elevation	Trench Length (ft)	Lateral Length (ft)	Head (ft)	Orifice Dia. (in)	Orifice Flow Rate (gpm)	Orifice Spacing	Number of Flow Rate	Trench (gpm)/LF
T1-1	571.43	25	22.5	2	5/16	1.63	5.00	5	8.15
T1-2	571.43	25	22.5	2.00	5/16	1.63	5.00	5	8.15
T1-3	571.13	35	32.1	2.30	5/16	1.84	5.83	6	11.04
T1-4	571.13	35	32.1	2.30	5/16	1.84	5.83	6	11.04
T1-5	570.73	44	40.9	2.70	5/16	1.97	6.29	7	13.79
T1-6	570.73	44	40.9	2.70	5/16	1.97	6.29	7	13.79
TOTAL FLOW RATE									66.0

T2-1	570.43	57	57.0	2.00	5/16	1.63	5.70	10	16.30
T2-2	570.43	57	57.0	2.00	5/16	1.63	5.70	10	16.30
T2-3	570.13	94	94.0	2.30	5/16	1.75	6.27	15	26.25
TOTAL FLOW RATE									58.9

T3-1	570.13	40	37.1	2.00	5/16	1.63	5.71	7	11.41
T3-2	569.83	51	47.8	2.30	5/16	1.77	6.38	8	14.16
T3-3	569.83	51	47.8	2.30	5/16	1.77	6.38	8	14.16
T3-4	569.53	46	42.7	2.60	5/16	1.88	6.57	7	13.16
T3-5	569.53	46	42.7	2.60	5/16	1.88	6.57	7	13.16
T3-6	569.23	30	27.0	2.90	5/16	1.96	6.00	5	9.80
T3-7	569.23	30	27.0	2.90	5/16	1.96	6.00	5	9.80
T3-8	568.63	40	36.7	3.50	5/16	2.15	6.67	6	12.90
TOTAL FLOW RATE									98.6

LOW PRESSURE DOSE SYSTEM DESIGN CRITERIA

DOSE VOLUME

- MINIMUM DOSE = (5 X LATERAL PIPE VOLUME) + (FORCE MAIN & MANIFOLD) = (5 X 13.55) + 75.26 = 143 GALLONS
- USE 143 GALLONS DOSE (2.17 MIN RUN TIME X 66 GPM FLOW)

MIN. DOSE 1/6 DESIGN FLOW = 1/6 (600 gpd) = 100 gpd

PIPE VOLUMES

- 196 LF (3\"/>

ERIGION LOSS (EL)

TOTAL EQUIVALENT FEET OF FITTINGS = 52.3 FEET
 LINEAR FEET OF 1.25\"/>

FITTINGS

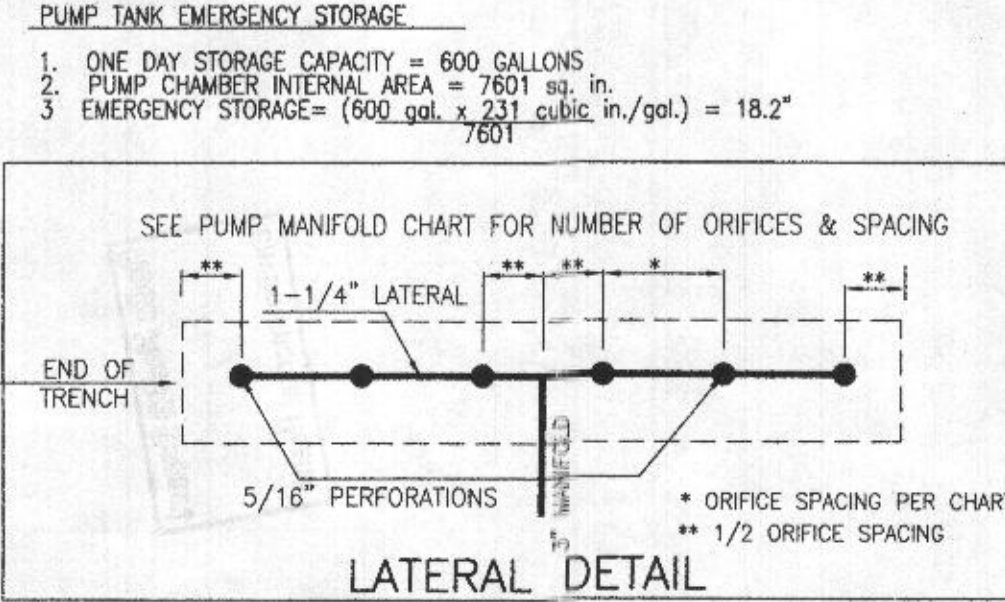
Fit. #	Factor	FL
90°	7	1
45°	3	1
tee	2	1
ball valve disconnect	2	1
distal end	2	1

TOTAL DYNAMIC HEAD

PIPE+FITTINGS = 2.10 FT OF FRICTION HEAD
 DISTAL HEAD = 2.00 FT
 STATIC HEAD = 8.86 FT
TOTAL DYNAMIC HEAD = 12.96 FT

PUMP TANK EMERGENCY STORAGE

- ONE DAY STORAGE CAPACITY = 600 GALLONS
- PUMP CHAMBER INTERNAL AREA = 7601 sq. in.
- EMERGENCY STORAGE = (600 gal. x 2.31 cubic in./gal.) = 1386 cu. in.



LOW PRESSURE DOSE SYSTEM SPECIFICATIONS

- CONTROL PANEL IS REQUIRED TO BE INSTALLED TO OPERATE THE PUMP. PANEL MUST BE IN NEMA 4X ENCLOSURE MOUNTED AT LEAST 30 INCHES ABOVE GROUND SURFACE. PANELS SHOULD BE NO FURTHER THAN 50 FT FROM THE PUMP STATION AND IN THE LINE OF SITE. CONTROL PANEL CAN BE MOUNTED AT THE PUMP STATION, AN EVENT COUNTER OR ELAPSED TIME INDICATOR TO THE PANEL SHALL BE INCLUDED.
- A SUBMERSIBLE PUMP TO REMOVE 66.0 GPM AGAINST 13 TDH TO BE PROVIDED. PUMP TO BE A GOULD'S MODEL 3885-WEDSH OR EQUAL.
- A TEST OF THE PUMP SYSTEM AND DISTRIBUTION PIPING IS REQUIRED PRIOR TO COVERING THE SYSTEM.
- THE HIGH WATER ALARM IS TO BE ON A SEPARATE CIRCUIT ALARM TO BE LOCATED IN BLDG.
- ALL PIPE SHALL BE PVC SCHEDULE 40 WITH PRESSURE RATED FITTINGS.
- ALL RISERS MUST TERMINATE A MINIMUM OF 6\"/>

DISTRIBUTION SYSTEM NOTES:

- END FEED DISTRIBUTION SYSTEM
- NUMBER OF LATERALS = 3
- LENGTH OF LATERALS = (SEE CHART)
- DIAMETER OF LATERALS = (1-1/4\"/>

HOUSE DETAIL

SITE PLAN NOTES:

- 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.
- MAXIMUM COVER OVER THE TANK IS 3 FEET. GREATER DEPTH WILL REQUIRE A HEAVY LOAD BEARING TANK.
- ELECTRICAL WORK FOR THE INSTALLATION MUST BE PERFORMED BY A LICENSED ELECTRICIAN.
- THE WELL (TAG #HO-95-1365) HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN.
- 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.

PROFESSIONAL CERTIFICATION

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. 18417, Expiration Date: 9-18-22.

ON-SITE SEWAGE DISPOSAL SYSTEM PLAN

GOOD NEIGHBORHOOD

LOT 2

1431 UNDERWOOD ROAD
 PLAT #19999

TAX MAP: 9
 GRID NO: 8
 PARCEL NO: 34

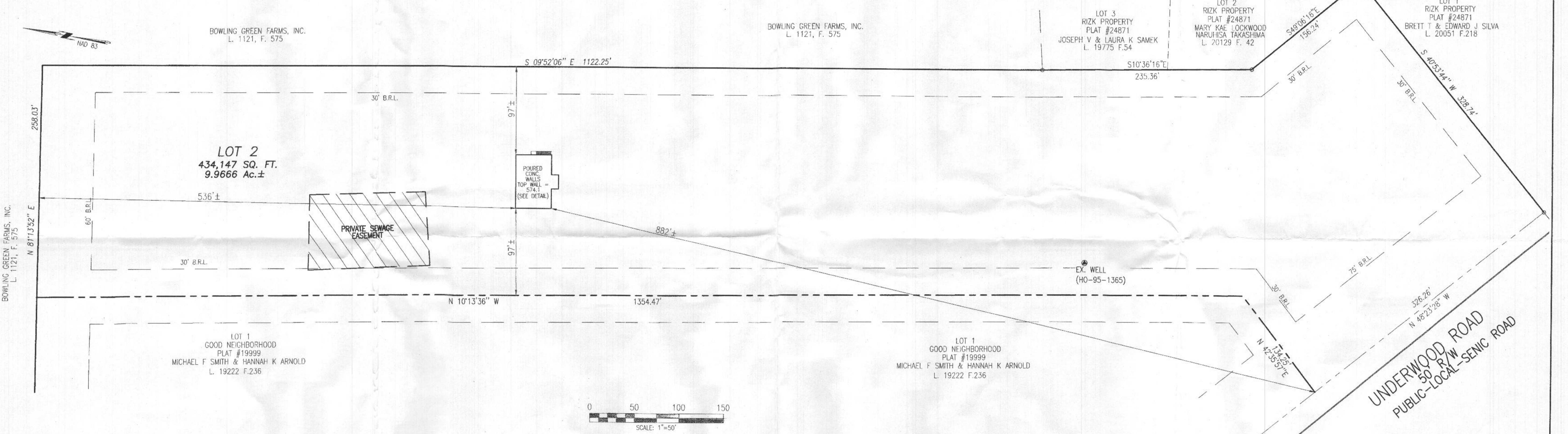
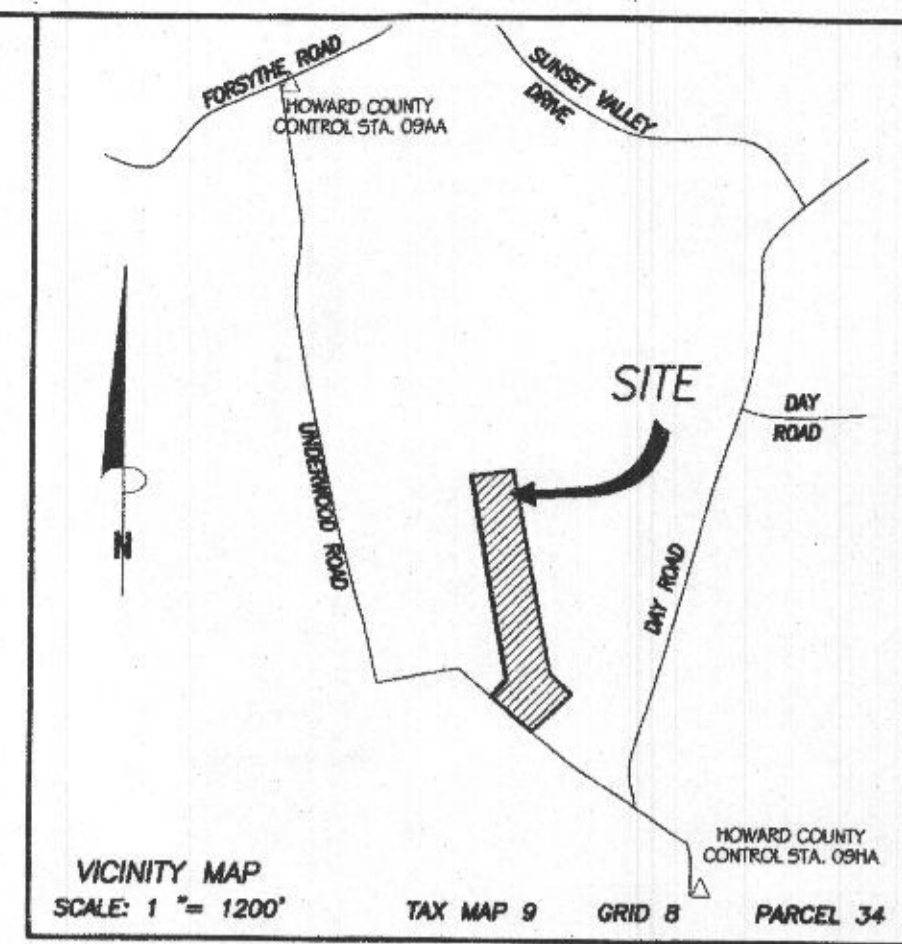
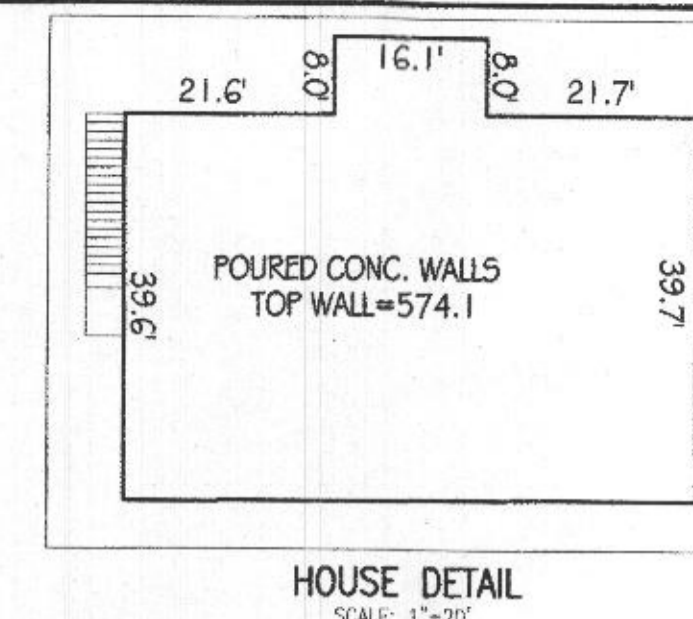
ELECTION DISTRICT: No. 3
 HOWARD COUNTY, MARYLAND
 EX. ZONING: RC-DEO

SCALE: AS SHOWN
 DATE: DECEMBER 2020
 SHEET 1 OF 1

VANMAR ASSOCIATES, INC.
 Engineers Surveyors Planners
 310 South Main Street Mount Airy, Maryland 21771
 (301) 829-2890 (301) 831-5015 (410) 549-2751
 Fax (301) 831-5603 ©Copyright, Latest Date Shown

C:\Users\dstevens\Documents\Good Neighborhood\Lot 2\Good Neighborhood-4-2-2021.dwg 1/22/2021 10:51:19 AM

NOTES:
 1. FOOTINGS AND FOUNDATION ARE IN PLACE AS SHOWN HEREON.
 2. TOP WALL = 574.10
 3. BUILDING TIES ARE 20.0' UNLESS OTHERWISE NOTED.



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 Jeffrey W. Elkins 9/29/2021
 For VanMar Associates, Inc.
 Jeffrey W. Elkins, Prof. Land Surveyor

WALL CHECK DRAWING
LOT 2
GOOD NEIGHBORHOOD
 PLAT #19999
 1431 UNDERWOOD ROAD

TAX MAP: 9	ELECTION DISTRICT: No. 3	SCALE: 1" = 50'
GRID NO: 8	HOWARD COUNTY, MARYLAND	DATE: SEPTEMBER, 2021
PARCEL NO: 34	EX. ZONING: RC-DEO	SHEET 1 OF 1

VANMAR ASSOCIATES, INC.
 Engineers Surveyors Planners
 310 South Main Street Mount Airy, Maryland 21771
 (301) 828-2890 (301) 831-5015 (410) 549-2751
 Fox (301) 831-5603 ©Copyright, Latest Date Shown

Q:\AutoDesk\dwg\2021\Good Neighborhood, Lot 2\dwg\Good Neighborhood, Lot 2.dwg, 9/29/2021 11:28:26 AM, L1