

Bureau of Environmental Health
 7178 Gateway Drive Columbia, MD 21046
 (410) 313-2640 Fax (410) 313-2648
 TDD (410) 313-2323 Toll Free 1-866-313-6300
 website: www.hchealth.org

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

RECEIPT DATE: 5/5/14 **ONSITE SEWAGE DISPOSAL SYSTEM** P 546348

INSTALLATION APPROVAL DATE: 6/18/14 **PERMIT** A _____
CONSTRUCTION

PROPERTY ADDRESS: 4253 Linthicum Road

SUBDIVISION: Levine Property LOT: 2 TAX ID: _____

CONTRACTOR: Hatfields Equipment EMAIL: ken@hatfieldsequipment.com

CONTRACTOR ADDRESS: P.O. Box 519, Annapolis Junction, MD 20701 PHONE: 301-429-4289

PROPERTY OWNER: Pamela and Eric Columbel EMAIL: _____

OWNER ADDRESS: 10169 Cape Ann Drive, Columbia, MD 21046 PHONE: 240-401-6534

BAT UNIT MODEL: Norweco Singlair TNT BAT UNIT SIZE: 600 GPD

PUMP CHAMBER CAPACITY (GALLONS): 1500 PUMP SIZE: _____

NUMBER OF BEDROOMS: 4 HOUSE SQ. FT. 4414 APPLICATION RATE: 0.8

DISTRIBUTION SYSTEM: GRAVITY FED LOW PRESSURE DOSED

TRENCHES:	LINEAR FEET REQUIRED: <u>160</u>	INLET DEPTH: <u>2.5</u>
	TRENCH WIDTH: <u>2</u>	MAXIMUM BOTTOM DEPTH: <u>6</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>9</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>2.5</u>
LOCATION:	PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND BAT UNIT LOCATION MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.	
NOTES:	Set BAT unit and pump tank per plan. Install 2x 80' trenches on contour with LPD per plan. By design, pump is Goulds Model 3885-WE-03M, or equivalent.	

ISSUED BY: Robert Bricker ISSUE DATE: 5/5/14 EXPIRATION DATE: 5/5/15

- 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 SEPTIC TANKS REQUIRED
- NOTE: ALL PARTS OF SEPTIC SYSTEM SHALL BE AT LEAST 100 FEET DOWNGRAIENT 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

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.

NOT TO SCALE

See As-Built Drawing
On Separate Sheet

ROAD

TRENCH/DRAINFIELD DATA		
WIDTH	INLET	BOTTOM
2'	2.5'	6'
NUMBER OF TRENCHES		2
TOTAL LENGTH		161'
ABSORPTION AREA		564
DISTRIBUTION BOX LEVEL		N/A
DISTRIBUTION BOX BAFFLE		N/A
DISTRIBUTION BOX PORT		N/A

SEPTIC TANK DATA	
SEPTIC TANK 1 LEVEL	Yes
CAPACITY	1300 GAL
SEAM LOC	Top
TANK LID DEPTH	0.5'-2.5'
BAFFLES	N/A
BAFFLE FILTER	No
MANHOLE LOC	Three
6" PORT LOC	None
WATERTIGHT TEST	No
SEPTIC TANK 2 LEVEL	Yes
CAPACITY	1500 GAL
SEAM LOC	Top
TANK LID DEPTH	1'-3'
BAFFLES	None
BAFFLE FILTER	?
MANHOLE LOC	Front+Rear
6" PORT LOC	None
WATERTIGHT TEST	No

Norweco
TNT 600

PRE-CONSTRUCTION 5/28/2014 Install system similarly to what is shown on the B.P. plan. Install a valve for each lateral to adjust head pressures. (BB)

5/29/2014 Tanks set. House connection made. (BB)

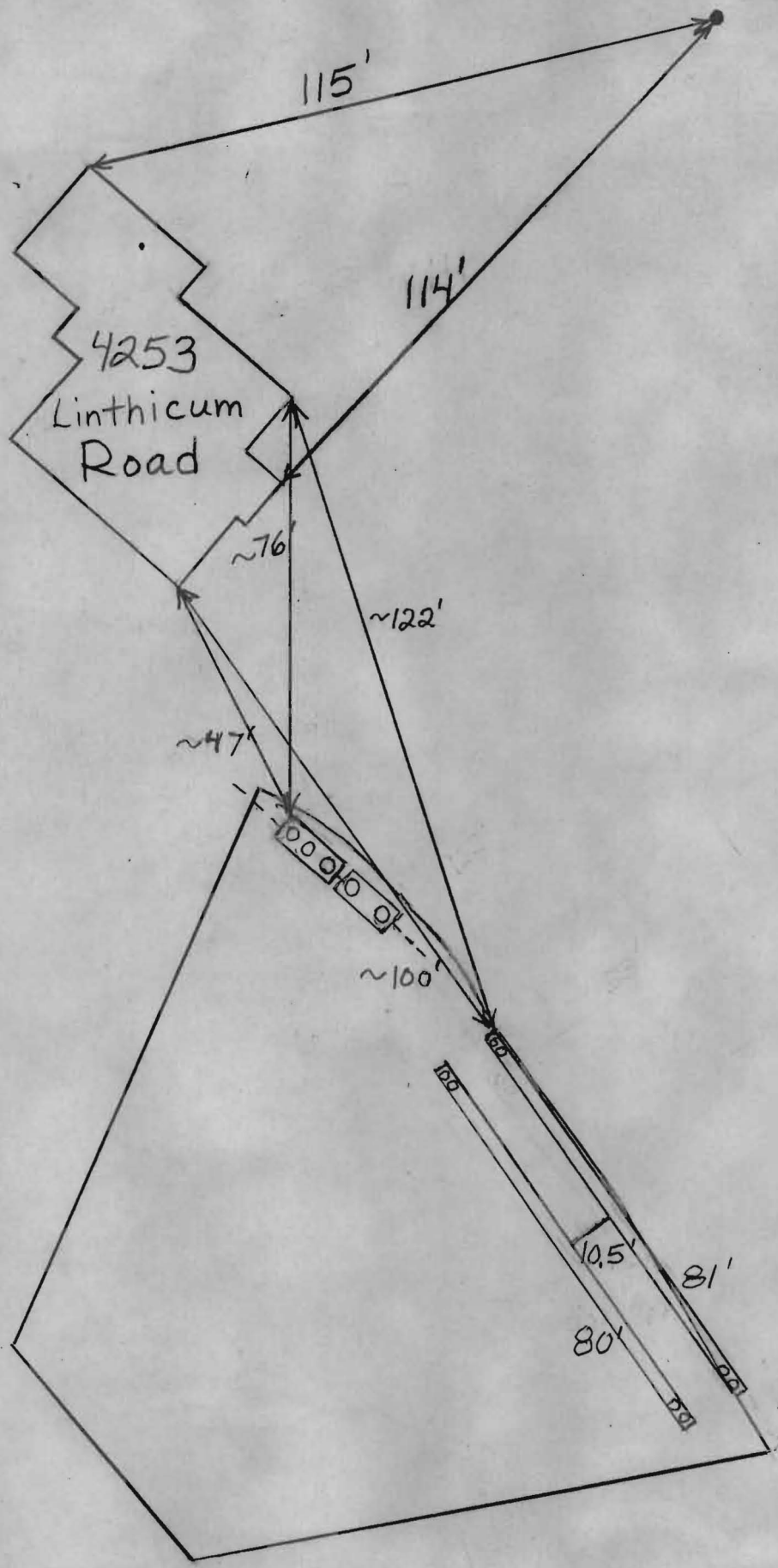
5/30/2014 System finished except for pump and alarm test and installer certification. (BB)

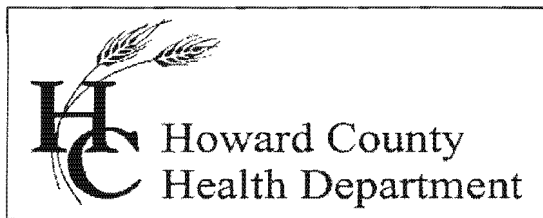
6/17/14 Test of pump and alarm ok. Alarm not on separate circuit. Need to fix. GFCI dedicated outlet under panel. Hook alarm to H's outlet. Need confirmation from contractor (KW) 6/18/14 Confirmation received from contractor. Alarm was connected to dedicated outlet and labeled.

FINAL INSPECTOR R. Wolf DATE OF APPROVAL 6/18/14

30±

HO-95-1686





Bureau of Environmental Health

8930 Stanford Blvd., Columbia, MD 21045
Main: 410-313-6300 | Fax: 410-313-6303
TDD 410-313-2323 | Toll Free 1-866-313-6300
www.hchealth.org

Facebook: www.facebook.com/hocohealth
Twitter: HowardCoHealthDep

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

April 14, 2014

TO: Linda Alexander
CLSI, Inc.

FROM: Robert Bricker
Environmental Sanitarian II

RE: **4253 Linthicum Road, BAT Site Plan and LPD design: comment**

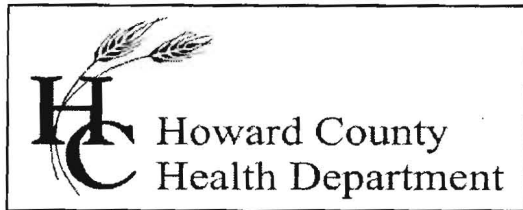
The BAT unit tank must be re-located so that is at least 25 feet from the SWM facility (re: 25 feet from the Level Spreader). Also the trench and lateral lengths need to be changed to make the installation more sensible and easier to accomplish. Edit the calculations accordingly. Additional edits are needed in two of the detail drawings.

Specific comments follow:

1. The BAT unit location is not approvable. Propose the Bat unit in the near corner of the SDA and illustrate the 1500-gallon pump chamber 1-2 feet after the BAT unit.
2. In the Septic Line Profile, where the SHC is laid on grade exceeding 2.5 percent, illustrate a grade of 1% to 2.5% for the 10 feet prior to BAT unit inlet.
3. Edit the Trench Detail as follows:
 - Label Trench 1 with a total length of 76 feet
 - Label the ½ interval at each end of Trench 1 as 2 feet
 - Label Trench 2 with a total length of 76.5 feet
 - Label the ½ interval at each end of Trench 2 as 2.25 feet.
4. As indicated in #3 above, edit the Lateral Detail as follows,
 - For Trench 1 there are 18 (5/16") perforations, at 4-foot intervals, and
 - For Trench 2 there are 16 (5/16") perforations, at 4.5-foot intervals.
 - Label the total length of Lateral 1 as 72 feet, and
 - Label the total length of Lateral 2 as 72 feet
5. Include in the Design Head calculation an Operating Head of 2 feet (for the 2-foot tall turn-up at each end of each lateral).

6. Edit the calculations per the changes implemented in #3, #4, and #5 above.
 - The Force Main will be about 12 feet shorter.
 - In addition to the standard tee, please indicate that there are two 90-degree ells in the force main (beginning and end), and
 - there are about 7 couplings (given that 10-foot pipe lengths are used), each with friction loss about 3 feet/100 feet.
 - The 18 perforations in laterals in Trench 1 each have discharge rate of 1.63 gpm, and the 16 perforations in laterals in Trench 2 each have a discharge rate of 1.905 gpm.
 - Therefore the total discharge for the system is about 59.82 gpm.
 - The Pressure Head difference between Lateral 1 and Lateral 2 is Operating Head plus Elevation Difference; $2' + 0.75' = 2.75'$.
7. In the detail for the 1500-gallon Pump Chamber,
 - Label the distance between the Cut On and Cut Off the same as indicated in your calculation for 120-gallon dose (i.e., 3.67").
 - If you must shift the elevation of one of the floats, MOVE THE CUT OFF FLOAT down, and edit the distance from bottom of chamber.
 - Be advised that the outlet is supposed to be sealed so the Max. Water Level in the tank should be the same as the Inlet, "572.00". You may delete the label for Max. Water Level.
8. In detail for Typical Turn-Up,
 - Illustrate the last perforation at the outer arc of the ell (i.e., $\frac{1}{2}$ -interval from the trench end), and at the same elevation as the crown of the lateral.
 - Label the height from the Invert of the lateral pipe to the cap of the Turn-Up as 2 feet.
9. Enlarge the Pump Curve graphic a little more. It's very 'grainy' and I still need a magnifier to read the pump model labels.

Re-submit two (2) copies of the revised plan directly to the Bureau of Environmental Health, to my attention.



Bureau of Environmental Health

8930 Stanford Blvd., Columbia, MD 21045
Main: 410-313-6300 | Fax: 410-313-6303
TDD 410-313-2323 | Toll Free 1-866-313-6300
www.hchealth.org
Facebook: www.facebook.com/hocohealth
Twitter: HowardCoHealthDep

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

March 27, 2014

TO: Linda Alexander
CLSI, Inc.

FROM: Robert Bricker
Environmental Sanitarian II

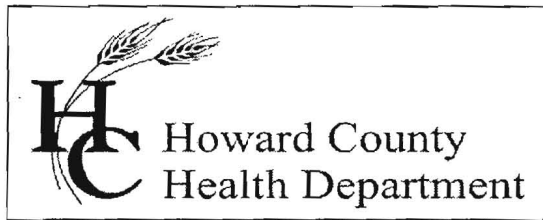
RE: **4253 Linthicum Road, BAT Site Plan and LPD design: comment**

Amend plan as follows.

1. The BAT unit location is not approvable.
 - The setback to the residence foundation is 20 feet and
 - the setback to the level spreader is 25 feet.
 - BAT unit and Pump Chamber location near, or in, SDA is OK.
2. The Trench Detail is correct, though it may be effected by correction of the Lateral Detail. The half-perforation space inserted between the last two perforations in each lateral is incorrect.
 - Eliminating the half-perforation interval is going to result in changes in perforation spacing and lateral length, and/or
 - number of perforations and
 - Discharge volume and rate of discharge, and
 - dose
3. After correcting the BAT/Pump Chamber locations and Trench Detail (i.e. lateral design), correct
 - the Pressure Distribution table
 - all calculations
 - system profile
4. In the Septic Line Profile, where the SHC or the effluent lines are laid on grade exceeding 2.5 percent, illustrate a grade of 1% to 2.5% for 10 feet prior to each tank's inlet.
5. Provide a detail showing a turn-up (an ell) from the Force Main to the Manifold tee.
6. Provide a detail illustrating the joining of manifold-to-laterals.
7. In the detail titled Section A-A, insert the nomenclatures for the Make and Model of the system being represented in the profile.

8. In detail for 1500-Gallon Pump Chamber, correct the label for the inlet pipe as it is 4-inch PVC.
9. Add a detail top view with dimensions labels for the Pump Chamber
10. The Observation Pipe Detail is incomplete.
 - While the enclosure of the turn-up at the end of the lateral is correct,
 - There is an observation pipe that extends to the bottom of the trench.
The observation pipe has
 - May be 3-inch or 4-inch diameter, and
 - Has three rows of perforations approx. 5/8-inch diameter.
 - An observation pipe is located at each trench end.
11. The Pump Curve graphic is illegible for many persons. Enlarge it so that the pump model designations can be read without a magnifying lens.
12. Similarly, the parameters table for the Goulds Pumps WE Series is barely legible. Enlarge it at least a little bit.
13. If a valve is desired in the design of the pressurized distribution system, a ball valve should be placed in a 'valve box' at the end of the force main.

Re-submit two (2) copies of the revised plan directly to the Bureau of Environmental Health, to my attention.



Bureau of Environmental Health

8930 Stanford Blvd., Columbia, MD 21045
Main: 410-313-6300 | Fax: 410-313-6303
TDD 410-313-2323 | Toll Free 1-866-313-6300
www.hchealth.org
Facebook: www.facebook.com/hocohealth
Twitter: HowardCoHealthDep

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

November 19, 2013

TO: Linda Alexander
CLSI, Inc.

FROM: Robert Bricker
Environmental Sanitarian II

RE: **4253 Linthicum Road, BAT Site Plan, November 19, 2013: comment**

Amend Site Plan with details and data for LPD system.

1. The trench locations are 'OK', however the Distribution box will be removed from Plan View and from the Hydro-profile.
2. As the BAT unit has a gravity drain, a pump tank will be needed: minimum capacity is 1000-gallon tank for a 4-bedroom house. Include the pump tank in the Plan View and in the Hydro-profile.
3. Illustrate Pump Tank Side View with float tree. Elevations for Tank Invert, Pump, Pump OFF, Pump ON, High Water Alarm, and Pump Tank Invert IN are essential, as is the invert of the force main at it's highest location coming out of the tank. Show the weep hole in the force main inside the tank.
4. Lateral design is needed for each trench, including lateral length, number of perforations, and perforation spacing.
5. A detail is needed for the manifold. (The force main runs downhill so it will need to turn down to the manifold.) Label where reduction of pipe diameter is achieved with reducers.
6. A Detail is needed for illustration of spacing from beginning of lateral to first perforation, and then the perforation spacing to the second perforation, etc.
7. A Detail is needed for trench end illustrating spacing to last perforation, location of last perforation, distance to end of trench, and position and design of observation pipe.
8. Total Dynamic Head calculations are needed.
9. Selection of a pump and illustration of the pump curve are needed.
10. If a valve is desired in the design of the pressurized distribution system, a ball valve should be placed in a 'valve box' at the end of the force main.

Re-submit two (2) copies of the revised plan directly to the Bureau of Environmental Health, to my attention.

Bricker, Robert

From: Bricker, Robert
Sent: Tuesday, March 18, 2014 2:17 PM
To: 'Pamela Colombel'; kvnslezak@yahoo.com; 'Linda D. Alexander'
Subject: BAT Site Plan not yet approved

A septic system contractor attempted to obtain an installation permit for 4253 Linthicum Road today. The permit is denied at this time because there is not an BAT Site Plan that contains all of the required information for a low-pressure distribution (LPD) system.

The last communication regarding this project was sent on November 19, 2013 (attached WORD file). Since that time requirements for this type of system have been slightly adjusted. The comments below are the same as the comments submitted in November 2013 with exception of the following: all pump tanks must now be 1500 gallons, and the trenches must be labeled with the elevations of their respective distribution pipes (a requirement before, but not enforced as stringently).

Robert Bricker, REHS/R.S., L.E.H.S.

Amend Site Plan with details and data for LPD system.

- 1. The trench locations are 'OK', however the Distribution box will be removed from Plan View and from the Hydro-profile.**
- 2. Label the trenches with their respective Invert Elevations for the Distribution Pipe.**
- 3. As the BAT unit has a gravity drain, a pump tank will be needed: minimum capacity is 1500-gallon tank. Include the pump tank in the Plan View and in the Hydro-profile.**
- 4. Illustrate Pump Tank Side View with float tree. Elevations for Tank Invert, Pump, Pump OFF, Pump ON, High Water Alarm, and Pump Tank Invert IN are essential, as is the invert of the force main at it's highest location coming out of the tank. Show the weep hole in the force main inside the tank.**
- 5. Lateral design is needed for each trench, including lateral length, number of perforations, and perforation spacing.**
- 6. A detail is needed for the manifold. (The force main runs downhill so it will need to turn down to the manifold.) Label where reduction of pipe diameter is achieved with reducers.**
- 7. A Detail is needed for illustration of spacing from beginning of lateral to first perforation, and then the perforation spacing to the second perforation, etc.**
- 8. A Detail is needed for trench end illustrating spacing to last perforation, location of last perforation, distance to end of trench, and position and design of observation pipe.**
- 9. Total Dynamic Head calculations are needed.**
- 10. Selection of a pump and illustration of the pump curve are needed.**
- 11. If a valve is desired in the design of the pressurized distribution system, a ball valve should be placed in a 'valve box' at the end of the force main.**

Re-submit two (2) copies of the revised plan directly to the Bureau of Environmental Health, to my attention.

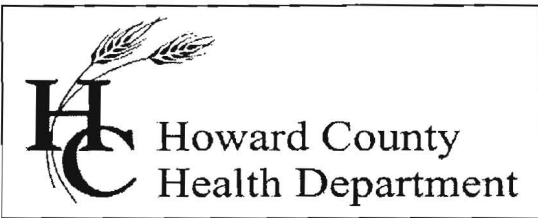
ROBERT BRICKER, CPSS, REHS/RS
ENVIRONMENTAL HEALTH SPECIALIST
DEVELOPMENT COORDINATION SECTION, WELL AND SEPTIC PROGRAM
HOWARD COUNTY BUREAU OF ENVIRONMENTAL HEALTH

8930 STANFORD BOULEVARD
COLUMBIA, MD 21045

410-313-2691; fax, 410-313-2648
rbricker@howardcountymd.gov

CONFIDENTIALITY NOTICE

This message and the accompanying documents are intended only for the use of the individual or entity to which they are addressed and may contain information that is privileged, confidential, or exempt from disclosure under applicable law. If the reader of this email is not the intended recipient, you are hereby notified that you are strictly prohibited from reading, disseminating, distributing, or copying this communication. If you have received this email in error, please notify the sender immediately and destroy the original transmission.



Bureau of Environmental Health
7178 Columbia Gateway Drive, Columbia, MD 21046-2147
Main: 410-313-6300 | Fax: 410-313-6303
TDD 410-313-2323 | Toll Free 1-866-313-6300
www.hchealth.org
Facebook: www.facebook.com/hocohealth
Twitter: HowardCoHealthDep

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

Date: August 16, 2013

To: Kevin Slezak, Applicant
kvnslezak@yahoo.com

RE: Best Available Technology (BAT) denitrification unit and low-pressure distribution (LPD) system required at 4523 Linthicum Road (Levine Property, Lot 2)

Dear Mr. Slezak,

Please be advised that a best available technology (BAT) denitrification unit is required for treatment of wastewater discharge from the proposed dwelling at 4253 Linthicum Road. Effluent from the BAT unit will be pumped to the drainfield and disbursed through a low-pressure distribution (LPD) system.

A BAT Site Plan is required. The BAT Site Plan must be submitted directly to the Health Department and approved prior to release of the septic system installation permit. The LPD design should be incorporated with the BAT Site Plan. This plan should be created by your engineer. I have enclosed a document listing the required content for a BAT Site Plan.

I am also attaching an Operation and Maintenance Agreement that the owner must sign and submit at our Bureau desk. Our Bureau Director will then sign the agreement, and the owner will hand-carry the signed document first to the Howard County Finance Department and then to Howard County Land Records where the agreement will be recorded. We can release the septic system installation permit when we have a receipt by Land Records that indicates the agreement has been submitted for recordation.

Should you have any questions concerning this matter, you may contact me by calling 410-313-2691.

Respectfully,

Robert Bricker, REHS/R.S.
Environmental Sanitarian, Well and Septic Program
Howard County Bureau of Environmental Health

Enclosures (2)
Copy: file

GENERAL NOTES:

- Coordinates based on NAD83/91 Maryland Coordinate System as projected by Howard County Geodetic Control Stations 28AC, 28A1, 22GA.
- Diagrams iron pipe found.
- Diagrams stone found.
- This plot is based on a field run boundary survey performed in November, 2006 by CLSI.
- All areas provided on this plot are to be taken as "more or less".
- BTL denotes building restriction line.
- The Subject property zoned RR per the 2/2/04 Comprehensive Zoning Plan and per the "Comp Use" Zoning Regulation Amendments effective 7/28/06.
- This area designates a private sewage easement of 10,000 square feet as required by the Maryland State Department of the Environment for individual sewage disposal. Improvements of any nature in this area are restricted until public sewage is available. These easements shall become null and void upon connection to a public sewage system. The County Health Officer shall have the authority to grant variances for encroachments into the private sewage easements. Resurfacing of modified sewage easement shall not be necessary. Partitioning test holes, as shown hereon, have been field located.
- The lots shown hereon comply with the minimum ownership width and lot area as required by the Maryland State Department of the Environment.
- No grading, removal of vegetative cover or trees, piling and new structures shall be permitted within the limits of wetlands, stream(s), or their required buffers, floodplain and forest conservation easement areas.
- Driveways shall be constructed prior to residential occupancy to insure safe access for Fire and Emergency Vehicles per the following (minimum) requirements:
 - Width - 12 feet (16 feet serving more than one residence)
 - Surface - 6 inches of compacted crusher run base with 1/2" chip coating - 14-2" min. depth
 - Geometry - maximum of 15% grade, maximum 10% grade cross and maximum of 45 foot turning radius.
 - Structure (culvert/bridge) - capable of supporting 25 gross tons (H23 loading)
 - Drainage elements - capable of safely passing 100-year flood with no more than 1-foot depth over driveway surface.
 - Structure clearances - minimum 12 feet
 - Maintenance - sufficient to insure all weather use.
- For flag or pie-in-the-slice lots, refuse collection, snow removal and road maintenance are provided to the junction of the flag or pie-in-the-slice and the road right-of-way only and not onto the flag or pie-in-the-slice driveway.
- This project is subject to compliance with provisions of MDE Water Appropriations Permit No. H0298G013 (1).
- Floodplain delineation is not required in reference to Howard County DTM 1 chapter 6 section 4.
- Wetland delineation is based on a study prepared by CLSI. No wetlands will be disturbed.
- The lots shown on this plot are subject to the Middle Potomac Drainage Area supplemental in-lieu-of-construction charge created by section 20.311B of the Howard County Code.
- There is an existing dwelling located on Lot 1 to remain. No new buildings, extensions or additions to the existing dwelling are to be constructed at a distance less than zoning regulation requirements.
- Landscape for Lot 2 is provided in accordance with a certified landscape plan in the minor subdivision construction plans in accordance with Section 16.124 of the Howard County Code and the Landscape Manual.
- Land dedicated to Howard County, Maryland for purposes of a public road 0.236 ac.
- A fee in lieu of open space for this subdivision in the amount of \$15,000.00 has been paid to satisfy Section 16.121 of the Subdivision and Land Development Regulations.
- Water Quality Volume (WQV) and Groundwater Recharge Volume (RWV) requirements will be met by applying the rooftop disconnect, rooftop disconnect credits along with level spreading devices in accordance with the criteria contained in Chapters 3 & 5 of the 2000 Maryland Stormwater Management Design Manual (Manual). Channel Protection Volume (CPV) is not required because the computed discharge for the CPV storm for each design point is less than 2.0 cfs as mandated in the above referenced Manual.
- This subdivision is exempt from the requirements of Section 16.1200 of the Howard County Code for Forest Conservation as per section 16.1202 (b)(1)(iv) since it is a minor subdivision creating one additional lot and having no additional subdivisions.
- Waiver petition File Number WP-06-096 for the Levine Property was approved by the Director of the Department of Planning and Zoning on June 2, 2008. The specifications waived were Sections 16.120 (b)(4)(iii) and 16.144(x)(3) of the Subdivision and Land Development Regulations. Waiver approval is subject to the following conditions:
 - The Final Plan shall place all environmental features on Lot 2.
 - Final Plan shall comply with applicable regulations, unless waivers have been approved, and with Subdivision Review Committee agency comments.
 - Final Plan shall provide a 35' environmental setback from the stream bank buffer on Lot 2.
 - Final Plan shall enlarge the proposed stream buffer enhancement area to include the area between the existing forest and proposed level spreaders.
 - Final Plan shall include a Forest Conservation Easement over the proposed stream buffer enhancement planting area. The area shall be appropriately planted and signed as such.
 - Final Plan and Plan shall change the Lot 1 setback to 60', and to relocate the rear property boundary of Lot 1 and from setback of Lot 2 to the west in order to increase the area of the Lot 2 building envelope.
 - Approval of this petition does not sanction any disturbance to the environmental features or their respective buffers or setbacks.

WETLAND CERTIFICATION:
 THESE ARE NO WETLANDS ON SITE THAT WILL BE DISTURBED AND REQUIRE 401 AND 404 WETLANDS PERMITS FROM THE STATE OF MARYLAND.

Stephen K. Baxter 4/29/09
 CYNTHIA K. BAXTER
 PROFESSIONAL LAND SURVEYOR # 10786

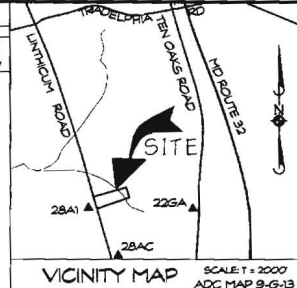
THE REQUIREMENTS § 3-106, THE REAL PROPERTY ARTICLE, ANNOTATED CODE OF MARYLAND, 1988 REPLACEMENT VOLUME (AS SUPPLEMENTED) AS FAR AS THEY RELATE TO THE MAKING OF THIS PLAT AND THE SETTING OF MARKERS, HAVE BEEN COMPLIED WITH.

Stephen K. Baxter 4/29/09
 CYNTHIA K. BAXTER
 PROFESSIONAL LAND SURVEYOR # 10786

Jon Levine 5/1/09
 JON LEVINE (OWNER)
 DATE

HOWARD COUNTY GEODETIC CONTROL STATION COORDINATES

28 AC	574673.3067	134671.7633
28 A1	576723.5447	134261.7188
22 GA	576648.7595	134933.4837



VICINITY MAP SCALE: 1" = 2000' AOC MAP 9-G-13

FOREST CONSERVATION EASEMENT LOCATION

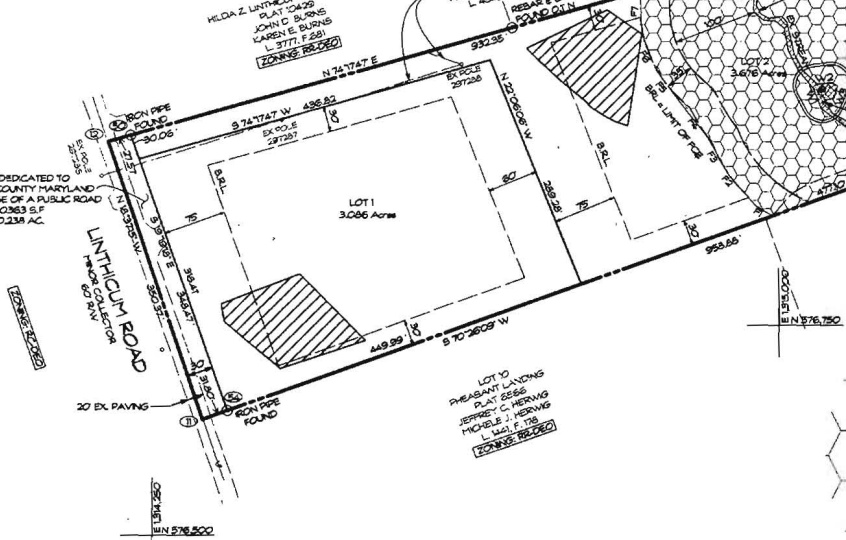
NUMBER	DIRECTION	DISTANCE
F1	N 58°31'33" W	23.60'
F2	N 41°05'49" W	50.00'
F3	N 29°08'17" W	50.00'
F4	N 38°04'24" W	50.00'
F5	N 36°37'23" W	50.00'
F6	N 21°44'24" W	43.05'
F7	N 01°30'50" W	50.89'
F8	N 74°17'47" E	298.32'
F9	S 10°36'04" E	285.73'
F10	S 70°28'02" W	234.91'

WETLANDS LOCATION

NUMBER	DIRECTION	DISTANCE
W1	N 27°10'20" W	21.98'
W2	N 82°03'24" E	20.96'
W3	S 24°44'40" W	24.66'

LINE ARE DESIGNATED THUS: WX

LINE ARE DESIGNATED THUS: FX



COORDINATES

NUMBER	NORTHING	EASTING
11	576638.4367	134310.2505
12	576670.4656	134186.3760
50	576677.9271	134224.6168
52	577230.2787	134122.4687
54	576648.0843	134340.2793
55	576959.5294	135213.7710

COORDINATES ARE DESIGNATED THUS: (XX)

LEGEND:

- (Symbol) WETLANDS
- (Symbol) 25' WETLANDS BUFFER
- (Symbol) EXISTING STREAM
- (Symbol) 100' STREAM BANK BUFFER
- (Symbol) 35' ENVIRONMENTAL SETBACK
- (Symbol) FOREST CONSERVATION EASEMENT AREA (1347-AC)

PLAT FEES -
 PLAT RECORDATION
 TOTAL
 (est) \$465
 PER S.L.C. \$18
 PER S.L.C. \$18
 May 29, 2009 11115

MDR PLAT NO. 20574
 RECORDED
 MAY 29 2009

WETLAND DETAIL
 1" = 30'

AREA TABULATION

- TOTAL NUMBER OF LOTS OR PARCELS TO BE RECORDED
 - BUILDABLE: 2
 - NON-BUILDABLE: 0
 - OPEN SPACE: 0
 - PRESERVATION PARCELS: 0
- TOTAL AREA OF LOTS OR PARCELS
 - BUILDABLE: 6.462 AC.
 - NON-BUILDABLE: 0
 - OPEN SPACE: 0
 - PRESERVATION PARCELS: 0
- TOTAL AREA OF ROADWAY TO BE RECORDED INCLUDING WORKING STRIPS - 0.238 AC.
- TOTAL AREA OF SUBDIVISION TO BE RECORDED 7.100 AC.

MINIMUM LOT SIZE CHART

LOT NO.	GROSS AREA	PRESTEM AREA	MINIMUM LOT SIZE
1	3.086 AC	0	3.086 AC
2	3.376 AC	0.300 AC	3.376 AC

RESERVATION OF FOREST CONSERVATION EASEMENT

DEVELOPER RESERVES UNTO ITSELF, ITS SUCCESSORS AND ASSIGNS, ALL EASEMENTS SHOWN ON THIS PLAN FOR FOREST CONSERVATION LOCATED IN OR OVER AND THROUGH LOT 2. ANY CONVEYANCES OF THE APPLICABLE LOTS SHALL BE SUBJECT TO THE EASEMENT HEREIN RESERVED, WHETHER OR NOT EXPRESSLY STATED IN THE DEED(S) CONVEYING SAID LOT. DEVELOPER SHALL EXECUTE AND DELIVER DEEDS FOR THE EASEMENTS OF THE FOREST CONSERVATION AREA. UPON COMPLETION OF THE DEVELOPER'S OBLIGATIONS UNDER THE FOREST CONSERVATION INSTALLATION AND MAINTENANCE AGREEMENT EXECUTED BY THE DEVELOPER AND THE COUNTY AND THE RELEASE OF DEVELOPER'S BURETY POSTED WITH SAID AGREEMENT, THE COUNTY SHALL ACCEPT THE EASEMENT AND RECORD DEED(S) OF EASEMENT IN THE LAND RECORDS OF HOWARD COUNTY.

APPROVED FOR PRIVATE WATER AND PRIVATE SEWERAGE SYSTEMS: HOWARD COUNTY HEALTH DEPARTMENT

Richard J. Coover 5/16/09
 Howard County Health Officer

APPROVED: HOWARD COUNTY DEPARTMENT OF PLANNING AND ZONING

Michael J. Williams 5/11/09
 Planning & Zoning Administrator

OWNER'S CERTIFICATE

I, JON LEVINE, OWNER OF THE PROPERTY SHOWN AND DESCRIBED HEREON, HEREBY ACCEPT THIS PLAN OF SUBDIVISION AND IN CONSIDERATION OF THE APPROVAL OF THIS FINAL PLAT BY THE DEPARTMENT OF PLANNING AND ZONING, ESTABLISHING THE PRIVATE BUILDING RESTRICTIONS AND GRANT UNTO HOWARD COUNTY, MARYLAND, ITS SUCCESSORS AND ASSIGNS:

- THE RIGHT TO LAY, CONSTRUCT AND MAINTAIN SEWER, DRAIN, WATER PIPES AND OTHER UTILITIES, UTILITIES AND SERVICES IN AND UNDER ALL REAR AND STREET RIGHTS-OF-WAY AND THE SPECIFIC EASEMENT AREAS SHOWN HEREON.
- THE RIGHT TO REQUIRE DEDICATION FOR PUBLIC USE THE BEDS OF THE STREETS AND/OR ROADS AND FLOODPLAINS AND OPEN SPACE WHERE APPLICABLE, AND FOR GOOD AND OTHER VALUABLE CONSIDERATION HEREBY GRANT THE RIGHT AND OPTION TO HOWARD COUNTY TO ACQUIRE THE FREE SIMPLE TITLE TO THE BEDS OF THE STREETS AND/OR ROADS AND FLOODPLAINS, STORM DRAINAGE FACILITIES AND OPEN SPACE WHERE APPLICABLE.
- THE RIGHT TO REQUIRE DEDICATION OF WATERWAYS AND DRAINAGE EASEMENTS FOR THE SPECIFIC PURPOSES OF THEIR CONSTRUCTION, REPAIR AND MAINTENANCE; AND
- THAT NO BUILDING OR SIMILAR STRUCTURE OF ANY KIND SHALL BE ERRECTED ON OR OVER THE SAID EASEMENTS AND RIGHTS-OF-WAY.

WITNESS MY OWN HANDS THIS DAY OF 2008
Jon Levine 5/1/09
 JON LEVINE DATE

SURVEYORS CERTIFICATE

I HEREBY CERTIFY THAT THE FINAL PLAT SHOWN HEREON IS CORRECT; THAT IT IS A SUBDIVISION OF ALL THE LANDS CONVEYED BY DANIELLE H. COOK TO JON LEVINE BY A DEED DATED DECEMBER 20, 2004 AND RECORDED IN THE LAND RECORDS OF HOWARD COUNTY IN BOOK 997 PAGE 487, AND THAT ALL MONUMENTS ARE IN PLACE OR WILL BE IN PLACE PRIOR TO THE ACCEPTANCE OF THE STREETS IN THE SUBDIVISION BY HOWARD COUNTY AS SHOWN IN ACCORDANCE WITH THE ANNOTATED CODE OF MARYLAND, AS AMENDED.

Stephen K. Baxter 4/29/09
 CYNTHIA K. BAXTER
 Professional Land Surveyor No. 10786

5/29/09

OWNER/DEVELOPER
 JON LEVINE
 4305 PLEASANT PATH
 ELLICOTT CITY, MARYLAND 21043
 (410) 312-7970

SHEET 1 OF 1 RECORDED AS PLAT NO. ON AMONG THE LAND RECORDS OF HOWARD COUNTY, MD

MINOR SUBDIVISION PLAT
LEVINE PROPERTY
 TAX MAP 22, GRID 19, PARCEL 217
 ZONING: RR-DEO
 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND



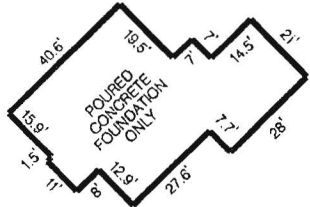
FREDERICK OFFICE: 8445 Progress Drive, Suite BB Frederick, MD 21704-5079 (301) 662-1799 FAX (301) 662-8004

WESTMINSTER OFFICE: 439 East Main Street Westminster, MD 21157-5538 (410) 648-1790 FAX (410) 648-1791

Scale: 1" = 100'
 Surveyed By: CLSI
 Checked By: CLS
 Date: 1/3/08
 Drawing No.: 2006208
 County File No.: P-08-116

p163091 F-08-116

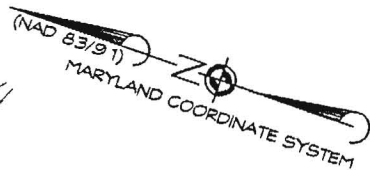
NSA 001 8195 9477



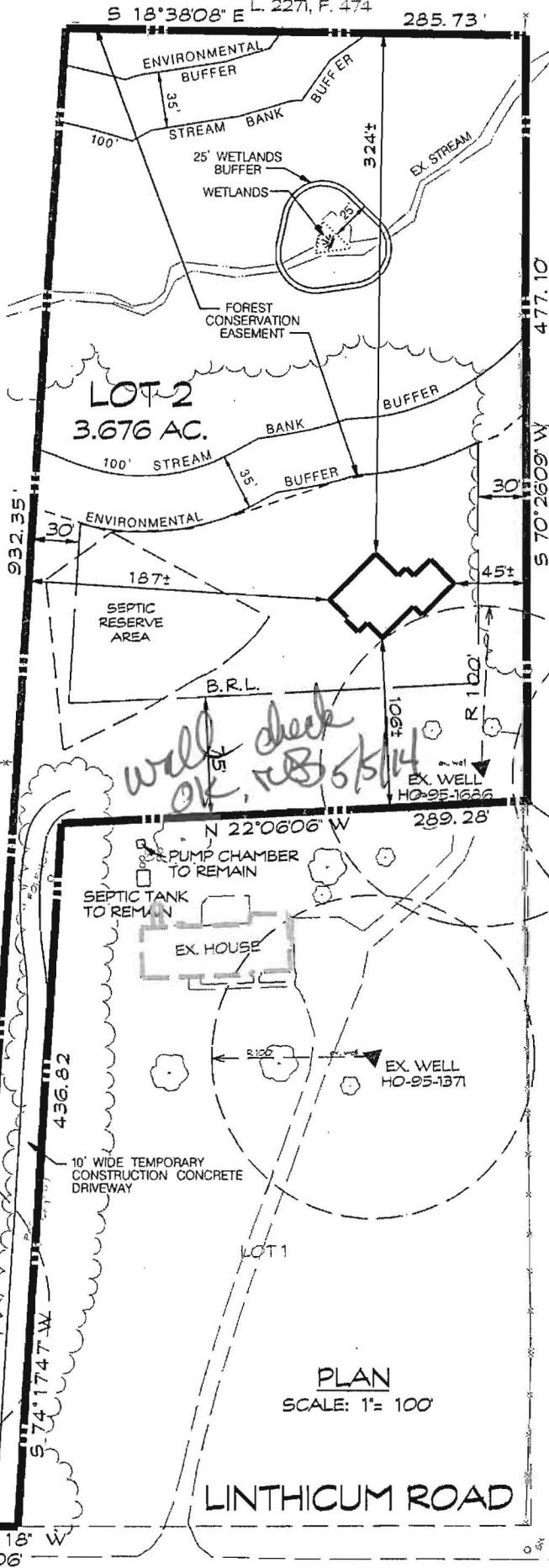
TOP OF WALL
EL. = 588.16

HOUSE DETAIL
SCALE: 1" = 50'

LOT 5
KENNARD WARFIELD JR. PROPERTY
PLAT 4865
THOMAS R. CURTIS
ANGELINE W. CURTIS
L. 2271, F. 474



LOT 11
PHEASANT LANDING
PLAT 6566
JOSE A. LANIO
DEBORAH LANIO
L. 5665 F. 681



LOT 4
HILDA Z. LINTHICUM
SUBDIVISION
PLAT 10429
JOHN D. BURNS
KAREN E. BURNS
L. 3777, F. 681

LOT 10
PHEASANT LANDING
PLAT 6566
JEFFREY C. HERWIG
MICHELE J. HERWIG
L. 1441, F. 178



PLAN
SCALE: 1" = 100'

LINTHICUM ROAD

I hereby certify that I have surveyed the property shown hereon for the sole purpose of locating the improvements. This plan is a benefit to the customer only in so far as it is required by a lender or a title insurance company or its agent in connection with contemplated transfer, financing or refinancing. It is not to be relied upon for the establishment of boundary, easement or right-of-way lines for any reason, such as the location of fences, garages, buildings, or other existing or future improvements. Offsets of buildings to property lines are to the nearest foot (1') unless otherwise noted.

By: *SJH* Date: 11/12/2013
Stephen Joseph Hall, Professional Land Surveyor No. 4217502
My license expires January 11, 2014

A licensed Maryland Surveyor either personally prepared this Location Drawing, or was in responsible charge over its preparation and the surveying work reflected in it, in compliance with the Maryland Minimum Standards of Practice for Land Surveyors. (COMAR 09-13-06.06 AND .12)

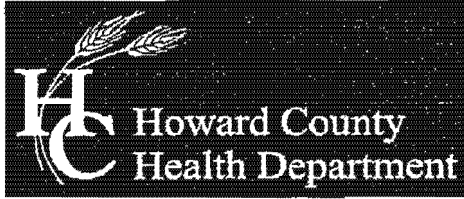
FOUNDATION CERTIFICATION
LOT 2
LEVINE PROPERTY

5th ELECTION DISTRICT * HOWARD COUNTY, MD
RECORDED PLAT No. 20574



439 East Main Street
Westminster, MD 21157-5539
(410) 848-1790
FAX (410) 848-1791

DRAWN BY:	KMB
DESIGN BY:	
REVIEW BY:	SJH
DATE:	11-06-13
SCALE:	AS SHOWN
JOB NO:	2006208
SHEET:	1 OF 1



Bureau of Environmental Health
7178 Columbia Gateway Drive, Columbia, MD 21046-2147
Main: 410-313-2640 | Fax: 410-313-2648
TDD 410-313-2323 | Toll Free 1-866-313-6300
www.hchealth.org
Facebook: www.facebook.com/hocohealth
Twitter: HowardCoHealthDep

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

**OPERATION AND MAINTENANCE AGREEMENT
FOR AN ON-SITE SEWAGE DISPOSAL SYSTEM
HAVING AN ADVANCED PRE-TREATMENT SYSTEM**

THIS AGREEMENT is made this 19 day of AUGUST, among Pamela and Eric Colombet, hereinafter collectively referred to as "Owner", and the Howard County Health Department hereinafter referred to as the "County".

WHEREAS, Owner is the owner or contract owner of a parcel of land located at 4253 Linthicum Road, Dayton, Maryland, in the 05 Election District of Howard County, Maryland, and the deed to same is recorded or shall be recorded among the Land Records of Howard County, Maryland in Liber 15007 Folio 00248.

WHEREAS, The Lot is suitable for the installation of a conventional on-site sewage disposal system with an advanced pre-treatment system, utilizing best available technology to perform nitrogen reduction, in accordance with the Code of Maryland Regulations 26.04.02.07, effective January 1, 2013.

NOW, THEREFORE, the parties hereto agree as follows:

- A. Owner hereby grants to the County the right to enter upon the Lot at any reasonable time for access to the system to make periodic inspections and the Owner agrees to provide any information and data in Owner's possession reasonably requested and needed by the County to develop accurate and thorough test results.
- B. Owner acknowledges and agrees that neither the County nor any of its agents or employees, either officially or individually, underwrites the operation of any system approved by them.
- C. The Owner will devote reasonable care and effort to the operation and maintenance of the system in perpetuity or until a public sewer connection is made so that a system malfunction is not the result of poor maintenance, faulty operation, or neglect.
- D. The Owner agrees to enter into a contract reasonably acceptable to the Owner and the County with a private entity to operate and maintain on a regularly scheduled basis an approved advanced pre-treatment system. The owner shall supply a copy of the contract to the County when it is renewed or altered.
- E. This agreement shall run with the land and upon Owner's taking title to the Lot shall bind the Owner, their heirs, successors, and assigns to the provisions of the agreement as

long as the property is in existence and after installation of the system. Owner further agrees that they shall inform in writing any subsequent purchaser or lessee of the Lot that the system shall require maintenance or other attention. Upon taking title to the Lot, the Owner agrees to cause this agreement to be recorded in the Land Records of Howard County and assure that it becomes part of the Deed for the subject property in order that prospective buyers may be aware of the special conditions affecting this property.

F. This agreement shall not be construed to limit any authority of the County to protect the public health, safety or comfort or to issue any other orders to take any other action which is now or may hereafter be within its authority.

G. This agreement may be voided at any time at the discretion of the County.

H. This agreement contains the entire agreement and understanding between the County and the Owner. There are no additional terms other than as contained in this agreement. This agreement may not be modified, except in writing signed by each of the parties or by their authorized representatives.

I. The laws of the State of Maryland govern the provisions of all transactions pursuant to this agreement.

J. Owner acknowledges and agrees that interior renovations to increase the number of bedrooms or an increase in living space shall not be permitted without approval from the County.

IN WITNESS WHEREOF, the parties have signed and sealed this agreement on the date indicated above.

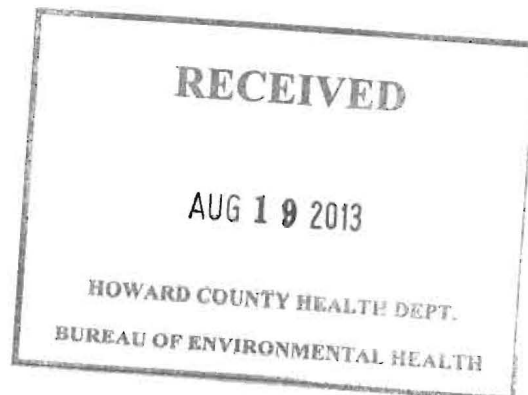
Eric Colombel 8/16/13
Owner Date

ERIC COLOMBEL

Beit Njira 8/19/2013
Howard County Health Department

Pamela Colombel 8/19/13
Owner Date

Pamela Colombel



Clerk of the Circuit Court for
Howard County
Land Records/Licensing

The Thomas Dorsey Building
9250 Bendix Road
Columbia, MD 21045
410-313-5850

LR - Agreement Recording Fee 1x 20.00 20.00

Grantor/Grantee Name: Colombei
Reference/Control #: 55

LR - Agreement Surcharge 1x 40.00 40.00

LR - Additional Recording Fee - linked 1x 0.00 0.00

SubTotal: 50.00

Total: 60.00

REV-Cash 60.00

08/19/2013 12:36
#1912462 /496/109

CC13-KC

Thank you for visiting us today~

Clerk of the Circuit Court for
Howard County
Land Records/Licensing

The Thomas Dorsey Building
9250 Bendix Road
Columbia, MD 21045
410-313-5850

LR - Agreement Recording Fee
1x 20.00 20.00

Grantor/Grantee Name: Colombei
Reference/Control #: 65

LR - Agreement Surcharge
1x 40.00 40.00
LR - Additional Recording Fee - linked
1x 0.00 0.00

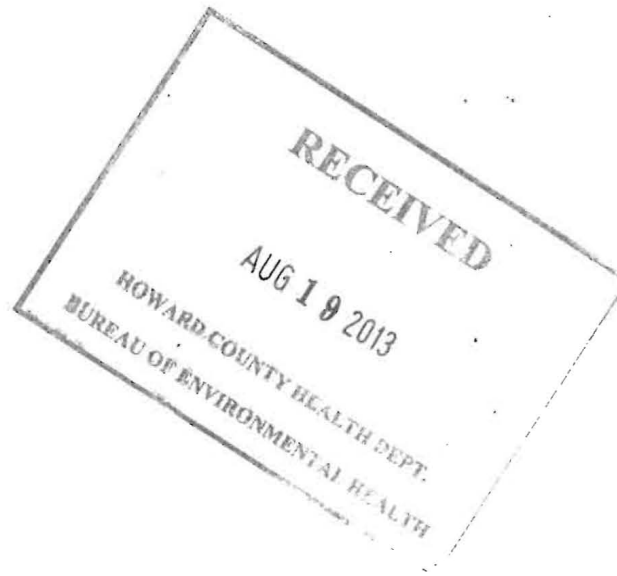
SubTotal: 60.00
Total: 60.00

REV-Cash 60.00

08/19/2013 12:36
#1912462 /496/109

CC13-KC

Thank you for visiting us today~



Back River Pre-Cast, LLC

PO BOX 329
Glyndon, MD 21071
Phone # 410-833-3394
Fax # 410-833-4116

Letter of Certification

This is to certify that the Norweco Singulair TNT 600 GPD Septic Tank installed at 4253 Linthicum Rd., Dayton, MD 21036 on May 29, 2014 was installed according to the manufacture's specifications.

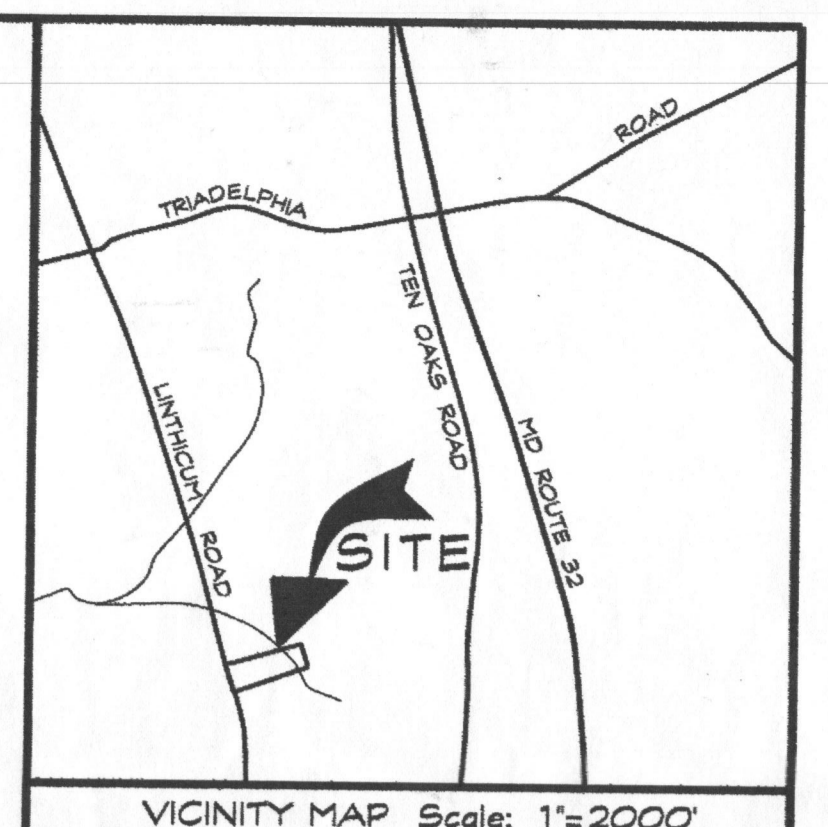
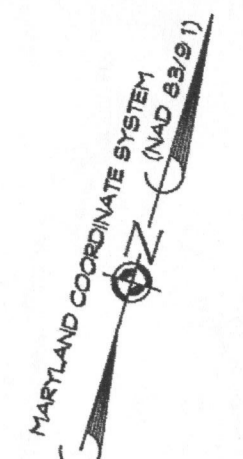
Installer: Jeff Reiter



MATTHEW GECKLE

Vice-President

CAD Drawing File Name: c:\2006\2006208\CONST\BAT SHEETS\O.D.BAT SITE.dwg



PUMP / SYSTEM DESIGN:

- Design Flow: 600 GPD
 - Design Head:
 - Static Head: 573.5 - 569.46 = 4.04'
 - Operating Head: = 2'
 - Friction Head:
 - 2 x 90° coupling = 24'
 - Standard tee = 17'
 - 7 Couplings = 21'
 - 90° of 3" PVC = 90'
 - 90 + 24 + 17 + 21 = 152'
 - 152' x 1.08/100 = 1.64'
 - Total Head: 4.04' + 2' + 1.64' = 7.68' @ 67.00 gpm
- For Lateral Discharge Rate see Pressure Distribution Chart

Pump System:

- 1/6 Design Flow = 100 gal minimum dose
- Minimum dose calculation:
 - 151' of 1 1/2" dia. Laterals
 - 151 x 10.6/100 = 16.01 gal.
 - 12' of 3" dia. Manifold
 - 12 x 38.4/100 = 4.6 gal.
 - 75' of 3" dia. Forcemain
 - 80 x 38.4/100 = 28.80 gal.
 - (5 x 16.01) + 4.6 + 28.80 = 113.45 gal.
 - Use 120 gal. dose
- Minimum system Discharge rate:
 - Lateral #1 (32.60) + Lateral #2 (34.40) = 67.00 gpm
- Dose Volume: use 160 gal. dose
- Pump Chamber Capacity = 600 GPD
 - Dose = 120 GPD
 - Total Storage = 720 GPD
- Pump ON to Pump OFF
 - d = 110 x 231 / 7552 = 3.67"
- High water alarm switch to pump chamber
 - r = 600 x 231 / 7552 = 18.35"

SEPTIC SYSTEM TRENCH DESIGN:

PROPOSED NUMBER OF BEDROOMS = 4
 AVERAGE PERCOLATION TEST TIME = 12 MINS.
 (A-526195)
 APPLICATION RATE = 0.8 GPD/SQ. FT.
 EFFECTIVE DEPTH IS 42" FOR 2 FEET = 0.40
 150 GALS x 4 BEDROOM = 600 GAL/DAY
 600 GAL/DAY / 0.8 GAL./DAY/SQ. FT. = 750 SQ. FT.
 750 SQ. FT. \ 2 FT. = 375 LF. OF TRENCH
 375 LF. x 0.4 = 150 LF. OF TRENCH
 USE 2 x 80' OF TRENCH FOR THE SYSTEM
 LATERAL LENGTH: 15' - 1 1/2" PVC
 USE 5/8" DIA. HOLES
 USE 3" DIA. PVC MAINFOLD

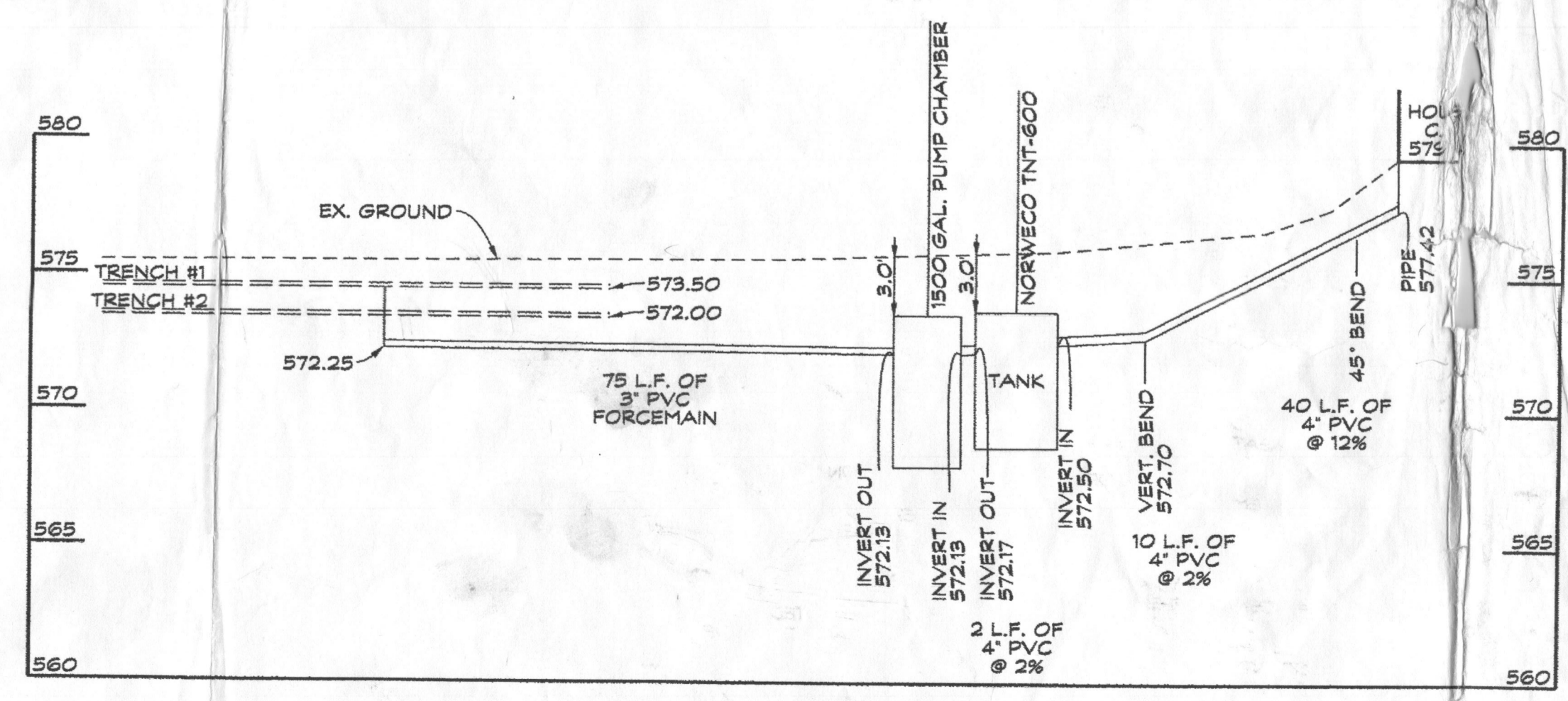
BAT SITE PLAN NOTES

- 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.
- THE MAXIMUM DEPTH OF THE BAT PER THE MANUFACTURER'S SPECIFICATION IS 3 FEET.
- THE BAT SYSTEM SHALL BE MAINTAINED AND OPERATED FOR THE LIFE OF THE SYSTEM.
- THE BAT 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 OR HOWARD COUNTY.
- THE HEALTH DEPARTMENT REQUIRES DOCUMENTATION FOR THE START-UP CERTIFICATION FROM THE MANUFACTURER PRIOR TO FINAL APPROVAL OF THE INSTALLATION.

PROPOSED DWELLING HAS APPROXIMATELY 2,892 S.F. OF LIVING SPACE AND INCLUDES 4 BEDROOMS & 3 BATHROOMS

LOD DENOTES LIMITS OF DISTURBANCE, TOTAL AREA = 59,060 SQ.FT.

FOR NORWECO TNT-600 DETAILS SEE SHEET 2



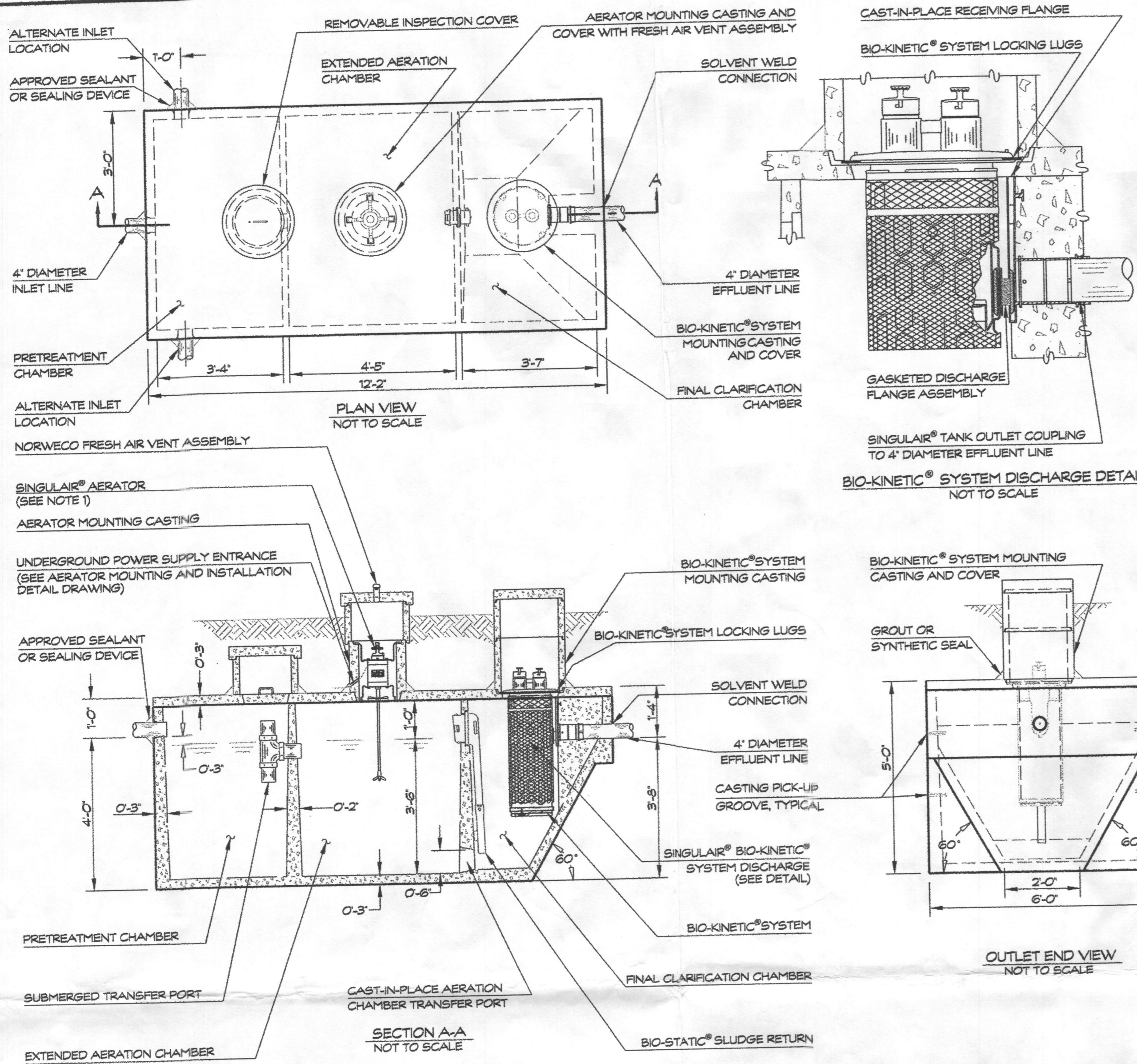
SEPTIC LINE PROFILE
 SCALE: HORIZ. 1"= 20'
 VERT. 1"= 5'

Approved Septic System Plan
 Howard County Health Department
 BAT system w/ LPD
 approved as shown
 RBinder 4/20/2014
 Date
 NORWECO TNT 600

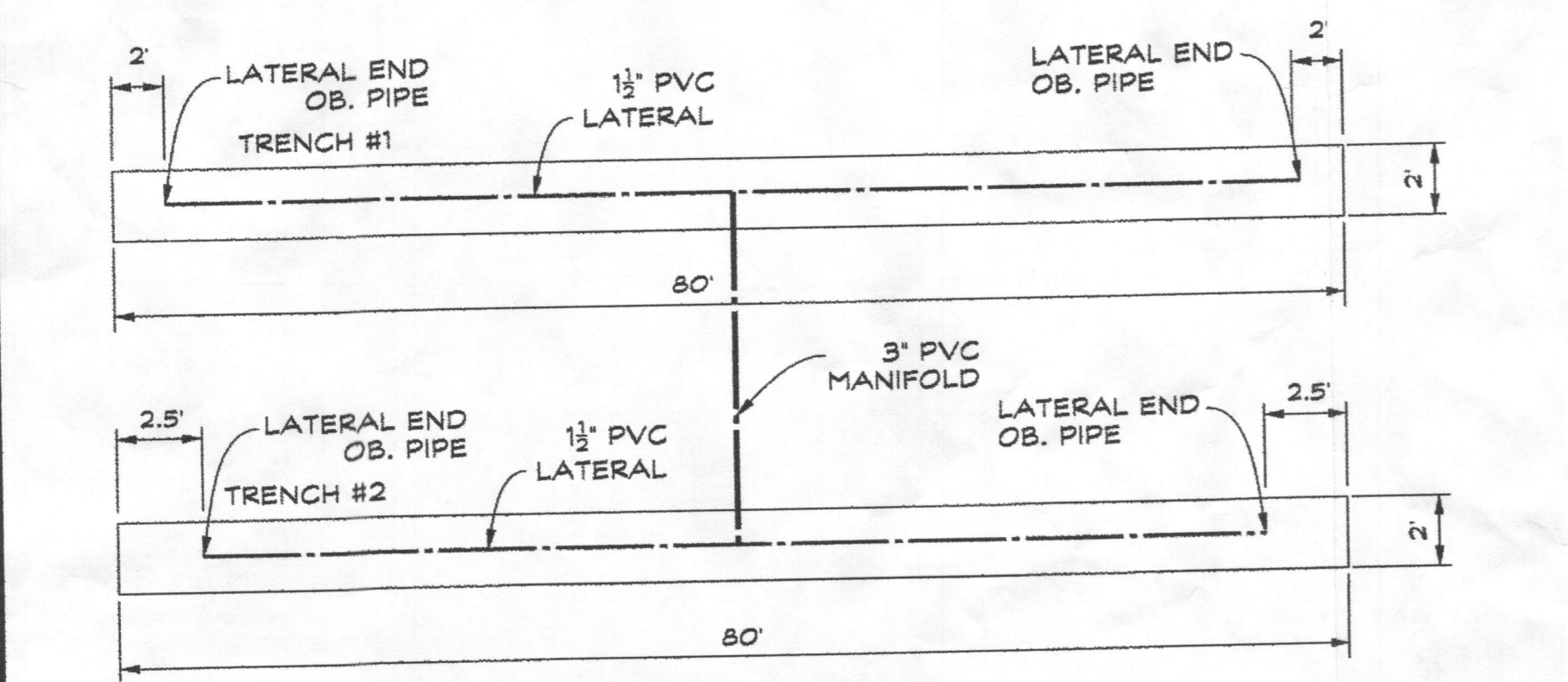
- LEGEND:**
- WETLANDS
 - 25' WETLANDS BUFFER
 - EXISTING STREAM
 - 100' STREAM BANK BUFFER
 - FOREST CONSERVATION EASEMENT AREA (1.947 AC.)
 - SOIL LINE WITH DESIGNATION
 - SPOT ELEVATION
 - FLOW PATH & SLOPE
 - EX. WELL
 - APPROVED PERC TEST
 - ROOFTOP AND NON-ROOFTOP AREA TO LEVEL SPREADER
 - NON-ROOFTOP DISCONNECT CREDIT AREA
 - 25% + STEEP SLOPES

OWNER/DEVELOPER
 ERIC & PAMELA COLOMBEL
 10 169 CAPE ANNE DRIVE
 COLUMBIA, MD 21046
 (240) 401-6534

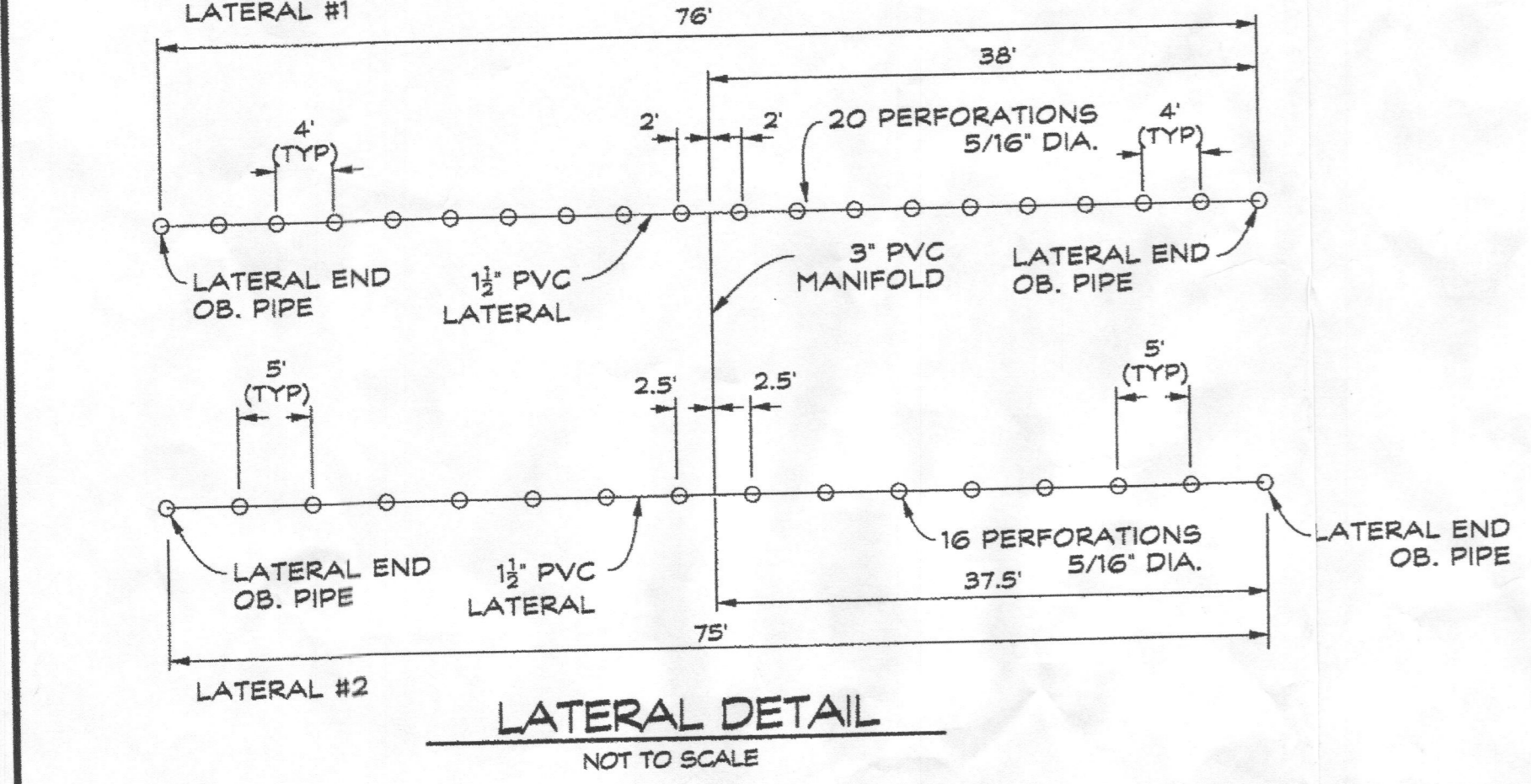
PERCOLATION TEST RESULTS, A-526195		
SITE PLAN FOR BAT INSTALLATION 4253 LINTICUM ROAD LOT 2 LEVINE PROPERTY		
PLAT MDR 20574 TAX MAP 22 GRID 19 PARCEL 217 ZONING: RR-DEO 5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND		
 Linda D. Alexander Qualified Professional		 CLSI www.clsi-civileng.com 439 East Main Street Westminster, MD 21157-5539 (410) 848-1790 FAX (410) 848-1791
Date	Revisions	Drawn By: BM
11/13/13	REV'D TRENCH DESIGN AND LAYOUT PER HC COMMENTS	Designed By: LDA
		Reviewed By: LDA
		Date: 3/24/14
		Scale: 1" = 40'
		Job No.: 2006208
		Sheet: 1 OF 2



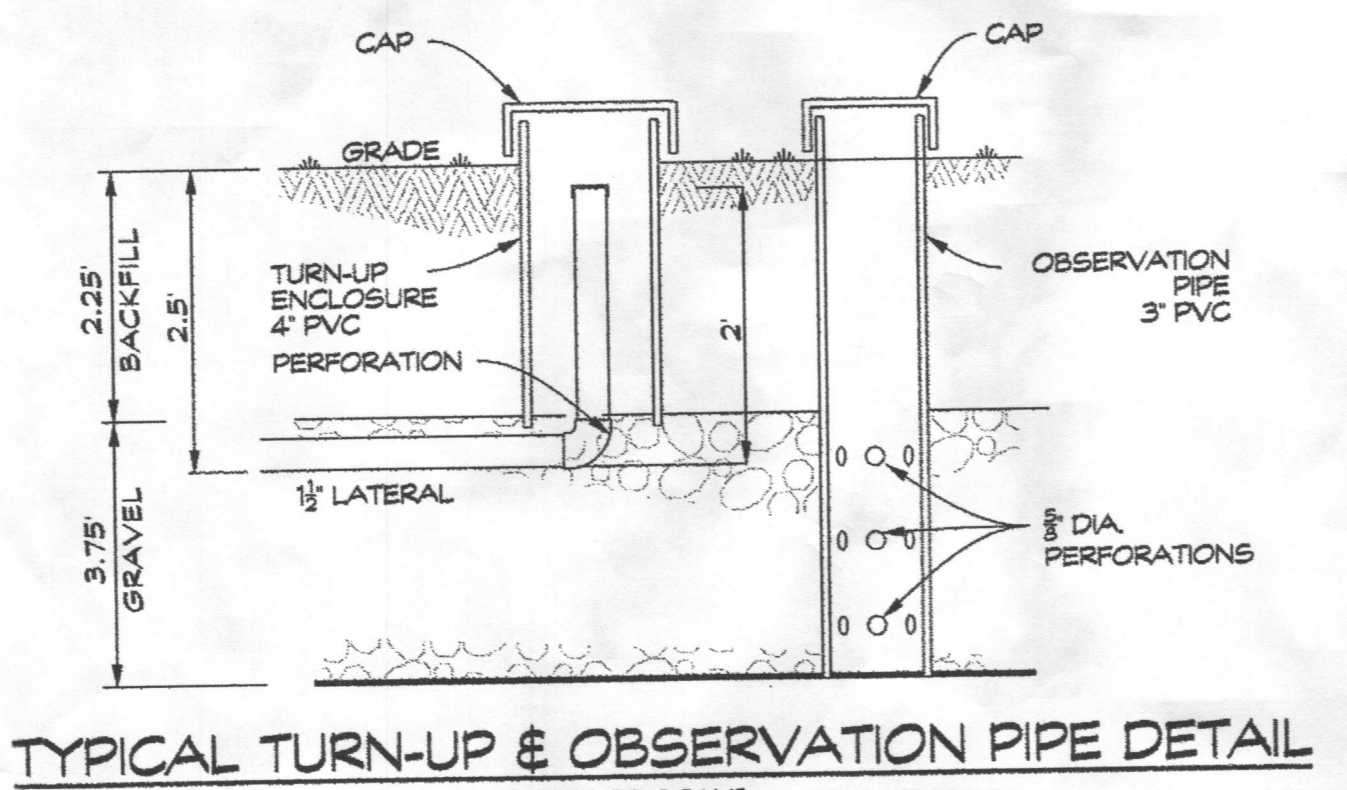
NORWECO TNT-600 DETAIL
NOT TO SCALE



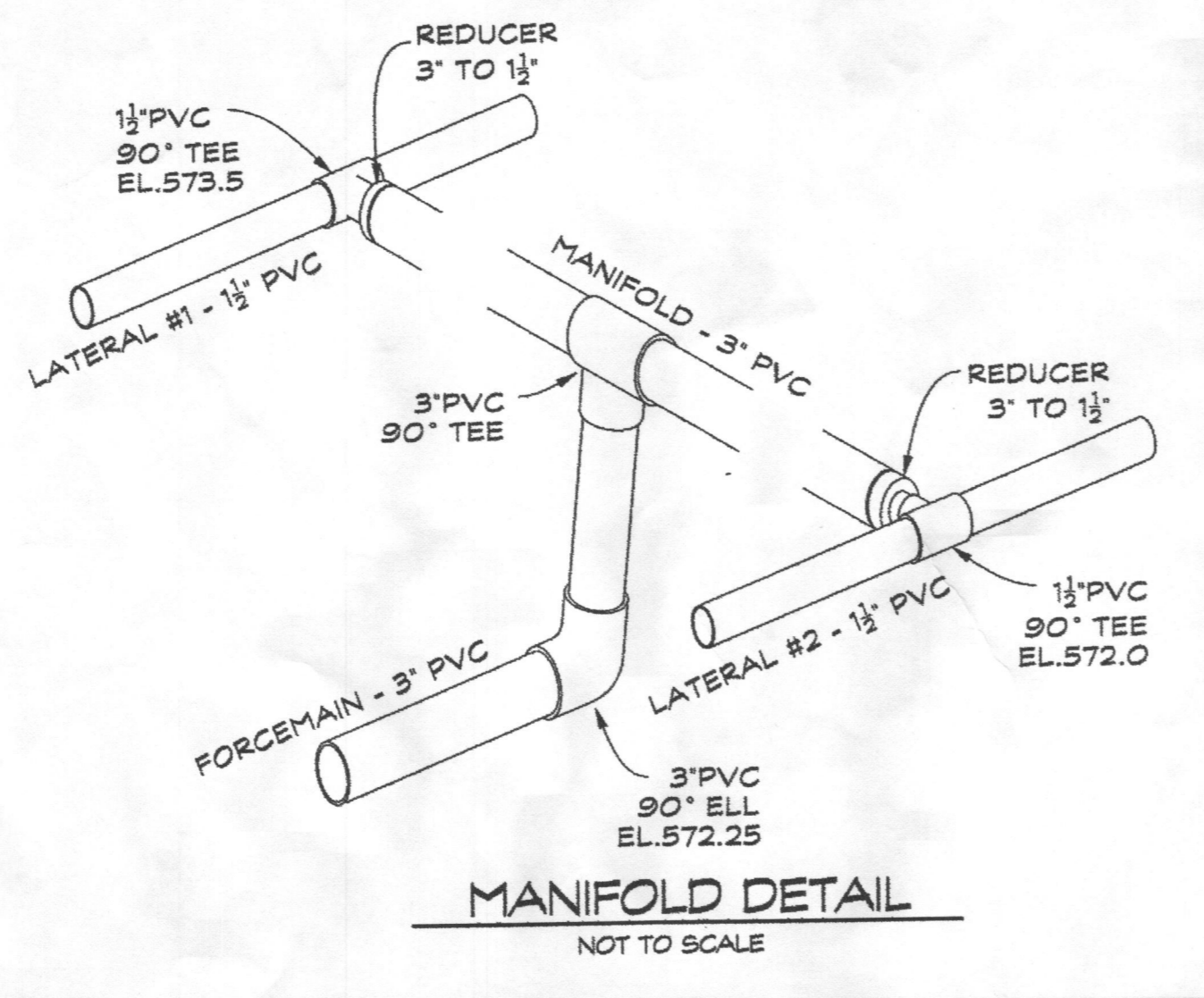
TRENCHES DETAIL
NOT TO SCALE



LATERAL DETAIL
NOT TO SCALE



TYPICAL TURN-UP & OBSERVATION PIPE DETAIL
NOT TO SCALE



MANIFOLD DETAIL
NOT TO SCALE

GENERAL NOTES:

- SINGULAR® AERATOR, AS TESTED AND ACCEPTED BY NSF, OPERATING 60 MINUTES ON / 60 MINUTES OFF.
- FALL THROUGH SINGULAR® PLANT FROM INLET INVERT TO OUTLET INVERT IS FOUR INCHES. INLET INVERT IS TWELVE INCHES BELOW TANK TOP.
- ON DEEPER INSTALLATIONS, PRECAST RISERS MUST BE USED TO EXTEND AERATOR MOUNTING CASTING AND BIO-KINETIC® SYSTEM MOUNTING CASTING TO GRADE.
- TANK REINFORCED PER ACI STD. 318-05.
- REMOVABLE COVERS ON RISERS WEIGH IN EXCESS OF SEVENTY-FIVE POUNDS EACH TO PREVENT UNAUTHORIZED ACCESS.
- CONTACT THE LOCAL, LICENSED SINGULAR® DISTRIBUTOR FOR ELECTRICAL REQUIREMENTS.

GOULDS PUMPS



Submersible Effluent Pump
MODEL 3885
WE Series

PROSURANCE AVAILABLE FOR RESIDENTIAL APPLICATIONS.

APPLICATIONS

Specifically designed for the following uses:
• Homes
• Farms
• Trailer courts
• Hotels
• Schools
• Hospitals
• Industry
• Effluent systems

SPECIFICATIONS

Pump
• Solids handling capabilities: 1/2" maximum.
• Discharge size: 2" NPT.
• Capacities: up to 140 GPM.
• Total heads: up to 128 feet TDH.
• Temperature: 104°F (40°C) continuous 140°F (60°C) intermittent.
• See order numbers on reverse side for specific HP, voltage, phase and RPM's available.

FEATURES

• Impeller: Cast iron, semi-open, non-clog with pump-out vanes for mechanical seal protection. Balanced for smooth operation. Silicon bronze impeller available as an option.
• Casing: Cast iron volute type for maximum efficiency. 2" NPT discharge.
• Mechanical Seal: SILICON CARBIDE VS. SILICON CARBIDE sealing faces. Stainless steel metal parts, Buna-N elastomers.

• Shaft: Corrosion-resistant, stainless steel. Threaded design. Locknut on all models to guard against component rotation.
• Fasteners: 300 series stainless steel.
• Capable of running dry without damage to components.
• Designed for continuous operation when fully submerged.

MOTORS
• Fully submerged in high-grade turbine oil for lubrication and efficient heat transfer.
• Class B insulation on 1/2-1 1/2 HP models.
• Class F insulation on 2 HP models.

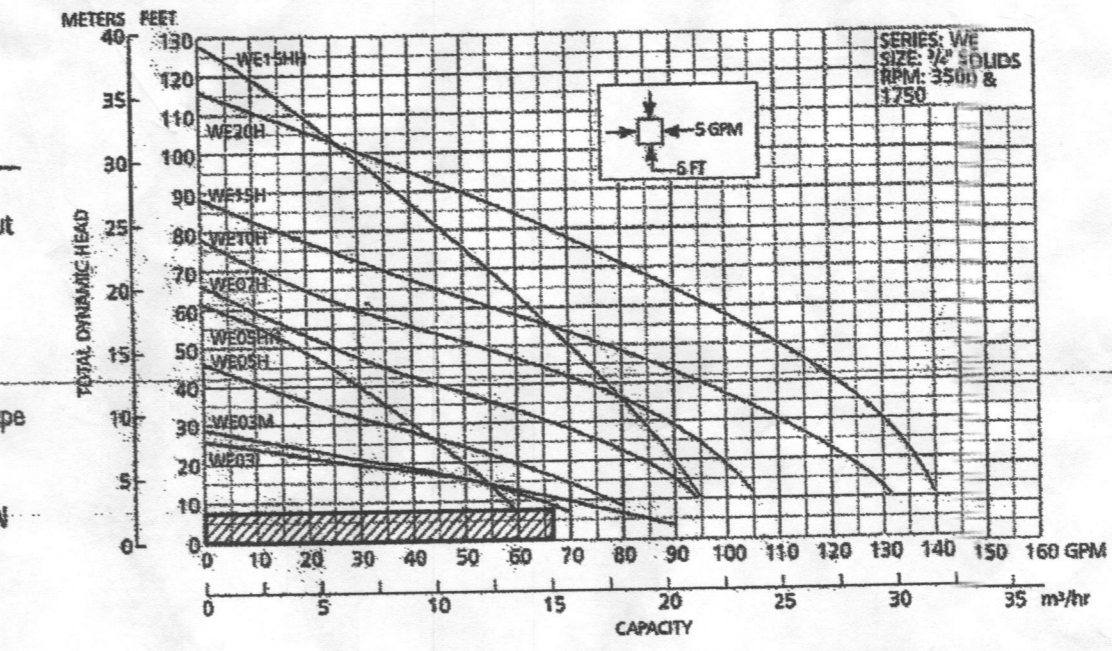
Single phase (60 Hz):
• Capacitor start motors for maximum starting torque.
• Built-in overload with automatic reset.
• S/TOW or STOW severe duty oil and water resistant power cords.
• 1/2 and 3/4 HP models have NEMA three prong grounding plugs.
• 1/2 HP and larger units have bare lead cord ends.

Three phase (60 Hz):
• Class 10 overload protection must be provided in separately ordered starter unit.
• STOW power cords all have bare lead cord ends.

• Designed for Continuous Operation: Pump ratings are within the motor manufacturer's recommended working limits.

can be operated continuously without damage when fully submerged.
• Bearings: Upper and lower heavy duty ball bearing construction.
• Power Cable: Severe duty rated, oil and water resistant. Epoxy seal on motor end provides secondary moisture barrier in case of outer jacket damage and to prevent oil wicking. Standard cord is 20'. Optional lengths are available.
• O-ring: Assures positive sealing against contaminants and oil leakage.

AGENCY LISTINGS
Tested to UL 728 and CSA 22.2 100 Standards by Underwriters Laboratories
UL File # E18540
Goulds Pumps is ISO 9001 Registered.

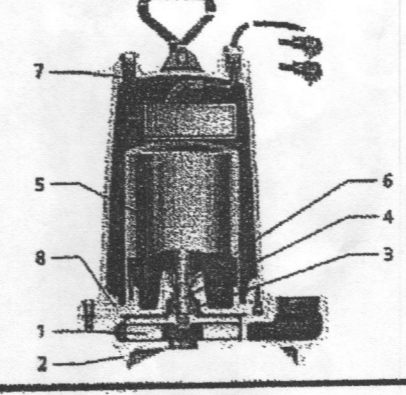


© 2003 Goulds Pumps Effective July, 2003 83885

www.goulds.com

Goulds Pumps
ITT Industries

GOULDS PUMPS



Submersible Effluent Pump
MODEL 3885
WE Series

COMPONENTS

1	Impeller
2	Casing
3	Mechanical Seal
4	Motor Shaft
5	Motor
6	Ball Bearings
7	Power Cable
8	Casing O-Ring

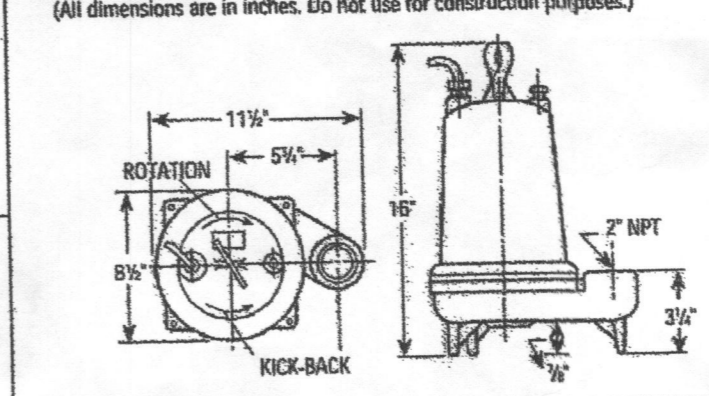
MODELS

Order No.	HP	Units	Phase	Max. Amp.	RPM	Std. Vol. (lbs.)	Vol. (lbs.)
WE031L	1/2	115	1	8.7			
WE031R	1/2	208	1	8.8			
WE031L	1/2	230	1	10.7	1750		56
WE031M	1/2	115	1	8.8			
WE031M	1/2	208	1	8.9			
WE0312M	1/2	230	1	10.8			
WE051H	1/2	115	1	14.5			
WE051R	1/2	208	1	8.1			
WE0512R	1/2	230	1	7.3			
WE053R	3/4	200	3	4.9			
WE053R	3/4	230	3	3.8			
WE0532R	3/4	200	3	4.9			
WE0532R	3/4	230	3	3.8			
WE0534R	1	460	3	1.4			
WE0537H	1 1/2	575	1	14.5			
WE051M	1/2	115	1	14.5			
WE051R	1/2	208	1	8.1			
WE0512R	1/2	230	1	7.3			
WE053R	3/4	200	3	4.9			
WE053R	3/4	230	3	3.8			
WE0532R	3/4	200	3	1.8			
WE0532R	3/4	460	3	1.5			
WE0537H	1 1/2	575	1	1.5			
WE071R	1	208	1	11.0			
WE0712H	1	230	1	10.0			
WE071R	1	200	3	6.2			
WE0712H	1	230	3	5.4			
WE0734H	1 1/2	460	3	2.7			
WE0737H	1 1/2	575	3	2.2			
WE101R	1	200	3	14.0			
WE1012H	1	230	3	12.5	3500		
WE103R	1	200	3	6.1			
WE1032H	1	230	3	7.0			
WE103R	1	460	3	3.5			
WE1037H	1 1/2	575	3	2.8			
WE151R	1 1/2	200	1	17.5			
WE1512H	1 1/2	230	1	15.7			
WE153R	1 1/2	200	3	10.8			
WE1532H	1 1/2	230	3	9.2			
WE1534H	1 1/2	460	3	4.6			
WE1537H	1 1/2	575	3	3.7			
WE1512H	1 1/2	200	1	17.5			
WE1512H	1 1/2	230	1	16.7			
WE153R	1 1/2	200	3	10.8			
WE1532H	1 1/2	230	3	9.2			
WE1534H	1 1/2	460	3	4.6			
WE1537H	1 1/2	575	3	3.7			
WE201R	2	200	1	18.0			
WE2012H	2	230	1	12.0			
WE203H	2	230	3	11.6			
WE2034H	2	460	3	5.8			
WE2037H	2	575	3	4.7			

PERFORMANCE RATINGS (gallons per minute)

Order No.	1750	1750	3500	3500	3500	3500	3500	3500	3500
1/2	88	88	88	88	88	88	88	88	88
3/4	70	63	70	63	70	63	70	63	70
1	52	50	70	50	50	50	50	50	50
1 1/2	25	25	60	63	80	123	40	80	138
2	25	25	66	76	94	117	45	87	133
3	30	30	35	67	88	110	40	83	130
4	35	35	20	57	82	103	35	80	126
5	40	40	45	74	95	30	77	121	117
6	45	45	35	64	86	26	74	116	116
8	50	50	25	53	77	20	70	110	110
10	55	55	20	40	67	16	66	103	103
15	60	60	15	30	58	12	63	98	98
20	65	65	10	20	45	8	55	89	89
25	70	70	7	15	35	6	55	81	81
30	75	75	5	10	25	4	51	74	74
40	80	80	3	7	18	3	47	66	66
50	85	85	2	5	12	2	37	49	49
75	90	90	1	3	7	1	28	30	30
100	95	95	1	2	5	1	20	20	20

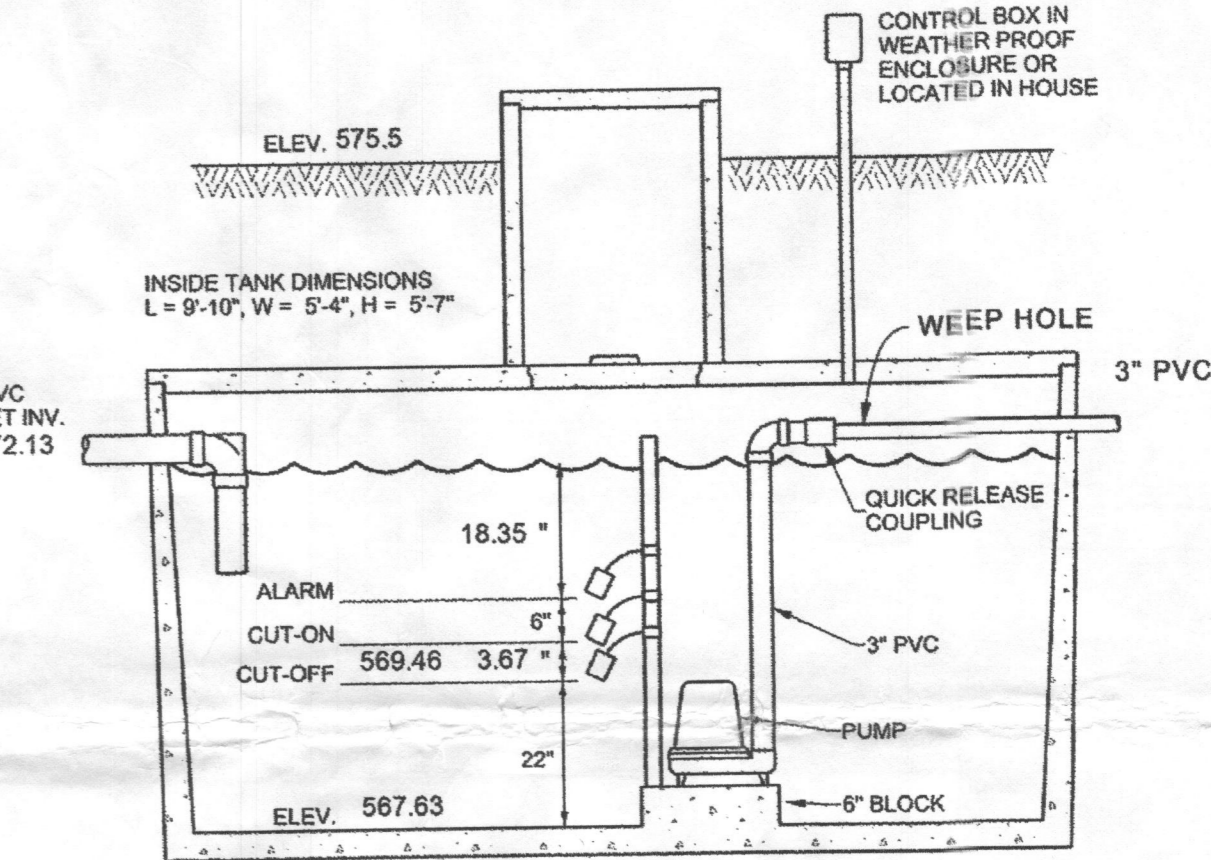
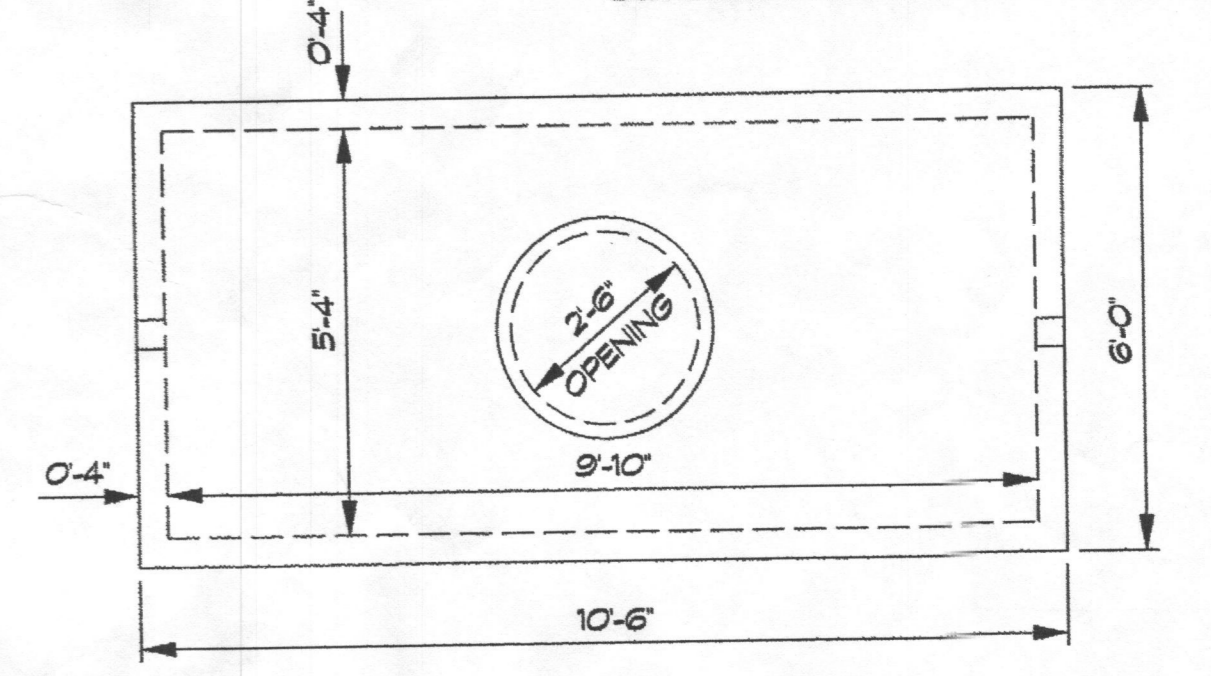
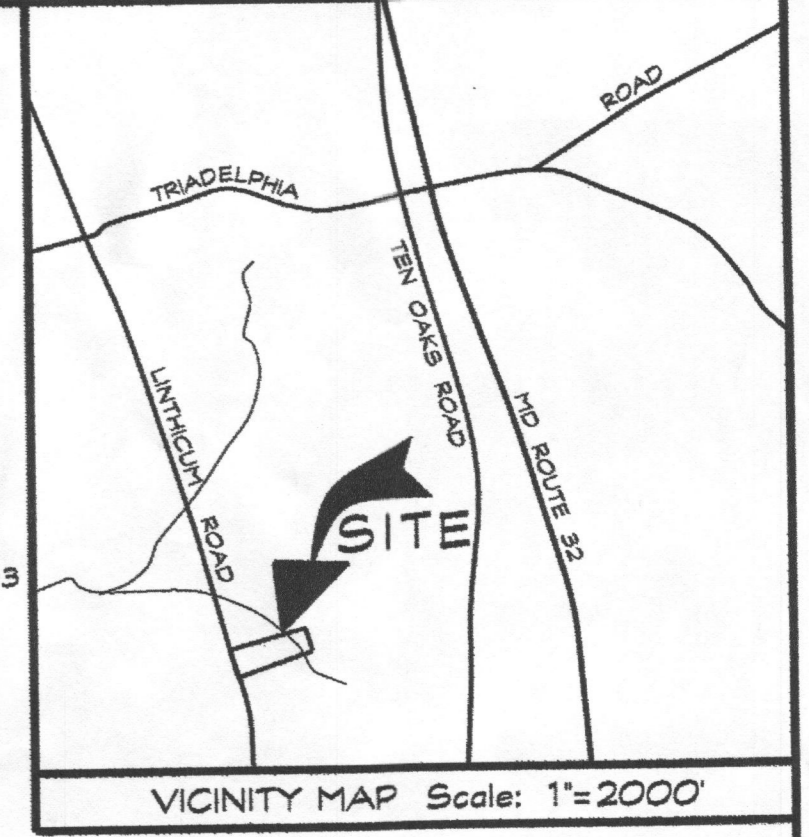
DIMENSIONS



NOTE: PUMP CHAMBER SIZE AND FLOATS BASED ON GOULDS WE SERIES SUBMERSIBLE PUMP. IF A PUMP SUBSTITUTION OCCURS, CHAMBER SIZE AND FLOATS WILL NEED TO BE RECALCULATED TO ENSURE THAT PUMP IS COVERED.

SPECIFICATIONS

- Tank measurements and elevations are based on septic tanks and pump chambers as manufactured by Mayer Bros., Elkridge, Maryland (410) 796-1434 and Babylon Vault Co, New Windsor, Maryland (410) 848-0393
- All piping to be schedule 40 PVC of sizes shown.
- A submersible pump to remove 67,000 GPM against 7.68 TDH to be provided. Pump to be a Goulds Model 3885-WE-03M, or equal.
- Alarm to be located in the house on circuit separate from the pump.



1500 GAL. PUMP CHAMBER
NOT TO SCALE

PRESSURE DISTRIBUTION ON SLOPING SITES

Trench	Relative Elevation (ft)	Trench length (ft)	Head (ft)	Orifice Diameter (in)	Orifice Flow Rate (gpm)	Drift Spacing (ft)	Number of Orifices	Trench Flow Rate (gpm)
# 1	576.0	80.0	2.0	5/16	1.63	4.0	20	32.60
# 2	574.5	80.0	3.5	5/16	2.15	5.0	16	34.40

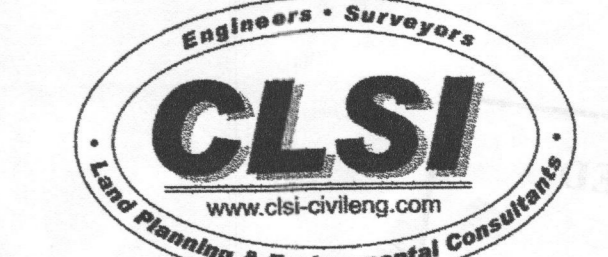
Approved Sept 2, 2014
Howard County Health Department
BAT system w/ LPD
approved as shown
R. Bieker 4/30/2014

OWNER/DEVELOPER
ERIC & PAMELA COLOMBEL
10169 CAPE ANNE DRIVE
COLUMBIA, MD 21046
(240) 401-6534

PERCOLATION TEST RESULTS, A-526195

BAT DETAILS
4253 LINTHICUM ROAD
LOT 2
LEVINE PROPERTY

PLAT MDR 20574
TAX MAP 22 GRID 19 PARCEL 217 ZONING: RR-DEO
5th ELECTION DISTRICT HOWARD COUNTY, MARYLAND



439 East Main Street Westminster, MD 21157-5539
(410) 848-1790 FAX (410) 848-1791

Date	Revisions	Drawn By: BHT
11/13/13	revd septic line profile per Health Dept com's	Designed By:
		Reviewed By: LSA
		Date: 9/10/13
		Scale: AS SHOWN
		Job No.: 2006208
		Sheet: 2 OF 2