

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
 Facebook: www.facebook.com/hocohealth

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

RECEIPT DATE: 4/9/15 **ONSITE SEWAGE DISPOSAL SYSTEM** P 555805

INSTALLATION
 APPROVAL DATE: 5/29/2015 **PERMIT** A _____
CONSTRUCTION

PROPERTY ADDRESS: 18361 Chelsea Knolls Drive

SUBDIVISION: Chelsea Knolls LOT: 7 TAX ID: 04-594321

CONTRACTOR: Hatfield's Equipment EMAIL: ken@hatfieldsequipment.com

CONTRACTOR ADDRESS: P.O. Box 519, Annapolis Junction, MD 20701 PHONE: 301-490-4289

PROPERTY OWNER: Ryan Homes EMAIL: _____

OWNER ADDRESS: 9720 Patuxent Woods Drive PHONE: 410-796-0980

BAT UNIT MODEL: Norweco TNTLP-500 PUMP SIZE: _____ PUMP TANK CAPACITY: 1500 GAL

DISTRIBUTION SYSTEM: GRAVITY LOW PRESSURE DOSED NUMBER OF BEDROOMS: 4

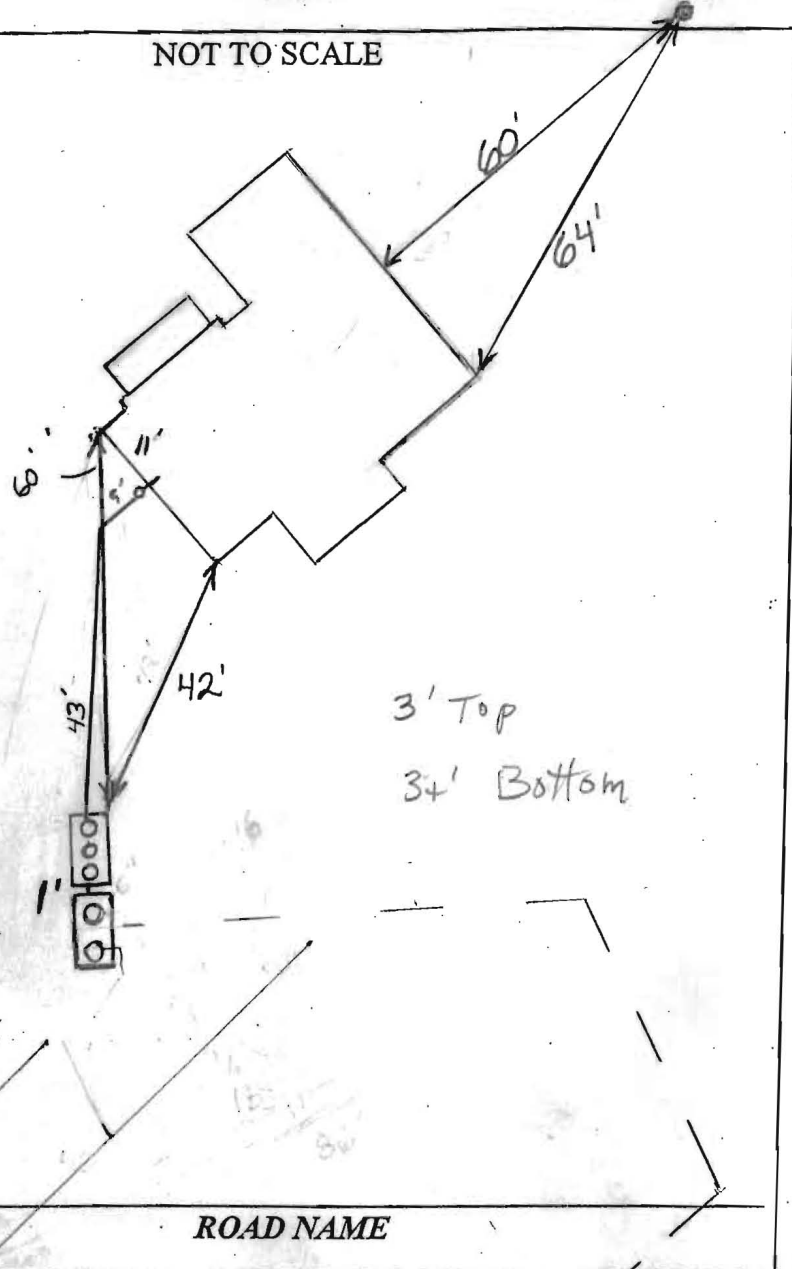
TRENCHES:	LINEAR FEET REQUIRED: <u>126</u>	INLET DEPTH: <u>3.5</u>
	TRENCH WIDTH: <u>3</u>	MAXIMUM BOTTOM DEPTH: <u>6.5</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>11</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>3.5</u>
LOCATION:	PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND BAT UNIT LOCATION MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.	
NOTES:	Install BAT unit per plan. <i>3x42' Trenches</i>	

ISSUED BY: Robert Bricker ISSUE DATE: 4/9/15 EXPIRATION DATE: 4/9/16

- 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 DOWNGRAIDENT 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
- NOTE: AN INDIVIDUAL CERTIFIED BY MDE AND THE MANUFACTURER FOR BAT INSTALLATION MUST BE PRESENT AT ALL TIMES DURING BAT INSTALLATION.
- 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.**

NOT TO SCALE



TRENCH/DRAINFIELD DATA		
WIDTH	INLET	BOTTOM
3'	3.5'	6.5'
NUMBER OF TRENCHES	2	
TOTAL LENGTH	131'	
ABSORPTION AREA	393+Sidewalk	
DISTRIBUTION BOX LEVEL	N/A	
DISTRIBUTION BOX BAFFLE	N/A	
DISTRIBUTION BOX PORT	N/A	

SEPTIC TANK DATA	
SEPTIC TANK 1 LEVEL	Yes
MANUFACTURER	Back River
CAPACITY	717500 GAL
SEAM LOC	Top
TANK LID DEPTH	2.5'
BAFFLES	no
BAFFLE FILTER	N/A
MANHOLE LOC	Front/Center/Back
6" PORT LOC	none
WATERTIGHT TEST	No
SLOTTED	Yes
DATE ON LID	N/A
PUMP/SEPTIC TANK LEVEL	Yes
MANUFACTURER	Babylon
CAPACITY	1500 GAL
SEAM LOC	Top
TANK LID DEPTH	2.5'
BAFFLES	no
BAFFLE FILTER	no
MANHOLE LOC	Front+Rear
6" PORT LOC	none
WATERTIGHT TEST	N/A
SLOTTED	no
DATE ON LID	N/A

3' Top
3+ Bottom

ROAD NAME

PRE-CONSTRUCTION: 5/4/15 5/14 Trenches laid out and staked. Install similar to plans. Tank locations staked. (BB)

INSTALLATION: 5/18/15 Upon arrival, contractor had both tanks set and 4" gravity line run from house to BAT. Pump (meyers 1/2 HP) set in place, starting 2" F.M. install. (Kmlw)

5/19/2015 Trenches finished. Need pump and alarm test and BAT certification from Norweco representative. (BB)

5/21/2015 Received start-up certification from Norweco (Back River) representative. Need pump and alarm test. (BB)

5/29/2015 Alarm working. Laterals getting 3-5 feet of head. Have

FINAL INSPECTOR B. Baker DATE OF APPROVAL 5/29/2015
BAT certification from Norweco representative. (BB)

Back River Pre-Cast, LLC

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

Letter of Certification

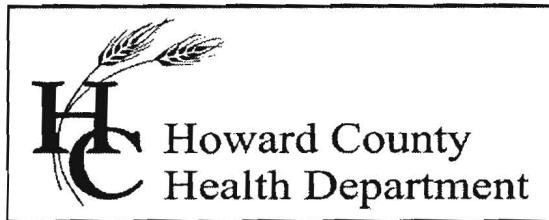
This is to certify that the Norweco Singlair TNT 600 GPD Septic Tank installed at **18361 Chelsea Knolls Dr.**, Mt. Airy, MD 21771 was installed on May 18, 2015 according to the manufacture's specifications.

Installer: Jeff Reiter

Property Owner: NVR



MATTHEW GECKLE
Vice-President



Bureau of Environmental Health

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www.hchealth.org
Facebook: www.facebook.com/hocohealth
Twitter: [HowardCoHealthDep](https://twitter.com/HowardCoHealthDep)

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

February 2, 2015

To: Stephanie Tuitte, Fisher, Collins & Carter, Inc..
Stephanie@fcc-eng.com

From: Robert Bricker, REHS/R.S., L.E.H.S.
Environmental Sanitarian II
Well and Septic Program

RE: 18360 Chelsea Knolls Drive, BAT Plan comment

Edits are needed in the submitted BAT Plan for the subject property. See the comments listed below.

1. Attached is the Health Department's document listing the required content for a BAT Site Plan. One item missing from the plan is the locations of the percolation tests. Please review and check the BAT Plan to see that all content is included.
2. Once again, the specified location for the control panel for the BAT is missing from the plan. There is also a control panel required for floats and pump. Is this in the same control panel? Where?
3. In the labels and tables throughout the plan use terms consistently. For example use either 'orifice' or 'perforation' throughout the plan.
4. The detail for the distribution network has incorrect labels for lateral length.
5. Include a label in the detail for the lateral turn-up indicating 'position of end perforation at elevation of pipe crown'.
6. In the Low Pressure Dosing System-Initial Installation table.
 - a. Correct the perforation flow rate for laterals 1B1 and 1B2. The value is interpolated between 1.99 and 2.15. When interpolated the resulting flow per lateral is 11.5% different than the flow rate for lateral 1A, which is not approvable. You will probably need to add another perforation each in 1B1 and 1B2.
 - b. "Perforation Spacing" values in the table for Initial System are incorrect. These values are not the same values as the "Trench Flow Rates" that you have presented.

**FISHER, COLLINS
& CARTER, INC.**

**CIVIL ENGINEERING CONSULTANTS
and LAND SURVEYORS**

Terrell A. Fisher, P.E., L.S.
Earl D. Collins, P.E.
Charles J. Crovo, Sr., P.E., L.S.

Paul W. Kriebel, P.E.
Mark L. Robel, P.L.S.
Aldo M. Vitucci, P.E.

February 3, 2015

Mr. Robert Bricker, REHS/R.S., L.E.H.S.
Howard County Health Department
Bureau of Environmental Health
8930 Stanford Boulevard
Columbia, Maryland 21046

Re: Chelsea Knolls, Lots 7
Revised BAT Site Plan

Dear Mr. Bricker:

Attached please find three (3) sets of the revised BAT Site Plan for your review and approval. The following is a point by point response to your comments dated February 2, 2015.

1. We unfortunately did leave the perc holes off of the plans. They have been added. All other items on the checklist are on the plans.
2. Control Panel location was accidentally left off of the plan. Unless required by the electrician, I do not see why one control panel for the BAT & Pump cannot be utilized.
3. Labels have been made consistent.
4. Unfortunately the trench length was labeled instead of the pipe length. The lengths have been corrected.
5. Although this label was already shown in the center feed layout, this note has been also added to the turn up detail.
6.
 - a. Revision to flow rate has been made, even though we were following the example in LPD guidelines which did not interpolate flow rates.
 - b. An unfortunate oversight. The Perforation spacing values have been corrected.
7. Laterals have been redesigned as requested.
8.
 - a. Lateral feed layout has been added as requested.
 - b. Replacement system design has been removed.
9. Replacement system design table has been removed.
10. We believed all items to be included. We have added in the two elbows at the lateral which brings the head just under 12 feet.
11. The statement on sheet 1 has been revised. We did not believe the pump to be too oversized, but recommendation for pump size has been revised as requested on both sheets 1 & 2.
12. The weep hole has been shown.
13. As stated above, we did not believe the pump to be too oversized, but recommendation for pump size has been revised as requested on both sheets 1 & 2.
14. Note has been added as requested.

Thank you for your consideration of this request.

Very truly yours,



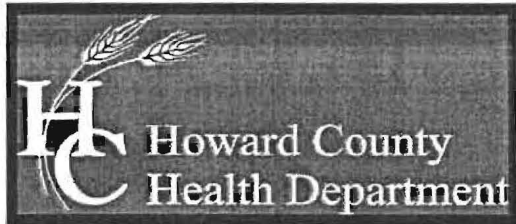
Stephanie Tuite, RLA, PE, LEED AP BD&C
Fisher, Collins & Carter, Inc.

WO #13038-3001

7. Re-design laterals 1B1 and 1B2 according to 6.a. above. Correct all tables and details.
8. Add a lateral detail for the end feed lateral as it is different than the center feed. Indicate the beginning of the trench relative to the position of the manifold and lateral.
 - a. As you have detail drawings for both types of laterals, specify the perforation interval for each and the $\frac{1}{2}$ perforation distance at the beginnings and ends of the respective laterals.
 - b. Also, it will be helpful to you that you include in your lateral profile only the information required for the initial installation. Please do not confuse matters with extraneous details about the First Replacement system that hopefully will not be needed for several decades.
9. Eliminate the Low Pressure Dosing System-First Replacement table.
10. In the calculation for Friction Loss in the Force Main, include all fittings in the Force Main including all that are inside the tank. You missed including an 'ell' in your friction loss calculations.
11. Correct the statement on Sheet 1 concerning your pump recommendation. You are not recommending a pump for the Replacement System, and the pump you recommended is not 0.5 hp. If you are going to state anything, specify the pump model and horsepower that you have selected from the pump response curve on Sheet 2.
12. Include a label for $\frac{1}{4}$ " perforation in the Force Main inside the Pump Tank, and indicate its position above the ALARM Float.
13. Like recommending too small of a pump causes problems; oversizing the pump can cause problems as well. The pump you should be selecting is the one that has the response curve nearest to your point of intersection for head:discharge with your head:discharge intersection under the curve.
Another thing to consider is that the pump is appropriate for residential use and doesn't require a special circuit. Try for a pump that operates on 115V, single-phase current. Then of course there is cost. There are two pumps that are a closer match to your system than the one you selected, and one of those pumps is 0.3 hp.
14. Add a note stating that any septic system ALARM will be on a circuit separate from any other septic system components or alarms.

RB

Copy: Daren Snyder, Ryan Homes
file



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7178 Columbia Gateway Drive, Columbia, MD 21046-2147
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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

Lot 7

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

THIS AGREEMENT is made this 15th day of May 2014, among Chelsea Knolls, LC, 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 18360 Chelsea Knolls Drive, Mt Airy, Maryland 21771, in the 4th 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 8717 Folio 579.

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

13038-301

Clerk of the Circuit Court for
Howard County
Land Records/Licensing
14 SAT AGREEMENTS
The Thomas Dorsey Building
9250 Bendix Road
Columbia, MD 21045
410-313-5850

~~FOR CHECK~~
=====

LR - Agreement Recording Fee	1x	20.00	20.00
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Grantor/Grantee Name: Chelsea Knolls LC
Reference/Control #: 82

LR - Agreement Surcharge	1x	40.00	40.00
LR - Agreement Recording Fee	1x	20.00	20.00

Grantor/Grantee Name: Chelsea Knolls LC
Reference/Control #: 83

LR - Agreement Surcharge	1x	40.00	40.00
LR - Agreement Recording Fee	1x	20.00	20.00

Grantor/Grantee Name: Chelsea Knolls LC
Reference/Control #: 84

LR - Agreement Surcharge	1x	40.00	40.00
LR - Agreement Recording Fee	1x	20.00	20.00

Grantor/Grantee Name: Chelsea Knolls LC
Reference/Control #: 85

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LR - Agreement Recording Fee	1x	20.00	20.00

Grantor/Grantee Name: Chelsea Knolls LC
Reference/Control #: 86

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LR - Agreement Recording Fee	1x	20.00	20.00

Grantor/Grantee Name: Chelsea Knolls LC
Reference/Control #: 87

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Grantor/Grantee Name: Chelsea Knolls LC
Reference/Control #: 88

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Reference/Control #: 89

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Grantor/Grantee Name: Chelsea Knolls LC
Reference/Control #: 90

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Grantor/Grantee Name: Chelsea Knolls LC

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LR - Agreement Recording Fee
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Grantor/Grantee Name: Chelsea Knolls LC
Reference/Control #: 88

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LR - Agreement Recording Fee
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Grantor/Grantee Name: Chelsea Knolls LC
Reference/Control #: 89

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Grantor/Grantee Name: Chelsea Knolls LC
Reference/Control #: 90

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Reference/Control #: 91

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Grantor/Grantee Name: Chelsea Knolls LC
Reference/Control #: 92

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Grantor/Grantee Name: Chelsea Knolls LC
Reference/Control #: 93

LR - Agreement Surcharge
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Grantor/Grantee Name: Chelsea Knolls LC
Reference/Control #: 94

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1x 20.00 20.00
Grantor/Grantee Name: 95

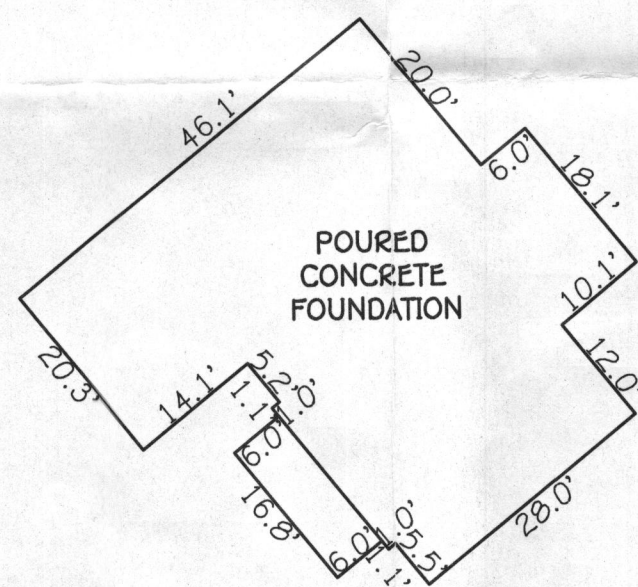
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** VOID **
1x -40.00
LR - Agreement Recording Fee
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Grantor/Grantee Name: Chelsea Knolls LC
Reference/Control #: 95

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1x 40.00 40.00

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Total: 840.00
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REV-Check-80A 840.00
Number : 3616

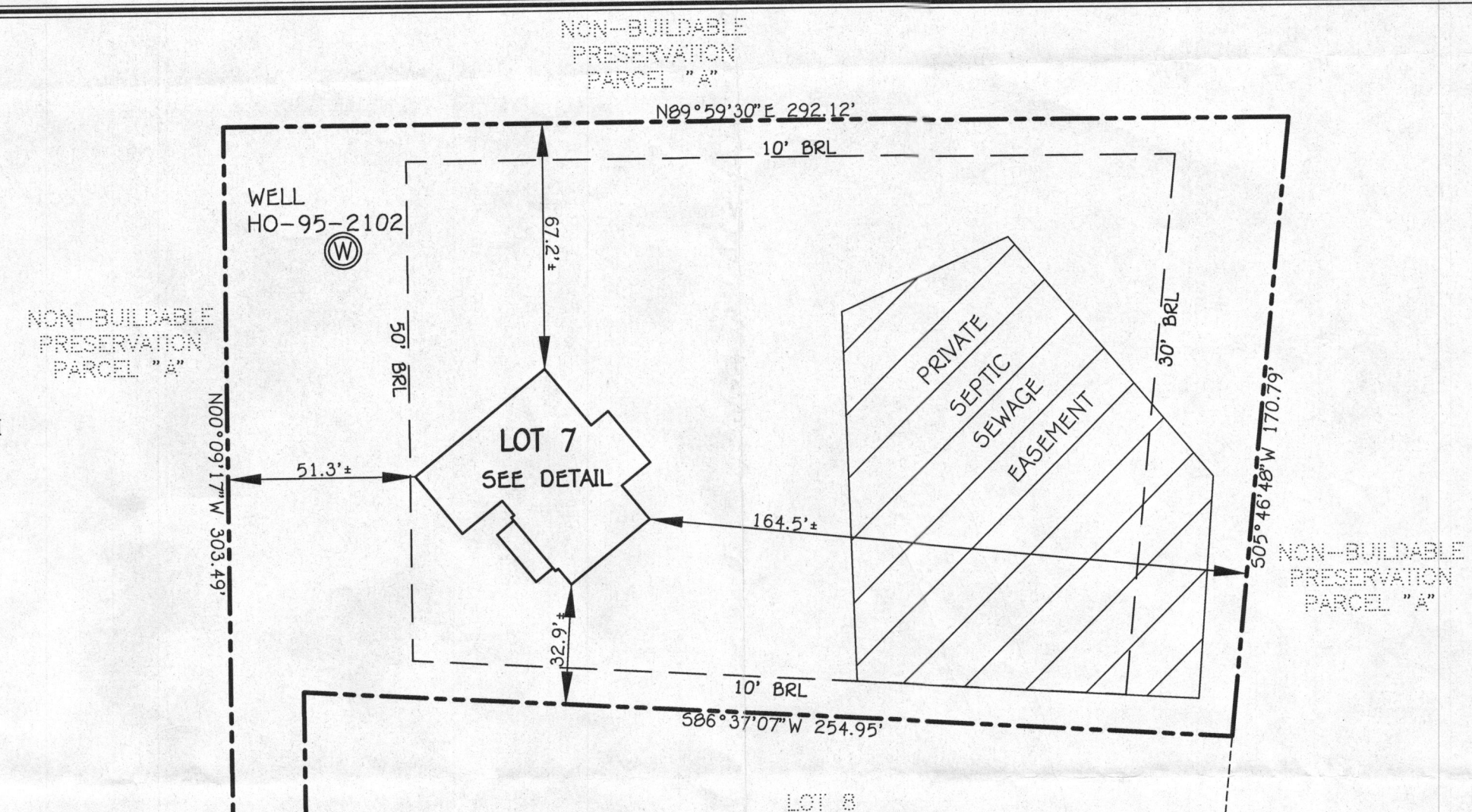
GENERAL NOTES:

- 1) THIS LOCATION DRAWING IS PREPARED FOR THE BENEFIT OF THE CLIENT SIGNING THE HOUSE LOCATION SURVEY APPROVAL FORM INSOFAR AS IT IS REQUIRED BY A LENDER OR TITLE INSURANCE COMPANY OR ITS AGENTS IN CONNECTION WITH THE CONTEMPLATED TRANSFER, FINANCING OR REFINANCING OF THE PROPERTY SHOWN HEREON. UNLESS INDICATED AS BEING A BOUNDARY SURVEY, THIS LOCATION DRAWING IS NOT INTENDED FOR USE IN THE ESTABLISHMENT OF PROPERTY LINES AND IS NOT TO BE RELIED UPON FOR THE ESTABLISHMENT OR LOCATIONS OF FENCES, GARAGES, BUILDINGS OR OTHER EXISTING OR FUTURE IMPROVEMENTS. AS A RESULT, THIS LOCATION DRAWING DOES NOT PROVIDE FOR ACCURATE IDENTIFICATION OF PROPERTY LINES, BUT SUCH IDENTIFICATION MAY NOT BE REQUIRED FOR THE TRANSFER OF TITLE OR SECURING FINANCING FOR RE-FINANCING.
- 2) SUBJECT PROPERTY IS SHOWN IN ZONE X ON THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP OF HOWARD COUNTY, MARYLAND, COMMUNITY PANEL No. 24027C00100 EFFECTIVE 11/06/2013
- 3) THE OFFSETS FROM BUILDING LINE TO PROPERTY LINE AS SHOWN ON THE PLAT HEREON ARE TO AN ACCURACY OF PLUS OR MINUS 1.0.'
- 4) NO TITLE REPORT FURNISHED. SUBJECT TO ALL EASEMENTS, RIGHTS OF WAY AND CONDITIONS OF RECORD.
- 5) THE EXISTING WELL(S) SHOWN ON THIS PLAN (IDENTIFIED WITH THE ATTACHED WELL TAG NUMBER HO-95-2102 HAS BEEN FIELD LOCATED BY FISHER, COLLINS AND CARTER, INC. PROFESSIONAL LAND SURVEYORS AND IS ACCURATELY SHOWN.
- 6) PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME OR UNDER MY RESPONSIBLE CHARGE, AND THAT I AM A DULY LICENSED PROPERTY LINE SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 339, EXPIRATION DATE 10/04/2016.
- 7) BUILDING PERMIT #B-15000015

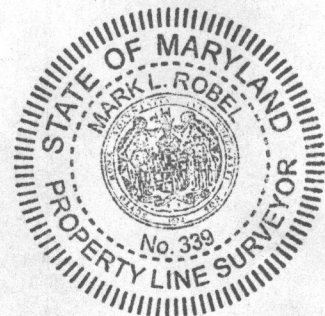
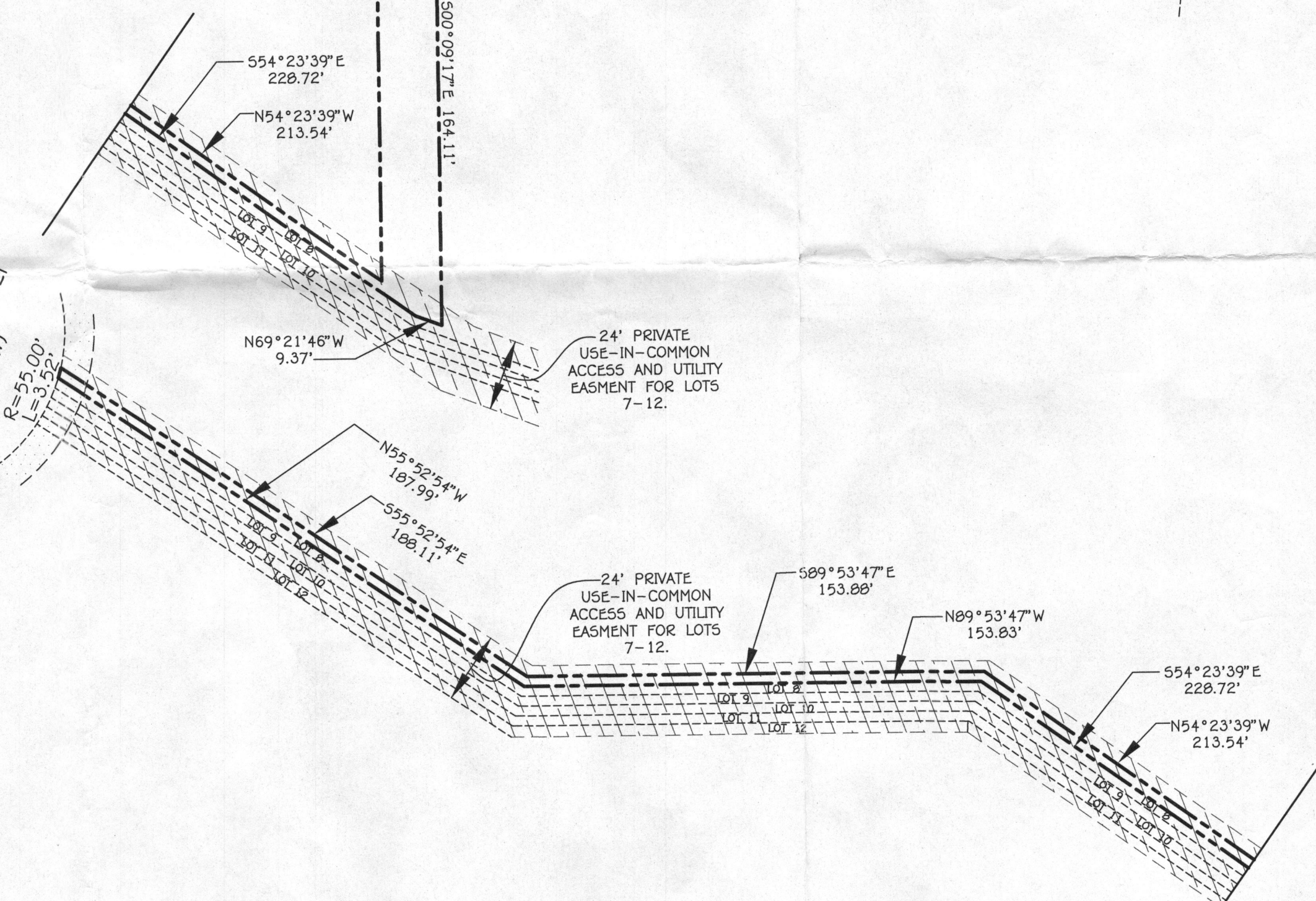


DETAIL:
1"=20'

4/9/15
Well Check
Approved



CHELSEA KNOLLS DRIVE
PUBLIC ACCESS STREET
(50' R/W)

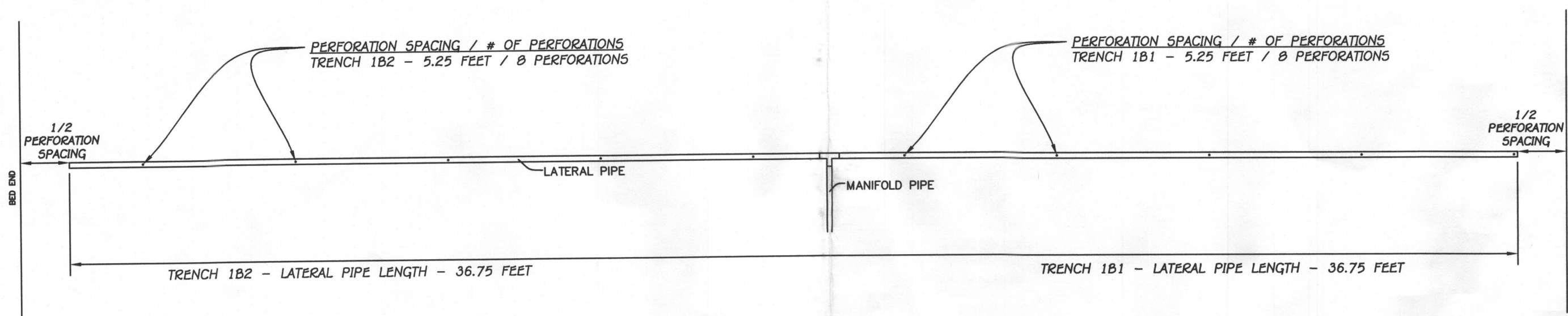


HOUSE LOCATION DRAWING

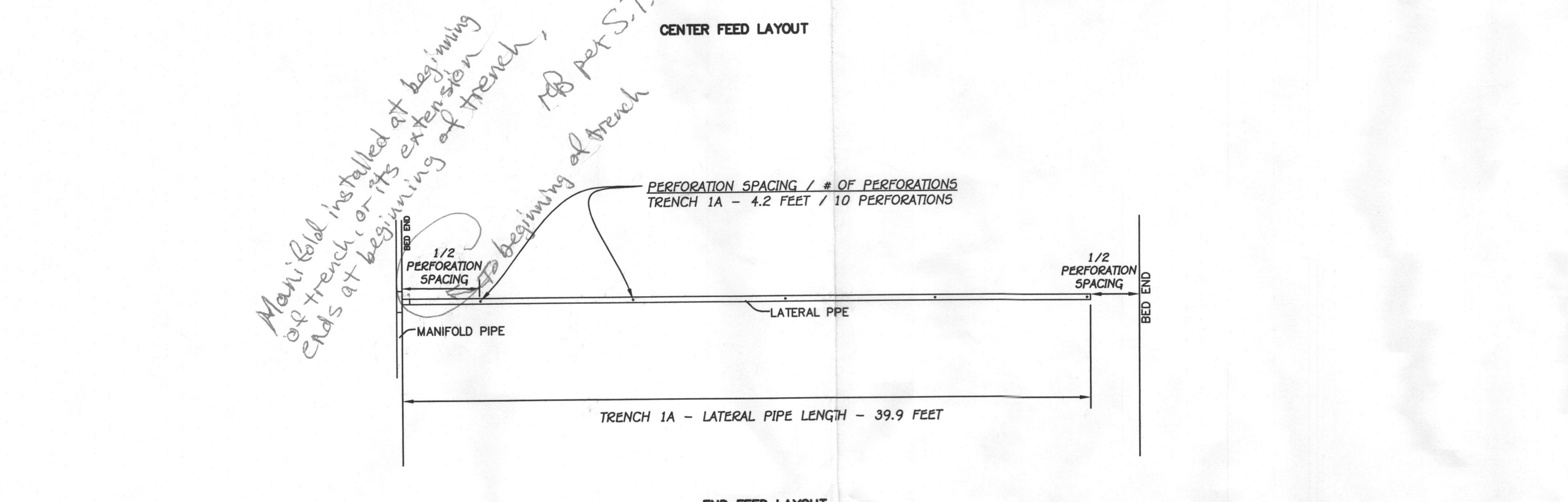
FOUNDATION LOCATION: 3/13/15
FINAL LOCATION: _____
BOUNDARY SURVEY: _____

SCALE: 1"=40'
DATE: 3/16/15
DRAWN BY: GAD
CHECKED BY: MLR
PROJECT No.: 13030-3001

LOT 7
CHELSEA KNOLLS
LOTS 1 THRU 14,
NON-BUILDABLE PRESERVATION
PARCELS 'A' & 'B' AND
NON-BUILDABLE BULK PARCEL 'C'
PLAT NOS. 22016 THRU 22019
FOURTH ELECTION DISTRICT
HOWARD COUNTY, MARYLAND



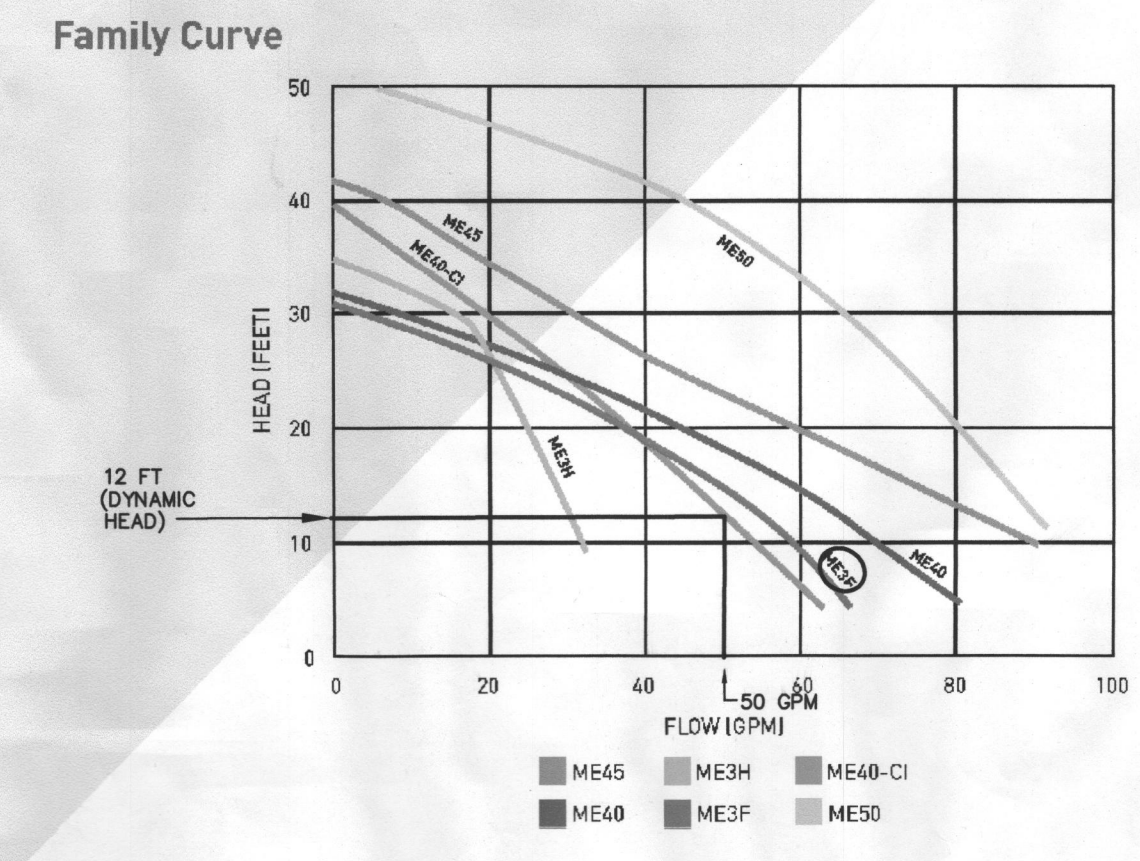
Manifold installed at beginning of trench or its extension at beginning of trench, as per S.T.



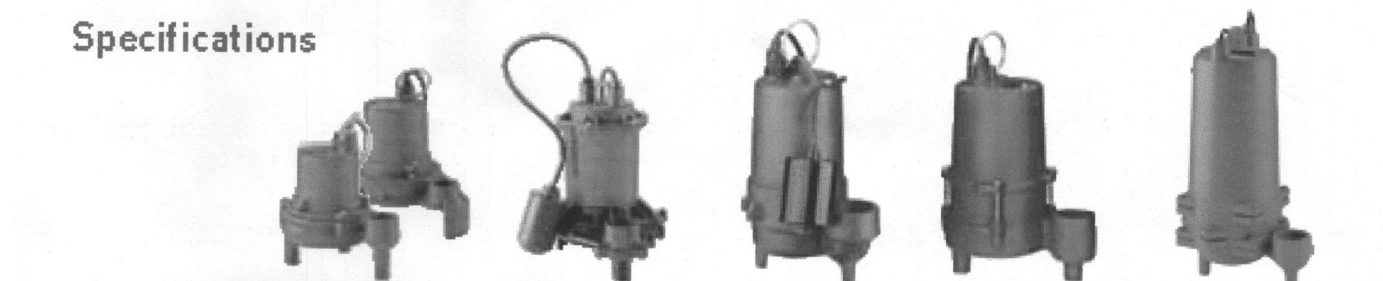
ME SERIES EFFLUENT PUMPS

Trust The Pump Experts.
Myers has a market leading portfolio of horsepower and pump curve combinations, delivered with distinctive service.

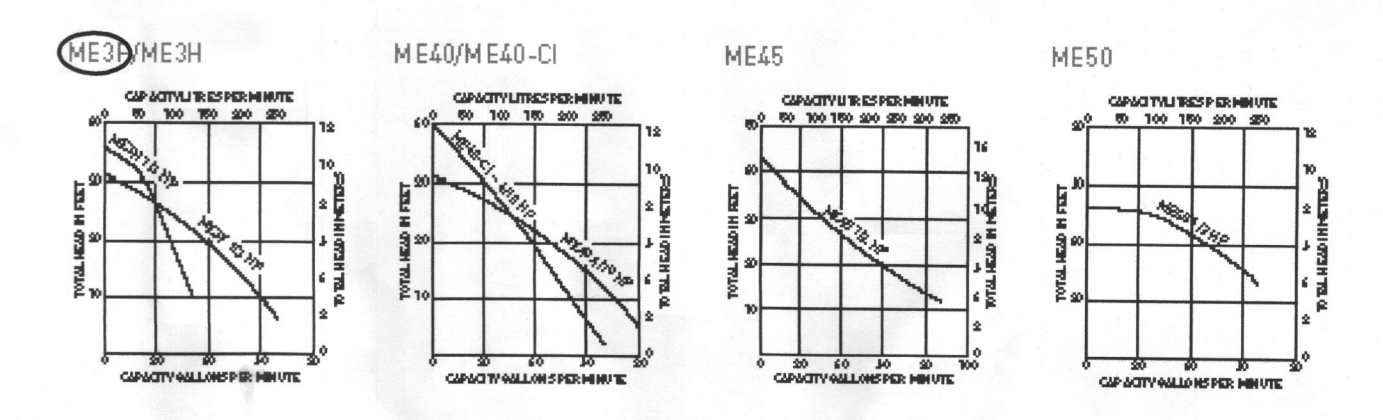
- Features**
- RELIABLE AND TOUGH**
 - Rugged, oil-cooled motor provides continuous bearing lubrication and maximizes heat dissipation
 - EXTENDED SERVICE**
 - Lubricated ball bearings and shaft seal for longer service life
 - MOTOR PROTECTION**
 - Long-life carbon/ceramic seal protects motor against water leakage
 - THERMAL OVERLOAD**
 - Heat sensor overload protection with automatic reset when motor cools to safe operating temperature
 - NO DRILLING REQUIRED**
 - Anti-airlock hole in base reduces added labor
 - EASY SERVICEABILITY**
 - Pump, intake screen volute base, switch and power cord are serviceable



ME SERIES



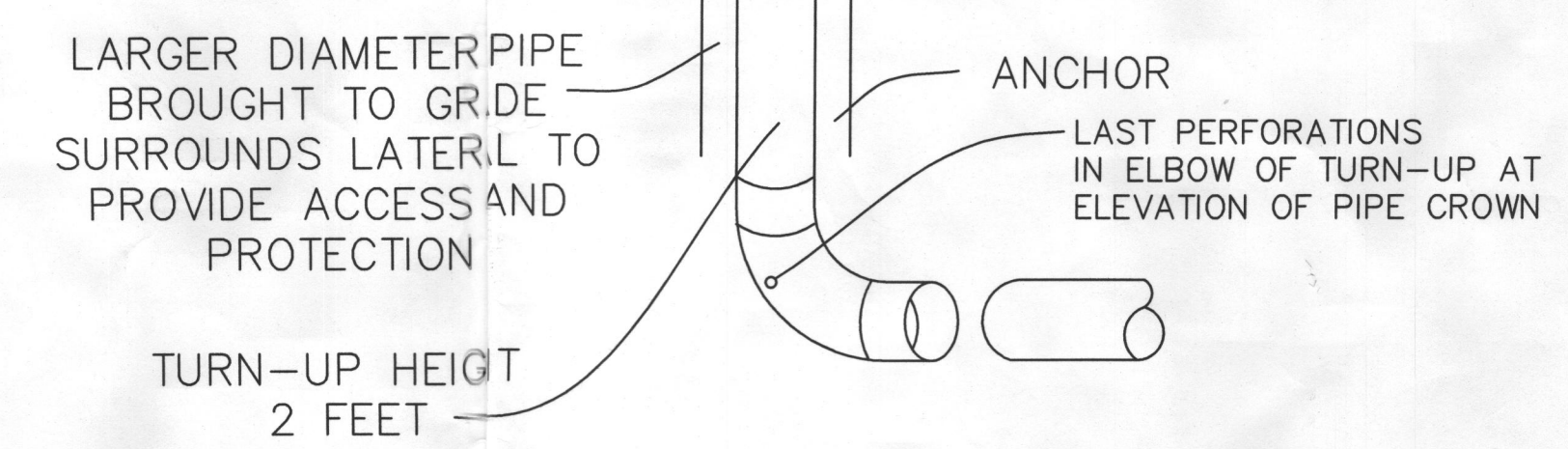
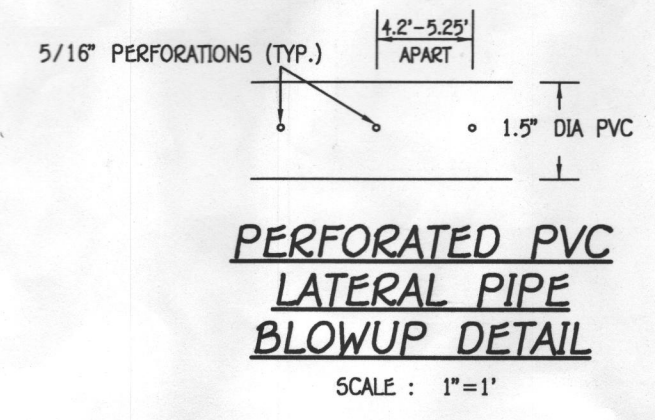
	ME3H/ME3H	ME40	ME40-CI	ME45	ME50/ME50
Capacities	ME3H: 35 GPM (135 LPM) ME3F: 50 GPM (189 LPM)	80 GPM (303 LPM)	60 GPM (227 LPM)	97 GPM (369 LPM)	120 GPM (454 LPM)
Static Head	ME3H: 25' (7.6 m) ME3F: 21' (6.4 m)	22' (6.7 m)	40' (12.2 m)	44' (13.4 m)	95' (29.0 m)
Operation	Automatic or manual	Automatic or manual	Automatic or manual	Automatic or manual	Automatic or manual
Solids Handling	3/4" (19 mm)	3/4" (19 mm)	3/4" (19 mm)	3/4" (19 mm)	3/4" (19 mm)
Liquids Handling	Domestic effluent and drain water	Domestic effluent and drain water	Domestic effluent and drain water	Domestic effluent and drain water	Domestic effluent and drain water
Liquid Temp	Intermittent up to 140°F (60°C)	Intermittent up to 140°F (60°C)	Continuous 100°F (38°C)	Intermittent up to 140°F (60°C)	Intermittent up to 140°F (60°C)
Motor Electrical Data	1/2 HP, 1550 RPM, shaded pole, oil-filled, 115V, 120, 16, 60Hz, 230V, 6A, 16, 60Hz	4/10 HP, 1850 RPM, PSC with thermal overload, oil-filled, 115V, 120, 16, 60Hz, 230V, 6A, 16, 60Hz	4/10 HP, 1850 RPM, PSC with thermal overload, oil-filled, 115V, 120, 16, 60Hz, 230V, 6A, 16, 60Hz	1/2 HP, 2400 RPM, PSC with thermal overload, oil-filled, 115V, 120, 16, 60Hz, 230V, 4.2A, 16, 60Hz	1/2 HP, 1150, 16, 1/2 to 1-1/2 HP, 2200, 36, 002234002750, 36, 115V, 0.2A, 16, 60Hz, PSC with thermal overload, oil-filled, permanent split capacitor type, 16, 3450 RPM, 60Hz
Acceptable pH Range	6-9	6-9	6-9	6-9	6-9
Shaft Seal	Carbon and ceramic mechanical seal	Carbon and ceramic mechanical seal	Carbon and ceramic mechanical seal	Carbon and ceramic mechanical seal	Carbon and ceramic mechanical seal
Housing/Volute	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron
Volute Base	Cast iron	Fiberglass reinforced polypropylene	Cast iron	Cast iron	Cast iron
Impeller	Fiberglass reinforced Nylon	Cast iron	Thermoplastic, non-clog, vortex type	Cast iron	Cast iron
Exterior Headroom	Stainless steel	Stainless steel	Stainless steel	Stainless steel	Stainless steel
Power Cord	20', 16/2, S/TW	20', 16/2, S/TW	20' 16', 16/2, S/TW-A/S/TW	20', 16/2, S/TW	10'
Discharge, NPT	1-1/2" (38.1 mm)	1-1/2" (38.1 mm)	2" (50.8 mm)	2" (50.8 mm)	2" (50.8 mm)



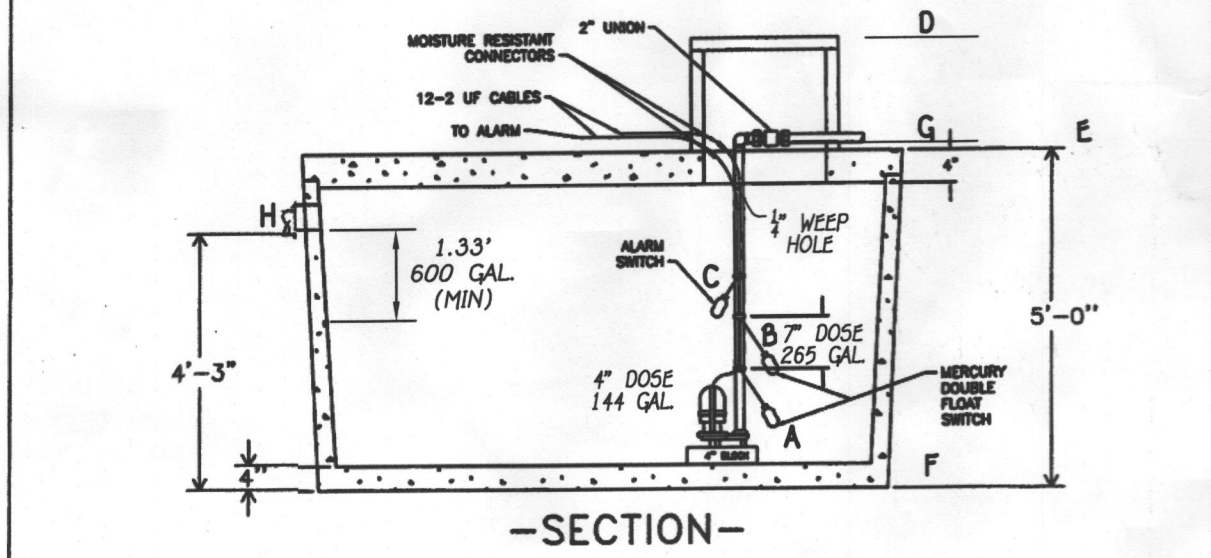
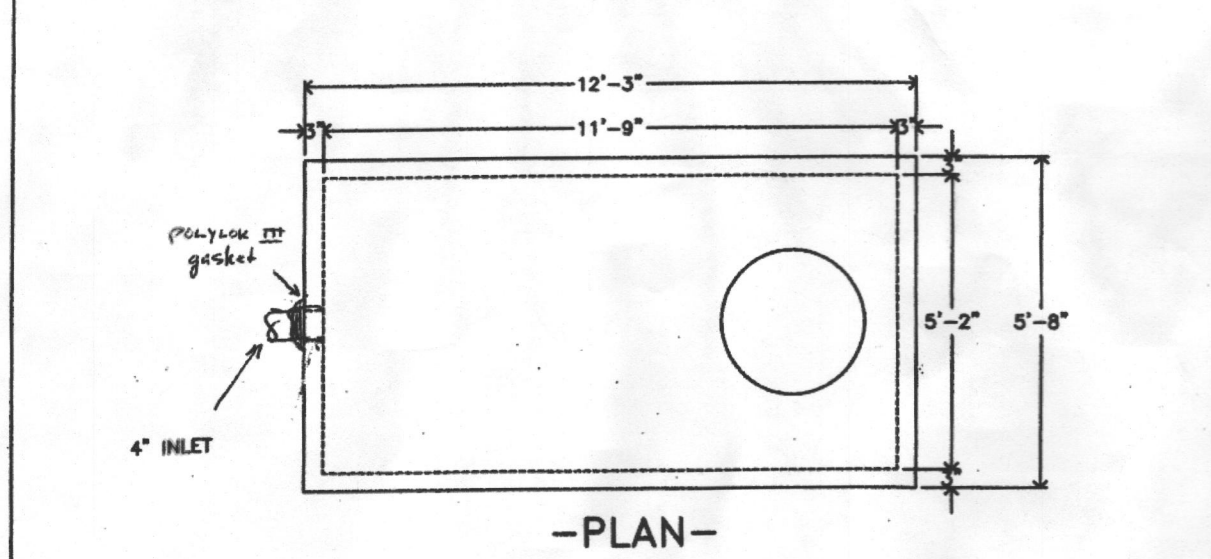
NOTE: USE A ME3F PUMP

NOTE: PLACE AN OBSERVATION PIPE IN THE GRAVEL BED AT THE DISTAL END OF EACH TRENCH SEGMENT.

Approved Septic System Plan
Howard County Health Department
Norweco TMTLP - 500 GPD
Monarch 1500-gal Pump Tank
w/ Myers 0.3hp Pump (ME3F)
R. Buckner
2/15/2015
Date



MONARCH PRODUCTS COMPANY, INC.
YORK HAVEN, PA.



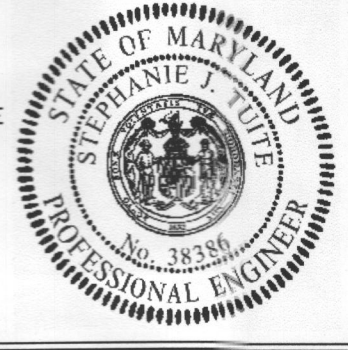
PRECAST 1 COMPARTMENT PUMP TANK 1500 GALLON CAPACITY
DWG. P-T-15-1

- PUMP ALARMS / INFORMATION**
- A PUMP OFF : 736.84
 - B PUMP ON : 737.17
 - C HIGH WATER ALARM : 737.75
 - D TOP OF ACCESS COVER : 742.10
 - E TOP OF TANK : 740.01
 - F BOTTOM OF TANK : 735.01
 - G DISCHARGE OUT OF TANK : 740.42
 - H INVERT INTO TANK : 739.26

NOTE: SEPTIC SYSTEM ALARM WILL BE ON A CIRCUIT SEPARATE FROM ANY OTHER SEPTIC SYSTEM COMPONENTS OR ALARMS.

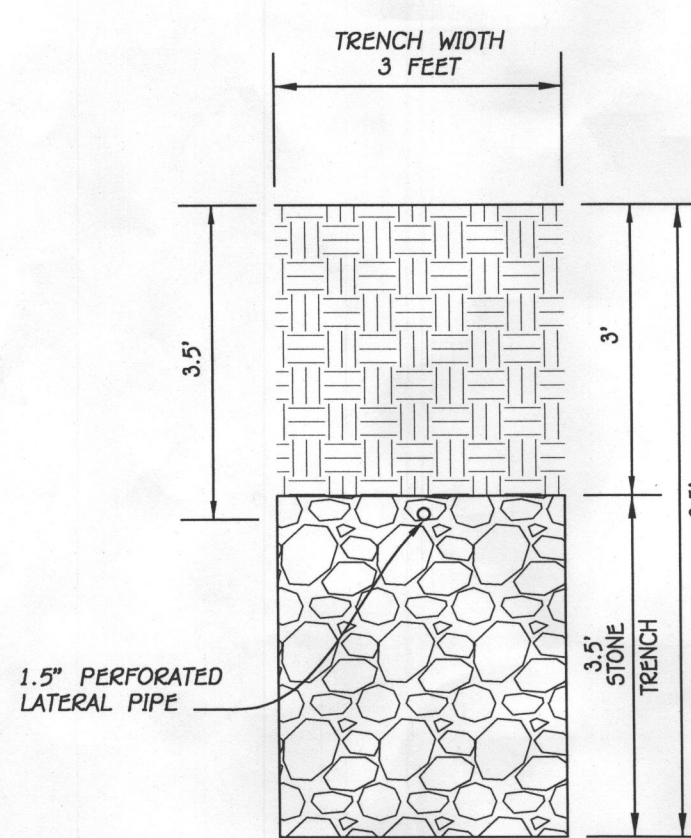
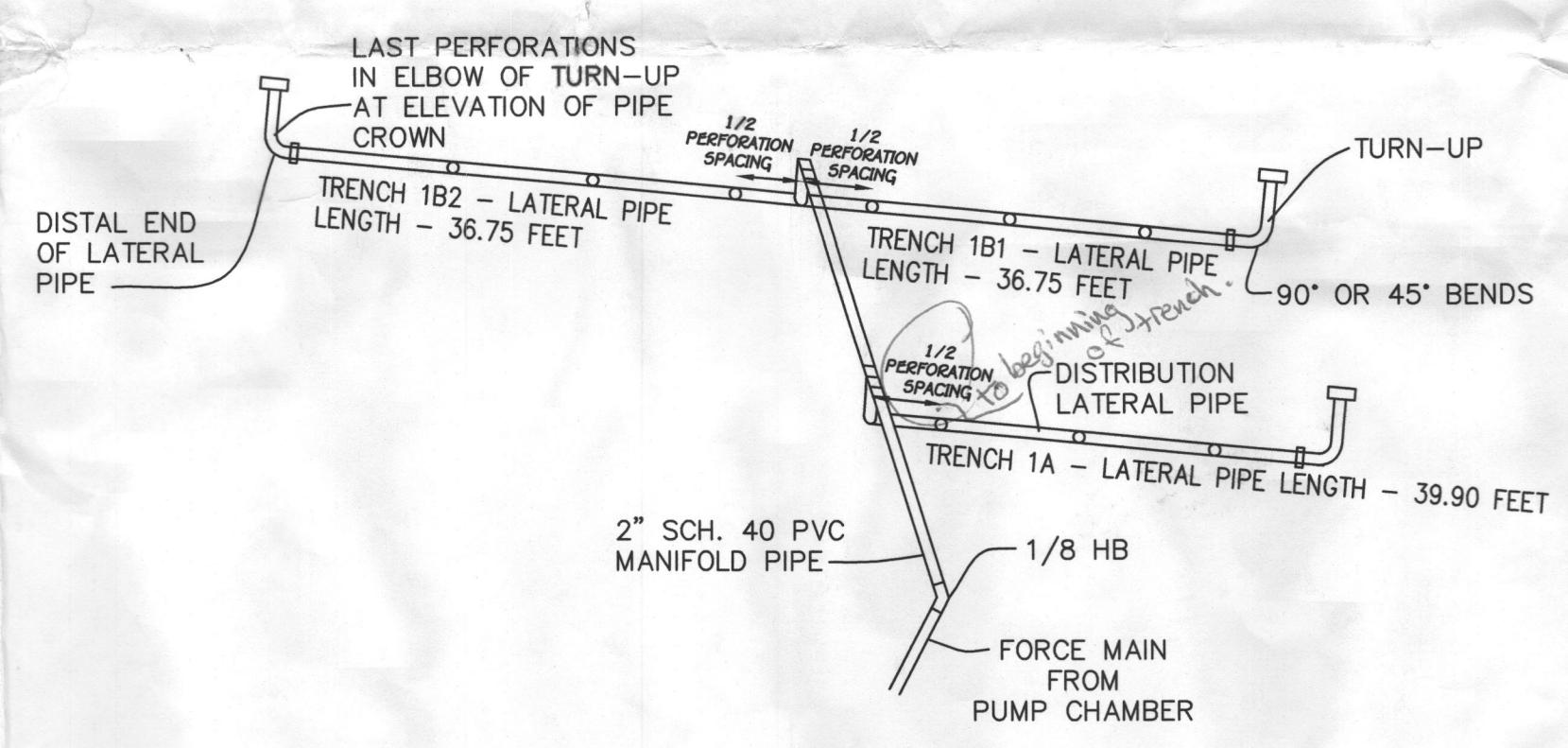
PROFESSIONAL CERTIFICATION

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. 38386, EXPIRATION DATE: 01/12/2016.

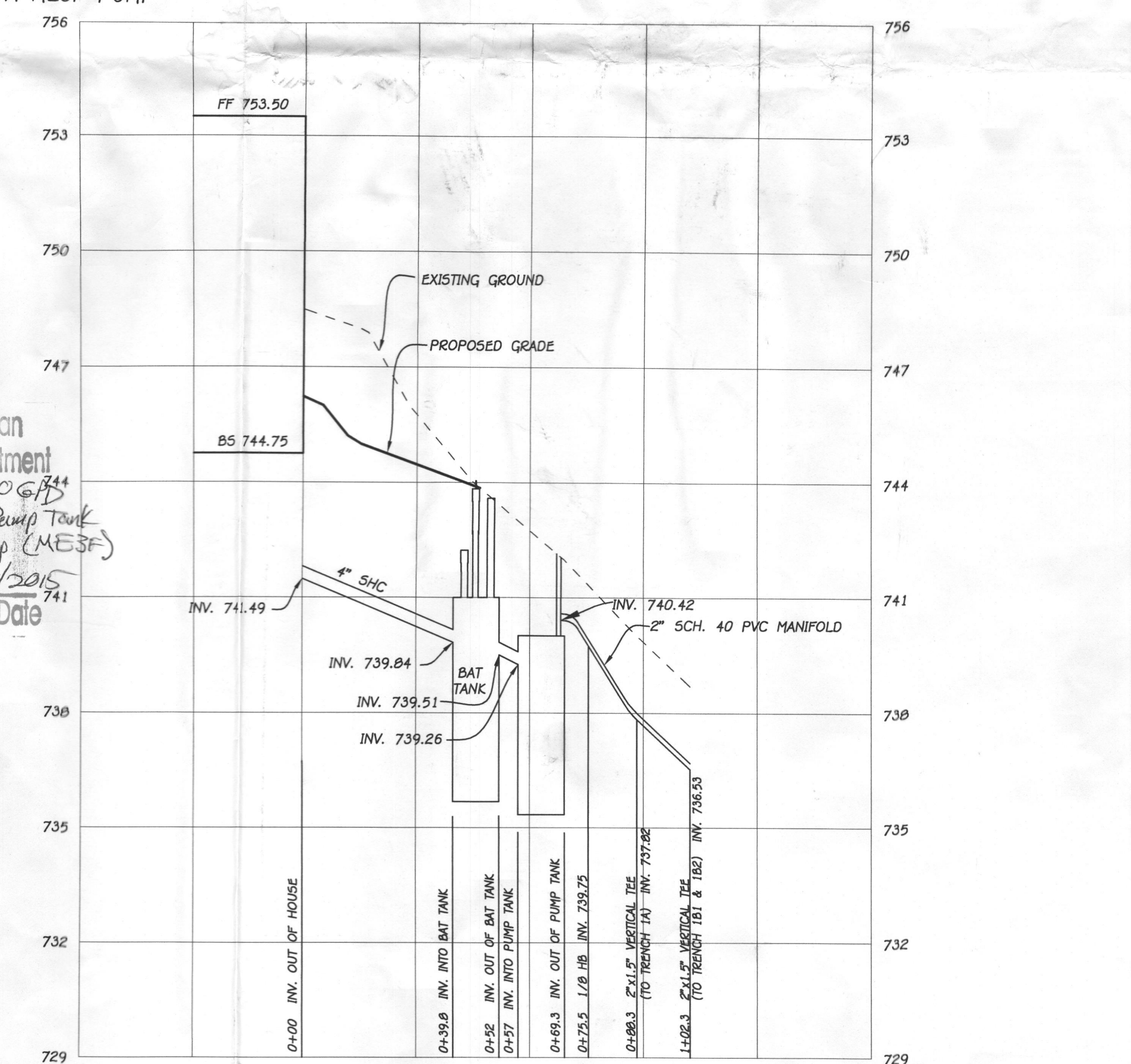


Signature: Stephen Lutz 2/3/15
DATE

FIGURE 4.1 CENTER FEED MANIFOLD DISTRIBUTION NETWORK



TRENCH DETAIL
SCALE: 1"=2'



SEPTIC PROFILE
HORIZONTAL SCALE: 1"=30'
VERTICAL SCALE: 1"=3'

BAT SITE PLAN
CHELSEA KNOLLS
LOT 7
18360 CHELSEA KNOLLS DRIVE
ZONING: RC-DEO
TAX MAP No. 12 GRID No. 5 PARCEL No. 7B
FOURTH ELECTION DISTRICT HOWARD COUNTY, MARYLAND
DATE: FEBRUARY, 2015
SHEET 2 OF 2

OWNER
CHELSEA KNOLLS, LC
1355 BEVERLY RD., SUITE 240
MCLEAN, VIRGINIA 22101
(703) 734-9730
(301) 720-3021

DEVELOPER
RYAN HOMES, INC.
ATTN: KEVIN BOYSE
9720 PATUXENT WOODS DRIVE
COLUMBIA, MARYLAND 21046
410-796-0980