



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: 9/15/14 **ONSITE SEWAGE DISPOSAL SYSTEM** P 554628

INSTALLATION APPROVAL DATE: 11/17/2014 **PERMIT** A \_\_\_\_\_  
**CONSTRUCTION**

PROPERTY ADDRESS: 2902 Winterhazel Court

SUBDIVISION: Belle Haven Estates LOT: 27 TAX ID: 04-373936

CONTRACTOR: Ben Lewis Plumbing EMAIL: \_\_\_\_\_

CONTRACTOR ADDRESS: 23407 Frederick Road, Clarksburg, MD 20871 PHONE: 301-674-3324

PROPERTY OWNER: K Hovnanian Homes EMAIL: \_\_\_\_\_

OWNER ADDRESS: 1802 Brightseat Road, Landover, MD 20785 PHONE: 301-683-6268

BAT UNIT MODEL: HOOT ABNR 600 BAT UNIT SIZE: 600 GPD

PUMP CHAMBER CAPACITY (GALLONS): 750 PUMP SIZE: \_\_\_\_\_

NUMBER OF BEDROOMS: 5 HOUSE SQ. FT. \_\_\_\_\_ APPLICATION RATE: 1.2

DISTRIBUTION SYSTEM: GRAVITY FED  LOW PRESSURE DOSED

TRENCHES:	LINEAR FEET REQUIRED: <u>88</u> <u>114'</u>	INLET DEPTH: <u>4</u> <u>3'</u>
	TRENCH WIDTH: <u>8</u> <u>2'</u>	MAXIMUM BOTTOM DEPTH: <u>8</u> <u>9'</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>11</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>4</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. Set distribution box per plan. Install equal length trenches on contour. <u>2x57' 1452</u> Basement will not sewer by gravity.	

ISSUED BY: Robert Bricker ISSUE DATE: 10-7-14 EXPIRATION DATE: 9/15/15

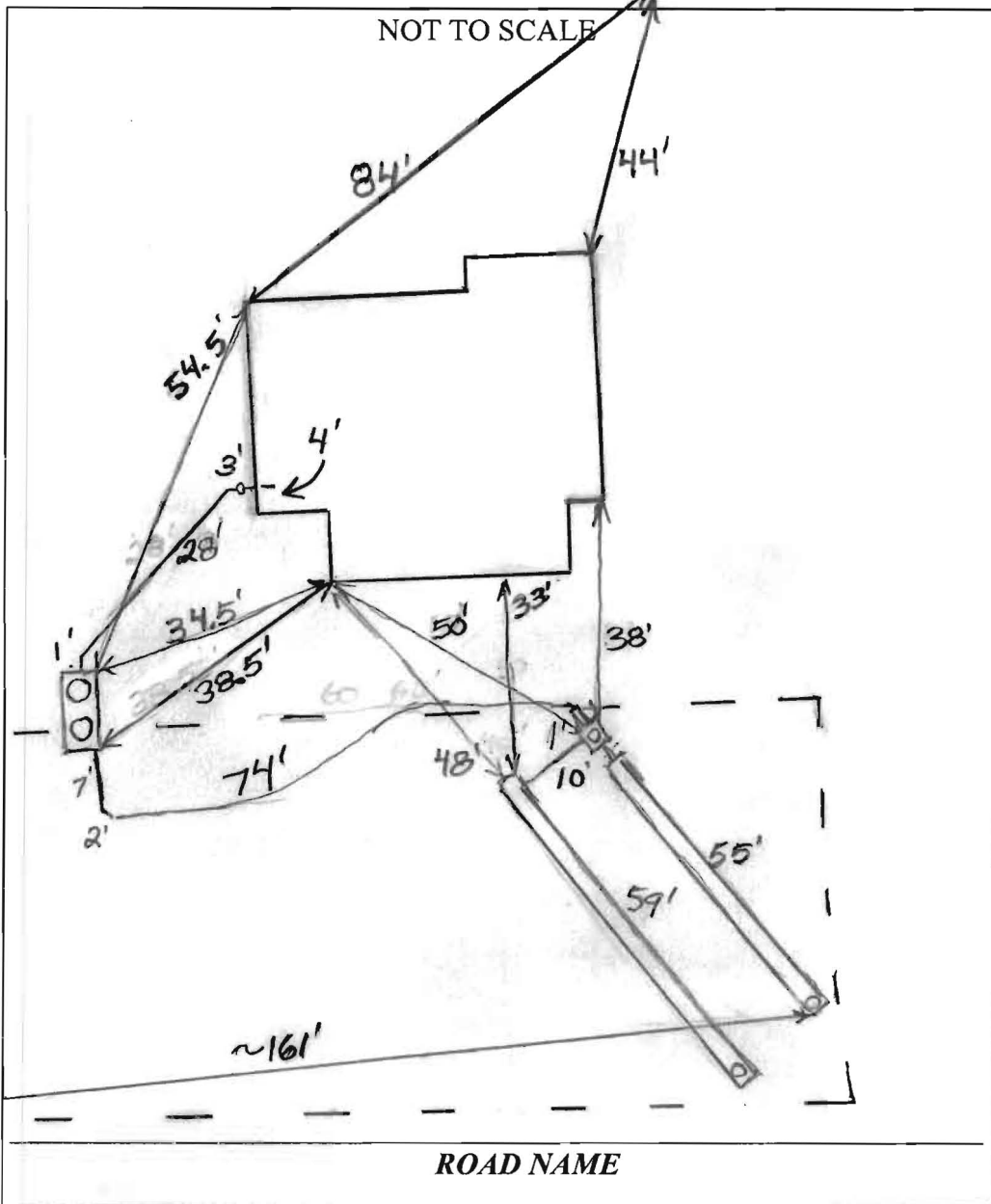
- NOTE: CONTRACTOR MUST SCHEDULE A PRE-CONSTRUCTION INSPECTION PRIOR TO BEGINNING ANY INSTALLATION
- NOTE: CONTRACTOR MUST SCHEDULE AN INSPECTION AND GAIN APPROVAL OF ALL COMPONENTS PRIOR TO COVERING
- NOTE: STONE MUST BE APPROVED BY HEALTH DEPARTMENT AND GRAVEL TICKET MUST BE AVAILABLE FOR REVIEW.
- NOTE: WATERTIGHT SEPTIC TANKS REQUIRED
- NOTE: ALL PARTS OF SEPTIC SYSTEM SHALL BE AT LEAST 100 FEET DOWNGRADIENT 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.**

H0-95-0635



TRENCH/DRAINFIELD DATA		
WIDTH	INLET	BOTTOM
2'	3'	9'
NUMBER OF TRENCHES	2	
TOTAL LENGTH	114'	
ABSORPTION AREA	570	
DISTRIBUTION BOX LEVEL	Yes	
DISTRIBUTION BOX BAFFLE	Yes	
DISTRIBUTION BOX PORT	Yes	

SEPTIC TANK DATA	
SEPTIC TANK I LEVEL	Yes
MANUFACTURER	Mayer Bros Hoot
CAPACITY	~2,100 GAL
SEAM LOC	Top
TANK LID DEPTH	1'-2.5'
BAFFLES	Front
BAFFLE FILTER	N/A
MANHOLE LOC	Front + Rear
6" PORT LOC	None
WATERTIGHT TEST	No
SLOTTED	N/A
DATE ON LID	Dry
<del>PUMP/SEPTIC TANK LEVEL N/A</del>	
<del>MANUFACTURER _____</del>	
<del>CAPACITY _____ GAL</del>	
<del>SEAM LOC _____</del>	
<del>TANK LID DEPTH _____</del>	
<del>BAFFLES _____</del>	
<del>BAFFLE FILTER _____</del>	
<del>MANHOLE LOC _____</del>	
<del>6" PORT LOC _____</del>	
<del>WATERTIGHT TEST _____</del>	
<del>SLOTTED _____</del>	
<del>DATE ON LID _____</del>	

PRE-CONSTRUCTION: 10/15/2014 Trench specs. changed, Install tank per plan (BB)

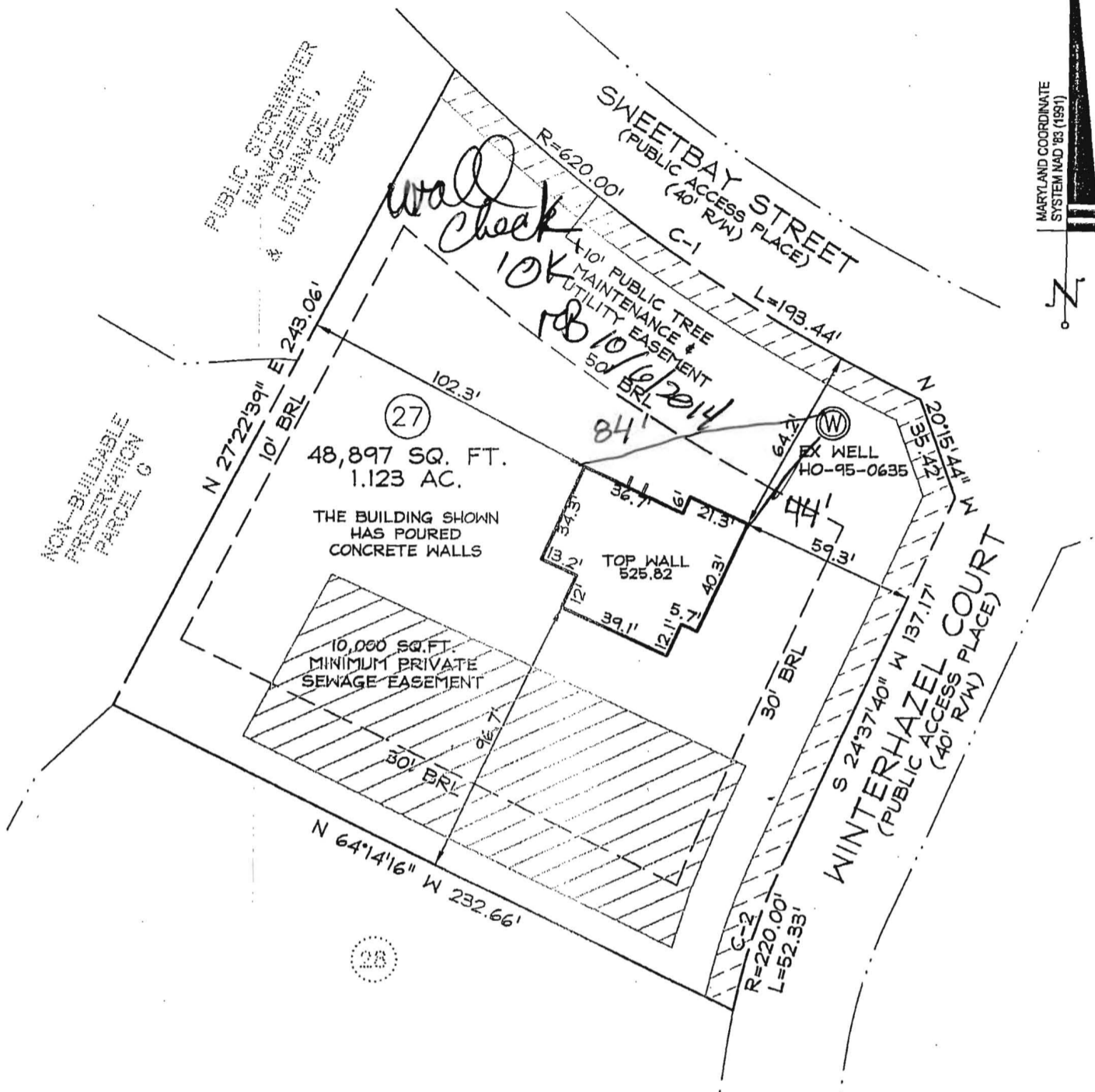
INSTALLATION: 10/20/2014 Trenches finished. Dist. box set. Tank not available. (BB) 10/24/2014 Tank set house connection made. Pump line finished. Need BAT certification and possibly pump test for final approval. (BB)

11/17/2014 BAT unit approved by Hoot representative. (BB)

FINAL INSPECTOR B. Baker

DATE OF APPROVAL 11/17/2014

CURVE TABLE						
CURVE	RADIUS	LENGTH	DELTA	TAN	CHD. BRG.	CHD. DIST.
C-1	620.00'	193.44'	17°52'35"	97.51'	S55°25'34"E	192.66'
C-2	220.00'	52.33'	13°37'42"	26.29'	S17°48'49"W	52.21'



27  
48,897 SQ. FT.  
1.123 AC.

THE BUILDING SHOWN  
HAS POURED  
CONCRETE WALLS

10,000 SQ. FT.  
MINIMUM PRIVATE  
SEWAGE EASEMENT

**SURVEYOR'S CERTIFICATE**

I HEREBY CERTIFY THAT I EITHER PERSONALLY PREPARED OR WAS IN RESPONSIBLE CHARGE OVER THE PREPARATION OF THIS DRAWING AND THE SURVEYING WORK REFLECTED IN IT, AND THAT IT IS IN COMPLIANCE WITH REQUIREMENTS SET FORTH IN REGULATION .12 OF CHAPTER 06, MINIMUM STANDARDS OF PRACTICE.

I AM A DULY LICENSED PROPERTY LINE SURVEYOR UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 239, EXPIRATION DATE 7/6/16.

*R. B. Southard* 9-30-14



Planners  
Surveyors  
Engineers  
Landscape Architects

192 East Main Street  
Westminster, MD 21157  
410.386.0560  
410.386.0564 (Fax)  
DDC@DDCinc.us  
www.DDCinc.us

REV. 1	REVISED ADDRESS	RC	09-30-2014
LOCATION DRAWING / WALL CHECK #2902 WINTERHAZEL COURT LOT 27 BELLE HAVEN ESTATES PLAT No. 19951 ELECTION DIST. No. 4 HOWARD COUNTY, MD			

DDC JOB#:	06116.5
DATE:	08-14-2014
SCALE:	1"=50'
DRN. BY:	RC
CHK. BY:	RBS



Bureau of Environmental Health 000130

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  
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 4<sup>th</sup> day of September, <sup>2014</sup>, among K. HOVNAVIAN  
HOMES OF MARYLAND LLC, hereinafter collectively referred to as  
"Owner", and the Howard County Health Department hereinafter referred to as the "County".

20  
40  
D

WHEREAS, Owner is the owner or contract owner of a parcel of land located at  
2902 WINTERSHIRE CT, WOODBINE MD., in the 04 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 15691 Folio 00273. BELZHAMM lot 27  
04/373936

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. The pre-treatment device being installed is HOUSYSTEM BMR-1000.

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.

[Signature] 9/15/14  
Howard County Health Department

[Signature] 9-3-14  
Owner #1 Signature Date  
STEVE SNYDER / KHOVNIANIAN HOMES OF  
MARYLAND I LLC  
Owner #1 Print Name

[Signature] 28 Nov 14  
Buyer #1 Signature Date  
Joan Swartz  
Buyer #1 Print Name

LR - Agreement  
Recording Fee 20.00  
Grantor/Grantee Name:  
K HOVNIANIAN HOMES OF  
MARYLAND I LLC  
Reference/Control #:  
130  
LR - Agreement  
Surcharge 40.00  
=====  
SubTotal: 60.00  
=====  
Total: 60.00  
09/15/2014 02:19  
CC13-09  
3291311 000503 -  
Howard Co  
Columbia/0005.03.07 -  
Register 07  
Owner #2 Signature Date  
Owner #2 Print Name

[Signature] 24 Dec 14  
Buyer #2 Signature Date  
Joan Swartz  
Buyer #2 Print Name



**MAYER BROS., INC.**

*Precast Concrete Products*

6264 Race Rd. Elkridge, MD 21075

## Letter of Satisfaction Hoot System Installation

Address of Property: 2902 Winterhazel Ct Lot #27  
Woodbine, MD 21797

Date of Final Inspection: 11/15/14

Installer: Ben Lewis Plumbing Inc.

Hoot Technician/Inspector: H. Michael Sample

I hereby certify that the Hoot system installed at the property listed above has been installed according to proper Hoot installation practices. I have also verified the startup of the system and it is in proper working order.

Sincerely,

H. Michael Sample  
Name of Inspector  
Mayer Bros., Inc.

PH: 410-796-1434

FX: 410-796-1438

**WBE**

**NPCA Certified Plant**

mayerbro@connext.net

www.mayerbrosprecast.com

Grease Interceptors, Grease Solutions, Aerobic Treatment Units, Septic Tanks, Holding Tanks, Storm Water Structures, Hydroceptors,  
Bench Barrier, Water Meter Vaults, Sectional Valve Vaults, Top Slabs, Curb Heads, Curb Bumpers, PermEntry Basement Entries,  
Scapewel Window Wells, Custom Precast Products

BQ

We are an Equal Opportunity Employer  
**S.W. Barrick & Sons**  
WOODSBORO, MARYLAND

INSPECTOR'S COPY

Barrick Dispatch  
301-845-6343

Barrick Sale  
301-845-6341

BILLING INQUIRIES  
1-800-762-2294

Mailing Address:  
P.O. Box 1504  
Laurel, Maryland 20725

TICKET #01076574

STATION B

DATE 10/20/14 TIME 06:30:05

CUSTOMER LEWBEN  
BEN LEWIS INC.  
23407 FREDERICK RD  
CLARKSBURG, MD 20871

JOB BELHAV : BELL HAVEN  
P.O. # 31121 PROJECT #:  
70- R 97S- R UNION CHAPEL RD-  
L BRIDALWREATH CT. TO ADD "2603"

TRUCK 703A LICENSE  
DRIVER: MAISEL TRUCKING

3 AXLES

GROSS	SCALE B	69420 lb
TARE	IN (STORED)	25780 lb
NET		43640 lb
NET		21.82 t

	Loads	Tons
DAILY	1	21.82
TOTAL	15	322.99
TIME IN 06:30:05		TIME OUT 06:30:05

MAT'L 22W : DBL WSHED MD#2 STONE  
HAUL ZONE H09

WEIGHMASTER \_\_\_\_\_

Amanda Jacobs

RECEIVED BY \_\_\_\_\_  
LOT 27  
301-674-3324 ANDY

Have a Nice Day!

BQ

We are an Equal Opportunity Employer  
**S.W. Barrick & Sons**  
WOODSBORO, MARYLAND

INSPECTOR'S COPY

Barrick Dispatch 301-845-6343  
Barrick Sale 301-845-6341

BILLING INQUIRIES  
1-800-762-2294

Mailing Address:  
P.O. Box 1504  
Laurel, Maryland 20725

TICKET #01076591

STATION B

DATE 10/20/14 TIME 07:05:30

CUSTOMER LEWEN  
BEN LEWIS INC.  
23407 FREDERICK RD  
CLARKSBURG, MD 20871

JOB BELHAV : BELL HAVEN  
P.O. # 31121 PROJECT #:  
70- R 97S- R UNION CHAPEL RD-  
L BRIDALWREATH CT. TO ADD "2803"

TRUCK 673D LICENSE 3 AXLES  
DRIVER: COLSON TRKING

GROSS	SCALE A	69360 lb
FARE IN	(STORED)	24200 lb
TNET		45160 lb
NET		22.58 t

	Loads	Tons
DAILY	2	44.40
TOTAL	16	345.57
TIME IN 07:05:30		TIME OUT 07:05:30

MAT'L 22W : DBL WSHED MD#2 STONE  
HAUL ZONE H09

WEIGHMASTER \_\_\_\_\_  
Amanda Jacobs

RECEIVED BY \_\_\_\_\_  
ANDY 301-674-3324  
LOT 27



Have a Nice Day!

BQ

We are an Equal Opportunity Employer  
**S.W. Barrick & Sons**  
WOODSBORO, MARYLAND

INSPECTOR'S COPY

Barrick Dispatch 301-845-6343  
Barrick Sale 301-845-6341

BILLING INQUIRIES  
1-800-762-2294

Mailing Address:  
P.O. Box 1504  
Laurel, Maryland 20725

TICKET #01076639

STATION B

DATE 10/20/14 TIME 08:35:21

CUSTOMER LEW BEN  
BEN LEWIS INC.  
23407 FREDERICK RD  
CLARKSBURG, MD 20871

JOB BELHAV : BELL HAVEN  
P. O. # 30903 PROJECT #:  
70- R 97S- R UNION CHAPEL RD-  
L BRIDALWREATH CT. TO ADD "2003"

TRUCK 703A LICENSE  
DRIVER: MAISEL TRUCKING

3 AXLES

GROSS SCALE B 68480 lb  
TARE IN (STORED) 25780 lb  
NET 42700 lb  
NET 21.35 t

Loads	Tons
DAILY 3	55.75
TOTAL 17	366.92
TIME IN 08:35:21	TIME OUT 08:35:21

MAT'L 22W : DBL WSHED MD#2 STONE  
HAUL ZONE H09

WEIGHMASTER

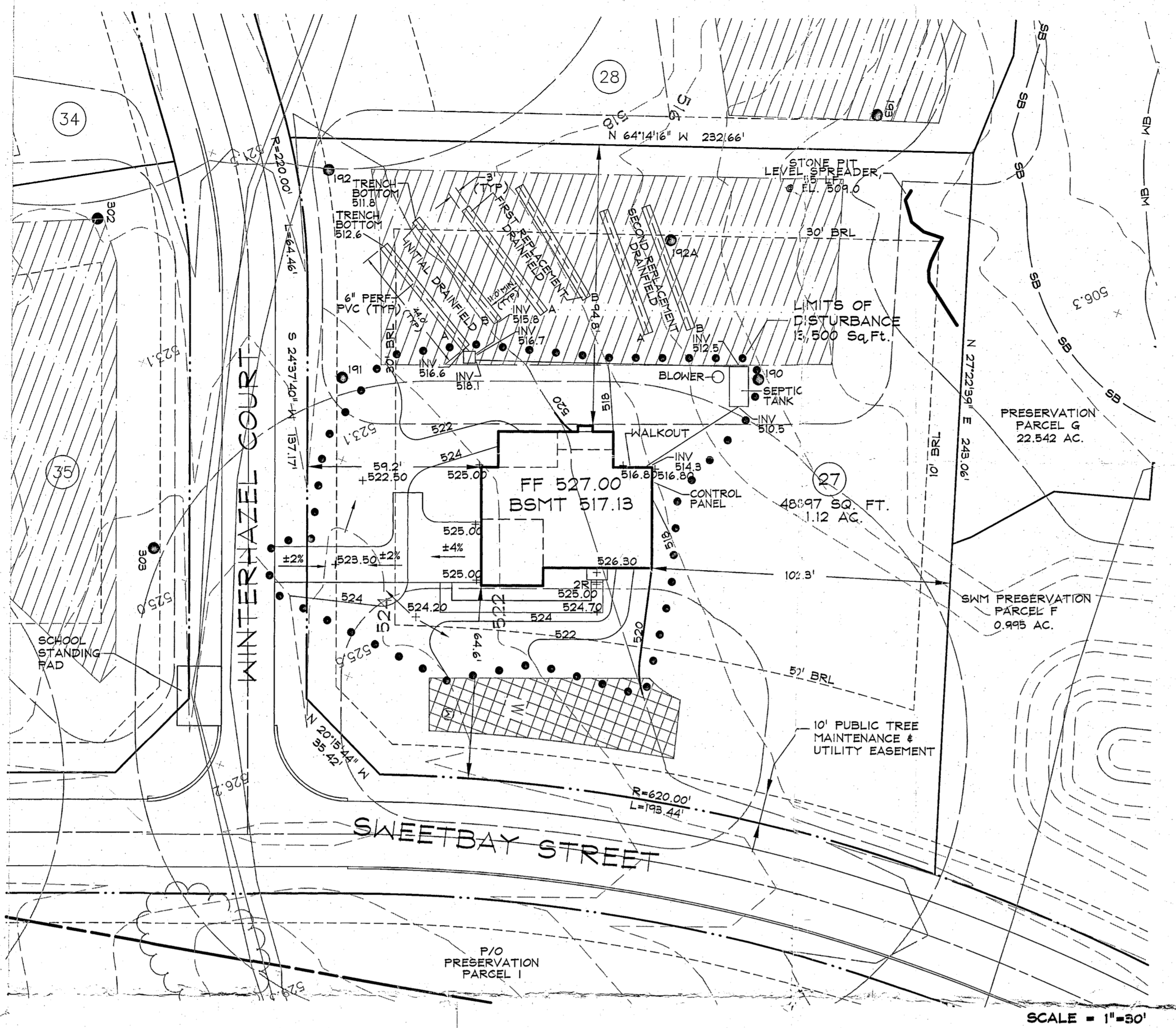
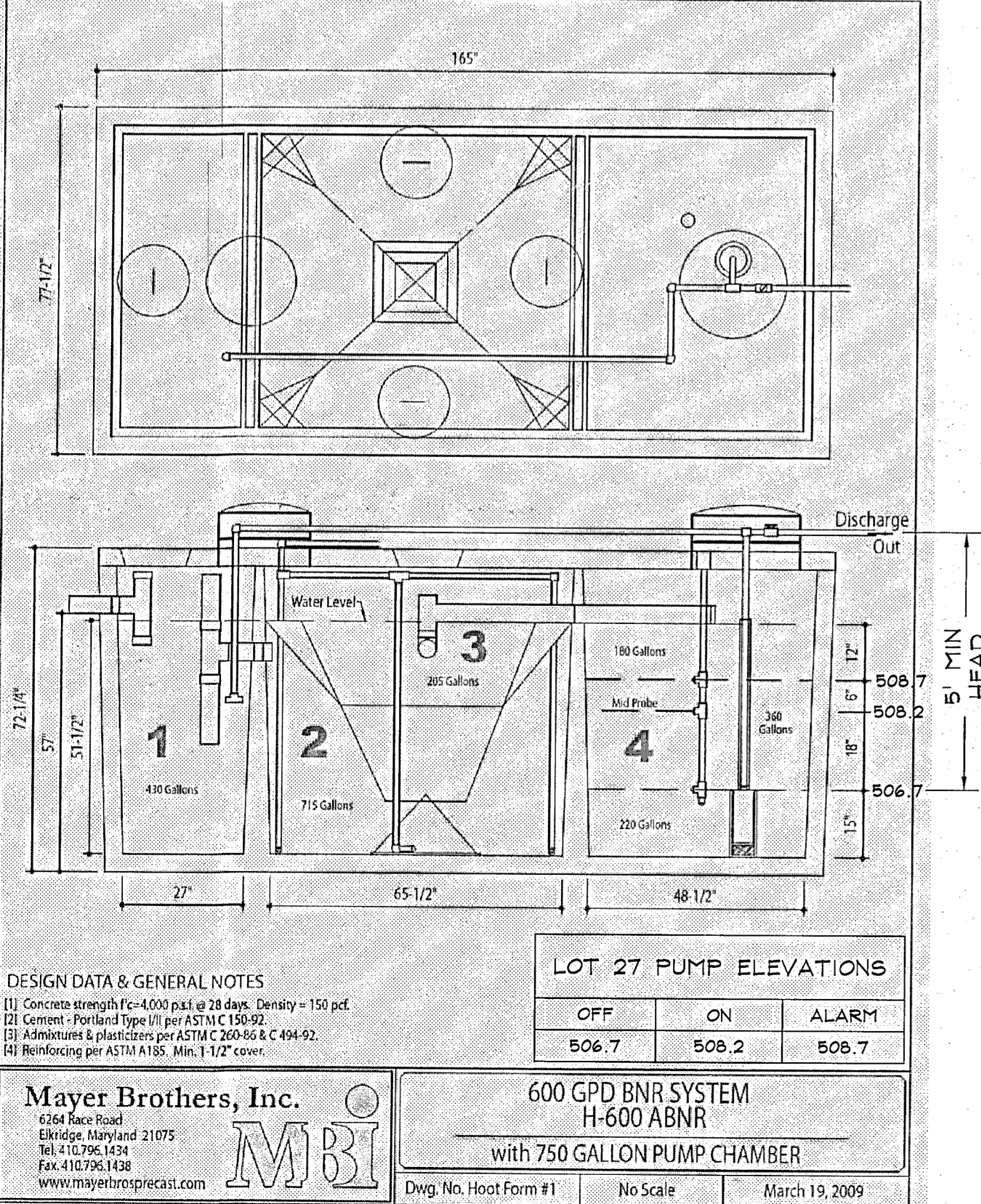
Amanda Jacobs

RECEIVED BY  
Lot 27  
301-674-3324 ANDY

Have a Nice Day!

- GENERAL NOTES**
- BASE SQUARE FOOTAGE OF HOUSE: 3,486 SQ.FT.
  - NUMBER OF BEDROOMS: 5
  - EJECTOR PUMP NOT REQUIRED TO SEWER BASEMENT
  - PER THE APPROVED ROAD DRAWINGS, F-07-38, A DRIVEWAY CULVERT IS NOT REQUIRED
  - THE SUBJECT PROPERTY IS ZONED RC-DEO PER THE 2/2/04 COMPREHENSIVE ZONING PLAN AND PER COMP-LITE ZONING REGULATIONS DATED 7/28/06.
  - PLAT REFERENCE: #19948
  - BASE INFORMATION SHOWN ON THIS PLAN IS BASED ON PLANS PREPARED BY DMV, AND DATED 06/25/07. EXISTING TOPOGRAPHY BASED ON GRADING PLAN PREPARED BY DEMARIO DESIGN CONSULTANTS DATED 07/09/07 AND FIELD RUN TOPOGRAPHY PREPARED BY DDC INC IN JAN. 2012.
  - SEE ARCHITECTURAL PLANS FOR BUILDING DIMENSIONS AND DESIGN DETAILS. PRIOR TO STAKEOUT FOR CONSTRUCTION, IT SHALL BE THE OWNER/BUILDERS RESPONSIBILITY TO PROVIDE DDC, INC. WITH THE MOST RECENT SET OF HOUSE PLANS.
  - THE CONTRACTOR OR DEVELOPER SHALL NOTIFY THE DEVELOPMENT OF PUBLIC WORKS / BUREAU OF ENGINEERING / CONSTRUCTION INSPECTION DIVISION AT (410)319-1881 AT LEAST FIVE (5) WORKING DAYS PRIOR TO THE START OF WORK.
  - THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT 1-800-257-7777 AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO ANY EXCAVATION WORK BEING DONE.
  - TOTAL LIMIT OF DISTURBANCE: 13,500 SQ. FT. / 0.31 AC.
  - STORMWATER MANAGEMENT FOR THIS LOT IS PROVIDED PER THE PREVIOUSLY APPROVED FINAL PLAN (F-07-38).
  - ANY DAMAGE TO PUBLIC "RIGHT-OF-WAYS" OR PAVED PUBLIC ROADS SHALL BE REPAIRED IMMEDIATELY AT THE CONTRACTORS EXPENSE IN ACCORDANCE WITH THE HOWARD COUNTY STANDARDS AND SPECIFICATIONS.
  - DEVIATIONS FROM THESE PLANS AND SPECIFICATIONS WITHOUT PRIOR WRITTEN CONSENT OF THE CIVIL ENGINEER (DDC, INC.) MAY CAUSE THE WORK TO BE UNACCEPTABLE.
  - THE DIMENSIONED DISTANCES SHALL GOVERN IF SCALED AND DIMENSIONED DISTANCES ON THIS PLAN ARE FOUND TO BE IN DISAGREEMENT.
  - THE LOTS SHOWN HEREON COMPLY WITH THE MINIMUM LOT AREA AND OWNERSHIP WIDTH AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT.
  - THIS AREA DESIGNATES A PRIVATE SEWAGE DISPOSAL AREA OF AT LEAST 10,000 SQ.FT. AS REQUIRED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT FOR INDIVIDUAL SEWAGE DISPOSAL. IMPROVEMENTS OF ANY NATURE IN THIS AREA ARE RESTRICTED. THIS SEWAGE DISPOSAL AREA SHALL BE MAINTAINED AND VOID UPON CONNECTION TO A PUBLIC SEWERAGE SYSTEM. THE COUNTY HEALTH OFFICER SHALL HAVE AUTHORITY TO GRANT ADJUSTMENTS TO THE PRIVATE SEWAGE EASEMENT. RECORDATION OF A REVISED SEWAGE EASEMENT SHALL NOT BE NECESSARY.
  - EXISTING WELLS, SEPTIC SYSTEMS, AND SEWAGE DISPOSAL AREAS WITHIN 100' OF THE PROPERTY AND THOSE WELLS WITHIN 200' DOWN GRADIENT OF EXISTING OR PROPOSED SEPTIC SYSTEMS OR SEWAGE DISPOSAL AREAS HAVE BEEN SHOWN.
  - ANY CHANGES TO A PRIVATE SEWAGE AREA SHALL REQUIRE A REVISED PERCOLATION CERTIFICATION PLAN.
  - UPON BUILDING PERMIT REVIEW THE SEPTIC SYSTEMS OF ALL PROPOSED STRUCTURES AND OR EXISTING STRUCTURE EXPANSIONS SHALL BE RE-EVALUATED TO DETERMINE SUFFICIENT SYSTEM CAPACITY.
  - THE DEVELOPMENT OF THIS LOT DOES NOT REQUIRE AN ENVIRONMENTAL CONCEPT PLAN SINCE STORMWATER MANAGEMENT WAS PREVIOUSLY APPROVED UNDER F-07-38.
  - THE EXISTING WELL SHOWN ON THIS PLAN (HO-95-0635) HAS BEEN FIELD LOCATED AND IS SHOWN ACCURATELY.

- SEPTIC SYSTEM/BEST AVAILABLE TECHNOLOGY (BAT) 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 BLOWER MAY NOT BE LOCATED MORE THAN 10 FEET FROM THE TANK BASED ON THE MANUFACTURER'S SPECIFICATIONS.
  - 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 OF HOWARD COUNTY.
  - THE HEALTH DEPARTMENT REQUIRES DOCUMENTATION FOR THE START-UP CERTIFICATION FROM THE MANUFACTURER PRIOR TO FINAL APPROVAL OF THE INSTALLATION.



**LOT 27 TRENCH SPECIFICATIONS**

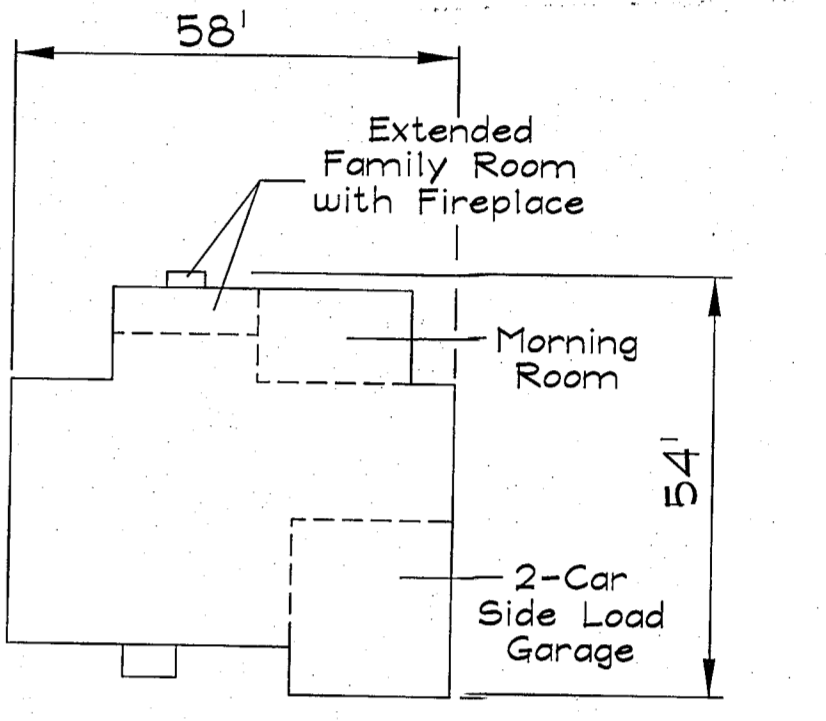
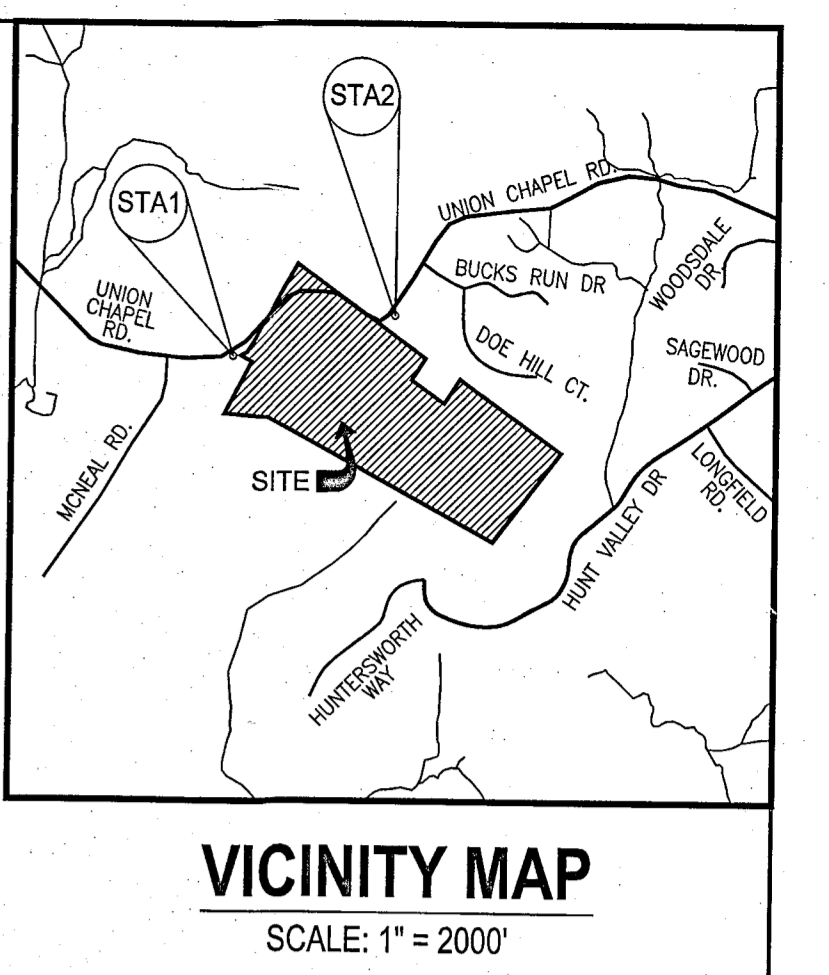
	GROUND ELEVATION	INVERT ELEVATION	BOTTOM ELEVATION
INITIAL SYSTEM TRENCH 'A' (44')	520.6	516.6	512.6
INITIAL SYSTEM TRENCH 'B' (44')	519.8	515.8	511.8
FIRST REPLACEMENT TRENCH 'A' (44')	518.8	514.8	510.8
FIRST REPLACEMENT TRENCH 'B' (44')	517.8	513.8	509.8
SECOND REPLACEMENT TRENCH 'A' (44')	516.5	512.5	508.5
SECOND REPLACEMENT TRENCH 'B' (44')	515.4	511.4	507.4

**BENCHMARK**

GEODETTIC SURVEY CONTROL #1	
N.	591450.42
E.	129751.25
A.A.	1469
ELEV.	535.43

GEODETTIC SURVEY CONTROL #2	
N.	591683.89
E.	1299121.80
B.M.	1468
ELEV.	542.23

ADDC MAP COORDINATES  
4872/04



**COLORADO TRADITIONAL ELEVATION BRICK FRONT, WALKOUT REVERSE UNIT**

DATA SOURCES:

Approved Septic System Plan  
Howard County Health Department  
2902 Winterhazel Ct.  
Hoot 600 GPD BNR, H-600 ABNR  
Signature: [Handwritten Signature]  
Trenches 88' Total Ft. (5-bed room design)  
Flow to Distribution



**GOULDS PUMPS Wastewater**

**PERFORMANCE RATINGS**

Total Head (ft. of water)	Gallons Per Minute	EPW	EPW	EPW
5	53	62	62	62
10	46	55	55	55
15	36	46	46	46
20	21	33	33	33
25	0	11	11	11
30	-	-	-	-

**TOTAL DYNAMIC HEAD CALCULATIONS**

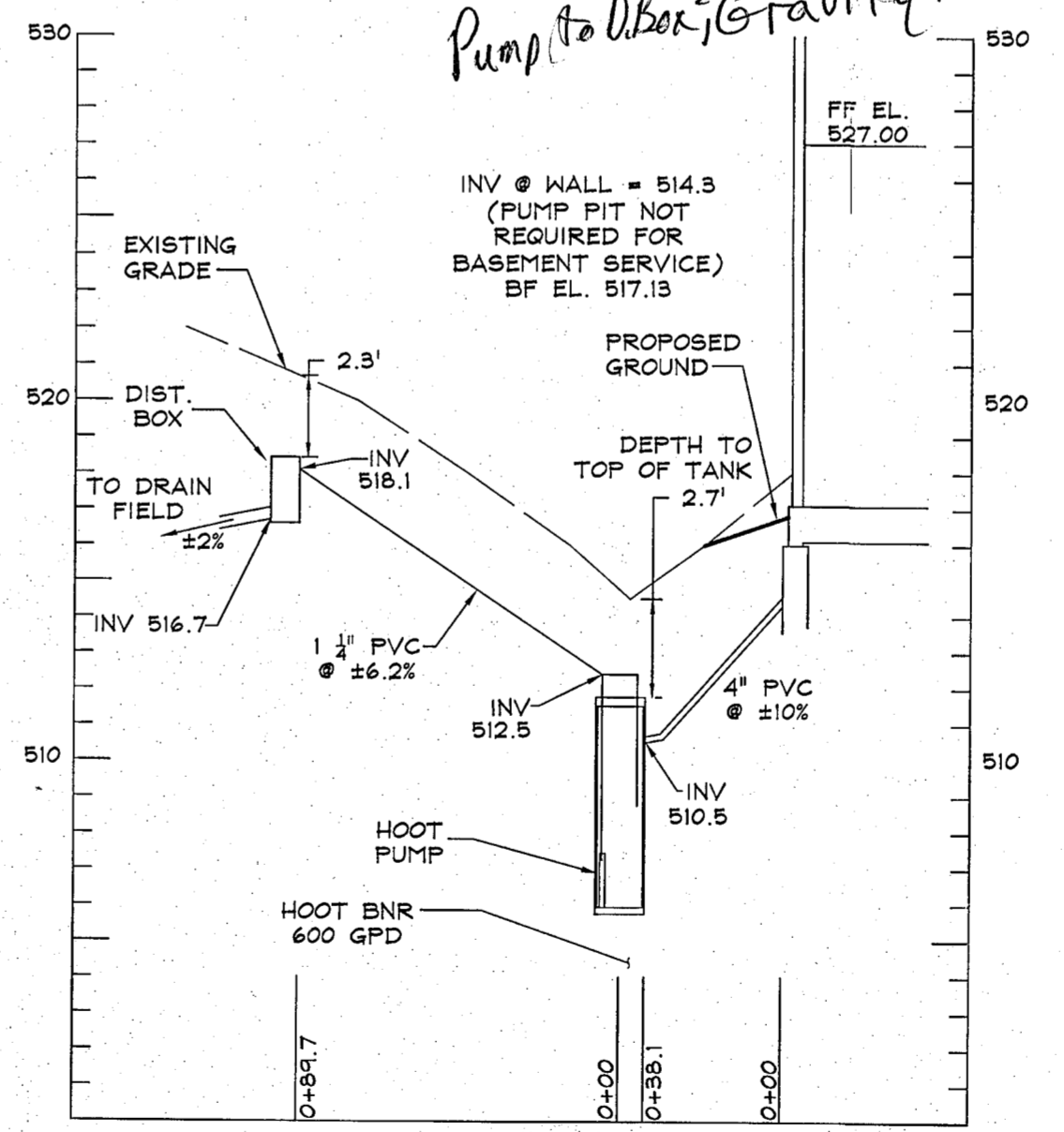
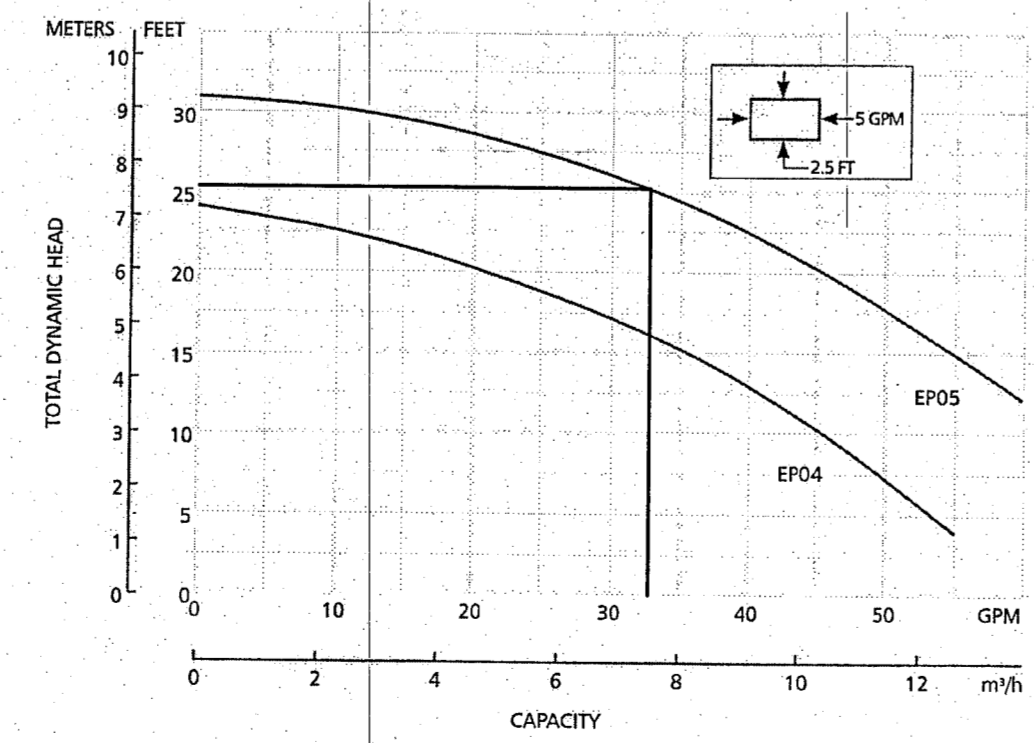
**STATIC HEAD**  
OFF FLOAT ELEVATION: 506.7'  
HIGH POINT OF THE SYSTEM: + 818.1'  
VERTICAL ELEVATION CHANGE: 11.4'

**FRICTION HEAD**  
FITTINGS: 13.8'  
LENGTH OF PVC PIPE: + 89.7'  
TOTAL LENGTH: 103.5'

103.5/100 x 13.62 = 14.1' TOTAL FRICTION LOSS

**TOTAL HEAD**  
VERTICAL ELEVATION CHANGE: 11.4'  
TOTAL FRICTION LOSS: 14.1'  
SYSTEM PRESSURE REQUIREMENTS: + 0.0'  
TOTAL DYNAMIC HEAD: 25.5'

STATIC HEAD	11.4'
FRICTION HEAD	14.1'
DISTAL END HEAD	0'
TOTAL DYNAMIC HEAD	25.5'
GALLONS PER MINUTE	32.7 GPM
DOSE	150.4 GAL
PUMP RUN TIME	4.6 MIN



**DRAWING LEGEND**

- 500 PROPOSED GRADE
- 502 PROPOSED GRADE
- PROPOSED LIMIT OF DISTURBANCE
- + 665.5 PROP. SPOT ELEV./FLOW ARROW
- PROPOSED 20' SEPTIC RESERVE BUFFER
- EXISTING 30' WELL BUFFER
- EXISTING 100' WELL BUFFER
- BUILDING RESTRICTION LINE
- SEPTIC RESERVE AREA
- WELL AREA
- 174 PASSED PERCOLATION TEST
- 127 FAILED PERCOLATION TEST
- PROPOSED STONE PIT LEVEL

- SEWAGE DISPOSAL SYSTEM DATA (5 BEDROOM):**
- INVERT @ FOUNDATION WALL: 514.3 (BASEMENT PUMP REQUIRED)
  - 600 GPD BNR SYSTEM W/ 750 GALLON PUMP CHAMBER  
EX. GRADE OVER TANK: 514.5  
PROPOSED GRADE OVER TANK: 514.5  
INVERT: 510.5
  - DISTRIBUTION BOX  
EX @ PROPOSED GRADE OVER TANK: 520.9  
INVERT: 518.1
  - TRENCH DESIGN (5 BDRM x 150 GPD/BDRM = 750 GPD)  
750 GPD / 1.2 GPD/SF (APP. RATE) = 625 SF  
USE 3' WIDE TRENCH W/ 48" OF GRAVEL BELOW PIPE  
11' MIN SPACING BETWEEN TRENCH EDGES  
625 SF / 3' WIDTH = 208.33 LF x 0.42 = 88 LF MIN. TRENCH  
USE 2 - 44' LONG TRENCH = 88 LF FOR INITIAL SYSTEM  
USE 2 - 44' LONG TRENCH = 88 LF FOR FIRST REPLACEMENT SYSTEM  
USE 2 - 44' LONG TRENCH = 88 LF FOR SECOND REPLACEMENT SYSTEM

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. 27020 EXPIRATION DATE: JANUARY 25, 2016

09/04/2014  
DATE

**PAUL G. CAVANAUGH**  
PROFESSIONAL ENGINEER

**DDC Development Design Consultants**

Planners  
Surveyors  
Engineers  
Landscape Architects

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**OWNER:**  
K. HOVANNIAN HOMES  
1802 Brightseat Road  
Landover, Maryland 20785  
(301) 683-6268

**DEVELOPER:**

**SITE ADDRESS:**  
LOT 27  
2902 WINTERHAZEL COURT  
Woodbine, Maryland 21797

**BELLE HAVEN ESTATES LOT 27**

**SITE PLAN FOR BAT INSTALLATION**

3rd ELECTION DISTRICT HOWARD COUNTY

NO.	DESCRIPTION OF CHANGES	DRN.	REV.	DATE

CO. FILE #:	DES. BY: JHK
TAX ACC. #:	DRN. BY: JHK
TAX MAP: 14	CHK. BY: PGC
BLOCK / GRID:	DATE: 09/04/2014
PARCEL #: 66	DDC JOB#: 06116.5
ZONE / USE: RC-DEO	SHEET NUMBER:
DWG. SCALE: 1"=30'	1 of 1