



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

558740-B

RECEIPT DATE: 6/2/14

ONSITE SEWAGE DISPOSAL SYSTEM

P _____
 A _____

APPROVAL DATE: 12/12/16 (SEC)

PERMIT: CONSTRUCTION

PROPERTY ADDRESS: 13584 Mitchell's Way

SUBDIVISION: Cloverfield Section II LOT: 15 TAX ID: 03-353532

CONTRACTOR: WTC Contractors EMAIL: _____

CONTRACTOR ADDRESS: 3033 Salem Bottom Road, Westminster, MD 21157 PHONE: 443-458-7024

CONTRACTOR CERTIFIED FOR BAT INSTALLATION: MDE MANUFACTURER:

PROPERTY OWNER: Spring Mill LLC EMAIL: _____

OWNER ADDRESS: P.O. Box 1417, Ellicott City, MD 21042 PHONE: 410-465-4244

BAT UNIT MODEL: Norweco TNT-600 PUMP SIZE: WE-032 PUMP TANK CAPACITY: 1500 GAL

OPERATION & MAINTENANCE AGREEMENT DATE SIGNED: 10/4/13 DATE RECORDED: 11/4/13

DISTRIBUTION SYSTEM: GRAVITY PRESSURE DOSED BEDROOMS: 4 APPLICATION RATE: 1.2

TRENCHES:	LINEAR FEET REQUIRED: <u>150</u>	INLET DEPTH: <u>3</u>
	TRENCH WIDTH: <u>2</u>	MAXIMUM BOTTOM DEPTH: <u>7</u>
	MINIMUM SPACE BETWEEN TRENCHES: <u>10</u>	EFFECTIVE AREA BEGINNING DEPTH: <u>5</u>

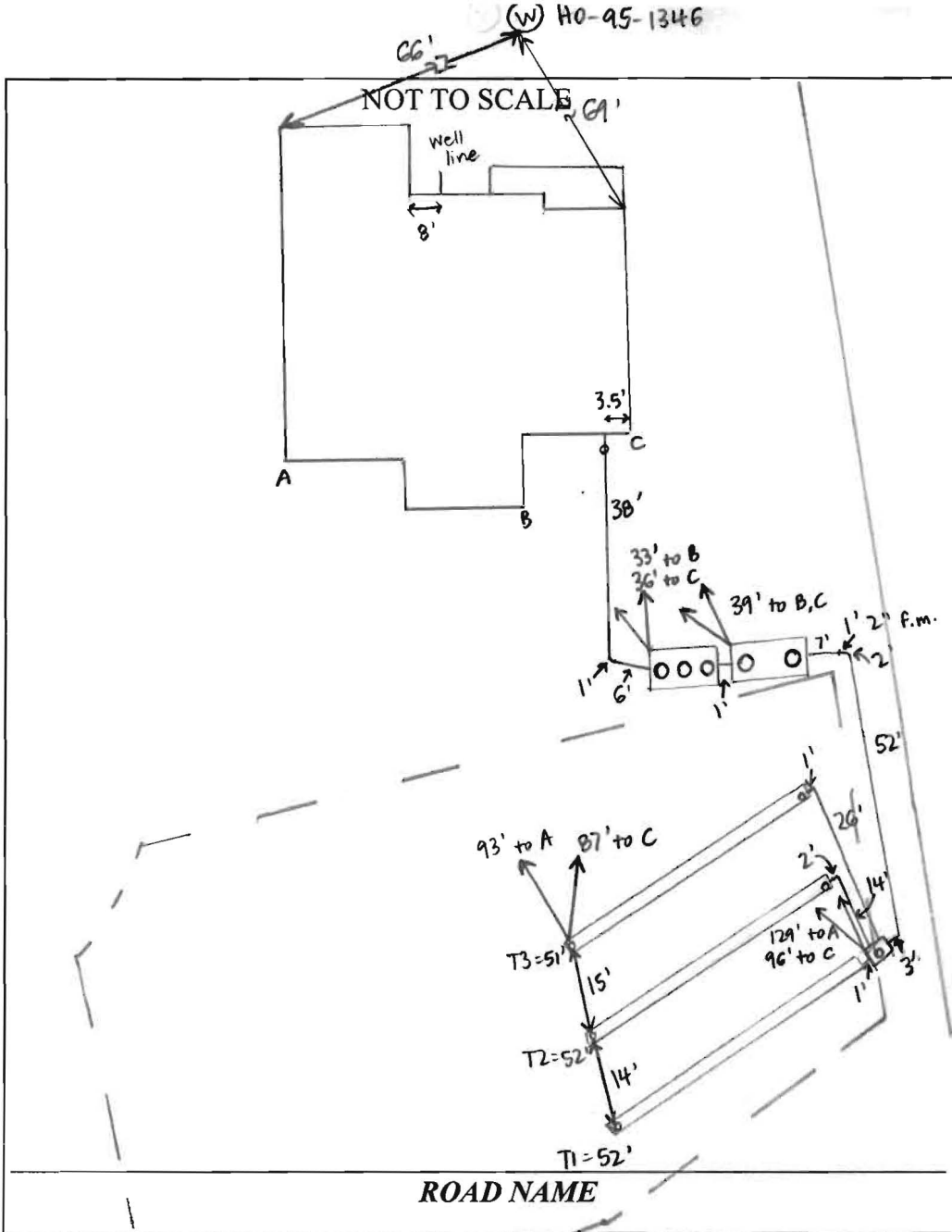
LOCATION: **PER APPROVED SITE PLAN. SEWAGE DISPOSAL AREA AND BAT UNIT LOCATION MUST BE STAKED BY LICENSED SURVEYOR PRIOR TO PRE-CONSTRUCTION INSPECTION.**

NOTES:

ISSUED BY: Robert Freemon ISSUE DATE: 6/2/14 EXPIRATION DATE: 6/2/17

- 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
 ELECTRICAL PERMIT ISSUED E 16002853
- 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.**



TRENCH/DRAINFIELD DATA		
WIDTH	INLET	BOTTOM
2'	3'	7'
NUMBER OF TRENCHES		3
TOTAL LENGTH		155'
ABSORPTION AREA		465' + SIDEWALL
DISTRIBUTION BOX LEVEL		YES
DISTRIBUTION BOX BAFFLE		YES
DISTRIBUTION BOX PORT		YES

SEPTIC TANK DATA	
SEPTIC TANK I LEVEL	YES
MANUFACTURER	BACKRIVER / NORWECO
CAPACITY	1300 GAL
SEAM LOC	TDP
TANK LID DEPTH	3'
BAFFLES	NO
BAFFLE FILTER	NO
MANHOLE LOC	FRONT, MID, REAR
6" PORT LOC	NONE
WATERTIGHT TEST	NO
SLOTTED	NO
DATE ON LID	5-8-16
PUMP/SEPTIC TANK LEVEL YES	
MANUFACTURER	BACKRIVER / NORWECO
CAPACITY	1500 GAL
SEAM LOC	TOP
TANK LID DEPTH	3'
BAFFLES	NO
BAFFLE FILTER	NO
MANHOLE LOC	FRONT + REAR
6" PORT LOC	NONE
WATERTIGHT TEST	NO
SLOTTED	NO
DATE ON LID	6-6-16

PRE-CONSTRUCTION:

7/14/16 Met WTC on site for layout. All SDA + tank stakes present. Laid out 3x50' trenches on contour on upper + northern portion of SDA. Run force main outside SDA. (SC)

INSTALLATION: 7/15/16 System all installed. House connection made, tanks set, trenches dug.

T1 + T2 left open at ends, T3 left open. 2.5' to stone. Need BAT startup certification and pump + alarm. 7/25/16 BAT startup certification received. (SC) 12/12/16 on site for Norweco startup and pump + alarm. Norweco alarm sounds + aerator runs. Pump alarm sounds + effluent pumps up to D-box. (SC)

Back River Pre-Cast, LLC

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

Letter of Certification

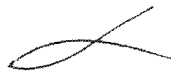
This is to certify that the Norweco Singulair TNT 600 GPD Septic Tank installed at 13584 Mitchells Way, West Friendship, MD 21794 July 14, 2016 was installed according to the manufacture's specifications.

Installer: Walter Coon

Property Owner: Catonsville Homes

Permit #

THIS CERTIFICATION IS FOR INSTALLATION ONLY. THE 5-YEAR OPERATIONS & MAINTENANCE AGREEMENT FROM DATE OF INSTALLATION WILL ONLY GO INTO EFFECT AFTER BACK RIVER PRE-CAST, LLC RECEIVES FINAL AND FULL PAYMENT FOR THE SYSTEM.



MATTHEW GECKLE

Vice-President

Freemon, Robert

From: Freemon, Robert
Sent: Tuesday, March 08, 2016 12:23 PM
To: 'lalexander@clsi-civileng.com'
Subject: Bat Plan 13584

Hi Lisa,

I have reviewed the Bat Plan for 13584 Mitchell's Way and have a couple of comments. There are no major issues with the plan other than the Well Statement containing the wrong tag number. Since this is something we cannot correct ourselves please resubmit with the correct well tag number in the certification statement and also correct the following minor items. For Static Head the pump's off switch is the bottom elevation to use and not the bottom of the septic tank. Friction Loss in a 3" pvc with a 30gpm flow uses the wrong number in its calculations. As for the trench design the calculations are correct but the application rate is incorrectly labeled as 0.8.

I have sent the builder a memo with our bedroom definitions in hopes that he will upgrade the system to support an owner's potential future renovation of the house to 5 bedrooms. If the Builder decides to upgrade the system a revised Bat Plan will need to be submitted to DILP. Please confer with the builder and let us know if they intend to revise to a 5 bedroom design or stick with the 4 bedroom design.

Robert Freemon
Howard County Health Department
Well and Septic Program
Phone: 410-313-6357
Email: rfreemon@howardcountymd.gov



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 4 day of October 2013, among Spring Mill LLC, 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 13584 Mitchells Way, W. Friendship, MD 21794 (Lot 15), in the 03 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 11285 Folio 00664.

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.

Spring Mill LLC
James R. Moxley III 10/4/13
Owner James R. Moxley, III Date

Owner Date

Beet Rifon 11/4/2013
Howard County Health Department

LR - Agreement Recording Fee 20.00
Grantor/Grantee Name: HCHD
Reference/Control #: 168
LR - Agreement Surcharge 40.00
LR - Additional Recording Fee 0.00
- linked 0.00
SubTotal: 60.00
Total: 90.00
#2168213-11 02:53 CC13-CH
11/04/2013 02:53
#2168213 CC0503 - Howard Co
Columbia/CO05.03.03 - Register
03 495

Freemon, Robert

From: Pam Walter <PWalter@catonsvillehomes.com>
Sent: Thursday, March 24, 2016 9:27 AM
To: Freemon, Robert
Cc: Frank Potepan; Rob Scranton; Linda D. Alexander
Subject: RE: 13584 Mitchel's Way

Robert,

We are not going to upgrade the septic system to support 5 bedrooms. This house has an unfinished basement. We acknowledge that if the basement is finished in the future to add a bedroom, the septic system will need to be upgraded.

Thanks!

Pam Walter

Catonsville Homes, LLC
11175 Stratfield Court
Marriottsville, MD 21104
410-442-2211 x 202
410-442-2215 Fax
pwalter@catonsvillehomes.com

From: Freemon, Robert [<mailto:rfreemon@howardcountymd.gov>]
Sent: Thursday, March 24, 2016 9:22 AM
To: Pam Walter
Subject: FW: 13584 Mitchel's Way

Hi Pam,

I have been working on B16000690 and have already approved the Bat Plan. Before we sign off on the building permit I just need notification/acknowledgement from the builder stating that you are not going to upgrade the septic system to support 5 bedrooms (to account for a future potential bedroom in the basement). I have attached the email that was sent to Lisa and Frank. Let me know if you need anything else.

Robert Freemon
Howard County Health Department
Well and Septic Program
Phone: 410-313-6357
Email: rfreemon@howardcountymd.gov

From: Freemon, Robert
Sent: Wednesday, March 23, 2016 11:55 AM
To: 'fpotepan@catonsvillehomes.com'; 'lalexander@clsi-civileng.com'
Subject: 13584 Mitchel's Way

Hi Everyone,

The BAT Plan for 13584 Mitchel's Way has been approved. As for the Building Permit we need to have written acknowledgement that the On-site septic disposal system will not be upgraded to support a 5 bedroom house. We recommend the septic system be built to support 5 bedrooms, however if it is decided not to upgrade we will need a written statement saying as much so we can approve the building permit.

Thanks

Robert Freemon
Howard County Health Department
Well and Septic Program
Phone: 410-313-6357
Email: rfreemon@howardcountymd.gov

Freemon, Robert

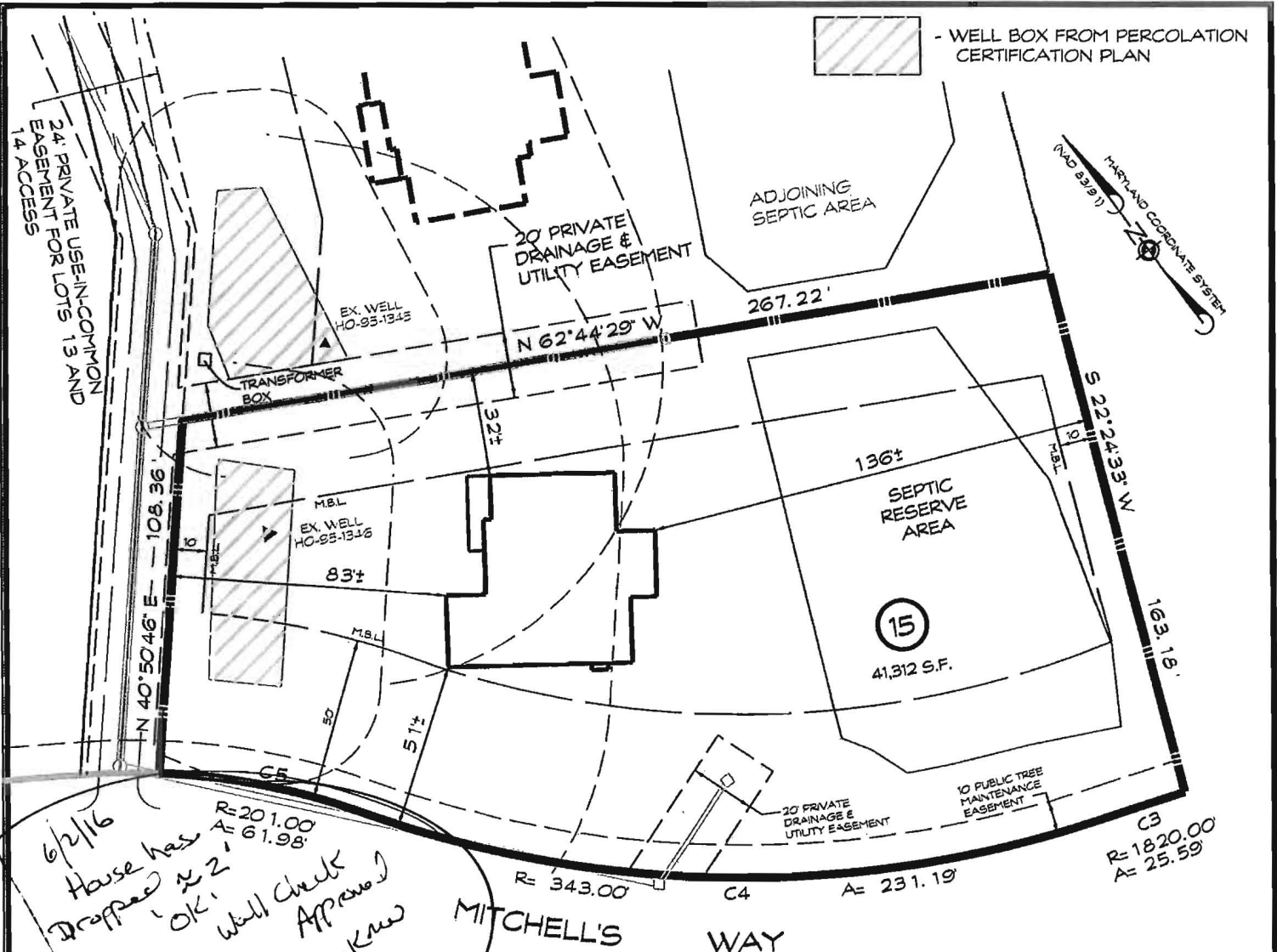
From: Freemon, Robert
Sent: Wednesday, March 23, 2016 11:55 AM
To: 'fpotepan@catonsvillehomes.com'; 'lalexander@clsi-civileng.com'
Subject: 13584 Mitchel's Way

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Thanks

Robert Freemon
Howard County Health Department
Well and Septic Program
Phone: 410-313-6357
Email: rfreemon@howardcountymd.gov



6/2/16
 House has
 dropped ~ 2'
 OK, will check
 Approved
 -Kaw

NOTE:
 SEE SHEET 1 OF 4
 CLOVERFIELD, SECTION 2
 PLAT # 20256
 FOR GENERAL NOTES

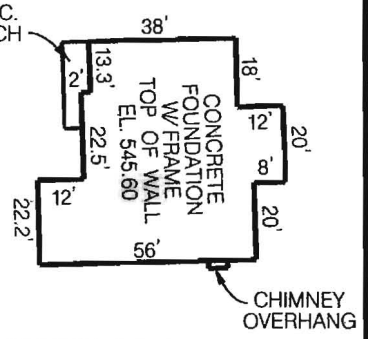
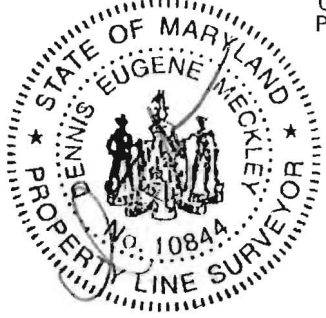
CURVE DATA

NUMBER	RADIUS	ARC	DELTA	TAN	CHORD BRG.	DIST
C3	1820.00	25.59	00°48'20"	12.80	N 71°36'13" W	25.59
C4	343.00	231.19	38°37'09"	120.18	N 52°41'49" W	226.84
C5	201.00	61.98	17°40'04"	31.24	N 42°13'16" W	61.74

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: *Dennis E. Meckley* Date: 5/11/16
 Dennis E. Meckley Property Line Surveyor No. 10844
 License expires March 26, 2018

A licensed Maryland Surveyor either personally prepared this Foundation Certification, 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 15
 13584 MITCHELLS WAY
CLOVERFIELD
 SECTION II
 3RD ELECTION DISTRICT * HOWARD COUNTY, MD.
 TAX MAP: 15 BLOCK: 7 PARCEL: 119
 RECORDED PLAT NO. 20257



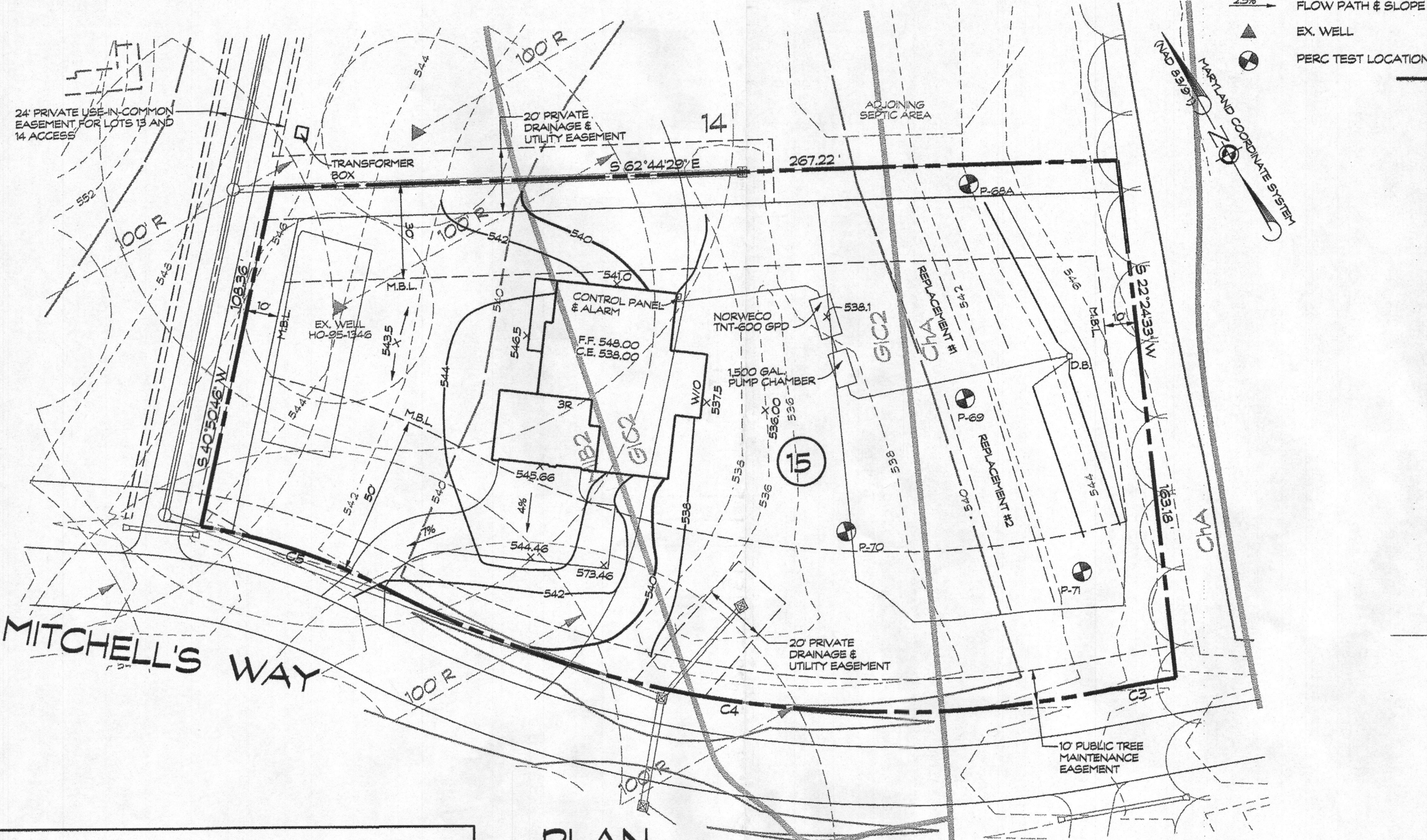
439 East Main Street Westminster, MD 21157-5539
 (410) 848-1790 FAX (410) 848-1791

DRAWN BY:	KMB
DESIGN BY:	
REVIEW BY:	DEM
DATE:	05-09-16
SCALE:	1" = 50'
JOB NO:	2013039
SHEET:	1 OF 1

CURVE DATA						
NUMBER	RADIUS	ARC	DELTA	TAN	CHORD BRG.	DIST
C3	1820.00	25.59	00°48'20"	12.80	N 71°26'13" W	25.59
C4	343.00	231.19	38°37'09"	120.18	N 52°41'48" W	226.84
C5	201.00	61.98	17°40'04"	31.24	N 42°13'16" W	61.74

LOC DENOTES LIMIT OF DISTURBANCE
TOTAL AREA = 20,210 S.F.

- LEGEND:**
- X 502.5 SPOT ELEVATION
 - 2.5% FLOW PATH & SLOPE
 - ▲ EX. WELL
 - PERC TEST LOCATION



NOTE: PERCOLATION TEST LOCATIONS ARE FROM REVISED PERCOLATION CERTIFICATION PLAN DATED OCTOBER 2007 AND SIGNED BY HOWARD COUNTY HEALTH DEPARTMENT OCTOBER 5, 2007.

PLAN
SCALE: 1"=30'

PUMP/SYSTEM DESIGN:

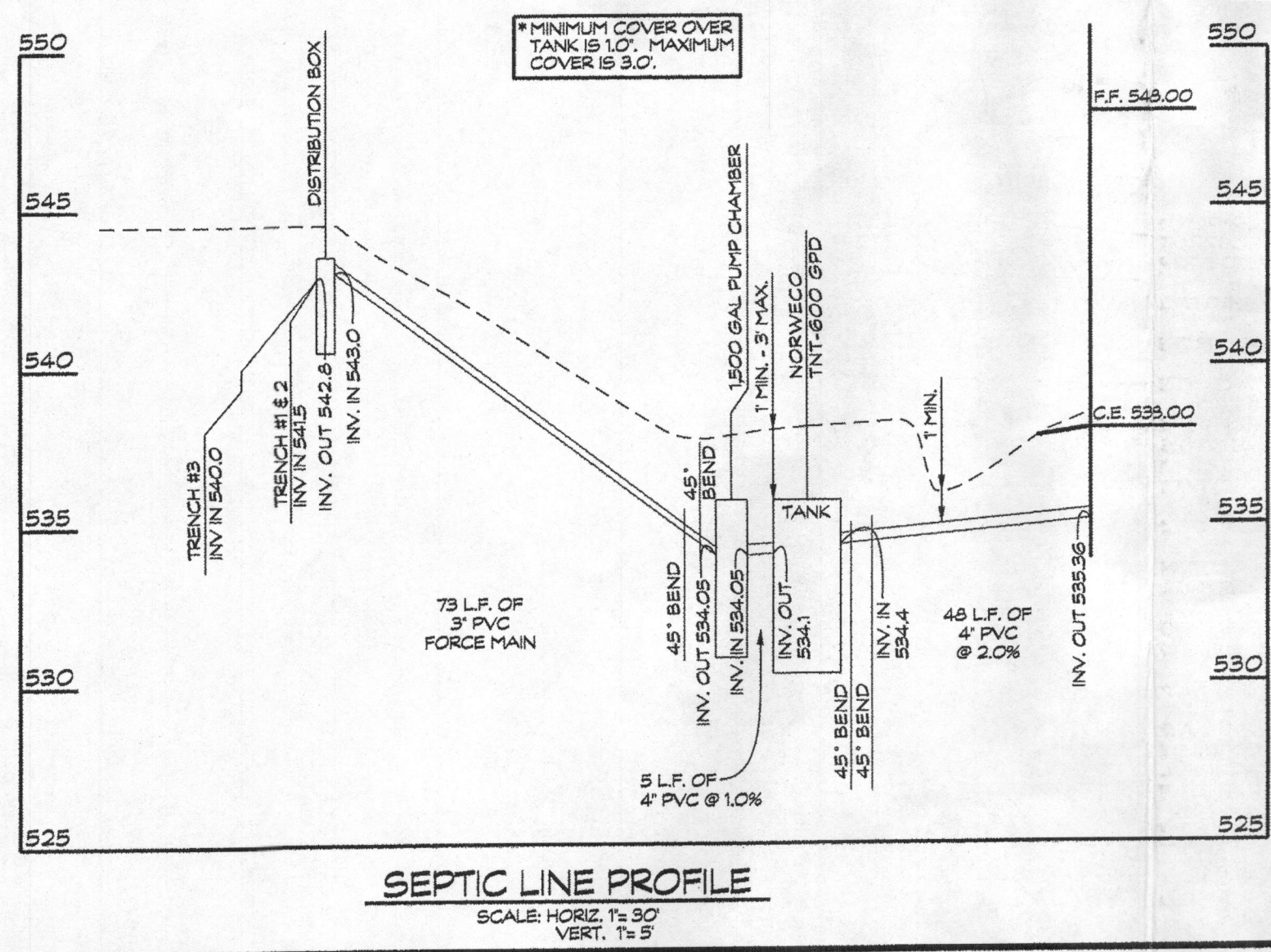
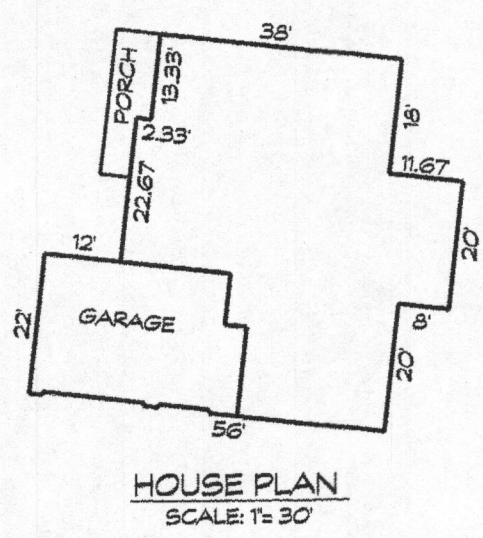
- DESIGN FLOW: 600 GPD
- HEAD: STATIC HEAD: 543.0 - 529.6 = 13.2
FRICTION HEAD: 2.45' BEND = 12
73 OF 3" PVC = 7.3
12" x 73' = 8.9
8.5 X 1.08/100 = 0.918
TOTAL HEAD: 13.2 + 0.918 = 14.12 @ 30 GPM

PUMP SYSTEM:

- 1/8" DESIGN FLOW: 100 GAL. MINIMUM DOSE
- MINIMUM DOSE CALCULATIONS:
87 OF 3" PVC X 3.84/100 = 3.341
144 OF 4" PVC X 6.8/100 = 9.792
TOTAL DOSE = 13.133
- DOSE VOLUME: USE MINIMUM DOSE: 130 GAL.
- PUMP CHAMBER CAPACITY: ONE DAY STORAGE CAPACITY: 600 GPD + DOSE: 130 GPD
TOTAL STORAGE: 730 GPD
- PUMP ON TO PUMP OFF: 2 x 130 X 23 1/11, 0.26 = 2.72
HIGH WATER ALARM SWITCH TO PUMP CHAMBER: 800 X 23 1/11, 0.26 = 12.57

TRENCH CHART

TRENCH	EX. GROUND	INV. ELEV.	BOTTOM OF TRENCH
1	544.5	541.5	537.5
2	544.5	541.5	537.5
3	543.0	540.0	536.0

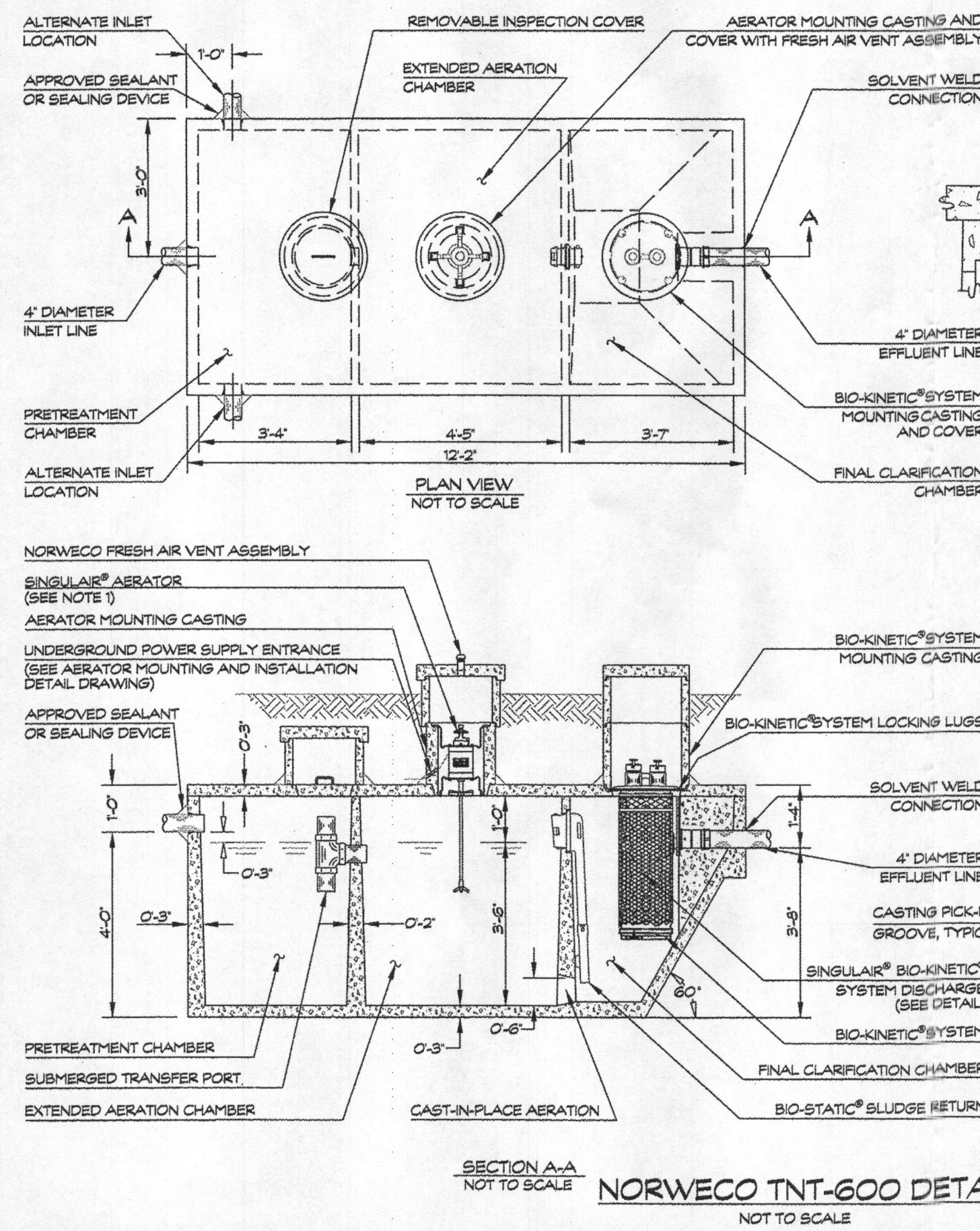


GENERAL NOTES:

- THE STORMWATER MANAGEMENT FOR THIS LOT IS PROVIDED OFF-SITE IN THE TWO MICROPOOL EXTENDED DETENTION FACILITIES AND GRASSED SWALES PER THE RECORDED PLAT NO. 20256.
- THERE ARE NO STREAMS, PONDS, FLOODPLAINS, OR WETLANDS ON THIS LOT.
- THERE ARE NO 20% OR GREATER SLOPES ON THIS LOT.
- EXISTING WELL LOCATION IS FIELD LOCATED.

SEPTIC SYSTEM TRENCH DESIGN:

PROPOSED NUMBER OF BEDROOMS = 4
AVERAGE PERCOLATION TEST TIME = 7
APPLICATION RATE = 0.8
DESIGN FLOW: 180 GAL. x 4 BEDROOM = 600 GAL/DAY
600 GAL/DAY x 1.2 GAL/DAY/SQ. FT. = 500 SQ. FT.
250 L.F. x 0.87 = 217.5 L.F. OF TRENCH = 143
USE 3 - 50 L.F. OF TRENCH FOR INITIAL SYSTEM
USE 3 - 80 L.F. OF TRENCH FOR REPLACEMENT SYSTEM #1
USE 2 - 72 L.F. OF TRENCH FOR REPLACEMENT SYSTEM #2



NORWECO TNT-600 DETAIL
NOT TO SCALE

THE EXISTING WELL SHOWN ON THIS PLAN (HO-89-1345) HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN.

GOULDS PUMPS



Submersible Effluent Pump

MODEL 3885

WE Series

PROURANCE AVAILABLE FOR RESIDENTIAL APPLICATIONS.

APPLICATIONS:

- Specifically designed for the following uses:
 - Homes
 - Farms
 - Trailer courts
 - Motels
 - Schools
 - Hospitals
 - Industry
 - Effluent systems
- Shaft: Corrosion-resistant, stainless steel. Threaded design. Locknut on all models to guard against component damage on accidental reverse rotation.
- Fasteners: 300 series stainless steel.
- Capable of running dry without damage to components.
- Designed for continuous operation when fully submerged.

SPECIFICATIONS:

- Pump
 - Seals handling capabilities: 3/4" 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.
- 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.

FEATURES:

- Impeller: Cast iron, semi-split, non-clog with pump-out vanes for mechanical seal protection. Balanced for smooth operation. Silicon bronze impeller available as an option.
- Casting: 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.

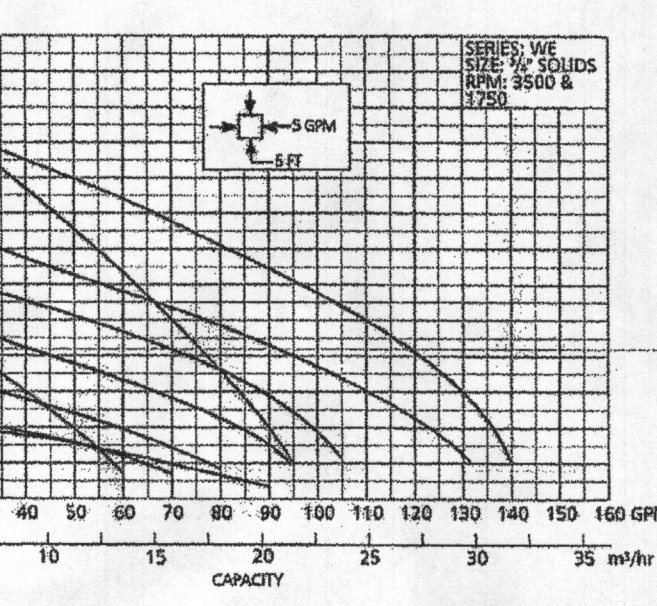
© 2003 Goulds Pumps
Effective July, 2003
3885

Single phase (60 Hz):

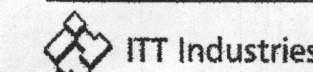
- Capacitor start motors for maximum starting torque.
- Built-in overload with automatic reset.
- SITOW or STOW severe duty oil and water resistant power cords.
- 1/2 and 3/4 HP models have ground fault circuit interrupting (GFCI) ground fault protection.
- 1/2 HP and larger units have bare lead cord 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.

MOTORS:

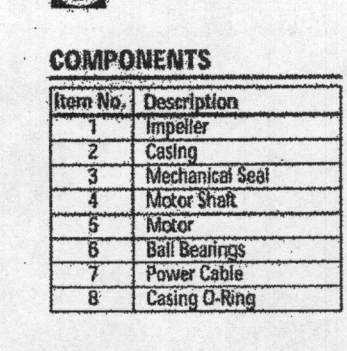
- Fully submerged in high-grade turbine oil for lubrication and efficient heat transfer.
- Class B insulation on 1/2-1 1/2 HP models.
- Class F insulation on 2 HP models.



Goulds Pumps



GOULDS PUMPS



Submersible Effluent Pump

MODEL 3885

WE Series

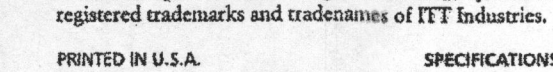
COMPONENTS:

- Impeller
- Casting
- Mechanical Seal
- Motor Shaft
- Motor
- Ball Bearings
- Power Cable
- Casing O-Ring

MODELS:

Order No.	HP	Phase	Blk. Amp.	RPM	Volts	Wt. (lbs.)
WE0311L	1/2	1	6.0	1750	115	6.6
WE0312L	3/4	1	8.9	1750	115	8.1
WE0313L	1	1	11.8	1750	115	9.6
WE0314L	1 1/2	1	14.7	1750	115	11.1
WE0315L	2	1	17.6	1750	115	12.6
WE0316L	3	1	20.5	1750	115	14.1
WE0317L	4	1	23.4	1750	115	15.6
WE0318L	5	1	26.3	1750	115	17.1
WE0319L	7 1/2	1	35.1	1750	115	22.6
WE0320L	10	1	43.9	1750	115	28.1
WE0321L	15	1	65.8	1750	115	42.6
WE0322L	20	1	87.7	1750	115	57.1
WE0323L	25	1	109.6	1750	115	71.6
WE0324L	30	1	131.5	1750	115	86.1
WE0325L	35	1	153.4	1750	115	100.6
WE0326L	40	1	175.3	1750	115	115.1
WE0327L	45	1	197.2	1750	115	129.6
WE0328L	50	1	219.1	1750	115	144.1
WE0329L	55	1	241.0	1750	115	158.6
WE0330L	60	1	262.9	1750	115	173.1
WE0331L	65	1	284.8	1750	115	187.6
WE0332L	70	1	306.7	1750	115	202.1
WE0333L	75	1	328.6	1750	115	216.6
WE0334L	80	1	350.5	1750	115	231.1
WE0335L	85	1	372.4	1750	115	245.6
WE0336L	90	1	394.3	1750	115	260.1
WE0337L	95	1	416.2	1750	115	274.6
WE0338L	100	1	438.1	1750	115	289.1
WE0339L	110	1	480.0	1750	115	323.6
WE0340L	120	1	521.9	1750	115	358.1
WE0341L	130	1	563.8	1750	115	392.6
WE0342L	140	1	605.7	1750	115	427.1
WE0343L	150	1	647.6	1750	115	461.6
WE0344L	160	1	689.5	1750	115	496.1
WE0345L	170	1	731.4	1750	115	530.6
WE0346L	180	1	773.3	1750	115	565.1
WE0347L	190	1	815.2	1750	115	599.6
WE0348L	200	1	857.1	1750	115	634.1
WE0349L	210	1	899.0	1750	115	668.6
WE0350L	220	1	940.9	1750	115	703.1
WE0351L	230	1	982.8	1750	115	737.6
WE0352L	240	1	1024.7	1750	115	772.1
WE0353L	250	1	1066.6	1750	115	806.6
WE0354L	260	1	1108.5	1750	115	841.1
WE0355L	270	1	1150.4	1750	115	875.6
WE0356L	280	1	1192.3	1750	115	910.1
WE0357L	290	1	1234.2	1750	115	944.6
WE0358L	300	1	1276.1	1750	115	979.1
WE0359L	310	1	1318.0	1750	115	1013.6
WE0360L	320	1	1359.9	1750	115	1048.1
WE0361L	330	1	1401.8	1750	115	1082.6
WE0362L	340	1	1443.7	1750	115	1117.1
WE0363L	350	1	1485.6	1750	115	1151.6
WE0364L	360	1	1527.5	1750	115	1186.1
WE0365L	370	1	1569.4	1750	115	1220.6
WE0366L	380	1	1611.3	1750	115	1255.1
WE0367L	390	1	1653.2	1750	115	1289.6
WE0368L	400	1	1695.1	1750	115	1324.1
WE0369L	410	1	1737.0	1750	115	1358.6
WE0370L	420	1	1778.9	1750	115	1393.1
WE0371L	430	1	1820.8	1750	115	1427.6
WE0372L	440	1	1862.7	1750	115	1462.1
WE0373L	450	1	1904.6	1750	115	1496.6
WE0374L	460	1	1946.5	1750	115	1531.1
WE0375L	470	1	1988.4	1750	115	1565.6
WE0376L	480	1	2030.3	1750	115	1600.1
WE0377L	490	1	2072.2	1750	115	1634.6
WE0378L	500	1	2114.1	1750	115	1669.1
WE0379L	510	1	2156.0	1750	115	1703.6
WE0380L	520	1	2197.9	1750	115	1738.1
WE0381L	530	1	2239.8	1750	115	1772.6
WE0382L	540	1	2281.7	1750	115	1807.1
WE0383L	550	1	2323.6	1750	115	1841.6
WE0384L	560	1	2365.5	1750	115	1876.1
WE0385L	570	1	2407.4	1750	115	1910.6
WE0386L	580	1	2449.3	1750	115	1945.1
WE0387L	590	1	2491.2	1750	115	1979.6
WE0388L	600	1	2533.1	1750	115	2014.1

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PERFORMANCE RATINGS (gallons per minute)

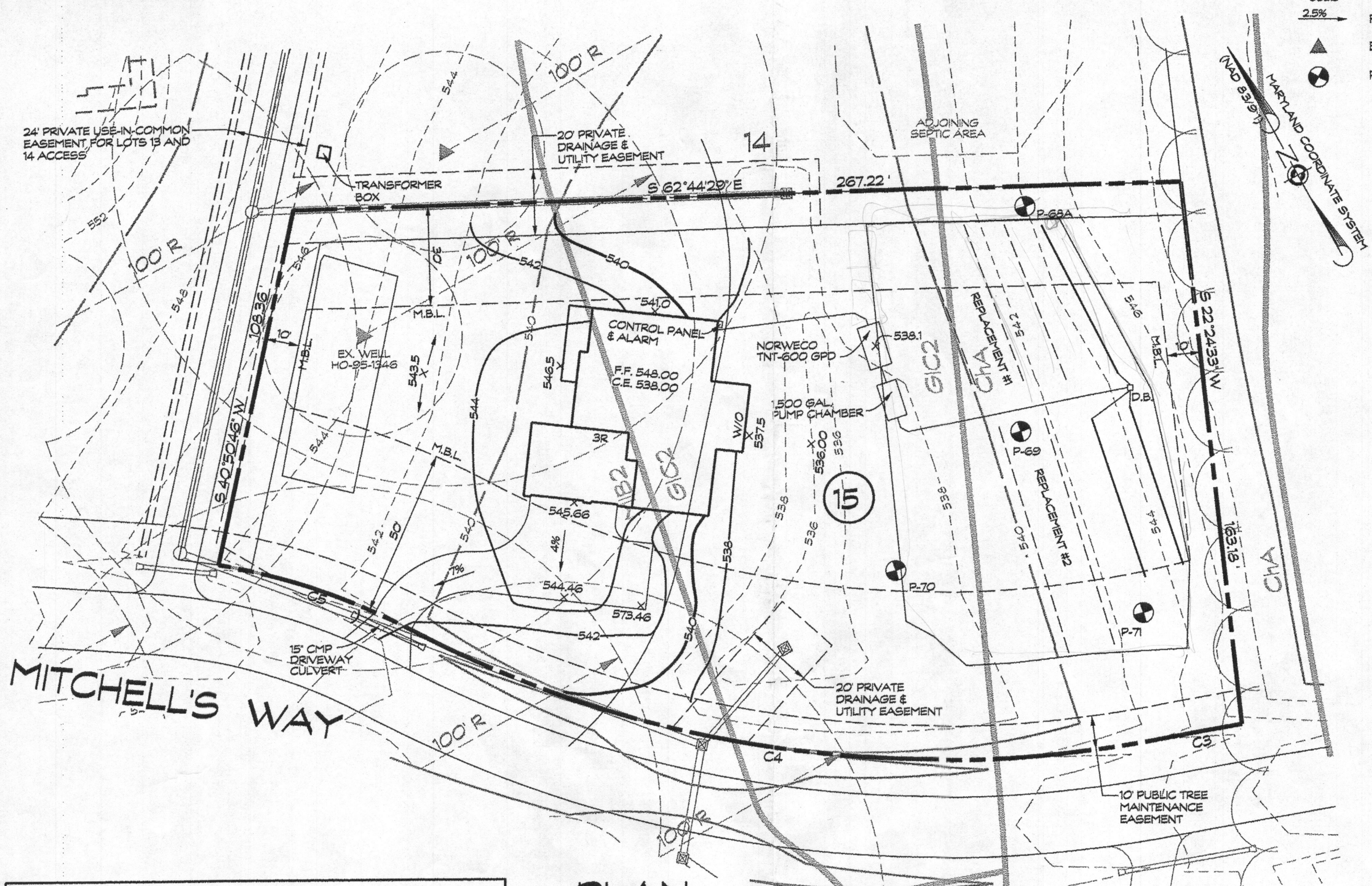
Order No.	1/2	3/4	1	1 1/2	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60																																																
1	88	117	146	175	204	233	262	291	320	349	378	407	436	465	494	523	552	581	610	639	668	697	726	755	784	813	842	871	900	929	958	987	1016	1045	1074	1103	1132	1161	1190	1219	1248	1277	1306	1335	1364	1393	1422	1451	1480	1509	1538	1567	1596	1625	1654	1683	1712	1741	1770	1799	1828	1857	1886	1915	1944	1973	2002	2031	2060	2089	2118	2147	2176	2205	2234	2263	2292	2321	2350	2379	2408	2437	2466	2495	2524	2553	2582	2611	2640	2669	2698	2727	2756	2785	2814	2843	2872	2901	2930	2959	2988	3017	3046	3075	3104	3133	3162	3191	3220	3249	3

CURVE DATA						
NUMBER	RADIUS	ARC	DELTA	TAN	CHORD BRG.	DIST
C3	1820.00	25.59	00°48'20"	12.80	N 71°36'13" W	25.59
C4	343.00	231.19	38°37'02"	120.18	N 52°41'48" W	226.84
C5	201.00	61.98	17°40'04"	31.24	N 42°13'16" W	61.74

LOD DENOTES LIMIT OF DISTURBANCE
TOTAL AREA = 20,210 S.F.

LEGEND:

- 532.5 SPOT ELEVATION
- 2.8% FLOW PATH & SLOPE
- EX. WELL
- PERC TEST LOCATION



PLAN
SCALE: 1" = 30'

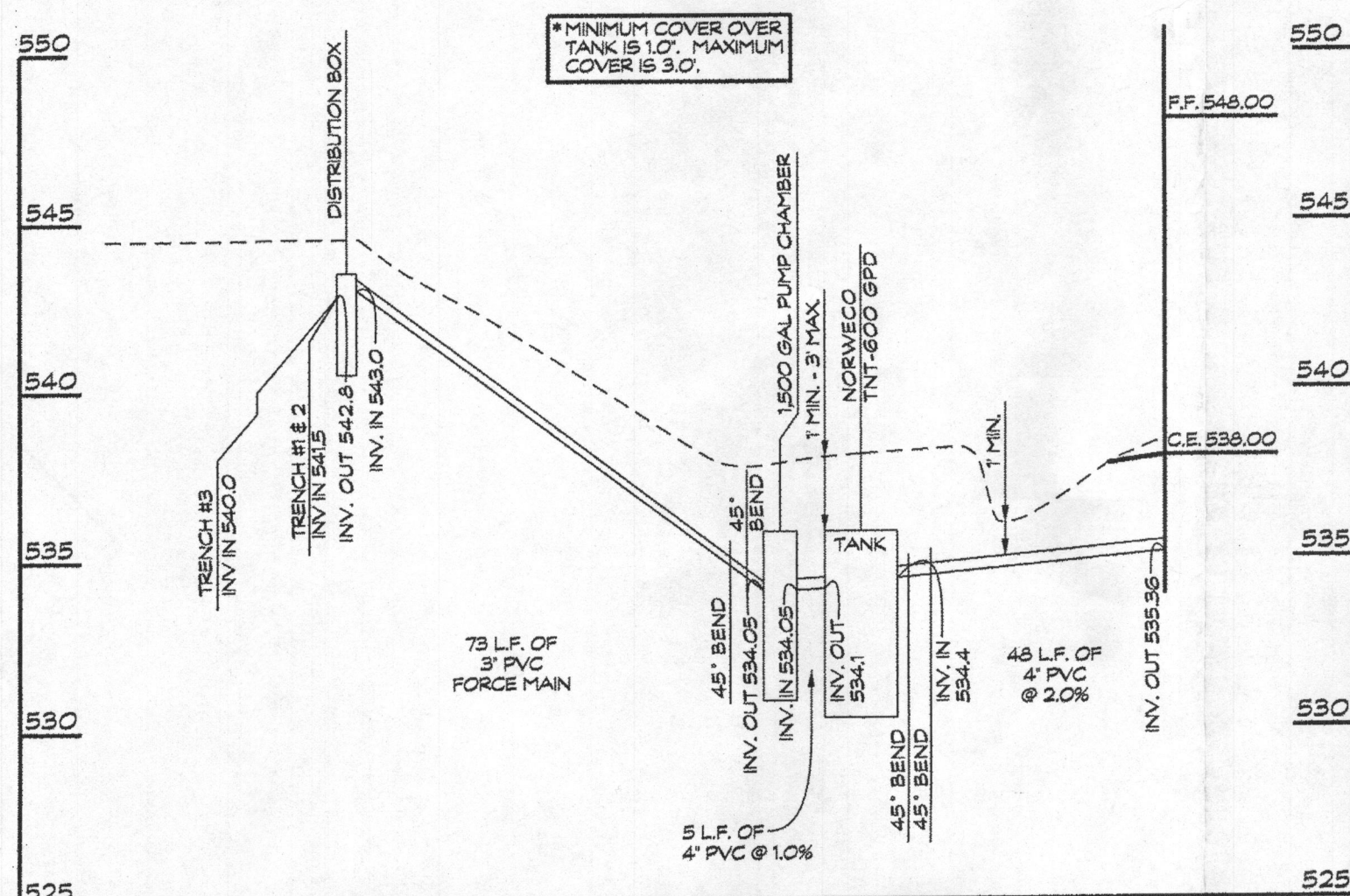
NOTE: PERCOLATION TEST LOCATIONS ARE FROM REVISED PERCOLATION CERTIFICATION PLAN DATED OCTOBER 2007 AND SIGNED BY HOWARD COUNTY HEALTH DEPARTMENT OCTOBER 5, 2007.

- PUMP/SYSTEM DESIGN:**
- DESIGN FLOW: 600 GPD
 - DESIGN HEAD: STATIC HEAD: 543.0 - 532.3 = 10.7
FRICTION HEAD: 2 - 45' BEND = 12
75 OF 3" PVC = 75
12 + 75 = 87
85 X (1.08/100) = 0.918
TOTAL HEAD: 10.7 + 0.918 = 11.62 @ 30 GPM

- PUMP SYSTEM:**
- 1/8" DESIGN FLOW: 100 GAL. MINIMUM DOSE
 - MINIMUM DOSE CALCULATIONS:
87 OF 3" PVC X 38.4/100 = 33.41
14.4 OF 4" PVC X 56.1/100 = 8.08
TOTAL DOSE = 128.59
 - DOSE VOLUME: USE MINIMUM DOSE: 130 GAL.
 - PUMP CHAMBER CAPACITY: ONE DAY STORAGE CAPACITY: 600 GPD + DOSE: 130 GPD
TOTAL STORAGE: 730 GPD
 - PUMP ON TO PUMP OFF: 2x 130 X 2.9 V 11.026 = 2.72
 - HIGH WATER ALARM SWITCH TO PUMP CHAMBER: R: 600 X 2.9 V 11.026 = 12.57'

TRENCH	EX. GROUND	INV. ELEV.	BOTTOM OF TRENCH
1	544.5	541.5	537.5
2	544.5	541.5	537.5
3	543.0	540.0	536.0

HOUSE PLAN
SCALE: 1" = 30'



SEPTIC LINE PROFILE
SCALE: HORIZ. 1" = 30'
VERT. 1" = 5'

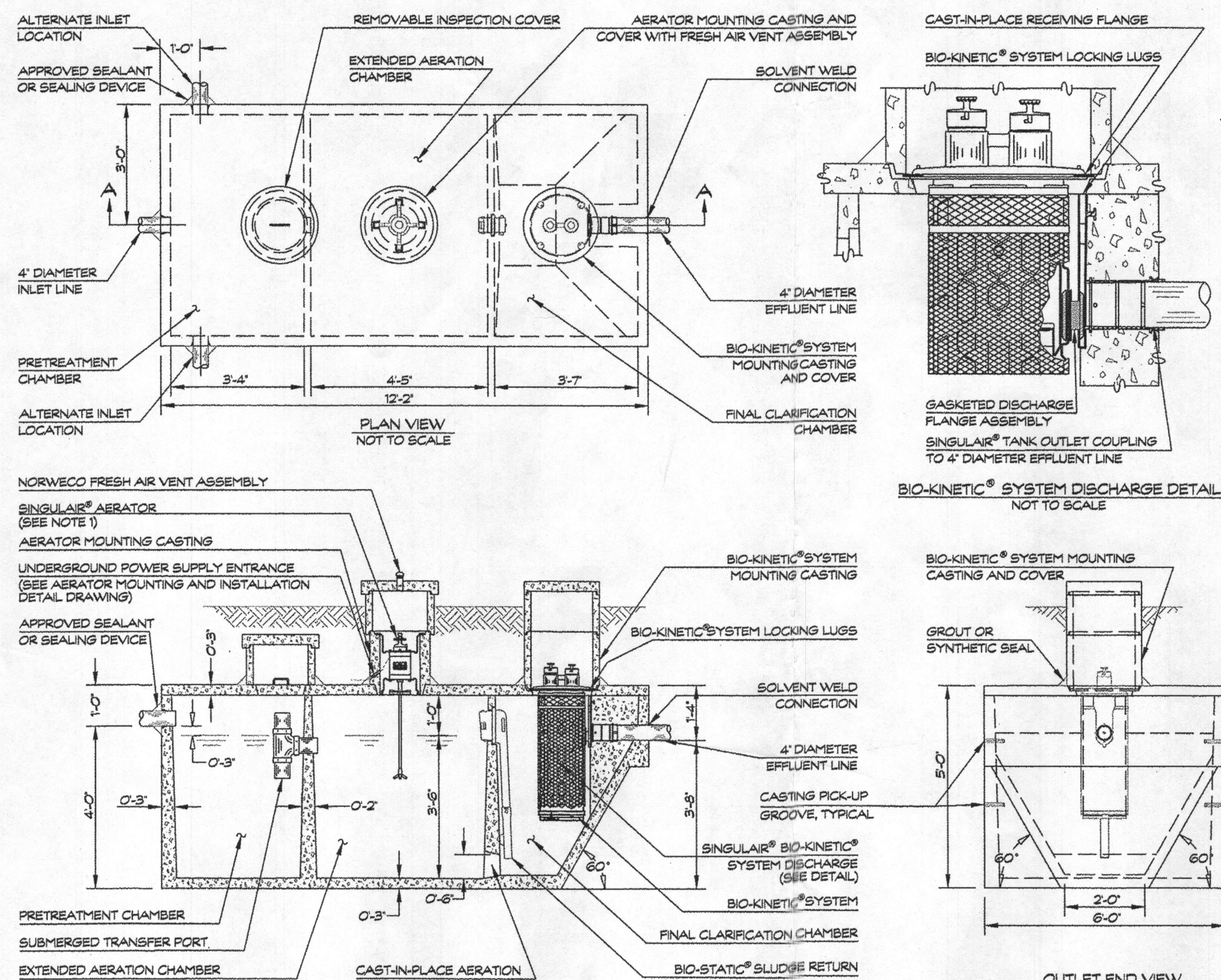
GENERAL NOTES

- THE STORMWATER MANAGEMENT FOR THIS LOT IS PROVIDED OFF-SITE IN THE TWO MICROPOOL EXTENDED DETENTION FACILITIES AND GRASSED SWALES PER THE RECORDED PLAN NO. 202586.
- THERE ARE NO STREAMS, PONDS, FLOODPLAINS, OR WETLANDS ON THIS LOT.
- THERE ARE NO 20% OR GREATER SLOPES ON THIS LOT.
- EXISTING WELL LOCATION IS FIELD LOCATED.

SEPTIC SYSTEM TRENCH DESIGN:

PROPOSED NUMBER OF BEDROOMS = 4
AVERAGE PERCOLATION TEST TIME = 2
APPLICATION RATE = 1.2
DESIGN FLOW: 150 GALS x 4 BEDROOM = 600 GAL/DAY
600 GAL/DAY / 12 GAL./DAY/SQ. FT. = 50 SQ. FT.
500 SQ. FT. / 2 FT. = 250 LF. OF TRENCH
250 LF. x 0.57 = 142.5 LF. OF TRENCH = 143
USE 3 - 50 LF. OF TRENCH FOR INITIAL SYSTEM
USE 3 - 50 LF. OF TRENCH FOR REPLACEMENT SYSTEM #1
USE 2 - 72 LF. OF TRENCH FOR REPLACEMENT SYSTEM #2

THE EXISTING WELL SHOWN ON THIS PLAN (H-095-1346) HAS BEEN FIELD LOCATED AND IS ACCURATELY SHOWN.



SECTION A-A
NOT TO SCALE
NORWECO TNT-600 DETAIL
NOT TO SCALE

GOULDS PUMPS



Submersible Effluent Pump

MODEL 3885

WE Series

PROSURE AVAILABLE FOR RESIDENTIAL APPLICATIONS.

APPLICATIONS

- Specifically designed for the following uses:
- Homes
 - Farms
 - Trailer courts
 - Motels
 - 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 damage on accidental reverse 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.

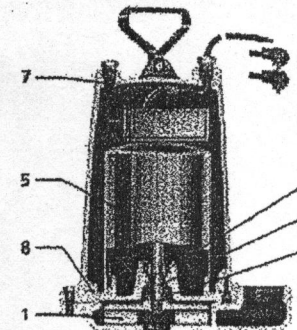
- Single phase (60 Hz):
 - Capacitor start motors for maximum starting torque.
 - Built-in overload with automatic reset.
 - STOW or STOW severs duty oil and water resistant power cords.
- 1/2 and 1 HP models have NEMA three prong grounding plugs.
- 1 HP and larger units have bare lead cord ends.
- Three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

Registered to US, 778 and CSA 22.2 108 Standards by Canadian Standards Association File #430556
Goulds Pump & ISO 9001 Registered.

GOULDS PUMPS



COMPONENTS

Item No.	Description
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	Volts	Phase	Max. Amp.	RPM	Solids	Wt. (lbs.)
WE0311L	1/2	115	1	6.8	1750	58	
WE0312L	1/2	230	1	4.9	1750	58	
WE0313L	1/2	115	3	10.7	1750	58	
WE0314L	1/2	230	3	7.3	1750	58	
WE0315L	1/2	115	1	14.5	1750	58	
WE0316L	1/2	230	1	10.7	1750	58	
WE0317L	1/2	115	3	23	1750	58	
WE0318L	1/2	230	3	16.4	1750	58	
WE0319L	1/2	115	1	1.7	1750	58	
WE0320L	1/2	230	1	1.7	1750	58	
WE0321L	1/2	115	3	3.3	1750	58	
WE0322L	1/2	230	3	2.3	1750	58	
WE0323L	1/2	115	1	14.5	1750	58	
WE0324L	1/2	230	1	10.7	1750	58	
WE0325L	1/2	115	3	23	1750	58	
WE0326L	1/2	230	3	16.4	1750	58	
WE0327L	1/2	115	1	1.7	1750	58	
WE0328L	1/2	230	1	1.7	1750	58	
WE0329L	1/2	115	3	3.3	1750	58	
WE0330L	1/2	230	3	2.3	1750	58	
WE0331L	1/2	115	1	14.5	1750	58	
WE0332L	1/2	230	1	10.7	1750	58	
WE0333L	1/2	115	3	23	1750	58	
WE0334L	1/2	230	3	16.4	1750	58	
WE0335L	1/2	115	1	1.7	1750	58	
WE0336L	1/2	230	1	1.7	1750	58	
WE0337L	1/2	115	3	3.3	1750	58	
WE0338L	1/2	230	3	2.3	1750	58	
WE0339L	1/2	115	1	14.5	1750	58	
WE0340L	1/2	230	1	10.7	1750	58	
WE0341L	1/2	115	3	23	1750	58	
WE0342L	1/2	230	3	16.4	1750	58	
WE0343L	1/2	115	1	1.7	1750	58	
WE0344L	1/2	230	1	1.7	1750	58	
WE0345L	1/2	115	3	3.3	1750	58	
WE0346L	1/2	230	3	2.3	1750	58	
WE0347L	1/2	115	1	14.5	1750	58	
WE0348L	1/2	230	1	10.7	1750	58	
WE0349L	1/2	115	3	23	1750	58	
WE0350L	1/2	230	3	16.4	1750	58	
WE0351L	1/2	115	1	1.7	1750	58	
WE0352L	1/2	230	1	1.7	1750	58	
WE0353L	1/2	115	3	3.3	1750	58	
WE0354L	1/2	230	3	2.3	1750	58	
WE0355L	1/2	115	1	14.5	1750	58	
WE0356L	1/2	230	1	10.7	1750	58	
WE0357L	1/2	115	3	23	1750	58	
WE0358L	1/2	230	3	16.4	1750	58	
WE0359L	1/2	115	1	1.7	1750	58	
WE0360L	1/2	230	1	1.7	1750	58	
WE0361L	1/2	115	3	3.3	1750	58	
WE0362L	1/2	230	3	2.3	1750	58	
WE0363L	1/2	115	1	14.5	1750	58	
WE0364L	1/2	230	1	10.7	1750	58	
WE0365L	1/2	115	3	23	1750	58	
WE0366L	1/2	230	3	16.4	1750	58	
WE0367L	1/2	115	1	1.7	1750	58	
WE0368L	1/2	230	1	1.7	1750	58	
WE0369L	1/2	115	3	3.3	1750	58	
WE0370L	1/2	230	3	2.3	1750	58	
WE0371L	1/2	115	1	14.5	1750	58	
WE0372L	1/2	230	1	10.7	1750	58	
WE0373L	1/2	115	3	23	1750	58	
WE0374L	1/2	230	3	16.4	1750	58	
WE0375L	1/2	115	1	1.7	1750	58	
WE0376L	1/2	230	1	1.7	1750	58	
WE0377L	1/2	115	3	3.3	1750	58	
WE0378L	1/2	230	3	2.3	1750	58	
WE0379L	1/2	115	1	14.5	1750	58	
WE0380L	1/2	230	1	10.7	1750	58	

PERFORMANCE RATINGS (gallons per minute)

Order No.	HP	Volts	Phase	Max. Amp.	RPM	Solids	Wt. (lbs.)
WE0311L	1/2	115	1	6.8	1750	58	
WE0312L	1/2	230	1	4.9	1750	58	
WE0313L	1/2	115	3	10.7	1750	58	
WE0314L	1/2	230	3	7.3	1750	58	
WE0315L	1/2	115	1	14.5	1750	58	
WE0316L	1/2	230	1	10.7	1750	58	
WE0317L	1/2	115	3	23	1750	58	
WE0318L	1/2	230	3	16.4	1750	58	
WE0319L	1/2	115	1	1.7	1750	58	
WE0320L	1/2	230	1	1.7	1750	58	
WE0321L	1/2	115	3	3.3	1750	58	
WE0322L	1/2	230	3	2.3	1750	58	
WE0323L	1/2	115	1	14.5	1750	58	
WE0324L	1/2	230	1	10.7	1750	58	
WE0325L	1/2	115	3	23	1750	58	
WE0326L	1/2	230	3	16.4	1750	58	
WE0327L	1/2	115	1	1.7	1750	58	
WE0328L	1/2	230	1	1.7	1750	58	
WE0329L	1/2	115	3	3.3	1750	58	
WE0330L	1/2	230	3	2.3	1750	58	
WE0331L	1/2	115	1	14.5	1750	58	
WE0332L	1/2	230	1	10.7	1750	58	
WE0333L	1/2	115	3	23	1750	58	
WE0334L	1/2	230	3	16.4	1750	58	
WE0335L	1/2	115	1	1.7	1750	58	
WE0336L	1/2	230	1	1.7	1750	58	
WE0337L	1/2	115	3	3.3	1750	58	
WE0338L	1/2	230	3	2.3	1750	58	
WE0339L	1/2	115	1	14.5	1750	58	