CERTIFICATE OF COMPLIANCE

County Mercer County **Municipality Hopewell Township**

INSTRUCTIONS: Part A is to completely filled in for all Certifications. Only Part B or Part C will be completed. Part B will be completed if the administrative authority relies upon the certification signed and sealed by a New Jersey licensed professional engineer that the system has located, constructed, installed or altered in compliance with the requirements of the N.J.A.C. 7:9A-1 and the Application to Construct/Alter/Repair an Individual Subsurface Sewage Disposal System which was approved by the administrative authority. Part C will be completed if the administrative authority performed the certification.

Part A – General Information

1. Permitted Activities (Check applicable categories)
   Permit Number _____
   ☐ New Construction
   ☒ Alteration/No Expansion or Change of Use
   ☐ Alteration/Expansion or Change of Use
   ☒ Alteration/Malfunctioning System
   ☐ Deviation from Standards
   ☐ Repairs to Existing System
2. Location of Project:
   Municipality **Hopewell Twp.** Block **49** Lot **16**
   Street Address **26 Woosamonsa Road**
   Name and Present Address of Applicant: **Peter Tyson & Megan Miller - Same as Above Address**
   Applicant's Phone Number: **609-737-2128**

Part B – Professional Engineers Certification

I certify under penalty of law that the subsurface sewage disposal system identified in Part A has been located, constructed, installed or altered in compliance with the requirements of N.J.A.C. 7:9A-1 and the Application to Construct/Alter/Repair and Individual Subsurface Sewage Disposal System which was approved by the administrative authority. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

_____ Date: 9/30/13
(Signature)

Theodore H. Bayer, P.E. License No. GE33806
Name (Type or Print), License # SEAL

Part C – Certification by Administrative Authority

I certify under penalty of law that the subsurface sewage disposal system identified in Part A has been located, constructed, installed or altered in compliance with the requirements of N.J.A.C. 7:9A-1 and the Application to Construct/Alter/Repair and Individual Subsurface Sewage Disposal System which was approved by the administrative authority. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

_____ _____ Date: _____
Authorized Signature Type of License Held

_____ _____
Name (Typed of Printed) License Number

For Agency Use Only

Date Received: _____
Form Determined to Be: X Complete _____ Incomplete
Date Returned _____
Date Received _____

Date Certification Approved: 10/10/13
Authorized Signature: _____

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

201 Washington Crossing-Pennington Road
Titusville, New Jersey 08560

ENGINEER CERTIFICATION OF FILL MATERIAL

Block 49 Lot 16

Disposal System Design Rate 6-20 in/hr

Quarry Phoenix Pinelands

I hereby certify that the fill material used in the:

☐ Zone of Treatment

☐ Zone of Disposal

meets the specifications of **N.J.A.C. 7:9A-10.1(f)4&5**

Textural Analysis:

	Zone of Treatment	Zone of Disposal
Sand	%	%
Silt	%	%
Clay	%	%
Coarse Fragments	% vol. ☐ wt. ☐	% vol. ☐ wt. ☐

☐ Percolation test result _____ min/in

☐ Tube permeameter test result _____ in/hr

☐ Soil permeability class rating K _____

(Note: a K5 rating requires a percolation test or tube permeameter test in place.)

I certify that the textural analysis, permeability, and compaction of the fill material meet the requirements of N.J.A.C.7:9A-10.4(f).

Engineer's Signature and Seal Date

I hereby certify that the fill material used in the:

☒ Zone of Treatment

☒ Zone of Disposal

Textural Analysis:

	Zone of Treatment	Zone of Disposal
3/8" sieve	100%	100%
No. 8 sieve	89%	89%
No. 16 sieve	81%	81%
No. 30 sieve	60%	60%
No. 50 sieve	12%	12%
No. 100 sieve	3%	3%
Coarse fragments (No. 8 sieve)	10% vol. ☐ wt. ☒	10% vol. ☐ wt. ☒

☐ Percolation test result _____ min/in

☒ Tube permeameter test result 19.8 in/hr

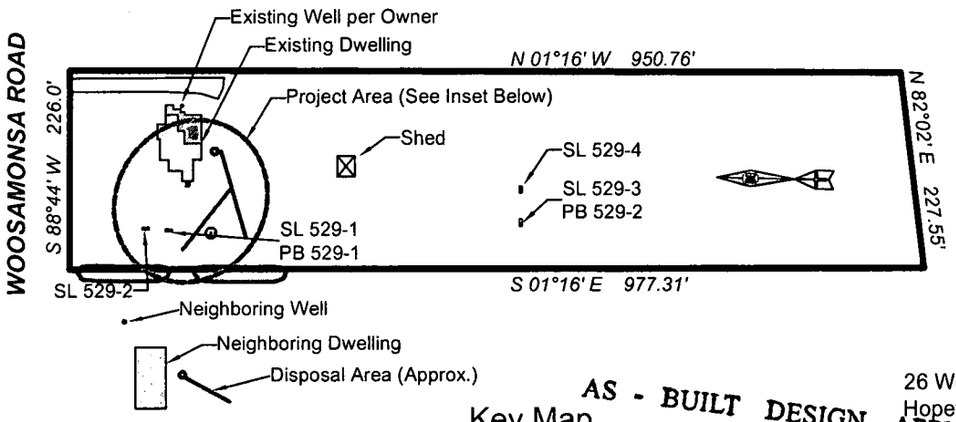
I certify that the textural analysis, permeability, and compaction of the fill material meet the requirements of N.J.A.C.7:9A-10.4(f).

9/30/13

Theodore H. Bayer, P.E.
Engineer's Signature and Seal Date

NOTES:

The septic tank and septic tank effluent filter require routine maintenance. Pumping of the septic tank is recommended to be performed every 2 to 3 years. Cleaning of the septic tank effluent filter shall be performed during septic tank pumping and shall not to exceed a 3 year period. More frequent cleaning cycles may be required depending on household habits/use.

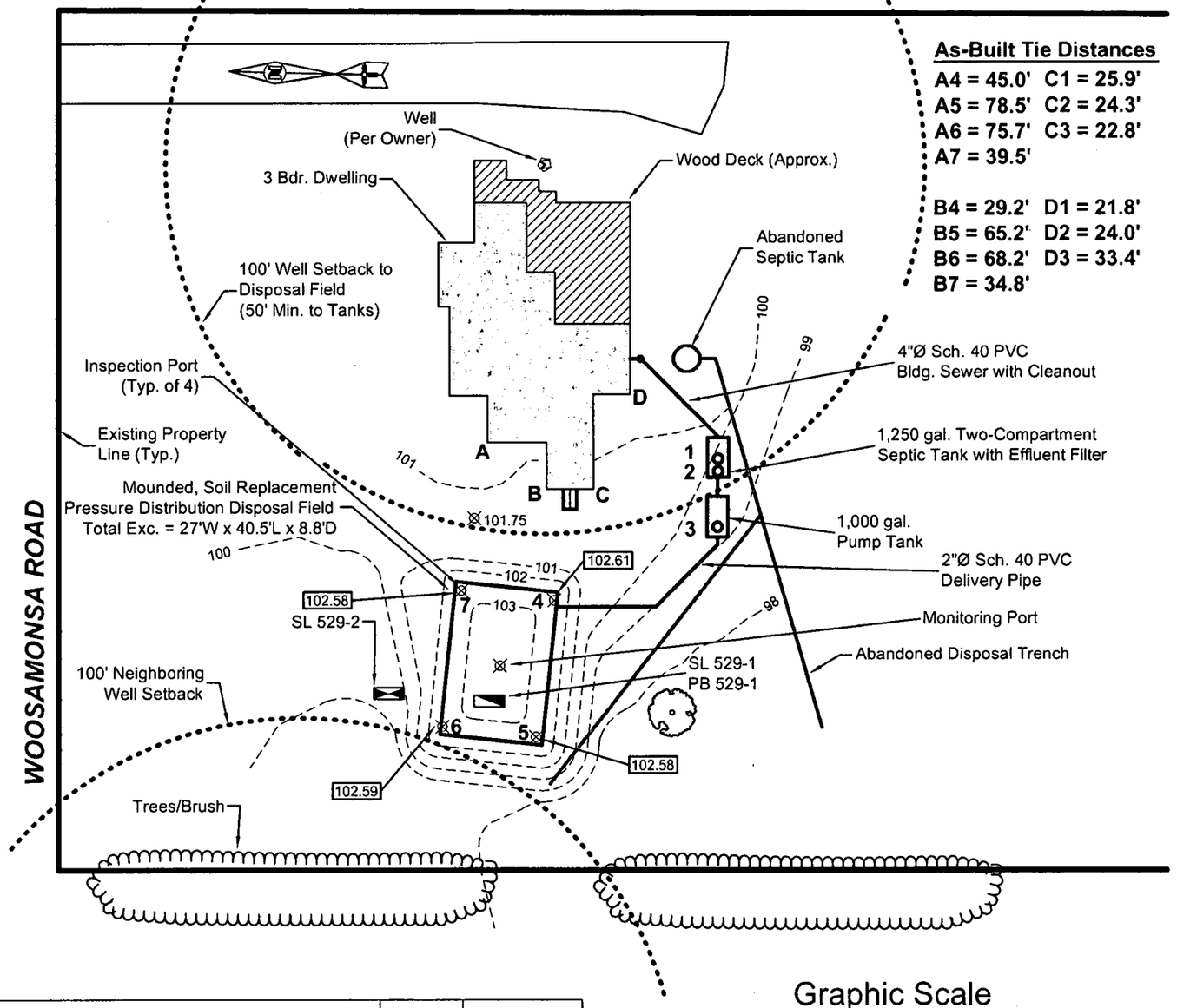


Key Map
1" = 200'

AS - BUILT DESIGN APPROVED
DATE: 10/16/13
HOPEWELL TOWNSHIP HEALTH DEPT.

26 Woosamonsa Road (Block 49, Lot 16)
Hopewell Township, Mercer County, NJ
Lot Size: 5.0 Acres

SCANNED



As-Built Tie Distances

A4 = 45.0'	C1 = 25.9'
A5 = 78.5'	C2 = 24.3'
A6 = 75.7'	C3 = 22.8'
A7 = 39.5'	
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Graphic Scale
1" = 40'

REVISION DESCRIPTION	DATE	APPROVED

Septic System Alteration Design
Record Drawing Plan

Peter Tyson & Megan Miller *Block 49, Lot 16* *Hopewell Township, Mercer County, New Jersey* *26 Woosamonsa Road*

DRAWN BY:	DESIGNED BY:	CHECKED BY:	DWG NO.	BRE JOB#:	SCALE:	DATE:	SHEET:
ARL	WMJ	THB	REC-1	13-1320	As Noted	September 27, 2013	1 of 1

9/30/13

THEODORE H. BAYER, P.E.
New Jersey Professional Engineer License No. GE33806

BAYER-RISSE ENGINEERING, INC.
78 ROUTE 173 WEST, SUITE 6
HAMPTON, NEW JERSEY 08827
PHONE 908-735-2255 FAX. 908-735-5838
Certificate of Authorization No. 24GA27943900

CERTIFICATE OF COMPLIANCE

County Mercer County **Municipality Hopewell Township**

INSTRUCTIONS: Part A is to completely filled in for all Certifications. Only Part B or Part C will be completed. Part B will be completed if the administrative authority relies upon the certification signed and sealed by a New Jersey licensed professional engineer that the system has located, constructed, installed or altered in compliance with the requirements of the N.J.A.C. 7:9A-1 and the Application to Construct/Alter/Repair an Individual Subsurface Sewage Disposal System which was approved by the administrative authority. Part C will be completed if the administrative authority performed the certification.

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_____ Date: 9/30/13
(Signature)

Theodore H. Bayer, P.E. License No. GE33806
Name (Type or Print), License # SEAL

Part C – Certification by Administrative Authority

I certify under penalty of law that the subsurface sewage disposal system identified in Part A has been located, constructed, installed or altered in compliance with the requirements of N.J.A.C. 7:9A-1 and the Application to Construct/Alter/Repair and Individual Subsurface Sewage Disposal System which was approved by the administrative authority. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

_____ _____ Date: _____
Authorized Signature Type of License Held

_____ _____
Name (Typed of Printed) License Number

For Agency Use Only

Date Received: _____
Form Determined to Be: X Complete _____ Incomplete
Date Returned _____
Date Received _____

Date Certification Approved: 10/10/13
Authorized Signature: _____

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

201 Washington Crossing-Pennington Road
Titusville, New Jersey 08560

Township of Hopewell
OCT 02 2013
Health Department

ENGINEER CERTIFICATION OF FILL MATERIAL

Block 49 Lot 16

Disposal System Design Rate 6-20 in/hr

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9/30/13

Theodore H. Bayer, P.E.
Engineer's Signature and Seal Date

NOTES:

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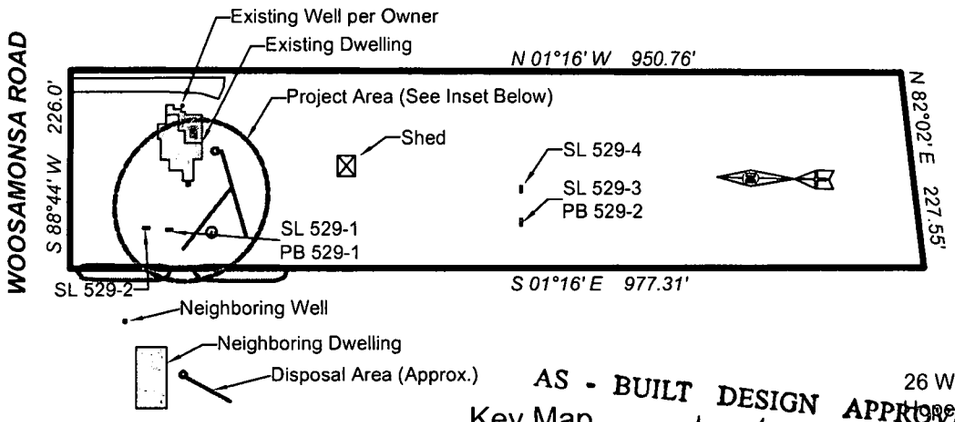
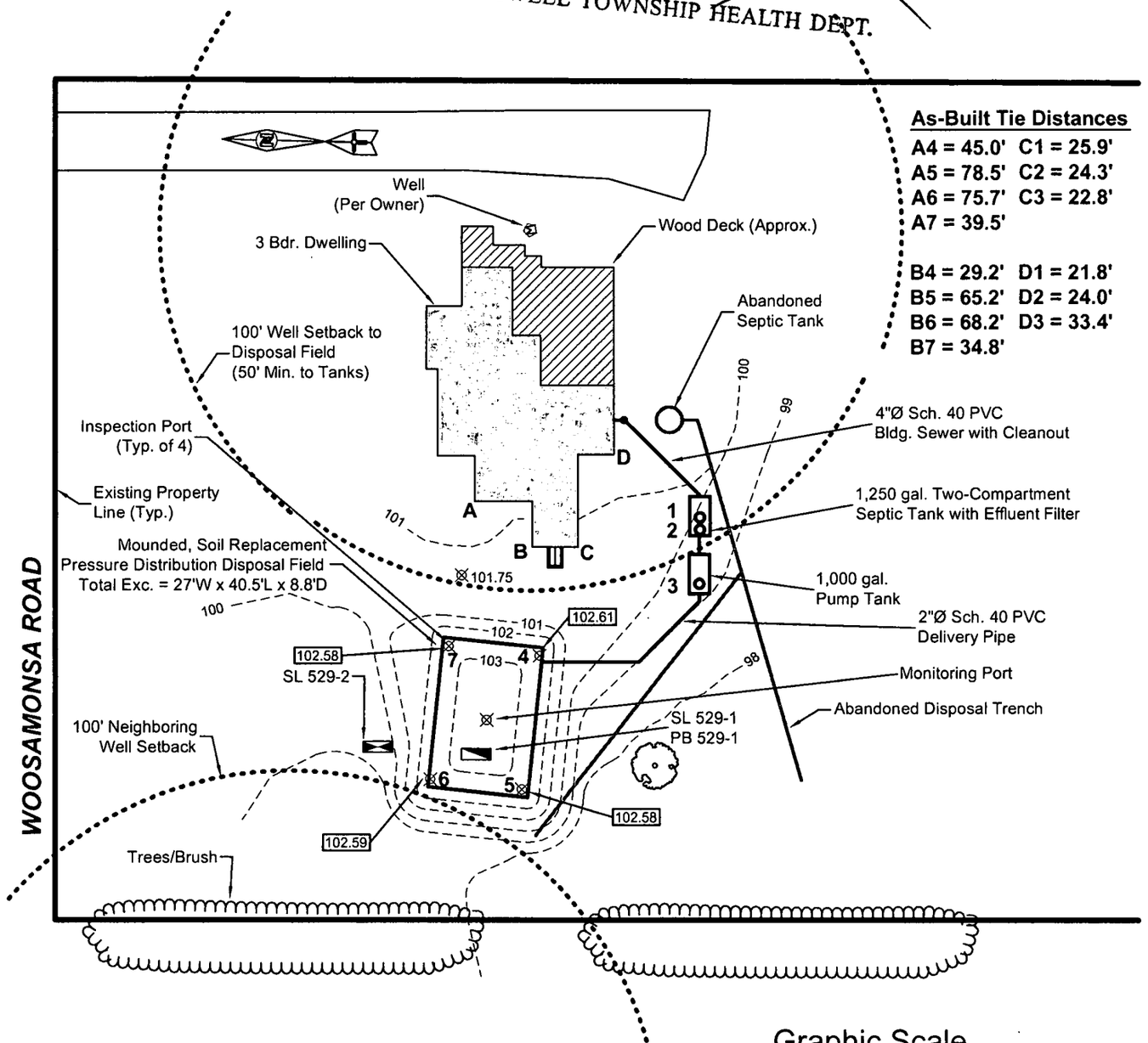


AS - BUILT DESIGN APPROVED
DATE: 10/10/13
HOPEWELL TOWNSHIP HEALTH DEPT.

26 Woosamonsa Road (Block 49, Lot 16)
Hopewell Township, Mercer County, NJ
Lot Size: 5.0 Acres

Key Map
1" = 200'



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Graphic Scale
1" = 40'

REVISION DESCRIPTION	DATE	APPROVED

Septic System Alteration Design
Record Drawing Plan

Peter Tyson & Megan Miller *Block 49, Lot 16* *Hopewell Township, Mercer County, New Jersey* *26 Woosamonsa Road*

DRAWN BY:	DESIGNED BY:	CHECKED BY:	DWG NO.	BRE JOB#:	SCALE:	DATE:	SHEET:
ARL	WMJ	THB	REC-1	13-1320	As Noted	September 27, 2013	1 of 1

9/30/13
THEODORE H. BAYER, P.E.
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BAYER-RISSE ENGINEERING, INC.
78 ROUTE 173 WEST, SUITE 6
HAMPTON, NEW JERSEY 08827
PHONE 908-735-2255 FAX. 908-735-5838
Certificate of Authorization No. 24GA27943900

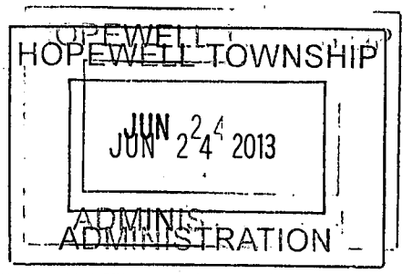
Septic System Alteration Design

for

Peter Tyson & Megan Miller

Block 49, Lot 16
Hopewell Township,
Mercer County, New Jersey

June 17, 2013



SHEET INDEX	
Sheet #	Sheet Name
MIL-1	Cover Sheet
MIL-2	Key Maps
MIL-3	Existing & Proposed Conditions
MIL-4	Disposal Field Details
MIL-5	Septic Tank Details
MIL-6	Pump Tank Details
MIL-7	Piping Details
MIL-8	Design Notes
MIL-9	General Notes

REVISION DESCRIPTION	DATE	APPROVED

DWG NO.	BRE JOB#:	DATE:	SHEET:
MIL-1	13-1320	June 17, 2013	1 of 9

6/10/13

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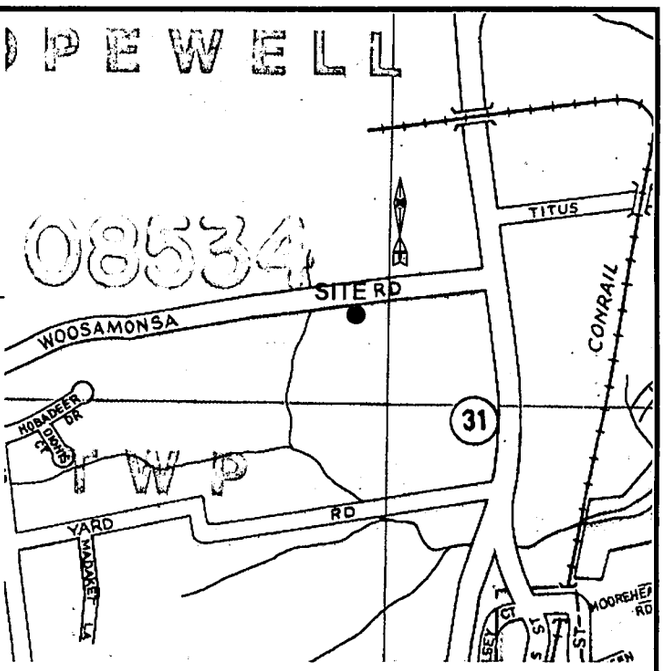
SITE MAP
1:26,000



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QUADRANGLE
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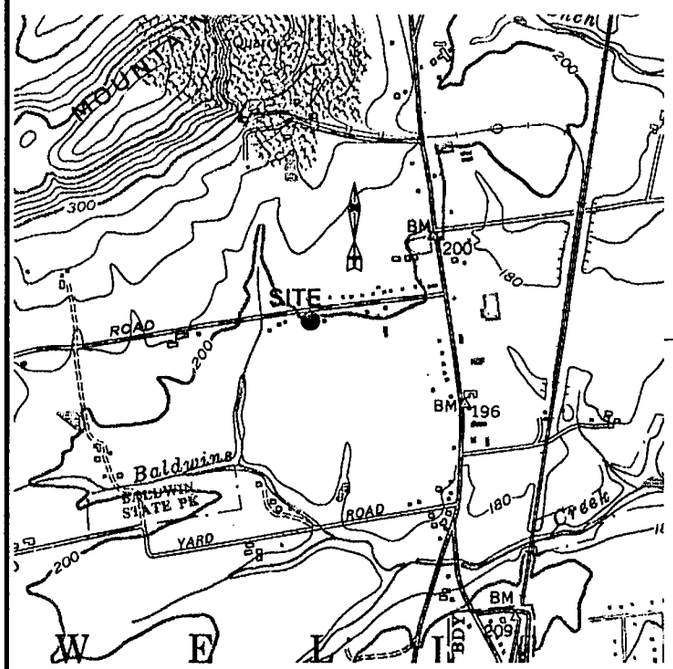

USDA MERCER COUNTY
SOIL SURVEY
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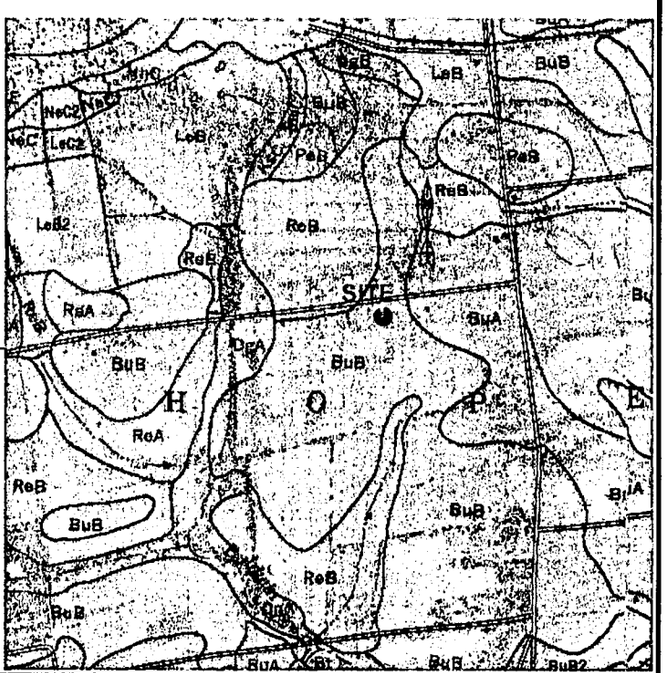

Septic System Alteration Design
Key Maps

Peter Tyson & Megan Miller | *Block 49, Lot 16* | *Hopewell Township, Mercer County, New Jersey* | *26 Woosamonsa Road*

DRAWN BY:	DESIGNED BY:	CHECKED BY:	DWG NO.	BRE JOB#:	SCALE:	DATE:	SHEET:
WMJ	WMJ	THB	MIL-2	13-1320	As Noted	June 17, 2013	2 of 9

6/18/13

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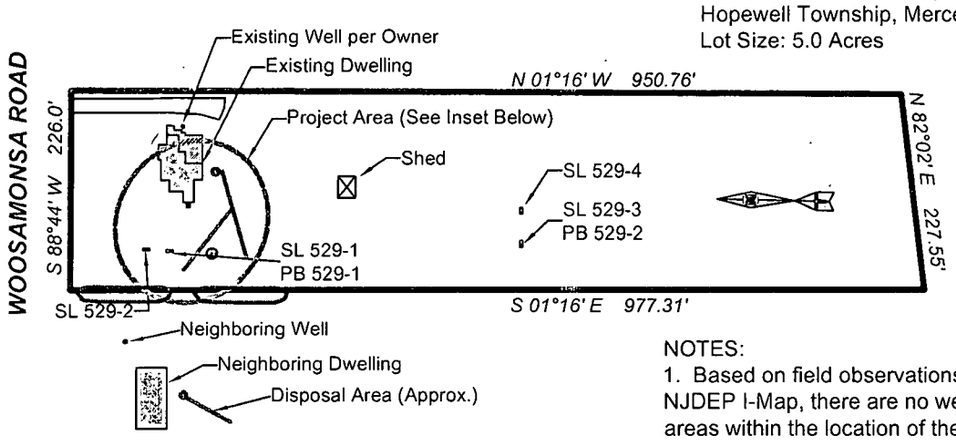
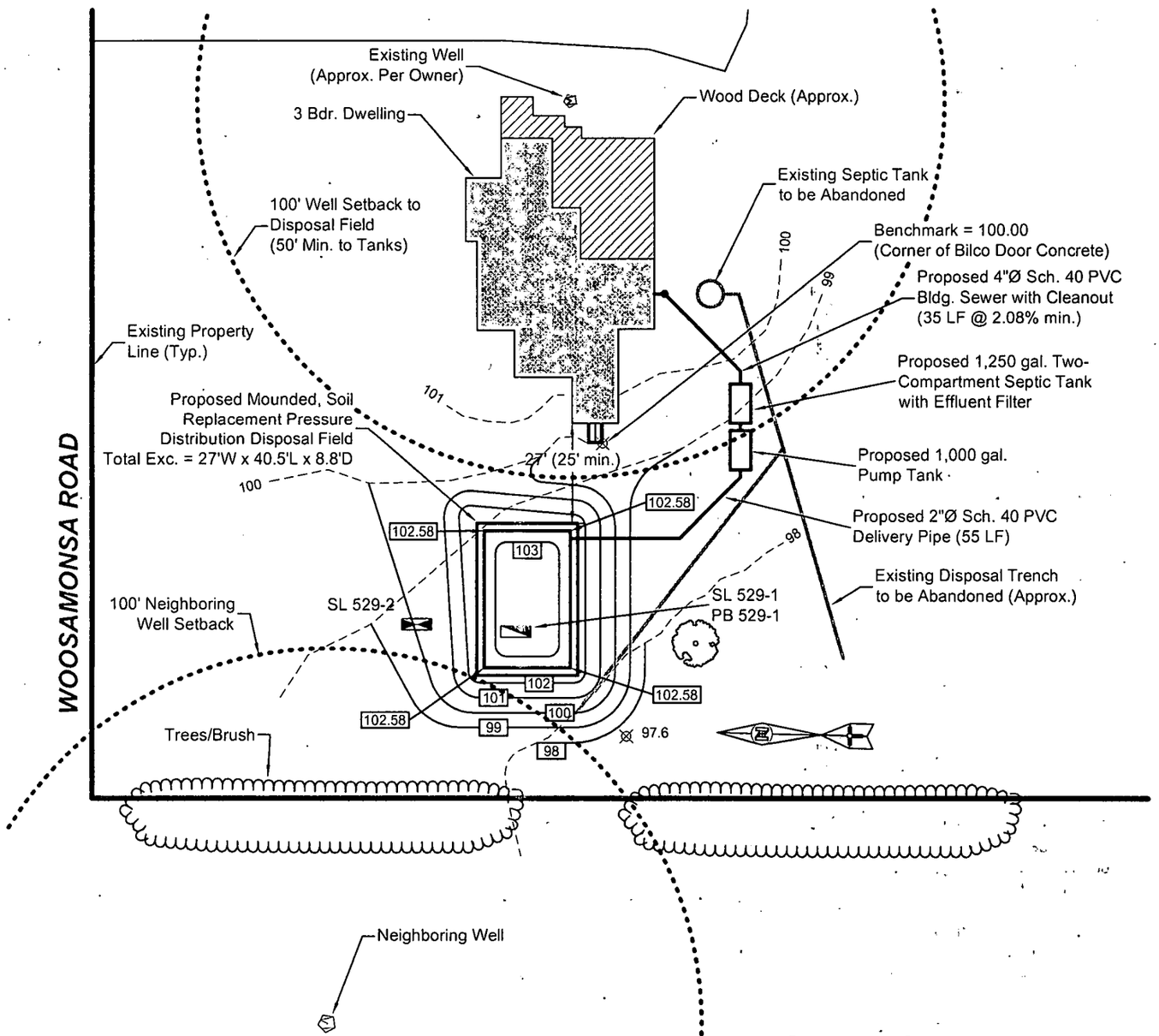
26 Woosamonsa Road (Block 49, Lot 16)
Hopewell Township, Mercer County, NJ
Lot Size: 5.0 Acres



Key Map
1" = 200'

NOTES:
1. Based on field observations and in accordance with the NJDEP I-Map, there are no wetlands or wetlands transition areas within the location of the proposed disposal system.
2. There are no disposal systems within 50' and no wells within 100' of the proposed disposal system.



Graphic Scale
1" = 40'

REVISION DESCRIPTION	DATE	APPROVED

Septic System Alteration Design
Existing & Proposed Conditions

Peter Tyson & Megan Miller · Block 49, Lot 16 · Hopewell Township, Mercer County, New Jersey · 26 Woosamonsa Road

DRAWN BY:	DESIGNED BY:	CHECKED BY:	DWG NO.	BRE JOB#:	SCALE:	DATE:	SHEET:
WMJ	WMJ	THB	MIL-3	13-1320	As Noted	June 17, 2013	3 of 9

6/18/13
THEODORE H. BAYER, P.E.
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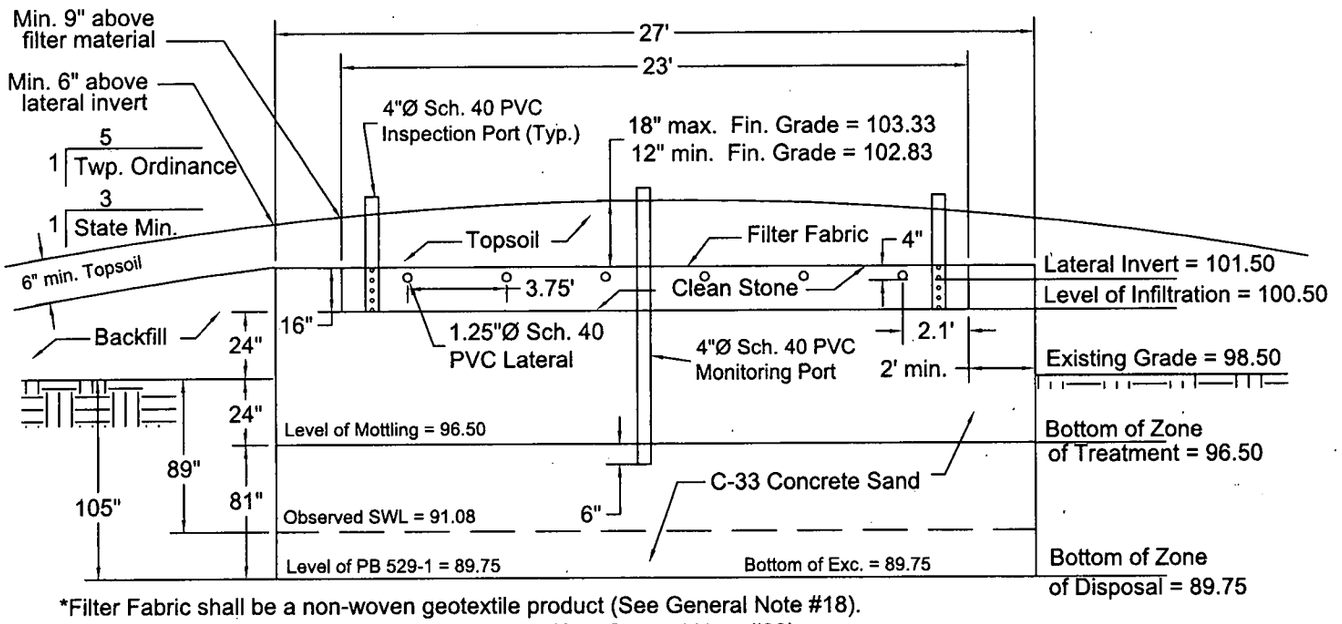
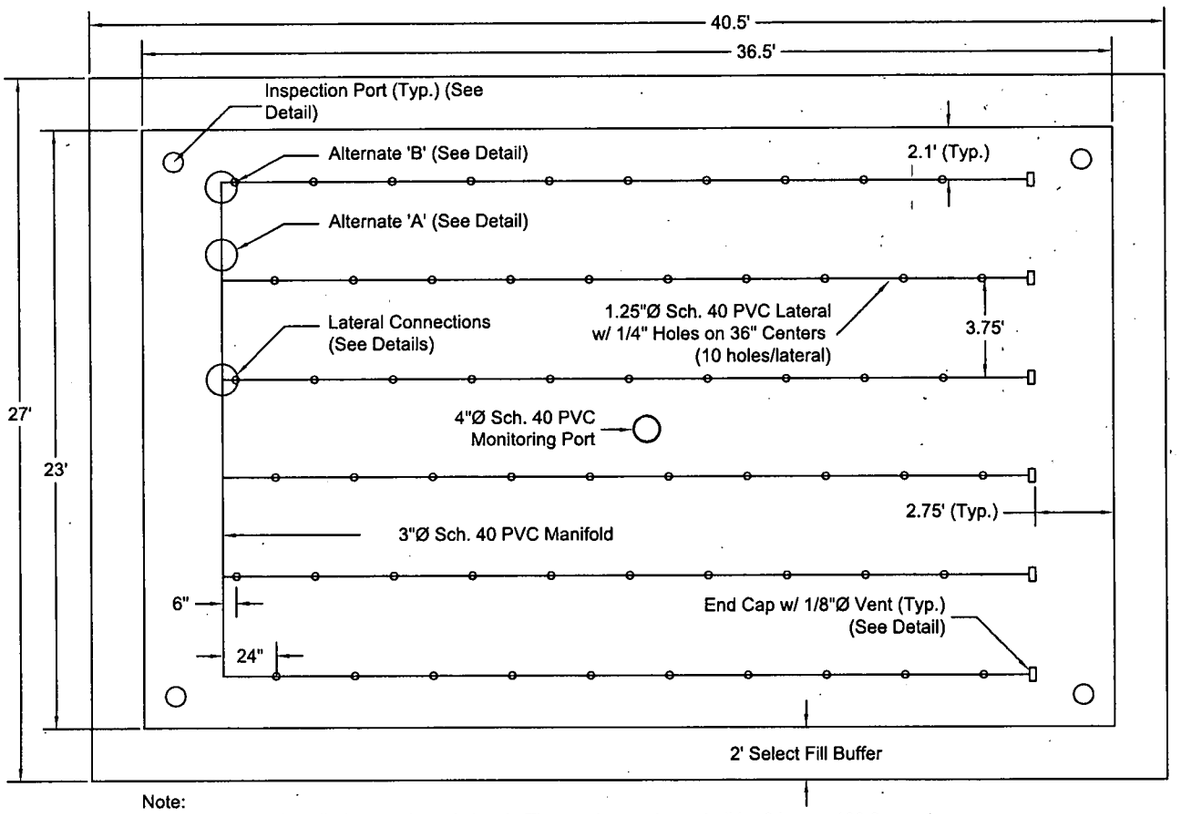


*Filter Fabric shall be a non-woven geotextile product (See General Note #18).
**Clean filter stone shall be NJDOT #3, 4, or 24 (See General Note #22)

DISPOSAL FIELD SECTION VIEW

Not to Scale



Note:
Laterals shall be installed approximately level. The maximum slope shall be 2 in. per 100 ft.

DISPOSAL FIELD PLAN VIEW

Not To Scale

REVISION DESCRIPTION	DATE	APPROVED

Septic System Alteration Design
Disposal Field Details

Peter Tyson & Megan Miller Block 49, Lot 16 Hopewell Township, Mercer County, New Jersey 26 Woosamonsa Road

DRAWN BY:	DESIGNED BY:	CHECKED BY:	DWG NO.	BRE JOB#:	SCALE:	DATE:	SHEET:
WMJ	WMJ	THB	MIL-4	13-1320	As Noted	June 17, 2013	4 of 9

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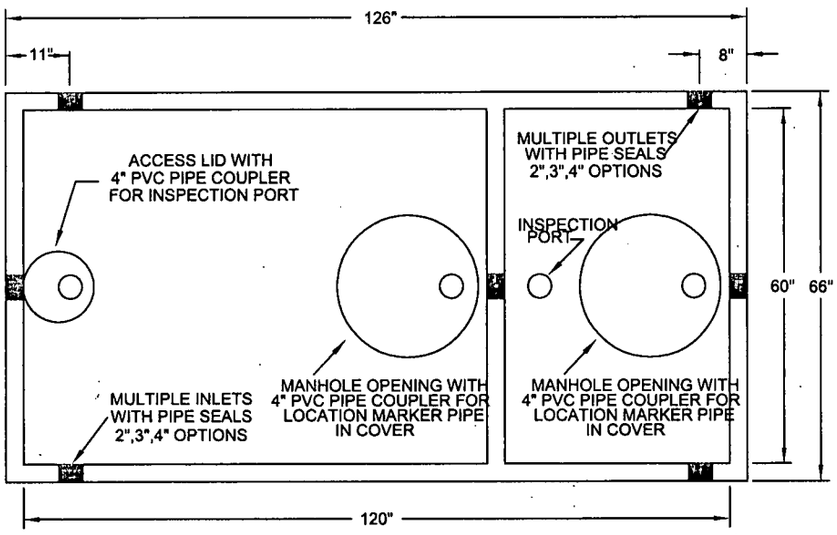
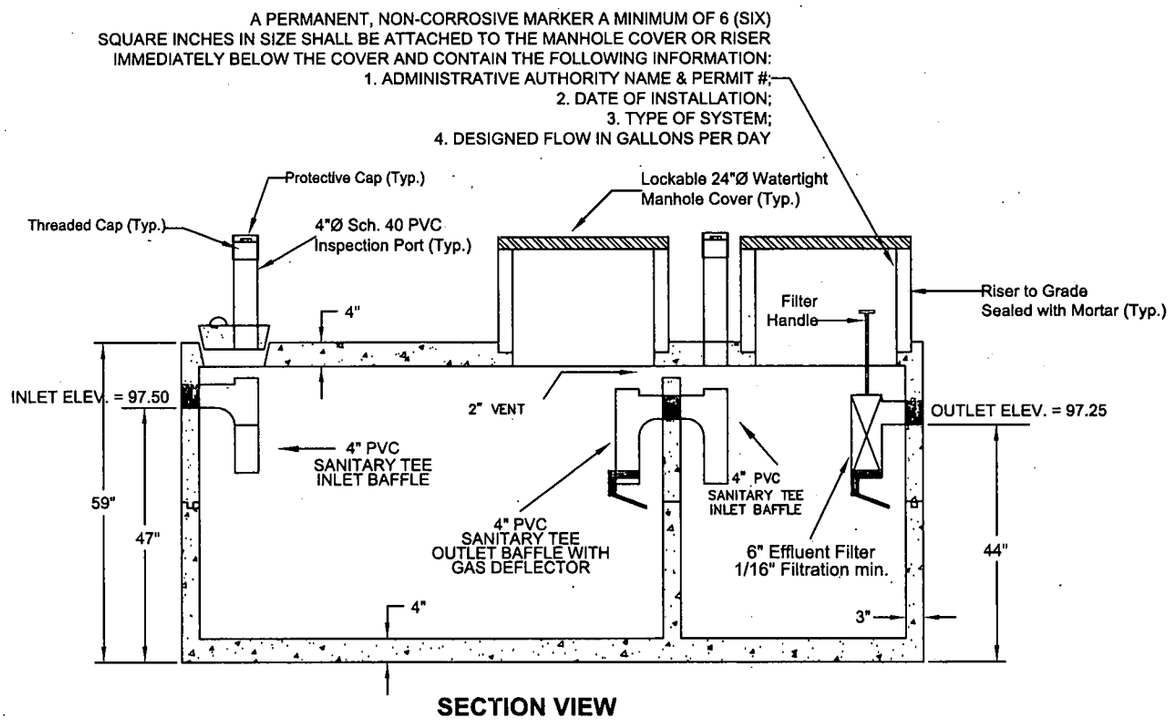
PER NJAC 7:9A-8.2(m)1: ALL TANKS, INCLUDING RISERS & INSPECTION PORTS TO THE HIGHEST JOINT, SHALL BE TESTED FOR WATER TIGHTNESS AFTER INSTALLATION & BEFORE BACKFILLING USING HYDROSTATIC OR VACUUM TEST. THE TEST SHALL BE PERFORMED AND CERTIFIED BY THE TANK MANUFACTURER OR ENGINEER.



PLAN VIEW



SECTION VIEW

NOTE: EFFLUENT FILTER REQUIRES REGULAR CLEANING. ROUTINE CLEANING SHALL BE PERFORMED DURING SEPTIC TANK PUMPING OR SHALL NOT EXCEED A 3 YEAR PERIOD. MORE FREQUENT CLEANING CYCLES MAY BE NECESSARY DEPENDING ON HOUSEHOLD HABITS/USE.

NJ 1,250 GALLON TWO-COMPARTMENT SEPTIC TANK

Not to Scale

REVISION DESCRIPTION	DATE	APPROVED

Septic System Alteration Design
Septic Tank Details

Peter Tyson & Megan Miller *Block 49, Lot 16* *Hopewell Township, Mercer County, New Jersey* *26 Woosamonsa Road*

DRAWN BY:	DESIGNED BY:	CHECKED BY:	DWG NO.	BRE JOB#:	SCALE:	DATE:	SHEET:
WMJ	WMJ	THB	MIL-5	13-1320	As Noted	June 17, 2013	5 of 9

6/18/13

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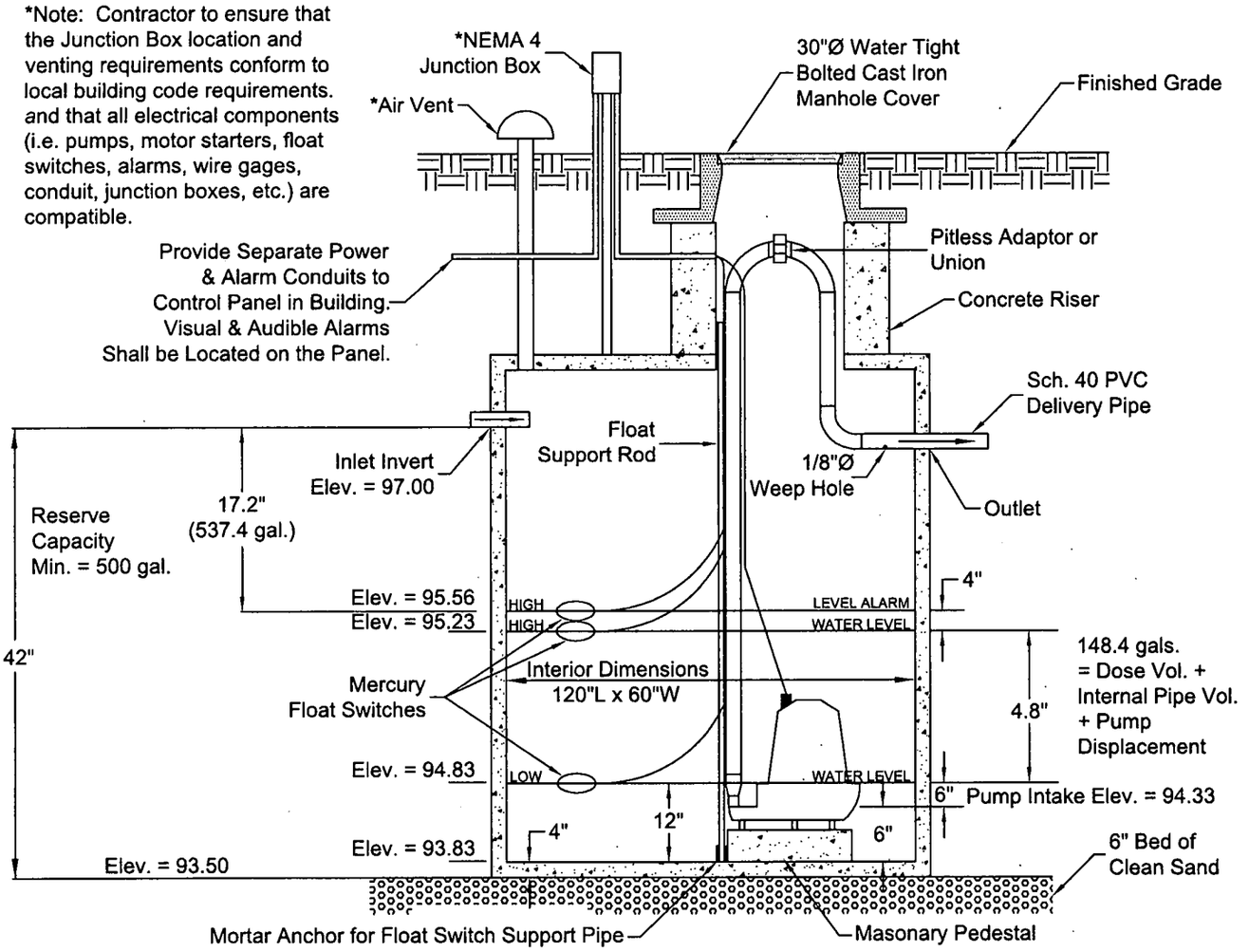
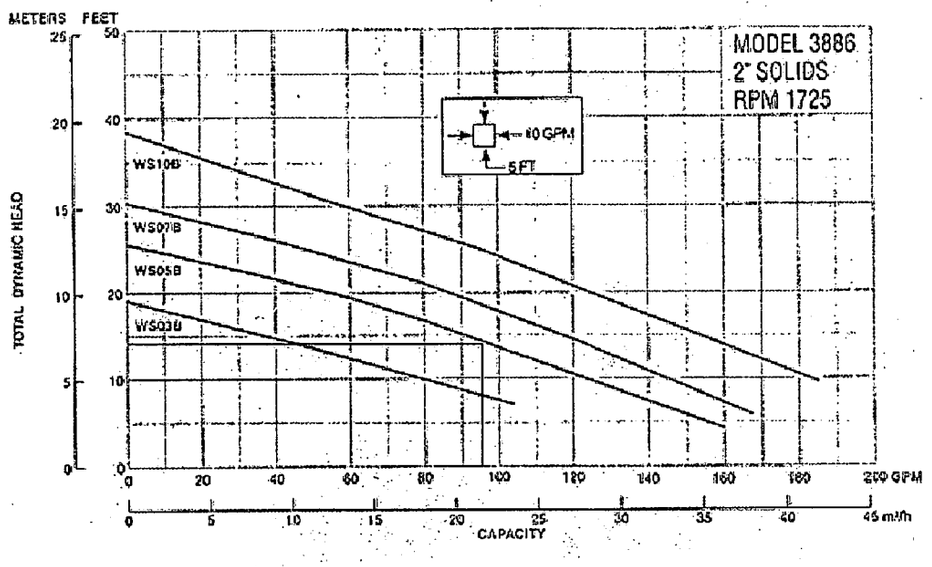
*Note: Contractor to ensure that the Junction Box location and venting requirements conform to local building code requirements. and that all electrical components (i.e. pumps, motor starters, float switches, alarms, wire gages, conduit, junction boxes, etc.) are compatible.



1,000 Gal. PUMP DOSING TANK

Not to Scale



REVISION DESCRIPTION	DATE	APPROVED

The pump shall be a Goulds Model 3886 (1/2 hp, 115 V, single phase) or approved equal. The pump shall be capable of delivering a minimum of 70.8 gpm against a total dynamic head of 14.1 feet.

Septic System Alteration Design
Pump Tank Details

Peter Tyson & Megan Miller *Block 49, Lot 16* *Hopewell Township, Mercer County, New Jersey* *26 Woosamonsa Road*

DRAWN BY:	DESIGNED BY:	CHECKED BY:	DWG NO.	BRE JOB#:	SCALE:	DATE:	SHEET:
WMJ	WMJ	THB	MIL-6	13-1320	As Noted	June 17, 2013	6 of 9

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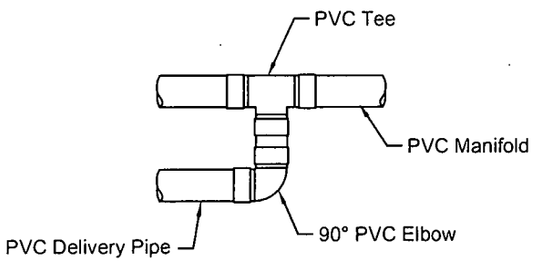
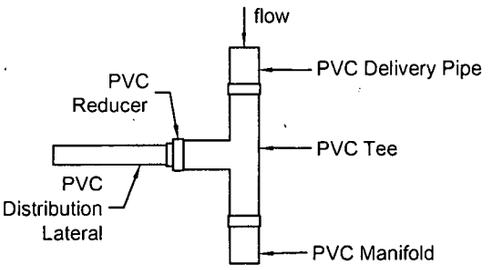


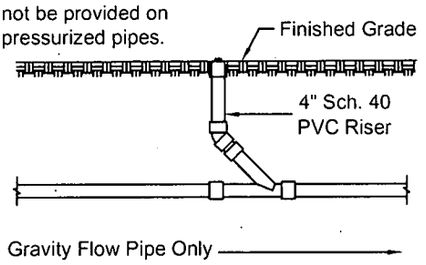
ALTERNATE 'A'



ALTERNATE 'B'

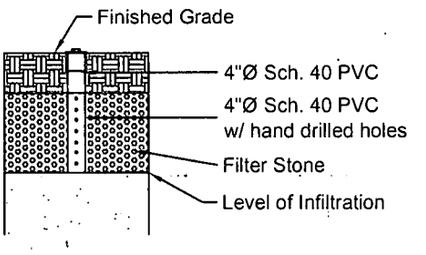
DELIVERY PIPE TO MANIFOLD CONNECTION
Not To Scale

NOTE: Cleanouts shall not be provided on pressurized pipes.

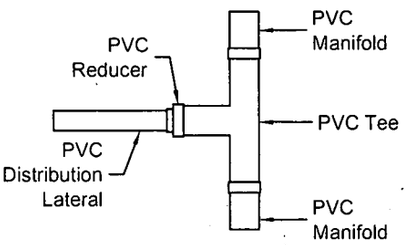


CLEAN OUT DETAIL
Not To Scale

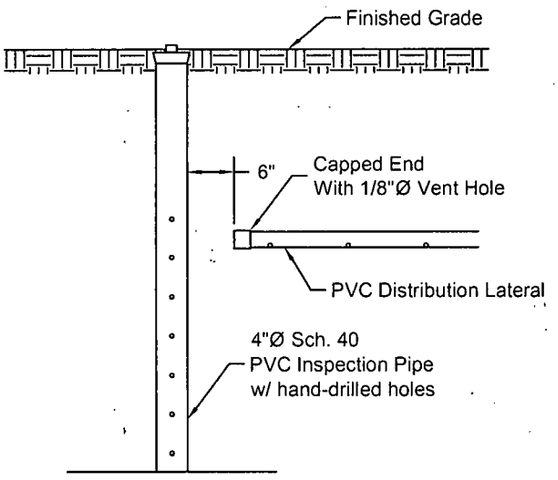
Located at corners of the disposal field. (Typ.)



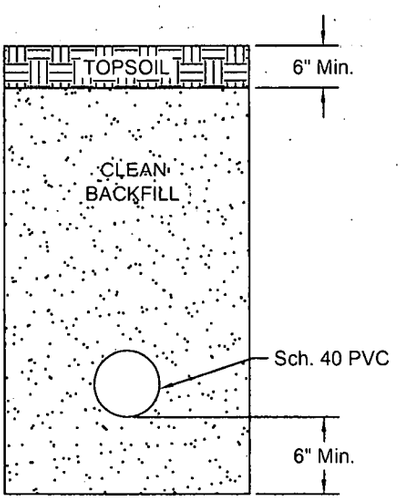
INSPECTION PORT DETAIL
Not To Scale



MANIFOLD TO LATERAL CONNECTION
Not to Scale



DISTRIBUTION LATERAL DETAIL
Not To Scale



Note:
Clean Backfill shall be free of large stone and objectionable material. Clean Backfill shall be compacted in 12" max. lifts.

FORCE MAIN BEDDING DETAIL
Not To Scale

REVISION DESCRIPTION	DATE	APPROVED

Septic System Alteration Design
Piping Details

Peter Tyson & Megan Miller *Block 49, Lot 16* *Hopewell Township, Mercer County, New Jersey* *26 Woosamonsa Road*

DRAWN BY:	DESIGNED BY:	CHECKED BY:	DWG NO.	BRE JOB#:	SCALE:	DATE:	SHEET:
WMJ	WMJ	THB	MIL-7	13-1320	As Noted	June 17, 2013	7 of 9

6/18/13

THEODORE H. BAYER, P.E.
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78 ROUTE 173 WEST, SUITE 6
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PHONE 908-735-2255 FAX. 908-735-5838
Certificate of Authorization No. 24GA27943900

1) SOIL LOGS

SL 529-1 — May 29, 2013

0-13"	Topsoil
13-36"	7.5YR6/6 Reddish Yellow Silt Loam; subangular blocky, friable; 5% gravel; no seepage; common, medium, distinct mottles 24-36" (7.5YR7/1 Light Gray).
36-105"	Nonsoil; fractured, blocky shale with 10% silt loam fillings; slight seepage at 36" and below.
>105"	Machine Refusal Pit Bail PB 529-1 performed at 105" (24 hr. SWL = 89", K = 1.5 in/hr)

SL 529-2 — May 29, 2013

0-11"	Topsoil
11-28"	7.5YR6/6 Reddish Yellow Silt Loam; subangular blocky, friable; 5% gravel; no seepage; common, medium, distinct mottles 24-36" (7.5YR7/1 Light Gray).
28-108"	Nonsoil; fractured, blocky shale with 10% silt loam fillings; damp/wet rock face at 48" and below.
>108"	Machine Refusal

SL 529-3 — May 29, 2013

0-13"	Topsoil
13-29"	7.5YR5/6 Strong Brown Silt Loam; subangular blocky, friable; 5% gravel; no seepage; few, fine, faint mottles 24-29" (7.5YR7/1 Light Gray).
29-99"	Nonsoil; fractured, blocky shale with 5% silt loam fillings; slight seepage at 99".
>99"	Machine Refusal Pit Bail PB 529-2 performed at 99" (24 hr. SWL = 86", K = 0.9 in/hr)

SL 529-4 — May 29, 2013

0-12"	Topsoil
12-36"	7.5YR5/6 Strong Brown Silt Loam; subangular blocky, friable; 5% gravel; no seepage; few, fine, faint mottles 30-36" (7.5YR7/1 Light Gray).
36-118"	Nonsoil; fractured, blocky shale with 5% silt loam fillings; slight seepage at 98".
>118"	Machine Refusal

2) PERMEABILITY TESTS

Test Number	Field	Related Soil Log	Depth	Result
PB 529-1	Primary	SL 529-1	105"	K = 1.5 in/hr
PB 529-2		SL 529-3	99"	K = 0.9 in/hr

3) DESIGN FLOW

- Existing 3 bedroom dwelling
- First bedroom @ 200 gpd = 200 gpd
- 2 additional bedrooms @ 150 gpd / bedroom = 300 gpd
- *Proposed Design Flow = 500 gpd*

4) DISPOSAL FIELD, SEPTIC TANK, AND DOSING TANK SIZING

(a) The disposal field is a mounded, soil replacement pressure distribution disposal bed system. N.J.A.C. 7:9A 10.2(c) requires a minimum of 1.33 square feet per gallon per day for this type of system. The Hopewell Township Health Department requires a minimum increase of 25% over the design rate. The design permeability for this type of system is 6-20 in/hr.

500 gpd x 1.33 ft^2/gpd x 25% = 832 ft^2
Use a 23 ft x 36.5 ft disposal bed = 840 ft^2. (27 ft x 40.5 ft with buffer)

Use one 3" dia. Sch. 40 PVC end manifold system with six (6) 1.25" dia. Sch. 40 PVC laterals, 31' long on 3.75 ft centers (see detail). Laterals shall be hand drilled with 1/4" dia. holes on 3 ft centers. Holes shall be offset by 1.5 ft on adjacent laterals. *All holes shall be hand reamed to remove burrs prior to assembly.* The pump shall be a Goulds model 3886 (1/2 hp, 115 V, single phase) or approved equal; and shall be capable of delivering a minimum of 70.8 gpm at a total dynamic head of 14.1 ft.

(b) The existing septic tank shall be pumped, crushed and buried in place unless otherwise directed by the administrative authority. A licensed hauler shall pump the existing tank. Receipt of septage removed shall be submitted to the local Health Department.

(c) N.J.A.C. 7:9A-8.2b(1) is used to size the septic tank. The Hopewell Township Health Department requires an additional 250 gallon storage capacity in addition to the minimum State requirement. The septic tank is a 1,250 gallon, two-compartment concrete septic tank which meets the requirements of N.J.A.C. 7:9A-8.2h and 7:9A-8.2i(4). The new septic tank shall be fit with inspection ports, septic solids retainer, effluent filter and risers flush with grade. (See Septic Tank Detail)

(d) A pump dosing tank with on/off float switches and high level alarm will be provided and will meet all the requirements of N.J.A.C. 7:9A-9.2. The dosing tank is a 1,000 gallon concrete tank which meets the requirements of N.J.A.C. 7:9A-8.2e and 7:9A-8.2h. (See Pump Dosing Tank Detail)

(e) Inspection ports shall be placed in the disposal field and shall extend down to the level of infiltration.

(f) A 4" dia. sch. 40 PVC monitoring port with lockable cap shall be placed in the disposal field and shall extend six inches (6") below the bottom of the zone of treatment.

REVISION DESCRIPTION	DATE	APPROVED

Septic System Alteration Design
Design Notes

Peter Tyson & Megan Miller — Block 49, Lot 16 — Hopewell Township, Mercer County, New Jersey — 26 Woosamonsa Road

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WMJ	WMJ	THB	MIL-8	13-1320	As Noted	June 17, 2013	8 of 9

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PHONE 908-735-2255 FAX. 908-735-5838
Certificate of Authorization No. 24GA27943900

GENERAL NOTES:

1. This Wastewater disposal system has been designed in accordance with the requirements of N.J.A.C. 7:9A, Standards for Individual Subsurface Sewage Disposal Systems and the requirements of the Hopewell Township Health Department. This plan is not a survey and is to be used for construction of the septic system only. It is not intended to be used as a plot plan for construction of any structures or proposed improvements.
2. Property line information has been obtained from a location survey dated May 18, 2005 as provided by the applicant.
3. Topographic information has been obtained by Bayer-Risse Engineering, Inc. during an on-site soil evaluation conducted on May 29, 2013. All soil testing was conducted by Bayer-Risse Engineering, Inc. and witnessed by a representative of Hopewell Township.
4. The Engineer and the Health Department shall be notified 48 hours prior to construction so that all inspections may be scheduled. All phases of the construction shall be inspected and approved by the Engineer and Health Department prior to backfilling.
5. Inspection Schedule
   - Stake out and stockpiling of sand
   - Open ditch
   - Sand emplacement, compaction, and percolation rate
   - Stone & Lateral emplacement
   - Tanks and final grading
6. Sand Specifications: C-33 Concrete Sand shall have:
   - A coarse fragment content (greater than No. 8 sieve) less then 15% by volume or less than 20% by weight
   - A textural analysis (composition by weight of the size fraction passing the particular sieve as stated):
     - 100% passing 3/8" sieve; 80%-100% passing No. 8 sieve; 50%-85% passing No. 16 sieve; 25%-60% passing No. 30 sieve; 10%-30% passing No. 50 sieve; 2%-10% passing No. 100 sieve.
   - Permeability from 6 - 20 in./hr. (percolation rate 3-15 min./in.)
7. All sand shall be stockpiled on-site and tested by the Engineer prior to placement into the disposal area.
8. Sand shall be installed in twelve inch (12") maximum lifts and compacted in conformance with N.J.A.C. 7:9A-10.4f(3). After installation and compaction, percolation tests shall be conducted at the level of infiltration in accordance with the number and placement requirements shown in Appendix C of N.J.A.C. 7:9A.
9. No wheeled vehicles are to be driven over any part of the disposal area.
10. The Engineer will inspect the entire installation of the system and provide a Certificate of Compliance and Record Drawings to the Health Department.
11. Prior to the disposal bed stake out by the Engineer and any construction activities, the installer shall require the owner to have all underground utilities located by the responsible utility company(ies). CALL 1-800-272-1000 BEFORE YOU DIG.
12. Construction information is based on topography of plan. Elevations may be modified after final survey.
13. Disposal area shall be graded so that surface runoff is diverted away from the disposal area.
14. The Engineer and the Health Department shall review and approve any field changes and deviations from this design.
15. The installer shall be responsible for obtaining any and all of the required permits prior to construction.
16. After completion of backfilling and final grading, all disturbed areas shall be raked, seeded and mulched to establish a vegetative cover in a manner acceptable to the Administrative Authority.
17. The installer shall ensure that all materials used in the construction of the system are in accordance with N.J.A.C. 7:9A et. seq. and meet the specifications of the design.
18. Filter fabric shall be a non-woven geotextile product (TerraTex SD or approved equal).
19. No trees are to remain within ten feet (10') of the disposal area.
20. Septic tank(s) shall be located a minimum of 10 ft and disposal areas shall be located a minimum of 25 ft from dwellings.
21. Septic tank(s) shall be located a minimum of fifty feet (50'), disposal area(s) shall be located a minimum of one hundred feet (100'), and building sewer(s) shall be located a minimum of twenty-five feet (25') from a well.
22. Crushed stone filter material shall be NJDOT number 3, 4, or 24 size stone and be free of fines, dust, ashes, or clay.
23. All septic disposal fields shall be constructed at least 25 ft from excavated cuts (drop) greater than 2 ft.
24. There are no off-site wells within 100 ft and no off-site disposal fields within 50 ft of the proposed disposal field.
25. Bayer-Risse Engineering, Inc. makes no representation as to the location and/or adequacy of the internal plumbing and electric service. The limits of this design are from the septic tank to the disposal area.
26. This septic design has been based on the soil conditions and site constraints evident at the time soil testing was performed. If subsurface conditions present at the time of construction vary significantly from those documented during soil testing the contractor shall immediately cease construction and notify the Engineer and the Health Department so that appropriate action may be taken.
27. Garbage disposal units shall not be permitted with this sewage disposal system.

REVISION DESCRIPTION	DATE	APPROVED

Septic System Alteration Design
General Notes

Peter Tyson & Megan Miller Block 49, Lot 16 Hopewell Township, Mercer County, New Jersey 26 Woosamonsa Road

DRAWN BY:	DESIGNED BY:	CHECKED BY:	DWG NO.	BRE JOB#:	SCALE:	DATE:	SHEET:
WMJ	WMJ	THB	MIL-9	13-1320	As Noted	June 17, 2013	9 of 9

6/18/13
THEODORE H. BAYER, P.E.
New Jersey Professional Engineer License No. GE33806

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78 ROUTE 173 WEST, SUITE 6
HAMPTON, NEW JERSEY 08827
PHONE 908-735-2255 FAX. 908-735-5838
Certificate of Authorization No. 24GA27943900

Hunterdon Horizons
Phoenix Seal

9/5/13 – Bed dug – depth OK – OK to Seal
Tank + Pump Tank set

9/9/10 – Stone + Pipe Set – OK to Cover

9/10/10 – Old Tank pumped and crushed
– floats set wrong – will correct

Septic System Alteration Design

for

Peter Tyson & Megan Miller

Block 49, Lot 16
Hopewell Township,
Mercer County, New Jersey

June 17, 2013

SHEET INDEX	
Sheet #	Sheet Name
MIL-1	Cover Sheet
MIL-2	Key Maps
MIL-3	Existing & Proposed Conditions
MIL-4	Disposal Field Details
MIL-5	Septic Tank Details
MIL-6	Pump Tank Details
MIL-7	Piping Details
MIL-8	Design Notes
MIL-9	General Notes

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MIL-1	13-1320	June 17, 2013	1 of 9

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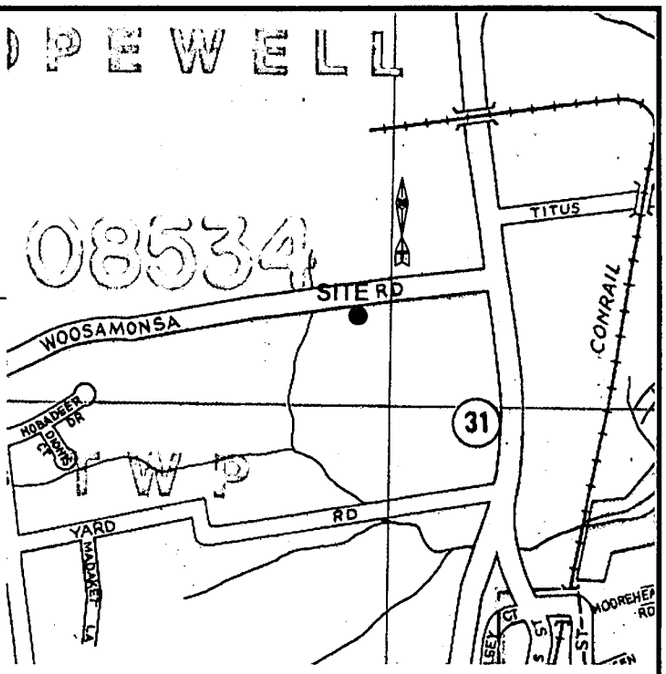
SITE MAP
1:26,000



USGS PENNINGTON, NJ QUADRANGLE
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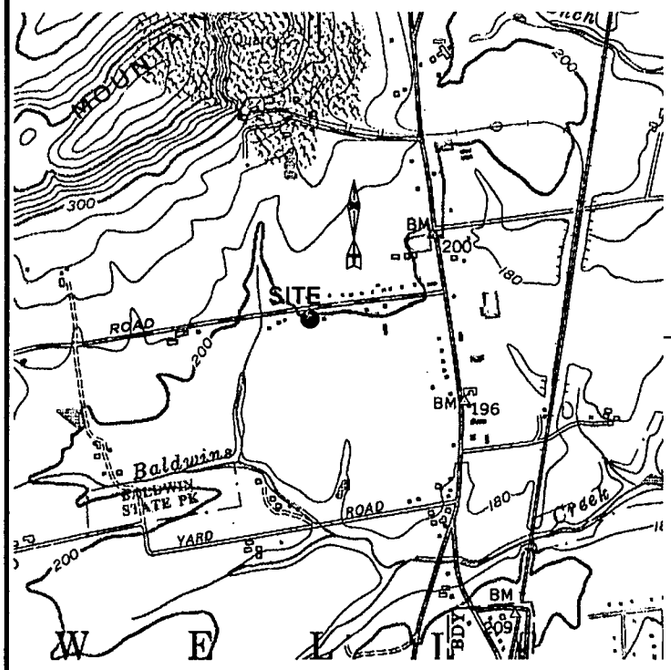
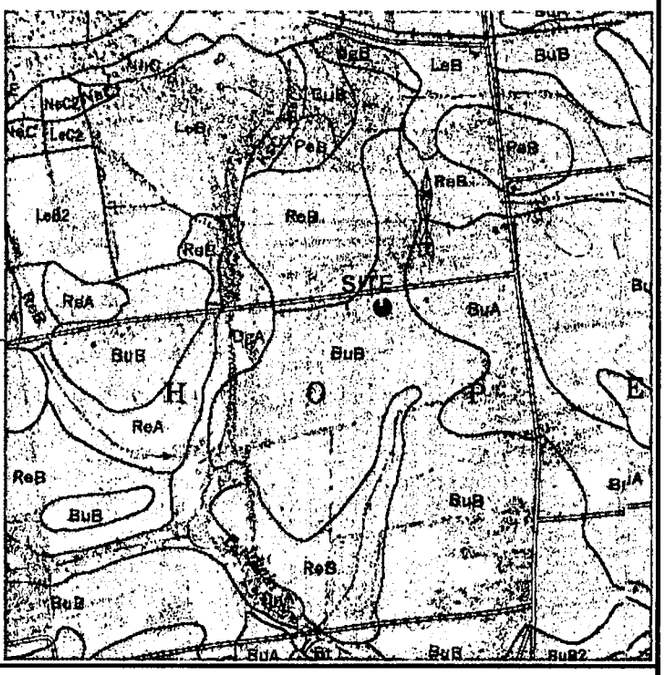


USDA MERCER COUNTY SOIL SURVEY
1:15,840



Septic System Alteration Design
Key Maps

Peter Tyson & Megan Miller | *Block 49, Lot 16* | *Hopewell Township, Mercer County, New Jersey* | *26 Woosamonsa Road*

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WMJ	WMJ	THB	MIL-2	13-1320	As Noted	June 17, 2013	2 of 9

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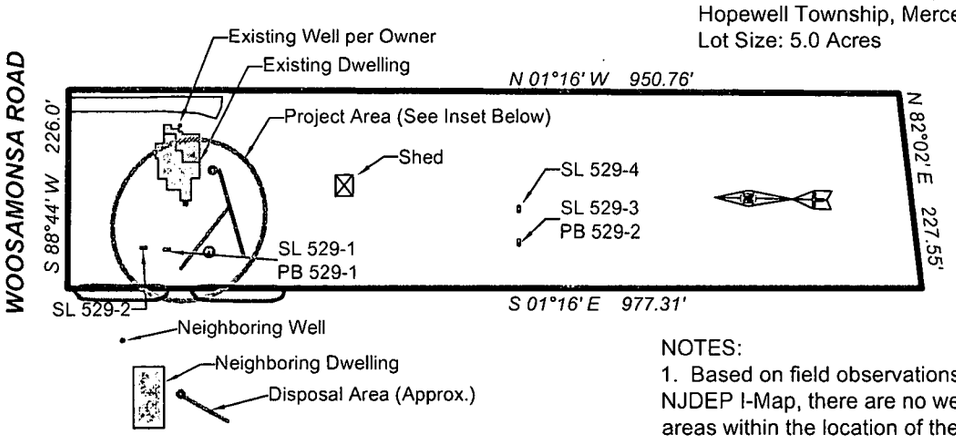
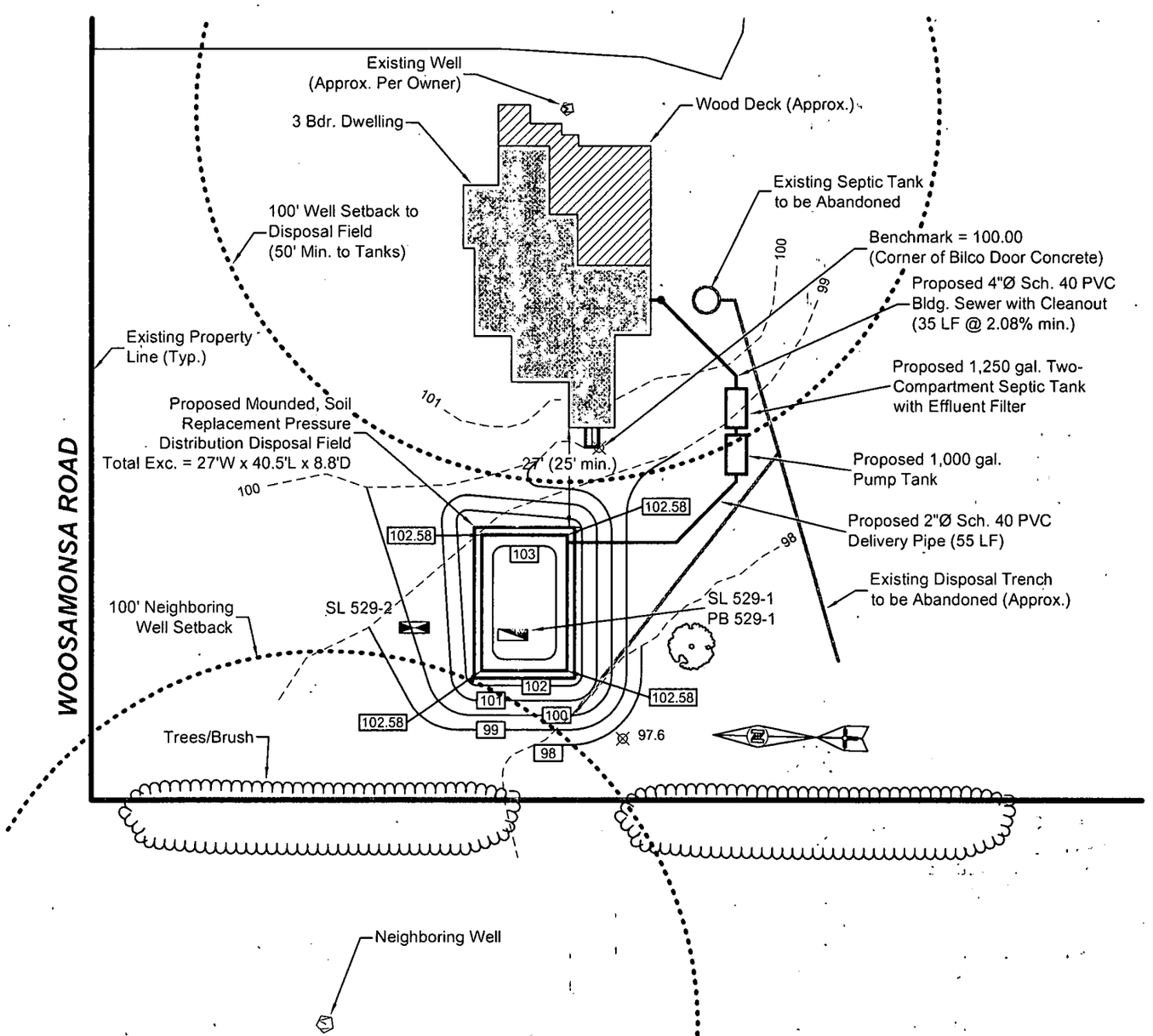
26 Woosamonsa Road (Block 49, Lot 16)
Hopewell Township, Mercer County, NJ
Lot Size: 5.0 Acres



Key Map
1" = 200'

NOTES:
1. Based on field observations and in accordance with the NJDEP I-Map, there are no wetlands or wetlands transition areas within the location of the proposed disposal system.
2. There are no disposal systems within 50' and no wells within 100' of the proposed disposal system.



Graphic Scale
1" = 40'

REVISION DESCRIPTION	DATE	APPROVED

Septic System Alteration Design
Existing & Proposed Conditions

Peter Tyson & Megan Miller · Block 49, Lot 16 · Hopewell Township, Mercer County, New Jersey · 26 Woosamonsa Road

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WMJ	WMJ	THB	MIL-3	13-1320	As Noted	June 17, 2013	3 of 9

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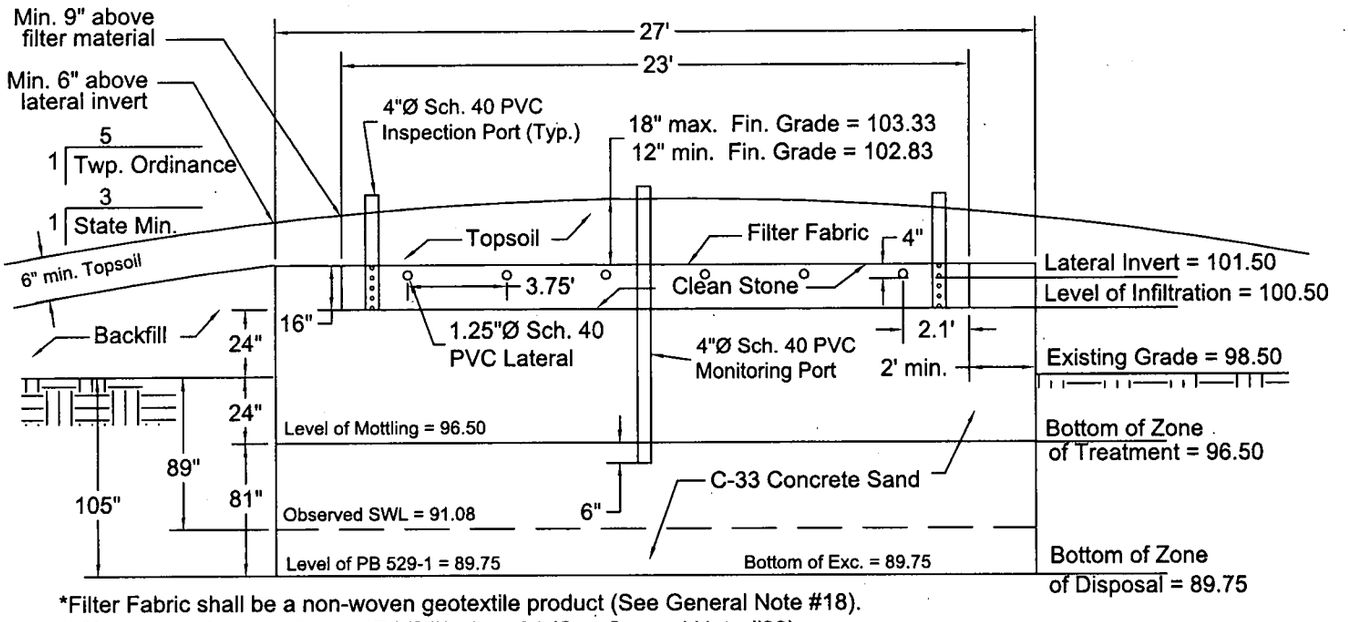
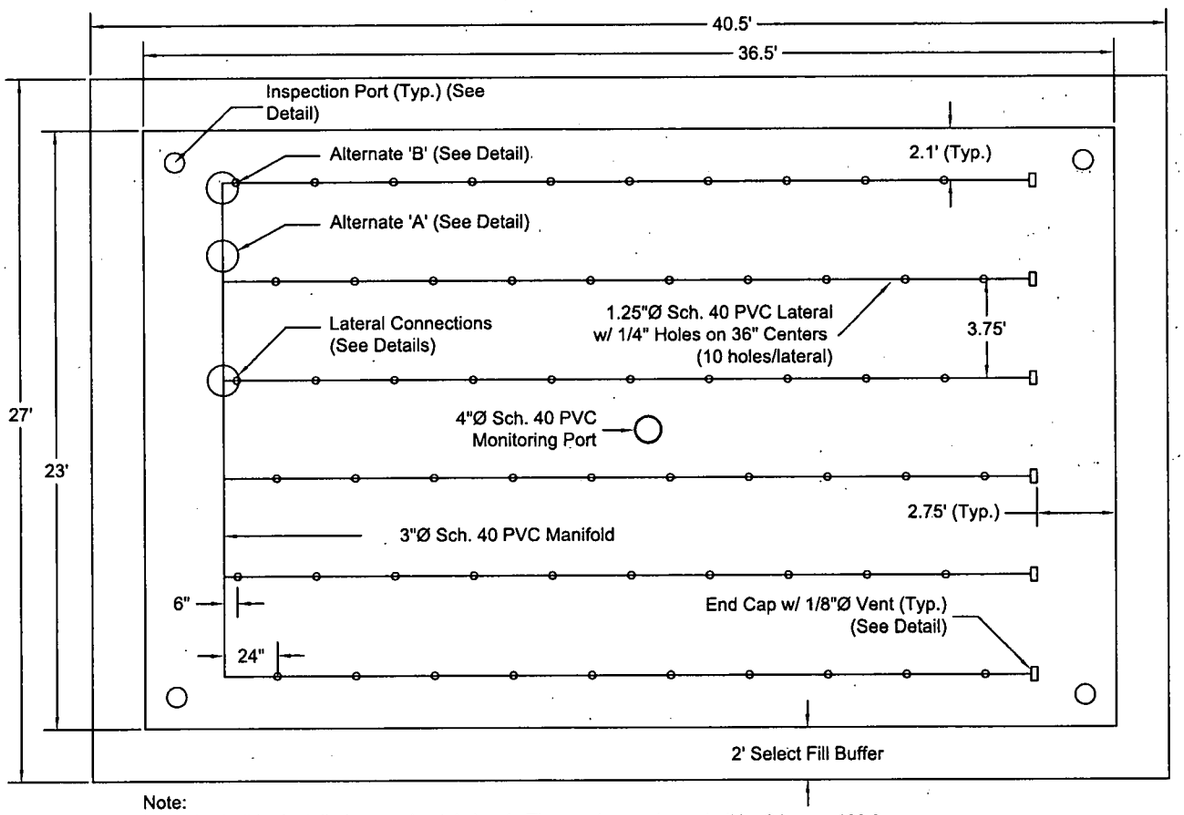


*Filter Fabric shall be a non-woven geotextile product (See General Note #18).
**Clean filter stone shall be NJDOT #3, 4, or 24 (See General Note #22)

DISPOSAL FIELD SECTION VIEW

Not to Scale



Note:
Laterals shall be installed approximately level. The maximum slope shall be 2 in. per 100 ft.

DISPOSAL FIELD PLAN VIEW

Not To Scale

REVISION DESCRIPTION	DATE	APPROVED

Septic System Alteration Design
Disposal Field Details

Peter Tyson & Megan Miller *Block 49, Lot 16* *Hopewell Township, Mercer County, New Jersey* *26 Woosamonsa Road*

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WMJ	WMJ	THB	MIL-4	13-1320	As Noted	June 17, 2013	4 of 9

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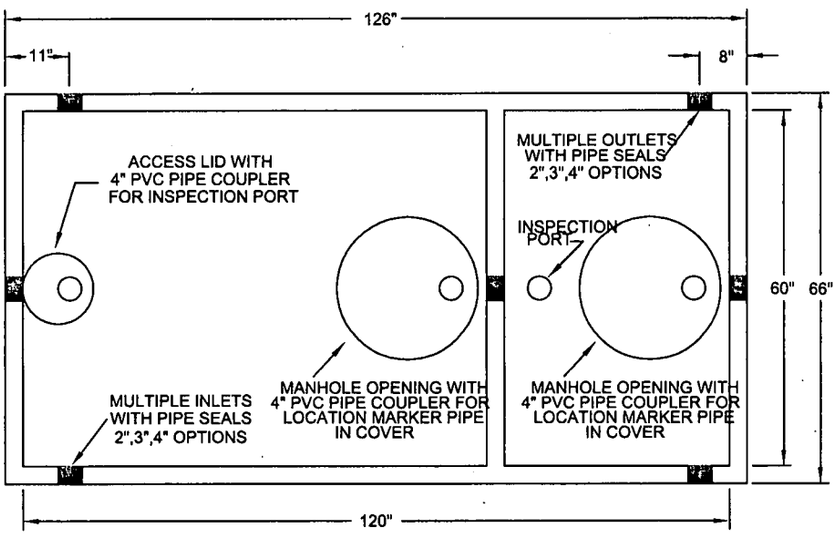
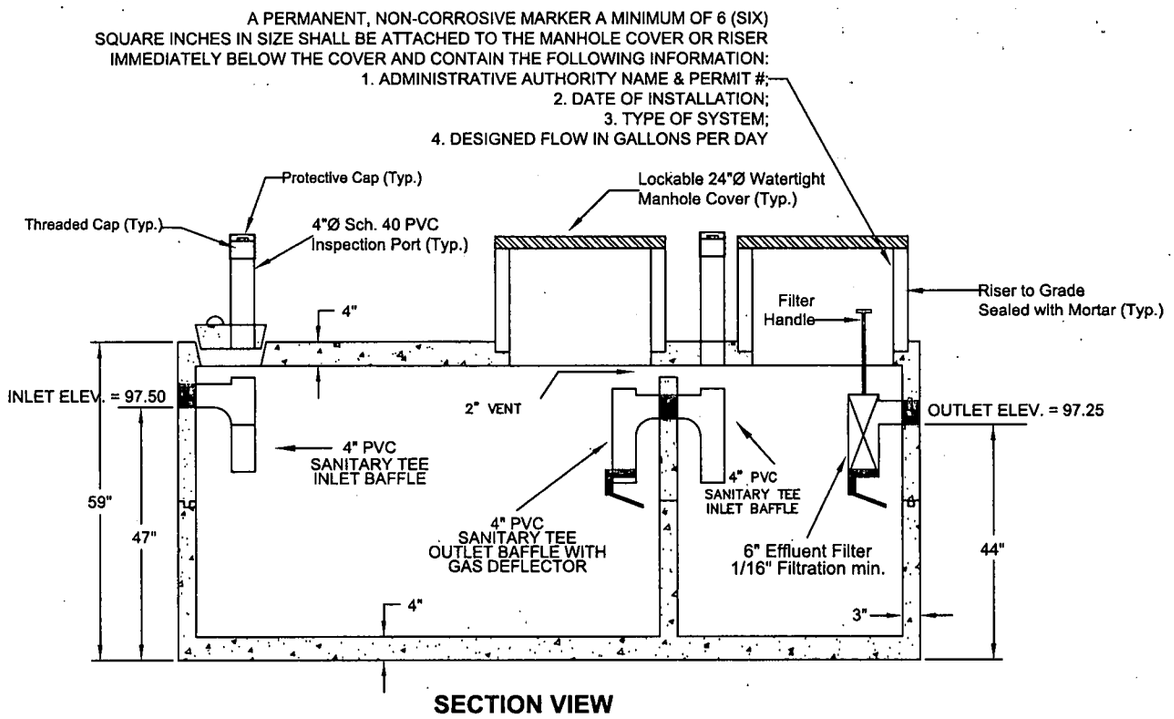
PER NJAC 7:9A-8.2(m)1: ALL TANKS, INCLUDING RISERS & INSPECTION PORTS TO THE HIGHEST JOINT, SHALL BE TESTED FOR WATER TIGHTNESS AFTER INSTALLATION & BEFORE BACKFILLING USING HYDROSTATIC OR VACUUM TEST. THE TEST SHALL BE PERFORMED AND CERTIFIED BY THE TANK MANUFACTURER OR ENGINEER.



PLAN VIEW



SECTION VIEW

NOTE: EFFLUENT FILTER REQUIRES REGULAR CLEANING. ROUTINE CLEANING SHALL BE PERFORMED DURING SEPTIC TANK PUMPING OR SHALL NOT EXCEED A 3 YEAR PERIOD. MORE FREQUENT CLEANING CYCLES MAY BE NECESSARY DEPENDING ON HOUSEHOLD HABITS/USE.

NJ 1,250 GALLON TWO-COMPARTMENT SEPTIC TANK

Not to Scale

REVISION DESCRIPTION	DATE	APPROVED

Septic System Alteration Design
Septic Tank Details

Peter Tyson & Megan Miller Block 49, Lot 16 Hopewell Township, Mercer County, New Jersey 26 Woosamonsa Road

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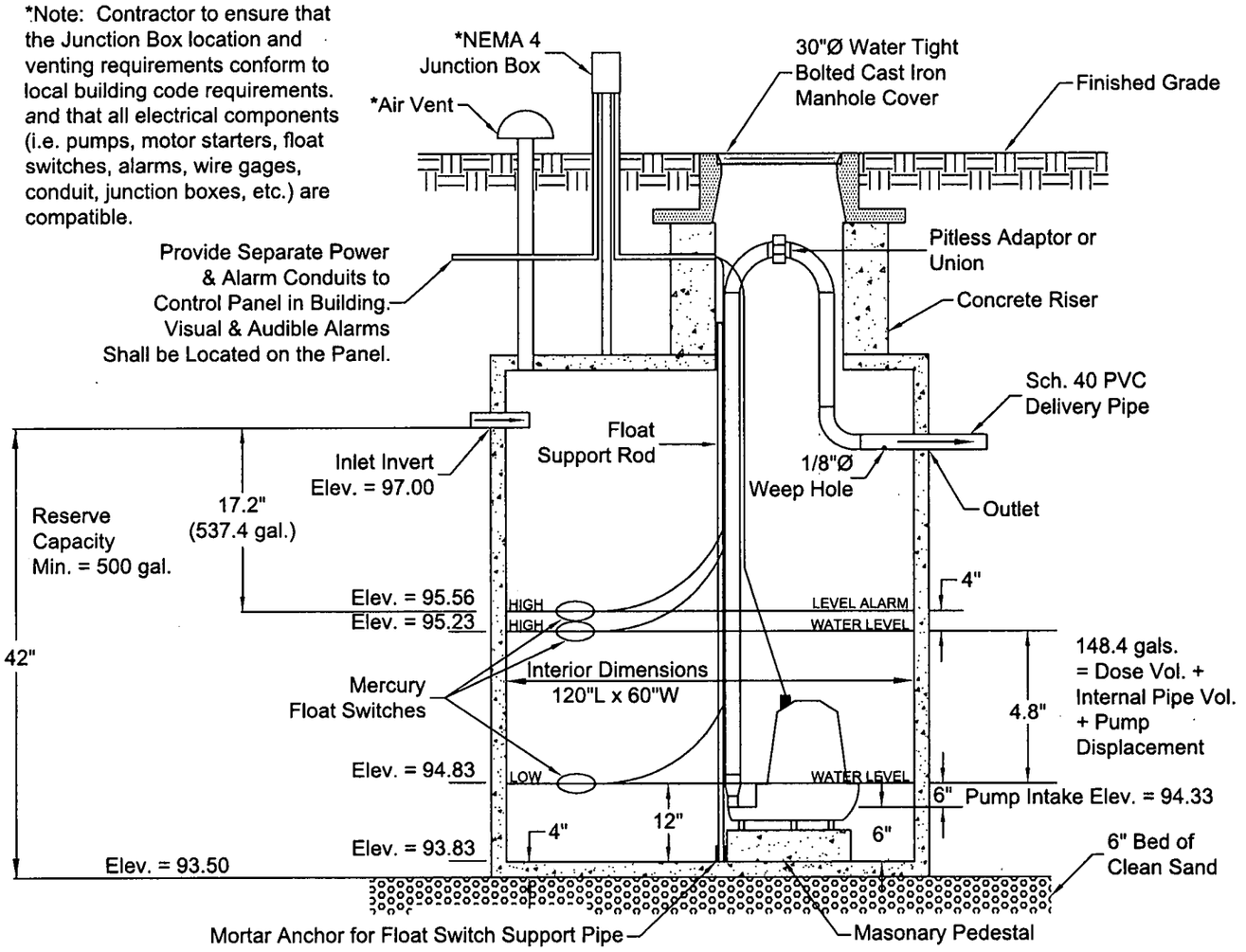
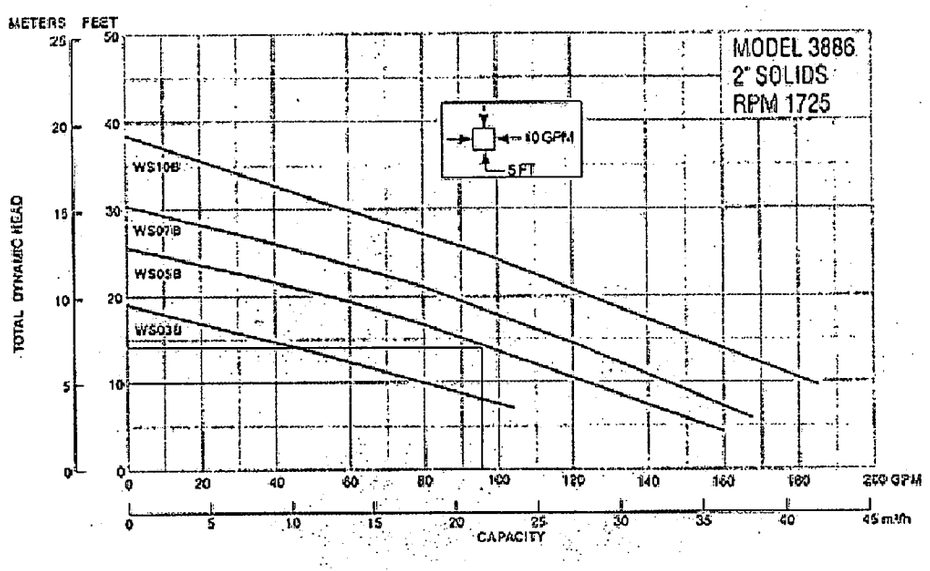
*Note: Contractor to ensure that the Junction Box location and venting requirements conform to local building code requirements. and that all electrical components (i.e. pumps, motor starters, float switches, alarms, wire gages, conduit, junction boxes, etc.) are compatible.



1,000 Gal. PUMP DOSING TANK

Not to Scale



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The pump shall be a Goulds Model 3886 (1/2 hp, 115 V, single phase) or approved equal. The pump shall be capable of delivering a minimum of 70.8 gpm against a total dynamic head of 14.1 feet.

Septic System Alteration Design
Pump Tank Details

Peter Tyson & Megan Miller *Block 49, Lot 16* *Hopewell Township, Mercer County, New Jersey* *26 Woosamonsa Road*

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78 ROUTE 173 WEST, SUITE 6
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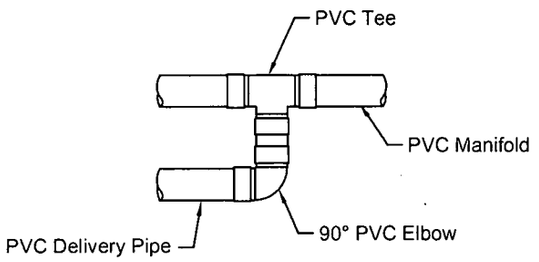
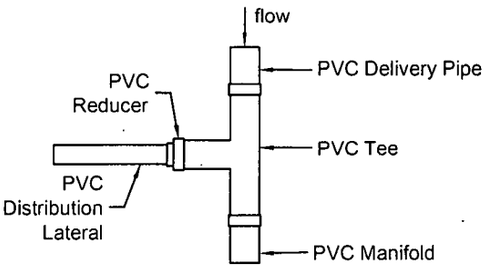
PHONE 908-735-2255 FAX. 908-735-5838
Certificate of Authorization No. 24GA27943900



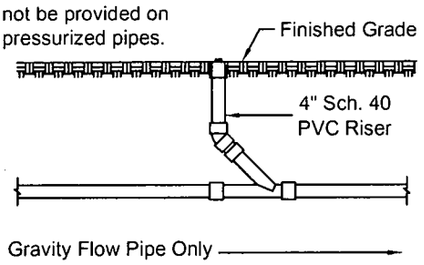
ALTERNATE 'A'



ALTERNATE 'B'

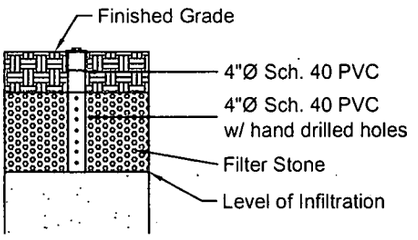
DELIVERY PIPE TO MANIFOLD CONNECTION
Not To Scale

NOTE: Cleanouts shall not be provided on pressurized pipes.

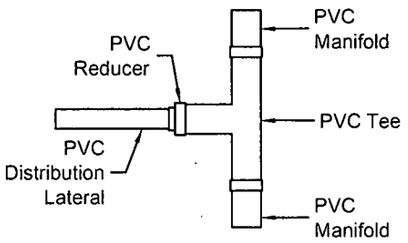


CLEAN OUT DETAIL
Not To Scale

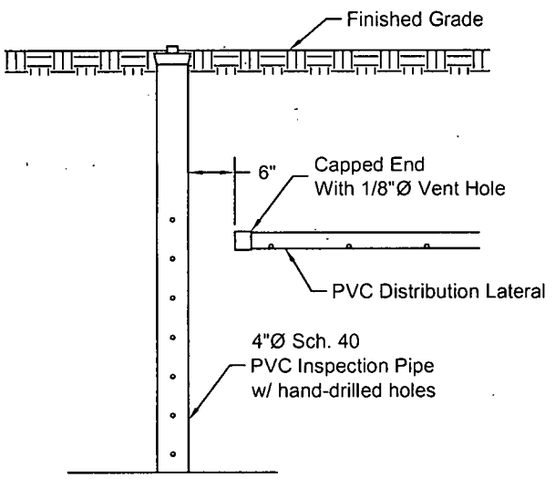
Located at corners of the disposal field. (Typ.)



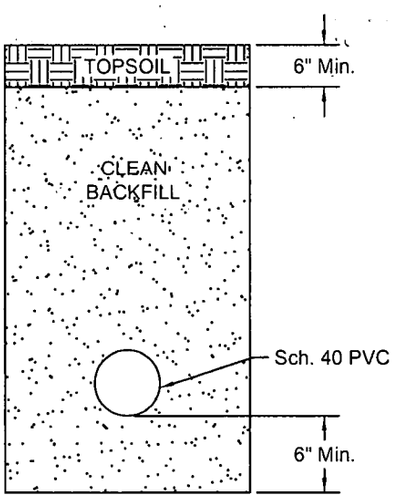
INSPECTION PORT DETAIL
Not To Scale



MANIFOLD TO LATERAL CONNECTION
Not to Scale



DISTRIBUTION LATERAL DETAIL
Not To Scale



Note:
Clean Backfill shall be free of large stone and objectionable material. Clean Backfill shall be compacted in 12" max. lifts.

FORCE MAIN BEDDING DETAIL
Not To Scale

REVISION DESCRIPTION	DATE	APPROVED

Septic System Alteration Design
Piping Details

Peter Tyson & Megan Miller *Block 49, Lot 16* *Hopewell Township, Mercer County, New Jersey* *26 Woosamonsa Road*

DRAWN BY:	DESIGNED BY:	CHECKED BY:	DWG NO.	BRE JOB#:	SCALE:	DATE:	SHEET:
WMJ	WMJ	THB	MIL-7	13-1320	As Noted	June 17, 2013	7 of 9

6/18/13

THEODORE H. BAYER, P.E.
New Jersey Professional Engineer License No. GE33806

BAYER-RISSE ENGINEERING, INC.
78 ROUTE 173 WEST, SUITE 6
HAMPTON, NEW JERSEY 08827
PHONE 908-735-2255 FAX. 908-735-5838
Certificate of Authorization No. 24GA27943900

1) SOIL LOGS

SL 529-1 — May 29, 2013

0-13"	Topsoil
13-36"	7.5YR6/6 Reddish Yellow Silt Loam; subangular blocky, friable; 5% gravel; no seepage; common, medium, distinct mottles 24-36" (7.5YR7/1 Light Gray).
36-105"	Nonsoil; fractured, blocky shale with 10% silt loam fillings; slight seepage at 36" and below.
>105"	Machine Refusal Pit Bail PB 529-1 performed at 105" (24 hr. SWL = 89", K = 1.5 in/hr)

SL 529-2 — May 29, 2013

0-11"	Topsoil
11-28"	7.5YR6/6 Reddish Yellow Silt Loam; subangular blocky, friable; 5% gravel; no seepage; common, medium, distinct mottles 24-36" (7.5YR7/1 Light Gray).
28-108"	Nonsoil; fractured, blocky shale with 10% silt loam fillings; damp/wet rock face at 48" and below.
>108"	Machine Refusal

SL 529-3 — May 29, 2013

0-13"	Topsoil
13-29"	7.5YR5/6 Strong Brown Silt Loam; subangular blocky, friable; 5% gravel; no seepage; few, fine, faint mottles 24-29" (7.5YR7/1 Light Gray).
29-99"	Nonsoil; fractured, blocky shale with 5% silt loam fillings; slight seepage at 99".
>99"	Machine Refusal Pit Bail PB 529-2 performed at 99" (24 hr. SWL = 86", K = 0.9 in/hr)

SL 529-4 — May 29, 2013

0-12"	Topsoil
12-36"	7.5YR5/6 Strong Brown Silt Loam; subangular blocky, friable; 5% gravel; no seepage; few, fine, faint mottles 30-36" (7.5YR7/1 Light Gray).
36-118"	Nonsoil; fractured, blocky shale with 5% silt loam fillings; slight seepage at 98".
>118"	Machine Refusal

2) PERMEABILITY TESTS

Test Number	Field	Related Soil Log	Depth	Result
PB 529-1	Primary	SL 529-1	105"	K = 1.5 in/hr
PB 529-2		SL 529-3	99"	K = 0.9 in/hr

3) DESIGN FLOW

- Existing 3 bedroom dwelling
- First bedroom @ 200 gpd = 200 gpd
- 2 additional bedrooms @ 150 gpd / bedroom = 300 gpd
- *Proposed Design Flow = 500 gpd*

4) DISPOSAL FIELD, SEPTIC TANK, AND DOSING TANK SIZING

(a) The disposal field is a mounded, soil replacement pressure distribution disposal bed system. N.J.A.C. 7:9A 10.2(c) requires a minimum of 1.33 square feet per gallon per day for this type of system. The Hopewell Township Health Department requires a minimum increase of 25% over the design rate. The design permeability for this type of system is 6-20 in/hr.

500 gpd x 1.33 ft^2/gpd x 25% = 832 ft^2
Use a 23 ft x 36.5 ft disposal bed = 840 ft^2. (27 ft x 40.5 ft with buffer)

Use one 3" dia. Sch. 40 PVC end manifold system with six (6) 1.25" dia. Sch. 40 PVC laterals, 31' long on 3.75 ft centers (see detail). Laterals shall be hand drilled with 1/4" dia. holes on 3 ft centers. Holes shall be offset by 1.5 ft on adjacent laterals. *All holes shall be hand reamed to remove burrs prior to assembly.* The pump shall be a Goulds model 3886 (1/2 hp, 115 V, single phase) or approved equal; and shall be capable of delivering a minimum of 70.8 gpm at a total dynamic head of 14.1 ft.

(b) The existing septic tank shall be pumped, crushed and buried in place unless otherwise directed by the administrative authority. A licensed hauler shall pump the existing tank. Receipt of septage removed shall be submitted to the local Health Department.

(c) N.J.A.C. 7:9A-8.2b(1) is used to size the septic tank. The Hopewell Township Health Department requires an additional 250 gallon storage capacity in addition to the minimum State requirement. The septic tank is a 1,250 gallon, two-compartment concrete septic tank which meets the requirements of N.J.A.C. 7:9A-8.2h and 7:9A-8.2i(4). The new septic tank shall be fit with inspection ports, septic solids retainer, effluent filter and risers flush with grade. (See Septic Tank Detail)

(d) A pump dosing tank with on/off float switches and high level alarm will be provided and will meet all the requirements of N.J.A.C. 7:9A-9.2. The dosing tank is a 1,000 gallon concrete tank which meets the requirements of N.J.A.C. 7:9A-8.2e and 7:9A-8.2h. (See Pump Dosing Tank Detail)

(e) Inspection ports shall be placed in the disposal field and shall extend down to the level of infiltration.

(f) A 4" dia. sch. 40 PVC monitoring port with lockable cap shall be placed in the disposal field and shall extend six inches (6") below the bottom of the zone of treatment.

REVISION DESCRIPTION	DATE	APPROVED

Septic System Alteration Design
Design Notes

Peter Tyson & Megan Miller Block 49, Lot 16 Hopewell Township, Mercer County, New Jersey 26 Woosamonsa Road

DRAWN BY:	DESIGNED BY:	CHECKED BY:	DWG NO.	BRE JOB#:	SCALE:	DATE:	SHEET:
WMJ	WMJ	THB	MIL-8	13-1320	As Noted	June 17, 2013	8 of 9

6/18/13
THEODORE H. BAYER, P.E.
New Jersey Professional Engineer License No. GE33806

BAYER-RISSE ENGINEERING, INC.
78 ROUTE 173 WEST, SUITE 6
HAMPTON, NEW JERSEY 08827
PHONE 908-735-2255 FAX. 908-735-5838
Certificate of Authorization No. 24GA27943900

GENERAL NOTES:

1. This Wastewater disposal system has been designed in accordance with the requirements of N.J.A.C. 7:9A, Standards for Individual Subsurface Sewage Disposal Systems and the requirements of the Hopewell Township Health Department. This plan is not a survey and is to be used for construction of the septic system only. It is not intended to be used as a plot plan for construction of any structures or proposed improvements.
2. Property line information has been obtained from a location survey dated May 18, 2005 as provided by the applicant.
3. Topographic information has been obtained by Bayer-Risse Engineering, Inc. during an on-site soil evaluation conducted on May 29, 2013. All soil testing was conducted by Bayer-Risse Engineering, Inc. and witnessed by a representative of Hopewell Township.
4. The Engineer and the Health Department shall be notified 48 hours prior to construction so that all inspections may be scheduled. All phases of the construction shall be inspected and approved by the Engineer and Health Department prior to backfilling.
5. Inspection Schedule
   - Stake out and stockpiling of sand
   - Open ditch
   - Sand emplacement, compaction, and percolation rate
   - Stone & Lateral emplacement
   - Tanks and final grading
6. Sand Specifications: C-33 Concrete Sand shall have:
   - A coarse fragment content (greater than No. 8 sieve) less then 15% by volume or less than 20% by weight
   - A textural analysis (composition by weight of the size fraction passing the particular sieve as stated):
     - 100% passing 3/8" sieve; 80%-100% passing No. 8 sieve; 50%-85% passing No. 16 sieve; 25%-60% passing No. 30 sieve; 10%-30% passing No. 50 sieve; 2%-10% passing No. 100 sieve.
   - Permeability from 6 - 20 in./hr. (percolation rate 3-15 min./in.)
7. All sand shall be stockpiled on-site and tested by the Engineer prior to placement into the disposal area.
8. Sand shall be installed in twelve inch (12") maximum lifts and compacted in conformance with N.J.A.C. 7:9A-10.4f(3). After installation and compaction, percolation tests shall be conducted at the level of infiltration in accordance with the number and placement requirements shown in Appendix C of N.J.A.C. 7:9A.
9. No wheeled vehicles are to be driven over any part of the disposal area.
10. The Engineer will inspect the entire installation of the system and provide a Certificate of Compliance and Record Drawings to the Health Department.
11. Prior to the disposal bed stake out by the Engineer and any construction activities, the installer shall require the owner to have all underground utilities located by the responsible utility company(ies). CALL 1-800-272-1000 BEFORE YOU DIG.
12. Construction information is based on topography of plan. Elevations may be modified after final survey.
13. Disposal area shall be graded so that surface runoff is diverted away from the disposal area.
14. The Engineer and the Health Department shall review and approve any field changes and deviations from this design.
15. The installer shall be responsible for obtaining any and all of the required permits prior to construction.
16. After completion of backfilling and final grading, all disturbed areas shall be raked, seeded and mulched to establish a vegetative cover in a manner acceptable to the Administrative Authority.
17. The installer shall ensure that all materials used in the construction of the system are in accordance with N.J.A.C. 7:9A et. seq. and meet the specifications of the design.
18. Filter fabric shall be a non-woven geotextile product (TerraTex SD or approved equal).
19. No trees are to remain within ten feet (10') of the disposal area.
20. Septic tank(s) shall be located a minimum of 10 ft and disposal areas shall be located a minimum of 25 ft from dwellings.
21. Septic tank(s) shall be located a minimum of fifty feet (50'), disposal area(s) shall be located a minimum of one hundred feet (100'), and building sewer(s) shall be located a minimum of twenty-five feet (25') from a well.
22. Crushed stone filter material shall be NJDOT number 3, 4, or 24 size stone and be free of fines, dust, ashes, or clay.
23. All septic disposal fields shall be constructed at least 25 ft from excavated cuts (drop) greater than 2 ft.
24. There are no off-site wells within 100 ft and no off-site disposal fields within 50 ft of the proposed disposal field.
25. Bayer-Risse Engineering, Inc. makes no representation as to the location and/or adequacy of the internal plumbing and electric service. The limits of this design are from the septic tank to the disposal area.
26. This septic design has been based on the soil conditions and site constraints evident at the time soil testing was performed. If subsurface conditions present at the time of construction vary significantly from those documented during soil testing the contractor shall immediately cease construction and notify the Engineer and the Health Department so that appropriate action may be taken.
27. Garbage disposal units shall not be permitted with this sewage disposal system.

REVISION DESCRIPTION	DATE	APPROVED

Septic System Alteration Design
General Notes

Peter Tyson & Megan Miller *Block 49, Lot 16* *Hopewell Township, Mercer County, New Jersey* *26 Woosamonsa Road*

DRAWN BY:	DESIGNED BY:	CHECKED BY:	DWG NO.	BRE JOB#:	SCALE:	DATE:	SHEET:
WMJ	WMJ	THB	MIL-9	13-1320	As Noted	June 17, 2013	9 of 9

6/18/13

THEODORE H. BAYER, P.E.
New Jersey Professional Engineer License No. GE33806

BAYER-RISSE ENGINEERING, INC.
78 ROUTE 173 WEST, SUITE 6
HAMPTON, NEW JERSEY 08827
PHONE 908-735-2255 FAX. 908-735-5838
Certificate of Authorization No. 24GA27943900

George Kiesel

From: Paul Pogorzelski [paulpogo@hopewelltwp.org]
Sent: Tuesday, June 25, 2013 10:48 AM
To: gkiesel@hopewelltwp.org
Subject: septic design grading review blk 49 lot 16

Concerns about new runoff pattern diverting directly onto adjacent lands. Recommend considering alternative grading to avoid or minimize this condition.

Paul E. Pogorzelski, P.E.
Hopewell Township Administrator/Engineer
201 Washington Crossing-Pennington Road
Titusville, NJ 08560
609-737-0605 ext 664
609-737-6839 (fax)
Please consider the environment before printing this e-mail

Hopewell Township Health Department

201 Washington Crossing-Pennington Rd.
Titusville, NJ 08560
Phone: (609) 737-0120 Fax: (609) 737-6836

http://www.hopewelltwp.org/health_department.html

ONSITE (SEPTIC/PUMP/AEROBIC/OTHER) TANK WATER TIGHTNESS TEST CERTIFICATION

☐ Engineer ☒ Manufacturer

Permit Number: _____ Block: 49 Lot: 16

Street Address: 25 Woosamonsa Road, Pennington, N.J. 08534

Home Owner: Peter Tyson and Megan Miller

I, Eric Wolfenger, certify that the Onsite Tank installed on the above referenced block and lot has passed the Watertightness Test as described by the ASTM, C-1227, or the National Precast Concrete Association (NPCA) testing criteria as set by N.J.A.C. 7:9A "Standards for Individual Subsurface Disposal Systems". Testing was performed including risers and inspection ports to grade.

Signature _____ 9/4/2013
Date of Test

Composition of Tank: ☒ Concrete ☐ Fiberglass ☐ Polyethylene

Type of Tank: ☐ Septic ☒ Pump ☐ ATU ☐ Other _____

Size of Tank: 1000 Gallons

Type of Test: ☒ Vacuum Testing ☐ Hydrostatic

Eric Wolfenger
Name of Tester (Please Print)

Signature of Tester

Flemington Precast & Supply
Company Name

18 Allen St., Flemington, N.J. 08822
Address

908-782-3246
Phone Number with Area Code

Flemington Precast

_____ _____
Hopewell Township Health Department: Approved By Date

Hopewell Township Health Department

201 Washington Crossing-Pennington Rd.
Titusville, NJ 08560
Phone: (609) 737-0120 Fax: (609) 737-6836

http://www.hopewelltwp.org/health_department.html

ONSITE (SEPTIC/PUMP/AEROBIC/OTHER) TANK WATER TIGHTNESS TEST CERTIFICATION

☐ Engineer ☒ Manufacturer

Permit Number: _____ Block: 49 Lot: 16

Street Address: 25 Woosamonsa Road, Pennington, N.J. 08524

Home Owner: Peter Tyson and Megan Miller

I, Eric Wolfenger, certify that the Onsite Tank installed on the above referenced block and lot has passed the Watertightness Test as described by the ASTM, C-1227, or the National Precast Concrete Association (NPCA) testing criteria as set by N.J.A.C. 7:9A "Standards for Individual Subsurface Disposal Systems". Testing was performed including risers and inspection ports to grade.

Signature _____ 9/4/2013
Date of Test

Composition of Tank: ☒ Concrete ☐ Fiberglass ☐ Polyethylene

Type of Tank: ☒ Septic ☐ Pump ☐ ATU ☐ Other _____

Size of Tank: 1250-2 Compartment Gallons

Type of Test: ☒ Vacuum Testing ☐ Hydrostatic

Eric Wolfenger
Name of Tester (Please Print)

Signature of Tester

Flemington Precast

Flemington Precast & Supply
Company Name

18 Allen St., Flemington, N.J. 08822
Address

908-782-3246
Phone Number with Area Code

Hopewell Township Health Department: Approved By _____ Date _____

Permit No. **13054** Date Issued: **6/25/2013**

Hopewell Township Health Department

201 Washington Crossing Pennington Road
Titusville, New Jersey 08560
Tel. (609) 737-0120 Fax (609) 737-6836

PERMIT

Applicant: **Megan Miller** Block: **49.00** Lot: **16.00**

To: **INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM ALTERATION**

Location: **26 Woosamonsa Road**

Fee: **$625.00**

24 Hour Inspection Notification Required

This permit is NOT transferrable

Authorized By:

Hopewell Township Health Department

Permit No. **13054** Date Issued: **6/25/2013**

Hopewell Township Health Department

201 Washington Crossing Pennington Road
Titusville, New Jersey 08560
Tel. (609) 737-0120 Fax (609) 737-6836

PERMIT

Applicant: **Megan Miller** Block: **49.00** Lot: **16.00**

To: **INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM ALTERATION**

Location: **26 Woosamonsa Road**

Fee: **$625.00**

24 Hour Inspection Notification Required

This permit is NOT transferrable

Authorized By:

Hopewell Township Health Department

TOWNSHIP of HOPEWELL
MERCER COUNTY
DEPARTMENT OF HEALTH
201 Washington Crossing Pennington Road
Titusville, New Jersey 08560-1410
Phone: 609.737.0120 Fax: 609-737-6836 www.hopewelltwp.org

Public Health
Prevent. Promote. Protect.

6/25/2013

Megan Miller
26 Woosamonsa Road
Pennington NJ 08534

RE: Block: 49.00 Lot: 16.00 – 26 Woosamonsa Road

To Whom It May Concern,

Your application for an alteration to an onsite subsurface sewage disposal system has been approved with the following conditions:

SEWAGE DISPOSAL PERMITS ARE VALID FOR TWO YEARS FROM DATE OF ISSUE.

1. A copy of this letter must be forwarded to your construction contractor and sewage disposal installer prior to installation of said system.

2. The house location must be staked by a licensed surveyor or professional engineer to assure proper location and elevation as represented on the attached plan.

3. The sewage disposal system must be located and staked prior to installation by a licensed surveyor or professional engineer to guarantee the proper alignment of the system in the area of the soil tests, and to insure it will conform to all site restrictions as represented on the attached design.

4. The required elevation of the sewage disposal system should be verified by the licensed professional engineer or surveyor, the builder and the plumbing contractor as it relates to the foundation height, the point where the sewer line exits the dwelling and the height of the septic tank. If this is a gravity system and the minimum height of the sewer line is not maintained, an ejector system will be required after the septic tank.

5. An onsite conference is required with your installer and a representative from this office prior to installation of any part of this system. This should avoid any problem during the installation which can be costly to all parties concerned.

6. The design engineer must be notified at the beginning of the installation. Field measures must be made for the required as-built design, and grading plan certifications. The as-built must show soil test location, distances to the tank and D-box as measured from two fixed points, also, any changes caused by site conditions, construction changes and installation problems. If this is a raised system, the as-built grading plan must be certified by the engineer that it is as designed, showing all inverts and contour lines. The as-built will provide a detailed location of the installed system so it can be located once it is covered.

7. No excavating machinery shall be permitted in the excavation during construction. A track-hoe or back-hoe must be used to dig the excavation. Sand must be available at the start of construction to cover the bottom and to protect open fractures etc.

8. All trees within 10 feet of a conventional disposal system or within the area of the extended clay fill and sloped area of a raised disposal/mound system must be removed.

9. All phases of construction of the disposal system must be inspected by the Health Department. It is your responsibility (or your contractors) to notify the Health Department by no later than 9:00 a.m. on every day that construction is underway so inspections can be scheduled. Systems will be dug up if not inspected by this office!

10. A certificate of occupancy will not be issued if the system is not completed and the grades certified. Raised systems must be stabilized. All systems must be seeded or sodded and have established vegetative growth.

11. All septic tanks must comply with new tank requirements and also be provided with locking manhole access lids to final grade as required by N.J.A.C. 7:9A.

12. All sand and clay fill must be stock piled on site and certified by a licensed laboratory and by the design engineer once in place using a perc test.

13. Hopewell Township requires a two compartment septic tank 50% larger than required in NJAC 7:9a wherever a sewer ejector is utilized. This is in addition to the additional 250 gallons required per Twp Ord. 16-1.

Effective January 1, 1990, the New Jersey Department of Environmental Protection enacted a law requiring the certification and licensing of sewage disposal systems.

Very Truly Yours,

George Kiesel

Senior Registered Environmental Health Specialist

TOWNSHIP of HOPEWELL
MERCER COUNTY

DEPARTMENT OF HEALTH

201 Washington Crossing Pennington Road
Titusville, New Jersey 08560-1410
Phone: 609.737.0120 Fax: 609-737-6836 www.hopewelltwp.org

Public Health
Prevent. Promote. Protect.

6/25/2013

Megan Miller
26 Woosamonsa Road
Pennington NJ 08534

RE: Block: 49.00 Lot: 16.00 – 26 Woosamonsa Road

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Effective January 1, 1990, the New Jersey Department of Environmental Protection enacted a law requiring the certification and licensing of sewage disposal systems.

Very Truly Yours,

George Kiesel

Senior Registered Environmental Health Specialist

permit # 13-054

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

Block 49 Lot 16

Township of Hopewell

JUN 20 2013

Health Department

APPLICATION FOR PERMIT TO ALTER AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 1 - General Information:

I. Name of Applicant (print): Peter Tyson & Megan Miller

II. Applicant's Present Address: 26 Woosamonsa Road Pennington, NJ 08534

III. Applicant's Phone Number: Day: 609-737-2128 Night _____

BUILDING LOCATION MUST BE STAKED. DATE STAKED existing

IV. Type of Permit Needed (Check applicable categories):

- ☐ a. New Construction
- ☐ c. Alteration / Expansion or Change in Use
- ☐ e. Repairs (in-kind replacement) / Malfunctioning System
- ☐ g. Deviation from Standards
- ☑ b. Alteration / No Expansion or Change of Use
- ☑ d. Alteration / Malfunctioning System
- ☐ f. Repairs (in-kind replacement) / Not Malfunctioning
- ☐ h. New System Installed (existing structure)

V. Location of Project: Street Address 26 Woosamonsa Road Zip Code 08534

VI. Type of Facility: ☑Residential ☐Commercial / Institutional Specify Type of Establishment: _____

VII. Type of Wastes to be Discharged: ☑Sanitary Sewage ☐Industrial Wastes ☐Other - Specify Type: _____

VIII. If d. or e. in 4. above are checked, indicate the type of malfunction and its cause (check all that apply)

- ☐ Contamination of nearby wells or surface water bodies by sanitary sewage or effluent
- ☑ Ponding or breakout of sanitary sewage or effluent on to the surface of the ground
- ☐ Seepage of sanitary sewage or effluent into portions of building below ground
- ☐ Back-up of sanitary sewage into the building served, which is not caused by a physical blockage of the internal plumbing
- ☐ Any manner of leakage observed from components that are not designed to emit sanitary sewage or effluent
- ☐ Direct discharges to ground water (no zone of treatment)

Describe the cause of the malfunction: saturated disposal trench

IX. Please expand on Question #4, above, by checking if any of the following apply:

- ☐ A privy, outhouse, latrine or pit toilet is present, a system must be installed
- ☐ A system must be upgraded as part of a real estate property transfer
- ☐ A cesspool has been identified during a real estate property transfer and a conforming system must be installed
- ☐ A malfunctioning cesspool has been identified and a conforming system must be installed

X. Other Approvals / Certification / Waivers / Exemptions(attach to application):

☐US Army Corps of Engineers ☐NJDEP - Bureau of Flood Plain Management ☐Other - Specify: _____

XI. I hereby certify that the information furnished on this application is true. I am aware that false swearing is a crime in this state and subject to prosecution

Signature of Applicant _____ Date 6/18/13

NOTE: The applicant is responsible for obtaining all other required Federal, State or local approvals prior to the commencement of work under this approval, including but not limited to, NJDEP permits to conduct activities in freshwater wetlands, freshwater wetlands transition areas, or flood plain jurisdictions. Failure to obtain these permits prior to conducting regulated activities within these areas may result in removal of the system and or the assessment of significant civil penalties.

FOR HEALTH DEPARTMENT USE ONLY

_____ Application Denied, see attached letter
_____ Application Approved
_____ Application Approved Subject to Approval of NJDEP
_____ Date of Action Signature of Authorized Agent: _____

Name and Title _____

EXPIRATION DATE: _____

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

Block 49 Lot 16

APPLICATION FOR PERMIT TO ALTER AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 2a General Site Evaluation Data

I. Name of Site Evaluator (print): *William M. Jupinka*

II. Business Address of Site Evaluator: *Bayer-Risse Engineering, Inc.*
78 Route 173 West
Suite 6
Hampton, NJ 08827

III. Business Phone Number of Site Evaluator: *(908) 735-2255*

IV. Special Site Limitations Identified (Check Appropriate Categories):

☐Flood Plains ☐Bedrock Outcrops ☐Wetlands
☐Excessively Stony ☐Disturbed Ground ☐Sink Holes
☐Sand Dunes ☐Steep Slopes
☐Other - Specify _____

V. Soil Logs - Enter on Form 2b - Use one sheet for each soil log.

VI. Considerations Relating to Disturbed Ground: ☑N/A

a. Type of Disturbance (Check Appropriate Categories):
☐Filled Area ☐Excavated Area ☐Re-graded Area ☐Subsurface Drains
☐Other - Specify: _____

b. Pre-existing Natural Ground Surface
Elevation Relative to Existing Ground Surface: _____
Method of Identification: _____

c. Suitability of Disturbed Ground
☐Unsuitable: Objects Subject to Disintegration or Change in Volume
☐Excessively Coarse
☐Procter Test Performed - % Standard Procter Density = _____

VII. Hydraulic Head Test: ☑N/A

a. Hydraulically Restrictive Horizon: Depth Top to Bottom _____

b. Piezometer A: Depth to Bottom: _____
Depth of Water Level (24 hrs.): _____

c. Piezometer B: Depth to Bottom: _____
Depth of Water Level (24 hrs.). _____

d. Witnessed by: _____
Signature _____ Date: _____

VIII. Attachments (Check items included):
☑Site Plan
☑Key Map Showing Location of Site on USGS Quadrangle or Other Accurate Map
☑Key Map Showing Location of Site on USDA Soil Survey Map
☐Other - Specify: _____

IX. I hereby certify that the information furnished on Form 2a of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator _____ Date 6/17/13

Signature of Professional Engineer _____ Date 6/17/2013

Seal

N.J. License No. 33806

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

Block 49 Lot 16

APPLICATION FOR PERMIT TO ALTER AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 2b Soil Log and Interpretation

1. Log Number SL 529-1 Method: ☑Profile Pit ☐Boring

2. Soil Log: Date Recorded: 5/29/13

Depth (Inches) Top - Bottom	Munsell Color Name and Symbol; Estimated Textural Class; Estimated Volume % Coarse Fragment, If Present; Structure; Moist or Dry Consistence; Mottling Abundance, Size and Contrast, If Present
0-13"	Topsoil
13-36"	7.5YR6/6 Reddish Yellow Silt Loam; subangular blocky, friable; 5% gravel; no seepage; common, medium, distinct mottles 24-36" (7.5YR7/1 Light Gray).
36-105"	Nonsoil; fractured, blocky shale with 10% silt loam fillings; slight seepage at 36" and below.
>105"	Machine Refusal Pit Bail PB 529-1 performed at 105" (24 hr. SWL = 89", K = 1.5 in/hr)

2a. If mottling give reason for mottling: Regional Water Table

3. Ground Water Observations:
   ☑Seepage - Indicate Depth: 36"
   ☑Pit/Boring Flooded Depth after 24 hours = 89"

4. Soil Limiting Zones:
   ☑Fractured Rock Substratum - Depth to Top: 36"
   ☐Massive Rock Substratum - Depth to Top: _____
   ☐Excessively Coarse Horizon - Depth Top to Bottom: _____
   ☐Excessively Coarse Substratum - Depth to Top: _____
   ☐Hydraulically Restrictive Horizon - Depth Top to Bottom: _____
   ☐Hydraulically Restrictive Substratum - Depth to Top: _____
   ☐Perched Zone of Saturation - Depth Top to Bottom: _____
   ☑Regional Zone of Saturation - Depth to Top: 24"

5. Soil Suitability Classification: IIWr, Sc

6. I hereby certify that the information furnished on Form 2b of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator _____ Date 6/17/13

Signature of Professional Engineer _____ Date 6/17/2013

Seal

N.J. License No. 33806

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

Block 49 Lot 16

APPLICATION FOR PERMIT TO ALTER AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 2b Soil Log and Interpretation

1. Log Number SL 529-2 Method: ☑Profile Pit ☐Boring

2. Soil Log: Date Recorded: 5/29/13

Depth (Inches) Top - Bottom	Munsell Color Name and Symbol; Estimated Textural Class; Estimated Volume % Coarse Fragment, If Present; Structure; Moist or Dry Consistence; Mottling Abundance, Size and Contrast, If Present
0-11"	Topsoil
11-28"	7.5YR6/6 Reddish Yellow Silt Loam; subangular blocky, friable; 5% gravel; no seepage; common, medium, distinct mottles 24-36" (7.5YR7/1 Light Gray).
28-108"	Nonsoil; fractured, blocky shale with 10% silt loam fillings; damp/wet rock face at 48" and below.
>108"	Machine Refusal

2a. If mottling give reason for mottling: Regional Water Table

3. Ground Water Observations:
☑Seepage - Indicate Depth: 48" (damp/wet rock)
☐Pit/Boring Flooded Depth after _____ hours = _____

4. Soil Limiting Zones:
☑Fractured Rock Substratum - Depth to Top: 28"
☐Massive Rock Substratum - Depth to Top: _____
☐Excessively Coarse Horizon - Depth Top to Bottom: _____
☐Excessively Coarse Substratum - Depth to Top: _____
☐Hydraulically Restrictive Horizon - Depth Top to Bottom: _____
☐Hydraulically Restrictive Substratum - Depth to Top: _____
☐Perched Zone of Saturation - Depth Top to Bottom: _____
☑Regional Zone of Saturation - Depth to Top: 24"

5. Soil Suitability Classification: IIWr, Sc

6. I hereby certify that the information furnished on Form 2b of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator _____ Date 6/17/13

Signature of Professional Engineer _____ Date 6/17/2013

Seal

N.J. License No. 33806

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

Block 49 Lot 16

APPLICATION FOR PERMIT TO ALTER AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM
Form 2b Soil Log and Interpretation

1. Log Number SL 529-3 Method: ☑Profile Pit ☐Boring

2. Soil Log: Date Recorded: 5/29/13

Depth (Inches) Top - Bottom	Munsell Color Name and Symbol; Estimated Textural Class; Estimated Volume % Coarse Fragment, If Present; Structure; Moist or Dry Consistence; Mottling Abundance, Size and Contrast, If Present
0-13"	Topsoil
13-29"	7.5YR5/6 Strong Brown Silt Loam; subangular blocky, friable; 5% gravel; no seepage; few, fine, faint mottles 24-29" (7.5YR7/1 Light Gray).
29-99"	Nonsoil; fractured, blocky shale with 5% silt loam fillings; slight seepage at 99".
>99"	Machine Refusal Pit Bail PB 529-2 performed at 99" (24 hr. SWL = 86", K = 0.9 in/hr)

2a. If mottling give reason for mottling: Regional Water Table

3. Ground Water Observations:
☑Seepage - Indicate Depth: 99"
☑Pit/Boring Flooded Depth after 24 hours = 86"

4. Soil Limiting Zones:
☑Fractured Rock Substratum - Depth to Top: 29"
☐Massive Rock Substratum - Depth to Top: ____
☐Excessively Coarse Horizon - Depth Top to Bottom: ____
☐Excessively Coarse Substratum - Depth to Top: ____
☐Hydraulically Restrictive Horizon - Depth Top to Bottom: ____
☐Hydraulically Restrictive Substratum - Depth to Top: ____
☐Perched Zone of Saturation - Depth Top to Bottom: ____
☑Regional Zone of Saturation - Depth to Top: 24"

5. Soil Suitability Classification: IIWr, Sc

6. I hereby certify that the information furnished on Form 2b of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator _____ Date 6/17/13

Signature of Professional Engineer _____ Date 6/17/2013

Seal

N.J. License No. 33806

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

Block 49 Lot 16

APPLICATION FOR PERMIT TO ALTER AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM
Form 2b Soil Log and Interpretation

1. Log Number SL 529-4 Method: ☑Profile Pit ☐Boring

2. Soil Log: Date Recorded: 5/29/13

Depth (Inches) Top - Bottom	Munsell Color Name and Symbol; Estimated Textural Class; Estimated Volume % Coarse Fragment, If Present; Structure; Moist or Dry Consistence; Mottling Abundance, Size and Contrast, If Present
0-12"	Topsoil
12-36"	7.5YR5/6 Strong Brown Silt Loam; subangular blocky, friable; 5% gravel; no seepage; few, fine, faint mottles 30-36" (7.5YR7/1 Light Gray).
36-118"	Nonsoil; fractured, blocky shale with 5% silt loam fillings; slight seepage at 98".
>118"	Machine Refusal

2a. If mottling give reason for mottling: Regional Water Table

3. Ground Water Observations:
☑Seepage - Indicate Depth: 98"
☐Pit/Boring Flooded Depth after _____ hours = _____

4. Soil Limiting Zones:
☑Fractured Rock Substratum - Depth to Top: 36"
☐Massive Rock Substratum - Depth to Top: _____
☐Excessively Coarse Horizon - Depth Top to Bottom: _____
☐Excessively Coarse Substratum - Depth to Top: _____
☐Hydraulically Restrictive Horizon - Depth Top to Bottom: _____
☐Hydraulically Restrictive Substratum - Depth to Top: _____
☐Perched Zone of Saturation - Depth Top to Bottom: _____
☑Regional Zone of Saturation - Depth to Top: 30"

5. Soil Suitability Classification: IIWr, Sc

6. I hereby certify that the information furnished on Form 2b of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator _____ Date 6/17/13

Signature of Professional Engineer _____ Date 6/17/2013

Seal

N.J. License No. 33806

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

Block 49 Lot 16

APPLICATION FOR PERMIT TO ALTER AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 3a. Soil Permeability Data

Assign a number for each test and a letter for each test replicate. Show test data and calculations on Form 3b, 3c, 3d, 3e, 3f, or 3g. Use one sheet for each separate test or test replicate.

1. Summary of Data - Enter data for each test replicate on a separate line.

Type of Test	Test (Number)	Replicate (Letter)	Depth (Inches)	Result*
Pit Bail	PB 529-1		105"	K = 1.5 in/hr
Pit Bail	PB 529-2		99"	K = 0.9 in/hr

*For tube permeameter, pit bailing, and piezometer tests, report results in inches per hour. For Soil permeability class rating, give soil permeability class number. For percolation test report result in minutes per inch. For basin flooding test report result as positive if basin drains completely within 24 hours of second filling, negative otherwise.

2. Design Permeability/Percolation Rate: Specify Test Number: PB 529-1
   ☐Average of Test Replicates ☑Single Replicate
   ☐Slowest Replicate

3. Type of Limiting Zone Identified Test Number

4. Attachments (Check items included):
   ☐Form 3b - Tube Permeameter Test Data - Number of Sheets: ____
   ☐Form 3c - Soil Permeability Class Rating Test Data - Number of Sheets: ____
   ☐Form 3d - Percolation Test Data - Number of Sheets: ____
   ☐Form 3e - Piezometer Test Data - Number of Sheets: ____
   ☑Form 3f - Pit Bailing Test Data - Number of Sheets: 4
   ☐Form 3g - Basin Flooding Test Data - Number of Sheets: ____

5. I hereby certify that the information furnished on Form 3a of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Site Evaluator _____ Date 6/17/13

Signature of Professional Engineer _____ Date 6/17/2013

Seal

N.J. License No. 33806

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

Block 49 Lot 16

APPLICATION FOR PERMIT TO ALTER AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 3f. Pit-Bailing Test Data (1 of 2)

ALL DATA MUST BE IN MEASUREMENT UNITS INDICATED (FEET OR INCHES). ONLY ONE PITBAIL TEST PER SHEET.

1. Test Number **PB 529-1** Reference Soil Log #: **SL 529-1** Date Tested: **5/29/13**

2. Using the reference level established, measure and record the following:

   - Depth to Bottom of Pit, ft, D_{pit} = **8.75**
   - Depth to Water Level after 24 hr Stabilization Period, ft, D_{water} = **7.42**
   - Depth to Impermeable Stratum, ft, $D_{stratum}$ = **8.75**
     (If depth is unknown assume it to be 1.5 times D_{pit})
   - Height of Water Level above Impermeable Stratum, ft, H= **1.33**
     ($H = D_{stratum} - D_{water}$)
   - Length of Time Interval, min., T = **varies**

3. Record the following data in the table below:

   - Time in minutes, enter actual time interval for each measurement taken, t_n, minutes.
   - Depth of Water Level Below Reference Level in inches, d_a
   - Water Surface Dimensions in feet l & w

4. Calculate the following values and enter in the table below:

   - Water Surface Area, ft^2, A_a
   - Water Level Rise, in, h_r (Subtract current value of d_a from previous value)
   - Average Water Surface Area, ft^2, A_{av} (take average of A_a and previous A_a)
   - Average Height of Water Level Above Impermeable Stratum, ft, h
     (Take average of d_a and previous d_a, convert to ft., and subtract from $D_{stratum}$)
   - Permeability, in/hr, K_n.(Calculate using formula):
     $K_a = (h_r / T) \times (A_{av}/(2.27 \times (H^2-h^2)) \times 60$ min/hr

Time (h:mm)	t_n (min)	d_n (in)	l (ft)	w (ft)	An (sf)	hrise (in)	Aavg (sf)	h (ft)	Ka (in/hr)
12:30 PM	*0*	*105.00*	*0.17*	*0.17*	*0.03*				
1:00 PM	*30*	*103.00*	*1.67*	*1.17*	*1.94*	*2.00*	*0.99*	*0.08*	1.0
2:00 PM	*60*	*101.50*	*2.42*	*1.42*	*3.42*	*1.50*	*2.68*	*0.23*	1.0
3:00 PM	*60*	*100.50*	*2.67*	*1.58*	*4.22*	*1.00*	*3.82*	*0.33*	1.0
4:30 PM	*90*	*99.25*	*3.00*	*1.75*	*5.25*	*1.25*	*4.74*	*0.43*	1.1
9:40 AM	*1030*	*91.00*	*4.33*	*2.50*	*10.83*	*8.25*	*8.04*	*0.82*	1.5

5. Record the Following Data:

- Final Depth of Pit, ft, D_{pit} = **8.75**
- ☑ Check here if testing was stopped due to machine refusal or machine limitations. {(See step 6 of Pitbail Test NJAC 7:9A-6.5(c)}
- Final Depth to Impermeable Stratum, ft, $D_{stratum}$ = **8.75**. (If no impermeable stratum is encountered, assume $D_{stratum} = D_{pit}$)
- Height of Standpipe Above Reference Level, ft, h_{pipe} = **N/A**
- Depth to Water Level after 24 hr Stabilization Period, ft, D_{water} = **7.42** (Take measurements from top of standpipe. Subtract h_{pipe}) (enter 0 if standpipe not used)
- Height of Static Water Level Above Impermeable Stratum, ft, H= **1.33** ($H = D_{stratum} - D_{water}$)
- Average Height of Water Level Above Impermeable Stratum, ft, h = **0.82**
- (Take average d_a from beginning and end of last time interval recorded in Section 4, convert to ft., and subtract from final $D_{stratum}$.)

6. Re-calculation of K using data from Section 5 above and from final time interval of Section 4:

$K = (h_{rise}/ t_n) \times (A_{av}/(2.27 \times (H^2-h^2))) \times 60$ min/hr
$K = (\mathbf{8.25}/\mathbf{1030}) \times (\mathbf{8.04}/(2.27 \times (\mathbf{1.33}^2 - \mathbf{0.82}^2))) \times 60$ min/hr
K = **1.5 in/hr**

7. I hereby certify that the information furnished on Form 3e of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Site Evaluator _____ Date 6/17/13

Signature of Professional Engineer _____ Date 6/17/2013

N.J. License No. 33806 Seal

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

Block 49 Lot 16

APPLICATION FOR PERMIT TO ALTER AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 3f. Pit-Bailing Test Data (1 of 2)

ALL DATA MUST BE IN MEASUREMENT UNITS INDICATED (FEET OR INCHES). ONLY ONE PITBAIL TEST PER SHEET.

1. Test Number **PB 529-2** Reference Soil Log #: **SL 529-3** Date Tested: **5/29/13**

2. Using the reference level established, measure and record the following:

   - Depth to Bottom of Pit, ft, D_{pit} = **8.25**
   - Depth to Water Level after 24 hr Stabilization Period, ft, D_{water} = **7.17**
   - Depth to Impermeable Stratum, ft, $D_{stratum}$ = **8.25**
     (If depth is unknown assume it to be 1.5 times D_{pit})
   - Height of Water Level above Impermeable Stratum, ft, H= **1.08**
     ($H = D_{stratum} - D_{water}$).
   - Length of Time Interval, min., T = **varies**

3. Record the following data in the table below:

   - Time in minutes, enter actual time interval for each measurement taken, t_n, minutes.
   - Depth of Water Level Below Reference Level in inches, d_a
   - Water Surface Dimensions in feet l & w

4. Calculate the following values and enter in the table below:

   - Water Surface Area, ft^2, A_a
   - Water Level Rise, in, h_r (Subtract current value of d_a from previous value)
   - Average Water Surface Area, ft^2, A_{av} (take average of A_a and previous A_a)
   - Average Height of Water Level Above Impermeable Stratum, ft, h
     (Take average of d_a and previous d_a, convert to ft., and subtract from $D_{stratum}$)
   - Permeability, in/hr, K_n.(Calculate using formula):
     $K_a = (h_r / T) \times (A_{av}/(2.27 \times (H^2-h^2)) \times 60$ min/hr

Time (h:mm)	t_n (min)	d_n (in)	l (ft)	w (ft)	An (sf)	hrise (in)	Aavg (sf)	h (ft)	Ka (in/hr)
1:15 PM	*0*	*99.00*	*0.17*	*0.17*	*0.03*				
2:15 PM	*60*	*96.25*	*1.17*	*1.17*	*1.36*	*2.75*	*0.69*	*0.11*	0.7
3:00 PM	*45*	*95.50*	*1.67*	*1.25*	*2.08*	*0.75*	*1.72*	*0.26*	0.7
3:45 PM	*45*	*95.00*	*2.00*	*1.42*	*2.83*	*0.50*	*2.46*	*0.31*	0.7
4:35 PM	*50*	*94.50*	*2.17*	*1.50*	*3.25*	*0.50*	*3.04*	*0.35*	0.8
11:20 AM	*1125*	*87.00*	*2.50*	*1.50*	*3.75*	*7.50*	*3.50*	*0.69*	0.9

5. Record the Following Data:

- Final Depth of Pit, ft, D_{pit} = **8.25**
- ☑ Check here if testing was stopped due to machine refusal or machine limitations. {(See step 6 of Pitbail Test NJAC 7:9A-6.5(c)}
- Final Depth to Impermeable Stratum, ft, $D_{stratum}$ = **8.25** (If no impermeable stratum is encountered, assume $D_{stratum} = D_{pit}$)
- Height of Standpipe Above Reference Level, ft, h_{pipe} = **N/A**
- Depth to Water Level after 24 hr Stabilization Period, ft, D_{water} = **7.17** (Take measurements from top of standpipe. Subtract h_{pipe}) (enter 0 if standpipe not used)
- Height of Static Water Level Above Impermeable Stratum, ft, H= **1.08** ($H = D_{stratum} - D_{water}$)
- Average Height of Water Level Above Impermeable Stratum, ft, h = **0.69**
- (Take average d_a from beginning and end of last time interval recorded in Section 4, convert to ft., and subtract from final $D_{stratum}$.)

6. Re-calculation of K using data from Section 5 above and from final time interval of Section 4:

$K = (h_{rise}/ t_n) \times (A_{av}/(2.27 \times (H^2-h^2))) \times 60$ min/hr
$K = (\mathbf{7.5}/\mathbf{1125}) \times (\mathbf{3.5}/(2.27 \times (\mathbf{1.08}^2 - \mathbf{0.69}^2))) \times 60$ min/hr
$K =$ **0.9 in/hr**

7. I hereby certify that the information furnished on Form 3e of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Site Evaluator _____ Date 6/17/13

Signature of Professional Engineer _____ Date 6/17/2013

N.J. License No. 33806 Seal

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

Block 49 Lot 16

APPLICATION FOR PERMIT TO ALTER AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 4. General Design Data

I. Volume of Sanitary Sewage, gal. 500

☑ Residential: No. of Dwelling Units: 1 Total No. of Bedrooms: 3

☐Expansion Attic (checked if yes)

☐Commercial / Institutional - Indicate type of establishment and show method of calculation. If estimate is based on water meter data, indicate source of data, frequency of readings, average daily flow, and maximum recorded daily reading: _____

II. Alterations or Repairs:

a. Reason for Alteration or Repair (Check appropriate categories):

☐Expansion or Change in Use ☑Upgrade Existing Facilities

☑Correct Malfunctioning System ☐Other - Specify: _____

Describe nature of alteration or repairs: **install pressure distribution system**

III. System Components:

a. Grease Trap Capacity, gal: _____ Show Calculation Used: _____

b. Septic Tank Capacities, gal: 1250 gal. ☑ Single(First) Compartment: 833 gal.

☑Second Compartment: 417 gal. ☐Third Compartment: _____

c. Effluent Distribution:

Method: ☐Gravity Flow ☐Gravity Dosing ☑Pressure Dosing

Dosing Device: ☑Pump ☐Siphon

d. Dosing Tank Capacities, gal. Total Capacity, gal.: 1000 Dose Volume, gal.: 125.0

Reserve Capacity, gal.: 537.4

e. Laterals Number: 6 Total Length: 186'

Diameter: 1.25" Spacing: 3.75'

f. Connecting Pipe Diameter: 4" Length: 10'

g. Manifold Diameter: 3" Length: 18.75'

h. Disposal Field - Type of Installation: ***Mounded Soil Replacement***

Design Permeability (Percolation Rate): 6-20 in/hr

Trenches - Width: _____ Total Length: _____ **Bed - Area: 840 sf**

i. Seepage Pits: Design Percolation Rate: _____ Number of Pits: _____

Total Percolating Area Provided: _____

IV. Attachments (Check items included):

☑General Plan of System Showing Location of All System Components, No Larger Than 8 ½ Inches x 14 ½ inches, Unless Prior Approval Given.

☑X-Sections of Each System Component Including Grease Trap, Septic Tank, Dosing Tank, Disposal Field, Seepage Pits, and Interceptor Drains.

☑Pump Performance Curve

☐Other - Specify:

V. I hereby certify that the information furnished on Form 4 of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:148.

Signature of Professional Engineer _____ Date 6/17/2013

N.J. License No. 33806 Seal

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

Block 49 Lot 16

APPLICATION FOR PERMIT TO ALTER AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 5. Design of Pressure or Gravity Dose System

I. Configuration of Distribution Network:

Type of Manifold: ☑End ☐Central
Distribution Laterals: Number 6 Length, ft 31 Total Lateral Volume (V_l), gal. 11.9
Hole Diameter, ins. 1/4 Hole Spacing, ins. 36
Diameter of Laterals, ins. 1.25

II. Lateral Discharge Rate

Design Pressure Head at Distal End of Laterals, H_p, ft. 2.5
Hole discharge rate, Q, gpm: 1.18
Number of Holes per Lateral, n: 10
Lateral Discharge Rate, (Q × n), gpm: 11.8

III. Manifold Length, ft. 18.75 Manifold Diameter, ins. 3 Total Manifold Volume (V_m), gal. 6.9

IV. System Discharge Rate, gpm 70.8

V. Dose Volume:

Design Volume of Sewage, gal/day 500
Design Permeability, in/hr 6-20 or Percolation Rate, min/in
Total Volume of Delivery Pipe (V_p), gal.: 9.0
Internal Volume of Distribution Network (V), ($V_p + V_m + V_l$), gal.: 27.8
Dose Volume, gal.: 125.0
Pump Tank Size (ft^2) 50

VI. a. Pump Selection:

Length of Delivery Pipe 55' Diameter of Delivery Pipe 2" Volume 9.0 gal.
Friction Loss in Delivery Pipe, H_f, ft. 4.91
Elevation of Dosing Tank Low Water Level 94.83
Elevation of Lateral Invert: 101.50
Elevation Head, H_e, ft 6.67
Total Operating Head, H_t ($H_p + H_f + H_e$), ft. 14.08
Pump Model Goulds 3886 Rated Horsepower 1/2
Pump Discharge Rate at Total Operating Head, gpm 95+/-
Pump Displacement Volume, gal.: 7.5

b. Siphon Elevation:

Diameter of Delivery Pipe Length of Delivery Pipe Volume:
Friction Loss in Delivery Pipe, H_f, ft.
Velocity Head, H_v:, ft.
Total Operating Head, H_t ($H_p + H_f + H_v$):
Elevation of Lateral Invert
Elevation of Siphon Invert:
Internal horizontal area of dosing tank in (ft^2):

VII. I hereby certify that the information furnished on Form 5 of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Professional Engineer _____ Date 6/17/2013
N.J. License No. 33806 Seal

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

Block 49 Lot 16

APPLICATION FOR PERMIT TO ALTER AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 1 - General Information:

I. Name of Applicant (print): Peter Tyson & Megan Miller

II. Applicant's Present Address: 26 Woosamonsa Road Pennington, NJ 08534

III. Applicant's Phone Number: Day: 609-737-2128 Night

BUILDING LOCATION MUST BE STAKED. DATE STAKED existing

IV. Type of Permit Needed (Check applicable categories):

- ☐ a. New Construction
- ☐ c. Alteration / Expansion or Change in Use
- ☐ e. Repairs (in-kind replacement) / Malfunctioning System
- ☐ g. Deviation from Standards
- ☑ b. Alteration / No Expansion or Change of Use
- ☑ d. Alteration / Malfunctioning System
- ☐ f. Repairs (in-kind replacement) / Not Malfunctioning
- ☐ h. New System Installed (existing structure)

V. Location of Project: Street Address 26 Woosamonsa Road Zip Code 08534

VI. Type of Facility: ☑Residential ☐Commercial / Institutional Specify Type of Establishment: ____

VII. Type of Wastes to be Discharged: ☑Sanitary Sewage ☐Industrial Wastes ☐Other - Specify Type: ____

VIII. If d. or e. in 4. above are checked, indicate the type of malfunction and its cause (check all that apply)

- ☐ Contamination of nearby wells or surface water bodies by sanitary sewage or effluent
- ☑ Ponding or breakout of sanitary sewage or effluent on to the surface of the ground
- ☐ Seepage of sanitary sewage or effluent into portions of building below ground
- ☐ Back-up of sanitary sewage into the building served, which is not caused by a physical blockage of the internal plumbing
- ☐ Any manner of leakage observed from components that are not designed to emit sanitary sewage or effluent
- ☐ Direct discharges to ground water (no zone of treatment)

Describe the cause of the malfunction: saturated disposal trench

IX. Please expand on Question #4, above, by checking if any of the following apply:

- ☐ A privy, outhouse, latrine or pit toilet is present, a system must be installed
- ☐ A system must be upgraded as part of a real estate property transfer
- ☐ A cesspool has been identified during a real estate property transfer and a conforming system must be installed
- ☐ A malfunctioning cesspool has been identified and a conforming system must be installed

X. Other Approvals / Certification / Waivers / Exemptions(attach to application):

☐US Army Corps of Engineers ☐NJDEP - Bureau of Flood Plain Management ☐Other - Specify: ____

XI. I hereby certify that the information furnished on this application is true. I am aware that false swearing is a crime in this state and subject to prosecution

Signature of Applicant _____ Date 6/18/13

NOTE: The applicant is responsible for obtaining all other required Federal, State or local approvals prior to the commencement of work under this approval, including but not limited to, NJDEP permits to conduct activities in freshwater wetlands, freshwater wetlands transition areas, or flood plain jurisdictions. Failure to obtain these permits prior to conducting regulated activities within these areas may result in removal of the system and or the assessment of significant civil penalties.

FOR HEALTH DEPARTMENT USE ONLY

_____ Application Denied, see attached letter
_____ Application Approved
_____ Application Approved Subject to Approval of NJDEP
_____ Date of Action Signature of Authorized Agent: _____

Name and Title _____

EXPIRATION DATE: _____

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

Block 49 Lot 16

APPLICATION FOR PERMIT TO ALTER AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 2a General Site Evaluation Data

I. Name of Site Evaluator (print): *William M. Jupinka*

II. Business Address of Site Evaluator: *Bayer-Risse Engineering, Inc.*
78 Route 173 West
Suite 6
Hampton, NJ 08827

III. Business Phone Number of Site Evaluator: *(908) 735-2255*

IV. Special Site Limitations Identified (Check Appropriate Categories):

☐Flood Plains ☐Bedrock Outcrops ☐Wetlands
☐Excessively Stony ☐Disturbed Ground ☐Sink Holes
☐Sand Dunes ☐Steep Slopes
☐Other - Specify _____

V. Soil Logs - Enter on Form 2b - Use one sheet for each soil log.

VI. Considerations Relating to Disturbed Ground: ☑N/A

a. Type of Disturbance (Check Appropriate Categories):
☐Filled Area ☐Excavated Area ☐Re-graded Area ☐Subsurface Drains
☐Other - Specify: _____

b. Pre-existing Natural Ground Surface
Elevation Relative to Existing Ground Surface: _____
Method of Identification: _____

c. Suitability of Disturbed Ground
☐Unsuitable: Objects Subject to Disintegration or Change in Volume
☐Excessively Coarse
☐Procter Test Performed - % Standard Procter Density = _____

VII. Hydraulic Head Test: ☑N/A

a. Hydraulically Restrictive Horizon: Depth Top to Bottom _____

b. Piezometer A: Depth to Bottom: _____
Depth of Water Level (24 hrs.): _____

c. Piezometer B: Depth to Bottom: _____
Depth of Water Level (24 hrs.). _____

d. Witnessed by: _____
Signature _____ Date: _____

VIII. Attachments (Check items included):
☑Site Plan
☑Key Map Showing Location of Site on USGS Quadrangle or Other Accurate Map
☑Key Map Showing Location of Site on USDA Soil Survey Map
☐Other - Specify: _____

IX. I hereby certify that the information furnished on Form 2a of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator _____ Date 6/17/13

Signature of Professional Engineer _____ Date 6/17/2013
Seal

N.J. License No. 33806

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

Block 49 Lot 16

APPLICATION FOR PERMIT TO ALTER AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM
Form 2b Soil Log and Interpretation

1. Log Number SL 529-1 Method: ☑Profile Pit ☐Boring

2. Soil Log: Date Recorded: 5/29/13

Depth (Inches) Top - Bottom	Munsell Color Name and Symbol; Estimated Textural Class; Estimated Volume % Coarse Fragment, If Present; Structure; Moist or Dry Consistence; Mottling Abundance, Size and Contrast, If Present
0-13"	Topsoil
13-36"	7.5YR6/6 Reddish Yellow Silt Loam; subangular blocky, friable; 5% gravel; no seepage; common, medium, distinct mottles 24-36" (7.5YR7/1 Light Gray).
36-105"	Nonsoil; fractured, blocky shale with 10% silt loam fillings; slight seepage at 36" and below.
>105"	Machine Refusal Pit Bail PB 529-1 performed at 105" (24 hr. SWL = 89", K = 1.5 in/hr)

2a. If mottling give reason for mottling: Regional Water Table

3. Ground Water Observations:
☑Seepage - Indicate Depth: 36"
☑Pit/Boring Flooded Depth after 24 hours = 89"

4. Soil Limiting Zones:
☑Fractured Rock Substratum - Depth to Top: 36"
☐Massive Rock Substratum - Depth to Top: _____
☐Excessively Coarse Horizon - Depth Top to Bottom: _____
☐Excessively Coarse Substratum - Depth to Top: _____
☐Hydraulically Restrictive Horizon - Depth Top to Bottom: _____
☐Hydraulically Restrictive Substratum - Depth to Top: _____
☐Perched Zone of Saturation - Depth Top to Bottom: _____
☑Regional Zone of Saturation - Depth to Top: 24"

5. Soil Suitability Classification: IIWr, Sc

6. I hereby certify that the information furnished on Form 2b of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator _____ Date 6/17/13

Signature of Professional Engineer _____ Date 6/17/2013

Seal

N.J. License No. 33806

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

Block 49 Lot 16

APPLICATION FOR PERMIT TO ALTER AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM
Form 2b Soil Log and Interpretation

1. Log Number SL 529-2 Method: ☑Profile Pit ☐Boring

2. Soil Log: Date Recorded: 5/29/13

Depth (Inches) Top - Bottom	Munsell Color Name and Symbol; Estimated Textural Class; Estimated Volume % Coarse Fragment, If Present; Structure; Moist or Dry Consistence; Mottling Abundance, Size and Contrast, If Present
0-11"	Topsoil
11-28"	7.5YR6/6 Reddish Yellow Silt Loam; subangular blocky, friable; 5% gravel; no seepage; common, medium, distinct mottles 24-36" (7.5YR7/1 Light Gray).
28-108"	Nonsoil; fractured, blocky shale with 10% silt loam fillings; damp/wet rock face at 48" and below.
>108"	Machine Refusal

2a. If mottling give reason for mottling: Regional Water Table

3. Ground Water Observations:
☑Seepage - Indicate Depth: 48" (damp/wet rock)
☐Pit/Boring Flooded Depth after _____ hours = _____

4. Soil Limiting Zones:
☑Fractured Rock Substratum - Depth to Top: 28"
☐Massive Rock Substratum - Depth to Top: _____
☐Excessively Coarse Horizon - Depth Top to Bottom: _____
☐Excessively Coarse Substratum - Depth to Top: _____
☐Hydraulically Restrictive Horizon - Depth Top to Bottom: _____
☐Hydraulically Restrictive Substratum - Depth to Top: _____
☐Perched Zone of Saturation - Depth Top to Bottom: _____
☑Regional Zone of Saturation - Depth to Top: 24"

5. Soil Suitability Classification: IIWr, Sc

6. I hereby certify that the information furnished on Form 2b of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator _____ Date 6/17/13

Signature of Professional Engineer _____ Date 6/17/2013

Seal

N.J. License No. 33806

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

Block 49 Lot 16

APPLICATION FOR PERMIT TO ALTER AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 2b Soil Log and Interpretation

1. Log Number SL 529-3 Method: ☑Profile Pit ☐Boring

2. Soil Log: Date Recorded: 5/29/13

Depth (Inches) Top - Bottom	Munsell Color Name and Symbol; Estimated Textural Class; Estimated Volume % Coarse Fragment, If Present; Structure; Moist or Dry Consistence; Mottling Abundance, Size and Contrast, If Present
0-13"	Topsoil
13-29"	7.5YR5/6 Strong Brown Silt Loam; subangular blocky, friable; 5% gravel; no seepage; few, fine, faint mottles 24-29" (7.5YR7/1 Light Gray).
29-99"	Nonsoil; fractured, blocky shale with 5% silt loam fillings; slight seepage at 99".
>99"	Machine Refusal Pit Bail PB 529-2 performed at 99" (24 hr. SWL = 86", K = 0.9 in/hr)

2a. If mottling give reason for mottling: Regional Water Table

3. Ground Water Observations:
☑Seepage - Indicate Depth: 99"
☑Pit/Boring Flooded Depth after 24 hours = 86"

4. Soil Limiting Zones:
☑Fractured Rock Substratum - Depth to Top: 29"
☐Massive Rock Substratum - Depth to Top: ____
☐Excessively Coarse Horizon - Depth Top to Bottom: ____
☐Excessively Coarse Substratum - Depth to Top: ____
☐Hydraulically Restrictive Horizon - Depth Top to Bottom: ____
☐Hydraulically Restrictive Substratum - Depth to Top: ____
☐Perched Zone of Saturation - Depth Top to Bottom: ____
☑Regional Zone of Saturation - Depth to Top: 24"

5. Soil Suitability Classification: IIWr, Sc

6. I hereby certify that the information furnished on Form 2b of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator _____ Date 6/17/13

Signature of Professional Engineer _____ Date 6/17/2013

Seal

N.J. License No. 33806

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

Block 49 Lot 16

APPLICATION FOR PERMIT TO ALTER AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM
Form 2b Soil Log and Interpretation

1. Log Number SL 529-4 Method: ☑Profile Pit ☐Boring

2. Soil Log: Date Recorded: 5/29/13

Depth (Inches) Top - Bottom	Munsell Color Name and Symbol; Estimated Textural Class; Estimated Volume % Coarse Fragment, If Present; Structure; Moist or Dry Consistence; Mottling Abundance, Size and Contrast, If Present
0-12"	Topsoil
12-36"	7.5YR5/6 Strong Brown Silt Loam; subangular blocky, friable; 5% gravel; no seepage; few, fine, faint mottles 30-36" (7.5YR7/1 Light Gray).
36-118"	Nonsoil; fractured, blocky shale with 5% silt loam fillings; slight seepage at 98".
>118"	Machine Refusal

2a. If mottling give reason for mottling: Regional Water Table

3. Ground Water Observations:
☑Seepage - Indicate Depth: 98"
☐Pit/Boring Flooded Depth after _____ hours = _____

4. Soil Limiting Zones:
☑Fractured Rock Substratum - Depth to Top: 36"
☐Massive Rock Substratum - Depth to Top: _____
☐Excessively Coarse Horizon - Depth Top to Bottom: _____
☐Excessively Coarse Substratum - Depth to Top: _____
☐Hydraulically Restrictive Horizon - Depth Top to Bottom: _____
☐Hydraulically Restrictive Substratum - Depth to Top: _____
☐Perched Zone of Saturation - Depth Top to Bottom: _____
☑Regional Zone of Saturation - Depth to Top: 30"

5. Soil Suitability Classification: IIWr, Sc

6. I hereby certify that the information furnished on Form 2b of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator _____ Date 6/17/13

Signature of Professional Engineer _____ Date 6/17/2013

Seal

N.J. License No. 33806

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

Block 49 Lot 16

APPLICATION FOR PERMIT TO ALTER AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 3a. Soil Permeability Data

Assign a number for each test and a letter for each test replicate. Show test data and calculations on Form 3b, 3c, 3d, 3e, 3f, or 3g. Use one sheet for each separate test or test replicate.

1. Summary of Data - Enter data for each test replicate on a separate line.

Type of Test	Test (Number)	Replicate (Letter)	Depth (Inches)	Result*
Pit Bail	PB 529-1		105"	K = 1.5 in/hr
Pit Bail	PB 529-2		99"	K = 0.9 in/hr

*For tube permeameter, pit bailing, and piezometer tests, report results in inches per hour. For Soil permeability class rating, give soil permeability class number. For percolation test report result in minutes per inch. For basin flooding test report result as positive if basin drains completely within 24 hours of second filling, negative otherwise.

2. Design Permeability/Percolation Rate: Specify Test Number: **PB 529-1**
   ☐ Average of Test Replicates ☑ Single Replicate
   ☐ Slowest Replicate

3. Type of Limiting Zone Identified Test Number

4. Attachments (Check items included):
   ☐ Form 3b - Tube Permeameter Test Data - Number of Sheets: ____
   ☐ Form 3c - Soil Permeability Class Rating Test Data - Number of Sheets: ____
   ☐ Form 3d - Percolation Test Data - Number of Sheets: ____
   ☐ Form 3e - Piezometer Test Data - Number of Sheets: ____
   ☑ Form 3f - Pit Bailing Test Data - Number of Sheets: **4**
   ☐ Form 3g - Basin Flooding Test Data - Number of Sheets: ____

5. I hereby certify that the information furnished on Form 3a of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Site Evaluator _____ Date 6/17/13

Signature of Professional Engineer _____ Date 6/17/2013

Seal

N.J. License No. 33806

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

Block 49 Lot 16

APPLICATION FOR PERMIT TO ALTER AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 3f. Pit-Bailing Test Data (1 of 2)

ALL DATA MUST BE IN MEASUREMENT UNITS INDICATED (FEET OR INCHES). ONLY ONE PITBAIL TEST PER SHEET.

1. Test Number **PB 529-1** Reference Soil Log #: **SL 529-1** Date Tested: **5/29/13**

2. Using the reference level established, measure and record the following:

   - Depth to Bottom of Pit, ft, D_{pit} = **8.75**
   - Depth to Water Level after 24 hr Stabilization Period, ft, D_{water} = **7.42**
   - Depth to Impermeable Stratum, ft, $D_{stratum}$ = **8.75**
     (If depth is unknown assume it to be 1.5 times D_{pit})
   - Height of Water Level above Impermeable Stratum, ft, H= **1.33**
     ($H = D_{stratum} - D_{water}$).
   - Length of Time Interval, min., T = **varies**

3. Record the following data in the table below:

   - Time in minutes, enter actual time interval for each measurement taken, t_n, minutes.
   - Depth of Water Level Below Reference Level in inches, d_a
   - Water Surface Dimensions in feet l & w

4. Calculate the following values and enter in the table below:

   - Water Surface Area, ft^2, A_a
   - Water Level Rise, in, h_r (Subtract current value of d_a from previous value)
   - Average Water Surface Area, ft^2, A_{av} (take average of A_a and previous A_a)
   - Average Height of Water Level Above Impermeable Stratum, ft, h
     (Take average of d_a and previous d_a, convert to ft., and subtract from $D_{stratum}$)
   - Permeability, in/hr, K_n.(Calculate using formula):
     $K_a = (h_r / T) \times (A_{av}/(2.27 \times (H^2-h^2)) \times 60$ min/hr

Time (h:mm)	t_n (min)	d_n (in)	l (ft)	w (ft)	An (sf)	hrise (in)	Aavg (sf)	h (ft)	Ka (in/hr)
12:30 PM	*0*	*105.00*	*0.17*	*0.17*	*0.03*				
1:00 PM	*30*	*103.00*	*1.67*	*1.17*	*1.94*	*2.00*	*0.99*	*0.08*	1.0
2:00 PM	*60*	*101.50*	*2.42*	*1.42*	*3.42*	*1.50*	*2.68*	*0.23*	1.0
3:00 PM	*60*	*100.50*	*2.67*	*1.58*	*4.22*	*1.00*	*3.82*	*0.33*	1.0
4:30 PM	*90*	*99.25*	*3.00*	*1.75*	*5.25*	*1.25*	*4.74*	*0.43*	1.1
9:40 AM	*1030*	*91.00*	*4.33*	*2.50*	*10.83*	*8.25*	*8.04*	*0.82*	1.5

5. Record the Following Data:

- Final Depth of Pit, ft, D_{pit} = **8.75**
- ☑ Check here if testing was stopped due to machine refusal or machine limitations. {(See step 6 of Pitbail Test NJAC 7:9A-6.5(c)}
- Final Depth to Impermeable Stratum, ft, $D_{stratum}$ = **8.75** (If no impermeable stratum is encountered, assume $D_{stratum} = D_{pit}$)
- Height of Standpipe Above Reference Level, ft, h_{pipe} = **N/A**
- Depth to Water Level after 24 hr Stabilization Period, ft, D_{water} = **7.42** (Take measurements from top of standpipe. Subtract h_{pipe}) (enter 0 if standpipe not used)
- Height of Static Water Level Above Impermeable Stratum, ft, H= **1.33** ($H = D_{stratum} - D_{water}$)
- Average Height of Water Level Above Impermeable Stratum, ft, h = **0.82**
- (Take average d_a from beginning and end of last time interval recorded in Section 4, convert to ft., and subtract from final $D_{stratum}$.)

6. Re-calculation of K using data from Section 5 above and from final time interval of Section 4:

$K = (h_{rise}/ t_n) \times (A_{av}/(2.27 \times (H^2-h^2))) \times 60$ min/hr
$K = (\mathbf{8.25/1030}) \times (\mathbf{8.04}/(2.27 \times (\mathbf{1.33^2} - \mathbf{0.82^2}))) \times 60$ min/hr
$K =$ **1.5 in/hr**

7. I hereby certify that the information furnished on Form 3e of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Site Evaluator _____ Date 6/17/13

Signature of Professional Engineer _____ Date 6/17/2013

N.J. License No. 33806 Seal

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

Block 49 Lot 16

APPLICATION FOR PERMIT TO ALTER AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 3f. Pit-Bailing Test Data (1 of 2)

ALL DATA MUST BE IN MEASUREMENT UNITS INDICATED (FEET OR INCHES). ONLY ONE PITBAIL TEST PER SHEET.

1. Test Number **PB 529-2** Reference Soil Log #: **SL 529-3** Date Tested: **5/29/13**

2. Using the reference level established, measure and record the following:

   - Depth to Bottom of Pit, ft, D_{pit} = **8.25**
   - Depth to Water Level after 24 hr Stabilization Period, ft, D_{water} = **7.17**
   - Depth to Impermeable Stratum, ft, $D_{stratum}$ = **8.25**
     (If depth is unknown assume it to be 1.5 times D_{pit})
   - Height of Water Level above Impermeable Stratum, ft, H= **1.08**
     ($H = D_{stratum} - D_{water}$).
   - Length of Time Interval, min., T = **varies**

3. Record the following data in the table below:

   - Time in minutes, enter actual time interval for each measurement taken, t_n, minutes.
   - Depth of Water Level Below Reference Level in inches, d_a
   - Water Surface Dimensions in feet l & w

4. Calculate the following values and enter in the table below:

   - Water Surface Area, ft^2, A_a
   - Water Level Rise, in, h_r (Subtract current value of d_a from previous value)
   - Average Water Surface Area, ft^2, A_{av} (take average of A_a and previous A_a)
   - Average Height of Water Level Above Impermeable Stratum, ft, h
     (Take average of d_a and previous d_a, convert to ft., and subtract from $D_{stratum}$)
   - Permeability, in/hr, K_n.(Calculate using formula):
     $K_a = (h_r / T) \times (A_{av}/(2.27 \times (H^2-h^2)) \times 60$ min/hr

Time (h:mm)	tn (min)	dn (in)	l (ft)	w (ft)	An (sf)	hrise (in)	Aavg (sf)	h (ft)	Ka (in/hr)
1:15 PM	*0*	*99.00*	*0.17*	*0.17*	*0.03*				
2:15 PM	*60*	*96.25*	*1.17*	*1.17*	*1.36*	*2.75*	*0.69*	*0.11*	0.7
3:00 PM	*45*	*95.50*	*1.67*	*1.25*	*2.08*	*0.75*	*1.72*	*0.26*	0.7
3:45 PM	*45*	*95.00*	*2.00*	*1.42*	*2.83*	*0.50*	*2.46*	*0.31*	0.7
4:35 PM	*50*	*94.50*	*2.17*	*1.50*	*3.25*	*0.50*	*3.04*	*0.35*	0.8
11:20 AM	*1125*	*87.00*	*2.50*	*1.50*	*3.75*	*7.50*	*3.50*	*0.69*	0.9

5. Record the Following Data:

- Final Depth of Pit, ft, D_{pit} = **8.25**
- ☑ Check here if testing was stopped due to machine refusal or machine limitations. {(See step 6 of Pitbail Test NJAC 7:9A-6.5(c)}
- Final Depth to Impermeable Stratum, ft, $D_{stratum}$ = **8.25** (If no impermeable stratum is encountered, assume $D_{stratum} = D_{pit}$)
- Height of Standpipe Above Reference Level, ft, h_{pipe} = **N/A**
- Depth to Water Level after 24 hr Stabilization Period, ft, D_{water} = **7.17** (Take measurements from top of standpipe. Subtract h_{pipe}) (enter 0 if standpipe not used)
- Height of Static Water Level Above Impermeable Stratum, ft, H= **1.08** ($H = D_{stratum} - D_{water}$)
- Average Height of Water Level Above Impermeable Stratum, ft, h = **0.69**
- (Take average d_a from beginning and end of last time interval recorded in Section 4, convert to ft., and subtract from final $D_{stratum}$.)

6. Re-calculation of K using data from Section 5 above and from final time interval of Section 4:

$K = (h_{rise}/ t_{rise}) \times (A_{av}/(2.27 \times (H^2-h^2))) \times 60$ min/hr
$K = (\mathbf{7.5}/\mathbf{1125}) \times (\mathbf{3.5}/(2.27 \times (\mathbf{1.08}^2 - \mathbf{0.69}^2))) \times 60$ min/hr
$K =$ **0.9 in/hr**

7. I hereby certify that the information furnished on Form 3e of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Site Evaluator _____ Date 6/17/13

Signature of Professional Engineer _____ Date 6/17/2013

N.J. License No. 33806 Seal

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

Block 49 Lot 16

APPLICATION FOR PERMIT TO ALTER AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 4. General Design Data

I. Volume of Sanitary Sewage, gal. 500

☑ Residential: No. of Dwelling Units: 1 Total No. of Bedrooms: 3

☐Expansion Attic (checked if yes)

☐Commercial / Institutional - Indicate type of establishment and show method of calculation. If estimate is based on water meter data, indicate source of data, frequency of readings, average daily flow, and maximum recorded daily reading: _____

II. Alterations or Repairs:

a. Reason for Alteration or Repair (Check appropriate categories):

☐Expansion or Change in Use ☑Upgrade Existing Facilities

☑Correct Malfunctioning System ☐Other - Specify: _____

Describe nature of alteration or repairs: **install pressure distribution system**

III. System Components:

a. Grease Trap Capacity, gal: _____ Show Calculation Used: _____

b. Septic Tank Capacities, gal: **1250 gal.** ☑ Single(First) Compartment: **833 gal.**

☑Second Compartment: **417 gal.** ☐Third Compartment: _____

c. Effluent Distribution:

Method: ☐Gravity Flow ☐Gravity Dosing ☑Pressure Dosing

Dosing Device: ☑Pump ☐Siphon

d. Dosing Tank Capacities, gal. Total Capacity, gal.: **1000** Dose Volume, gal.: **125.0**

Reserve Capacity, gal.: **537.4**

e. Laterals Number: **6** Total Length: **186'**

Diameter: **1.25"** Spacing: **3.75'**

f. Connecting Pipe Diameter: **4"** Length: **10'**

g. Manifold Diameter: **3"** Length: **18.75'**

h. Disposal Field - Type of Installation: ***Mounded Soil Replacement***

Design Permeability (Percolation Rate): **6-20 in/hr**

Trenches - Width: _____ Total Length: _____ **Bed - Area: 840 sf**

i. Seepage Pits: Design Percolation Rate: _____ Number of Pits: _____

Total Percolating Area Provided: _____

IV. Attachments (Check items included):

☑General Plan of System Showing Location of All System Components, No Larger Than 8 ½ Inches x 14 ½ inches, Unless Prior Approval Given.

☑X-Sections of Each System Component Including Grease Trap, Septic Tank, Dosing Tank, Disposal Field, Seepage Pits, and Interceptor Drains.

☑Pump Performance Curve

☐Other - Specify:

V. I hereby certify that the information furnished on Form 4 of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:148.

Signature of Professional Engineer _____ Date 6/17/2013

N.J. License No. 33806 Seal

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

Block 49 Lot 16

APPLICATION FOR PERMIT TO ALTER AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 5. Design of Pressure or Gravity Dose System

I. Configuration of Distribution Network:

Type of Manifold: ☑End ☐Central
Distribution Laterals: Number **6** Length, ft **31** Total Lateral Volume (V_l), gal. **11.9**
Hole Diameter, ins. **1/4** Hole Spacing, ins. **36**
Diameter of Laterals, ins. **1.25**

II. Lateral Discharge Rate

Design Pressure Head at Distal End of Laterals, H_p, ft. **2.5**
Hole discharge rate, Q, gpm: **1.18**
Number of Holes per Lateral, n: **10**
Lateral Discharge Rate, (Q × n), gpm: **11.8**

III. Manifold Length, ft. **18.75** Manifold Diameter, ins. **3** Total Manifold Volume (V_m), gal. **6.9**

IV. System Discharge Rate, gpm **70.8**

V. Dose Volume:

Design Volume of Sewage, gal/day **500**
Design Permeability, in/hr **6-20** or Percolation Rate, min/in
Total Volume of Delivery Pipe (V_p), gal.: **9.0**
Internal Volume of Distribution Network (V), ($V_p + V_m + V_l$), gal.: **27.8**
Dose Volume, gal.: **125.0**
Pump Tank Size (ft^2) **50**

VI. a. Pump Selection:

Length of Delivery Pipe **55'** Diameter of Delivery Pipe **2"** Volume **9.0 gal.**
Friction Loss in Delivery Pipe, H_f, ft. **4.91**
Elevation of Dosing Tank Low Water Level **94.83**
Elevation of Lateral Invert: **101.50**
Elevation Head, H_e, ft **6.67**
Total Operating Head, H_t ($H_p + H_f + H_e$), ft. **14.08**
Pump Model **Goulds 3886** Rated Horsepower **1/2**
Pump Discharge Rate at Total Operating Head, gpm **95+/-**
Pump Displacement Volume, gal.: **7.5**

b. Siphon Elevation:

Diameter of Delivery Pipe Length of Delivery Pipe Volume:
Friction Loss in Delivery Pipe, H_f, ft.
Velocity Head, H_v:, ft.
Total Operating Head, H_t ($H_p + H_f + H_v$):
Elevation of Lateral Invert
Elevation of Siphon Invert:
Internal horizontal area of dosing tank in (ft^2):

VII. I hereby certify that the information furnished on Form 5 of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Professional Engineer _____ Date 6/17/2013
N.J. License No. 33806 Seal

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

Block 49 Lot 16

APPLICATION FOR PERMIT TO ALTER AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 1 - General Information:

I. Name of Applicant (print): Peter Tyson & Megan Miller

II. Applicant's Present Address: 26 Woosamonsa Road Pennington, NJ 08534

III. Applicant's Phone Number: Day: 609-737-2128 Night _____

BUILDING LOCATION MUST BE STAKED. DATE STAKED existing

IV. Type of Permit Needed (Check applicable categories):

- ☐ a. New Construction
- ☐ c. Alteration / Expansion or Change in Use
- ☐ e. Repairs (in-kind replacement) / Malfunctioning System
- ☐ g. Deviation from Standards
- ☑ b. Alteration / No Expansion or Change of Use
- ☑ d. Alteration / Malfunctioning System
- ☐ f. Repairs (in-kind replacement) / Not Malfunctioning
- ☐ h. New System Installed (existing structure)

V. Location of Project: Street Address 26 Woosamonsa Road Zip Code 08534

VI. Type of Facility: ☑Residential ☐Commercial / Institutional Specify Type of Establishment: _____

VII. Type of Wastes to be Discharged: ☑Sanitary Sewage ☐Industrial Wastes ☐Other - Specify Type: _____

VIII. If d. or e. in 4. above are checked, indicate the type of malfunction and its cause (check all that apply)

- ☐ Contamination of nearby wells or surface water bodies by sanitary sewage or effluent
- ☑ Ponding or breakout of sanitary sewage or effluent on to the surface of the ground
- ☐ Seepage of sanitary sewage or effluent into portions of building below ground
- ☐ Back-up of sanitary sewage into the building served, which is not caused by a physical blockage of the internal plumbing
- ☐ Any manner of leakage observed from components that are not designed to emit sanitary sewage or effluent
- ☐ Direct discharges to ground water (no zone of treatment)

Describe the cause of the malfunction: saturated disposal trench

IX. Please expand on Question #4, above, by checking if any of the following apply:

- ☐ A privy, outhouse, latrine or pit toilet is present, a system must be installed
- ☐ A system must be upgraded as part of a real estate property transfer
- ☐ A cesspool has been identified during a real estate property transfer and a conforming system must be installed
- ☐ A malfunctioning cesspool has been identified and a conforming system must be installed

X. Other Approvals / Certification / Waivers / Exemptions(attach to application):

☐US Army Corps of Engineers ☐NJDEP - Bureau of Flood Plain Management ☐Other - Specify: _____

XI. I hereby certify that the information furnished on this application is true. I am aware that false swearing is a crime in this state and subject to prosecution

Signature of Applicant _____ Date 6/18/13

NOTE: The applicant is responsible for obtaining all other required Federal, State or local approvals prior to the commencement of work under this approval, including but not limited to, NJDEP permits to conduct activities in freshwater wetlands, freshwater wetlands transition areas, or flood plain jurisdictions. Failure to obtain these permits prior to conducting regulated activities within these areas may result in removal of the system and or the assessment of significant civil penalties.

FOR HEALTH DEPARTMENT USE ONLY

_____ Application Denied, see attached letter
_____ Application Approved
_____ Application Approved Subject to Approval of NJDEP
_____ Date of Action Signature of Authorized Agent: _____

Name and Title _____

EXPIRATION DATE: _____

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

Block 49 Lot 16

APPLICATION FOR PERMIT TO ALTER AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 2a General Site Evaluation Data

I. Name of Site Evaluator (print): *William M. Jupinka*

II. Business Address of Site Evaluator: *Bayer-Risse Engineering, Inc.*
78 Route 173 West
Suite 6
Hampton, NJ 08827

III. Business Phone Number of Site Evaluator: *(908) 735-2255*

IV. Special Site Limitations Identified (Check Appropriate Categories):

☐Flood Plains ☐Bedrock Outcrops ☐Wetlands
☐Excessively Stony ☐Disturbed Ground ☐Sink Holes
☐Sand Dunes ☐Steep Slopes
☐Other - Specify _____

V. Soil Logs - Enter on Form 2b - Use one sheet for each soil log.

VI. Considerations Relating to Disturbed Ground: ☑N/A

a. Type of Disturbance (Check Appropriate Categories):
☐Filled Area ☐Excavated Area ☐Re-graded Area ☐Subsurface Drains
☐Other - Specify: _____

b. Pre-existing Natural Ground Surface
Elevation Relative to Existing Ground Surface: _____
Method of Identification: _____

c. Suitability of Disturbed Ground
☐Unsuitable: Objects Subject to Disintegration or Change in Volume
☐Excessively Coarse
☐Procter Test Performed - % Standard Procter Density = _____

VII. Hydraulic Head Test: ☑N/A

a. Hydraulically Restrictive Horizon: Depth Top to Bottom _____

b. Piezometer A: Depth to Bottom: _____
Depth of Water Level (24 hrs.): _____

c. Piezometer B: Depth to Bottom: _____
Depth of Water Level (24 hrs.). _____

d. Witnessed by: _____
Signature _____ Date: _____

VIII. Attachments (Check items included):
☑Site Plan
☑Key Map Showing Location of Site on USGS Quadrangle or Other Accurate Map
☑Key Map Showing Location of Site on USDA Soil Survey Map
☐Other - Specify: _____

IX. I hereby certify that the information furnished on Form 2a of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator _____ Date 6/17/13

Signature of Professional Engineer _____ Date 6/17/2013
Seal

N.J. License No. 33806

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

Block 49 Lot 16

APPLICATION FOR PERMIT TO ALTER AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM
Form 2b Soil Log and Interpretation

1. Log Number SL 529-1 Method: ☑Profile Pit ☐Boring

2. Soil Log: Date Recorded: 5/29/13

Depth (Inches) Top - Bottom	Munsell Color Name and Symbol; Estimated Textural Class; Estimated Volume % Coarse Fragment, If Present; Structure; Moist or Dry Consistence; Mottling Abundance, Size and Contrast, If Present
0-13"	Topsoil
13-36"	7.5YR6/6 Reddish Yellow Silt Loam; subangular blocky, friable; 5% gravel; no seepage; common, medium, distinct mottles 24-36" (7.5YR7/1 Light Gray).
36-105"	Nonsoil; fractured, blocky shale with 10% silt loam fillings; slight seepage at 36" and below.
>105"	Machine Refusal Pit Bail PB 529-1 performed at 105" (24 hr. SWL = 89", K = 1.5 in/hr)

2a. If mottling give reason for mottling: Regional Water Table

3. Ground Water Observations:
☑Seepage - Indicate Depth: 36"
☑Pit/Boring Flooded Depth after 24 hours = 89"

4. Soil Limiting Zones:
☑Fractured Rock Substratum - Depth to Top: 36"
☐Massive Rock Substratum - Depth to Top: _____
☐Excessively Coarse Horizon - Depth Top to Bottom: _____
☐Excessively Coarse Substratum - Depth to Top: _____
☐Hydraulically Restrictive Horizon - Depth Top to Bottom: _____
☐Hydraulically Restrictive Substratum - Depth to Top: _____
☐Perched Zone of Saturation - Depth Top to Bottom: _____
☑Regional Zone of Saturation - Depth to Top: 24"

5. Soil Suitability Classification: IIWr, Sc

6. I hereby certify that the information furnished on Form 2b of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator _____ Date 6/17/13

Signature of Professional Engineer _____ Date 6/17/2013

Seal

N.J. License No. 33806

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

Block 49 Lot 16

APPLICATION FOR PERMIT TO ALTER AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 2b Soil Log and Interpretation

1. Log Number SL 529-2 Method: ☑Profile Pit ☐Boring

2. Soil Log: Date Recorded: 5/29/13

Depth (Inches) Top - Bottom	Munsell Color Name and Symbol; Estimated Textural Class; Estimated Volume % Coarse Fragment, If Present; Structure; Moist or Dry Consistence; Mottling Abundance, Size and Contrast, If Present
0-11"	Topsoil
11-28"	7.5YR6/6 Reddish Yellow Silt Loam; subangular blocky, friable; 5% gravel; no seepage; common, medium, distinct mottles 24-36" (7.5YR7/1 Light Gray).
28-108"	Nonsoil; fractured, blocky shale with 10% silt loam fillings; damp/wet rock face at 48" and below.
>108"	Machine Refusal

2a. If mottling give reason for mottling: Regional Water Table

3. Ground Water Observations:
☑Seepage - Indicate Depth: 48" (damp/wet rock)
☐Pit/Boring Flooded Depth after _____ hours = _____

4. Soil Limiting Zones:
☑Fractured Rock Substratum - Depth to Top: 28"
☐Massive Rock Substratum - Depth to Top: _____
☐Excessively Coarse Horizon - Depth Top to Bottom: _____
☐Excessively Coarse Substratum - Depth to Top: _____
☐Hydraulically Restrictive Horizon - Depth Top to Bottom: _____
☐Hydraulically Restrictive Substratum - Depth to Top: _____
☐Perched Zone of Saturation - Depth Top to Bottom: _____
☑Regional Zone of Saturation - Depth to Top: 24"

5. Soil Suitability Classification: IIWr, Sc

6. I hereby certify that the information furnished on Form 2b of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator _____ Date 6/17/13

Signature of Professional Engineer _____ Date 6/17/2013

Seal

N.J. License No. 33806

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

Block 49 Lot 16

APPLICATION FOR PERMIT TO ALTER AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 2b Soil Log and Interpretation

1. Log Number SL 529-3 Method: ☑Profile Pit ☐Boring

2. Soil Log: Date Recorded: 5/29/13

Depth (Inches) Top - Bottom	Munsell Color Name and Symbol; Estimated Textural Class; Estimated Volume % Coarse Fragment, If Present; Structure; Moist or Dry Consistence; Mottling Abundance, Size and Contrast, If Present
0-13"	Topsoil
13-29"	7.5YR5/6 Strong Brown Silt Loam; subangular blocky, friable; 5% gravel; no seepage; few, fine, faint mottles 24-29" (7.5YR7/1 Light Gray).
29-99"	Nonsoil; fractured, blocky shale with 5% silt loam fillings; slight seepage at 99".
>99"	Machine Refusal Pit Bail PB 529-2 performed at 99" (24 hr. SWL = 86", K = 0.9 in/hr)

2a. If mottling give reason for mottling: Regional Water Table

3. Ground Water Observations:
☑Seepage - Indicate Depth: 99"
☑Pit/Boring Flooded Depth after 24 hours = 86"

4. Soil Limiting Zones:
☑Fractured Rock Substratum - Depth to Top: 29"
☐Massive Rock Substratum - Depth to Top: ____
☐Excessively Coarse Horizon - Depth Top to Bottom: ____
☐Excessively Coarse Substratum - Depth to Top: ____
☐Hydraulically Restrictive Horizon - Depth Top to Bottom: ____
☐Hydraulically Restrictive Substratum - Depth to Top: ____
☐Perched Zone of Saturation - Depth Top to Bottom: ____
☑Regional Zone of Saturation - Depth to Top: 24"

5. Soil Suitability Classification: IIWr, Sc

6. I hereby certify that the information furnished on Form 2b of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator _____ Date 6/17/13

Signature of Professional Engineer _____ Date 6/17/2013

Seal

N.J. License No. 33806

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

Block 49 Lot 16

APPLICATION FOR PERMIT TO ALTER AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM
Form 2b Soil Log and Interpretation

1. Log Number SL 529-4 Method: ☑Profile Pit ☐Boring

2. Soil Log: Date Recorded: 5/29/13

Depth (Inches) Top - Bottom	Munsell Color Name and Symbol; Estimated Textural Class; Estimated Volume % Coarse Fragment, If Present; Structure; Moist or Dry Consistence; Mottling Abundance, Size and Contrast, If Present
0-12"	Topsoil
12-36"	7.5YR5/6 Strong Brown Silt Loam; subangular blocky, friable; 5% gravel; no seepage; few, fine, faint mottles 30-36" (7.5YR7/1 Light Gray).
36-118"	Nonsoil; fractured, blocky shale with 5% silt loam fillings; slight seepage at 98".
>118"	Machine Refusal

2a. If mottling give reason for mottling: Regional Water Table

3. Ground Water Observations:
☑Seepage - Indicate Depth: 98"
☐Pit/Boring Flooded Depth after _____ hours = _____

4. Soil Limiting Zones:
☑Fractured Rock Substratum - Depth to Top: 36"
☐Massive Rock Substratum - Depth to Top: _____
☐Excessively Coarse Horizon - Depth Top to Bottom: _____
☐Excessively Coarse Substratum - Depth to Top: _____
☐Hydraulically Restrictive Horizon - Depth Top to Bottom: _____
☐Hydraulically Restrictive Substratum - Depth to Top: _____
☐Perched Zone of Saturation - Depth Top to Bottom: _____
☑Regional Zone of Saturation - Depth to Top: 30"

5. Soil Suitability Classification: IIWr, Sc

6. I hereby certify that the information furnished on Form 2b of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Soil Evaluator _____ Date 6/17/13

Signature of Professional Engineer _____ Date 6/17/2013

Seal

N.J. License No. 33806

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

Block 49 Lot 16

APPLICATION FOR PERMIT TO ALTER AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 3a. Soil Permeability Data

Assign a number for each test and a letter for each test replicate. Show test data and calculations on Form 3b, 3c, 3d, 3e, 3f, or 3g. Use one sheet for each separate test or test replicate.

1. Summary of Data - Enter data for each test replicate on a separate line.

Type of Test	Test (Number)	Replicate (Letter)	Depth (Inches)	Result*
Pit Bail	PB 529-1		105"	K = 1.5 in/hr
Pit Bail	PB 529-2		99"	K = 0.9 in/hr

*For tube permeameter, pit bailing, and piezometer tests, report results in inches per hour. For Soil permeability class rating, give soil permeability class number. For percolation test report result in minutes per inch. For basin flooding test report result as positive if basin drains completely within 24 hours of second filling, negative otherwise.

2. Design Permeability/Percolation Rate: Specify Test Number: PB 529-1
   ☐Average of Test Replicates ☑Single Replicate
   ☐Slowest Replicate

3. Type of Limiting Zone Identified Test Number

4. Attachments (Check items included):
   ☐Form 3b - Tube Permeameter Test Data - Number of Sheets: ____
   ☐Form 3c - Soil Permeability Class Rating Test Data - Number of Sheets: ____
   ☐Form 3d - Percolation Test Data - Number of Sheets: ____
   ☐Form 3e - Piezometer Test Data - Number of Sheets: ____
   ☑Form 3f - Pit Bailing Test Data - Number of Sheets: 4
   ☐Form 3g - Basin Flooding Test Data - Number of Sheets: ____

5. I hereby certify that the information furnished on Form 3a of this application (and the attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Site Evaluator _____ Date 6/17/13

Signature of Professional Engineer _____ Date 6/17/2013

Seal

N.J. License No. 33806

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

Block 49 Lot 16

APPLICATION FOR PERMIT TO ALTER AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 3f. Pit-Bailing Test Data (1 of 2)

ALL DATA MUST BE IN MEASUREMENT UNITS INDICATED (FEET OR INCHES). ONLY ONE PITBAIL TEST PER SHEET.

1. Test Number **PB 529-1** Reference Soil Log #: **SL 529-1** Date Tested: **5/29/13**

2. Using the reference level established, measure and record the following:

   - Depth to Bottom of Pit, ft, D_{pit} = **8.75**
   - Depth to Water Level after 24 hr Stabilization Period, ft, D_{water} = **7.42**
   - Depth to Impermeable Stratum, ft, $D_{stratum}$ = **8.75**
     (If depth is unknown assume it to be 1.5 times D_{pit})
   - Height of Water Level above Impermeable Stratum, ft, H= **1.33**
     ($H = D_{stratum} - D_{water}$).
   - Length of Time Interval, min., T = **varies**

3. Record the following data in the table below:

   - Time in minutes, enter actual time interval for each measurement taken, t_n, minutes.
   - Depth of Water Level Below Reference Level in inches, d_a
   - Water Surface Dimensions in feet l & w

4. Calculate the following values and enter in the table below:

   - Water Surface Area, ft^2, A_a
   - Water Level Rise, in, h_r (Subtract current value of d_a from previous value)
   - Average Water Surface Area, ft^2, A_{av} (take average of A_a and previous A_a)
   - Average Height of Water Level Above Impermeable Stratum, ft, h
     (Take average of d_a and previous d_a, convert to ft., and subtract from $D_{stratum}$)
   - Permeability, in/hr, K_n.(Calculate using formula):
     $K_a = (h_r / T) \times (A_{av}/(2.27 \times (H^2-h^2)) \times 60$ min/hr

Time (h:mm)	t_n (min)	d_n (in)	l (ft)	w (ft)	An (sf)	hrise (in)	Aavg (sf)	h (ft)	Ka (in/hr)
12:30 PM	*0*	*105.00*	*0.17*	*0.17*	*0.03*				
1:00 PM	*30*	*103.00*	*1.67*	*1.17*	*1.94*	*2.00*	*0.99*	*0.08*	*1.0*
2:00 PM	*60*	*101.50*	*2.42*	*1.42*	*3.42*	*1.50*	*2.68*	*0.23*	*1.0*
3:00 PM	*60*	*100.50*	*2.67*	*1.58*	*4.22*	*1.00*	*3.82*	*0.33*	*1.0*
4:30 PM	*90*	*99.25*	*3.00*	*1.75*	*5.25*	*1.25*	*4.74*	*0.43*	*1.1*
9:40 AM	*1030*	*91.00*	*4.33*	*2.50*	*10.83*	*8.25*	*8.04*	*0.82*	*1.5*

5. Record the Following Data:

- Final Depth of Pit, ft, D_{pit} = **8.75**
- ☑ Check here if testing was stopped due to machine refusal or machine limitations. {(See step 6 of Pitbail Test NJAC 7:9A-6.5(c)}
- Final Depth to Impermeable Stratum, ft, $D_{stratum}$ = **8.75** (If no impermeable stratum is encountered, assume $D_{stratum} = D_{pit}$)
- Height of Standpipe Above Reference Level, ft, h_{pipe} = **N/A**
- Depth to Water Level after 24 hr Stabilization Period, ft, D_{water} = **7.42** (Take measurements from top of standpipe. Subtract h_{pipe}) (enter 0 if standpipe not used)
- Height of Static Water Level Above Impermeable Stratum, ft, H= **1.33** ($H = D_{stratum} - D_{water}$)
- Average Height of Water Level Above Impermeable Stratum, ft, h = **0.82**
- (Take average d_a from beginning and end of last time interval recorded in Section 4, convert to ft., and subtract from final $D_{stratum}$.)

6. Re-calculation of K using data from Section 5 above and from final time interval of Section 4:

$K = (h_{rise}/ t_n) \times (A_{av}/(2.27 \times (H^2-h^2))) \times 60$ min/hr
$K = (\mathbf{8.25/1030}) \times (\mathbf{8.04}/(2.27 \times (\mathbf{1.33^2} - \mathbf{0.82^2}))) \times 60$ min/hr
$K =$ **1.5 in/hr**

7. I hereby certify that the information furnished on Form 3e of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Site Evaluator _____ Date 6/17/13

Signature of Professional Engineer _____ Date 6/17/2013

N.J. License No. 33806 Seal

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

Block 49 Lot 16

APPLICATION FOR PERMIT TO ALTER AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 3f. Pit-Bailing Test Data (1 of 2)

ALL DATA MUST BE IN MEASUREMENT UNITS INDICATED (FEET OR INCHES). ONLY ONE PITBAIL TEST PER SHEET.

1. Test Number **PB 529-2** Reference Soil Log #: **SL 529-3** Date Tested: **5/29/13**

2. Using the reference level established, measure and record the following:

   - Depth to Bottom of Pit, ft, D_{pit} = **8.25**
   - Depth to Water Level after 24 hr Stabilization Period, ft, D_{water} = **7.17**
   - Depth to Impermeable Stratum, ft, $D_{stratum}$ = **8.25**
     (If depth is unknown assume it to be 1.5 times D_{pit})
   - Height of Water Level above Impermeable Stratum, ft, H= **1.08**
     ($H = D_{stratum} - D_{water}$).
   - Length of Time Interval, min., T = **varies**

3. Record the following data in the table below:

   - Time in minutes, enter actual time interval for each measurement taken, t_n, minutes.
   - Depth of Water Level Below Reference Level in inches, d_a
   - Water Surface Dimensions in feet l & w

4. Calculate the following values and enter in the table below:

   - Water Surface Area, ft^2, A_a
   - Water Level Rise, in, h_r (Subtract current value of d_a from previous value)
   - Average Water Surface Area, ft^2, A_{av} (take average of A_a and previous A_a)
   - Average Height of Water Level Above Impermeable Stratum, ft, h
     (Take average of d_a and previous d_a, convert to ft., and subtract from $D_{stratum}$)
   - Permeability, in/hr, K_n.(Calculate using formula):
     $K_a = (h_r / T) \times (A_{av}/(2.27 \times (H^2-h^2)) \times 60$ min/hr

Time (h:mm)	t_n (min)	d_n (in)	l (ft)	w (ft)	An (sf)	hrise (in)	Aavg (sf)	h (ft)	Ka (in/hr)
1:15 PM	*0*	*99.00*	*0.17*	*0.17*	*0.03*				
2:15 PM	*60*	*96.25*	*1.17*	*1.17*	*1.36*	*2.75*	*0.69*	*0.11*	0.7
3:00 PM	*45*	*95.50*	*1.67*	*1.25*	*2.08*	*0.75*	*1.72*	*0.26*	0.7
3:45 PM	*45*	*95.00*	*2.00*	*1.42*	*2.83*	*0.50*	*2.46*	*0.31*	0.7
4:35 PM	*50*	*94.50*	*2.17*	*1.50*	*3.25*	*0.50*	*3.04*	*0.35*	0.8
11:20 AM	*1125*	*87.00*	*2.50*	*1.50*	*3.75*	*7.50*	*3.50*	*0.69*	0.9

5. Record the Following Data:

- Final Depth of Pit, ft, D_{pit} = **8.25**
- ☑ Check here if testing was stopped due to machine refusal or machine limitations. {(See step 6 of Pitbail Test NJAC 7:9A-6.5(c)}
- Final Depth to Impermeable Stratum, ft, $D_{stratum}$ = **8.25** (If no impermeable stratum is encountered, assume $D_{stratum} = D_{pit}$)
- Height of Standpipe Above Reference Level, ft, h_{pipe} = **N/A**
- Depth to Water Level after 24 hr Stabilization Period, ft, D_{water} = **7.17** (Take measurements from top of standpipe. Subtract h_{pipe}) (enter 0 if standpipe not used)
- Height of Static Water Level Above Impermeable Stratum, ft, H= **1.08** ($H = D_{stratum} - D_{water}$)
- Average Height of Water Level Above Impermeable Stratum, ft, h = **0.69**
- (Take average d_a from beginning and end of last time interval recorded in Section 4, convert to ft., and subtract from final $D_{stratum}$.)

6. Re-calculation of K using data from Section 5 above and from final time interval of Section 4:

$K = (h_{rise}/ t_n) \times (A_{av}/(2.27 \times (H^2-h^2))) \times 60$ min/hr
$K = (\mathbf{7.5}/\mathbf{1125}) \times (\mathbf{3.5}/(2.27 \times (\mathbf{1.08}^2 - \mathbf{0.69}^2))) \times 60$ min/hr
$K =$ **0.9 in/hr**

7. I hereby certify that the information furnished on Form 3e of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Site Evaluator _____ Date 6/17/13

Signature of Professional Engineer _____ Date 6/17/2013

N.J. License No. 33806 Seal

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

Block 49 Lot 16

APPLICATION FOR PERMIT TO ALTER AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 4. General Design Data

I. Volume of Sanitary Sewage, gal. 500

☑ Residential: No. of Dwelling Units: 1 Total No. of Bedrooms: 3

☐Expansion Attic (checked if yes)

☐Commercial / Institutional - Indicate type of establishment and show method of calculation. If estimate is based on water meter data, indicate source of data, frequency of readings, average daily flow, and maximum recorded daily reading: _____

II. Alterations or Repairs:

a. Reason for Alteration or Repair (Check appropriate categories):

☐Expansion or Change in Use ☑Upgrade Existing Facilities

☑Correct Malfunctioning System ☐Other - Specify: _____

Describe nature of alteration or repairs: **install pressure distribution system**

III. System Components:

a. Grease Trap Capacity, gal: _____ Show Calculation Used: _____

b. Septic Tank Capacities, gal: 1250 gal. ☑ Single(First) Compartment: 833 gal.

☑Second Compartment: 417 gal. ☐Third Compartment: _____

c. Effluent Distribution:

Method: ☐Gravity Flow ☐Gravity Dosing ☑Pressure Dosing

Dosing Device: ☑Pump ☐Siphon

d. Dosing Tank Capacities, gal. Total Capacity, gal.: 1000 Dose Volume, gal.: 125.0

Reserve Capacity, gal.: 537.4

e. Laterals Number: 6 Total Length: 186'

Diameter: 1.25" Spacing: 3.75'

f. Connecting Pipe Diameter: 4" Length: 10'

g. Manifold Diameter: 3" Length: 18.75'

h. Disposal Field - Type of Installation: ***Mounded Soil Replacement***

Design Permeability (Percolation Rate): 6-20 in/hr

Trenches - Width: _____ Total Length: _____ **Bed - Area: 840 sf**

i. Seepage Pits: Design Percolation Rate: _____ Number of Pits: _____

Total Percolating Area Provided: _____

IV. Attachments (Check items included):

☑General Plan of System Showing Location of All System Components, No Larger Than 8 ½ Inches x 14 ½ inches, Unless Prior Approval Given.

☑X-Sections of Each System Component Including Grease Trap, Septic Tank, Dosing Tank, Disposal Field, Seepage Pits, and Interceptor Drains.

☑Pump Performance Curve

☐Other - Specify:

V. I hereby certify that the information furnished on Form 4 of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:148.

Signature of Professional Engineer _____ Date 6/17/2013

N.J. License No. 33806 Seal

HOPEWELL TOWNSHIP HEALTH DEPARTMENT

Block 49 Lot 16

APPLICATION FOR PERMIT TO ALTER AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 5. Design of Pressure or Gravity Dose System

I. Configuration of Distribution Network:

Type of Manifold: ☑End ☐Central
Distribution Laterals: Number 6 Length, ft 31 Total Lateral Volume (V_l), gal. 11.9
Hole Diameter, ins. 1/4 Hole Spacing, ins. 36
Diameter of Laterals, ins. 1.25

II. Lateral Discharge Rate

Design Pressure Head at Distal End of Laterals, H_p, ft. 2.5
Hole discharge rate, Q, gpm: 1.18
Number of Holes per Lateral, n: 10
Lateral Discharge Rate, (Q × n), gpm: 11.8

III. Manifold Length, ft. 18.75 Manifold Diameter, ins. 3 Total Manifold Volume (V_m), gal. 6.9

IV. System Discharge Rate, gpm 70.8

V. Dose Volume:

Design Volume of Sewage, gal/day 500
Design Permeability, in/hr 6-20 or Percolation Rate, min/in
Total Volume of Delivery Pipe (V_p), gal.: 9.0
Internal Volume of Distribution Network (V), ($V_p + V_m + V_l$), gal.: 27.8
Dose Volume, gal.: 125.0
Pump Tank Size (ft^2) 50

VI. a. Pump Selection:

Length of Delivery Pipe 55' Diameter of Delivery Pipe 2" Volume 9.0 gal.
Friction Loss in Delivery Pipe, H_f, ft. 4.91
Elevation of Dosing Tank Low Water Level 94.83
Elevation of Lateral Invert: 101.50
Elevation Head, H_e, ft 6.67
Total Operating Head, H_t ($H_p + H_f + H_e$), ft. 14.08
Pump Model Goulds 3886 Rated Horsepower 1/2
Pump Discharge Rate at Total Operating Head, gpm 95+/-
Pump Displacement Volume, gal.: 7.5

b. Siphon Elevation:

Diameter of Delivery Pipe Length of Delivery Pipe Volume:
Friction Loss in Delivery Pipe, H_f, ft.
Velocity Head, H_v:, ft.
Total Operating Head, H_t ($H_p + H_f + H_v$):
Elevation of Lateral Invert
Elevation of Siphon Invert:
Internal horizontal area of dosing tank in (ft^2):

VII. I hereby certify that the information furnished on Form 5 of this application is true and accurate. I am aware that falsification of data is a violation of the Water Pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

Signature of Professional Engineer _____ Date 6/17/2013
N.J. License No. 33806 Seal

Septic System Alteration Design

for

Peter Tyson & Megan Miller

Block 49, Lot 16
Hopewell Township,
Mercer County, New Jersey

June 17, 2013

SHEET INDEX	
Sheet #	Sheet Name
MIL-1	Cover Sheet
MIL-2	Key Maps
MIL-3	Existing & Proposed Conditions
MIL-4	Disposal Field Details
MIL-5	Septic Tank Details
MIL-6	Pump Tank Details
MIL-7	Piping Details
MIL-8	Design Notes
MIL-9	General Notes

REVISION DESCRIPTION	DATE	APPROVED

DWG NO.	BRE JOB#:	DATE:	SHEET:
MIL-1	13-1320	June 17, 2013	1 of 9

6/18/13

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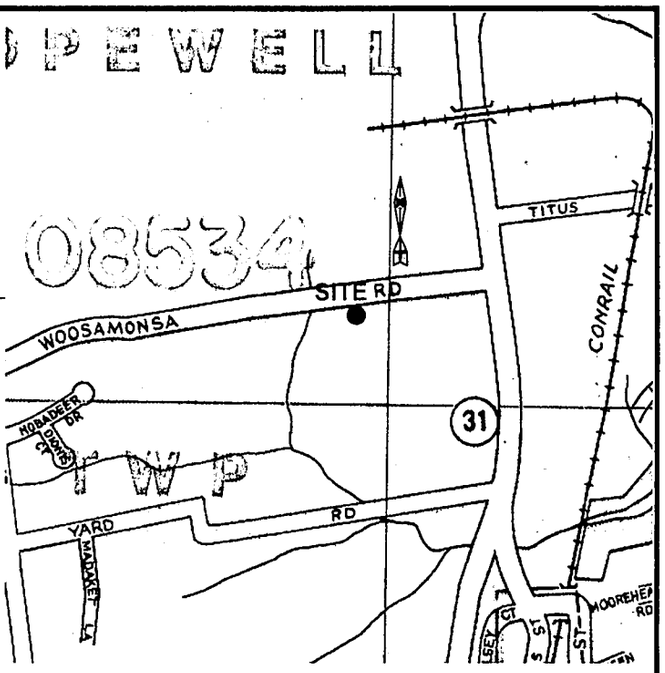
78 ROUTE 173 WEST, SUITE 6
HAMPTON, NEW JERSEY 08827
PHONE 908-735-2255 FAX. 908-735-5838
Certificate of Authorization No. 24GA27943900

SITE MAP
1:26,000



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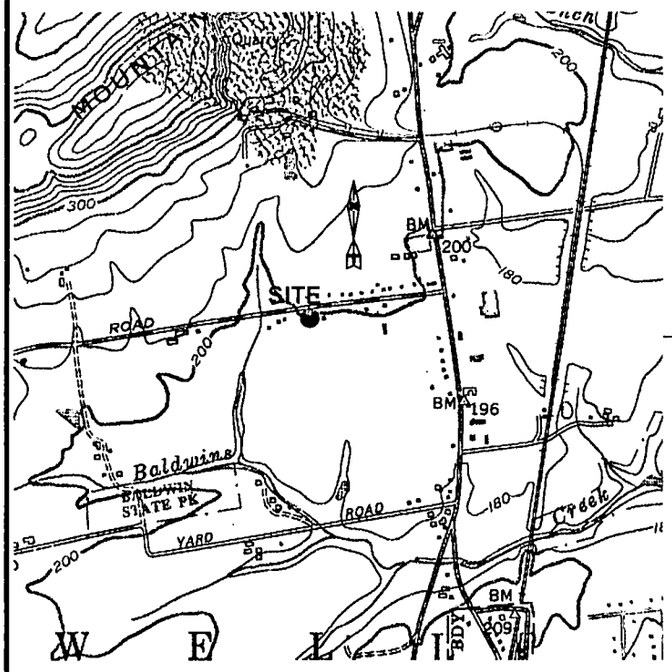

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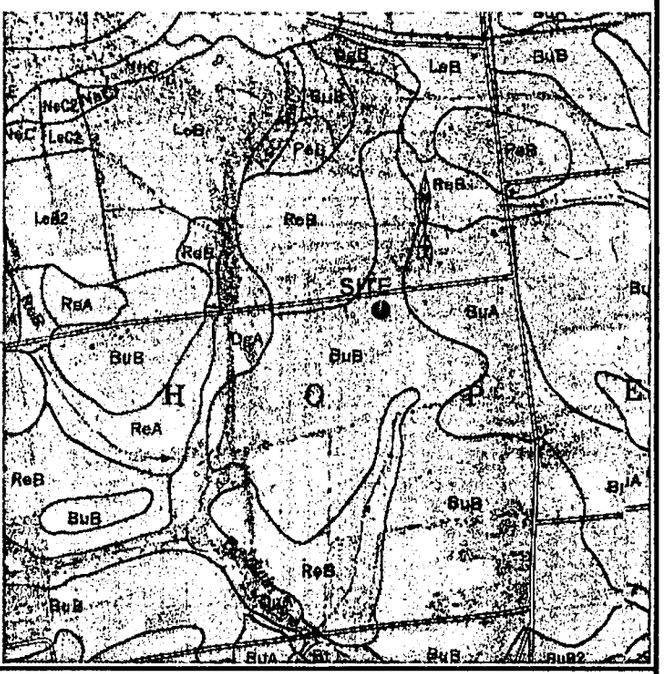

Septic System Alteration Design
Key Maps

Peter Tyson & Megan Miller *Block 49, Lot 16* *Hopewell Township, Mercer County, New Jersey* *26 Woosamonsa Road*

DRAWN BY:	DESIGNED BY:	CHECKED BY:	DWG NO.	BRE JOB#:	SCALE:	DATE:	SHEET:
WMJ	WMJ	THB	MIL-2	13-1320	As Noted	June 17, 2013	2 of 9

THEODORE H. BAYER, P.E.
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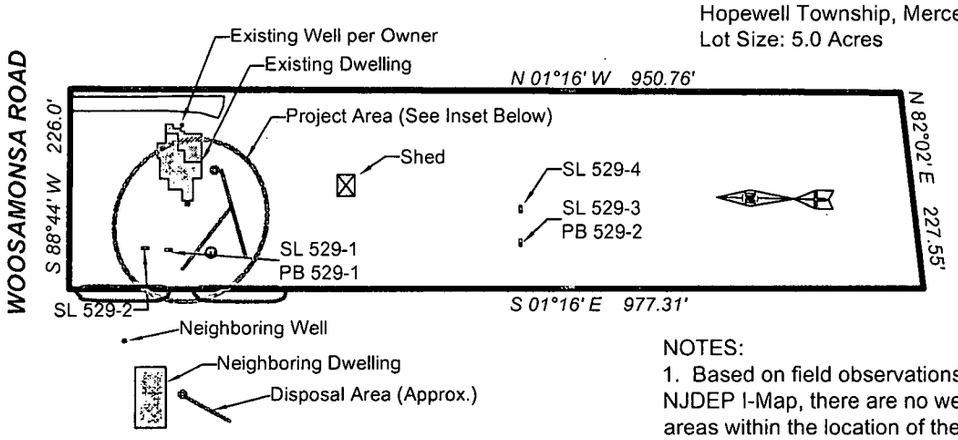
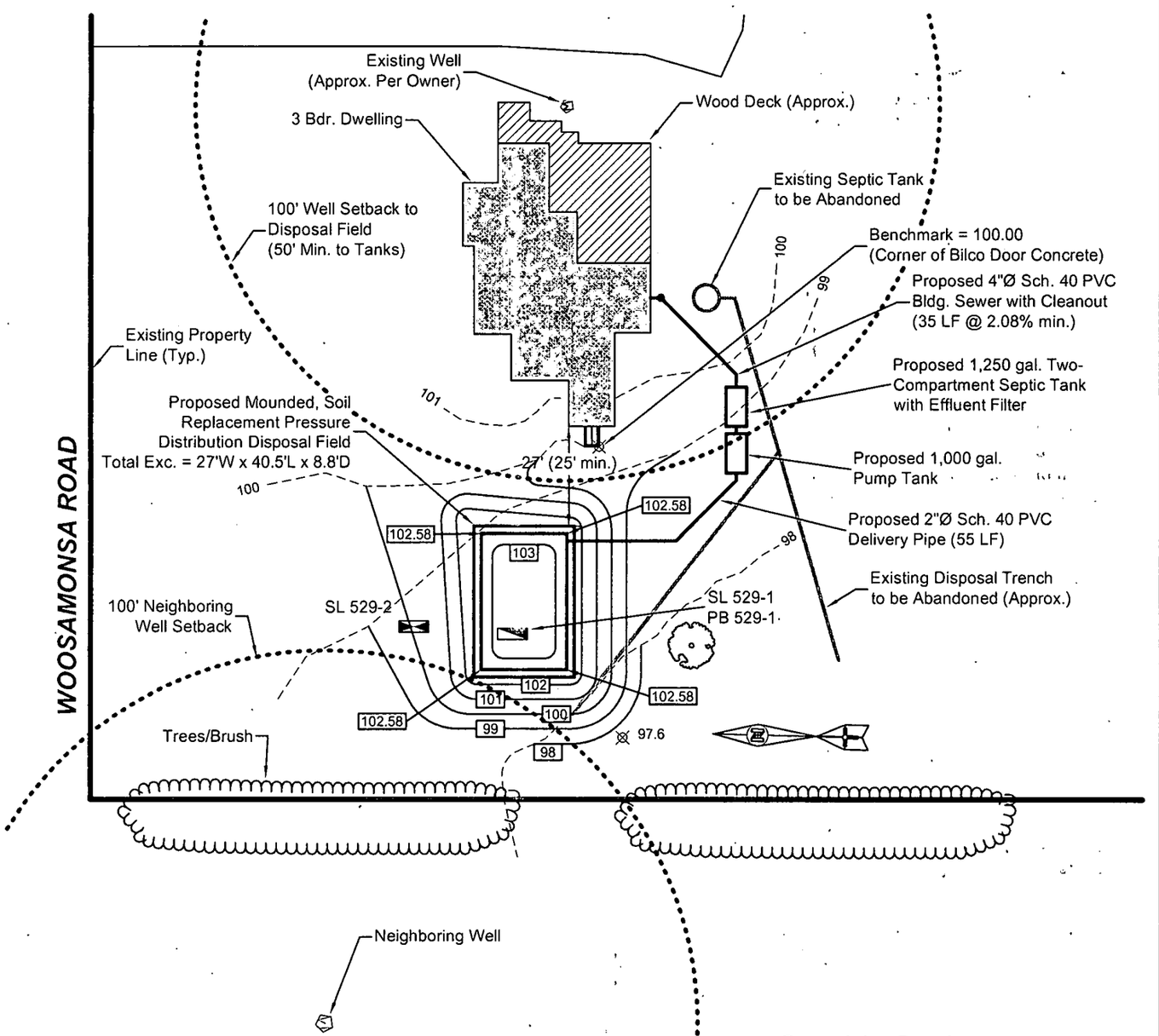
26 Woosamonsa Road (Block 49, Lot 16)
Hopewell Township, Mercer County, NJ
Lot Size: 5.0 Acres



Key Map
1" = 200'

NOTES:
1. Based on field observations and in accordance with the NJDEP I-Map, there are no wetlands or wetlands transition areas within the location of the proposed disposal system.
2. There are no disposal systems within 50' and no wells within 100' of the proposed disposal system.



Graphic Scale
1" = 40'

REVISION DESCRIPTION	DATE	APPROVED

Septic System Alteration Design
Existing & Proposed Conditions

Peter Tyson & Megan Miller · Block 49, Lot 16 · Hopewell Township, Mercer County, New Jersey · 26 Woosamonsa Road

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WMJ	WMJ	THB	MIL-3	13-1320	As Noted	June 17, 2013	3 of 9

6/18/13
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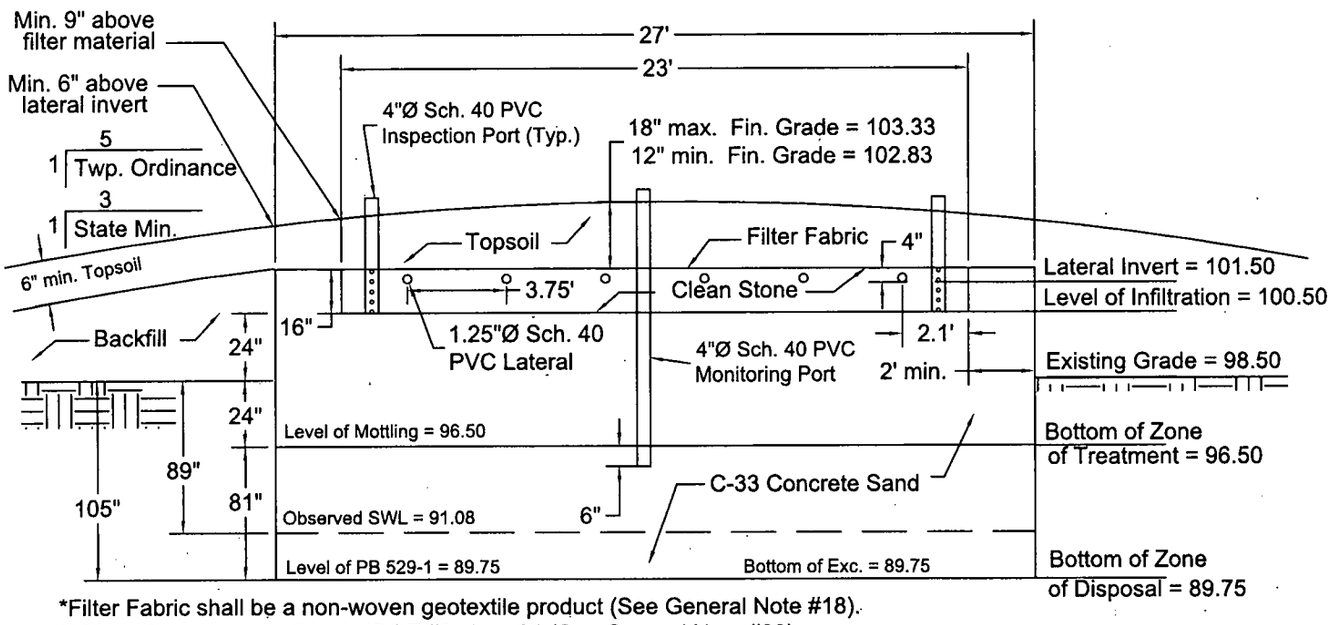
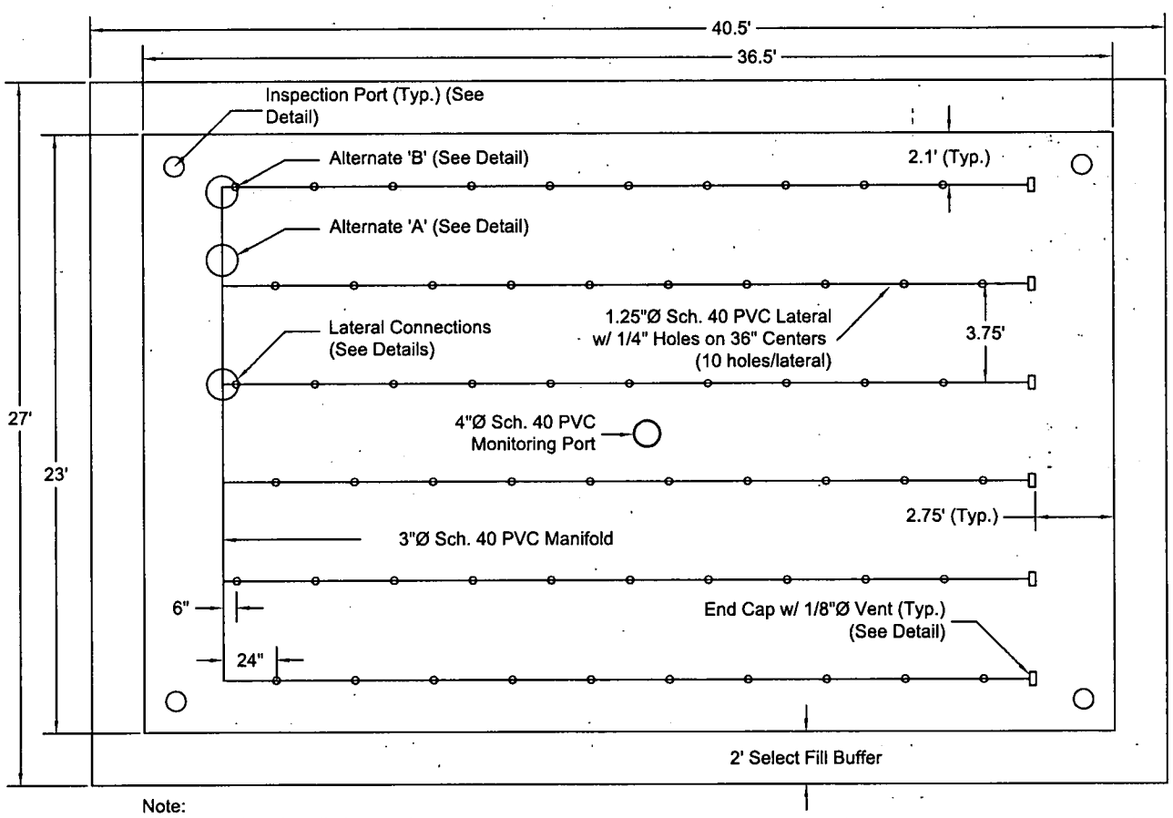


*Filter Fabric shall be a non-woven geotextile product (See General Note #18).
**Clean filter stone shall be NJDOT #3, 4, or 24 (See General Note #22)

DISPOSAL FIELD SECTION VIEW

Not to Scale



Note:
Laterals shall be installed approximately level. The maximum slope shall be 2 in. per 100 ft.

DISPOSAL FIELD PLAN VIEW

Not To Scale

REVISION DESCRIPTION	DATE	APPROVED

Septic System Alteration Design
Disposal Field Details

Peter Tyson & Megan Miller *Block 49, Lot 16* *Hopewell Township, Mercer County, New Jersey* *26 Woosamonsa Road*

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WMJ	WMJ	THB	MIL-4	13-1320	As Noted	June 17, 2013	4 of 9

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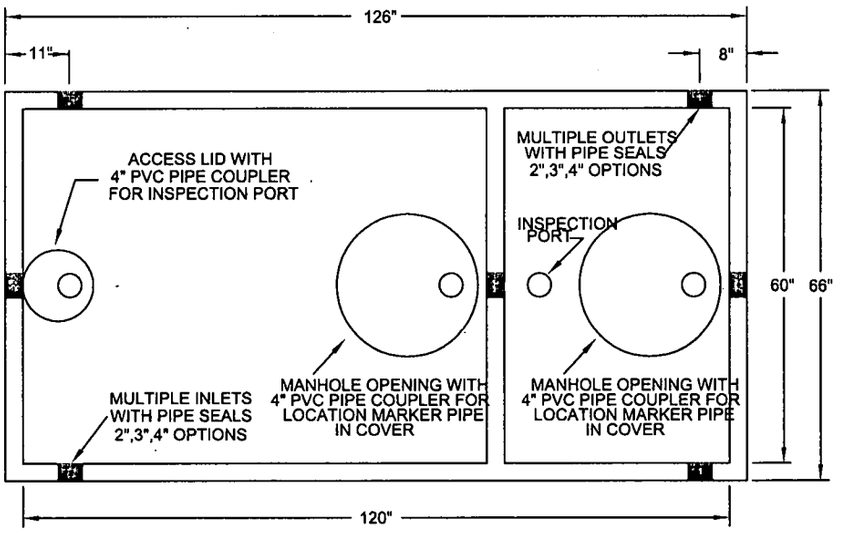
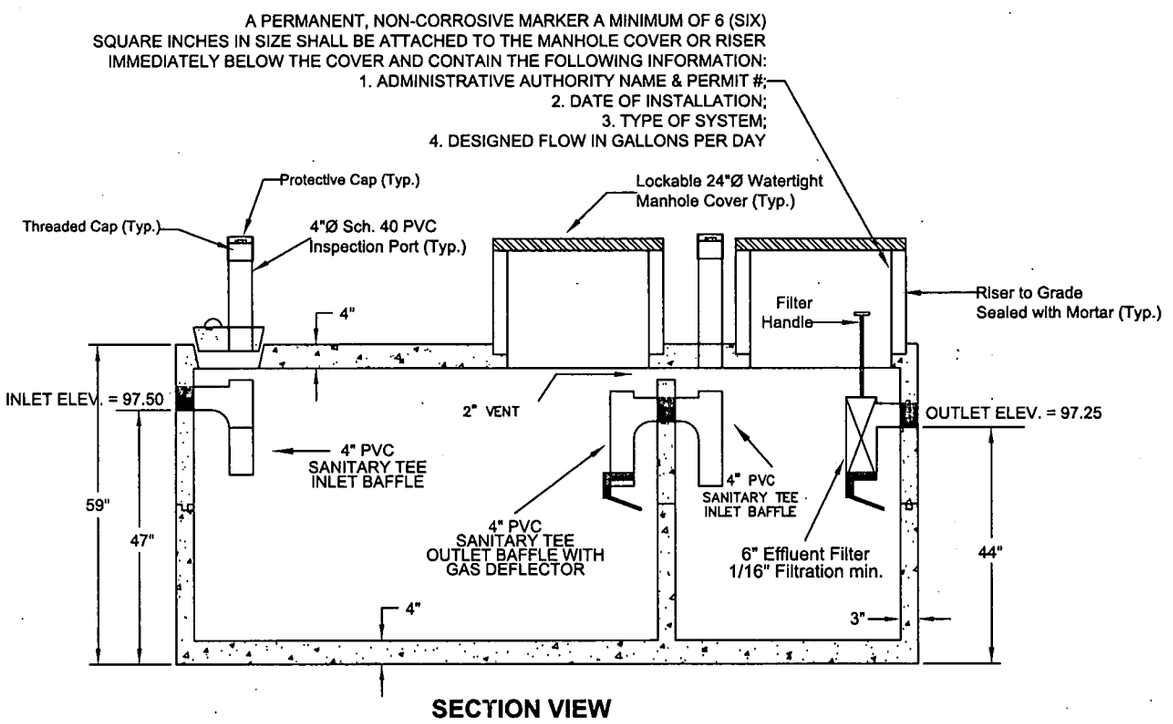
PER NJAC 7:9A-8.2(m)1: ALL TANKS, INCLUDING RISERS & INSPECTION PORTS TO THE HIGHEST JOINT, SHALL BE TESTED FOR WATER TIGHTNESS AFTER INSTALLATION & BEFORE BACKFILLING USING HYDROSTATIC OR VACUUM TEST. THE TEST SHALL BE PERFORMED AND CERTIFIED BY THE TANK MANUFACTURER OR ENGINEER.



PLAN VIEW



SECTION VIEW

NOTE: EFFLUENT FILTER REQUIRES REGULAR CLEANING. ROUTINE CLEANING SHALL BE PERFORMED DURING SEPTIC TANK PUMPING OR SHALL NOT EXCEED A 3 YEAR PERIOD. MORE FREQUENT CLEANING CYCLES MAY BE NECESSARY DEPENDING ON HOUSEHOLD HABITS/USE.

NJ 1,250 GALLON TWO-COMPARTMENT SEPTIC TANK

Not to Scale

REVISION DESCRIPTION	DATE	APPROVED

Septic System Alteration Design
Septic Tank Details

Peter Tyson & Megan Miller *Block 49, Lot 16* *Hopewell Township, Mercer County, New Jersey* *26 Woosamonsa Road*

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WMJ	WMJ	THB	MIL-5	13-1320	As Noted	June 17, 2013	5 of 9

6/18/13

THEODORE H. BAYER, P.E.
New Jersey Professional Engineer License No. GE33806

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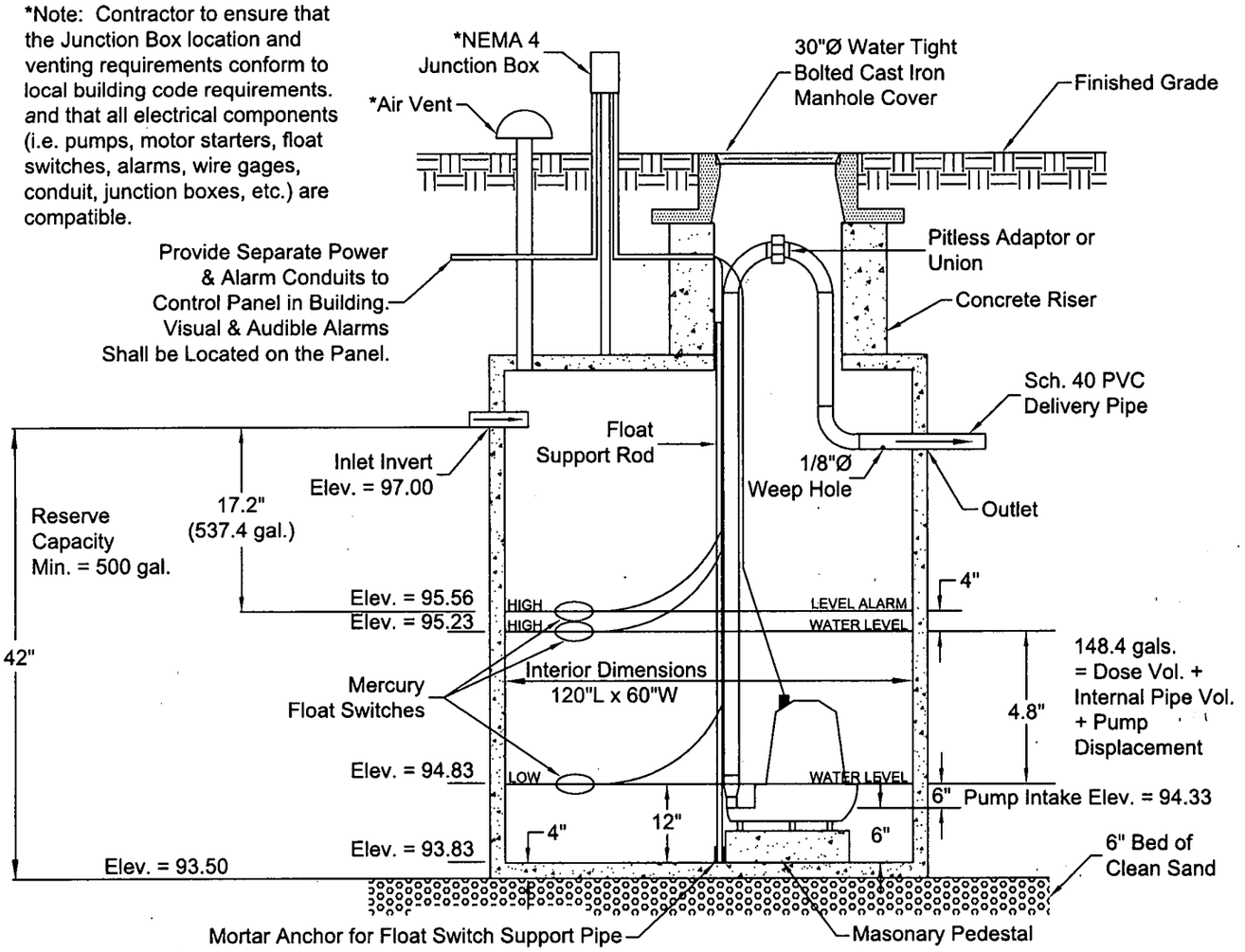
Certificate of Authorization No. 24GA27943900

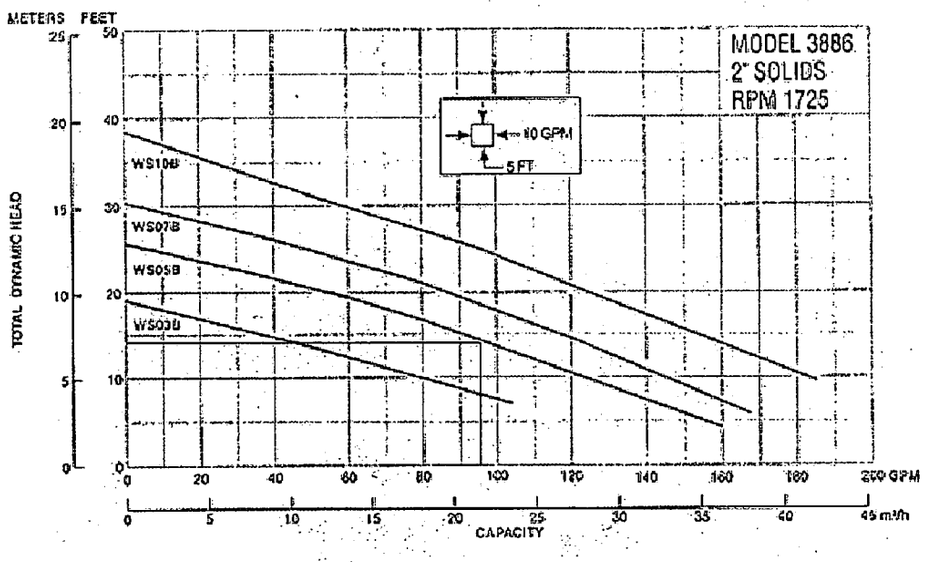
PER NJAC 7:9A-8.2(m)1: ALL TANKS, INCLUDING RISERS & INSPECTION PORTS TO THE HIGHEST JOINT, SHALL BE TESTED FOR WATER TIGHTNESS AFTER INSTALLATION & BEFORE BACKFILLING USING HYDROSTATIC OR VACUUM TEST. THE TEST SHALL BE PERFORMED AND CERTIFIED BY THE TANK MANUFACTURER OR ENGINEER.

*Note: Contractor to ensure that the Junction Box location and venting requirements conform to local building code requirements. and that all electrical components (i.e. pumps, motor starters, float switches, alarms, wire gages, conduit, junction boxes, etc.) are compatible.



1,000 Gal. PUMP DOSING TANK

Not to Scale



REVISION DESCRIPTION	DATE	APPROVED

The pump shall be a Goulds Model 3886 (1/2 hp, 115 V, single phase) or approved equal. The pump shall be capable of delivering a minimum of 70.8 gpm against a total dynamic head of 14.1 feet.

Septic System Alteration Design
Pump Tank Details

Peter Tyson & Megan Miller *Block 49, Lot 16* *Hopewell Township, Mercer County, New Jersey* *26 Woosamonsa Road*

DRAWN BY:	DESIGNED BY:	CHECKED BY:	DWG NO.	BRE JOB#:	SCALE:	DATE:	SHEET:
WMJ	WMJ	THB	MIL-6	13-1320	As Noted	June 17, 2013	6 of 9

6/13/13

THEODORE H. BAYER, P.E.
New Jersey Professional Engineer License No. GE33806

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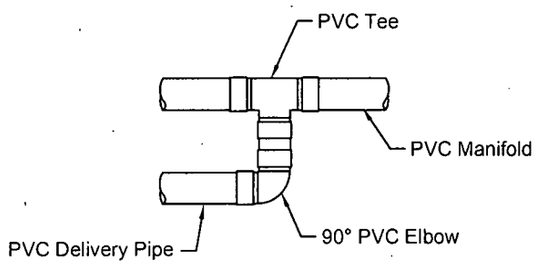
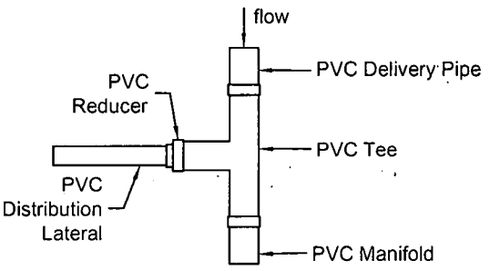


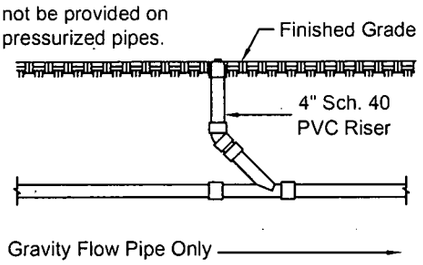
ALTERNATE 'A'



ALTERNATE 'B'

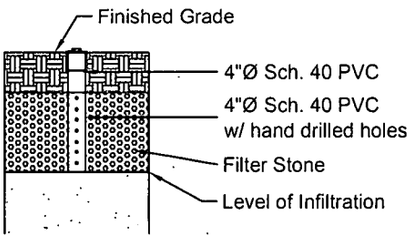
DELIVERY PIPE TO MANIFOLD CONNECTION
Not To Scale

NOTE: Cleanouts shall not be provided on pressurized pipes.

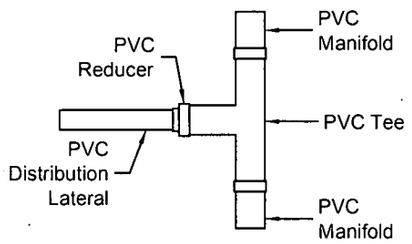


CLEAN OUT DETAIL
Not To Scale

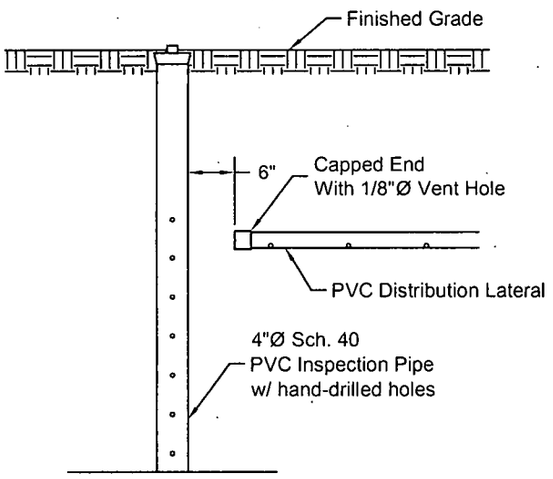
Located at corners of the disposal field. (Typ.)



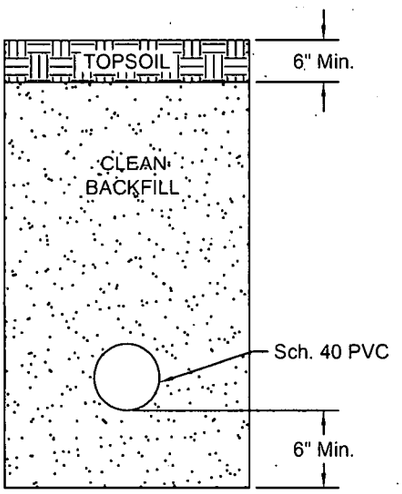
INSPECTION PORT DETAIL
Not To Scale



MANIFOLD TO LATERAL CONNECTION
Not to Scale



DISTRIBUTION LATERAL DETAIL
Not To Scale



Note:
Clean Backfill shall be free of large stone and objectionable material. Clean Backfill shall be compacted in 12" max. lifts.

FORCE MAIN BEDDING DETAIL
Not To Scale

REVISION DESCRIPTION	DATE	APPROVED

Septic System Alteration Design
Piping Details

Peter Tyson & Megan Miller *Block 49, Lot 16* *Hopewell Township, Mercer County, New Jersey* *26 Woosamonsa Road*

DRAWN BY:	DESIGNED BY:	CHECKED BY:	DWG NO.	BRE JOB#:	SCALE:	DATE:	SHEET:
WMJ	WMJ	THB	MIL-7	13-1320	As Noted	June 17, 2013	7 of 9

6/18/13
THEODORE H. BAYER, P.E.
New Jersey Professional Engineer License No. GE33806

BAYER-RISSE ENGINEERING, INC.
78 ROUTE 173 WEST, SUITE 6
HAMPTON, NEW JERSEY 08827
PHONE 908-735-2255 FAX. 908-735-5838
Certificate of Authorization No. 24GA27943900

1) SOIL LOGS

SL 529-1 — May 29, 2013

0-13"	Topsoil
13-36"	7.5YR6/6 Reddish Yellow Silt Loam; subangular blocky, friable; 5% gravel; no seepage; common, medium, distinct mottles 24-36" (7.5YR7/1 Light Gray).
36-105"	Nonsoil; fractured, blocky shale with 10% silt loam fillings; slight seepage at 36" and below.
>105"	Machine Refusal Pit Bail PB 529-1 performed at 105" (24 hr. SWL = 89", K = 1.5 in/hr)

SL 529-2 — May 29, 2013

0-11"	Topsoil
11-28"	7.5YR6/6 Reddish Yellow Silt Loam; subangular blocky, friable; 5% gravel; no seepage; common, medium, distinct mottles 24-36" (7.5YR7/1 Light Gray).
28-108"	Nonsoil; fractured, blocky shale with 10% silt loam fillings; damp/wet rock face at 48" and below.
>108"	Machine Refusal

SL 529-3 — May 29, 2013

0-13"	Topsoil
13-29"	7.5YR5/6 Strong Brown Silt Loam; subangular blocky, friable; 5% gravel; no seepage; few, fine, faint mottles 24-29" (7.5YR7/1 Light Gray).
29-99"	Nonsoil; fractured, blocky shale with 5% silt loam fillings; slight seepage at 99".
>99"	Machine Refusal Pit Bail PB 529-2 performed at 99" (24 hr. SWL = 86", K = 0.9 in/hr)

SL 529-4 — May 29, 2013

0-12"	Topsoil
12-36"	7.5YR5/6 Strong Brown Silt Loam; subangular blocky, friable; 5% gravel; no seepage; few, fine, faint mottles 30-36" (7.5YR7/1 Light Gray).
36-118"	Nonsoil; fractured, blocky shale with 5% silt loam fillings; slight seepage at 98".
>118"	Machine Refusal

2) PERMEABILITY TESTS

Test Number	Field	Related Soil Log	Depth	Result
PB 529-1	Primary	SL 529-1	105"	K = 1.5 in/hr
PB 529-2		SL 529-3	99"	K = 0.9 in/hr

3) DESIGN FLOW

- Existing 3 bedroom dwelling
- First bedroom @ 200 gpd = 200 gpd
- 2 additional bedrooms @ 150 gpd / bedroom = 300 gpd
- *Proposed Design Flow = 500 gpd*

4) DISPOSAL FIELD, SEPTIC TANK, AND DOSING TANK SIZING

(a) The disposal field is a mounded, soil replacement pressure distribution disposal bed system. N.J.A.C. 7:9A 10.2(c) requires a minimum of 1.33 square feet per gallon per day for this type of system. The Hopewell Township Health Department requires a minimum increase of 25% over the design rate. The design permeability for this type of system is 6-20 in/hr.

500 gpd x 1.33 ft^2/gpd x 25% = 832 ft^2
Use a 23 ft x 36.5 ft disposal bed = 840 ft^2. (27 ft x 40.5 ft with buffer)

Use one 3" dia. Sch. 40 PVC end manifold system with six (6) 1.25" dia. Sch. 40 PVC laterals, 31' long on 3.75 ft centers (see detail). Laterals shall be hand drilled with 1/4" dia. holes on 3 ft centers. Holes shall be offset by 1.5 ft on adjacent laterals. *All holes shall be hand reamed to remove burrs prior to assembly.* The pump shall be a Goulds model 3886 (1/2 hp, 115 V, single phase) or approved equal; and shall be capable of delivering a minimum of 70.8 gpm at a total dynamic head of 14.1 ft.

(b) The existing septic tank shall be pumped, crushed and buried in place unless otherwise directed by the administrative authority. A licensed hauler shall pump the existing tank. Receipt of septage removed shall be submitted to the local Health Department.

(c) N.J.A.C. 7:9A-8.2b(1) is used to size the septic tank. The Hopewell Township Health Department requires an additional 250 gallon storage capacity in addition to the minimum State requirement. The septic tank is a 1,250 gallon, two-compartment concrete septic tank which meets the requirements of N.J.A.C. 7:9A-8.2h and 7:9A-8.2i(4). The new septic tank shall be fit with inspection ports, septic solids retainer, effluent filter and risers flush with grade. (See Septic Tank Detail)

(d) A pump dosing tank with on/off float switches and high level alarm will be provided and will meet all the requirements of N.J.A.C. 7:9A-9.2. The dosing tank is a 1,000 gallon concrete tank which meets the requirements of N.J.A.C. 7:9A-8.2e and 7:9A-8.2h. (See Pump Dosing Tank Detail)

(e) Inspection ports shall be placed in the disposal field and shall extend down to the level of infiltration.

(f) A 4" dia. sch. 40 PVC monitoring port with lockable cap shall be placed in the disposal field and shall extend six inches (6") below the bottom of the zone of treatment.

REVISION DESCRIPTION	DATE	APPROVED

Septic System Alteration Design
Design Notes

Peter Tyson & Megan Miller *Block 49, Lot 16* *Hopewell Township, Mercer County, New Jersey* *26 Woosamonsa Road*

DRAWN BY:	DESIGNED BY:	CHECKED BY:	DWG NO.	BRE JOB#:	SCALE:	DATE:	SHEET:
WMJ	WMJ	THB	MIL-8	13-1320	As Noted	June 17, 2013	8 of 9

6/18/13

THEODORE H. BAYER, P.E.
New Jersey Professional Engineer License No. GE33806

BAYER-RISSE ENGINEERING, INC.
78 ROUTE 173 WEST, SUITE 6
HAMPTON, NEW JERSEY 08827
PHONE 908-735-2255 FAX. 908-735-5838
Certificate of Authorization No. 24GA27943900

GENERAL NOTES:

1. This Wastewater disposal system has been designed in accordance with the requirements of N.J.A.C. 7:9A, Standards for Individual Subsurface Sewage Disposal Systems and the requirements of the Hopewell Township Health Department. This plan is not a survey and is to be used for construction of the septic system only. It is not intended to be used as a plot plan for construction of any structures or proposed improvements.
2. Property line information has been obtained from a location survey dated May 18, 2005 as provided by the applicant.
3. Topographic information has been obtained by Bayer-Risse Engineering, Inc. during an on-site soil evaluation conducted on May 29, 2013. All soil testing was conducted by Bayer-Risse Engineering, Inc. and witnessed by a representative of Hopewell Township.
4. The Engineer and the Health Department shall be notified 48 hours prior to construction so that all inspections may be scheduled. All phases of the construction shall be inspected and approved by the Engineer and Health Department prior to backfilling.
5. Inspection Schedule
   - Stake out and stockpiling of sand
   - Open ditch
   - Sand emplacement, compaction, and percolation rate
   - Stone & Lateral emplacement
   - Tanks and final grading
6. Sand Specifications: <u>C-33 Concrete Sand shall have:</u>
   - A coarse fragment content (greater than No. 8 sieve) less then 15% by volume or less than 20% by weight
   - A textural analysis (composition by weight of the size fraction passing the particular sieve as stated):
     - 100% passing 3/8" sieve; 80%-100% passing No. 8 sieve; 50%-85% passing No. 16 sieve; 25%-60% passing No. 30 sieve; 10%-30% passing No. 50 sieve; 2%-10% passing No. 100 sieve.
   - Permeability from 6 - 20 in./hr. (percolation rate 3-15 min./in.)
7. All sand shall be stockpiled on-site and tested by the Engineer prior to placement into the disposal area.
8. Sand shall be installed in twelve inch (12") maximum lifts and compacted in conformance with N.J.A.C. 7:9A-10.4f(3). After installation and compaction, percolation tests shall be conducted at the level of infiltration in accordance with the number and placement requirements shown in Appendix C of N.J.A.C. 7:9A.
9. No wheeled vehicles are to be driven over any part of the disposal area.
10. The Engineer will inspect the entire installation of the system and provide a Certificate of Compliance and Record Drawings to the Health Department.
11. Prior to the disposal bed stake out by the Engineer and any construction activities, the installer shall require the owner to have all underground utilities located by the responsible utility company(ies). CALL 1-800-272-1000 BEFORE YOU DIG.
12. Construction information is based on topography of plan. Elevations may be modified after final survey.
13. Disposal area shall be graded so that surface runoff is diverted away from the disposal area.
14. The Engineer and the Health Department shall review and approve any field changes and deviations from this design.
15. The installer shall be responsible for obtaining any and all of the required permits prior to construction.
16. After completion of backfilling and final grading, all disturbed areas shall be raked, seeded and mulched to establish a vegetative cover in a manner acceptable to the Administrative Authority.
17. The installer shall ensure that all materials used in the construction of the system are in accordance with N.J.A.C. 7:9A et. seq. and meet the specifications of the design.
18. Filter fabric shall be a non-woven geotextile product (TerraTex SD or approved equal).
19. No trees are to remain within ten feet (10') of the disposal area.
20. Septic tank(s) shall be located a minimum of 10 ft and disposal areas shall be located a minimum of 25 ft from dwellings.
21. Septic tank(s) shall be located a minimum of fifty feet (50'), disposal area(s) shall be located a minimum of one hundred feet (100'), and building sewer(s) shall be located a minimum of twenty-five feet (25') from a well.
22. Crushed stone filter material shall be NJDOT number 3, 4, or 24 size stone and be free of fines, dust, ashes, or clay.
23. All septic disposal fields shall be constructed at least 25 ft from excavated cuts (drop) greater than 2 ft.
24. There are no off-site wells within 100 ft and no off-site disposal fields within 50 ft of the proposed disposal field.
25. Bayer-Risse Engineering, Inc. makes no representation as to the location and/or adequacy of the internal plumbing and electric service. The limits of this design are from the septic tank to the disposal area.
26. This septic design has been based on the soil conditions and site constraints evident at the time soil testing was performed. If subsurface conditions present at the time of construction vary significantly from those documented during soil testing the contractor shall immediately cease construction and notify the Engineer and the Health Department so that appropriate action may be taken.
27. Garbage disposal units shall not be permitted with this sewage disposal system.

REVISION DESCRIPTION	DATE	APPROVED

Septic System Alteration Design
General Notes

Peter Tyson & Megan Miller *Block 49, Lot 16* *Hopewell Township, Mercer County, New Jersey* *26 Woosamonsa Road*

DRAWN BY:	DESIGNED BY:	CHECKED BY:	DWG NO.	BRE JOB#:	SCALE:	DATE:	SHEET:
WMJ	WMJ	THB	MIL-9	13-1320	As Noted	June 17, 2013	9 of 9

6/18/13

THEODORE H. BAYER, P.E.
New Jersey Professional Engineer License No. GE33806

BAYER-RISSE ENGINEERING, INC.
78 ROUTE 173 WEST, SUITE 6
HAMPTON, NEW JERSEY 08827
PHONE 908-735-2255 FAX. 908-735-5838
Certificate of Authorization No. 24GA27943900

Permit No. 25011 02-17-2005

HOPEWELL TOWNSHIP HEALTH DEPARTMENT
201 Washington Crossing - Pennington Road
Titusville, New Jersey 08560
TEL. (609) 737-0120 FAX (609) 737-2770

PERMIT

Applicant Megan Miller Block 49 Lot 16

To Repair on an Existing Sewage Disposal System: y

Location 26 Woosamonsa Road

Fee $ 25.00

24 Hour Inspection Notification Required
This Permit is NOT Transferable

Authorized by
Hopewell Township Health Department

Permit is not transferable
Permit valid for 2 years from issue date

TOWNSHIP of HOPEWELL
DEPARTMENT of HEALTH
Serving Hopewell Borough and Pennington Borough

201 WASHINGTON CROSSING PENNINGTON ROAD, TITUSVILLE, N.J. 08560
TELEPHONE 609-737-0120 / FAX 609-737-6836
E-mail: hopewellhealth@hopewelltwp.org

February 18, 2005

Megan Miller
26 Woosamonsa Road
Pennington, NJ 08534

Re: Block 49 Lot 16

To Whom It May Concern:

Enclosed please find your permit to replace the septic tank baffels at the above mentioned property.

You or your contractor must notify this office at least (24) twenty four hours in advance of installation to schedule inspections with this office.

This permit is valid only to replace the septic tank baffels. You are not permitted to alter any component of the disposal field without further engineering and approvals by this office.

All septic tanks replacements or alterations must comply with new tank requirements and also be provided with locking manhole access lids to final grade as required by NJDEP 7:9A.

Very truly yours,

George K. Kiesel
Environmental Health Coordinator

2/24/05
New Outlet Baffle installed
2-Bot uncovered and Lines
jetted out.

TOWNSHIP of HOPEWELL
DEPARTMENT of HEALTH
Serving Hopewell Borough and Pennington Borough

201 WASHINGTON CROSSING PENNINGTON ROAD, TITUSVILLE, N.J. 08560
TELEPHONE 609-737-0120 / FAX 609-737-6836
E-mail: hopewellhealth@hopewelltwp.org

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26 Woosamonsa Road
Pennington, NJ 08534

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Very truly yours,

George K. Kiesel
Environmental Health Coordinator

2/17/05
NOTE: Property still in name of Megan Miller Estate

Permit Number 25011
Date Issued
Application Fee Received $ 25.00

HOPEWELL TOWNSHIP
SEPTIC / REPAIR

FEB 16 2005

PROPERTY OWNER'S NAME Peter Tyson (7)

BLOCK 49 LOT 16

ADDRESS 26 WOOSAMONSA DR 26 WOOSAMONSA DR.
PENNINGTON NJ

1. Volume of Sanitary Sewage, Gal 1000

✓ Residential: No. of Dwelling Units ___
Total No. of Bedrooms ___

___ Commercial/Institutional - Indicate type of establishment and show method of calculation. If estimate is based on water meter data, indicate source of data, frequency of readings, average daily flow, and maximum recorded daily reading _____.

2. Alterations or Repairs

a) Reason For Alterations or Repairs (Check appropriate categories):

___ Expansion or Change in Use
___ Upgrade Existing Facilities
___ Correct Malfunctioning System ✓ Other ___ Specify

b) Describe Nature of Alteration or Repairs:
REPLACE outlet BAFFLE

3. System Components

a) Grease Trap Capacity, gals _____
Show Calculation Used: _____

b) Septic Tank Capacities, gals:

✓ First (Single) Compartment
___ Second Compartment
___ Third Compartment

c) Effluent Distribution
Method: ✓ Gravity Flow ___ Gravity Dosing
___ Pressure Dosing
Dosing Devise: ___ Pump ___ Siphon

d) Dosing Tank Capacities, gals: Total Capacity ___
Dose Volume ___
Reserve Capacity ___

e) Laterals: ___Number ___Total Length ___Pump Size
___Spacing

f) Connecting Pipe: Size_____Length_____

g) Manifold: Size 4" Length >5'

h) Disposal Field: Type of Installation_____

Design Permeability (Percolation Rate)_____
Trenches: Width_____Total Length_____Bed:
Area_____

i) Seepage Pits: Design Percolation Rate_____

4. Attachments (Check items included):

____General Plan of System Showing Locations of All System Components.

___X-Sections of Each System Component including Grease Trap, Septic Tank, Dosing Tank, Disposal Field, Seepage Pits and Interceptor Drains.

___Pump Performance Curve

___Other - Specify_____

5. I hereby certify that the information furnished of this application (and attachments thereto) is true and accurate. I am aware that falsification of data is a violation of the Water pollution Control Act (N.J.S.A. 58:10A-1 et seq.) and is subject to penalties as prescribed in N.J.A.C. 7:14-8.

CONTRACTOR'S NAME and ADDRESS Delaware Valley Septic
CH # 2772 15 Lackawanna St Hampton NJ 08827

DATE 2-16-05

TELEPHONE # 908 537 6308

NATURE OF REPAIR Replace Outlet Baffle

Chris Farley
APPLICANT'S SIGNATURE

_____Application Approved _____Application Denied

OFFICIANT'S SIGNATURE

SAK:5-18-99

Douglassville Location:
1605 Benjamin Franklin Highway
Douglassville, PA 19518
Phone: (610) 327-8196
Fax: (610) 327-6864

NJ DEP Cert #77925
PA DEP Cert #06-409

Blue Marsh

LABORATORIES • INC

Professional testing for the critical decision

Princeton Location:
267 Wall Street
Princeton, NJ 08540
Phone: (609) 924-5151
Fax: (609) 924-9692

NJ DEP Cert #11198

September 28, 1999

Megan Miller
26 Woosamonsa Rd.
Pennington, NJ 08534

Re: Test Report: 9909-114

Dear Ms. Miller,

This report details the analysis of one (1) sample obtained by Blue Marsh Laboratories, Inc. on September 10, 1999. The sample designations, parameters analyzed and results obtained are displayed on the enclosed tables.

If you have any questions concerning this report, please feel free to contact me at this office.

Very truly yours,

BLUE MARSH LABORATORIES, INC.

cc: Hopewell Twp. B.O.H.
201 Washington Crossing-Pennington Rd.
Titusville, NJ 08560

BLUE MARSH LABORATORIES, INC.

Miller {Residence}
BML Lot No.:9909-114
Date Sampled: 9/10/99
Date Received: 9/10/99
Date Analyzed:09/15/99
Page 2

4/9/16

Volatile Organics: EPA Method 502.2

Sample Designation: 14410D/26 Woosamonsa - Outside Tap

Parameter	Result	PQL	Parameter	Result	PQL
Benzene	ND	0.2	1,3-Dichloropropane	ND	0.2
Bromobenzene	ND	0.2	2,2-Dichloropropane	ND	0.2
Bromochloromethane	ND	0.2	1,1-Dichloropropene	ND	0.2
Bromodichloromethane	ND	0.2	cis-1,3-Dichloropropene	ND	0.2
Bromoform	ND	0.2	trans-1,3-Dichloropropene	ND	0.2
Bromomethane	ND	0.2	Ethylbenzene	ND	0.2
n-Butylbenzene	ND	0.2	Hexachlorobutadiene	ND	0.2
sec-Butylbenzene	ND	0.2	Isopropylbenzene	ND	0.2
tert-Butylbenzene	ND	0.2	p-Isopropyltoluene	ND	0.2
Carbon Tetrachloride	ND	0.2	Methylene Chloride	ND	0.2
Chlorobenzene	ND	0.2	Naphthalene	ND	0.5
Chloroethane	ND	0.5	n-Propylbenzene	ND	0.2
Chloroform	ND	0.5	Styrene	ND	0.2
Chloromethane	ND	0.2	1,1,1,2-Tetrachloroethane	ND	0.5
2-Chlorotoluene	ND	0.2	1,1,2,2-Tetrachloroethane	ND	0.5
4-Chlorotoluene	ND	0.2	Tetrachloroethylene	ND	0.2
1,2-Dibromo-3-Chloropropane	ND	1.0	Toluene	ND	0.2
Dibromochloromethane	ND	0.2	1,2,3-Trichlorobenzene	ND	0.5
1,2-Dibromoethane	ND	0.5	1,2,4-Trichlorobenzene	ND	0.2
Dibromomethane	ND	0.5	1,1,1-Trichloroethane	ND	0.2
1,2-Dichlorobenzene	ND	0.2	1,1,2-Trichloroethane	ND	0.2
1,3-Dichlorobenzene	ND	0.2	Trichloroethylene	ND	0.2
1,4-Dichlorobenzene	ND	0.2	Trichlorofluoromethane	ND	0.2
Dichlorodifluoromethane	ND	0.2	1,2,3-Trichloropropane	ND	0.5
1,1-Dichloroethane	ND	0.2	1,2,4-Trimethylbenzene	ND	0.2
1,2-Dichloroethane	ND	0.2	1,3,5-Trimethylbenzene	ND	0.2
1,1-Dichloroethene	ND	0.2	Vinyl Chloride	ND	0.2
cis-1,2-Dichloroethene	ND	0.2	Xylenes, total	ND	0.5
trans-1,2-Dichloroethene	ND	0.2	Methyl Tertiary Butyl Ether(MTBE)	ND	0.5
1,2-Dichloropropane	ND	0.2			

PQL - Practical Quantitation Limit
All results are expressed in micrograms/liter (ppb)
ND - None Detected above PQL
Sampled by Blue Marsh Laboratories, Inc. on September 10, 1999

BLUE MARSH LABORATORIES, INC.
267 Wall Street
Princeton, NJ 08540
Phone: (609) 924-5151 Fax: (609) 924-9692

CHAIN OF CUSTODY RECORD

9909-114

Send Report to: EWING
~~HEALTH DEPT.~~
MEGAN MILLER
Contact: 26 WOODSAMON PL
Phone#: PENNINGTON NJ 08534
Fax#: 737-2125

BML LOT NO:
PROJECT NO:
P.O. NO:

PROJECT: 26 WOODSAMON PL

*TURNAROUND TIME REQUIRED: 24 HR ☐ 48 HR ☐ 72 HR ☐ 1 WEEK ☐ 2 WEEKS ☐

BML USE: LAB ID NO:	DATE SAMPLED	TIME SAMPLED	COMP	GRAB	SAMPLE DESCRIPTION / CLIENT ID NO.	SAMPLE TYPE	Number of Containers: TOTAL	H_2SO_4	HCl	HNO_3	NaOH	Sterile (Bact)	MeOH - NJ - VOC	Unpreserved	ANALYSIS NEEDED: VOA
14410 D	9/10/99	1405		X	OUTSIDE TAP	DW	2		2						X

REPORTING REQUIREMENTS
_____ NJ DPES _____ BUST
_____ SQA _____ NONREG
_____ SDWA _____ POTW
_____ IRSA _____ REAL ESTATE

Remarks / Additional Analysis:

Sampled by: J KOSS
Date: 9/10/99

Special Notes or Hazards:

Relinquished by: (Signature) [signature]
Date/Time: 9/10/1600
Received by: [signature]

Relinquished by: (Signature)
Date/Time:
Received for Laboratory by:

REPORT FORMAT (Check One) **
Standard (Data ☐ — No Data ☐)
NJ Deliverables (Full ☐ — Reduced ☐)
CLP Format ☐
DW Forms ☐ PWS ID # _____

SAMPLE TYPE:
HZ Hazardous SW Surface Water
SO Soil WW Waste Water
DE Debris GW Ground Water
SL Sludge DW Drinking Water
SD Solid LQ Liquid

Cooler Temp _____ °C
Properly Preserved
Yes / No

* Surcharge for 24 HR, 48 HR, 72 HR, and 1 week turnaround times. ** Surcharges may apply.

BML7b 10/98

COPY

September 3, 1999

Megan Miller
26 Woosamonsa Road
Pennington, NJ 08534

Ref: Block 49 Lot 16
26 Woosamonsa Road

Dear Megan Miller

It has recently been brought to our attention that several of your neighbors have had their well water tested. To their surprise, the laboratory detected low levels of Chlorinated solvents or organic compounds. I have included a fact sheet on chlorinated solvents in drinking water provided by the State Health Department for your review.

Hence, I am strongly encouraging all surrounding property owners to have their water tested for volatile organic compounds. Based upon the test results from all the properties, I will be asking NJDEP to assist the Health Department and to ascertain the source of the contamination.

Any property owner who has two (2) consecutive samples with volatile organic compounds which exceed the MCL (maximum contamination levels) will be eligible to apply for a spill fund claim with NJDEP for the installation of a point-of-entry (POET) water treatment system. These systems are highly effective and require minimal maintenance by the homeowners.

I am enclosing a listing of area laboratories which can conduct the required tests. Additionally, I have negotiated a price of $75.00 with Robert Hulit Director at Blue Marsh Laboratories formally Chyun Laboratories (609)924-5151 for residents within the Yard Road/Woosamonsa Road area. Normally, these tests run between $100-$150.00. Please remind the laboratory to forward copies directly to the Hopewell Township health department. Bacteria samples are recommended annually. These are also available at a special price if collected with the organic sample.

As the results are received I will be mapping the location and direction of the contamination. This will be provided to all residents.

If you have any questions at any time please feel free to call me at 737-0120 to discuss this matter further.

Very truly yours,

Gary A. Guarino
Health Officer

Enclosures

Permit No. 98362

09-04-1998

HOPEWELL TOWNSHIP HEALTH DEPARTMENT
201 Washington Crossing - Pennington Road
Titusville, New Jersey 08560
(609) 737-0132 (609) 737-0120

PERMIT

Applicant Megan Miller Block 49 Lot 16

To Alteration/Repair to an existing Sewage Disposal System: y

Location 26 Woosamonsa Road

Fee $ 25.00

24 Hour Inspection Notification Required
This Permit is NOT Transferable

Authorized by
Hopewell Township Health Department

Permit is not transferable
Permit valid for 2 years from issue date

Permit No. 98362 09-04-1998

HOPEWELL TOWNSHIP HEALTH DEPARTMENT
201 Washington Crossing - Pennington Road
Titusville, New Jersey 08560
(609) 737-0132 (609) 737-0120

PERMIT

Applicant Megan Miller Block 49 Lot 16

To Alteration/Repair to an existing Sewage Disposal System: y

Location 26 Woosamonsa Road

Fee $ 25.00

24 Hour Inspection Notification Required
This Permit is NOT Transferable

Authorized by
Hopewell Township Health Department

Permit is not transferable
Permit valid for 2 years from issue date

TOWNSHIP of HOPEWELL

DEPARTMENT of HEALTH

Serving Hopewell Borough and Pennington Borough

201 WASHINGTON CROSSING PENNINGTON ROAD, TITUSVILLE, N.J. 08650 MERCER COUNTY

TELEPHONE 609-737-0120 / TELEFAX NO. 609-737-2770

December 17, 1998

Megan Miller
26 Woosamonsa Road
Pennington, NJ 08534

Re: Block 49 Lot 16

To Whom It May Concern:

Enclosed please find your permit to replace the existing septic tank and/or the connecting pipe at the above mentioned property.

You or your contractor must notify this office at least (24) twenty four hours in advance of installation to schedule inspections with this office.

This permit is valid only to replace the existing septic tank and/or the connecting pipe. You are not permitted to alter any component of the disposal field without further engineering and approvals by this office.

All replacement septic tanks must comply with new tank requirements and also be provided with locking manhole
access lids to final grade as required by NJDEP 7:9A.

Very truly yours,

George K. Kiesel
Environmental Health Coordinator

cc:

98362

STANDARD FORMS FOR
SUBMISSION OF SOILS/ENGINEERING DATA

COUNTY/MUNICIPALITY_____

HOPEWELL TOWNSHIP HEALTH DEPARTMENT
201 Washington Crossing Pennington Rd.
Titusville, New Jersey 08560-1410

APPLICATION FOR PERMIT TO CONSTRUCT/ALTER/REPAIR
AN INDIVIDUAL SUBSURFACE SEWAGE DISPOSAL SYSTEM

Form 1—General Information

1. Type of Permit Needed (Check applicable categories):

___ New Construction ___ Alteration/No Expansion or Change of Use

___ Alteration/Expansion or Change in Use

___ Alteration/Malfunctioning System

___ Deviation from Standards ✓ Repairs to Existing System

2. Location of Project:

Municipality Pennington Block No. 049 Lot No. 016

Street Address 26 Woosamonsa Rd Penn Zip 08534

3. Name of Applicant (print): MEGAN MILLER

4. Applicant's
Present Address: SAME

5. Applicant's Phone Number: (609) 737-2187

6. Type Of Facility: Install new line from
✓ Residential Septic tank to "D" Box

___ Commercial/Institutional

Specify Type of Establishment:_____

7. Type of Wastes to be Discharged:

___ Sanitary Sewage

___ Industrial Wastes

___ Other—Specify Type

8. Other Approvals/Certification/Waivers/Exemptions (Attach to Application):

___ Pinelands Commission

___ U.S. Army Corps of Engineers

___ NJDEP—Bureau of Flood Plain Management

___ Other—Specify:

9. I hereby certify that the information furnished on Form 1 of this application is true. I am aware that false swearing is a crime in this State and subject to prosecution.

Signature of Applicant M C Brown Date 9/4/98

FOR AGENCY USE ONLY

___ Application Denied—Reason for Denial/Citation of Rules Violated:___

___ Application Approved

___ Application Approved Subject to Approval by NJDEP

Date of Action_____Signature of Authorized Agent_____

Name and Title_____