JPM 100.00 Second Site Eval Paid 7/11/07

FILE NUMBER: 5443B

Revised On: January 3, 2007

APPLICATION NUMBER: 2180

SEPTIC FEE: 200.00
DATE: 4/20/07
CK # 22600 JHA

MECKLENBURG COUNTY GROUNDWATER & WASTEWATER SERVICES
APPLICATION FOR A RESIDENTIAL SITE IMPROVEMENT PERMIT/ CONSTRUCTION AUTHORIZATION FOR AN ON-SITE WASTEWATER SYSTEM, NEW WELL INSTALLATION, OR REPAIR OF EXISTING WELL

WELL FEE: 400.00
DATE: 4/20/07
CK # 22700 JHA

1. SEPTIC / TYPE APPLICATION: ☐ NONE ☒ NEW SYSTEM ☐ ALTERATION ☐ REPAIR ☐ MODIFIED PLOT PLAN

2. WELL / TYPE APPLICATION: ☐ NONE ☒ NEW WELL ☐ MAJOR REPAIR ☐ ABANDONMENT

3. JOB LOCATION INFORMATION:

TAX PARCEL NUMBER: 01703221
STREET ADDRESS: Lot 6 Mt. Holly Huntersville Rd.
CITY: Huntersville
STATE: NC **ZIP:**
SUBDIVISION NAME: Peterson Farms
LOT #: 6 **LOT SIZE (acres):** 2.73
TOWNSHIP:
☐ 0-MECKLENBURG ☐ 3-CORNELIUS ☒ 6-HUNTERSVILLE
☐ 1-CHARLOTTE ☐ 4-PINEVILLE ☐ 7-MINT HILL
☐ 2-DAVIDSON ☐ 5-MATTHEWS

4. BUILDING INFORMATION:

BUILDING TYPE:
☐ SINGLE MOBILE HOME ☐ MODULAR HOME
☐ DOUBLE WIDE ☐ MULTIPLE FAMILY
☒ HOUSE ☐ OTHER _____
HEATED SQUARE FOOTAGE: 3,000
NUMBER OF BEDROOMS: 4
NUMBER OF OCCUPANTS: 1
FOUNDATION TYPE:
☐ CONCRETE SLAB ☒ BASEMENT WITH PLUMBING
☐ CRAWL SPACE ☐ BASMENT WITH NO PLUMBING

5. IF PLANNING TO EXPAND OR ALTER THE EXISTING SYSTEM PLEASE COMPLETE THE FOLLOWING SECTION: ☐ N/A
NUMBER OF BEDROOMS TO BE ADDED: _____ NUMBER OF ADDITIONAL OCCUPANTS IN THE RESIDENCE: _____

6. WATER SUPPLY: ☐ MUNICIPAL ☐ PUBLIC WELL ☒ PRIVATE WELL ☐ SHARED WELL ☐ SPRING

7. PROPOSED USE OF WELL: ☐ N/A ☐ IRRIGATION ☒ POTABLE ☐ GEOTHERMAL ☐ OTHER

8. PLEASE INDICATE AND RANK DESIRED SEPTIC SYSTEM TYPE(S) IN ORDER OF PREFERENCE *(1-MOST DESIRED 5-LEAST DESIRED):*

☒ ANY TYPE ☐ CONVENTIONAL ☐ ACCEPTED ☐ INNOVATIVE ☐ ALTERNATIVE ☐ OTHER _____

8A. RANK: ____ ____ ____ ____ ____

9. DO ANY OF THE FOLLOWING APPLY TO THE PROPERTY IN QUESTION? IF "YES" PLEASE ATTACH SUPPORTING DOCUMENTATION.

BURIED CABLES, LANDFILLS, STUMPHOLES	☐ YES	☒ NO	GRADING/SOIL REMOVAL PERFORMED	☐ YES	☒ NO
EXISTING WASTEWATER SYSTEMS	☐ YES	☒ NO	JURISDICTIONAL WETLANDS	☐ YES	☒ NO
WELLS, SPRINGS, OR WATER LINES	☐ YES	☒ NO	APPROVAL REQUIRED BY ANY OTHER PUBLIC AGENCY	☐ YES	☒ NO
EASEMENTS OR RIGHT-OF-WAYS	☐ YES	☒ NO	WASTEWATER OTHER THAN DOMESTIC SEWAGE	☐ YES	☒ NO

10. PROPERTY OWNER:
NAME: Scott Wood
ADDRESS: 1851 Smyrna Ln.
CITY: Catawba
STATE: NC ZIP: 28609
HOME PHONE: 828-478-2346 WORK PHONE: 704-944-5000
MOBILE PHONE: 704-516-1962 FAX: 704-944-5441

11. OWNER'S LEGAL REPRESENTATIVE, IF APPLICABLE:
NAME:
ADDRESS:
CITY:
STATE: ZIP:
HOME PHONE: WORK PHONE:
MOBILE PHONE: FAX:

12. WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED? 11/27/03
13 WHAT IS THE ANTICIPATED CLOSING DATE FOR THIS PROPERTY? 5/11/07

14. SEPTIC SYSTEM PERMIT APPLICATION SIGNATURE SECTION:
If the information in this application is falsified, changed, or the site is altered, then the Improvement Permit and Authorization to Construct shall become invalid. I have read this application and certify that the information provided herein is true, complete and correct. Authorized county and state officials are granted right of entry to conduct necessary inspections to determine compliance with applicable laws and rules. I understand that I am solely responsible for the proper identification and labeling of all property lines and corners and making the site accessible so that a complete site evaluation can be performed. The permit is valid for either 60 months or is non-expiring depending upon the documentation submitted: complete site plan = 60 months, complete plat = non-expiring.

Willie Scott Wood 4-10-07
Property Owner's or Owner's Legal Representative Signature Date

15. WELL PERMIT APPLICATION SIGNATURE SECTION:
If the information in this application is falsified, changed, or the site is altered, then the Well Permit shall become invalid. I have read this application and certify that the information provided herein is true, complete and correct. Authorized county and state officials are granted right of entry to conduct necessary inspections to determine compliance with applicable laws and rules. I understand that I am solely responsible for the proper identification and labeling of all property lines and corners and making the site accessible so that a complete site evaluation can be performed. The permit is valid for a period of 12 months from the date of issuance.

4-10-07
Property Owner's or Owner's Legal Representative Signature Date

☐ SURVEY PLAT TO SCALE SUBMITTED ☐ SCALED SITE PLAN SUBMITTED ☒ UN-SCALED SITE PLAN SUBMITTED

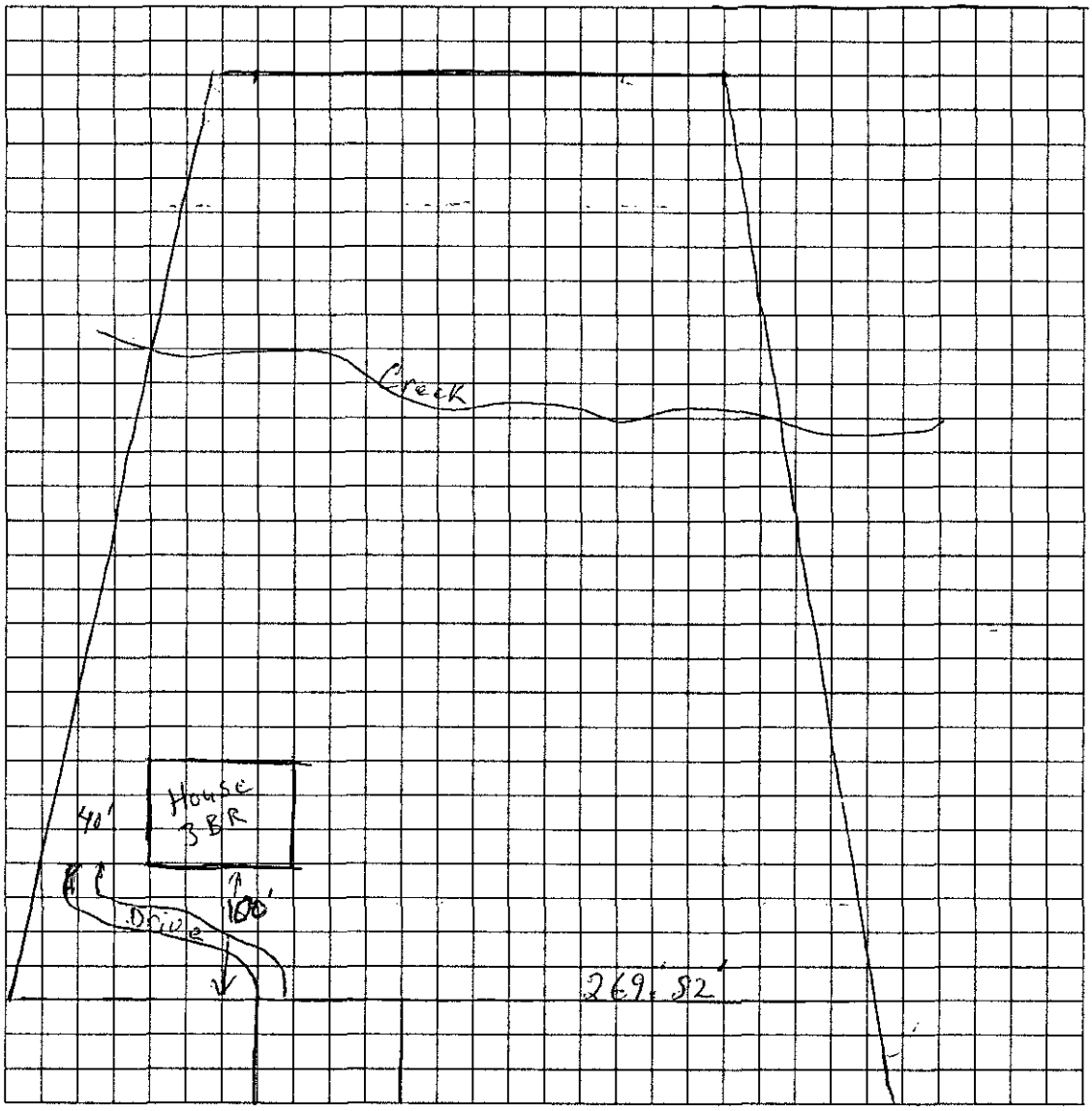
MECKLENBURG COUNTY-GROUNDWATER & WASTEWATER SERVICES
700 N. TRYON ST., SUITE 211, CHARLOTTE, NC 28202 PHONE: (704) 336-5103 FAX: (704) 336-6894

Mecklenburg County
Land Use & Environmental Service Agency
Groundwater & Wastewater Services
700 N. Tryon St., Suite 211
Charlotte, NC 28202
Phone: (704) 336-5103
Fax: (704) 336-6894

File # 5443B
Date_____

PROPOSED PLOT PLAN

A map showing existing and proposed property lines and easements with dimensions, the location of the single family residence, non-single family residence, or other facility, and appurtenances, the site for the proposed well, and the location of existing or proposed sewer lines and/or sewage disposal systems, surface water bodies, aboveground or underground storage tanks. Name all roads adjoining the property. If this a repair indicate the type of repair.



Owner/Agent Signature
Date

LBC 12/15/04

Department of Environment, Health, and Natural Resources
Division of Environmental Health
On-site Wastewater Section

Sheet:
Property ID: 017-032-21
Lot #: 6
File #: 5443B
AppID: 2180

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

Owner: Scott Wood — Applicant:
Address: 1851 Smyrna Lane, Catawba, N. C. 28609 — Date Evaluated: 11/28/07
Proposed Facility: Residence — Design Flow (.1949): 360 gpd — Property Size: 2.78a
Location of Site: Off Mt. Holly-Huntersville Road — Property Recorded:
Water Supply: [ ] Public [x] Individual [x] Well [ ] Spring [ ] Other
Evaluation Method: [x] Auger Boring [x] Pit [ ] Cut
Type of Wastewater: [x] Sewage [ ] Industrial Process [ ] Mixed

PROFILE #	1940 Landscape Position/ Slope%	Horizon Depth (IN.)	SOIL MORPHOLOGY .1941 .1941 Structure/ Texture	.1941 Consistence Mineralogy	b PROFILE FACTORS .1942 Soil Wetness/ Color	.1943 Soil Depth (IN.)	.1956 Sapro Class	.1944 Restr Horiz	Profile Class. & LTAR
1	LS, 12	0-3	GR/SL	VFR/SEXP/NS/NP	>40" TO SOIL WETNESS	27	N/A	N/A	US, I .6GPD/FT^2
		3-27	GR/LS	"					
		37-40	M/SL	VFI/SEXP/NS/NP					
2	LS, 10	0-4	GR/SL	VFR/SEXP/NS/NP	>48"TO SOIL WETNESS	34	"	"	"
		4-34	GR/LS	"					
		34-48	M/LS	FI-VFI/SEXP/NS/NP					
3	LS, 12	0-37	GR/LS	VFR/SEXP/NSNP		37	"	"	"
		37-	M/LS	FI-VFI/SEXP/NS/NP					
4	"	0-25	GR/LS	VFR/SEXP/NS/NP	>51" TO SOIL WETNESS	51	US	"	US, I .3GPD/FT^{2}LPP
		25-51	WKSBK/SCL	FR/SEXP/SS/SP					
		PEDS	>1"	25-51"					
5	"	0-29	GR/LS	VFR/SEXP/NS/NP	>38" TO SOIL WETNESS	38	N/A	"	"
		29-38	M/SC	VFI/MIXED/S/P					
6	LS, 10	0-21	GR/SL	FR/SEXP/SS/SP	>53" TO SOIL WETNESS	21	N/A	"	"
		21-53	M/SCL	FI/SEXP/SS/SP					
7	"	0-8	GR/LS	VFR/SEXP/NS/NP	>38" TO SOIL WETNESS	38	N/A	"	PS, I .6GPD/FT^2
		8-38	GR/SL	"					
		38+	M/LS/CEM	FI-VFI/SEXP/NS/NP					
8	"	0-6	GR/SL	VFR/SEXP/NS/NP	>33" TO SOIL WETNESS	33	"	"	US, I .5GPD/FT^2

Description	Initial System	Repair System
Available Space (.1945)	PS	PS
System Type(s)	III b	III b
Site LTAR	0.6	0.6

Other Factors (.1946):
Soil Evaluation By: W. R. Marlin, LSS, 12/3/2007
Others Present: S. Wood, S& EC
Site Classification (.1948): PS
Site Evaluation By:
Others Present:

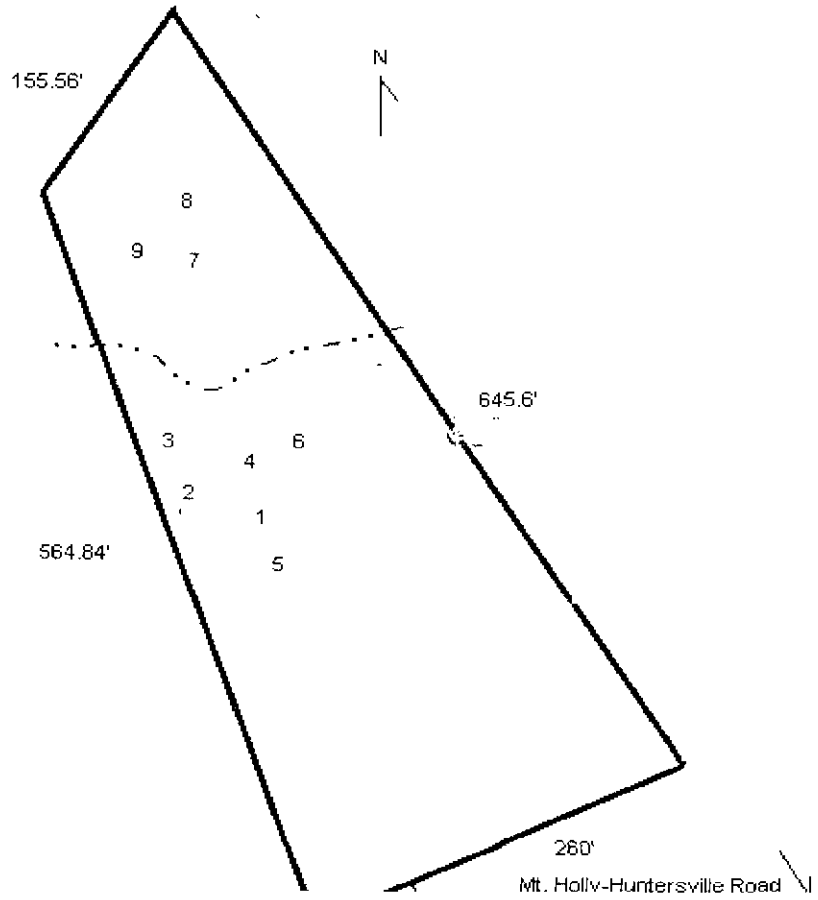
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COMMENTS: FILE #:

Landscape Position	Group	Texture	.1955 LTAR	Structure
R-Ridge	I	S-Sand	1.2 - 0.8	SG-Single Grain
SS-Shoulder Slope		LS-Loamy Sand		M-Massive
LS-Linear Slope				CR-Crumb
FS-Foot Slope	II	SL-Sandy Loam	0.8 - 0.6	GR-Granular
NS-Nose Slope		L-Loam		SBK-Subangular Blocky
HS-Head Slope				ABK-Angular Blocky
CC-Concave Slope	III	SI-Silt	0.6 - 0.3	PL-Platy
CV-Convex Slope		SICL-Silty Clay Loam		PR-Prismatic
T-Terrace		CL-Clay Loam		
FP-Flood Plain		SCL-Sandy Clay Loam		
	IV	SC-Sandy Clay	0.4 - 0.1	
		SIC-Silty Clay		
		C-Clay		

Consistence Moist	Consistence Wet	Mineralogy
VFR-Very Friable	NS-Non-Sticky	SEXP-Slightly Expansive
FR-Friable	SS-Slightly Sticky	EXP-Expansive
FI-Firm	S-Sticky	
VFI-Very Firm	VS-Very Sticky	
EFI-Extremely Firm	NP-Non-Plastic	
	SP-Slightly Plastic	
	P-Plastic	
	VP-Very Plastic	

Sketch of Soil Evaluation Locations



Department of Environment, Health, and Natural Resources
Division of Environmental Health
On-site Wastewater Section

Sheet: 1 of 2
Property ID: 017-032-21
Lot #: 6
File #: 5443B
AppID: 2180

SOIL/SITE EVALUATION for ON-SITE WASTEWATER SYSTEM

Owner: Scott Wood — Applicant:
Address: 1851 Smyrna Lane, Catawba, N. C. 28609 — Date Evaluated: 5/4/07
Proposed Facility: Residence — Design Flow (.1949): 480gpd — Property Size: Approx. .7a
Location of Site: Off Mt. Holly-Huntersville Road — Property Recorded:
Water Supply: [ ] Public [x] Individual [x] Well [ ] Spring [ ] Other
Evaluation Method: [ ] Auger Boring [x] Pit [ ] Cut
Type of Wastewater: [x] Sewage [ ] Industrial Process [ ] Mixed

PROFILE #	1940 Landscape Position/ Slope%	Horizon Depth (IN.)	SOIL MORPHOLOGY 1941		PROFILE FACTORS b				
			1941 Structure/ Texture	1941 Consistence Mineralogy	1942 Soil Wetness/ Color	1943 Soil Depth (IN.)	1956 Sapro Class	1944 Restr Horiz	Profile Class & LTAR
1	LS, 8	0-16	GR/SL	FR/SEXP/NS/NP	>53" TO SOIL WETNESS	53	N/A	NONE	US
		16-34	SBK/ABK/SC	VFRI/EXP/VS/VP					
		34-53	M/SCL	FR-FI/SEXP/SS/SP					
2	"	0-12	GR/SL	FR/SEXP/NS/NP	>59" TO SOIL WETNESS	59	"	"	"
		12-36	SBK/ABK/SC	VFRI/EXP/VS/VP					
		36-59	M/C	"					
3	"	0-15	GR/SL	FR/SEXP/NS/NP	>57" TO SOIL WETNESS	57	"	"	"
		15-40	SBK/ABK/SC	VFRI/EXP/VS/VP					
		40-57	M/C	"					
4	"	0-16	GR/SL	FR/SEXP/NS/NP	>58" TO SOIL WETNESS	58	"	"	"
		16-39	SBK/ABK/SC	VFRI/EXP/VS/VP					
		39-58	M/SCL	FR/SEXP/SS/SP					
5	"	0-16	GR/SL	FR/SEXP/NS/NP	2.5Y7/1 at 43"	34	"	"	"
		16-34	SBK/ABK/SC	VFRI/EXP/VS/VP					
		34-58	M/SCL	FR/SEXP/SS/SP					
			ADDITIONAL	PITS INV. 9/28/07 WRM	NO LTAR ASSIGNED				
A	LS, 6	0-5	GR/SL	VFRI/EXP/VS/VP	>49" TO SOIL WETNESS	34	"	"	US
		5-13	MSCL	FR/SEX/SS/SP					
		13-34	ABK/SC	VFI/EXP/VP/S PEDS > 1"					
		34-49	M/SCL	FI/EXP/S/VP					

Description	Initial System	Repair System
Available Space (.1945)		
System Type(s)		
Site LTAR		

Other Factors (.1946):
Soil Evaluation By: W. R. Marlin, LSS, 5/7/2007.
Others Present:
Site Classification (.1948):
Site Evaluation By:
Others Present:

Sheet: 2 of 2

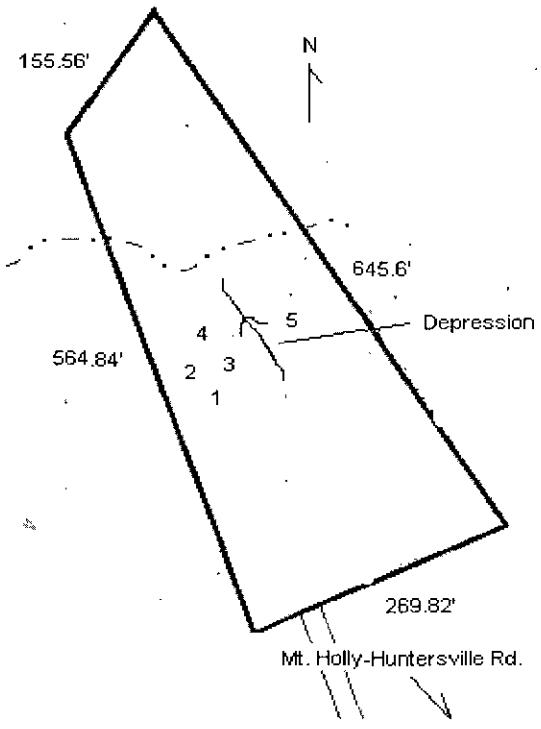
COMMENTS:
100% repair

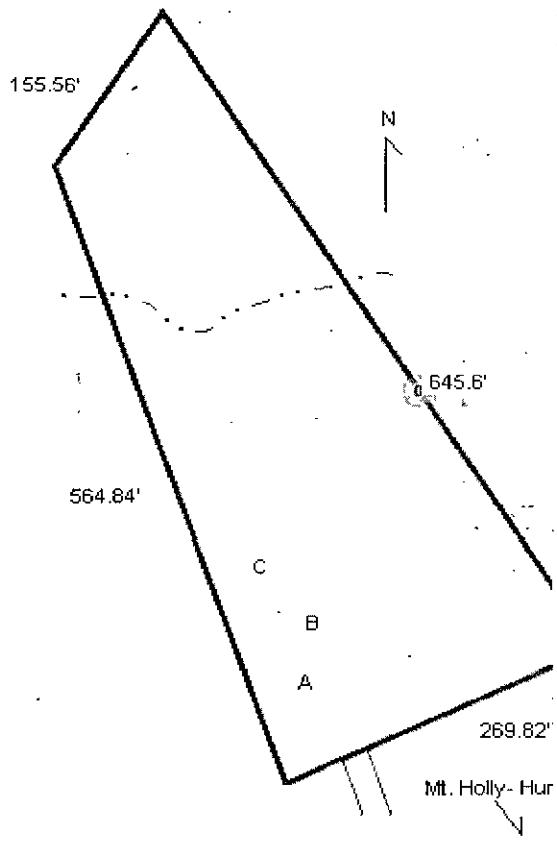
FILE #: 5443B

Landscape Position	Group	Texture	.1955 LTAR	Structure
R-Ridge	I	S-Sand	1.2 - 0.8	SG-Single Grain
SS-Shoulder Slope		LS-Loamy Sand		M-Massive
LS-Linear Slope				CR-Crumb
FS-Foot Slope	II	SL-Sandy Loam	0.8 - 0.6	GR-Granular
NS-Nose Slope		L-Loam		SBK-Subangular Blocky
HS-Head Slope				ABK-Angular Blocky
CC-Concave Slope	III	SI-Silt	0.6 - 0.3	PL-Platy
CV-Convex Slope		SICL-Silty Clay Loam		PR-Prismatic
T-Terrace				
FP-Flood Plain		CL-Clay Loam		
		SCL-Sandy Clay *Loam*		
	IV	SC-Sandy Clay	0.4 - 0.1	
		SIC-Silty Clay		
		C-Clay		

Consistence Moist	Consistence Wet	Mineralogy
VFR-Very Friable	NS-Non-Sticky	SEXP-Slightly Expansive
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EFI-Extremely Firm	NP-Non-Plastic	
	SP-Slightly Plastic	
	P-Plastic	
	VP-Very Plastic	

Sketch of Soil Evaluation Locations





SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM
CONTINUED

PROFILE #	1940 Landscape Position/ Slope%	Horizon Depth (IN.)	SOIL MORPHOLOGY 1941 Structure/ Texture	SOIL MORPHOLOGY 1941 Consistence Mineralogy	OTHER PROFILE FACTORS 1942 Soil Wetness/ Color	1943 Soil Depth (IN.)	1956 Sapro Class	1944 Restr Horiz	Profile Class &LTAR
B	LS, 8	0-14	GR/SL	VFR/SEXP/NS/NP	>47" TO SOIL WETNESS	31	US	NONE	US
		14-31	ABK/SBK/SC	VFI/SEXP/VP/S					
		31-47	M/SCL	FR-FI/SEXP/SS/SP					
C	"	0-11	GR/SL	VFR/SEXP/NS/NP	"	18	"	"	"
		11-18	SBK/SCL	FR-FI/SEXP/SS/SP					
		18-47	M/SCL	"					
					NO LTAR ASSIGNED				

MECKLENBURG COUNTY
Health Department

May 09, 2007

Scott Wood
1851 Smyrna Lane
Catawba, NC 28609

Re: Application for improvement permit for:
Property Site: Lot #6 Mt. Holly-Huntersville Road
Health Department file number: **5443B**

Dear Property Owner or Owner's Agent:

The Mecklenburg County Health Department, Environmental Health Division on May 08, 2007 evaluated the above-referenced property at the site designated on the site plan that accompanied your improvement permit application. According to your application the site is to serve a 4 bedroom house, with a daily design flow of 480 gallons per day. The evaluation was done in accordance with the laws and rules governing wastewater systems in North Carolina General Statute 130A-333 and related statutes and Title 15A, Subchapter 18A, of the North Carolina Administrative Code, Rule .1900 and related rules.

Based on the criteria set out in Title 15A, Subchapter 18A, of the North Carolina Administrative Code, Rules .1940 through .1948, the evaluation indicated that the site is **UNSUITABLE** for a ground absorption sewage system. Therefore, your request for an improvement permit is **DENIED.** A copy of the site evaluation is enclosed. The site is unsuitable based on the following:

- ☐ Unsuitable soil topography and/or landscape position (Rule .1940)
- ☒ Unsuitable soil characteristics (structure or clay mineralogy) (Rule .1941)
- ☐ Unsuitable soil wetness condition (Rule .1942)
- ☒ Unsuitable soil depth (Rule .1943)
- ☐ Presence of restrictive horizon (Rule .1944)
- ☒ Insufficient space for septic system and repair area (Rule .1945)
- ☐ Unsuitable for meeting required setbacks (Rule .1950)
- ☐ Other (Rule .1946)

These severe soil or site limitations could cause premature system failure, leading to the discharge of untreated sewage on the ground surface, into surface waters, directly to ground water or inside your structure.

The site evaluation included consideration of possible site modifications, and modified, innovative or alternative systems. However, the Health Department has determined that none of the above options will overcome the severe conditions on this site. A possible option might be a system designed to dispose of sewage to another area of suitable soil or off-site to additional property.

For the reasons set out above, the property is currently classified **UNSUITABLE,** and an improvement permit shall not be issued for this site in accordance with Rule .1948 (c).

However, the site classified as **UNSUITABLE** may be classified as **PROVISIONALLY SUITABLE** if written documentation is provided that meets the requirements of Rule .1948(d). A copy of this rule is enclosed. You may hire a consultant to assist you if you wish to try to develop a plan under which your site could be reclassified as **PROVISIONALLY SUITABLE.**

You have a right to an informal review of this decision. You may request an informal review by the soil scientist or environmental health supervisor at the local health department. You may also request an informal review by the N. C. Department of Environment and Natural Resources regional soil specialist. A request for informal review must be made in writing to the local health department.

You also have a right to a formal appeal of this decision. To pursue a formal appeal, you must file a petition for a contested case hearing with the Office of Administrative Hearings, 6714 Mail Center, Raleigh, NC 27699-6714. To get a copy of a petition form, you may write the Office of Administrative Hearings or call the office at (919) 733-0926 or from the OAH web site at www.oah.state.nc.us/form.htm. The petition for a contested case hearing must be filed in accordance with the provision of North Carolina General Statutes 130A-24 and 150B-23 and all other applicable provisions of Chapter 150B. N. C. General Statue 130A-335(g) provides that your hearing would be held in the county where your property is located.

Please note: If you wish to pursue a formal appeal, you must file the petition form with the Office of Administrative Hearings **WITHIN 30 DAYS OF THE DATE OF THIS LETTER.** The date of this letter is May 09, 2007. Meeting the 30-day deadline is critical to your right to a formal appeal. Beginning a formal appeal within 30 days will not interfere with any informal review that you might request. Do not wait for the outcome of any informal review if you wish to file a formal appeal.

If you file a petition for a contested case hearing with the Office of Administrative Hearings, you are required by law (N.C. General Statute 150B-23) to send a copy of your petition to the North Carolina Department of Environment and Natural Resources. Send the copy to: Office of General Counsel, N. C. Department of Environment and Natural Resources, 1601 Mail Service Center, Raleigh, NC. 27699-1601. Do **NOT** send the copy of the petition to your local health department. Sending a copy of your petition to the local health department will **NOT** satisfy the legal requirement in N.C. General Statute 150B-23 that you send a copy to the Office of General Counsel, NCDENR.

You may call or write the local health department if you need any additional information or assistance.

Sincerely,

Jeremy Michelone, R.S.
Authorized Agent - DENR

Encl: (2)

Soil & Environmental Consultants, PA

236 LePhillip Court, Suite C • Concord, North Carolina 28025 • Phone: (704) 720-9405 • Fax: (704) 720-9406
www.SandEC.com

Attached is a proposed design for a Gravity Distributed Septic System for a 3 bedroom single family residence for Scott Wood Mecklenburg County, North Carolina.

Contents: **Page**

Information for the Installer---------- 1

Design Information
Layout Specifications---------- 2

Site Plan/System Plan---------- 3

Septic Tank Diagram---------- 4

Design specs---------- 5

Trench Detail---------- 6

Maintenance---------- 7-10

December 12, 2007
S & EC Project No. 5-2044
Design By: E. Bailey

GWS Septic System Design Review

GWS File #: 5443B **Approved** **Disapproved**

Design Review: 12-17-07 PCT ☒ ☒ IR

Field Review: 12/17/07 PM ☒ ☐ 12/17

Projects are **not considered "APPROVED"** until both sections above completed **and indicate an APPROVED** status.

Greensboro Office:
3817-E Lawndale Drive
Greensboro, NC 27455
Phone: (336) 540-8234
Fax: (336) 540-8235

Raleigh Office:
11010 Raven Ridge Road
Raleigh, NC 27614
Phone: (919) 846-5900
Fax: (919) 846-9467

INFORMATION FOR THE INSTALLER:

- The permit should be read very carefully prior to bidding. The following are details that must be considered along with all other considerations.
- Tanks shall be approved by DEHNR, and certification supplied by the manufacturer.
- Tanks shall be water tested prior to installation.
- The installer shall be responsible to the owner for placement of the tanks and to insure that final grades are returned to the original natural grade, with exception of added structural features.
- The supply trench shall be compacted to eliminate cavities left during initial fill placement.
- Installation of the system shall be during dry conditions in order to protect the soil structure.
- All fittings shall be pressure rated fittings.
- All joints shall be cleaned with PVC pipe cleaner and a heavy bodied glue applied to weld all joints.
- Where required by the county health department, post installation inspections by the designer must be scheduled 5 week days in advance.
- Trenches shall be carefully excavated so the bottom is within 2" from the highest to . the lowest points of elevation within the trench. If the bottom elevation needs adjusting after it has been trenched, it will be done by removing high points rather than filling low points. It is extremely important to insure that trenches are not over excavated during initial trenching. All fine grading within the trench will be hand done with a shovel. No loose material will be left in the trench
- All pipe openings in the tanks shall be properly grouted. This also applies to the joints around the riser.
- All tanks shall be properly back filled and compacted to prevent slump at a later date.
- Earth dams, constructed of relatively impervious material, shall be installed at the beginning and end of each lateral.
- Elevations at pinflag locations should be checked by the installer prior to beginning trenches.
- Septic tank riser shall be a minimum of 6" above finished grade.
- System is specified as an at grade conventional installation
- Repair is specified as an at- grade conventional
  Trench bottom is specified as 12 "
  System and repair require 12" soil cap

Scott Wood

Project No. 5-2044

LAYOUT FOR 3 BEDROOM HOME December-07

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH
TBM		7.8			100.00	
INSTR. 1			107.80			
			System			
1	Red			1.50	106.30	50
2	Orange			2.40	105.40	55
3	Yellow			3.40	104.40	55
4	Blue			4.90	102.90	55
					Total	**215**
			Repair			
5	Pink			6.40	101.40	55
6	Red			8.00	99.80	65
7	Orange			9.60	98.20	55
8	Yellow			11.50	96.30	35
					Total	**210**

	LINE LENGTH	LTAR GPD/FT2	SYSTEM TYPE	DISTRIBUTION
SYSTEM	215	0.6	At-Grade Conventional	Drop box
REPAIR	210	0.6	At-Grade Conventional	Drop Box

Notes:

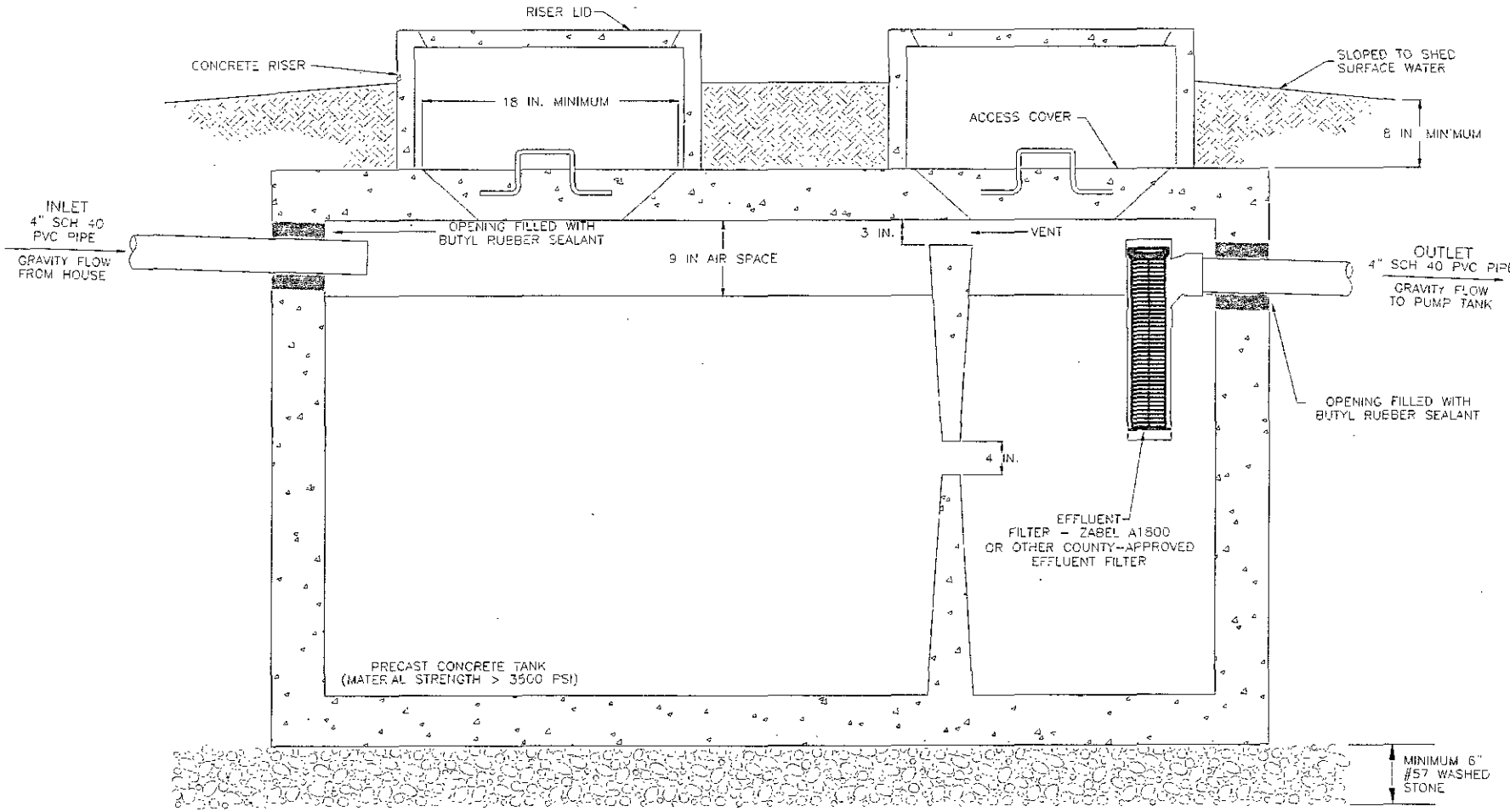
**TBM is assumed to be 100'; located top of stump at the end of the lower or

**Nitrification lines are demonstrated on contour via colored pin flags

**BS, HI, and FS indicate rod readings

**Trench bottom 12"

**System and repair require 12" soil cap



NOTES

1. TANK DIMENSIONS VARY BY MANUFACTURER.

1500 GALLON SEPTIC TANK

PROJECT NO: 4591	PROJECT NAME: **Scott Wood**	Soil & Environmental Consultants, Inc.
PROJECT MGR:	SHEET TITLE: SEPTIC TANK DIAGRAM	11010 Raven Ridge Road Raleigh, North Carolina 27614 Phone: (919) 846-5900 Fax: (919) 846-9467 Web Page: www.SandEC.com
SCALE: NTS		

At-grade conventional system and repair
FOR WASTEWATER TREATMENT

Owner: Scott Wood

Address: 1851 Smyrna Ln

Phone: 828 478 2346
County: Mecklenburg
Location: Off Mt. Holly Huntersville Rd
Source of Wastewater Flow: 3 bedroom home
Estimated Daily Wastewater Production: 360gpd
System Flow:

Design Specifications

Drainfield Size: 215
Loading Rate: 0.60
Depth of Gravel in Trench: 12
Gravel Size: 57
Trench Depth: 12
Trench Width: 36 in.
Septic Tank Size: 1500
Pump Tank Size: NA
Estimated Supply Line Length: 75
Supply Line Diameter: 2 in. SCH 40 PVC
Supply Line Volume: 13.05
Dosing Volume: NA
Supply Manifold: ***NA (Drop BOX)***
Supply Manifold Length: NA
Supply Manifold Volume: N/A

Recommended Float Controls: NA

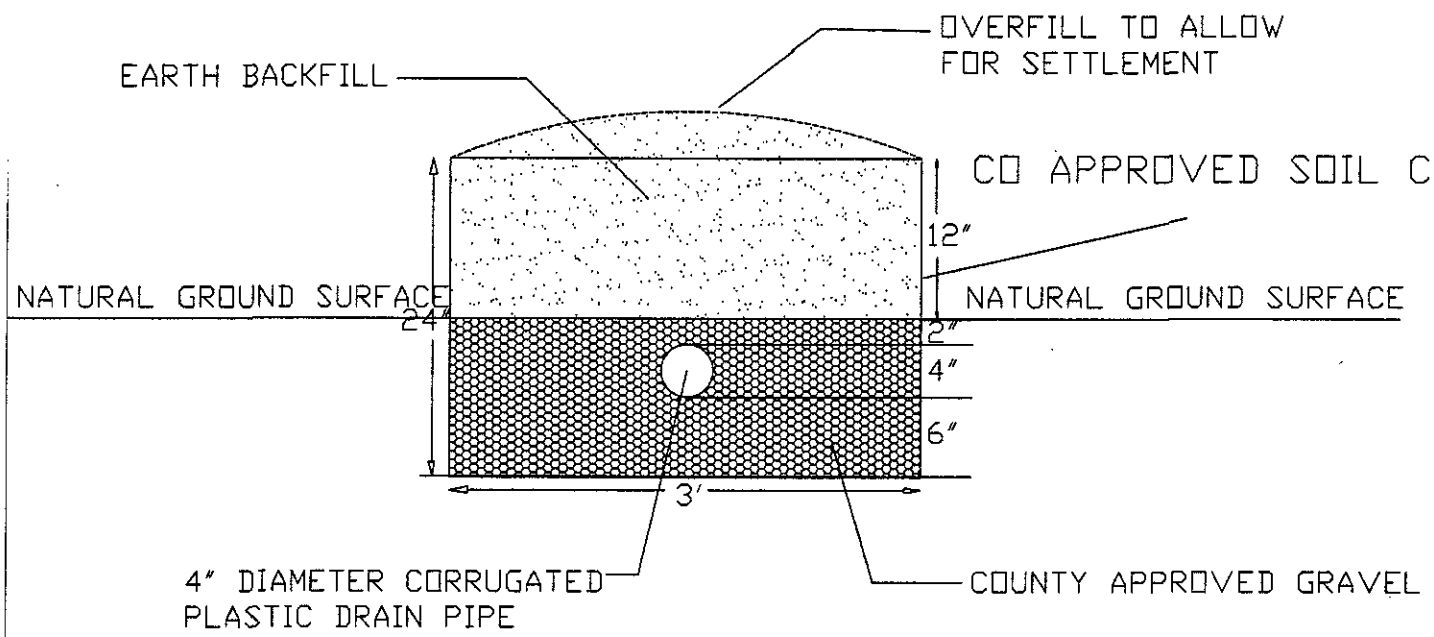
Recommended Control Panel: NA

Pressure Head: NA
Friction Head: NA
Elevation Head: 0.00
Total Dynamic Head: NA
Threaded Union: NA
Gate Valves: NA

Check Valves: NA
Anti-Siphon Hole: NA
Recommended Pump: NA

Additional Comments: Soil suitability was performed by the Mecklenburg County Health Department. and S&EC

At- Grade Conventional



NOTE :

1. PERFORATED CORRUGATED PLASTIC PIPE SHALL MEET REQUIREMNTS OF ASTM D 2729.
2. PIPE SHALL BE LEVEL.
3. END CAP SHALL BE PROVIDED AT END OF ALL CORRUGATED PLASTIC PIPE LINES.
4. TRENCH BOTTOM SHALL BE LEVEL.
5. 12" trench bottom 12" soil cap

SHEET 1 OF 1

JOB NO. S-2044 S4	PROJECT NAME: Scott Wood
PROJECT MGR. EB	SHEET TITLE: TRENCH DETAIL
SCALE NTS	

Soil & Environmental Consultants, PA
236 Le Phillip Ct., Ste C · Concord, North Carolina 28025 · Phone: (704) 720-9405 · Fax: (704) 720-9406
www.SandEC.com

(1) The pit shall consist of an excavation at least 42 inches square and in no case shall the bottom of an excavation be closer than one foot from the seasonally high water table or rock.

(2) The pit shall be properly curbed to prevent caving. In sandy or loose soil, the curb should extend the full depth of the pit. In tight soils, partial curbing is acceptable if it prevents caving.

(3) The privy floor slab shall be constructed of reinforced concrete. Where it is impractical to secure or construct reinforced concrete floor assemblies, wood construction shall be acceptable provided the floor slab is made of rough sub-flooring and covered with tight tongue-and-groove flooring or other type flooring materials to provide strength and prevent entrance of flies and mosquitoes to the privy pit. Where wood construction is used, floors shall be anchored to at least four-inch by four-inch sills.

(4) Wood used for riser, seat assemblies, and the floor slab shall be tongue-and-groove or plywood (exterior or marine) material.

(5) Privies shall not be used for the disposal of water-carried sewage.

History Note: *Authority G.S. 130A-335(e);*
Eff. July 1, 1982;
Amended Eff. December 1, 1990.

15A NCAC 18A .1960 MAINTENANCE OF PRIVIES

(a) Any person owning or controlling the property upon which a privy is located shall be responsible for these requirements:

(1) The privy building shall afford a reasonable degree of protection from bad weather conditions.

(2) When the pit becomes filled to within 18 inches of the top of the ground, the privy building shall be moved to a new pit and the old pit completely covered with earth.

(3) If the pit caves in, a new pit shall be provided.

(b) The tenant or person occupying the property shall be responsible for these requirements:

(1) The walls, floors, and seat of the privy and grounds immediately adjacent to the building shall be kept in a clean and decent condition.

(2) Fowl and other animals shall not be harbored in the privy building.

(3) Seat cover shall be hinged and closed at all times when the privy is not in use.

(4) Flies shall be excluded from the pit at all times.

(5) Ashes, garbage, and trash shall be kept out of the pit.

History Note: *Authority G.S. 130A-335(e) and (f);*
Eff. July 1, 1982;
Amended Eff. January 1, 1990.

15A NCAC 18A .1961 MAINTENANCE OF SEWAGE SYSTEMS

(a) Any person owning or controlling the property upon which a ground absorption sewage treatment and disposal system is installed shall be responsible for the following items regarding the maintenance of the system:

(1) Ground absorption sewage treatment and disposal systems shall be operated and maintained to prevent the following conditions:

(A) a discharge of sewage or effluent to the surface of the ground, the surface waters, or directly into groundwater at any time; or

(B) a back-up of sewage or effluent into the facility, building drains, collection system, or freeboard volume of the tanks; or

(C) a free liquid surface within three inches of finished grade over the nitrification trench for two or more observations made not less than 24 hours apart. Observations shall be made greater than 24 hours after a rainfall event.

The system shall be considered to be malfunctioning when it fails to meet one or more of these requirements, either continuously or intermittently, or if it is necessary to remove the contents of the tank(s) at a frequency greater than once per month in order to satisfy the conditions of Parts (A), (B), or (C) of this Paragraph. Legal remedies may be pursued after an

authorized agent has observed and documented one or more of the malfunctioning conditions and has issued a notice of violation.

(2) Ground absorption sewage treatment and disposal systems shall be checked, and the contents of the septic tank removed, periodically from all compartments, to ensure proper operation of the system. The contents shall be pumped whenever the solids level is found to be more than 1/3 of the liquid depth in any compartment.

(b) System management in accordance with Tables V(a) and V(b) of this Rule shall be required for all systems installed or repaired after July 1, 1992. After July 1, 1992, system management in accordance with Tables V(a) and V(b) shall be required for all existing Type V and Type VI systems.

(c) No Improvement Permit or Construction Authorization shall be issued for Type IV, Type V, or Type VI systems, unless a management entity of the type specified in Table V(b) is specifically authorized, funded, and operational to carry out this management program in the service area where the proposed system is to be located.

(d) A local health department may be the public management entity only for systems classified Type IV, V(a) and V(b) and only when specifically authorized by resolution of the local board of health.

(e) A contract shall be executed between the system owner and a management entity prior to the issuance of an Operation Permit for a system required to be maintained by a public or private management entity, unless the system owner and certified operator are the same. The contract shall include the specific requirements for maintenance and operation, responsibilities of the owner and system operator, provisions that the contract shall be in effect for as long as the system is in use, and other requirements for the continued proper performance of the system. It shall also be a condition of the Operation Permit that subsequent owners of the system execute such a contract.

(f) Inspections of the system shall be performed by a management entity at the frequency specified in Table V(b). The management entity shall report the results of their inspections to the local health department at the specified reporting frequency. However, where inspections indicate the need for system repairs, the management entity shall notify the local health department within 48 hours in order to obtain a Construction Authorization for the repairs.

(g) The management entity shall be responsible for assuring routine maintenance procedures and monitoring requirements in accordance with the conditions of the Operation Permit and the contract.

(h) Sewage systems with multiple components shall be classified by their highest or most complex system type in accordance with Table V to determine local health department and management entity responsibilities.

(i) Sewage systems not identified in this Rule shall be classified by the Division of Environmental Health after consultation with the appropriate commission governing operators of pollution control facilities.

(j) The local health department shall routinely review the performance and operation reports submitted in accordance with Table V(b) of this Rule and shall perform an on-site inspection of the systems as required in Table V(a).

(k) The certified operator shall hold a valid and current certificate from the appropriate commission, and nothing in this Section shall preclude any requirements for system operators, in accordance with Article 3 of G.S. 90A.

TABLE V(a)

LOCAL HEALTH DEPARTMENT RESPONSIBILITIES

System Classification	System Description	Permits Required	Minimum System Review Frequency
Type I	a. Privy b. Chemical toilet c. Incinerating toilet d. Other toilet system e. Grease trap	Improvement Permit, Construction Authorization, and Operation Permit	N/A
Type II	a. Conventional septic system (single-family or 480 GPD or less) b. Conventional septic system with 750 linear feet of	Improvement Permit, Construction Authorization, and Operation Permit	N/A

	nitrification line or less c. Conventional system with shallow placement		
Type III	a. Conventional septic system > 480 GPD (excluding single-family residence) b. Septic system with single effluent pump or siphon c. Gravity fill system d. Dual gravity field system e. PPBPS system, gravity dosed f. Large diameter pipe system g. Other non-conventional trench systems	Improvement Permit, Construction Authorization, and Operation Permit	5 yrs. (IIIb only)
Type IV	a. Any system with LPP distribution b. System with more than 1 pump or siphon	Improvement Permit, Construction Authorization, and Operation Permit	3 yrs.
Type V	a. Sand filter pretreatment system b. Any > 3,000-GPD septic tank system with a nitrification field designed for > 1500 GPD c. Aerobic Treatment Unit (ATU) d. Other mechanical, biological, or chemical pretreatment plant (< 3000 GPD)	Improvement Permit, Construction Authorization, and Operation Permit	12 mos.
Type VI	a. Any > 3,000 GPD system with mechanical, biological, or chemical pretreatment system plant b. Wastewater reuse/recycle	Improvement Permit, Construction Authorization, and Operation Permit	6 mos.

TABLE V(b)

MANAGEMENT ENTITY RESPONSIBILITIES

System Classification	Management Entity	Minimum System Inspection/Maintenance Frequency	Reporting Frequency
Type I	Owner	N/A	N/A
Type II	Owner	N/A	N/A
Type III	Owner	N/A	N/A
Type IV	Public Management	2/yr.	12 mos.

	Entity with a Certified Operator or a private Certified Operator		
Type V	Public Management Entity With a Certified Operator or a private Certified Operator	a. 2/yr (0-1500 GPD) 4/yr (1500-3000 GPD) 12/yr (3000-10000 GPD) 1/wk (> 10000 GPD) b. 12/yr (3000-10000 GPD) 1/wk (> 10000 GPD) c. 4/yr. d. 12/yr.	6 mos.
Type VI	Public Management Entity With a Certified Operator	a. 1/wk(3000-10000 GPD) 2/wk(10000-25000 GPD) 3/wk(25000-50000 GPD) 5/wk(> 75000 GPD) b. 12/yr.	3 mos.

(l) A sewage collection, treatment, and disposal system that creates or has created a public health hazard or nuisance by surfacing of effluent or discharge directly into groundwater or surface waters, or that is partially or totally destroyed shall be repaired within 30 days of notification by the state or local health department unless the notification otherwise specifies a repair period in writing. If a system described in the preceding sentence has for any reason been disconnected, the system shall be repaired prior to reuse. The state or local health department shall use its best professional judgement in requiring repairs that will reasonably enable the system to function properly. If, for any reason, a sewage collection, treatment, and disposal system is found to be nonrepairable, or is no longer required, the system shall not be used, and may be required to have any contents removed, collapse any components and backfill, or otherwise secured as directed by the authorized agent to protect the public health and safety.

(m) When necessary to protect the public health, the state or local health department may require the owner or controller of a malfunctioning system to pump and haul sewage to an approved wastewater system during the time needed to repair the system.

History Note: *Filed as a Temporary Amendment Eff. July 3, 1991, for a period of 180 days to expire on December 30, 1991;*
Filed as a Temporary Amendment Eff. June 30, 1990, for a period of 180 days to expire on December 27, 1990;
Authority G.S. 130A-335(e),(f);
Eff. July 1, 1982;
Amended Eff. August 1, 1991; October 1, 1990; January 1, 1990; August 1, 1988;
Temporary Amendment Eff. January 20, 1997;
Amended Eff. August 1, 1998.

15A NCAC 18A .1962 APPLICABILITY

The provisions of this Section shall not apply to properly functioning sewage collection, treatment, and disposal systems in use or for which a valid permit to install a system has been issued prior to July 1, 1977. This provision is applicable only where the sewage flow and sewage characteristics are unchanged. This provision does not affect the requirements for system operation, maintenance, and management in accordance with Rule .1961 of this Section.

History Note: *Authority G.S. 130A-335(e);*
Eff. July 1, 1982;
Amended Eff. August 1, 1991; December 1, 1990.

Soil & Environmental Consultants, PA

236 LePhillip Court, Suite C • Concord, North Carolina 28025 • Phone: (704) 720-9405 • Fax: (704) 720-9406
www.SandEC.com

Transmittal

To: Mecklenburg County
Environmental Health
Attn: Jeremy Michelone
700 N Tryon St.
Charlotte, NC 28202

Project # 5-2044.S4 Date: 12/13/07
Project Name: Wood 2.8 Acres
File:

We Transmit to you Herewith:

- ☐ Drawings
- ☐ Specifications
- ☐ Brochures or photos
- ☐ Correspondence
- ☐ As per your request
- ☐ For your information and files
- ☐ For comment or approval
- ☐ Returned for correction, resubmit
- ☒ Design

Under Separate Cover:

- ☒ By mail
- ☐ By courier
- ☐ By express

No. Copies	Document No.	Date	Description
1		12/12/07	Proposed design for a Gravity Distributed Septic System for a 3 bedroom single family residence for Scott Wood, Mecklenburg, County, NC

Remarks:

If enclosures are not as listed as above, kindly notify us at once.

By: Eric Bailey

Greensboro Office:
3817-E Lawndale Drive
Greensboro, NC 27455
Phone: (336) 540-8234
Fax: (336) 540-8235

Raleigh Office:
11010 Raven Ridge Road
Raleigh, NC 27614
Phone: (919) 846-5900
Fax: (919) 846-9467

Soil & Environmental Consultants, PA
226 LePhillip Court, Suite C • Concord, North Carolina 28025 • Phone: (704) 720-9405 • Fax: (704) 720-9406
www.SandEC.com

FACSIMILE SHEET

FAX NO. (704) 720-9406

DATE: 12-19-07 Project Number: _____

TO: Name: Jeremy Nicholson CC: _____

Company: Mecklenburg County Health Dept _____

Fax Number: (704) 336-6894 _____

FROM: Eric Bailey SUBJECT: Wood Trench Detail

The following items are being faxed. Number of pages including transmittal sheet: 2

— For Your Comments/Approval	___ For Your Information
✓ Per Our Conversation	___ Per Your Request
___ Please Advise	___ Please Call
___ Would Like To Discuss	✓ Please Handle

HARD COPY SENT:

___ US Regular Mail	___ Hand Delivery
___ Overnight	— No Hard Copy Sent

Remarks: Attach is a revised trench detail showing the soil cap going 5' beyond the trench and also a written explanation.

Thanks

IF YOU HAVE ANY QUESTIONS OR PROBLEMS WITH THIS TRANSMISSION,

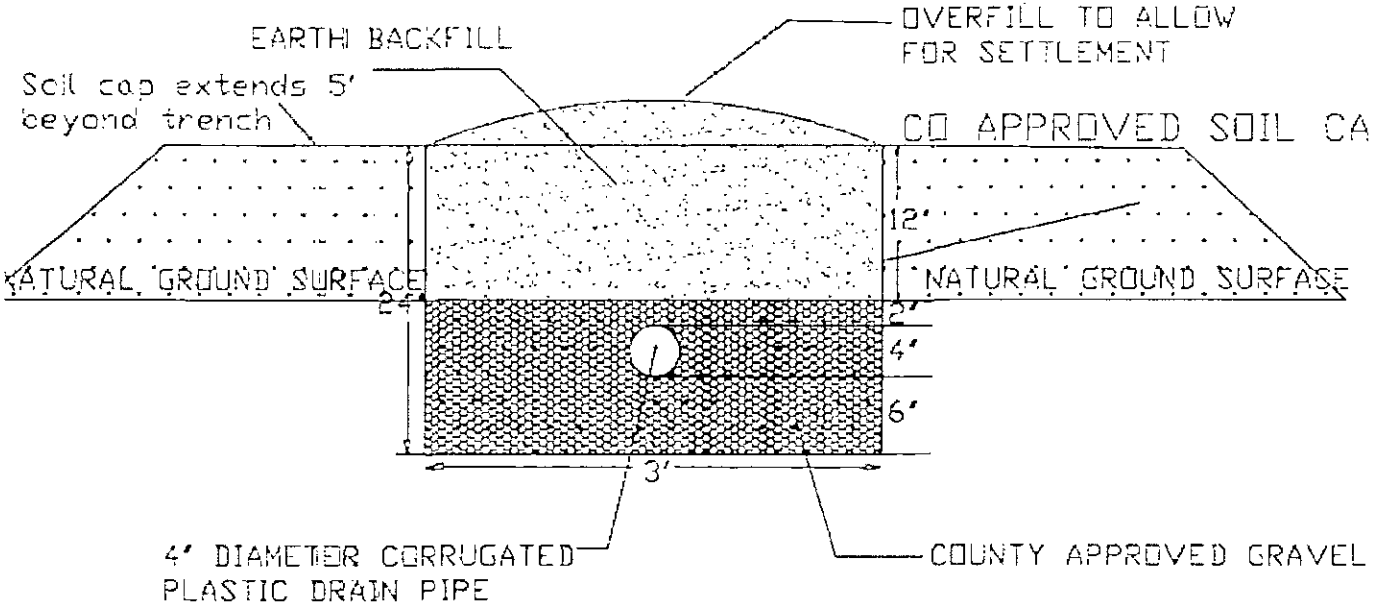
PLEASE CONTACT Eric Bailey AT (704)720-9405.

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Greensboro Office:
3817-E Lawndale Drive
Greensboro, NC 27455
Phone: (336) 540-8234
Fax: (336) 540-8235

Raleigh Office:
11010 Raven Ridge Road
Raleigh, NC 27614
Phone: (919) 846-5900
Fax (979) 846-9467

At- Grade Conventional



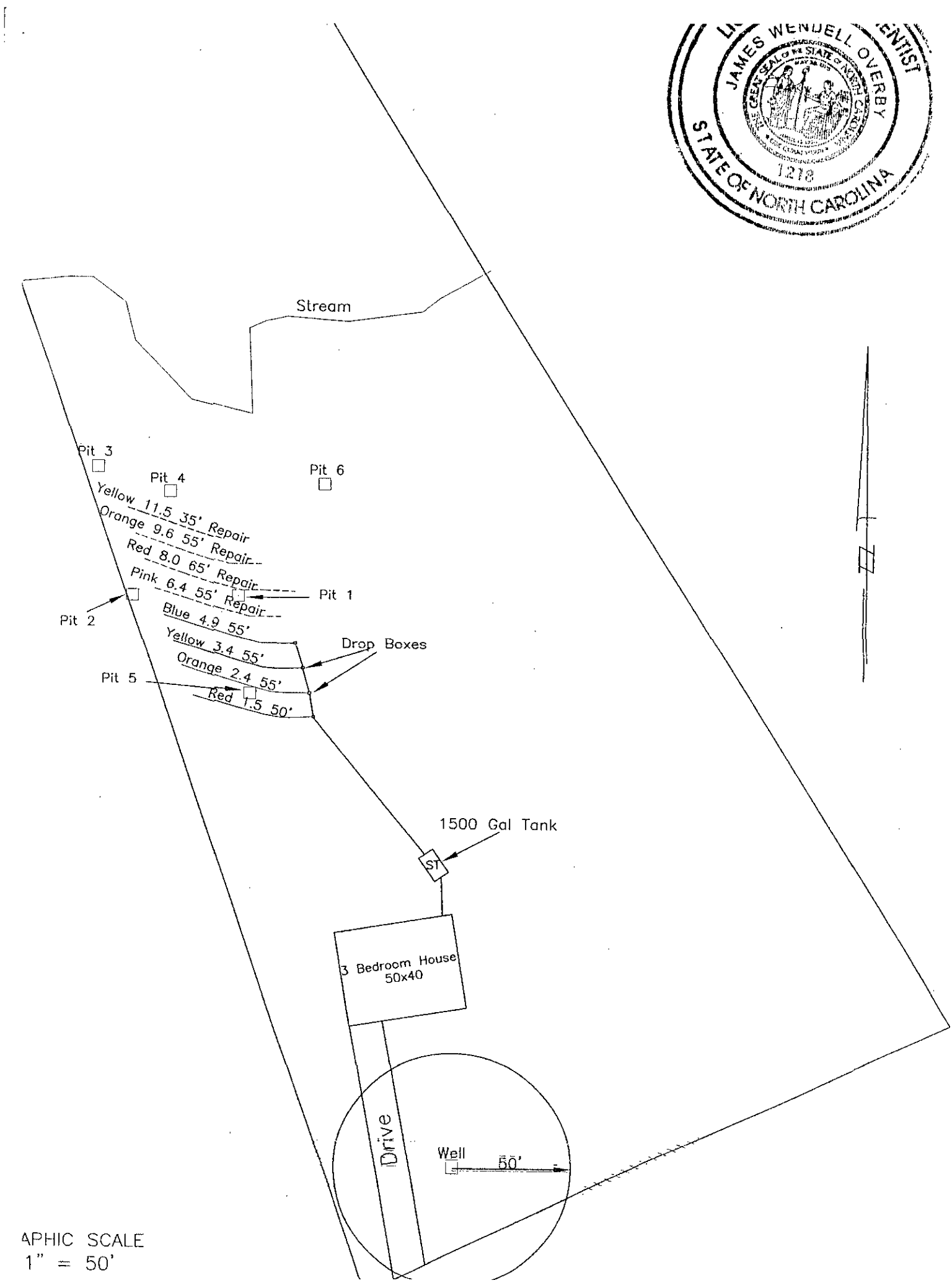
NOTE :

1. PERFORATED CORRUGATED PLASTIC PIPE SHALL MEET REQUIREMENTS OF ASTM D 2729.
2. PIPE SHALL BE LEVEL.
3. END CAP SHALL BE PROVIDED AT END OF ALL CORRUGATED PLASTIC PIPE LINES.
4. TRENCH BOTTOM SHALL BE LEVEL.
5. 12" trench bottom 12" soil cap
6. .1955 (D__ Soil cover above the original grade shall be placed at a uniform depth over the entire nitrification field and extend laterally five feet beyond the nitrification trench.

SHEET 1 of 1

PROJECT NAME	Scott Wood
SHEET TITLE	TRENCH DETAIL

Soil & Environmental Consultants, PA


JAMES WENDELL OVERBY
1218
STATE OF NORTH CAROLINA
Stream
Pit 3
Pit 4
Pit 6
Yellow 11.5 35' Repair
Orange 9.6 55' Repair
Red 8.0 65' Repair
Pink 6.4 55' Repair
Pit 1
Pit 2
Blue 4.9 55'
Yellow 3.4 55'
Drop Boxes
Orange 2.4 55'
Pit 5
Red 1.5 50'
1500 Gal Tank
ST
3 Bedroom House
50x40
Drive
Well
50'
APHIC SCALE
1" = 50'

Soil & Environmental Consultants, PA

248 LePhillip Court • Concord, North Carolina 28025 • Phone: (704) 720-9405 • Fax: (704) 720-9406
www.SandEC.com

Attached is a proposed design for an At-Grade Conventional Septic System with pressure manifold for 3 bedroom single family residence for Scott Wood Mecklenburg County, North Carolina.

Contents: **Page**

Information for the Installer---------- 1

Design Information

- Design Specifications---------- 2-3
- Layout Specifications---------- 4
- System Tapsheet---------- 5
- Repair Tapsheet---------- 6

Site Plan/System Plan---------- 7

Septic Tank Diagram---------- 8

Pump Tank Diagram---------- 9

Pressure Manifold Diagram---------- 10

Control Panel Specifications---------- 11-14

Pump Specifications---------- 15-16

Trench Detail---------- 17

Calculations---------- 18

Electric Box Specifications---------- 19

Maintenance---------- 20-22

August 28, 2009
S & EC Project No. 5-2044
Design By: W. Overby

Greensboro Office:
3817-E Lawndale Drive
Greensboro, NC 27455
Phone: (336) 540-8234
Fax: (336) 540-8235

Raleigh Office:
11010 Raven Ridge Road
Raleigh, NC 27614
Phone: (919) 846-5900
Fax: (919) 846-9467

INFORMATION FOR THE INSTALLER:

- The permit should be read very carefully prior to bidding. The following are details that must be considered along with all other considerations.
- Tanks shall be approved by DEHNR, and certification supplied by the manufacturer.
- Tanks shall be water tested prior to installation.
- The installer shall be responsible to the owner for placement of the tanks and to insure that final grades are returned to the original natural grade, with exception of added structural features.
- The supply trench shall be compacted to eliminate cavities left during initial fill placement.
- Installation of the system shall be during dry conditions in order to protect the soil structure.
- All fittings shall be pressure rated fittings.
- All joints shall be cleaned with PVC pipe cleaner and a heavy bodied glue applied to weld all joints.
- Where required by the county health department, post installation inspections by the designer must be scheduled 5 week days in advance.
- Trenches shall be carefully excavated so the bottom is within 2" from the highest to the lowest points of elevation within the trench. If the bottom elevation needs adjusting after it has been trenched, it will be done by removing high points rather than filling low points. It is extremely important to insure that trenches are not over excavated during initial trenching. All fine grading within the trench will be hand done with a shovel. No loose material will be left in the trench
- All pipe openings in the tanks shall be properly grouted. This also applies to the joints around the riser.
- All tanks shall be properly back filled and compacted to prevent slump at a later date.
- Earth dams, constructed of relatively impervious material, shall be installed at the beginning and end of each lateral.
- Elevations at pinflag locations should be checked by the installer prior to beginning trenches.
- Septic tank riser shall be a minimum of 6" above finished grade.
- System is an at-grade conventional installation with pressure manifold distribution
- Repair is an at-grade conventional installation with pressure manifold distribution
  Trench bottom is specified as 12 "
  System and repair require county-approved 12" soil cap

AT-GRADE CONVENTIONAL SYSTEM AND REPAIR FOR WASTEWATER TREATMENT

Owner:	Scott Wood
Address:	1851 Smyrna Ln
Phone:	828 478 2346
County:	Mecklenburg
Location:	Off Mt. Holly Huntersville Rd
Source of Wastewater Flow:	3 bedroom home
Estimated Daily Wastewater Production:	360gpd
System Flow:	38.27gpm

Design Specifications

Drainfield Size:	230
Loading Rate:	0.60
Depth of Gravel in Trench:	12
Gravel Size:	57
Trench Depth:	12
Trench Width:	36 in.
Septic Tank Size:	1500
Pump Tank Size:	1000
Estimated Supply Line Length:	80
Supply Line Diameter:	2 in. SCH 40 PVC
Supply Line Volume:	13.92
Dosing Volume:	135 gpm
Supply Manifold:	***4"SCH80***
Supply Manifold Length:	4' (minimum)
Supply Manifold Volume:	N/A
Recommended Float Controls:	SJE Sensor Float Control Switches as Required for Control Panel or County Approved Equivalents
Recommended Control Panel:	SJE-Rhombus Model 112 (NEMA 4x) Control Panel or County Approved Control Panel.
Pressure Head:	2
Friction Head:	2.25
Elevation Head:	15.00
Total Dynamic Head:	NA
Threaded Union:	in pump tank
Gate Valves:	(1) in tank (1) at p. manifold
Check Valves:	one in tank
Anti-Siphon Hole:	NA
Recommended Pump:	Myers Model ME50 or County Approved Effluent Rated Pump Capable of Delivering ~22 ft.of Head at ~38.27 gpm Total Flow
Additional Comments:	Soil suitability was performed by the Mecklenburg County GWS and S&EC

Scott Wood
PRESSURE MANIFOLD DESIGN

DESIGN FLOW:	360
SOIL APPLICATION RATE:	0.6
TOTAL AREA TRENCH BOTTOM:	690
TOTAL LATERAL LENGTH:	230
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	200
SUPPLY LINE LENGTH:	80
TOTAL DYNAMIC HEAD:	22.14
MANIFOLD SIZE:	*4* in.SCH 80 PVC
DOSING VOLUME:	135.17
PUMP TANK DRAW DOWN*:	6.4
SEPTIC TANK SIZE:	1500
PUMP TANK SIZE:	1000
RECOMMENDED PUMP:	Myers Model ME50 or County Approved Effluent Rated Pump Capable of Delivering ~22 ft.of Head at ~38.27 gpm Total Flow

**Pump tank draw down based on a volume basis of 21 gallons per inch. Draw down may vary among pump tank manufacturers.*

Scott Wood

Project No. 5-2044

LAYOUT FOR 3 BEDROOM HOME

August-09

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH
TBM		7.8			100.00	
INSTR. 1			107.80			
			System			
1	Pink			0.40	107.40	35
2	Red			1.50	106.30	35
3	Orange			2.40	105.40	45
4	Yellow			3.40	104.40	55
5	Blue			4.90	102.90	60
					Total	**230**
			Repair			
6	Pink			6.40	101.40	55
7	Red			8.00	99.80	60
8	Orange			9.60	98.20	55
9	Yellow			11.50	96.30	33
					Total	**203**

	LINE LENGTH	LTAR GPD/FT2	SYSTEM TYPE	TRENCH DEPTH	DISTRIBUTION
SYSTEM	230	0.6	At-Grade Conv.	12"	P Manifold
REPAIR	203	0.6	At-Grade Conv.	12"	P Manifold

Notes:

**TBM is assumed to be 100'; located top of stump at the end of the lower orange l

**Nitrification lines are demonstrated on contour via colored pin flags

**BS, HI, and FS indicate rod readings

**Trench bottom 12"

**System and repair require 12" soil cap

Scott Wood
SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/Tap	gpd	Trench Area	flow/ft
1	Pink	96.6	35	SCH 80 1/2	5.48	51.55	105	0.157
2	Red	95.6	35	SCH 80 1/2	5.48	51.55	105	0.157
3	Orange	94.4	45	SCH 40 1/2	7.11	66.88	135	0.158
4	Yellow	93.4	60	SCH 80 3/4	10.1	95.01	180	0.168
5	Blue	92.4	60	SCH 80 3/4	10.1	95.01	180	0.168
								flow dif
	total	feet =	235	gal/min =	38.27			<10%
			Daily Flow	360				
			Daily Pump Run=	9.41				
			soil LTAR	0.6				

Scott Wood
REPAIR

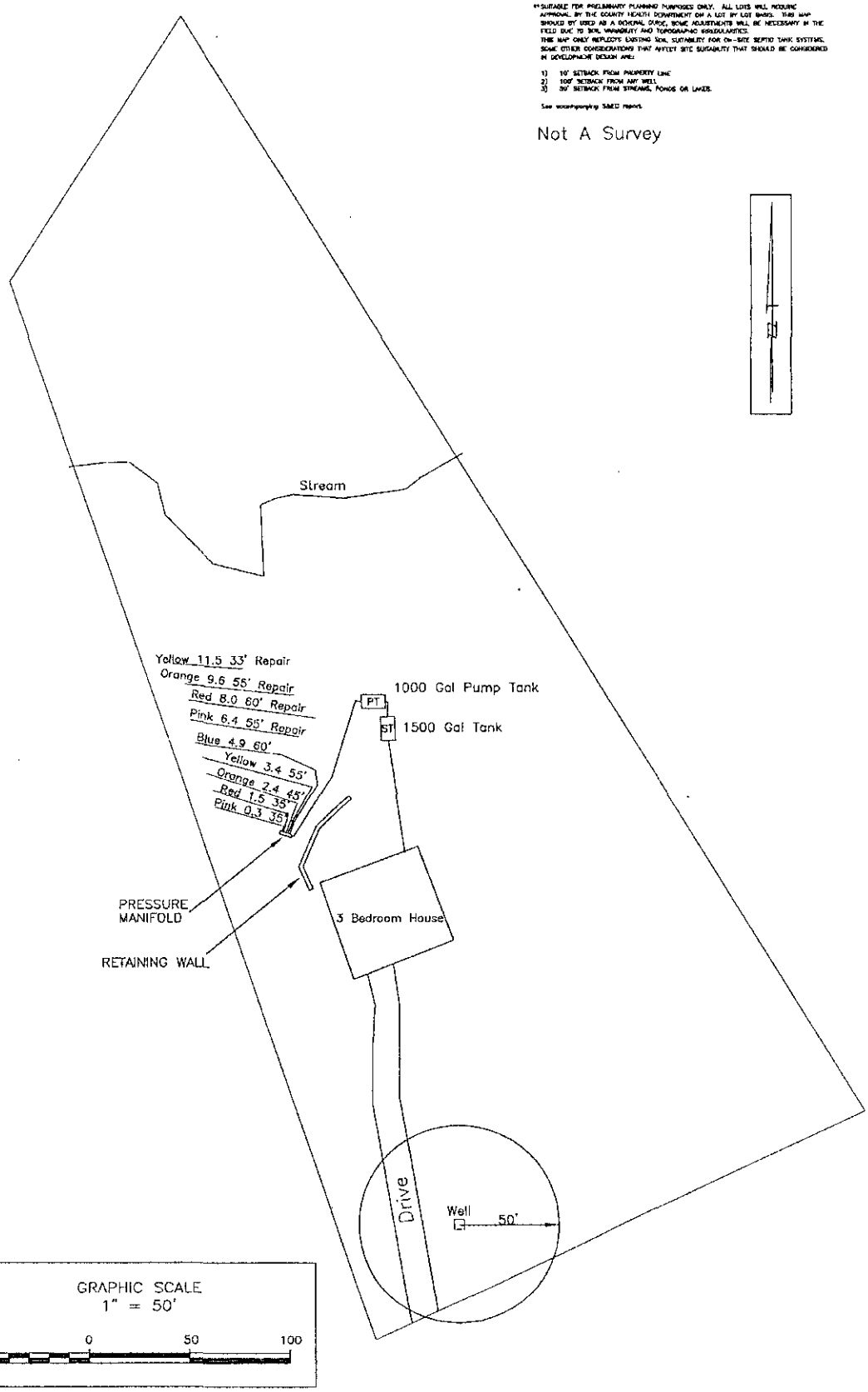
Line #	Color	Elev	Length	Hole Size	Flow/Tap	gpd	Trench Area	Flow/Foot
6	PINK	101.4	55	SCH 80 3/4	10.1	101.62	165	0.06
7	RED	99.8	60	SCH 80 3/4	10.1	101.62	180	0.06
8	ORANGE	98.2	55	SCH 80 3/4	10.1	101.62	165	0.06
9	YELLOW	96.3	33	SCH 80 1/2	5.48	55.14	99	0.06
	total	feet =	203	gal/min =	35.78			
			Des. Flow	360				
			Pump Run=	10.06				
			LTAR	0.6				

** SUITABLE FOR PRELIMINARY PLANNING PURPOSES ONLY. ALL LOTS WILL REQUIRE APPROVAL BY THE COUNTY HEALTH DEPARTMENT ON A LOT BY LOT BASIS. THIS MAP SHOULD BY USED AS A ROUGHAL GUIDE, SOME ADJUSTMENTS WILL BE NECESSARY IN THE FIELD DUE TO SOIL VARIABILITY AND TOPOGRAPHIC IRREGULARITIES.
THIS MAP ONLY REFLECTS EXISTING SOIL SUITABILITY FOR ON-SITE SEPTIC TANK SYSTEMS. SOME OTHER CONSIDERATIONS THAT AFFECT SITE SUITABILITY THAT SHOULD BE CONSIDERED IN DEVELOPMENT DESIGN ARE:

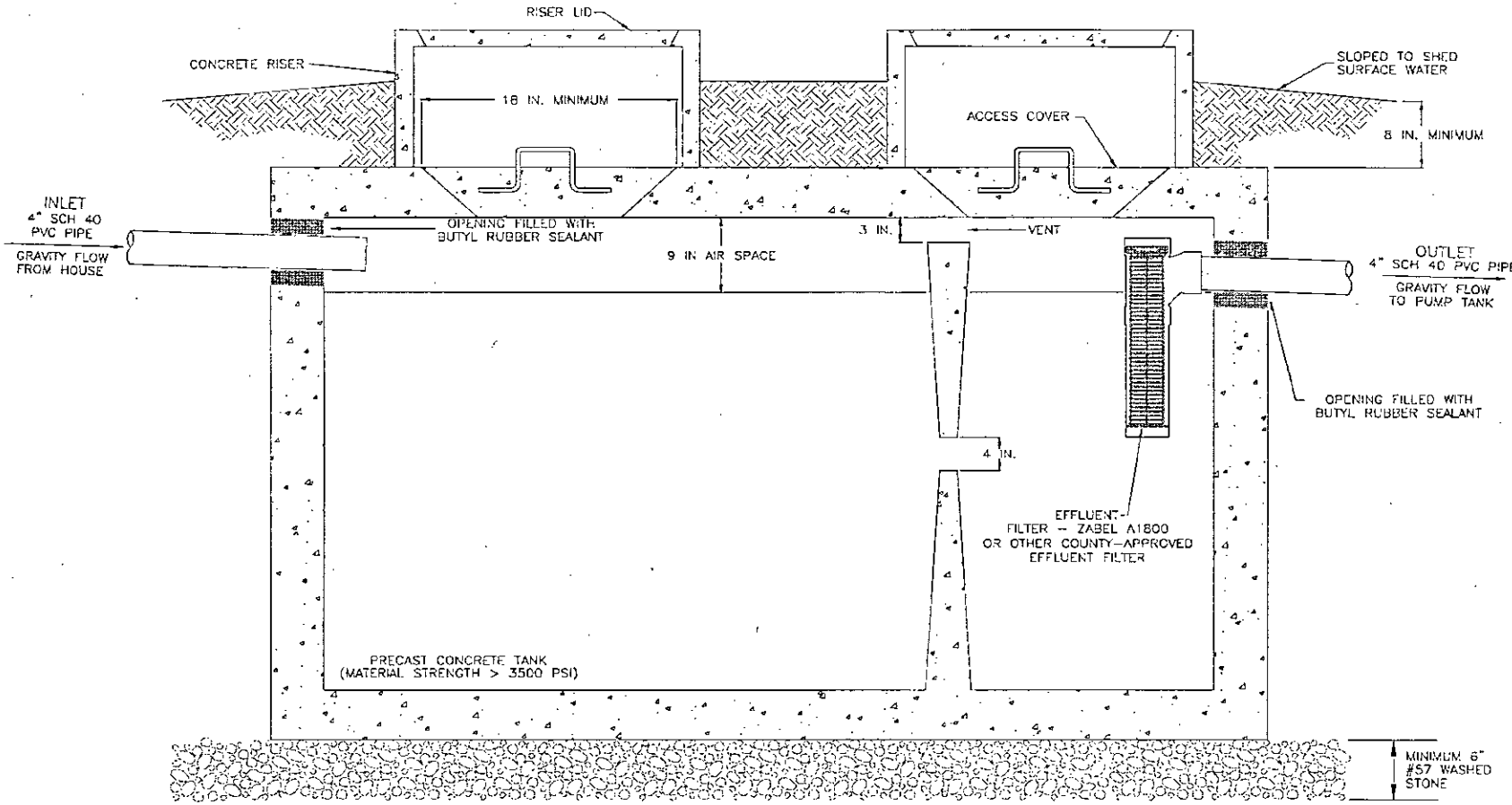
1) 10' SETBACK FROM PROPERTY LINE
2) 100' SETBACK FROM ANY WELL
3) 50' SETBACK FROM STREAMS, PONDS OR LAKES.

See accompanying S&EC report.

Not A Survey



SHEET 1 OF 1	SHEET TITLE: Preliminary Site Plan Sketch Map	Scott Wood – Wood 2.8 Ac – MECKLENBURG COUNTY, NORTH CAROLINA August 2009	S&EC Soil & Environmental Consultants, PA 248 LaPalma Ct. * Concord, North Carolina 28025 * Phone (704)720-9405 * Fax (704) 720-9408	FILE: Y:\Jobs\5-2044 1" = 50' SCALE WG FIELD WORK DRAWN WG PROJECT MGR. 5-2044 JOB NO.



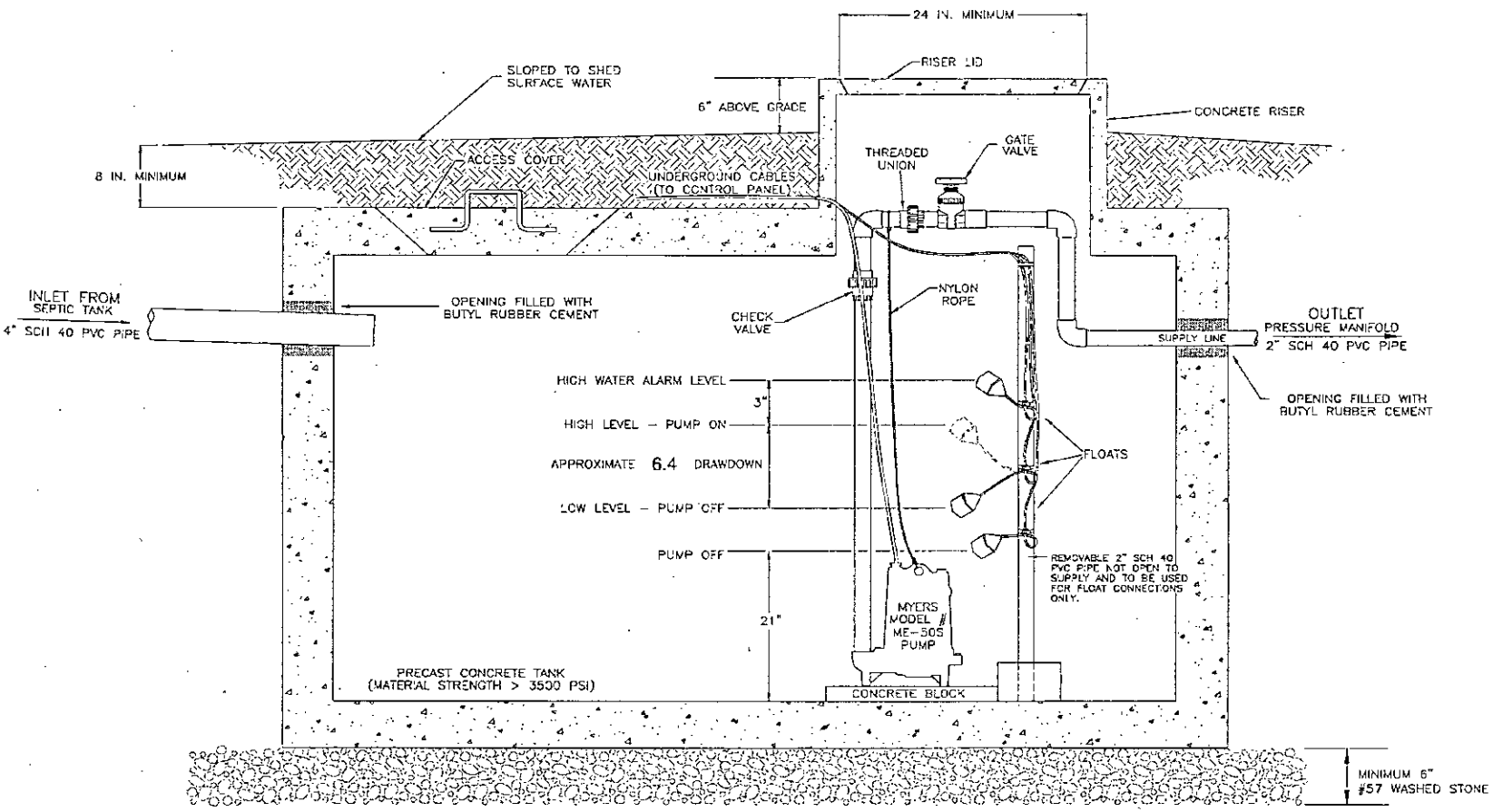
NOTES

1. TANK DIMENSIONS VARY BY MANUFACTURER.

1500 GALLON SEPTIC TANK

PROJECT NO.	PROJECT NAME: Scott Wood	Soil & Environmental Consultants, Inc.
PROJECT MGR.		
SCALE: NTS	SHEET TITLE: SEPTIC TANK DIAGRAM	

11610 Forest Ridge Road Raleigh, North Carolina 27614 Phone: (919) 846-0900 Fax: (919) 846-9467
Web Page: www.SandEC.com



NOTES

1. TANK DIMENSIONS VARY BY MANUFACTURER.
2. DRAWDOWN WILL VARY WITH TANK DIMENSIONS. DRAWDOWN SHOWN BASED ON 21 GALLONS PER INCH.

1000 GALLON PUMP TANK

PROJECT NO.	
PROJECT MGR	
SCALE	NTS
PROJECT NAME	Scott Wood
SHEET TITLE	PUMP TANK DIAGRAM

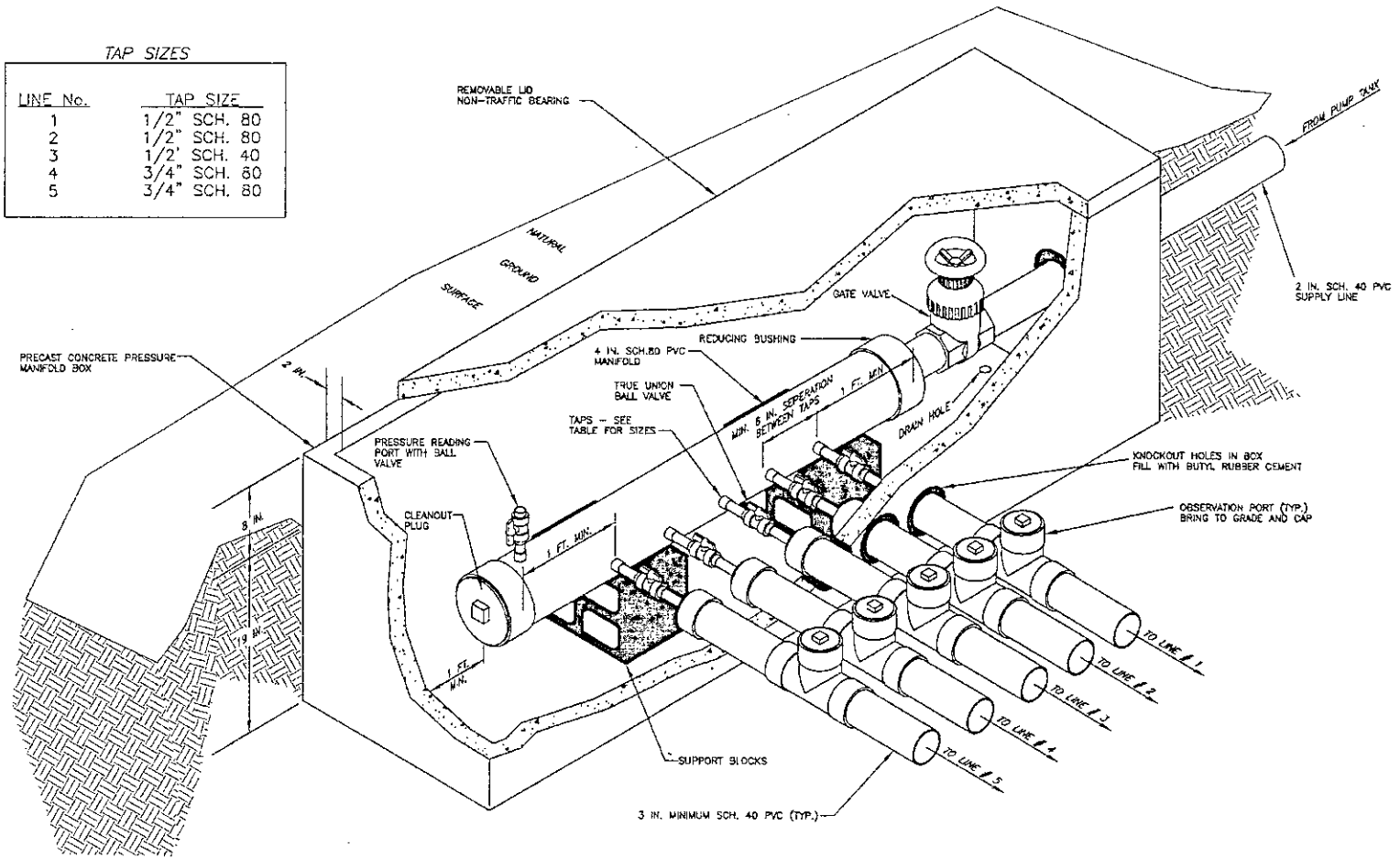
Soil & Environmental Consultants, Inc.
11010 Raven Ridge Road Raleigh, North Carolina 27614 Phone: (919) 846-3900 Fax: (919) 846-9467
Web Page: www.SandEC.com

6

PRESSURE MANIFOLD DETAILS
FOR
SCOTT WOOD

TAP SIZES

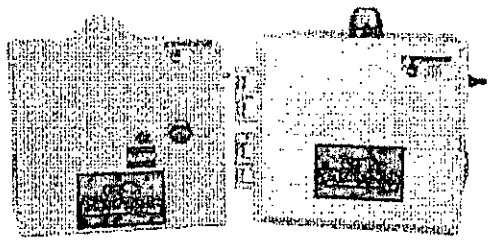
LINE No.	TAP SIZE
1	1/2" SCH. 80
2	1/2" SCH. 80
3	1/2' SCH. 40
4	3/4" SCH. 80
5	3/4" SCH. 80



MODEL 112 Control Panel

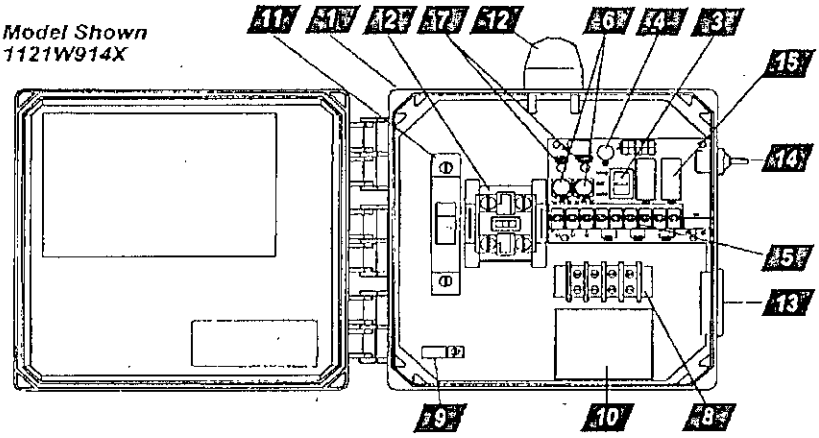
Single phase, simplex motor contactor control.

The Model 112 control panel provides a reliable means of controlling one 120, 208, or 240 VAC single-phase pump in pump chambers, sump pump basins, irrigation systems and lift stations. Two control switches activate a magnetic motor contactor to turn the pump on and off. If an alarm condition occurs, an additional alarm switch activates the audio/visual alarm system.



Indoor *Indoor/outdoor*

Model Shown
1121W914X



1. **Enclosure** measures 8 x 8 x 4 inches (20.32 X 20.32 X 10.16 cm). Choice of NEMA 1 (steel for indoor use), or NEMA 4X (ultraviolet stabilized thermoplastic with removable flanges for outdoor or indoor use).

   * Options selected may increase enclosure size and change component layout.

2. **Magnetic Motor Contactor** controls pump by switching hot electrical lines.
3. **HOA Switch** for manual pump control (mounted on circuit board).
4. **Green Pump Run Indicator Light** (mounted on circuit board).
5. **Float Switch Terminal Block** (mounted on circuit board).
6. **Alarm and Control Fuses** (mounted on circuit board).
7. **Alarm and Control Power Indicators** (mounted on circuit board).
8. **Pump Input Power and Pump Connection Terminal Block**
9. **Ground Lug**
10. **Terminal Block Installation Label**
11. **Circuit Breaker** (optional) provides pump disconnect and branch circuit protection.

STANDARD ALARM PACKAGE (other options available)

12. **Red Alarm Beacon** provides 360° visual check of alarm condition. **Note:** NEMA 1 style utilizes a door mounted indicator in lieu of a beacon.
13. **Alarm Horn** provides audio warning of alarm condition (83 to 85 decibel rating). **Note:** NEMA 1 style utilizes an internally mounted buzzer (83 to 85 decibel) in lieu of horn.
14. **Exterior Horn Test/Normal/Silence Switch** allows alarm horn to be silenced and testing of horn and light to ensure proper operation of alarm system.
15. **Horn Silence Relay** automatically resets alarm after alarm condition has been resolved (mounted on circuit board).

FEATURES

- Entire control system (panel and switches) is UL Listed to meet and/or exceed industry safety standards
- Dual safety certification for the United States and Canada
- Standard package includes three 20' Sensor Float® control switches
- Complete with step-by-step installation instructions
- Three-year limited warranty

c UL us
LISTED

SJE Rhombus CONTROLS
SJ ELECTRO SYSTEMS, INC.
PO Box 1708, Detroit Lakes, MN 56502
1-888-DIAL-SJE 1-218-847-1317
1-218-847-4617 Fax
email: sje@sjerhombus.com
www.sjerhombus.com



MODEL 112

ALARM PACKAGE
0 = select options or no alarm package
1 = alarm package (includes test/normal/silence switch, fuse, red light, horn & float)

ENCLOSURE RATING
I = Indoor, NEMA 1 (metal)
W = Weatherproof, NEMA 4X (engineered thermoplastic)

STARTING DEVICE
1 = magnetic motor contactor 120/208/240V
9 = magnetic motor contactor 120V only

PUMP FULL LOAD AMPS
0 = 0-7 FLA
1 = 8-15 FLA
2 = 16-20 FLA
3 = 21-30 FLA

PUMP DISCONNECTS
0 = no pump disconnect
1 = pull-out with safety deadfront in a 10"x8" enclosure
4 = circuit breaker

FLOAT SWITCH APPLICATION
H or L = pump down or pump up
X = no floats

OPTIONS *Listed below*

★ Options selected may increase enclosure size and change component layout.

If additional features are required, call the factory for a quote on either a Pro-Line or Engineered Custom control panel system.

	CODE	DESCRIPTION
☐	1A	*Red beacon only / no audio must select 1E if floats included*
☐	1C	Horn only / no visual *must select 1E if floats included*
☐	1E	Alarm float
☐	3A	Alarm flasher
☐ ★	4A	Low level cutout *select option 4D if floats included*
☐ ★	4B	Red low-level indicator & alarm *must select 4A also*
☐	4D	Low-level float
☐	6A	Auxiliary alarm contact, form C type
☐ ★	8A	Elapsed time meter
☐ ★	8C	Event (cycle) counter
☐	10E	Lockable latch - NEMA 4X
☐	10E	Lockable latch - NEMA 1
☐ ★	10F	Lightning arrester
☐ ★	10K	Anti-condensation heater

	CODE	DESCRIPTION
☐	11C	NEMA 1 alarm panel *must select option 6A*
☐	11D	NEMA 4X alarm panel *must select option 6A*
☐	15A	Control / alarm circuit breaker *Does not include the circuit board as in standard.*
☐	16A	10' cord in lieu of 20'
☐	16B	15' cord in lieu of 20'
☐	16C	30' cord in lieu of 20'
☐	16D	40' cord in lieu of 20'
☐	17A	SJE SignalMaster® / mounting strap ●
☐	17B	SJE SignalMaster® / externally weighted ●
☐	17C	Sensor Float® / internally weighted ▲
☐	17D	Sensor Float® / externally weighted ▲
☐	17E	Sensor Float® Mini / pipe clamp ▲
☐	17F	Sensor Float® Mini / externally weighted ▲
☐	19X	Door mounted pump run indicator
☐	21A	Pumpmaster® in lieu of on/off switches ●
☐	21B	PumpMaster® Plus in lieu of on/off switches ●
☐	21C	Super Single® in lieu of on/off switches ▲
☐	21D	Double Float™ in lieu of on/off switches ▲

● Mechanically-activated ▲ Mercury-activated

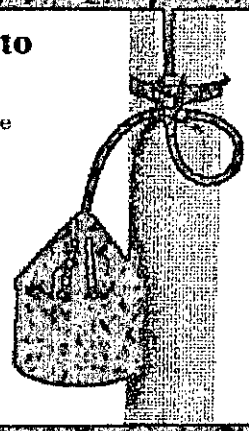
SAMPLE

MODEL	112	1	W	9	1	4	H	3A 8A
Alarm Package								
Enclosure Rating								
Starting Device								
Pump Full Load Amps								
Pump Disconnect								
Float Switch Application								
Options: Alarm Flasher, Elapsed Time Meter								

© SJE-Rhombus Printed in USA 01/00

SENSOR FLOAT® control switch

Mercury-activated, narrow-angle float switch designed to activate pump control panels and alarms.



This narrow-angle sensing device is used to accurately monitor liquid levels in sewage and non-potable water applications. The Sensor Float® control switch is not sensitive to rotation and is suitable for use with intrinsically safe circuits. Contact SJE-Rhombus regarding specific intrinsically safe applications.

Normally Open Model (high level)
The control switch turns on (closes) when the float tips slightly **above** horizontal signaling a high level, and turns off (opens) when the float drops slightly below horizontal.

Normally Closed Model (low level)
The control switch turns on (closes) when the float drops slightly **below** horizontal signaling a low level, and turns off (opens) when the float tips slightly above horizontal.

FEATURES

- Suitable for use with intrinsically safe circuits.
- Not sensitive to rotation.
- Control differential of .5 inches (1 cm) above or below horizontal.
- UL Listed for use in non-potable water and sewage.
- CSA Certified.
- Three-year limited warranty.

LR64245 LISTED 83N2

Hydraulic

OPTIONS

This switch is available:

- for normally open (high level) applications or normally closed (low level) applications.
- in standard cable lengths of 10, 15, 20, or 30 feet and 3, 5, 6, or 10 meters.
- with three mounting options that allow for flexibility in installation:

  Mounting Clamp: for applications where the switch can be attached to a discharge pipe or similar mounting device.

  Internally Weighted: for applications where the switch can be suspended from above.

  Externally Weighted: for applications where the switch can be suspended from above..

SPECIFICATIONS

CABLE: flexible 18 gauge, 2 conductor (UL,CSA) SJOW, water-resistant (CPE) jacket

FLOAT: 3.38 inch diameter x 4.55 inch long (8.58 cm x 11.56 cm), high-impact, corrosion resistant, PVC housing for use in sewage and non-potable water up to 140°F (60°C)

MAXIMUM WATER DEPTH: 30 feet (9 meters), 13 psi

MERCURY TILT SWITCH: single pole, single throw, mercury-to-mercury contacts, hermetically sealed in a steel capsule and epoxy sealed in the float housing

ELECTRICAL: 5 amp, 120/230 VAC, 50/60 Hz

SJE Rhombus CONTROLS
SJ ELECTRO SYSTEMS, INC.
PO Box 1708, Detroit Lakes, MN 56502
1-888-DIAL-SJE (1-218-847-1317
1-218-847-4617 Fax
email: sje@sjerhombus.com
www.sjerhombus.com

Sensor Float® control switch installation instructions

⚠WARNING ELECTRICAL SHOCK HAZARD
Disconnect power before installing or servicing this product. A qualified service person must install and service this product according to applicable electrical and plumbing codes.

⚠WARNING EXPLOSION OR FIRE HAZARD
Do not use this product with flammable liquids. Do not install in hazardous locations as defined by National Electrical Code, ANSI/NFPA 70.

Failure to follow these precautions could result in serious injury or death. Replace product immediately if switch cable becomes damaged or severed. Keep these instructions with warranty after installation. This product must be installed in accordance with National Electric Code, ANSI/NFPA 70 so as to prevent moisture from entering or accumulating within boxes, conduit bodies, fittings, float housing, or cable.

MOUNTING THE SWITCH

1. Place the cord into the clamp as shown in Figure B.
2. Locate clamp at desired activation level and secure the clamp to the discharge pipe as shown in Figures A and B. **Note:** Do not install cord under hose clamp.
3. Tighten the hose clamp using a screwdriver. Over tightening may result in damage to the plastic clamp. Make sure the float cable is not allowed to touch the excess hose clamp band during operation.
4. Bring cable leads back to control device and wire according to Figure C.
5. Check installation. Allow system to cycle to insure proper operation.

Note: All hose clamp components are made of 18-8 stainless steel material. See your SJE-Rhombus supplier for replacements.

Figure A

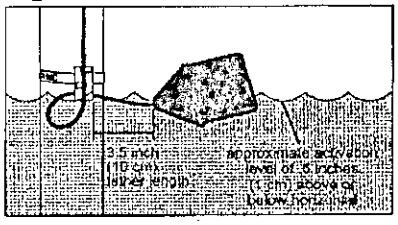
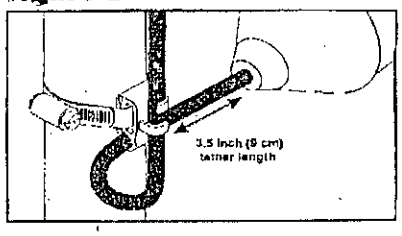


Figure B



INTERNAL WEIGHT

1. Determine desired activation level.
2. Suspend switch 7 inches (18 cm) below desired activation level as shown in Figure D. Switch remains partially submerged during the "on" tipping action. Switch can be totally submerged and still continue to operate properly.
3. Wire cable leads directly into control device as shown in Figure C.
4. Check installation. Allow system to cycle to insure proper operation.

Figure C - Wiring Diagram

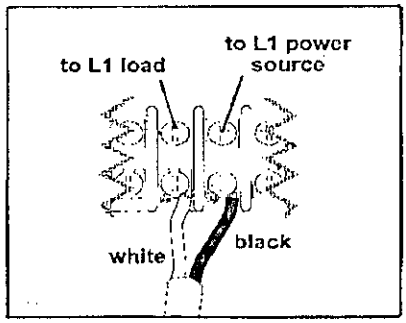
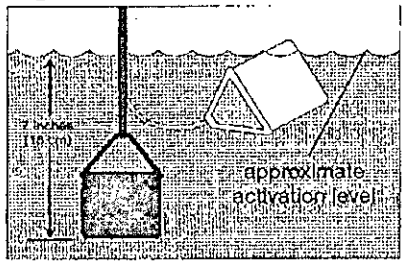


Figure D



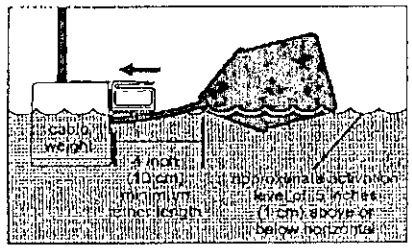
CABLE WEIGHT

1. Determine desired activation level.
2. Suspend switch and cable weight at desired activation level as shown in Figure E.
3. Wire cable leads directly into control device as shown in Figure C.
4. Check installation. Allow system to cycle to insure proper operation.

Cable weight is attached to switch cable at the factory. To adjust:

1. Release clip.
2. Adjust cable weight to desired position.
3. Lay switch cable in weight channel.
4. Align clip with weight channel and slide towards switch cable as shown in Figure E.
5. Snap clip snugly up to cable, moving clip to tightest possible position.

Figure E



CONTROLS
SJE Rhombus
SJ ELECTRO SYSTEMS, INC.
22650 County Highway 6 ■ P.O. Box 1708 ■ Detroit Lakes, Minnesota 56502 USA
1-888-DIAL-SJE (1-888-342-5753) ■ Phone: 218-847-1317 ■ Fax: 218-847-4617
E-mail: sje@sjerhombus.com

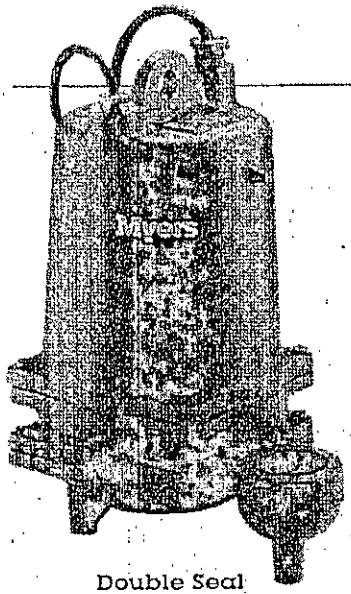
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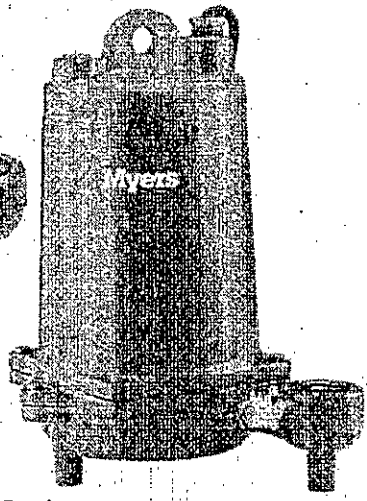
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ME SERIES

1/2 through 1-1/2 HP
Effluent Pumps



Double Seal



Single Seal

THE MYERS ME SERIES EFFLUENT PUMPS ARE DESIGNED SPECIFICALLY FOR TODAY'S EFFLUENT PRESSURE DISTRIBUTION MOUNDS, TRENCHES AND HIGH FLOW DRAINAGE APPLICATIONS. The ME Series effluent pumps with their efficient two vane, enclosed impellers, provide the ideal performance for optimum dosing. ME Series pumps are constructed of only corrosion resistant materials like cast iron, stainless steel and thermoplastics to assure that they will perform for years to come in the harsh effluent environment and drainage applications. For more information, call your Myers distributor today or the Myers Ashland, Ohio sales office at 419/289-1144.

ADVANTAGES BY DESIGN

IDEAL FOR USE IN MOUND AND TRENCH PRESSURE DISTRIBUTION SYSTEMS

- High efficiency, two vane, enclosed impeller provides ideal performance for most efficient dosing.
- Impeller passes full ¾ inch solids.
- Enclosed impeller design eliminates possibility of jamming or corrosion between impeller and volute.

DURABLE MOTOR WILL DELIVER MANY YEARS OF RELIABLE SERVICE

- Oil-filled motor for maximum heat dissipation and constant bearing lubrication.
- High torque, permanent split capacitor (PSC), single phase motors. No starting switches or relays to wear out.
- Optional seal leak probe warns of seal leak condition. (Dual seal motors only.) Helps prevent costly motor damage.
- Motors have on winding current and temperature sensitive overload. (Single phase only.)

THE ME SERIES EFFLUENT PUMPS ARE DESIGNED FOR YEARS OF MAINTENANCE FREE OPERATION

- Volute seal ring is replaceable. Restores pump to original performance if wear should occur.
- Motor is held in place by 4 screws. Easily removed if service is ever needed.

PRODUCT CAPAILITIES

Capacities To	120 GPM	454 LPM
Heads To	95 ft.	28.9 m
Max. Spherical Solids	¾ in.	19 mm
Liquids Handling	domestic effluent & drain water	
Intermittent Liquid Temp.	up to 140° F	up to 60° C
Motor Electrical Data	1/2 HP 115 volts, 1 ph 1/2 to 1-1/2 HP 230 volts, 1 ph 208, 230, 460, 575 volts, 3 ph oil-filled, permanent split capacitor type, 1 ph, 3450 rpm, 60 Hz	
Motor Insulation	Class B (130° C)	
Third Party Approvals	UL, CSA	
Acceptable pH Range	6-9	
Specific Gravity	9-1.1	
Viscosity	28-35 SSU	
Discharge, NPT	2 in.	50.8 mm
Min. Sump Dia. Simplex	24 in.	61 cm
Duplex	36 in.	91.4 cm

Construction Materials	
Motor Housing, Volute	cast iron, Class 30, ASTM A48-76
Enclosed Two Vane Impeller Standard	engineered thermoplastic
Optional	bronze
Impeller Wear Ring	304 SST
Volute Sealing Ring	Buna-N
Shaft	416 SST
Power Cord: 1/2 HP 1 Ph 3/4 - 1-1/2 HP 1 Ph All 3 Ph	 20 ft. 16/3 SJOW/SJOW-A 20 ft. 14/3 SJOW/SJOW-A 20 ft. 14/4 SOW/SOW-A
Shaft Seals, Standard	single carbon & ceramic
Optional	tandem carbon & ceramic
Opt. Lower	tungsten carbide
Fasteners	300 Series SST

WHERE INNOVATION MEETS TRADITION

ISO 9001 Certified Company

Myers
PENTAIR PUMP GROUP

ME SERIES

1/2 through 1-1/2 HP
Effluent Pumps

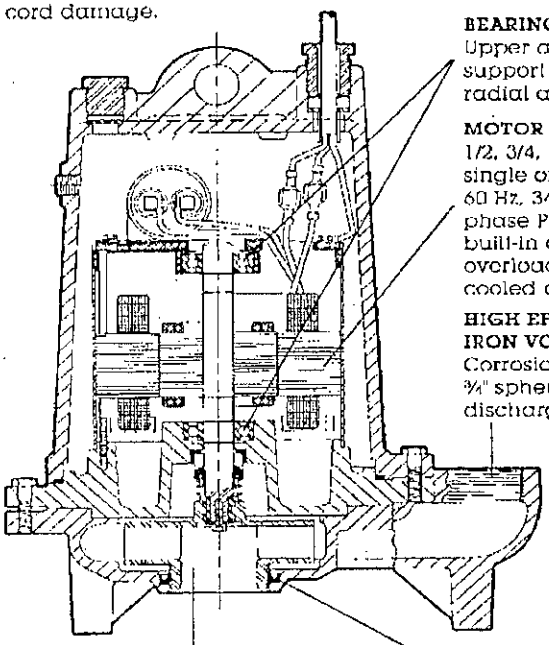
POWER CORD
Jacket sealed with compression fittings. Individual wires potted with epoxy to prevent wicking in case of cord damage.

MOTOR HOUSING
Cast iron for efficient heat transfer and corrosion resistance.

BEARINGS
Upper and lower ball support rotor. Take radial and thrust loads.

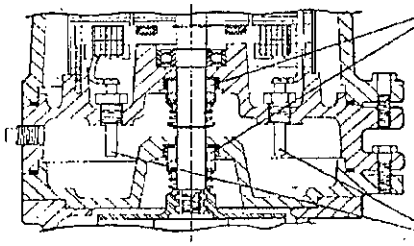
MOTOR
1/2, 3/4, 1 and 1-1/2 HP single or three phase. 60 Hz, 3450 RPM. Single phase PSC motors have built-in on winding overload protection, oil-cooled and lubricated.

HIGH EFFICIENCY CAST IRON VOLUTE
Corrosion resistant. Passes ⅜" spherical solids. 2" NPT discharge.



ENCLOSED TWO VANE IMPELLER
high efficiency. Passes ⅜" spherical solids with stainless steel wear ring. Optional bronze construction available.

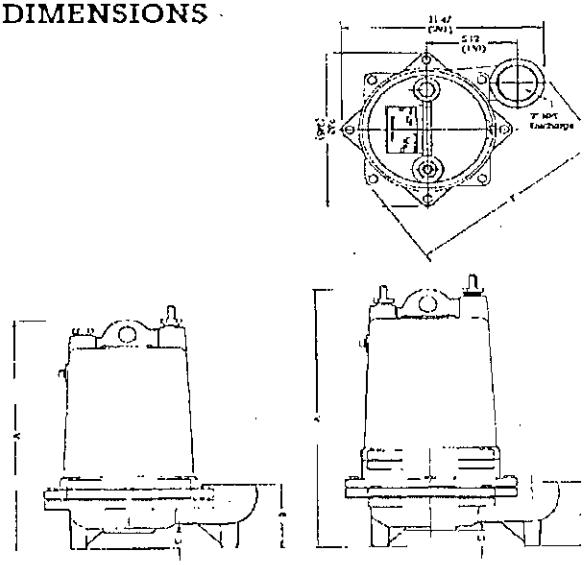
VOLUTE/IMPELLER SEAL RING
Maintains high efficiency and reduces recirculation. Replaceable.



SHAFT SEAL(S)
Carbon and ceramic faces. Optional dual tandem seals. Extends motor life.

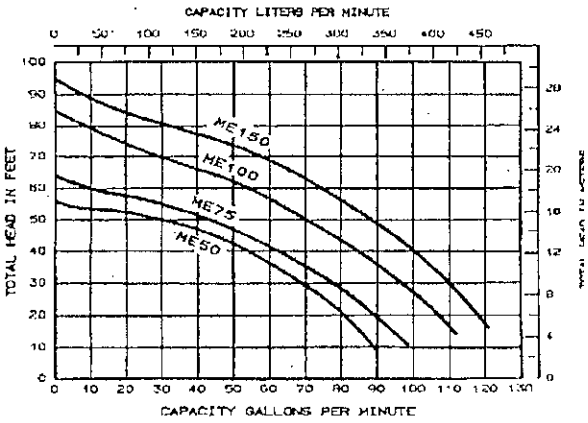
SEAL LEAK PROBES
Optional probes (dual seal only) detect water leakage in seal housing. Activates warning light.

DIMENSIONS



Model Series	Inches (millimeters) A	B	C	F
ME50S	16.8 (427)	4.09 (104)	1.03 (26)	12.13 (308)
ME50D	18.6 (472)	4.09 (104)	1.03 (26)	12.13 (308)
ME75S, ME100S, ME150S	16.8 (427)	4.0 (102)	1.06 (27)	12.5 (318)
ME75D, ME100D, ME150D	18.6 (472)	4.0 (102)	1.06 (27)	12.5 (318)

PERFORMANCE CURVE

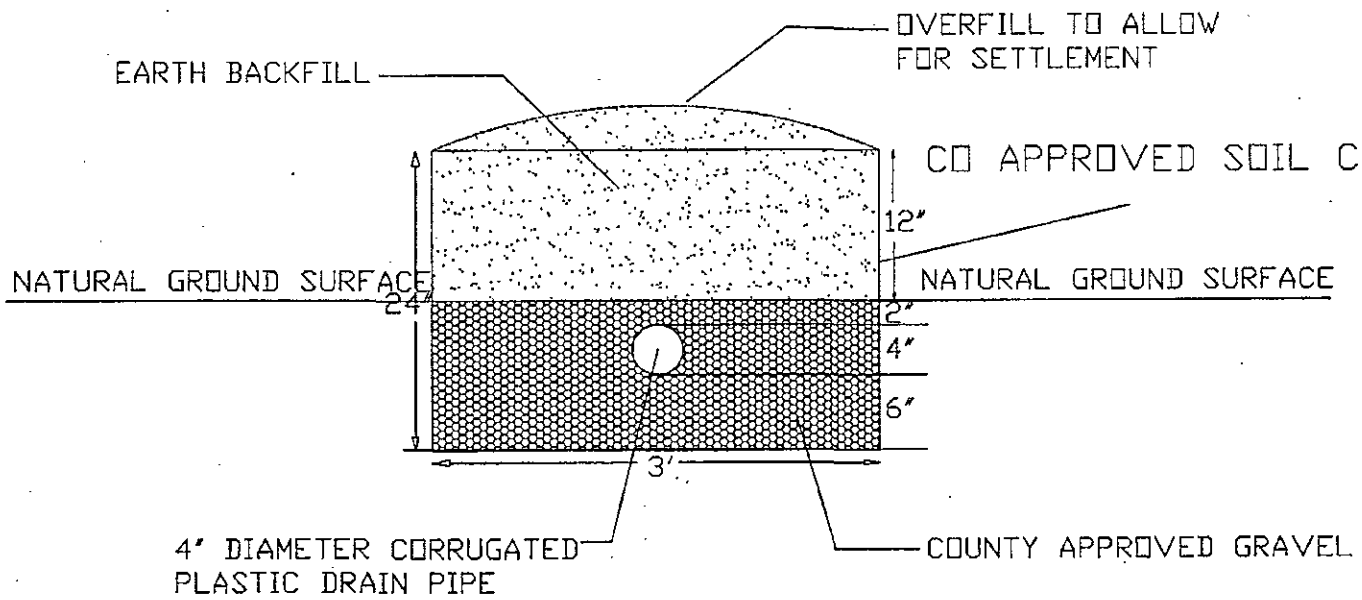


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Myers
PENTAIR PUMP GROUP

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Myers (Canada), 269 Trillium Drive, Kitchener, Ontario N2G 4W5
519/748-5470, FAX: 519/748-2553

At- Grade Conventional



NOTE :

1. PERFORATED CORRUGATED PLASTIC PIPE SHALL MEET REQUIREMNTS OF ASTM D 2729.
2. PIPE SHALL BE LEVEL.
3. END CAP SHALL BE PROVIDED AT END OF ALL CORRUGATED PLASTIC PIPE LINES.
4. TRENCH BOTTOM SHALL BE LEVEL.
5. 12' trench bottom 12' soil cap

SHEET 1 OF 1

JOB NO. 5-2044 S4	PROJECT NAME: Scott Wood
PROJECT MGR. EB	SHEET TITLE: TRENCH DETAIL
SCALE NTS	

Soil & Environmental Consultants, PA
236 Le Phillip Ct., Ste C · Concord, North Carolina 28025 · Phone: (704) 720-9405 · Fax: (704) 720-9406
www.SandEC.com

CALCULATIONS

Location Scott Wood

Project Number 5-2044

Lot No: n/a

No. of Bedrooms	3	
Design Flow	360	$^{gal}/_{day}$
LTAR	0.6	$^{gal}/_{ft^2\ day}$
EZ-Lay? (YES OR NO)	no	
Supply Line Length	80	ft.
Supply Line Volume	13.92	gal.
Required Feet of Line	200	ft.
Amount of Line from Layout	230	ft.
Gallons per Minute	38.27	$^{gal}/_{min}$
Required Septic Tank Capacity	1500	gal.
Minimum Standard Tank Size	1500	
Pump Tank Capacity	1000	
Lateral Line Volume	150.19	gal.
Dosing Volume	135.17	gal.

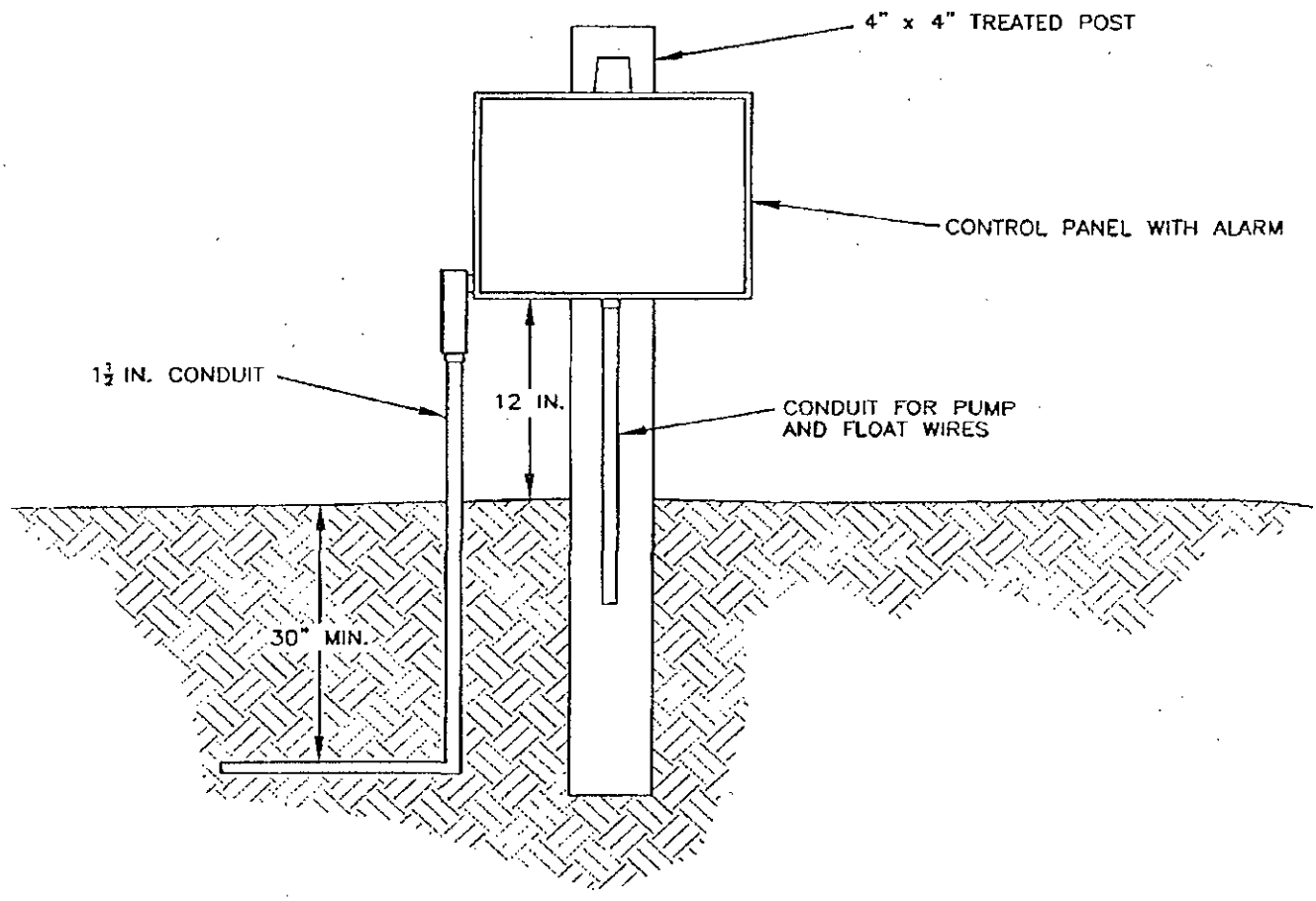
Note: Dosing Volume based on 90% of the lateral line volume.

Tank Draw Down	6.4	*Generic Draw Down of 21 gal.per in.*
Pump Run Time	3.53	minutes
Estimated Elevation Head	15	ft.
Pressure Head	2	ft.
Friction Factor	2.81	ft./100 ft. *(From the interpolater.)*
Friction Head	2.25	ft.
Total Dynamic Head (+15%)	22.14	ft.

FRICTION FACTOR INTERPOLATER
2" SCH 40 PVC

GPM	*f*
20	0.84
	-0.88
25	1.27
	-1.28
30	1.78
	-1.76
35	2.37
38.3	2.81
40	3.03
40.67	3.13
45	3.77
48.14	4.28
50	4.58
57.11	5.89
58.47	6.14
60	6.42

ELECTRIC BOX



NOTES: ELECTRICAL SYSTEM COMPONENTS SHALL BE INSTALLED TO MEET OR EXCEED MINIMUM REQUIREMENTS SPECIFIED IN THE ELECTRICAL COME. ALL WIRING SHALL BE #12 MINIMUM, AND RATED FOR DIRECT BURY. PROVIDE GROUNDING AS REQUIRED, AND PROVIDE 30" MINIMUM BURY ON CABLES. PROVIDE ONE 20 AMP, DOUBLE POLE, 230 VOLT CIRCUIT BREAKER (FOR PUMP), AND ONE 20 AMP, SINGLE POLE, 115 VOLT CIRCUIT BREAKER (FOR ALARM) IN MAIN PANEL.

(5) Ashes, garbage, and trash shall be kept out of the pit.

History Note: *Authority G.S. 130A-335(e) and (f);*
Eff. July 1, 1982;
Amended Eff. January 1, 1990.

15A NCAC 18A .1961 MAINTENANCE OF SEWAGE SYSTEMS

(a) Any person owning or controlling the property upon which a ground absorption sewage treatment and disposal system is installed shall be responsible for the following items regarding the maintenance of the system:

(1) Ground absorption sewage treatment and disposal systems shall be operated and maintained to prevent the following conditions:

(A) a discharge of sewage or effluent to the surface of the ground, the surface waters, or directly into groundwater at any time; or

(B) a back-up of sewage or effluent into the facility, building drains, collection system, or freeboard volume of the tanks; or

(C) a free liquid surface within three inches of finished grade over the nitrification trench for two or more observations made not less than 24 hours apart. Observations shall be made greater than 24 hours after a rainfall event.

The system shall be considered to be malfunctioning when it fails to meet one or more of these requirements, either continuously or intermittently, or if it is necessary to remove the contents of the tank(s) at a frequency greater than once per month in order to satisfy the conditions of Parts (A), (B), or (C) of this Paragraph. Legal remedies may be pursued after an authorized agent has observed and documented one or more of the malfunctioning conditions and has issued a notice of violation.

(2) Ground absorption sewage treatment and disposal systems shall be checked, and the contents of the septic tank removed, periodically from all compartments, to ensure proper operation of the system. The contents shall be pumped whenever the solids level is found to be more than 1/3 of the liquid depth in any compartment.

(b) System management in accordance with Tables V(a) and V(b) of this Rule shall be required for all systems installed or repaired after July 1, 1992. After July 1, 1992, system management in accordance with Tables V(a) and V(b) shall be required for all existing Type V and Type VI systems.

(c) No Improvement Permit or Construction Authorization shall be issued for Type IV, Type V, or Type VI systems, unless a management entity of the type specified in Table V(b) is specifically authorized, funded, and operational to carry out this management program in the service area where the proposed system is to be located.

(d) A local health department may be the public management entity only for systems classified Type IV, V(a) and V(b) and only when specifically authorized by resolution of the local board of health.

(e) A contract shall be executed between the system owner and a management entity prior to the issuance of an Operation Permit for a system required to be maintained by a public or private management entity, unless the system owner and certified operator are the same. The contract shall include the specific requirements for maintenance and operation, responsibilities of the owner and system operator, provisions that the contract shall be in effect for as long as the system is in use, and other requirements for the continued proper performance of the system. It shall also be a condition of the Operation Permit that subsequent owners of the system execute such a contract.

(f) Inspections of the system shall be performed by a management entity at the frequency specified in Table V(b). The management entity shall report the results of their inspections to the local health department at the specified reporting frequency. However, where inspections indicate the need for system repairs, the management entity shall notify the local health department within 48 hours in order to obtain a Construction Authorization for the repairs.

(g) The management entity shall be responsible for assuring routine maintenance procedures and monitoring requirements in accordance with the conditions of the Operation Permit and the contract.

(h) Sewage systems with multiple components shall be classified by their highest or most complex system type in accordance with Table V to determine local health department and management entity responsibilities.

(i) Sewage systems not identified in this Rule shall be classified by the Division of Environmental Health after consultation with the appropriate commission governing operators of pollution control facilities.

(j) The local health department shall routinely review the performance and operation reports submitted in accordance with Table V(b) of this Rule and shall perform an on-site inspection of the systems as required in Table V(a).

(k) The certified operator shall hold a valid and current certificate from the appropriate commission, and nothing in this Section shall preclude any requirements for system operators, in accordance with Article 3 of G.S. 90A.

TABLE V(a)

LOCAL HEALTH DEPARTMENT RESPONSIBILITIES

System Classification	System Description	Permits Required	Minimum System Review Frequency
Type I	a. Privy b. Chemical toilet c. Incinerating toilet d. Other toilet system e. Grease trap	Improvement Permit, Construction Authorization, and Operation Permit	N/A
Type II	a. Conventional septic system (single-family or 480 GPD or less) b. Conventional septic system with 750 linear feet of nitrification line or less c. Conventional system with shallow placement	Improvement Permit, Construction Authorization, and Operation Permit	N/A
Type III	a. Conventional septic system > 480 GPD (excluding single-family residence) b. Septic system with single effluent pump or siphon c. Gravity fill system d. Dual gravity field system e. PPBPS system, gravity dosed f. Large diameter pipe system g. Other non-conventional trench systems	Improvement Permit, Construction Authorization, and Operation Permit	5yrs. (IIIb only)
Type IV	a. Any system with LPP distribution b. System with more than 1 pump or siphon	Improvement Permit, Construction Authorization, and Operation Permit	3 yrs.
Type V	a. Sand filter pretreatment system b. Any > 3,000-GPD septic tank system with a nitrification field designed for > 1500 GPD c. Aerobic Treatment Unit (ATU) d. Other mechanical, biological, or chemical pretreatment plant (< 3000 GPD)	Improvement Permit, Construction Authorization, and Operation Permit	12 mos.

Type VI	a. Any > 3,000 GPD system with mechanical, biological, or chemical pretreatment system plant b. Wastewater reuse/recycle	Improvement Permit, Construction Authorization, and Operation Permit	6 mos.

TABLE V(b)

MANAGEMENT ENTITY RESPONSIBILITIES

System Classification	Management Entity	Minimum System Inspection/Maintenance Frequency	Reporting Frequency
Type I	Owner	N/A	N/A
Type II	Owner	N/A	N/A
Type III	Owner	N/A	N/A
Type IV	Public Management Entity with a Certified Operator or a private Certified Operator	2/yr.	12 mos.
Type V	Public Management Entity With a Certified Operator or a private Certified Operator	a. 2/yr (0-1500 GPD) 4/yr (1500-3000 GPD) 12/yr (3000-10000 GPD) 1/wk (> 10000 GPD) b. 12/yr (3000-10000 GPD) 1/wk (> 10000 GPD) c. 4/yr. d. 12/yr.	6 mos.
Type VI	Public Management Entity With a Certified Operator	a. 1/wk(3000-10000 GPD) 2/wk(10000-25000 GPD) 3/wk(25000-50000 GPD) 5/wk(> 75000 GPD) b. 12/yr.	3 mos.

(l) A sewage collection, treatment, and disposal system that creates or has created a public health hazard or nuisance by surfacing of effluent or discharge directly into groundwater or surface waters, or that is partially or totally destroyed shall be repaired within 30 days of notification by the state or local health department unless the notification otherwise specifies a repair period in writing. If a system described in the preceding sentence has for any reason been disconnected, the system shall be repaired prior to reuse. The state or local health department shall use its best professional judgement in requiring repairs that will reasonably enable the system to function properly. If, for any reason, a sewage collection, treatment, and disposal system is found to be nonrepairable, or is no longer required, the system shall not be used, and may be required to have any contents removed, collapse any components and backfill, or otherwise secured as directed by the authorized agent to protect the public health and safety.

(m) When necessary to protect the public health, the state or local health department may require the owner or controller of a malfunctioning system to pump and haul sewage to an approved wastewater system during the time needed to repair the system.

Mecklenburg County Groundwater & Wastewater Services
700 N. Tryon St, Suite 211 Charlotte, NC 28202
Phone: (704) 336-5103 Fax: (704) 336-6894

NC DENR
Division of Environmental Health
On-Site Wastewater Section

IMPROVEMENT PERMIT for a RESIDENTIAL ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

Permit #: **30002180** GWS File #: **5443B** Tax Parcel #: **017-032-21**

- This IMPROVEMENT PERMIT is subject to revocation if site plans or the intended use change. There is to be **NO** grading, filling, or disturbance of the soil in the area of the septic tank system or repair area.
- CONSTRUCTION AUTHORIZATION must be obtained prior to receiving a Building Permit. The Construction Authorization is **NOT** transferable. Do not clear, grade, fill or disturb soil prior to obtaining a Construction Authorization.
- Domestic-type wastewater only. No industrial process wastewater may be discharged into the system.

I. This Improvement Permit Shall: Expire in Five (5) Years **Expiration Date (If Applicable):** 12/18/2012

Type of Installation: Residential - New System Lot Number: 6

Structure Type: HOUSE Size (ft^2): 3000 # Bedrooms: 3 # Occupants: 1

Building Foundation: Basement With Plumbing Water Supply: Private Well

II. Initial System Type: Shallow Placed Conventional **System Classification:** IIc

Initial System Specifications:

Design Flow (gpd):	360	LTAR (gpd/ft^2):	0.6	Septic Tank Size (gal):	1500	Pump Tank Size (gal):	N/A
Trench Width (ft):	3	Trench Spacing (ft):	9	Absorption Area (ft^2):	600	Total Trench Length (ft):	200
Maximum Trench Depth (in):	12	Depth of Media (in):	12	Distribution Device:	Drop Boxes		

III. Repair System Type: Shallow Placed Conventional **System Classification:** IIc

Repair System Specifications:

Design Flow (gpd):	360	LTAR (gpd/ft^2):	0.6	Septic Tank Size (gal):	1500	Pump Tank Size (gal):	N/A
Trench Width (ft):	3	Trench Spacing (ft):	9	Absorption Area (ft^2):	600	Total Trench Length (ft):	200
Maximum Trench Depth (in):	12	Depth of Media (in):	12	Distribution Device:	Drop Boxes		

IV. Permit Conditions/Comments:

(Please See the Following Page for Permit Conditions.)

The undersigned, an authorized agent of the MECKLENBURG COUNTY HEALTH DEPARTMENT, certifies that the Department is issuing an IMPROVEMENT PERMIT for the above referenced property. This permit is being issued in accordance with the *Laws and Rules For Sewage Treatment, and Disposal Systems* and is subject to the following provisions:

- No work shall be conducted on the septic system until an INSTALLATION APPROVAL is granted by the Department.
- The septic system installer shall be a registered septic contractor with Mecklenburg County Health Department.
- The permitted system shall be installed in accordance with the included PLOT PLAN.
- This IMPROVEMENT PERMIT is transferable.

DENR Authorized Agent: Jeremy Michelone Owner/Legal Agent: William Scott Wood

Signature: Jeremy Michelone, R.S. Signature: William Scott Wood

Date Issued: 12/18/2007

Page 1 of 2

Mecklenburg County Groundwater & Wastewater Services
700 N. Tryon St, Suite 211 Charlotte, NC 28202
Phone: (704) 336-5103 Fax: (704) 336-6894

NC DENR
Division of Environmental Health
On-Site Wastewater Section

IMPROVEMENT PERMIT for a RESIDENTIAL ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

Permit #: **30002180** GWS File #: **5443B**

IV. Permit Conditions/Comments:

- Additional soil cover, as specified on the plot plan, required over the drain field must be inspected and approved prior to issuance of an Operation Permit.
- This Improvement Permit is being issued based on a supplemental soil investigation performed by staff from our office.
- The septic system shall be installed in accordance with the plans submitted by the wastewater system design consultant.

The undersigned, an authorized agent of the MECKLENBURG COUNTY HEALTH DEPARTMENT, certifies that the Department is issuing an IMPROVEMENT PERMIT for the above referenced property. This permit is being issued in accordance with the *Laws and Rules For Sewage Treatment and Disposal Systems* and is subject to the following provisions:

- No work shall be conducted on the septic system until an INSTALLATION APPROVAL is granted by the Department.
- The septic system installer shall be a registered septic contractor with Mecklenburg County Health Department.
- The permitted system shall be installed in accordance with the included PLOT PLAN.
- This IMPROVEMENT PERMIT is transferable.

DENR Authorized Agent: Jeremy Michelone

Signature: Jeremy Michelone

Date Issued: 12/18/2007

Owner/Legal Agent: William Scott Wood

Print Name

Signature: William Scott Wood

Mecklenburg County Groundwater & Wastewater Services
700 N. Tryon St., Suite 211 Charlotte, NC 28202
Phone: (704) 336-5103 Fax: (704) 336-6894

NC DENR
Division of Environmental Health
On-Site Wastewater Section

INSTALLATION APPROVAL for an
ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

File #: 5443B Permit #: 2180 Tax Parcel #: 017-052-21

Property Owner: Scott Wood

Job Location Address: 10541 Mt Holly-Huntersville Road

City: Huntersville State: NC Zip Code: 28078

Installation Approval Issuance Date: 8/31/09

Permission is hereby given to ☒ install ☐ alter ☐ repair an on-site wastewater treatment & and disposal system, with subsurface soil absorption and effluent discharge, as specified herein at the described location. This approval is granted based upon the application information submitted to our office. All work shall be completed on or before 12/31/09, after which date this approval shall be null and void. The system shall meet all of the construction requirements of 15A NCAC 18A. 1900 which are in effect on the date of granting this approval. An **Operation Permit** must be obtained from the Mecklenburg County Health Department before any system can be covered up or placed into service. The issuance of this permit does not in any way guarantee that the system anticipated to be constructed will operate properly, or relieve any person now of hereafter owning, controlling or using such system from any liability resulting from the failure of the system to operate properly.

***NOTICE: This system shall not be installed while soils are in a wet condition.**

Permitted Design Flow: 360 GPD
Site LTAR: 0.6 GPD/ft² (For new installations only.)
Liquid Capacity of Septic Tank: 1500 *gallons*
Liquid Capacity of Dosing Tank: 1000 *gallons*

Drainfield Design ☐ N/A
Trench Depth: 12 inches
Trench Width: 3 feet
Line Spacing: 9 feet (O.C.)
Total line length: 230 feet
# of Lines: 5 @ VARY feet
Depth of Media: 12 inches (Type) STONE
Distribution Device: Pressure Manifold

Bed Design *(For Repair Installations ONLY.)* ☒ N/A
Bed Depth: _____ inches
Bed Width: _____ feet
Total line length: _____ feet
# of Lines: _____ @ _____ feet
Depth of Media: _____ inches (Type) _____
Distribution Device: _____

Water Supply Source
☐ Municipal ☒ Private Well ☐ Community Well
☐ Other _____

Minimum System Setbacks
Distance from Building Foundation: >15' feet
Distance from Property Line: >10' feet
Distance from Water Supply Source: >100' feet

SKETCH OF SYSTEM LAYOUT
(Proposed Layout)

INSTALL EXACTLY AS DESIGNED BY S+EC.

Comments: System Classification & Type: IIIb Pump to Shallow Placed Conventional
→ 12" Soil Backfill
→ Different Tap Size Pressure Manifold

DENR Authorized Agent: Jeremy Michalow, R.S. Signature: Jeremy Michalow R.S.

Mecklenburg County Groundwater & Wastewater Services
700 N. Tryon St., Suite 211 Charlotte, NC 28202
Phone: (704) 336-5103 Fax: (704) 336-6894

NC DENR
Division of Environmental Health
On-Site Wastewater Section

OPERATION PERMIT for an
ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

File #: 5443B Permit #: 2180 Tax Parcel #: 017-032-21

Property Owner: Scott Wood

Job Location Address: 10541 Mt. Holly-Huntersville Road

City: Huntersville State: NC Zip Code: 28078

Operation Permit Issuance Date: 6/22/10 Contractor Name: C+S Grading

Permitted Design Flow: 360 GPD

Liquid Capacity of Septic Tank: 1500 gallons

Liquid Capacity of Dosing Tank: 1000 gallons

Effluent Pump Model: _____

Drainfield Installation ☐ N/A

Trench Depth: 12 inches

Trench Width: 3 feet

Line Spacing: 9 feet (O.C.)

Total line length: 230 feet

# of Lines: 5 @ VARY feet

Depth of Media: 12 inches (Type) STONE

Depth of Cover: 12 inches (SOIL CAP)

Distribution Device: P. Manifold

Bed Installation *(For Repair Installations ONLY.)* ☒ N/A

Bed Depth: _____ inches

Bed Width: _____ feet

Total line length: _____ feet

# of Lines: _____ @ _____ feet

Depth of Media: _____ inches (Type) _____

Depth of Cover: _____ inches

Distribution Device: _____

Water Supply Source

☐ Municipal ☒ Private Well ☐ Community Well

☐ Other _____

System Installation Setbacks

Distance from Building Foundation: >15' feet

Distance from Property Line: >10' feet

Distance from Water Supply Source: >50' feet

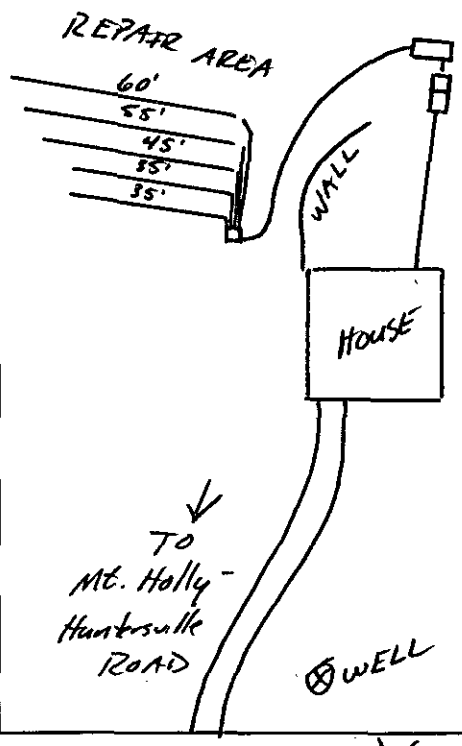
Inspection Dates

Tank(s) Inspected: 3/9/10

Excavation Inspected: 3/9/10

Pump & Controls Inspected: 6/22/10

SKETCH OF SYSTEM INSTALLATION
(As-Built Drawing)



The undersigned has inspected the Septic Tank System described above, and certifies it has been ☒ installed ☐ altered ☐ repaired ☒ as detailed in the plot above ☐ in accordance with the permit issued and meets the provisions of 15A NCAC 18A. 1900, "Laws and Rules for Sewage Treatment and Disposal Systems" in effect on the date of issuance of the permit. The issuance of this Operation Permit does not in any way guarantee that the system will operate properly or relieve any person now or hereafter owning, controlling, or using such system from any liability resulting from the failure of the system to operate properly. This document is issued subject to those restrictions and conditions shown on the permit(s) and the provisions of 15A NCAC 18A. 1900 in addition to those listed below *under "Comments." This document shall be null and void if any information contained in the application is untrue or if any additions are* made to the property which would increase the requirements for said system.

Notice: Disturbance of the designated repair area may result in the Suspension or Revocation of this permit.

Comments: System Classification & Type: IIIb, GTR, Pressure, NA, NA
At-GRADE Conventional

DENR Authorized Agent: Jeremy Micholony, R.S. Signature: Jeremy Micholony R.S.

Mecklenburg County Groundwater & Wastewater Services
700 N. Tryon St., Suite 211 Charlotte, NC 28202
Phone: (704) 336-5103 Fax: (704) 336-6894

NC DENR
Division of Environmental Health
On-Site Wastewater Section

OPERATION PERMIT for an
ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

File #: 5443B Permit #: 2180 Tax Parcel #: 017-032-21

Property Owner: Scott Wood

Job Location Address: 10541 Mt. Holly - Huntersville Road

City: Huntersville State: NC Zip Code: 28078

OPERATION PERMIT CONDITIONS:

I. Performance: System shall perform in accordance with 15A NCAC 18A .1961.

II. Monitoring: System shall be monitored as required by 15A NCAC 18A .1961.

III. Maintenance: Ground absorption sewage treatment and disposal systems shall be checked, and the contents of the septic tank removed, periodically from all compartments, to ensure proper operation of the system. The contents shall be pumped whenever the solids level is found to be more than 1/3 of the liquid depth in any compartment.

IV. Operation: System shall be operated in accordance with 15A NCAC 18A .1961.

System Classification: III-6

*Operation Permits for Type V and VI systems expire five (5) years from the date of issuance (in accordance with Table V(a)). The system owner must contact GWS six (6) months prior to expiration for permit renewal.

Subsurface system operator required: Yes ☐ No ☒

☐ This type of system requires the system owner to maintain a contract with a certified operator to perform system inspection, maintenance, and reporting as required in 15A NCAC 18A .1961. and Table V(a). The system owner is responsible for all fees associated with these services.

☐ System does not require inspection by GWS on a routine frequency.

☒ System requires inspection by GWS once every five (5) years. The system owner is responsible for all fees associated with the inspection.

☐ System requires inspection by GWS once every three (3) years. The system owner is responsible for all fees associated with the inspection.

☐ System requires inspection by GWS once every twelve (12) months. The system owner is responsible for all fees associated with the inspection.

☐ *System requires inspection by GWS once every six (6) months. The system owner is* responsible for all fees associated with the inspection.

V. Other:

DENR Authorized Agent: Jeremy Mickelson, R.S. Date: 6/22/10

Signature: Jeremy Mickelson, R.S.

200 CC# 0027984

APPLICATION FOR IMPROVEMENT PERMIT
FOR RESIDENTIAL SITE
INDIVIDUAL WATER AND WASTEWATER
SYSTEMS PROGRAM

DATE: 11/10/03

TYPE APPLICATION: ✓ NEW SYSTEM ___ EXPANSION, ALTERATION OF EXISTING SYSTEM ___ REPAIR OF EXISTING SYSTEM

NORTH CAROLINA
DEPARTMENT OF ENVIRONMENT,
HEALTH, AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH
ON-SITE WASTEWATER SECTION

TYPE: 5 4 2 5 8

PROPERTY INFORMATION FROM SURVEY MAP OR TAX MAP OF JOB LOCATION:

TAX/PARCEL NUMBER: 01703221

STREET ADDRESS: L/C MT Holly-Huntersville RD

SUBDIVISION OR MOBILE HOME PARK NAME:

LOT NUMBER:

TYPE OF BUILDING (CHECK ONE):

___ SINGLE MOBILE HOME(S)
✓ DOUBLE WIDE (D)
___ HOUSE (H)
___ MODULAR HOME (M)
___ MULTIPLE FAMILY (U)
___ OTHER (O)

TOWNSHIP (CHECK ONE):

___ 0 MECKLENBURG
___ 1 CHARLOTTE
___ 2 DAVIDSON
___ 3 CORNELIUS
___ 4 PINEVILLE
___ 5 MATTHEWS
✓ 6 HUNTERSVILLE
___ 7 MINT HILL

HEATED SQUARE FOOTAGE:

NUMBER OF BEDROOMS: 4 NUMBER OF OCCUPANTS:

FOUNDATION FOR RESIDENCE:

___ WITHOUT BASEMENT ON SLAB
___ CRAWL SPACE
✓ WITH BASEMENT /PLUMBING
___ WITH BASEMENT /NO PLUMBING

*TO BE DETERMINED By House Plans

CLOSING DATE:

IF EXPANSION/ALTERATION OF EXISTING SYSTEM, DESCRIBE THE PROPOSED BUILDING ADDITION:

WILL THERE BE A HOME BUSINESS IN THE RESIDENCE: ___ YES ✓ NO TYPE:

WATER SUPPLY (CHECK ONE):

___ COMMUNITY (C)
___ MUNICIPAL (M)
✓ PRIVATE WELL (P)
___ SHARED WELL (S)
___ OTHER 'SPRINGS' (O)

IF ANY OF THE FOLLOWING ARE LOCATED ON THE PROPERTY, PLEASE SHOW LOCATION ON PLAT:

BURIED CABLES, LANDFILLS, STUMPHOLES ___ YES ✓ NO
EXISTING WASTEWATER SYSTEMS ___ YES ✓ NO
EASEMENTS OR RIGHT-OF-WAYS ___ YES ✓ NO
WELL, SPRINGS OR WATERLINES ✓ YES ___ NO
DESIGNATED WETLANDS ___ YES ✓ NO

PROPERTY OWNER:

NAME: PETERSON, ERNEST (LAST) (FIRST) (MI)

ADDRESS: 10601 Mt. Holly-Huntersville RD

CITY: Huntersville STATE: NC ZIP: 28078

DAYTIME PHONE: 704-875-2681

LEGAL AGENT FOR PROPERTY OWNER, IF APPLICABLE:

NAME: (LAST) (FIRST) (MI)

DAYTIME PHONE: ( ) -

WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED? 01-01-1975

An Improvement Permit is subject to suspension or revocation if site plans or the intended use change or if information submitted in this application is falsified or changed. The undersigned, owner, or legal agent for the owner, of the property described above as the "Job Location" has read the foregoing application, acknowledges that the contents of same are true, and authorizes agents of the Mecklenburg County Health Department to enter onto the property for the purpose of processing this request.

SIGNED: DATE: 11-10-03

MECKLENBURG COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
c/o HAL MARSHALL CTR., SUITE 211, 700 N. TRYON ST., CHARLOTTE, N.C. 28202., (704) 336-5102

LOT 6 MT HOLLY HUNTERSVILLE RD

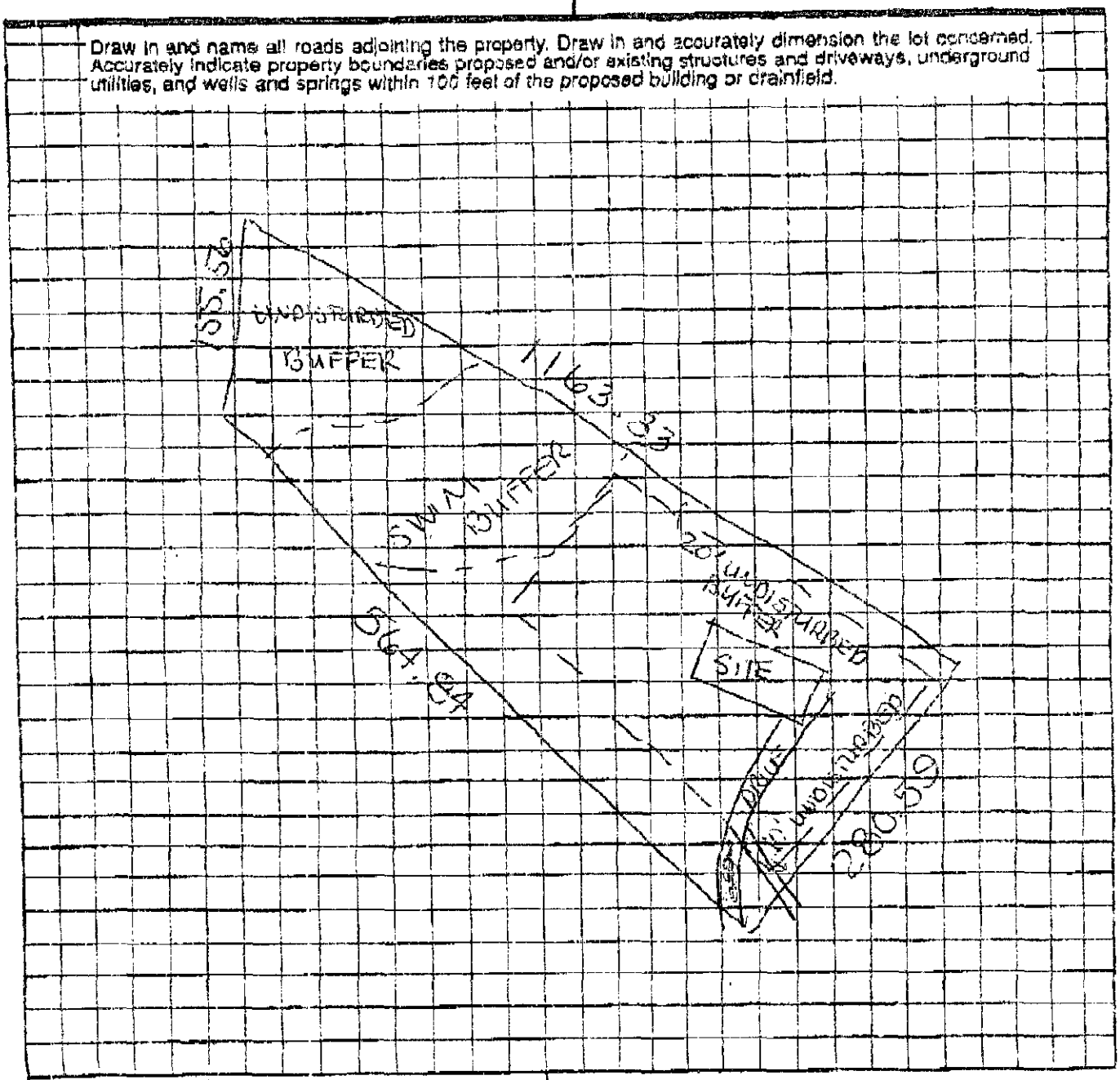
PROPOSED PLOT PLAN

HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
700 NORTH TRYON STREET
CHARLOTTE, NC 28202
PHONE (704) 336-5102

FILE: [redacted] 5443B

TC: 017-032-21

Draw in and name all roads adjoining the property. Draw in and accurately dimension the lot concerned. Accurately indicate property boundaries proposed and/or existing structures and driveways, underground utilities, and wells and springs within 100 feet of the proposed building or drainfield.



Ace Ann Millen
OWNER/AGENT SIGNATURE

DATE 11/12/03

APPROVAL DATE _____

Department of Environment, Health, and Natural Resources
Division of Environmental Health
On-site Wastewater Section

Sheet: 1
Property ID: 017-032-20
Lot #: 6
File #: 5443B
Code: 3

ACS

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

Owner: Ernest Peterson
Applicant:
Address: 10601 Mt. Holly-Huntersville Road, Huntersville, N. c. 28078
Date Evaluated: 11/13/2003
Proposed Facility: Residence
Design Flow (.1949): 480gpd
Property Size: 2
Location of Site: Off Mt. Holly-Huntersville Road
Property Recorded:
Water Supply: [ ] Public [x] Individual [x] Well [ ] Spring [ ] Other
Evaluation Method: [x] Auger Boring [ ] Pit [ ] Cut
Type of Wastewater: [x] Sewage [ ] Industrial Process [ ] Mixed

PROFILE #	1940 Landscape Position/ Slope%	Horizon Depth (IN.)	SOIL MORPHOLOGY 1941 1941 Structure/ Texture	1941 Consistence Mineralogy	OTHER PROFILE FACTORS 1942 Soil Wetness/ Color	1943 Soil Depth (IN.)	1956 Sapro Class	1944 Restr Horiz	Profile Class & LTAR
1	LS, 8	0-10	GR/SL	FR/SEXP/NS/NP	2.5Y 7/1@15"	26	N/A	NONE	US
		10-26	SBK/SC	VFI/EXP/VS/VP					
2	"	0-12	GR/SL	FR/SEXP/NS/NP	2.5Y6/1@22"	"	"	"	"
		12-22	WKSBK/SCL	FR/SEXP/SS/SP					
		22-26	SBK/SC	VFI/EXP/VS/VP					
3	"	0-8	GR/SCL	FR/SEXP/SS/SP	2.5Y7/1@36"	37	"	"	"
		8-24	SBK/SC	VFI/EXP/VS/VP					
		24-37	SBK/ABK/C	"					
4	"	0-22	GR/SL	FR/SEXP/NS/NP	2.5Y7/1@29"	34	"	"	"
		22-34	SBK/ABK/C	VFI/EXP/VS/VP					
5	"	0-14	GR/SL	FR/SEXP/NS/NP	2.5Y7/1@25"	26	"	"	"
		14-26	SBK/SC	VFI/EXP/VS/VP					
6	"	0-14	GR/SL	FR/SEXP/NS/NP	>37" TO SOIL WETNESS	37	"	"	"
		14-20	SBK/SCL	FR/SEXP/SS/SP					
		20-37	ABK/PL/SC	VFI/EXP/VS/VP					

Description	Initial System	Repair System
Available Space (.1945)	US	US
System Type(s)		
Site LTAR		

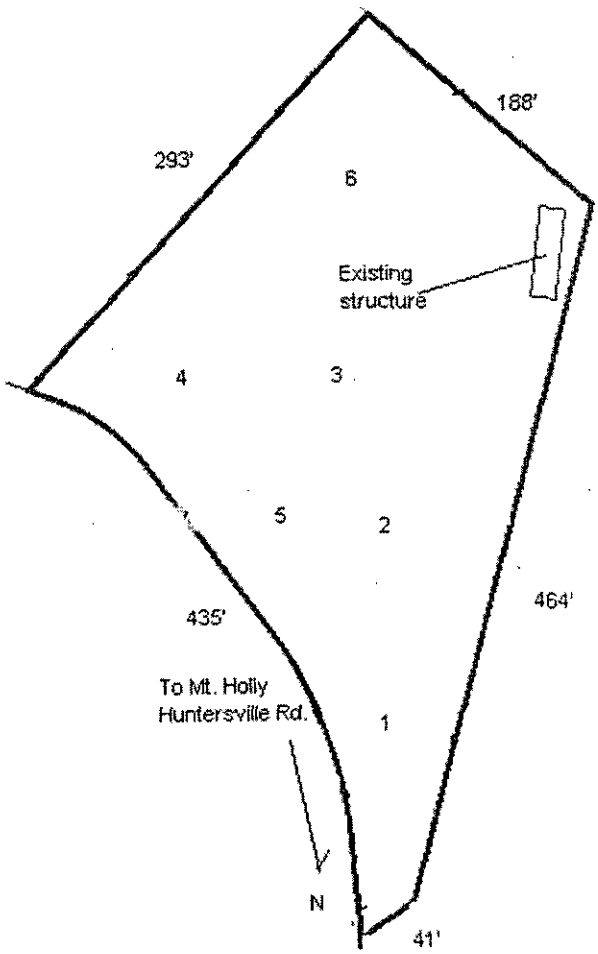
Other Factors (.1946): _____
Site Classification (.1948): UNSUITABLE
Evaluated By: W. R. Marlin, LSS, 11/14/2003, W. R. Marlin
Others Present: E. Peterson

FILE # 5443B

COMMENTS: 100% repair

LANDSCAPE POSITIONS	GROUP	TEXTURES	.1955 LTAR	CONSISTENCE MOIST	WET
R-RIDGE	I	S-SAND	1.2 - 0.8		
S-SHOULDER SLOPE		LS-LOAMY SAND		VFR-VERY FRIABLE	NS-NON-STICKY
L-LINEAR SLOPE				FR-FRIABLE	SS-SLIGHTLY STICKY
FS-FOOT SLOPE	II	SL-SANDY LOAM	0.8 – 0.6	FI-FIRM	S-STICKY
N-NOSE SLOPE		L-LOAM		VFI-VERY FIRM	VS-VERY STICKY
H-HEAD SLOPE				EFI-EXTREMELY FIRM	NP-NON-PLASTIC
CC-CONCLAVE SLOPE	III	SI-SILT-	0.6 – 0.3		SP-SLIGHTLY STICKY
CV-CONVEX SLOPE		SIL-SILT LOAM			P-PLASTIC
T-TERRACE		CL-CLAY LOAM			VP-VERY PLASTIC
FP-FLOOD PLAN		SCL-SANDY CLAY LOAM			
		SICL-SILTY CLAY LOAM			
	IV	SIC-SILTY CLAY	0.4 – 0.1		
		C-CLAY			
		SC-SANDY CLAY			

STRUCTURE	MINERALOGY
SG-SINGLE GRAIN	SLIGHTLY EXPANSIVE
M-MASSIVE	
CR-CRUMB	EXPANSIVE
GR-GRANULAR	
SBK-SUBANGULAR BLOCKY	
ABK-ANGULAR BLOCKY	
PL-PLATY	
PR-PRISMATIC	



MECKLENBURG COUNTY
Health Department

May 4, 2004

Ernest Peterson
10601 Mt. Holly-Huntersville Road
Huntersville, NC 28078

Re: Application for improvement permit for
Property Site: Lot #6 Mt Holly-Huntersville Road
Health Department file no. 5443B

Dear Property Owner or Owner's Agent:

The Mecklenburg County Health Department, Environmental Health Division on November 13, 2003 evaluated the above-referenced property at the site designated on the plat/site plan that accompanied your improvement permit application. According to your application the site is to serve a 4-bedroom residence, with a design wastewater flow of ___480____gallons per day. The evaluation was done in accordance with the laws and rules governing wastewater systems in North Carolina General Statute 130A-333 and related statutes and Title 15A, Subchapter 18A, of the North Carolina Administrative Code, Rule .1900 and related rules.

Based on the criteria set out in Title 15A, Subchapter 18A, of the North Carolina Administrative Code, Rules .1940 through .1948, the evaluation indicated that the site is **UNSUITABLE *for*** a ground absorption sewage system. Therefore, your request for an improvement permit is **DENIED.** A copy of the site evaluation is enclosed. The site is unsuitable based on the following:

_____Unsuitable soil topography and/or landscape position (Rule .1940)
____X____Unsuitable soil characteristics (structure or clay mineralogy) (Rule .1941)
____X____Unsuitable soil wetness condition (Rule .1942)
____X____Unsuitable soil depth (Rule .1943)
_____Presence of restrictive horizon (Rule .1944)
____X____Insufficient space for septic system and repair area (Rule .1945)
_____Unsuitable for meeting required setbacks (Rule .1950)
_____Other (Rule .1946)

These severe soil or site limitations could cause premature system failure, leading to the discharge of untreated sewage on the ground surface, into surface waters, directly to ground water or inside your structure.

The site evaluation included consideration of possible site modifications, and modified, innovative or alternative systems. However, the Health Department has determined that none of the above options will overcome the severe conditions on this site. A possible option might be a system designed to dispose of sewage to another area of suitable soil or off-site to additional property.

For the reasons set out above, the property is currently classified **UNSUITABLE,** and an improvement permit shall not be issued for this site in accordance with Rule .1948 (c).

However, the site classified as **UNSUITABLE** may be classified as **PROVISIONALLY SUITABLE** if written documentation is provided that meets the requirements of Rule .1948(d). A copy of this rule is enclosed. You may hire a consultant to assist you if you wish to try to develop a plan under which your site could be reclassified as **PROVISIONALLY SUITABLE.**

You have a right to an informal review of this decision. You may request an informal review by the soil scientist or environmental health supervisor at the local health department. You may also request an informal review by the N. C. Department of Environment and Natural Resources regional soil specialist. A request for informal review must be made in writing to the local health department.

You also have a right to a formal appeal of this decision. To pursue a formal appeal, you must file a petition for a contested case hearing with the Office of Administrative Hearings, 6714 Mail Center, Raleigh, NC 27699-6714. To get a copy of a petition form, you may write the Office of Administrative Hearings or call the office at (919) 733-0926 or from the OAH web site at www.oah.state.nc.us/form.htm. The petition for a contested case hearing must be filed in accordance with the provision of North Carolina General Statutes 130A-24 and 150B-23 and all other applicable provisions of Chapter 150B. N. C. General Statue 130A-335(g) provides that your hearing would be held in the county where your property is located.

Please note: If you wish to pursue a formal appeal, you must file the petition form with the Office of Administrative Hearings **WITHIN 30 DAYS OF THE DATE OF THIS LETTER.** The date of this letter is January 29, 2003. Meeting the 30-day deadline is critical to your right to a formal appeal. Beginning a formal appeal within 30 days will not interfere with any informal review that you might request. Do no wait for the outcome of any informal review if you wish to file a formal appeal.

If you file a petition for a contested case hearing with the Office of Administrative Hearings, you are required by law (N.C. General Statute 150B-23) to send a copy of your petition to the North Carolina Department of Environment and Natural Resources. Send the copy to: Office of General Counsel, N. C. Department of Environment and Natural Resources, 1601 Mail Service Center, Raleigh, NC. 27699-1601. Do **NOT** send the copy of the petition to your local health department. Sending a copy of your petition to the local health department will **NOT** satisfy the legal requirement in N.C. General Statute 150B-23 that you send a copy to the Office of General Counsel, NCDENR.

You may call or write the local health department if you need any additional information or assistance.

Sincerely,

Jeremy p. Michelone, R.S.
Authorized Agent - DENR

Encl: (2)

JPM 100.00 Second Site Eval Paid 1/11/07

FILE NUMBER: 5443B

Revised On: January 3, 2007

APPLICATION NUMBER: 2180

SEPTIC FEE: 200.00
DATE: 4/20/07
CK # 22600 JKA

MECKLENBURG COUNTY GROUNDWATER & WASTEWATER SERVICES
APPLICATION FOR A RESIDENTIAL SITE IMPROVEMENT PERMIT/ CONSTRUCTION AUTHORIZATION FOR AN ON-SITE WASTEWATER SYSTEM, NEW WELL INSTALLATION, OR REPAIR OF EXISTING WELL

WELL FEE: 400.00
DATE: 4/20/07
Ck # 22600 JKA

1. **SEPTIC / TYPE APPLICATION:** ☐ NONE ☒ NEW SYSTEM ☐ ALTERATION ☐ REPAIR ☐ MODIFIED PLOT PLAN

2. **WELL / TYPE APPLICATION:** ☐ NONE ☒ NEW WELL ☐ MAJOR REPAIR ☐ ABANDONMENT

3. **JOB LOCATION INFORMATION:**

TAX PARCEL NUMBER: 01703221
STREET ADDRESS: Lot 6 Mt. Holly Huntersville Rd.
CITY: Huntersville
STATE: NC ZIP:
SUBDIVISION NAME: Peterson Farms
LOT #: 6 LOT SIZE (acres): 2.78
TOWNSHIP:
☐ 0-MECKLENBURG ☐ 3-CORNELIUS ☒ 6-HUNTERSVILLE
☐ 1-CHARLOTTE ☐ 4-PINEVILLE ☐ 7-MINT HILL
☐ 2-DAVIDSON ☐ 5-MATTHEWS

4. **BUILDING INFORMATION:**

BUILDING TYPE:
☐ SINGLE MOBILE HOME ☐ MODULAR HOME
☐ DOUBLE WIDE ☐ MULTIPLE FAMILY
☒ HOUSE ☐ OTHER _____
HEATED SQUARE FOOTAGE: 3,000
NUMBER OF BEDROOMS: 4
NUMBER OF OCCUPANTS: 1
FOUNDATION TYPE:
☐ CONCRETE SLAB ☒ BASEMENT WITH PLUMBING
☐ CRAWL SPACE ☐ BASMENT WITH NO PLUMBING

5. **IF PLANNING TO EXPAND OR ALTER THE EXISTING SYSTEM PLEASE COMPLETE THE FOLLOWING SECTION:** ☐ N/A

NUMBER OF BEDROOMS TO BE ADDED: _____ NUMBER OF ADDITIONAL OCCUPANTS IN THE RESIDENCE: _____

6. **WATER SUPPLY:** ☐ MUNICIPAL ☐ PUBLIC WELL ☒ PRIVATE WELL ☐ SHARED WELL ☐ SPRING

7. **PROPOSED USE OF WELL:** ☐ N/A ☐ IRRIGATION ☒ POTABLE ☐ GEOTHERMAL ☐ OTHER

8. **PLEASE INDICATE AND RANK DESIRED SEPTIC SYSTEM TYPE(S) IN ORDER OF PREFERENCE** *(1-MOST DESIRED 5-LEAST DESIRED):*

☒ ANY TYPE ☐ CONVENTIONAL ☐ ACCEPTED ☐ INNOVATIVE ☐ ALTERNATIVE ☐ OTHER _____

8A. **RANK:** ____ ____ ____ ____ ____

9. **DO ANY OF THE FOLLOWING APPLY TO THE PROPERTY IN QUESTION? IF "YES" PLEASE ATTACH SUPPORTING DOCUMENTATION.**

BURIED CABLES, LANDFILLS, STUMPHOLES	☐ YES	☒ NO	GRADING/SOIL REMOVAL PERFORMED	☐ YES	☒ NO
EXISTING WASTEWATER SYSTEMS	☐ YES	☒ NO	JURISDICTIONAL WETLANDS	☐ YES	☒ NO
WELLS, SPRINGS, OR WATER LINES	☐ YES	☒ NO	APPROVAL REQUIRED BY ANY OTHER PUBLIC AGENCY	☐ YES	☒ NO
EASEMENTS OR RIGHT-OF-WAYS	☐ YES	☒ NO	WASTEWATER OTHER THAN DOMESTIC SEWAGE	☐ YES	☒ NO

10. **PROPERTY OWNER:**

NAME: Scott Wood
ADDRESS: 1851 Smyrna Ln.
CITY: Catawba
STATE: NC ZIP: 28609
HOME PHONE: 828-478.2346 WORK PHONE: 704-944-5000
MOBILE PHONE: 704-516-1962 FAX: 704-944-5441

11. **OWNER'S LEGAL REPRESENTATIVE, IF APPLICABLE:**

NAME:
ADDRESS:
CITY:
STATE: ZIP:
HOME PHONE: WORK PHONE:
MOBILE PHONE: FAX:

12. **WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED?** 1/27/03
13 **WHAT IS THE ANTICIPATED CLOSING DATE FOR THIS PROPERTY?** 5/11/07

14. **SEPTIC SYSTEM PERMIT APPLICATION SIGNATURE SECTION:**
If the information in this application is falsified, changed, or the site is altered, then the Improvement Permit and Authorization to Construct shall become invalid. I have read this application and certify that the information provided herein is true, complete and correct. Authorized county and state officials are granted right of entry to conduct necessary inspections to determine compliance with applicable laws and rules. I understand that I am solely responsible for the proper identification and labeling of all property lines and corners and making the site accessible so that a complete site evaluation can be performed. The permit is valid for either 60 months or is non-expiring depending upon the documentation submitted: complete site plan = 60 months, complete plat = non-expiring.

William Scott Wood 4-10-07
Property Owner's or Owner's Legal Representative Signature Date

15. **WELL PERMIT APPLICATION SIGNATURE SECTION:**
If the information in this application is falsified, changed, or the site is altered, then the Well Permit shall become invalid. I have read this application and certify that the information provided herein is true, complete and correct. Authorized county and state officials are granted right of entry to conduct necessary inspections to determine compliance with applicable laws and rules. I understand that I am solely responsible for the proper identification and labeling of all property lines and corners and making the site accessible so that a complete site evaluation can be performed. The permit is valid for a period of 12 months from the date of issuance.

4-10-07
Property Owner's or Owner's Legal Representative Signature Date

☐ SURVEY PLAT TO SCALE SUBMITTED ☐ SCALED SITE PLAN SUBMITTED ☒ UN-SCALED SITE PLAN SUBMITTED

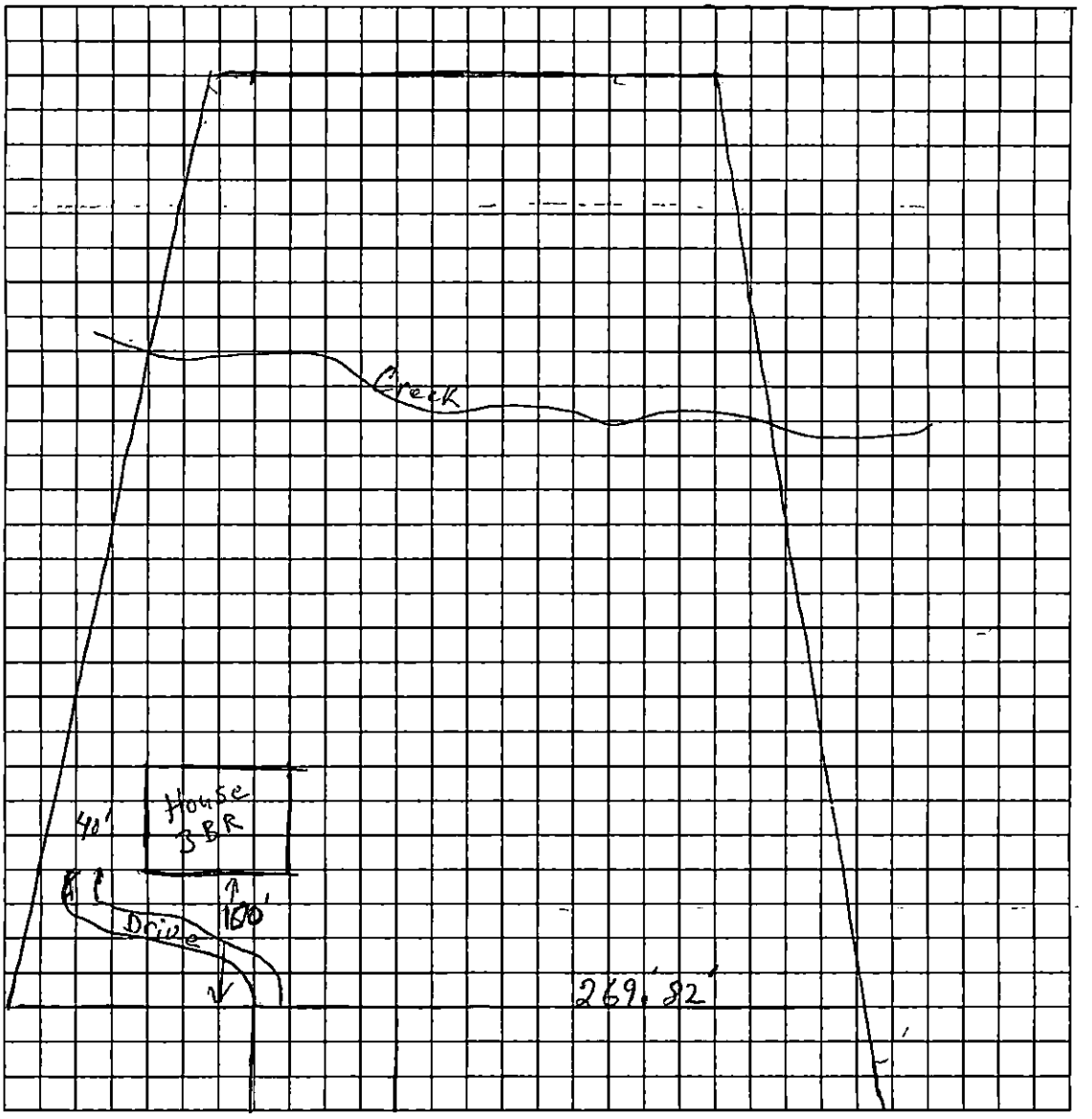
MECKLENBURG COUNTY-GROUNDWATER & WASTEWATER SERVICES
700 N. TRYON ST., SUITE 211, CHARLOTTE, NC 28202 PHONE: (704) 336-5103 FAX: (704) 336-6894

Mecklenburg County
Land Use & Environmental Service Agency
Groundwater & Wastewater Services
700 N. Tryon St., Suite 211
Charlotte, NC 28202
Phone: (704) 336-5103
Fax: (704) 336-6894

File # 5443B
Date_____

PROPOSED PLOT PLAN

A map showing existing and proposed property lines and easements with dimensions, the location of the single family residence, non-single family residence, or other facility, and appurtenances, the site for the proposed well, and the location of existing or proposed sewer lines and/or sewage disposal systems, surface water bodies, aboveground or underground storage tanks. Name all roads adjoining the property. If this a repair indicate the type of repair.



Owner/Agent Signature
Date

LBC 12/15/04

130A-336(a)	Number of Bedrooms, employees, seats, etc. indicated?	Yes ☑	No ☐	N/A ☐
.1937(g)	Trench depth indicated?	Yes ☑	No ☐	N/A ☐
.1937(g)	Trench width indicated?	Yes ☑	No ☐	N/A ☐
.1937(g)	Trench length indicated?	Yes ☑	No ☐	N/A ☐
130A-336(a)(1)	Proposed/existing well shown?	Yes ☑	No ☐	N/A ☐
130A-336(a)(1)	Property line lengths shown?	Yes ☑	No ☐	N/A ☐
130A-336(a)	Facility/appurtenance setbacks shown from fixed points?	Yes ☑	No ☐	N/A ☐
	Operation Permit			
.1937(i)	System type as described in table V(a) of rule .1961	Yes ☑	No ☐	N/A ☐
.1937(i)	Conditions for system performance, operation, maintenance, monitoring and reporting.	Yes ☑	No ☐	N/A ☐

II. WASPS Review:

Construction authorization issued	Yes ☐	No ☐	N/A ☐
Installation approval issued	Yes ☐	No ☐	N/A ☐
Operation permit issued	Yes ☐	No ☐	N/A ☐
Other related documentation	Yes ☐	No ☐	N/A ☐

Items requiring correction/modification: _____

Comments:

see .1956 (i) on Trench Detail ✓

IA issued date: 03104

OP issued date: 06220

Review performed by: IR

Date performed: 12-20-07

7/2/09
* New dwelling placed under project # 29863.3 plans resubmitted for review BJC

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date:	07/11/07	**Amount:**	100.00
Receipt #:	51705	**Tendered:**	100.00
Check / Auth #:	CHECK 2261	**Returned:**	0.00
Received By:	AIDOOJK		

Account Information

Account #:	200000
Contractor:	WOOD W. SCOTT
Attn:	
Address:	1851 SMYRNA LANE
Address:	
City/State/Zip:	CATAWBA, NC 28609

(704) 516-1962

Item	Description	Permit#	Quantity	Unit Price	Total Price
0702	Optional Site Evaluations PARCEL 01703321/FILE 5443B		1	100.00	100.00

----------Outstanding Balances----------

Month-To-Date	Prior Month	30 Days	60 Days	90 Days	Balance

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date:	04/03/09	**Amount:**	200.00
Receipt #:	62260	**Tendered:**	200.00
Check / Auth #:	CHECK 269	**Returned:**	0.00
Received By:	CRAIGGY		

Account Information

Account #:	200000
Contractor:	WOOD W SCOTT
Attn:	
Address:	1851 SMYRNA LN
Address:	
City/State/Zip:	CATAWBA, NC 28609

Item	Description	Permit#	Quantity	Unit Price	Total Price
0734	Auth for Waste Wtr Sys Constr LOT 6 MT HOLLY-HUNTERSVILLE/FILE 5443B		1	200.00	200.00

----------Outstanding Balances----------

Month-To-Date	Prior Month	30 Days	60 Days	90 Days	Balance
	10.00				

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date:	04/03/09	**Amount:**	200.00
Receipt #:	62261	**Tendered:**	200.00
Check / Auth #:	CHECK 269	**Returned:**	0.00
Received By:	CRAIGGY		

Account Information

Account #:	200000
Contractor:	WOOD W SCOTT
Attn:	
Address:	1851 SMYRNA LN
Address:	
City/State/Zip:	CATAWBA, NC 28609

Item	Description	Permit#	Quantity	Unit Price	Total Price
0703	Installation/Final Approval LOT 6 MT HOLLY-HUNTERSVILLE/FILE 5334B		1	200.00	200.00

Outstanding Balances

Month-To-Date	Prior Month	30 Days	60 Days	90 Days	Balance
	10.00				