

10249 SAW MILL RD

19940114

1/9/2008

duponbj

Groundwater and Wastewater Services File Imaging Project
May 2007
Barcode Font = IDAutomationHC39M

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 #: **30000303** GWS File #: **6055B** Tax Parcel #: **199-401-14**

- 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):** 6/7/2011

Type of Installation: Residential - New System Lot Number: 0

Structure Type: HOUSE Size (ft^2): 3500 # Bedrooms: 4 # Occupants: 4

Building Foundation: Crawl Space Water Supply: Private Well

II. Initial System Type: PPBPS (pressurized) **System Classification:** IVa

Initial System Specifications:

Design Flow (gpd):	480	LTAR (gpd/ft^2):	0.275	Septic Tank Size (gal):	1500	Pump Tank Size (gal):	1500
Trench Width (ft):	3	Trench Spacing (ft):	9	Absorption Area (ft^2):	873	Total Trench Length (ft):	291
Maximum Trench Depth (in):	36	Depth of Media (in):	N/A	Distribution Device:	Manifold (LPP Distri		

III. Repair System Type: PPBPS (pressurized) **System Classification:** IVa

Repair System Specifications:

Design Flow (gpd):	480	LTAR (gpd/ft^2):	0.275	Septic Tank Size (gal):	1500	Pump Tank Size (gal):	1000
Trench Width (ft):	3	Trench Spacing (ft):	9	Absorption Area (ft^2):	873	Total Trench Length (ft):	291
Maximum Trench Depth (in):	36	Depth of Media (in):	N/A	Distribution Device:	N/A		

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: ~~Zach Petersen~~

Signature: Zach Petersen ESPS

Date Issued: 6/7/2006

Owner/Legal Agent: MARY NORRIS PARNELL
Print Name

Signature: Mary N. Parnell

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

NC DENR
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On-Site Wastewater Section

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

Permit #: **30000303** GWS File #: **6055B**

IV. Permit Conditions/Comments:

- Owner agreement forms for site reclassification shall be on file prior to issuance of Construction Authorization.
- This type of septic system requires an inspection once every 3 years by our office. The system owner is responsible for any fees, as determined by the Mecklenburg County Board of Commissioners, associated with this inspection.
- This type of septic systems requires a Certified Operator to maintain the system. A system maintenance contract with a Certified Operator must be on file 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.
- Septic system shall be installed in accordance with the plans submitted by the wastewater system design consultant.
- All components of the septic system must be installed in accordance with the required setbacks listed on the corresponding plot plan.

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: Zach Petersen

Signature: Zach Petersen ES

Date Issued: 6/7/2006

Owner/Legal Agent: MARY NORRIS PARNELL
Print Name

Signature: Mary N. Parnell

FOR REGISTRATION JUDITH A. GIBSON
REGISTER OF DEEDS
MECKLENBURG COUNTY, NC
2006 JUN 30 10:59 AM
BK:20676 PG:743-746 FEE:$20.00

INSTRUMENT # 2006131510

2006131510

STATE OF NORTH CAROLINA

COUNTY OF MECKLENBURG

WASTEWATER TREATMENT AND DISPOSAL SYSTEM DESIGN AGREEMENT: *15A NCAC 18A .1948 AN ANY OF THE* FOLLOWING RULES: .1956; .1957(a); .1957(b); OR .1957(c); OR .1969

FILE #: 6055B

PARCEL #: 199-401-14

The undersigned, Mary Nassie Parnell, owner of property located at 10249 Saw Mill Road, (the "site") and described in an instrument recorded in Book 17394 at Page 170, Mecklenburg Public Registry, hereby acknowledges that the undersigned applied to the Mecklenburg County Health Department (the "Department") for a permit to install a septic tank sewage disposal system on the site; that the Department evaluated the site for suitability for such a system in accordance with the regulations promulgated by the North Carolina Commission for Health Services as 15A NCAC 18A .1900 et seq.; that the Department originally classified the site as "unsuitable" pursuant to the standards set forth in the regulations; that the undersigned requested that the Department reclassify the site as "provisionally suitable" in light of the particular septic tank system proposed by the undersigned; that the Department considered various studies, data, and other information which indicate to the Department that the septic tank system proposed by the undersigned is allowed by the rules; and that the Department therefore reclassified the site as 'provisionally suitable" and issued an appropriate permit for such proposed septic tank system.

The undersigned further acknowledges that the proper design, construction, operation and maintenance of such septic tank system is the responsibility of the designer, owner, developer, installer, or user of the system, as applicable, and that neither the Department nor its officials, employees, or agents warrant or guarantee that the said system installed pursuant to the permit issued by the Department will function in a satisfactory manner for any given period of time or that the Department, its officials, employees or agents assume any liability for any damages of any kind which are caused, or which may be caused, by a malfunction of such system.

The undersigned further acknowledges that the following will apply to the site:

This instrument was prepared by: Mary N. Parnell

Mail after recording to: 10249 Saw Mill Road

Charlotte NC 28213

- Any changes on the property may make the Improvement Permit null and void and may make the Improvement Permit subject to revocation.

- Do not grade, cut, fill, pave, construct a building or deck, dig a well, install a swimming pool or otherwise cover or disturb the soil (except for planting and maintaining grass or other ground covers) in a manner which will adversely affect the repair area or area where the septic tank system is located.

- When a private certified operator is required, no improvement permit for the designated repair shall be issued unless there is a private certified operator to carry out this management program in the service area where the proposed system is to be located. (Refer to rule .1961, Maintenance of Sewage Systems," for further information.)

- Additional fees will be required according to the Mecklenburg County user fee schedule applicable at the time for the issuance of a repair permit for any subsequent repairs to the sewage treatment and disposal system or for installation of a replacement system.

- At the time repairs to the sewage treatment and disposal system are to be made or a replacement system installed, the regulation in effect at the time will govern the repairs or installation of a replacement system.

The undersigned further agrees for himself, his heirs and assigns that he shall indemnify and hold harmless the Department, its employees, and officials, as well as Mecklenburg County and its employees and officials, for any damages or other claims of any person or persons whatsoever arising out of the installation, operation, or failure of said septic tank system.

Use of the singular masculine pronoun forms herein shall be deemed to also include the plural and feminine forms as the context may require.

This document shall be placed on the public records of the Register of Deeds of Mecklenburg County and indexed therein under the Grantor Index in name or names of the undersigned, and the foregoing acknowledgements shall henceforth be binding on all persons claiming any right, title, or interest in the site.

IN WITNESS WHEREOF, the undersigned has hereunto set his hand and seal, or if corporate, has caused this instrument to be signed in its corporate name by its duly authorized officers and its seal to be hereunto affixed by authority of its Board of Directors, this 30 day of June, 20 04.

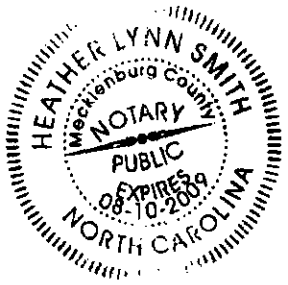
_____ _____ (SEAL)
(Corporate Name)

_____ (SEAL)

By: _____ _____ (SEAL)

_____ President _____ (SEAL)

Mary N. Parnell
MARY N. PARNELL



STATE OF NORTH CAROLINA

COUNTY OF Mecklenburg

I, Heather Lynn Smith, a Notary Public for said County and State, do hereby certify that Mary Nassie Parnell personally appeared before me this date and acknowledged the due execution of the foregoing instrument.

WITNESS my hand and notarial seal this 30 day of June, 20 06.

Heather Lynn Smith
Notary Public

My Commission Expires:

8.10.2009

STATE OF NORTH CAROLINA

COUNTY OF _____

I, _____, a Notary Public for said County and State, do hereby certify that _____ personally came before me this date and acknowledged that he is _____ Secretary of _____, a North Carolina corporation, and that by authority duly given and as the act and deed of said corporation, the foregoing instrument was signed in its name by its _____ President, sealed with its corporate seal, and attested by _____ as its _____ Secretary.

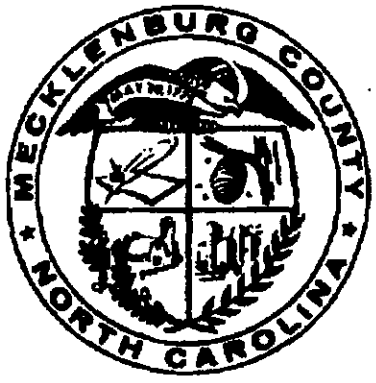
WITNESS my hand and notarial seal this _____ day of _____, 20 _____.

_____
Notary Public

My Commission Expires:

_____

REVISED 8-13-02



JUDITH A. GIBSON
REGISTER OF DEEDS, MECKLENBURG
COUNTY & COURTS OFFICE BUILDING
720 EAST FOURTH STREET
CHARLOTTE, NC 28202

PLEASE RETAIN YELLOW TRAILER PAGE

It is part of the recorded document, and must be submitted with original for re-recording and/or cancellation.

****

Filed For Registration:	**06/30/2006 10:59 AM**
Book:	**RE 20676 Page: 743-746**
Document No.:	**2006131510**
	PRMIT 4 PGS $20.00
Recorder:	**SERENA ROSS**



2006131510

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

Sheet: 1 of 2
Property ID: PO 199-401-14
Lot #:
File #: 6055B
Code: 2

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

Owner: Mary Norris Parnell
Applicant:
Address: 7100 Reston Road, Charlotte, N. C. 28278
Date Evaluated: 1/31/06
Proposed Facility: Residence
Design Flow (.1949): 480gpd
Property Size: 2.0a
Location of Site: 10249 Sawmill 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		OTHER PROFILE FACTORS				Profile Class & LTAR
			.1941 Structure/ *Texture*	.1941 Consistence *Mineralogy*	.1942 Soil Wetness/ *Color*	.1943 Soil Depth (IN.)	.1956 Sapro Class	.1944 Restr Horiz	
1	LS, 8	0-8	GR/CL	FR/SEXP/SS/SP	>48" TO SOIL WETNESS	48	N/A	NONE	PS, IV
		8-48	SBK/C	FI/SEXP/S/P					.225GPD/FT^2
2	LS, 10	0-4	GR/CL	FR/SEXP/SS/SP	"	"	"	"	PS, IV
		4-48	SBK/C	FI/SEXP/S/P					.275GPD/FT^2
3	LS, 12	0-6	GR/CL	FR/SEXP/SS/SP	"	"	"	"	"
		6-48	SBK/C	FI/SEXP/S/P					
4	LS, 15	0-8	GR/CL	FR/SEXP/SS/SP	"	"	"	"	"
		8-48	SBK/C	FI/SEXP/S/P					

Description	Initial System	Repair System
Available Space (.1945)	PS	US
System Type(s)		
Site LTAR	.275GPD/FT^2	.275GPD/FT^2

Other Factors (.1946):
Site Classification (.1948): UNSUITABLE
Evaluated By: W. R. Marlin, LSS, 1/31/2006, W. R. Marlin
Others Present: D. Howell

COMMENTS:
100% repair

Landscape Position	Group	Texture	.1955 LTAR
R-Ridge	I	S-Sand	1.2 - 0.8
SS-Shoulder Slope		LS-Loamy Sand	
LS-Linear Slope			
FS-Food Slope	II	SL-Sandy Loam	0.8 - 0.6
NS-Nose Slope		L-Loam	
HS-Head Slope			
CC-Concave Slope	III	SI-Silt	0.6 - 0.3
CV-Convex Slope		SICL-Silty Clay Loam	
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	

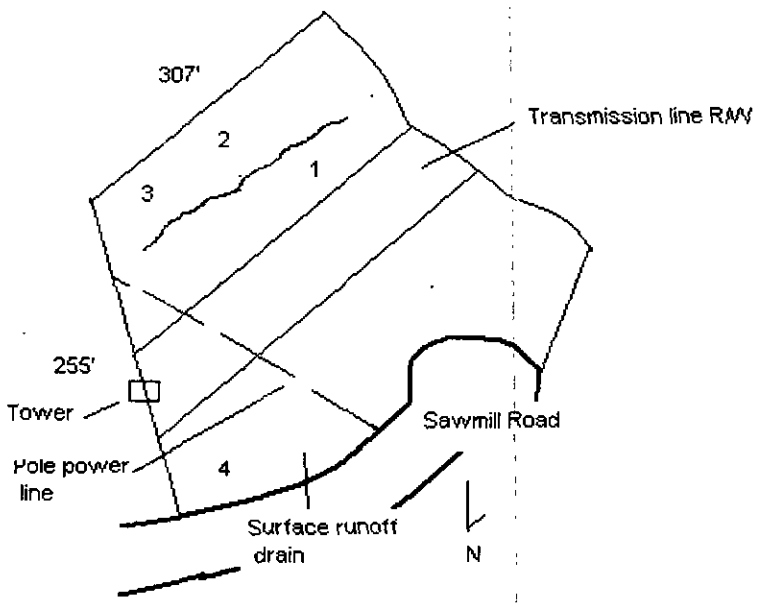
Structure
SG-Single Grain
M-Massive
CR-Crumb
GR-Granular
SBK-Subangular Blocky
ABK-Angular Blocky
PL-Platy
PR-Prismatic

Consistence Moist
VFR-Very Friable
FR-Friable
FI-Firm
VFI-Very Firm
EFI-Extremely Firm

Consistence Wet
NS-Non-Sticky
SS-Slightly Sticky
S-Sticky
VS-Very Sticky
NP-Non-Plastic
SP-Slightly Plastic
P-Plastic
VP-Very Plastic

Mineralogy
SEXP-Slightly Expansive
EXP-Expansive

Sketch of Soil Evaluation Locations



Parcel 109-401-14P0 #303 7109 Reston Rd

GWS – RES. APP 12/04

SEPTIC FEE: 200.00
DATE: 5/31/05
CRT [ ]: Check 6006B JICA

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

FILE # 6055B

WELL FEE:
DATE:
CRT [ ]:

SEPTIC / TYPE APPLICATION: ☐ NONE ☒ NEW SYSTEM EXISTING SYSTEM: ☐ EXPANSION/ALTERATION ☐ REPAIR

WELL / TYPE APPLICATION: ☐ NONE ☐ NEW WELL ☐ MAJOR REPAIR ☐ ABANDONMENT

JOB LOCATION INFORMATION:

TAX/PARCEL #: Parcel 2 / TAX ID. 199 90
STREET ADDRESS: Saw Mill Road 401 14P0
CITY: 10249 Saw Mill Road
STATE: NC ZIP:
SUBDIVISION OR MOBILE HOME PARK NAME:
LOT #:
TOWNSHIP:

☒ 0-MECKLENBURG ☐ 4-PINEVILLE
☐ 1-CHARLOTTE ☐ 5-MATTHEWS
☐ 2-DAVIDSON ☐ 6-HUNTERSVILLE
☐ 3-CORNELIUS ☐ 7-MINT HILL

BUILDING INFORMATION:

TYPE OF BUILDING:

☐ SINGLE MOBILE HOME (S) ☐ MODULAR HOME (M)
☐ DOUBLE WIDE (D) ☐ MULTIPLE FAMILY (U)
☒ HOUSE (H) ☐ OTHER

* HEATED SQUARE FOOTAGE: 3500
* NUMBER OF BEDROOMS: 4
* NUMBER OF OCCUPANTS: 4

FOUNDATION FOR RESIDENCE:

☐ CONCRETE SLAB ☐ BASEMENT WITH PLUMBING
☒ CRAWLSPACE ☐ BASEMENT WITH NO PLUMBING

IF PLANNING TO EXPAND/ALTER THE EXISTING SYSTEM INDICATE THE FOLLOWING CHANGES:

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

WILL THERE BE A HOME BUSINESS IN THE RESIDENCE? ☐ YES ☐ NO TYPE:

WATER SUPPLY:

☐ MUNICIPAL (M) ☐ PUBLIC (C) ☒ PRIVATE WELL (P) ☐ SHARED WELL (S) ☐ OTHER 'SPRINGS' (O)

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

ARE ANY OF THE FOLLOWING LOCATED ON THE PROPERTY? IF SO, PLEASE SHOW LOCATION ON SITE PLAN/PLAT.

BURIED CABLES, LANDFILLS, STUMPHOLES	☐ YES	☒ NO	WELLS, SPRINGS, OR WATER LINES	☐ YES	☒ NO
EXISTING WASTEWATER SYSTEMS	☐ YES	☒ NO	DESIGNATED WETLANDS	☐ YES	☒ NO
EASEMENTS OR RIGHT-OF-WAYS	☐ YES	☒ NO	GRADING/SOIL REMOVAL PERFORMED	☐ YES	☒ NO

PROPERTY OWNER:

NAME: Mary Norris Parnell
ADDRESS: 7100 Reston Rd
CITY: County will be in city in 6 days
STATE: N.C. ZIP: 28278
HOME PHONE: 704.588 2960 WORK PHONE:
MOBILE PHONE: FAX:

LEGAL AGENT FOR PROPERTY OWNER, IF APPLICABLE:

NAME: Cleveland J. Bradley
ADDRESS: 114 Spring Branch Rd
CITY: FORT MILL
STATE: S.C. ZIP: 29715
HOME PHONE: 803 548 7627 WORK PHONE: 704 887.1555
MOBILE PHONE: FAX:
MBradley@FMTC.net

WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED?

WHAT IS THE ANTICIPATED CLOSING DATE FOR THIS PROPERTY?

*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 the Mecklenburg County Health Department to enter onto the property for the purpose of processing this request.

Owner's/Agent's Signature Date

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

*A Well 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 the Mecklenburg County Health Department to enter onto the property for the purpose of processing this request.

Owner's/Agent's Signature 5/31/05 Date

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

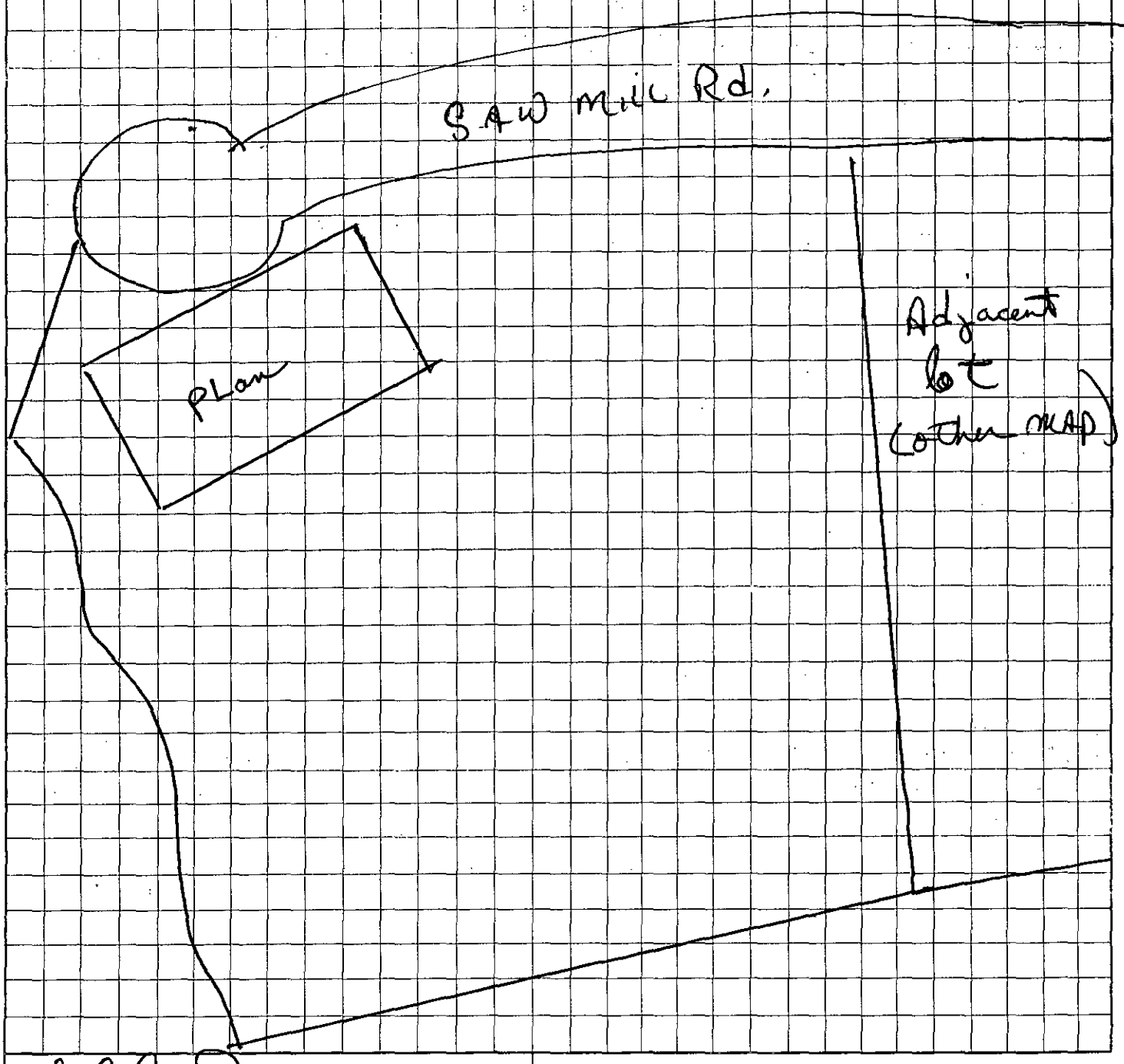
PROPOSED PLOT PLAN

HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
700 NORTH TRYON ST., SUITE 211
CHARLOTTE, NC 28202
PHONE (704) 336-5103

FILE: 6055B

TC: 199-401-14PO

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.



OWNER/AGENT SIGNATURE

DATE 5/31/05

APPROVAL DATE _____

White - Health Department's Copy Canary - E.H.S. Copy Pink - Owner's Copy

DATE: 7/1/2005

TO: CHARLOTTE-MECKLENBURG BUILDING STANDARDS
PERMIT ISSUING SECTION

FROM: MECKLENBURG COUNTY ENGINEERING

JURISDICTION: CHAR

199-401-14

PARCEL NUMBER

10249 SAW MILL RD

ASSIGNED STREET ADDRESS (ADDRESS OF RECORD)

N/A

EXISTING STREET ADDRESS (IF DIFFERENT FROM ASSIGNED)

N/A

PROJECT NAME (IF APPLICABLE)

THE ABOVE DESCRIBED LOCATION HAS BEEN CHECKED CONCERNING:

1. SUBDIVISION REGULATIONS	____ APPROVED	____NOT APPROVED
2. FLOODWAY REGULATIONS	____ APPROVED	____NOT APPROVED
3. WATERSHED PROTECTION	____ APPROVED	____NOT APPROVED
4. COMERCIAL DRAINAGE PLAN	____ APPROVED	____NOT APPROVED
5. PUBLIC UTILITY EASEMENT	____ PRESENT	____NOT PRESENT
6. PROPERTY FRONTS ON THOROUGHFARE	____ YES	____NO
7. DRIVEWAY PERMIT REQUIRED	____ YES	____NO
8. DOES PROJECT CONFLICT WITH ROAD PROJECT?	____ YES	____NO

Remarks:

ADDRESS VERIFIED-NEW CONST

NOTE: THIS FORM MUST BE TURNED IN AT THE CASHIERS OFFICE WHEN PAYING PERMIT FEE. CERTIFICATE OF OCCUPANCY WILL NOT BE GRANTED UNTIL TRANSPORTATION DIVISION GRANTS FINAL APPROVAL ON DRIVEWAY(S).

SIGNED: _____

ALL OTHER FORMAS OBSOLETE
__ NEW ADDRESS
REVISED 1/91

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date: 07/01/05
Receipt #: 35561
Check / Auth #: CHECK 6068
Received By: WALKEVA

Amount: 200.00
Tendered: 200.00
Returned: 0.00

Account Information

Account #: 200000
Contractor: BRADNER CLEVELAND
Attn:
Address: 114 SPRING BRANCH ROAD
Address:
City/State/Zip: FORT MILL, SC 29715

Item	Description	Permit#	Quantity	Unit Price	Total Price
0701	Improvment Permit App-Residen 10249 SAW MILL ROAD		1	200.00	200.00

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

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

Residential Subsurface Wastewater Treatment and Disposal System Design

for

10249 Sawmill Road
Charlotte, North Carolina

Tax Parcel # 199401-14
File # 6055B
May 18, 2006

Prepared for:

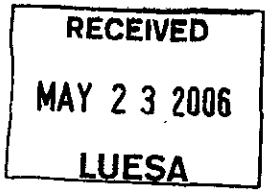
Mary Norris Parnell
7100 Reston Road
Charlotte, NC 28278

Prepared by:

Larry Thompson, RS, PWS
Thompson Environmental Consulting, Inc.
114 Orchard Ridge Road
Locust, NC 28097-8748
Phone: 704-301-4881
Fax: 704-888-1496



CC: Mr. Zack Peterson, RS
Mecklenburg County Environmental Health



Details

In an application for an Improvement Permit filed with the Mecklenburg County Health Department (MCHD) by Mary Norris Parnell, the subject property was proposed to be developed with a single family 4-bedroom residence served by a private well. Based upon this information, a soil and site evaluation was conducted by the MCHD where the lot was determined to be "Unsuitable" for the installation of a subsurface wastewater treatment and disposal system in accordance with the *Laws and Rules for Sewage Treatment, and Disposal Systems* 15A NCAC 18A .1900 (North Carolina Department of Environment and Natural Resources, Division of Environmental Health, On-Site Wastewater Section).

Upon further investigation by Thompson Environmental Consulting, Inc. (TEC), it was determined that a sufficient amount of "Suitable" Group IV soils are located on the property which would allow for the installation of a Type IV pressure dosed prefabricated porous block panel system (PPBPS) for a 4-bedroom residence (initial and repair). It is the desire of the owner that the MCHD consider reclassifying this lot as "Suitable", allowing for the issuance of a Construction Authorization, based upon the following proposal.

Location

The subject property is located off of Sawmill Road in Charlotte, North Carolina. From Charlotte, travel south on Tryon Street approximately 0.8 mile and turn right onto West Boulevard. Continue on West Boulevard approximately 6 miles, turning left onto Dixie Road – Dixie Road becomes Steele Creek Road. Turn right onto Shopton Road west and right onto Rock Island Road. Sawmill Road will be on your left and the subject property will be on your left at the end of the pavement.

References

Laws and Rules for Sewage Treatment and Disposal Systems, 15A NCAC 18A, Section .1900, Department of Environment and Natural Resources, Division of Environmental Health, On-Site Wastewater Section, February 1, 2005.

Onsite Wastewater Treatment and Disposal Systems; EPA 625/R-00/008 Design Manual, February 2002.

Design, Installation and Maintenance of the T & J Panel Wastewater Treatment System; Sixth Edition, published by T & J Panel.

Design and Installation of Low Pressure Pipe Wastewater Treatment Systems; by Craig Cogger, Bobby Carlisle; Dennis Osborne and Ed Holland. Published by UNC Sea Grant College Pub. UNC-SC-82-03, May 1982.

Plans and Specifications

Septic Tank

- The septic tank shall be State approved (Section .1953 of 15A NCAC 18A), watertight, structurally sound, and 1500 gallons in capacity.
- The septic tank will be fitted with an approved effluent filter and riser for easy access and periodic maintenance.
- It is the responsibility of the septic contractor to thoroughly inspect the septic tank prior to accepting delivery to assure that the tank has had time to properly cure and is free of cracks or other structural deficiencies.

Pump Tank

- The pump tank shall be State approved, of one-piece construction, watertight, structurally sound and 1000 gallons in capacity. Again, it is the responsibility of the septic tank contractor to thoroughly inspect each pump tank prior to accepting delivery.
- The pump tank shall have access risers that extend, at a minimum, 6 inches above finished grade and must have less than 36 inches of fill over its top once finished grade has been established (a reinforced concrete tank will be required if finished soil cover is 36 inches or greater in depth).
- The pump and alarm controls shall be provided with manual circuit disconnects within a watertight, corrosion resistant, Nema 4X rated control panel. The control panel must be securely mounted outside, adjacent to the pump tank riser and at a minimum of 12 inches above finished grade. Pump and float control wiring should be long enough to reach from the tank to the control panel without splicing, routed through wire conduit, and sealed at the openings within the pump tank as well as the control panel enclosure. It is paramount that the conduit is properly sealed to prevent the escape of flammable gases from the pump tank. Furthermore, there must be two electrical circuits for the pump tank controls: one for the pump and one for the alarm controls.
- The pump tank shall have a properly functioning high water alarm incorporated into the control panel. The alarm circuit shall be supplied separate from any pump overload and short circuit devices. The alarm shall be both audible and visible by the system users.
- The float switch for the high water alarm should be mounted at a location slightly above the "pump on" elevation for the pump float control switch. The high water alarm float switch shall not be set more than 6 inches above this elevation.
- Pump float(s) shall be mounted so that the effluent at the end of a pump cycle is above the top of the effluent pump. The septic contractor must determine pump draw down and set the float switch accordingly.
- Float switch tie downs must be made of a corrosion resistant material (do not use electrical tape or metal hose clamps to secure these switches). Floats should be mounted on a separate "float tree" rather than the pump supply line (see pump tank detail).

- The pump must be placed on two 4-inch concrete blocks to allow for some settling of solid particulates within the pump tank.

Pump Tank Effluent

- The pump discharge piping shall be fitted with a pressure effluent filter. The filter must be equivalent to the GAG Sim Tech Filter, Boyne City, Michigan, 49712, telephone: 1-888-999-3290. This device provides a very high degree of filtration and is highly recommended.

Pipe and Fittings

- All discharge piping, supply lines, valves and disconnects should be made of PVC.
- All joints must be properly "welded" utilizing the appropriate PVC cement for each application.
- The supply line from the pump tank to the pressure manifold shall be 2 inch Schedule 40 PVC (approximate length of supply line is 210 feet).
- The lateral distribution lines shall be 1¼ inch Schedule 40 PVC. Holes in the laterals should be drilled on site and at the 12 o'clock position (one hole per panel). Lateral hole size is 5/32 of an inch.
- There shall be a threaded PVC union above each pump to facilitate easy removal of the pumps for maintenance or replacement.
- The end of each lateral is to be provided with a "turn up", contained within a turf/gate valve box, that provides above ground access for periodic clean out and pressure head adjustment.

Valve Box

- The control valves (gate valves) for each lateral distribution line shall be contained within one manifold box/vault of adequate size. The box should be placed upon a gravel base.
- The supply manifold conveys effluent from the pump to the lateral distribution lines.
- The supply manifold should be constructed by connecting a series of (6) 2" x 2" x 1 ¼" tees to the 2 inch supply line.

Backfill

- Backfill sand shall be a clean, washed, medium sand that is naturally occurring and falls within the gradation of ASTM C-33 specification (used in the ready mix industry and is readily available).

Drain Field Installation

- The drain field has been previously laid out on-site utilizing metal stemmed flags. Once this area has been approved by the MCHD, the property owner/builder should mark this area and isolate it as much as possible from construction traffic. Prior to

the system installation, the septic contractor shall contact the MCHD and the system designer for a preconstruction conference at which time the drain field area will be re-verified.

- Under no circumstances shall any construction take place within the drain field area while the soil is in a wet condition. If the installer has doubts as to whether or not the drain field area is dry enough to begin construction, the Mecklenburg County Health Department should be contacted for permission to proceed with the installation.
- The specified system is a Type IVa, pressure dosed, pre-fabricated permeable block panel system – specifically the 16 inch high panel system manufactured by T&J Panel Wastewater Treatment System, Patent No. 4013559; telephone: 1-800-222-2577. The installer must follow the manufacturer's guidelines for installing the T&J Panel System and should request an installation manual from the manufacturer prior to beginning construction.
- The initial drain field consists of (6) lateral trenches to be constructed 3 feet wide by 50 feet in length. It is essential that the lateral trenches be constructed on contour with the land, with each trench being excavated level from beginning to end. The use of a tripod mounted engineer's level is essential to assure that each trench is constructed as level as possible.
- The maximum trench depth for this system shall be 30 inches. Each trench shall be placed on a minimum of 9 foot on centers.
- Once trenches are dug, the side walls shall be raked and a light dusting of lime applied.
- Backfill the trench with 6 inches of sand and level to grade. Once leveled, place 1 x 4 or 6 inch boards on top of the sand the entire length of each trench. Once the grade boards have been set, the panels may be set into the trench. The panels should be placed 6 inches apart.
- Once the panels have been set, line the top chamber of each panel with 10 – 12 pounds of clean particle sand (medium sand blasting sand). Coverage depth should be approximately 1 inch thick. *Please note that this sand is not the same material specified for backfill.*
- Tar seal rope should be placed in the "U" outs of each end of the panel to form seals. Once the tar rope is in place, the 1 ¼ inch Schedule 40 PVC laterals can be added and the seal completed by the addition of more tar rope on the top and sides of the pipe. Now that the connection and seals are complete, a block cap is placed on each end of the panel so that all openings are covered.
- The end of each lateral should be fitted with a short turn up topped by a threaded female coupling with cap. Each turn up must be fitted with a turf/gate valve box with lid fitted flush to finished grade.
- Once the lateral has been installed and the panels closed, the trench is ready to be backfilled to the top with the sand used in the trench bottom. At this point, the trenches should be left open for the final inspection by the MCHD.

Proper Operation Check

- After all components of the waste water disposal system have been installed and connected, the system shall be checked for proper operation.
- With the electrical power turned off, fill the pump tank with water until the liquid rises to a level high enough to activate the high water alarm float. Turn on the electrical power. The alarm, alarm light and pump should activate at this time. Turn off the electrical power once these checks have been performed and prepare to set the head pressure at the valve box.

Pressure Head Adjustment

- The pressure head must be adjusted to match the design specifications. The pressure head is measured by the height of the liquid coming from the turn ups at the end of each lateral when the pump is running (utilizing stand pipes).
- Prepare a length of pipe (stand pipe), cut to the desired head pressure height and fitted with a threaded adapter that will screw into the turn up couplings at the end of each lateral. Thread the stand pipes into each lateral and then turn the power on to the pump, allowing the water to rise within the stand pipes. Adjust the gate valves within the supply manifold box to achieve the specified head pressure (liquid height in the stand pipes should equal the design head pressure).
- Once the pressure head has been adjusted, allow the pump to run through the remainder of the cycle. The pump float switch will automatically turn the pump off if it is operating properly. Make sure that the effluent pump is completely submerged in the remaining water, making adjustments to the float switch(es) as needed. This completes the checks for proper operation of the pump, alarm and float switches.
- At this point, the standpipes may be removed and replaced with the threaded turn up caps.

Final Landscaping

- The drainfield shall be shaped to shed rainwater and be free from low spots.
- The entire area of the drainfield should be planted with grass as soon as possible to prevent erosion. The soil should be properly tilled, limed (if necessary) and fertilized prior to planting. After applying grass seed, the area should be heavily mulched with straw or other suitable material.

Utility Conflicts

- The builder and property owner must take special care in planning for water, power, gas, telephone and cable lines. These utilities shall be kept clear of all parts of the septic system and its proposed repair area. Improper planning for underground utilities can negatively impact the installation and, in some cases, cause irreparable damage. If there are any questions regarding preferred routes, contact the MCHD as soon as possible.

Maintenance

Operation and Maintenance

The designed system is classified as a Type IVa wastewater treatment and disposal system and will require ongoing maintenance. State regulations require that a system of this type be managed by a person certified (Certified Subsurface System Operator) by the North Carolina Department of Environment and Natural Resources to operate subsurface wastewater systems (Section .1961 Maintenance of Sewage Systems). A "Maintenance Contract" between the system owner and a Certified Operator will be required by the MCHD prior to the issuance of a final system approval or Operation Permit.

- The minimum inspection/maintenance and reporting frequency for a Type IVa system is twice a year by the Certified Operator. The local health department is required to inspect the system once every three years.
- The septic and pump tanks shall be pumped every 4 years or when the solids within the septic tank reach an elevation that is equivalent to 1/3 of the volume of the tank. In some situations, the tanks may need to be pumped more frequently; for example, if you are using a garbage disposal, it is recommended that the septic and pump tanks be cleaned out annually. Regardless, the Certified Operator will be able to advise when it is necessary to pump out tank solids.
- Pressure head for laterals should be checked and adjusted semi-annually, flushing with clean water as necessary to remove any accumulated solids.
- The effluent filters should be inspected semi-annually. When it becomes necessary to clean the effluent filters, the filters should be removed and the accumulated debris washed back into the septic or pump tank – not onto the lawn.
- All piping and valves should be inspected semi-annually for damage and corrections/repairs made immediately.
- The pump and float controls/switches should be inspected semi-annually to assure proper operation
- The drain field area should be maintained to prevent over growth of vegetation. Any damp areas, leakages or malfunctions should be addressed immediately.
- Divert gutter downspouts and surface water runoff away from the septic and pump tanks.

Suggestions to the Homeowner

- As previously mentioned, if you plan to use a garbage disposal in your home you should plan to have your septic and pump tanks cleaned out annually. The ground up garbage adds large amounts of solids into a septic tank that tend to degrade at a very slow rate.
- Grease, cooking oils, coffee grounds and non-degradable solids (disposable diapers, cigarettes and solid paper wastes) should never be put into a septic tank.
- Used motor oil or any oily liquids should not be disposed of in a septic tank.

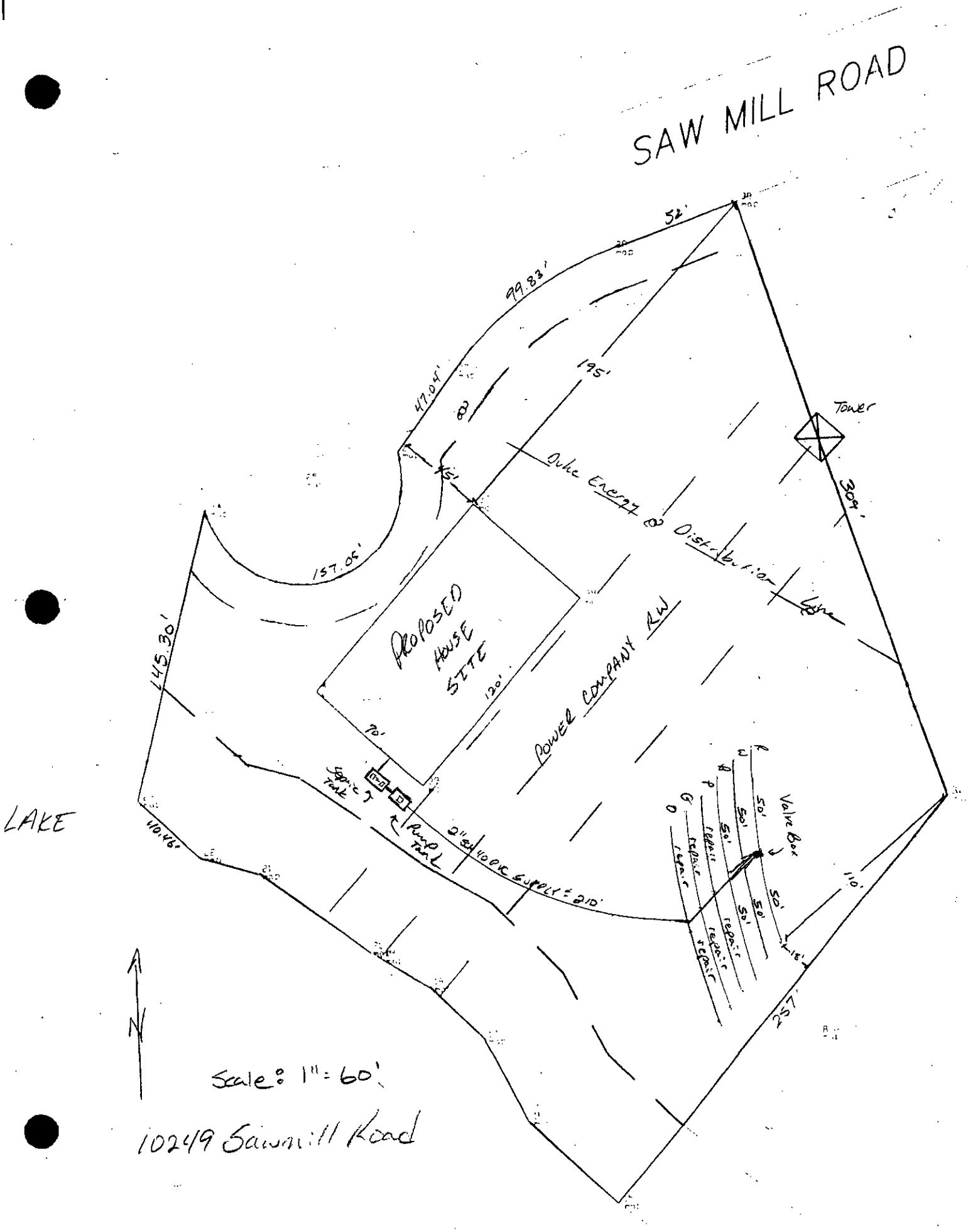
- Be aware of the amount of water that you are using in your home. Water saving fixtures and devices can be installed on sinks, toilets and showers to reduce the volume of wastewater that you are sending to your drain field.
- Run dishwashers and washing machines only when you have a full load.
- Use liquid detergents. Powdered detergents have binding agents in them that tend to solidify in the wastewater disposal system.
- Repair leaky faucets and toilets. Small drips equal large volumes of water over time and can over burden your drain field.
- Do not use chemical additives in your system. Studies have indicated that they do not increase the biological activity that naturally occurs in the septic system and in some cases certain additives have been found to be detrimental to the life of a system.
- Finally, taking good care of your septic system will help to assure that you experience years of trouble free service at a relatively low cost. On-site wastewater treatment and disposal is still the most environmentally friendly method of treating residential/commercial waste and you should keep your system in use for as long as it is properly functioning! If you have additional questions, please feel free to contact your system designer or the MCHD.

Design Specifics

Daily Design Flow:	480 GPD – 4 bedroom house
Septic Tank Size:	1500 gallons (2 compartments)
Pump Tank Size:	1000 gallons (one piece)
Effluent Loading Rate:	Design = 0.275 GPD per sq. ft. (50 % reduction for the PPBPS)
Supply Length and Diameter:	Approx. 210 feet of 2 inch Sch. 40 PVC (please see note at the bottom of this page.)
Number and Length of Laterals:	(6) 50 feet in length
Lateral Hole Size:	5/32 inch
Hole Spacing:	1 per panel = 66 total
Number of Panels:	66
Dosing Volume:	237.60 gallons per dose
Flow Rate Through System:	27.06 gallons per minute
Elevation Head:	22 feet (may vary, please see note at the bottom of this page)
Pressure Head:	2 feet
Pump Requirements:	27.06 GPM at 22 TDH
Depth of Water Pumped:	11.31" (J&S STB-97-1000 used) check with individual tank manufacturer (1 cu. Ft. of water equals 7.5 gal.)
Pump Run:	8.78 minutes
Check Valve:	Yes
Vapor Lock Hole:	Yes (A vapor lock hole can reduce vibrations in the discharge pipe upon start up and shut down)

* Please note that supply line and elevation head measurements are approximate. It is the contractor's responsibility to confirm these values based upon the actual house and plumbing location. If there is a discrepancy, contact the system designer prior to beginning construction.

PPBPS Design Worksheet							File #:	6055B
							Tax #:	19940114 PO
System Requirements							Address:	Lot 2 Sawmill Road
Design Flow	480	gpd						Charlotte, NC
LTAR	0.300	gpd/ft.^2					Consultant:	Larry Thompson
Linear footage	533	ft. (conventional)					Phone:	704-301-4881
Linear footage	267	ft. (50% Reduction)						
							Reviewed By:	
Design Layout							Date:	
Laterals	Length (ft)	# Panels						
Line # 1	50	11						
Line # 2	50	11						
Line # 3	50	11						
Line # 4	50	11						
Line #5	50	11						
Line #6	50	11						
Totals	**300**	**66**						
Absorption Area								
Length (ft)	Width (ft)	Area (ft^2)						
280	3	840						
System Pressure Head	2	ft.	Value selected by system designer (must be between 2-5 ft.)					
Orifice Diameter	5/32	in.	Size selected by system designer (1/8 in. minimum)					
Flow Rate per Orifice	0.41	gpm	Determined from orifice flow design table (value dependent on pressure head & orifice diameter)					
Total System Flow Rate	27.06	gpm	Total number of panels required multiplied by the orifice flow rate					
System Dose Volume	237.60	gal.	Total number of panels required multipled by 3.6 gal./panel					
Pump Run Time	8.78	min.	System dose volume divided by the total system flow rate					
Pump Tank Drawdown	11.31	in.	1,000 gal. Pump tank, volume is approximately 21 gallons per inch					
Comments:								
1. Install system using 3 ft. wide trenches.								
2. Install drainlines on 9 ft. centers, level, and on contour.								
3. System design requires effluent pump for distribution.								
4. 100% repair area (PPBPS) required for property.								


SAW MILL ROAD
52'
99.83'
195'
47.04'
Tower
Duke Energy & Distribution Line
309'
157.05'
PROPOSED HOUSE SITE
120'
70'
POWER COMPANY R/W
145.30'
Septic Tank
Pump Tank
2" SCH 40 PVC SUPPLY ± 210'
Valve Box
50'
repair
110'
LAKE
110.46'
257'
N
Scale: 1" = 60'
10249 Sawmill Road

Division of Environmental Health
On-site Wastewater Section

Property ID: PQ 199-401-14
Lot #:
File #: 6055B
Code: 2

SOIL/SITE EVALUATION for ON-SITE WASTEWATER SYSTEM

Owner: Mary Norris Parnell
Applicant:
Address: 7100 Reston Road, Charlotte, N. C. 28278
Date Evaluated: 1/31/06
Proposed Facility: Residence
Design Flow (.1949): 480gpd
Property Size: 2.0a
Location of Site: 10249 Sawmill 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	SOIL MORPHOLOGY .1941 .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	0-8	GR/CL	FR/SEXP/SS/SP	>48" TO SOIL WETNESS	48	N/A	NONE	PS, IV
		8-48	SBK/C	FI/SEXP/S/P					.225GPD/FT^2
2	LS, 10	0-4	GR/CL	FR/SEXP/SS/SP	"	"	"	"	PS, IV
		4-48	SBK/C	FI/SEXP/S/P					.275GPD/FT^2
3	LS, 12	0-6	GR/CL	FR/SEXP/SS/SP	"	"	"	"	"
		6-48	SBK/C	FI/SEXP/S/P					
	LS, 15	0-8	GR/CL	FR/SEXP/SS/SP	"	"	"	"	"
		8-48	SBK/C	FI/SEXP/S/P					

Description	Initial System	Repair System
Available Space (.1945)	PS	US
System Type(s)		
Site LTAR	.275GPD/FT^2	.275GPD/FT^2

Other Factors (.1946):
Site Classification (.1948): UNSUITABLE
Evaluated By: W. R. Martin, LSS, 1/31/2006
Others Present: D. Howell

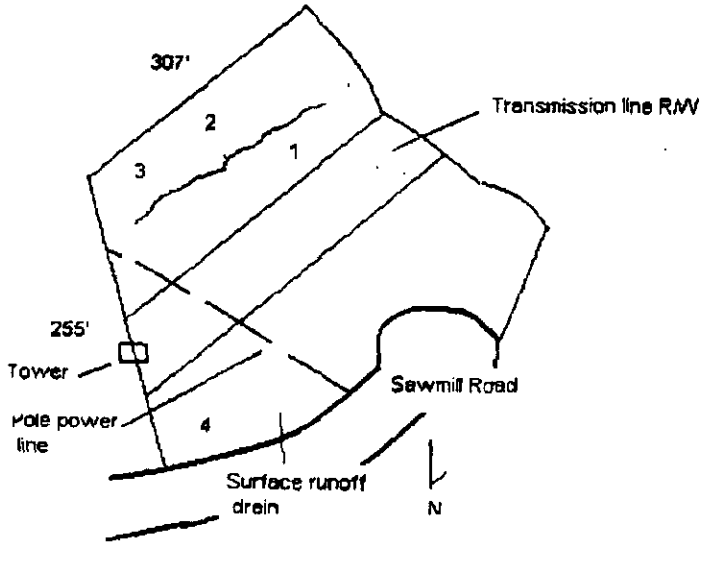
Sheet: 2 of 2
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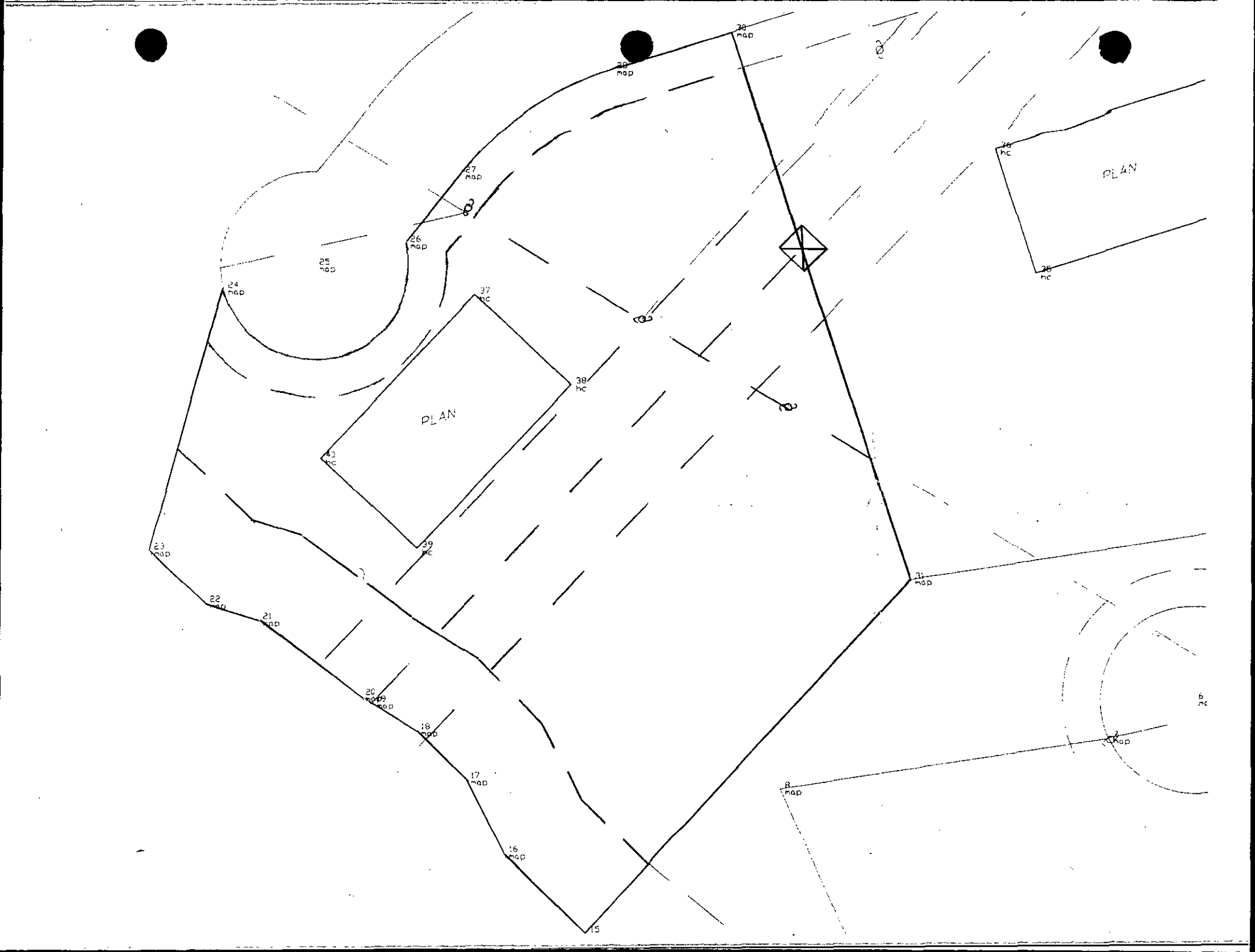
COMMENTS:
100% repair

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-Food 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




PLAN
PLAN