N.C. Department of Environment and Natural Resources
Division of Environmental Health

Inspection of Engineered Subsurface Wastewater System

Mecklenburg County	MARTIN LASHUA	1835A
Health Department	**Name of Establishment**	**Permit/Project No.**
14623 AUTUMCREST RD	RESIDENCE	360
Location	**Type of Establishment**	**Design Flow**
MARTIN LASHUA	14623 AUTUMCREST RD	
Owner/Agent	**Address**	**Phone**
NA	HUNTERSVILLE NC 28078	
Operator	**Address**	**Phone**
IV	1/19/2010	1/19/2015
System Type	**Date of Inspection**	**Next Inspection Due**

	Yes	No	N/A	Comments:
1. ESTABLISHMENT:				
a. Type, size, and sewage flow in accordance with permit?	☒	☐	☐	
2. COLLECTION SYSTEM:				
a. No evidence of leaks into or out from sewer lines/manholes?	☒	☐	☐	
b. Free of blockages/solids buildup in lines or manholes?	☒	☐	☐	
3. TANKAGE: (Grease Traps/Lift Stations/Septic/Dosing Tanks)				
a. Tank risers accessible and surface water diverted?	☒	☐	☐	
b. Tanks and access manholes structurally sound, watertight?	☒	☐	☐	
c. Sanitary tee(s) in good working condition?.....	☐	☐	☒	3.c. Sanitary tee not inspected.
d. Tanks pumped, cleaned out as needed?.....	☐	☐	☒	
4. RAW SEWAGE LIFT STATION (if present):				
a. Required pumps present, operating, and cycling properly	☐	☐	☒	
b. High-water alarm present and operating properly?	☐	☐	☒	
c. Floats/pipe/valves/disconnects in good condition?	☐	☐	☒	
5. EFFLUENT DOSING SYSTEM:				
a. Effluent appears clear, free of excess solids?	☐	☐	☒	
A. PUMP SYSTEMS:				
a. Required pumps present, operating, and cycling properly?	☒	☐	☐	
b. High-water alarm present and operating properly?	☒	☐	☐	
c. Floats/pipe/valves/disconnects in good working condition?	☒	☐	☐	
d. Control panel enclosure/components in good condition?	☒	☐	☐	
e. Elapsed time readings: _____ _____ _____ _____				
B. SIPHON SYSTEMS:				
a. No evidence of overflow or siphon leakage?	☐	☐	☒	
b. Siphon(s) appear to be working/alternating properly?	☐	☐	☒	
c. Bells and vents free of debris and in good condition?	☐	☐	☒	

	Yes	No	N/A	Comments:
6. GROUND ABSORPTION FIELDS:				
a. No evidence of effluent surfacing/reaching surface waters?	☒	☐	☐	
b. Minimal ponding in subsurface trenches?	☒	☐	☐	
c. Surface water being effectively diverted away?	☒	☐	☐	
d. Diversions/ditches/swales/tiles drains properly maintained?	☒	☐	☐	
e. Line cover/vegetation adequate/maintained as needed?	☒	☐	☐	
f. Protected from traffic, destructive uses?	☒	☐	☐	
g. Distribution devices in good condition, working properly?	☒	☐	☐	
h. Repair area properly reserved, maintained?	☒	☐	☐	
A. LOW PRESSURE PIPE DRAIN FIELDS:				
a. Turnups/cleanouts/valves intact and accessible?	☒	☐	☐	
b. No effluent standing in lower laterals?	☒	☐	☐	
c. Laterals free of excess solids, cleaned out as needed?	☐	☐	☒	
d. Pressure head is properly adjusted?	☐	☐	☒	

OVERALL CONDITION AND OPERATION OF SYSTEM:
GOOD

SUMMARY OF REPAIRS REQUIRED AT THIS TIME:
NONE

***REPAIR WITHIN DAYS.**

SYSTEM MAINTENANCE/IMPROVEMENTS REQUIRED:
*The MCHD recommends having the tanks (septic & dosing) pumped out every 3 to 5 years to remove excess solids.
*Please visit http://groundwater.charmeck.org for additional information.

DATE: 1/19/2010

SIGNED: Philo Walker RS AGENT
Division of Environmental Health

Printed Name: PHILO WALKER RS
Phone #:

FEE: 200.00 check 1186

DATE: 2/8/05 gc

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

#649

[ ] CRT

TYPE APPLICATION: X 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

FILE #: 1835A

PROPERTY INFORMATION (FROM ENGINEERING FORM) FOR JOB LOCATION:

TAX/PARCEL NUMBER: 02121104

STREET ADDRESS: 14623 Autumncrest Road

SUBDIVISION OR MOBILE HOME PARK NAME: Oakwood Forest

LOT NUMBER: 11

TYPE OF BUILDING (CHECK ONE):

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

TOWNSHIP (CHECK ONE):

X 0 MECKLENBURG
___ 1 CHARLOTTE
___ 2 DAVIDSON
___ 3 CORNELIUS
___ 4 PINEVILLE
___ 5 MATTHEWS
(X 6 HUNTERSVILLE ETJ)
___ 7 MINT HILL

HEATED SQUARE FOOTAGE: 2500

NUMBER OF BEDROOMS: ~~4~~ 3 NUMBER OF OCCUPANTS: 2

CLOSING DATE February 28, 2005

FOUNDATION FOR RESIDENCE:

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

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

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

WATER SUPPLY (CHECK ONE):

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

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

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

PROPERTY OWNER:	LEGAL AGENT FOR PROPERTY OWNER, IF APPLICABLE:
NAME: LASHUA (LAST) MARTIN (FIRST) J (MI)	NAME: (LAST) (FIRST) (MI)
ADDRESS: 2008 Sunset Road	DAYTIME PHONE: ( ) -
CITY: Charlotte STATE: NC ZIP: 28216	
DAYTIME PHONE: (704) 301 - 0270 (mobile)	

WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED? June 6, 1969 DB 3099 pg 292

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.

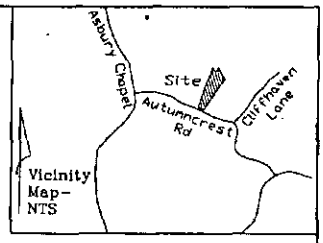
SIGNED: Vashua DATE: 2/9/05

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

File # 1835A

LEGEND:

● EIP	Existing Iron Pin
○ IPS	Iron Pin Set
R/W	Right of Way
EOP	Edge of Pavement
○ PT	Calculated Point
—OU—	Overhead Utility
—X—	Chain Link Fence
DB	Deed Book
MB	Map Book



South Prong Clarke Creek

PT S50°25'00"E 92.23' PT L3 PT L2 PT L1 PT EIP 34.60'

Calls along creek are for area and closure only

S29°14'50"E 239.00'

021-211-09
Scott A. & Mary A. Bruno
DB 13954 PG 982

EIP

210.57'

021-211-04
DB 3099 PG 292
±4.151 Acres

* At time of survey, property owned by Marguerite & Robert Randall

021-211-08
Catherine L. Gerstner
DB 6964 PG 87

EIP

S48°37'43"E 128.77' Tie to EIP

EIP

N17°30'52"E (828.79' Total) 784.19'

300'

MB 4 PG 101

021-211-03
Libby L. Gunter
DB 5569 PG 885

60'

House

50'

S32°07'57"W (731.88' Total) 521.28'

021-211-05
Barbara J. Martin
DB 6254 PG 358

drive

R/W

EOP

EIP

PT C1 N57°44'00"W 89.42'

EOP

Autumncourt Road

R/W (60' Public R/W MB 4 Pg 101)

EIP Fire Hydrant

LINE TABLE		
LINE	LENGTH	BEARING
L1	34.41	N74°47'00"E
L2	43.40	N09°25'00"E
L3	26.57	S40°19'00"E

CURVE TABLE				
CURVE	LENGTH	RADIUS	CHORD	BEARING
C1	34.58	467.24	34.57	N59°51'13"W

NORTH CAROLINA PROFESSIONAL SEAL L-3135 LAND SURVEYOR DAVID B. BOYLES

I, David B. Boyles, certify that this map was drawn from an actual survey made under my supervision. The ratio of precision as calculated is 1/10,000+. I hereby affix my hand and seal this 3 day of Feb 2005

Registration No. L-3135 NC.

LandDesign Surveying

223 North Graham Street
Charlotte, NC 28202
August 21, 2004
Scale: 1"=100'

Phone: (704) 376-7777
Fax: (704) 376-2448
Project No. 4105015

100 50 0 100

Survey for Martin J. Lashua

14623 Autumncrest Road

Subdivision:	Lot:	Block:	Map Book:	Map Page:
Oakwood Forest	11		4	101

Township:	County:	State:	PIN:	Deed:
Charlotte	Mecklenburg	NC	021-211-04	3099 Page 292

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

Sheet: 1 of 2
Property ID: 021-211-04
Lot #: 11
File #: 1835A
Code: 2

ACS

SOIL/SITE EVALUATION for ON-SITE WASTEWATER SYSTEM

Owner: Martin J. Lashua
Applicant:
Address: 2008 Sunset Road, Charlotte, N. C. 28216
Date Evaluated: 2/17/2005
Proposed Facility: Residence
Design Flow (.1949): 480gpd
Property Size: 1.0a inv.
Location of Site: 14623 Autumncrest Road
Property Recorded:
Water Supply: [x] Public [ ] Individual [ ] 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 .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, 15	0-17	GR/SL	FR/SEXP/NS/NP	>22" TO SOIL WETNESS	17	US	NONE	US, II
		17-22	M/SL	VFI/SEXP/NS/NP					
2	"	0-17	GR/SL	FR/SEXP/NS/NP	>31" TO SOIL WETNESS	"	"	"	"
		17-31	M/SL	"					
		31+	"	VFI/SEXP/NS/NP					
3	"	0-17	GR/SL	FR/SEXP/NS/NP	>23" TO SOIL WETNESS	"	"	"	"
		17-23	M/SL	"					
		23+	"	VFI/SEXP/NS/NP					
4	LS, 10	0-19	GR/SL	FR/SEXP/NS/NP	>26" TO SOIL WETNESS	26	"	"	US
		19-26	SBK/SC	VFIEXP/VS/VP					
		26+	M/SL	VFI/SEXP/NS/NP					
5	"	0-24	GR/SL	FR/SEXP/NS/NP	>40" TO SOIL WETNESS	30	"	"	US
		24-30	SBK/SCL	FR/SEXP/SS/SP					
		30-40	M/SL	FR/SEXP/NS/NP					
		40+	HARD	SAPROLITE					
6	"	0-24	GR/SL	FR/SEXP/NS/NP	2.5Y7/1@24"	32	N/A	"	US
		24-32	SBK/C	VFI/EXP/VS/VP					

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

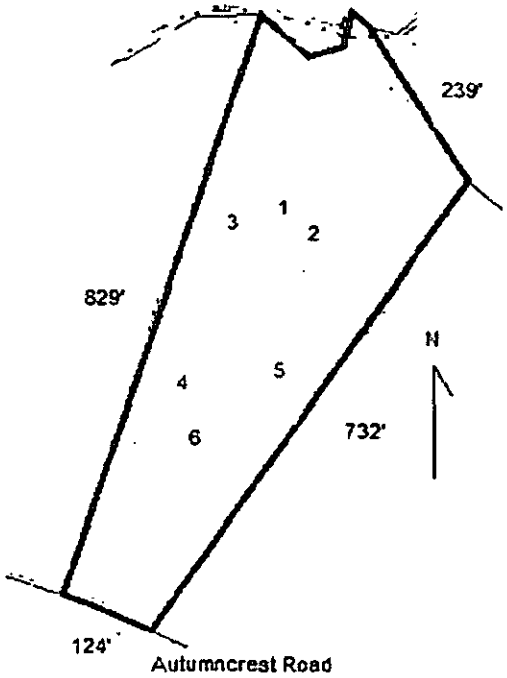
Other Factors (.1946):
Site Classification (.1948): UNSUITABLE
Evaluated By: W. R. Martin, LSS, 2/18/2005. W. R. Martin
Others Present:

COMMENTS:
Not 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-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



MECKLENBURG COUNTY
Health Department

Febuary 18, 2005

Martin J. Lashua
2008 Sunset Road
Charlotte, NC 28216

Re: Application for improvement permit for
Property Site: 14623 Autumncrest Road
Health Department file number: **1835A**

Dear Property Owner or Owner's Agent:

The Mecklenburg County Health Department, Environmental Health Division on **Febuary 17, 2005** 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 four-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)
- ☒ 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 **Febuary 18, 2005**. 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.

Jeremy Michelone, R.S.
Authorized Agent - DENR

Encl: (2)

Permit Number: 1835A
Date: April 12, 2006
Prepared By: T Thomason

Bench Mark Elevation N/A
System Design Pressure 2 ft.

4-12-06

Orifice Sizes (in.)	
Fraction	Decimal Equivalent
3/32	0.094
1/8	0.125
5/32	0.156
3/16	0.188
7/32	0.219
1/4	0.250

Subfield #1

Line #	Color	Rod Elev.	Head (ft.)	Hole Dia. (in.)	Flow/hole (gpm)	Lateral Length (ft.)	# Holes	Hole Spacing (ft.)	Flow/lateral (gpm)	Flow/ft. line (gpm)	% Diff.
L1	Pink	14.00	3.50	0.156	0.539	77	10	7.7	5.39	0.07	
L2	Orange	12.50	2.00	0.156	0.407	86	17	5.1	6.92	0.08	
						163			**12.31**		**22.2**

Subfield #2

Line #	Color	Rod Elev.	Head (ft.)	Hole Dia. (in.)	Flow/hole (gpm)	Lateral Length (ft.)	# Holes	Hole Spacing (ft.)	Flow/lateral (gpm)	Flow/ft. line (gpm)	% Diff.
L3	Blue	11.10	4.00	0.156	0.576	89	12	7.4	6.91	0.08	
L4	Pink	10.40	3.30	0.156	0.523	89	14	6.4	7.32	0.08	
L5	Red	9.10	2.00	0.156	0.407	104	20	5.2	8.14	0.08	**15.1**
						282			**22.37**		

Subfield #3

Line #	Color	Rod Elev.	Head (ft.)	Hole Dia. (in.)	Flow/hole (gpm)	Lateral Length (ft.)	# Holes	Hole Spacing (ft.)	Flow/lateral (gpm)	Flow/ft. line (gpm)	% Diff.
L6	Blue	8.10	3.90	0.156	0.568	92	11	8.4	6.25	0.07	
L7	Pink	7.15	2.95	0.156	0.494	104	17	6.1	8.40	0.08	
L8	Orange	6.20	2.00	0.156	0.407	87	17	5.1	6.92	0.08	**9.6**
						283			**21.58**		
						728 ✓			**56.25** ✓		

LOW PRESSURE PIPE
SEPTIC SYSTEM
FOR
SUBSURFACE WASTEWATER DISPOSAL
14623 Autumncrest Road
Huntersville, North Carolina

PIN # 04-211-04
MCHD FILE # 1835A

Prepared for:
Mr. Martin J. Lashua
2008 Sunset Road
Charlotte, North Carolina 28216

APPROVED AS NOTED ON 4-12-06 TREVOR

Prepared by:
S&ME Inc.
385 Timber Road Suite 104
Mooresville, North Carolina 28115
office (704) 662-8625
fax (704) 662-8735
www.smeinc.com

March 26, 2006

Copy: Mecklenburg County Env. Heath



Toney C. Jacobs, LSS

Rob Willcox, LSS

BACKGROUND

The soils on the 4.15 acre lot were evaluated on February 17, 2005 by Mr. Bill Marlin of the Mecklenburg County Health Department (MCHD). Based on his evaluation, a Low Pressure Pipe (LPP) septic system with a drip system repair was considered the best option for the proposed 3 bedroom house. The main soil limitations were depth to soil wetness and expansive clays. Mr. Marlin described drainage mottles of 2 chroma or less at depths of 21" in the repair area.

S&ME reviewed the site and flagged the proposed LPP primary system in March 2006. Using a proposed Long Term Acceptance Rate of 0.1 gpd/ft^2, we are recommending 720 feet of LPP trenches with a 15" trench bottom depth for the primary system. The trenches shall be 18" wide. The primary system has been flagged in the field. The proposed house was located by the owner. The surveyed drive placement was used to produce the attached site plan. The repair will be a drip system with a 6 inch tubing depth. This is more than twice the repair area required for the proposed drip repair. Because of plat date there is no required repair.

The proposed system will be a Type IV and require a maintenance contract with a certified operator. This plan will offer a unique challenge to installation. Only a competent and experienced installer should be used. Two additional site meetings are required by this plan, as a condition of the Improvement permit and Authorization to construct. No time limit is set for these, but one will be a pre-installation meeting to review each aspect of the plan, expectations of the Health Department, and requirements of the installer. The second meeting (final inspection) will be to certify that all design criteria are met in the design. S&ME and the Health Dept. want all systems to function properly, and because of the soil and site limitations present, this extra effort is included. A representative from S&ME will be present at these meetings as required by a condition on the Improvement Permit.

APPLICATION INFORMATION

1. Owner: Mr. Martin Lashua
   2008 Sunset Road
   Charlotte, North Carolina 28216

   Soil Scientist and Designer: Toney Jacobs, LSS
   S&ME, Inc.
   385 Timber Road Suite 104
   Mooresville, NC 28115
   (704) 662-8625 (Office)
   (704) 662-8735 (fax)
   www.smeinc.com

2. Water supply is provided by CMVD.

3. Facility to be served by the proposed system is a 3-bedroom single family residence

LOCATION

The property is located off Asbury Chapel on Autumncrest Road.

REFERENCES

Design and Installation of Low Pressure Pipe Waste Treatment Systems by: Craig Cogger, Bobby L. Carlile, Dennis Osborne, Ed Holland; published by UNC Sea Grant College Pub. UNC-SC-82-03, May 1982.

Laws and Rules for Sewage Treatment and Disposal Systems, 15A NCAC 18A, Section .1900, Department of Environment Health and Natural Resources, April 17, 2002.

PLANS AND SPECIFICATIONS FOR SPECIFIC SYSTEM COMPONENTS

Septic Tank

1. The septic tank receives wastewater directly from the house.
2. A septic tank shall be watertight, structurally sound, and not subject to excessive corrosion or decay.
3. The septic tank must be of two-compartment design for maximum solids retention. The inlet compartment of two-compartment tank shall hold between two-thirds and three-fourths of the total tank capacity.
4. Effluent from the two-compartment septic tank flows by gravity through a State approved effluent filter and a four-inch solid PVC pipe to the pumping tank.
5. Both the septic tank and pumping tank must be provided with above ground approved manhole risers to provide easy access for clean-out and pump service.
6. When prefabricated concrete tanks or tanks of other material are used, they shall be constructed in accordance with the plans which have been approved by the State and shall comply with all requirements of Section .1953 of 15A NCAC 18A.
7. On the outlet tee of the septic tank an effluent filter must be installed. This filter should be a State approved unit supplied by the tank manufacturer.

Pumping Tank

1. The pumping tank shall have an access manhole extending at least 6 inches above finished grade.
2. A septic tank effluent pump that will not be corroded by sewage shall be used in the pumping tank.
3. The pump must be placed on two concrete blocks set next to each other on the bottom of the tank. This prevents the pumping of any solid particles that can clog the system.
4. A piece of nylon rope or other non-corrodible material should be attached to the pump and to the outlet pipe for lifting the pump in and out of the chamber.

5. The lower level control or "pump-off" must be positioned above the pump, so that the pump remains submerged at all time.
6. The pump outlet pipe should be connected to the supply manifold with a threaded PVC union to allow quick removal.
7. Pump and Simplex control circuits shall be provided with manual circuit disconnects within a watertight, corrosion-resistant, outside enclosure (NEMA 4X or equivalent) adjacent to the pump tank, securely mounted at least 12 inches above finished grade. Pump control (Simplex) may be mounted on side of house if long cord pump is used. The pump shall be manually operable without requiring the use of special tools or entrance into the tank for testing purposes. Conductors shall be conveyed to the disconnect enclosure through water proof, gas proof, and corrosion-resistant conduits, with no splices or junction boxes provided inside the tank. Wire grips, duct seal or other suitable material shall be used to seal around wire and wire conduit openings inside the pump tank and disconnect enclosure. There shall be two electric circuits for controls: one for pump power, one for the alarm. These will require 2 circuit breakers.
8. The pump tank shall have a properly functioning high-water alarm. The alarm circuit shall be supplied ahead of any pump overload and short circuit protective devices. It should be on a separate electrical circuit from the pump power line. The alarm shall be audible and visible by system users and included in the pump and control enclosure. The alarm is activated if the water level in the pump tank rises above the "pump-on" float control. The tank provides at least one day or more of excess storage capacity (depending on water use in the house) during which time the system must be repaired.
9. Float switch for the high water alarm shall be set no more than 3 inches above the high water level of pump cycle.
10. Float switch tie downs to be made of corrosion resistant material, no tape or metal hose clamps. For maintenance flexibility, tree must be used to set floats. Alternative electronics may be used.
11. Watertight testing per .1900 rules shall be required on two piece pump tanks.
12. Wiring between the pumping tank and the house should meet State and local code requirements.

Pipe and Fittings

1. All pipes and fitting should be made of SCH 40 PVC.
2. All joints must be sealed with appropriate PVC-solvent cement.
3. There should be a threaded PVC union above the pump to allow easy removal or replacement.
4. A gate valve for final pressure adjustment is installed in the supply line inside the pumping tank.
5. Manifold and valve as shown in specifications. The proposed system uses 16 laterals, middle fed and 3 gate valves at the valve box. It also uses 2 check valves and a gate for each lateral segment.
6. Lateral lines are made of 1 1/4 inch SCH 40 PVC sleeved in 4 inch corrugated pipe. Holes in laterals are drilled on-site.
7. The end of each lateral is equipped with a capped "turn-up" that provides above ground

access for clean-out or back flushing of the laterals. Using (2) 45-degree elbows rather than a 90-degree elbow for the turn-ups will make clean-out easier.

CONSTRUCTION INSTALLATION

Site Preparation

1. One of the most important concerns for an on-site system is to protect the site from soil disturbance by heavy equipment.
2. Now that the absorption area has been designed and flagged, **it should be barracaded off and protected from construction traffic**. No site preparation or construction work should occur if the soil is wet. **Do Not Grade!**
3. Provisions must be made for intercepting or diverting surface water away from the absorption area.
4. After the area has been cleared and shaped, the location of the lateral lines and supply manifold should be accurately re-flagged according to design specifications. Each lateral line must be laid out along a level contour using a transit. This step can be completely avoided if flags are protected during clearing.

Tank Installation

1. The two-compartment septic tank is installed.
2. The pumping tank is installed next to the septic tank.
3. The tanks are connected with an appropriate length of solid, four-inch PVC pipe.

Supply Manifold

1. The supply manifold conveys effluent from the pump to the distribution laterals.
2. Design of the manifold is shown on attached diagrams.
3. The supply manifold joins each lateral through a short riser pipe connecting a reducing tee on the manifold to a 1 1/4 inch elbow or tee on the lateral. This assembly places each lateral pipe about six inches higher than the supply manifold and helps prevent the back-flow of effluent from a higher later to a lower lateral. Use a 2" x 2" x 1 1/4" tee rather than "bushing down" when connecting laterals to the manifold.
4. After the supply manifold has been placed in its trench and lateral lines connected, it should be backfilled with tightly tamped soil. The supply manifold trench must not be backfilled with gravel, or the trench may become a conduit for downslope flow effluent from the laterals.

Low Pressure Pipe Lateral Lines

1. Lateral lines shall be constructed from 1 1/4" SCH 40 PVC and sleeved in 4 inch corrugated drain pipe.
2. Trenches shall be 18" wide, and 5' minimum on center. Trenches shall be "level" from

end to end. Trenches shall be only 15" deep from the original soil surface (see trench diagram). Small earthen dams should be placed at the beginning of each lateral trench to help maintain uniform distribution of effluent along each trench.

3. Holes drilled in the laterals shall be 5/32-inch with the holes pointed up. (Note this system uses six 3 subfield and 19 valves)
4. Sleeve laterals in 4" corrugated pipe.
5. A short turn-up with a capped end is at the end of each lateral. The capped end must be brought up above or flush with the final grade. Using two 45-degree elbows for constructing cleanouts is recommended. A larger diameter sleeve with cap or approved box with lid shall be placed over the turn-up.

PROPER OPERATION CHECK AND PRESSURE HEAD ADJUSTMENT

1. After all connections have been installed and connected, the system should be checked for proper operation. With electrical power turned off, fill the pump tank with a garden hose until the liquid rises to the level of the high-water alarm float.
2. Turn on the electrical power. The alarm light should go off when the liquid level falls below the high-water float. The pump should turn off when the liquid reaches the lowest float control. Be sure the pump is still completely submerged.
3. The pressure head is measured as the height liquid will rise above the turned-up elbow when the pump is running. To set or check the pressure head:

    - Glue a three-foot length of pipe (preferable clear) to a threaded adapter that will screw onto the turn-ups at the end of each lateral.
    - Replace each turn-up cap with the pipe and adapter.
    - Turn the power on to allow liquid to rise in the pipe.
    - Adjust the gate valves until the effluent reaches the desired height in the pipe. Remember to include the distance below the ground surface to the lateral line when measuring the height.

FINAL LANDSCAPING

1. After the system is installed, the following should be checked to ensure that the system will not be overloaded with excess rainwater and runoff:
    - The distribution field is shaped to shed rainwater and is free of low areas. The old farm terrace downslope of the system should be shaped to allow water to flow off the LPP system. The farm terrace upslope of the system should remain to divert any surface water away from the system.
    - Grassy swales or ditches for diverting surface water are properly installed.
    - Gutter and downspout drains are directed away from the system.
    - Drive runoff should be directed from the system.

2. Finally, the entire area should be planted with grass in order to prevent erosion. The soil

promptly.

- The nitrification field area shall be checked for leakages, blowouts or malfunction, indications of damp or mushy areas compared to surrounding area or evidence of noticeable odor of sewage. Repairs shall be made immediately.
- The pump electrical should be checked to insure tight, clean connections with no corrosion and proper operation.
- Pump switches shall be checked for free operation and proper level set.
- Pump draw down depth and delivery rate shall be checked each year.
- Check septic tank and pump tank for evidence of damage or leakage. Check the quality of effluent including grease and sludge accumulation.

The system operator, in conjunction with the local Health Department shall establish an operation and maintenance program and procedure based on experience obtained from similar installations.

OWNER SUGGESTION

Most systems do not require much effort to operate and maintain. Even though the effort is small, the system must be maintained properly so that it operates reliably and at a minimum cost. Following are suggestions for the owner to minimize the burden on the septic system.

1. Garbage disposals should not be used in on-site systems. The ground garbage adds large amounts of solids to a septic tank, causing sludge to build up at a quicker rate than without. If disposal is installed, use should be limited.
2. Grease, cooking oils and coffee grounds should never be put into a septic tank.
3. Items such as disposable diapers, cigarettes, facial tissues and other solid or paper wastes should not be flushed into the on-site system.
4. Used motor oil and other such oily liquids should not be put into a septic tank.
5. Using less water can reduce the amount of water flowing to the treatment and disposal field.
6. Water-saving fixtures and devices can be installed on sinks and toilets to reduce the rate at which the water flows from the fixture.
7. Leaky faucets and toilets can add large volumes of water to the daily flow of water into the on-site system. Repair the leaks to save water and give the treatment and disposal field a rest.
8. Roof drains, foundation drains, and other such drains should not empty into or onto the surface above the on-site system. These drains should be directed to another part of the lot away from the treatment and disposal field.
9. Dishwashers and washing machines should only be run with full loads.

List of Attachments

1. Design Table
2. Overall Site Plan
3. System Schematic
4. Site sketch proposed house & house plans
5. Bill Marlin soil evaluation
6. System component diagrams
7. Neighboring permits

DESIGN SPECIFICATIONS FOR PRIMARY SYSTEM

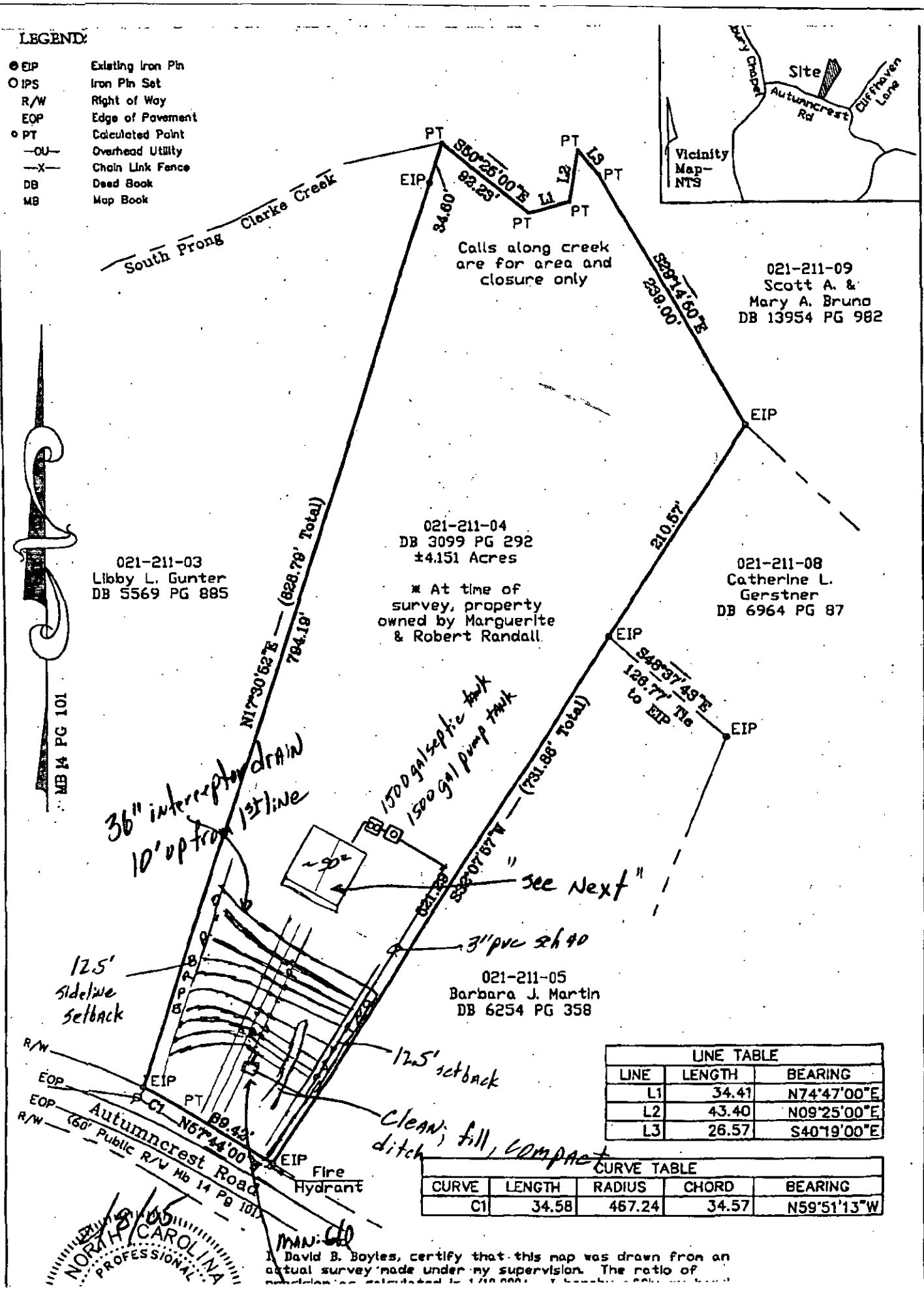
(14623 AUTUMNCREST ROAD)

Daily design flow:	360 gpd. (3-bedroom)
Septic tank size:	1500 gal. (2 compartments)
Pumping tank size:	1500 gal.
Effluent loading rate:	0.1 gpd/ft^2 for LPP primary
Total length and diameter of supply pipe:	approx 310' of 3" SCH 40 PVC
Number and length of laterals:	see table (1¼ " SCH 40 PVC)
Hole size:	5/32"
Hole spacing:	see table
Total number of holes:	see table
Flow rate through the system:	57.7 gpm
Elevation head:	Approx. 17' **
Pressure head:	2.0-3.9'
Friction head:	Approx. 10.0'
20% contingency	6.2'
Total head:	37.1'
Pump requirements:	56.6 gpm at 37' of head; use Goulds WE10H pump or equivalent with compatible electrical
Dosing volume:	280 gal. – 1.3 dose/day at design flow
Depth of water pumped per dose:	calculated to specific tank by measure or dealer engineering specifications (1 cubic ft. of water equals 7.48 gal.)
Pump run per dose:	approx. 4.9 min
Check valve:	YES
Siphon break hole:	YES
Upslope interception drain	12" wide x 36" deep

** to be verified by installer

Low pressure design specifications for Martin Lashua

line	color	length (ft)	rod reading (ft)	design head (ft)	hole size (in)	hole spacing (ft)	number holes	flow per hole (gpm)	flow per line (gpm)	flow per ft. line (gpm)
1	pink	77	14	3.5	5/32	7.7	10	0.54	5.40	0.07
2	orange	86	12.5	2	5/32	5.1	17	0.41	6.97	0.08
3	blue	89	11.1	4	5/32	7.4	12	0.58	6.96	0.08
4	pink	89	10.4	3.3	5/32	6.4	14	0.52	7.32	0.08
5	red	104	9.1	2	5/32	5.2	20	0.41	8.20	0.08
6	blue	92	8.1	3.9	5/32	8.4	11	0.57	6.27	0.07
7	pink	104	7.15	2.95	5/32	6.1	17	0.5	8.50	0.08
8	orange	87	6.2	2	5/32	5.1	17	0.41	6.97	0.08
	Total	728							56.59	

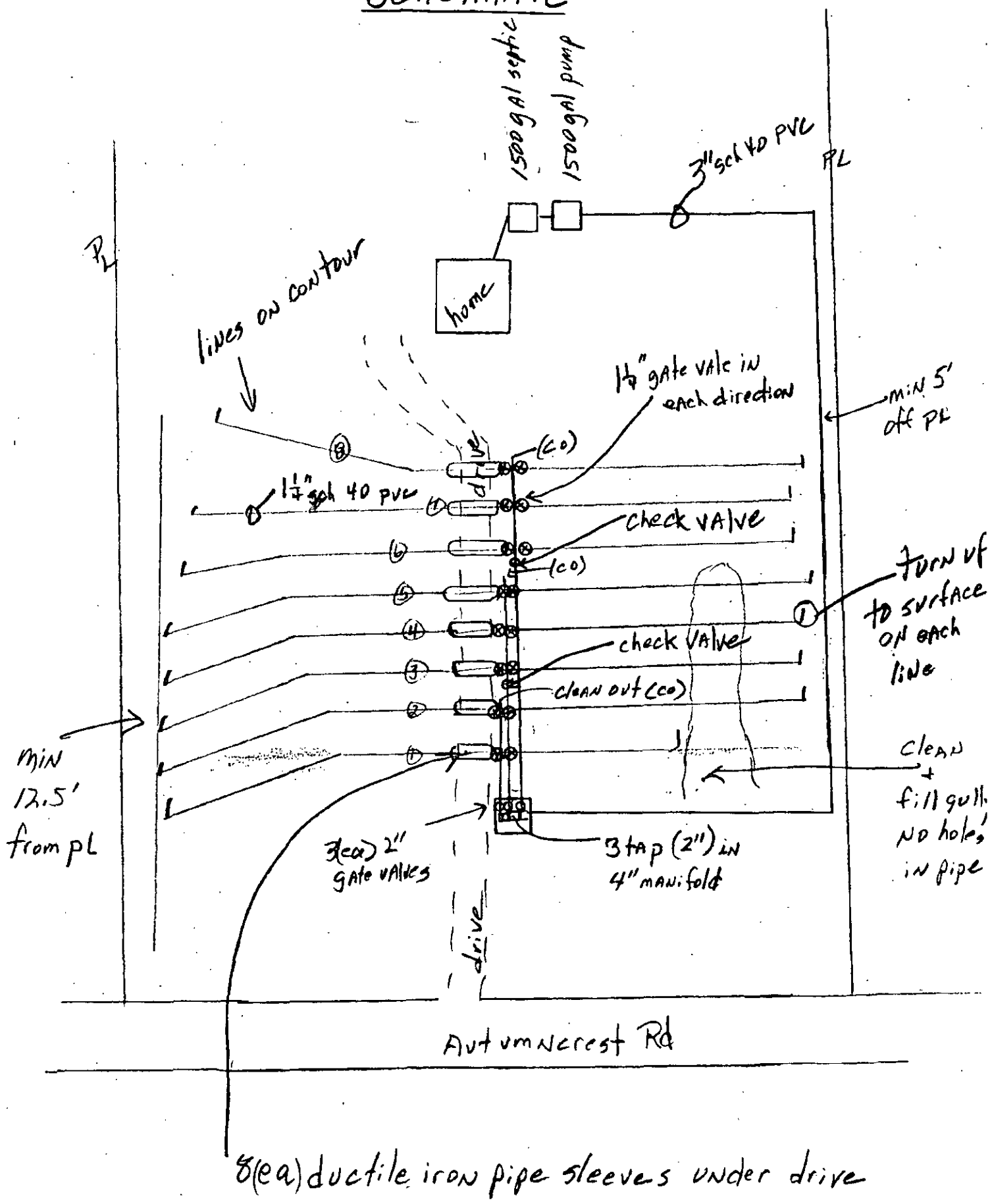


LINE TABLE		
LINE	LENGTH	BEARING
L1	34.41	N74°47'00"E
L2	43.40	N09°25'00"E
L3	26.57	S40°19'00"E

CURVE TABLE				
CURVE	LENGTH	RADIUS	CHORD	BEARING
C1	34.58	467.24	34.57	N59°51'13"W

I, David B. Boyles, certify that this map was drawn from an actual survey made under my supervision. The ratio of

Schematic


1500 gal septic
1500 gal pump
3" sch 40 PVC
PL
PL
home
lines on contour
1½" gate vale in each direction
min 5' off PL
(co)
1½" sch 40 PVC
check valve
(co)
turn up to surface on each line
check valve
clean out (co)
min 12.5' from pL
clean + fill gull, NO holes in pipe
3(ea) 2" gate valves
3 tap (2") in 4" manifold
drive
Autumncrest Rd
8(ea) ductile iron pipe sleeves under drive

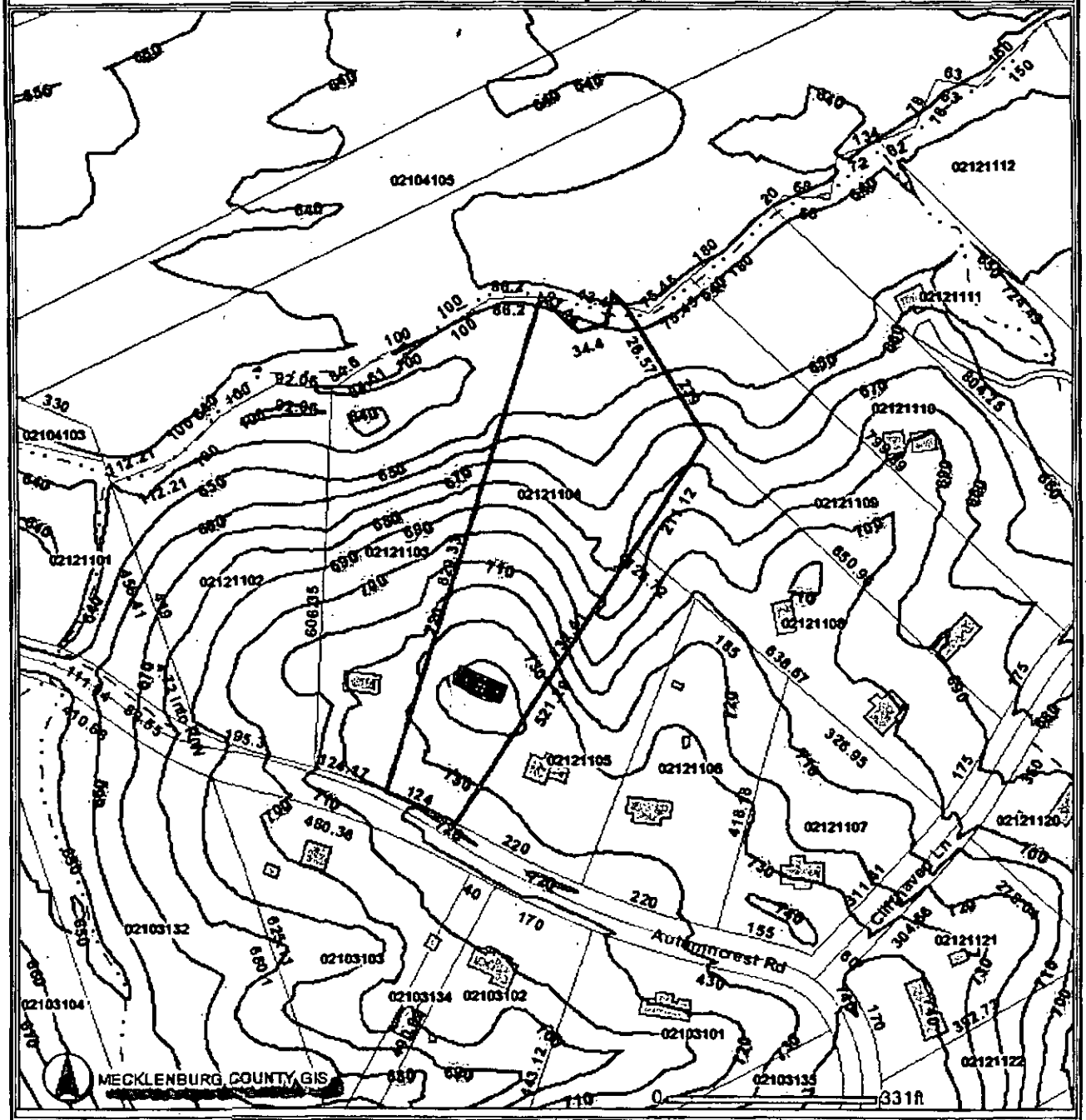
Mecklenburg County, North Carolina

POLARIS

Property Ownership Land Records Information System

Date Printed: Wed Mar 1 08:36:02 EST 2006

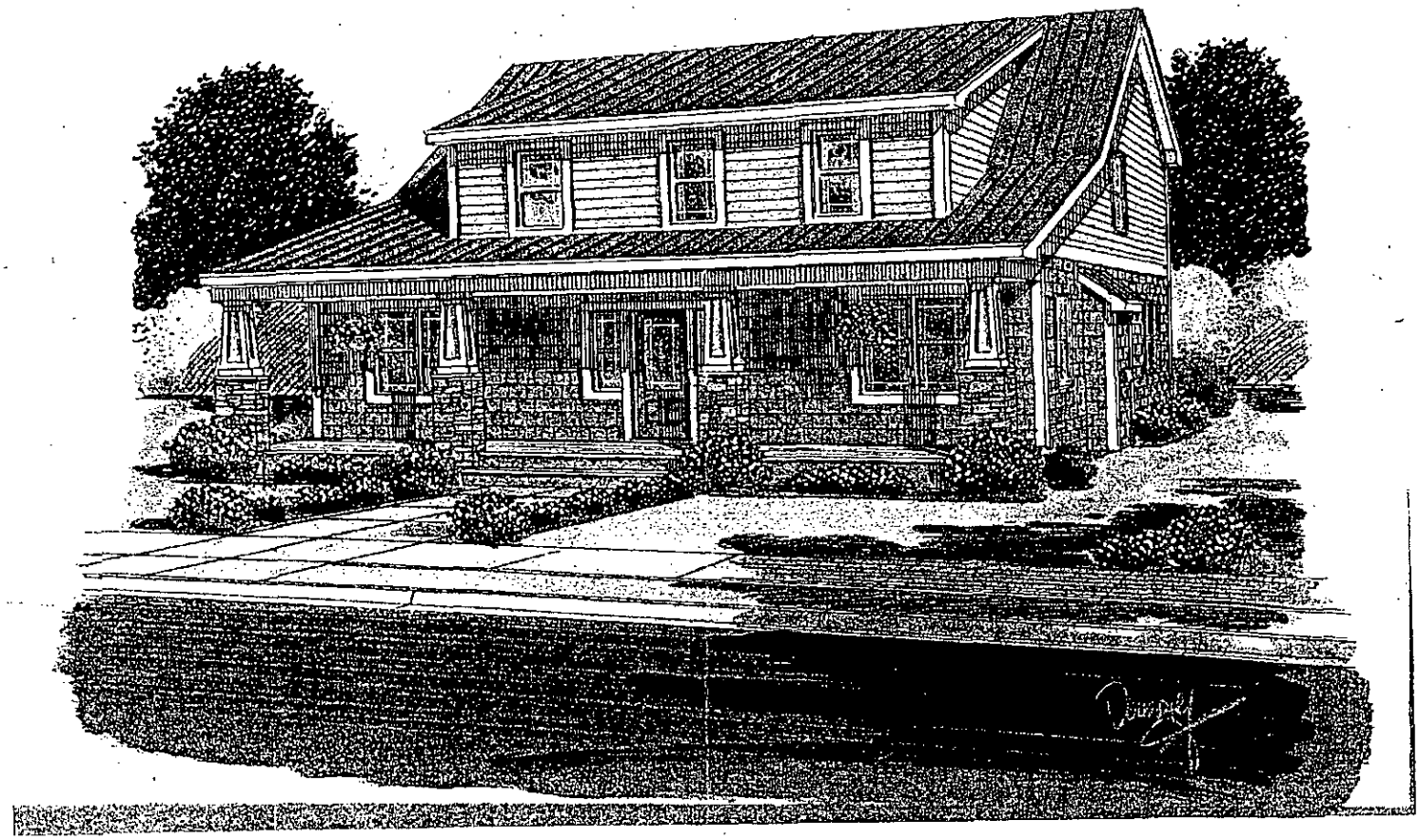
Lashua Property



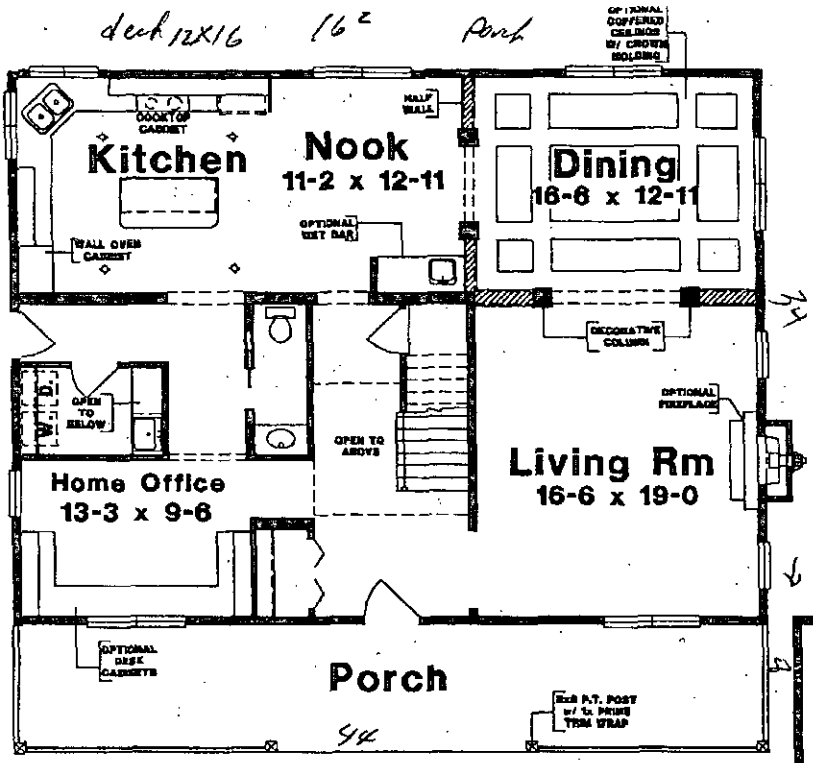
This map is prepared for the inventory of real property within Mecklenburg County and is compiled from recorded deeds, plats, tax maps, surveys, planimetric maps, and other public records and data. Users of this map are hereby notified that the aforementioned public primary information sources should be consulted for verification. Mecklenburg County and its mapping contractors assume no legal responsibility for the information contained herein.

Classic Carolina Homes
Mooresville NC

The Hyannis



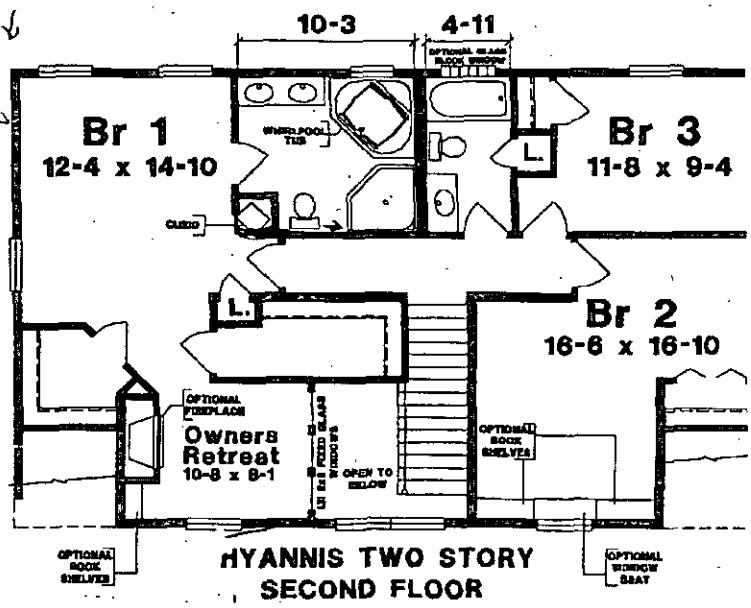
deck 12X16 16² Porch



HYANNIS TWO STORY
FIRST FLOOR
2826 Sq. Ft.
33-9 x 44-0

Custom Select

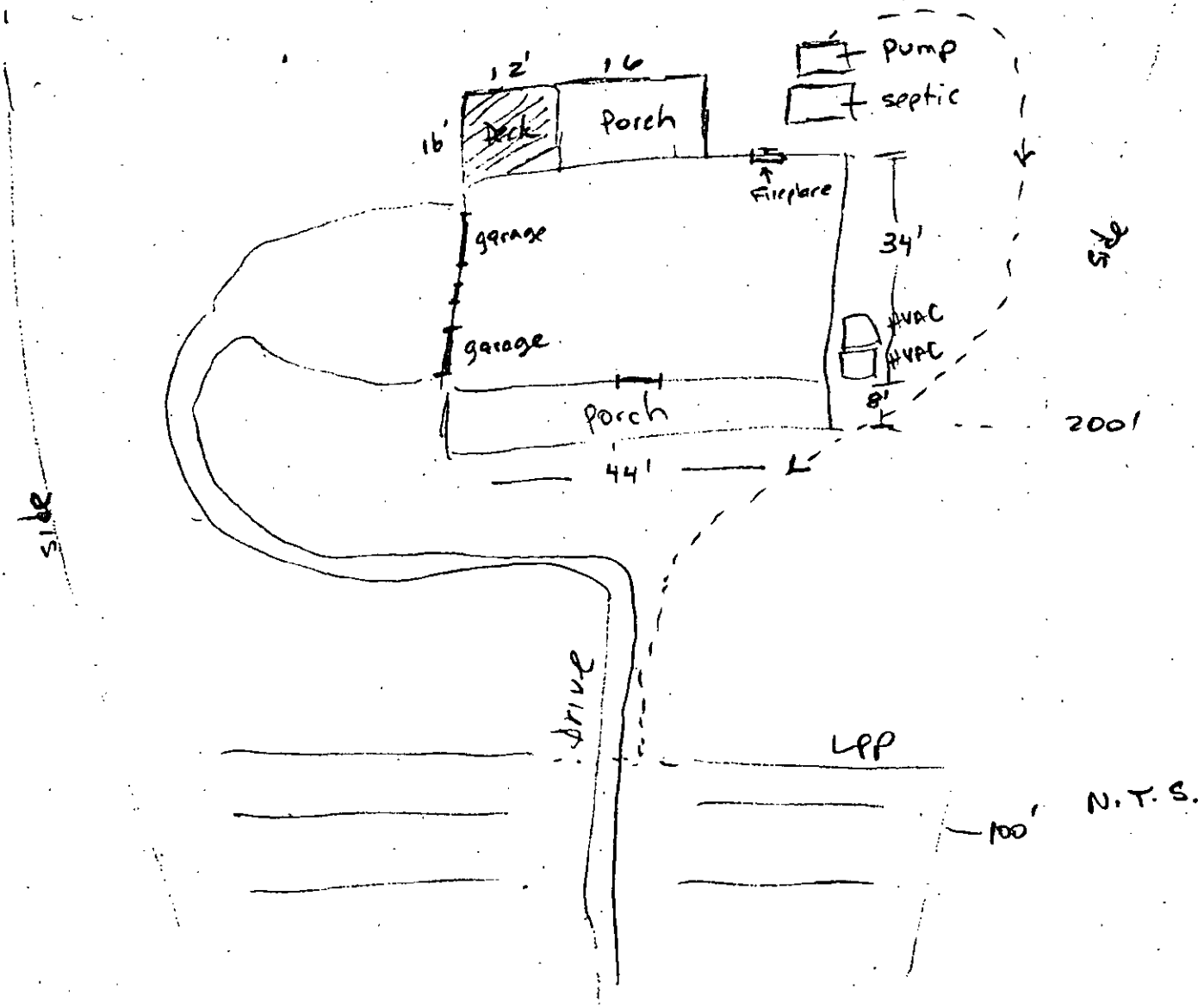
By Simplex



HYANNIS TWO STORY
SECOND FLOOR

Classic Carolina Homes

2870 Charlotte Highway • Mooresville, NC 28117
(704) 660-0709 • www.classiccarolinahomes.com


12'
16
Pump
septic
16'
Deck
Porch
Fireplace
garage
garage
34'
HVAC
HVAC
8'
Porch
200'
44'
drive
LPP
100'
N.T.S.

Division of Environmental Health
On-site Wastewater Section

Property ID: 021-211-04
Lot #: 11
File #: 1835A
Code: 2

SOIL/SITE EVALUATION for ON-SITE WASTEWATER SYSTEM

Owner: Martin J. Leshua
Address: 2008 Sunset Road, Charlotte, N. C. 28216
Proposed Facility: Residence Design Flow (.1949): 480gpd
Location of Site: 14823 Autumncrest Road

Applicant:
Date Evaluated: 2/17/05
Property Size: 1.0a inv.
Property Recorded:

Water Supply: [x] Public [ ] Individual [ ] 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 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
1	LS, 15	0-17	GR/SL	FR/SEXP/NS/NP	>22" TO SOIL WETNESS	17	US	NONE	US, II
		17-22	M/SL	VFI/SEXP/NS/NP					
2	"	0-17	GR/SL	FR/SEXP/NS/NP	>31" TO SOIL WETNESS	"	"	"	"
		17-31	M/SL	"					
		31+	"	VFI/SEXP/NS/NP					
3	"	0-17	GR/SL	FR/SEXP/NS/NP	>23" TO SOIL WETNESS	"	"	"	"
		17-23	M/SL	"					
		23+	"	VFI/SEXP/NS/NP					
4	LS, 10	0-19	GR/SL	FR/SEXP/NS/NP	>26" TO SOIL WETNESS	26	"	"	US
		19-26	SBK/SC	VFI/EXP/VS/VP					
		26+	M/SL	VFI/SEXP/NS/NP					
5	"	0-24	GR/SL	FR/SEXP/NS/NP	>40" TO SOIL WETNESS	30	"	"	US
		24-30	SBK/SCL	FR/SEXP/SS/SP					
		30-40	M/SL	FR/SEXP/NS/NP					
		40+	HARD	SAPROLITE					
6	"	0-24	GR/SL	FR/SEXP/NS/NP	2.5Y7/1@24"	32	N/A	"	US
		24-32	SBK/C	VFI/EXP/VS/VP					

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

Other Factors (.1946):
Site Classification (.1948): UNSUITABLE
Evaluated By: W. R. Martin, LSS, 2/18/2005
Others Present:

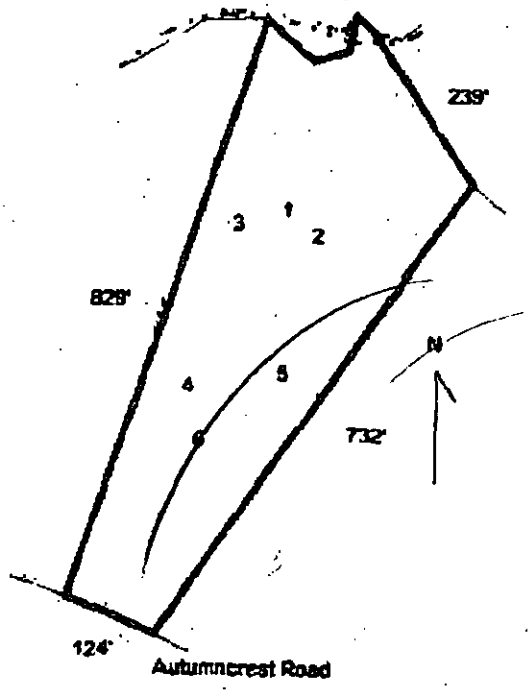
ENTS:
1% repair

FILE #: 1835A

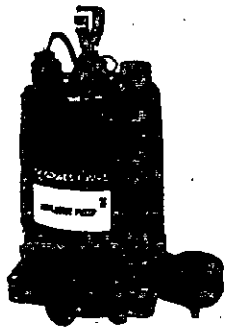
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
s	I	S-Sand	1.2 - 0.8	SG-Single Grain
ulder Slope		LS-Loamy Sand		M-Massive
ar Slope				CR-Crumb
t Slope	II	SL-Sandy Loam	0.8 - 0.6	GR-Granular
e Slope		L-Loam		SBK-Subangular Blocky
d Slope				ABK-Angular Blocky
ncave Slope	III	SI-Silt	0.6 - 0.3	PL-Platy
nvex Slope		SICL-Silty Clay Loam		PR-Prismatic
ce		CL-Clay Loam		
d Plain		SCL-Sandy Clay Loam		
	IV	SC-Sandy Clay	0.4 - 0.1	
		SIC-Silty Clay		
		C-Clay		

tence	Consistence	
	Wet	Mineralogy
ry Friable	NS-Non-Sticky	SEXP-Slightly Expansive
ble	SS-Slightly Sticky	EXP-Expansive
	S-Sticky	
y Firm	VS-Very Sticky	
remely Firm	NP-Non-Plastic	
	SP-Slightly Plastic	
	P-Plastic	
	VP-Very Plastic	

Sketch of Soil Evaluation Locations



GOULDS PUMPS



Submersible Effluent Pump

MODEL 3885

WE Series

PROSURANCE AVAILABLE FOR RESIDENTIAL APPLICATIONS.

APPLICATIONS

Specifically designed for the following uses:

- Homes
- Farms
- Trailer courts
- Motels
- Schools
- Hospitals
- Industry
- Effluent systems

SPECIFICATIONS

Pump

- Solids handling capabilities: ¼" maximum.
- Discharge size: 2" NPT.
- Capacities: up to 140 GPM.
- Total heads: up to 128 feet TDH.
- Temperature: 104°F (40°C) continuous 140°F (60°C) intermittent.
- See order numbers on reverse side for specific HP, voltage, phase and RPM's available.

FEATURES

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

Casing: Cast iron volute type for maximum efficiency. 2" NPT discharge.

Mechanical Seal: SILICON CARBIDE VS. SILICON CARBIDE sealing faces. Stainless steel metal parts, BUNA-N elastomers.

Shaft: Corrosion-resistant, stainless steel. Threaded design. Locknut on all models to guard against component damage on accidental reverse rotation.

Fasteners: 300 series stainless steel.

Capable of running dry without damage to components.

Designed for continuous operation when fully submerged.

MOTORS

Fully submerged in high-grade turbine oil for lubrication and efficient heat transfer.

Class B insulation on ⅓-1½ HP models.
Class F insulation on 2 HP models.

Single phase (60 Hz):

- Capacitor start motors for maximum starting torque.
- Built-in overload with automatic reset.
- SJTOW or STOW severe duty oil and water resistant power cords.
- ⅓ and ½ HP models have NEMA three prong grounding plugs.
- ¾ HP and larger units have bare lead cord ends.

Three phase (60 Hz):

- Class 10 overload protection must be provided in separately ordered starter unit.
- STOW power cords all have bare lead cord ends.

Designed for Continuous Operation: Pump ratings are within the motor manufacturer's recommended working limits, can be operated continuously without damage when fully submerged.

Bearings: Upper and lower heavy duty ball bearing construction.

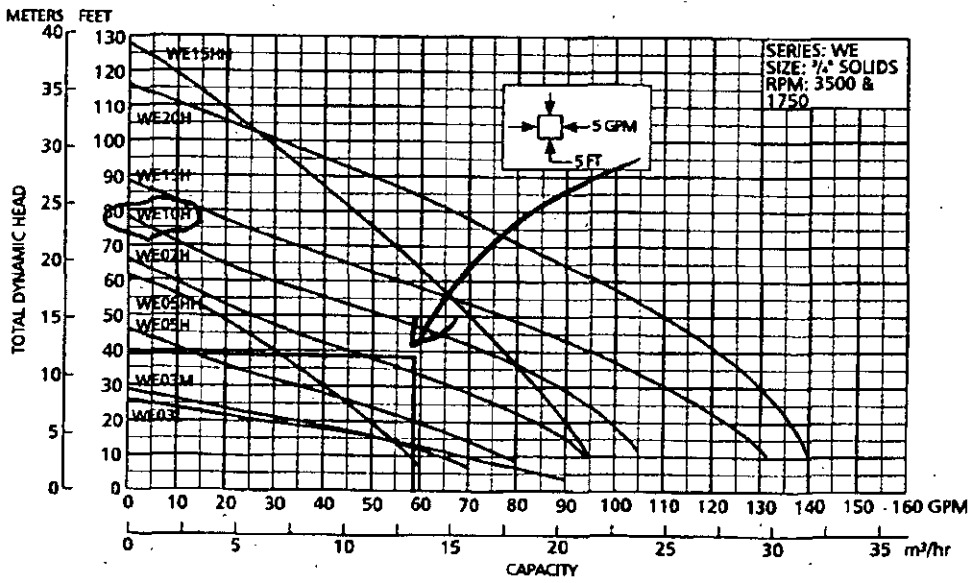
Power Cable: Severe duty rated, oil and water resistant. Epoxy seal on motor end provides secondary moisture barrier in case of outer jacket damage and to prevent oil wicking. Standard cord is 20'. Optional lengths are available.

O-ring: Assures positive sealing against contaminants and oil leakage.

AGENCY LISTINGS

C SP US — Tested to UL 778 and CSA 22.2 108 Standards By Canadian Standards Association File #LR38549

Goulds Pumps is ISO 9001 Registered.



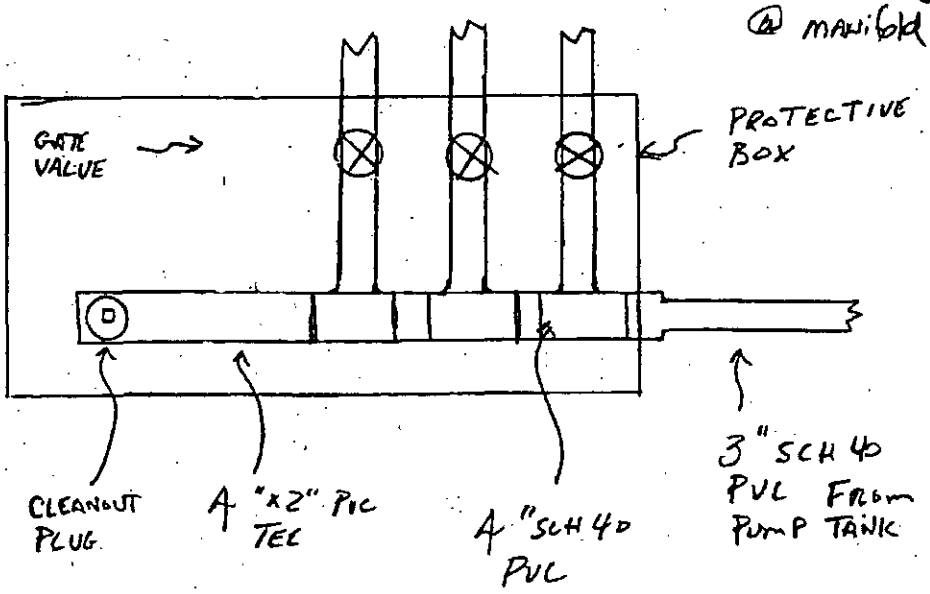
Goulds Pumps

ITT Industries

© 2003 Goulds Pumps
Effective July, 2003
B3885

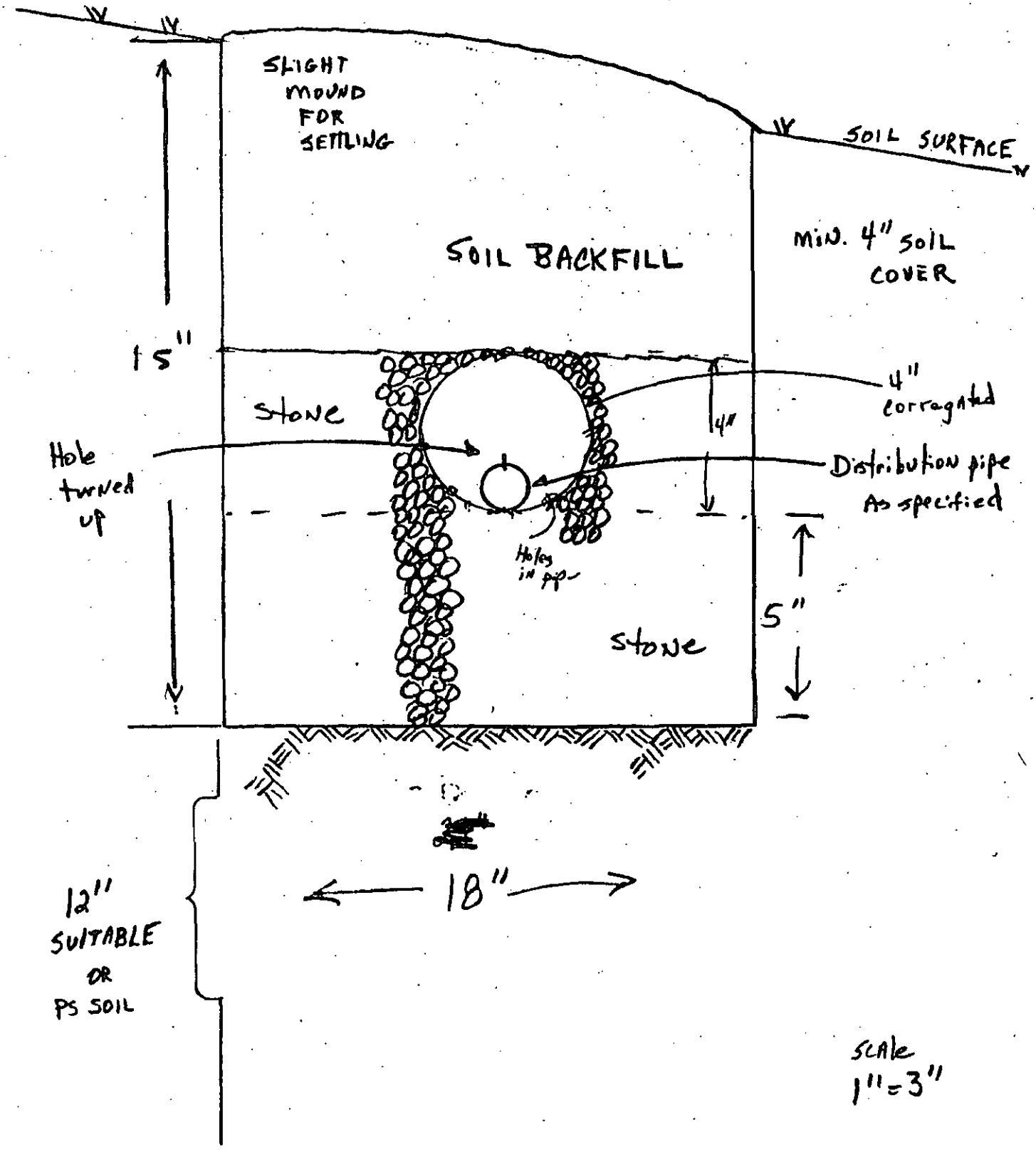
CENTRAL VALVE BOX DETAIL

* Proposed system uses 3 valves @ manifold

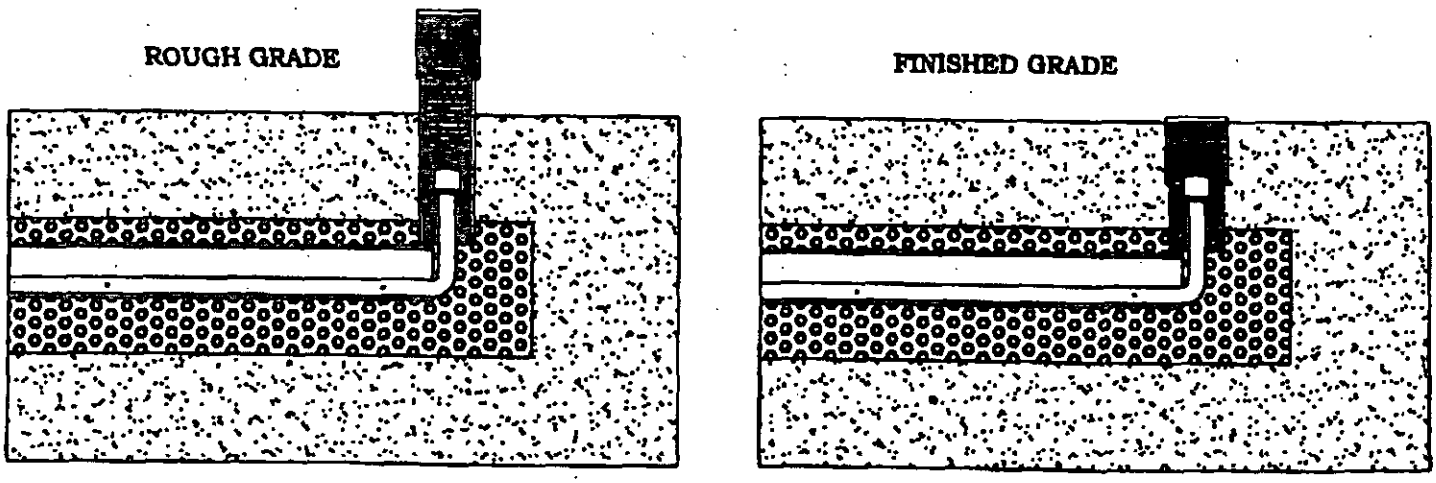


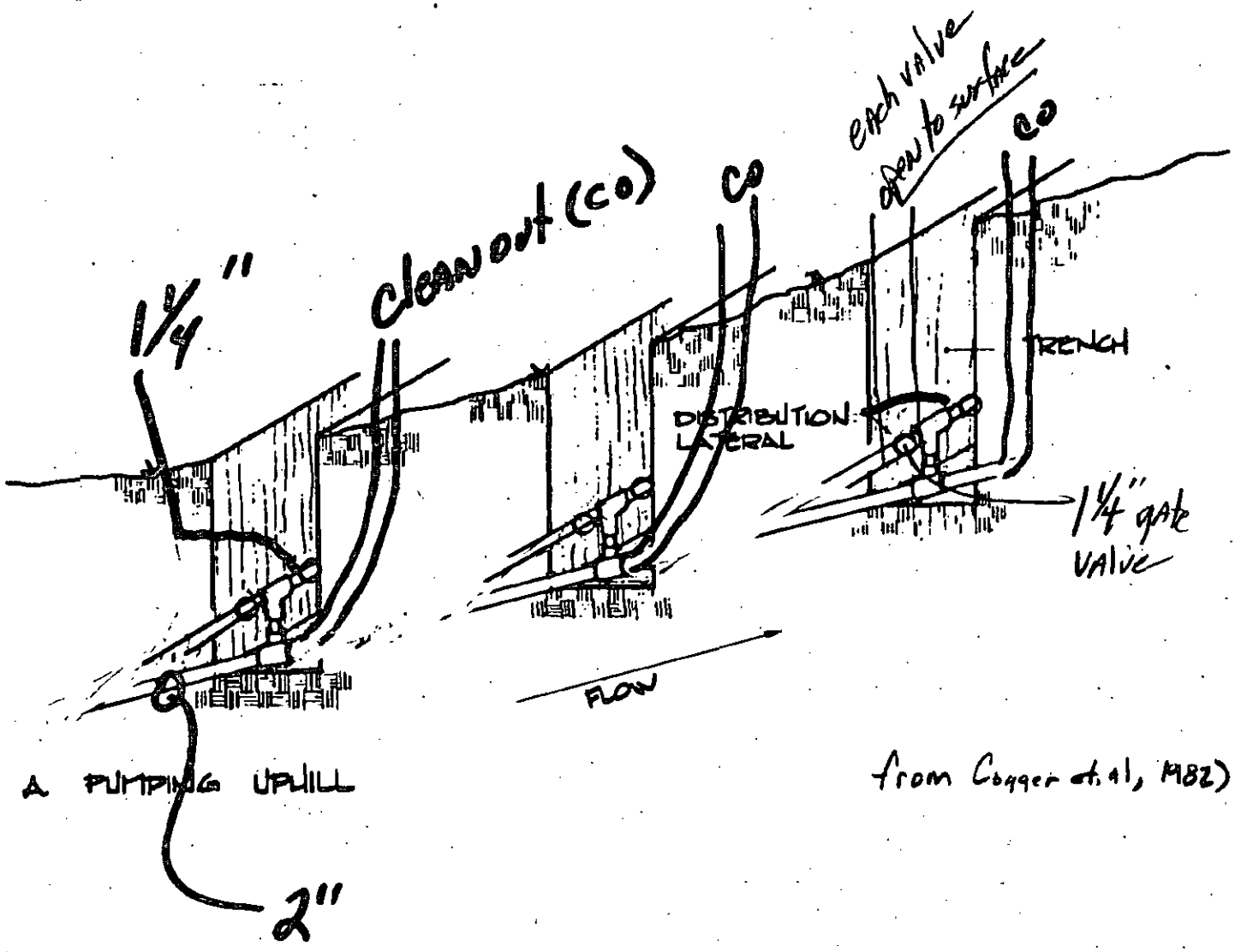
LPP Trench Design

typical



TURN-UPS

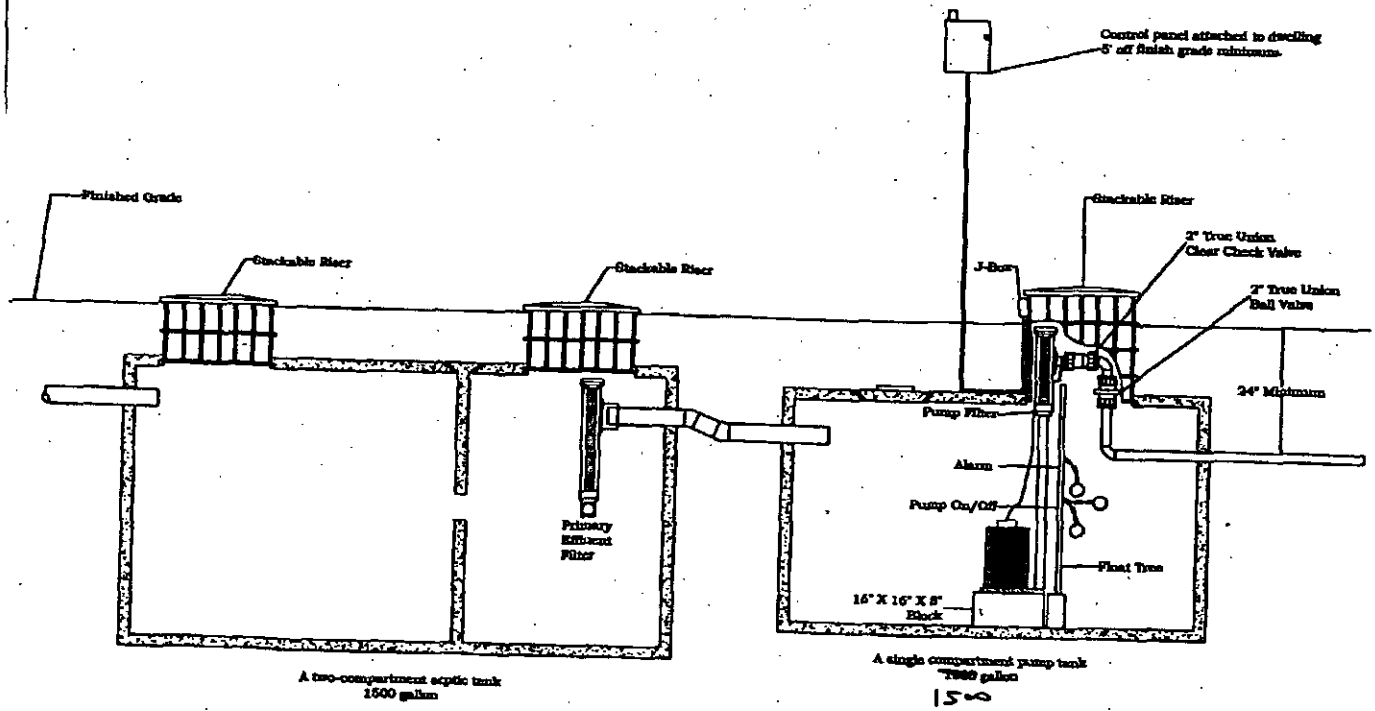




A PUMPING UPHILL

from Cogger et al, 1982)

SEPTIC TANK AND PUMP TANK



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 #: **30000649** GWS File #: **1835A** Tax Parcel #: **021-211-04**

- 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):** 4/12/2011

Type of Installation: Residential - New System Lot Number: 11

Structure Type: HOUSE Size (ft^2): 2500 # Bedrooms: 3 # Occupants: 2

Building Foundation: Crawl Space Water Supply: Private Well

II. Initial System Type: Low Pressure Pipe (LPP) **System Classification:** IVa

Initial System Specifications:

Design Flow (gpd): 360 LTAR (gpd/ft^2): 0.1 Septic Tank Size (gal): 1500 Pump Tank Size (gal): 1500

Trench Width (ft): 2 Trench Spacing (ft): 5 Absorption Area (ft^2): 1080 Total Trench Length (ft): 720

Maximum Trench Depth (in): 18 Depth of Media (in): N/A Distribution Device: Manifold (LPP Distribution)

III. Repair System Type: N/A **System Classification:** N/A

Repair System Specifications:

Design Flow (gpd): 0 LTAR (gpd/ft^2): 0.0 Septic Tank Size (gal): 0 Pump Tank Size (gal): 0

Trench Width (ft): 0 Trench Spacing (ft): 0 Absorption Area (ft^2): 0 Total Trench Length (ft): 0

Maximum Trench Depth (in): 0 Depth of Media (in): 0 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: Trevor Thomason Owner/Legal Agent: MARTIN & LASHUA
Print Name

Signature: Signature:

Date Issued: 4/12/2006

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 #: 30000649 GWS File #: 1835A

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.
- All drainage improvements (swales, interceptor drains, etc.) noted on the plot plan must be inspected and approved prior to issuance of an Operation Permit.
- 100% repair area is not required for this property. However, the maximum feasible area shall be allocated for a repair area.
- 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.
- All components of the septic system must be located at least 100 ft. (50 ft. minimum) from all private wells.
- A letter from the system designer certifying that all the design criteria have been met must be provided to our office after the system is installed.

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: Trevor Thomason

Signature: T.S.

Date Issued: 4/12/2006

Owner/Legal Agent: MARTIN J. LASHUA
Print Name

Signature: Martin J Lashua

FEE: 300.00
DATE: 6/27/2006

CONSTRUCTION AUTHORIZATION FOR AN ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

WD 184728

MECKLENBURG COUNTY
GROUNDWATER & WASTEWATER SERVICES

FILE NUMBER: 1835A

PERMIT NUMBER: 30000649

PARCEL NUMBER: 02121104

JOB LOCATION INFORMATION

ADDRESS: 14623 AUTUMNCREST RD

CITY: HUNTERSVILLE **STATE: NC** **ZIP:** 28078

ISSUED TO: Martin J. Lashua

CONSTRUCTION AUTHORIZATION ISSUANCE DATE: 6/27/2006

CONSTRUCTION AUTHORIZATION CONDITIONS

1. WASTEWATER SYSTEM CONSTRUCTION AND INSTALLATION MUST MEET ALL CONDITIONS AND SPECIFICATIONS AS SET FORTH IN IMPROVEMENT PERMIT NUMBER 30000649, AND THE ATTACHED SITE PLAN WITH SYSTEM DETAILS. CONSTRUCTION AND INSTALLATION MUST ALSO MEET ALL REQUIREMENTS SET FORTH IN THE RULES GOVERNING SANITARY SEWAGE COLLECTION, TREATMENT, AND DISPOSAL AND ANY OTHER APPLICABLE RULES AND LAWS.

2. AN INSTALLATION APPROVAL MUST BE SECURED PRIOR TO INSTALLATION OF THE SEPTIC TANK SYSTEM. THE INSTALLER OF THE SYSTEM SHALL BE A REGISTERED SEPTIC TANK CONTRACTOR WITH THE MECKLENBURG COUNTY HEALTH DEPARTMENT.

3. ANY ALTERATION IN SITE OR SOIL CONDITIONS (INCLUDING LOCATION OF STRUCTURES AND APPURTENANCES) OR MODIFICATION IN USE, DESIGN WASTEWATER FLOW, OR WASTEWATER CHARACTERISTICS AS SPECIFIED IN THE ASSOCIATED IMPROVEMENT PERMIT AND APPLICATION, MAY SUBJECT THIS CONSTRUCTION AUTHORIZATION AND ASSOCIATED PERMIT(S) TO REVOCATION.

4. THIS CONSTRUCTION AUTHORIZATION AS PROVIDED IN G.S. 130A-335(f) AND G.S. 130A-336(b) SHALL BE VALID FOR A PERIOD EQUAL TO THE VALIDITY OF THE IMPROVEMENT PERMIT, NOT TO EXCEED 60 MONTHS.
   *CONSTRUCTION AUTHORIZATION EXPIRATION DATE: 4/12/2011

FILE COPY	
FILED FOR REGISTRATION	DOC. # 2006069686
DATE 4/12/06	TIME 2:23pm
BOOK 20275	PAGE 881
STAMPS	REC FEE $20.00
JUDITH A. GIBSON, REGISTER OF DEEDS MECKLENBURG COUNTY, NC	

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 #: 1835A

PARCEL #: 02121104

The undersigned, MARTIN J. LASHUA, owner of property located at 14623 AUTUMNCREST RD. HUNTERSVILLE NC, (the "site") and described in an instrument recorded in Book 18508 at Page 132, 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: MARTIN J. LASHUA

Mail after recording to: MARTIN LASHUA, 2008 SUNSET ROAD, CHARLOTTE NC 28216

- 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 12 day of APRIL 20 06.

n/a
(Corporate Name)

By: n/a

n/a President

_____ (SEAL)

_____ (SEAL)

_____ (SEAL)

_____ (SEAL)

ATTEST:

_____

_____ Secretary

(Corporate Seal)

STATE OF NORTH CAROLINA

COUNTY OF MECKLENBURG

I, CHRISTINE D. HULT, a Notary Public for said County and State, do hereby certify that MARTIN J. LASHUA personally appeared before me this date and acknowledged the due execution of the foregoing instrument.

WITNESS my hand and notarial seal this 12TH day of APRIL, 20 06.

Christine D. Hult
Notary Public

My Commission Expires:

SEPT. 26, 2009

CHRISTINE D. HULT NOTARY PUBLIC MECKLENBURG COUNTY, NC

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

N.C. WATER POLLUTION CONTROL SYSTEM OPERATORS CERTIFICATION COMMISSION

Martin J. Lashue

Grade	Type	Cert #	Grade	Type	Cert #
	SS	15420	2	CS	16166
	SI	22790	4	WW	RC1449

is a duly Certified Operator under provisions of Article 3, Chapter 90-A of the General Statutes of North Carolina for the year: 2006
Next renewal due by: 12/31

SIGNATURE OF OPERATOR

VICE-CHAIRMAN

(SEE REVERSE SIDE)

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 #: 1835A Permit #: 30000699 Tax Parcel #: 021-211-04

Property Owner: MARTIN LASHLA

Job Location Address: 14623 AUTUMNCREST ROAD

City: Huntersville State: NC Zip Code: 28078

Installation Approval Issuance Date: 12/11/06

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 12/11/07, 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: 0.1 GPD/ft² (For new installations only.)

Liquid Capacity of Septic Tank: 1500 gallons

Liquid Capacity of Dosing Tank: 1500 gallons

Drainfield Design ☐ N/A

Trench Depth: 15" inches

Trench Width: 18" feet

Line Spacing: 5 feet (O.C.)

Total line length: 720 feet

# of Lines: 16 @ VARYING feet

Depth of Media: 8" inches (Type) STONE

Distribution Device: CPP

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: 12.5 feet

Distance from Water Supply Source: 100' feet

SKETCH OF SYSTEM LAYOUT
(Proposed Layout)

INSTALL EXCACTLY AS DESIGNED BY CONSULTANT.

Comments: System Classification & Type: IIIa CPP SYSTEM

DENR Authorized Agent: Jeremy Mickler, RS. Signature: Jeremy Mickler, RS.

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 #: 1835A Permit #: 30000649 Tax Parcel #: 021-211-04

Property Owner: MARTIN J. LASHUA

Job Location Address: 14623 AUTUMNCREST ROAD

City: HUNTERSVILLE State: NC Zip Code: 28078

Operation Permit Issuance Date: 12/12/06 Contractor Name: STANLEY

Permitted Design Flow: 360 GPD

Liquid Capacity of Septic Tank: 1500 gallons

Liquid Capacity of Dosing Tank: 1500 gallons

Effluent Pump Model: _____

Drainfield Installation ☐ N/A

Trench Depth: 15" inches

Trench Width: 1.5 feet (18" INCHES)

Line Spacing: 5-9 feet (O.C.)

Total line length: 720 feet

# of Lines: 16 @ VARYING feet

Depth of Media: 8" inches (Type) STONE

Depth of Cover: 6 inches

Distribution Device: LPP

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: 12.5 feet

Distance from Water Supply Source: 100' feet

Inspection Dates

Tank(s) Inspected: 12/12/06

Excavation Inspected: 12/12/06

Pump & Controls Inspected: 12/12/06

SKETCH OF SYSTEM INSTALLATION
(As-Built Drawing)

→ INSTALLED EXCACTLY AS DESIGNED!

→ CERTIFIED OPERATOR CONTRACT NEEDED BEFORE C.O.

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: IIIa LPP System

Interceptor Drain could not be installed due to Rock.

DENR Authorized Agent: Jeremy Michalec, RS. Signature: Jeremy Michalec, RS.

December 18, 2006

Mr. Trevor Thomason, R.S.
Environmental Health Specialist
Groundwater and Wastewater Services
Land Use and Environmental Services Agency
700 N. Tryon Street, Suite 211
Charlotte, NC 28202

Re: Improvement Permit for 14623 Autumncrest Road, Huntersville NC 28078
Permit # 30000649, GWS File # 1835A, Tax Parcel # 021-211-04

Dear Mr. Thomason,

I am writing to inform you that I am a certified subsurface operator in the state of North Carolina and will be operating and maintaining my own system at my home referenced above. I am familiar with the requirements for the Category IV(a) low pressure pipe system.

My certification number is **15420** and I am attaching a copy of my most recent wallet card showing current status.

If you should need anything else in this regards, please do not hesitate to call me at 704-301-0270 or by email to mjlashua@uiwater.com.

Thank you for your attention and assistance.

Sincerely,

Martin Lashua
14623 Autumncrest Road
Huntersville NC 28078

N.C. WATER POLLUTION CONTROL SYSTEM OPERATORS CERTIFICATION COMMISSION

Martin J. Lashua

Grade	Type	Cert #	Grade	Type	Cert #
	SS	15420	2	CS	16166
	SI	22790	4	NM	RC1449

is a duly Certified Operator under provisions of Article 3, Chapter 90-A of the General Statutes of North Carolina for the year:
Next renewal due by: 12/31

SIGNATURE OF OPERATOR

VICE-CHAIRMAN

(SEE REVERSE SIDE)