

3330 RUSTY CT

19521112

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duponbj

Groundwater and Wastewater Services File Imaging Project
May 2007
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FEE: _____
DATE: _____

AUTHORIZATION FOR WASTEWATER SYSTEM CONSTRUCTION

AC5

PERMIT NUMBER: 5726B
PARCEL NUMBER: 195-211-12

JOB LOCATION ADDRESS: 3330 RUSTY COURT
PROPERTY OWNER: AUDREY MAYHEW (PROS. BUYER JENIFER HOYLE)
BUILDING CONTRACTOR: NA
SUBDIVISION NAME: MAYHEW COUNTRY ESTATES
AUTHORIZATION ISSUED BY: PHILO WALKER DATE: 11/12/04

Philo S. Walker
DENR/DEH AUTHORIZED AGENT

AUTHORIZATION CONDITIONS

1. WASTEWATER SYSTEM CONSTRUCTION AND INSTALLATION MUST MEET ALL CONDITIONS AND SPECIFICATIONS AS SET FORTH IN IMPROVEMENT PERMIT NUMBER 5726B, 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, CONSTRUCTION, ALTERATION AND/OR REPAIR 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.

5. OTHER CONDITIONS:
   AGREEMENT FORMS REQUIRED

Hold For:
1) Agreement Forms
2) Signatures & Dates

CONDITIONS OF IMPROVEMENT PERMIT / CONSTRUCTION AUTHORIZATON

Permit Number: **5726B** Tax Number: **195-211-12**

- The 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.

Basement: ☒ Yes ☐ No ☐ Partial Basement

Primary Wastewater System

Type: ☐ I ☐ II ☐ III ☒ IV ☐ V ☐ VI

☐ Conventional
☒ Prefabricated, permeable block panel system
☐ Shallow Placed Conventional
☐ Low Pressure Pipe
☐ Large Diameter Pipe
☐ *Fill*
☐ Other
☐ Innovative or Experimental:

.3 Long-term acceptance rate (GPD/ft^2)	480 Max gallons/day wastewater flow	810 Absorption Area (ft^2)	9 Trench spacing (min. on centers) (ft)
Serviced by private well: ☒ Yes ☐ No	1500 Gallon septic tank	270 Total trench length (ft)	28 Maximum trench depth (in) (At least 12" of provisionally suitable soil must remain between trench bottom and unsuitable soil conditions.)
4 Bedrooms in residence	1000 Gallon pump tank	na Depth of stone (in)	

Any surface water present: **yes** Type: **creek** Minimum separation distance (ft): **50**

Additional conditions: **Agreement forms shal be recorded and on file prior to cons. authorization release**

Repair Area System

Type: ☐ I ☐ II ☐ III ☒ IV ☐ V ☐ VI

☐ Conventional
☒ Prefabricated, permeable block panel system
☐ Shallow Placed Conventional
☐ Low Pressure Pipe
☐ Large Diameter Pipe
☐ Fill
☐ Other
☐ Innovative or Experimental:

810 Absorption Area (ft^2) 270 Total trench length (ft)	na Depth of stone (in)	9 Trench spacing (min. on centers) (ft)	28 Maximum trench depth (in)

The undersigned, an authorized agent of the MECKLENBURG COUNTY HEALTH DEPARTMENT, certifies that the Department has approved the Request for the Job Location contained in this document. The approval is granted in accordance with the provisions of Laws and Rules For Sewage Treatment, and Disposal Systems in effect at the time of issuance of the permit and is subject to the following provisions:

*** No work shall be conducted on the septic tank system until an Installation, Construction, Alteration and/or Repair Approval is granted by this Department.

*** This Improvement permit is transferable.

Phillip A. Walker RS 11/12/04

DENR Authorized Agent Date

Owner/Agent Signature Date

MECKLENBURG COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
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

Residential Subsurface Wastewater Treatment and Disposal System Design

for

Lot 4 - Mayhew Country Estates
3330 Rusty Court
Mint Hill, North Carolina

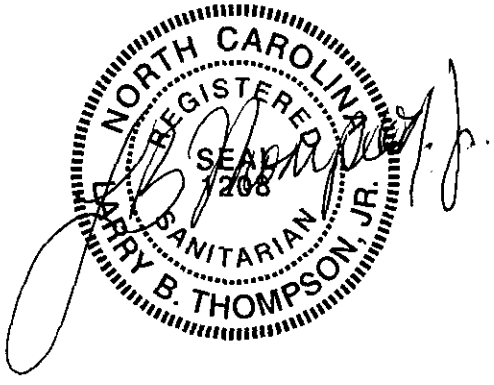
Tax Parcel # 195-211-12
November 4, 2004

Prepared for:

Mrs. Jennifer Hoyle
Hoyle Homes, LLC
704-363-4823

Prepared by:

Larry Thompson, RS, PWS
114 Orchard Ridge Road
Locust, NC 28097-8748
Phone: 704-301-4881
Fax: 704-888-1496
larry@thompsonenv.com



CC: Mr. Philo Walker, RS
Mecklenburg County Environmental Health

Details

In an application for an Improvement Permit filed with the Mecklenburg County Health Department (MCHD) by Jennifer Hoyle, September 30, 2004, 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 1.064 acre 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), a limited area of "Suitable" Group IV soils were identified in the back right corner of the lot (southwest corner), as seen when facing the lot from Mayhew Country Drive, which would allow for the installation of a pressure-dosed pre-fabricated permeable block panel system (PPBPS) for a 4-bedroom residence. It is the desire of the perspective buyer that the MCHD consider reclassifying this lot as "Suitable", allowing for the issuance of a Construction Authorization, based upon the following proposal.

Location

The property is located at Lot 4, Mayhew Country Drive, in the town of Mint Hill, North Carolina. Traveling southwest NC 51 out of Mint Hill, turn left on Mintwood Drive. Turn right onto Mayhew Country Drive. The subject property is located in on the left at the intersection of Mayhew Country Drive and Rust Court (property address is 3330 Rusty Court).

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, August 17, 2000.

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.

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

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, thereby assuring that the tank has had time to properly cure and is not cracked or "honey combed".

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 3 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).

Drainfield Installation

- The drainfield 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 drainfield area will be re-verified.
- Under no circumstances shall any construction take place within the drainfield area while the soil is in a wet condition. If the installer has doubts as to whether or not the drainfield 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 drainfield consists of (4) lateral trenches to be constructed 3 feet wide by 74, 70, 65, and 61 feet in length (highest to lowest). 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 28 inches and 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 consisting of (2) 45-degree elbows 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.

Upslope Diversion

- The proposed drainfield area will be receiving storm water runoff from at least one adjacent property and a upslope diversion, or swell, should be constructed in order to divert storm water runoff around the drainfield area.

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 manifold 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.

Well Location

- If a private well is to be installed as a water supply source, the well must be placed as far as is feasible from any of the septic system components but, in no case, less than 50 feet from any part of the septic system.

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 drainfield 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

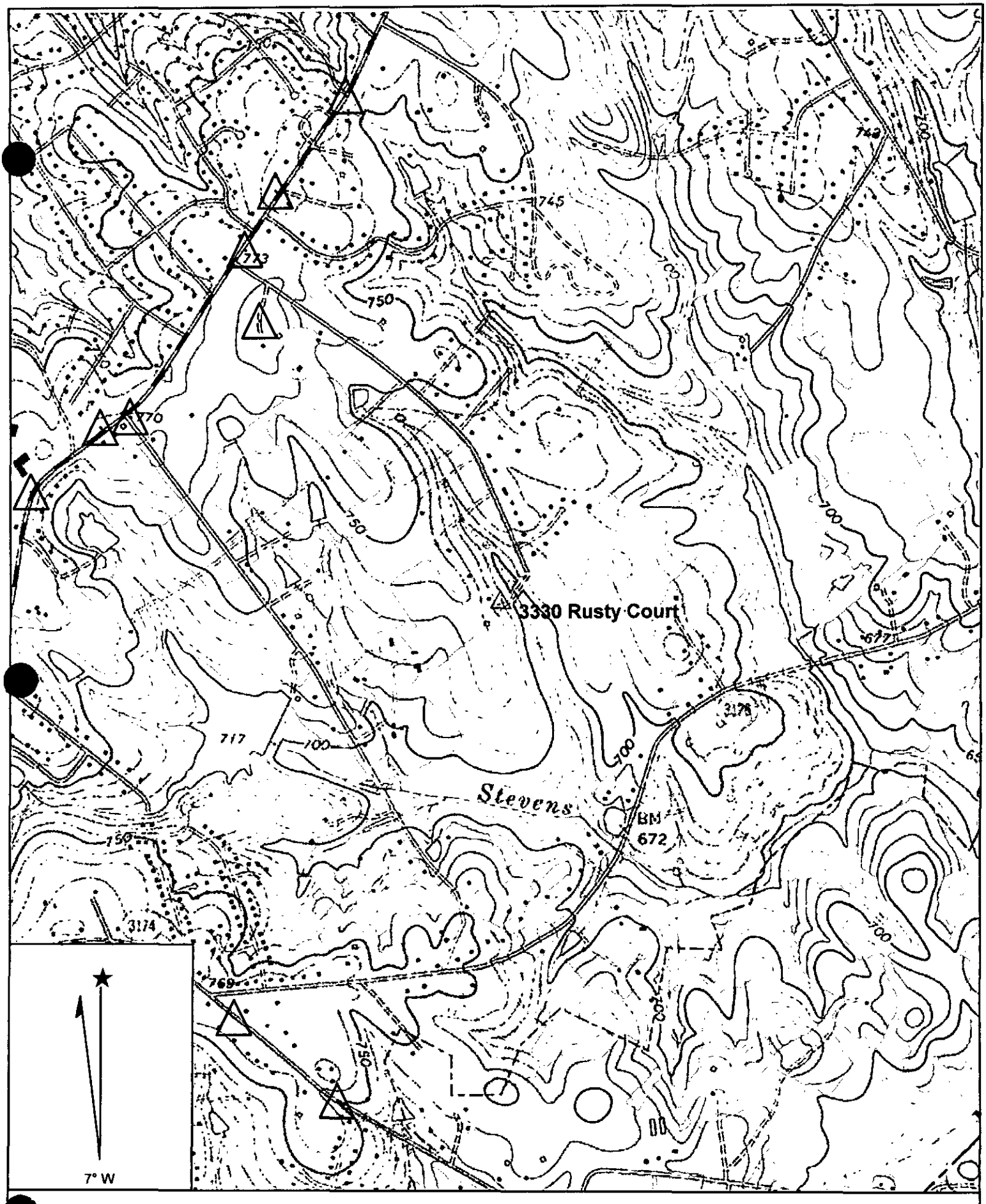
- As previously mentioned, if you plan to use a garbage disposal in your home you should plan to have your septic and pump tanks cleaned out annually. The ground up garbage adds large amounts of solids into a septic tank that tend to degrade at a very slow rate.
- Grease, cooking oils, coffee grounds 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 drainfield.
- 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 drainfield.
- Do not use chemical additives in your system. Various 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.
- It is a good idea to post the contact information of the Certified Operator for your system somewhere within the house. In the event of a "High Water Alarm", you will want to contact the Operator for proper instruction as well as to request that an emergency inspection be performed.
- 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

Lot 4 – Mayhew Country Estates

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 = 0.3 GPD per sq. ft. (50 % reduction for the PPBPS)
Supply Length and Diameter:	Approx. 96 feet of 2 inch Sch. 40 PVC (please see note at the bottom of this page.)
Number and Size of Laterals:	(5) 1 1/4 inch x 74, 70, 65, and 61 foot laterals
Hole Size:	5/32 inch
Hole Spacing:	1 per panel = 62 total
Dosing Volume:	223.2 gallons per dose
Flow Rate Through System:	25.42 gallons per minute
Elevation Head:	29.0 feet (may vary, please see note at the bottom of this page)
Pressure Head:	2 feet
Pump Requirements:	25.42 GPM at 29.0 feet of head
Depth of Water Pumped:	11" (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.



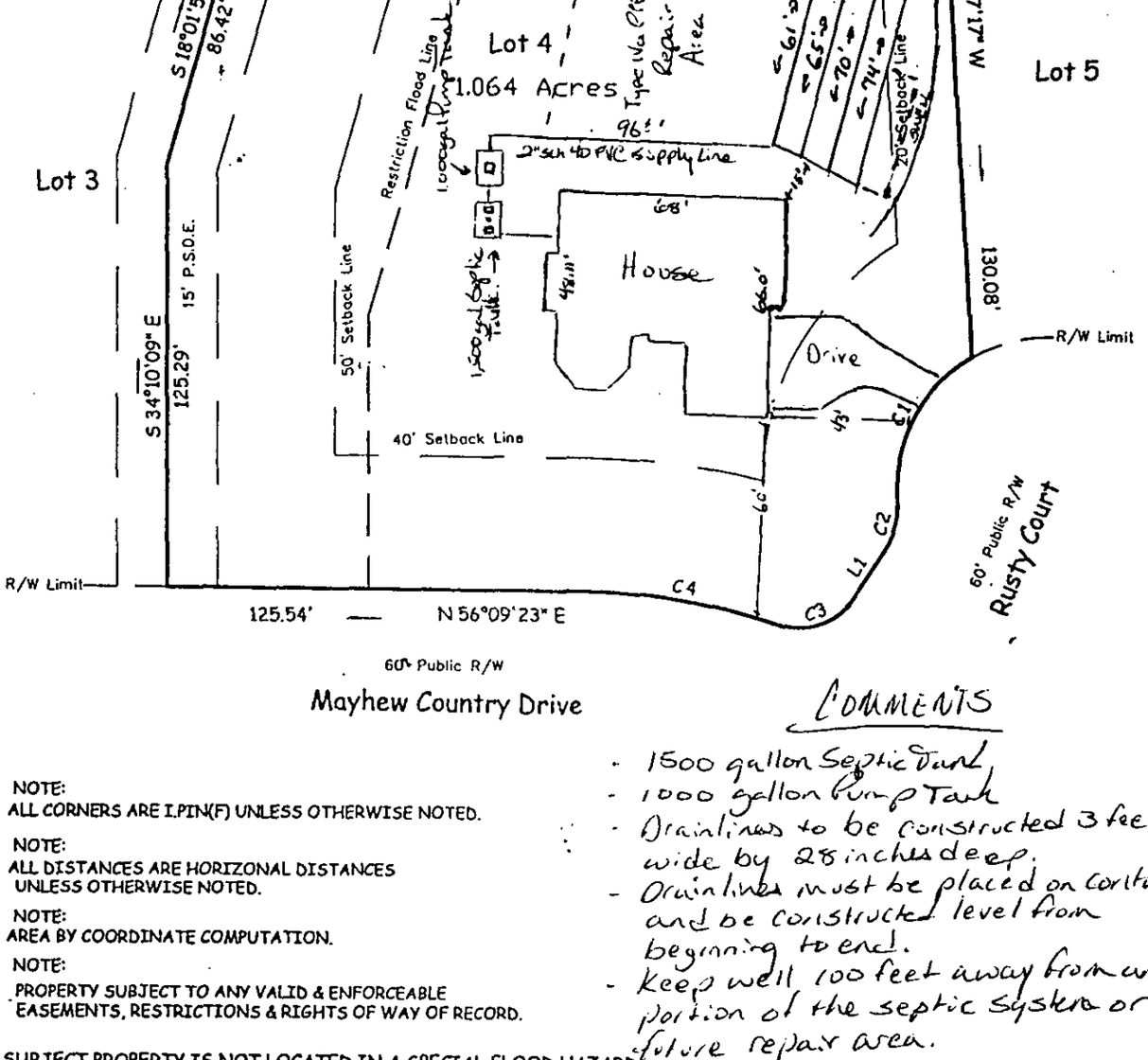
Name: MINT HILL
Date: 11/4/2004
Scale: 1 inch equals 1333 feet

Location: 035° 08' 53.10" N 080° 39' 46.17" W
Caption: Lot 4 - Mayhew Country Estates
3330 Rusty Court
Mint Hill, North Carolina

Copyright (C) 1998, Maptech, Inc.

LINE TABLE		
LINE	LENGTH	BEARING
L1	16.17'	S 01°12'35" E

CURVE TABLE				
CURVE	LENGTH	RADIUS	BEARING	CHORD
C1	50.26'	45.00'	N 06°29'18" W	47.68'
C2	16.68'	25.00'	S 20°18'59" E	16.37'
C3	26.36'	20.00'	S 36°33'06" W	24.49'
C4	57.04'	180.00'	N 65°14'05" E	56.80'



COMMENTS

- 1500 gallon Septic Tank
- 1000 gallon Pump Tank
- Drainlines to be constructed 3 feet wide by 28 inches deep.
- Drainlines must be placed on contour and be constructed level from beginning to end.
- Keep well 100 feet away from any portion of the septic system or future repair area.

NOTE:
ALL CORNERS ARE I.PIN(F) UNLESS OTHERWISE NOTED.

NOTE:
ALL DISTANCES ARE HORIZONAL DISTANCES UNLESS OTHERWISE NOTED.

NOTE:
AREA BY COORDINATE COMPUTATION.

NOTE:
PROPERTY SUBJECT TO ANY VALID & ENFORCEABLE EASEMENTS, RESTRICTIONS & RIGHTS OF WAY OF RECORD.

SUBJECT PROPERTY IS NOT LOCATED IN A SPECIAL FLOOD HAZARD AREA AS DETERMINED BY FLOOD INSURANCE RATE MAP.

NOTE:
THIS PLAT IS OF A SURVEY OF AN EXISTING PARCEL or PARCELS OF LAND.

Location Map
(Not To Scale)

Tax Parcel:
E.C. = 1' : 10,000' +
Deed Ref:
Map Book: 32 / 156

Plot Plan
For

Audrey Mayhew

Lot 4, Mayhew Country Estates, Map 1

Mecklenburg County
Mint Hill, N.C.

Drawing No. 361-04

Scale: 1" = 50'

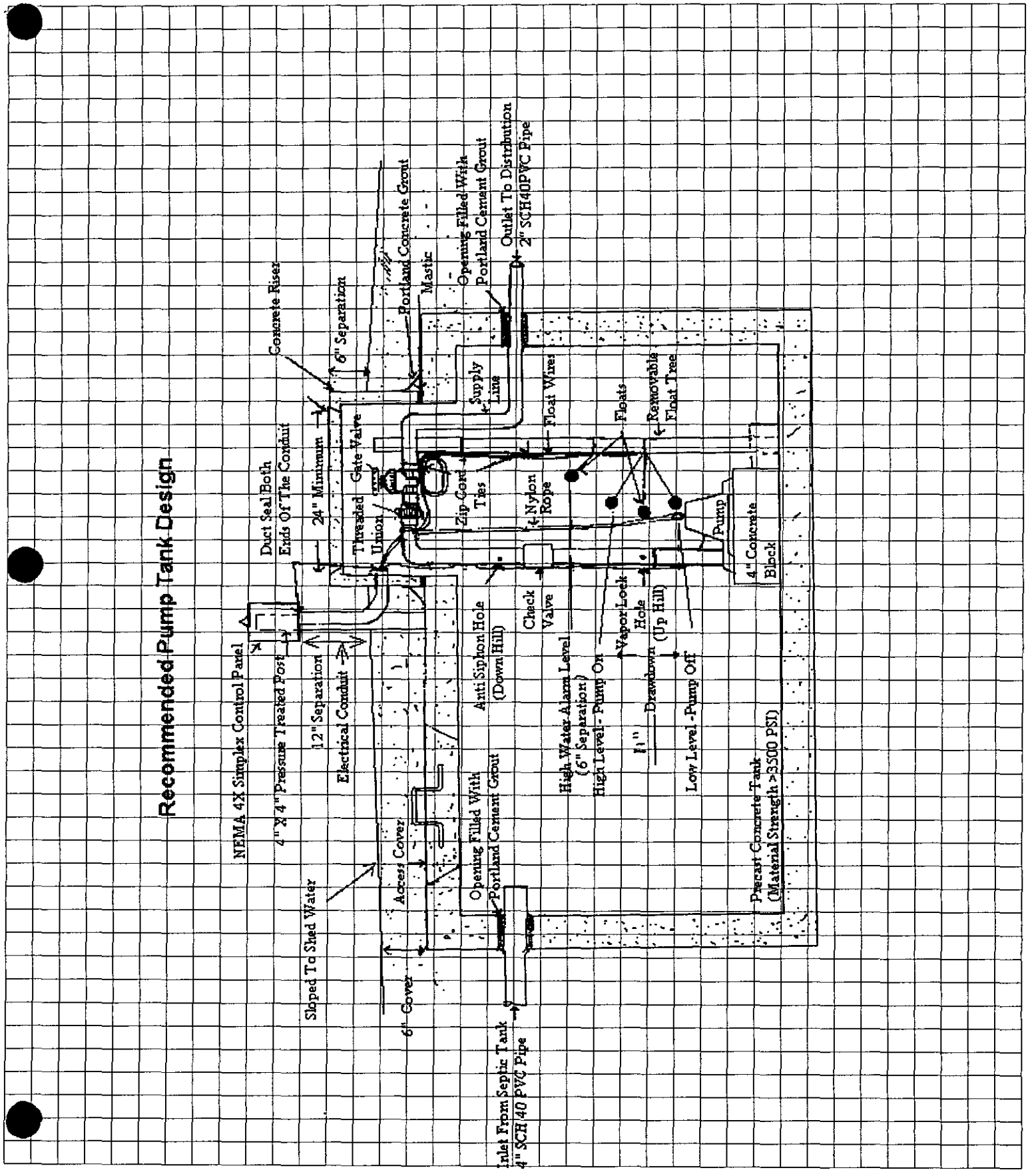
July 2, 2004

Thompson Environmental Consulting, Inc.
114 Orchard Ridge Road
Locust, NC 28097-8748

Tax ID Number: 195-211-02

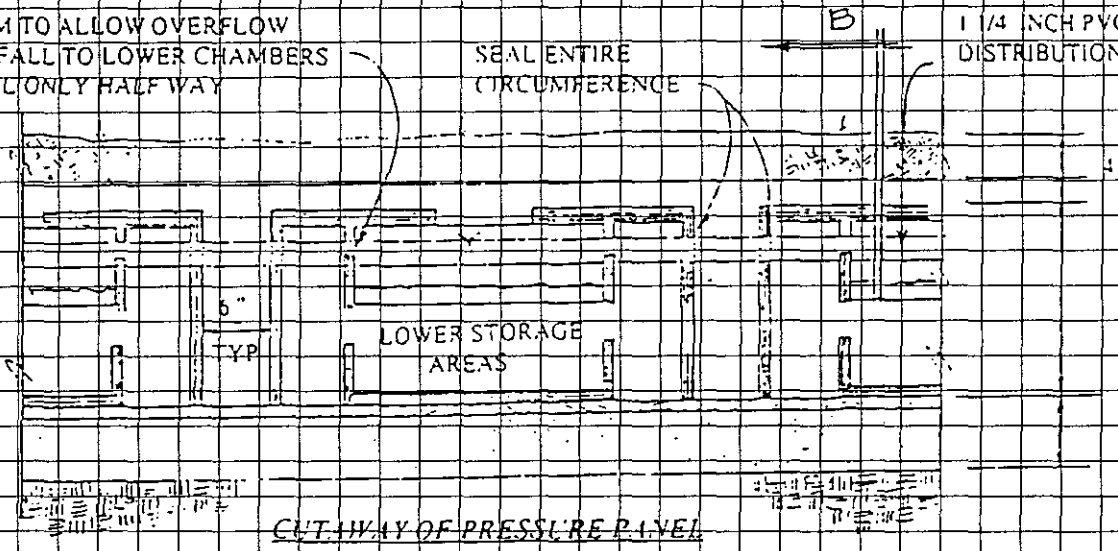
Location: 3330 Rosley Court

Date: 11-04-04

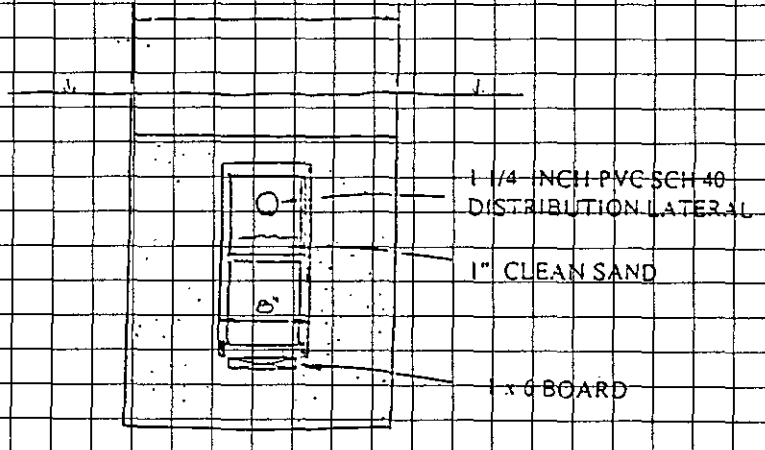


Thompson Environmental Consulting, Inc.
114 Orchard Ridge Road
Locust, NC 28097-8748

Tax ID Number: 195-611-02
Location: 3330 Rusty Court
Date: 11-04-04



CUTAWAY OF PRESSURE PANEL



FEE: 200.00 CK# 1019
DATE: 9/30/04 PC

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

COPY

TYPE APPLICATION: __ NEW SYSTEM __ EXPANSION/ ALTERATION OF EXISTING SYSTEM __ REPAIR OF EXISTING SYSTEM

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

FILE #: 57268

PROPERTY INFORMATION (FROM ENGINEERING FORM) FOR JOB LOCATION:

TAX/PARCEL NUMBER: 195-211-12

STREET ADDRESS: 3330 Rusty Ct, 28227

SUBDIVISION OR MOBILE HOME PARK NAME: Mayhew County Estates

LOT NUMBER: 4

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):

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

HEATED SQUARE FOOTAGE: 2450

NUMBER OF BEDROOMS: 4 NUMBER OF OCCUPANTS: 4

CLOSING DATE 11/1/04

FOUNDATION FOR RESIDENCE:

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

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

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

WATER SUPPLY (CHECK ONE):

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

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

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

PROPERTY OWNER:

NAME: (LAST) Mayhew (FIRST) Audrey (MI)
ADDRESS: 3362 Mayhew Forrest Lane
CITY: Charlotte STATE: NC ZIP: 28227
DAYTIME PHONE: 704 545-3741

LEGAL AGENT FOR PROPERTY OWNER, IF APPLICABLE: (Buyer)

NAME: (LAST) Hoyle (FIRST) Jennifer (MI)
DAYTIME PHONE: 704 363-4823
or 704-888-1833

WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED? 10/9/2002

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: Jennifer Hoyle DATE: 9/30/04

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

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

Sheet: 1 of 2
Property ID: 195-211-12
Lot #: 4
File #: 5726B
Code: 2

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

Owner: Audrey Mayhew
Address: 3362 Mayhew Forrest Lane, Charlotte, N. C. 28227
Proposed Facility: Residence Design Flow (.1949): 480gpd
Location of Site: 3330 Rusty Court

Applicant: Jennifer Hovis
Date Evaluated: 10/20/2004
Property Size: 1.06a
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

Pit #	Landscape Position	Horizon	Soil Texture	Soil Morphology (Structure, Consistence, Mineralogy)	Other Profile Factors: Depth to Seasonal Water Table (in) / Color	Depth to Restrictive Horizon (in)	Depth to Rock (in)	Depth to Bedrock (in)	Soil Wetness Class / Initial System
1	LS, 15	0-2	GR/CL	FR/SEXP/SS/SP	>51" TO SOIL WETNESS	51	N/A	NONE	PS, IV .3GPD/FT²
		2-34	SBK/C	FI/SEXP/S/P					
		34-51	SBK/CL	FR/SEXP/SS/SP					
2	LS, 10	POSSIBLE		FILL					US
3	LS, 15	0-2	GR/CL	FR/SEXP/SS/SP	>39" TO SOIL WETNESS	39+	"	"	PS, IV .3GPD/FT²
		2-39	SBK/C	FI/SEXP/S/P					
		BORING TERMINATED @ 39", FLOATER ROCK							
4	"	0-7	DISTURBED		>48" TO SOIL WETNESS	48	"	"	"
		7-31	SBK/C	FI/SEXP/S/P					
		31-48	SBK/CL	FR/SEXP/SS/SP					
5	LS, 10	0-3	GR/CL	"	"	"	"	"	"
		3-38	SBK/C	FI/SEXP/S/P					
		38-48	SBK/CL	FR/SEXP/SS/SP					

Description	Initial System	Repair System
Available Space (.1945)	US	US
System Type(s)		
Site LTAR	.3GPD/FT²	.3GPD/FT²

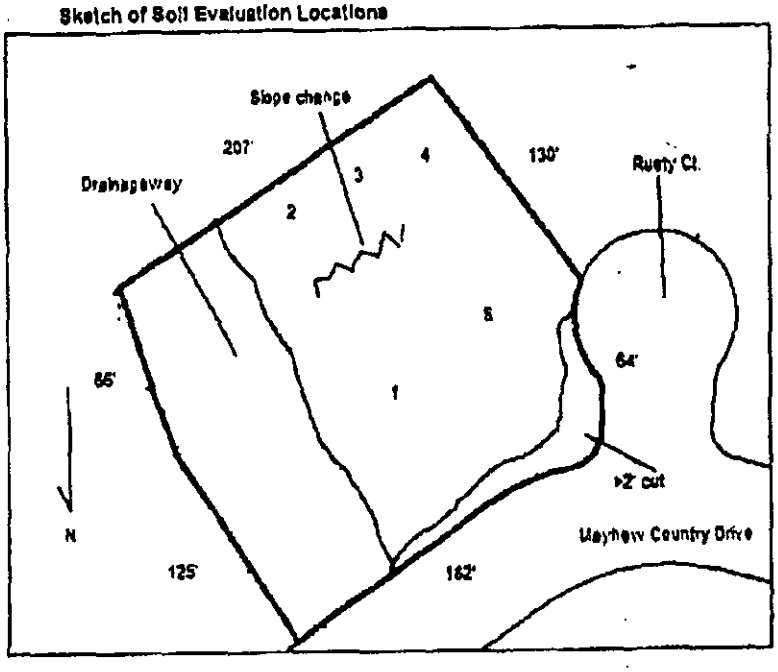
Other Factors (.1948):
Site Classification (.1948): UNSUITABLE
Evaluated By: W. R. Martin, LSS, 10/22/2004
Others Present: J. Hovis

COMMENTS:
100% repair required

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



66'0"

Back of House is 68'0" long

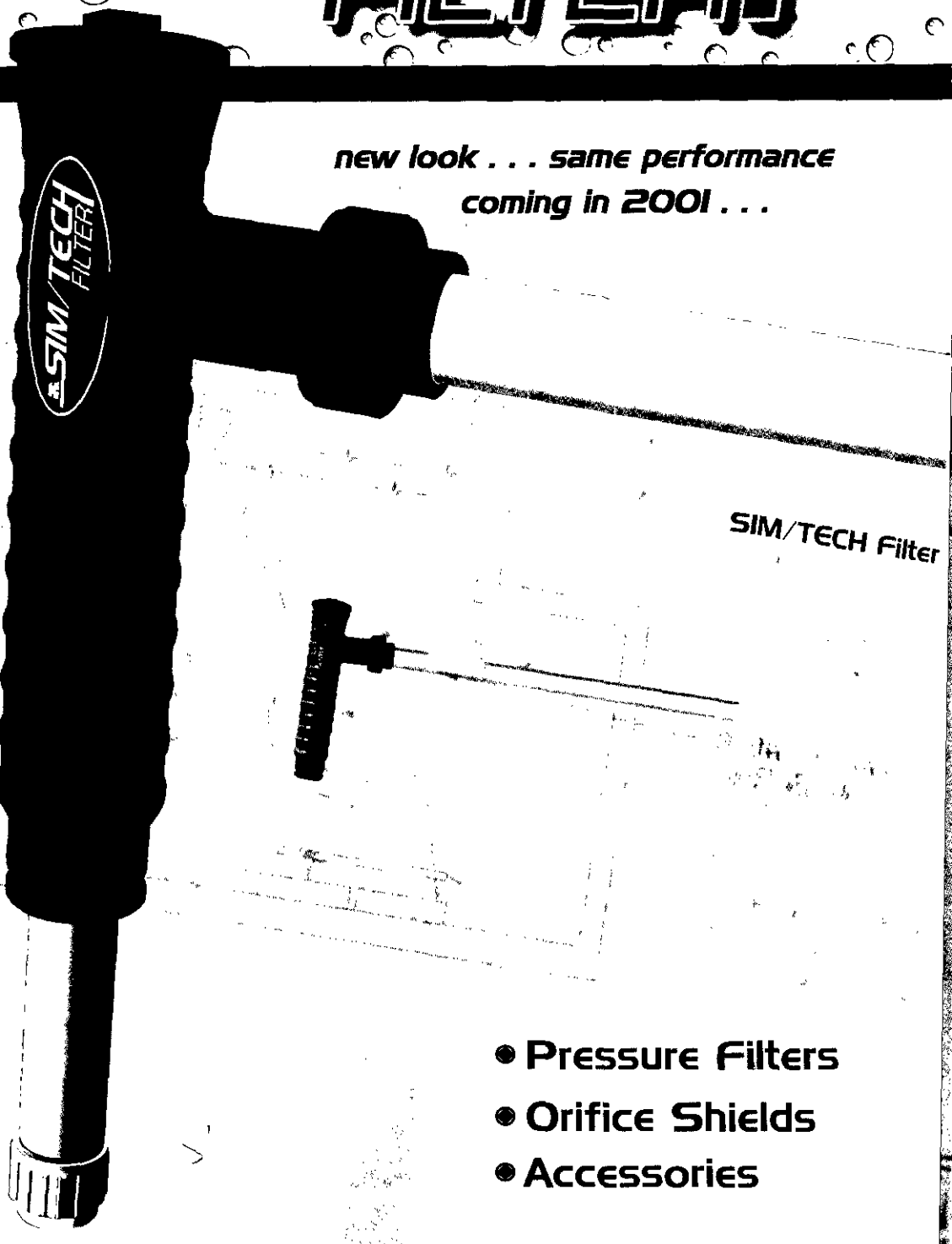
Front of House 63'0"

CUSTOM HOUSE PL
704-695-
704-485-

Lot 21

Attn: Corey Thompson
from: Terri Lee Hoyle
704-363-4833

SIM/TECH FILTER



new look . . . same performance
coming in 2001 . . .

SIM/TECH Filter

- Pressure Filters
- Orifice Shields
- Accessories

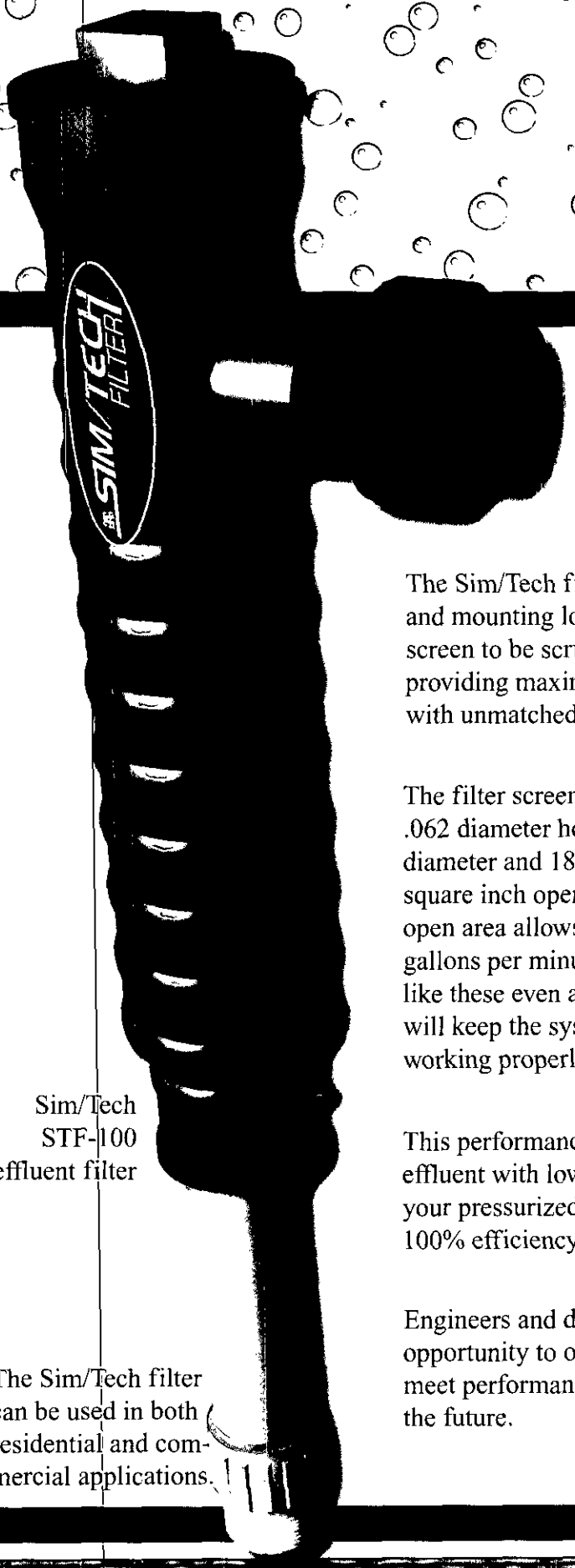
Solutions

for protection and performance of wastewater systems

www.gag-simtech.com

1-888-999-3290

Economical
Low maintenance
Easy installation
Extends life of drainfield
Improves effluent quality



The Sim/Tech filter, with it's unique design and mounting location, allows the filtering screen to be scrubbed while in operation, providing maximum maintenance intervals with unmatched performance capabilities.

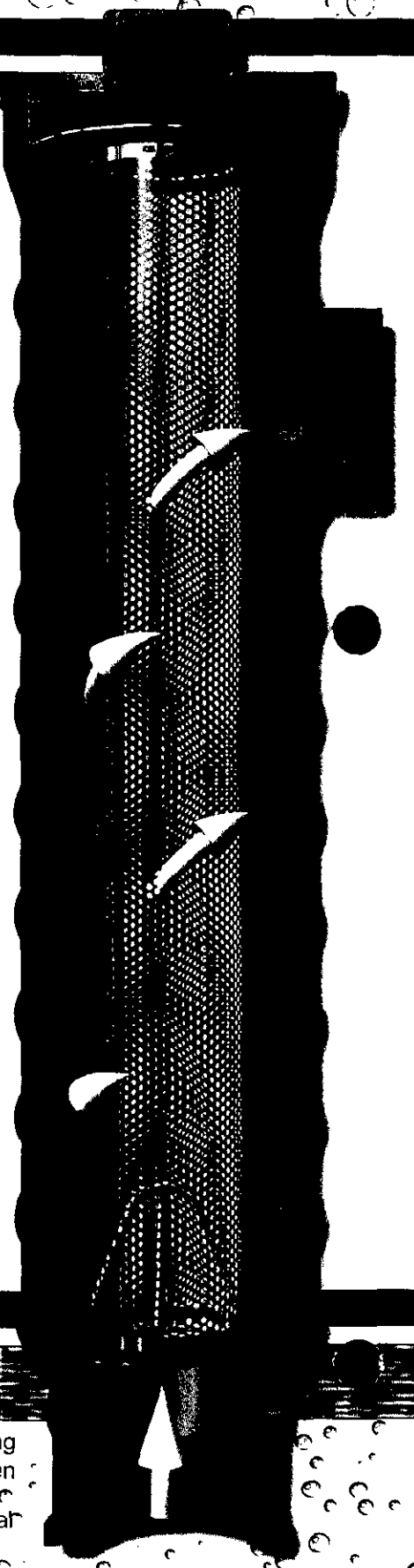
The filter screen is a type 347 S. S. with .062 diameter holes. It is 3 inches in diameter and 18 inches long with a 69.52 square inch open area. This large 41% open area allows the filter to pass 83.8 gallons per minute at 1 psi. With features like these even a partially clogged screen will keep the system well protected and working properly.

This performance product assures quality effluent with lower TSS levels, keeping your pressurized system functioning at 100% efficiency.

Engineers and designers now have the opportunity to offer a simple safeguard to meet performance standards now and in the future.

Sim/Tech
STF-100
effluent filter

The Sim/Tech filter can be used in both residential and commercial applications.



Total head loss .5002 ft. or .21 psi
Flow rate w/clean screen: 120,672 GPD@ 1 psi
Flow rate w/95% plugged screen: 114,912 GPD@ 1.8 psi

Protected under US patent #5,885,452

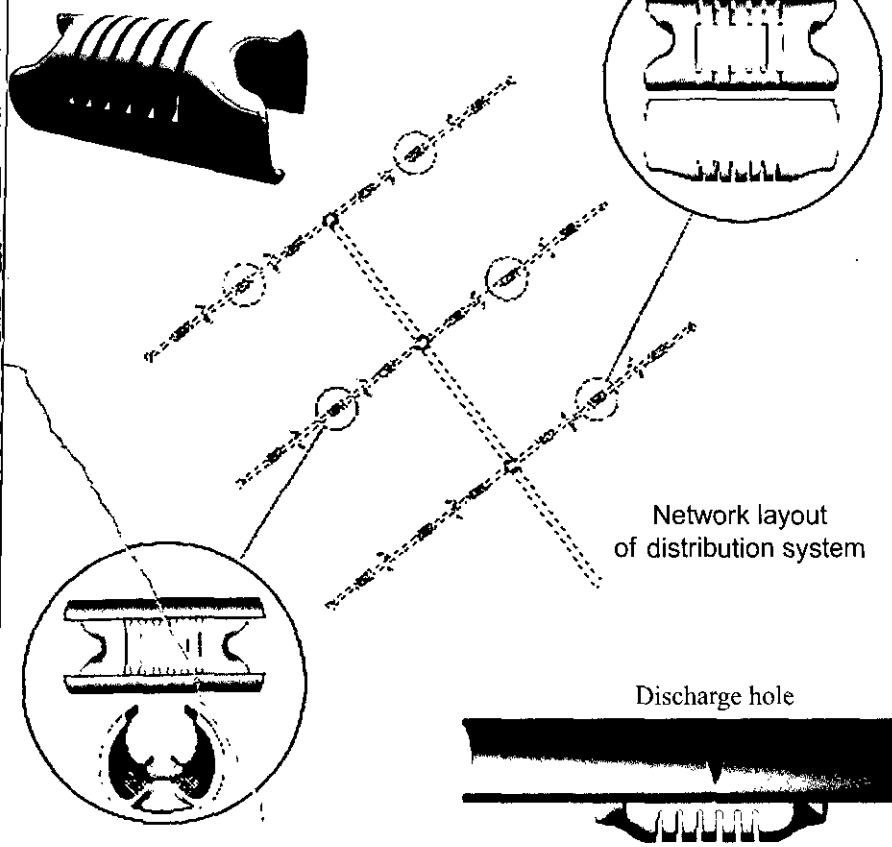
Cut away view showing filter casing and screen illustrated with optional STF-105 Wire cage

GAG SIM/TECH FILTERS

Lateral Field Orifice Shields

An essential part of any pressurized wastewater system

Orifice shields prevent the drain media from blocking the discharge openings on the discharge laterals.

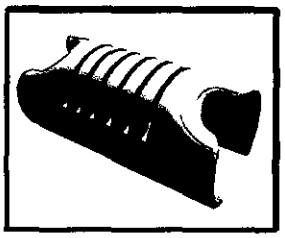


Network layout of distribution system

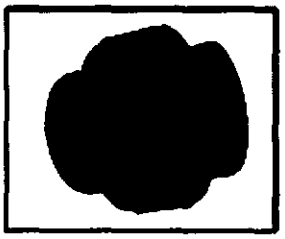
Discharge hole

cut away view of installed shield on lateral

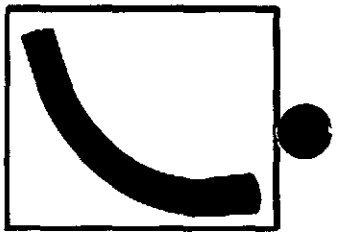
STF-106
Fully enclosed orifice shield - available for 0.75", 1.00", 1.25" and 1.5" pipe
patent #6,167,914



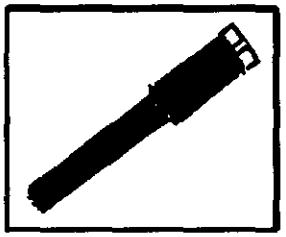
STF-108
Sch. 80 union
2" standard



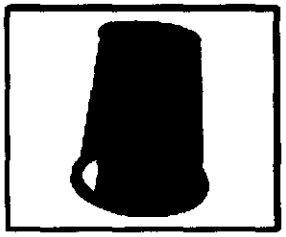
STF-111L
Sch. 40
90° Clean out sweep available for 1.0", 1.25", 1.50" and 2" pipe
plain ends



STF-109
Septic tank filters fits 4" 'T'



STF-112
Valve Box
with 6" cover



The STF-106 snaps securely into place on the lateral piping with over 9" of gripping surface.

A MUST for all lateral pipes . . .

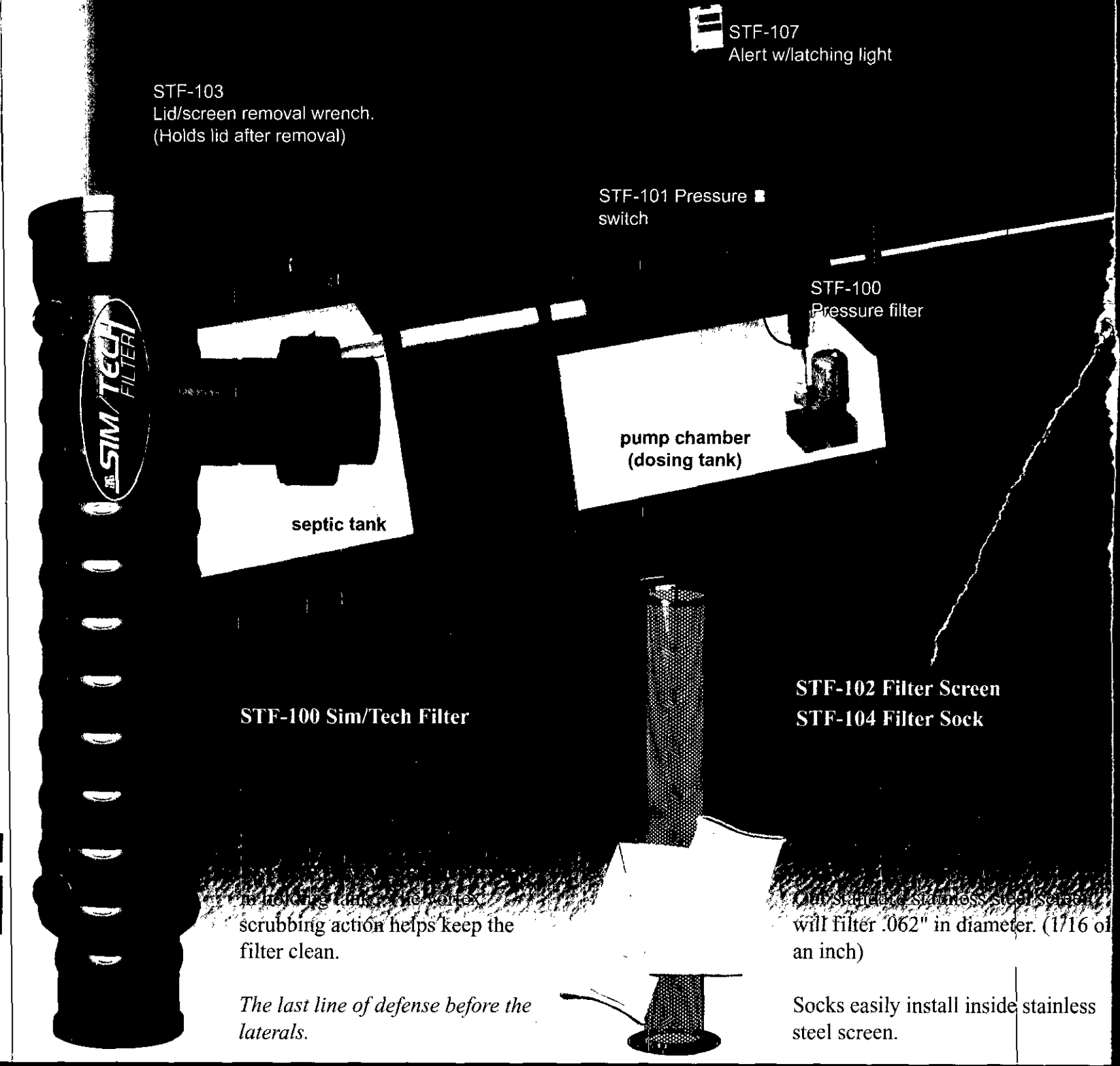
Solutions for protecting wastewater distribution systems . . .

06598 Horton Bay Road - Boyne City, MI 49712
888-999-3290 - 231-582-7327 - fax-582-7324
www.gag-simtech.com - simtech@freeway.net

Essential Components for Pressurized Systems

SIM/TECH offers many performance products engineered to protect effluent treatment systems and prevent costly repairs. From our pressurized filter, to the best orifice shield in the industry, we keep your systems performing at 100% efficiency.

Sometimes the simplest ideas are the best, so depend on a time proven leader.... protecting effluent treatment systems is our business - SIM/TECH Filter.



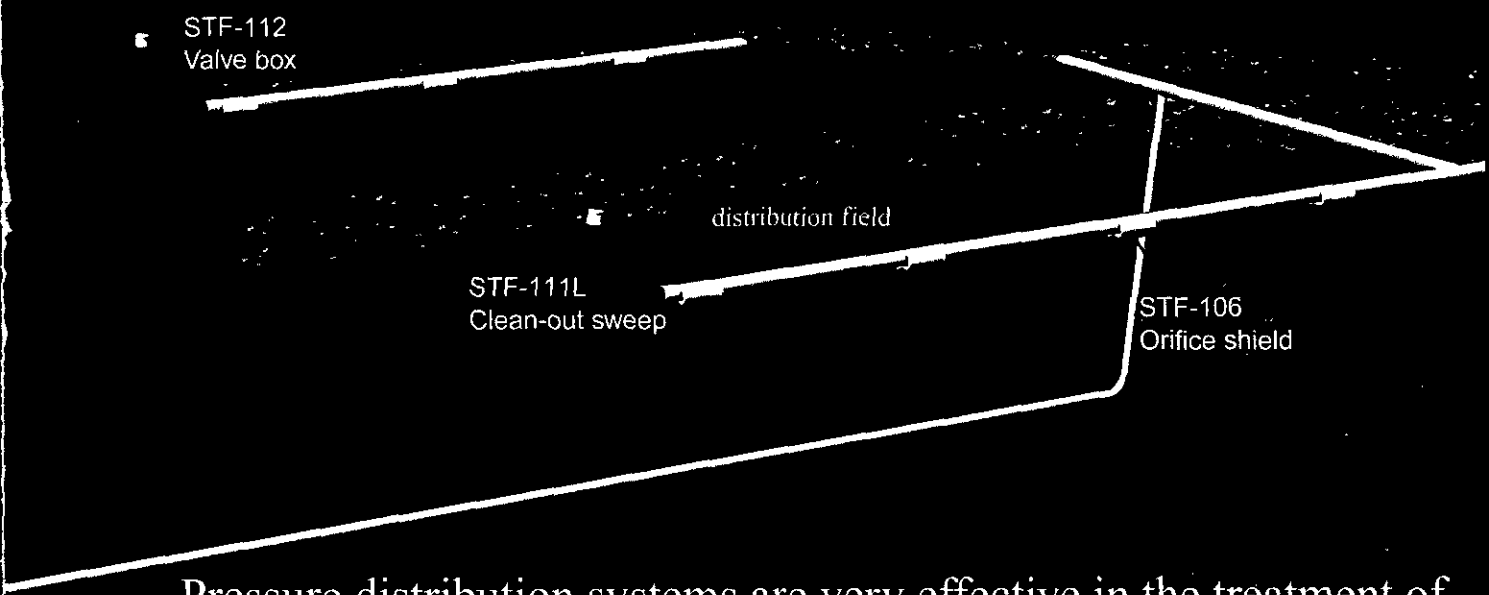
In holding tank, the vortex scrubbing action helps keep the filter clean.

The last line of defense before the laterals.

Our standard stainless steel screen will filter .062" in diameter. (1/16 of an inch)

Socks easily install inside stainless steel screen.

The SIM/TECH filter is the last line of defense for Sand Filters, Mound Systems, Shallow Trench, Peat Systems, Drip Irrigations, and all the new Aerobic Systems. With a SIM/TECH Filter in place, all pressure systems can work at 100% efficiency.



Pressure distribution systems are very effective in the treatment of effluent, but only when all the distribution holes remain open. These systems fail when the small holes in the lateral piping become blocked with debris. Many of these systems only partially fail, causing contamination of ground water long before the system shows any sign of distress.

Our products are unique to the industry. They are designed to ensure that the small holes in the field laterals remain open and unobstructed, providing even distribution of effluent.

STF-111L Clean Out Sweep



Molded from SCH 40 PVC plastic

Available for 1.0" to 2" PVC pipe.

STF-106 Orifice Shield

Straps of geotextile fabric and separates discharge holes from the drain media, ensuring even distribution of effluent.

Available for .75" to 1.5" PVC pipe.

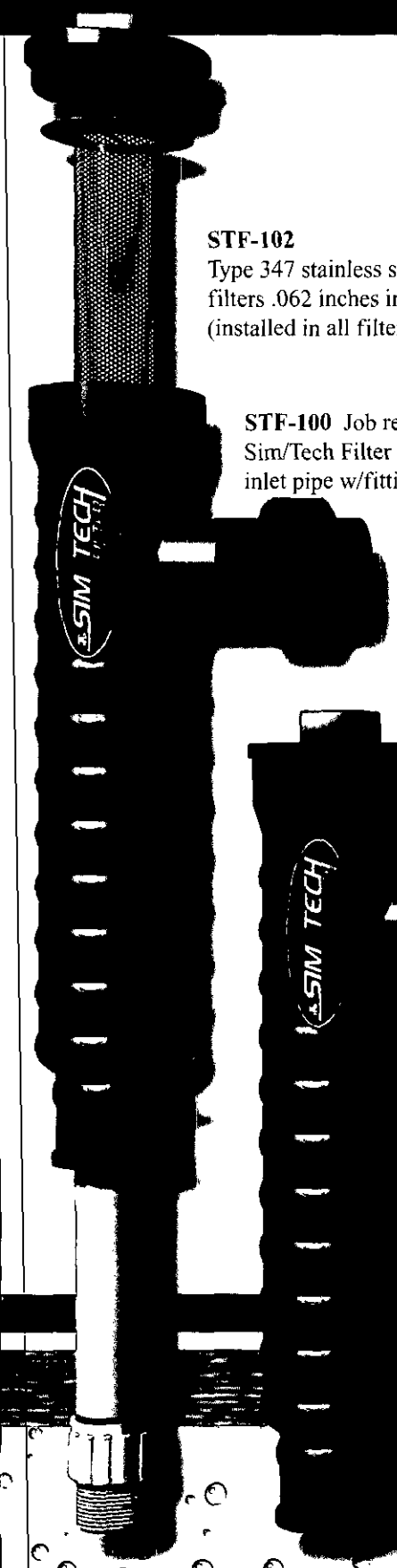
Protected under US patent #6,167,914

Pressure Filters
Commercial filters
System components
Accessories

Detailed drawings and/or CAD files in DXF and DWG formats are available to help with your blueprint and drafting needs.

CAD files can be sent to you on disk, CD or downloaded from our web site.

www.gag-simtech.com
simtech@freeway.net



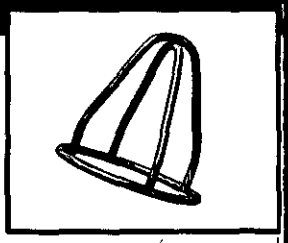
STF-102
Type 347 stainless steel screen,
filters .062 inches in diameter
(installed in all filters)

STF-100 Job ready
Sim/Tech Filter - prefitted with 2" Sch. 80 union & 2" inlet pipe w/fitting (2" NPT)

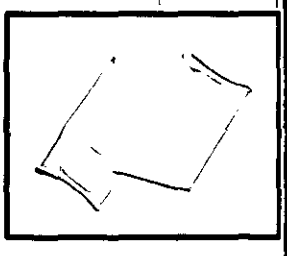
STF-100A2
Sim/Tech Filter - field assembled unit
2" inlet / 2" outlet

STF-100A3
Sim/Tech Filter 3" inlet / 3" outlet (socket weld)

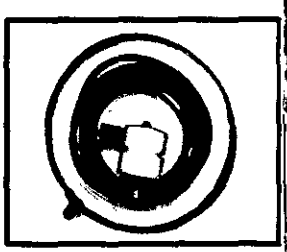
STF-105
Wire cage
Mounts in filter screen.
Prevents debris from re-entering the pump.



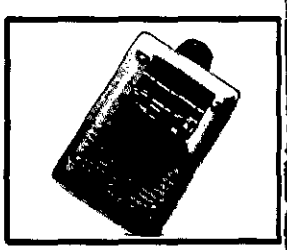
STF-104
Optional filtration socks
Polyester knit 600 micron (.023)
150-190 micron (.006)
Thermal nylon
100 micron (.0039)



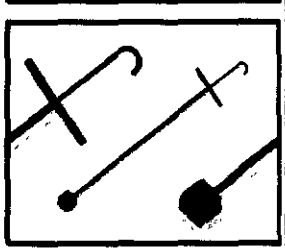
STF-101
Adjustable pressure alarm switch
adjusts from 3 to 24 lbs. standard



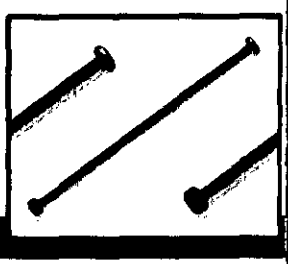
STF-107
Tank alert w/ latching light



STF-103
Filter lid/screen removal wrench
40" long -
holds lid after removal



STF-103A
Filter screen removal tool
for use w/optional socks
34" long



We custom build filter / manifold assemblies to meet most commercial and residential filtration systems.

MECKLENBURG COUNTY
Health Department

October 28, 2004

Audrey Mayhew
3362 Mayhew Forest Lane
Charlotte,NC 28227

Re: Application for improvement permit for
Property Site: 3330 Rusty Court
Health Department file number: **5726B**

Dear Property Owner or Owner's Agent:

The Mecklenburg County Health Department, Environmental Health Division on **October 28, 2004** 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.

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

Sheet: 1 of 2
Property ID: 195-211-12
Lot #: 4
File #: 5726B
Code: 2

ACS

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

Owner: Audrey Mayhew
Applicant: Jennifer Hoyle
Address: 3362 Mayhew Forrest Lane, Charlotte, N. C. 28227
Date Evaluated: 10/20/2004
Proposed Facility: Residence
Design Flow (.1949): 480gpd
Property Size: 1.06a
Location of Site: 3330 Rusty Court
Property Recorded:
Water Supply: [ ] Public [x] Individual [x] Well [ ] Spring [ ] Other
Evaluation Method: [x] Auger Boring [ ] Pit [ ] Cut
Type of Wastewater: [x] Sewage [ ] Industrial Process [ ] Mixed

PROFILE #	.1940 Landscape Position/ Slope%	Horizon Depth (IN.)	SOIL MORPHOLOGY .1941 .1941 Structure/ Texture	.1941 Consistence Mineralogy	OTHER PROFILE FACTORS .1942 Soil Wetness/ Color	.1943 Soil Depth (IN.)	.1956 Sapro Class	.1944 Restr Horiz	Profile Class & LTAR
1	LS, 15	0-2	GR/CL	FR/SEXP/SS/SP	>51" TO SOIL WETNESS	51	N/A	NONE	PS, IV
		2-34	SBK/C	FI/SEXP/S/P					.3GPD/FT^2
		34-51	SBK/CL	FR/SEXP/SS/SP					
2	LS, 10		POSSIBLE	FILL					US
3	LS, 15	0-2	GR/CL	FR/SEXP/SS/SP	>39" TO SOIL WETNESS	39+	"	"	PS, IV
		2-39	SBK/C	FI/SEXP/S/P					.3GPD/FT^2
		BORING TERMINATED @ 39", FLOATER ROCK							
4	"	0-7	DISTURBED		>48" TO SOIL WETNESS	48	"	"	"
		7-31	SBK/C	FI/SEXP/S/P					
		31-48	SBK/CL	FR/SEXP/SS/SP					
5	LS, 10	0-3	GR/CL	"	"	"	"	"	"
		3-36	SBK/C	FI/SEXP/S/P					
		36-48	SBK/CL	FR/SEXP/SS/SP					

Description	Initial System	Repair System
Available Space (.1945)	US	US
System Type(s)		
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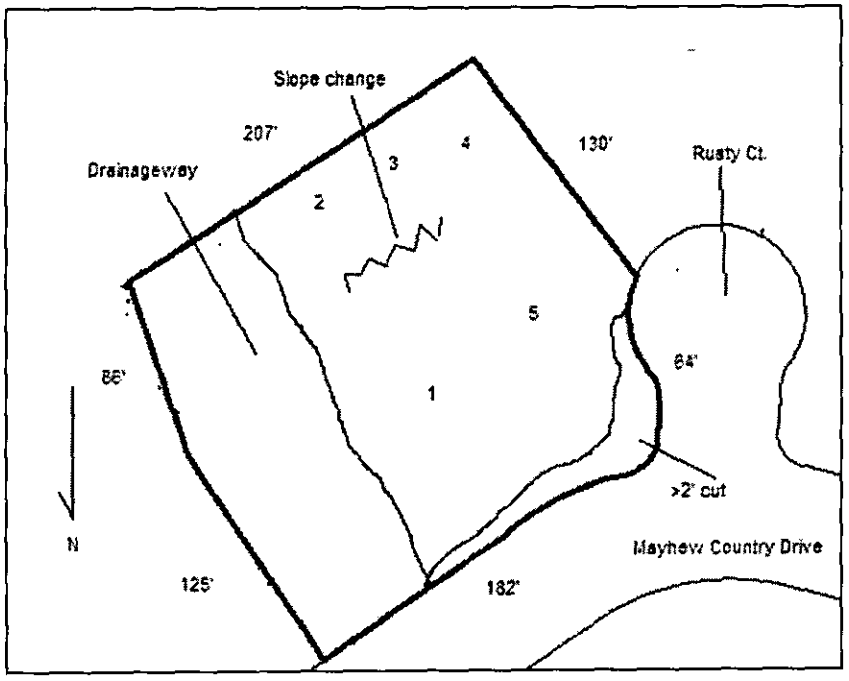
Other Factors (.1946):
Site Classification (.1948): UNSUITABLE
Evaluated By: W. R. Marlin, LSS, 10/22/2004, W. R. Marlin
Others Present: J. Hoyle

COMMENTS:
100% repair required

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
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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
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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



FEE: 200.00 CK# 1018
DATE: 9/30/04 PC

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

[ ] CRT

TYPE APPLICATION: ___ NEW SYSTEM ___ EXPANSION/ ALTERATION OF EXISTING SYSTEM ___ REPAIR OF EXISTING SYSTEM

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

FILE #: 5726B

PROPERTY INFORMATION (FROM ENGINEERING FORM) FOR JOB LOCATION:

TAX/PARCEL NUMBER: 195-211-12

STREET ADDRESS: 3330 Rusty Ct, 28227

SUBDIVISION OR MOBILE HOME PARK NAME: Mayhew County Estates

LOT NUMBER: 4

TYPE OF BUILDING (CHECK ONE):

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

HEATED SQUARE FOOTAGE: 2450

NUMBER OF BEDROOMS: 4 NUMBER OF OCCUPANTS: 4

FOUNDATION FOR RESIDENCE:

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

TOWNSHIP (CHECK ONE):

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

CLOSING DATE 11/1/04

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

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

WATER SUPPLY (CHECK ONE):
___ COMMUNITY (C)
___ MUNICIPAL (M)
X PRIVATE WELL (P)
___ SHARED WELL (S)
___ OTHER 'SPRINGS' (O)

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

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

PROPERTY OWNER:

NAME: (LAST) Mayhew (FIRST) Audrey (MI)

ADDRESS: 3362 Mayhew Forrest Lane

CITY: Charlotte STATE: NC ZIP: 28227

DAYTIME PHONE: 704 545-3741

LEGAL AGENT FOR PROPERTY OWNER, IF APPLICABLE:

NAME: (LAST) Hoyle (FIRST) Jennifer (MI) (Buyer)

DAYTIME PHONE: 704 363-4823 or 704-888-1833

WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED? 10/9/2002

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: Jennifer Hoyle DATE: 9/30/04

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

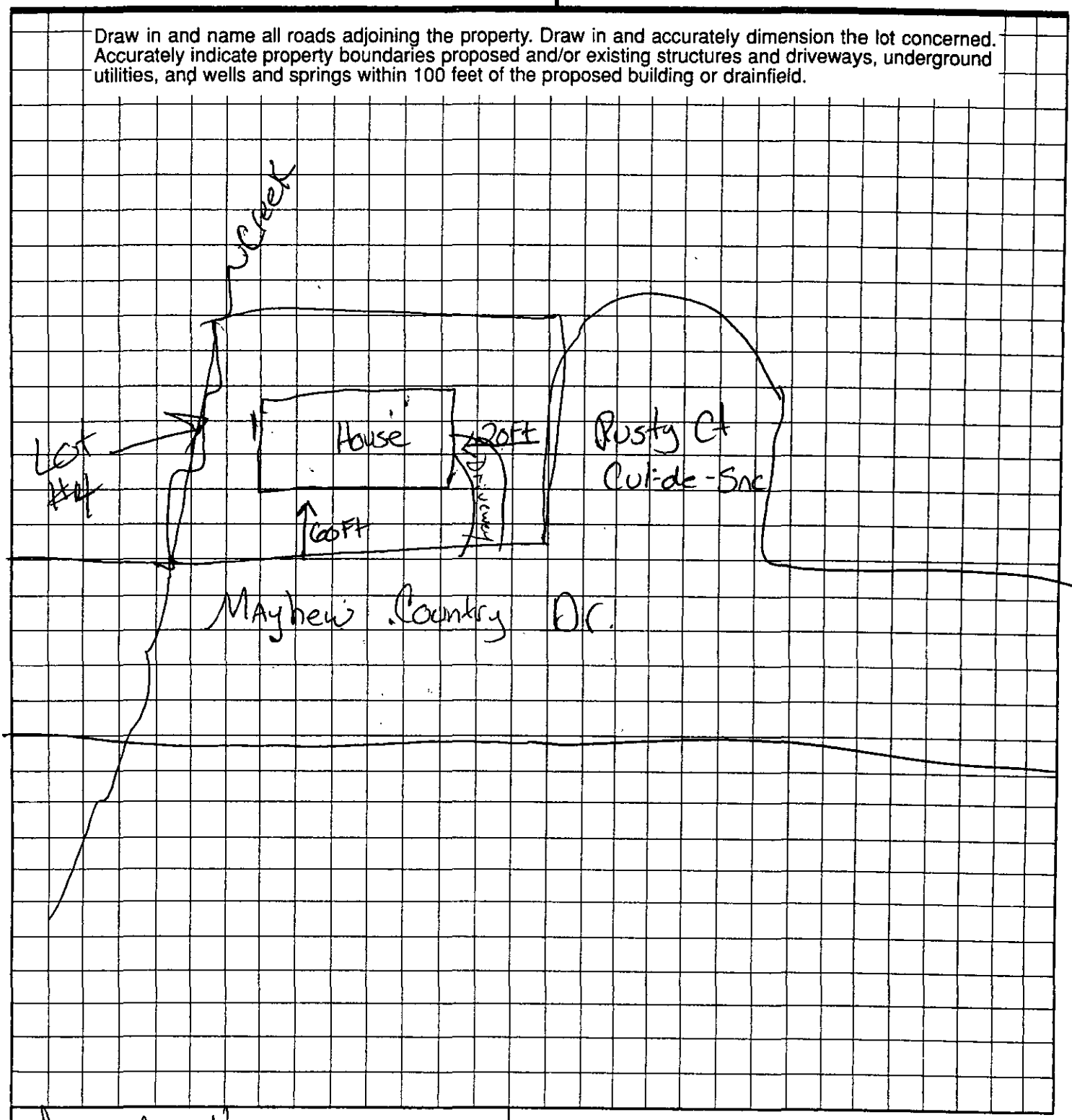
PROPOSED PLOT PLAN

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

FILE: 5726B

TC: 195-21-12

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.



Jennifer Hoyle
OWNER/AGENT SIGNATURE

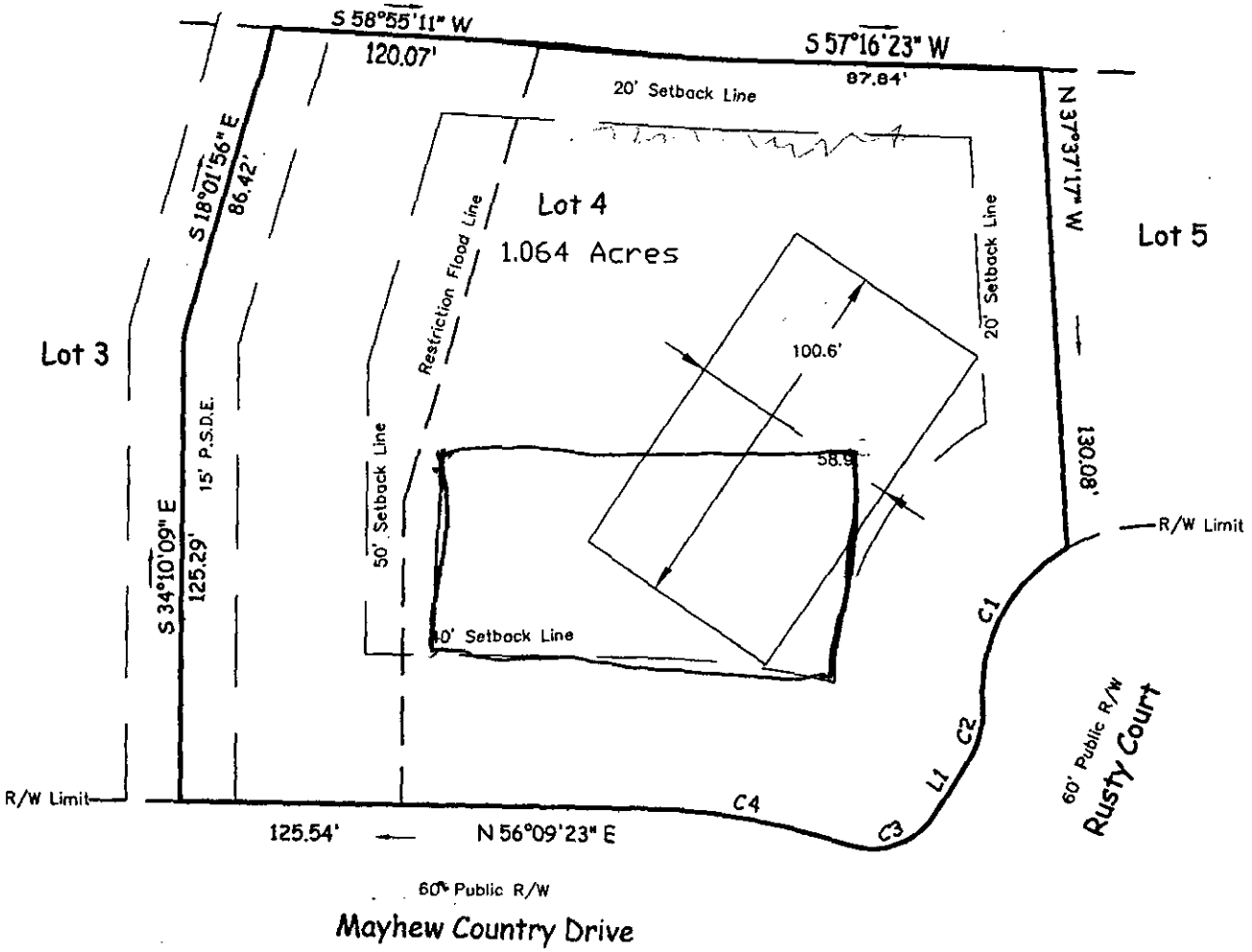
DATE 9/30/04

APPROVAL DATE _____

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

LINE TABLE		
LINE	LENGTH	BEARING
L1	16.17'	S 01°12'35" E

CURVE TABLE				
CURVE	LENGTH	RADIUS	BEARING	CHORD
C1	50.26'	45.00'	N 06°29'18" W	47.68'
C2	16.68'	25.00'	S 20°18'59" E	16.37'
C3	26.36'	20.00'	S 36°33'06" W	24.49'
C4	57.04'	180.00'	N 65°14'05" E	56.80'



NOTE:
ALL CORNERS ARE I.PIN(F) UNLESS OTHERWISE NOTED.

NOTE:
ALL DISTANCES ARE HORIZONAL DISTANCES
UNLESS OTHERWISE NOTED.

NOTE:
AREA BY COORDINATE COMPUTATION.

NOTE:
PROPERTY SUBJECT TO ANY VALID & ENFORCEABLE
EASEMENTS, RESTRICTIONS & RIGHTS OF WAY OF RECORD.

SUBJECT PROPERTY IS NOT LOCATED IN A SPECIAL FLOOD HAZARD
AREA AS DETERMINED BY FLOOD INSURANCE RATE MAP.

NOTE:
THIS PLAT IS OF A SURVEY OF AN EXISTING PARCEL or PARCELS OF LAND.

5726B

North MB 32 / 156

Tax Parcel:

E.C. = 1' : 10,000' +

Plat Plan

OFFER TO PURCHASE AND CONTRACT

Arthur R & Jennifer Hayle IV ,as Buyer, hereby offers to purchase and Audrey & LP Mayhew ,as Seller, upon acceptance of said offer, agrees to sell and convey, all of that plot, piece or parcel of land described below, together with all improvements located thereon and such fixtures and personal property as are listed below (collectively referred to as the "Property"), upon the following terms and conditions:

1. REAL PROPERTY: Located in the City of Charlotte, County of Mecklenburg, 3330 Rusty Ct, State of North Carolina, being known as and more particularly described as: Street Address ~~3330 Mayhew Country Dr~~ Charlotte NC Zip 28227
Legal Description: Lot 4, Mayhew Country Estates, Map 1 Parcel Id 195-211-12
(☒ All ☐ A portion of the property in Deed Reference: Book 32 Page No 156, Mecklenburg County.)
NOTE: Prior to signing this Offer to Purchase and Contract, Buyer is advised to review Restrictive Covenants, if any, which may limit the use of the Property, and to read the *Declaration of Restrictive Covenants*, By-Laws, Articles of Incorporation, Rules and Regulations, and other governing documents of the owners' association and/or the subdivision, if applicable.

2. FIXTURES: The following items, if any, are included in the purchase price free of liens: any built-in appliances, light fixtures, ceiling fans, attached floor coverings, blinds, shades, drapery rods and curtain rods, brackets and all related hardware, window and door screens, storm windows, combination doors, awnings, antennas, satellite dishes and receivers, burglar/fire/smoke alarms, pool and spa equipment, solar energy systems, attached fireplace screens, gas logs, fireplace inserts, electric garage door openers with controls, outdoor plants and trees (other than in movable containers), basketball goals, storage sheds, mailboxes, wall and/or door mirrors, and any other items attached or affixed to the Property, EXCEPT the following items:
N/A

3. PERSONAL PROPERTY: The following personal property is *included in the purchase price:* N/A

4. PURCHASE PRICE: The purchase price is $ 57,000.00 and shall be paid as follows:
(a) $ 1000.00, EARNEST MONEY DEPOSIT with this offer by ☐ cash ☒ personal check ☐ bank check ☐ certified check ☐ other: ____ to be deposited and held in escrow by Audrey Mayhew ("Escrow Agent") until the sale is closed, at which time it will be credited to Buyer, or until this contract is otherwise terminated. In the event: (1) this offer is not accepted; or (2) any of the conditions hereto are not satisfied, then all earnest monies shall be returned to Buyer. In the event of breach of this contract by Seller, upon Buyer's request, all earnest monies shall be returned to Buyer, but such return shall not affect any other remedies available to Buyer for such breach. In the event this offer is accepted and Buyer breaches this contract, then all earnest monies shall be forfeited upon Seller's request, but receipt of such forfeited earnest monies shall not affect any other remedies available to Seller for such breach.
NOTE: In the event of a dispute between Seller and Buyer over the return or forfeiture of earnest money held in escrow by a broker, the broker is required by state law to retain said earnest money in the broker's trust or escrow account until a written release from the parties consenting to its disposition has been obtained or until disbursement is ordered by a court of competent jurisdiction.
(b) $ 0, ADDITIONAL EARNEST MONEY DEPOSIT to be paid to Escrow Agent no later than N/A, *TIME BEING OF THE ESSENCE WITH REGARD TO SAID DATE.*
(c) $ N/A, BY ASSUMPTION of the unpaid principal balance and all obligations of Seller on the existing loan(s) secured by a deed of trust on the Property in accordance with the attached Loan Assumption Addendum.
(d) $ -0-, BY SELLER FINANCING in accordance with the attached Seller Financing Addendum.
(e) $ 56,000.00, BALANCE of the purchase price in cash at Closing.

5. CONDITIONS: (State N/A in each blank that is not a condition to this contract.)
(a) Buyer must be able to obtain a ☐ FHA ☐ VA (attach FHA/VA Financing Addendum) ☒ Conventional ☐ Other: ____ loan at a ☒ Fixed Rate ☐ Adjustable Rate in the principal amount of ____ (plus any financed VA Funding Fee or FHA MIP) for a term of 25 year(s), at an initial interest rate not to exceed 6.5 % per annum, with mortgage loan discount points not to exceed 0 % of the loan amount. Buyer shall apply for said loan within 5 days of the Effective Date of this contract. Buyer shall use Buyer's best efforts to secure the lender's customary loan commitment letter on or before 10/6/04 and to satisfy all terms and conditions of the loan commitment letter by Closing. After the above letter date, Seller may request in writing from Buyer a copy of the loan commitment letter. If Buyer fails to provide Seller a copy of the loan commitment letter or a written waiver of this loan condition within five days of receipt of Seller's request, Seller may terminate this contract by written notice to Buyer at any time thereafter, provided Seller has not then received a copy of the letter or the waiver.

REALTOR®
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North Carolina Bar Association
North Carolina Association of REALTORS®, Inc.
EQUAL HOUSING OPPORTUNITY
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Buyer Initials ____ Seller Initials ____
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(b) There must be no restriction, easement, zoning or other governmental regulation that would prevent the reasonable use of the Property for residential purposes.

(c) The Property must be in substantially the same or better condition at Closing as on the date of this offer, reasonable wear and tear excepted.

(d) All deeds of trust, liens and other charges against the Property, not assumed by Buyer, must be paid and satisfied by Seller prior to or at Closing such that cancellation may be promptly obtained following Closing. Seller shall remain obligated to obtain any such cancellations following Closing.

(e) Title must be delivered at closing by GENERAL WARRANTY DEED unless otherwise stated herein, and must be fee simple marketable and insurable title, free of all encumbrances except: ad valorem taxes for the current year (prorated through the date of Closing); utility easements and unviolated restrictive covenants that do not materially affect the value of the Property; and such other encumbrances as may be assumed or specifically approved by Buyer. The Property must have legal access to a public right of way.

6. SPECIAL ASSESSMENTS: *Seller warrants that there are no pending or confirmed governmental special assessments for* sidewalk, paving, water, sewer, or other improvements on or adjoining the Property, and no pending or confirmed owners' association special assessments, except as follows: N/A

(Insert "None" or the identification of such assessments, if any.) Seller shall pay all owners' association assessments and all governmental assessments confirmed through the time of Closing, if any, and Buyer shall take title subject to all pending assessments, if any, unless otherwise agreed as follows: N/A

7. PRORATIONS AND ADJUSTMENTS: Unless otherwise provided, the following items shall be prorated and either adjusted between the parties or paid at Closing: (a) Ad valorem taxes on real property shall be prorated on a calendar year basis through the date of Closing; (b) Ad valorem taxes on personal property for the entire year shall be paid by the Seller unless the personal property is conveyed to the Buyer, in which case, the personal property taxes shall be prorated on a calendar year basis through the date of Closing; (c) All late listing penalties, if any, shall be paid by Seller; (d) Rents, if any, for the Property shall be prorated through the date of Closing; (e) Owners' association dues and other like charges shall be prorated through the date of Closing. Seller represents that the regular owners' association dues, if any, are $ 0 per _____.

8. CLOSING EXPENSES: Buyer shall be responsible for all costs with respect to any loan obtained by Buyer. Buyer shall pay for recording the deed and for preparation and recording of all instruments required to secure the balance of the purchase price unpaid at Closing. Seller shall pay for preparation of deed and all other documents necessary to perform Seller's obligations under this agreement, and for excise tax (revenue stamps) required by law. If Seller is to pay any of Buyer's expenses associated with the purchase of Property, the amount thereof shall be $ -0-, including any FHA/VA lender and inspection costs that Buyer is not permitted to pay, but excluding any portion disapproved by Buyer's lender.

9. FUEL: Buyer agrees to purchase from Seller the fuel, if any, situated in any tank on the Property at the prevailing rate with the cost of measurement thereof, if any, being paid by Seller.

10. EVIDENCE OF TITLE: Seller agrees to use his best efforts to deliver to Buyer as soon as reasonably possible after the Effective Date of this contract, copies of all title information in possession of or available to Seller, including but not limited to: title insurance policies, attorneys opinions on title, surveys, covenants, deeds, notes and deeds of trust and easements relating to the Property. Seller authorizes (1) any attorney presently or previously representing Seller to release and disclose any title insurance policy in such attorney's file to Buyer and both Buyer's and Seller's agents and attorneys: and (2) the Property's title insurer or its agent to release and disclose all materials in the Property's title insurer's (or title insurer's agent's) file to Buyer and both Buyer's and Seller's agents and attorneys.

11. LABOR AND MATERIAL: Seller shall furnish at Closing an affidavit and indemnification agreement in form satisfactory to Buyer showing that all labor and materials, if any, furnished to the Property within 120 days prior to the date of Closing have been paid for and agreeing to indemnify Buyer against all loss from any cause or claim arising therefrom.

12. PROPERTY DISCLOSURE AND INSPECTIONS:

(a) Property Disclosure:

☐ Buyer has received a signed copy of the N.C. Residential Property Disclosure Statement prior to the signing of this Offer to Purchase and Contract.

☐ Buyer has NOT received a signed copy of the N.C. Residential Property Disclosure Statement prior to the signing of this Offer to Purchase and Contract and shall have the right to terminate or withdraw this contract without penalty prior to WHICHEVER OF THE FOLLOWING EVENTS OCCURS FIRST: (1) the end of the third calendar day following receipt of the Disclosure Statement; (2) the end of the third calendar day following the date the contract was made; or (3) Closing or occupancy by the Buyer in the case of a sale or exchange.

☒ Exempt from N.C. Residential Property Disclosure Statement because (SEE GUIDELINES) _____.

☐ The Property is residential and was built prior to 1978 (Attach Lead-Based Paint or Lead-Based Paint Hazards Disclosure Addendum.)

Buyer Initials JH RM Seller Initials AM LPM

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(b) Property Inspection: Unless otherwise stated herein, Buyer shall have the option of inspecting, or obtaining at Buyers expense inspections, to determine the condition of the Property. Unless otherwise stated herein, it is a condition of this contract that: (i) the built-in appliances, electrical system, plumbing system, heating and cooling systems, roof coverings (including flashing and gutters), doors and windows, exterior surfaces, structural components (including foundations, columns, chimneys, floors, walls, ceilings and roofs), porches and decks, fireplaces and flues, crawl space and attic ventilation systems (if any), water and sewer systems (public and private), shall be performing the function for which intended and shall not be in need of immediate repair; (ii) there shall be no unusual drainage conditions or evidence of excessive moisture adversely affecting the structure(s); and (iii) there shall be no friable asbestos or existing environmental contamination. Any inspections shall be completed and written notice of necessary repairs shall be given to Seller on or before N/A. Seller shall provide written notice to Buyer of Seller's response within N/A days of Buyer's notice. Buyer is advised to have any inspections made prior to incurring expenses for Closing and in sufficient time to permit any required repairs to be completed by Closing.

(c) Wood-Destroying Insects: Unless otherwise stated herein, Buyer shall have the option of obtaining, at Buyer's expense, a report from a licensed pest control operator on a standard form in accordance with the regulations of the North Carolina Structural Pest Control Committee, stating that as to all structures except N/A, there was no visible evidence of wood-destroying insects and containing no indication of visible damage therefrom. The report must be obtained in sufficient time so as to permit treatment, if any, and repairs, if any, to be completed prior to Closing. All treatment required shall be paid for by Seller and completed prior to Closing, unless otherwise agreed upon in writing by the parties. The Buyer is advised that the inspection report described in this paragraph may not always reveal either structural damage or damage caused by agents or organisms other than wood-destroying insects. If new construction, Seller shall provide a standard warranty of termite soil treatment.

(d) Repairs: Pursuant to any inspections in (b) and/or (c) above, if any repairs are necessary, Seller shall have the option of completing them or refusing to complete them. If Seller elects not to complete the repairs, then Buyer shall have the option of accepting the Property in its present condition or terminating this contract, in which case all earnest monies shall be refunded. Unless otherwise stated herein, any items not covered by (b) (i), b (ii), b (iii) and (c) above are excluded from repair negotiations under this contract.

(e) Acceptance: CLOSING SHALL CONSTITUTE ACCEPTANCE OF EACH OF THE SYSTEMS, ITEMS AND CONDITIONS LISTED ABOVE IN ITS THEN EXISTING CONDITION UNLESS PROVISION IS OTHERWISE MADE IN WRITING.

13. REASONABLE ACCESS: Seller will provide reasonable access to the Property (including working, existing utilities) through the earlier of Closing or possession by Buyer, to Buyer or Buyer's representatives for the purposes of appraisal, inspection, and/or evaluation. Buyer may conduct a walk-through inspection of the Property prior to Closing.

14. CLOSING: Closing shall be defined as the date and time of recording of the deed. All parties agree to execute any and all documents and papers necessary in connection with Closing and transfer of title on or before 11/1/04, at a place designated by Buyer. The deed is to be made to Arthur R Hoyle IV & Jennifer K. Hoyle.

15. POSSESSION: Unless otherwise provided herein, possession shall be delivered at Closing. In the event possession is NOT to be delivered at Closing: ☐ a Buyer Possession Before Closing Agreement is attached. OR, ☐ a Seller Possession After Closing Agreement is attached.

16. OTHER PROVISIONS AND CONDITIONS: (ITEMIZE ALL ADDENDA TO THIS CONTRACT AND ATTACH HERETO.)
① Additional Provisions Addendum Seller to pay for deed, Stamps, prorated taxes

17. RISK OF LOSS: The risk of loss or damage by fire or other casualty prior to Closing shall be upon Seller. If the improvements on the Property are destroyed or materially damaged prior to Closing, Buyer may terminate this contract by written notice delivered to Seller or Seller's agent and all deposits shall be returned to Buyer. In the event Buyer does NOT elect to terminate this contract, Buyer shall be entitled to receive, in addition to the Property, any of the Seller's insurance proceeds payable on account of the damage or destruction applicable to the Property being purchased.

18. ASSIGNMENTS: This contract may not be assigned without the written consent of all parties, but if assigned by agreement, then this contract shall be binding on the assignee and his heirs and successors.

19. PARTIES: This contract shall be binding upon and shall inure to the benefit of the parties, i.e., Buyer and Seller and their heirs, successors and assigns. As used herein, words in the singular include the plural and the masculine includes the feminine and neuter genders, as appropriate.

20. SURVIVAL: If any provision herein contained which by its nature and effect is required to be observed, kept or performed after the Closing, it shall survive the Closing and remain binding upon and for the benefit of the parties hereto until fully observed, kept or performed.

21. ENTIRE AGREEMENT: This contract contains the entire agreement of the parties and there are no representations, inducements or other provisions other than those expressed herein. All changes, additions or deletions hereto must be in writing and signed by all parties. Nothing contained herein shall alter any agreement between a REALTOR® or broker and Seller or Buyer as contained in any listing agreement, buyer agency agreement, or any other agency agreement between them.

22. NOTICE AND EXECUTION: Any notice or communication to be given to a party herein may be given to the party or to such party's agent. This offer shall become a binding contract (the "Effective Date") when signed by both Buyer and Seller and such signing is communicated to the offering party. This contract is executed under seal in signed multiple originals, all of which together constitute one and the same instrument, with a signed original being retained by each party and each REALTOR® or broker hereto, and the parties adopt the word "SEAL" beside their signatures below.

Buyer acknowledges having made an on-site personal examination of the Property prior to the making of this offer.

THE NORTH CAROLINA ASSOCIATION OF REALTORS®, INC. AND THE NORTH CAROLINA BAR ASSOCIATION MAKE NO REPRESENTATION AS TO THE LEGAL VALIDITY OR ADEQUACY OF ANY PROVISION OF THIS FORM IN ANY SPECIFIC TRANSACTION. IF YOU DO NOT UNDERSTAND THIS FORM OR FEEL THAT IT DOES NOT PROVIDE FOR YOUR LEGAL NEEDS, YOU SHOULD CONSULT A NORTH CAROLINA REAL ESTATE ATTORNEY BEFORE YOU SIGN IT.

Date: 9-28-04 Date: 9-28-04

Buyer _____ (SEAL) Seller _____ (SEAL)

Date: 9/28/04 Date: 9-28-04

Buyer Jennifer Hoyle (SEAL) Seller L P Mayhew By Audrey Mayhew (SEAL)

Escrow Agent acknowledges receipt of the earnest money and agrees to hold and disburse the same in accordance with the terms hereof.

Date _____ Firm: _____

By: _____
(Signature)

Selling Agent/Firm/Phone _____

Acting as ☐ Buyer's Agent ☐ Seller's (sub)Agent ☐ Dual Agent

Listing Agent/Firm/Phone _____

Acting as ☐ Seller's (sub)Agent ☐ Dual Agent

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ADDITIONAL PROVISIONS ADDENDUM

NOTE: All of the following provisions which are marked with an "X" shall apply to the attached Offer to Purchase and Contract or Vacant Lot Offer to Purchase and Contract ("Contract"). Those provisions marked "N/A" shall not apply.

1. N/A **EXPIRATION OF OFFER:** *This offer shall expire unless acceptance is delivered to Buyer or to* _____ _____, on or before _____ ☐ AM ☐ PM, on _____, or until withdrawn by the Buyer, whichever occurs first.

2. N/A **INTEREST BEARING TRUST ACCOUNT: Any earnest monies deposited by Buyer may be placed in the interest bearing trust account of the Escrow Agent named in the Contract. Any interest earned thereon shall belong to the Escrow Agent in consideration of the expenses incurred by maintaining such account and records associated therewith.**

3. X **SEWER SYSTEM:** This Contract is contingent upon Buyer obtaining an Improvement Permit or written evaluation from the County Health Department ("County") for a (check only **ONE**) ☒ conventional or ☐ other _____ ground absorption sewage system for a 4 bedroom home. All costs and expenses of obtaining such Permit or written evaluation shall be borne by Buyer, except Seller, by no later than 10/15/04, shall be responsible for clearing that portion of the Property required by the County to perform its tests and/or inspections. Buyer shall use Buyer's best efforts to obtain such Permit or written evaluation. If the ground absorption sewage system is not allowed, Buyer may terminate this Contract and the Earnest Money Deposit shall be refunded to Buyer. Buyer waives this condition unless Buyer provides written notice to Seller by 10/22/04 that this condition cannot be satisfied, **time being of the essence.**

4. N/A **FLOOD HAZARD ZONE:** Buyer has been advised that the Property is located in an area which the Secretary of HUD has found to have special flood hazards and that it may be necessary to purchase flood insurance in order to obtain any loan secured by the Property from any federally regulated institution or a loan insured or guaranteed by an agency of the U.S. Government.

5. N/A **APPRAISAL WITH FINANCING CONTINGENCY:** The Property must appraise at a value equal to or exceeding the purchase price or, at the option of Buyer, this Contract may be terminated and all earnest monies shall be refunded to Buyer. The cost of the appraisal shall be borne by Buyer.

6. N/A **APPRAISAL WITHOUT FINANCING CONTINGENCY:** This Contract is not subject to a financing contingency requiring an appraisal. Buyer shall arrange to have the appraisal completed no later than midnight of _____. The Property must appraise at a value equal to or exceeding the purchase price or, at the option of Buyer, this Contract may be terminated and all earnest monies shall be refunded to Buyer. The cost of the appraisal shall be borne by Buyer.

7. N/A **CLOSING OF EXISTING CONTRACT CONTINGENCY:** This Contract is contingent upon closing of an existing contract on the Buyer's real property located at: _____ _____ on or before _____. If this contingency is not removed on or before midnight of _____, Seller may terminate this Contract and all earnest monies shall be returned to Buyer.

This form jointly approved by:
North Carolina Bar Association
North Carolina Association of REALTORS®, Inc.

REALTOR®

EQUAL HOUSING OPPORTUNITY

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Buyer Initials JH RA Seller Initials AM

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8. N/A **RENTAL/INCOME/INVESTMENT PROPERTY:** The Property is subject to existing leases and/or rights of tenants in possession under month-to month tenancies. Seller agrees to deliver to Buyer on or before _____, true and complete copies of all existing leases, rental agreements, outstanding tenant notices, written statements of all oral tenant agreements, statement of all tenant's deposits, uncured defaults by Seller or tenants, and claims made by or to tenants, if any. This Contract is contingent upon buyer's approval of said documents. Buyer shall be deemed to have approved said documents unless written notice to the contrary is delivered to Seller or Seller's agent within seven (7) days of receipt of same. If Buyer does not approve said documents and delivers written notice of rejection within the seven day period, this Contract shall be terminated and all earnest monies shall be returned to Buyer. NOTE: DO NOT USE THIS PROVISION FOR PROPERTY SUBJECT TO THE NORTH CAROLINA VACATION RENTAL ACT. A VACATION RENTAL ADDENDUM SHOULD BE USED IN SUCH CASES.

9. N/A **COST OF REPAIR CONTINGENCY:** If a reasonable estimate of the total cost of repairs required by Paragraph 12(b) and Paragraph 12(c) of the Offer to Purchase and Contract equals or exceeds $ _____, then Buyer shall have the option to terminate this Contract and all earnest monies shall be returned to Buyer.

IN THE EVENT OF A CONFLICT BETWEEN THIS ADDENDUM AND THE OFFER TO PURCHASE AND CONTRACT OR THE VACANT LOT OFFER TO PURCHASE AND CONTRACT, THIS ADDENDUM SHALL CONTROL.

THE NORTH CAROLINA ASSOCIATION OF REALTORS®, INC. AND THE NORTH CAROLINA BAR ASSOCIATION MAKE NO REPRESENTATION AS TO THE LEGAL VALIDITY OR ADEQUACY OF ANY PROVISION OF THIS FORM IN ANY SPECIFIC TRANSACTION. IF YOU DO NOT UNDERSTAND THIS FORM OR FEEL THAT IT DOES NOT PROVIDE FOR YOUR LEGAL NEEDS, YOU SHOULD CONSULT A NORTH CAROLINA REAL ESTATE ATTORNEY BEFORE YOU SIGN IT.

BUYER: arthur B Hayle IV (SEAL) DATE 9-28-04

BUYER: Jennifer Hayle (SEAL) DATE 9/28/04

SELLER: Audrey Mayhew (SEAL) DATE 9-28-04

SELLER: Bob for L P Mayhew (SEAL) DATE 9-28-04

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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 **November 04, 2004**. 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,

Philo S. Walker RS

Philo Walker, R.S.
Authorized Agent - DENR

Encl: (2)

- 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, to the pre-treatment units, shall be fitted with a pressure effluent filter. The filter must be equivalent to the GAG Sim Tech Filter, Boyne City, Michigan, 49712, and telephone: 1-888-999-3290. This device provides a very high degree of filtration and is highly recommended. It is available through Confederate Sales Associates, 8025 Brooknell Terrace, Charlotte, NC 28270, telephone: 704-364-1372.

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 96 feet).
- The lateral distribution lines shall be 1 ¼ inch Schedule 40 PVC. Holes in the laterals should be drilled on site and at the 10 and the 2 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. Utilize (2) 45-degree elbows rather than one 90-degree elbow for each turn up to make future cleaning easier.

Supply Manifold

- 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 (3) 2" x 2" x 1 ¼" tees to the 2 inch supply line (see pressure manifold detail).

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).