

8831 CASA LAKE DR

10514228

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marliwr

Groundwater and Wastewater Services File Imaging Project

May 2007

Barcode Font = IDAutomationHC39M

Pd chk #4513 100.00 Change in plot plan 9/2/99 JC

FEE: _____ **AUTHORIZATION FOR WASTEWATER SYSTEM CONSTRUCTION**
DATE: _____ **VOID SIXTY (60) MONTHS FROM DATE OF ISSUANCE**

DATE: 8-23-99 PERMIT NO: 346A
PARCEL NO: 105-142-28

JOB LOCATION ADDRESS: Casa Lake Drive
PROPERTY OWNER: Jesse Fox
BUILDING CONTRACTOR: _____
SUBDIVISION NAME: _____ Lot #4
AUTHORIZATION ISSUED BY: Larry B. Thompson, Jr., CS DATE: 8-23-99
DEHNR AUTHORIZED AGENT

AUTHORIZATION CONDITIONS

1. WASTEWATER SYSTEM CONSTRUCTION AND INSTALLATION MUST MEET ALL CONDITIONS AND SPECIFICATIONS AS SET FORTH IN IMPROVEMENT PERMIT NO. 346A, 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 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 AUTHORIZATION AND ASSOCIATED PERMIT(S) TO REVOCATION.

4. OTHER CONDITIONS: See Conditions Of The Improvement Permit

OWNER CERTIFICATION

I CERTIFY THAT THERE HAVE BEEN NO ALTERATIONS IN SITE OR SOIL CONDITIONS OR MODIFICATIONS TO FACILITY, WASTEWATER FLOW, OR WASTEWATER CHARACTERISTICS FROM THOSE SPECIFIED IN THE ORIGINAL APPLICATION OR ASSOCIATED IMPROVEMENT PERMIT UNLESS AUTHORIZED IN WRITING BY THE MECKLENBURG COUNTY HEALTH DEPARTMENT. I ALSO UNDERSTAND THAT ANY SUCH ALTERATIONS, MODIFICATIONS, OR FALSE INFORMATION ARE GROUNDS FOR REVOCATION OF PERMITS AND AUTHORIZATION TO CONSTRUCT.

X Jesse Fox 8-23-99
SIGNATURE OF OWNER/OWNER'S REPRESENTATIVE DATE

CONDITIONS OF IMPROVEMENT PERMIT

Permit Number: 346A

Tax Number: 105-142-28

- 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
Type Primary Wastewater System Type (circle one): 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: ___ IWWS-93-1 ___ IWWS-93-2 ___ IWWS-94-1

.15 Long-term acceptance rate	360 Max gallons/day wastewater flow	2400 Absorption Area (sq ft)	5' Trench spacing (min. on centers)
Yes Serviced by private well	1500 Gallon septic tank	480 Total trench length (ft)	24" Maximum trench depth (At least 12" of provisionally suitable soil must remain between trench bottom and unsuitable soil conditions)
3 Bedrooms in residence	1000 Gallon pump tank	12" Depth of stone	

Any surface waters present: Type: Minimum separation distance:

Site modifications required:

Additional Conditions:
- Nemak simplex control panel required
- Lot reclassification form required
- Certified operator is required - maintenance contract needed before operation permit can be issued.

Repair Area System Type Type (circle one): 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: ___ IWWS-93-1 ___ IWWS-93-2 ___ IWWS-94-1

2400 Absorption Area (Sq ft) 480 Total Trench Length (Ft)	12" Depth of Stone Trench	5' Trench spacing (min. on centers)	24" Maximum Trench Depth

For existing system, enter the year originally installed:

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. This approval is granted in accordance with the provisions of Laws and Rules For Sewage, Treatment and Disposal 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.

Larry B Thompson J.E.S. 8-23-99
DEHNR Authorized Agent Date

X Jesse Fox 9-23-99
Owner/Agent Signature Date

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

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

Mecklenburg County
Health Department

Conditions of Improvement Permit

File Number: 346 A
Site Address: Casa Lake Drive Lot 4

1. The permitted system is a Type IVa low-pressure pipe wastewater treatment and disposal system and requires ongoing maintenance. A maintenance contract must be executed between the system owner and a private certified operator before an Operation Permit can be issued. It is a condition of the Operation Permit that a maintenance contract shall be in effect for as long as the system is in use. It is also a requirement that subsequent owners of the system shall execute such a contract.
2. The system will require a single phase, simplex control panel with alarm. The control panel must have a Nema 4x weather proof rating.
3. Septic and pump tanks must be installed in an area that is not subject to vehicular traffic. Final cover over both tanks must be less than 3 feet to prevent the need for State approved reinforced tanks.
4. Drain lines must be installed on contour. Trench bottoms shall be constructed as level as possible but in no case shall the fall in a single trench bottom exceed one-fourth inch in 10 feet.
5. Any changes in the site must be pre-approved by the Mecklenburg County Environmental Health Department.
6. The wastewater treatment and disposal drain field area, including the designated repair areas, shall not be used for any of the following:

    - Grading or filling
    - Parking or driving heavy equipment in the area or subjecting the site to possible soil compaction
    - Construction staging area
    - Installation of lawn irrigation components
    - Installation of underground utilities or cables of any type
    - Burial of any debris or material
    - Utilizing the area for gravesites
    - Diversion of storm water runoff into this area

7. Septic system installer must be registered with Mecklenburg County prior to meeting for the required pre-construction conference.
8. System installer will be required to operate the system at the time of the final inspection. Arrangements must be made to have the pump tank filled with water prior to the requested final inspection. The required pressure heads will be adjusted at the time of the final inspection.
9. The system owner shall have the contents of the septic tank checked, and the contents of the tank removed, periodically from all compartments, to ensure proper operation of the system. The contents of the septic tank shall be pumped whenever the solids level is found to be more than 1/3 of the liquid depth in any compartment.
10. All septic tank riser and effluent filter rules will apply to this system. It is strongly recommended that access risers be added to both ends of the septic tank, extending to at least finish grade. This will allow periodic inspection of the solids level in the tank as well as help facilitate the periodic cleaning of the effluent bio-filter.
11. The local Health Department is required, by the State, to perform system reviews of Type IVa systems at a minimum of once every 3 years. The owner of the system is responsible for paying any inspection fees, as determined by the Board of County Commissioners, at the time of the required inspection.

Owner/Agent Signature X _____ **Date** 9-23-99

PEOPLE • PRIDE • PROGRESS

Environmental Health Division

700 North Tryon Street • Suite 211 • Charlotte, North Carolina 28202-2236

FOR REGISTRATION
REGISTER OF DEEDS
MECKLENBURG COUNTY, NC
1999 SEP 23 10:17 AM
BOOK:10779 PAGE:534-537 FEE:$12.00
INSTRUMENT # 1999171613

STATE OF NORTH CAROLINA

COUNTY OF MECKLENBURG

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

FILE # 346A
PARCEL # 105-142-28+29

The undersigned, Jesse Jay & Carol M., owner of property located at Lots 3 & 4 Casa Lake Drive, (the "site") and described in an instrument recorded in Book 6591+6610 at Page 242 + 993, 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 conditions will apply to the site:

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

This instrument was prepared by: Jesse Fox
Mail after recording to: 8918 Noles Gate Rd
Charlotte NC 28215

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

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Filed For Registration: 09/23/1999 10:17 AM

Book: RE 10779 Page: 534-537

Document No.: 1999171613

PRMIT 4 PGS $12.00

Recorder: SERENA ROSS

****

State of North Carolina, County of Mecklenburg

The foregoing certificate of JUDY JEAN LOVE Notary is certified to be correct. This 23 RD of September 1999

JUDITH A. GIBSON, REGISTER OF DEEDS By: Serena M. Ross
Deputy/Assistant Register of Deeds

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1999171613

File Copy

Plan Not Approved
— Not enough area for this installation
7-15-99

Specifications and Scope of Work

for

INDIVIDUAL RESIDENCE

LOW PRESSURE PIPING

GROUND ABSORPTION, WASTEWATER

DISPOSAL SYSTEM

8-18-99 (revised)
Mr. Fox has agreed to move house to Lot #3 and utilize Lot # 4 for the septic system.

for

JESSE W. FOX
Lots 3 & 4 Cass Lake Drive
Charlotte, (Mecklenburg County), NC 28215

June 14, 1999

File: 346A

Parcel: 105-142-28-29

NORTH CAROLINA PROFESSIONAL SEAL 3370 ENGINEER B. K. BARRINGER, JR.

6/14/99

PREPARED FOR:

Jesse W. Fox
8918 Noles Gate Road
Charlotte, NC 28215
Phone: (704) 536-9491 H
(704) 335-7647 P

PREPARED BY:

B. K. BARRINGER & ASSOCIATES, P.A.
N. C. Registration No. 3370
Suite 104 Westfield Center
125 East Plaza Drive
Mooresville, N. C. 28115
Phone (704) 664-7888
Fax (704) 664-1778

LOW PRESSURE PIPING SYSTEM

DESIGN CONSIDERATIONS AND RECOMMENDATIONS:

The Owner proposes to construct a three-bedroom residence which will be served by an onsite water well 100 feet from the proposed septic system.

Soils investigation by Mecklenburg County Soils Scientist, William Marlin, reveals limited area suitable for a nitrification field.

Due to sloping lot and grade difference, a pump system will be required. Due to limited area, a LPP distribution system is proposed. A 100% repair area has been designated.

Location: The property is located on Cass Lake Drive off Noles Gate Road that turns east off Hood Road at the sharp curve approximately one mile south of Rocky River Church Road.

REFERENCE MATERIAL:

(1) DESIGN AND INSTALLATION (Manual) OF LOW PRESSURE PIPE WASTE WATER TREATMENT SYSTEMS, By: Craig Cogger; Bobby L. Carlisle; Dennis Osborne; Ed Holland; Published by: UNC Sea Grant College Pub. UNC-SC-82-03, May, 1982.

(2) LAWS AND RULES FOR GROUND ABSORPTION SEWAGE DISPOSAL SYSTEMS. SECTION .1900 OF THE N.C. Administrative Code: Title 10 Health Services; Environmental Health; Subchapter 10a; Sanitation. Published by: N.C. Dept. of Human Resources; July 1, 1982.

(3) EPA 625/1-80-012 Design Manual - On-site Wastewater Treatment and Disposal System; Oct.,1980; Chapter 7.

RECOMMENDATIONS:

This area shall be barricaded from any vehicular traffic. There shall be no earth disturbing activities within the designated area.

Laterals will be placed at 5' minimum separation or wider as flagged. The area adjacent to the laterals is available for repair and shall be barricaded from any traffic or disturbance.

OWNERSHIP RESPONSIBILITY FOR A LOW PRESSURE PIPING SYSTEM:

The Owner must enter into a contract with a certified operator to provide system reviews and/or maintenance a minimum of two times per year. The operator and maintenance procedure shall include the steps outlined herein in the Operation and Maintenance procedure.

The Owner shall have the operating agreement before obtaining an improvement permit or otherwise as agreed by the County Health Department.

It must be kept in mind that this system is designed to accept a moderate amount of waste water (which is called the EFFLUENT), in a minimal water absorbing soil.

Conservation measures must be undertaken by all members of the facility to minimize the volume of waste water entering the disposal system, including, but not limited to, the following precautions:

1. Provide water conserving plumbing fixtures within the facility; including toilets with flush volume not exceeding 1.6 gallons/flush.
2. Develop conservative water use habits;

3. Monitor and maintain the system as necessary for proper operation;
4. Check and pump the septic tank sludge on a regular basis or approximately every three years, otherwise as required by the regulations.
5. Make rapid repairs to leaking plumbing fixtures and faucets.
6. Avoid excessive watering of the lawn in the vicinity of the disposal field and prevent the growth of weeds.
7. Check system filters and clean initially after one month of operation, and; thereafter, as determined by the system operator.

CONSTRUCTION SEQUENCE AND COMPONENTS OF THE SYSTEM:

Furnish and install all items required for a complete system in accordance with plans and specifications; for requirements of the County Dept. of Environmental Health (CDEH); the NC Dept. of Environmental Health (NCDEH); the N. C. Building Code, Plumbing Code and Electrical Code; and the National Electric Code. System must be properly installed by a qualified, competent contractor.

COMPONENTS OF SYSTEM:

1. Two compartment septic tank with Biofilter
2. Pumping chamber
3. Submersible effluent pump with filter and level controls
4. High water alarm signals (audible and visible)
5. Supply pipe - Schedule 40
6. Distribution laterals - PR160 (SDR 26) with corrugated plastic sleeve

CONSTRUCTION SEQUENCE

Rule of Thumb: "If soil is too wet to plow, it is too wet to disturb for LPP system construction."

1. Lay out nitrification field network area with stakes and flagging. As soon as the absorption area is designated, it should be flagged, roped off and isolated from construction traffic. This barrier should be maintained until the system is accepted by the Owner. Refer to site plan for the size of absorption area and field locations. The Engineer has located and flagged the laterals as shown on the site plan.
2. Clear site of any and all man-made debris, construction materials, etc. Dispose of legally. Cut all trees that interfere with the nitrification lines flush with the ground. Do not remove any stumps. Consult with Owner before cutting any trees.
3. Prior to actually beginning construction of the system, carefully locate, lay out and identify disposal site, manifolds and the lateral piping networks, using a tripod mounted engineer's leveling instrument to accurately establish each lateral along a level contour. Note: Lateral pipe runs which conflict with cut-off-in-place stumps or trees shall "snake" by with a 12" minimum trench clearance and then continue along its projection run. (A 5' minimum trench separation must be maintained centerline to centerline.)
4. Force Main and Manifold: The force main and manifolds from the pump tank to the laterals shall be Schedule 40 PVC sized as shown on the plans. Minimum bury depth shall be 30". All fittings and connections shall be as detailed. All valves within this piping system shall

be True Union PVC ball valves capable of sustaining the working pressure and imposed loads. Each valve shall be accessible through a properly sized valve box brought flush with the ground surface.

5. True Union Swing Check Valves: All check valves shall be True Union design manufactured from Clear PVC Type I, Cell Class 16453. Valve shall be specifically designed to be disassembled by unscrewing the nuts in line leaving the tail pieces attached to the associated piping providing for cleaning of the check mechanism or replacement of the valve body. Valve shall be full-bore design and shall not restrict flow. Check valves shall contain no metallic components to insure corrosion resistance. Check valve flapper shall be weighted to allow either vertical or horizontal installation. Flapper shall be shielded to withstand back pressure to 125 psi. All valves shall be warranted against defects in material and workmanship for a period of one year. Check valves shall be swing check valves meeting requirements of ASTM - D1784 as supplied by Flo Control, Inc., Burbank, CA, 91510, Telephone 1-(800) 423-2741.

6. Distribution Laterals: Prior to installation of PVC, force main, manifold and lateral piping, fabricate 1¼" diameter PR-160 lateral piping with orifices (holes) at scheduled locations along the top of the pipe. (See chart for size and spacing.) LPP lateral shall be 1-1/4" diameter PR 160 PVC pipe encased in 4" diameter corrugated plastic tubing and shall be certified as complying with applicable ASTM standards. The corrugated tubing shall have three rows of holes, each hole between 1/2" and 3/4" in diameter, and spaced longitudinally approximately 4" on centers. The rows of holes may be equally spaced 120° on centers around the periphery, or three rows may be located in the lower portion of the tubing, the outside rows being approximately on 120° centers.

   Nitrification trench shall be constructed as level as possible, but in no case shall the fall in a single trench bottom exceed 1/4" in 10' as determined by an Engineer's level. The nitrification trench shall not exceed a width of 18" and be 24" deep, except as approved by the County Health Dept.

   Rock used in nitrification trench shall be clean, washed gravel or crushed stone and graded or sized between 3/8" to 1" The rock shall be placed a minimum of 12" deep with at least 6" between the pipe and the trench bottom and 2" over the pipe, and distributed uniformly across the trench bottom and over the pipe.

7. All joints in lateral and the manifold piping shall be water tight connections to ensure that the only source of the water seepage from the system is through the orifices as designed. See layout, details, and data sheet. Carefully install pressure piping and lateral network according to the attached designed layout using care to insure that holes shall be located at required intervals and as shown on the "typical section through the lateral trench." A larger diameter protective sleeve with cap or approved valve box with lid shall be placed over the turned up lateral and positioned level with the ground surface (so as not to be damaged by mowing machine). The lateral shall be positioned for easy removal of the end cap for flushing.

8. Leave absorption area with a raked surface, ready for grassing.

9. Carefully backfill manifold trenches to finish grade with clean debris free earth (no stone).

10. The septic tank shall consist of a ~~1,000~~ 1500 gallon capacity, reinforced, precast concrete tank with full baffle and shall have easy access to each chamber from ground level for checking and pumping. The first chamber of the septic tank shall consist ⅔ to ¾ of the volume of

the total tank and the baffle shall contain a horizontal opening across the tank at about midway its height. The outlet of the tank shall have a effluent filter as called for herein. Locate the septic tank at such height as to provide approximately 8" of cover soil over top of the tank. Provide an approved access port over the effluent filter.

The riser shall be furnished by the tank manufacturer and shall be placed as called for on the plans and shall extend a minimum of 6" above finish grade.

Contractor shall refer to plans and site conditions to address loading of the tank and / or riser by vehicular traffic. If tanks are located in traffic area, access to septic tank shall be through 24" cast iron manhole frame and cover. Ground surface shall be graded to divert surface water away from the access ports.

Tank and riser shall conform to paragraph .1952 of the regulations.

11. Effluent Filter: Install in lieu of the outlet tee of this septic tank a effluent filter equal to Zabel Model A300 with 1/32" openings or approved equal. Address follows for Zabel Environmental Technology, 10409 Watterson Trail, Louisville, KY, 40299, 1-800-221-5742, 502-267-8801 Fax.

12. The dosing tank shall consist of a 1,000 gallon capacity, reinforced, precast concrete tank without baffle. Provide access for entry into the tank directly over the pump location, and extending 6" above final grade. The tank shall be supplied by a manufacturer approved by DHS and bear the manufacturer's serial number. Use 30" diameter approved concrete or corrugated plastic, access riser with bolted on or lockable lid extending a minimum of 6" above grade. In addition to the pump, the tank shall have a pressure filter with float controls and alarm floats as detailed. If located in a traffic area, the tank and lid shall meet H20 loading requirements.

13. Force Main and Manifold shall be Schedule 40 PVC sized as shown on the plans. All lateral piping shall be PR160 PVC. (SDR26) Glue for all PVC pipe joints shall be as recommended by the pipe manufacturer.

14. Pump: The submerged pump shall be Zoeller Model 293, as manufactured by Zoeller Pump Company, Louisville, Kentucky, 1/2 hp, 230v/1 phase, capable of pumping 36.04 gallons per minute at a 24.65 feet of head.

15. Pump On-Off: Water level control switch shall be Zoeller Switch-Mate Piggyback, or approved equal, mechanical tilt switch properly sized and with adequate cord.

16. High Water Alarm Switch shall be equal to Zoeller Switch-Mate, or approved equal, mechanical tilt switch, red colored ball with support bracket and with adequate cord.

17. Controls: Controls shall be mounted in the pump tank beside the pump and accessible from the riser. All control floats shall be mounted on a "Float Tree" constructed of 1-1/2" diameter PVC pipe and anchored by a concrete base sized to support the pipe with float switch strapped to a 2" pipe sleeve sliding over the 1-1/2" diameter pipe. The lower level control or "pump-off" must be positioned above the pump, so that the pump remains submerged at all times. The upper level control "pump-on" is positioned to pump a specified volume of effluent. The high water control float is then mounted about 3" above the upper pump-on control. (Note: Care must be taken to insure that floats do not become fouled by other components in the tank such as the electric power cord or the lifting rope.)

18. A Warning Sign shall be located within the facility to inform the owner of what action to take in case the "High Water Alarm" is activated. This sign shall contain the name, address, telephone number, and emergency telephone number of the person to contract immediately upon malfunction of the system.

19. Pump and Controls: Details of pump installation are shown on the plan. The pump shall be elevated off the bottom of the tank by placement on two concrete blocks next to each other on the bottom of the tank. This prevents the pumping of any solid particles which can clog the system. 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. (The PVC outlet pipe is too fragile to support the pump.)

20. Effluent Filter: An effluent filter shall be placed in the pump tank connected directly to the pump discharge. The filter shall be equal to the GAG Sim/Tech filter and shall include the following component STF 101 Filter, STF 101 Pressure Alarm Switch, STF 102 Filter Screen, STF 102 Lid/Screen Removal Wrench, STF 103A Screen Removal Tool, STF104 Sock, STF 107 Tank Alert XT with Latching Light. The contractor shall demonstrate that filter screens function as intended and are serviceable. The pressure alarm switch shall be wired to the high water alarm. The filter is available through Zoeller Pump Representative, Confederate Sales, 704/ 542-7096.

    The pump outlet pipe filter should be connected to the supply manifold with a threaded PVC union (or dresser coupling) to allow quick removal. The valve must also be installed in the supply line (within the pump chamber) to allow final adjustment of the pressure. If effluent will be pumped down hill, a 1/4" siphon-breaker hole must be drilled in the bottom of the supply line before it leaves the pump tank. This breaks any vacuum in the system and prevents the inadvertent siphoning of effluent out of the tank. This hole is very important.

21. Electrical Connections: The pump and high water alarm must be placed on separate electrical circuits. (If the pump circuit fails, the alarm must still be able to operate.) Follow the manufacturers' recommendations for the proper fuses or circuit breakers. All electrical connections must be made outside the pumping chamber. Power cords from the pumps and controls should enter into a NEMA-4X approved outdoor pump control / alarm panel mounted outside of the pumping chamber.

    Wiring between the pumping chamber and the facility should meet State and local code requirements. A lightning arrester is recommended to protect the pump and controls from electrical surges.

22. Proper Operation Check: After all components have been installed and connected, the system should be checked for proper operation. With electrical power turned off, fill the pumping chamber with water from a garden hose (or allow effluent to accumulate) until the liquid rises to the level of the high-water alarm float. Turn on the electrical power. The alarm light should go on in the facility, and the pump should start operating. 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.

23. Pressure Head Adjustment: The pressure head must be adjusted to match that specified in the design. The pressure head is measured as the height liquid will rise above the turn-up elbow when the pump is running. To adjust the head:

(a) Glue a 4' length of pipe (preferably clear) to a threaded adapter that will screw onto the turn-up adapters. (Call this the "test tube").

(b) Replace the turn-up cap with the "test tube".

(c) Turn the power on to allow liquid to rise in the "test tube".

(d) Adjust the valves at the manifolds and/or in the pumping tank until the effluent reaches the desired height in the"test tube". Remember to include the distance below the ground surface to the lateral line when measuring the height. Refer to the flow calculation chart relative pressure head (h) for each line. This is the height above the lateral liquid should be in the temporary "test tube".

24. Final Landscaping: After the LPP is installed, the following should be checked to insure that the system will not be overloaded with excess rain water and run off:

    a. The distribution field is shaped to shed rain water and is free of low area.

    b. Curtain drains, grassy swales or ditches for diverting ground and surface water are properly installed.

    c. Gutter and downspout drains are directed away from the system.

25. Any problems should be corrected before approving the system.

26. Finally, the entire area should be planted with grass according to specifications.

OPERATION AND MAINTENANCE PROCEDURE:

The system is classified as a Type IV. The Regulations require that the system be operated by a person certified by the N.C. Department of Environmental Health to operate this type of system.

Operating, Maintenance and Inspection procedures shall be submitted to the County Health Department for approval. Procedures shall include but not be limited to the following:

- Minimum inspection/maintenance frequency shall be 2 times/year, with reporting frequency of 1 time/year to the local Health Department.
- Septic system shall be pumped every 4 years or when solids accumulate to ⅓ the volume of the tank.
- On a scheduled basis, clean and inspect Biofilter in the septic tank and the sock filter in the pump tank. When washing the filter, debris must be sprayed directly back into the septic tank and not onto the lawn.
- The LPP system should be observed by the regulatory agency one, three, six and nine months after initial installation, and then every 3 years. An inspection report should be completed and filed each time the system is checked.
- All laterals shall be pressure flushed annually with clean water.
- Pressure head for laterals should be checked and adjusted one month after installation and annually thereafter.
- All piping, fittings turn-ups and valve boxes shall be checked annually for damage and/or proper operation and corrections made immediately.

- The property should be inspected to insure all surface water is deflected away from the fields and tank. Any ponding of surface water should be corrected.
- Grasses shall be mowed and maintained and any erosion shall be corrected 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 twice a year.
- Check septic tank and pump tank for evidence of damage or leakage. Check the quality of effluent including grease and sludge accumulation.

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

DESIGN SPECIFICATIONS - LOW PRESSURE PIPING SYSTEM

Jesse W. Fox
Lots 3 & 4 Cass Lake Drive
Charlotte, NC 28215
June 14, 1999

Daily design waste flow:	360 gpd
Septic tank size:	~~1,000~~ 1500 gal. (2 compartment)
Pumping tank size:	1,000 gal.
Effluent Filters (2):	Effluent Filter Zabel A300 w/ 1/32" openings in septic tank and GAG Sim/Tech Filter at dosing pump.
Effluent loading rate:	0.15 gpd/sf
Total absorption areas:	2,400 sf active; 2,400 sf repair
Number and length of laterals:	10 laterals @ 48' = 480 LF of 1¼" dia. PR160 PVC inside 4" corrugated perforated pipe
Force Main	2" diameter SCH 40 - 130'
Total length and diameter of supply manifold:	70' lf - 2" dia. SCH 40 PVC
Manifold placement:	See plan
Hole size:	5/32"
Hole spacing:	Varies, see chart
Total number of holes:	76
Flow rate through the system:	36.04 gpm
Elevation head (pump to end of manifold):	18.75'
Pressure head:	2.0'
Friction head:	3.9'
Total head:	24.65'
Pump requirements:	36.04 gpm @ at 24.65', use Zoeller Model 293, 1/2 hp, 230v/1ph
Dosing volume:	237 gal.
Depth of water pumped per dose:	9.3"
Pump run per dose:	6.6 min.
Check valve:	yes
Syphon break hole:	yes

SEEDING SPECIFICATIONS

SLOPES 3:1 or FLATTER

1. Apply agricultural lime at the rate of 90 lb/1000 sf.
2. Apply 10-10-10 commercial fertilizer at the rate of 20 lb/1000 sf.
3. Seed in accordance with the following schedule and application rate:

DATE	TYPE	PLANTING RATE
Aug 15 - Nov 1	Tall Fescue	200 lb/ac or 7 lb/1000 sf
Nov 1 - Mar 1*	Tall Fescue and	200 lb/ac or 7 lb/1000 sf
	Abruzzi Rye	25 lb/ac or ½ lb/1000 sf
Mar 1 - Apr 15	Tall Fescue	200 lb/ac or 7 lb/1000 sf
Apr 15 - Jul 30	Hulled Common or Bermuda	30 lb/ac or 1 lb/1000 sf
Jul 15 - Aug 15	Tall Fescue and	200 lb/ac or 7 lb/1000 sf
	Brown Millet or	35 lb/ac or ⅞ lb/1000 sf
	Sorghum-Sudan Hybrids	30 lb/ac or ¾ lb/1000 sf

4. Mulch with straw applied at the rate of 75-100 lb/1000 sf.

* Heavily mulched during January - March period.

SLOPES GREATER THAN 3:1 TO 2:1

1. Apply agricultural lime at the rate of 90 lb/1000 sf.
2. Apply 10-10-10 commercial fertilizer at the rate of 20 lb/1000 sf.
3. Seed in accordance with the following schedule and application rate.

DATE	TYPE	PLANTING RATE
Mar 1 - Jun 1	Sericea Lespediza (scarified) &	50 lb/ac or 11 lb/1000 sf
Mar - Apr	Add Tall Fescue or	150 lb/ac or 3½ lb/1000 sf
Mar - Jun	Add Weeping Lovegrass	5 lb/ac or ⅛ lb/1000 sf
Jun - Sep 1**	Tall Fescue and	60 lb/ac or 1½ lb/1000 sf
	Brown Top Millet	35 lb/ac or ⅞ lb/1000 sf
	Sorghum Sudan Hybrids	30 lb/ac or ¾ lb/1000 sf
Sep - Mar 1	Sericea Lespediza (unhulled-unscarified)	70 lb/ac or 1¾ lb/1000 sf
	Tall Fescue	150 lb/ac or 3½ lb/1000 sf
	Millet or Sudan	20 lb/ac or ½ lb/1000 sf

** Temporary - Reseed September 1 at recommended rates.

4. Mulch with 3" straw applied at the rate of 50-90 lb/1000 sf and anchor with asphalt emulsion tack coat applied at the rate of 5-7 gal/1000 sf or 200-300 gal/ac.

JESSE FOX LOT 3 & 4 GLASS LAKE RD 6-14-99

MECK CO NC

SEPTIC & PUMP TANK 1000 GAL EACH

LTAR 0.36/SF/D (HALF FOR LPP OR 0.15 G/D/SF

3 BED ROOM RES DESIGN FLOW 360 GPD

$\frac{360\ G/D}{0.15\ G/D/SF} = 2400\ SF / 5' = 480\ LF$

USE 10 LINES @ 48' EACH W/ MANIFOLD @ END

FLOW IN SYSTEM (SEE CHART) = 36.04 GPM

ELEV HEAD: 111.75 - 93 = 18.75 FT

OPERATING HEAD 2.0

2" ϕ FRICTION: $130\ LF \left(\frac{2.5}{100}\right) 1.2$ 3.9

TDH 24.65 FT

PUMP REQ: 36.04 GPM @ 24.65 FT HEAD

USE: ZOELLER 293 ½ HP PUMP

DOSE VOL: LATERALS: $(10 \times 48)\left(\frac{9.0}{100}\right)(5\ TIMES) = 216$ GAL

2" SUPPLY: $130\ LF \left(\frac{16.2}{100}\right)$ 21.0

DOSE VOL = 237 GAL

DRAW DOWN: / DOSE

$\frac{60" \times 98" \times 1"}{1728\ CI/CF} \times 7.48\ G/CF$ 25.45 GAL/IN

$\frac{237\ GAL}{25.45\ G/in} = 9.3"$ DRAWDOWN

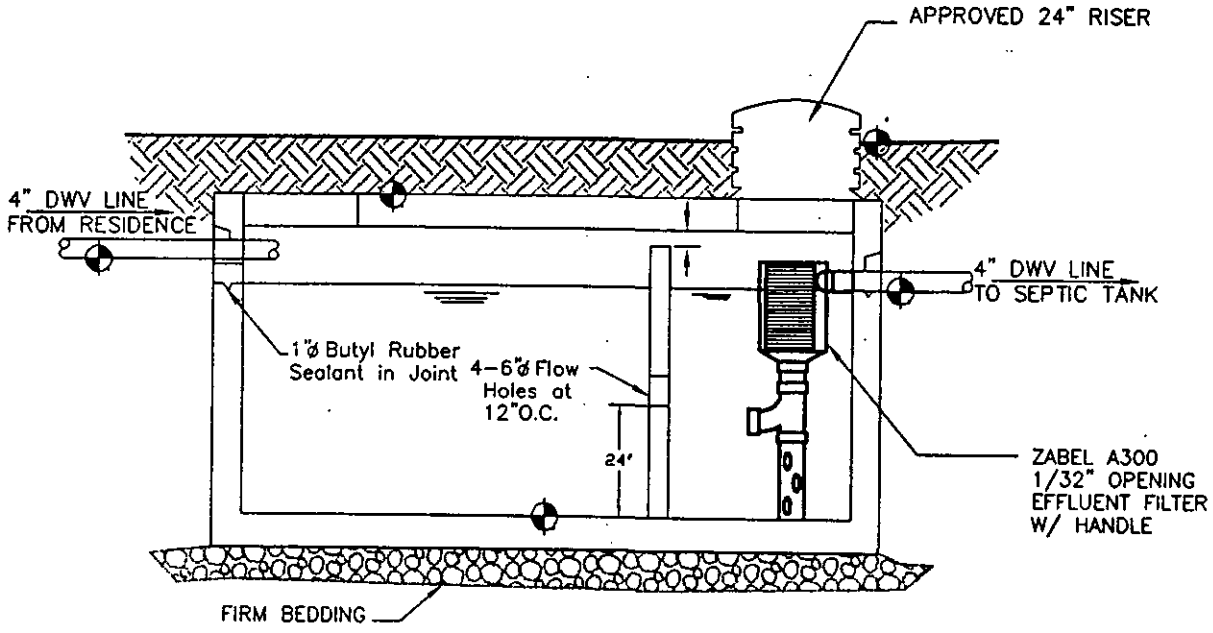
PUMP RUN: $\frac{237\ GAL}{36.04\ GPM} = 6.6$ MIN

ANTI SIPHON HOLE + CHECK VALVE

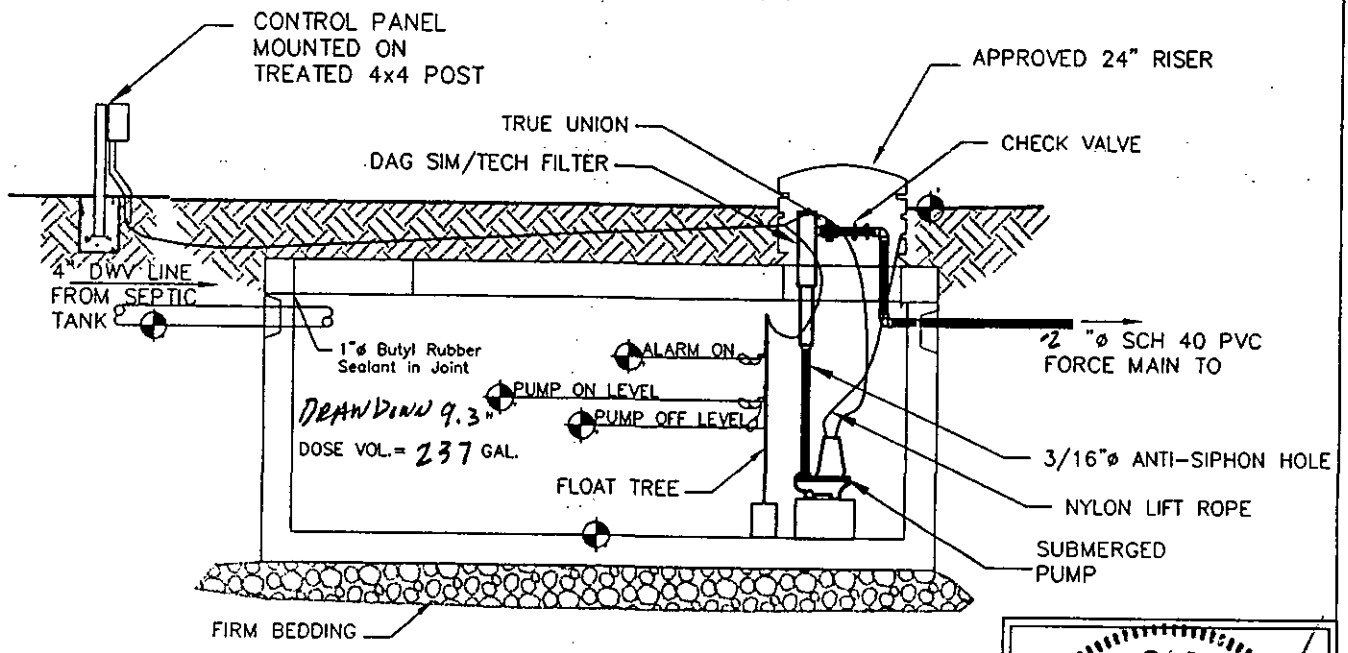
LOT 3 & 4 CASS LAKE DR JESSE FOX 6-14-99
CHARLOTTE NC

LATERAL	LENGTH	ELEV	REL HEAD (PSI)	ORFICE	GPM/ ORFICE	NO OF ORFICES	GPM/ LINE	ORFICE SPACING	DIST FROM MAN. TO 1ST HOLE	DIST FROM CO TO LAST HOLE
A	48'	107.0	4.5	5/32"	0.61	6	3.66	9'-0"	1'-0"	2'-0"
B		107.5	4.0		0.57	6	3.42	9'-0"	2'-6"	0'-6"
C		109.0	2.5		0.46	8	3.68	6'-6"	1'-3"	1'-3"
D		109.25	2.25		0.43	9	3.87	5'-0"	3'-0"	5'-0"
E		109.5	2.0		0.41	9	3.69	5'-0"	5'-0"	3'-0"
F		109.5	4.25		0.59	6	3.54	9'-0"	1'-0"	2'-0"
G		110.5	3.25		0.52	6	3.12	9'-0"	2'-6"	0'-6"
H		111.25	2.5		0.46	8	3.68	6'-6"	1'-3"	1'-3"
I		111.75	2.0		0.41	9	3.69	5'-0"	5'-0"	3'-0"
J		111.75	2.0		0.41	9	3.69	5'-0"	3'-0"	5'-0"

76 HOLES 36.04GPM



1/U1 SECTION VIEW- DEH APPROVED 1000 GAL SEPTIC TANK
N.T.S.



2/U1 SECTION VIEW- DEH APPROVED 1000 GAL PUMP TANK
N.T.S.

NORTH CAROLINA PROFESSIONAL SEAL 3370 ENGINEER B. K. BARRINGER, JR.

Publication or reuse of this drawing must be with the written consent of the Architect/ Engineer

SCALE:	JESSE FOX	B.K. BARRINGER & ASSOCIATES, P.A.	REVISIONS
DATE: / /	1000 GAL SEPTIC TANK &	ARCHITECTURE/PLANNING/ENGINEERING	
DRAWN BY: JSI	1000 GAL PUMP TANK	SUITE 104 WESTFIELD CENTER	
CHK'D. BY: BKB	Co., North Carolina	125 EAST PLAZA DRIVE	
DATE OF ISSUE: 6-14-99		MOORESVILLE, NC 28115	
		PH:704-664-7888 FAX:664-1778	

Publication or reuse of this drawing must be with the written consent of the Architect/ Engineer

SCALE:	
DATE:	/ /
DRAWN BY:	JSI
CHK'D. BY:	BKB
DATE OF ISSUE:	6-14-99

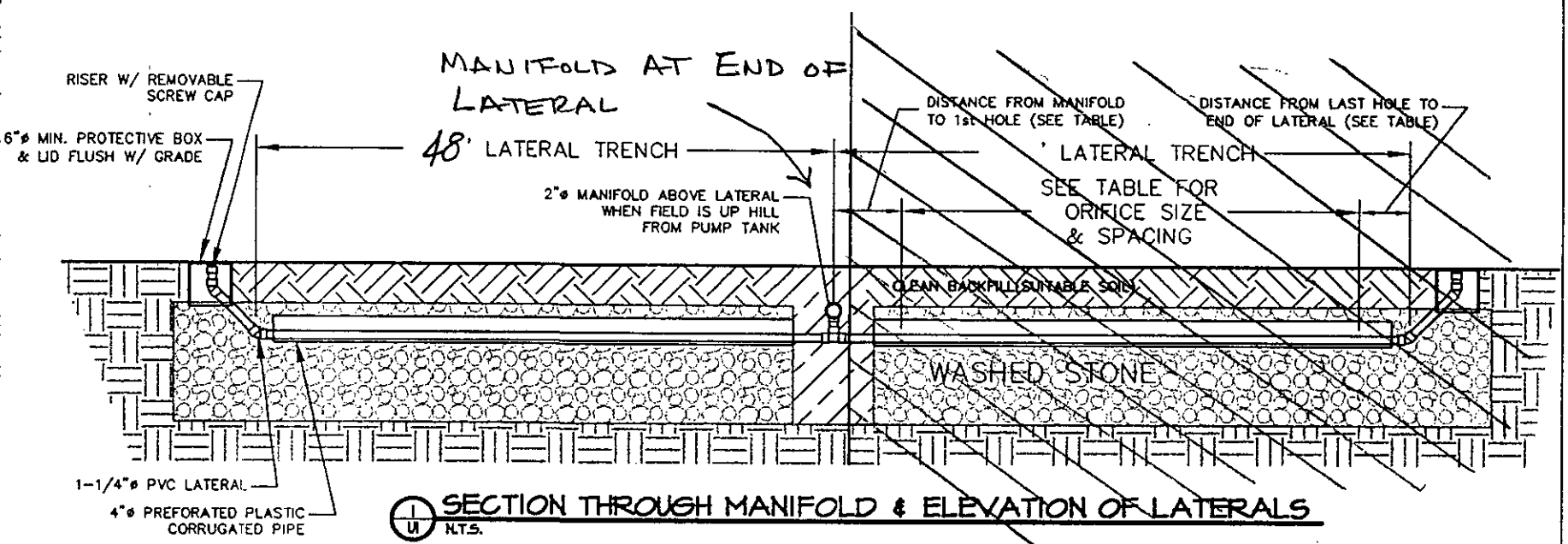
LPP FIELD DETAILS

JESSE FOX

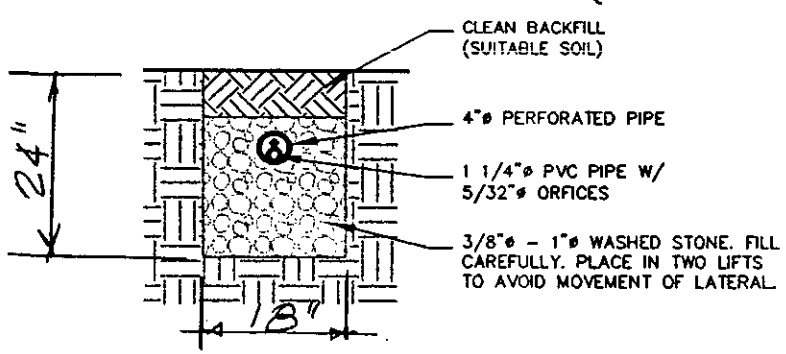
MECK Co., North Carolina

B.K. BARRINGER & ASSOCIATES, P.A.
ARCHITECTURE/PLANNING/ENGINEERING
SUITE 104 WESTFIELD CENTER
125 EAST PLAZA DRIVE
MOORESVILLE, NC 28115
PH:704-664-7888 FAX:664-1778

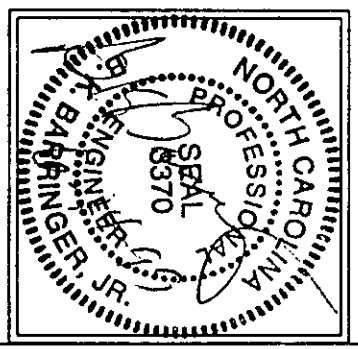
REVISIONS

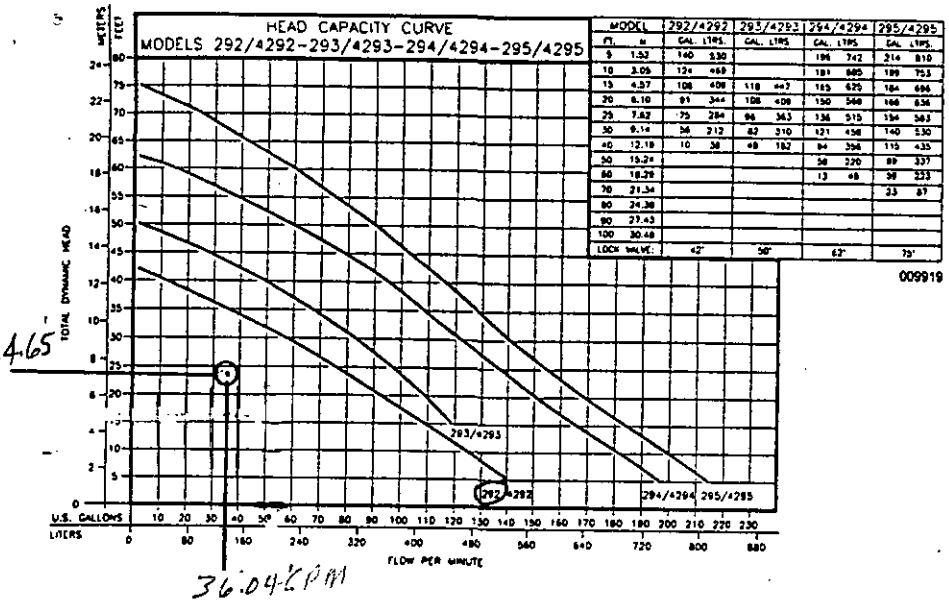


1/U1 SECTION THROUGH MANIFOLD & ELEVATION OF LATERALS
N.T.S.



2/U1 SECTION THROUGH LATERAL TRENCH
N.T.S.

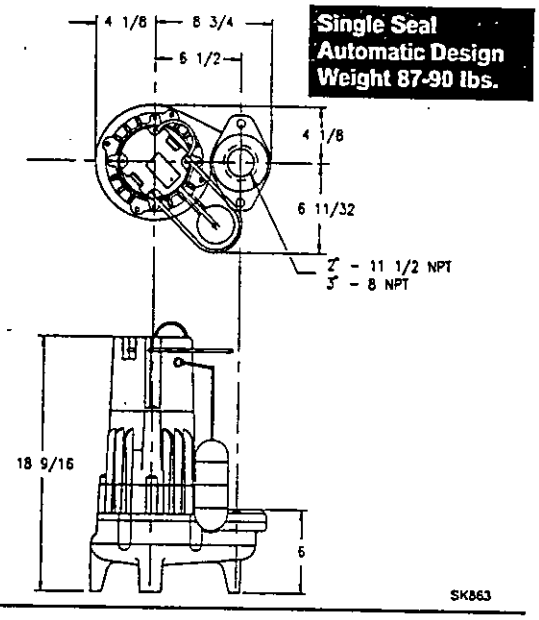




MODEL	292/4292		293/4293		294/4294		295/4295	
FT.	M	GAL. LTRS.		GAL. LTRS.		GAL. LTRS.		GAL. LTRS.
5	1.52	140	530			196	742	214	810
10	3.05	124	469			181	685	199	753
15	4.57	108	409	118	447	165	625	184	696
20	6.10	91	344	108	409	150	568	166	628
25	7.62	75	284	96	363	136	515	154	583
30	9.14	56	212	82	310	121	458	140	530
40	12.19	10	38	48	182	84	318	115	435
50	15.24					58	220	89	337
60	18.29					13	49	59	223
70	21.34							23	87
80	24.38								
90	27.43								
100	30.48								
LOCK VALVE:		42'		56'		63'		75'	

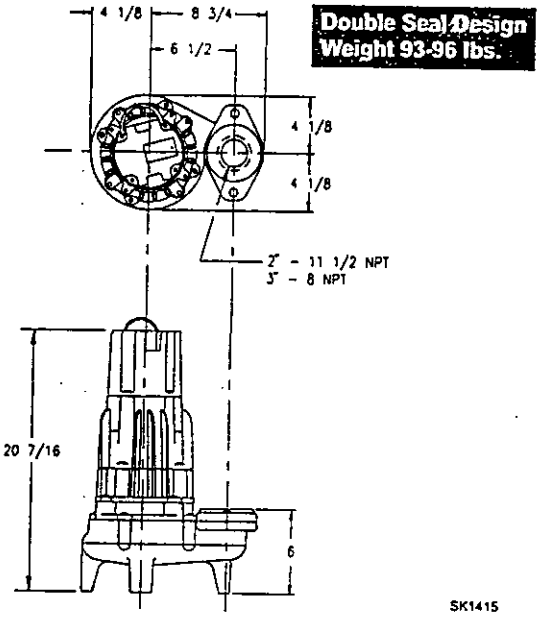
009919

⚠ CAUTION **Model 293 should not be subjected to less than 15 feet TDH.**



Single Seal Automatic Design Weight 87-90 lbs.

SK863



Double Seal Design Weight 93-96 lbs.

SK1415

Standard all models - 20 ft. cord - ½ H.P.

292 MODELS	4292 MODELS	Control Selection						Listings	
Single Seal	Double Seal	Volts -	Ph	Mode	Amps	Simplex	Duplex	CSA	UL
M292	—	115	1	Auto	15.0	1 or 1 & 9		Y	Y
→ N292	N4292	115	1	Non	15.0	2 & 8	3 or 5 & 6	Y	Y[1]

Standard all models - 20 ft. cord - 1 H.P.

293 MODELS	4293 MODELS	Control Selection						Listings	
Single Seal	Double Seal	Volts -	Ph	Mode	Amps	Simplex	Duplex	CSA	UL
D293	—	230	1	Auto	10.2	1 or 1 & 9		Y	Y
E293	E4293	230	1	Non	10.2	2 or 2 & 8	3 or 5 & 6	Y[2]	Y
* H293	—	200-208	1	Auto	12.0	1 or 1 & 9		Y	N
* I293	* I4293	200-208	1	Non	12.0	2 & 8	3 or 5 & 6	Y	N
* F293	* F4293	230	3	Non	7.6	2 & 4	3 & 4 or 5 & 6	Y	Y
* J293	* J4293	200-208	3	Non	8.2	2 & 4	3 & 4 or 5 & 6	Y	Y
* G293	* G4293	460	3	Non	4.0	2 & 4	3 & 4 or 5 & 6	Y	Y
* BA293	—	575	3	Non	3.3	2 & 4	3 & 4 or 5 & 6	N	N

Standard all models - 20 ft. cord - 1½ H.P.

294 MODELS	4294 MODELS	Control Selection						Listings	
Single Seal	Double Seal	Volts -	Ph	Mode	Amps	Simplex	Duplex	CSA	UL
D294	—	230	1	Auto	13.7	1 or 1 & 9		Y	Y[1]
E294	E4294	230	1	Non	13.7	2 or 2 & 8	3 or 5 & 6	Y[2]	Y[1]
* H294	—	200-208	1	Auto	16.5	1 or 1 & 9		N	N
* I294	* I4294	200-208	1	Non	16.5	2 & 7	3 or 5 & 6	N	N
* F294	* F4294	230	3	Non	9.5	2 & 4	3 & 4 or 5 & 6	Y	Y
* J294	* J4294	200-208	3	Non	10.8	2 & 4	3 & 4 or 5 & 6	Y	Y
* G294	* G4294	460	3	Non	4.8	2 & 4	3 & 4 or 5 & 6	Y	Y
* BA294	—	575	3	Non	3.8	2 & 4	3 & 4 or 5 & 6	Y	N

Standard all models - 20 ft. cord - 2 H.P.

295 MODELS	4295 MODELS	Control Selection						Listings	
Single Seal	Double Seal	Volts -	Ph	Mode	Amps	Simplex	Duplex	CSA	UL
D295	—	230	1	Auto	16.6	1 or 1 & 9		N	Y
E295	E4295	230	1	Non	16.6	2 & 7	3 or 5 & 6	Y[2]	Y
WD295	—	230	1	Auto	16.6			N	N
* H295	—	200-208	1	Auto	20.5	1 or 1 & 9		N	N
* I295	* I4295	200-208	1	Non	20.5	2 & 7	3 or 5 & 6	N	N
* F295	* F4295	230	3	Non	12.2	2 & 4	3 & 4 or 5 & 6	Y	Y
* J295	* J4295	200-208	3	Non	13.6	2 & 4	3 & 4 or 5 & 6	Y	Y
* G295	* G4295	460	3	Non	6.1	2 & 4	3 & 4 or 5 & 6	Y	Y
* BA295	—	575	3	Non	4.9	2 & 4	3 & 4 or 5 & 6	Y	N

* No Molded Plug

[1] UL listed unit available with 20 Amp plug.

[2] CSA Approval without plug cap.

SELECTION GUIDE

1. Integral float operated mechanical switch, no external control required.
2. Single piggyback wide angle variable level float switch or double piggyback variable level float switch. Refer to FM0477.
3. Mechanical alternator "M-Pak" 10-0072 or 10-0075.
4. Simplex control panel. Refer to FM1228.
5. See FM0712, for correct model of Electrical Alternator.
6. Variable level control switch 10-0225 used as a control activator, with electrical alternator duplex (3) or (4) float system.
7. SIMPLEX CONTROL BOX 10-0050, 115/230V, 1 Ph. max. 2 HP uses: One (1) single piggyback wide angle variable level float switch or two (2) 10-0225 control switches for level control.
8. 4 hole "J-Box", junction box, for watertight connection or wired-in simplex or duplex operation.
9. 2 hole "J-Box", junction box, for watertight connection or splice.

⚠ CAUTION

All installation of controls, protection devices and wiring should be done by a qualified licensed electrician. All electrical and safety codes should be followed including the most recent National Electric Code (NEC) and the Occupational Safety and Health Act (OSHA).

For information on additional Zoeller products refer to catalog on Simplex controls, FM1596; Piggyback Variable Level Switches, FM0477; Electrical Alternator, FM0486; Mechanical Alternator, FM0495; Sump/Sewage Basins, FM0487; and Simplex Control Box, FM0732; Rail Systems, FM0787; and Junction Boxes, FM1597.

RESERVE POWERED DESIGN

For unusual conditions a reserve safety factor is engineered into the design of every Zoeller pump.

Fox

SECTION: 2.30.050
FM0450
0298
Supersedes
0897

"Quality Pumps Since 1939"

Product information presented here reflects conditions at time of publication. Consult factory regarding discrepancies or inconsistencies.

http://www.zoeller.com

Zoeller® Pump Co.

MAIL TO: P.O. BOX 16347 • Louisville. KY 40256-0347
SHIP TO: 3649 Cane Run Road • Louisville, KY 40211-1961
(502) 778-2731 • 1 (800) 928-PUMP • FAX (502) 774-3624

COMPARE THESE FEATURES

- Non-clogging vortex impeller design bronze class 84-8-0-4.
- Durable cast construction. Cast iron switch case, base, motor and pump housing. No sheet metal parts to rust or corrode. All cast iron class 25-30 25000# tensile strength.
- Stainless steel screws, bolts, float rod, handle guard, arm and seal assembly.
- 20 foot UL listed 3-wire neoprene cord and plug. Extra cords lengths available in 25-35-50' length only.
- 3-phase models available. (292, 115V, 1PH only)
- Motor - 60 cycle, 3450 RPM, oil filled, hermetically sealed, automatic reset thermal overload protected (1 PH only).
- Maximum temperature for sewage or dewatering 130° F (54° C), 120° F (49° C) for WD295. If over 130° F. consult factory.
- Shaft Seal - Stainless steel carbon & ceramic rotary.
- Upper sleeve bearing and lower ball bearing running in bath of oil.
- Square Ring & Gasket - Neoprene.
- All models pass 2" solids (sphere).
- Major width 12 7/8". Height 18 9/16". (Single seal pumps)
- Automatic units available with float operated, submersible (NEMA 6) 2-pole mechanical switch. On point 14 ¾" - Off point 5".
- Specify 2" or 3" NPT female flanged vertical discharge.
- 100% computerized testing.

MODELS 4292-4293-4294-4295 DOUBLE SEAL PUMPS (nonauto only)

- Protects motor from seal leaks.
- Improved bearing lubrication.
- Helps eliminate seal and bearing damage from dry runs.
- Major width 12 7/8". Height 20 7/16".

Note: The sizing of effluent systems normally requires variable level float(s) controls and properly sized basins to achieve required pumping cycles.

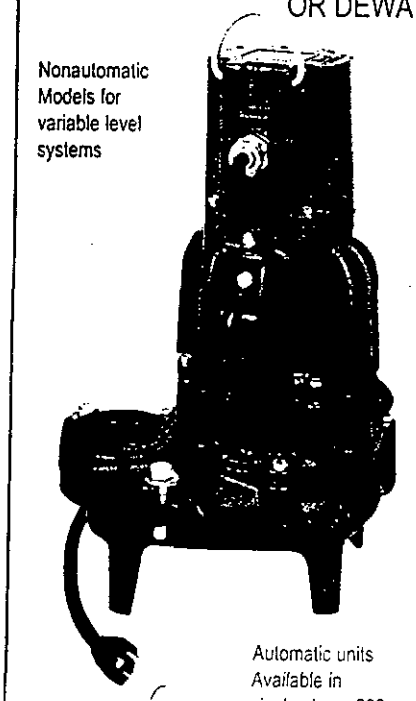
292 - 293 - 294 - 295 Single Seal Series
4292 - 4293 - 4294 - 4295 Double Seal Series

(For Pump Prefix Identification see News & Views 0052)

HIGH HEAD "WASTE-MATE"

SUBMERSIBLE
SEWAGE
OR DEWATERING PUMP

SSPMA MEMBER
Sump and Sewage Pump Mfrs. Assn



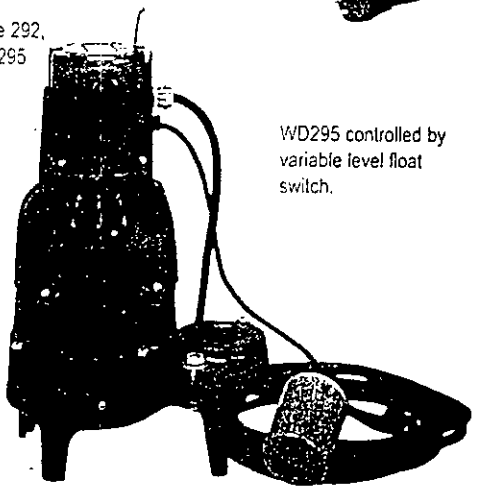
Nonautomatic Models for variable level systems



Double Seal Pump

Automatic units Available in single phase 292, 293, 294 & 295 Series

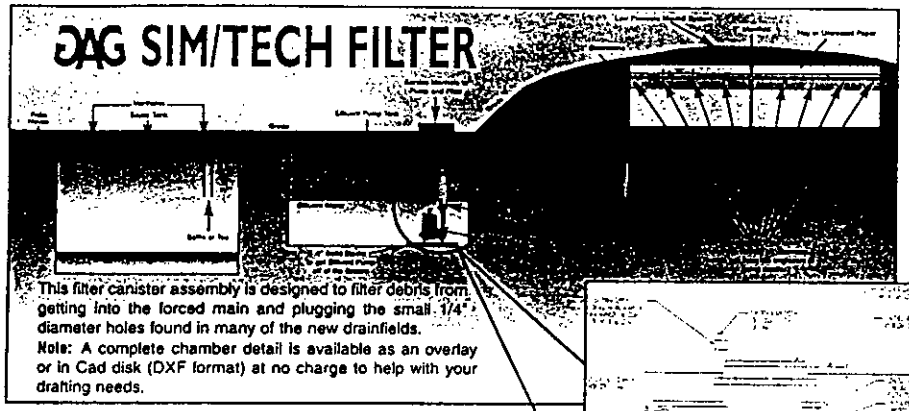




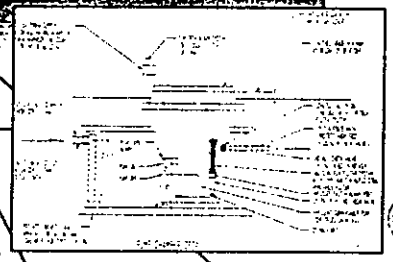
WD295 controlled by variable level float switch.

*See back page For UL & CSA Listings

Protect *Your Pressure System*



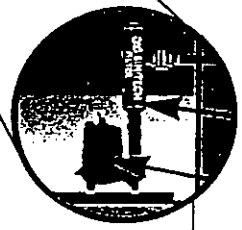
This filter canister assembly is designed to filter debris from getting into the forced main and plugging the small 1/4" diameter holes found in many of the new drainfields.
Note: A complete chamber detail is available as an overlay or in Cad disk (DXF format) at no charge to help with your drafting needs.





The GAG Sim/Tech Filter is unique to the industry, engineered to provide maximum protection for your sanitary pressure system.

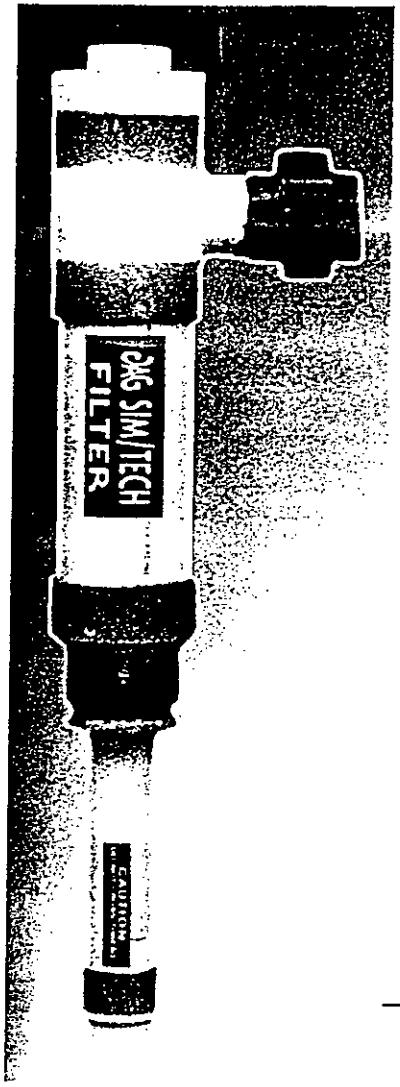
The Sim/Tech Filter has been designed as an effluent filtering device to assure small holes in the distribution piping remain unclogged. Pressure distribution systems are very effective in treating effluent, but, only when all holes remain open. Many of these systems only partially fail, causing contamination of ground water long before the system shows any visible signs of distress.



Placing a filter just before entering the forced main is a simple solution. The filtering device installs by simply screwing onto the discharge port of any effluent pump, thereby, filtering out contaminants before they enter the distribution system thus maintaining even distribution of effluent.

The GAG Sim/Tech Filter protects any pressurized system including:

- Sand Filters
- Spray Irrigation Systems
- Pressurized Chambered Systems
- Recirculating Sand Filters
- Mound Systems





The Sim/Tech Filter, with its 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 304 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 BOD and TSS, not directly but indirectly, by assuring your pressurized system functions at 100% efficiency.

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

- **Easy installation**
- **Low maintenance**
- **Economical**
- **Extends life of drainfield**
- **Improves effluent quality by assuring even distribution**
- **Ideal for effluent submersible pumps**
- **Can be used in both residential and commercial applications**

An Innovative **Solution**

ZABEL Filters Out Perform *All* Others!

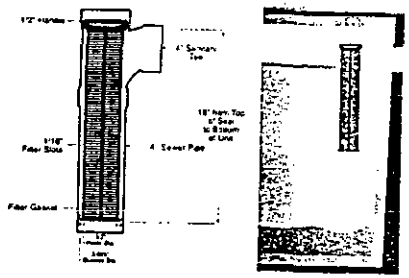
A-1800 Residential

LOWER COST: Lower cost than any other filter or screen.

FINER FILTRATION: 61 Lineal feet of 1/16" filtration.

EASIER INSTALLATION: Fits any 4" outlet T & pipe.

FLOW RATE: 800 GPD



U.S. Patent 5,382,357
5,482,621
Canadian Patent 2,135,937

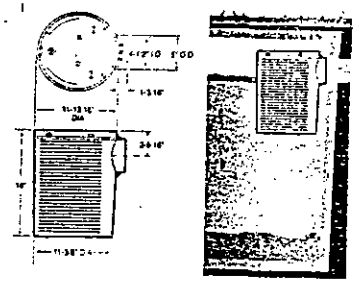
A-100 Commercial & Residential

BETTER PROTECTION: 198 Lineal feet of 1/16" filtration.

EASIER TO SERVICE: Reusable cartridge removes easily for cleaning.

PROVEN EFFECTIVE: 30 years of successful performance.

FLOW RATE: 3,000 GPD



U.S. Patent 4,710 295

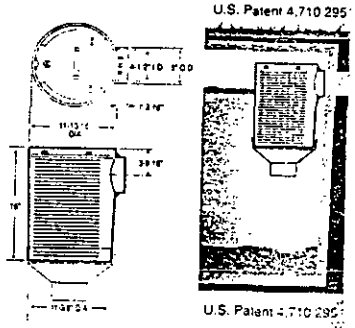
A-300 Industrial & Commercial

100's OF APPLICATIONS: Filters grease, hair, lint, flour, wastewater and more.

VERY BEST FILTRATION: 205 Lineal feet of 1/32" filtration.

HIGHEST EFFICIENCY: Removes up to 90% grease & solids and 45% BOD.

FLOW RATE: 3,000 GPD



U.S. Patent 4,710 295

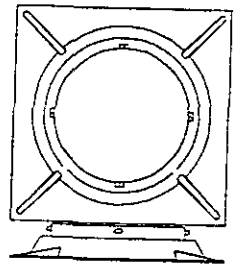
For More Information Contact:

Manufactured by Zabel Environmental Technology • 10409 Watterson Trail • Jeffersontown, KY 40299

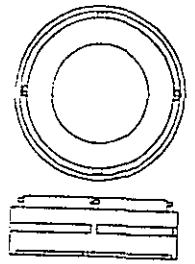
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ZEUS™ RISER & BASIN SYSTEM (PATENTS PENDING)

TANK ADAPTER

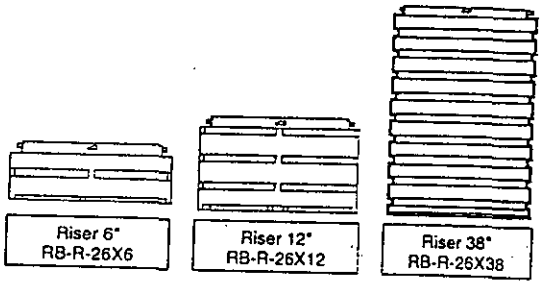


Tank Adapter-Top 2"
RB-TA-T-26X2



Tank Adapter - Form 6"
RB-TA-F-26X6

RISER

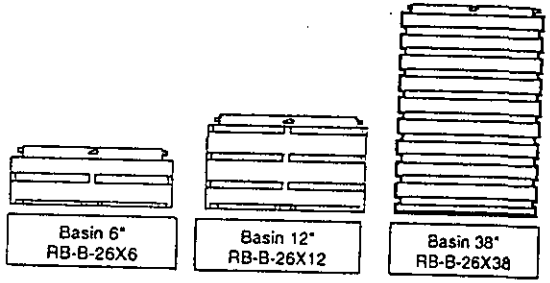


Riser 6"
RB-R-26X6

Riser 12"
RB-R-26X12

Riser 38"
RB-R-26X38

BASIN

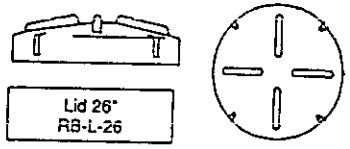


Basin 6"
RB-B-26X6

Basin 12"
RB-B-26X12

Basin 38"
RB-B-26X38

LID

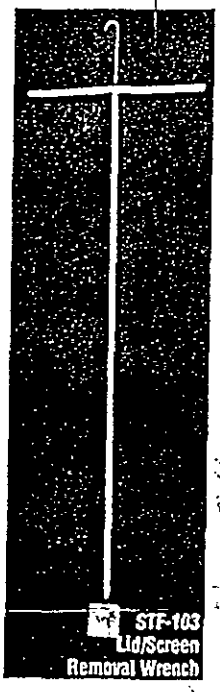


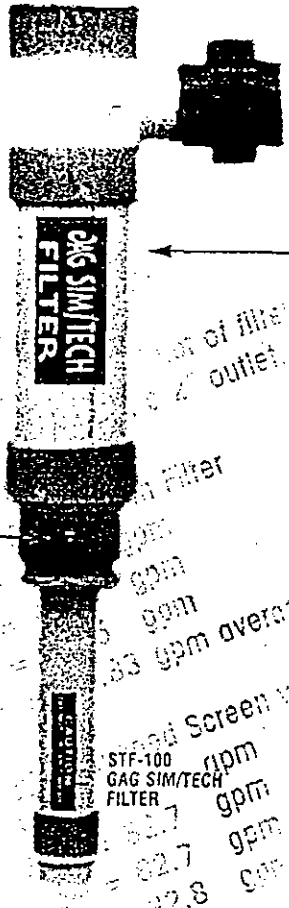
Lid 26"
RB-L-26

Zabel Environmental Technology
1-800-221-5742
http://www.zabel.com

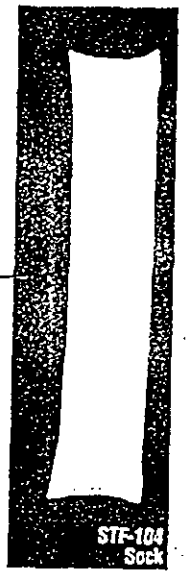
Engineered *For Performance*



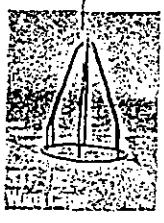




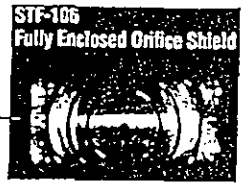
















Equipment List

STF-100 GAG Sim/Tech Filter

STF-101 Pressure Alarm Switch

STF-102 Extra Filter Screen

STF-103 Lid/Screen Removal Wrench

STF-103A Screen Removal Tool

STF-104 Sock

STF-105 Wire Cage

STF-106 Fully Enclosed Orifice Shield

STF-107 Tank Alert XT w/Latching Light

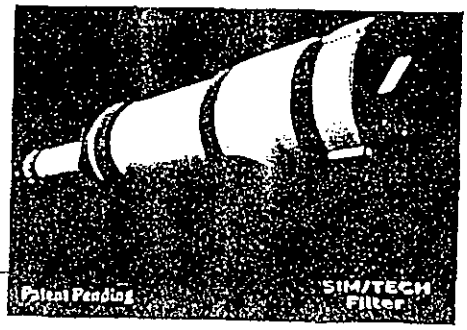
Restrictions and Specifications

Total Head Loss .5002ft. or .21psi

Flow Rate with a Clean Screen = 120,672 GPD at 1psi

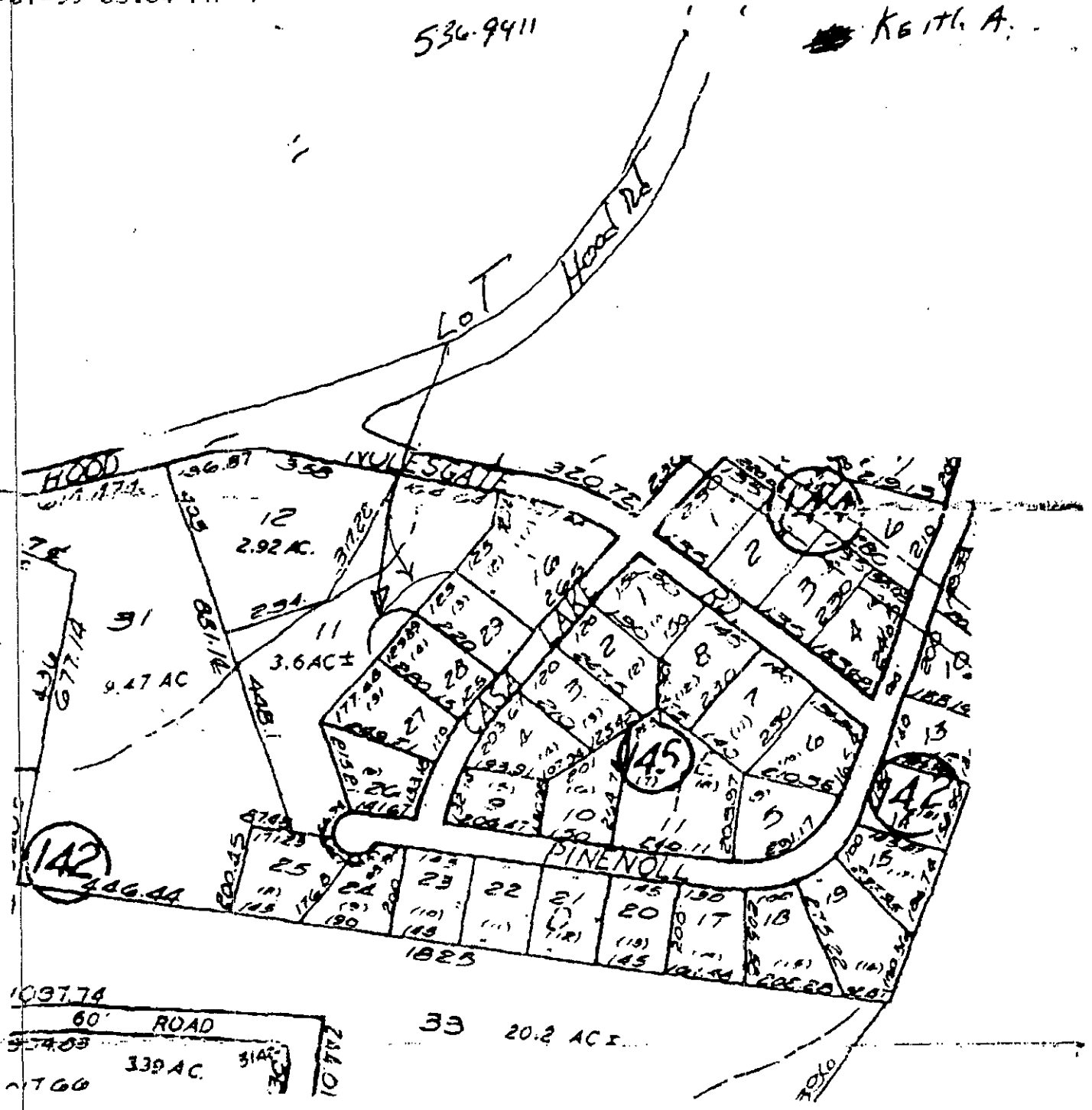
Flow Rate with a 95% Plugged Screen = 114,912 GPD at 1.8psi

Pump chamber detailed drawings and/or CAD disks for the Sim/Tech Filter are available upon request, at no cost, to help aid in your blueprint and drafting needs.



536-9411

KG ITL A.



DIVISION OF ENVIRONMENTAL HEALTH
ON-SITE WASTEWATER SECTION

704-536-9411

#2

Sheet:
Property ID: 105-142-28.24
Lot #: 30, 40
File #: 346-A

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

OWNER: Jesse W. Fox APPLICANT:
ADDRESS: 6916 Ridgegate Rd, Charlotte NC DATE EVALUATED: 4-23-99
PROPOSED FACILITY: residence PROPOSED DESIGN FLOW (.1949) 3 bdrm PROPERTY SIZE: 1.2
LOCATION OF SITE: Casa Linda Dr PROPERTY RECORDED:
WATER SUPPLY: ☐Private ☐Public Well ☐Spring ☐Other
EVALUATION METHOD: ☐Augur Boring ☐Pit ☐Cut
TYPE OF WASTEWATER: ☐Sewage Industrial Process ☐Mixed

PROFILE #	Slope 2-12% .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	.1956 SAPRO CLASS	.1944 RESTR HORIZ	PROFILE CLASS &LTAR
1	LS	0-10"	gr/ls	Fr/SExPl NP/non	0-54 7/1 @ 24"	39"	N/A	None	US
		10-14"	SBK/scl	Fr-F/SExPl SS/SP					
		14-39"	SBK/C	VF/MxPl/VP/VP					
2	LS	0-2"	gr/sl	Fr/SExPl NS/NP	746" TO SOIL WETNESS	46"	N/A	None	PS .39/F IV
		2-6"	SBK/scl	Fr-F/SExPl SS/SP					
		6-48"	SBK/C	F/SExPl S/P					
3	LS	0-4"	gr/scl	Fr/SExPl SS/SP	720" TO SOIL WETNESS	20"	N/A	None	US
		4-20"	SBK/sc	VF/MxPl/VP/VP					
4	LS	0-3"	gr/sl	Fr/SExPl NS/NP	746" TO SOIL WETNESS	46"	N/A	None	PS .39/F IV
		3-6"	SBK/scl	Fr/SExPl SS/SP					
		6-39"	SBK/C	F/SExPl S/P					
		39-46"	SBK/scl	F/SExPl SS/SP					

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)		
System Type(s)	LPS	LPS
Site LTAR		

OTHER FACTORS (.1946):
SITE CLASSIFICATION (.1948): Unavailable
EVALUATED BY: W. P. Martin LSS 4-26-99
OTHER(S) PRESENT:

COMMENTS Would need MLK Repair

LANDSCAPE POSITION

R-RIDGE
S-SHOULDER SLOPE
L-LINEAR SLOPE
FS-FOOT SLOPE
N-NOSE SLOPE
H-HEAD SLOPE
CC-CONCLAVE SLOPE
CV-CONVEX SLOPE
T-TERRACE
FP-FLOOD PLAIN

GROUP	TEXTURE	1955 LTAR
I	S-SAND LS-LOAMY SAND	1.2-0.8
II	SL-SANDY LOAM L-LOAM	0.8-0.6
III	SI-SILT SICL-SILTY CLAY LOAM CL-CLAY LOAM SCL-SANDY CLAY LOAM	0.6-0.3
IV	SC-SANDY CLAY SIC-SILTY CLAY O-ORGANIC	0.4-0.1

CONSISTENCE

MOIST

VFR-VERY FRIABLE
FR-FRIABLE
FI-FIRM
VFI-VERY FIRM
EFI-EXTREMELY FIRM

WET

NS-NON-STICKY
SS-SLIGHTLYSTICKY
S-STICKY
VS-VERY STICKY
NP-NON-PLASTIC
SP-SLIGHTLYSTICKY
P-PLASTIC
VP-VERY PLASTIC

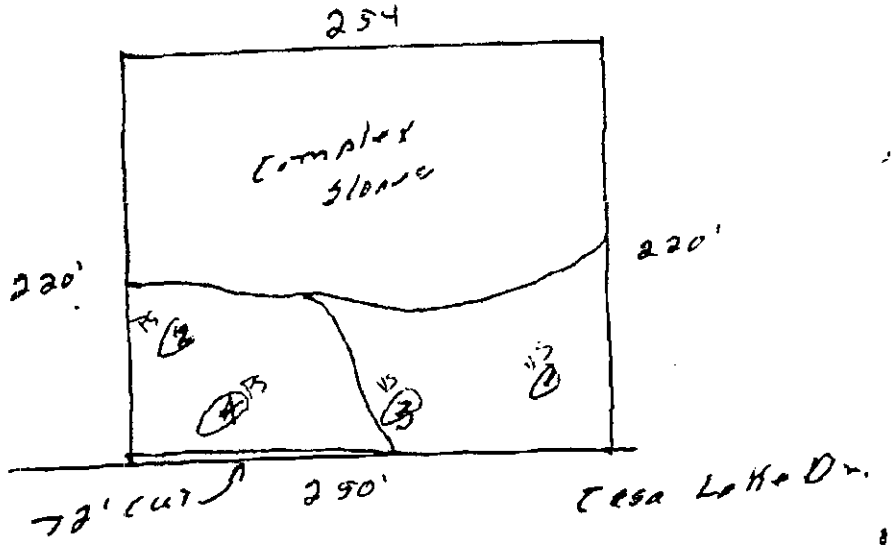
STRUCTURE

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

MINERALOGY

SLIGHTLY EXPANSIVE

EXPANSIVE



Att:
B.K. Baumgner

6641778

Mecklenburg County
Health Department

May 5, 1999

Jesse W. Fox
8918 Nolesgate Road
Charlotte, NC 28215

Re: Lots 3 & 4 Casa Lake Drive
File: 346A
Parcel: 105-142-28 & 29

Dear Mr. Fox:

Receipt of your Application for Improvement Permit for the above referenced property is acknowledged. A soil evaluation and a site visit have been conducted. The results of the evaluation indicated that the site is **UNSUITABLE** under Rules: .1945 **AVAILABLE SPACE**. For these reasons your Application for Improvement Permit is denied. A possible way to develop the site exists under Rule .1948(d) which reads as follows:

> A site classified as **UNSUITABLE** may be used for a ground absorption sewage treatment and disposal system specifically identified in Rules .1955, .1956, and or .1957 of this Section or a system approved under Rule .1969 if written documentation, including engineering, hydrogeologic, geologic or soil studies, indicates to the local health department that the proposed system can be expected to function satisfactorily. Such sites shall be reclassified a **PROVISIONALLY SUITABLE** if the local health department determines that the substantiating data indicate that:
>
> (1) a ground absorption system can be installed so that the effluent will be non-pathogenic, non-infectious, non-toxic, and non-hazardous;
> (2) the effluent will not contaminate ground or surface water; and
> (3) the effluent will not be exposed on the ground surface or be discharged to surface waters where it could come in contact with people, animals, or vectors.
>
> The State shall review the substantiating data if requested by the local health department.

Please be advised that you have the right to an informal review by this department. You also have the right to appeal under G.S. 130A-24, and to have the appeal held in Mecklenburg County.

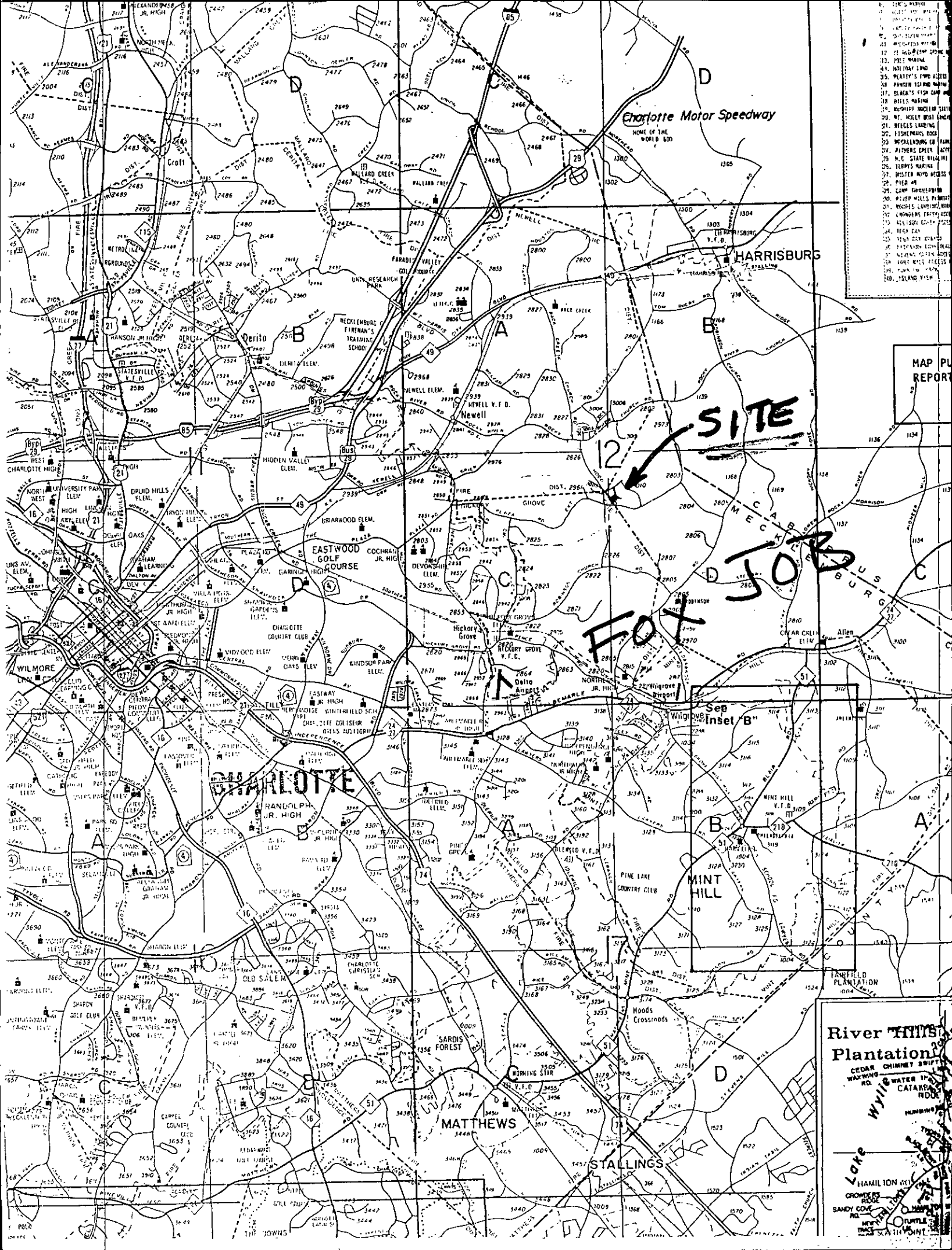
If you have any questions regarding this matter, please call me at 336-5568.

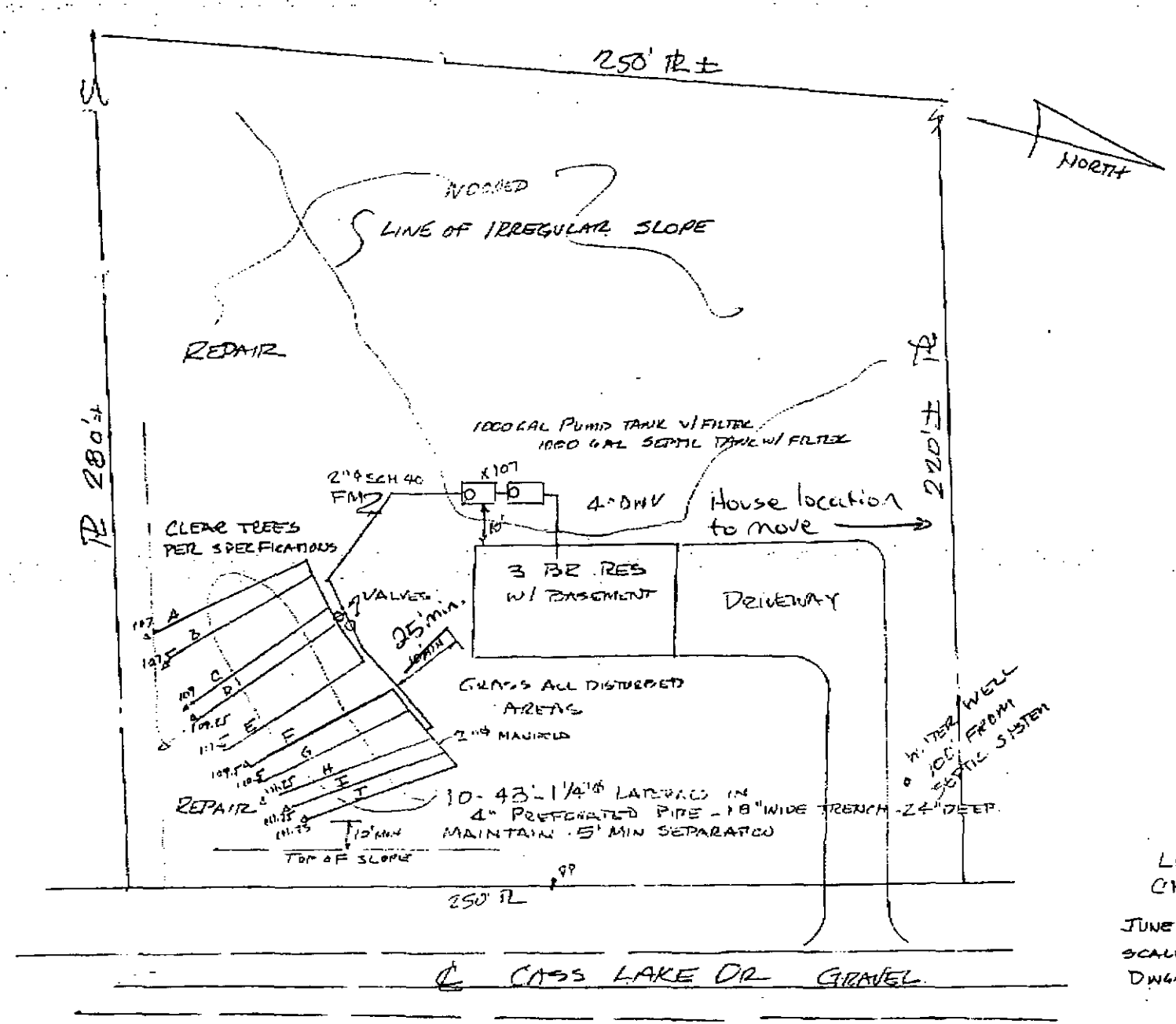
Sincerely,

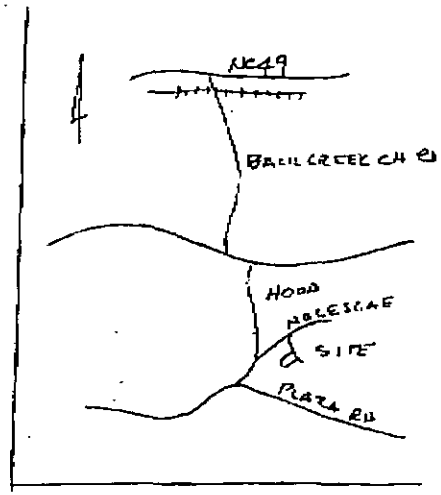
Larry B. Thompson, Jr., R.S., Coordinator
Managed Systems Program
Individual Water and Wastewater Systems

enclosure

JUN-07-99 02:44 PM P
7043492852
P.01


SITE
JOB
FOX
Charlotte Motor Speedway
HARRISBURG
Newell
Derita
Croft
CHARLOTTE
MATTHEWS
MINT HILL
STALLINGS
Hickory Grove
Allen
Wilgrove
Dallas Airport
See Inset "B"
EASTWOOD GOLF COURSE
Hoods Crossroads
River Hills Plantation
MAP PU
REPORT





VICINITY MAP

NORTH CAROLINA PROFESSIONAL SEAL 3370 ENGINEER B.K. BARRINGER, JR.

6-15-99

LPP SEPTIC DISPOSAL SYSTEM FOR

MR & MS JESSE W FOX

LOTS 3 & 4 CASS LAKE DR

CHARLOTTE, MECK CO, NC

JUNE 14 1999

SCALE: 1"=30'

DWGN BY: BKB

BARRINGER & ASSOCIATES, P.A.
104 WESTFIELD CENTER
MOORESVILLE, NC 28115

08-23-99 01:33PM P02

Mecklenburg County
Health Department

Void

Conditions of Improvement Permit

File Number: 346A
Site Address: Casa Lake Drive Lot 28

1. The permitted system is a Type IVa wastewater treatment and disposal system and requires ongoing maintenance. A maintenance contract must be executed between the system owner and a private certified operator before an Operation Permit can be issued. It is a condition of the Operation Permit that a maintenance contract shall be in effect for as long as the system is in use. It is also a requirement that subsequent owners of the system shall execute such a contract.
2. The system will require a single phase, simplex control panel with timer and alarm. The control panel must have a Nema 4x weather proof rating.
3. Septic and pump tanks must be installed in an area that is not subject to vehicular traffic. Final cover over both tanks must be less than 3 feet to prevent the need for State approved reinforced tanks.
4. Drain lines must be installed on contour. Trench bottoms shall be constructed as level as possible but in no case shall the fall in a single trench bottom exceed one-fourth inch in 10 feet.
5. Any changes in the site must be pre-approved by the Mecklenburg County Environmental Health Department.
6. The wastewater treatment and disposal drain field area, including the designated repair areas, shall not be used for any of the following:

    - Grading or filling
    - Parking or driving heavy equipment in the area or subjecting the site to possible soil compaction
    - Construction staging area
    - Installation of lawn irrigation components
    - Installation of underground utilities or cables of any type
    - Burial of any debris or material
    - Utilizing the area for gravesites
    - Diversion of storm water runoff into this area

7. Septic system installer must be registered with Mecklenburg County prior to meeting for the required pre-construction conference.
8. System installer will be required to operate the system at the time of the final inspection. Arrangements must be made to have the pump tank filled with water prior to the requested final inspection. The required pressure heads will be adjusted at the time of the final inspection.
9. The system owner shall have the contents of the septic tank checked, and the contents of the tank removed, periodically from all compartments, to ensure proper operation of the system. The contents of the septic tank shall be pumped whenever the solids level is found to be more than 1/3 of the liquid depth in any compartment.
10. All septic tank riser and effluent filter rules will apply to this system. It is strongly recommended that access risers be added to both ends of the septic tank, extending to at least finish grade. This will allow periodic inspection of the solids level in the tank as well as help facilitate the periodic cleaning of the effluent bio-filter.
11. The local Health Department is required, by the State, to perform system reviews of Type IVa systems at a minimum of once a year. The owner of the system is responsible for paying any inspection fees, as determined by the Board of County Commissioners, at the time of the required inspection.

FEE: _____ **AUTHORIZATION FOR WASTEWATER SYSTEM CONSTRUCTION**
DATE: _____ **VOID SIXTY (60) MONTHS FROM DATE OF ISSUANCE**

DATE: 7-28-99 PERMIT NO: 346A

PARCEL NO: 105-142-28

JOB LOCATION ADDRESS: Casa Lake Dr. Lot 28

PROPERTY OWNER: Jesse W. Fox

BUILDING CONTRACTOR: _____

SUBDIVISION NAME: _____

AUTHORIZATION ISSUED BY: Larry B. Thompson R.S. DATE: 7-28-99

DEHNR AUTHORIZED AGENT

Void

AUTHORIZATION CONDITIONS

1. WASTEWATER SYSTEM CONSTRUCTION AND INSTALLATION MUST MEET ALL CONDITIONS AND SPECIFICATIONS AS SET FORTH IN IMPROVEMENT PERMIT NO. 346A, 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 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 AUTHORIZATION AND ASSOCIATED PERMIT(S) TO REVOCATION.

4. OTHER CONDITIONS: See Conditions of Improvement Permit

OWNER CERTIFICATION

I CERTIFY THAT THERE HAVE BEEN NO ALTERATIONS IN SITE OR SOIL CONDITIONS OR MODIFICATIONS TO FACILITY, WASTEWATER FLOW, OR WASTEWATER CHARACTERISTICS FROM THOSE SPECIFIED IN THE ORIGINAL APPLICATION OR ASSOCIATED IMPROVEMENT PERMIT UNLESS AUTHORIZED IN WRITING BY THE MECKLENBURG COUNTY HEALTH DEPARTMENT. I ALSO UNDERSTAND THAT ANY SUCH ALTERATIONS, MODIFICATIONS, OR FALSE INFORMATION ARE GROUNDS FOR REVOCATION OF PERMITS AND AUTHORIZATION TO CONSTRUCT.

SIGNATURE OF OWNER/OWNER'S REPRESENTATIVE DATE

CONDITIONS OF IMPROVEMENT PERMIT

Permit Number: 346A

Tax Number: 105-142-28

- 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
Type Primary Wastewater System Type (circle one): 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: ___ IWWS-93-1 ___ IWWS-93-2 ___ IWWS-94-1

.3 Long-term acceptance rate	360 Max gallons/day wastewater flow	400 Absorption Area (sq ft)	8' Trench spacing (min. on centers)
Yes Serviced by private well	1500 Gallon septic tank	200 Total trench length (ft)	36" Maximum trench depth (At least 12" of provisionally suitable soil must remain between trench bottom and unsuitable soil conditions)
3 Bedrooms in residence	1000 Gallon pump tank	N/A Depth of stone	

Any surface waters present: Type: Minimum separation distance:

Site modifications required:

Additional Conditions: Pressure Dosed PPBPS. Maintenance Contract with a Certified Operator is required. Lot reclassification form is required. Approved based upon plans submitted by B.K. Barringer & Associates, P.A. with revisions.

Repair Area System Type Type (circle one): 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: ___ IWWS-93-1 ___ IWWS-93-2 ___ IWWS-94-1

400 Absorption Area (Sq ft) 200 Total Trench Length (Ft)	N/A Depth of Stone Trench	8' Trench spacing (min. on centers)	36" Maximum Trench Depth

For existing system, enter the year originally installed:

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. This approval is granted in accordance with the provisions of Laws and Rules For Sewage, Treatment and Disposal 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.

Larry B. Thompson, L.S. 7-28-99

DEHNR Authorized Agent Date

Owner/Agent Signature Date

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

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

Approved Plan
7-28-99
File Copy

Specifications & Scope of Work

for an Individual Residence

T & J Panel

Ground Absorption, Wastewater

Disposal System

for

Void

Owner requested App System designed by B.K. Barringer. Owner will place house on adjoining lot to allow plan approval.

JESSE W. FOX
Lot 28 Cass Lake Drive
Charlotte, (Mecklenburg County), NC 28215
Parcel: 105-142-28-29
File: 346A

July 19, 1999

NORTH CAROLINA PROFESSIONAL SEAL 3370 ENGINEER B. K. BARRINGER, JR.

7-19-99

PREPARED FOR:

Jesse W. Fox
8918 Noles Gate Road
Charlotte, NC 28215
Phone: (704) 536-9411 H 536-9411
(704) ~~335-2657~~ P
536-9474

PREPARED BY:

B. K. BARRINGER & ASSOCIATES, P.A.
N. C. Registration No. 3370
Suite 104 Westfield Center
125 East Plaza Drive
Mooresville, N. C. 28115
Phone: (704) 664-7888
Fax: (704) 664-1778

Ground Absorption Wastewater Disposal System
Lot 28 Cass Lake Drive
Charlotte, Mecklenburg County, NC

T & J Panel System

I. NARRATIVE:

The Owner proposes to construct a three-bedroom residence which will be served by an onsite water well 100 feet from the proposed septic system.

Soils investigation by Mecklenburg County Soils Scientist, William Marlin, reveals limited area suitable for a nitrification field.

Due to sloping lot and grade difference, a pump system will be required. A T & J Panel distribution system is proposed due to the limited area. A 100% repair area has been designated.

II. LOCATION:

The property is located on Cass Lake Drive off Noles Gate Road that turns east off Hood Road at the sharp curve approximately one mile south of Rocky River Church Road.

III. REFERENCE MATERIAL:

(1) DESIGN AND INSTALLATION (Manual)
OF LOW PRESSURE PIPE WASTE WATER TREATMENT SYSTEMS
By: Craig Cogger; Bobby L. Carlisle; Dennis Osborne; Ed Holland
Published by: UNC Sea Grant College Pub. UNC-SC-82-03
May, 1982.

(2) LAWS AND RULES FOR GROUND ABSORPTION SEWAGE DISPOSAL SYSTEMS.
SECTION .1956 OF THE N.C. Administrative Code: Title 10 Health Services; Environmental Health; Subchapter 10a; Sanitation.
Published by: N.C. Dept. of Human Resources; July 1, 1982.
Paragraph .1956 (a)(ii)(B).

(3) EPA 625/1-80-012 Design Manual
Onsite Wastewater Treatment and Disposal System Oct.,1980;
Chapter 7.

IV. OWNERSHIP RESPONSIBILITY FOR A PANEL SYSTEM:

It must be kept in mind that this system is designed to accept a moderate amount of waste water (which is called the EFFLUENT), in a minimal water absorbing soil.

Conservation measures must be undertaken by all members of the household to minimize the volume of waste water entering the disposal system, including, but not limited to, the following precautions:

(a) Provide water conserving plumbing fixtures within the facility. Water closets shall not use more than 1.6 gallons/flush. Shower head shall have a maximum allowable flow of 3.0 gallons/minute. All fixtures shall conform to Table 901.2.2 of the NCBC Volume II, Plumbing;
(b) Develop conservative water use habits;
(c) Monitor and maintain the system as necessary for proper operation;
(d) Check and pump the septic tank sludge on a regular basis of approximately every year if garbage disposal is included in the residence, or approximately every three years otherwise.
(e) Make rapid repairs to leaking plumbing fixtures and faucets.
(f) Avoid excessive watering of the lawn in the vicinity of the disposal field.

V. CERTIFICATION:

The Owner shall employ the Design Engineer to make timely observations of the project during construction. Upon completion of the project, the Contractor shall provide the Engineer an "as built" plan of the project. The Engineer shall certify that the project has been constructed in accordance with the plans and specifications and shall further certify that the various apparatuses including fixtures within the house meet the intent of the specifications. A copy of the "as-built" plan and certification shall be provided to the County Sanitarian.

VI. COMPONENTS OF THE SYSTEM AND CONSTRUCTION SEQUENCE:

Refer to T & J Panel System's manufacturing and installment manual. Furnish and install all items required for a complete system in accordance with plans and specifications; for requirements of the County Dept. of Environmental Health (CDEH); the N. C. Dept. of Environmental Health (NCDEH); the N. C. Building Code, Plumbing Code and Electrical Code; and the National Electric Code. System must be properly installed by a qualified, competent contractor.

COMPONENTS OF SYSTEM:

1. 1,500 ~~1,000~~ gallon two compartment septic tank with effluent filter
2. 1,000 gallon pumping tank with access
3. Submersible effluent pump, level controls and filter
4. Pump Control and high water alarm signals (audible and visible)
5. Supply pipe
6. Ball valves
7. T & J 16" high panels & distribution laterals

CONSTRUCTION SEQUENCE:

(1) Lay out T & J, 16" high, panel system network area with stakes and flagging to ten feet (minimum) beyond the limits of the network. As soon as the absorption area is designated, it shall be flagged, roped off and isolated from construction traffic. This barrier should be maintained until the system is accepted by the Owner. Refer to site plan for the size of absorption area. See site plan for flag locations.

(2) Prior to actually beginning construction of the system, carefully locate, lay out and identify disposal site, manifolds and the lateral panel piping networks, using a tripod mounted engineer's leveling instrument to accurately establish each lateral along a level contour. Note: Lateral panel runs which conflict with cut-off-in-place stumps or trees shall "snake" by with a 12" minimum trench clearance and then continue along its projection run. (The 8' minimum trench separation must be maintained.)

(3) Excavate for and construct curtain drain (if shown on the plan.)

(4) Excavate lateral network trenches 24" wide by 28" deep (see detail). Remove loose soil from bottom of trench.

(5) Install sand in bottom of the lateral trench to the proper depth of approximately 22" below finish ground level.

(6) Follow the manufacturer's guidelines for installing the T & J Panel System.

(7) All joints in lateral and the manifold piping shall be water tight connections to insure that the only source of the water seepage from the system is through the orifices as designed. See layout and details. Carefully install manifold and lateral network according to the attached designed layout. A larger diameter protective sleeve with cap or approved box with lid shall be placed over the turned up lateral and positioned level with the ground surface (so as not to be damaged by mowing machine.)

(8) Carefully backfill manifold trenches to finish grade with clean (debris free earth (no stone).

(9) Leave absorption area with a raked surface, ready for grassing.

(10) The installation contractor shall stabilize the area of construction by planting and seeding with Kentucky 31 tall fescue and shall keep the planted area watered and mulched until such time that a hardy stand of grass is established. (See Seeding Specification.)

(11) SEPTIC TANK The septic tank shall consist of a ~~1,000~~ 1500 gallon capacity, reinforced, precast concrete tank with full baffle and shall have easy access to each chamber from ground level for checking and pumping. The first chamber of the septic tank shall consist 2/3 to 3/4 of the volume of the total tank and the baffle shall contain a horizontal opening across the tank at about midway its height. The outlet of the tank shall have an effluent filter as specified herein. Locate the septic tank at such height as to provide approximately 8" of cover soil over top of the tank. The tank shall have a DHS approved access with lid over the filter.

(12) SLOTTED-FILTER A Zabel A300 micro-filter, with 1/32" infiltration shall be installed in lieu of the outlet tee in the septic tank. The filter shall be manufactured by ZABEL or approved equal, Zabel Environmental Technology, 10409 Watterson Trail, Louisville, KY, 40299, 1-800-221-5742, Fax 502-267-8801 Fax.

(13) PUMP TANK shall consist of a 1,000 gallon capacity, reinforced, precast concrete tank without baffle and shall have a concrete mounting pad (concrete blocks) for accommodating the pump. Access shall be provided for entry into the tank directly over the pump location, and extending 6" above final grade or as called for on the plan. Use a DHS approved tank riser with approved lid. The tank shall be supplied by a manufacturer approved by DHS and bear the manufacturer's serial number. The tank shall be positioned to allow gravity flow of the effluent from the septic tank. Immediately down stream from the pump shall be an approved effluent filter system.

All tanks shall be tested for water tightness by an approved method such as 24 hour water tightness test with maximum allowable leakage not to exceed ½ inch per 24 hours. Testing shall begin after the water level in the tank has stabilized. Any leaking shall be corrected and the tanks retested.

Once testing of the tank has been completed, the tank shall be backfilled in lifts with well compacted, debris free earth to a level which directs surface water away from the tanks. Tank access holes shall be installed and grouted water tight and the earth raked smooth for grassing. Grade over the tank shall be sloped to prevent surface water from entering the tank through the access.

(14) PIPING All piping and fittings shall be Schedule 40 PVC except LPP piping in the panels shall be PR160 PVC. Glue for all PVC pipe joints shall be as recommended by the pipe manufacturer.

(15) PUMP The submerged pump shall be Model ME 40 manufactured by F. E. Meyers Co., Ashland, OH, or equal, 4/10 hp, 230v/1ph; capable of pumping 22.5 gallons per minute at a 23.37' head.

(16) EFFLUENT FILTER The effluent filter shall be connected directly to the pump outlet. The filter shall be equal to the GAG Sim Tech Filter, Boyne City, Michigan, 49712, telephone 1-888-999-3290. The contractor shall furnish the following with the filter: STF 100 Filter, an STF 102 Filter Screen, an STF 103 Wrench, an STF 104 Sock, an STF 101 Pressure Alarm Switch and an STF 107 Tank Alert. Filter can be obtained through Confederate Sales Associates, 8205 Brooknell Terrace, Charlotte, NC 28270, telephone 704/ 364-1372.

(17) PUMP ON-OFF water level control switch shall by Myers, Model MLC-20, mercury switch, connected to the simplex pump control.

(18) HIGH WATER ALARM SWITCH shall be mounted to a float tree and shall be equal to Myers, model FLCA-30, mercury switch, red colored ball with support bracket.

(19) FLOAT TREE The "float tree" can be constructed of an 1-1/2" diameter PVC pipe anchored in a gallon bucket filled with concrete and a 2" diameter PVC sleeve over the 1-1/2" pipe to which the floats are attached. The PVC pipe shall be long enough to reach from about the tank extending into the access riser. The "tree" allows easy and quick access to the float switches for adjustment. Float switches shall be mounted to the tree with non-corrosive clamps furnished by the float manufacturer. Float shall be positioned to not tangle.

(20) PUMP INSTALLATION: Details of pump installation are shown on the plan. The pump must be placed on two concrete blocks next to each other on the bottom of the tank. This prevents the pumping of any solid particles which can clog the system. 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. (The PVC outlet pipe is too fragile to support the pump.)

The pump outlet pipe should be connected to the supply manifold with a threaded PVC union (or dresser coupling) to allow quick removal. A check valve shall also be installed in the supply line (within the pump chamber). If effluent will be pumped down hill, a 3/16" siphon-breaker hole must be drilled in the bottom of the supply line before it leaves the pump tank. This breaks any vacuum in the system and prevents the inadvertent siphoning of effluent out of the tank. This hole is very important.

(21) PUMP CONTROL PANEL: The pump shall be powered by a simplex control panel with standard features including: a corrosion resistant enclosure, an aluminum back panel, silver cadmium contacts (IEC Contactor), an IEC motor starter, a 100VA control circuit transformer, a main circuit breaker, a 1 amp control circuit fuse, a 1 amp alarm circuit fuse, a Hand-Off-Auto switch, an alarm test switch, a pump run light, a seal leak light, terminal blocks for pump and float connections, a ground lug, an alarm light and an alarm buzzer. Panel shall be equal to Myers CE 21510 NEMA 4X.

(22) ELECTRICAL CONNECTIONS: The pump and high water alarm must be placed on separate electrical circuits. (If the pump circuit fails, the alarm must still be able to operate.) Follow the manufacturers' recommendations for the proper fuses or circuit-breakers. All electrical connections must be made outside the pumping chamber. Power cords from the pumps and controls shall extend to a NEMA approved outdoor control panel mounted outside of the pumping chamber. There are to be no junction boxes inside the tank. Power and control conductors shall be conveyed through 2" conduit with Seal-off.

Wiring between the pumping chamber and the house should meet State and local code requirements. Conductors from the tank to the control panel shall be conveyed through 2" conduit with Seal-off.

(23) A "HOME OWNER'S WARNING SIGN" shall be located within the house to inform the owner of what action to take in case the "High Water Alarm" is activated. This sign shall contain the name, address, telephone number, and emergency telephone number of the person to contract immediately upon malfunction of the system.

(24) PROPER OPERATION CHECK: After all components have been installed and connected, the system should be checked for proper operation. With electrical power turned off, fill the pumping chamber with water from a garden hose (or allow effluent to accumulate) until the liquid rises to the level of the high-water alarm float. Turn on the electrical power. The alarm light should go on in the house, and the pump should start operating. 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.

(25) PRESSURE HEAD ADJUSTMENT: The pressure head must be adjusted to match that specified in the design. The pressure head is measured as the height liquid will rise above the turn-up elbow when the pump is running. To adjust the head:

(a) Glue a 4' length of pipe (preferably clear) to a threaded adapter that will screw onto the turn-up adapters. (Call this the "test tube".)

(b) Replace the turn-up cap with the "test tube".

(c) Turn the power on to allow liquid to rise in the "test tube".

(d) Adjust the ball valve at the head of each lateral until the effluent reaches the desired height in the "test tube". Remember to include the distance below the ground surface to the lateral line when measuring the height. The pressure head should be 3' for each line. This is the *height above the lateral* the liquid should be in the temporary "test tube". Continue to adjust valves until all "test tubes" have an equal amount of liquid.

(26) FINAL LANDSCAPING: After the T & J System is installed, the following should be checked to insure that the system will not be overloaded with excess rain water and run off:

(a) The distribution field is shaped to shed rain water and is free of low area.

(b) Gutter and downspout drains are directed away from the system.

Any problems should be corrected before approving the system.
Finally, the entire area should be planted with grass according to specifications.

VII. OPERATION AND MAINTENANCE:

The system is classified as a Type ~~III-e~~ IVa. The Regulations allow the system to be managed by the ~~Owner~~ Certified operator. Operating, Maintenance and Inspection procedures shall be conducted by the ~~Owner~~ Operator on a timely basis. Procedures shall include but not be limited to the following:

- Minimum inspection/maintenance frequency shall be conducted on a timely and routine basis. Maintenance Contract is required before operation permit can be issued. 2 times a year system flushed and regulated
- Septic system shall be pumped every 4 years or when solids accumulate to a the volume of the tank. Contents checked once a year
- Effluent filters shall be cleaned on routine basis as required.
- The PPBPS system should be observed by the regulatory agency one, three, six and nine months after initial installation, and every 3 years. An inspection report should be completed and filed each time the system is checked.
- All laterals shall be pressure back-washed ~~annually~~ bi-annually with clean water.
- Pressure head for upper and lower laterals should be checked and adjusted one month after installation and ~~annually~~ thereafter.
- All piping, fittings turn-ups and valve boxes shall be checked bi-annually for damage and/or proper operation and corrections made immediately.
- The property should be inspected to insure all surface water is deflected away from the fields and tank. Any ponding of surface water should be corrected.
- Grasses shall be mowed and maintained and any erosion shall be corrected 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.
- Check septic tank and pump tank for evidence of damage or leakage. Check the quality of effluent including grease and sludge accumulation.
- The management entity in conjunction with the local Health Department shall establish an operation and maintenance program and procedure based on experience obtained from similar installations.

DESIGN SPECIFICATIONS - T & J PANEL SYSTEM
Lot 13 Preston Heights
At Wild Nursery Court & Beach Hollow Drive
Charlotte (Mecklenburg County), NC

Daily design waste flow:	360 gpd
Septic tank size:	~~1,000 gal.~~ 1500 gal (2 compartment)
Septic tank filter:	Zabel A300 filter
Pumping tank size:	1,000 gal.
Effluent loading rate:	0.3 gpd/sf (50% increase with PPBPS)
Total linear feet and diameter:	200 ft. of 1-1/4" dia. PVC of laterals and T & J 16" high panels (allow 4.5 ft per panel)
Total length and diameter of supply manifold:	90 LF - 2" dia. Schedule 40 PVC
Number and length of laterals:	5 laterals w/9 panels each with manifold at end
Number of panels:	45
Hole size:	5/32"
Hole spacing:	1 hole per panel
Total number of holes:	45
Flow per hole at 3' head	0.50 gpm
Flow rate through the system:	22.5 gpm
Elevation head:	18.75'
Pressure head:	3'
Friction head:	1.62'
Total head:	23.37'
Pump requirements:	22.5 gpm at 23.37'; use Myers 4/10 hp ME 40 pump; 230V/Single Phase
Force main filter:	GAG Sim/Tech Filter w/Sock and Pressure Alarm
Dosing volume:	162 gal.
Depth of water pumped per dose:	6.4"
Pump run per dose:	7.2 min.
Check valve:	yes
Siphon break hole:	yes

SEEDING SPECIFICATIONS

SLOPES 3:1 or FLATTER

1. Apply agricultural lime at the rate of 90 lb/1000 sf.
2. Apply 10-10-10 commercial fertilizer at the rate of 20 lb/1000 sf.
3. Seed in accordance with the following schedule and application rate:

DATE	TYPE	PLANTING RATE
Aug 15 - Nov 1	Tall Fescue	200 lb/ac or 7 lb/1000 sf
Nov 1 - Mar 1*	Tall Fescue and	200 lb/ac or 7 lb/1000 sf
	Abruzzi Rye	25 lb/ac or 2 lb/1000 sf
Mar 1 - Apr 15	Tall Fescue	200 lb/ac or 7 lb/1000 sf
Apr 15 - Jul 30	Hulled Common or Bermuda	30 lb/ac or 1 lb/1000 sf
Jul 15 - Aug 15	Tall Fescue and	200 lb/ac or 7 lb/1000 sf
	Brown Millet or	35 lb/ac or f lb/1000 sf
	Sorghum-Sudan Hybrids	30 lb/ac or : lb/1000 sf

4. Mulch with straw applied at the rate of 75-100 lb/1000 sf.

* Heavily mulched during January - March period.

SLOPES GREATER THAN 3:1 TO 2:1

1. Apply agricultural lime at the rate of 90 lb/1000 sf.
2. Apply 10-10-10 commercial fertilizer at the rate of 20 lb/1000 sf.
3. Seed in accordance with the following schedule and application rate.

DATE	TYPE	PLANTING RATE
Mar 1 - Jun 1	Sericea Lespediza (scarified) &	50 lb/ac or 11 lb/1000 sf
Mar - Apr	Add Tall Fescue or	150 lb/ac or 32 lb/1000 sf
Mar - Jun	Add Weeping Lovegrass	5 lb/ac or c lb/1000 sf
Jun - Sep 1**	Tall Fescue and	60 lb/ac or 12 lb/1000 sf
	Brown Top Millet	35 lb/ac or f lb/1000 sf
	Sorghum Sudan Hybrids	30 lb/ac or : lb/1000 sf
Sep - Mar 1	Sericea Lespediza (unhulled-unscarified)	70 lb/ac or 1: lb/1000 sf
	Tall Fescue	150 lb/ac or 32 lb/1000 sf
	Millet or Sudan	20 lb/ac or 2 lb/1000 sf

** Temporary - Reseed September 1 at recommended rates.

4. Mulch with 3" straw applied at the rate of 50-90 lb/1000 sf and anchor with asphalt emulsion tack coat applied at the rate of 3-5 gal/1000 sf or 200-300 gal/ac.

JESSE FOX LOT 28 CRAWLAKE RD 7/18-99

MECIC CO

DESIGN FLOW: 3 BR @ 120 = 360 GPD

LTAR 0.25 G/D/SF

$\frac{360 \text{ G/D}}{0.30} = \frac{1200 \text{ SF}}{3} = 400 \text{ LF CONVENTIONAL NITRIFICATION LINE}$

REDUCTION FOR PDBPS — 50%!

400 LF X .5 = 200 LF

ALLOW 4.5'/PANEL ∴ $200/4.5 = 44$ ± PANELS

> MAKE 5 LINES w/ 9 PANELS EACH = 45 PANELS

> USE: ZABEL A300 1/32" FILTER IN SEPTIC TANK

> ± GAG/SIM TECH FILTER w/ SOCK & ALARM IN PUMP TANK

> USE 1500 gal SEPTIC & 1000 gal PUMP TANKS

> ORIFICE: 1/32" ϕ HOLE @ 3' HD = 0.5 G/M/HOLE

> ONE HOLE/PANEL ∴ 0.5 x 45 = 22.5 GPM

FRICTION HD (2" PVC) $90'\left(\frac{1.5}{100}\right)(1.2)$ 1.62'

OPERATING HEAD 3.0'

ELEV HD 111.75 - 93 18.75'

TDH 23.37'

PUMP REQ: 22.5 GPM @ 23.37 TDH

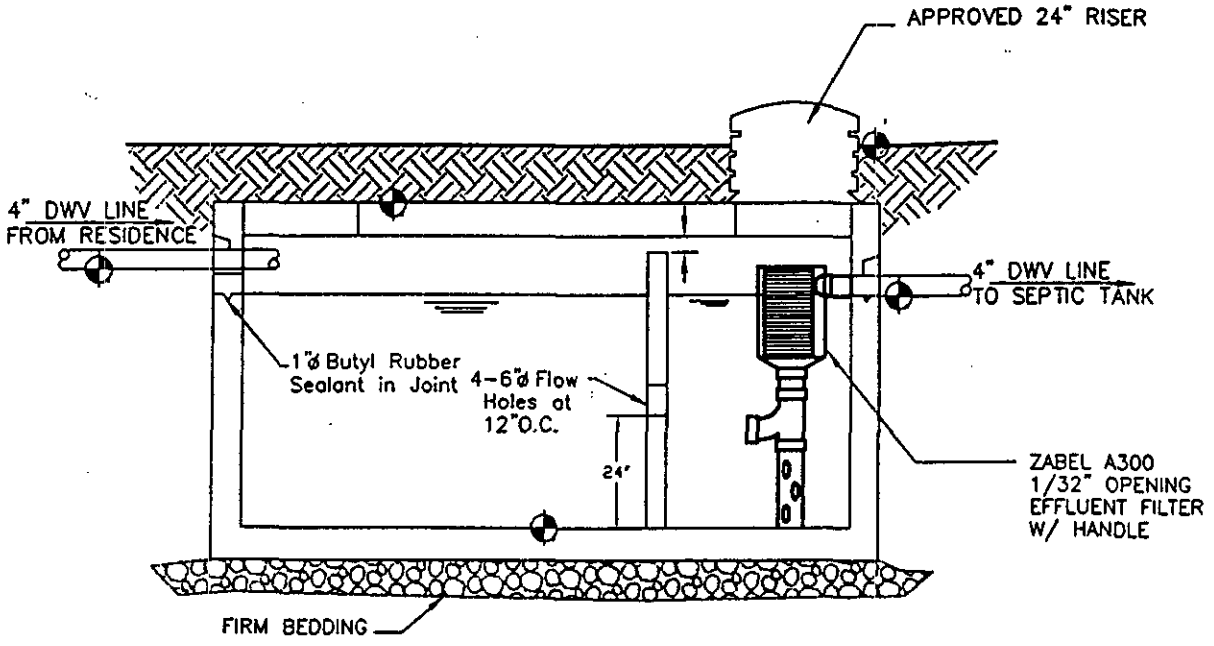
PUMP USE: MYERS MEGU 4/10P 230V/1PH

DOSE VOL: 3.6 G/PANEL x 45 = 162 GAL

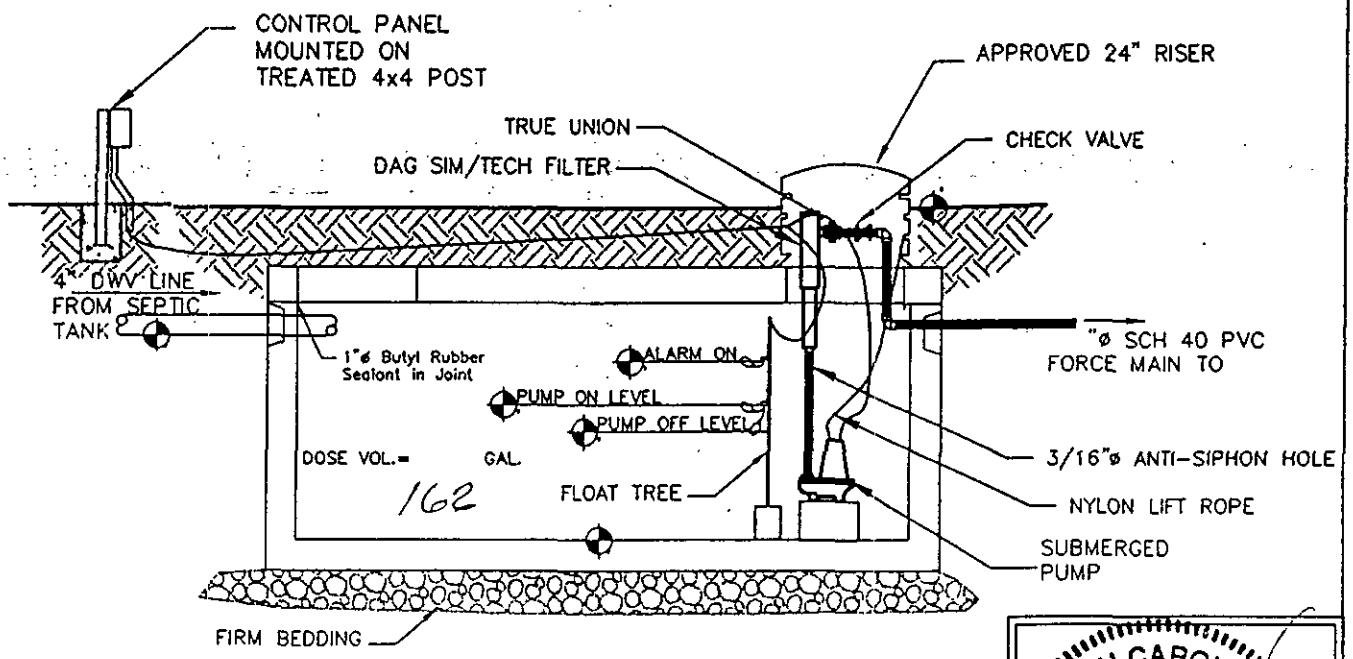
PUMP RUN TIME $\frac{162 \text{ GAL}}{22.5 \text{ GPM}} = 7.2$ MIN

DRAW DOWN: $\frac{162}{25.45}$ G/M = 6.4 MIN

$\frac{60" \times 98" \times 1"}{1728 \text{ CI/CF}} \times 7.48 = 25.45$ G/M



1/U SECTION VIEW- DEH APPROVED GAL SEPTIC TANK
N.T.S.



2/U SECTION VIEW- DEH APPROVED GAL PUMP TANK
N.T.S.

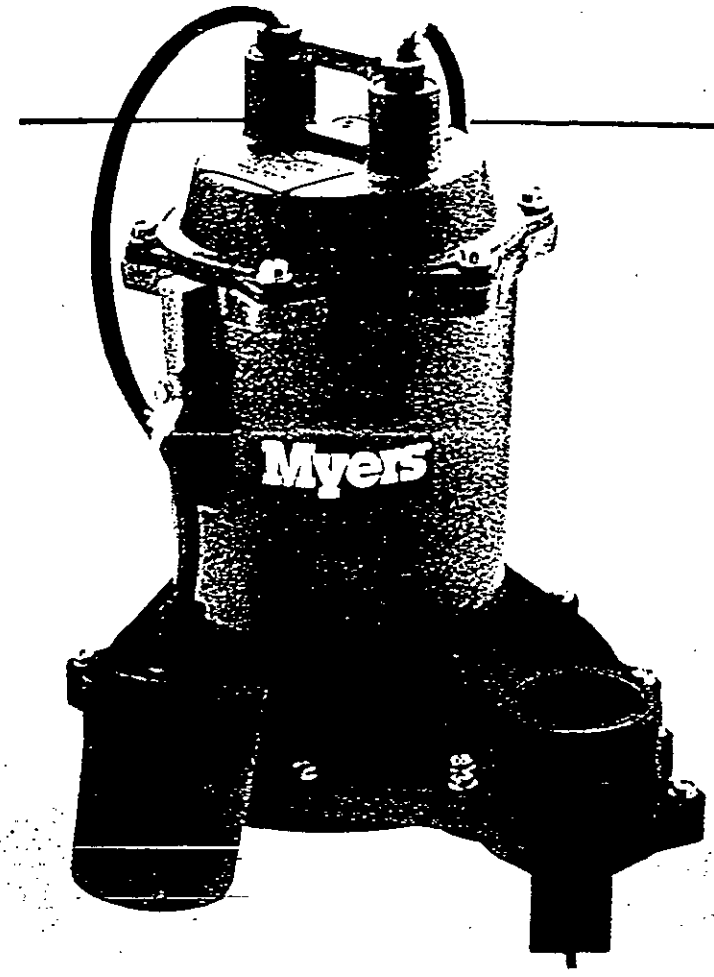
NORTH CAROLINA PROFESSIONAL SEAL 3370 ENGINEER B.K. BARRINGER, JR.

Publication or reuse of this drawing must be with the written consent of the Architect/ Engineer

SCALE:	1000 GAL SEPTIC TANK & 1000 GAL PUMP TANK MECK Co., North Carolina	B.K. BARRINGER & ASSOCIATES, P.A. ARCHITECTURE/PLANNING/ENGINEERING SUITE 104 WESTFIELD CENTER 125 EAST PLAZA DRIVE MOORESVILLE, NC 28115 PH:704-664-7888 FAX:664-1778	REVISIONS
DATE: / /			
DRAWN BY: JSI			
CHK'D. BY: BKB			
DATE OF ISSUE:			

ME40 SERIES

4/10 HP Effluent and Drain Water Pumps



THE MYERS ME40 SERIES EFFLUENT PUMPS ARE ONE OF THE MOST EFFICIENT 4/10 HP EFFLUENT PUMPS ON THE MARKET TODAY. The enclosed two vane impeller provides the flow and head required for today's dosing systems and the many tough drainage applications. The ME40 is constructed of only the highest quality corrosion resistant materials — like cast iron, stainless steel and thermoplastics — for many years of service in the harsh effluent environment. The ME40 is available in automatic models with built-in mechanical float switch or manual models for use with external controls for precise dosing. For more information, call your Myers distributor today or the Myers Ashland, Ohio sales office at 419/289-1144.

ADVANTAGES BY DESIGN

TWO VANE IMPELLER DESIGN PROVIDES MAXIMUM DOSING EFFICIENCY

- Enclosed design for high efficiency pumping.
- Eliminates possibility of jamming between impeller and volute.
- Passes a full ¾ inch solid.
- Original performance can be restored if wear occurs by replacing volute seal ring.

DURABLE MOTOR WILL DELIVER MANY YEARS OF RELIABLE SERVICE

- Oil-filled motor for maximum heat dissipation and continuous bearing lubrication.
- Overload protected, shaded pole motor eliminates starting switches and relays which are prone to fail.

THE ME40 IS DESIGNED FOR MANY YEARS OF MAINTENANCE FREE OPERATION

- Positive sealing, quick connect float and switch cords make replacement simple if service is ever necessary.
- Field tested, wide angle, mercury-free mechanical float switch provides maximum draw down. (Automatic models only.)

PRODUCT CAPABILITIES

Capacities To	60 GPM	227 LPM
Heads To	32 ft.	9.75 m
Max. Spherical Solids	¾ in.	19 mm
Liquids Handling	domestic effluent & drain water	
Intermittent Liquid Temp.	up to 140° F	up to 60° C
Motor Electrical Data	4/10 hp, 1600 rpm shaded pole, oil-filled 115 volts, 11.5 amps, 1 ph, 60 Hz 230 volts, 5.8 amps, 1 ph, 60 Hz	
Third Party Approvals	Pending	
Acceptable pH Range	6-9	
Specific Gravity	.9-1.1	
Viscosity	28-35 SSU	
Discharge, NPT	1½ in.	38.1 mm
Min. Sump Dia. Simplex Duplex	24 in. 36 in.	61 cm 91.4 cm

Construction Materials	
Motor Housing	cast iron, Class 30, ASTM A48-76
Impeller	enclosed, 10% glass-filled polycarbonate
Impeller Wear Ring	304 SST
Volute	ABS
Volute Sealing Ring	Buna-N
Power Cord	10 or 20 ft. 16/3 SJOW/SJOW-A
Mechanical Shaft Seals	carbon & ceramic
Fasteners	300 Series SST

WHERE INNOVATION MEETS TRADITION

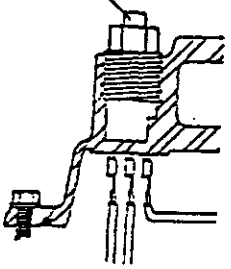
Myers®

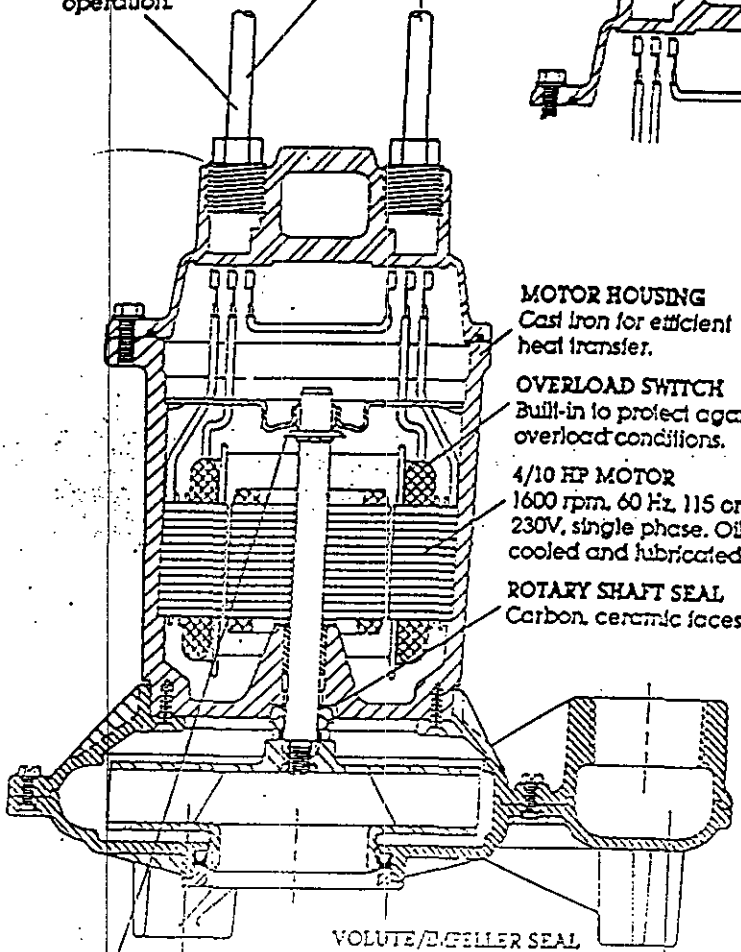
4/10 HP Effluent and Drain Water Pumps

POWER & FLOAT CORDS
Quick-connect, watertight fittings are interchangeable, replaceable from pump exterior.

MECHANICAL FLOAT SWITCH
Mercury-free, 90° angle operation.

PLUG
Replaces switch assembly for manual operation.





MOTOR HOUSING
Cast iron for efficient heat transfer.

OVERLOAD SWITCH
Built-in to protect against overload conditions.

4/10 HP MOTOR
1600 rpm, 60 Hz, 115 or 230V, single phase. Oil-cooled and lubricated.

ROTARY SHAFT SEAL
Carbon, ceramic faces.

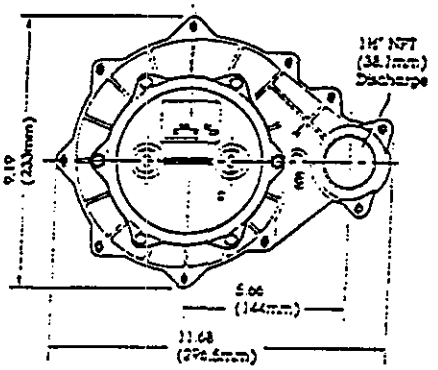
VOLUTE/IMPELLER SEAL RING
Maintains high efficiency and reduces recirculation, replaceable.

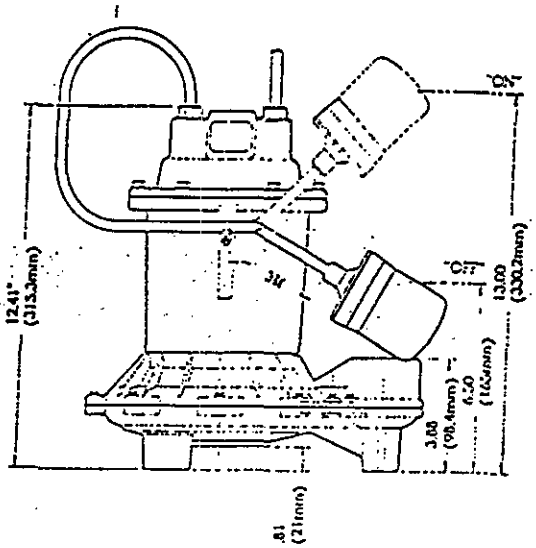
ENCLOSED TWO VANE IMPELLER
High efficiency, passes ¾" spherical solids, with stainless steel wear ring.

HIGH EFFICIENCY ABS VOLUTE
Corrosion resistant. Passes ¾" spherical solids. 1¼" NPT discharge.

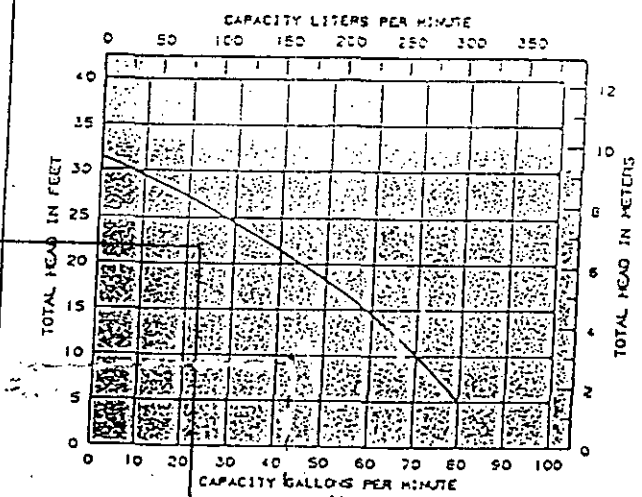
THRUST WASHER, SLEEVE BEARINGS
Enhance smooth operation and extend pump life.

DIMENSIONS





PERFORMANCE CURVE



TPH
23.

225 (1")

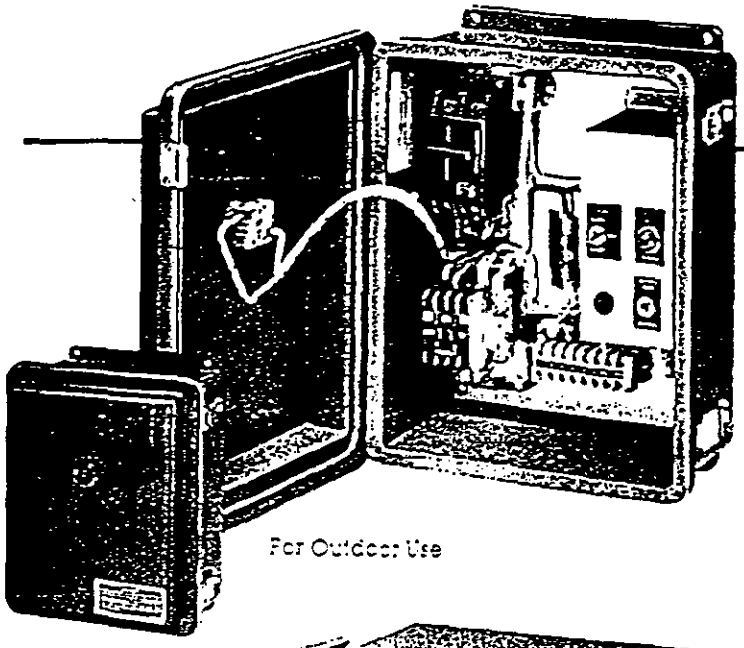
K3319 6/91
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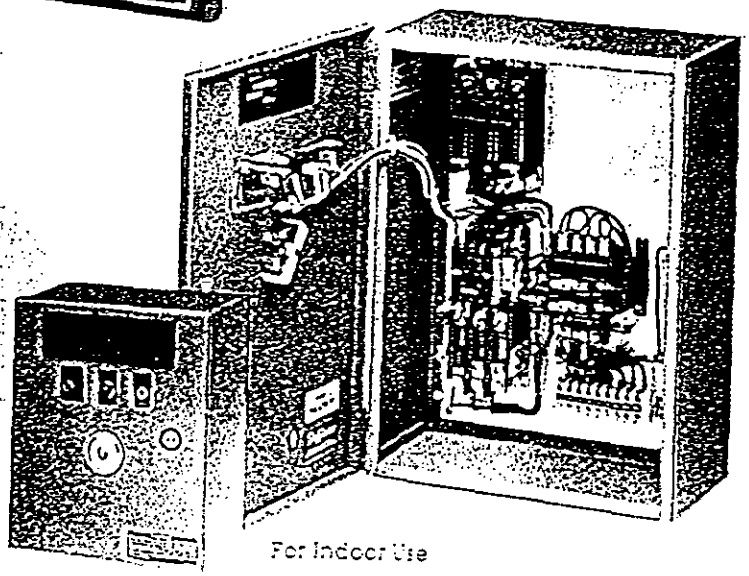
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Ashland, Ohio 44805-1923
419/289-1144
FAX: 419/289-6658, TLX: 98-7443

CE Simplex Electrical Control Panels

For 1/4-2 HP S, SS, SR, WHV-5, WHR, WHRE, WHRH, ME, E Pumps



For Outdoor Use



For Indoor Use

MYERS HAS RE-ENGINEERED THE CONTROL PANEL LINE FOR IMPROVED DURABILITY, RELIABILITY AND ECONOMY. CAD flexibility enhances our response time to help us better meet your control panel requirements. Contact your Myers distributor, or the Myers Ohio sales office at 419/289-1144 for more details.

ADVANTAGES BY DESIGN

QUALITY ELECTRICAL COMPONENTS ASSURE RELIABLE, AUTOMATIC PUMP OPERATION

- IEC horsepower-rated contactors (single phase) and motor starters (three phase) rated at over 1 million cycles.
- Three phase starters with ambient-compensated quick-trip overloads for maximum motor protection.
- Designed for use with three standard mercury float switches, off-on-alarm. (Not included with panel, please order separately.)

CORROSION RESISTANT FOR LONG LIFE

- Outdoor panels of weathertight NEMA 4X fiberglass with aluminum back panel.
- Indoor panels of enamel-coated galvanized steel.

MEETS NEC AND UL STANDARDS FOR SAFETY

- UL-approved panel designs (label installed only on request).
- 100 VA control circuit transformer with primary fusing on 3-phase panels.
- Main circuit breaker.

SIMPLEX PANEL MODELS

WHERE INNOVATION MEETS TRADITION

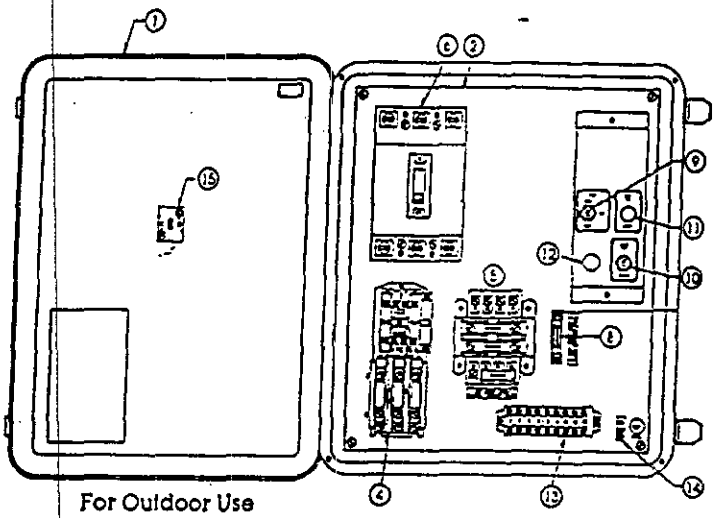
CATALOG NUMBER	ENCLOSURE	HP	PHASE	VOLTAGE	USED WITH PUMP								
					S	SS	SR	WHV-5	WHR	WHRE	WHRH	ME	E
CE-11SW	NEMA 4X	1/4-1	1	115	X	X	X	X	X	X	X	X	X
CE(DS)-11SW	NEMA 4X	1/2	1	115					X	X	X	X	
CE-21SW	NEMA 4X	1/2-2	1	230	X	X	X	X	X	X	X	X	X
CE(DS)-21SW	NEMA 4X	1/2-2	1	230					X	X	X	X	
CE-23SW	NEMA 4X	1/2-2	3	208/230					X	X	X	X	
CE-43SW	NEMA 4X	1/2-2	3	460					X	X	X	X	
CE-11S	NEMA 1	1/4-1	1	115	X	X	X	X	X	X	X	X	X
CE(DS)-11S	NEMA 1	1/2	1	115					X	X	X	X	
CE-21S	NEMA 1	1/2-2	1	230	X	X	X	X	X	X	X	X	X
CE(DS)-21S	NEMA 1	1/2-2	1	230					X	X	X	X	
CE-23S	NEMA 1	1/2-2	3	208/230					X	X	X	X	
CE-43S	NEMA 1	1/2-2	3	460					X	X	X	X	

NOTE: Catalog Numbers with (DS) are for double seal pump, panel has seal leak light.

Myers®

CE Simplex Electrical Control Panels

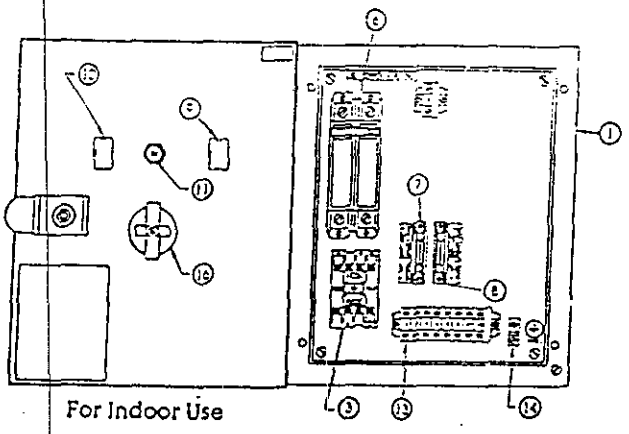
For 1/4-2 HP S, SS, SR, WHV-5, WHR, WHRE, WHRH, ME, E Pumps



For Outdoor Use

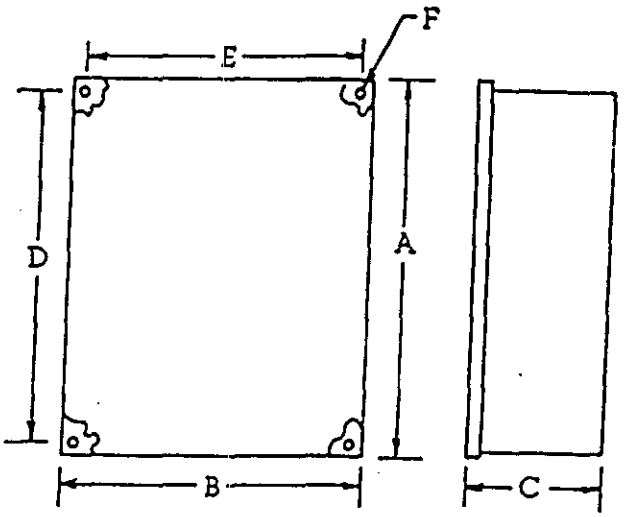
STANDARD PANEL FEATURES

1. **CORROSION-RESISTANT ENCLOSURE** NEMA 4X fiberglass (outdoor). NEMA 1 steel (indoor)
2. **ALUMINUM BACK PANEL** NEMA 4X only
3. **IEC CONTACTOR** Silver cadmium oxide contacts
4. **IEC MOTOR STARTER** 3-pole bi-metal overload relay
5. **100VA CONTROL CIRCUIT TRANSFORMER** Primary fusing on 3Ø
6. **MAIN CIRCUIT BREAKER**
7. **CONTROL CIRCUIT FUSE** 1 amp
8. **ALARM CIRCUIT FUSE** 1 amp
9. **HAND-OFF-AUTO SWITCH** Momentary in-hand position
10. **ALARM TEST SWITCH**
11. **PUMP RUN LIGHT** Amber
12. **SEAL LEAK LIGHT** Red. Use with double seal pumps only
13. **TERMINAL BLOCKS** For pump and float connections
14. **GROUND LUG**
15. **ALARM LIGHT** Nameplate mounted through enclosure front (NEMA 4X)
16. **ALARM BUZZER** 86 db at 10 ft. (NEMA 1)



For Indoor Use

ENCLOSURE DIMENSIONS



Panel	NEMA 1 1Ø	NEMA 1 3Ø	NEMA 4X 1Ø	NEMA 4X 3Ø
MAT'L	Steel	Steel	Fiberglass	Fiberglass
A	12-1/4	16-1/4	13-9/16	17-1/2
B	10-1/4	12-1/4	11-7/16	15-7/16
C	6	6	6-9/16	7-11/16
D	9	13	12-3/4	16-3/4
E	9	11	8	12
F	9/32	9/32	5/16	5/16

OPTIONAL PANEL FEATURES

- Elapsed time meter
- Alarm bell or horn
- Alarm bell or horn with silence switch
- Auxiliary contacts
- Condensation heater
- Convenience outlet
- Intrinsically safe relays
- Lightning arrestor
- Full inner door
- Cycle counter
- 24 volt control circuitry
- Transfer switch/generator receptacle
- Pump delay circuitry
- Low level cut-off and alarm
- Phase loss circuitry
- Low voltage circuitry

Other options also available

NOTE: Some options may increase enclosure size.

Myers®

F. E. Myers, A Pentair Company
1101 Myers Parkway
Ashland, Ohio 44805-1923

419/289-1144
FAX: 419/289-6658, TLX: 98-7443

K3194 8/91
Printed in U.S.A.

ZABEL Filters Out Perform *All* Others!

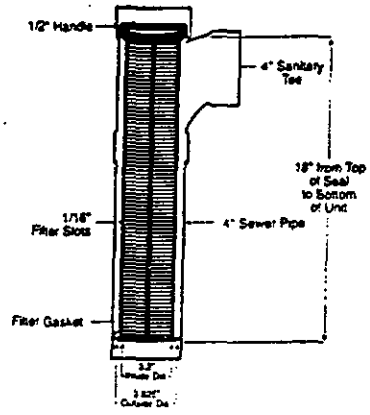
A-1800 Residential

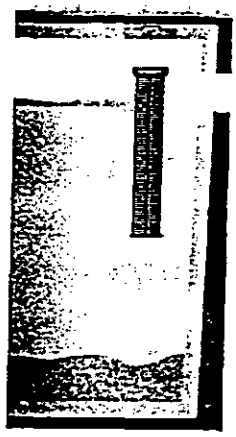
LOWER COST: Lower cost than any other filter or screen.

FINER FILTRATION: 61 Lineal feet of 1/16" filtration.

EASIER INSTALLATION: Fits any 4" outlet T & pipe.

FLOW RATE: 800 GPD





U.S. Patent 5,382,357
5,482,621
Canadian Patent 2,135,937

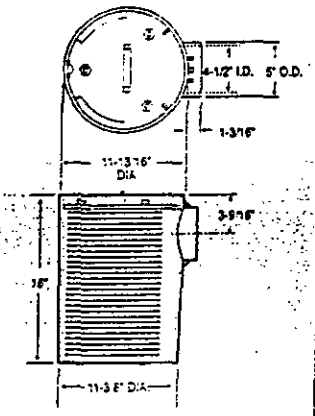
A-100 Commercial & Residential

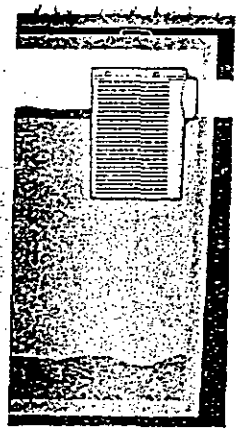
BETTER PROTECTION: 198 Lineal feet of 1/16" filtration.

EASIER TO SERVICE: Reusable cartridge removes easily for cleaning.

PROVEN EFFECTIVE: 30 years of successful performance.

FLOW RATE: 3,000 GPD





U.S. Patent 4,710,295

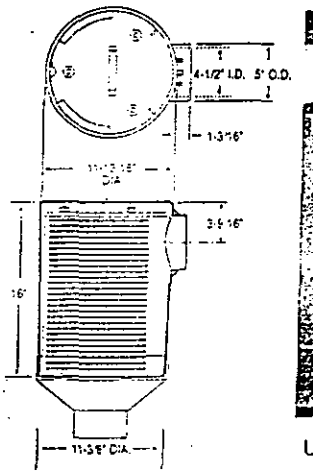
A-300 Industrial & Commercial

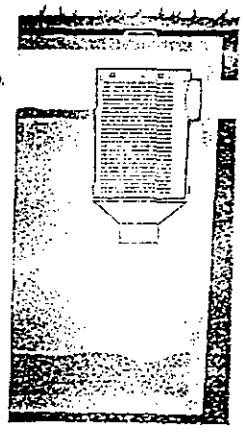
100's OF APPLICATIONS: Filters grease, hair, lint, flour, wastewater and more.

VERY BEST FILTRATION: 205 Lineal feet of 1/32" filtration.

HIGHEST EFFICIENCY: Removes up to 90% grease & solids and 45% BOD.

FLOW RATE: 3,000 GPD





U.S. Patent 4,710,295

For More Information Contact:

Manufactured by Zabel Environmental Technology • 10409 Watterson Trail • Jeffersontown, KY 40299

Recycled Paper

ZABEL Filters
Out Perform *All* Others!

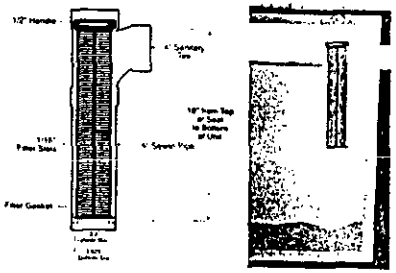
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LOWER COST: Lower cost than any other filter or screen.

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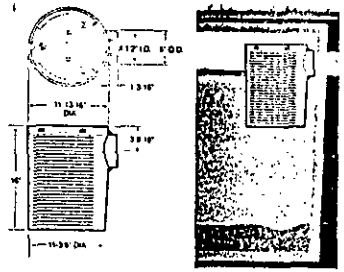
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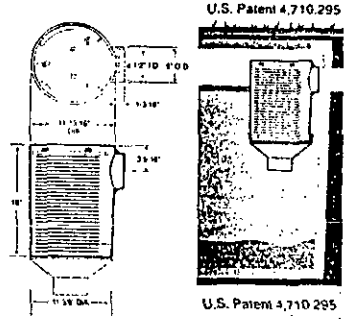
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For More Information Contact:

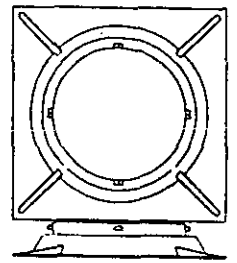
Zabel Environmental Technology
1-800-221-5742
http://www.zabel.com

Manufactured by Zabel Environmental Technology • 10409 Watterson Trail • Jeffersontown, KY 40299

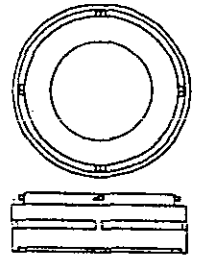
Recycled Paper

ZEUS™ RISER & BASIN SYSTEM (PATENTS PENDING)

TANK ADAPTER

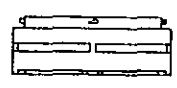


Tank Adapter-Top 2"
RB-TA-T-26X2



Tank Adapter - Form 6"
RB-TA-F-26X6

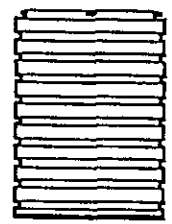
RISER



Riser 6"
RB-R-26X6

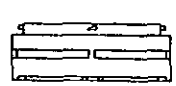


Riser 12"
RB-R-26X12

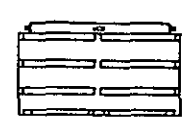


Riser 38"
RB-R-26X38

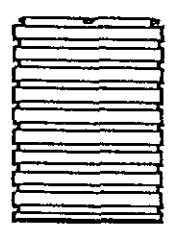
BASIN



Basin 6"
RB-B-26X6

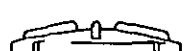


Basin 12"
RB-B-26X12

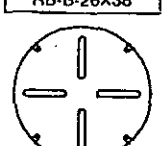


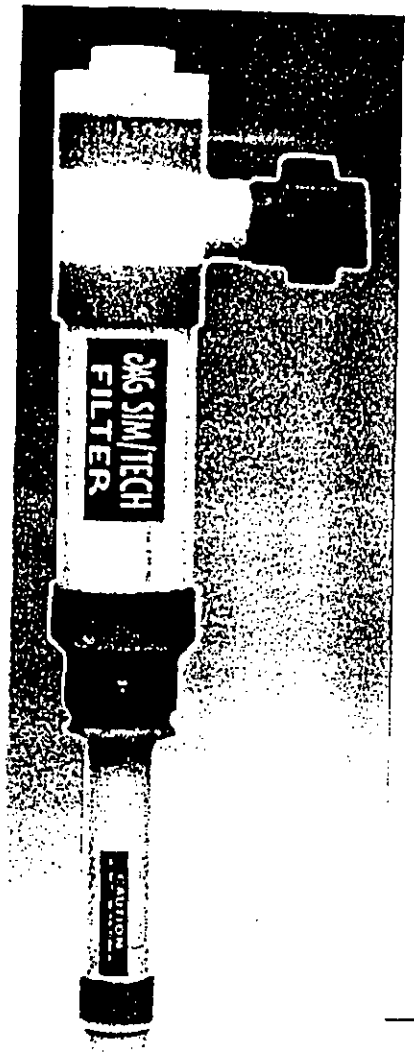
Basin 38"
RB-B-26X38

LID



Lid 26"
RB-L-26







The Sim/Tech Filter, with its 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 304 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 BOD and TSS, not directly but indirectly, by assuring your pressurized system functions at 100% efficiency.

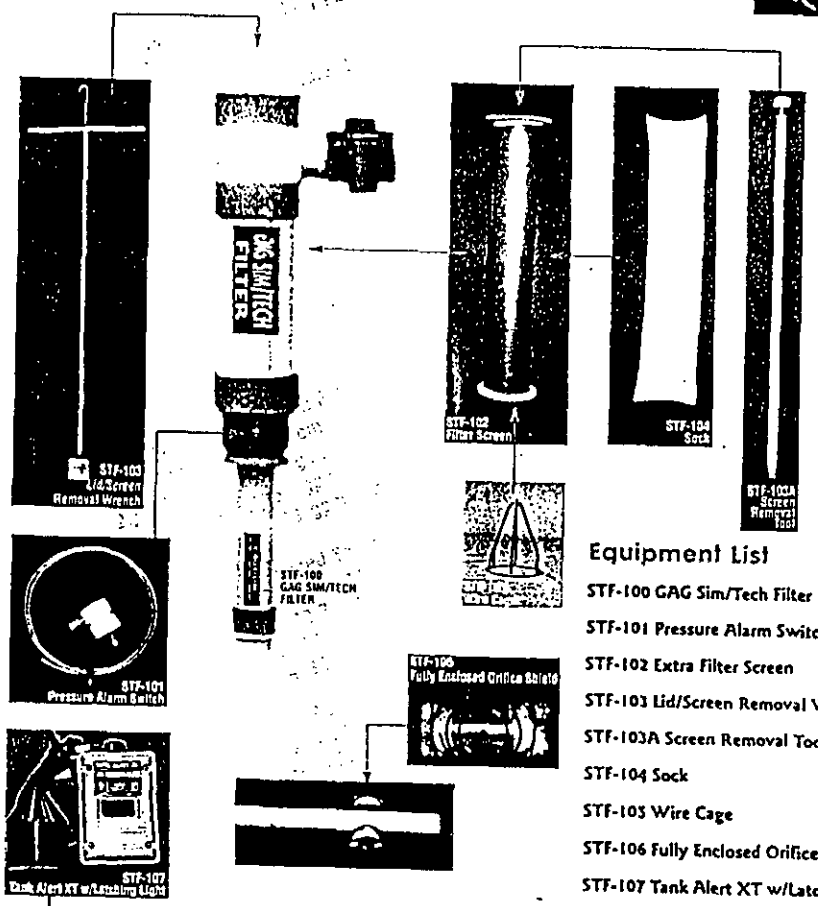
Engineers and designers now have the opportunity to offer a simple safeguard to meet performance standards now and in the future.

- *Easy installation*
- Low maintenance
- Economical
- Extends life of drainfield
- Improves effluent quality by assuring even distribution
- Ideal for effluent submersible pumps
- Can be used in both residential and commercial applications

An Innovative **Solution**

Engineered *For Performance*





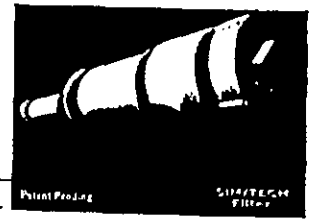
Equipment List

STF-100 GAG Sim/Tech Filter
STF-101 Pressure Alarm Switch
STF-102 Extra Filter Screen
STF-103 Lid/Screen Removal Wrench
STF-103A Screen Removal Tool
STF-104 Sock
STF-105 Wire Cage
STF-106 Fully Enclosed Orifice Shield
STF-107 Tank Alert XT w/Latching Light

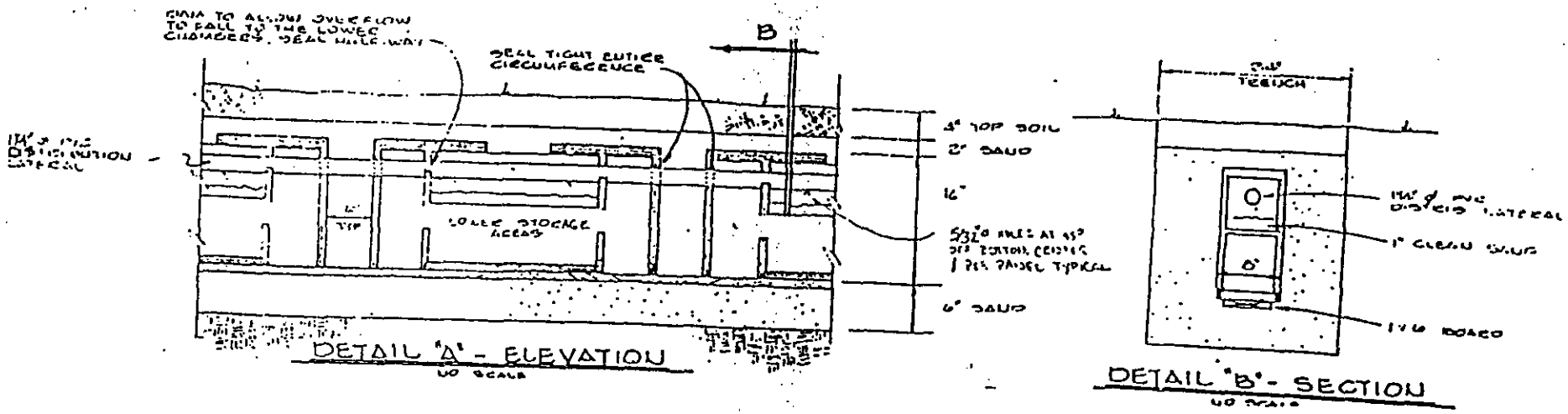
Restrictions and Specifications

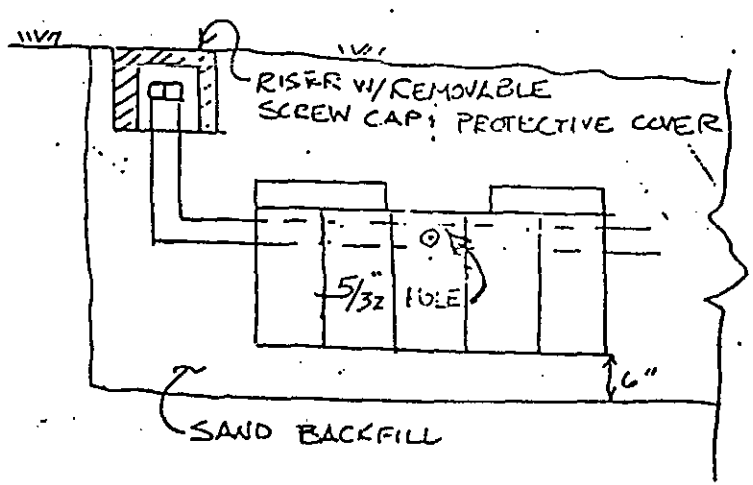
Total Head Loss .5002ft. or .21psi
Flow Rate with a Clean Screen = 120.672 GPD at 1psi
Flow Rate with a 95% Plugged Screen = 114.912 GPD at 1.8psi

Pump chamber detailed drawings and/or CAD disks for the Sim/Tech Filter are available upon request, at no cost, to help aid in your blueprint and drafting needs.

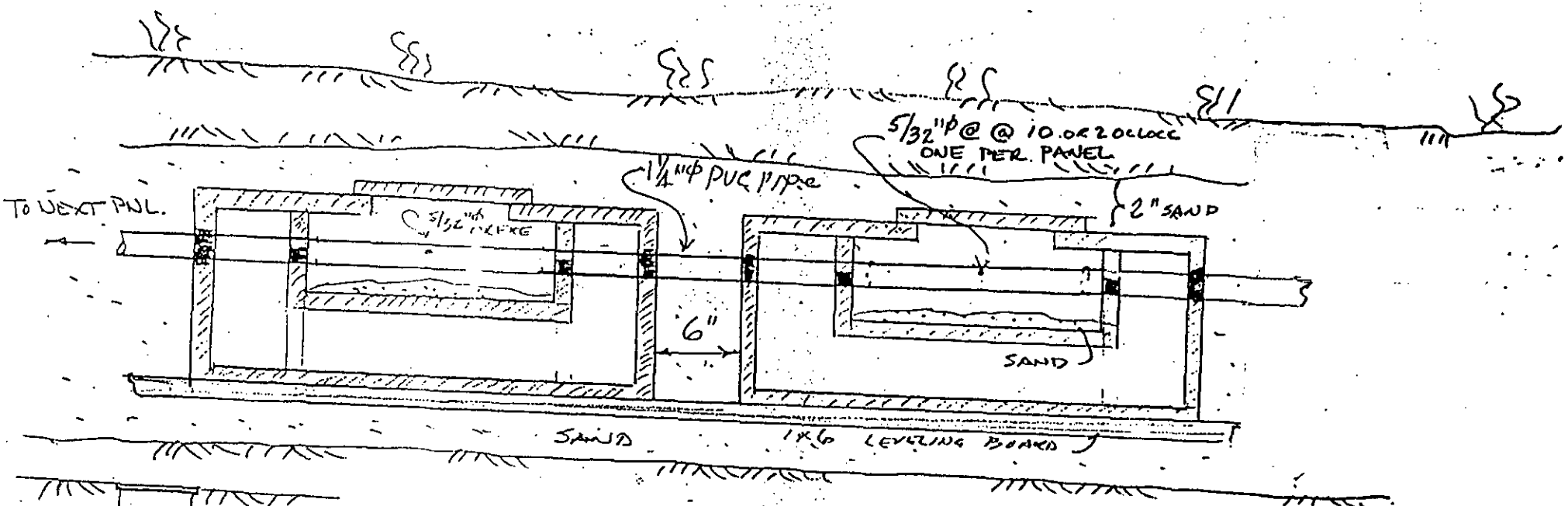


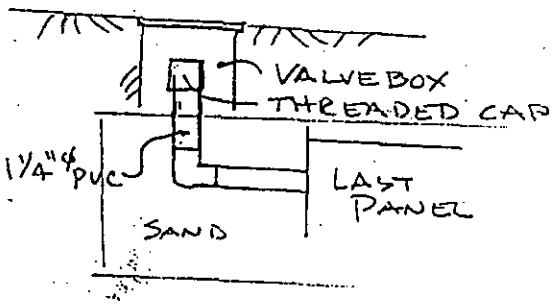
T & J PANEL AS MFG'D BY STATESVILLE CONCRETE PRODUCTS



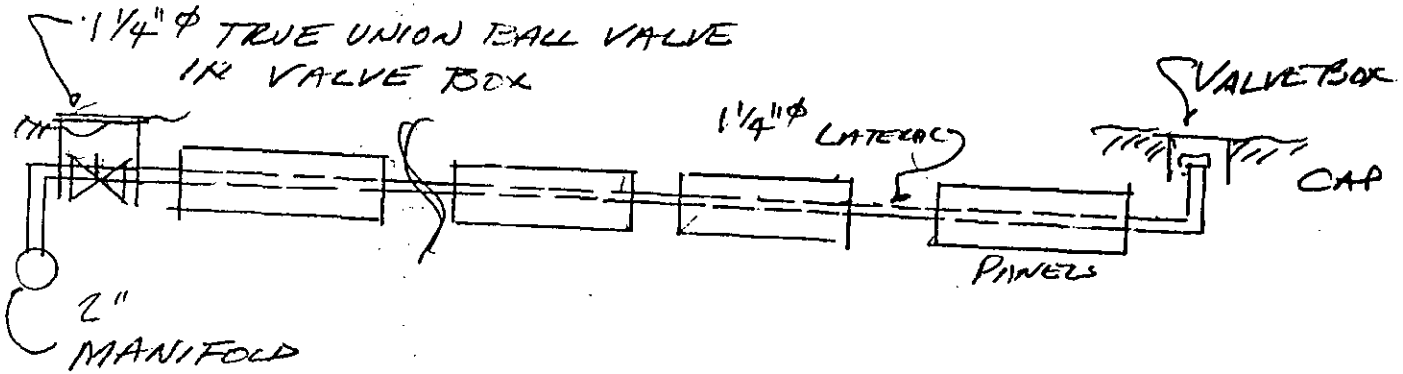


B.K. Barringer, Jr. P.E.
104 Westfield Center
MOORESVILLE, NORTH CAROLINA 28





ELEVATION - GRAVITY FLOW PANELS



PLAN OF MANIFOLD / PANEL

DIVISION OF ENVIRONMENTAL HEALTH
ON-SITE WASTEWATER SECTION

Sheet:

704-536-9411

#2

Property ID: 105-142-2824

Lot #: 30, 4P

File #: 346-A

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

OWNER: Jesse W. Fox

APPLICANT:

ADDRESS: 6916 Nolensville Rd, Nashville, TN DATE EVALUATED: 4-23-99

PROPOSED FACILITY: residence PROPOSED DESIGN FLOW (.1949) 3 bedrm PROPERTY SIZE: 1.2

LOCATION OF SITE: Cane Juke Dr PROPERTY RECORDED:

WATER SUPPLY: ☐Private ☐Public Well ☐Spring ☐Other

EVALUATION METHOD: ☐Augur Boring ☐Pit ☐Cut

TYPE OF WASTEWATER: ☐Sewage Industrial Process ☐Mixed

PROFILE #	Slope 2-12% .1940 Landscape Position/ Slope %	Horizon Depth (IN.)	SOIL MORPHOLOGY (.1941) .1941 STRUCTURE/ TEXTURE	SOIL MORPHOLOGY (.1941) .1941 CONSISTENCE MINERALOGY	OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR	OTHER PROFILE FACTORS .1943 SOIL DEPTH	OTHER PROFILE FACTORS .1956 SAPRO CLASS	OTHER PROFILE FACTORS .1944 RESTR HORIZ	PROFILE CLASS &LTAR
1	LS	0-10"	gr/sl	Fr/ SExPl NP/non	10YR 7/1 @ 24"	39"	N/A	None	US
		10-14"	sbk/scl	Fr-F:/ SExPl SS/SP					
		14-39"	sbk/ C	VF:/ Mixed/ VH/VP					
2	LS	0-2"	gr/sl	Fr/ SExPl NS/NP	746" TO 50:1 WETNESS	46"	N/A	None	PS .39/F IV
		2-6"	sbk/scl	Fr-F:/ SExPl SS/SP					
		6-46"	sbk/ C	F:/ SExPl SS/P					
3	LS	0-4"	gr/scl	Fr/ SExPl SS/SP	720" TO 50:1 WETNESS	20"	N/A	None	US
		4-20"	sbk/ sc	VF:/ Mixed/ VH/VP					
4	LS	0-3"	gr/sl	Fr/ SExPl NS/NP	746" TO 50:1 WETNESS	46"	N/A	None	PS .39/F IV
		3-6"	sbk/scl	Fr/ SExPl SS/SP					
		6-39"	sbk/ C	F:/ SExPl SS/P					
		39-46"	sbk/ sc	F-/ SExPl SS/SP					

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	1.2	1.2
System Type(s)		
Site LTAR		

OTHER FACTORS (.1946):

SITE CLASSIFICATION (.1948): Unsuitable

EVALUATED BY: M.P. Martin LSS 4-26-99

OTHER(S) PRESENT:

COMMENTS Would need WCB Repair

LANDSCAPE POSITION	GROUP	TEXTURE	.1955 LTAR
R-RIDGE S-SHOULDER SLOPE L-LINEAR SLOPE FS-FOOT SLOPE N-NOSE SLOPE H-HEAD SLOPE CC-CONCLAVE SLOPE CV-CONVEX SLOPE T-TERRACE FP-FLOOD PLAIN	I	S-SAND LS-LOAMY SAND	1.2-0.8
	II	SL-SANDY LOAM L-LOAM	0.8-0.6
	III	SI-SILT SICL-SILTY CLAY LOAM CL-CLAY LOAM SCL-SANDY CLAY LOAM	0.6-0.3
	IV	SC-SANDY CLAY SIC-SILTY CLAY O-ORGANIC	0.4-0.1

CONSISTENCE MOIST	WET
VFR-VERY FRIABLE FR-FRIABLE FI-FIRM VFI-VERY FIRM EFI-EXTREMELY FIRM	NS-NON-STICKY SS-SLIGHTLYSTICKY S-STICKY VS-VERY STICKY NP-NON-PLASTIC SP-SLIGHTLYSTICKY P-PLASTIC VP-VERY PLASTIC

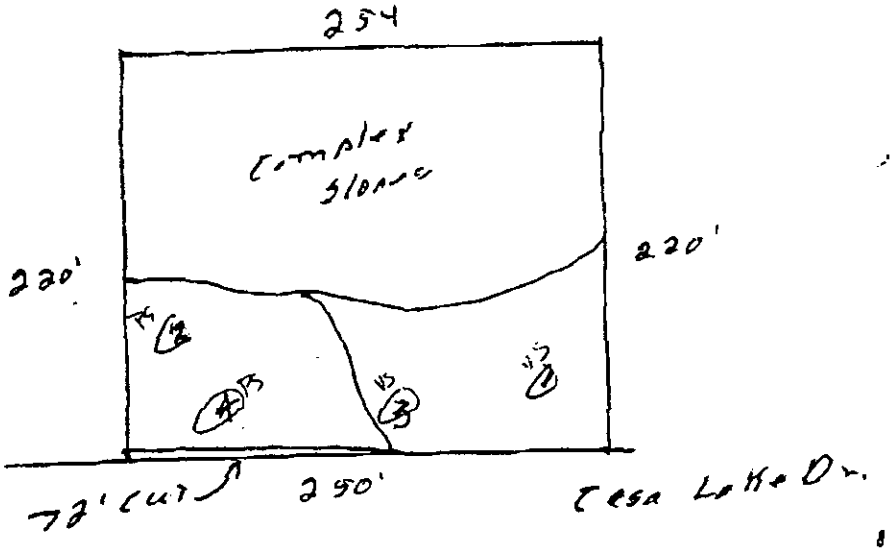
STRUCTURE

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

MINERALOGY

SLIGHTLY EXPANSIVE

EXPANSIVE



JUN-07-99 03:03 PM P
7054985522
P.02

Att:
B.K. Bamnger

6641778

Mecklenburg County
Health Department

May 5, 1999

Jesse W. Fox
8918 Nolesgate Road
Charlotte, NC 28215

Re: Lots 3 & 4 Casa Lake Drive
File: 346A
Parcel: 105-142-28 & 29

Dear Mr. Fox:

Receipt of your Application for Improvement Permit for the above referenced property is acknowledged. A soil evaluation and a site visit have been conducted. The results of the evaluation indicated that the site is **UNSUITABLE** under Rules: .1945 **AVAILABLE SPACE**. For these reasons your Application for Improvement Permit is denied. A possible way to develop the site exists under Rule .1948(d) which reads as follows:

> A site classified as **UNSUITABLE** may be used for a ground absorption sewage treatment and disposal system specifically identified in Rules .1955, .1956, and or .1957 of this Section or a system approved under Rule .1969 if written documentation, including engineering, hydrogeologic, geologic or soil studies, indicates to the local health department that the proposed system can be expected to function satisfactorily. Such sites shall be reclassified a **PROVISIONALLY SUITABLE** if the local health department determines that the substantiating data indicate that:
>
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> (3) the effluent will not be exposed on the ground surface or be discharged to surface waters where it could come in contact with people, animals, or vectors.
>
> The State shall review the substantiating data if requested by the local health department.

Please be advised that you have the right to an informal review by this department. You also have the right to appeal under G.S. 130A-24, and to have the appeal held in Mecklenburg County.

If you have any questions regarding this matter, please call me at 336-5568.

Sincerely,

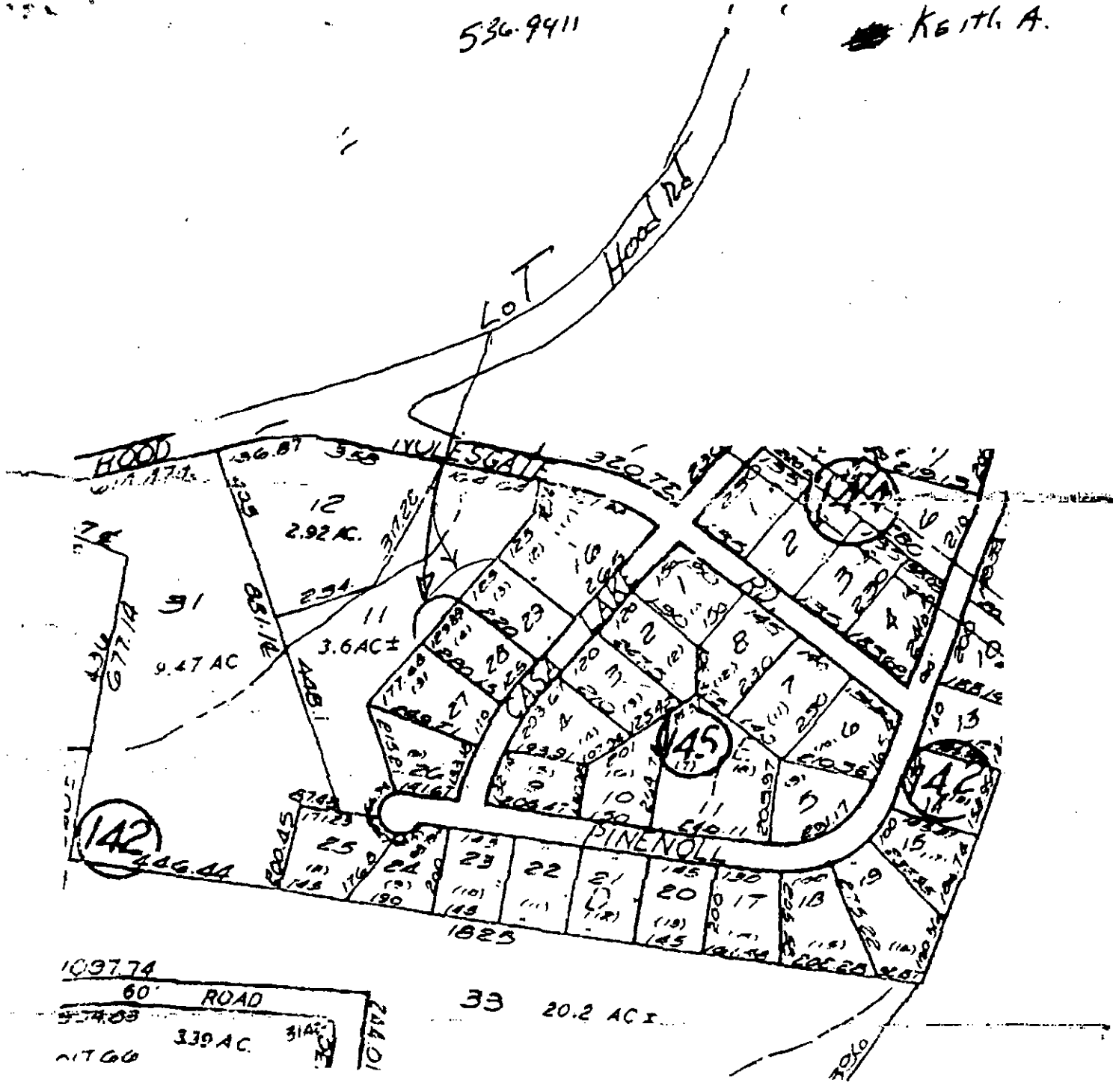
Larry B. Thompson, Jr., R.S.

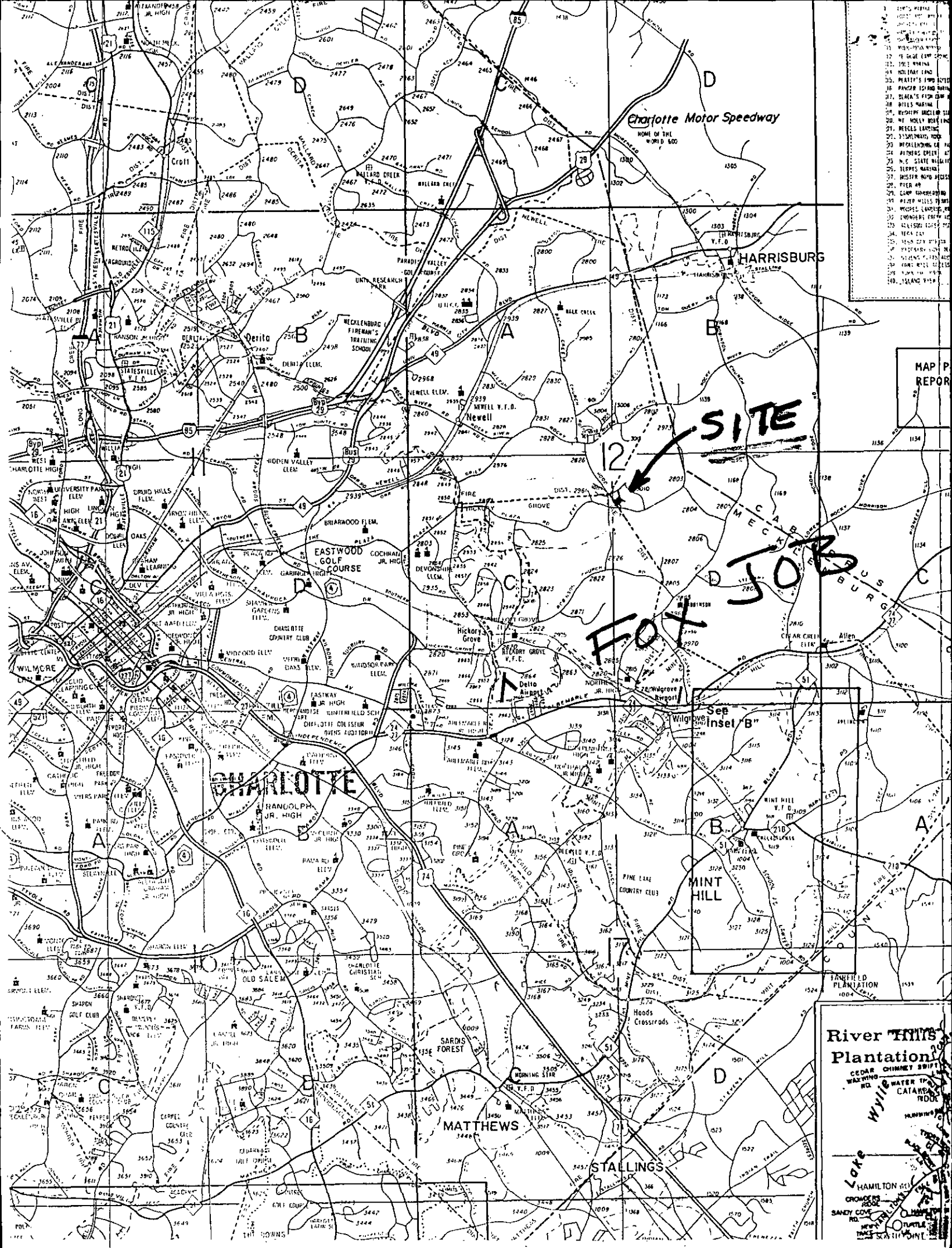
Larry B. Thompson, Jr., R.S., *Coordinator*
Managed Systems Program
Individual Water and Wastewater Systems

enclosure

JUN-07-99 02:44 PM P 7045498522 P.01

536-9411 Keith A.




Charlotte Motor Speedway
HOME OF THE WORLD 600
HARRISBURG
SITE
JOB
FOX
CHARLOTTE
MINT HILL
MATTHEWS
STALLINGS
Derita
Newell
Croft
Hickory Grove
Wilgrove
Allen
EASTWOOD GOLF COURSE
CHARLOTTE COUNTRY CLUB
PINE LAKE COUNTRY CLUB
OLD SALEM
SARDIS FOREST
Hoods Crossroads
Fairfield Plantation
River Hills Plantation
See Inset "B"
MAP P REPOR

130'± PL

WATER WELL

WOODED

LINE OF COMPLEX SLOPE

NORTH

1000 gal
~~1000~~ GAL PUMP TANK W/ FILTER
~~1000~~ GAL SEPTIC TANK W/ FILTER
1500

2" SCH 40 FORCE MAIN

x107

4" DRAIN

10'

3 BR RES
~~W/ BASEMENT~~
No Basement

*NO FOUNDATION DRAIN

REPAIR LINES (DASHED)

280'±

220'±

CLEAR TREES PER SPEC

REPAIR

VALVE @ EACH LATERAL

DRIVEWAY

GRASS ALL DISTURBED AREAS

2" MANIFOLD

107
107.5
109
107.0
109.5
109.5
110
111.25
111.75
111.75

10' MIN

TOP OF SLOPE

125' PL

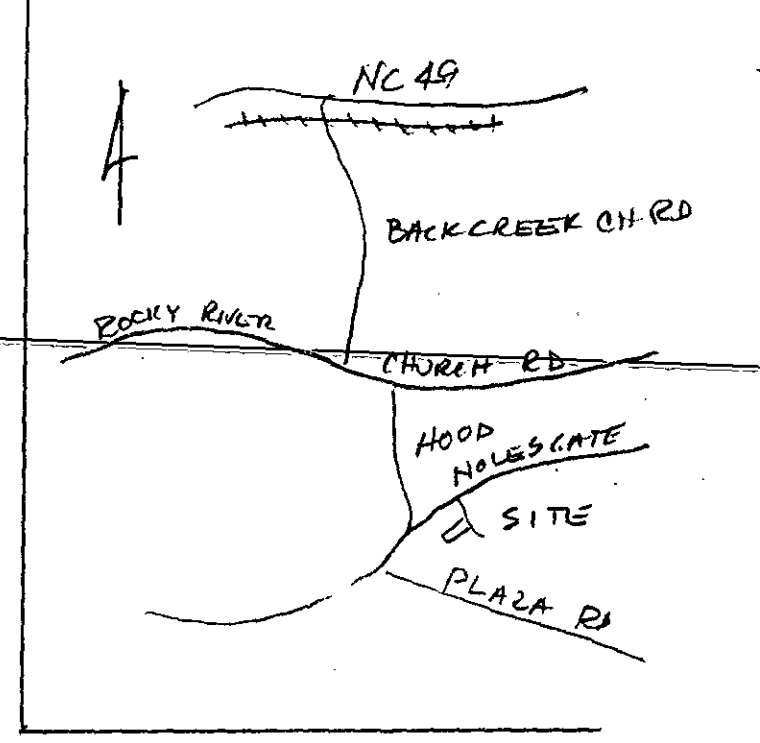
5 LATERAL w/ 9 PANELS EACH
MAINTAIN 8' MIN SPACING
45 PANELS TOTAL

DPP

△ FLAGS SET FOR ORIGINAL LPP SYSTEM LATERALS

℄ CASS LAKE DR (GRAVEL)

* IF foundation drain is installed minimum separation between drain and any lateral shall be 25'.



VICINITY MAP

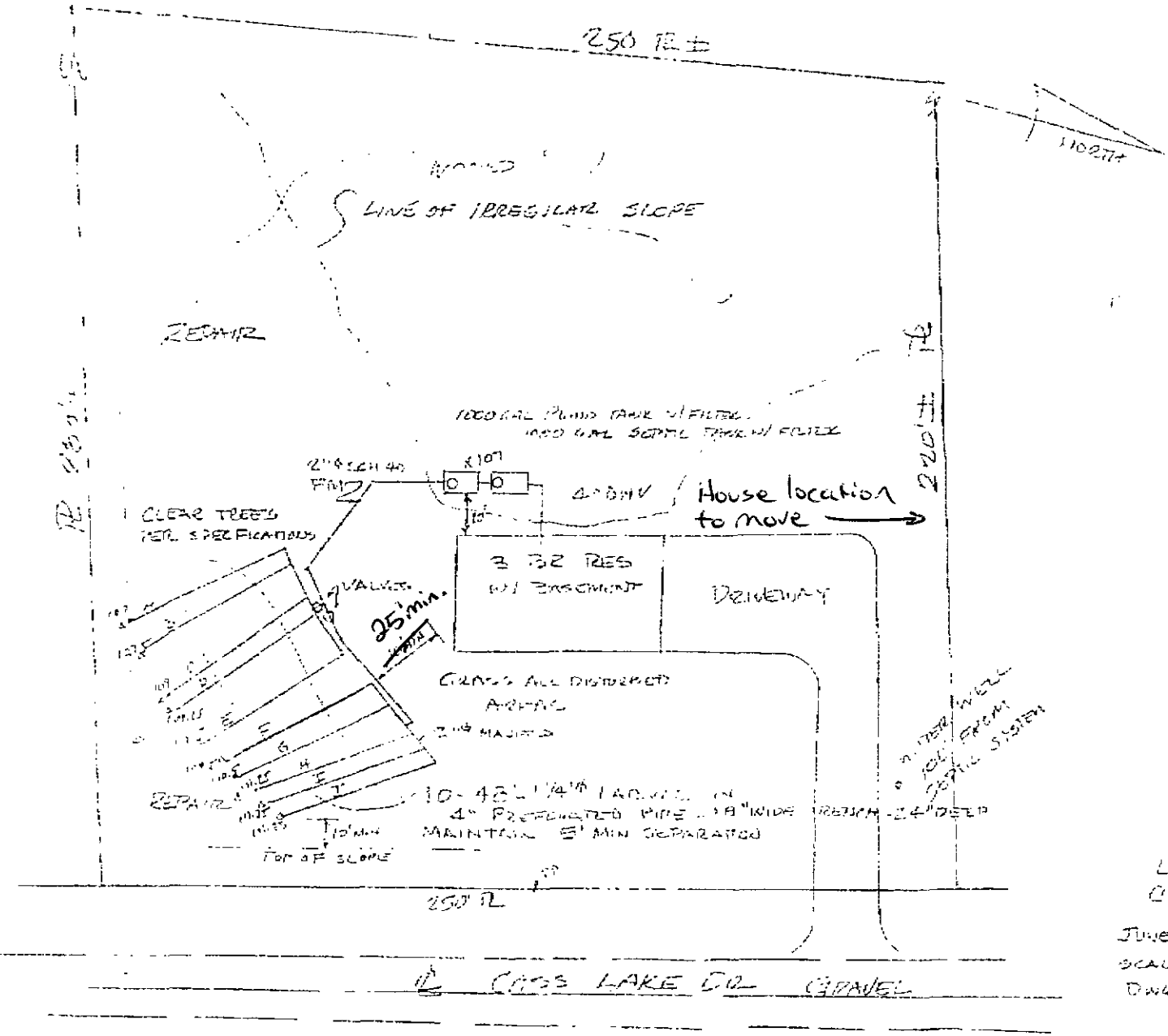
NORTH CAROLINA PROFESSIONAL SEAL 3370 ENGINEER B. K. BARRINGER, JR.

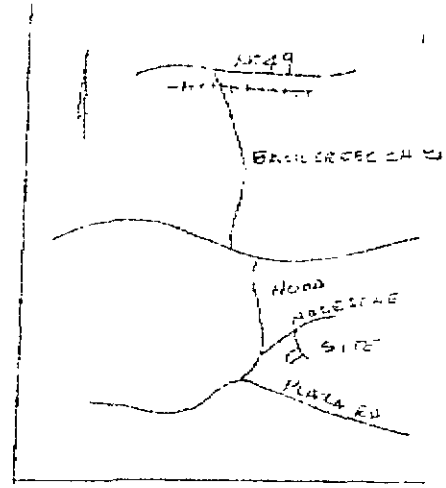
7-19-99

T & J PANEL SYSTEM
FOR SEPTIC DISPOSAL
SYSTEM FOR
MR & MS JESSE W FOX
LOT 28 CASS LAKE DR
CHARLOTTE, MECK CO NC.

7-19-1999
SCALE: 1" = 30'
DRAWN BY BKB

08/23/99 MON 11:05 FAX 704 664 1778 BK BARRINGER 002





VICINITY MAP

NORTH CAROLINA PROFESSIONAL SEAL 3370 ENGINEER B. K. BARRINGER, JR.

6-15-99

LPP SEPTIC DISPOSAL SYSTEMS FOR

MR & MS JESSE W FOX
LOTS 3 & 4 CASS LAKE DR
CHARLOTTE, MECK CO. NC

JUNE 14 1999
SCALE: 1"=30'
DRAWN BY: BRB

BARRINGER & ASSOCIATES, P.A.
104 WESTFIELD CENTER
MATTHEWS, NC 28105

Mecklenburg County
Health Department

May 5, 1999

Jesse W. Fox
8918 Nolesgate Road
Charlotte, NC 28215

Re: Lots 3 & 4 Casa Lake Drive
File: 346A
Parcel: 105-142-28 & 29

Dear Mr. Fox:

Receipt of your Application for Improvement Permit for the above referenced property is acknowledged. A soil evaluation and a site visit have been conducted. The results of the evaluation indicated that the site is **UNSUITABLE** under Rules: .1945 **AVAILABLE SPACE**. For these reasons your Application for Improvement Permit is denied. A possible way to develop the site exists under Rule .1948(d) which reads as follows:

> A site classified as **UNSUITABLE** may be used for a ground absorption sewage treatment and disposal system specifically identified in Rules .1955, .1956, and or .1957 of this Section or a system approved under Rule .1969 if written documentation, including engineering, hydrogeologic, geologic or soil studies, indicates to the local health department that the proposed system can be expected to function satisfactorily. Such sites shall be reclassified a **PROVISIONALLY SUITABLE** if the local health department determines that the substantiating data indicate that:
> (1) a ground absorption system can be installed so that the effluent will be non-pathogenic, non-infectious, non-toxic, and non-hazardous;
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Please be advised that you have the right to an informal review by this department. You also have the right to appeal under G.S. 130A-24, and to have the appeal held in Mecklenburg County.

If you have any questions regarding this matter, please call me at 336-5568.

Sincerely,

Larry B. Thompson, Jr., R.S., Coordinator
Managed Systems Program
Individual Water and Wastewater Systems

enclosure

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

400 #2

Sheet: _____
Property ID: 105-142-28,29
Lot #: 30, 4P
File #: 346-A

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

OWNER: Jesse W. Fox APPLICANT: _____
ADDRESS: 5916 Nolengate Rd, Charlotte, NC DATE EVALUATED: 4-23-99
PROPOSED FACILITY: residence PROPOSED DESIGN FLOW (.1949) 360gpd PROPERTY SIZE: 1.2
LOCATION OF SITE: Catawba Lake Dr PROPERTY RECORDED: _____
WATER SUPPLY: ☐Private ☐Public ☐Well ☐Spring ☐Other _____
EVALUATION METHOD: ☐Augur Boring ☐Pit ☐Cut
TYPE OF WASTEWATER: ☐Sewage ☐Industrial Process ☐Mixed

PROFILE #	Slopes 2-12% .1940 Landscape Position/ Slope %	Horizon Depth (IN.)	SOIL MORPHOLOGY (.1941) .1941 STRUCTURE/ TEXTURE	SOIL MORPHOLOGY (.1941) .1941 CONSISTENCE MINERALOGY	OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR	OTHER PROFILE FACTORS .1943 SOIL DEPTH	OTHER PROFILE FACTORS .1956 SAPRO CLASS	OTHER PROFILE FACTORS .1944 RESTR HORIZ	PROFILE CLASS &LTAR
1	LS	0-10"	gr/sl	Fr/SEXP/NS/NP	0.5Y 7/1 @ 24"	39"	N/A	None	US
		10-14"	SBK/scl	Fr-Fi/SEXP/SS/SP					
		14-39"	SBK/C	VFi/Mixed/VS/VP					
2	LS	0-2"	gr/sl	Fr/SEXP/NS/NP	746" TO soil wetness	46"	N/A	None	PS .391 F2 IV
		2-6"	SBK/scl	Fr-Fi/SEXP/SS/SP					
		6-46"	SBK/C	Fi/SEXP/S/P					
3	LS	0-4"	gr/scl	Fr/SEXP/SS/SP	720" TO soil wetness	20"	N/A	None	US
		4-20"	SBK/sc	VFi/Mixed/VS/VP					
4	LS	0-3"	gr/sl	Fr/SEXP/NS/NP	746" TO soil wetness	46"	N/A	None	PS .391 F2 IV
		3-6"	SBK/scl	Fr/SEXP/SS/SP					
		6-39"	SBK/C	Fi/SEXP/S/P					
		39-46"	SBK/scl	Fr/SEXP/SS/SP					

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	US	US
System Type(s)		
Site LTAR		

OTHER FACTORS (.1946): _____
SITE CLASSIFICATION (.1948): Unsuitable
EVALUATED BY: W.P. Marlin LSS 4-26-99
OTHER(S) PRESENT: _____

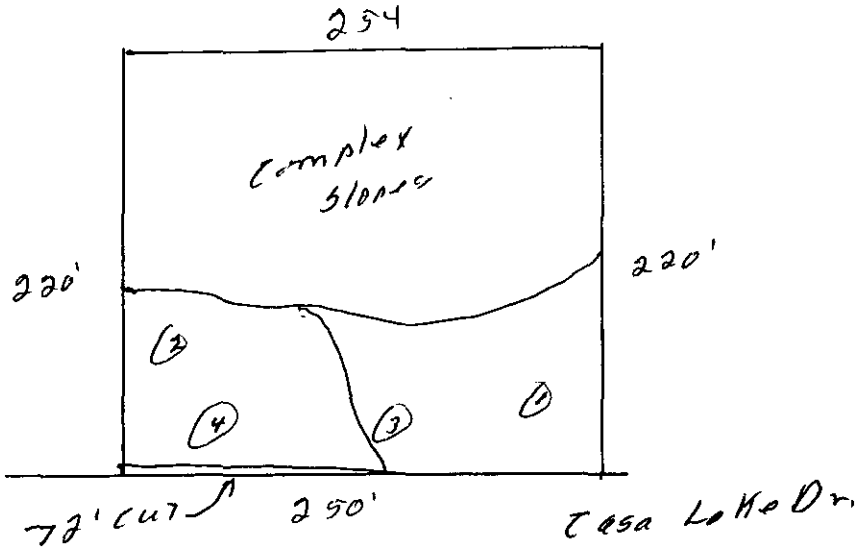
FILE # 346-A

COMMENTS Would need WCE Repair

LANDSCAPE POSITION	GROUP	TEXTURE	.1955 LTAR
R-RIDGE	I	S-SAND	1.2-0.8
S-SHOULDER SLOPE		LS-LOAMY SAND	
L-LINEAR SLOPE			
FS-FOOT SLOPE	II	SL-SANDY LOAM	0.8-0.6
N-NOSE SLOPE		L-LOAM	
H-HEAD SLOPE			
CC-CONCLAVE SLOPE	III	SI-SILT	0.6-0.3
CV-CONVEX SLOPE		SICL-SILTY CLAY LOAM	
T-TERRACE		CL-CLAY LOAM	
FP-FLOOD PLAIN		SCL-SANDY CLAY LOAM	
	IV	SC-SANDY CLAY	0.4-0.1
		SIC-SILTY CLAY	
		O-ORGANIC	

CONSISTENCE	
MOIST	WET
VFR-VERY FRIABLE	NS-NON-STICKY
FR-FRIABLE	SS-SLIGHTLYSTICKY
FI-FIRM	S-STICKY
VFI-VERY FIRM	VS-VERY STICKY
EFI-EXTREMELY FIRM	NP-NON-PLASTIC
	SP-SLIGHTLYSTICKY
	P-PLASTIC
	VP-VERY PLASTIC

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



N

FEE: $100.00 CC
DATE: 3/26/99 VLD
9K-2 16637

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

[ ] 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 #: 340 A

PROPERTY INFORMATION (FROM ENGINEERING FORM) FOR JOB LOCATION:

TAX/PARCEL NUMBER: 105-142-2829

STREET ADDRESS: [redacted] Casa Lake Dr

SUBDIVISION OR MOBILE HOME PARK NAME:

LOT NUMBER: Lots 3 & 4 D

TYPE OF BUILDING (CHECK ONE):

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

TOWNSHIP (CHECK ONE):

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

HEATED SQUARE FOOTAGE: 1600 SF

NUMBER OF BEDROOMS: 3 NUMBER OF OCCUPANTS: 4

CLOSING DATE_____

FOUNDATION FOR RESIDENCE: may consider basement

- [✓] WITHOUT BASEMENT
- [ ] ON SLAB
- [ ] CRAWL SPACE
- [ ] 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 [✓] NO TYPE: _____

WATER SUPPLY (CHECK ONE):

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

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

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

PROPERTY OWNER:

NAME: (LAST) Fox (FIRST) Jesse (MI) W

ADDRESS: 8918 Nolensville Rd

CITY: Chpl STATE: NC ZIP: 28215

DAYTIME PHONE: 704 536-9411

LEGAL AGENT FOR PROPERTY OWNER, IF APPLICABLE:

NAME: (LAST) (FIRST) (MI)

DAYTIME PHONE: ( ) -

WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED? _____

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: Jesse Fox DATE: 3-24-99

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

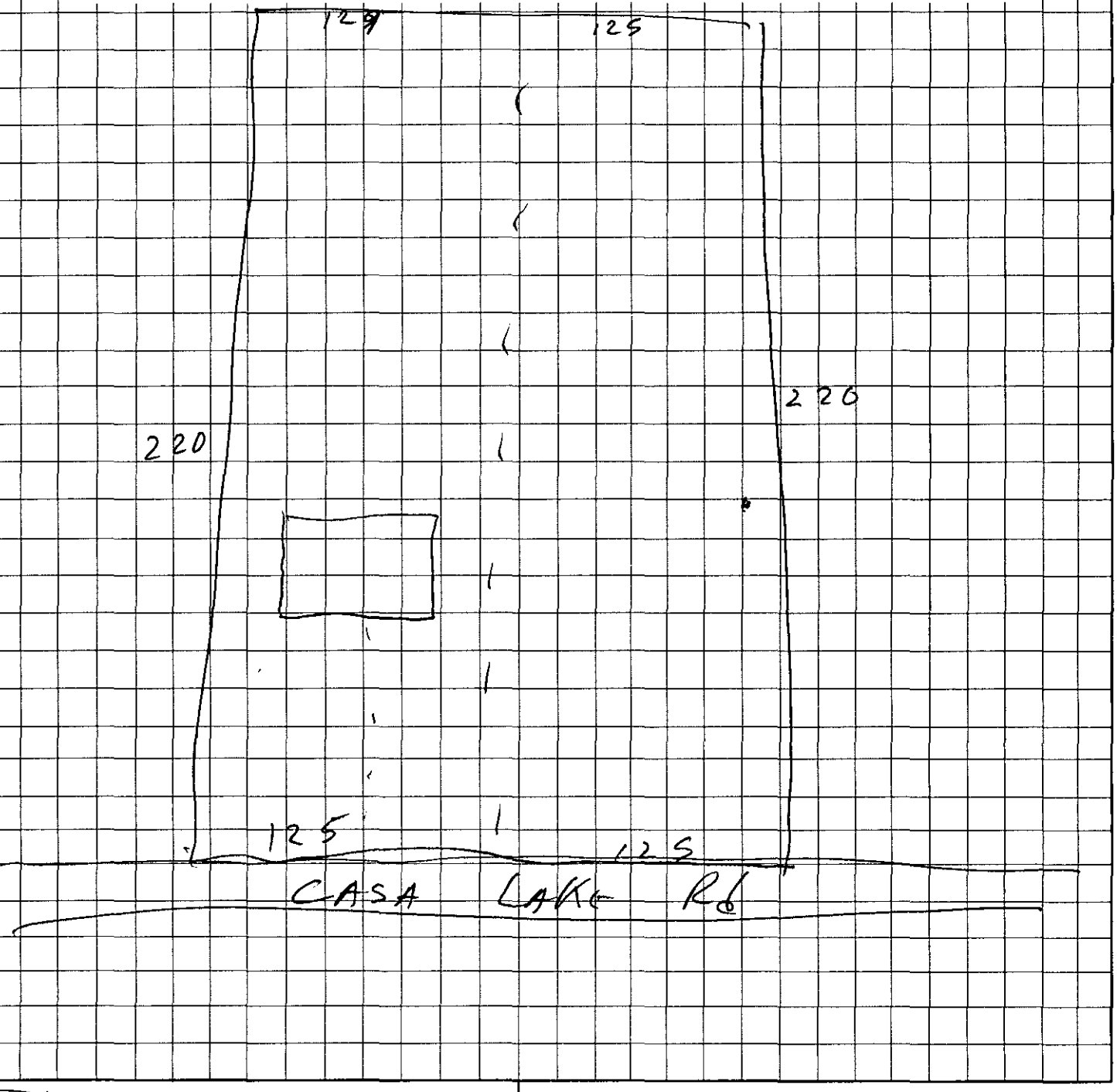
PROPOSED PLOT PLAN

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

FILE: 346A

TC: 105-142-28, 29

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



OWNER/AGENT SIGNATURE

DATE 3-24-97

APPROVAL DATE _____

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