IREDELL COUNTY HEALTH DEPARTMENT

Site Address: 117 Plank Barn Rd - S. Point

STATESVILLE 704-878-5305 MOORESVILLE 704-664-5281

IMPROVEMENT PERMIT / AUTHORIZATION TO CONSTRUCT / OPERATION PERMIT / EXISTING SYSTEM INSPECTION

PERMIT# 089854 PIN# 3797 52 7024 ✓ DATE 7-11-2000

OWNER OR CONTRACTOR TED O'KEEFE PHONE: Business 878-9444 Home

ADDRESS 192 ASHLEY ACRES STATESVILLE, NC 28677

LOCATION NC90W, TL 2ND LACKEY FARM RD, TR PLANK BARN RD, 2ND LOT ON LEFT

SUBDIVISION STONY HILL BLOCK / SECTION LOT 23 LOT AREA 1.4996 ACRES SITE CLASS PS DESIGN FLOW 360 L.T.A.R. 0.125 GPD/FT²

Septic Tank: 1000 Gallons; STB 1012 Date 4-31-00 (8) ✓

Pump Tank: 1000 Gallons; PT 17 Date 5-27-00

Pump Make: HYDROMATIC Model SHERSON Serial No.

Nitrification Field: No Fields 1 Square Feet 2800 Linear Feet 576

No Lines 7 Trench Width 18" Max Trench Bottom Depth 18" Gravel Depth 12"

☑ New System ☐ Repair System Type: I, II, III, IV ✓, V, VI

System Description: LOW-PRESSURE PIPE

Repair System Description: LOW-PRESSURE PIPE PBPS

Maintenance Agreement Required: ☑ Yes ☐ No ✓

☐ House/Mod. Home No. Bedrooms 3

☐ Mobile Home No. Bathrooms 2

☐ Business No. Employees

☐ Other

☐ Slab ☑ Crawl Space ☐ Basement w/plumbing ☐ Basement wo/plumbing

Water Supply: ☐ Individual ☑ Public ☐ Community

Comments:/Conditions:

Comments:/Conditions: TANKS & LINES INSPECTED 8-1-00, PRESSURE CHECKED OK. - RSH

INITIAL SITE SKETCH

(1) INSTALL LOW PRESSURE PIPING GROUND ABSORPTION WASTE WATER DISPOSAL SYSTEM IN ACCORDANCE WITH GUIDELINES SET FORTH IN .1957 (a) AND AS SPECIFIED IN ATTACHED SITE PLAN DATED JUNE 30, 2000 PREPARED BY B.K. BARRINGER & ASSOCIATES, P.A.

(2) CERTIFIED MANAGEMENT ENTITY SHALL BE CONTRACTED WITH PRIOR TO ISSUANCE OF OPERATION PERMIT.

AS BUILT SKETCH

Permit can be suspended or revoked if any false information is supplied toward securing the permit/any unauthorized changes are made to the site/any unauthorized changes are made in the installation of the system. Improvement Permit with plat valid without expiration. Improvement Permit with site plan valid for sixty months. Authorization to Construct is valid for a period equal to that of Improvement Permit – not to exceed sixty months.

Signed: Mary Lou O'Keefe date 7/12/00 Installed by: A-1 Backhoe

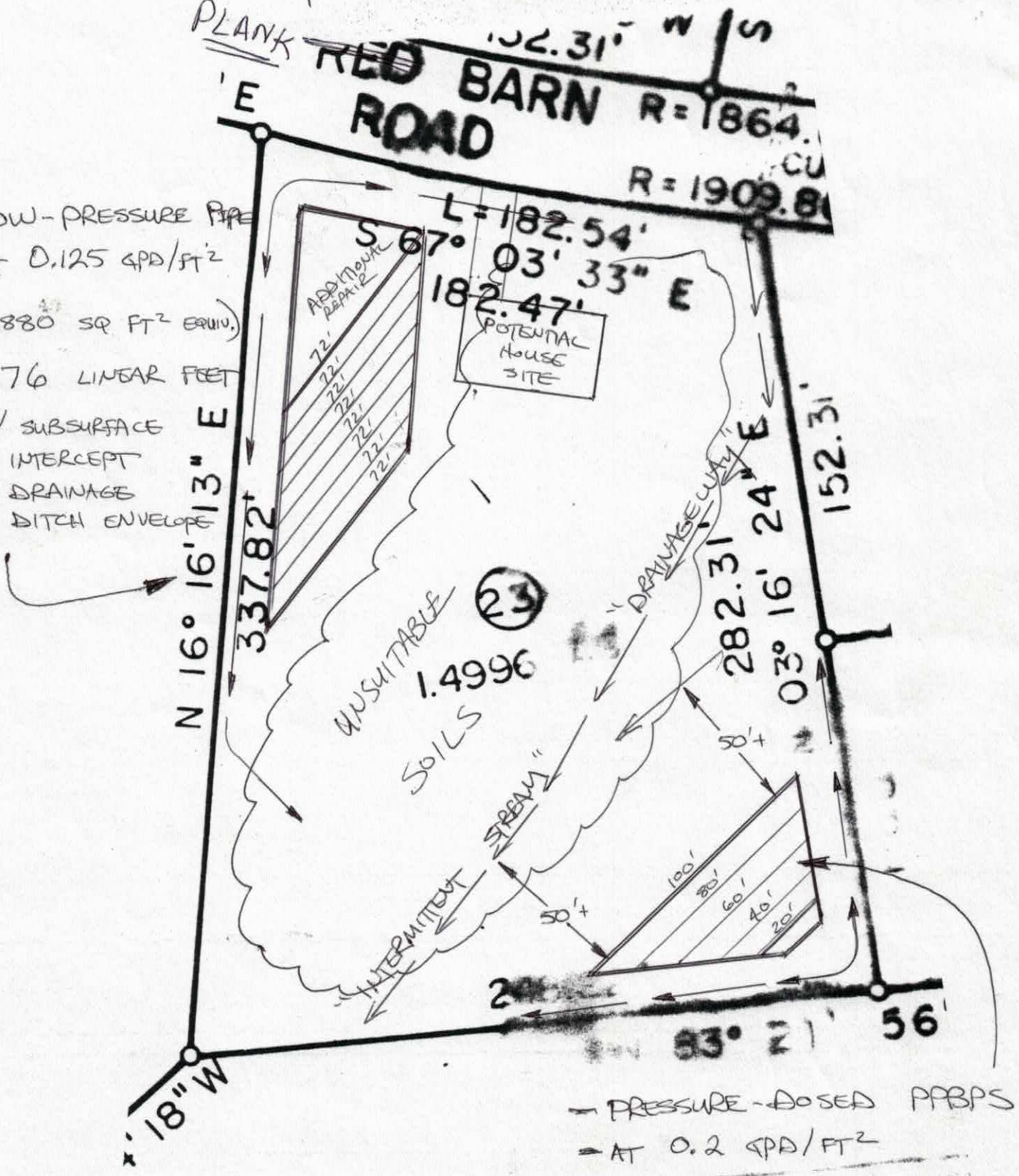
Improvement Permit by: STEVE HEDRICK date 7-11-2000 Operation Permit by: date

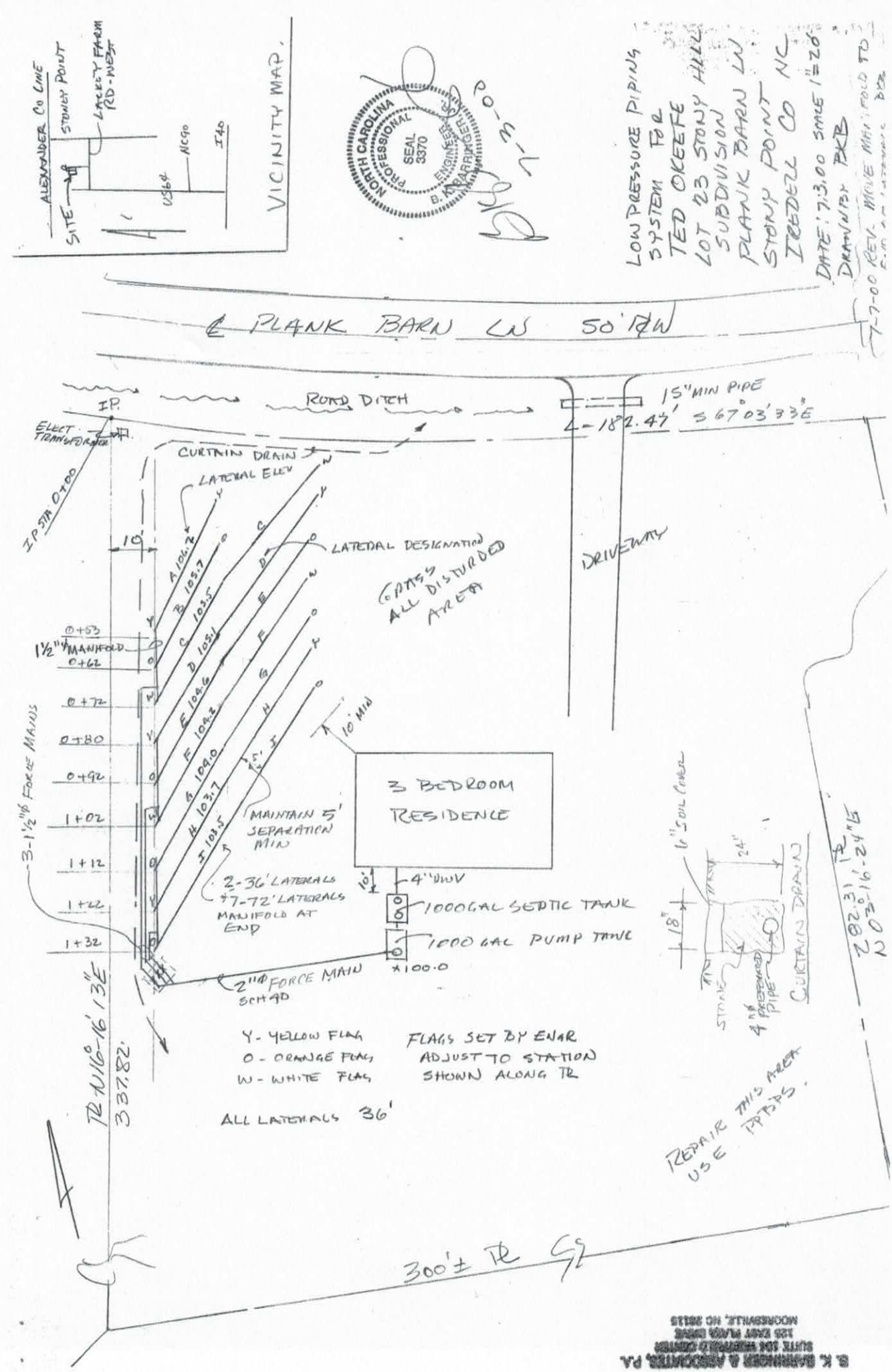
Authorization to Construct by: STEVE HEDRICK date 7-11-2000 Existing System Inspection by: date

HEALTH DEPT. COPY: WHITE OWNER COPY (FINAL): YELLOW OWNER COPY (INITIAL): PINK

TED & MARY LOU O'KEEFE

STONY HILL LOT #23




VICINITY MAP.
ALEXANDER CO LINE
STONEY POINT
LAKEY FARM RD-WEST
NC90
I40
US64
SITE
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 3370
B. K. BARRINGER
LOW PRESSURE PIPING SYSTEM FOR TED OKEEFE LOT 23 STONY HILL SUBDIVISION PLANK BARN LN STONY POINT IREDELL CO NC
DATE: 7-3-00 SCALE 1"=20'
DRAWN BY: BKB
7-7-00 REV. MOVE MANIFOLD TO
℄ PLANK BARN LN 50' RW
IP.
ROAD DITCH
15" MIN PIPE
L=182.47' S 67°03'33" E
ELECT. TRANSFORMER
CURTAIN DRAIN
LATERAL ELEV
IP STA 0+00
10'
LATERAL DESIGNATION
COVERS ALL DISTURBED AREA
DRIVEWAY
0+53
1½" PVC MANIFOLD
0+62
0+72
0+80
0+92
1+02
1+12
1+22
1+32
A 106.2
B 105.7
C 103.5
D 105.1
E 104.6
F 104.2
G 104.0
H 103.7
I 103.5
3-1½" PVC FORCE MAINS
10' MIN
5'
3 BEDROOM RESIDENCE
MAINTAIN 5' SEPARATION MIN
2-36' LATERALS
7-72' LATERALS
MANIFOLD AT END
10'
4" DWV
1000 GAL SEPTIC TANK
1000 GAL PUMP TANK
X 100.0
2" PVC FORCE MAIN SCH 40
6" SOIL COVER
18"
24"
STONE
4" PERFORATED PIPE
CURTAIN DRAIN
N 20°16'24" W 282.31' TO IP
TR N 16°16'13" E 337.82'
Y - YELLOW FLAG
O - ORANGE FLAG
W - WHITE FLAG
FLAGS SET BY ENGR ADJUST TO STATION SHOWN ALONG TR
ALL LATERALS 36'
REPAIR THIS AREA USE RIP RAP.
300'± TR
B. K. BARRINGER & ASSOCIATES, P.A.
125 EAST PLANK ROAD
MOORESVILLE, NC 28115

Specifications and Scope of Work

for

INDIVIDUAL RESIDENCE

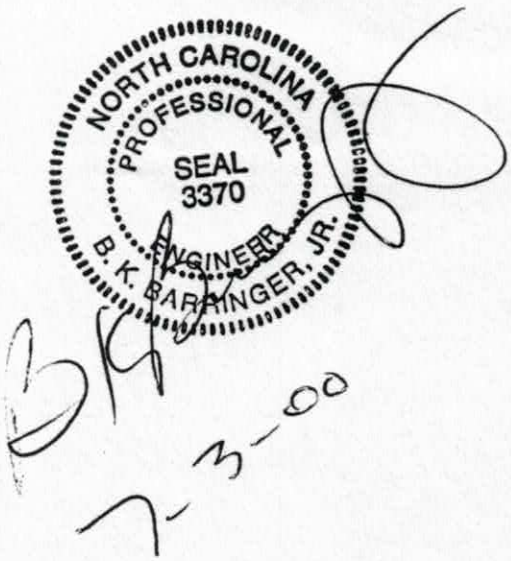
LOW PRESSURE PIPING

GROUND ABSORPTION, WASTEWATER

DISPOSAL SYSTEM

for

Ted O'Keefe Home Builders
Lot 23 Plank Barn Lane
Stony Hill Subdivision
Stony Point, (Iredell County), NC



PREPARED FOR:

Ted O'Keefe Home Builders
192 Ashley Ave
Statesville, NC 28677
Phone: (704) 878-9444
Fax: (704) 450-1920

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 3-bedroom residence, which will be served by public water.

Soils investigation by Iredell County Soils Sanitarian Steve Hedrick, reveals limited area suitable for a nitrification field.

A. He determined that an area in the front NE corner of the lot is suitable for an LPP System, with an LTAR of 0.125 GPSFPD. Also an area in the rear SW corner of the lot is suitable for all PBPS with an LTAR of 0.2 GPSFPD. The scope of this work is to install the LPP as the active area with to PPBPS as the repair.

B. Location: From Statesville, travel North on US64 to just before the Alexander County line turn right (east) on Lackey Farm Road W, then left on Plank Barn Lane. Lot is on left.

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 for repair shall also 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 2 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 Bio filter
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. Locate Septic Tank and Pump Tank. 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 in the area of the nitrification field 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. The septic tank shall consist of a 1,000 gallon capacity, reinforced, pre-cast 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.

5. Effluent 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.

6. 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.

7. 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.

7A. 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.

8. 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.

9. 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 18" 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.

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

   b. Leave absorption area with a raked surface, ready fro grassing.

   c. Construct up slope (grassy swale) and curtain drain as called for on site plan and details, maintain.

10. 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.

11. Pump: The submerged pump shall be Model ME 33 manufactured by F. E. Meyers Co., Ashland, OH, or equal, 1/3 hp, 230v/1ph; capable of pumping 41.08 gallons per minute at a 16.81' head. Pump shall be powered by a Simplex pump control properly sized, in a NEMA 4x enclosure. Install adjacent to the pump tank on a 4"x4" treated post or other approved method. Control shall accept signal from pump actuator float and alarms.

12. Pump installation: 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.)

13. Pump On-Off water level float switches shall be equal to Myers, Model MLC-20, mercury switch. High Water Alarm Switch shall be equal to Meyers, Model FLCA-30, mercury switch. Floats 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-on-off" must be positioned above the pump, so that the pump remains submerged at all times and is positioned to pump a specified volume of effluent. The high water control float is then mounted about 3" above the upper pump-on-off 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.)

14. 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.

15. 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.

16. 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.

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

18. 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.

19. 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".

20. 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.

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

22. 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

Ted O'Keefe Home Builders

Lot 23 Plank Barn Lane

Stony Hill Subdivision

Stony Point, Iredell County, NC

June 30, 2000

Revised July 7, 2000

Daily design waste flow: (3-bedroom)	360 gpd
Septic tank size:	1,000 gal
Pumping tank size:	1,000 gal.
Effluent Filters (2):	Effluent Filter Zabel A300 w/ 1/32" openings in septic tank and G.A.G Sim. Tech Filter at dosing pump.
Effluent loading rate:	0.125gpd/sf
Total absorption areas:	2,800 sf active, 2,800 sf repair
Number and length of laterals:	7 laterals @ 72' ea., 2 laterals @ 36' w/manifold @ end = 576 LF of 1¼" dia. PR160 PVC inside 4" corrugated perforated pipe
Force Main & Supply Manifold	60LF- 2" diameter SCH 40 – 190LF – 1½ø (diameter) Sch 40
Manifold placement:	See plan
Hole size:	5/32"
Hole spacing:	Varies, see chart
Total number of holes:	90
Flow rate through the system:	41.08 gpm
Elevation head (pump to end of manifold):	12.2'
Pressure head:	2.0'
Friction head:	2.61'
Total head:	16.81'
Pump requirements:	41.08 gpm @ 16.81', use Myers ME33, 1/3 hp, 230v/1ph
Dosing volume:	276 gal.
Depth of water pumped per dose:	10.8"
Pump run per dose:	6.71 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.

TED O'KEEFE | LOT 23 STONY HILL - IREDELL CO | 6/30/00

SEPTIC TANK & PUMP TANK 1000 GAL EA

LTAR 0.25 G/SF/D X 0.5 = 0.125 G/SF/D

DESIGN FLOW; 3 BR @ 120 = 360 GPD

$\frac{360}{0.125}$ = 2880 SF / 5 = 576 LF

TRY 16 LINES @ 36'-

FLOW THRU SYSTEM (SEE CHART) = 41.08 GPM

ELEV HD 106.2 - 94 = 12.2

OPERATING HD 2.0

FRICTION (2" PVC) 50' $\left(\frac{3.3}{100}\right)$ 1.2 = 1.98 } 2.61

(1½" Ø) 75 $\left(\frac{0.7}{100}\right)$ 1.2 = 0.63 }

TDH 16.81'

PUMP REQ'D 41.08 GPM @ 16.81' TDH

USE MYERS ME 33 ⅓ HP 230 V / 1 PH PUMP.

DOSE VOL LATERAL (16 x 36) $\left(\frac{9.0}{100}\right)$ 5 = TIMES 5 = 259.2 CAL

(2" FORCE MAIN) 50' $\left(\frac{17.4}{100}\right)$ = 8.7 } = 16.65

(1½" FORCE MAIN) 75 $\left(\frac{10.6}{100}\right)$ 7.95 }

DOSE VOL 275.85

DRAW DOWN / DOSE $\frac{60" \times 98" \times 1"}{1728 \text{ CI/CF}} \times 7.48$ = 25.45 G/IN

$\frac{275.85}{25.45}$ = 10.84" DRAW DOWN

PUMP RUN $\frac{275.85 \text{ GAL}}{41.08 \text{ G/M}}$ = 6.71 MIN

22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS
AMPAD

AMPAD 22-141 50 SHEETS 22-142 100 SHEETS 22-144 200 SHEETS 7/3/00

TED OKEEFE LOT 23 PLANK BARN LN STONE HILL SUB 1 REV

LATERAL	LENGTH	ELEV	REQ HD (H)	ORF	GPM/ ORF .29√H	NO OF ORFICES	GPM PER LINE	ORFICE SPACING	LOCATION OF FIRST ORF: DIST FROM MANIFOLD TO 1ST HOLE	LOCATION OF FIRST ORF: DIST FROM LAST HOLE TO END OF LATERAL
A	36'	106.2	2.0	5/32"	0.41	6	2.46	6'-0"	3'-0"	3'-0"
B	36	105.7	2.5		0.46	6	2.76	6'-0"	2'-0"	4'-0"
C	72	105.5	2.7		0.48	10	2.4 x 2 = 4.8	7'-6"	3'-6"	12"
D	72	105.1	2.0		0.41	12	4.92	6'-0"	2'-0"	4'-0"
E	72	104.6	2.5		0.46	12	5.52	6'-0"	4'-0"	2'-0"
F	72	104.2	2.9		0.49	10	4.9	7'-6"	3'-6"	12"
G	72	104.0	2.0		0.41	12	4.92	6'-0"	2'-0	4'-0"
H	72	103.7	2.3		0.44	12	5.28	6'-0"	4'-0"	2'-0"
I	72	103.5	2.5		0.46	10	5.52	7'-6"	3'-6"	12"
						90 HOLES	41.08 GPM			

Steve Hedrick
878-5309
8-9 am

IREDELL COUNTY HEALTH DEPARTMENT
ENVIRONMENTAL HEALTH DIVISION
Application For Improvement Permit

ALL items on this application form must be completed before Health Department can begin work. One application must be completed by the property owner or agent for each (proposed) site.

PERSONAL INFORMATION:

Applicant	Phone #	Mailing Address	City	State	Zip Code
Ted O'Keefe	704-878-9444	192 Ashley Acres	Statesville	NC	28677
SAA					

Current Property Owner | Mailing Address | City | State | Zip Code

PROPERTY INFORMATION:

(Proposed) Subdivision Name	(Proposed) Lot #	(Proposed) Block/Section #	State Road #
Stonyhill	23 D		no road #

(Proposed) Water Supply: Public, Private Well

Preliminary Plat Approval Date
(DEVELOPERS ONLY)

Tax Map # 3747-52-7824

Specific Directions to Property 64/90 toward Taylorsville; Tala right on 2nd Lackey Farm Rd. Tala left onto Plank Farm Rd. Lot is on left near end of Cul-de-sac

TYPE OF FACILITY: (use check (X) or number as appropriate)

House ✓ Mobile Home _____ Commercial _____ No. Bedrooms 3 No. Baths 2

No. Persons or Employees (commercial only) _____ Basement _____ Basement with Plumbing _____

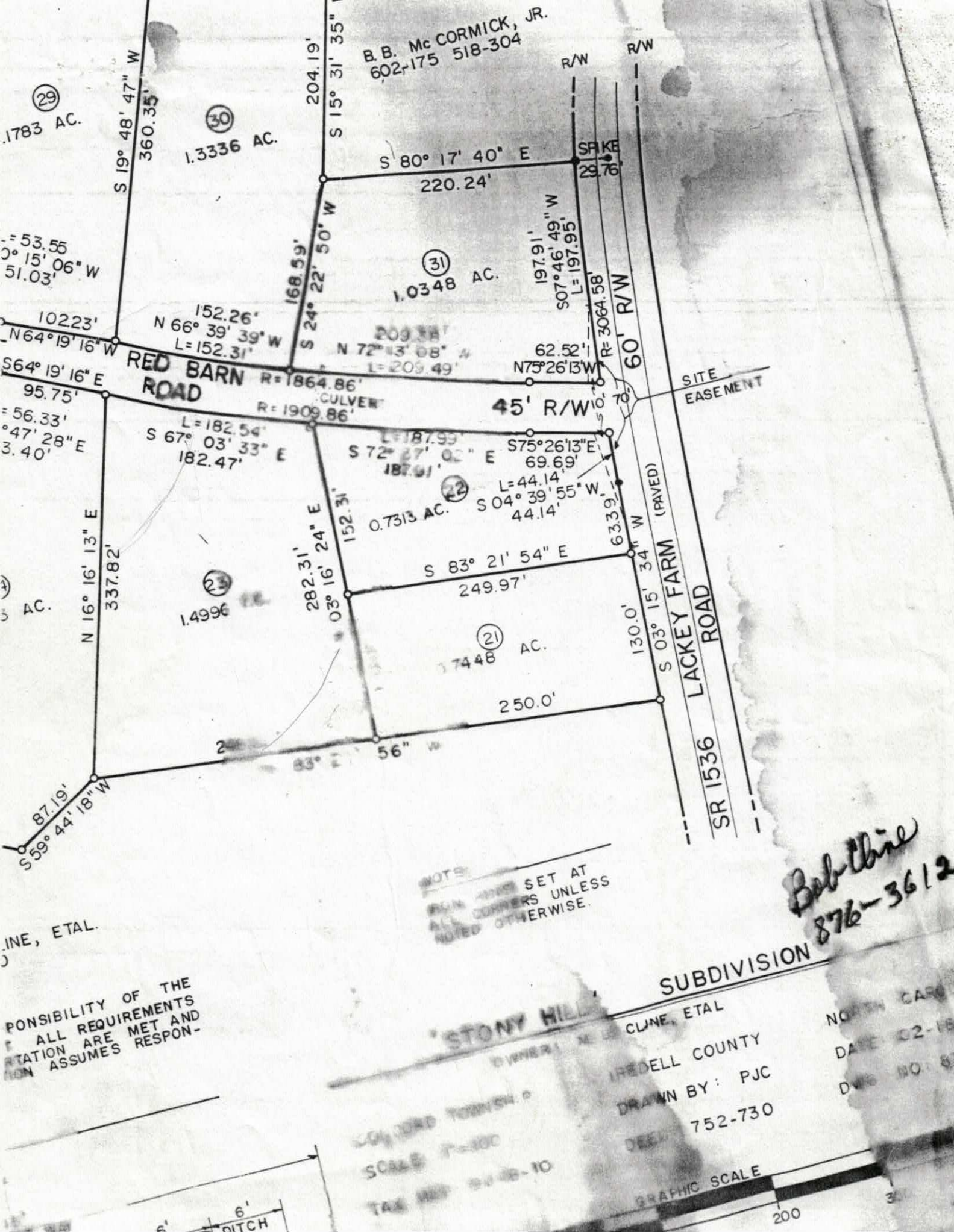
Crawl Space _____ Concrete Slab ✓ Garbage Disposal _____ Jaccuzi or spa _____

COVENANT AND SIGNATURE:

I hereby make application to the Iredell County Health Department for a soils/site evaluation of the property described above. This evaluation is to be conducted for the sole purpose of obtaining a septic system Improvement Permit. I hereby authorize Iredell County Health Department representatives to go onto the above property for purposes of conducting this evaluation. I understand that, by state law, any Improvement Permit issued on the above property may be voided if substantial changes are made to the designated sewage system site. The issuance of an Improvement Permit by the Iredell County Health Department does not relieve me from compliance with all other relevant state/local laws or regulations. As owner or authorized agent, I covenant that the contents of this application are true and represent the maximum facilities intended to be placed on this property to my knowledge to date.

I understand that any Improvement Permit issued on the above property is valid for five (5) years from the issuance date and is subject to revocation if the above described site plans or intended use changes.

5/19/00 DATE _____ SIGNATURE OF OWNER/AUTHORIZED AGENT


B.B. Mc CORMICK, JR.
602-175 518-304
204.19'
S 15° 31' 35" W
S 19° 48' 47" W
360.35'
29
.1783 AC.
30
1.3336 AC.
S 80° 17' 40" E
220.24'
R/W
R/W
SPIKE
29.76'
168.59'
S 24° 22' 50" W
31
1.0348 AC.
197.91'
S07°46'49"W
L=197.95'
R=3064.58'
60' R/W
102.23'
N64° 19' 16" W
152.26'
N 66° 39' 39" W
L=152.31'
RED BARN ROAD
R=1864.86'
N 72° 43' 08" W
L=209.49'
62.52'
N75°26'13"W
S64° 19' 16" E
95.75'
CULVER
R=1909.86'
45' R/W
SITE EASEMENT
10.70'
L=182.54'
S 67° 03' 33" E
182.47'
S 72° 27' 02" E
187.91'
S75°26'13"E
69.69'
L=44.14'
S 04° 39' 55" W
44.14'
22
0.7313 AC.
152.31'
63.39'
N 16° 16' 13" E
337.82'
282.31'
03° 16' 24" E
S 83° 21' 54" E
249.97'
23
1.4996
21
.7448 AC.
130.0'
S 03° 15' 34" W
LACKEY FARM (PAVED)
ROAD
SR 1536
250.0'
87.19'
S59° 44' 18" W
NOTE:
SET AT
ALL CORNERS UNLESS
NOTED OTHERWISE.
Bob Cline
876-3612
SUBDIVISION
"STONY HILL"
CUNE, ETAL
IREDELL COUNTY
DRAWN BY: PJC
752-730
GRAPHIC SCALE
200
6'
DITCH

IREDELL COUNTY
PROPERTY DESCRIPTION FORM
P.O. BOX 788 277 S. CENTER ST.
STATESVILLE, NC 28687
Call Sanitarian Between
8 a.m. and 9 a.m.
664-5281 / 878-5305

Permit No: 089854 Zoning Permit: X Improvements Permit: 1

Name: O'KEEFE, TED Address: 192 ASHLEY ACRES

City: STATESVILLE State: NC Zip: 286770000

Phone: 7048789444

Proposed Use: 01

PIN #: 3797 52 7024 PART Zoning: RA Township: 1000

Street Address: PLANK BARN RD

Flood Zone: Plan Review Deposit: Date Received: / /

Subdivision/MHP: Lot #: 1 Lot Size: 1.5

Has Property been recorded? N Community Water? Sewer?

Provider: WELL&SEPT

Watershed: Approximate Area to be Disturbed: 0

Total Built-upon Area: 0 Erosion Plan Required? N

Setbacks: 35' FRT & REAR, 15' SIDES

Minimum Lot Size: 20000 Minimum Lot Width: 100

Land Use Permitted in this Zoning District? Y

Comments:

Hold Building Permits? Y Reason: RECORDATION OF LOT

Location: 64/90 WEST,R ON 2ND LACKEY RD,L PLANK BARN,ON LEFT

Staff: LMH Date: 05/17/00

Fees: Zoning: $ 31.50 Health: $ 175.00

Signature of Applicant:_____
Owner: Agent: