IREDELL COUNTY HEALTH DEPARTMENT

Statesville Office (704) 878-5305 Mooresville Office (704) 660-3625

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

PERMIT # 21932-2

PIN # 4758543663

APPLICANT: GIRL SCOUTS HORNETS NEST APPLICANT ADDRESS: 7007 IDLEWILD RD CHARLOTTE NC

SITE ADDRESS: 1919 TURNERSBURG HWY STATESVILLE NC PHONE: ALT. PHONE: 828 301 3655

SITE DIRECTIONS: 21(N) - ON LT FROM STATESVILLE -

SUBDIVISION: SECTION: LOT # LOT AREA: DESIGN FLOW: 3040 (1865 equalized flow) L.T.A.R.: .25

Septic Tank 6000 (gal) STB Date

Pump Tank 18000 (gal) PT Date

Pump Make Model Serial #

Nitrification Fields 2 # Lines Linear Ft:

Trench Width Max. Trench Bottom Depth Gravel Depth

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

System Description: PUMP 25%

Repair System Description: SAME

Maintenance Agreement Required: ☑ YES ☐ NO

☐ GRAVITY ☑ PRESSURE

☑ Residence No. Bedrooms

☐ Business No. Persons

☑ Other No. Employees

☑ Slab ☐ Crawl Space

☐ Basement w/plumbing ☐ Basement w/o plumbing

Water Supply

☐ Private

☐ Public

☑ Community

Comments / Conditions:

GREASE TRAP: 4000 GAL

DESIGNED FOR PICNIC PAVILION

INITIAL SITE SKETCH

See Piedmont Design's Approved Plan

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. **CONTACT A LOCATOR SERVICE PRIOR TO ANY EXCAVATION**

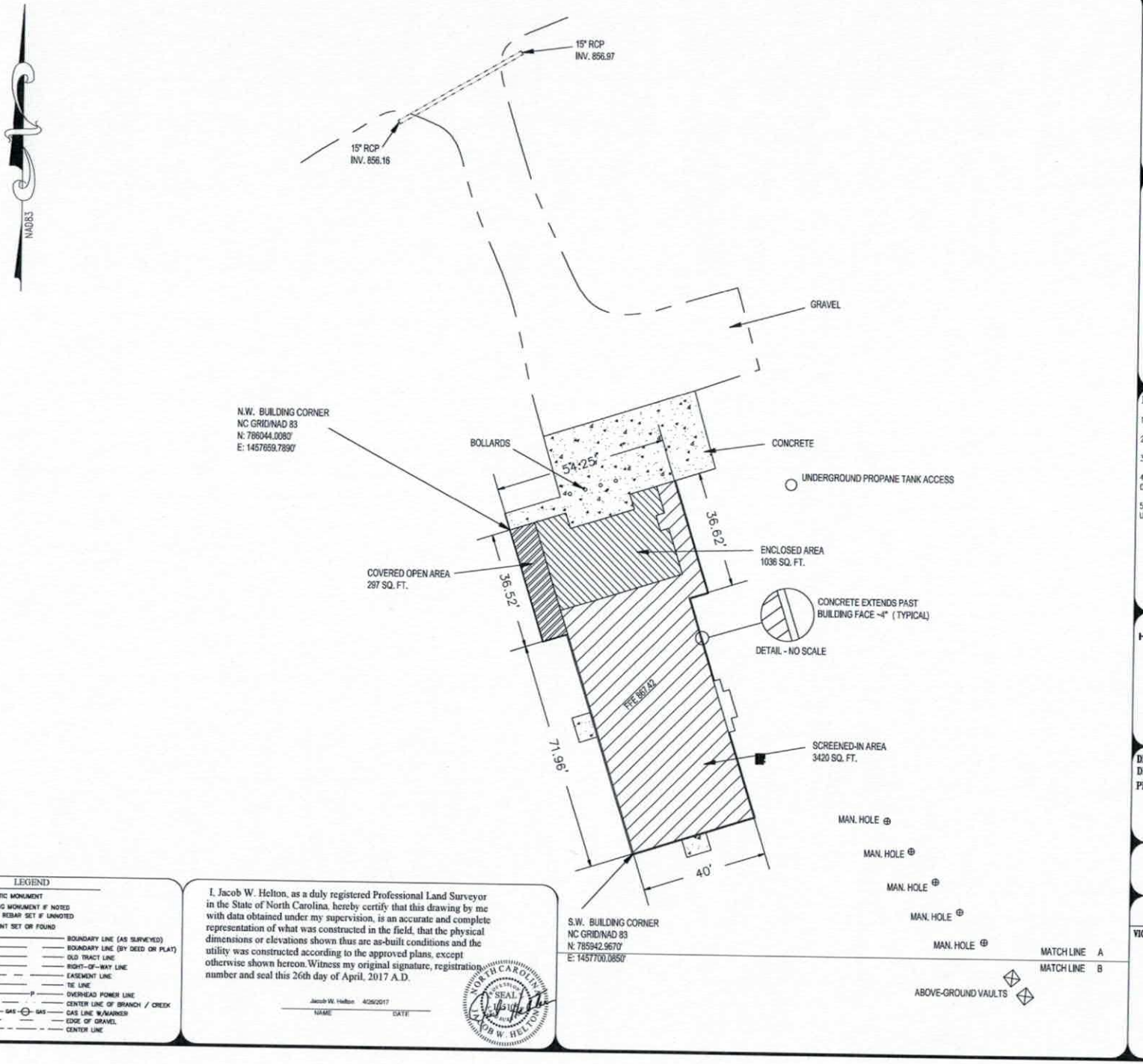
☐ **IMPROVEMENT PERMIT** *with plat valid without expiration.* ☑ **IMPROVEMENT PERMIT** *with site plan valid for 60 mos.* ☐ **AUTHORIZATION TO CONSTRUCT** *valid for period equal to IMPROVEMENT PERMIT--not to exceed 60 mo.*

Owner / Applicant Signature: Date: 10-25-16 Installed by: A-1 Backhoe

IMPROVEMENT PERMIT by: Date: 10/24/16 OPERATION PERMIT by: Date: 05/01/17

AUTHORIZATION TO CONSTRUCT by: Date: 10/24/16 Existing System Inspected by: Date:

Health Dept. Copy - WHITE Applicant (Final Approval) - YELLOW Applicant (Conditional Approval) - PINK



A
PHYSICAL SURVEY
of the

GIRL SCOUT PICNIC PAVILION

c/o HYDE HOMES, LLC

OLIN TOWNSHIP
IREDELL COUNTY, NC
APRIL 26, 2017
SCALE: 1" = 20'

PROPERTY INFORMATION:
PHYSICAL ADDRESS:
TURNERSBURG HIGHWAY
STATESVILLE, NC 28625

PIN #4758941767

OWNER INFORMATION:
GIRL SCOUTS HORNEST NEST COUNCIL
MAILING ADDRESS:
7007 IDLEWILD RD.
CHARLOTTE, NC 28212

PLAT NOTES:

1. PLAT NORTH IS BASED ON NAD83
2. NO BOUNDARY SURVEY WAS PERFORMED
3. THIS PLAT IS NOT FOR RECORDING
4. ALL DISTANCES ARE GROUND HORIZONTAL UNLESS OTHERWISE NOTED
5. ANY TRAVERSE ADJUSTMENTS WERE PERFORMED USING THE BOWDITCH RULE

JACOB W. HELTON ASSOCIATES
LAND SURVEYING
704-634-9354
JWHELTONLLC@AOL.COM

JACOB W. HELTON, PLS
(704) 634-9354
2374 FAY JONES RD.
DENVER, NC 28037

DEED AND PLAT REFERENCES:
DB: 1895 PG: 617
PB: 60 PG: 64

0' 10' 20' 40'
GRAPHIC SCALE 1"=20'

SURVEY:	DRAWN:	JOB/DRAWING
JH 4/17	JWH 4/26/17	#16022

VICINITY SKETCH: NO SCALE



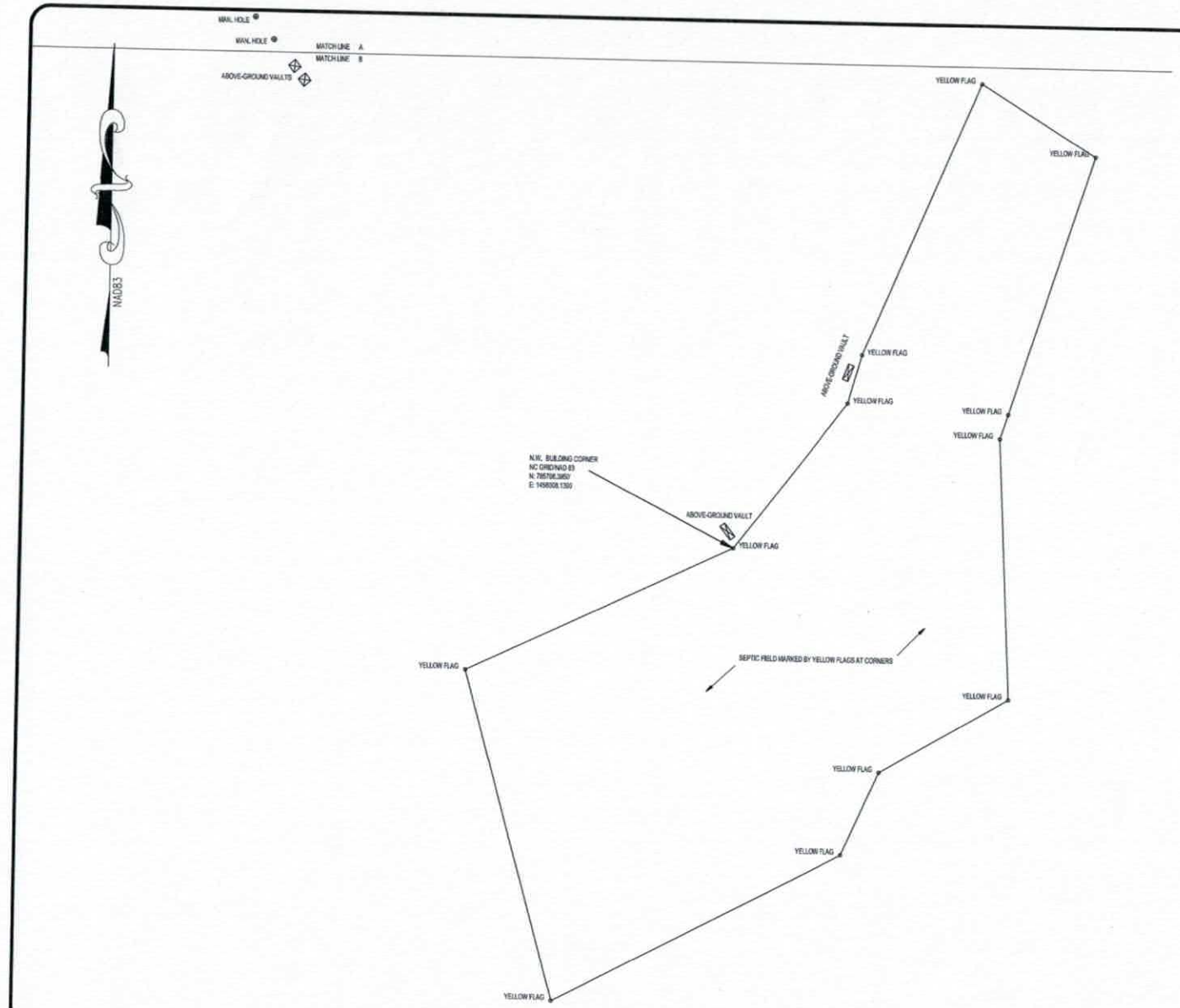
LEGEND

- ▲ GEODETIC MONUMENT
- ● EXISTING MONUMENT IF NOTED OR #5 REBAR SET IF UNNOTED
- ○ NO POINT SET OR FOUND
- BOUNDARY LINE (AS SURVEYED)
- BOUNDARY LINE (BY DEED OR PLAT)
- OLD TRACT LINE
- RIGHT-OF-WAY LINE
- EASEMENT LINE
- TIE LINE
- P — P OVERHEAD POWER LINE
- CENTER LINE OF BRANCH / CREEK
- GAS — GAS — GAS GAS LINE W/MARKER
- EDGE OF GRAVEL
- CENTER LINE

I, Jacob W. Helton, as a duly registered Professional Land Surveyor in the State of North Carolina, hereby certify that this drawing by me with data obtained under my supervision, is an accurate and complete representation of what was constructed in the field, that the physical dimensions or elevations shown thus are as-built conditions and the utility was constructed according to the approved plans, except otherwise shown hereon. Witness my original signature, registration number and seal this 26th day of April, 2017 A.D.

Jacob W. Helton 4/26/2017
NAME DATE

NORTH CAROLINA SEAL L-4510 JACOB W. HELTON



A
PHYSICAL SURVEY
of the

GIRL SCOUT PICNIC PAVILION

c/o HYDE HOMES, LLC

OLIN TOWNSHIP
IREDELL COUNTY, NC
APRIL 26, 2017
SCALE: 1" = 30'

PROPERTY INFORMATION:
PHYSICAL ADDRESS:
TURNERSBURG HIGHWAY
STATESVILLE, NC 28625

PIN #4758941767

OWNER INFORMATION:
GIRL SCOUTS HORNEST NEST COUNCIL
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JWHELTONLLC@AOL.COM

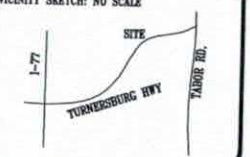
JACOB W. HELTON, PLS
(704) 634-9354
2374 FAY JONES RD.
DENVER, NC 28037

DEED AND PLAT REFERENCES:
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PB: 60 PG: 64

0' 15' 30' 60'
GRAPHIC SCALE 1"=30'

SURVEY:	DRAWN:	JOB/DRAWING
JH 4/17	JWH 4/26/17	#16022

VICINITY SKETCH: NO SCALE



LEGEND

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Jacob W. Helton 4/26/2017
NAME DATE

NORTH CAROLINA SEAL L-4544 PROFESSIONAL LAND SURVEYOR JACOB W. HELTON

SPECIFICATIONS, CALCULATIONS & SUPPORTING MATERIAL

FOR A FLOW EQUALIZED GROUND ABSORPTION SEWAGE

DISPOSAL SYSTEM USING SEPTIC TANK, PUMP TANK AND

PRESSURE MANIFOLDS TO SERVE

OAK SPRINGS GIRL SCOUT CAMP PICNIC PAVILION

1919 Turnersburg Highway

Statesville, Iredell County, North Carolina

August 10, 2016
Revised September 6, 2016

Approved By
ON-SITE WASTEWATER
Department of Health & Human Services
File No: 2016-35
Date: 9/22/16
By:

RECEIVED
SEP 09 2016
DHHS
ON-SITE WASTEWATER

Prepared for:
Hornet's Nest Girl Scout Council
7007 Idlewild Road
Charlotte, NC 28212
Phone: (704) 731-6500

Prepared by:
PIEDMONT DESIGN ASSOCIATES, P.A.
125 East Plaza Drive, Suite 101
Mooresville, NC 28115
Phone: 704-664-7888
Fax: 704-664-1778
NCBELS No.: C-1007

NORTH CAROLINA PROFESSIONAL SEAL 17327 ENGINEER
DONALD L. MUNDAY
09-06-16

Ground Absorption Sewage Disposal System
Oak Spring Girl Scout Camp Picnic Pavilion
Statesville, Iredell County, NC

I. NARRATIVE:

The Hornet's Nest Girl Scout Council of Charlotte is proposing to construct a new picnic pavilion adjacent to the overnight parking area at the camp located at 1919 Turnersburg Highway north of Statesville in Northern Iredell County, North Carolina.

The purpose of this structure is to provide a place of assembly/dining for campers when not at their campsites/cabins. This is not a permanent/full time dining hall. The dining hall is proposed to be constructed in the near future once fundraising has been completed. This structure will consist of a kitchen complete with refrigerators for storing foods for campers, full service kitchen, grill, restrooms, handwashing station and picnic tables for eating.

The system is being designed for a peak flow of 5,040 gallons per day (3 days) and a flow equalized volume of 1,865.71 gallons per day. The facility is to be served by Iredell Water Corp. with the water supply source located more than 500 feet from any system component. Soils were investigated by Paul Penninger, LSS with Penninger Soil Consulting, PLLC. The Engineer is proposing to install (1) 4,000 gallon grease tank, (1) 6,000 gallon baffled septic tank with effluent filter and (1) 18,000 gallon flow equalization tank with alternating duplex pumps, H-Valves in precast vault, (2) pressure manifolds, and (2) nitrification fields consisting of gravelless chambers with no reduction taken. The Engineer is proposing flow equalizations because peak days will involve high flow where the rest of the days during the week will have little or no flow. The peak weekends/weeks will consist of either 3 days of 5,040 gallons per day (400 persons, 3 meals and 4.2 G/D/Meal Served) or 5 days of 1,260 gallons per day (100 persons, 3 meals and 4.2 G/D/Meal Served). These weeks will never coincide with each other and occur and different times per year. Since little or no flow is anticipated other days, the Engineer and Soil Scientist opted to add 1,000 gallons per day for other non-peak days to allow for unexpected usage.

Soils were investigated by Paul Penninger, LSS, Brady Freeman, ICHD and Alan McKinney, Regional Soil Specialist with DHHS. A LTAR for this system is proposed to be 0.25 G/D/SF since food service/preparation will be performed on this system.

A duplex time dosed pump to pressure manifold is proposed for this system to allow for equal distribution of the effluent to the soil for disposal. Nitrification lines (gravelless chambers) are to be placed on 9' centers minimum as shown on the plan. The fields will be dosed using alternating duplex pumps with timed dosing control. 100% repair is required on this site and area is available. Primary laterals have been flagged in the field by Paul Penninger, LSS. These lines have been shown on the plan. Repair areas shall remain undisturbed in case of primary system failure. Previously, the drainfield areas have been used for crops. It is recommended that the primary system be planted with fescue and maintained with lightweight equipment in lieu of crops. The repair area may still be used for crops until needed for use as effluent disposal.

These specifications address the Owner's responsibilities as well as installation instructions, components of the proposed system, and testing and operating procedures.

The septic system plan has been prepared using physical survey data collected by field survey and flagging of laterals by Soil Scientist.

The area of the nitrification field shall be barricaded to prevent the access of any vehicle or anyone not knowledgeable of septic system installation. Any disturbance within the area shall be performed by the system installer. ONLY!

II. LOCATION:

Travel north on Interstate 77 to Highway 21 North of I-40. Turn right at top of ramp toward Harmony. Site is located at 1919 Turnersburg Highway on left hand side of the road across from Allison's Woods. Contact Stephanie Anderson at (802) 236-8680 or sanderson@hngirlscouts.org for gate code and anytime prior to visiting the site. Upon entry into the site, turn right and proposed building will be on the right adjacent to overnight camping after existing the wooded portion of the camp. Septic system will be located on left prior to turning toward Environmental Center.

III. REFERENCE MATERIAL:

(1) 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).

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

COMPONENTS OF SYSTEM

Proposed collection system installed according to the NC Plumbing Code, local plumbing and ASTM D2321 latest revision.

(1) 4,000 Gallon Grease Tank with Effluent Filter
(1) 6,000 Gallon Septic Tank with Effluent Filter
(1) 18,000 Gallon Flow EQ Pump Tank with effluent pumps, valves & associated appurtenances
(1) H-Valve Vault with locking lid
(1) New Duplex Time Control panel with alarm (both audible and visual).
(2) Nitrification fields with pressure manifolds and force mains.

****Adequate area is available for reserve and areas are shown on site plan.**

GREASE TRAP: The grease interceptor shall be a minimum 4,000-gallon capacity, precast concrete with full baffle. The tank must have approved access risers with lids to allow easy access to each chamber from ground level. The first chamber of the grease trap 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. Locate the grease trap at such elevation to accept drainage from the kitchen collection system ONLY. Grease trap shall be located as close as possible to the building (minimum 5 feet) to ensure proper operation. Access holes and covers shall be DHHS approved as called for on the plan. The precast concrete tank shall be H-20 rated since it will be located in a traffic area. The tank shall bear a manufacturer's serial number and be supplied by a manufacturer approved by DHHS. The outlet tee of the tank shall be as specified on the plans.

GREASE TRAP FILTER: A Polylok Filter Model PL-625 micro-filter with 1/32-inch infiltration shall be at the outlet end in the grease trap. The filter shall be manufactured by Polylok or Engineer approved equal. Polylok, Inc. 3 Fairfield Blvd Wallingford, CT 06492 888-765-9565.

SEPTIC TANK: The septic tank shall be 6,000-gallon capacity, precast concrete with full baffle. The tank must have approved access risers with lids to allow easy access to each chamber from ground level. 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. Locate the septic tank at such elevation to accept drainage from the collection system. The precast concrete tank shall be H-20 rated since it will be located in a traffic area. Access holes and covers shall be DHHS approved as called for on the plan. The tank shall bear a manufacturer's serial number and be supplied by a manufacturer approved by DHHS. The outlet tee of the tank shall have an effluent filter as specified on the plans.

SEPTIC TANK FILTER: A Polylok Filter Model PL-525 micro-filter with 1/16-inch infiltration shall be at the outlet end in the septic tank. The filter shall be manufactured by Polylok or Engineer approved equal. Polylok, Inc. 3 Fairfield Blvd Wallingford, CT 06492 888-765-9565.

FLOW EQUALIZATION/PUMP TANK: The pump/dosing tank shall be 18,000-gallon capacity. The tank must have approved access risers with lids to allow easy access to each chamber from ground level. Locate the pump/dosing tank at such elevation to accept drainage from the collection system. The precast concrete tank shall be H-20 rated due to the size of the tank. Access holes and covers shall be DHHS approved as called for on the plan. The tank shall bear a manufacturer's serial number and be supplied by a manufacturer approved by DHHS.

TANK TESTING: As called for herein, the tanks shall be filled with water and allowed to set for 24 hours to determine possible leakage and any leaking shall be corrected.

All precast 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 1/2-inch drop in water level per 24 hours. The testing shall begin after the water level in the tank has stabilized. Any leaks shall be corrected and the tanks re-tested.

As an alternate, the tanks may be vacuum tested. Contact Engineer for testing requirements.

PUMPS: The two new submerged pumps shall be Goulds 3885 Series Model WE1512HH 1.5 HP/230 V/1 Ph capable of pumping 54.80 G/M at 59.65 Ft. TDH or engineer approved equal. The pump power cord shall be adequate length cord to reach the control panel without splicing. The pump shall have a stainless steel lift chain attached to the access riser as shown on the plans or attached to stainless guide rails.

PUMP CONTROL: The pumps shall be controlled by a duplex timer controlled pump control. The control shall be manufactured by SJE Rhombus model IFS31W904H10E15A18A or NCDENR-OSWW approved equal and have the following features:

1. Incoming pump power shall be single-phase, 60 Hz, 120/208/240 volts AC.
2. Incoming control/alarm power shall be single-phase, 60 Hz, 120 volts AC.
3. Easy to use touch pad for programming pump control.
4. The control panel is to have models available that interface with float input and models available that interface with transducer input.
5. Float-operated models shall incorporate (4) four, normally open, mercury or mechanically-activated control switches with pipe clamps. Inputs shall be labeled in the panel as **"Redundant Off", "Timer Enable", "High Alarm", and "Timer Override"**. Floats shall be SJE-Rhombus control switches or approved equal.
6. The control panel is to have a means to be configured in the field to operate as either a time dose or demand dose panel.
7. The control panel is to be equipped with separately fused alarm and control circuits.
8. The control panel is to be equipped with float status indicators, pump run indicators, **Hand – Off – Auto** status indicators, and **Power On** indicators.
9. Panel must log the following data: **Pump run time, cycle counts, alarm counts, float out of sequence counts, and timer override counts** (time dose only).
10. Alarm must activate if floats operate out of sequence (float model) or if transducer circuit opens (C-Level™ sensor model).

CONTROL PANEL OPERATION: The pump control panel shall have flow equalization capabilities. Dosing of drain fields will be accomplished on a timed basis to allow for flow equalization. Each field will receive a specific dose volume corresponding to each field. The pump run time shall always be 8.51 minutes per dose for both fields. The dosing volume to each of the manifolds will be restricted by the number and size of the orifices in the pressure manifold. These dose events will be timer controlled and set to occur 4 times per day with each of the fields getting dosed twice per day. Each field will be required to be dosed before the next field is dosed for a second time. The pump enable switch must be activated prior to field being dosed. If there is not enough effluent in the pump tank to activate the pump enable switch, the control panel will not call for a pump run event. If this continues to occur, the operator shall consult the Design Engineer about adjusting the dosing schedule to correct this issue. Each pump run event shall be controlled by a programmable timer with pump run time set according to system specifications. Once a pump run event begins the pump will turn on and run the time set on the "**Pump Run Timer**" even after the pump enabler float drops back to its normal position or until the "**Redundant Low Water Off Switch**" is activated. The control panel shall be programmed to generate an alarm condition "**Pump Failure**" when the pump enable float is up and the pump timer calls for pump activation but the pump does not function. (Condition detected by use of a current sensor.)

The control system shall be equipped with a timer override circuit to manage peak flows and excess water use. If the water continues to rise enough to overcome the "**Timer Override**" (third) float and the override selector switch is on, the pump shall be activated, regardless of the time clock position. The pump will continue to run until a full dose has been discharged to the field. Once a full dose from the timer override has been executed, the pump will shut off and the normal pumping cycle shall resume. The control shall be provided with a cycle counter attached directly to the "**Timer Override**" float to register the number of override events. If the water level engages the "**Alarm**" (fourth float), the audiovisual alarm shall activate and remain latched until the silence switch is pressed. When the silence switch is pressed, the audible

alarm shall be silenced and the top mounted alarm light will remain lit until the water level drops below the "**Alarm**" float, at which time the alarm circuit must be automatically reset.

In case of power off, the controls shall remember the last time to operate so that the indexing sequence is not lost by power off. The control panel shall be micro-processor based with a user friendly data entry keypad mounted on the hinged inner door, which shall allow easy input and export of pump run times, event counts and any necessary time delays. Changes or reconfiguration of the program shall not be necessary to alter any of the above-mentioned data, including the number and sequence of pump and/or fields. The controller shall be configured so that fields may be left out of the pumping sequence by simply leaving its respective H-O-A switch and alarm switch in the off position.

FLOAT SWITCHES: Provide four liquid sensor float switches ("**Redundant Pump Off**", "**Pump Enabling**", "**Timer Override**" and "**Alarm**") in the dosing tank for pump operation and alarm. Such float switches shall be equal to SJE Rhombus Super Single, or approved equal, and shall be a sealed mercury switch with adjustable operating weights. Cables shall be of adequate length to reach the control pump without splices. The floats shall be hung from a stainless steel mounted bracket inside the access hatch.

All controls and power wiring for the entire wastewater disposal system shall be in compliance with all local, state and federal regulations, codes and ordinances, and shall be confined on the site generally to the area of the pumps, control floats, control panel. The wiring shall be run in gas and watertight conduits from the pump tank to the control panel as shown on the plan. After the installation of the wiring, each conduit shall be sealed to prevent septic fumes from reaching the control panel. The seal and cables shall be removable for replacement. The installation contractor shall be responsible for coordinating with other Contractors and Owner for a source of the correct power (voltage and phase) and adequately sized breaker in the panel; the costs of obtaining all power and control wiring for this system and shall coordinate his work with the electrical contractor and with the Owner.

Pump power wires and control wires shall run in PVC conduits from the access openings at the dosing tanks to the location of the pump control panel mounted nearby. Bury conduit to a minimum depth of 24-inch below grade.

FITTINGS AND VALVES: All fittings and valves within this piping system shall be PVC ball valves capable of sustaining the working pressure and imposed loads. The fittings and valves shall be compatible with the pipe used. Valves shall be PVC Ball Valves with seats of self-lubricating Teflon and seals of Viton "O" rings with bell and spigot connections or as approved by the engineer.

PRESSURE FORCE MAIN: within the tank shall be 2-inch diameter SCH 40 PVC. Pressure force main from the tank to the H-Valves and pressure manifolds shall be 2-inch diameter SCH 40 PVC as called for on the plans. These pipes shall be buried with 3 feet minimum cover. A 2-inch diameter gate valve shall be installed at the end of the pipe before the manifold (within the concrete vault) to allow for final pressure adjustment at the manifold.

CASING PIPE: A minimum 6 inch diameter casing pipe shall be installed under the existing road between the picnic pavilion and the drainfields. This pipe shall be installed to convey the 2 effluent forcemain under the road and existing utilities that are currently installed longitudinally to the road centerline. These utilities consist of waterline, fire protection waterline, electrical and others not listed. Carrier lines from pump tanks shall have casing spacers installed per manufacturers recommendations and at a minimum 1 casing spacer per 10 feet of pipe. Casing pipe shall be buried a minimum of 36 inches below ground or 18 inches below the deepest utility line installed, whichever is greater. The ends of the casing pipe shall extend from outside of the easements. Both ends of the casing pipe shall be grouted watertight.

REQUIREMENTS FOR LEAKAGE TESTING-PRESSURE FORCE MAINS

Required testing of pipelines and valves shall be done under the direct supervision of a representative of the local health department. Field-testing shall not negate the requirements for material certifications as contained in the material specification section of this contract. Unless otherwise directed by the Engineer, all testing and disinfection will be completed prior to connection to any existing line.

HYDROSTATIC AND LEAKAGE TESTS: On completion of the line or sections of the lines, connections and appearances, the line shall be filled and hydrostatically tested. The water for testing purposes can be taken from the nearest available water main under the supervision of the Engineer's

Inspector and leakage will be measured by the Inspector. All leaks and any defective material shall be repaired or replaced to the satisfaction of the Engineer and the tests repeated until the requirements of this specification are met. Any special equipment, pumps, etc., required to make the test shall be furnished and operated by the Contractor as directed by the Inspector.

The Contractor shall use great care to be sure that all air is expelled from each section under test. If service connection or other openings are not available for the purposes of expelling air, the Contractor shall provide air release of sufficient size (as determined by the Engineer).
Specific procedures for testing main are as follows:

- The test pressure will be 100 PSI at the low point of the section under test.
- Allowable leakage will be determined by Table 6, AWWA C-600 (see below) or by the formula:

  1 = 0.000106(S)(D) where (S) in the length of pipe under test & (D) is the pipe diameter.
- Pressure and leakage tests will be run concurrently and for a duration of four hours except as modified below.
- The Contractor will pressurize the line and verify that it is within allowable leakage before the official test is started.
- The Inspector will begin the test and remain at the job for the first hour, making sure that the test pressure is maintained within 5 PSI. The Contractor is to maintain the pressure within 5 PSI for the duration of the test period. At the end of the first hour, with the line pumped to full test pressure, he will read the meter and record the first hour leakage. If the first hour leakage is within allowable, he will return at the end of the fourth hour and again read the meter. If the total leakage for the four-hour period does not exceed four times the first hour leakage, the test will be terminated. If the total leakage exceeds four times the first hour leakage, but is still within allowable, the test will be held an additional hour. If the fifth hour leakage does not exceed the average hourly leakage for the first four hours, the test will be terminated at the end of the fifth hour. Otherwise, the test will be held until the leakage is non-increasing and within allowable for two consecutive hours.
- If leakage exceeds allowable for the four-hour test, the test will be terminated and re-scheduled after the Contractor has verified that actual leakage is within the allowable leakage, but no earlier than the next working day.
- If the first hour leakage does not exceed 15% of the allowable, or if the allowable leakage rate does not exceed .4/gal/hr, the test may be terminated at the end of two hours provided the second hour leakage does not exceed the first hour leakage. If the second hour leakage exceeds the first hour leakage, the test will be held for an additional period as described in Paragraph (e) above.
- The maximum length of pipe testing in one test shall be 5,000 feet or as close to 5,000 feet as possible depending on valve spacing.
- During the last stages of the test and without any reduction in pressure progressing from the end opposite the test pump, each mainline valve will be closed and pressure released to determine if the valve is holding pressure (minimum 10 minutes per valve closing).

The Contractor shall be required to provide as many tests and/or certifications as the Engineer may deem necessary for materials, such as concrete, piping, valves, steel reinforcement, all fasteners and anchorage systems, etc.

PRESSURE MANIFOLDS: each of the two shall be 6-inch diameter Schedule 80 PVC, ASTM D-1785, constructed as detailed on the plan. The manifold shall be located above the nitrification field and placed in a precast manifold protective box with locking aluminum lid. The manifold shall have a clean-out, a 1/2-inch pressure head monitoring port with valve and be securely anchored to the pressure manifold box. Pressure manifold taps shall be securely anchored to the pressure manifold box. Each pressure manifold shall have (10) 1/2 inch SCH 80 PVC taps with true union ball valves and 3 inch cleanouts located within the precast vault and the manifold shall be constructed as detailed on the plan.

PRESSURE MANIFOLD BOX: Shall be precast concrete as constructed by Shoaf Precast Company, or approved equal, lockable aluminum lid sized to allow for access. The box shall be sized and constructed to accommodate the pressure manifold cleanout, lateral supply lines, the flow adjustment valves and inspection ports in each lateral. The precast box shall have a drain hole in the bottom over a bed of washed

stone to allow the box to drain. The lockable lid shall have a checked aluminum plate with or be reinforced concrete with removable access hatch over all valves and test port as called for on the plan.

GRAVITY DISTRIBUTION LINE: The gravity flow distribution pipe from the distribution manifold to the distribution laterals shall be solid-core 3-inch SCH 40 PVC pipe. These lines shall be secured by the pressure manifold box, have a slope of not less than 1/4-inch per foot to the gravel-less chamber lines.

NITRIFICATION FIELD: Lay out the nitrification field network area with stakes and flagging. As soon as the absorption area and repair areas are designated, they should be identified, barricaded 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. Maintain 25 foot separation between nitrification fields and 10 feet from any property lines and 15 feet from top of cut slopes greater than 2 feet. Each nitrification lateral may be gravelless chambers or Engineer and DHHS approved equal, however, no reduction will be given for use of gravelless chamber or other 25% reduction trench technology.

NITRIFICATION TRENCH: Shall be constructed as level as possible, but in no case shall the fall in a single trench bottom exceed 1/4-inch in 10 feet as determined by an Engineer's level. The nitrification trench shall not exceed a width of 3 feet and shall be 36-inch deep, except as approved by the Soil Scientist and Iredell County Health Department. An earthen dam shall separate the nitrification trench from the gravity supply pipe. Remove loose soil from bottom of trench. No rock shall be used in nitrification trenches. The soil cover over the nitrification fields shall be to a depth of at least 6-inch or as shown on the plan. The finished grade over the nitrification fields shall be landscaped to prevent the ponding of surface water; and runoff of surface water shall be diverted away from the nitrification fields. Install inspection ports and diversion swales (if called for on the plans). Contractor shall install a splash plate on the inlet side of the first chamber on each lateral to prevent erosion from the effluent inlet pipe from the manifold. See splash plate detail manufactured by Infiltrator on plan sheet U-2.

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

UTILITY CROSSING AND LOCATIONS

The contractor is responsible for locating all services before beginning work on the site. The plans are approximate and may not show all utilities.

WATER LINE VERTICAL SEPARATION: Clear separation distance when a water line crosses over a sewer must be at least 18-inches at the closest point. When conditions prevent an 18-inch clear separation from being maintained, or whenever it is necessary for the water line to cross under the sewer, both the water line and sewer shall be constructed of ferrous materials with mechanical joints equivalent to water main standards for a distance of at least 10 feet on each side of the point of crossing, with full sections of pipe centered at the point of crossing.

STORM DRAIN SEPARATION: Horizontal separation between sewer lines and storm drains shall be at least five feet. Vertical separation between sewer lines and storm drains at crossings shall be at least one foot at the closest point unless the sewer is of cast iron pipe or encased in concrete for at least five feet on either side of the crossing.

CONSTRUCTION SEQUENCE

The new tanks, pumps, control panel, force mains and nitrification fields shall be installed complete, tested and accepted before receiving any waste.

1. Installation of the septic system shall be coordinated with the Owner and LHD. Scheduling shall be as necessary to comply with overall facility operation.
2. Installation of the system shall be performed to the satisfaction of the Owner, Design Engineer and Health Department.
3. The Contractor shall install all components of the system in strict accordance with the plans and specifications. Upon completion of the system construction, the Contractor shall charge the system with water and go through a complete cycle. Any failure or discrepancy shall be corrected immediately. The Manufacturer of the component and the Contractor shall warrant the component and system for one year from the date of acceptance by the Owner.

   **Rule of Thumb: "If soil is too wet to plow, it is too wet to disturb for nitrification field for excavation."*

After the system is installed, the following should be checked to insure that the system would not be overloaded with excess rainwater and run off:

- The distribution field is shaped to shed rainwater and is free of low area.
- All tank access lids shall be inspected for watertight construction, diversion of surface water and secured but readily accessible to all the chambers.
- The effluent pump shall be checked for proper operation and ease of removal for service or replacement.
- All metal installed in tank shall be stainless steel.
- Effluent filters shall be accessible and easily removed for servicing.

Installation of the system shall be performed under the supervision of the Local Health Department.

The system shall not be placed into operation until the Project Engineer certifies in writing that the system has been installed in accordance with the approved plans and specifications, and the installation is approved by the local Health Department.

The Wastewater System Installation Contractor shall agree to provide a minimum of one year regular service to the Owner for maintenance and upkeep of this system at no additional cost to the Owner, and such one year period shall begin from the date of final inspection and acceptance of the system construction by the Owner, the Engineer, and representative of Iredell County Health Department. After the above one year period has expired, the Installation Contractor shall offer a continuation of maintenance and upkeep service at a reasonable charge as may be negotiated between the installation Contractor and the Owner. Such service shall include checking the entire system at least monthly, offering quick response servicing in case of a malfunction of the system (maximum of 24 hours after warning is given by the "Owner's Warning Panel") and performing such servicing of components and replacing of worn or defective equipment as may be necessary to keep the system operating in good condition.

In the event that the Installation Contractor will not be willing to agree to the above described one year maintenance period, then any other time period must be acceptable to the Owner, the Engineer, and to the Representative of the Division of Environmental Health.

A set of As-Built plans shall be prepared by a Professional Surveyor licensed to practice in the State of North Carolina. The Surveyor shall be hired by the Contractor to perform the work. The Contractor shall provide the "As-Built" plans to the Engineer. The Engineer shall provide the signed and sealed "As-Builts" to the local Health Department and Owner which will show actual vertical and horizontal location and design of all system components and contain a complete list of all mechanical equipment installed whenever any deviations were made from the approved plans and specifications. The Contractor shall forward to the Engineer two bound sets of all manufacturer's component data along with the "As Built" data.

OPERATING PERMIT

1. An Operation Permit may be issued by the Local Health Department after all conditions of the improvement permit have been met, the Design Engineer certifies in writing that the system has been installed in accordance with the approved plans and specifications.
2. The operation permit shall include description of facilities served and sewage system components, as-built plans and specifications, legal documents, operation and maintenance manual, monitoring and performance requirements, and other operating conditions deemed appropriate.

OPERATING CHECK AND ADJUSTMENTS

1. After permanent power has been connected and all components of the system have been installed, the contractor shall schedule a time for the checking of the system for proper operation. The check shall be performed in the presence of the Design Engineer, Septic System Contractor, Local Health Department Representative and Owner. Any discrepancies shall be corrected until the system operates as designed.
2. Fill the pump tank with water. Run the pump through a cycle set for each manifold and measure pump run time and drawdown depth after setting valves to operate each pump at two feet operating head at each pressure manifold. Adjust timer to specified dose volume.
3. Record all elapsed time meter readings.
4. Inspect all manholes and collection system for line, grade, inverts, infiltration and leakage.

OPERATING MAINTENANCE

This work shall be performed only by operators knowledgeable of the system. Operation, Maintenance and Inspection Procedures shall include but not be limited to the following:

- Enter into a contract with a licensed septic tank operator to inspect and clean effluent filter in septic tank.
- Minimum system inspection/maintenance frequency shall be a minimum of 12 times/year. This system is classified as a (Type Vb) Reporting required every 6 months and inspection by the Local Health Department once a year.
- Septic system and grease trap inspected monthly shall be pumped a minimum of every year or when solids accumulate to 1/3 the volume of the tank.
- The system should be observed every month initial installation. An inspection report should be completed and filed each time the system is checked.
- The pump control timer shall be checked to verify that the pump run time is correct to ensure the correct dosing volume. Adjustment shall be made as required.
- The pressure manifold shall be pressure back-washed with clean water during system maintenance.
- Pressure head at the manifold should be checked and adjusted one month after installation and annually thereafter.
- All piping, fittings 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 panel and wiring 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 current system owner (**Hornet's Nest Girl Scout Council** and subsequent owners) shall establish an operation and maintenance program and procedure based on experience obtained from similar installations.

The current system owner (**Hornet's Nest Girl Scout Council** and subsequent owners) shall be responsible to comply with all above operating and maintenance procedures in addition to any so specified on the operation permit issued by the Iredell County Health Department or may be necessary in the future for the operation of the system to meet all public health laws, rules and regulation regarding the wastewater system.

Failure to comply with these operating and maintenance procedures will necessitate immediate legal action by the Iredell County Health Department to suspend or revoke the operation permit.

OWNERSHIP RESPONSIBILITY FOR THE SYSTEM:

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

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

(a) Provide water conserving plumbing fixtures within the facility. Installing water closets that require no more than 1.6 gallons per flush and spring loaded faucets.
(b) Develop conservative water use habits.
(c) Monitor and maintain the system as necessary for proper operation. Establish a procedure to read and record water meter readings on a monthly basis. Retain records.
(d) Check and pump the grease trap and septic tank sludge on a regular basis as will be specified in the operating permit or as may be required.
(e) Make rapid repairs to leaking plumbing fixtures and faucets.

DESIGN SPECIFICATIONS - T & J PANEL SYSTEM

Oak Springs Girl Scout Camp Picnic Pavilion
Statesville, Iredell County, NC

SYSTEM TREATMENT

Design Flow:	1,865.71 G/D Equalized (5,040G/D Not Equalized)
Grease Trap Size:	4,000 Gallon Precast Concrete with Baffled Wall
Grease Trap Filter:	Polylok PL-625 or Approved Equal
Septic Tank Size:	6,000 Gallon Precast Concrete with Baffled Wall
Septic Tank Effluent Filter:	Polylok PL-525 or Approved Equal
Flow EQ/Pump Tank Size:	18,000 Gallon Precast Concrete Tank

NITRIFICATION FIELD

Effluent Loading Rate:	0.25 G/D/SF Primary (0.25 G/D/SF Repair)
Supply Force Main Size & Length:	Field 1: 2-Inch SCH 40 PVC - 540 LF Field 2: 2-Inch SCH 40 PVC - 560 LF
Total Linear Feet of Laterals:	2,487.62 LF @ 9' Centers Min. (2,560 LF Shown) Field A – 10 Laterals @ 128 LF Ea. = 1,280 LF Field B – 10 Laterals @ 128 LF Ea. = 1,280 LF
Pressure Manifolds:	Field 1 - 6-inch SCH 80 PVC W/ (10) ½-inch Dia. SCH 80 PVC Taps Field 2 - 6-inch SCH 80 PVC W/ (10) ½-inch Dia. SCH 80 PVC Taps
Manifold Placement:	Above Field
Flow Rate thru System:	Field A – 54.80 G/M Field B – 54.80 G/M

SYSTEM HEAD

Elevation Head:	15.00 Ft. (Worst Case)
Operation Head:	2.00 Ft.
Friction Head:	42.65 Ft. *(Includes minor losses)* (Worst Case)
Total Dynamic Head (TDH):	59.65 Ft. (Worst Case)
Pump Requirements:	54.80 GPM @ 59.65 Ft. TDH; Use (2) Goulds 3885 Series Model WE1512HH or approved equal 1.5 HP–230V–1 PH *(Contractor to Verify)*
Control Panel:	SJE Rhombus Model SJE Rhombus model IFS31W904H10E15A18A Time Dose Duplex Panel or Approved Equal

DOSING REQUIREMENTS

Dosing Volume:	Field A – 330.49 Gallons Field B – 330.49 Gallons
Depth of Water Pumped Per Dose:	3.74 Inches (Max. Drawdown)
Pump Run Time per Dose:	8.51 Minutes per Dose (All Fields)
Check Valve:	2 Inch Diameter
Siphon Break Hole:	5/32 Inch Diameter

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 fertilizers 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 fertilizers 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.

CALCULATIONS

FOR A FLOW EQUALIZED GROUND ABSORPTION SEWAGE DISPOSAL SYSTEM USING SEPTIC TANK, PUMP TANK AND PRESSURE MANIFOLDS TO SERVE OAK SPRINGS GIRL SCOUT CAMP PICNIC PAVILION

1919 Turnersburg Highway

Statesville, Iredell County, North Carolina

August 10, 2016
Revised September 6, 2016

Prepared for:
Hornet's Nest Girl Scout Council
7007 Idlewild Road
Charlotte, NC 28212
Phone: (704) 731-6500

Prepared by:
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NCBELS No: C-1007

Engineering
Surveying
Planning

Project: **Oak Spring Girl Scouts Camp Picnic Pavilion**
Flow Equalization Calculations

Job No. Date: 08/08/2016 Revision Date: 09/06/2016

Scenario #1 Flow Equalization

Adjusted D.D.F.	5,040.00	G/D
Weekly Flow	26,120.00	Gal./Week
# of Days for Field Dosing	14.00	Days
Flow EQ Volume to Field	1,865.71	Gal./Day

	Inflow	Outflow	Remainder
Friday	5,040.00	1,865.71	3,174.29
Saturday	5,040.00	1,865.71	6,348.57
Sunday	5,040.00	1,865.71	9,522.86
Monday	1,000.00	1,865.71	8,657.14
Tuesday	1,000.00	1,865.71	7,791.43
Wednesday	1,000.00	1,865.71	6,925.71
Thursday	1,000.00	1,865.71	6,060.00
Friday	1,000.00	1,865.71	5,194.29
Saturday	1,000.00	1,865.71	4,328.57
Sunday	1,000.00	1,865.71	3,462.86
Monday	1,000.00	1,865.71	2,597.14
Tuesday	1,000.00	1,865.71	1,731.43
Wednesday	1,000.00	1,865.71	865.71
Thursday	1,000.00	1,865.71	(0.00)

Grease Tank Sizing

Septic Tank Capacity	6,000	Gallons
2/3 Septic Tank Capacity	4,000	Gallons

Shoaf Precast Company STB-2081
or Engineer Approved Equal
Grease Tank Sized per 15A NCAC 18A .1955(k)

Septic Tank Sizing

Peak Daily Flow	5,040	Gallons
Min. Tank Size	5,040	Gallons
∴ Use	6,000	Gallon Tanks

Shoaf Precast Company STB-2081
or Engineer Approved Equal

Tank Sizing Calculations

600 G/D to 1,500 G/D
V = 1.17Q + 500
1,500 G/D to 4,500 G/D
V = 0.75Q + 1,125
4,500 G/D and up
V = Q

V = Tank Volume
Q = Design Flow

Pump Tank Volume

Pump submergence Volume	2,243.91	Gallons	18.00	Inches
Dose Volume	932.86	Gallons	7.48	Inches
Equalization Volume	9,522.86	Gallons	76.39	Inches
Emer. Storage Vol. (highest daily flow)	5,040.00	Gallons	40.43	Inches
	17,740	**Gallons**	**142.30**	**Inches**
Gal./Inch in Pump Tank	124.66	Gallons (18,000 Gallons - PT-2096)		

Shoaf Precast Company (Others May be Substituted with Prior Engineer Approval)

Interior Tank Dimensions

Length	
240.00	In
20.00	Ft
Width	
120.00	In
10.00	Ft

Field Sizing

Design Flow	1,865.71	G/D
LTAR	0.25	G/D/SF (per Paul Penninger, LSS)
Drainfield Sizing	7,463	SF
Network Lines Required	2,487.62	LF
	128.00	LF per Lateral
	19.43	Laterals (Use 20 Laterals)
No. of Pressure Manifolds	2.00	Ea.
Lateral Volume (per Manifold)	812.21	Gallons (100% Volume)
	649.77	Gallons (80% Volume)
	324.88	Gallons (40% Volume)
Therefore, Dose	466.43	Gallons per Dose per Manifold
	57.43%	of Lateral Network Volume
Pump Run Time	8.51	Minutes per Dose
Drawdown per Dose	3.74	Inches per Dose

Repair Sizing	1,865.71	G/D
LTAR	0.25	G/D/SF
Drainfield Sizing	7,463	SF
Network Lines Required	2,487.62	LF

Interpolation Calculation for Friction Head in PVC Pipe

FM Friction Head 2" Dia. SCH 40 PVC

gpmX	54.80
p1	4.58
p2	6.42
gpm1	50
gpm2	55
hX(ft.)	6.35

= Fill In Shaded Boxes

Flow EQ Tank Dosing Schedule

Determine Flow:	54.80	G/M	*Flow to Pressure Manifold*
Length of FM:	560.00	Ft.	*Site Plan*
Elev:	15.00	Ft.	*HI from pump to Manifold*
Oper:	2.00	Ft.	*Set by OSWW*
Friction:	42.65	Ft.	*Friction Loss times length of FM*
TDH:	59.65	Ft.	*Elev. HD + Oper. Head + Friction Head*
Pump Req'd:	54.80	G/M @	59.65 TDH

Use Goulds 3885 Series Model WE1512HH Pump
1.5HP - 230V - 1PH

PIEDMONT DESIGN ASSOCIATES, P.A.
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Mooresville, North Carolina 28115-8812
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NCBELS No: C-1007

Engineering
Surveying
Planning

Project: **Oak Spring Girl Scouts Camp Picnic Pavilion**
Anti-Buoyancy Calculations

Job No. Date: 08/08/2016 Revision Date: 09/06/2016

4,000 Gallon Grease Tank — *Based on Shoaf Precast MS-4000-GT*

Outer Length	13.92	Ft.
Inner Length	12.92	Ft.
Outer Width	6.50	Ft.
Inner Width	5.50	Ft.
Outer Height	9.92	Ft.
Inner Height	8.75	Ft.

Wt. Water Displaced	55,975.62	Lb	Uplift Force	*Outer Length x Outer Width x Outer Length x 62.4 Lb/CF (Wt of Water)*
Wt of Tank	15,830.21	Lb	Top & Bottom	*Outer Length x Outer Width x 150 Lb/CF x 2 (Top & Bottom) x Slab Thickness*
	7,218.75	Lb	Ends	*Inner Width x Inner Height x 150 Lb/CF x 2 (Ends) x Wall Thickness*
	18,265.63	Lb	Sides	*Outer Height x Outer Length x 150 Lb/CF x 2 (Sides) x Wall Thickness*
	3,007.81	Lb	Baffle	*Inner Width x (Inner Height-3 Inches) x 150 Lb/CF x x Wall Thickness*
	44,322.40	Lb	Total Tank Wt.	*Sum Above Four*
Wt. Overburden	16,282.50	Lb	@ 18 Inches Min. Soil Cover Over Tank	*Outer Length x Outer Width x 120 Lb/CF (Saturated Soil Wt) x Soil Thickness*
Total	60,604.90	Lb	Total Tank & Overburden	*Sum of Total Tank Wt. & Soil Overburden*

Uplift	55,975.62	<	60,604.90	Tank

6,000 Gallon Septic Tank — *Based on Shoaf Precast STB-2081*

Outer Length	21.33	Ft.
Inner Length	20.00	Ft.
Outer Width	11.33	Ft.
Inner Width	10.00	Ft.
Outer Height	6.71	Ft.
Inner Height	5.21	Ft.

Wt. Water Displaced	101,208.18	Lb	Uplift Force	*Outer Length x Outer Width x Outer Length x 62.4 Lb/CF (Wt of Water)*
Wt of Tank	54,400.00	Lb	Top & Bottom	*Outer Length x Outer Width x 150 Lb/CF x 2 (Top & Bottom) x Slab Thickness*
	10,416.67	Lb	Ends	*Inner Width x Inner Height x 150 Lb/CF x 2 (Ends) x Wall Thickness*
	22,222.22	Lb	Sides	*Outer Height x Outer Length x 150 Lb/CF x 2 (Sides) x Wall Thickness*
	3,906.25	Lb	Baffle	*Inner Width x (Inner Height-3 Inches) x 150 Lb/CF x x Wall Thickness*
	90,945.14	Lb	Total Tank Wt.	*Sum Above Four*
Wt. Overburden	29,013.33	Lb	@ 12 Inches Min. Soil Cover Over Tank	*Outer Length x Outer Width x 120 Lb/CF (Saturated Soil Wt) x Soil Thickness*
Total	119,958.47	Lb	Total Tank & Overburden	*Sum of Total Tank Wt. & Soil Overburden*

Uplift	101,208.18	<	119,958.47	Tank

10,000 Gallon Pump Tank — *Based on Shoaf Precast PT-2096*

Outer Length	21.33	Ft.
Inner Length	20.00	Ft.
Outer Width	11.33	Ft.
Inner Width	10.00	Ft.
Outer Height	13.46	Ft.
Inner Height	12.63	Ft.

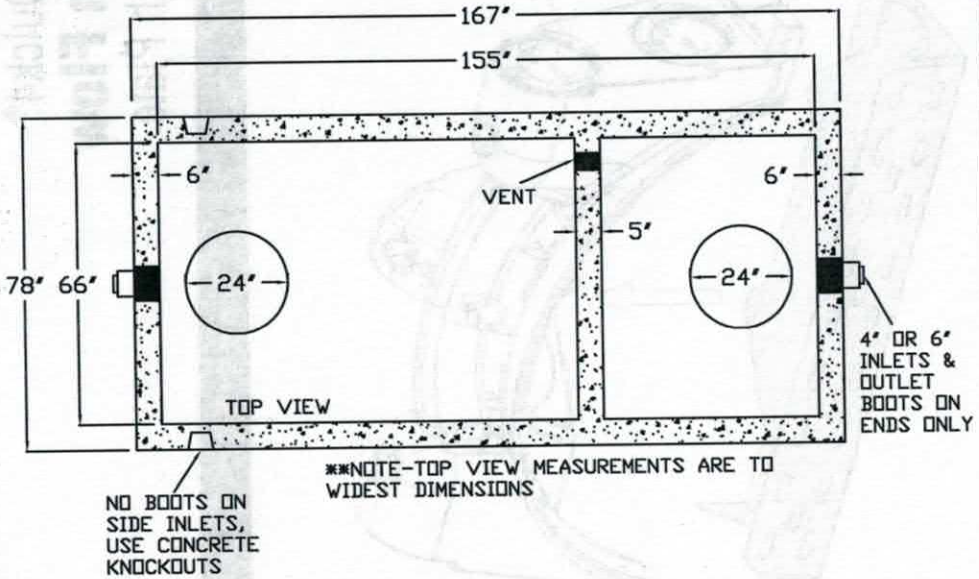
Wt. Water Displaced	203,044.98	Lb	Uplift Force	*Outer Length x Outer Width x Outer Length x 62.4 Lb/CF (Wt of Water)*
Wt of Tank	48,355.56	Lb	Top & Bottom	*Outer Length x Outer Width x 150 Lb/CF x 2 (Top & Bottom) x Slab Thickness*
	25,250.00	Lb	Ends	*Inner Width x Inner Height x 150 Lb/CF x 2 (Ends) x Wall Thickness*
	53,866.67	Lb	Sides	*Outer Height x Outer Length x 150 Lb/CF x 2 (Sides) x Wall Thickness*
	9,468.75	Lb	Baffle	*Inner Width x (Inner Height-3 Inches) x 150 Lb/CF x x Wall Thickness*
	136,940.97	Lb	Total Tank Wt.	*Sum Above Three*
Wt. Overburden	67,697.78	Lb	@ 28 Inches Min. Soil Cover Over Tank	*Outer Length x Outer Width x 120 Lb/CF (Saturated Soil Wt) x Soil Thickness*
Total	204,638.75	Lb	Total Tank & Overburden	*Sum of Total Tank Wt. & Soil Overburden*

Uplift	203,044.98	<	204,638.75	Tank

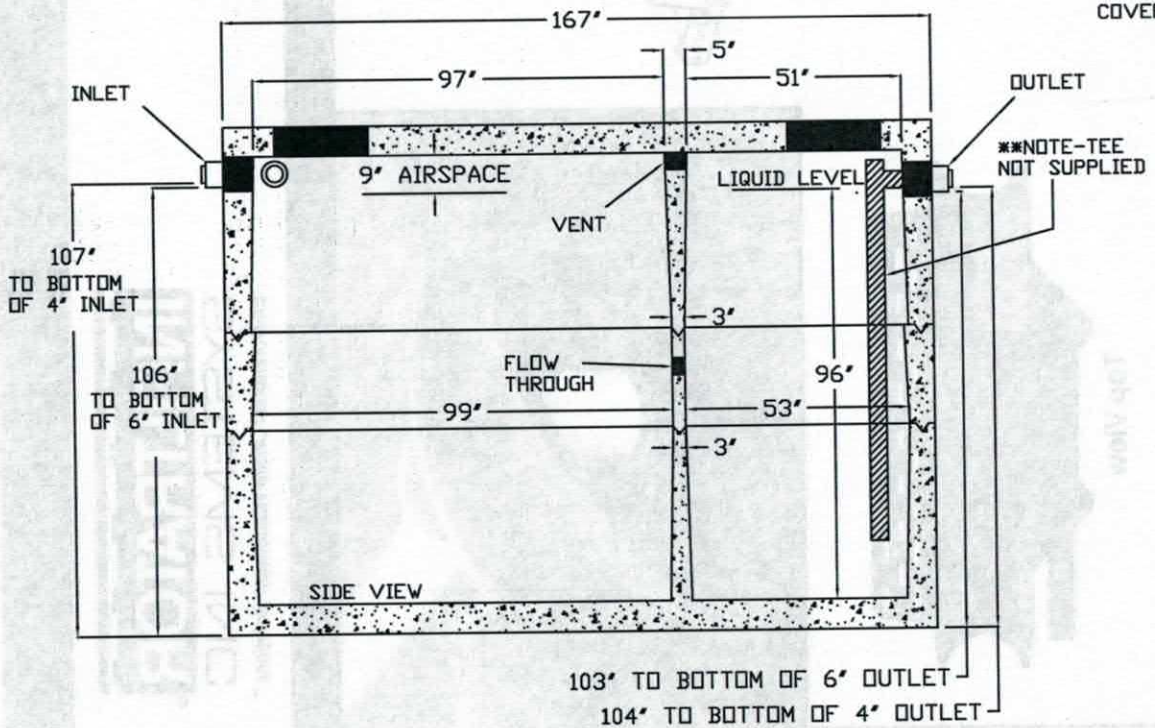
SHOAF PRECAST SEPTIC INC.
4130 WEST US HWY 64
LEXINGTON, NC 27295
PHONE (336) 787-5826
FAX (336) 787-2826

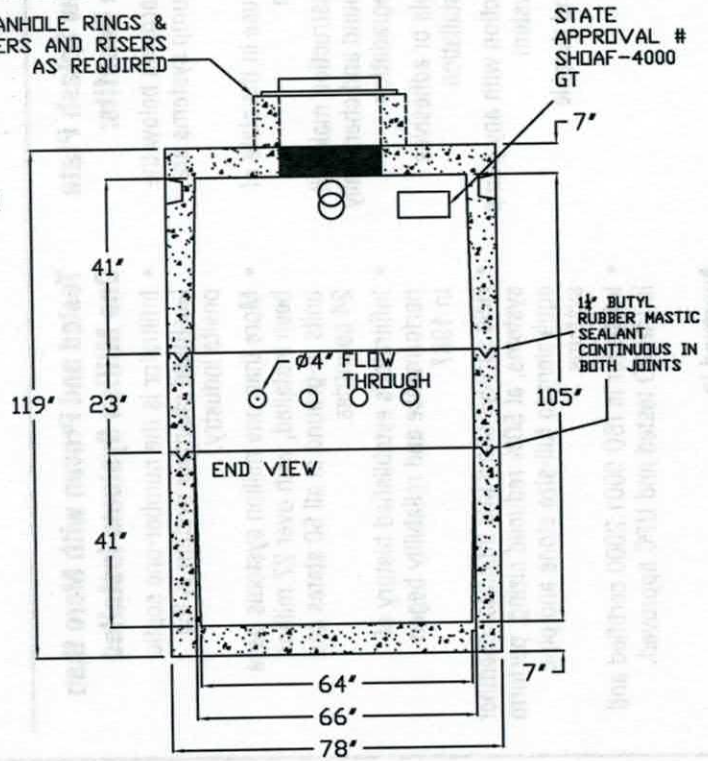
MODEL: MS 4000 H20 GT
H20 TRAFFIC RATED
4000 Gallon Grease Tank

WWW.SHOAFPRECAST.COM
SHOAF-4000 H20 TRAFFIC RATED
GT H20 TRAFFIC RATED
LIQUID CAPACITY-4000 US GALLONS/AIRSPACE-9"
TANK HEIGHT-119"
BOTTOM OF TANK TO CENTER OF INLET-109"
BOTTOM OF TANK TO CENTER OF OUTLET-106"
LENGTH TO WIDTH RATIO-2 TO 1
SIZE OF INLET & OUTLET-4" OR 6" PIPE
TYPE ON INLET & OUTLET-POLYLOCK OR EQUAL (MEETS ASTM C-923)
CONCRETE PSI-5000; TANK WEIGHT-47,000 LBS.
ACCESS TOP WITH RISERS PLUS RINGS AND COVERS (NOT INCLUDED)
REINFORCEMENT PER ENGINEER DRAWING



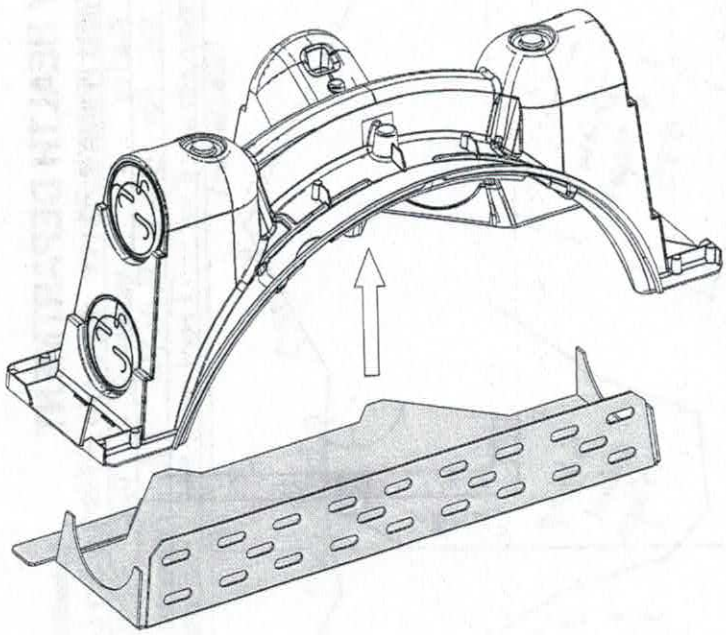
SCALE-N.T.S.

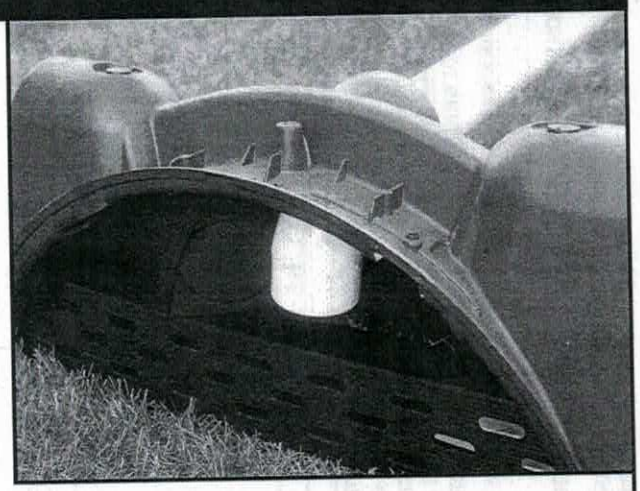




The Quick4® **High Flow** Splash Plate

INFILTRATOR® SYSTEMS INC
Environmental Onsite Wastewater Solutions℠







Top View

The Quick4® High Flow Splash Plate is designed for use with the Quick4 Standard Chamber's MultiPort™ end cap. The splash plate prevents soil erosion below the invert, and can be used in conjunction with any pump or pressure system. No special tools or adhesives are needed for installation.

The High Flow Splash Plate Offers These Benefits:

- Prevents soil erosion below the invert when pump systems are cycled on
- Approved for use in the state of North Carolina
- Polyolefin construction makes it structurally sound and chemically resistant to degradation
- No special tools or adhesives needed for installation
- Use in conjunction with any pump or pressure system
- Lightweight and durable

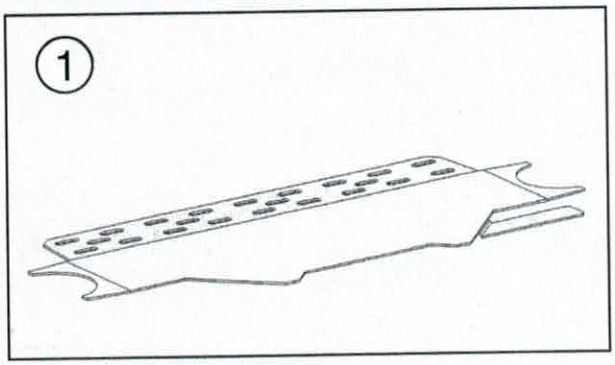
Tested and Proven with More than One Million Systems Installed

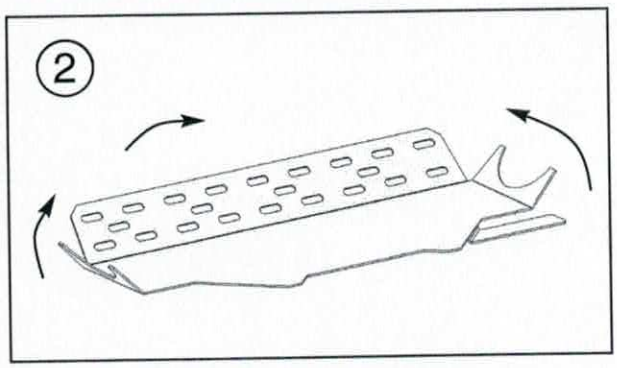
- Infiltrator is the number-one septic leachfield chamber system in the onsite industry.
- More than one million systems have been installed, with over 27 million units in-ground in all 50 states and 24 countries.
- Infiltrator's established history of performance and reliability began in 1987.
- Field surveys show that Infiltrator chamber systems, at 50% reduced sizing, perform equivalent to full-size stone and pipe systems.
- Infiltrator is ISO 9001:2000 certified and is IAPMO tested and UPC approved.

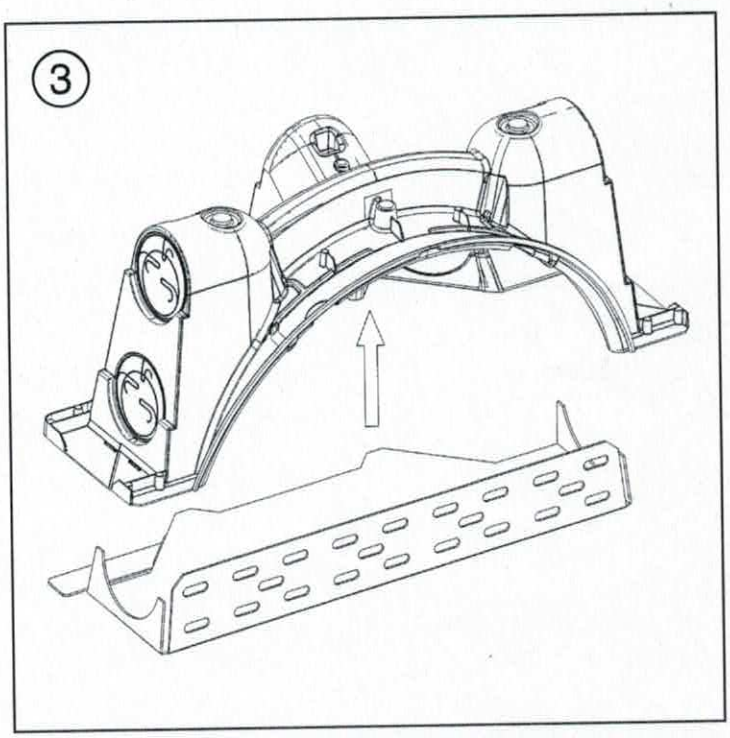
Approved in _____

The Quick4®
High Flow
Splash Plate

Installation Instructions







Quick4 High Flow Splash Plate Specifications

Size (W x L x H)	6.8" x 28" x 4"

INFILTRATOR SYSTEMS, INC. STANDARD LIMITED WARRANTY

(a) The structural integrity of each chamber, end plate, wedge and other accessory manufactured by Infiltrator ("Units"), when installed and operated in a leachfield of an onsite septic system in accordance with Infiltrator's instructions, is warranted to the original purchaser ("Holder") against defective materials and workmanship for one year from the date that the septic permit is issued for the septic system containing the Units; provided, however, that if a septic permit is not required by applicable law, the warranty period will begin upon the date that installation of the septic system commences. To exercise its warranty rights, Holder must notify Infiltrator in writing at its Corporate Headquarters in Old Saybrook, Connecticut within fifteen (15) days of the alleged delect. Infiltrator will supply replacement Units for Units determined by Infiltrator to be covered by this Limited Warranty. Infiltrator's liability specifically excludes the cost of removal and/or installation of the Units.

(b)THE LIMITED WARRANTY AND REMEDIES IN SUBPARAGRAPH (a) ARE EXCLUSIVE. THERE ARE NO OTHER WARRANTIES WITH RESPECT TO THE UNITS, INCLUDING NO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE

(c) This Limited Warranty shall be void if any part of the chamber system is manufactured by anyone other than Infiltrator. The Limited Warranty does not extend to incidental, consequential, special or indirect damages. Infiltrator shall not be liable for penalties or liquidated damages, including loss of production and profits, labor and materials, overhead costs, or other losses or expenses incurred by the Holder or any third party. Specifically excluded from Limited Warranty coverage are damage to the Units due to ordinary wear and tear, alteration, accident, misuse, abuse or neglect of the Units; the Units being subjected to vehicle traffic or other conditions which are not permitted by the installation instructions; failure to maintain the minimum ground covers set forth in the installation instructions; the placement of improper materials into the system containing the Units; failure of the Units or the septic system due to improper siting or improper sizing, excessive water usage, improper grease disposal, or improper operation; or any other event not caused by Infiltrator. This Limited Warranty shall be void if the Holder fails to comply with all of the terms set forth in this Limited Warranty. Further, in no event shall Infiltrator be responsible for any loss or damage to the Holder, the Units, or any third party resulting from installation or shipment, or from any product liability claims of Holder or any third party. For this Limited Warranty to apply, the Units must be installed in accordance with all site conditions required by state and local codes; all other applicable laws; and Infiltrator's installation instructions.

(d)No representative of Infiltrator has the authority to change or extend this Limited Warranty. No warranty applies to any party other than the original Holder.

* * * * * * *

The above represents the Standard Limited Warranty offered by Infiltrator. A limited number of states and counties have different warranty requirements. Any purchaser of Units should contact Infiltrator's Corporate Headquarters in Old Saybrook, Connecticut, prior to such purchase, to obtain a copy of the applicable warranty, and should carefully read that warranty prior to the purchase of Units.

INFILTRATOR® SYSTEMS INC

Environmental Onsite Wastewater Solutions℠

6 Business Park Road • P.O. Box 768
Old Saybrook, CT 06475
860-577-7000 • FAX 860-577-7001

1-800-221-4436
www.infiltratorsystems.com

For technical assistance, installation instructions or customer service, call Infiltrator Systems at 1-800-221-4436.

U.S. Patents: 4,759,661; 5,017,041; 5,156,488; 5,336,017; 5,401,116; 5,401,459; 5,511,903; 5,716,163; 5,588,778; 5,839,844
Canadian Patents: 1,329,959; 2,004,564 Other patents pending.

Infiltrator, Equalizer, Quick4 and SideWinder are registered trademarks of Infiltrator Systems Inc. Infiltrator is a registered trademark in France. Infiltrator Systems Inc. is a registered trademark in Mexico. ChamberSpacer, Contour, Contour Swivel Connection, MicroLeaching, MultiPort, PolyTuff, PosiLock, QuickCut, QuickPlay, SnapLock and StraightLock are trademarks of Infiltrator Systems Inc. © 2005 Infiltrator Systems Inc. Printed in U.S.A.

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PIEDMONT DESIGN ASSOCIATES, P.A.
125 East Plaza Drive | Suite #101
Mooresville, NC 28115
Phone: 704-664-7888 | Fax: 704-664-1778
Email: dmunday@pdapa.com

Engineering
Surveying
Planning

April 20, 2017

Iredell County Health Department
318 Turnersburg Highway
Statesville, NC 28625
Attn: Heath Snow, REHS

RE: Oak Springs Girl Scout Camp Picnic Pavilion
Flow Equalization Subsurface Effluent Disposal System
1919 Turnersburg Highway, Statesville, Iredell County, North Carolina

Dear Mr. Snow:

ENGINEERS CERTIFICATION

I, **Donald L. Munday**, as a duly registered Professional Engineer in the State of North Carolina, having been authorized to observe periodically the construction of the referenced project, a Flow Equalized 25% Reduction Subsurface Effluent Disposal System; serving Oak Springs Girl Scout Camp Picnic Pavilion, located at 1919 Turnersburg Highway, Statesville, Iredell County, NC, hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of the approved plans and specifications.

Sincerely,

PIEDMONT DESIGN ASSOCIATES, P.A.

Donald L. Munday, P.E.
N.C. Registration No. 17327



04/27/17

Cc: Dennis Galliher, A1 Backhoe Service, Installer
Joe Hyde, General Contractor

Brady 8/2/16

RECEIVED JUN 15 2016

IREDELL COUNTY HEALTH DEPARTMENT *ENVIRONMENTAL HEALTH DIVISION*

(THE ABOVE PERMIT DOCUMENTS WILL BECOME INVALID IF INFORMATION PROVIDED ON THIS APPLICATION IS FALSIFIED OR CHANGED, OR IF THE SITE IS ALTERED. THE IMPROVEMENT PERMIT IS VALID FOR EITHER 60 MONTHS OR WITHOUT EXPIRATION DEPENDING UPON DOCUMENTATION SUBMITTED - APPLICATION WITH SITE PLAN 60 MONTHS, APPLICATION WITH COMPLETE, SCALED PLAT WITHOUT EXPIRATION. SEE 15A NCAC 18A .1937(f) FOR DETAILS)

Paid $1,200.00

1. APPLICATION FOR: ✓ **Improvement Permit** ✓ **Authorization To Construct** ___ **Existing System Inspection**

#219322

2. Page 2: *Site Plan Worksheet* Form MUST Accompany This Application

The following optional attachments may also be submitted: ___ **Survey Plat, Scaled no more than 1 Inch = 60 Feet**

Place check ( ) beside whichever is submitted if applicable ✓ **Custom Site Plan, Scaled no more than 1 Inch = 60 Feet**

3. Applicant Information:

Piedmont Design Associates, PA **Applicant Name**	125 East Plaza Drive, Suite 101 Mooresville, North Carolina 28115 **Mailing Address**	(704) 664-7888 **Office Phone #**	N/A **Alternate Phone #**
Girl Scouts, Hornets' Nest Council **Owner Name**	7007 Idlewild Road Charlotte, North Carolina 28212 **Mailing Address**	(704) 731-6500 **Office Phone #**	(828) 301-3655 Christine **Alternate Phone #**

4. Property Information:

1919 Turnersburg Highway **Street Address**	N/A **Subdivision Name**	N/A **Section/Phase and Lot Number**

Driving Directions: 77 North to 21 North toward Harmony. Cross over Yadkin River. Site is directly across from Allison's Woods on left before Fairmont Road. Address is 1919 Turnersburg Hwy. Go into entrance turn right at tee. Go through gate. Follow drive until overnight parking. Building proposed on right past sign and drainfields proposed on either side of road to Environmental Center.

5. RESIDENTIAL Site Development Information: ***(Check or Complete ALL that apply)***

( ) **New, Single Family Residence**
( ) **New, Multi-Family Residence**
( ) **Expansion of Existing Septic System**
( ) **Repair To Failing Septic System due to** _____
( ) **Other** _____

Maximum Number of Bedrooms ___
Maximum Number of Occupants ___
If Expansion, Current Number of Bedrooms ___

( ) **Crawl Space Foundation?**
( ) **Concrete Slab Foundation?**
( ) **Basement w/Plumbing?**
( ) **Basement w/out Plumbing?**

IF Non- Residential Site Development:

Type of Business	Open Air Pavilion for Meetings/Meals
Square Footage of Building	TBD 3325
Maximum Number of Employees	TBD
Maximum Number of Seats	TBD 400 persons 3 meals per day

6. Proposed Water Supply:

( ) **New Well** ( ) **Existing Well** ( ) **Community Well** ( ) **City Water** (✓) **Other Public Water**

7. Desired Septic System Type: ***(You may rank in order of preference, if any)*** ( ) **EXISTING SYSTEM installed** _____ *Year*

( ) **Alternative** (✓) **Conventional** (✓) **Innovative** ( ) **Modified Conventional** (✓) **Other** Flow EQ w/ Flow Reduction

8. Please Answer The Following To The Best of Your Ability:

(✓) **Yes** ( ) **No Does the site contain any jurisdictional wetlands?** *Not in vicinity of drainfield*

( ) **Yes** (✓) **No Is any non-domestic sewage (i.e. industry) to be generated?**

(✓) **Yes** ( ) **No Is the site subject to approval by any other public agency?** *Iredell County Erosion Control, Building Standards, Planning*

I have read this application and certify that the information provided herein is true, complete, and correct. Authorized county and state officials are granted right of entry to conduct necessary inspections to determine compliance with applicable laws and rules. I understand that I am solely responsible for the proper identification and labeling of all property lines and corners and making the site accessible so that a complete site evaluation can be performed.

9. Signature: _____ 5/23/2016

Property owner or owner's legal representative signature (SIGNATURE REQUIRED) **DATE**

IREDELL COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH

DOCUMENTATION TO AUTHORIZE AN OWNER'S LEGAL REPRESENTATIVE

Applications for permits require the "signature of the owner or owner's legal representative" (15A NCAC 18A .1937). If the owner does not sign the application himself or herself, they can submit any one of the following documents to designate their legal representative:

Power of Attorney; Real Estate Contract; Estate executor; Bankruptcy trustee; Court ordered guardianship

In the absence of the above documentation, the property owner may provide the local health department with documentation that designates a legal representative. A property owner may:

Complete this form to document his or her legal representative, or provide his or her own form that contains the information in this form.

If there are multiple property owners, then all property owners must sign the form that designates a legal representative.

By signing a form that designates a legal representative for purposes of 15A NCAC 18A .1937, the property owner authorizes that representative to act on their behalf in matters pertaining to the application and permitting process, including signing or receiving any application, document or permit. The owner retains full responsibility to meet all permit conditions specified by the local health department.

I, Christine Le Clair, am the legal ~~owner(s)~~ representative of the property located at Oak Springs Girl Scout Camp, identified as PIN (Parcel Identification Number) 4758-54-3663 & 4758-94-1767, located in Iredell County, North Carolina.

I do hereby authorize (**print legal representative/company name**) Donald L. Munday/David DeCaron, Piedmont Design Associates, PA, to act as an agent on my behalf in applying for/signing/obtaining any of the documents described below.

- Application for Improvement Permit (IP) / Authorization to Construct (AC)
- Improvement Permit (IP) / Authorization to Construct (AC)
- Application for soil-site evaluation (new/repair)
- Application/permit for private drinking water well/well abandonment
- Application for Compliance Inspection

I agree to abide by all decisions and/or conditions between the legal representative acting on my behalf and the Iredell County Department of Public Health, Environmental Health Division.

Christine E. LeClair 5/9/16 — Signature of Owner(s) — Date

[signature] 5/9/2016 — Signature of Witness — Date

Please return this signed form to the appropriate office:

Mooresville - Environmental Health
ronda.hart@co.iredell.nc.us
Fax: 704-662-3239
610 E. Center Avenue, Mooresville, NC 28115

Statesville - Environmental Health
adrienne.shea@co.iredell.nc.us
Fax: 704-871-3483
349 N. Center Street, Statesville, NC 28677

IREDELL COUNTY HEALTH DEPARTMENT *ENVIRONMENTAL HEALTH DIVISION*:

SITE PLAN WORKSHEET

SEE THE "SAMPLE SITE PLAN" BELOW. ***INCOMPLETE SITE PLANS WILL BE RETURNED TO YOU FOR COMPLETION AND MAY RESULT IN A DELAY IN THE ISSUANCE OF YOUR SEPTIC SYSTEM PERMIT!!!***

Place an (X) beside each item as you complete the site plan:

_____ Property Line measurements are clearly identified… **_____ All proposed structures are indicated…**

SHOW: proposed house or business footprint, wells, water lines, patios, pools and decks, and any other item that will occupy space on the site

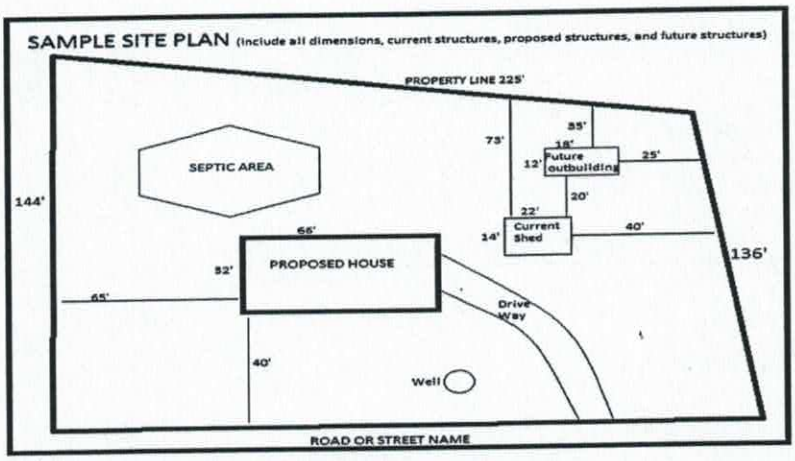
_____ Front and side setbacks from property line… **_____ Preferred driveway location and configuration, preferred well location…**

_____ Area you prefer your septic system to be placed… **_____ North arrow, or other sufficient indicator of direction…**

Circle N/A on the following if appropriate:

_____ Location of septic systems and wells within 100' of your property… N/A

_____ Location of easements and rights of ways on your property… N/A **_____ Location of any designated wetlands on the property… N/A**



USE THIS SPACE TO DRAW YOUR SITE PLAN

SEE PLAN BY PIEDMONT DESIGN

Signature: _____

REQUIRED **property owner or owner's legal representative signature.**

5/23/2016

DATE

IREDELL COUNTY

PO Box 788
349 North Center St.
Statesville, NC 28677

APPLICATION NUMBER
219322
Issue Date: 06/15/2016

ZONING PERMIT

Open Space

Parcel Number	Street Address	Jurisdiction
4758543663.000	1919 TURNERSBURG HIGHWAY, STATESVILLE, NC 28625	IREDELL COUNTY

Owner Information	Applicant Information
Owner: GIRL SCOUTS HORNETS NEST COUNCIL	Applicant: PIEDMONT DESIGN ASSOCI
Address: 7007 IDLEWILD ROAD STATESVILLE, NC 28212	Address: 125 E PLAZA DR STE 101 MOORESVILLE, NC 28115
Phone:	Phone: 704-664-7888

Use Requested	Zone Code
GIRL SCOUTS OPEN AIR PAVILION OK TO ISSUE ZONING PERMIT-RH; SEPTIC ONLY AT THIS TIME	RA

Lot Acreage	F Setback	B Setback	L Setback	R Setback	Watershed	Flood Zone
516.720					NOT	

Remarks:

The applicant certifies that there are no deed restrictions, contractual agreements or governmental regulations of any kind that interfere with or prohibit the use of the property or the use for which this permit is requested. The applicant further acknowledges that enforcement of deed restrictions, plat conditions and other contractual agreements will not be undertaken by Iredell County and is the sole responsibility of the affected parties.

Applicant: _____ Date: _____

Permit Number	71714	TOTAL FEES	$ 77.25

STATE OF NORTH CAROLINA

INSPECTION AND MAINTENANCE AGREEMENT

THIS AGREEMENT is made and entered into this * May 1st, 2007, by and between *Girl Scouts Hornets Nest Council (hereinafter the "Owner") and Rollans Soil & Environmental Services, PA (hereinafter the "Contractor").

WITNESSETH

WHEREAS, the Owner owns or controls the property upon which a ground absorption sewage treatment system (hereinafter "system" is installed, such system being designated a Type V B system under the rules for Sanitary Sewage collection, Treatment and Disposal found at 15A NC Admin. Code 18A.1900 et seq.; and

WHEREAS, 15A NC Admin Code 18A, 1961 requires a contract to be executed between the system owner and a management entity prior to the issuance of an Operation Permit and said system; and

WHEREAS, 15A NC Admin Code 18A, 1961 requires that a condition of the Operation Permit for said system be that a properly executed contract between the system owner and a management entity shall be in effect for as long as the system is in use; and

WHEREAS, the Contractor is a management entity of a type authorized by 15A NC Admin Code 18A.1961 to manage a Type V B system.

NOW THEREFORE, in consideration of the premises and of the mutual covenants and promises contained in this Agreement, it is hereby agreed by and between the Owner and the Contractor as stipulated below.

1. The Contractor's Obligations. The Contractor shall perform the following services on the Owner's system located at *Dale Earnhardt Environmental Leadership Camp's Outdoor Pavilion 1919 Turnersburg Highway, Statesville NC 28625
   A. The Contractor shall inspect the system at least the frequency required in Table V (b) of 15A NC Admin. Code 18A.1961 (b) for a type V B system.
   B. The Contractor shall perform the maintenance procedures in accordance with the conditions of the Operation Permit.
   C. The Contractor shall report the results of its inspections to he local health department at the frequency specified in Table V (b) of 15A NC Admin. Code 18A.1961 (b) for a type V B system.
   D. If an inspection indicates the need for system repairs, the Contractor shall notify the local health department within 48 hours of the inspection.
   E. The Contractor shall notify the Owner of needed repairs that are outside of the scope of routine maintenance described in subparagraph (b) above. The Contractor shall perform necessary repairs to the system at the request of the Owner and shall be entitled to payment and therefore at the Contractor's normal charge for services and materials.
   F. The Contractor shall employ or shall contract with a certified operator(s) if required by Table V (b) of 15A NC Admin. Code 18A.1961 (b) for a type V B system.
   G. The Contractor shall respond to a request for a nonscheduled service or maintenance call within 24 hours after receipt of such request.
2. The Owner's Obligations.
   A. The Owner shall pay to the Contractor the sum of $ 3000 per year for periodic inspections, routine maintenance procedures and periodic reports. The annual fee may be amended upon sixty (60) days advance notice to the Owner but may not be increased more than 20 percent per year. The owner shall pay to the Contractor his normal and customary fees for any work performed on the system as a result of nonscheduled service or maintenance calls. All fees are due and payable within thirty (30) days of billing. Payments due to the Contractor and unpaid by the Owner after thirty (30) days shall accrue interest from the due date until paid at a rate of 1 ½ percent per month.

B. Within 5 days or receipt of notice of needed repairs pursuant to paragraph 1.c. above, the Owner shall request the Contractor to complete needed repairs or shall provide to the Contractor evidence that the needed repairs were satisfactorily completed by another entity.

C. The Owner shall provide the Contractor with such access to the system as is reasonably necessary for the Contractor to comply with the terms of this Agreement.

3. Terms. This Agreement shall remain in effect until terminated.

A. Automatic Termination.
This agreement shall automatically terminate if the Operation Permit for the system is revoked and all appeals of the revocation are exhausted or time for making an appeal has passed.

B. Termination by Mutual Consent.
The Parties may mutually agree to terminate this Agreement by giving written notice or termination by mutual consent to the local health department thirty (30) days in advance of the date of termination.

C. Termination by Owner.
The Owner may terminate this agreement by giving notice to the Contractor and to the local health department thirty (30) days in advance of the date of termination.

D. Termination by Contractor.
(1) The Contractor may terminate the Agreement for cause by giving written notice of intent to terminate this Agreement to the Owner and to the local health department thirty (30) days in advance of the date of termination.
Cause shall be defined as:
(a) Failure to remit payment for any bill for services performed under and in accordance with the Agreement if said bill is not paid within thirty (30) days of receipt of termination is given but prior to the date of termination of this Agreement, the Agreement shall continue in effect; or
(b) Failure of the Owner to provide to the Contractor authorization to complete needed repairs or satisfactory evidence that needed repairs to the system were completed by another entity within 5 days of receipt of notice of needed repairs pursuant to paragraph 1.e. above. If said authorization to complete needed repairs or evidence of completion said repairs is provided after notice of termination is given but prior to the date of termination of this Agreement, this Agreement shall continue in effect; or
(c) Failure of the Owner to allow the Contractor such access to the system as is reasonably necessary in order for the Contractor to comply with the terms of this Agreement.
(2) The Contractor may not terminate this Agreement without cause, but may assign its rights and duties under this Agreement as provided in paragraph 4 below.

4. Assignments.

A. Assignment by the Owner. The Owner shall notify the Contractor of the name and addresses of any purchases of the property on which the system is located. The owner shall also notify any purchaser of the property on which the system is located of the existence of this Agreement and shall assign all rights and duties under this Agreement to said purchaser.

B. Assignment by the Contractor. The Contractor may assign its rights and duties under this agreement to another management entity, which is qualified pursuant to 15A NC Admin. Code 18A.1961, to manage a Type V system upon thirty (30) days written notice to the Owner and to the local health department.

5. Use of Subcontractors. The Contractor may subcontract with such manufacturers, suppliers, and contractors, as it deems desirable to perform any of the Contractor's duties under this Agreement.

6. Representations. The Parties represent to each other that each has the power, authority, and legal right to enter into and perform its obligations as set forth in this Agreement.

7. Regulatory Amendments. References in this Agreement to sections of the Administrative Code shall include such rules as they may be amended in the future.

8. No Implied Waiver. The waiver by either Party of a default or breach by other Party of any provision of this Agreement shall not operate or be construed to operate as a waiver of any subsequent default or breach. The failure at any time of either Party to enforce any provision of this Agreement (a) shall not be construed to be a waiver of such provisions, or of any other provision; and (b) shall not in any way affect the validity of this Agreement, or any part of this Agreement, or the right of either Party thereafter to enforce each and every provision of this Agreement.

9. Notice. Every notice required under this Agreement shall be in writing and shall be deemed sufficiently given if delivered in person or sent by certified or registered mail, return receipt requested, postage prepaid to the Party to be notified and addressed as follows:

To the Owner * Girl Scouts Hornet's Nest Council
Stephanie Anderson - Property Manager

To the Contractor Rollans Soil & Environmental Services, PA
P.O. Box 832 Mooresville NC 28115

To the Local Health Department * Iredell County Health Department

The date of any Notice shall be the date of personal delivery or the date shown on the return receipt as the date of delivery or attempted delivery, as the case may be. Changes in the respective addresses to which notice may be directed may be made from time to time by either Party by notice to the other party.

10. Place of Agreement. This Agreement and any question concerning its validity, construction or performance shall be governed by the laws of the State of North Carolina, notwithstanding the place of execution, or the order in which the signatures of the Parties are affixed.

11. Entire Agreement and Amendment. This Agreement supersedes all prior negotiations, agreements and understandings between the Parties with respect to the subject matter hereof and constitutes the entire Agreement between the Parties with respect to the subject matter hereof. To be effective, an amendment or modification to this agreement must be in writing and must be signed by the Parties.

12. Severability. In the event that any provision of this Agreement shall, for any reason, be determined to be invalid, illegal, or unenforceable in any respect, the Parties shall negotiate in good faith and agree to such amendments, modifications or supplements of or to this Agreement or such other appropriate actions as shall, to the maximum extent practicable in light of such determination, implement and give effect to the intentions of the Parties as reflected in this Agreement, and the other provisions of this Agreement shall, as so amended, modified, supplemented or otherwise affected by such action, remain in full force and effect.

IN TESTIMONY WHEREOF, the Parties hereto have executed this Agreement in duplicate originals, one of which is retained by each of the parties, the day and year first above written.

Maintenance operation contract with Rollans Soil & Env. Services PA. certified operator) must run for minimum 12 month period. After 12 months, contract may be terminated by 30 days written notice by either party. *

Owner

Contractor

* (Attest)

(Attest)