Lake Keowee Septic Systems Information for Builders and Homeowners (Summary Highlights Documentation)

This document is a summary of the original document of the same title published by Crescent Communities in April 2003. It is taken from the original document and contains the most significant requirements for the installation of a septic system in Waterford Pointe.
The original document is held in the Waterford Pointe Board Room and may be used by homeowners and builders when needed.

WATERFORD POINTE

SEPTIC SYSTEM INSTALLATION SPECIFICATIONS

INTRODUCTION

This community is a master-planned residential community developed by Crescent Communities S.C., LLC. and located on the beautiful shores of Lake Keowee, South Carolina.

The sewage disposal systems have been master-planned to provide effective natural wastewater treatment without compromising any esthetic or environmental issues. Individual on-site systems will be used within the community as the chosen method of waste disposal.

Each lot will have its own septic disposal system that has been thoroughly designed specifically for that site. Crescent Communities went to great lengths to retain the services of professionals within the different fields to analyze the soils, design the layouts, specify guidelines for the installations, inspect installations, and landscaping. All of this is now through an operation and management program, overseen by the community's Owner's Association in order to provide on-site systems as reliable as a centralized sewer system.

DEVELOPMENT ANALYSIS

With Crescent Communities' extensive planning of and analyzing the best utilization of the property, a land plan was developed to maximize the esthetics without compromising any of the ecological or environmental concerns.

With the rural setting and natural lay of the land it makes it quite difficult for gravity centralized sewers without a great deal of excavating and disturbing the natural beauty of the area. On-site septic systems are less obtrusive to the natural topography thus securing values for the future. Septic systems are the oldest method of waste treatment in the United States. They are very efficient, effective, and reliable when designed and maintained properly.

ON-SITE SEPTIC SYSTEMS - HOW THEY WORK

Septic systems meet the wastewater management needs of a large majority of South Carolina's households. Given appropriate site and soil conditions, septic systems can be the most effective selection for wastewater management because of their simplicity, treatment efficiency and stability.

The septic system consists of a septic tank and a below-ground absorption field, also called a drainfield or a nitrification field. The septic tank is a buried wastewater container usually made of concrete and usually designed to hold 1,000 gallons or more.

The septic tank's job is to settle solids from wastewater and produce a liquid ready to be treated and disposed of in the drainfield. Although the septic tank removes some pollutants from wastewater, further treatment is required after the effluent leaves the tank.

Properly utilized, soil provides excellent treatment and safe disposal. As the wastewater leaves the septic tank it is distributed either by gravity or lifted by an effluent pump to several nitrification lines or ditches. The wastewater is absorbed into the soil and continues it's treatment, filtering through the soil, it eventually "recharges" the groundwater or provides base flows in streams. The partially treated wastewater in a septic system should travel through several feet of soil to provide adequate removal of organisms and other pollutants.

The type of systems that release wastewater into soil is determined by the characteristics of the soil, slope, available space, soil depth over water tables or bedrock and other site-specific factors.

With the proper planning, oversight, installation, landscaping and maintenance these systems can give worry free reliable service for many years.

PLANNING, INSTALLATION, AND MAINTENANCE

Successful performance of the septic systems is directly related to the proper planning and installation of the systems and the appropriate long term maintenance. These guidelines have been formulated for the proper management of the septic systems. The septic system program for the community is a custom designed program that will help insure proper planning, installation and maintenance.

The following information will give details of the construction requirements that have been developed for the community.

ALL SYSTEM TYPES

GENERAL INSTALLATION SPECIFICATIONS

SEPTIC TANK

1. 1000 gallon minimum capacity units are required on all systems in Waterford Pointe.
2. An access riser shall be provided for monitoring, pumping, and servicing the effluent filter on the exit end of the tank (All risers to be the specified stackable type). Make sure when ordering tanks you specify these are for Waterford Pointe
3. When stacking the access risers, adjust where the tops are no lower than three inches above the finished grade. At the time of installation the installer should allow at least an extra six-inch joint of riser over all accesses to allow for finish grade changes. After the final landscaping, adjustments can be made to lower the heights if possible.
4. Do not allow any "bridging" to occur under the gravity supply line within 10 feet of the

connection of the exit pipe of the septic tank. When back-filling, a pivoting effect can occur resulting in damage to the pipe or filter extraction prohibited. Support properly where there is no stress applied to the pipe when back filling is performed.
5. All PVC piping shall be of schedule 40 strength or higher.

PRIMARY EFFLUENT FILTER - SEPTIC TANK

An effluent filter shall be installed as per manufacturer's instructions at the exit end of the septic tank. (All filters are to be "Polylock" model # PL122 residential effluent filter unit). This is a complete unit ready to install to a 3" or 4" sch 40 PVC pipe. No sanitary tee is needed.

GENERAL

1. Any gravity distribution or supply line shall have a minimum of 10" of earthen cover. (If installer cannot achieve this cover, he must notify the builder of the need for additional soil to be brought in)
2. Under no condition shall any field area be constructed in wet or moist conditions. Irreversible compacting and slickening of the soil can occur even in minimal moist conditions)
3. If during construction the installer finds that the trench bottoms or sidewalls are "slickening" from the backhoe bucket, raking shall be performed to restore soil characteristics.
4. No galvanized components shall be used on any part of the entire system. They will not give long term service when exposed to sewer gases or effluent.
5. Mark all four comers of the septic tank with 1" PVC extending above grade a minimum of 24".
6. Mark all four comers of the drain field with 1" PVC extending above grade a minimum of 24".
7. All PVC piping shall be of schedule 40 strength or higher.

NOTE:THESE ARE SPECIFICATIONS FOR ITEMS THAT MAY EXCEED STATE AND LOCAL REGULATIONS. ALL OTHER REQUIREMENTS ARE PER INSTALLER'S INSTALLATION PERMIT AS ISSUED BY THE COUNTY DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL AND SHALL MEET THE SOUTH CAROLINA LAWS AND RULES FOR SEWAGE TREATMENT.

GRAVITY SYSTEMS

GENERAL INSTALLATION SPECIFICATIONS

SEPTIC TANK

Refer to the "ALL SYSTEM TYPES - GENERAL INSTALLATION SPECIFICATIONS".

PRIMARY EFFLUENT FILTER - SEPTIC TANK

Refer to the "ALL SYSTEM TYPES - GENERAL INSTALLATION SPECIFICATIONS".

DROP BOXES

1. Drop boxes are to be standard pre-cast concrete utilizing overflow elbows to maximize the storage of each nitrification trench.
2. Stability is critical to the performance of the drop box. The box shall set on virgin soil or a leveled

concrete pad. Level within 1/8" from corner to comer. Use caution when back-filling around the box and supply lines.
3. Do not allow any "bridging" under gravity distribution lines or supply lines within 10 feet of the connection of the drop box. When back-filling, a pivoting effect can occur as much as 1" within the levels of distribution of effluent inside the boxes because of lines not adequately supported outside of the box.
4. All PVC piping shall be of schedule 40 strength or higher.

GENERAL

Refer to the "ALL SYSTEM TYPES - GENERAL INSTALLATION SPECIFICATIONS".

CONVENTIONAL - GRAVEL

INSTALLATION SPECIFICATIONS

CONVENTIONAL TRENCHES

1. All trenches should have a minimum of 14 inches of stone aggregate in each lateral.
2. Adequate soil cover over the aggregate is extremely vital to the proper functioning of the system and shall be in accordance with the County Department of Health and Environmental Control's requirements.

EZ FLOW- POLYSTYRENE

INSTALLATION SPECIFICATIONS

POLYSTYRENE AGGREGATE TRENCHES

1. Protecting the soil structure is vital. Make sure the side walls and trench bottom stays "open" and does not slicken during installation.
2. Adequate soil cover over the aggregate is extremely vital to the proper functioning of the system and shall be in accordance with the County Department of Health and Environmental Control's requirements.
3. Because of the compressing characteristics of polystyrene the cover up is a critical task. Cover up by only moving across the drainfield perpendicularly to the laterals. Do not allow tires or tracks to run in the lateral in a parallel direction. It is preferred to use a track loader in the cover up of these systems because of the spanning across the laterals and the pounds per square inch of force to the soil is less than a rubber tire machine. You will achieve less compaction.
4. An installer must be certified by the manufacturer before installing any of these systems.

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