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SINGULAIR GREEN® BIO-KINETIC® WASTEWATER TREATMENT SYSTEM

TAKING THE ORDER

Each Singulair Green Bio-Kinetic wastewater treatment system is sold complete including: delivery and installation of the tank; installation and start-up of the mechanical aerator, Service Pro control center and Bio-Kinetic system; three-year limited warranty with four prescheduled service inspections at six month intervals; and lifetime aerator exchange program. It is important that the Singulair Green order be taken and recorded carefully to insure that all federal, state and local regulations are met. A clear outline of responsibilities when the order is taken will simplify installation of the system and establish a sound working relationship with your customer and local health department.

INSTALLATION PROCEDURE

Installation of the Singulair Green system normally occurs in two phases. First, the polyethylene tankage is delivered and installed at the contractor's convenience. The electrical control center and underground electrical service cable are also installed at this time. Only when the system is ready for start-up are the Singulair aerator and Bio-Kinetic system delivered and installed. When the Singulair Green installer has completed equipment installation, he should also start-up and test the entire system and familiarize the owner with its operation. This installation procedure will assure efficient use of the contractor's and installer's time and protect equipment from possible damage or unauthorized start-up.

CONTACT THE LOCAL HEALTH DEPARTMENT

The contractor must contact the local health department prior to installation of the Singulair Green system and apply for an installation permit. The local Singulair Green dealer will have drawings, specifications and performance data for the system on file with the health department. Normally, the contractor will not be required to supply this information to receive the installation permit. The health department may request a drawing showing the proposed method of effluent disposal and location of the Singulair Green system in relation to the building, property lines and potable water supply. The health department may wish to inspect the site and proposed point of discharge, take soil samples or run percolation tests before issuing an installation permit. The contractor must find out if an inspection of the Singulair Green tank and sewer line will be required before backfilling is allowed.

DELIVERY TRUCK ACCESSIBILITY

Inform the contractor of the dimensions and weight of the delivery truck. The excavation must be accessible without interference from trees, shrubbery, power lines or other obstacles. Earth from the excavation must be piled outside the working area needed to operate the truck. Remind the contractor that extra charges will apply if the excavation is not complete and readily accessible.

POSITIONING THE EXCAVATION

The Singulair Green tank is available with three potential inlet locations. They are located on the inlet end wall and both inlet sidewalls at the same elevation. The position of the sewer line with respect to the building, inlet sewer line and point of discharge will dictate the best inlet choice. It is not necessary to position the system with the inlet end wall facing the building. Review the installation requirements and choose a tank that has the correct inlet location.

TANK LEVELING PAD

To insure that the tank bottom will be bearing the weight evenly, all tanks should be set on a four inch thick pad of gravel, sand or fine crushed stone. The pad should be installed and leveled by the contractor before delivery and setting of any tank takes place. The tank pad must be leveled to within 1/4" from side to side and end to end.

EXCAVATION SIZE AND DEPTH

The Singulair Green tank is 10' 3" long and 6' 6" wide. The excavation should have sufficient overdig to allow between 18" to 24" of clearance around the entire perimeter of the Singulair Green system. Additional overdig will be required on deeper installations or for safety where the excavation side walls are unstable.

The excavation depth is calculated using several factors. First, note the elevation of the sewer line as it leaves the building. From this sewer line elevation, subtract 1/8" per foot from the building to the system location to determine the inlet invert elevation. Next, measure from the outside bottom of the tank to the inlet invert of the system. Subtract this distance from the inlet invert elevation to determine the finished excavation depth. Deduct 4" from the finished excavation depth to accommodate the leveling pad. Fall through the system from inlet invert to outlet invert is 4". Therefore, the outlet line from the system must be installed four inches lower than the point where the inlet sewer line joins the system. The excavation depth should allow a minimum of 6" and a maximum of 16 1/2" of fill over the tank.

TAKING THE ORDER (Cont.)

ANTI-FLOTATION

In areas where high water is a concern, it may be necessary to provide additional anti-flotation measures to secure the Singulair Green tank. Failure to follow the anti-flotation recommendation provided in the Tank Delivery and Setting document may result in damage to the Singulair Green tank or shifting in the excavation and will void the warranty.

BACKFILLING THE GREEN SYSTEM

Special backfill instructions must be followed for Singulair Green systems buried deeper than 16-1/2" below grade. Consult the Deeper Burial Requirements section of the Singulair Green Tank Delivery and Setting document for details. Prior to backfilling, add a minimum of 12" (250 gallons) of ballast water to the tank to prevent shifting in the excavation. Fill each chamber to an equal level. Cover all openings, then begin backfilling with gravel under and around the sloped clarifier. Continue to add gravel until the discharge line from the tank is covered. Proceed to the inlet end of the pretreatment chamber and add gravel until the inlet line is covered. Fine, loose earth may be used to backfill the remainder of the excavation. Be sure that the backfill is free of rocks, sharp objects, large clumps of earth and construction debris. Never use clay for backfill material. Add backfill evenly around tank in 12" increments. Hand tamp each layer of fill to compact soil. Final grading should be 3" to 6" below the top of each access cover.

FILLING THE SYSTEM WITH WATER

The Singulair Green system should be filled with clean water immediately after installation. Water should be added as the tank is being backfilled to equalize internal and external tank pressure. Fresh water is preferred but water from a nearby pond may be used if it is free of silt and other debris. A septic tank pumping service should never be used to fill the Singulair Green system. If this is done, large amounts of biologically untreatable materials may be deposited in the system and they could interfere with system operation and performance.

INLET SEWER LINES

Only domestic wastewater must be allowed to enter the Singulair Green system. It is not intended to handle flows from roofing down spouts, basement footer drains, sump pump piping or garage and basement floor drains. If the sanitary sewer system must be used for disposal of these liquids, it must be connected downstream of the Singulair Green system. Water softener backwash will affect system performance and must not flow into the Singulair Green system.

EFFLUENT DISPOSAL LINE

Due to the high level of treatment provided by the Singulair Green Bio-Kinetic wastewater treatment system, its effluent may be discharged in a number of acceptable fashions. There must always be a ground water relief point installed in the discharge line that provides an outlet no higher in elevation than the outlet invert of the Singulair Green tank. This will prevent tank contents from backing up in cases where the normal discharge point is temporarily under water or the effluent disposal field is saturated.

ELECTRICAL POWER SUPPLY

A dedicated 115 volt AC single-phase, 10 amp (minimum) 60 Hertz circuit must be provided in the main electrical service panel for the Service Pro control center.

FINISH GRADING AND LANDSCAPING

A polypropylene aerator mounting riser with vented cover is provided for the aerator and extends twenty inches above the top of the Singulair Green tank. The top of the cover must project a minimum of 3" to 6" above finished grade. Individual extension riser sections may be added in 6" increments when necessary. If possible, determine if riser sections will be needed before tank installation is scheduled.

A polypropylene system mounting riser with sealed cover is provided for the Bio-Kinetic system. The top of the cover must project 3" to 6" above finished grade. Individual extension riser sections may be added in 6" increments when necessary.

PRETREATMENT CHAMBER ACCESS

Normally, the removable cover in the tank top is all that will be needed for pretreatment chamber access. On deeper installations, the access opening in the tank top must always be developed to within twelve inches of grade. Some owners and regulatory officials require that access to the pretreatment chamber must be at finished grade. These conditions should be determined when the order is being taken so that the appropriate riser and cover may be delivered with the tank.

SCHEDULING TANK DELIVERY

When all points have been fully explained, find out the customer's preferred installation date and make preliminary scheduling with your dispatcher. Take the customer's telephone number to call and confirm the actual date and time of tank delivery.

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NORWECO, INC.
NORWALK, OHIO
U.S.A. 44857
www.norweco.com