

Advanced Onsite Solutions

innovative wastewater solutions with sustainable results



THE CLEAN SOLUTION™
VERMONT MANUAL
2016

THE CLEAN SOLUTION™

VERMONT MANUAL

2016

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THE CLEAN SOLUTION™

Alternative Wastewater Treatment System

Advanced Onsite Solutions, LLC (AOS) thanks you for your interest in ***THE CLEAN SOLUTION™*** alternative wastewater treatment system. AOS manufactures and distributes ***THE CLEAN SOLUTION*** system in New Hampshire, Vermont, Maine and Massachusetts.

THE CLEAN SOLUTION is an affordable, ecologically sound alternative wastewater treatment system that replaces the conventional leach field currently required with septic systems. Developed more than 20 years ago in Jaffrey, N.H. by wastewater engineer Harold Davis, ***THE CLEAN SOLUTION*** accomplishes the biological functions of a leach field in an underground tank the size of a septic tank. The discharge is a treated effluent which is cleaner than typical treated municipal sewage. ***THE CLEAN SOLUTION*** system is widely used in New Hampshire, Maine, Massachusetts and Vermont, with installations ranging in capacity from single-family homes and vacation cottages to large community systems and commercial applications.

The following pages provide you information pertaining to ***THE CLEAN SOLUTION*** system. This information is provided to give you a clear understanding of the system, as well as your respective responsibilities as a Home Owner, Designer, or Installer. Information is updated as necessary to address technological advances or regulatory updates pertaining to the system approval process. To ensure that you have the most current information, please contact AOS at 1-866-900-2415.

There are four critical steps that need to be followed when using ***THE CLEAN SOLUTION*** system.

1. The owner must hire a Designer licensed in the state where system will be installed. ***THE CLEAN SOLUTION*** system must be designed, installed and operated as described in the Innovative/Alternative System approval granted by that state's Department of Environmental Services.
2. Prior to making an application for state or local approval, a copy of the design plan(s) and supporting documentation must be submitted to AOS for review and approval. This is required to ensure the homeowner(s) has been provided with the required documentation outlining the Sales, Maintenance, and Inspection of the system.
3. AOS requires that the components of ***THE CLEAN SOLUTION*** system be installed by AOS or a vendor trained and approved by AOS.
4. The owner of a property where ***THE CLEAN SOLUTION*** system has been installed shall have a valid inspection contract with AOS or an approved vendor. The minimum length of any contract shall be for a period of two years.

Notice to Owners of Innovative and Alternative (IA) Wastewater Treatment Systems

The State of Vermont Drinking Water and Groundwater Protection Division allows the use of Innovative/Alternative (IA) wastewater treatment systems. IA systems are used to: assist in overcoming site limitations that would otherwise not allow for the construction of a wastewater system on the property, to reduce the wastewater strength prior to disposal, or to decrease the size of a wastewater system. As a landowner you should be aware of the required conditions in your Wastewater System and Potable Water Supply Permit. The conditions were deemed necessary to ensure that all persons using or affected by the alternative system or product will be protected from health hazards associated with the use of the system or product.

Q. - Am I actually required to keep a maintenance contract?

Yes. Approved systems have specific permit conditions associated with installation and operation that requires landowners to retain a maintenance contract with a professionally trained and approved service provider. A list of approved Service Providers can be found at:

<http://drinkingwater.vt.gov/innovativealternative/pdf/serviceprovidercontacts.pdf>

Q. - My System is working fine, why can't I just call a service provider when I notice a problem?

Proactive maintenance and servicing will ensure that the System is working as intended and avoid repairs or replacement at a major cost to the homeowner. IA systems need servicing just as much as your heating system or your vehicle; without these procedures your system may not run its intended lifetime. Routine servicing can detect problems that you might not even be aware of before major repairs are needed.

Q. - What should my service provider be doing if I have a maintenance contract?

Maintenance activities varies by system type and site conditions, but at the very least your service provider should: perform annual or more frequent inspection if required, evaluate the site and surrounding landscape for possible problems, and measure tank solid levels to assess if pumping is needed. Depending on the type of system, the service provider may need to: clean or replace the filters, clean pumps, screens, motors and or floats, and advise you on appropriate use and preventative maintenance of the system (i.e. spread the loads of laundry throughout the week).

Q. - It's my system, my property, and my drinking water. Why does the State of Vermont care if my system fails?



When an onsite wastewater system fails, it's not just the homeowner who is affected. Improperly treated wastewater contains bacteria, viruses and other pollutants. A failed system can result in untreated wastewater: surfacing, leaching into groundwater that we drink, or it can run off into surface waters. This is a health hazard for the general public and is especially dangerous for children and the elderly and anyone with a compromised immune system.

Q. - How can I justify the expense?

IA Systems are more complicated than traditional in-ground systems and may have alarms, filters, pumps, blowers, spray heads, nozzles, floats, tanks, or media. Periodic cleaning, inspection, replacement of components and adjustment keeps the system running properly. Ongoing maintenance may help identify problems that can be fixed before they impact the leachfield. Once damage occurs, repairing or replacing the leachfield or treatment unit can cost thousands to tens of thousands of dollars.

Q. - What happens if I do not comply with my permit conditions?

If a system owner is in violation of their permit, the future sale of a property or a request for a permit amendment may be delayed or negatively impacted. A site-specific permit for the use of an IA product may be revoked if the property owner fails to have a valid maintenance contract or if the unit fails to function properly.

Q. - What requirements should I be aware of?

Depending on the complexity of your system, annual or semi-annual inspections must be performed by your contracted service provider or licensed designer. You should check the conditions of the IA approval letter. Inspection reports must be submitted to the State of Vermont Department of Environmental Conservation. Check with your service provider to see if they provide a reporting service.

Q. - What if I am not happy with my Service Provider?

The State of Vermont requires IA service providers to be approved and trained by the Vendor. If the service provider is not meeting the conditions in your contract, not responding to emergency calls or you are unsatisfied for any other reason the vendor should be made aware of your concerns. A list of Vendor contacts can be found at: <http://drinkingwater.vt.gov/wastewaterdisinnovativelist.htm>

If you are unsatisfied with the Vendor's response to your concerns you may contact:

Mary Clark, Environmental Analyst
Department of Environmental Conservation
Drinking Water and Groundwater Protection Division
[phone] 802-585-4890
[email] mary.clark@state.vt.us

Q. - Where can I find my permit?

If you were the permit applicant, you would have received a copy of the Permit and IA Approval at the time of approval. If you purchased a property with an existing IA System, you should have received a copy of the permit and IA Approval at the time of closing. If you cannot locate your permit, you may use the on-line permit document search tool septic.vt.gov/cfm/wwwdocs/index.cfm (permit document search) or contact the appropriate Regional Office for assistance at septic.vt.gov (program information). There are some installations that may have been exempt from needing a state permit. There may be records on these systems located in the town clerk's office.

Q. - Who do I contact if I have compliance questions?

Christina Russo, Compliance Officer
Department of Environmental Conservation
Drinking Water and Groundwater Protection Division
[phone] 802-585-4885
[email] chris.russo@state.vt.us

Innovative/Alternative (I/A) System Approval For General Use

The Clean Solution™ Wastewater Treatment System Series

Original Approval Date: 2008
Approval Number: 2008-02-R1
Revision Date: March 20, 2014
Expiration Date: March 19, 2016

Vendor Information

Advanced Onsite Solutions LLC
P. O. Box 248
Canterbury, NH 03224

General Phone: (866) 900-2415
Fax: (603) 369-4747
Website: www.aosne.com

Contact

Gary R. Spaulding, Manager
Phone: (603) 783-8042 (Office)
Phone: (603) 496-9797 (Cell)
Email: gary@aosne.com

Technology Name

Residential Models 250-RX, 250ST-R3, 250ST-R4, and
VT250PT-Rx_Fralo; and Commercial Models 1500,
2500, 3000, and 4000

Technology Type

Aerobic Wastewater Treatment System

I. Authority

A. In accordance with the Environmental Protection Rules, Chapter 1, Wastewater System and Potable Water Supply Rules, Effective September 29, 2007, Subchapter 10, Approval of Innovative/Alternative Systems and Products § 1-1001: Innovative/Alternative Systems and Products: General Use, the Secretary (Secretary) of the Agency of Natural Resources (Agency), Department of Environmental Conservation, Drinking Water and Groundwater Protection Division (Division) has determined that the technologies listed in this approval may be used as part of a soil based disposal system permitted under the Vermont Wastewater System and Potable Water Supply Rules (Rules), provided the conditions of this approval are met.

II. General

A. This approval contains specific requirements related to the design, installation, operation and maintenance of these technologies. The landowner where this technology is specified must agree to specific requirements for ongoing operation and maintenance of this system. The landowner should carefully read this approval letter, particularly the requirements for proper operation and maintenance.

B. The manufacturer (Vendor) of the technologies also have specific requirements for design review, training, installation oversight, annual reporting, and supporting the operation, maintenance and repairs needed to keep the system in working condition. This approval contains an expiration date and requires the vendor to submit an application for renewal of this approval.

C. The technologies listed in this approval are used to pre-treat the wastewater prior to discharge to a soil based disposal system.

III. Approval Conditions

A. The technologies listed in this approval may be used as part of a soil based disposal system permitted under the Rules provided the conditions of this approval are met. Failure by the vendor to comply with this approval is grounds for the Agency to revoke or not renew the approval.

B. This approval shall expire on the date stated above. Applications for renewal of this approval shall be submitted 45 days before the expiration date. The renewal request shall include a description of any changes to the equipment, technical specifications and drawings, installation requirements, operation and maintenance requirements, and homeowner's manuals. If new models are introduced or changes are made to the technology, the vendor shall submit detailed descriptions of any modifications to existing approved models as part of the renewal application.

C. Each Innovative/Alternative treatment unit shall be installed and operated as approved by the Agency and as required by the vendor's design, operation and maintenance manuals, and as listed on the vendor's website.

D. Treatment unit sizing shall be in accord with the vendor's technical requirements approved by the Agency. Sizing of each unit shall be based on the calculated design flow per §1-808 of the Rules.

E. The treatment unit may be used for both new and replacement wastewater systems.

F. If the Rules are revised during the term of this approval, this approval shall be revised as needed to conform to the revisions.

G. Site-specific permission for the use of this product is required in the form of a Wastewater System and Potable Water Supply Permit (WW Permit) when a project is subject to the Rules.

H. This approval is not a representation or guarantee of the effectiveness, efficiency, or operation of the treatment unit.

I. This general use approval is based on treatment of domestic wastewater of low and moderate waste strength as specified in §1-915(a)(1)(C) and (D) of the Rules except as specified in Section III(k) below.

J. This approval is based on information submitted by the vendor indicating that the specified treatment units will routinely provide effluent with no more than 30 mg/L of BOD₅ and no more than 30 mg/L of TSS. Effluent from the treatment unit shall discharge to a soil based disposal system that conforms to the requirements of §1-916 of the Rules.

K. Wastewater system designs for wastewater that exceeds moderate strength may use the commercial models of the approved treatment unit on a project by project basis if permitted by the Secretary. The designer shall obtain agreement by the vendor for the proposed use and sizing of these units. These treatment units may require more frequent maintenance as recommended by the vendor. The project-specific permit application and design shall clearly state the treatment performance goals for the treatment units. The designer shall submit information to the Secretary as to whether the unit will achieve 30 mg/L BOD₅ and TSS, or will otherwise reduce the wastewater strength to low or moderate levels. There may be instances where the treatment units are intended to reduce the wastewater strength to low or moderate standards and disperse into a fully sized soil based disposal system.

IV. Responsible Parties, Requirements and Conditions

A. Landowner

1. The landowner must comply with all conditions of their WW Permit in addition to the conditions of this approval.
2. The landowner is responsible for the treatment unit to be inspected by a Licensed Designer as part of the installation inspection and certification of the soil based disposal system.
3. The landowner shall have a valid maintenance contract with a vendor-trained and authorized licensed designer or service provider in force at all times. The contract shall include a requirement for annual inspections. Commercial and community soil based wastewater disposal systems may require more frequent maintenance as recommended by the vendor. The minimum length of any contract shall be for a period of two years.
4. A copy of the initial contract and notification of each succeeding contract shall be submitted to the appropriate Regional Office of the Division and to the vendor.
5. A copy of all inspection and maintenance reports shall be submitted to the appropriate Regional Office of the Division within 60 days of the inspection. The landowner may authorize the licensed designer or the service provider to submit the contracts, notifications and reports on their behalf.
6. The landowner shall keep the system in good operating condition and report any problems to the service provider who, in turn, shall note any problems and repairs on their inspection report.
7. The landowner shall provide a copy of this approval, the WW Permit, and the operating instructions, provided by the vendor, to any person who is a prospective purchaser of a property prior to the sale of the property.
8. Within 30 days of the transfer of the property, the new landowner shall inform the appropriate Regional Office of the Division and the vendor of the change in ownership, including the WW Permit number, lot number or street address, and their name and mailing address.
9. The WW Permit that authorizes the use of this product may be revoked if the treatment unit fails to function properly or if the landowner fails to maintain a valid contract for the required maintenance and inspections of the treatment unit. In the event the WW Permit is revoked, the use of the building will need to be discontinued unless another wastewater treatment system is installed in accordance with a WW Permit issued by the Secretary.

B. Vendor

1. The vendor shall provide the Central Office of the Division (Attention Innovative/Alternative Program Manager) with the names of the Vermont distributor(s) within 60 days of this approval and within 30 days of termination and/or hiring a new firm or sole proprietorship during the term of this approval.
2. The vendor shall provide training for and maintain a list of trained designers and installers.
3. The vendor shall provide training and maintain a list of trained service providers authorized to work on the treatment units.
4. Prior to selling equipment, the vendor shall provide information to the Division regarding who is authorized to sell equipment in Vermont.

5. The vendor shall have an inventory of replacement parts available locally or available for delivery within 24 hours.
6. Prior to the start-up of the wastewater system, detailed operating instructions shall be provided in writing by the vendor to the landowner.
7. The vendor shall submit an annual report electronically to the Central Office of the Division (Attention Innovative/Alternative Program Manager) by April 1st of each year containing the following information for the 12 month period ending December 31st of the previous year:
 - a) Permitted systems installed in Vermont during the previous calendar year, including:
 - i. Assigned WW Permit number;
 - ii. Name of current landowner(s);
 - iii. Physical and mailing addresses;
 - iv. Name of Licensed Designer providing the installation certification;
 - v. Date installed;
 - vi. Name of the installer; and
 - vii. Name of the authorized service provider.
 - b) A summary of all known system problems, damages and/or failures, including:
 - i. Description of issues;
 - ii. Potential/known causes of problems;
 - iii. System operability;
 - iv. Recommended repair/remediation;
 - v. System effectiveness; and
 - vi. Changes in technology specifications
 - c) A list of names of licensed designers and installers trained by the vendor and/or the vendor's representative.
 - d) The names and contact information for trained and authorized service providers.

C. Licensed Designer

1. Design Preparation

- a) The design of a wastewater system shall include the specific model of the treatment unit approved in this document.
- b) The designer shall consult with the vendor for proper sizing of the treatment unit.
- c) The designer must assess the structural needs of the treatment unit for the specific application site and include the construction requirements on the design plans.

- d) The designer must determine the type of backfill required and any necessary placement specifications.
- e) The designer must assess the ventilation path for the particular application and make any necessary provisions to assure proper air flow and control of odor emissions.
- f) The designer must provide access to each compartment of the unit (access to grade) as well as to the control panel, any pumps, sampling ports, and any other access needed to perform routine maintenance activities.
- g) The designer must address flotation issues if the seasonal high groundwater table will be above the bottom of any of the tanks. Treatment units shall be equipped with anti-flotation devices unless there is a demonstration that flotation is not a problem on a particular site or that an alternative method of stabilization is approved by the Agency.

2. Installation Inspection

- a) The treatment unit shall be installed under the guidance of a representative of the vendor.
- b) The treatment unit shall be inspected by a licensed designer prior to installing the treatment unit, immediately upon installation of the tanks and before backfilling, and after backfilling and grading is complete. The inspection shall include checking for an adequate structural foundation to support the unit, for levelness of the tanks, for anti-buoyancy, for potential damage during installation, and for proper assembly. The inspection shall include all piping and associated tankage for proper installation before backfilling.
- c) The treatment unit and associated tankage shall be tested by the licensed designer for watertightness unless written certification is provided by the vendor at the time of installation. The test includes filling the unit or tanks with water to a point that is above all below grade openings and holding it at a constant level for 24 hours; there shall be no measurable leakage. During the test, the entire unit and the tanks shall be inspected for visible leaks. Should the unit or tanks fail the test, they may be repaired and retested. The testing and repairs shall be conducted under the direction and in the presence of the inspecting designer.
- d) The licensed designer shall submit an installation certification letter to the WW permit holder, the vendor, and the appropriate Regional Office of the Division within 30 days of the installation, using the language of §1-308 of the Rules, that the wastewater system was correctly installed as well as providing the results of watertightness testing. The certification letter shall identify any repairs that were completed during the installation and testing of the unit or tanks. This letter shall also be provided to the vendor.
- e) The licensed designer may be required to conduct on-going inspections of the system beyond the routine maintenance provided by the service provider. See the WW permit for any special inspection and monitoring conditions.

D. Service Provider

1. Maintenance and inspections shall be performed in accordance with the manufacturer's operation and maintenance manual submitted as part of the Innovative/Alternative System application package, and as provided in trainings by the vendor.

a) Qualified Service Providers

- i. Maintenance and inspections of the Innovative/Alternative treatment unit must be performed by a licensed designer or service provider trained and authorized by the vendor.
- ii. Problems found with any portions of the wastewater system (including the system being failed as defined by the Rules) must be reported immediately to the landowner.

b) Maintenance and Inspection


- i. The start-up, six month, and ongoing maintenance and inspections shall be performed by the authorized service provider.
- ii. More frequent inspections may be required when recommended by the vendor or on a case-by-case basis by the Secretary.
- iii. All reports must be submitted to the landowner in a timely manner so that they can provide the report to the appropriate Regional Office of the Division as well as the vendor within 60 days of completing a maintenance or inspection.

c) Maintenance and Inspection Reports

Maintenance and inspection reports shall include:

- i. I/A Maintenance and Inspection Report Coversheet;
- ii. Current landowner's name, physical and mailing address;
- iii. Permit number and lot number(s) if applicable;
- iv. Date of inspection;
- v. I/A technology and model;
- vi. Validation that the system is operational and meets vendor requirements;
- vii. Comments or outstanding corrective actions and recommended due dates;
- viii. Any site/system modification;
- ix. Results of all effluent testing; and
- x. Service Provider/Licensed Designer name, signature and date signed.

Effective Date: March 20, 2014

By: 
Ernest Christianson
Regional Office Program Manager



**CONVENTIONAL SUBSURFACE DISPOSAL SYSTEMS
VS
THE CLEAN SOLUTION**

In a subsurface disposal system there are basically two processes that break down and treat wastewater. The first process is Anaerobic (without oxygen) in the septic tank, and the second process is Aerobic (with oxygen), which often occurs in the leach field of a conventional subsurface disposal system.

Function of a Septic Tank

The first component of the subsurface disposal system is the septic tank. The septic tank inlet receives black and gray water from the structure (i.e. house) and allows solids to settle out while lighter matter – like oil and grease – rises to the top. The septic tank is the anaerobic component of a conventional subsurface disposal system, allowing the biological process of breaking down solids into dissolved solids - a necessary step for final aerobic treatment. The septic tank then outlets effluent that has gone through the anaerobic process to a leach field.

Function of a Leach Field

Since an anaerobic septic tank provides only partial treatment, further aerobic activity is required for complete treatment. The leach field is the component of the subsurface disposal system that provides this aerobic treatment. There are three major types of leach fields currently being used: Pipe and Stone systems, Chamber systems, and Fabric Based systems. All three types require airflow through the system to begin the aerobic treatment process. Air is introduced into the leach field either by airflow through the soil or by adding vents. Aerobic treatment creates a biomat /clogging layer (sludge) within the leach field. The biomat is a biological growth which filters out solid particles and dissolved pollutants not processed within the septic tank. As the biomat forms, a clogging layer forms on the soil interface between the stone and the sand blanket. On fabric based systems the clogging layer forms on the fabric as well as the soil interface between the fabric material and soil surface. The development of biomat /clogging layer is a function of the organic loading as well as the loading rate (gallons per day). High strength effluent from restaurants is typically 5 to 10 times stronger than residential effluent and will result in the biomat / clogging layer forming at a faster rate. As the biomat / clogging layer becomes thicker the infiltration rate of the system decreases. As the infiltration rate decreases over time the leach field becomes overloaded (flooded). Once flooded, the leach field converts from aerobic treatment to anaerobic treatment. At this point the leach field no longer is able to effectively treat the wastewater, which results in polluting groundwater and nearby surface water. Onsite septic systems are a major concern for property owners in sensitive environmental areas.

Function of THE CLEAN SOLUTION SYSTEM

THE CLEAN SOLUTION performs the same function as the septic tank in a conventional



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subsurface disposal system. However, **THE CLEAN SOLUTION** system differs from a conventional septic system in that the aerobic treatment process occurs within the BioCon™ chamber, instead of in a leach field.

In the BioCon chamber, air is introduced into the effluent stream. The air (oxygen) and effluent stream (food) then prompts the growth of a biofilm (bacteria) on the media stored in the BioCon™ chamber. The biofilm breaks down the wastewater, reducing BOD₅ and TSS levels, as well as nitrogen and phosphorus. The biofilm in the BioCon chamber is equivalent to the biomat in the leach field, creating sludge as a byproduct of the treatment process. The treated effluent from the BioCon chamber then flows into a settling chamber. The settling chamber allows excess sludge to settle out of the effluent.

Treated effluent is dispersed from the settling chamber into the ground through a dispersal field. The advantage of **THE CLEAN SOLUTION** system is the "Biomat" has been trapped in the settling chamber and is pumped out when the septic tank is serviced. **THE CLEAN SOLUTION** system has provided the aerobic treatment, allowing treated effluent to be dispersed into the ground in a much smaller area called a "dispersal field". Because of **THE CLEAN SOLUTION** treatment process the dispersal field does not suffer the same clogging rate as a conventional leach field. The size of the dispersal field varies from State to State and is typically set by a State's Environmental Department. Call AOS for the appropriate sizing information of the dispersal field.

With a conventional soil based septic system, homeowners are not typically aware of problems lurking in the leach field below the lawn. Owners only become aware that the leach field has reached its effective life span when the sewer line backs-up into the house or the lawn becomes too "soggy" to mow. Remote leach fields may go years in failure without anyone noticing the problem. Long before the "soggy" areas are noticed or the sewer backs up into the house, untreated wastewater has entered the groundwater and nearby surface water. When the leach field reaches the "soggy" point the system needs to be replaced, which is very costly and disruptive. Often the replacement results in a major impact to the existing landscaping.

With **THE CLEAN SOLUTION**, the dispersal field is visually inspected as part of the system inspection. The technician is trained in its proper operation and determines if the system is functioning properly. If a problem is encountered, it can often be corrected during the inspection process and long before the "soggy lawn" symptom occurs.

When to Use **THE CLEAN SOLUTION**

THE CLEAN SOLUTION system is well suited for use in any septic system application where the installation of a standard leach field would be expensive or difficult – whether it's a single-family house, multi-unit development, or a commercial operation. Examples include homes on bodies of water, high water tables, lots on ledge, small lots, housing developments, condo units, restaurants, shopping centers, and office complexes. **THE CLEAN SOLUTION** system is an affordable, completely in-ground system that is ideal for all new installations or failed system replacements.



ADVANTAGES OF USING *THE CLEAN SOLUTION*

Environmentally Friendly

- ***THE CLEAN SOLUTION*** system, a tank that is installed in line after the septic tank, provides the same aerobic treatment as a leach field. As a result, a smaller field is required to disperse the treated effluent into the ground.
- ***THE CLEAN SOLUTION*** system helps prevent ground water pollution and protects our natural streams, lakes, and wetlands.
- ***THE CLEAN SOLUTION*** requires less fill.
- ***THE CLEAN SOLUTION*** is adaptable for sensitive sites.
- Tests show that ***THE CLEAN SOLUTION*** is more environmentally safe than conventional systems.
- ***THE CLEAN SOLUTION*** recharges groundwater with a higher level of treatment than conventional systems.

User Friendly

- Simple - the only mechanical device used by ***THE CLEAN SOLUTION*** system is a small air compressor.
- Accommodates vacations, low flows, and peak loads.
- Landscape friendly - tanks in ground, with no raised covers above ground.
- Low operating cost.
- Does not require a pump for gravity systems.
- Reduces costly repairs in the future.

Low Maintenance

- In most applications, simple maintenance is required approximately every 2 to 3 years depending upon system loading rates. Typical maintenance consists of pumping the septic tank and settling tank.
- There are no mechanical or electrical components within the BioCon treatment chamber.
- ***THE CLEAN SOLUTION*** does not require remote operating via phone modem to maintain treatment.

Technical and Installation Support

- AOS provides one-on-one support throughout the design, installation and startup process.
- AOS staff has experience in designing all types of subsurface disposal systems.
- AOS has on-staff Licensed Designers, Installers, Certified Septic System Evaluators and Wetland Scientists.
- AOS staff has been involved in onsite wastewater disposal system designs since 1986.
- AOS can provide you value engineering services on projects for cost comparisons.
- AOS is trained in wastewater sampling and can provide sampling services.



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Community Developments

- Grouping homes together to utilize larger **CLEAN SOLUTION** systems, in conjunction with the smaller dispersal field, can substantially reduce cost. The larger systems also permit better land use and can result in maximizing the number of units allowed on a piece of land.

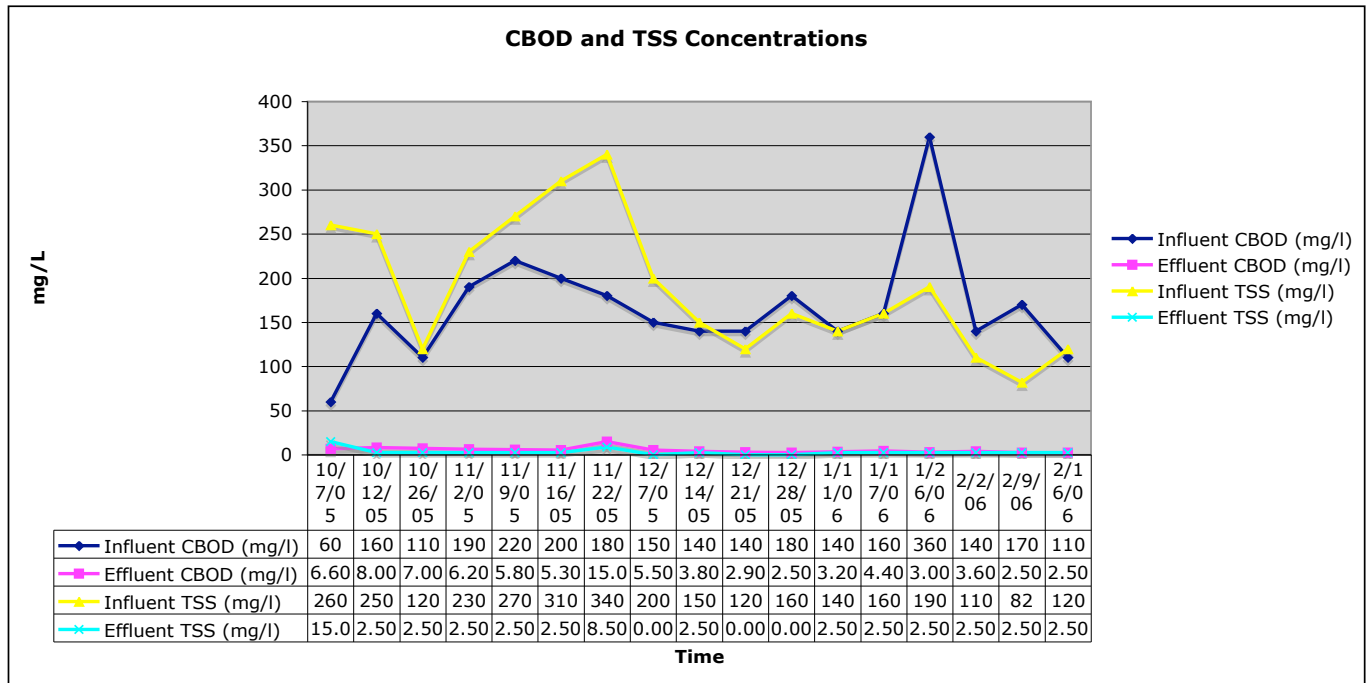
Restaurants

- **THE CLEAN SOLUTION** system can be used to treat high strength wastewater.
- Improves efficiency of the subsurface disposal system dispersal field.
- Reduces costly repairs in the future.



INDEPENDENT TEST RESULTS

In addition to the creativity and flexibility that *THE CLEAN SOLUTION* gives designers to fit systems into a natural setting while reducing impact to natural buffers, *THE CLEAN SOLUTION* reduces BOD₅ and TSS below 30 mg/l; and in most residential projects the results are in the single digits. *THE CLEAN SOLUTION* system has been tested at the Massachusetts Alternative Septic Testing Center located at Otis Air National Guard Base on Cape Cod. A measured 550 gal/day from the base facilities are metered into the system each day. Test results average 5.2 mg/l BOD₅, 3.1 mg/l TSS, levels far superior to municipal plants, typically operating at 30mg/l for both BOD and TSS.



It is important to note the difference between the influent and effluent CBOD, which is a measure of the strength of the wastewater. The influent test BOD is very typical of that from the septic tank in a residential dwelling.

High strength wastewater from a restaurant typically has BOD and TSS levels four to ten times or more higher than residential wastewater. In wastewater sampling completed by AOS, we have seen wastewater strength as high as 4900 mg/l for BOD, 4000 mg/l for TSS and FOG (Fats-oil-grease) at 930 mg/l. Conventional leach field sizing is based on residential strength wastewater. The organic loading on a conventional soil or fabric based leach field from high strength wastewater increases the rate that the Biomat forms resulting in early failures. *THE CLEAN SOLUTION* system reduces high strength wastewater down to levels typical of treated residential wastewater.



WHY USE *THE CLEAN SOLUTION* SYSTEM

Cost Effective – Reduced Field Size

- With the increased cost of materials and the difficulty of obtaining quality septic sand and washed stone, designers, installers and developers are seeing ***THE CLEAN SOLUTION*** system as the best alternative. With a dispersal area 50 to 90% smaller than a conventional field, money is saved on land clearing, grubbing, transporting fill material, and labor to construct a leach field that meets the State's square foot requirements. These savings offset the cost of ***THE CLEAN SOLUTION*** system, often reducing the overall cost of the septic system to the homeowner.

Use Any Field Design

- ***THE CLEAN SOLUTION*** dispersal field can be constructed using any of the approved field technologies, both proprietary and conventional pipe and stone.

Environmentally Friendly

- Local and State Land Use Boards are becoming more aware and concerned with the impacts that developments have on our natural resources, including groundwater and sensitive areas. ***THE CLEAN SOLUTION*** system produces an effluent quality well above what is considered the acceptable standard, while reducing the overall landscape impacts.
- With a dispersal field smaller than a conventional field, designers, engineers, and site evaluators have increased options for a design that fits into the natural settings of each lot. The reduced size allows the designer to keep trees, rocks and other natural features undisturbed.

Developments

- In a cluster development, ***THE CLEAN SOLUTION*** can reduce the overall project cost by connecting multiple homes to one system. To maximize the cost efficiency, the engineer must weigh the costs of the additional infrastructure required for effluent collection with the savings from using a larger ***CLEAN SOLUTION*** system to determine the appropriate size of each clustered system.
- ***THE CLEAN SOLUTION*** is also very effective in new developments where land costs are high. Minimizing the area needed for the leach field may result in the creation of additional building sites.

THE CLEAN SOLUTION system is the best alternative when proposing a new development where land costs are high and minimizing the area needed for leach fields may result in additional building sites. It is equally effective in environmentally sensitive areas such as wetlands and water bodies. ***THE CLEAN SOLUTION*** will help to offset rising field and land costs. The entire AOS staff has experience in all phases of development from conceptual layout through permitting and construction. Please call and have one of our staff members work with you to see how your client can benefit from using ***THE CLEAN SOLUTION*** system.



RESPONSIBILITIES

The responsibilities for a **CLEAN SOLUTION** installation rest in the partnership between the owner, designer, installer, and AOS. Below is an outline of responsibilities.

The Owner

1. Retains a Licensed Designer to prepare a plan.
2. Reviews plans prepared by Licensed Designer.
3. Reads the conditions outlined in the AOS's *Sales and Inspection Agreement*.
4. Obtains all necessary permits and approvals required at both the State and Local levels.
5. Executes a sales agreement with AOS at least 3 weeks prior to installation.
6. Executes an Inspection Agreement with AOS.
7. Hires a contractor to install the septic tank(s), pump chamber, pump components and complete all earthwork.
8. Coordinates with AOS Technician to determine location of compressor.
9. Hires a licensed electrician for all required electrical work.
10. Retains Licensed Installer to complete construction.

The Licensed Designer

1. Provides owner with a copy of AOS's *Sales and Inspection Agreement*.
2. Explains to the owner the difference between **THE CLEAN SOLUTION** system and a conventional wastewater disposal system.
3. Completes all fieldwork required by the State to obtain the necessary construction approvals.
4. Prepares design plans.
5. Contacts AOS to discuss system design parameters.
6. Reviews final design plan with owner for owner sign-off.
7. Provides AOS with a copy of the design plan(s) and supporting documentation for final review and AOS files.
8. If a pump is required for single-family residence, designer provides contractor with pump operating parameters (gpm, TDH, diameter of discharge line and volume of dose).
9. Submits final design for local approval if applicable to the State Agency
10. Provides plans "Approved for Construction" to homeowner and homeowner's licensed installer.

Advanced Onsite Solutions

1. Reviews system design parameters with Designer.
2. Prepares standard *Sales and Inspection* agreement for Owner with system design schematic.



3. Provides Contractor with Purchase Order for tanks provided by AOS outlined in Sales agreement as part of contract price.
4. Coordinates project schedule with Contractor for installation.
5. Installs the following components onsite:
 - a. BioCon Media
 - b. Air transfer System
 - c. Setup Air Compressor
 - d. Internal BioCon plumbing
6. Completes installation checklist with swing ties to access stacks, with copy of report to Owner
7. After installation and approval for use, AOS reviews system, operation, and maintenance schedule with Owner.

The Installer

1. Contracts with owner for all work outside of AOS's responsibilities.
2. Contacts AOS at least 3 weeks prior to installation to discuss installation schedules.
3. Provides all subsurface system components and materials outside of AOS's responsibilities. See Sales Agreement and system schematics.
4. Excavates for the septic tank and all AOS tanks to design elevations as shown on approved for construction plans.
5. Calls AOS tank supplier with Purchase Order Number to arrange delivery and setting of the AOS tank(s).
6. Constructs the dispersal field in accordance with the approved design.
7. Installs all piping to and from all tanks.
8. Installs the piping from **THE CLEAN SOLUTION** system or pump chamber to dispersal field.
9. **Seals all pipe penetrations and knockouts with a watertight non-shrink mortar.**
10. Digs necessary trenches for the electrical conduits and airlines.
11. **Brings risers to grade. Contractor ensures that all sections of risers are watertight.**
12. Completes 24-hour leakage test on tank.
13. Backfills system components, loam, seed and mulch disturbed areas as required by approved design plans.
14. Calls the regional inspector and local inspector when applicable.
15. Obtains Operations Approval for system and provides it to homeowner when applicable.

The above list of responsibilities is a general outline. Additional responsibilities may be required based on specific site conditions or type of use. AOS is not responsible for work completed by licensed designer or licensed installer. It is the owner's responsibility to contract directly with designer and installer.



MAINTENANCE and OPERATION OF SINGLE FAMILY RESIDENTIAL SYSTEMS

It is the owner's responsibility to see that the following required maintenance is performed. The owner must maintain an Inspection Agreement with AOS or a service provider trained and approved by AOS.

Residential Use (Single Family Home)

If the ISDS (Individual Subsurface Disposal System) is a gravity system, **THE CLEAN SOLUTION** system shall be inspected as outlined in the Inspection Agreement.

1. If the ISDS is utilizing the settling chamber as a pump chamber AOS recommends that **THE CLEAN SOLUTION** system be inspected yearly by AOS or a service provider trained and approved by AOS.
2. AOS or a service provider trained and approved by AOS may adjust the above inspection frequency based on use. Seasonal uses will be modified based on use after first inspection.
3. Use a local pumper to pump out the septic and settling/pump tanks every 2-3 years. More or less frequent pumping may be required depending on system use and number of occupants. AOS and the pumper can determine the required frequency. Owner must retain records of pumping.
4. Compressor must run continuously. It should be checked for operation monthly.
5. BioCon™ chamber may require pumping between 6 and 8 years. AOS Technician will determine if pumping is necessary during inspection.
6. Compressor Air Filter to be cleaned or replaced yearly.
7. Compressor may be disconnected during the off-season for seasonal uses (less than 6 months)

Additional Maintenance Suggestions:

There is ongoing concern with pharmaceuticals, medical treatments, and personal care products and how these products affect septic system functions. Although there is not yet enough data to clearly understand the impacts of these products on septic systems, it is known that without the proper balance of bacteria in the septic tank, waste cannot break down efficiently. AOS recommends that unused pharmaceuticals not be disposed of in the septic system.

Inspection Contracts are available from AOS. The service will include a detailed inspection of the system and replacement of any failed items within the BioCon Chamber, subject to the limits of the warranty. Tank pumping is not included in the price and must be arranged by the property owner. Failure to have an inspection agreement with AOS or an approved vendor will void the warranty outlined in the **Sales Agreement**.

Maintenance and operation of *THE CLEAN SOLUTION* is further detailed in the Sales Agreement based on individual state requirements.

Contact AOS for all requirements for commercial systems



ADVANCED ONSITE SOLUTIONS LLC

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Canterbury, NH 03224
(603)-783-8042
Toll Free: (866) 900-2415

LIMITED WARRANTY FOR RESIDENTIAL SINGLE FAMILY SYSTEMS

For a period of 5 years from the date of installation, AOS warrants to the original purchaser and to successor owners within the warranty period that the components within the BioCon chamber will be free from defects in material and workmanship. If a defect exists, AOS will repair or replace any of these components, including parts and labor by AOS, at no cost to the owner. This limited warranty does not cover pumping the system to make necessary repairs, or the cost for excavation to replace or make repairs, or replacement of landscaping features. This limited warranty does not cover failure of the dispersal field(s) (i.e. fabric style leaching component, pipe and stone, chambers).

For compressors that have been maintained and used under normal operating conditions, AOS extends the compressor manufacturer's warranty from one year to two years. Labor to replace compressors will be billed out at AOS standard hourly rates.

Exclusions and Limitations

This limited warranty for pump chamber components (pump, floats, alarms) supplied by AOS is limited to the pump/floats/alarm manufacturer's terms and conditions. Labor to replace effluent pump/floats/alarms will be billed out at AOS standard hourly rates.

It is the owner's responsibility to perform the required maintenance and to have an inspection contract with AOS or an approved vendor in effect at all times. It is the owner's responsibility to ensure that inspections have been performed by AOS or an approved vendor. Failure to perform the required maintenance, have an inspection contract, and maintain records of pumping or to notify AOS of any problems will void this limited warranty. This limited warranty also does not cover damage caused by improper use, poor construction or design practices, high groundwater, flooding, or acts of God.

THIS LIMITED WARRANTY IS IN LIEU OF AND SUPERSEDES ALL OTHER WARRANTIES, EXPRESS OR IMPLIED.

ADVANCED ONSITE SOLUTIONS, LLC SHALL NOT BE LIABLE FOR ANY DIRECT OR INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, NOR SHALL ADVANCED ONSITE SOLUTIONS LLC'S LIABILITY UNDER THIS WARRANTY EXCEED THE PRICE PAID BY THE BUYER TO ADVANCED ONSITE SOLUTIONS LLC FOR THE CLEAN SOLUTION SYSTEM.



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Performance Specifications

This system has been designed based on estimated residential wastewater influent strength from the primary treatment tank(s) of 180 mg/l BOD₅, 140 mg/l TSS and <5 mg/l FOG. The system is warranted to discharge treated effluent to the dispersal field equivalent to or better than 30mg/l BOD₅, 30mg/l TSS.

Rights to Data and Access to the System

AOS reserves the right of reasonable access to collect data, modify, maintain and repair ***THE CLEAN SOLUTION*** and its subsystems. AOS will retain all data collected and the rights to it.



FREQUENTLY ASKED QUESTIONS ABOUT THE *CLEAN SOLUTION* SYSTEMS

Does the system need a real leach field?

The dispersal field is constructed the same as a conventional field; the only difference is the size. Since ***THE CLEAN SOLUTION*** BioCon and settling chambers perform the same biological functions as a leach field there is no need to have a large leach field to provide aerobic treatment.

Can I use other proprietary devices in place of a pipe and stone field?

Yes. Any approved stone and pipe replacement system is acceptable; however, there are some that would not prove cost effective.

How do you size chambers or tubes?

The number of tubes is based on the total footprint of the field and then judging how many tubes or chambers would be used for that space.

How do you vent the field of *THE CLEAN SOLUTION*?

Typically, ***THE CLEAN SOLUTION*** is vented through the house's existing roof vent. Therefore, a field vent is unnecessary. When using the system on an application without a roof vent, a vent must be installed at or near the tank (i.e. a trailer park or campground must be vented at the tank). Certain proprietary leachfield devices require venting.

Are there any additives in the system?

No, the only thing that ***THE CLEAN SOLUTION*** system needs to run is air, which comes from the small mechanical air compressor.

Where does the air compressor go?

The air compressor can go anywhere above the snow line, but the ideal place for it is in a garage or basement.

How much noise does the air compressor make?

The air compressor makes less noise than a refrigerator.

How much electricity does the air compressor require to run?

The air compressor requires approximately 80 watts and 2.5 amps, which can be thought of as the power required for a typical light bulb.

How often do I need to maintain the system?

The system maintenance is done at the same time the septic tank is pumped.



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What does the system inspection consist of?

AOS or a service provider trained and approved by AOS inspects the media, effluent quality, dissolved O₂ levels, sludge levels in the BioCon and settling chambers, performs a pressure test on the air transfer system, and cleans or replaces the air filter.

What if I need to order replacement parts?

Contact AOS for replacement parts. We can also handle any maintenance or repairs.

Is the system exempt from certain setback rules or to ground water tables?

THE CLEAN SOLUTION system has received variances to State regulations on replacement systems. Variances are applied for by the designer.

Do I need an effluent pump?

An effluent pump is only needed if the dispersal field is higher than the outlet of the tank.

Please call AOS to discuss your specific project needs and information for *THE CLEAN SOLUTION* system model that best fits your needs

1-866-900-2415

or

Email : info@aosne.com



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APPENDIX A
STANDARD DESIGN NOTES
JANUARY 2016



ADVANCED ONSITE SOLUTIONS LLC

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STANDARD DESIGN NOTES JANUARY 1, 2016

The General Notes listed below are to be shown on design plans when using **THE CLEAN SOLUTION™** system. Additional notes may be required to cover specific uses, site conditions or to meet State and Local regulations. These notes are not meant to replace Standard Design Notes and information that is provided by the designer.

The following notes can be provided either in a Vector Works, ACAD, Word or PDF format. Please call Advanced Onsite Solutions for a CD.

ADVANCED ONSITE SOLUTIONS LLC DESIGN NOTES

1. Subsurface disposal system is based on **THE CLEAN SOLUTION™** manufactured by Advanced Onsite Solutions, LLC (AOS).
2. **THE CLEAN SOLUTION™** to be supplied by AOS (866-900-2415).
3. **THE CLEAN SOLUTION™** provided by AOS to include:
 - a) Biocon™ and settling tanks standard duty (cover less than 3-feet). If cover over the top of tank exceeds 3-feet notify AOS.
 - b) Air compressor(s)
 - c) Media
 - d) Plastic risers and covers. Maximum height provided by AOS is 18". For depths greater than 18" of cover installer to supply additional risers.
 - e) AOS and their representatives shall perform all internal piping in the BioCon™ chamber and system startup.
4. Installer shall follow manufacturer's guidelines to prepare site for installation of **THE CLEAN SOLUTION™** system and provide the following:
 - a) Contractor shall follow approved design plans and Vermont's wastewater system-environmental protection rules effective September 29, 2007
 - b) Contractor to supply necessary septic tanks and grease traps as required by designer.
 - c) Excavation of all tanks including tanks supplied by AOS to grades established by designer.
 - d) Setting and leveling of all tanks, including tanks supplied by AOS.
 - e) Service connections from building to septic tank, septic tank to BioCon™ tank, BioCon™ tank to settling tank, settling tank to dispersal field.
 - f) Contractor shall excavate for all air conduit lines from compressor housing to biocon™ tank.
 - g) Contractor shall water plug all tank penetrations to prevent groundwater leaks.
 - h) Contractor shall water plug all inlet(s) and outlet(s) not used.



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- i) Contractor shall set all risers to grades established by designer. Contractor shall ensure that rubber gasket o-ring is in place prior to securing sections. All screw holes to be used to secure sections to each other. Contractor shall ensure that all risers are watertight to prevent infiltration from groundwater and surface runoff.
 - j) Contractor to build/modify dispersal field as required by designer. .
 - k) Contractor to provide owner with swing ties from two permanent fixed points to access covers.
 - l) Contractor shall call system designer for system inspection.
 - m) Contractor shall ensure that tank(s) inverts are set according to elevations shown on plans. Failure to install systems at correct elevations or preventing equal flow to BioCon™ tank(s) will void system warranty and performance specifications. Contractor to ensure that all system components, both upstream and downstream of **THE CLEAN SOLUTION™** system are watertight.
5. The owner/contractor shall provide the following:
- a. Necessary electrical outlets capable of 2.5 amp – 115 volts for each compressor. There shall be two or more separate circuits provided when more than two compressors are needed. Circuits **shall not** be gfi protected.
 - b. Compressor housing
 - i. Compressor(s) location to be mutually determined by owner / representative and AOS.
 - ii. Maximum distance from compressor(s) to BioCon™ chamber is 50'. For distances greater than 50' contact AOS.
6. Required maintenance by Owner:
- a) Signed system inspection agreement for **THE CLEAN SOLUTION™** system. Inspection agreement is provided by AOS.
 - b) Septic tank(s) and settling tank to be pumped out every two years or sooner if deemed necessary at annual system inspection.
 - c) Biocon™ tank to be inspected as required by state or local ITA approvals by an approved AOS technician.
 - d) Owner shall keep all pumping records.
 - e) Failure to comply with “a” – “d” above will void warranty of **THE CLEAN SOLUTION™** system.



APPENDIX B

VERMONT SYSTEM DESIGN SCHEMATICS

THE CLEAN SOLUTION SYSTEM MODEL 250-RX

THE CLEAN SOLUTION SYSTEM MODEL 250ST-R3

THE CLEAN SOLUTION SYSTEM MODEL 250ST-R4

THE CLEAN SOLUTION SYSTEM MODEL 1500

THE CLEAN SOLUTION SYSTEM MODEL 2500

THE CLEAN SOLUTION SYSTEM MODEL 3000

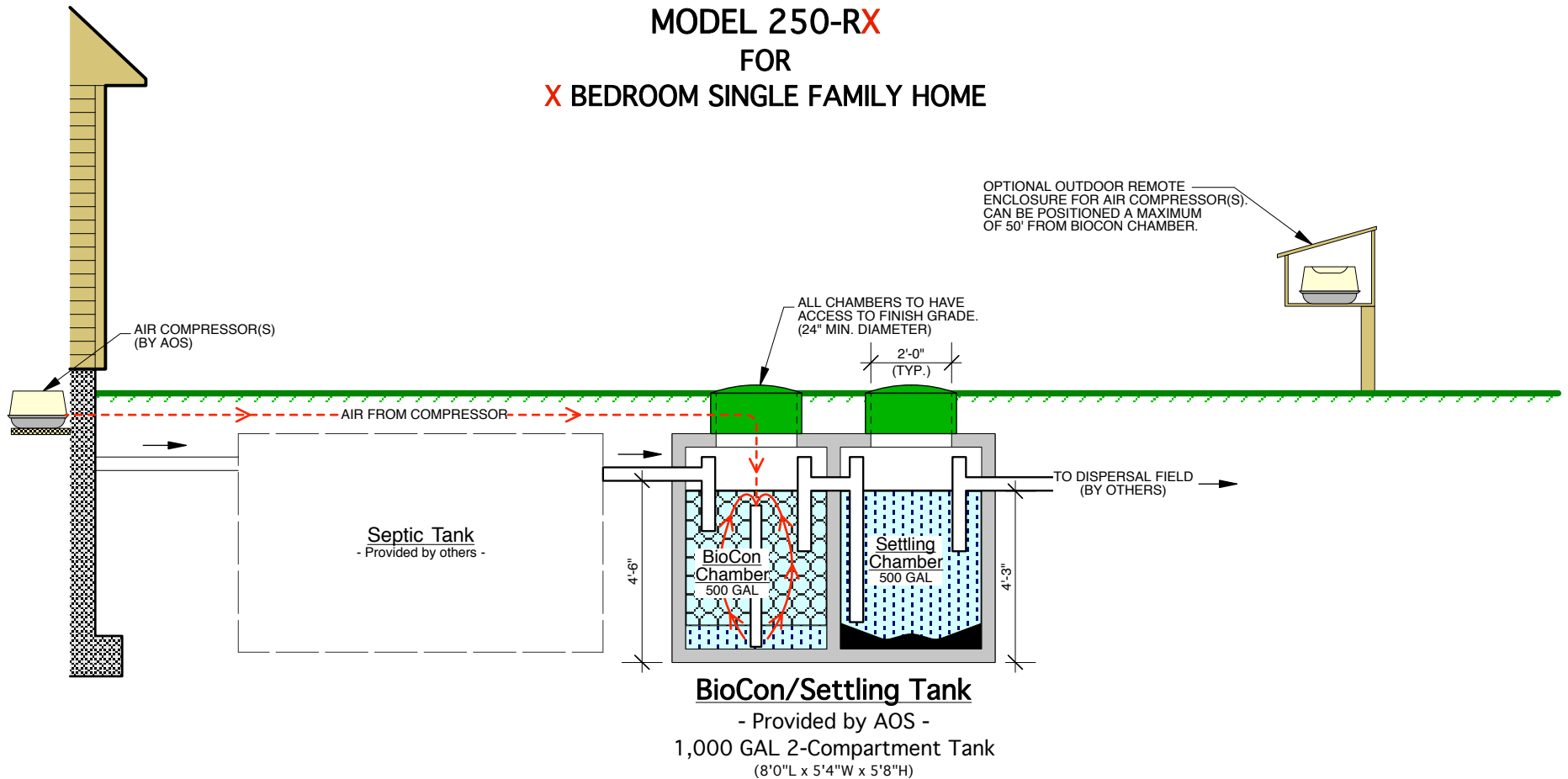
THE CLEAN SOLUTION SYSTEM MODEL 4000

THE CLEAN SOLUTION SYSTEM MODEL VT 250PT-Rx_Fralo

THE CLEAN SOLUTION™ ALTERNATIVE SEPTIC SYSTEM

MODEL 250-RX

FOR X BEDROOM SINGLE FAMILY HOME



NOTES:

1. Septic and settling tank must be pumped every 2 years.
2. Tanks are not suitable for drive on installation unless designed w/ H-20 tanks
3. Risers are plastic- height will be specified by installer to suit site - concrete risers can be provided if preferred. All risers must be level to finish grade.
4. Compressor plugs into regular household outlets, but requires its own circuit. Compressor is weatherproof, but should be housed in garages, basements, or specially designed outdoor compartments. The maximum distance it can be from the system is 50ft. Model 250-RX requires one SL-44 (3-SCFM) compressor. Control panel and alarm must be located near compressor and accessible by O & M operator.
5. Primary septic tank should be sized based on State regulations.
6. If there is a pump chamber, it will be vented separately.
7. Media in Bio-Con tank is plastic and free-flowing (installed by **AOS**).
8. The Clean Solution system is a gravity flow system not requiring a sump pump, therefore no alarms are present. However, if the site plan calls for sump pump, the specifications of the alarm will depend on the designer and installer.

Tank dimensions may vary by manufacturer

TITLE: **CLEAN SOLUTION SYSTEM MODEL 250ST-R(X)**
(Up to four bedrooms)
Vermont Design Flow: 490 gpd

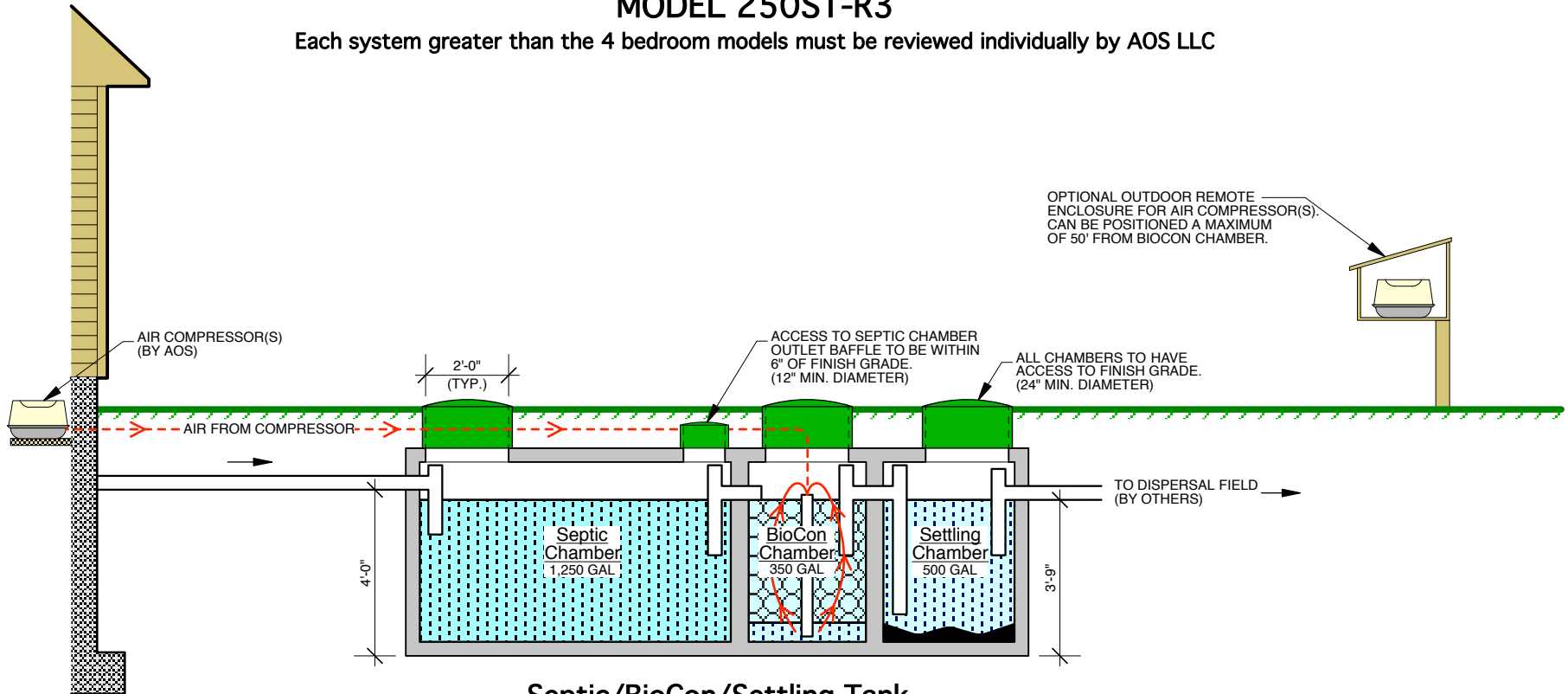
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THE CLEAN SOLUTION™ ALTERNATIVE SEPTIC SYSTEM MODEL 250ST-R3

Each system greater than the 4 bedroom models must be reviewed individually by AOS LLC



Septic/BioCon/Settling Tank

- Provided by AOS -

2,100 GAL 3-Compartment Tank

(15'0"L x 6'6"W x 5'0"H)

NOTES:

1. Septic and settling tank must be pumped every 2 years.
2. Tanks are not suitable for drive on installation unless designed w/ H-20 tanks
3. Risers are plastic- height will be specified by installer to suit site - concrete risers can be provided if preferred. All risers must be level to finish grade.
4. Compressor plugs into regular household outlets, but requires its own circuit. Compressor is weatherproof, but should be housed in garages, basements, or specially designed outdoor compartments. The maximum distance it can be from the system is 50ft. Model 250ST-R3 requires one SL-44 (3-SCFM) compressor. Control panel and alarm must be located near compressor and accessible by O & M operator.
5. Primary septic tank should be sized based on State regulations.
6. If there is a pump chamber, it will be vented separately.
7. Media in Bio-Con tank is plastic and free-flowing (installed by **AOS**).
8. The Clean Solution system is a gravity flow system not requiring a sump pump, therefore no alarms are present. However, if the site plan calls for sump pump, the specifications of the alarm will depend on the designer and installer.

Tank dimensions may vary by manufacturer

TITLE: CLEAN SOLUTION SYSTEM MODEL 250ST-R3
(Three Bedroom w/integral septic tank)
Vermont Design Flow: 420 gpd

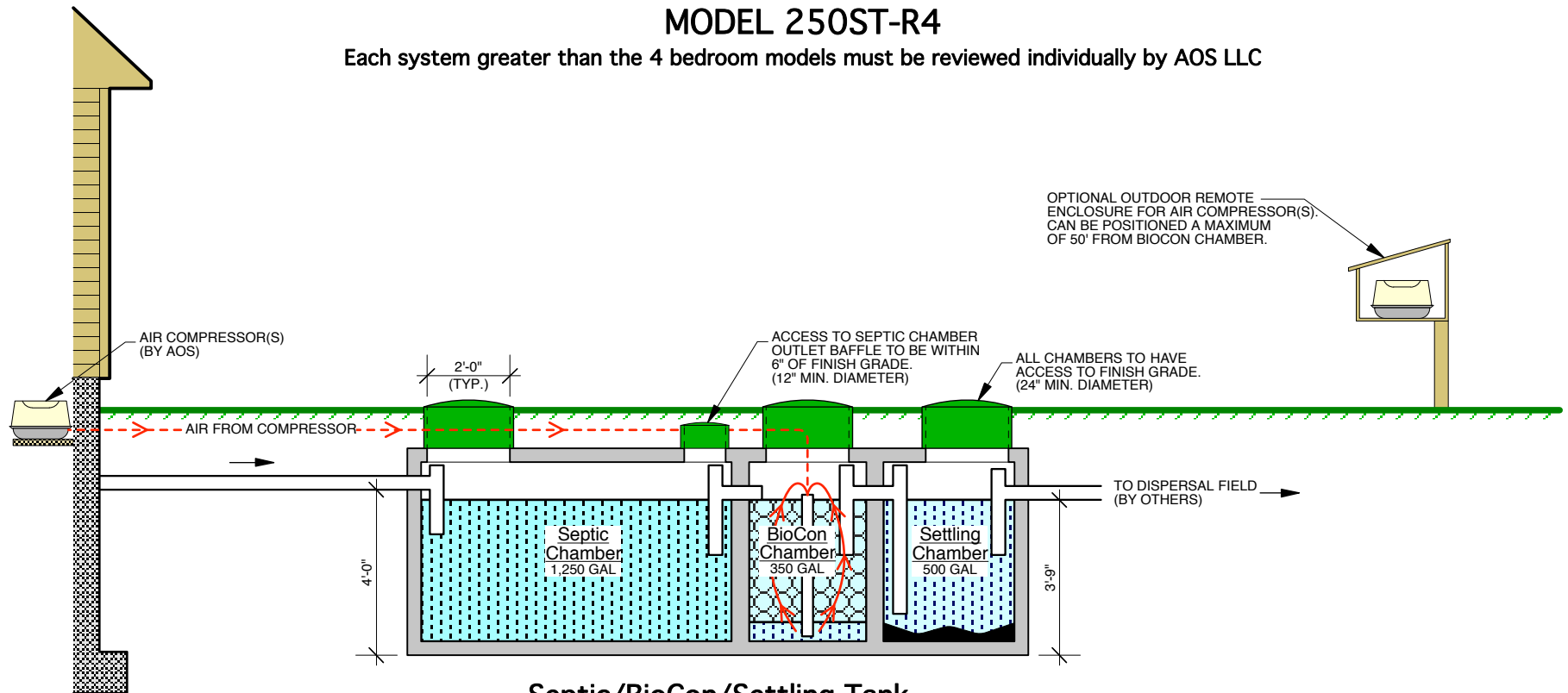
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THE CLEAN SOLUTION™ ALTERNATIVE SEPTIC SYSTEM MODEL 250ST-R4

Each system greater than the 4 bedroom models must be reviewed individually by AOS LLC



Septic/BioCon/Settling Tank

- Provided by AOS-
2,100 GAL 3-Compartment Tank
(15'0\"/>

NOTES:

1. Septic and settling tank must be pumped every 2 years.
2. Tanks are not suitable for drive on installation unless designed w/ H-20 tanks
3. Risers are plastic- height will be specified by installer to suit site - concrete risers can be provided if preferred. All risers must be level to finish grade.
4. Compressor plugs into regular household outlets, but requires its own circuit. Compressor is weatherproof, but should be housed in garages, basements, or specially designed outdoor compartments. The maximum distance it can be from the system is 50ft. Model 250ST-R4 requires one SL-44 (3-SCFM) compressor. Control panel and alarm must be located near compressor and accessible by O & M operator.
5. Primary septic tank should be sized based on State regulations.
6. If there is a pump chamber, it will be vented separately.
7. Media in Bio-Con tank is plastic and free-flowing (installed by **AOS**).
8. The Clean Solution system is a gravity flow system not requiring a sump pump, therefore no alarms are present. However, if the site plan calls for sump pump, the specifications of the alarm will depend on the designer and installer.

Tank dimensions may vary by manufacturer

TITLE: **CLEAN SOLUTION SYSTEM MODEL 250ST-R4**
(Four Bedroom w/integral septic tank)
Vermont Design Flow: 490 gpd

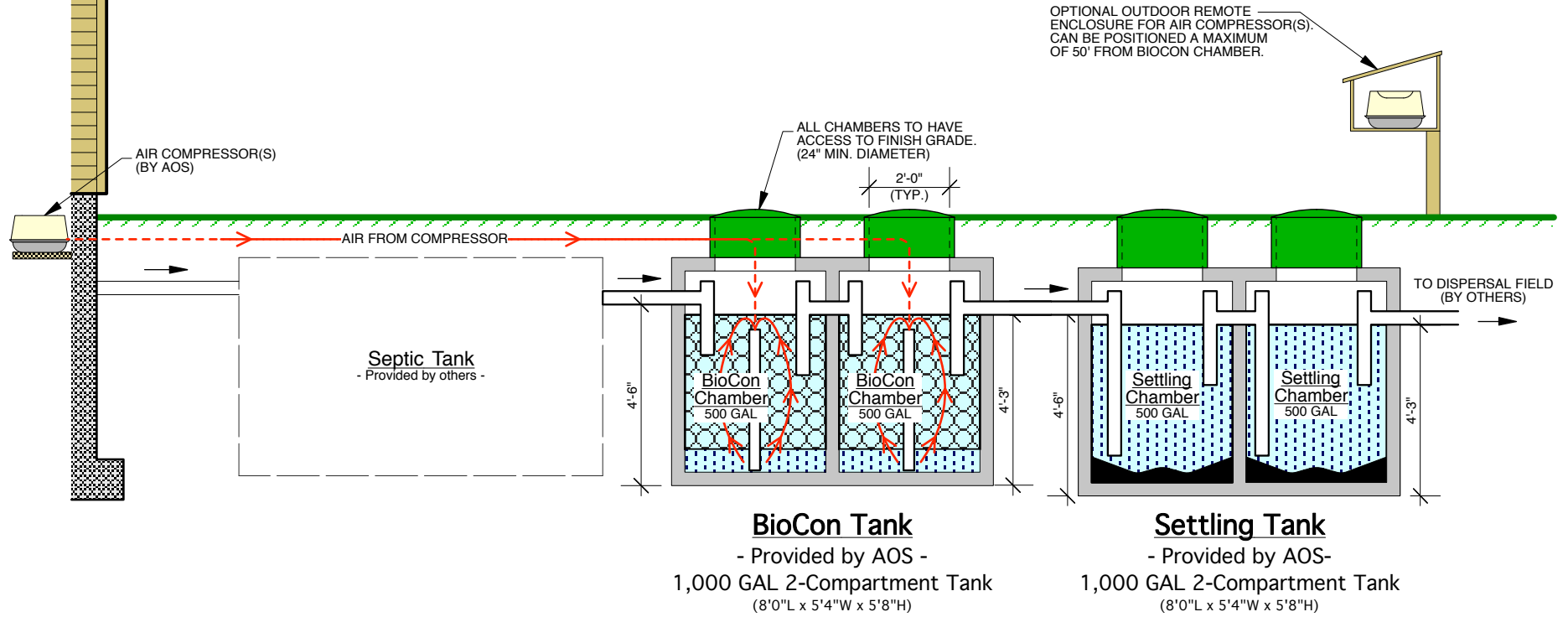
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THE CLEAN SOLUTION™ ALTERNATIVE SEPTIC SYSTEM MODEL 1500

Each system greater than the 4 bedroom models must be reviewed individually by AOS LLC



BioCon Tank

- Provided by AOS -
1,000 GAL 2-Compartment Tank
(8'0"L x 5'4"W x 5'8"H)

Settling Tank

- Provided by AOS -
1,000 GAL 2-Compartment Tank
(8'0"L x 5'4"W x 5'8"H)

NOTES:

1. Septic and settling tank must be pumped every 2 years
2. Tanks are not suitable for drive on installation unless designed w/ H-20 tanks
3. Risers are plastic- height will be specified by installer to suit site - concrete risers can be provided if preferred. All risers must be level to finish grade
4. Compressor plugs into regular household outlets, but requires its own circuit. Compressor is weatherproof, but should be housed in garages, basements, or specially designed outdoor compartments. The maximum distance it can be from the system is 50ft. Model 1500 requires two or more 3-SCFM compressors, which are specified according to the application/design. Control panel and alarm must be located near compressor and accessible by O & M operator.
5. Primary septic tank should be sized based on State regulation.
6. If there is a pump chamber, it will be vented separately.
7. Media in Bio-Con tank is plastic and free-floating (installed by **AOS**).
8. The Clean Solution system is a gravity flow system not requiring a sump pump, therefore no alarms are present. However, if the site plan calls for a sump pump, the specifications of the alarm will depend on the designer and installer.

Tank dimensions may vary by manufacturer

**TITLE: CLEAN SOLUTION SYSTEM MODEL 1500
Vermont Design Flow: 1,500 gpd
(requires review by AOS before submitting State)**

Date
Jan 2014

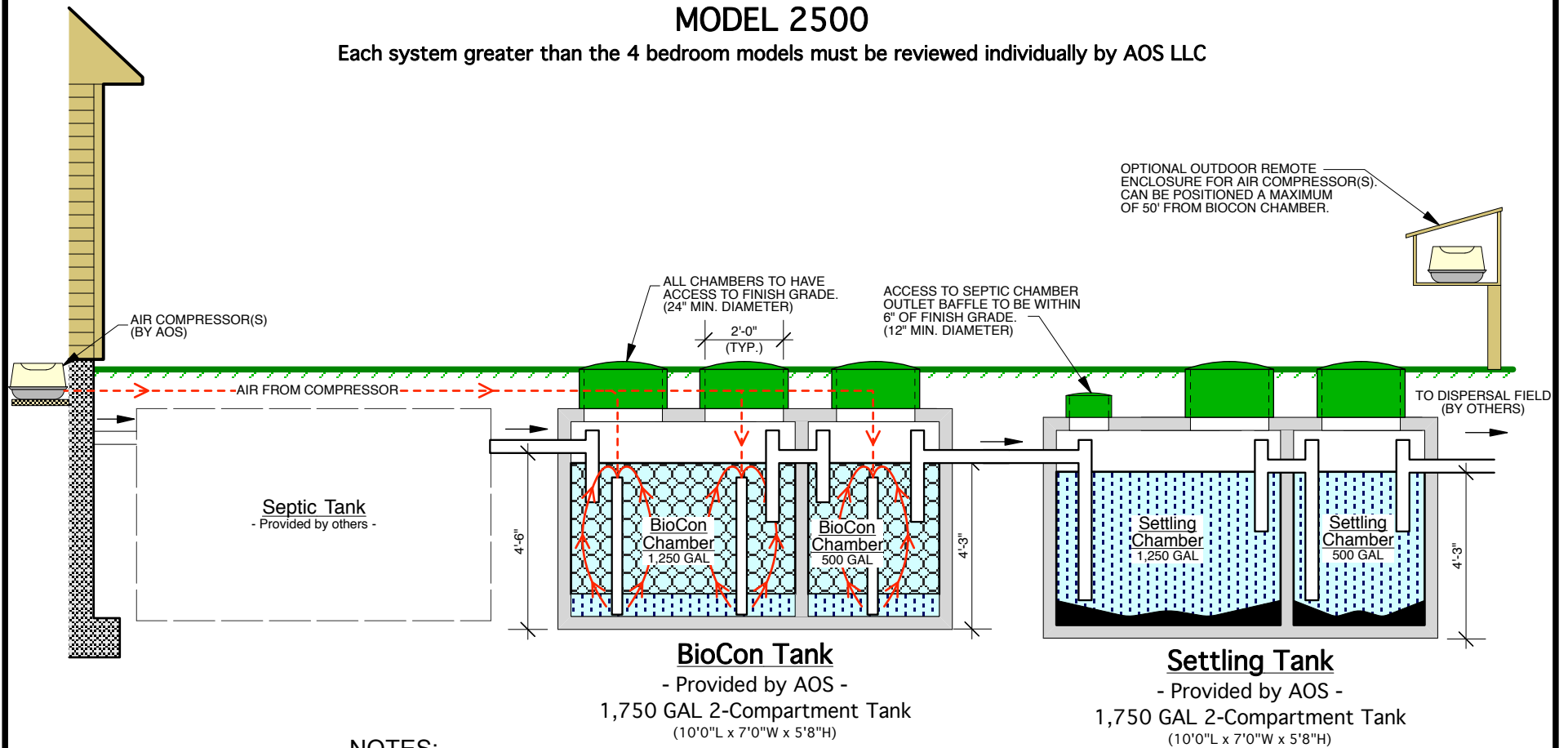
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THE CLEAN SOLUTION™ ALTERNATIVE SEPTIC SYSTEM MODEL 2500

Each system greater than the 4 bedroom models must be reviewed individually by AOS LLC



NOTES:

1. Septic and settling tank must be pumped every 2 years
2. Tanks are not suitable for drive on installation unless designed w/ H-20 tanks
3. Risers are plastic- height will be specified by installer to suit site - concrete risers can be provided if preferred. All risers must be level to finish grade.
4. Compressor plugs into regular household outlets, but requires its own circuit. Compressor is weatherproof, but should be housed in garages, basements, or specially designed outdoor compartments. The maximum distance it can be from the system is 50ft. Model 2500 requires at least three SL-88 (5-SCFM) compressors. Control panel and alarm must be located near compressor and accessible by O & M operator.
5. Primary septic tank should be sized based on State regulation.
6. If there is a pump chamber, it will be vented separately.
7. Media in Bio-Con tank is plastic and free-flowing (installed by **AOS**).
8. The Clean Solution system is a gravity flow system not requiring a sump pump, therefore no alarms are present. However, if the site plan calls for a sump pump, the specifications of the alarm will depend on the designer and installer.
9. Tank dimensions may vary by tank manufacturer

Tank dimensions may vary by manufacturer

TITLE: **CLEAN SOLUTION SYSTEM MODEL 2500**
Vermont Design Flow: 2,500 gpd
(requires review by AOS before submitting State)

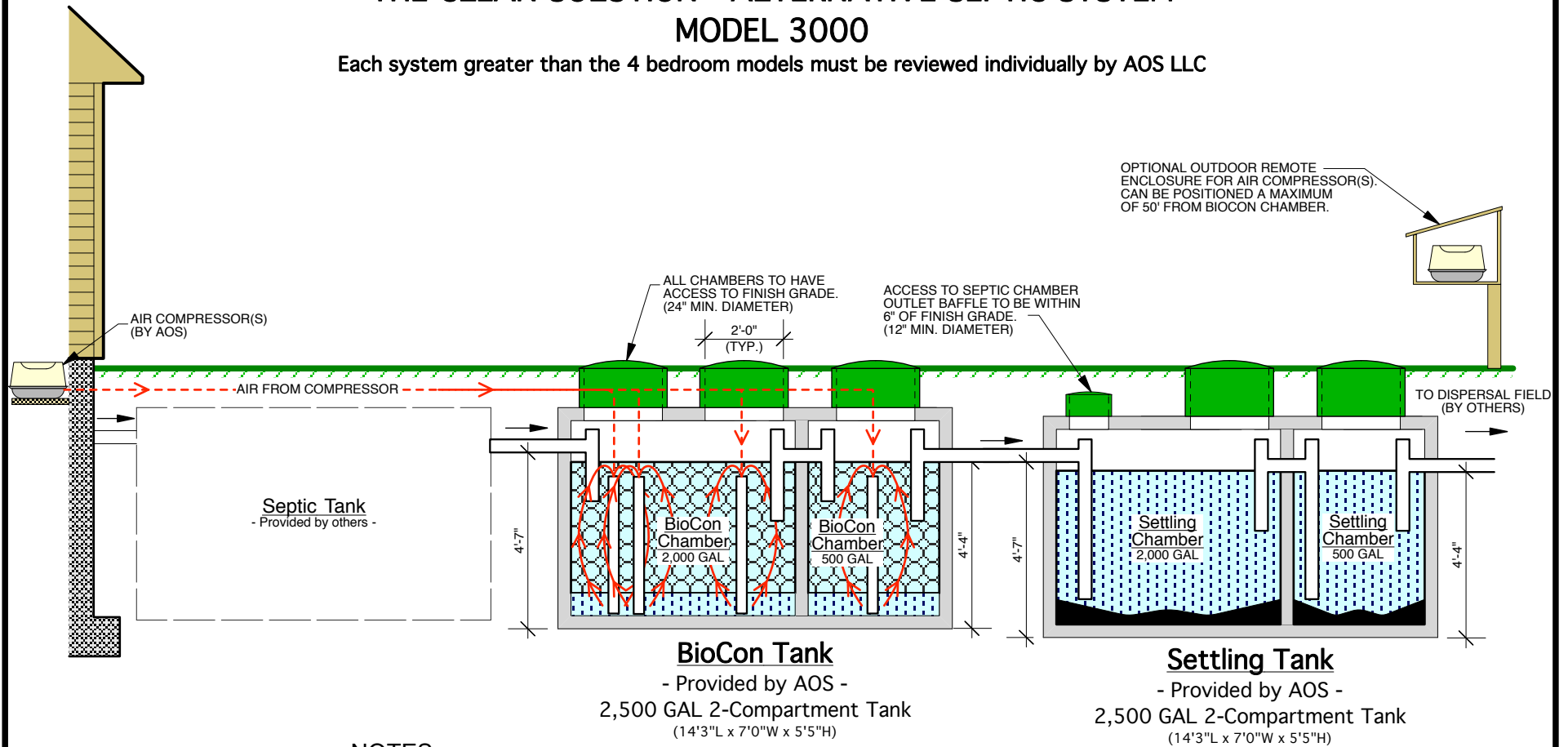
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THE CLEAN SOLUTION™ ALTERNATIVE SEPTIC SYSTEM MODEL 3000

Each system greater than the 4 bedroom models must be reviewed individually by AOS LLC



NOTES:

1. Septic and settling tank must be pumped every 2 years
2. Tanks are not suitable for drive on installation unless designed w/ H-20 tanks
3. Risers are plastic- height will be specified by installer to suit site - concrete risers can be provided if preferred. All risers must be level to finish grade.
4. Compressor plugs into regular household outlets, but requires its own circuit. Compressor is weatherproof, but should be housed in garages, basements, or specially designed outdoor compartments. The maximum distance it can be from the system is 50ft. Model 3000 requires at least three SL-88 (5-SCFM) compressors. Control panel and alarm must be located near compressor and accessible by O & M operator.
5. Primary septic tank should be sized based on State regulation.
6. If there is a pump chamber, it will be vented separately.
7. Media in Bio-Con tank is plastic and free-flowing (installed by **AOS**).
8. The Clean Solution system is a gravity flow system not requiring a sump pump, therefore no alarms are present. However, if the site plan calls for a sump pump, the specifications of the alarm will depend on the designer and installer.
9. Tank dimensions may vary by tank manufacturer

Tank dimensions may vary by manufacturer

TITLE: **CLEAN SOLUTION SYSTEM MODEL 3000**
Vermont Design Flow: 3,000 gpd
(requires review by AOS before submitting State)

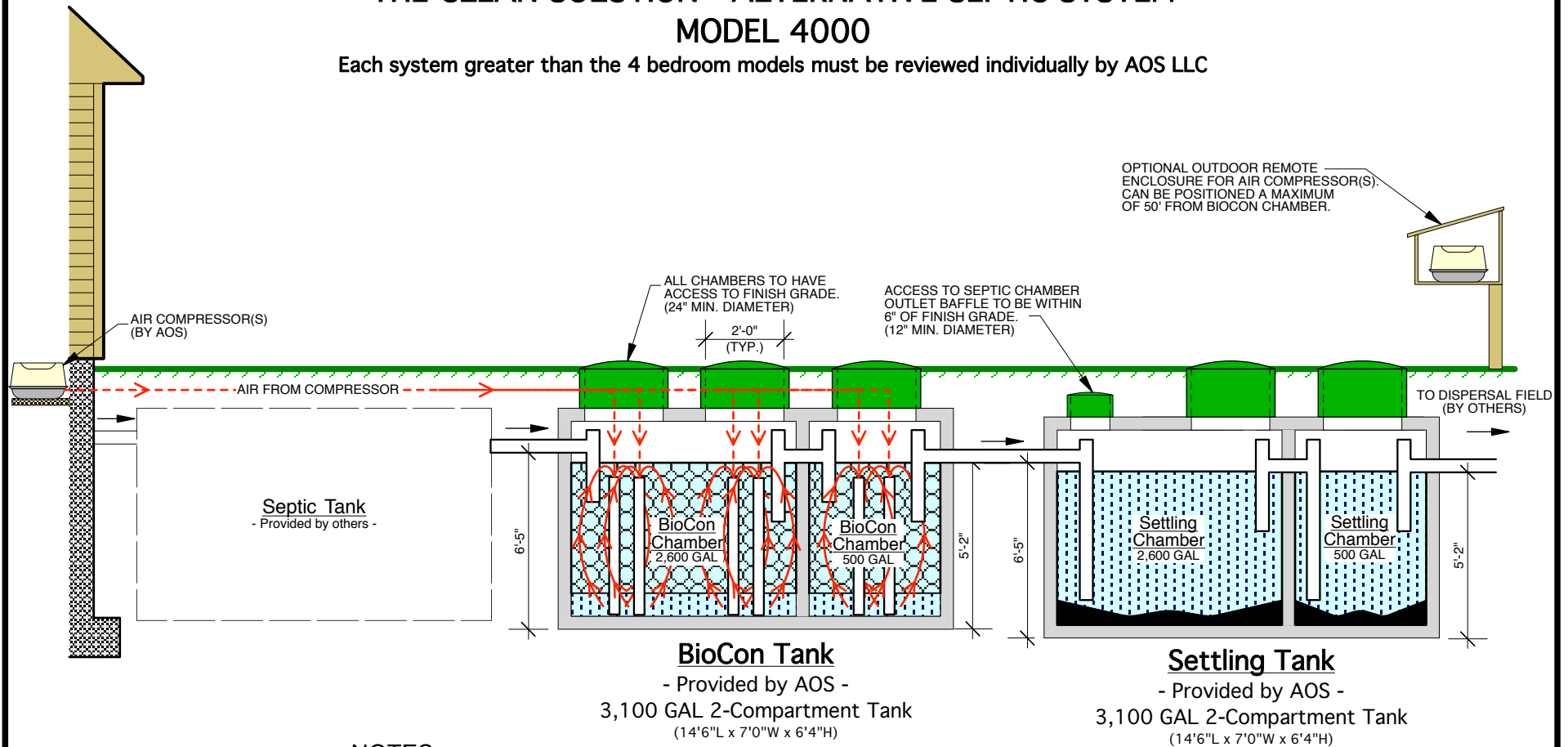
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THE CLEAN SOLUTION™ ALTERNATIVE SEPTIC SYSTEM MODEL 4000

Each system greater than the 4 bedroom models must be reviewed individually by AOS LLC



NOTES:

1. Septic and settling tank must be pumped every 2 years
2. Tanks are not suitable for drive on installation unless designed w/ H-20 tanks
3. Risers are plastic- height will be specified by installer to suit site - concrete risers can be provided if preferred. All risers must be level to finish grade.
4. Compressor plugs into regular household outlets, but requires its own circuit. Compressor is weatherproof, but should be housed in garages, basements, or specially designed outdoor compartments. The maximum distance it can be from the system is 50ft. Model 4000 requires at least four SL-88 (5-SCFM) compressors. Control panel and alarm must be located near compressor and accessible by O & M operator.
5. Primary septic tank should be sized based on State regulation.
6. If there is a pump chamber, it will be vented separately.
7. Media in Bio-Con tank is plastic and free-flowing (installed by **AOS**).
8. The Clean Solution system is a gravity flow system not requiring a sump pump, therefore no alarms are present. However, if the site plan calls for a sump pump, the specifications of the alarm will depend on the designer and installer.
9. Tank dimensions may vary by tank manufacturer

Tank dimensions may vary by manufacturer

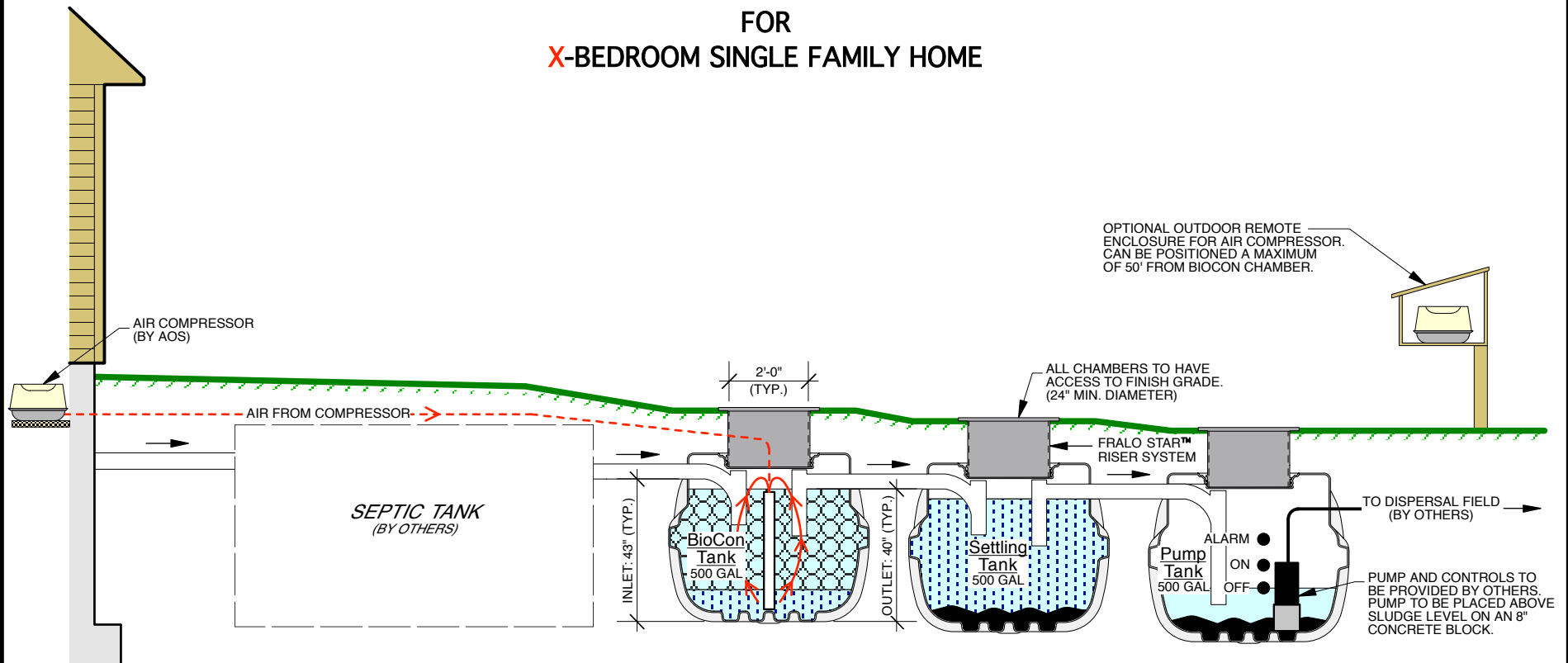
TITLE: **CLEAN SOLUTION SYSTEM MODEL 4000**
Vermont Design Flow: 4,000 gpd
(requires review by AOS before submitting State)

Date
 Jan 2014
 Rev.



Advanced Onsite Solutions LLC
innovative wastewater solutions with sustainable results
 P.O.Box 248
 Canterbury, NH 03224
 Phone 603.783.8042

THE CLEAN SOLUTION™ ALTERNATIVE SEPTIC SYSTEM
MODEL 250PT-RX
FOR
X-BEDROOM SINGLE FAMILY HOME



BioCon Tank, Settling Tank & Pump Tank

- Provided by AOS -

(1)- each Fralo Septech™ Model ST-500
 (60"L x 62"W x 51"H)

NOTES:

1. Septic and settling tank must be pumped every 2 years.
2. Tanks are not suitable for drive on installation unless designed w/ H-20 tanks
3. Risers are plastic- height will be specified by installer to suit site - concrete risers can be provided if preferred. All risers must be level to finish grade.
4. Compressor plugs into regular household outlets, but requires its own circuit. Compressor is weatherproof, but should be housed in garages, basements, or specially designed outdoor compartments. The maximum distance it can be from the system is 50ft. Model 250-RX requires one SL-44 (3-SCFM) compressor. Control panel and alarm must be located near compressor and accessible by O & M operator.
5. Primary septic tank should be sized based on State regulations.
6. If there is a pump chamber, it will be vented separately.
7. Media in Bio-Con tank is plastic and free-flowing (installed by **AOS**).
8. The Clean Solution system is a gravity flow system not requiring a sump pump, therefore no alarms are present. However, if the site plan calls for sump pump, the specifications of the alarm will depend on the designer and installer.

Tank dimensions may vary by manufacturer

CLEAN SOLUTION SYSTEM MODEL 250PT-R(X)
 (Up to four bedrooms)
 Vermont Design Flow: 490 gpd

Date
 Jan 2014
 Rev.



Advanced Onsite Solutions LLC
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 P.O.Box 248
 Canterbury, NH 03224
 Phone 603.783.8042



ADVANCED ONSITE SOLUTIONS LLC

PO Box 248
Canterbury, NH 03224
(603)-783-8042
Toll Free: (866) 900-2415

APPENDIX C

Sample Residential Sales And Inspection Agreement



ADVANCED ONSITE SOLUTIONS LLC

PO Box 248
Canterbury, NH 03224
(603)-783-8042
Toll Free: (866) 900-2415

RESIDENTIAL SALES AGREEMENT DATE

BUYER:	
Name:	xxxx
Address:	xxxx
City, State Zip:	xxxx
Phone:	xxxx
Cell:	xxxx
Email:	xxxx
OWNER-IF DIFFERENT:	
Name:	xxxx
Address:	xxxx
City, State Zip:	xxxx
Phone:	xxxx
Cell:	xxxx
Email:	xxxx

Please complete all missing information

SITE:	
Property ID:	Tax Map xxx Lot No.
Address:	xxxx
City, State, Zip:	xxxx
Waterbody:	(name)
Design Flow:	
Number of Bedrooms:	
Designer Information:	

Advanced Onsite Solutions LLC (AOS) will supply **THE CLEAN SOLUTION™** Sewage Treatment System for the above site based on design parameters provided by the designer / owner and subsurface disposal plan(s) submitted to AOS by a licensed designer. Change of use that results in an increase in daily flow or wastewater strength will impact the performance of **THE CLEAN SOLUTION**. The owner(s) or the owner(s) representative(s) is responsible for obtaining all required state and local approvals.

This Sales Agreement is subject to the following conditions:

1. The buyer will provide AOS with copies of the approved plans.
2. The buyer will hire a qualified installer licensed for Subsurface Disposal.
3. This agreement includes a required inspection agreement. Owner understands that failure to perform the required maintenance may result in premature dispersal field failure.

AOS will provide the following:

THE CLEAN SOLUTION system model: XXXXXXXX

Tank Type:	<input type="checkbox"/> Concrete	<input type="checkbox"/> Plastic
Loading Requirements:	<input type="checkbox"/> Standard Duty	<input type="checkbox"/> Heavy duty <input type="checkbox"/> H-20 duty
Air Line	<input type="checkbox"/> 1/2 " dia.	<input type="checkbox"/> 3/4 " dia.
Access Risers:	<input type="checkbox"/> Plastic Risers to 6"	<input type="checkbox"/> Plastic Risers to 12"
	<input type="checkbox"/> Plastic Risers to 18"	<input type="checkbox"/> Plastic Risers to 24"



ADVANCED ONSITE SOLUTIONS LLC

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Additional Components:

- | | |
|--|---|
| <input type="checkbox"/> Compressor Shelf | <input type="checkbox"/> Compressor Outdoor Enclosure |
| <input type="checkbox"/> Compressor Alarm | |
| <input type="checkbox"/> STF-100 pressure filter | <input type="checkbox"/> Pressure alarm switch |
| <input type="checkbox"/> Tank Sealing | |

ELECTRICAL REQUIREMENTS:

Owner shall be responsible for hiring a licensed electrician. A 120-volt outlet, non-ground fault interrupted circuit, supplying (x) amps per compressor. Location of the outlet(s) shall be within 50' of **THE CLEAN SOLUTION** system and within 4' of the compressor.

FOLLOWING PROVIDED BY OTHERS:

- Septic tanks if required
- Pump Chamber if required
- Effluent pump, all pump controls and electrical disconnect switch
- Exterior Venting may be required for older homes
- Exterior Venting is required for systems where effluent is pumped to **THE CLEAN SOLUTION** system
- Excavation for installing system components
- Construction of the dispersal field
- Piping to and from **THE CLEAN SOLUTION** system

OWNER HAS THE FOLLOWING UNDERSTANDING:

- Failure to install the subsurface disposal system according to the approved plan will void system warranty and performance specifications.
- The owner's contractor shall ensure that all risers are watertight and all system components, both upstream and downstream of **THE CLEAN SOLUTION** system, are watertight to prevent infiltration from groundwater and surface runoff.
- **THE CLEAN SOLUTION** system has not been designed to handle backwash discharge from Water Softeners or other high water use fixtures such as hot tubs or spa style showers. Discharge water from high water use fixtures to be discharged into an approved drywell.
- If the subsurface disposal system requires an effluent pump, the pump chamber shall be inspected annually for sludge buildup and pumped as necessary.

MAINTENANCE SUGGESTIONS:

There is ongoing concern that pharmaceuticals, medical treatments, and personal care products impact how a septic system functions. Studies have shown that these products can disrupt the balance of bacteria in the septic tank, reducing the septic tank's efficiency to break down waste.

The following is recommended:



ADVANCED ONSITE SOLUTIONS LLC

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Canterbury, NH 03224
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1. The EPA suggests that unused pharmaceuticals, either prescription or over the counter medicines, not be disposed of in the septic system. Check with your local pharmacy to see if it has a program to dispose of unused medicines.
2. If a resident of the home is undergoing medical treatment with high strength antibiotics, the system should be inspected annually to determine a proper maintenance schedule.

PERFORMANCE SPECIFICATIONS:

THE CLEAN SOLUTION system has been designed based on the following standard residential wastewater influent strength from primary septic tank(s) - BOD₅ of 140-180 mg/l, TSS 100-150 mg/l and FOG <5 mg/l.

LIMITED WARRANTY

For a period of 5-years from the date of installation, AOS warrants that the components within the BioCon chamber will be free from defects. If a defect exists, AOS will repair or replace the defective components at no cost to the owner. This limited warranty does not cover the cost of pumping the system to make necessary repairs, or the cost for excavation to replace or make repairs, or replacement of landscaping features. This limited warranty does not cover failure of the dispersal field(s). AOS does not warrant THE CLEAN SOLUTION system or components installed by others.

For compressors that have been maintained and used under normal operating conditions, AOS will extend the compressor manufacturer's warranty from one year to two years. Labor to replace compressors will be billed out at AOS standard hourly rates.

EXCLUSIONS AND LIMITATIONS

This limited warranty for pump chamber components (pump, floats, alarms, etc) if supplied by AOS is limited to the manufacturer's terms and conditions. Labor to replace effluent pump/floats/alarms will be billed out at AOS standard hourly rates.

It is the owner's responsibility to ensure that inspections are performed by AOS or an AOS-approved vendor. Failure to perform a timely inspection, or to perform the required maintenance, maintain records of pumping or to notify AOS of any problems will void this limited warranty. This limited warranty does not cover damage caused by improper use by the occupants, poor construction or design practices, high groundwater, flooding, or acts of God.

Owner shall defend, indemnify, and hold harmless AOS and its employees and subcontractors, from and against any and all claims, demands, causes of action, damages, liabilities, losses, and expenses arising from the project and/or the contract to the extent caused by the fault of Owner and/or its consultants, design professionals, or agents.

THIS LIMITED WARRANTY IS IN LIEU OF AND SUPERSEDES ALL OTHER WARRANTIES, EXPRESS OR IMPLIED.

AOS SHALL NOT BE LIABLE FOR ANY DIRECT OR INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, NOR SHALL AOS LIABILITY UNDER THIS WARRANTY EXCEED THE AMOUNT PAID TO AOS FOR THE CLEAN SOLUTION SYSTEM.



ADVANCED ONSITE SOLUTIONS LLC

PO Box 248
Canterbury, NH 03224
(603)-783-8042
Toll Free: (866) 900-2415

Sales Agreement

The agreed upon price for THE CLEAN SOLUTION system is:	\$ 0.00
State Sales Tax if applicable: (VT, ME, MA):	\$ 0.00
Additional Components: xxxxxxxx	\$ 0.00
Delivery	\$ 0.00
Total Due:	\$ 0.00
Payment schedule is as follows:	
FIRST PAYMENT upon signing this agreement	\$ 0.00
FINAL PAYMENT payable on the day of installation	\$ 0.00

If the AOS technician has to return to complete the scheduled installation because the site is not properly prepared, Buyer agrees to pay AOS \$80.00/man hour for subsequent visit(s).

Failure to pay in full will void all warranties. Buyer agrees to pay all costs and expenses incurred by AOS, including all attorney fees, and all collection charges (including a percentage of the outstanding balance of this Contract) should the account be referred to a collection agency.

THIS SALES AGREEMENT IS VALID FOR 60 DAYS FROM THE DATE OF THIS DOCUMENT. ALL SYSTEM COMPONENTS MUST BE INSTALLED WITHIN 60 DAYS OF INITIAL DEPOSIT. FAILURE TO INSTALL THE SYSTEM COMPONENTS WITHIN 60 DAYS MAY RESULT IN ADDITIONAL CHARGES.

Please send payment to:
ADVANCED ONSITE SOLUTIONS LLC
P.O. BOX 248
CANTERBURY, NH 03224

If Paying by Credit Card please call:
AOS Accounting Department
603-783-8042

By signing below the owner or owner's representative has read the SALES AGREEMENT and attached INSPECTION AGREEMENT and agrees to the terms of the SALES AND INSPECTION AGREEMENTS and to perform the necessary inspections and maintenance outlined in the INSPECTION AGREEMENT.

ACCEPTED BY:

DATE:

Name: xxxx

Address: xxxx

City, State Zip: xxxx

Phone: xxxx

Cell: xxxx

Email: xxxx

PLEASE PROVIDE ALL INFORMATION REQUESTED ABOVE



ADVANCED ONSITE SOLUTIONS LLC

PO Box 248
Canterbury, NH 03224
(603)-783-8042
Toll Free: (866) 900-2415

RESIDENTIAL VERMONT INSPECTION AGREEMENT DATE

OWNER:

Name: XXXX
Address: XXXX
City, State Zip: XXXX
Phone: XXXX
Cell: XXXX
Email: XXXX

Please complete all missing information

SITE:

Property ID: Tax Map XX Lot No.XX
Address: XXXX
City, State, Zip: XXXX

Waterbody: XXXX

Design Flow: XXXX gpd
Number of Bedrooms: XXXX

The following inspection and maintenance is required. It is the owner's responsibility to see that this maintenance is performed.

Residential Use (Single Family Home)

1. An Individual Subsurface Disposal System (ISDS) installed in the State of Vermont must be inspected according to the following schedule:
 - Six months from the date of operation,
 - One year after the date of operation, and
 - Annually thereafter.

The inspection must be performed by a licensed designer or service provider trained and approved by AOS.

2. After the inspection, you may need to contact your septic pumper to pump out the septic and settling/pump tanks. Maximum time between pumping should not exceed 2 years. More frequent pumping may be required depending on system use and number of occupants. Owner must retain records of pumping.
3. Compressor must run continuously. It should be checked for operation at least once a month unless a compressor alarm has been installed. Compressor Air Filter to be cleaned or replaced yearly. If the Compressor is located in a dusty environment the filter will need to be cleaned more frequently
4. The Inspector or AOS Technician will help determine when the BioCon™ chamber will need pumping. Typical residential use requires BioCon Chamber to be pumped and cleaned every 5 to 7 years.
5. Compressor may be disconnected for seasonal homes that have been winterized.



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Additional Maintenance Suggestions:

There is ongoing concern that pharmaceuticals, medical treatments, and personal care products impact how a septic system functions. Studies have shown that these products can disrupt the balance of bacteria in the septic tank, reducing the septic tank's efficiency to break down waste.

The following is recommended:

1. The EPA suggests that unused pharmaceuticals, either prescription or over the counter medicines, not be disposed of in the septic system. Check with your local pharmacy to see if it has a program to dispose of unused medicines.
2. If a resident of the home is undergoing medical treatment with high strength antibiotics, the system should be inspected annually to determine the proper maintenance schedule.

This Inspection service includes the following: Inspection Report, Replacing Compressor Filter, replacement of failed system components within the BioCon and Settling Chambers that are covered under warranty provided by AOS. The cost of pumping out the tank(s) to perform the necessary repairs or components required to make repairs is not included in the inspection fee.

The inspection fee does not cover routine maintenance of the BioCon Chamber (pumping and cleaning)

Failure to have an inspection agreement with AOS or an approved vendor will void warranty outlined in the **Sales Agreement provided by AOS. AOS does not warranty THE CLEAN SOLUTION systems or system components that have been installed by others.**

INSPECTION FEE SCHEDULE

Single Family Residential Homes – The current fee is \$250.00 per inspection plus the cost of replacement parts not covered by warranty. *AOS may adjust the Inspection fees as needed to cover increase in cost of service and goods (i.e. Fuel).*

Inspection fees are payable at time of service

By signing below, the owner or owner's representative warrants that s/he has read and agrees to the terms of the SALES and INSPECTION AGREEMENTS, and agrees to perform the necessary inspections and maintenance outlined.

ACCEPTED BY:

DATE:

Name: XXXX

Address: XXXX

City, State Zip: XXXX

Phone: XXXX

Cell: XXXX

Email: XXXX

PLEASE PROVIDE ALL INFORMATION REQUESTED ABOVE



ADVANCED ONSITE SOLUTIONS LLC

PO Box 248
Canterbury, NH 03224
(603)-783-8042
Toll Free: (866) 900-2415

APPENDIX D

P.O. CONFIRMATION SLIP



ADVANCED ONSITE SOLUTIONS LLC

PO Box 248
Canterbury, NH 03224
(603)-783-8042
Toll Free: (866) 900-2415

P.O. Confirmation Slip

P.O. Number: xxxx xxxxxxxx

Date: xx-xx-xx

Installer:

xxxxxx
xxxxxx
xxxxxx
xxxxxx

Buyer:

xxxxxx
xxxxxx
xxxxxx
xxxxxx

Site:

xxxxxx
xxxxxx
xxxxxx

Owner:

xxxxxx
xxxxxx
xxxxxx
xxxxxx

Method Sent -

- Faxed
- Emailed

- Mailed

Instructions:

Attached is the purchase order for **THE CLEAN SOLUTION™** system tank(s) for the above site. **Please call the tank manufacturer when you are ready to confirm the delivery date and time to set the tank(s), see attached PO for phone number. Please give manufacturer directions to site for delivery. CONTRACTOR IS RESPONSIBLE TO CONFIRM TANK DIMENSIONS AND INVERT HEIGHTS AND SETTING ALL TANKS LEVEL AND ACCORDING TO DESIGNERS ELEVATIONS.**

Access risers and covers are required to bring access to grade for all components of THE CLEAN SOLUTION system. **Contractor is responsible to ensure that all risers are watertight and all fasteners are in place when back filling. If concrete risers are used butyl seal must be used. FAILURE OF CONTRACTOR TO ENSURE WATERTIGHT TIGHTNESS OF ACCESS RISERS AND COVERS WILL RESULT IN VOIDED WARRANTY.** Contactor will need to provide the tank manufacturer with the access height required. WAI provides access risers and covers (plastic only) to a depth of 18" **IF ORDERED AND DELIVERED WITH THE TANK.** For depths greater than 18" additional risers shall be paid for and provided by installer. Installer shall install all piping to and from WAI tanks and install all interior baffles. Contractor to install dispersal field(s) and all lines (gravity/forcemain) to dispersal fields. WAI is responsible only for interior plumbing of the BioCon™ Chamber. **Contractor to provide as-built swing ties to all access covers from fixed structures such as buildings or utility poles. Contractor to provide owner(s) with "as-built" swing tie information to access covers for their records.**

Please contact Wastewater Alternatives Inc., 3 to 4 days ahead of when the tanks are going to be set so we can schedule a day to install the system components. Please call to confirm that tanks have been set and ready for our crew to install the system components.

If you have any questions please feel free to contact us at 1-866-900-2415. Thank you.



ADVANCED ONSITE SOLUTIONS LLC

PO Box 248
Canterbury, NH 03224
(603)-783-8042
Toll Free: (866) 900-2415

APPENDIX E

PURCHASE ORDER – TANK



ADVANCED ONSITE SOLUTIONS LLC

PO Box 248
Canterbury, NH 03224
(603)-783-8042
Toll Free: (866) 900-2415

PURCHASE ORDER

PO NUMBER: **XXXX**

DATE: **XX/XX/XXXX**

COMPANY:

XXXX
XXXX
XXXX

NH No. **XXX-XXX-XXXX**

VT No. **XXX-XXX-XXXX**

QUANTITY	DESCRIPTION	NOTES
X	XXXX-gallon X -compartment tank (XXX/XXX/XXX). See attached drawing	X Duty
X	Tank to be Coated with water sealant	
X	24" dia. plastic covers	
X	24" dia. x 6" plastic risers	
X	24" dia. x 12" plastic risers	
X	24" dia. safety pan	
X	24" dia. safety lid	
X	12" dia. plastic covers	
X	12" dia. Plastic risers (12" height)	
X	12" dia. Plastic risers (12" height)	
X	3/8" butyl seal for (1 roll per two joints)	
X	Screws to secure all raisers sections and covers	

INSTALLER:

XXXX
XXXX
XXXX
XXXX

SITE:

XXXX
XXXX

Waterbody: **XXXX**

DELIVERY NOTES: The installer will call to arrange delivery and give directions to site.

Invoice: Advanced Onsite Solutions LLC
P.O. Box 248
Canterbury, NH 03224

Questions: Gary Spaulding
Tel No. 603-783-8042
Cell No. 603-496-9797
Fax No. 603-369-4747

APPENDIX F

INSPECTION REPORT
FOR
THE CLEAN SOLUTIONTM



INSPECTION REPORT FOR THE CLEAN SOLUTION SYSTEM				CUSTOMER ID.		
Inspection Date:				Inspection by:		
The <i>CLEAN SOLUTION</i> Model:		System installed on:		System last inspected on:		
<input type="checkbox"/> R (Residential)		<input type="checkbox"/> RS (Residential Seasonal)		<input type="checkbox"/> RC (Residential Commercial)		
<input type="checkbox"/> C (Commercial Systems)		<input type="checkbox"/> CR (Commercial Restaurants)		<input type="checkbox"/> CC (Commercial campgrounds)		
Owners Information			Site Location Information			
Owners Name(s)			Street Address			
Street Address			City			
City			State			
State			Zip Code			
Zip Code						
Phone Number:			Summer Number:			
Cell Number:			Email:			
PUMPING INFORMATION						
System last pumped on:			System last pumped by			
Owner has records of pumping <input type="checkbox"/> Yes <input type="checkbox"/> No			Pumper onsite during inspection <input type="checkbox"/> Yes <input type="checkbox"/> No			
GENERAL INFORMATION						
Single Family Home <input type="checkbox"/> Yes <input type="checkbox"/> No		Number of bedrooms		Seasonal Use (months)		
Rental Property <input type="checkbox"/> Yes <input type="checkbox"/> No		Garbage Disposal <input type="checkbox"/> Yes <input type="checkbox"/> No		Water Softener <input type="checkbox"/> Yes <input type="checkbox"/> No		
Discharge to Septic System <input type="checkbox"/> Yes <input type="checkbox"/> No						
Septic Tank part of TCS system <input type="checkbox"/> Yes <input type="checkbox"/> No		Groundwater leaks <input type="checkbox"/> Yes <input type="checkbox"/> None Visible				
Septic Tank Inspected <input type="checkbox"/> Yes <input type="checkbox"/> No		Inlet Baffle in place <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Not Visible		
Access Covers to Grade <input type="checkbox"/> Yes <input type="checkbox"/> No		Outlet Baffle in place <input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Not Visible		
Dispersal Field Visual Inspection						
INSPECTION OF CLEAN SOLUTION SYSTEM						
Access Stacks		Accessible <input type="checkbox"/> Yes <input type="checkbox"/> No	Gaskets in place <input type="checkbox"/> Yes <input type="checkbox"/> No	Replacement gaskets needed <input type="checkbox"/> Yes <input type="checkbox"/> No		Groundwater Leaks <input type="checkbox"/> Yes <input type="checkbox"/> No
Notes:						
COMPRESSOR						
Air Compressor Model		Pressure -		Air flow at BioCon Tank: Good <input type="checkbox"/> Poor <input type="checkbox"/>		
				Filter: Replaced <input type="checkbox"/> Cleaned <input type="checkbox"/>		
Notes:						



INSPECTION REPORT FOR THE CLEAN SOLUTION SYSTEM	CUSTOMER ID.
--	---------------------

BIOCON CHAMBER

Dissolved Oxygen test -	Condition of Air Transfer system
--	----------------------------------

Media Type	Biofilm Color	Brown	Tan	Black	Gray	Odor
------------	---------------	-------	-----	-------	------	------

Sludge Buildup on media <input type="checkbox"/> Yes <input type="checkbox"/> No	Sludge Bulking surface <input type="checkbox"/> Yes <input type="checkbox"/> No	Pumping Required <input type="checkbox"/> Yes <input type="checkbox"/> No
---	--	--

Notes:

SETTLING CHAMBER

Thickness of sludge	Front Right/ Left Cor.	Sludge Bulking <input type="checkbox"/> Yes <input type="checkbox"/> No
	Rear Right/Left Cor.	Odor
	Center	Effluent Clarity

Notes:

PUMP CHAMBER

Separate Pump Station from Settling Tank: <input type="checkbox"/> Yes <input type="checkbox"/> No	Pump on/off Float Test On <input type="checkbox"/> Test Off <input type="checkbox"/>	Pump Alarm: Test On <input type="checkbox"/> Test Off <input type="checkbox"/>	Visible Groundwater Leaks <input type="checkbox"/> Yes <input type="checkbox"/> No
--	--	--	---

Electrical Disconnect	Pump Disconnect Test <input type="checkbox"/>	Alarm Disconnect Test <input type="checkbox"/>	
-----------------------	---	--	--

Notes:

REPAIRS MADE DURING INSPECTION

BioCon Chamber:	
Settling Chamber:	
Pump Chamber:	

RECOMMENDATIONS

Pump Septic Tank <input type="checkbox"/> Yes <input type="checkbox"/> No	Pump BioCon Chamber <input type="checkbox"/> Yes <input type="checkbox"/> No	Pump Settling Tank <input type="checkbox"/> Yes <input type="checkbox"/> No	Pump - Pump Chamber <input type="checkbox"/> Yes <input type="checkbox"/> No	Replace Air Compressor <input type="checkbox"/> Yes <input type="checkbox"/> No
--	---	--	---	--

OTHER:

NOTES



ADVANCED ONSITE SOLUTIONS LLC

PO Box 248
Canterbury, NH 03224
(603)-783-8042
Toll Free: (866) 900-2415

APPENDIX G

INSPECTION REPORT COVER SHEET

To be submitted to the State of Vermont

Revision 3 (12-30-2013)

Innovative/Alternative Maintenance and Inspection Report Coversheet*

***Field Inspection Report must be attached.**

Permit Number (WW# or EC#) <input type="checkbox"/> No Permit Number(exempt)	Lot ID	SPAN (if available)
Landowner		
Town		
Address (Site)		
Address (Mailing)		
I/A Technology	Model Number	
Date Inspected (mm-dd-yy)	<input type="checkbox"/> Start-up <input type="checkbox"/> 6 month <input type="checkbox"/> Annual <input type="checkbox"/> Other	
<input type="checkbox"/> Unit operational and meets vendor requirements. <input type="checkbox"/> Unit operational recommended work is preventative maintenance and is not urgent. <input type="checkbox"/> Unit operational but needs minor repairs. <input type="checkbox"/> Unit does not meet vendor requirements.		
Explain issues and corrective actions below or <input type="checkbox"/> See attached report <input type="checkbox"/> Effluent cloudy /pungent (check if applicable)		Recommended Due Date(s)

Vendor Approved Licensed Designer Service Provider

(Name) _____ Date _____

DWGWP Use Only: Annual inspection condition(s) satisfied: Year _____ Yes No

Action needed by: Check all that apply

- | | | | |
|-------------------------------------|--|---|--|
| <input type="checkbox"/> Landowner | <input type="checkbox"/> Vendor | <input type="checkbox"/> Service Provider | <input type="checkbox"/> Regional Office |
| <input type="checkbox"/> IA Manager | <input type="checkbox"/> Licensed Designer | <input type="checkbox"/> Compliance | <input type="checkbox"/> Enforcement |

Comments:

DWGWP Reviewer: _____ Date _____