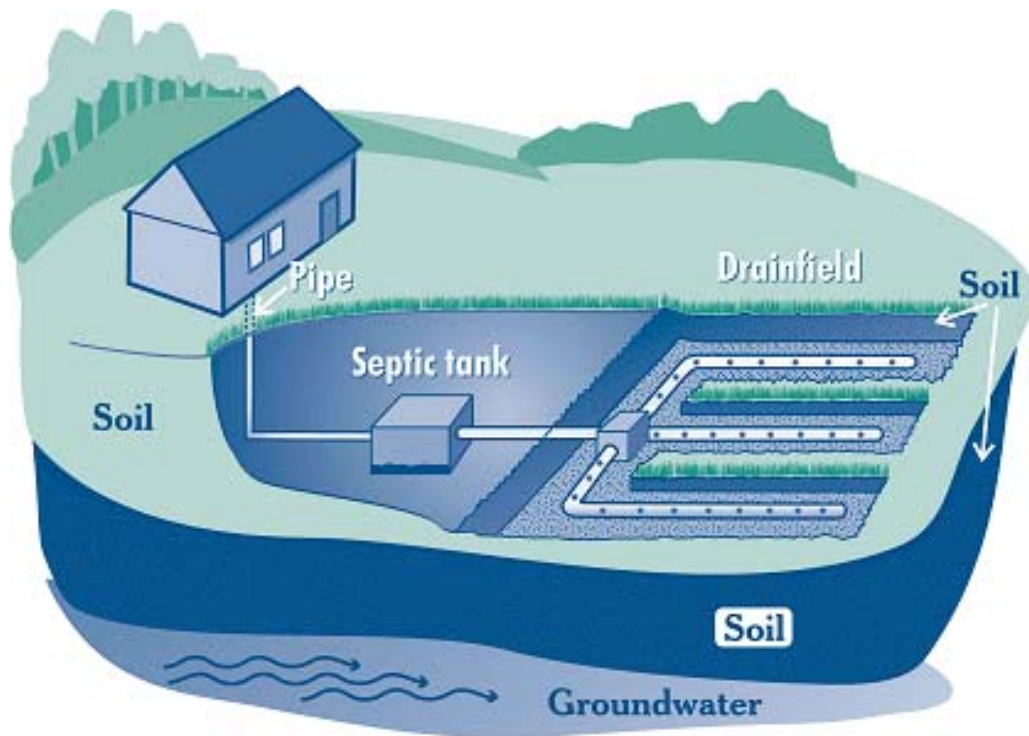


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Technical Guidance for Inspections of Onsite Wastewater Treatment and Disposal Systems



NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER QUALITY
BUREAU OF GROUND WATER, RESIDUALS, AND PERMIT ADMINISTRATION



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Foreword

This manual provides guidance to professionals who inspect septic systems during real estate transactions. Outlined in this manual is a thorough, professional procedure for conducting inspections of septic systems. This procedure includes discussion points on the evaluation of each component examined. By providing this guidance, the Department hopes to provide consistent information to homeowners, buyers, interested parties and regulatory agencies. With an unbiased and comprehensive evaluation of septic systems inspected using this procedure, the Department can also help to protect human health and the environment.

This document was created by a committee of onsite wastewater professionals. This committee contained various representatives of the onsite wastewater industry, including the New Jersey Department of Environmental Protection (Department), New Jersey licensed professional engineers, health department officials, inspectors, and septic pumpers.

The Department welcomes suggestions for improving its technical guidance products. Please direct your comments to the Bureau of Ground Water, Residuals, and Permit Administration at the address below.

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Acknowledgments

This document is based on the original New Jersey Septage Management Association (NJSMA) Standards, who collaborated with the New Jersey Department of Environmental Protection to produce this version. The NJSMA developed its original document based on a document developed by the Pennsylvania Septage Management Association (PSMA) with consideration to input by NJSMA certified onsite wastewater treatment system inspectors, and Rutgers Cooperative Extension. It is intended for use in the State of New Jersey. The source of the graphics used in this document is the United States Environmental Protection Agency (EPA).

The Department assembled an Onsite Wastewater Inspection Protocol Subcommittee to develop this document and the accompanying forms. The insight and expertise provided to develop the final guidelines was essential to creating an effective professional guideline for onsite system inspectors.

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Use of every part of these inspection guidelines is recommended for onsite system inspection for purposes of real estate transactions. These standards, in whole or in part, are also recommended for inspections conducted for other purposes.

Conventions

Bolded words call attention to important details.

Information in black boxes is of critical importance.

Accompanying this document are forms to be used in conjunction with these guidelines. The forms facilitate preliminary data gathering and recording of field observations. They are incorporated by reference. The Department may develop additional forms in the future for use with this guidance or for other purposes other than inspections conducted for real estate transactions.

Introduction

Onsite Wastewater Treatment and Disposal Systems are routinely inspected in New Jersey at the time of house sale. Inspection standards for the industry have been developed and embraced by the New Jersey Septage Management Association (NJSMA) based on the Pennsylvania Septage Management Association (PSMA) model. These Guidelines have been modified for use in New Jersey for onsite system inspectors. The NJDEP Inspection Form (attached) should only be used by qualified inspectors who have adequate training and experience in conducting the inspection. A list of inspectors who have voluntarily registered with the Department, including references to their experience, certifications and acknowledgement of the use of these Guidelines is maintained by the NJDEP. Applying the NJDEP Inspection Guidelines will enable a comprehensive, consistent and objective evaluation of the onsite wastewater treatment system.

The inspection leads to a report that provides the client with information about the type and condition of the onsite wastewater treatment system as observed at a specific date and time. Suggestions for additional testing or corrective actions regarding system components may also be in the report.

It should be every inspector's intent to provide as much unbiased information about the condition of the onsite system at the time of inspection so that the client can draw informed conclusions about the system. Inspectors must understand that they may not declare a system malfunctioning, failed or non-compliant. As defined in regulation, this responsibility lies solely with the local administrative authority (health department) or the Department, and does **not** include the onsite system inspector. The inspector should report any observed condition that may represent an indication of a malfunctioning system to the local health department within 24 hours of the observance as indicated in the conclusion section of these guidelines.

In this document these processes are referred to as a "NJDEP Inspection."

A NJDEP Inspection is:

- an objective evaluation of the onsite wastewater treatment system's characteristics based on the experience and expertise of a qualified inspector.
- an evaluation of each component examined leading to a conclusion about the system's condition as described later in these standards.

A NJDEP Inspection is not:

- a warranty or guarantee that the system will properly function for any period of time in the future.
- a result that is certified or endorsed by the State of New Jersey or its related regulatory or governing agencies.
- an assurance that the soil is adequately treating or will adequately treat effluent.

It is essential that these concepts be clearly stated in every report that is issued.

Major Components of Onsite Systems

In general, onsite systems include three components:

Treatment Tank

A treatment tank is a buried, watertight receptacle designed and constructed to receive wastewater from a building. Treatment tanks are designed to be either anaerobic (septic) or aerobic. The septic treatment tank's tranquil environment allows solids to separate from the liquids, provides limited digestion of organic matter, stores solids, and allows relatively clear effluent to discharge into the absorption area. The environment in an aerobic tank is not tranquil. Air may be forced into the effluent, or mechanical agitation devices, pumps or impellers constantly, or at timed intervals, mix the effluent. A properly working aerobic tank yields a more thoroughly treated effluent that is both clearer and has fewer odors.

Research has shown that multiple tanks or two compartment tanks are more effective in solids separation than a single tank with one compartment. If multiple tanks or a multi-compartment tank are encountered, **all tanks and compartments must be evaluated.**

Distribution System

The distribution system is the method by which effluent is conveyed from the treatment tank into the absorption area. The distribution may consist of a gravity delivery line to a distribution box, or to a tank with a lift or dosing pump, or to a siphon chamber. In the case of a cesspool system, there may be no distinct distribution system.

Absorption Area

This component is very important because it is the most expensive and most difficult component of an onsite system to correct. Absorption of the effluent into the soil is achieved through any one of the following:

- cesspools
- seepage pits
- absorption beds and trenches
- above grade mounds
- soil replacement systems

Except for cesspools, which are both treatment tanks and absorption areas, these are generally referred to as absorption areas. Inspectors should carefully determine the location, type, size and, if present, the liquid level within the absorption area. A completely saturated absorption area will accelerate organic clogging and could eventually result in an absorption area malfunction, but should not be described as unsatisfactory in the report.

In order to complete an inspection, the absorption areas MUST be located.

Sequence

Following all of the steps outlined herein, in order, is critical to the effective application of the standards when conducting an onsite system inspection. Sequence provides a uniform method of collecting information, which provides consistent inspection results between various inspectors and can be useful in cases where additional investigation is needed. However, since it is impossible to predict what can be present during any given inspection, if a deviation from the process is necessary to more thoroughly complete the inspection, that deviation should be noted in the report. The Inspection Form attached to this document contains the minimum information that should be identified during the inspection. It should be used in conjunction with these guidelines when completing an onsite system inspection.

Obtaining Authorization

It is recommended that a signed inspection authorization form be secured from the owner of the property or their authorized agent before gathering any information. See Appendix 1 for a sample authorization form.

NJ One Call

Contact NJ ONE CALL at 1-800-272-1000 to request that any utility lines be located at least 72 hours prior to the inspection. NOTE: This will not identify owner-installed utilities such as the onsite system or electric lines to pumps.

Gathering Preliminary Information Regarding the Subject System

General System Information

As much information as possible should be gathered in advance of a site visit. Any information not gathered in advance should be gathered at the site. Prior to the inspection, the inspector or his agent should review records from the local administrative authority regarding the system. Health departments should be contacted at least 48 hours, during normal working days, prior to the inspection to allow enough time to provide for this file review. If records are not available, a letter from the health department **or** a notation of the individual at the administrative authority, along with time and date, acknowledging that records do not exist for the facility, should be provided in the report form. Requirements or fees for requesting a file review may vary based on jurisdiction. The inspector should also ask if there are any filing fees required by ordinance associated with submitting the inspection form to the local administrative authority, as required. During this file review a site plan (8½" x 11" or 8½" x 14") with the location of the onsite system should be made for the report, if available.

Additionally, the following items should be addressed during the health department file review, requested from the homeowner prior to the inspection, and compared to the information gathered during the inspection.

1. Type and age of onsite system(s) being inspected.
2. Age of structure.
3. Number of bedrooms
4. If occupied, what is the current number of occupants? If vacant, how long? What is the expected number of occupants?
5. Is a garbage disposal in use?
6. Request a copy of the system permit or a site sketch from the owner.
7. Is there evidence of a sewage back-up in to the house?

If the structure has been unoccupied for more than one week, or the structure is subject to seasonal use or noncontinuous use, then in addition to the inspection, a Hydraulic Load Test should be conducted.

8. Is there a separate gray water system?
9. Is the washing machine drain line connected to the onsite wastewater treatment system?
11. Date of last treatment tank pumping? Frequency of treatment tank pumping?
12. What commercial or high water use activities or hobbies take place in the structure?
13. What prior repairs were made or problems encountered?
14. Are there any sump pump discharges to the system?
15. Are there any sewage discharges that bypass the system?
16. Has an inspection been conducted on the system previously? Date and results of last inspection?
17. Location information regarding the subject property should be obtained at this point. Be sure to collect municipality information (see a listing of municipalities at <http://www.state.nj.us/health/lh/directory/lhdselectcounty.htm>), Tax map Block and Lot information and provide any available coordinate data (GPS, lat./long., etc.).

Procedures for Conducting the Field Investigation

Inspections conducted when the subject property has been impacted by precipitation events, including but not limited to; rainfall; snow melting; or when the ground is snow covered, the inspection results must specifically identify the encountered condition and discuss the relationship of precipitation to the results of the inspection.

General

The field portion of a NJDEP onsite system inspection should be conducted in the following sequence. At all times the technician's personal safety, as well as protection of the environment and the client, shall receive the highest priority.

1. Note the weather at the time of inspection.
2. During the site visit, walk the entire house looking for unexpected fixtures, plumbing or discharges and exterior property looking for lush vegetation or discharges on or through any of the following: the surface of the ground, streams, road ditches, storm drains or unexpected pipes.
3. Note if trees, shrubs, their roots or any other landscaping features have been located above any system component or within ten (10) feet of the absorption area that could possibly create a negative impact the system.
4. Create a site sketch. Be sure to indicate distances of the treatment tank lid from two fixed points so that it will be easy to relocate the lid in the future. Do this for a distribution box as well if one has been located and accessed.
5. Be alert for above-grade evidence of a well. If a well is observed, note its location in the field notes and on the site sketch.
6. Compare the information gathered onsite to the information gathered previously and note any discrepancies.
7. Locate and gain access to the treatment tank(s), either initially or as indicated below and determine their composition. Check for infiltration of surface water into all tanks. Then locate the other system components.
8. A list of all subcontractors used during the inspection should be provided in, or as an attachment to, the report form.

Inspection of the Internal Plumbing

By providing an inspection of the internal plumbing, the inspector can obtain valuable information regarding where the building sewer discharges to the treatment tanks and can aid in the identification of the presence of multiple systems. This is especially important in confirming if the laundry facilities discharge to the septic system or to a separate system. Although this part of the inspection is significantly limited to where the plumbing is exposed, as in the case of unfinished basements, it should be attempted at dwellings with finished basements and elevated crawl spaces. However, due to interior finishes or impeded access, an inspector may elect to waive this portion of the inspection in dwellings with finished basements or crawl spaces with a notation in the report as to the conditions of why the inspection was not completed. If the inspection involves a dwelling on a slab foundation, this portion of the inspection may not be practical and may be waived by the inspector.

Minimum Inspection Criteria

1. Review the existing septic system location documents. Confirm the number, size and general exit point(s) of the waste lines consistency with the system location documents and note any deviations.
2. Observe the general location of the plumbing fixtures within the dwelling to be reasonably sure you have determined that all waste line exit points and interior plumbing fixtures are reasonably accommodated. Discharge of a particular fixture may aid waste line identification during this procedure.
3. Observe the general condition and materials of waste piping, specifically within the stack. Differences in piping materials may be indicative of plumbing alterations necessitated by septic system failures. For example, a capped line that previously accepted the washing machine discharges.
4. Determine if any particular fixture can not reasonably be piped to the observed exit point. If any exist, dye should be used to confirm the discharge point for that fixture. Observation of the effluent within the first septic system component should occur to confirm the colored discharge. If the colored discharge is not observed, further investigation of the discharge point is required and shall be noted as such.
5. Determine if a sump pump services the residence. If one exists, confirm the discharge point of the sump is separate from the domestic waste lines and that the domestic waste is not directed to this equipment.

Treatment Tanks

General

Generally, tanks should not be entered, as they are hazardous environments. If entry is required, appropriate safety measures and equipment consistent with OSHA requirements must be employed.

During the initial investigation to locate the treatment tank, be careful to avoid damage to the tank and any Aerobic Tank buried electrical wires. The inlet and outlet baffles should be thoroughly inspected; however, the inlet and outlet baffles are somewhat susceptible to damage and must be treated with caution. The baffles help protect the absorption area from solids carryover. If deteriorated or missing, they should be repaired or replaced and the client should be notified of the potential problems associated with the ability of increased solids being allowed to enter the absorption area.

Treatment tanks are generally comprised of one of three different materials and you should inform the client directly of the material of the tank. Concrete tanks are generally sound as compared to tanks of other materials. Metal treatment tanks have an average life expectancy of 20 to 25 years. Plastic or fiberglass tanks resist deterioration; however, they are susceptible to puncture by a probe rod. Extreme care should be used during the initial probing when locating tanks of this nature.

Minimum Inspection Criteria

1. A satisfactory liquid level occurs when the liquid level is below the inlet invert and equal to the height of the outlet invert. If a treatment tank is overfull, you should determine whether the problem is in the distribution system or in the absorption area.
2. Scum thickness and sludge depth should be evaluated through the main access port by using a Sludge Judge, Sludge Stick or similar device.

Do not pump any treatment tank until the absorption area has been investigated and should proceed at this point. The decision of when to pump a treatment tank is based on the absorption area's condition. These criteria determine when to pump the treatment tank(s):

- If the aggregate in the absorption area is fully saturated, **do not pump the treatment tanks. It is important to leave the existing system alone so that the results can be field verified if necessary.**
- If the water level in the tank is above the outlet invert and the liquid level is less than the full depth of the aggregate, investigate cause of blockage.
- If the operating level in the tank is normal and the aggregate is free of liquid or the liquid level is less than the full depth of the aggregate, pump all tanks.

3. Pump all treatment tanks and compartments using the main access (largest opening) for cleaning, if accessible. Inspection ports should not be used for pumping. Septage should be removed, at a minimum, to within two inches of the tank bottom. Identify on the report and notify the client when sewage flows into the tank from the drainage area or if any defective septic system components are observed.
4. As each tank is pumped, look for inflow, cracks, holes and deficiencies that are hidden below the surface, including the tank bottom, and describe any of these in detail in the report.
5. Verify that all fixtures' discharges are entering the treatment tank.
6. Flush every toilet in the structure at least once. Use the observation port over the inlet or main access to note changes in treatment tank's liquid level (or observe backup conditions).
7. Check for continuous flow through the building sewer and into the treatment tank.
8. Insert a mirror on a 45-degree angle through the main manhole and inspect the underneath side of the tank top while shining a flashlight on the mirror. Determine the treatment tank's construction, composition (material), and condition of the tank, the baffles, and the cover. Determine the tank's capacity. Do this for every tank in the system.
9. Determine whether or not the tank is deteriorating and in need of replacement.
10. Check the baffles in every compartment by inspecting them directly through the inspection ports, or by using a mirror and flashlight through the main access port of the treatment tank. In the case of an aerobic treatment tank, the electrical and mechanical operation of the pumps and compressors should be checked by observing them in operation. If you are not familiar with these tanks, contact someone who is.

No NJDEP Inspection is complete until every tank is pumped and its condition evaluated.

Holding Tanks

General

Since 1990, holding tanks are generally prohibited by New Jersey regulation, unless a sewer connection will be available within 180 days of the tank installation as approved by the administrative authority or the system has received a Treatment Works Approval (TWA) issued by the Department. All holding tank systems, including those approved by a local administrative authority prior to 1990 systems should be evaluated using the following minimum steps:

1. Check to see if the holding tank has audible and visual alarms. The Department recommends that all holding tanks have these types of alarms. These alarms should be installed so they activate when the material in the tank has reached 75% of the tank's capacity.
2. Determine the tank's capacity. The Department recommends that holding tanks have a capacity of a minimum of three days' design flow (as determined by the criteria in Appendix 7) or 1,000 gallons, whichever is greater.
3. Measure and record the liquid level; then pump all tanks and compartments. As each tank compartment is pumped, look for inflow, cracks, holes and deficiencies that were previously hidden below the liquid surface.
4. Determine the tank does not leak and is watertight.
5. Inform client of the increase in frequency of pumping and their financial responsibility for ongoing maintenance of that service.

Dosing and Lift Pumps and Tanks and Siphon Tanks

General

Dosing and lift pump tanks and siphon tanks should be inspected for physical integrity, just as treatment tanks are inspected. Dosing and lift tanks house a pump which either simply transports (lifts) the effluent to another elevation or delivers a specific volume of effluent to a pressure distribution system at a specific pressure. Siphon tanks contain a proprietary device that operates on atmospheric pressure, and at a factory set "trigger depth," the accumulated effluent is moved downhill under pressure.

Minimum Inspection Criteria

1. Always check the absorption area before turning on either a lift or dosing pump; however, if the pump has recently been activated, finish all aspects of the inspection before checking the water level in the absorption area.
2. Check the condition and soundness of all pump and siphon tanks, using the tank inspection procedures described previously, including the alarm system.
3. If the system has a pump or pumps, verify the operation of every pump and its control system. Use a rake, hoe or similar device to elevate the appropriate float and activate the various components.
4. Visually inspect exposed electrical cables, junction boxes, etc. Do NOT touch any electrical wires or components unless you have PERSONALLY de-energized the circuit. Verify that the alarm and pump are on separate circuits.
5. Verify that all pumps are resting on a concrete block and elevated above the tank bottom. Pumps should not be suspended.

6. For siphon pressurized systems, open the observation port and check for continuous trickling. Run sufficient water into the siphon tank to cause the siphon to cycle, and watch for proper operation.
7. Measure and record the liquid level; then pump all pump tanks using the main access (largest opening) for cleaning, if accessible. Septage should be removed, at a minimum, to within two inches of the pump tank bottom. As each tank is pumped, look for inflow, cracks, holes and deficiencies, including the tank bottom.

Effluent Delivery and Distribution Systems

General

Effluent is conveyed to the absorption area through solid rigid pipe in a manner that will provide for equal distribution of the effluent through the absorption area. Effluent may be moved by gravity or by pump. Systems installed since the 70's have used thin wall plastic pipe as the material of choice. When the effluent delivery line passes under areas subject to heavy loads (driveways), it is common to either use a heavier grade of pipe (schedule 80) or encase the effluent delivery line in a larger diameter heavier grade pipe.

Effluent delivery systems may include a lift pump. In these situations, the absorption area is at a higher elevation than the treatment tank. Lift pumps are sized to overcome the friction in the pipes and the effects of gravity. These forces are called "head." Unlike a dosing pump, there is no required minimum head at the terminal end.

Gravity systems

In gravity systems, the effluent should be distributed either to a number of trenches or through several interconnected lines in an absorption bed. A distribution box (D-Box) is a small, usually concrete, container that most often receives effluent from a connecting pipe. Lift pumps can also discharge effluent to a D-Box.

The D-Box has one inlet and several outlet ports. The outlets are at least one inch below the inlet's elevation. A variety of devices can be used to fine-tune the effective outlet elevations so that all lines receive an equal volume of effluent. A D-Box MUST be used to divide the flows in ALL gravity trench systems.

A D-Box may be used to divide the flows to the laterals in a bed system. The D-Box should not be inside a trench, however, it may be found either outside or within the bed area. When found, the location of the D-Box should always be noted.

Pressure systems

Pressure distribution systems use a pump to assure equal distribution of the effluent across an entire absorption area or system. In a pressurized distribution system, a pump delivers effluent to a manifold, which in turn supplies a series of somewhat smaller diameter laterals. Pressure distribution may be encountered in all system types.

Minimum Inspection Criteria

1. Distribution systems are checked by examining the treatment tank's outlet. If the liquid level is above the lowest point of the outlet of the treatment tank, further investigation is needed to locate and evaluate the cause of this condition.
2. If a D-Box is found and exposed, it should be evaluated; if a D-Box is not found, the absorption area investigation should proceed. However, if known to exist, the location of the D-Box should eventually be established on the site sketch or a notation that further investigation would be needed in order to locate the D-Box.
3. When a D-box is located and exposed, check for the presence of solids. All solids should be removed from a D-box, if present, and a notation of their presence should be noted. The structural integrity of the D-box should then be evaluated for any significant defects or deterioration. D-boxes must be watertight and not leak effluent or have exterior leakage into the component. Make sure the D-box is level and/or that effluent is equally distributed to the laterals.

Absorption Area Types, Sizes, and Conditions - Subsurface Systems Overview

The absorption area is the most critical component of an onsite system.

No system report should be issued (other than "more investigation necessary") if this If the inspector observes or has reason to believe that the system is discharging directly to the surface of the ground, or to the surface or ground waters of the State of New Jersey, such conditions shall be noted and the system shall be described as unsatisfactory.

Cesspool or Seepage Pit

General

Cesspools and seepage pit systems that receive blackwater no longer meet current regulatory code for new construction, however these systems may continue to exist if they are operating as designed. Seepage pit systems that receive greywater only are currently permitted for existing and new systems. Cesspools receive all of the structure's flows directly (solids and liquids); seepage pits are preceded by a treatment tank where the solids are separated from the liquids. Any cesspool system that has malfunctioned, as declared by an authorized administrative authority (health department), must be (or have been) upgraded.

Minimum Inspection Criteria

1. Determine the structure's capacity; then measure the distance from the water level to the bottom of the inlet pipe. For seepage pit systems, if liquid is at or above the inlet invert, the high water condition SHOULD be noted. For cesspool systems, if liquid is at or above the inlet invert (i.e., the building sewer), the system is unsatisfactory and the observed non-compliance requirements shall be met.
2. Determine daily flow using N.J.A.C. 7:9A Standards. (see Appendix 7)
3. Determine the available storage capacity in the seepage pit or cesspool below the bottom of the inlet pipe.
4. Determine if there is capacity for one day's flow. Confirm there is at least one day's storage capacity available below the bottom of the inlet pipe to the seepage pit or

cesspool. If there is less than one day's capacity, the high water condition should be noted.

5. Evaluate the liquid, scum and sludge levels; then pump the cesspool or seepage pit. Look for deficiencies and excessive inflow.
6. If a system has both a cesspool and an absorption area, evaluate each component separately. Inlet and outlet baffles to the cesspool are not required, however if there is an additional drainage system, outlet baffles to that system are recommended.

Subsurface Bed or Trench Systems

General

Seepage beds are usually rectangular excavations that are partially filled with aggregate in which a network of perforated pipes distributes the effluent throughout the bed area.

Trenches are long, narrow rectangles from 1.5 to 3 feet wide. Trenches are usually of equal length, partially filled with aggregate, in which a perforated pipe distributes the effluent throughout the length of the trench. Effluent is delivered to the trenches either under pressure (pump or siphon delivery) or by gravity.

Serial distribution, which has not been allowed for new construction projects since 1990, directs all the effluent to a series of trenches that are "stepped down" a sloped site. After the first trench fills, the effluent "overflows" into the second; when it fills, the effluent again overflows into the next lower trench, and on. Gravity supplied trenches receive effluent from a common distribution box (D-Box). All trenches should receive an equal volume of effluent and their individual conditions should be similar. If not, further investigation is necessary.

Cover over the aggregate material may vary greatly. After final approval, additional fill and surface grading may take place, consequently, the absorption area may be at a greater depth than anticipated.

Above-grade systems: Mounded and Mounded Soil Replacement Systems

A Mounded System or a Mounded Soil Replacement System is usually a bed type distribution system built on top of suitable fill material. In both systems, the fill provides both a level surface upon which the aggregate is placed and a porous filtering material for effluent renovation. In both systems, fill and aggregate are contained within a berm of suitable soil and the aggregate is above the site's preconstruction grade. In both systems, the cover over the aggregate is graded to direct precipitation away from the mound.

In Mounded Systems, the entire system, fill, aggregate, and cover are all placed on the site's original soil. In a Mounded Soil Replacement System, a portion of the original site is excavated and backfilled with suitable fill which extends above the original grade. The fill is leveled and the system built upon that suitable fill material.

In all of these absorption areas, a piping system distributes the effluent throughout the aggregate. These systems may distribute the effluent either by gravity or under pressure using either pump or siphon delivery.

The berm supports the aggregate and suitable fill; it also contains the effluent and directs its downward movement (vertical and/or downslope) within the berm footprint.

Soil Replacement Systems: Bottom Lined and Fill-Enclosed Systems

There are two variations of the soil replacement system. Both rely on a trench or bed absorption area that is installed on suitable fill material. For both, the soil cover depth varies greatly.

In the Bottom Lined Systems, the area directly under the aggregate is excavated, then filled with suitable fill material that is leveled. The aggregate is placed on the fill's level surface. Although called a "lined" system, there is no enclosing impervious layer installed in this system.

In the Fill-Enclosed System, an area that is larger (longer and wider) than the aggregate footprint is excavated, then filled with suitable fill material that is leveled. The aggregate is placed on the fill's level surface. The suitable fill material that extends beyond the aggregate footprint is brought up to the same elevation as the aggregate's finished grade.

Interceptor Drains

On sites where a perched zone of saturation has been identified, an interceptor drain may be utilized to capture and move subsurface water (perched groundwater) around the system. These drains typically resemble a "squared U" where the closed bottom is upslope and parallel to the longest dimension of the absorption area. The ends of the U will extend downslope some distance below the lower sides of the absorption area and will be brought to the ground's surface.

Do not mistake these drains as a source of surfacing effluent as their intended purpose is to move and discharge ground water.

Minimum Inspection Criteria for all Subsurface Bed or Trench Systems

1. Determine the type, location and approximate size of the absorption area.
2. Determine if there is standing liquid in the absorption area by probing or other means available. If so, measure the depth of the effluent throughout the absorption area. Measure the difference between the liquid's depth and the invert of the laterals at the D-Box/manifold or the base of a lateral as best determined by the inspector. This depth (distance) is called the "dry aggregate." Do not use inspection ports for this evaluation. If inspection ports are present, make a note of their presence, locate them on the site sketch and provide liquid levels below the ground surface in the report (in inches). However, a sufficient number of probes should be made in each absorption area by the inspector to make a complete absorption area evaluation.

If there are six or more inches dry aggregate below the invert of the laterals, the absorption area is satisfactory. If there are less than six inches of dry aggregate, the high water condition should be noted.

3. When liquid is present in an absorption area, it should be of an equal depth and evenly distributed throughout the entire bed. If it is not, further investigation is necessary. Possibilities include, but are not limited to:
 - The bed may not have been excavated with a level bottom.
 - Sludge may be clogging the aggregate or soil interface.

- A pipe may be crushed, clogged, broken; or
- The D-Box was not properly installed or has settled out of level.

Minimum Additional Inspection Criteria for Trench Systems

1. In serial distribution systems, if a lower trench is full but higher trenches are not, further investigation is necessary.
2. In gravity supplied trenches, check to make sure the trenches receive effluent equally from the D-Box and the subsurface conditions encountered during probing should be similar. If not, further investigation is necessary.

Minimum Additional Inspection Criteria for Mounded Systems

1. Probe the aggregate in either of these mound systems in the manner described above. Note if standing liquid is present. The condition determination is the same for these systems as subsurface systems. In New Jersey, the presence of effluent in the suitable fill is not an unsatisfactory indication. If the fill is saturated, the system is described as satisfactory. As stated previously, do not use inspection ports for this evaluation. If inspection ports are present, make a note of their presence, locate them on the site sketch and provide liquid levels in the report, however at least one separate probe in the absorption area should be completed to make the overall system evaluation.
2. Examine the mound for:
 - Leakage on the top, side slopes, and toes
 - Sufficient depth of soil cover at the top edges
 - Animal burrows, deeply rooted vegetation and erosion

For all systems:

If the absorption area is completely saturated, do not pump the treatment tank.

If the aggregate is saturated to its entire depth, do not conduct a hydraulic load test.

NOTE: If the absorption area is satisfactory and the treatment tank access has not yet been exposed, access should now be achieved and all steps in Treatment Tank Procedures (above) should now be completed or performed.

The probing and effluent level exploration process is the same for all systems, including Infiltrator® and similar gravel alternative systems. Serial distribution systems should not experience liquid in the lower trenches while there are unsaturated upper trenches. Regardless of system type, careful notetaking is necessary.

In New Jersey, absorption areas can be either fully above, fully below or partially above and below the site's prevailing grade.

The Hydraulic Load Test

A hydraulic load test is a method to evaluate a disposal area by adding clean water to the system and observing what happens to the water levels beneath the disposal area. The inspector may

recommend that a hydraulic load test be conducted to determine if the system is properly functioning when any of the following observations are made:

1. High water condition
2. Structure vacant for more than 7 days
3. New water sources directed to the system within last 30 days
4. Soil fracturing activity within last 30 days
5. There is less than 24 hours storage capacity in a cesspool or seepage pit
6. Evidence that the treatment tank has been recently pumped
7. There is a significant difference in the current water use in a structure compared to the anticipated use of the structure

When a hydraulic load test is recommended to a client, the inspector should describe why the recommendation is being made and what the test will entail by detailing the procedures and the possible results of the test. The client may elect not to proceed with the test, but the inspector should secure a signed release from the client acknowledging that the test was recommended, but refused prior to the release of the report to the client or their representatives. Any notification to the administrative authority should be completed as indicated. If the test is refused, the concerns should be outlined on the final report. However, any refusal should not be construed as an incomplete inspection. The client may simply not wish to pursue with a home sale if the indicated problems or any other problems encountered are outside their expectations of negotiation. Alternatively, the client may wish to proceed with negotiations without knowing the full extent of the liability.

Appendix 5 provides a hydraulic load test example that will satisfy the conditions of an inspection. To be considered a NJDEP Inspection, any hydraulic load test which does not follow the methodology in Appendix 5 should be designed and sealed by a New Jersey Licensed Professional Engineer. The test should thoroughly evaluate how liquid levels in a disposal area react to an appropriate volume of introduced clean water.

Accessory Components

Any accessory component of the system, which can range from items such as an effluent filter to an aerobic treatment unit that was installed in addition to an otherwise conforming system, should be noted on the form. By definition, an accessory component is something added to a system, which does not otherwise affect the system's operation as a conventional disposal system. These accessory components should only be inspected by an inspector that is familiar with that specific type of component.

Alternative or Innovative Technologies

Any system using alternative technologies or innovative technologies as part of the system may only be inspected by personnel trained or otherwise familiar with the specific technology present. Many systems that are approved for use in New Jersey are required to have inspection forms and protocols available through the manufacturer. Those forms and protocols should be obtained prior to the inspection. Many systems using these technologies are required to maintain service contracts for the systems. A review of the homeowner's service records, contacting the maintenance provider and the manufacturer of the equipment should all be made part of the

inspection. An estimate of the annual cost of operating the system and maintenance agreements should be included in the report.

Preparing the Inspection Form and Report

Reaching Conclusions about the System

The following sections present decision points that will enable the inspector to draw conclusions regarding the system under investigation. There are four potential conclusions:

- More investigation is necessary to reach a conclusion
- Satisfactory
- Satisfactory with concerns
- Unsatisfactory

In addition to these conclusions that could apply to all components, one conclusion may apply solely to the absorption area:

- Water level less than six inches below the invert of the laterals or high water condition

If this condition is observed, regulations prohibit concluding that the observed water levels above the invert elevation of the laterals are a manifestation of failure. For further guidance regarding this observation, review the “Concerns” section below.

If the high water condition is noted, the inspector should explain the significance of this condition and may recommend a hydraulic load test, which is a valuable tool in assessing the significance of the high water condition.

Any concern or unsatisfactory conclusion reached regarding an onsite system that requires further action must be resolved or negotiated between the buyer and seller. It is not the responsibility of the local administrative authority or NJDEP to resolve the financial or legal responsibility of resolving these items of concern.

In addition to the above conclusions, certain unsatisfactory observations should be reported to the local health department within 24 hours of the inspection. These observations include:

- Ponding or breakout of sewage or effluent onto the surface of the ground.
- Seepage of sewage or effluent into portions of buildings below ground.
- Backup of sewage into the building served which is not caused by a physical blockage of the internal plumbing.
- Any manner of leakage observed from or into septic tanks, connecting pipes, distribution boxes and other components that are not designed to emit sewage or effluent.

These factors and thorough site notes enable a conclusion about every component in the system.

If a component is found to be unsatisfactory, the system is unsatisfactory until the component is repaired or replaced.

More Investigation

Reasons for additional investigation and further evaluation can include, but are not limited to:

- Absorption area can't be located with tools on-hand. The absorption area MUST be located and investigated in an NJDEP Inspection
- Pump discharge is inadequate
- Less than 24 hours volume capacity in cesspool or seepage pit (note the high water condition)
- Structure vacant more than 7 days (conduct a hydraulic load test)
- Unequal distribution within absorption area (find distribution box)
- Overfull treatment tank (liquid level above inlet) when the absorption area is satisfactory
- Signs of previous unsatisfactory performance, including:
 - stains in soils adjacent to treatment tanks, on surface, etc.
 - stains or water level marks on treatment tank walls; debris on tank ceiling
 - stains at top of aggregate
 - sludge in aggregate
- Deterioration of concrete components
- New gray water sources directed to the system within last 30 days (note the high water condition)
- Soil fracturing activity within last 180 days
- Lush vegetation at or near the absorption area
- Unexplained pipe to stream, road ditch, storm sewer, etc.
- System has no discoverable absorption area; additional exploration is required to locate it
- If there is less than six inches of dry aggregate below the invert of the laterals, note the high water condition
- Signs of a second or separate gray water disposal system that was not inspected
- Septage odors emitted from discharges of interceptor drains or basement sump pumps
- D-box could not be located

Concerns

These factors are worthy of note when determining a satisfactory system. They should be included in the Inspection Report and brought to the client's attention.

The client should draw their own conclusions regarding the effect these factors may or may not have on the system under investigation.

- High water condition was observed. This observation of water within six-inches below the inlet elevation of the laterals is an indication of impeded drainage within the disposal area.

The closer the water levels approach the laterals, or encompasses them, the more substantial the concern. While this observation is not a failure, it is an indication that the system may be nearing the end of its serviceable life and may require corrective measures in the near future. The current or future homeowner may wish to conduct water use monitoring, reduce water use and/or find a physical remedy to correct the condition.

- Solids level above 1/3 of tank's liquid capacity
- No/low levels of solids with no record of recent pumping.
- System age
- Systems with poor/no maintenance history
- Access ports greater than 12" below the finished grade
- Sludge level in pump tanks within three inches of the pump inlet
- Soil fracturing or chemical injection has been used to remediate the septic system regardless of the results of a hydraulic load test. These remedies are temporary in nature and indicate potential problems with the continued operation of the system
- Cesspools or seepage pit systems passed hydraulic load test but has less than one day's storage available.
- Number of bedrooms in the administrative authority approval that was the basis for the system design and approval is less than the number of bedrooms present or being represented as readily available to the inspector
- Constant flow through building sewer from structure served regardless of satisfactory condition of the balance of system
- Indirect sump pump, footer drains, roof and downspout discharges to the surface areas where the onsite wastewater treatment system is located

Unsatisfactory

Reasons for concluding a system is unsatisfactory include, but are not limited to:

- Ponding or breakout of sewage or effluent onto the surface of the ground.
- Seepage of sewage or effluent into portions of buildings below ground.
- Backup of sewage into the building served which is not caused by a physical blockage of the internal plumbing.
- Leakage into tanks, access or observation ports, or leakage from any component which was not designed to leak (such as an absorption area) into the environment
- Treatment tank baffles are damaged or missing
- Physically deteriorated components (concrete or metal tanks, etc.)
- Clogged or broken effluent delivery lines or other pipes
- Non-functioning electrical component (aerobic device, pump, controls, alarms, etc.)

- Effluent or gray water on the surface of the ground or observed to be discharging to the waters of New Jersey
- Any sewage or effluent entering the structure (through pipes or seepage through the wall)
- A well is present in the absorption area, or any direct discharge of effluent or sewage to a well, bore hole, natural or man-made cavern or cavity, or sink hole is observed
- Direct sump pump, footer drains, roof and downspout discharges to the onsite wastewater treatment system
- Plumbing fixtures were dye tested and ultimate disposal location could not be determined.

Corrective Measures

Potential corrective measures that may be negotiated between the buyer and seller if agreed upon include, but are not limited to:

- Replace or repair tanks, baffles, pipes, etc.
- Repair or replace electrical components (lift or dosing pump, alarms or controls)
- Repair or replace aerobic treatment units, filters, etc.
- Install a new absorption area
- Eliminate points of infiltration
- Install water conservation devices
- Evaluate existing water use data, if available, and compare to existing design flow and projected future use.
- Reduce loading to the disposal area by:
 - Relocating illicitly connected discharges to acceptable locations (i.e., sump pumps, downspouts, etc.)
 - Check for backwash or water treatment discharges and redirect to separate greywater or seepage pit disposal systems.
 - Install water saving devices

The client should be cautioned and instructed to contact the administrative authority for guidance regarding the permit application process, parts replacement or repairs. Following completion of repairs, inspectors should verify that the concerns or unsatisfactory conditions were corrected and summarily documented.

Notes on Completing the Inspection Form

The inspection report may be the completed Inspection Form. No additional written document is required regarding the system's condition, but is recommended in order to clarify the issues surrounding any concerns or unsatisfactory conditions. The form provides the client with information regarding the type and overall condition of the system, a statement of any problem(s) found, and suggested corrective measures. All inspection reports and forms should be prepared, signed and dated by the inspector that conducted the field investigation.

Based on your notes, create a site sketch. Be sure to indicate distances to the treatment tank lid and D-box (if located and accessed) from two fixed and permanent points so that it will be easy to relocate the system's components in the future. The client should be notified that the site sketch is approximate and for reference only. The sketch can not serve as an engineered or surveyed plan as a basis for future site work (such as installing additional utilities or expanding the building structure).

Based on your notes regarding the treatment tank, distribution system, absorption area, pumps and electrical components determine a condition for each component. Select from:

- **Satisfactory**
- **Satisfactory with concerns**
- **Unsatisfactory**
- **Condition cannot be determined; additional investigation is needed**
- **Not Applicable (N/A) – the component does not exist in the inspected system**

The report should indicate the condition of each component. If more investigation is needed, indicate the component to be investigated, the nature of the investigation to be undertaken and an estimated cost.

A copy of the inspection form should be provided to the administrative authority having jurisdiction over the onsite wastewater disposal system within 10 days of the inspection. If a condition is observed that requires immediate attention of the administrative authority, notification of the observation should be provided within 24 hours of the inspection. Although you may wish to include any additional reporting information for clarification purposes, it is not required.

Appendix 1 - Sample Inspection Authorization Form

On your company letterhead

XYZ Inspection Services Company
123 Anywhere Road
Yourtown, NJ

Re:

Client name	Property owner
Client mailing address	Property address
City, St., Zip	City, St., Zip
	Directions to property

Sir/Madam:

Authorization

In regard to the above described property, the signature below authorizes and this letter instructs the above named Company to undertake and perform the following: [Include only those that are applicable, or provide a comprehensive list with an X or client's initials for each selected item.]

- enter the property described
- inspect and report on the onsite wastewater treatment system, which includes pumping of all tanks
- contact/interview local officials to review environmental and construction records
- contact/interview previous inspectors
- contact/interview maintenance providers which have worked on the property

Professional Fee

I understand the fee for the services indicated is: \$_____, which includes up to ____ hours of inspection activities by an inspector. Due to unforeseen circumstances, additional work may be required to complete the inspection. The Company will advise the undersigned of the estimated additional costs before proceeding. Terms of payment are _____.

Performance Standards

The work will be performed in a good and professional manner by the Company in accordance with applicable current onsite wastewater treatment system Inspection Standards (Standards) adopted by the New Jersey Department of Environmental Protection.

Report is Not a Warranty

The undersigned understands and acknowledges there are numerous factors, which affect the installation, operation and maintenance of onsite wastewater treatment systems. The inspection and the Inspection Report to be issued shall not and will not constitute, and shall not be construed by the undersigned, as a warranty by the Company that the system will function properly for any period of time or for any particular loading or usage. The undersigned understands and acknowledges that the Report will present conditions observed on the date and

at the time of inspection. The undersigned will not represent the report as a warranty to third parties.

Disclosure of Report and Findings

The Company is authorized to disclose the results of the inspection and any and all records relating to the system’s installation, repair or maintenance history to (if no one, indicate no one):

At a minimum, a copy of this report should be filed with the local administrative authority (health department) within 10 days of the date of the inspection. If any condition is observed during the inspection requiring a 24-hour notification to the local administrative authority, that notification will be made as required by the inspector. If any other applicable law, regulation or ordinance requires that the report be filed with or submitted to a state or local agency, or other person, the undersigned acknowledges and agrees that the undersigned property owner or agent shall make such a submittal, and if the requirement to file such report rests upon the inspector, the undersigned agrees that such submittal shall be made.

Accepted and agreed to this date ___/___/___

By _____

Property Owner/Owner’s agent

Optional elements you may want to include:

- Name of a company representative that the client can contact
- Preliminary Information Form for the client to complete
- A breakdown of the buyer’s and seller’s obligations (costs)

Appendix 2 - Sample Inspection Report Letter (Recommended)

On Your Company Letterhead

Date

Name

Street Number

City, State, and Zip

Re: Onsite Wastewater Treatment System
(Site address if other than above)

Dear (client's name):

As requested, this company inspected the onsite wastewater treatment system at the above address on (date). This letter provides you with a report of the inspection. Based on the preliminary information you provided and the field inspection,

(Satisfactory)

We found the onsite wastewater treatment system to be in a satisfactory condition on the date it was inspected.

(Satisfactory with Concerns)

We found the onsite wastewater treatment and disposal system to be satisfactory on the date it was inspected. However, there are some items about which we have concerns. They are:

(List concerns)

(More investigation needed)

We are unable to verify that the onsite wastewater treatment and disposal system is presently in satisfactory working condition for the following reasons:

(List reasons)

(High water indications)

Standing liquid in the absorption area was observed within six inches below the inlet invert of the laterals. The NJDEP “doesn’t recommend concluding that observed water levels above the invert elevation of the laterals are a manifestation of failure.” This observation of water within six-inches below the inlet elevation of the laterals is an indication of impeded drainage. The closer the water levels approach the laterals, or encompasses them, the more substantial the concern. The current or future homeowner may wish to conduct water use monitoring and/or reduced water use. While this observation is not a failure, it is an indication that the system may be nearing the end of its serviceable life and may require corrective measures in the near future.

(Unsatisfactory)

Corrective measures are required to bring the system into satisfactory condition. Some or all of the suggested activities may require a permit from the local agency administrative authority or

health department. The administrative authority must be contacted and his regulatory guidance sought before undertaking any of these activities.

(Hydraulic Load Test)

A condition resulting in the recommendation of a hydraulic load test was observed during the site inspection. A hydraulic load test will be provided for a fee of \$_____ according to the attached guidelines. The performance of the hydraulic load test is not required, however it is highly recommended to determine the extent of the problems encountered. If the test is not conducted, a signed release statement should be provided by the client prior to the release of this inspection or any of the information contained herein.

(Observed conditions required to be reported within 24 hours to the local health department)

Conditions were observed at the time of the inspection that the New Jersey Department of Environmental Protection requires to be reported to the local health department within 24 hours of the observance. The _____ (health department) was notified via (fax/telephone/hand delivery/etc.) of the condition and will respond appropriately.

At the completion of repairs, a follow-up inspection by our company is needed to insure that the system has been restored to a satisfactory condition.

(List suggested activities)

This is a Report, Not a Warranty

The Company provides no warranty, express or implied, including any warranty of merchantability or fitness for purpose, or any other warranty whatsoever, that the system meets any code or specifications, or will function properly for any period of time whatsoever, or otherwise will not malfunction or cause contamination of the ground or waters of the state of New Jersey. A copy of the field data upon which this report is based is available upon request.

Sincerely,

Inspector's name & signature
Company

Appendix 3 - Additional Suggested Comments for Inspection Reports

Preliminary Information

Weather

- It should be noted that due to the drought, soil moisture levels are extremely low which can cause septic system operation to appear more favorable than under non-drought conditions.
- Excessive rain during the prior 72 hours may effect the water level in the drainage area.
- Snow accumulation prevented/inhibited surface observation of the disposal area.
- Due to extended cold weather and frozen ground conditions, certain system components could not be identified or located.
- A lawn irrigation system should not be located in the area of any septic system components because it could hydraulically overload the system and lead to premature malfunction.

Age of System

- This type of system is permitted for an existing use, but it does not meet current construction standards and The Company cannot predict the system's remaining serviceable life. Systems older than twenty years are beyond their peak operating efficiency and are likely to require repair or replacement. Please read the disclaimer on the last page carefully.
- This type of system is permitted for an existing use. However, it does not meet current construction standards and The Company cannot predict the system's serviceable life. Please read the report disclaimer carefully.
- Like other components of a home, a septic system has a limited serviceable life span. Systems designed prior to 1990 may not meet current standards, may be past their peak operating efficiency, yet function at the time of inspection. Please read the disclaimer on the last page carefully.
- Like other components of a home, a septic system has a useful life span. Systems older than twenty years generally do not meet current standards are beyond their peak operating efficiency and are likely to require repair or replacement, even if they are functioning at the time of inspection. Please read the disclaimer on the last page carefully.

Number of Bedrooms

- The current number of bedrooms identified is greater from that identified by construction approval. As a result, the system that was approved by the local administrative authority was not appropriately sized for a residence containing the number of bedrooms present. It is not possible to predict how the system will perform given an increase in occupants.

Commercial Activities and/or High Impact Hobbies

- Commercial activities and certain hobbies may place excessive hydraulic loading on the system, which may result in the discharge of undesirable substances into the septic system.

Repair History

- This is a re-inspection after an outlet pipe blockage was cleared. Outlet blockages are typically caused by solids carry over from the treatment tank. Water is now flowing freely to the drainage area, however The Company cannot ascertain how much, if any, sludge made its way into the drainage area.
- There have been significant alterations made to the system, which are not consistent with health department records. The Company cannot verify that the system was repaired according to health department standards or if the alterations have adequately corrected any problems.

Occupants

- All aspects of the septic system were in satisfactory condition at the time of inspection. The water use by the current number of occupants () is substantially lower than the design rate for a five bedroom home, and the anticipated water use of the new occupants () will be significantly higher and it is not possible to predict how the system will perform given this increase.
- The drainage area is near its maximum capacity with the current water use. Any additional occupants or higher water usage may cause a system overload. Due to limited occupancy (___ resident(s)) normal hydraulic loading on the system could not be duplicated. A hydraulic loading test may be used to further evaluate this disparity.
- The system was functioning at the time of inspection with the volume of water used by the current number of occupants (). That typical volume is substantially lower than the design rate for the home (_ bedrooms) and normal hydraulic loading cannot be duplicated. The Company cannot predict how the system will operate if the number of occupants or water usage increases. A hydraulic loading test may be used to further evaluate this disparity.
- Due to the length of vacancy, normal hydraulic loading on the drainage area could not be duplicated and The Company cannot predict how the system will function when the home is occupied. A hydraulic loading test may be used to further evaluate this disparity.
- The property was vacant at the time of the inspection. As explained during the inspection, normal hydraulic loading on the drainage area could not be duplicated during the inspection. The Company cannot predict how the septic system will function when the property is occupied. Please read the report disclaimer carefully.
- The Company recommends that systems not in use for an extended period or minimally used, have a hydraulic load test, for a more conclusive examination of the drainage area.

Disclaimer:

- I have read and understand The Company hydraulic load test protocol. I authorize The Company to perform a septic system inspection without hydraulic load testing.
- Customer read and understood The Company vacant property hydraulic load test protocol and declined hydraulic load testing
- Due to the length of vacancy, normal hydraulic loading on the drainage area could not be duplicated. Please read the report disclaimer carefully.

Washing Machine

- The washing machine is discharging onto the surface of the ground, which is prohibited by New Jersey Administrative Code. The washing machine discharge should be re-directed into the septic system or into a separate seepage pit system to reduce the hydraulic load to the septic system, extending its serviceable life.

Garbage Disposal

- The kitchen is equipped with a garbage disposal unit, which will increase the solids content being loaded into the septic tank. The use of garbage grinders is not recommended for use with septic systems, but if used regularly, more frequent tank pumping is needed.
- Garbage disposals place a higher level of suspended solids loading on the septic system. The septic tank should be pumped at a greater frequency/annually.

Maintenance History

- The treatment tank has not been adequately maintained. There are excessive solids in the tank and solids carryover into the drainage area is likely.

Date of Last Pumping

- The septic tank was pumped one week prior to this inspection. The septic tank had not reached operating level at the time of this inspection and normal hydraulic loading on the drainage area could not be duplicated. Please read the report disclaimer carefully.
- The septic tank was pumped two weeks prior to this inspection. The system has not received normal hydraulic loading. Please read the report disclaimer carefully.

Water Softener

- The water softener backwash currently discharges into the septic system. This discharge may damage certain types of soils. Although current construction standards do not require a separate seepage pit for this discharge, it may be prudent to redirect that discharge into a separate area other than the septic system. This can reduce the hydraulic loading to the septic system and can extend the serviceable life of the system.

Treatment Tank

Type of System

- The tank is compartmented with an access lid on each end.

- The tank is inadequately sized for the home and does not meet current construction standards.
- The treatment tank does not meet current construction standards for size or construction material.
- This type of system, a cesspool, is permitted for an existing use, although it does not meet current construction standards. Any future repair to a cesspool system must include upgrades, at a minimum, to include the installation of an appropriately sized septic tank prior to the cesspool.
- Steel septic tanks have a useful life of approximately twenty years and have not been approved for new installations for over fifteen years. We recommend replacing the existing septic tank.

Condition of Tank

- The liquid level in the tank was well below the outlet pipe due to a hole. The tank is no longer watertight and does not comply with the Standards for Individual Subsurface Sewage Disposal Systems (N.J.A.C.7:9A). Inserting a hole is a technique used by installers, to prevent the septic tank from floating prior to it being filled with water. This hole is not permitted under code and you may elect to have it repaired or the tank replaced.
- Minor deterioration has occurred in the treatment tank.
- The inlet and/or outlet baffle is damaged, broken or missing and should be replaced. Solids carry over into the absorption area is likely.
- The septic tank was not pumped during this inspection; size and condition are unknown.
- A small hole in the bottom of the treatment tank was observed. This does not meet current construction standards and may allow ground water to infiltrate into the system or allow inadequately treated wastewater to negatively impact the environment.
- The treatment tank has not been adequately maintained. There are excessive solids in the tank; solids discharge into the drainage area is likely.

Liquid Level above the Outlet Invert

- During the inspection process, the liquid level in the treatment tank rose significantly above the outlet pipe invert. This indicates a possible blockage of the outlet pipe or a saturated drainage area.
- The liquid level in the treatment tank is above the inlet invert. This created a back-up of sewage into the building served, which was not caused by a physical blockage of the internal

plumbing. This also indicates a possible blockage of the outlet pipe or a saturated drainage area. The treatment tank was not pumped and its condition is unknown.

- The liquid level in the treatment tank is above the outlet invert. This indicates a possible blockage of the outlet pipe or a saturated drainage area. The treatment tank was not pumped and its condition is unknown.
- This is a re-inspection after an outlet pipe blockage was cleared. Outlet blockages may be caused by solids carryover from the treatment tank. Water is now flowing freely to the drainage area, however The Company cannot ascertain how much sludge, if any made its way into the drainage area.
- The liquid level in the treatment tank is above the outlet invert. The drainage area was not saturated indicating a blocked outlet pipe. The outlet pipe should be cleared and the system re-inspected.

Treatment Tank pumped for this Inspection

- During pumping, effluent from the absorption area flowed into the treatment tank, indicating a possible blockage or a saturated absorption area
- The treatment tank has not been adequately maintained. There are excessive solids in the tank. To remove the solids, a combination of high-pressure water and vacuum will be required.
- The treatment tank was not pumped at the customers request.
- The liquid level in the treatment tank was above the outlet invert upon arrival the tank was not pumped its size and condition was not determined.
- The treatment tank was not pumped during this inspection, its size and condition was not determined.
- The treatment tank could not be located. Additional investigation is required to determine the location of the tank.
- The liquid level in the septic tank was above the inlet invert. The tank was not pumped and its condition is unknown.
- Due to a high water level in the absorption area, the treatment tank was not pumped during this inspection. Its size and condition were not determined

All Portions of the Treatment Tank clear of Structures like a Deck or a Driveway

- System components that are not accessible can make maintenance difficult. Excessive weight from vehicles or other sources may damage the system.

Evidence that Sewage has surfaced above the Top of the Treatment Tank

- There is evidence of sewage above the treatment tank indicating a previously surcharged condition; solids carryover to the drainage area is possible.

Depth to Top of Tank

- The treatment tank is in excess of two feet below grade. A septic tank “riser” provides easy access to the tank and should be considered.
- The septic tank is over three feet below grade. A riser extended to grade would improve maintenance access.

Depth to Main Lid

- The main lid was not accessible.

Absorption Area

Absorption System

- The absorption area could not be positively identified due to its excessive depth below grade or the due to the amount of rock on the site. Further investigation is necessary to locate the absorption area.
- Due to soil conditions and/or depth, it’s not always possible to locate all components of the system. While there were no blatant signs of overflow on the surface, or drainage problems evident, The Company cannot complete an evaluation of drainage components unless they can actually be inspected, this will require additional investigation.
- Accumulated snow prevented location of the drainage area. No evaluation is possible on this component of the system at this time
- Due to extended cold weather and frozen ground conditions, not all system components could be identified.
- Numerous obstructions prevented identification of all system components. Placing excessive weight over system components can cause significant damage to the system. These obstructions should be removed or relocated and further investigation of the system is necessary to identify all system components.
- Effluent measurements varied considerably between sides of the system, possibly indicating uneven distribution.
- The drainage area is at its maximum capacity under current water use. (Only one occupant), any additional occupants or higher water usage may cause a system overload. A hydraulic load test is recommended to further evaluate the system.

- The absorption area is near its capacity under current water use. A significant increase in occupants or higher water usage may cause a system overload.
- The liquid level in the drainage area is above the top of the crushed stone. The drainage area is at its maximum capacity under the current water use and any additional occupation or higher water use could cause a system overflow.
- Sewage visible above or near any system components indicates a saturated condition that should be identified to the local health department.
- There is lush vegetation above the drainage area. This is an indication of high water levels. Any breakout of water at the ground surface requires immediate notification to the local health department.

Distribution Box

- Sewage identified above the lateral inverts in the distribution box indicates a saturated drainage area.
- The distribution box is showing signs of its age with slight deterioration and/or small cracks, but it is intact and holding water as designed.
- The distribution box is significantly deteriorated and is leaking wastewater, bypassing the absorption area. The distribution box should be replaced.

Summary

- During the inspection process, the liquid level in the tank rose above the inlet pipe invert causing a back-up of sewage toward the home, which is not caused by a physical blockage of the internal plumbing. This observed condition should be reported to the local health department immediately.
- Water level above the invert elevation of the laterals or high water condition was observed. This observation of water within six-inches below the inlet elevation of the laterals is an indication of impeded drainage within the disposal area. The closer the water levels approach the laterals, or encompasses them, the more substantial the concern. While this observation is not a failure, it is an indication that the system may be nearing the end of its serviceable life and may require corrective measures in the near future. The current or future homeowner may wish to conduct water use monitoring, reduce water use and/or find a physical remedy to correct the condition.

Terra-Lift

- The drainage area has been treated by the "Terra-Lift " process. The long-term effectiveness of this remedial action cannot be predicted. Please read the following disclaimer carefully.

Cesspool or Seepage Pit

- At the time of inspection the water level in the cesspool/seepage pit was at or above the inlet pipe invert. This indicates a saturated condition in the zone of disposal area.
- The liquid level is not touching the inlet pipe invert, however there is less than 24 hours worth of storage capacity left in the cesspool / seepage pit.

Hydraulic Load Test

- During the inspection process, the liquid level in the treatment tank rose significantly above the outlet pipe invert. This indicates a possible blockage of the outlet pipe or a saturated drainage area.
- During partial hydraulic loading, the liquid level in the tank rose above the inlet pipe invert causing a back-up of sewage toward the home, which is not caused by a physical blockage of the internal plumbing. This condition is indicative that the system may be malfunctioning according to New Jersey Administrative Code 7:9A. This condition should be reported to the health department.
- Due to the limited length of vacancy, normal hydraulic loading on the drainage area could not be duplicated. Please read the report disclaimer carefully.
- Although partial hydraulic loading was performed, it cannot duplicate the actual water use of future occupants. Therefore, it is not possible to predict how the system will perform given an increase in occupants.
- Within the home there is a grinder/ejector pump present. This unit is a part of the interior plumbing system, not the external septic system, and is not subject to inspection by The Company, as part of a septic system inspection. However, the use of grinder/ejector pumps or garbage grinders will increase the suspended solids loading to a septic system. Increased frequency of pumping and maintenance of the system should be conducted to extend its serviceable life.

Appendix 4 - Hydraulic Load Test Release Form

You are advised that a Hydraulic Load Test is recommended for the onsite wastewater treatment system at:

Location of System: _____

Municipality: _____

Tax Block/Lot: _____

Date of Inspection: _____

Reason for test:

- Structure vacant more than 7 days
- New water sources directed to the system within last 30 days
- Soil fracturing activity within last 30 days
- High water conditions are observed
- Less than 24 hours storage capacity in a cesspool or seepage pit
- Evidence that the treatment tank has been recently pumped
- A significant difference in the current water use in a structure compared to the anticipated use of the structure
- Other: _____

A copy of the hydraulic load test is attached for your review and has been offered for a cost of \$_____. Refusal of the test requires acknowledgement of the following statement prior to the release of the final report.

“I have been advised of the conditions surrounding the inspection of subject onsite wastewater treatment system identified above. Although it is recommended to conduct a hydraulic load test to fully determine the extent of the problems or concerns with the intended future use of the system, this test is refused at this time. This refusal will not be construed as part of, or result in, an incomplete inspection.”

Signed: _____
(client)

Date:

Appendix 5 - Hydraulic Load Test

Purpose

The hydraulic load test determines the volume of clean water an absorption area can absorb in a twenty-four hour period.

Indications

A hydraulic load test shall be recommended when, during the course of an inspection, any of these conditions is discovered:

- Structure vacant more than 7 days
- New water sources directed to the system within last 30 days
- Soil fracturing activity within last 30 days
- High water conditions are observed
- When there is a significant difference in the current water use in a structure compared to the anticipated use of the structure

Preparation

Note: During the test, NO EFFLUENT may enter the absorption area. Use the treatment tank as an interim holding tank by pumping the treatment tank prior to the test. NO EFFLUENT may enter a cesspool or seepage pit. The client and occupants should be cautioned in this regard.

Review the NJDEP Inspection Form for the type, size, location, and condition of the absorption area.

If rain is forecast for the 24 to 48-hour test period, recommend that the test be postponed.

Determine the loading rate of the system (number of bedrooms in house, gallons per day [gpd] for nonresidential uses). Use the daily flow standards set by the regulatory agency for the area where the system is located.

For single family homes the minimum test volume is 350 gallons (for up to 2 bedrooms). Add 150 gallons for the 3rd and each additional bedroom. This is the calculated volume.

For multifamily and nonresidential:

Consult NJDEP's assigned flows in the regulations at N.J.A.C. 7:9A-7.4. (See Appendix 7.)

If the onsite well is to be the water source for the test, the owner should authorize its use.

Select a location downstream from the treatment tank to introduce **CLEAN WATER**, ensuring that no solids are flushed downstream of the tank. Make sure that whatever fixture is to be used to introduce the clean water into the system is cleaned and clear of any solids or other obstacles.

Procedure

1. For all absorption or seepage beds, dig one observation hole to the surface of the aggregate at the center of the bed. Bore or dig into the aggregate to a depth sufficient to measure a liquid level or until the underlying soil/sand is reached.
2. For all trench type systems, dig one observation hole to the surface of the aggregate in each trench. Bore or dig into the aggregate to a depth sufficient to measure a liquid level or until the underlying soil/sand is reached.
3. For each hole, establish a fixed and recoverable reference point from which to measure.
4. Measure the distance from the reference point to:
 - a. the surface of the aggregate
 - b. the surface of any liquid in the aggregate
5. If the liquid level is at the top of the aggregate, do not add water. If the liquid level is below the top of the aggregate, introduce clean water into the absorption area until the calculated volume has been added, or until the liquid level rises to the top of the aggregate.
6. After the water has been added, wait thirty minutes for the liquid level to stabilize; then measure the distance from the reference point to the surface of the water, and record the liquid depth in each hole.
7. Return 24 hours later and measure and record the distance from the soil surface to the top of the liquid.
8. Introduce additional clean water to bring the liquid level to the level achieved on the prior day, or introduce the calculated volume, whichever is less.
9. Record the volume of water introduced on the second day.

Procedural Differences for Cesspools and Seepage Pits

1. For cesspools and seepage pits, establish one observation hole and reference point at which to conduct observations and measurements. The observation hole should allow direct viewing of the liquid level.
2. Introduce either the calculated volume or sufficient clean water to bring the liquid level to the level of the inlet pipe.

Follow steps 6 through 9 above. Measure the depth to the liquid surface immediately; **DO NOT WAIT 30 minutes** as described in step 6 above.

Interpreting Results

The hydraulic load test is intended to approximate a one-day load on the system. The absorptive capacity will be determined. The results will reveal if the absorption area can satisfactorily receive and allow to pass into the soil the volume of sewage effluent that NJDEP's regulations currently assign to a structure with the daily flow indicated.

Two conclusions are possible following a hydraulic load test, they are:

- The system has accepted and dispersed a volume of liquid equal to the calculated volume (daily flow) that is expected from the structure served, and is, therefore, “satisfactory.”
- The system has not accepted and dispersed a volume of liquid (daily flow) that is expected from the structure served, and is, therefore, “unsatisfactory.”

Hydraulic Load Test Report

Add the following to the Inspection Report letter or generate this as a freestanding letter with the appropriate caveats and cautionary statements on your company letterhead.

On (dates) the Company performed a hydraulic load test consistent with the standards established by the NJDEP. The absorption area initially received a volume of clean water equal to the daily volume of sewage effluent that NJDEP's regulations currently assign to a structure with the daily flow indicated (XXX gallons). The volume selected is believed to be representative of contemporary water usage for a structure of this size (number of bedrooms) or use (nonresidential). The absorption area's original design capacity may have been for a greater or lesser flow.

Over a 24-hour period the absorption area received and distributed ____ gallons of clean water into the soil. This is indicative of a (choose one) satisfactory OR unsatisfactory system.

This is a Report, Not a Warranty

The Company provides no warranty, express or implied, including any warranty of merchantability or fitness for purpose, or any other warranty whatsoever, that the system meets any code or specifications, or will function properly for any period of time whatsoever, or otherwise will not malfunction or cause contamination of the ground or waters of the State of New Jersey.

Appendix 6 - Calculating Tank Volume

Cylindrical Tanks

Method A

3.14 x radius squared (feet) x depth (feet) equals cubic capacity.

7.5 x cubic capacity equals capacity in gallons.

Example: 60" dia. tank, 48" liquid depth
 $3.14 \times (2.5 \times 2.5) \times 4 = 78.5$ cu. capacity
 $78.5 \times 7.5 = 588.75$ gal.

Method B

Diameter squared (inches) divided by 292.5 equals gallons per inch of liquid depth in tank. Depth (inches) x gallons per inch.

Example: 60" dia. tank, 48" liquid depth
 $60 \times 60 \div 292.5 = 12.31$ gal. per inch
 12.31 gal. per inch x 48 = 590.88 gal.

Method C

Diameter squared (in inches) x depth (in inches) times .0034 equals total gallons.

Example: 60" dia. tank, 48" liquid depth
 $(60" \times 60") \times 48" \times .0034 = 587.52$ gal.

Square or Rectangular Tanks

Method A

Length (feet) x depth (feet) x width (feet) equals cubic ft.

Cubic ft. x 7.5 equals gallons.

Example: 96" = length, 48" = width, 60" = depth
 $8 \times 5 \times 4 = 160$ cu. ft.
 $160 \times 7.5 = 1200$ gal.

Method B

Length (inches) x width (inches) divided by 231 equals gallons in each inch of liquid depth. Tank depth (inches) x gallons per inch equals total gallons.

Example: 96" = length, 48" = width, 60" = depth
 $96" \times 48" = 4608/231 = 19.95$ gal. per inch
 $19.95 \times 60" = 1,197$ gal.

Appendix 7 - Sewage Flows

7:9A-7.4 Volume of sanitary sewage

(b) The criteria for estimating the volume of sanitary sewage from private residential sources shall be as follows:

1. The daily volume for each bedroom or dwelling unit shall be:
 - Volume, first bedroom 200 gallons per day ("gal/day")
 - Volume, each additional bedroom 150 gal/day
 - Minimum volume per dwelling unit 350 gal/day
 - Minimum volume per apartment 350 gal/day
2. The minimum volume for a dwelling unit shall be reduced to 200 gallons per day in the case of deed restricted senior citizen communities or mobile home parks with dwelling units less than 500 square feet in size.

(c) The volume of sanitary sewage from commercial or institutional establishments shall be based upon the type and size of the facility and the maximum expected number of persons that may be served during any single day of operation. The volume shall be estimated as follows:

1. Depending upon the method of estimation selected from (d) below, multiply the number of gallons per person (user) by the maximum expected number of persons per day, or multiply the number of gallons per facility (unit) per day by the number of facilities (units) present or proposed.
2. Estimate the maximum number of employees which may be present during a single day of operation and add an additional 15 gallons per employee per each additional eight hour shift, except in the case of (d)24, (d)32, (d)38 and (d)40 below.

(d) The criteria listed below are minimum standards for average facilities of the categories listed. In cases where a facility does not fall within any of the categories, the administrative authority may approve the use of other documented criteria, such as actual water data for the facility or other similar facilities, provided that the value used for design is at least 50 percent greater than the average daily volume of sewage.

Type of Establishment	Method of Estimation (gallon per user or gallon per unit per day)
1. Airport.....	5 gal/passenger
2. Assembly Hall.....	3 gal/seat/day
3. Auto Service Station.....	10 gal/car served
4. Bar.....	5 gal/patron
5. Bathhouse with shower.....	25 gal/person
without shower.....	10 gal/person
6. Beach Club.....	25 gal/person
7. Beauty Parlors and Salons.....	120 gal/day/sink
8. Boarding House, Meals.....	75 gal/guest ²
.....	15 gal/non-res. boarder
9. Bowling Alley, no food.....	125 gal/lane/day
with food, add.....	5 gal/patron
10. Bus Stop Rest Area.....	5 gal/passenger

11.	Cafeteria.....	5 gal/customer
12.	Camp, Cottage (barracks type).....	65 gal/person
13.	Camp, Day, no meals.....	20 gal/person
14.	Camp, Resort.....	100 gal/site/day ²
15.	Camp, Trailer.....	100 gal/site/day ²
	with toilets, add.....	10 gal/person/day
16.	Church, with or without kitchen.....	3 gal/seat/day
17.	Cocktail Lounge.....	5 gal/customer
18.	Coffee Shop.....	5 gal/customer
19.	Comfort Station/Picnic Grounds	
	with toilets.....	10 gal/person
	with toilets and showers.....	15 gal/person
20.	Cottages.....	100 gal/person ²
	minimum 350 gal/dwelling unit/day
21.	Country Club.....	60 gal/member/day
	25 gal/non-member
22.	Dining Hall.....	5 gal/customer
23.	Dormitory, Bunkhouse.....	40 gal/bed/day
24.	Factory/Industrial Building.....	15 gal/employee/8 hr. shift.
	with showers, add.....	15 gal/employee/8 hr. shift.
25.	Hospital, Medical -----	250 gal/bed/day
26.	Hospital, Mental -----	150 gal/bed/day
27.	Hotels-----	130 gal/room/day
28.	Institution, other than hospital -----	150 gal/bed/day
29.	Laundry, Self-service -----	50 gal/wash
30.	Motel -----	130 gal/room/day
31.	Nursing/Rest Home-----	150 gal/bed/day
32.	Office Buildings, the greatest of.....	15 gal/employee/8 hr. shift.
	or 0.125 gal/sq.ft
33.	Prison.....	150 gal/inmate/day
34.	Restaurant, Sanitary wastes only.....	5 gal/patron only
	Kitchen waste, add.....	5 gal/patron
35.	Rooming House, no meals.....	65 gal/bed/day
36.	School, Boarding.....	100 gal/student/day
37.	School, Day, No cafeteria or showers.....	10 gal/student/day
	Cafeteria only.....	15 gal/student/day
	Cafeteria and showers.....	20 gal/student/day
	Cafeteria, showers & laboratories.....	25 gal/student/day
38.	Shopping Center.....	0.125 gal/sq.ft./day ¹
39.	Stadium.....	3 gal/seat/day
40.	Store.....	0.125 gal/sq.ft./day ¹
41.	Swimming Pool.....	10 gal/person
42.	Theater, Indoor.....	3 gal/seat/day
43.	Theater, Outdoor.....	10 gal/parking space
44.	Visitor Center.....	5 gal/visitor

FOOT NOTES

¹ Volume of sanitary sewage for employees in method of estimation.

² If laundry wastes are anticipated, increase the estimated flow by 50 percent.

Appendix 8 - Onsite System Inspection Form

(Form is on next page)

ONSITE SYSTEM INSPECTION FORM

Inspection Overview

- Preliminary system information
- Inspection of treatment tanks
- Absorption system inspection
- Disposal/conveyance system assessment
- Identification of any alternative technology approved components
- Requires additional inspection

INTERNAL USE ONLY:

CLIENT INFO	<p>Client Name: _____ Different from owner? <input type="checkbox"/> yes <input type="checkbox"/> no</p> <p>Client Address: _____ _____ _____</p> <p>Contact Method: home tel. _____ work tel. _____ e-mail _____</p>	ONSITE SYSTEM LOCATION	<p>Inspector Name: _____</p> <p>Date: _____</p> <p>ISSDS Address (including municipality): _____ _____ _____</p> <p>New Jersey Coordinate: Block: _____ Lot: _____ Was GPS used? <input type="checkbox"/> yes <input type="checkbox"/> no</p>
--------------------	--	-------------------------------	--

<p>Preliminary Information: Weather: _____ Last precipitation: _____ Age of system: _____ Type of dwelling? <input type="checkbox"/> Residential Number of Bedrooms: _____ <input type="checkbox"/> Non residential Describe: _____ How many systems are being inspected? _____ List any commercial activities or high impact hobbies: _____ _____ Describe prior problems and/or repair history including soil fracturing or use of chemical additives. Include dates and explain why the remedial measures have been applied to the system (if available): _____ _____ Date file review requested with administrative authority: _____</p>	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 80%;"></th> <th style="width: 10%; text-align: center;"><u>Yes</u></th> <th style="width: 10%; text-align: center;"><u>No</u></th> </tr> </thead> <tbody> <tr> <td>Is there a site plan or septic map available?</td> <td style="text-align: center;">()</td> <td style="text-align: center;">()</td> </tr> <tr> <td>Is the dwelling currently being occupied?</td> <td style="text-align: center;">()</td> <td style="text-align: center;">()</td> </tr> <tr> <td> If so, how many occupants? _____</td> <td></td> <td></td> </tr> <tr> <td> If no, date last occupied? _____</td> <td></td> <td></td> </tr> <tr> <td>If there is a washing machine, is it connected to a Separate gray water disposal system?</td> <td style="text-align: center;">()</td> <td style="text-align: center;">()</td> </tr> <tr> <td>Is the dwelling free of additional gray water systems?</td> <td style="text-align: center;">()</td> <td style="text-align: center;">()</td> </tr> <tr> <td>Is the dwelling free of garbage disposal systems?</td> <td style="text-align: center;">()</td> <td style="text-align: center;">()</td> </tr> <tr> <td>Is the dwelling free of sump pump discharges to the System?</td> <td style="text-align: center;">()</td> <td style="text-align: center;">()</td> </tr> <tr> <td>Is the dwelling free of any historical sewage back ups Into the structure?</td> <td style="text-align: center;">()</td> <td style="text-align: center;">()</td> </tr> <tr> <td>Does all sewage enter the septic system and no type of sewage bypass exists?</td> <td style="text-align: center;">()</td> <td style="text-align: center;">()</td> </tr> <tr> <td>Septic Tank Pumping:</td> <td></td> <td></td> </tr> <tr> <td> Is the septic tank pumped regularly?</td> <td style="text-align: center;">()</td> <td style="text-align: center;">()</td> </tr> <tr> <td> Frequency: _____</td> <td></td> <td></td> </tr> <tr> <td> Date of last pumping: _____</td> <td></td> <td></td> </tr> <tr> <td>Was file review completed prior to inspection?</td> <td style="text-align: center;">()</td> <td style="text-align: center;">()</td> </tr> <tr> <td> If no, explain why below</td> <td></td> <td></td> </tr> </tbody> </table>		<u>Yes</u>	<u>No</u>	Is there a site plan or septic map available?	()	()	Is the dwelling currently being occupied?	()	()	If so, how many occupants? _____			If no, date last occupied? _____			If there is a washing machine, is it connected to a Separate gray water disposal system?	()	()	Is the dwelling free of additional gray water systems?	()	()	Is the dwelling free of garbage disposal systems?	()	()	Is the dwelling free of sump pump discharges to the System?	()	()	Is the dwelling free of any historical sewage back ups Into the structure?	()	()	Does all sewage enter the septic system and no type of sewage bypass exists?	()	()	Septic Tank Pumping:			Is the septic tank pumped regularly?	()	()	Frequency: _____			Date of last pumping: _____			Was file review completed prior to inspection?	()	()	If no, explain why below		
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If no, explain why below																																																				

Comments: _____

Treatment Tank:				<u>Yes</u>	<u>No</u>
Type of system being inspected?				<input type="checkbox"/>	<input type="checkbox"/>
() Septic tank () Cesspool ()				<input type="checkbox"/>	<input type="checkbox"/>
Other _____				<input type="checkbox"/>	<input type="checkbox"/>
() Gray water () Multi-compartment: # _____				<input type="checkbox"/>	<input type="checkbox"/>
Name the material of the system?				<input type="checkbox"/>	<input type="checkbox"/>
() Concrete () Block				<input type="checkbox"/>	<input type="checkbox"/>
() Steel () Other _____				<input type="checkbox"/>	<input type="checkbox"/>
Approximate Treatment Tank Volume: _____ gal.				<input type="checkbox"/>	<input type="checkbox"/>
Evaluate the conditions of tank below:				<input type="checkbox"/>	<input type="checkbox"/>
	Satisfactory	Unsatisfactory	N/A	<input type="checkbox"/>	<input type="checkbox"/>
Top and Lids	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Inlet baffle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outlet baffle	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cracks or Leaks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sewage Flow from structure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Main tank lid opened for inspection?				<input type="checkbox"/>	<input type="checkbox"/>
Liquid level below the tank's inlet invert?				<input type="checkbox"/>	<input type="checkbox"/>
Liquid level below the tank's outlet invert?				<input type="checkbox"/>	<input type="checkbox"/>
Treatment tank pumped for this inspection?				<input type="checkbox"/>	<input type="checkbox"/>
Are all portions of the tank(s) clear of Structures like a deck or a driveway?				<input type="checkbox"/>	<input type="checkbox"/>
Is the area clear of evidence that sewage has Surfaced above the treatment tank?				<input type="checkbox"/>	<input type="checkbox"/>
Does water flow unimpeded from the Treatment tank?				<input type="checkbox"/>	<input type="checkbox"/>
Is an effluent filter a part of the system? If yes, does it appear properly maintained?				<input type="checkbox"/>	<input type="checkbox"/>
Are there any other types of accessory units Present?				<input type="checkbox"/>	<input type="checkbox"/>
Depth to top of tank: _____ inches					
Depth to top of tank access: _____ inches					
Comments: _____ _____					

Absorption Area:

Name the type of the absorption system?
 disposal bed () disposal trench
 seepage pit () mounded
 cesspool () other _____

Was the absorption system located? yes () no If no, explain below.

Are inspection ports present? yes () no
If yes, how many? _____

Were the inspection ports checked? yes* () no () N/A *All levels observed must be included in report

Was a separate probe dug in the absorption area to confirm the observations in the inspection ports? yes () no () N/A

Is the area of the absorption system free of sewage odors? yes () no

Does sewage flow from the treatment tank to the absorption system without flowing back? yes () no () N/A

Is the area above or near any of the system components free from visible signs of effluent or sewage? yes () no

Are the areas at or near the inlet invert of any absorption area component free of visible signs of sewage or effluent?
 yes () no

Are areas above or near system components free of lush vegetation? yes () no

If exposed, is the distribution box in satisfactory condition? yes () no () N/A
If not exposed, explain why not: _____

Is the area directly over any part of the absorption system free of any evidence of, large objects (cars, pools, etc.)? yes () no

Comments: _____

Sketch the approximate system location in this space provided:

Dosing or Pump Tank:	<u>Yes</u>	<u>No</u>	<u>N/A</u>
Does the system contain a pump tank?	()	()	()
Is the pump operating?	()	()	()
Do the alarm(s) on the pump work?	()	()	()
Is the pump elevated above the tank floor?	()	()	()
Is the lid in satisfactory condition?	()	()	()
Is the tank in satisfactory condition?	()	()	()
Is the tank free of accumulated solids?	()	()	()

Summary:	<u>Satisfactory</u>	<u>Satisfactor y with Concerns</u>	<u>Unsatisfactory</u>	<u>Requires Additional Investigation</u>	<u>N/A</u>
Condition of the treatment tank(s)	()	()	()	()	()
Condition of the conveyance and pump system(s)	()	()	()	()	()
Condition of the and absorption area(s)	()	()	()	()	()
Condition of any accessory components	()	()	()	()	()

Comments: _____

Health Department Reporting:

Note if any of the following conditions were observed during the inspection:

- 1. Ponding or breakout of sewage or effluent onto the surface of the ground
- 2. Seepage of sewage or effluent into portions of buildings below ground
- 3. Backup of sewage into the building served which is not caused by a physical blockage of the internal plumbing
- 4. Any manner of leakage observed from or into septic tanks, connecting pipes, distribution boxes and other components that are not designed to emit sewage or effluent.

Pursuant to N.J.A.C. 7:9A-3.4 notification of any observation that is consistent with a condition noted above should be reported to the local administrative authority within 24 hours of the observation. Regardless of observations made, a copy of this report should be provided to the local administrative authority within 10 days of the issuance of this report.

If encountered, describe all observed noncompliant conditions encountered during this inspection:

Customer authorization:

I authorize "The Company" to enter the above listed property for the purpose of performing a sub-surface sewage disposal system inspection. I authorize "The Company" to expose parts of the system if required, to determine location and condition. I understand that "The Company" relies on information supplied by the owner(s) of the listed property or their agent and the local administrative authority in the evaluation of the sub-surface disposal system. I authorize "The Company" to provide this form to all parties as required.

Customer signature: _____

Printed name: _____

Inspector's signature: _____

Printed name: _____

Disclaimer:

Based on today's observations and the information provided by the owner(s) or their agent, "The Company" submits this sub-surface sewage disposal system inspection form. The inspection is based on the current condition of the onsite sewage disposal system. "The Company" makes no representation that the system was designed, installed or meets N.J.A.C. 7:9A-1.1 et seq.. "The Company" has not been retained to warrant, guarantee, or certify the proper functioning of the system for any period of time. Because of numerous factors (usage, soil type, installation, maintenance, etc.) which affect the proper operation of a sub-surface disposal system, as well as the inability of "The Company" to supervise or monitor the use and maintenance of the system, this form shall not be construed as a warranty by "The Company" that the system will function properly for any prospective buyer. "The Company" disclaims any warranty, either expressed or implied, arising from the inspection of the septic system.

This form was developed as a cooperative effort of:
Pennsylvania/New Jersey Sewage Management Association;
Rutgers Cooperative Extension New Jersey Agricultural Experiment Station; and
The New Jersey Department of Environmental Protection Septic System Inspection Protocol Subcommittee

NOTES