NORTH CAROLINA DEPARTMENT OF HEALTH AND HUMAN SERVICES DIVISION OF PUBLIC HEALTH ENVIRONMENTAL HEALTH SECTION ON-SITE WATER PROTECTION BRANCH

PROVISIONAL WASTEWATER SYSTEM APPROVAL

Provisional Wastewater System Approval Number: PWWS-2023-01-R1

Issued To:	Ecological Tanks, Inc. 3347 Hwy 151 North Downsville, LA 71234 318-644-0397 www.etiaquasafe.com	
Contact:	Dewey Conrad 304-266-0248	
For:	Aqua Safe Models AS500 to AS1500	
Approval Date:	January 17, 2023 December 31, 2024	Updated for 18E and Renewed for 2025

In accordance with G.S. 130A-343 and 15A NCAC 18E Section .1700, an application by Ecological Tanks, Inc. for renewal of their wastewater system has been reviewed and found to meet the requirements of a Provisional system when the following conditions are met.

I. General

- A. Scope of this Provisional Approval includes the following:
 - Design, installation, and operation and maintenance guidelines for the specified models of Aqua Safe systems meeting TS-I effluent standards pursuant to 15A NCAC 18E .1201(a), Table XXV.
 - 2. Obtain field performance data from specified models of Aqua Safe systems intended to meet TS-II effluent standards pursuant to 15A NCAC 18E .1201(a), Table XXV.
 - 3. Operation, maintenance, and monitoring activities for the Aqua Safe systems to ensure the effluent standards are met.
 - 4. Proposal for evaluation of this Provisional System.
- B. This Provisional Approval is applicable to wastewater systems treating domestic strength influent, as defined in 15A NCAC 18E .0402(a), Table III, utilizing specified models of Aqua Safe systems with a design daily flow less than or equal to 1,500 gallons per day (gpd).

Use of Aqua Safe systems for facilities with high strength effluent, as defined in 15A NCAC 18E .0402(a), Table III or industrial process wastewater, shall be proposed by Ecological Tanks, Inc. and a North Carolina Professional Engineer (PE) to the Department for review and approval on a

case-by-case basis, prior to permitting by the local health department (LHD). The system design shall include the proposed untreated wastewater strength in BOD₅, COD, TN, TSS, and fats, oils, and grease, the expected organic loading rate in pounds of BOD or N, the hydraulic loading rate on the pretreatment system, and the calculations, references, and any other needed information to support the proposed design.

- C. Any site utilizing these systems shall have wastewater with sufficient alkalinity to facilitate biological treatment processes. The influent shall not have a pH level or toxins that significantly inhibit microbial growth.
- D. This Provisional Approval is limited to 200 systems. The intent of this Provisional Approval is to gain sufficient field experience to qualify this system for Innovative Approval as a TS-I system pursuant to 15A NCAC 18E .1705.
- E. Data from Aqua Safe systems designed for TS-II effluent standards may also be used to support an application for Provisional or Innovative Approval as a TS-II system when sampled for all TS-II parameters.
- F. Use of Aqua Safe systems that have a design daily flow exceeding 1,500 gpd may be permitted after review and approval by the State on a case-by-case basis in accordance with 15A NCAC 18E .0302(e).
- II. System Description

All specified Aqua Safe models use a pretreatment chamber that is an integral part of the model or a septic tank prior to the unit. The pretreatment tank is equipped with a discharge baffle extending vertically down into the liquid that is set to draw between the floatable and settleable solids and prevent larger solids from passing through to the mixing zone due to peak hydraulic loading periods. The primary purpose of the pretreatment chamber is to prevent non-biodegradable soils, greases, and oils from entering the aerobic system. The models utilize an extended aeration activated sludge process designed to effectively treat the effluent by distributing free dissolved oxygen into the mixed liquor in the aeration zone. A compressor distributes air through a drop line distributed around the perimeter of the tank. Finally, as effluent exits through the clarifier, solids settle in the clarifier and are recirculated back into the aeration chamber. The effluent will flow from the clarifier through the UV system. After the UV system, the effluent will flow to either a pump tank, if a pump is required, or flow by gravity to a dispersal field.

III. Siting Criteria

The Aqua Safe systems and associated dispersal fields shall be sited and sized in accordance with 15A NCAC 18E, Section .1200 for TS-I systems. Drip irrigation systems used with Aqua Safe systems shall be sited and sized in accordance with 15A NCAC 18E .1204 and the manufacturer specific drip approval. The Aqua Safe systems and associated dispersal fields shall meet all applicable horizontal setback requirements in accordance with 15A NCAC 18E Section .0600 or .1202 and be located to prevent surface and subsurface water inflow and infiltration.

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IV. Dispersal Field System Sizing

The dispersal field system sizing criteria shall be based upon the long-term acceptance rate specified in the appropriate portion of the rules or the Provisional, Innovative, or Accepted system approval for the type of dispersal system to be used.

V. Special Site Evaluation

A special site evaluation may be required based on the proposed dispersal system. Refer to 15A NCAC 18E .0510(c) for when a special site evaluation is required.

- VI. Design Criteria
 - A. The Aqua Safe systems shall be designed in accordance with the following criteria.
 - 1. Table I below provides the design flow and minimum pretreatment tank capacity for the Aqua Safe models.

Table I			
Aqua Safe Model #	Maximum Design Flow	Minimum Pretreatment Tank	
		Capacity	
AS500	500 gpd	350 gallons	
AS500-C*	500 gpd	350 gallons	
AS500+5 Duo** Pre^	500 gpd	500 gallons	
AS500+5 Duo Concrete*	500 gpd	500 gallons	
AS500+75 Duo Pump^^	500 gpd	350 gallons	
AS500 5+75 Trio [#]	500 gpd	500 gallons	
AS500 4+75 Concrete	500 gpd	400 gallons	
AS500L	500 gpd	350 gallons	
AS500L-C	500 gpd	350 gallons	
AS500L+5 Duo Pre	500 gpd	500 gallons	
AS500L+75 Duo Pump	500 gpd	350 gallons	
AS500L 5+75 Trio	500 gpd	500 gallons	
AS500LC+5 Pre	500 gpd	350 gallons	
AS500L 4+75 Concrete	500 gpd	400 gallons	
AS600	600 gpd	350 gallons	
AS600-C	600 gpd	350 gallons	
AS600+5 Duo Pre	600 gpd	500 gallons	
AS600+75 Duo Pump	600 gpd	350 gallons	
AS600 5+75 Trio	600 gpd	500 gallons	
AS600 4 +75 Concrete	600 gpd	400 gallons	
AS600+4NR	600 gpd	400 gallons	
AS600+4NR-C	600 gpd	400 gallons	
AS600+5NR	600 gpd	500 gallons	
AS600+5NR-C	600 gpd	500 gallons	
AS600L	600 gpd	325 gallons	

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AS600L-C	600 gpd	325 gallons
AS750	750 gpd	1,000 gallons
AS750-C	750 gpd	1,000 gallons
AS800L	800 gpd	1,000 gallons
AS800L-C	800 gpd	1,000 gallons
AS1000	1,000 gpd	1,000 gallons
AS1000-C	1,000 gpd	1,000 gallons
AS1100L	1,100 gpd	1,000 gallons
AS1100-C	1,100 gpd	1,000 gallons
AS1500	1,500 gpd	1,000 gallons

Notes:

* C or concrete designates the model as being manufactured in concrete

** Duo means two tanks are manufactured in a single unit

Trio means two tanks are manufactured in a single unit

^ Pre means the second tank is a pre-treatment tank/chamber

^^ Pump means the second tank is a pump tank/chamber

- 2. The following models are approved in both fiberglass and concrete units: AS500, AS500L, AS600, AS600L, AS600+4NR, AS600+5NR, AS750, AS800L, AS1000, and AS1100L.
- 3. The following models are approved in fiberglass units only: AS500+5 Duo Pre, AS500+75 Duo Pump, AS500 5+75 Trio, AS500L+5 Duo Pre, AS500L+75 Duo Pump, AS500L 5+75 Trio, AS600+5 Duo Pre, AS600+75 Duo Pump, AS600 5+75 Trio, and AS1500.
- 4. The following models are approved in concrete units only: AS500-5 Pre Concrete, AS500 4+75 Concrete, AS500L-C+5 Pre, AS500L 4+75 Concrete, and AS600 4+75 Concrete.
- 5. Shoaf Precast Septic Tank, Inc. and High Point Precast Products, Inc. have been approved to manufacture the concrete models.
- 6. For all AS500, AS500L, AS600, AS600L, AS600+4NR, and AS600+5NR models the approved settling tank may be an integral part of the tank or a separate settling tank. A separate State approved 1,000 gallon septic tank may be used as the settling tank.
- 7. For all AS750, AS800L, AS1000, AS1100L, and AS1500 models a separate State approved 1,000 gallon septic tank shall be used as the settling tank.
- 8. An Aqua Safe system designed for flows less than or equal to 1,500 gpd shall utilize models of Residential Wastewater Treatment Systems (RWTS's) that have been preapproved by the State in addition to meeting the requirements listed below.
- 9. Buoyancy calculations shall be completed by a PE on sites where a soil wetness condition is present within five feet of the top of the ground surface. The PE shall make appropriate design modifications as needed.
- 10. A vent for the Aqua Safe system must be provided. The house vent may not be the only vent.
- 11. A UV system, such as "The Disinfector" or other UV system proposed by the company and approved by the State, shall be used for all systems. The UV system shall be rated for the discharge rate from the Aqua Safe unit. Audible and visible alarms for bulb failure will be provided.
- 12. Aqua Safe systems will utilize the Ecological Tanks, Inc. control panel. The control panel is in a NEMA 4X enclosure and located within 50 feet and in line of sight of the Aqua Safe system. Separate control and alarm circuits shall be provided. The operator authorized in writing by Ecological Tanks, Inc. (authorized operator) for the system shall be able to access the panel

directly on site and shall be available to LHD with 24-hour notice in the event that the LHD needs to access the control panel.

- 13. Effluent samples shall be collected after the disinfection unit. For gravity systems, a sampling port may be from a container constructed from watertight material with watertight joints. A distribution box may be used for this purpose if it meets the following requirements: it has a minimum diameter of eight inches at the point of sample collection, the inlet is at least eight inches above the bottom of the sample port, and there is at least two inches of fall between the inlet and outlet of the sample port. For pump systems, a valve or tap shall be installed on the force main.
- 14. Influent samples, if needed, shall be taken from the outlet end of the settling tank. The sample shall be taken from the clear zone beneath any scum layer using a sludge judge or similar device.
- 15. The SJE Rhombus EZ Series In-Site control panel shall be used for determining the 7-day and 30-day flow for the corresponding time period preceding each authorized operator inspection. Where effluent flows by gravity to the receiving environment, a flow meter shall be installed on the inlet water line or the inlet line from the well depending on the water source. For installations where effluent is under pressure, flows shall be determined by using an elapsed time meter in the effluent pumping station control panel. When a drip distribution system is proposed, the drip manufacturer shall provide the necessary flow monitoring capability with their separate drip system control panel.
- 16. The dispersal field dosing tank shall be a state-approved tank sized in accordance with 15A NCAC 18E .0802.
- 17. Effluent from Aqua Safe systems may be discharged to a gravity dispersal field, or to a dispersal field pump tank.
- 18. The Aqua Safe system shall not be placed in driveways, parking areas, or other areas subject to vehicular traffic.
- B. All Aqua Safe systems shall be designed by a designer authorized in writing by Ecological Tanks, Inc. (authorized designer) or a PE. Aqua Safe systems with a design daily flow greater than 1,000 gpd shall be designed by a PE.

VII. Installation and Testing

- A. A preconstruction conference shall be required to be attended by the following, as applicable: authorized designer, Authorized On-Site Wastewater Evaluator (AOWE), PE, installer authorized in writing by Ecological Tanks, Inc. (authorized installer), Ecological Tanks, Inc. licensed distributor, and LHD prior to beginning installation of the Aqua Safe system.
- B. Aqua Safe systems shall be installed according to directions provided by Ecological Tanks, Inc.
- C. All individuals or companies installing Aqua Safe systems shall be in possession of all necessary permits and licenses before attempting any portion of a new or repair installation. The company or individual must be a Level IV installer and authorized in writing by Ecological Tanks, Inc.
- D. Watertightness of the tanks shall be tested by either of the following protocols: 24-hour hydrostatic test or a vacuum test.

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- 1. Hydrostatic Test^{1, 2}
 - a. Temporarily seal the inlet and outlet pipes.
 - b. Fill tank with clean water to a point at least two inches above the pipe connections or the seam between the tank and the riser, whichever is highest.
 - c. Measure the water level.
 - d. Allow the tank to sit for 24 hours.
 - e. Re-measure the water level.
 - f. If the water level change is ½-inch or less or one percent of the liquid tank capacity, the tank passes the leak test.
 - g. If the water level change is greater than ½-inch, any visible leaks can be repaired and the tank may be topped off with water and allowed to sit for a minimum of one hour.
 - h. The tank passes the leak test if there are no visible leaks (flowing water or dripping in a steady stream) and no measurable drop in water level after one hour. Otherwise, the tank fails the leak test.
- 2. Vacuum Test³
 - a. Temporarily seal the inlet and outlet pipes.
 - b. A vacuum of four inches of mercury should be pulled on the tank and held for five minutes.
 - c. During the testing, the tank manufacturer or their representative can seal the tank if it is found to be leaking.
 - d. If the tank is repaired, the vacuum must be brought back up to four inches and held for five minutes.
- E. The authorized installer, PE, AOWE, or authorized designer, and the authorized operator shall conduct a final inspection and start-up of the Aqua Safe system and all associated system components. The LHD will attend and observe the final inspection and start-up.
- F. Specified site preparation steps and construction specifications for the dispersal system shall be strictly adhered to including specified depth of trenches in relation to site limiting conditions, cover material specifications if needed, and trench installation method.

VIII. Operation, Maintenance, Monitoring, and Reporting

- A. Aqua Safe systems shall be classified, at a minimum, as a Type Vc system in accordance with 15A NCAC 18E .1301(b), Table XXXII. Management and inspection shall be in accordance with 15A NCAC 18E, Section .1300.
- B. All Aqua Safe systems require an operation and maintenance agreement between the system owner and Ecological Tanks, Inc. its authorized representative, or with an authorized operator in accordance with 15A NCAC 18E .1302(c). The authorized operator must have proper equipment and training to access and program the control panels on site. The authorized operator shall be:
 1. a North Carolina certified subsurface operator (Operator in Responsible Charge); and

¹ Victor D'Amato and Ishwar Devkota, Development of Prefabricated Septic and Pump Tank Construction and Installation Standards for North Carolina.

² National Precast Concrete Association, Best Practices Manual Precast Concrete On-Site Wastewater Tanks, Second Edition, October 2005, 24. 3 National Precast Concrete Association, Best Practices Manual Precast Concrete On-Site Wastewater Tanks, Second Edition, October 2005, 24.

- 2. either an employee of Ecological Tanks, Inc., or authorized in writing by Ecological Tanks, Inc.
- C. All Aqua Safe systems shall be operated and maintained according to the latest version of Ecological Tanks, Inc. O&M manual.
- D. At each Aqua Safe system inspection, the authorized operator shall follow service procedure steps identified in the Ecological Tanks, Inc. O&M Manual and, at a minimum, observe, monitor, and record the following:
 - 1. Clarity of system effluent;
 - 2. Wastewater, sludge, and scum levels in all tanks;
 - 3. Proper operation of system aerator, noting any unusual sounds or physical appearance;
 - 4. Air flowrate for the system aerator;
 - 5. Solids level in the aeration chamber;
 - 6. Watertightness of all tanks, risers, and pipe connections at the tanks;
 - 7. Operation of pumps, floats, valves, electrical controls, and alarms, including record of alarms since last visit and troubleshooting actions;
 - 8. Dispersal field pump delivery rate (drawdown test), determination of the average pump run time, and dispersal field dosing volume;
 - 9. Average and maximum 7-day and 30-day flowrates in gallons per day;
 - 10. Any structural damage, accessibility issues, adequate ventilation, excess odors, ponding of effluent, insect infestations, vegetative growth over the dispersal field, or surfacing of effluent on the dispersal field; and
 - 11. Samples and laboratory analyses of influent and effluent as required.
- E. The authorized operator shall also conduct any other measurements, monitoring, maintenances activities, and observations as specified in the Operation Permit (OP) and recommended by the manufacturer.
- F. Sampling
 - All sampling shall be done in accordance with 15A NCAC 18E .1302 and .1709. Aqua Safe systems shall be sampled annually when the design daily flow is less than or equal to 1,500 gpd. Systems with design daily flows greater than 1,500 gpd and less than or equal to 3,000 gpd shall be sampled twice a year.
 - Effluent for all systems shall be tested for BOD₅, TSS, and NH₃. Systems designed to meet the TS-II standard shall also have the effluent analyzed for TN (TKN and NO₃-N). Sampling is not required for fecal coliforms when the site is found to be compliant with all other constituents in Table XXV of 15A NCAC 18E .1201(a).
 - 3. Influent samples, if needed, shall be taken from the outlet end of the settling tank. The sample shall be taken from the clear zone beneath any scum layer using a sludge judge or similar device.
 - 4. Effluent samples shall be collected after the disinfection unit. For gravity systems, a sampling port may be constructed from a prefabricated container, such as a distribution box. The container shall be constructed from watertight material with watertight joints. A distribution box may be used for this purpose if it meets the following requirements: it has a minimum diameter of eight inches at the point of sample collection, the inlet is at least eight inches above the bottom of the sample port, and there is at least two inches of fall between the inlet

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and outlet of the sample port. For pump systems, a valve or tap shall be installed on the force main.

- G. Notification and Performance of Maintenance and Repairs
 - 1. The authorized operator shall alert Ecological Tanks, Inc. the LHD, and the system owner within 48 hours of needed maintenance or repair activities including but not limited to landscaping, tank sealing, tank pumping, pipe or control system repairs, aerator replacement, and adjustments to any other system component.
 - 2. The authorized operator shall notify the system owner, Ecological Tanks, Inc. and the LHD whenever the pump delivery rate efficiency or average pump run times are not within 25 percent of initial measurements conducted prior to system start-up.
 - 3. System troubleshooting and needed maintenance shall be provided to maintain the pump delivery rate and average pump run time within 25 percent of initial measurements conducted during system start-up.
 - 4. Tank compartments will be pumped as needed upon recommendation of the authorized operator and in accordance with the Ecological Tanks, Inc. O&M instructions. However, at a minimum, the septic tank will be pumped whenever the depth of both the scum and sludge is found to be more than one-third of the liquid depth in any compartment.
 - 5. The tanks shall be pumped by a properly permitted septage management firm, and the septage handled in accordance with 15A NCAC 13B .0800.
 - 6. All maintenance activities shall be logged and recorded in the authorized operator reports provided to the system owner, Ecological Tanks, Inc., and the LHD.
- H. Reporting
 - 1. The authorized operator shall provide a completed written report to the system owner, Ecological Tanks, Inc. and the LHD within 30 days of each inspection. At a minimum, this report shall specify:
 - a. The date and time of inspection;
 - b. System operating conditions measured and observed according to VIII.D and VIII.E;
 - c. Results from any laboratory analyses of any influent and effluent samples;
 - d. Maintenance activities performed since the last inspection report;
 - e. An assessment of overall system performance;
 - f. A list of any improvements or maintenance needed;
 - g. A determination of whether the system is malfunctioning, and the specific nature of the malfunction; and
 - h. Any changes made in system settings based on recommendations of the manufacturer.
 - 2. Proposal for Evaluation and Reporting
 - a. The manufacturer shall maintain a contract for evaluation of the performance of the Provisional wastewater system with an independent third-party laboratory, consultant, or other entity that has expertise in the evaluation of wastewater system and that is approved by the State.
 - b. An annual report is due with the approval renewal by November 30th every year from the third party. The report shall include the following information at a minimum:
 - i. list of all systems currently installed (including names and addresses) under the Provisional Approval;
 - ii. results of all effluent quality samples collected, including a table summarizing all the

effluent quality results;

- iii. flow monitoring information;
- iv. copies of all ORC inspection reports;
- v. assessment of system performance in relation to effluent quality standards and showing compliance with 15A NCAC 18E .1709 and .1710;
- vi. assessment of physical and chemical properties of the materials used to construct the system in terms of strength, durability, and chemical resistance to loads and conditions experienced and showing compliance with 15A NCAC 18E .1705(a)(2);
- vii. recommended areas of applicability for the system; and

viii. conditions and limitations related to the use of the system.

- c. Upon completion of the research and testing protocol, the third party shall submit a final report to the Department. This report shall be submitted in conjunction with Ecological Tanks, Inc. completing an application for Innovative Approval.
- d. The final report shall contain the following information at a minimum:
 - i. list of all systems currently installed (including names and addresses) during the Provisional Approval period;
 - ii. results of all effluent quality samples collected, including a table summarizing all the effluent quality results;
 - iii. flow monitoring information;
 - iv. copies of all authorized operator reports;
 - v. assessment of system performance in relation to effluent quality standards and showing compliance with 15A NCAC 18E .1709 and .1710;
 - vi. assessment of physical and chemical properties of the materials used to construct the system in terms of strength, durability, and chemical resistance to loads and conditions experienced and showing compliance with 15A NCAC 18E .1705(a)(2);
 - vii. recommended areas of applicability for the system; and
 - viii. conditions and limitations related to the use of the system.
- e. The final report shall be in electronic format and may be published on the On-Site Water Protection Branch's website without confidentiality. The contents of the reports shall not be altered from the original document without approval from Ecological Tanks, Inc.
- f. The research and testing protocol shall be managed by Michael Lash, PE, Lash Engineering, or other approved third-party evaluator and includes the following minimum activities outlined in a detailed protocol provided in the submittal:
 - i. A minimum of 50 complete data sets shall be collected from a minimum of 15 sites.
 - ii. A complete data set includes the following information: influent BOD and TKN, and effluent CBOD, TSS, NH4-N, and fecal coliforms. If the manufacturer chooses for TS-I system effluent to be additionally tested for TN, that information will be included in the complete data set.
 - iii. There must be at least 30 days between samples collected form any one site.
 - iv. Samples shall be collected from all sites. A site may be excluded if justification is provided that it is unsuitable as a test site. The samples from that site must be provided but will not be used as part of the data evaluation.
 - v. Each site shall produce a minimum of two sample sets collected over at least a 12month period.
 - vi. For coastal resort communities, two samples shall be collected between June 1 and September 8 of each year. The samples must be taken at least six weeks apart.

- vii. Other seasonal homes shall be sampled during the projected times of greatest use. viii. The samples will be collected during a scheduled visit by the authorized operator.
- ix. A copy of the sample results will be provided to the On-Site Water Protection branch after the analyses.
- 3. Compliance of each site and the system shall be in accordance with requirements set forth in 15A NCAC 18E .1710.
- IX. Responsibilities and Permitting Procedures
 - A. Prior to the installation of an Aqua Safe system at a site, the owner shall submit an application or Notice of Intent (NOI) to the LHD for the proposed use of this system. Improvement Permits (IP) or Construction Authorizations (CA) issued by the LHD shall have a soil and site evaluation conducted either by the LHD, LSS, or Authorized On-Site Wastewater Evaluator (AOWE). The NOI shall include a soil and site evaluation conducted by an LSS.
 - B. The IP, CA, and NOI shall contain all the conditions the site approval is based upon, including the proposed used of the Innovative system. The OP will include all conditions specified in the IP and CA. The Authorization to Operate (ATO) should include all the conditions specified in the NOI.
 - C. When a special site evaluation is required pursuant to 15A NCAC 18E .0510, an evaluation and written, sealed report from a Licensed Soil Scientist (LSS) regarding the site shall be provided to the LHD. The report shall contain the information as specified in 15A NCAC 18E .0510(d). The LHD may request the assistance of their Regional Soil Scientist in evaluating this report prior to permit issuance.
 - D. Aqua Safe systems shall be designed by either an authorized designer, AOWE, or a PE. Systems over 1,000 gpd or as otherwise required in accordance with 15A NCA C18E .0303(a) shall be designed by a PE.
 - E. Prior to issuance of a CA for an Aqua Safe system, a design submittal prepared by an authorized designer, AOWE, or PE shall be submitted. The design submittal shall include the information required in 15A NCAC 18E .0305.
 - F. It is recommended that local authorized environmental health practitioners attend a design training session offered by the manufacturer/authorized representative prior to permitting the system. Also, at the request of the LHD, an OSWP Engineer will review designs otherwise not required to be reviewed by the State.
 - G. For sites required to be evaluated by an LSS or Licensed Geologist (LG), see Section V and IX.C, the LHD, AOWE, or PE may specify as a condition of the IP and CA that an LSS or LG oversee critical phases of the dispersal field installation and certify in writing that the installation was in accordance with their specified site and installation requirements prior to the OP or ATO issuance.
 - H. The authorized operator shall be present during the final inspection of the system prior to the issuance of the OP or ATO.

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- I. The LHD shall issue the OP after the following:
 - 1. Field verification of installation completion;
 - 2. Receipt of written documentation from the authorized designer, AOWE, or PE that the system has been designed, installed, and is operating in accordance with the approved plans; and
 - 3. All necessary legal documents have been completed, including the contract between the system owner and the authorized operator.

The LHD shall issue the OP for an (a2) and (a5) application after all necessary legal documents have been completed, including the contract between the system owner and the authorized operator.

The ATO shall be submitted to the LHD in accordance with G.S. 130A-336.1 and G.S. 130A-336.2.

X. Repair of Systems

The provisions of 15A NCAC 18E .1306 shall govern the use of the Aqua Safe systems for repairs to existing malfunctioning wastewater systems.

Approved By: _____ Date: _____