



Michael F. Easley, Governor
William G. Ross Jr., Secretary
North Carolina Department of Environment and Natural Resources
Alan W. Klimek, P.E. Director
Division of Water Quality

March 24, 2006

Mr. Michael J. Meyers
Engineering & Compliance Manager
Heater Utilities, Inc.
202 MacKenan Court
Cary, NC 27511

Subject: Permit No. WQ0028798
Booth Mountain Development
Wastewater Treatment and
Reclaimed Water Utilization System
Chatham County

Dear Mr. Myers:

In accordance with your permit application received May 5, 2005, and subsequent additional information received June 2, 2005, we are forwarding herewith Permit Number WQ0028798, dated March 24, 2006, to Heater Utilities, Inc. for the construction and operation of the subject wastewater treatment and reclaimed water utilization system.

This permit shall be effective from the date of issuance until February 28, 2011, and shall be subject to the conditions and limitations as specified therein. Please pay particular attention to the monitoring requirements in this permit. Failure to establish an adequate system for collecting and maintaining the required operational information will result in future compliance problems.

If any parts, requirements, or limitations contained in this permit are unacceptable, you have the right to request an adjudicatory hearing upon written request within thirty (30) days following receipt of this permit. This request must be in the form of a written petition, conforming to Chapter 150B of the North Carolina General Statutes, and filed with the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, NC 27699-6714. Unless such demands are made this permit shall be final and binding.

One set of approved plans and specifications is being forwarded to you. If you need additional information concerning this matter, please contact Nathaniel Thornburg at (919) 715-6160.

Sincerely,

Alan W. Klimek, P.E.

NT/lj

cc: Chatham County Health Department
Raleigh Regional Office, Aquifer Protection Section
~~Mark Ashness, PE - CE Group~~
Lee Fleming, PE
Steven Levitas - Kilpatrick Stockton, LLP
Technical Assistance and Certification Unit
Aquifer Protection Central Files
LAU Files

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North Carolina
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NORTH CAROLINA
ENVIRONMENTAL MANAGEMENT COMMISSION
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

RALEIGH

WASTEWATER TREATMENT AND RECLAIMED WATER UTILIZATION PERMIT

In accordance with the provisions of Article 21 of Chapter 143, General Statutes of North Carolina as amended, and other applicable Laws, Rules, and Regulations

PERMISSION IS HEREBY GRANTED TO

Heater Utilities, Inc.

Chatham County

FOR THE

construction and operation of a 90,000 gallon per day (GPD) dual train extended aeration wastewater treatment consisting of a manually cleaned bar screen; three (3) 10,000 gallon flow equalization basins served by two (2) 75 gallon per minute (GPM) pumps and one (1) 120 cubic feet per minute (CFM) blower; a flow splitter box; four (4) 10,000 gallon anoxic basins; fourteen (14) 10,000 gallon aeration basins served by four (4) 375 CFM blowers; four (4) 7,060 gallon clarifiers served by four (4) variable speed sludge pumps; three (3) 10,000 gallon aerated sludge holding basins served by one (1) variable speed pump and the main plant blowers; two (2) 36 square foot (ft²) tertiary filters served by a 72 CFM blower; one (1) 5,400 gallon clearwell with two (2) 540 GPM backwash pumps; a 5,800 gallon mudwell with two (2) 100 GPM pumps; one (1) 2,800 gallon chlorine contact basin with two (2) variable speed chemical pumps; a 2,800 gallon dechlorination chamber; dual chemical pumps with storage tank for a phosphorous reduction system; an effluent flow measuring device; an ultraviolet (UV) bank with 10 bulbs; a 4,500 gallon dosing chamber with dual 175 GPM pumps; an effluent monitoring device; a turbidimeter; a permanent auxiliary generator; and the

construction and operation of a 66,000 GPD reclaimed water utilization system consisting of a 506,000 gallon clay lined five day upset pond with dual 100 GPM submersible pumps and audible/visual alarms; a 7.7 million gallon (MG) clay lined storage pond with dual 400 GPM vertical turbine pumps serving eleven (11) irrigation zones consisting of approximately 38.9 acres; and all associated piping, valves and appurtenances to serve the Booth Mountain Development with no discharge of wastes to the surface waters, pursuant to the application received May 5, 2005 and subsequent additional information received by the Division, and in conformity with the project plan, specifications, and other supporting data subsequently filed and approved by the Department of Environment and Natural Resources and considered a part of this permit.

See Condition III(3) for the flow capacity limitation specified by this permit.

This permit shall be effective from the date of issuance until February 28, 2011, and shall be subject to the following specified conditions and limitations:

I. PERFORMANCE STANDARDS

1. The *Booth Mountain Wastewater Irrigation Agreement* between Heater Utilities, Inc. and the MacGregor Development Company shall be executed and submitted to the Aquifer Protection Section's Central and Raleigh Regional Offices within sixty (60) days of permit issuance. This agreement shall include the following:
 - a. The agreement shall indicate the responsible party for properly storing and irrigating the entire wastewater flow in accordance with all conditions outlined in a permit issued to Heater Utilities, Inc. If the responsible party is Heater Utilities, Inc., the agreement shall stipulate measures to be taken to ensure Heater Utilities, Inc. has the operational authority to properly manage the wastewater including when, where, and the duration of effluent irrigation events.
 - b. The responsible party for irrigation shall provide a certified wastewater irrigation operator at all times in accordance with 15A NCAC 8G, including site visitation requirements.
 - c. The agreement shall also indicate that aesthetic desires or management of the common green areas for the purposes of use shall not be justifiable reasons for violating conditions of the wastewater permit including the maintenance of adequate effluent storage capacity.
 - d. The agreement shall also indicate the responsible party for conducting all sampling as required by the permit, as well as, the responsible party for record keeping with regards to storage or irrigation of effluent wastewater.
 - e. The agreement shall indicate provisions for addressing enforcement and civil penalties in instances where the MacGregor Development Company is responsible for violations of the permit issued to Heater Utilities, Inc.
 - f. The agreement may not be modified or negated without approval by the Division. In the case of the sale of the Company or any of the common green area utilized for wastewater disposal, disclosure of the agreement must be made and acceptance by the purchaser must occur prior to the MacGregor Development Company being relieved of any identified responsibilities.
2. Prior to construction and operation of Irrigation Zone Y-3, the Permittee shall submit documentation to the Aquifer Protection Section's Central and Raleigh Regional Offices demonstrating that the Permittee owns the approximately 35 acre parcel (Parcel Number 18931) currently owned by Wayne & Terry Witt and Carl & Sandra Banks.
3. Irrigation Zone Y-3 shall be filled and graded such that at least one (1) foot of vertical distance is present between the soil surface and the seasonal high water table. Upon completion of site grading and shaping on Irrigation Zone Y-3, the soil scientist shall contact the Raleigh Regional Office to inquire whether or not it will be necessary for staff to perform a revised site visit. No wastewater shall be introduced into the treatment system until written approval from the Division of Water Quality is received.
4. Upon completion of construction and prior to operation of this permitted facility, a certification must be received from a professional engineer certifying that the permitted facility has been installed in accordance with this permit, the approved plans and specifications, and other supporting materials. If this project is to be completed in phases and partially certified, you shall retain the responsibility to track further construction approved under the same permit, and shall provide a final certificate of completion once the entire project has been completed. Mail the Certification to the Land Application Unit, 1636 Mail Service Center, Raleigh, NC 27699-1636.
5. The Raleigh Regional Office, telephone number (919) 791-4200, shall be notified at least forty-eight (48) hours in advance of operation of the installed facilities so that an in-place inspection can be made. Such notification to the regional supervisor shall be made during the normal office hours from 8:00 a.m. until 5:00 p.m. on Monday through Friday, excluding State Holidays.

6. The issuance of this permit shall not relieve the Permittee of the responsibility for damages to surface water or ground water resulting from the operation of this facility.
7. The residuals generated from these treatment facilities must be disposed in accordance with General Statute 143-215.1 and in a manner approved by the Division.
8. The reclaimed water utilization facilities shall be effectively maintained and operated at all times so that there is no discharge to the surface waters, nor any contamination of ground waters, which will render them unsatisfactory for normal use. In the event that the facilities fail to perform satisfactorily, including the creation of nuisance conditions or failure of the irrigation area to adequately assimilate the wastewater, the Permittee shall take immediate corrective actions including those actions that may be required by the Division of Water Quality, such as the construction of additional or replacement wastewater treatment and disposal facilities.
9. Diversion or bypassing of the untreated wastewater from the treatment facilities is prohibited.
10. The following buffers shall be maintained:
 - a. 100 feet between wetted areas and water supply wells,
 - b. 100 feet between wetted areas and waters classified as SA,
 - c. 25 feet between wetted areas and surface waters not classified as SA,
 - d. 100 feet between wastewater treatment units and wells,
 - e. 50 feet between reclaimed water storage/irrigation ponds and property lines, and
 - f. 50 feet between wastewater treatment units and property lines.
11. Public access to the irrigation sites shall be controlled during active site use. Such controls may include the posting of signs showing the activities being conducted at each site. A sign shall be posted in plain sight in the clubhouse showing these activities.
12. The disposal system shall be connected to a rain or moisture sensor that shall indicate when wastewater application is not appropriate in accordance with Condition II(4) of this permit.
13. The following shall be requirements for the reclaimed water distribution, storage, and utilization facilities:
 - a. All reclaimed water valves, storage facilities, and outlets shall be tagged or labeled to warn the public or employees that the water is not intended for drinking. Where appropriate, such warning shall inform the public or employees to avoid contact with the water.
 - b. All reclaimed water piping, valves, outlets, and other appurtenances shall be color-coded, taped, or otherwise marked to identify the source of the water as being reclaimed water.
 - i. All reclaimed water piping and appurtenances shall be either colored purple (i.e., Pantone 522) and embossed or integrally stamped or marked "CAUTION: RECLAIMED WATER – DO NOT DRINK" or be installed with a purple (i.e., Pantone 522) identification tape or polyethylene vinyl wrap. The warning shall be stamped on opposite sides of the pipe and repeated every three feet or less.
 - ii. Identification tape shall be at least three inches wide and have white or black lettering on purple (i.e., Pantone 522) field stating "CAUTION: RECLAIMED WATER – DO NOT DRINK." Identification tape shall be installed on top of reclaimed water pipelines, fastened at least every 10 feet to each pipe length and run continuously the entire length of the pipe.
 - c. All reclaimed water valves and outlets shall be of a type, or secured in a manner, that permits operation by authorized personnel only.
 - d. Above-ground hose bibs (i.e., spigots or other hand-operated connections) shall not be present. Hose bibs shall be located in locked below-grade vaults that shall be clearly labeled as being of non-potable quality. As an alternative to the use of locked below-grade vaults with standard hose bibs services, hose bibs, which can only be operated by a special tool or

connected to a special hose connection, may be placed in non-lockable underground service boxes clearly labeled as non-potable water.

II. OPERATION AND MAINTENANCE REQUIREMENTS

1. The facilities shall be properly maintained and operated at all times.
2. Upon classification of the wastewater treatment and irrigation facilities by the Water Pollution Control System Operators Certification Commission (WPCSOCC), the Permittee shall designate and employ a certified operator to be in responsible charge (ORC) and one or more certified operator(s) to be back-up ORC(s) of the facilities in accordance with 15A NCAC 8G .0201. The ORC shall visit the facilities in accordance with 15A NCAC 8G .0204 or as specified in this permit and shall comply with all other conditions specified in these rules.
3. A suitable, year-round vegetative cover shall be maintained on the irrigation areas.
4. Irrigation shall not be performed during inclement weather or when the ground is in a condition that will cause runoff.
5. Adequate measures shall be taken to prevent wastewater runoff from the irrigation field.
6. The facilities shall be effectively maintained and operated as a non-discharge system to prevent the discharge of any wastewater resulting from the operation of this facility.
7. The application and instantaneous loading (i.e. dosing rate) rates shall not exceed the following:

Spray Zone	Area (acres)	Dominant Soil Series	Instantaneous Loading Rate* (inches/dose)	Annual Loading Rate (inches/year)
X-1	4.0	Pacolet	0.10	28.5
X-2	10.5	Pacolet	0.10	28.5
X-3	4.9	Appling	0.10	28.5
X-4A	5.4	Vance	0.10	28.5
X-4B	2.2	Wedowee	0.10	28.5
X-5	2.6	Louisburg	0.10	28.5
X-6	1.5	Louisburg	0.10	28.5
Y-1A	0.2	Helena	0.10	7.0
Y-1B	1.2	Helena	0.10	7.0
Y-2	3.7	Helena	0.10	7.0
Y-3	2.7	Creedmoor/White Store	0.10	7.0
Total	38.9			

* The Permittee shall not apply more than one (1) dose to each field per hour, thus limiting the instantaneous loading rate to 0.1 inches/hour.

8. An automatically activated standby power source shall be on site and operational at all times. If a generator is employed as an alternate power supply, it shall be tested weekly by interrupting the primary power source.

9. No type of wastewater other than that from the Booth Mountain Development shall be irrigated onto the irrigation area.
10. Freeboard in the storage and upset ponds shall not be less than two (2) feet at any time.
11. A waste-level gauge, to monitor waste levels in the storage pond, shall be installed within 60 days of construction. This gauge shall have readily visible permanent markings indicating the maximum liquid level at the top of the temporary liquid storage volume, minimum liquid level at the bottom of the temporary liquid storage volume, and top of the dam elevations. Caution must be taken not to damage the integrity of the liner when installing the gauge.
12. A protective vegetative cover shall be established and maintained on all earthen basin embankments (outside toe of embankment to maximum pumping elevation), berms, pipe runs, erosion control areas, and surface water diversions. Trees, shrubs, and other woody vegetation shall not be allowed to grow on the earthen basin dikes or embankments. Earthen basin embankment areas shall be kept mowed or otherwise controlled and accessible.
13. All wastewater shall be routed to the five-day holding pond should the limit for fecal coliform (daily maximum concentration of 25 per 100 ml) or turbidity (instantaneous maximum of 10 NTU) be exceeded, until such time that the problems associated with the treatment capability of the wastewater treatment plant have been corrected. The wastewater in the five-day holding pond shall be pumped back to the treatment plant for re-treatment or treated in the five-day pond prior to discharge to the storage pond.

III. MONITORING AND REPORTING REQUIREMENTS

1. Any monitoring (including groundwater, surface water, soil or plant tissue analyses) deemed necessary by the Division to insure surface and ground water protection will be established and an acceptable sampling reporting schedule shall be followed.
2. Influent flow shall be continuously monitored and daily flow values shall be reported on Form NDMR. Influent flow may be represented by effluent flow from the wastewater treatment system prior to storage.

The Permittee shall install an appropriate flow measurement device consistent with approved engineering and scientific practices to ensure the accuracy and reliability of influent flow measurement. Flow measurement devices selected shall be capable of measuring flows with a maximum deviation of less than 10 percent from true flow, accurately calibrated at a minimum of once per year, and maintained to ensure that the accuracy of the measurements is consistent with the accepted capability of that type of device. The Permittee shall keep records of flow measurement device calibration on file for a period of at least three years. At a minimum, data to be included in this documentation shall be:

- a. Date of flow measurement device calibration
- b. Name of person performing calibration
- c. Percent from true flow

3. As an indicator of proper operation and maintenance, the facility shall produce an effluent in compliance with the following limitations:

Parameter	Monthly Average ^a	Daily (Instantaneous) Maximum ^c
Flow	66,000 GPD	
BOD ₅ (5-day, 20°C)	10 mg/l	15 mg/l
NH ₃ as N	4 mg/l	6 mg/l
TSS	5 mg/l	10 mg/l
Fecal Coliform	14 per 100 ml ^b	25 per 100 ml
Turbidity		10 NTU

The effluent pH shall not be less than 6.0 standard units nor greater than 9.0 standard units.

^a Monthly averages for all but fecal coliform shall be the arithmetic mean of all samples collected during the reporting period.

^b Monthly average for fecal coliform shall be the geometric mean of all samples collected during the reporting period.

^c Daily maximum shall be the maximum value of all samples collected during the reporting period.

The Permittee shall monitor the effluent from the subject facilities at a point prior to irrigation for the following parameters:

Parameter	Sampling Point	Sampling Frequency	Type of Sample
Flow	Influent or Effluent	Continuous	Recording
Turbidity	Effluent	Continuous	Recording
BOD ₅ (5-day, 20°C)	Effluent	*2/Month	Composite
NH ₃ as N	Effluent	*2/Month	Composite
TSS	Effluent	*2/Month	Composite
Fecal Coliform	Effluent	*2/Month	Grab
Settleable Matter	Effluent	Daily	Grab
Residual Chlorine	Effluent	Daily	Grab
NO ₃	Effluent	**Quarterly	Grab
TDS	Effluent	**Quarterly	Grab
TOC	Effluent	**Quarterly	Grab
Chloride	Effluent	**Quarterly	Grab
pH	Effluent	**Quarterly	Grab

* 2/Month sampling frequency only during the months of April through October. During the remainder of the year, these parameters shall be monitored monthly.

** Quarterly sampling shall be conducted during March, June, September and December.

If Groundwater sampling indicates or predicts problems with the compliance with Groundwater Standards, this permit will be modified to include additional and/or more restrictive limitations.

4. The Permittee shall monitor the surface water at the specified locations for the following parameters:

Parameter	Sampling Points *	Sampling Frequency	Type of Sample
Fecal Coliform	Surface Water Station 1	** Quarterly	Grab
pH	Surface Water Station 1	** Quarterly	Grab
Total Nitrogen	Surface Water Station 1	** Quarterly	Grab
Total Phosphorus	Surface Water Station 1	** Quarterly	Grab
Water Level	Surface Water Station 1	** Quarterly	Measurement

* Refer to Figure 1 for sampling location.

** Quarterly sampling shall be conducted during March, June, September and December.

5. The Permittee shall maintain adequate records tracking the amount of wastewater disposed. These records shall include, but are not necessarily limited to the following information:
- Date and time of irrigation,
 - Volume of wastewater irrigated,
 - Zone irrigated,
 - Length of time zone is irrigated,
 - Continuous weekly, monthly, and year-to-date hydraulic (inches/acre) loadings for each zone,
 - Weather conditions, and
 - Maintenance of cover crops.
6. Freeboard in the storage pond shall be recorded weekly.
7. Three (3) copies of all monitoring data [as specified in Conditions III(2), III(3) and III(4)] on Form NDMR-1 and three (3) copies of all operation and disposal records [as specified in Conditions III(5) and III(6)] on Form NDAR-1 shall be submitted monthly on or before the last day of the following month. All information shall be submitted to the following address:

NC Division of Water Quality
 Information Processing Unit
 1617 Mail Service Center
 Raleigh, North Carolina 27699-1617

8. A record shall be maintained of all residuals removed from this facility. This record shall include the name of the hauler, permit authorizing the disposal or a letter from a municipality agreeing to accept the residuals, date the residuals were hauled, and volume of residuals removed.
9. A maintenance log shall be maintained at this facility including but not limited to the following items:
- Daily sampling results of dissolved oxygen in the aeration basin and at the clarifier weir.
 - Visual observations of the plant and plant site.
 - Record of preventative maintenance (changing of filters, adjusting belt tensions, alarm testing, diffuser inspections and cleanings, etc.).
 - Date of calibration of flow measurement device.
 - Date and results of power interruption testing on alternate power supply.

10. An annual representative soils analysis (Standard Soil Fertility Analysis) shall be conducted on each irrigation field and the results maintained on file by the Permittee for a minimum of five years. The Standard Soil Fertility Analysis shall include, but is not necessarily limited to, the following parameters:

Acidity	Manganese	Potassium
Calcium	Percent Humic Matter	Sodium
Copper	pH	Zinc
Magnesium	Base Saturation (by calculation)	Phosphorus
Cation Exchange Capacity	Exchangeable Sodium Percentage	

11. Noncompliance Notification:

The Permittee shall report by telephone to the Raleigh Regional Office, telephone number (919) 571-4700, as soon as possible, but in no case more than 24 hours or on the next working day following the occurrence or first knowledge of the occurrence of any of the following:

- a. Any occurrence at the wastewater treatment facility which results in the treatment of significant amounts of wastes which are abnormal in quantity or characteristic, such as the dumping of the contents of a sludge digester; the known passage of a slug of hazardous substance through the facility; or any other unusual circumstances.
- b. Any process unit failure, due to known or unknown reasons, that render the facility incapable of adequate wastewater treatment such as mechanical or electrical failures of pumps, aerators, compressors, etc.
- c. Any failure of a pumping station, sewer line, or treatment facility resulting in a by-pass directly to receiving waters without treatment of all or any portion of the influent to such station or facility.
- d. Any time that self-monitoring information indicates that the facility has gone out of compliance with its permit limitations.

Occurrences outside normal business hours may also be reported to the Division's Emergency Response personnel at telephone number (800) 662-7956, (800) 858-0368, or (919) 733-3300. Persons reporting such occurrences by telephone shall also file a written report in letter form within five (5) days following first knowledge of the occurrence. This report must outline the actions taken or proposed to be taken to ensure that the problem does not recur.

IV. GROUNDWATER REQUIREMENTS

1. Prior to beginning waste disposal operations, one (1) upgradient monitor well (MW-1) and three (3) downgradient monitor wells (MW-2, MW-3 and MW-4) shall be installed to monitor groundwater quality. The well(s) shall be constructed such that the water level in the well is never above or below the screened (open) portion of the well at any time during the year. The general location and name for each well is marked on Figure 1. Each monitoring well shall be located at the review boundary, constructed in accordance with this permit, and approved by the Raleigh Regional Office.
2. All wells that are constructed for purposes of groundwater monitoring shall be constructed in accordance with 15A NCAC 2C .0108 (Standards of Construction for Wells Other than Water Supply) and any other state and local laws and regulations pertaining to well construction.

3. The Raleigh Regional Office, telephone number (919) 791-4200, shall be notified at least forty-eight (48) hours prior to the construction of any monitoring well so that an inspection can be made of the monitoring well location. Such notification to the regional Aquifer Protection supervisor shall be made during the normal office hours from 8:00 a.m. until 5:00 p.m. on Monday through Friday, excluding state holidays.
4. Within sixty (60) days of completion of all monitoring wells, the permittee shall submit two original copies of a scaled topographic map (scale no greater than 1":100') signed and sealed by a professional engineer or a state licensed land surveyor that indicates all of the following information:
 - a. The location and identity of each monitoring well,
 - b. The location of the waste disposal system,
 - c. The location of all property boundaries,
 - d. The latitude and longitude of the established horizontal control monument,
 - e. The relative elevation of the top of the well casing (which shall be known as the "measuring point"), and
 - f. The depth of water below the measuring point at the time the measuring point is established.

The survey shall be conducted using approved practices outlined in North Carolina General Statutes Chapter 89C and the North Carolina Administrative Code Title 21, Chapter 56. The surveyor shall establish a horizontal control monument on the property of the waste disposal system and determine the latitude and longitude of this horizontal control monument to a horizontal positional accuracy of +/- 10 feet. All other features listed in a. through e. above shall be surveyed relative to this horizontal control monument. The positional accuracy of features listed in a. through e. above shall have a ratio of precision not to exceed an error of closure of 1 foot per 10,000 feet of perimeter of the survey. Any features located by the radial method will be located from a minimum of two points. Horizontal control monument shall be installed in such a manner and made of such materials that the monument will not be destroyed due to activities that may take place on the property. The map shall also be surveyed using the North American Datum of 1983 coordinate system and shall indicate the datum on the map. All bearings or azimuths shall be based on either the true or NAD 83 grid meridian. If a Global Positioning System (GPS) is used to determine the latitude and longitude of the horizontal control monument, a GPS receiver that has the capability to perform differential GPS shall be used and all data collected by the GPS receiver will be differentially corrected.

The maps and any supporting documentation shall be sent to the N.C. Division of Water Quality, Aquifer Protection Section, Land Application Unit, 1636 Mail Service Center, Raleigh, N.C. 27699-1636.

5. Upon completion of all well construction activities, a certification must be received from a professional engineer certifying that the monitoring wells are located and constructed in accordance with the Well Construction Standards (15A NCAC 2C) and this permit. This certification should be submitted with copies of the Well Completion Form (GW-1) for each well. Mail this certification and the associated GW-1 forms to the Aquifer Protection Section, Land Application Unit, 1636 Mail Service Center, Raleigh, N.C. 27699-1636.
6. For the initial sampling of the well as specified elsewhere in the permit, the permittee shall submit a copy of the GW-1 Form (Well Completion Form) with the Compliance Monitoring Form (GW-59) for that well. Compliance Monitoring Forms that do not include copies of the GW-1 form will be returned to the permittee without being processed. Failure to submit these forms as required by this permit may result in the initiation of enforcement activities pursuant to NC General Statutes 143-215.6.

7. Monitor wells MW-1, MW-2, MW-3 and MW-4 shall be sampled initially after construction (and prior to waste disposal operations) and thereafter every March, June, September and December for the following parameters:

Water Level	Chloride	Total Organic Carbon (TOC)
Nitrate (NO ₃ -N)	Fecal Coliforms	Total Ammonia Nitrogen (NH ₃ -N)
pH	Total Dissolved Solids (TDS)	Total Phosphorus

8. The measurement of water levels must be made prior to sampling for the remaining parameters. The depth to water in each well shall be measured from the surveyed point on the top of the casing.
9. The measuring points (top of well casing) of all monitoring wells shall be surveyed to provide the relative elevation of the measuring point for each monitoring well.
10. If TOC concentrations greater than 10 mg/l are detected in any downgradient monitoring well, additional sampling and analysis must be conducted to identify the individual constituents comprising this TOC concentration. If the TOC concentration as measured in the background monitor well exceeds 10 mg/l, this concentration will be taken to represent the naturally occurring TOC concentration. Any exceedances of this naturally occurring TOC concentration in the downgradient wells shall be subject to the additional sampling and analysis as described above.
11. The results of the sampling and analysis must be received on Form GW-59 (Groundwater Quality Monitoring: Compliance Report Form) by the Division of Water Quality, Information Processing Unit, 1617 Mail Service Center, Raleigh, North Carolina 27699-1617 on or before the last working day of the month following the sampling month.
12. Waste shall not be applied or discharged onto or below the land surface when the vertical separation between the waste and the seasonal high water table is less than one (1) foot.
13. The five day upset pond shall have either a liner of natural material at least one (1) foot in thickness and having a hydraulic conductivity of no greater than 1×10^{-6} centimeters per second when compacted, or a synthetic liner of sufficient thickness to exhibit structural integrity and an effective hydraulic conductivity no greater than that of the natural material liner, according to 15A NCAC 2H .0219(f).
14. The Compliance Boundary and Review Boundary for the waste disposal area(s) is specified by regulations in 15A NCAC 2H, Waste Not Discharged to Surface Waters, specifically, .0219(k)(1)(C)(i)(III). The Compliance Boundary and Review Boundary for groundwater shall be established at the property boundary. An exceedance of Groundwater Quality Standards at or beyond the Compliance Boundary is subject to remediation action according to 15A NCAC 2L .0106(d)(2).

V. INSPECTIONS

1. Adequate inspection, maintenance, and cleaning shall be provided by the Permittee to insure proper operation of the subject facilities.
2. The Permittee or his designee shall inspect the wastewater treatment and disposal facilities to prevent malfunctions and deterioration, operator errors and discharges which may cause or lead to the release of wastes to the environment, a threat to human health, or a nuisance. The Permittee shall keep an inspection log or summary including at least the date and time of inspection, observations made, and any maintenance, repairs, or corrective actions taken by the Permittee. This log of inspections shall be maintained by the Permittee for a period of three years from the date of the inspection and shall be made available upon request to the Division or other permitting authority.
3. Any duly authorized officer, employee, or representative of the Division may, upon presentation of credentials, enter and inspect any property, premises or place on or related to the disposal site or facility at any reasonable time for the purpose of determining compliance with this permit; may inspect or copy any records that must be maintained under the terms and conditions of this permit, and may obtain samples of groundwater, surface water, or leachate.

VI. GENERAL CONDITIONS

1. This permit shall become voidable unless the facilities are constructed in accordance with the conditions of this permit, the approved plans and specifications, and other supporting data.
2. This permit is effective only with respect to the nature and volume of wastes described in the application and other supporting data.
3. This permit is not transferable. In the event there is a desire for the facilities to change ownership, or there is a name change of the Permittee, a formal permit request must be submitted to the Division accompanied by an application fee, documentation from the parties involved, and other supporting materials as may be appropriate. The approval of this request will be considered on its merits and may or may not be approved.
4. Failure to abide by the conditions and limitations contained in this permit may subject the Permittee to an enforcement action by the Division in accordance with North Carolina General Statute 143-215.6A to 143-215.6C.
5. The issuance of this permit does not exempt the Permittee from complying with any and all statutes, rules, regulations, or ordinances which may be imposed by other government agencies (local, state, and federal) which have jurisdiction, including but not limited to applicable river buffer rules in 15A NCAC 2B.0200, erosion and sedimentation control requirements in 15A NCAC Chapter 4 and under the Division's General Permit NCG010000, and any requirements pertaining to wetlands under 15A NCAC 2B .0200 and 2H .0500.
6. The Permittee shall retain a set of approved plans and specifications for the subject facility for the life of the project.
7. The Permittee shall pay the annual administering and compliance fee within thirty days of being billed by the Division. Failure to pay the fee accordingly may cause the Division to initiate action to revoke this permit as specified by 15 NCAC 2H .0205 (c)(4).

8. The Permittee, at least six (6) months prior to the expiration of this permit, shall request its extension. Upon receipt of the request, the Commission will review the adequacy of the facilities described therein, and if warranted, will extend the permit for such period of time and under such conditions and limitations as it may deem appropriate.

Permit issued this the 24th day of March, 2006

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION



Alan W. Klimek, P.E., Director
Division of Water Quality
By Authority of the Environmental Management Commission

Permit Number WQ0028798

Permit No. WQ0028798
March 24, 2006

ENGINEER'S CERTIFICATION

_____ Partial _____ Final

I, _____, as a duly registered Professional Engineer in the State of North Carolina, having been authorized to observe (periodically, weekly, full time) the construction of the project,

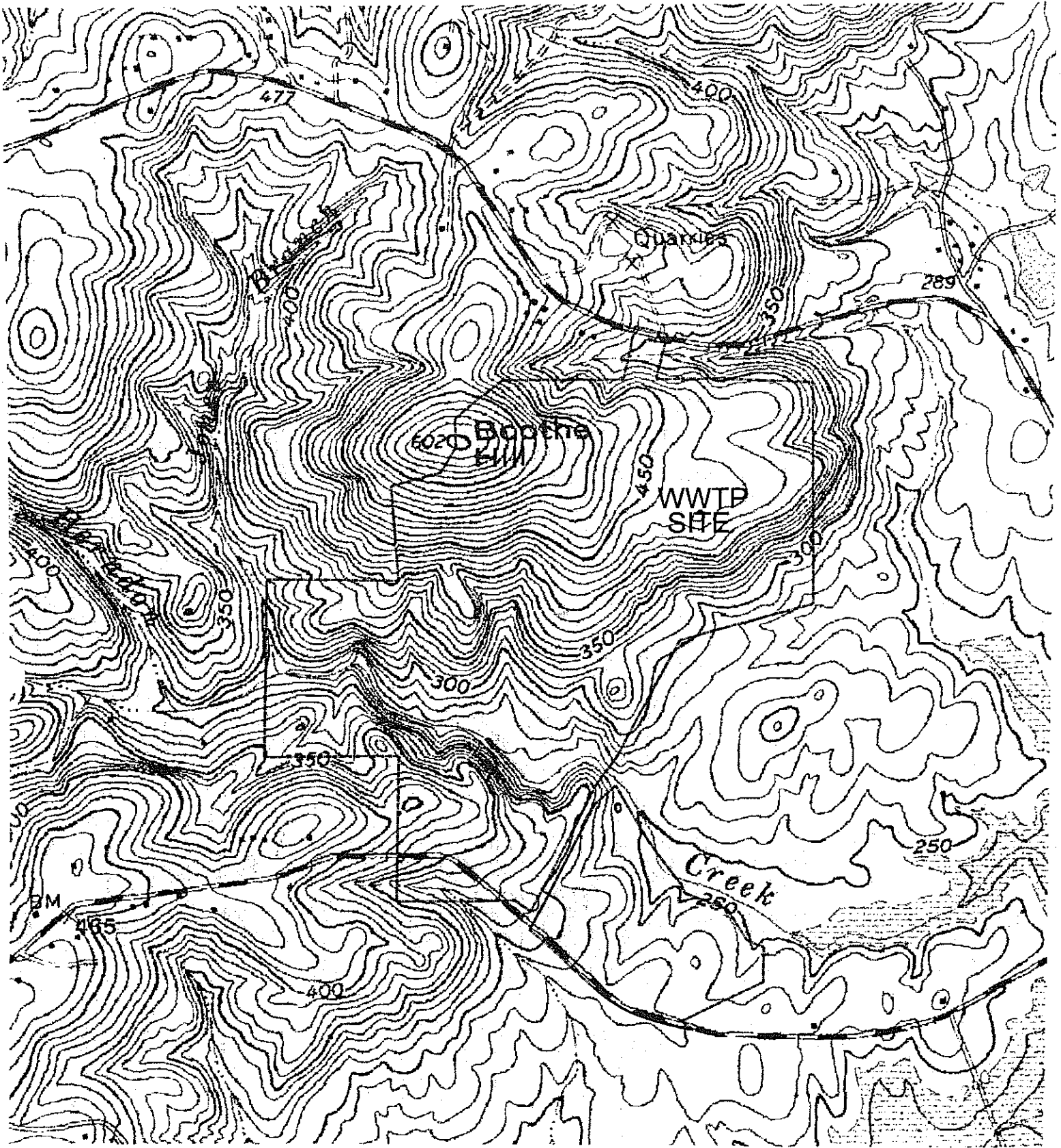
Project Name

Location and County

for the Permittee hereby state that, to the best of my abilities, due care and diligence was used in the observation of the construction such that the construction was observed to be built within substantial compliance and intent of this permit, the approved plans and specifications, and other supporting materials.

Signature _____ Registration No. _____

Date _____



Heater Utilities, Inc.
Booth Mountain Development

0' 500' 0 1000' 2000'



SCALE: 1" = 1000'

1000 78798



NORTH

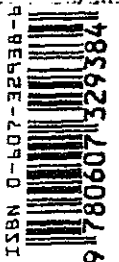
April 19, 2005

FARRINGTON, N. C.

N3545-W7900/7.5

1978 **D225E**

PHOTOREVISED 1981
DMA 5155 I SE-SERIES V842



**WATER POLLUTION CONTROL SYSTEM OPERATORS
CERTIFICATION COMMISSION**

**CLASSIFICATION
RATING SHEET FOR WATER POLLUTION CONTROL SYSTEMS**

FACILITY INFORMATION:

NAME OF FACILITY: Heater Utilities, Inc.-Booth Mountain Development

MAILING ADDRESS: 202 MacKenan Ct., Cary, NC 27511

COUNTY: Chatham

CONTACT PERSON: Mike Myers

TELEPHONE: 919/467-8712

PERMIT NO.: WQ0028798

Check One: NC

WQ

HEALTH DP

ORC:

TELEPHONE:

RATING INFORMATION: (Before completing this section, please refer to pages 2-4)

PERMITTED FLOW: 66,000 GPD

BNR?

YES

NO

CHECK CLASSIFICATION: WASTEWATER:

1

2

3

4

COLLECTION:

1

2

3

4

SPRAY IRRIGATION

SUBSURFACE

LAND APPLICATION

PHYSICAL/CHEMICAL

GRADE I

GRADE II

RATED BY: Randy Jones

REGION: RRO

DATE: 5/23/05

REGIONAL OFFICE TELEPHONE NUMBER: 919/571-4700

EXT: 255

Classification of Biological Water Pollution Control Treatment Systems:

Grade I Biological WPCS

- Septic tank/sand filter systems
- Biological lagoon systems
- Constructed wetlands and associated appurtenances

√

Grade II Biological WPCS

- Systems that utilize an activated sludge or fixed growth process with a permitted flow less than or equal to 0.5 million gallons per day (mgd)

Grade III Biological WPCS

- Systems that utilize an activated sludge or fixed growth process with a permitted flow of greater than 0.5 through 2.5 million gallons per day (mgd)
- Grade II systems that are required to achieve biological nutrient reduction *

Grade IV Biological WPCS

- Systems that utilize an activated sludge or fixed growth process with a permitted flow of greater than 2.5 million gallons per day (mgd)
- Grade III systems that are required to achieve biological nutrient reduction *

* *Biological Nutrient Reduction -*

The reduction of total nitrogen or total phosphorus by an activated sludge or fixed growth process as required by the facilities permit.

.....

Classification of Collection Water Pollution Control Systems:

(whichever provides lowest grade)

Same grade as biological water pollution control system. Grade of system:

Based on population served:

1,500 or Less = Grade I

1,501 to 15,000 = Grade II

15,001 to 50,000 = Grade III

50,001 or more = Grade IV

Classification of Spray Irrigation Water Pollution Control Systems:

- Systems which utilize spray irrigation for the reuse or disposal of wastewater. These systems include: septic tanks, sand filter, oil/water separators, lagoons, storage basins, screening, sedimentation. Systems other than those listed above shall be subject to additional classification.
-

Classification of Land Application of Residuals Systems:

- Systems permitted and dedicated for the land application of residuals that are produced by a water pollution control system or contaminated soils.
-

Classification of Physical/Chemical Water Pollution Control Treatment Systems:

- Grade I Physical/Chemical: Any water pollution control system that utilizes a primarily physical process to treat wastewater. This classification includes groundwater remediation systems **

- Grade II Physical/Chemical: Any water pollution control system that utilizes a primarily chemical process to treat wastewater. This classification includes reverse osmosis, electro dialysis, and ultrafiltration systems. **

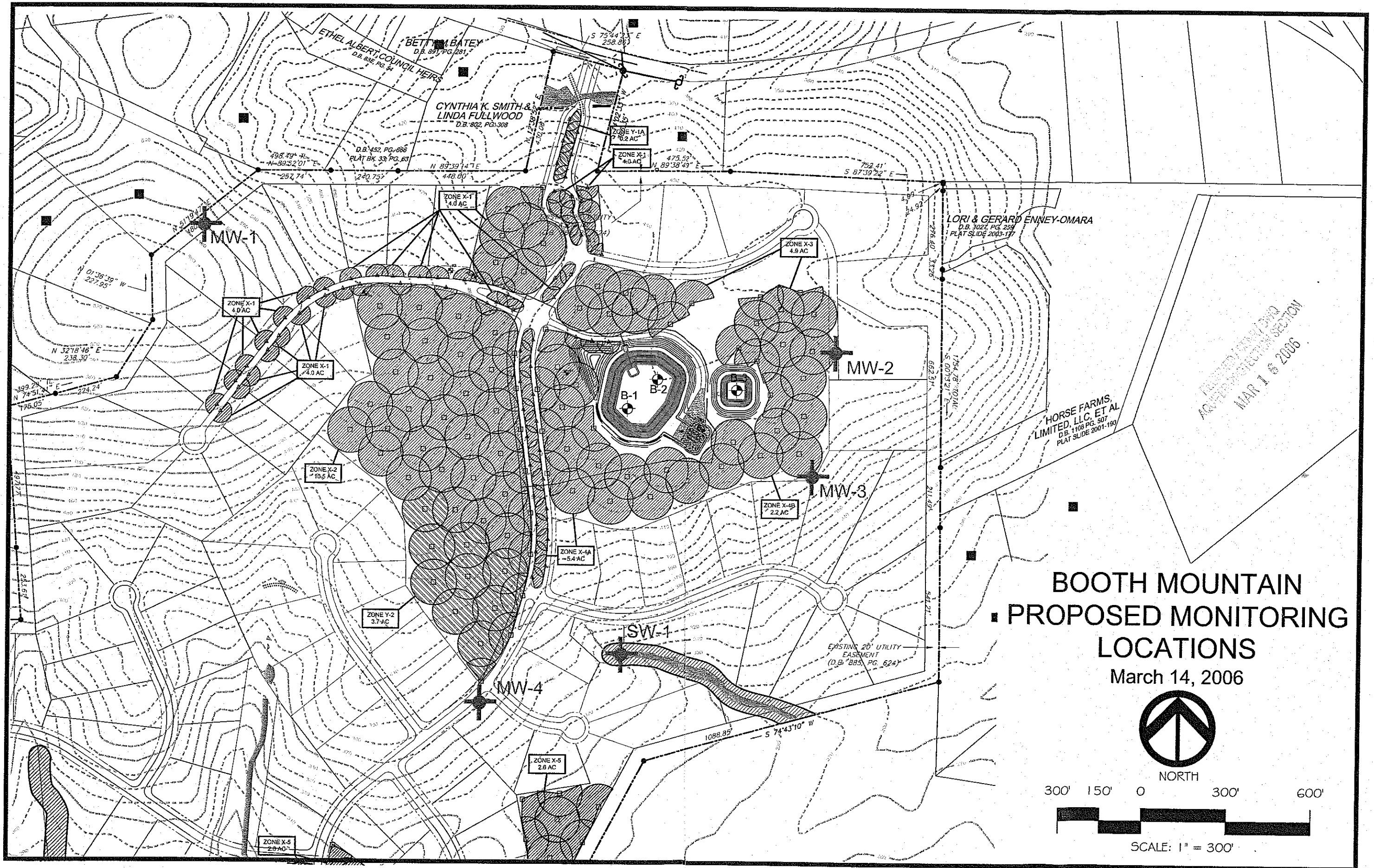
*** Any water pollution control system that utilizes a physical/chemical process to enhance an activated sludge or fixed growth process, shall not be subject to additional classification*

.....

Classification of Subsurface Water Pollution Control Systems:

- Systems which utilize the soil for subsurface treatment and disposal of wastewater and/or are required to have a certified operator under 15A NCAC 18A.1961. ***

**** Any subsurface system that has as part of its treatment process a water pollution control system that may be classified under Rules .0302 through .0307 of this section shall be subject to additional classification.*



SUBDIVISION: WESTFALL

DIRECTIONS: LOCATED OFF LYSTRA RD (SOUTH SIDE)
NEXT TO BOUTHE HILL SUBDIVISION
WESTFALL

DEVELOPER: ASSOCIATES, LLC PHONE NUMBER: _____

Major Development: X Minor Development: _____

Development with acreage of 10 acreage of 10 acres or more: _____

Proposed road names	OK to submit	DUPLICATED Do not Submit
<u>LYSTRA GRANT CT</u>	<u>✓</u>	_____
<u>WEST BEECH SLOPE CT</u>	<u>✓</u>	_____
<u>FUTRELL RIDGE CT</u>	<u>✓</u>	_____
<u>FUTRELL GRANT CT</u>	<u>✓</u>	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

DATE SUBMITTED TO EOC: 11-26-12

SUBMITTED BY: Joe Faulkner

EOC OFFICER: Lesa Chais

DATE ROADS APPROVED: 11-21-12

DATE FINAL PLAT RECEIVED: _____

DATE GIVEN TO 911: _____

DATE CONTACT MADE WITH NUMBERS: _____

SURROUNDING COUNTY CONTACTED: 11-21-12 - verified on-line

PERSON SPOKEN WITH: _____

COMMENTS: _____

revised 4/19/02





Chatham County, NC Stormwater Permit

STORMWATER PERMIT#: 2015-006

On the date listed below, the Chatham County Stormwater Administrator received a request to consider the following application:

Application Date:	August 21, 2015	Approval Date:	September 17, 2015
Record Owner(s):	Westfall Associates, LLC		
Property Location:	Westfall Phase 5A – Lots 34-36 and 100-116, off West Beech Slope Court Westfall Phase 6A – Lots 18-33, off Futrell Ridge Court		
Parcel Identification Number & Lot #:	87109 & 20092	Acreage:	+/-38.56 acres (this phase)
Built-Upon Area Coverage (acres):	7.43 acres	Total Disturbed Area:	8.50 (this phase)

Type and Number of BMPs Proposed: A wet pond designed for 90% TSS removal efficiency will be utilized for stormwater control for Phase 6A and a portion of Phase 5A. The existing WQ Pond #13 in Phase 2A will treat the runoff for the remaining area of Phase 5A and was designed to receive this drainage. A hydraulic analysis showed that peak flows from the 1, 2, 5 and 10 year storms would not adversely impact the capacity of the receiving stream in accordance with Section 165.045 (F)(1)(c) of the Stormwater Ordinance. Nutrient outflow from the development has been shown to meet the required discharge limits for the Lower New Hope Watershed of Jordan Lake.

SECTION 1. APPROVAL. Having reviewed the application and all supporting materials the Stormwater Administrator has determined that the application is complete, and subject to the conditions imposed below, and the proposed development meets the requirements of the Chatham County Stormwater Ordinance.

SECTION 2. CONDITIONS. Therefore, the above referenced site and land used is hereby approved and subject to all applicable provisions of the Chatham County Stormwater Ordinance, Sections 3 and 4 of this permit, and the following condition(s) which the Stormwater Administrator finds necessary for the proposed development to meet the intent of the ordinance:

1. This permit shall be valid for a period of two years from the date of issuance unless a valid building permit has been issued and maintained for the site or the permit has been revoked by Chatham County. If, after two years the permitted activity has not begun nor a valid building permit secured, this permit shall expire.
2. The development of the tract shall proceed in conformity to all plans, design features, and restrictions submitted as part of the stormwater permit application and kept on file by the Chatham County Planning Department except that the Chatham County Stormwater Administrator may approve *minor* changes to such plans as required by field conditions.

Environmental Quality Department – P.O. Box 1550, Pittsboro, NC 27312 – Phone: 919-542-0945 – Fax: 919-542-0058

3. All other required applications must be received and permits must be obtained prior to the start of the work. These may include, but are not limited to, the following:
Soil Erosion and Sedimentation Control; Flood Damage Prevention; Subdivision, Building Permits and Inspections; NC Department of Transportation; NC Division of Water Quality; US Army Corps of Engineers; and NC DENR-Dam Safety.
4. The footprint and stormwater management devices as well as all maintenance access areas shall be located in recorded easement areas. The final plats for the project showing all such easement areas shall be in accordance with the approved plans.
5. Maintenance activities for the stormwater management devices shall be performed in accordance with the notarized O&M agreements. O&M agreements must transfer with the sale of the land or transfer of ownership/responsibility for the stormwater devices.
6. Upon completion of a project and before a Certificate of Completion shall be granted, the applicant shall certify that the completed project is in accordance with the approved stormwater management plans and designs and the pond must be landscaped in accordance with the NC DWQ BMP Manual. Upon completion, the applicant shall submit actual "as-built" plans for all stormwater management measures after final construction is completed.

SECTION 3. VESTED RIGHTS. Approval of this permit confers upon the property the right to develop with the type and intensity of use only as such relates to the requirements of the stormwater ordinance and in the manner as herein described and as shown on the approved site plan. Development of the property, however, shall be subject to any and all future amendments to this ordinance which do not affect such type and intensity of use and shall proceed in full compliance with all other applicable local, state and federal regulations.

SECTION 4. DEED RESTRICTION-PROTECTIVE COVENANT. The following italicized deed restrictions and protective covenants shall be recorded for all subdivisions, outparcels, and future development prior to the sale of any lot.

Development of subject property is required to be in accordance with the Chatham County Stormwater Ordinance. The recording of this document establishes an enforceable restriction of property usage that runs with the land to ensure that future development and/or redevelopment shall maintain the site in a manner consistent with applicable law and the approved project plans. Any alterations to the site shall not be permitted without review and approval by Chatham County.

SECTION 5. SEVERABILITY. Invalidation of any one or more of the conditions set forth herein shall not adversely affect the balance of said conditions, which shall remain in full force and effect.



Dan J. LaMontagne, P.E.
Stormwater Administrator

Cc: Lynn Richardson, Subdivision Administrator, Planning Department
Rebecca McIver, Central Permitting Coordinator



Soil Erosion and Sedimentation Control

LETTER OF APPROVAL

10/19/2015

Westfall Associates, LLC
128 Yorkchester Way
Raleigh, NC 27615
Attn: Jan R. Futrell

RE:	Project Name:	Westfall Subdivision 5A & 6A
	Project Number:	2015-045
	Acres approved:	8.50
	Total Acres:	38.56
	Submitted by:	Joe Faulkner, CE Group, Inc.
	Date Received:	10/2/2015

Dear Madam,

This office has reviewed the subject erosion and sedimentation control plan. We find the plan to be acceptable and hereby issue this Letter of Approval. The enclosed Certificate of Approval must be posted at the job site. This plan approval shall expire two (2) years following the date of approval, if no land-disturbing activity has been undertaken.

Section 10 (l) of the Chatham County Sedimentation and Erosion Control Ordinance requires that a copy of the approved erosion control plan be on file at the job site. Also, this letter gives the notice required by G.S. 113A-61.1(a) of our right of periodic inspection to insure compliance with the approved plan.

North Carolina's Sedimentation Pollution Control Act is performance-oriented, requiring protection of existing natural resources and adjoining properties. If, following the commencement of this project, the erosion and sedimentation control plan is inadequate to meet the requirements of the Chatham County Sedimentation and Erosion Control Ordinance, this office may require revisions to the plan and implementation of the revisions to insure compliance with the Act.

Acceptance and approval of this plan is conditioned upon your compliance with Federal and State water quality laws, regulations, and rules. In addition, local city or county ordinances or rules may



also apply to this land-disturbing activity. This approval does not supersede any other permit or approval.

Please be aware that your project will be covered by the enclosed NPDES General Stormwater Permit NCGO1000 (Construction Activities). You should first become familiar with all of the requirements for compliance with the enclosed general permit.

Please note that this approval is based in part on the accuracy of the information provided in the Financial Responsibility Form, which you provided. You are requested to file an amended form if there is any change in the information included on the form. Please notify us when you would like to schedule a preconstruction conference. Notification shall be given at least 7 days prior to initiation of activity.

Your cooperation is appreciated.

Sincerely,

Jeff McDermott
Lead Sedimentation and Erosion Control Officer
Land and Water Resources Division
Chatham County



PAT MCCRORY

Governor

DONALD R. VAN DER VAART

Secretary

S. JAY ZIMMERMAN

Director

July 29, 2016

RENEE PASCHAL, COUNTY MANAGER
CHATHAM CO BOARD OF COMMISSIONERS
PO BOX 1550
PITTSBORO, NC 27312

Re: **Authorization to Construct**
WESTFALL SUBDIVISION PHASES 5A & 6A
CHATHAM CO-NORTH
CHATHAMCOUNTY, NC0319126
Authorization to Construct (This is not a Final Approval)

Dear Applicant:

This letter is to confirm that a complete Engineer's Report and a Water System Management Plan have been received, and that engineering plans and specifications have been approved by the Department for **WESTFALL SUBDIVISION PHASES 5A & 6A, Serial No. 16-00187.**

The Authorization to Construct is valid for 24 months from the **Issue Date** (refer to next page). Authorization to Construct may be extended if the Rules Governing Public Water Supplies and site conditions have not changed (see Rule .0305). The Authorization to Construct and the engineering plans and specifications approval letter shall be posted at the primary entrance of the job site before and during construction.

Upon completion of the construction or modification, and prior to **placing the new construction or modification into service**, the applicant must submit an Engineer's Certification and Applicant Certification directly to ANDREW JARMAN, of this office.

- **Engineer Certification:** in accordance with Rule .0303 (a), the applicant shall submit a certification statement signed and sealed by a registered professional engineer stating that construction was completed in accordance with approved engineering plans and specifications, including any provisions stipulated in the Department's engineering plan and specification approval letter.
- **Applicant Certification:** in accordance with Rule .0303 (c), the applicant shall submit a signed certification statement indicating that the requirements for an Operation and Maintenance Plan and Emergency Management Plan have been satisfied in accordance with Rule .0307 (d) and (e) and that the system has a certified operator in accordance with Rule .1300. The "Applicant Certification" form is available at <http://www.deh.enr.state.nc.us/pws/> (click on Plan Review Forms, under Plan Review heading).

If this Authorization to Construct is for a new public water system, the owner must submit a completed **application for an Operating Permit** and the appropriate fee. For a copy of the application for an Operating Permit please call (919) 707-9085.

Once the certifications and permit application and fee, (if applicable), are received and determined adequate, the Department will issue a Final Approval letter to the applicant. In accordance with Rule .0309 (a), **no portion of this project shall be placed into service until the Department has issued Final Approval.**

If the Public Water Supply Section can be of further assistance, please call (919) 707-9100.

Sincerely,

Robert W. Midgette, P.E., Operations Branch Head
Public Water Supply Section
Division of Water Resources

cc: ALLEN HARDY, Raleigh Regional Office
C E Group Inc

North Carolina Department of Environmental Quality
Division of Water Resources

Public Water System Authorization to Construct

Public Water System Name
and Water System No.:

CHATHAM CO-NORTH
NC0319126

Project Name:

WESTFALL SUBDIVISION PHASES 5A & 6A

Serial No.:

16-00187

Issue Date:

07/29/2016

Expiration Date:

24 Months after Issue Date

In accordance with NCAC 18C .0305, this Authorization to Construct must be posted
at the primary entrance to the job site during construction.



PAT MCCRORY

Governor

DONALD R. VAN DER VAART

Secretary

S. JAY ZIMMERMAN

Director

July 29, 2016

Thomas J. Roberts, President
Aqua North Carolina, Inc.
202 MacKenan Ct.
Cary, NC 27511

Subject: Permit No. WQ0038295
Aqua North Carolina, Inc.
Westfall Phases 5A & 6A
Wastewater Collection System Extension Permit
Chatham County

Dear Mr. Roberts:

In accordance with your application received February 11, 2016 and additional information received on June 29, 2016 and July 27, 2016, we are forwarding herewith Permit No. WQ0038295, dated July 29, 2016 to Aqua North Carolina, Inc. (Permittee) for the construction and operation upon certification of the subject wastewater collection system extension. This permit shall be effective from the date of issuance until rescinded, and shall be subject to the conditions and limitations as specified therein. This cover letter and supplement shall be considered a part of this permit and are therefore incorporated therein by reference.

Please pay particular attention to the following conditions contained within this permit:

Condition I.1: This permit shall not be automatically transferable; a request must be made and approved.

Condition I.4: Requires that the wastewater collection facilities be properly operated and maintained in accordance with 15A NCAC 2T .0403 or any individual system-wide collection system permit issued to the Permittee.

It shall be responsibility of the Permittee to ensure that the as-constructed project meets the appropriate design criteria and rules. Failure to comply may result in penalties in accordance with North Carolina General Statute §143-215.6A through §143-215.6C, construction of additional or replacement wastewater collection facilities, and/or referral of the North Carolina-licensed Professional Engineer to the licensing board.

If any parts, requirements, or limitations contained in this permit are unacceptable, you have the right to request an adjudicatory hearing upon written request within 30 days following receipt of this permit. This request must be in the form of a written petition, conforming to Chapter 150B of North Carolina General Statutes, and filed with the Office of Administrative Hearings, 6714 Mail Service Center, Raleigh, NC 27699-6714. Unless such demands are made, this permit shall be final and binding.

Aqua North Carolina, Inc.
Permit No. WQ0038295

If you need additional information concerning this matter, please contact Sarah Bass at (919) 807-6310 or via e-mail at Sarah.Bass@ncdenr.gov.

Sincerely,

A handwritten signature in cursive script that reads "Steve Lewis".

for S. Jay Zimmerman, P.G.
Director, Division of Water Resources

by Steve Lewis, Acting Supervisor
Pretreatment, Emergency Response, Collection System Unit

cc: Mark P. Ashness, PE – CE Group (electronic copy)
Joe Faulkner, RLA – CE Group (electronic copy)
Raleigh Regional Office, Water Quality Section Regional Operations
Water Resources Central Files: WQ0038295
PERCS (electronic copy)



WASTEWATER COLLECTION SYSTEM EXTENSION PERMIT

In accordance with the provisions of Article 21 of Chapter 143, General Statutes of North Carolina as amended, and other applicable Laws, Rules, and Regulations, permission is hereby granted to the

Aqua North Carolina, Inc.

for the construction and operation of approximately 248 linear feet of 1.5-inch pressure sewer, approximately 2,045 linear feet of 2-inch pressure sewer, approximately 234 linear feet of 3-inch pressure sewer, as well as 33 simplex grinder pump stations with on-site audible and visual high water alarms, to serve 33 single family residences (24 four-bedroom homes and 9 five-bedroom homes) as part of the Westfall Phases 5A & 6A project, and the discharge of 7,050 gallons per day of collected domestic wastewater into Aqua North Carolina's existing sewerage system, pursuant to the application received February 11, 2016 and additional information received on June 29, 2016 and July 27, 2016, and in conformity with the project plans, specifications, and other supporting data subsequently filed and approved by the Department of Environmental Quality and considered a part of this permit.

This permit shall be effective from the date of issuance until rescinded and shall be subject to the specified conditions and limitations contained therein.

for S. Jay Zimmerman, P.G.

Director, Division of Water Resources

By Authority of The Environmental Management Commission

Permit Number: WQ0038295
Permit Issued: July 29, 2016
Treatment Facility: Booth Mountain Development (WQ0028798)

SUPPLEMENT TO PERMIT COVER SHEET

The Permittee is hereby authorized to:

Construct, and then operate upon certification the aforementioned wastewater collection extension.

Permitting of this project does not constitute an acceptance of any part of the project that does not meet 15A NCAC 2T; the Division's Gravity Sewer Minimum Design Criteria adopted February 12, 1996 as applicable; and the Division's Minimum Design Criteria for the Fast-Track Permitting of Pump Stations and Force Mains adopted June 1, 2000 as applicable, unless specifically mentioned herein. Division approval is based on acceptance of the certification provided by a North Carolina-licensed Professional Engineer in the application. It shall be the Permittee's responsibility to ensure that the as-constructed project meets the appropriate design criteria and rules.

Construction and operation is contingent upon compliance with the Standard Conditions identified below.

I. STANDARD CONDITIONS

1. This permit shall not be transferable. In the event there is a desire for the wastewater collection facilities to change ownership, or there is a name change of the Permittee, a formal permit request shall be submitted to the Division accompanied by documentation from the parties involved, and other supporting materials as may be appropriate. The approval of this request shall be considered on its merits and may or may not be approved. [15A NCAC 02T.0104; G.S. 143-215.1(d3)]
2. This permit shall become voidable unless the wastewater collection facilities are constructed in accordance with the conditions of this permit; 15A NCAC 2T; the Division's Gravity Sewer Minimum Design Criteria adopted February 12, 1996 as applicable; the Division's Minimum Design Criteria for the Fast-Track Permitting of Pump Stations and Force Mains adopted June 1, 2000 as applicable; and other supporting materials unless specifically mentioned herein. [15A NCAC 02T.0110]
3. This permit shall be effective only with respect to the nature and volume of wastes described in the application and other supporting data. [15A NCAC 02T .0110]
4. The wastewater collection facilities shall be properly maintained and operated at all times. The Permittee shall maintain compliance with an individual system-wide collection system permit for the operation and maintenance of these facilities as required by 15A NCAC 2T .0403. If an individual permit is not required, the following performance criteria shall be met: [15A NCAC 2T .0108(b)]
 - a. The sewer system shall be effectively maintained and operated at all times to prevent discharge to land or surface waters, and to prevent any contravention of groundwater standards or surface water standards.
 - b. A map of the sewer system shall be developed and shall be actively maintained.
 - c. An operation and maintenance plan including pump station inspection frequency, preventative maintenance schedule, spare parts inventory and overflow response has been developed and implemented.

- d. Pump stations that are not connected to a telemetry system shall be inspected every day (i.e. 365 days per year). Pump stations that are connected to a telemetry system shall be inspected at least once per week.
- e. High-priority sewer lines shall be inspected at least once per every six-months and inspections are documented.
- f. A general observation of the entire sewer system shall be conducted at least once per year.
- g. Overflows and bypasses shall be reported to the appropriate Division regional office in accordance with 15A NCAC 2B .0506(a), and public notice shall be provided as required by North Carolina General Statute §143-215.1C.
- h. A Grease Control Program is in place as follows:
 - 1. For public owned collection systems, the Grease Control Program shall include at least biannual distribution of educational materials for both commercial and residential users and the legal means to require grease interceptors at existing establishments. The plan shall also include legal means for inspections of the grease interceptors, enforcement for violators and the legal means to control grease entering the system from other public and private satellite sewer systems.
 - 2. For privately owned collection systems, the Grease Control Program shall include at least bi-annual distribution of grease education materials to users of the collection system by the permittee or its representative.
 - 3. Grease education materials shall be distributed more often than required in Parts (1) and (2) of this Subparagraph if necessary to prevent grease-related sanitary sewer overflows.
- i. Right-of-ways and easements shall be maintained in the full easement width for personnel and equipment accessibility.
- j. Documentation shall be kept for Subparagraphs (a) through (i) of this Rule for a minimum of three years with exception of the map, which shall be maintained for the life of the system.

5. Noncompliance Notification:

The Permittee shall report by telephone to a water resources staff member at the Raleigh Regional Office, telephone number 919-791-4200, as soon as possible, but in no case more than 24 hours, following the occurrence or first knowledge of the occurrence of either of the following:

- a. Any process unit failure, due to known or unknown reasons, that renders the facility incapable of adequate wastewater transport, such as mechanical or electrical failures of pumps, line blockage or breakage, etc.; or
- b. Any SSO and/or spill over 1,000 gallons; or
- c. Any SSO and/or spill, regardless of volume, that reaches surface water

Voice mail messages or faxed information is permissible, but this shall not be considered as the initial verbal report. Overflows and spills occurring outside normal business hours may also be reported to the Division of Emergency Management at telephone number (800) 858-0368 or (919) 733-3300. Persons reporting any of the above occurrences shall file a spill report by completing and

submitting Part I of Form CS-SSO (or the most current Division approved form) within five days following first knowledge of the occurrence. This report must outline the actions taken or proposed to be taken to ensure that the problem does not recur. Part II of Form CS-SSO (or the most current Division approved form) can also be completed to show that the SSO was beyond control. [G.S. 143-215.1C(a1)]

6. Construction of the gravity sewers, pump stations, and force mains shall be scheduled so as not to interrupt service by the existing utilities nor result in an overflow or bypass discharge of wastewater to the surface waters of the State. [15A NCAC 02T.0108(b)]
7. Upon completion of construction and prior to operation of these permitted facilities, the completed Engineering Certification form attached to this permit shall be submitted with the required supporting documents to the address provided on the form. A complete certification is one where the form is fully executed and the supporting documents are provided as applicable. Any wastewater flow made tributary to the wastewater collection system extension prior to completion of this Engineer's Certification shall be considered a violation of the permit and shall subject the Permittee to appropriate enforcement actions.

If the permit is issued to a private entity with an Operational Agreement, then a copy of the Articles of Incorporation, Declarations/Covenants/Restrictions, and Bylaws that have been appropriately filed with the applicable County's Register of Deeds office shall be submitted with the certification.

A complete certification is one where the form is fully executed and the supporting documents are provided as applicable. Supporting documentation shall include the following:

- a. One copy of the project construction record drawings (plan & profile views of sewer lines & force mains) of the wastewater collection system extension. Final record drawings should be clear on the plans or on digital media (CD or DVD disk) and are defined as the design drawings that are marked up or annotated with after construction information and show required buffers, separation distances, material changes, etc.
- b. Changes to the project that do not result in non-compliance with this permit, regulations, or the Minimum Design Criteria should be clearly identified on the record drawings, on the certification in the space provided, or in written summary form.

Prior to Certification (Final or Partial): Permit modifications are required for any changes resulting in non-compliance with this permit (including pipe length increases of 10% or greater, increased flow, pump station design capacity design increases of 5% or greater, and increases in the number/type of connections), regulations, or the Minimum Design Criteria. Requested modifications or variances to the Minimum Design Criteria will be reviewed on a case-by-case basis and each on its own merit. Please note that variances to the Minimum Design Criteria should be requested and approved during the permitting process prior to construction. After-construction requests are discouraged by the Division and may not be approved, thus requiring replacement or repair prior to certification & activation. [15A NCAC 02T .0116]

8. Gravity sewers installed greater than ten percent below the minimum required slope per the Division's Gravity Sewer Minimum Design Criteria shall not be acceptable and shall not be certified until corrected. If there is an unforeseen obstacle in the field where all viable solutions have been

examined, a slope variance can be requested from the Division with firm supporting documentation. This shall be done through a permit modification with fee. Such variance requests will be evaluated on a case-by-case basis. Resolution of such request shall be evident prior to completing and submitting the construction certification. [15A NCAC 02T.0105(n)]

9. A copy of the construction record drawings shall be maintained on file by the Permittee for the life of the wastewater collection facilities. [15A NCAC 02T .0116]
10. Failure to abide by the conditions and limitations contained in this permit; 15A NCAC 2T; the Division's Gravity Sewer Design Criteria adopted February 12, 1996 as applicable; the Division's Minimum Design Criteria for the Fast-Track Permitting of Pump Station and Force Mains adopted June 1, 2000 as applicable; and other supporting materials may subject the Permittee to an enforcement action by the Division, in accordance with North Carolina General Statutes §143-215.6A through §143-215.6C, construction of additional or replacement wastewater collection facilities, and/or referral of the North Carolina-licensed Professional Engineer to the licensing board. [15A NCAC 02T .0104; 15A NCAC 02T .0108(b-c)]
11. In the event that the wastewater collection facilities fail to perform satisfactorily, including the creation of nuisance conditions, the Permittee shall take immediate corrective action, including those as may be required by this Division, such as the construction of additional or replacement facilities. [15A NCAC 02T .0108(b)]
12. The issuance of this permit shall not exempt the Permittee from complying with any and all statutes, rules, regulations, or ordinances that may be imposed by the Division any other Federal, State, or Local government agencies which have jurisdiction or obtaining other permits which may be required by the Division or any other Federal, State, of Local government agencies. [G.S.143-215.1(b)]
13. The Permittee shall provide for the pump station and force main the following items:
 - a. Pump Station Reliability [15A NCAC 02T .0305(h)(1)]:
 1. Pump stations, except when exempted by Subparagraph (j)(2) of 15A NCAC 02T.0305, shall be designed with multiple pumps such that peak flow can be pumped with the largest pump out of service.
 2. A standby power source or pump is required at all pump stations except for those pump stations subject to Subparagraph (j)(2) of 15A NCAC 02T.0305. Controls shall be provided to automatically activate the standby source and signal an alarm condition.
 3. As an alternative to Part (c) for pump stations with an average daily design flow less than 15,000 gallons per day as calculated using 15A NCAC 02T.0114, a portable power source or pumping capability may be utilized. It shall be demonstrated to the Division that the portable source is owned or contracted by the permittee and is compatible with the station. If the portable power source or pump is dedicated to multiple pump stations, an evaluation of all the pump stations' storage capacities and the rotation schedule of the portable power source or pump, including travel timeframes, shall be provided in the case of a multiple station power outage.
 4. As an alternative to Part (ii) for pump or vacuum stations connecting a single building to an alternative sewer system, wet well storage requirements shall be documented to provide 24-hours' worth of wastewater storage or, exceed the greatest power outage

over the last three years or the documented response time to replace a failed pump, whichever is greater. Documentation shall be required pursuant to the permit application.

- b. All pump stations designed for two pumps or more shall have a telemetry system to provide remote notification of a problem condition to include power failure and high water alarm. [15A NCAC 02T .0305(h)(1)(E)]
- c. High water audio and visual alarm. [15A NCAC 02T .0305(h)(1)(F)]
- d. Pump stations shall have a permanent weatherproof sign stating the pump station identifier, 24-hour emergency number and instructions to call in case of emergency. Simplex pump or vacuum stations serving a single-family residence shall have a placard or sticker placed inside the control panel with a 24-hour emergency contact number. [15A NCAC 02T .0305(h)(2)]
- e. Screened vents for all wet wells. [15A NCAC 02T .0305(h)(3)]
- f. The public shall be restricted access to the site and equipment. [15A NCAC 02T .0305(h)(4)]
- g. Air relief valves shall be provided at all high points along force mains where the vertical distance exceeds ten feet. [15A NCAC 02T .0305(h)(5)]

ENGINEERING CERTIFICATION

Permittee: Aqua North Carolina, Inc.
Permit No: WQ0038295
Project: Westfall Phases 5A & 6A

Issue Date: July 29, 2016
County: Chatham

This project shall not be considered complete nor allowed to operate in accordance with Condition 7 of this permit until the Division has received this Certification and all required supporting documentation, which includes:

- One copy of the project construction record drawings (plan & profile views of sewer lines & force mains) of the wastewater collection system extension. Final record drawings should be clear on the plans or on digital media (CD or DVD disk) and are defined as the design drawings that are marked up or annotated with after construction information and show required buffers, separation distances, material changes, etc.

Permit modifications are required for any changes resulting in non-compliance with this permit. **A detailed description for partial certifications should be attached to this form along with any certification comments.**

Certification should be submitted in a manner that documents the Division's receipt. The Permittee is responsible for tracking all partial certifications up until a final certification is received.

PERMITTEE'S CERTIFICATION

I, the undersigned agent for the Permittee, hereby state that this project has been constructed pursuant to the applicable standards & requirements, the Professional Engineer below has provided applicable design/construction information to the Permittee, and the Permittee is prepared to operate & maintain the wastewater collection system permitted herein or portions thereof.

Printed Name, Title

Signature

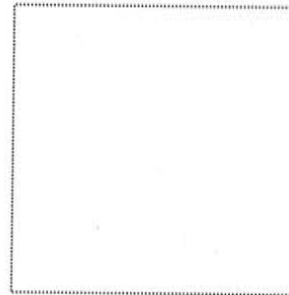
Date

ENGINEER'S CERTIFICATION

I, _____, as a duly registered Professional Engineer in the State of North Carolina, having been authorized to observe (periodically, weekly, full time) the construction of the project name and location as referenced above for the above Permittee hereby state that, to the best of my abilities, due care and diligence was used in the observation of the following construction: approximately 248 linear feet of 1.5-inch pressure sewer, approximately 2,045 linear feet of 2-inch pressure sewer, approximately 234 linear feet of 3-inch pressure sewer, as well as 33 simplex grinder pump stations with on-site audible and visual high water alarms, to serve 33 single family residences (24 four-bedroom homes and 9 five-bedroom homes) as part of the Westfall Phases 5A & 6A project, and in conformity with the project plans, specifications, supporting documents, and design criteria subsequently filed and approved. I certify that the construction of the above referenced project was observed to be built within substantial compliance and intent of the approved plans and specifications.

North Carolina Professional Engineer's Seal w/signature & date:

Final Partial (include description)



Send the Completed Form & Supporting Documentation to the Following Address:

**DWR WATER QUALITY PERMITTING SECTION
WASTEWATER BRANCH – PERCS UNIT
1617 Mail Service Center
Raleigh, NC 27699**