

North Carolina Department of Environmental Quality

Pat McCrory
Governor

Donald R. van der Vaart
Secretary

October 27, 2015

BOB BILLINGSLEY – DIRECTOR OF DEVELOPMENT
SANDERSON FARMS, INC. (PROCESSING DIVISION)
POST OFFICE BOX 988
LAUREL, MISSISSIPPI 39941-4109

Subject: Permit No. WQ0037772
Sanderson Farms – St. Pauls Facility
Wastewater Irrigation System
Robeson County

Dear Mr. Billingsley:

In accordance with your permit application request received May 6, 2015, and subsequent additional information received July 23, 2015 and August 21, 2015, we are forwarding herewith Permit No. WQ0037772 dated October 27, 2015, to Sanderson Farms, Inc. (Processing Division) for the construction and operation of the subject wastewater treatment and irrigation facilities.

This permit shall be effective from the date of issuance until September 30, 2020, and shall be subject to the conditions and limitations as specified therein. Please pay particular attention to the monitoring requirements listed in Attachments A, B and C. Failure to establish an adequate system for collecting and maintaining the required operational information shall result in future compliance problems.

For your convenience, customized electronic copies of your facility's NDMR, NDMLR and NDAR-1 reporting forms are available for download at: <http://portal.ncdenr.org/web/wq/aps/lau/reporting>.

Please note the following permit conditions are specific to your permit and require your attention:

- Condition I.1. – This condition requires the Permittee to perform an updated soil scientist evaluation on all irrigation areas containing rehabilitated soils that previously contained old farms roads and structures prior to operation of the subject facility.
- Condition I.2. – This condition requires the Permittee to properly abandon all non-compliance monitoring wells prior to operation of the subject facility.
- Condition IV.5. – This condition requires that the Permittee monitor seven surface water sampling stations on a triannual basis.
- Condition IV.15. – This condition requires that the Permittee submit an annual report summarizing the nutrient loads to the irrigation fields and any observed impacts on soil, surface water and/or groundwater.
- Condition IV.16. – This condition requires the Permittee to provide public notification if untreated or partially treated wastewater is discharged to surface waters of the State.

Non-Discharge Permitting Unit
1617 Mail Service Center, Raleigh, North Carolina 27699-1617
Phone: 919-807-6464 \ Internet: <http://portal.ncdenr.org/web/wq>

If any parts, requirements or limitations contained in this permit are unacceptable, the Permittee has the right to request an adjudicatory hearing upon written request within 30 days following receipt of this permit. This request shall 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 at 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 permit, please contact Nathaniel Thornburg at (919) 807-6453 or nathaniel.thornburg@ncdenr.gov.

Sincerely,



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

cc: Robeson County Health Department (Electronic Copy)
Fayetteville Regional Office, Water Quality Regional Operations Section (Electronic Copy)
Jeffery A. Graves, PE – Charles N. Clark Associates, LTD (Electronic Copy)
Martin Boyd, PE – Carter & Sloope, Inc. (Electronic Copy)
Mark C. Gatlin, PE – Carter & Sloope, Inc. (Electronic Copy)
B. Lane Rivenbark, LLS – Nutter & Associates, Inc. (Electronic Copy)
Beth Buffington – Protection and Enforcement Branch (Electronic Copy)
Central Files
Digital Permit Archive (Electronic Copy)

NORTH CAROLINA
ENVIRONMENTAL MANAGEMENT COMMISSION
DEPARTMENT OF ENVIRONMENTAL QUALITY
RALEIGH
WASTEWATER IRRIGATION SYSTEM 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

Sanderson Farms, Inc. (Processing Division)
Robeson County

FOR THE

construction and operation of a 1,400,000 gallon per day (GPD) wastewater treatment and irrigation facility consisting of:

a pump station with two 2,150 gallon per minute (GPM) pumps and an influent flow meter; a collection pond pump station with two 200 GPM pumps and a flow meter; a stormwater pump station with two 200 GPM pumps and a flow meter; a flow splitter; a 19.18 million gallon (MG) clay lined, synthetically covered anaerobic pond providing anaerobic treatment and 25% average daily flow equalization with waste gas blowers and burner; an anaerobic pond pump station with two 1,180 GPM pumps and a flow meter; a 523,000 gallon anoxic basin with a 15 horsepower (hp) mixer; a 2,969,000 gallon aeration basin served by nine blowers with a total capacity of 9,855 cubic feet per minute (CFM) blowers, a 2,000 cubic foot (ft³) lime silo, a 1,915 GPM return activated sludge (RAS) screw pumps with a flow meter, and two 5,020 GPM return mixed liquor (RML) screw pumps; a 38,100 gallon de-aeration basin with a 3 hp mixer; a 644,000 gallon clarifier with a waste activated sludge (WAS) line flow meter; a 9.89 MG clay lined waste sludge pond; a Parshall flume; an ultraviolet (UV) disinfection system consisting of two banks in series and a total of 64 lamps; a 22.48 MG wet weather storage pond; an irrigation pump station with three 2,210 GPM vertical turbine pumps and a flow meter; approximately 349.2 acres of spray irrigation area consisting of three zones (East, South and West) and 17 subfields; and all associated piping, valves, controls and appurtenances

to serve the Sanderson Farms – St. Pauls Facility, with no discharge of wastes to surface waters, pursuant to the application received May 6, 2015, and subsequent additional information received by the Division of Water Resources, 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 September 30, 2020, and shall be subject to the following specified conditions and limitations:

I. SCHEDULES

1. Upon completion of construction and prior to irrigation, a soil scientist evaluation shall be completed for all areas where old farm roads and structures lie within the permitted irrigation areas. The report shall certify that reconditioned former roads and structure areas are capable of accepting the designed loading rate. This report shall specifically address, but not be limited to, soil features such as soil compaction and saturated hydraulic conductivity of the least permeable layer, as well as any other properties that might impact the soil's ability to accept irrigation water. The requested information must be received and acknowledged in writing by the Fayetteville Regional Office's Water Quality Regional Operations Section at 225 Green St. – Suite 714, Fayetteville, NC 28301-5043, prior to any irrigation of wastewater.
2. Prior to operation, all onsite domestic wells, aquifer test wells and monitoring wells not used for compliance monitoring shall be permanently abandoned. The wells shall be abandoned according to the North Carolina Well Construction Standards (15A NCAC 02C .0113) and local county rules. The Engineering Certification (attached) and Fayetteville Regional Office in-place inspection shall serve as notification to the Division that the aforementioned wells have been permanently abandoned.
3. Upon completion of construction and prior to operation of this permitted facility, a certification (attached) shall be submitted from a licensed North Carolina Professional Engineer certifying that the permitted facility has been installed in accordance with this permit, Division approved plans and specifications, and other supporting documentation, including the location of all monitoring wells as applicable. If this project is to be completed in phases and partially certified, the Permittee 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 Division of Water Resources, Water Quality Permitting Section, 1617 Mail Service Center, Raleigh, NC 27699-1617. [15A NCAC 02T .0116(a)]
4. The Fayetteville Regional Office, telephone number (910) 433-3300, shall be notified at least 48 hours in advance (excluding weekends and holidays) of operation of the installed facilities such that an in-place inspection can be made. Notification to the regional supervisor shall be made from 8:00 a.m. until 5:00 p.m. on Monday through Friday, excluding State Holidays. [15A NCAC 02T .0108(b)(2)]
5. The Fayetteville Regional Office, telephone number (910) 433-3300, shall approve monitoring wells MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8 and MW-9 prior to installation, and the monitoring wells shall be installed prior to beginning waste disposal operations. The regional office shall be notified at least 48 hours prior to the construction of any monitoring well, and such notification to the regional supervisor shall be made from 8:00 a.m. until 5:00 p.m. on Monday through Friday, excluding State Holidays. The monitoring wells 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, and in accordance with 15A NCAC 02C .0108. The general location and name for each monitoring well is marked on Figure 1. [15A NCAC 02C .0108, 02T .0108(b)(2)]

6. Within 60 days of completion of the monitoring wells, the Permittee shall submit two original copies of a site map with a scale no greater than 1-inch equals 100 feet; however, special provisions may be granted upon prior approval for large properties. At a minimum, the map shall include the following information:
 - a. The location and identity of each monitoring well.
 - b. The location of major components of the waste disposal system.
 - c. The location of property boundaries within 500 feet of the disposal areas.
 - d. The latitude and longitude of the established horizontal control monument.
 - e. The elevation of the top of the well casing (i.e., measuring point) relative to a common datum.
 - f. The depth of water below the measuring point at the time the measuring point is established.
 - g. The location of compliance and review boundaries.
 - h. The date the map is prepared and/or revised.

Control monuments shall be installed in such a manner and made of such materials that the monument will not be destroyed due to activities taking place on the property. The map and any supporting documentation shall be sent to the Division of Water Resources, Water Quality Permitting Section, 1617 Mail Service Center, Raleigh, NC 27699-1617. [15A NCAC 02T .0108(b)(2)]

7. Gauges to monitor waste levels in the 19.18 million gallon (MG) anaerobic pond, 9.89 MG waste sludge pond, and 22.48 MG wet weather storage pond shall be installed prior to operation. Caution shall be taken not to damage the integrity of the liner (if present) when installing the gauge. [15A NCAC 02T .0108(b)(2), 02T .0505(d)]
8. No later than six months prior to the expiration of this permit, the Permittee shall request renewal of this permit on official Division forms. Upon receipt of the request, the Division will review the adequacy of the facilities described therein, and if warranted, will renew the permit for such period of time and under such conditions and limitations as it may deem appropriate. Please note Rule 15A NCAC 02T .0105(d) requires an updated site map to be submitted with the permit renewal application. [15A NCAC 02T .0105(d), 02T .0106, 02T .0109, 02T .0115(c)]

II. PERFORMANCE STANDARDS

1. The subject non-discharge facilities shall be effectively maintained and operated at all times so there is no discharge to surface waters, nor any contravention of groundwater or surface water standards. In the event the facilities fail to perform satisfactorily, including the creation of nuisance conditions due to improper operation and maintenance, or failure of the irrigation areas to adequately assimilate the effluent, the Permittee shall take immediate corrective actions including Division required actions, such as the construction of additional or replacement wastewater treatment or irrigation facilities. [G.S. 143-215.1, 143-213.3(a)]
2. This permit shall not relieve the Permittee of their responsibility for damages to groundwater or surface water resulting from the operation of this facility. [15A NCAC 02B .0200, 02L .0100]
3. All wells constructed for purposes of groundwater monitoring shall be constructed in accordance with 15A NCAC 02C .0108 (Standards of Construction for Wells Other than Water Supply), and any other jurisdictional laws and regulations pertaining to well construction. [15A NCAC 02C .0108]
4. Effluent quality shall not exceed the limitations specified in Attachment A. [15A NCAC 02T .0108(b)(1), 02T .0505(b)]
5. Application rates, whether hydraulic, nutrient or other pollutant, shall not exceed those specified in Attachment B. [15A NCAC 02T .0505(c), 02T .0505(n)]

6. This disposal system was individually permitted on or after December 30, 1983; therefore, the compliance boundary is established at either 250 feet from the effluent disposal area, or 50 feet within the property boundary, whichever is closest to the effluent disposal area. An exceedance of groundwater standards at or beyond the compliance boundary is subject to remediation action according to 15A NCAC 02L .0106(d)(2) as well as enforcement actions in accordance with North Carolina General Statute 143-215.6A through 143-215.6C. [15A NCAC 02L .0106(d)(2), 02L .0107(b)]
7. In accordance with 15A NCAC 02L .0108, the review boundary is established midway between the compliance boundary and the effluent disposal area. Any exceedance of groundwater standards at the review boundary shall require action in accordance with 15A NCAC 02L .0106. [15A NCAC 02L .0106, 02L .0108]
8. The Permittee shall apply for a permit modification to establish a new compliance boundary prior to any sale or transfer of property affecting a compliance boundary. [15A NCAC 02L .0107(c)]
9. In accordance with 15A NCAC 02L .0107(d), no wells, excluding Division approved monitoring wells, shall be constructed within the compliance boundary except as provided for in 15A NCAC 02L .0107(g). [15A NCAC 02L .0107]
10. Except as provided for in 15A NCAC 02L .0107(g), the Permittee shall ensure any landowner who is not the Permittee and owns land within the compliance boundary shall execute and file with the Robeson County Register of Deeds an easement running with the land containing the following items:
 - a. A notice of the permit and number or other description as allowed in 15A NCAC 02L .0107(f)(1);
 - b. Prohibits construction and operation of water supply wells within the compliance boundary; and
 - c. Reserves the right of the Permittee or the State to enter the property within the compliance boundary for purposes related to the permit.

The Director may terminate the easement when its purpose has been fulfilled or is no longer needed.
[15A NCAC 02L .0107(f)]

11. The facilities permitted herein shall be constructed according to the following setbacks:
 - a. The setbacks for irrigation sites permitted under 15A NCAC 02T .0500 shall be as follows (all distances in feet):

i. Any habitable residence or place of public assembly under separate ownership:	400
ii. Any habitable residence or place of public assembly owned by the Permittee:	200
iii. Any private or public water supply source:	100
iv. Surface waters:	100
v. Groundwater lowering ditches:	100
vi. Surface water diversions:	25
vii. Any well with exception of monitoring wells:	100
viii. Any property line:	150
ix. Top of slope of embankments or cuts of two feet or more in vertical height:	15
x. Any water line from a disposal system:	10
xi. Subsurface groundwater lowering drainage systems:	100
xii. Any swimming pool:	100
xiii. Public right of way:	50
xiv. Nitrification field:	20
xv. Any building foundation or basement:	15

[15A NCAC 02T .0506(a)]

b. The setbacks for storage and treatment units permitted under 15A NCAC 02T .0500 shall be as follows (all distances in feet):

- i. Any habitable residence or place of public assembly under separate ownership: 100
- ii. Any private or public water supply source: 100
- iii. Surface waters: 50
- iv. Any well with exception of monitoring wells: 100
- v. Any property line: 50

[15A NCAC 02T .0506(b)]

III. OPERATION AND MAINTENANCE REQUIREMENTS

1. The facilities shall be properly maintained and operated at all times. 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. The Permittee shall maintain an Operation and Maintenance Plan, which at a minimum shall include operational functions, maintenance schedules, safety measures and a spill response plan. [15A NCAC 02T .0507]
2. Upon the Water Pollution Control System Operators Certification Commission's (WPCSOCC) classification of the subject non-discharge facilities, in accordance with 15A NCAC 08G .0200 the Permittee shall designate and employ a certified operator in responsible charge (ORC) and one or more certified operator(s) as back-up ORC(s). The ORC or their back-up shall visit the facilities in accordance with 15A NCAC 08G .0200, and shall comply with all other conditions specified in the previously cited rules. [15A NCAC 02T .0117]
3. A suitable year round vegetative cover shall be maintained at all times, such that crop health is optimized, allows for even distribution of effluent and allows inspection of the irrigation system. [15A NCAC 02T .0108(b)(1)]
4. Adequate measures shall be taken to prevent effluent ponding in or runoff from the irrigation sites listed in Attachment B. [15A NCAC 02T .0108(b)(1)]
5. Irrigation shall not be performed during inclement weather or when the ground is in a condition that will cause ponding or runoff. [15A NCAC 02T .0108(b)(1)]
6. All irrigation equipment shall be tested and calibrated at least once per permit cycle. Calibration records shall be maintained at the facility for a period of no less than five years, and shall be made available to the Division upon request. [15A NCAC 02T .0108(b)(1)]
7. Only effluent from the Sanderson Farms – St. Pauls Facility shall be irrigated on the sites listed in Attachment B. [G.S. 143-215.1]
8. No automobiles or machinery shall be allowed on the irrigation sites except during equipment installation or while maintenance is being performed. [15A NCAC 02T .0108(b)(1)]
9. Public access to the irrigation sites and wastewater treatment facilities shall be prohibited. [15A NCAC 02T .0505(q)]
10. The residuals generated from the wastewater treatment facilities shall be disposed or utilized in accordance with 15A NCAC 02T .1100. The Permittee shall maintain a residual management plan pursuant to 15A NCAC 02T .0508. [15A NCAC 02T .0508, 02T .1100]
11. Diversion or bypassing of untreated or partially treated wastewater from the treatment facilities is prohibited. [15A NCAC 02T .0505(j)]

12. Freeboard in the 19.18 million gallon (MG) anaerobic pond, 9.89 MG waste sludge pond, and 22.48 MG wet weather storage pond shall not be less than two feet at any time. [15A NCAC 02T .0505(d)]
13. Gauges to monitor waste levels in the 19.18 million gallon (MG) anaerobic pond, 9.89 MG waste sludge pond, and 22.48 MG wet weather storage pond shall be provided. These gauges shall have readily visible permanent markings, at inch or tenth of a foot increments, indicating the following elevations: 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 the lowest point on top of the dam. [15A NCAC 02T .0108(b)(1)]
14. A protective vegetative cover shall be established and maintained on all earthen embankments (i.e., outside toe of embankment to maximum allowable temporary storage elevation on the inside of the embankment), 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 dikes or embankments. Earthen embankment areas shall be kept mowed or otherwise controlled and accessible. [15A NCAC 02T .0108(b)(1)]

IV. MONITORING AND REPORTING REQUIREMENTS

1. Any Division required monitoring (including groundwater, plant tissue, soil and surface water analyses) necessary to ensure groundwater and surface water protection shall be established, and an acceptable sampling reporting schedule shall be followed. [15A NCAC 02T .0108(c)]
2. A Division certified laboratory shall conduct all laboratory analyses for the required effluent, groundwater or surface water parameters. [15A NCAC 02H .0800]
3. Flow through the treatment facility shall be continuously monitored, and daily flow values shall be reported on Form NDMR.

The Permittee shall install and maintain an appropriate flow measurement device to ensure the accuracy and reliability of flow measurement consistent with accepted engineering and scientific practices. Selected flow measurement devices shall be capable of measuring flows with a maximum deviation of less than ten percent from true flow; accurately calibrated at a minimum of once per year; and maintained to ensure the accuracy of measurements is consistent with the selected device's accepted capability. The Permittee shall maintain records of flow measurement device calibration on file for a period of at least five years. At a minimum, documentation shall include:

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

[15A NCAC 02T .0105(k)]

4. The Permittee shall monitor the effluent from the subject facilities at the frequencies and locations for the parameters specified in Attachment A. [15A NCAC 02T .0108(c)]
5. The Permittee shall monitor surface water quality at monitoring stations SW-1, SW-2, SW-3, SW-4, SW-5, SW-6 and SW-7 at the frequencies and for the parameters specified in Attachment A. The location of the seven surface water monitoring stations is provided in Figure 1. [15A NCAC 02T .0108(c)]

6. The Permittee shall maintain adequate records tracking the amount of effluent irrigated. At a minimum, these records shall include the following information for each irrigation site listed in Attachment B:
 - a. Date of irrigation;
 - b. Volume of effluent irrigated;
 - c. Site irrigated;
 - d. Length of time site is irrigated;
 - e. Continuous weekly, monthly, and year-to-date hydraulic (inches/acre) loadings;
 - f. Continuous monthly and year-to-date loadings for any non-hydraulic parameter specifically limited in Attachment B;
 - g. Weather conditions; and
 - h. Maintenance of cover crops.

[15A NCAC 02T .0108(c)]

7. Freeboard (i.e., waste level to the lowest embankment elevation) in the 19.18 million gallon (MG) anaerobic pond, 9.89 MG waste sludge pond, and 22.48 MG wet weather storage pond shall be measured to the nearest inch or tenth of a foot, and recorded weekly. Weekly freeboard records shall be maintained at the facility for a period of no less than five years, and shall be made available to the Division upon request. [15A NCAC 02T .0108(c)]
8. Three copies of all monitoring data (as specified in Conditions IV.3., IV.4. and IV.5.) on Form NDMR for each PPI and three copies of all operation and disposal records (as specified in Conditions IV.6. and IV.7.) on Form NDAR-1 for every site in Attachment B shall be submitted on or before the last day of the following month. If no activities occurred during the monitoring month, monitoring reports are still required documenting the absence of the activity. All information shall be submitted to the following address:

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

[15A NCAC 02T .0105(l)]

9. A record shall be maintained of all residuals removed from this facility. This record shall be maintained at the facility for a period of no less than five years, and shall be made available to the Division upon request. At a minimum, this record shall include:
 - a. Name of the residuals hauler;
 - b. Non-Discharge permit number authorizing the residuals disposal, or a letter from a municipality agreeing to accept the residuals;
 - c. Date the residuals were hauled; and
 - d. Volume of residuals removed.

[15A NCAC 02T .0108(b)(1)]

10. A maintenance log shall be maintained at this facility. This log shall be maintained at the facility for a period of no less than five years, and shall be made available to the Division upon request. At a minimum, this log shall include:
 - a. Date of calibration of flow measurement device;
 - b. Visual observations of the plant and plant site; and
 - c. Record of preventative maintenance (e.g., changing of equipment, adjustments, testing, inspections and cleanings, etc.).

[15A NCAC 02T .0108(b)(1)]

11. Monitoring wells shall be sampled after construction and within 3 months prior to initiating non-discharge disposal operations. Monitoring wells shall be sampled thereafter at the frequencies and for the parameters specified in Attachment C. All mapping, well construction forms, well abandonment forms and monitoring data shall refer to the permit number and the well nomenclature as provided in Attachment C and Figure 1. [15A NCAC 02T .0105(m)]
12. For initial sampling of monitoring wells, the Permittee shall submit a Compliance Monitoring Form (GW-59) and a Well Construction Record Form (GW-1) listing this permit number and the appropriate monitoring well identification number. Initial Compliance Monitoring Forms (GW-59) without copies of the Well Construction Record Forms (GW-1) are deemed incomplete, and may be returned to the Permittee without being processed. [15A NCAC 02T .0105(m)]
13. Two copies of the monitoring well sampling and analysis results shall be submitted on a Compliance Monitoring Form (GW-59), along with attached copies of laboratory analyses, on or before the last working day of the month following the sampling month. The Compliance Monitoring Form (GW-59) shall include this permit number, the appropriate well identification number, and one GW-59a certification form shall be submitted with each set of sampling results. All information shall be submitted to the following address:

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

[15A NCAC 02T .0105(m)]

14. An annual representative soils analysis (i.e., Standard Soil Fertility Analysis) shall be conducted on each irrigation site listed in Attachment B. These results shall be maintained at the facility for a period of no less than five years, and shall be made available to the Division upon request. At a minimum, the Standard Soil Fertility Analysis shall include the following parameters:

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

[15A NCAC 02T .0108(c)]

15. The Permittee shall provide to the Division an annual nutrient study. This study shall be prepared on a calendar year basis and shall be provided no later than March 1st of the following calendar year. Two electronic copies of the annual report shall be submitted to the Division and at a minimum shall include:
 - a. The amount of nitrogen and phosphorus applied to each irrigation field over the calendar year, as well as the cumulative loads from previous years.
 - b. An examination of nitrogen and phosphorus in the annual soil analysis samples for each irrigation field, and shall be compared to previous annual samples.
 - c. Finally, these results shall be compared to the surface water and groundwater monitoring well results for nitrogen and phosphorus to determine if land application is impacting water quality standards.

[15A NCAC 02T .0108(c)]

16. Pursuant to §143-215.1C (b), the Permittee shall provide public notification upon discharge of untreated or partially treated wastewater to surface waters of the State. For discharges of 1,000 gallons or more, the Permittee shall issue a press release to all print and electronic news media that provide general coverage in Robeson County describing details of the discharge. The Permittee shall issue the press release within 48 hours after determining that the discharge has reached surface waters. [G.S. 143-215.1C(b)]

17. Noncompliance Notification:

The Permittee shall report by telephone to the Fayetteville Regional Office, telephone number (910) 433-3300, 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. Treatment of wastes abnormal in quantity or characteristic, including the known passage of a hazardous substance.
- b. Any process unit failure (e.g., mechanical, electrical, etc.), due to known or unknown reasons, rendering the facility incapable of adequate wastewater treatment.
- c. Any facility failure resulting in a by-pass directly to receiving surface waters.
- d. Any time self-monitoring indicates the facility has gone out of compliance with its permit limitations.
- e. Ponding in or runoff from the irrigation sites.

Any emergency requiring immediate reporting (e.g., discharges to surface waters, imminent failure of a storage structure, etc.) outside normal business hours shall 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 days following first knowledge of the occurrence. This report shall outline the actions taken or proposed to be taken to ensure the problem does not recur. [15A NCAC 02T .0105(I), 02T .0108(b)(1)]

V. INSPECTIONS

1. The Permittee shall provide adequate inspection and maintenance to ensure proper operation of the wastewater treatment and irrigation facilities. [15A NCAC 02T .0108(b)]
2. The Permittee or their designee shall inspect the wastewater treatment and irrigation facilities to prevent malfunctions, facility deterioration and operator errors resulting in discharges, which may cause the release of wastes to the environment, a threat to human health or a public nuisance. The Permittee shall maintain an inspection log that includes, at a minimum, the date and time of inspection, observations made, and any maintenance, repairs, or corrective actions taken. The Permittee shall maintain this inspection log for a period of five years from the date of the inspection, and this log shall be made available to the Division upon request. [15A NCAC 02T .0108(b)]
3. Any duly authorized Division representative may, upon presentation of credentials, enter and inspect any property, premises or place on or related to the wastewater treatment and irrigation facilities permitted herein at any reasonable time for the purpose of determining compliance with this permit; may inspect or copy any records required to be maintained under the terms and conditions of this permit, and may collect groundwater, surface water or leachate samples. [G.S. 143-215.3(a)(2)]

VI. GENERAL CONDITIONS

1. Failure to comply with the conditions and limitations contained herein may subject the Permittee to an enforcement action by the Division in accordance with North Carolina General Statutes 143-215.6A to 143-215.6C. [G.S. 143-215.6A to 143-215.6C]

2. This permit shall become voidable if the permitted facilities are not constructed in accordance with the conditions of this permit, the Division approved plans and specifications, and other supporting documentation. [15A NCAC 02T .0110]
3. This permit is effective only with respect to the nature and volume of wastes described in the permit application, Division approved plans and specifications, and other supporting documentation. No variances to applicable rules governing the construction or operation of the permitted facilities are granted, unless specifically requested and approved in this permit pursuant to 15A NCAC 02T .0105(n). [G.S. 143-21.5.1]
4. 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 jurisdictional government agencies (e.g., local, state, and federal). Of particular concern to the Division are applicable river buffer rules in 15A NCAC 02B .0200; erosion and sedimentation control requirements in 15A NCAC Chapter 4 and under General Permit NCG010000; any requirements pertaining to wetlands under 15A NCAC 02B .0200 and 02H .0500; and documentation of compliance with Article 21 Part 6 of Chapter 143 of the General Statutes. [15A NCAC 02T .0105(c)(6)]
5. In the event the permitted facilities change ownership or the Permittee changes their name, a formal permit modification request shall be submitted to the Division. This request shall be made on official Division forms, and shall include appropriate property ownership documentation and other supporting documentation as necessary. The Permittee of record shall remain fully responsible for maintaining and operating the facilities permitted herein until a permit is issued to the new owner. [15A NCAC 02T .0104]
6. The Permittee shall retain a set of Division approved plans and specifications for the life of the facilities permitted herein. [15A NCAC 02T .0108(b)(1)]
7. The Permittee shall maintain this permit until all permitted facilities herein are properly closed or permitted under another permit issued by the appropriate permitting authority. [15A NCAC 02T .0105(j)]
8. This permit is subject to revocation or unilateral modification upon 60 days notice from the Division Director, in whole or part for the requirements listed in 15A NCAC 02T .0110. [15A NCAC 02T .0110]
9. Unless the Division Director grants a variance, expansion of the permitted facilities contained herein shall not be granted if the Permittee exemplifies any of the criteria in 15A NCAC 02T .0120(b). [15A NCAC 02T .0120]
10. The Permittee shall pay the annual fee within 30 days after being billed by the Division. Failure to pay the annual fee accordingly shall be cause for the Division to revoke this permit. [15A NCAC 02T .0105(e)(3)]

Permit issued this the 27th day of October 2015

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION



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

By Authority of the Environmental Management Commission

Permit Number WQ0037772

ENGINEERING CERTIFICATION

Partial Final

In accordance with 15A NCAC 02T .0116, I, _____, as a duly registered Professional Engineer in the State of North Carolina, having the Permittee's authorization to periodically weekly fully observe the construction of the permitted facility, hereby state to the best of my abilities that due care and diligence was used in the observation of the construction, such that the facility was built within substantial compliance and intent of this permit, the Division-approved plans and specifications, and other supporting documentation.

Any variation to this permit, the Division-approved plans and specifications, and other supporting documentation has been documented in the attached as-built drawings, and shall serve as the Permittee's minor modification request to amend the permit accordingly.

Provide a brief narrative description of any variations: _____

Professional Engineer's Name			NC PE Seal, Signature & Date
Engineering Firm			
Mailing Address			
City	State	Zip	
Telephone	E-mail		

THE COMPLETED ENGINEERING CERTIFICATION, INCLUDING ALL SUPPORTING INFORMATION AND MATERIALS, SHALL BE SENT TO THE FOLLOWING ADDRESS:

**NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY
 DIVISION OF WATER RESOURCES
 WATER QUALITY PERMITTING SECTION
 NON-DISCHARGE PERMITTING UNIT**

By U.S. Postal Service:
 1617 MAIL SERVICE CENTER
 RALEIGH, NORTH CAROLINA 27699-1617

By Courier/Special Delivery:
 512 N. SALISBURY ST.
 RALEIGH, NORTH CAROLINA 27604

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PPI 001 – WWTP Effluent

EFFLUENT CHARACTERISTICS		EFFLUENT LIMITS					MONITORING REQUIREMENTS	
PCS Code	Parameter Description	Units of Measure	Monthly Average	Monthly Geometric Mean	Daily Minimum	Daily Maximum	Measurement Frequency	Sample Type
00310	BOD, 5-Day (20 °C)	mg/L					2 x Week	Composite
00916	Calcium, Total (as Ca)	mg/L					Monthly	Composite
00940	Chloride (as Cl)	mg/L					3 x Year ¹	Composite
31616	Coliform, Fecal MF, M-FC Broth, 44.5 °C	#/100 mL					2 x Week	Grab
50050	Flow, in Conduit or thru Treatment Plant	GPD	1,400,000				Continuous	Recorder
00927	Magnesium, Total (as Mg)	mg/L					Monthly	Composite
00610	Nitrogen, Ammonia Total (as N)	mg/L					2 x Week	Composite
00625	Nitrogen, Kjeldahl, Total (as N)	mg/L					2 x Week	Composite
00620	Nitrogen, Nitrate Total (as N)	mg/L					2 x Week	Composite
00600	Nitrogen, Total (as N)	mg/L					2 x Week	Composite
00400	pH	su					5 x Week	Grab
00665	Phosphorus, Total (as P)	mg/L					2 x Week	Composite
WQ09C	Plant Available Nitrogen – Concentration	mg/L					2 x Week	Calculated
00931	Sodium Adsorption Ratio	ratio					Monthly	Calculated
00929	Sodium, Total (as Na)	mg/L					Monthly	Composite
70300	Solids, Total Dissolved – 180 °C	mg/L					3 x Year ¹	Composite
00530	Solids, Total Suspended	mg/L					2 x Week	Composite

1. 3 x Year sampling shall be conducted during March, July and November.

PPI 002 – Surface Water Monitoring Station #1

EFFLUENT CHARACTERISTICS		EFFLUENT LIMITS					MONITORING REQUIREMENTS	
PCS Code	Parameter Description	Units of Measure	Monthly Average	Monthly Geometric Mean	Daily Minimum	Daily Maximum	Measurement Frequency	Sample Type
31616	Coliform, Fecal MF, M-FC Broth, 44.5 °C	#/100 mL					3 x Year ¹	Grab
00610	Nitrogen, Ammonia Total (as N)	mg/L					3 x Year ¹	Grab
00620	Nitrogen, Nitrate Total (as N)	mg/L					3 x Year ¹	Grab
00600	Nitrogen, Total (as N)	mg/L					3 x Year ¹	Grab
00400	pH	su					3 x Year ¹	Grab
00665	Phosphorus, Total (as P)	mg/L					3 x Year ¹	Grab

1. 3 x Year sampling shall be conducted during March, July and November.

PPI 003 – Surface Water Monitoring Station #2

EFFLUENT CHARACTERISTICS		EFFLUENT LIMITS					MONITORING REQUIREMENTS	
PCS Code	Parameter Description	Units of Measure	Monthly Average	Monthly Geometric Mean	Daily Minimum	Daily Maximum	Measurement Frequency	Sample Type
31616	Coliform, Fecal MF, M-FC Broth, 44.5 °C	#/100 mL					3 x Year ¹	Grab
00610	Nitrogen, Ammonia Total (as N)	mg/L					3 x Year ¹	Grab
00620	Nitrogen, Nitrate Total (as N)	mg/L					3 x Year ¹	Grab
00600	Nitrogen, Total (as N)	mg/L					3 x Year ¹	Grab
00400	pH	su					3 x Year ¹	Grab
00665	Phosphorus, Total (as P)	mg/L					3 x Year ¹	Grab

1. 3 x Year sampling shall be conducted during March, July and November.

PPI 004 – Surface Water Monitoring Station #3

EFFLUENT CHARACTERISTICS		EFFLUENT LIMITS					MONITORING REQUIREMENTS	
PCS Code	Parameter Description	Units of Measure	Monthly Average	Monthly Geometric Mean	Daily Minimum	Daily Maximum	Measurement Frequency	Sample Type
31616	Coliform, Fecal MF, M-FC Broth, 44.5 °C	#/100 mL					3 x Year ⁻¹	Grab
00610	Nitrogen, Ammonia Total (as N)	mg/L					3 x Year ⁻¹	Grab
00620	Nitrogen, Nitrate Total (as N)	mg/L					3 x Year ⁻¹	Grab
00600	Nitrogen, Total (as N)	mg/L					3 x Year ⁻¹	Grab
00400	pH	su					3 x Year ⁻¹	Grab
00665	Phosphorus, Total (as P)	mg/L					3 x Year ⁻¹	Grab

1. 3 x Year sampling shall be conducted during March, July and November.

PPI 005 – Surface Water Monitoring Station #4

EFFLUENT CHARACTERISTICS		EFFLUENT LIMITS					MONITORING REQUIREMENTS	
PCS Code	Parameter Description	Units of Measure	Monthly Average	Monthly Geometric Mean	Daily Minimum	Daily Maximum	Measurement Frequency	Sample Type
31616	Coliform, Fecal MF, M-FC Broth, 44.5 °C	#/100 mL					3 x Year ⁻¹	Grab
00610	Nitrogen, Ammonia Total (as N)	mg/L					3 x Year ⁻¹	Grab
00620	Nitrogen, Nitrate Total (as N)	mg/L					3 x Year ⁻¹	Grab
00600	Nitrogen, Total (as N)	mg/L					3 x Year ⁻¹	Grab
00400	pH	su					3 x Year ⁻¹	Grab
00665	Phosphorus, Total (as P)	mg/L					3 x Year ⁻¹	Grab

1. 3 x Year sampling shall be conducted during March, July and November.

PPI 006 – Surface Water Monitoring Station #5

EFFLUENT CHARACTERISTICS		EFFLUENT LIMITS					MONITORING REQUIREMENTS	
PCS Code	Parameter Description	Units of Measure	Monthly Average	Monthly Geometric Mean	Daily Minimum	Daily Maximum	Measurement Frequency	Sample Type
31616	Coliform, Fecal MF, M-FC Broth, 44.5 °C	#/100 mL					3 x Year ¹	Grab
00610	Nitrogen, Ammonia Total (as N)	mg/L					3 x Year ¹	Grab
00620	Nitrogen, Nitrate Total (as N)	mg/L					3 x Year ¹	Grab
00600	Nitrogen, Total (as N)	mg/L					3 x Year ¹	Grab
00400	pH	su					3 x Year ¹	Grab
00665	Phosphorus, Total (as P)	mg/L					3 x Year ¹	Grab

1. 3 x Year sampling shall be conducted during March, July and November.

PPI 007 – Surface Water Monitoring Station #6

EFFLUENT CHARACTERISTICS		EFFLUENT LIMITS					MONITORING REQUIREMENTS	
PCS Code	Parameter Description	Units of Measure	Monthly Average	Monthly Geometric Mean	Daily Minimum	Daily Maximum	Measurement Frequency	Sample Type
31616	Coliform, Fecal MF, M-FC Broth, 44.5 °C	#/100 mL					3 x Year ¹	Grab
00610	Nitrogen, Ammonia Total (as N)	mg/L					3 x Year ¹	Grab
00620	Nitrogen, Nitrate Total (as N)	mg/L					3 x Year ¹	Grab
00600	Nitrogen, Total (as N)	mg/L					3 x Year ¹	Grab
00400	pH	su					3 x Year ¹	Grab
00665	Phosphorus, Total (as P)	mg/L					3 x Year ¹	Grab

1. 3 x Year sampling shall be conducted during March, July and November.

PPI 008 – Surface Water Monitoring Station #7

EFFLUENT CHARACTERISTICS		EFFLUENT LIMITS					MONITORING REQUIREMENTS	
PCS Code	Parameter Description	Units of Measure	Monthly Average	Monthly Geometric Mean	Daily Minimum	Daily Maximum	Measurement Frequency	Sample Type
31616	Coliform, Fecal MF, M-FC Broth, 44.5 °C	#/100 mL					3 x Year ¹	Grab
00610	Nitrogen, Ammonia Total (as N)	mg/L					3 x Year ¹	Grab
00620	Nitrogen, Nitrate Total (as N)	mg/L					3 x Year ¹	Grab
00600	Nitrogen, Total (as N)	mg/L					3 x Year ¹	Grab
00400	pH	su					3 x Year ¹	Grab
00665	Phosphorus, Total (as P)	mg/L					3 x Year ¹	Grab

1. 3 x Year sampling shall be conducted during March, July and November.

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ATTACHMENT B - APPROVED LAND APPLICATION SITES AND LIMITATIONS

Permit Number: WQ0037772

Version: 1.0

Sanderson Farms, Inc. (Processing Division) – Sanderson Farms – St. Pauls Facility

IRRIGATION AREA INFORMATION							APPLICATION LIMITATIONS				
Field	Owner	County	Latitude	Longitude	Net Acreage	Dominant Soil Series	Parameter	Hourly Rate	Yearly Max	Units	
E1	Sanderson Farms, Inc. (Processing Division)	Robeson	34.82486°	-79.01481°	20.8	Norfolk	01284 – Non-Discharge Application Rate WQ09 – Plant Available Nitrogen Phosphorus Loading	0.15	54.4	inches lbs/ac lbs/ac	
E2	Sanderson Farms, Inc. (Processing Division)	Robeson	34.82195°	-79.01278°	21.3	Norfolk	01284 – Non-Discharge Application Rate WQ09 – Plant Available Nitrogen Phosphorus Loading	0.15	54.4	inches lbs/ac lbs/ac	
E3	Sanderson Farms, Inc. (Processing Division)	Robeson	34.81758°	-79.00686°	21.1	Norfolk	01284 – Non-Discharge Application Rate WQ09 – Plant Available Nitrogen Phosphorus Loading	0.15	54.4	inches lbs/ac lbs/ac	
E4	Sanderson Farms, Inc. (Processing Division)	Robeson	34.81553°	-79.00498°	21.1	Wagram	01284 – Non-Discharge Application Rate WQ09 – Plant Available Nitrogen Phosphorus Loading	0.15	54.4	inches lbs/ac lbs/ac	
E5	Sanderson Farms, Inc. (Processing Division)	Robeson	34.81583°	-79.00281°	22.1	Wagram	01284 – Non-Discharge Application Rate WQ09 – Plant Available Nitrogen Phosphorus Loading	0.15	54.4	inches lbs/ac lbs/ac	
S1	Sanderson Farms, Inc. (Processing Division)	Robeson	34.80423°	-79.01200°	21.8	Norfolk	01284 – Non-Discharge Application Rate WQ09 – Plant Available Nitrogen Phosphorus Loading	0.15	54.4	inches lbs/ac lbs/ac	
S2	Sanderson Farms, Inc. (Processing Division)	Robeson	34.80368°	-79.00985°	20.9	Norfolk	01284 – Non-Discharge Application Rate WQ09 – Plant Available Nitrogen Phosphorus Loading	0.16	54.4	inches lbs/ac lbs/ac	
S3	Sanderson Farms, Inc. (Processing Division)	Robeson	34.80428°	-79.00735°	20.5	Norfolk	01284 – Non-Discharge Application Rate WQ09 – Plant Available Nitrogen Phosphorus Loading	0.16	54.4	inches lbs/ac lbs/ac	
S4	Sanderson Farms, Inc. (Processing Division)	Robeson	34.080367°	-79.00492°	22.0	Norfolk	01284 – Non-Discharge Application Rate WQ09 – Plant Available Nitrogen Phosphorus Loading	0.15	54.4	inches lbs/ac lbs/ac	
S5	Sanderson Farms, Inc. (Processing Division)	Robeson	34.80134°	-79.01774°	18.7	Norfolk	01284 – Non-Discharge Application Rate WQ09 – Plant Available Nitrogen Phosphorus Loading	0.15	54.4	inches lbs/ac lbs/ac	
S6	Sanderson Farms, Inc. (Processing Division)	Robeson	34.79922°	-79.00953°	23.0	Norfolk	01284 – Non-Discharge Application Rate WQ09 – Plant Available Nitrogen Phosphorus Loading	0.15	54.4	inches lbs/ac lbs/ac	
W1	Sanderson Farms, Inc. (Processing Division)	Robeson	34.82327°	-79.01946°	18.4	Norfolk	01284 – Non-Discharge Application Rate WQ09 – Plant Available Nitrogen Phosphorus Loading	0.15	54.4	inches lbs/ac lbs/ac	

W2	Sanderson Farms, Inc. (Processing Division)	Robeson	34.82271°	-79.02112°	20.0	Norfolk	01284 – Non-Discharge Application Rate WQ09 – Plant Available Nitrogen Phosphorus Loading	0.15	54.4	inches lbs/ac lbs/ac
W3	Sanderson Farms, Inc. (Processing Division)	Robeson	34.82185°	-79.02277°	20.3	Norfolk	01284 – Non-Discharge Application Rate WQ09 – Plant Available Nitrogen Phosphorus Loading	0.15	54.4	inches lbs/ac lbs/ac
W4	Sanderson Farms, Inc. (Processing Division)	Robeson	34.82320°	-79.02630°	17.2	Norfolk	01284 – Non-Discharge Application Rate WQ09 – Plant Available Nitrogen Phosphorus Loading	0.15	54.4	inches lbs/ac lbs/ac
W5	Sanderson Farms, Inc. (Processing Division)	Robeson	34.82394°	-79.03111°	20.7	Norfolk	01284 – Non-Discharge Application Rate WQ09 – Plant Available Nitrogen Phosphorus Loading	0.15	54.4	inches lbs/ac lbs/ac
W6	Sanderson Farms, Inc. (Processing Division)	Robeson	34.82602°	-79.03557°	19.5	Norfolk	01284 – Non-Discharge Application Rate WQ09 – Plant Available Nitrogen Phosphorus Loading	0.15	54.4	inches lbs/ac lbs/ac
Total					349.2					

ATTACHMENT C – GROUNDWATER MONITORING AND LIMITATIONS

Permit Number: WQ0037772

Version: 1.0

Monitoring wells: MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8 and MW-9

GROUNDWATER CHARACTERISTICS		GROUNDWATER STANDARDS		MONITORING REQUIREMENTS		
PCS Code	Parameter Description	Daily Maximum	Frequency Measurement	Sample Type	Footnotes	
00680	Carbon, Tot Organic (TOC)	mg/L	3 x Year	Grab	1, 4	
00940	Chloride (as Cl)	250	3 x Year	Grab	1	
31616	Coliform, Fecal MF, M-FC Broth, 44.5 °C	#/100 mL	3 x Year	Grab	1	
00610	Nitrogen, Ammonia Total (as N)	1.5	3 x Year	Grab	1	
00620	Nitrogen, Nitrate Total (as N)	10	3 x Year	Grab	1	
00400	pH	6.5-8.5	3 x Year	Grab	1, 2	
00665	Phosphorus, Total (as P)	mg/L	3 x Year	Grab	1	
70300	Solids, Total Dissolved - 180 °C	500	3 x Year	Grab	1	
82546	Water Level, Distance from measuring point	feet	3 x Year	Calculated	1, 2, 3	

- 3 x Year monitoring shall be conducted in March, July & November; Annual monitoring shall be conducted every November.
- The measurement of water levels shall be made prior to purging the wells. The depth to water in each well shall be measured from the surveyed point on the top of the casing. The measurement of pH shall be made after purging and prior to sampling for the remaining parameters.
- 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. The measuring points (top of casing) of all monitoring wells shall be surveyed relative to a common datum.
- 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.
- Monitoring wells shall be reported consistent with the nomenclature and location information provided in Figure 1 and this attachment.