

**AUTHORIZATION FOR A NO-DISCHARGE WATER PERMIT UNDER THE
ARKANSAS WATER AND AIR POLLUTION CONTROL ACT**

In accordance with the provisions of the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 et seq.) and Arkansas Pollution Control and Ecology Commission (APC&EC) and Regulation No. 17 Arkansas Underground Injection Control (UIC) Code.

Sloan Estates Property Owners Association, Inc.

is authorized to operate the decentralized wastewater treatment system with drip irrigation dispersal of the treated wastewater from the facility located at East on Hwy 45 to Wash. Co. Rd. 345 N. West of Sagley Road Fayetteville, AR 72704 in Washington County at the following coordinates:

Latitude: 36° 6' 25" N; Longitude: 94° 5' 18" W

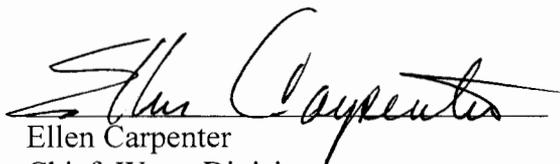
The facility is located in Stream Segment 3J of the Arkansas River Basin.

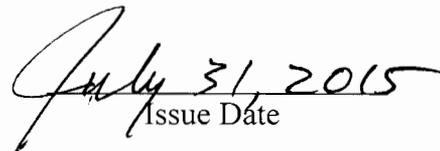
Operation shall be in accordance with all conditions set forth in this permit.

ADEQ Changes is attached.

Effective Date: August 1, 2015

Expiration Date: July 31, 2020


Ellen Carpenter
Chief, Water Division
Arkansas Department of Environmental Quality


Issue Date

PART I
Permit Requirements

LIMITATIONS AND MONITORING REQUIREMENTS:

The following tables detail the constituent limits, monitoring frequencies and the requirements for reporting results to ADEQ for each respective parameter listed in the table heading.

| Table 1: Effluent Limits, Monitoring, and Reporting Requirements | | | | |
|---|--------------|---------------------|----------------------------|--|
| Parameter | Limit | Units | Monitoring | Reporting |
| Flow, monthly total | Report | MGD | Grab sample once per month | Prior to the 15 th of the following month |
| Flow, daily maximum | Report | MGD | | |
| Carbonaceous Biochemical Oxygen Demand (CBOD5) | 15 | mg/l | | |
| Total Suspended Solids (TSS) | 15 | mg/l | | |
| Fecal Coliform Bacteria (FCB) | 10,000 | colonies/100ml | | |
| pH | 6.0 – 9.0 | s.u. | | |
| Total Kjeldahl Nitrogen (TKN) | Report | mg/l | | |
| Ammonia Nitrogen (NH ₃ -N) | Report | mg/l | | |
| Nitrate Nitrogen (NO ₃ -N) | Report | mg/l | | |
| Nitrite Nitrogen (NO ₂ -N) | Report | mg/l | | |
| Plant Available Nitrogen (PAN) ¹ | Report | mg/l | | |
| Total Phosphorus (TP) | Report | mg/l | | |
| Total Solids | Report | Percentage (%) | | |
| Loading Rate ² | Report | gpd/ft ² | Continuous | |

¹Refer to Condition No. 5 of Part II

²The maximum loading rate cannot exceed those specified in Table 2 below.

| Table 2: Drip Field Soil Loading Rates | | |
|---|--|-------------------------------|
| Zone Identification | Loading Rate (gpd/ft²) | Maximum Capacity (gpd) |
| Zone 1 | 0.472 | 4260 |
| Zone 2 | 0.472 | 4270 |
| Zone 3 | 0.467 | 4234 |
| Zone 4 | 0.205 | 1863 |
| Zone 5 | 0.130 | 1198 |
| Zone 6 | 0.178 | 1669 |

Part II
Specific Conditions

1. This permit is for the operation of a decentralized wastewater treatment system with drip irrigation dispersal of the treated wastewater for a residential development. This type of systems is also classified as a Class V shallow injection well under the provisions of Regulation No. 17.
2. Waste shall not be discharged from this operation to the waters of the State or onto the land in any manner that may result in runoff to the waters of the State.
3. Under the provisions of Regulation No. 17 and Title 40 of the Federal Code of Regulations (CFR) Parts 144 and 146, promulgated under Part C of the Safe Drinking Water Act (SDWA), no owner or operator shall construct, operate, maintain, convert, plug, abandon, or conduct any other injection activity in a manner that may allow the movement of fluid containing any contaminant into an underground source of drinking water.
4. The drip irrigation operation shall be managed in accordance with the February 28, 2005 Waste Management Plan (WMP). If the WMP is inconsistent with this permit, the drip irrigation operation shall be managed in accordance with the terms of the permit and the WMP shall be revised to conform to the permit conditions.
5. Plant Available Nitrogen (PAN) shall be calculated using the following equations:

| PAN Equations | |
|--|---|
| For Subsurface applied or Incorporated waste, PAN(mg/kg) | $0.3(\text{TKN} - \text{NH}_3) + \text{NH}_3 + \text{NO}_3 + \text{NO}_2$ |
| Conversion from PAN(mg/kg) to PAN(lbs/Dry Ton(DT)) | $0.002 * \text{PAN}(\text{mg/kg})$ |

The waste must be applied at a rate (DT/acre) that provides a quantity of PAN (lbs N/acre) that is equal to or less than the nitrogen uptake rate of the cover crop (lbs/acre). See the table below for a list of Nitrogen uptakes for crops authorized by this permit. Any crop not listed in the following table may be added as a permit modification.

| Nitrogen Uptake of Cover Crops | |
|--------------------------------|-------------------|
| Crop Name | Uptake (lbs/acre) |
| Bermuda | 300 |
| Fescue | 138 |

6. Bypassing of the treatment system is prohibited and may result in the revocation of this permit and/or other appropriate enforcement action by the Department.
7. The permittee must maintain current and complete records of all activities related to the removal of solid materials, oil, grease, wastewater, and any other materials from the operation. The following information must be recorded and made available to ADEQ personnel on request: date of the activity, volume, or weight of material removed, type of material removed, interim or final destination of the

material discarded, and complete identification of the carrier(s) transporting the material. If the waste is to be recycled or reused, document the name and address of the receiving entity or firm.

8. The drip irrigation field shall be maintained with a vegetative cover for additional treatment and to minimize erosion. When the vegetative cover is mowed, clippings shall be removed from the drip field. Vegetation not appropriate for the drip field cover, such as tree and shrub growth, shall be removed. The drip field shall be protected from any activity that might damage the irrigation system.
9. Signs shall be posted around the disposal area indicating that the area is irrigated with treated wastewater effluent.
10. The reserve drip irrigation field shall be maintained in a condition to be used should the reserve area need to be brought into service upon failure of the primary drip irrigation field.
11. The waste disposal system shall be operated by a minimum of a licensed Class II wastewater treatment plant operator by the State of Arkansas in accordance with Ark. Code Ann. § 8-5-205 et seq. and APC&EC Regulation No. 3.
12. A complete "Operations and Maintenance (O&M) Manual" of the wastewater treatment system shall be developed by the engineering consultant for the operator's use before the plant is in operation. A copy of the O&M Manual shall be mailed to ADEQ.
13. Should the facility under this permit cease operations, the permittee shall submit to the Department, for approval, a closure plan for the system's storage and treatment structures within sixty (60) days of the final day of operation.
14. The current permitted treatment process may require modifications to comply with future total phosphorous concentration limit requirements for nutrient surplus designated areas. This revision will require a permit modification.
15. The permittee shall comply with all applicable trust fund fee requirements (i.e. the initial trust fund fee and the annual trust fund fee that will be invoiced every year the permit is active) stated in Ark. Code Ann. § 8-4-203(b). In accordance with Ark. Code Ann. § 8-4-203(b)(5), a permittee is responsible for ensuring that the required trust fund fee is received. If the Department does not timely receive the required trust fund contribution fees for a nonmunicipal domestic sewage treatment works, the Department may initiate procedures to suspend or revoke the permit under which the nonmunicipal domestic sewage treatment works is operated.

Part III
Standard Conditions

1. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Arkansas Water and Air Pollution Control Act and is grounds for civil and administrative enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

2. Penalties for Violations of Permit Conditions

The Arkansas Water and Air Pollution Control Act provides that any person who violates any provisions of a permit issued under the Act shall be guilty of a misdemeanor and upon conviction thereof shall be subject to imprisonment for not more than one (1) year, or a fine of not more than twenty-five thousand dollars (\$25,000) or both for each day of such violation. Any person who violates any provision of a permit issued under the Act may also be subject to civil penalty in such amount as the court shall find appropriate, not to exceed ten thousand dollars (\$10,000) for each day of such violation. The fact that any such violation may constitute a misdemeanor shall not be a bar to the maintenance of such civil action.

3. Permit Actions

A. This permit may be modified; revoked and reissued; or terminated for cause including, but not limited to the following:

- i. Violation of any terms or conditions of this permit;
- ii. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;
- iii. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination; or
- iv. Failure of the permittee to comply with the provisions of Arkansas Pollution Control and Ecology Commission (APC&EC) Regulation No. 9 (Permit fees).

B. The filing of a request by the permittee for a permit modification; revocation and reissuance; termination; or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

4. Civil and Criminal Liability

Nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Any false or materially misleading representation or concealment of information required to be reported by the provisions of this permit or applicable state statutes or regulations which defeats the regulatory purposes of the permit may subject the permittee to criminal enforcement pursuant to the Arkansas Water and Air Pollution Control Act.

5. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Clean Water Act and Section 106 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

6. **State Laws**

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation.

7. **Property Rights**

The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

8. **Severability**

The provisions of this permit are severable, and if any provision of this permit, or the application of any provisions of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

9. **Permit Fees**

The permittee shall comply with all applicable permit fee requirements (i.e., including annual permit fees following the initial permit fee that will be invoiced every year the permit is active) for No-Discharge permits as described in APC&EC Regulation No. 9 (Regulation for the Fee System for Environmental Permits). Failure to promptly remit all required fees shall be grounds for the Director to initiate action to revoke this permit.

10. **Proper Operation and Maintenance**

A. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

B. The permittee shall provide an adequate and trained operating staff which is duly qualified to carry out operation, maintenance, and testing functions required to insure compliance with the conditions of this permit.

11. **Duty to Mitigate**

The permittee shall take all reasonable steps to prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health, the environment, or the water receiving the discharge.

12. **Removed Substances**

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of waste waters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering the waters of the State.

13. Reporting of Violations and Unauthorized Discharges

- A. Any violations to this permit must be reported to the Enforcement Branch of the Department immediately. Any leaks or seeps shall be reported to the Department and appropriately corrected. Any discharge from the fluids storage system such as an overflow, a broken pipe, etc., shall be immediately reported to the Department.
- B. The operator shall visually monitor and report immediately (within 24 hours) to the Enforcement Branch any unauthorized discharge from any facility caused by dike or structural failure; equipment breakdown; human error; etc., and shall follow up with a written report within five (5) days of such occurrence. The written report shall contain the following:
- i. A description of the permit violation and its cause;
 - ii. The period of the violation, including exact times and dates;
 - iii. If the violation has not been corrected, the anticipated time expected to correct the violation; and
 - iv. Steps taken or planned to reduce, eliminate, and prevent the recurrence of the violation.
- C. Reports shall be submitted to the Enforcement Branch at the following address:

Arkansas Department of Environmental Quality
Water Division, Enforcement Branch
5301 Northshore Dr.
North Little Rock, Arkansas 72118
Fax (501) 682-0880

Or

Water-enforcement-report@adeq.state.ar.us

14. Penalties for Tampering

The Arkansas Water and Air Pollution Control Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under the Act shall be guilty of a misdemeanor and upon conviction thereof shall be subject to imprisonment for not more than one (1) year or a fine of not more than ten thousand dollars (\$10,000) or by both such fine and imprisonment.

15. Laboratory Analysis

All laboratory analyses submitted to the Department shall be completed by a laboratory certified by ADEQ under Ark. Code Ann. § 8-2-201 *et seq.* Analyses for the permittee's internal quality control or process control do not need to be performed by an ADEQ certified laboratory.

16. Retention of Records

The permittee shall retain records of all monitoring information, copies of all reports required by this permit, and records of all data used to complete the application for this permit for a period of at least 3 years from the date of the sample, measurement, report, or application. This period may be extended by request of the Director at any time.

17. Record Contents

Records and monitoring information shall include:

- A. The date, exact place, time, and methods of sampling or measurements, and preservatives used, if any;
- B. The individuals(s) who performed the sampling or measurements;
- C. The date(s) the analyses were performed;
- D. The individual(s) who performed the analyses;
- E. The analytical techniques or methods used; and
- F. The measurements and results of such analyses.

18. Inspection and Entry

The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

- A. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- B. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- C. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit,
- D. Sample, inspect, or monitor at reasonable times, for the purposes of assuring permit compliance any substances or parameters at any location.

19. Planned Changes

The permittee shall give notice and provide the necessary information to the Director for review and approval prior to any planned physical alterations or additions to the permitted facility.

20. Anticipated Noncompliance

The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

21. Transfers

The permit is nontransferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Act.

22. Duty to Provide Information

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying; revoking and reissuing; terminating this permit; or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit. Information shall be submitted in the form, manner, and time frame requested by the Director.

23. Duty to reapply

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The complete application shall

be submitted at least 180 days before the expiration date of this permit. The Director may grant permission to submit an application less than 180 days in advance but no later than the permit expiration date. Conditions of this permit will continue in effect past the expiration date pending issuance of a new permit, if:

- A. The permittee has submitted a timely and complete application; and
- B. The Director, through no fault of the permittee, does not issue a new permit prior to the expiration date of the previous permit.

24. Signatory Requirements

- A. All applications, reports, or information submitted to the Director shall be signed and certified. All permit applications shall be signed as follows:
 - i. For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:
 - a. A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or
 - b. The manager of one or more manufacturing, production, or operation facilities, provided the manager is authorized to make management decisions which govern the operation of the regulated facility including: having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.
 - ii. For a partnership or sole proprietorship: by a general partner or proprietor, respectively; or
 - iii. For a municipality, State, Federal, or other public agency; by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes:
 - a. The chief executive officer of the agency, or
 - b. A senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency.
- B. All reports required by the permit and other information requested by the Director shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - i. The authorization is made in writing by a person described above.
 - ii. The authorization specified either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
 - iii. The written authorization is submitted to the Director.

- C. Any person signing a document under this section shall make the following certification: “I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

25. Availability of Reports

Except for data determined to be confidential under the Arkansas Trade Secrets Act (Ark. Code Ann. § 4-75-601 *et seq.*), all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Department of Environmental Quality. As required by the Regulations, the name and address of any permit applicant or permittee, permit applications, permits, and effluent data shall not be considered confidential.

26. Penalties for Falsification of Reports

The Arkansas Air and Water Pollution Control Act provides that any person who knowingly makes any false statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under this permit shall be subject to civil penalties and/or criminal penalties under the authority of the Arkansas Water and Air Pollution Control Act.

27. Applicable Federal, State, or Local Requirements

Permittees are responsible for compliance with all applicable terms and conditions of this permit. Receipt of this permit does not relieve any operator of the responsibility to comply with any other applicable Federal, State, or local statute, ordinance policy, or regulation.

Part IV
Definitions

“**Act**” means the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 et seq.)

“**APC&EC**” means the Arkansas Pollution Control and Ecology Commission.

“**Available Acreage**” means total acreage minus buffer zones

“**Daily Maximum**” means the highest allowable “daily discharge” during the calendar month.

“**Department**” means the Arkansas Department of Environmental Quality (ADEQ).

“**Director**” means the Director of the Arkansas Department of Environmental Quality.

“**Grab sample**” means an individual sample collected in less than 15 minutes in conjunction with an instantaneous flow measurement.

“**MGD**” means million gallons per day.

“**mg/l**” means milligrams per liter or parts per million (ppm).

“**NH₃**” means Ammonia Nitrogen.

“**NO₃ + NO₂**” means Nitrate + Nitrite Nitrogen.

“**PAN**” means Plant Available Nitrogen.

“**ppm**” means parts per million.

“**Sewage sludge**” means the solids, residues, and precipitate separated from or created in sewage by the unit processes at a publicly-owned treatment works. Sewage as used in this definition means any wastes, including wastes from humans, households, commercial establishments, industries, and storm water runoff that are discharged to or otherwise enter a publicly-owned treatment works.

“**s.u.**” means standard units.

“**TKN**” means Total Kjeldahl Nitrogen.

Monitoring and Reporting:

When a permit becomes effective, monitoring requirements are of the immediate period of the permit effective date. Where the monitoring requirement for an effluent characteristic is monthly or more frequently, the No-Discharge Monitoring Report (NMR) shall be submitted by the 15th of the month following the sampling. Monthly is defined as a calendar month or any portion of a calendar month for monitoring requirement frequency of once/month or more frequently.

STATEMENT OF BASIS

This Statement of Basis is for information and justification of the permit limits only and is not enforceable. This permit decision is for issuance of a No-Discharge operation under permit number 4837-WR-2 and AFIN 72-01074.

1. Permitting Authority

Arkansas Department of Environmental Quality
Water Division, Permits Branch
5301 Northshore Drive
North Little Rock, Arkansas 72118-5317

2. Applicant

Sloan Estates Property Owners Association, Inc.
P.O. Box 10918
Fayetteville, AR 72703

3. Facility Location

The facility located as follows: Drive on Hwy 45 East from Fayetteville, at the intersection with Washington county road 345 turn North on Gulley Rd, travel 0.4 miles and subdivision is on the left nearest to the city of Fayetteville in Section 32, Township 17 North, Range 29 West, in Washington County, Arkansas. The facility is located at the following coordinates:

Latitude: 36° 6' 25" N Longitude: 94° 5' 18" W

4. Receiving Stream Location

The facility is located in Stream Segment 3J of the Arkansas River Basin, which is in the Nutrient Surplus Area. Surrounding areas were evaluated to determine if any Extraordinary Resource Waters (ERWs), Ecologically Sensitive Waterbodies (ESWs), Natural or Scenic Rivers, or impaired streams in the 2008 ADEQ 303(d) list are near the facility. It was determined that the facility is approximately 1 ¼ miles from West Fork White River, which is on the 2008 ADEQ 303(d) list for dissolved oxygen (DO), sulfates, and total dissolved solids (TDS) by unknown sources. The facility is located approximately 2 ¾ miles from Clear Creek, which is on the 2008 ADEQ 303(d) list for pathogen indicators caused by urban runoff. The White River is approximately 4 ¼ miles from the facility and is on the 2008 ADEQ 303(d) list for TDS, chlorides, and sulfates caused by unknown sources. The facility is approximately 4 ¾ miles from Middle Fork White River, which is on the 2008 ADEQ 303(d) list for DO by an unknown source. The facility is approximately 5 ¼ miles from Spring Creek, which is on the 2008 ADEQ 303(d) list for pathogen indicators and total phosphorus by unknown sources. Beaver Lake is approximately 5 ¾ miles from the facility and is on the 2008 ADEQ 303(d) list for siltation/turbidity caused by surface erosion. The Individual No-Discharge Permit conditions are protective. No additional conditions are necessary at this time.

5. Permit History

- A. Permit No. 4837-W was issued to Greenfield Capital Development, LLC (Sloan Estates) and effective 9/23/2005 for a residential development.
- B. Permit No. 4837-WR-1 was not issued to Greenfield Capital Development, LLC (Sloan Estates).

6. Previous Permit Activity

Previous Permit No.: 4837-W

Previous AFIN: 72-01074

Effective Date: 9/23/2005

Expiration Date: 9/22/2010

The permittee submitted a permit issuance application which was received on 8/28/2013. The previous owner allowed Permit 4837-W to expire. Permit 4837-WR-1 was not issued since the previous owner repeatedly failed to publish the Notice of Application. The new owners developed a Property Owners Association and have been working with the Department so as to bring the wastewater treatment system into compliance once again. The current water No-Discharge permit is being issued for a 5-year term.

7. Applicant Activity

Under the standard industrial classification (SIC) code 6552 or North American Industry Classification System (NAICS) code 237210, the applicant activities are for a residential development. This permit is for the operation of a decentralized wastewater treatment with drip irrigation dispersal of the treated wastewater.

8. Consultant for this Facility

Charlee Presley, P.E
Presley, Brannon, & Associates, Inc.
P. O. Box 607
Huntsville, AR 72740

9. Facility Type, Size, and Design Flowrates

The facility consists of 58 buildable lots for a residential development with a wastewater treatment system, which consists of septic tanks with pumps at each home, a trickling filter, an equalization/recirculation tank, and a drip-irrigation field. The treatment system has a nominal capacity of 17,500 gallons. The design flowrate is based on the Arkansas Department of Health's (ADH) Drip Irrigation Guidelines. The system has been approved by ADH.

10. Waste Treatment and Storage Components

The minimum tank volume is 1,250 gallons for a 3-bedroom home. Wastewater flows from the septic tanks to a common 8,000 gallon equalization/recirculation tank. In addition to the treatment received in the septic tanks, wastewater will be treated in two fixed film filters before it is dosed via a 4,000 gallon dosing tank to the drip-irrigation system, which consists of drip tubing, a head control box, and associated connections.

11. Drip Irrigation Field Size and Loading Rate

The drip field is approximately 4.2 acres and is located north of Sagely Lane between Nevis Drive and North Gulley Road.

| Zone Identification | Zone Area (ft²) | Loading Rate (gpd/ft²) | Maximum Capacity (gpd) |
|----------------------------|-----------------------------------|--|-------------------------------|
| Zone 1 | 9025 | 0.472 | 4260 |
| Zone 2 | 9047 | 0.472 | 4270 |
| Zone 3 | 9067 | 0.467 | 4234 |
| Zone 4 | 9088 | 0.205 | 1863 |
| Zone 5 | 9218 | 0.130 | 1198 |
| Zone 6 | 9377 | 0.178 | 1669 |

12. Basis for Permit Conditions

The Arkansas Department of Environmental Quality has made a determination to issue a permit for the No-Discharge facility as described in the application and waste management plan. Permit requirements and conditions are based on the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. 8-4-101 *et seq.* and Ark. Code Ann. § 8-4-201 *et seq.*) and regulations promulgated there to and Regulation No. 17 Arkansas Underground Injection Control (UIC) Code.

Specific permit conditions and limits and their sources are listed as follows:

A. Part I – Permit Requirements**i. Monitoring Frequency**

Due to this facility being a constant flow facility, monthly sampling is sufficient. Frequent monitoring of the effluent is required to ensure the effluent is meeting the requirements of the permit.

ii. Waste Conditions**a. Reporting requirements for monthly total flow and daily maximum flow**

The monthly total flow and daily maximum flow are required to be monitored and reported to assess whether the system is being operated at or below the design flow rates.

b. Limit for Carbonaceous Biochemical Oxygen Demand (CBOD5)

This limit is intended to prevent the formation of algae that contributes to the clogging of emitters and other equipment within the drip irrigation system. According to the Onsite Wastewater Treatment Systems Manual, Drip Irrigation systems are capable of meeting CBOD5 concentrations as low as 5 mg/l. The Department has determined that a concentration of 15 mg/l is a consistently

achievable limit and appropriate because treated effluent is being dispersed in a non-public area and is receiving additional treatment by the soil.

c. Limit for Total Suspended Solids (TSS)

This limit is required to prevent the small diameter spray emitters within the drip system from becoming clogged with suspended solids or algae growth within the wastewater. According to the Onsite Wastewater Treatment Systems Manual, Drip Irrigation systems are capable of meeting TSS concentrations as low as 5 mg/l. The Department has determined that a concentration of 15 mg/l is a consistently achievable limit and appropriate because treated effluent is being dispersed in a non-public area and is receiving additional treatment by the soil.

d. Limit for Fecal Coliform Bacteria (FCB)

According to the Onsite Wastewater Treatment Systems Manual, Drip Irrigation systems are capable of meeting low levels of Fecal Coliform. The Department has determined that bacteria concentration of 10,000 col/100ml is a consistently achievable limit and appropriate because treated effluent is being dispersed in a non-public area and is receiving additional treatment by the soil.

e. Minimum and maximum pH

The allowable pH range of 6.0-9.0 is adopted from APC&EC Regulation No. 2 because this range also supports bacteria and plant growth in the drip irrigation field.

f. Reporting requirements for all nitrogen compounds in the waste

These concentrations are required to calculate the plant available nitrogen to comply with Part II, Condition No. 5 of the permit. The plant available nitrogen dispersed to the irrigation field should not exceed the nitrogen uptake of the vegetation in the drip irrigation area, otherwise nitrogen compounds could migrate to waters of the State.

g. Reporting requirements for Total Phosphorus (TP)

Monitoring and reporting requirements for Total Phosphorus are required to evaluate the amount of phosphorus being added to the drip irrigation field. Phosphorus has been determined to cause eutrophication in surface waters, and may reach surface waters from drip irrigation activities or heavy rains. A specific limit for Total Phosphorus may be established to comply with future Total Phosphorous concentration limit requirements for nutrient surplus designated areas. This may require a permit modification.

h. Reporting requirements for percent total solids in the waste

This parameter is required to convert effluent analysis values between a wet and dry basis.

i. Drip field soil loading rates

The drip irrigation field soil loading rates are determined by a Professional Soil Classifier registered in the state of Arkansas to ensure that the drip field zones are not hydraulically overloaded.

B. Part II – Specific Conditions

i. Reporting requirements for all nitrogen compounds in the treated waste, Plant Available Nitrogen (PAN) application limit and vegetation cover requirement

Any land application of treated waste is limited by the phosphorus uptake of the cover crop. Nitrate-Nitrogen, Nitrite-Nitrogen, Ammonia-Nitrogen, and Total Kjeldahl Nitrogen need to be monitored and reported on an annual basis to calculate the Plant Available Nitrogen (PAN) in order to comply with Condition No. 5 of Part II of the permit and to ensure that the waste is not being over applied to the land application sites. The application rate is designed to provide the amount of nitrogen needed by the crop or vegetation while minimizing the risk of nitrogen supplied in the waste from migrating to the groundwater. This limit ensures that nitrogen supplied in the waste will have no greater impact on groundwater than that supplied in agricultural operations using commercial fertilizers or manure. A vegetative cover is required for stabilization purposes to reduce the risk of soil erosion and runoff.

ii. Requirements for maintaining a reserve drip irrigation field

A reserve drip irrigation field is required in the event that the drip irrigation field becomes hydraulically overloaded and no longer absorbs the volume of treated effluent at the soil loading rates for the associated zone.

iii. Removal of lysimeter requirements

Upon review of approximately four years of quarterly monitoring data, the Department has determined that the laboratory analysis of the fluids collected in the lysimeters are not providing sufficient information to assess the environmental impact of the treatment unit. Adherence to the treated effluent limitations in Part I, Table 1 of the permit and monthly monitoring of the treated effluent will minimize any migration of pollutants to water of the State. Additionally, the soil provides additional treatment of the effluent in the drip irrigation field.

iv. Removal of monitoring well requirements

Upon review of approximately four years of quarterly monitoring data, the Department has determined that the laboratory analysis of the fluids collected from the monitoring wells are not providing sufficient information to assess the environmental impact of the treatment unit. Adherence to the treated effluent limitations in Part I, Table 1 of the permit and monthly monitoring of the treated effluent will minimize any migration of pollutants to water of the State. Additionally, the soil provides additional treatment of the effluent in the drip irrigation field.

C. Part III – Standard Conditions

Standard Conditions have been included in this permit based on generally accepted scientific knowledge, engineering practices and the authority of the Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 et seq.).

D. Part IV – Definitions

All definitions in Part IV of the permit are self-explanatory.

13. Annual Trust Fund Contributions

In accordance with Ark. Code Ann. § 8-4-203(b)(1)(B), the permittee is considered to be a nonmunicipal domestic sewage treatment works; therefore, the permittee shall comply with all applicable trust fund fee requirements stated in Ark. Code Ann. § 8-4-203(b).

14. Point of Contact

The following staff contributed to the preparation of this permit:

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Technical review

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15. Sources

The following Sources were used to draft the permit:

- A. APC&EC Regulation No. 2, Regulation Establishing Water Quality Standards for Surface Waters of the State of Arkansas.
- B. APC&EC Regulation No. 3, Licensing of Wastewater Treatment Plant Operators.
- C. APC&EC Regulation No. 8, Administrative Procedures.
- D. APC&EC Regulation No. 9, Permit Fee Regulations.
- E. APC&EC Regulation No. 17, Arkansas Underground Injection Control Code.
- F. Integrated Water Quality and Assessment Report (305(b) Report).

- G. Ark. Code Ann. § 8-4-101 et seq., Arkansas Water and Air Pollution Control Act.
- H. 40 CFR Parts 144 and 146.
- I. Ark. Code Ann. §§ 8-4-203 and 8-5-703, as amended.
- J. Ark. Code Ann. § 8-5-205, as amended.
- K. Arkansas Department of Health, “Rules and Regulations Pertaining to Onsite Wastewater Systems.”
- L. Application No. 4837-WR-2 received 8/28/2013.
- M. Emails dated 9/9/2013 to discuss drip zones.

**ADEQ CHANGES
FINAL PERMITTING DECISION**

Permit No.: 4837-WR-2
Applicant: Sloan Estates Property Owners Association, Inc.
Prepared by: Casey Vickerson

The Department has made the following changes on the draft permit number above.

Introduction

The above permit was submitted for public comment on February 2, 2014. The public comment period ended on March 7, 2014.

A summary of the changes can be found below.

ADEQ Comment No. 1: In the time since the draft permit opened for public notice, the permittee has been working to establish a property owners association, as the land being permitted was titled in the name of Lynnkohn, LLC, which is no longer in existence and the members filed bankruptcy, so that ownership of the property may be obtained and a financial assurance mechanism may be submitted as required to issue the final permit. However, financial assurance requirements pursuant to Arkansas Code Annotated § 8-4-203(b) are being amended per Act 575 of the 2015 Arkansas Legislature. Therefore, Condition No. 15 of Part II of the Permit was revised to comply with the amended Act. Additionally, the Statement of Basis Item No. 13 was revised to determine applicability.

| Part | Draft Permit | Final Permit | Comment # |
|---|--|--|-------------------------------------|
| <p>Part II Condition No. 15</p> | <p>Pursuant to Ark. Code Ann. §§ 8-4-203(b)(1)(A)(i) and 8-5-703(a)(1)(A), Financial Assurance is required for any nonmunicipal domestic sewage treatment works to cover the estimated costs of operating and maintaining the system for a minimum period of five (5) years. Each year, the permittee must submit to the Department for approval a detailed cost estimate to cover the estimated costs of operating and maintaining the system for a minimum period of five (5) years. The financial instrument required shall be posted to the benefit of the department and shall remain in effect for the life of the permit.</p> | <p>The permittee shall comply with all applicable trust fund fee requirements (i.e. the initial trust fund fee and the annual trust fund fee that will be invoiced every year the permit is active) stated in Ark. Code Ann. § 8-4-203(b). In accordance with Ark. Code Ann. § 8-4-203(b)(5), a permittee is responsible for ensuring that the required trust fund fee is received. If the Department does not timely receive the required trust fund contribution fees for a nonmunicipal domestic sewage treatment works, the Department may initiate procedures to suspend or revoke the permit under which the nonmunicipal domestic sewage treatment works is operated.</p> | <p>Department Comment No. 1</p> |
| <p>Statement of Basis Item No. 13</p> | <p>To ensure that privately owned treatment works servicing multiple homes or businesses remain operational, Ark. Code Ann. § 8-4-203(b)(1)(A)(i) requires non-municipal domestic sewage treatment works to obtain Financial Assurance to cover the estimated costs of operating and maintaining the system for a minimum period of five (5) years. Financial Assurance is not required as this facility is operated by a property owner's association.</p> | <p>In accordance with Ark. Code Ann. § 8-4-203(b)(1)(B), the permittee is considered to be a nonmunicipal domestic sewage treatment works; therefore, the permittee shall comply with all applicable trust fund fee requirements stated in Ark. Code Ann. § 8-4-203(b).</p> | <p>Department Comment No. 1</p> |