

ADEQ

ARKANSAS
Department of Environmental Quality

CERTIFIED MAIL RETURN RECEIPT (91 7199 9991 7030 4906 5749)

SEP 11 2013

Jason Howard
City of Pottsville
173 E. Ash Street
Pottsville, AR 72858

RE: Permit Number 4559-WR-3; AFIN 58-00156

Dear Mr. Howard:

Enclosed are the draft public notice, Statement of Basis, and a copy of the draft permit which the Arkansas Department of Environmental Quality has prepared under the authority of the Arkansas Water and Air Pollution Control Act. A copy of the final permit will be mailed to you when the Department has made a final permit decision.

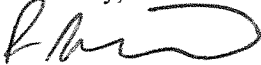
The enclosed public notice will be published by ADEQ in the newspaper of general circulation. An invoice for the cost of publishing the public notice and proof of publication will be sent to you by the advertising newspaper. The permittee must send proof of publication and payment to the address below as soon as possible but no later than 30 days after its publication. Until this Department receives proof of publication of the public notice, no further action will be taken on the issuance of your no-discharge permit.

Comments must be received at ADEQ prior to the close of the public comment period as described in the enclosed public notice. The public comment period will begin on the day of publication and will end no sooner than 30 days after that date. Once a final permit is issued by the Director and becomes effective, the permittee must comply with all terms and conditions of the permit, or be subject to enforcement actions for any instances of noncompliance during the duration of the permit, usually five (5) years. Consequently, it is imperative that you, as the applicant, thoroughly review the enclosed documentation for accuracy, applicability, and your ability to comply with all conditions therein.

For a list of changes, please see Section 8 of the enclosed Statement of Basis.

Should you have any questions concerning any part of the permit, please feel free to contact Casey Vickerson of the Permits Branch at (501) 682-0653 or at vickerson@adeq.state.ar.us.

Sincerely,



Ryan Benefield, P.E.
Deputy Director

RB:cv

Enclosure

PUBLIC NOTICE OF DRAFT NO-DISCHARGE PERMIT
PERMIT NUMBER 4559-WR-3
AFIN 58-00156

This is to give notice that the Arkansas Department of Environmental Quality (ADEQ) Water Division, 5301 Northshore Drive, North Little Rock, Arkansas 72118-5317 at telephone number (501) 682-0648, proposes a draft renewal of the permit for which an application was received on 4/10/2013 for the following applicant under the Arkansas Water and Air Pollution Control Act.

Applicant: City of Pottsville - Pottsville Water & Sewer Dept., 5575 SR 247, Pottsville, AR, 72858. Location: 1 miles southeast of Pottsville off Hwy. 247 in Pope County; Latitude: 35° 13' 34" N; Longitude: 93° 2' 32" W.

This permit is for the land application of municipal biosolids.

The land application sites are located in stream segment 3F of the Arkansas River basin. A detailed description of the location of each land application site can be found in the draft permit located at the following website:

http://www.adeq.state.ar.us/water/branch_permits/individual_permits/pn_permits/pnpermits.aspx

ADEQ's contact person, Casey Vickerson, may be reached by the address and telephone number noted above, or at ADEQ email address at Water-Draft-Permit-Comment@adeq.state.ar.us. For those with internet access, a copy of the proposed draft permit may be found on the ADEQ's website at www.adeq.state.ar.us.

The last day of the comment period is 30 days after the publication date at 4:30 P.M. Central Standard Time. If the last day of the comment period is a Saturday, Sunday or legal holiday, the public comment period shall expire on the next day that is not a Saturday, Sunday or legal holiday. For information regarding the actual publication date along with the actual date and time the comment period will end, please contact Casey Vickerson at the above address and telephone number or by email at Water-Draft-Permit-Comment@adeq.state.ar.us. The staff member listed above may be contacted for the actual publication date and the exact date and time for the comment deadline. Comments and public hearing procedures may be found at Regulation No. 8 (Administrative Procedures). All persons, including the permittee, who wish to comment on ADEQ's draft decision to renew the permit must submit written comments to ADEQ, along with their name and mailing address. After the public comment period, and public hearing, if one is held, ADEQ will issue a final permitting decision. A public hearing will be held when ADEQ finds a significant degree of public interest. ADEQ will notify the applicant and each person who has submitted written comments or requested notice of the final permitting decision. Any interested person who has submitted comments may appeal a final decision by ADEQ in accordance with the Regulation No. 8.

Draft

Permit No. 4559-WR-3
AFIN 58-00156

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. Sec. 8-4-101 *et seq.*)

City of Pottsville - Pottsville Water & Sewer Dept.

is authorized to land apply municipal biosolids at multiple sites in Pottsville, Arkansas in Pope County.

The land application sites are located in Stream Segment 3F of the Arkansas River basin.

Operation shall be in accordance with all conditions set forth in this permit. In accordance with Condition No. 23 of Part III of the permit, the permittee must reapply for permit coverage at least 180 days prior to the expiration date.

Effective Date:

Expiration Date:

Ryan Benefield, P.E.
Deputy Director
Arkansas Department of Environmental Quality

Issue Date:

Part I PERMIT REQUIREMENTS

SECTION A. 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 I			
Biosolids Analysis, Reporting, and Record Keeping			
Parameter	Ceiling Concentrations (mg/kg) ¹	Cumulative Pollutant Loading Rate (lb/ac)	Monitoring Frequency
Arsenic	75	37	Annually, prior to the 1 st application of the calendar year
Cadmium	85	35	
Copper	4300	1350	
Lead	840	270	
Mercury	57	15	
Molybdenum	75	Report	
Nickel	420	378	
Selenium	100	90	
Zinc	7500	2520	
Polychlorinated Biphenyls (PCB's)	50	N/A	
Parameter	Maximum Limit	Reporting Units	Monitoring Frequency
Total Solids	Report	Percentage (%)	Annually, prior to the 1 st application of the calendar year
pH		S.U.	
Nitrate Nitrogen		mg/kg ¹	
Nitrite Nitrogen			
Ammonia Nitrogen			
Total Kjeldahl Nitrogen			
Total Phosphorus			
Total Potassium			
Magnesium			
Sodium			
Calcium			
Sodium Absorption Ratio (SAR)		Report	Unitless
Total Volume of Waste Applied	Report	gallons/acre/year	Prior to each application
Nitrogen Application Rate	^{2,3} Depends on Crop	Lbs N/acre/year	

¹ Dry-weight Basis

² The land application of waste must not exceed the limits for Nitrogen Application Rate or Total Volume of Waste Applied, whichever is less.

³ Refer to Condition No. 3 of Part II of the permit.

TABLE II		
Soils		
Parameter	Limit (Reporting Units)	Monitoring Frequency
Electrical Conductivity	4.0 (mmhos/cm)	Annually, Prior to the 1 st application of the calendar year per land application site ²
Cation Exchange Capacity	Report (meq/100g)	
pH ¹	Report (s.u.)	
Sodium Adsorption Ratio (SAR)	Report (unitless)	
Calcium	Report (mg/kg)	Once every five (5) years per land application site ²
Magnesium		
Sodium		
Nitrate-Nitrogen		
Phosphorus		
Potassium		
Arsenic		
Cadmium		
Copper		
Lead		
Mercury		
Molybdenum		
Nickel		
Selenium		
Zinc		

¹ If the resulting pH is 5.7 or lower, lime must be applied in accordance with recommendations from the University of Arkansas Cooperative Extension Service.

² One composite sample must be taken for every 40 acres.

Draft

Page 3 of Part I
Permit No. 4559-WR-3
AFIN 58-00156

SECTION B. SCHEDULE OF COMPLIANCE:

Compliance with all limitations and conditions is required on the effective date of the permit.

Part II Specific Conditions

1. This permit is for the land application of municipal biosolids.
2. The land application operation shall be managed in accordance with the May 9, 2013 Waste Management Plan (WMP). If the WMP is inconsistent with this permit, the land application operation shall be managed in accordance with the terms of the permit and the WMP shall be revised to conform to the permit conditions.
3. Plant Available Nitrogen (PAN) shall be calculated using the following equations:

PAN Equations	
For Surface applied biosolids, PAN(mg/kg)	$0.3(\text{TKN} - \text{NH}_3) + 0.5\text{NH}_3 + \text{NO}_3 + \text{NO}_2$
For Subsurface applied or Incorporated biosolids, 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))	$0.002 * \text{PAN}(\text{mg}/\text{kg})$

The biosolids 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 for land application under this permit. Any crop not listed in the following table may be added to the permit as a permit modification.

Nitrogen Uptake of Cover Crops	
Crop Name	Uptake (lbs/acre)
Rye	50
Sorghum	148
Wheat	70
Bermuda	300
Fescue	138

4. Land application sites possessing forage crops shall maintain adequate vegetation (100% coverage with a minimum of 80% density) to ensure the nitrogen uptake rate of the cover crop used to calculate the limit in condition No. 3 is accurate.
5. Land application sites are as follows:

Name	New or Existing	Section(s)	Township	Range	Acreage	Latitude	Longitude
Charles Oates	Existing	29	7N	19W	40	35° 12' 25" N	93° 4' 1" W
J.C. Jones	New	29	7N	19W	40	35° 14' 21" N	93° 2' 23" W

6. Each land use agreement must be maintained in effect during the permit term. A copy of the signed land use agreement must be available on site during land application operations. If a land use

agreement becomes void during the permit term, the permittee must notify the Department for a modification.

7. The permittee shall determine if the land application sites are currently permitted or in use by another user. In the event that the Department determines that any land application site under this permit is permitted for land application under another Water Division permit, the Department may void this permit and enforcement action may be taken.
8. Biosolids shall be land applied by subsoil injection or surface applied. Surface applied biosolids must be evenly distributed over the entire application area.
9. Biosolids 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.
10. The allowable slope of land application site depends on waste application method. Waste shall not be applied to the land application site with slopes greater than allowed by the table below.

Maximum Slope %	Acceptable Application Methods
6	<ul style="list-style-type: none">• Surface application of liquid waste• Injection of liquid waste• Surface application of dewatered waste solids• Surface application of dewatered waste with immediate incorporation
12	<ul style="list-style-type: none">• Injection of liquid waste• Surface application of dewatered waste solids• Surface application of dewatered waste with immediate incorporation
15	<ul style="list-style-type: none">• No application of liquid wastes without extensive runoff control• Surface application of dewatered waste with immediate incorporation

11. Land application is prohibited when the soils are saturated; frozen; covered with ice or snow; during precipitation events; or when precipitation is imminent (greater than a 50% chance of precipitation predicted by the nearest National Weather Service station).
12. The permittee shall not cause or contribute to the taking of any endangered or threatened species of plant, fish or wildlife. The facility shall not result in the destruction or adverse modification of the known critical habitat of endangered or threatened species as identified in 50 CFR Part 17. (40 CFR Part 257.3-2)
13. Application of waste in a flood plain shall not restrict the flow of the base flood, reduce the temporary storage capacity of the flood plain, or result in a washout of solid waste, so as to pose a hazard to human life, wildlife, or land and water uses.
14. Waste shall not be spread within: 50 feet of property lines and rock outcrops; 100 feet of lakes, ponds, springs, wetlands, streams, and sinkholes; 200 feet of drinking water wells; or 300 feet of occupied buildings or bodies of water classified as an "extraordinary resource body of water." All boundaries must be flagged prior to land applying.
15. The biosolids generator must issue a signed certification stating that the Pathogen Reduction, Vector Attraction Reduction, and Pollutant Concentration Limits have been met. The State requirements on Pathogen Reduction, Vector Attraction Reduction, and Pollutant Concentration Limits are the same as

those listed in 40 C.F.R. Part 503.32. All the above information must be made available to the land-applicator before the biosolids materials are delivered. Concurrently, a signed copy of each certification must be also submitted to the ADEQ Water Division with the annual reports.

16. Biosolids can only be stored in accordance with the permit and the approved waste management plan, if provisions are made in the plan for that purpose. The utilization of improvised field storage sites or any other site not approved by the Department is prohibited. Transportation of the biosolids must be such that will prevent the attraction, harborage or breeding of insects or rodents.
17. The containers used for the transportation of the biosolids must be of the closed type. Transportation equipment must be leak-proof and kept in sanitary condition at all times. Biosolids must be enclosed or covered as to prevent littering, vector attraction, or any other nuisances.
18. Annual Reports are due by May 1st of each year for the previous permitted months from January to December (i.e. Annual report is due on May 1st, 2014 for the 2013 calendar year). Annual reports shall be sent to the Department and to the owner of the land receiving waste and include the following:
 - a. land application dates;
 - b. land application locations;
 - c. quantities of biosolids applied in dry tons per acre per year and in gallons per acre per year;
 - d. methods of application;
 - e. cover crop grown on each field;
 - f. amounts of nitrogen applied;
 - g. total elements added (in that particular year) in lbs per acre;
 - h. total elements applied to date;
 - i. copies of the biosolids analysis, soil analyses and the biosolids certification.

The annual reports shall be submitted to the following address:

Arkansas Department of Environmental Quality
Water Division, No-Discharge Section
5301 Northshore Dr.
North Little Rock, Arkansas 72118
Fax (501) 682-0880

Or

Water-permit-application@adeq.state.ar.us

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 (Act 472 of 1949 as amended) 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 (Act 472 of 1949, as amended) 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 (Act 472 of 1949, as amended).

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 (Act 472 of 1949, as amended) 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. 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 (Act 472 of 1949, as amended).

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.*) as amended.

“**Annual Pollutant Loading Rate**” means the maximum amount of a pollutant (dry-weight basis) that can be applied to a unit area of land during a 365-day period.

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

“**Application Site or Land Application Site**” means all contiguous areas of a users' property intended for sludge application.

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

“**Biosolids**” means any sludge or material derived from sludge that can be beneficially used. Beneficial use includes, but is not limited to, land application to agricultural land, forest land, a reclamation site or sale or give away to the public for home lawn and garden use.

“**Cumulative Pollutant Loading Rate**” means the maximum of an inorganic pollutant (dry-weight basis) that is applied to a unit area of land.

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

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

“**Dry weight-basis**” means 100 percent solids (i.e., percent moisture).

“**Land application**” means the spraying or spreading of sewage sludge onto the land surface; the injection of sewage sludge below the land surface; or the incorporation of sewage sludge into the land so that the sewage sludge can either condition the soil or fertilize crops or vegetation grown in the soil. Land application includes distribution and marketing (i.e. the selling or giving away of the sludge).

“**Pathogen**” means an organism that is capable of producing an infection or disease in a susceptible host.

“**Pollutant Limit**” means a numerical value that describes the maximum amount of a pollutant allowed per unit amount of sewage sludge (e.g., milligrams per kilogram of total solids); the maximum amount of a pollutant that can be applied to a unit area of land (e.g., pounds per acre); the maximum density of a microorganism per unit amount of sewage sludge (e.g., Most Probable Number per gram of total solids); the maximum volume of a material that can be applied to a unit area of land (e.g., gallons per acre); or the maximum amount of pollutant allowed in plant tissue (e.g., parts per million).

“**Runoff**” means rainwater, leachate, or other liquid that drains overland on any part of a land surface and runs off of the land surface.

“**Sewage sludge**” means solid, semi-solid, or liquid residue generated during the treatment of domestic sewage and/or a combination of domestic sewage and industrial waste of a liquid nature in a Treatment Works. Sewage sludge includes, but is not limited to, domestic septage, scum or solids removed in primary, secondary, or advanced wastewater treatment processes; and a material derived from sewage sludge. Sewage sludge does not include ash generated during the incineration of sewage sludge or grit and screenings generated during preliminary treatment of domestic sewage in a Treatment Works. These must be disposed of in accordance with 40 CFR Part 258.

“**Total solids**” means the materials in the sewage sludge that remain as residue if the sludge is dried at 103 to 105 degrees Celsius.

“**Vector Attraction**” means the characteristic of sewage sludge that attracts rodents, flies, mosquitoes or other organisms capable of transporting infectious agents.

“**Volatile Solids**” means the amount of the total solids in sewage sludge lost when the sludge is-combusted at 550 degrees Celsius for 15-20 minutes in the presence of excess air.

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

“**mg/kg**” means milligram per kilogram.

“**NH₃**” means Ammonia Nitrogen.

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

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

“**ppm**” means parts per million.

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

“**s.u.**” shall mean standard units.

QUARTERLY:

(1) is defined as a fixed calendar quarter or any part of the fixed calendar quarter for a non-seasonal effluent characteristic with a measurement frequency of once/quarter. Fixed calendar quarters are: January through March, April through June, July through September, and October through December; or

(2) is defined as a fixed three month period (or any part of the fixed three month period) of or dependent upon the seasons specified in the permit for a seasonal effluent characteristic with a monitoring requirement frequency of once/quarter that does not coincide with the fixed calendar quarter. Seasonal calendar quarters May through July, August through October, November through January, and February through April.

SEMI-ANNUAL:

is defined as the fixed time periods January through June, and July through December (or any portion thereof) for an effluent characteristic with a measurement frequency of once/6 months or twice/year.

ANNUAL or YEARLY

is defined as a fixed calendar year or any portion of the fixed calendar year for an effluent characteristic or parameter with a measurement frequency of once/year. A calendar year is January through December, or any portion thereof.

STATEMENT OF BASIS

This Statement of Basis is for information and justification of the permit limits only and is not enforceable. This draft permit decision is for renewal of a No-Discharge operation under draft permit number 4559-WR-3 and AFIN 58-00156.

1. Permitting Authority

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

2. Applicant

City of Pottsville - Pottsville Water & Sewer Dept.
173 E. Ash Street
Pottsville, AR 72858

3. Facility Location

The facility is located at 5575 SR 247, Pottsville, AR, 72858. Location: 1 miles southeast of Pottsville off Hwy. 247 in Pope County; Latitude: 35° 13' 34" N; Longitude: 93° 2' 32" W.

4. Receiving Stream Location

The land application sites are located in Stream Segment 3F of the Arkansas River basin, which is not 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 land application sites. It was determined that the facility is approximately 2 ¾ miles from the Arkansas River, which is on the 2008 ADEQ 303(d) list of impaired waterbodies in the State of Arkansas for total dissolved solids (TDS) by an unknown source. The sites are approximately 3 ¾ miles from Whig Creek, which is on the 2008 ADEQ 303(d) list of impaired waterbodies in the State of Arkansas for nitrogen and copper caused by a municipal point source. The sites are approximately 4 ½ miles from Lake Atkins, which is on the 2008 ADEQ 303(d) list of impaired waterbodies in the State of Arkansas for beryllium by an unknown source. The sites are approximately 6 miles from White Oak Creek, which is on the 2008 ADEQ 303(d) list of impaired waterbodies in the State of Arkansas for siltation/turbidity by an unknown source. The sites are approximately 9 ½ miles from the Illinois Bayou, which is an ERW. No additional controls or conditions are necessary at this time as waste analyses from May 2013 demonstrate that the Individual No-Discharge Permit conditions are protective of water quality in receiving waters.

5. Consultant for this Facility

Loy Claunch
Crafton Tull & Associates
P.O. Box 10189
Russellville, AR 72802

6. Permit History

- A. Permit No. 4559-W was issued to the City of Pottsville and effective 8/25/1998 for the land application of municipal biosolids.
- B. Permit No. 4559-WR-1 was issued to the City of Pottsville and effective 12/30/2003 for a permit renewal.
- C. Permit No. 4559-WR-2 was issued to the City of Pottsville and effective 10/1/2008 for a permit renewal.

7. Previous Permit Activity

Previous Permit No.:4559-WR-2
Effective Date: 10/1/2008
Expiration Date: 9/30/2013

The permittee submitted a permit renewal application for a No-Discharge permit, which was received on 4/10/2013. It is proposed that the renewed water no-discharge permit be reissued for a 5-year term.

Legal Order Review:

There are currently no active Consent Administrative Orders (CAOs) or Notice of Violations (NOVs) for this facility.

Site Visits/Inspections:

The Inspection Branch of the Water Division performed a routine compliance inspection on 5/14/2013, which revealed that the facility was not in compliance with the permit. A Waste Management Plan (WMP) was not available for review. Additionally, annual reports had not been submitted. A WMP was submitted to the Department on 5/16/2013. An annual report was mailed on 5/30/2013.

8. Changes from the Previously Issued Permit

- A. Remove monitoring requirements for Chromium in the waste.
- B. Add monitoring and reporting requirements for Magnesium, Sodium, Calcium, and Sodium Adsorption Ratio (SAR) in the waste.
- C. Add monitoring and reporting requirements for Sodium, Calcium, and Molybdenum in the soil.
- D. Add a limit for Electrical Conductivity and Sodium Adsorption Ratio (SAR) in the soil.

9. Applicant Activity

Under the standard industrial classification (SIC) code 4952 or North American Industry Classification System (NAICS) code 22132, the applicant's activities are the operation of a sewerage system. This permit is for the land application of municipal biosolids.

10. Waste Application Method

The system consists of an influent bar screen, aeration tank, Aero-Mod Split Clarifiers, and a digester. Sludge is drawn off the digester tank to the Aero-Mod dewatering system that utilizes hanging porous bags. The plant has a sloped concrete storage pad to store the dewatered sludge bags on pallets. A floor drain on this pad allows excess water to be recycled to the plant. These dry sludge bags are periodically taken to an approved landfill. Biosolids will be transported from the Wastewater Treatment Plant by sealed tanker trucks to land application sites located in Pope County.

11. Total Available Acreage

The permittee has over 80 acres available to land apply the waste. Acreage requirements are based on the annual application of biosolids, the Plant Available Nitrogen (PAN), and the Nitrogen uptake rate of the cover crop, refer to Condition 3 of Part II of the permit.

12. Additional Site Information

The City of Pottsville also maintains NPDES Permit No. AR0048011.

13. List of all Land Application Sites

See Condition No. 5 of Part II of the permit.

14. Basis for Permit Conditions

The Arkansas Department of Environmental Quality has made a tentative 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 Arkansas Water and Air Pollution Control Act (Ark. Code Ann. § 8-4-101 *et seq.* and Ark. Code Ann. § 8-4-201 *et seq.*).

Permit conditions, limits, reporting requirements, and justifications are listed as follows:

A. Part I—Permit Requirements

i. Monitoring Frequency

The monitoring frequency of once annually prior to the first land application is to ensure that a representative sample of what is being applied to the land is measured and recorded. The parameters that must be measured at this frequency can be compared to the soil parameters if a problem arises to determine if the land application is the pollutant source.

Total volume of waste applied and the nitrogen application rate must be measured and recorded prior to each land application to prevent the over application of nutrients to the land.

Some soil parameters only need to be measured once every 5 years because annual measurements do not show a significant accumulation.

ii. Waste Limits and Reporting

- a. Limits and reporting requirements for arsenic, cadmium, copper, lead, mercury, molybdenum, nickel, selenium, and zinc in the biosolids

The associated limits and Cumulative Pollutant Loading Rates (CPLRs) are adapted from EPA's risk assessment Title 40 of the Code of Federal Regulations (C.F.R.) Part 503 rule that governs the land application of sewage sludge. This assessment considered 14 different pathways of exposure to highly exposed individuals, including humans, animals (including small organisms) and plants. These limits minimize the potential for the accumulation of metals in soils to concentrations that could have adverse effects on the environment.

- b. Removal of reporting requirement for chromium in the biosolids

Chromium was removed in accordance with revisions to the 40 C.F.R. Part 503 as stated in Federal Register Document 95-25740.

- c. Limit for polychlorinated biphenyls (PCBs) concentration in the biosolids

Biosolids can contain trace amounts of PCBs. The content of PCBs in biosolids to be land applied is limited to a maximum of 50 mg/kg under 40 C.F.R. Part 761. Annual reporting requirements for PCBs were included to verify compliance with the permit.

- d. Reporting requirements for percent total solids in the biosolids

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

- e. Reporting requirements for pH of the biosolids

The pH of the biosolids must be reported to ensure that it will not negatively impact the pH of the soil.

- f. Reporting requirements for all nitrogen compounds in the waste

These concentrations are required to calculate the plant available nitrogen to comply with Condition No. 3 of Part II of the permit.

- g. Reporting requirements for total phosphorus and total potassium in the biosolids

These constituents are required for plant growth and are monitored to ensure crop nutrients are provided. Also, phosphorus may be the limiting nutrient in the Nutrient Surplus Area as delineated by the Arkansas Natural Resource Commission.

- h. Limit for Total Volume of Waste Applied

Excessive application of biosolids has the potential to kill or prevent the growth of crops, as well as become a source of pollutants in groundwater and surface water. The biosolids could also contain other potential pollutants of concern.

- i. Sodium Adsorption Ratio (SAR) and reporting requirements for magnesium, calcium, and sodium in the biosolids

SAR is a measure of sodicity hazard commonly used to evaluate irrigation water and soils for agricultural use. Because the biosolids will be land applied, the SAR needs to be evaluated to show the biosolids is acceptable for use. According to the *Practical Handbook of Disturbed Land Revegetation* (Munshower, 1994), when the SAR rises above 18 in the waste, serious physical soil problems arise and plants have difficulty absorbing water. SAR is calculated using the following equation. In order to calculate SAR, the concentrations of magnesium, calcium, and sodium must be known. All parameters are expressed as mg/kg.

$$SAR = \frac{Na/23}{\sqrt{\frac{Ca/20 + Mg/12}{2}}}$$

- j. Removal of reporting requirements for percent volatile solids and BOD5

The reporting requirements for percent of volatile solids and BOD5 were removed because the data are not used to evaluate the waste for land application. Please note, in cases where the permittee will be attempting to meet the vector reduction option in 40 CFR Part 503.33(b)(1) would be required to perform the required laboratory analysis.

- iii. Soil Limits and Reporting

- a. Limit for the electrical conductivity of the soil

The measurement of the electrical conductivity (EC) of the soil is used to determine the salinity or the amount of salts in the soil. In *Soils: an Introduction to Soils and Plant Growth*, an EC of 4.0 mmhos/cm or less is considered normal. Once the EC exceeds 4.0 mmhos/cm, the soil becomes Saline. Saline soils are known to reduce plant growth and affect soil permeability.

- b. Reporting requirements for pH of the soil

Soil pH must be monitored to ensure compliance with Table II of Part I of the permit. The acidic limit of 5.7 was adapted from the University of Arkansas Cooperative Extension Service (UAEX) Self-study Guide 8: Soil Fertility Management in Pastures Essential Nutrient for Plant Growth to maintain an optimal pH for plant growth. Also when the pH becomes too low, heavy metals are more soluble and therefore more susceptible to leaching to the groundwater.

- c. Sodium Adsorption Ratio (SAR) and reporting requirements for magnesium, calcium, and sodium in the soil

In addition to evaluating SAR in the effluent, it should also be regularly monitored in the soils of the application site. According to the *Practical Handbook of Disturbed Land Revegetation* (Munshower, 1994), when the SAR rises above 12 to 15 in the soil serious physical soil problems arise and plants have difficulty absorbing water. According to the

2009 ADEQ Landfarm Study, University of Arkansas soil scientist, Dr. Kristofor Brye, recommends that the SAR in soil be less than 12. SAR values above this range are considered undesirable conditions for plant growth. High sodium content disperses the soil and causes it to crust. Sodium also negatively influences the ability of water to infiltrate the soil. Soils with a SAR above the acceptable range are not easily remediated. SAR is calculated using the following equation. In order to calculate SAR, the concentrations of magnesium, calcium, and sodium must be known. All parameters are expressed as mg/kg.

$$SAR = \frac{Na/23}{\sqrt{\frac{Ca/20 + Mg/12}{2}}}$$

- d. Reporting requirements for cation exchange capacity, nitrate-nitrogen, phosphorus, potassium, and magnesium in soils

These parameters are indicators of soil quality. The chemical condition of soil affects soil-plant relations, water quality, buffering capacities, availability of nutrients and water to plants and other organisms, mobility of contaminants, and some physical conditions. (USDA Natural Resources Conservation Service “Indicators for Soil Quality Evaluation” April 1996.) Reporting requirements are included to verify that problems from over-application of wastes or other sources are not occurring. If results indicate that soil concentrations have increased, the Department may require cessation of land application activities, further testing, or remediation activities.

- e. Reporting requirements for arsenic, cadmium, copper, lead, mercury, molybdenum, nickel, selenium, and zinc in soils

The list of metal cations was adapted from 40 C.F.R. Part 503 for the land application of sewage sludge. Limits were not established due to the variability of analyzing the concentrations of these metals. Reporting requirements are included to verify that metals from land application of waste or other sources are not being applied at a rate that causes accumulation of metals to levels that could have adverse effects on the environment. If results indicate that soil concentrations have increased, the Department may require cessation of land application activities, further testing, or remediation activities.

- f. Monitoring and Reporting of Electrical Conductivity in soils

Electrical conductivity is a measure of all ions in a solution including the chloride ion. Once the soils at this facility reach the electrical conductivity limit in the permit, land application must cease. By limiting the electrical conductivity of the soil, the Department is also limiting the amount of chlorides the soil can contain. Therefore, the Department believes the limiting of electrical conductivity is protective of the environment without the specific monitoring and reporting of chlorides in the waste or the soil.

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 nitrogen 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. 3 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. An 80% vegetative cover is required for stabilization purposes to reduce the risk of soil erosion and runoff.

ii. Permit termination if the land application site is currently permitted under a previously issued permit

A site covered in more than one permit is at risk of over application of nutrients and metals. This condition encourages the applicant to confirm with the landowner that the site is not currently covered under another active permit before permitting the site.

iii. No runoff or discharge requirement

A discharge from this site may result in pollutants entering the waters of the State. Specific land application method requirements including even surface application or subsoil injection and precipitation and moisture limitations, are to ensure that no runoff containing potential pollutants will enter the waters of the State. These conditions are adaptations of APC&EC Regulation 5.406 (A) & (B).

iv. Maximum allowable slope for the land application area

In order to protect waters of the State, additional measures must be taken to ensure contamination via runoff is prevented. Topography of the land application area affects the potential for runoff and erosion. The limits listed in Condition 10 of Part II of the permit were adapted from the *Wastewater Engineering: Treatment and Reuse, 4th Edition*, Table 14-51 as an acceptable maximum slope for the acceptable application of wastes.

v. Land application of waste to a flood plain

Land application of waste to a flood plain shall not increase the level of the base flood by one foot or more, to avoid increasing the velocity of the flow downstream of the site, reducing the temporary storage capacity of the flood plain, or increasing the levels of the flood waters.

vi. Buffer distances

Minimum buffer distances are required between land application areas and areas that may be vulnerable to water pollution in order to minimize the risk of nutrients or pollutants from

leaving the field and reaching surface waters. Buffer distances were adapted from APC&EC Regulation 5.406(D) and generally accepted scientific knowledge and engineering practices.

vii. Habitat protection

This condition is adapted from 40 C.F.R. Part 503 and is included to ensure that endangered or threatened species are considered and protected during land application.

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.

15. Solid Removal

Solid material accumulated in all waste storage tanks shall be removed as necessary and disposed of in a manner approved by the Department.

16. Point of Contact

For additional information, contact

Casey Vickerson
Engineer
Permits Branch, Water Division
5301 Northshore Drive
North Little Rock, AR 72118-5317
501-682-0653
E-mail: vickerson@adeq.state.ar.us

17. Sources

The following Sources were used to draft the permit:

- A. Regulation No. 5, Liquid Animal Waste Management Systems, as amended.
- B. Regulation No. 8, Administrative Procedures, as amended.
- C. Regulation No. 9, Fee System for Environmental Permits, as amended.
- D. 40 C.F.R. Part 503 for land application of sewage sludge.
- E. Ark. Code Ann. § 8-4-101 et seq., Arkansas Water and Air Pollution Control Act.
- F. Ark. Code Ann. § 4-75-601 et seq., Arkansas Trade Secrets Act.
- G. Integrated Water Quality and Assessment Report (305(b) Report).
- H. 2009 Landfarm Study.
- I. *Practical Handbook of Disturbed Land Revegetation*, Munshower, 1994.
- J. *Wastewater Engineering: Treatment and Reuse, 4th Edition*.

- K. UAEX Self-Study Guide 8: Soil Fertility Management in Pastures essential Nutrient for Plant Growth.
- L. *Soils: An Introduction to Soils and Plant Growth*: 4th Edition; Donahue, Miller, & Shickluna; 1977.
- M. USDA Part 651, Animal Waste Management Field Handbook.
- N. *Recommended Standards for Wastewater Facilities: 2004 Edition* (Ten State Standards).
- O. Application No. 4559-WR-3 received 4/10/2013.
- P. Additional information submitted 5/9/2013.
- Q. Inspection report dated 5/14/2013.

18. Public Notice

The public notice describes the procedures for the formulation of final determinations and shall provide for a public comment period of 30 days. During this period, any interested persons may submit written comments on the permit and may request a public hearing to clarify issues involved in the permitting decision. A request for a public hearing shall be in writing and shall state the nature of the issue(s) proposed to be raised in the hearing.

The ADEQ will notify via an e-mail public notice of the permit to the Corps of Engineers, the U.S. Fish and Wildlife Service, the Arkansas Game and Fish, the Department of Arkansas Heritage, the EPA, and the Arkansas Department of Health for review and comments.